DMEA EXPLORATION PROJECT

INTERIM REPORT

DMEA-4173, Idm-E970-Zinc

Operator: The New Jersey Zinc Company, Austinville, Virginia

Location: James-Woodruff Area, Smyth and Wythe Counties, Virginia

Diamond drilling data on the above project to date and progress made since the last inspection of February 12, is summarized as follows:

Number of holes completed since last inspection ..	2
Footage in holes completed since last inspection ..	1,220
Total number of holes completed to date.....	27
Total footage in holes completed to date.....	12,639*
Number of holes showing commercial zinc ore.....	0
Number of holes showing non-commercial zinc ore.....	13
Number of barren holes	14

*"Total footage in holes completed to date" was incorrectly carried forward from the Interim Report of November 13, 1957.

Additional data on the two holes completed during the interim follows:

Hole No.	Property	Total depth	Remarks
JW-26	W.W. Roberts	593	Coordinates: 15,470 south and 85,760 West. A brief log of the hole follows: 0-13 overburden; collared in Austinville; transition zone from 195 to 240; top of the ellipsoidal zone @ 573; bottomed @ 593. Drilling began Jan 30,1958 and was completed Feb.21. This hole was completely blank of mineralization.
	N.G.		
JW-27	R. B. Smith	627	Coordinates: 15,440 South and 84,590 West. Collar elevation 2351; Drilling began Feb.24,1958 and was completed March 10. 0-13 overburden; collared in Saccharoidal; transition zone from 161 to 230. Ribbon from 230 to 558; fault zone from 403 to 410. Cavity or fault zone from 543 to 548;top of Ellipsoidal @ 622; bottomed @ 627; Mineralization: Rare traces of zinc from 489 to 502.
	N.G.		

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DMEA
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DATE | CODE
2/24 | 220
2/24 | 100
" | 110
3/6 | 800
3/25 | 600

The Operator stated that termination of the project would be requested immediately due to poor results of all drilling completed. No additional drilling is recommended by the Field Examiners.

Inspected: March 7, 1958 and March 14, 1958

V. J. Lynch and L. E. Shirley,
Mining Engineers, Bureau of Mines

Helmuth Wedow, Jr., Geologist
Geological Survey

z

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

PAID ON VOUCHER & SCHEDULE OF PAYMENTS K-

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of March, 1958 Docket No. DMEA 4173 Contract No. 970
Operator's Name The New Jersey Zinc Company Minerals Zinc
Address Austinville, Virginia
Contract Amount, $ 41,388.00 Government Participation: 50 % Amount, $ 20,694.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling	4419.00	25384.05	29803.05	7/8/58		
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis		12.00	12.00			
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify): Incidental Allowances @ $0.30/ft	553.50	3238.20	3791.70			
TOTALS	4972.50	28634.25	33606.75	4972.50	28634.25	33606.75

I certify that the above bill is correct and just and that payment therefor has not been received.

Date 4/1/58 *Payee Bertha Mineral Division THE NEW JERSEY ZINC COMPANY

Per [signature] Title Gen'l Superintendent

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 2486.25

Signature [signature]
(Authorized Certifying Officer)

Date JUN 26 1958 Vou. No. 183
(See other side)

2486.25

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E-970 in accordance with the terms of the contract.

Signature [illegible] Title MINING ENGINEER U. S. BUREAU OF MINES Date JUN 23 1958

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Robert A. Lawrence Title EXECUTIVE OFFICER DMEA FIELD TEAM REGION V Date JUN 23 1958

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

(Instructions on reverse)

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

RECEIVED JUN 2 1958

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of March 1958 Docket No. DMEA 4173 Contract No. 970
Operator's Name The New Jersey Zinc Company Minerals Zinc
Address Austinville, Virginia

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core 0-250	Ft	1650.00	750	29803.05	12639	2.358	15000	2.45
250-500	Ft	1837.50	750					
500-627	Ft	931.50	345					
Stripping								
Trenching								
Sample Assays	Sample			12.00	12	1.00	100	1.00
Roads and Trails								
Incidental Allowances @ $0.30/ft	Ft	553.50	1845	3791.70	12639	0.30	15000	0.30
Total Distributed Costs		4972.50		33606.75				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs		4972.50		33606.75				$41,388.00

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Remarks: Includes costs of JW-25, JW-26 and JW-27.

Date 4/1/58 Operator Bertha Mineral Division THE NEW JERSEY ZINC CO.

Per W. L. Albers Title Gen'l Superintendent

NOTE.—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.

(Instructions on reverse)

(For Government use only)

MINING ENGINEER
U. S. BUREAU OF MINES

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

Narrative Report - James-Woodruff Project

Exploration continued in the James-Woodruff Area with the completion of three holes. JW-25, which was collared in the Saccharoidal Member and was bottomed in the Patterson Member, penetrated one foot of slightly mineralized ground, and was drilled to a depth of 625 feet. JW-26 was collared in the Saccharoidal Member and was bottomed in the Patterson Member. This hole, which was barren, was drilled to a depth of 593 feet. JW-27, which was collared in the Saccharoidal Member and bottomed in the Patterson Member, penetrated 13 feet of mineralization in trace amounts. This hole was completed at a depth of 627 feet.

A request for a recess pending termination of this project has been submitted.

Quarterly Summary

During the quarter ending March 31, the following holes were completed with the noted results:

Hole No.	Depth	Collar	Bottom	Results
JW-24	530	Saccharoidal	Patterson	1' (447-448) Traces ZnS, PbS
JW-25	625	"	"	1' (580-581) Traces ZnS
JW-26	593	"	"	Barren
JW-27	627	"	"	13' (489-502) Rare Traces ZnS

Diamond Drill Log - JW-25

Location: (Based on Austinville Grid System)

18375 S 105,180 W

Inclination: Vertical Elevation: 2490

Object: To test for western strike extension of JW-19 mineralization.

Results:

From	To	Dist	Recov	Description
0	25	25	0	Overburden
25	143	118	91	Light gray saccharoidal dolomite, few vugs, massive, Saccharoidal Member of Shady.
143	163	20	18	Medium gray saccharoidal dolomite, vuggy, slight metamorphism.
163	226	63	37	Medium gray finely saccharoidal to saccharoidal dolomite, local banding, local "salt and pepper".
226	350	124	111	Medium gray finely saccharoidal dolomite, local abundant diagenetic breccia, local ribbony partings, Transition Zone.
350	460	110	77	Light medium to dark gray dolomite, fine to finely saccharoidal, local abundant ribbony partings, local abundant fragmental partings, Patterson Member.
460	469	9	8	Medium gray finely saccharoidal dolomite, few fragmental partings, moderate metamorphism.
469	476	7	6	Light medium gray fine grained dolomite, bleached diagenetic breccia, faintly mottled.
476	486	10	10	Medium gray finely saccharoidal dolomite, abundant ribbony partings, locally oxidized, moderate metamorphism.
486	535	49	49	Medium gray finely saccharoidal dolomite, abundant ribbony partings, augen.

From	To	Dist	Recov	Description
535	561	26	26	Medium gray finely saccharoidal dolomite, abundant ribbony partings, moderate metamorphism.
561	575	14	14	Medium to dark gray fine to finely saccharoidal dolomite, well shattered. Py mineralization.
575	588	13	13	Medium gray finely saccharoidal dolomite, ribbony partings, few vugs, locally well broken ground, moderate metamorphism. Trace ZnS 580-581.
588	610	22	21	Medium gray finely saccharoidal dolomite, locally limy, ribbony partings, suggestion of ellipsoids.
610	611	1	1	Fault zone, breccia, local mylonite.
611	625	14	12	Medium gray fine grained limestone, thick ribbony partings, ellipsoids.
	625	Bottom		

Diamond Drill Log - JW-26

Location: (Based on Austinville Grid System)

15,470 S 85,760 W

Inclination: Vertical Elevation: 2373

Object: Test for strike extension of JW-5 mineralization to the east.

Results:

From	To	Dist	Recov	Description
0	13	13	0	Overburden
13	21	8	8	Medium gray fine to finely saccharoidal dolomite, few thin partings, Saccharoidal member of Shady.
21	130	109	75	Light gray saccharoidal dolomite, massive few vugs.
130	195	65	45	Light medium gray finely saccharoidal dolomite, few partings, local banding.
195	240	45	11	Medium gray finely saccharoidal dolomite, abundant diagenetic breccia, locally oxidized, rare vug, Transition Zone.
240	260	20	5	Medium gray finely saccharoidal dolomite, few ribbony partings, vuggy, Patterson Member of Shady.
260	275	15	5	Medium gray finely saccharoidal dolomite, abundant fragmental partings.
275	297	22	6	Medium gray fine to finely saccharoidal dolomite, ribbony partings local slight oxidation.
297	305	8	8	Light medium gray finely saccharoidal dolomite, abundant fragmental partings, moderately oxidized, moderate metamorphism.
305	350	45	25	Light medium gray finely saccharoidal dolomite, abundant ribbony partings, local oxidation.

DDL - JW-26 (Cont.)

From	To	Dist	Recov	Description
350	365	15	14	Light medium gray finely saccharoidal dolomite, abundant fragmental partings, local ribbony partings.
365	388	7	3	Light medium gray to buff finely saccharoidal dolomite, abundant fragmental partings, generally strongly oxidized.
388	401	13	13	Medium gray finely saccharoidal dolomite, abundant fragmental partings, locally strongly oxidized, moderate metamorphism.
401	436	35	15	Light medium gray finely saccharoidal dolomite, ribbony partings, generally oxidized.
436	479	43	33	Medium to dark gray finely saccharoidal dolomite, abundant fragmental partings, moderate metamorphism.
479	492	13	12	Light medium gray fine grained dolomite, faintly mottled, bleached diagenetic breccia.
492	506	14	9	Light medium gray finely saccharoidal dolomite, ribbony partings, moderate metamorphism.
506	525	19	19	Medium gray finely saccharoidal dolomite, ribbony partings.
525	540	15	13	Medium gray finely saccharoidal dolomite, abundant ribbony partings, moderate metamorphism.
540	573	33	28	Medium gray finely saccharoidal dolomite, ribbony partings, local suggestion ellipsoids.
573	593	20	20	Medium gray fine grained limestone, thick ribbony partings, ellipsoids.
	593			Bottom

Diamond Drill Log - JW-27

Location: (Based on Austinville Grid System)

15440 S 84590 W

Inclination: Vertical Elevation: 2351

Object: Test for strike extension of JW-5 mineralization to the east.

Results:

From	To	Dist	Recov	Description
0	13	13	0	Overbruden
13	95	82	68	Light gray saccharoidal massive dolomite, few vugs, saccharoidal member of Shady.
95	161	66	51	Light medium gray finely saccharoidal dolomite, local banding, rare thin partings.
161	230	69	57	Medium gray finely saccharoidal dolomite, abundant diagenetic breccia, local moderate metamorphism, Transition zone.
230	270	40	24	Light medium gray finely saccharoidal dolomite, abundant ribbony partings, local slight oxidation. Patterson Member.
270	280	10	8	Light medium gray finely saccharoidal dolomite, abundant ribbony partings, slight oxidation, moderate metamorphism.
280	317	37	34	Light medium gray finely saccharoidal dolomite, abundant ribbony partings, slight oxidation.
317	331	14	14	Medium gray finely saccharoidal dolomite, abundant fragmental partings, moderate metamorphism.
331	403	72	41	Light medium to medium gray finely saccharoidal dolomite, abundant ribbony partings, local bleached diagenetic breccia, local oxidation.
403	410	7	6	Fault zone, abundant breccia, local mylonite.
410	428	18	18	Medium gray finely saccharoidal dolomite, abundant ribbony partings, locally shattered.

JW-27 (Cont.)

From	To	Dist	Recov	Description
428	466	38	30	Light medium to medium gray finely saccharoidal dolomite, abundant ribbony partings, local sand grains.
466	470	4	4	Medium gray finely saccharoidal dolomite, few partings, moderate metamorphism.
470	489	19	18	Medium gray finely saccharoidal dolomite, abundant ribbony partings, local shattering.
489	502	13	7	Dark gray finely saccharoidal dolomite, few partings, local brecciation, rare trace ZnS.
502	516	14	5	Light medium gray finely saccharoidal dolomite, bleached diagenetic breccia, faintly mottled.
516	529	13	10	Medium gray finely saccharoidal dolomite, ribbony partings, local strong shattering.
529	543	14	7	Medium gray finely saccharoidal dolomite, ribbony partings, moderate metamorphism.
543	558	15	1	Fault Zone? strongly oxidized.
558	587	29	16	Alternating beds light medium gray dolomite and limestone, generally slightly oxidized.
587	591	4	4	Strongly oxidized ribbony limestone.
591	606	15	9	Medium gray finely saccharoidal dolomite, ribbony partings, local moderate metamorphism.
606	611	5	4	Light medium gray fine grained limestone, thin partings.
611	622	11	5	Light medium gray finely saccharoidal dolomite, abundant very small ellipsoids.
622	627	5	5	Medium gray fine grained limestone, thick ribbony partings, ellipsoids.
	627			Bottom

150M

COPY

DMEA
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3/20 C 220
4 Ref 140
~~3/21 Ref 500~~

Austinville, Va.
March 14, 1958

Regional Executive Officer
Defense Minerals Exploration Administration
Room 13, Post Office Building
Knoxville 2, Tennessee

Subject: Monthly Report
James-Woodruff Area
DMEA 4173, Contract 970

Dear Sir:

A monthly report will not be submitted for February because we have not received bills from the drilling contractor. However, the three holes completed since the last report (JW-25, JW-26 and JW-27) did not encounter more than a trace of mineralization. JW-27 was the last of the proposed holes in the area, and subsequent to its completion we have requested a recess of the project. Drilling has been suspended in the area.

Very truly yours,

W. L. Albers,
General Superintendent

R.C.G.
RCGilbert/mjf
In quintuplicate

monthly rpt.

RECEIVED
MAR 17 1958
U.S. Geological Survey
Building Stone
Washington, D.C.

DMEA
RECEIVED MAR 6
DATE
3-6 C 220
6 Com 100
11 110
3/7 800
3/7 500

INTERIM REPORT

DMEA-4173, Idm-E970 (Zinc)

Operator: The New Jersey Zinc Company, Austinville, Virginia

Location: James-Woodruff area, Smyth and Wythe Counties, Virginia

No diamond-drill holes were completed on the subject project since the last inspection on January 23, 1958.

One hole is currently in progress. Data on this hole are summarized as follows:

Hole No.	Property	Present Depth	Estimated Total Depth	Remarks
JW-26	W. W. Roberts	330	600	Located about 1200 feet east of Hole JW-6 with collar elevation at about 2360 feet. Overburden 0-13; Patterson transition zone @ 200-245.

Hole JW-26, summarized above, and Hole JW-27 to be drilled about 1200 feet east of Hole JW-26, are designed to test for possible mineralized shoots raking eastwardly from the Woodruff geochemical anomaly. If these two holes show negative results, the Operator plans to recess drilling and request termination.

Inspected: February 12, 1958

Robert A. Laurence and Helmuth Wedow, Jr.
Geologists, U. S. Geological Survey

V. J. Lynch, Mining Engineer
U. S. Bureau of Mines

Official
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DMEA
RECEIVED FEB 27 1958

DATE	[illegible]	CODE
2/28	[illegible]	110
~~2/28~~	~~[illegible]~~	~~500~~

February 25, 1958

Memorandum

To: Jay L. Chambers, Defense Minerals Exploration Administration, Interior Building, Washington 25, D. C.

From: Personal Assistant, Electrotechnical Experiment Station, Norris, Tennessee

Subject: Monthly reports and vouchers

We are enclosing two copies each of the following monthly reports and vouchers:

Idm-E970 — The New Jersey Zinc Company
Docket No. DMEA-4173
13th payment - month of January
Amount $701.25

Idm-E982 — The New Jersey Zinc Company
Docket No. DMEA-4286
11th payment - month of January
Amount $3020.00

Idm-E990 — American Zinc Company of Tennessee
Docket No. DMEA-4209
18th payment - month of January
Amount $6876.75

Idm-F1032 — Tungsten Mining Corp.
Docket No. DMEA-4216
14th payment - month of January
Amount $8819.40

Idm-F1088 — National Lead Company
Docket No. DMEA-4580
5th payment - month of January
Amount $3758.79

Idm-E1100 — Appalachian Sulphides, Inc.
Docket No. DMEA-4746
5th payment
Amount $89.76

Idm-E1109 The New Jersey Zinc Company
Docket No. DMEA-4673
4th payment - month of January
Amount $1791.20

Idm-E1135 Grindstaff and Greene
Docket No. DMEA-4779
3rd payment - month of January
Amount $960.00

Helen R. Miller

Attachments
/hbm
Copies to R. A. Laurence
V. J. Lynch
Morris files
Day files

Form MF-104 (Rev.)
(April 1952)

RECEIVED FEB 27 1958 D.M.E.A.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.5

PAID ON VOUCHER & SCHEDULE OF PAYMENTS K-42

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of January 1958 Docket No. DMEA 4173 Contract No. 970
Operator's Name The New Jersey Zinc Company Minerals Zinc
Address Austinville, Virginia
Contract Amount, $ 41,388.00 Government Participation: 50 % Amount, $ 20,694.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling	1243.50	24140.55	25384.05	3/17/58	W.P.K.	
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis		12.00	12.00			
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify): Incidental Allowances @ $0.30/ft	159.00	3079.20	3238.20			
TOTALS	1402.50	27231.75	28634.25	1402.50	27231.75	28634.25

I certify that the above bill is correct and just and that payment therefor has not been received.
Date 2/10/58 *Payee Bertha Mineral Division The New Jersey Zinc Company
Per [signature] Title Gen'l Superintendent

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:
$ 701.25
Signature Helen R. Miller
(Authorized Certifying Officer)
Date FEB 25 1958 Vou. No. 129
(See other side)

13th

701.25

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E-970 in accordance with the terms of the contract.

Signature [illegible] Title MINING ENGINEER U. S. BUREAU OF MINES Date FEB 20 1958

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Robert A. Lawrence Title EXECUTIVE OFFICER DMEA FIELD TEAM REGION V Date FEB 20 1958

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(*a*) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(*b*) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(*c*) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED FEB 27 1958 D.M.E.A.

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of January 8 105 Docket No. DMEA 4173 Contract No. 970

Operator's Name The New Jersey Zinc Company Minerals Zinc

Address Austinville, Virginia

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core 0-250	Ft	550.00	√250	25384.05	10794	2.342	15000	2.45
~~Churn~~ 250-500	"	612.50	√250					
~~Xlgr~~ 500-530	"	81.00	√ 30					
Stripping								
Trenching								
~~Exxxx~~ Sample Assays	Sample			12.00	12	1.00	100	1.00
Roads and Trails								
Incidental Allowance @ $0.30/ft	Ft	159.00	√530	3238.20	10794	0.30	15000	0.30
Total Distributed Costs		1402.50	√	28634.25				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs		1402.50	√	28634.25	✓			$41,388.00

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Remarks: Includes costs of JW-24

Date 2/10/58 Operator Bertha Mineral Division The New Jersey Zinc Co.

Per W. L. Albers Title General Superintendent

→ NOTE.—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.

(Instructions on reverse)

(For Government use only)

V. J. Lynch
MINING ENGINEER
U. S. BUREAU OF MINES

INSTRUCTIONS

Preparation of Form MF–104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF–104A has been designed to tie in with Form MF–104 for both monthly and cumulative costs. The "Total Costs" on Form MF–104A for each month should equal the monthly "Total Costs" as reported on Form MF–104. This is also true of the "Total Costs To Date".

In preparing Form MF–104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

Narrative Report

Exploration continued during the month with the completion of hole JW-24. Only one foot of slightly mineralized ground was encountered. This hole was collared in the Saccharoidal Member and was bottomed in the ellipsoidal zone of the Patterson Member. A total of 530 feet was drilled in this hole.

The mineralized ground contained both ZnS and PbS in trace amounts.

Diamond Drill Log - JW-24

Location: (Based on Austinville Grid System)

18,190 S 105,245 W

Inclination: Vertical Elevation: 2467

Objective: To test for strike extension of JW-19 to the west.

Results:

From	To	Dist.	Recov.	Description
0	50	50	0	Overburden
50	96	46	24	Light medium to dark gray finely saccharoidal dolomite, local diagenetic breccia, Saccharoidal Member.
96	202	106	48	Light medium to medium gray finely saccharoidal dolomite, local abundant diagenetic breccia, Transition Zone.
202	303	101	34	Medium gray fine to finely saccharoidal dolomite, local diagenetic breccia, ribbony partings, local slight bleaching and oxidation, Patterson Member.
303	326	23	21	Medium to dark gray finely saccharoidal dolomite, abundant fragmental partings.
326	336	10	4	Medium gray finely saccharoidal dolomite, ribbony partings, moderate metamorphism.
336	348	12	5	Light medium gray fine grained dolomite, bleached diagenetic breccia, faintly mottled.
348	356	8	3	Medium gray finely saccharoidal dolomite, ribbony partings, moderate metamorphism.
356	406	50	36	Medium gray finely saccharoidal dolomite, abundant ribbony partings.
406	448	42	40	Medium to dark gray finely saccharoidal dolomite, abundant ribbony partings, locally broken ground, moderate metamorphism. Trace ZnS, bleb PbS 447-448.

DDL - JW-24 (Cont.)

From	To	Dist.	Recov.	Description
448	485	37	28	Medium gray finely saccharoidal dolomite, ribbony partings.
485	530	45	40	Medium gray fine grained limestone, thick ribbony partings, ellipsoids.

ACTION ON INCIDENT
U. FIELD TEAM REPORT

Date 1/30

Referred to:

1. ~~Mr. Fitzsimons~~
2. ~~Mr. Johnson~~
3. ~~Mr. Chambers~~
4. Docket Control Mails and Files
5. ~~Division~~
6. Docket Control Mails and Files

7,500

Note comments in report regarding:

1. Footage of completed holes should be 11,429'.

Talbot 2/3/58

2.

3.

4.

and take appropriate action.

- - - - - - - -

Action taken by Division:

Robert E. Adams

OFFICIAL FILE COPY
DMEA
RECEIVED JAN 30 1958

DATE	INITIALS	CODE
1/30	C	220
1/31	[illegible]	100

INTERIM REPORT

DMEA 4173, Idm-E970 - Zinc

Operator: The New Jersey Zinc Co. Austinville, Virginia

Location: James-Woodruff Area, Smyth and Wythe Counties, Va.

Diamond drilling data on the above project todate and progress made since the last inspection of January 7, 1958 is summarized as follows:

Drilling Completed

Number of holes completed since last inspection.....	1
Footage in holes completed since last inspection.....	625
Total number of holes completed todate.....	25
Total footage in holes completed todate.....	10,848
Number of holes showing commercial zinc ore.....	0
Number of holes showing non-commercial zinc mineralization.....	12
Number of barren holes.....	13

Additional data on the one hole completed during the Interim is as follows:

Hole No.	Property	Total depth	Remarks
JW-25	M.R.Newland	625	Hole collared in Austinville. 0-25 overburden, from 226 to 350 transition zone. Top of Ellipsoidal zone @ 611, hole bottomed on 1-23-58 @ 625. No lead or zinc.mineralization noted but core has not been logged in detail. Disseminated FeS_2 was noted in the moderate met zone which is usually 30 to 40 feet thick.

Drilling in Progress

No additional holes were in progress at the time of this inspection. JW-26 and JW-27 will be started in the immediate future on the W. W. Roberts property as shown on the map of the Asbury Area, Fig.2B.

Inspected: January 23, 1958

L. E. Shirley, Mining Engineer
Bureau of Mines

Helmith Wedow, Jr. Geologist
Geological Survey

ACTION ON INTERIM
OR FINAL FIELD TEAM REPORT
Date 1/16/58

Referred to:

1. ~~Mr. Hitzendorf~~
2. ~~Mr. Johnson~~
3. ~~Mrs. Chambers~~
4. Docket Control Mails and Files
5. Division
6. Docket Control Mails and Files
7. 500

Note comments in report regarding:

1. Footage completed holes since last inspection
2. should be 950', to date 10264'
3. Talbert 1/20/58
4.

and take appropriate action.

Action taken by Division:

Robert E. Adams

1/16 gb 220
17 gbm 100
1/20 Kling 500

INTERIM REPORT

DMEA-4173, Idm-E970 - Zinc

Operator: The New Jersey Zinc Co., Austinville, Virginia

Location: James-Woodruff Area, Smyth and Wythe Counties, Va.

Diamond drilling data on the above project todate and progress made since the last inspection of December 6, 1957 is summarized as follows:

Drilling Completed:

Number of holes completed since last inspection..... 2
Footage in holes completed " " " 920
Total number of holes completed todate..... 24
Total footage in holes " " 10,223
Number of holes showing commercial zinc ore..... 0
Number of holes showing non-commercial zinc mineralization 12
Number of holes barren 12

Additional data on holes completed during the Interim is as follows:

Hole No.	Property	Total depth	Remarks
JW-23	M.R. Newland	410 ft	Coordinates: 18000 S 105310 W Elevation of hole at collar - 2461 ft. 0 to 18', overburden 18 to 80 , BX core 80 to 410, AX core Top of Ellipsoidal zone @ 400' Mineralization: Traces of zinc from 330' to 331' and from 338' to 339'.
Hole JW-24,	M. R. Newland	540 ft	Loc: 200' S of JW-23 Coordinates: 18190 S 105245 W Elevation at collar 2467'. 0-50' Overburden-collared in Austinville member of Shady dolomite. 339-350, Faint mottled zone Top of Ellipsoidal zone @ 485' No mineralization was found in this hole.

Drilling in Progress:

Hole No.	Present depth	Esti. depth	Remarks
JW-25	71	650'	Loc: 200' south of JW-24. Coordinates: 18375 S 105180 W Elevation collar: 2490'. 0-25 ft overburden. Hole collared in Austinville member of Shady dolomite. 25 to 71 ft Austinville dolomite

The next holes outlined to follow JW-25 will be drilled on the W. W. Roberts property.

Inspected: January 7, 1958

L. E. Shirley, Mining Engineer
Bureau of Mines

Helmuth Wedow, Jr. Geologist
Geological Survey

z

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

PAID ON VOUCHER & SCHEDULE OF PAYMENTS K- 34

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of December 1957 Docket No. DMEA 4173 Contract No. 970

Operator's Name The New Jersey Zinc Company Minerals Zinc

Address Austinville, Virginia

Contract Amount, $41,388.00 Government Participation: 50 % Amount, $20,694.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling	2593.20	21547.35	24140.55	1/31/58	[illegible]	
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis		12.00	12.00			
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify): Incidental Allowances @ $0.30/ft	327.30	2751.90	3079.20			
TOTALS	2920.50	24311.25	27231.75	2920.50	24311.25	27231.75

I certify that the above bill is correct and just and that payment therefor has not been received.

Date 1/8/58 *Payee Bertha Mineral Division THE NEW JERSEY ZINC COMPANY

Per [illegible] Title Superintendent

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 1460.25

Signature Helen R. Miller (Authorized Certifying Officer)

Date JAN 15 1958 Vou. No. 113

(See other side)

1460.25

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E-970 in accordance with the terms of the contract.

Signature V. J. Lynch Title MINING ENGINEER U. S. BUREAU OF MINES Date JAN 14 1958

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Robert A. Lawrence Title EXECUTIVE OFFICER DMEA FIELD TEAM REGION V Date JAN 14 1958

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of December 1957 Docket No. DMEA 4173 Contract No. 970
Operator's Name The New Jersey Zinc Company Minerals Zinc
Address Austinville, Virginia

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core 0-250	Ft	1100.00	500	24140.55	10264	2.352	15000	2.45
250-500	"	1004.50	410					
Auger 500-	"	488.70	181					
Stripping								
Trenching								
Test Pits SampleAssays	Sample			12.00	12	1.00	100	1.00
Roads and Trails								
Incidental Allowances @ $0.30/ft	Ft	327.30	1091	3079.20	10264	0.30	15000	0.30
TOTAL DISTRIBUTED COSTS		2920.50		27231.75				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		2920.50		27231.75				$41,388.00

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date 1/8/58 Operator Bertha Mineral Division THE NEW JERSEY ZINC CO.

Per W. L. Albers Title Superintendent
W. L. Albers

REMARKS: Includes costs of JW-22 and JW-23.

NOTE.—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.

(Instructions on reverse)

(For Government use only)

V. J. Lynch
MINING ENGINEER
U. S. BUREAU OF MINES

INSTRUCTIONS

Preparation of Form MF–104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF–104A has been designed to tie in with Form MF–104 for both monthly and cumulative costs. The "Total Costs" on Form MF–104A for each month should equal the monthly "Total Costs" as reported on Form MF–104. This is also true of the "Total Costs To Date".

In preparing Form MF–104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

Narrative Report

Exploration continued in the James-Woodruff Area with the completion of holes JW-22 and JW-23. JW-22 was collared in the Saccharoidal Member and was bottomed in the Ellipsoidal Zone of the Patterson Member. A total of 681 feet was drilled. No zinc mineralization was encountered. JW-23, located about 600 feet west of JW-20, was collared in the Transition Zone and was bottomed in the Ellipsoidal Zone of the Patterson. A total of 410 feet was drilled. Traces of sphalerite were seen between 330-331.

Bad ground was encountered in JW-22 causing a delay in the completion of the hole.

Quarterly Summary

During the quarter ending December 31, the following holes were completed with the noted results.

Hole No.	Depth	Collar	Bottom	Results
JW-19	422	Saccharoidal	Patterson	3' (373-376) 1.6% Zn ✓ 17' (276-293) Weak Zn Min
JW-20	322	Patterson	Patterson	Barren
JW-21	550	Saccharoidal	Patterson	4' (506-510) 0.5% Zn 2' (520-522) 0.4% Zn
JW-22	681	Saccharoidal	Patterson	Barren
JW-23	410	Transition Zone	Patterson	1' (330-331) Traces ZnS

Diamond Drill Log - JW-22

Location: (Based on Austinville Grid System)

18190 S 104,575 W

Inclination: Vertical Elevation: 2460 (Approx)

Object: Test for down dip extent of JW-21 mineralization.

Results:

From	To	Dist	Recov	Description
0	23	23	0	Overburden
23	175	152	85	Light gray saccharoidal dolomite, Massive, few vugs, Saccharoidal Member.
175	197	22	7	Light medium gray fine to finely saccharoidal dolomite, few thin partings.
197	268	71	32	Medium to dark gray finely saccharoidal dolomite, rare thin parting.
268	359	91	64	Medium gray finely saccharoidal dolomite, local abundant diagenetic breccia, locally oxidized, Transition Zone.
359	400	41	22	Medium to dark gray finely saccharoidal dolomite, abundant fragmental partings, Patterson Member.
400	417	17	10	Medium gray finely saccharoidal dolomite, moderate metamorphism, abundant ribbony partings.
417	473	56	9	Light medium gray finely saccharoidal dolomite, abundant ribbony partings.
473	500	27	27	Medium to dark gray finely saccharoidal dolomite, moderate metamorphism, abundant fragmental partings.
500	509	9	6	Light medium gray fine to finely saccharoidal dolomite, faintly mottled, bleached diagenetic breccia.
509	524	15	7	Medium gray finely saccharoidal dolomite, moderate metamorphism, abundant ribbony partings.

DDL - JW-22 (Cont.)

From	To	Dist	Recov	Description
524	572	48	32	Medium gray finely saccharoidal dolomite, ribbony partings, local vugs.
572	633	61	21	Medium gray finely saccharoidal dolomite, moderate metamorphism, ribbony partings.
633	660	27	14	Light medium gray fine to finely saccharoidal dolomite, ribbony partings, local vugs, suggestion of ellipsoids.
660	681	21	21	Medium gray fine grained dolomite, thick ribbony partings, ellipsoids.
	681			Bottom

Diamond Drill Log - JW-23

Location: (Based on Austinville Grid System)

18,000 S 105,310 W

Inclination: Vertical Elevation: 2461

Object: To test for JW-21 mineralization on strike to the west.

Results:

From	To	Dist	Recov	Description
0	15	15	0	Overburden
15	76	61	53	Medium gray finely saccharoidal dolomite, few partings, local abundant diagenetic breccia, Transition Zone.
76	150	74	23	Light medium gray finely saccharoidal dolomite, rare partings local shattering, Patterson Member.
150	172	22	14	Medium to dark gray finely saccharoidal dolomite, abundant fragmental partings.
172	202	30	20	Medium gray finely saccharoidal dolomite, ribbony partings, moderate metamorphism, local suggestion of ellipsoids.
202	215	13	4	Medium to dark gray finely saccharoidal dolomite, abundant fragmental partings.
215	232	17	10	Light medium gray fine to finely saccharoidal dolomite, faintly mottled, bleached diagenetic breccia.
232	267	35	21	Medium gray finely saccharoidal dolomite, abundant ribbony partings.
267	273	6	5	Medium gray finely saccharoidal dolomite, abundant fragmental partings, slightly bleached.
273	287	14	13	Medium gray finely saccharoidal dolomite, abundant ribbony partings, local slight bleaching.
287	315	28	27	Medium gray finely saccharoidal dolomite, abundant fragmental partings, moderate metamorphism.

DDL - JW-23 (Cont.)

From	To	Dist	Recov	Description
315	320	5	5	Medium gray finely saccharoidal dolomite, abundant ribbony partings.
320	331	11	11	Dark gray finely saccharoidal dolomite, broken, shattered ground, pyrite mineralization, Traces ZnS 330-331.
331	358	27	27	Medium gray finely saccharoidal dolomite, ribbony partings, moderate metamorphism 331-342, few vugs.
358	364	6	6	Steep fault zone, strong crushing, local mylonite.
364	400	36	26	Medium gray fine grained limestone, thick ribbiny partings, ellipsoids.
400	410	10	1	Medium gray finely saccharoidal dolomite, diagenetic breccia, single bleb ZnS.
	410			Bottom

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4	JEJ	110
12/13	Klny	500

December 5, 1957

Regional Executive Officer
Defense Minerals Exploration Administration
Room 13, Post Office Building
Knoxville 2, Tennessee

Subject: Monthly Report
DMEA 4173, Contract 970
James-Woodruff Area, Virginia

Gentlemen:

A monthly report on the subject area will not be submitted for November since we have not received vouchers from the drilling contractor.

Hole JW-22, which had made no progress because of drilling difficulties for six weeks, has now been completed and is apparently barren of zinc mineralization.

Very truly yours,

W. L. Albers,
Superintendent

R.C.G.
RCGilbert/mjf
In quintuplicate

Reports

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Central Mail Room

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12/13 | gb | 220

INTERIM REPORT

DMEA-4173, Idm-E970 - (zinc)

Operator: The New Jersey Zinc Co., Austinville, Virginia

Location: James-Woodruff Area, Smyth and Wythe Counties, Va.

Diamond drilling data on the above project todate and progress made since the last inspection of October 25, 1957, is summarized as follows:

Footage in holes completed since last inspection.....	681
Total footage in holes completed todate.....	9303
Number of holes completed since last inspection.....	1
Total number of holes completed todate.....	22
Number of holes showing commercial zinc ore.....	0
Number of holes showing non-commercial zinc mineralization.....	11
Number of barren holes.....	11

Additional data on the one completed hole is as follows:

Hole No.	Property	Total depth	Remarks
JW-22	M.R. Newland	681	Loc: 200 ft south of Hole JW-21 Top of Ellipsoidal zone @ 660. No mineralization encountered in this hole.

Drilling in Progress:

Number of holes in progress.....	1
Total footage drilled in incompleted holes at time of this inspection.....	226

Available data on the one hole in progress is as follows:

Hole No.	Present depth	Esti.total depth	Remarks
JW-23	226	350	Loc: 600 ft west from JW-19. Collared in transition zone of Patterson member. Present depth in Patterson containing considerable FeS_2.

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DATE | CODE

Inspected: December 6, 1957

L. E. Shirley, Mining Engineer
Bureau of Mines

Helmuth Wedow, Jr., Geologist
Geological Survey

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INTERIM REPORT

DMEA-4173, Idm-E970 (Zinc)

Operator: The New Jersey Zinc Company, Austinville, Virginia

Location: James-Woodruff area, Smyth and Wythe Counties, Virginia

No diamond-drill holes have been completed on the James-Woodruff project since the last inspection on October 25, 1957. Hole JW-22 on the Newland property reported as drilling at the time of the last inspection may be lost because of tools hung in the hole. It had reached a depth of 484 feet shortly prior to the last inspection. Unless the tools can be recovered within the next week or so, the Operator plans to request that a new hole be drilled at approximately the same site.

A summary of the drilling to date follows:

Total footage in holes completed to date	9,173*
Total number of holes completed to date	21
Number of holes showing commercial zinc ore	0
Number of holes showing non-commercial zinc mineralization	11
Number of barren holes	10

* Due to an error in reporting total footage drilled in the interim report of July 12, 1957 which did not include Hole JW-14, the total footage carried in subsequent reports has been too low by 551 feet. The total shown above has been corrected and agrees with the Operator's monthly report.

Inspected: November 13, 1957

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

L. E. Shirley, Mining Engineer
U. S. Bureau of Mines

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

NOV 20

PAID ON VOUCHER & SCHEDULE OF PAYMENTS KA 26

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of October, 1957 Docket No. DMEA 4173 Contract No. 970

Operator's Name The New Jersey Zinc Company Minerals Zinc

Address Austinville, Virginia

Contract Amount, $ 41,388.00 Government Participation: 50% Amount, $ 20,694.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling	2995.30	18552.05	21547.35	12/23/57	[illegible]	
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis	2.00	10.00	12.00			
Payroll Taxes						
Liability Insurance						
Incidental Allowances @ $0.30/ft	388.20	2363.70	2751.90			
(8) Contingencies (specify):						
TOTALS	3385.50	20925.75	24311.25	3385.50	20925.75	24311.25

I certify that the above bill is correct and just and that payment therefor has not been received.

Date 11/6/57 *Payee Bertha Mineral Division The New Jersey Zinc Co.

Per [signature] Title Superintendent

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 1692.75

Signature Helen R. Miller
(Authorized Certifying Officer)

Date NOV 18 1957 Vou. No. 86

(See other side)

1692.75

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E-970 in accordance with the terms of the contract.

Signature W. J. Lynch Title MINING ENGINEER U. S. BUREAU OF MINES Date NOV 14 1957

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Robert A. Lawrence Title EXECUTIVE OFFICER DMEA FIELD TEAM REGION V Date NOV 14 1957

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated, thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

NOV 20

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of October 1957 Docket No. DMEA 4173 Contract No. 970

Operator's Name The New Jersey Zinc Company Minerals Zinc

Address Austinville, Virginia

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core 0-250	Ft	1650.00	750	21547.35	9173	2.349	15000	2.45
~~Core~~ 250-500	"	1210.30	494					
~~Auger~~ 500-550	"	135.00	50					
Stripping								
Trenching								
~~Xxxxx~~ Sample Assays	Sample	2.00	2	12.00	12	1.00	100	1.00
Roads and Trails								
Incidental Allowances @ $0.30/ft	Ft	388.20	1294	2751.90	9173	0.30	15000	0.30
TOTAL DISTRIBUTED COSTS		3385.50		24311.25				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		3385.50		24311.25				$41,388.00

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date 11/6/57 Operator Bertha Mineral Division The New Jersey Zinc Co.

Per W. L. Albers Title Superintendent

W. L. Albers

REMARKS: Includes costs of holes JW-19, JW-20 & JW-21.

NOTE.—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.

(Instructions on reverse)

(For Government use only)

V. J. Lynch
MINING ENGINEER
U. S. BUREAU OF MINES

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

Narrative Report

Exploration continued during the month with the completion of holes JW-19, JW-20 and JW-21. Hole JW-19, which collared in the Saccharoidal Member and bottomed at a depth of 422 feet in the ellipsoidal zone of the Patterson Member, encountered 3 feet of mineralization that assayed 1.56% Zn and 17 feet that contained only traces of sphalerite. Hole JW-20, which was barren, was collared in the Patterson and was drilled to a depth of 322 feet where it was bottomed in the ellipsoidal zone. Hole JW-21 was collared in the Saccharoidal Member and was bottomed in the ellipsoidal zone of the Patterson Member. This hole encountered 4 feet of mineralization that assayed 0.46% Zn (506-510) and another run of 2 feet that assayed 0.35% Zn (520-522). Ground preparation in JW-21 appears favorable.

Diamond Drill Log - JW-19

Location: (Based on Austinville Grid System)

17,900 S 104,710 W

Inclination: Vertical Elevation: 2418

Object: To test for an assumed ore body pitching west from a geochemical anomaly.

Results:

From	To	Dist.	Recov.	Description
0	9	9	0	Overburden
9	40	31	21	Light medium gray finely saccharoidal dolomite, rare parting, few vugs, Saccharoidal Member of Shady Formation.
40	150	110	43	Medium gray finely saccharoidal dolomite, local abundant diagenetic breccia, Transition zone of Patterson Member.
150	202	52	48	Light medium gray finely saccharoidal dolomite, abundant ribbony partings, local augen, Patterson Member.
202	248	46	24	Medium to dark gray finely saccharoidal dolomite, abundant fragmental partings.
248	266	18	12	Light medium gray fine grained dolomite, faintly mottled, bleached diagenetic breccia.
266	282	16	16	Medium gray finely saccharoidal dolomite, abundant ribbony partings, local slight brecciation.
282	283	1	1	Fault zone.
283	325	42	35	Medium gray finely saccharoidal dolomite abundant ribbony partings, local augen.
325	364	39	31	Medium to dark gray finely saccharoidal dolomite, abundant fragmental partings, slight to moderate metamorphism.
364	373	9	0	Cave

DDL - JW-19 - Cont.

From	To	Dist.	Recov	Description
373	376	3	3	Medium to dark gray finely saccharoidal dolomite, moderate metamorphism, generally brecciated, 1.56% Zn.
376	393	17	16	Medium gray finely saccharoidal dolomite local abundant fragmental partings, Traces ZnS.
393	396	3	3	Medium gray finely saccharoidal dolomite, ribbony partings, local brecciation.
396	422	26	26	Medium gray fine grained limestone, thick ribbony partings, ellipsoidal zone.
	422	Bottom		

Diamond Drill Log - JW-20

Location: (Based on Austinville Grid System)

17,705 S 104,775 W

Inclination: Vertical Elevation: 2415

Object: To test for up dip extent of JW-19 mineralization.

Results:

From	To	Dist.	Recov.	Description
0	4	4	0	Overburden
4	88	84	75	Medium gray finely saccharoidal dolomite, ribbony partings, Patterson Member of Shady Formation.
88	120	32	30	Medium gray finely saccharoidal dolomite, locally shattered, moderate metamorphism.
120	138	18	15	Light medium gray fine grained dolomite, faintly mottled, bleached diagenetic breccia.
138	147	9	9	Medium to dark gray finely saccharoidal dolomite, ribbony partings, locally shattered, moderate metamorphism.
147	217	70	68	Medium gray finely saccharoidal dolomite, ribbony partings, locally shattered, local sand grains.
217	238	21	10	Medium gray finely saccharoidal dolomite, ribbony partings, local slight oxidation, moderate metamorphism.
238	243	5	5	Medium gray to buff finely saccharoidal dolomite, ribbony partings, general slight oxidation, local vugs.
243	260	17	15	Medium to dark gray finely saccharoidal dolomite, ribbony partings few vugs, moderate metamorphism.
260	285	25	25	Medium gray finely saccharoidal dolomite, ribbony partings, local vugs.
285	322	37	35	Medium gray fine grained limestone, thick ribbony parting, ellipsoidal zone.
	322	Bottom		

Diamond Drill Log - JW-21

Location: (Based on Austinville Grid System)

18,090 S 104,645 W

Inclination: Vertical Elevation: 2436

Object: To test for down dip extent of JW-19 mineralization.

Results:

From	To	Dist.	Recov	Description
0	19	19	0	Overburden
19	44	25	10	Light gray massive saccharoidal dolomite, Saccharoidal Member of Shady Formation.
44	171	127	89	Medium, local dark gray, finely saccharoidal dolomite, rare thin parting, local slight bleaching, locally oxidized.
171	241	70	68	Medium to dark gray finely saccharoidal dolomite, abundant diagenetic breccia, Transition Zone of Patterson Member.
241	336	95	58	Medium gray finely saccharoidal dolomite, local abundant ribbony partings, locally oxidized.
336	376	40	5	Medium gray fine grained dolomite, abundant fragmental partings, generally oxidized.
376	386	10	10	Medium gray finely saccharoidal dolomite, abundant fragmental partings, moderate metamorphism.
386	398	12	12	Light medium gray fine grained dolomite, faintly mottled, bleached diagenetic breccia.
398	410	12	12	Medium gray finely saccharoidal dolomite, abundant ribbony partings, locally oxidized, moderate metamorphism.

From	To	Dist.	Recov.	Description
410	464	54	51	Medium gray finely saccharoidal dolomite, abundant ribbony partings.
464	468	4	4	Medium to dark gray fine grained dolomite, abundant fragmental partings.
468	497	29	29	Medium to dark gray finely saccharoidal dolomite, thick ribbony partings, well broken ground, moderate metamorphism.
497	522	25	25	Medium to dark gray finely saccharoidal dolomite, thick ribbony partings, well broken ground, heavy pyrite mineralization. 506-510, 0.46% Zn; 520-522, 0.35% Zn.
522	545	23	23	Light medium gray fine grained dolomite, few thin ribbony partings, rare thick parting, local vugs.
545	550	5	5	Medium gray fine grained limestone, abundant thick ribbony partings, ellipsoidal zone.
	550			Bottom

DMEA
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INTERIM REPORT

DMEA-4173, Idm-E970 (Zinc)

Operator: The New Jersey Zinc Company, Austinville, Virginia

Location: James-Woodruff area, Smyth and Wythe Counties, Virginia

No diamond-drill holes have been completed on the James-Woodruff project of the New Jersey Zinc Company since the last inspection on October 4, 1957.

Pertinent data on the hole currently drilling are summarized below:

Hole No.	Present Depth	Estimated Total Depth	Remarks
JW-22	484	725	Location: On M. R. Newland property about 200 feet south of Hole JW-21. Abbreviated log: 0-23 overburden; 23-268 Austinville member of Shady dolomite; 268-359 transition zone of Patterson member; 359-484 (present depth) Patterson member. Mineralization: None noted to present depth.

For about the past two months the Chief Geologist, W. H. Brown, of the Operator's Bertha Mineral Division has indicated that he would like to recommend the termination of the project on the completion of the present exploration fence on the Newland property provided that no mineralization of more significance than that encountered to date is discovered in the hole currently drilling. Shortly before the present inspection the Field Team reviewed all available data. In this review several of the marker beds were contoured at both the James and Woodruff geochemical anomalies, and convergence of the section of the Patterson member between the top of the Patterson member (top of transition zone) and the top of the ellipsoidal zone was plotted. Also plotted was the convergence of the section between the top of the Patterson and the top of the "faintly mottled" zone at the Woodruff anomaly.

Such convergence mapping, although based on only a very minimum of data, suggests that an area of stratigraphic thinning and/or structural flattening occurs to the southwest of the current exploration fence on the Newland property (James anomaly). It is believed that this convergence area may be a significant target for exploration as it lies in a direction with a low rake to the regional strike to the southwest of the drill hole showing the strongest mineralization yet discovered in the Newland exploration fence. This drill hole is JW-19 and has 20 feet with traces of sphalerite in the strata immediately overlying the ellipsoidal zone. The top 3 feet of the mineralized section appeared to be somewhat more strongly mineralized and on

assaying showed 1.5 percent zinc. The convergence mapping in the vicinity of the Woodruff anomaly is somewhat confusing in that the two zones plotted suggest thinning and/or flattening in different directions.

During the current inspection of the project the Field Team's review of the James-Woodruff drilling data was discussed with the Operator's geologists. It was agreed that the area to the southwest of the present fence on the Newland property was a significant target. A fence consisting of a minimum of three holes parallel to the present fence at a distance of 600 feet to the southwest to straddle the area of possible thinning and/or flattening will be drilled on completion of the hole currently drilling, provided, of course, that no mineralization of sufficient significance to warrant further drilling down dip is encountered.

The problem of what further drilling, if any, should be contemplated in the vicinity of the Woodruff anomaly has been left in abeyance. However, further study of available data in the Woodruff area is planned and it is possible that additional drilling to the east of the easternmost fence (holes JW-1 through JW-7) will be proposed.

Inspected: October 25, 1957

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

L. E. Shirley, Mining Engineer
U. S. Bureau of Mines

ACTION ON INTERIM
OR FINAL FIELD TEAM REPORT

Date 10/25

Referred to:

1. ~~Mr. Mittendorf~~
2. ~~Mr. Johnson~~
3. ~~Mr. Andrews~~
4. Docket Control Mails and Files
5. Division
6. Docket Control Mails and Files
7. 500

Note comments in report regarding:

1. Total footage of 21 holes completed to date is 9,173'
2. Talbert 10/28/59
3.
4.

and take appropriate action.

- - - - - - - -

Action taken by Division:

Robert E. Adams

OFFICIAL FILE COPY
DMEA
RECEIVED OCT 25 1957
10/25 C 220
" Cm 100

INTERIM REPORT

DMEA-4173, Idm-E970 (Zinc)

Operator: The New Jersey Zinc Company, Austinville, Virginia

Location: James-Woodruff area, Smyth and Wythe Counties, Virginia

Diamond drilling on the James-Woodruff project of the New Jersey Zinc Company completed to date and since the last inspection on September 4, 1957 is summarized as follows:

Footage in holes completed since last inspection . . .	550
Total footage in holes completed to date	8,622
Number of holes completed since last inspection . . .	1
Total number of holes completed to date	21
Number of holes showing commercial zinc ore	0
Number of holes showing non-commercial zinc mineralization	11
Number of barren holes	10

A summary of the one hole completed since the last inspection follows:

Hole No.	Property	Total Depth	Remarks
JW-21	Newland	550	Location: 200 feet down-dip from Hole JW-20. Abbreviated log: 0-19 overburden; 19-171 saccharoidal member of Shady dolomite; 171-241 transition zone; 241-550 Patterson member (top of ellipsoidal marker @ 545). Mineralization: 3 ft estimated @ 1-2 % Zn @ 506-510; 2 ft estimated @ 1-2 % Zn @ 520-522; zone 497-523 contains much FeS_2.

Hole JW-22 was drilling at the time of inspection. It was collared in the Saccharoidal member of the Shady dolomite 200 feet southof Hole JW-21. The current depth is 159 feet and the approximate bottoming depth is 725 feet.

Inspected: October 4, 1957

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

L. E. Shirley, Mining Engineer
U. S. Bureau of Mines

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPORTATION ADMINISTRATION

OPERATOR'S MONTHLY REPORT AND VOUCHER

PAID ON VOUCHER & SCHEDULE OF PAYMENTS K- 21

Month of September, 1957 Docket No. DMEA 4173 Contract No. 970
Operator's Name The New Jersey Zinc Company Minerals Zinc
Address Austinville, Virginia
Contract Amount, $ 41,388.00 Government Participation: 50% Amount, $ 20,694.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling	2297.70	16254.35	18552.05	10/31/57 W.P.R.		
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis		10.00	10.00			
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify): Incidental Allowances @ $0.30/ft	271.80	2091.90	2363.70			
TOTALS	2569.50	18356.25	20925.75	2569.50	18356.25	20925.75

I certify that the above bill is correct and just and that payment therefor has not been received.

Date 10/10/57 *Payee Bertha Mineral Division The New Jersey Zinc Company

Per [signature] Title Superintendent

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 1284.75

Signature [signature]
(Authorized Certifying Officer)

Date OCT 23 1957 Vou. No. 73
(See other side)

10

1284.75

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E-920 in accordance with the terms of the contract.

Signature V. J. Lynch Title MINING ENGINEER U. S. BUREAU OF MINES Date OCT 18 1957

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature ..... Title EXECUTIVE OFFICER DMEA FIELD TEAM REGION V Date OCT 18 1957

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

RECEIVED OCT 25 1957 D.M.E.A.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of September 1957 Docket No. DMEA 4173 Contract No. 970
Operator's Name The New Jersey Zinc Company Minerals Zinc
Address Austinville, Virginia

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core 0-250	Ft	550.00	250	18,552.05	7879	2.355	15000	2.45
250-500		612.50	250					
500-750		675.00	250					
750-906		460.20	156					
Trenching								
Sample Assays	Sample			10.00	10	1.00	100	1.00
Roads and Trails								
Incidental Allowances @ $0.30/ft	Ft	271.80	906	2,363.70	7879	0.30	15000	0.30
Total Distributed Costs		2569.50		20,925.75				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs		2569.50		20,925.75				$41,388.00

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date 10/10/57 Operator Bertha Mineral Division The New Jersey Zinc Co.

Per W. L. Albers Title Superintendent

W. L. Albers

Remarks: Includes costs of hole JW-16

NOTE.—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.

(Instructions on reverse)

(For Government use only)

GEOLOGIST, U. S. G. S.

OCT 18 1957

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

X 1086. 150M

COPY

Austinville, Va.
October 9, 1957

Regional Executive Officer
Defense Minerals Exploration Administration
Room 13, Post Office Building
Knoxville 2, Tennessee

Subject: Monthly Report and Quarterly Summary
DMEA-4173, Contract 970
James-Woodruff Area, Wythe County, Va.

Dear Sir:

Enclosed is our September monthly report and quarterly summary of the James-Woodruff project.

Very truly yours,

W. L. Albers,
Superintendent

R.C.G.
RCGilbert/mjf
In quintuplicate

RECEIVED
OCT 14 1957
U. S. Geological Survey

Narrative Report

Exploration continued in the James-Woodruff Area with the completion of Hole JW-16. This hole was collared in the Saccharoidal Member of the Shady and was bottomed in the Patterson Member. A total of 906 feet was drilled. No mineralization was encountered.

Quarterly Summary

During the quarter ending September 30, the following holes were drilled with the noted results:

Hole No.	Depth	Collar	Bottom	Results
JW-15	717	Saccharoidal	Patterson	1' (705-706) 1% Zn
JW-16	906	"	"	Barren
JW-17	397	Patterson	Rome	Barren; penetrated Sugar Grove Fault
JW-18	134	Patterson	Patterson	5' (32-37) 0.6% Zn
JW-19	422	Saccharoidal	Patterson	3' (373-376) 1.6% Zn 17' (376-393) Weak Zn Mineralization
JW-20	322	Patterson	Patterson	Barren
JW-21	550	Saccharoidal	Patterson	4' (506-510) Est 1-2% Zn 2' (520-522) Est 2% Zn

Note: Holes JW-19, 20 and 21 are not covered by detailed logs in this report since we have not received vouchers of the costs from the drilling contractor.

Diamond Drill Log - JW-16

Location: (Based on Austinville Grid System)

17,760 S 102,250 E

Inclination: Vertical Elevation: 2465

Object: To test for an assumed ore body pitching east from a geochemical anomaly.

Results:

From	To	Dist.	Recov.	Description
0	46	46	0	Overburden
46	66	20	16	Light medium gray finely saccharoidal dolomite, few partings, few vugs, Saccharoidal Member of Shady.
66	87	21	15	Medium to dark gray fine grained dolomite, local weak diagenetic breccia, local banding.
87	119	32	31	Light to medium gray fine grained dolomite, local parting, local sand grains and mud flakes.
119	125	6	6	Medium to dark gray fine grained dolomite, shattered, local spherulites, rare bleb ZnS.
125	200	75	31	Medium gray fine to finely saccharoidal dolomite, local thin partings, locally bleached.
200	223	23	13	Light to medium gray, locally buff, fine grained dolomite, abundant contorted shale partings, locally bleached.
223	373	150	142	Light gray saccharoidal dolomite, generally massive.
373	390	17	12	Light medium gray finely saccharoidal to saccharoidal dolomite, local diagenetic breccia.
390	465	75	35	Medium gray fine to finely saccharoidal dolomite, local abundant diagenetic breccia, locally weakly oxidized, Transition Zone of Patterson Member.
465	504	39	15	Medium gray finely saccharoidal dolomite, local diagenetic breccia, few partings, locally oxidized, Patterson Member.

EXTRA COPY DMEA RECEIVED SEP 1957		
DATE	INITIALS	CODE
9/23	FH	110
~~9/24~~	~~Kley~~	~~500~~

September 18, 1957

Memorandum

To: Jay L. Chambers, Defense Minerals Exploration Administration, Interior Building, Washington 25, D. C.

From: Personal Assistant, Electrotechnical Experiment Station, Norris, Tennessee

Subject: Monthly report and voucher

We are enclosing two copies of the following monthly report and voucher:

Idm-E970 The New Jersey Zinc Company
Docket No. DMEA-4173
9th payment - month of August
Amount $682.62

Helen R. Miller

Attachments
/hbm
Copies to R. A. Laurence
V. J. Lynch
Norris files
Day files

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

PAID ON VOUCHER & SCHEDULE OF PAYMENTS K- 14

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of August, 1957 Docket No. DMEA 4173 Contract No. 970

Operator's Name The New Jersey Zinc Company Minerals Zinc

Address Austinville, Va.

Contract Amount, $41,388.00 Government Participation: 50 % Amount, $20,694.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling	1204.95	15049.40	16254.35	10/31/57	10.P.K.	
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis	1.00	9.00	10.00			
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify): Incidental Allowances @ $0.30/ft	159.30	1932.00	2091.90			
TOTALS	1365.25	16991.00	18356.25	1365.25	16,991.00	18,356.25

I certify that the above bill is correct and just and that payment therefor has not been received.

Date 9/10/57 *Payee Bertha Mineral Division The New Jersey Zinc Co.

Per W. L. Allen, Jr. Title Superintendent

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$682.62

Signature Helen R. Miller (Authorized Certifying Officer)

Date SEP 18 1957 Vou. No.

(See other side)

682.63

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. Idm E916 in accordance with the terms of the contract.

Signature [illegible] Title MINING ENGINEER U. S. BUREAU OF MINES Date SEP 18 1957

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Robert A. Lawrence Title EXECUTIVE OFFICER DMEA FIELD TEAM REGION V Date SEP 18 1957

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

SEP 19 1957

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

RECEIVED SEP 23 1957 D.M.E.A.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of August 1957 Docket No. DMEA 4173 Contract No. 970
Operator's Name The New Jersey Zinc Company Minerals Zinc
Address Austinville, Virginia

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core 0-250	Ft	844.80	384	16254.35	6973	2.331	15000	2.45
~~Core~~ 250-397	Ft	360.15	147					
Auger								
Stripping								
Trenching								
~~Test Pits~~ Sample Assays	Sample	1.00	1	10.00	10	1.00	100	1.00
Roads and Trails								
Incidental Allowances @ $0.30/ft	Ft	159.30	531	2091.90	6973	0.30	15000	0.30
Total Distributed Costs		1365.25		18356.25				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs		1365.25		18356.25				$41,388.00

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date 9/10/57 Operator Bertha Mineral Division The New Jersey Zinc Co.

Per W. L. Albers W. L. Albers Title Superintendent

Remarks: Cover costs of JW-17 and JW-18

NOTE.—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.

(Instructions on reverse)

(For Government use only)

GEOLOGIST, U. S. G. S.
SEP 16 1957

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

DDL - JW-16 - Cont.

From	To	Dist.	Recov.	Description
504	509	5	4	Medium to dark gray finely saccharoidal dolomite, abundant fragmental partings.
509	667	158	102	Medium gray finely saccharoidal dolomite, local diagenetic breccia, abundant ribbony partings, locally oxidized.
667	703	36	31	Medium to dark gray finely saccharoidal dolomite, abundant fragmental partings.
703	712	9	8	Light medium gray fine grained dolomite, abundant bleached diagenetic breccia, faintly mottled.
712	727	15	15	Medium gray finely saccharoidal dolomite, ribbony partings, moderate metamorphism.
727	765	38	38	Medium gray finely saccharoidal dolomite, ribbony partings.
765	820	55	54	Medium gray finely saccharoidal dolomite, ribbony partings, locally oxidized, moderate metamorphism.
820	867	47	46	Medium gray finely saccharoidal dolomite, abundant ribbony partings, local suggestion ellipsoids.
867	906	39	36	Medium gray fine grained limestone, abundant thick ribbony partings, ellipsoidal zone.
	906			Bottom

Narrative Report - James-Woodruff Area

Exploration continued in the James-Woodruff area with the completion of holes JW-17 and JW-18. JW-17, collared in the Patterson below the ellipsoidal zone, was drilled through the Sugar Grove Fault and was bottomed in the Rome Formation. A total of 397 feet was drilled in this hole.

JW-18 was collared in the Patterson Member and was bottomed in the Patterson at a depth of 134 feet. Five feet of 0.6% Zn was encountered at a depth of 32-37 feet.

JW-16 has been completed but as yet no statement of the costs has been received from the drilling contractors. This hole was barren.

EXTRA COPY
D M E A
RECEIVED SEP 23 1957

DATE	INITIALS	CODE

EXTRA COPY
DMEA
RECEIVED SEP 23 1957
DATE | INITIALS | CODE

Diamond Drill Log - JW-17

Location: (Based on Austinville Grid System)

16,725 S 105,115 W

Inclination: Vertical Elevation: 2519

Object: To test for an assumed ore shoot pitching west from a geochemical anomaly.

Results:

From	To	Dist	Recov	Description
0	11	11	0	Overburden
11	115	104	82	Medium gray fine to finely saccharoidal dolomite, local abundant ribbony partings, Patterson Member of Shady.
115	133	18	16	Medium gray to buff fine to finely saccharoidal dolomite, ribbony partings, generally oxidized.
133	172	39	37	Medium gray, locally buff, fine to finely saccharoidal dolomite, ribbony partings, locally oxidized.
172	181	9	9	Medium gray fine grained dolomite, few thin irregular partings.
181	222	41	35	Light gray to pink saccharoidal dolomite, massive.
222	351	129	74	Medium gray to buff fine to finely saccharoidal dolomite, ribbony partings, local sand grains, locally oxidized.
351	382	31	11	Sugar Grove Fault zone.
382	397	15	6	Gray to red shale, Rome Formation
	397			Bottom

X 1086 150M

COPY

Austinville, Va.
September 10, 1957

Regional Executive Officer
Defense Minerals Exploration Administration
Room 13, Post Office Building
Knoxville 2, Tennessee

Subject: August Monthly Report
DMEA 4173, Contract 970
James-Woodruff Area, Va.

Dear Sir:

Enclosed is our monthly report of the James-Woodruff project. Hole JW-16 is not covered by this report since we have not received a bill from the drilling contractors.

Very truly yours,

W. L. Albers/rgm

W. L. Albers,
Superintendent

R.C.G.
RCGilbert/mjf
In quintuplicate

RECEIVED
SEP 18 1957

ACTION ON INTERIM
OR FINAL FIELD TEAM REPORT

Date 9-13

Referred to:

1. ~~Mr. Mittendorf~~
2. ~~Mr. Johnson~~
3. ~~Mr. Chambers~~
4. Docket Control Mails and Files
5. ~~Division~~
6. ~~Docket Control Mails and Files~~
7. 500

Note comments in report regarding:

1. Total footage to date should be 8,623'. Apparently Fld. Tm.
2. has omitted hole JW-14 (551' depth) from their totals
3. Talbot 9/13/57
4.

and take appropriate action.

- - - - - - - - -

Action taken by Division:

Robert E. Adams

OFFICIAL FILE COPY
D M E A
RECEIVED SEP 13 1957

DATE	INITIALS	CODE
9/13	C	220
9/13	Klug	500

INTERIM REPORT

DMEA-4173, Idm-E970 (Zinc)

Operator: The New Jersey Zinc Company, Austinville, Virginia

Location: James-Woodruff area, Smyth and Wythe Counties, Virginia

Diamond drilling on the James-Woodruff project completed to date and since the last inspection on August 15, 1957 is summarized as follows:

Footage in holes completed since last inspection . . .	744
Total footage in holes completed to date	8,072 8623
Number of holes completed since last inspection . . .	2
Total number of holes completed to date	20
Number of holes showing commercial zinc ore	0
Number of holes showing non-commercial zinc mineralization	10*
Number of barren holes	10

* Includes Hole JW-18 reclassified from barren (see below)

Review of the core from Hole JW-18, completed prior to the last inspection, showed a 5-foot run of finely disseminated sphalerite containing less than 1 percent zinc at depths of 32 to 37 feet. Data on Holes JW-19 and -20, completed since the last inspection, are summarized below:

Hole No.	Property	Total Depth	Remarks
JW-19	Newland	422	Location: 600 feet down dip from Hole JW-18. Abbreviated log: 0-9 overburden; 9-40 saccharoidal member of Shady dolomite; 40-150 transition zone; 150-422 Patterson member. Mineralization: 3 feet estimated @ 2 % Zn @ 373-376; 376-393 traces of sphalerite.
JW-20	Newland	322	Location: 200 feet up dip from Hole JW-19. Abbreviated log: 0-4 overburden; 4-322 Patterson member of Shady dolomite. Mineralization: Barren hole.

Hole JW-21, currently drilling, is located 200 feet down dip from Hole JW-19, also on the Newland tract. It collared in the saccharoidal member and at the time of inspection was still in the saccharoidal member at a depth of 109 feet. The bottoming depth of the hole is estimated at 560 feet.

Inspected: September 4, 1957

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

ACTION ON INTERIM
OR FINAL FIELD TEAM REPORT
Date 8/23

Referred to:

1. ~~Mr. Mirvondon~~
2. ~~Mr. Johnson~~
3. ~~Mr. Chambers~~
4. Docket Control Mails and Files
5. Division
6. Docket Control Mails and Files
7. 500

Note comments in report regarding:

1. Correct footage of 18 holes completed is 7,879'
2.
3.
4.

Talbert
8/23/57

and take appropriate action.

Action taken by Division:

Robert E. Adams

OFFICIAL FILE COPY
DMEA
RECEIVED AUG 23 1957

DATE	INITIALS	CODE
8/23	Conu	100
8/26	[illegible]	[illegible]

INTERIM REPORT

DMEA-4173, Idm-E970 - Zinc

Operator: The New Jersey Zinc Company, Austinville, Virginia

Location: James-Woodruff area, Wythe and Smyth Counties, Virginia

Diamond drilling on the James-Woodruff project of the New Jersey Zinc Company completed to date and since the last inspection on July 26, 1957 is summarized as follows:

Footage in holes completed since last inspection . . .	531
Total footage in holes completed to date	7,328
Number of holes completed since last inspection . . .	2
Total number of holes completed to date	18
Number of holes showing commercial zinc ore	0
Number of holes showing non-commercial zinc mineralization	8
Number of barren holes	10

Summary information on the two holes completed since the last inspection is given below:

Hole No.	Property	Total Depth	Remarks
JW-17	Newland	397	Collared in Patterson member of Shady dolomite below ellipsoidal zone; bottomed in Rome formation (Sugar Grove thrust fault zone @ 351-382). Barren hole.
JW-18	Newland	134	Located 600 feet down dip from Hole JW-17; collared and bottomed in Patterson member. Barren hole.

Hole JW-19 is currently drilling at a site 600 feet down dip from Hole JW-18. On the completion of JW-19 the drill will move to a site midway between Hole JW-18 and -19. Available pertinent data on Hole JW-19 are summarized below:

Hole No.	Property	Depth	Estimated Total Depth	Remarks
JW-19	Newland	199	450	Collared in transition zone between saccharoidal and Patterson members of Shady dolomite; currently drilling in Patterson member.

Inspected: August 15, 1957

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

Form ME-104 (Rev.)
(April 1952)

RECEIVED
AUG 22 1957
D.M.E.A.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.5

PAID ON VOUCHER & SCHEDULE OF PAYMENTS K- 7

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of July 1957 Docket No. DMEA 4173 Contract No. 970
Operator's Name The New Jersey Zinc Company Minerals Zinc
Address Austinville, Virginia
Contract Amount, $ 41,388.00 Government Participation: 50 % Amount, $ 20,694.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent / Short Form } Contracts:						
Drilling	1748.40	13301.00	15049.40	8/28/57	W.P.H.	
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis	1.00	8.00	9.00			
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify): Incidental Allowance @ 0.30/ft	215.10	1717.50	1932.60			
TOTALS	1964.50	15026.50	16991.00	1964.50	15026.50	16991.00

I certify that the above bill is correct and just and that payment therefor has not been received.
Date 8/6/57 *Payee Bertha Mineral Division The New Jersey Zinc Company
Per [signature] Title Superintendent

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:
$ 982.25
Signature Helen R. Miller
(Authorized Certifying Officer)
Date AUG 20 1957 Vou. No. 32
(See other side)

982.25

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E-970 in accordance with the terms of the contract.

Signature W. J. Lynch Title MINING ENGINEER U. S. BUREAU OF MINES Date AUG 14 1957

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Robert A. Lawrence Title EXECUTIVE OFFICER DMEA FIELD TEAM REGION V Date AUG 15 1957

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of July 1957 Docket No. DMEA 4173 Contract No. 970
Operator's Name The New Jersey Zinc Company Minerals Zinc
Address Austinville, Va.

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core 0-250	Ft	550.00	250	15049.40	6442	2.336	15000	2.45
~~Chip~~ 250-500	"	612.50	250					
~~Auger~~ 500-717	"	585.90	217					
Stripping								
Trenching								
~~Test Pits~~ Sample Assays	Sample	1.00	1	9.00	9	1.00	100	1.00
Roads and Trails								
Incidental Allowances @ 0.30/ft	Ft	215.10	717	1932.60	6442	0.30	15000	0.30
TOTAL DISTRIBUTED COSTS		1964.50		16991.00				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		1964.50		16991.00				$41,388.00

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date 8/6/57 Operator Bertha Mineral Division The New Jersey Zinc Co.

Per W. L. Albers Title Superintendent

NOTE.—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.

(Instructions on reverse)

REMARKS:

(For Government use only)

W. J. Lynch
MINING ENGINEER
U. S. BUREAU OF MINES

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

Narrative Report - James-Woodruff Area

Exploration continued in the James-Woodruff Area with the completion of hole JW-15. This hole was collared in the Saccharoidal Member of the Shady Formation and was bottomed in the Patterson Member. A total of 717 feet was drilled, and one foot of mineralization assaying 1.46% Zn, 2.36% Fe and Nil Pb was encountered at a depth of 705-706 feet.

The drill was moved to a position 200 feet down dip from JW-15.

Diamond Drill Log JW-15

Location: (Based on Austinville grid system)

17,570 S 102,305 W

Inclination: Vertical Elevation: 2435

Object: To test for an assumed ore shoot pitching east from a geochemical anomaly.

Results:

From	To	Dist	Recov	Description
0	40	40	0	Overburden
40	182	142	75	Light gray saccharoidal dolomite, massive Saccharoidal Member of Shady Formation.
182	238	56	36	Light medium to medium gray finely saccharoidal dolomite, local abundant diagenetic breccia, few partings. Transition Zone.
238	315	77	70	Light medium to medium gray finely saccharoidal dolomite, few partings, local diagenetic breccia, local oxidation, Patterson Member of Shady.
315	318	3	3	Medium to dark gray fine grained dolomite, abundant fragmental partings.
318	400	82	72	Light medium to medium gray fine to finely saccharoidal dolomite, local diagenetic breccia, few ribbony partings.
400	407	7	7	Medium to dark gray finely saccharoidal dolomite, abundant fragmental partings.
407	506	99	63	Light medium to medium gray finely saccharoidal dolomite, ribbony partings, few vugs, local oxidation.
506	523	17	17	Medium to dark gray fine to finely saccharoidal dolomite, local breccia, abundant fragmental partings, pyrite mineralization.
523	590	67	65	Medium gray finely saccharoidal dolomite, abundant ribbony partings, local oxidation.

X 1086 150M

COPY

Austinville, Va.
August 5, 1957

Regional Executive Officer
Defense Minerals Exploration Administration
Room 13, Post Office Building
Knoxville 2, Tennessee

Subject: Monthly Report - James Woodruff Area, Wythe County, Virginia - Docket #DMEA 4173, Contract #970

Dear Sir:

Enclosed is our July monthly report on the James-Woodruff project. Hole JW-16 has been completed but is not covered by this report since vouchers of the drilling costs have not been received by us.

Yours very truly,

W. L. Albers,
Superintendent

R.C.G. Pmk
RCGilbert/mjf
In quintuplicate

RECEIVED
AUG 14 1957

ACTION ON INFORM
OR FINAL FIELD TECH REPORT

Date 7/31

Referred to:

1. ~~Mr. Mitterdorf~~
2. ~~Mr. Johnson~~
3. ~~Mr. Chambers~~
4. Docket Control Mails and Files
5. Division
6. Docket Control Mails and Files
7. 500

Note comments in report regarding:

1. Total footage of completed
2. holes should be 7,348'
3. Talbert 8/2/57
4.

and take appropriate action.

- - - - - - - - -

Action taken by Division:

Robert K. Adams

DDL - JW-15 - Cont.

590	636	46	36	Medium gray finely saccharoidal dolomite, ribbony partings, moderate metamorphism.
636	705	69	51	Medium gray fine grained dolomite, ribbony partings, local shattering, local suggestion of ellipsoids.
705	706	1	1	Medium gray fine grained dolomite, generally shattered, zinc mineralization (1.46% Zn, Nil Pb, 2.36% Fe)
706	717	11	11	Medium gray fine grained limestone, thick ribbony partings, ellipsoids.
	712			Bottom

Diamond Drill Log - JW-18

Location: (Based on Austinville Grid System)

17,350 S 104,900 W

Inclination: Vertical Elevation: 2440

Object: To test for an assumed ore shoot pitching west from a geochemical anomaly.

Results:

From	To	Dist	Recov	Description
0	18	18	0	Overburden
18	32	14	10	Medium gray finely saccharoidal dolomite, Ribbony partings, locally oxidized, moderate metamorphism, Patterson Member of Shady.
32	37	5	5	Medium gray finely saccharoidal dolomite, ribbony partings, moderate metamorphism, 0.58% Zn, Nil Pb, 2.84% Fe.
37	65	28	8	Medium gray fine to finely saccharoidal dolomite, abundant ribbony partings, local strong oxidation, abundant openings.
65	134	69	45	Medium gray fine grained limestone, abundant ribbony partings, ellipsoids.
	134			Bottom

INTERIM REPORT

DMEA-4173, Idm-E970 - Zinc

Operator: The New Jersey Zinc Company, Austinville, Virginia

Location: James-Woodruff area, Smyth and Wythe Counties, Virginia

Diamond drilling on the James-Woodruff project completed to date and since the last inspection on July 12, 1957 is summarized as follows:

Drilling completed:

Footage in holes completed since last inspection	906
Total footage in holes completed to date	6,797
Number of holes completed since last inspection	1
Total number of holes completed to date	16
Number of holes showing commercial zinc ore	0
Number of holes showing non-commercial zinc mineralization	8
Number of barren holes	8

A summary of the one hole completed since the last inspection is as follows:

Hole No.	Property	Total Depth	Remarks
JW-16	James	906 ft.	Top of transition zone at 375 ft. Top of Patterson member at 470 ft. Top of ellipsoidal zone at 867 ft. Blank hole

At the time of the inspection the drill was being moved to a new site (JW-17) on the Newland property. This location is at coordinates 16,800 S - 105, 150 W (New Jersey Zinc Co. Coordinate System). The hole will be collared in the Patterson limestone member.

Inspected: July 26, 1957

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DATE | TO | CODE
8/2 Kly

V. J. Lynch, Mining Engineer
U. S. Bureau of Mines

Dewey H. Amos, Geologist
U. S. Geological Survey

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

PAID ON VOUCHER & SCHEDULE OF PAYMENTS K- 3

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of June, 1957 Docket No. DMEA 4173 Contract No. 970
Operator's Name The New Jersey Zinc Company Minerals Zinc
Address Austinville, Virginia
Contract Amount, $41,388.00 Government Participation: 50% Amount, $20,694.00

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling	2259.35	11041.65	13301.00	7/30/57. WPK		
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis		8.00	8.00			
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify): Incidental Allowances @ $0.30/ft	290.40	1427.10	1717.50			
TOTALS	2549.75	12476.75	15026.50	2549.75	12476.75	15026.50

RECEIVED JUL 22 1957 D.M.E.A.

I certify that the above bill is correct and just and that payment therefor has not been received.
Date 7/5/57 *Payee Bertha Mineral Division The New Jersey Zinc Company
Per [signature] Title Superintendent

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:
$ 1274.87
Signature Helen R. Miller (Authorized Certifying Officer)
Date JUL 18 1957 Vou. No. 11
(See other side)

1274.88

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. F-970 in accordance with the terms of the contract.

Signature Kenneth Weldon Title GEOLOGIST, U. S. G. S. Date JUL 15 1957

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature V. J. Lynch Title ACTING EXECUTIVE OFFICER DMEA - REGION V Date JUL 16 1957

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

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Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of June 1957 Docket No. DMEA 4173 Contract No. 970

Operator's Name The New Jersey Zinc Company Minerals Zinc

Address Austinville, Virginia

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT	
							Units	Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core 0-250	Ft	1100.00	500	13,301.00	5725	2323	15000	2.45
250-500	"	1021.65	417					
500-551	"	137.70	51					
Stripping								
Trenching								
Sample Analysis	Sample			8.00	8	1.00	100	1.00
Roads and Trails								
Incidental Allowances @ $0.30/ft	Ft	290.40	968	1717.50	5725	0.30	15000	0.30
TOTAL DISTRIBUTED COSTS		2549.75		15,026.50				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		2549.75		15,026.50				$41,388.00

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date 7/5/57 Operator Bertha Mineral Division The New Jersey Zinc Co.

Per W. L. Albers Title Superintendent

W. L. Albers

NOTE.—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.

REMARKS:

(Instructions on reverse)

(For Government use only)

RECEIVED JUL 22 1957 D.M.E.A.

Kenneth Deen Jr.

GEOLOGIST, U. S. G. S.

JUL 15 1957

INSTRUCTIONS

Preparation of Form MF–104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF–104A has been designed to tie in with Form MF–104 for both monthly and cumulative costs. The "Total Costs" on Form MF–104A for each month should equal the monthly "Total Costs" as reported on Form MF–104. This is also true of the "Total Costs To Date".

In preparing Form MF–104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

Narrative Report - James-Woodruff Area

Exploration continued during the month on the James-Woodruff project with the completion of two holes. Some low grade mineralization was encountered in hole JW-15 (not covered in this report by a detailed log.)

Hole JW-13 was collared in the Transition Zone and was bottomed in the Patterson Member of the Shady at a depth of 417 feet. Some pyrite mineralization was encountered.

Hole JW-14 was collared in the Saccharoidal Member of the Shady and was bottomed in the Patterson Member at a depth of 551 feet. Only pyrite mineralization was encountered.

JW-15, not covered in this report, has been completed. A thin bed (?) of mineralization was encountered near the bottom of this hole. A hole 200 feet down dip from JW-15 is now in progress.

Quarterly Summary

Exploration in the James-Woodruff area progressed with the completion of six holes during the quarter ending June 30. Two of these holes were drilled on the N. S. King property and the other four were drilled on the R. B. James property. Only thin low grade mineralization has been encountered.

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DATE	INITIALS	CODE

Diamond Drill Log - JW-13

Location: (Based on Austinville Grid System)

17,185 S 102,425 W

Inclination: Vertical Elevation: 2398 (?)

Object: To test for an assumed ore shoot pitching east from a geochemical anomaly.

Results:

From	To	Dist	Recov	Description
0	2	2	0	Overburden
2	20	18	18	Medium gray fine to finely saccharoidal dolomite, abundant diagenetic breccia, local shattering, Transition Zone.
20	180	160	130	Light medium to medium gray fine to finely saccharoidal dolomite, local partings, local oxidation, few vugs, local shattering, Patterson Member of Shady Formation.
180	203	23	23	Medium to dark gray fine grained dolomite, abundant fragmental partings.
203	259	56	50	Light medium to medium gray fine grained dolomite, local abundant bleached diagenetic breccia, local ribbony partings.
259	265	6	5	Medium gray fine grained dolomite, few ribbony partings, locally fractured. ZnS in fractures, estimated less than 0.1% Zn
265	308	43	43	Medium gray fine grained dolomite, abundant fragmental partings.
308	337	29	25	Medium gray fine grained dolomite, ribbony partings, local diagenetic breccia, moderate metamorphism.
337	350	13	8	Medium gray fine grained dolomite, ribbony partings, suggestion of ellipsoids.

DDL - JW-13 (Cont.)

From	To	Dist	Recov	Description
350	360	10	5	Fault zone, abundant brecciation and local shattering, local strong mylonite.
360	395	35	27	Medium gray fine grained dolomite, ribbony partings, local oxidation, local suggestion of ellipsoids.
395	417	22	22	Medium gray fine grained limestone, thick ribbony partings, ellipsoids.
	417			Bottom

Diamond Drill Log - JW-14

Location: (Based on Austinville Grid System)

17,370 S 102,370 W

Inclination: Vertical Elevation: 2394 (?)

Object: To test for an assumed ore shoot pitching east from a geochemical anomaly.

Results:

From	To	Dist	Recov	Description
0	17	17	0	Overburden
17	22	5	2	Fault Zone
22	49	27	18	Medium gray finely saccharoidal dolomite, local weak shattering, Saccharoidal Member of Shady.
49	101	52	48	Light medium gray finely saccharoidal dolomite, abundant diagenetic breccia, local oxidation, Transition Zone.
101	197	96	94	Medium gray fine to finely saccharoidal dolomite, local diagenetic breccia, few partings, local augen, Patterson Member of Shady.
197	217	20	8	Light medium gray fine grained dolomite, very rare partings.
217	307	90	53	Light medium to medium gray finely saccharoidal dolomite, local diagenetic breccia, ribbony partings.
307	335	28	22	Medium gray fine grained dolomite, abundant fragmental partings.
335	423	88	83	Medium gray fine to finely saccharoidal dolomite, ribbony partings, augen, local oxidation.
423	465	42	42	Medium gray fine to finely saccharoidal dolomite, ribbony partings, local vugs, moderate metamorphism.
465	521	56	55	Medium gray finely saccharoidal dolomite ribbony partings, local vugs.
521	551	30	30	Medium gray fine grained limestone, abundant ribbony partings, ellipsoids.
	551			Bottom

X 1086 150M

COPY

Austinville, Va.
July 10, 1957

Regional Executive Officer
Defense Minerals Exploration Administration
Room 13
Post Office Building
Knoxville 2, Tennessee

Subject: Monthly Report and Quarterly Summary
James-Woodruff Area, Wythe County, Va.
DMEA 4173, Contract 970

Gentlemen:

Enclosed is our June monthly report and quarterly summary of the James-Woodruff project. Hole JW-15 is shown on the sections but a detailed log of the hole is not included since we do not yet have a voucher to cover the cost of drilling.

Very truly yours,

W. L. Albers,
Superintendent

R.C.G.
RCGilbert/mjf
In quintuplicate

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DATE CODE

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DATE	INITIALS	CODE
7/22	CPM	100
7/24	Kling	500

INTERIM REPORT

DMEA-4173, Idm-E970 - Zinc

Operator: The New Jersey Zinc Company, Austinville, Virginia

Location: James-Woodruff area, Smyth and Wythe Counties, Virginia

Diamond drilling on the James-Woodruff project completed to date and since the last inspection on June 28, 1957 is summarized as follows:

Footage in holes completed since last inspection . . .	717
Total footage in holes completed to date	5,891
Number of holes completed since last inspection . . .	1
Total number of holes completed to date	15
Number of holes showing commercial zinc ore	0
Number of holes showing non-commercial zinc mineralization	8
Number of barren holes	7

A summary of the one hole completed since the last inspection follows:

Hole no.	Property	Depth	Remarks
JW-15	James	717	Location: 200 feet down dip from Hole JW-14. Abbreviated log: 0-40 Overburden; 40-181 saccharoidal member of Shady dolomite; 181-237 transition zone; 237-717 Patterson member (top of ellipsoidal zone @ 704). Mineralization: 1 ft estimated at 2-3% Zn @ 705-706.

Because of the show of mineralization encountered in Hole JW-15 (see above), the scheduled move to the exploration fence to the west has been postponed, and another hole, located 200 feet down dip from Hole JW-15, is being drilled. The hole currently drilling (no. JW-16) was at a depth of 420 feet at the time of inspection. It was collared in the saccharoidal member of the Shady dolomite and had reached the top of the transition zone at a depth of 375 feet. This hole will be bottomed at about 850 feet.

Inspected: July 12, 1957

V. J. Lynch, Mining Engineer
U. S. Bureau of Mines

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

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DATE	INITIALS	CODE
7/8	C	220
7/9	CM	100
7/12	WEB	500.

INTERIM REPORT

DMEA-4173, Idm-E970 - Zinc

Operator: The New Jersey Zinc Company, Austinville, Virginia

Location: James-Woodruff area, Smyth and Wythe Counties, Virginia

No diamond drill-holes have been completed on the James-Woodruff project of the New Jersey Zinc Company since the last inspection on June 14, 1957. Data on the hole currently drilling are summarized as follows:

Hole no.	Property	Depth	Est. depth	Remarks
JW-15	James	696	725	Currently drilling in Patterson member of the Shady dolomite; scattered pyrite mineralization @ 506-522 and 593-607, but no evidence of zinc.

On the completion of Hole JW-15 the drill rig will move to the northernmost hole-site of an exploration fence located to the west of the geochemical anomaly on the James property. The objective of the fence to the west will be to test for an orebody raking westerly from the anomaly. The approximate location of this second fence is that shown in the Operator's original application.

Inspected: June 28, 1957

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

INTERIM REPORT

DMEA-4173, Idm-E970 - Zinc

Operator: The New Jersey Zinc Companym Austinville, Virginia

Location: James-Woodruff area, Smyth and Wythe Counties, Virginia

Drilling on the James-Woodruff project of the New Jersey Zinc Company completed to date and since the last inspection May 28, is summarized as follows:

Footage in holes completed since last inspection....	551
Total footage in holes completed to date.....	5,725
Number of holes completed since last inspection.....	1
Total number of holes completed to date.....	14
Number of holes showing commercial zinc ore.....	0
Number of holes showing non-commercial zinc mineralization.....	7
Number of barren holes.....	7

Additional available data on the one hole completed since thelast inspection are tabulated below:

Hole no.	Property	Depth	Remarks
JW-14	James	551	Bottomed in Patterson member of Shady dolomite; barren hole--contains scattered traces of pyrite but no sphalerite.

Hole JW-15, located 200 ft south of Hole JW-14, was drilling at a depth of 157 ft in the saccharoidal nember of the Shady dolomite, at the time of inspection. It will bottom at about 700 ft. Unless significant zinc mineralization is encountered in Hole JW-15, drilling in this fence will be considered complete, and the drill will be moved to a second fence site to the west of the geochemical anomaly currently being tested. The second fence site is the original fence proposed for exploring the anomaly on the James property (see property map appended to contract).

Inspected: June 14, 1957

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DATE	INITIALS	CODE
6/20	JWJ	220
~~6/25~~	~~Klay~~	~~500~~

V. J. Lynch, Mining Engineer
Bureau of Mines

Helmuth Wedow, Jr.
Geologist, Geological Survey

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S MONTHLY REPORT AND VOUCHER

PAID ON VOUCHER & SCHEDULE OF PAYMENTS K- 75

Month of May, 1957 Docket No. DMEA 4173 Contract No. 970
Operator's Name The New Jersey Zinc Company Minerals Zinc
Address Austinville, Virginia
Contract Amount, $ 41,388.00 Government Participation: 50% Amount, $ 20,694.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
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Drilling	2625.40	8416.25	11041.65	7/30/57		
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
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Technical Services						
(3) Operating Mat'ls. and Supplies:						
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Track						
(4) Operating Equipment:						
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Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis		8.00	8.00			
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify): Incidental Allowances @ $0.30/ft	338.10	1089.00	1427.10			
TOTALS	2963.50	9513.25	12476.75	2963.50	9513.25	12476.75

RECEIVED JUN 14 1957 D.M.E.A.

I certify that the above bill is correct and just and that payment therefor has not been received.

Date 6/5/57 *Payee Bertha Mineral Division The New Jersey Zinc Company

Per [signature] Title Superintendent

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(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 1481.75

Signature Helen R. Mellie
(Authorized Certifying Officer)

Date JUN 14 1957 Vou. No. 203
(See other side)

1481.75

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E-970 in accordance with the terms of the contract.

Signature D. Lynch Title MINING ENGINEER U. S. BUREAU OF MINES Date JUN 10 1957

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Robert A. Lawrence Title EXECUTIVE OFFICER DMEA FIELD TEAM REGION V Date JUN 10 1957

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Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

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Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of May 1957 Docket No. DMEA 4173 Contract No. 970

Operator's Name The New Jersey Zinc Company Minerals Zinc

Address Austinville, Virginia

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core 0-250	Ft	1540.00	700	11041.65	4757	2.321	15000	2.45
250-500	Ft	661.50	270					
500-657	"	423.90	157					
Stripping								
Trenching								
Test Pits								
Sample Assays	Sample			8.00	8	1.00	100	1.00
Roads and Trails								
Incidental Allowances @ $0.30/ft	Ft	338.10	1127	1427.10	4757	0.30	15000	0.30
Total Distributed Costs		2963.50		12476.75				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs		2963.50		12476.75				$41,388.00

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date 6/5/57 Operator Bertha Mineral Division The New Jersey Zinc Co.

Per W. L. Albers Title Superintendent

NOTE.—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.

Remarks:

(Instructions on reverse)

(For Government use only)

RECEIVED JUN 17 1957 D.M.E.A.

GEOLOGIST, U. S. G. S.

JUN 10 '57

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

Narrative Report - James-Woodruff Area, Virginia

Exploration continued during May with the completion of three diamond drill holes. One of these holes completed the proposed fence on the King Property, and the other two holes were drilled in the James Property. With the completion of the fence on the King Property, this portion of the James-Woodruff area has been recessed pending further study. Drilling will continue on the James and Newland Properties.

JW-10 was collared in the Saccharoidal Member of the Shady Formation and was bottomed in the Patterson Member at a depth of 657 feet. Some pyrite mineralization was encountered, but the core was barren of zinc mineralization.

JW-11, the first of the holes on the James Property, was collared in the Patterson Member of the Shady Formation and was bottomed in the same member at a depth of 200 feet. No zinc mineralization was encountered.

JW-12 was collared in the Patterson Member of the Shady Formation and bottomed in the same member at a depth of 270 feet. Only pyrite mineralization was encountered.

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DATE	INITIALS	CODE

Diamond Drill Log - JW-10

Location: (Based on Austinville Grid System)

15,570 S 88,260 W

Inclination: Vertical Elevation: 2435 (?)

Object: Test for western strike extension of JW-5 mineralization.

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DATE	INITIALS	CODE

Results:

From	To	Dist.	Recov	Description
0	15	15	0	Overburden
15	66	51	38	Medium to dark gray finely saccharoidal dolomite, local banding, local brecciation, local partings; Saccharoidal member of Shady Formation.
66	84	18	16	Light to medium gray finely saccharoidal dolomite, few thin partings, local vugs.
84	142	58	58	Dark gray fine to finely saccharoidal dolomite, few thin partings, local shattering.
142	275	133	122	Light local medium gray saccharoidal dolomite, local banding.
275	294	19	17	Light medium gray finely saccharoidal dolomite, abundant bleached diagenetic breccia, Transition Zone.
294	353	59	42	Medium gray fine grained dolomite, few ribbony partings, vugs. Patterson Member of Shady Formation.
353	362	9	8	Medium to dark gray fine graimed dolomite, abundant fragmental partings.
362	405	43	39	Light medium to medium gray finely saccharoidal dolomite abundant ribbony partings.
405	420	15	9	Light medium gray finely saccharoidal dolomite, few vugs, ribbony partings, moderate metamorphism.
420	452	32	24	Medium gray fine to finely saccharoidal dolomite, ribbony partings, local vugs, local breccia.

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DATE		CODE
6/12	JWD	220
"	COM	100
6/14	WPM	810

INTERIM REPORT

DMEA-4173, Idm-E970 - Zinc

Operator: The New Jersey Zinc Company, Austinville, Virginia

Location: James-Woodruff area, Smyth and Wythe Counties, Virginia

Diamond drilling on New Jersey Zinc's James-Woodruff project completed to date and since the last inspection on May 3, 1957 is summarized as follows:

Footage in holes completed since last inspection . . .	887
Total footage in holes completed to date	5,174
Number of holes completed since last inspection . . .	3
Total number of holes completed to date	13
Number of holes showing commercial zinc ore	0
Number of holes showing non-commercial zinc mineralization	7
Number of barren holes	6

Available data on the three holes completed since the last inspection are as follows:

Hole no.	Property	Depth	Remarks
JW-11	James	200	Collared and bottomed in Patterson member of Shady dolomite; barren.
JW-12	James	270	Collared and bottomed in Patterson member; scattered shines of pyrite @ 137-185 and @ 196-204; located 200 feet down dip from Hole JW-11.
JW-13	James	417	Collared and bottomed in Patterson member; scattered shines and traces of sphalerite @ 256-265; located 200 feet down dip from Hole JW-12.

Hole JW-14 is currently drilling at a site 200 feet down dip (south) from the site of Hole JW-13. Available data on JW-14 are given below:

Hole no.	Property	Depth	Est. depth	Remarks
JW-14	James	77	575	Collared in saccharoidal member of Shady dolomite; currently drilling in transition zone between the saccharoidal and Patterson members.

Inspected: May 28, 1957

V. J. Lynch, Mining Engineer
U. S. Bureau of Mines

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

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

PAID ON VOUCHER & SCHEDULE OF PAYMENTS K- 69

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of April 1957 Docket No. DMEA 4173 Contract No. 970

Operator's Name The New Jersey Zinc Company Minerals Zinc

Address Austinville, Virginia

Contract Amount, $ 41,388.00 Government Participation: 50% Amount, $ 20,694.00

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling	1091.45	7324.80	8416.25	5/28/57	WPK.	Bethy
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis	5.00	3.00	8.00			
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify): Incidental Allowances @ $0.30/ft	141.30	947.70	1089.00			
TOTALS	1237.75	8275.50	9513.25	1237.75	8275.50	9513.25

RECEIVED MAY 17 1957 D.M.E.A.

I certify that the above bill is correct and just and that payment therefor has not been received.

Date 5/13/57 *Payee Bertha Mineral Division The New Jersey Zinc Company

Per [signature] Title Superintendent

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 618.88

Signature Helen R. Miller
(Authorized Certifying Officer)

Date MAY 15 1957 Vou. No. 189
(See other side)

618.87

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E-970 in accordance with the terms of the contract.

Signature [illegible] Title GEOLOGIST, U. S. G. S. Date MAY 14 1957

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature [illegible] Title ACTING EXECUTIVE OFFICER DMEA - REGION V Date MAY 14 1957

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of April 1957 Docket No. DMEA 4173 Contract No. 970

Operator's Name The New Jersey Zinc Company Minerals Zinc

Address Austinville, Virginia

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core 0-250	Ft	550.00	250	8416.25	3630	2.319	15000	2.45
~~Chip~~ 250-471	"	541.45	221					
Auger								
Stripping								
Trenching								
~~Test Pits~~ Sample Assays	Sample	5.00	5	8.00	8	1.00	100	1.00
Roads and Trails								
Incidental Allowances @ $0.30/ft	Ft	141.30	471	1089.00	3630	0.30	15000	0.30
TOTAL DISTRIBUTED COSTS		1237.75		9513.25				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS								$41,388.00

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date 5/10/57 Operator Bertha Mineral Division The New Jersey Zinc Co.

Per W. L. Albers Title Superintendent

NOTE.—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.

REMARKS:

(Instructions on reverse)

(For Government use only)

RECEIVED MAY 14 1957 DMEA

Kenneth Lucas Jr.
GEOLOGIST, U. S. G. S.
MAY 14 1957

INSTRUCTIONS

Preparation of Form MF–104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF–104A has been designed to tie in with Form MF–104 for both monthly and cumulative costs. The "Total Costs" on Form MF–104A for each month should equal the monthly "Total Costs" as reported on Form MF–104. This is also true of the "Total Costs To Date".

In preparing Form MF–104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

Narrative Report - James-Woodruff Area

Drilling continued on the King Property in the James-Woodruff area with the completion of hole JW-9. This hole was collared in the Saccharoidal Member of the Shady, and was bottomed in the Patterson Member at a depth of 471 feet. No zinc mineralization was observed in this hole.

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RECEIVED MAY 17 1957

DATE	INITIALS	CODE

EXTRA COPY
DMEA
RECEIVED MAY 17 1957
DATE | INITIALS | CODE

Diamond Drill Log - JW-9

Location: (Based on Austinville Grid System)

15,340 S 18,290 W

Inclination: Vertical Elevation: 2370 (?)

Object: To test for strike extension of JW-5 mineralization.

Results:

From	To	Dist	Recov	Description
0	26	26	0	Overburden
26	60	34	16	Light gray saccharoidal dolomite, Saccharoidal Member of Shady Formation.
60	98	38	32	Light medium gray fine grained dolomite local diagenetic breccia.
98	122	24	22	Light medium to medium gray finely saccharoidal dolomite, diagenetic breccia, vugs, Transition Zone.
122	146	24	23	Medium gray fine to finely saccharoidal dolomite, local oxidation, local partings. Patterson Member of the Shady.
146	164	18	17	Medium to dark gray finely saccharoidal dolomite, abundant fragmental partings, rare trace ZnS.
164	246	82	82	Light medium to medium gray fine grained dolomite, ribbony partings, local oxidation few augen, local shattering.
246	253	7	6	Medium to dark gray fine grained dolomite, abundant fragmental partings.
253	280	27	27	Medium gray finely saccharoidal dolomite, ribbony partings, augen.
280	300	20	20	Medium gray finely saccharoidal dolomite, local strong oxidation, ribbony partings, moderate metamorphism.
300	341	41	41	Medium gray local buff fine grained dolomite, ribbony partings, local strong oxidation.
341	361	20	20	Medium gray finely saccharoidal dolomite, ribbony partings, local brecciation, moderate metamorphism.

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DATE	INITIALS	CODE
5/16	LWB	220
17	CHL	100
5/17	WPR	500

INTERIM REPORT

DMEA-4173, Idm-E970 - Zinc

Operator: The New Jersey Zinc Company, Austinville, Virginia

Location: James-Woodruff area, Smyth and Wythe Counties, Virginia

Drilling on the James-Woodruff project completed to date and since the last inspection on April 12, 1957 is summarized as follows:

Footage in holes completed since last inspection . . .	657
Total footage in holes completed to date	4,287*
Number of holes completed since last inspection . . .	1
Total number of holes completed to date	10
Number of holes showing commercial zinc ore	0
Number of holes showing non-commercial zinc mineralization	6
Number of barren holes	4

* Correct last previous total was 3,630 feet.

Data on the one hole completed since the last inspection are given below:

Hole no.	Property	Depth	Remarks
JW-10	King	657	Collared in saccharoidal member; bottomed in Patterson member; transition zone @ 275-294; barren hole.

With the completion of Hole JW-10 the drill rig was moved to the western end of the project area to drill on the James property to the east of the geochemical soil anomaly (see revised property map attached to Amendment No. 3 of contract). At the time of inspection the first and shallowest hole of this fence was drilling. Data on this hole are summarized below:

Hole no.	Property	Depth	Est. depth	Remarks
JW-11	James	122	175	Collared and drilling in Patterson member of Shady dolomite.

Inspected: May 3, 1957

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

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DATE	INITIALS	CODE
4/22	C	220
23	Com	100
4/26	Klug	500

INTERIM REPORT

DMEA-4173, Idm-E970 - Zinc

Operator: The New Jersey Zinc Company, Austinville, Virginia

Location: James-Woodruff area, Smyth and Wythe Counties, Virginia

Diamond drilling on the James-Woodruff project completed to date and since the last inspection on March 29, 1957 is summarized as follows:

Footage in holes completed since last inspection . . .	471
Total footage in holes completed to date	1,573*
Number of holes completed since last inspection . . .	1
Number of holes completed to date	9
Number of holes showing commercial zinc ore	0
Number of holes showing non-commercial zinc mineralization	6**
Number of barren holes	3**

* Last previous total shown as 1,109 feet corrected to 1,102 feet as Hole JW-8 was bottomed at 372 feet instead of 379 feet when core-barrel containing 7 feet was lost and left in hole.

** Review of core from Hole JW-8 showed traces of sphalerite from 100 to 114 feet and hence reclassifies hole from barren to containing non-commercial zinc mineralization.

Data on the one hole completed since the last inspection are given below:

Hole no.	Property	Depth	Remarks
JW-9	King	471	Located 200 feet south of Hole JW-8; collared in Saccharoidal member; bottomed in Patterson member; traces of zinc mineralization @ 160 and 250 feet, contains considerable scattered pyrite in this zone.

Data on the hole currently drilling are summarized as follows:

Hole no.	Property	Depth	Est. depth	Remarks
JW-10	King	264	625	Located 200 feet south of Hole JW-9; collared and drilling in Saccharoidal member of Shady dolomite.

Inspected: April 12, 1957

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

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

PAID ON VOUCHER & SCHEDULE OF PAYMENTS No. 64

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of March, 1957 Docket No. DMEA 4173 Contract No. 970
Operator's Name The New Jersey Zinc Company Minerals Zinc
Address Austinville, Virginia
Contract Amount, $41,388.00 Government Participation: 50% Amount, $ 20,694.00

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling	3854.30	3470.50	7324.80	Entered WPK		Klug
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis	-	3.00	3.00			
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify): Incidental Allowances @ $0.30/ft	487.20	460.50	947.70			
TOTALS	4341.50	3934.00	8275.50	4341.50	3934.00	8275.50

RECEIVED APR 22 1957 D.M.E.A.

I certify that the above bill is correct and just and that payment therefor has not been received.
Date 4/11/57 *Payee Bertha Mineral Division The New Jersey Zinc Company
Per W. h. Allen Jr. Title Superintendent

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:
$ 2170.75
Signature Helen R. Miller
(Authorized Certifying Officer)
Date APR 19 1957 Vou. No. 177
(See other side)

2170.75

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E-970 in accordance with the terms of the contract.

Signature W. J. Lynch Title MINING ENGINEER U. S. BUREAU OF MINES Date APR 17 1957

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Robert A. Laurence Title EXECUTIVE OFFICER DMEA REGION V Date APR 17 1957

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

RECEIVED APR 22 1957 D.M.E.A.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of March 1957 Docket No. DMEA 4173 Contract No. 970

Operator's Name The New Jersey Zinc Company Minerals Zinc

Address Austinville, Va.

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core 0-250	Ft	1650.00	750	7324.80	3159	2.319	15000	2.45
~~Churn~~ xxx 250-500	Ft	1523.90	622					
~~Auger~~ xxx 500-730	Ft	680.40	252					
Stripping								
Trenching								
~~Test Pits~~ xxxxx Sample Assays	Sample			3.00	3	1.00	100	1.00
Roads and Trails								
Incidental Allowances @ $0.30/ft	Ft	487.20	1624	947.70			15000	0.30
Total Distributed Costs		4341.50		8275.50				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs		4341.50		8275.50				$41,388.00

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date 4/11/57 Operator Bertha Mineral Division The New Jersey Zinc Co.

Per W. L. Albers W. L. Albers/cym Title Superintendent

Remarks:

NOTE.—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.

(Instructions on reverse)

(For Government use only)

V. J. Lynch
MINING ENGINEER
U. S. BUREAU OF MINES

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

DDL - JW-9 (Cont.)

From	To	Dist	Recov	Description
361	386	25	25	Medium gray finely saccharoidal dolomite, ribbony partings, local oxidation.
386	410	24	24	Light medium gray fine grained dolomite, faintly mottled, vugs.
410	447	37	32	Medium gray fine grained dolomite, ribbony partings, local augen.
447	471	24	24	Medium gray fine grained limestone, ribbony partings, ellipsoids.
	471			Bottom

Narrative Report - James-Woodruff Area, Wythe County, Va.

Hole JW-6 was collared in the Saccharoidal Member of the Shady and was bottomed in the Patterson Member. The hole was completed at a depth of 522 feet. Traces of zinc sulphide mineralization occur from 233-237. From 237-239, mineralization estimated at 1% Zn was encountered, and from 267 to 269 the zinc content is estimated at less than 1%. The latter two runs will be assayed.

Hole JW-7 was collared in the Saccharoidal Member of the Shady and was bottomed at a depth of 730 feet. The bottom of the hole is in the Patterson Member. Zinc mineralization was encountered in two zones: 414-417 and 454-463. Both runs were estimated at about 1% and will be assayed.

This was the last of the proposed holes on this fence. To determine the extent of the mineralization encountered in JW-5, a fence of three holes was proposed 1200 feet to the west along the strike.

Hole JW-8, the first hole of the fence 1200 feet from the original fence, was collared in the Patterson Member of the Shady and drilled to a depth of 372 feet. The bottom of the hole is in the Patterson Member. Only traces of zinc mineralization were encountered, at a depth of 100-114.

Quarterly Summary

Exploration in the James-Woodruff area continued with the completion of diamond drill holes JW-2, JW-3, JW-4 JW-5, JW-6, JW-7 and JW-8. A total of 2998 feet was drilled during the quarter. Holes JW-2, JW-3, JW-4 and JW-8 were collared in the Patterson Member of the Shady and holes JW-5, JW-6 and JW-7 were collared in the Saccharoidal Member. All holes were bottomed in the Patterson Member.

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Mineralization was encountered as follows:

JW-4

Dist.	Depth	Grade
5	36 - 41	Est. 1/4% Zn

JW-5

28'	145 - 173	Traces only
7	173 - 180	1.3% Zn
4	212-216	Est. 1% Zn
5	305 - 310	3.0% Zn

Narrative Report - James-Woodruff Area - Cont

JW-6

Dist	Depth	Grade
4'	233 - 237	Traces ZnS
2	237 - 239	Est. 1% Zn
26	239 - 267	Traces ZnS
2	267 - 269	Est. 1% ZnS

JW-7

3	414 - 417	Est. 1% Zn
9	454 - 463	Est. less than 1% Zn

JW-8

14	100 - 114	Traces ZnS

Diamond Drill Log - JW-6

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DATE	INITIALS	CODE

Location: 1000 feet S5E from JW-1

Elevation: 2324 (?) Inclination: Vertical

Object: To test for an assumed ore shoot pitching west from a geochemical anomaly

Results:

From	To	Dist	Recov	Description
0	15	15	0	Overburden
15	138	123	97	Light gray saccharoidal dolomite, local banding, few stylolites, vugs, Saccharoidal Member of Shady.
138	167	29	23	Medium gray finely saccharoidal dolomite, few vugs, local faint mottling.
167	190	23	23	Medium gray finely saccharoidal dolomite, diagenetic breccia, few vugs, local abundant fragmental partings, slight local moderate metamorphism, Transition Zone.
190	237	47	40	Light to medium local dark gray fine to finely saccharoidal dolomite, local fragmental partings, local strong oxidation, Patterson Member of Shady. Traces ZnS 233-237.
237	239	2	2	Estimated 1.5% finely disseminated Zn in medium gray finely saccharoidal dolomite, abundant fragmental partings.
239	267	28	28	Medium gray finely saccharoidal dolomite, abundant ribbony partings local augen, rare trace ZnS.
267	269	2	2	Estimated less than 1% Zn, finely disseminated, local fracture filling, in medium gray finely saccharoidal dolomite ribbony partings, local augen.
269	283	14	13	Medium gray finely saccharoidal dolomite, ribbony partings, few vugs, moderate metamorphism.
283	310	27	27	Medium gray finely saccharoidal dolomite, ribbony partings, augen.

DDL - JW-6 - Cont.

From	To	Dist	Recov	Description
310	317	7	7	Medium gray finely saccharoidal dolomite, ribbony partings, augen, moderate to strong metamorphism.
317	385	68	66	Medium gray finely saccharoidal dolomite, ribbony partings local augen, local limestone.
385	395	10	10	Medium gray fine grained limestone, local ellipsoids and sand grains.
395	404	9	9	Medium gray finely saccharoidal dolomite, ribbony partings, moderate metamorphism.
404	416	12	12	Medium gray fine grained limestone, ellipsoids with sand grains.
416	420	4	4	Medium gray finely saccharoidal dolomite, ribbony partings, moderate metamorphism.
420	443	23	23	Light mediun gray fine grained dolomite, rare parting, faint mottling.
443	492	49	49	Medium gray finely saccharoidal dolomite, ribbony partings, moderate metamorphism 443-446.
492	522	30	30	Medium gray fine grained limestone, abundant ribbony partings, ellipsoids.
	522			Bottom

Diamond Drill Log JW-7

Location: 1200 feet S5E from JW-1

Elevation: 2438 (?) Inclination: Vertical

Object: To test for an assumed ore shoot pitching west from a geochemical anomaly.

Results:

From	To	Dist	Recov	Description
0	8	8	0	Overburden
8	98	90	43	Light to medium gray finely saccharoidal dolomite, local banding, local oxidation, Saccharoidal Member of Shady.
98	118	20	20	Light to medium gray finely saccharoidal dolomite, abundant thin straight partings, local sand grains.
118	140	22	22	Light gray finely saccharoidal dolomite, faint mottling, local banding, rare partings.
140	195	55	55	Dark gray finely saccharoidal dolomite, local sand grains, local thick partings, local shattering.
195	206	11	11	Light gray to buff finely saccharoidal dolomite, local breccia, few thin partings, generally strong bleaching.
206	355	149	143	Light gray saccharoidal dolomite, local mud flakes, local vugs, rare stylolites, local banding.
355	379	24	24	Medium gray finely saccharoidal dolomite, local banding rare augen.
379	396	17	16	Medium gray finely saccharoidal dolomite, diagenetic breccia, local shattering, few vugs, Transition Zone.
396	414	18	18	Medium gray fine to finely saccharoidal dolomite, local shattering, local abundant fragmental partings, local oxidation. Patterson Member of Shady.

DDL JW-7

From	To	Dist	Recov	Description
414	417	3	3	Estimated less than 1% Zn, disseminated in fine to finely saccharoidal dolomite, abundant fragmental partings.
417	431	14	14	Medium gray finely saccharoidal dolomite, local oxidation, local breccia, moderate metamorphism.
431	454	23	23	Light medium gray fine to finely saccharoidal dolomite, vugs, rare parting, local slight oxidation.
454	463	9	9	Estimated less than 1% disseminated finely divided Zn in medium gray finely saccharoidal dolomite, abundant fragmental partings.
463	536	73	61	Medium gray finely saccharoidal dolomite, abundant ribbony partings, local augen.
536	544	8	8	Medium gray finely saccharoidal dolomite, ribbony partings, vugs, moderate metamorphism.
544	624	80	77	Medium gray finely saccharoidal dolomite, abundant ribbony partings, few vugs, local slight oxidation.
624	632	8	7	Medium gray finely saccharoidal dolomite, ribbony partings local shattering, moderate metamorphism.
632	658	26	21	Light medium gray fine grained dolomite, rare parting, faintly mottled.
658	668	10	10	Medium gray finely saccharoidal dolomite, ribbony partings, local shattering.
668	713	45	44	Medium gray finely saccharoidal dolomite ribbony partings, local shattering.
713	730	17	17	Medium gray fine grained limestone, thick ribbony partings, ellipsoids.
	730			Bottom

Diamond Drill Log - JW-8

Location: 1200 feet S85W from JW-4

Elevation: 2345 (?) Inclination: Vertical

Object: To test for an assumed ore shoot pitching west from a geochemical anomaly.

Results:

From	To	Dist	Recov	Description
0	20	20	0	Overburden
20	39	19	13	Medium gray finely saccharoidal dolomite, local diagenetic breccia, local shattering, Patterson Member of Shady Formation
39	48	9	8	Medium to dark gray fine to finely saccharoidal dolomite, shattered, pyrite mineralization.
48	63	15	15	Medium to dark gray fine to finely saccharoidal dolomite, local partings, few vugs, local diagenetic breccia, slight local moderate metamorphism.
63	74	11	11	Medium to dark gray fine grained dolomite, abundant fragmental partings.
74	100	26	26	Medium gray finely saccharoidal dolomite, ribbony partings, augen.
100	114	14	14	Medium to dark gray finely saccharoidal dolomite abundant fragments, rare trace ZnS.
114	154	40	33	Light medium gray fine to finely saccharoidal dolomite, ribbony partings, augen, local oxidation.
154	164	10	6	Medium gray finely saccharoidal dolomite, vugs, local oxidation, moderate metamorphism.
164	185	21	11	Light medium gray fine to finely saccharoidal dolomite, ribbony partings, bleached (?).
185	193	8	6	Medium gray finely saccharoidal dolomite, ribbony partings, moderate metamorphism.

DDL - JW-8 - Cont

From	To	Dist	Recov	Description
193	249	56	40	Light medium gray to buff fine to finely saccharoidal dolomite, Ribbony partings, local breccia (?) local strong oxidation.
249	262	13	12	Light medium gray finely saccharoidal dolomite, ribbony partings, moderate metamorphism.
262	288	26	26	Light medium gray fine grained dolomite, rare parting faint mottling, shattered.
288	300	12	12	Medium gray finely saccharoidal dolomite, abundant partings, moderate metamorphism.
300	328	28	27	Medium gray fine to finely saccharoidal dolomite, ribbony partings, local oxidation.
328	336	8	8	Medium gray fine grained limestone, abundant partings, ellipsoids with sand grains.
336	343	7	6	Light medium gray finely saccharoidal dolomite, ribbony partings, vugs.
343	372	29	10	Medium gray fine grained dolomite, abundant thick ribbony partings, ellipsoids.
	372			Bottom

x 1086 150M

COPY

Austinville, Va.
April 12, 1957

Regional Executive Officer
Defense Minerals Exploration Administration
Room 13, Post Office Building
Knoxville 2, Tennessee

Subject: Monthly Report and Quarterly Summary
James-Woodruff Area, Wythe County, Va.
Docket #DMEA 4173, Contract #970

Dear Sir:

Enclosed are our March monthly report and first quarter 1957 summary of the exploration activities on the James-Woodruff project. The first fence of seven holes has been completed, and the second fence, located 1200 feet west of the first, has been started. The first hole of the second fence, which will have three holes, has been completed.

Very truly yours,

W. L. Albers/pgm

W. L. Albers,
Superintendent

RCG 4/17/57
RCGilbert/mjf
In quintuplicate

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DATE	INITIALS	CODE
4/8	C	220
8	Com	100
~~4/8~~	~~King~~	~~500~~

INTERIM REPORT

DMEA-4173, Idm-E970 - Zinc

Operator: The New Jersey Zinc Company, Austinville, Virginia

Location: James-Woodruff area, Smyth and Wythe Counties, Virginia

Diamond drilling on the James-Woodruff project of the New Jersey Zinc Company completed to date and since the last inspection on March 8, 1957 is summarized as follows:

Footage in holes completed since last inspection	1,109
Total footage in holes completed to date	3,166
Number of holes completed since last inspection	2
Total number of holes completed to date	8
Number of holes showing commercial zinc ore	0
Number of holes showing non-commercial zinc mineralization	4 ✓50%
Number of barren holes	4

Summary logs of the two holes completed since the last inspection are given below:

Hole no.	Property	Depth	Summary log	Zinc mineralization
JW-7	Woodruff	0-379	Saccharoidal member	414-417 estimated less than 1 percent
		379-396	Transition zone	
		396-730	Patterson member	454-463 estimated less than 1 percent
		730	Bottom of hole	
JW-8	King	0-379	Patterson member	
		379	Bottom of hole	None

Hole JW-8 is the first hole in the second exploration fence; it is located 1200 feet west of Hole JW-4 on a line normal to the direction of the first fence on the Woodruff property.

At the time of the inspection herein reported the drill rig was moving to the site of Hole JW-9, 200 feet south of Hole JW-8. The new hole will collar in the Saccharoidal member of the Shady dolomite and will bottom in the Patterson member at a depth of about 500 feet.

Unless the drilling on the second fence of holes initiated with Hole JW-8 shows possible ore-grade mineralization in the vicinity of the soil anomaly now being explored, the Operator plans to recess drilling in this immediate area and move to the site of a second anomaly on the James property at the western end of the project area. Restudy of the geologic factors that are considered as guides to the location of possible ore shoots in the Austinville area has suggested that the mineralization responsible for the soil anomaly on the Newland-James properties may be a shoot pitching to the east rather than the west. Consequently, the Operator has proposed drilling the initial exploration fence at this site to the east of the anomaly, rather than as shown in the fence proposed on the map of the contract. Inasmuch as the new fence site is essentially on the eastern boundary of the R. B. James property, the Operator has taken additional leases eastward. These leases include (as shown on the contract map) the two tracts of the James Heirs, the M. O. Buchanan property, and several additional tracts farther to the east. At the time of the inspection herein reported, the Operator indicated that a request for an amendment adding these several properties to the contract was being prepared and would be forwarded to the Field Team within the next few days. The field examiners concur with the proposed change in the location of the exploration fence site at this anomaly.

Inspected: March 29, 1957

V. J. Lynch, Mining Engineer
U. S. Bureau of Mines

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

INTERIM REPORT

DMEA-4173, Idm-E970 - Zinc

3-20 C 220
3/22 COM 100
WPK 500

Operator: The New Jersey Zinc Company, Austinville, Virginia

Location: James-Woodruff area, Smyth and Wythe Counties, Virginia

Diamond drilling on the New Jersey Zinc Company's James Woodruff project completed to date and since the last inspection on February 15, 1957 is summarized as follows:

Footage in holes completed since last inspection	522
Total footage in holes completed to date	2,057
Number of holes completed since last inspection	1
Total number of holes completed to date	6
Number of holes showing commercial zinc ore	0
Number of holes showing non-commercial zinc mineralization	3
Number of barren holes	3

A summary of the one hole completed since the last inspection is given below:

Hole No.	Property	Depth	Summary log	Zinc Mineralization
JW-6	Woodruff	0-178	Saccharoidal member	233-239 zinc mineralization (percent not estimated)
		178-195	Transition zone	
		195-522	Patterson member	239-270 traces of ZnS
		522	Bottom of hole	270-281 oxidized zinc mineralization (percent not estimated)

At the time of inspection drilling on Hole JW-7 was in progress. It was collared and was currently drilling in the Saccharoidal member of the Shady dolomite at a depth of 244 feet; it will be bottomed at about 800 feet. Hole JW-7 is located 200 feet south of Hole JW-6 on the Woodruff property. Unless the grade of mineralization is considerably higher in the hole currently drilling than that found in the previous holes, no further holes will be drilled down dip on the present exploration fence, and the drill will be moved 1,200 feet west to drill a parallel dip fence on the N. S. King property. The purpose of the second dip fence is to test the strike or near strike continuity of the mineralization encountered to date and to test the possibility for zinc mineralization in the vicinity of the geochemical anomaly on the King property.

Inspected: March 8, 1957

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

X 1086 150M

COPY

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DATE	INITIALS	CODE
3/26	WPK	500

Austinville, Va.
March 13, 1957

Regional Executive Officer
Defense Minerals Exploration Administration
Room 13, Post Office Building
Knoxville 2, Tennessee

Subject: February Report - James-Woodruff Area
Docket #DMEA 4173, Contract #970

Gentlemen:

Enclosed is our February monthly report of the James-Woodruff project. Hole JW-6, which is not covered by this report, encountered some low grade mineralization.

Very truly yours,

W. L. Albers,
Superintendent

R.C.G.
RCGilbert/mjf
In quintuplicate

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

PAID ON VOUCHER & SCHEDULE OF PAYMENTS K- 57

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of February, 1957 Docket No. DMEA 4173 Contract No. 970
Operator's Name The New Jersey Zinc Company Minerals Zinc
Address Austinville, Virginia
Contract Amount, $ 41,388.00 Government Participation: 50% Amount, $ 20,694.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling	1022.85	2447.65	3470.50	5/3/57 ad.PK		
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis	3.00	None	3.00			
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify): Incidental Allowance @ $0.30/ft	132.90	327.60	460.50			
TOTALS	1158.75	2775.25	3934.00	1158.75	2775.25	3934.00

RECEIVED MAR 25 1957 D.M.E.A.

I certify that the above bill is correct and just and that payment therefor has not been received.

Date 3/13/57 *Payee Bertha Mineral Division The New Jersey Zinc Co.

By [signature] Title Superintendent

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 579.38

Signature Helen R. Miller
(Authorized Certifying Officer)

Date MAR 22 1957 Vou. No. 148

(See other side)

579.37

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E-970 in accordance with the terms of the contract.

Signature P. E. Lynch Title MINING ENGINEER U. S. BUREAU OF MINES Date MAR 15 1957

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Robert A. Lawrence Title EXECUTIVE OFFICER DMEA REGION V Date MAR 15 1957

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

RECEIVED MAR 25 1957 D.M.E.A.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of February 1957 Docket No. DMEA 4173 Contract No. 970
Operator's Name The New Jersey Zinc Company Minerals Zinc
Address Austinville, Virginia

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core 0-250	Ft	550.00	250	3470.50	1535	2.261	15000	2.45
~~Short~~ 250-443	Ft	472.85	193					
Auger								
Stripping								
Trenching								
~~XXXX~~ Sample Assays	Sample	3.00	3	3.00	3	1.00	100	1.00
Roads and Trails								
Incidental Allowances @ $0.30/ft	Ft	132.90	443	460.50			15000	0.30
TOTAL DISTRIBUTED COSTS		1158.75		3934.00				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		1158.75		3934.00				41,388.00

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date 3/13/57 Operator Bertha Mineral Division The New Jersey Zinc Co.

Per W. L. Albers Title Superintendent

NOTE.—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.

REMARKS:

(Instructions on reverse)

(For Government use only)

Kenneth Weeks
GEOLOGIST, U.S.G.S.
MARCH 15, 1957

INSTRUCTIONS

Preparation of Form MF–104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF–104A has been designed to tie in with Form MF–104 for both monthly and cumulative costs. The "Total Costs" on Form MF–104A for each month should equal the monthly "Total Costs" as reported on Form MF–104. This is also true of the "Total Costs To Date".

In preparing Form MF–104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases; such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

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Narrative Report - James-Woodruff Area, Virginia

Hole JW-5, which was collared in the Saccharoidal Member of the Shady and bottomed in the Patterson Member, was completed at a depth of 443 feet. Traces of mineralization were encountered at a depth of 145 to 173 feet. From 173 to 180 feet mineralization assaying 1.33% Zn was encountered. Four feet of about 1% Zn (estimated; to be assayed) was recovered at a depth of 212 - 216 feet. A deeper run of mineralization (305-310 feet) assayed 3.01% Zn.

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Diamond Drill Log - JW-5

Location: 800 feet S5E of JW-1

Elevation: 2331 (?) Inclination: Vertical

Object: To test for an assumed ore shoot pitching west from a geochemical anomaly.

Results:

From	To	Dist	Recov	Description
0	19	19	0	Overburden
19	25	6	4	Light gray massive saccharoidal dolomite, Saccharoidal Member of Shady Formation.
25	74	49	36	Medium gray finely saccharoidal dolomite, few partings, local diagenetic breccia.
74	98	24	21	Medium gray finely saccharoidal dolomite, abundant diagenetic breccia, few partings, Transition zone.
98	125	27	25	Medium gray finely saccharoidal dolomite, few partings, local diagenetic breccia, Patterson Member of Shady Formation.
125	128	3	3	Medium to dark gray finely saccharoidal dolomite, abundant fragmental partings.
128	145	17	15	Light medium gray finely saccharoidal dolomite, local strong oxidation, partings.
145	173	28	19	Medium gray finely saccharoidal dolomite, abundant thin wavy partings, scattered traces ZnS.
173	175	2	2	2.07% Zn
175	180	5	5	1.03% Zn
180	212	32	32	Medium gray finely saccharoidal dolomite, abundant thin wavy partings, local slight to moderate metamorphism local scattered traces of ZnS.
212	216	4	4	Estimated 1% Zn

RECEIVED FEB 21 1957 D.M.E.A.

INTERIM REPORT

DMEA-4173, Idm-E970 (Zinc)

Operator: The New Jersey Zinc Company, Austinville, Virginia

Location: James-Woodruff area, Smyth and Wythe Counties, Virginia

The drilling on the James-Woodruff project of the New Jersey Zinc Company is summarized as follows:

Footage in holes completed since last inspection	443
Total footage in holes completed to date	1,535
Number of holes completed since last inspection	1
Total number of holes completed to date	5
Number of holes showing commercial zinc ore	0
Number of holes showing non-commercial zinc mineralization	2
Number of barren holes	3

Restudy of the core from Hole JW-4 by the Operator at Austinville revealed a zone of finely disseminated sphalerite at depths from 36 to 41 feet. Although this 5 feet is only weakly mineralized (estimated at less than 1 percent zinc) it is the first discovered in the drilling of the Shady dolomite in the Speedwell syncline (James-Woodruff and Porter Ore Bank projects). Hole JW-5, completed since the last inspection on January 29, 1957, showed somewhat stronger but still non-commercial zinc mineralization. Summary of the data on this hole follows:

Hole no.	Property	Depth	Remarks
JW-5	Woodruff	443	Collared in Saacharoidal member and bottomed in Patterson member of Shady dolomite; Finely disseminated sphalerite as follows: 145-173; 28 ft scattered traces; 173-180; 7 ft est @ 3% Zn; 212-216; 4 ft est @ 1% Zn; 305-310; 5 ft est @ 2% Zn

Moving to the site of Hole JW-6, 200 feet south of JW-5, was slowed considerably by the heavy rains and consequent flood conditions of the past several weeks. At the date of inspection, however, flood waters had fallen enough to move the drill to the new site and it was anticipated that drilling would start on this hole by the following day. The approximate bottoming depth of JW-6 will be 525 feet.

Inspected: February 15, 1957

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

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Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

PAID ON VOUCHER & SCHEDULE OF PAYMENTS K- 47

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of January, 1957 Docket No. DMEA 4173 Contract No. 970

Operator's Name The New Jersey Zinc Company Minerals Zinc

Address Austinville, Va.

Contract Amount, $ 41,388.00 Government Participation: 50% Amount, $ 20,694.00

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:				3/27/57		
Drilling	2093.45	354.20	2447.65			
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify): Incidental Allowances @ $0.30/ft	279.30	48.30	327.60			
TOTALS	2372.75	402.50	2775.25	2372.75	402.50	2775.25

RECEIVED FEB 14 1957 D.M.E.A.

I certify that the above bill is correct and just and that payment therefor has not been received.

Date 2/4/57 *Payee Bertha Mineral Division THE NEW JERSEY ZINC CO.

Per [signature] Title Superintendent

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 1186.38

Signature [signature] (Authorized Certifying Officer)

Date FEB 12 1957 Vou. No. 128

(See other side)

2

1186.37

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E-970 in accordance with the terms of the contract.

Signature [signature] Title GEOLOGIST, U. S. G. S. Date FEB 11 1957

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature [signature] Title ACTING EXECUTIVE OFFICER DMEA - REGION V Date FEB 11 1957

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

RECEIVED FEB 14 1957 D.M.E.A.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of January 1957 Docket No. DMEA 4173 Contract No. 970
Operator's Name The New Jersey Zinc Company Minerals Zinc
Address Austinville, Virginia

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core 0-250	Ft	1650.00	750	2447.65	1092	2.241	15000	2.45
250-500	Ft	443.45	181					
Auger								
Stripping								
Trenching								
Sample Assays	Sample						100	1.00
Roads and Trails								
Incidental Allowances @ $0.30/ft	Ft	279.30	931	327.60	1092	0.30	15000	0.30
TOTAL DISTRIBUTED COSTS		2372.75	931	2775.25				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		2372.75		2775.25				$41,388.00

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date 2/4/57 Operator Bertha Mineral Division THE NEW JERSEY ZINC CO.

Per W. L. Albers Title Superintendent

NOTE.—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.

(Instructions on reverse)

REMARKS:

(For Government use only)

Helmuth Wedow Jr.
GEOLOGIST, U. S. G. S.
FEB 11 1957

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

Narrative Report - James-Woodruff Area - January 1957

Diamond drill hole JW-2 was collared and bottomed in the Patterson Member of the Shady Formation and drilled to a depth of 277 feet. No zinc mineralization was encountered.

Hole JW-3 was collared and bottomed in the Patterson Member of the Shady without encountering any zinc mineralization. A total of 332 feet was drilled.

Hole JW-4 was collared and bottomed in the Patterson Member of the Shady. Five feet of zinc mineralization (estimated less than 1%) was encountered between 36 and 41 feet. A total of 322 feet was drilled.

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Diamond Drill Log - JW-2

Location: 200 feet S5E from JW-1

Elevation: 2375 (?) Inclination: Vertical

Object: To test for an assumed ore shoot west of a geochemical anomaly.

Results:

From	To	Dist	Recov	Description
0	25	25	0	Overburden
25	33	8	8	Medium gray fine saccharoidal dolomite, local diagenetic breccia, local oxidation, partings, Patterson Member of Shady.
33	36	3	3	Medium gray fine grained limestone, few partings.
36	49	13	11	Medium gray fine saccharoidal dolomite, moderate metamorphism, oxidized and leached, ribbony partings.
49	110	61	36	Medium gray fine to fine saccharoidal dolomite, local faint mottling, local abundant ribbony partings, local strong oxidation and leaching.
110	277	167	131	Medium gray fine grained limestone, abundant ribbony partings, ellipsoids.
	277			Bottom

Diamond Drill Log - JW-3

Location: 400 feet S5E from JW-1

Elevation: 2359 (?) Inclination: Vertical

Object: To test for an assumed ore shoot west of a geochemical anomaly.

Results:

From	To	Dist	Recov	Description
0	21	21	0	Overburden
21	73	52	50	Medium gray fine saccharoidal dolomite, abundant partings, local oxidation. Patterson Member, Shady Formation.
73	121	48	36	Medium gray to buff fine Saccharoidal dolomite, abundant partings, strongly oxidized.
121	210	89	64	Medium gray fine to fine saccharoidal dolomite, local abundant partings, rare diagenetic (?) breccia.
210	332	122	116	Medium gray fine grained limestone, abundant ribbony partings, ellipsoids.
	332			Bottom

Diamond Drill Log JW-4

Location: 600 feet S5E from JW-1

Elevation: 2342 (?) Inclination: Vertical

Object: To test for an assumed ore shoot west of a geochemical anomaly.

Results:

From	To	Dist	Recov	Description
0	18	18	0	Overburden
18	36	18	18	Medium gray fine saccharoidal dolomite, local partings, rare diagenetic (?) breccia. Patterson Member, Shady formation.
36	41	5	5	Weak disseminated zinc mineralization, estimated less than 1%.
41	46	5	5	Medium to dark gray fine to fine saccharoidal dolomite abundant partings, fragmental.
46	72	26	26	Medium gray fine to fine saccharoidal dolomite ribbony partings, local oxidation.
72	81	9	9	Medium gray to buff fine saccharoidal dolomite, ribbony partings, general strong oxidation.
81	118	37	28	Light to medium gray fine to fine saccharoidal dolomite, few partings, faint mottling.
118	169	51	51	Light to medium gray fine to fine saccharoidal dolomite, local partings, local oxidation, local vugs.
169	189	20	19	Medium gray fine saccharoidal dolomite, few partings, local moderate metamorphism few vugs.
189	194	5	5	Medium gray fine grained limestone, abundant ribbony partings, local sandgrains.
194	217	23	23	Medium gray fine saccharoidal dolomite, local moderate metamorphism, local diagenetic breccia, local oxidation, partings.

DDH - JW-4 (Cont.)

From	To	Dist	Recov	Description
217	297	80	76	Light medium gray fine saccharoidal dolomite, local partings, augen, local faint mottling, few vugs
297	322	25	25	Medium gray fine grained limestone, abundant ribbony partings, ellipsoids.
	322			Bottom

DDL - JW-5 - Cont.

From	To	Dist	Recov	Description
216	299	83	83	Light medium to medium gray finely saccharoidal dolomite, partings, local oxidation, few vugs.
299	305	6	6	Medium gray finely saccharoidal dolomite, local diagenetic breccia, moderate to strong metamorphism.
305	310	5	5	3.01% Zn
310	318	8	8	Light medium gray finely saccharoidal dolomite, moderate to strong metamorphism, ribbony partings, local diagenetic breccia.
318	338	20	20	Light medium gray fine grained dolomite, few vugs, rare parting.
338	347	9	9	Medium gray finely saccharoidal dolomite, moderate metamorphism, local diagenetic breccia, rare parting.
347	414	67	47	Light medium gray fine to finely saccharoidal dolomite, abundant partings, local oxidation.
414	443	29	25	Medium gray fine grained limestone, abundant thick partings, local ellipsoids.
	443			Bottom

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DMEA
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DATE	INITIALS	CODE

Austinville, Va.
February 8, 1957

Regional Executive Officer
Defense Minerals Exploration Administration
Room 13
Post Office Building
Knoxville 2, Tennessee

Subject: January Report - James-Woodruff Area, Va.
Docket #DMEA 4173, Contract #970

Dear Sir:

Enclosed is our January monthly report on the James-Woodruff project. Hole JW-4 contains five feet of mineralization that was not recognized during field inspections. This is the first mineralization encountered on this project.

Very truly yours,

W. L. Albers,
Superintendent

R.C.G. 2/13
RCGilbert/mjf
In quintuplicate

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FEB 11 1957

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INTERIM REPORT

DMEA-4173, Idm-E970 (Zinc)

Operator: The New Jersey Zinc Company, Austinville, Virginia

Location: James-Woodruff area, Smyth and Wythe Counties, Virginia

The drilling on the James-Woodruff project of the New Jersey Zinc Company is summarized as follows:

Footage in holes completed since last inspection	443
Total footage in holes completed to date	1,535
Number of holes completed since last inspection	1
Total number of holes completed to date	5
Number of holes showing commercial zinc ore	0
Number of holes showing non-commercial zinc mineralization	2
Number of barren holes	3

Restudy of the core from Hole JW-4 by the Operator at Austinville revealed a zone of finely disseminated sphalerite at depths from 36 to 41 feet. Although this 5 feet is only weakly mineralized (estimated at less than 1 percent zinc) it is the first discovered in the drilling of the Shady dolomite in the Speedwell syncline (James-Woodruff and Porter Ore Bank projects). Hole JW-5, completed since the last inspection on January 29, 1957, showed somewhat stronger but still non-commercial zinc mineralization. Summary of the data on this hole follows:

Hole no.	Property	Depth	Remarks
JW-5	Woodruff	443	Collared in Saacharoidal member and bottomed in Patterson member of Shady dolomite; Finely disseminated sphalerite as follows: 145-173; 28 ft scattered traces 173-180; 7 ft est @ 3% Zn 212-216; 4 ft est @ 1% Zn 305-310; 5 ft est @ 2% Zn

Moving to the site of Hole JW-6, 200 feet south of JW-5, was slowed considerably by the heavy rains and consequent flood conditions of the past several weeks. At the date of inspection, however, flood waters had fallen enough to move the drill to the new site and it was anticipated that drilling would start on this hole by the following day. The approximate bottoming depth of JW-6 will be 525 feet.

Inspected: February 15, 1957

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

INTERIM REPORT

DMEA-4173, Idm-E970 (Zinc)

Operator: The New Jersey Zinc Company, Austinville, Virginia

Location: James-Woodruff area, Smyth and Wythe Counties, Virginia

A summary of the diamond drilling on the James-Woodruff project follows:

Footage in holes completed since last inspection. . . .	322
Total footage completed to date	1,092
Number of holes completed since last inspection . . .	1
Number of holes completed to date	4
Number of holes showing commercial zinc ore	0
Number of holes showing non-commercial zinc mineralization	0
Number of barren holes	4

The completed hole (JW-4) was collared in the Patterson member of the Shady dolomite and bottomed in the Patterson at a depth of 322 feet. It showed no evidence of zinc mineralization, although considerable pyrite and oxidized iron ores were present at various depths in the hole.

Hole JW-5 was in progress at the time of inspection. It was collared in the Saccharoidal member of the Shady and had reached a depth of 368 feet. It will probably bottom at about 400 feet. It is located 200 feet south of Hole JW-4.

Inspected: January 29, 1957

Helmuth Wedow, Jr.
Geologist, USGS

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JAN 22 1957
D.M.E.A.

INTERIM REPORT
DMEA-4173, Idm-E970 - Zinc

Operator: The New Jersey Zinc Company, Austinville, Virginia

Location: James-Woodruff area, Wythe and Smyth Counties, Virginia

Since the last inspection of the New Jersey Zinc Company's James-Woodruff project on December 14, 1956, three holes have been completed. A summary of this diamond drilling follows:

Footage in holes completed since last inspection ---	770
Total footage completed to date ----------	770
Number of holes completed since last inspection ----	3
Total number of holes completed to date ----------	3
Number of holes showing commercial zinc ore --------	0
Number of holes showing non-commercial zinc mineralization ----------	0
Number of barren holes ----------	3

Summary logs of the three completed holes follow:

Hole No.	Property	Depth	Remarks
JW-1	Woodruff	161	Collared and bottomed in Patterson limestone member; barren hole.
JW-2	Woodruff	277	Collared and bottomed in Patterson limestone member; barren hole.
JW-3	Woodruff	332	Collared and bottomed in Patterson limestone member; barren hole.

At the time of the current inspection the drilling rig had just been moved to the site of Hole JW-4, 200 feet south of Hole JW-3, and was drilling overburden. The approximate bottom depth of Hole JW-4 will be 400 feet.

Inspected: January 11, 1957

V. J. Lynch
Mining Engineer
U. S. Bureau of Mines

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

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DEC 21 1956
D.M.E.A.

INTERIM REPORT

DMEA-4173, Idm-E970- Zinc

Operator: The New Jersey Zinc Company, Austinville, Virginia

Location: James-Woodruff Area, Smyth and Wythe Counties, Virginia

Diamond drilling was started on the New Jersey Zinc Company's James-Woodruff project December 13, 1956; one drill is currently in operation. The object of this project is to test the ore potential of the Patterson and Saccharoidal members of the Shady formation in the vicinity of geochemical soil anomalies overlying the Shady in a part of the Speedwell syncline. No holes have yet been completed.

Hole No. JW-1 is currently in progress; it is the northernmost hole of the drilling fence planned for the A. C. Woodruff property near the eastern end of the project area. (See figure 2-B, Exhibit "A" of project exploration contract). The hole was collared in the Patterson limestone member, had reached a depth of 6 feet at the time of the present inspection, and will probably be bottomed between 100 and 150 feet. Upon completion of hole JW-1 the drill will be moved southward along the drilling fence for successively deeper holes at 200-feet intervals. A total of seven holes is planned in this fence.

Inspected: December 14, 1956

Helmuth Wedow, Geologist
U. S. Geological Survey.

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Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

PAID ON VOUCHER & SCHEDULE
NTS K-

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of December, 1956 Docket No. DMEA 4173 Contract No. 970
Operator's Name The New Jersey Zinc Company Minerals Zinc
Address Austinville, Virginia
Contract Amount, $41,388.00 Government Participation: 50 % Amount, $20,694.00

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:				1/30/57 P.H.		
Drilling	354.20	None	354.20			
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify): Incidental Allowances @ $0.30/ft	48.30	None	48.30			
TOTALS	402.50		402.50	402.50	—	402.50

RECEIVED JAN 18 1957 D.M.E.A.

Kling
Betty

I certify that the above bill is correct and just and that payment therefor has not been received.
Date 1/3/57 *Payee Bertha Mineral Division The New Jersey Zinc Co.
Per [signature] Title Superintendent

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:
$ 201.25
Signature [signature] (Authorized Certifying Officer)
Date JAN 16 1957 Vou. No.
(See other side)

1st $ 12-12-56 201.25

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E-970 in accordance with the terms of the contract.

Signature [illegible] Title MINING ENGINEER U. S. BUREAU OF MINES Date JAN 15 1957

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Robert A. Lawrence Title EXECUTIVE OFFICER DMEA REGION V Date JAN 15 1957

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of December 1956 Docket No. DMEA 4173 Contract No. 970
Operator's Name The New Jersey Zinc Company Minerals Zinc
Address Austinville, Virginia

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core 0.250	Ft	354.20	161	354.20	161	2.20	15000	2.45
Churn								
Auger								
Stripping								
Trenching								
~~xxxx~~ Sample Assays	Sample	-	None				100	1.00
Roads and Trails								
Incidental Allowances @ $0.30/ft	Ft	48.30	161	48.30	161	0.30	15000	0.30
TOTAL DISTRIBUTED COSTS		402.50	161	402.50				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		402.50		402.50				$41,388.00

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date 1/3/57 Operator Bertha Mineral Division The New Jersey Zinc Co.

Per W. L. Albers Title Superintendent

REMARKS:

RECEIVED JAN 3 1957 D.M.E.A.

→ NOTE.—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.

(Instructions on reverse)

(For Government use only)

MINING ENGINEER
U. S. BUREAU OF MINES

INSTRUCTIONS

Preparation of Form MF–104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF–104A has been designed to tie in with Form MF–104 for both monthly and cumulative costs. The "Total Costs" on Form MF–104A for each month should equal the monthly "Total Costs" as reported on Form MF–104. This is also true of the "Total Costs To Date".

In preparing Form MF–104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

Narrative - Quarterly Summary - October-December 1956

Drilling was in the James-Woodruff area of Wythe County on December 12, 1956. To date only one hole has been completed.

JW-1 collared and bottomed in the Patterson Member of the Shady Formation. A total of 161 feet was drilled without encountering any mineralization.

This is the first hole on a proposed fence of seven holes to be drilled near the Woodruff area.

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JAN 18 1957
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Diamond Drill Log - JW-1

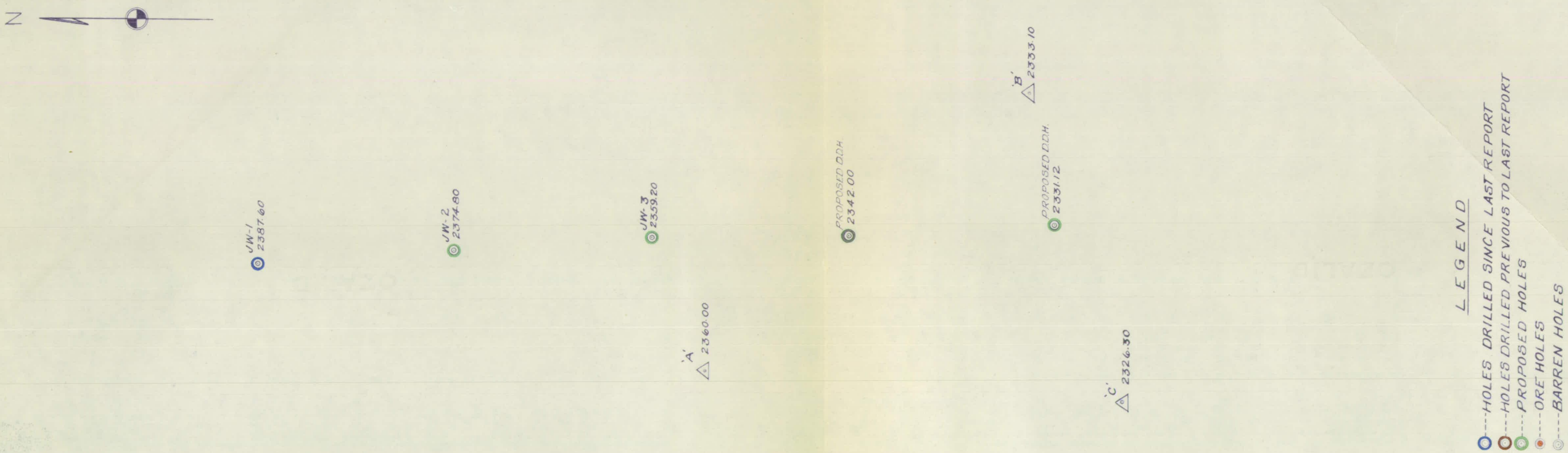
Location: 1450 feet N71W from Hale-Woodruff corner at intersection of public roads.

Elevation: 2390 (?) Inclination: Vertical

Object: To test for an assumed ore shoot down pitch from a geochemical anomaly.

Results:

From	To	Dist	Recov	Description
0	5	5		Overburden
5	161	156	142	Medium gray fine grained limestone, abundant ribbony partings ellipsoids, Patterson member of Shady Formation.
		161		Bottom



NOTE: ELEVATIONS BASED ON APPROXIMATE DATA

POSTED TO DATE	THE NEW JERSEY ZINC COMPANY AUSTINVILLE, VIRGINIA.	DRAWN / DATE 1/2/57 TRACED E.E.F. / SCALE 1"=100'	JAMES-WOODRUFF AREA I	DISTRICT WYTHE COUNTY, VA. FILE NO.

X 5407 B 1M 3-53

RECEIVED
JAN 18 1957
D.M.E.A.

N.5 W

S.5 E

JW-1

2100'

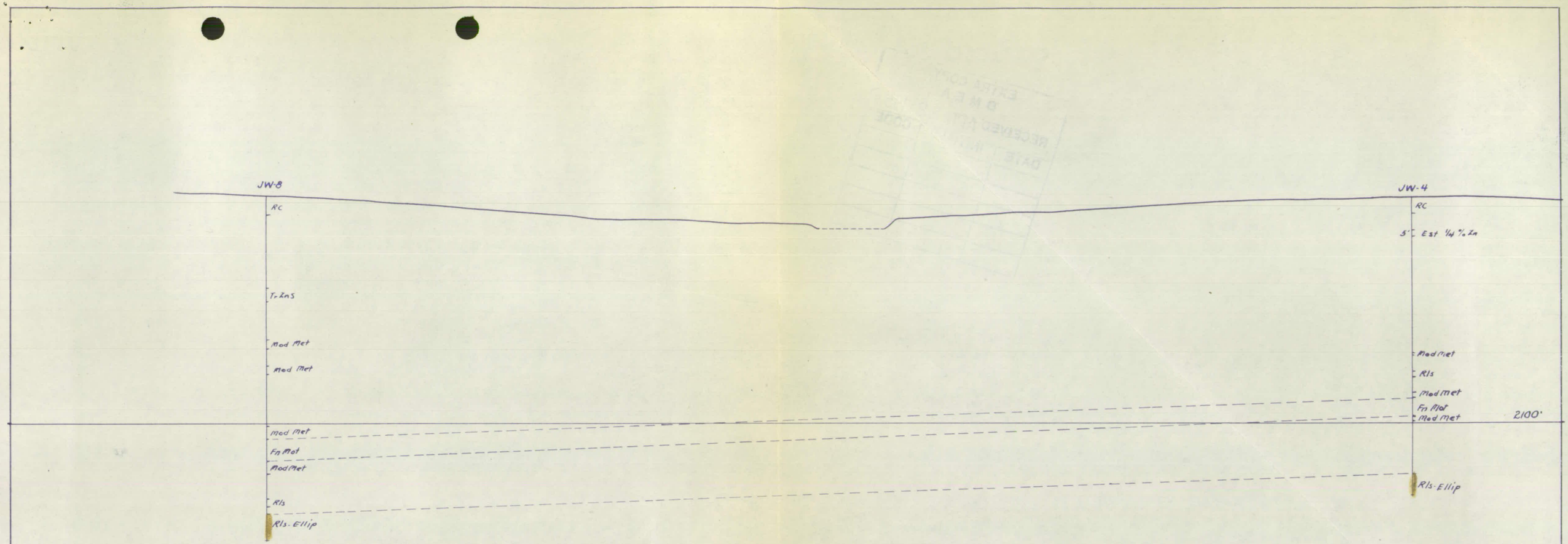
LEGEND

	SYMBOL	MARKER
RESIDUAL CLAY	RC	
DOLOMITE	dl	
LIMESTONE	ls	
CONTORTED PARTINGS	Cont	
MOTTLED BLACK ROCK	MBR	
PARTING SHALE	PtSh	
ELLIPSOIDAL ZONE	Ellip	

NOTE: ROCK IS DOLOMITE UNLESS OTHERWISE INDICATED

POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN R.C.G. DATE 11/9/57 TRACED SCALE 1"=100'	GEOLOGIC SECTION # I JAMES-WOODRUFF AREA # I	DISTRICT WYTHE COUNTY, VA. FILE NO. 7GB-4272

X 5407 B 1M 3-53



LEGEND

	SYMBOL	MARKER
RESIDUAL CLAY	Rc	
DOLOMITE	dl	
LIMESTONE	ls	
CONTORTED PARTINGS	Cont	
MOTTLED BLACK ROCK	MBR	
PARTING SHALE	PtSh	
ELLIPSOIDAL ZONE	Ellip	

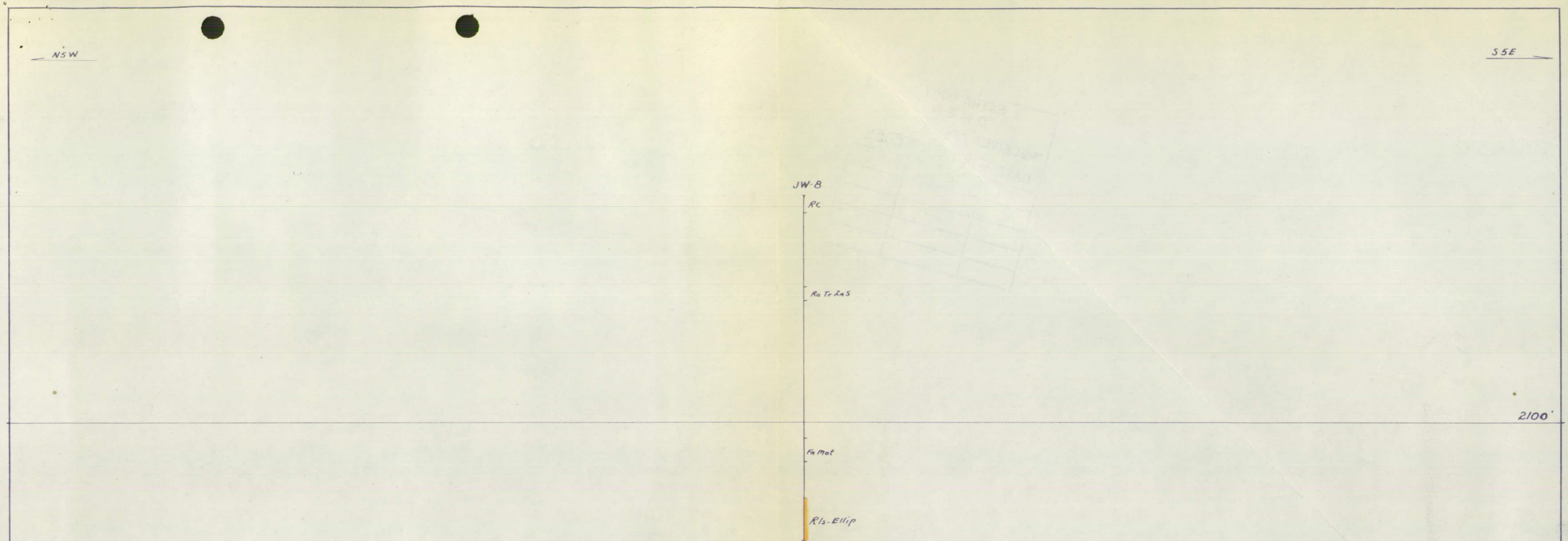
NOTE: ROCK IS DOLOMITE UNLESS OTHERWISE INDICATED

POSTED TO DATE	THE NEW JERSEY ZINC COMPANY AUSTINVILLE, VIRGINIA.	DRAWN R.C.G. DATE 4/10/57 TRACED SCALE 1"=100'	LONGITUDINAL SECTION JW-8 ——— JW-4 JAMES-WOODRUFF AREA I	DISTRICT WYTHE COUNTY, VA. FILE NO.

X 5407 B 1M 3-53

EXTRA COPY
D M E A
RECEIVED APR 22 1957

DATE	INITIALS	CODE



LEGEND

	SYMBOL	MARKER
RESIDUAL CLAY	Rc	
DOLOMITE	dl	
LIMESTONE	ls	
CONTORTED PARTINGS	Cont	
MOTTLED BLACK ROCK	MBR	
PARTING SHALE	Ptsh	
ELLIPSOIDAL ZONE	Ellip	

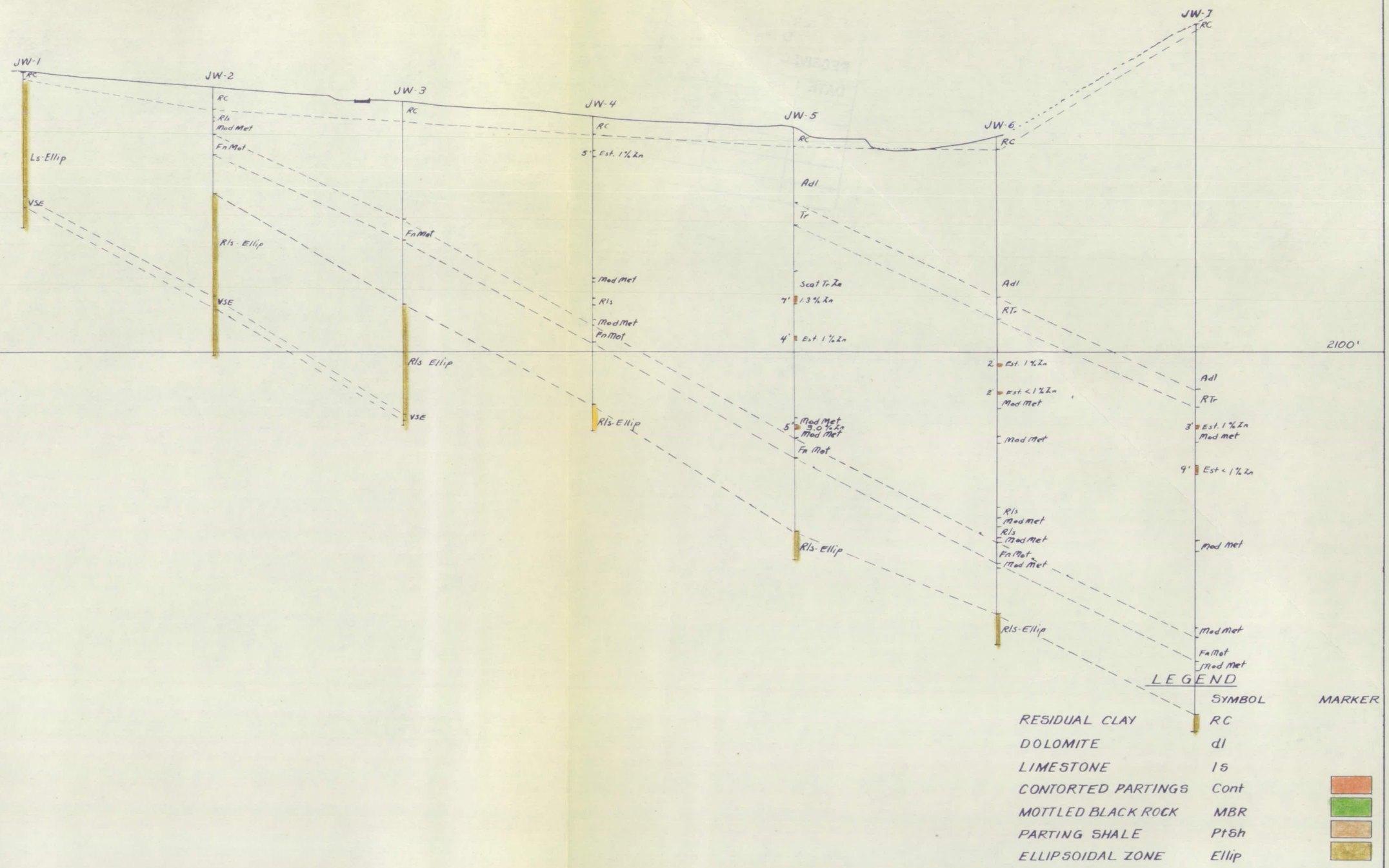
NOTE: ROCK IS DOLOMITE UNLESS OTHERWISE INDICATED

POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN R.C.G. DATE 4-10-57 TRACED SCALE 1"=100'	GEOLOGIC SECTION II JAMES-WOODRUFF AREA I	DISTRICT WYTHE CO., VA FILE NO.

X 5407 B 1M 3-53

EXTRA COPY
D M E A
RECEIVED APR 22 1957

DATE	INITIALS	CODE



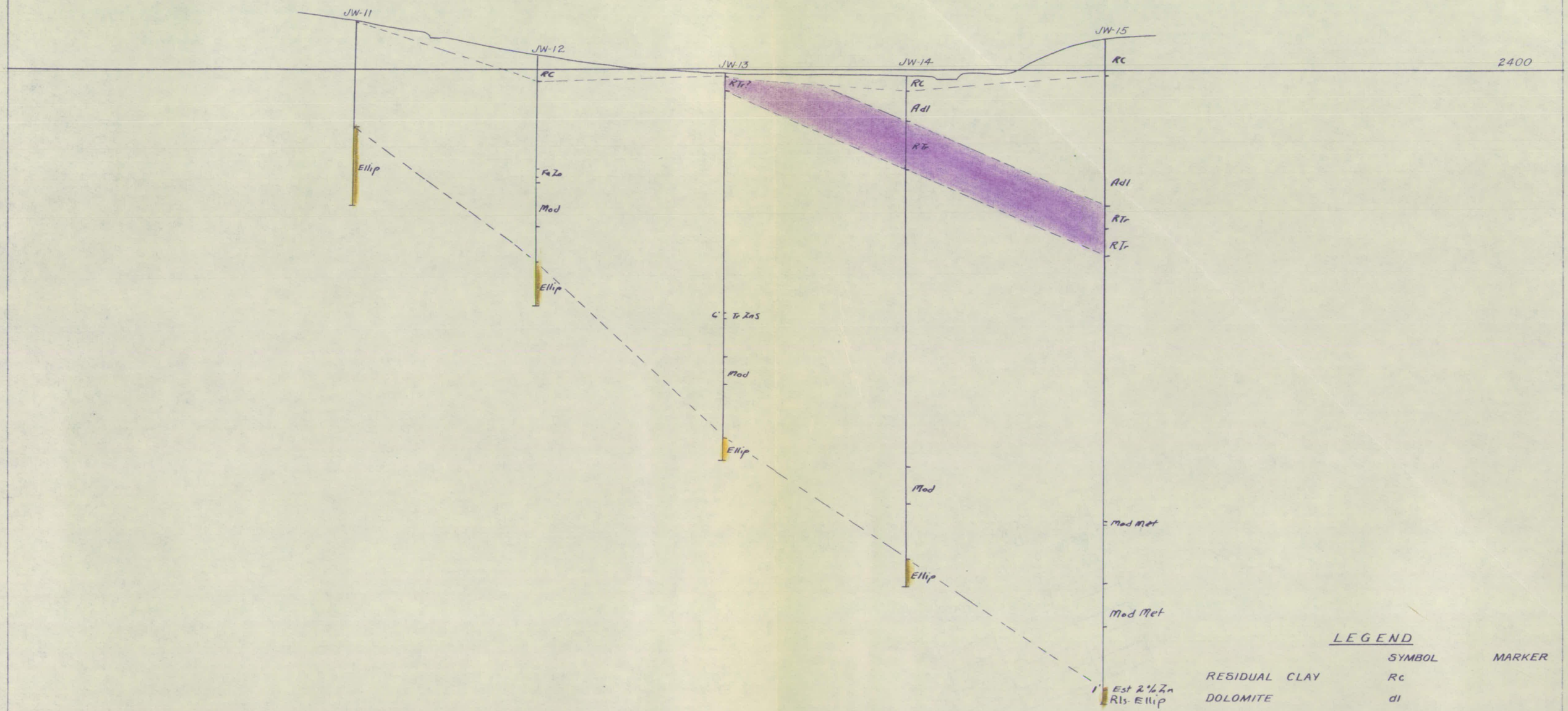
NOTE: ROCK IS DOLOMITE UNLESS OTHERWISE INDICATED

POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN R.C.G. DATE 1/9/57 TRACED SCALE 1"=100'	GEOLOGIC SECTION # I JAMES-WOODRUFF AREA # I	DISTRICT WYTHE COUNTY, VA. FILE NO. 7GB-4272

X 5407 B 1M 3-53

EXTRA COPY
D M E A
RECEIVED APR 22 1957

DATE	INITIALS	CODE



NOTE: ROCK IS DOLOMITE UNLESS OTHERWISE INDICATED

POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN DATE TRACED E.E.F. SCALE 1"=100'	GEOLOGIC SECTION I JAMES - WOODRUFF AREA II	DISTRICT WYTHE COUNTY, VA. FILE NO.

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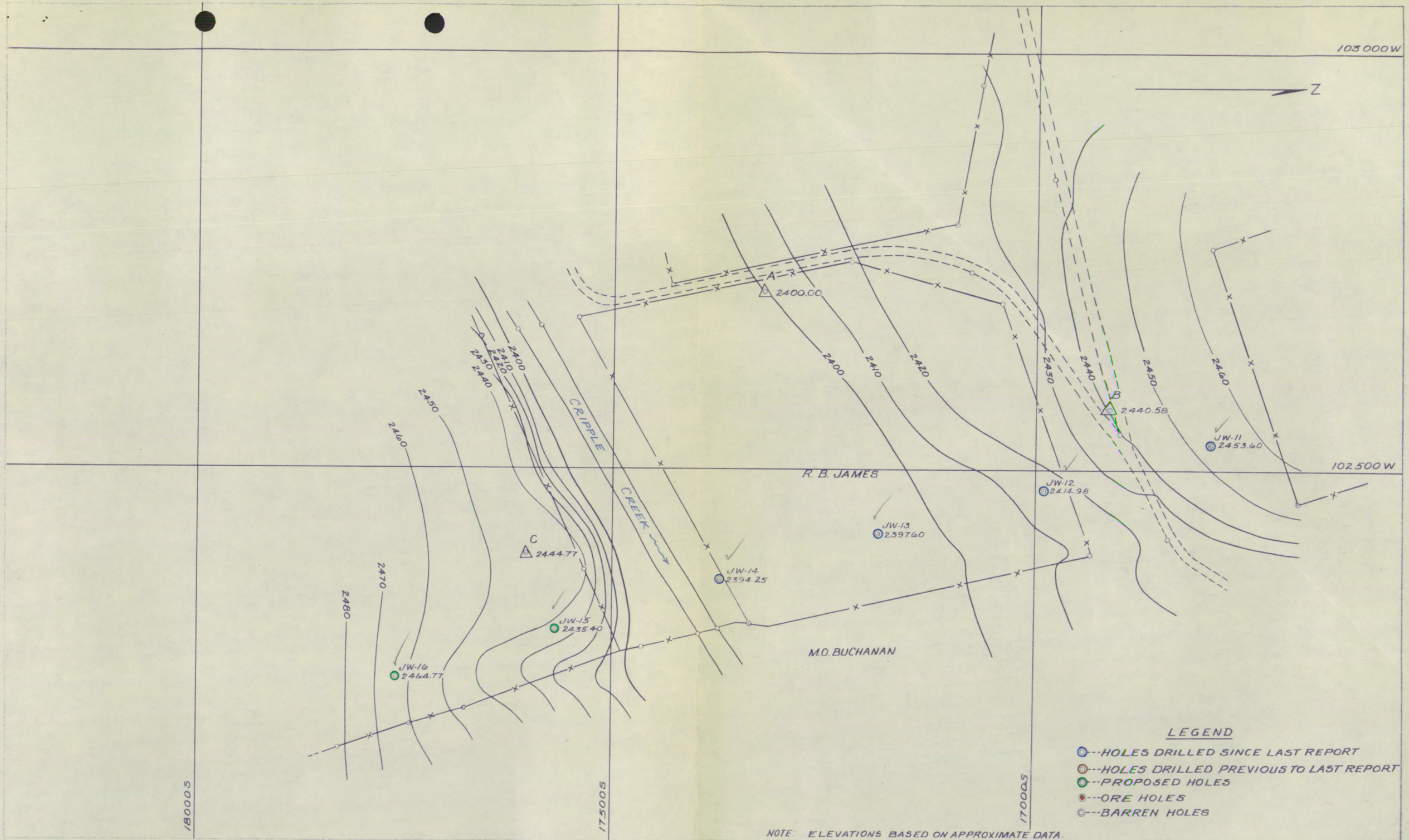
DATE | INITIALS | CODE



POSTED TO DATE

THE NEW JERSEY ZINC COMPANY

DRAWN	DATE	JAMES — WOODRUFF AREA II	DISTRICT WYTHE COUNTY, VA.
TRACED E.E.F.	SCALE 1" = 100'		FILE NO.

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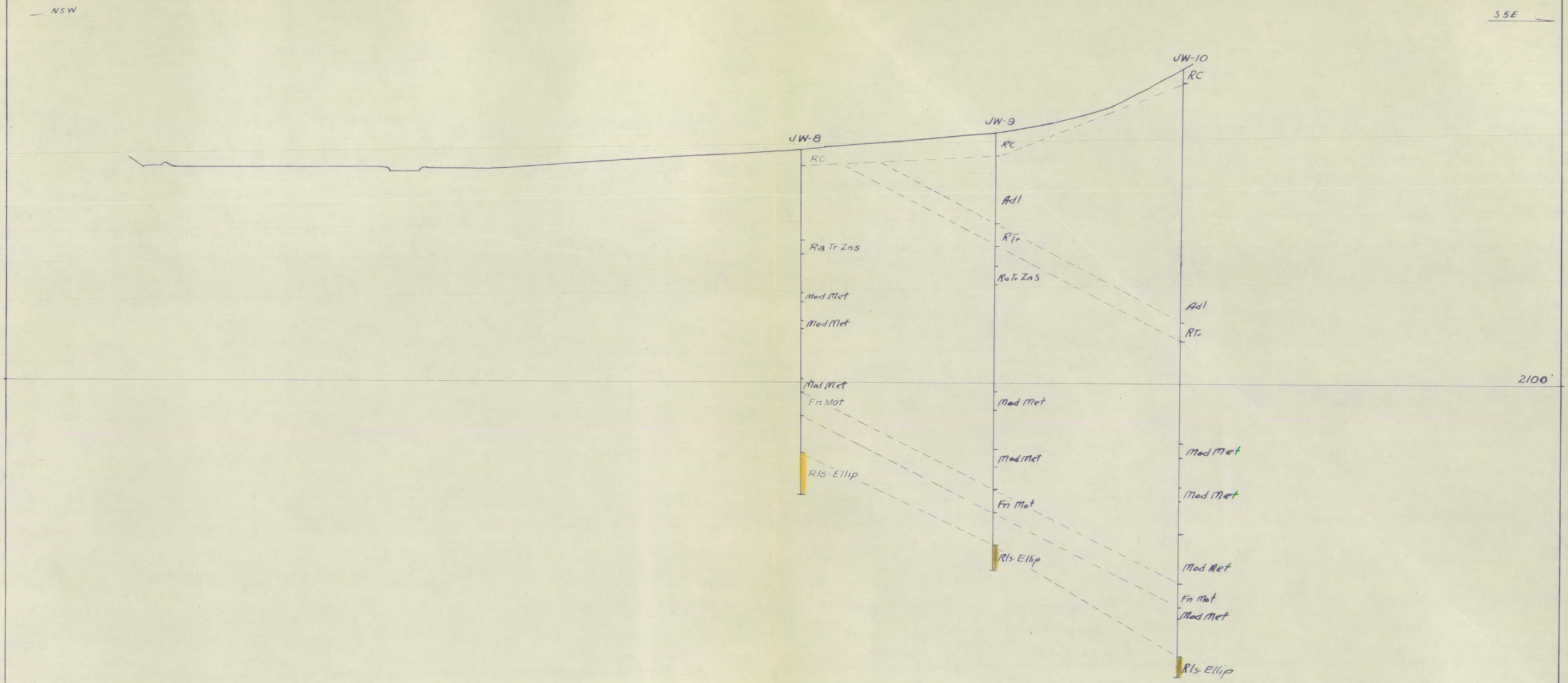
RECEIVED JUL 22 1957

DATE	INITIALS	CODE



LEGEND

	SYMBOL	MARKER
RESIDUAL CLAY	Rc	
DOLOMITE	dl	
LIMESTONE	ls	
CONTORTED PARTINGS	Cont	
MOTTLED BLACK ROCK	MBR	
PARTING SHALE	Ptsh	
ELLIPSOIDAL ZONE	Ellip	

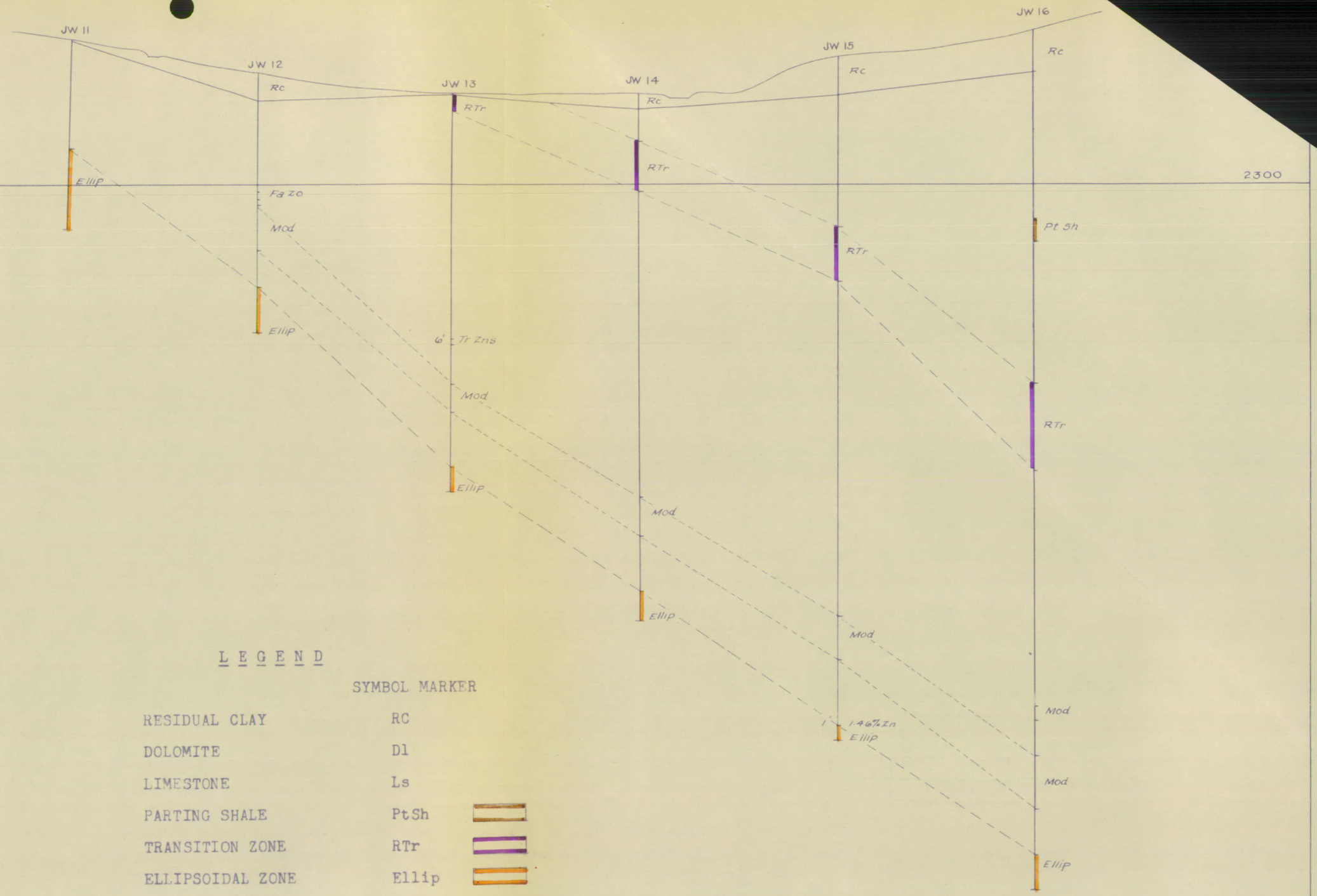
NOTE ROCK IS DOLOMITE UNLESS OTHERWISE INDICATED

POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN R.C.G. DATE 4-10-57 TRACED SCALE 1" = 100'	GEOLOGIC SECTION II JAMES-WOODRUFF AREA I	DISTRICT WYTHE CO., VA FILE NO. 7GB-4288

X 5407 B 1M 3-53

EXTRA COPY
D M E A
RECEIVED JUL 22 1957

DATE	INITIALS	CODE



L E G E N D

	SYMBOL MARKER
RESIDUAL CLAY	RC
DOLOMITE	Dl
LIMESTONE	Ls
PARTING SHALE	PtSh
TRANSITION ZONE	RTr
ELLIPSOIDAL ZONE	Ellip

POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN R.C.G. DATE 8-23-57 TRACED E.E.F. SCALE 1"=100'	GEOLOGIC SECTION I JAMES—WOODRUFF AREA II	DISTRICT WYTHE COUNTY, VA. FILE NO.

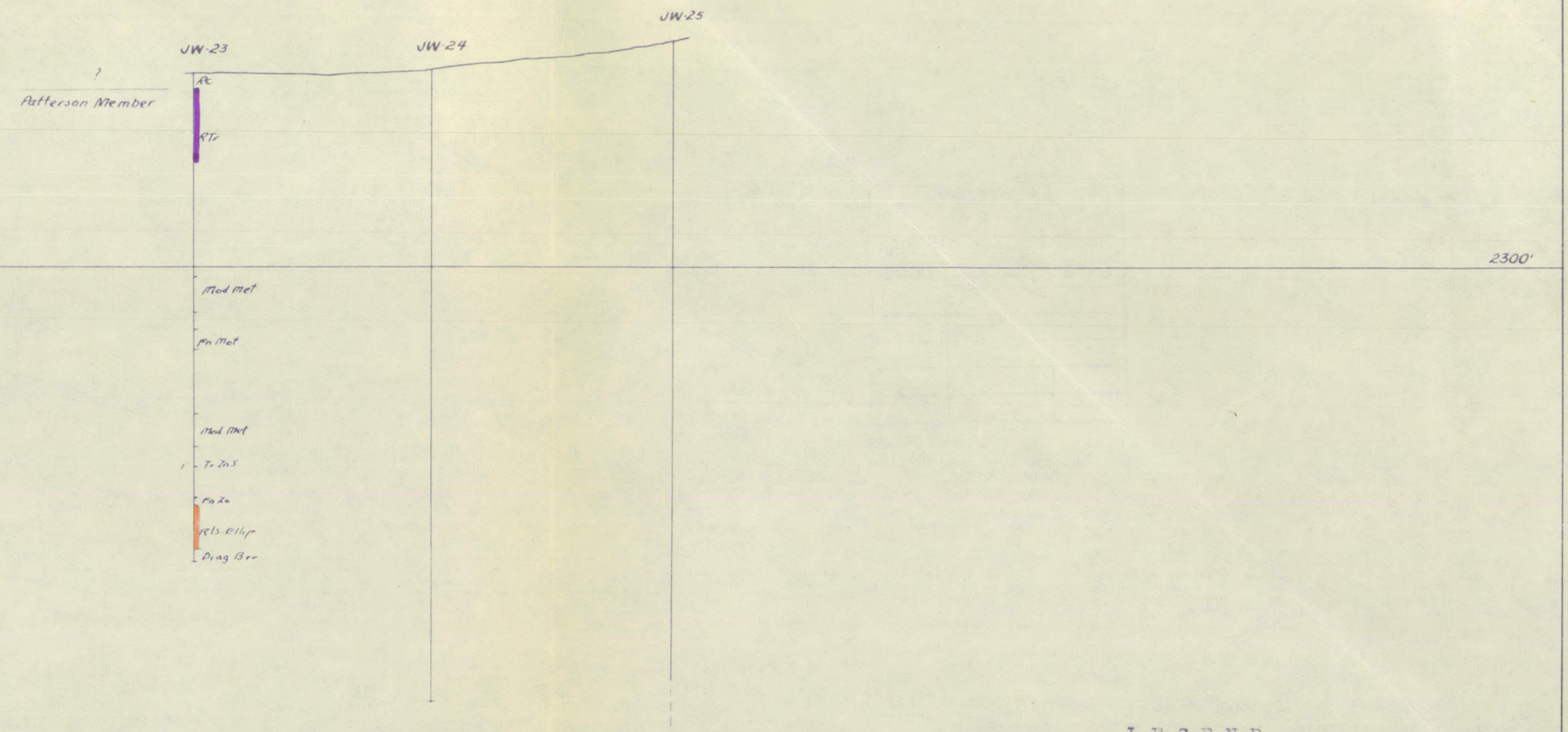
X 5407 B 1M 3-53

OFFICIAL FILE COPY
D M E A
RECEIVED OCT 25 1957

DATE	INITIALS	CODE

OFFICIAL FILE COPY
D M E A
RECEIVED OCT 25 1957

DATE	INITIALS	CODE



L E G E N D

	SYMBOL	MARKER
RESIDUAL CLAY	RC	
DOLOMITE	dl	
LIMESTONE	ls	
PARTING SHALE	PtSh	
TRANSITION ZONE	RTr	
ELLIPSOIDAL ZONE	Ellip	

Note: Rock is dolomite except as noted.

POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN R.C.G. DATE 12-16-57 TRACED SCALE 1"=100'	GEOLOGIC SECTION III JAMES-WOODRUFF AREA II	DISTRICT SMYTH-WYTHE CO.S, VA. FILE NO.

X 5407 B 1M 3-53

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DATE	INITIALS	CODE

EXTRA COPY
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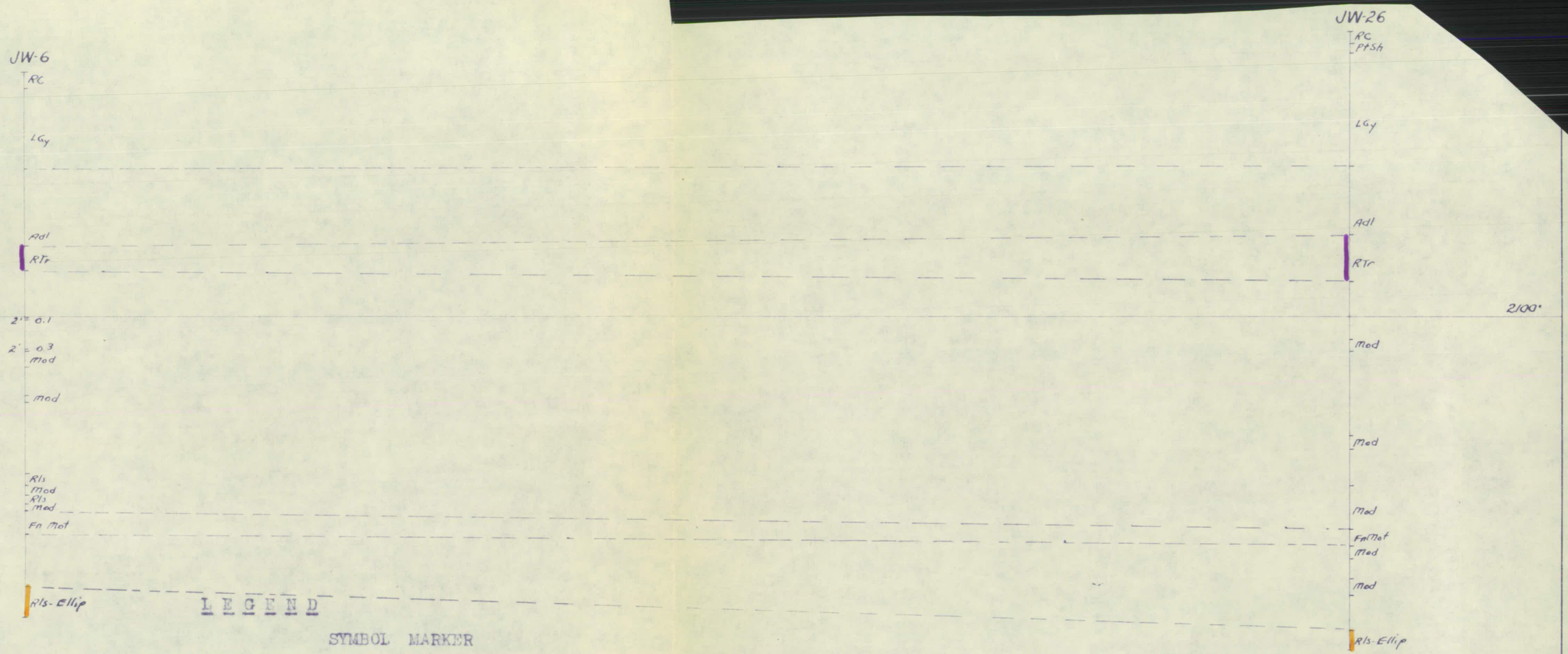
RECEIVED JAN 17 1958

DATE	INITIALS	CODE



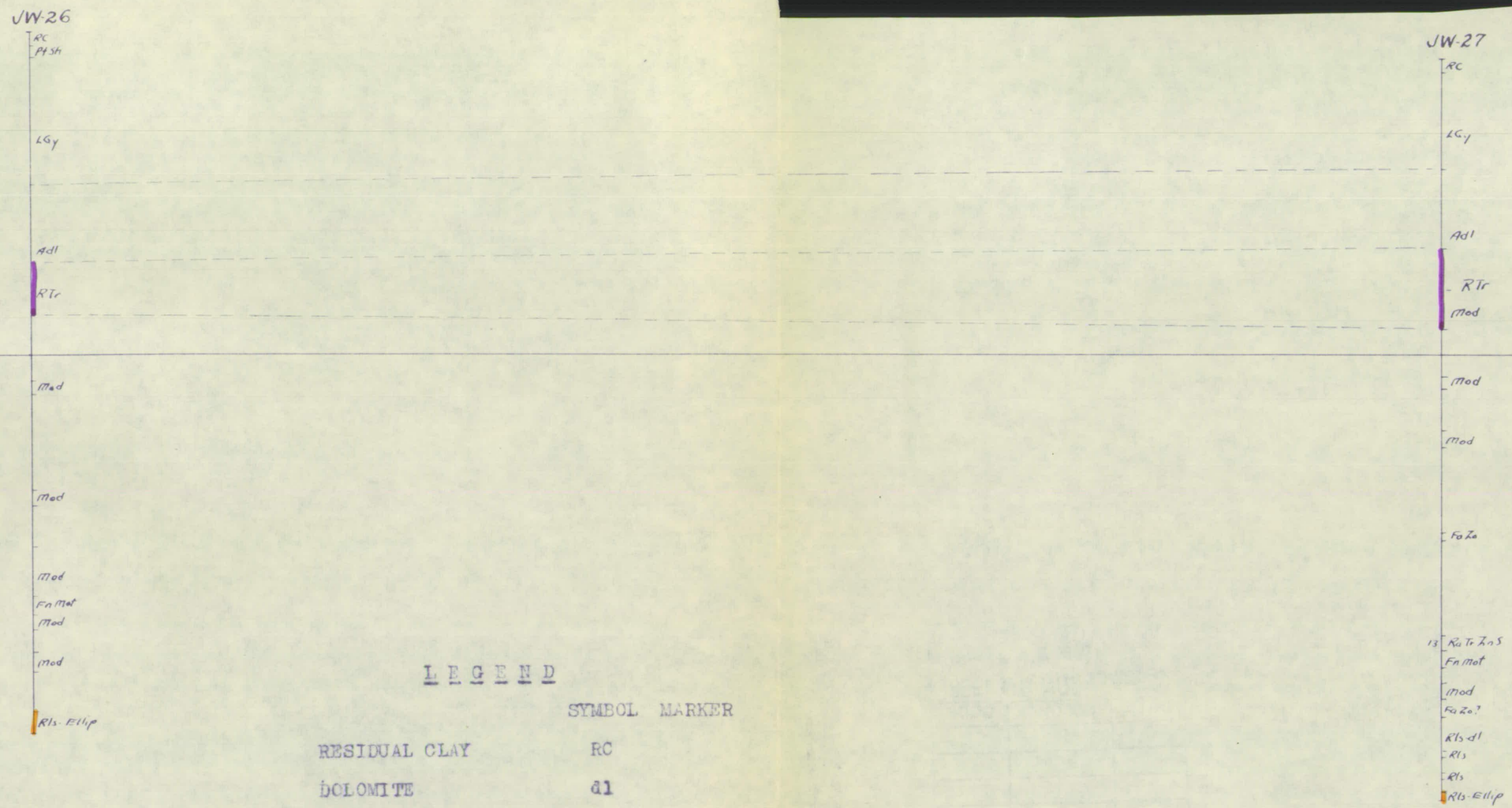
L E G E N D

	SYMBOL	MARKER
RESIDUAL CLAY	RC	
DOLOMITE	dl	
LIMESTONE	ls	
PARTING SHALE	PtSh	
TRANSITION ZONE	RTr	
ELLIPSOIDAL ZONE	Ellip	

Note: Rock is dolomite except as noted.

POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN R.C.G. DATE 2-28-58 TRACED SCALE 1"=100'	LONGITUDINAL SECTION JAMES-WOODRUFF AREA I	DISTRICT WYTHE-SMYTH COs., VA. FILE NO.

X 5407 B 1M 3-53



L E G E N D

	SYMBOL	MARKER
RESIDUAL CLAY	RC	
DOLOMITE	dl	
LIMESTONE	ls	
PARTING SHALE	PtSh	
TRANSITION ZONE	RTr	
ELLIPSOIDAL ZONE	Ellip	

Note: Rock is dolomite except as noted.

POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN R.C.G. DATE 3-3-58 TRACED SCALE 1"=100'	LONGITUDINAL SECTION JAMES-WOODRUFF AREA I	DISTRICT WYTHE-SMYTH COs., VA. FILE NO.

X S407 B 1M 3-53

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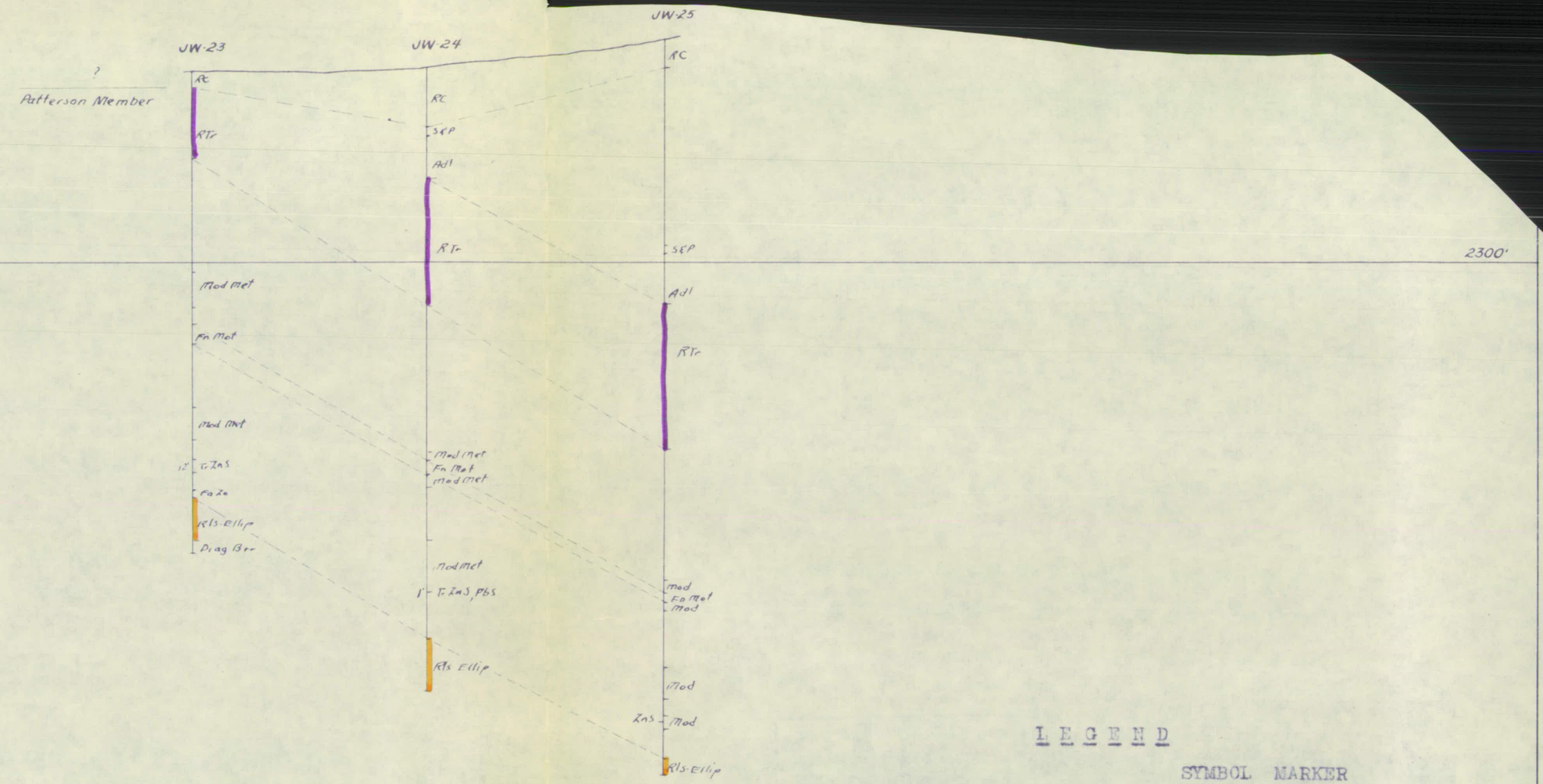
RECEIVED JUN 30 1958

DATE	INITIALS	CODE



L E G E N D

	SYMBOL	MARKER
RESIDUAL CLAY	RC	
DOLOMITE	dl	
LIMESTONE	ls	
PARTING SHALE	PtSh	
TRANSITION ZONE	RTr	
ELLIPSOIDAL ZONE	Ellip	

Note: Rock is dolomite except as noted.

POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN R.C.G. DATE 12-16-57 TRACED SCALE 1"=100'	GEOLOGIC SECTION III JAMES-WOODRUFF AREA II	DISTRICT SMYTH-WYTHE CO.S, VA. FILE NO.

X 5407 B 1M 3-53

EXTRA COPY
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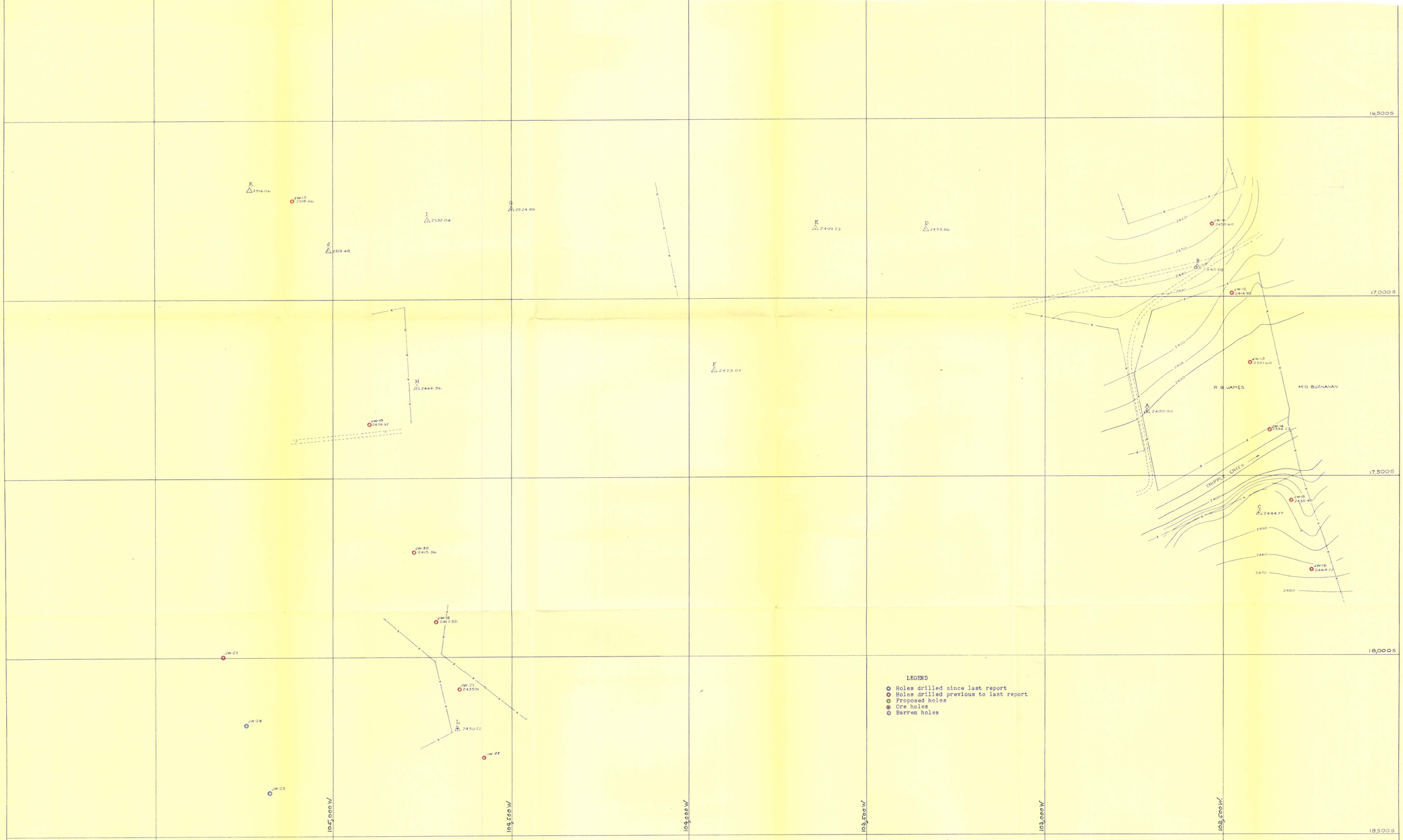
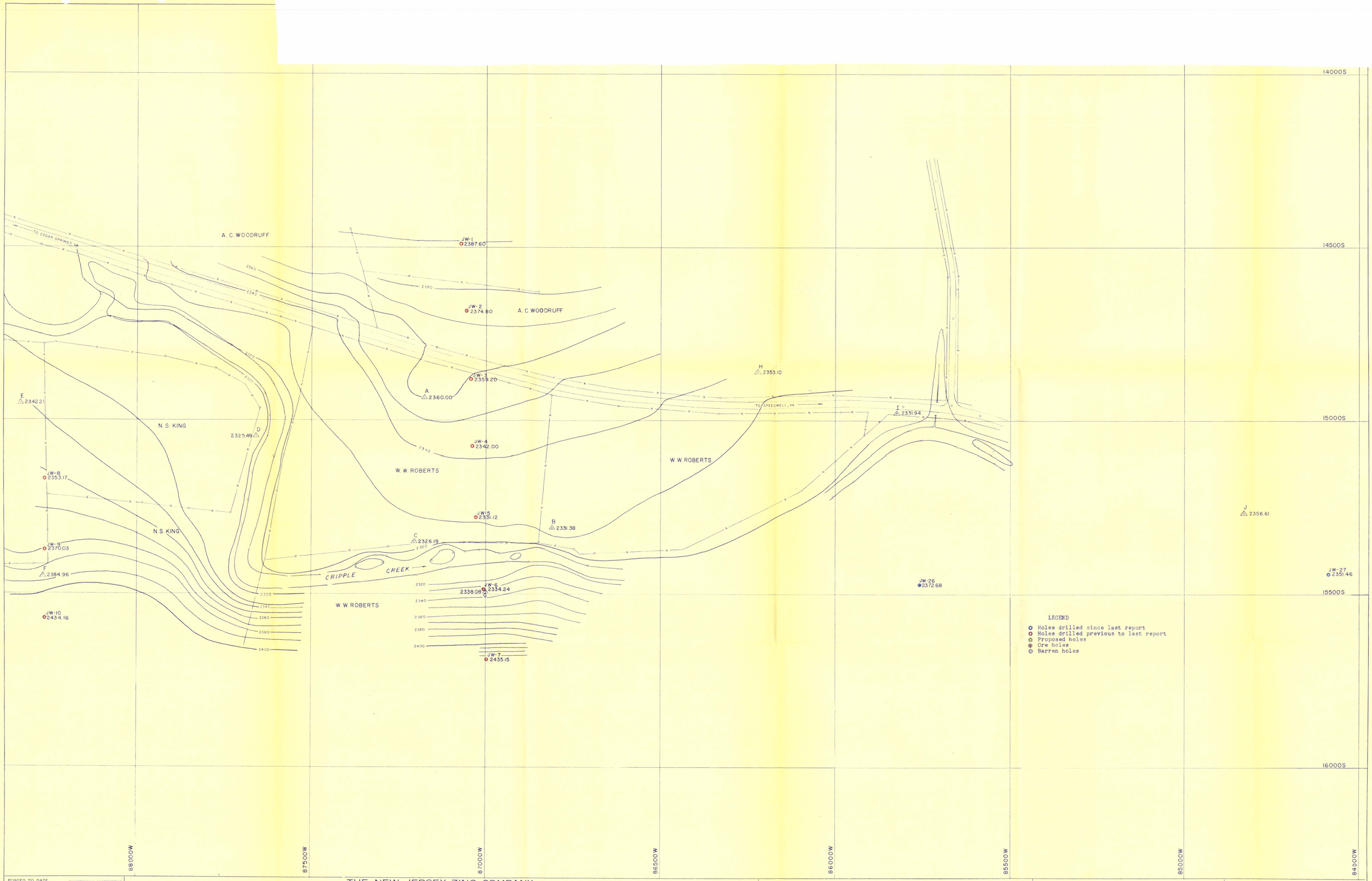
RECEIVED JUN 30 1958

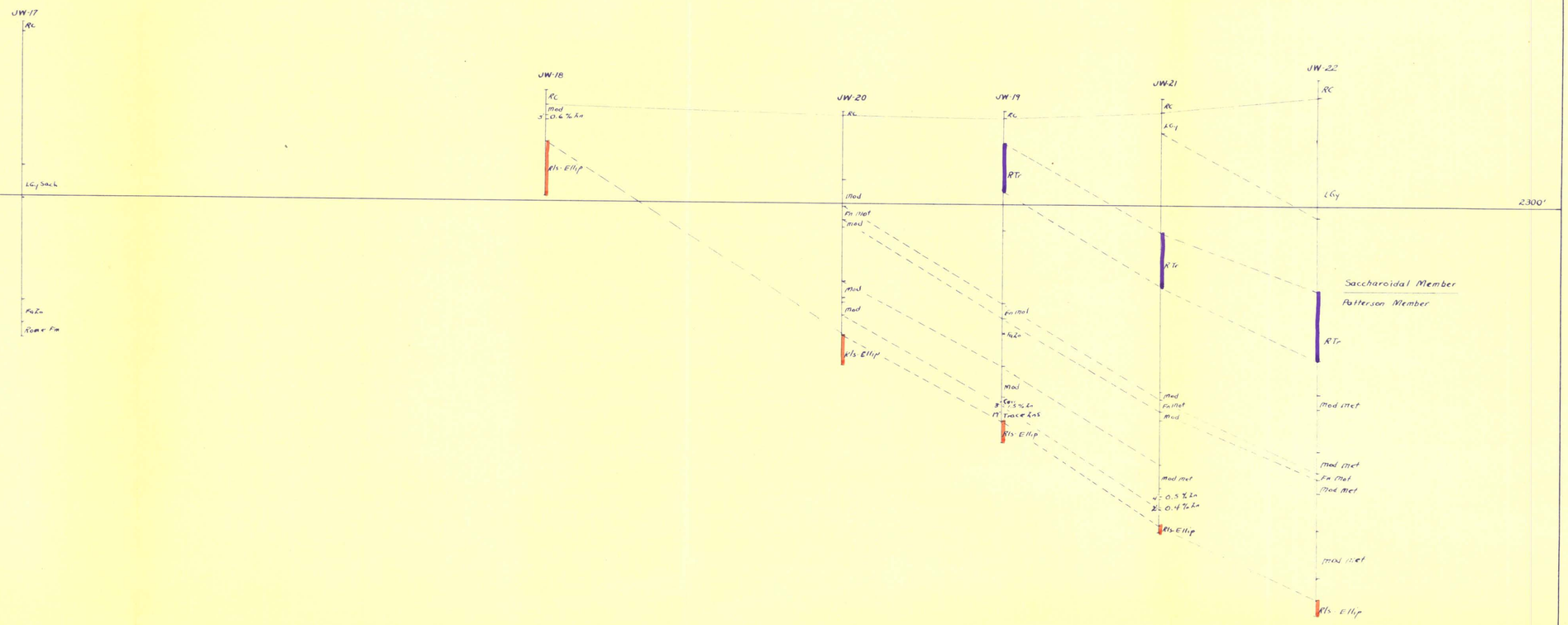
DATE	INITIALS	CODE



POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN / DATE / TRACED E.E.F / SCALE 1" = 100'	JAMES — WOODRUFF AREA II	DISTRICT WYTHE COUNTY, VA. / FILE NO.



POSTED TO DATE	THE NEW JERSEY ZINC COMPANY AUSTINVILLE, VA.	DRAWN E.E.F. DATE 5-8-57 TRACED E.E.F. SCALE 1" = 100'	JAMES—WOODRUFF AREA I	DISTRICT WYTHE COUNTY, VA. FILE NO. 7GB-4284



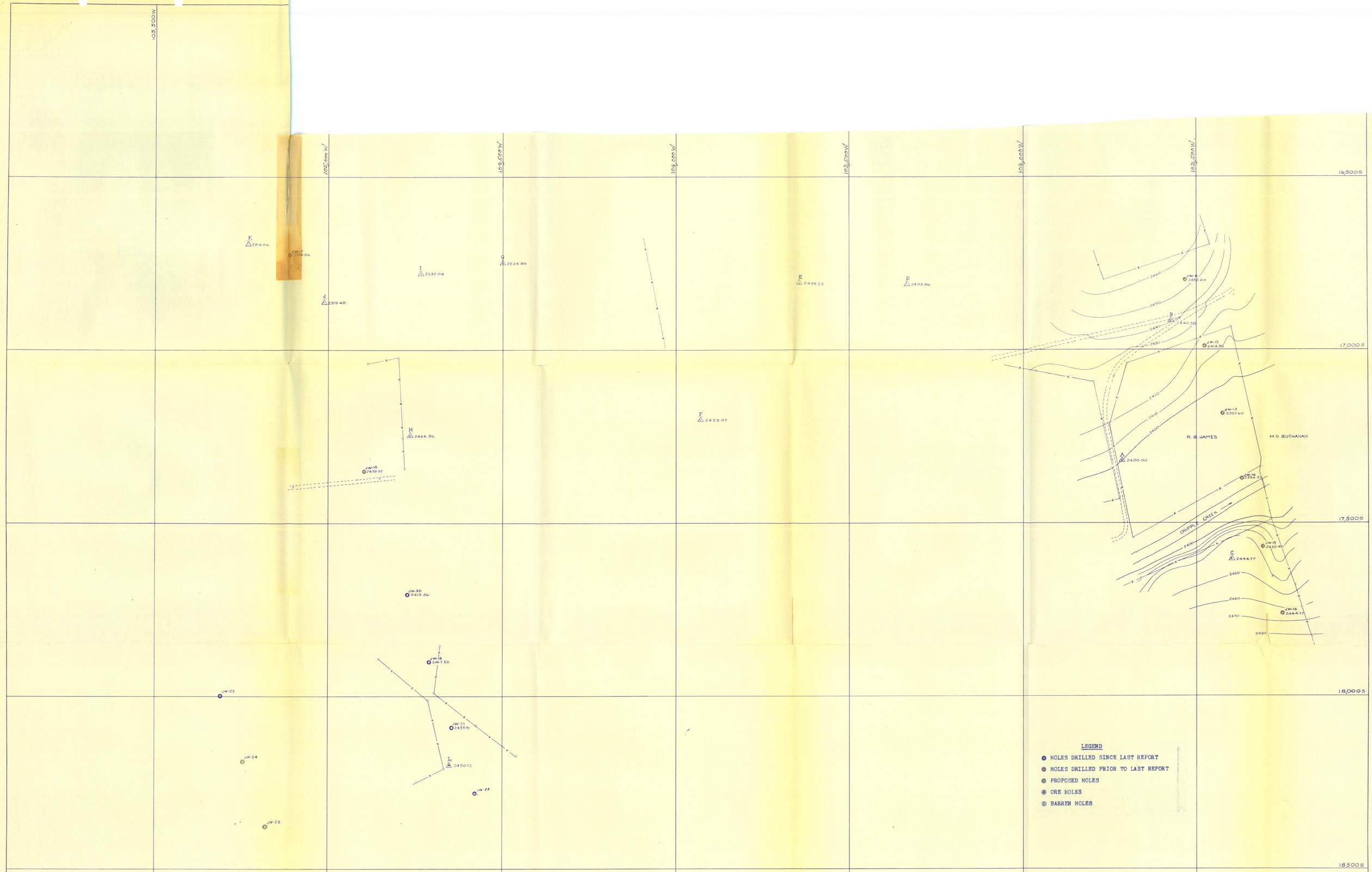
L E G E N D

	SYMBOL	MARKER
RESIDUAL CLAY	RC	
DOLOMITE	dl	
LIMESTONE	ls	
PARTING SHALE	PtSh	
TRANSITION ZONE	RTr	
ELLIPSOIDAL ZONE	Ellip	

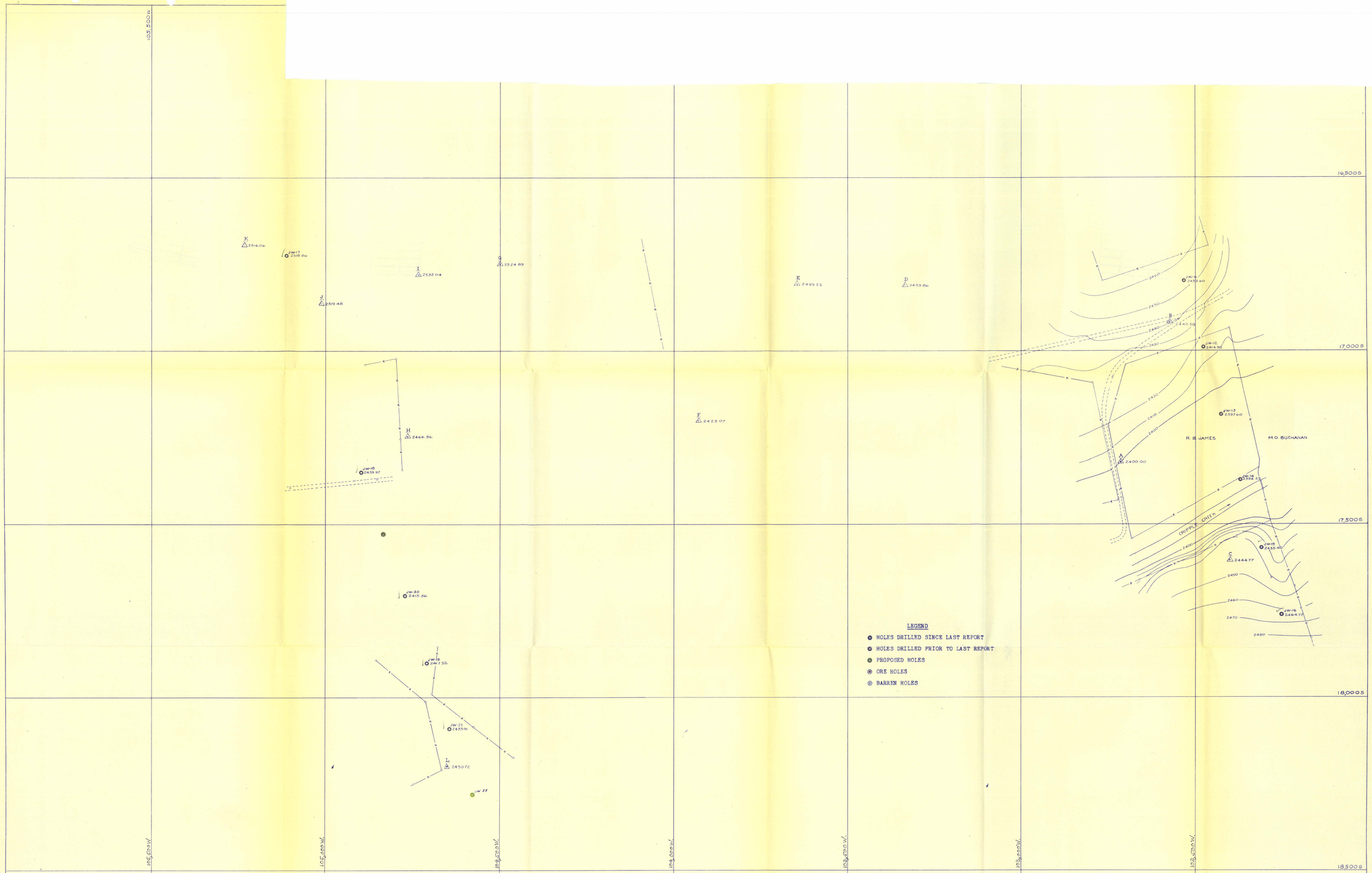
Note: Rock is dolomite except as noted.

POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN RCG. DATE 10-2-57 TRACED SCALE 1"=100'	GEOLOGIC SECTION II JAMES-WOODRUFF AREA II	DISTRICT SMYTH-WYTHE COUNTIES, VIRGINIA FILE NO.

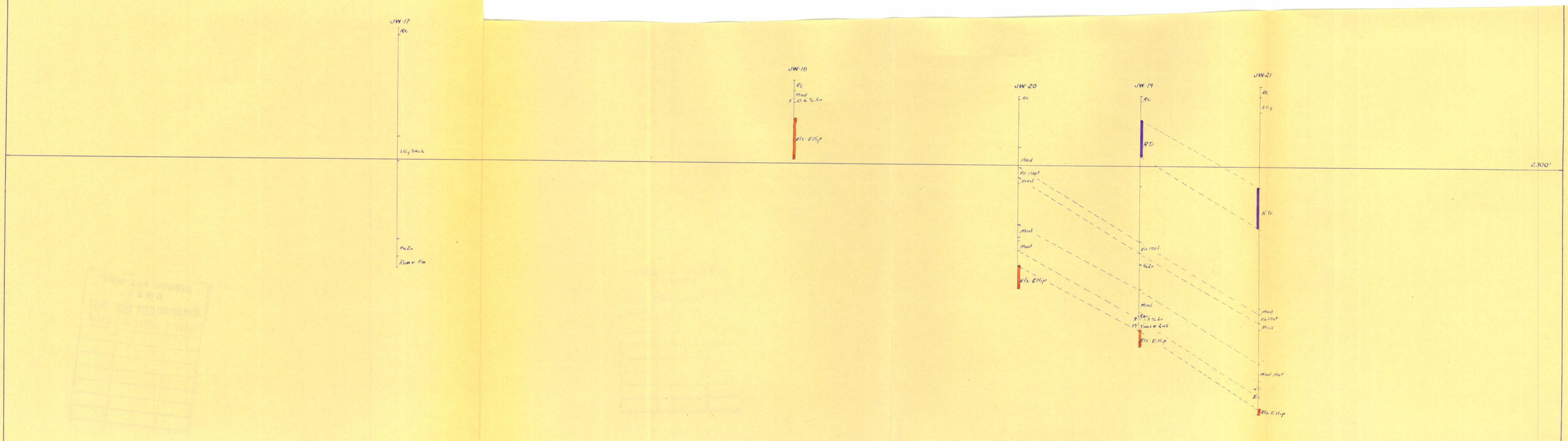
X5407A 1M 3-53



POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN / DATE / TRACED E.E.F. / SCALE 1" = 100'	JAMES — WOODRUFF AREA II	DISTRICT WYTHE COUNTY, VA. / FILE NO.



POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN — DATE — TRACED E.E.F. SCALE 1" = 100'	JAMES — WOODRUFF AREA II
			DISTRICT WYTHE COUNTY, VA. FILE NO.

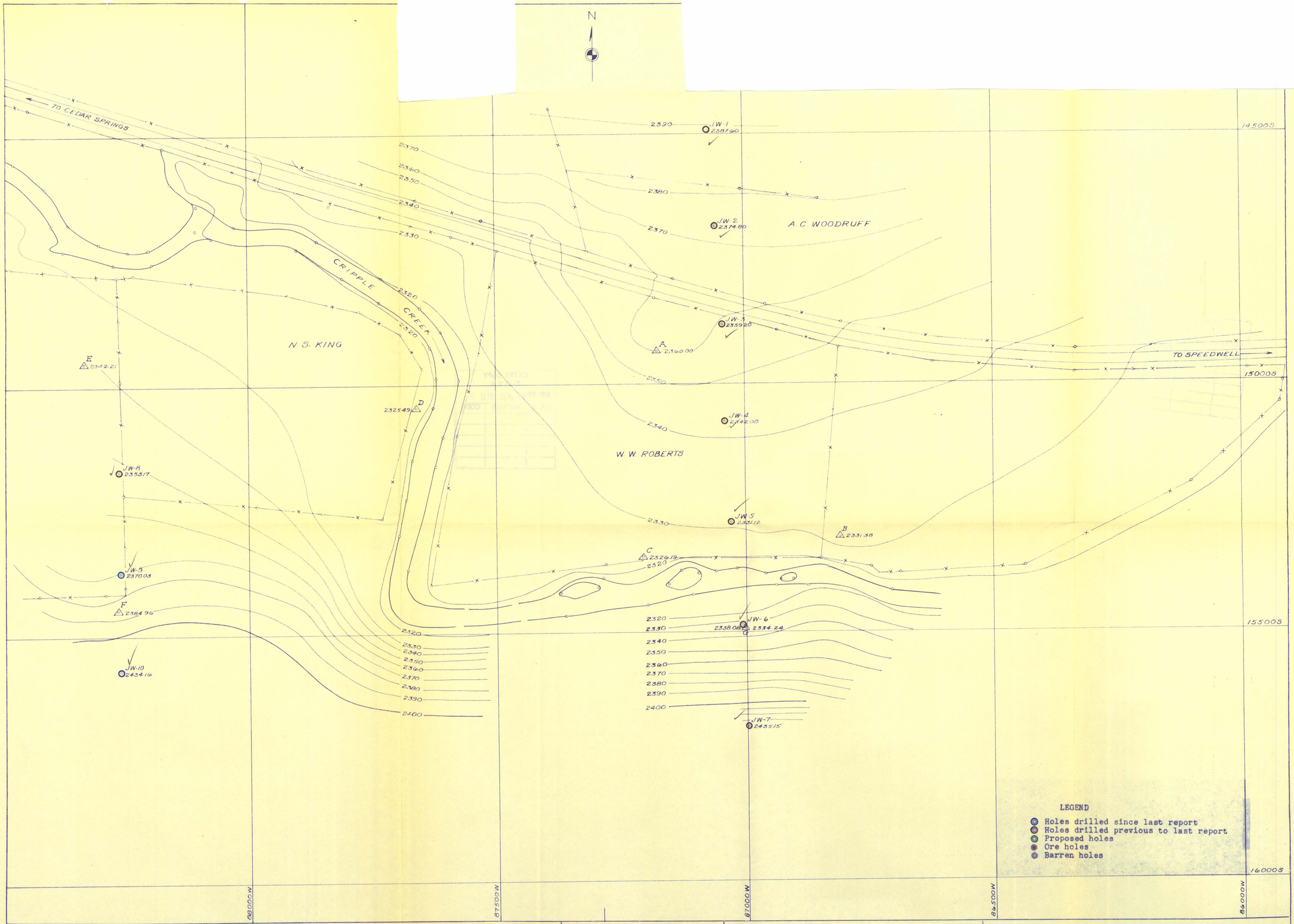


LEGEND

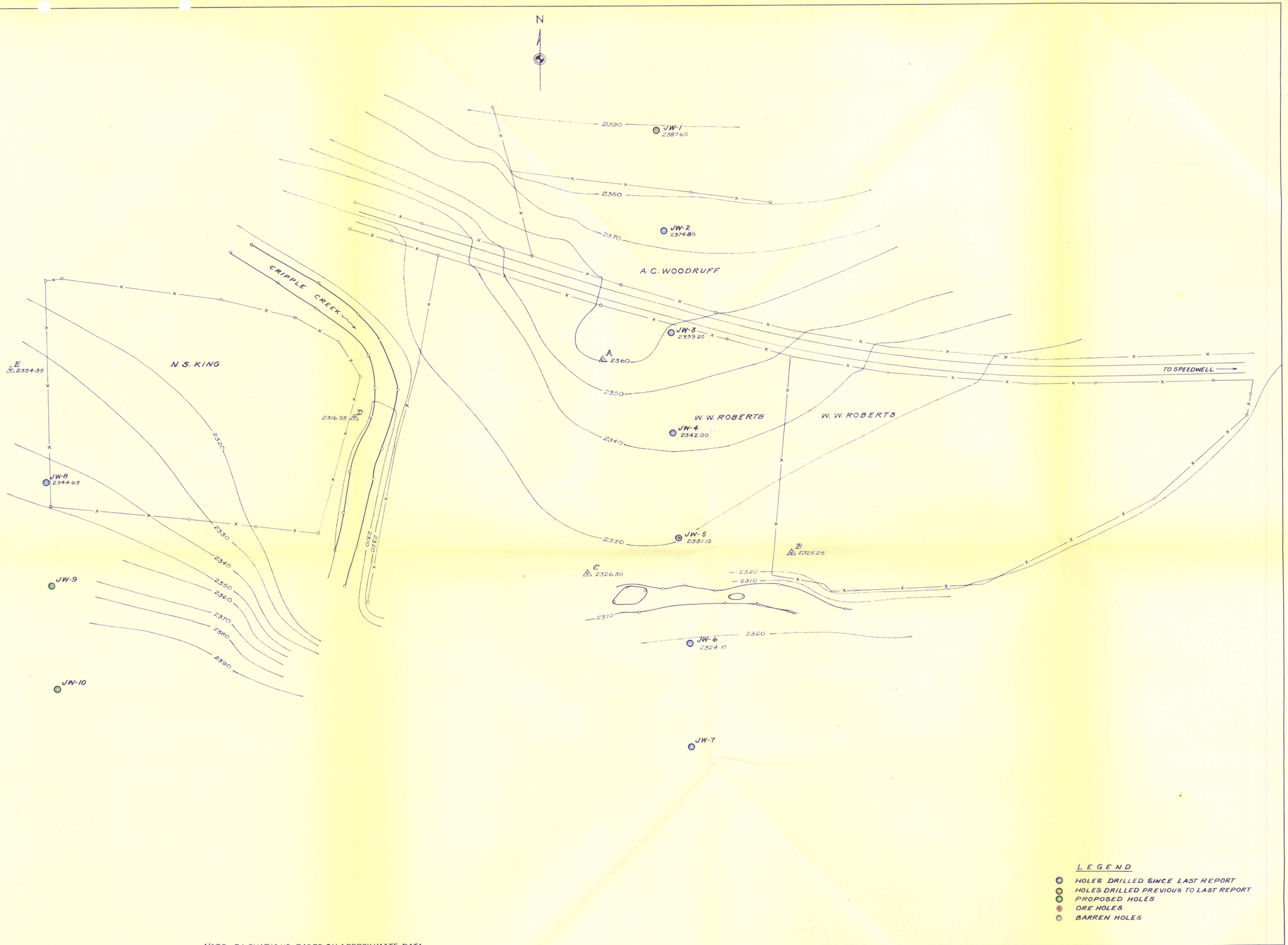
	SYMBOL MARKER
RESIDUAL CLAY	RC
DOLOMITE	Dl
LIMESTONE	Ls
PARTING SHALE	PtSh
TRANSITION ZONE	RTr
ELLIPSOIDAL ZONE	Ellip

POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN RCG. DATE 10-2-57 TRACED SCALE 1"=100'	GEOLOGIC SECTION II JAMES-WOODRUFF AREA II
			DISTRICT SMYTH-WYTHE COUNTIES, VIRGINIA
			FILE NO.

X5407A 1M 3-53



POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN E.E.F. DATE 5/8/57 TRACED SCALE 1"=100'	JAMES - WOODRUFF AREA I
			DISTRICT WYTHE COUNTY, VA.
			FILE NO. 7GB-4284



NOTE: ELEVATIONS BASED ON APPROXIMATE DATA

POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN E.E.F. DATE 4/12/57 TRACED SCALE 1"=100'	JAMES–WOODRUFF AREA I	DISTRICT WYTHE COUNTY, VA. FILE NO.

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