RECORDS TRANSMITTAL AND RECEIPT

Complete and send original and two copies of this form to the appropriate Federal Records Center for approval prior to shipment of records. See specific instructions on reverse.

PAGE 1 OF PAGES

1. TO (*Complete the address for the appropriate records center serving your area*)

Federal Archives and Records Center
General Services Administration

As shown in FPMR 101-11.410-1

2. AGENCY TRANSFER AUTHORIZATION — TRANSFERRING AGENCY OFFICIAL (*Signature and title*): David A. Lindsey, Chief, Branch of Central Mineral Resources — DATE: 7-20-89

3. AGENCY CONTACT — TRANSFERRING AGENCY LIAISON OFFICIAL (*Name, office and telephone No.*): USGS, Bldg. 25, Rm. 2204A, MS 922, Denver Federal Center (303) 236-5608 Jane Spence

4. RECORDS CENTER RECEIPT — RECORDS RECEIVED BY (*Signature and title*) — DATE

5. FROM (*Enter the name and complete mailing address of the office retiring the records. The signed receipt of this form will be sent to this address*)

Office of Minerals Exploration
U.S. Geological Survey
MS 922. Box 25046
Denver Federal Center
Cenver, CO 80225

Fold line

6. RECORDS DATA

ACCESSION NUMBER RG (a)	FY (b)	NUMBER (c)	VOLUME (cu. ft.) (d)	AGENCY BOX NUMBERS (e)	SERIES DESCRIPTION (*With inclusive dates of records*) (f)	RESTRICTION (g)	DISPOSAL AUTHORITY (*Schedule and item number*) (h)	DISPOSAL DATE (i)	COMPLETED BY RECORDS CENTER: LOCATION (j)	SHELF PLAN (k)	CONT. TYPE (l)	AUTO. DISP. (m)
057	89	0005	1	1	MINERAL DISCOVERY LOAN CONTRACT FILES Completed case files of closed contracts from Office of Minerals Exploration. Contracts and applications were administered for mineral exploration. Case is listed by docket number for the DMEA financial assistance program. Box contains: DMEA 4153 - Contract Idm-E950 New Jersey Zinc Co. Indepencence and Lawson Areas 4 folders Hawkins & Hancocl Cos., Tenn. Royalty expires 5-10-88. Closed 2-4-89 DMEA 4286 - Contract Idm-E-950 New Jersey Zinc Co. Big War Creek Area 4 folders Hawkins & Hancock Cos., Tenn. ~~Royalty expired 7-30-88.~~ Closed 2-4-89	R	RCS/Item 1900-01	C/95				

135-106

Standard Form 135 (Rev. 6-76)
Prescribed by GSA
FPMR (41 CFR) 101-11.4

IMEA Form 9

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE

DMEA NO. 4153

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(Withdrawn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 9-21-59
Certificate of Audit (Final)
Interim Audit(s)
✓ Report of Review 9-1-59
✓ Termination Notice or Agreement 1-15-59
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 12-9-60
Work completed analysis 12-9-60
✓ All other material is filed in chronological order with correspondence including the following reports as checked:

✓ Final Field Team Report (Tab) 12-9-60
✓ Operator's Final Report Folder 1-A
(2R) Interim Reports
(2R) Operator's monthly reports and all attachments (latest on top)
On-site Exam Report(s) (Tab)
(4) Settlement Sheets

Folder No. 1 - Correspondence to 12/31/58
Folder No. 1-A - " from 1/1/59 to present

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 MF-104's

Right Side

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

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

✓ Folder No. ~~4~~ 3: Settlement Sheets and Semiannual Report of Certified Projects (left-hand side of folder)

Folder No. 5: Drill Logs

R.C.

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-E950, Docket DMSA-4153 (zinc), dated May 10, 1956, with

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

for the purpose of determining the amount of royalty payable to the U. S. Government on sales of minerals from property referred to as the Independence and Lawson Areas located in Hancock and Hawkins Counties, Tennessee, during the period May 10, 1956, through July 1, 1960.

A certification of discovery or development was issued on September 21, 1959, and, in accordance with Articles 8 and 13, Annex I, and Amendment No. 10 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 September 1, 1959, indicated accepted costs under the exploration contract amounting to $73,227.18 with the Government's contribution on a 50 percent basis being $36,613.58.

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

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

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

March 22, 1962

E. D. Talbert, OME Auditor

Docket copy

Arrowsmith

J. Lynch

Appr'd. Sol. Off.

Talbert

OT

SOLICITOR

SEP 16 1959

INTERIOR DEPT.

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

To: S. S. Gordonia, Vice President
The New Jersey Zinc Company
160 Front Street
New York 38, New York

Pursuant to the provisions of Exploration Project Contract No. [illegible], dated May 10, 1954, (Docket 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 lien thereon and on the land described in the contract, the Government considers and therefore certifies that discovery or development from which production may be made has resulted from the exploration work.

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

Diamond drilling has proved the existence of replacement deposits of zinc ores occurring in the Kingsport (dolomite) formation, lying in the plane of the bedding.

Dated: SEP 21 1959

THE UNITED STATES OF AMERICA

By George C. Selledge
Acting Director, Office of
Minerals Exploration

WRGriswold/gla 9-15-59

cc to: Operator (original)
Clarence A. Fredell, Dir., TSDD, DMS
Docket
Finance Office
Contract Adm. & Audit Div.
OME Field Team, Region V (2)
Director's Reading File
Mr. Johnson
Operating Committee
Mr. Lamb, USBM
Mr. Kirkemo, USGS
Mr. Griswold
Chron

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-8950, DMEA No. 1153, including Amendments Nos. 1 through 11, and a Termination Agreement dated February 20, 1959, for June 1956 to July 1958, inclusive, covering a zinc project in the Independence Area, Hancock 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		$73,227.18
Exceptions:		
Prior to this review	$ -0-	
Herewith	-0-	-0-
Total acceptable cost		$73,227.18

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	$36,613.58
Paid to date	36,613.58
Balance due Operator	$ -0-

E. D. Talbert

E. D. Talbert, OME Auditor

September 1, 1959

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

(a) the Monthly Reports were supported by documentary proof of that portion ($66,655.00) of the costs covering work performed at unit rates under independent contract;
(b) the balance ($6,572.18) 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:

Stage I (23 holes)

Diamond Drilling	17,296' @	$2.75/ft.	$47,564.00
	895' @	3.00/ft.	2,685.00
Incidental Allowance	18,191' @	.27/ft.	4,911.57
Samples Assayed	51 @	1.00/ea.	51.00
			$55,211.57

Stage II (10 holes)

Diamond Drilling	5,692' @	$2.75/ft.	$15,653.00
	251' @	3.00/ft.	753.00
Incidental Allowance	5,943' @	.27/ft.	1,604.61
Samples Assayed	5 @	1.00/ea.	5.00
			$18,015.61

Total $73,227.18

Government's copy

APR 1 1959
O.M.E.

TERMINATION AGREEMENT

It is agreed this 20th day of February, 1959, between the United States of America, acting through the Department of Interior, Office of Minerals Exploration, hereinafter called the "Government," and the New Jersey Zinc Company, hereinafter called the "Operator," parties to that certain Exploration Project Contract No. Idm-E950 (Docket No. DMEA-4153), dated May 10, 1956, as amended, hereinafter called the "Contract," that:

1. Pursuant to the provisions of Article 2 of the Special Agreement Concerning Land in Annex I, the following parcels of land are hereby deleted from the land referred to in Article 2 of the Contract and described in Annex I, as amended.

Name of Property Owner	Acres	
M. B. Horton	53	(Amendment No. 5)
H. C. Anderson	100	(Amendment No. 5)
Emma Brickley and L. Brickley	70	(Amendment No. 5)
C. C. Lawson and Claude Lawson	146	(Amendment No. 5)
N. M. Moneyhun	40	(Amendment No. 5)
Kyle H. Johnson and wife, Dinah Johnson	50	(Amendment No. 8)
Hilton - McMillan	104	(Amendment No. 9)
M. C. Herron *		

The Operator:

(a) certifies that 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 lands, 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 thirty-two years from the date of this Contract;

* Included in area shown on map, attached to Amendment No. 5, as subject to Contract, but not listed in the body of said Amendment.

Long
Sawyer
App'd Col. OGS
Gussenhoff
Talbitt

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

2. Effective January 15, 1959, the Contract and all obligations of the parties thereunder, except as otherwise herein expressly provided shall be and are hereby terminated.

3. The Government shall contribute only to the allowable costs of work performed prior to January 15, 1959.

4. 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.

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

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

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

THE UNITED STATES OF AMERICA

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

THE NEW JERSEY ZINC COMPANY

By [signature]

Title VICE PRESIDENT

Selfridge

Government Copy

APR 1 1959 O.M.E.

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4153

AMENDMENT No.11

It is agreed this 14th day of January 1959, between the United States of America, acting through the Department of the Interior, Office of Minerals Exploration, and The New Jersey Zinc Company, that Exploration Project Contract No. Idm-E950 (Docket No. DMEA-4153), dated May 10, 1956, as amended, is further amended as follows:

In Annex I, the following land is added to the description of the land:

Owner	Location	Acreage	Expiration date of option
L. W. Horton & wife	Hancock County, Tennessee	250	6-5-1961

The boundaries of the land are contained in an option agreement, dated June 5, 1956, pursuant to which the land is possessed by the Operator and the descriptions therein are incorporated herein by reference.

This property is contiguous to the land originally described in Annex I of the contract, and is included in accordance with paragraph I of "Special Agreement Concerning Land" (page 2 of Annex I).

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate amount which the Government may be required to contribute, the amount of any item designated as "maximum", nor 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: Robert A. Laurence
Executive Officer, Office of Minerals Exploration, Region V

THE NEW JERSEY ZINC COMPANY

By [signature]

Title VICE PRESIDENT

[illegible] AND [illegible]

THIS [illegible] AND [illegible] made and entered into on this 5th day of June, 1955, by and between L. H. [illegible] and wife, [illegible] of Hamilton County, Tennessee, hereinafter called the [illegible] 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 [illegible]:

W I T N E S S E T H

[illegible] and other good and valuable considerations mutually 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 [illegible] years [illegible] from date hereof, upon payment [illegible] hereinafter [illegible] area, the exclusive right and option to examine all minerals, metals, ores, ore-bearing [illegible], [illegible], and rocks of any kind, including the coal, in, under or on the following described real [illegible]:

[illegible] in the [illegible] Civil District of Hamilton County, Tennessee, being all that portion of the Lowery Farm lying north of the Chuck Valley Road, estimated to contain [illegible] acres, more or less, said tract being bounded generally as follows:

On the North by Clinch River and the lands of
H. C. Hurd, C. L. Begley and Mark Horton;
On the East by the lands of Pierce Herring, W. J.
Adens and W. T. N. Clayman;
On the South by the Clinch Valley Road and the lands of
C. E. Bray; and
On the West by the lands of F. L. Gilliam.

L. W. Horton acquired title to the above described premises by the following deeds of conveyance, of record in the Register's Office for Hancock County, Tennessee, to which reference is here made: (1) Deed of John F. Gamble, et ux., dated November 16, 1910, Deed Book _____, Page _____; and (2) Deed of W. V. Horton, dated May 28, 1938, Deed Book DD, Page 177.

Together with the right to prospect for, mine, mill and remove the stone, water rights, the right of ingress and egress, and the right to purchase surface acreage to the extent of twenty acres, 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.

L. W. Horton

L. W. Horton

Maude Livesay Horton

Maude Livesay Horton

STATE OF TENNESSEE

HANCOCK COUNTY

Personally appeared before me, Ben L. Catlett, a Notary Public in and for said County and State, the within named bargainors, L. W. HORTON AND WIFE, MAUDE LIVESAY HORTON, 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 5th day of June, 1956.

Ben L. Catlett
Notary Public

Commission Expires: 4-16-58

Qualified in Hancock County
Under the Laws of Tennessee
Code Section 5904, et seq.

Government's copy

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

DATE	INITIALS	CODE

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4153

AMENDMENT NO. 10

It is agreed this 23d day of September, 1958, between the United States of America, acting through the Department of the Interior, Office of Minerals Exploration, and The New Jersey Zinc Company, that Exploration Project Contract No. Idm-E950 (Docket No. DMEA-4153), dated May 10, 1956, as amended, is further amended, as follows:

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

2. (a) Work under the Contract shall be suspended during the period beginning August 1, 1958, and ending not later than January 1, 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 the Government's opinion would not have occurred had there 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.

3. The maximum period for royalty payments and the liens to secure payment thereof, provided for in the Contract, is extended from 30 years to 32 years.

4. It is of the essence of this Contract that the work be resumed before the termination of the period here fixed for suspension, and be completed before the termination of the period fixed for completion, and if it is not so resumed and 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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App'd. Sol. Off.

(i) Effective August 1, 1958, if the work has not been resumed on or before January 1, 1959.

(ii) Effective July 1, 1959, if the work is resumed on or before January 1, 1959, but is not completed on or before August 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 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) All rights of the Government respecting certification of discovery or development, percentage royalty and liens to secure the payment thereof, reports (including preservation of Operator's records), accounts, audits, and the right to recover any overpayment, are hereby preserved.

(e) The Operator hereby releases and agrees to save the Government harmless from all claims or demands under or arising out of said Contract, except as otherwise provided in this Amendment No. 10.

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

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By C. Mitchenson
ACTING Director, Office of Minerals Exploration

THE NEW JERSEY ZINC COMPANY

By J. Boodeen

Title VICE PRESIDENT

Government's copy

OFFICIAL FILE COPY
DMEA
RECEIVED 5 1958
DATE | INITIAL | COPY
Boyton
Chandler
Martin
Johnson

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4153

AMENDMENT NO. 9

It is agreed this 1st day of August, 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-E950 (Docket No. DMEA-4153), dated May 10, 1956, as amended, is further amended as follows:

In Annex I, the following land is added to the description of the land:

> The Helton-McMillan property situate in the Third Civil District of Hawkins County, Tennessee, containing 104 acres, more or less. The land is shown on maps AX-Tenn 568 and AX-Tenn 567. The boundaries of the land are contained in the option agreements pursuant to which the land is possessed by the operator and the descriptions therein are incorporated herein by reference.

This Amendment shall not be construed to increase the estimated total cost of the project, the aggregate amount which the Government may be required to contribute, the amount of any item designated as "maximum," nor 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 [signature]
Administrator, Defense Minerals Exploration Administration

THE NEW JERSEY ZINC COMPANY

By [signature]

Title VICE PRESIDENT

Government Copy

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 28 1958
DATE

EXPLORATION PROJECT
CONTRACT

THE NEW JERSEY ZINC COMPANY
DOCKET No. DMEA-4153

AMENDMENT No.8

It is agreed this 7th day of May, 1958, between the United States of American, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and the New Jersey Zinc Company, hereinafter called the "Operator," parties to that certain Exploration Project Contract Idm-E950, Docket No. DMEA-4153, dated May 10, 1956, as amended, hereinafter called the "Contract," that the Contract is further amended as follows:

1. In Annex I, land is added to the contract as follows:

Name of Property Owner	Acres
Kyle H. Jonhson and wife Dinah Johnson	50

(The added land is shown on Map AX-TENN-B568, entitled "Fig.I,NJZ Co" which is a part of Amendment No.5, as "K. Johnson.")

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 tiem designated as "maximum," nor the fixed unit cost of any item of work.

The effective date of this Amendment is February 17, 1958.

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

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

THE NEW JERSEY ZINC COMPANY

By J P Boardman

Title VICE PRESIDENT

Government's copy

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 13 1958

Long
Munger
App'd. Col. Gil
Cravenhen
Selfridge
Johnson

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4153

AMENDMENT NO. 7

It is agreed this 19th day of May, 1958, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and the New Jersey Zinc Company, hereinafter called the "Operator," parties to that certain Exploration Project Contract Idm-E950, Docket No. DMEA-4153, dated May 10, 1956, as amended, hereinafter called the "Contract," that the Contract is further amended effective May 10, 1956, as follows:

The third paragraph of Exhibit "A" is revised to read as follows:

"Since the ore zones appear to lie parallel to the strike of the beds and, at times, to plunge at high angles to the strike into the dips of the beds; the work plan contemplates both a series of wide-spaced dip sections and also wide-spaced strike sections. The section interval may not be less than 400 feet, nor the drill hole spacing in any individual section be less than 100 feet."

Rec
Dep.

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

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By O Mittendorf
Administrator, Defense Minerals
Exploration Administration

THE NEW JERSEY ZINC COMPANY

By W F Johnson
Title VICE PRESIDENT

FILE COPY
DMEA
RECEIVED FEB 10 1958
DATE CODE

Government's copy

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4153

AMENDMENT NO. 6

It is agreed this 29th day of January, 1958, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and the New Jersey Zinc Company, hereinafter called the "Operator," parties to that certain Exploration Project Contract Idm-E950, Docket No. DMEA-4153, dated May 10, 1956, as amended, hereinafter called the "Contract," that the Contract is further amended as follows:

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

(b) The Government shall 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. The date fixed in Amendment No. 3 for completion of the work is extended from January 1, 1959, to March 1, 1959.

3. It is of 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:

(i) Effective May 10, 1957, if the work is not resumed on or before July 1, 1958.

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

J. Lynd
Mayer
Linwood
Falhut
Selfridge
Hamilton

(c) The Operator shall promptly perform all winding-up and settlement actions provided for in the Contract, including the final report and final account.

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

(e) The Operator hereby releases and agrees to save the Government harmless from all claims or demands under or arising out of said Contract, except as otherwise provided in this Amendment No. 6.

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," nor 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. Mitchendorf
Administrator, Defense Minerals
Exploration Administration

THE NEW JERSEY ZINC COMPANY

By J. Baldwin

Title VICE PRESIDENT

Government's Copy

OFFICIAL FILE COPY
DMEA
RECEIVED NOV 18 1957
DATE | INITIALS | CODE

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4153

AMENDMENT NO. 5

It is agreed this 25th day of October, 1957, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and The New Jersey Zinc Company, hereinafter called the "Operator," parties to that certain Exploration Project Contract Idm-E950, Docket No. DMEA-4153, dated May 10, 1956, as amended, hereinafter called the "Contract," that the Contract is further amended as follows:

1. In Annex I, land is added to the Contract as follows:

Names of property owners	Acres
C. C. Lawson and Claude Lawson	146 acres
Emma Brickley and L. Brickley	70 acres
H. C. Anderson	100 acres
M. B. Horton	53 acres
N. M. Moneyhun	40 acres
G. M. Horton	62 acres
R. Williams	187 acres
Total	658 acres

(The added land is shown on the attached map entitled "Fig. 1, N.J.Z. Co.")

2. In Exhibit "A", the work set forth under "Description of the Work" through Amendment No. 4 is designated as "Stage I" and a new Stage II is added as follows:

"Stage II

"Drill 35,000 feet of diamond drill hole at the approximate locations indicated on the map attached to this Amendment. The drilling requirements set forth in Exhibit "A", as amended prior hereto, shall apply to this Stage II.

3. In Exhibit "A" the Estimated Costs of the Project are revised to read as follows:

Stage I

"Actual Costs

Category (1) Independent Contract

Overburden drilling and diamond drilling to 1,000-foot depth, estimated 30,000 feet, AX size, @ $2.75/ft. EX size @ $2.65/ft.	$82,500.00	
Diamond drilling 1,000 to 1,500-foot depth, estimated 5,000 feet, AX size @ $3.00/ft. EX size @ $2.90/ft.	15,000.00	$ 97,500.00

"The above rates include charges for reaming, cementing, water supply, casing, changing of locations, and all charges which may be incurred by the diamond drill contractor. Casing left in drill holes at option of Operator will not be accepted as a charge to the Contract.

Categories (2) through (7)

None

Fixed Unit Costs (See Article 13 of the Contract)

Incidental allowance for each foot of drilling completed. (Includes all costs that otherwise would be allowable costs under Categories (1) through (7) except as scheduled in Exhibit "A".) 35,000 feet @ $0.27/ft.	$ 9,450.00	
200 samples to be assayed @ $1.00 each	200.00	9,650.00
Estimated Total Costs of Stage I		$107,150.00

Stage II

"Actual Costs

Category (1) Independent Contract

Overburden drilling and diamond drilling to 1,000-foot depth, estimated 30,000 feet, AX size, @ $2.75/ft. EX size @ $2.65/ft.	$82,500.00	
Diamond drilling 1,000 to 1,500-foot depth, estimated 5,000 feet, AX size @ $3.00/ft. EX size @ $2.90/ft.	15,000.00	$ 97,500.00

"The above rates include charges for reaming, cementing, water supply, casing, changing of locations, and all charges which may be incurred by the diamond drill contractor. Casing left in drill holes at option of Operator will not be accepted as a charge to the Contract.

Categories (2) through (7)

None

Fixed Unit Costs (See Article 13 of the Contract)

Incidental allowance for each foot of drilling completed. (Includes all costs that otherwise would be allowable costs under Categories (1) through (7) except as scheduled in Exhibit "A".) 35,000 feet @ $0.27/ft.	$ 9,450.00	
200 samples to be assayed @ $1.00 each	200.00	9,650.00
Estimated Total Costs of Stage II		$107,150.00

Burton Stanger
Yvonne Chambers
Selfridge
Johnson

S U M M A R Y *

Estimated Costs of Stage I	$107,150.00
Estimated Costs of Stage II	107,150.00
Estimated Total Cost of Project	$214,300.00
Government's participation, 50 percent	$107,150.00

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By C E Mittendorf
Administrator, Defense Minerals
Exploration Administration

THE NEW JERSEY ZINC COMPANY

By J V Boodman

Title [illegible]

* In Article 5 of the Contract, the figures "$214,300.00" and "$107,150.00" are substituted for the figures "$107,150.00" and "$53,575.00", respectively.

Government's Copy

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EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4153

AMENDMENT NO. 4

It is agreed this 19th day of September, 1957, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government", and the New Jersey Zinc Company, hereinafter called the "Operator", parties to that certain exploration Project Contract Idm-E950, Docket No. DMEA-4153, dated May 10, 1956, as amended, hereinafter called the "Contract", that the contract is further amended as follows:

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

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

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

"Overburden drilling and diamond drilling to 1,000-foot depth--Estimated 30,000 ft.

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

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DATE	INITIALS	CODE

Long
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Talbert
Selfridge

"Diamond drilling from 1,000-foot to 1,500-foot depth--Estimated 5,000 ft.

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

"The above rates include charges for reaming, cementing, water supply, casing, changing of locations, and all charges which may be incurred by the diamond drill contractor. Casing left in drill holes at option of the Operator will not be accepted as a charge to the Contract."

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

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

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

THE NEW JERSEY ZINC COMPANY

By [illegible]

TITLE VICE PRESIDENT

3

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EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4153

AMENDMENT NO. 3

It is agreed this 22nd day of July, 1957, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and The New Jersey Zinc Company, that Exploration Contract No. Idm-E950, Docket No. DMEA-4153, dated May 10, 1956, as amended, is further amended, as follows:

1. (a) Work under the Contract shall be suspended during the period beginning May 10, 1957, and ending not later than January 1, 1958.

(b) No costs incurred by the Operator during the period of suspension shall be allowable for contribution by the Government, and the Government shall not contribute to any costs of rehabilitation or repair which, in its opinion, would not have occurred if there had been no suspension of the 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.

2. In Article 3, the date fixed for completion of the work is extended from July 1, 1957, to January 1, 1959.

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

Executed in quintuplicate the day and year first above written.

Long
Hoagen
"Appd. Sol. Util."
Trowbridge
Talbot
Martin
Johnson

THE UNITED STATES OF AMERICA

By C O Mittenecorz
Administrator, Defense Minerals
Exploration Administration

THE NEW JERSEY ZINC COMPANY

By J B Baldwin

Title VICE PRESIDENT

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EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET No. DMEA-4153

AMENDMENT No.2

It is agreed this 5th day of November, 1956, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and The New Jersey Zinc Company that Exploration Project Contract No. Idm-E950, dated May 10, 1956, and amended August 15, 1956, is further amended as follows:

Under Annex I, the description of the rectangular area which is specifically excluded from the terms of the contract is changed to read:

> "BEGINNING at a point "X" which is 1225 feet generally NW with the War Creek Road, from the intersection of the War Creek Road with the Clinch Valley Road; thence leaving the War Creek Road N. 59°-30' E. for a distance of 1370 feet to a point; thence N. 30°-30' W. for a distance of 780 feet to a point; thence S 59° 30' W. for a distance of 2175 feet to a point; thence S 30° 30' E. for a distance of 780 feet to a point; thence N 59° 30' E. for a distance of 805 feet to the BEGINNING, containing approximately 39 acres."

The net effect of this change is to add a block of ground 200 x 780 feet to the contract area.

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

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

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

THE NEW JERSEY ZINC COMPANY

By [signature]

Title: VICE PRESIDENT

Docket copy

Indrtg 8/14/56
Lawyer
"Appd. Sol. Off."
Chambers
Selfridge
Pfleuger

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4153

AMENDMENT NO. 1

It is agreed this 15th day of August, 1956, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and The New Jersey Zinc Company that Exploration Project Contract No. Idm-2830, dated May 16, 1956, is amended as follows:

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

> "However, the section interval may not be less than 500 feet, nor the drill hole spacing in any individual section be less than 500 feet, except upon written approval by the Government."

is deleted, and the following sentence is substituted:

> "However, the section interval may not be less than 500 feet, nor the drill hole spacing in any individual section be less than 100 feet."

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

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By C O Mathews
Administrator, Defense Minerals
Exploration Administration

THE NEW JERSEY ZINC COMPANY

By N Boodwin

Title VICE PRESIDENT

Docket copy

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MAY 21 1956

MF-200
(Revised June 1954)

Docket No. DMEA -4153

Commodity Zinc

Contract No. Idm-E 950

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

EXPLORATION PROJECT CONTRACT[1]

It is agreed this MAY 10 1956 day of ....., 195...., between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and[2] THE NEW JERSEY ZINC COMPANY, a New Jersey corporation, whose mailing address is 160 Front Street, New York 38, 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 one map (Figure 2A).

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 Hancock, and is described in Annex I.[3]

(b) The Operator represents and undertakes that:

(1) The Operator is the[4] optionee (see Annex I) of[5] ..... in the land, in possession and entitled to possession for all of the purposes of this contract, under and by virtue of a[6] ....., [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: None

(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 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).

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 July 1, 1956, shall commence the work, and on or before July 1, 1957 (unless the Operator's obligation to prosecute the work is terminated—see Article 10) shall either have completed the work or shall have incurred allowable costs (see Article 6) in a sum not less than the estimated total allowable cost set forth in Exhibit "A."

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

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

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

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

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

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

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

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

CATEGORY (2)—PERSONAL SERVICES.

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

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

Subcategory (c)—Labor.

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

CATEGORY (4)—OPERATING EQUIPMENT.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(c) *Reductions in costs.*—The Operator shall account for and give the Government credit for any incidental benefits, credits, or money received in the ordinary course of business in prosecuting the work (as by salvage or sale of materials or equipment, furnishing of room or board, furnishing of power or services to third persons, rebates or discounts on purchases, etc.), in the same ratio in which the Government contributes to costs; and such amounts shall be treated as a reduction in costs incurred so that they are available for use within the limit of the original estimated total cost. This provision does not apply to receipts from production which are subject to the Government's percentage royalty under the provisions of Article 9. **See Article 13.**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 13. *Changes and added provisions.*—/(a) Categories (2) through (7) of Article 6(a) are deleted. (b) To the extent that costs are set forth in Exhibit "A" as "Fixed Unit Costs" they are in lieu of the actual costs that otherwise would be allowable costs of the project under Article 6 of the contract. The Government will contribute to the fixed unit costs as they accrue, on the basis of units of work actually performed. The fixed unit costs include all costs of the work necessary to complete the project. (c) That part of the last sentence in the first paragraph of Article 6(a) commencing after the semicolon, is deleted. (d) In Article 6(c), the reference to Article 9 is changed to Article 8. (e) In Article 8(b): (1) the word "minerals" includes limestone and dolomite products produced in processing ore; and (2) the words "ten years" are changed to "thirty years." (f) The following clause is added to Article 8(a): "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, such greater value will be used as the basis for calculating royalty payable to the Government.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By O. Mitkevoy

Administrator, Defense Minerals
Exploration Administration

THE NEW JERSEY ZINC COMPANY
(Operator)

By J. Bordeman

VICE PRESIDENT

Indirs 4/30/56
Lawyer
Surveyed
Chambers
Selfridge
Eshman

I, ..., certify that I am the ..... secretary of the corporation named as Operator herein; that ..... who signed this contract on behalf of the Operator, was then ..... 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.

.....

[CORPORATE SEAL]

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

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EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4153

ANNEX I

The land referred to in Article 2 of the contract consists of certain tracts in Hancock County, Tennessee, in which the Operator has the right to prospect for minerals under option contracts which further provide that the Operator may purchase all mineral and mining rights, plus limited surface privileges.

The respective tracts are shown outlined in blue color on the map entitled "Figure 2A Independence Area - DMEA-4153," attached hereto and made a part hereof, and are described as follows:

Name of Property Owner	Acreage	Expiration Date of Option
Henry L. Gilliam and Clara Dillon Gilliam	100	11-19-57
E. F. Gilliam and Mary Hickman Gilliam	35	8-6-57
D. H. Durnell and Elizabeth H. Durnell	125	5-14-57
Floyd Edens and Martha Edens	30	5-28-57
Ralph Garrett and Sarah Gillam Garrett	30	6-12-57
M. B. Horton	230	4-30-57
W. H. Horton and Elizabeth Monayhan Horton	75	6-12-57
Flora Williams Horton, Jessie Horton Walker, and Fred Horton	62 65	5-7-57

Within the general land area which is subject to the contract (outlined in blue color on the attached map entitled "Figure 2A") occurs a smaller rectangular area, outlined in brown color. Such rectangular area has already been drilled by the Operator and no work will be done under this contract within its boundaries, and it is specifically excluded from the terms of this contract. Its boundaries are described as follows:

"X"

BEGINNING at a point/which is 1225 feet generally N.W. with the War Creek Road, from the intersection of the War Creek road with the Clinch Valley Road; thence leaving War Creek Road N. 59°-30' E. for a distance of 1570 feet to a point; thence N. 30°-30' W. for a distance of 780 feet to a point; thence S. 59°-30' W. for a distance of 2375 feet to a point; thence S. 30°-30' E. for a distance of 780 feet to a point; thence N. 59°-30' E. for a distance of 805 feet to the BEGINNING, containing approximately 43 acres.

SPECIAL AGREEMENT CONCERNING LAND

1. In the event the Operator should at any time during the period expiring ten years from the date of this Contract acquire 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 lands described in the Option Contracts listed in this Annex I, or in any amendments thereto, as have no known value for mineral production. The Government will promptly prepare amendments removing the specified lands 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 lands, 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 thirty years from the date of this Contract;

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

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4153

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EXHIBIT "A"

Description of the Work

The purpose of the project is to explore for ores of zinc by diamond drilling, using also such churn drilling of overburden as may be required.

Zinc ores in the Copper Ridge Belt are known to occur in the Mascot and Kingsport dolomites and limestones. In the area of the project these beds dip steeply, at an angle of about 55°. This steep dip creates a condition whereby only a relatively narrow area is economically feasible for exploration.

Since the ore zones appear to lie parallel to the strike of the beds, the work plan contemplates a series of wide-spaced dip sections, with drill holes in the individual section about 200 feet apart. Initially the various sections will be on about 1200-feet spacing; in areas where initial work gives favorable results the section interval may be reduced. However, the section interval may not be less than 500 feet, nor the drill hole spacing in any individual section be less than 200 feet, except upon written approval by the Government.

It is estimated that the average depth of the drill holes will be between 700 and 800 feet; that the maximum depth of any hole will be about 1400 feet; that a total of 35,000 feet of drilling will be required; and that approximately 47 holes will be drilled.

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

The preliminary drilling to be performed under the Contract is roughly indicated on the attached map entitled "Figure 2A".

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

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

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

Estimated Cost of the Project

Actual Costs

Category (1) Independent Contracts

Overburden drilling and diamond drilling to 1,000-foot depth Estimated 30,000 feet @ $2.75/ft.	$ 82,500.00	
Diamond drilling from 1,000-foot to 1,500-foot depth Estimated 5,000 feet @ $3.00/ft.	15,000.00	$ 97,500.00

The above rates include charges for reaming, cementing, water supply, casing, changing of locations, and all charges which may be incurred by the diamond drill contractor. Casing left in drill holes at option of Operator will not be accepted as a charge to the Contract.

Categories (2) through (7)

None

Fixed Unit Costs (see Article 13 of the Contract)

Incidental allowance for each foot of drilling completed 33,000 feet @ $0.27/ft.	9,450.00	
200 samples to be assayed @ $1.00 each	200.00	9,650.00
Estimated Total Cost of Project		$107,150.00
Government Participation @ 50%		$ 53,575.00

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Exhibit "A"

Contract and Agreements

for Properties Optioned

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CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 19th day of November 1952, by and between [illegible] and wife, [illegible] of Hancock County, Tennessee, hereinafter called the owners, parties of the first part, and THE NEW JERSEY ZINC COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company:

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 further periods not to extend beyond November 19th, 1957, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, in, under or on the following described premises:

SITUATE in the Third Civil District of Hancock County, Tennessee, consisting of two adjoining tracts of land containing in all 100 acres, more or less, and bounded generally as follows:

On the North by the lands of George Willian and John Johnson;
On the East by the lands of [illegible] Norton;
On the South by the Clinch Valley Road; and
On the West by the lands of T. M. Carroll and [illegible] E. William.

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

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Henry Gilliam acquired title to the above described premises by the following deeds of conveyance of Record in the Register's Office for Hancock County, Tennessee: (1) Deed of L. C. Jarvis, Clerk & Master dated November 3, 1931, and of Record in Deed Book JK, Page 251; and (2) Deed of Hascue Gilliam, et ux. dated January 5, 1924, Deed Book HH, Page 117.

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.

Henry Gilliam
Henry Gilliam.

Clara Dillon Gilliam
Clara Dillon Gilliam.

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

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 6th day of August 1952, by and between L. F. GILLIAM and wife, MARY NICHOLS GILLIAM, of Hancock County, Tennessee, hereinafter called the Owners, parties of the first part, and THE NEW JERSEY ZINC COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company:

W I T N E S S E T H

That for and in consideration of the sum of ONE ($1.00) DOLLAR 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 6th, 1957, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, in, under or on the following described premises:

SITUATE in the Third Civil District of Hancock County, Tennessee, containing 35 acres, more or less, and bounded generally as follows:

On the North by the lands of George Gilliam;
On the East by the lands of H. L. Gilliam;
On the South by the lands of H. L. Gilliam and D. H. Darnell; and
On the West by the lands of D. H. Darnell.

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

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Owners acquired title to the above described premises by Deed of Loyd Gilliam and wife, Minnie Gilliam, dated September 19, 1916, and recorded in Deed Book Z, Page 500, Register's Office for Hancock County, Tennessee.

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 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.

E. F. Gilliam

E. F. Gilliam

Mary Hickman Gilliam

Mary Hickman Gilliam.

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

STATE OF TENNESSEE

HANCOCK COUNTY

Personally appeared before me, B. J. Ramsey Jr., a Notary Public in and for said County and State, the within named bargainors, E. F. GILLIAM AND WIFE, MARY MCCLAIN GILLIAM, with whom I am personally acquainted and who acknowledged that they executed the foregoing contract and agreement for the purposes therein contained and expressed.

Witness my hand and official seal in Hancock County on this 5th day of August 1952.

B. J. Ramsey Jr.
Notary Public.

Commission Expires: July 9, 1953

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

(Seal)

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

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 16th day of May 1952, by and between L. L. [illegible] and wife, [illegible] of Hancock County, Tennessee, hereinafter called the Owners, parties of the first part, and THE NEW JERSEY ZINC COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company:

W I T N E S S E T H

That for and in consideration of the sum of One ($1.00) DOLLAR 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 May 16th, 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 lime-stone, in, under or on the following described premises:

SITUATE in the Third Civil District of Hancock County, Tennessee, containing 125 acres, more or less and bounded generally as follows:

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

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

D. H. Farrell
D. H. Farrell.

Elizabeth H. Farrell
Elizabeth H. Farrell.

STATE OF TENNESSEE

HANCOCK COUNTY

Personally appeared before me, B. L. Catlett, a Notary Public in and for said County and State, the within named bargainors, D. H. FARRELL and wife, ELIZABETH H. FARRELL, with whom I am personally acquainted and who acknowledged that they executed the foregoing contract and agreement for the purposes therein contained and expressed.

Witness my hand and official seal in Hancock County, Tennessee on this 14th day of May 1932.

Ben L. Catlett
Notary Public.

Commission expires: 4-6-54.

Qualified in Hancock County
under the laws of Tennessee
Code Section 5004.1 et seq.

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

On the north by Elijah Gillam and Leonard Gillam;
On the east by the lands of L. L. Gillam and L. F. Gillam;
On the south by the Valley Road, and the lands of Jas. Greenley and Mary Williams and
On the west by the lands of Floyd Keene.

As the reference was Deed Book 2, Page 541-42 Misc. Book 12, Page 1 - Note Book 2, Page 1 & 9.

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 prospect every acre 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 herein said parcels the right to prospect for, mine, mill and remove all minerals, metals, ores, [illegible] and rock of any kind, including limestone, zinc, spelter or any [illegible] of said ore and, including the right to enter thereon, or the available [illegible] to be one complete, in accordance with the terms of the above mentioned agreement. The [illegible] of this action for said [illegible] are fully set out in an agreement of even date herewith, which is here referred to and made a part hereof as if fully set out at length.

This instrument 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 N. Y.

STATE OF TENNESSEE

HANCOCK COUNTY

Personally appeared before me, P. J. Ramsey Jr., a Notary Public in and for said County and State, the within named bargainors, HENRY [illegible] and [illegible] BILLOU [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 on this 19th day of November 1958.

P. J. Ramsey Jr.
Notary Public.

(Seal)

Commission Expires: July 9, 1953

Qualified in Hancock County
under the provisions of Tennessee
Code Section 8804.1 et seq.

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

[illegible]

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THIS AGREEMENT/ [illegible] this [illegible] day of May, 1955, by and between [illegible] and [illegible], [illegible] of [illegible] County, Tennessee, hereinafter called [illegible], parties of the first part, and [illegible] 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 [illegible] ($1.00) [illegible] and other good and valuable considerations in hand paid, the receipt of which is hereby acknowledged, the parties of the first part [illegible] of the second [illegible] of [illegible], [illegible] 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:

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

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

THE H.W. WILSON COMPANY
950 FRONT ST., NEW YORK N. Y.

Witness Mark:
Ben A. Collett
Johnson Crawford

Floyd his x mark Edens
Martha Edens

Ben A. Collett

(Seal)

THE NEW GENUINE LAW COMPANY
100 FRONT ST., NEW YORK N. Y.

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OPTION AND AGREEMENT

THIS OPTION AND AGREEMENT made and entered into on this 12th day of June 1955, by and between RALPH CARPENT and wife, SADIE CILLA CARPENT, of Hancock County, Tennessee, hereinafter called the Owners, parties of the first part, and THE TRI 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 further periods not to extend beyond June 12th, 1957, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, ores, ore-bearing materials and rocks of any kind, including limestone, in, under or on the following described premises:

SITUATE in the Third Civil District of Hancock County, Tennessee, containing 30 acres, more or less, and bounded generally as follows:

On the North by the lands of Jim Perry;
On the East by the lands of Floyd Edens;
On the South by the Clinch Valley Road; and
On the West by the lands of W. E. Horton.

Owners acquired title to the above described premises by deed of Robert Jennings, of record in Register's Office for Hancock County, Tennessee in Deed Book _____, Page _____, to which reference is here made.

THE [illegible] COMPANY
100 FRONT ST., NEW YORK N. Y.

Together with the right to prospect for, mine, mill and remove the said water rights, the right of ingress and egress, and the right to purchase the entire 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 develop all minerals, metals, gas, 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 thereof, the owners and parties of the first part have hereunto set their signatures the day and year first above written.

Ralph Garrett
Ralph Garrett.

Sarah Gillam Garrett
Sarah Gillam Garrett.

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

STATE OF Virginia
COUNTY OF Russell

Personally appeared before me, Olaf A. Porter a Notary Public in and for said County and State, the within named bargainors, RALPH CARTER AND WIFE, SARAH GILLAN CARTER, 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 12th day of June 1952.

Olaf A. Porter
Notary Public.

Commission Expires: Oct. 11, 1955

No seal required in Virginia

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

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FEB - 2 1956

[illegible] AGREEMENT

THIS AGREEMENT [illegible] made and entered into on this [illegible] day of April 1956, by and between [illegible] (Owner), of Hancock County, Tennessee, hereinafter called the Owner, party of the first part, and [illegible] a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Mine Company:

W I T N E S S E T H

That for and in consideration of the sum of [illegible] (1.00) DOLLAR and other good and valuable considerations in hand paid, the receipt of which is hereby acknowledged, the party of the first part grants unto the party of the second part for a period of one year from the date hereof, with the privilege of extension for further periods not to extend beyond April 30th, 1957, upon payment of sums of money agreed upon, the exclusive right and option to prospect all minerals, metals, ores, ore-bearing materials and rocks of any kind, including limestone, on, under or on the following described premises:

SITUATE in the Third Civil District of Hancock County, Tennessee and being all that portion of Owners "homeplace" lying South of the top or crest of Copperhill, containing 250 acres, more or less, and bounded generally as follows:

[illegible] COMPANY
100 FRONT ST., NEW YORK N. Y.

On the North by the top of Copper Ridge;
On the East by the lands of Ralph Burnette;
On the South by Clinch Valley Road, and the lands of Gillam, and R. E. Burnell; and
On the West by the lands of Ilona Martin.

Land acquired subject to the above described servitudes by the following chain of conveyances all of record in the Register's Office for Russell County, reference to which reference is hereby made: (1) Deed of Mrs. Ilona Martin (widow), et al., dated February 4, 1945 of record in Deed Book 2, Page 41-42; (2) Deed of Albert Gillman et ux, dated November 15, 1942, Deed Book 2, Page 41 and (3) Deed of Earl Church (single), dated November 1, 1941, Deed Book 16, Pages 104-105.

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 power the surface acreage to the extent of fifty acres, in accordance with the terms of an agreement of even date herewith entered into between the parties hereto. And the party of the first part also grants to the party of the second part, during said term, the right to prospect for, explore and examine all minerals, metals, ores, ore-bearing substances and rocks of any kind, including limestone, in, under or on all of said premises, including the right to enter upon the same, to use roads in said premises and to remove samples, in accordance with the terms of the last mentioned agreement. The terms of said option contract and agreement are fully set out in the agreement of even date herewith, which is here referred to and made a part hereof as if fully set out at length.

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

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

In witness thereof, the lessor and party of the first part has hereunto set his signature the day and year first above written.

M. B. Horton

M. B. Horton, party of the first part.

STATE OF TENNESSEE

HANCOCK COUNTY

Personally appeared before me, Ben L. Catlett, a Notary Public in and for said County and State, the within named bargainor, M. B. HORTON (SEAL), with whom I am personally acquainted, and who acknowledged that he executed the foregoing Contract and Agreement for the purposes therein contained and expressed.

Witness my hand and official seal in Hancock County, Tennessee, on this 30th day of April 1952.

Ben L. Catlett

Notary Public.

Commission Expires: 4-6-54.

Qualified in Hancock County
Under the Provisions of Tennessee
Code Section 5504.1 et seq.

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

CONTRACT AND AGREEMENT

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THIS CONTRACT AND AGREEMENT made and entered into on this the 12th day of June 1952, by and between A. H. HORTON and wife, ELIZABETH MOUTHON HORTON of Hancock County, Tennessee, hereinafter called the Owners, parties of the first part, and THE NEW JERSEY ZINC COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company:

W I T N E S S E T H

That for and in consideration of the sum of ONE ($1.00) DOLLAR 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 June 12th, 1957, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, ores, ore-bearing materials and rocks of any kind, including limestone, in, under or on the following described premises:

SITUATE in the Third Civil District of Hancock County, Tennessee, being the Southernmost 75 acres of our farm which adjoins the properties of M. B. Horton, and Flora Horton, said farm bounded generally as follows:

On the North by thelands of J. H. Kendrick;
On the East by the lands of M. B. Horton;
On the South by thelands of H. B. Horton; and
On the West by the lands of Flora Horton and J. H. Kendrick.

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

Owners acquired title to the above described premises by two certain deeds of conveyance, both of record in the Register's Office for Hancock County, Tennessee, as follows: (1) Deed of T. L. Horton Heirs, Deed Book _____, Page _____; and (2) Deed of W. R. Horton, 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 surface acreage to the extent of twenty acres, 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 inure 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.

W. H. Horton
W. H. Horton.

Elizabeth Memphin Horton
Elizabeth Memphin Horton.

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

STATE OF TENNESSEE
COUNTY OF Washington

Personally appeared before me, James H. Lucas, a Notary Public in and for said County and State, the within named bargainors, W. H. HORTON AND WIFE, ELIZABETH MONTKUN HORTON, 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 12th day of June 1952.

James H. Lucas
Notary Public.

Commission Expires: Oct. 7, 1953

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

CONTRACT AND AGREEMENT

[illegible] made and entered into on this [illegible] day of May 1952, by and between [illegible] (hereinafter called the Lessor), of Hancock County, Tennessee, [illegible] of [illegible], Tennessee, and [illegible] of Richmond, Virginia, hereinafter called the Lessee, 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 [illegible] ($1.00) [illegible] and other good and valuable considerations in hand paid, a 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 July 7th, 1957, upon payment of sums of money stated herein, the exclusive right and option to prospect all minerals, metals, ores, ore-bearing materials and rocks of any kind, including limestone, in, under or on the following described premises:

SITUATE in the Third Civil District of Hancock County, Tennessee, being a part of the I. P. Williams farm, containing 32 acres, more or less, and bounded generally as follows:

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

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[illegible] William Fortson
[illegible] William;
[illegible] Valley Road; and
[illegible] William.

[illegible] Wilson

[illegible] a stake on the public road [illegible] a stake [illegible] of [illegible] thence [illegible] to a [illegible] [illegible] to a sugar tree on the top of [illegible] [illegible] with William [illegible] line and Wilson line to [illegible] [illegible] with public road to the [illegible].

The Ellis reference use bill of [illegible] William and conveyance of Virginia William [illegible] to the [illegible] dated April [illegible], 1960 and of record in [illegible] the Register's Office for [illegible] County.

Together with the right to prospect for, mine, mill and remove the [illegible] minerals, the right of ingress and egress, and the right to prospect [illegible] acreage to the extent of [illegible] terms, in accordance with the terms of an agreement of even date herewith between the parties hereto. [illegible] the portion of the first part also grant to the party of the second part [illegible] the right to prospect for, [illegible] and remove all minerals, gravels, ores, [illegible] and [illegible] of any kind, including [illegible], 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.

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

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 owners and parties of the first part have hereunto set their hands and seals, the day and year first above written.

Flora William Horton
FLORA WILLIAM HORTON

Jessie Horton Walker
JESSIE HORTON WALKER

Earl Horton
EARL HORTON, heir of the first part.

STATE OF TENNESSEE

HAWKINS COUNTY

Personally appeared before me, Ben L. Collett, a Notary Public in and for said County and State, the within named bargainors, Flora William Horton (widow), Jessie Horton Walker, wife of Hiram Walker, and Earl Horton, with whom I am personally acquainted and who acknowledged that they executed the foregoing instrument and agreement for the purpose therein contained and expressed.

Witness my hand and official seal at Kingsport, Tennessee on this 7th day of Jan. 1947.

Ben L. Collett
NOTARY PUBLIC.

(Seal)

Commission Expires: 1-2-54.

Qualified in Hawkins County
under the Provisions of Tennessee
Code Section 8006.1 et seq.

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

STATE OF VIRGINIA
City OF Richmond

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

Witness my hand and official seal at office on this 10 day of May 1953.

Seal

Katherine Lipscomb
Notary Public.

Commission expires 8-14-54.

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

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED
FEB - 2 1956

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

Not to be filled in by applicant

Docket No. DMEA-4153
Metal or Mineral Zinc
Date Received 2/2/56
Estimated Cost $125,000.00
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 No.1 attached

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

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

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract
See Sheet No. 2 attached

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

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

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property. See Sheet No. 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 No. 3,attached

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

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you. See Sheet No. 3, attached

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

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.
See Sheet No. 3, attached

16—66551-1

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

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore This exploration will seek to discover zinc ore bodies.

(*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 No. 4, attached

(*c*) The work will start within 10 days and be completed within 12 months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations. Sheet No. 4, attached

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

(*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 No. 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 FEB 1 - 1956, 195__

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK N. Y.
(Applicant)

By [signature]

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, N. Y.

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Sheet No. 1

1 (c) of instructions

Names, Titles, and Addresses of Officers

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

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

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

Sheet No. 2

Number 3 of Instructions

Applicant's Property Rights

(a) The properties which are proposed for exploration are shown outlined in blue on the accompanying map, Figure 2. The legal description of each tract is included in the contract and agreement between the owner and this Company. These contracts comprise Exhibit "A" of this application.

(c) The New Jersey Zinc Company holds options for the purchase of all mineral and mining rights on each of the properties in the following list and has limited surface purchase privileges. This Company holds the exclusive right to explore for minerals on these properties.

Name of Property Owner	Acreage	Expiration Date of Option
H. L. Gilliam	100	11-19-57
E. F. Gilliam	35	8-6-57
D. H. Darnell	125	5-14-57
Floyd Edens	30	5-28-57
Ralph Garrett	30	6-12-57
M. B. Horton	230	4-30-57
W. H. Horton	75	6-12-57
Flora Horton	62	5-7-57

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

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

Sheet No. 3

Number 4 of Instructions - Physical Description

(a) As far as is known, there had been no exploration for or mining of zinc ore in the project area prior to 1952. During the period of 1952 to 1954, The New Jersey Zinc Company conducted an exploration of the area, and 47 diamond drill holes totalling 26,480 feet were drilled. ±563'/hole

(b) There has been no production of zinc or related ores from the project area. Exploration drilling by The New Jersey Zinc Company is interpreted as indicating approximately 500,000 tons containing 4% Zn. This discovery encourages and supports the thinking that the area may have a substantial potential.

(c) The project area lies in the northeastern part of the Copper Ridge belt in Hancock County, Tennessee (see index map. Fig. 1). In this district, as in the better known Mascot-Jefferson City district approximately forty miles distant, the zinc ore is found in the Mascot and Kingsport dolomites and limestones of the Knox group. These formations outcrop near the crest of Copper Ridge and dip southeasterly at an angle of about 55°. This steep dip carries the favorable horizons to great depths in relatively short distances from the outcrop. As a result of this structure, only a narrow band of Kingsport is within reach of the surface diamond drill (see section, figure 3).

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

Sheet No. 3 - Number 4 of Instructions - Physical Description, Cont'd.

The orebodies consist of unusually pure sphalerite deposited as breccia filling and replacements in the dolomite, generally occurring as extensive bedded deposits. In a general way, the ore bearing areas correspond to the areas of high zinc content in soils derived from the weathering of the favorable (Kingsport and Mascot) formations (see plan, figure 2). The ore zones appear to trend in a general strike direction, but the detailed structural controls are not, as yet, clear.

The diamond drilling accomplished in the subject area has shown the Kingsport formation to be extensively mineralized with zinc ore of minable size and tenor. Potential ore tonnage, which will support an independent mining and milling operation in the area is a reasonable expectation, and it is the purpose of the proposed exploration program to determine the gross ore potential. The program does not contemplate the detailed outlining of individual orebodies.

(d) The area is about 12 miles north of the town of Rogersville, Tennessee. The road distance from Rogersville is about 24 miles of which the last 7 miles is a gravel county road. Rogersville is served by the Southern Railway and by a network of state and federal highways.

(e) Ample manpower and facilities are readily available for use in the exploration of the area. Local manpower and water

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

supply is adequate for mining. Materials, supplies, and equipment would have to be brought to the operation from Rogersville, and electric power may be obtained by the construction of an 8 mile transmission line from Surgoinsville.

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

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

Sheet No. 4

Number 5 of Instructions - The Exploration Project

(b) It is proposed to explore the project area by means of diamond drilling. A series of wide spaced dip sections is planned with holes spaced on the sections 100 feet to 200 feet apart. The initial program contemplates sections spaced along strike at 1200 foot intervals to the northeast of drill hole 47 and southwest of drill hole 2 (see map, figure 2). Closer spaced sections will be drilled in those areas indicated as most favorable by the initial sections. The entire program anticipates 35,000 feet of diamond drilling of which 20,000 feet will be drilled on the initial widely spaced sections. The maximum depth presently contemplated for the drilling is 1200 to 1400 feet, and the holes are expected to average between 700 and 800 feet in depth.

(d) The New Jersey Zinc Company has had wide experience in large-scale exploration programs in East Tennessee, as well as many other mining districts in the U. S. 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 ST., NEW YORK N. Y.

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

Sheet No. 5

Number 6 of Instructions - Estimated Costs

(a) Independent Contracts

The following estimate is based on prices contracted for with the E. J. Longyear Company for drilling in the project area as tabulated below:

Diamond Drilling			
0-1000'	AX size	$2.75	Per Foot
	BX size	$3.05	" "
1000-1500'			
	AX size	$3.00	" "

The cost of the average drill hole is expected to be as shown in the following tabulation:

Average drilling cost per foot	$2.85
" service charge per foot	.10
" casing charge per foot	.05
Estimated average contract cost per foot of drilling	$3.00

Estimated contract cost of project
35,000' @ $3.00 - - - - - - - - - - - - - - - $105,000

(b) Labor, Supervision, Consultants

Supervision
1 geologist: full time - 12 months - - - 6,000

Technical Service
2 surveyors 30% time - 12 months)
1 draftsman 30% time - 12 months) - - - - 3,500

(c) Operating Materials and Supplies
Core boxes, etc. - - - - - - - - - - - - - - - 1,050

(d) Operating Equipment
Automobile Expense 17,500 mi. @ $.08 - - - - 1,400

(e) Rehabilitation and Repairs
None

(f) New Buildings, Improvements
None

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

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

Sheet No. 5
Number 6 of Instructions - Estimated Costs

(g) Miscellaneous

Chemical Assays, 200 @ $1.50	$300.00
Accounting and secretarial charges $30.00 month x 12 - - - - - - - - - - - - - -	360.00
Workmen's Compensation 1% x $9500.00 - - - - - - - - - - - - - - - -	95.00
Insurance, Payroll taxes 5% x $9500.00 - - - - - - - - - - - - - - - -	475.00
Core Storage, 35,000 x $.025 - - - - - - - -	875.00
Contingencies - - - - - - - - - - - - - - - - -	5,945.00
Total Estimated Cost of the Project - -	$125,000.00

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

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

THE NEW JERSEY ZINC COMPANY ROGERSVILLE TENNESSEE	DRAWN SJL, JFP DATE 3-30-53 TRACED SCALE 1"=660'	COPPER RIDGE BELT SECTOR I SHEET IONE	HAWKINS CO., TENN. FILE NO. AX-TENN 568	THE NEW JERSEY ZINC COMPANY JEFFERSON CITY TENNESSEE	DRAWN STAFF DATE 7-31-56 TRACED TEW SCALE 1"=660'
COPPER RIDGE BELT SECTOR I SHEET IINE	HAWKINS CO., TENN. FILE NO. AX-TENN-569A				

DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMA Docket No. 4153

DO NOT DETACH THIS SLIP

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

This document has been recorded as

Exploration

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

Routing Slip

To:	500	Date	2/2/56
To:	Op Comm	Date	2/16/56
To:	F.E. Johnson	Date	2-17-56
To:	CDM	Date	2-27-56
To:	500	Date	2/29/56
To:	Oper Comm	Date	3-16-56
To:	F.E. Johnson	Date	3-16-56
To:	CDM	Date	3-16-56
To:	Base Metals	Date	3/19/56
To:	Legal	Date	4/19/56
To:	Base Metals	Date	5/1/56
To:	Op. Comm	Date	5/2/56
To:	Administrator	Date	5-4-56
To:	Base Metals	Date	5/10/56
To:	Oper Comm	Date	5-23-56
To:	F.E. Johnson	Date	5-23-56
	130		9-12-57
	500		9-13-57
	130		9-20-57
	130		9-20-57
	130		10-21-57
	130		10-25-57
			1-17-58

DO NOT DETACH

CONTROLLED DOCUMENT

United States Department of the Interior

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

BRANCH OF CENTRAL MINERAL RESOURCES

IN REPLY REFER TO:
(303) 236-5608

February 4, 1989

Re: DMEA 4153 (zinc)
The New Jersey Zinc Company
Independence and Lawson Areas
Hawkins and Hancock Cos.,
Tennessee
Contract Idm E-950

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

Dear Mr. Montgomery:

Under the terms of the contract and the Certification of Possible Production, the certification period and royalty due if there had been production, has expired as of May 10, 1988.

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

Sincerely yours,

David A. Lindsey

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

DALindsey:js

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

United States Department of the Interior

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

September 23, 1987

Re: DMEA 4153 (zinc)
The New Jersey Zinc Company
Independence and Lawson Areas
Hawkins and Hancock Cos., Tenn.
Contract Idm E-950

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

Dear Mr. Montgomery:

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

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

Sincerely,

J. William Hasler

J. William Hasler, Chief
Office of Minerals Exploration

Rec'd 10/8/87
OME

Form MME 63
(May 1970)

REQUEST FOR INFORMATION ON CERTIFIED PROJECT OR PROJECT UNDER ROYALTY AGREEMENT

1. Since June 4, 1986, has there been a change in ownership, lease, or sublease? *If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before.* Yes ☐ No ☒

2. Since June 4, 1986, has there been any production from the land subject to the contract? Yes ☐ No ☒

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

Purchaser (*name and address*)	Quantity	Value

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

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

3. Since June 4, 1986, has any production been transported through workings (*see* *of contract*)? Yes ☐ No ☒

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

Disposition of Material	Quantity	Value

Submitted by:

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

United States Department of the Interior

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

September 23, 1987

Re: DMEA 4153 (zinc)
The New Jersey Zinc Company
Independence and Lawson Areas
Hawkins and Hancock Cos., Tenn.
Contract Idm E-950

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

Dear Mr. Montgomery:

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

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

Sincerely,

J. William Hasler

J. William Hasler, Chief
Office of Minerals Exploration

Form MME 63
(May 1970)

REQUEST FOR INFORMATION ON CERTIFIED PROJECT OR PROJECT UNDER ROYALTY AGREEMENT

1. Since June 4, 1986, has there been a change in ownership, lease, or sublease? *If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before.* Yes ☐ No XXX

2. Since June 4, 1986, has there been any production from the land subject to the contract? Yes ☐ No XXX

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

Purchaser (*name and address*)	Quantity	Value

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

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

3. Since June 4, 1986, has any production been transported through workings (*see of contract*)? Yes ☐ No XXX

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

Disposition of Material	Quantity	Value

Submitted by:

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

United States Department of the Interior

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

Sept 23, 87

~~August 6, 1986~~

Re: DMEA 4153 (zinc)
The New Jersey Zinc Company
Independence and Lawson Areas
Hawkins and Hancock Cos., Tenn.
Contract Idm E-950

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

JWH

AUG 21 1986

Dear Mr. Montgomery:

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

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

Sincerely,

J. William Hasler

J. William Hasler, Chief
Office of Minerals Exploration

JWH:js

Form MME 63
(May 1970)

REQUEST FOR INFORMATION ON CERTIFIED PROJECT OR PROJECT UNDER ROYALTY AGREEMENT

1. Since June 4, 1985, has there been a change in ownership, lease, or sublease? *If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before.* Yes ☐ No ☒

2. Since June 4, 1985, has there been any production from the land subject to the contract? Yes ☐ No ☒

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

Purchaser *(name and address)*	Quantity	Value

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

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

3. Since June 4, 1985, has any production been transported through workings *(see of contract)*? Yes ☐ No ☒

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

Disposition of Material	Quantity	Value

Submitted by:

Name	Title
Thomas J. Montgomery	Property Supt
Address	**Date**
Box 5, Claypool Az. 85532	Aug 19, 1985

DMEA 4153 (Zinc)
The Jesse Jones Zinc Company
Independence & Lawson Areas
Hancock & Hamilton Counties
Tennessee
Contract IdmEG-0.

One reserve

The DMEA Auditor 500,000 Tons 5% Zn
Ore bodies in the Independence area are
mostly in the lower Kingsport Is member.
130,000 Tons 6.6% Zn
360,000 Tons
490,000 Tons Total 6.6% Zn

Co. Est. 520,000 Tons 4.3% Zn
500,000
1,020,000 Tons 5% Zn. = 100#

Company $36,613.58 50% part.
Govt spent: 36,613.58
Total $73,227.16

Docket copy

PROJECT SUMMARY REPORT

By: W. R. Griswold December 9, 1960

1. DMEA-4153 (Zinc)
   Contract Idm-E950

   Property: Independence-Lawson Area
   Hancock and Hawkins Counties, Tennessee

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

   Propertor's Property Rights:

   Option contracts for the purchase of mineral and mining rights.

2. Contract dated May 10, 1956

   Work Authorized:

70,000 feet AX diamond core drilling @ $2.76/ft.	$195,000.00
Incidental allowance, 70,000 feet @ 27¢/ft.	18,900.00
400 assays @ $1.00	400.00
Estimated Total Cost of Project	$214,300.00
Government's participation @ 50%	$107,150.00

   Amendments:

   No. 1, August 15, 1956, permits 500-foot spacing of drill-hole fences and 100-foot spacing of holes in fence.

   No. 2, November 5, 1956, changes description of excluded area.

   No. 3, July 22, 1957, recesses project from May 10, 1957, to January 1, 1958; extends completion time from July 1, 1957, to January 1, 1959.

   No. 4, September 19, 1957, permits use of EX bits when necessary to complete a hole.

   No. 5, October 25, 1957, increases size, scope, and cost of project by adding lands and providing for more drilling.

Amendments (continued):

No. 6, January 29, 1958, recesses work under project from January 1, 1958, to July 1, 1958. Extends completion time from January 1, 1959, to March 1, 1959.

No. 7, May 19, 1958, allows both fence sctions for both dip and strike, at 400-foot spacing.

No. 8, May 7, 1958, adds land.

No. 9, August 1, 1958, adds land.

No.10, September 23, 1958, recesses work from August 1, 1958, to January 1, 1959; extends project completion period from March 1, 1959, to August 1, 1959; royalty payment period extended from 30 to 32 years.

No.11, January 14, 1959, adds land.

Termination Agreement, February 20, 1959, deletes land; terminates the project as of January 15, 1959.

Work Completed:

Diamond core drilling, 24,134 feet @ $2.76/ft.	$66,655.00
Incidental allowance, 24,134 feet @ 27¢/ft.	6,516.18
56 assays @ $1.00	56.00
Total cost of project	$73,227.18
Government's share at 50%	$36,613.58

Work terminated in January 1959.
Report of Review September 1, 1959
Operator's final report received August 24, 1959.

3. Certification of discovery September 21, 1959.

Ore Reserve Estimate: 521,928 tons, 4.3% Zn.

4. Comments:

The work was done in a skilled and efficient manner. Results were not what had been hoped for--no major ore body was found. It is possible that the ores indicated might be worth mining for transport to the Flat Gap mill, or possibly a small mill might be erected to treat both the Independence and the nearby Eidson ore body, also of intermediate size. However, it would probably be more economical (in view of the limited tonnage) to haul to Flat Gap.

Comments (continued):

Whether or not further Government participation might be warranted on this Independence-Lawson area is an open question. Possibilities probably still exist, but further study would first be necessary.

As is usual in all zinc ores of the area, the important mineralization is in the Kingsport formation of the Ordovician, as bedded replacements. In this instance the ore is steeply dipping, which would add to the mining costs. Mineralization is a clean sphalerite, with little pyrite present.

It is noticeable that, of our very many exploration projects in the long Copper Ridge area, we are usually able to find only small ore bodies, but nothing of truly significant size. This has been most disappointing, all the necessary elements seem present so that major ore bodies might be hoped for. However, nothing sizeable has been found to date, other than the Flat Gap mine.

W. R. Griswold

WRGriswold/gla
cc to: Director's Reading File
Frank E. Johnson
Docket
Chron

MME Form 17
Mar. 59

OFFICE OF MINERALS EXPLORATION

WORK COMPLETED ANALYSIS

yes
Certified 9-21-59

After final audit or review report is received, prepare in duplicate. File original in official docket. Send copy to Code 210.

Operator: New Jersey Zinc Co

Actual Cost: ✓

State: Tennessee

Agreed Unit Cost:

Final Report of Audit:

Commodity: Zinc

Docket No.: DMEA 4153

Final Report of Review: 9-1-59

Contract No.: Idm-E 950

Type of Work (Use these categories only)	Authorized by Contract and Amendments		Completed and Paid for		Net cost after sale of Gov't. Property
	Units	Cost 1/	Units	Cost 1/	
Drifting & Crosscutting					
Raising					
Shafts					
Winzes					
Diamond core Drilling (Specify) @ $2.76+	70,000'	$195,000	24,134'	66,655	
Incidental allowance ~~Surface Excavation~~ 27¢ per ft.		$18,900	24,134'	6516.18	
~~Underground Excavation~~ Assaying @ $1		$400	56	56.	
Roads and Trails					
Operating Equipment Purchased					
Surface Rehabilitation & Repairs					
Underground Rehabilitation					
New Building, Improvements, etc.					
Other (Specify)					
Totals		214,300		73,227.18 2/	

1/ Round off to dollars.
2/ Net cost total must agree with final report of audit or review.

Prepared by W R Trumel Date 12-9-60

52616

SEE FOLDER NO. 1-A for Correspondence

from January 1, 1959, to present

Memorandum August 2, 1960, "Land Remaining in the Contract" filed in Folder 1-A

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code

500

December 19, 1958

Memorandum

To: Associate Solicitor, Division of Mineral Resources

From: Chief, Division of Base Metals

Subject: Re Docket No. DMEA-4153, The New Jersey Zinc Company, Independence Area, Hancock and Hawkins Counties, Tennessee, Contract No. Idm-E950, Zinc.

Will you kindly prepare an Amended Contract (or an Amendment, whichever is advisable) to the cited contract which will incorporate Docket No. DMEA-4177 into DMEA-4153.

DMEA 4177 has been completed and certified, and adjoins DMEA 4153. By welding these two together we greatly increase the likelihood of the Government being repaid in full.

Completion should be extended from August 1, 1959, (see Amendment No. 10) to December 10, 1960.

Repayment period should be extended 3½ years.

W. R. Griswold

WRG/er
cc: Docket
Dir. Read File
Chron.

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
ROOM 2-B POST OFFICE BLDG.
KNOXVILLE 2, TENN.

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

DATE	INITIALS	CODE
12/15	C	220
		130
12/16	WMC	500

December 11, 1958

Memorandum

To: Operating Committee, OME - Washington

From: Field Team, OME - Region V - Knoxville, Tennessee

Subject: DMEA-4153, Idm-E950(zinc) Independence-Lawson Area, Hancock County, Tennessee. The New Jersey Zinc Company, Jefferson City, Tennessee

Attached is an application by The New Jersey Zinc Company for an amendment to the subject contract.

The application has been reviewed and is recommended by the Field Team. The combination of the Eidson (DMEA-4177) and Independence-Lawson (DMEA-4153) projects, the former of which is already certified and the other already essentially certifiable, will enhance the possibilities for a surer return of the entire Government investment in both projects to a much greater extent than if the projects are certified separately. Thus, if the additional proposed exploratory drilling at Eidson adds to the potential of the combined Eidson-Independence area, then production from either one or both areas will pay royalty on the entire amount of both contracts.

Review of the drilling on the Independence-Lawson and Eidson contracts shows the following:

Area	Contract footage	Completed footage	Unused balance
Independence	35,000	18,191	16,809
Lawson	35,000	6,612	28,388
Eidson	35,230	35,230	0
Totals	105,230	60,033	45,197

The general plan for the additional proposed drilling in the Eidson area, as shown on the map accompanying the application,

shows 20 holes, totalling about 27,000 feet. These holes will range in depth from about 700 feet to about 1800 feet, averaging about 1350 feet. Sufficient footage remains in the Independence-Lawson contract to accomodate the proposed drilling at Eidson, as well as to carry out such additional drilling in the Independence area as the Field Team believes may be necessary to complete satisfactorily the probing of the important targets remaining therein.

The Operator's request for extension of the termination date to December 31, 1960 is based on the use of one drill only. The Field Team also recommends that this time extension be granted. This would require an average drilling rate of about 75 feet per 2-shift day, a figure that is in accordance with other Copper Ridge drilling. Review of the past DMEA operations in Copper Ridge Exploration shows that, in general, a faster drilling rate for an area (that is, more than one drill) is not conducive to the best understanding of the geologic data gained nor planning for drilling advance.

If you are in agreement with these recommendations, please prepare the required amendment.

Wm. A. Beck, Alternate Acting
Executive Officer, OME
Field Team, Region V

Helmuth Wedow, Jr., Geologist
U. S. Geological Survey, OME.

OFFICIAL FILE COPY
O. M. E.
RECEIVED DEC 15 1958
DATE | INITIALS | CODE

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)
CABLE ADDRESS
"JERSEZINC"
160 FRONT STREET
NEW YORK 38, N.Y.

HORSE HEAD PRODUCTS ®
PLEASE ADDRESS REPLY TO

Jefferson City, Tennessee
December 4, 1958

Mr. R. A. Laurence, Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 2, Tennessee

RECEIVED
DEC - 8 1958
U. S. Geological Survey
Geologic Division
Knoxville, Tenn.

Subject: DMEA 4153 (ZINC) Idm E 950
INDEPENDENCE-LAWSON AREA
HANCOCK COUNTY, TENNESSEE

Dear Mr. Laurence:

Application is made herein for an amendment to the subject contract, DMEA 4153 - Idm E 950, which will provide for the inclusion under this contract of the adjacent Eidson area in Hawkins County, Tennessee. The area proposed for addition to the contract contains approximately 1368 acres and is the same area explored under DMEA 4177 - Idm E 956. Map AX-TENN-567-574, attached hereto, shows the outlines of this area and its relation to the present southwest boundary of the area covered by contract Idm E 950.

The benefits anticipated from the proposed amendment would result in a more effective expenditure of exploration funds and effort. The consolidation of the Eidson area into the Independence contract would permit further testing in the area where anticipated results may be expected to provide information that would justify, in the relatively near future, preparation for mine development and extraction of the indicated ore. Enough has already been accomplished in the Eidson ore area to give much promise to a successful result, but more assurance of tonnage must be secured to minimize the risk of investment for mine development and plant in a new and untested mining district. Analysis of all data including recent drilling results from DMEA contracts Idm E 956 (Eidson) and Idm E 950 (Independence-Lawson) brings to fore the following:

At Eidson an extensively mineralized zone has been indicated in the Davis area. DMEA drilling added to the

potential ore here, but the present indicated ore falls short of the tonnage necessary to justify mine and plant development expenditures that would be required to extract this deposit under the present or foreseeable short term future economy. Additional drill information falling into two categories is necessary to establish the Eidson deposit to present day economic status.

A. Further drilling within the presently known limits of the mineralized zone is necessary to provide detailed information for mine development planning. This type of investigation does not fall within the scope of DMEA and needs no further elaboration here.

B. Further wide spaced exploratory drilling is required within and beyond the limits of the presently indicated zone to substantiate an ore potential that can only be surmised from available information. Because the minimum tonnage of indicated ore necessary to warrant plant construction and mine development has not yet been reached, additional exploratory work must be accomplished before the preliminary steps are taken for the extraction of the Eidson ore. A general scheme of exploration drilling involving approximately 20 holes is shown on the attached map AX-TENN-574. In our judgment this program has unusually good chances of producing the desired objective, that is, to indicate additional ore sufficient to reach the minimum required for amortization of mine development and plant expenditures. Modifications of such a program are expected as work progresses and additional information is obtained. It is not unlikely that the necessary minimum tonnage potential may be indicated with fewer holes than the 20 noted above if especially favorable conditions are found. It is our understanding that DMEA participation in such a program is compatible with the objectives of the Defense Minerals Exploration Act. Participation should result in an earlier return of exploration funds paid by the government if the drilling indicates the additional tonnage potential believed likely to be present in the Eidson area.

The ore potential of the Independence-Lawson areas (covered by contract Idm E 950) does not, based on available information, indicate tonnages warranting mine development in the predictable near future. The Independence ore zone lacks the attractive characteristics of substantial ore thickness and stratigraphic range that have been indicated at Eidson. To indicate mineable bodies of sufficient tonnages for development within the present limits of the Independence-Lawson contract will require much more extensive drilling and the probabilities of success are less favorable than at Eidson.

It is not intended, however, to minimize the exploration potential in the Independence-Lawson area, but rather to point up the comparatively greater concentration of favorable factors in the Eidson area. By consolidation of the Eidson (Idm E 957) with the Independence-Lawson (Idm E 950) contract, exploration may be concentrated where the chances of achieving a successful result are best. Thus, an earlier, if not more certain, return of the funds advanced by the government for exploration would be made more likely not only for the Eidson contract but the Independence-Lawson contract as well.

If an amendment providing for consolidation of the Eidson with the Independence-Lawson contract is approved, we would resume drilling in accordance with the general plan outlined on the attached map AX-TENN 567-574 within one week of such approval. It is estimated that about two years will be required to complete this general plan of exploration with the employment of one diamond drill. An extension of the termination date of the contract until December 31, 1960 is also requested.

Very truly yours,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford

General Superintendent

A. D. Hoagland/jf
In duplicate

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
ROOM 2-B POST OFFICE BLDG.
KNOXVILLE 2, TENN.

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

DATE	INITIALS	CODE
10/15	C	220
10/15	[illegible]	500

October 13, 1958

Memorandum

To: Operating Committee, OME - Washington

From: Executive Officer, DMEA - Region V - Knoxville, Tenn.

Subject: Signed Amendment No. 10. DMEA-4153, Idm-E950-zinc.
The New Jersey Zinc Company,
Independence Area, Hancock County, Tennessee

Transmitted are the Government and Audit copies of the subject signed amendment.

The usual distribution of the other copies has been made by this office.

Robert A. Laurence

Robert A. Laurence

z

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
9/23	Maxwell	500
9/23	Talbut	800
9/23	GCS	130
"	Johnson	110
"	Butlendof	100
		~~[illegible]~~
9/24	C	220
		500

500

SEP 24 1958

Mr. Robert A. Laurence
Executive Officer
OME Field Team, Region V
Room 2-H, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4153 (Zinc)
The New Jersey Zinc Company
Independence Area
Hancock County, Tennessee
Contract No. Idm-E950

Dear Mr. Laurence:

In reference to your memorandum of August 21, 1958, we have prepared a proposed Amendment No. 10 to the cited contract. It follows your recommendations except that, at this time, we do not feel free to extend the completion time to August 1, 1960, as suggested in your last paragraph.

The original and four copies of the proposed amendment are enclosed, which have been signed by the Acting Director for the Government. Two extra copies are also enclosed for the use of the Field Team.

If the amendment meets with your approval, kindly present it to the Operator for approval and signature and, when completed, distribute all the copies in the usual manner. Otherwise, and if any proposed change should lie beyond your delegated authority, return all copies to us with your recommendations.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (SLB)

Enclosure
APPROVED:

Frank J. Cservenyak (SLB)
Member, Bureau of Mines

N. E. Nelson (SLB)
Member, Geological Survey

WRGriswold/er 9/23/58
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
9-10	Griswold	500
9-10	Chamberlin	800
		130
		110
		100
		220
		500

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 2, Tennessee

Re: Docket No. DMEA-4153 (Zinc)
The New Jersey Zinc Company
Independence Area
Hancock County, Tennessee
Contract No. Idm-E950

Dear Mr. Laurence:

As recommended in your August 21 memorandum, we have prepared an Amendment No. 10 (two pages) for the cited contract. We have allowed the dates for recess and work completion as requested by the Operator; it would not be advisable for us, at this time, to extend the completion period to August 1, 1960.

The original and four copies of the proposed amendment are enclosed, which have been signed by the Administrator for the Government. Two extra copies are also enclosed for the use of the Field Team.

If the amendment meets with your approval, kindly present it to the Operator for approval and signature and, when completed, distribute the copies in the usual manner. In the event that the agreement is not satisfactory and cannot be amended within your delegated authority, return all copies with your recommendations concerning any modifications.

Sincerely yours,

Chairman, Operating Committee

Enclosures
APPROVED:

Member, Bureau of Mines

Member, Geological Survey

WRGriswold/izm 9-10-58
cc: Admr.'s Reading File
Operating Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS

8623

A FORM 6 REFERENCE SLIP

EV. 12-56 DEFENSE MINERALS EX RATION ADMINISTRATION

TO:	INITIALS	DATE
1.		
2.		
3.		
4.		
5.		
FROM: W. R. Griswold		

FOR: Check items for action desired

____ Action ____ Reply for signature of _____

____ Approval ____ Investigate ____ Surname

____ Comment ____ Recommendations ____ Signature

____ Conference ____ Rewrite ____ File

____ Instructions ____ Your information

REMARKS:

9-10-58

This was discussed with Mr. Johnson

W. R. Griswold

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

M8278

(i) Effective August 1, 1958, if the work has not been resumed on or before January 1, 1959.

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

App'd. Sol. Off.

(b) The Government will contribute only to the allowable costs of any work performed prior to the relevant effective date 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) All rights of the Government respecting discovery or development certification of percentage royalty and liens to secure the payment thereof, reports (including preservation of Operator's records), accounts, audits, and the right to recover any overpayment, are hereby preserved.

(e) The Operator hereby releases and agrees to save the Government harmless from all claims or demands under or arising out of said Contract, except as otherwise provided in this Amendment No. 10.

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

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By_____
Administrator, Defense Minerals
Exploration Administration

THE NEW JERSEY ZINC COMPANY

By_____

Title_____

Government's copy

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4153

AMENDMENT NO. 10

It is agreed this _____ day of _____, 1958, between the United States of America, acting through the Department of the Interior, ~~Defense~~ Office of Minerals Exploration ~~Administration~~, and The New Jersey Zinc Company, that Exploration Project Contract No. Idm-E950 (Docket No. DMEA-4153), dated May 10, 1956, as amended, is further amended, as follows:

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

2. (a) Work under the Contract shall be suspended during the period beginning August 1, 1958, and ending not later than January 1, 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 the Government's opinion would not have occurred had there 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.

3. The maximum period for royalty payments and the liens to secure payment thereof, provided for in the Contract, is extended from 30 years to 32 years.

4. It is of the essence of this Contract that the work be resumed before the termination of the period here fixed for suspension, and be completed before the termination of the period fixed for completion, and if it is not so resumed and 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:

(i) Effective August 1, 1958, if the work has not been resumed on or before January 1, 1959.

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

Burton Sawyer
App'd. Sol. Off.
Approved
Chambers

(b) The Government will contribute only to the allowable costs of any work performed prior to the relevant effective date 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) All rights of the Government respecting certification of discovery or development, percentage royalty and liens to secure the payment thereof, reports (including preservation of Operator's records), accounts, audits, and the right to recover any overpayment, are hereby preserved.

(e) The Operator hereby releases and agrees to save the Government harmless from all claims or demands under or arising out of said Contract, except as otherwise provided in this Amendment No. 10.

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

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By Director, Office of
~~Administrator, Defense~~ Minerals
Exploration ~~Administration~~

THE NEW JERSEY ZINC COMPANY

By_____

Title_____

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code

September 10, 1958

Memorandum

To: The Files

From: W. R. Griswold, Director
Division of Base Metals

Subject: Justification for Amendment No. 10

Docket No. DMEA-4153 (Zinc)
Contract No. Idm-E950
The New Jersey Zinc Company

By letter of August 20, 1958, the Operator requests a suspension of operations until January 1, 1959 and an extension of work completion date to August 1, 1959.

Ordinarily we might be inclined to deny this request, since it is already possible to certify the project. Actually the project is of a dual nature, comprising two areas, the Independence and the Lawson. Independence work has already found some ore, though a deposit of large mass has not been indicated. Lawson work so far is negative.

If we should certify the project now and close it out we would be in an indefinite position "some ore, but probably not enough to make a mine."

We have many projects in the long Copper Ridge area in Tennessee, while we have found ore in some yet so far we have failed to indicate massive tonnages, as has been done in the nearby Mascot-Jefferson City area. Hence it would seem to the best interest of the Government to permit a delay in order to get the project completed, to see if we can prove really substantial ore tonnages and have a proven ~~vein~~ mine, which would warrant the necessary installations.

W. R. Griswold

Form 7
-56)

OFFICIAL FILE COPY

Date	Surname	Code
9-5		140

C

INTERIOR DEPT.
SEP 5 - 1958
SOLICITOR

September 5, 1958

Memorandum

To: Associate Solicitor, Division of Mineral Resources

From: W. R. Griswold, Director
Division of Base Metals

Subject: Preparation of Amendment No. 10

Docket No. DMEA-4153 (Zinc)
Contract No. Idm-E950
The New Jersey Zinc Company
Independence Area
Hancock County, Tennessee

Will you kindly prepare an Amendment No. 10 to the cited contract which will:

Recess from August 1, 1958 to January 1, 1959;

Extend completion period from March 1, 1959 (set by Amendment No. 6) to August 1, 1959;

Write in a proviso that, if the work is not started by January 1, 1959 or not completed by August 1, 1959, the contract is thereby cancelled;

Repayment period should be changed from 30 years from date of contract to 32 years;

Do not put in a "pseudo-certification" clause since we will certify later on; and

Preserve the Government's rights to certify.

W. R. Griswold

WRG/izm

RECEIVED
SEP 5 1958
ASSOC. SOLICITOR
MINERAL RESOURCES

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

August 21, 1958

DATE		
8/25	C	220
		130
8/25	Bris	500

Memorandum

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tennessee

Subject: DMEA-4153, Idm-E950 (zinc) The New Jersey Zinc Co. Independence area, Hancock & Hawkins Counties, Tennessee.

Enclosed are the original and two copies of a letter from the Operator requesting a recess of the project, with a corresponding extension of the time for completion. The Company is faced with a reduced exploration budget and therefore wishes to postpone the continuation of this work.

Results to date at the original Independence area (Stage I) are sufficient for a certification of discovery, which of course would apply to the whole contract. However, work at the Lawson area (Stage II) has not yet progressed far enough to yield any significant reserves.

Because Independence is far removed from existing mines and mills, the orebody here is not likely to be mined until a sufficiently large block of ore is outlined to justify construction of a mill. Although reserve figures for the area explored are not yet calculated, it is unlikely that this quantity has been discovered. Therefore, we consider it to be in the Government's interest to continue exploration of both the Independence and Lawson areas.

Following is a brief summary of work to date:

	Independence	Lawson
Authorized footage	35,000	35,000
Completed "	18,191	5,942
No. of ore holes	7	0
No. of shine holes	6	5
No. of barren holes	10	6

It is thus obvious that, even without a recess, the work outlined in the contract will not be completed by March 1, 1959, the date specified in Amendment No.6.

The Operator notified us in July that they were temporarily stopping drilling on this project in order to move the drill to Big War Creek, but they hoped to resume drilling on the Lawson area during August. A conference of Company officials at New York last week precipitated the decision to request the recess. The Operator's geologist stated that, even if the request for extension of the completion date cannot be granted, they still want to recess until January 1, 1959.

If it is at all possible, we would like to see this recess and a time extension granted, so as not to put a squeeze on the Operator at a time when the lead-zinc mining companies are hard pressed anyway. Therefore, we recommend approval of the request for the recess. If possible, a more realistic completion date might be substituted for the present date of March 1, 1959. Based on 1500 feet per month at each area, which is comparable with past progress on the project, such a date would be August 1, 1960.

Robert A. Laurence

Robert A. Laurence
Executive Officer, DMEA-Reg. V

V. J. Lynch

V. J. Lynch, Member
Bureau of Mines

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)
CABLE ADDRESS
"JERSEZINC"
160 FRONT STREET
NEW YORK 38, N.Y.
HORSE HEAD PRODUCTS ®

PLEASE ADDRESS REPLY TO
JEFFERSON CITY, TENNESSEE
August 20, 1958

Mr. R. A. Laurence, Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 2, Tennessee

Subject: DOCKET NO. DMEA - 4153 (ZINC)
INDEPENDENCE AREA
HANCOCK COUNTY, TENNESSEE
CONTRACT NO. IDM E-950

Dear Mr. Laurence:

Request is hereby made to recess work under the subject contract for a period of time expiring January 1, 1959 and for an extension of the completion date until August 1, 1959.

Recess of work under this contract is made necessary because of the present depressed condition of the zinc industry which requires a reduction in current exploration expenditures. The recess of drilling activities on this project will provide time for continued appraisal of recently acquired geochemical work, further study of the geology of the area, and a re-evaluation of the data accumulated by the work done to date. The requested recess and attendant additional study and analysis of data should result in more effective expenditure of the exploration effort on this project.

Yours very truly,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford
General Superintendent

A. D. Hoagland/dm
In quadruplicate

RECEIVED
AUG 21 1958
U. S. Geological Survey
Geologic Division
Knoxville, Tenn.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

ORIGINAL FILE COPY
DMEA
RECEIVED 15 1958

DATE	INITIALS	CODE
8/18	J.G.	825
	WPY	500

August 13, 1958

Memorandum

To: Operating Committee, DMEA - Washington

From: Executive Officer, DMEA - Region V - Knoxville

Subject: Amendment No.9, DMEA-4153, Idm-E950, The New Jersey zinc Co., Hancock County, Tennessee

Attached are the original and Audit copies of the subject signed amendment. The usual distribution of the other copies has been made.

Robert A. Laurence

Robert A. Laurence

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
7/31	Griswold	300
8-1	Chamber	800
		180
8/1	Johnson	110
/	Hutchinson	100
8/1	C D	220
/		500

AUG 1 1958

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4153 (Zinc)
The New Jersey Zinc Company
Independence Area
Hancock County, Tennessee
Contract No. Idm-E950

Yopes

Dear Mr. Laurence:

As requested in your July 22 letter, we are enclosing the original and four copies of a proposed Amendment No. 9 to the cited contract, which have been signed by the Administrator for the Government.

If the Amendment meets with your approval, kindly present it to the Operator for signature and make distribution in the usual manner. Otherwise, and if any proposed change should be beyond your delegated authority, all copies should be returned, with your comments.

Two extra copies of the Amendment are enclosed for use of the Field Team.

Sincerely yours,

W. S. Martin

ACTING Chairman, Operating Committee

Enclosures

APPROVED:

P. F. Yopes

Member, Bureau of Mines

Thor H. Kjilsgaard

Member, Geological Survey

WRGriswold/dl 7-31-58
cc to: Docket
Admr. R. File
Oper. Comm.
FT. REG. V
Mr. Lamb, USBM
Mr. Killsgaard, USGS
Chron.

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
7/28		140

July 25, 1958

C

INTERIOR DEPT.
JUL 28 1958
SOLICITOR

MEMORANDUM:

To: Associate Solicitor, Division of Mineral Resources

From: Director, Division of Base Metals

Subject: Preparation of Amendment No. 9
Docket No. DMEA 4153
The New Jersey Zinc Company (Zinc)
Hancock Co., Tennessee
Contract No. Idm-E950

Will you kindly prepare an Amendment No. 9 to the cited Contract which will add land to the contract, as requested in the Field Team letter of July 22 and the Operator's letter of July 18, 1958, effective July 1, 1958.

W. R. Griswold, Director
Division of Base Metals

WRGriswold/dl
cc to: Docket
Chron.

RECEIVED
JUL 28 1958
ASSOC. SOLICITOR
MINERAL RESOURCES

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

July 22, 1958

OFFICIAL FILE COPY
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RECEIVED
7/24 N.G. 225 130 500

Memorandum

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tennessee

Subject: DMEA-4153, Idm-E950 (zinc) The New Jersey Zinc Co., New York, N.Y. Independence Area, Hancock County, Tennessee

Enclosed is a letter from the Operator, requesting addition of a 104-acre tract to the contract area, and one copy of two option agreements.

Although it is reasonably certain that certification of discovery will be recommended, we recommend approval of this amendment. It is probable that this property will benefit from the exploration project and it should be added to the project area.

If you agree, please prepare the amendment (No.9) and send it to us for presentation to the Operator.

Robert A. Laurence
Robert A. Laurence
Executive Officer, DMEA
Region V

V. J. Lynch
V. J. Lynch, Member
Bureau of Mines

THE NEW JERSEY ZINC COMPANY

(ESTABLISHED 1848)

CABLE ADDRESS
"JERSEZINC"

160 FRONT STREET

NEW YORK 38, N.Y.

HORSE HEAD PRODUCTS ®

PLEASE ADDRESS REPLY TO
JEFFERSON CITY, TENNESSEE

OFFICIAL FILE COPY
DMEA
RECEIVED JUL 24 1958

DATE	INITIALS	CODE

July 18, 1958

Mr. R. A. Laurence, Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 3, Tennessee

RE: DOCKET NO. 4153 (ZINC) IDM-E950
LAWSON-INDEPENDENCE AREA, TENNESSEE

Dear Mr. Laurence:

We have acquired an option on the approximately 104 acre Hilton-McMillan property in the contract area. The location of this property is shown on maps AX Tenn 568 and AX Tenn 567 which accompany our application docket number 4784. This property is shown as two separate properties identified as D. Helton and T. J. McMillan. Actually, the property is owned by the heirs of L. D. Hilton and U. G. McMillan, each group owning a 1/2 undivided interest in the whole. Recent drilling has shown mineralization in proximity to this property indicating the desirability of including it within the captioned project area.

Copies of the short form option contract covering the interest of the L. D. Hilton heirs and another covering the interest of the U. G. McMillan heirs are enclosed, herewith. We request that this property be included within the scope of contract Idm-E 950.

Yours very truly,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford

General Superintendent

A. D. Hoagland/dm
In duplicate

RECEIVED
JUL 21 1958
U. S. Geological Survey
Geologic Mapping
Knoxville, Tenn.

similar contract
on left side

OFFICIAL FILE COPY
DMEA
RECEIVED JUL 24 1958

DATE	INITIALS	CODE

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 19th day of June, 1958, by and between MRS. L. D. HILTON (WIDOW), DINAH HILTON JOHNSON, E. N. HILTON, WALTER HILTON, GERALINE HILTON HURD, ARNOLD HILTON, LYDIALEE HILTON HURD, IVAL HILTON McMILLAN, W. C. HILTON, of Hawkins County, Tennessee, and JOYCE HILTON, of Washington, D. C., 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 June 19, 1963, upon payment of sums of money agreed upon, the exclusive right and option to purchase their one-half (1/2) undivided interest in all minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, in, under or upon the following described premises:

SITUATE in the Third Civil District of Hawkins County, Tennessee, containing 104 acres, more or less, and bounded generally as follows:

On the North by the lands of George Robinson;
On the East by the lands of C. C. Lawson and Mack Horton;
On the South by the lands of Johnson and Manis; and
On the West by the lands of Kyle Price.

Grantors acquired a one-half (1/2) undivided interest in and to the above described property as the widow and only heirs-at-law of L. D. Hilton, deceased. L. D. Hilton acquired title by the following deeds, of record in the Register's Office for Hawkins County, Tennessee: (1) Deed of Pardee Lawson, dated July 15, 1948, Deed Book 102, Page 264; (2) Deed of Kyle H. Johnson, dated June 1, 1950, Deed Book 106, Page 98.

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.

Mrs. L. D. Hilton
Mrs. L. D. Hilton (widow).

Dinah Hilton Johnson
Dinah Hilton Johnson.

E. N. Hilton
E. N. Hilton.

Walter Hilton
Walter Hilton.

Geraldine Hilton Hurd
Geraldine Hilton Hurd.

Arnold Hilton
Arnold Hilton.

Lydialee Hilton Hurd
Lydialee Hilton Hurd.

Ival Hilton McMillan.

W. C. Hilton.

Joyce Hilton.

State of Tenn.
~~DISTRICT OF~~ COLUMBIA
Hawkins County

Personally appeared before me, Harold J. Varner, a Notary Public in and for said County and State, the within named bargainor, JOYCE HILTON, 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 28 day of June, 1958.

Harold J. Varner
Notary Public.

Commission Expires: 4-11-60

STATE OF TENNESSEE

HAWKINS COUNTY

Personally appeared before me, Ben S. Catett, a Notary Public in and for said County and State, the within named bargainors, MRS. L. D. HILTON (WIDOW), LINAH HILTON JOHNSON, E. N. HILTON, WALTER HILTON, GERALINE HILTON HURD, ARNOLD HILTON, LYDIALEE HILTON HURD, IVAL HILTON McMILLAN, W. C. HILTON, 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 19 day of June, 1958.

Ben S. Catett
Notary Public.

Commission Expires: 4-21-62.

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

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 19th day of June, 1958, by and between TRYPHENA McMILLAN (WIDOW), THOMAS J. McMILLAN, HAZEL McMILLAN WILDER, RUBY McMILLAN ROBINSON, of Hawkins County, Tennessee, ELVA McMILLAN BREWER, of Yakima, Washington, VANA McMILLAN BALLARD and LONA McMILLAN BIGHAM, of the State of South Carolina, 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 perious not to extend beyond June 19, 1963, upon payment of sums of money agreed upon, the exclusive right and option to purchase their one-half (1/2) undivided interest in all minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, in, under or upon the following described premises:

SITUATE in the Third Civil District of Hawkins County, Tennessee, containing 104 acres, more or less, and bounded generally as follows:

On the North by the lands of George Robinson;
On the East by the lands of C. C. Lawson and Mack Herron;
On the South by the lands of Johnson and Marks; and
On the West by the lands of Kyle Price.

STATE OF SOUTH CAROLINA

Chester COUNTY

Personally appeared before me, J. F. Dawes, a Notary Public in and for said County and State, the within named bargainor, LONA McMILLAN BIGHAM, 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 15 day of July, 1958.

J. F. Dawes.
Notary Public.

Commission Expires:

Grantors acquired title to a one-half (1/2) undivided interest in the above described premises as the widow and only heirs-at-law of U. G. McMillan, deceased. U. G. McMillan acquired title by deed of A. L. Miner, et ux., dated May 24, 1921, and of record in the Register's Office for Hawkins County, Tennessee, in Deed Book 100, Page 447.

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

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

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

Witness Mark:
Ben S. Cates
A. D. Hoagland.

Irvyena McMillan (Widow). X

Thomas J. McMillan. Mark

Hazel McMillan Wheeler.

Ruby McMillan Robinson.

Elna McMillan Brewer.

Vana McMillan Ballard

Lona McMillan Bigham.

STATE OF TENNESSEE

HAWKINS COUNTY

Personally appeared before me, Ben S. Cates, a Notary Public in and for said County and State, the within named bargainors, TRYPHENA McMILLAN (WIDOW), THOMAS J. McMILLAN, HAZEL McMILLAN WILDER, RUBY McMILLAN ROBINSON, 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 19th day of June, 1958.

Ben S. Cates
Notary Public.

Commission expires: 4-21-62.

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

STATE OF WASHINGTON

Yakima COUNTY

Personally appeared before me, J. G. Boyer, a Notary Public in and for said County and State, the within named bargainor, ELNA McMILLAN BREWER, 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 3 day of July, 1958.

J. G. Boyer
Notary Public.

Commission Expires: 5-30-60

STATE OF SOUTH CAROLINA

Chester COUNTY

Personally appeared before me, M. C. Strand Jr., a Notary Public in and for said County and State, the within named bargainor, VANA McMILLAN BALLARD, 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 7 day of July, 1958.

M. C. Strand
Notary Public.

Commission Expires:
At the pleasure of the Governor.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
7/10	[illegible]	500
7/11	[illegible]	130
"	[illegible]	110
"	[illegible]	100
7/14	[illegible]	220
		500

500

JUL 14 1958

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4153 (Zinc)
The New Jersey Zinc Company
Independence Area
Hancock County, Tennessee
Contract No. Idm-E950

Dear Mr. Laurence:

We have your letter of June 26, 1958, regarding drilling patterns for the cited project. Our letter of June 19, 1958, was an authorization, for a certain drilling outline, so you may permit the Operator to drill accordingly.

It is our general policy not to approve of drilling at closer distances than 200 feet from one hole to another. This contract was originally so set up. Nevertheless, we desire to be reasonable and, since long, pencil-like ore bodies are a possibility, we later amended the contract to permit hundred foot spacing on dip fence drilling.

We had felt from the beginning that it was hazardous to assume that any possible ore bodies would be intercepted by dip fences; hence, when the Operator likewise requested strike fences, we were glad to comply.

The Operator now requests holes on hundred foot off-sets which, judging from the next to last paragraph of your letter, could easily be followed by request for a hundred foot grid. For holes of a 700-800 foot average depth, this is out of line.

In essence, this Operator is now requesting a "blank-check" type of contract. We refer to your statement "it makes much more sense . . . than to stick to a pre-designated grid or fence pattern and spacing." Yet, we must point out that the Operator itself requested the "fences"; it was nothing which we forced upon it.

8623

In your memorandum of June 11, 1958 (on Docket DMEA-4580), you refer to the Thorn Hill project, DMEA-4422. Essentially this contract contemplated drilling 600-foot holes on a 300-foot grid pattern. Obviously, we provided for hole adjustment as the work progressed, but we definitely did not envisage any tightly spaced hole clusters, as now requested by The New Jersey Zinc Company, in the Lawson area.

We realize that in a great many of our drilling projects the Operator must "play by ear" to a certain extent. He cannot foresee conditions which may later manifest themselves, any more than we can; hence, any contract must be subject to logical and proper amendments as the need arises.

But it has never been our policy to write "blank-check contracts nor to endorse relatively deep drilling on hundred foot grids.

Referring to your question as to whether we can demand that an Operator furnish a log for holes drilled on its own account, we doubt that any Operator would refuse such information, if the work was done on contract land.

Sincerely yours,

George C. Selfridge

(HB)

Chairman, Operating Committee

WRGriswold/er 7/9/58

Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

APPROVED:

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

Thor H. Kiilsgaard (HB)
Member, Geological Survey

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 27 1958

6/27	C	220
6/30	WM.	500

June 26, 1958

Memorandum

To: Operating Committee, DMEA, Washington, D. C.

From: Field Team, DMEA, Region V, Knoxville, Tennessee

Subject: DMEA-4153, Idm-E950 (Zinc)
The New Jersey Zinc Company, New York, New York
Independence Area, Hancock County, Tennessee

Reference is made to your letter of June 19:

We have re-read our memo of June 4, and fail to see what is unclear about either the memo or the sketch which accompanied it. As shown on the sketch, any hole drilled on the third and fourth sides of the 400-foot square, after the first two sides have been completed on 100-foot centers, automatically forms a 2-hole fence less than 400 feet from another fence, in violation of the provisions of the contract.

Therefore, as we interpret the contract, the Operator cannot drill "a fully closed box of holes 400 feet to a side, with holes spaced at hunderd foot intervals on all four sides." Instead, they are restricted to a 400-foot square grid pattern with intermediate holes at 100-foot centers on only one dip fence and one strike fence. This, we think, unnecessarily restricts the proper application of geology to the exploration project.

It is becoming apparent to us that each Copper Ridge ore shoot is an individual feature, not necessarily like any other in shape, extent, and structural control. Therefore, holes on strike or dip fences, or intermediate rake fences, or even at irregular offsets not on any pre-designated line, may be desirable in the early stages of a project. Once the structural control and probable trend of the particular ore-shoot is determined, a wider-spaced pattern can then be used.

We do not have a larger-scale base map on which to plot the holes (LA-1 to LA-8) already drilled in the Lawson, or Stage II, portion of the Independence area. However, these locations are shown

on the map (1"=660') which accompanies the May voucher. The faults referred to in Mr. Crawford's May 27 letter are also shown on that map. One passes between "CC" and "Lawson" on the map and trends northwestward toward hole no. LA-1. The other, cut in hole LA-7, is probably an extension of one or both of the two short faults displacing the "d"-"e" contact about 990 feet S. 32° E. from hole LA-7. Hole LA-9, as requested by Mr. Crawford, would be 100 feet N. 60° E. from hole LA-6, 200 feet down dip from LA-8, on a dip fence.

It seems worth noting that, had the Operator drilled hole LA-9 200 feet farther down dip so as to be on the 400-foot square (assuming for the sake of argument that your interpretation of a "fully closed box" is correct), it could have been done without prior Government approval, but the hole would have been approximately 350 feet deeper than at the requested location.

No other specific hole sites, on or off the 400-foot grid were requested in Mr. Crawford's letter of May 27, or discussed by us with Mr. Hoagland on that date. It was, however, suggested by Mr. Hoagland that additional holes, not on the 400-foot grid pattern might be requested as information is derived from LA-9 and other holes. We agree with this in principle, as it makes much more sence to have each hole site selected after interpretation of all earlier holes, including the latest one drilled, than to stick to a pre-designated grid or fence pattern and spacing.

Incidentally, if the Operator drills hole LA-9 at its own expense, have we any right to insist on receiving the log of it?

Robert A. Laurence

Robert A. Laurence
Executive Officer

V. J. Lynch

V. J. Lynch, Member
U. S. Bureau of Mines

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
6/17	[illegible]	500
6/19	[illegible]	130
"	[illegible]	110
"	[illegible]	100
6/19	[illegible]	220
		500
6/19	Lamb	130

JUN 19 1958

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4153 (Zinc)
The New Jersey Zinc Company
Independence Area
Hancock County, Tennessee
Contract No. Idm-E950

Dear Mr. Laurence:

We have your memorandum of June 4, 1958, with enclosure, relative to drill hole locations under the cited contract. We do not understand your sketch of holes presently permissable; actually the Operator may now have a fully closed box of holes, 400 feet to a side, with holes spaced at hundred foot intervals on all four sides. Furthermore, rows of such boxes, or tiers of rows, would likewise be permissable. In view of the not inconsiderable depth of such holes, we feel that we have allowed an ample drill hole density, much more than is customary.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

WRGriswold/er 6/17/58

Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

APPROVED:

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

Thor H. Kiilsgaard (GCS)
Member, Geological Survey

P.S. Please send us a larger scale map showing all the holes drilled to date and those which the company wishes to drill, discussed in part, at least, in Mr. Crawford's letter of May 27, 1958. Perhaps fences diagonal to the strike and dip should be drilled rather than fences parallel to them.

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 13 1958

6/13 C 220
6/13 WRB 500

June 11, 1958

Memorandum

To: Operating Committee, DMEA - Washington

From: Executive Officer, DMEA - Region V - Knoxville, Tenn.

Subject: Signed Amendment No.7. The New Jersey Zinc Co. DMEA-4153, Idm-E950-zinc. Independence Area, Hancock County, Tennessee

Approved WRB

Transmitted are the Government and Audit copies of the subject amendment.

The usual distribution of the other copies has been made.

Robert A. Laurence
Robert A. Laurence

zm

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

ROOM 15 POST OFFICE BLDG
KNOXVILLE 2, TENN.

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 6 1958

DATE	INITIALS	CODE
6/6	C	220
		1304
6/6	WPC	500

June 4, 1958

Memorandum

To: Operating Committee, DMEA, Washington, D. C.

From: Field Team, DMEA, Region V, Knoxville, Tennessee

Subject: Docket No. DMEA-4153, Contract No. Idm-E950 (Zinc)
The New Jersey Zinc Company, New York, N. Y.
Independence Area, Hancock County, Tennessee

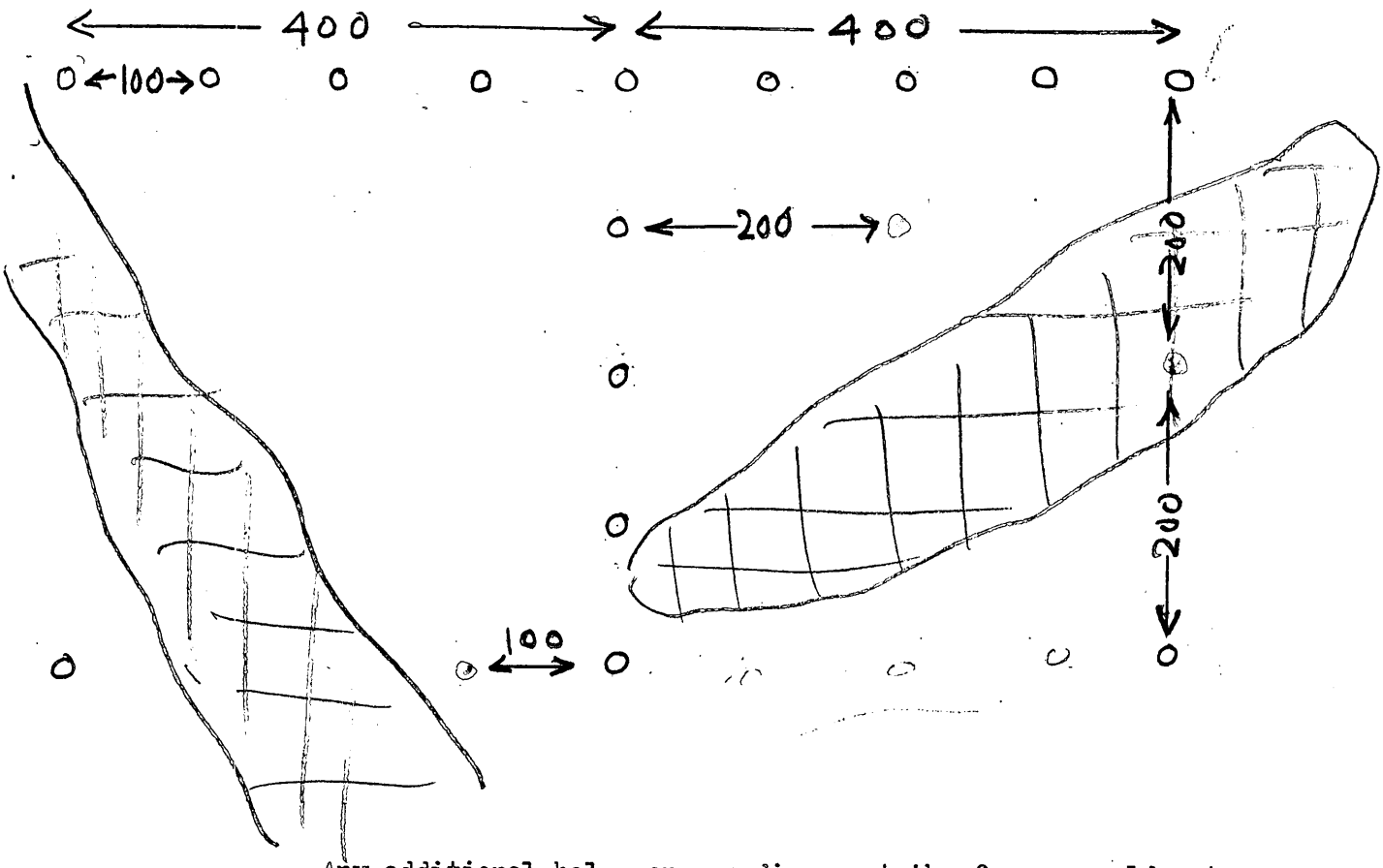
Reference is made to Mr. Laurence's phone call to Mr. Selfridge on June 2, and Mr. Selfridge's telegram of June 3.

Enclosed are the original and two copies of the Operator's letter requesting approval of a hole approximately 100 feet N. 60° E. from hole LA-6. This would be in conformity with Amendment No. 7 as a hole on a strike fence 100 feet from the nearest hole, but it automatically also forms a new 2-hole dip fence which would be less than 400 feet from the nearest fence.

We discussed this thoroughly with the Operator's geologist, Mr. A. D. Hoagland, and are in agreement with the reasons for locating this hole. In spite of the close spacing of this particular hole, it does not constitute blocking ore. Its purpose is to determine structural control of a possible ore shoot, as explained in the Operator's letter.

It is becoming increasingly evident that Copper Ridge ore bodies are individualistic bodies, having some features common to all, but that shape, alignment and local structural control is not one of those features. The shoots may lie with strike or dip, or rake at almost any angle in between. Further, they may be long and narrow, so that it is now obvious that widely-spaced dip and strike fences, set in a rigid pattern, may very well miss a good ore shoot.

As we now interpret the contract and amendments, this would be the closest possible drill pattern (open circles being permissible holes):



Any additional holes on any dip or strike fences would automatically create a new 2-hole fence, as shown by the holes indicated in red. The shaded pattern indicates how raking shoots, controlled by vague cross-structures, could be missed in such a pattern.

Therefore, we request permission to approve drilling hole LA-9 at the site requested, and to approve similar offsets in the future when, in the judgment of the Operator and the Field Team, it is necessary in order to determine structural or other data.

A very similar situation has arisen on DMEA-4580 (B. H. Putnam), which we will discuss in a separate memorandum.

16 holes [illegible]
27 [illegible]
12 [illegible] on 2 diagrams

Robert A. Laurence
Robert A. Laurence
Executive Officer

V. J. Lynch
V. J. Lynch, Member
Bureau of Mines

Enclosures 3

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)

CABLE ADDRESS
"JERSEZINC"

160 FRONT STREET

NEW YORK 38, N.Y.

HORSE HEAD PRODUCTS ®

RECEIVED
JUN 2 1958
U. S. Geological Survey
Geologic Division
Knoxville, Tenn.

PLEASE ADDRESS REPLY TO

Jefferson City, Tennessee
May 27, 1958

ORIGINAL FILE COPY
DMEA
RECEIVED JUN 6 1958

DATE	INITIALS	CODE

Mr. R. A. Laurence, Executive Officer
Defense Minerals Exploration Administration
Room 13, Post Office Building
Knoxville 2, Tennessee

Re: Docket No. DMEA-4153, Idm E-950 (Zinc)
THE NEW JERSEY ZINC COMPANY
INDEPENDENCE-LAWSON AREA, SECTOR I
HANCOCK COUNTY, TENNESSEE

Dear Mr. Laurence:

Permission is hereby requested to drill a hole under the subject contract in a location approximately 100 feet N 60° E from hole LA-6. This hole would be approximately 200 feet down dip (S 30° E) from hole LA-8. The reasons for drilling a hole in this location were reviewed in detail with you and Mr. Weedo in my office this morning. The salient points are summarized below:

1. Structure: Based on the drilling to date, it appears that holes LA-4, LA-6, and LA-8 lie on a structural terrace bounded by two faults. There is some evidence that these faults may have influenced the localization of ore in this area, and it is postulated that the "terrace" area between the faults is a favorable locus for ore. Hole LA-9 which is 100 feet northeast of LA-6 would test an attractive part of the terrace at moderate depth. To test this structural environment on the regular 400 or 500 foot section interval would require a substantially deeper hole.

2. Mineralization and Alteration: Drill hole LA-4 found 9 feet of 4.61% Zn, the best mineralization so far encountered in the Lawson Area. Drill hole LA-6 was 100% dolomite in the "R" and "S" beds and was, in addition, relatively strongly mineralized with pyrite. These are interpreted as favorable indication for proximity to ore. Drill hole LA-7 encountered zinc mineralization associated with one of the faults mentioned above. Drilling at the proposed site would

be testing within the most interesting mineralized area and the possibility of it finding ore is considered to make it a reasonable venture.

To summarize, it appears to us from the available geologic evidence that the drilling of LA-9, located as specified above, is a warrantable item of exploration and that it will obtain a maximum amount of information at a minimum of cost.

Yours very truly,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford

General Superintendent

A. D. Hoagland/jf
In Quadruplicate

RECEIVED
JUN 2 1958
U. S. Geological Survey
Geologic Mapping
Knoxville, Tenn.

7

OFFICIAL FILE COPY

Date	Surname	Code
6/5	[illegible]	110
	[illegible]	100
		225
6/5	[illegible]	
6/6	[illegible]	500

June 4, 1958

MEMORANDUM

To: Administrator, DMEA

From: George C. Selfridge, Special Assistant

Subject: Proposed Amendment No. 7
Docket No. DMEA-4153 - Zinc
The New Jersey Zinc Company
Independence Area
Hancock County, Tennessee
Contract No. Idm-E950

Mr. Laurence telephoned the writer on June 2, 1958, relative to the subject amendment. He asked if it would be possible for him to reduce the distance between sections from 500 to 400 feet in order to halve the Stage I sections of 800 feet (actually the original sections are on 1200-foot centers).

He also asked about drilling offset holes from the fences on 100-foot centers for structural information but pointed out that by so doing one would have a grid system and would start other fences at intervals less than provided for by the contract. The writer asked how deep the holes would be and how many holes had disclosed ore. Mr. Laurence replied that the holes were probably around 600 or 700 feet deep but he did not know how many ore holes there were.

The writer discussed DMEA policy relating to the distances between fences and the depth of holes drilled. He then informed Mr. Laurence that he would discuss the matter with Mr. Griswold and teletype an answer, which was done. Drilling depths range to 1400 feet and both Mr. Griswold and the writer felt that while it would be all right to reduce the sections from 500 to 400 feet, it was not the intent of the contract to allow other offset holes because it was felt that holes drilled on 100-foot centers along sections only 400 feet apart should reasonably outline ore bodies of significant tonnage expectable for the average depth drilled.

George C. Selfridge.

GCSelfridge/esf
cc to: Docket
Admr. R. File
Mr. Griswold
Mr. Selfridge

8623

orm 7
6)

OFFICIAL FILE COPY

Date	Surname	Code
6/3		500
6/3		130
6/4		130
		130
		110
"		100
6/4		220
		500

JUN 3 1958

WRGriswold/er Rm 4444, Ext. 3669

DMEA - Division of Base Metals

14X4401(01) Revolving Fund,
Defense Production Act, Interior,
(Transfer to Office of Secy.)

TELETYPE
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Date:

To: Mr. Robert A. Laurence, Executive Officer, DMEA Field Team, Region V, Knoxville, Tennessee

Re Docket DMEA 4153, New Jersey Zinc Company, Contract No. Idm-E950, proposed Amendment No. 7, you are authorized only to change 500 foot section interval to 400 feet before presenting Amendment for signature.

George C. Selfridge
Chairman, Operating Committee

WRGriswold/er 6/3/58
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

8623

MEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code

June 3, 1958

Memorandum for the Docket

From: Director, Division of Base Metals

Subject: Phone Conversation with Mr. Robert Laurence, Executive Officer, Region V, on Docket No. DMEA-4153, The New Jersey Zinc Company, Independence Area, Hancock County, Tennessee, Contract No. Idm-E950, Zinc.

Telephone conversation on June 2, 1958, with Mr. George Selfridge about the proposed Amendment No. 7, about section interval footage. Mr. Selfridge requested that a Teletype be sent authorizing the change in the footage before giving the Amendment for signature.

WRG

W. R. Griswold

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

May 26, 1958

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 28 1958

DATE		
5/28	C	220
		130
5/28	~~WPL~~	300

Memorandum

To: Operating Committee, DMEA - Washington

From: Executive Officer, DMEA - Region V - Knoxville

Subject: Signed Amendment No.8, DMEA-4153, Idm-E950-zinc. The New Jersey Zinc Co., Independence Area, Hancock County, Tennessee

Approved by WPL

Transmitted are the Government and Audit copies of the subject amendment.

The usual distribution of the other copies has been made.

Robert A. Laurence
Robert A. Laurence

OFFICIAL FILE COPY

Date	Surname	Code
5/19	[illegible]	500
"	Chambers	100
5/19	[illegible]	130
"	[illegible]	110
"	[illegible]	100
5/20	[illegible]	220
		500

500

MAY 20 1958

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 2, Tennessee

Re: Docket No. DMEA-4153 (Zinc)
The New Jersey Zinc Company
Independence Area
Hancock County, Tennessee
Contract No. Idm-R950

Dear Mr. Laurence:

With reference to your memorandum of April 29, 1958, we have prepared a proposed Amendment No. 7 to the cited contract. The original and four copies, which have been signed by the Administrator for the Government, are enclosed.

If the amendment meets with your approval, please present it to the Operator for approval and signature and, when completed, distribute the copies in the usual manner. Otherwise, and if any proposed change should lie beyond your delegated authority, all copies should be returned to us with your recommendations.

Two extra copies of the proposed amendment are enclosures for the use of the Field Team.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

WRGriswold/er 5/19/58

Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

Enclosures
RCVED:

P. F. Yopes (GCS)
Director, Bureau of Mines

Thor H. Kiilsgaard (GCS)
Director, Geological Survey

8623

orm 7
56)

OFFICIAL FILE COPY

Date	Surname	Code

May 19, 1958

Memorandum for the Files

From: Director, Division of Base Metals

Subject: Justification of Amendment No. 7, for Docket No. DMEA-4153, The New Jersey Zinc Company, Independence Area, Hancock County, Tennessee, Contract No. Idm-E950, Zinc.

The original contract was predicated upon the idea that such ores as might exist would be "fingers" lying parallel to the strike.

When the writer was in this area a couple of years ago he pointed out that this appeared to be taking too much for granted. For example, a diagonal stress, causing local wrinkling and shattering, could very easily serve as a favorable locus for mineralization also. Now it appears that the Operator recognizes the need for searching for possible diagonal ore bodies.

W. R. Griswold

WRG/er

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code

500

May 12, 1958

Memorandum

To: Associate Solicitor, Division of Minerals Resources

From: Director, Division of Base Metals

Subject: Preparation of Amendment No. 7 for Docket No. DMA-4153, The New Jersey Zinc Company, Independence Area, Hancock County, Tennessee, Contract No. Idm-E950

Will you please prepare an Amendment No. 7 to the cited contract, effective as of the contract date, which will:

DELETE the third paragraph of Exhibit "A" of the contract and substitute the following:

"Since the ore zones appear to lie parallel to the strike of the beds, and also, at times, to plunge at high angles to the strike into the dips of the beds; the work plan contemplates both a series of wide-spaced dip sections and also wide-spaced strike sections. The section interval may not be less than 500 feet, nor the drill hole spacing in any individual section be less than 100 feet."

W. R. Griswold

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 9 1958

DATE		CODE
5/9	C	220
5/9	WPB	500

May 7, 1958

Memorandum

To: Operating Committee, DMEA, Washington.

From: DMEA Field Team, Region V, Knoxville, Tennessee.

Subject: DMEA-4153, Idm-E950 (Zinc)
The New Jersey Zinc Company, New York, N. Y.
Independence area, Hancock County, Tennessee.

Enclosed is a copy of a request by the Operator to add property to the subject contract, accompanied by a copy of the option agreement between the Operator and the land owner.

Amendment No. 8, authorizing this addition, has been prepared and sent to the Operator for execution. Copies will be distributed as usual when they are received from the Operator.

Robert A. Laurence
Robert A. Laurence
Executive Officer

V. J. Lynch WAB
V. J. Lynch, Member
Bureau of Mines

Enclosures (2)

X 1086G 24M 12-56

COPY

THE NEW JERSEY ZINC COMPANY

EXPLORATION DEPARTMENT

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 9 1958

Jefferson City, Tennessee
April 29, 1958

Mr. R. A. Laurence, Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 2, Tennessee

Subject: DOCKET NO. DMEA 4153 - Idm E 950 (ZINC)
INDEPENDENCE-LAWSON AREA, SECTOR I
HANCOCK COUNTY, TENNESSEE

Dear Mr. Laurence:

On February 17, 1958, the mineral and mining rights to the Kyle Johnson property of 50 acres were optioned by The New Jersey Zinc Company. This property is bounded on the north by L. D. Helton, on the east by the property of Chassie Lawson, on the south by the Clinch Valley road, and on the west by the lands of Mattie Vaughn, as shown on map AX-TENN-B-568 which accompanies the contract. A copy of the option agreement between Kyle Johnson and The New Jersey Zinc Company is included, herewith. We wish, in accordance with the terms of the contract, to include this property within its scope and an amendment so including it is requested.

Yours very truly,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford

General Superintendent

W. J. Colletto

W. J. Colletto/jf
In duplicate

RECEIVED
MAY 1 - 1958

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 9 1958

DATE	INITIALS	CODE

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 17th day of February, 1958, by and between KYLE H. JOHNSON and wife, LINDA JOHNSON, of Hawkins County, Tennessee, hereinafter called the Owners, parties of the first part, and THE NEW JERSEY ZINC COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company:

W I T N E S S E T H

That for and in consideration of the sum of ONE ($1.00) DOLLAR cash and other good and valuable considerations in hand paid, the receipt of which is hereby acknowledged, the parties of the first part grant unto the party of the second part for a period of one year from the date hereof, with the privilege of extension for further periods not to extend beyond February 17, 1961, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, in, under or on the following described premises:

SITUATE in the Third Civil District of Hawkins County, Tennessee, containing 50 acres, more or less, and bounded generally as follows:

On the North by the L. D. Melton Heirs;
On the East by the property of Chessie Lawson;
On the South by the Clinch Valley Road; and
On the West by the lands of Mattie Vaughn.

Being the same property conveyed to the Owners by Deed of Sam K. Jones, et ux., dated December 30, 1954, and of record in the Register's Office for Hawkins County, Tennessee, in Deed Book 116, Page 553.

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 the entire 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 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 date first above written.

Kyle H. Johnson

Kyle H. Johnson.

Dinah Johnson

Dinah Johnson.

STATE OF TENNESSEE

HAWKINS COUNTY

Personally appeared before me, Ben S. Catlett, a Notary Public in and for said County and State, the within named bargainors, KYLE H. JOHNSON AND WIFE, DINAH JOHNSON, 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 Hawkins County on this 20th day of February, 1958.

Ben S. Catlett

Notary Public.

Commission Expires: 4-16-58

Qualified in Hawkins County under the provision of Tennessee Code, Section 8-1809, et seq.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

April 29, 1958

DMEA RECEIVED MAY 1 1958		
DATE	INITIAL	CODE
5/1	C	220
		1304
5/1	WRh.	500

Memorandum

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tennessee

Subject: DMEA-4153, Idm-E950(zinc) The New Jersey Zinc Company, Independence Area, Hancock County, Tennessee

Reference is made to Amendment No. 1, and to Amendment No.5, item 2. Also to the Field Examination Memorandum dated Sept. 17, 1957 on DMEA-4784(subsequently incorporated in DMEA-4153 by Amendment No.5), page 3, lines 25 to 29.

As we interpret the amendments cited above, drilling a strike fence on the Lawson area is not authorized, although such provision was requested. Results of drilling in the Lawson area now indicate the need for strike fences as well as dip fences, with hole spacing at a minimum of 100 feet.

Therefore, we recommend that you prepare an amendment similar to Amendment No.4, DMEA-4286, Idm-E982(Big War Creek). The justification is the same as that for the Big War Creek amendment.

Robert A. Laurence
Robert A. Laurence
Executive Officer, DMEA-Region V

V. J. Lynch
V. J. Lynch, Member, Bureau of Mines
DMEA

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

February 17, 1958

OFFICIAL FILE COPY
DMEA
RECEIVED FEB 19 1958

DATE		CODE
2-19	C	220
2-19	~~[illegible]~~	500
	Kling	

Memorandum

To: Operating Committee, DMEA - Washington

From: Acting Executive Officer, DMEA - Region V - Knoxville

Subject: Signed Amendment No.6, DMEA-4153, Idm-E950-zinc.
The New Jersey Zinc Co.
Independence Area, Hancock County, Tennessee

Transmitted is the original and one copy of the subject amendment.

The usual distribution of the other copies has been made by this office.

V. J. Lynch

V. J. Lynch

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

February 3, 1958

OFFICIAL FILE COPY
DMEA
RECEIVED FEB 5 1958

DATE	INITIALS	CODE
2/5	C	220
2/5	[illegible]	800
2/6	WRH.	~~500~~

Mr. Johnson Crawford
The New Jersey Zinc Co.
Jefferson City, Tennessee

Re: DMEA-4153-zinc
Independence Area
Hancock County, Tennessee
Contract Idm-E950

Dear Mr. Crawford:

In response to your request to extend the recess period for the Independence project, amendment No.6 (original and four copies enclosed) has been prepared.

Please note that this differs from your request, as discussed by telephone with Mr. Hoagland, in that recess is permitted only until July 1, 1958, and completion on or before March 1, 1959 is required. (See especially items 3, a, i, and 3, a, ii, of the proposed amendment).

If this amendment meets with your approval, please sign all the enclosed copies, keep the Operator's copy and return all the others to me. If any part of it does not have your approval, please return all copies unsigned, with suggested changes for our consideration.

Sincerely yours,

Robert A. Laurence
Executive Officer, DMEA
Region V

RAL/zm
cc
Lynch
Opr. Com-2
Shirley
Files

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
1/24	Griswold	500
1/24	Tachick	800
1/24	G.C.S.	130
1/29	Johnson	110
"	Bartholomew	100
		HB
1/31	C	220
		500

500

JAN 30 1958

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4153 (Zinc)
The New Jersey Zinc Company
Independence Area
Hancock County, Tennessee
Contract No. Idm-E950

Dear Mr. Laurence:

With reference to your memorandum of January 10, 1958, we are enclosing the original and four copies of a proposed Amendment No. 6 (two pages), to the cited contract, which have been signed by the Administrator, for the Government.

If the amendment meets with your approval, please present it to the Operator for approval and signature and, when completed, distribute the copies in the usual manner. Otherwise, and if any proposed change should lie beyond your delegated authority, all copies should be returned to us with your recommendations.

You should call the Operator's attention to the provisos that work must be resumed and completed on or before the stipulated dates, otherwise, the contract is automatically terminated.

Two extra copies of the proposed amendment are enclosed for the use of the Field Team.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

Enclosures
APPROVED:

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

Thor H. Kiilsgaard (GCS)
Member, Geological Survey

WRGriswold/er (1/17 & 24/58)
Copy to: Docket
Admr R. File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

8623

EA Form 7
12-56)

OFFICIAL FILE COPY

Date	Surname	Code
1/17	Trimmel	500
		130
		110
		100
		HB
		220
		500
1/17	Talbert	

500

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4153 (Zinc)
The New Jersey Zinc Company
Independence Area
Hancock County, Tennessee
Contract No. Idm-E950

Dear Mr. Laurence:

With reference to your memorandum of January 10, 1958, we are enclosing the original and four copies of a proposed Amendment No. 6 (two pages), to the cited contract, which have been signed by the Administrator, for the Government.

If the amendment meets with your approval, please present it to the Operator for approval and signature and, when completed, distribute the copies in the usual manner. Otherwise, and if any proposed change should lie beyond your delegated authority, all copies should be returned to us with your recommendations.

Two extra copies of the proposed amendment are enclosed for the use of the Field Team.

Sincerely yours,

Chairman, Operating Committee
WRGriswold/er 1/17/58
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

Enclosures

APPROVED:

Member, Bureau of Mines

Member, Geological Survey

8623

MEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code

500

January 20, 1958

Memorandum

To: Associate Solicitor, Division of Minerals Resources

From: Director, Division of Base Metals

Subject: Rewrite of Proposed Amendment No. 6 for Docket No. DMEA-4153, The New Jersey Zinc Company, Independence Area, Hancock County, Tennessee, Contract No. Idm-E950, Zinc.

I regret that I must ask you to rewrite the attached Amendment No. 6. It has been decided that if work is not actually started on or before January 1, 1959, the contract is thereby cancelled.

Also, the completion date of December 10, 1959, should be changed to January 1, 1960. Likewise, if the work is not actually completed by such date, the contract is thereby cancelled.

Please do not include a pseudo certification clause since work done so far will permit a certification whenever we care to make one.

W. R. Griswold

W. R. Griswold

WRG/er
Copy to: Docket
Chron.

8623

OFFICIAL FILE COPY

Date	Surname	Code

January 17, 1958

Memorandum for the Files

From: Director, Division of Base Metals

Subject: Justification for Amendment No. 6 for Docket No. DMEA-4153, The New Jersey Zinc Company, Independence Area, Hancock County, Tennessee, Contract No. Idm-E950, Lead.

The Operator has requested a year's continuance of the recess period from January 1, 1958 to January 1, 1959, for the purpose of additional geochemical work and evaluation of results obtained by drilling to date. The company cites a procedure of auger-drilling which it hopes will give more significant information than soil sampling on surface. This auger-drilling program should be completed in September of this year; allowing a few months for preparing maps and making an appraisal, plus a probable revision of the drilling program, would carry pretty well to year end.

Work to date has shown seven ore holes of a total of twenty three holes completed, which is considered as highly satisfactory. The Operator states that a million tons of zinc ores ($4\frac{1}{2}$ to 5% grade) are presently indicated and total potential is estimated at from 2 to 5 millions tons.

W. R. Griswold

WRG/er
Copy to: Docket
Chron.

8623

OFFICIAL FILE COPY

Date	Surname	Code

500

January 14, 1958

Memorandum

To: Associate Solicitor, Division of Minerals Resources

From: Director, Division of Base Metals

Subject: Preparation of Amendment No. 6 for Docket No. DMEA-4153, The New Jersey Zinc Company, Independence Area, Hancock County, Tennessee, Contract No. Idm-E950, Zinc.

Will you kindly prepare an Amendment No. 6 to the cited contract which will continue the recess period. The Amendment No. 3 allowed a recess from May 10, 1957 to January 1, 1958, we now wish to continue such period to January 1, 1959.

Likewise, we wish to again extend the completion period. Amendment No. 3 extended such period from July 1, 1957 to January 1, 1959. We now desire to extend the completion period to 3 years and seven months from the date of the contract.

W. R. Griswold

W. R. Griswold

WRG/er
Copy to: Docket
Chron.

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 18 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

WASHINGTON 25, D.C.

January 10, 1958

OFFICIAL FILE COPY
DMEA
RECEIVED JAN 13 1958

DATE		CODE
1/13	gb	220
		130
1/13	WRB.	500

Memorandum

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tennessee

Subject: DMEA-4153, Idm-E950(zinc) The New Jersey Zinc Co. Independence Area, Hancock County, Tennessee

Enclosed are the original and one copy of a letter from the Operator, requesting a one-year extension of the recess granted in Amendment No.3.

Because there will be useful data gained during the proposed recess extension, we recommend approval of the Operator's request. The proposed extension of the time for completion by 2 years is also recommended, because no extra time was provided when the Lawson area was added to the project by Amendment No.5.

Robert A. Laurence
Robert A. Laurence
Executive Officer, DMEA
Region V

V. J. Lynch
V. J. Lynch, Member
U. S. Bureau of Mines

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)
160 FRONT STREET
NEW YORK 38, N.Y.

CABLE ADDRESS
"JERSEZINC"

ORIGINAL FILE COPY
DMEA
RECEIVED JAN 13 1958
DATE | INITIALS | CODE

HORSE HEAD PRODUCTS ®

PLEASE ADDRESS REPLY TO

Jefferson City, Tennessee
January 9, 1958

Mr. Robert A. Laurence, Executive Officer
Defense ~~Minerals Exploration~~ Administration
Room 13, Post Office Building
Knoxville 13, Tennessee

RECEIVED
JAN 10 1958
U. S. Geological Survey
Contract Division
Knoxville, Tenn.

Subject: DMEA-4153 (ZINC) Idm E 950
THE NEW JERSEY ZINC COMPANY
INDEPENDENCE AREA, SECTOR I
HANCOCK COUNTY, TENNESSEE

Dear Mr. Laurence:

Request is hereby made for an amendment to the subject contract extending the period of recess granted in amendment number 3 from January 1, 1958 until January 1, 1959. It is further requested that the completion date be changed from January 1, 1959 to December 31, 1960. The reasons for these requests are summarized below:

(1) The study of data obtained in the work already completed under the project is incomplete. A further evaluation of the drill hole information may be rewarding in programming the additional drilling.

(2) The geochemical survey of the Independence area was restricted in coverage to a narrow belt spanning the stratigraphic zone adjacent to the "R" and "S" beds. Although these are the most prolific ore bearing horizons, ore may be expected over a substantially greater stratigraphic range, well into the lower part of the Mascot formation. A more extensive and detailed soil sampling program covering the area of sub-outcrop of the upper Kingsport and the Mascot formations is planned in 1958 to provide added information on mineralized soil areas. It is hoped that this work will indicate exploration targets not presently apparent. It is estimated that the proposed sampling program will be completed in August, 1958.

(3) Recent auger drilling at Big War Creek has revealed a significant area of mineralized sub-surface

"soil" related to zinc orebodies where there is only a weak surface expression of soil mineralization. It is probable that there are other important sub-surface anomalies with little or no surface expression. A limited amount of auger testing is planned in selected areas at Independence to search for sub-surface mineralized areas which would provide targets for the diamond drill. It is expected that the presently planned auger program at Independence should be completed by September of 1958.

It is probable that an additional extension of the recess period for the Independence drilling to provide time for further evaluation of drill data, additional surface soil sampling, and auger testing for sub-surface soil anomalies in selected areas would result in a more intelligent expenditure of drilling funds and would improve the chances for a successful result.

Yours very truly,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford

General Superintendent

A.D.Hoagland/jf
In Quadruplicate

RECEIVED
JAN 10 1958
U. S. Geological Survey
Geologic Division
Knoxville, Tenn.

ORIGINAL FILE COPY
DMEA
RECEIVED JAN 13 1958
MAIL REGISTRY CODE

January 10, 1958

Mr. Johnson Crawford, Supt.
The New Jersey Zinc Company
Jefferson City, Tennessee

Re: DMEA-4153 -Zinc
Independence Area
Hancock County, Tennessee
Contract No. Idm-E950

Dear Mr. Crawford:

Your letter of January 9, requesting a one-year extension of the recess of the Independence drilling has been forwarded to our Washington office, as the Field Team does not have the authority to approve such extensions.

We will notify you when a decision is reached.

Sincerely yours,

Robert A. Laurence
Executive Officer, DMEA
Field Team, Region V

RAL/zm
cc
Lynch
Opr. Com.-2
Shirley
Files

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

January 8, 1958

OFFICIAL FILE COPY
DMEA
RECEIVED JAN 10 1958

DATE		CODE
1-10	GG	220
1/10	WRG.	500

Memorandum

To: Operating Committee, DMEA, Washington, D. C.

From: Field Team, DMEA, Region V, Knoxville, Tennessee

Subject: Docket No. DMEA-4153, Contract No. Id,-E950 (Zinc
The New Jersey Zinc Company, New York, New York
Independence area, Hancock County, Tennessee

In a telephone call, the Operator advised us that drilling has not been resumed at this project. They want to extend the recess until geochemical soil sampling, which has been delayed by unfavorable weather, is completed and until approval of their 1958 exploration program has been received from their New York office.

The Operator will write a letter in the near future, specifically requesting this extension of the recess and an extension in the time allowed for completion. These will be forwarded to you as soon as received, together with our recommendations.

Robert A. Laurence
Robert A. Laurence
Executive Officer

V. J. Lynch
V. J. Lynch, Member
U. S. Bureau of Mines

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

November 14, 1957

RECEIVED NOV 18 1957		
DATE		
11-18	C	220
11/18	B	215
11/18	~~UPS~~	500

Memorandum

To: Operating Committee, DMEA - Washington

From: Executive Officer, DMEA - Knoxville, Tennessee

Subject: Signed Amendments - The New Jersey Zinc Company.

Transmitted are two signed copies each of the following amendments:

Idm-E~~x~~ 982, DMEA-4286, The New Jersey Zinc Co.
Amendment No.4. Big War Creek Area
Hawkins and Hancock Counties, Tennessee

Idm-E950, DMEA-4153, The New Jersey Zinc Co.
Amendment No.5. Independence Area-Sector I
Hancock County, Tennessee

The usual distribution of the other copies has been made by this office.

Robert A. Laurence
Robert A. Laurence

sm.
cc
Finance Officer

Lynch
Laurence

Amendments

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

DMEA
RECEIVED NOV 4 1957

11/4 C 220
11/4 500

November 1, 1957

Memorandum

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tennessee

Subject: DMEA-4153, Idm-E950(Zinc) The New Jersey Zinc Co. Independence Area, Hancock County, Tennessee

Reference is made to your letter of October 28, forwarding the proposed amendment No.5 to the subject exploration.contract.

We have forwarded the proposed amendment to the Operator for signature. However, we wish to point out that no change was made in the completion date. Amendment No.4 extended that date to January 1, 1959 and as the new work is not expected to begin until about January 1, 1958, this gives only one year for completion of Stage II (Lawson) drilling, although the Operator estimated, in the application, that the work would require sixteen months for completion. Obviously, no action on this is needed at this time, but it should be recognized that another extension of time will almost certainly be requested about a year from now. The Operator probably will ask now for some assurance of such extension, so as to plan the drilling schedule.

Robert A. Laurence
Robert A. Laurence
Executive Officer,
Region V

V. J. Lynch
V. J. Lynch, Member
Bureau of Mines

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D.C.
KNOXVILLE 2, TENN.

RECEIVED		
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11/4	C	220
11/4		800
11/5	WRD	500

October 31, 1957

Memorandum

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tennessee

Subject: DMEA-4153, Idm-E950(zinc) The New Jersey Zinc Co. Independence Area, Hancock County, Tennessee

Enclosed are 3 copies of a progress report submitted by the Operator, covering all work todate on the Independence project. Work is now temporarily recessed, but resumption and eventual completion of the project are planned.

One of the copies does not contain a set of drill logs. We are asking the Operator to send a set and they will be forwarded to you when we receive them.

Robert A. Laurence

Robert A. Laurence
Executive Officer, DMEA
Region V

V. J. Lynch

V. J. Lynch, Member
Bureau of Mines

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 413 POST OFFICE BLDG.
WASHINGTON 25, D.C.
KNOXVILLE 2, TENN.

OFFICIAL FILE COPY
DMEA
RECEIVED NOV 1 1957

DATE	INITIAL	CODE
11/1	C	220
11/4	~~WRB~~	500

October 30, 1957

Memorandum

To: Operating Committee, DMEA - Washington

From: Acting Executive Officer, DMEA - Region V - Knoxville

Subject: The New Jersey Zinc Company, DMEA-4153, Idm-E950-zinc
Independence Area, Handcock County, Tennessee
Signed Amendment No.4.

Transmitted are two signed copies of the subject amendment.

The usual distribution of the other copies has been made.

V. J. Lynch

V. J. Lynch

Amendments

X 10 8 24M 12-55

COPY

THE NEW JERSEY ZINC COMPANY

Jefferson City, Tennessee

EXPLORATION DEPARTMENT

Jefferson City, Tennessee
October 24, 1957

Mr. R. A. Laurence, Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 2, Tennessee

Dear Mr. Laurence:

We are enclosing, herewith, four copies of interim report covering work accomplished to date under DMEA No. 4153, Idm E 950 (Zinc) in the Independence area of the Copper Ridge Belt.

Geologic cross sections and detailed logs of all holes drilled under the project are in the envelope at the back of the report.

We feel that the work on this project to date has been productive and that its continuation is warranted.

Yours very truly,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford

Superintendent for Tennessee

A.D.Hoagland/jf
In Quadruplicate

RECEIVED
OCT 28 1957

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
10/18	[illegible]	500
10-28	Chandler	800
	[illegible]	500
10/25	Johnson	110
"	Bottendorf	100
10/28	gb	220
		500
10/25	[illegible]	130

500

B

OCT 28 1957

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4153 (Zinc)
The New Jersey Zinc Company
Independence Area
Hancock County, Tennessee
Contract No. Idm-E950

Dear Mr. Laurence:

With reference to your memorandum of September 17, covering the Lawson area, we have provided for the recommended work in the form of a proposed Amendment No. 5 to the cited contract. Due to the proximity of the Independence and Hidson areas under contracts we cannot also set up a separate contract for the Lawson work. We have noted, in the Helmuth Wedow, Jr. memorandum of September 17, the argument that the Lawson area presents its own particular targets; however it has always been our general policy that it is very much to the Government's advantage to enfold a target group into one contract. We refer you to Calumet and Hecla, DMEA-1206, Vinegar Hill Zinc Company, DMEA-1263, etc.

It has been suggested (your memorandum of July 30) that the three contracts of the St. Joseph Lead Company present a somewhat similar condition. Actually, the three St. Joseph targets, the flanks of the Czar, Courtois and Viburnum knobs, are each some six or seven miles removed from the others. Likewise, the acreages entailed under each contract are of substantial magnitudes.

The enclosed amendment, which has been signed by the Administrator, for the Government, consists of four pages and one map.

8623

If the amendment meets with your approval, please present it to the Operator for approval and signature and, when completed, distribute the copies in the usual manner. Otherwise, and if any proposed change should lie beyond your delegated authority, all copies should be returned to us with your recommendations.

Two extra copies of the proposed amendment are enclosed for the use of the Field Team.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

Enclosures

APPROVED:

Frank D. Lamb (GCS)

Member, Bureau of Mine

W. P. Williams (GCS)

Member, Geological Survey

WRGriswold/er 10/18/57
Copy to: Docket
Admr R File
Op. Committe
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

Docket DMEA-4153
Contract Idm-E950
The New Jersey Zinc Company

I have surnamed the attached Amendment No. 5; however, I would like to call your attention to the fact that while Stage II adds 35,000 feet of diamond drill hole to the project, it is not separated from Stage I in the cost statement given under paragraph 3 on pages 2 and 3. This may not be an engineering problem, but the auditor would have to look at it twice which, of course, he will do.

J. L. Chambers
10/21/57

We should be consulted
[illegible] for Stage I
and Stage II

[illegible]
Should have Stage I ? Stage II
[illegible] one of Stage I ?

Government's Copy

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4153

AMENDMENT NO. 5

It is agreed this _____ day of _____, 1957, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and the New Jersey Zinc Company, hereinafter called the "Operator," parties to that certain Exploration Project Contract Idm-E950, Docket No. DMEA-4153, dated May 10, 1956, as amended, hereinafter called the "Contract," that the Contract is further amended as follows:

1. In Annex I, land is added to the Contract as follows:

Names of property owners	Acres
C. C. Lawson and Claude Lawson	146 acres
Emma Brickley and L. Brickley	70 acres
H. C. Anderson	100 acres
M. B. Horton	53 acres
N. M. Moneyhun	40 acres
G. M. Horton	62 acres
R. Williams	187 acres
Total	658 acres

(The added land is shown on the attached map entitled "Fig. 1, N.J.Z. Co.")

2. In Exhibit "A," the work set forth under "Description of the Work" through Amendment No. 4 is designated as "Stage I" and a new Stage II is added as follows:

"Stage II

"Drill 35,000 feet of diamond drill hole at the approximate locations indicated on the map attached to this Amendment. The drilling requirements set forth in Exhibit "A," as amended prior hereto, shall apply to this Stage II.

3. In Exhibit "A" the Estimated Costs of the Project are revised to read as follows:

"Actual Costs

Category (1) Independent Contract

Overburden drilling and diamond drilling to 1,000-foot depth, estimated 60,000 feet, AX size, @ $2.75/ft. EX size @ $2.65/ft.	$165,000.00
Diamond drilling 1,000 to 1,500-foot depth, estimated 10,000 feet AX size @ $3.00/ft. EX size @ $2.90/ft.	30,000.00
	$195,000.00

"The above rates include charges for reaming, cementing, water supply, casing, changing of locations, and all charges which may be incurred by the diamond drill contractor. Casing left in drill holes at option of Operator will not be accepted as a charge to the Contract.

Categories (2) through (7)

None

Fixed Unit Costs (See Article 13 of the Contract)

Incidental allowance 1/ for each foot of drilling completed, 70,000 feet @ $0.27/ft.	$18,900.00

1/ Includes all costs that otherwise would be allowable costs under Categories (1) through (7), except as scheduled in Exhibit "A."

400 samples to be assayed @ $1.00 each	400.00
	$19,300.00
Estimated Total Cost of Project	$214,300.00
Government's participation, 50 percent	$107,150.00

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By _____
Administrator, Defense Minerals Exploration Administration

THE NEW JERSEY ZINC COMPANY

By _____

Title _____

RECEIVED
OCT 22 1957
ASSOC. SOLICITOR
MINERAL RESOURCES

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code

October 25, 1957

Memorandum

To: The Administrator

From: Director, Division of Base Metals

Subject: Justification for Amendment No. 5 for Docket No. DMEA-4153, The New Jersey Zinc Company, Independence Area, Hancock County, Tennessee, Contract No. Idm-E950 (Zinc)

The application, as presented, was for a new project and a new contract. There seems little question that the proposed work is warranted, but we have converted the work into an amendment to DMEA-4153 due to proximity of the new areas to the 4153 area.

W. R. Griswold

W. R. Griswold

WRG/er
Copy to: Docket
Admr R File
Chron.

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
10/8	Klugescheid	500
		500
10/9	GCS	100
10/11	Johnson	110
9	Matthews	100
10/10	B	220
		500

500

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

OCT 9 1957

Re: Docket No. DMEA-4153 (Zinc)
The New Jersey Zinc Company
Independence Area
Hancock County, Tennessee
Contract No. Idm-E950

Dear Mr. Laurence:

We refer to your letter, dated September 23, 1957, concerning Amendment No. 4 of the cited contract.

You are authorized to strike out that portion of Amendment No. 4 which reads, "no sample shall be taken representing more than five feet of core length". If you do this, be sure that all signed copies of the amendment are initialed by both the Operator and yourself in the margin adjacent to the correction.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)
WPKlugescheid/er 10/8/57
Copy to: Docket (2) - DMEA-4286
Admr File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron

APPROVED:

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

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

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

WASHINGTON 25, D. C.

OFFICIAL FILE COPY DMEA RECEIVED SEP 25 1957		
DATE	INITIALS	CODE
9/26	B	220
9/26	[illegible]	500

September 23, 1957

Memorandum

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tennesseee

Subject: DMEA-4153, Idm-E950-zinc. The New Jersey Zinc Co. New York, N.Y. Independence area, Hancock County, Tennessee

Reference is made to your letter of September 19 and the proposed Amendment No.4., also our memo of September 23, concerning DMEA-4286 (Big War Creek).

On the subject contract, we have already paid for eleven assays which represented more than 5 feet of core length. This payment would be invalidated by the 5th sentence of the proposed revision of the 5th paragraph under "Description of the Work."

All we requested in our August 13 memorandum was an Amendment authorizing reduction of the hole to EX size when necessary, and when approved by the Government. We do not see why it was necessary to add all the completely irrelevant material which follows the first two sentences. As there is no urgency in executing these amendments, we are holding them here, pending a reply. We would like to have permission to strike out the portion which reads, "no sample shall be taken representing more than five feet of core length." The same request applies to proposed amendment No. 1 to Idm-E 1022, DMEA-4422, National Lead Company.

Robert A. Laurence
Robert A. Laurence
Executive Officer, DMEA-Rg. V

Wm. A. Beck
Wm. A. Beck, for V. J. Lynch
Member, Bureau of Mines

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
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		500

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OCT 9 1957

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4422 (Zinc)
National Lead Company, Assignee
Thorn Hill Area
Grainger County, Tennessee
Contract No. Idm-E1022

Dear Mr. Laurence:

We refer to your letter, dated September 23, 1957, concerning Docket No. DMEA-4153, The New Jersey Zinc Company, in which the above-cited docket is also mentioned.

If you think it advisable to strike out that portion of Amendment No. 1 which reads, "no sample shall be taken representing more than five feet of core length", you are authorized to do so. In this particular case there have not been any samples to date which have even approached five feet in length but, of course, there might be cases when the Operator would want to take longer samples.

If the clause is stricken out, be sure that all signed copies of the Amendment are initialed by both the Operator and yourself in the margin adjacent to the correction.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (-4B)

APPROVED:

Frank D. Lamb (-4B)
Member, Bureau of Mines

W. P. Williams (-4B)
Member, Geological Survey

WPKlugescheid/er 10/8/57
Copy to: Docket (2) - 4153
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code

500

October 8, 1957

Memorandum

To: Associate Solicitor, Division of Mineral Resources

From: Director, Division of Base Metals

Subject: Preparation of Amendment No. 5 for Docket No. DMEA-4153, The New Jersey Zinc Company, Independence Area, Hancock County, Tennessee, Contract No. Idm-E950 (Zinc).

Will you kindly prepare an Amendment No. 5 to the cited contract which will

1. Add the following lands:

C. C. Lawson and Claude Lawson	146 acres
Emma Brickley and L. Brickley	70 acres
H. C. Anderson	100 acres
M. B. Horton	53 acres
N. M. Moneyhun	40 acres
G. M. Horton	62 acres
R. Williams	187 acres
Total	658 acres

(Tracts shown on attached map entitled "Fig. I, N.J.Z. Co.)

2. Permit of the drilling of 35,000 additional feet of diamond drill hole at locations approximately indicated on said attached map.

Estimated Costs of the Project are revised as follows:

Actual Costs

Category (1) Independent Contract

Overburden drilling and diamond drilling to 1,000-foot depth Estimated 6,000 feet @ $2.75/ft.	$165,000.00
Diamond drilling 1,000 to 1,500-foot depth Estimated 10,000 feet @ $3.00/ft.	30,000.00
Total	$195,000.00

8623

The above rates include charges for reaming, cementing water supply, casing, changing of locations and all charges which may be incurred by the diamond drill contractor. Casing left in drill holes at option of Operator will not be accepted as a charge to the contract.

Categories (2) through (7)

None

Fixed Unit Costs (See Article 13 of the Contract)

Incidental allowance for each foot of drilling completed 70,000 feet @ $0.27/ft.	$18,900.00	
400 samples to be assayed @ $1.00/each	400.00	
Total	$19,300.00	

Estimated Total Cost of Project	$214,300.00
Government's participation, 50 per cent	$107,150.00

WRG/er
Copy to: Docket
Chron.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code

October 8, 1957

Memorandum

To: Chief, Division of Operations Control and Statistics

From: Chief, Division of Base Metals

Subject: Docket No. DMEA-4784, The New Jersey Zinc Company, Lawson Area, Hawkins and Hancock Counties, Tennessee (Zinc)
and
Docket No. DMEA-4153, The New Jersey Zinc Company, Contract No. Idm-E950, Independence Area, Hancock County, Tennessee (Zinc)

Application Docket No. DMEA-4784 is hereby cancelled, and the work requested in the application will be handled as an amendment to Docket No. DMEA-4153.

W. R. Griswold

W. R. GRISWOLD

WRGriswold/bjm

Copy to: Docket (2)
Admr. R. File
Chron.

8623

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DATE CODE
9/24 220
9/24 WRY 500

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

September 24, 1957

Re: DMEA 4784
The New Jersey Zinc Company
Lawson Area
Hancock and Hawkins Counties,
Tennessee

Memorandum

To: W. R. Griswold, DMEA

From: O. M. Bishop, USBM

Subject: Field team recommendation of September 17, 1957 regarding application on Lawson area

The field team reviews the memorandum reported by Helmuth Wedow, Jr. (USGS), noting they consider the Copper Ridge area to have a high potential for discovery, and therefore concur with a recommendation for approval of an amendment to existing Contract Idm-E950, permitting 7,000 feet of drilling in the adjacent Lawson area, with a separate contract for 28,000 feet of drilling elsewhere on the tract.

The field memorandum points out that the Lawson area has the same geologic setting as the adjacent Independence and Eidson areas, respectively, to the northeast and southwest. It is further pointed out that the drilling program, as outlined, consists of a combination of strike and dip fences in the shallower areas by which it is hoped to ascertain the rake direction of possible orebodies, before undertaking the deeper down dip holes.

I concur with the field examiner and field team that the application is soundly conceived and should be approved with modifications recommended.

O. M. Bishop

O. M. Bishop

Copy to: Division of Minerals
Mr. Kiilsgaard
Mr. Lamb
O. M. Bishop
Files

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SEP 25 1957
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9/26 Cory 500

IN REPLY REFER TO:

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

September 24, 1957
Re: DMEA 4784
The New Jersey Zinc Co.
Lawson Area
Hancock and Hawkins Counties, Tennessee
Applicant's Estimate $110,880 - Zinc
Recommended Estimate $106,800

Memorandum

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

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

Subject: Review of Field Team Report

The applicant requested assistance in prospecting by drilling 3 non-contiguous groups of properties. The groups lie between the Eidson and Independence areas on which the applicant did DMEA assisted work with the following results:

Name of Area	Date of Interim Report	DMEA No.	Idm-6 No.	Holes Drilled	Ore Holes
Independence	May 27, '57	4153	950	23	7
Eidson	Aug 29, '57	4177	956	40	5

In both cases the ore holes probably represent substantial ore reserves, apparently extensions of ore bodies or distinctly favorable areas as indicated by nearby pre-contract drilling by the operator. No estimates of the tonnages and grade of the reserves appear to have been made.

The pre-contract drilling was done down dip of areas suggested as favorable by geochemical prospecting. That the applicant chose the most likely down dip areas for such prospect drilling is to be expected. Areas shown by drilling to contain probable orebodies were excluded from DMEA project areas.

Several combinations have been suggested for combining by amendment the properties composing the proposed "Lawson" project with the projects at both ends, presumedly to derive benefit from inferred royalty on known ore.

Inasmuch as the applicant carefully "splits" its bets, it is only proper that DMEA protect possible royalty where practicable.

Therefore I recommend that the project areas be made a part of either the Independence or Eidson project areas, preferably of the Independence area since a large block comprising the Williams, G. M. Horton, and Moneyhun tracts adjoins the Independence project area. I concur with the appropriate drilling recommendation, that is (2) of the examiner's report.

N. E. Nelson

N. E. Nelson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

WASHINGTON 25, D.C.

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	esf	130
9/24	C	220
9/24	upf	500

September 17, 1957

Memorandum

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tennessee

Subject: Field Examination Report - DMEA-4784 (zinc)
The New Jersey Zinc Co., New York, N.Y.
Lawson area, Hancock and Hawkins Counties, Tenn.

Enclosed are three copies of a memorandum in lieu of the usual field examination report, on the Lawson area application.

We consider the Copper Ridge district to be one of the best areas in this region for major undiscovered zinc ore bodies, and therefore agree with the recommendation for approval.

We recommend (1) approval of an amendment to the Independence contract providing an additional 7,000 feet of drilling and (2) approval of a separate contract for the Lawson area providing for 28,000 feet of drilling, as outlined in alternate proposals 3 and 4 of the memorandum.

Robert A. Laurence
Robert A. Laurence,
Executive Officer, DMEA
Region V

Wm A Beck
Wm. A. Beck, for V. J. Lynch
Member, DMEA- Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE
9/23/57
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 40 POST OFFICE BLDG.
WASHINGTON 25, D.C.
KNOXVILLE 2, TENN.

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RECEIVED SEP 20 1957
DATE | INITIAL | CODE

September 17, 1957

Memorandum

To: Field Team, DMEA - Region V - Knoxville, Tennessee

From: Helmuth Wedow, Jr., Geologist, Geological Survey

Subject: DMEA-4784 (zinc) The New Jersey Zinc Company, Lawson Area, Hancock and Hawkins Counties, Tennessee

This memorandum will serve in lieu of the usual field examination report on the subject application, and the suggestion that the area be included in the adjacent Independence project. The area proposed for exploration is very similar to and lies between the present Independence (DMEA-4153) and Eidson (DMEA-4177) areas in the northern part of the Copper Ridge district currently being drilled by the Applicant with Government assistance. Approval of the application is strongly recommended.

In a recent discussion of their general exploration program in the Copper Ridge district with the Applicant's local representatives, it was indicated that their practice has been to select sectors of Copper Ridge of a certain strike length as exploration units. The Lawson area of the Copper Ridge district as in the adjacent Independence and Eidson areas, is underlain by Lower and Middle Ordovician dolomites and limestones. The stratigraphic unit most favorable for the occurrence of zinc sulfide ore is the Kingsport formation which is underlain by the Longview dolomite and overlain by the Mascot dolomite and Chickamauga limestone. In the area under consideration these strata strike about N60°E and dip about 55° SE and are part of a thrust sheet bounded below by the Copper Creek fault and above by the Saltville fault. The homoclinal structure of the rocks in this thrust sheet is modified by tear (cross) faults of small displacement, local warping and folding, and some bedding plane faulting of unknown but probably small displacement.

Thus, the Lawson area, as delineated in the subject application, has the same geologic setting and approximately the

Reviewed by
DMEA OPERATING COMMITTEE
9/23/57
(date)

same strike length as the adjacent Independence and Eidson areas, and constitutes a separate target unit for exploration. The only significant difference between the Independence and Eidson areas on the one hand and the Lawson area on the other is that in the areas now being explored the Applicant conducted sufficient pre-DMEA diamond drilling to outline significant ore reserves which have been excluded from the contract area. Because no previous diamond drilling has been done in the Lawson area, the general pattern of proposed drilling is somewhat modified from that used on the adjacent projects. The modification consists of drilling a combination of strike and dip fences starting with the shallower holes to attempt first to ascertain the rake direction of possible ore shoots from the geochemical anomalies before continuing with deeper drilling on the dip fences. The configuration of such strike and dip fence combinations is illustrated by the holes proposed on the C. C. Lawson property at the southwest end of the area. (See map accompanying application.) This modification is suggested by the fact that although the Applicant's interpretation of the drilling on the Independence project suggests that the ore discovered to date lies in ore bodies elongated in a direction close to the regional strike, a different and equally logical interpretation is that the ore is in shoots with a higher and opposite dip component in their rake. This steep rake trend is similar to that shown by the ore body discovered by the Applicant in the excluded area of the Big War Creek project (DMEA-4286) farther to the southwest on Copper Ridge. Thus, though there appears to be a generally greater favorability for strike or near-strike elongation of ore bodies, the possibility of ore bodies with dip or near-dip elongations should not be overlooked, and the drilling patterns proposed should, therefore be sufficiently flexible to permit a rapid shift from one pattern to another depending on day-to-day results.

As stated above, we strongly recommend approval of the application, if not as it stands, then with certain modifications that will be outlined below. Some modification has already been made by the removal of the R. D. Manis tract at the southwestern end and its amendment into the current Eidson exploration area (DMEA-4177). In addition it has been indicated by the Operating Committee that the remainder of the proposed area must be tied in, royalty-wise, with the adjacent projects. Such inclusion constitutes "pre-certification" of the area and implies that the exploration targets within the area are not separate but are the same as those in the adjacent projects. As a matter of fact, at least several clearly separate targets exist, not only within the Lawson area, but also in each and every one of the current DMEA projects in the Copper Ridge district. However, one target in the area under consideration might well be included with or as a part of the contiguous Independence project--this being a possible

ore body related to the geochemical anomaly that straddles the R. Williams and Flora Horton tracts. Therefore, if it is not possible to consider the Lawson area in its entirety as a separate project, then the R. Williams, G. M. Horton, and N. M. Moneyhun properties, which are contiguous to the Independence project but not to the remainder of the Lawson area, should be amended into the Independence project with an appropriate additional amount of drilling for their exploration. The remainder of the Lawson area will thus not be contiguous in a physical sense to either of the adjacent projects and can also be very clearly defined as a distinct and separate exploration target completely unrelated to those of the adjacent projects.

The Applicant originally proposed 35,000 feet of diamond drilling for the exploration of the Lawson area. If consideration is given to a separate, though restricted, Lawson project and the inclusion of the three northeastern properties in the Independence project, then it is recommended that the amount of drilling scheduled for the Lawson area be dropped to 28,000 feet, and the remaining 7,000 feet be added to the Independence project. As indicated in the Application, the drill holes will average between 700 and 800 feet with maximum depths ranging approximately to 1200 to 1400 feet. The holes on the dip fences will be drilled at intervals of 100 to 300 feet. The dip fences in general will be spaced at intervals of 600 feet or more although closer spacing at 400-foot intervals may be necessary locally. Provisions should also be made to drill in shallow strike fences at 100- to 400-foot intervals should it be necessary to test for the rake direction of ore bodies from the geochemical anomalies.

Cost estimates for: (1) the Lawson project as originally proposed; (2) amendment of all the Lawson drilling into the Independence project; (3) restriction of the Lawson drilling to 28,000 feet; and (4) an amended Independence contract with the additional 7,000 feet needed for exploration of the Moneyhun, G. M. Horton, and Williams tracts are shown in the attached table. It is further recommended that, if a separate contract of any sort is contemplated for the Lawson area, the cost of core boxes be included with the incidental allowance, as was done in the earlier contracts. Such inclusion relates the number of core boxes used directly to the footage actually drilled and also simplifies accounting and administrative procedures.

(1) Estimated cost of original Lawson project with a total of 35,000 feet of drilling.

<u>Actual costs</u>:

Category 1, Independent contracts

. Actual costs continued-

Overburden drilling and diamond drilling to 1,000-foot depth.

30,000 feet @ $2.75/ft.	$82,500.00	

Diamond-drilling from 1,000 to 1500-foot depth.

5,000 feet @ $3.00/ft	15,000.00	
Total drilling cost		$97,500.00

Cost of Incidentals

1 - Geologist (1/2 time)	3,000.00	
2 - Suveyors, and 1 draftsman (approx. 25% time each)	3,000.00	
Accounting and clerical services ($30/Mo. for 12 months)	360.00	
Transportation (17,500 mi.@ 8¢/mi)	1,400.00	
Core boxes (500 @ $1.80/ea) ?	900.00	
Insurance and payroll taxes	400.00	
	$9,060.00	
$9,060.00- rounded to $0.26/ft incidental allowance for 35,000 feet of drilling	9,100.00	
200 - assays @ $1.00/each	200.00	
Total fixed unit costs.....		$9,300.00
Total cost of project.....		$106,800.00

(2) Amended Independence contract to include all of 35,000 feet from Lawson project with a total of 70,000 feet of drilling.

Actual costs

Category 1, Independent contracts

Overburden drilling and diamond drilling to 1,000-foot depth

60,000 ft @ $2.75/ft	$165,000.00

Diamond drilling from 1000-foot to 1500 ft depth

10,000 ft @ $3.00/ft.	30,000.00

(2) cont'd. (actual costs).

Total drilling cost $195,000.00

Fixed Unit Costs

Incidental allowance for each foot of drilling completed (from original Independence contract).

35,000 feet @ $0.27/ft $9,450.00

Incidental allowance for each foot of drilling completed (35,000 -70,000 ft; from cost estimate on original Lawson project)

35,000 feet @ $0.26/ft. 9,100.00

400 assays @ $1.00/each 400.00

Total estimated cost of project..... $213,950.00

(3). Restricted Lawson project to include only 28,000 feet of drilling.

Actual costs

Category 1, Independent contracts

Overburden drilling and diamond drilling to 1,000-foot depth

24,000 ft @ $2.75/ft. $66,000.00

Diamond-drilling from 1000-foot to 1,500-foot depth

4,000 ft @ $3.00/ft. 12,000.00

Total drilling cost..... 78,000.00

Fixed Unit Costs

Incidental allowance for each foot

of drilling completed
(from foregoing cost estimate of original Lawson project)

28,000 ft. @ $0.26/ft.	$7,280.00
160 assays @ $1.00/each	160.00
Total estimated cost of project...	$85,440.00

(4) Amended Independence contract to include 7,000 ft of drilling on the R. Williams, G. M. Horton, and N.M. Moneyhun properties for a total of 42,000 ft of drilling.

Actual costs

Category 1, Independent contracts

Overburden drilling and diamond drilling fo 1000-foot depth

36,000 ft @ $2.75/ft	$99,000.00

Diamond-drilling from 1000-foot to 1500-foot depth

6,000 ft @ $3.00/ft	18,000.00
Total drilling cost.....	$117,000.00

Fixed Unit Costs

Incidental allowance for each foot of drilling completed (from original Independence contract)

35,000 ft @ $0.27/ft.	9,450.00

Incidental allowance for each foot of drilling completed (35,000 to 42,000 ft; from foregoing cost estimate on Lawson project)

7,000 ft @ $0.26/ft.	1,820.00
240 assays @ $1.00/each	240.00
Total estimated cost of project....	$128,510.00

MEA Form 7
12-56)

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9/12	Klugescheid	500
9/12	Parkhurst	800
9/19	[illegible]	130
"	Hanson	110
		~~100~~
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		500

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Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

SEP 19 1957

Re: Docket No. DMEA-4153 (Zinc)
The New Jersey Zinc Company
Independence Area
Hancock County, Tennessee
Contract No. Idm-E950

Dear Mr. Laurence:

As recommended in your August 13 letter, we are enclosing the original and four copies of a proposed Amendment No. 4 (two pages), to the cited contract, which have been signed by the Administrator, for the Government.

If the amendment meets with your approval, please present it to the Operator for approval and signature and, when completed, distribute the copies in the usual manner. Otherwise, and if any proposed change should lie beyond your delegated authority, all copies should be returned to us with your recommendations.

Two extra copies of the proposed amendment are enclosed for the use of the Field Team.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (246)

WRGriswold/er 9/12/57

Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

Enclosures

APPROVED:

Frank D. Lamb (245)
Member, Bureau of Mines

Thor H. Kiilsgaard (243)
Member, Geological Survey

8623

Government's copy

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4153

AMENDMENT NO. 4

It is agreed this _____ day of _____, 1957, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and The New Jersey Zinc Company, hereinafter called the "Operator," parties to that certain Exploration Project Contract Idm-E950, Docket No. DMEA-4153, dated May 10, 1956, as amended, hereinafter called the "Contract," that the contract is further amended as follows:

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

and

"All diamond drilling will be done with AX size, or larger, core recovering drills and coring bits, except that where a hole cannot be continued AX without reaming, the hole may be reduced with EX casing to EX size and drilling continued with EX bits. The Government will not contribute to the costs of drilling any hole which is not completed."

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

"Overburden drilling and diamond drilling to 1,000-foot depth--Estimated 30,000 ft.

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

"Diamond drilling from 1,000-foot to 1,500-foot depth--Estimated 5,000 ft.

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

"The above rates include charges for reaming, cementing, water supply, casing, changing of locations, and all charges which may be incurred by the diamond drill contractor. Casing left in drill holes at option of the Operator will not be accepted as a charge to the Contract."

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

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By_____
Administrator, Defense Minerals
Exploration Administration

THE NEW JERSEY ZINC COMPANY

By_____

Title_____

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code

September 12, 1957

Memorandum for the Files

From: Director, Division of Base Metals

Subject: Justification for Amendment No. 4 for Docket No. DMEA-4153, The New Jersey Zinc Company, Independence Area, Hancock County, Tennessee, Contract No. Idm-E950, Zinc.

Mr. Laurence, Executive Officer, DMEA Field Team, Region V, has noted that occasionally it becomes necessary to complete a hole using EX drilling. Hence, the amendment provides for payment in such instances.

W. R. Griswold

W. R. Griswold

WRG/er

Copy to:
Docket
Admr R File
Chron.

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DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code

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August 27, 1957

Memorandum

To: Associate Solicitor, Division of Mineral Resources

From: Director, Division of Base Metals

Subject: Preparation of An Amendment No. 4 for Docket No. DMEA-4153, The New Jersey Zinc Company, Independence Area, Hancock County, Tennessee, Contract No. Idm-E950.

Will you kindly prepare an Amendment No. 4 for the cited contract along the lines of the attached draft.

W. R. Griswold

WRG/er
Copy to: Docket
Chron.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

8/19 WRT

DOCUMENT CONTROL GROUP
KNOXVILLE, TENNESSEE

8/16 Corr 108

August 13, 1957

DMEA-4153

[redacted]

To: Operating Committee, DMEA, Washington, D. C.

From: Field Team, DMEA, Region V, Knoxville, Tennessee

Subject: DMEA-4286, Idm-E982 (Zinc)
The New Jersey Zinc Company, New York, N. Y.
Big War Creek area, Hancock and Hawkins Counties, Tennessee
Request for Amendment

Enclosed are three copies of the latest interim report on the subject exploration contract.

It was necessary to reduce Hole B[illegible]-31 to EX size due to [illegible] and poor core recovery. This has the approval of the [illegible] and we suggest that an amendment be drafted authorizing [illegible] reduction in size when necessary and when approved by the [illegible]. Reduction to EX size under these conditions has [illegible] authorized on several of the Tennessee and Virginia [illegible] either in the original contract or by amendment.

Drilling at this project is done by E. J. Longyear Company [illegible] accompanying the application was 10 cents per foot less [illegible] than for AX. Therefore, this reduction should be [illegible] EX core authorized by the amendment.

It is also suggested that a similar amendment be prepared [illegible] the following contracts:

[illegible]22, Idm-E1082, National Lead Company
[illegible], Idm-E950, The New Jersey Zinc Company
[illegible], Idm-E937, The New Jersey Zinc Company
[illegible], Idm-E970, The New Jersey Zinc Company

Only rarely is it necessary on these jobs, to reduce a hole to EX size, but when it is actually necessary, payment for the EX core should be authorized. Unit costs should correspond to those given in bids accompanying the various applications.

Robert A. Laurence
Executive Officer

W. J. Lynch
Member, Bureau of Mines

Enclosures 3

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 3 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

WASHINGTON 25, D.C.

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RECEIVED AUG 5 1957

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	[illegible]	

August 2, 1957

Memorandum

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tennessee

Subject: Amendment No.3. DMEA-4153, Idm-E950(zinc)
The New Jersey Zinc Co. Independence Area,
Handcock County, Tennessee

Attached is the original and one copy of the subject amendment signed by Mr. S. S. Goodwin,, Vice President of the Company.

The usual distribution of the other copies has been made.

Robert A. Laurence
Robert A. Laurence
Executive Officer, DMEA-Reg. V

V. J. Lynch
V. J. Lynch, Member
Bureau of Mines

Amendment

DMEA-4153

July 30, 1957

4153

Memorandum

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tennessee

Subject: DMEA-4784-Zinc. The New Jersey Zinc Co., New York, N.Y. Lawson Area, Hawkins & Hancock Counties, Tenn.

Reference is made to your letter of July 25, requesting review and possible field examination of the subject application.

Today we received a letter from the Operator, requesting a modification of this application which is, in effect, a withdrawal of the application. The original and two copies of this letter are attached. It is our understanding that the Operator prepared this request after a telephone conversation between Mr. Hoagland (N.J.Z. Co.) and Mr. Griswold.

Accordingly, we have prepared, and sent to the Operator for signature, Amendment No.4 to contract Idm-E956 (DMEA-4177). This is mandatory under the "Special Agreement Concerning Land," in that contract.

In the near future, we will prepare a field examination report covering the remaining portions of the Lawson application, with our recommendations.

It is our opinion that the Lawson area, with the exception of the Manis and Williams tracts at the extreme ends, which adjoin existing contracts with the same Operator, is an entirely separate target from the Eidson and Independence areas, and should not be tied to them. A somewhat comparable situation exists in Missouri, where St. Joseph Lead Co., has three separate, but contiguous, contracts, each of which may or may not be certified without respect to the others. But, as the

Applicant is apparently convinced that a separate contract will not be granted without "pre-certification," and has requested the modification, we will prepare our field examination report as a review of a request for an amendment to contract Idm-E950 (DMEA-4153).

Robert A. Laurence
Executive Officer, DMEA
Region V

V. J. Lynch, Member
Bureau of Mines

RAL/sm
cc
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Files

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 9 INGSTON OFFICE BLDG.
KNOXVILLE 2, TENN.

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DATE	INITIALS	CODE
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8/1/57	[illegible]	500

July 30, 1957

Memorandum

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tennessee

Subject: DMEA-4784-Zinc. The New Jersey Zinc Co., New York, N.Y. Lawson Area, Hawkins & Hancock Counties, Tenn.

Reference is made to your letter of July 25, requesting review and possible field examination of the subject application.

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Accordingly, we have prepared, and sent to the Operator for signature, Amendment No.4 to contract Idm-E956 (DMEA-4177). This is mandatory under the "Special Agreement Concerning Land," in that contract.

In the near future, we will prepare a field examination report covering the remaining portions of the Lawson application, with our recommendations.

It is our opinion that the Lawson area, with the exception of the Manis and Williams tracts at the extreme ends, which adjoin existing contracts with the same Operator, is an entirely separate target from the Eidson and Independence areas, and should not be tied to them. A somewhat comparable situation exists in Missouri, where St. Joseph Lead Co., has three separate, but contiguous, contracts, each of which may or may not be certified without respect to the others. But, as the

Applicant is apparently convinced that a separate contract will not be granted without "pre-certification," and has requested the modification, we will prepare our field examination report as a review of a request for an amendment to contract Idm-E950 (DMEA-4153).

Robert A. Laurence
Robert A. Laurence
Executive Officer, DMEA
Region V

V. J. Lynch
V. J. Lynch, Member
Bureau of Mines

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)

CABLE ADDRESS
"JERSEZINC"

100 FRONT STREET

NEW YORK 38, N.Y.

HORSE HEAD PRODUCTS ®

RECEIVED
JUL 29 1957
Knoxville, Tenn.

PLEASE ADDRESS REPLY TO

Jefferson City, Tennessee
July 26, 1957

OFFICIAL FILE COPY
DMEA
RECEIVED AUG 1 1957

DATE	INITIALS	CODE

Mr. R. A. Laurence, Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 2, Tennessee

Subject: DMEA 4784
LAWSON AREA, COPPER RIDGE BELT
HAWKINS COUNTY, TENNESSEE

Dear Mr. Laurence:

Reference is made to our application for exploration assistance for the Lawson Area of the Copper Ridge Belt, Tennessee, dated July 9, 1957. This application has been assigned docket number 4784.

We request modification of this application as noted below:

1. Add the R. D. Manis property to Eidson project, DMEA #4177 - Idm E 956. We understand that there would be no addition to the funds allotted to this project.

2. Add the remaining properties of the Lawson Area project to the Independence contract, #4153 - Idm E 950, and increase the work allotment of the amended contract by 35,000 feet of diamond drilling. The allotment of funds to the amended contract would be increased by $107,150.00 in accordance with the schedules established by this contract.

Yours very truly,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford

Superintendent for Tennessee

A.D.Hoagland/jf
In Quadruplicate

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
7/24	Griswold	500
7/24	Martin	130
"	Johnson	110
"	Blattenberger	100
7/25	[illegible]	225
		500

500

JUL 25 1957

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4784 (Zinc)
The New Jersey Zinc Company
Lawson Area
Hawkins and Hancock Counties,
Tennessee

Dear Mr. Laurence:

The cited application is being referred to your office for consideration, a field examination of the property if warranted, and recommendations. Copies of memoranda dated July 15 and 18, 1957, by N. E. Nelson, Geological Survey, and O. M. Bishop, Bureau of Mines, respectively, relating to the project, are enclosed for your information. We are also enclosing an extra copy of the application for use of the Field Team.

We have already advised Mr. Lynch by phone that any contract which might be granted covering this project would have to be tied in, royalty-wise, with the two bordering projects. We also pointed out to Mr. Lynch that the two tracts, G.M. Horton and R. D. Manis, must be considered as already incorporated into the bordering projects, due to the contiguity provisos in the contracts.

Sincerely yours,

W. S. Martin
ACTING Chairman, Operating Committee (GLG)
WRGriswold/er 7/24/57
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

Enclosures

APPROVED:

Horace T. Reno (GLG)
Member, Bureau of Mines

Thor H. Kiilsgaard (GLG)
Member, Geological Survey

8623

X 1086G 24M 12-55

COPY

THE NEW JERSEY ZINC COMPANY

EXPLORATION DEPARTMENT

EXTRA COPY

RECEIVED

DATE		CODE

Jefferson City, Tennessee
July 26, 1957

Mr. R. A. Laurence, Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 2, Tennessee

Subject: DMEA 4784
LAWSON AREA, COPPER RIDGE BELT
HAWKINS COUNTY, TENNESSEE

Dear Mr. Laurence:

Reference is made to our application for exploration assistance for the Lawson Area of the Copper Ridge Belt, Tennessee, dated July 9, 1957. This application has been assigned docket number 4784.

We request modification of this application as noted below:

1. Add the R. D. Manis property to Eidson project, DMEA #4177 - Idm E 956. We understand that there would be no addition to the funds allotted to this project.

2. Add the remaining properties of the Lawson Area project to the Independence contract, #4153 - Idm E 950, and increase the work allotment of the amended contract by 35,000 feet of diamond drilling. The allotment of funds to the amended contract would be increased by $107,150.00 in accordance with the schedules established by this contract.

Yours very truly,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford

Superintendent for Tennessee

A.D.Hoagland/jf
In Quadruplicate

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code

July 24, 1957

Memorandum for the Files

From: Director, Division of Base Metals

Subject: Phone Conversation on Docket DMEA-4784, The New Jersey Zinc Company, Lawson Area, Hawkins and Hancock Counties, Tennessee, Zinc.

On July 19, 1957, the undersigned phone Mr. Lynch at the Knoxville office advising that any contract which might be granted covering the cited application would have to be tied in, royalty-wise, with the two bordering projects. We also advise Mr. Lynch that the G. M. Horton and R. D. Manis tracts should be considered as part of the bordering projects, due to the contiguity provisos in the contracts.

W R Griswold

W. R. Griswold

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
7/19	Amundson	500
7/19	Talbot	800
7/22	Martin	130
"	Johnson	110
"	Chittenden	100
7/23	C	225
		500

500

JUL 23 1957

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4153 (Zinc)
The New Jersey Zinc Company
Independence Area
Hancock County, Tennessee
Contract No. Idm-E950

Dear Mr. Laurence:

As recommended in your memorandum of June 18, we are enclosing the original and four copies of a proposed Amendment No. 3 to the cited contract, which have been signed by the Administrator, for the Government.

If the amendment meets with your approval, please present it to the Operator for approval and signature and, when completed, distribute the copies in the usual manner. Otherwise, and if any proposed change should lie beyond your delegated authority, all copies should be return to us with your recommendations.

Two extra copies of the proposed amendment are enclosed for the use of the Field Team.

Sincerely yours,

W. S. Martin
ACTING Chairman, Operating Committee (WSM)
WRGriswold/er 7/19/57
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

Enclosures

APPROVED:

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

Thor H. Kiilsgaard (THK)
Member, Geological Survey

8623

Sheet No. 3

Number 4 of Instructions - Physical Description

(a) There have been no mining operations in the project area. Exploration activities have been confined to the geological mapping and geochemical surveying done by The New Jersey Zinc Company. The favorable Kingsport formation is essentially completely covered with overburden, and there are no known outcrops of zinc mineralization within the area. Geochemical sampling which provides the only method of determining mineralization by investigations of the surface, shows soil mineralization in interesting amounts. The area is accessible by a narrow gravel road about two miles northeast of state highway 70 at Eidson, Tennessee.

(b) There has been no production from the area and there are no reserves of zinc ore known.

(c) The project area lies in the Copper Ridge Belt in Hawkins and Hancock Counties, Tennessee (see index map, figure 1). The favorable horizon is the Kingsport formation of the Knox group having a thickness of about 300 feet of dolomite and limestone. The Kingsport formation is almost everywhere in the area covered by a thick mantle of clay. This favorable horizon strikes about N 60° E and dips about 55° to the southeast. It is present along the ridge just southeast of the crest (see map, figure 2). The steep dip of 55° takes the Kingsport formation to great depth within a short distance of the outcrop area.

Significant zinc ore has been found by diamond drilling on the M. B. Horton property to the northeast of the project area and on the Kyle Price property to the southwest of the project area. Both of these properties are now owned by The New Jersey Zinc Company (see map, figure 2). At neither of these locations is zinc mineralization present in outcrop, and both discoveries were made on the basis of geochemical anomalies.

The project area has the same general structural and stratigraphic characteristics as the ore bearing areas bounding it to the northeast and southwest. Local geochemical anomalies such as that on the C. C. Lawson property indicate the presence of zinc mineralization of possible economic significance (see map, figure 2).

Zinc ore zones in the Copper Ridge Belt are commonly elongated at a small angle to the regional strike, although the long axis of the ore zone may be at any angle from parallel to

Attachments

Form MF-103

Fig. 1 - Map Location of Project Area

Sheet #1 - Corporation Officers

Sheet #2 - Applicant's Property Rights

Map AX-TENN 569A - Map - Geology and Property -- Copper Ridge Belt, Lawson Area, Sector I

Sheet #3 - Physical Description

Sheet #4 - Description of the Exploration Project

Sheet #5 - Estimated Costs

Enclosures

Exhibit A - Contract Agreements with Property Owners

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

MF-103
(Revised April 1952)

OFFICIAL FILE COPY
DMEA
RECEIVED JUL 11 1957

DATE	INITIALS	CODE

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

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. 4784
Metal or Mineral Zinc
Date Received 7/11/57
Estimated Cost $110,880
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 Property is held under option, 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

(*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

5. *The exploration project.*—(*a*) State the mineral or minerals for which you will 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. See Sheet #4, attached

(*c*) The work will start within 120 days and be completed within 16 months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations. See Sheet #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.). See Sheet #5, attached

(*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. Sheet #5

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel. Sheet #5

(*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. Sheet #5

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

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

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes. Sheet #5

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

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

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

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

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

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated 9 July, 1957

The New Jersey Zinc Company
160 Front St., New York 38, N. Y.
(Applicant)

By [signature]
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

Sheet No. 1

1 (c) of Instructions

Names, Titles, and Addresses of Officers

Mr. R. L. McCann, President	160 Front St., New York, N.Y.
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, Vice President & 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. W. Gamwell, Assistant Treasurer	ditto

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

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

Sheet No. 2
Number 3 of Instructions
Applicants Property Rights

(a) The properties proposed for exploration 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.

(c) Properties in the project area (see figure 2) consist of approximately 730 acres and are controlled by The New Jersey Zinc Company by option agreements providing for full prospecting privileges and the right to purchase mineral and mining rights with, in certain instances, the right to purchase surface areas as specified in the instruments presented in Exhibit "A".

Listed below are the properties included in the project area:

Property Owner	Approximate Acreage	Legal Instrument	
~~Roy D. Manis~~	~~72~~	~~Option~~	~~Contract~~
C. C. Lawson and Claude Lawson	146	"	"
Emma Brickey and L. Brickey	70	"	"
H. C. Anderson	100	"	"
M. B. Horton	53	"	"
N. M. Moneyhun	40	"	"
G. M. Horton	62	"	"
R. Williams	187	"	"
Total Approximate Acreage	730		

strike to parallel to dip. Although probabilities favor a strike elongation of ore trend, exploration should not be predicated exclusively on the concept of strike ore zones.

The zinc ores occur as replacement deposits in dolomitized limestone horizons of the lower Kingsport and as filling in breccia zones associated with white gangue dolomite in the fine grained dolomites of the upper Kingsport. There are, of course, all gradations between these two types.

The purpose of the proposed exploration is to discover zinc orebodies, and to determine the gross ore potential of the project area.

(d) The area is about 12 miles north of the town of Rogersville, Tennessee. The road distance from Rogersville is about 20 miles of which the last three miles is a gravel county road. Rogersville is served by the Southern Railway and a network of state and federal highways.

(e) Ample manpower and facilities are readily available for use in the exploration of the area. Local manpower and water supply is adequate for mining. Materials, supplies and equipment would have to be brought to the operation from Rogersville, and electric power may be obtained by the construction of an 8 mile line from the Rogersville transmission system.

Sheet No. 4

Number 5 of Instructions - The Exploration Project

(b) It is proposed to explore the project area by means of diamond drilling. A series of widely spaced dip sections is planned with holes spaced on the sections between 100 feet and 300 feet apart. The dip sections may be as close as 400 feet apart but will be spaced generally at greater distances. The closer spacing will be followed where the chances of finding ore are regarded as most favorable. (see map, figure 2).

The entire program anticipates 35,000 feet of drilling of which about 20,000 feet will be drilled on the initial widely spaced sections. The maximum depth presently contemplated for the drilling is 1200 to 1400 feet, and the holes are expected to average between 700 and 800 feet in depth.

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

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

Sheet No. 5

Number 6 of Instructions - Estimate of Costs

(a) Independent Contracts

The following estimate is based on prices contracted with the E. J. Longyear Company for drilling in the project area. The rates shown below are the lowest obtained for the project area by competition bidding.

Diamond Drilling

0-1000'	AX Size	$2.75	per foot
	BX "	$3.05	" "
1000-1500'	AX "	$3.00	" "

The contract cost of drilling is estimated as follows:

30,000'			
depth of 0-1000			
	AX	29,000 x $2.75	$79,750.00
	BX*	1,000 x 3.05	3,050.00
5,000'			
depth of 1000'-1500'			
	AX	5,000 x 3.00	15,000.00
			$97,800.00

* BX drilling is done in collaring holes into rock. Each hole drilled has an amount of BX hole ranging from a few feet to as much as 100 feet to provide for setting casing in sound rock.

(b) Labor, Supervision, Consultants

Supervision

1 geologist: full-time 12 months - - -$6,000.00

Technical Service

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

(c) Operating Materials and Supplies

Core boxes, etc. - - - - - - - - - - - - - - - 1,050.00

(d) Operating Equipment

Automobile Expense 17,500 mi. @ 8¢ - - - - - 1,400.00

(e) Rehabilitation and Repairs

None

(f) New Buildings, Improvements

None

(g) Miscellaneous

Chemical Assays, 200 @ $1.00 - - - - - - - -	$ 200.00
Accounting and Secretarial Charges - - - - $30.00 per month x 12	360.00
Workman's Compensation - - - - - - - - - - - 1% x 9500.00	95.00
Insurance, Payroll Taxes - - - - - - - - - - 5% x 9500.00	475.00
	$110,880.00

Exhibit "A"

Copies of Short Forms of option contracts in project area as listed below:

~~R. D. Manis Contract~~

C. C. Lawson and Claude Lawson Contract

Emma Brickey and L. Brickey Contract

H. C. Anderson Contract

M. B. Horton Contract

N. M. Moneyhun Contract

G. M. Horton Contract

R. Williams Contract

OFFICIAL FILE COPY
D M E A
RECEIVED JUL 11 1957

DATE	INITIALS	CODE

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

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)
HORSE HEAD PRODUCTS ®
160 FRONT STREET
NEW YORK 38, N.Y.

OFFICE OF THE
VICE PRESIDENT

July 8, 1957

OFFICIAL FILE COPY
D M E A
RECEIVED JUL 11 1957

DATE	INITIALS	CODE

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

LAWSON AREA - SECTOR I
COPPER RIDGE BELT, TENNESSEE
D.M.E.A. EXPLORATION PROJECT
THE NEW JERSEY ZINC COMPANY

Dear Sirs:

Submitted herewith in behalf of The New Jersey Zinc Company is our application for aid in an exploration project pursuant to D.M.E.A. 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 as per Par. 5c on Form Mf-103.

Very truly yours,

S. S. Goodwin
Vice President

SSG:ahg
for attachments,
see following page.

OFFICIAL FILE COPY
DMEA
RECEIVED JUL 11 1957

DATE	INITIALS	CODE

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 26th day of April, 1957, by and between ROY MANIS and wife, BONNIE LEE MANIS of Hawkins County, Tennessee, hereinafter called the Owners, parties of the first part, and THE NEW JERSEY ZINC COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company:

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 further periods not to extend beyond April 26, 1962, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, ores, ore-bearing materials and rocks of any kind, including limestone, in, under or on the following described premises:

SITUATE in the Third Civil District of Hawkins County, Tennessee, in Clinch Valley near Little War Gap, generally described as adjoined on the North by the lands of Eulas McMillan and the lands of Mattie Vaughn, on the South by the lands of Hulert Stapleton and the lands of Will Isom, on the East by the lands of Mattie Vaughn and the lands of Will Isom, and on the West by the lands of R. H. Darnell (formerly Dotson), and containing 72 acres, more or less, by estimation.

The Owners acquired title by Deed of John J. Davis and wife, Mollie Davis, dated December 22, 1947, and of Record in the Register's Office for Hawkins County, Tennessee, in Deed Book 101, Page 256.

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 surface area of the entire farm, 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 on this the day and year first above written.

Roy Manis
Roy Manis.

Bonnie Lee Manis
Bonnie Lee Manis.

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

STATE OF TENNESSEE

HAWKINS COUNTY

Personally appeared before me, Bew L. Catlett, a Notary Public in and for said County and State, the within named bargainors, ROY MANIS AND WIFE, BONNIE LEE MANIS, with whom I am personally acquainted, and who acknowledged that he executed the foregoing Contract and Agreement for the purposes therein contained and expressed.

WITNESS my hand and official seal in Hawkins County, Tennessee, on this 29th day of April, 1957.

Bew L. Catlett
Notary Public.

Commission Expires: 4-16-58

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

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

7530-Z-C-7

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 7th day of May, 1957, by and between CHASSIE LAWSON (WIDOW) and CLAUDE C. LAWSON AND WIFE, GRACE LAWSON, of Hawkins County, Tennessee, hereinafter called the Owners, parties of the first part, and THE NEW JERSEY ZINC COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company:

W I T N E S S E T H

That for and in consideration of the sum of ONE ($1.00) DOLLAR and other good and valuable considerations in hand paid, the receipt of which is hereby acknowledged, the parties of the first part grant unto the party of the second part for a period of one year from the date hereof, with the privilege of extension for further periods not to extend beyond May 7, 1960, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, in, under or on the following described premises:

SITUATE in the Third Civil District of Hawkins County, Tennessee, and being two certain parcels of real estate, described as follows:

TRACT ONE:

BEGINNING on an elm on the South bank of War Creek, corner to boundary; thence S. 58 W. 26 poles to a stake, corner to No. 1; thence with a line of same N. 39 W. 160 poles to a stake and pointers in boundary line; thence with same N. 2 E. 5-3/5 poles to a black gum in sink, N. 56 E. 80 poles to a stake on the South side of Copper Ridge near the top S. 50 E. 43 poles to a poplar stump, S. 30 E. 58 poles to a stake, S 37 E. 34 poles to a stake, S.59 E. 11 poles to a cedar; S. 26 W. 22 poles to a stake on the

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

North bank of the creek; thence S. 34 W. 26 poles to a stake on the South side of the creek; thence S. 33 E. 34 poles to a small walnut in a "little hollow"; thence S. 47 E. 16 poles to a wild plum; thence S. 15 E. 25 poles to a walnut; thence S. 75 W. 31 poles to a locust in boundary line; thence with the same N. 15 W. 24 poles to a locust; N. 37 W. 23 poles to a black oak; S. 75 W. 6 poles to a walnut in a hollow; N. 17 W. 20 poles to the BEGINNING, containing 96 acres, more or less.

Being the same property conveyed to R. L. Lawson and wife, Chassie Lawson, as an estate by the entirety and the said R. L. Lawson being now deceased, leaving Chassie Lawson sole owner as the surviving tenant by the entirety, by Deed of W. K. Armstrong, dated September 30, 1902, and of Record in the Register's Office for Hawkins County, Tennessee, in Deed Book 46, Page 559.

TRACT TWO:

On the waters of War Creek and on both sides of same, lying partly on Copper Ridge and partly on Clinch Mountain, being bounded on the North by the lands of Steve Jones, on the South by the top of Clinch Mountain, on the East by the lands of Brickey and Clint Anderson, and on the West by the lands of Kyle Johnson and the heirs of Dee Helton, and the lands of Mack Herron, containing 50 acres, more or less.

Being the same property conveyed to Claude C. Lawson and wife, by Deed of J. M. Edens, dated February 10, 1956, and of record in the Register's Office for Hawkins County, Tennessee, in Deed Book 119, Page 448.

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 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.

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

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

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

Chassie Lawson
Chassie Lawson.

Claude C. Lawson
Claude C. Lawson.

Grace Lawson
Grace Lawson.

STATE OF TENNESSEE

HAWKINS COUNTY

Personally appeared before me, Ben L Cattett, a Notary Public in and for said County and State, the within named bargainors, CHASSIE LAWSON (WIDOW) and CLAUDE C. LAWSON AND WIFE, GRACE LAWSON, with whom I am personally acquainted, and who acknowledged that they executed the foregoing Contract and Agreement for the purposes therein contained and expressed.

Witness my hand and official seal in Hawkins County, Tennessee, on this 7th day of May, 1957.

Ben L Cattett
Notary Public.

Commission Expires: 4-16-58

Qualified in Hawkins County
under the provision of Tennessee
Code, Section 8-1609, 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 3rd day of August, 1956, by and between EMMA M. BRICKLY and husband, LEONARD BRICKLY of Hawkins County, Tennessee, hereinafter called the Owners, parties of the first part, and THE NEW JERSEY ZINC COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company:

W I T N E S S E T H

That for and in consideration of the sum of TEN ($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 3, 1961, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, in, under or on the following described premises:

SITUATE in the Third Civil District of Hawkins County, Tennessee, on LittleWar Creek, and to the East of the Eidson Postoffice and containing 70 acres, more or less, bounded generally as follows:

On the East by the lands of Pearson;
On the North by the lands of the Flanner heirs and others;
On the South by the Clinch Valley Road; and
On the West by the lands of Claude Lawson.

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

For title reference to the above described premises see the following deeds of Record in the Register's Office for Hawkins County, Tennessee: (1) Deed of J. A. Honeyhun, Jr., et ux., et al., dated August 29, 1930, Deed Book 102, Page 125 and (2) Deed of Ralph Honeyhun, et al., dated June 2, 1948, Deed Book 107, Page 206. The 2 acres, more or less, on the South side of the Clinch Valley Road, on which is located the residence, is excluded from this contract.

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, 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.

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

Emma M. Brickey
Emma M. Brickey.

Leonard Brickey
Leonard Brickey

STATE OF TENNESSEE

HAWKINS COUNTY

Personally appeared before me, B. J. Ramsey, Jr. a Notary Public in and for said County and State, the within named bargainors, EMMA M. BRICKEY and husband, LEONARD BRICKEY, with whom I am personally acquainted, and who acknowledged that they executed the foregoing Contract and Agreement for the purposes therein contained and expressed.

Witness my hand and official seal in Hawkins County, Tennessee, on this 3rd day of August, 1956.

B. J. Ramsey, Jr.
Notary Public.

Commission Expires: 4-20-57

Qualified in Hawkins County
under the Provisions of Tennessee
Code Section 8-1609 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 9th day of October, 1946, by and between H. C. ANDERSON and wife, ELLA ANDERSON, of Hawkins County, Tennessee, hereinafter called the Owners, parties of the first part, and THE NEW JERSEY ZINC COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company.

W I T N E S S E T H

That for and in consideration of the sum of ONE ($1.00) DOLLAR cash and other good and valuable considerations in hand paid, the receipt of which is hereby acknowledged, the parties of the first part grant unto the party of the second part for a period of one year from the date hereof, with the privilege of extension for a further period not to extend beyond October 9, 1962, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, in, under or on the following described premises:

SITUATE in the Third Civil District of Hawkins County, Tennessee, being the former A. N. Anderson home place and bounded generally as follows:

On the North by Fisher and possibly others;
On the East by Bradley;
On the South by Horton and War Creek; and
On the West by Pearson.

H. C. Anderson acquired title to the above described premises by inheritance as heir-at-law of A. N. Anderson, deceased, and by the following Deeds of Record in the Register's Office for Hawkins County, Tennessee: (1) Deed of L. H. Horton, et ux., dated October 20, 1941, Deed Book 89, Page 221; and (2) Deed of Matt Anderson, et ux, dated Nov. 7, 1941, Deed Book 89, Page 224. see also Deed Book 89, Page 226; Deed Book 93, Page 226; Deed Book 89, Page 223; and Deed Book 89, Page 225

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

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 surface area of the above described premises, in accordance with the terms of an Agreement of even date herewith entered into between the parties hereto.

And the parties of the first part also grant to the party of the second part during said period the right to prospect for, explore and examine all minerals, metals, ores, ore-bearing materials, and rocks of any kind, including but without, 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 hereby 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 date first above written.

H. C. Anderson
H. C. Anderson

Etta Anderson
Etta Anderson

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

STATE OF TENNESSEE

HAWKINS COUNTY

Personally appeared before me, B. L. Ramsey Jr., a Notary Public in and for said County and State, the within named bargainors, H. C. ANDERSON AND WIFE, ETTA ANDERSON, 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 9th day of October, 1956.

B. L. Ramsey Jr.
Notary Public.

Commission Expires: 4-20-57
Qualified in Hawkins County under the Provisions of Tenn. Code, Section 8-1609, 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 25th day of April, 1957, by and between M. B. HORTON (SINGLE), of Hawkins 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

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 party of the first part grants unto the party of the second part for a period of one year from the date hereof, with the privilege of extension for further periods not to extend beyond April 25, 1962, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, in, under or on the following described premises:

SITUATE in the Third Civil District of Hawkins County, Tennessee, on the South side of Copper Ridge and bounded generally as follows:

On the North by the lands of Vina Anderson and others;
On the East by the lands of Vina Anderson and others;
On the South by the lands of Bradley and others; and
On the West by the lands of Bradley, containing 53 acres.

M. B. Horton acquired title to the above described premises by deed of Mary Miller, et vir., dated November 17, 1934, and of record in the Register's Office for Hawkins County, Tennessee, in Deed Book 77, Page 434.

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

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 party of the first part also grants 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 hereireferred 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 Owner and party of the first part has hereunto set his signature the day and date first above written.

M. B. Horton
M. D. Horton

STATE OF TENNESSEE

HAWKINS COUNTY

Personally appeared before me, Ben Cabell, a Notary Public in and for said County and State, the within named bargainor, M. D. HORTON (SINGLE), with whom I am personally acquainted, and who acknowledged that he executed the foregoing Contract and Agreement for the purposes therein contained and expressed.

Witness my hand and official seal at office on this 29th day of April, 1957.

Ben Cabell
Notary Public.

Commission Expires: 4-16-58

Qualified in Hawkins County under the Provisions of Tennessee Code, Section 8-1609, 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 31st day of October, 1956, by and between N. N. MCMAHYTUN and wife, ANNIE MCMAHYTUN, of Hancock County, Tennessee, hereinafter called the Owners, parties of the first part, and THE NEW JERSEY ZINC COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company:

W I T N E S S E T H

That for and in consideration of the sum of ONE ($1.00) DOLLAR 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 October 31, 1961, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, in, under or on the following described premises:

SITUATE in the 3rd Civil District of Hancock County, Tennessee, being all of that portion of the farm of the Grantors lying North of the Clinch Valley Road, containing 40 acres, more or less, and bounded generally as follows:

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

On the North by the lands of Anderson;
On the East by the lands of G. W. Horton;
On the South by the old Valley Road; and
On the West by the lands of Anderson.

Being a part of the same property conveyed to N. M. Moneymun by Deed of James Moneymun, dated January [illegible], and of record in the Register's Office for Hancock County, Tennessee, in Deedbook "[illegible]", page [illegible].

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 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.

N. M. Moneymun

Annie Moneymun

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

STATE OF TENNESSEE
:
HANCOCK COUNTY

Personally appeared before me, B. F. Ramsey, Jr. a Notary Public in and for said County and State, the within named bargainors, N. M. MONEYHUN AND WIFE, ANNIE MONEYHUN, 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 24 day of October, 1958.

B. F. Ramsey, Jr.
Notary Public.

Commission Expires: 4-20-57

Qualified in Hancock County
under the Provisions of Tennessee
Code Section 8-1809, 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 14th day of November, 1960, by and between GEORGE M. HORTON and wife, CORNA MAE HORTON, of Hancock County, Tennessee, hereinafter called the Owners, parties of the first part, and THE NEW JERSEY ZINC COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company:

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 further periods but not extend beyond November 15, 1961, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, ores, ore bearing materials, and rocks of any kind, including limestone, in, under or on the following described premises:

SITUATE in the Third Civil District of Hancock County, Tennessee, and being all that portion of the George M. Horton Farm lying North of the Clinch Valley Road, containing 32 acres, more or less, and bounded generally as follows:

On the North by the lands of Enoch Horton,
On the East by the lands of K. Williams;
On the South by the Clinch Valley Road; and
On the West by the lands of N. M. Moneyhun and V. Anderson.

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

Being a part of the same property conveyed to George M. Horton, Deed of Corna Horton, et al., dated January 28, 1945, and of Record in the Register's Office for Hancock County, Tennessee, in Deed Book 15, Page 13.

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 periods the right to prospect for, explore and examine all minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, in, under or on all of said premises, including the right to enter thereupon, to use available water and to remove samples in accordance with the terms of the last mentioned Agreement. The terms of this option Contract and Agreement are fully set out in the Agreement of even date herewith, which is here referred to and made a part hereof as if fully set out at length.

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

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

George M. Horton
George M. Horton.

Corna Ethel Horton
Corna Ethel Horton.

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

STATE OF TENNESSEE

HANCOCK COUNTY

Personally appeared before me, B. J. Ramsey Jr., a Notary Public in and for said County and State, the within named bargainors, GEORGE M. MORTON AND WIFE, LORNA LITTLE MORTON, 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 13th day of November, 1956.

B. J. Ramsey Jr.
Notary Public.

Commission Expires: 4-20-57

Qualified in Hancock County
under the provisions of Tennessee
Code Sections 8-1609, et seq.

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

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 5th day of June, 1956, by and between R. L. WILLIAMS and wife, MAE WILLIS WILLIAMS of Hancock County, Tennessee, hereinafter called the Owners, parties of the first part, and THE NEW JERSEY ZINC COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company.

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 further periods not to extend beyond June 5, 1961, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, in, under or on the following described premises:

SITUATE in the Third Civil District of Hancock County, Tennessee, consisting of three adjoining tracts of land containing in all 137 acres, more or less, and bounded generally as follows:

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

On the North by the lands of Enoch Horton and John Kindrick;
On the East by the lands of Flora Horton;
On the South by the lands of C. M. Horton and D. Miller, and the Clinch Valley Road; and
On the West by the lands of C. M. Horton.

R. L. Williams acquired title to the above described premises by the following deeds of conveyance, of record in the Register's Office for Hancock County, Tennessee: (1) Deed of Virginia Williams et al., dated April 19, 1949, Deed Book 6, Page 156; (2) Deed of C. F. Williams, et al., dated June 15, 1942, Deed Book 8, Page 314; and (3) Deed of Albia Combs, et al., dated May 4, 1945, Deed Book 11, Page 327.

Together with the right to prospect for, mine, mill and remove the same; water rights, the right of ingress and egress, and the right to purchase surface acreage to the extent of twenty acres, 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 exploit all minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, in, under or on all of said premises, including the right to enter thereupon, to use available water and to remove samples, in accordance with the terms of the last mentioned agreement. The terms of this option Contract and Agreement are fully set out in the Agreement of even date herewith, which is here referred to and made a part hereof as if fully set out at length.

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

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

R. L. Williams
R. L. Williams.

Mae Willis Williams
Mae Willis Williams.

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

STATE OF TENNESSEE

HANCOCK COUNTY

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

Witness my hand and official seal in Hancock County, on this 5th day of June, 1956.

Ben L. Collett
Notary Public.

Commission Expires: 4-16-58

Qualified in Hancock County
under the provisions of Tennessee
Code section 8-1609 et seq.

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

OFFICIAL FILE COPY
D M E A
RECEIVED JUL 11 1957

DATE	INITIALS	CODE

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code

500

July 8, 1957

Memorandum

To: Associate Solicitor, Division of Mineral Resources

From: Chief, Base Metals Division

Subject: Preparation of Amendment No. 3 for Docket No. DMEA-4153, The New Jersey Zinc Company, Independence Area, Hancock County, Tennessee, Contract No. Idm-E950, Zinc.

Will you please prepare an Amendment No. 3 to the cited contract which will recess operations from May 10, 1957, until January 1, 1958.

W. R. Griswold

W. R. Griswold

WRG/er
Copy to: Docket
Chron.

500

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 1300 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 21 1957

DATE		CODE
6/21	C	220
		130
6/24	WRY	500

June 18, 1957

Memorandum

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tennessee

Subject: DMEA-4153, Idm-E950(zinc) The New Jersey Zinc Co., New York, N.Y. Independence Area, Hancock County, Tennessee.

Enclosed are the original and 2 copies of a letter from the Operator, requesting permission to recess the project for six months and to extend the time for completion for 18 months. This would make the total period of the contract 2 years, 7 months and 21 days.

Although enough work has been done so that a discovery would be certified if the contract should be terminated now, we believe it would be advantageous to the Government, and might well result in discovery of additional ore, if the project is recessed for a while to permit geological study and re-evaluation of the data obtained to date.

Therefore, we recommend approval of the recess and extension, and request that an appropriate amendment be prepared.

Robert A. Laurence,
Executive Officer, DMEA-Region V

V. J. Lynch, Member
Bureau of Mines

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 21 1957

DATE	INITIALS	CODE

June 18, 1957

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

Re: DMEA-4153-zinc
Independence Area
Hancock County, Tenn.
Contract Idm-E950

Dear Mr. Goodwin:

Your letter of June 14, requesting a recess of the Independence contract, has been received, and we have discussed it at length with Mr. Hoagland.

The Field Team does not have the authority to extend the term of an exploration contract beyond two years. Therefore, your request has been forwarded to our Washington office for appropriate action.

We will notify you as soon as a decision is reached.

Sincerely yours,

Robert A. Laurence
Executive Officer, DMEA
Field Team, Region V

RAL/zm

cc
Opr. Com.-3
Lynch
Hoagland
Files

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)
CABLE ADDRESS
"JERSEZINC"
160 FRONT STREET
NEW YORK 38, N.Y.

RECEIVED
JUN 17 1957
U. S. BUREAU OF MINES
DEF. MIN. ADM.
Knoxville, Tennessee

June 14, 1957

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 21 1957

DATE	INITIALS	CODE

Mr. R. A. Laurence, Executive Officer,
DMEA Field Team, Region V,
Room 13, Post Office Building,
Knoxville 2, Tennessee.

Subject: Independence Area, DMEA 4153
Idm E 950, Hancock County,
Tennessee

Dear Mr. Laurence:

We respectfully request permission to recess work under the subject contract for a period of time expiring January 1, 1958 and that the contract completion date, presently stated as July 1, 1957, be extended to January 1, 1959.

The contract is dated May 10, 1956 and drilling was begun on the project on May 29, 1956. A total of 35,000 feet of drilling is provided for in the contract at an estimated cost of $107,150.00 of which the Government's share would be $53,575.00. On May 9, 1957, with the completion of hole number IN-70, the drill was moved to another project. During this period, 23 holes were drilled for a total footage of 18,191 feet at a cost of $55,211.57 of which the Government's share is $27,605.79. There remains under the contract, as of this date, an allowance for 16,809 feet of drilling at a cost not to exceed $51,938.43 of which the Government's share would be $25,969.21.

Six (6) of the 23 holes drilled found zinc mineralization regarded to be of ore grade and thickness. Five (5) other holes found weaker mineralization of possible significance. However, we now wish to temporarily recess work under the contract so that we may evaluate the geological information so far obtained. In this way, we feel that we may be in a better position to program future work under the contract. The results that have been obtained to date certainly encourage further exploration of the project area.

If this request meets with your approval, would you

please have the necessary amendment prepared for execution or, perhaps, this letter and the five (5) executed copies, herewith enclosed, may be deemed to constitute such amendment. If so, please return one (1) executed original to us.

Respectfully submitted,

THE NEW JERSEY ZINC COMPANY

By: S. S. Goodwin,
Vice President

Agreed:

THE UNITED STATES OF AMERICA

By: _____
Robert A. Laurence, DMEA
Field Team, Region V

LGM/SSG/rm
In Sextuplicate

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
ROOM 19 POST OFFICE BLDG
KNOXVILLE 2, TENN.

RECEIVED NOV 16 1956 D.M.E.A.

November 14, 1956

Memorandum

To: Operating Committee, DMEA, Washington, D. C.

From: Executive Officer, DMEA Field Team, Region V

Subject: Amendment No. 2, DMEA-4153, Idm-E950 (Zinc)
The New Jersey Zinc Co., New York, N. Y.
Independence area, Hancock County, Tennessee

Enclosed are the original and two copies of Amendment No. 2 to the subject contract. The usual distribution of the other copies has been made.

Justification for this amendment is contained in the Operator's letter of October 30, three copies of which are enclosed. We have discussed this with the Operator's geologists, and the Field Team agrees that this addition of approximately $3\frac{1}{2}$ acres to the contract to permit drilling holes on a fence 200 feet east of hole 47 and 500 feet west of the fence already drilled on the Horton tract will improve the probability of discovering a commercial tonnage of ore in this area.

Robert A. Laurence

Robert A. Laurence

Enclosures 6

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)
CABLE ADDRESS
"JERSEZINC"
100 FRONT STREET
NEW YORK 38, N.Y.

RECEIVED
NOV 16 1956
D.M.E.A.

HORSE HEAD PRODUCTS

PLEASE ADDRESS REPLY TO
Jefferson City, Tennessee

Jefferson City, Tennessee
October 30, 1956

Mr. R. A. Laurence, Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 2, Tennessee

Dear Mr. Laurence:

Re: DMEA-Idm-E-950 (Zinc)
Independence Area
Hancock County, Tennessee

In the subject contract under Annex I, reference is made to a rectangular area excluded from the contract, it being stated that no work will be done within its boundaries. This rectangle roughly defines the area previously drilled by the Zinc Company.

We now find that a valid exploration target lies within a few feet of the northeast boundary of the excluded rectangle and in order to drill this target area, and remain 200 feet from the boundary it would be necessary to move the excluded boundary 200 feet to the southwest. This will have the effect of reducing the long dimension of the excluded area by that distance. The description of the excluded area would be changed to read as follows:

BEGINNING at a point which is 1225 feet generally NW with the War Creek road from the intersection of the War Creek road with the Clinch Valley road; thence leaving War Creek road N 59° 30' E for a distance of 1370' to a point; thence N 30° 30' W for a distance of 780' to a point; thence S 59° 30' W for a distance of 2175' to a point; thence S 30° 30' E for a distance of 780' to a point; thence N 59° 30' E for a distance of 805' to the BEGINNING, containing approximately 40 acres.

We believe that the drilling in the area adjacent to the area presently excluded is good exploration and will be beneficial to the project. It is requested that the

RECEIVED
NOV 1 - 1956

limit of the excluded area be revised as suggested above to accomplish this purpose.

Yours very truly,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford

Superintendent for Tennessee

A.D.Hoagland/jf
In quadruplicate

File Copy
Surname

Griswold
Selfridge
Bishop

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION 500
WASHINGTON 25, D. C.

SEP - 5 1956

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4153 (Zinc)
The New Jersey Zinc Company
Independence Area
Hancock County, Tennessee
Contract No. Idm-E950

Dear Mr. Laurence:

Enclosed are the Field Team and Finance Office copies of Amendment No. 1 to the cited contract, which have been executed both by the Operator and the Government.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (WB)

WRGriswold/er 9/4/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

Enclosures

APPROVED:
O. M. Bishop
Member, Bureau of Mines (WB)

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

R.E.L.

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)
100 FRONT STREET
NEW YORK 38, N.Y.

OFFICE OF THE
VICE PRESIDENT

August 28, 1956

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

Docket #DMEA-4153 Idm-E950
The New Jersey Zinc Company
Independence Area
Copper Ridge Belt, Tennessee

Dear Sir:

Returned herewith are the original and four copies of Amendment #1 to Contract #Idm-E950, duly signed. We have retained the Operator's Copy.

Very truly yours,

S. S. Goodwin
Vice President

WTP/alb
encs.

RECEIVED
AUG 3 1 1956

File Copy
Surname

Grimsed
Talbyt
Selfridge
F Johnson

500

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

AUG 1956

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4153 (Zinc)
The New Jersey Zinc Company
Independence Area
Hancock County, Tennessee
Contract No. Idm-2950

Dear Mr. Laurence:

With reference to your letter of July 31, covering drilling under the cited project, we are enclosing the original and five copies of Amendment No. 1 to the contract. We are also enclosing two extra copies of the amendment for the use of the Field Team.

If it meets with your approval, please present it to the Operator for signature and distribute the copies in the usual manner. However, if any of the amendment terms should not meet with your approval, and a proposed change should lie beyond your delegated authority, please return all copies to us, with your recommendations.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (S/B)

Enclosures

WRGriswold/er 8/10/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

APPROVED:

FRANK D. LAMB (S/B)
Member, Bureau of Mines

N. E. Nelson (S/B)
Member, Geological Survey

Docket Copy

Indrit 8/9/56
"Appd. Sol. Off."
Talbut
Selfridge

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMMA-4153

Amendment No. 1

It is agreed this _____ day of _____, 1956, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration, Administration, and The New Jersey Zinc Company that Exploration Project Contract No. IDm-2950, dated May 10, 1956, is amended as follows:

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

> "However, the section interval may not be less than 500 feet, nor the drill hole spacing in any individual section be less than 200 feet, except upon written approval by the Government."

is deleted and the following sentence is substituted:

> "However, the section interval may not be less than 500 feet, nor the drill hole spacing in any individual section be less than 100 feet, except upon written approval of the Government."

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

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By _____
Administrator, Defense Minerals
Exploration Administration

THE NEW JERSEY ZINC COMPANY

By _____

Title _____

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION 500
WASHINGTON 25, D. C.

August 10, 1956

Memorandum for the Files

From: Chief, Base Metals Division

Subject: Preparation of Amendment No 1 for the following Dockets:

Docket No. DMEA-4153, The New Jersey Zinc Company, Independence Area, Hancock County, Tennessee, Contract No. Idm-E950, Zinc

Docket No. DMEA-4177, The New Jersey Zinc Company, Eidson Area, Hawkins County, Tennessee, Contract No. Idm-E956, Zinc

and

Docket No. DMEA-4286, The New Jersey Zinc Company, Big War Creek Area, Hawkins and Hancock Counties, Tennessee, Contract No. Idm-E982, Zinc

We have three contracts with the New Jersey Zinc Company in the Copper Ridge Belt of Tennessee, all for diamond drilling in limestone for zinc. Hole depths are considerable, and probably will average around 1100 - 1200 feet.

Normally, we do not like to space deep holes too closely, for obvious reasons; certainly, we are not concerned with blocking out ore. However, in these instances the ore bodies of the area, so far as is presently known, occur as long, narrow "fingers" or "pencils", paralleling the strike. Hence, unless we allow a hundred-foot spacing of holes on the dip fences, we could entirely miss an ore body. Therefore, the three cited contracts are being amended accordingly.

W R Griswold
W. R. Griswold

WRG/er
Copy to: Dockets (3)
Base Metals (3)
Chron.

File Copy

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

500

August 3, 1956

Memorandum

To: Associate Solicitor, Division of Mineral Resources

From: Chief, Base Metals Division

Subject: Preparation of Amendment No. 1 for Docket No. DMEA-4153, The New Jersey Zinc Company, Independence Area, Hancock County, Tennessee, Contract No. 1dm-M950, Zinc.

Will you please prepare an Amendment No. 1 to the attached contract which will change Exhibit "A" as follows:

On the first page of Exhibit "A" the last sentence of the third paragraph reads as follows:

"However, the section interval may not be less than 500 feet, nor the drill hole spacing in any individual section be less than 200 feet, except upon written approval of the Government."

This sentence should be deleted and the following sentence substituted:

"However, the section interval may not be less than 500 feet, nor the drill hole spacing in any individual section be less than 100 feet, except upon written approval of the Government."

W. R. Griswold

W. R. Griswold

WRG/er
Copy to: Docket
Base Metals
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 25 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

RECEIVED
AUG - 1 1956

July 31, 1956

Memorandum

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V

Subject: DMEA-4153, Idm-E950 (zinc) The New Jersey Zinc Co., New York, N.Y. Independence Area, Hancock County, Tenn.

Enclosed are 3 copies of a letter from the Operator, regarding an amendment to the subject contract and also to Idm-E956 and DMEA-4286, permitting spacing of holes as close as 100 feet on a fence without requiring specific written approval.

In a telephone conversation, Mr. Griswold suggested that an amendment probably is not necessary. We are in favor of approving the closer spacing in situations like these described by Mr. Crawford, and wish to avoid writing a specific approval for each hole so located. To date, we have written three such approvals for the Independence contract.

Please advise.

Robert A. Laurence
Robert A. Laurence
Executive Officer, DMEA
Region V

V. J. Lynch
V. J. Lynch, Member
Bureau of Mines

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)
CABLE ADDRESS
"JERSEZINC"
100 FRONT STREET
NEW YORK 38, N.Y.

RECEIVED
JUL-19 1956
U. S. BUREAU OF MINES
DEF. MIN. ADM.
Knoxville, Tennessee

RECEIVED
AUG - 1 1956
HORSE HEAD PRODUCTS

PLEASE ADDRESS REPLY TO

Jefferson City, Tennessee
July 16, 1956

Mr. R. A. Laurence, Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 2, Tennessee

Dear Mr. Laurence:

Re: DMEA - Idm-E950 (Zinc)
Independence Area
Hancock County, Tenn.

In the subject contract, Exhibit "A", paragraph 3, provision is made for drilling on fences at closer than 200 foot spacing only with the written approval of the government. Request is made, herewith, for amendment to this proviso so that drill holes may, when deemed necessary or advisable, be drilled as close together as 100 feet on fences. It is intended that the spacing of fences would remain generally at 1200 feet and not closer than 500 feet as provided by the contract.

Important reasons why it is desirable to drill as close as 100 feet on fences in certain situations are:

1. Orebodies of real significance are known in the Copper Ridge Belt that do not have a dip dimension in excess of 100 feet. If indications are secured in a drill hole that it is a "near miss", a hole 100 feet distant is indicated. A 200 foot interval could be too great.

2. The relationships of the ore to the structure, stratigraphy and alteration may be quite significant. Relationships of this kind can be determined by drilling in the ore area on approximate 100 foot spacing in the dip fences. A 200 foot spread is too gross to determine these factors.

The objective of the program is to determine the gross ore potential of the area under investigation with the greatest economy of drill hole expenditure and with minimum risk of missing significant ore occurrence. We believe this may be accomplished by drilling on 200 and 300 foot spacing on wide

RECEIVED
JUL 18 1956

July 16, 1956

Mr. Johnson Crawford, Supt.
T he New Jersey Zinc Company
Jefferson City, Tennessee

Re: DMEA-4153, Idm-E950 (zinc)
Independence Area
Hancock County, Tennessee

Dear Mr. Crawford:

Approval is hereby given to drill Hole No. I-53 one-hundred feet from the previous hole, as request by Mr. Hoagland.

Very truly yours,

Robert A. Laurence, Executive Officer
DMEA Field Team, Region V

RAL/sm

cc:
Lynch

Opr. Com.

Files

Finance Office

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

ROOM POST OFFICE BLDG.
KNOXVILLE 2, TENN.

RECEIVED
JUN 21 1956

June 19, 1956

Memorandum

To: Operating Committee, DMEA - Washington

From: Acting Executive Officer, DMEA - Region V - Knoxville

Subject: DMEA-4153, Idm-E950 (zinc) The New Jersey Zinc Company, Independence Area, Hancock County, Tennessee

Enclosed are 3 copies of written approval to locate drill hole No. I-52, 100 feet down dip from drill hole No. I-50, in the section of holes on the M. B. Horton Property.

In requesting approval to again space holes less than 200 feet apart, Mr. Hoagland, company geologist, explained that ore has been discovered in Holes I-48 and I-50 in the section of holes now being drilled on the M. B. Horton property and that closer spacing is desired until the basic characteristics of a possible new ore zone can be determined.

V. J. Lynch

V. J. Lynch

RECEIVED
JUN 21 1956

June 19, 1956

Mr. A. D. Hoagland
New Jersey Zinc Company
Jefferson City, Tennessee

Re: DMEA-4153, Idm-E950 (Zinc)
Independence Area
Hancock County, Tennessee

Dear Mr. Hoagland:

Approval is hereby granted to drill hole No. I-52, on theM. B. Horton Property, 100 feet (horizontal distance) in a south-east direction from hole No. I-50 as provided in paragraph 3 of Exhibit "A" to the contract.

It is understood that zinc mineralization probably of ore grade, has been encountered in hole No. 48 and hole No. 50 in this section of holes, and closer spacing of the holes is desired at this time in order to determine the basic characteristics of this deposit.

V. J. Lynch, Acting

ZM.

cc:

Opr. Com.-2

Lynch

Files

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
ROOM 13 POST OFFICE BLDG
KNOXVILLE 2, TENN.

June 7, 1956

Memorandum

To: Operating Committee, DMEA, Washington, D. C.

From: Field Team, DMEA, Region V, Knoxville, Tennessee

Subject: DMEA-4153, Idm E-950 (Zinc)
The New Jersey Zinc Co., New York, N. Y.
Independence Area, Hancock County, Tennessee

Enclosed are three copies of written approval to locate hole I-50 at a horizontal distance of 100 feet from I-48. This was prepared after a telephone discussion with A. D. Hoagland, company geologist who requested the approval.

According to Mr. Hoagland, hole No. I-48, which was bottomed at 380 feet, cut about 100 feet of scattered mineralization, including 7 feet of estimated 6 to 8 percent Zn at about 225 feet. He interprets this as mineralization which may not be as much as 200 feet wide and stated that, in the case of shallow holes, it has been Company policy in this district to drill 100 feet from such holes. It is understood that ore bodies in this district are apt to be narrow and elongated in a strike or near-strike direction. For this reason, we have given approval to the closer spacing for this hole, which will probably be about 500 feet deep.

It appears probable that similar requests will be made when other holes cut marginal mineralization. We would look much less favorably on the closer spacing for deeper holes and in general it seems better to retain the 200-foot interval and then drill the intermediate holes at 100 feet when conditions warrant it.

Robert A. Laurence
Robert A. Laurence
Executive Officer

V. J. Lynch
V. J. Lynch
Member, Bureau of Mines

Docket Copy

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
ROOM 13 POST OFFICE BLDG
KNOXVILLE 2, TENN.

June 7, 1956

Mr. A. D. Hoagland
New Jersey Zinc Company
Jefferson City, Tennessee

Re: DMEA-4153, Idn-E950 (Zinc)
Independence Area
Hancock County, Tennessee

Dear Mr. Hoagland:

This will constitute approval to drill hole no. I-50 on the M. B. Horton property, 100 feet (horizontal distance) in a southeast (down-dip) direction from hole no. I-48, as provided in paragraph 3 of exhibit "A" to the contract.

As explained in your telephone call, this location is justified on the basis of mineralized core from hole I-48 which you interpret as possibly the "fringe" or "edge" of an ore-shoot which might be missed if a wider spacing is used.

Sincerely yours,

Robert A. Laurence
Executive Officer
DMEA Field Team, Region V

RAL/mg
cc - Operating Committee (3)
Field Team File
Finance Office
Mr. V. J. Lynch

File Copy
Surname
Griswold
Martin
Hyman
Wetherill

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

500

MAY 24 1956

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4153 (Zinc)
The New Jersey Zinc Company
Independence Area
Hancock County, Tennessee
Contract No. Idm-E950

Dear Mr. Laurence:

Referring to the cited application, we are enclosing the Finance Office and Field Team copies of the executed contract. Two extra copies of Annex I, Exhibit "A" and the map are enclosed for Field Team use.

We believe you understand that under the category "Independent Contracts" the cost units are maximums. For example, drilling up to 1,000 feet depths is allowed a maximum cost of $2.75 per foot. However, if the work should actually be performed for a lesser sum, the Government would only participate in its share of such lesser figure.

Sincerely yours,

W. S. Martin
ACTING Chairman, Operating Committee

WRGriswold/er 5/22/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

Enclosures

APPROVED:

/s/ Robert W. Geehan
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)
100 FRONT STREET
NEW YORK 38, N.Y.

OFFICE OF THE
VICE PRESIDENT

HORSE HEAD PRODUCTS ®

RECEIVED
MAY 21 1956

May 17, 1956

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

RE: DOCKET NO. DMEA-4153 (zinc)
The New Jersey Zinc Company
Independence Area
Hancock County, Tennessee

Dear Sir:

Returned herewith are the original and four copies of the above named contract, all duly signed. We have retained the Operator's Copy.

Very truly yours,

S. S. Goodwin
Vice President

WTP/alb
encs.

spaced dip fences provided that in critical areas such as ore and mineralized zones, holes on 100 foot spacing are drilled to determine the significant structural, stratigraphic and alteration factors.

We would be pleased to discuss this matter with you at greater length if you wish to do so.

The situation respecting drill hole exploration practice is the same at the Eidson and Big War areas as it is at Independence. Amendments to these contracts, similar to that requested for Independence is also requested.

Yours very truly,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford

Superintendent for Tennessee

A.D.Hoagland/jf
In quadruplicate

File Copy
Surname
Griswold
Chambers
Nelson
Geehan
Selfridge
Johnson

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

MAY 10 1956

Mr. S. S. Goodwin, Vice President
and Manager of Mines
The New Jersey Zinc Company
160 Front Street
New York 38, New York

Re: Docket No. DMEA-4153 (Zinc)
The New Jersey Zinc Company
Independence Area
Hancock County, Tennessee

Dear Mr. Goodwin:

With reference to your letter of February 1, requesting Government assistance for the cited exploration project, we are enclosing the original and five copies of a contract, signed by the Government. If it meets with your approval, please sign all copies, retaining the "Operator's Copy" for your files, and return the balance to us.

In the event that any of the contract provisions do not meet with your approval, please return all copies unsigned with your comments.

Sincerely yours,

C. O. Mittendorf

Administrator

WRGriswold/er 5/2/56

Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Killsgaard, USGS
Region V (2)
Chron.

R.G.S.

File Copy
Surname

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION 500
WASHINGTON 25, D. C.

April 19, 1956

Memorandum

To: Associate Solicitor, Division of Mineral Resources

From: Chief, Base Metals Division

Subject: Preparation of Contract for Docket No. DMEA-4153, The New Jersey Zinc Company, Copper Ridge Belt, Independence Area, Hancock County, Tennessee, Zinc.

Will you kindly prepare a contract for the cited application along the lines indicated on the attached rough copy.

W. R. Griswold

W. R. Griswold

WRG/er

Copy to: Docket
Base Metals
Chron.

C
O
P
Y

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

Unanswered
Betty

April 17, 1956

Mr. W. R. Griswold
United States Dept. of the Interior
Defense Minerals Exploration Administration
Washington 25, D. C.

Docket B

DMEA APPLICATIONS
THE NEW JERSEY ZINC COMPANY

Re: Docket DMEA - 4153 Tenn.
" " - 4177 Tenn.
" " - 4178 Virginia
" " - 4173 "
" " - 4174 "

Dear Sir:

In our DMEA contracts, No. 4119, Talbott Area, Tenn., and No. 4126, Strawberry Plains Area, Tenn. paragraph 4 states "All mineralized core will be properly sampled and assayed for zinc and iron".

We do not normally make a practice of assaying for iron, and suggest, therefore, that the requirements for iron assays be deleted from the above listed Docket Applications pending. This matter was discussed with Mr. Robt. A. Lawrence, and he indicated that the Government does not care whether iron is determined or not. Also we do not want to be obligated to assay all core, but only that core which is significantly mineralized.

Wednesday, 11 April, we mailed in to Mr. Mittendorf the completed DMEA 4119 and 4126 contracts.

Very truly yours,

signed/ John B. Canada
for Manager of Exploration

JBC/alb

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 25 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

RECEIVED
APR 1 2 1956

April 10, 1956

Gruswold

Memorandum

Roberts

To: Operating Committee, DMEA - Washington

From: Executive Officer, DMEA- Region V - Knoxville, Tennessee

Subject: DMEA-4153, The New Jersey Zinc Co., New York, N.Y.
Independence Area, Hancock County, Tennessee

Enclosed are two copies each of bids submitted to the applicant by E. J. Longyear Company, Joy Manufacturing Company, and Southeastern Diamond Drilling Company for drilling in the subject area, and two copies of the applicant's letter of transmittal.

Robert A. Laurence

Robert A. Laurence

C
O
P
Y

THE NEW JERSEY ZINC COMPANY

RECEIVED
APR 1 1956

Jefferson City, Tennessee
April 7, 1956

Mr. R. A. Laurence, Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville, Tennessee

Subject: INDEPENDENCE AREA - Docket No. DMEA-4153
EIDSON AREA - Docket No. DMEA-4177

Dear Mr. Laurence:

In connection with our proposed exploration in the Independence and Eidson areas of the Copper Ridge belt in Hancock and Hawkins Counties, we have requested three diamond drilling contracting firms to bid on the planned diamond drill job.

Joy Manufacturing Company submitted a bid dated March 28, 1956 covering this proposed work. E. J. Longyear Company submitted their bid March 15th. Five ozalid prints of each of these bids is enclosed herein. Southeastern Diamond Drilling Company in a letter dated March 26, 1956 indicated they are unable to bid on the Copper Ridge project. One photo process reproduction and five ozalid prints of a typed copy of this letter are enclosed.

Of the three companies invited to consider this project, the E. J. Longyear Company made the best bid. It is interesting to note, in this connection, that both Joy and Longyear have had wide experience drilling in the subject area, and there was a strong desire on the part of these companies to make the best possible bid. It is unfortunate that Southeastern were unable to bid on this project, and we consider that they done so, they would have been substantially the high bidder.

We trust this information will serve to satisfy the requirement for competitive bidding in connection with the subject applications for DMEA assistance. It is our firm view that we have secured a very low contract rate for diamond drilling in the Copper Ridge belt.

Very truly yours,

THE NEW JERSEY ZINC COMPANY

/s/ Johnson Crawford
Superintendent.

A. D. Hoagland/jf

Copied by zm.
4/10/56

Opr. Com-4

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

RECEIVED
APR 12 1956

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

March 23, 1956

AIR MAIL

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

Attention: Mr. A. B. Tremor
Asst. Mgr. of Purchasing

Subject: Diamond Drilling
Copper Ridge Unit - 1-1524

Gentlemen:

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

	AX Core	BX Core
From surface to 500 ft.	$2.75 ft.	$2.50 ft.
From 500. to 1000. ft.	3.25 "	3.00 "
From 1000. to 1500. ft.	3.75 "	3.50 "
From 1500. to 2000. ft.	4.25 "	4.00 "

Reaming - AX Hole for AX casing	$2.00 ft.
Reaming - BX Hole for BX casing	$1.75 "
Connecting holes	$7.50 per hr.

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

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

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

In the event the proposed drilling at Ducktown, Tennessee or which we have noted or have high to answer to us, we reserve the right to withdraw the applications on the Hamilton and Lancock tracts, Tennessee, proposed drilling, as we may be short of drilling equipment and cross account of previous heavy commitments.

We would appreciate a copy of your letter to the Lands, in advance proposed drilling.

Very truly,

[illegible]

[illegible]

[illegible] Harris, Jr.
Contract Drill Division

[illegible]/[illegible]

MAR 30 1952
DEPT. 1110

RECEIVED
APR 12 1956

March 26, 1956

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

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

Dear Mr. Turner:

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

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

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

Respectfully submitted, we remain

Very truly yours,

SOUTHEASTERN DIAMOND DRILLING CO.

J. P. Jennings, Jr., Geologist

JPJ/rw
Enclosure

E. J. LONGYEAR COMPANY

RECEIVED
APR 12 1956

DIAMOND DRILL MANUFACTURERS
CORE DRILLING CONTRACTORS
MINING ENGINEERING AND
GEOLOGICAL CONSULTANTS

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

March 15, 1956

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

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

Gentlemen:

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

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

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

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

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

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

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

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

a) Overburden Drilling

0 - 100 feet in depth, measured from the collar of the hole..... $2.75 per foot

b) Diamond Core Drilling

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

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

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

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

1,000 - 1500 feet in depth -

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

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

1500 - 2000 feet in depth -

EX-size..... $3.40 per foot

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

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

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

e) Hauling drill core from drill hole locations to core storage shed..... $3.25 per hour

f) Casing left in drill holes at your request:

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

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

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

i) Capping holes..... $3.25 per hour, plus cost of caps and other materials used.

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

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

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

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

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

Very truly yours,

E. J. LONGYEAR COMPANY

M. J. Gleason, Manager
Contract Drilling Division

MJG:bal

ACCEPTED:

THE NEW JERSEY ZINC COMPANY

By: _____

Date: _____

File Copy
Surname
Griswold
Nelson
Graham
Selfridge
Gilmore
Mathewson

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

MAR 30 1956

WRGriswold/er Rm. 4444, Ext. 3669
Base Metals Division, DMEA

TELETYPE
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

14X4401(01) Revolving Fund, Defense Production Act, Interior (allocated Working Fund to Office of Secy.)

Date:

To: Mr. Robert A. Laurence, Executive Officer, DMEA Field Team, Region V, Knoxville, Tennessee

Rewrlet March 27, Dockets DMEA 4153 and 4177, The New Jersey Zinc Company. All applications of this company except DMEA 4119 and 4126 must include three bids for the drilling work. This is our established practice and has been explained to Mr. Callahan at the New York office of this company. He has stated that the necessary bids will be submitted.

George C. Selfridge
Chairman, Operating Committee (GCS)

WRG/er

Copy to: Docket (4)
Admr R File
Op. Committee
Base Metals (4)
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.
Confirmation Copy

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 1055, OCB BLDG.
KNOXVILLE 2, TENN.

RECEIVED
MAR 30 1956

March 27, 1956

Memorandum

Docket

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tennessee

Subject: DMEA-4153 and DMEA-4177, New Jersey Zinc Company (zinc)

The enclosed letter from New Jersey Zinc Company is in response to a telephone call by Mr. Laurence to New Jersey Zinc Co., requesting them to explain how the price schedule for diamond drilling, as proposed in the subject applications, were determined.

The Company believes that the prices are comparable to prices based on competative bids because they are based on contract prices accumulated over a number of years. For this reason and others discussed in the letter the Company did not invite competative bids.

If this explanation is not sufficient to justify the lack of competative bids in the application, please let us know.

Robert A. Laurence
Robert A. Laurence
Executive Officer, DMEA
Field Team, Region V

V. J. Lynch
V. J. Lynch, Member
Bureau of Mines

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)

CABLE ADDRESS
"JERSEZINC"

100 FRONT STREET

NEW YORK 38, N.Y.

RECEIVED
MAR 29 1956
HORSE HEAD PRODUCTS

PLEASE ADDRESS REPLY TO

Jefferson City, Tennessee
March 21, 1956

Mr. R. A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 2, Tennessee

Subject: INDEPENDENCE AREA - DOCKET NO. DMEA 4153
EIDSON AREA - DOCKET NO. DMEA 4177

Dear Mr. Laurence:

In our telephone conversation of March 20th you inquired if we would indicate to you the basis upon which we established that the contract prices for the drilling in the subject area are competitive. As you are aware, competitive pricing is a fundamental consideration in all of our contract work. For practical reasons, however, we have only had one contracting firm on the work in the Copper Ridge district and have based our evaluation of the merits of the price structure on knowledge of the particular rock and terrain conditions that prevail in the subject areas. A general summary of the development of the costs for drilling in the Eidson and Independence areas is outlined below:

In the fall of 1950 a contract was made with the E. J. Longyear Company which provided for drilling in the subject area on the basis of the following price schedule:

Overburden	$2.25 per foot
From 0-1000': AX Core	$2.25 " "
From 1000'-1250' "	$2.50 " "

These rates were approximately 25¢ per foot more than those in effect in the Jefferson City district at the same time. Because of the remoteness of the area, the relatively more difficult terrain, and the greater silica content of the rock, the quoted price was considered a fair and proper basis for the work.

On October 17, 1951, after completing 25,000 feet of drilling, the Longyear Company advised that they were operating at a deficit, which as of September 1, 1951 amounted to $11,089.31. Their costs as of that date were $2.72 per foot. As of December 1, 1951 the contract drilling rate was raised to $2.75 per foot for AX drilling.

Again on June 1, 1953, the rates were further raised to $2.85 per foot for AX from 0-1000 feet and to $3.10 per foot for AX drilling in excess of 1000 feet in depth.

These increases were justified on the basis of substantially greater drilling problems such as harder rock, more broken and cavernous ground and rougher terrain that were encountered in the Copper Ridge district. Increased labor costs between 1950 and 1953 further added to the cost of drilling.

The New Jersey Zinc Company have watched the drilling in the subject area closely and feel that the rates established there reflect truly competitive conditions in keeping with the relationship between actual drilling costs in the Copper Ridge district as compared with the Jefferson City district where competitive rates are established.

On December 1, 1955 the E. J. Longyear Company entered into a new contract with The New Jersey Zinc Company to do drilling in the Copper Ridge district at a reduced cost recognizing recent improvement in drilling speed and labor efficiency. These rates are as follows:

Overburden	0-100'	$2.75 per foot
AX Core drilling	0-1000'	$2.75 " "
" " "	1000-1500'	$3.00 " "

Incidental and service charges are estimated to add approximately 25¢ per foot over the base rate of $2.75 per foot.

It has been the policy of The New Jersey Zinc Company to consider, in addition to cost, the following items in connection with granting of diamond drill contracts:

1. The ability of the contractor to perform the drilling with a maximum of core recovery in accordance with the best drilling practice.

2. The integrity of the contractor and his employees respecting security of information derived from the drilling.

In connection with item 2, it has generally been thought desirable not to employ contractors working for competitors in the same district, particuarly if competitive property problems exist.

It is our view that the rates established in the Copper Ridge district by the E. J. Longyear Company fairly represent the costs of the work and are comparable to those that might have been reached on a competitively bid job basis.

Very truly yours,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford

Superintendent

A.D.Hoagland/jf
In duplicate

RECEIVED
MAR 23 1956
U. S. Geological Survey
Geologic Division
Knoxville, Tenn.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D.C.
ROOM 1009 FDC BLDG.
KNOXVILLE 2, TENN.

RECEIVED
MAR 29 1956

March 27, 1956

Docket

Memorandum

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tennessee

Subject: DMEA-4153 and DMEA-4177, New Jersey Zinc Co., (Zinc)
Land Exclusion

As requested in your memorandum of March 16, we are forwarding here with:

1. Descriptions of certain parcels of land to be excluded from the subject applications. These land parcels are in the Eidson Area No. 1, Eidson Area No. 2, and Independence Area.

2. A specimen long form Contract and Agreement. The long form contract and agreement sets forth the terms of the option Agreement under which the New Jersey Zinc Company controls the property.

Robert A. Laurence
Robert A. Laurence, Executive Officer
DMEA Field Team, Region V

V. J. Lynch
V. J. Lynch, Member
Bureau of Mines

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)
CABLE ADDRESS
"JERSEZINC"
100 FRONT STREET
NEW YORK 38, N.Y.

RECEIVED
MAR 29 1956

HORSE HEAD PRODUCTS

PLEASE ADDRESS REPLY TO

Jefferson City, Tennessee
March 21, 1956

Mr. R. A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 2, Tennessee

Subject: INDEPENDENCE AREA DMEA NO. 4153
EIDSON AREA DMEA NO. 4177

Dear Mr. Laurence:

In accordance with your request, we are enclosing supplementary data for our Copper Ridge district DMEA application, as follows:

1. A specimen long form Contract and Agreement, two copies.

2. A survey description of areas to be excluded from the application, 2 copies.

The long form Contract and Agreement fully sets out the terms of the option agreement under which The New Jersey Zinc Company controls the property. All rights of prospecting and purchase are described in detail. The short form Contract and Agreement, executed simultaneously, is intended to be recorded, and in the interest of privacy, the short form does not specify precise terms. The long form is referred to in the short form, and becomes a part of it as if fully set out at length.

The descriptions of the excluded areas is sufficiently precise to permit an instrumental survey of the area, tied to a permanent landmark.

Yours very truly,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford
Superintendent

D. L. Kendall
D.L.Kendall/jf
In duplicate

RECEIVED
MAR 23 1956
U. S. Geological Survey
Geologic Division
Knoxville, Tenn.

RECEIVED
MAR 29 1956

INDEPENDENCE AREA - - DMEA 4153

Description of Area Excluded

BEGINNING at a point which is 1225' generally N.W. with the War Creek Road, from the intersection of the War Creek road with the Clinch Valley Road; thence leaving War Creek Road N 59-30 E for a distance of 1570' to a point; thence N 30-30 W for a distance of 780' to a point; thence S 59-30 W for a distance of 2375' to a point; thence S 30-30 E for a distance of 780' to a point; thence N 59-30 E for a distance of 805' to the BEGINNING, containing approximately 43 acres.

RECEIVED
MAR 29 1956

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 20th day of April 1952, by and between A. C. POTTER (SINGLE) of Hancock County, Tennessee, hereinafter called the Owner, party of the first part, and THE NEW JERSEY ZINC EXPLORATION COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company:

WITNESSETH

That for and in consideration of the sum of FIVE HUNDRED ($500.00) DOLLARS cash in hand paid, the receipt of which is hereby acknowledged, the Owner grants the Zinc Company for the period of one year from the date hereof (said period expiring on April 20, 1953), the rights hereinafter set forth with respect to the following described premises, with the further right of extending this Contract and Agreement annually for a period of four additional years as hereinafter provided:

FIRST: In the third civil District of Hancock County, Tennessee and being all that portion of Tomers "Homplace" lying South of the top or crest of Copper Ridge, containing 220 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 Ralph Barrett;
On the South by Clinch Valley Road, the lands of Gillum, and D. K. Farrell; and
On the West by the lands of Flora Hooten.

Owner acquired title to the above described premises by the following deeds of conveyance all of record in the Register's Office for Hancock County, Tennessee, to which reference is here made: (1) Deed of Mrs. Flora M. Burton (widow), et al., dated February 27, 1950 of record in Deed Book 8, Pages 60-61-62; (2) Deed of Robert Kilgore and wife, dated December 22, 1949, Deed Book 18, Pages 334-35 and (3) Deed of Earl Brown (single), dated November 1, 1949, Deed Book 16, Pages 165-66.

2. The Owner grants to the Mine Company for said period the exclusive right to prospect for, explore and develop all the minerals, metals, ores, ore-bearing materials and rocks of any kind in, under or on the said premises, including the right for said purposes to enter upon the premises with men, tools, rigs and appliances, to use water available upon or appurtenant to the premises, and to remove samples. The Owner also grants to the Mine Company the exclusive right and option to purchase at any time during said period or any extension thereof for the sum of Thirty Thousand ($30,000.00) Dollars all the metals, minerals, ores, ore-bearing materials and rocks of any kind, including limestone, in, under or upon the above described premises, together with the right to prospect for, mine, mill and remove same, and the right to utilize and divert such water as may be used or appurtenant to the premises, and the right to drill into any water course on said premises any water from operations conducted thereon or therein, 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 Mine Company, its successors or assigns, may have or acquire mineral or mining rights, and any 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.

8. The owner also grants to the Zinc Company the right to purchase at TWO HUNDRED ($200.00) DOLLARS per acre an area of not more than fifty acres of the surface of the above described premises, the number of acres and the location thereof to be determined and designated by the Zinc Company. Such surface area so designated shall not, however, include property upon which the present residence, barns and attendant one-buildings are located, or within a distance of three hundred feet thereof. The Zinc Company may purchase such surface area only if it exercises the option to purchase set forth in paragraph "two" hereof, and if it desires to purchase such surface area it must do so at the same time it exercises said option.

9. This Contract and Agreement may be extended from year to year until April 30th, 1957, upon tender by the Zinc Company to the Lessor of FIVE HUNDRED ($500.00) DOLLARS on or before the 30th day of each consecutive April following. The provisions of this Contract and Agreement will be in full force and effect during said extension periods. All sums tendered in accordance with the provisions of this paragraph and paragraph "one" shall apply upon and go to reduce the purchase price if the Zinc Company exercises the aforesaid right and option to purchase.

10. The Zinc Company shall pay for all damage done by its prospecting activities to the surface, growing crops, fences, buildings and structures on the premises while it holds said option to purchase.

In case the parties hereto shall not be able to agree upon the amount or extent of such damage, the same shall be determined by arbitration, the Lessor to select one arbitrator, the Zinc Company to select one arbitrator, and the two arbitrators so

selected to select a third arbitrator. The award made by such arbitrators shall be binding and conclusive on the parties hereto.

Should the Zinc Company exercise the option to purchase herein granted, the Lease hereinafter referred to shall contain the foregoing provisions as to damages and the arbitration thereof and shall also include within its provision all such damage done by the Zinc Company's mining activities.

C. Should the Zinc Company elect to exercise its right and option to purchase hereunder, it will mail written notice thereof to the owner in Hancock County, Tennessee and will specify therein the location of the surface, if any, which it desires to purchase, and the time and place for delivery by the owner of a proper Lease, which time shall in any case be not more than sixty days subsequent to the expiration of the option period then in effect. The owner will deliver a good and sufficient Lease conveying to the Zinc Company or its designee, with covenants of general warranty, good, sufficient and indefeasible title to the said minerals, metals, ores, ore-bearing materials and rocks of any kind, including limestone, together with the rights and privileges hereinbefore set forth and so much of the surface as the Zinc Company may, in accordance with the provisions of paragraph "three" hereof, elect to purchase, free and clear of all encumbrances, and the Zinc Company will thereupon pay to the owner the agreed purchase price less such sums as may have theretofore been paid by the Zinc Company pursuant to the provisions of paragraph "one" and paragraph "four" of this option Contract and Agreement.

7. The Zinc Company may terminate this Contract and Agreement at any time during the original term hereof, or any extension thereof, by giving written notice thereof to the Owner, and thereupon any liabilities or obligations of the Zinc Company hereunder, excepting those that may have already accrued, shall immediately cease and terminate.

8. In the event of the expiration or termination of this Contract and Agreement otherwise than by the exercise of the option to purchase herein granted, the Zinc Company shall have the right to remove any tools, rigs, and appliances, together with all other property of every kind and description which it may have placed on the premises. In the event the Zinc Company exercises the option to purchase, the bond of conveyance shall contain a provision permitting the Zinc Company at any time, and from time to time, to remove such property from the premises.

9. The parties hereto agree that the whole Contract and Agreement between them is written herein and in a short form Agreement of even date herewith which is intended to be recorded, and the parties hereto are not bound by any agreements understandings or conditions otherwise than as set forth herein and said short form agreement.

10. 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 Thereof, the party of the first part has hereunto set his signature on this the day and date first above written.

M. B. Horton

M. B. Horton, party of the first part.

STATE OF TENNESSEE

HANCOCK COUNTY

Personally appeared before me, Ben S. Catlett, a Notary Public in and for said County and State, the within named bargainor, B. B. KEATON (HIMSELF), with whom I am personally acquainted and who acknowledged that he executed the foregoing Contract and Agreement for the purposes therein contained and expressed.

Witness my hand and official seal in Hancock County, Tennessee on this 30th day of April 1952.

Ben S. Catlett
Notary Public.

Commission Expires: 4-6-54.

Seal

Qualified in Hancock County
under the Provisions of Tennessee
Code Section 8904.1 et seq.

Griswold
Betty

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

RECEIVED
MAR 22 1956

March 22, 1956

Memorandum

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

From: J. W. Pennington, Branch of Base Metals

Subject: Review of Field Team memorandum, Docket No. DMEA 4153 (zinc), The New Jersey Zinc Company, Copper Ridge Belt, Independence area, Hancock County, Tennessee

According to the Field Team's memorandum this area shows promise of becoming a new major zinc district. Substantial tonnages have already been discovered by the applicant.

Vertical drilling is preferred to angle drilling to decrease footage required and unit costs for drilling.

I agree with the recommendations of the Field Team that the application for assistance to explore this property be approved.

J. W. Pennington

Copy to: Division of Minerals
Branch of Base Metals (2)
Thor Kiilsgaard, U.S.G.S.
R. W. Geehan
O. Bishop
F i l e s

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON, D.C.~~
Room 13, Post Office Bldg.
Knoxville 2, Tenn.

C
O
P
Y

Received

March 16, 1956

Docket

Memorandum

To: Mr. C. O. Mittendorf, Administrator, DMEA - Washington

From: D.M.E.A. Field Team, Region V - Knoxville, Tennessee

Subject: Time for Repayment on Tennessee and Virginia Zinc Contracts.

As you know, we now have, in various stages of processing, 8 applications, from two different companies for drilling in Tennessee and Virginia for replacement-type zinc sulfide ore bodies. Total cost of these proposals is $1,611,677.00. In addition, we anticipate receipt of two more applications, for areas in Tennessee. A map being mailed under separate cover shows the locations of all these proposals, as well as mines now in operation and mills in operation or under construction, and of the current project, DMEA-2546.

Although we haven't any ore reserve figures to prove it, it is our opinion that some of the ore in any of these exploration areas is likely to be mined within the next ten years. The contract now in force with American Zinc Company of Tennessee (Idm-2676) contains a clause providing 30 years for repayment. It is our understanding that this term was based on the Operator's statement that they have now at least 30 years' reserves at their present milling capacity.

We recommended 30 years for the first two New Jersey Zinc projects because they are in the same general area as the West New Market project of American Zinc and one almost adjoins it. We do not know what New Jersey Zinc's reserves at Jefferson City are, but they are obviously quite substantial. American Zinc's new application is in this same area and should be treated the same as the others.

The second pair of New Jersey Zinc applications (DMEA-4153 and 4177) are in an outlying district. Although that Company is now developing a mine and building a mill at Flat Gap, in Hancock County, Tennessee the distance of these new applications from Flat Gap and the absence of railroads makes it seem quite probable that no ore discovered at Independence

or Edison is likely to be developed until enough is discovered to justify a separate mill in that area.

In Virginia, New Jersey Zinc's Beaver Creek application (DMEA-4178) is in an entirely new area. It is only four miles from a railroad, but is 100 miles by rail from the Company's Austinville mill. The other two Virginia areas (DMEA-4173 and 4174) proposed by this Company are 6 and 10 miles respectively from the railroad, and 18 and 25 miles from Austinville by road and 65 and 80 miles by rail.

It is our opinion that all these Tennessee applications, and probably the Virginia ones (if approved) as well, should be subject to a longer period of repayment than 10 years. We have no way of knowing what a correct period should be, in order to be consistent with contracts in other regions. Sales of crushed and ground limestone as by-products of zinc ore milling should also be subject to royalty repayment.

Robert A. Lawrence
Executive Officer, DMEA
Field Team, Region V

V. J. Lynch, Member
Bureau of Mines

RAL/mm
cc:
Cop. Com.-2
Grimwald
Kiilsgaard,
Lynch
Files

File Copy
Surname
Griswold
Robin
Dwyer
Selfridge
Fitzsimmons
Mittendorf

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

500

MAR 16 1956

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4153 (Zinc)
The New Jersey Zinc Company
Copper Ridge Belt, ~~Section I~~
Hancock County, Tennessee

Dear Mr. Laurence:

We have your memorandum, dated February 28, concerning the cited application.

We note the last paragraph in your memorandum, in which you state:

"Enclosed are 3 copies of a map submitted by the applicant showing location of initial drill holes and a suggested boundary of areas already explored and known to be ore-bearing, to be excluded from the contract."

However, while the Applicant may request such a land exclusion, yet we cannot accept a brown colored outline on a map as a proper land description. You should therefore request the Applicant to provide us with a proper land description of the area to be excluded. This description should be in the form of a proper "metes and bounds" detailed outline which would permit a surveyor to establish the lines at any time. Of course, if the excluded land should happen to coincide with land parcels which are a matter of public record, no detailed description would be necessary, other than the listing of the particular parcels.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (S/S)

APPROVED:

/s/ Robert W. Geehan (S/S)
Member, Bureau of Mines

Thor H. Kiilsgaard (S/S)
Member, Geological Survey

WRGriswold/er 3/13/56
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Base Metals
Chron.

P. S. The applicant should be requested to furnish copies of the "Agreements of even date" executed by the property owners in connection with the Option Contract and Agreement.

R.G.S.

IN REPLY REFER TO:

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

RECEIVED
MAR 13 1956

March 13, 1956

Re: DMEA 4153
New Jersey Zinc Company
Copper Ridge Belt
Independence Area
Hancock County, Tennessee
$125,000 - Zinc

Memorandum

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

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

Subject: Review of Field Team report

The applicant requested assistance on an exploration project consisting of:

Drilling 35,000 feet at $3.00/ft.	$105,000
Geologic and technical service	9,500
Supplies, core boxes, etc.	1,050
Mileage, automobile	1,400
Miscellaneous	2,105
Contingencies	5,945
	$125,000

The Field Team recommends a program involving the same amount of drilling, but with somewhat smaller "accessory" items, at an estimated cost of $118,005.

I concur with the recommendation of the Field Team.

N. E. Nelson

N. E. Nelson

RECEIVED
MAR - 5 1956

February 28, 1956 Kenwood Berry

Memorandum

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tennessee

Subject: DMEA-4153 (Zinc) - The New Jersey Zinc Company, Copper Ridge Belt, Independence Area, Hancock County, Tennessee
and
DMEA-4177 (Zinc) The New Jersey Zinc Co., Copper Ridge Belt, Eidson Area, Hawkins County, Tennessee

ON-SITE Report

This memorandum will serve in lieu of the usual examination report on the two subject applications. Both are so similar that they can be considered in a single memorandum. We strongly recommend approval of both applications.

These areas bear real promise of becoming parts of a major new zinc district. Two orebodies are now known in the Copper Ridge belt and one (the Flat Gap Mine in Hawkins County) is now being developed by the New Jersey Zinc Company, but these are several miles to the southwest of the areas proposed in these applications. The applicant has already discovered substantial tonnages in the areas of these applications.

Except for the inclusion of contingencies and permanent core storage, we are in agreement with the applicant's cost estimates.

It will be noted that drilling costs for the first 1000 feet of depth are $2.75 per foot, instead of the $2.00 in effect at Talbot and Strawberry Plains. This difference is based on several differences between the two districts

Reviewed by
DMEA OPERATING COMMITTEE
3-9-56
(date)

including:

(1) The rock in the Copper Ridge belt is harder. Although in the same stratigraphic position as at Jefferson City, the dolomites of the western part of the Valley are notably more siliceous and therefore harder to drill.

(2) Hancock County is one of Tennessee's remotest counties; therefore the cost of bringing in supplies is much greater than in the centrally located Jefferson City area.

(3) The terrain is much more rugged, making moves slower and more costly, and increasing the cost of delivering supplies to the drill.

(4) The steeper dip of the rocks (55° as compared to 15° at Jefferson City) tends to slow the drilling progress.

The quoted drilling price is based on the applicant's actual experience in the district. Originally, Longyear tried drilling on Copper Ridge at $2.25 per foot, but soon found it necessary to revise the costs upward.

It will also be noted that progress is estimated at 2,925 feet per month as compared to 4,000 and 4,500 feet at Talbot and Strawberry Plains, respectively. This is due partly to the more difficult drilling conditions mentioned above, and partly to the fact that less is known about the geology of the district, so that fewer rigs will be used. The applicant plans to use 2 drill rigs on each project, operating 12 shifts per rig per week, at the beginning of the job.

Angle drilling would not only increase the footage required to explore the same targets, but would probably increase the unit cost for drilling.

In thick replacement bodies with stratigraphic control, such as these are, there is less advantage to drilling perpendicular to the ore body than there is in steep, narrow veins. We recommend vertical drilling. No provision for non-coring drilling should be included.

We recommend approval of short form (unit cost) contracts for both applications, based on the following estimates:

Time of contract -	12 months
Total drilling	35,000 feet
Royalty repayment period	30 years
Contract drilling	$105,000.00
Geologist	6,000.00
Surveying, drafting	3,500.00
Core boxes, supplies, etc.	875.00
Transportation	1,400.00
Assays (200 @ $1.50)	300.00
Accounting, secretarial	360.00
Workman's Compensation (1%)	95.00
Insurance, payroll tax (5%)	475.00
	$118,005.00

Unit cost, per foot --$3.372

"Enclosed are 3 copies of a map submitted by the applicant showing location of initial drill holes and a suggested boundary of areas already explored and known to be ore-bearing, to be excluded from the contract."

V. J. Lynch, Member
Bureau of Mines

R. A. Laurence, Executive Officer
BMEA Field Team, Region V

File Copy
Surname
Griswold
Selbridge
Jefferson
Mathews

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

500

FEB 20 1956

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4153 (Zinc)
The New Jersey Zinc Company
Copper Ridge Belt, Sector I
Hancock County, Tennessee

Dear Mr. Laurence:

The cited application for exploration assistance is being referred to your office for consideration, a field examination of the property if warranted, and recommendation.

In its application the company states:

"Exploration by the New Jersey Zinc Co. is interpreted as indicating approximately 500,000 tons containing 4% zinc."

Since the area of company drilling is included in the land area which would be embodied in a contract, we assume that the Applicant plans additional drilling in such area to obtain more information regarding the ore occurrence. In this event, the ore already indicated would become subject to a final certification and payment of royalty on production. On the other hand, if the company does not desire to drill in the immediate area of the known ore and wishes to exclude such area of known ore from the contract, it could do so. We would then, of course, require a map of the area to be excluded.

We are not fully satisfied with the cost estimate submitted by the Applicant in this instance. Without the "contingency" item, which cannot be allowed on an agreed unit cost contract, we still have

R.C.S.

an over-all diamond drilling cost of $3.39 per foot, plus assaying. Ordinarily, unless the cost estimate is considered to be close to rock-bottom, we request that three bids be obtained. Since the Longyear Company has apparently handled the previous drilling on company account on this property, perhaps the company had received bids from other contractors. In any case, please take up this matter with the Applicant.

Copies of memoranda dated February 6 and 9, 1956, by O. M. Bishop, Bureau of Mines and N. E. Nelson, Geological Survey, respectively, relating to the project, are enclosed for your information. We call your attention to the suggestion of Mr. Bishop, noting the possibility of doing inclined drilling.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

Enclosures

APPROVED:

/s/ Robert W. Geehan (GCS)

Member, Bureau of Mines

Thor H. Kiilsgaard

Member, Geological Survey (GCS)

WRGriswold/er (2/15 & 17/56)

Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

File Copy
Surname
Griswold

Kiilsgaard
Gibson
Selfridge
Johnson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION 500
WASHINGTON 25, D. C.

FEB 20 1956

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

Re: Docket No. DMEA-4153 (Zinc)
The New Jersey Zinc Co.
Copper Ridge Belt, Sector I
Hancock County, Tennessee

Dear Mr. Goodwin:

Your application for Government assistance to explore the cited group of properties has been reviewed by the Base Metals Division of the Defense Minerals Exploration Administration and has been referred for a field examination to:

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

The Regional Office will contact your Tennessee office at an early date. Any assistance that your company may give the members of the Field Team during the examination will be greatly appreciated.

Sincerely yours,

C. O. Mittendorf

Administrator

WRGriswold/er 2/15/56
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region V (2)
Chron.
Base Metals

R.C.L.

IN REPLY REFER TO:

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

RECEIVED
FEB 10 1956

February 9, 1956

Memorandum

To: W. R. Griswold

From: N. E. Nelson

Subject: Review of application.

Re:- DMEA 4153
New Jersey Zinc Co.
Copper Ridge Belt
Hancock Co., Tenn.
$125,000.00 - Zinc

The applicant requests Government participation in a diamond drilling project, designed to increase the reserves of zinc-bearing material (a) down dip of presently drill-indicated material, (b) down dip of the concealed but inferred position of the same zinc-bearing beds at the surface of bedrock. The soil on the line of and above the inferred position has been prospected geochemically and the results suggest part of the down dip bedded structure will be zinc-bearing.

The applicant has done a large amount of drilling of the area between the two blocks which are to be explored and estimates 500,000 tons of 4% zinc ore has been drill-indicated by the 30 holes drilled. Eight of the holes are classed as 'ore holes', 8 are 'mineralized', and 14 are barren. One of the blocks to be drilled extends northeasterly 6,600 feet from Hole No. 47 and the other 1,300 feet southwesterly from Hole No. 2, holes on the northeasterly and southeasterly borders of the interior block.

Thirteen holes have already been drilled in the northeast block, one of which is ore-bearing. The remainder are barren as are the four drilled in the southwest block. Comparison of the geochemical prospecting, well set out in a map with the application, suggests that ore-is not necessarily to be expected down-dip from the soil covered areas above the inferred position of the beds at the rock surface that show a p p m zinc count.

The estimated cost of the proposed project is:-

Drilling 35,000 feet @ $3.00/ft.	$105,000.00
Geologist and technical service	9,500.00
Supplies, core boxes, etc.	1,050.00
Mileage, automobile	1,400.00
Miscellaneous	2,105.00
Contingencies	5,945.00
Total	$125,000.00

Inasmuch as the applicant has not reserved the area within which is found the 500,000-ton inferred reserve, the project would start with a backlog of sorts.

Referral to the Field Team is recommended.

N. E. Nelson

N. E. Nelson

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

RECEIVED
FEB - 7 1956

February 6, 1956

Re: DMEA-4153; Zinc - $125,000
The New Jersey Zinc Company
± 687 acre optioned area
Hancock County, Tennessee

Memorandum

To: W. R. Griswold, DMEA

From: O. M. Bishop, Branch of Base Metals

Subject: Subject application for Exploration Assistance dated February 2, 1956 and received same date

The New Jersey Zinc Company has exploration agreements and options to buy mineral and mining rights on 8 contiguous tracts of land, totaling about 687 acres.

To date exploration has consisted of geochemical surveying along some 4 miles of the outcrop of the ore-bearing Mascot and Kingsport formations, followed by 47 diamond drill holes, totaling 26,480 feet. On the basis of the drilling, The New Jersey Zinc Company estimated 500,000 tons of inferred ore containing 4 percent zinc. Because the formations dip 55 degrees, the potential ore horizon is 142 feet deeper for each 100 feet of horizontal distance to the southeast. Thirty of the 47 holes drilled were placed along 2,300 feet of formation strike distance and the remaining 17 holes are variously spaced along the remaining 8,000 feet of the property.

Exploration to date is far from adequate. The applicant proposes additional drilling as follows:

Stage I - 20,000 feet drilling divided among several series of holes across the strike, the series to be spaced at 1,200-foot intervals to the northeast of drill hole 47 and southwest of drill hole 2, and

Stage II - 15,000 feet of more closely spaced drilling to explore in more detail the findings of Stage I.

Cost estimates presented appear reasonable as does the project proposal. I recommend that it be referred to the field team for field review and recommendations. I note that the drilling depicted on

Figure 3 was all vertical, and that bed and ore intersections as a result formed an acute angle. I believe the field team should review holes drilled in the past, noting core recovery in the ore and formation contact zones and the possibility that the drilling followed bedding planes. It could be that inclined holes would give more accurate samples and ore thicknesses.

O. M. Bishop

O. M. Bishop

Copy to - Division of Minerals
Branch of Base Metals (2)
Mr. Kiilsgaard, Rm. 5222
Mr. Geehan, Rm. 3608
Files

February 2, 1956
Subject: DMEA-4153
Re: Exploration Assistance

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

Gentlemen:

The receipt of your application dated February 1, 1956, for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-4153 and referred to the Base Metals Division.

Kindly identify all future correspondence relating to your application by this docket number.

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

60932

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)
100 FRONT STREET
NEW YORK 38, N.Y.

OFFICE OF THE
VICE PRESIDENT

HORSE HEAD PRODUCTS ®

RECEIVED
FEB - 2 1956

February 1, 1956

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

INDEPENDENCE AREA - SECTOR I
COPPER RIDGE BELT, TENNESSEE
D.M.E.A. EXPLORATION PROJECT
THE NEW JERSEY ZINC COMPANY

Dear Sirs:

Submitted herewith in behalf of The New Jersey Zinc Company is our application for aid in an exploration project pursuant to D.M.E.A. 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. Therefore, your attention to this matter at some early date would be very much appreciated.

Very truly yours,

S. S. Goodwin
Vice President
and
Manager of Mines

SSG/BET

For attachments see following page.

RECEIVED
FEB - 2 1956

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

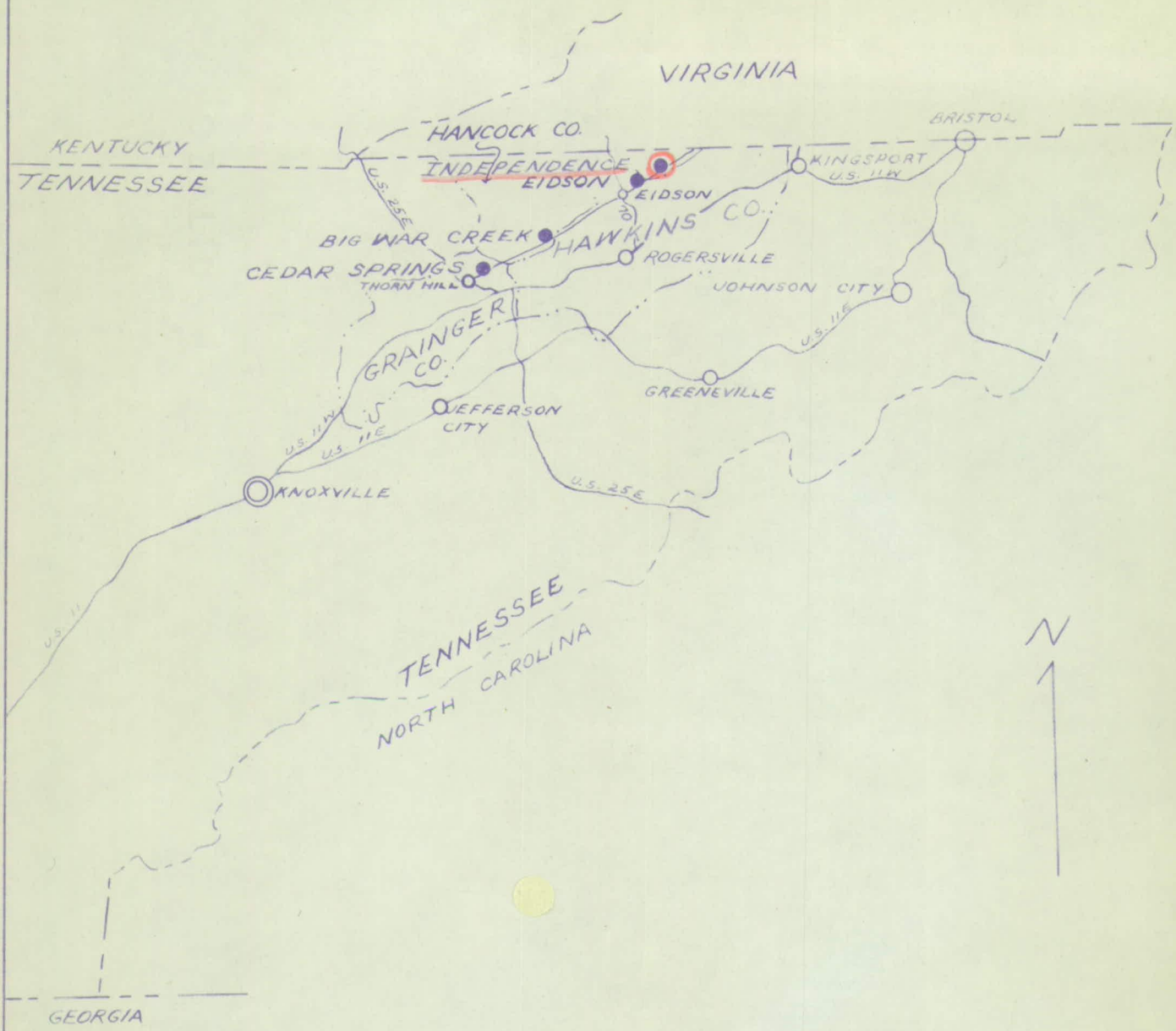
Exhibit A - CONTRACT AGREEMENTS WITH PROPERTY OWNERS

Figure 1 - INDEX MAP - PROJECT AREAS

Figure 2 - MAP - GEOLOGY AND PROPERTY - COPPER RIDGE BELT, SECTOR I

Figure 3 - GEOLOGIC DIP SECTION

FIG. 1



4153

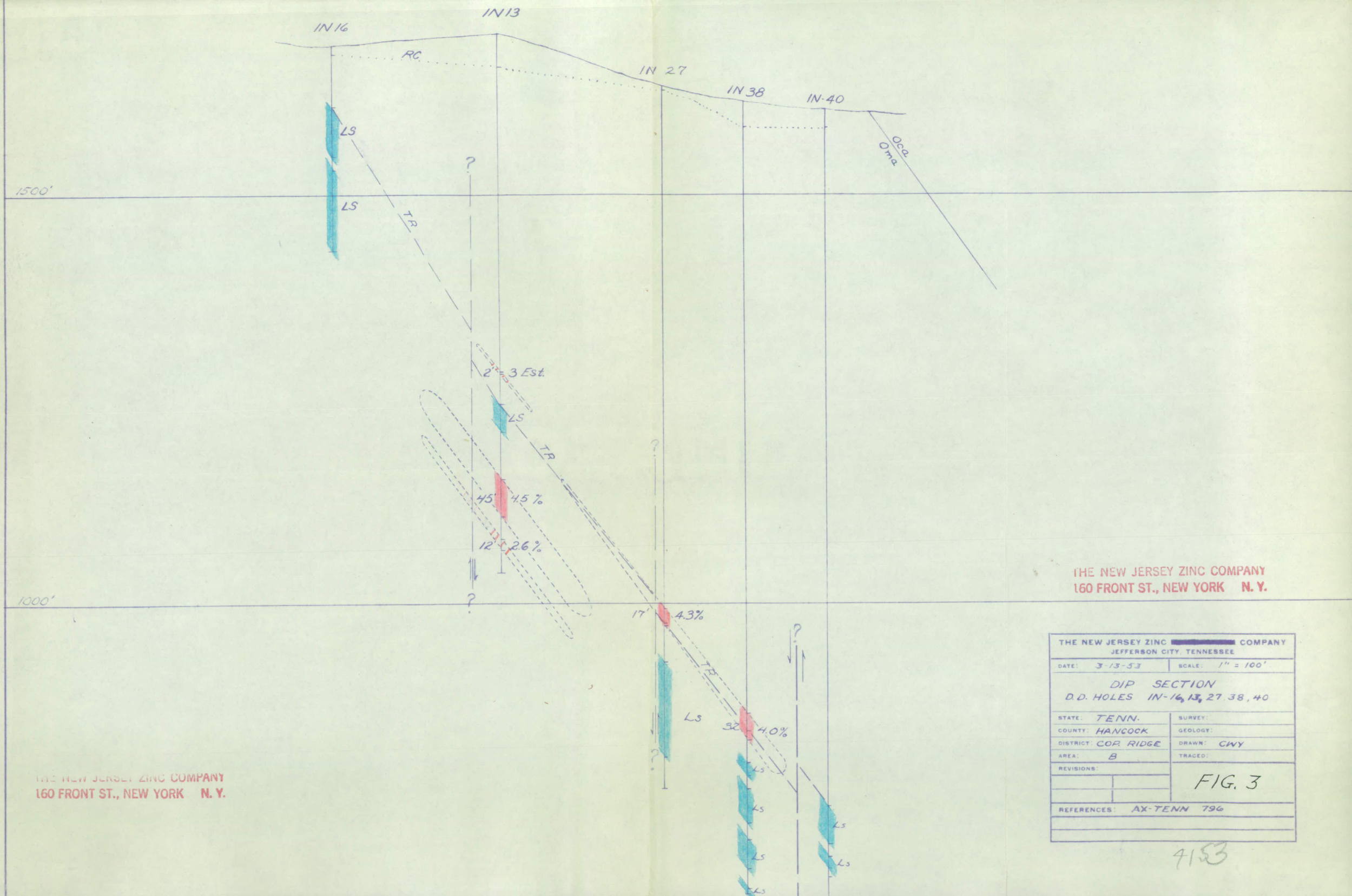
THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK N. Y.

EXPLANATION

- LOCATION OF PROJECT AREAS

BASE - RAND-McNALLY ATLAS

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


IN 16
IN 13
RC
IN 27
IN 38
IN-40
Oca
Oma
LS
LS
TR
1500'
?
2' 3 Est.
LS
TR
45' 4.5 %
12' 2.6 %
1000'
17' 4.3%
TR
LS
32' 4.0%
LS
LS
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LS
LS
LS
THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK N. Y.
THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK N. Y.
THE NEW JERSEY ZINC COMPANY
JEFFERSON CITY, TENNESSEE
DATE: 3-13-53
SCALE: 1" = 100'
DIP SECTION
D.D. HOLES IN-16, 13, 27, 38, 40
STATE: TENN.
COUNTY: HANCOCK
DISTRICT: COP. RIDGE
AREA: B
SURVEY:
GEOLOGY:
DRAWN: CWY
TRACED:
REVISIONS:
FIG. 3
REFERENCES: AX-TENN 796
4153

PROPERTY

NJZ - under option

NJZ - Mineral and Mining rights owned

NJZ - owned in Fee Simple

EXPLANATION

Ccg Chicamauga limestone
Omc Moscot Formation
Contact between units of Chicamauga after Rodgers divisions
Dip & Strike
Geochemical samples 300-900 ppm outlined by dashed lines, over 900 ppm by solid lines
Base - T.V.A. Quad 170 SE, 171 NE
Property - F.H.M., L.E.M.
Geology - F.H.M., L.E.M.
Geochemical Survey, K.F.A., L.B.M.

Mineralized
Ore
} NJZ Drilling
Drilling Previously Reported
Drilling During ____ 195__
Mineralized
Ore
} DMEA-NJZ Drilling

PROPOSED ADDITION to CONTRACT Idm E-950

K. HURD

B. PRICE

TR

AREA EXCLUDED FROM DMEA CONTRACT

THE NEW JERSEY ZINC COMPANY 480 ACRES

J.B. COUCH HEIRS 38.80A NJZ M&M

SAM TRENT NJZ 87A.

J.B. COUCH HEIRS 193.7A NJZ M&M

GENERAL PLAN FOR PROPOSED DRILLING
FRED SHORT

HOMER PRICE NJZ 150 A.

MANIS

H.L. DAVIS NJZ 120A

War Creek

POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN F.H.M., L.E.M. DATE 3-24-53	COPPER RIDGE BELT	HAWKINS CO., TENN
7-1-53 L.E.M.	ROGERSVILLE TENNESSEE	TRACED S.V.L., J.F.P. SCALE 1"=660'	SECTOR I SHEET 8NE	FILE NO. AX-TENN 574

PROPERTY

NJZ - Mineral and Mining rights owned

NJZ - owned in Fee simple

EXPLANATION

Ccg Chicamauga Formation
Omc Moscot Formation
Contact between units of Chicamauga after Rodgers divisions
Dip & Strike
Geochemical Samples 300-900 ppm outlined in dashed line, over 900 ppm by solid line
Base - T.V.A. Quad
Property - L.E.M.
Geology - L.E.M.
Geochemical Survey - L.B.M.
Aerial photos

Mineralized
Ore
} NJZ Drilling
Drilling Previously Reported
Drilling During ____ 195__
Mineralized
Ore
} DMEA-NJZ Drilling

Southwest Boundary of Contract Idm E-950

KYLE PRICE NJZ M&M 425 A

THE NEW JERSEY ZINC COMPANY 480 ACRES

AREA EXCLUDED FROM DMEA CONTRACT

TR

THE NEW JERSEY ZINC CO. 50 A

R.D. MANIS NJZ

MARTIN SHARF NJZ M&M 60A

War Creek

POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN L.E.M. DATE 3-24-53	COPPER RIDGE BELT	HAWKINS CO. TENN.
1-2-58 W.V.G. 3/31/58 7/1/54 3/10/58 R.E.D. H.S.M.	ROGERSVILLE TENNESSEE	TRACED H.E.M. SCALE 1"=660'	SECTOR I SHEET 9NE	FILE NO. AX-TENN 567

OFFICIAL FILE COPY
O. M. E.
RECEIVED DEC 15 1958
DATE | INITIALS | CODE

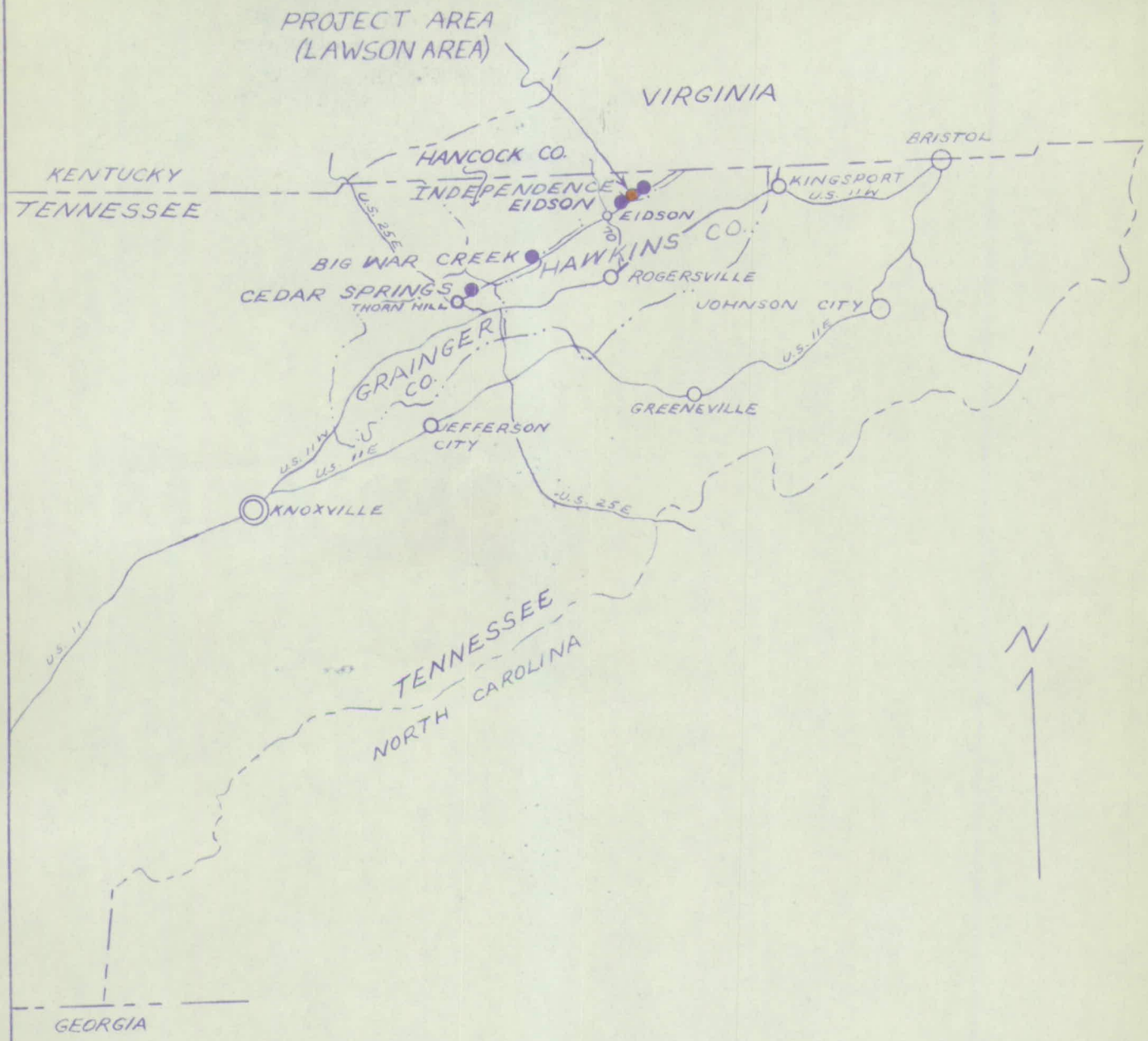
OFFICIAL FILE COPY
O. M. E.
RECEIVED DEC 15 1958
DATE | INITIALS | CODE

OFFICIAL FILE COPY
O. M. E.
RECEIVED DEC 15 1958
DATE | INITIALS | CODE

OFFICIAL FILE COPY
O. M. E.
RECEIVED DEC 15 1958
DATE | INITIALS | CODE

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

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

OFFICIAL FILE COPY
D M E A
RECEIVED JUL 11 1957

DATE	INITIALS	CODE

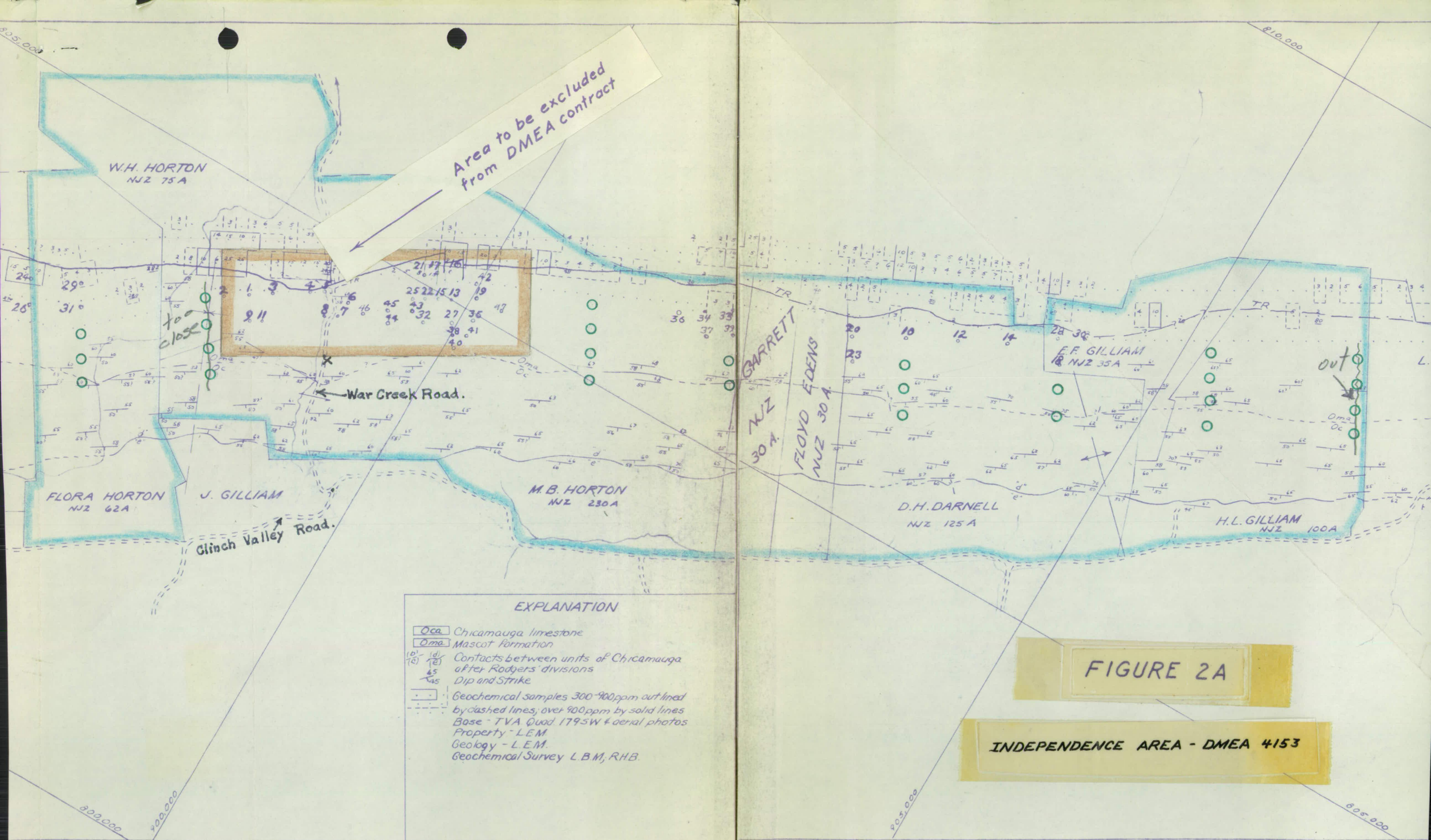


FIGURE 2A

INDEPENDENCE AREA - DMEA 4153

SEE	DRAWN L.E.M. DATE 3-24-53 TRACED S.J.L., J.F.P. SCALE 1" = 660'	COPPER RIDGE BELT SECTOR I SHEET 1 LINE	HANCOCK CO., TENN FILE NO. AX-TENN 569

POSTED TO DATE
3/31/53
5/30/53

THE NEW JERSEY ZINC COMPANY
ROGERSVILLE TENNESSEE