DMEA Form 9
Rev. 6/57

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE

Idm-E NO. 933

DMEA NO. 3989

Application
- [ ] Denied
- [ ] Withdrawn

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

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

Folder No. 1:

Left Side

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

Right Side

- [x] Project summary (final)
- [x] Work Comoleted analysis (final)

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

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

Additional Folders:

Left Side

Folders No. 2, 3, 4 : Reports
- [x] Analysis of Semi-Annual Inspection Reports FOLDER #1
- [ ] Project Summary (Interim) by DMEA Engineers

Right Side

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

Folders No. 5 : DRILL LOGS + Maps (Use pocket folder or envelope)

Folders No. 6 : Settlement Sheets **& Field Team Semi-Annual Report for Certified Project** and Analyses

Folders No. _____ : ~~Drill Logs~~

Folders No. _____ : Royalty material

17963

OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

REPORT OF ROYALTY REVIEW

I have reviewed the files of the Office of Minerals Exploration, Washington, D. C., pertaining to Contract No. Idm-E933, Docket No. DMEA-3989 (Uranium), dated March 21, 1956, with

Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
161 East 42nd Street
New York 17, New York

for the purpose of determining the amount of royalty due the U. S. Government on sales of minerals from property located in Sec. 29, T.13N., R.9W., McKinley County, New Mexico, during the period October 11, 1958, through August 22, 1960.

A certification of discovery or development was issued on January 17, 1957, and, in accordance with Article 8 of the contract, royalty is payable on all minerals mined or produced from the land described in Article 2 of the contract for a period of 10 years from the date of the contract or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first. A Report of Review in lieu of final audit dated January 9, 1957, indicated accepted costs under the exploration contract amounting to $62,452.13 with the Government's contribution, on a 75 percent basis, being $46,839.10.

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

This review established the total sales of uranium ore for the period to be $431,997.71. Royalty due the Government at rates specified in the contract is $18,307.64.

A prior Report of Royalty Review found the sales subject to Government royalty through October 10, 1958, to be $115,671.04 which added to the sales for this subsequent period make a total of $547,668.75. The royalty account as of October 10, 1958, was:

Total Royalty Due	$ 5,783.56
Total Royalty Paid	5,783.56
Balance of Royalty Due	$ -0-

At August 22, 1960, the royalty account of this project, on an ore basis, was found to be:

Total Royalty Due	$24,091.20
Total Royalty Paid	24,999.44
Overpayment of Royalty	$ 908.24*

* This amount should be retained by the Government for offset against any additional royalty found to be due when value of the production based on the value of "yellow cake" is determined.

September 7, 1960

C. E. Fisher
C. E. Fisher OME Auditor

Idm-E933 Food Machinery and Chemical Corporation DMEA-3989

STATUS OF PROJECT, SCOPE OF REVIEW
AND REASONS THEREFOR

Food Machinery and Chemical Corporation performed the exploration work and conducted mining operations on the property until April 1959. By agreement effective April 24, 1959, Phillips Petroleum Company acquired all of Food Machinery's interest in the land, has continued mining operations, and has paid royalty to the Government based on the value of uranium ore mined.

During the period of its operations, Food Machinery sold ore to licensed processors and paid royalty to the Government based on actual sales proceeds determined according to AEC price schedules. In addition, royalty was paid on the amount of the initial production bonus received from the AEC. A prior Report of Royalty Review dated October 13, 1958, relates to operations by Food Machinery for the period ended October 10, 1958.

Phillips Petroleum has continued to pay royalty computed on the value of uranium according to the AEC price schedules, even though that company is a processor of uranium ore under license with the AEC and sells its product in the form of "yellow cake". By letter dated April 11, 1960, the Acting Director, Office of Minerals Exploration, advised Phillips Petroleum that the royalty payments being made by it would be accepted as preliminary payments subject to adjustment to the basis of the value of production sold in the form sold as provided by Article 8(c) of the exploration contract and that the Government also retained its right to require the payment of royalty on unsold production as provided in Article 8(d) of the contract. Phillips Petroleum has not made any royalty payments based on the value of the production in the form sold as of the date of this report.

My review included incorporation of the results of the prior review and the recomputation and tabulation of copies of all settlement sheets received in the Washington office in support of royalty payments received during the period subsequent to the prior review. This tabulation is filed with my audit work-papers and is summarized on the attached Schedule "A". Improper computations of royalty due to the use of incorrect percentages and the failure to include haulage allowances in the base on which the royalty was computed resulted in the net overpayment of royalty, on an ore basis, amounting to $908.24 as shown on Schedule "B".

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

(1) Inspection reports by field representatives of the Government and other information available in the Washington office files indicate that all production from the property is being reported for royalty purposes and proper royalty has been paid on an ore basis except as noted above; and

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

Schedule "A"

Idm-5933 | DMEA-3989

Food Machinery and Chemical Corporation

Summary of Production, Sales and Royalty

Operator	Food Machinery and Chemical Corporation			Phillips Petr.	Totals
Period	3/21/56 to 10/10/58	10/11/58 to 4/23/59	Total	4/24/59 to 8/22/60	3/21/56 to 8/22/60
Production					
Ore - SWT	6,601.3650	11,260.8350	17,862.2000	23,871.2600	41,733.4600
" - SDT	6,472.3690	11,024.7635	17,497.1325	23,370.7245	40,867.8570
U_3O_8 - Pounds	27,729.28	39,305.91	67,035.19	73,231.85	140,267.04
" - Pounds excess 4#/SDT	2,454.20	330.79	2,784.99	-0-	2,784.99
V_2O_5 - Pounds	7,440.45	-0-	-0-	-0-	7,440.45
Proceeds					
U_3O_8 - Base payments	$ 94,824.85	$122,598.12	$217,422.97	$198,962.63	$416,385.60
" - Excess 4#/SDT	1,840.70	248.09	2,088.79	-0-	2,088.79
Development allowance	13,864.67	19,652.97	33,517.64	36,307.11	69,824.75
Haulage allowance	5,140.82	7,836.65	12,977.47	12,206.30	25,183.77
V_2O_5	-0-	-0-	-0-	-0-	-0-
Total Receiving Station payments	$115,671.04	$150,355.83	$266,006.87	$247,476.04	$513,482.91
AEC Production Bonus	-0-	34,185.84	34,185.84	-0-	34,185.84
Total value subject to royalty	$115,671.04	$184,521.67	$300,192.71	$247,476.04	$547,668.75
Royalty Due	$ 5,783.56	$ 8,601.34	$ 14,384.90	$ 9,706.30	$ 24,091.20
Royalty Paid	5,783.56	9,128.72	14,912.28	10,087.16	24,999.44
Overpayment of royalty (Schedule "B")	$ -0-	$ 527.38	$ 527.38	$ 380.86	$ 908.24

Schedule "B"

Idm-E933

DMEA-3989

Food Machinery and Chemical Corporation
List of Royalty Overpayments and Underpayments

Settlement Reference		SDT ore	Proceeds	Per SDT	Royalty Settlement: Paid by Opr. Rate	Paid by Opr. Amount	Should be Rate	Should be Amount	Over-payt. (Under-payt.)	
		Operations of Food Machinery and Chemical Corporation								
A-1055		1,620.6085	$16,700.44	$10.31	5%	$835.02	3½%	$584.02	$250.50	
A-1061		695.307	7,091.64	10.20	5%	354.58	3½%	248.21	106.37	
A-1078		1,043.8725	17,563.54	16.83	5%	878.18		)		
	Add: Haulage		832.07					)		
			$18,395.61	17.62			5%	919.78)	(41.60)	
A-1097		466.522	$ 8,067.95	17.29	5%	403.40		)		
	Add: Haulage		372.04					)		
			$ 8,439.99	18.09			5%	422.00)	(18.60)	
A-1089		933.3305	$12,764.86	13.68	5%	638.24		)		
	Add: Haulage		743.02					)		
			$13,507.88	14.47			5%	675.39)	(37.15)	
A		912.0000	$ 5,307.84	5.82	5%	265.39	1½%	79.62	185.77	
B		403.0000	2,345.46	5.82	5%	117.27	1½%	35.18	82.09	$527.38
		Operations of Phillips Petroleum Company								
216E		490.451	$ 4,654.04	$ 9.49	5%	$139.62	2½%	$116.35	$ 23.27	
240F		1,447.1245	13,802.33	9.54	3½%	485.08	3%	414.07	69.01	
241F		573.557	6,178.82	10.77	4½%	278.05	4%	247.15	30.90	
308J		931.0415	7,792.78	8.37	2%	155.86	1½%	116.89	38.97	
379L		468.3145	4,464.52	9.53	3½%	156.26	3%	133.94	22.32	
380L		645.9325	6,963.75	10.78	4½%	313.37	4%	278.55	34.82	
443A		1,963.9615	18,723.77	9.53	3½%	655.33	3%	561.71	93.62	
547D		651.8115	5,455.79	8.37	2%	109.12	1½%	81.84	27.28	
564E		224.011	2,133.86	9.53	2%	42.67	3%	64.02	(21.35)	
598F		1,149.7885	12,405.28	10.79	4½%	558.23	4%	496.21	62.02	380.86
		Total net overpayment of royalty								$908.24

MME Form 22
April 59

DEPARTMENT OF THE INTERIOR
Office of Minerals Exploration

CHECK SHEET OF EXAMINING ENGINEER

Operator's Name Food Machinery & Chemical Corp.

Address 161 East 42nd Street

New York 17, New York

Exploration Contract No. E 933 Docket No. _____

			Check One: Yes	Check One: No
1.	(a)	Does the Operator stockpile ore subject to royalty repayment?		X
	(b)	If so, is segregation and identification procedure adequate?		
2.	(a)	Does Operator commingle production subject to DMEA or OME royalties with exempt production?		X
	(b)	If so, do you consider the allocation of the commingled production equitable?		
3.	(a)	Does the Operator stockpile mine or mill rejects (low grade ore, tailing, middlings, etc.) that may have potential value within the royalty payment period?		X
	(b)	If so, are adequate records maintained on such material to protect the Government's interest?		
4.		Do you consider the assay controls in effect are adequate?	X	
5.		Do you consider that the manner of disposing of production gives the Government its fair royalty returns?	X	
6.		Do your periodic examinations of operations indicate the Operator is properly reporting his production of ores subject to DMEA or OME royalties?	X	
7.		Does the Operator buy from or sell to other Operators?		X
8.		Comment on any item 2 (b) to 6 if answer is No.		

8-22-60
Date

Hugh M. Connors
Mining Engineer

DMEA FORM 6 REFERENCE SLIP

REV. 12-56 DEFENSE MINERALS [illegible]PLORATION ADMINISTRATION

TO:	INITIALS	DATE
1. Mr. Frank Johnson	FEJ	10/21
2. ~~Mr. George Selfridge~~		
3. Mr. ~~F. L. Knouse~~ Chiny		
4.		
5.		10/21

FROM: Jay L. Chambers JLC

FOR: Check items for action desired

____ Action	____ Reply for signature of ____	
____ Approval	____ Investigate	____ Surname
____ Comment	____ Recommendations	____ Signature
____ Conference	____ Rewrite	____ File
____ Instructions	xxx Your information	

REMARKS:

M8278

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

RECEIVED OCT 20 1958 O.M.E.

OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

FIRST REPORT OF ROYALTY REVIEW

I have reviewed the files of the Executive Officer, OME Field Team, Region III, Denver, Colorado, pertaining to Contract Idm-E933, Docket DMEA 3989 (Uranium) dated March 21, 1956, with

Food Machinery and Chemical Corporation
161 East 42nd Street,
New York 17, New York

for the purpose of determining the amount of royalties due the United States Government on the sale of Uranium bearing ores produced from Sec. 29, T 13 N, R 9 W, N.M. P.M., in the Grants-Bluewater Mining District, McKinley County, New Mexico, during the period March 21, 1956, through October 10, 1958.

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

My review established the total sales of Uranium bearing ores for this period to be $115,671.04. (See Schedule No. 1 attached.) Pending certification by Atomic Energy Commission for production bonus, will, when completed, add $34,734.24 to the value of the foregoing sales. Royalty due the United States Government at the contract rate of 5 percent is $5,783.56. Additional royalty of $1,736.70 will be due the Government when the Operator collects the A.E.C. production bonus.

The royalty paid and the balance due are as follows:

Total royalty due	$5,783.56
Total royalty paid	5,783.56
Balance Due	$ 0.00

(See Schedule No. 2 for additional royalty which will be due when Operator collects A.E.C. production bonus.)

Donald T. Finch
Donald T. Finch, OME Auditor

October 13, 1958

STATUS OF THE PROJECT, DESCRIPTION OF REVIEW AND REASONS THEREFOR

CONTRACT NO. Idm-13933 DOCKET NO. DMRA-3989

The exploration work under the contract has been completed. A Certificate of Discovery or Development was issued on January 17, 1957, and according to the terms of the contract, royalty is payable on all minerals mined or produced from the land described in Annex I, Article 2, for a maximum period of 10 years from the date of the contract.

A Report of Review in lieu of final audit, dated January 9, 1957, indicated accepted costs under the exploration contract amounting to $62,452.13, with the Government's contribution on a 75 percent basis being $46,839.10.

The Operator advised that as of October 1, 1958, its application for A.E.C. production bonus was still pending.

My review included a tabulation and recomputation of all ore settlement sheets in the files of the Executive Officer, OME Field Team, Region III, for the period March 21, 1956 through October 10, 1958, and correspondence with the Chief of Accounting Branch, Finance Division, Field Operations Office, Atomic Energy Commission, Grand Junction, Colorado.

The producer's reported sales were reconciled with the production records maintained by A.E.C. Royalties paid were reconciled with the OME Finance Office, Denver, Colorado.

The review was made in lieu of an on-site audit of the producer's accounts for the following reasons:

(a) All reported production was reconciled with records of the Atomic Energy Commission.

(b) The Examining Engineer is of the opinion all sales of production are accounted for.

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

Schedule No. 1

FOOD MACHINERY AND CHEMICAL COMPANY

CONTRACT I6m-E933 DOCKET DMEA 3989

SUMMARY OF PRODUCTION, SALES AND ROYALTIES

Purchaser	Lucius Pitkin, Inc.	Anaconda	Total
Period	3/21/56 to 2/25/58	2/26/58 to 10/10/58	3/21/56 to 10/10/58
Gross Weight, Pounds	91,660	13,111,070	13,202,730
Dry Weight, Pounds	88,821	12,855,916	12,944,737
Dry Weight, Tons	44.411	6,427.958	6,472.369
Assays: Average			
U_3O_8	.35	.2133	.2142
V_2O_5	-	Trace	Trace
Pounds U_3O_8	310.86	27,418.42	27,729.28
Base Payment U_3O_8	$1,088.07	$ 93,736.78	$ 94,824.85
Development Allowance	$ 155.44	$ 13,709.23	$ 13,864.67
Premiums:			
Excess of 4 lbs. U_3O_8 per Ton			
Excess Pounds U_3O_8	133.20	2,321	2,454.20
Amount of Premium @ 75¢ per excess lb.	$ 99.92	$ 1,740.78	$ 1,840.70
Haulage Allowance			
Number of Wet Tons	45.83	6,555.535	6,601.365
Average Allowance per Ton	.60	.78	.78
Amount of Haulage Allowance	$ 27.50	$ 5,113.32	$ 5,140.82
Pounds of V_2O_5	-	7,440.45	7,440.45
Payments V_2O_5	-	-	-
Total Receiving Station Payments	$1,370.93	$114,300.11	$115,671.04
A.E.C. Production Bonus (Collection pending certification by A.E.C.)	1,088.07	33,646.17	34,734.24
Total Value Subject to Royalty	$2,459.00	$147,946.28	$150,405.28
Average Value per Dry Ton	$ 55.37	$ 23.02	$ 23.24
Royalty Percentage	5%	5%	5%
Royalty Due	$ 68.55	$ 5,715.01	$ 5,783.56
Royalty Paid	68.55	5,715.01	5,783.56
Balance Royalty Due	$ 0.00	$ 0.00	$ 0.00

Note: See Schedule No. 2 for Balance of Royalty Due when A.E.C. Production Bonus collected.

The last liquidation settlement sheet in above is Anaconda No. A 1039 dated July 23, 1958.

The last Certificate of Deposit in above is 59-50 dated September 23, 1958.

Schedule No. 2

FOOD MACHINERY AND CHEMICAL COMPANY

CONTRACT Icm-E933 DOCKET DMEA 3989

SCHEDULE OF BALANCE OF ROYALTY THAT WILL BE DUE
WHEN OPERATOR COLLECTS A.E.C. PRODUCTION BONUS

Date	Purchaser	Liquidation No.	Balance of Royalty
1958			
2/11	Lucius Pitkin, Inc.	4434	$ 54.40
2/26	Anaconda	A 985	615.21
3/26	Anaconda	A1005	854.29
4/26	Anaconda	A1023	212.80

Total Balance of Royalty Due when Operator Collects Production Bonus from Atomic Energy Commission $1,736.70

CHECK SHEET OF EXAMINING ENGINEER

Operator's Name Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
Address P. O. Box 250

Pocatello, Idaho

Sec. 29, T 13 N, R 9 W, NMPM - McKinley County, N. M.
Exploration Contract No. Idm-E933 Docket No. DMEA-3989

	Uranium Check One	
	Yes	No
1. (a) Does the Operator stockpile ore subject to royalty repayment?	X*	
(b) If so, is segregation and identification procedure adequate?	X	
2. (a) Does Operator commingle production subject to DMEA royalties with exempt production?		X
(b) If so, do you consider the allocation of the commingled production equitable?		
3. (a) Does the Operator stockpile mine or mill rejects (low grade ore, tailing, middlings, etc.) that may have potential value within the royalty payment period?		X
(b) If so, are adequate records maintained on such material to protect the Government's interest?		
4. Do you consider the assay controls in effect are adequate?	X	
5. Do you consider that the manner of disposing of production gives the Government its fair royalty returns?	X	
6. Do your periodic examinations of operations indicate the Operator is properly reporting his production of ores subject to DMEA royalties?	X	
7. Does the Operator buy from or sell to other Operators?		X

8. Comment on any item 2(b) to 6, if answer is No.

* All shipments comprise blended ores from separate stockpiles of high- and low-grade material.

Date 10/10/58

T. M. Romslo
Mining Engineer
T. M. Romslo

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
1/9/57	Ching	700
1-10	Ellis	700
	Butler	140
	[illegible]	~~140~~
1/16	[illegible]	130
	[illegible]	USBM
		~~130~~
1/16	F.E. Johnson	110
		100
		225

Nelson

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

To: Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
161 East 42nd Street
New York 17, New York

Chambers
Paona

Pursuant to the provisions of Exploration Project Contract No. Idm-E933, dated March 21, 1956, Docket No. DMEA-3989, hereinafter called the "contract," between the Food Machinery and Chemical Corporation (Westvaco Mineral Products Division), a Delaware corporation, and the United States of America, hereinafter called the "Government"; to establish and fix the Government's percentage royalty on production and its lien therefor and on the land described in the contract, the Government considers and therefore certifies that discovery or development from which production may be made has resulted from the exploration work.

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

Core and non-core drilling on the land described in Article 2 of the contract penetrated deposits of uranium ore in the Todilto limestone of Jurassic age. The principal ore values were found in the central area of the property.

Dated: JAN 17 1957

THE UNITED STATES OF AMERICA

By [signature]
Administrator, Defense Minerals
Exploration Administration

MChing/gla 1-9-57
cc to: Operator (original)
Federal Insurance Company
Contract Adm.& Audit Division
DMEA Field Team, Region III (2)
Finance Office
Docket
Rare and Misc.Metals Division
Admr.'s Reading File
Operating Committee
Frank D. Lamb, Rm. 3608
T. H. Kiilsgaard, Rm. 5224
F. E. Johnson
Mr. Ching

8623

DEFENSE MINERALS EXPLORATION ADMINISTRATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

REPORT OF REVIEW

I have reviewed the Monthly Reports of:

Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
161 East 42nd Street
New York, New York

pertaining to Exploration Project Contract No. Idm-E933, Docket No. DMEA-3989, for the months of April, 1956 to October, 1956, inclusive, covering a project for the exploration of Uranium on property known as Sec. 29, T.13 N., R.9 W., located in McKinley County, New Mexico.

My review included an examination of the Monthly Reports (Form MF-104) and supporting documents attached thereto, comparison of the costs claimed with the contract and pertinent schedules, consultation with the Executive Officer, DMEA Field Team, and a determination of the reasonableness and propriety of the costs.

This review was made in lieu of a final audit of the Operator's accounts and records for the following reasons:

(a) the administrative cost to the Government of an audit would be excessive in relation to the estimated amount of possible disallowances thereunder;

(b) the Monthly Reports were supported by documentary proof of the costs claimed under the contract provision for contribution by the Government on the basis of actual costs incurred;

(c) a major portion ($51,552.65) of the costs incurred covered work performed at unit rates under independent contract; and

(d) the balance ($10,899.48) of the costs incurred were under a contract provision for payment by the Government on the basis of fixed unit costs for work actually performed.

The review disclosed the following facts in regard to the amount paid or to be paid the contractor:

Total cost as billed by Contractor		$62,497.64
Exceptions (schedule attached)		
By DMEA Finance Officer	$43.92	
Herewith	1.59	45.51
Total Accepted Cost		$62,452.13

The contract calls for a 75% participation of exploration expenses by the U. S. Government. Therefore, payment to the contractor by the Government in the amount of Forty-six thousand, eight hundred thirty-nine and 10/100ths Dollars

** $46,839.10 **

is considered valid and proper, provided that the Regional Executive Officer, the Administrator, or other competent official has accepted or will accept the project as having otherwise met the terms of the contract.

T. H. Brading

January 9, 1957

T. H. Brading, Auditor

Final Audit Report

SCHEDULE OF EXCEPTIONS

FOOD MACHINERY AND CHEMICAL CORPORATION

Contract No. Idm-E933 | Docket IMEA-3989

MAY

CORE DRILLING

Amount claimed by Operator 968 feet @ $3.57 per foot	$3,454.76	
Operator reported 40 feet of core drilling on Hole C2		
Drillers' log shows 24 feet. Disallowed 16 feet		
968 feet claimed		
16 feet disallowed		
952 feet allowed at maximum $3.50	3,332.00	
Amount Disallowed		$122.76
In April Operator reported and was allowed 35 ft. @ $3.57	$124.95	
Maximum allowable 35 feet @ $3.50 per foot	122.50	
Amount Disallowed		2.45

NON-CORE DRILLING

Hole A7 Operator reported 183 feet of non-core drilling. Drillers' log shows 173 feet. Disallowed 10 ft. @ 75¢ per ft.	7.50	7.50
3 hours standby time is included in reported cost of non-core drilling. No specific allowance is made in contract for standby time. This is considered as a part of incidental allowance and is disallowed. 3 hours standby time @ $12.00 per hour	36.00	
Operator has included the cost of one month water permit in the cost reported for non-core drilling. 94.64% of the acceptable footage reported is non-core; therefore, only 94.64% of the cost of water permit is acceptable. Amount to be disallowed: $100.00 minus $94.64	5.36	
New Mexico school tax on the amount reported for core drilling is $67.76. Operator reported $66.76 and the difference is reported with the cost of non-core drilling, thereby overstating that item $1.00, which is therefore disallowed.	1.00	

INCIDENTAL ALLOWANCE

Operator claimed 17,910 feet @ 18¢		
16 feet of core drilling disallowed		
10 feet of non-core drilling disallowed		
26 feet disallowed @ 18¢ per foot, or	4.68	47.04
TOTAL DISALLOWED MAY, 1956		$179.75
Operator adjustments		137.39
Balance Not Adjusted		$ 42.36

JUNE

Footage of 10 feet allowable maximum administratively determined as allowable penetration to penetrate through Todilto limestone interval which overlies Entrada sandstone formation. Disallowed excess of

12 feet @ 90¢ per foot	$ 10.80	
124 feet @ 75¢ per foot	93.00	
136 feet	$103.00	
New Mexico School Tax 2%	2.08	
	$105.88	
Incidental allowance		
136 feet @ 18¢ per foot	$ 24.48	
Disallowance for June		$130.36

JULY

Disallow 36 feet of non-core drilling for same reason as cited for June disallowance

36 feet at invoice cost plus 2% New Mexico school tax	$ 28.46	
Incidental allowance		
36 feet @ 18¢ per foot	6.48	
Disallowance for July		34.94
Total disallowance for June and July		$165.30
Disallowance for June and July as adjusted by Operator in August		163.74
Difference		$ 1.56

Total disallowances made by Finance Officer May through July	$345.05	
Adjustment made by Operator May through July	301.13	
Net disallowance made by Finance Officer not adjusted by Operator		$43.92

Disallowances made by Finance Officer were reviewed with Executive Officer by Auditor, who concurs in disallowances as established, with additions as noted below. Additional disallowances made by Auditor: -

New Mexico school tax at 2% claimed on following items, not disallowed by Finance Officer:

Non-core drilling 10 feet @ 75¢ per foot	$ 7.50	
Standby time, 3 hours @ $12.00 per hour	36.00	
Net amount disallowed on water permit	5.36	
	$48.86	
2%		.98

July disallowance of 36 feet non-core drilling established at average invoice cost plus New Mexico school tax		$28.46		
Actual disallowance should be				
10 feet @ 90¢	$ 9.00			
26 feet @ 75¢	19.50			
	$28.50			
2% New Mexico school tax	.57	29.07		
Difference			.61	
Total Disallowance by Auditor			$1.59	1.59
TOTAL DISALLOWED				$45.51

OFFICIAL FILE COPY
O. M. E
RECEIVED APR 5 1961

DATE	INITIALS	CODE
	23 Apr	

SUBLEASE AND AGREEMENT

THIS SUBLEASE AND AGREEMENT, made and entered into this 23rd day of February, 1961, by and between PHILLIPS PETROLEUM COMPANY, a Delaware corporation with an operating office at Bartlesville, Oklahoma, Party of the First Part, hereinafter called "Phillips", and KEN COMPANY, ~~INCORPORATED~~, INC., a New Mexico corporation, P. O. Box 327, Grants, New Mexico, Party of the Second Part, hereinafter called "Second Party".

WHEREAS, Phillips is the owner of a certain uranium mining lease insofar as the same covers the lands described in Exhibit "A" hereto attached and by reference made a part hereof, which uranium mining lease is briefly described in Exhibit "A", to which lease and the record thereof reference is here made for all of the terms and covenants thereof; and

WHEREAS, that certain Sublease and Agreement between the parties hereto dated August 2, 1960, covering the mining of certain ores from the lands described in Exhibit "A" has now terminated in accordance with its terms; and

WHEREAS, Phillips desires to have the lands above referred to further developed and mined for the production of uranium ores; and

WHEREAS, Second Party has expressed its willingness to undertake such further development and mining operations on the terms and conditions hereinafter specified.

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth and further in consideration of the mutual benefits to Phillips and Second Party, the parties hereto agree as follows:

I
SUBLEASE

Phillips, subject to the conditions, exceptions, reservations, covenants and agreements hereinafter set forth, does hereby sublease and transfer unto Second Party for the term hereinafter specified and without representation or warranty of title, either express or implied, all of its right, title and interest in, to and under the uranium mining lease described in Exhibit "A" insofar as said lease covers and pertains to the lands described in Exhibit "A", hereinafter sometimes referred to as the "subleased premises". This sublease and transfer is

Transmitted with Phillips Petroleum Company's letter March 28, 1961, to Mr. Connors, OME Region III, and Mr. Connors' memorandum to Mr. Selfridge, April 3, 1961.

made subject to all overriding royalties, production payments and other encumbrances described in Exhibit "A" as well as any additional valid and existing overriding royalties, production payments and other encumbrances which may appear of record, and Second Party assumes and agrees to pay all such overriding royalties, production payments and other encumbrances.

II

PERFORMANCE OF CONDITIONS

Second Party accepts this sublease and transfer subject to all of the terms, provisions and conditions hereof and of the uranium mining lease described in Exhibit "A" and of intermediate assignments thereof, if any, and Second Party assumes and agrees to fully comply with and timely perform each and every duty, obligation and covenant, both express and implied, provision and condition of said lease and of intermediate assignments thereof, if any, imposed upon the lessee and/or assignee thereby insofar as concerns the subleased premises and to continue said mining lease in full force and effect. Second Party further agrees to save, protect and hold Phillips harmless at all times from all damages and all penalties which may arise or be adjudged against it on Second Party's failure or refusal to comply fully and faithfully with each and every duty, obligation and covenant of said lease and of intermediate assignments thereof, if any, imposed upon the lessee and/or assignee thereby insofar as concerns the subleased premises. Second Party agrees to furnish Phillips with evidence of the payment of the rentals due and payable under said lease at least ten (10) days prior to the date the payments of such rentals are due.

III

INDEMNITY AND INSURANCE

Second Party agrees to indemnify Phillips and save and hold it harmless from and against any and all claims for property damage of all character including, but not limited to, damages caused to land, stock, crops, fences, buildings, structures and other improvements, from and against any and all claims for damages or injuries to persons including, but not limited to, employees of Second Party resulting from or arising out of the operations conducted or caused or permitted to be conducted by Second Party on or in connection with the lands described in Exhibit "A", and from and against any and all claims for labor and materials and any other costs and expense in connection with Second Party's operations hereunder.

Second Party shall at all times during the life of this agreement carry and maintain the following insurance applicable to all operations conducted by it hereunder:

(a) Workmen's Compensation insurance to comply with the laws of the State of New Mexico and employers liability insurance with limits of $25,000.00;

(b) General Public Liability insurance with bodily injury limits of $100,000.00 per person and $300,000.00 per accident and property damage limits of $50,000.00 each accident;

(c) Automobile Public Liability insurance with bodily injury limits of $50,000.00 per person and $100,000.00 per accident and property damage limits of $50,000.00 each accident;

(d) Contractual Liability insurance which insures the contractual liabilities of Second Party to Phillips under the indemnities to Phillips as set forth above with a limit of $500,000.00.

No recitation of any amount or amounts herein shall be construed to in any manner limit Second Party's liability under this agreement.

Prior to commencing any operations under this agreement, Second Party shall furnish certificates satisfactory to Phillips certifying full compliance with the above requirements. Certificates of insurance shall specify that in the event of cancellation or material change in coverage at least ten (10) days' prior written notice shall be given to Phillips Petroleum Company, Bartlesville, Oklahoma.

IV

DEVELOPMENT AND MINING OPERATIONS

Second Party agrees that on or before February ~~15~~ 23, 1951, it will commence work to gain access to the uranium ore body in the Todilto formation underlying the subleased premises approximately seventeen hundred (1700) feet south of the main hoisting shaft of the Smith mine at the approximate depth of four hundred fifty (450) feet beneath the surface of the ground and that it will proceed with such work in a continuous operation with diligence and thereafter with due diligence and at a rate in accord with good and economical mining practices it will mine and remove all commercial minable ore from such ore body. Second Party agrees to conduct said mining operations and all other operations on the subleased premises in a good and miner like manner and in accordance with good and economical mining practices and the entire cost, risk

and expense of performing such work and all other work performed on the subleased premises and of marketing the ores produced therefrom and of complying with the terms and covenants of said mining lease shall be borne entirely by Second Party.

V

USE OF MACHINERY AND EQUIPMENT

Second Party shall have the right during the term hereof to use such machinery and equipment of Phillips as may be presently located in and on the lands described in Exhibit "A" in the performance of the work to be performed hereunder but may use such machinery and equipment only for such purpose. Second Party agrees, at its sole cost, to maintain in good repair all equipment and machinery owned by Phillips and used by Second Party in the performance of the work hereunder as herein provided.

Upon the termination of this sublease agreement Second Party shall return to Phillips all machinery and equipment of Phillips so used by Second Party in as good a condition as when received, ordinary wear and tear excepted.

VI

DEFAULT

In the event Second Party shall fail or refuse to commence the work to gain access to the uranium ore body underlying a portion of the subleased premises within the time above specified, or having commenced said work shall fail or refuse to proceed with the mining and removal of ore from such ore body with the diligence above specified, or should Second Party fail or refuse to sell to Phillips all of the ores mined from the subleased premises as hereinafter provided, or should Second Party default in the payment of any installment on the promissory note referred to in paragraph X, then and thereupon, and in any such event, in addition to all other remedies which Phillips may have and notwithstanding anything in this agreement to the contrary, the within sublease and transfer and this agreement as to all of said subleased premises shall terminate and the lease on the subleased premises shall revert to Phillips, if Phillips shall so elect and shall evidence such election by giving notice in writing to Second Party at its address hereinabove given or by filing such notice for record in McKinley County,

New Mexico. It is understood that the termination of this sublease and agreement as herein provided shall not operate to relieve Second Party from any liability to Phillips for any damages Phillips may sustain as a result of the breach by Second Party of the terms of this sublease and agreement.

VII

ACCESS AND INSPECTION

Representatives of Phillips shall have access to the mine on the subleased premises at all reasonable times during the mine working hours to inspect and observe all mining and other operations carried on by Second Party on the subleased premises. Representatives of Phillips shall have the right to inspect all geological data, maps and plats prepared or caused to be prepared by Second Party concerning the subleased premises. Phillips shall have the right at all reasonable times to inspect, copy and audit Second Party's books, records and invoices pertaining to any matter of accounting arising hereunder.

VIII

PAYMENT REQUIRED BY PHILLIPS

Phillips hereby retains unto itself and Second Party agrees to pay to Phillips with respect to all ores mined from the subleased premises the following amounts:

> Second Party shall pay to Phillips the sum of $1.00 per dry short ton of ores mined from the subleased premises which contain as much as 0.10% U3O8. Phillips may deduct the amounts payable to Phillips under the provisions hereof from the amounts due Second Party for the sale of such ores to Phillips under the provisions of Paragraph IX hereof.

IX

DISTRIBUTION OF ORES

A. During the term of this sublease and agreement Second Party agrees to sell to Phillips and Phillips agrees to purchase from Second Party, currently as produced, all ores mined by Second Party from the subleased premises upon the following terms and conditions:

1. Such ores shall be delivered by Second Party to Phillips' ore buying station at its Fibreette Mill located in Section [illegible], Township [illegible] North, Range 9 West, McKinley County, New Mexico. Such ores shall be delivered regularly and promptly as required to said ore buying station at such time as the buying station is open for business.

2. Acceptance, weighing, sampling and assaying of such ores will be in accordance with the provisions and conditions specified in the United States Atomic Energy Commission Domestic Uranium Program Circular 5, Revised, and payment for such ores delivered and accepted hereunder will be at the prices, premiums and allowances as set forth in said circular or any revision or amendment thereof only that:

   (a) No payment will be made for any constituents of ores delivered hereunder other than for contained U_3O_8.

   (b) No penalty will be assessed by reason of the lime content of such ores.

   (c) Phillips shall not be required to sample such ores in lots of less than 500 short tons.

   (d) Settlement for such ores will be made on a monthly basis with all such ores delivered hereunder and fed into the sampling plant in a calendar month being considered one lot of ores for the purpose of making such settlement. Payment for each such monthly lot of ores shall be based on the weighted average, determined arithmetically to the nearest one one-hundredth of one percent, of the assays of the U_3O_8 content, determined to the nearest one one-hundredth of one percent of all ores delivered, accepted and sampled in the sampling plant during a calendar month. Payment for a lot of ores delivered in a calendar month shall be made on or before the 15th day of the next succeeding calendar month.

X

<u>LOAN</u>

Phillips has advanced to Second Party the sum of $10,000.00, in consideration of which Second Party, R. C. Hirdsma and Jack W. Spencer have issued their promissory note dated February 23, 1961, payable to the order of Phillips in said amount with interest at the rate of six (6) per cent per annum, principal and interest being payable in monthly installments beginning March 15, 1961 as set out in said promissory note. For the purpose of securing and facilitating the payment of said note, Second Party agrees that in addition to the amounts Phillips is entitled to retain for itself under the provisions of Paragraph VIII hereof, until the aforementioned promissory note has been paid in full, Phillips may withhold

each month from the amounts due Second Party under the provisions of Paragraph IX hereof for the sale of ores delivered to Phillips during the preceding calendar month the sum of $2.00 per dry short ton of such ores. The amounts so withheld each month shall be applied to the payment of the installment due on said note in such month and any amounts withheld in any month in excess of the amount of the installment due on said note during said month shall be applied on the payment of the last installment or installments due under said note.

XI

TERMINATION DATE AND TERM

This sublease and agreement shall be effective as of the date hereof and shall terminate when all of commercial minable uranium ore in the above mentioned uranium ore body has been mined and sold, as hereinabove provided, or on February 2, 1962, whichever is the earlier date, unless sooner terminated under other provisions hereof. Second Party agrees that upon the termination of this sublease and agreement it will forthwith turn over the subleased premises to Phillips, together with all mines, shafts, tunnels and other workings and excavations in and under the subleased premises in good condition to permit the continued operations therein for the extraction of ores from the subleased premises, together with all Phillips mining equipment, fixtures and materials therein and thereon and all permanent installations thereon, less and except that certain hoist frame and hoist heretofore installed by Second Party over an enlarged ventilation hole, which Second Party shall have the right to remove within a period of ten (10) days from the termination of this sublease and agreement.

XII

ASSIGNMENT

Second Party cannot assign or sublease any part of its interest in the subleased premises without the written consent of Phillips. Should Second Party attempt to assign or sublease all or any part of its interest in the subleased premises without the written consent of Phillips, Phillips may terminate the within sublease and agreement and the subleased premises shall revert to Phillips, if Phillips should so elect and evidence such election by giving notice in writing to Second Party or by filing such notice for record in McKinley County, New Mexico.

XIII

USE OF PHILLIPS PRODUCTS

Second Party agrees to purchase from Phillips, if available, all gasoline, oil, greases and other products marketed by Phillips necessary for Second Party's operations on the subleased premises.

XIV

AD VALOREM TAXES

If the subleased premises have been assessed for ad valorem taxes such taxes shall be prorated on a calendar year basis and Phillips shall pay such taxes for the current year. Second Party shall be liable for its proportionate share of the full amount of taxes so paid and shall reimburse Phillips upon being billed therefor. Second Party assumes the payment of all ad valorem taxes, if any, for all subsequent years.

XV

APPROVAL

It is understood and agreed that this sublease and agreement shall not become effective or operative unless and until approved by the Santa Fe Pacific Railroad Company. The parties hereto agree to cooperate in securing such approval as soon as possible.

XVI

ENTIRE AGREEMENT

The terms of this agreement constitute the entire contract of the parties and there are no agreements, understandings, obligations, promises, assurances or conditions, whether precedent or otherwise, except those specifically set forth.

XVII

PARAGRAPH HEADINGS

The paragraph headings used in this agreement are inserted for convenience only and shall be disregarded in construing this agreement.

XVIII

TIME FOR EXECUTION

If this agreement is not duly executed by Tenant Party and returned to Phillips within Fifteen (15) days from the date hereof, then and thereupon, this offer and agreement, at the option of Phillips, shall be null and void and of no effect.

XIX

SUCCESSORS AND ASSIGNS

The terms, covenants and conditions hereof shall be deemed to be covenants running with the leasehold estate hereinabove referred to and as such shall extend to, bind and inure to the benefit of the parties hereto, their successors and assigns.

WITNESS as of the day and year first above written.

ATTEST:

Assistant Secretary

PHILLIPS PETROLEUM COMPANY

By

Vice President

ATTEST:

Secretary

RMI COMPANY, ~~Incorporated~~ Inc.

By

President

STATE OF OKLAHOMA)
) SS
COUNTY OF WASHINGTON)

The foregoing instrument was acknowledged before me this 3 day of March, 1961, by B. F. Stanley, Vice President of PHILLIPS PETROLEUM COMPANY, a Delaware corporation, on behalf of said corporation.

Notary Public

My Commission Expires:
[illegible] Expires
September 4, 1963

STATE OF New Mexico)
) SS
COUNTY OF Valencia)

The foregoing instrument was acknowledged before me this 23rd day of February, 1961, by [illegible], President of PAUL COMPANY, INCORPORATED, a New Mexico corporation, on behalf of said corporation. Inc.

Sylvia Lomax Kingery
Notary Public

My Commission Expires:
10-16-63

EXHIBIT "A"

ATTACHED TO AND MADE A PART OF THAT CERTAIN CONTRACT AND AGREEMENT DATED THE 22nd DAY OF February, 1956, BY AND BETWEEN [illegible] AND ARM COMPANY, [illegible]

Jnc REK

REK

DESCRIPTION OF COMMUNITIZED AREA

Lease No.:	Mineral Mining Lease and Agreement [illegible]-9462
Date of Lease:	March 16, 1956
Lessor:	Santa Fe Pacific Railroad Company
Lessee:	Food Machinery and Chemical Corporation (Westvaco Mineral Products Division)
Description:	Insofar and only insofar as it covers all of Section 23, Township 13 North, Range 9 West, Bernalillo County, New Mexico (containing 640 acres)
Amount of Royalty:	(a) on ores mined from underground - sliding scale royalty of 1-16.5%, depending on mine value per dry ton (b) on ores mined from open pit - sliding scale royalty of 10-33%, depending on mine value per dry ton
Other Payments or Deductions:	Exploration Contract No. [illegible] 933 dated March 21, 1956.

CBM:rvh
11-12-59
7

GF 11765

A G R E E M E N T

THIS AGREEMENT, made and entered into this 1st day of December, 1959, by and between PHILLIPS PETROLEUM COMPANY, a Delaware corporation, hereinafter called "Phillips", as Party of the First Part, and KSN COMPANY, INCORPORATED, a New Mexico corporation, Grants, New Mexico, hereinafter called "Contractor", as Party of the Second Part,

W I T N E S S E T H:

THAT, Phillips and Contractor for the consideration hereinafter named agree as follows:

ARTICLE I. SCOPE OF WORK

Contractor shall perform the following work at and in the Faith mine located in Section 29, Township 13 North, Range 9 West, McKinley County, New Mexico:

A. Contractor shall mine all uranium ores from the known ore reserves of the Faith mine which have an average grade of at least .20% U_3O_8 for a minimum 4-foot thickness or an average grade of at least .16% U_3O_8 for a minimum 7-foot thickness and tram, hoist and haul such mined uranium ores to the mine stockpile located on the surface of the ground near the mouth of the mine.

ARTICLE II. PERFORMANCE OF WORK

In the performance of the work hereunder Contractor shall:

A. Conduct such mining operations in a prudent and minerlike manner so as to take out the greatest amount of commercial uranium ore, free from waste, having due regard to the safety, development and preservation of the Faith mine as a workable mine.

B. Work said mine continuously and steadily a minimum of 200 man hours per week during the term hereof.

C. Pillar, timber and roof bolt said mine at all points where proper, repair all old timbers and replace all roof bolts as necessary so as to preserve the mine in a safe and workable condition and permit safe re-entry into all areas of the mine except as may be otherwise consented to by Phillips.

D. Not later than January 1, 1960, install, at its sole cost, risk and expense, casing in the enlarged ventilation hole in the Faith mine with

See Phillips Petroleum Company letter February 18, 1960, and J. W. Townsend, Region III, memorandum February 23, 1960, on right-hand side.

an inside diameter of not less than 30 inches and also install over said enlarged ventilation hole a head frame and hoist sufficient to hoist all of the ores mined from the Faith mine to the surface of the ground. The casing so installed shall become the property of Phillips but the head frame and hoist shall remain the property of Contractor and may be removed by it upon the termination of this agreement. In this connection Phillips agrees that unless it shall have previously done so by the effective date of this agreement, it will not later than December 5, 1959, and at its sole cost, risk and expense, complete the enlargement of a mine ventilation hole in the Faith mine to a diameter of not less than 36 inches. In the event that casing, head frame and hoist are not installed in and on an enlarged ventilation hole in the Faith mine in the manner herein specified by January 1, 1960, then and thereupon, this agreement shall terminate.

E. Keep all shafts, drifts, cross-cuts, tunnels and workings in good condition and repair and keep the same clear of loose rock and debris.

F. Keep the mine drained so as to prevent flooding of the mine.

G. Use its best efforts to maintain the monthly weighted average of the U_3O_8 content of ores mined hereunder at .20% or better.

H. Employ competent skilled men in the performance of the work hereunder.

I. Secure all necessary permits and licenses in connection with the performance of the work hereunder, pay all municipal, inspection or other fees pertaining thereto, make all deposits and, at its expense, furnish all bonds required by proper authorities.

J. Furnish Phillips with such data and information as Phillips may require in preparing returns for severance taxes on the ores mined by Contractor hereunder.

ARTICLE III. TERMINATION

Should Contractor fail, neglect or refuse to perform the work, or, if at any time, Phillips is convinced that the work is unreasonably delayed, or that the terms of this agreement are being wilfully violated, or executed carelessly, or in bad faith, Phillips may notify Contractor in writing, and, if defaults complained of are not corrected to the satisfaction of Phillips within ~~24 hours~~ 7 days from the delivery of such notice, then Contractor shall, upon demand of Phillips, discontinue all work under this agreement and this agreement

shall thereupon terminate; provided, that this right is in addition to any other remedy Phillips may have.

ARTICLE IV. MATERIALS, EQUIPMENT AND LABOR

A. Contractor shall provide and pay for all materials, labor, water, tools, machinery, equipment, light, power, transportation, fuel, bits, steel, timbers, roof-bolts, air lines, water lines, dynamite, blasting caps and all other items, whether or not enumerated herein, as may be necessary for the proper and timely execution, performance and completion of the work to be performed hereunder, except that Contractor shall have the right to use such machinery and equipment of Phillips as may be presently located on or in said Faith mine.

In the event any of the machinery or equipment belogging to Phillips and now located in or on said Faith mine should, as the result of ordinary wear and tear and without negligence or misuse by Contractor, be placed in a condition beyond repair, Phillips shall replace such machinery or equipment if replacement is necessary for Contractor to complete the work hereunder.

If, as a result of negligence or misuse by Contractor, any of said machinery or equipment belonging to Phillips should be placed in a condition beyond repair, Contractor agrees to replace such machinery or equipment at its sole cost.

Upon the termination of this agreement Contractor shall return to Phillips all machinery and equipment of Phillips so used by Contractor in as good a condition as when received by Contractor, ordinary wear and tear excepted.

Contractor agrees, at its sole cost, to maintain in good repair all equipment and machinery owned by Phillips and used by Contractor in the performance of the work hereunder as herein provided.

B. Contractor shall promptly pay all labor used by it in the performance of the work hereunder and shall, upon request of Phillips, furnish Phillips with the names of any and all persons employed or used by Contractor in performing said work, and shall furnish Phillips with satisfactory evidence of settlement for any and all labor used by Contractor before any sum or sums shall be due and payable to Contractor under the terms of this agreement.

C. Contractor shall promptly pay all bills for materials used in the performance of the work hereunder and shall furnish Phillips with satisfactory evidence of settlement for all such materials before any sum or sums shall be due and payable to Contractor under the terms of this agreement.

D. Contractor shall forthwith post and keep posted at the mouth of the Faith mine a notice of non-liability of Phillips for labor or materials used in the performance of the work hereunder.

E. Contractor assumes full liability for the payment and/or collection of all present and future Social Security, Unemployment Insurance and/or other payroll and employment taxes or assessments imposed by governmental authority and arising from the employment of any person by Contractor.

ARTICLE V. INDEMNITY AND INSURANCE

A. Contractor shall indemnify and hold Phillips harmless from any and all claims, liabilities and causes of action of, to or by third persons, including Contractor, its sub-contractors, or the employees of either, for injury to or death of any person and for damage to or destruction of any property, resulting directly or indirectly from any and all acts or omissions of Contractor, its sub-contractors, or any one directly or indirectly employed by either of them in connection with the performance of any work provided for herein and regardless of whether such injury, death, damage and/or destruction is contributed to by the negligence of Phillips, its agents, servants and/or employees and on behalf of Phillips and in Phillips name, Contractor shall handle or defend at its own expense any claim or litigation in connection therewith. The indemnity provided for in this paragraph shall have no application to any claim, liability or cause of action resulting from the sole negligence of Phillips, its agents, servants and/or employees.

B. Contractor will indemnify and hold Phillips harmless from all liens and other encumbrances against the mining property and the machinery and equipment thereon on account of debts or claims alleged to be due from Contractor or its sub-contractors to any person, including sub-contractors, and, on behalf of Phillips and in Phillips name, will defend at its own expense any claim or litigation in connection therewith.

C. Contractor shall carry and maintain the following insurance applicable to all operations conducted by it under this agreement.

1. Workmen's Compensation insurance to comply with the laws of the State of New Mexico and employers liability insurance with limits of $25,000.
2. General Public Liability insurance with bodily injury limits of $100,000 per person and $300,000 per accident and property damage limits of $50,000 each accident.

3. A[illegible]mo[illegible]e Public Liability insura[illegible] w[illegible] bodily injury limits of $50,000 per person and $100,000 per accident and property damage limits of $50,000 each accident.

4. Contractual Liability insurance which insures the contractual liabilities by Contractor to Phillips under the indemnities to Phillips set forth above with a limit of $500,000.

Contractor shall submit certificates of insurance in evidence of the above coverage. Such certificates shall specify that in the event of cancellation or material change in coverage, at least ten (10) days' prior written notice will be given to Phillips Petroleum Company, Bartlesville, Oklahoma.

ARTICLE VI. DISPOSAL OF ORE

Phillips shall take and dispose of, currently as produced, all uranium ores mined and stockpiled by Contractor which in Phillips' opinion contains a minimum of .10% U_3O_8.

Phillips will not be required to take ores which contain lumps in excess of twelve inches in size.

ARTICLE VII. PAYMENTS

Phillips shall pay to Contractor for work performed hereunder and at the times hereinafter specified the following amounts:

A. Phillips shall pay to Contractor for the mining of ores mined, hoisted and delivered to the mine stockpile prior to the time that casing, head frame and hoist have been installed in and on an enlarged ventilation hole in the Faith Mine as hereinabove provided and which are mined by Contractor within a distance of up to 1,000 feet from the then existing hoisting shaft station of the Faith Mine, the following amounts:

> Phillips shall pay to Contractor $8.00 per wet short ton of each lot of such ores which contain .20% or more U_3O_8;
>
> If the weighted average U_3O_8 content, calculated arithmetically to the nearest one one-hundreth of one percent (1/100 of 1%), of all lots of such ore sampled during a calendar month which contain less than .20% U_3O_8 is as much as .16% U_3O_8, Phillips shall pay to Contractor the amount of $7.00 per wet short ton of all such lots of ores;
>
> If the weighted average U_3O_8 content, calculated arithmetically to the nearest one one-hundreth of one percent (1/100 of 1%), of all lots of such ores sampled during a calendar month which contain less than .20% U_3O_8 is less than .16% U_3O_8, no payment shall be made to Contractor for mining such lots of ore.

B. Phillips shall pay to Contractor for the mining of ores mined, hoisted and delivered to the mine stockpile prior to the time that casing, head frame and hoist have been installed in and on an enlarged ventilation hole in the Faith Mine as hereinabove provided and which are mined by Contractor at a distance in excess of 1,000 feet from the then existing hoisting shaft station of the Faith Mine, the following amounts:

Phillips shall pay to Contractor $9.50 per wet short ton of each lot of such ores which contain .20% or more U_3O_8;

If the weighted average U_3O_8 content, calculated arithmetically to the nearest one one-hundredth of one percent (1/100 of 1%), of all lots of such ore sampled during a calendar month which contains less than .20% U_3O_8 is as much as .16% U_3O_8, Phillips shall pay to Contractor the amount of $8.00 per wet short ton of all such lots of ores;

If the weighted average U_3O_8 content, calculated arithmetically to the nearest one one-hundredth of one percent (1/100 of 1%), of all lots of such ores sampled during a calendar month which contain less than .20% U_3O_8 is less than .16% U_3O_8, no payment shall be made to Contractor for mining such lots of ore.

C. Phillips shall pay to Contractor for the mining of ores mined, hoisted and delivered to the mine stockpile after the time that casing, head frame and hoist have been installed in and on an enlarged ventilation hole in the Faith Mine as hereinabove provided, the following amounts:

Phillips shall pay to Contractor $8.00 per wet short ton of each lot of such ores which contain .20% or more U_3O_8;

If the weighted average U_3O_8 content, calculated arithmetically to the nearest one one-hundredth of one percent (1/100 of 1%), of all lots of such ore sampled during a calendar month which contain less than .20% U_3O_8 is as much as .16% U_3O_8, Phillips shall pay to Contractor the amount of $7.00 per wet short ton of all such lots of ores;

If the weighted average U_3O_8 content, calculated arithmetically to the nearest one one-hundredth of one percent (1/100 of 1%), of all lots of such ores sampled during a calendar month which contain less than .20% U_3O_8 is less than .16% U_3O_8, no payment shall be made to Contractor for mining such lots of ore.

D. In addition to the amounts provided for above, Phillips shall pay to the Contractor the amount of $1.50 per wet short ton of ores mined by Contractor which are mined, hoisted and delivered to the mine stockpile after the casing, head frame and hoist have been installed in an enlarged mine ventilation hole in the Faith Mine, as hereinabove provided, and which contain as much as .16% U_3O_8, until such time as Contractor shall have received from the amounts paid to Contractor under the provisions of this Subparagraph D an amount equal to the cost of acquiring and installing the casing in said enlarged ventilation shaft but not to exceed a total amount of Ten Thousand Dollars ($10,000.00).

E. For keeping the mine drained of water, Phillips shall pay to Contractor one-half (1/2) the net monthly power bill for the Faith mine as billed Contractor by Continental Divide Electric Cooperative, Inc.

The U_3O_8 content of ores mined by Contractor shall be determined to the nearest one one-hundredth of one per cent (1/100 of 1%) from samples taken by Phillips when such ores are run through its sampling plant at its Ambrosia Mill and the amount of ores represented by one sample shall be considered a lot of ore for the purpose of making payment to the Contractor hereunder, pro-

vided that Phillips shall not be required to sample such ores in lots of less than 500 short tons.

ARTICLE VIII. TIME OF PAYMENTS

A. Provided that Contractor shall have furnished Phillips with satisfactory evidence that all bills for materials furnished and labor performed in conducting the work hereunder have been paid, Phillips shall pay to Contractor the amounts provided for in Subparagraphs A, B, C and D of Article VII above on a monthly basis. Such payments shall be made on or before the 15th day of the month for ores mined, shipped and sampled during the preceding month.

B. Provided that Contractor shall have furnished Phillips with satisfactory evidence that all bills for materials furnished and labor performed in conducting the work hereunder have been paid, Phillips shall pay to Contractor the amounts provided for in Subparagraph E of Article VII above within two (2) weeks after the receipt by Phillips of statement in triplicate from Contractor.

ARTICLE IX. ASSIGNABILITY

Contractor shall not assign this contract or sublet it as a whole or assign any monies due or to become due to it hereunder without the previous written consent of Phillips.

ARTICLE X. USE OF PHILLIPS PRODUCTS

Contractor shall use Phillips products where performance of the work to be conducted hereunder requires the use of products similar to those marketed in the area by Phillips.

ARTICLE XI. ACCESS AND INSPECTION

Phillips shall at all times have the right of access to the work conducted hereunder by Contractor whenever it is in preparation or progress for the purpose of inspecting the same and to do geological and engineering work.

ARTICLE XII. GEOLOGICAL AND ENGINEERING DATA

Phillips shall inform Contractor of all data which it may have, including but not limited to geological and engineering data, concerning the work conducted or to be conducted by Contractor hereunder and shall inform Contractor of the location, position and characteristics of the unmined portion of uranium ore reserves of the Faith mine.

ARTICLE XIII. CONTRACTOR'S CONTROL

Contractor shall keep on the work a competent superintendent and any necessary assistants who shall be in charge of such work and shall have full authority to proceed with the prosecution of the work and every part thereof in conformity with this contract. Contractor shall be an independent contractor, and any provisions of this contract which appear to give Phillips the right to direct Contractor as to details of doing the work, or to exercise a measure of control over the work, shall be deemed to mean, and shall mean, that Contractor shall follow the desires of Phillips in the results of the work only and not in the means whereby the work is to be accomplished, and Contractor shall have complete and authoritative control over the work as to the details of the doing of the work.

ARTICLE XIV. LAWS AND REGULATIONS

This agreement is made expressly subject to and Contractor expressly agrees to comply with and abide by all of the laws of the United States and of the State of New Mexico insofar as the same may be applicable to the performance of the work hereunder, including all rules and regulations now existing or that may be hereafter promulgated under and in accordance with any such law or laws, except that Contractor shall not be required to provide any additional mine ventilation holes which the Mine Inspector of the State of New Mexico might deem necessary. In the event the Mine Inspector of the State of New Mexico should require mine ventilation hole or holes in addition to those presently existing in the Faith mine, Phillips shall not be required to drill such additional ventilation hole or holes, but unless Phillips does so drill such additional ventilation hole or holes at its sole cost, this agreement shall terminate.

ARTICLE XV. STRIKES

If the work of Contractor hereunder is interrupted or delayed by strike, Phillips may, at its option, cancel this agreement.

ARTICLE XVI. CONDITION OF MINE, MACHINERY AND EQUIPMENT

It is understood that Phillips makes no representations as to the condition of the Faith mine or as to the condition or suitableness for use of any of the machinery or equipment located therein or thereon. Contractor's entry into said mine and the use of said equipment and machinery shall be at Contractor's sole risk. Contractor shall assume entire responsibility for examination of the site of the work and for acquaintance with the conditions that may exist or develop during the term hereof.

ARTICLE XVII. NOTICES

All communications, notices and payments required or authorized to be given under this agreement shall be given or transmitted by United States mail or Western Union telegram, postage or charges prepaid, and addressed to the party entitled to such notice or payment or communication, as follows:

Contractor:	KSN Company, Incorporated, P.O.Box 327 Grants, New Mexico
Phillips:	Phillips Petroleum Company Attention of Mr. C. N. Holmes Mining and Milling Department Bartlesville, Oklahoma

The originating notice to be given under any provision hereof shall be deemed given only when received by the party to whom such notice is directed and the

time for such party to give any response thereto shall run from the date the originating notice is received. The second or any subsequent responsive notice shall be deemed to have been given when deposited in the United States post office or with Western Union Telegraph Company, with postage or charges prepaid.

ARTICLE XVIII. EFFECTIVE DATE AND TERM

This agreement shall be effective as of the 1st day of December, 1959. and shall terminate when all of the known ore reserves of the Faith mine have been mined, as hereinabove provided, or on December 31, 1960, whichever is the earlier date, unless sooner terminated under other provisions hereof.

ARTICLE XIX. SUCCESSORS AND ASSIGNS

The terms and provisions of this agreement shall be binding upon and shall inure to the benefit of the parties hereto, their respective successors and assigns.

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

ATTEST:

Assistant Secretary

PHILLIPS PETROLEUM COMPANY

By

Vice President

ATTEST:

Secretary

KSN COMPANY, INCORPORATED

By

President

STATE OF OKLAHOMA)
) SS
COUNTY OF WASHINGTON)

The foregoing instrument was acknowledged before me this 17th day of December, 1959, by B. F. Stradley, Vice President of PHILLIPS PETROLEUM COMPANY, a Delaware corporation, on behalf of said corporation.

My Commission Expires:
My commission expires
April 11, 1962

Ramona Landmann
Notary Public

STATE OF [illegible]
) SS
COUNTY OF [illegible]

The foregoing instrument was acknowledged before me this [illegible] day of [illegible], 1959, by [illegible], President of KSN COMPANY, INCORPORATED, a New Mexico corporation, on behalf of said corporation.

My Commission Expires:
[illegible]

[illegible]
Notary Public

Docket copy

RECEIVED

APR 23 1956

MF-200
(Revised June 1954)

Docket No. DMEA - 3989

Commodity Uranium

Contract No. Idm-E 933

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

EXPLORATION PROJECT CONTRACT[1]

It is agreed this MAR 21 1956 day of _____, 195___, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and [2] Food Machinery and Chemical Corporation, a Delaware corporation, (Westvaco Mineral Products Division),

whose mailing address is 161 East 42nd Street New York 17, New York,

hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200), the attached Exhibit "A," Annex I, and map (Figure 3)

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

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

(b) The Operator represents and undertakes that:

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

(2) The Operator's right, title, or interest (whether as owner, lessee, or otherwise) is subject only to the following claims, liens, or encumbrances: None ~~xxxx Surface owners Nabor and Isabella Marquez claim right to uranium ores, based on disputed interpretationof mineral reservation in their deed from Operator's lessor.~~

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

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

of the land (lessor, seller, optionor, etc.), are attached, as follows: Consent to Lien of Santa Fe Pacific Railroad Company. Attached performance bond is in lieu of Consent to Lien of Santa Fe Pacific Railroad Company and Subordination Agreement of Nabor and Isabella Marquez.

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

ARTICLE 3. *The exploration project.*—The project is a search for indicated or undeveloped deposits of Uranium. The work to be performed is described in Exhibit "A." The Operator on or before April 15, 1956, shall commence the work, and on or before March 1, 1957 (unless the Operator's obligation to prosecute the work is terminated—see Article 10) shall have completed the work except as otherwise provided in Exhibit "A" with respect to stages of work.

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

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

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

ARTICLE 5. *Contribution by the Government.*—The estimated total allowable cost of the project, set forth in Exhibit "A," is the sum of $91,908.00 The Government shall contribute 75 percent of the allowable costs as they are incurred in a total sum not in excess of $68,931.00: *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last

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

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

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

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

CATEGORY (2)—PERSONAL SERVICES.

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

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

Subcategory (c)—Labor.

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

CATEGORY (4)—OPERATING EQUIPMENT.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

and see Article 13.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 13. *Changes and added provisions.*—

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

(b) To the extent that costs are set forth in Exhibit "A" as "Fixed Unit Costs" they are in lieu of the actual costs that otherwise would be allowable costs of the project under Article 6 of the contract. The Government will contribute to the fixed unit costs as they accrue, on the basis of units of work actually performed. The fixed unit costs include all costs of the work necessary to complete the project.

(c) That part of the last sentence in the first paragraph of Article 6(a) commencing after the semicolon, is deleted.

Executed in sextuplicate the day and year first above written.

Lindritz 3/9/56
Appd. Sol. Off.

THE UNITED STATES OF AMERICA

Ching
Ellis
Selfridge
Johnson

By O. Mitterdorfer
Administrator, Defense Minerals Exploration Administration

FOOD MACHINERY AND CHEMICAL CORPORATION (WESTVACO MINERAL PRODUCTS DIVISION)
(Operator)

By W. N. Williams

Title Vice President

I, Harold Vogel, certify that I am the Assistant secretary of the corporation named as Operator herein; that W. N. Williams who signed this contract on behalf of the Operator, was then Vice President of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

Harold Vogel

[CORPORATE SEAL]

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

RECEIVED
APR 23 1956

EXPLORATION PROJECT CONTRACT
FOOD MACHINERY AND CHEMICAL CORPORATION
(WESTVACO MINERAL PRODUCTS DIVISION)
DOCKET NO. NMEA-3989

ANNEX I

The land referred to in Article 2 of the contract consists of all of sec. 29, T. 13 N., R. 9 W., N.M.P.M., McKinley County, New Mexico, lying within the exterior boundaries of said section and extending vertically downward.

The land is shown on a map entitled "Figure 3. Sketch Map of Part of Section 29 . . .," attached hereto and made a part hereof.

DOCKET COPY

OFFICIAL FILE COPY
O. M. E.
RECEIVED APR 21 1961

DATE	INITIALS	CODE

R I D E R

Perf. Bond Rider

Rider to be attached to and form a part of Bond No. 302474, wherein PHILLIPS PETROLEUM COMPANY, is named as Principal and THE COMMONWEALTH INSURANCE COMPANY OF NEW YORK as Surety, in the sum of $23,315.89, in favor of the United States of America, dated March 1, 1960, Performance Bond - Exploration Project - Contract No. Idm-E933 (DMEA) Docket No. 3989.

IT IS HEREBY STIPULATED AND AGREED that the amount of the above Bond be and the same is hereby decreased from Twenty-Three Thousand, Three Hundred Fifteen Dollars and Eighty-Nine Cents ($23,315.89) to Three Thousand Six Hundred Four Dollars and Eight Cents ($3,604.08) such change in amount to have effect as of and from the 10th day of April, 1961; on and after which date said Principal and Surety shall be liable under said bond for loss sustained by the Obligee during the period such change shall continue in effect, only to the extent by which such decreased amount exceeds loss, if any, covered by said bond which shall have been sustained by the Obligee prior to such decrease.

IN WITNESS WHEREOF said Principal and Surety have caused this Rider to be signed by its respective duly authorized officers and their corporate seals to be hereunto affixed this 10th day of April, 1961.

PHILLIPS PETROLEUM COMPANY

ATTEST: R E Linnard
Asst. Secretary

By R. B. Stewart
Vice President

THE COMMONWEALTH INSURANCE COMPANY OF NEW YORK

By M M Lannon
Attorney-in-Fact

Power of Attorney

The Commonwealth Insurance Company of New York

HOME OFFICE—150 WILLIAM STREET—NEW YORK 38

Know All Men By These Presents:

That THE COMMONWEALTH INSURANCE COMPANY OF NEW YORK, in pursuance of authority granted by resolution of the Board of Directors dated September 28, 1955, which said resolution has not been amended nor rescinded and of which the following is a true and complete copy:

"RESOLVED that the President or any Vice-President or Secretary may appoint Resident Vice-Presidents, Resident Assistant Secretaries and Attorneys-in-Fact in any State, Territory or Federal District to represent this company and to act on its behalf within the scope of the authority granted to them in writing, which authority may include the power to make, execute, seal and deliver on behalf of this company as surety and as its act and deed any and all bonds and undertakings of suretyship and other documents that the ordinary course of surety business may require; and any such Resident Vice-President, Resident Assistant Secretary or Attorney-in-Fact may be removed and the authority granted him revoked by the President or any Vice-President or Secretary or by the Board of Directors."

does hereby nominate, constitute and appoint:

J. J. Quinn or Tom R. Weaver or M. M. Lannan, Bartlesville, Oklahoma,

its true and lawful Attorney in Fact, to make, execute, seal and deliver for and on its behalf, as surety:

any and all bonds and undertakings of suretyship, provided no such bond or undertaking shall be in the penalty of more than FIVE HUNDRED THOUSAND AND NO/100 ($500,000.00) DOLLARS.

And the execution of such bonds or undertakings, in pursuance of these presents shall be as binding upon the said Company, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the said Company in their own proper persons.

All authority hereby conferred shall expire and terminate without notice at midnight of May 1, 1962.

In witness whereof, THE COMMONWEALTH INSURANCE COMPANY OF NEW YORK has caused these presents to be signed by its Vice-President or Secretary and its corporate seal to be hereto affixed this 11th day of April 1960.

Attest: THE COMMONWEALTH INSURANCE COMPANY OF NEW YORK

C. E. Havekotte, Assistant Secretary (SEAL)

By G. W. Dyer, Secretary

STATE OF Missouri
COUNTY OF Jackson } ss.

On this day, before the subscriber, a Notary Public in and for said County and State, duly commissioned and qualified, came the above named officer of THE COMMONWEALTH INSURANCE COMPANY OF NEW YORK, to me personally known to be the individual and officer who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, deposeth and saith, that he is the said officer of the Company aforesaid, and that the seal affixed to the preceding instrument is the corporate seal of the said Company, and that the said corporate seal and his signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Company.

In witness whereof, I have hereunto set my hand and affixed my official seal, at Kansas City, Missouri this 11th day of April 1960.

(SEAL)

My commission expires May 30, 1961, Kathryn Clutter, Notary Public

I, the undersigned, Assistant Secretary of THE COMMONWEALTH INSURANCE COMPANY OF NEW YORK, do hereby certify that the original POWER OF ATTORNEY, of which the foregoing is a full, true and correct copy, is in full force and effect.

In witness whereof, I have hereunto subscribed my name as Assistant Secretary, and affixed the corporate seal of the Company, this 13th day of April 1961

(SEAL)

C. E. Havekotte, Assistant Secretary

Form SC253 12-59

PHILLIPS PETROLEUM COMPANY

BARTLESVILLE, OKLAHOMA

MINING AND MILLING DEPARTMENT

March 4, 1960

Re: Docket No. DMEA-3989 (Uranium)
Contract No. Idm - E933
Section 29-13N-9W
McKinley County, New Mexico

Mr. Frank E. Johnson, Acting Director
United States Department of the Interior
Office of Minerals Exploration
Washington 25, D. C.

Dear Sir:

Phillips Petroleum Company has purchased Section 29-13N-9W, McKinley County, New Mexico from Food Machinery and Chemical Corp. subject to the captioned DMEA contract.

Food Machinery originally filed a bond with your office in the amount of $68,931.00 and this amount has now been reduced to $23,315.89 as of February 1, 1960.

Phillips, as the present owner, submits herewith a new bond on Standard Form No. 25 in the amount of $23,315.89.

We will appreciate your advising of your acceptance of this bond as we are to notify Food Machinery when they may cancel theirs.

Very truly yours,

C. N. Holmes/hm

C. N. Holmes, Ass't Manager
Mining and Milling Department

CNH:TAL:hm
Encl.

cc: Mr. Clarence Peterson
Food Machinery & Chemical Corp.
Chrysler Building East
161 East 42nd Street
New York 17, N. Y.

OFFICIAL FILE COPY O. M. E. RECEIVED MAR 7 1960		
DATE	INITIALS	CODE
3-7	gad	VVO
3/7	[illegible]	800
"	Murphy	500
		225

$23,315.89 in present balance.

Talbert 3/9/60

It's Performance That Counts
FLITE-FUEL — TROP-ARTIC

STANDARD FORM 25
REVISED NOVEMBER 1950
PRESCRIBED BY GENERAL
SERVICES ADMINISTRATION
GENERAL REGULATION NO. 5

PERFORMANCE BOND

(See Instructions on Reverse)

DATE BOND EXECUTED

March 1, 1960

PRINCIPAL

PHILLIPS PETROLEUM COMPANY, a Delaware Corporation

SURETY

THE COMMONWEALTH INSURANCE COMPANY OF NEW YORK, a New York Corporation, of 150 William Street, New York 38, New York,

PENAL SUM OF BOND *(express in words and figures)*	CONTRACT NO.	DATE OF CONTRACT
Twenty-Three Thousand Three Hundred Fifteen Dollars and Eighty-Nine Cents ($23,315.89)	Idm-E933 (DMEA Docket No. 3989)	March 21, 1956

KNOW ALL MEN BY THESE PRESENTS, That we, the **PRINCIPAL** and **SURETY** above named, are held and firmly bound unto the United States of America, hereinafter called the Government, in the penal sum of the amount stated above, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the Government, numbered and dated as shown above and hereto attached;

NOW THEREFORE, if the principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the Government, with or without notice to the surety, and during the life of any guaranty required under the contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

In Presence of:

WITNESS		INDIVIDUAL PRINCIPAL	
1.	as to		[SEAL]
2.	as to		[SEAL]
3.	as to		[SEAL]
4.	as to		[SEAL]

WITNESS		INDIVIDUAL SURETY	
1.	as to		[SEAL]
2.	as to		[SEAL]

Attest:

Assistant Secretary

CORPORATE PRINCIPAL: PHILLIPS PETROLEUM COMPANY

BUSINESS ADDRESS: PHILLIPS BUILDING, BARTLESVILLE, OKLAHOMA

BY

TITLE: Vice President

AFFIX CORPORATE SEAL

Attest:

M. M. Lemmon

Attorney-in-Fact

CORPORATE SURETY: THE COMMONWEALTH INSURANCE COMPANY OF NEW YORK

BUSINESS ADDRESS: 150 William Street, New York 38, N. Y.

BY

TITLE: Attorney-in-Fact

AFFIX CORPORATE SEAL

STANDARD FORM 25
NOVEMBER 1950 EDITION

16—30441-2

The rate of premium on this bond is ..... per thousand.

Total amount of premium charged, $.....

(The above must be filled in by corporate surety)

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, R. E. Arnold, certify that I am the Assistant secretary of the corporation named as principal in the within bond; that C. O. Stark, who signed the said bond on behalf of the principal, was then Vice President of said corporation; that I know his signature, and his signature thereto is genuine; and that said bond was duly signed, sealed, and attested for and in behalf of said corporation by authority of its governing body.

R E Arnold

[CORPORATE SEAL]

INSTRUCTIONS

1. This form shall be used for construction work or the furnishing of supplies or services, whenever a performance bond is required. There shall be no deviation from this form except as authorized by the General Services Administration.

2. The surety on the bond may be any corporation authorized by the Secretary of the Treasury to act as surety, or two responsible individual sureties. Where individual sureties are used, this bond must be accompanied by a completed Affidavit of Individual Surety for each individual surety (Standard Form 28).

3. The name, including full Christian name, and business or residence address of each individual party to the bond shall be inserted in the space provided therefor, and each such party shall sign the bond with his usual signature on the line opposite the scroll seal, and if signed in Maine or New Hampshire, an adhesive seal shall be affixed opposite the signature.

4. If the principals are partners, their individual names shall appear in the space provided therefor, with the recital that they are partners composing a firm, naming it, and all the members of the firm shall execute the bond as individuals.

5. If the principal or surety is a corporation, the name of the State in which incorporated shall be inserted in the space provided therefor, and said instrument shall be executed and attested under the corporate seal as indicated in the form. If the corporation has no corporate seal the fact shall be stated, in which case a scroll or adhesive seal shall appear following the corporate name.

6. The official character and authority of the person or persons executing the bond for the principal, if a corporation, shall be certified by the secretary or assistant secretary, according to the form herein provided. In lieu of such certificate there may be attached to the bond copies of so much of the records of the corporation as will show the official character and authority of the officer signing, duly certified by the secretary or assistant secretary, under the corporate seal, to be true copies.

7. The date of this bond must not be prior to the date of the instrument in connection with which it is given.

☆ U. S. GOVERNMENT PRINTING OFFICE : 1951—O-79566

Power of Attorney

The Commonwealth Insurance Company of New York

HOME OFFICE—150 WILLIAM STREET—NEW YORK 38

Know All Men By These Presents:

That THE COMMONWEALTH INSURANCE COMPANY OF NEW YORK, in pursuance of authority granted by resolution of the Board of Directors dated September 28, 1955, which said resolution has not been amended nor rescinded and of which the following is a true and complete copy:

"RESOLVED that the President or any Vice-President or Secretary may appoint Resident Vice-Presidents, Resident Assistant Secretaries and Attorneys-in-Fact in any State, Territory or Federal District to represent this company and to act on its behalf within the scope of the authority granted to them in writing, which authority may include the power to make, execute, seal and deliver on behalf of this company as surety and as its act and deed any and all bonds and undertakings of suretyship and other documents that the ordinary course of surety business may require; and any such Resident Vice-President, Resident Assistant Secretary or Attorney-in-Fact may be removed and the authority granted him revoked by the President or any Vice-President or Secretary or by the Board of Directors."

does hereby nominate, constitute and appoint:

J. J. Quinn or Tom R. Weaver or M. M. Lannan, Bartlesville, Oklahoma,

its true and lawful Attorney-in-Fact, to make, execute, seal and deliver for and on its behalf, as surety:

any and all bonds and undertakings of suretyship, provided no such bond or undertaking shall be in the penalty of more than FIVE HUNDRED THOUSAND AND NO/100 ($500,000.00) DOLLARS.

And the execution of such bonds or undertakings, in pursuance of these presents shall be as binding upon the said Company, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the said Company in their own proper persons.

All authority hereby conferred shall expire and terminate without notice at midnight of May 1, 1960.

In witness whereof, THE COMMONWEALTH INSURANCE COMPANY OF NEW YORK has caused these presents to be signed by its Vice-President or Secretary and its corporate seal to be hereto affixed this 5th day of December 19 58

Attest: THE COMMONWEALTH INSURANCE COMPANY OF NEW YORK

By

(SEAL) F. H. Russell Assistant Secretary G. W. Dyer, Secretary

STATE OF Missouri
COUNTY OF Jackson } ss.

On this day, before the subscriber, a Notary Public in and for said County and State, duly commissioned and qualified, came the above named officer of THE COMMONWEALTH INSURANCE COMPANY OF NEW YORK, to me personally known to be the individual and officer who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, deposeth and saith, that he is the said officer of the Company aforesaid, and that the seal affixed to the preceding instrument is the corporate seal of the said Company, and that the said corporate seal and his signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Company.

In witness whereof, I have hereunto set my hand and affixed my official seal, at Kansas City, Missouri this 5th day of December 19 58

(SEAL)

My commission expires May 30, 1961, Kathryn Clutter, Notary Public

I, the undersigned, Assistant Secretary of THE COMMONWEALTH INSURANCE COMPANY OF NEW YORK, do hereby certify that the original POWER OF ATTORNEY, of which the foregoing is a full, true and correct copy, is in full force and effect.

In witness whereof, I have hereunto subscribed my name as Assistant Secretary, and affixed the corporate seal of the Company, this 1st day of March 19 60

(SEAL)

F. H. Russell, Assistant Secretary

Form SC253 11-55

AGENCY CO. BOND NO. 786491

STANDARD FORM 25
REVISED NOVEMBER 1950
PRESCRIBED BY GENERAL
SERVICES ADMINISTRATION
GENERAL REGULATION NO. 5

PERFORMANCE BOND

(See Instructions on Reverse)

DATE BOND EXECUTED

April 23, 1956

PRINCIPAL

FOOD MACHINERY AND CHEMICAL CORPORATION, A Delaware Corporation

SURETY

FIDELITY INSURANCE COMPANY, a New Jersey Corporation
of 90 John Street, New York 38, New York

PENAL SUM OF BOND (*express in words and figures*) No. 786 2491	CONTRACT NO.	DATE OF CONTRACT
Sixty-eight Thousand, Nine Hundred thirty-one ($68,931.00) Dollars	Idn-E 933 (IMBA Docket No. 3989)	March 21, 1956

KNOW ALL MEN BY THESE PRESENTS, That we, the PRINCIPAL and SURETY above named, are held and firmly bound unto the United States of America, hereinafter called the Government, in the penal sum of the amount stated above, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the Government, numbered and dated as shown above and hereto attached;

NOW THEREFORE, if the principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the Government, with or without notice to the surety, and during the life of any guaranty required under the contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

In Presence of:

WITNESS		INDIVIDUAL PRINCIPAL	
1.	as to		[SEAL]
2.	as to		[SEAL]
3.	as to		[SEAL]
4.	as to		[SEAL]

WITNESS		INDIVIDUAL SURETY	
1.	as to		[SEAL]
2.	as to		[SEAL]

Attest:

M. E. Gibbs

ASSISTANT SECRETARY

CORPORATE PRINCIPAL

FOOD MACHINERY AND CHEMICAL CORPORATION

BUSINESS ADDRESS

161 East 42 Street, New York, New York

BY

[signature]

TITLE

Executive Vice President

AFFIX CORPORATE SEAL

Attest:

Edgar R. Hackman

Edgar R. Hackman, Attorney-in-Fact

CORPORATE SURETY

FIDELITY INSURANCE COMPANY

BUSINESS ADDRESS

90 John Street, New York 38, N.Y.

BY

Stephen Ahn

TITLE

Stephen Ahn, Assistant Secretary

AFFIX CORPORATE SEAL

STANDARD FORM 25
NOVEMBER 1950 EDITION

MADE IN THE U.S.A.

16—30441-2

The rate of premium on this bond is [illegible] per thousand.

Total amount of premium charged, $[illegible]

(The above must be filled in by corporate surety)

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, H. E. Gilbert, certify that I am the assistant secretary of the corporation named as principal in the within bond; that Ernest Hart, who signed the said bond on behalf of the principal, was then Executive Vice President of said corporation; that I know his signature, and his signature thereto is genuine; and that said bond was duly signed, sealed, and attested for and in behalf of said corporation by authority of its governing body.

H. E. Gilbert [CORPORATE SEAL]

INSTRUCTIONS

1. This form shall be used for construction work or the furnishing of supplies or services, whenever a performance bond is required. There shall be no deviation from this form except as authorized by the General Services Administration.

2. The surety on the bond may be any corporation authorized by the Secretary of the Treasury to act as surety, or two responsible individual sureties. Where individual sureties are used, this bond must be accompanied by a completed Affidavit of Individual Surety for each individual surety (Standard Form 28).

3. The name, including full Christian name, and business or residence address of each individual party to the bond shall be inserted in the space provided therefor, and each such party shall sign the bond with his usual signature on the line opposite the scroll seal, and if signed in Maine or New Hampshire, an adhesive seal shall be affixed opposite the signature.

4. If the principals are partners, their individual names shall appear in the space provided therefor, with the recital that they are partners composing a firm, naming it, and all the members of the firm shall execute the bond as individuals.

5. If the principal or surety is a corporation, the name of the State in which incorporated shall be inserted in the space provided therefor, and said instrument shall be executed and attested under the corporate seal as indicated in the form. If the corporation has no corporate seal the fact shall be stated, in which case a scroll or adhesive seal shall appear following the corporate name.

6. The official character and authority of the person or persons executing the bond for the principal, if a corporation, shall be certified by the secretary or assistant secretary, according to the form herein provided. In lieu of such certificate there may be attached to the bond copies of so much of the records of the corporation as will show the official character and authority of the officer signing, duly certified by the secretary or assistant secretary, under the corporate seal, to be true copies.

7. The date of this bond must not be prior to the date of the instrument in connection with which it is given.

U. S. GOVERNMENT PRINTING OFFICE 16—30441-2

EXPLORATION PROJECT CONTRACT
FOOD MACHINERY AND CHEMICAL CORPORATION
(WESTVACO MINERAL PRODUCTS DIVISION)
DOCKET NO. RMMA-3989

RECEIVED
APR 23 1956

EXHIBIT "A"

Description of the Work

General Provisions

The work consists of exploration by core and non-core drilling to test the Todilto limestone of Jurassic age.

As hereinafter described, certain holes shall be cored through the Todilto limestone interval and the remaining holes shall be drilled non-core throughout. Where coring is required, the minimum size of core shall be NX. Non-core holes shall be of sufficient diameter to permit efficient radiometric probing. All holes shall be reamed and cased as necessary.

In the case of cored intervals through the Todilto limestone, the core and cuttings from such intervals shall be saved. In the case of non-core holes, the cuttings from the Todilto limestone shall be collected and sacked at 2-foot intervals and properly labeled. All core and cuttings saved shall be checked radiometrically for uranium. Material indicating significant mineralization shall be split for samples, and such samples shall be analyzed chemically for uranium. All the remaining core and cuttings, or splits thereof, shall be properly stored for inspection and disposition by the Government.

All drill holes shall be logged geologically and probed radiometrically, and the record of such logging and probing, together with certified copies of all assay certificates, shall be submitted to the Government with the Operator's monthly progress reports.

Access roads and drill sites shall be prepared with a D-7 bulldozer or equivalent unit.

The location, direction, inclination, and extent of all project work are subject to the approval of the Government.

The work is divided into two successive stages as described hereinafter. The Operator shall complete Stage I, and shall perform as much of the work under Stage II as the Government approves in writing in advance.

Stage I

Prepare access roads and drill sites. The locations and estimated depths of 138 Stage I holes are shown on the attached map (Figure 3). Drill 67 holes, partly non-core and partly core, and drill 71 holes non-core throughout.

The drill holes are expected to range from 100 feet to 555 feet and to average approximately 317 feet in depth. The cored intervals are estimated to average approximately 36 feet per hole and to total 2,415 feet in 67 holes. Non-core drilling is estimated to total 41,390 feet. In the event these estimated footages are insufficient to reach the specified horizon in any hole, additional footage and cost may be transferred from Stage II, if approved in writing by the Government.

The 138 holes shall be located along 8 staggered north-south rows spaced 400 feet apart and starting 200 feet from the western boundary of the land. The holes in each row shall be spaced 200 feet apart except that as indicated on Figure 3, some of the holes in the first and second rows shall be spaced only 100 feet apart.

Stage II

Prepare access roads and drill sites, and drill not more than 50 non-core holes aggregating not more than 16,000 feet to offset previously drilled holes that show significant mineralization. These holes shall be drilled at least 50 feet from any previously drilled hole.

Estimated Cost of the Project

Stage I

Actual Costs

Category (1) Independent Contracts

41,390 feet non-core drilling @ $1.25/ft.	$51,737.50	
2,415 feet core drilling @ $3.50/ft.	8,452.50	
32 hours bulldozing @ $12.50/hr.	400.00	
Categories (2) through (7)		
None		$60,590.00

Fixed Unit Costs (See Article 13)

Incidental allowance for each foot of core and non-core drilling completed, 43,805 feet @ $0.18/ft.	$ 7,884.90	
80 chemical sample analyses @ $3.50 each sample	280.00	$ 8,164.90
Estimated Total Cost of Stage I		$68,754.90

Stage II

Actual Costs

Category (1) **Independent Contracts**

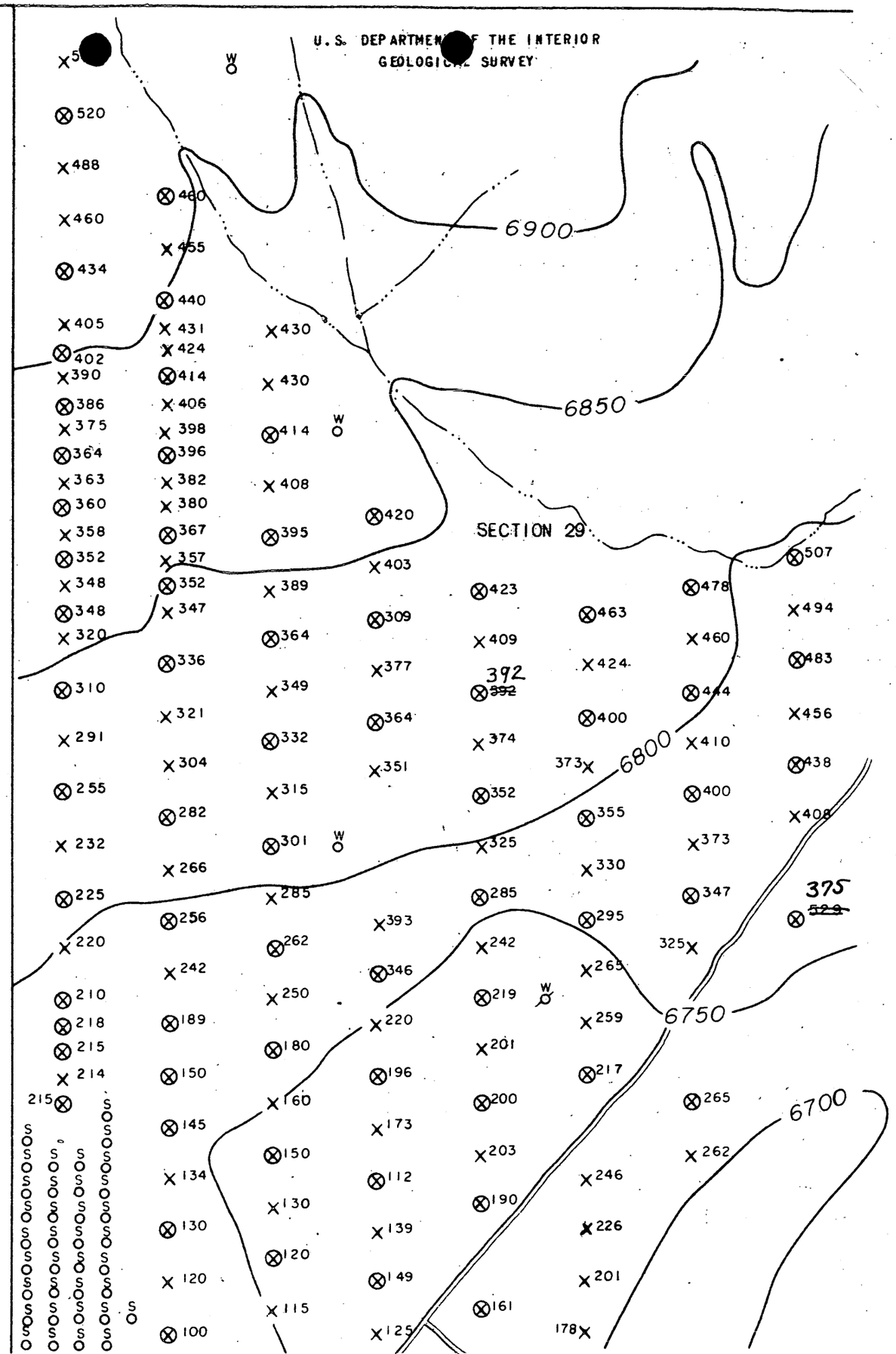
16,000 feet non-core drilling @ $1.25/ft.	20,000.00	
8 hours bulldozing @ $12.50/hr.	100.00	
Categories (2) through (7)		
None		20,100.00

Fixed Unit Costs (See Article 13)

Incidental allowance for each foot of core and non-core drilling completed, 16,000 feet @ $0.18/ft.	2,880.00	
50 chemical sample analyses @ $3.50 each sample	175.00	3,055.00
Estimated Total Cost of Stage II		$23,155.00

S U M M A R Y

Estimated Total Cost of Stage I	$68,754.90	
Estimated Total Cost of Stage II	23,155.00	
Estimated Total Cost of Project (rounded)		$91,908.00
Government Participation @ 75%		$68,931.00



EXPLANATION

o W	EXISTING DRILL HOLE (BARREN) DRILLED BY APPLICANT
o W	EXISTING DRILL HOLE (MINERALIZED) DRILLED BY APPLICANT
o S	EXISTING DRILL HOLE DRILLED BY PREVIOUS OWNER
⊗ 414	PROPOSED STAGE I DRILL HOLE CORED THROUGH TODILTO (NUMBER INDICATES ESTIMATED TOTAL DEPTH)
X 363	PROPOSED STAGE I DRILL HOLE (PLUG BIT) (NUMBER INDICATES ESTIMATED TOTAL DEPTH)

Note: LAND LINES, TOPOGRAPHY, AND HOLE LOCATIONS FROM APPLICANTS MAP.

N

500 0 1500 FEET

CONTOUR INTERVAL 50 FEET
DATUM FROM APPLICANTS MAP

FIGURE 3. SKETCH MAP OF PART OF SECTION 29, T. 13 N., R. 9 W., N.M.P.M. SHOWING EXISTING DRILL HOLES AND LOCATION OF PROPOSED STAGE I DRILL HOLES, FOOD MACHINERY AND CHEMICAL CORPORATION, McKINLEY COUNTY, NEW MEXICO.

CITY, COUNTY & STATE OF NEW YORK, ss:

On this 11 day of May 1959, before me personally came Stephen Plum and Mary E. Asplund to me known, who, being by me duly sworn, did depose and say that they reside in Orange, N. Y. and Brooklyn, N. Y. respectively; that they are Assistant Secretary and Attorney-in-Fact respectively of the **FEDERAL INSURANCE COMPANY**, the corporation described in and which executed the annexed instrument; that they know the corporate seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order and authority of the Board of Directors of said corporation, and that they signed their names thereto by like order and authority.

DOROTHY C. WINTERS
NOTARY PUBLIC, State of New York
No. 31-9709915
Qualified in New York County
Commission Expires March 30, 1960

Sworn to and Acknowledged before me on the date above written

Dorothy C. Winters
(Notary's Signature, Description and Seal)

Certified Copy of Resolution Authorizing Execution of Bonds

At a regular meeting of the Board of Directors of the **FEDERAL INSURANCE COMPANY**, duly held at the office of the Company in New York, N. Y. on the 8th day of September, 1958, a quorum being present, on motion it was unanimously "RESOLVED, That Percy Chubb 2nd, President, or Nathan Mobley or Junius L. Powell or James G. Cannon or Thos. R. Dew or Ernest W. Fields or Alexander Kerner or George F. Meredith, Vice Presidents of this Company, or Joseph J. Magrath, Secretary of this Company, AND Frederick C. Gardner or Donald H. Haeseker or John C. Harden or Richard G. Hight or Willis Koenig or Arthur A. Kuhne or Fred Moran or Horace C. Neville or Stephen Plum or Davis Quinn or Daniel F. Randolph or George C. Josephson, Assistant Secretaries of this Company OR that any one of said persons AND Howard A. Anderson or Mary E. Asplund or Richard L. Boyle or Thomas H. Fairfield or Marie C. Gotthard or Edgar R. Heckman or M. C. Hoefer or Emily Kraft or Walter LaForge or John MacGregor or Adelaide Natale or Richard D. O'Connor or Donald E. Rapp or Matilda Smith, who are hereby appointed Attorneys-in-Fact of this Company for the purposes specified in this resolution; be and they are hereby authorized to jointly execute under their respective designations, in this Company's name and to affix its corporate seal to, and deliver for and on its behalf, as surety thereon or otherwise, bonds or obligations given or executed in the course of this Company's business, and any instruments amending or altering the same, and consents to the modification or alteration or assignment of any instruments referred to in said bonds or obligations, and the execution of any and all instruments in this Company's name and on its behalf as surety thereon or otherwise by such persons in the authorized manner and under their respective designations, under the seal of this Company, in pursuance of the authority hereby conferred, shall be valid and binding upon this Company."

Financial Statement of Federal Insurance Company as of June 30, 1958

Assets		Liabilities and Surplus to Policyholders	
United States Government Bonds	$ 55,337,894	Unearned Premiums	$ 43,906,450
State and Municipal Bonds	21,475,007	Outstanding Losses and Claims as Estimated by Company	27,335,578
Other Bonds	7,061,270	Dividend Payable September 8	617,583
Preferred and Guaranteed Stocks	5,788,868	Taxes and Expenses	3,472,089
Common Stocks	52,475,770	Funds Held under Reinsurance Treaties	3,351,047
Capital Stock of Vigilant Insurance Company	13,209,020	Non-Admitted Reinsurance	5,146,470
Capital Stock (97%) of The Colonial Life Insurance Company of America	4,532,919		
Total Investments (note)	159,880.748	Total Liabilities	83,829,217
Cash	8,951,943		
Premiums Receivable	13,231,942		
Reinsurance Recoverable on Paid Losses	468,105	Capital Stock—$4 Par Value—3,087,916 shares	12,351,664
Other Assets	4,263,681	Surplus	48,083,758
		Unrealized Appreciation of Investments	33,618,248
Total	186,796,419		
Deduct: Premiums over 90 days due and other non-admitted assets	3,637,676	Surplus to Policyholders (note)	94,053,670
Reinsurance Premiums Payable	5,275,856		
	8,913,532		
Total Admitted Assets	$177,882,887	Total Liabilities and Surplus to Policyholders	$177,882,887

Note: Investments are valued in accordance with requirements of the National Association of Insurance Commissioners. On the basis of market values at June 30, 1958 for all investments other than affiliates, Consolidated Total Investments would be increased by $638,463 and Surplus to Policyholders would be $94,692,133.

Consolidated investments valued at $7,575,166 are deposited with government authorities as required by law.

Certification

CITY, COUNTY & STATE OF NEW YORK, ss:

I, GEORGE C. JOSEPHSON Assistant Secretary of the **FEDERAL INSURANCE COMPANY**, do hereby certify that I have compared the foregoing resolution with the original thereof as recorded in the Minute Book of said Company, and that the same is a correct and true copy of the whole of said original resolution and that said resolution has not been modified or rescinded; that the Company is duly and legally incorporated under the laws of the State of New Jersey and has complied with the provisions of the Act of Congress August 13, 1894, as amended, allowing certain corporations to be accepted as Surety on bonds; that the Company is duly licensed in each of the States of the United States of America, Alaska, Hawaii and Puerto Rico to transact a Fidelity and Surety business; and that the above statement of such Company's assets and liabilities is true and correct.

Given under my hand and seal of said Company at the City of New York this 11 day of May, 1959

George C. Josephson
Assistant Secretary

Form 11158F Rev. (9-58)
F5709 (2M)

FEDERAL INSURANCE COMPANY

Into Which Has Been Merged (July, 1953)

UNITED STATES GUARANTEE COMPANY

CHUBB & SON, Managers 90 John Street, New York 38, N. Y.

Rider to be attached to and form a part of Bond No. 7862491, wherein FOOD MACHINERY AND CHEMICAL CORPORATION, is named as Principal and FEDERAL INSURANCE COMPANY as Surety, in the sum of $68,931.00, in favor of the United States of America, dated April 18th, 1956, Performance Bond - Exploration Project - Contract No. Idm-E933 (DMEA) Docket No. 3989.

IT IS HEREBY STIPULATED AND AGREED that the amount of the above Bond be and the same is hereby decreased from SIXTY EIGHT THOUSAND, NINE HUNDRED THIRTY ONE AND 00/100 ($68,931.00) DOLLARS to THIRTY TWO THOUSAND, NINE HUNDRED SIXTY EIGHT AND 46/100 ($32,968.46) such change in amount to have effect as of and from the 15th day of April 1959; on and after which date said Principal and Surety shall be liable under said bond for loss sustained by the Obligee during the period such change shall continue in effect, only to the extent by which such decreased amount exceeds loss, if any, covered by said bond which shall have been sustained by the Obligee prior to such decrease.

IN WITNESS WHEREOF said Principal and Surety have caused this Rider to be signed by its respective duly authorized officers and their corporate seals to be hereunto affixed this 11th day of May, 1959.

FOOD MACHINERY AND CHEMICAL CORPORATION

By: K. J. Wanderer

Assistant Secretary

FEDERAL INSURANCE COMPANY

BY: Stephen Plum

Stephen Plum, Assistant Secretary

AND: Mary E. Asplund

Mary E. Asplund, Attorney-in-Fact

(SIX COUNTERPARTS)

OFFICIAL FILE COPY O. M. E. RECEIVED MAY 28 1959		
DATE	INITIALS	CODE
5/29	J. Lynch	140
5/29	Vernon	140
6/1/59	Approved Sol. off. Selfridge	120

The foregoing is agreed to and accepted by:

By: Frank E. Johnson

Frank E. Johnson, Acting Director
Office of Minerals Exploration

11069 F
(10M)

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

September 19, 1955

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA Aid, (Uranium), Food Machinery and Chemical Corporation, Section 29, T. 13 N., R. 9 W., McKinley County, New Mexico

Enclosed are two copies of the subject application in the amount of $57,280.00.

One copy of the application has been forwarded to the Grand Junction office and one copy is being retained in our file.

W. M. Traver

W. M. Traver

Enclosures

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

DMEA
Date Rec'd
SEP 16 1955

RECEIVED
SEP 21 1955
BUREAU OF MINES
Denver, Colorado

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

Not to be filled in by applicant

Docket No. DMEA-3989
Metal or Mineral Uranium
Date Received 9/21/55
Estimated Cost $52,280.00
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
161 East 42nd Street
New York 17, New York

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

(*c*) If a corporation, add to above statement, titles, names and addresses of officers. See attachment

(*d*) If a partnership, add to the above statement the names and addresses of all partners. Not applicable

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

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract
Section 29 T. 13 N., R. 9 W., N. M. P. M. in McKinley County
New Mexico and within Mt. Taylor mining district

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

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Lessee in accordance with Lease and Agreement with Santa Fe Pacific Railroad Company

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property. Uranium Mining Lease and Agreement attached

(*e*) If you own the land, describe any liens or encumbrances on it Not applicable

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. Not applicable

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes. See attachment

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. None

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you. See attachment

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

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

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

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc. See attachment

(*c*) The work will start within 15 days and be completed within 6 months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations. See attachment

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

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

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

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

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

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

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

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

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

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

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

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

☐ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated SEPTEMBER 13, 1955

Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
(Applicant)

By W. N. Williams

W. N. WILLIAMS

VICE-PRESIDENT

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

RECEIVED
SEP 21 1955

Application For Aid
In An Exploration Project

Food Machinery and Chemical Corporation
Westvaco Mineral Products Division
Section 29, T. 13 N., R. 9 W.

RECEIVED
SEP 21 1955

Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
161 East 42nd Street
New York 17, New York

Attachment of DMEA Form MF-103

Instr. No.		Explanation		
1	(b)	Corporation incorporated in the State of Delaware.		
	(c)	Chairman of the Board	John D. Crummey	San Jose, California
		President	Paul L. Davies	San Jose, California
		Executive Vice President	Benjamin C. Carter	San Jose, California
		Executive Vice President	Ernest Hart	New York, New York
		Vice President	Max E. Bretschger	Buffalo, New York
		Vice President	Hubert L. Byrd	Lansing, Michigan
		Vice President	William de Back	St Nicolas-Waes, Belgium
		Vice President	James M. Hait	San Jose, California
		Vice President	Bernard H. Jacobson	Nitro, West Virginia
		Controller	James N. Kirkwood	San Jose, California
		Treasurer and Secretary	Everett D. Myers	San Jose, California
		Vice President	Jack M. Pope	San Jose, California
		Vice President	Carl F. Prutton	New York, New York
		Vice President	Max Y. Seaton	New York, New York
		Vice President	Gerald F. Twist	Los Angeles, California
		Vice President	Jackson V. Vernon	Middleport, New York
		Vice President	Paul C. Wilbur	San Jose, California
		Vice President	William N. Williams	New York, New York
		(President - Westvaco Mineral Products Division)		
		Vice President	Clifford K. Wilson	San Jose, California
4	(a)	Exploration on this property has consisted of reconnaissance geologic mapping performed by applicant. There are no mine working or facilities.		
4	(c)	Geologic Features of Area:		

Generally this area is on the back slope of the Mesa, which forms the main Grants uranium area. The major uranium mines, namely Poison Canyon, Mesa Top, Garcia, Sec. 25, Sec. 31, Flat Top and Hanosh are in close proximity to this property. The principal ore zones, the Todilto limestone and the Brushy Basin member of the Jurassic Morrison formation underlie this area at relatively shallow depth. There is at present drilling activity in the immediate area of the subject section.

Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
161 East 42nd Street
New York 17, New York

RECEIVED
SEP 21 1955

Attachment to DMEA Form MF-103

Instr. No.	Explanation
4 (c)	Continued

Geologic Features - Section 29 T. 13 N. R. 9 W.

Section 29 is favorably situated for ore in the Todilto limestone. A sketch map of this section and an idealized stratigraphic section accompany this application. The adjoining section to the west has several producing mines at the present time. A shaft is being sunk a short distance west of the west boundary of Section 29 on a Todilto ore body. It is apparent that the mineralization extends into Section 29 from the west. The area of interest from the standpoint of favorability of the Todilto limestone and structural trends of known ore bodies is in the west quarter of the section.

Although mineralization was lacking in the southwest quarter of the section explored by another company, we believe their program was not extensive enough. Most of the holes drilled by them lie within the SW$\frac{1}{4}$ of the section and did not extend far enough in a northerly direction to intersect the northeasterly trending ore zone of the adjoining section.

4 (d) All property is accessible by graveled surfaced New Mexico State Highway 53 and an unimproved dirt road. Section 29 can be reached by travelling west from Grants on U. S. Highway 66 for three miles then north on State Highway 53 for approximately 15 miles. The Anaconda Bluewater mill is located approximately 15 miles from Section 29 by present access roads. Supplies and limited residence are available at Grants, New Mexico.

4 (e) Nine men can be made available to carry out reconnaissance and technical work in connection with this exploration. Applicant now has all material, supplies and equipment in the area necessary to perform the proposed work. Adequate water and power can be obtained in the immediate area. Applicant has set up laboratory equipment at Grants with a full time laboratory technician in charge to handle various forms of sampling work in connection with laboratory radiometric assaying. In addition, facilities of other plants connected with the applicant Company are prepared to handle further analytical work. Chemical analyses can be made by the present staff of applicant Company.

Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
161 East 42nd Street
New York 17, New York

Attachment to DMEA Form MF-103 Continued

Instr. No.

Explanation

5 (b) Applicant wishes to explore the area by drilling on a designated grid with a rotary drill, collecting samples for chemical assay when drilling through promising horizons, probing the holes for radioactivity, and at various intervals coring the horizons for geological information. The approximate depth of the holes in this area was estimated by projecting the regional dip of the ore horizon, (Brushy Basin member of the Morrison formation) from the nearest outcrop, or from the nearest available drill hole information. Listed below are figures showing the expected depths of the holes and general grid patterns.

Average Depth of Holes	Grid Area	Grid Spacing	No. of Holes	Total Footage	Footage Samples	Footage Cored	Average Depth of Ore Horizon
300	W½ NW¼	200	71				
	NW ¼ SW¼	200	35	32,000	3,600	960	250

Stage one of the drilling program will consist of drilling the area on 400 foot centers. Stage two will be reducing the grid to 200 foot centers.

5 (d) Applicant is well qualified to undertake the proposed exploration program. Applicant has explored, developed and its subsidiary is now mining 2000 tons per day of trona at Green River, Wyoming. Applicant is mining and processing 125,000 tons annually of dolomite in Newark, California. A subsidiary of applicant, Barium Products, Ltd., has explored and developed, and is now mining barite ores to the extent of 50,000 tons annually. Applicant has explored, developed and mined millions of tons of phosphate rock in the States of Idaho and Utah. In addition, applicant processes into chemicals all these various Minerals at plants located througout the United States. The personnel who have supervised and carried on the work at these various operations will be directly responsible for the uranium exploration program in the Grants, New Mexico area.

Applicant's project engineer stationed at Grants, has been employed by applicant for seven years, is a graduate Mining Engineer from the University of Nevada and has held various positions from Engineer up through Mine Foreman at the Green River trona mine. Applicant's geologist, who is in charge of geology and map interpretation has been employed by applicant for four years, was formerly a Professor of Geology at Idaho State College, Pocatello, Idaho, is a graduate of the University of Colorado and has been connected with various mining firms throughout the United States. These gentlemen will be assisted in the field by thorougly competent graduate mining engineers and geologists. A full time consultant with several years experience in uranium exploration has been retained.

Foco Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
161 East 42nd Street
New York 17, New York

Attachment to DMEA Form MF-103 Continued

Instr. No.	Explanation
6	Estimate of Costs:

Estimated cost for contract drilling.....$0.69 per foot (tri-cone rotary drill)

Estimated total cost of other items listed

in 6 (b - h) equivalent to..... 1.10 per foot

Estimated Total Cost Equivalent.....$1.79 per foot drilled

Estimated Totals for 32,000 feet of drilling $57,280

6 Estimate of Costs (Additional Detail):

		Dollars per Foot
Estimated cost for contract drilling		$0.69
Estimated cost of other items		
Salaries	$ .336	
Consultants	.051	
Living Costs	.102	
Hourly Labor	.005	
Total Personnel	$ .494	
Rental		
Office	$ .017	
Excavation Machinery	.015	
Total Rentals		$ .032

Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
161 East 42nd Street
New York 17, New York

Attachment to DMEA Form MF-103 Continued

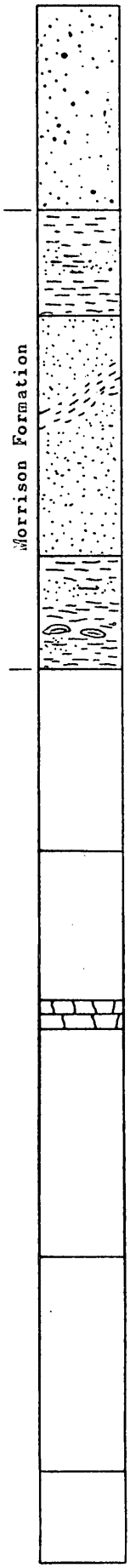
Instr. No.	Explanation		
6	Continued		
	Supplies		
	Office	$ .020	
	Mapping	.010	
	Laboratory	.010	
	Sample Sax, Core Boxes, Etc.	.017	
	Total Supplies		$ .057
	Transportation		
	Repairs	$ .020	
	Gas and Oil	.031	
	Car Rental	.035	
	Airline Tickets	.020	
	Total Transportation		$ .106
	Miscellaneous		
	Drill Site Preparation	$ .017	
	Airplane	.045	
	Bookeeping, Clerical, Stenograhic	.090	
	Map Preparation and Drafting	.090	
	Tel and Tel	.017	
	Total Miscellaneous		$ .249
	Contingency at 10%		.160
	Total		$1.79

Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
161 East 42nd Street
New York 17, New York

Attachment to DMEA Form MF-103 Continued

Instr. No.	Explanation
6	Continued The above estimates are based upon recent exploration operations conducted by applicant in the Grants area.
7 (b)	The applicant has a staffed and equipped mineral development department, whose qualifications were listed under Section 5, which would be assigned to this exploration. The applicant is prepared to pay the portion of the cost of this program which is not covered by the Government contribution.

GENERALIZED GEOLOGIC COLUMN OF GRANTS, NEW MEXICO AREA



Formation and Thickness	Description
Dakota Sandstone 60' to 120'	Gray to white or buff medium to coarse grained massive sandstone, locally cross bedded. One or two "coat" seams, having maximum thickness of 5 feet each appear in some areas and are underlain by about 5 feet of buff, medium grained, locally conglomeratic, limonitic, blocky and resistant sandstone. The coal is slightly to moderately radioactive in some areas.
Brushy Basin Shale 0' to 130'	Pale green, incompetent, gypsiferous mudstone with buff fine to coarse-grained, channel type sand lenses containing mudstone galls and laminae and relict feldspar grains. Weathers to a steep slope littered by huge talus blocks of Dakota. The sand lenses are lithologically identical with those of the underlying westwater. Complex basal and lateral inter-tonguings between westwater and brushy basin are common throughout the northern portion of the Zuni Uplift.
Westwater Canyon Sandstone 50' to 290'	Light red to buff, medium to coarse-grained poorly sorted subangular sandstone with occasional conglomeratic zones which contain rounded, flattened clay galls and boulders up to two feet in diameter, pebbles of chert and fine grained ingneous rock, and silicified and carbonized logs and wood fragments. Cross bedding is prominent. Rich but small carnotite deposits have been formed by replacement of carbonized wood. The base is drawn at the bottom of the lowest major coarse-grained channel sand.
Recapture Creek Shale 0' to 140'	Interstratified red-brown, chocolate-brown, light green and white siltstone shale and fine grained sandstone with a few ribs of coarse grained channel sand and mottled red and green, thin, dense, unfossiliferous limestone beds usually produces a steep detrital covered slope ore. Where slope is clean it has a knobby color banded, ribbed appearance. Locally weathers into bad lands.
Bluff Sandstone 220' to 625'	Light green, white to light buff, fine grained, extremely massive color banded, fairly well sorted, subangular. Sandstone with occasional light green, silty arillaceous beds. Weathers into blocky, vertical cliffs. Intertongues and grades laterally into the recapture creek shale.
Summerville Formation 0' to 185'	Interstratified, red-brown to light green and white, fine grained parallel-bedded, banded sandstone, siltstones and shales. It has a mottled appearance and generally weathers into a steep, talus littered slope with occasional knobby outcrops. The basal ten feet are highly calcareous and contain lenses of limestone almost identical with the underlying Todilto.
Todilto Limestone 0' to 30'	Dark gray, fine grained, dense, unfossiliferous limestone, thin bedded and platy. Weathers into rubbly, rectangular fragments. Locally contains uranium ore deposits in erratic yellow patches of disseminated carnotite, tyuyamunite, and uranophane associated with small amounts of pitchblende.
Entrada Sandstone 130' to 280'	Deep red to light buff sandstone. Grains subangular, well sorted frosted. Huge sweeping concave cross beds segregated in wedge-shaped units, parallel planes divide the formation into units 5 to 50 feet thick. Erodes into characteristic rounded pedestal rocks, and smooth, virtually unscalable cliffs.
Carmel Formation 55' to 260'	Dark pink to brown, very fine grained, well sorted, limonite-coated, very poorly parallel bedded, quartzose, silty sandstone. Weathers to a knobby, vertically-fluted, blocky, steep slope, and may form cliffs. Top has a one to two foot zone of leaching and reworking which is usually directly below a thin grit layer.
Wingate Formation 0' to 120'	Orange to light buff, fine to medium grained sub-rounded, well sorted, poorly cemented, thin bedded, slabby, pure quartzose sandstone with scattered, limonite coated and varicolored chert grains. Locally in vertical cliffs but generally rounded, orange colored knobs. Top usually marked by a one to three foot zone of bleaching and reworking.

W.C.I.

April 4, 1955.

Santa Fe Pacific Railroad Company,
Albuquerque, New Mexico.

RECEIVED
SEP 21 1955

Attention: Mr. C. B. McClelland.

Gentlemen:

Returned herewith are two (2) copies of the uranium mining lease and agreement dated March 16, 1955 (lease No. 9442) executed by us.

Our acceptance of this lease is subject to the following interpretation of Sections 1, 3, and 12.

1) "...Lessee accepts this lease subject to and agrees to comply with the provisions of that certain Purchase Agreement between Anaconda Copper Mining Company and Santa Fe Pacific Railroad Company, dated July 14, 1952, which gives Anaconda the first right to purchase any limestone gangue, low-vanadium ores produced by Santa Fe."

It is understood and agreed that this language in no way constitutes an assignment by Santa Fe or an assumption by this Company of all of Santa Fe's rights and obligations under the Anaconda agreement, and that this Company will be deemed to have "complied with" the provisions of the Anaconda agreement if we offer all ore mined by us (of the kind specified in Section 1 of that agreement) for sale to Anaconda (conditioned upon payment to us of the prices and allowances set out in that agreement), and give Anaconda a reasonable opportunity to accept or reject such offers, before we sell it to another buyer or mill it ourselves.

3) "...Lessee agrees to enter into and upon the said premises within sixty (60) days from the date hereof and to work and operate on the leased premises steadily and continuously during the period of this lease in accordance with approved methods so as to discover, mine and remove the greatest amount of uranium-bearing ore possible in a manner proper and necessary to good and economical mining with due regard to the development and preservation of the said premises as mining ground. Lessee further agrees that all work done in and upon said premises and property shall be done in full compliance with the mining laws and regulations of the State, the United States and any other competent public authority."

It is understood and agreed that the sixty-day period requirement applies to our obligation to commence exploration operations on the premises and that the obligation to mine commences only after we have given Santa Fe notice under Section 2 so as to take the lands out of exploration status and place them under mining lease status.

12) "...Lessor has, however, sold and conveyed all of said lands by deed, in which it has expressly reserved and excepted all oil, gas, coal and minerals whatsoever, already found or which may be found upon or under said lands, with the right to prospect for, mine and remove the same, and to use so much of the surface of said lands as shall be necessary and convenient for shafts, wells, tanks, pipe lines, rights of way, railroad tracks, storage purposes and other and different structures and purposes necessary and convenient for the digging, drilling, and working of any mines or wells which may be operated on said lands. Lessee accepts this lease and agreement subject to the terms and provisions of said deed reservation."

It is understood and agreed that the words "subject to the terms and provisions of said deed reservation" do not constitute an assignment by Santa Fe nor an assumption by this Company of any obligation to pay Santa Fe's grantees for appropriating any part of the premises for exploration or mining operations. The obligation referred to immediately above is the one set out in Santa Fe's form of deed immediately following the expressed reservation of mineral rights. This interpretation is not intended to apply to the two later paragraphs in Section 12 under which we agree to pay surface owners damages for harm to crops, and buildings caused by "the erection or construction of facilities to be used in connection with mining operations."

If the above interpretations fit your understanding of the Sections involved, kindly so indicate by signing and returning one copy of this letter with a copy of the fully executed lease.

Very truly yours,

FOOD MACHINERY AND CHEMICAL CORPORATION
(Westvaco Mineral Products Division)

s/ W. N. Williams

W. N. Williams
Vice President

ACCEPTED:
Santa Fe Pacific Railroad Company

By s/ R. S. Ryding
Title Vice President

Lease No. 9442

URANIUM MINING LEASE AND AGREEMENT

THIS INDENTURE, entered into in duplicate this sixteenth day of March, 1955, by and between SANTA FE PACIFIC RAILROAD COMPANY, a corporation created by Act of Congress approved March 3, 1897, with its principal offices in Albuquerque, New Mexico, first party, hereinafter called the "Lessor," and FOOD MACHINERY AND CHEMICAL CORPORATION (WESTVACO MINERAL PRODUCTS DIVISION), a Delaware corporation, second party, hereinafter called the "Lessee."

WITNESSETH, that the parties hereto, for the considerations hereinafter expressed, covenant and agree as follows:

1. Lessor, upon the terms and conditions and subject to the reservations hereinafter set forth, hereby grants to Lessee the exclusive right and privilege for a period of twelve (12) months, beginning with the date hereof, to search and explore for uranium-bearing ore by methods used and recognized in the industry and, thereafter for a period of five (5) years, to conduct mining operations on areas where uranium ore is discovered on the following described lands situated in the Counties of McKinley, Sandoval and Valencia, State of New Mexico:

NEW MEXICO MERIDIAN, NEW MEXICO

Township twelve North, Range three West

NW¼ and SE¼ section 19 and NW¼ and SE¼ section 31.

Township twelve North, Range four West

Lots 1, 2 and NE¼ section 13 and lots 1, 2 and E½NE¼ section 25.

Township ten North, Range nine West

Section 3, all that part section 9 lying north and east of the right of way of The Atchison, Topeka and Santa Fe Railway Company, subject to easement to the State of New Mexico dated December 1, 1933, for highway right of way, and NE¼NE¼ section 15.

Township eleven North, Range nine West

Sections 17, 21, 29 and 33.

Township thirteen North, Range nine West

Sections 7, 9, 17, 21, 29 and 33.

Township thirteen North, Range ten West

Sections 1, 3, 5, 7, 9, 11, 13, 15 and 17.

Containing in the aggregate thirteen thousand, nine hundred seventy-one and three hundredths (13,971.03) acres,

including the right to construct and maintain thereon at the sole cost and expense of Lessee all works, buildings, plants, waterways, roads, telegraph or telephone lines or other structures necessary and desirable in the exploration, development or conduct of mining operations upon said lands.

SUBJECT to the rights of grantees, vendees and licensees of the surface of said lands under deeds, contracts of purchase or other agreements heretofore made by Lessor and to the obligations of Lessor under the provisions thereof.

SUBJECT ALSO to all leases or agreements now outstanding for use of said lands, or any portion thereof, for agricultural, horticultural, grazing, mining or other purposes, but Lessor represents that there are no such leases or agreements valid and outstanding made by Lessor for the development and production of uranium-bearing ore and associated minerals, as hereinafter defined.

SUBJECT ALSO to the right of Lessor (which right is hereby expressly reserved) to enter into leases, permits, or other agreements with others covering said lands or any portion thereof for any purpose whatsoever not inconsistent with the rights of Lessee hereunder.

SUBJECT ALSO to all existing easements, servitudes and rights of way for canals, ditches, levees, roads, highways, telegraph, telephone and electric power lines, railroads, pipe lines and any other purposes, to any public roads heretofore laid out or established, and to rights of way for ditches and canals which may be constructed under authority of the United States.

Lessee accepts this lease subject to and agrees to comply with the provisions of that certain Purchase Agreement between Anaconda Copper Mining Company and Santa Fe Pacific Railroad Company, dated July 14, 1952, which gives Anaconda the first right to purchase any limestone gangue, low-vanadium ores produced by Santa Fe.

It is understood that the Lessee is hereby granted the right to mine only within the exterior boundaries, extended vertically downward, of the land hereby leased.

2. Lessee agrees on or before the expiration of the first twelve (12) months period above mentioned to surrender to Lessor by an appropriate instrument, in writing, all of the land described above on which uranium ore has not been discovered, retaining only such lands as appear to contain uranium-bearing ore in commercial quantities. Lessee further agrees the retained lands shall be divided into units, to be designated by Lessee, of not to exceed six hundred and forty (640) acres each, conforming as nearly as possible to legal subdivisions, and that all of the terms and covenants of this lease shall separately apply to each such unit as fully as if covered by a separate lease.

3. Lessee agrees to enter into and upon the said premises within sixty (60) days from the date hereof and to work and operate on the leased premises steadily and continuously during the period

of this lease in accordance with approved methods so as to discover, mine and remove the greatest amount of uranium-bearing ore possible in a manner proper and necessary to good and economical mining with due regard to the development and preservation of the said premises as mining ground. Lessee further agrees that all work done in and upon said premises and property shall be done in full compliance with the mining laws and regulations of the State, the United States and any other competent public authority.

4. Lessor reserves the right through its agents or representatives to enter from time to time into and upon all parts of said premises and workings thereon for the purpose of inspection, surveys, or taking samples therefrom, and Lessee agrees to render said agents or representatives proper assistance in making said inspection, surveys or examinations. Lessee shall furnish quarterly reports to the Lessor, including maps, showing all exploration data and all of the mining and exploration work done, or in progress, upon the property, together with assays of the ore encountered, during the preceding quarter.

5. On all ores mined or removed from demised premises for the purpose of milling, treatment, stockpiling, sale, or other disposition, Lessee shall pay to the Lessor a percentage royalty of the mined value per dry ton as set forth in the following schedules:

(a) Lessee shall pay Lessor on all underground ore mined from the demised premises through shaft or tunnel on the following royalty schedule:

Percentage Royalty Schedule

Mine Value Per Dry Ton	Royalty Percentage of Mine Value Per Dry Ton
$ 0.01 to $10.01	10%
$10.01 to $20.01	11%
$20.01 to $30.01	12%
$30.01 to $40.01	13%
$40.01 to $50.01	14%
$50.01 or more	15%

(b) Lessee shall pay Lessor on all open pit ore mined by surface mining methods on the following royalty schedule:

Percentage Royalty Schedule

Mine Value Per Dry Ton	Royalty Percentage of Mine Value Per Dry Ton
$ 0.01 to $10.01	10%
$10.01 to $20.01	14%
$20.01 to $30.01	18%
$30.01 to $40.01	22%
$40.01 to $50.01	26%
$50.01 or more	30%

"MINE VALUE PER DRY TON," wherever used herein, is hereby defined as the dollar value per dry ton of crude ores at the mine as determined by the application to the valuable metal content of such ore of the price schedules for such ores established and currently in effect by the Atomic Energy Commission or other government authorized agencies, but excluding any allowance for transportation or development, and all mine production bonuses. However, if the Government at any time hereafter does not establish or have in effect a price schedule for the purchase of such ores on a fixed or scheduled dollar value per dry ton of crude ores at the mine, or said ores contain salable minerals, some, or all, of which are disposed of to a custom treatment plant or smelter for treatment and sale, then mine value per dry ton shall be the gross value per dry ton of said crude ores paid therefor by the Atomic Energy Commission, or other Government authorized agency, or by a mill or other buyer, less any allowances or reimbursements for the following specific items:

(1) Transportation of ores.

(2) Allowances paid to Lessee by the Atomic Energy Commission or other Government authorized agency for exploration for or development of ores.

Wherever minerals or other products associated with uranium-bearing ore are recovered from the ores which are not included in determining "mine value per dry ton" as heretofore defined, there shall be paid by Lessee to the Lessor for such minerals or other products, a royalty of ten per cent (10%) of the gross value of such products, less milling cost charged to Lessee thereon.

All royalty payments to be made by Lessee to Lessor shall be made on or before the twentieth day of the month next following receipt by Lessee of payments for the products sold or disposed of.

Lessee shall keep accurate account of all mining operations, showing the sales, prices, dates, purchasers, and the whole amount of minerals mined, the amount removed and the gross receipts derived therefrom, together with any bonus or other payments, and furnish to Lessor sworn monthly reports thereon not later than the twentieth day of the succeeding month.

6. In addition to the payments hereinabove mentioned, Lessee shall pay Lessor as rental for the leased premises upon the execution of this lease the sum of One Dollar ($1.00) per acre and thereafter One Dollar ($1.00) per acre a year for each year this lease may be in effect, to be paid annually in advance; provided, however, that beginning with the second year and each year thereafter the rental so paid for any one year shall be credited on the royalty due to Lessor for that year.

7. Lessee shall not subject Lessor or the leased premises to any liability or lien for or on account of any work done or improvements made or materials placed on or used upon said premises, and if by reason of the failure of Lessee to pay bills or expenses incurred by Lessee any lien or liens shall be filed against the leased premises, Lessor may forthwith pay and discharge the same and hold Lessee bound to repay to Lessor all sums so advanced or paid to clear said premises from liens which may be filed as foresaid,

and Lessor may also at its election declare a forfeiture of this lease. Lessee agrees to post forthwith and keep posted on said property in all places required by law, a notice of nonliability of the Lessor for labor or materials furnished the Lessee, and the Lessor agrees to furnish such notices.

8. Lessee shall file returns with the proper taxing authorities covering the mineral estate hereby leased, the uranium-bearing ore or other minerals produced from the leased premises, and all personal property which may be placed upon said premises by Lessee; and shall pay, before the same shall become delinquent, all taxes, charges, rates and assessments which may, during the term of this lease, be levied upon or assessed in any respect upon or against said mineral estate, ore, mineral products or personal property, together with all increases in such charges, rates or assessments upon the land, by reason of the discovery or production of such minerals or on account of improvements erected upon said land, including buildings, machinery and other fixtures placed thereon by Lessee. Where any such taxes, charges, rates or assessments may be embraced in the general amount of taxes charged upon the leased premises, separately or in conjunction with other property of the Lessor or of the surface owner, and the Lessor shall pay such taxes or refund the same to the surface owner, then Lessee shall promptly repay or refund to Lessor the amount or part of the tax, charge, rate or assessment attributable under this lease to Lessee. All such payments by Lessor on account of Lessee shall bear interest at the rate of eight per cent (8%) per annum until paid.

9. Lessee shall save harmless and indemnify Lessor against all claims, demands, suits, judgments, expenses and costs of any and every kind on account of the injury to or death of persons or loss of or damage to property arising in any manner out of or in connection with the operations of Lessee hereunder and Lessee shall at Lessee's sole cost and expense defend all such claims, demands or suits; and if at any time Lessee employs any person or persons to work upon the leased premises, Lessee shall comply with the provisions of the Workmen's Compensation Act of New Mexico and all regulations and requirements of competent public authority.

10. At the expiration of this lease, or upon its earlier termination as herein provided, Lessee shall surrender the leased premises in good order and condition and remove therefrom all machinery, tools, and improvements, except such as may become the property of the Lessor under this lease by purchase or otherwise; provided, however, that no such tools, machinery, or improvements shall be removed while Lessee may be in any manner indebted to Lessor under any obligation incurred under this lease. Lessee shall not, however, remove any timbers or improvements which may be necessary or desirable to leave in the workings to protect same from subsidence or as a mining property unless requested by Lessor to do so.

11. Any notice to be given by Lessor to Lessee hereunder shall be deemed to be properly served if the same be deposited in a United States post office, registered mail postpaid, return receipt requested, addressed to Westvaco Mineral Products Division,

Food Machinery and Chemical Corporation, 161 East 42nd Street, New York 17, New York, and any notice to be given by Lessee to Lessor hereunder shall be deemed to be properly served if the same be deposited in a United States post office, registered mail postpaid, return receipt requested, addressed to Lessor at 314 First Street SW, Albuquerque, New Mexico, or at such other address as Lessor may request.

12. Lessor does not warrant the quiet possession of said lands by the Lessee and Lessor shall in no event become liable for damage arising from any lack or failure of title in the Lessor to said lands or eviction of the Lessee therefrom by title paramount to the title of the Lessor. The Lessor covenants, however, and warrants that it has made no agreement on its part in reference to said lands, or any conveyance thereof which will give to third parties right to interfere in any way with the operations of the Lessee under this lease.

Lessor has, however, sold and conveyed all of said lands by deed, in which it has expressly reserved and excepted all oil, gas, coal and minerals whatsoever, already found or which may be found upon or under said lands, with the right to prospect for, mine and remove the same, and to use so much of the surface of said lands as shall be necessary and convenient for shafts, wells, tanks, pipe lines, rights of way, railroad tracks, storage purposes and other and different structures and purposes necessary and convenient for the digging, drilling, and working of any mines or wells which may be operated on said lands. Lessee accepts this lease and agreement subject to the terms and provisions of said deed reservation.

Lessee agrees (a) to pay all damages to the surface owner's buildings and growing crops caused by the erection or construction of facilities to be used in connection with mining operations; (b) that all pipe lines shall be buried below plow depth where such lines cross cultivated lands; and (c) that where there are fences, to construct gates or cattle guards therein where necessary for Lessee to cross the same, and to keep such gates and cattle guards in repair and the gates closed.

Lessee will also indemnify and save Lessor harmless from any and all claims of or liability to the owner or owners of the surface of the land leased by reason of the failure of Lessee to perform the requirements mentioned in clauses (a), (b) and (c) hereof.

Any amounts which Lessor shall be required to pay to any such surface owner or owners by reason of the failure of the Lessee to perform such obligations shall be refunded by Lessee to Lessor within thirty (30) days after demand therefor, and upon failure to make such payment within said time, all amounts so due shall become a lien upon all property of the Lessee upon said premises and all of the Lessee's interest in any uranium ore produced therefrom and the proceeds thereof.

13. No termination of this lease, whether by lapse of time or otherwise, shall release Lessee from any liability or obligation hereunder, whether of indemnity or otherwise, resulting from any acts, omissions, or events happening prior to the date of such termination.

14. Lessee shall not assign this lease or any interest therein nor sublet any portion of the leased premises except with the written consent of Lessor first had and obtained in each instance.

15. Lessor agrees that if during the term of this lease Lessee has found and is, at the expiration hereof, producing uranium-bearing ore in commercial quantities from the demised premises, Lessor will, upon written request from Lessee, made prior to the expiration date hereof, renew this lease for an additional three-year period, upon the same terms and conditions, including the right to like and successive renewals thereafter, upon the same conditions, subject always during any such extended period to termination whenever uranium-bearing ore in commercial quantities shall cease to be produced for sixty (60) consecutive days; provided, however, that in all instances in which Lessee is required to perform any particular act or to begin or to carry on any operation, except payment of rentals or other money due Lessor, any delay on account of floods, washouts, strikes, lock-outs, the elements, acts of God or the public enemy, or other causes beyond Lessee's control, shall not be computed as any part of the time within which any such act shall be begun or performed. Lessor shall be under no obligation to renew this lease at any time or times if Lessee shall then be in default hereunder, or if this lease has been previously terminated by reason of any such default.

16. Lessee may, at any time, surrender any unit of the leased premises to the Lessor by an appropriate instrument, in writing, duly executed and acknowledged so as to entitle the same to be recorded, and thereupon all rights and obligations of the parties hereto, one to the other, shall cease and determine as to the premises thereby surrendered, provided, however, the Lessee shall have first paid all rentals, taxes or royalties due and shall have performed all obligations of the Lessee hereunder.

17. If Lessor at any time believes that Lessee is in default under the terms and provisions of this lease, it shall notify Lessee in writing of the particular default claimed, and if such default shall not be cured within thirty (30) days after the giving of such notice, Lessor may terminate this lease by written notice to Lessee. In the event Lessee shall fail to make any payment of rentals or royalties or other fixed amounts when due, Lessor may terminate this lease upon ten (10) days' written notice to Lessee and Lessee's failure to pay the full amount due within that time.

18. All of the covenants and agreements of this lease shall extend to and be binding upon and every benefit hereof shall inure to the heirs, executors, administrators, successors or assigns of the parties hereto, as the case may be.

IN WITNESS WHEREOF, this lease and agreement has been executed by the parties thereunto duly authorized the day and year first above written.

SANTA FE PACIFIC RAILROAD COMPANY,

by S/ R. S. Ryding
Vice President

(SEAL)

ATTEST:

LESSOR

S/ R. D. Brown
Assistant Secretary

FOOD MACHINERY AND CHEMICAL CORPORATION
(WESTVACO MINERAL PRODUCTS DIVISION)

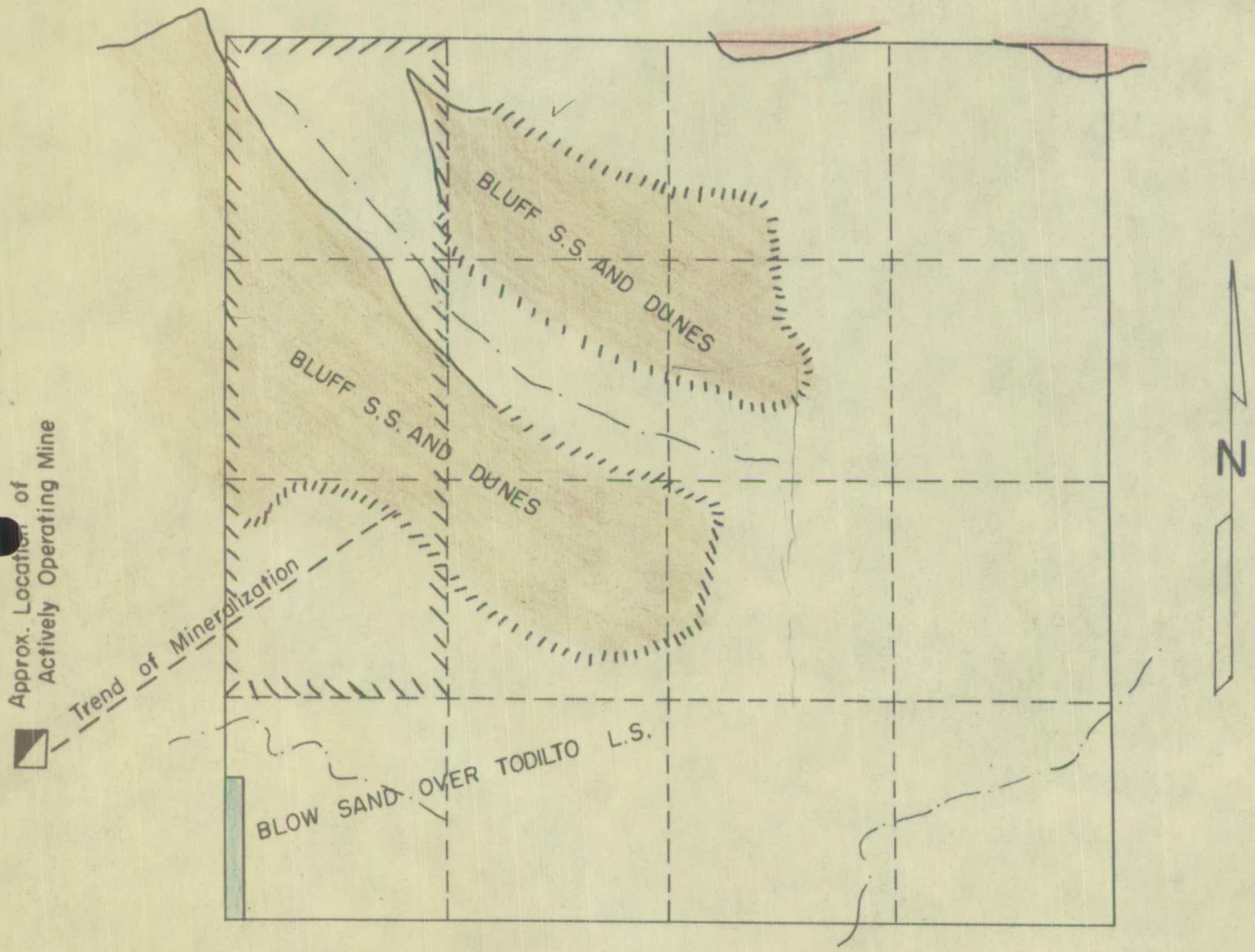
By S/ W. N. Williams
President

(SEAL)

LESSEE

ATTEST:

S/ Lloyd C. Hartman
Assistant Secretary



Section 29 T. 13 N. R. 9 W.

LEGEND

Playa Streams
Westwater Member (Morrison Formation)
Bluff S.S. and Sand Dunes
Area Drilled
Area to be Drilled

WESTVACO MINERAL PRODUCTS DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION
MINERAL DEVELOPMENT DEPARTMENT POCATELLO, IDAHO

DATE	BY	CHECK

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WESTVACO MINERAL PRODUCTS DIVISION

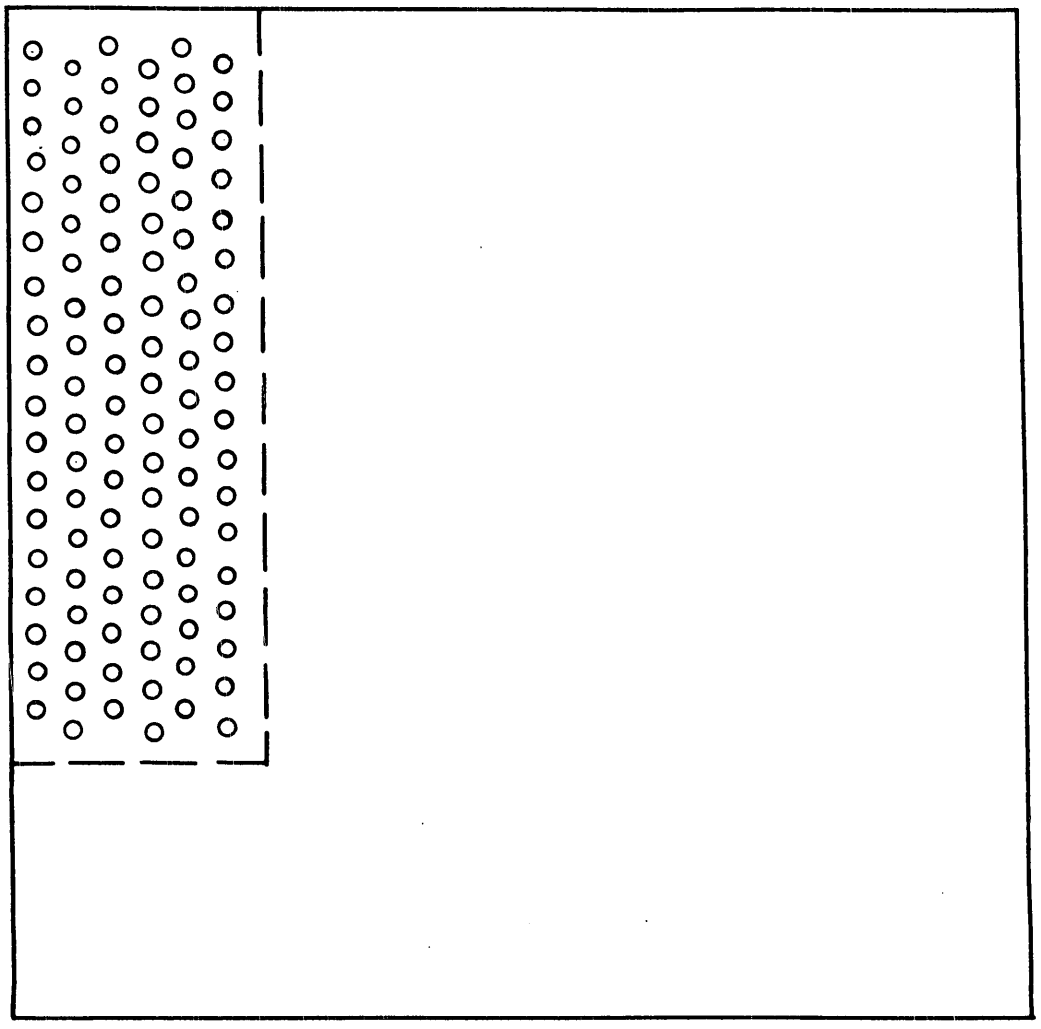
DRAWN- M.D.
DATE-
CHECKED-
APPROVED-

CHARGE-
SCALE-
PRINT DATE 7-6-'55

DRAWING No. 748

"ALBANENE" NO. 195L

Section 29 T. 13 N. R. 9 W.



Note – Proposed grid pattern is based upon surface geologic evidence. Sub-surface geology, established by drilling, will control actual grid pattern.

WESTVACO MINERAL PRODUCTS DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION
MINERAL DEVELOPMENT DEPARTMENT POCATELLO, IDAHO

PROPOSED GRID PATTERN

MARK	REVISION	DATE	BY	CHECK

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WESTVACO MINERAL PRODUCTS DIVISION

DRAWN-
DATE-
CHECKED-
APPROVED-

CHARGE-
SCALE-
PRINT DATE 9-1-'55

DRAWING No. 766

"ALBANENE" NO. 195L

DOCKET COPY

Ching
Ellis

PROJECT SUMMARY REPORT

By: Michael Ching July 19, 1957

1. Docket No.: DMEA-3989 (Uranium)
Contract No.: Idm-E933

Operator - Food Machinery & Chemical Corporation,
a Delaware corporation
(Westvaco Mineral Products Division)
161 East 42nd Street
New York 17, New York

Property-All of sec. 29, T. 13 N., R. 9 W., N.M.P.M. & B.
McKinley County, New Mexico

Operator's Property Rights - Rights to uranium leased from Santa Fe Pacific Railroad. Performance Bond, dated April 18, 1956, furnished in lieu of Consent to Lien of Santa Fe and Subordination Agreement of surface owners, Nabor and Isabel Marquez.

2. Contract (Long Form), dated March 21, 1956

Final starting date, April 15, 1956
Actual starting date, April 23, 1956
Contract completion date, March 1, 1957
Actual completion date, October 31, 1956

Work Authorized -

To test the Todilto limestone by drilling.

Stage I - 67 holes to be cored through Todilto limetone interval only, and 71 holes to be drilled non-core throughout.

Actual Costs - Independent Contracts

41,390 feet non-core drilling @ $1.25/ft.	$51,737.50	
2,415 feet core drilling @ $3.50/ft.	8,452.50	
32 hrs. bulldozing @ $12.50 per hour	400.00	$60,590.00

Fixed Unit Costs

Incidental allowance per foot of drilling

43,805 feet @ $0.18/ft.	$ 7,884.90	
80 chemical sample analyses @ $3.50 each	280.00	$ 8,164.90

Estimated total cost of Stage I $68,754.90

Stage II - Maximum of 50 non-core holes to offset previously drilled holes that show significant mineralization

Actual Costs - Independent Contracts

16,000 feet non-core drilling @ $1.25/ft.	$20,000.00	
8 hrs. bulldozing @ $12.50/hr.	100.00	$20,100.00

Fixed Unit Costs

Incidental allowance per foot of drilling

16,000 feet @ $0.18/ft.	$ 2,880.00	
50 chemical analyses @ $3.50	175.00	3,055.00

Estimated total cost of Stage II $23,155.00

Estimated total cost of the project (rounded) $91,908.00
Government participation @ 75% $68,931.00

Amendments - None

Work Completed -

Stage I - 138 holes

41,830 feet non-core drilling @ $0.772/ft.	$32,248.40	
2,033 feet core drilling @ $3.50/ft.	7,115.50	
Incidental costs - 43,863 feet @ $0.18/ft.	7,895.34	
18 chemical analyses	63.00	$47,322.24

Work Completed (cont'd)

Stage II - 45 holes

15,873 feet non-core drilling @ $0.771/ft.	$12,188.75	
Incidental costs - 15,873 feet @ $0.18/ft.	2,857.14	
24 chemical analyses	84.00	$15,129.89
Total cost of the project		$62,452.13
Government participation @ 75%		$46,839.10

The work was started April 23 and completed October 31, 1956, in 132 work days.

Final Reports Received:

Operator - dated December 7, 1956, received December 20, 1956

Field Team - dated June 14, 1957, received June 24, 1957

3. Auditor's Report of Review, dated January 9, 1957

Total cost as billed by Operator	$62,497.64
Exceptions	45.51
Total accepted cost	$62,452.13
Government participation @ 75%	$46,839.10

4. Certification of discovery, dated January 17, 1957

5. Results and Comments -

The Todilto limestone is the potential ore-bearing formation on the subject property. It is overlain, in ascending order, by the Summerville and Bluff formations and alluvium.

The project resulted in the discovery of two large ore bodies and several small isolated bodies. Twenty-one of the 183 holes drilled under the contract were ore holes. The Operator drilled a number of holes for its own account and 18 penetrated ore.

Using the DMEA ore holes only, the Operator estimated reserves as 28,712 tons of probable ore and 11,174 tons of possible ore with an average of 0.30% U_3O_8.

The examiners included 17 of the Operator's ore holes in arriving at the following reserves:

	Tons	% U_3O_8
Indicated	32,558	0.287
Inferred	24,933	0.245
Total	57,491	0.272

Many of the holes penetrated great thicknesses of strongly mineralized material that ranged from 0.10% to 0.20% U_3O_8, but was not considered as ore. The examiners estimated inferred reserves of this material as 70,000 tons.

The work was started April 23 and completed October 31, 1956, which would ordinarily result in 162 working days. The examiners report 132 actual working days, which indicates that a considerable amount of delay was encountered. Most of this delay occurred between Stage I and Stage II and between phases of Stage II when the results of the preceding work were being appraised and the new work was being planned. Based on actual working days, the work progressed at the rate of 453 feet of drilling (Mostly non-core) per day. Average depth of the holes was 326 feet. The number of shifts worked per day and the number of drills used were not stated.

The Operator did considerable drilling for its own account within the April-October period. While the contract called for non-core offset holes in Stage II, the Operator cored the limestone segment in many, if not all, of these holes, receiving only the non-core drilling price.

The Operator conducted the operation efficiently. Work preliminary to production is now being done.

Michael Ching

Michael Ching

☐ Audited

☒ Certified

WORK ANALYSIS SHEET - DMEA PROJECTS

Analysis as of July 19 1957
Incl. Voucher for Oct. 1956

☒ Actual Cost

☐ Agreed Unit Costs

Name Food Machiner & Chem. Corp.

Docket No. 3989

State McKinley County, New Mexico Commodity Uranium

Idm-E No. 933

OPERATION	AUTHORIZED Units	AUTHORIZED Cost	COMPLETED Units	COMPLETED Cost	NET COST
Drifting & Crosscutting					
Raising					
Shafts					
Winzes					
Drilling (Specify) Core	2,415	8,887.20	2,033	7,481.44	7,481.44
Non-Core	57,390	82,047.70	57,703	54,823.69	54,823.69
Surface Excavation					
Underground Excavation					
Roads and Trails		500.00		—	—
Operating Equipment Purchased					
Surface Rehabilitation & Repairs					
Underground Rehabilitation					
New Building, Improvements, etc.					
Other (Specify) Chem. Analyses		455.00		147.00	147.00
Totals (Rounded)		$ 91,908.00		$ 62,452.13	62,452.13

Prepared by Michael Ching

71626

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
7/14	Murphy	500
	Howard	500
7/18	Talbut	800
7/18	on leave	120
7/18	Fraser	110
7-18	Fraser	100
7-18	gad	220

JUL 1 8 1961

Mr. E. C. Kirchman
President
KSN Co., Inc.
P. O. Box 327
Grants, New Mexico

Re: DMEA-3989 (Uranium)
Food Machinery and Chemical Corporation
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract Idm-E933

Dear Mr. Kirchman:

This is to advise that your check in the sum of $423.80, submitted with your letter of June 22, 1961, completes repayment in full of the Government's participation of $46,839.10 in the above-referenced exploration contract for uranium. As a result of the repayment, the Government retains no lien or claim against the property or any future production therefrom.

Sincerely yours,

George Fumich, Jr.

Director

Copies to:

Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
161 East 42nd Street
New York 17, New York

Mr. C. N. Holmes
Assistant Manager
Mining and Milling Department
Phillips Petroleum Company
Bartlesville, Oklahoma

FMMurphy/gla 7/14/61
cc to: Director's Reading File
Div. of Con. Adm.
Region III (2)
Docket
Code 500

43683

OFFICIAL FILE COPY

Date	Surname	Code
7/14	Murphy	500
	Donald	500
7/18	Talbut	800
7/18	Leach	120
7/18	Johnson	110
7/18	Turner	100
7-18	gad	220

JUL 1 8 1961

The Commonwealth Insurance Company of New York
150 William Street
New York 38, New York

Re: IMEA-3989 (Uranium)
Food Machinery and Chemical Corporation
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract Idm-E933

Gentlemen:

The total amount advanced by the Government under the terms of the captioned contract was repaid by June 22, 1961. Therefore, effective as of that date, the Government herewith releases your Performance Bond No. 302474, dated March 1, 1960, and Rider, dated April 10, 1961, submitted as surety in connection with the subject contract.

Sincerely yours,

George Fumich, Jr.

Director

Copy to:

Mr. C. M. Holmes
Assistant Manager
Mining and Milling Department
Phillips Petroleum Company
Bartlesville, Oklahoma

Mr. R. C. Kirchman
President
KBN Co., Inc.
P. O. Box 327
Grants, New Mexico

FMMurphy/gla 7-14-61
cc to: Director's Reading File
CA&A Division
Region III (2)
Docket
Code 500

43683

OFFICIAL FILE COPY

Date	Surname	Code
7/14	Murphy	500
	Mousel	500
7/18	Talbot	800
7/18	Orlease	120
7/18	Johnson	110
7/18	Fumich	100
7-18	gad	220

JUL 1 8 1961

Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
161 East 42nd Street
New York 17, New York

Re: IMEA-3989 (Uranium)
Food Machinery and Chemical Corporation
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract Idm-E933

Gentlemen:

This is to advise that the final payment made by KSN Co., Inc., completes repayment in full of the Government's participation of $46,839.10 in the above-referenced exploration contract for uranium. As a result of the repayment, the Government retains no lien or claim against the property or any future production therefrom.

Sincerely yours,

George Fumich, Jr.
Director

Enclosure

FMMurphy/gla
7-14-61
cc to: Director's Reading File
CA&A Division
Region III (2)
Docket
Code 500

43683

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
6/29	Fisher	800
6/29	Talbot	800
6/29	Murphy	500
	Amaya	500
6/29	[illegible]	130
"	Johnson	110
6/29	Tunell	100
6/29	gad	220

JUN 29 1961

Memorandum

To: Acting Field Officer, Region III

From: Chief, Division of Field Operations

Subject: DMEA-3989 (Uranium)
Food Machinery and Chemical Corporation
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract Idm-E933

The records of the Washington office are in agreement with yours as stated in the first paragraph of your memorandum dated ~~July~~ 26, 1961, with reference to the subject contract.

Although the Report of Royalty Review dated September 7, 1960, showed an overpayment of royalty at that time amounting to $908.24 subsequent royalty remittances merely have been sufficient to fully liquidate the repayment obligation under the contract.

The amount of $908.24 has not been refunded and no refund is in order.

/s/

George C. Selfridge

CEFisher/ama
June 29, 1961

Copy to: Docket
Director's Reading File
CA & A Division
Review Committee

Original & copies corrected 6/29/61

43683

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
Building 20 - Federal Center
Denver 25, Colorado

OFFICIAL FILE COPY
O. M. E
RECEIVED JUN 28 1961

DATE	INITIALS	CODE
6/28	gad	NNO
		~~180~~
6/28	[illegible]	800
		~~500~~
		~~500~~
		220

June 26, 1961

Memorandum

To: George C. Selfridge, Chief
Division of Field Operations, OME
Washington 25, D.C.

From: Hugh M. Connors, Acting Field Officer, OME, Region III

Subject: Docket No. DMEA 3989 (Uranium)
Contract No. Idm-E933
Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
(Sec. 29, T. 13 N., R 9 W.)
McKinley County, New Mexico

Our records indicate that the $423.80 received from the Operator for royalty due on Liquidation No. 946-E pays this account in full.

The Report of Royalty Review dated September 7, 1960 showed an overpayment of royalty at that time amounting to $908.24. If this amount was not repaid to the Operator the overpayment still exists.

Hugh M. Connors

Hugh M. Connors

cc E. D. Talbert, Acting Chief
Contract Administration and Audit Division

OFFICIAL FILE COPY

Date	Surname	Code
4/24	[illegible]	500
	[illegible]	500
4/24	Talbert	800
4/24	Selfridge	130
		110
4/24	gad	220

APR 2 4 1961

Mr. T. A. Lain
Phillips Petroleum Company
Mining and Milling Department
Bartlesville, Oklahoma

Re: DMEA-3989 (Uranium)
Food Machinery and Chemical Corporation
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract Idm-E933

Dear Mr. Lain:

This is to acknowledge your letter of April 18, 1961, transmitting a Rider, effective April 10, 1961, to Phillips Petroleum Company's Performance Bond No. 302474 relating to the subject contract. The Rider is acceptable to the Government.

Sincerely yours,

(signed) FRANK E. JOHNSON

Acting Director

FMMurphy/gla
4-24-61
cc to: Director's Reading File
Region III (2) w/2 cys Mr. Lain's letter, 1 cy Rider
Contract Adm. & Audit Div. w/cy Rider
Fiscal Section, w/cy Rider
Code 500
Docket

43683

OFFICIAL FILE COPY
O. M. E.
RECEIVED APR 21 1961

DATE	INITIALS	CODE
4/21	gad	VNO
4/21	[illegible]	800
"	Murphy	500
		220

PHILLIPS PETROLEUM COMPANY

BARTLESVILLE, OKLAHOMA

MINING AND MILLING DEPARTMENT

April 18, 1961

Re: Performance Bond to USA-DMEA
Docket No. DMEA-3989 (Uranium)
Section 29-13N-9W
McKinley County, New Mexico

Mr. Frank E. Johnson, Acting Director
United States Department of the Interior
Office of Minerals Exploration
Washington 25, D. C.

Dear Sir:

Phillips Petroleum Company subleased the captioned property to KSN Mining Company, Inc. and requested KSN to furnish a Performance Bond to your office for the balance of the loan under the above contract. As they were unable to obtain the bond without paying unduly high premiums, Phillips agreed to furnish the bond. We are therefore enclosing a fully executed Rider to be attached to Phillips' Performance Bond No. 302474 dated March 1, 1960. This Rider reduces the amount of the bond to $3,604.08 as of April 10, 1961.

We would appreciate your advising of your acceptance of this Rider.

Very truly yours,

T A Lain

T. A. Lain

TAL:iw
Encl.

(Original copy "Rider" filed with contract, left-hand side)

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
Building 20 - Federal Center
Denver 25, Colorado

OFFICIAL FILE COPY
O. M. E.
RECEIVED APR 5 1961

DATE	INITIALS	CODE
4-5	gad	VVO
4-5	[illegible]	800
~~4-5~~	~~Murphy~~	~~500~~
		220

April 3, 1961

Memorandum

To: George C. Selfridge, Chief
Division of Field Operations, OME
Washington 25, D. C.

From: Hugh M. Connors, Acting Field Officer, OME, Region III

Subject: DMEA-3989 (Uranium)
Contract Idm E-933
Food Machinery & Chemical Corp.
(Sec. 29, T. 13 N., R. 9 W.)
McKinley County, New Mexico

Attached are two copies of a letter from the subject Operator dated March 28, 1961 and the copy of the Sublease and Agreement which was attached.

This Sublease and Agreement is so indistinct that I have no way of reproducing it. I do know, however, that Exhibit "A" of the Agreement makes mention of the subject exploration contract under the heading Other Payments on Production.

This account is so nearly paid in full that I see no reason why we should have a copy of the Sublease and Agreement in our files in this office.

Hugh M. Connors

Hugh M. Connors

Attachments

(Sublease and Agreement, dated February 23, 1961, filed on left-hand side)

PHILLIPS PETROLEUM COMPANY

BARTLESVILLE, OKLAHOMA

MINING AND MILLING DEPARTMENT

March 28, 1961

Re: Our SM-502; Contract No. Idm
E-933 (DMEA - 3989) (Uranium)
Food Machinery & Chemical Corp.
Faith Mine Sec 29-13N-9W
McKinley County, New Mexico

Mr. H. H. Connors
Acting Field Officer
OME, Region III
Building 20, Denver Federal Center
Denver 25, Colorado

Dear Mr. Connors:

Enclosed for your file is a copy of the fully executed Sublease and Agreement dated February 23, 1961 between Phillips Petroleum Company and KSN Company, Inc., covering the captioned acreage.

Very truly yours,

D. E. Fryhofer

D. E. Fryhofer

DEF:TAL:bt

Enc.

OFFICIAL FILE COPY
O. M. E.
RECEIVED APR 5 1961

DATE	INITIALS	CODE

OFFICIAL FILE COPY
O. M. E
RECEIVED MAR 6 1961

DATE	INITIALS	CODE
3-6	gad	VVO
3/6		800
3/7	Murphy	500
		220

Building 20 - Federal Center
Denver 25, Colorado

March 3, 1961

N. C. Kirchman, President
KSN Company, Inc.
P. O. Box 327
Grants, New Mexico

Re: DMEA-3989 (Uranium)
Contract Idm-8933
Food Machinery & Chemical Corp.
(Sec. 29, T. 13 N., R. 9 W.)
McKinley County, New Mexico

Dear Mr. Kirchman:

This will acknowledge receipt of your letter dated March 1, 1961 requesting the balance due on the captioned contract.

Our records, which are subject to audit, are as follows:

Amount the Government contributed	$ 46,839.10
Royalty paid to date through Liquidation No. 806A	43,235.06
Balance due	$ 3,604.04

Yours very truly,

Original signed by

Hugh M. Commors
Acting Field Officer, OME
Region III

HMC/lm
cc Chief, Division of Field Operations, OME (2)
with copy of Operator's letter dated March 1, 1961
E. D. Talbert, Acting Chief
Contract Administration and Audit Division
Royalty Corres. E933
Chron

KSN Co., Inc.
P. O. BOX 327
GRANTS, NEW MEXICO
TELEPHONE TRINITY 6-2070

R. C. KIRCHMAN
PRESIDENT

J. W. SPENCER
VICE PRES.

W. A. NORINE
SEC.-TREAS.

OFFICIAL FILE COPY
O. M. E.
RECEIVED MAR 6 1961
DATE | INITIALS | CODE
DENVER COLO.

March 1, 1961
Re: IDM E 933
(DMEA Docket no. 3989)

Executive Officer
OME Field from Region 3
Office of Mineral Exploration
Building 20 Denver Federal Center
Denver 25, Colorado

Dear Sir:

It is Our understanding that this loan balance was $ 8,048.18 at the time it was assumed by KSN Company, Inc.

Since then the following payments have been made by KSN Company, Inc.

Paid by Phillips Petroleum Co. on behalf of KSN Co.		$ 137.44
Paid by KSN Company	11/20/'60	527.13
" " " "	12/20/'60	520.51
" " " "	12/20/'60	1,063.81
" " " "	1/20/'61	851.51
" " " "	3/1/'61	1,343.77
	Total Paid	$ 4,444.17

This then would have the following balance:

$ 8,048.18
4,444.17 Less

$ 3,604.01 Balance

We would appreciate it very much if you would check your records and see if we concur in this matter.

Sincerely Yours,

R.C.Kirchman

R.C.Kirchman - Pres.
KSN Company, Inc.

E 933

Food Machinery

7

OFFICIAL FILE COPY

Date	Surname	Code
12/6	FMurphy	500
	Griswold	500
		800
12/7	Selfridge	120
		110
12-7	gad	220

DEC 7 1960

Mr. C. N. Holmes
Assistant Manager
Mining and Milling Department
Phillips Petroleum Company
Bartlesville, Oklahoma

Re: DMEA-3989 (Uranium)
Food Machinery and Chemical Corporation
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract Idm-E933

Dear Mr. Holmes:

Our Denver office has reported that the data and additional royalty mentioned in my letter of October 12, 1960, to you, have not been received.

Will you please give this matter your prompt attention so that the royalty account may be placed on a current basis.

Sincerely yours,

(signed) FRANK E. JOHNSON

Acting Director

FMMurphy/gla
12-6-60
cc to: Director's Reading File
CA&A Division
Region III (2)
Code 500
Docket
Chron

43683

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
Building 20 - Federal Center
Denver 25, Colorado

OFFICIAL FILE COPY
O. M. E
RECEIVED DEC 5 1960

DATE	INITIALS	CODE
12-5	gad	VVO
12/5	[illegible]	800
~~[illegible]~~	~~[illegible]~~	~~500~~
		220

December 1, 1960

Memorandum

To: George C. Selfridge, Chief
Division of Field Operations, OME
Washington 25, D. C.

From: Hugh M. Connors, Acting Field Officer, OME, Region III

Subject: DMEA-3989 (Uranium)
Contract Idm-E933
Food Machinery & Chemical Corp.
(Sec. 29, T. 13 N., R. 9 W.)
McKinley County, New Mexico

This responds to your memorandum dated November 22, 1960 on the subject contract. The data and additional royalty have not been submitted to this office as requested in the Acting Director's letter dated October 12, 1960.

Hugh M. Connors

Hugh M. Connors

AME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
11/22	Mr Murphy on leave	500
		500
		800
11/22		130
"		110
		220

NOV 22 1960

Memorandum

To: Acting Field Officer, Region III

From: Chief, Division of Field Operations

Subject: DMEA-3989 (Uranium)
Food Machinery & Chemical Corp.
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract Idm-E933

This is with reference to the Acting Director's letter of October 12, 1960, to Mr. C. N. Holmes, Assistant Manager, Mining and Milling Department, Phillips Petroleum Company, Bartlesville, Oklahoma, regarding an adjustment of the royalty account on production from the above-referenced property.

If the data and additional royalty have not been submitted by December 1, 1960, will you kindly advise this office and we will again write Mr. Holmes.

/s/ George C. Selfridge (246)

FMMurphy/gla
11-22-60
cc to: Director's Reading File
Review Committee
Docket
Code 500
Chron

43683

OFFICIAL FILE COPY

Date	Surname	Code
10/11	Fisher	800
10/11	Talbert	800
	Murphy	500
10/12	Selfridge	120
		110
10-12	gad	220

OCT 12 1960

Mr. C. N. Holmes, Assistant Manager
Mining and Milling Department
Phillips Petroleum Company
Bartlesville, Oklahoma

Re: DMEA-3989 (Uranium)
Food Machinery & Chemical Corp.
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract Idm-1933

Dear Mr. Holmes:

Your letter dated September 22, 1960, file reference SM-504, addressed to our Denver office states that the land under the referenced contract has been subleased to KSN Company, Inc., and all ores mined thereon are to be sold to your company at AEC Circular 5 prices. We would appreciate it if you would continue to withhold the Government's royalty and pay it directly to our Region III office at Denver, Colorado, as was done in connection with the August 1960 settlement covered by liquidation No. 647-H.

The Atomic Energy Commission has informed us that final settlements with your company for the value of yellow cake are made currently and that there are no longer any redeterminations of value on a quarterly or other interim basis, as was mentioned in my letter to you dated April 11, 1960. An adjustment of the royalty account to the basis of the value of yellow cake sold from production during the period your company operated the mine now appears to be in order.

Please submit a statement showing the computation of the additional royalty due, together with your check for the amount thus redetermined, to Mr. H. M. Connors, Acting Field Officer, OME, Region III, Building 20, Denver Federal Center, Denver 25, Colorado.

Sincerely yours,

(signed) FRANK E. JOHNSON

Acting Director

CEFisher/ama
October 11, 1960

Copy to: Docket
Director's Reading File
CA & A Division
Acting Field Officer, Region III (2)

43683

9/22/60

OFFICIAL FILE COPY
O. M. E.
RECEIVED SEP 28 1960

DATE	INITIALS	CC
9-28	gad	VVO
"	EEF	800
"	~~Murphy~~	500
		22

PHILLIPS PETROLEUM COMPANY

BARTLESVILLE, OKLAHOMA

MINING AND MILLING DEPARTMENT

September 22, 1960

Re: Our SM-504
Docket No. DMEA 3989
Contract No. Idm - E933
Sec. 29-13N-9W
McKinley County, New Mexico

Mr. J. W. Townsend, Executive Officer
OME Field Team, Region III
Office of Minerals Exploration
Building 20 - Denver Federal Center
Denver 25, Colorado

OME
DEPARTMENT OF THE INTERIOR
SEP 26 1960
REGION III
DENVER, COLORADO

Dear Mr. Townsend:

We wish to advise that we have subleased the captioned land to KSN Company, Inc., P. O. Box 327, Grants, New Mexico. During the term of the sublease, they will be the owner of all ores they mine from the captioned land and are to sell us the ore at Circular 5 prices.

KSN is to pay the DMEA royalty direct to your office beginning with September sales. We are paying the DMEA royalty for their behalf on August sales.

Should you have any questions, please advise.

Very truly yours,

C. N. Holmes

C. N. Holmes, Ass't Manager
Mining and Milling Department

CNH:DEF:iw

cc: KSN Company, Inc.
A. A. Ruoho (r) D. C. Arnold
T. M. Hipp

W.O. (2)

Food Machinery + Chemical

OFFICIAL FILE COPY
O. M. E.
RECEIVED SEP 13 1960
DATE
9-16 gad
Murphy 500
225

Building 20 - Federal Center
Denver 25, Colorado

September 13, 1960

Memorandum

To: Fiscal Section, Division of Administrative Services
Office of the Secretary, Department of the Interior
Washington 25, D. C.

cy sent to 800

From: Hugh M. Connors, Acting Field Officer, OME, Region III

Subject: Docket DMEA-3989 (Uranium)
Contract Idm-E933
Food Machinery and Chemical Corporation
(Sec. 29, T. 13N., R. 9W.)
McKinley County, New Mexico

Enclosed is the original Report of Royalty Review on the subject project dated September 7, 1960, covering the period October 11, 1958, through August 22, 1960.

We recommend that $908.24, the amount of Royalty overpayment, be retained by the Government for offset against any additional Royalty found to be due when the true value of the production, based on the price of "yellow cake", is determined.

Original signed by

Hugh M. Connors

Attachments
HMC/lm
cc Chief, Division of Field Operations (2)
Royalty Corres. E933
Chron

OFFICIAL FILE COPY
O. M. E.
RECEIVED SEP 16 1960

DATE	INIT.	
9-16	gad	200
9/16	[illegible]	800
	Murphy	~~500~~
		225

Building 20 - Federal Center
Denver 25, Colorado

September 13, 1960

Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
161 East 42nd Street
New York 17, New York

Re: Docket DMEA-5989 (Uranium)
Contract Idm-E933
Food Machinery and Chemical Corporation
(Sec. 29, T. 13N., R. 9W.)
McKinley County, New Mexico

Gentlemen:

Enclosed is your copy of the Report of Royalty Review dated September 7, 1960, covering the period October 11, 1958, through August 22, 1960.

Yours very truly,

Original signed by

Hugh M. Connors
Acting Field Officer
OME, Region III

Enclosures

HMC/lm
cc: E. D. Talbert, Acting Chief
Contract Administration and Audit Division
Chief, Division of Field Operations (2)
Royalty Corres E933
Chron

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
9/9	Fisher	800
		220

SEP 9 1960

Memorandum

To: Acting Field Officer, Region III

From: E. D. Talbert, Acting Chief (Signed) E. D. Talbert
Contract Administration and Audit Division

Subject: DMEA-3989 (Uranium)
Food Machinery and Chemical Corporation
Sec. 29, T.13N., R.9W.
McKinley County, New Mexico
Contract Idm-E933

Attached are the original and two copies of a Report of Royalty Review on the above cited project. If you concur in the facts stated in the report distribution should be made as follows:

(a) Original of the report to the Fiscal Section, Division of Administrative Services, Office of the Secretary, Department of the Interior, Washington 25, D. C.;
(b) One copy to the Operator; and
(c) One copy for your file.

As evidence of your concurrence, a copy of your letter transmitting the Operator's copy should be furnished to this Division. If for any reason you do not concur, the original and both copies of the report should be returned to this Division with your comments.

Attachments

CEFisher/ama
September 9, 1960

Copy to: Docket
Director's Reading File
CA & A Division
Mr. Rothrock

43683

Official

EXTRA COPY
O. M. E
RECEIVED AUG 24 1960

DATE	INITIALS	CODE
8/25	Murphy	500
		225

Building 20 - Federal Center
Denver 25, Colorado

August 22, 1960

Memorandum

To: E. D. Tulbert, Acting Chief
Contract Administration and Audit Division
Washington 25, D. C.

From: Hugh M. Connors, Acting Field Officer, OME, Region III

Subject: Docket No. IMRA-3989 (Uranium)
Contract Idm-E933
Food Machinery and Chemical Corporation
(Sec. 29, T. 13 N., R. 9 W.)
McKinley County, New Mexico
Check Sheet of Examining Engineer

In accordance with your request of August 19, 1960 we are enclosing Check Sheet of Examining Engineer on the subject contract.

Original signed by

Hugh M. Connors

Attachments

HMC/lm
cc: E933
Chron
Orig & 1

MME Form 7
(10-58)

See attached----

OFFICIAL FILE COPY

Date	Surname	Code
4/29	Selfridge	120
		110
4-29	gad	220
		225

APR 29 1960

Federal Insurance Company
90 John Street
New York 38, New York

Attention: Stephen Flum, Assistant Secretary

Re: DMRA-3989 (Uranium)
Food Machinery and Chemical Corporation
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract No. Idm-E933

Dear Mr. Flum:

In reply to your letter of April 13, 1960, the Government has accepted a new surety guaranteeing the performance under the terms of the subject contract. Hence, effective March 1, 1960, the Federal Insurance Company's Bond No. 7862491 and rider thereto effective April 15, 1959, are herewith released.

Sincerely yours,

(signed) FRANK E. JOHNSON

Acting Director

FMMurphy/gla/hb (4/28/60)

Copy to: Director's Reading File
Region III (2) w/2 cys incoming letter
Docket
CA&A Division
Code 500
Chron.

43683

MME FORM 6 REFERENCE SLIP

REV. 2-59 OFFICE OF MINERALS EXPLORATION

TO:	DATE	INITIALS
1. ~~CHARLES M. SOLLER, RM. 6556~~		
2. G. C. SELFRIDGE, RM. 4459		
3.		
4.		
5.		
FROM: GEORGE C. SELFRIDGE	4/25	

SOLICITOR

APR 25 1960

INTERIOR DEPT.

FOR: Check items for action desired

____ Action ____ Reply for signature of ____

____ Approval ____ Investigate ✓ Surname

____ Comment ____ Recommendations ____ Signature

____ Conference ____ Rewrite ____ File

____ Instructions ____ Your information

REMARKS:

Letter to Federal Insurance Co. releasing Bond No. 7862491 & order of 3/11/59 Docket DMEA-3989 (Food Machinery & Chemical Corp.

RECEIVED

APR 25 1960

ASSOC. SOLICITOR
MINERAL RESOURCES

INT.-DUP. SEC., WASH., D.C. M56300-59

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
4/21	Murphy	500
	Friend	500
Mtgd 4/22	Talbot	800
	Vernon	140
	Seller App'd. Sol. Off.	110
		220
		225

as changed

Federal Insurance Company
90 John Street
New York 38, New York

Attention: Stephen Plum, Assistant Secretary

Re: DMEA-3989 (Uranium)
Food Machinery and Chemical Corporation
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract No. Idm-E933

Dear Mr. Plum:

In reply to your letter of April 13, 1960, the Government has accepted a new surety guaranteeing the performance under the terms of the subject contract. Hence, effective March 1, 1960, the Federal Insurance Company's Bond No. 7862491 and rider thereto of May 11, 1959, are herewith released.

Sincerely yours,

Acting Director

FMMurphy/gla
4-21-60
cc to: Director's Reading File
Region III (2) w/2 cys incoming letter
Docket
Chron
CA&A Division
Code 500

FROM SOLICITOR
APR 27 1960
FOR SIGNATURE

43683

Telephone: WOrth 4-1200
Cable Address: "CHUBBSON"

FEDERAL INSURANCE COMPANY

CHUBB & SON INC., *Manager* 90 John Street, New York 38, N.Y.

April 13, 1960

United States Department of the Interior
Office of Minerals Exploration
Washington 25, D. C.

Gentlemen:

Re: Your File: Docket No. DMEA-3989 (Uranium) Contract No. Idm-E933 Food Machinery and Chemical Corporation (Westvaco Mineral Products Division) Sec. 29, T. 13N., R. 9W McKinley County, New Mexico,

Bond No. 7862491, in the amount of $68,931.00 reduced to $32,96[illegible]6 by Rider effective April 15, 1959

Reference is made to your file and our bond as captioned above. We have been informed by Food Machinery and Chemical Corporation that the above Contract was transferred to Phillips Petroleum Company in June 1959, therefore continuance of this Company's bond is probably no longer required.

If your records indicate the transfer of the Contract to Phillips Petroleum Company, who assumedly filed a bond of another Surety Company guaranteeing the further performance of such Contract, we would appreciate receiving your authorization to terminate this Company's bond as captioned above as to future transactions occurring subsequent to such date as you may so specify.

Yours very truly,

Stephen Plum
Assistant Secretary

SP:CG

OFFICIAL FILE COPY
O. M. E.
RECEIVED APR 14 1960

DATE	INITIALS	CODE
4-14	gad	VVO
4/14	[illegible]	800
	Murphy	500

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
	Murphy	500
	Friend	500
4/8	Feldman	800
4/8	Selfridge	920
		110
4-11	gad	220

APR 11 1960

Mr. C. N. Holmes
Assistant Manager
Mining and Milling Department
Phillips Petroleum Company
Bartlesville, Oklahoma

Re: Docket No. DMRA-3989 (Uranium)
Food Machinery and Chemical Corporation
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract No. Idm-2933

Dear Mr. Holmes:

Your letter of February 18, 1960, to Mr. J. W. Townsend has been referred to this office for reply.

With respect to the last paragraph of your letter, Article 8(c) of the subject contract provides that the Government's royalty shall be a percentage of the gross proceeds from the production sold, in the form sold, at the point of delivery, with allowance for certain deductions from the gross proceeds made by the buyer. Hence, the requirement to pay royalties on sales of yellow cake produced conforms to the contract provisions for repayment of the Government's contribution. We have never granted a contract contemplating a specific form in which the product would be sold.

Mr. Townsend's letter dated January 28, 1960, stated in part that "Royalty settlements to date are accepted as preliminary payments subject to adjustment when the value of production in the form sold has been determined on a quarterly or other interim basis." Substantial amounts of royalty have been received since February 1958, so that approximately 50 percent of the Government advance has now been paid.

In view of this satisfactory repayment record, we will continue to accept royalty payments as in the past, with the understanding that they are preliminary payments and the Government does not waive its rights to require computation of the amount due based on value of production in the form sold, as provided in Article 8(c) of the

43683

contract, or to require the payment of royalty on unsold production computed in the manner provided in Article 8(d). However, final settlement will be required on all sales of yellow cake at the time final settlement is made with the AEC or any other purchaser.

Sincerely yours,

(signed) FRANK E. JOHNSON

Acting Director

FMMurphy/fw-4/11/60

cc: Docket
Dir.Read.File
Reg. III (2)
CA&A Division
Code 500
Chron.

AME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
3/29	Murphy	500
	Franz	[illegible]
3/30	Talbert	8[illegible]
		120
		110
		221

Mr. C. N. Holmes, Assistant Manager
Mining and Milling Department
Phillips Petroleum Company
Bartlesville, Oklahoma

Re: Docket No. DMEA-3989 (Uranium)
Food Machinery and Chemical Corporation
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract No. Idm-E933

Dear Mr. Holmes:

Your letter of February 18, 1960, to Mr. J. W. Townsend has been referred to this office for reply.

Insert

Mr. Townsend's letter dated January 28, 1960, stated in part that "Royalty settlements to date are accepted as preliminary payments subject to adjustment when the value of production in the form sold has been determined on a quarterly or other interim basis." Substantial amounts of royalty have been received since February 1958, so that approximately 50 percent of the Government advance has now been paid.

In view of this satisfactory repayment record, we will continue to accept royalty payments as in the past, with the understanding that they are preliminary payments and the Government does not waive its rights to require computation of the amount due based on value of production in the form sold, as provided in Article 8(e) of the ~~subject~~ contract, or to require the payment of royalty on unsold production computed in the manner provided in Article 8(d). However, if negotiations should commence, any final settlement would then be subject to agreement on all points. Inasmuch as this letter is made to that effect

Sincerely yours,

Acting Director

FMMurphy/fw-3/29/60
cc: Docket
Dir.Read.File
Reg. III (2)
CA&A Division
Code 500
Chron.

43683

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
3/3	Murphy	500
	[illegible]	500
3/4	Talbot	800
	Hernon	140
	Hoffland	120
	[illegible]	110
	App'd. Sol. Off.	

Mr. C. N. Holmes, Assistant Manager
Mining and Milling Department
Phillips Petroleum Company
Bartlesville, Oklahoma

Re: Docket No. DMEA-3989 (Uranium)
Food Machinery and Chemical Corporation
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract No. Idm-E933

Dear Mr. Holmes:

Your letter of February 18, 1960, to Mr. J. W. Townsend has been referred to this office for reply.

Mr. Townsend's letter dated January 28, 1960, stated in part that "Royalty settlements to date are accepted as preliminary payments subject to adjustment when the value of production in the form sold has been determined on a quarterly or other interim basis." Substantial amounts of royalty have been received since February 1958, so that approximately 50 percent of the Government advance has now been paid.

In view of the satisfactory repayment records of Food Machinery and Chemical Corporation and your company, we will accept royalty payments as in the past. However, in the event the Government's total contribution of $46,839.10 has not been fully repaid by March 21, 1966, the Government retains its right to require computation of the amount due based on value of production in the form sold as provided in Article 8(c) of the subject contract, or to require the payment of royalty on unsold production computed in the manner provided in Article 8(d).

Sincerely yours,

Acting Director

FMMurphy/fw-3/3/60
cc: Docket
Dir.Read.File
Reg. III (2)
CA&A Division
Operating Com'te
~~Herold Kirkemo, USGS~~
Code 500
Chron.

43683

MR. SELFRIDGE:

I gather this letter is not to go?

HBerry

Do not mail

rewrite

Japan

contract, or to require the payment of royalty on unsold production computed in the manner provided in Article 8(d). However, final settlement will be required on all sales of yellow cake at the time final settlement is made with the AEC ~~on~~ or any other ~~production.~~ purchaser

Sincerely yours,

Acting Director

contract, or to require the payment of royalty on unsold production computed in the manner provided in Article 8(d). [redacted], final settle- [redacted] be required on all sales of yellow [redacted] cake [redacted] at the [redacted] will

Sincerely yours,

(this final settlement is made with the AEC or any other purchaser.)

Acting Director

FMMurphy/fw-4/8/60

cc: Docket
Dir.Read.File
Reg. III (2)
CA&A Division
Code 500
Chron.

Final sentence

However, final settlement will be required on all sales of yellow cake at the time final settlement is made with the AEC or any other production

contract, or to require the payment of royalty on unsold production computed in the manner provided in Article 8(d). However, if operations should cease at any time prior to full repayment, final settlement would then be required on all sales of yellow cake made to that date.

Sincerely yours,

Frank E. Johnson

Acting Director

Insert

With respect to the last paragraph of your letter, Article 8(c) of the subject contract provides that the Government's royalty shall be a percentage of the gross proceeds from the production sold, in the form sold, at the point of delivery, with allowance for certain deductions from the gross proceeds made by the buyer. Hence, the requirement to pay royalties on sales of yellow cake produced conforms to the contract provisions for repayment of the Government's contribution ~~as contemplated at the time the contract was made.~~

We have never granted a ~~the~~ contract ~~in any way that contemplated~~ for a specific form in which the product would be sold.

EXHIBIT II

EXPLORATION PROGRAM

ADMINISTRATIVE EXPENSES (ADMINISTRATION AND TECHNICAL SERVICES)

Period	Fiscal Year 1955		Fiscal Year 1956		Fiscal Year 1957		Fiscal Year 1958		Fiscal Year 1959		
									ESTIMATED		
Agency	Allocated	Actual	Allocated	Actual	Allocated	Actual	Allocated	Actual *	DMEA	'New Program'	Combined
DMEA	$ 421,000	$ 377,589	$ 426,997	$ 426,997	$ 430,000	$ 423,909	$ 461,000	$ 434,820	$ 310,000	$ 465,000 **	$ 465,000 **
Bureau of Mines	562,600	479,253	577,793	577,593	622,000	537,564	577,000	521,500	370,000	579,000	579,000
Geological Survey	466,400	416,808	462,668	462,668	475,000	468,558	487,000	487,000	320,000	456,000	456,000
TOTALS	$1,450,000	$1,273,650	$1,467,458	$1,467,258	$1,527,000	$1,430,031	$1,525,000	$1,443,320	$1,000,000	$1,500,000	$1,500,000

* Actual expenses reported to 6/1/58, and estimated expenses for June 1958

** Estimate based on assumption DMEA program administrative expenses will be transferred to new program when funds are available. Administrative expenses for both programs are not expected to exceed $1,500,000 but amount for each program cannot be determined at this time.

OFFICIAL FILE COPY
O. M. E.
RECEIVED MAR 31 1960

DATE	INITIALS	CODE
3-31	gpd	220
3/31	[illegible]	800
"	[illegible]	500
4/4	Murphy	
		225

Building 20 - Federal Center
Denver 25, Colorado

AIR MAIL

March 28, 1960

Memorandum

To: Fiscal Section, Division of Administrative Services
Office of the Secretary, Department of the Interior
Washington 25, D. C.

From: Executive Officer, OME Field Team, Region III

Subject: Transmittal of Collections

Enclosed are the original and one copy of "Abstract of Remittance" number 3-9 with checks attached as listed.

Please execute receipt on the Field Team copy of the form and return it to this office.

The enclosures are probably the last checks to be submitted to be included in March accounts.

Original signed by

J. W. Townsend

Enclosure
JWT/bjo
Dc: Director, OME (2)
Suspense
Chron

For Dockets
Murphy
4713
3989
4644

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
3/8	Murphy	500
	Inamed	500
	Hernon	140
	[illegible]	140
	[illegible]	800
3/25	[illegible]	120
		~~110~~
3/25	Rew	220
3		225

MAR 25 1960

Mr. C. N. Holmes
Assistant Manager
Mining and Milling Department
Phillips Petroleum Company
Bartlesville, Oklahoma

RECEIVED
MAR 3 - 1960
ASSOC. SOLICITOR
MINERAL RESOURCES

Re: Docket No. DMEA-3989 (Uranium)
Food Machinery & Chemical Corporation
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract No. Idm-E933

Dear Mr. Holmes:

This is to acknowledge receipt of the Phillips Petroleum Company's Performance Bond, executed March 1, 1960, in the sum of $23,315.89, submitted with your letter of March 4.

The bond is acceptable to the Government as a guaranty covering the balance due the Government for its royalty percentage under the terms of the subject contract. The bond in the amount of $68,931.00 submitted by the Food Machinery & Chemical Corporation is herewith released effective February 29, 1960.

For your information, our accounts show the balance to be $23,315.89 as of March 7, 1960.

Sincerely yours,

Frank E. Johnson (for)

Acting Director

cc: Mr. Clarence Peterson
Food Machinery & Chemical Corporation
Chrysler Building East
161 East 42nd Street
New York 17, New York

FMMurphy/gla 3-8-60
cc to: Director's Reading File
CA&A Division
OME Field Team, Region III (2) w/2 cc Phillips Petroleum Company letter 3/4/60

Code 500
Docket
Chron

43683

Docket copy

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

MAR 24 1960

Memorandum

To: Acting Director
Office of Minerals Exploration

From: Associate Solicitor
Division of Mineral Resources

Subject: Docket No. DMEA-3989 (Uranium)
Food Machinery and Chemical Corporation
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract No. Idm-E933

The undated memorandum on this subject, dictated March 16, 1960, inquires whether the Government should accept the new bond furnished by the Phillips Petroleum Company, assignee of the Operator, Food Machinery and Chemical Corporation.

This inquiry is evidently made because the bond recited that "the principal [Phillips Petroleum Company] entered into a contract with the Government . . .", when as stated in the memorandum "the Government has no contract with the company."

Pursuant to Article 8(g) of the contract with the Food Machinery and Chemical Corporation, the Government has a lien upon the land or the Operator's interest therein to secure the payment of its percentage royalty. Also under Article 8(h), the Operator is required to give notice of the Government's claim for royalty to any purchaser of the minerals produced from the land, and authorizes and directs such purchaser to pay the royalty directly to the Government. The assignment dated July 15, 1959, from the Food Machinery and Chemical Corporation to Phillips Petroleum Company then provides:

> "In accepting this assignment Phillips Petroleum Company assumes and agrees to fully perform the obligations imposed upon Lessee under the terms and provisions of the aforementioned Mining Lease and Agreement which may accrue subsequent to the effective date of this assignment and agrees to hold Food Machinery and Chemical Corporation free and harmless therefor.

Assignee accepts this assignment subject to such right as the United States Government may have to a percentage royalty on production from the above described lands under Exploration Project Contract No. Idm-E933 and such lien as the Government may have for the payment thereof."

In view of the provisions of the contract and assignment discussed above, it is believed that the bond is adequate security to insure payment of the Government's royalty and should be accepted.

Charles M. Soller
Associate Solicitor
Division of Mineral Resources

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
3/16	Selfridge	120
		110
3/17	Murphy	500
		225

MAR 16 1960

Memorandum

To: Acting Associate Solicitor, Division of Mineral Resources

From: Acting Director, Office of Minerals Exploration

Subject: Docket No. DMEA-3989 (Uranium)
Food Machinery and Chemical Corporation
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract No. Idm-E933

After the completion of the exploration work and certification of the project as a discovery or development, the Operator assigned its interest in the lease covering the subject land to the Phillips Petroleum Company, effective as of April 24, 1959. The Operator, Food Machinery and Chemical Corporation, furnished a performance bond in lieu of a consent to lien.

The present producer, Phillips Petroleum Company, has submitted a new performance bond in its name as principal for $23,315.89, the balance remaining to be repaid to the Government. The bond, in part, states:

> "THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the Government, numbered and dated as shown above and hereto attached; ..."

The Government has no contract with the Phillips Petroleum Company. Under this condition, should the Government accept the new bond?

(signed) FRANK E. JOHNSON

Acting Director

Attachment

GCSelfridge/hb (3/16/60)
Copy to: Director's File
Director's Reading File
Frank E. Johnson
G. C. Selfridge
E. Dallas Talbert

43683

To be filed in Docket at request of Mr. Johnson

225

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

March 3, 1960

Memorandum

To: Mr. Frank E. Johnson
Acting Director, OME

From: W. R. Griswold, Chief
Division of Minerals

Subject: Docket No. DMEA-3989 (Uranium)
Food Machinery and Chemical Corporation
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract No. Idm-E933

Effective April 24, 1959, the operator assigned the subject property to Phillips Petroleum Company.

The Government contributed the sum of $46,839.10 as aid in exploring the property.

To the time of the above-mentioned assignment the original operator had repaid $15,035.46. Since then to February 24, 1960, Phillips Petroleum has submitted royalties starting with lot 215-E (May 1959) and the last lot 443-A, totaling $8487.75. The total amount repaid amounts to $23,523.21 or 50.22% of the DMEA loan.

Phillips Petroleum Company was advised in a letter dated January 28, 1960, by the Executive Officer, OME Field Team, Region III, that Article 8(c) of the subject contract provides that the Government's royalty shall be a percentage of the gross proceeds from the production sold in the form sold. Hence, since Phillips Petroleum sells the U_3O_8 in the form of yellow cake, the royalty should be based on its value.

Yellow cake is sold to AEC at a negotiated price ranging from $8 to $9 per lb. of contained U_3O_8. Union Carbide Corporation (Docket DMEA-3928, Idm-E926), for example, receives $8.716 per lb. Their mill recovery of U_3O_8 ranges from 72.10% to 86.01% on ore averaging about 0.33% U_3O_8.

Phillips Petroleum in a letter dated February 18, 1960, to the Field Team stated that in addition to the direct mining costs which represent a loss of $0.68 per ton, it had other costs such as general expense, depreciation, leasehold costs, production taxes, and overhead which further increases the cost at the mine.

Phillips stated that it believes a review of the costs justifies its request that it continue to repay the Government DMEA loan at the rate it was contemplated at the time the loan was made. The alternative being to close the mine or farm it out to a non-mill owner.

A review of the docket discloses the following data:

Ore Mined and Milled by Phillips Petroleum

Ore mined, wet tons	18,799.98
Direct cost per ton	$12.44
Total value of ore	$200,432.79
Value per wet ton	$10.66
Loss per wet ton mined	$1.78 1/
Royalty paid based on AEC prices for U_3O_8 in ore (and 100% recovery)	$8,487.75

1/ Believe operator's statement of $0.68 per ton is based on dry tons. However, the ore is mined under a contract so the contractor is probably paid for wet tons.

Estimated Royalty Based on Sale of Yellow Cake

Ore mined, dry tons	17,403.50
Mill recovery 75% of U_3O_8 Lbs. Yellow Cake	42,884.75
Value Yellow Cake @ $8.70/lb.	$373,097.32
Government royalty @ 5%	$18,654.87
Royalty paid on crude ore	$8,487.75
Difference	$10,167.12
Value per dry ton of ore	$21.44
Value per wet ton of ore	$19.85

Conclusions and Recommendations

Food Machinery and Chemical Corporation assigned the subject property because it could not make a profit on the ore shipped even though it evidently mined the higher grade material. Normally in this type of underground mining, ore with a value of $20.00 per ton is considered marginal. However, the value of this ore based on AEC prices for uranium in crude ore is only $10.66 per ton.

Phillips Petroleum or any other company owning an uranium mill can show a small profit mining and milling this ore because of the additional value derived from the sale of yellow cake.

In view of the above, it appears to be in the best interest of the Government that Phillips Petroleum be granted the right to continue paying the Government's percentage royalty based on the AEC prices for uranium contained in the crude ore, as in the past. However, in the event the property is permanently closed before the total amount contributed by the Government has been repaid, the Government should retain the right to base the royalty due on the value of the yellow cake produced starting with Liquidation No. 215-E for ore shipped in May 1958 to the mine closing date.

F. M. Murphy

F. M. Murphy

NOTE: The calculations for the above-noted tonnages, values, etc. of the ore produced by Phillips Petroleum are attached to Folder No. 6 of the subject docket.

OME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
	Murphy	500
		500
3/4	Talbert	800
		~~140~~
		120
		~~110~~
		225

March 3, 1960

Memorandum

To: Mr. Frank E. Johnson
Acting Director, OME

FROM SOLICITOR

From: W. R. Griswold, Chief
Division of Minerals

MAR 4 - 1960

Subject: Docket No. DMEA-3989 (Uranium)
Food Machinery and Chemical Corporation
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract No. Idm-E933

FOR SIGNATURE

Effective April 24, 1959, the operator assigned the subject property to Phillips Petroleum Company.

The Government contributed the sum of $46,839.10 as aid in exploring the property.

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Phillips Petroleum in a letter dated February 18, 1960, to the Field Team stated that in addition to the direct mining costs which represent a loss of $0.68 per ton, it had other costs such as general expense, depreciation, leasehold costs, production taxes, and overhead which further increases the cost at the mine.

[1] Exclusive of $123.18 correction.
JEJM

43683

Phillips stated that it believes a review of the costs justifies its request that it continue to repay the Government DMEA loan at the rate it was contemplated at the time the loan was made. The alternative being to close the mine or farm it out to a non-mill owner.

A review of the docket discloses the following data:

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No!! What consideration to the Government?

F. M. Murphy

NOTE: The calculations for the above-noted tonnages, values, etc. of the ore produced by Phillips Petroleum are attached to Folder No. 6 of the subject docket.

FMMurphy/fw-3/3/60

cc: Docket
Dir.Read.File
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
Bldg 20 - Federal Center
Denver 25, Colorado

February 23, 1960

OFFICIAL FILE COPY
O. M. E.
RECEIVED FEB 26 1960

DATE	INITIALS	CODE
2-26	gad	220
2/26	[illegible]	800
	~~Murphy~~	~~600~~

Memorandum

TO: Chairman, Operating Committee, OME

From: Executive Officer, OME Field Team, Region III

Subject: Docket No. DMEA-3989 (Uranium), Contract No. Idm-E933, Food Machinery & Chemical Corp (Sec. 29, T 13 N, R 9 W), McKinley County, New Mexico

In reference to your memorandum of January 25, 1960 and my letter to Mr. Fryhofer, Phillips Petroleum Company dated January 28, 1960, enclosed is the reply from Phillips Petroleum Company dated February 18, 1960, including stated enclosure of a settlement sheet and copy of their mining agreement with K.S.N. Company.

The matter is forwarded for reply direct to Phillips Petroleum Company or advice to this office as to how we should proceed.

Placed in Folder #6

J. W. Townsend

Enclosures 4

(Agreement, dated December 1, 1959, filed on left-hand side)

W.O.

OFFICIAL FILE COPY
O. M. E.
RECEIVED FEB 26 1960

DATE	INITIALS	CODE

PHILLIPS PETROLEUM COMPANY

BARTLESVILLE, OKLAHOMA

MINING AND MILLING DEPARTMENT

February 18, 1960

Docket No. DMEA 3989 (Uranium)
Contract No. Idm-E933
Food Machinery & Chem. Corp.
(Sec. 29, T 13 N, R 9 W)
McKinley County, New Mexico

Mr. J. W. Townsend
Executive Officer, OME
Field Team, Region III
U. S. Department of Interior
Building 20 - Federal Center
Denver 25, Colorado

Dear Mr. Townsend:

In our telephone conversation on February 15th, I explained to you our concern about shutting down the Faith Mine because of the increased royalty. When Phillips purchased the Faith mine, we assumed the government loan in the form that Food Machinery and Chemical Corporation borrowed it, and did not believe we would be penalized for owning a mill.

Because of the marginal nature of the ore body, it will be necessary to close the mine or farm it out to a non-mill owner; both avenues of relief which we are loathe to pursue. Before pursuing either of these routes, you suggested explaining our situation to you. To document our letter, enclosed is a copy of our contract to mine, settlement sheet on grade and a list of costs. These fully show the economics of this marginal mine. Listed below from the enclosures is a list of our costs to operate.

1.	Contract mining	$8.40
2.	Reimbursement to mining contractor for hoist and headframe of second shaft	1.57
3.	Ore transportation (we do not get paid for haulage under 10 miles)	.58
4.	Taxes ~~e~~ ad valorem, use, sales, etc.	.13
5.	Santa Fe royalty	.98
6.	DMEA royalty - 5% of $11.56 per ton	.58
		$12.24

In addition to the direct costs which represents a loss of $0.68 a ton, we have general expense, depreciation, leasehold costs, production taxes, and overhead which further increases the loss on the mine. By running this through the mill we are able to sustain the operation on an incremental basis, barring any increased costs. Your request for increased royalties prohibits our continuing this operation.

We request that you review our docket for we feel you will see the justification in a ruling that we continue to repay the Food Machinery and Chemical Corporation loan at the rate it was contemplated at the time it was loaned.

We would appreciate your early consideration of this matter.

Very truly yours,

C. N. Holmes

C. N. Holmes, Ass't Manager
Mining and Milling Department

CNH:hm
Encls.

OME
DEPARTMENT OF THE INTERIOR
FEB 23 1960
REGION III
DENVER, COLORADO

OFFICIAL FILE COPY O. M. E. RECEIVED JAN 28 1960		
DATE	INITIALS	CODE
1-28	gad	VVO
2/1	[illegible]	
		225

Building 20 - Federal Center
Denver 25, Colorado
January 25, 1960

Mr. D. E. Fryhofer
Phillips Petroleum Company
Bartlesville, Oklahoma

Re: Docket No. DMEA 3989 (Uranium)
Contract No. Idm-11933
Food Machinery & Chem. Corp.
(Sec. 29, T 13 N, R 9 W)
McKinley County, New Mexico

Dear Mr. Fryhofer:

Receipt is acknowledged of Check No. 579,302 in the amount of $273.52 in payment of royalty due the Government on uranium sales from Sec. 29-13N-9W, Contract Idm-11933, for the month of December 1959; however, no settlement sheets were enclosed. Please forward three copies of settlement sheets or other data pertaining to the matter.

Very truly yours,

Original signed by

J. W. Townsend
Executive Officer, OME
Field Team, Region III

JWT:ltm

cc: Chmn. Op. Comm.
Roy. Corres.
Sasp.
Chron.

OFFICIAL FILE COPY
O. M. E.
RECEIVED FEB 1 1960

DATE	INITIAL	CODE
2-1	gad	VVO
2/1		800
2/2		606
		225

Building 20 - Federal Center
Denver 25, Colorado
January 28, 1960

Mr. D. E. Frynofer
Phillips Petroleum Company
Bartlesville, Oklahoma

Re: Docket No. DMRA 3589 (Uranium)
Contract No. Idm-1933
Food Machinery & Chem. Corp.
(Sec. 29, T 13 N, R 9 W)
McKinley County, New Mexico

Dear Mr. Frynofer:

Reference is made to Article 8(c) of the captioned contract which provides that the Government's royalty shall be a percentage of the gross proceeds from the production sold, in the form sold.

You sell the production in the form of yellowcake so the royalty should be based on the price you receive for yellowcake instead of the value of ore before milling as shown in A.E.C. Circular 5.

Royalty settlements to date are accepted as preliminary payments subject to adjustment when the value of the production in the form sold has been determined on a quarterly or other interim basis.

Very truly yours,

Original signed by

J. W. Townsend
Executive Officer, OME
Field Team, Region III

HMC:ltm

cc: Chmn. Op. Comm. (2)
Roy. Corres. E933
Chron.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
		500
		500
		800
1/22	GCS	130
1/22	Johnson	110
		JHB
1-25	gad	270
		225

JAN 25 1960

Memorandum

To: Executive Officer, OME Field Team, Region III

From: Chairman, Operating Committee, OME

Subject: Docket No. DMEA-3989 (Uranium)
Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract No. Idm-E933

On September 24, 1959, the Field Team submitted two copies of an assignment to Phillips Petroleum Company, effective April 24, 1959, of the land subordinated under the terms of the subject contract.

Beginning with the month of May 1959, the settlement statements for ore produced from the property show Phillips Petroleum Company as both the seller and buyer of the ore.

Hence, it appears that royalty on production should be based on the value of yellow cake sold in the same manner as was arranged with Climax Uranium Company (Docket No. DMEA-3514, Contract No. Idm-E823) and Pacific Uranium Mines Company (Docket No. DMEA-3928, Contract No. Idm-E926).

For the background on the Climax Uranium case, please refer to our letter of June 9, 1958, to you, and for Pacific Uranium, your letter of November 4, 1959, to Union Carbide Nuclear Company.

/s/ George G. Selfridge (JHB)

APPROVED:

P. F. Yopes (JHB)
Member, Bureau of Mines

Harold Kirkemo (JHB)
Member, Geological Survey

FMMurphy/gla 1-18-60
cc to: Director's Reading File
Operating Committee
Harold Kirkemo, USGS
Docket
Chron
Code 500

8623

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
1/19/60	Murphy	500
	Grams	500
1/19	Talbert	800
1/22	[illegible]	130
		110
		220
		225

File

Memorandum

To: Executive Officer, OME Field Team, Region III

From: Chairman, Operating Committee, OME

Subject: Docket No. DMEA-3989 (Uranium)
Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract No. Idm-E933

On September 24, 1959, the Field Team submitted two copies of an assignment to Phillips Petroleum Company, effective April 24, 1959, of the land subordinated under the terms of the subject contract.

Beginning with the month of May 1959, the settlement statements for ore produced from the property show Phillips Petroleum Company as both the seller and buyer of the ore.

Hence, it appears that royalty on production should be based on the value of yellow cake sold in the same manner as was arranged with Climax Uranium Company (Docket No. DMEA-3514, Contract No. Idm-E823) and Pacific Uranium Mines Company (Docket No. DMEA-3928, Contract No. Idm-E926).

For the background on the Climax Uranium case, please refer to my letter of June 9, 1958, to you, and for Pacific Uranium, your letter of November 4, 1959, to the Assignee, Union Carbide Nuclear Company.

/s/ George C. Selfridge

APPROVED:

P. F. Yopes
Member, Bureau of Mines

Harold Kirkemo
Member, Geological Survey

FMMurphy/gla 1-18-60
cc to: Director's Reading File
Operating Committee
Harold Kirkemo, USGS
Docket
Chron
Code 500

43683

OFFICIAL FILE COPY O. M. E. RECEIVED SEP 28 1959		
DATE	INITIALS	CODE
9-28	gad	220
9-28	~~Murphy~~	~~530~~
		225

Building 20 - Federal Center
Denver 25, Colorado

September 24, 1959

AIR MAIL

Mr. D. E. Fryhofer
Phillips Petroleum Company
Bartlesville, Oklahoma

Re: Docket No. DMEA 3989 (Uranium)
Contract No. Idm-8933
(Sec. 29, T 15 N, R 9 W)
McKinley County, New Mexico

Dear Mr. Fryhofer:

We have received two copies of the assignment of the lease on the captioned property from Food Machinery and Chemical Corporation to Phillips Petroleum Company, which we requested in our letter of September 11, 1959.

We can now give you the following information which you requested September 9, 1959:

$46,839.10 - Amount Government expended on the contract.
19,080.20 - Amount repaid including liquidation No. 271H.
$27,758.90 - Balance due as of September 24, 1959.

Should you have any further questions regarding this contract we will be happy to answer them.

Very truly yours,

J. W. Townsend
Executive Officer, OME
Field Team, Region III

HMC:ltm

cc: Chmn. Op. Comm. (2) — Wi copy assignment
Roy. Corres. file
Chron.

ASSIGNMENT OF LEASE, ACCEPTANCE AN[illegible]

KNOW ALL MEN BY THESE PRESENTS:

That under date of Marc[illegible] Lease and Agreement SFF[illegible] was duly made an[illegible] by and between Santa Fe Pacific Railroad Compa[illegible] as Lessor, and Food Machinery and Chemical Corpo[illegible] Mineral Products Division), as Lessee, covering and [illegible] the following described lands in McKinley C[illegible] to-wit:

S[illegible] Township [illegible] North [illegible]

Section [illegible] Township [illegible] North [illegible]

That, for valuable consideration [illegible] ery and Chemical Corporation (Westva[illegible] Mi[illegible] does hereby assign and transfer unto Phi[illegible] a corporation, [illegible] percent interest in and to [illegible] Mining Lease and Agreement insofar as the same [illegible] cribed lands.

That, Food Machinery and Chemical Corporation (Westva[illegible] Mineral Products Division) hereby warrants that said Mi[illegible] Lease and Agreement and the leasehold estate herein assigned to Phillips Petroleum Company is free and clear of all rents, claims, clouds or encumbrances caused, suffered or created by, through or under Food Machinery and Chemical Corporation (Westva[illegible] Mi[illegible] Division) except Exploration Contract No. IDM[illegible] [illegible] 95[illegible].

In accepting this assignment Phillips Pe[illegible] assumes and agrees to fully perform the obligations [illegible] Lessee under the terms and provisions of the aforem[illegible] Mi[illegible] Lease and Agreement which may accrue subsequent to [illegible] date of this assignment and agrees to hold Food Ma[illegible] ical Corporation free and harmless therefor.

Assignee accepts this assignment su[illegible] as the U. S. Government may have to a percentage [illegible] tion from the above described lands under Exp[illegible] tract No. IDM-E[illegible] and such lien as the [illegible] for the payment thereof.

This assignment is effective as of Ap[illegible] is made in accordance with and subject to the terms and provisi[illegible] of that certain agreement dated April 24, 1959 by [illegible] Machinery and Chemical Corporation (Westvaco Mineral Products Divi-

sion), as Seller, and Phillips Petroleum Company, as Buyer.

EXECUTED and dated 15 day of July, 1959.

ATTEST: FOOD MACHINERY AND CHEMICAL CORPORATION (WESTVACO MINERAL PRODUCTS DIVISION)

(SEAL)

/s/ K. H. Wanderer
Assistant Secretary

By /s/ M. N. Williams
Vice President

ATTEST: PHILLIPS PETROLEUM COMPANY

(SEAL)

(signature illegible)
Assistant Secretary

By /s/ B. F. Stradley
Vice President

STATE OF NEW YORK }
COUNTY OF NEW YORK } SS

The foregoing instrument was acknowledged before me this 15th day of July, 1959 by M. N. Williams, Vice President, of Food Machinery and Chemical Corporation (Westvaco Mineral Products Division), a Delaware corporation, on behalf of said corporation.

My Commission Expires:

/s/ Harold Vyse
Notary Public

Phillips Petroleum Company hereby accepts the above assignment of Mining Lease and Agreement and agrees to be bound under the terms and conditions of said Mining Lease and Agreement to the extent of its interest therein.

ATTEST: PHILLIPS PETROLEUM COMPANY

(SEAL)

(signature illegible)
Assistant Secretary

By /s/ B. F. Stradley
Vice President

STATE OF OKLAHOMA }
COUNTY OF WASHINGTON } SS

The foregoing acceptance was acknowledged before me this 24th day of July, 1959 by B. F. Stradley, Vice President of Phillips Petroleum Company, a Delaware corporation, on behalf of said corporation.

My Commission Expires:

/s/ Ramona Sa[illegible]
Notary Public

Consent of Lessor

Santa Fe Pacific Railroad Company, a corporation, Lessor named in the Mining Lease and Agreement hereinabove described hereby consents to the foregoing assignment of Mining Lease and Agreement without releasing assignor from any obligations previously accrued this 28th day of August, 1959.

ATTEST:
(SEAL)

/s/ R. C. Schmadt
Assistant Secretary

SANTA FE PACIFIC RAILROAD COMPANY

By /s/ R. D. Lutton
President

STATE OF ILLINOIS)
COUNTY OF COOK) SS

The foregoing Consent was acknowledged before me this 28th day of August, 1959 by R. D. Lutton, President of Santa Fe Pacific Railroad Company, a corporation, on behalf of said corporation.

My Commission Expires:
December 20, 1960

/s/ John L. [illegible]
Notary Public

OFFICE COPY
SEP 14 1959

9-14 gad 1V0
1V0
9/14 800
~~9-14 Murphy 500~~
225

Building 20 - Federal Center
Denver 25, Colorado

September 11, 1959

Mr. S. A. Lloyd
Office Manager
Westvaco Mineral Products Division
Food, Machinery, & Chemical Corporation
Box 1608
Pocatello, Idaho

Re: Docket No. DMEA 3989 (Uranium)
Contract No. Idm-E933
Food, Machinery, & Chemical Corporation
Sec. 29, T 13 N, R 9 W
McKinley County, New Mexico

Dear Mr. Lloyd:

We were informed today by Mr. D. E. Fryhofer of the Phillips Petroleum Company, that they had acquired the lease on the ground subordinated under Contract No. Idm-E933. He requested advice as to the balance due the Government under the contract.

The requested information cannot be released to him until our files contain authorization from Food, Machinery, & Chemical Corporation or appropriate instruments are on file transferring the property subordinated under the contract to Phillips Petroleum Company, therefore, please forward two copies of the instrument that was executed to affect the transfer.

Very truly yours,

Original signed by

J. W. Townsend
Executive Officer, OME
Field Team, Region III

cc: Mr. D. E. Fryhofer
Phillips Petroleum Company
Bartlesville, Oklahoma

JWT/cg

cc: Chmn. Op. Comm. (2)
Roy. Corres., E933
Hasler
Chron.

OFFICIAL FILE COPY

Date	Surname	Code
6/1	Talbert	800
		~~700~~
6/1	Nyonal	700
6/1	Selfridge	220
"	Johnson	~~110~~
"	a	220
		700

JUN 1 1959

Mr. Stephen Plum, Assistant Secretary
Federal Insurance Company
Chubb & Son, Managers
90 John Street
New York 38, New York

Re: Docket No. DMEA-3989 (Uranium)
Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract No. Idm-E933

Dear Mr. Plum:

By letter dated May 27, 1959, the Food Machinery and Chemical Corporation submitted to us, in triplicate, an executed rider decreasing from $68,931.00 to $32,968.46 the penal sum of the surety Bond No. 7862491 under the referenced contract. Their letter requested that the duplicate executed copy of the rider be endorsed as to acceptance and returned to you for completion of your records.

The duplicate copy, endorsed as to acceptance, is enclosed.

Sincerely yours,

(signed) FRANK E. JOHNSON
Acting Director

Enclosure

Copy to:
Food Machinery and Chemical Corporation
Attention: G. E. Taylor, Insurance Manager

EDTalbert/ama
May 29, 1959

Copy to: Docket
Director's Reading File
CA & A Division
OME Field Team, Region III (2)
w/2cc incoming letter

FOOD MACHINERY AND CHEMICAL CORPORATION

FOOD MACHINERY AND CHEMICAL CORPORATION

WESTVACO MINERAL PRODUCTS DIVISION

Hermofax copy ltr. & enclosures to 800

CHRYSLER BUILDING EAST
OFFICIAL FILE COPY
42 EAST 42ND STREET
NEW YORK 17, N. Y.
TELEPHONE MURRAY HILL 7-7400

RECEIVED MAY 28 1959

DATE	INITIALS	CODE
5/28	Ce	220
5/29	MRC	700

May 27, 1959

Mr. Frank E. Johnson, Acting Director
United States Department of the Interior
Office of Mineral Exploration
Washington 25, D.C.

Re: Dock No. DMEA-3989 (Uranium)
Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division
Sec. 29, T. 13 N., R. 9 W
McKinley County, New Mexico
Contract No. Idm-E933

Dear Sir:

Referring to your letter of April 16, 1959 addressed to Mr. Stephen Plum, Assistant Secretary of Federal Insurance Company regarding Bond No. 7862491, we are enclosing herewith executed Decrease Rider to be attached to Bond No. 7862491 decreasing same from $68,931.00 to $32,968.46, in triplicate.

The Federal Insurance Company have requested that the duplicate executed copy of this Rider be accepted by you and subsequently returned to them for completion of their records.

Yours very truly,
FOOD MACHINERY AND CHEMICAL CORPORATION
WESTVACO MINERAL PRODUCTS DIVISION

C. E. Taylor

C.E. Taylor, Insurance Manager

AB
Encls. (3)

Copy to:
Marsh & McLennan, Inc.
70 Pine Street
New York 5, New York
Attention: Mr. Kenneth R. Gesner

E Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
4/15/59	Ching	700
4/15	Kovarik	700
4/16	Talbot	800
4/16	Abbott	120
		110
4/17	C	220
		700

APR 16 1959

Mr. Stephen Plum, Assistant Secretary
Federal Insurance Company
Chubb & Son, Managers
90 John Street
New York 38, New York

Re: Docket No. DMEA-3989 (Uranium)
Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract No. Idm-E933

Dear Mr. Plum:

In response to your letter of April 10, 1959, regarding Bond No. 7862491, this bond may not be terminated until March 21, 1966, or the sum of $46,839.10 is repaid to the Government, whichever occurs first. The amount of the bond, originally $68,931.00, may be reduced to $32,968.46, the amount of the Government's participation in the subject exploration project remaining unpaid as of March 31, 1959.

The Government will accept either a new bond on Standard Form No. 25 for $32,968.46, or a decrease rider to the old bond which contains the new penal sum and provides that all of the other provisions of the original bond remain the same and are continued in full force and effect.

Please forward two copies of either the new bond or rider, as the case may be, to this office.

Sincerely yours,

(signed) FRANK E. JOHNSON

Acting Director

Copy to:
Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
161 East 42nd Street
New York 17, New York

MChing/gla 4-14-59
cc to: Dir.'s Reading File
OME Field Team, Region III (2)
w/2cc incoming letter
Mr. Ching

43683

ROUGH DRAFT
EDTalbert/ama
April 15, 1959

Re: DMEA-3989

Reference is made to your April 10, 1959, letter requesting authorization to terminate Performance Bond No. 7862491 issued by your Company to guarantee performance under the referenced contract.

The provisions of the contract will not be fulfilled and, therefore, the bond may not be terminated until March 21, 1966, or the amount of $46,839.10 contributed by the Government is repaid by royalties on production, whichever occurs first.

As of March 31, 1959, a total of $13,870.64 had been repaid, leaving a $32,968.46 balance payable. Accordingly, a reduction in the ~~fixed~~ penal sum of the bond to $32,968.46 will be acceptable to the Government.

If the penal sum is reduced, please forward two copies of the rider to this office.

DMEA F[illegible] 6 REFERENCE SLIP

REV. 12-56 DEFENSE MINERALS EXPL[illegible]TION ADMINISTRATION

TO:	INITIALS	DATE
1. ~~120~~		
2. Mr. Ching		
3.		
4.		
5.		
FROM: 800		

FOR: Check items for action desired

____ Action ____ Reply for signature of _____

____ Approval ____ Investigate ____ Surname

____ Comment ____ Recommendations ____ Signature

____ Conference ____ Rewrite ____ File

____ Instructions ____ Your information

REMARKS: The bond is effective until completion of contract regardless of payment of principal or otherwise. Suggested re-write attached. Mr. Ching does not concur.

Talbut
4/15/59

INT.-DUP. SEC., WASH., D.C. M25803

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
4/14/59	Ching	700
	Ching & Kunkel	700
		800
		120
		110
		100
		220
		700

Mr. Stephen Plum, Assistant Secretary
Federal Insurance Company
Chubb & Son, Managers
90 John Street
New York 38, New York

Re: Docket No. DMEA-3989 (Uranium)
Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico
Contract No. Idm-E933

Dear Mr. Plum:

(This bond may not be terminated until [illegible])

In response to your letter of April 10, 1959, regarding Bond No. 7862491, ~~the bond must be effectively maintained to~~ March 21, 1966, or ~~until~~ the sum of $46,839.10 is repaid to the Government, whichever occurs first. The amount of the bond, originally $68,931.00, may be reduced to $32,968.46, the amount of the Government's participation in the subject exploration project remaining unpaid as of March 31, 1959. ~~In succeeding years, if the amount due the Government is reduced through royalty payments, the amount of the bond may be reduced accordingly~~.

The Government will accept either a new bond on Standard Form No. 25 for $32,968.46, or a decrease rider to the old bond which contains the new penal sum and provides that all of the other provisions of the original bond remain the same and are continued in full force and effect.

Please forward two copies of either the new bond or rider, as the case may be, to this office.

Sincerely yours,

Acting Director

Copy to:
Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
161 East 42nd Street
New York 17, New York

MChing/gla 4-14-59
cc to: Dir.'s Reading File
Mr. Ching
OME Field Team, Region III
(2) w/2cc incoming letter

43683

Telephone: WOrth 4-1200
Cable Address: "CHUBBSON"

FEDERAL INSURANCE COMPANY

CHUBB & SON, *Managers* 90 John Street, New York 38, N.Y.

April 10th, 1959

OFFICIAL FILE COPY
O. M. E.
RECEIVED APR 13 1959

DATE	INITIALS	CODE
4/13	C	220
"	[illegible]	700

United States Department of the Interior
Defense Minerals Exploration Administration
Washington 25, D. C.

Gentlemen:

Re: Bond #7862491, FOOD MACHINERY AND CHEMICAL CORPORATION, $68,931., in favor of U.S.A., Performance Bond - Eff. 4/15/56

Your File: Docket No. DMEA-3989 (Uranium) Contract No. Idm-E933 Food Machinery and Chemical Corporation (Westvaco Mineral Products Division) Sec.29, T.13N., R.9W. McKinley County, New Mexico

With reference to the above captioned contract and bond, this company has been informed by the Food Machinery and Chemical Corporation that they have completed such contract and therefore continuance of the bond is no longer required.

Will you kindly let us have your confirmation of the completion of the contract and your authorization to terminate our bond as referred to above as to future liability occurring subsequent to such date as you may so specify.

Very truly yours,

Stephen Plum
Assistant Secretary

sp:ma

32,968.46

224 New Customhouse
Denver 2, Colorado
March 24, 1959

OFFICIAL FILE COPY
RECEIVED MAR
DATE
3/26
C 220
700

Mr. J. H. Glassagen,
Manager of Accounting
Westvaco Mineral Products Division
Food Machinery & Chemical Corporation
Chrysler Building - East
161 East 42nd Street
New York 17, N. Y.

Re: Docket No. NMEA 3989 (Uranium)
Contract IAm-2933, Food Machinery
& Chemical Company
(Sec. 29, T. 13 N., R. 9 W.)
McKinley County, New Mexico

Dear Mr. Glassagen:

A check with the Atomic Energy Commission records indicates that we have not received three copies of the settlement sheet, nor the royalty due on Liquidation No. A-1072, which shipment reportedly was made late in December 1958. The AEC records show that the shipment consisted of 2,195.387 dry tons of ore with a U_3O_8 content of 8,443.90 pounds.

Will you please forward this office three copies of the settlement sheet and your check for the amount of royalty due. The check should be made payable to the Office of Minerals Exploration, which is the successor to NMEA.

Very truly yours,

Original signed by
J. W. TOWNSEND

J. W. Townsend
Executive Officer
OME Field Team, Region XII

BMC/ff
cc: Chmn. Op. Comm. (2)
Romslo
Royalty file, M933
SAR file M-933
Chron.

224 New Customhouse
Denver 2, Colorado

March 11, 1959

OFFICIAL FILE COPY
O. M. E.
RECEIVED MAR 18 1959

DATE	INITIALS	CODE
3/13	C	220
		700

Mr. J. H. Glaessgen,
Manager of Accounting
Westvaco Mineral Products Division
Food Machinery & Chemical Corporation
Chrysler Building - East
161 East 42nd Street
New York 17, N. Y.

Re: Docket No. DMEA 3989 (Uranium)
Contract Idm-E933, Food Machinery
& Chemical Corporation
(Sec. 29, T 13 N., R. 9 W.)
McKinley County, New Mexico

Dear Mr. Glaessgen:

As noted in the First Report of Royalty Review forwarded you October 24, 1958, $1,736.70 is the amount of bonus royalty due the Government when you collect your production bonus from the Atomic Energy Commission.

If the production bonus has now been paid by the Atomic Energy Commission, will you please forward this office your check for $1,736.70, which amount will clear the total bonus royalty due.

Very truly yours,

Original signed by
J. W. TOWNSEND

J. W. Townsend
Executive Officer
OME Field Team, Region III

HMC/ff

cc: Chmn.OP. Comm. (2)
Harshman
Romslo
Royalty file E933
Chron.

10/27 C 326 700

224 New Customhouse
Denver 2, Colorado

October 21, 1958

Mr. J. E. Glaessgen,
Manager of Accounting
Westvaco Mineral Products Division
Food Machinery and Chemical Corporation
Chrysler Building East
161 East 42nd Street
New York 17, New York

Re: Docket DMEA 3989 (Uranium)
Contract Idm-E933
Food Machinery and Chemical Corp.
(Sec. 29, T 13 N, R 9 W)
McKinley County, New Mexico

Dear Mr. Glaessgen:

This will acknowledge receipt of your check for $1,030.68, applicable to Liquidation No. A-1049.

The correct amount of royalty due the Government on Liquidation No. A-1049 is 5% of $21,747.67, which is $1,087.38. Will you please forward this office your check for $56.70, which is the balance of royalty due the Government for your August shipments.

Very truly yours,

Original signed by
E. N. HARSHMAN

E. N. Harshman
Acting Executive Officer
OME Field Team, Region III

HMC:jy

cc: Chm. Op. Comm. (2)
Harshman
OME,TUC
Royalty File E933
Chron.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
10/21	G McCarthy	800
10/21	Talbutt	800
10/21	C	220
10/21	Chaney	700

Mr. Donald T. Finch
OME Auditor
224 New Customhouse
Denver 2, Colorado

OCT 21 1958

Re: Docket No. DMEA-3989 (Uranium)
Food Machinery & Chemical Corporation
Contract No. Idm-E933

Dear Mr. Finch:

Your Report of Royalty Review covering the referenced project is acceptable and normal distribution is authorized.

Sincerely yours,

(Signed) J. L. Chambers

Jay L. Chambers
Contract Administration
and Audit Division

GMcCarthy/GMcC
October 21, 1958

cc: Docket
Director's Reading File
Mr. Chambers

8623

FOOD MACHINERY AND CHEMICAL CORPORATION

WESTVACO MINERAL PRODUCTS DIVISION

OME
DEPARTMENT OF THE INTERIOR
OCT 6 - 1958
COLORADO

CHRYSLER BUILDING EAST
161 EAST 42ND STREET
NEW YORK 17, N. Y.
TELEPHONE MURRAY HILL 7-7400

October 1, 1958.

United States Department of the Interior,
Defense Minerals Exploration Administration,
224 New Customhouse,
Denver 2, Colorado.

10-10 C 220
GEF 800
700

Re: Docket No. DMEA 3989 (Uranium)
Contract No. Idm-E933
Food Machinery and Chemical Corp.
(Sec. 29, T 13 N, R 9 W)
McKinley County, New Mexico.

Gentlemen:

In reply to your letter of September 5, 1958 wherein you asked us for a progress report of our application to receive bonus payments from "AEC.", we wish to advise the following:

We have not, yet, received certificate of eligibility to receive bonus payments even though it is our belief that we are entitled to receive same and expect that the certificate will be received shortly.

According to our records, we requested the certificate of eligibility on April 9, 1958 and shortly thereafter we received acknowledgement from AEC stating that our request had been assigned #1732 and that we would receive a communication from them soon.

As soon as the bonus payment is received, we shall remit a royalty payment to you.

Very truly yours,

WESTVACO MINERAL PRODUCTS DIVISION
Food Machinery and Chemical Corporation

J. H. Glaessgen
Manager of Accounting.

JHG:AG

224 New Customhouse
Denver 2, Colorado
September 23, 1958

9/25 " 220 780

Mr. J. H. Glassagen, Manager of Accounting
Westvaco Mineral Products Division
Food Machinery and Chemical Corporation
161 East 42nd Street
New York 17, N. Y.

Re: Docket No. [illegible] 3989 (Uranium)
Contract No. I[illegible]-1933
Food Machinery and Chemical Corp.
(Sec. 29, T 13 N, R 9 W)
McKinley County, New Mexico

Dear Mr. Glassagen:

Your checks for $904.46 and $339.08, which you stated covered the Government royalty on your June and July production on the captioned property, have been received. Please forward this office three copies of each settlement sheet covering the June and July production.

If the June proceeds amounted to $18,641.75, as stated in your letter of September 19, 1958, the royalty would be $932.09 instead of $904.46, which leaves a balance of $27.63 due the Government.

Please address all future correspondence, checks, and settlement sheets to Office of Minerals Exploration, Room 224, New Customhouse, Denver, Colorado.

Very truly yours,

Original signed by
E. N. HARSHMAN

E. N. Harshman

HMC:bh
cc: OME/Wash.D.C.(2)
Harshman
OME/TUC
Roy. File E-933
Chron.

9-8 C 220
9/8 800
9/9 700

224 New Customhouse
Denver 2, Colorado

September 5, 1958

Mr. J. H. Glassagen, Manager of Accounting
Westvaco Mineral Products Division
Food Machinery and Chemical Corporation
161 East 42nd Street
New York 17, N. Y.

Re: Docket No. DMEA 3989 (Uranium)
Contract No. IGs-E933
Food Machinery and Chemical Corp.
(Sec. 29, T 13 N, R 9 W)
McKinley County, New Mexico

Dear Mr. Glassagen:

Your letter of July 18, 1958, advised us that although requests had been made for AEC bonus payments, none have been received.

Please advise us of the progress of your application to receive such bonus payments from AEC. If you have been declared eligible to receive bonus payments, then royalty is due on the production listed in our letter of July 8, 1958, as well as any other production not reported.

Very truly yours,

Original signed by
J. W. TOWNSEND

J. W. Townsend
Alternate Acting Executive Officer
DMEA Field Team, Region III

MHM:bk
cc: Chmn. Op. Comm.(2)
Harshman
DMEA/TUC
Roy. File E-933
Chron.

FOOD MACHINERY AND CHEMICAL CORPORATION

CHEMICAL DIVISIONS

DMEA
DEPARTMENT OF THE INTERIOR

JUL 23 1958
REGION III
DENVER, COLORADO

161 EAST 42ND STREET
NEW YORK 17, N. Y.

July 18, 1958

Mr. J. W. Townsend
Alternate Acting Executive Officer
DMEA Field Team, Region III
U. S. Department of the Interior
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

4-28 C 220
" ~~Chang~~ 700

Re: Docket No. DMEA 3989 (Uranium)
Contract No. IDm-E933
Food Machinery and Chemical Corp.
(Sec. 29, T 13 N, R 9 W)
McKinley County, New Mexico

Dear Mr. Townsend:

cy sent to 800

We have investigated the points mentioned in your letter of July 8, 1958 and find that application has been filed for bonus refund on ore removed from the above section.

We have not, however, received collection, even though we have made several requests for payment.

In view of this, we wish to defer making bonus royalty payments to you until we receive the payment for the amount applied for.

Very truly yours,

J. H. Glaessgen

JHG:mw

Reg III NOTE: Will inquire again in 30 days.

PHOTO CY TO
CHIEF OPR COMM-2
HARSHMAN
DMEA/DFC
DMEA/TUC

ROYALTY FI . E933

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DMEA
RECEIVED JUL 11 1958

DATE	INITIALS	CODE
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"	MC	700

224 New Customhouse
Denver 2, Colorado

July 8, 1958

Mr. J. K. Glassagen, Manager of Accounting
Westvaco Mineral Products Division
Food Machinery and Chemical Corporation
161 East 42nd Street
New York 17, N. Y.

Re: Docket No. DMEA 3989 (Uranium)
Contract No. Idm-8933
Food Machinery and Chemical Corp.
(Sec. 29, T 13 N, R 9 W)
McKinley County, New Mexico

Dear Mr. Glassagen:

A review of your royalty account indicates that an amount of $1,736.80 is due as royalties on AEC bonus payments received or eligible for receipt by you on the following production:

LIC. NO.	BONUS PAYMENT	BONUS ROYALTY DUE
A985	$12,304.72	$ 615.21
4424	1,090.07	54.50
A1005	17,083.86	854.29
A1014	4,256.09	212.80
	TOTAL:	$1,736.80

Your check in the amount of $1,736.80 should be made payable to Defense Minerals Exploration Administration and mailed at once to the Executive Officer, DMEA Field Team, Region III, 224 New Customhouse, Denver 2, Colorado.

Very truly yours,

Original signed by
J. W. TOWNSEND

J. W. Townsend,
Alternate Acting Executive Officer,
DMEA Field Team, Region III

MHM:bh
cc: Chairman, Op. Comm. (2)
Harshman
DMEA/DFC (2)
Royalty File
Chron.

DMEA
RECEIVED APR 21 1958

224 New Customhouse
Denver 2, Colorado
April 15, 1958

Mr. L. R. Carbon
Westvaco Minerals Products Division
Food Machinery and Chemical Corp.
Chrysler Building East
161 East 42nd Street
New York 17, N. Y.

Re: Docket No. DMEA 3989 (Uranium)
Contract Idm-E933, Food Machinery and Chemical Corporation (Sec. 29, T13N, R9W) McKinley County, New Mexico

Dear Mr. Carbon:

We have received your letter of April 10, 1958, enclosing one copy of settlement sheet Liquidation No. A-985, covering 600.237 short tons of production, and your check for $812.06. Of this amount you intend that $744.89 be credited as royalties on 600.237 short tons of production and $67.17 be credited on 44.11 tons of production, the settlement sheet for which has not been submitted.

Your letter shows that royalty was computed excluding haulage allowance. Article 8 of the contract provides that the Government shall be paid a royalty on the value of ore sold, which includes all allowances, bonuses and premiums. Accordingly, the royalty due on production covered by settlement sheet Liquidation No. A-985 is $766.89. You submitted a payment of $744.89 for this production. A balance of $22 in additional royalties is due.

Your attention is called to this article of the contract so that future royalty will be based on the "gross proceeds" as defined in the contract.

Please provide this office with three copies of each settlement sheet with future royalty payments. We would also appreciate advice as to the status of your eligibility to receive AEC initial production payments.

Very truly yours,
Original signed by
E. N. HARSHMAN
E. N. Harshman
Acting Executive Officer
DMEA Field Team, Region III

MHM:dp
cc: Sec. Op. Comm. (2)) W/cy
Harshman) oper.
DMEA/DFC (2)) letter
Royalty) 4-10-58

FOOD MACHINERY AND CHEMICAL CORPORATION

WESTVACO MINERAL PRODUCTS DIVISION

CHRYSLER BUILDING EAST
161 EAST 42ND STREET
NEW YORK 17, N. Y.
TELEPHONE MURRAY HILL 7-7400

April 10, 1958

Defense Mineral Exploration Administration
Bureau of the Department of the Interior
Executive Officer
Denver, Colorado

Gentlemen:

We are enclosing our check in the amount of $812.06 as our first DMEA royalty payment re contract IDM-E933, Section T13N, R9W #29 which was calculated as follows:

44.411 short tons @ $30.25 gross = $1,343.43 @ 5% =	$ 67.17
600.237 short tons @ $24.81999 gross = $14,897.88 @ 5% =	744.89
Total DMEA royalty	$812.06

Please note that we have attached a copy of the ore settlement sheet from the Anaconda Company pertaining to the 600.237 short tons indicated in the above calculation. As soon as it is available, the ore settlement sheet from Lucius Pitkin (44.411 short tons) will be promptly mailed to complete your records.

Very truly yours,

WESTVACO MINERAL PRODUCTS DIVISION
Food Machinery and Chemical Corporation

L.R. Carbon
Manager of Accounting

LRC:js
Enc.

DMEA
DEPARTMENT OF THE INTERIOR
APR 14 1958
REGION III
DENVER, COLO.

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

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DMEA
IN REPLY REFER TO:
RECEIVED JUL 19 1957

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7/19	C	220
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July 18, 1957

Memorandum

To: E. W. Ellis, Defense Minerals Exploration Administration

From: W. P. Williams, U. S. Geological Survey

Subject: Review of final field team report, DMEA 3989 (uranium), Contract No. Idm-E933, Westvaco Mineral Products, Sec. 29, T.13N., R.9W., McKinley County, New Mexico

The Field Team reports that work under DMEA contract Idm-E933 has been completed and that a Certification of Discovery has been issued to cover the project.

The exploration drilling appears to have been very successful. Two large ore bodies and several small ones were found. About 12 percent of the 183 holes were ore holes. The Geological Survey calculated that about 32,600 tons of indicated ore, and about 95,000 tons of inferred ore were found. At a price of $45 per ton, the indicated ore has a gross value of about $1,470,000. Total cost of the exploration project was $62,452.

The field team state that the property should be drilled further, but without additional Government participation. According to the report, the company is preparing to mine ore.

Since a Certification of Discovery has been issued for the project, there are no recommendations advanced for any further immediate action by the Government.

W. P. Williams

W. P. Williams

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
224 New Customhouse
Denver 2, Colorado

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June 20, 1957

Memorandum

To: Chairman, Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Docket No. DMEA 3989 (Uranium), Contract No. Idm-E933, Food Machinery and Chemical Corporation, Westvaco Mineral Products Division (Sec. 29, T 13 N, R 9 W, N.M. P.M.), McKinley County, New Mexico - FINAL REPORT

Enclosed are the original and three copies of a joint final engineering and geologic report, dated June 14, 1957, by Howard F. Albee, Geologist, Geological Survey, and W. D. McMillan, Mining Engineer, Bureau of Mines, pertaining to the work completed under the subject contract; and transmittal thereof, dated June 17, 1957, from E. N. Harshman.

The original and one copy of the Operator's final report were forwarded by memorandum of December 17, 1956.

The exploration work completed consisted of the drilling of 183 holes aggregating acceptable footage amounting to 57,703 feet of non-core drilling and 2,033 feet of core drilling, or a total of 59,766 feet of drilling, at a total accepted cost of $62,452.13, toward which the Government contributed 75%, or an amount of $46,839.10.

Final payment to the Operator was processed by this office January 18, 1957 in conformance with the Report of Review of reported project costs by the Contract Administration and Audit Division, DMEA, dated January 9, 1957.

The exploration work resulted in the Discovery or Development of a significant quantity of uranium ore, on which a Certification was issued January 17, 1957.

W. H. King
W. H. King

E. N. Harshman
E. N. Harshman

Reviewed by
DMEA OPERATING COMMITTEE
6-28-57
(date)

FINAL REPORT

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 24 1957
DATE | INITIALS | CODE
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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

IN REPLY REFER TO:
DMEA
DEPARTMENT OF THE INTERIOR
JUN 18 1957
REGION III
DENVER, COLORADO

June 17, 1957

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 3989 (Uranium), Contract Idm-E 933, Food Machinery and Chemical Corporation, Westvaco Mineral Products Division (section 29), McKinley County, New Mexico
FINAL REPORT

Enclosed are the original and nine copies of a joint final report by Howard F. Albee, U. S. Geological Survey, and W. D. McMillan, U. S. Bureau of Mines, in which exploration completed under the subject contract is described.

The DMEA project as completed comprised 138 holes in Stage I and 45 holes in Stage II. Twenty-two of the holes drilled with DMEA assistance and 18 holes drilled by the operator, without DMEA assistance, encountered ore-grade material.

Reserves are estimated as follows:

Indicated	32,588 tons	containing 0.287 percent U_3O_8
Inferred	24,933 tons (57,521)	containing 0.245 percent U_3O_8
Inferred	70,000 tons (127,521)	containing from 0.10 to 0.20 percent U_3O_8

Total accepted cost of the project was $62,452.13, Government participation 75 percent or $46,839.10.

The report very satisfactorily describes the project completed under contract Idm-E 933.

Reviewed by
DMEA OPERATING COMMITTEE
6-28-57
(date)

E. N. Harshman
E. N. Harshman
Member, Field Team

Enclosures (10)

DMEA
DEPARTMENT OF THE INTERIOR
JUN 18 1957
REGION III
DENVER, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
FRED A. SEATON, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

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DMEA 3989

Contract Idm-E 933

Food Machinery and Chemical Corporation

Westvaco Mineral Products Division

Sec. 29, T. 13 N., R. 9 W., N.M.P.M.

McKinley County, New Mexico

Uranium

Joint Final Engineering and Geological Report

by

Howard F. Albee, Geologist
Geological Survey

W. D. McMillan, Mining Engineer
Bureau of Mines

June 14, 1957

Reviewed by
DMEA OPERATING COMMITTEE
6-28-57
(date)

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3.	Sketch map of part of section 29, T. 13 N., R. 9 W., N.M.P.M., showing DMEA and private drill holes, Food Machinery and Chemical Corporation, McKinley County, New Mexico.....	28
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RECEIVED JAN 2 1957

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DMEA 3989

Contract Idm-E 933

FOOD MACHINERY AND CHEMICAL CORPORATION
WESTVACO MINERAL PRODUCTS DIVISION
SEC. 29, T. 13 N., R. 9 W., N.M.P.M.
McKINLEY COUNTY, NEW MEXICO

INTRODUCTION

Westvaco Mineral Products Division of Food Machinery and Chemical Corporation, 161 East 42nd Street, New York 17, New York, applied (docket DMEA 3989) September 13, 1955, for assistance to explore for uranium in the Todilto limestone of Jurassic age on sec. 29, T. 13 N., R. 9 W., N.M.P.M., McKinley County, New Mexico (fig. 1). The property was examined on November 15, 1955 by Glen Walker, U. S. Bureau of Mines, and Howard F. Albee, U. S. Geological Survey. The examining team was accompanied by Charles Johnston and William Tipton of Westvaco Mineral Products Division.

Significant uranium deposits were known to occur in the Todilto limestone in section 29 (fig. 2); consequently, based on the proximity of the known deposits to the applicant's property and favorable results from preliminary drilling on the property, the application was recommended for approval.

U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
MAY 1957
DOCKET 3989

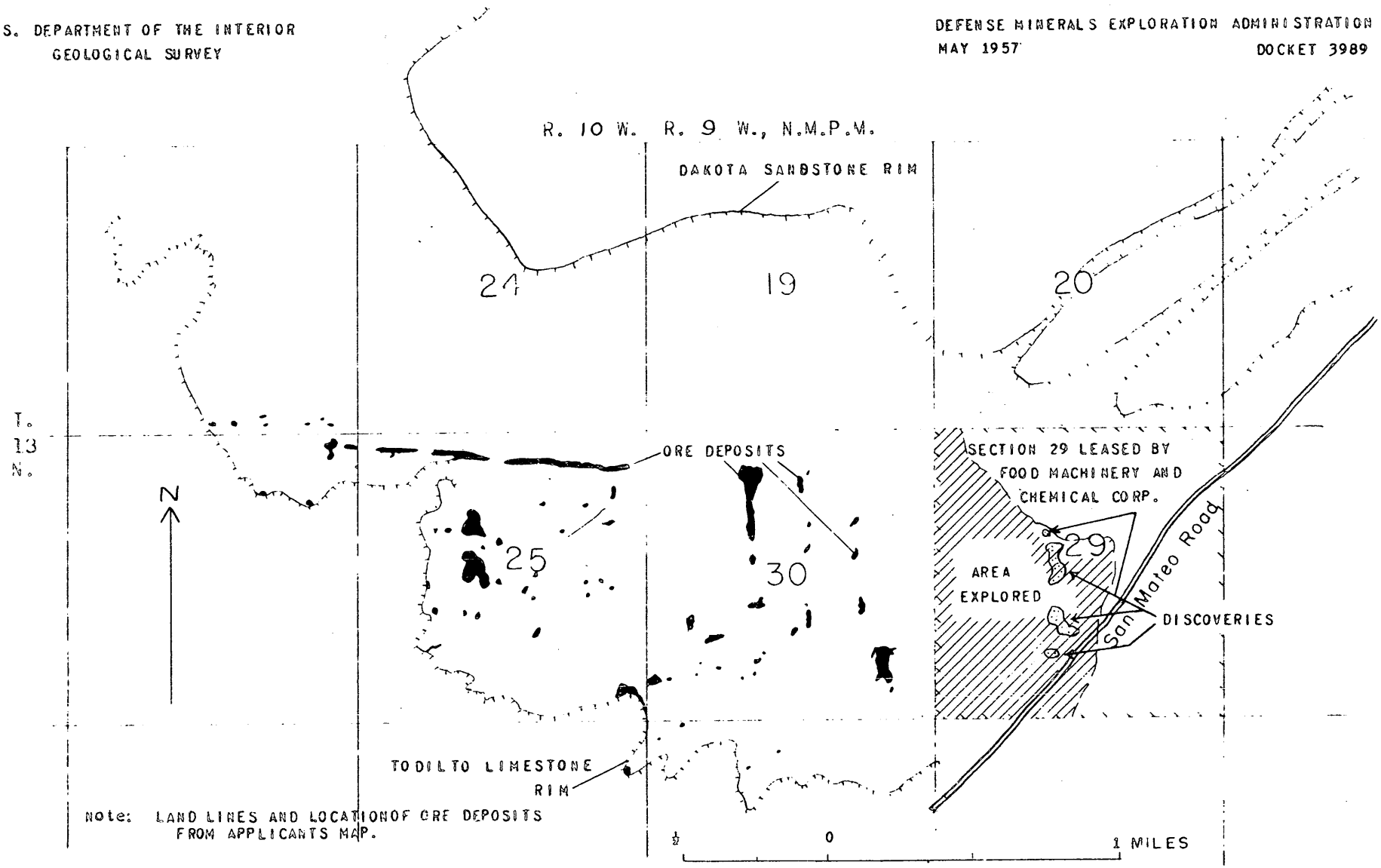


FIGURE 2. SKETCH MAP SHOWING LOCATION OF KNOWN ORE DEPOSITS IN THE TODILTO LIMESTONE IN SECTION 29 AND VICINITY, T. 13 N., R. 9 W., N.M.P.M., FOOD MACHINERY AND CHEMICAL CORPORATION, McKINLEY COUNTY, NEW MEXICO.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The applicant originally proposed drilling 106 dry rotary holes totaling 32,000 feet at an estimated cost of $57,280.00. After drilling four widely spaced preliminary holes, the proposal was modified to include two stages of drilling. Stage I was to consist of 138 dry rotary holes on 200 by 400 foot centers, 67 of which were to be cored through the ore-bearing Todilto limestone, and Stage II was to consist of 50 dry rotary holes spaced within 50 feet of Stage I mineralized or ore holes. The proposed modified program was estimated to cost $107,072.43. The applicant's modified program was recommended except for costs which were revised and estimated at $91,925.80.

Contract No. Idm-E 933 was prepared and dated March 21, 1956. Work under the project was begun April 23, 1956, and completed October 31, 1956, at a total cost of $62,452.13 with Government participation at 75 percent or $46,839.10.

The project consisted of 138 Stage I and 45 Stage II drill holes of which 22 were ore holes (fig. 3). The operator estimated reserves at 28,712 tons of indicated and 11,174 tons of inferred ore of which the total economical ore was estimated at 24,605 tons that averages 0.30 percent U_3O_8.

The operator drilled a number of holes at their expense, 18 of which were ore holes. The results of these holes were neither reported nor used in the operator's reserve calculations.

Reserves were calculated for this report by the U. S. Geological Survey using information from the operator's drill holes to supplement the information from the DMEA drill holes. Following is a summary of the reserve calculations.

	Tons	Grade
Indicated (0.20% U_3O_8 or greater)	32,588	0.287
Inferred (0.20% U_3O_8 or greater)	24,933	0.245
Inferred (0.10% - 0.20% U_3O_8)	70,000	0.150

The property should be drilled further in areas where the ore holes are as much as 100 feet apart in order to determine the continuity of the ore. Further drilling, however, should be done by the company with no participation by the Government.

A Certification of Discovery was issued on January 17, 1957.

Production is feasible and preliminary work by the company is being done toward that end.

LOCATION AND ACCESSIBILITY

The subject property is located in sec. 29, T. 13 N., R. 9 W., N.M.P.M., McKinley County, New Mexico. Access from Grants, New

Mexico, a station on the Santa Fe Railway, is attained by travelling west 3 miles on U. S. Highway 66, thence northwesterly for 12 miles on New Mexico State Highway 53, which is along the east side of the section (fig. 1).

The surface of section 29 is flat to gently rolling with slopes to the southeast, cut by occasional dry washes. It has an average altitude of 6,806 feet, with a maximum relief of about 200 feet.

Vegetation consists of native grasses, cacti, and an occasional cedar in a sandy soil derived from the Bluff formation.

The climate is arid; the annual precipitation of from 6 to 8 inches occurring mainly in the summer and winter months. There are wide variations in the daily temperatures. Water is available from a well equipped with electric pump and storage tank installed on the section by the applicant.

Power for any type of mining operation must be supplied by internal-combustion engines. Common labor is plentiful, but skilled labor is scarce and must be brought from other New Mexico cities, or by training local Navajo Indians, who are adaptable to underground work and the operation of mining equipment.

HISTORY, PRODUCTION, AND OWNERSHIP

Uranium minerals were first recognized in the district by a geologic field party from the University of California in the spring

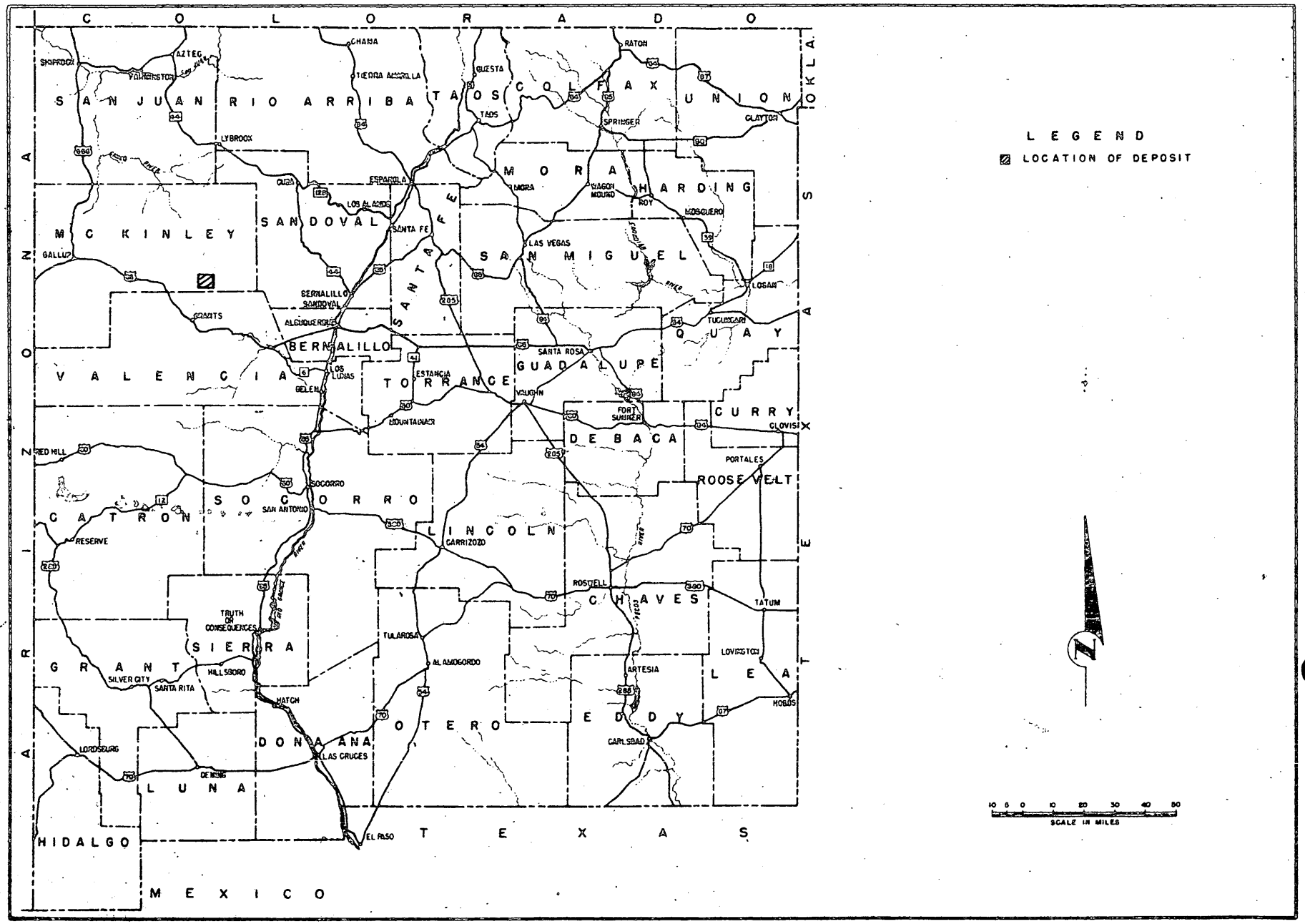


FIGURE 1 - LOCATION MAP, FOOD MACHINERY AND CHEMICAL CORPORATION, WESTVACO MINERAL PRODUCTS DIVISION, McKINLEY COUNTY, NEW MEXICO. DMEA 3989, CONTRACT Idm-E933

of 1949. In 1950 a sheepherder found a yellow uranium mineral on a Jurassic Todilto limestone outcrop. This discovery led to the development of the Haystack Butte deposit belonging to the Atcheson Topeka and Santa Fe Railway Company. In 1954 an employee of Mid Continent Oil Company, who was searching for potential uranium properties, tested the cuttings from the Dysart No. 1 well in sec. 11, T. 14 N., R. 10 W., and found them to show anomalous radioactivity in the Westwater Canyon sandstone. These discoveries led to the exploration for uranium in formations ranging in age from the Cretaceous to the Jurassic.

GEOLOGY

The property is located in the Grants, New Mexico, district which lies on part of the northeast flank of the Zuni uplift. The uplift is a broad asymmetrical dome which comprises an area of about 2,000 square miles and extends for a distance of about 60 miles from Grants, New Mexico, on the east, to Gallup, New Mexico, on the west. The beds in the area generally dip northeastward at a low angle into the San Juan basin. The beds on the property dip about 3-1/2 degrees northeasterly. The rocks are folded broadly and high angle faults are common. The San Mateo fault crosses the southeastern corner of the property about a half mile southeast of the drilled area but

no faulting was noted within the drilled area. Jointing of the rocks shows a dominant northward-trending and a dominant eastward-trending set.[1/]

The sequence of sedimentary rocks that contains the productive deposits in the area are, in ascending order, the Todilto limestone, the Summerville formation, the Bluff sandstone, and the Morrison formation, all of Jurassic age. The Todilto limestone and the Morrison formation contain the productive uranium deposits in the district. The completed contract was for exploration in the Todilto limestone.

The Todilto formation is generally a thin-bedded, dark gray, dense limestone. Thin partings of calcareous shale and siltstone within the limestone give rise to a slabby, weathered surface. The Todilto limestone, being resistant in the dry climate, forms a broad bench that caps the vertical cliffs of the underlying Entrada sandstone. The less resistant Summerville formation and Bluff sandstone overlying the Todilto have been largely stripped for as much as a half mile behind the outcrop. Beyond this area progressively less and less of the overlying formations are stripped and about a mile and one half behind the outcrop the entire thicknesses of the Summerville, Bluff, and Morrison formations overly the Todilto. Drilling depths on the project increased northerly from 155 feet to 535 feet.

1/ Gilkey, Arthur K. 1953. Fracture Pattern of the Zuni Uplift, U. S. Atomic Energy Commission, RME 3050

ORE DEPOSITS

Uranium minerals have been deposited locally in and near small well-defined folds, mostly synclinal, and, in a few places, in flat-bedded limestone. The most commonly observed occurrence of ore deposits is along the axial portions of the minor folds. The influence of joints is, in places, thought to be apparent. Recrystallization of the limestone is more intense in proximity to mineralized areas, and disseminated iron oxides seem to form halos around some ore bodies.

The small folds appear to have two dominant trends; a northerly and an easterly trend. The folds seem to be local and cannot be projected far from their known positions. These flexures are not reflected in overlying strata nor are they much broader than contained ore bodies.

The ore deposits range in size from small tabular masses to large irregularly shaped masses that may average on the order of 100,000 square feet in area. The deposits, however, are commonly elongate and mostly present difficult targets for exploratory drilling. They may range from a few feet to a hundred or more feet wide and the length may be many times the width. The deposits are relatively thick, commonly ranging up to 6 or 7 feet, so that

considerable tonnages are developed in deposits of small areal extent. The grade of the ore runs from 0.10 percent to 0.50 percent U_3O_8 and will commonly average above 0.30 percent.

ORE RESERVES

The completed project resulted in the discovery of two large ore bodies and several small ones which mostly are indicated by one drill hole each (fig. 4). The company drilled a number of holes at their own expense, 18 of which were ore holes. One ore hole is isolated and contains only 1 foot of 0.20 percent U_3O_8 and therefore is not used in the calculations. Block D contains a large ore body as indicated by 15 ore holes, and the area around ore blocks J through V probably contains ore between many of the ore blocks. Most, if not all, of the small ore bodies can be mined, except for the one in Block Z, through drifts driven from the larger ore bodies. Block Z is isolated from other area, has a small tonnage, and is at a depth too great to be economical.

The operator calculated reserves only for DMEA drill holes, leaving from his reserve map all company financed holes. The method used appears well founded and conservative except for isolated drill holes. The isolated holes are given unrealistically large tonnages. The total reserves calculated by the operator are 28,712 tons of

probable (indicated?) and 11,174 tons of possible (inferred?) ore with an average of 0.30 percent U_3O_8.

Reserves were calculated for this report using 17 of the ore holes drilled by the operator at his expense and the 21 DMEA ore holes. The areas included for ore reserve calculations were outlined around concentrations of ore holes and single ore holes (fig. 4), rather than constructing an ore block for each drill hole. The square feet in each area were calculated by planimetric methods and the ore thicknesses were averaged, then a tonnage factor of 12 cubic feet per ton, for limestone, was used. Table I, shows the location, thickness, and grade range of all ore holes and nearby mineralized holes. The purpose of the table is to show the great thicknesses of strongly mineralized material that range from 0.10 percent to 0.20 percent U_3O_8 but which the operator did not consider as ore and therefore reported the grade only as being within the designated range. Holes drilled by the operator at his expense are indicated by (W).

Table I.--Location, thickness, and grade of ore holes and nearby mineralized holes.

	Coordinates North-East	Thickness feet	Company classification and grade *
1.	3600-2000 (W)	2	SM
2.	3600-2200 (W)	2	SM
3.	3600-2300 (W)	1	0.20
4.	3400-2100 (W)	3	SM
5.	3300-2000 (W)	8	M
6.	3300-2100	4	0.26
	" "	21	SM
7.	3300-2200 (W)	5	SM
8.	3200-2100 (W)	8	M
9.	3200-2150 (W)	4	0.23
	" "	5	SM
10.	3200-2200	14	M
11.	3150-2200 (W)	8	SM
12.	3150-2250 (W)	9	0.20
13.	3125-2225 (W)	4	SM
14.	3100-2100 (W)	14	0.37
	" "	20	SM
	" "	3	M

* SM = strongly mineralized, 0.10-0.20 percent U_3O_8
M = mineralized, 0.05-0.10 percent U_3O_8

Table I.--(continued)

	Coordinates North-East	Thickness feet	Company classification and grade *
15.	3100-2200	3	0.30
	" "	13	SM
16.	3100-2250 (W)	3	0.20
	" "	12	SM
17.	3100-2300	4	0.30
	" "	6	SM
	" "	4	M
18.	3050-2200 (W)	7	0.25
	" "	18	SM
19.	3050-2250 (W)	2	0.20
20.	3000-2150 (W)	13	SM
	" "	2	M
21.	3000-2200	7	0.37
	" "	30	SM
22.	3000-2250	3	0.25
	" "	5	SM
23.	2950-2200 (W)	8	0.32
24.	2950-2250 (W)	6	SM
25.	2900-2200	7	0.59
	" "	26	SM
26.	2900-2250 (W)	3	SM

Table I.--(continued)

	Coordinates North-East	Thickness feet	Company classification and grade *
27.	2900-2300	7	M
28.	2850-3300 (W)	5	0.40
	" "	13	SM
29.	2850-2250 (W)	4	SM
30.	2800-2200	7	0.30
	" "	24	SM
31.	2800-2250 (W)	5	0.21
32.	2800-2300 (W)	4	0.20
	" "	14	SM
33.	2800-2400 (W)	2	0.21
34.	2750-2250 (W)	2	0.20
35.	2700-2300 (W)	8	0.24
	" "	19	SM
36.	2700-2400	2	0.30
	" "	7	M
37.	2600-2350	3	0.27
	" "	22	SM
38.	2500-2200	3	0.24
	" "	18	SM
	" "	4	M

Table I.--(continued)

	Coordinates North-East	Thickness feet	Company classification and grade *
39.	2500-2300	20	M
40.	2400-2200	13	M
41.	2350-2300 (W)	5	M
42.	2300-2200	10	M
43.	2200-2300	15	M
44.	2050-2300	2	0.25
	" "	5	M
45.	2000-2200	1	0.20
	" "	18	M
46.	1950-2400	2	0.24
47.	1900-2200	1	0.20
	" "	25	M
48.	1900-2300	3	0.25
	" "	17	SM
49.	1850-2400 (W)	7	0.20
	" "	16	SM
50.	1800-2200	2	0.22
	" "	26	M
51.	1800-2300	9	M
52.	1800-2600	16	M

Table I.--(continued)

	Coordinates North-East	Thickness feet	Company classification and grade *
53.	1750-2400	3	0.22
	" "	30	SM
54.	1700-2500	4	0.29
	" "	17	SM
55.	1650-2400	2	0.25
	" "	16	SM
	" "	8	M
56.	1600-2600	4	0.36
57.	1600-2700	2	0.22
	" "	12	SM
	" "	10	M
58.	1600-2800	5	M
59.	1400-2050 (W)	2	SM
60.	1400-2150	4	0.30
	" "	14	SM
61.	1400-2250 (W)	3	0.25
	" "	5	SM
62.	850-2150 (W)	2	SM
63.	750-2150 (W)	2	0.22
	" "	2	SM

Table II gives the location of the ore holes and the data used to calculate the indicated and inferred reserves. At the end of the table an estimate is given for the inferred reserves of ore that range in grade from 0.10 percent to 0.20 percent U_3O_8. The estimate is based on an area with a 25-foot radius around each hole reported to contain material in the given grade range.

Table II.--Reserve Calculations

Indicated Reserves

Coordinates North-South	Area (Sq. ft.)	Average Thickness (feet)	Grade U_3O_8 (Percent)	Tons	Average grade U_3O_8 (Percent)
	Block A				
3300-2100	1963.5	4	0.26	654.5	0.26
	Block B				
3200-2150	1963.5	4	0.23	654.5	0.23
	Block C				
3100-2100	1963.5	14	0.37	2,291	0.37
	Block D				
3150-2250			0.20		
3100-2200			0.30		
3100-2250			0.20		
3100-2300			0.30		
3050-2200			0.25		
3050-2250			0.20		
3000-2200			0.37		

Table II.--(continued)

Indicated Reserves

Coordinates North-South	Area (Sq. ft.)	Average Thickness (feet)	Grade U_3O_8 (Percent)	Tons	Average grade U_3O_8 (Percent)
3000-2250			0.25		
2950-2200			0.32		
2900-2200			0.59		
2850-2200			0.40		
2800-2200			0.30		
2800-2250			0.21		
2800-2300			0.20		
2750-2250			0.20		
	45,400	5.06		19,144	0.30
2800-2400	Block E 1963.5	2	0.21	327	0.21
2700-2300	Block F 1963.5	8	0.24	1,309	0.24
2700-2400	Block G 1963.5	2	0.30	327	0.30
2600-2350	Block H 1963.5	3	0.27	491	0.27
2500-2200	Block I 1963.5	3	0.24	491	0.24
2050-2300	Block J 1963.5	2	0.25	327	0.25

Table II.--(continued)

Indicated Reserves

Coordinates North-South	Area (Sq. ft.)	Average Thickness (feet)	Grade U_3O_8 (Percent)	Tons	Average grade U_3O_8 (Percent)
2000-2200	Block K 1963.5	1	0.20	164	0.20
1950-2400	Block L 1963.5	2	0.24	327	0.24
1900-2200	Block M 1963.5	1	0.20	164	0.20
1900-2300	Block N 1963.5	3	0.25	491	0.25
1850-2400	Block P 1963.5	7	0.20	1,145	0.20
1800-2200	Block Q 1963.5	2	0.22	327	0.22
1750-2400	Block R 1963.5	3	0.22	491	0.22
1700-2500	Block S 1963.5	4	0.29	654	0.29
1650-2400	Block T 1963.5	2	0.25	327	0.25
1600-2600	Block U 1963.5	4	0.36	654	0.36
1600-2700	Block V 1963.5	2	0.22	327	0.22

Table II.--(continued)

Indicated Reserves

Coordinates North-South	Area (Sq. ft.)	Average Thickness (feet)	Grade U_3O_8 (Percent)	Tons	Average grade U_3O_8 (Percent)
	Block X				
2150-1400	1963.5	4	0.30	654	0.30
	Block Y				
2250-1400	1963.5	3	0.25	491	0.25
	Block Z	(Not Mineable)			
750-2150	1963.5	2	0.22	327	0.22

Total Indicated Reserves 32,558 tons

Average Grade 0.287 percent U_3O_8

Inferred Reserves

Area (sq. ft.)	Average thickness (feet)	Tons	Average Grade U_3O_8 (Percent)
	Area No. 1		
23,946	3.5	6,984	0.235
	Area No. 2		
73,138	2.75	16,761	0.247
	Area No. 3		
4,073	3.5	1,188	0.275

Total Inferred Reserves 24,933 tons

Average grade 0.245 percent U_3O_8

Total Indicated and Inferred Reserves 57,491 tons

Average grade 0.272 percent U_3O_8

Estimated inferred reserves in the grade range of 0.10 - 0.20 percent U_3O_8 = 70,000 tons

SUMMARY OF FACTUAL DATA

Contract Idm-E 933 was signed by the applicant on March 21, 1956. Work was started on April 23, 1956, and the project was completed on October 31, 1956, in 132 work days.

Stage I of the contract provided for building access roads and preparing drill sites for 138 holes. Sixty-seven holes were to be drilled partly core and partly non-core, and 71 holes were to be drilled non-core throughout. The aggregate footage was estimated at 41,390 feet of non-core and 2,415 feet of core drilling. The estimated cost of Stage I work, including bulldozing, drilling, assaying and incidental allowances was $68,754.90.

Stage II of the contract provided for a maximum of 50 non-core drill holes, aggregating not more than 16,000 feet of drilling to offset Stage I holes that penetrated significantly mineralized rock, at an estimated total cost of $23,155.00. The cost includes incidental allowance, bulldozing and analyses of samples.

Stage I of the contract was completed in July 1956 with accepted footage of the 138 holes amounting to 41,830 feet of non-core drilling and 2,033 feet of core drilling. Stage II of the contract was completed in October 1956, with accepted footage of the 45 holes amounting to 15,873 feet of non-core drilling. Total accepted drilling under both Stages amounted to 57,703 feet of non-core drilling and 2,033 feet of core drilling. Details and actual footages of the holes drilled, according to drillers' logs, are shown in Table III.

Table III.--Location of holes and footage drilled, taken from logs with the operator's monthly reports.

Month	Hole Coordinates North-East	Non-Core (feet)	Core (feet)	Total Depth (feet)	Radioactivity
Stage I					
April 1956	100- 200	120	35	155	none
May 1956	1100- 200	165	--	165	do.
	1200- 200	130	30	160	do.
	1300- 200	145	30	175	slight
	1400- 200	150	30	180	none
	1600- 200	210	--	210	do.
	1800- 200	183	30	213	do.
	2000- 200	230	--	230	do.
	2200- 200	210	40	250	slight
	2400- 200	290	--	290	do.
	2600- 200	243	40	283	none
	2800- 200	310	--	310	do.
	2900- 200	300	30	330	do.
	3000- 200	350	--	350	do.
	3100- 200	305	40	345	do.
	3200- 200	366	--	366	do.
	3300- 200	327	30	357	slight
	3400- 200	365	--	365	do.
	3500- 200	330	40	370	none
	3600- 200	380	--	380	slight
	3700- 200	348	30	378	none
	3800- 200	395	--	395	slight
	3900- 200	360	40	400	none
	4000- 200	415	--	415	do.
	4200- 200	437	--	437	do.
	4400- 200	420	40	460	do.
	4600- 200	470	--	470	do.
	4800- 200	466	30	496	do.
	5000- 200	535	--	535	do.
	200-1000	178	--	178	slight

Table III.--(continued)

Month	Hole Coordinates North-East	Non-Core (feet)	Core (feet)	Total Depth (feet)	Radioactivity
	400-1000	140	40	180	none
	600-1000	204	--	204	do.
	800-1000	184	23	207	do.
	1000-1000	226	--	226	do.
	1200-1000	202	35	237	do.
	1400-1000	254	--	254	do.
	1600-1000	232	38	260	do.
	1800-1000	290	--	290	do.
	2000-1000	265	30	295	do.
	2200-1000	320	--	320	do.
	2400-1000	303	30	333	do.
	2600-1000	350	--	350	do.
	2800-1000	340	30	370	do.
	3000-1000	400	--	400	do.
	3200-1000	361	40	401	do.
	3400-1000	425	--	425	slight
	3600-1000	402	29	431	none
	3800-1000	457	--	457	do.
	200-1800	190	--	190	do.
	800-1800	214	--	214	do.
	1000-1800	202	23	225	do.
	1200-1800	245	--	245	do.
	1400-1800	233	30	263	do.
	1800-1800	278	30	308	do.
	2200-1800	315	30	345	do.
	2600-1800	344	30	374	do.
	3000-1800	376	30	406	do.
	600-1800	177	30	207	do.
June 1956	100- 600	85	10	95	do.
	300- 600	112	--	112	do.
	500- 600	99	20	119	do.
	700- 600	140	--	140	do.
	900- 600	119	40	159	do.
	1100- 600	148	30	178	do.
	1300- 600	187	20	207	do.

Table III.--(continued)

Month	Hole Coordinates North-East	Non-Core (feet)	Core (feet)	Total Depth (feet)	Radioactivity
	1500- 600	276	--	276	none
	1700- 600	228	10	238	do.
	1900- 600	277	--	277	do.
	2100- 600	254	30	284	do.
	2300- 600	320	--	320	do.
	2500- 600	337	--	337	do.
	2700- 600	338	15	353	do.
	2900- 600	375	--	375	do.
	3000- 600	347	30	377	do.
	3100- 600	382	--	382	do.
	3200- 600	355	40	395	do.
	3300- 600	410	--	410	do.
	3400- 600	410	--	410	do.
	3500- 600	387	30	417	do.
	3600- 600	425	--	425	do.
	3700- 600	440	--	440	do.
	3800- 600	418	30	448	do.
	3900- 600	455	--	455	do.
	4000- 600	465	--	465	do.
	4100- 600	441	35	476	slight
	4300- 600	498	--	498	none
	4500- 600	473	30	503	do.
	4000-1000	480	--	480	do.
	100-1400	172	--	172	do.
	300-1400	149	30	179	do.
	500-1400	202	--	202	
	700-1400	176	30	206	
	900-1400	230	--	230	
	1100-1400	211	20	231	do.
	1300-1400	250	--	250	do.

Table III.--(continued)

Month	Hole Coordinates North-East	Non-Core (feet)	Core (feet)	Total Depth (feet)	Radioactivity
	1500-1400	228	30	258	none
	1700-1400	277	--	277	do.
	2700-1400	381	--	381	do.
	1600-1800	290	--	290	do.
	2000-1800	335	--	335	do.
	2400-1800	357	--	357	do.
	2800-1800	393	--	393	do.
	800-2600	247	--	247	do.
	1000-2600	218	30	248	do.
	1600-2600	306	--	306	ore
	1800-2600	300	27	327	mineralized
	2000-2600	350	--	350	none
	2200-2600	326	27	353	do.
	2400-2600	374	--	374	do.
	2600-2600	347	40	387	do.
	2800-2600	406	--	406	do.
	3000-2600	388	30	418	do.
July 1956	2300-1400	350	--	350	do.
	2500-1400	340	26	366	do.
	2900-1400	362	30	392	slight
	3100-1400	426	--	426	none
	3300-1400	383	40	423	do.
	100-2200	195	--	195	do.
	300-2200	205	--	205	do.
	500-2200	215	--	215	do.
	700-2200	230	--	230	slight
	1100-2200	220	25	245	none
	1300-2200	229	20	249	do.
	1500-2200	245	30	275	do.
	1700-2200	277	30	307	mineralized

Table III.--(continued)

Month	Hole Coordinates North-East	Non-Core (feet)	Core (feet)	Total Depth (feet)	Radioactivity
	1900-2200	335	--	335	min. strong
	2100-2200	325	30	355	mineralized
	2300-2200	365	--	365	do.
	2500-2200	340	40	380	ore grade
	2700-2200	365	30	395	mineralized
	2900-2200	362	50	412	ore grade
	1700-3000	269	31	300	none
	2100-3000	365	--	365	slight
	2300-3000	320	40	360	none
	2500-3000	375	--	375	do.
	2700-3000	365	20	385	do.
	2900-3000	438	--	438	do.
	3100-3000	375	50	425	do.
Total Stage I		41,932	2,129	44,061	
Stage II					
Aug. 1956	3000-2200	374	50	424	ore grade
	2900-2300	363	55	418	slight
	1600-2500	250	45	295	do.
	1500-2600	257	30	287	none
Sept. 1956	1400-1950	265	--	265	do.
	1300-2050	260	--	260	do.
	1500-2050	275	5	280	mineralized
	1900-2100	326	--	326	none
	2500-2100	367	10	377	do.
	2900-2100	400	10	410	do.
	1400-2150	255	10	265	ore
	1800-2200	315	10	325	ore
	2000-2200	320	20	340	ore
	2400-2200	367	10	377	mineralized
	2600-2200	380	10	390	none

Table III.--(continued)

Month	Hole Coordinates North-East	Non-Core (feet)	Core (feet)	Total Depth (feet)	Radioactivity
	2800-2200	360	50	410	ore
	3100-2200	409	20	429	do.
	1900-2300	322	13	335	do.
	2500-2300	375	20	395	slight
	1750-2400	300	20	320	ore
	1700-2600	295	20	315	none
	1600-2700	270	30	300	ore
Oct. 1956	1650-2400	305	--	305	do.
	1500-2800	290	--	290	mineralized
	1500-2700	295	--	295	none
	1500-2500	280	--	280	do.
	1600-2800	305	--	305	mineralized
	1700-2700	320	--	320	none
	1700-2500	320	--	320	ore
	1800-2300	340	--	340	do.
	1900-2500	335	--	335	mineralized
	2050-2300	361	--	361	ore
	2050-2400	361	--	361	none
	1950-2400	340	--	340	ore
	2200-2300	371	--	371	mineralized
	2200-2400	360	--	360	do.
	2500-2400	385	--	385	none
	2600-2350	392	--	392	ore
	2700-2400	407	--	407	do.
	3000-2300	435	--	435	none
	3000-2100	425	--	425	do.
	3100-2000	440	--	440	do.
	3100-2300	430	--	430	ore
	3200-2200	436	--	436	mineralized
	3300-2100	437	--	437	ore
Total Stage II		15,475	438	15,913	

EXPENDITURES UNDER THE CONTRACT

The estimated total cost of Contract Idm-E 933 was $91,908. The operator reported monthly expenditures on form MF-104 and 104A, which were checked by the examining engineer and the auditor. The total claimed by the applicant for both stages was $62,497.64. Exceptions by the DMEA finance officer were $43.92 and by the auditor $1.59. The total accepted cost was $62,452.13. Government participation at 75 percent amounted to $46,839.10.

Details are presented in Table IV.

Table IV. -- Summary of Accepted Footages and Costs

1956 Month	Holes drilled	Non-Core Drilling Feet	Non-Core Drilling Unit Cost	Non-Core Drilling Amount	Core Drilling Feet	Core Drilling Unit Cost	Core Drilling Amount	Incidentals Feet	Incidentals Unit Cost	Incidentals Amount	Samples No.	Samples Cost	Total Amount
Stage I													
April	1	120	$0.765	$ 91.80	35	$3.57	$ 124.95	155	$0.18	$ 27.90	--	--	$ 244.65
May	57	16,932	0.777	13,116.28	952	3.49	3,329.55	17,884	0.18	3,219.12	--	--	19,664.95
June	54	16,458	0.773	12,668.24	634	3.50	2,219.00	17,092	0.18	3,076.56	5	$17.50	17,981.30
July	26	8,320	0.772	6,372.08	412	3.50	1,442.00	8,732	0.18	1,571.76	13	45.50	9,431.34
Total Stage I	138	41,830 1/	$0.772	$32,248.40	2,033 2/	$3.50	$7,115.50	43,863	$0.18	$7,895.34	18	$63.00	$47,322.24
Stage II													
Aug.	4	1,424	$0.772	$ 1,095.79	none		---	1,424	$0.18	$ 256.32	--	--	$ 1,352.11
Sept.	18	6,092	0.771	4,667.88	none		---	6,092	0.18	1,096.56	13	45.50	5,809.94
Oct.	23	8,357	0.771	6,425.08	none		---	8,357	0.18	1,504.26	11	38.50	7,967.84
Total Stage II	45	15,873 3/	$0.771	$12,188.75				15,873	$0.18	$2,857.14	24	$84.00	$15,129.89
Total Stages I and II	183	57,703	$0.771	$44,437.15	2,033	$3.50	$7,115.50	59,736	$0.18	$10,752.48	42	$147.00	$62,452.13

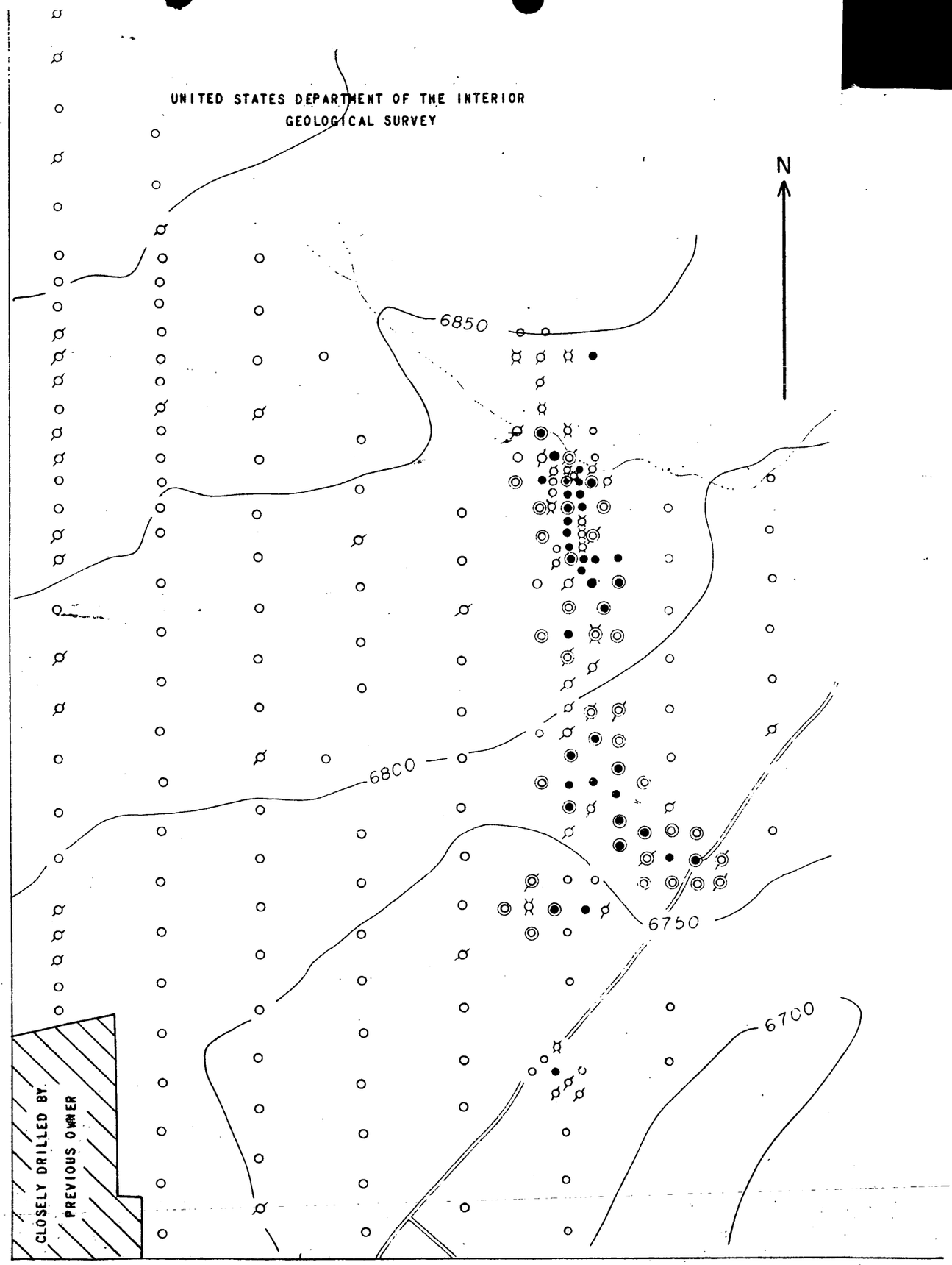
1/ Total Stage I non-core drilling 41,932 ft.
Core drilling accepted as non-core 80 ft.
Total reported as non-core drilling 42,012 ft.
Disallowed 182 ft.
Accepted non-core footage 42,830 ft.

2/ Total Stage I core drilling 2,129 ft.
Core drilling accepted as non-core (80 ft.)
Total reported as core drilling 2,049 ft.
Disallowed 16 ft.
Accepted core footage 2,033 ft.

3/ Total Stage II non-core drilling 15,475 ft.
Core drilling accepted as non-core 438 ft.
Total Stage II drilling 15,913 ft.
Portion of above footage not reported 40 ft.
Accepted non-core footage 15,873 ft.

EFFICIENCY OF PROJECT OPERATIONS

Operations of Food Machinery and Chemical Corporation of Westvaco Mineral Projects Division were efficient under the supervision of Russel J. Hayden, project engineer and W. S. Cavender, geologist.



DEFENSE MINERALS EXPLORATION ADMINISTRATION
MAY 1957 DOCKET 3989

EXPLANATION

DRILL HOLES

- o BARREN
- ø MINERALIZED
- ¤ STRONGLY MINERALIZED
- ● ORE - 0.20% U_3O_8 OR BETTER

COMPANY DRILLED HOLES ARE IDENTIFIED ON FIGURE 4. STAGE II HOLES ARE IDENTIFIED ON THIS MAP BY OUTER CIRCLE (O)

NOTE: LANDLINES, TOPOGRAPHY, AND HOLE LOCATIONS FROM APPLICANTS MAP

500 0 1500 FEET

Contour interval 50 feet
Datum from applicants map

FIGURE 3.--SKETCH MAP OF PART OF SECTION 29, T.13 N., R.9 W., N.M.P.M., SHOWING DMEA AND PRIVATE DRILL HOLES, FOOD MACHINERY AND CHEMICAL CORPORATION, McKINLEY COUNTY, NEW MEXICO.

1/28/57

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

RECEIVED JAN 28 1957 D.M.E.A.

224 New Customhouse
Denver 2, Colorado

January 24, 1957

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Gamma-ray log interpretations

Enclosed are four copies each of gamma-ray log interpretations for the following DMEA contracts.

Docket DMEA-3989, Contract Idm-E933, Food Machinery and Chemical Corp., Westvaco Mineral Products Division, McKinley County, New Mexico

Docket DMEA-4073, Contract Idm-E987, Simpson Mining Co., et al., Mesa County, Colorado and Grand County, Utah

Docket DMEA-4086, Contract Idm-E949, David Borwick, San Juan County, Utah

Docket DMEA-4222, Contract Idm-E1003, Radium King Mines, Inc., San Juan County, Utah

Docket DMEA-4294, Contract Idm-E1010, LaSal Mining Co., San Juan County, Utah

W. M. Traver

W. M. Traver

Enclosures

E 933

Westvaco Mineral Products
McKinley County, N. Mex.
Sec. 29; T. 13 N.; R. 9 W.
DMEA DOCKET NO. 3989

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From*	Depth Logged To	Anomaly Detected From*	Anomaly Detected To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_eU_3O_8$	Remarks
1500-2500	280.0	None	80.0	280.0	246.2	249.0	2.8	200			<0.005	
1500-2700	295.0	None	186.0	296.0	Barren							
1500-2800	290.0	None	170.0	290.0	244.0	246.0	2.0	980			0.024	
					246.0	247.6	1.6	410			<0.010	
					247.6	248.6	1.0	780			0.024	
					248.6	250.2	1.6	360			<0.010	
					250.7	252.1	1.4	260			<0.005	
					265.4	266.9	1.5	820			0.021	
					269.3	270.3	1.0	320			<0.010	
					276.3	277.5	1.2	960			0.029	
					277.5	278.4	0.9	260			<0.010	
					278.4	279.1	0.7	1,700			0.058	
1600-2800	305.0	None	204.0	304.0	269.5	270.5	1.0	650			0.019	
					270.5	272.6	2.1	480			<0.010	
					272.6	274.7	2.1	960			0.023	
					274.7	275.1	0.4	320			0.011	
					275.1	276.4	1.3	1,020 RF3			0.029	
					276.4	278.2	1.8	500			0.010	
					278.8	280.0	1.2	380			<0.010	
					286.3	287.4	1.1	460			0.011	
1700-2700	320.0	None	200.0	320.0	289.9	291.0	1.1	220			<0.005	
1800-2300	340.0	None	222.0	322.0	305.0	306.9	1.9	3,400			0.088	
					306.9	311.6	4.7	610			0.012	
					311.6	313.2	1.6	3,500			0.10	
					313.2	314.1	0.9	7,500			0.37	

* From top to bottom depths

Westvaco Mineral Products
McKinley County, N. Mex.
Sec. 29; T. 13 N.; R. 9 W.
DMEA DOCKET NO. 3989

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From* To	Anomaly Detected From* To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_e U_3O_8$	Remarks
1650-2400	305.0	None	200.0-300.0	256.9 - 259.3	2.4	410			<0.010	
				259.3 - 260.2	0.9	270			<0.010	
				262.1 - 264.8	2.7	370			<0.010	
				264.8 - 266.5	1.7	880			0.022	
				266.5 - 269.2	2.7	280			<0.005	
				269.2 - 270.3	1.1	1,000 RF3			0.032	
				275.8 - 276.5	0.7	2,200			0.082	
				276.5 - 277.2	0.7	800 RF4			0.02	
				277.2 - 279.1	1.9	3,200			0.082	
				279.1 - 280.2	1.1	5,000			0.18	
				280.2 - 283.4	3.2	540			0.011	
				283.4 - 285.5	2.1	3,800			0.10	
				285.5 - 287.2	1.7	7,600			0.25	
				287.2 - 289.7	2.5	800 RF4			0.014	
				289.7 - 290.8	1.1	3,000			0.092	
2050-2300	361.0	None	254.0-354.0	321.2 - 322.2	1.0	20,000			0.68	
				322.2 - 323.8	1.6	2,200			0.054	
				323.8 - 324.7	0.9	9,800			0.53	
				324.7 - 326.9	2.2	780			0.017	
				335.9 - 336.8	0.9	340			<0.010	
2050-2400	361.0	None	250.0-350.0	Barren						
2100-2100	360.0	None	258.0-358.0	326.2 - 327.2	1.0	270			<0.010	
2200-2200	360.0	None	260.0-360.0	319.4 - 321.3	1.9	260			<0.005	
				321.3 - 322.3	1.0	500			0.014	
				323.5 - 325.1	1.6	280			<0.010	
				326.2 - 329.9	3.7	240			<0.005	
2200-2300	371.0	None	240.0-370.0	346.3 - 347.1	0.8	1,500			0.041	
				347.1 - 348.4	1.3	500			0.010	

* From top to bottom depths

Westvaco Mineral Products
McKinley County, N. Mex.
Sec. 29; T. 13 N.; R. 9 W.
DMEA DOCKET NO. 3989

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From* To	Anomaly Detected From* To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_e U_3O_8$	Remarks
2200-2400	360.0	None	260.0-360.0	333.3 - 334.3	1.0	230			0.005	
				334.9 - 336.3	1.4	360			0.010	
				342.0 - 342.9	0.9	2,000			0.059	
				342.9 - 344.0	1.1	240			0.005	
2350-2300	375.0	None	274.0-374.0	337.6 - 341.0	3.4	260			0.005	
				341.0 - 342.0	1.0	440			0.011	
				342.0 - 344.4	2.4	320			0.010	
				344.4 - 349.5	5.1	860			0.02	
				349.5 - 350.3	0.8	3,200			0.12	
				357.2 - 359.1	1.9	340			0.010	
2500-2400	385.0	None	286.0-386.0	337.1 - 338.9	1.8	260			<0.005	
				338.9 - 340.6	1.7	200			<0.005	
				340.6 - 348.4	7.8	260			<0.005	
				367.6 - 368.8	1.2	460			0.010	
				368.8 - 369.6	0.8	280			<0.010	
2750-2250	400.0	None	290.0-400.0	370.9 - 371.8	0.9	490			0.013	
				372.7 - 374.3	1.6	230			0.005	
				379.7 - 381.4	1.5	220			0.005	
				381.4 - 383.7	2.3	580			0.012	
				383.7 - 384.7	1.0	300			0.010	
				386.7 - 388.6	1.9	1,400			0.029	
				388.6 - 390.1	1.5	7,000			0.24	
				390.1 - 391.5	1.4	230			0.005	
				391.5 - 392.6	1.1	720			0.021	
				393.2 - 394.0	0.8	1,800			0.059	
				394.0 - 395.3	1.3	620			0.015	

* From top to bottom depths

Westvaco Mineral Products
McKinley County, N. Mex.
Sec. 29; T. 13 N.; R. 9 W.
DMEA DOCKET NO. 3989

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From* To	Anomaly Detected From* To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_e U_3O_8$	Remarks
2700-2400	407.0	None	294.0-404.0	263.4 - 264.5	1.1	300			<0.010	
				266.8 - 268.0	1.2	380			<0.010	
				272.2 - 276.2	4.0	220			<0.005	
				281.0 - 283.2	2.1	200			<0.005	
				283.2 - 286.2	3.0	2,200			0.05	
				286.2 - 286.8	0.6	14,000			0.64	
				289.5 - 290.8	1.3	360			<0.010	
2850-2200	425.0	None	310.0-420.0	379.0 - 380.2	1.2	700			0.019	
				382.5 - 383.3	0.8	3,200			0.12	
				383.3 - 384.4	1.1	1,300			0.031	
				384.4 - 385.1	0.7	420			0.012	
				385.1 - 389.3	4.2	220			<0.005	
				389.3 - 390.2	0.9	460			0.012	
				390.2 - 392.1	1.9	220			<0.005	
				392.1 - 393.9	1.8	1,000 RF4			0.020	
				393.9 - 394.7	0.8	4,800			0.21	
				395.4 - 397.2	1.8	600			0.013	
				397.2 - 397.9	0.7	1,400			0.044	
				397.9 - 399.2	1.3	600			0.015	
				399.2 - 400.2	1.0	210			<0.005	
				400.2 - 401.2	1.0	510			0.014	
2900-2250	425.0	None	304.0-414.0	396.2 - 396.9	0.7	3,800			0.18	
				396.9 - 397.5	0.6	1,600			0.062	
				399.6 - 401.2	1.6	240			<0.005	
				401.2 - 402.0	0.8	1,400			0.038	
				402.0 - 403.5	1.5	360			<0.010	
				403.5 - 404.6	1.1	880			0.028	
				404.6 - 405.7	1.1	500			0.013	

* From top to bottom depths

Westvaco Mineral Products
McKinley County, N. Mex.
Sec. 29; T. 13 N.; R. 9 W.
DMEA DOCKET NO. 3989

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From* To	Anomaly Detected From* To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_eU_3O_8$	Remarks
2850-2200	420.0	None	310.0-420.0	373.3 - 374.8	1.5	220			<0.005	
				374.8 - 375.5	0.7	1,300			?	
				375.5 - 377.3	1.8	220			<0.005	
				383.9 - 384.7	0.8	28,000			1.0	
				384.7 - 385.1	0.4	14,000			0.84	
				385.1 - 385.9	0.8	36,000			1.45	
				385.9 - 387.3	1.4	1,600			0.037	
				387.3 - 388.2	0.9	20,000			0.70	
				398.2 - 399.2	1.0	7,000			0.31	
				399.2 - 399.6	0.4	700 RF4			0.027	
				399.6 - 400.7	1.1	3,100			0.096	

* From top to bottom depths

Westvaco Mineral Products
McKinley County, N. Mex.
Sec. 29; T. 13 N.; R. 9 W.
DMEA DOCKET NO. 3989

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From*	Depth Logged To	Anomaly Detected From*	Anomaly Detected To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_e U_3O_8$	Remarks
2950-2200	420.0	None	310.0	420.0	369.0	371.2	2.2	560			0.011	
					378.2	381.3	3.1	320			<0.010	
					381.3	382.2	0.9	5,200			0.22	
					386.2	387.4	1.2	69,000			3.90	
					387.4	390.2	2.8	1,200			0.023	
					390.2	391.2	1.0	28,000			0.96	
					391.2	392.2	1.0	2,400			0.072	
					392.2	393.1	0.9	14,000			0.50	
					393.1	394.6	1.5	670			0.016	
					397.7	398.9	1.2	1,300			0.034	
					398.9	399.7	0.8	2,400			0.08	
					408.4	409.2	0.8	1,500			0.042	
3000-2100	426.0	None	302.0	422.0	384.6	385.5	0.9	360			<0.010	
					385.5	387.7	2.2	300			0.005	
					387.7	389.5	1.8	600			0.013	
					389.5	391.5	2.0	260			<0.005	
3000-2150	425.0	None	324.0	424.0	381.7	382.6	0.9	4,000			0.15	
					382.6	385.4	2.8	560			0.011	
					385.4	386.5	0.9	1,800			0.051	
					386.5	387.5	1.0	2,900			0.094	
					387.5	388.1	0.6	1,000 RF4			0.032	
					388.1	389.2	1.1	2,200			0.062	
					408.1	408.9	0.8	540			0.016	
3000-2250	419.0	None	266.0	418.0	398.2	398.9	0.7	9,000			0.60	
					398.9	400.5	1.6	3,000			0.08	
					400.5	402.4	1.9	390			<0.010	
					408.3	409.1	0.8	5,800			0.28	
					409.1	410.5	1.4	2,000			0.05	
					410.5	412.1	1.6	600 RF4			0.01	
					412.1	413.4	1.3	11,000			0.35	
					413.4	414.5	1.1	1,600			0.041	

* From top to bottom depths

Westvaco Mineral Products
McKinley County, N. Mex.
Sec. 29; T. 13 N.; R. 9 W.
DMEA DOCKET NO. 3989

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From* To	Anomaly Detected From* To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_eU_3O_8$	Remarks
3050-2200	423.0	None	320.0-420.0	384.9 - 387.8	2.9	260			<0.005	
				387.8 - 388.5	0.7	4,600			0.23	
				388.5 - 390.2	1.7	1,000 RF4			0.02	
				390.2 - 391.2	1.0	7,000			0.28	
				391.2 - 391.8	0.6	2,400			0.11	
				391.8 - 392.8	1.0	8,800			0.41	
				392.8 - 395.2	2.4	2,100			0.047	
				395.2 - 396.8	1.6	3,300			0.09	
				396.8 - 398.0	1.2	8,400			0.33	
				398.0 - 399.3	1.3	1,600			0.038	
				399.3 - 400.6	1.3	310			<0.010	
				412.9 - 414.6	1.7	800 RF4			0.014	
				414.6 - 415.3	0.7	4,600			0.27	
3100-2250	425.0	None	320.0-420.0	408.5 - 409.4	0.9	3,400			0.12	
				409.4 - 410.4	1.0	800 RF4			0.016	
				410.4 - 411.5	1.1	2,600			0.076	
				411.5 - 412.8	1.3	5,800			0.20	
				412.8 - 414.5	1.7	1,600			0.035	
				414.5 - 415.8	1.3	4,000			0.12	
				415.8 - 418.0	2.2	1,900			0.049	
3100-2300	430.0	None	328.0-428.0	396.0 - 399.8	3.8	280			<0.005	
				399.8 - 403.1	3.3	8,600			0.27	
				412.6 - 414.0	1.4	1,400			0.032	
				414.0 - 415.4	1.4	360			<0.010	
3100-2000	444.0	None	312.0-442.0	Barren						
3200-2300	440.0	None	330.0-440.0	396.1 - 397.4	1.3	410			<0.010	
				397.4 - 398.7	1.3	220			<0.005	
				399.8 - 400.6	0.8	250			<0.010	
				402.4 - 403.8	1.4	260			<0.005	

* From top to bottom depths

Westvaco Mineral Products
McKinley County, N. Mex.
Sec. 29; T. 13 N.; R. 9 W.
DMEA DOCKET NO. 3989

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From* To	Anomaly Detected From* To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_e U_3O_8$	Remarks
3300-2200	440.0	None	330.0-440.0	394.8 - 395.8	1.0	380			<0.010	
				395.8 - 397.1	1.3	240			<0.005	
				404.6 - 407.7	3.1	360			<0.010	
				407.7 - 408.4	0.7	7,200			0.44	
				408.4 - 410.5	2.1	1,700			0.036	
				410.5 - 411.4	0.9	6,600			0.30	
				411.4 - 413.7	2.3	280			<0.005	
				416.2 - 417.1	0.9	500			0.014	
				420.4 - 421.3	0.9	260			<0.010	
3300-2300	440.0	None	320.0-440.0	400.7 - 402.3	1.6	640			0.014	
				402.3 - 403.1	0.8	300			<0.010	
3400-2100	450.0	None	348.0-448.0	412.3 - 413.0	0.7	2,800			0.12	
				413.0 - 414.5	1.5	340			<0.010	
				417.3 - 419.1	1.8	280			<0.005	
				419.1 - 420.1	1.0	570			0.016	
				420.1 - 421.3	1.2	400			<0.010	
				421.3 - 423.5	2.2	240			<0.005	
				423.5 - 424.4	0.9	900 RF4			0.019	
				424.4 - 425.4	1.0	3,500			0.12	
				425.4 - 426.3	0.9	250			<0.010	
				426.3 - 427.5	1.2	6,200			0.22	
				436.4 - 437.1	0.7	4,200			0.21	

* From top to bottom depths

1/28/57

which Docket?

3989

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

224 New Customhouse
Denver 2, Colorado

January 24, 1957

RECEIVED
JAN 28 1957
D.M.E.A.

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Gamma-ray log interpretations

Enclosed are four copies each of gamma-ray log interpretations for the following DMEA contracts.

DMEA Docket No. 4017, Contract Idm-E940, Colamer Corp., McKinley County, New Mexico

DMEA Docket No. 4294, Contract Idm-E1010, LaSal Mining and Development Co., San Juan County, Utah

Private Hole - Food Machinery and Chemical Corp., Westvaco Minerals Products Division, McKinley County, New Mexico

W. M. Traver

W. M. Traver

Enclosures

Westvaco Mineral Products
McKinley County, N. Mex.
Sec. 29; T. 13 N.; R. 9 W.
PRIVATE HOLES

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From* To	Anomaly Detected From* To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_eU_3O_8$	Remarks
750-2050	225.0	None	114.0-224.0	213.4 - 214.1	0.7	240			<0.010	
850-2150	240.0	None	98.0-228.0	198.6 - 199.7	1.1	880			0.027	
				199.7 - 203.8	4.1	400			<0.010	
				203.8 - 204.7	0.9	5,500			0.24	
				220.0 - 220.8	0.8	1,040 RF3			0.042	
1500-2300	275.0	None	152.0-272.0	258.8 - 259.4	0.6	220			<0.010	
1400-2250	255.0	None	135.0-255.0	230.0 - 230.9	0.9	240			<0.005	
				233.5 - 235.5	2.0	6,800			0.20	
				235.5 - 236.3	0.8	24,000			0.86	
				236.3 - 238.2	1.9	600 RF4			0.010	
				238.2 - 238.8	0.6	8,600			0.64	
				238.8 - 240.5	1.7	340			<0.010	
				240.5 - 242.1	1.6	1,800			0.046	
				242.1 - 243.5	1.4	9,400			0.36	
				243.5 - 245.7	2.2	300			0.005	
				245.7 - 246.9	1.2	220			<0.005	
1400-2350	260.0	None	140.0-260.0	223.4 - 226.3	2.9	560			0.011	
				226.3 - 227.8	1.5	1,100			0.023	
				227.8 - 229.4	1.6	2,100			0.052	
				229.4 - 231.3	1.9	1,300			0.026	
				231.3 - 232.8	1.5	600			0.013	
				234.5 - 235.5	1.0	960			0.033	
				235.5 - 236.2	0.7	310			<0.010	

* From top to bottom depths

Westvaco Mineral Products
McKinley County, N. Mex.
Sec. 29; T. 13 N1; R. 9 W.
PRIVATE HOLES

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From* To	Anomaly Detected From* To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_eU_3O_8$	Remarks
2800-2400	410.0	None	242.0-392.0	371.1 - 373.1	2.0	280			<0.005	
				373.1 - 376.1	3.0	210			<0.005	
				376.1 - 377.3	1.2	12,000			0.40	
				377.3 - 378.2	0.9	24,000			0.84	
				378.2 - 382.1	3.9	280			<0.005	
				382.1 - 383.1	1.0	1,100			0.025	
				383.1 - 384.2	1.1	440			0.010	
				384.2 - 386.3	2.1	320			<0.010	
				386.3 - 387.7	1.4	400			<0.010	
				390.6 - 391.5	0.9	230			<0.005	
3600-2100	484.0	None	360.0-480.0	436.5 - 438.6	2.1	240			<0.005	
				438.6 - 439.6	1.0	2,000			0.057	
				439.6 - 440.3	0.7	1,200			0.035	
				440.3 - 441.3	1.0	780			0.025	
				441.3 - 443.3	2.0	280			<0.005	
				470.4 - 470.8	0.4	400			0.015	
				470.8 - 472.1	1.3	240			<0.005	
3600-2300	460.0	None	350.0-460.0	421.7 - 422.6	0.9	400			0.010	
				422.6 - 427.7	5.1	260			<0.005	
				427.7 - 429.3	1.6	1,000 RF4			0.020	
				429.3 - 430.5	1.2	12,500			0.41	
				430.5 - 431.5	1.0	800 RF4			0.016	
				431.5 - 433.3	1.8	280			<0.005	
				433.7 - 434.7	1.0	250			0.005	
				445.2 - 446.5	1.3	220			<0.005	

* From top to bottom depths

DMEA Form 7
(12-56)

700

OFFICIAL FILE COPY

Date	Surname	Code
1/9/57	Ching	700
1-10	Ellis	700
	[illegible]	140
	[illegible]	~~300~~
1/16	[illegible]	130
	[illegible]	USBM
		~~130~~
1/4	[illegible]	110
1/17	[illegible]	100
		225

JAN 17 1957

Mr. W. H. Williams
Vice President
Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
161 East 42nd Street
New York 17, New York

Chambers
Paone

Re: Docket No. DMEA-3989 (Uranium)
Contract No. Idm-3933
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico

Nelson

Dear Mr. Williams:

Enclosed is a "Certification by the United States of America of a Discovery or Development Under an Exploration Project Contract." This certification covers all the land described in Article 2 of the subject contract.

By the terms of the Exploration Project Contract and of the certification, all minerals mined or produced from March 21, 1956, to March 21, 1966, are subject to the Government's percentage royalty as set forth in the contract until the amount contributed by the Government is repaid.

Payments should be made to Mr. W. H. Traver, Executive Officer, DMEA Field Team, Region III, 224 New Customhouse Building, Denver 2, Colorado. Checks should be payable to the Defense Minerals Exploration Administration. The purchaser should be advised to deduct the royalties from the amount due on each shipment and forward the check directly to the Executive Officer. Any bonus payments or allowances received by you from the sale of ore are considered to be a part of the purchase price to which the Government's royalty applies. Royalty payments to the Government should be accompanied by suitable evidence, such as copies of settlement sheets, showing quantity and grade of the products sold, the name of the purchaser, and the price and charges, certified to be correct by the purchaser.

You are requested to notify Mr. Traver of any changes in ownership or production rights that might have any effect on the Government's right to its percentage royalty. Also, if production ceases at any time for an extended period, please notify Mr. Traver at six-month intervals that no production has been made, when that is the case.

Sincerely yours,

C. O. Mitchell (for)

Administrator

FROM SOLICITOR
JAN 11 1957
FOR SIGNATURE

Enclosure

Frank D. Lamb, Rm. 3608
T. H. Kiilsgaard, Rm. 5224
FieldTeam, Region III (2)
Rare & Misc. Metals Division
F. E. Johnson
Mr. Ching

Federal Insurance Company
90 John Street, New York 38, N.Y.
Admr.'s Reading File
Operating Committee
Contract Adm. & Audit Division

gla 1-9-57

8623

OFFICIAL FILE COPY

Date	Surname	Code
1/9/57	Ching	700
1-10	Ellis	700
	Bryan	140
	Sawyer	~~140~~
1/16	Schmitz	130
	Kapnitz	USBM
	Crawford	~~130~~
1/16	Johnson	110
1/17	Mitchell	100
1/17	Nelson	225

Chandler
Payne

JAN 17 1957

Federal Insurance Company
90 John Street
New York 38, N. Y.

Re: Docket No. DMEA-3989 (Uranium)
Contract No. Idm-E933
Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico

Gentlemen:

For your information, a certification of discovery or development has been issued to the Operator as a result of the exploration program under the above-referenced contract.

The property as set forth in the contract is covered by your Performance Bond, dated April 18, 1956, under the captioned name and contract number.

We are enclosing the following for your records:

1. A copy of a "Certification by the United States of America of a Discovery or Development Under an Exploration Project Contract."

2. A copy of the transmittal letter to Mr. W. H. Williams, Vice President, Food Machinery and Chemical Corporation, (Westvaco Mineral Products Division), 161 East 42nd Street, New York 17, New York.

Sincerely yours,

C. O. Mitchell (fw)

Administrator

FROM SOLICITOR
JAN 11 1957
FOR SIGNATURE

Enclosures

MChing/gla 1-9-57
cc to: Admr.'s Reading File
Operating Committee
Contract Adm. & Audit Division
Frank D. Lamb, Rm. 3608
T. H. Kiilsgaard, Rm. 5224
Field Team, Region III (2)
Rare& Misc. Metals Division
F. E. Johnson
Mr. Ching

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
1/14	Chambers	800
	G.	225
1-15	C	220

JAN 14 1957

Mr. Thomas H. Brading
DMEA Auditor
224 New Customhouse Building
Denver 2, Colorado

Re: Report of Review
Idm-3933, DMEA-3989
Food Machinery and
Chemical Corporation

Dear Mr. Brading:

Receipt is acknowledged of your Report of Review covering the above-cited project.

The Report is acceptable and normal distribution is authorized.

Sincerely yours,

SIGNED

Jay L. Chambers, Chief
Contract Administration
and Audit Division

WBorovies/wb
January 14, 1957

Copy to: Docket
Admr. Reading File
Mr. Chambers

R.G.S.

8623

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

RECEIVED 20 1956 D.M.E.A.

224 New Customhouse
Denver 2, Colorado

December 17, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3989 (Uranium), Contract No. Idm-E933, Food Machinery and Chemical Corporation, Westvaco Mineral Products Division (Sec. 29, T 13 N, R 9 W), McKinley County, New Mexico

Enclosed are the original and one copy of a final report submitted by the Operator, pertaining to work completed under the subject contract.

The Field Team final report will be submitted as soon as all matters that are a prerequisite to closing the account have been resolved, and when the engineering and geologic sections of the Field Team's final report are received.

Wm. Traver

W. M. Traver

Enclosures

RECEIVED
DEC 20 1956
DMEA

Westvaco Mineral Products Division
Food Machinery & Chemical Corporation
P. O. Box 250 - Pocatello, Idaho

FINAL REPORT

Docket No. DMEA 3989 (Uranium)
Contract Idm-E 933
Section 29, T. 13 N., R. 9 W.
McKinley County, New Mexico

December 7, 1956

PURPOSE

On March 21, 1956, Westvaco Mineral Products Division of Food Machinery and Chemical Corporation was awarded Contract Idm-E 933, Docket 3989 with the Defense Minerals Exploration Administration for the purpose of exploration for uranium ore deposits. Under terms of the contract the project was to be completed before March 1, 1957.

Two stages of exploration drilling were established with the DMEA providing 75% of the funds and Westvaco, 25%. The area to be explored was Section 29, T. 13 N., R. 9 W., McKinley County, New Mexico.

Under the contract, a final report is required upon the project completion, thus it is the purpose of this report to review and summarize the information obtained from the exploration work.

LOCATION AND TOPOGRAPHY

Section 29, T. 13 N., R. 9 W., is approximately 12 miles north of the town of Grants, New Mexico, and can be reached by State Highway 53.

Topographically, the section is covered by a relatively flat surface which slopes gently to the southeast. Cut by occassional dry stream channels, the surface has an average elevation of 6800 feet and a relief of approximately 210 feet.

GEOLOGY

Stratigraphy

The stratigraphy encountered on Section 29 comprises only four formations. The entire section is covered either by Bluff sandstone or blowsand which is derived from the Bluff. Briefly, the stratigraphic column is as follows:

Morrison: Upper Jurassic -- Although the Morrison is not involved in any of the section's geology, it outcrops as a cliff along the north section line. When differentiated, the Morrison becomes the Brushy Basin shale, Westwater Canyon sandstone, and Recapture Creek shale in descending order.

Bluff: Upper Jurassic -- A light buff, fine grained massive sandstone, the Bluff grades upward into the Morrison. Varying from 200 to 230 feet in thickness, the soft friable sandstone outcrops in the northwestern part of the section and underlies the alluvium over the remainder of the section.

Summerville: Upper Jurassic -- An interstratified formation of red brown to light green siltstones, fine grained sandstones, and shales, the Summerville ranges in thickness from 70 to 230 feet and is conformable with the overlying bluff. Towards the base, the sediments become increasingly calcareous and thin limestone lenses are present.

Todilto: Upper Jurassic -- Beneath the Summerville is the 20 to 30 foot Todilto limestone. The irregular surface of the Todilto and the erratic thicknesses are caused either by Karst type dissolution or a fossil erosion surface. Core samples show thin laminated stractures which are due to thin laminae with a high clay content. In many areas, the limestone appears to be recrystallized and is very calcitic. Thin calcite filled fractures and joints are frequently observed.

Entrada: Upper Jurassic -- Underlying the Todilto are the red to buff massive sandstones of the Entrada formation.

STRUCTURE

Section 29 is regionally located on the northeast flank of the Zuni Uplift and on the southwest end of the San Mateo anticline. Geographically, it is on the north rim of Bluewater Valley formed by hogbacks of Jurassic sediments. The sediments dip gently to the northeast with a general dip of $3\frac{1}{2}°$ and approximate strike of N. 25° W. The structure contour map included with this report suggests that the base of the Todilto is not a smooth planar surface, but is characterized by small hummocks, depressions, and "flats". Most of the detail is confined to the area of the ore deposition, which has been the most extensively drilled.

Detailed cross sections show a small fold or roll structure extending north- south along the northern half of the 2200 E drill

line in the ore-bearing area. A larger strong roll extends north-south along the west side of the section, as shown on the map.

With regard to faulting, the only known major fault is the San Mateo fault which strikes roughly N. 35° E. and crosses the extreme southeast corner of the section. As the fault trace is covered by a thick layer of alluvium, the exact location is not known. No other major faulting has been proven on the section, although it can be implied in several places.

MINERALIZATION

On Section 29, the Todilto is the potential ore-bearing formation with the mineralization usually being localized in the upper half of the limestone. Mineralogically, the dominant ore mineral is primary uranitite with some associated dark purple fluorite. Secondary minerals, such as tyuyamunite, carnotite, and uranophane are present, but usually as coatings on joint and bedding surfaces.

Recrystallization of the limestone has been considered as a possible ore guide, although it has not been successfully proven.

Radiometric logging of the holes often indicated mineralization in both the upper Todilto and the base of the overlying Summerville. However, assays of the drill cores showed that practically all the ore is localized in the limestone. The radioactivity in the shales is apparently due to the presence of radon gas accumulations. In several instances, the shales indicate no radioactivity after pulverizing for assay purposes.

The ore appears to be more abundant in the pure limestones than in the silty facies; and the most favorable structures seem to be minor folds and warps.

Ore grade was established as rock with a U_3O_8 content of 0.20% or higher. Most assays were made from core splits, rarely from cutting samples. Core that showed substantial radioactivity was divided into 1 foot intervals and split. One split was crushed and pulverized, thoroughly blended and then assayed radiometrically in a scaler. Check samples were frequently taken and chemically assayed. In all cases, the chemical results validated the reliability of the scaler results.

DRILLING

Under Stage I, the DMEA authorized the drilling of 138 holes for the purpose of exploration. Localized in the western half of the section, the holes formed eight north- south rows 400 feet apart. In each row, the holes were at 100 or 200 foot intervals. As specified, approximately one-half of the holes were plugged down to the Todilto and then cored (BX) through the limestone. All the other holes were non-core throughout, with cutting samples being taken at two foot intervals in the limestone. All core and cuttings were logged, labelled and stored. Samples showing sufficient radioactivity were assayed. Upon completion of Stage I, a Stage II drilling program of 45 holes was proposed and approved. Under this program, strongly mineralized or ore holes from Stage I were offset

on 100 foot intervals. Under the contract, DMEA would approve only non-core drilling; therefore, Westvaco bore the additional expense of coring the limestone wherever the cuttings indicated mineralization.

In addition to DMEA drilling, Westvaco drilled a number of holes in the ore-bearing areas.

Of the Stage I holes, 4 were in ore grade rock, 26 were mineralized and 108 were barren. In Stage II, 18 holes were in ore, 10 were mineralized and 17 were barren. For locations of ore-bearing areas, see the accompanying maps.

COST AND STATISTICS

Expenditures (Under DMEA)

Non-core drilling @ $0.771 per ft.	$ 44,482.66
Core drilling @ $3.50 per ft.	7,115.50
Incidental allowance @ $0.18 per ft.	10,752.48
Assays @ $3.50 per sample	147.00
	$ 62,497.64
DMEA Share -- 75%	$ 46,873.23
Westvaco Share -- 25%	15,624.41
	$ 62,497.64

Expenditures (by Westvaco)

For Period -- May through October, 1956

Salaries	$ 14,680.00
Office Rental	1,350.00
Car Rentals	1,740.00
Operating Expenses -- Telephone, Postage Supplies, Etc.	1,190.00
Transportation (other than car rentals)	1,140.00
Exploration Expenses -- Core Boxes, Etc.	500.00
	$ 20,600.00

Statistics

	Stage I	Stage II
Holes drilled	138	45
Ore bearing	4	18
Mineralized	26	10
Barren	108	17

Non core footage	57,703
Core footage	2,033
	59,736

Chemical assays 42

Project initiated	April 23, 1956
Project completed	October 31, 1956
Time involved	132 work days

RESERVES

Although the irregularity and unpredicability of the Todilto ore bodies prevents optimistic reserve calculations, an attempt has been made using the information available. A conservative weight factor of 14 cubic feet per ton was used.

It should be noted that these reserves are not necessarily minable or economical. In some areas, an ore thickness of 1 or 2 feet is indicated and these thicknesses are not economical unless the grade is very high.

The reserve blocks and tonnages are shown in the following table and on Map No. 243.

BLOCK	AREA	GRADE	THICK.	VOLUME	RESERVES PROBABLE	RESERVES POSSIBLE
A	5000	.34	4.7	23,500	1678	
B	7500	.24	2.0	15,000	1071	
C	7500	.25	2.33	17,475	1248	
D	5000	.23	1.6	8,000	571	
E	5000	.23	2.0	10,000	714	
F	5000	.26	3.0	15,000	1071	
G	5000	.26	4.0	20,000	1428	
	5000		2.0	10,000		714
H	3750	.30	3.0	11,250	804	
	3750		1.5	5,625		402
I	4375	.30	4.0	17,500	1250	
	4375		2.0	8,750		625
J	4375	.37	7.0	30,625	2188	
	4375		3.5	15,312		1094
K	5000	.59	7.0	35,000	2500	
	5000		3.5	17,500		1250
L	5000	.30	7.0	35,000	2500	
	5000		3.5	17,500		1250
M	5000	.30	2.0	10,000	714	
	5000		1.0	5,000		357
N	5000	.27	3.0	15,000	1071	
	5000		1.5	7,500		535
O	5000	.24	3.0	15,000	1071	
	5000		1.5	7,500		535
P	3218	.25	2.0	6,436	460	
	3218		1.0	3,218		230
Q	3437	.20	1.0	3,437	246	
	3437		0.5	1,718		123
R	2500	.20	1.0	2,500	179	
	2500		0.5	1,250		89

(Continued)

Block	Area	Grade	Thick.	Volume	Reserves Probable	Reserves Possible
S	4375	.22	2.0	8,750	625	
	4375		1.0	4,375		312
T	2187	.25	3.0	6,561	469	
	2187		1.5	3,280		234
U	4062	.24	2.0	8,124	580	
	4062		1.0	4,062		290
V	4050	.22	3.0	12,150	868	
	4075		1.5	6,112		437
W	4400	.29	4.0	17,600	1257	
	4350		2.0	8,700		621
X	4050	.25	2.0	8,100	579	
	4075		1.0	4,075		291
Y	5000	.36	4.0	20,000	1428	
	5000		2.0	10,000		714
Z	5000	.20	2.0	10,000	714	
	5000		1.0	5,000		357
AA	5000	.30	4.0	20,000	1428	
	5000		2.0	10,000		714
					28,712	11,174
			Total		39,886	

Economical ore thickness considered 3 feet or more

Economical probable ore -- 21,011 of 28,712 tons or 73%

Economical possible ore -- 3,594 of 11,174 tons or 32%

Total Economical ore -- 24,605 of 39,886 tons or 62%

CONCLUSIONS

The DMEA drilling program proved to be successful and resulted in the discovery and partial delineation of an ore body. Westvaco will continue drilling around the ore-bearing areas in an attempt to establish the limits of deposition and to provide a reliable basis for calculating ore reserves.

224 New Customhouse
Denver 2, Colorado

December 18, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Gamma-ray log interpretations

Enclosed are four copies each of gamma-ray log interpretations for the following DMEA contracts.

Docket DMEA 3854, Contract Idm-E967, Four Corners Exploration Co., McKinley County, New Mexico
Docket DMEA 3928, Contract Idm-E926, Pacific Uranium, Green River, Utah, (Private holes - Pacific Uranium)
Docket DMEA 3939, Contract Idm-E934, Westvaco Mineral Products, McKinley County, New Mexico
Docket DMEA 3943, Contract Idm-E932, Westvaco Mineral Products, McKinley County, New Mexico
Docket DMEA 3989, Contract Idm-E933, Westvaco Mineral Products, McKinley County, New Mexico
Docket DMEA 4041, Contract Idm-E969, America Leduc Uranium, Outlaw Mesa, Colorado
Docket DMEA 4071, Contract Idm-E940, Colamer Corporation, McKinley County, New Mexico
Docket DMEA 4073, Contract Idm-E987, Simpson Mining Co., Beaver Mesa, Colorado - Utah
Docket DMEA 4222, Contract Idm-E1003, Radium King, La Sal Creek, Utah
Private holes, Barker Graham, Beaver Mesa, Utah

mr. ching

8 copies here.

/s/ W. M. Traver

W. M. Traver

c
o
p
y

E933

Westvaco Mineral Products
McKinley County, N. Mex.
Sec. 29; T. 13 N.; R. 9 W.
DMEA DOCKET NO. 3989

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From* To	Anomaly Detected From* To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_e U_3O_8$	Remarks
1300-2050	260.0	None	160.0-260.0	Barren						
1400-1950	265.0	None	154.0-264.0	Barren						
1400-2150	265.0	None	164.0-264.0	229.7 - 231.7	2.0	12,000			0.32	
				231.7 - 233.8	2.1	800 RF4			0.014	
				233.8 - 234.8	1.0	7,500			0.34	
				234.8 - 236.6	1.8	1,400			0.032	
				236.6 - 237.5	0.9	20,000			0.70	
				237.5 - 239.9	2.4	7,800			0.24	
				241.7 - 242.4	0.7	860			0.035	
				248.0 - 249.6	1.6	2,200			0.055	
				249.6 - 250.4	0.8	3,700			0.15	
				250.4 - 251.3	0.9	1,100			0.026	
				251.3 - 252.3	1.0	2,600			0.082	
				252.3 - 253.8	1.5	1,800			0.043	
1500-2050	280.0	None	180.0-280.0	246.9 - 248.0	1.1	880			0.027	
				248.0 - 250.2	2.2	460			<0.010	
				250.2 - 251.2	1.0	2,900			0.088	
				251.2 - 251.7	0.5	1,200			0.050	
				258.0 - 258.8	0.8	250			<0.010	
1500-2600	287.0	None	126.0-286.0	256.0 - 257.6	1.6	210			<0.005	
1600-2500	295.0	None	144.0-294.0	248.1 - 249.3	1.2	700 RF4			0.014	
				249.3 - 250.7	1.4	2,900			0.082	
				250.7 - 251.8	1.1	1,000 RF4			0.023	
				251.8 - 252.6	0.8	280			<0.010	
				252.6 - 253.5	0.9	700			0.022	
				253.5 - 254.3	0.8	520			0.016	
				254.3 - 254.9	0.6	240			<0.010	
				263.7 - 264.6	0.9	460			0.012	
				264.6 - 267.7	3.1	320			<0.010	
				267.7 - 269.7	2.0	980			0.023	
				279.7 - 280.6	0.9	340			<0.010	
				283.5 - 284.1	0.6	220			0.005	

* From top to bottom depths

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

RECEIVED DEC 10 1956 D.M.E.A.

224 New Customhouse
Denver 2, Colorado

December 5, 1956

Mr. W. N. Williams, Vice President
Food Machinery and Chemical Corporation
Westvaco Mineral Products Division
161 East 42nd Street
New York 17, New York

Re: Docket DMEA 3989 (Uranium)
Contract Idm-E933
Food Machinery and Chemical Corp.
(Sec. 29, T13N, R9W)
McKinley County, New Mexico

Dear Mr. Williams:

Form MF-104, Operator's Monthly Report and Voucher, for October, 1956, has been received in this office and is being processed for payment.

The following reinstatement and deduction have been made.

Reinstatement

An amount of $45.00, the cost of 13 sample analyses, was disallowed from the September, 1956 report. This amount is reinstated as assay certificates for the samples have been received by the Government.

Amount Withheld

An amount of $500.00 is withheld pending receipt of your final report as required under Article 7 (c) of the contract form, and release to this office of a Report of Review of contract expenditures by the Contract Administration and Audit Division, DMEA.

Very truly yours,

Original signed by
W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Copy to:
R. J. Hayden
P. O. Box 250
Pocatello, Idaho

Shaw (2)
Townsend

JDC:jy
cc: Chm. Op. Comm. (2) Corresp. E933 Chron.
Harshman

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

RECEIVED
OCT 29 1956

224 New Customhouse
Denver 2, Colorado

October 24, 1956

Mr. Russell J. Hayden, Project Engineer
Food Machinery and Chemical Corporation
Westvaco Mineral Products Division
P. O. Box 250
Pocatello, Idaho

Re: Docket DMEA 3989 (Uranium)
Contract Idm-E933
Food Machinery and Chemical Corp.
Sec. 29, T13N, R9W
McKinley County, New Mexico

Dear Mr. Hayden:

Form MF-104, Operator's Monthly Report and Voucher for September, 1956, has been received in this office and is being processed for payment.

No assay certificates were included with the monthly report and voucher. Therefore, the cost of 13 samples reported for the period is disallowed. You may reclaim the cost of the analytical work on a subsequent voucher if the assay certificates are included with the reclaim. The hole number and footage interval for the samples must be indicated.

Very truly yours,

Original signed by
W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

JDC:jy
cc: Corresp. E933
Chm. Op. Comm. (2)
Shaw (2)
Harshman
Townsend
Chron.

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

RECEIVED
OCT 26 1956

224 New Customhouse
Denver 2, Colorado

October 24, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3989 (Uranium), Contract No. Idm-E933 Food Machinery and Chemical Corporation (Westvaco Mineral Products Division) (Sec. 29, T 13 N, R 9 W), McKinley County, New Mexico

Enclosed are four copies of confirmation of project work approval issued by the DMEA Field Team, Region III.

Also enclosed are two copies of the Operator's letter requesting the work approval, with supporting data, and four copies of a memorandum report, dated October 16, 1956, from Howard F. Albee, Geologist, Geological Survey, pertaining to the work approval.

W. M. Traver

W. M. Traver

Enclosures

See 1 map & 20 sets log data in ~~pocket~~ FOLDER #5

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

RECEIVED
OCT 26 1956

224 New Customhouse
Denver 2, Colorado

October 24, 1956

Mr. R. J. Hayden, Project Engineer
Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
P. O. Box 250
Pocatello, Idaho

Re: Docket No. DMEA 3989 (Uranium)
Contract No. 14m-1933
Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
(Sec. 29, T 13 N, R 9 W)
McKinley County, New Mexico

Dear Mr. Hayden:

In reference to your request of October 1, 1956, this confirms approval from this office by telephone on October 15, 1956, for you to drill twenty-three (23) additional holes under the provisions of Stage II of the Contract as follows:

Requested Coordinate Location of Holes	Estimated Depths
1400 N. - 2800 E.	275
1500 N. - 2800 E.	285
1500 N. - 2700 E.	285
1500 N. - 2500 E.	285
1600 N. - 2800 E.	295
1700 N. - 2700 E.	310
1700 N. - 2500 E.	310
1800 N. - 2500 E.	320
1900 N. - 2500 E.	335
2050 N. - 2300 E.	345
2050 N. - 2400 E.	350
2050 N. - 2500 E.	355
2200 N. - 2300 E.	355
2200 N. - 2400 E.	355
2500 N. - 2400 E.	385
2600 N. - 2350 E.	390
2700 N. - 2400 E.	390
3000 N. - 2500 E.	420

Requested Coordinate Location of Holes	Estimated Depths
3000 N. - 2100 E.	430
3100 N. - 2000 E.	430
3100 N. - 2300 E.	430
3200 N. - 2200 E.	430
3300 N. - 2100 E.	440
	8195

All holes are approved for drilling at the requested locations except as follows:

The proposed drill hole at coordinates 2050 N. - 1500 E. is to be moved southwest to coordinates 1950 N. - 2400 E. The proposed drill hole at coordinates 1400 N. - 2800 E. is not to be drilled unless at least one of the proposed holes at coordinates 1500 N. - 2700 E. and 1500 N. - 2800 E. is mineralized. In the event that the proposed hole cannot be drilled at coordinates 1400 N. - 2800 E. under the foregoing qualification, then a hole may be drilled at coordinates 1650 N. - 2400 E. in lieu thereof.

The approval of drilling the above listed twenty-three (23) holes in their entirety is further qualified as follows: If there is insufficient footage remaining within the total footage available for Stage II drilling to enable completion of the twenty-third hole to its objective, the hole will not be started.

The locations of the approved holes are shown on the map entitled, "Figure 1. -- Sketch Map of Part of Section 29, T. 13 N., R. 9 W., N.M. P.M., Showing Existing Holes and Location of Proposed Stage II Drill Holes, Food Machinery and Chemical Corporation, McKinley County, New Mexico," which is attached hereto and made a part of this confirmation of work approval.

Nothing in this confirmation of work approval shall be construed to increase the total estimated cost of the project, the aggregate amount which the Government may be required to contribute, the fixed unit cost of any item of work, nor any item of allowable cost which is expressly designated "maximum."

Very truly yours,

DMEA Field Team, Region III

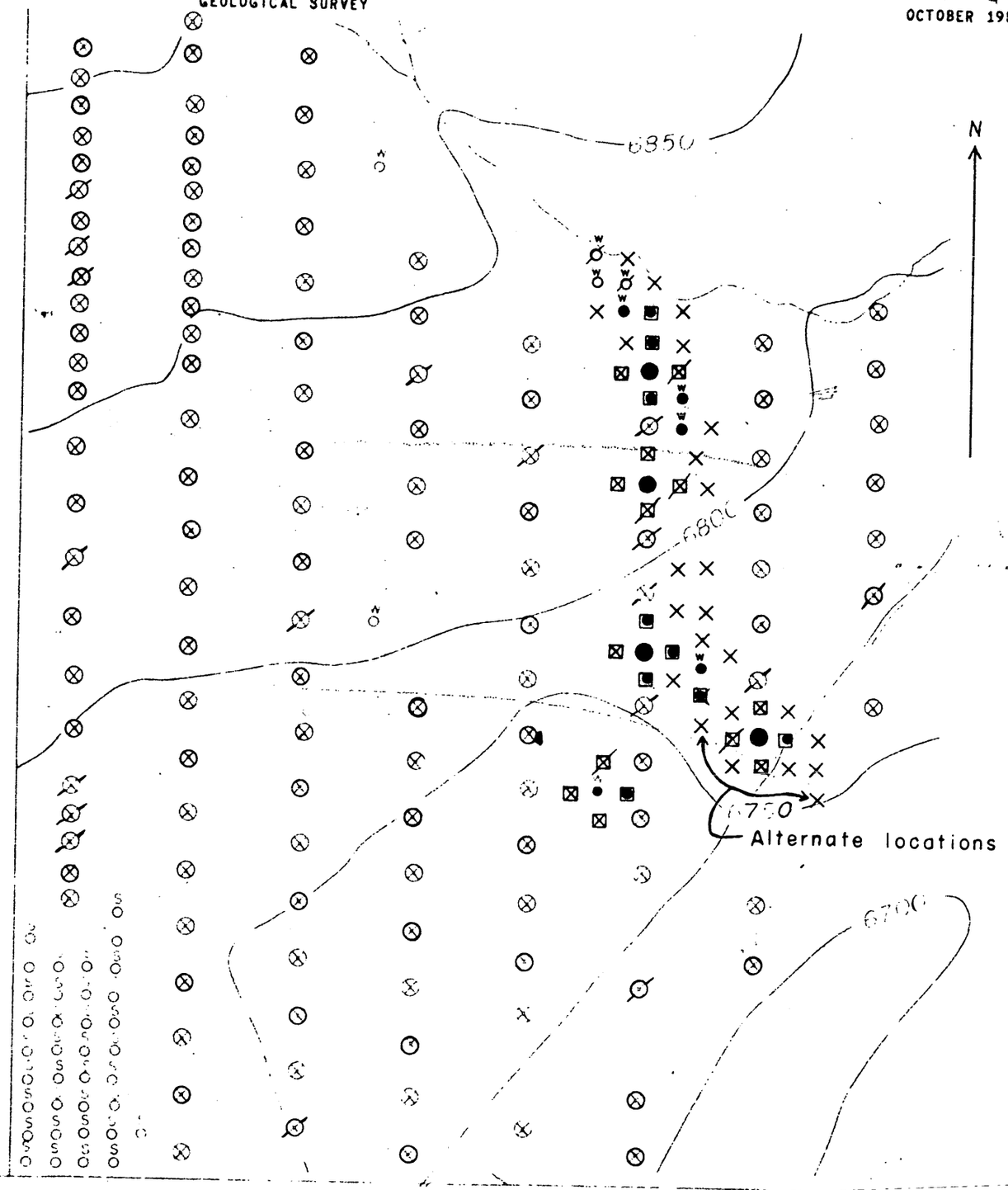
By W. M. Traver
W. M. Traver

By E. N. Harshman
E. N. Harshman

JWT:prl
cc: Chairman, Op. Comm. (4)
Finance Office, Reg. III
Amendment file, Reg. III
Harshman
Shaw (2)
Hasler
Townsend
Corres. file
Chron.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
OCTOBER 1956
DOCKET 3989



N

EXISTING DRILL HOLE DRILLED BY APPLICANT

EXISTING DRILL HOLD DRILLED BY PREVIOUS OWNER

COMPLETED STAGE I DRILL HOLE (BARREN)

COMPLETED STAGE I DRILL HOLE (MINERALIZED)

COMPLETED DRILL HOLE (ORE-0.20% U_3O_8 OR BETTER)

COMPLETED STAGE II DRILL HOLE (BARREN)

COMPLETED STAGE II DRILL HOLE (MINERALIZED)

COMPLETED STAGE II DRILL HOLE (ORE BEARING)

PROPOSED STAGE II DRILL HOLE

NOTE: LANDLINES, TOPOGRAPHY, AND HOLE LOCATIONS FROM APPLICANTS MAP. PROPOSED HOLE LOCATIONS MODIFIED FROM APPLICANTS MAP.

500 0 1500 FEET

CONTOUR INTERVAL 50 FEET
DATUM FROM APPLICANTS MAP

FIGURE 1.--SKETCH MAP OF PART OF SECTION 29, T.13 N., R.9 W., N.M.P.M., SHOWING EXISTING HOLES AND LOCATION OF PROPOSED STAGE II DRILL HOLES, FOOD MACHINERY AND CHEMICAL CORPORATION, McKINLEY COUNTY, NEW MEXICO.

IN REPLY REFER TO:

MINERAL DEV.
DMEA
RECEIVED
OCT 18 1956

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

RECEIVED
OCT 26 1956
U. S. GEOLOGICAL SURVEY
DENVER, COLORADO

P. O. Box [illegible]
Grand Junction, Colorado

October 18, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

Thru agt: J. William Mosier
A. E. Durante
John F. Shaw

From: Howard F. Albee

Subject: Request for remainder of stage II, docket DMEA [illegible] (Uranium), contract DMA-[illegible], Food Machinery and Chemical Corporation, Westvaco Mineral Products Division, Sec. 27, T. 1[illegible] N., R. [illegible] W., McKinley County, New Mexico.

The Westvaco Mineral Products Division has requested 23 stage II drill holes for a total footage of 3,195 feet. These 23 drill holes constitute the remainder of stage II. The total allowable footage for stage II was originally 10,[illegible] feet, from which 230 feet of non-core footage was transferred to stage I. The first half of stage II totaled 7,516 feet. The 7,516 feet plus the transferred 230 feet leaves the total allowable footage at 3,2[illegible] feet.

Of the 22 stage II drill holes presently drilled, 9 are ore holes, 4 of which contain 7 feet or more of ore grade rock, 5 are mineralized, and 8 are barren. Of the holes drilled in the vicinity of this request other than the stage II holes presently drilled, 9 are in ore, four of which contain 7 feet or more of ore grade rock, 7 are mineralized, and 3 are barren. These total 3[illegible] holes, of which 18 are ore grade and 12 are mineralized, that presently appear to be concentrated mainly in two ore deposits.

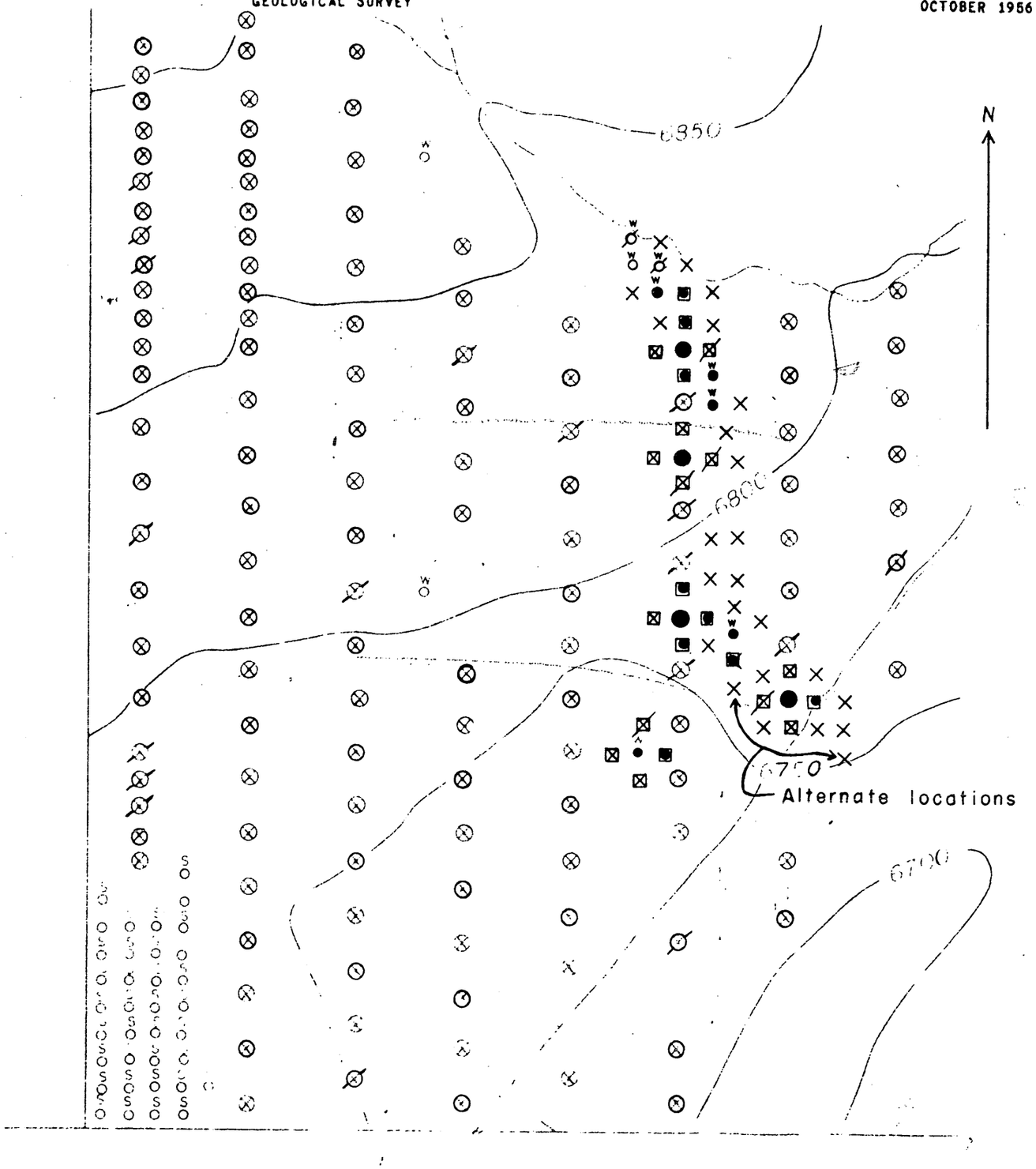
The proposed second half of the stage II drilling is designed to test the two ore deposits for northerly and southerly extensions and partly for extension of ore between the two deposits. The program seems well founded and is recommended with two exceptions. The proposed drill hole at coordinates 2[illegible]S - 2[illegible] should be moved southwest to coordinates 1[illegible]S - 2[illegible] east. The proposed drill hole at coordinates 1[illegible] - 2[illegible] should not be drilled unless one of the proposed holes at coordinates 1[illegible]N - 2[illegible] and 1[illegible]N - 2[illegible] is mineralized. In the event that the proposed hole [illegible] to be drilled at coordinates 1[illegible]N - 2[illegible] then a hole should be drilled at coordinates 1[illegible]N - 2[illegible].

Howard F. Albee
Howard F. Albee
Geologist

HFA/mlr

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
OCTOBER 1956 DOCKET 3989



⊗w	EXISTING DRILL HOLE DRILLED BY APPLICANT
⊗s	EXISTING DRILL HOLD DRILLED BY PREVIOUS OWNER
⊗	COMPLETED STAGE I DRILL HOLE (BARREN)
⊗̸	COMPLETED STAGE I DRILL HOLE (MINERALIZED)
●	COMPLETED DRILL HOLE (ORE-0.20% U_3O_8 OR BETTER)
⊠	COMPLETED STAGE II DRILL HOLE (BARREN)
⊠̸	COMPLETED STAGE II DRILL HOLE (MINERALIZED)
■	COMPLETED STAGE II DRILL HOLE (ORE BEARING)
×	PROPOSED STAGE II DRILL HOLE

NOTE: LANDLINES, TOPOGRAPHY, AND HOLE LOCATIONS FROM APPLICANTS MAP. PROPOSED HOLE LOCATIONS MODIFIED FROM APPLICANTS MAP.

500 0 1500 FEET

CONTOUR INTERVAL 50 FEET
DATUM FROM APPLICANTS MAP

FIGURE 1.--SKETCH MAP OF PART OF SECTION 29, T.13 N., R.9 W., N.M.P.M., SHOWING EXISTING HOLES AND LOCATION OF PROPOSED STAGE II DRILL HOLES, FOOD MACHINERY AND CHEMICAL CORPORATION, McKINLEY COUNTY, NEW MEXICO.

October 1, 1956

DMEA
DEPARTMENT OF THE INTERIOR
OCT 5 1956
REGION III
DENVER, COLORADO

Mr. John F. Shaw
U. S. Bureau of Mines
Room 137, Building 20, Denver Federal Center
Denver 2, Colorado

Re: Second Stage Proposal (Second Half)
Docket No. DMEA 3989 (Uranium)
Contract Idm-E933
Food Machinery & Chem. Corp.
Westvaco Mineral Products Div.
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico

Dear Sir:

The first half of the second stage drilling on Section 29 has been completed, and the results have been quite encouraging. The two mineralized areas have been expanded, and there is now notable evidence of two commercial ore bodies. On the enclosed map the existing drill holes are shown in addition to the proposed holes. As shown by the pattern of the proposed holes, an effort is being made to establish whether or not the two ore bodies continue to either the northwest or southeast. Also, some proposed holes are placed to determine if the ore bodies are connected by a north-south extension.

Primarily, the second half of the proposed second stage holes are 100 foot offsets from ore holes or strongly mineralized holes. This is the same method used for the first half and will entail drilling 23 holes with an approximate footage of 8195 feet. First half holes totaled 7516 allowable feet, and both halves will contain the allotted 16,000 feet minus the footage transferred from second stage to first stage.

In order to further delineate the ore-bearing areas, Westvaco has drilled 7 additional holes at company expense. Of these, 4 are ore holes, 2 are mineralized, and 1 is barren. Also Westvaco financed coring in all (including DMEA) mineralized and ore holes.

The north and east co-ordinates of the proposed holes and the estimated depths are:

Hole Co-ordinates	Estimated Depths
1400-2800	275
1500-2800	285
1500-2700	285
1500-2500	285
1500-2800	295
1700-2700	310
1700-2500	310
1800-2300	320
1900-2500	335
2050-2300	345
2050-2400	350
2050-2500	355
2200-2300	355
2200-2400	355
2500-2400	385
2600-2350	390
2700-2400	390
3000-2300	420
3000-2100	420
3100-2000	430
3100-2300	430
3200-2200	430
3300-2100	440
	8195

Included with this proposal are the drill logs of the ore and mineralized holes from the first portion of the second stage.

Respectfully submitted,

R J Hayden WSC

R. J. Hayden, Project Engineer
Food Machinery & Chem. Corp.
Westvaco Mineral Products Div.
P. O. Box 250
Pocatello, Idaho

RJH/ac

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

RECEIVED
SEP 10 1956

224 New Customhouse
Denver 2, Colorado

September 7, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3989 (Uranium), Contract No. Idm-E933, Food Machinery and Chemical Corporation (Westvaco Mineral Products Division) (Sec. 29, T 13 N, R 9 W), McKinley County, New Mexico

Enclosed are four copies of project work approval issued by the DMEA Field Team, Region III.

Also enclosed are two sets of data submitted by the Operator in requesting the work approval; four copies of a memorandum, dated August 28, 1956, from W. D. McMillan, Mining Engineer, Bureau of Mines; and four copies of a memorandum, dated August 28, 1956, from Howard F. Albee, Geologist, Geological Survey; the latter two memoranda pertaining to the Operator's request.

Copies of the work approval have been distributed to the Operator, the Finance Office, Region III, and to others concerned.

W. M. Traver

W. M. Traver

Enclosures

See 2 maps
+ 5 sets of drill
logs in ~~pocket~~ FOLDER #5

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

RECEIVED
SEP 10 1956

224 New Customhouse
Denver 2, Colorado

September 6, 1956

Mr. Russell Hayden, Geologist
Food Machinery and Chemical Corporation
Westvaco Mineral Products Division
P. O. Box 290
Pocatello, Idaho

Re: Docket No. DMEA 3989 (Uranium)
Contract No. Idm-8935
Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
(Sec. 29, T 13 N, R 9 W)
McKinley County, New Mexico

Dear Mr. Hayden:

In reference to your request of August 9, 1956 to Mr. John F. Shaw, this confirms verbal approval by the Government on August 29, 1956 for you to drill twenty-one (21) holes under Stage II of the contract at locations as follows:

Stage I holes at coordinates

2900 N - 2200 E,
2500 N - 2200 E,
1900 N - 2200 E,
1600 N - 2600 E and
1400 N - 2050 E

will be offset, on not less than 100-ft. spacing, by four (4) offset holes each, 1 North, 1 South, 1 East, and 1 West. Also a hole may be drilled at coordinate

1750 N - 2400 E

which will offset mineralized holes at coordinates

1700 N - 2200 E and
1500 N - 2600 E.

In addition the proposed hole at coordinate

3100 N - 2200 E

may be drilled only if the hole drilled 100 feet North of Stage I hole at coordinate 2900 N - 2200 E is found to be mineralized.

The above described holes shall be drilled in compliance with all provisions in the contract pertaining thereto. The locations of the holes are shown on the map, "Figure 1. -- Sketch Map of Part of Section 29, T. 13 N., R. 9 W., N.M.P.M., Showing Existing Holes and Location of Proposed Stage II Drill Holes, Food Machinery and Chemical Corporation, McKinley County, New Mexico," which is attached hereto and made a part of this work approval.

Nothing in this confirmation of work approval shall be construed to increase the estimated total cost of the project, the aggregate amount which the Government may be required to contribute, the fixed unit cost of any item of work, or any item of allowable cost which is expressly designated "maximum."

Very truly yours,

DMEA Field Team, Region III

W. M. Traver

W. M. Traver

E. N. Harshman

E. N. Harshman

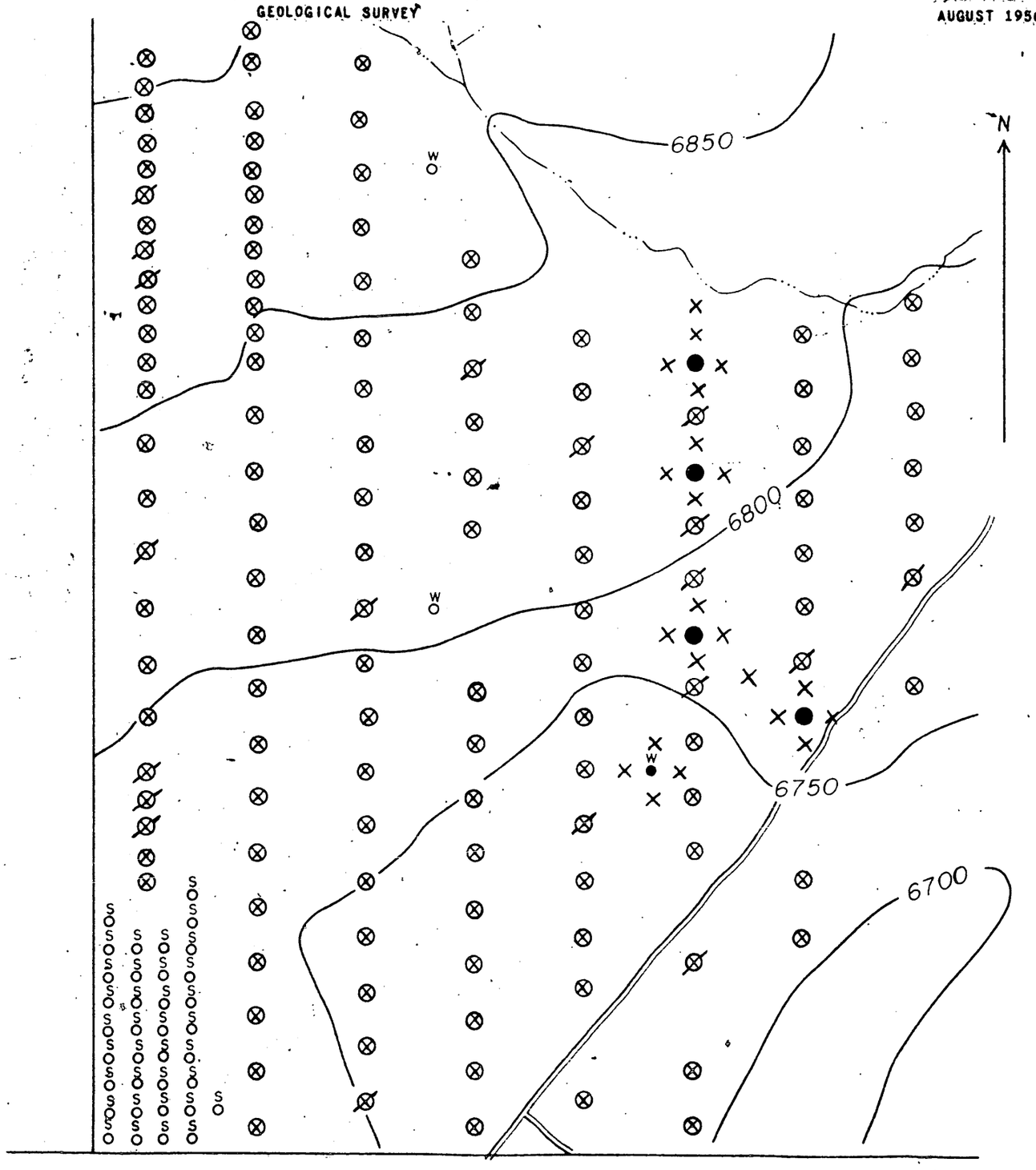
Enclosure

JVTipri

cc: Chairman, Op. Comm. (4)
Finance Office, Region III
Amendment file, Region III
Harshman
Shaw (2)
Hasler
Townsend
Corres. file
Chron.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
AUGUST 1956 DOCKET 3989



EXISTING DRILL HOLE DRILLED BY APPLICANT

EXISTING DRILL HOLD DRILLED BY PREVIOUS OWNER

COMPLETED STAGE I DRILL HOLE (BARREN)

COMPLETED STAGE I DRILL HOLE (MINERALIZED)

COMPLETED DRILL HOLE (ORE-0.20% U_3O_8 OR BETTER)

PROPOSED STAGE II DRILL HOLE

NOTE: LANDLINES, TOPOGRAPHY, AND HOLE LOCATIONS FROM APPLICANTS MAP.

500 0 1500 FEET

CONTOUR INTERVAL 50 FEET
DATUM FROM APPLICANTS MAP

FIGURE 1.--SKETCH MAP OF PART OF SECTION 29, T.13 N., R.9 W., N.M.P.M., SHOWING EXISTING HOLES AND LOCATION OF PROPOSED STAGE II DRILL HOLES, FOOD MACHINERY AND CHEMICAL CORPORATION, McKINLEY COUNTY, NEW MEXICO.

DMEA
DEPARTMENT OF THE INTERIOR
AUG 30 1956
REGION III
DENVER, COLORADO

REGION III

Building 20
Denver Federal Center
Denver 2, Colorado
August 28, 1956

Memorandum

RECEIVED
SEP 10 1956

To: Executive Officer, DMEA Field Team, Region III

Through: John F. Shaw
Supervising Mining Engineer

From: W. D. McMillan

Subject: DMEA Docket 3989 (Uranium) Contract Ida-4933, Food Machinery and Chemical Corp., Westvaco Minerals Products Division, Sec. 29, T. 13 N., R. 9 W., N.M.P.M., McKinley County, New Mexico — Proposal for Stage II drilling

The proposal for Stage II drilling at the subject docket was inspected on August 8, 1956, with R. J. Ingham, Project Engineer, and W. S. Carender, Geologist, representing the applicant.

This proposal consists of offsetting at 100-foot intervals two ore holes and three strongly mineralized holes with a total of 20 holes and approximately 6944 feet of non-core drilling. In addition, two non-offset holes at 3100-0200 and 1750-0400 were proposed with a total of 764 feet of non-core drilling. Hole 3100-0200 is 200 feet north of ore hole 3000-0200 and hole 1750-0400 is between two mineralized holes.

The proposal for Stage II drilling is well presented, with adequate data for the reasons. All 22 holes have been surveyed and marked with 2 by 2-inch stakes.

The examining team recommends approval of all holes except 3100-0200, pending the results from hole 3000-0200.

This proposal is only part of Stage II of the contract, and another proposal may be submitted after completion of the 22 holes.

W. D. McMillan
Mining Engineer

WDM/mw
cc: 9
Ida-4933
Chron

MINERAL DEPOSITS
DMEA
RECEIVED
AUG 29 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. Box 300
Grand Junction, Colorado

IN REPLY REFER TO:

August 20, 1956

RECEIVED
SEP 10 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

Through: J. William Hasler
E. B. Ehrenreich

From: Howard F. Albee

Subject: Request for stage II, DMEA docket 180 (Uranium), contract DMA-C 911, Food Machinery and Chemical Corporation, Westvaco Mineral Products Division, (sec. 2), McKinley County, New Mexico

The Westvaco Mineral Products Division has requested 22 stage II non-core drill holes for a total footage of 7,703 feet.

Four offset holes are proposed to be drilled 100 feet north, south, east, and west from each of the holes at the following coordinates, (fig. 1): 2300N-2200E, 2500N-2200E, 1900N-2200E, 1600N-2600E, and 1400N-2050E. Inasmuch as these holes have penetrated ore-grade material as indicated by gamma ray logs (USGS Barnsdy on all but 1400N-2050E) it is recommended that the offsets be drilled. The proposed hole at coordinates 1750N-2400E is recommended as an offset between mineralized holes at coordinates 1700N-2200E and 1600N-2600E. The northernmost proposed hole at coordinates 3100-2200 is recommended only if the offset hole at coordinates 3000-2200 is drilled first and is found to be mineralized.

Sufficient footage remains to complete the stage II drilling as requested and recommended.

J. William Hasler
for
Howard F. Albee
Geologist

HFA/mir

August 9, 1956

Mr. John F. Shaw
U. S. Bureau of Mines
Room 137, Building 20
Denver Federal Center
Denver 2, Colorado

DMEA
Rec'd.
AUG 2 1956
BUREAU OF MINES
Denver, Colorado
RECEIVED
SEP 10 1956

Re: Second Stage Prop
Docket No. DMEA--3989
Contract No. Idm-E-933
Food Mach. & Chem. Corp.
Westvaco Min. Products Div.
Section 29, T 13 N, R 9 W
McKinley County, N.M.

Dear Sir:

Completion of the first stage drilling program on section 29 has indicated several favorable areas for further exploration: the 3350-200 area, the 1300-200 area and the area between 1600-2600, 1400-2050, and 2900-2200. The latter area has, by far, the strongest indications of an ore body and it is believed that the second stage drilling would be utilized more profitably in this area. The accompanying maps indicate the proposed holes and their co-ordinates. This proposal does not suggest using the total footage of the second stage because a more valid selection of drill locations could be made for the remaining holes of the second stage after the information from the holes being proposed has been evaluated.

The proposal for the first portion of the second stage consists primarily of off setting each of the two ore holes and the three very strongly mineralized holes on 100 foot centers. These offsets would comprise 20 holes and approximately 6944 feet of non-core drilling. In addition, two other holes, 3100-2200 and 1750-2400, with an additional footage of 764 feet, are proposed. All proposed

holes would total 7708 feet of the allowable 15,380 non-core feet.

The remainder of the second stage will be proposed on the results of these 22 holes. The following are north and east co-ordinates of the proposed holes.

Hole Offset	Offset No.	Estimated Depth
2900-2200	(1st stage hole)	
	2900-2100	412
	2900-2300	412
	3000-2200	412
	2800-2200	412
2500-2200	(1st stage hole)	
	2500-2100	380
	2500-2300	380
	2400-2200	380
	2600-2200	380
1900-2200	(1st stage hole)	
	2000-2200	345
	1800-2200	345
	1900-2100	345
	1900-2300	345
1600-2600	(1st stage hole)	
	1700-2600	324
	1600-2700	324
	1600-2500	324
	1500-2600	324
1400-2050	(1st stage hole)	
	1500-2050	275
	1300-2050	275
	1400-1950	275
	1400-2150	275
Non-offset holes-	3100-2200	430
	1750-2400	334
	Total estimated footage ---	7708 (Non-core)

Included with this proposal are copies of drilling logs and available gamma logs for the mineralized holes and ore holes.

Respectfully submitted,

R. J. Hayden

R. J. Hayden, Project Engineer
Food Machinery & Chemical Corp.
Westvaco Mineral Products Div.
P. O. Box 250
Pocatello, Idaho

August 31, 1956

DMEA
DEPARTMENT OF THE INTERIOR
SEP 4 1956
REGION III
DENVER, COLORADO

RECEIVED
SEP 10 1956

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Customhouse
Denver, Colorado

Re: Docket DMEA 3989
Contract Idm-E 933
Food Mach. & Chem. Corp.
Section 29, T 13 N, R 9 W
McKinley County, N.M.

Dear Sir:

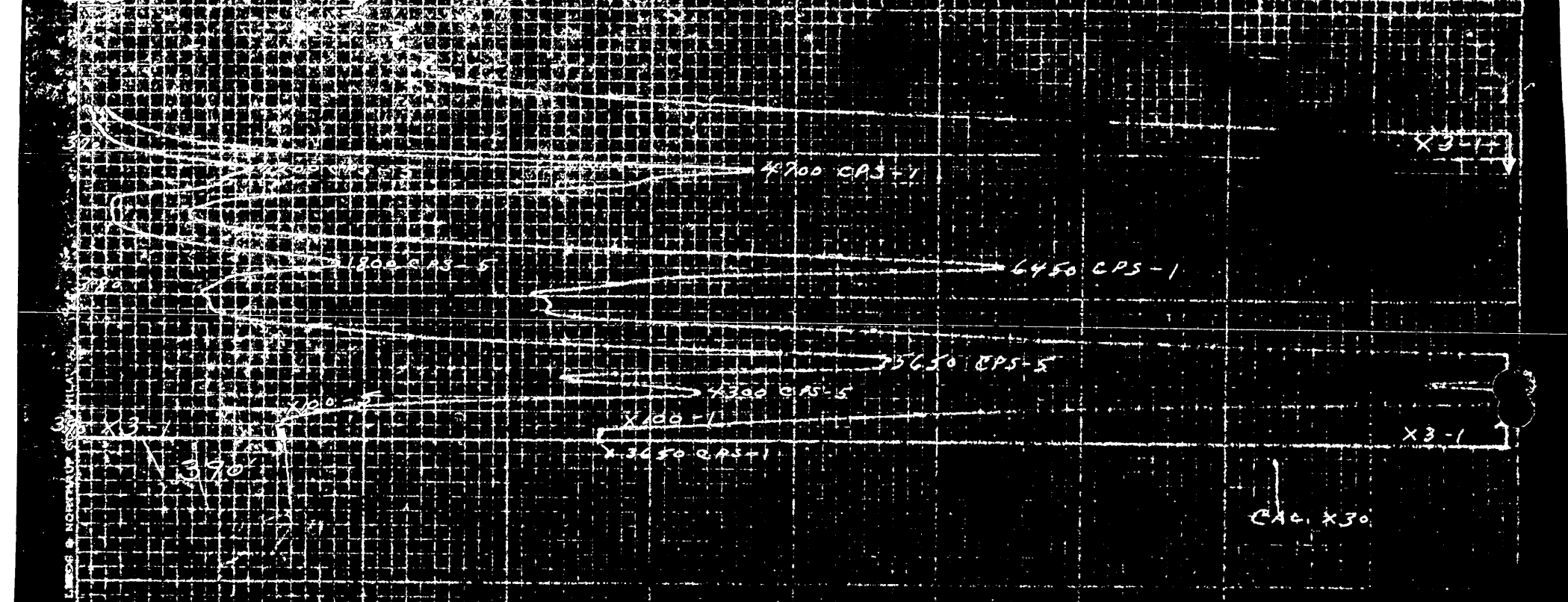
Second stage exploration drilling began on section 29, T 13 N, R 9 W, on August 29, 1956, in compliance with contract Idm-E 933.

Yours truly,

R. J. Hayden

R. J. Hayden, Project Engineer
Food Mach. & Chem. Corp.
Westvaco Mineral Products Div.
P. O. Box 250
Pocatello, Idaho.

Inc. Op. Comm.



STATE NEW MEXICO HOLE # 2900 - 2200

N

COUNTY McKINLEY COORDINATES

E

MINING DISTRICT GRANTS

LOCALITY AMBROSIA LAKE DATE 7-18-56

SEC. 29 T13N R9W N.M.P.M. MER. WEST

COLLAR ELEVATION TRC 7000 + 30 -

CLAIM COMPANY WESTVACO

TRUCK # 978 EXPLORATION # 5210 SA - 2

RANGE X3 X100 2SEC.

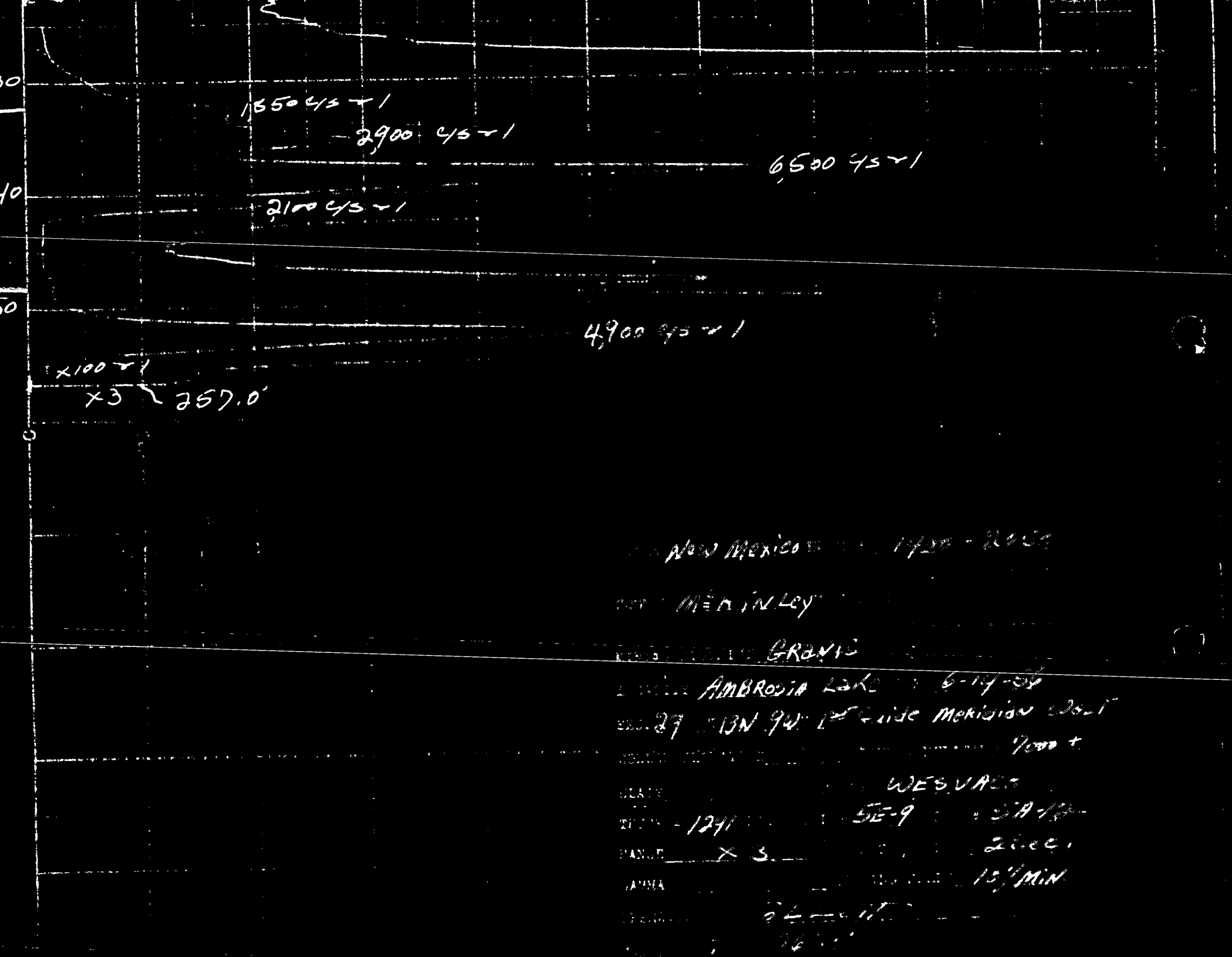
GAMMA 185 10/MIN.

OPERATOR GAGE

REMARKS: D.D. 4½" NO CASING 4¾" HOLE

SURFACE FORMATION - RILITO

RECEIVED
SEP 10 1956


1550 c/s ~ 1
2900 c/s ~ 1
6500 c/s ~ 1
2100 c/s ~ 1
4900 c/s ~ 1
x100 ~ 1
x3 ~ 257.0
New Mexico
McKinley
Grants
Ambrosia Lake
6-14-56
Sec. 27 T13N 9W 1st Guide Meridian West
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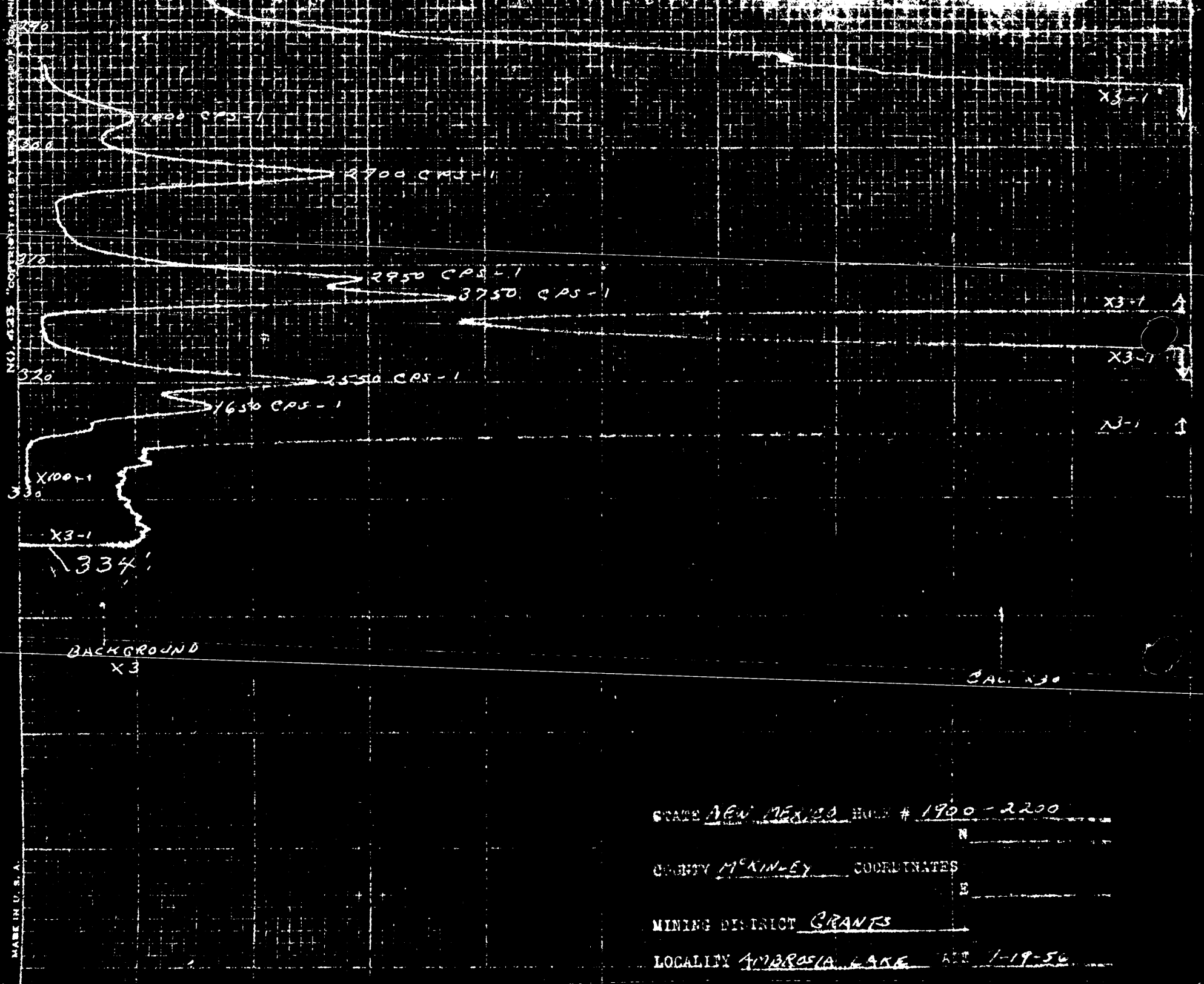

STATE NEW MEXICO HOLE # 1900 - 2200

N

COUNTY McKINLEY COORDINATES

E

MINING DISTRICT GRANTS

LOCALITY AMBROSIA LAKE DATE 1-19-56

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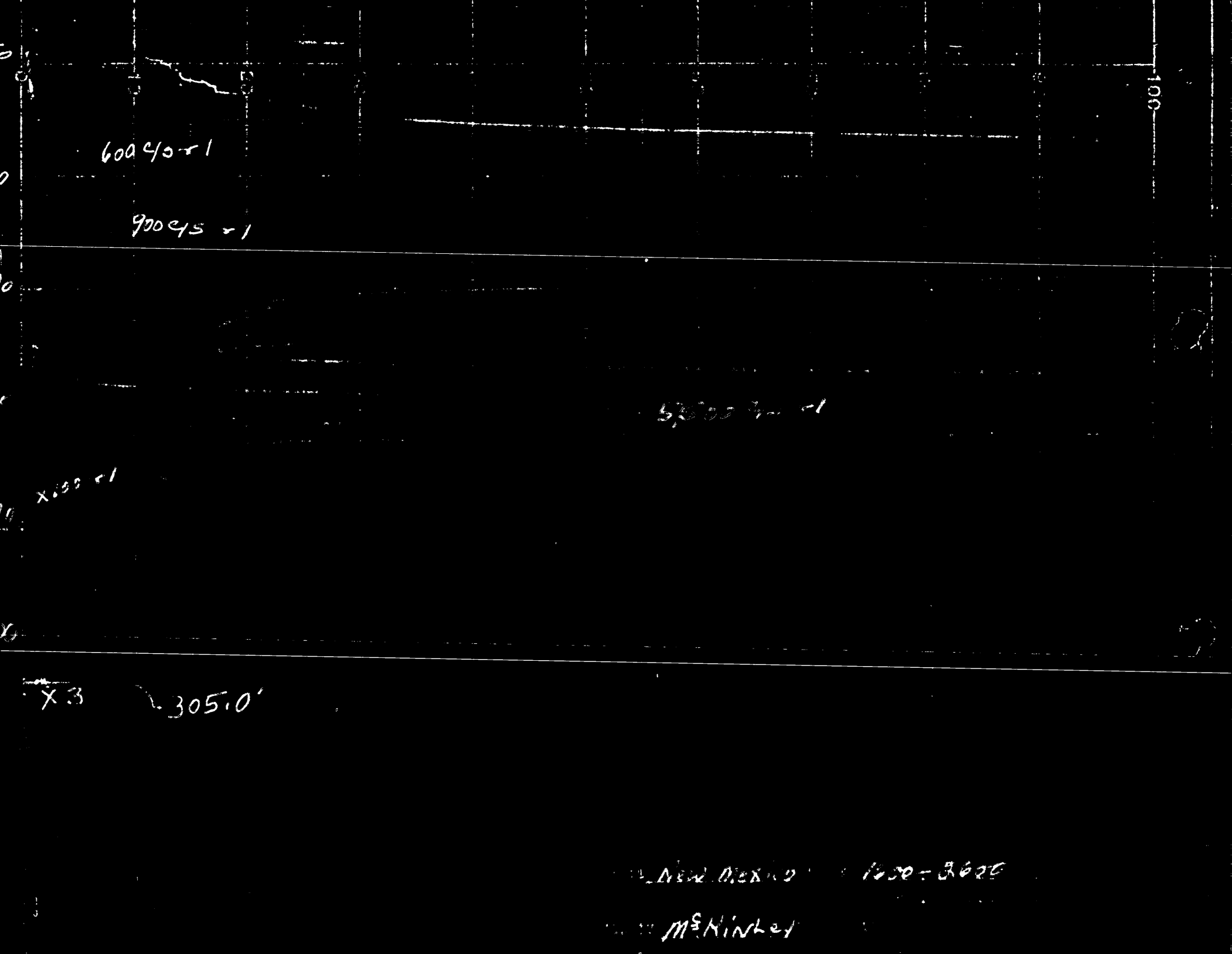
SEP 1 0 1956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UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

224 New Customhouse
Denver 2, Colorado

August 27, 1956

Mr. Russell J. Hayden, Project Engineer
Food Machinery and Chemical Corporation
Westvaco Mineral Products Division
P. O. Box 250
Pocatello, Idaho

Re: Docket DMEA 3989 (Uranium)
Contract Idm-E933
Food Machinery and Chemical Corp.
Sec. 29, T13N, R9W
McKinley County, New Mexico

Dear Mr. Hayden:

Form MF-104, Operator's Monthly Report and Voucher, for July, 1956 has been received in this office and is being processed for payment.

Disallowance

It has been administratively determined that the maximum allowable penetration into the Entrada sandstone which underlies the Todilto limestone is 10 feet. Excess footage, including incidental allowance, is disallowed from the July Voucher as follows

Hole No.	Total Depth	Base of Todilto ls.	Drilling Below Todilto ls.	Excess Footage Disallowed Core	Excess Footage Disallowed Non-core
100-2200	195	180	15	0	5
300-2200	205	192	13	0	3
2100-3000	365	339	26	0	16
2300-1400	350	338	12	0	2
3100-1400	426	406	20	0	10
		Total footage disallowed		0	36

Amount Withheld

An amount of $500.00 is withheld by the Government pending possible additional drilling, under Stage II of the contract, which drilling has not been approved by the Government as of this date.

Our records indicate a total acceptable aggregate core and non-core footage of 43,863 feet drilled under Stage I. The total aggregate core and non-core footage set up in the contract for Stage I is 43,805 feet, which is 58 feet less than the acceptable footage actually drilled. Fifty-eight feet of non-core footage (plus incidental allowance) has therefore been transferred from Stage II to Stage I in accordance with our letter of approval to you dated August 2, 1956.

Very truly yours,

W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

JDC:jy

cc: Corresp. E933
Sec. Op. Comm. (2)
Shaw (2)
Hasler
Townsend
Chron.

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

224 New Customhouse
Denver 2, Colorado

August 22, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Gamma-ray log interpretations

Enclosed are four copies each of gamma-ray log interpretations for the following DMEA contracts.

Docket DMEA 3514, Contract Idm-E823, Climax Uranium Company, Mesa County, Colorado and Grand County, Utah
Docket DMEA 3632, Contract Idm-E797, Colamer Corp., McKinely County, New Mexico
Docket DMEA 3660, Contract Idm-E850, Mid-Continent Uranium Corp., Grand County, Utah
Docket DMEA 3696, Contract Idm-E910, Hecla Mining Co., San Juan County, Utah (Private holes - Apex Uranium Mines, Inc.)
Docket DMEA 3928, Contract Idm-E926, Pacific Uranium Mines Co., Emery County, Utah
Docket DMEA 3966, Contract Idm-E927, Parador Mining Co., Inc., McKinley County, New Mexico
Docket DMEA 3989, Contract Idm-E933, Food Machinery and Chemical Corp., McKinley County, New Mexico
Docket DMEA 4017, Contract Idm-E940, Colamer Corp., McKinley County, New Mexico
Docket DMEA 4070, Contract Idm-E939, San Jacinto Petroleum Corp., McKinley County, New Mexico
Private holes, Barkley Mining Co. (Troy Wade Lease) Club Mesa, Colorado

Ching

/s/ W. M. Traver

Enclosures

Westvaco Mineral Products
Food Machinery & Chem. Co.
McKinley County, N. Mex.
sec. 29, T. 13 N., R. 9 W.
DMEA DOCKET NO. 3989

E 933

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From* To	Anomaly Detected From* To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_e U_3O_8$	Remarks
100-600	95.0	None	7.0-87.0	Barren						
100-1400	181.0	None	50.0-150.0	Barren						
[illegible]0-2200	195.0	None	26.0-186.0	Barren						
200-1800	189.0	None	10.0-186.0	Barren						
200-1800	335.0	None	128.0-328.0	Barren						
200-2200	355.0	None	230.0-330.0	326.6 - 327.9	1.3	460			0.010	
300-600		None	9.0-109.0	Barren						
300-2200	205.0	None	52.0-202.0	Barren						
500-600	119.0	None	9.0-119.0	Barren						
500-1000	202.0	None	77.0-177.0	Barren						
[illegible]0-2200	215.0	None	14.0-214.0	Barren						
600-1000	204.0	None	10.0-190.0	Barren						
700-600		None	19.0-139.0	Barren						
700-2200	230.0	None	64.0-214.0	195.8 - 197.5	1.7	600			0.011	
				197.5 - 198.4	0.9	3,600			0.13	
				198.4 - 199.3	0.9	1,500			0.04	
				199.3 - 200.6	1.3	4,700			0.014	
				200.6 - 203.1	2.5	230			<0.005	
800-2600	241.0	None	66.0-226.0	Barren						

* From top to bottom depths

Westvaco Mineral Products
McKinley County, N. Mex.
sec. 29, T. 13 N., R. 9 W.
DMEA DOCKET NO. 3989

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From* To	Anomaly Detected From* To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_e U_3O_8$	Remarks
900-600		None	11.0-151.0	Barren						
1000-1000	226.0	None	22.0-222.0	Barren						
1000-1800	225.0	None	24.0-224.0	Barren						
1000-2600	248.0	None	44.0-244.0	Barren						
1100-600	[illegible]	None	18.0-168.0	Barren						
1200-1800	245.0	None	39.0-241.0	Barren						
1300-200	175.0	None	11.0-137.0	Barren						
1300-600	207.0	None	52.0-202.0	Barren						
1300-2200	249.0	None	48.0-248.0	Barren						
1400-1000	254.0	None	48.0-228.0	Barren						
1400-1800	263.0	None	151.0-251.0	Barren						
1500-2200	275.0	None	174.0-274.0	Barren						
1597-2600	301.0	None	198.0-298.0	256.4 - 257.8	1.4	240			<0.005	
				259.8 - 262.3	2.5	240			<0.005	
				262.3 - 264.1	1.8	460			<0.010	
				264.1 - 267.9	3.8	240			<0.005	
				267.9 - 268.7	0.8	9,000			0.52	
				268.7 - 270.2	1.5	1,200			0.026	
				270.2 - 271.5	1.3	400			<0.010	
				276.5 - 278.1	1.6	1,700			0.039	
				278.1 - 279.1	1.0	7,000			0.31	
				279.1 - 279.8	0.7	1,400			0.045	
				279.8 - 281.6	1.8	8,600			0.29	
				281.6 - 282.5	0.9	3,200			0.11	

* From top to bottom depths

Westvaco Mineral Products
McKinley County, N. Mex.
sec. 29, T. 13 N., R. 9 W.
DMEA DOCKET NO. 3989

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From* To	Anomaly Detected From* To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_e U_3O_8$	Remarks
1600-1800	290.0	None	90.0-290.0	Barren						
1600-2600	306.0	None	102.0-302.0	256.1 - 257.6	1.5	500			0.011	
				262.6 - 263.8	1.2	780			0.022	
				263.8 - 264.9	1.1	220			<0.005	
				264.9 - 266.9	2.0	380			<0.010	
				277.4 - 278.7	1.3	2,200			0.058	
				278.7 - 280.0	1.3	7,000			0.25	
1700-2200	307.0	None	47.0-297.0	262.2 - 263.2	1.0	840			0.027	
				263.2 - 263.9	0.7	460			0.014	
				263.9 - 268.5	4.6	220			<0.005	
				268.5 - 272.0	3.5	280			<0.005	
				272.0 - 272.7	0.7	620			0.022	
				272.7 - 274.3	1.6	400			<0.010	
				274.3 - 275.1	0.8	740			0.026	
				275.1 - 275.8	0.7	360			0.010	
1700-3000	300.0	None	97.0-297.0	Barren						
1800-200	203.0	None	10.0-182.0	Barren						Hole was washed out-relogged the bottom part
1800-200	203.0	None	170.0-208.0	Barren						
1800-1000	290.0	None	10.0-290.0	Barren						
1800-1800	308.0	None	106.0-306.0	Barren						
1800-2600		None	212.0-312.0	302.8 - 303.7	0.9	270			<0.010	
				310.2 - 311.7	1.5	440			<0.010	

* From top to bottom depths

Westvaco Mineral Products
McKinley County, N. Mex.
sec. 29, T. 13 N., R. 9 W.
DMEA DOCKET NO. 3989

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From*	Depth Logged To	Anomaly Detected From*	Anomaly Detected To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_e U_3O_8$	Remarks
1900-2200	335.0	None	184.0	334.0	289.5	293.5	4.0	210			<0.005	
					293.5	295.5	2.0	500			0.010	
					295.5	296.6	1.1	1,300			0.031	
					296.6	300.0	3.4	700			0.015	
					300.0	301.5	1.5	4,000			0.12	
					301.5	303.8	2.3	360			<0.010	
					303.8	308.9	5.1	260			<0.005	
					308.9	309.8	0.9	3,500			0.12	
					309.8	310.8	1.0	1,200			0.028	
					310.8	311.5	0.7	10,400			0.72	
					315.6	317.8	2.2	300			0.005	
					317.8	318.6	0.8	4,300			0.18	
					318.6	319.9	1.3	1,100			0.025	
					319.9	320.8	0.9	2,600			0.086	
					320.8	322.5	1.7	910			0.022	
2000-1000	295.0	None	100.0	300.0	271.9	272.7	0.8	3,200			0.12	
2000-2600		None	194.0	344.0	Barren							
2100-600	284.0	None	80.0	280.0	Barren							
2100-3000	365.0	None	200.0	350.0	317.3	319.3	2.0	300			0.005	
					319.3	321.4	2.1	880			0.020	
					321.4	324.5	3.1	600			0.012	
					327.7	328.4	0.7	270			<0.010	
					330.1	332.5	2.4	280			<0.005	
					332.5	333.3	0.8	4,600			0.20	
2200-200	260.0	None	160.0	260.6	232.5	234.5	2.0	260			<0.005	
					234.5	235.4	0.9	890			0.032	
2200-1000	320.0	None	112.0	312.0	Barren							
2200-1800	345.0	None	174.0	334.0	Barren							

* From top to bottom depths

Westvaco Mineral Products
McKinley County, N. Mex.
sec. 29, T. 13 N., R. 9 W.
DMEA DOCKET NO. 3989

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From*	Depth Logged To	Anomaly Detected From*	Anomaly Detected To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_e U_3O_8$	Remarks
2200-2600		None	186.0	336.0	Barren							
2300-600		None	110.0	310.0	Barren							
2300-1400	350.0	None	150.0	350.0	Barren							
2300-2200	365.0	None	254.0	354.0	327.7	329.4	1.7	220			<0.005	
					331.3	336.1	4.8	420			<0.010	
					336.1	337.1	1.0	2,200			0.053	
					337.1	338.1	1.0	1,200			0.028	
					338.1	339.5	1.4	740			0.017	
					339.5	340.9	1.4	560			0.013	
					340.9	341.7	0.8	200			<0.005	
					341.7	342.6	0.9	360			<0.010	
					342.6	343.5	0.9	280			<0.010	
2300-3000	360.0	None	145.0	345.0	Barren							
2400-1000	333.0	None	215.0	331.0	Barren							
2400-1800		None	191.0	131.0	Barren							
2400-2600	374.0	None	166.0	366.0	339.7	340.7	1.0	340			<0.010	
					341.7	343.3	1.6	350			<0.010	
					343.3	344.5	1.2	560			0.014	
2500-1400	366.0	None	162.0	364.0	Barren							
2500-2200	380.0	None	258.0	358.0	339.0	343.4	4.4	220			<0.005	
					343.4	344.1	0.7	1,500			0.049	
					344.1	345.5	1.4	520			0.011	
					345.5	349.6	4.1	260			<0.005	
					349.6	352.2	2.6	1,000			0.018	
					352.2	353.4	1.2	22,000			0.72	
					353.4	355.4	2.0	3,200			0.08	

* From top to bottom depths

Westvaco Mineral Products
McKinley County, N. Mex.
sec. 29, T. 13 N., R. 9 W.
DMEA DOCKET NO. 3989

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From*	Depth Logged To	Anomaly Detected From*	Anomaly Detected To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_e U_3O_8$	Remarks
2500-3000	375.0	None	140.0	370.0	Barren							
2600-1000	350.0	None	244.0	344.0	Barren							
2600-1800	374.0	None	156.0	356.0	Barren							
2600-2600	387.0	None	184.0	384.0	Barren							
2700-2200	395.0	None	290.0	390.0	355.5	359.1	3.6	440			<0.010	
					359.1	362.4	3.3	380			<0.010	
					362.4	366.0	3.6	300			<0.005	
					366.0	369.1	3.1	600			0.012	
					369.1	370.2	1.1	340			<0.010	
					370.2	371.6	1.4	890			0.024	
					371.6	372.8	1.2	240			<0.005	
					384.5	386.4	1.9	340			<0.010	
2700-3000	385.0	None	174.0	374.0	Barren							
2800-1000	370.0	None	265.0	365.0	Barren							
29[illegible]-300	430.0	None	170.0	420.0	Barren							
2900-600	375.0	None	164.0	364.0	Barren							
2900-1400	392.0	None	184.0	384.0	376.1	376.9	0.8	640			0.021	
1100-2200	245.0	None	44.0	244.0	Barren							
2700-1400	381.0	None	180.0	380.0	Barren							

* From top to bottom depths

Westvaco Mineral Products
McKinley County, N. Mex.
sec. 29, T. 13 N., R. 9 W.
DMEA DOCKET NO. 3989

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From*	Depth Logged To	Anomaly Detected From*	Anomaly Detected To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_eU_3O_8$	Remarks
2900-2200	412.0	None	258.0	408.0	366.4	369.0	2.6	220			<0.005	
					369.0	371.0	2.0	6,400			0.19	
					371.0	375.5	4.5	860			0.07	
					375.5	376.6	1.1	12,000			0.37	
					376.6	381.9	5.3	4,000			0.11	
					381.9	383.3	1.4	41,000			1.40	
					383.3	384.2	0.9	10,000			0.36	
					384.2	385.2	1.0	32,000			1.20	
					385.2	387.4	2.2	7,000			0.21	
					387.4	388.6	1.2	2,000			0.052	
					388.6	390.4	1.8	600			0.013	
					402.5	403.7	1.2	220			<0.005	
3000-1000	400.0	None	200.0	400.0	Barren							
3100-1400	426.0	None	204.0	404.0	Barren							
3100-3000	425.0	None	210.0	410.0	Barren							
3200-1000	401.0	None	194.0	394.0	Barren							
3400-600	410.0	None	210.0	410.0	Barren							
3400-1000	425.0	None	214.0	414.0	397.0	398.2	1.2	900 RF4			0.019	
					398.2	399.6	1.4	1,400			0.032	
					399.6	400.7	1.1	2,300			0.065	
					400.7	401.4	0.7	1,500			0.049	
					410.4	411.1	0.7	200			<0.010	
3600-600	425.0	None	204.0	404.0	Barren							
3600-1000		None	222.4	422.4	400.5	401.2	0.7	420			0.013	
3700-600	440.0	None	222.0	422.0	Barren							

* From top to bottom depths

Westvaco Mineral Products
McKinley County, N. Mex.
Sec. 29, T. 13 N., R. 9 W.
DMEA DOCKET NO. 3989

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From*	Depth Logged To	Anomaly Detected From*	Anomaly Detected To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_e U_3O_8$	Remarks
3800-600	448.0	None	238.0	438.0	Barren							
3900-600	455.0	None	240.0	450.0	Barren							
4000-600		None	94.0	444.0	Barren							

* From top to bottom depths

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

224 New Customhouse
Denver 2, Colorado

August 14, 1956

RECEIVED
AUG 17 1956

Mr. Russell J. Hayden, Project Engineer
Food Machinery and Chemical Corporation
Westvaco Mineral Products Division
Pocatello, Idaho

Re: Docket DMEA 3989 (Uranium)
Contract Idm-E933
Food Machinery and Chemical Corp.
Sec. 29, T13N, R9W
McKinley County, New Mexico

Dear Mr. Hayden:

Form MF-104, Operator's Monthly Report and Voucher, for June, 1956 has been received in this office and is being processed for payment. The following necessary deductions have been recommended.

It has been determined administratively that 10 feet is the maximum allowable penetration into the Entrada sandstone to assure penetration through the entire Todilto limestone interval which overlies the Entrada. Invoice cost, including tax, plus Incidental Allowance for excess footage beyond that depth is disallowed in the following holes, except as otherwise noted.

Hole No.	Month Drilled	Total Depth	Bottom of Todilto ls.	Footage Drilled Below Todilto ls.	Footage subject to disallowance	
					Core	Noncore
1100-200	May, 1956	165	154	11	0	1
1300-200	May, 1956	175	162	13	0	3
1600-200	May, 1956	210	199	11	0	1
2400-200	May, 1956	290	269	21	0	11
2900-200	May, 1956	330	314	16	0	6
3000-200	May, 1956	350	328	22	0	12
3300-200	May, 1956	367	351	16	0	6

Hole No.	Month Drilled	Total Depth	Bottom of Todilto ls.	Footage Drilled Below Todilto ls.	Footage subject to disallowance Core	Footage subject to disallowance Noncore
3400-200	May, 1956	365	351	14	0	4
3800-200	May, 1956	395	383	12	0	2
4400-200	May, 1956	460	447	13	0	3
5000-200	May, 1956	535	524	11	0	1
300-600	June, 1956	112	98	14	0	4
700-600	June, 1956	140	128	12	0	2
1300-600	June, 1956	207	195	12	2	0
1900-600	June, 1956	277	261	16	0	6
2300-600	June, 1956	320	304	16	0	6
2500-600	June, 1956	337	323	14	0	4
2900-600	June, 1956	375	359	16	0	6
3700-600	June, 1956	440	428	12	0	2
1800-1000	May, 1956	290	270	20	0	10
2000-1000	May, 1956	295	284	11	0	1
2200-1000	May, 1956	320	308	12	0	2
3000-1000	May, 1956	400	385	15	0	5
3400-1000	May, 1956	425	414	11	0	1
3800-1000	May, 1956	457	444	13	0	3
4000-1000	June, 1956	480	468	12	0	2
500-1400	June, 1956	202	189	13	0	3
900-1400	June, 1956	230	215	15	0	5
1300-1400	June, 1956	250	239	11	0	1
200-1800	May, 1956	190	179	11	0	1
1600-1800	June, 1956	290	274	16	0	6
2000-1800	June, 1956	355	318	17	0	7
1600-2600	June, 1956	306	291	15	0	5
2000-2600	June, 1956	350	336	14	0	4
TOTAL FOOTAGE SUBJECT TO DISALLOWANCE					2	136

Due to an arithmetical error, 16 feet of core drilling was disallowed from the May, 1956 voucher, whereas only 14 feet was subject to disallowance. Therefore, the excess 2 feet of core listed in the above tabulation is not disallowed from the June, 1956 report.

JDC:jy

cc: Corresp. E933
Sec. Op. Comm. (2)
Shaw (2)
Hasler
Townsend Chron.

Very truly yours,

W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Copy to:
W. N. Williams, President
Food Machinery and Chemical Corp.
161 E. 42nd Street, N.Y. 17, N.Y.

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

RECEIVED
AUG - 6 1956

224 New Customhouse
Denver 2, Colorado CERTIFIED MAIL August 2, 1956

Mr. R. J. Hayden, Project Engineer
Food Machinery & Chemical Corp.
Westvaco Mineral Products Division
P. O. Box 290
Pocatello, Idaho

Re: Docket DMEA 3989 (Uranium)
Contract Idm-E933
Food Machinery & Chemical Corp.
Westvaco Mineral Products Division
(Sec. 29, T 13 N, R 9 W),
McKinley County, New Mexico

Dear Mr. Hayden:

In reference to your request dated July 30, 1956 and consistent with provisions in the Contract, this constitutes the Government's approval for the transfer of sufficient non-core footage from Stage II to Stage I to enable completion of the authorized 158 Stage I drill holes to their stated objectives.

Nothing in this approval for transfer of drill footage from Stage II to Stage I shall be construed to increase the estimated total cost of the project, the aggregate amount which the Government may be required to contribute, nor any item of allowable cost which is expressly designated "maximum."

Very truly yours,

JWT:prl

DMEA Field Team, Region III

By W. M. Traver
W. M. Traver
Executive Officer

w/copy of Operator's request of July 30.

cc: Chairman, Op. Comm. (4)
Finance Office, Reg.III
Karshman
Shaw (2)
Hasler
Townsend
Corres. file
Amendment file, Reg. III
Chron.

RECEIVED
AUG - 6 1956

July 30, 1956

DMEA
Date Rec'd.
AUG 1 1956
BUREAU OF MINES
Denver, Colorado

Mr. W. M. Traver, Executive Officer
D.M.E.A. Field Team, Region III
224 New Customhouse
Denver, Colorado

Re: Request for adjustment of
non-core drilling
Docket DMEA 3989
Contract Idm-E 933 (Uranium)
Food Machinery & Chemical Corp.
Westvaco Mineral Products Div.
Section 29, T. 13 N., R. 9 W.
McKinley County, New Mexico

Dear Sir:

In the first stage of contract No. Idm-E 933 the non-core drilling on section 29 will exceed the quota by 620 feet. Also 382 feet of core drilling will not be utilized. Permission is requested to credit the excess 382 feet to the deficit 620 feet and to transfer the remaining 238 feet from the second stage non-core drilling. If this request is not acceptable, it is then requested that the entire 620 feet of non-core drilling be transferred from the second stage to the first stage.

In either case the cost of the first stage of the contract including the requested additional 620 feet will not exceed the estimated cost of the non-core drilling for the first stage.

Respectfully submitted,

R. J. Hayden

R. J. Hayden, Project Engineer
Food Machinery & Chemical Corp.
Westvaco Mineral Products Division
P. O. Box 250
Pocatello, Idaho

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

224 New Customhouse
Denver 2, Colorado

July 3, 1956

Memorandum

RECEIVED
JUL 5 - 1956

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3943 (Uranium), Contract Ida-2932 (Sec.9,T.13 N.,R.9 W.)
Docket DMEA 3944 (Uranium), Contract Ida-2933 (Sec.29,T.13 N.,R.9 W.)
Docket DMEA 3939 (Uranium), Contract Ida-2934 (Sec.7,T.13 N., R.9W.)
Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division), McKinley County, New Mexico

In conjunction with the matter discussed in our air mail letter of June 21, 1956 we are enclosing the original and two copies of a letter from George W. Hahn, the Operator's geologist, dated June 26, 1956 wherein it is stated that they have decided not to request permission to change the analysis method for samples taken from chemical to X-ray.

It appears that the entire matter should be closed until requested by them.

W. M. Traver
W. M. Traver

Enclosures

FOOD MACHINERY AND CHEMICAL CORPORATION

TELEPHONE: POCATELLO 4678

RECEIVED
JUL 5 - 1956

WESTVACO MINERAL PRODUCTS DIVISION

MINERAL DEVELOPMENT DEPARTMENT

PLEASE REPLY TO
P. O. BOX 250
POCATELLO, IDAHO

June 26, 1956

DMEA
Date Rec'd
JUN 27 1956
BUREAU OF MINES
Denver, Colorado

Mr. William M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Customs Building
Denver 2, Colorado

Dear Mr. Traver:

With further reference to our inquire of May 29, 1956, regarding the possibility of using X-ray in lieu of chemical analysis on uranium samples taken under DMEA program, it has been decided not to request permission to make this change at the present time, as the contracts are in force and the possible length of time required to secure approval might permit use on only a portion of the samples involved.

With best regards,

G. W. Heim

G. W. Heim

GWH:DL
cc: OAPower
HBFowler
RJHayden

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

RECEIVED
JUL 2 - 1956

224 New Customhouse
Denver 2, Colorado

June 28, 1956

Mr. R. J. Hayden, Project Engineer
Food Machinery and Chemical Corporation
Westvaco Mineral Products
P. O. Box 250
Pocatello, Idaho

Re: Docket DMEA-3989 (Uranium)
Contract Idm-E933
Sec. 29, T13N, R9W
McKinley County, New Mexico

Dear Mr. Hayden:

Your Monthly Progress Report and Voucher for the month of May, 1956 has been received in this office and is being processed for payment. The following disallowances have been recommended:

Core drilling

1. 16 feet is disallowed at $3.57 per foot for Hole C-2. 40 feet was reported whereas the driller's log shows only 24 feet = $57.12 less $1.00 under charge for 968 feet at $3.57 per foot - Net disallowance----------$56.12

2. Excess drilling costs of approximately $0.07 per foot for the remaining 952 feet reported in May. Maximum allowable cost for core drilling is $3.50 per foot whereas $3.57+ per foot was reported on Form MF-104---------- 66.64

3. Excess cost for 35 feet core drilling reported on Form MF-104 for April, 1956---------- 2.45

Non-core drilling

1. 10 feet of non-core drilling disallowed for Hole A-7. 183 feet of non-core drilling was reported whereas the driller's log shows only 173 feet------ 7.50

2. 3 hours standby time disallowed as there is no provision for this item in the contract--------- 36.00

3. $5.36 of the amount reported for one month water permit. Cost of this item was pro-rated according to a proportionate amount of non-core drilling in relation to the total combined core and non-core drilling---------- 5.36

4. New Mexico school tax in the amount of $1.00 is disallowed inasmuch as an excess of $1.00 was claimed under non-core drilling---------- 1.00

5. Incidental allowance for 10 feet of non-core drilling on Hole A-7 and 16 feet of core drilling on Hole C-2 is disallowed---------- 4.68

For the exact amount disallowed, please refer to the Administrative Audit Difference Statement which will be sent to you by the Finance Office. Please adjust your records to reflect a reduction of applicable items in accordance with the foregoing outline of disallowances.

If you have any question regarding the above disallowances, please feel free to contact this office.

Very truly yours,

W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

cc: Mr. W. N. Williams, Pres.
JDC:jy
cc: Corresp. E933
Sec. Op. Comm. (2)
Shaw (2)
Townsend Chron.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

3989

RECEIVED
JUN 25 1956

June 19, 1956

Memorandum

To: S. Nelson Harshman, DMEA Field Team

From: L. B. Riley, Denver Coordinator
G & P Branch, Denver

Subject: Comments on analytical problem of Westvaco Mineral Products

The problem raised in the above company's letter of May 29 is essentially whether uranium analysis using fluorescent x-ray spectrometric methods ("XRS" in the description attached to their letter) can be substituted for work performed under a DMEA contract.

The Geochemistry and Petrology Branch has not used this method routinely for uranium analysis. This should not be taken as any reflection on the method for this use; the method and equipment has been employed for other types of investigation that could use its unique characteristics more advantageously.

Perhaps the following may be helpful. A large number of the uranium analyses made in our laboratories here in Denver, on samples submitted by exploration geologists, must be quite similar to the samples of concern to DMEA. If we had sample capacity in an "XRS" unit available for routine uranium analyses and were considering substituting this method I am sure we would set up some form of chemical control system. This might well take the form of running every tenth

sample by a chemical method (volumetric or fluorimetric), for a sufficient period to firmly establish the new method on a routine basis. Such a scheme would have advantages over a separate comparative study of a few samples, such as would be (and, in the Grants, N. M., case apparently, has been) made before considering the introduction of the method. Any differences found could result in improvements either in the new or in the old method.

The need for this routine testing of the new method seems obvious. Even the fact that it is successfully used elsewhere, or for one type of ore, or for one range, does not prove its universal applicability. The difficulties analytical chemists had in the late '40s with uranium, and to somewhat less extent with thorium make for caution.

It is always necessary to be cautious in economizing on assaying if this economy results in expensive inaccuracy.

L. B. Riley

LBRiley:arh

224 New Customhouse
Denver 2, Colorado

June 13, 1956

Food Machinery and Chemical Corporation
Westvaco Mineral Products Division
Mineral Development Department
P. O. Box 250
Pacatello, Idaho

Attention: Mr. George W. Hein

Re: Docket DMEA 3939 (Uranium)
Contract Idm-E934
Docket DMEA 3943 (Uranium)
Contract Idm-E932
Docket DMEA 3989 (Uranium)
Contract Idm-E-933

Gentlemen:

Reference is made to your letter of May 29, 1956, wherein you inquire whether or not it would be permissible to use X-ray method in lieu of chemical method for analyzing samples taken under the referenced DMEA Contracts.

Matters of this nature must be forwarded to the Washington Office, DMEA, for their consideration and appropriate action. Therefore, we hope it will be possible for us to advise you of the Government's decision in the matter at an early date.

Very truly yours,

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

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

RECEIVED
JUN 18 1956

224 New Customhouse
Denver 2, Colorado

June 13, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3943 (Uranium), Contract Idm-2952 (Sec. 9, T. 13 N., R. 9 W.);
Docket DMEA 3989 (Uranium), Contract Idm-2955 (Sec. 29, T. 13 N., R. 9 W.);
Docket DMEA 3979 (Uranium), Contract Idm-2954 (Sec. 7, T. 13 N., R. 9 W.)
All in McKinley County, New Mexico; Food Machinery and Chemical Corporation, Westvaco Mineral Products Division

Enclosed are the original and three copies of a letter dated May 29, 1956 with attachments, from George W. Hedt, the Operator's representative, wherein he requests advice as to whether or not it would be permissible to use X-ray method in lieu of chemical method for analyzing samples taken under the subject DMEA contracts.

The matter was referred to the Geological Survey laboratory at Denver Federal Center and they advise that they would recommend use of the X-ray method for sample analyses, provided that every tenth sample be analyzed chemically, as a check. We have been further advised by the laboratory personnel that they will prepare a written memorandum on the matter, which we will forward to you immediately when received.

Information presently available to us indicates that an X-ray analysis can be made for about $5.00 each, which would result in a saving of presently apportioned funds sufficient to permit chemical check analysis of every tenth sample. In the event the X-ray analysis is to be authorized on the basis recommended, we further recommend that it be stipulated that the chemical check analyses be made by a different laboratory other than the one making the X-ray analyses.

The DMEA Field Team, Region III, is in accord with the recommendation from the Geological Survey laboratory, and we will

DMEA
Date Rec'd.

MAY 31 1956

BUREAU OF MINES
Denver, Colorado

FOOD MACHINERY AND CHEMICAL CORPORATION

WESTVACO MINERAL PRODUCTS DIVISION

MINERAL DEVELOPMENT DEPARTMENT

PLEASE REPLY TO
P. O. BOX 880
POCATELLO, IDAHO

May 29, 1956

RECEIVED
JUN 18 1956

Mr. W. M. Traver, Chief DMEA Field Team
U. S. Bureau of Mines
New Customs Building
Denver, Colorado

Refer To: Docket No. 3939
Docket No. 3943
Docket No. 3989

Dear Bill:

Pursuant to our telephone conversation regarding the possibility of using X-ray methods of analysis on samples taken under the above listed DMEA contracts in place of chemical analysis, the Westvaco Research Laboratory at Newark, California, has furnished us data regarding the X-ray method.

We enclose a description of the method and a table showing comparison of results by X-ray and chemical methods. The procedure has been published by personnel of the Monsanto Chemical Company, who worked in a contract laboratory of the Atomic Engergy Commission, and is described in the following reference.

Pish and Huffman, Anal. Chem. 27, 1875 (1955)

After you have had a chance to review this material, we would appreciate your advising us as to whether or not it would be permissible for the X-ray method of analysis to be used on samples taken under the DMEA contracts.

With best personal regards,

George W. Heim

George W. Heim

GWH:DL
Encl.

RECEIVED
JUN 18 1956

KCVincent
WMPearson

H. B. Fowler - Pocatello
(3)
W. M. Pearson

May 22, 1956

XRS Analysis of Uranium Ores

Jim Robertson referred your memo of May 18 to me for reply. The accompanying table and method are in answer to the request in George Heim's memo of May 15. The comparison of uranium values in the table for the two methods, while meager in some respects, is fairly convincing as to the validity of the XRS internal standard method. Three of the XRS determinations appear to be low, but radiometric determinations suggest that only one, #5386, is significantly low. Our experience here indicated that the wet method tends to yield high results. We can readily add more data to the table by running the XRS method on a number of samples assayed by the wet method both here and elsewhere. If you anticipate a considerable number of samples for analysis, then it would certainly be worth our while to get the XRS method accepted, for the time and effort saved by that method is substantial.

The description of the method needs no comment. Quantitative analysis by fluorescent X-ray spectrometry is a widely used technique. A procedure for uranium analysis based on this principle has been published by Monsanto personnel from a contract laboratory of the A.E.C. (see Pish and Huffman, Anal. Chem. 27, 1875 (1955)). Let us know if there is anything further we can do in this matter.

COPY

WMP:AMP

RECEIVED
JUN 18 1958

Analysis of Uranium Ores from Grants, N. M. By Two Methods

Sample	U_3O_8, % XRS, Int. Std.	Wet Chem.
#6450 2055-335 (213'-215')	0.0775	0.098
#5376 2260-315 (215'-216')	0.148	0.153
#5375 2260-315 (214'-215')	0.195, 0.185	0.192
#5389 2260-315 (222'-223')	0.158	0.203
#5386 2260-315 (219'-220')	0.145	0.185
#5388 2260-315 (221'-222')	0.347	0.370
#5385 2260-315 (217.5'-219')	0.522, 0.518 0.47*	0.506
#5377 2260-315 (216'-217.5')	1.042, 1.000	1.045
S.S. 0.46% U_3O_8**	0.435	0.465
AEC Std. #4 (0.18% U_3O_8)	0.180	0.184
AEC Std. #5 (0.11% U_3O_8)	0.105	0.123

* Check determination by different operator at a later time.

** Analyzed sample obtained from the laboratory of Haystack Mountain Development Co., Prewitt, N. M.

COPY

XRS Internal Standard Method for U_3O_8 Determination in Ores

This method was developed by Cope and Lingard of the Engineering and Mining Experiment Station, South Dakota School of Mines, and was presented at the Fourth Annual X-Ray Symposium at Denver in August, 1955. They required a rapid assay method for a large number of ores and found that the XRS internal standard method was quite satisfactory. They had working curves for ores containing up to 10% U_3O_8. We have been concerned with ores containing less than 1% U_3O_8 and so have not worked in the higher ranges. However, we would anticipate no problems.

RECEIVED
JUN 18 1956

Our work was done on a Norelco instrument, but other equipment would probably be satisfactory also. A tungsten target tube operated at 35 KV and 35 MA with rock salt analyzing crystal was used. The $L\alpha$ peak of uranium at 18.5° 2θ and the $K\alpha$ peak at 16.9° 2θ of yttrium, the internal standard, were measured. Counting of peak and background intensity was done by setting the goniometer to the desired angle and then letting the recorder run until the integrated counts would assure the desired accuracy, i.e., 4556 counts for 1% probable error in counting. The somewhat wavy line of the recording was averaged with a straightedge. By using high damping factors the deviation of the recording from the average could be decreased at the expense of time required for attainment of equilibrium. It is a matter of personal choice and should have little effect on the value measured. Appropriate scale factors were chosen to keep peak heights within the range of the chart, usually 4 or 8.

Standards were prepared from pure quartz and analyzed uranium solutions, measured quantities of each being ground in a motor-driven mortar while the slurry was dried with heat lamps. The product was handled as standard ore of known assay.

The following is a stepwise procedure for analysing an unknown ore:

The sample should be examined qualitatively through the range, 15-20° 2θ (rock salt crystal analyzer) for the presence of uranium and yttrium.

If uranium is present and yttrium is absent, this internal standard procedure may be used.

COPY

To 1.000 g. of finely ground sample add 1.00 ml. of $Y(NO_3)_3$ solution in alcohol. The yttrium solution contained about 8 mg. Y_2O_3 per milliliter. The actual concentration was unimportant so long as both standards and unknowns were analyzed using the same solution.

Grind in the motor-driven mortar until dry but for at least 15 minutes. A heat lamp directed at the mortar will facilitate drying.

The total quantity of treated ore usually will just fill the shallow side of the Norelco sample holder. More sample may be treated, if necessary, maintaining the same proportion of internal standard to ore.

Count the peak and background intensities for the desired length of time, about 4 minutes in most of our ores.

Uranium peak at 18.5, background at 19.2 and 18.0° 2θ
Yttrium peak at 16.9, background at 17.4 and 16.5° 2θ

Average the background counts for each peak and subtract to determine the net count for that peak.

Calculate the ratio: uranium net peak count to yttrium net peak count.

Refer to curve plotted with ratio values versus U_3O_8 content, or multiply the ratio found by the slope of the curve which is linear, at least up to 1% U_3O_8.

The slope will vary with the concentration of the $Y(NO_3)_3$ solution.

Standards should be checked occasionally to see that the yttrium solution remains constant.

COPY

appreciate prompt advice from you by teletype as to whether or not the change should be authorized, if so, and if amendments to the contracts are necessary she will prepare and execute the amendments.

W. H. Traver

W. H. Traver

Enclosures

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

CW

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

JUN - 7 1956

Re: Food Machinery and Chemical Corporation
Westvaco Mineral Products Division
Docket No. DMEA-3943 (Uranium)
Contract No. Idm-E932 (sec. 9, T. 13 N., R. 9 W.)
Docket No. DMEA-3969 (Uranium)
Contract No. Idm-E933 (sec. 29, T. 13 N., R. 9 W.)
Docket No. DMEA-3939 (Uranium)
Contract No. Idm-E934 (sec. 7, T. 13 N., R. 9 W.)
All in McKinley County, New Mexico

Dear Mr. Traver:

In connection with your memorandum of May 28, 1956, and enclosures, relating to the captioned contracts, we are enclosing two copies of a memorandum to the Administrator from the Associate Solicitor, Division of Mineral Resources, which is self-explanatory.

Sincerely yours,

W. S. Martin
ACTING Chairman, Operating Committee

Enclosures

APPROVED:

/s/ Robert W. Geehan
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey

MChing/gla
6-6-56
cc to: Admr.'s Reading File
Operating Committee
Docket
Messrs. JECrawford, Rm. 3441
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA
Code 700 (3)
Mr. Ching

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

JUN 5 1956

Memorandum

To: The Administrator, DMEA
Attention: Chief, Rare and Miscellaneous Metals Division

From: Associate Solicitor, Division of Mineral Resources

Subject: Docket No. DMEA-3943 (Uranium), Contract Idm-E932, (Sec. 9, T. 13 N., R. 9 W.);
Docket No. DMEA-3989 (Uranium), Contract Idm-E933, (Sec. 29, T. 13 N., R. 9 W.);
Docket No. DMEA-3939 (Uranium), Contract Idm-E934, (Sec. 7, T. 13 N., R. 9 W.);
All in McKinley County, New Mexico;
Food Machinery and Chemical Corporation, Westvaco Mineral Products Division

Pursuant to your request, we have reviewed the memorandum of Mr. J. W. Townsend, Acting Executive Officer, DMEA Field Team, Region III, dated May 28, 1956, and the attachments thereto.

The litigation referred to in the letter of the Assistant Counsel for the Operator dated May 22, 1956, and the agreement simply dissolve the claim or encumbrance mentioned in Article 2(b)(2) of the DMEA contract; it is not necessary to take any action in the matter. However, it is suggested that the documents mentioned in Mr. Townsend's memorandum be filed in that part of the file containing the DMEA contract documents.

Robert P. Dwyer

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

224 New Customhouse
Denver 2, Colorado

May 28, 1956

RECEIVED
MAY 31 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Acting Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3943 (Uranium), Contract IAm-2932, (Sec. 9, T. 13 N., R. 9 W.);
Docket DMEA 3989 (Uranium), Contract IAm-2933, (Sec. 29, T. 13 N., R. 9 W.);
Docket DMEA 3939 (Uranium), Contract IAm-2934, (Sec. 7, T. 13 N., R. 9 W.); All in McKinley County, New Mexico; Food Machinery and Chemical Corporation, Westvaco Mineral Products Division.

Enclosed for your records are the original and two copies of a letter from the Assistant Counsel for Food Machinery and Chemical Corporation, and three copies of an Agreement pertaining to the right to extract uranium from the land involved under the three subject contracts.

If there is any action to be initiated by this office, please advise us.

J. W. Townsend

Enclosures

DMEA
Date Rec'd.

MAY 25 1956

BUREAU OF MINES
Denver, Colorado

RECEIVED

MAY 31 1956

May 22, 1956

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
United States Department of the Interior
224 New Customhouse
Denver 2, Colorado

Re: Exploration Project Contract
Nos. Idm-E 932 (DMEA Docket No.3943),
Idm-E 933 (DMEA Docket No.3989) and
Idm-E 934 (DMEA Docket No. 3939).

Dear Mr. Traver:

You will recall that at the time these contracts were executed, we mentioned in sub article 2 (b)(2) that Nabor Marquez and Isabel O. Marquez, his wife, had made a claim upon the right to extract uranium from the parcels covered by these contracts. In my letter to you of April 18, 1956, I mentioned that an action for declaratory judgment had been commenced in order to remove this claim.

I now wish to advise that the United States District Court in Albuquerque has granted us a judgment in this case and that this claim can now be disregarded.

Shortly after the judgment was entered, Mr. and Mrs. Marquez entered into an agreement with Santa Fe Pacific Railroad Company (our lessor) which will have the general effect of assuring all parties concerned that there is no

doubt as to the right of Santa Fe and its lessees to explore, develop, mine, etc., on these parcels. I enclose three photostatic copies of this agreement for your files.

Very truly yours,

FOOD MACHINERY AND CHEMICAL CORPORATION

SIGNED

Clarence R. Peterson
Assistant Counsel
Chemical Divisions

CRP:job
Encls.

[redacted] AGREEMENT

THIS AGREEMENT, made and entered into this 14th day of May, 19 56, by and between NABOR MARQUEZ and ISABEL O. MARQUEZ, his wife,

(hereinafter for convenience collectively called the "Land Owner"), first parties, and SANTA FE PACIFIC RAILROAD COMPANY, a corporation (hereinafter for convenience called "Santa Fe Pacific"), second party.

W I T N E S S E T H

RECITALS:

Land Owner is the owner of the following described premises included in certain deed or deeds of conveyance given by Santa Fe Pacific, hereinafter referred to as "described premises," and situated in the County of McKinley, State of New Mexico, to wit:

NEW MEXICO MERIDIAN, NEW MEXICO

Township thirteen North, Range nine West

Sections 1, 3, 5, 7, 9, 11, 13, 15, 17, 21, 23, 29 and 33.

B

Subject, however, to exceptions and reservations of minerals and rights of entry to prospect for, mine and remove the same and to use so much of the surface of said lands as may be necessary and convenient contained in said deed or deeds of conveyance of the described premises given by Santa Fe Pacific.

Santa Fe Pacific has licensed or leased, or proposes to license or lease, the described premises for the purpose of prospecting for uranium and associated minerals and mining and removing the same.

It is desired at this time to avoid any future dispute as to what surface uses are permissible with respect to the described premises under said rights of entry and surface use, expressed or implied, and as to what uses would or might be considered excessive thereunder, and to provide an equitable consideration to the Land Owner for the right to make such uses.

AGREEMENT:

NOW, THEREFORE, it is mutually understood and agreed between the parties hereto as follows:

Section 1. In consideration of the mutual benefits and of the sum of Ten Dollars ($10.00) paid by Santa Fe Pacific to the Land Owner, receipt whereof is hereby acknowledged, the Land Owner hereby confirms, extends, and grants to Santa Fe Pacific, its lessees, licensees, successors and assigns, the easements and rights to enter upon the described premises and to prospect for, mine, store and remove uranium and associated minerals, using any means or methods of mining, stripping, quarrying, drilling or any other or different process of extraction or development, and to construct, maintain and use upon, within, and over said premises, machinery, tanks, engines, pipe, power and telephone lines, water wells, not including water from Land Owner's wells, roadways, and, without limitation by reason of the foregoing enumeration, any and all other structures, equipment, fixtures, appurtenances, or facilities (all the above being included under the term "facilities") necessary or convenient in prospecting for and developing, producing, storing, transporting and marketing uranium and associated minerals produced from any portion of the described premises.

Section 2. Santa Fe Pacific agrees, so long as it is receiving royalties upon uranium ore production from the described premises, to pay or cause to be paid to the Land Owner the value on the premises of two per cent (2%) of all the uranium ore hereafter produced, saved and marketed therefrom. Said value shall not include any bonuses, development or haulage allowances or other special payment provided for by statute or by regulation or order of any governmental agency. The said two per cent (2%) shall be in lieu of any other payment expressed or implied in deed or deeds of conveyance of the described premises given by Santa Fe Pacific.

Section 3. Nothing herein contained shall be construed as a covenant to mine by Santa Fe Pacific, its lessees or licensees, or as a grant of any mineral right to the Land Owner.

Section 4. The easements, rights and uses herein shall be binding upon the described premises and each and every part thereof, and the present and future owners thereof, and shall continue for the benefit of the present or future owners of the uranium rights in the described premises and each and every part thereof, and their lessees and licensees.

Section 5. Santa Fe Pacific agrees (a) to pay or cause to be paid all damage to the Land Owner's buildings and growing crops caused by the erection or construction of facilities to be used in connection with mining operations; (b) that all pipe lines shall be buried below plow depth where such lines cross cultivated land; and (c) that where there are fences, to construct gates or cattle guards therein where necessary for Santa Fe Pacific, or its licensees or lessees, to cross same, and to keep such gates and cattle guards in repair and gates closed.

Section 6. This agreement and the easements, rights and uses granted herein shall terminate upon the termination of the license or lease; provided, however, that such termination shall not terminate the rights of entry and of surface use expressed or implied in the deed or deeds of conveyance from Santa Fe Pacific.

Section 7. This agreement shall inure to the benefit of, and shall be binding upon the heirs, executors, administrators and assigns of the Land Owner, and the successors and assigns of Santa Fe Pacific.

RECEIVED
MAY 3 1 1956

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

SANTA FE PACIFIC RAILROAD COMPANY

By _____

President

ATTEST:

SEAL

Assistant Secretary

_____

_____

STATE OF ILLINOIS,)
: ss.
COUNTY OF COOK,)

On this 16th day of May, 1956, before me appeared R. D. Lutton, to me personally known, who, being by me duly sworn, did say that he is the ~~Vice~~ President of the SANTA FE PACIFIC RAILROAD COMPANY, a corporation organized and existing under and by virtue of an Act of Congress approved March 3, 1897, and that the seal affixed to said instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation by authority of its board of directors, and said R. D. Lutton acknowledged said instrument to be the free act and deed of said corporation.

WITNESS my hand and notarial seal this 16th day of May, A. D. 1956.

Oscar M. Carlso
Notary Public

SEAL

My commission expires
October 28, 1958

RECEIVED
MAY 3

STATE OF NEW MEXICO,)
COUNTY OF Bernalillo) ss.

On this 14th day of May, 19 56, before me personally appeared NABOR MARQUEZ and ISABEL O. MARQUEZ, his wife,

to me known to be the persons described in and who executed the foregoing instrument and acknowledged that they executed the same as their free act and deed.

WITNESS my hand and notarial seal this 14th day of May, A. D. 19 56.

Olga Mengelkamp
Notary Public

SEAL

My commission expires
[illegible] 1958

RECEIVED
MAY 3

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

224 New Customhouse
Denver 2, Colorado

May 4, 1956

Mr. George Hain
Food Machinery and Chemical Corporation
Westvaco Mineral Development Department
P. O. Box 250
Pocatello, Idaho

Re: DMEA Docket 3843, Contract Idm-8932
DMEA Docket 3989, Contract Idm-8933
DMEA Docket 3989, Contract Idm-8934

Dear George:

With reference to the captioned exploration project contracts and in compliance with your request by telephone yesterday, please find enclosed twelve additional copies of standard forms DF-104 and DF-104A for use in preparing your monthly progress reports. We are requesting J. F. Shaw by copy of this letter to provide you with a like number of extra copies of the two forms each month upon receipt of your completed report. You should advise Mr. Shaw if the reports are to be prepared in your office and if the extra forms should be mailed there.

With further reference to your inquiries regarding operation of the three contracts; if they are to be administered from your office, you should request Photostats of the contracts which were mailed on April 20, 1956 to your New York office. You should also request copies of the transmittal letters of the three contracts as they are not identical and are important, since they incorporate distinctive stipulations with regard to operation of the projects and reporting procedure.

With regard to your proposed plan, after the preliminary work is finished on all three projects for mechanical work by using all contract drill equipment to complete the first stage of one of the projects and then move on to start the first stage of a second contract while the completed results of the first operation are being evaluated, and so on through the three contracts, there is no objection to this proposal.

However, you should request authority of the Region III Field Team for approval of this program. Your request should be in outline and should supply the date on which work was stopped on the projects that will be inoperative, and an approximate date on which work will be resumed. If an amendment is required, it will be prepared under the authority delegated to

the Region III Field Team, and if not, written authorization for the construction operations will be given.

We will be glad to furnish any other assistance we can regarding work to be performed, but believe you will find most of the points covered in the contract transmittal letters referred to in the second paragraph above.

Very truly yours,

W. M. Trever

W. M. Trever
Executive Officer, TCLL
Field Team, Region III

Encls.

WMT:bh

cc-Chairman, Op. Comm. (2)
Harelman
Shaw (2)
Hasler
Townsend
Corres. File E-932
Corres. File E-933
Corres. File E-934
Chron.

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

RECEIVED
APR 23 1956

224 New Customhouse
Denver 2, Colorado

April 20, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3989 (Uranium), Contract Idm-E933
Food Machinery and Chemical Corporation (Westvaco Mineral Products Division), McKinley County, New Mexico

Enclosed are the Government's, Division and Docket copies of Exploration Project Contract Idm-E933, which were forwarded by your letter of March 21, 1956, for signature by the applicant.

A performance bond was supplied by the applicant in lieu of Consent to Lien and applicable change made under Article 2 of the contract, which was indicated as approved by your office in telephone conversation with Mr. Ching.

We are also enclosing copy of a letter from the Operator, by which the executed copies of the contract were forwarded to this office, and two copies of a letter from this office dated April 20, 1956, by which we forwarded the Operator's copy of the contract, forms and instructions relative to reporting on work performed under the contract.

W. M. Traver

W. M. Traver

Encls.

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

RECEIVED
APR 23 1956

224 New Customhouse
Denver 2, Colorado

April 20, 1956

CERTIFIED MAIL

Food Machinery and Chemical Corporation
Westvaco Mineral Products Division
161 East 42nd Street
New York 17, N. Y.

Re: Docket DMEA 3989 (Uranium) Contract Idm-5933
Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
McKinley County, New Mexico

Gentlemen:

Enclosed herewith is your copy of Exploration Project Contract Idm-5933, Docket DMEA-3989.

Also enclosed are six copies of form MF-104, "Operator's Monthly Report and Voucher," and six copies of form MF-104A, "Operator's Unit Cost and Progress Report." At the completion of the first calendar month of operation and monthly thereafter you are required to submit five copies of the forms to Mr. John F. Shaw, U. S. Bureau of Mines, Room 137, Building 20, Denver Federal Center, Denver 2, Colorado, each copy complete with all pertinent and supporting data. The sixth form is for your records.

Form MF-104, "Operator's Progress Report and Voucher," must be accompanied by maps or sketches showing the location and extent of work performed and a narrative report describing the work performed and conditions encountered. The monthly accounting report will not be processed for payment unless it is accompanied by a signed narrative report and other pertinent data. Additional copies of forms MF-104 and MF-104A will be forwarded to you each month on receipt of your report for the prior month.

The U. S. Geological Survey and the U. S. Bureau of Mines maintain a field office in the A.E.C. Compound at Grand Junction, Colorado. DMEA representatives of the two Services can be contacted as follows:

J. W. Hadley, U. S. Geological Survey, Telephone Grand Junction 3000, Ext. 282
M. H. Salsbury, U. S. Bureau of Mines, Telephone Grand Junction 3000, Ext. 274

Both men can be reached by mail at Post Office Box 360, Grand Junction, Colo.

For your information and in reply to many questions that have been asked, after forms MF-104 and MF-104A are received an engineer will check progress and approve your accounts, after which they will be sent to the Regional Office, Region III, U. S. Bureau of Mines, 224 New Customhouse, Denver 2, Colorado, for auditing and vouchering. If the report is in order, a check will be issued by the Treasury Department for the Government's portion of the costs. If you have any difficulty in completing these forms and the reports, please call on either the field representatives, Mr. Shaw, or this office for assistance.

In the matter of your claim for reimbursement of drilling costs under the terms of the contract, reimbursement to you will be on the basis of a hole or holes completed to the objective which has or have been drilled in compliance with conditions under the "General Provisions" section of Exhibit "A" of the contract and the special conditions pertaining to the drilling under each Stage. Therefore, your monthly report should include only such holes which are completed to that extent, and the required records made a part of your claim for reimbursement.

The contract is prepared on form MF-200 and under its provisions and as outlined in Exhibit "A" of the contract, the allowable costs are a combination of actual costs with a maximum unit cost established for work under "Category (1)" and fixed costs for performing the remaining items of work or services. Under the provisions of Exhibit "A" the work under "Category (1)" is to be performed by sub-contract. Your claim on form MF-104 for reimbursement of the costs of such work must be supported each month by a signed copy of the billing from the subcontractor, or submit for our records a certified copy of the subcontract agreement.

Your requests to this office for work approval, changes in the contract, or any other communication pertaining to operations under the contract, must be in writing, of which please supply the original and five copies, each copy complete with maps or other pertinent data.

The locations of the holes to be drilled under Stage I are indicated on the map Figure 3, attached to the contract. If, because of the terrain or other conditions, it is necessary that you make any material change in the location of any of the holes, approval of this office for the change must be obtained prior to the performance of the drilling. Otherwise, the drilling may not be acceptable for reimbursement to you under the terms of the contract.

Your attention is directed to the provision that Stage II work is contingent on the results obtained from Stage I, and performance of the work under Stage II is subject to the prior written approval of the Government.

When Stage I has been completed, you should request approval from this office for the work you propose to perform under the next stage. Your request for the work approval must be in sextuplicate, each copy complete with a map showing the location of the holes drilled under Stage I, the proposed location of holes to be drilled under Stage II, and the results of the work performed under Stage I, including assay returns and any other pertinent data which will be of value to the Government in evaluating the work performed under Stage I.

You should anticipate a suspension of operation between stages of work to enable the Government geologist and engineer to evaluate the results of the work performed and make their recommendations to this office relative to the additional work you propose.

To eliminate as much delay to operations as possible, if that is of serious consideration, you should expedite forwarding of the results of the work completed and your request for the Government's approval of the additional work you propose.

No oral statement of any person shall be construed to modify or change the terms of the contract. Field representatives of the Government are not authorized to approve any changes in the work program or contract provisions. Such approval can only be given by the Washington office, DMEA, or by the DMEA Field Team, Region III.

It is a regulation that reimbursement for the cost of work accomplished prior to the date of the contract will not be allowed. It is a requirement and imperative that you notify this office in writing the date work actually commences under the contract, with a copy of your letter to Mr. Shaw.

Very truly yours,

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Enclosures

JWT:bh

cc-Chairman, Oper. Comm. (2)
Finance Office, Reg. III
Amendment File, Reg. III
Harshman
Shaw (2)
Hasler
Townsend
Corres. File E-933
Chron.

these appear to be OK if changes are made

FOOD MACHINERY AND CHEMICAL CORPORATION

CHEMICAL DIVISION

RECEIVED APR 19 1956

W.O.

April 18, 1956

161 EAST 42ND STREET
NEW YORK 17, N. Y.

DMEA
Date Rec'd.
APR 19 1956
BUREAU OF MINES
Denver, Colorado

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
United States Department of the Interior
224 New Customhouse
Denver 2, Colorado

Re: Proposed Exploration Project Contract
Nos. Idm-E 932 (DMEA Docket No. 3943),
Idm-E 933 (DMEA Docket No. 3989) and
Idm-E 934 (DMEA Docket No. 3939).

Dear Mr. Traver:

Returned to you herewith in quintuplicate are fully executed Contracts Nos. Idm-E 932, 933 and 934, together with Performance Bonds submitted in lieu of Consents to Lien and/or Subordination Agreements.

I have taken the liberty of changing subarticle 2 (c) to show that a bond is furnished in place of the Consent and/or Subordination Agreement.

Also, I felt it was necessary to mention in subarticle 2 (b)(2) that a claim has been made by the surface owners that the mineral reservation in the deed by which they were granted the land by Santa Fe Pacific Railroad Company (our lessor) was not sufficient to reserve to Santa Fe the rights to uranium ore that might be found in the property. We, of course, dispute this claim, as does Santa Fe, and in order to settle the matter once and for all we have commenced suit in the United States District Court in Albuquerque praying for a declaratory judgment to the effect that there is no merit to the claim of the surface owners. This action, Food Machinery and Chemical Corporation and Santa Fe Pacific Railroad Company vs. Nabor Marquez and Isabel O. Marquez, his wife, is Docket No. 3068 Civil in the District Court.

In view of the adversary nature of this question, it was obvious that we would not be able to obtain a Subordination Agreement from the claimants, except perhaps at some exorbitant consideration. The Performance Bond will, of course, protect the government against the exceedingly remote contingency of loss in the event that this company is prevented, by reason of this claim, from proceeding with development and production.

Mr. W. M. Traver,
United States Department of the
Interior

April 18, 1956

Please accept our apologies for the delay in returning these contracts to you. It was occasioned by somewhat over-extended lines of communication within the company, together with our unexpectedly discovering that our lessor, Santa Fe Pacific, was not willing to execute a Consent to Lien in the form prescribed.

Very truly yours,

FOOD MACHINERY AND CHEMICAL CORPORATION

Clarence R. Peterson

Clarence R. Peterson
Assistant Counsel
Chemical Divisions

CRP:DW
ENCS

700

Ching
Ellis

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

April 18, 1956

Memorandum

To: The Files

From: Michael Ching, Mining Engineer
Rare and Miscellaneous Metals Division

Subject: Long Distance call to W. M. Traver regarding the three Food Machinery and Chemical Company contracts under Dockets Nos. DMEA-3939, 3943, and 3989

This call resulted from Traver's teletype of April 16, 1956, requesting instructions as to what action to take as a consequence of the Operator starting work before returning the executed copies of the contracts and the requested Consents to Lien.

Clarence R. Peterson of Operator's New York office had advised Traver by telegram, dated April 17, that the three contracts had been executed and would be mailed immediately with Performance Bonds in lieu of Consents to Lien and Subordination Agreements.

In our phone conversation Traver was advised that the Operator intended (1) to insert a statement under Article 2 (b) (2) of the contract that a disputed claim by the surface owners to uranium ores existed; and, (2) to add a statement to Article 2 (c) that a Performance Bond was furnished in lieu of Consent to Lien of Santa Fe Pacific Railroad Company and any Subordination Agreement that might be required by the Government.

Mr. Traver was advised that these additions would be satisfactory if no other alterations or additions were made to the contract and a satisfactory Performance Bond was received. He was also advised that since the contracts were dated March 21, 1956, if they are satisfactorily executed by the Operator, there should be no objection to the fact that work was started before the executed contracts were returned by the Operator. These views were verbally acquiesced in by Mr. Ruben of the Associate Solicitor's office.

/s/ Michael Ching

Michael Ching

Copies of two telegrams
Originals in Docket DMEA- 3939
Food Machinery and Chemical Corp.

DN 235 BUR MINES 4-16-56 1-37

CHAIRMAN, OPERATING COMMITTEE, DMEA

RE OUR LETTERS OF MARCH 26, 1956, TO FOOD MACHINERY AND CHEMICAL CORP., DOCKETS DMEA 3939, 3942, AND 3989. APPLICANT ADVISES BY TELEGRAM TODAY THAT WORK HAS BEEN COMMENCED UNDER ALL THREE CONTRACTS PRIOR TO PROVIDING CONSENT TO LIEN FORMS AND RETURN OF EXECUTED COPIES OF CONTRACTS AS STIPULATED IN THE THIRD PARAGRAPH OF OUR LETTERS OF MARCH 26. PLEASE TELETYPE INSTRUCTIONS AS TO WHAT ACTION WE SHOULD INITIATE.

W. M. TRAVER

- - -

WESTERN UNION
MSS PD WESTVACO CHEMICAL DIVISIONS 4/17/56

WILLIAM TRAVER
DMEA
224 NEW CUSTOMHOUSE
DENVER, COLORADO

CONTRACTS ON DOCKETS 3939, 3943 and 3989 EXECUTED.

WILL MAIL IMMEDIATELY WITH PERFORMANCE BONDS IN LIEU

CONSENTS AND SUBORDINATION AGREEMENTS. HAVE ADVISED

CHING.

CLARENCE R. PETERSON
FMC

Legal Department

c
o
p
y

Originals in Docket DMEA-3939
cc to: Docket DMEA-3943
" DMEA-3989
Code 700 - 3 copies for same numbers

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

224 New Customhouse
Denver 2, Colorado

CERTIFIED MAIL

March 26, 1956

Food Machinery and Chemical Corporation
(Westvaco Mineral Products Division)
161 East 42nd Street
New York 17, N. Y.

Re: Docket DMEA 5989 (Uranium), Food Machinery and Chemical Corporation (Sec. 29-T.13 N.-R. 9W. N.M. P.M.) McKinley Co., New Mexico; Proposed Exploration Project Contract Idm-8933

Gentlemen:

Enclosed are the Government's, Division, Docket, Finance Office, and Field Team copies of proposed Exploration Project Contract No. Idm-8933, which has been prepared pursuant to your application for Government assistance in exploration work under the Defense Minerals Exploration Administration program.

If the contract is satisfactory to you, all copies are to be signed by an official of the Corporation authorized to do so, his signature attested to by the Secretary of the Corporation, the corporate seal affixed, and all copies promptly returned to this office.

The contract is released to you for signature and the Government's participation in the costs of the exploration work under the terms of the contract is subject to your providing the executed copies of form "MS-203, Consent to Lien," that was requested by the DMEA office in Washington. When the required Consent to Lien forms and the properly executed copies of the contract have been received in this office, the "Operator's Copy" of the contract will be forwarded to you, together with forms and instructions relative to reporting on work performed under the contract.

Your attention is directed to the provision under Article 3 of the contract form that work is to be commenced prior to April 15, 1956. Therefore returning the executed copies of the contract and providing the Consent to Lien forms should be expedited all possible.

Very truly yours,

W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

JWT:prl
cc: Chairman, Oper. Comm. (2)
Marshman
Shaw (2)

Enclosures

Hasler
Townsend
Corres. file Chron.

700

FILE COPY
Surname:
Ching
Ellis
Crawford
Selfridge
Hosted
Whitenberg

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

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
22d New Customhouse Building
Denver 2, Colorado

MAR 21 1956

Re: Docket No. DMEA-3989 (Uranium)
Food Machinery and Chemical Corp.
(Westvaco Mineral Products Division)
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico

Dear Mr. Traver:

Enclosed are the original and five copies of a proposed long-form contract between the Government and the Food Machinery and Chemical Corporation, signed by the Administrator. The contract consists of Form NF-100, Annex I, Exhibit "A", and map (Figure 3). Also enclosed are two extra copies each of Annex I, Exhibit "A", and map (Figure 3) for the use of the Field Team.

The Applicant has been delayed in securing the required Consent to Lien, but six copies will be forwarded to you as soon as received.

If you find the contract in order, it is ready for forwarding to the Applicant for signature subject to attachment of the Consent to Lien.

The costs suggested in the Report of Examination have been generally followed. The allowance per sample for chemical analyses was reduced from $4.00 to $3.50 since the latter figure has usually been used in the past for uranium determination alone. Provision was added for a small amount of bulldozing in Stage II.

P.S.
Please note stages are successive, therefore, each stage must be completed before starting work on the next stage, unless the contract is amended.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (GCS)

Enclosures

MChing/izm 3-15-56
cc to: Docket
Code 700
Mr. Ching
Admr.'s Reading File
Operating Committee
Messrs. JECrawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA

APPROVED:

/s/ Robert W. Geehan (GCS)
Member, Bureau of Mines

Thor H. Kiilsgaard (GCS)
Member, Geological Survey

P.C.H.

Ellis

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

March 14, 1956

Memorandum

To: The Files

From: Michael Ching, Mining Engineer
Rare and Miscellaneous Metals Division

Subject: Proposed Contract Costs
Docket No. DMEA-3989 (Uranium)
Food Machinery & Chemical Corp.
(Westvaco Mineral Products Division)
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico

The Report of Examination, dated February 1, 1956, contains detailed estimated costs for the proposed core and non-core drilling. The estimated costs for drilling and bulldozing under Independent Contracts are $3.50 per foot for core drilling, $1.25 per foot for non-core drilling, and $12.50 per hour for bulldozing. These costs are reasonable and have been incorporated without change under Actual Costs of the contract. However, since no provision was made in the report for bulldozing in Stage II, provision was made in the contract for 8 hours of bulldozing in this stage.

Under Fixed Unit Costs the unit cost for chemical sample analyses was reduced from $5.00 to $3.50 per sample inasmuch as uranium is the only element in which the Government has an immediate interest, and the $3.50 price has generally been used in the past for uranium alone.

The unit cost for incidental expenses per foot of drilling was arrived at by using the same time element (7½ months) and the same basic rates suggested for Stage I in the Report of Examination. Details of the incidental allowance, applicable to Stage I only, but representative of all three stages, are as follows:

	Total Cost	Cost Per Foot
Labor and supervision (@ $800/month)	$6,000.00	$0.14
Operating materials and supplies	537.50	0.01
Depreciation on equipment	540.00	0.01
Miscellaneous	675.00	0.02
Total	$7,752.50	$0.18

Michael Ching

Michael Ching

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

MAR - 9 1956

Memorandum

To: The Administrator, DMEA
Attention: Chief, Rare and Miscellaneous Metals Div.

From: Associate Solicitor, Division of Mineral Resources

Subject: Docket No. DMEA-3989 (Uranium), Food Machinery and Chemical Corporation (Westvaco Minerals Products Division)

As requested in Mr. Ellis' memorandum dated February 21, 1956, we have prepared the attached contract.

The Consent to Lien of the Lessor, which is being obtained by the applicant, should be attached to the contract prior to execution.

The copy of the lease submitted with the application requires the applicant (a) to begin exploration within 60 days after March 16, 1955, and continue work thereafter; and (b) on or before March 16, 1956, to surrender all land on which uranium-bearing ore has not been discovered. In view of these provisions, the applicant should be required to verify its right to continue exploration on the land described in Annex I. Your attention is also called to the fact that under the lease the applicant has the right to explore for, mine and remove only uranium-bearing ores and not other minerals. This paragraph is also intended as our comment with respect to Dockets Nos. DMEA-3943 and DMEA-3939, same Operator.

Copy In File

Robert P. Dwyer

Robert P. Dwyer

Attachments

FOOD MACHINERY AND CHEMICAL CORPORATION

Westvaco Mineral Products Division

Chrysler Building East
161 East 42nd Street
New York 17, N. Y.

February 24, 1956

Mr. Ernest W. Ellis, Chief,
Rare and Miscellaneous Metals Div.,
U. S. Department of the Interior,
Washington 25, D. C.

Dear Mr. Ellis:

At the request of Mr. Phillip Groggins of our company, we are sending you herewith a copy of the amendment which extends until March 16, 1957 our agreement with the Santa Fe Pacific Railroad Company covering a tract of land in New Mexico on which we are conducting uranium exploration operations.

Mr. Groggins indicated that you had asked whether we are prepared to accelerate our development work promptly following approval of our DMEA applications. We wish to advise you that we are ready to proceed with the work without any delay.

Sincerely yours,

WESTVACO MINERAL PRODUCTS DIVISION

/s/ W. N. Williams
President

LBT
Attach.

Copies for following dockets:
DMEA-3939
DMEA-3943
DMEA-~~3984~~ 3988
DMEA-~~3985~~ 3989

c
o
p y

Route List

M.E.Gilbert (orig.) - NY
V.E.Cuneo - NY
L.F.Silano - NY
Legal Dept. - NY
W.N.Williams - NY
O.A.Power - Poe

NY 112-A
(Supplementing NY 112)
Lease No. 9442

URANIUM MINING LEASE AND AGREEMENT

between

SANTA FE PACIFIC RAILROAD COMPANY

and

FOOD MACHINERY AND CHEMICAL CORPORATION
(WESTVACO MINERAL PRODUCTS DIVISION)

Dated: January 9, 1956

Re: Supplement to Lease No. 9442
Extension of period of time
from 12 months to 24 months
from March 16, 1955.

c
o
p
y

Lease No. 9442

SUPPLEMENT to Uranium Mining Lease and Agreement heretofore entered into in duplicate on the 16th day of March, 1955, by and between SANTA FE PACIFIC RAILROAD COMPANY, a corporation created by Act of Congress approved March 3, 1897, with its principal offices in Albuquerque, New Mexico, first party, hereinafter called the "Lessor", and FOOD MACHINERY AND CHEMICAL CORPORATION (WESTVACO MINERAL PRODUCTS DIVISION) a Delaware corporation, second party, hereinafter called the "Lessee".

WHEREAS, Lessor andLessee mutually desire to extend the period of time from twelve (12) months to twenty-four (24) months from March 16, 1955, during which Lessee may search and explore for uranium-bearing ore on the lands described in said Lease and Agreement.

IT IS, THEREFORE, MUTUALLY AGREED that the words "twelve (12) months" appearing on the fourth line of Paragraph 1 and in the second line of Paragraph 2 be changed to read "twenty-four (24) months", and that Paragraph 6, on page 5, shall read as follows:

> "6. In addition to the payments hereinabove mentioned, Lessee shall pay Lessor as rental for the leased premises upon the execution of this lease the sum of One Dollar ($1.00) per acre, and commencing March 16, 1957, the sum of One Dollar ($1.00) per acre a year for each year this lease may be in effect, to be paid annually, in advance; provided, however, that beginning with March 16, 1957, and each year thereafter the rental so paid for any one year shall be credited on the royalty due to Lessor for that year."

Except as altered hereby, all of the terms, covenants and agreements of saidoriginal lease shall remain in full force and effect.

IN WITNESS WHEREOF, this supplemental agreement has been executed in duplicate by the parties thereunto duly authorized this 9th day of January, 1956.

SANTA FE PACIFIC RAILROAD COMPANY

BY /s/ R. S. Rydin

VICE-PRESIDENT

LESSOR

ATTEST:

/s/ W. L. Camp

ASST. SECRETARY

FOOD MACHINERY AND CHEMICAL CORPORATION

BY /s/ Ernest Hart

EXECUTIVE VICE PRESIDENT

LESSEE

ATTEST:

/s/ Harold Vogel

ASST. SECRETARY

2-24-56 Lgm

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

RECEIVED
FEB 23 1956

February 21, 1956

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee, Room 4445

From: John E. Crawford, Bureau of Mines Member
Uranium Commodity Committee

Subject: Report of Examination, DMEA Docket 3989, Food Machinery and Chemical Corporation, Sec. 29, Westvaco Mineral Products Division, McKinley County, New Mexico

I have reviewed the report of examination, DMEA Docket 3989, Food Machinery and Chemical Corporation, dated February 8 and received in this office February 14. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The Food Machinery and Chemical Corporation drilled four widely spaced holes on Sec. 29 at the suggestion of the DMEA field examiners. One hole was reported to have encountered one foot of ore-grade material in the Todilto formation. Other holes encountered the Todilto limestone but apparently were not mineralized. Exploration work on the adjoining Sec. 30 and other near-by sections has resulted in the discovery of large uranium ore bodies. It has been indicated that an easterly trend of these deposits into Sec. 29 is possible.

We concur with the Field Team that an exploration project is desirable and suggest that the exploration program outlined by the field examiners be accepted. The total cost of this program would be $91,920.80, with Government participation at 75 percent.

The report is being forwarded to the Chief, Division of Minerals, in accordance with the routing slip attached thereto.

John E Crawford
John E. Crawford

Surname copy

700

Ching
Ellis

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

February 21, 1956

Memorandum

To: Associate Solicitor, Division of Mineral Resources

From: Ernest Wm. Ellis, Chief
Rare and Miscellaneous Metals Division

Subject: Docket No. DMEA-3989 (Uranium)
Food Machinery and Chemical Corporation
sec. 29, T. 23 N., R. 9 W.
McKinley County, New Mexico

Will you kindly prepare a long-form contract between the Government and Food Machinery and Chemical Corporation in accordance with the attached draft.

In the interest of uniformity for this Division, it is requested that the form and headings forExhibit "A" follow those shown in the draft unless you have objections from a legal standpoint.

The required Consent to Lien of Santa Fe Pacific Railroad Company is being secured by the Applicant, but has not, as yet, been received.

Ernest Wm. Ellis

Ernest Wm. Ellis

MChing/gla
cc to: Docket
Code 700
Mr. Ching

DRAFT
2/21/56
MChing/gla

MF-200
(Revised June 1954)

Docket No. DMEA 3989

Commodity Uranium

Contract No. Idm-E

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

EXPLORATION PROJECT CONTRACT[1]

It is agreed this ..... day of ....., 195..., between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and [2] Food Machinery and Chemical Corporation, a Delaware corporation (Westvaco Mineral Products Division), whose mailing address is 161 East 42nd Street New York 17, New York, hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200), the attached Exhibit "A," Annex I, and map (Figure 3)

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

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

(b) The Operator represents and undertakes that:

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

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

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

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

of the land (lessor, seller, optionor, etc.), are attached, as follows: Consent to Lien of Santa Fe Pacific Railroad Company

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

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

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

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

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

ARTICLE 5. *Contribution by the Government.*—The estimated total allowable cost of the project, set forth in Exhibit "A," is the sum of $91,908.00. The Government shall contribute 75 percent of the allowable costs as they are incurred in a total sum not in excess of $68,931.00: *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last

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

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

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

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

CATEGORY (2)—PERSONAL SERVICES.

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

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

Subcategory (c)—Labor.

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

CATEGORY (4)—OPERATING EQUIPMENT.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 13. *Changes and added provisions.*—

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

(b) To the extent that costs are set forth in Exhibit "A" as "Fixed Unit Costs" they are in lieu of the actual costs that otherwise would be allowable costs of the project under Article 6 of the contract. The Government will contribute to the Fixed Unit Costs as they accrue, on the basis of units of work actually performed. The fixed unit costs include all costs of the work necessary to complete the work.

(c) That part of the last sentence in the first paragraph of Article 6(a) commencing after the semicolon, is deleted.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By .....

.....
(Operator)

By .....

.....

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

.....

[CORPORATE SEAL]

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

DRAFT
2/21/56
MDhing/gla

EXPLORATION PROJECT CONTRACT
FOOD MACHINERY AND CHEMICAL CORPORATION
(WESTVACO MINERAL PRODUCTS DIVISION)
DOCKET No. DMEA-3989

ANNEX X

The land referred to in Article X of the Contract consists of sec. 29, T. 13 N., R. 9 W., N.M.P.M., McKinley County, New Mexico.

The land is shown on a map entitled "Figure 3. Sketch Map of Part of Section 29 . . .," attached hereto and made a part hereof.

DRAFT
2/21/56
MChing/gla

EXPLORATION PROJECT CONTRACT
FOOD MACHINERY AND CHEMICAL CORPORATION
(WESTVACO MINERAL PRODUCTS DIVISION)
DOCKET No. DMEA-3989
EXHIBIT "A"

Description of the Work

General Provisions

The work consists of exploration by core and non-core drilling to test the Todilto limestone of Jurassic age. The location of the work is shown on the attached map (Figure 3).

As described hereafter, certain holes shall be cored through the limestone interval and the remaining holes shall be drilled non-core throughout. Where coring is required, the minimum size of core shall be BX. Non-core holes shall be of sufficient diameter to permit efficient radiometric probing. All holes shall be reamed and cased as necessary.

In the case of cored intervals through the Todilto limestone the core and cuttings from such intervals shall be saved. In the case of non-core holes the cuttings from the Todilto limestone shall be collected and sacked at 2-foot intervals and properly labeled. All core and cuttings saved shall be checked radiometrically for uranium. Material indicating significant mineralization shall be split for samples, and such samples shall be analyzed chemically for uranium. All the remaining core and cuttings, or splits thereof, shall be properly stored for inspection and disposition by the Government.

All drill holes shall be logged geologically and probed radiometrically, and the record of such logging and probing, together with certified copies of all assay certificates, shall be submitted with the Operator's monthly progress reports.

The location, direction, inclination, and extent of all project work are subject to the approval of the Government.

The work is divided into two successive stages as described hereafter. The Operator shall complete Stage I, and shall perform as much of the work under Stage II as the Government approves in writing in advance.

Stage I

The locations, depths, and manner of drilling of Stage I holes are shown on the attached map (Figure 3). Access roads and drill sites shall be prepared with a D-7 bulldozer or equivalent unit prior to drilling. As indicated, 67 of the total of 138 holes shall be drilled partly non-core and partly core, and 71 holes shall be drilled non-core throughout. The aggregate footage shall not exceed 43,865 unless the 138 holes require more than this footage to reach the desired horizon. In the latter case, the additional footage required may be transferred and deducted from Stage II footage upon the written approval of the Government.

The drill holes are expected to range from 100 feet to 555 feet and to average approximately 317 feet in depth. The cored intervals are expected to average approximately 36 feet per hole and to total 2,415 feet in 67 holes. Non-core drilling is expected to total 41,390 feet.

The 138 holes shall be located along 8 staggered north-south rows spaced 400 feet apart and starting 200 feet from the western property line. The holes in each row shall be spaced 200 feet apart except as indicated on Figure 3. Some of the holes in the first and second rows shall be spaced only 100 feet apart at the points indicated.

Stage II

Prepare access roads and drill sites with a D-7 bulldozer or equivalent unit and drill not more than 50 non-core holes aggregating not more than 16,000 feet to offset previously drilled holes that show significant mineralization. These holes shall be drilled at least 50 feet from any previously drilled hole.

Estimated Cost of the Project

Stage I

Actual Costs

Category (1) Independent Contracts

41,390 ft. non-core drilling @ $1.25/ft.	$51,737.50	
2,415 ft. core drilling @ $3.50/ft.	8,452.50	
32 hrs. bulldozing @ $12.50/hr.	400.00	
Categories (2) through (7) None	-	
		$60,590.00

Fixed Unit Costs (See Article 13)

Incidental allowance for each foot of core and non-core drilling completed 43,805 ft. @ $0.18/ft.	$ 7,884.90	
80 chemical sample analyses @ $3.50 each	280.00	
		8,164.90
Estimated total cost of Stage I		$68,754.90

Stage II

Actual Costs

Category (1) Independent Contracts

16,000 ft. non-core drilling @ $1.25/ft.	$20,000.00	
8 hrs. bulldozing @ $12.50/hr.	100.00	
Categories (2) through (7) None	-	
		$20,100.00

Fixed Unit Costs (See Article 13)

Incidental allowance for each foot of core and non-core drilling completed 16,000 ft. @ $0.18/ft.	$ 2,880.00	
50 chemical sample analyses @ $3.50 each	175.00	
		$ 3,055.00
Estimated total cost of Stage II		$23,155.00

S U M M A R Y

Estimated total cost of Stage I	$68,754.90
Estimated total cost of Stage II	23,155.00
Estimated total cost of the project (rounded)	$91,908.00
Government participation @ 75%	$68,931.00

FEB 20 1956

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

RECEIVED
FEB 20 1956

February 15, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Docket DMEA 3989 (Uranium), Food Machinery and Chemical Corporation, Sec. 29, Westvaco Mineral Products Division, McKinley County, New Mexico

Enclosed is one copy of Figure 3 which we stated in our letter of February 8, 1956 would be forwarded you to complete the nine copies for possible use in the contract.

Two corrections have been made in red ink in the estimated footages on two holes. Will you please make these same corrections on the eight copies of the maps we forwarded you with our letter dated February 8, 1956.

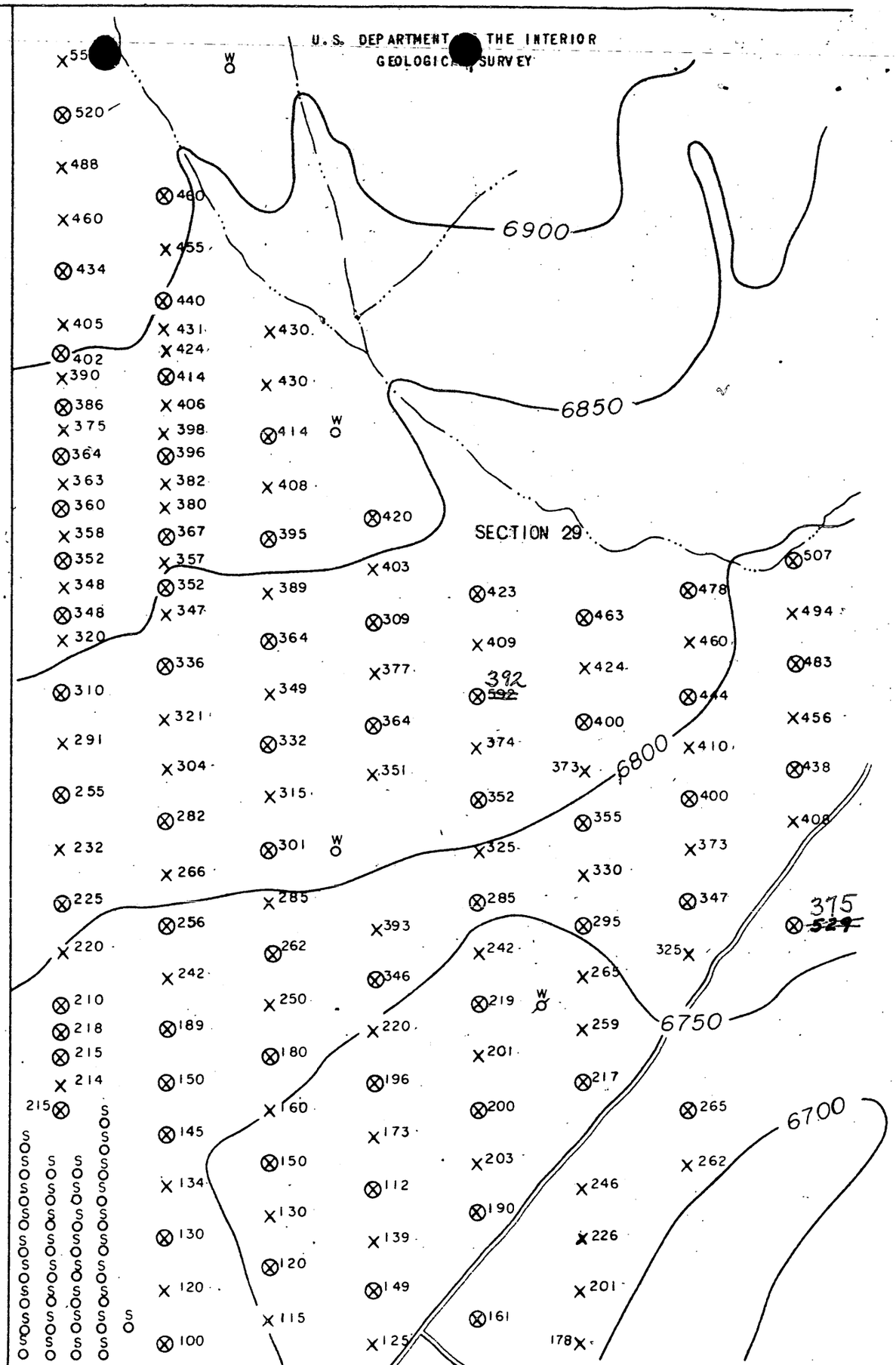
The total footage used in the Report of Examination is 354 feet too high because of the error in the footages given on the map. The total footage in the report should also be corrected to show 354 feet less drilling.

DMEA Field Team, Region III

W. M. Traver

By W. M. Traver
Executive Officer

Enclosure



EXPLANATION

W	EXISTING DRILL HOLE (BARREN) DRILLED BY APPLICANT
W	EXISTING DRILL HOLE (MINERALIZED) DRILLED BY APPLICANT
S	EXISTING DRILL HOLE DRILLED BY PREVIOUS OWNER
414	PROPOSED STAGE I DRILL HOLE CORED THROUGH TODILTO (NUMBER INDICATES ESTIMATED TOTAL DEPTH)
363	PROPOSED STAGE I DRILL HOLE (PLUG BIT) (NUMBER INDICATES ESTIMATED TOTAL DEPTH)

Note: LAND LINES, TOPOGRAPHY, AND HOLE LOCATIONS FROM APPLICANTS MAP.

N

500 0 1500 FEET

CONTOUR INTERVAL 50 FEET
DATUM FROM APPLICANTS MAP

FIGURE 3. SKETCH MAP OF PART OF SECTION 29, T. 13 N., R. 9 W., N.M.P.M. SHOWING EXISTING DRILL HOLES AND LOCATION OF PROPOSED STAGE I DRILL HOLES, FOOD MACHINERY AND CHEMICAL CORPORATION, McKINLEY COUNTY, NEW MEXICO.

2-16-56

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

RECEIVED
FEB 13 1956

February 8, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Joint Report of Examination, Docket DMEA 3989 (Uranium), Food Machinery and Chemical Corporation, Sec. 29, Westvaco Mineral Products Division, McKinley County, New Mexico

Enclosed are the original and three copies of a Joint Report of Examination on the subject docket. The examiners conclude that an exploration project is warranted, and they recommend a program essentially the same as the revised proposal of the applicant. We concur in this recommendation for a two-stage exploration project at a total cost of $91,925.80, Government's participation $68,944.35.

Eight extra copies of Figure 3 are attached for possible use in the contract. One more copy of Figure 3 has been requested from the field and will be forwarded you when it is received in this office.

DMEA Field Team, Region III

W. M. Traver

By W. M. Traver
Executive Officer

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
2-15-56
(date)

ON-SITE EXAM. REPORT

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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DMEA
Date Rec'd.
FEB 6 1956
BUREAU OF MINES
Denver, Colorado

Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

TRANSMITTED February 3, 1956

FEB 8 - 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: John F. Shaw
E. N. Harshman

Subject: DMEA Docket 3989 (Uranium), Westvaco Mineral Products Division of Food Machinery and Chemical Corporation, Section 29, McKinley County, New Mexico

Enclosed are the original and nine copies of a joint engineering and geologic report by H. F. Albee, Geological Survey, and Glen Walker, Bureau of Mines, covering their examination of the subject property.

The examiners conclude that exploration for uranium deposits in the Todilto limestone is warranted and they recommend a program essentially the same as the revised proposal of the applicant. The costs recommended by the examining team are somewhat lower than those estimated by the applicant.

Exploration, as proposed in the report appears warranted.

John F. Shaw
Supervising Mining Engineer

E. N. Harshman
Member, Field Team

Reviewed by
DMEA OPERATING COMMITTEE
2-15-56
(date)

Enclosures (10)
ENHarshman:mp

DMEA
Date Rec'd.
FEB 6 1956
BUREAU OF MINES
Denver, Colorado

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FEB 13 1956

MINERAL DEPOSITS
DMEA
RECEIVED
JAN 26 1956
U. S. GEOLOGICAL SURVEY
DENVER, COLORADO

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. Box 360
GRAND JUNCTION, COLORADO

TRANSMITTED
FEB 8 - 1956

January 20, 1956

Memorandum

To: E. N. Harshman, DMEA Field Team, Region III

From: J. William Hasler

Subject: Transmittal of a report of field examination, DMEA docket 3989, Westvaco Minerals Products Division of Food Machinery and Chemicals Company, New York City.

The Food Machinery & Chemicals Company has requested Government assistance to explore for uranium on Sec. 29, T. 13 N., R. 9 W., McKinley County, New Mexico. The application was referred to the field for an examination, which was made November 15, 1955, by H. F. Albee, U. S. Geological Survey, and Glen Walker, U. S. Bureau of Mines.

Uranium deposits in the Grants district, McKinley County, New Mexico, are found in the Todilto limestone of Jurassic age as well as in younger rocks. The Todilto formation ranges in thickness from 7 to 30 feet and averages around 15 feet in thickness. There are no outcrops of Todilto limestone on Sec. 29; however, exploration work on Sec. 30 and other sections adjacent to Sec. 29 has discovered large bodies of ore. The results of prior drilling indicate that there is an easterly trend of the Todilto ore deposits into Sec. 29, and there is a good possibility that these deposits may be found by testing Sec. 29, as outlined in the accompanying report.

Reviewed by
DMEA OPERATING COMMITTEE
2-15-56
(date)

The U. S. Geological Survey has estimated that there are approximately 200 deposits that range up to 1,000 tons; 15 deposits that range from 1,000 tons to 10,000 tons; 12 that range from 10,000 to 50,000 tons; and 2 deposits that are over 50,000 tons. Many of the deposits in the area are in and near Sec. 29, and there is a good possibility of discovering ore as a result of further work.

It is, therefore, recommended that the DMEA enter into a contract with the applicant to complete the work outlined in this report. I concur with the conclusions and recommendations of the examining team.

The Atomic Energy Commission was consulted relative to the appraisal of this property.

Enclosed are the required number of maps, as well as the applicant's brochure.

J. William Hasler

J. William Hasler,
Geologist

JWH/mlr

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

TRANSMITTED

FEB 8 - 1956

DMEA 3989

Westvaco Mineral Products Division
of
Food Machinery and Chemical Corporation

Section 29, T. 13 N., R. 9 W.

McKinley County, New Mexico

Uranium

Joint Engineering and Geological Report

by

Howard F. Albee, Geologist
Geological Survey

Glen Walker, Mining Engineer
Bureau of Mines

February 1, 1956

Reviewed by
DMEA OPERATING COMMITTEE
2-15-56
(date)

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ILLUSTRATIONS

Figure	Follows page
1. Location map, Westvaco Mineral Products Division of Food Machinery and Chemical Corporation, McKinley County, New Mexico. DMEA 3989	2
2. Sketch map showing location of known ore deposits in the Todilto limestone in the vicinity of section 29, T. 13 N., R. 9 W., N.M.P.M., Food Machinery and Chemical Corporation, McKinley County, New Mexico. DMEA 3989	6
3. Sketch map of part of section 29, T. 13 N., R. 9 W., N.M.P.M. showing existing drill holes and location of proposed stage I drill holes, Food Machinery and Chemical Corporation, McKinley County, New Mexico. DMEA 3989	8

DMEA 3989

RECEIVED
FEB 13 1956

WESTVACO MINERAL PRODUCTS DIVISION
OF
FOOD MACHINERY AND CHEMICAL CORPORATION
SECTION 29, T. 13 N., R. 9 W.
McKINLEY COUNTY, NEW MEXICO

SUMMARY AND INTRODUCTION

The Westvaco Mineral Products Division of Food Machinery and Chemical Corporation, New York City, requested assistance in the exploration of uranium ores on section 29, T. 13 N., R. 9 W., McKinley County, New Mexico.

They originally proposed drilling 106 dry rotary holes totaling 32,000 feet on the W 1/2 of the NW 1/4 and the NW 1/4 of the SW 1/4 of section 29 at a cost of $57,280.00. After drilling four widely spaced preliminary holes their proposal was modified to include two stages of drilling: stage I consists of 138 dry rotary holes on 200- by 400-foot centers, 67 of which are to be cored in the Jurassic Todilto limestone interval, stage II includes 50 dry rotary holes spaced within 50 feet of stage I mineralized or ore holes. The proposed project is estimated to cost $107,072.43.

The property was investigated by a Region III examining team on November 15, 1955, and after obtaining the data from the four preliminary holes it was concluded that the applicant's revised proposal is acceptable in all respects except the cost which has been estimated at $1.40 per foot for plug-bit and $4.32 for

core drilling. The revised total estimated cost of the project is $91,925.80.

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ACKNOWLEDGEMENT

Charles Johnston and William Tipton of Westvaco accompanied the examining team and offered pertinent information on the subject and adjoining properties. E. K. Ealy, geologist with the A. E. C. at Grants, New Mexico, was consulted regarding the property and furnished considerable information.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

Section 29, T. 13 N., R. 9 W., is readily accessible from Grants, New Mexico, a rail point, by traveling west about 2 miles on U. S. Highway 66, then turning north or right onto the San Mateo road, N. M. no. 53, for about 12 miles to the end of the gravel, then west through a cattle-guard onto the property (fig. 1).

The surface of section 29 is flat to gently rolling but with a definite drainage to the southeast and is covered only with native grasses and an occassional cedar. Timber for an underground operation must be obtained either in the vicinity of Mt. Taylor or in Grants.

The climate is typical of the southwest with the 6 to 8 inches of annual precipitation falling during storms in both summer and winter. There are wide variations in daily temperatures.

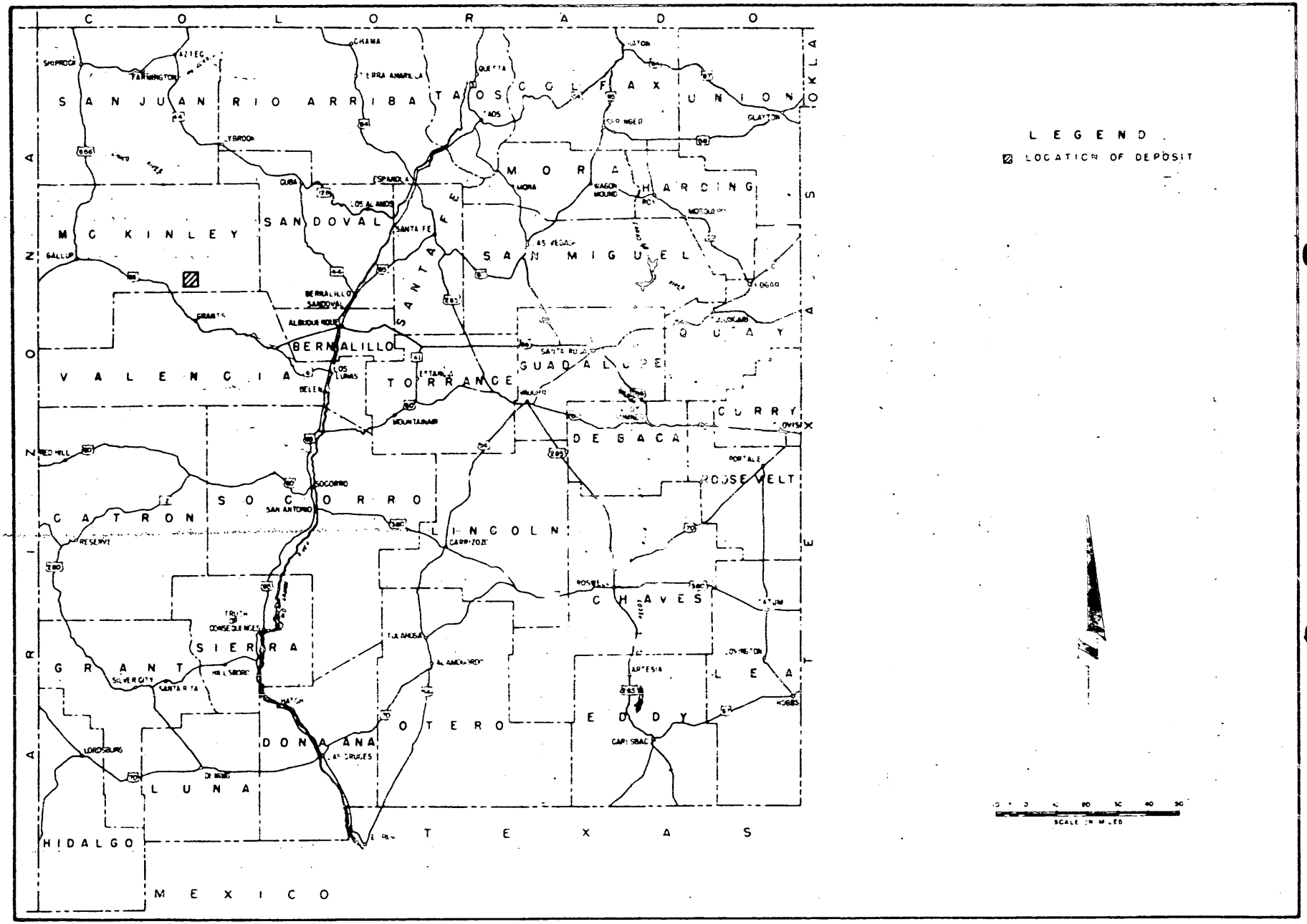

FIGURE 1 - LOCATION MAP, WESTVACO MINERAL PRODUCTS DIVISION OF FOOD MACHINERY AND CHEMICAL CORPORATION, MCKINLEY COUNTY, NEW MEXICO. DMEA 3989

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FEB 13 1956

There is no water presently developed on the property and it can be most readily obtained from livestock wells and ponds 2 or 3 miles distant.

The Bluewater uranium mill of the Anaconda Company is about 15 miles southwest of the property over a good gravel road that is maintained by the County.

Power for any type of operation must be supplied by internal combustion engines as there are no public utilities available.

Common labor in the district is plentiful but underground miners are very scarce; however, it is reported that the local Navajo Indians adapt themselves rather readily to underground work.

HISTORY, PRODUCTION, AND OWNERSHIP

Uranium minerals were first recognized in the district by a geologic field party from the University of California in the spring of 1949. In 1950 a sheepherder found a yellow uranium mineral on a Jurassic Todilto limestone outcrop. This discovery led to the development of the Haystack Butte deposit of the Santa Fe R. R. Numerous outcrops of various geologic ages have since been prospected with the result that ore bodies have been found in formations ranging in age from Cretaceous to Jurassic.

There has been no production from section 29 to date.

The property was originally granted by the Government to the Santa Fe R. R. who leased it to Westvaco Mineral Products in

March 1955 with the provision that if no ore was found within the first year the lease would become invalid.

GEOLOGY AND ORE DEPOSITS

Uranium deposits in the Grants district, McKinley County, N. M., are found in the Todilto limestone of Jurassic age as well as in younger rocks. The strata dip at a low angle to the northeast and strike about N. 30° W. The Todilto formation ranges in thickness from about 7 feet to a maximum of about 30 feet, and probably averages around 15 feet.

The Todilto formation is generally a thin-bedded, dark gray, dense limestone. Thin partings of calcareous shale and siltstone within the limestone give rise to a slabby, weathered surface. The Toldilto limestone, being resistant in the dry climate, forms a broad bench that caps the vertical cliffs of the underlying Entrada sandstone. The less resistant Summerville formation and Bluff sandstone overlying the Todilto have been largely stripped, for about a mile or more back of the outcrop. This bench is covered, in places, by a mantle of blowsand and alluvium.

There are no outcrops of the ore-bearing limestone on section 29. The depth to the Todilto limestone within the section ranges from about 100 feet in the southwest corner to as much as 565 feet in the northwest corner.

Uranium minerals have been deposited locally in small anticlinal folds, and, in a few places, in flat-bedded limestone. The most

commonly observed occurrence of ore deposits is along the axial portions of the minor folds. The influence of joints is, in places, thought to be apparent. Recrystallization of the limestone appears to be more intense in proximity to ore, and disseminated iron oxides seem to form halos around some ore bodies.

The small anticlinal folds in the area appear to have two dominant trends; a northerly and an easterly trend. The trends seem to be local and cannot be projected more than a few hundred feet from their known position. These flexures are not reflected in overlying strata nor are they much broader than contained ore bodies. A halo of iron oxide or the intensity of recrystallization may prove to be a broader guide to ore than the minor folds.

The ore deposits range in size from small tabular masses to large irregularly shaped masses that may average on the order of 100,000 square feet in area. The deposits, however, are extremely elongate and present difficult targets for exploratory drilling. They may range from a few feet to a hundred feet wide and the length may be as much as 10 to 20 times the width. The deposits are relatively thick, commonly ranging up to 6 or 7 feet, so that considerable tonnages are developed in deposits of small areal extent. The grade of the ore runs from 0.10 percent to 0.50 percent U_3O_8 and commonly will average well above 0.30 percent.

In the Grants area personnel of the U. S. Geological Survey have estimated that there are about 200 deposits that range up to

1,000 tons; 15 that range from 1,000 tons to 10,000 tons; 12 that range from 10,000 to 50,000 tons; and 2 that are over 50,000 tons. Many of the deposits are in the area near section 29 (fig. 2). From the number of occurrences and the apparently random distribution of the deposits it is reasonable to expect several ore deposits within the area of proposed exploration. The expected size of the ore deposits would range from a few hundred tons to 50,000 tons, with the probability being greater for the discovery of ore deposits ranging toward the smaller size. The probability, however, is good that one or two ore deposits of the 10,000 to 50,000 ton class are present on the applicant's property.

Technical personnel of the applicant company believe that mineralized areas in section 30 show a definite easterly trend, and that these trends probably project into section 29. If the ore controls for mineralization in the east-central part of section 30 are small flexures, then it is reasonable to assume that the flexures could continue for several hundred feet eastward. In order that these trends, if they exist, be picked up by exploration the company has proposed closer spacing of drill holes in parts of the two westernmost fences.

The proposed exploration is by drilling in fences spaced 400 feet east and west and the holes within the fences 200 feet apart, except for the 100-foot spacing in parts of the two westernmost fences. Closer spaced drilling would be desirable for all of the proposed area but the cost would be prohibitive for the first stage.

U. S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET 3889
DECEMBER 1955

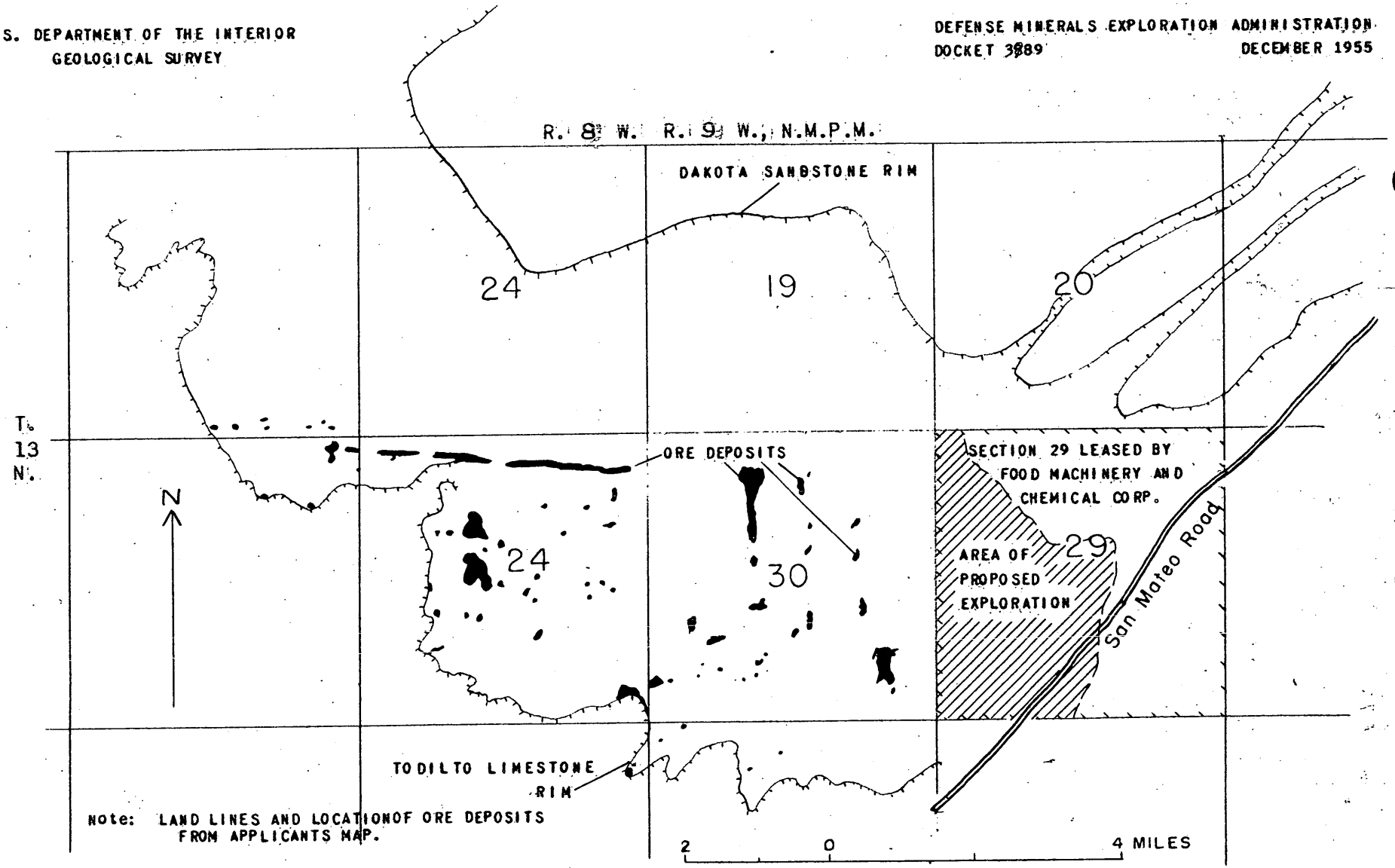

FIGURE 2. SKETCH MAP SHOWING LOCATION OF KNOWN ORE DEPOSITS IN THE TODILTO LIMESTONE IN THE VICINITY OF SECTION 29, T. 13 N., R. 9 W., N.M.P.M., FOOD MACHINERY AND CHEMICAL CORPORATION, McKINLEY COUNTY, NEW MEXICO.

RECEIVED
FEB 13 1956

The dimensions of known deposits in the area range up to 100 by 800 feet. The first stage proposal, even though it is wide spaced for Todilto type ore deposits, should find several such mineralized areas and ore deposits around which second ~~and third~~ stage drilling can be planned.

Minable ore reserves

There are no known minable reserves on the property.

PRESENT STATUS

Prior to leasing the property to Westvaco, Santa Fe R. R. drilled 36 holes in the SW 1/4 of the section; very little data is available from this work; however, it is a safe assumption that no ore was found. Westvaco, on a suggestion of the DMEA examining team, drilled four widely spaced holes on the property for subsurface geological information. One of these holes encountered one foot of ore grade material (0.14% eU_3O_8) in the Todilto limestone. All these holes indicated the presence of the ore horizon but they were too scattered to be valuable in a determination of structure usually associated with ore deposits.

There is no mining or milling equipment on the land. The company intends contracting all exploratory drilling.

PROJECT PROPOSALS

Westvaco's revised exploration proposal outlines the work in two stages. Stage I includes 138 holes drilled through the Jurassic Todilto limestone formation; the Todilto limestone is to be cored in 67 of these holes. The holes are to be spaced 200 feet apart N to S and 400 feet apart E to W except in the first and second rows from the west boundary where some of the holes are to be spaced 100 feet apart N to S, (fig. 3). Stage II consists of 50 non-core holes to offset stage I mineralized holes at distances of 50 feet. The examining team concurs with this proposal.

Cost of proposed work

Stage I

Independent Contracts:		
41,390 ~~41,745~~ ft. plug drilling in 138 holes at $1.25/ft.	$52,181.25	
2,415 ft. core drilling in 67 holes at $3.50/ft. 322'/mo = 18' day core	8,452.50	
32 hours bulldozing at $12.50/hr.	400.00	
Total		$61,033.75
Labor and supervision:		
1 geologist at $500/mo. for 7 1/2 mo.	3,750.00 ?	
1 helper at $300/mo. for 7 1/2 mo.	2,250.00	
Total		6,000.00

Operating Supplies:		
250 paper core boxes at $1.25	$ 312.50	
Fuel for pickup truck $30.00/mo. for 7 1/2 mo.	225.00	
Total		$ 537.50
Operating Equipment:		
Depreciation on Geiger probe $10.00/mo. for 7 1/2 mo.	75.00	
Depreciation on pickup truck $50.00/mo. for 7 1/2 mo.	475.00	
Total		540.00
Rehabilitation and repairs: none		
New buildings and improvements: none		
Miscellaneous:		
80 chemical assays at $5.00	400.00	
Accounting at $50.00/mo. for 7 1/2 mo.	375.00	
Insurance and tax (5% of $6,000.00)	300.00	
Total		$1,075.00
Total for stage I		$69,096.25

Breakdown of Costs

	Total	Plug Bit	Core
Independent Contracts:	$61,033.75	$52,381.25	$ 8,652.50
Labor and Supervision:	6,000.00	4,800.00	1,200.00
Operating Supplies:	537.50	175.00	362.50
Operating Equipment:	450.00	360.00	90.00
Misc. (less analyses)	675.00	540.00	135.00
Total (less analyses)	$68,696.25	$58,256.25	$10,440.00
Cost per foot		$1.40	$4.32

Cost for Contract

Stage I

41,390 ~~41,745~~ feet of plug-bit drilling at $1.40/ft.	$58,443.00	
2,415 feet of core drilling at $4.32/ft.	10,432.80	
80 chemical assays at $5.00	400.00	
Total cost of stage I		$69,275.80
Government participation at 75 percent		$51,956.85

Stage II

16,000 ft. of plug-bit drilling at $1.40/ft.	$22,400.00	
50 chemical assays at $5.00	250.00	
Total cost of stage II		$22,650.00
Government participation		$16,987.50
Total cost of project		$91,925.80
Amount of government participation		$68,944.35

It is estimated the proposed project can be completed in ten months by the use of four drill rigs working one shift per day. The southwesterly most hole should be 200 feet east and 1,000 feet north of the southwest corner of section 29, T. 13 N., R. 9 W. with the remainder of the holes located with respect to it according to the measurements given. All holes are to be drilled dry except when coring and the cuttings from the Todilto limestone should be

placed in marked sacks at 2-foot intervals. All core should be placed in core boxes marked with the corresponding depths; and all mineralized core should be split, one half used for chemical analysis, the other retained for government use. All holes should be probed radiometrically and the gamma-ray log and chemical assay results as well as the geologic log should accompany the monthly MF 104 forms. A plan map should be prepared by the operator showing the location of all holes drilled during each reporting period along with the elevations of the collar and the top and bottom of the Todilto formation.

CONCLUSIONS AND RECOMMENDATIONS

It is inferred from drill hole data on the subject and adjoining lands that the probability of making an ore discovery in the Jurassic Todilto formation here is above average. A DMEA project (no. 3151) in the SE 1/4 of section 30 T. 13 N., R. 9 W. was successful in finding ore valued in excess of $1,250,000.00. This deposit is about 1,000 feet west of the subject property. The most disturbing aspect of the proposed exploration is the prevailing depth to the ore horizon which, coupled with the hole spacing has a direct bearing on the cost. It is well recognized in the district that in the exploration of Todilto deposits much closer hole spacing is necessary than for regular Jurassic Morrison sandstone deposits.

It is recommended that DMEA participate in the cost of the project as outlined to the extent of 75 percent or $68,944.35.

2-16-56 [illegible]

IN REPLY REFER TO:

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

RECEIVED
FEB 16 1956

February 15, 1956

Memorandum

To: E. W. Ellis, Defense Minerals Exploration Administration

From: W. P. Williams, U. S. Geological Survey

Subject: Review of field examination report, DMEA 3989, Food Machinery and Chemical Corporation, Westvaco Mineral Products Division, McKinley County, New Mexico.

The subject property was visited by an examining team on November 15, 1955. The examining team suggested to the applicant that he drill some preliminary holes for his own account before final appraisal would be given by the examining team. The applicant complied and drilled four holes at his own expense. Some 36 holes had previously been drilled in the southwest corner of the property by the Santa Fe Company. The report does not state what the results of the Santa Fe drilling were.

The examining team points out that ore deposits on adjoining properties are trending toward the subject property and that large ore deposits abound in the vicinity.

The examining team recommends that a DMEA contract stipulate that all holes be probed radiometrically and gamma ray logs of such probing should be submitted to the Government. That is an excellent recommendation that would prevent the difficulties that occurred in DMEA 3190, Idm-E672, where the Operator performed inadequate logging and loose dune sand quickly caved into the holes after the tools were removed preventing Government 'Barnaby' equipment from check-logging the holes. As a result considerable detailed information was lost from the project.

I agree with the Field Team that a DMEA contract is warranted on the property with the work to be done as outlined in the examining team's report.

W. P. Williams

W. P. Williams

11-18-55

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NOV 17 1955

November 10, 1955

Memorandum

To: W. M. Traver, Executive Officer, DMEA Field Team, Reg. III

From: Acting Superintendent, Denver Experiment Station, Reg. III

Subject: Docket DMEA 3989 (Uranium), Food Machinery and Chemical Corporation, McKinley County, New Mexico

The above brochure was received in this office on November 9, 1955.

An examination will be made and suitable report prepared by this office, or the Grand Junction office.

JOHN F. SHAW

John F. Shaw

cc: 2 w/orig.
E. N. Harshman
J. W. Hasler
Sec. Op. Com. (2)

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

November 9, 1955

RECEIVED
NOV 14 1955

224 New Customhouse
Denver 2, Colorado

Memorandum

To: J. F. Shaw (With brochure and enclosures)
J. W. Hanlar (With enclosures)

From: Executive Officer, DMEA Field Team, Region XII

Subject: Docket DMEA 3989 (Uranium), Food Machinery and Chemical Corporation, Sec. 29, T. 13 N., R. 9 W., McKinley County, New Mexico

Enclosed is the subject application in the amount of $57,280.00. The enclosures are as follows:

1. Copy of a letter from the Chairman of the Operating Committee dated November 3, 1955

2. Copy of a memorandum by W. F. Williams dated October 13, 1955

3. Copy of a memorandum by John E. Crawford dated September 29, 1955

4. Copy of a letter to Ernest W. Ellis from the applicant dated October 25, 1955 with attached map, cross sections, and inset sheet covering previous drilling in the subject area.

A field examination and suitable report are required.

W. M. Traver

By J. W. Townsend
J. W. Townsend

Enclosures
HMC:ab
cc: Sec. Op. Comm. (2)

Surname Copy

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Ching
F. Kenneth Williams
noted - Gechan
Selfridge.

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

NOV - 3 1955

Mr. W. H. Williams, Vice-President
Food Machinery and Chemical Corporation
Westvaco Mineral Products Division
161 East 42nd Street
New York 17, New York

Re: Docket No. DMEA-3989 (Uranium)
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico

Dear Mr. Williams:

The data requested in Ernest Wm. Ellis' letter of October 5, 1955, have been received from your Charles E. Johnston.

The application for assistance in exploring the subject property, under the captioned docket number, has been reviewed by the Rare and Miscellaneous Metals Division. It has been referred for further study to the Executive Officer of Region III, at the following address:

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

The Regional Office will contact you in regard to your proposed project in the event a field examination is scheduled.

Sincerely yours,

Frank E. Johnson

ACTING Administrator

MChing/izm
11/1/55
cc to: Admr.'s Reading File
Docket
Code 700
Mr. Ching
DMEA Field Team, Region III (2)

R.C.S.

Surname Copy

700

Ching
F. L. Kupatka
Selfridge

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

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

NOV - 3 1955

Re: Docket No. DMEA-3989 (Uranium)
Food Machinery and Chemical Corp.
Sec. 29, T. 13 N., R. 9 W.
McKinley County, New Mexico

Dear Mr. Traver:

This is with reference to your memoranda of September 19 and September 26, 1955, and enclosures, relating to the subject application.

Enclosed are the following documents which are pertinent to the application:

1. Two copies of a memorandum by John E. Crawford, USBM, dated September 29, 1955;

2. Two copies of a memorandum by W. P. Williams, USGS, dated October 13, 1955;

3. Two copies of a letter to Ernest W. Ellis from the applicant, dated October 25, 1955, with attached map, cross sections, and inset sheet covering previous drilling in the subject area.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JHB)

Enclosures

MChing/izm
11/1/55

APPROVED:

/s/ Robert W. Geehan (JHB)
Member, Bureau of Mines

W. P. Williams (JHB)
Member, Geological Survey

cc to: Admr.'s Reading File
Docket
Code 700
Mr. Ching
Operating Committee
Messrs. JECrawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA

R.S.S.

10/31/55

RECEIVED
OCT 28 1955

FOOD MACHINERY AND CHEMICAL CORPORATION

FOOD MACHINERY AND CHEMICAL CORPORATION

WESTVACO MINERAL PRODUCTS DIVISION

MINERAL DEVELOPMENT DEPARTMENT

TELEPHONE: POCATELLO 4678

PLEASE REPLY TO
P. O. BOX 250
POCATELLO, IDAHO

October 25, 1955

Mr. Ernest W. Ellis, Chief
Rare & Miscellaneous Metals Division
DMEA
Washington 25, D. C.

Re: Our Docket DMEA 3989 - Section 29,
T. 13 N., R. 9 W., New Mexico T. M.

Dear Sir:

In reply to your recent letter directed to Mr. Williams of our New York office, please find enclosed necessary drill hole logs, cross sections and maps. This information covers data available on our own Section 29 as well as the adjacent section to the west, Section 30. Drilling on Section 29 as given here was done prior to acquisition to our lease by a second party.

This data is summarized below:

It should be noted that our drilling program as outlined covers an area north of the previously drilled portion. From study of adjacent drilling on Section 30, it appears that this drilling is too far south to pick up known mineralization trends. Several localized areas of Section 30 are known to be mineralized and from a projection of these known mineralization areas it seems logical to assume that similar mineralization could very well project itself over to Section 29 north of previously located holes. This is the area that has been outlined in our submitted application for possible DMEA drilling on Section 30. Seven hundred feet west and slightly north of the drilled area (on Section 29) a producing shaft has just been completed into a known ore body. This area as well as other localized portions of Section 30 lends favorable light to the west part of Section 29.

We appreciate your attention to our application and trust the enclosed information will be adequate for further processing of our DMEA application.

Yours very truly,

C. E. Johnston

Charles E. Johnston
Grants' Project Engineer
Food Machinery & Chemical Corp.
Westvaco Mineral Products Division

CEJ:RL
Enc.

10/13/55 gla

IN REPLY REFER TO:

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

RECEIVED
OCT 13 1955

October 13, 1955

Memorandum

To: E. W. Ellis, Defense Minerals Exploration Administration

From: W. P. Williams, U. S. Geological Survey

Subject: Review of application, DMEA 3989, Food Machinery and Chemical Corporation, Section 29, T. 13 N., R. 9 W., McKinley County, New Mexico.

The applicant proposes an exploration drilling project to search for uranium deposits in the Todilto limestone of Jurassic age.

Ore deposits are known in the near vicinity of the property, and ore was discovered on adjoining sec. 30 by Four Corners Exploration Company under DMEA 3151. I can find no basis, however, for the applicant's assertion that the ore in sec. 30 is trending eastward toward the applicant's property. On the contrary, from maps in DMEA 3151, it appears that the ore in adjacent sec. 30 is confined to the west half of the section and the ore has a north-northwest trend.

Some drilling has been done in the southwest corner of sec. 29 by another company, and the applicant states that mineralization was lacking. Because I do not think the ore from sec. 30 extends onto the applicant's property, I believe the lack of ore minerals in the SW-1/4 of sec. 29 is evidence of the unfavorable nature of the property.

I believe the application should be denied but recommend that the Field Team be asked for comments as they may have later information concerning ore trends and recent drilling near the property.

WPWilliams

W. P. Williams

Surname copy

700

Ching
Ellis

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

OCT 5 - 1955

Mr. W. H. Williams, Vice President
Food Machinery & Chemical Corporation
161 East 42nd Street
New York 17, New York

Re: Docket No. DMEA-3989 (Uranium)
Sec. 29, T. 13 N., R. 9 W.,
McKinley County, New Mexico

Dear Mr. Williams:

In reviewing the subject application we note that a considerable amount of drilling has already been done on the SW¼ of Section 29 by another company. Will you kindly advise whether or not the logs and results of these drill holes are available to you. If so, we would appreciate receiving four sets of these data since such information may prove to be of considerable help in appraising the merits of your application.

Sincerely yours,

Ernest Wm. Ellis, Chief
Rare and Miscellaneous
Metals Division

MChing/gla
10-5-55
cc to: Admr.'s Reading File
Docket
Messrs. JECrawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA
Code 700
Mr. Ching
DMEA Field Team, Region III (2)

9/30/55 gla

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

RECEIVED

September 29, 1955

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee, Room 4445

From: John E. Crawford, Bureau of Mines Member
Uranium Commodity Committee

Subject: Application for Assistance, DMEA Docket 3989, Food Machinery and Chemical Corporation, Sec. 29, T. 13 N., R. 9 W., McKinley County, New Mexico

I have reviewed the application of Food Machinery and Chemical Corporation, DMEA Docket 3989; and I have discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

Previous applications for exploration assistance in the same general area as indicated in DMEA Docket 3989 have been made by the Food Machinery and Chemical Corporation. The applications dealt with Sections 7 and 9 respectively, in McKinley County, New Mexico, and were reviewed in our memoranda of August 11 and 19. As we noted in our review of the foregoing applications, based on data submitted by the Food Machinery and Chemical Corporation, assistance is being requested for prospecting rather than for exploration. This is concluded since no tangible evidence has been presented showing that favorable ore-bearing horizons or mineralized land exist within the subject area. It is possible that the results of drilling in the southwest quarter of the section conducted by another company might provide sufficient evidence to warrant some type of exploration assistance. The drilling would at least give some indication of the favorability of the geologic strata and its depth. If, however, the results of the drilling in the southwest quarter are not encouraging, as the case may be, it is suggested that the Food Machinery and Chemical Corporation drill several holes on Section 29 in an attempt to determine the potentiality of the Todilto limestone in Section 29.

In accordance with instructions received from DMEA, the application, together with a copy of this memorandum, is being forwarded to Thor Kiilsgaard, Geological Survey.

John E Crawford
John E. Crawford

9/28/55 gla

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

RECEIVED
SEP 28 1955

September 26, 1955

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Chairman of the Operating Committee, DMEA

From: Field Team, Region III

Subject: Docket DMEA 3989, (Uranium), Food Machinery and Chemical Corporation, Sec. 29, T. 13 N., R. 9 W., McKinley County, New Mexico

Enclosed are four copies of a review of the subject application by the Grand Junction Office.

We would appreciate receiving the review of this application by members of the Commodity Committee before releasing the subject docket for a field examination.

Undoubtedly, in this case, the applicant could furnish information on the results of previous drilling. Will you please request this pertinent information from him.

W. M. Traver

E. N. Harshman

Enclosures

RECEIVED
SEP 23 1955

DMEA
Date Rec'd
SEP 23 1955
BUREAU OF MINES
Denver, Colorado

September 22, 1955

Memorandum

To: W. M. Traver, Executive Officer, DMEA Field Team Region III

From: J. W. Hasler USGS
M. H. Salsbury USBM

Subject: DMEA....(uranium), Food Machinery and Chemical Corporation, Sec. 29, T. 13 N., R. 10 W., McKinley County, New Mexico

The applicant has applied for Government assistance to explore for uranium in Sec. 29, T. 13 N., R. 10 W., McKinley County, New Mexico.

The subject property lies adjacent to known ore bodies in Sec. 30, T. 13 N., R. 10 W., which would make it seem very favorable. However, there has been considerable drilling done in the SW 1/4 of Sec. 29. Neither the results of this drilling nor the location of the holes are provided in the application. This information should be requested from the applicant.

We recommend a field examination be made when all pertinent information is received from the applicants.

J. William Hasler
J. William Hasler
Geologist

M H Salsbury by JWH
M. H. Salsbury
Mining Engineer

JWH/vll

Mr. W. N. Williams
Vice President
Food Machinery and Chemical Corporation
161 East 42nd Street
New York 17, New York

September 22, 1955
Subject: DMEA-3989
Re: Exploration Assistance

My dear Mr. Williams:

The receipt of your application dated September 13, 1955, for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-3989 and referred to the Rare & Misc. Metals Division.

Kindly identify all future correspondence relating to your application by this docket number.

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

60932

September 22, 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

There is listed below the assigned docket number to an application recently received from Region III.

DMEA - 3989 Food Machinery and Chemical Corporation

Robert E. Adams,
Chief, Operation's Control
and Statistics Division

Sec. 29 T. 13 N., R. 9 W.

cc: Hasler

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

September 19, 1955

224 New Customhouse
Denver 2, Colorado

3989

Memorandum

To: J. W. Haaler

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA Aid, (Uranium), Food Machinery and Chemical Corporation, Section 29, T. 13 N., R. 9 W., McKinley County, New Mexico

Enclosed is the subject application in the amount of $57,280.00.

Please discuss this application with the Bureau of Mines representatives from the Grand Junction office and submit to this office a joint memorandum of your recommendations on this application.

You will be advised of the docket number at a later date.

W. M. Traver

W. M. Traver

Enclosure

WMC:ab
cc: Sec. Opr. Comm. (2)
Harshman
Docket
Chron.

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

September 19, 1955

224 New Customhouse
Denver 2, Colorado

Mr. W. N. Williams, President
Westvaco Mineral Products Division
Food Machinery and Chemical Corporation
Chrysler Building, East
161 E. 42nd Street
New York 17, New York

3989

Dear Mr. Williams:

This will acknowledge receipt of your two DMEA applications covering Section 1, T. 13 N., R. 10 W., and Section 29, T. 13 N., R. 9 W., McKinley County, New Mexico.

These applications have been placed in line for further processing.

Very truly yours,

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

HMC:ab
cc: Sec. Oper. Comm. (2)
Harshman
Shaw
Hasler
Docket
Chron.

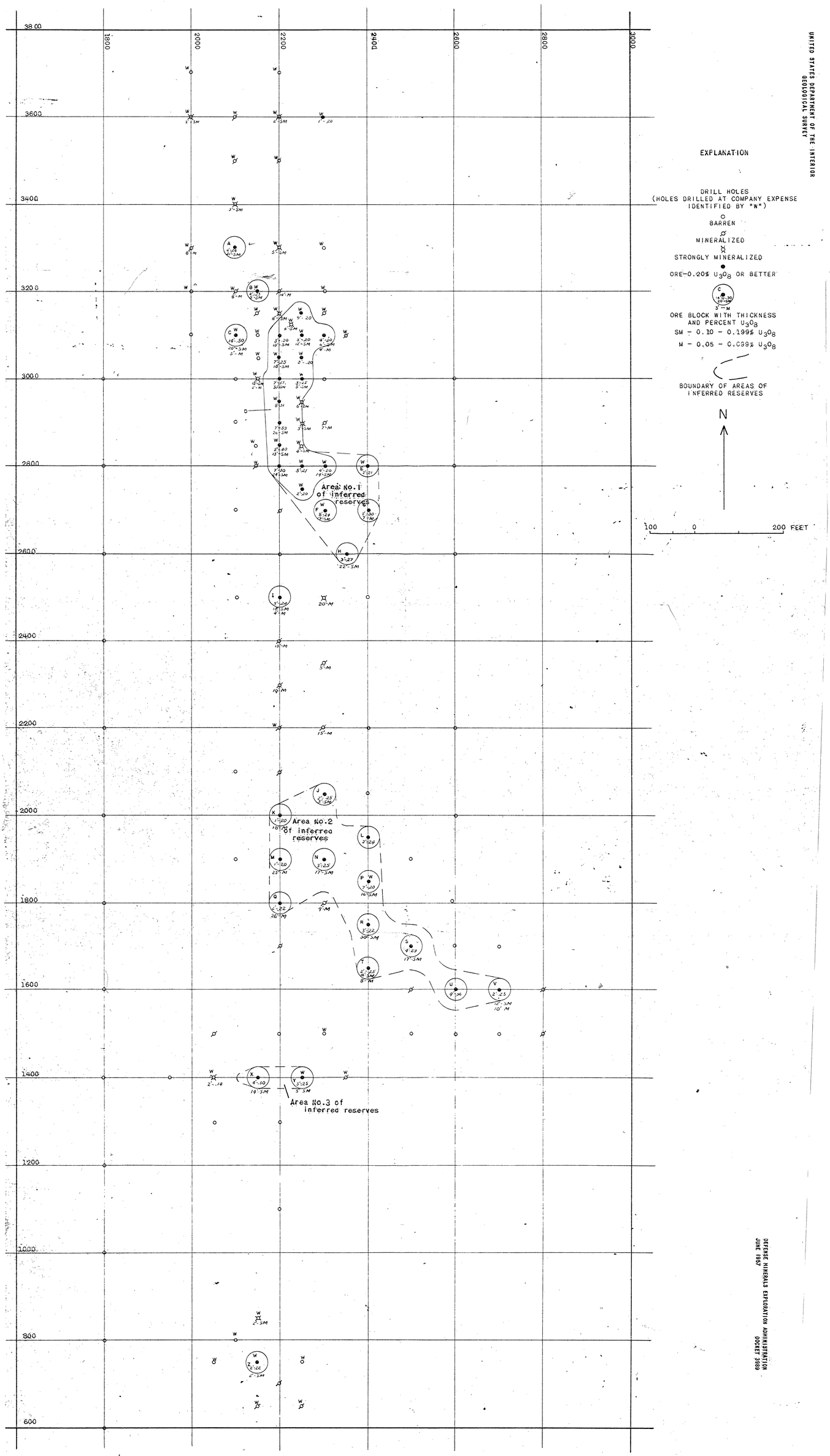
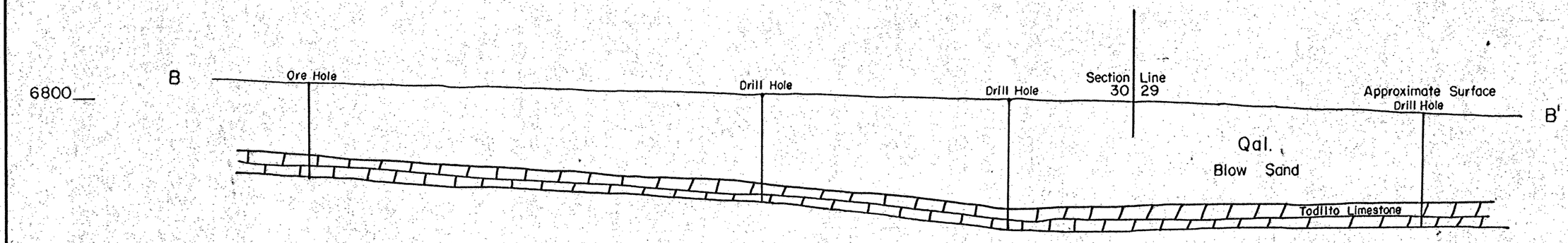
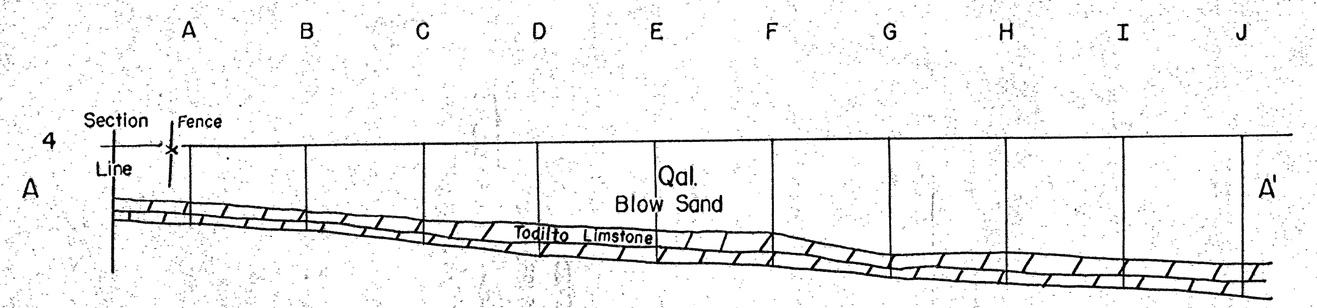


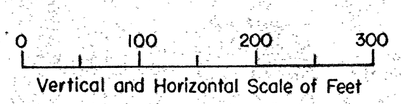
Figure 4.--MAP OF PART OF SECTION 29, T.13 N., R.9 W., N.M.P.M., SHOWING DRILL HOLES AND AREAS USED IN ORE RESERVE CALCULATIONS, FOOD MACHINERY AND CHEMICAL CORPORATION, McKINLEY COUNTY, NEW MEXICO.



E-W Cross Section Approximately 1000'
North of South Section Line of Section 29-30
Regional dip – to East 1°

Cross Section along line 4
Section 29





Topography is flat – 10'
Regional dip – to North 6.6 % = 3°

MARK	DESCRIPTION	DATE	BY	CHK.

REVISIONS

WESTVACO MINERAL PRODUCTS DIVISION
FOOD MACHINERY & CHEMICAL CORPORATION
MINERAL DEVELOPMENT DEPT. POCATELLO, IDAHO

REFERENCE DRAWINGS

NUMBER	TITLE

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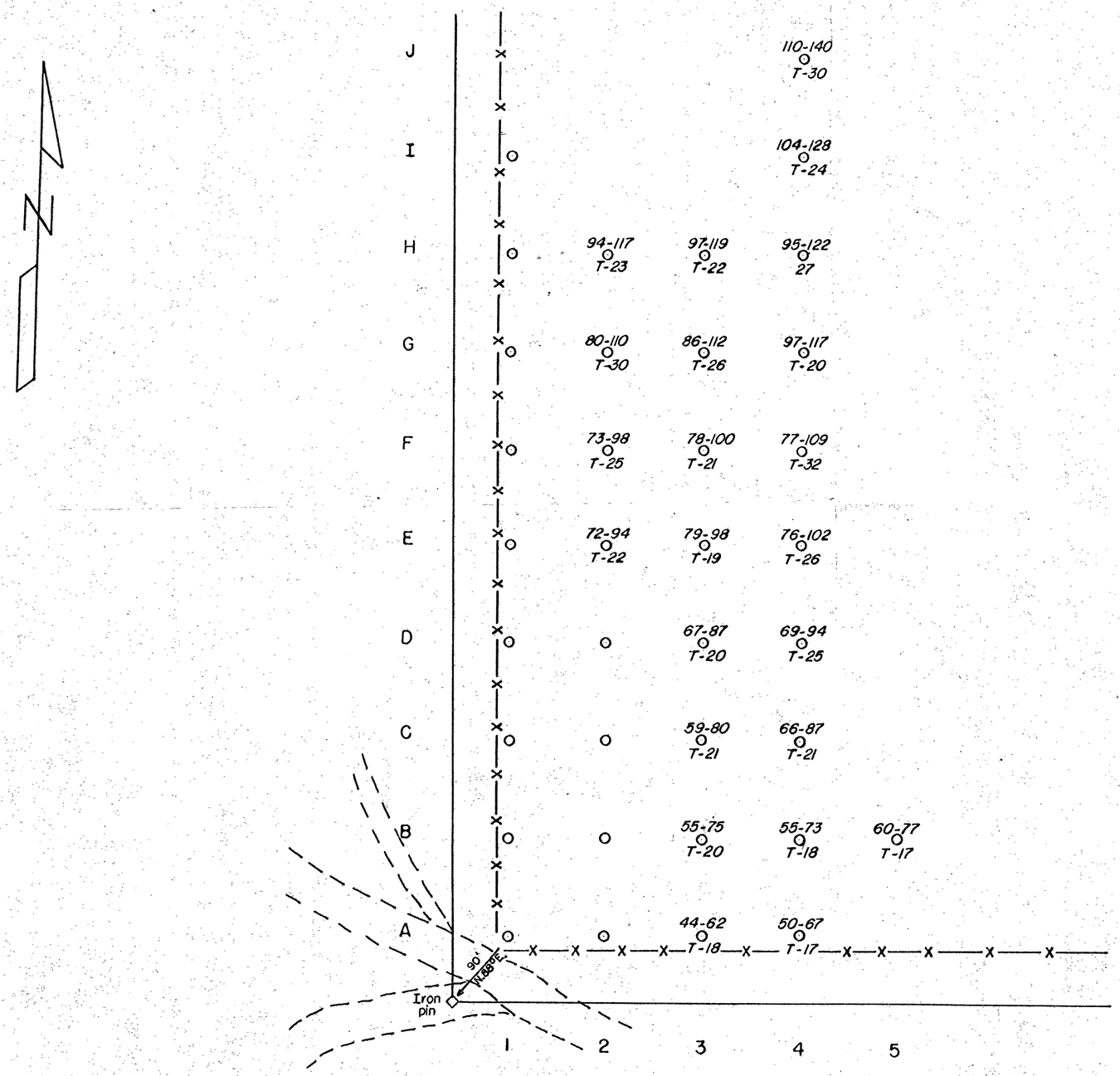
WESTVACO MINERAL PRODUCTS DIVISION

SANTA FE URANIUM
Cross Sections A-A' and B-B'
Section 29, T.13N., R.10W., NMPM

DRAWN M.D.	APPROVED.
CHECKED	APPROVED.
CHARGE	DRAWING NO.
SCALE 1" = 100'	797
PRINT DATE 10-25-'55	



LEGEND

- Drill Holes
- Fence
- Section Line
- Road
- 110-140 — Depths of Top and Bottom Contacts of Todilto
- T-30 — Thickness of Todilto Limestone
- S.W. Section Corner

0 100 200 300
Scale of Feet

Topography in this area is flat

MARK	DESCRIPTION	DATE	BY	CHK.
	REVISIONS			

WESTVACO MINERAL PRODUCTS DIVISION
FOOD MACHINERY & CHEMICAL CORPORATION
MINERAL DEVELOPMENT DEPT. POCATELLO, IDAHO

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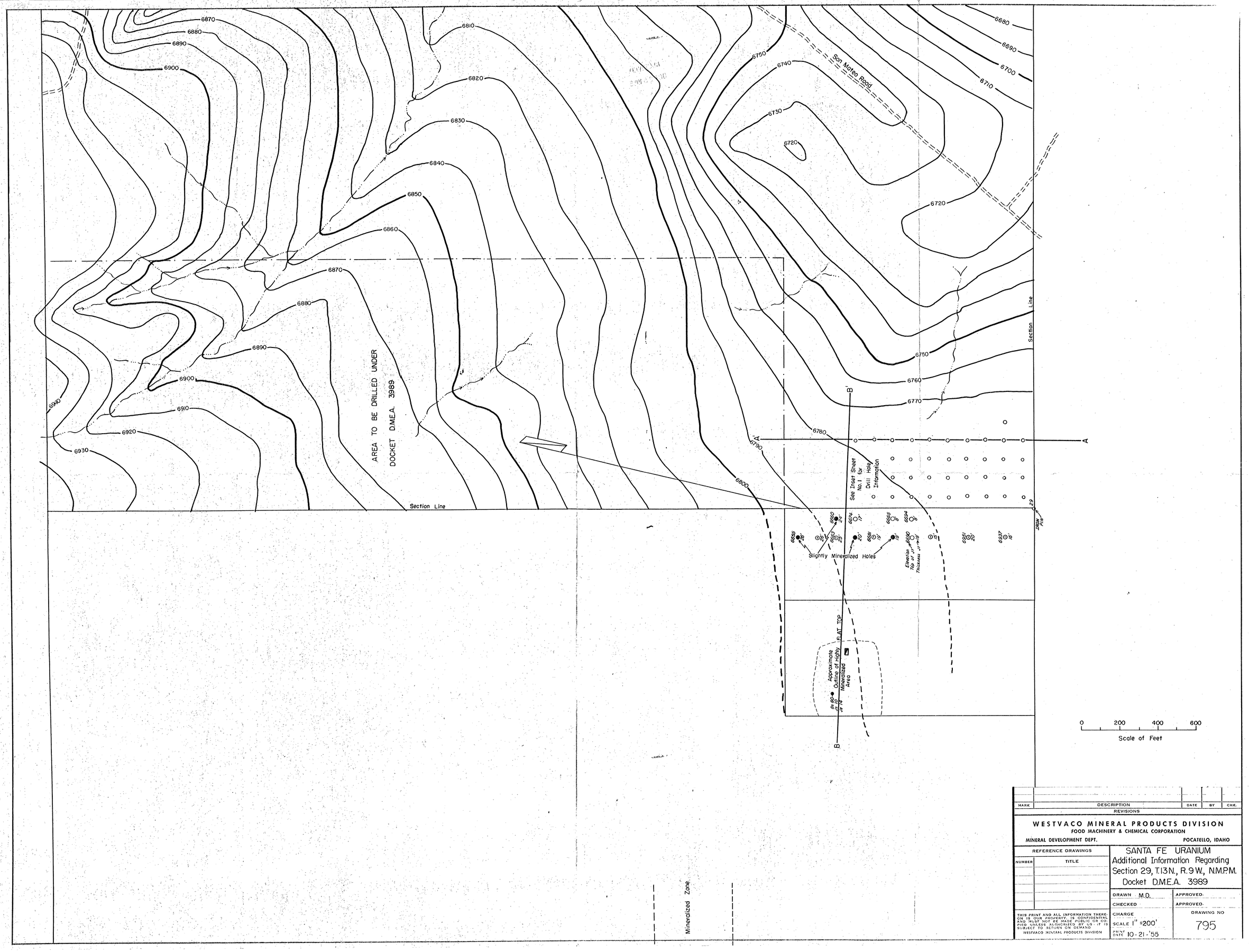
SANTA FE URANIUM
INSET SHEET No. 1
Santa Fe Drill Holes on
Section 29, T.13N., R.10W., NMPM

DRAWN M.D.	APPROVED.
CHECKED	APPROVED.
CHARGE	DRAWING NO.
SCALE 1" = 100'	796
PRINT DATE 10-25-'55	



MARK	DESCRIPTION	DATE	BY	CHK.
	REVISIONS			

WESTVACO MINERAL PRODUCTS DIVISION
FOOD MACHINERY & CHEMICAL CORPORATION
MINERAL DEVELOPMENT DEPT. POCATELLO, IDAHO

REFERENCE DRAWINGS	
NUMBER	TITLE

SANTA FE URANIUM
Additional Information Regarding
Section 29, T.13N., R.9W., N.M.P.M.
Docket D.M.E.A. 3989

DRAWN M.D. APPROVED
CHECKED APPROVED
CHARGE
SCALE 1" =200'
PRINT DATE 10-21-'55
DRAWING NO 795

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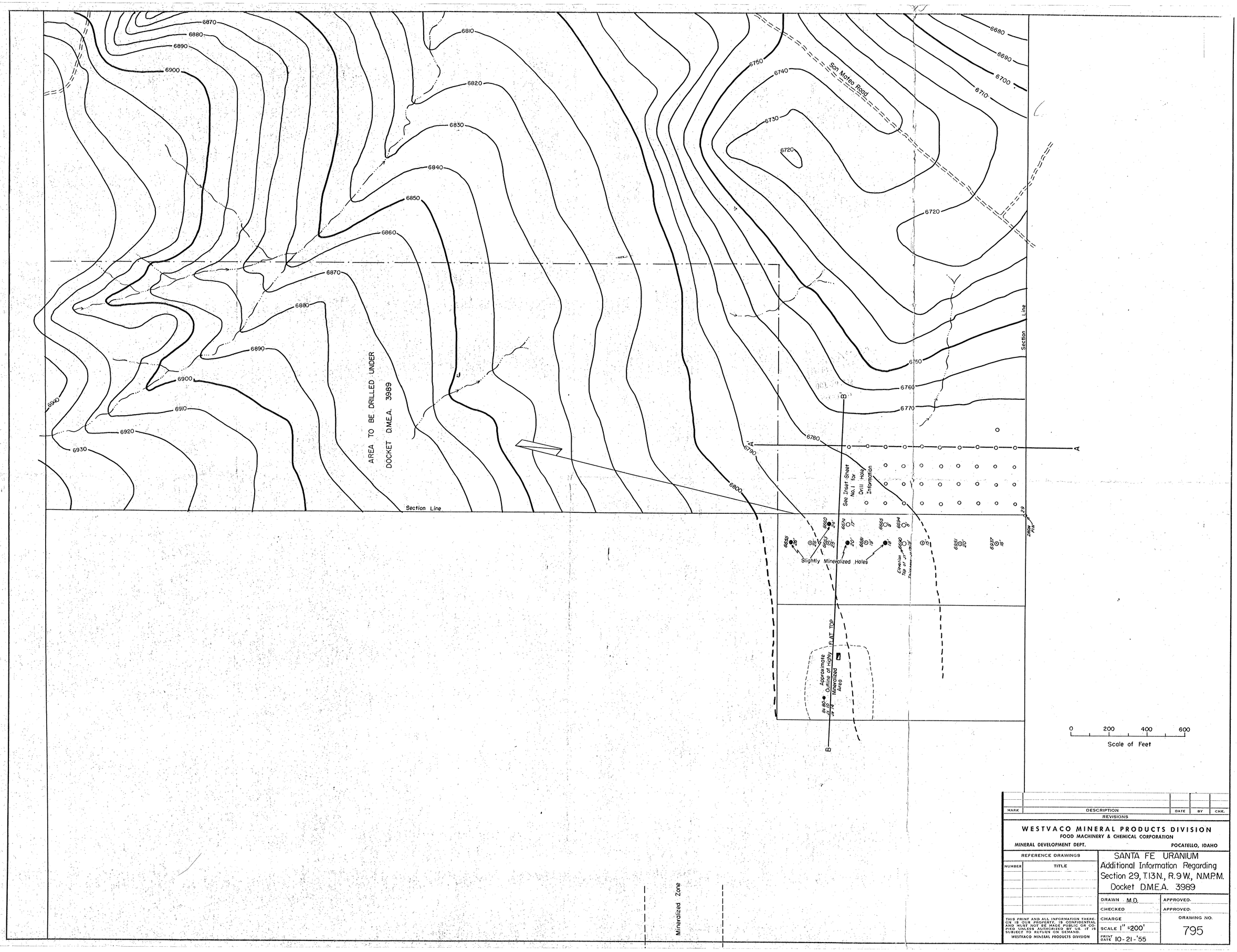
6870
6880
6890
6900
6910
6920
6930
6940
6810
6820
6830
6840
6850
6860
6870
6880
6890
6900
AREA TO BE DRILLED UNDER
DOCKET D.M.E.A. 3989
Section Line
6680
6690
6700
6710
6720
6730
6740
6750
6720
San Mateo Road
6750
6760
6770
6780
6790
6800
Section Line
A
A'
B
B'
See Inset Sheet No. 1 for Drill Hole Information
Slightly Mineralized Holes
Approximate Centre of Highly Mineralized Area
FLAT TOP
Mineralized Zone
0 200 400 600
Scale of Feet
MARK
DESCRIPTION
DATE
BY
CHK.
REVISIONS
WESTVACO MINERAL PRODUCTS DIVISION
FOOD MACHINERY & CHEMICAL CORPORATION
MINERAL DEVELOPMENT DEPT.
POCATELLO, IDAHO
REFERENCE DRAWINGS
NUMBER
TITLE
SANTA FE URANIUM
Additional Information Regarding
Section 29, T.13N., R.9W., N.M.P.M.
Docket D.M.E.A. 3989
DRAWN M.D.
APPROVED
CHECKED
APPROVED
CHARGE
SCALE 1" =200'
PRINT DATE 10-21-'55
DRAWING NO.
795
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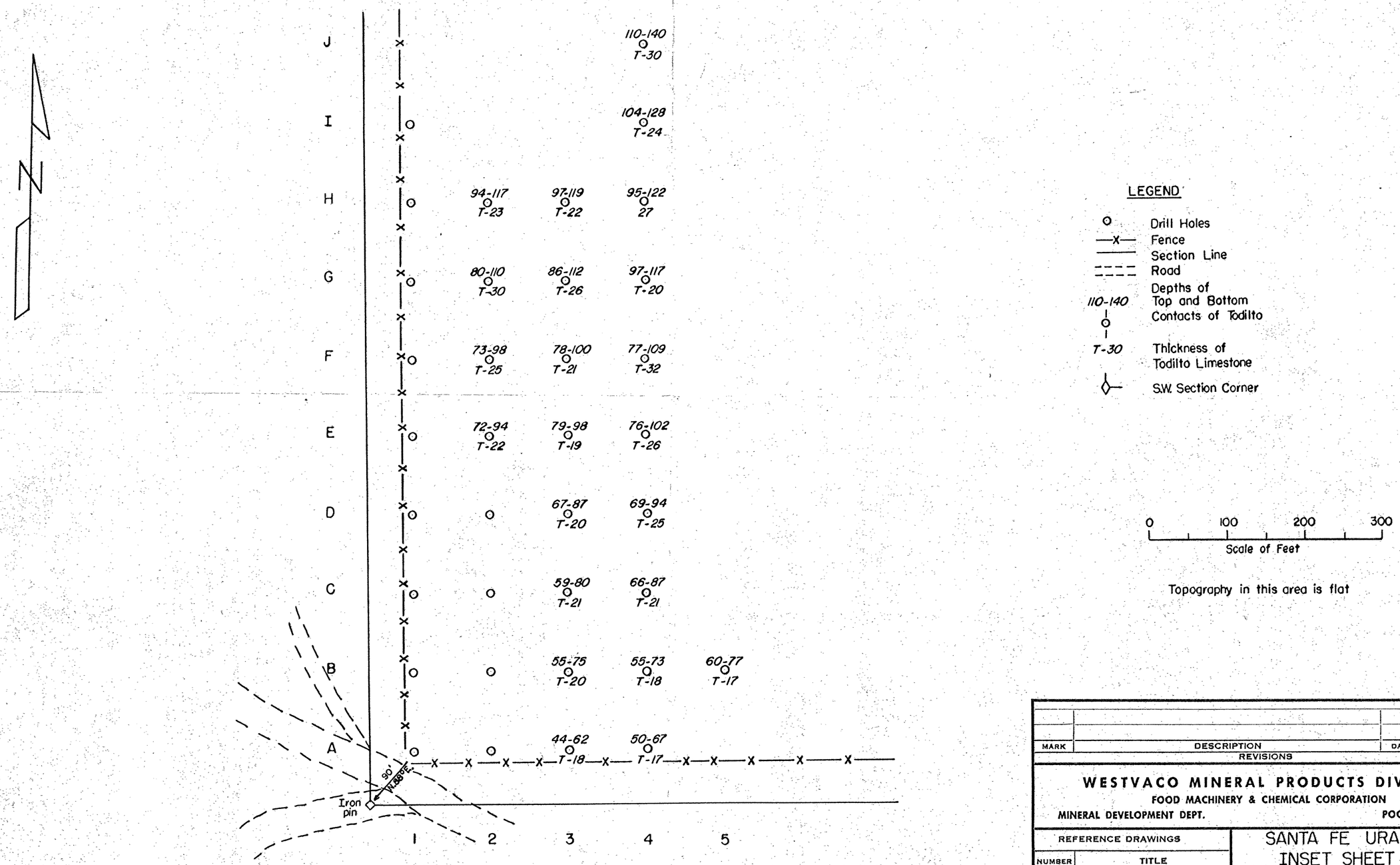

Topography in this area is flat

MARK	DESCRIPTION	DATE	BY	CHK.

REVISIONS

WESTVACO MINERAL PRODUCTS DIVISION

FOOD MACHINERY & CHEMICAL CORPORATION

MINERAL DEVELOPMENT DEPT. POCATELLO, IDAHO

REFERENCE DRAWINGS

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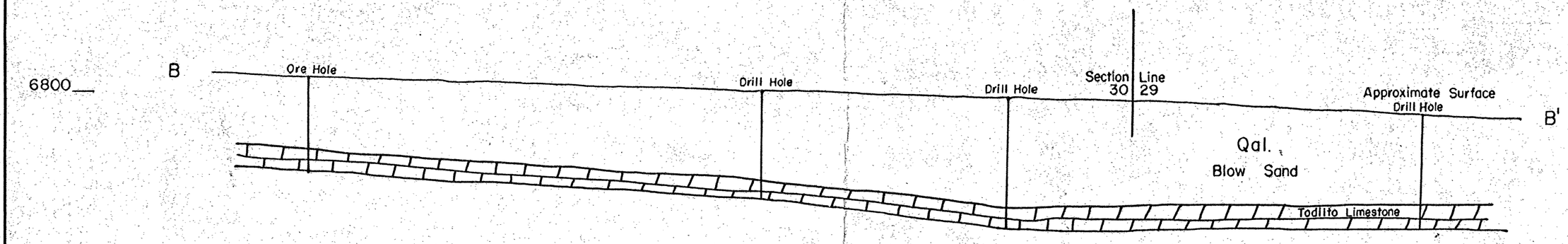
WESTVACO MINERAL PRODUCTS DIVISION

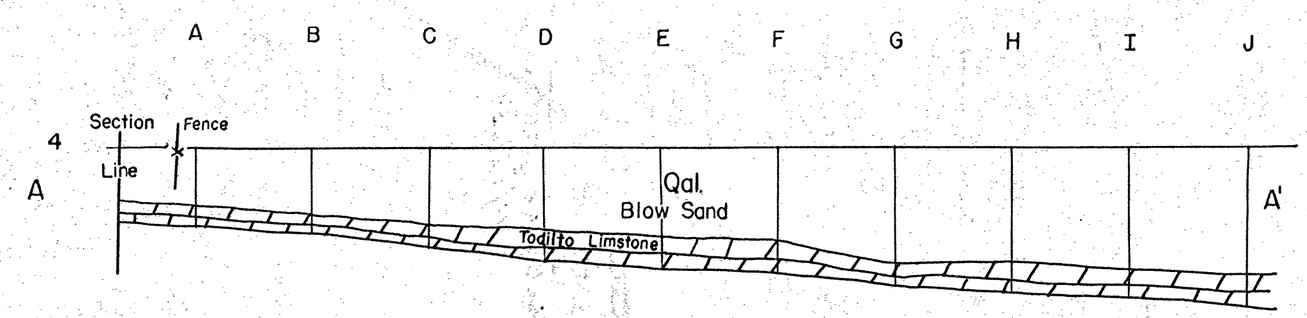
SANTA FE URANIUM
INSET SHEET No. 1
Santa Fe Drill Holes on
Section 29, T.13N., R.10W., NMPM

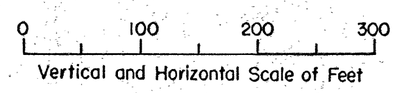
DRAWN M.D.	APPROVED.
CHECKED	APPROVED.
CHARGE	DRAWING NO.
SCALE 1" = 100'	796
PRINT DATE 10-25-'55	



E-W Cross Section Approximately 1000'
North of South Section Line of Section 29-30
Regional dip – to East 1°

Cross Section along line 4
Section 29





Topography is flat – 10'
Regional dip – to North 6.6 % = 3°

MARK	DESCRIPTION	DATE	BY	CHK.

REVISIONS

WESTVACO MINERAL PRODUCTS DIVISION
FOOD MACHINERY & CHEMICAL CORPORATION
MINERAL DEVELOPMENT DEPT. POCATELLO, IDAHO

REFERENCE DRAWINGS

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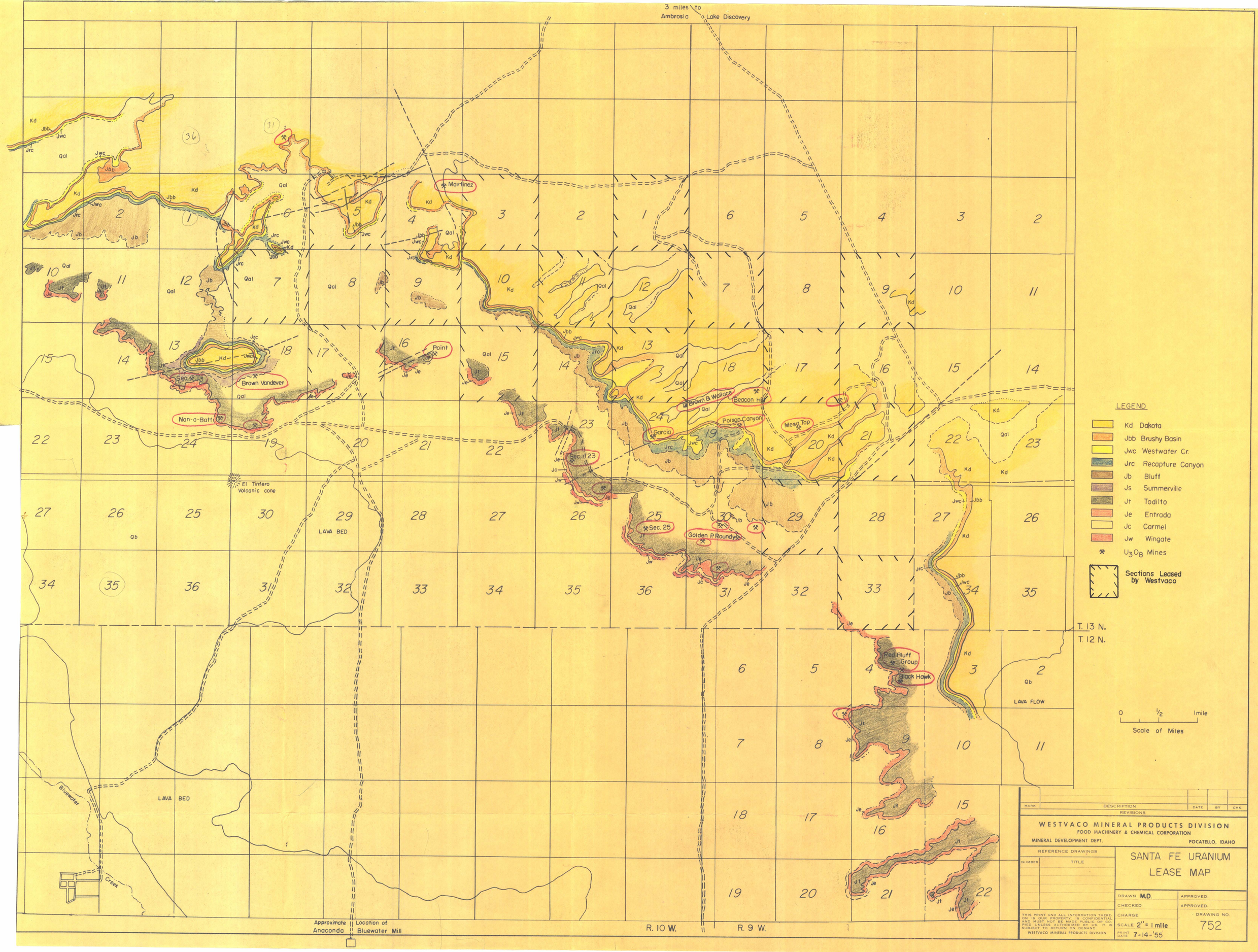
WESTVACO MINERAL PRODUCTS DIVISION

SANTA FE URANIUM
Cross Sections A-A' and B-B'
Section 29, T.13N., R.10W., NMPM

DRAWN M.D.	APPROVED.
CHECKED	APPROVED.
CHARGE	DRAWING NO.
SCALE 1" = 100'	797
PRINT DATE 10-25-'55	


3 miles to Ambrosia Lake Discovery
Martinez
Point
Brown Vandever
Nan-a-Batt
Sec. 13
El Tintero Volcanic cone
LAVA BED
Sec. 23
Sec. 25
Golden P Roundy
Brown & Wallace
Beacon Hill
Poison Canyon
Garcia
Mesa Top
Red Bluff Group
Black Hawk
LAVA FLOW
Bluewater Creek
T. 13 N.
T. 12 N.
R. 10 W.
R. 9 W.
Approximate Location of Anaconda Bluewater Mill
LEGEND
Kd Dakota
Jbb Brushy Basin
Jwc Westwater Cr.
Jrc Recapture Canyon
Jb Bluff
Js Summerville
Jt Todilto
Je Entrada
Jc Carmel
Jw Wingate
U3O8 Mines
Sections Leased by Westvaco
0 1/2 1 mile
Scale of Miles
MARK DESCRIPTION DATE BY CHK
REVISIONS
WESTVACO MINERAL PRODUCTS DIVISION
FOOD MACHINERY & CHEMICAL CORPORATION
MINERAL DEVELOPMENT DEPT.
POCATELLO, IDAHO
REFERENCE DRAWINGS
NUMBER TITLE
SANTA FE URANIUM LEASE MAP
DRAWN M.D.
APPROVED
CHECKED
APPROVED
CHARGE
SCALE 2" = 1 mile
PRINT DATE 7-14-'55
DRAWING NO. 752
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WESTVACO MINERAL PRODUCTS DIVISION