OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

OFFICIAL FILE COPY
O. M. E.
RECEIVED FEB 19 1959

DATE	INITIALS	CODE
2-19	C	220
		800

REPORT OF REVIEW

I have reviewed the Monthly Reports of:

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

pertaining to Exploration Project Contract No. Idm-E1220, DMEA No. 5009, for the period June 24, 1958 to October 4, 1958, inclusive, covering a project for the exploration of Uranium on property known as E ½ Sec. 21, 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, verification of work performed by reference to Field Team reports and correspondence, and a determination of the reasonableness and propriety of the costs.

This review was made in lieu of a final audit of the Operator's accounts and records for the reasons given on the attachment to this report.

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

Total cost as billed by Contractor		$21,469.60
Exceptions: (Schedule attached)		
Prior to this review	$3,854.54	
Less: Reinstatement by review	0.00	
Herewith	0.00	3,854.54
Total Accepted Cost		$17,615.06

The contract calls for a 50 percent participation of exploration expenses by the United States Government. Therefore, payment to the contractor by the Government in the amount of Eight Thousand, Eight Hundred Seven and 53/100ths Dollars is valid and proper, provided that the Regional Executive Officer, the Director, or other competent official has accepted or will accept the project as having otherwise met the terms of the contract.

Amount payable to Operator	$8,807.53
Amount reimbursed	8,307.53
Balance due Operator	$ 500.00

Donald T. Finch
Donald T. Finch
OME Auditor

February 17, 1959

REASONS FOR REPORT OF REVIEW IN LIEU OF FINAL AUDIT

CONTRACT NO. Idm-H1220 DOCKET NO. DMRA-5009

FOOD MACHINERY AND CHEMICAL CORPORATION

(a) The monthly reports were supported by documentary proof of that portion ($14,697.80) of the costs which covered work performed at unit rates under independent contract (per summary attached)

(b) The balance($2,917.26) of the costs incurred were under a contract provision for payment by the Government on the basis of fixed unit costs of work actually performed; and

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

FOOD MACHINERY AND CHEMICAL CORPORATION

CONTRACT NO. Idm-81220 DOCKET NO. IMBA 5009

SCHEDULE OF EXCEPTIONS

Disallowances by Field Team

1.25 hours of Bulldozing not performed at $12.00 per hour	$ 15.00	
3,599 feet of excessive non-core drilling at 65¢ per hour	2,339.35	
13.5 hours of unauthorized standby time	202.50	
3,456 feet of excessive probing and logging at 75¢ per foot	259.21	
3,599 feet of excessive incidental allowance footage at 14.5¢ per foot	521.86	
Incidental allowance claimed at rate in excess of contract authorization of 14.5¢ per foot of acceptable drilling	516.62	
TOTAL PRIOR DISALLOWANCES		$3,854.54

FOOD MACHINERY AND CHEMICAL CORPORATION

CONTRACT NO. 14s-R1820 DOCKET NO. [illegible] 5009

SUMMARY OF DOCUMENTED COSTS

Independent Contracts		
Bulldozing		
10 hours at $12.00 per hour	$ 120.00	
Non-core drilling		
20,119 feet at 65¢ per foot	13,077.35	
Probing and logging		
20,906 feet at 7.5¢ per foot	1,500.45	
Total Independent Contracts		$14,697.80
Fixed Unit Costs		
Incidental Allowance		
20,119 feet of acceptable drilling completed at 14.5¢ per hour		2,917.26
TOTAL ACCEPTED COSTS		$17,615.06

FEB 19 1959

Mr. Donald T. Finch
[illegible]
224 Ney Condominiums
Denver 2, Colorado

Re: Project No. [illegible] (Terminal)
[illegible] Chemical Corporation
Contract No. [illegible]

Dear Mr. Finch:

Your report of review on the above-referenced project is acceptable and upon[illegible] distribution is authorized.

Sincerely yours,

(Signed) J. L. Chambers

Jay L. Chambers
Contract Administration
and Audit Division

[illegible]
February 19, 1959

cc: Docket
Director's Reading File
Mr. Chambers

EXTRA COPY
O. M. E.
RECEIVED FEB 12 1959

DATE	INITIALS	CODE
		800

Denver, Colorado
February 10, 1959

Memorandum

To: Donald T. Finch, GSE Auditor, Region III

From: Executive Officer, GSE Field Team, Region III

Subject: Docket No. DMA 5089 (Uranium) Contract Ion-M1220
Food Machinery and Chemical Corporation, (Westvaco
Mineral Products Division) McKinley County, New Mexico

The subject contract was considered completed on completion of 81 of the possible 83 holes under Stage I, and the Operator was so informed by our letter of January 19, 1959, a copy of which is attached for your records.

The Operator has rendered its final report and final account, therefore final payment of the Operator's account is in order, contingent on release to this office of a Certificate and Report of Audit, or Report of Review of reported project costs, whichever the case indicates.

Acceptable units of work or service performed on a "Fixed Unit Cost" basis consisted of Incidental Allowance of 20,119 feet of drilling.

An amount of $500.00 was withheld from reimbursement to the Operator in processing its final accounting report, which was for the period, August 15, 1958, through October 4, 1958.

Original signed by
J. W. TOWNSEND
J. W. Townsend

Enclosures

JWC:bsh

cc: Chem. Op. Comm. (2)
Eskridge
Emerick
Rotsle, GSE/Wsh.
Corres.File, Reg.III
Cooper
Caren

EXTRA COPY O. M. E. RECEIVED MAR 2 1959		
DATE	INITIAL	CODE

22[illegible] New Customhouse
Denver 2, Colorado
February 25, 1959

Memorandum

To: T. A. Christensen

From: Executive Officer, OME Field Team, Region III

Subject: Docket No. DMRA 5009 (Uranium) Contract Ida-[illegible]
Food Machinery and Chemical Corporation ([illegible] Sec. 21, T 13 N, R 9 W) McKinley County, New Mexico -
FINAL PAYMENT

Reference is made to our memorandum of February 10, 1959, whereby we forwarded the final Form MF-10[illegible], Operator's Monthly Report and Voucher, for the period from August 15, 1958, through October [illegible], 1958, and requested that you withhold an amount of $500.00, from reimbursement to the Operator, pending resolution of matters prerequisite to closing the account.

The Operator's final report has been received, therefore, final payment to the Operator is to be made on the following basis, which is in accordance with the Report of Review of reported project costs, by the Contract Administration and Audit Division, OME, dated February 17, 1959.

Basis for Final Payment

Total accepted cost----------	$17,615.06
Government participation at 50 percent	8,807.53
Total prior payments----------	8,307.53
Balance due the Operator----------	$ 500.00

Original signed by
J. W. TOWNSEND
J. W. Townsend

JBC:hsh

cc: Chem. Op. Comm. (2)
Hagebman
Emerick
Romslo, OME/Tuc.
Corres.file, Reg.III
MF-10[illegible] file, Reg.III
Cooper
Chron

$500.00
2/26/59 OME 59-90

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

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

FEB 16 1959

OPERATOR'S MONTHLY REPORT AND VOUCHER

Period
Month of xxxxxx Aug. 15 thru Oct 4 8 195 Docket No. DMEA 5009 Contract No. DMEA E 1220
Operator's Name Food Machinery & Chemical Cor Materials O.M.E.-U radium
Address P.O. B ox 327, C rona New Mexico
Contract Amount, $ 14,952.00 Government Participation: 50 % Amount $ 21,459.60

ITEMS OF COSTS	Period xxxxx Monthly Total	FOR OPERATOR'S USE: Totals Previously Reported	FOR OPERATOR'S USE: Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	FOR GOVERNMENT USE ONLY: Approved Totals Previously Reported	FOR GOVERNMENT USE ONLY: Approved Totals To Date
(1) Independent Short Form Contracts: none core	15,619.20	none	15,619.20			
Drilling	135.00	none	135.00			
Bulldozing						
xxxxxx Logging	1,759.66	none	1,759.66			
Crosscutting xxxx Incidental	3,955.74	none	3,955.74			
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
xxxxxxxxxxxtotal	21,469.60		21,469.60			
Liability Insurance Contract amount stage I	14,952.00		14,952.00			
difference	6,507.60		6,507.60			
(8) Contingencies (specify): Request transfer Stage II funds to stage 1	6,507.60		6,507.60			
Totals	21,469.60	none	21,469.60	17,615.06		17,615.06

BUREAU OF MINES
NORTHWEST EXPERIMENT STATION
DEC 29 1958
TOOSUPAH, NEVADA

OME
DEPARTMENT OF THE INTERIOR
DEC 24 1958
DENVER, COLORADO

I certify that the above bill is correct and just and that payment therefor has not been received.
Date 12-20-58 *Payee Food Machinery & Chemical Corp.
Per R C Kuhman Title Supt. of Mines

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

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

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:
$ 8307.53
Signature
(Authorized Certifying Officer)
Date 2/12/59 Vou. No. DMEA 59-88
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. Edm-E 1220 in accordance with the terms of the contract.

Signature R. M. Romalo Title Mining Engineer Date 1/14/59

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE: Checked for Engineering Allowability

Signature [illegible] Title Executive Officer Date FEB 10 1959

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

FEB 26 1959
O.M.E.

OPERATOR'S UNIT COST AND PROGRESS REPORT

Period 7/15 thru 10/4

Month of ~~Xxxxx~~ 8 195 Docket No. DMEA 509 Contract No. IDM E1220

Operator's Name Food Machinery & Chemical Corp Minerals Uranium

Address P. O. Box 327 Grants, New Mexico

OPERATION	Unit	Costs This Month	Units This Month Period	Costs to Date	Units to Date Feet	Unit Costs to Date	Authorized by Contract Units	Authorized by Contract Unit Costs
							STAGE I *	
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core none	23,718		23,718	15,416.70	23,718	$0.65	23,718	$0.65
Churn								
Auger								
Stripping								
~~Xxxxx~~ Trenching Bulldozer				135.00	11.25hrs	$12.00	11.25hrs	$12.00
~~Xxxxx~~ Test Pits Logging			23,462	1,759.66	23,462	$0.075	23,462	$0.075
~~Xxxxxxxxxx~~ Roads and Trails Stand by time Drill				202.50	-	$15.00	13.5hrs	$15.00
Incidental			23,718	3,955.74	23,718	$0.67	23,568	$0.67
Total Distributed Costs				21,469.60				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs				21,469.60				

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

Date 12-20-58 Operator Food Machinery & Chemical

Per R C Kuhlman Title Supt of Mines

Remarks: * Request: transfer 7,118' Stage II footage allowance to Stage I allowance.
Transfer 6,968' Stage II Logging footage to Stage I allowance
Transfer 7,118' Stage II Incidental footage cost to Stage I Allowance
Increase Incidental allowance $0.145 per foot to $0.67 per foot

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

(Instructions on reverse)

(For Government use only)

M Rounds

INSTRUCTIONS

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

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

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

GPO 872894

224 New Customhouse
Denver 2, Colorado
February 13, 1959

EXTRA COPY O. M. E. RECEIVED FEB 16 1959		
DATE	INITIALS	CODE

Memorandum

To: Chairman, Operating Committee, OME

From: Executive Officer, OME Field Team, Region III

Subject: Docket No. DMEA 5009 (Uranium) Contract Ifm-11220 Food Machinery and Chemical Corporation, (Westvaco Mineral Products Division) McKinley County, New Mexico - Operator's Monthly and Final Progress Report for the period, August 15 through October 4, 1958

Enclosed are two copies of voucher and accounting Forms MF-104 and MF-104A, Operator's Narrative Report, and supporting data for the period, August 15, through October 4, 1958.

The Operator's narrative report is intended to serve also as its final report as required under Article 7 (c) of the contract form. The report appears to be satisfactory, therefore we recommend that it be accepted as complying with the contract requirements.

Original signed by
J. W. TOWNSEND
J. W. Townsend

Enclosures

JDC:kmh

cc: Harshman - one copy narrative section, maps, and logs forwarded by memo. of 1/9/59
Rosalo, OME/Tuc. - w/copy complete report
Final Report file, Reg. III - w/copy narrative section, maps and logs
MF-104 file, Reg. III - w/copy voucher and accounting forms and cost documentation
Emerick
Corres. file, Reg. III
Cooper
Chron

EXTRA COPY
O. M. E.
RECEIVED FEB 16 1959

DATE	INITIALS	CODE

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
REGION III

Administrative Audit Difference Statement

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

Date: February 12, 1959
Payee's Reference: August 15, 1948, through October 4, 1958

Gentlemen:

Upon examination of the above Payee's Reference a difference was found which made it necessary to suspend your account accordingly:

Amount Claimed $ 21,469.60

Difference $ 3,854.54

Amount Approved $ 17,615.06

The reason for the difference was due to:

Disallowance, Non-core Drilling

Reported cost, 83,718 feet at total cost of $15,619.20

Allowable cost, 20,119 feet at $0.65 per foot $13,077.35

Amount to be disallowed ---------- $2,541.85

Disallowance, Radioactric Logging

Reported cost, 23,462 feet at $0.075 per foot $1,759.65

Allowable cost, 20,006 feet at $0.075 per foot $1,500.45

Amount to be disallowed ---------- $ 259.21

(CONTINUED ON ATTACHED SHEET)

Any reclaim for deductions made above must be supported by the ORIGINAL of this form.

Very sincerely yours,

N. E. Stokes
Audit Section

R-III-B & F Form No. 4
4-15-52 D

Disallowance, Incidental Allowance

Reported cost, 23,718 feet at total cost of $3,955.74

Allowable cost, 20,119 feet at $0.145 per foot ---------- $2,917.26

Amount to be disallowed ---------- $1,038.48

Disallowance, Bulldozing

The Operator has reported 11.25 hours bulldozing; however, the bulldozing contractor's statement shows that only 10 hours of bulldozing was performed. The reported cost for 1.25 hours bulldozing is disallowed, as follows:

Disallowed, reported cost for 1.25 hours bulldozing at $12.00 per hour ---------- $ 15.00

Total amount disallowed ---------- $3,854.54

Withheld an amount of $500.00 from reimbursement to the Operator, pending resolution of matters prerequisite to closing the account. The contract was considered completed on completion of 81 of the possible 83 holes under Stage I, and the Operator was so notified by letter of January 19, 1959, a copy of which was forwarded to you at the time of writing.

224 New Customhouse
Denver 2, Colorado
February 10, 1959

Memorandum

To: T. A. Christensen

From: Executive Officer, QME Field Team, Region III

Subject: Docket No. DMEA 5009 (Uranium) Contract Idm-81220
Food Machinery and Chemical Corporation, (Westvaco
Mineral Products Division) McKinley County, New Mexico,
Operator's Monthly Progress Report for the period,
August 15 through October 4, 1958

Enclosed are the original and four copies each of Forms MF-104 and MF-104A, Operator's Narrative Report, and Engineer's Report for the above period.

The work is being performed partly under independent subcontract and partly at fixed unit costs. The drilling rates are as low or lower than the rates contained in the lowest and best bid submitted with the application, and are considered to be reasonable.

Except as otherwise indicated below, we consider that the Operator has complied with the intent of the contract, and the work for which payment is recommended is acceptable to the Government. Payment is recommended on the following basis contingent on your verification of the correctness of applicable rates and arithmetical accuracy of computations.

The Operator has reported considerable excess drilling below the objective stated in the contract. The excess drilling could have been avoided by applying controls which are in common use in the project area, therefore, the reported costs for excess non-core drilling, incidental allowance, and radiometric probing, are to be disallowed, based on the attached tabulation submitted by the QME field inspectors.

<u>Disallowance, Non-core Drilling</u>

Reported cost, 23,718 feet at total cost of	$15,619.20
Allowable cost, 20,119 feet at $0.65 per foot	13,077.35
Amount to be disallowed	$2,541.85

Disallowance, Radiometric Logging

Reported cost, 23,462 feet at $0.075 per foot	$1,759.66	
Allowable cost, 20,006 feet at $0.075 per foot	1,500.45	
Amount to be disallowed		$ 259.21

Disallowance, Incidental Allowance

Reported cost, 23,718 feet at total cost of	3,955.74	
Allowable cost, 20,119 feet at $0.145 per foot	2,917.26	
Amount to be disallowed		1,038.48

Disallowance, Bulldozing

The Operator has reported 11.25 hours bulldozing, however, the bulldozing contractor's statement shows that only 10 hours of bulldozing was performed. The reported cost for 1.25 hours bulldozing is to be disallowed, as follows:

Disallow, reported cost for 1.25 hours bulldozing at $12.00 per hour	15.00
Total amount to be disallowed	$3,854.54

Withhold an amount of $500.00 from reimbursement to the Operator, pending resolution of matters prerequisite to closing the account. The contract was considered completed on completion of 81 of the possible 83 holes under Stage I, and the Operator was so notified by letter of January 19, 1959, a copy of which was forwarded to you at the time of writing.

Reconciliation With Amount Reported by the Operator on Form NF-104 for the Period, August 15-October 4, 1958

Amount reported on Form NF-104 for the period, August 15-October 4, 1958	$21,469.60
Amount to be disallowed	3,854.54
Total acceptable cost	$17,615.06
Government participation at 50 percent	8,807.53
Amount to be withheld	500.00
Balance due the Operator	$ 8,307.53

Remarks:

Date of Report----------December 20, 1998
Date Received in Field Office----------December 29, 1998
Date Received in Region Office----------February 6, 1999
Reason for delay: Held in Field Office pending transfer of footage from Stage II to Stage I.

Original signed by
J. W. TOWNSEND

J. W. Townsend

Enclosures

JEC:hmb

cc: Chmn. Op. Comm. (2)
Ramsle, CMS/TUC.
MF-104 file, Reg. XII
Hardman
Hendrick } w/copy Engr's Report
Cooper
Chron

Hole No. N.	Hole No. E.	Drilled	Operator's Base* of Poison Canyon	Footage claimed by Operator	Base of Poison Canyon	Allowed by Field Examiners	Allowable Logging	Remarks
300	4950	320	---	105	---	106	106	Footage allowed to 25 feet below first recognizable contact, or Westwater Canyon-Recapture contact at 81'; see text for explanation.
600	4950	220	---	169	---	149	149	" " " " " " " " " " " "
900	4950	162	---	162	---	162	162	Hole stopped at 10' below Westwater Canyon-Recapture contact.
1200	4950	86	***NR	86	72	86	86	
1500	4950	149	***NR	149	139	149	147	
1800	4950	170	***NR	170	163	170	168	
2100	4950	320	285	311	217	242	242	
2400	4950	290	***NR	290	269	290	290	
2700	4950	442	429	442	308	333	333	
3000	4950	465	465	465	375	400	400	Operator does not indicate Westwater-Recapture contact.
3300	4950	466	***NR	466	415	440	440	
3600	4950	562	555	562	463	488	488	
3900	4950	405	362	405	320	345	345	Operator's base of Poison Canyon more likely at 390'.
4200	4950	240	219	240	146	171	171	
4500	4950	240	202	227	139	164	164	
4800	4950	210	***NR	210	203?	210	203	Bottom 7' of hole filled with debris and not electrically logged; [redacted]
5100	4950	341	271	296	213	238	238	
150	4450	142	---	142	---	142	139	See remarks for Holes 300-4950, 600-4950, 900-4950.
450	4450	164	---	164	---	164	145	" " " " " " " .
750	4450	120	***NR	120	109	120	118	
1350	4450	230	***NR	230	207	230	230	
1650	4450	290	***NR	290	254	279	279	
1950	4450	318	***NR	318	302	318	318	
2250	4450	396	***NR	396	364	389	389	
2550	4450	470	***NR	470	414	439	439	
2850	4450	470	***NR	470	436	461	461	
3150	4450	475	---	475	---	475	475	Total depth allowed because critical units not recognizable by either logging method owing to Fault zone.
3450	4450	390	***NR	390	210	235	235	
3750	4450	225	***NR	225	147	172	172	
4050	4450	316	210	261	159	184	184	
4350	4450	255	223	250	182	207	207	
4650	4450							Not drilled -- inaccessible.
4950	4450	300	285	300	219	244	244	
300	3950	150	***NR	150	125	150	149	
600	3950	210	***NR	210	195	210	208	
900	3950	301	***NR	301	232	257	257	
1200	3950	416	391	416	278	303	303	
1500	3950	379	***NR	379	345	370	370	
1800	3950	488	470	488	367	392	392	
2100	3950	426	***NR	426	420	426	425	
2400	3950	510	***NR(?)	510	468	510	509	Examiners allow all below top Poison Canyon contact because of nearness to fault and possible drag increasing section & otherwise obscuring definite contacts.

		Operator's						
		Drilled	Poison Canyon	Operator	Canyon		Logging	Remarks
[illegible]	[illegible]	[illegible]	***NR	223	[illegible]	223	223	
[illegible]	[illegible]	330	[illegible]	[illegible]	[illegible]	209	209	Westwater appears to have a muddier facies than usual.
3300	[illegible]	245	***NR	[illegible]	183	200	200	Relationship obscure below Poison Canyon.
[illegible]	3950	270	196	[illegible]	108	133	133	
[illegible]	[illegible]	[illegible]	210	230	120	145	145	
4100	3950	[illegible]	213	244	136	161	161	
[illegible]	3950	[illegible]	224	231	145	170	170	
4[illegible]00	3950	300	225	229	151	176	176	
5100	3950	270	232	257	162	187	187	
150	3450	254	257	204	198	223	223	
450	3450	270	***NR	270	260	270	269	
750	3450	330	***NR	330	318	330	329	
1050	3450	300	346	366	348	366	366	Examiners interpret Poison Canyon as 2 sandstones with mud split.
1350	3450	512	503	512	372	397	397	
[illegible]	3450	495	***NR	495	435	470	470	
1950	3450	220	172	199	155	180	180	
2250	3450	300	175	201	159	184	184	
2550	3450	202	196	221	179	204	204	
2[illegible]50	3450	225	160	206	96	123	123	
3150	3450	220	213	220	120	145	145	
3450	3450	280	200	227	117	142	142	
3750	3450	305	203	230	121	146	146	
4050	3450	250	215	241	136	161	161	
4350	3450	270	229	253	149	174	174	
[illegible]	3450	200	230	253	160	185	185	
4950	3450	250	238	250	165	190	190	
300	2950	449	418	440	326	351	351	
[illegible]	2950	435	***NR	435	370	395	395	
900	2950							Not completed -- lost circulation.
1200	2950	465	***NR	465	?	465	395	All allowed -- indeterminate -- lower part of hole unrecognizable.
1500	2950	255	***NR	206	180	205	205	
1800	2950	185	***NR	185	160	185	184	
2100	2950	229	***NR	224	175	200	200	
2700	2950	229	213	229	121	146	146	
3000	2950	335	306	330	243	268	268	
3300	2950	330	317	330	225	250	250	
3600	2950	335	315	335	230	255	255	
3900	2950	320	298	320	215	240	240	
4200	2950	316	239	269	155	180	180	
4500	2950	350	320	345	242	267	267	
4[illegible]00	2950	274	255	274	173	198	198	
[illegible]100	2950	288	250	277	167	192	192	
Total [illegible] Holes		24,954		23,594		20,119	20,006	

OME
DEPARTMENT OF THE INTERIOR
FEB 6 - 1959
REGION III
DENVER, COLORADO

February 4, 1959

Memorandum

To: J. W. Townsend, Executive Officer, OME Field Team, Region III

From: T. M. Rumsle, Mining Engineer, Tucson, Arizona

Subject: Progress Report for Aug. 14 to Oct. 4, 1958, Docket DMEA-5009 (Uranium), Contract Ida-E1330, Food Machinery and Chemical Corporation (Westvaco Mineral Products Division), McKinley County, N. Mex.

On September 2, 1958 while in the vicinity on OME business I briefly visited the exploratory project of subject contract. I was accompanied by Robert Kirchman, the corporation's superintendent of mines, and Robert Tipton, a consulting mining geologist retained by the corporation principally for supervision of the project. Wet drilling, which reportedly had started August 14, 1958 after completion of recovery surveys, was being done with 3 rotary type rigs owned by Stewart Bros. & Parker Drilling Co. of Grants, N. Mex. The location of the drilling sites and the sampling procedures appeared to be as specified by the contract. According to Mr. Tipton, radiometric logging of the holes, all of which were known on the basis of tests made on drill cuttings, was about to be started by Log-Master Services, Inc. An inspection of the field work that was reportedly completed October 4, was made by me October 14, 1958 in the company of W. L. Emerick, geologist, U. S. Geological Survey, and Messrs. Kirchman and Tipton. The findings indicated that no zones of significant uranium mineralization had been encountered in the drilling of 51 of the authorized 55 holes. Above background radioactivity appeared to be confined to about 1 foot of 0.02 to 0.05 percent U_3O_8 in hole 2100-3950 and approximately 1 foot of 0.01 percent U_3O_8 in hole 1200-3400. The findings also indicated that the average depth to which holes were drilled was much greater than had been anticipated.

In answer to E. N. Hornbaur's letter of October 29, 1958, the Operator's letter of November 5, 1958 stated that additional drilling of section 21 under stage II is not justified, and also requested that Governmental participation

CC Exec. Off. (Orig. & 8)
OME/Tus.Res.Rpt. DMEA-5009
DF

TMRumsle:fr

in the excessive drilling be provided for by transferring the total funds and units of work of Stage II to Stage I. The Operator was informed in your letter of November 19, 1958 that no action on the request could be taken until complete data pertaining to the Stage I drilling is received. Upon receipt of 1 set of the complete data Dec. 29, 1958, Mr. Emerick and I made a detailed analysis of the Stage I drilling. Our findings were included in a joint memorandum to you of Jan. 8, 1959. On this date we also forwarded to you a memorandum containing our recommendation relative to termination and non-certification of the project.

ANALYSIS OF THE OPERATOR'S REPORT

The present distribution of the several items of the Operator's Report as listed in R. C. Kirchman's letter to you of December 12, 1958 is as follows:

Attached to this report: Original and 4 copies of each the MF-104 and 104A forms, and statements by each Stewart Bros. and Parker, Jack Elkins, and the Grants Engineering Co. The latter statement is not a necessary part of the report. Also attached are the original and 4 copies of Log-Master Services, Inc.'s statement that was submitted with the report but which was not listed by Mr. Kirchman.

Retained at Tucson: One copy of each of the items listed by Mr. Kirchman plus a copy of the logging contractor's statement.

Retained in Denver: Six copies of each map Nos. 1 and 2 and the hole logs and one copy of each of the items listed above as being attached to this report.

The approved drilling and logging footages as given below are those recommended by Mr. Emerick and me in our joint memorandum to you of Jan. 8, 1959.

Form MF-104A

Drilling (non-core)

Vouchered Cost: The vouchered cost is $15,619.20 for 22,718 feet of drilling at the authorized cost of $0.65 per foot, plus $202.50 for 13½ hours of stand-by time at $15.00 per hour.

Approved Cost: The approved cost is $13,077.35 for 20,119 feet of drilling at $0.65 per foot. The disapproved portion of the vouchered costs totals $2,541.86 of which $202.50 is for the non-authorized stand-by time and the remaining $2,339.36 represents the cost of 3,599 feet of drilling. The 3,599 feet of drilling comprises the 124 feet overcharged by the drilling contractor and the 3,475 feet disapproved by the DMRA field examiner.

Performance of the drilling at the authorized cost per foot is documented by Stewart Inc. and Parker Drilling Co.'s attached statement.

Bulldozing

Vouchered Cost: The vouchered cost is $135.00 for 11.25 hours of work at $12.00 per hour.

Approved Cost: The approved cost is $120.00 for the 10 hours of work documented by Jack Miller statement at the contract's specified cost of $12.00 per hour. A total of $15.00 of the vouchered cost is not allowable.

Logging

Vouchered Cost: The vouchered cost of $1,759.46 which includes an overcharge of 1 cent, is for 23,462 feet of logging at $0.075 per foot.

Approved Cost: The approved cost is $1,509.45 for 20,126 feet of logging at the authorized cost of $0.075 per foot. The disapproved portion of the vouchered cost totalling $249.21 represents the 3,486 feet of excessive logging, as determined by the field examiner, at $0.075 per foot.

Performance of the logging at $0.075 per foot is documented by Log-Master Services, Inc.'s attached statement.

Incidental

Vouchered Cost: The vouchered cost of $3,955.74 is for 23,718 feet of drilling at approximately $0.167 per foot and not $0.67 as shown and requested on form MF-104A.

Approved Cost: The approved cost of $2,917.26 is the additional cost of the field examiner allowable 20,119 feet of drilling at the contract's fixed cost of $0.145 per foot. The disapproved portion of the vouchered costs is $1,038.48.

Totals

The vouchered, disapproved, and approved costs for the report period during which all allowable work was performed are as follows:

	Vouchered	Disapproved	Approved
Drilling	$15,419.30	$2,541.85	$13,877.35
Bulldozing	135.00	15.00	120.00
Logging	1,759.66	259.21	1,500.45
Incidental	3,985.74	1,068.48	2,917.26
	$21,299.70	$3,884.54	$17,415.16

Form 104-A

The form has been completed in an unsatisfactory manner. It contains errors which have been noted in my analysis of Form MF-104 and many entries for authorized units and unit costs that are not as specified by the contract.

Narrative Report

This portion of the report is contained in the acceptable Final Report. Included with the report is a location map and a map of stratigraphic and structural sections.

RECOMMENDATION

Withhold payment to the operator of an amount commensurate with the Government's share of the cost of the project pending resolution of matters prerequisite to closing the contract.

Original signed by
T. M. Remsio
T. M. Remsio

Log-Master Services, Inc.

ENID, OKLAHOMA

G. S. CORNISH, PRES.

Box 872

CUSTOMER'S ORDER REFERENCE	DISTRICT

SOLD TO: Westvaco,
Box 327,
Grants, New Mexico

DATE: Sept. 11, 1958
~~Sept. 12, 1958~~

TERMS: net 30 days

SHIP TO:

INVOICE No. 5057

DATE SHIPPED	VIA	PPD	COL	FROM	F. O. B.

ITEM NO.	QUANTITY	DESCRIPTION	CREDIT OR DEBIT	UNIT PRICE	AMOUNT
		Gamma Ray-Resistance Logs Sec. 21, T13N-R9W			
	Ticket no.				
	183	8-21-58 Hole no. 300-3950 149'			$ 11.18
	"	" " 750-4450 118'			8.85
	"	" " 450-4450 145'			10.88
	"	" " 150-4450 139'			10.43
	184	8-22-58 " " 750-3450 329'			24.68
	"	" " 150-3450 262'			19.65
	185	8-23-58 " " 450-3450 269'			20.18
	186	8-25-58 " " 1200-2950 395'			29.63
	"	" " 300-2950 448'			33.45
	187	8-26-58 " " 900-2950 227'			17.03
	"	" " 300-4950 319'			23.93
	188	8-27-58 " " 600-4950 217'			16.28
	"	" " 600-2950 432'			32.40
	"	" " 900-4950 162'			12.15
	189	8-28-58 " " 1200-4950 86'			6.45
	"	" " 1500-4950 147'			11.03
	"	" " 1800-4950 168'			12.60
	190	8-29-58 " " 2100-4950 315'			23.62
	"	" " 2400-4950 291'			21.83
	191	8-30-58 " " 2700-4950 442'			33.15
	"	" " 2250-4450 396'			29.70
					$409.10
		New Mexico tax 2%			8.18
					$417.28

Extensions checked by WDT

Appr'd for paym't Grants BCK

Appr'd for paym't Pocatello ---

Payment date ----------

Voucher No. ----------

Account No. ----------

SIGNED BY R. A. Gaulden

Log-Master Services, Inc.

ENID, OKLAHOMA

G. O. GORNION, PRES. Box 872

CUSTOMER'S ORDER REFERENCE | DISTRICT

SOLD TO: Westvaco,
Box 327,
Grants, New Mexico

DATE: Oct. 13, 1958 ~~Nov. 13, 1958~~

TERMS: net 30 days

SHIP TO:

INVOICE No. 5054 ~~5019~~

DATE SHIPPED | VIA | PPD COL | FROM | F. O. B.

ITEM NO.	QUANTITY	DESCRIPTION	CREDIT OR DEBIT	UNIT PRICE	AMOUNT
		Gamma Ray-Resistance Sec. 21, T13N-R9W			
192	9-2-58	Hole no. 1500-3950 375'			$ 28.15
193	9-3-58	" " 1950-4450 318'			25.86
"	"	" " 1200-3950 415'			30.93
"	"	" " 1650-4450 287'			21.55
194	9-4-58	" " 1350-4450 230'			17.25
"	"	" " 900-3950 297'			22.28
"	"	" " 600-3950 208'			15.60
195	9-5-58	" " 1050-3450 366'			18.30
196	9-6-58	" " 1950-3450 215'			16.13
"	"	" " 2250-3450 300'			22.50
197	9-8-58	" " 2550-4450 469'			35.18
"	"	" " 1800-2950 184'			13.80
198	9-9-58	" " 2850-4450 470'			35.25
"	"	" " 2400-3950 509'			38.18
199	9-10-58	" " 3000-4950 465'			34.88
"	"	" " 2100-3950 425'			31.87
200	9-11-58	" " 2850-3450 325'			24.38
"	"	" " 3300-4950 455'			34.13
"	"	" " 3150-3450 218'			16.35
253	9-12-58	" " 3000-3950 351'			26.33
"	"	" " 3450-3450 281'			21.03
"	"	" " 3300-3950 245'			18.38
255	9-13-58	" " 3750-3450 303'			22.73
"	"	" " 3600-3950 370'			27.75
256	9-15-58	" " 3900-3950 255'			19.13
"	"	" " 4050-3450 242'			18.15
258	9-16-58	" " 4200-3950 285'			21.38
"	"	" " 4350-3450 270'			20.25
"	"	" " 4500-3950 269'			20.18
260	9-17-58	" " 4800-3950 330'			27.00
"	"	" " 4950-3450 252'			18.90
261	9-18-58	" " 4650-3450 270'			20.25

Extensions checked by WDT

Appr'd for paym't Grants WW

Appr'd for paym't Pocatello

Payment date

Voucher No.

Count No.

SIGNED BY R. A. Gaulden

Loy-Master Services, Inc.

ENID, OKLAHOMA

S. S. CORNION, PRES.

CUSTOMER'S ORDER REFERENCE | DISTRICT

SOLD TO

DATE | TERMS

SHIP TO

INVOICE No. 5054 P.2

DATE SHIPPED | VIA | PPD COL | FROM | F. O. B.

ITEM NO.	QUANTITY	DESCRIPTION				CREDIT OR DEBIT	UNIT PRICE	AMOUNT
	262	9-19-58	Hole no.	3450-4450	375'			$ 28.13
	"	"	"	5100-3950	270'			20.25
	"	"	"	3000-2950	335'			25.13
	264	9-20-58	"	3750-4450	224'			16.80
	"	"	"	4050-4450	316'			23.70
	"	"	"	3300-2950	330'			24.75
	265	9-22-58	"	3600-2950	335'			25.13
	266	9-23-58	"	1350-3450	511'			38.33
	"	"	"	3900-2950	320'			24.00
	267	9-24-58	"	1500-2950	255'			19.13
	"	"	"	1800-2950	475'			35.63
	"	"	"	4500-2950	350'			26.25
	268	9-25-58	"	3600-4950	561'			42.08
	"	"	"	4200-2950	316'			23.70
	269	9-26-58	"	4800-2950	274'			20.55
	"	"	"	1650-3450	475'			35.63
	"	"	"	3150-4450	475'			35.63
	"	"	"	5100-3950	288'			21.60
	270	9-29-58	"	4350-4450	251'			18.83
	"	"	"	2550-3450	261'			19.58
	"	"	"	2100-2950	230'			17.25
	271	9-30-58	"	3900-4950	390'			29.25
	"	"	"	4200-4950	240'			18.00
	"	"	"	2700-2950	229'			17.18
	272	10-1-58	"	2700-3950	237'			17.78
	"	"	"	4500-4950	240'			18.00
	273	10-2-58	"	5100-4950	335'			25.13
	"	"	"	4800-4950	203'			15.23
	275	10-4-58	"	4950-4450	300'			22.50
		New Mexico tax 2%						$1,452.56
								29.05
								$1,481.61

Extensions checked by ____ WDT

Appr'd for paym't Grants ____ BCK

Appr'd for paym't Pocatello ____

Payment date ____

Voucher No. ____

Account No. ____

SIGNED BY R. A. Gauldin

STATEMENT

DATE October 10 1958

NAME Westvaco Mineral Products, FMC

ADDRESS Grants

New Mexico

In Account With

Stewart Bros. & Parker

Drilling Company

Phone AT 7-4416 P. O. Box 2067

GRANTS, NEW MEXICO

	Amount
Exploration drilling on your Section 21, Ewell Drilling program, as per attached schedules:	
Rig #10 - 11,551 feet, 3 hours	
Rig #11 - 6,045 feet, 2 hours	
Rig #15 - 7,482 feet, 14 hours	
25,078 feet, 19½ hours	
25,078 feet @ 64¢ per feet	$16,050.70
19½ hours @ $15.00 per hour	292.50
	$16,343.20
2% New Mexico School Tax	326.86
TOTAL	$16,673.26

Certified true and correct:

Stewart Bros. & Parker Drilling Company

By H M Stewart, Partner

Westvaco Mineral Products Div. of Food Machinery & Chemical Company

By B C Kirkman

Extensions checked by WDT

Appr'd for paym't Grants

Appr'd for paym't Fee Lease

Payment date

Voucher No.

Account No.

Westvaco Mineral Products - Section 21
UMRA Drilling Program
RMB #10

Date	Hole	Footage	Hours	Remarks
8/20	900-3950	150		
8/21	450-4450	164		
	150-4450	142		
8/22	150-3450	264		
8/25	900-2950	449		
8/27	600-2950	435	1	Awaiting Probe
8/28	1500-4950	149		
8/29	2100-4950	320		
8/30	2700-4950	442		
9/2	1500-3950	377		
9/3	1200-3950	416		
9/4	900-3950	901		
	600-3950	210		
9/5	1950-3450	220		
9/6	2250-3450	300		
9/8	1800-2950	185		
9/9	2400-3950	510		
9/10	2100-3950	426		
9/11	2850-3450	349		
	3150-3450	220		
9/12	3450-3450	280		
9/13	3750-3450	305		
9/15	4050-3450	250		
9/16	4350-3450	270		
9/17	4650-3450	280		
	4950-3450	250		
9/18			2	Washout 4650-3450
9/19	3000-2950	335		
9/20	3300-2950	330		
9/22	3600-2950	335		
9/23	3900-2950	320		
9/24	4500-2950	350		
9/25	4200-2950	316		
9/26	4800-2950	274		
	5100-2950	280		
9/29	2100-2950	229		
9/30	2700-2950	229		
	2700-3950	238		
10/2	5100-4950	341		
10/4	4950-4450	302		
		11,551	3	Total for Rig #10
	900-2950			225 feet, No Charge. Hole blind, did not reach desired depth.

Montreco Mineral Products - Section 21
RMRA Drilling Program
RMR #11

Date	Hole	Footage	Hours	Remarks
8/25	1200-2950	465		
8/26	900-4950	320		
8/27	600-4950	228		
8/28	1200-4950	86		
	900-4950	162		
	1800-4950	170		
8/29	2400-4950	[illegible]		
8/30	2250-4450	350		
9/3	1950-4450	310		
	1650-4450	290		
9/4	1950-4450	290		
9/5	1050-3450	366		
9/8	2550-4450	470		
9/9	2850-4450	470		
9/23	1650-3450			
9/24	1800-3950	488	2	- [illegible] Bosur
9/25	3600-4950	562		
9/26	3150-4450	475		
9/29	2550-3450	262		
		6,048	2	Total for Rig #11

WESTVACO MINERAL PRODUCTS - SECTION 21
DMEA DRILLING PROGRAM
RIG #15

Date	Hole	Footage	Hours	Remarks
8/21	750-4450	120		
8/22	750-3450	330		
8/23	450-3450	270		
9/10	3000-4950	465		
9/11	3300-4950	466		
9/12	3000-3950	330		
	3300-3950	245		
9/13	3600-3950	270		
9/15	3900-3950	255		
9/16	4200-3950	285		
	4500-3950	270		
9/17	4800-3950	360		
9/18	5100-3950	270		
9/19	3450-4450	390	1	Washout 5100-3950
9/20	3750-4450	225		
	4050-4450	316		
9/23	1350-3450	512		
9/24	1500-2950	255		
9/26	1650-3450	495	6	Washouts
	4350-4450	255		
9/29	3450-4450		1½	Washout
9/30	3900-4950	405		
	4200-4950	240		
10/1	4500-4950	240		
	4800-4950	210		
		7,479	8½	Total for Rig #15

S TEMENT

P. O. BOX 1246

JACK ELKINS

[redacted]

COMPANY

CONTRACTOR

Call GRANTS, N.M.
INFORMATION
FOR PHONE

PREWITT, NEW MEXICO

DATE October 7 1958

FOOD - MACHINERY - CHEMICAL CORPORATION

MINERALS DEVELOPMENT

DATE		CHARGES	CREDITS	BALANCE
	DRILL-SITES, ROAD, AND TOWING			
Sept. [redacted]	- 4 hours			
" 23	- 2½ "			
" [redacted]	- 1 "			
	10 hours @ $13.50 per hour			$135.00
			2% tax	2.70
				$137.70
	202-100			

Extensions checked by WDJ

Appr'd for paym't Grants BEK

Appr'd for paym't Pocatello

Payment date

Voucher No.

Account No.

GRANTS ENGINEERING CO.

316 W. Santa Fe Avenue
Grants, New Mexico
Tel. ATwater 7-4332

STATEMENT

Food, Machinery & Chemical Corporation
P. O. Box 327
Grants, New Mexico.

---

16 Prints 27" x 31" } 219 sq. ft. @ .07 $ 15.33
16 Prints 31" x 36" }

Printing Logs:

1st Run	2902.5 Sq. ft. @ .05	. . . . .	145.13
2nd Run	1885.5 Sq. ft. @ .05	. . . . .	94.28
	Total	. . . . .	254.74
	3% Tax	. . . . .	7.64
	Total Due	. . . . .	$262.38

Extensions checked by WDT

Appr'd for paym't Grants BEK

Appr'd for paym't Pocatello ---

Payment date ----------

Voucher No. ----------

Account No. ----------

12-20-58

Mr. J. W. Townsend
Executive Officer, O.M.E
Field Team, Region III
224 New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA 5009
(Uranium) Contract IDM-R1220
Food Machinery & Chemical Corp
E/2 Sec 21, T. 13N. R. 9W.
McKinley County, New Mexico

Dear Mr. Townsend:

Stage I exploration of the above captioned contract was started Aug. 15, 1958 and completed Oct. 4, 1958. The required information and evidence pertaining to the work and costs thereof are submitted to that office as follows:

6 copies, Map no. 1 (Drill hole map)
6 copies, Map no. 2 (Stratigraphic and structural sections)
1 Original and 5 copies of Log Master logs for each drill ~~hole drilled~~ in the E/2 Sec. 21, T. 13N. R. 9W. as listed and shown on map no. 2.
1 Original and 5 copies of narrative report.
1 Original and 5 copies, Stewart Bro's and Parker statement.
1 Original and 5 copies Jack Elkins statement.
1 Original and 5 copies Grants Engineering Co. statement.
1 Original and 5 copies USDA - DMEA form MF 104 (rev)
1 Original and 5 copies USDA - DMEA form MF 104 A.

Explanation of the Exploration program, in considerable detail, is included in the report.

Hoping the required information is complete and contained in the transmittal.

Yours very truly,

R C Kirchman

R. C. Kirchman
Supt of Mines

1 copy of each item listed above to
T. M. Romslo, Mining Engineer,
Bureau of Mines
P.O. Box 4097, University Sta.
Tucson Arizona

OME
DEPARTMENT OF THE INTERIOR
DEC 24 1958
REGION III
DENVER, COLORADO

Westvaco Mineral Products Division
Food Machinery & Chemical Corporation
Star Route - Box 24, Grants, New Mexico

FINAL REPORT

Docket No. DMEA 5009 (Uranium)
Contract Idm-E1220

E½ Section 21, T. 13 N., R. 9 W.
McKinley County, New Mexico

December 16, 1958

BUREAU OF MINES
SOUTHWEST EXPERIMENT STATION
DEC 29 1958
TUCSON, ARIZONA

PURPOSE

On June 24, 1958, Food Machinery and Chemical Corp. was awarded Contract Idm-E1220, Docket No. DMEA 5009 (Uranium) with the Defense Minerals Exploration Administration, for the purpose of uranium exploration on E½ Sec. 21, T. 13 N., R. 9 W., NMPM. Under the terms of the contract, the project was to be started on or before August 15, 1958 and completed on or before November 30, 1958. The project (exploratory drilling) was started August 14, 1958 and completed October 4, 1958.

Two stages of exploration drilling were established under the agreement that the Defense Minerals Administration will provide 50 percent of the funds and Food Machinery and Chemical Corp. will provide the remaining 50 percent of the funds under specified provisions of the contract. The locality explored is E½ Sec. 21, T. 13 N., T. 9 W., NMPM, McKinley County, New Mexico.

LOCATION AND TOPOGRAPHY

New Mexico State Highway 53, diagonally tranverses the E½ Sec. 21, T. 13 N., R. 9 W., This locality is approximately 13.5 miles north of the intersection of State Highway 53 and U.S. Highway 66, west of Milan and Grants, New Mexico. It is situated on the south margin of the so-called Ambrosia Lake Basin, in the San Mateo Sag, about two miles east of Poison Canyon.

Topographically, the locality (E½ Sec. 21, 13-9) is variable, it is mostly situated in flat alluvial-filled valleys

with a mesa rim essentially bordering it along the west boundary, it includes a portion of a small mesa in the north part and a portion of the west limb of a domal structure in the east part. It has an average elevation of about 6950 feet with an extreme relief of about 100 feet.

SURFACE

The surface is mostly soil and alluvial cover that directly rests on the several stratigraphic units across the San Mateo Sag structure. This geological situation is due to a negative structure (downwarp) and the consequential cutting of a shallow canyon, by erosion, that truncated the formations and the subsequential filling of the canyon, by alluvium.

GEOLOGY

The locality (E½ Sec. 21, 13-9) is regionally situated on the northeast flank of the Zuni Uplift and locally in the San Mateo Sag, on the peripherial margin and on the rim of the so-called Ambrosia Lake Basin.

The uppermost formation is the alluvium that overlies Mancos shale which overlies the Dakota sandstone along the deep part of the San Mateo Sag. (See topographic Sections Map No. 2) The Mancos is successively underlain by the Dakota sandstone, which is the cuesta former that caps the mesas, and the Morrison formation. The so-called Dakota sandstone is divided into two units on the basis of lithology. The upper part is designated the Dakota sandstone and the lower lignitic part that heretofore has been called basal Dakota is herein

designated the Purgatoire unit of the Dakota formation. The purpose of the Purgatoire designation of the so-called basal Dakota is that it is a distinct mappable unit and it is an excellent marker bed. The upper part, or the top stratigraphic units of the Morrison, with which we are concerned, consists of five members on the basis of lithology. These members, in decending order, are: Brushy Basin mudstone (shales), Upper Poison Canyon sandstone, Transitional mudstone, Lower Poison Canyon sandstone and Multicolored mudstone that may be the so-called Recapture shales.

Stratigraphy (Reference Map No. 2, Stratigraphic Cretaceous (upper) Sections)

Recent

Recent sediments are the alluvium or valley fill that consists of soil, sand and gravel in the San Mateo Sag and small tributary valleys confluent with the Sag. This valley fill overlies the Mancos shale and ranges from a thin edge, adjacent to the mesas, up to about 130 feet thick along the topographic and structural low of the Sag.

Mancos Shale

The Mancos is not known to outcrop anywhere in the locality, but it was encountered in several drill holes which indicates that it underlies the alluvium and fill along the lowermost part (structural low) of the San Mateo Sag. It is generally light black to dark gray fissile, carbonaceous, gypsiferous, shales composed of heterogenous clays with interspersed thin sandstone lenses. The formation encountered

in the drill holes ranges from approximately 5 or 6 feet up to about 120 feet in thickness. The variable thickness of the Mancos Section penetrated by the drill, in this locality, is mostly the result of truncation and beveling by erosion, before the alluvial fill.

Dakota

The sandstone is gray to white and buff, fine and medium grained, mostly fine grained quartz sandstone. The formation wherever it is exposed in the locality is massive and locally crossbedded. It ranges from about 15 feet up to about 80 feet in thickness, in the drill holes. The variable thickness of the Dakota Section penetrated by the drill, in this locality, is mostly the result of truncation and beveling by erosion, before the alluvial fill.

Purgatoire Unit (Basal Dakota)

The Purgatoire unit consists of light gray, light grayish-tan and buff, fine grained quartz lignitic and carbonaceous sandstone interlayered with thin lignitic shales, siltstones and mudstones. This unit ranges from about 5 feet up to about 15 feet in thickness, in the drill holes.

Morrison: Upper Jurassic -- Although classified as one formation, Morrison has been subdivided as follows:

a. Brushy Basin -- This unit is a varigated and somewhat multicolored mudstone consisting of light grayish-green, blue-green (turquoise), light gray, light grayish lavender, grayish-red and maroon bentonitic mudstone. The unit, as a whole, is an imcompentent gypsiferous mudstone with buff colored fine and

invironment where the lithology changes abruptly from sandstone to mudstone. Also, it is the stratigraphic divider or key marker mudstone layer that separates the upper and lower Poison Canyon sandstone units. The Poison Canyon units seem to transitionally merge to form one unit and transitionally separate to form two or more units.

This unit is varigated and multicolored mostly bentonitic mudstone that lithologically appears to be about the same as the Brushy Basin member, but the multiple colored layers indicate it is somewhat more varigated. The drill hole sections indicate that this mudstone member pinches and swells relative to the thickness or thinness of the upper Poison Canyon unit or the lower Poison Canyon unit or both of those sandstone units. The thickness of the transitional unit varies from a thin edge up to more than 40 feet, however, the thickness of a typical section ranges between 15 feet and 20 feet.

d. Poison Canyon Sandstone (lower) -- The lower Poison Canyon sandstone unit is similar to and apparently relative to the upper Poison Canyon sandstone member. It is inherently a light grayish-red, coarse, medium and fine grained, at least partially arkosic sandstone unit, that exhibits about the same facies characteristics as does the upper Poison Canyon sandstone. However, where the apparent channel facies occurs, the sandstone tends to be coarse to conglomeratic, containing a greater density of clay galls than was detected in the upper Poison Canyon sandstone. Also, the coarse, porous zones are apparently more frequent and developed to a greater extent in

this lower Poison Canyon member. Wherever there is a detectable color change (bleaching) in the lower Poison Canyon member, it appears as it does in upper Poison Canyon member to be due to mineralizing action by mineral bearing solutions. Wherever mineral bearing solutions have passed through or penetrated the sandstone, the inherent light grayish-red coloration has been altered to tan, buff or a grayish-white. These varying color effects are probably due to the amount and/or the reactive strength of the solutions that have penetrated through the formation.

In cross section this unit is also of variable thickness and, in general, it is somewhat thicker than the upper Poison Canyon unit. Thickness of the unit varies from about 15 feet up to about 90 feet.

The relative thickness of each Poison Canyon sandstone unit is variable and seems to be somewhat interrelated. This apparently depends upon the stratigraphic position and the thickness of the Transitional mudstone layer. Where this mudstone layer pitches upward, the upper Poison Canyon member is thinner and the lower Poison Canyon member is thicker. Where the mudstone layer pitches downward, the converse seems to be true.

e. Mudstone (multicolored) (Recapture?) -- This mudstone is a varigated multicolored unit of interstratified light grayish-green, light gray, light grayish-lavender, grayish-red, grayish-brown and grayish-maroon mudstone, siltstone and fine grained sandstone. Thicker and more persistent

fine grained grayish-lavender colored sandstone seems to underlie the multicolored mudstone-siltstone unit. There were no exploratory drill holes penetrating this formation to a depth of more than 240 feet. Re: Drillhole No. 300-4950.

There is considerable lithologic variation in the mudstone and sandstone units, such as apparent abrupt changes from sandstone to mudstone units by lithologic facies changes and splits and visa versa. However, these units are mostly characterized by abrupt changes in the relative thickness of the mudstones and the sandstones. As previously stated, the mudstone seems to have thickened at the expense of the sandstone or the sandstone seems to have thickened at the expense of the mudstone. Wedging, splitting and interfingering are indicated throughout the locality, but splitting of the units seems to be more pronounced along the north side of the locality.

Subsurface data indicates apparent easterly-westerly trends of relatively thick Poison Canyon sandstone unit or units that alternate with intervals or belts of relatively thin Poison Canyon sandstone and thicker mudstone units. These trends do not seem to be continuous but occur, probably, as sandstone and mudstone lenses that may be aligned more or less in a trend or lineation.

Structure

Section 21, T. 13 N., R. 9 W., is on the northeast flank of the Zuni Uplift (regional structure) that generally dips three to four degrees northeastward. Locally it is situated in the San Mateo Sag (trough) that trends north 35° to 40° east

diagonally across the monoclinal feature that has been designated the peripherial rim of the so-called Ambrosia Lake Basin. This monoclinal feature is also probably a structural feature related to the McCarty Syncline from the standpoint of area and regional structure.

The San Mateo trough is apparently an assymetrical negative flexure with a relatively long, uniformly dipping southeasterly limb and a short, abrupt, steeply northwesterly limb that has been faulted. The sedimentary beds on the southwesterly limb generally dip 15° to 20° and the beds of the northwesterly limb apparently dip at considerably steeper angle which has not been determined. This sag or trough is an areawise structural feature that apparently is due to the combined effects of flexing and faulting.

The fault structure (San Mateo fault) transects the San Mateo Sag, across the E½ Sec. 21, in a general course of about N. 35° E. It seems to occur along the inflection line or belt on the side where the most abrupt flexure change occurs.

Mineralization

In Section 21, the Poison Canyon sandstone, upper and lower units are the favorable uranium bearing host units of the Morrison formation. Coffinite (?) is the dominant ore mineral adjacent to the locality (Doris Mine and New Doris orebody, W½ Sec. 21) and it usually occurs in association with black or dark colored bituminous material. Some yellow secondary minerals occur in the joints, fractures and shear planes in the Doris Mine.

None of the DMEA exploration drill holes penetrated ore grade mineralized rock. However, slight uranium mineralization was encountered in the drill holes listed as follows:

2100-3950
0.5' to 1.0' mineralization indicated range, 0.03% - 0.05% U_3O_8 at 418' to 420' at the base of the upper Poison Canyon sandstone.

1350-3450 About 1.5' mineralization indicated about 0.01% U_3O_8 at 500' to 503' at the base of the lower Poison Canyon sandstone.

3000-3950

3450-3450
Mineralization in the median part of the transitional mudstone indicated range from 0.015% to 0.03% U_3O_8.

300-2950	2850-3450
2100-2950	150-4450
2700-2950	600-4950
	900-4950

3600-2950
Mineralization of various levels in the multicolored (Recapture?) mudstone of indicated range from 0.015% to 0.05% U_3O_8.

There were no chemical or radiometric scalar analyses of material taken from the anomalous radioactive horizons because the radioactivity intensities from the cutting samples and as recorded on Log Master Logs did not indicate justification for the effort and expense. Furthermore, the physical appearance of the drill cuttings taken from the drill holes did not indicate very much favorability for uranium mineralization, much-less, favorability for significant uranium orebodies.

The sandstone [illegible]st unit or units appear generally as a light grayish red sandstone which seems to be its original color. However, there is some mildly to moderately bleached Poison Canyon sandstone due to some kind of solution action. The bleached horizons do not seem to be continuous and the bleaching may occur in one or both of the sandstone units as either the entire unit bleached or as bleached horizons within the unit. The bleached horizons more commonly occur either at the very top of the unit immediately underlying the upper mudstone unit or at the very bottom of the unit, immediately overlying the lower mudstone unit. There may be an east-west trending belt of bleaching along the west side and an east-west trending belt of bleaching through the central part of the locality which seems to align somewhat along the trends of the thicker sandstone units. (Re: Log Master Logs). Apparently, there is very little or no carbon trash or bituminous material occurring in the Poison Canyon within the locality since there was none detectable in the drill cuttings. Occasional or scattered pyrite was detectable in the bleached parts of the sandstone units.

EXPLORATION

Drilling

DMEA authorized 83 holes drilled in E½ Sec. 21 for uranium exploration. As specified by the DMEA, the holes were drilled in five north-south lines spaced 500 feet apart with the holes in each row 300 feet apart and offset (staggered) with respect

to holes in the adjoining rows. As indicated on the maps, the holes are omitted in areas that were previously drilled. Each hole was plug drilled wet (non-core) to test the upper and lower Poison Canyon sandstone units. Wet drilling was required because of the general instability of the surface (soil and sand) for dry drilling and a small amount of ground water in the formations precluded dry drilling to the required depth even where the surface is stable.

The total depth of Stage I exploratory drill holes is 25,078 as compared to an estimated depth of 16,600 feet. The average depth of each drill hole (309.6') exceeded the estimated average depth of 200 feet by 109.6 feet. The actual drilled footage exceeded the estimated footage mostly because the host unit or units that were tested (Poison Canyon sandstone) are deeper in the subsurface than were anticipated. The data used for the estimate were based mostly on subsurface information outside the locality (E½ Sec. 21) since there was very little subsurface information within the locality. The contributing factors for increased depth of the drill holes are: greater thickness of the alluvium than anticipated, the presence of Mancos and an entire section of Dakota in the subsurface across the San Mateo Sag was not known, a normal or average Brushy Basin section, and a somewhat thicker host unit because of splits and interfingering. About 1/3 of the drill holes penetrated the multicolored mudstone underlying the Poison Canyon units deeper than the 25 foot limit that was tentatively agreed as the limit of depth into the lowermost mudstone for

which the government would consider as valid for participating payment. The additional footage (1360') is mostly the result of drilling to sufficient depth to positively determine if the host units had been penetrated. The deeper holes were drilled into the lower horizon as tests for the Westwater Canyon sandstone.

A depth pattern for the drill holes across the locality could not be maintained because of varying depths to the host unit (Poison Canyon) due to the flexed and faulted structure. Moreover, the Morrison stratigraphic units were sometimes difficult to determine because of unusual color and unusual lithology that probably resulted from flexing and faulting. The transitional mudstone and the multicolored mudstone (Recapture?) were often indistinguishable, therefore, where the Poison Canyon merged into one unit or where it split into two or more relative thin units, it was necessary to drill to such a depth that the multicolored mudstone was positively identifiable.

Logging

Samples were taken at 2-foot intervals from the top of the Poison Canyon sandstone to the bottom of the hole. The wet cuttings were collected from a small sump prepared for that purpose. All samples were checked for radioactivity with a scintillation counter. Because no significant radioactivity was detected there were no samples split and as previously stated, there were no analyses. All samples collected were inspected by a U.S. Bureau of Mines engineer and a USGS geologist

and authorized by these men to be disposed of by the operator rather than be stored. All cuttings from each drill hole were geologically logged as a matter of identifying the formations and formational units and briefly describing the characteristics of each.

All drill holes were radiometrically and electrically (resistivity) logged and graphically recorded by Log Master. Formation and formational unit boundaries were selected by interpretation of Log Master logs and information from the geologic logs. The stratigraphic boundaries were then drawn and the geologic log information transferred to the Log Master logs.

The following are exploratory drill holes that did not penetrate or completely penetrate the Poison Canyon sandstone unit.

900-2950 Lost circulation in this hole - unable to drill through the Dakota because fluid circulation could not be maintained.

450)
750 (3450 These holes penetrated the upper Poison Canyon
1050)
sandstone unit but did not completely penetrate the lower unit. The holes were drilled at the beginning of the drilling program before it was known there were two host units to be tested. These holes were not deepened later because of the general unfavorability of the host rock did not seem to justify the additional expense.

300 - 3950)
600 3950) These holes bottom in an indeterminate mudstone unit. The lower Poison Canyon unit may be missing here.

1500 - 3950 Lost circulation - unable to drill this hole to completion through the lower Poison Canyon unit.

2100 - 3950 A drillers error - This hole was not deepened to penetrate both Poison Canyon units because the general unfavorability of the host rock did not seem to justify the expense of drilling additional footage.

1350)
1650)
1950(4450 These holes did not either penetrate or completely
2250)
2550) penetrate the lower Poison Canyon unit because of
2850) the uncertainty of that host unit at the time they were drilled. These holes were not deepened later because of the apparent general unfavorability of the host rock.

2400 - 4950 This hole did not penetrate the lower Poison Canyon unit because of the uncertainty of the horizon at the time the hole was bottomed. This hole was not deepened later because of the general unfavorability of the host rock.

3000 - 4950)
3300 - 4950) These holes did not penetrate the lower Poison Canyon unit completely because of mudstone galls or a thin mudstone layer that the driller interpreted as the multicolored mudstone.

4650 - 4450 The hole was not drilled on this location due to inaccessability with drilling equipment because of difficult terrain (jointed and broken mesa rim). A no-test at this site is not considered serious because of the general unfavorability of the Poison Canyon host units.

Drill holes that bottomed in the multicolored (Recapture?) mudstone underlying the Poison Canyon sandstone below 25-feet.

Drill Hole No.	Depth Drill Hole bottomed below the Poison Canyon	Excess Footage
300 - 2950	34.0	9.0
1200 - 2950	Indeterminate (Fault?)	
1500 - 2950	74.0	49.0
2100 - 2950	30.0	5.0
3000 - 2950	30.0	5.0
4200 - 2950	72.0	47.0
4500 - 2950	30.0	5.0
5100 - 2950	36.0	11.0
1950 - 3450	46.0	21.0
2250 - 3450	124.0	99.0
2550 - 3450	66.0	41.0
2850 - 3450	44.0	19.0
3450 - 3450	78.0	53.0
3750 - 3450	100.0	75.0
4050 - 3450	34.0	9.0
4350 - 3450	42.0	17.0
4650 - 3450	52.0	27.0
2400 - 3950	Indistinguishable material because of fault.	
2700 - 3950	40.0	15.0
3000 - 3950	146.0	121.0
3300 - 3950	64.0	39.0
3600 - 3950	74.0	49.0
3900 - 3950	44.0	19.0
4200 - 3950	66.0	41.0
4500 - 3950	64.0	39.0
4800 - 3950	156.0	131.0
5100 - 3950	38.0	13.0
3150 - 4450)	The lower mudstone indeterminate because of	
3450 - 4450)	indistinguishable material attributable to fault movement (depth test on fault structure)	

Drill Hole No.	Depth Drill Hole bottomed below the Poison Canyon	Excess Footage
4050 - 4450	80.0	55.0
4350 - 4450	30.0	5.0
300 - 4950	240.0	215.0
600 - 4950	84.0	59.0
2100 - 4950	34.0	9.0
3900 - 4950	The lower mudstone indeterminate because of indistinguishable material attributed to fault movement (depth test on fault structure).	
4500 - 4950	38.0	13.0
5100 - 4950	70.0	45.0
	Total	1360.0

The aggregate footage of Stage 1 drilling totaled 25,078 feet less 1360 excessive footage equals 23,718 feet that were required to adequately penetrate the Poison Canyon host units. The estimated total Stage I footage allowance is 16,600 feet, therefore the drilled footage exceeded the estimate by 7,118 feet.

Because it was necessary to drill the exploratory holes deeper than the Stage I estimate and there is no requirement for Stage II drilling, then 7,118 feet of Stage II estimated footage allowance can be transferred under the contract to Stage I footage allowance. The transfer of 7,118 feet from Stage II to Stage I would then be 23,718 feet of Stage I exploratory drill hole in which FMC and the government would participate. FMC considers 1360 feet as excess depth which is not chargeable to the government.

COST AND STATISTICS

Expenditures (Under DMEA)

Stage I Non-core drilling 25,078 ft. at $0.65 per foot, less tax	$ 16,300.70
Stand-by time (drills and crews) 13½ hours at $15.00 per hour	202.50
Radiometric and electrical (resistivity) Logging as per statement, less tax	1,861.66
Bulldozer work 11.25 hours at $12.00 per hour, less tax	135.00
Incidental costs	3,955.74
Total costs	$ 22,455.60
Less cost of 1360 feet (excess footage drilled)	884.00
	$ 21,571.60
Less cost of 1360 feet (excess drill hole logged)	102.00
Total cost of project for requested DMEA Stage I & Stage II participation	$ 21,469.60
DMEA Share -- 50%	$ 10,734.80
FMC Share -- 50%	$ 10,734.80

Incidental cost

Geological and engineering	$ 2,800.00
Drilling permit	200.00
Transportation	400.00
Materials	280.00
Office and reproduction	275.74
Total . . .	$ 3,955.74

CONCLUSIONS AND RECOMMENDATIONS

The exploratory drilling did not encounter uranium ore, the drill holes that encountered uranium mineralization are listed under the mineralization section of this text. The radiometric equivalent, in percentage of U_3O_8, taken from the Log Master is shown after each hole. This mineralization is weak to moderate and it occurs mostly in the mudstone which is not considered as significant occurrences.

The San Mateo Sag and the San Mateo fault should be favorable structures in and around which ore grade uranium mineralization should occur. However, these structures seem to be barren of uranium mineralization and the fault structure appears more unfavorable than the surrounding undisturbed host beds.

It is possible that uranium orebodies could have been missed by the wide spacing of the drill holes due to their discontinuous and sinuous nature as in the adjoining locality to the west, but this seems improbable. Drill hole information (drill cuttings and Log Master logs) indicate general unfavorability for significant uranium mineralization.

In view of the concept of structural deformation influencing the movement of uranium bearing solutions and the emplacement of these solutions, it is concluded that for the most part, the San Mateo structures are post mineral.

In consideration of the apparent unfavorability for uranium ore occurrences in the E½ Sec. 21, T. 13 N., R. 9 W., further exploration is not recommended at this time.

APPENDIX I

Stage I Drill Holes Tabulated

Hole No.	Depth Drilled (feet)	Hole No.	Depth Drilled (feet)
300-4950	320	300-3950	150
600-4950	228	600-3950	210
900-4950	162	900-3950	301
1200-4950	86	1200-3950	416
1500-4950	149	1500-3950	379
1800-4950	170	1800-3950	488
2100-4950	320	2100-3950	426
2400-4950	290	2400-3950	510
2700-4950	442	2700-3950	238
3000-4950	465	3000-3950	330
3300-4950	466	3300-3950	245
3600-4950	562	3600-3950	270
3900-4950	405	3900-3950	255
4200-4950	240	4200-3950	285
4500-4950	240	4500-3950	270
4800-4950	210	4800-3950	360
5100-4950	341	5100-3950	270
150-4450	142		
450-4450	164		
750-4450	120		
1050-4450	Not drilled (old drill holes)		
1350-4450	230		
1650-4450	290		
1950-4450	318		
2250-4450	396		
2550-4450	470		
2850-4450	470		
3150-4450	475		
3450-4450	390		
3750-4450	225		
4050-4450	316		
4350-4450	255		
4650-4450-	Not drilled (inaccessible)		
4950-4450	300		

Stage I Drill Holes Tabulated (cont.)

Hole No.	Depth Drilled (feet)	Hole No.	Depth Drilled (feet)
150-3450	264		
450-3450	270		
750-3450	330		
1050-3450	366		
1350-3450	512		
1650-3450	495		
1950-3450	220		
2250-3450	300		
2550-3450	262		
2850-3450	225		
3150-3450	220		
3450-3450	280		
3750-3450	305		
4050-3450	250		
4350-3450	270		
4650-3450	280		
4950-3450	250		
300-2950	449		
600-2950	435		
900-2950	Not completed (lost circulation)		
1200-2950	465		
1500-2950	255		
1800-2950	185		
2100-2950	229		
2400-2950	Not drilled (old drill holes)		
2700-2950	229		
3000-2950	335		
3300-2950	330		
3600-2950	335		
3900-2950	320		
4200-2950	316		
4500-2950	350		
4800-2950	274		
5100-2950	288		

JUN 25 1959

Mr. E. H. Williams
Vice President
Foote Mineral and Chemical Corporation
[illegible] East 22nd Street
New York 17, New York

Re: Docket No. [illegible]-2007 (Remand)
Foote Mineral and Chemical Corporation
(Nevada Mineral Products Division)
[illegible] Sec. 21, T. 13 N., R. 7 W.
McGinley County, New Mexico
Contract No. [illegible]

Dear Mr. Williams:

Reference is made to your Exploration Contract with the Government.

We sincerely regret that the work performed did not result in a certification of discovery or development under the provisions of the contract. In the absence of such certification, the Government relinquishes its claim or lien against the property subject to the contract by further prosecution thereunder. We therefore are closing our books and records on this project. Your attention, however, is called to the provisions of the contract which require the Contractor to keep and preserve records relative to the project indefinitely.

We appreciate your interest and participation in the [illegible] exploration program which has been promoted by the Bureau of Mines's Exploration program.

Sincerely yours,

(signed) FRANK E. JOHNSON

Acting Director

Copy to Federal
Mineral Company

MChing/Tw-5/8/59
cc: Docket
Dir. Read File
Contract Adm. & Audit Div.
ONE Field Team, Reg. III (2)
Mr. Ching (2)

JUN 25 1959

Mr. [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
New York 36, New York

Re: [illegible] (Vendor)
[illegible]
([illegible])
[illegible]
[illegible]
[illegible]

Dear Mr. [illegible]:

Enclosed is a copy of a self-explanatory letter of today to the Operator under the captioned contract.

The property as set forth in the contract is covered by your Performance Bond No. [illegible], dated June 15, 1958, under the significant name and contract number.

In the process of certification for payment within [illegible] claim against the bonding company that assumed the responsibility for performance under the contract.

Sincerely yours,

(signed) FRANK E. JOHNSON

Acting Director

Enclosure

MHking/Kr-6/8/59
cc: Docket
Dir.Bond.File
Contract Adm.Audit Div.
Mr. Ching (2)
Field Team, Reg. III (2)

EXTRA COPY O. M. E. RECEIVED JAN 29 1959		
DATE	INITIALS	CODE
		800

224 New Customhouse
Denver 2, Colorado

January 23, 1959

Memorandum

To: Chairman, Operating Committee, OME

From: Executive Officer, OME Field Team, Region III

Subject: Docket No. DMEA 5009 (Uranium) Contract No. Idm-K1220
Food Machinery and Chemical Corporation (E½ Sec. 21, T 15 N, R 9 W) McKinley County, New Mexico

Enclosed are three copies of approval issued by the OME Field Team, Region III for the transfer of drilling and radiometric probing footage and incidental allowance, together with applicable funds, from Stage II to Stage I, to permit completion of eighty-one (81) Stage I holes to their stated objectives.

Also enclosed are three copies of a joint memorandum from F. N. Romslo, Mining Engineer, Bureau of Mines and W. L. Emerick, Geologist, Geological Survey, pertaining to the matter. Two copies of the Operator's letters of November 5, 1958 and December 20, 1958, requesting the transfer of drill footage and funds, were forwarded by our memoranda of November 12, 1958 and December 24, 1958 to the field examiners.

The units of work and funds transferred from Stage II to Stage I are based on a hole-by-hole analysis contained in the report by the OME field examiners, and are considerably less than was requested by the Operator.

Copies of the work approval have been distributed to the Operator, the Finance Office, and others concerned in Region III.

Original signed by
J. W. TOWNSEND

J. W. Townsend

Enclosure

JDC/ad
cc: Finance Office, Reg.III) w/copy of approval
Harshman) w/copy of approval
Emerick) & joint memo. by
Romslo) field team
Corres. File, Reg.III) examiners
Cooper
Chron.

EXTRA COPY
O. M. E.
RECEIVED JAN 29 1959

DATE	INITIALS	CODE

224 New Customhouse
Denver 2, Colorado
January 23, 1959

Mr. R. C. Kirchman,
Superintendent of Mines
Food Machinery and Chemical Corporation
P. O. Box 327
Grants, New Mexico

Re: Docket No. DMEA 5009 (Uranium)
Contract IAm-E1220
Food Machinery and Chemical
Corporation
(NE Sec. 21, T 13 N, R 9 W)
McKinley County, New Mexico

Dear Mr. Kirchman:

Reference is made to your letter of November 5, 1958, whereby you requested Government approval to transfer drilling and radiometric logging footage, together with related funds from Stage II to Stage I, to permit completion of 81 of the 83 holes authorized under Stage I of the contract to certain objectives.

Review of the data submitted with Form MF-104, Operator's Monthly Report and Voucher, for the period from August 15, 1958, through October 4, 1958, and inspection of the project work in the field indicates that a considerable amount of the reported drilling was performed below the objective stated in the contract, and that the excess drilling could have been avoided by applying controls which are in use in the immediate vicinity of the project area, and elsewhere in the district.

This constitutes the Government's approval to transfer not to exceed the following units of work and service, together with applicable funds from Stage II to Stage I, to permit completion of 81 Stage I holes to their stated objectives. The Government's determination of the additional units required is based on a hole-by-hole analysis of the Stage I drilling:

Item	Units Transferred from Stage II to Stage I
Non-core drilling	3519 feet
Incidental allowance	3519 feet
Radiometric probing and logging	3406 feet

The footage transferred will provide for Government contribution to the cost of holes which went directly into the Westwater Canyon sandstone member due to the absence of the Poison Canyon member and also those holes where the contacts were indeterminate due to faulting. The holes involved are Nos:

N300-N950	N680-N950	N980-N950
N150-N450	N450-N450	N3150-N450
N400-N3950	N1200-N2950	

Nothing in this 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 final unit cost of any item of work, nor any item of allowable cost which is expressly designated "maximum".

Very truly yours,

OME Field Team, Region III

By J. W. Townsend

By E. N. Harkman

JSC:hmh

cc: Chem. Op. Comm. (3)
Finance Office, Reg. III
Amendment file, Reg. III
Harkman
Emerick
Romslo, OME/Tuc.
Corres. file, Reg. III
Cooper
Chron

OME
DEPARTMENT OF THE INTERIOR
JAN 12 1959
REGION III
DENVER, COLORADO

EXTRA COPY
O. M. E.
RECEIVED JAN 29 1959

DATE	INITIALS	CODE

MINERAL DEPOSITS
O M E
RECEIVED
JAN 12 1959
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

OFFICE OF MINERALS EXPLORATION
Box 1064 University Station
Tucson, Arizona

January 8, 1959

Memorandum

To: J. W. Townsend, Executive Officer, OME Field Team, Region III

From: R. M. Bonnie
W. L. Emerick Through: E. H. Rancham Ellt

Subject: Docket No. MMA 3089 (Uranium), Contract No. 14-11-[illegible],
Fred Mahinsky and Chemical Corporation
(E 1/2 Sec. 21, T. 13N, R. 9W.)
McKinley County, New Mexico.

Reference is made to memorandum by J. W. Townsend, Executive Officer, OME Field Team, Region III, dated November 18, 1958, relative to the Operator's request of November 5, 1958, for transfer of drilling footages from Stage II to Stage I. This memorandum relative to transfer of drilling footages from Stage II to Stage I is submitted by the field examiners as their recommendations regarding amounts of drilling footage to be transferred. The basis for the recommendations contained in this memorandum was a complete analysis of the Operator's Progress Report of December 15, 1958.

The field examiners' interpretations of the stratigraphic sections present in the area of Sec. 21, T. 13 N., R. 9 W., McKinley County, New Mexico, are based upon the geologic divisions of the Morrison formation as recognized in the district and as given in the Operator's application. This division of the Morrison formation from the top down is Brushy Basin member, including the Poison Canyon sandstone unit, Westwater Canyon sandstone member, and the Recapture shale member. Additional reference was made by the field examiners to the information resulting from a previous contract, Docket No. MMA 3043, Contract 14-11-167, on the Operator's Sec. 17, T. 13 N., R. 9 W., in which the accepted geologic designations were applied to the Morrison formation.

Disallowances of drilling footages by the field examiners were applied principally because of disagreement with the Operator's interpretation of the members and units of the Morrison formation, particularly in the Operator's disregard of the Westwater Canyon sandstone member and the Operator's designation of it as "Poison Canyon sandstone (lower)."

With an awareness that the drilling area of the E 1/2 of Sec. 21 embraces a large fault zone and uncertainty in identification of the geologic units by visual inspection of the drill cuttings could be understandable and permissible locally at times, the field conference believes from the standpoint of hindsight that the Operator should have discontinued drilling of holes where doubt existed until geologic sections based on electrical logs were made. Such a procedure was used by the Operator on the previous Sec. 17 contract. The reason for the element of uncertainty in identification by visual inspection of the drill cuttings is contained on page 9 of the Report of Examination, and we quote:

"The Poison Canyon sandstone of the Brushy Basin member and the underlying Westwater Canyon sandstone member are nearly the same lithologically and are known to coalesce. However, about 20 feet of Brushy Basin shale lies between them on Section 21. There apparently is no break in sedimentation between the Brushy Basin and Westwater Canyon members, and the Poison Canyon sandstone could well be referred to as a tongue of the Westwater Canyon sandstone; the lower Brushy Basin and upper Westwater Canyon being in part contemporaneous."

However, fairly clearcut identifications and separations of the Poison Canyon and Westwater Canyon sandstones based to a large extent on the data obtained from electrical logs were made on the adjacent Sec. 17 contract and are being made elsewhere in the district.

There appears to be a wide range in thicknesses of the Brushy Basin member, Poison Canyon sandstone unit, and the Westwater Canyon sandstone member in the district. In Section 17 the Poison Canyon sandstone unit ranged from 27 to 86 feet in thickness; the underlying Brushy Basin sandstone ranged from 10 to 38 feet in thickness; and the Westwater Canyon member ranged from 30 to 90 feet in thickness. Results of drilling on the subject contract in the E 1/2 of Sec. 21 indicate that, in general, the Poison Canyon sandstone with ranges from 7 to 34 feet in thickness; the underlying Brushy Basin sandstone from 6 to 51 feet in thickness; and the Westwater Canyon sandstone member from 8 to 97 feet in thickness.

Drilling on the project was started in the southeast corner of Sec. 21. Surface geology as observed in the field by us and as shown on a Geologic and Topographic Map of the Westvaco Mineral Products Division, dated 1955, shows Cretaceous Dakota sandstone outcropping and dipping approximately 17 to 19 degrees northwest in this area. The Brushy Basin and Westwater Canyon members of the Morrison unconformably underlie the Dakota sandstone in this area, although covered by alluvium. Cross sections and drill hole data of holes

collared in the Dakota sandstone of this southwest area when a complete stratigraphic section does go and within the Morrison shale member of the Morrison formation. In addition, stratigraphic control is further possible through holes collared in Dakota sandstone dipping 5 degrees to the northwest in the northwest parts and potentially flat-lying in the southwest parts of the E 1/2 of Sec. 21. Therefore we believe that there is sufficient control for correlation of split zones in the southeast fault zone of the drilling area.

In the southwest part of Sec. 21 footages were allowed to 25 feet below the first recognizable contact, where applicable, on holes [illegible], [illegible], [illegible], [illegible], and [illegible], inasmuch as the contract prevented drilling in this area where surface geology indicated the holes would probably penetrate formations normally underlying the Folsom Canyon sandstone unit of the Morrison Shale member. After penetrating alluvial fill the first four holes went into what the field engineers interpret as the Westwater Canyon member; hole [illegible] appears to have penetrated the basal part of the Morrison Shale member underlying the Folsom Canyon unit and was terminated in the Brushy Basin member. No Folsom Canyon sandstone was interpreted as being present in any of these five holes.

The field engineers' reasons for allowance of the total footages drilled in holes [illegible], [illegible], [illegible], and [illegible] are given under Remarks on the sheets of Analysis of Drilling included in this memorandum. On these holes the factors of adversities to faults, pressure relations, indefinite contacts, unrecognizable data, and the like, made identification difficult or impossible.

Drilling footages allowed by the field engineers for all of the remaining holes are equal to a minimum of 25 feet below the base of the Folsom Canyon sandstone, where applicable, as determined from the electrical logs. We feel that the drilling to a minimum of 25 feet below the Folsom Canyon sandstone should be allowable because of the inherent difficulties in recognizing a sharpest contact from visual inspection of the cuttings during drilling operations.

According to the Operator's Progress Report of December 16, 1958, the drilling contractor reported a total drilling footage of 27,670 feet. This footage includes 189 feet encountered on Hole [illegible]. Both the Operator and logging contractor report 583 feet total depth for this hole; the drilling contractor 589 feet. Total footage reported by the Operator and logging contractor amounted to 26,978 feet.

The Operator disallowed 1,350 feet of footage and claimed 23,928 feet. The field engineers disallowed an additional 1,473 feet and allow a total footage of 20,118 feet, based upon their analysis. Inasmuch as the contract provides for a total drilling footage of 16,600 feet under Stage I, 3,518 feet of drilling footage is approved for transfer from Stage II to Stage I.

The logging contractor reported a total log footage of 24,888 feet of which 1,466 feet was disallowed by the Operator, making a total of 23,422 feet claimed for reimbursement. An additional disallowance of 3,436 feet of log footage, giving a total allowable log footage of 20,086 feet, was made by the field examiner. Inasmuch as the contract provides for a total logging footage of 16,600 feet under Stage I, 3,486 feet of logging footage is approved for transfer from Stage II to Stage I.

A recapitulation of drilling and log footages follows:

<u>Recapitulation</u> (drilling footages)

(1) Reported by drilling contractor	25,073	feet
(2) Difference (footage overcharged by drilling contractor in reporting Hole 8890B-3490B)	124	"
(3) Total footage (operator and logging contractor)	24,954	"
(4) Disallowed by operator	1,360	"
(5) Claimed by operator	23,594	"
(6) Additional disallowance by field examiners	3,475	"
(7) Allowed by field examiners	20,119	"
(8) Allowed by Stage I of contract	16,600	"
(9) Approval for transfer from Stage II	3,519	"

<u>Recapitulation</u> (electrical logging footages)

(1) Reported by logging contractor	24,888	feet
(2) Disallowed by operator	1,466	"
(3) Claimed by operator	23,422	"
(4) Additional disallowance by field examiners	3,436	"
(5) Allowed by field examiners	20,086	"
(6) Allowed by Stage I of contract	16,600	"
(7) Approved for transfer from Stage II	3,486	"

In conclusion, the field examiners believe that had the Operator followed the accepted divisions of the Morrison formation in interpreting results, as was done on the BMA drilling in Section 17, and had the Operator exercised diligence to avoid excessive drilling below the lower Pulsen Canyon contact as specified in the contract, the total footage drilled probably would have approximated that approved by the field examiners.

The field examiners recommend that 3,510 feet and 3,406 feet of drilling and logging, respectively, together with unexpended funds for drilling, logging and incidental operations, be transferred from Stage II to Stage I.

F. W. Kubale
U. S. Bureau of Mines

W. L. Emerick
U. S. Geological Survey

TRR:GLE:mr

cc: Executive Officer (8)
OGR/USGSM (2)

EXTRA COPY O. M. E. RECEIVED DEC 30 1958		
DATE	INITIALS	CODE

25th New Customhouse
Denver 2, Colorado
December 24, 1958

Mr. R. C. Kirchner,
Superintendent of Mines
Fuel Machinery and Chemical Company
P. O. Box 387
Grants, New Mexico

Re: Docket No. MMA 5009 (Uranium)
Contract No. [illegible]
Fuel Machinery and Chemical Corporation
(E ½ Sec. 21, T. 13 N., R. 9 W.)
McKinley County, New Mexico

Dear Mr. Kirchner:

Receipt is acknowledged of the original and five copies of data forwarded by and listed in the covering letter of December 20, 1958, except that six copies of map No. 1, and six copies of map No. 2, as listed, were not received.

Concerning other records that are to be made a part of such pertinent report you are referred to the last paragraph on the first page of EXHIBIT "A", attached to the contract, which is quoted as follows:

> "All cuttings from the drill holes shall be logged geologically. All holes shall be gamma radiometrically and gamma ray and resistivity logs graphically recorded. 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."

We fail to find graphic radiometric probe records or geologic logs, as required. Therefore, please forward 6 copies each of maps Nos. 1 and 2 and 6 copies each of the above records to Mr. T. M. Bassin, Mining Engineer, Bureau of Mines, P. O. Box 4097, Tucson, Arizona, for his attachment to all copies of the first above-mentioned data which have been forwarded to him for field review.

When the required records are received, we will then be in a position to resume processing your request for transfer of drill footage and funds from Stage II to Stage I.

Resolution of the foregoing matter is a prerequisite to processing Form NF-104, Operator's Monthly Report and Voucher, covering work performed during the period, August 15, through October 4, 1958.

Very truly yours,
Original signed by
J. W. TOWNSEND

J. W. Townsend
Executive Officer, OME
Field Team, Region III

JWT:hmh

cc: Chmn. Op. Comm. (2)
Harshman
Emerick
Romslo, OME/Tuc.
Corres. file, Reg. III
Cooper
Chron

[illegible] Ave Customhouse
Denver 2, Colorado
December 29, 1958

Memorandum

To: W. H. Bunnin, GSE/Denver - w/enclosures

From: Executive Officer, GSE Field Team, Region XXI

Subject: Project No. RMA 5009 (Uranium) Contract 14-01-[illegible], Food Machinery and Chemical Corporation, (N 1/2, Sec. 21, T. 13 N. R. 9 W.) McKinley County, New Mexico

Enclosed are the original and five copies of the Operator's letter of December 26, 1958, with attached data listed thereon, except for maps Nos. 1 and 2. Also enclosed is a copy of a self-explanatory letter from this office to the Operator requesting that additional records would be forwarded to you for inclusion with each set of the enclosed data.

The enclosed data is submitted by the Operator as the sole accounting report and their final engineering and geologic report pertaining to work completed under Stage I of the contract.

It appears that action by you and Mr. Emerick on the Operator's request for transfer of drill footage and funds from Stage II to Stage I must be deferred until the required reports are received by you. As indicated in the letter to the Operator it will be necessary that the above matter be resolved before Form NF-10A can be processed by you, therefore, please submit as soon as possible your joint report containing recommendations concerning the transfer of drill footage and funds.

Original signed by
J. W. TOWNSEND

J. W. Townsend

JWT:bmh

cc: Chief, Op. Sum. (2)
Northcutt
Emerick
Central File, Reg. XXI
Prager
Davis

w/copy of Operator's letter of 12/26/58 and our letter to Operator dated 12/29/58

FOOD MACHINERY AND CHEMICAL CORPORATION

MINERAL DEVELOPMENT DEPARTMENT
CHEMICAL DIVISIONS

FOOD MACHINERY AND CHEMICAL CORPORATION

PLEASE REPLY TO
P. O. BOX 327
GRANTS, NEW MEXICO
TELEPHONE: TRINITY 6-2379

12-20-58

Mr. J. W. Townsend
Executive Officer, O.M.E
Field Team, Region III
224 New Customhouse
Denver 2, Colarado

EXTRA COPY
O. M. E.
RECEIVED DEC 30 1958
DATE | IN FILE | CODE

Re: Docket No. DMEA 5009
(Uranium) Contract IDM-K1220
Food Machinery & Chemical Corp
E/2 Sec 21, T. 13N. R. 9W.
McKinley County, New Mexico

Dear Mr. Townsend:

Stage I exploration of the above captioned contract was started Aug. 15, 1958 and completed Oct. 4, 1958. The required information and evidence pertaining to the work and costs thereof are submitted to that office as follows:

6 copies, Map no. 1 (Drill hole map)
6 copies, Map no. 2 (Stratigraphic and structural sections)
1 Original and 5 copies of Log Master logs for each drill hole drilled in the E/2 Sec. 21, T. 13N. R. 9W. as listed and shown on map no. 2.
1 Original and 5 copies of narrative report.
1 Original and 5 copies, Stewart Bro's and Parker statement.
1 Original and 5 copies Jack Elkins statement.
1 Original and 5 copies Grants Engineering Co. statement.
1 Original and 5 copies USDA - DMEA form MF 104 (rev)
1 Original and 5 copies USDA - DMEA form MF 104 A.

Explanation of the Exploration program, in considerable detail, is included in the report.

Hoping the required information is complete and contained in the transmittal.

Yours very truly,

R C Kirchman

R. C. Kirchman
Supt of Mines

1 copy of each item listed above to
T. M. Romslo, Mining Engineer,
Bureau of Mines
P.O. Box 4097, University Sta.
Tucson Arizona

EXTRA COPY O. M. E. RECEIVED DEC 30 1958		
DATE	INITIALS	CODE

[illegible] Customhouse
Denver, 2, Colorado
December 24, 1958

Memorandum

To: T. M. Somin, [illegible] - w/enclosure
W. L. Murrick - w/enclosure

From: Executive Officer [illegible] Field Team, Region III

Subject: Contract No. [illegible] (Drilling) Contract [illegible]
Test Machinery and Drilling Corporation, (T. 2 So.
21, R. 13 E. S. M) Mineral County, New Mexico

Supplemental subject referred by our memorandum of November 12, 1958, enclosed is a copy of the Operator's letter of December 20, 1958, requesting to transfer of drill footage and Zones from Stage II to Stage I, to permit completion of 21 of the Stage I drill holes to their objectives.

Original signed by
J. W. TOWNSEND
J. W. Townsend

JW:jmh

cc: Chgo. Op. Comm. (2)
Bunkers
Carson, file, Reg. III
Cooper
Green

w/copy of Operator's letter of 12/20/58

EXTRA COPY
O. M. E.
RECEIVED DEC 30 1958

DATE	INITIALS	CODE

12-20-58

M. J. W. Townsend
Executive Officer OME
Field Team, Region III
224 New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA 5009
(Premium) Contract IDM - E1220
Food Machinery & Chemical Corp.
E/2 Sec. 21, T. 13N. R. 9W.
McKinley County, New Mexico

Dear Mr. Townsend:

It was necessary to drill the exploratory holes in the E/2 sec. 21 deeper than the Stage I estimate in order to adequately explore the Poison Canyon sandstone host unit or units. Explanation of the drilling depths is contained in the report and more particular under the exploration section of the report and map no. 2 (Stratigraphic and structural sections).

In accordance with the provision of the contract under Stage I, it is requested that $6,507.60 of Stage II allowance be transfered to Stage i, allowance. The transfer would then bring Stage I allowance up to $21, 469.60 which is the amount of Food Machinery and Chemical Corp., is requesting DMEA participation.

Sincerely yours,

R C Kirchman

R. C. Kirchman
Supt. of Mines

RCK:CB

22d New Customhouse
Denver 2, Colorado
September 16, 1958

9/19 Corr 100
800

Memorandum

To: Chairman, Operating Committee, NMA

From: Alternate Acting Executive Officer, NMA Field Team, Region III

Subject: Docket No. NMA 7049 (Uranium), Contract No. [illegible], Pool Mining and Chemical Corporation (Vertrees Mineral Products Division), (NE sec. 21, T 13 N, R 9 W), McKinley County, New Mexico

Enclosed are two copies of a memorandum, dated September 10, 1958, from R. H. Rumble, Mining Engineer, Bureau of Mines, and two copies of a letter from the Operator, dated September 6, 1958, pertaining to work performed during the period from August 14, 1958 to September 1, 1958.

Drilling was commenced on August 14, 1958 and is expected to be completed about the end of September, 1958.

Original signed by
J. W. TOWNSEND
J. W. Townsend

Enclosures

JWT:yrl

cc: Chairman
Rumble
NP-184 File, Region III
Corres. File
Compir
Chron.

w/copy of Rumble memorandum and Operator's letter.

EXTRA COPY
DMEA
RECEIVED
DATE | COL

DMEA
DEPARTMENT OF THE INTERIOR
SEP 15 1958
REGION III
DENVER, COLORADO

September 10, 1958

Memorandum

To: J. V. Townsend, Alternate Acting Executive Officer, DMEA Field Team, Region III

From: T. M. Romslo, Mining Engineer, Tucson, Ariz.

Subject: Interim Progress Report for August 4 to September 1, 1958, Docket DMEA-5009 (Uranium) Contract Idm-81220, Food Machinery and Chemical Corporation (Westvaco Mineral Products Division) McKinley County, N. Mex.

Attached are the original and 4 copies of the Operator's Interim Report which I requested during my brief inspection of the project on September 3, 1958.

Findings during the inspection indicated that the project is being carried out in accordance with the contract and that all of Stage 1drilling probably will be completed before my first regular inspection of the project early in October.

Messrs. R. C. Kirchman and W. D. Tipton the corporation's Superintendent of Mines and Geologist, respectively, reported that no zones of above background radioactivity had been penetrated by the 16 completed holes.

Original signed by
T. M. Romslo

T. M. Romslo

CC Alt. Acting Exec. Of. (Orig. & 8)
DMEA-5009
DF

TMRomslo:ir

EXTRA COPY
DMEA
RECEIVED SEP 19 1958
DATE | INITIALS | CODE

DMEA
DEPARTMENT OF THE INTERIOR
SEP 15 1958
REGION III
DENVER, COLORADO

Sept. 6, 1958

Executive Officer
DMEA Field Team Region III
224 New Customhouse Bldg.
Denver 2, Colorado

Re: Docket N o. DMEA - 5009
(Uranium) E 1/2 Sec. 21
T. 13 N. R. 9 W. McKinley County
New Mexico

Dear Sir:

The following interim report covers work on Docket No - DMEA - 5009 for August 14, 1958 to September 1, 1958.

Drilling was commenced on Aug. 14, 1958 by Stewart Bros. & Parker Drilling Contractors. There were 16 holes drilled to the first of September.

The Geologist in charge of the drilling for the Company is Mr. William D. Tipton. He is logging holes and mapping as the drilling progresses.

Due to excessive moisture in the formations it is necessary to drill with water. When the Poison Canyon Sand has been penetrated Sludge Samples are taken on 2 foot intervals.

Surveying and laying out of the drill holes has been completed by a Company Engineer.

All holes are being Logged by the Electric Logging method with Log Master Services Inc., doing the work.

Drilling should be completed about the end of September.

Sincerly yours,

R. C. Kirchman
Supt. of Mines
FOOD MACHINERY & CHEMICAL CORP.
Mineral Development Dept.

RCK:cb

ICAL
ATION

CHEMICAL DIVISIONS

161 EAST 42ND STREET
NEW YORK 17, N. Y.

DMEA
DEPARTMENT OF THE INTERIOR
JUL 9 - 1958
REGION III
DENVER, COLORADO

July 3, 1958

Mr. E.N. Harshman, Acting Executive Officer
DMEA Field Team, Region III,
224 New Customhouse,
Denver, 2, Colorado.

800

Dear Mr. Harshman:

Re: Contract No. Idm-E-1220
DMEA Docket No. 5009

It has been requested that we name a representative to whom you may address official notices and other communications pertaining to subject contract.

We so designate Mr. W.S. Cavander, Box 24 Star Route, Grants, New Mexico, who has charge of our uranium exploration activities in that area.

Very truly yours,

W.N. Williams

W.N. Williams
Vice President

Copies distributed to:
Chm. Op. Comm (2)
Harshman
Emerick
DMEA, Tucson
Cooper
Consultant

MME Form 14
Sept. 1958

Contract No. Idm-E) 1220
~~14-23~~)

Docket No. DMEA) 5009
~~MME~~)

Date of Action 12/22/59

DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

Terminated Contract

OBLIGATION DOCUMENT

To: Chief, Accounts Section, Finance Branch, Bureau of Mines

From: Director, Division of Operations Control and Statistics

Please enter the amounts shown below on the accounts of the Office of Minerals Exploration.

Name and Address of Contractor: Food Machinery & Chemical Co.
Westvaco Minerals Products Div.
161 East 42nd Street
New York, 17 N. Y.

Date of Contract	Region	State	Commodity
June 24, 1958	III	New Mexico	Uranium

	Reserve	Obligation
Prior Amount	0	11,100.00
Increase	0	0
Decrease	0	2,292.47
Revised Amount	0	8,807.53

Remarks:

cc: 800
210

43244

DMEA Form 14

Contract No. Idm-E 1220

Docket No. 5009

DEPARTMENT OF THE INTERIOR

Executed contract

DEFENSE MINERALS EXPLORATION ADMINISTRATION

Obligation Document

TO: Chief, Finance Section, Budget and Finance Branch, Bureau of Mines

Please make the following entry on the records of the Defense Minerals Exploration Administration under the Strategic and Critical Minerals Exploration Program.

Date of Contract	Region	State	Commodity
June 24, 1958	III	New Mexico	Uranium

Name and Address of Operator: Food Machinery & Chemical Corporation
Westvaco Minerals Products Division
161 East 42nd Street
New York 17, New York

	Reserve	Obligation
Prior Amount	11,100.00	0
Increase	0	11,100.00
Decrease	11,100.00	0
Revised Amount	0	11,100.00

Remarks:

(Name)
Allen S. Dakan, Chief
Operations Control and
Statistics Division
(Title)

Date delivered to Bureau of Mines, Washington 6/26/58

22845

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 26 1958

DATE	INITIALS	CODE
		800

MF-200
(Revised June 1954)

Audit's copy

Docket No. DMEA 500

Commodity Uranium

Contract No. Idm-E 1220

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

EXPLORATION PROJECT CONTRACT[1]

It is agreed this 24 JUN 1958 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 Annex II, 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 and associated minerals 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 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: Interest of 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: A Surety Company's Performance Bond is attached hereto in lieu of Consent to Lien and Subordination Agreement of Santa Fe Pacific Railroad Company, lessor

(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 August 15, 1958 shall commence the work, and on or before November 30, 1959 (unless the Operator's obligation to prosecute the work is terminated—see Article 10) shall either have completed the work or shall have expended the allowable costs (see Article 6) in a sum not less than the estimated total allowable cost set forth in Exhibit "A", except as otherwise provided in Exhibit "A" with respect to stages of work. (See Annex II)

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

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

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

ARTICLE 5. *Contribution by the Government.*—The estimated total allowable cost of the project, set forth in Exhibit "A," is the sum of $22,200.00. The Government shall contribute 50 percent of the allowable costs as they are incurred in a total sum not in excess of $11,100.00: *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 incurred [illegible] the Operator is not obligated to incur more than his agreed percentage [illegible] estimated total allowable cost of the work. See Annex II.

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

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

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 8. See Annex II.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 13. *Changes and added provisions.*—

See Annex II.

A

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By C. Mitchell Wong

Administrator, Defense Minerals Exploration Administration

FOOD MACHINERY AND CHEMICAL CORP.
(Westvaco Mineral Products Division)
(Operator)

By W. N. Williams

Title Vice President

I, M.E. Gilbert, 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.

M E Gilbert

[CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—70017-1

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EXPLORATION PROJECT CONTRACT
FOOD MACHINERY AND CHEMICAL CORPORATION
(WESTVACO MINERAL PRODUCTS DIVISION)
DOCKET NO. DMEA-5009

ANNEX I

The land referred to in Article 2 of the Contract consists of the E½ sec. 21, T. 13 N., R. 9 W., N.M.P.M.&B., McKinley County, New Mexico.

The land is shown on the map entitled "Figure 3 - Map of Section 21, T. 13 N., R. 9 W., N.M.P.M. Showing the Locations of Previously Drilled Holes and Proposed Locations of Stage I DMEA Holes...", attached hereto and made a part hereof.

The Operator represents and undertakes that it is in possession of the land and entitled to possession for the purposes of this Contract pursuant to a "Uranium Mining Lease and Agreement" with Sante Fe Pacific Railroad Company, dated March 15, 1957. The term of the lease is for five years, renewable for an additional three years.

EXPLORATION PROJECT CONTRACT
FOOD MACHINERY AND CHEMICAL CORPORATION
(WESTVACO MINERAL PRODUCTS DIVISION)
DOCKET NO. DMSA-5009

ANNEX II

Article 13. Changes and added provisions.-

(a) That part of the last sentence of Article 3 beginning with the word "either" is deleted and replaced by the words "have completed the work, except as otherwise provided in Exhibit 'A' with respect to stages of work."

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

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

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

(e) In the last sentence of Article 6(c), the words "Article 8" are substituted for the words "Article 9".

(f) Notwithstanding any other provision of the Contract, the allowable unit cost per foot of a drilling item is the average unit cost per foot computed on the basis of all the actual unit costs of said drilling item incurred by the Operator: Provided, That the Government will not contribute to any portion of an average unit cost of a drilling item that exceeds the estimated unit cost of said item set forth in the Contract.

(g) In Article 8(b), the words "all minerals mined or produced" mean, for the purposes of this Contract, uranium-bearing ore and minerals or products associated therewith.

EXPLORATION PROJECT CONTRACT
FOOD MACHINERY AND CHEMICAL CORPORATION
(WESTVACO MINERAL PRODUCTS DIVISION)
DOCKET NO. DMEA-5009

EXHIBIT "A"

Description of the Work

General Provisions

The work consists of exploration by non-core drilling to test the Poison Canyon sandstone of the Jurassic Morrison formation for uranium.

Drilling depths are expected to average 200 feet. All drill holes shall completely penetrate the Poison Canyon sandstone but the Operator shall exercise diligence to avoid excessive drilling below the lower Poison Canyon contact.

Samples shall be taken at 2-foot intervals from the top of the Poison Canyon sandstone to the bottom of each hole. Cuttings shall be collected with a Duclone sample collector or equivalent unit of another make, unless wet drilling is necessary, in which case provision shall be made for taking satisfactory sludge samples. All samples shall be checked for radioactivity and those indicating significant mineralization shall be split. One portion shall be analyzed chemically for uranium and the other portion shall be properly labeled and stored for the use of the Government. The non-mineralized samples also shall be labeled and stored for inspection by the Government. Any stored samples may be disposed of by the Operator upon approval by the Government.

All cuttings from the drill holes shall be logged geologically. All holes shall be probed radiometrically and gamma ray and resistivity logs graphically recorded. 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.

No hole shall be drilled closer than 100 feet to the outer boundaries of the land described in Annex I.

The Government will not contribute to any costs of an incompleted drill hole.

Access roads and drill sites shall be prepared, when required, with a D-6 bulldozer, or an equivalent unit of the same or another make.

The project shall be supervised at all times by a geologist or mining engineer, who shall devote full time to the project work.

The locations, directions, inclinations, and extent of all project work are subject to the approval of the Government.

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

Stage I

Prepare access roads and drill sites and drill approximately 83 holes, aggregating an estimated 16,600 feet, at the locations indicated on the attached map (Figure 3). The holes shall be drilled in five north-south rows spaced approximately 500 feet apart, with the holes in each row spaced not less than 300 feet apart and staggered with respect to holes in adjoining rows. As indicated on the map, holes are omitted in areas that were previously drilled. If more than 16,600 feet of drilling are required to reach the desired horizon, the additional footage and funds required may, with the written approval of the Government, be transferred and deducted from Stage II.

Stage II

Prepare access roads and drill sites and drill not more than 40 holes, aggregating not more than 8,000 feet as offsets to previously drilled holes showing favorable mineralization. Offset holes shall be drilled

not closer than 100 feet to any previously drilled hole that completely penetrated the Poison Canyon sandstone.

Estimated Cost of the Project

Stage I

Actual Costs

Category (1) Independent Contracts (See Annex II (f))

16,600 feet non-core drilling @ $0.65/ft.	$10,790.00	
16,600 feet probing and logging @ $0.075/ft.	1,245.00	
20 hours bulldozing @ $12.00/hr.	240.00	
Categories (2) through (6)	None	
Category (7) Miscellaneous		
None except:		
80 chemical analyses @ $3.50 each sample	280.00	$12,555.00

Fixed Unit Costs (See Annex II (d))

Incidental allowance 1/ for each foot of hole drilled, 16,600 feet @ $0.145/ft.	2,407.00
Estimated Total Cost of Stage I	$14,962.00

Stage II

Actual Costs

Category (1) Independent Contracts (See Annex II (f))

8,000 feet non-core drilling @ $0.65/ft.	$ 5,200.00

8,000 feet probing and logging @ $0.075/ft.	$ 600.00	
10 hours bulldozing @ $12.00/hr.	120.00	
Categories (2) through (6)	None	
Category (7) Miscellaneous		
None except:		
45 chemical analyses @ $3.50 each sample	157.50	$ 6,077.50
Fixed Unit Costs (See Annex II (d))		
Incidental allowance 1/ for each foot of hole drilled, 8,000 feet @ $0.145/ft.		1,160.00
Estimated Total Cost of Stage II		$ 7,237.50

Summary of Costs

Estimated Total Cost of Stage I	$14,962.00
Estimated Total Cost of Stage II	7,237.50
Estimated Total Cost of the Project (rounded)	$22,200.00
Government Participation @ 50%	$11,100.00

1/ Includes all allowable costs of the project under Categories (1) through (7) of Article 6(a), except as otherwise scheduled in Exhibit "A".

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

PERFORMANCE BOND

(See Instructions on Reverse)

DATE BOND EXECUTED: June 24th, 1953

PRINCIPAL

FOOD MACHINERY AND CHEMICAL CORPORATION, a Delaware Corporation

SURETY

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

PENAL SUM OF BOND (*express in words and figures*)	CONTRACT NO.	DATE OF CONTRACT
ELEVEN THOUSAND ONE HUNDRED AND 00/100 ($11,100.00) DOLLARS	Ich-L 1216-Dsa-Docket No. 5009	June 24th, 1953

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:

[illegible]
Assistant Secretary

CORPORATE PRINCIPAL: FOOD MACHINERY AND CHEMICAL CORPORATION
BUSINESS ADDRESS: 161 East 42nd Street, New York, N. Y.
BY: W. L. Williams
TITLE: Vice President
AFFIX CORPORATE SEAL

(Attest:)

Ann Matilda Smith
Matilda Smith, Attorney-in-Fact

CORPORATE SURETY: FEDERAL INSURANCE COMPANY
BUSINESS ADDRESS: 90 John Street, New York 38, N. Y.
BY: Willis Koenig
TITLE: Willis Koenig, Assistant Secretary
AFFIX CORPORATE SEAL

STANDARD FORM 25
NOVEMBER 1950 EDITION

EXECUTED IN SAN CONSTANTE

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, [illegible], certify that I am the [illegible] secretary of the corporation named as principal in the within bond; that [illegible], who signed the said bond on behalf of the principal, was then [illegible] 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.

[illegible] [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 : 1955—O—337010

CITY, COUNTY & STATE OF NEW YORK, ss:

On this 25th day of June 19 58, before me personally came Willis Koenig and Matilda Smith to me known, who, being by me duly sworn, did depose and say that they reside in Glen Head, N. Y. and Franklin Square, 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.

CLARA MALAHY
NOTARY PUBLIC, State of New York
No. 41-7677550
Qualified in Queens County
Cert. filed with New York County Clerk
Term Expires March 30, 1960

Sworn to and Acknowledged before me on the date above written

Clara Malahy
(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 14th day of October, 1957, 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 John C. Harden 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 Mary E. Asplund or Marie C. Gotthard or Donald H. Haeseker or Edgar R. Heckman or Richard G. Hight or M. C. Hoefer or Emily Kraft or B. Britton May, Jr., 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 December 31, 1957

Assets	
United States Government Bonds	$ 55,300,033
State and Municipal Bonds	20,734,859
Other Bonds	6,826,746
Preferred and Guaranteed Stocks	5,606,935
Common Stocks	46,427,010
Capital Stock of Vigilant Insurance Company	12,473,971
Capital Stock (97%) of The Colonial Life Insurance Company of America	4,527,084
Total Investments	151,896,638
Cash	9,628,828
Premiums Receivable	9,945,922
Reinsurance Recoverable on Paid Losses	180,483
Other Assets	4,897,043
Total	176,548,914
Deduct: Premiums over 90 days due and other non-admitted assets	3,075,189
Reinsurance Premiums Payable	4,007,761
	7,082,950
Total Admitted Assets	$169,465,964

Liabilities and Surplus to Policyholders	
Unearned Premiums	$ 41,418,483
Outstanding Losses and Claims as Estimated by Company	26,600,686
Dividends Payable	1,235,166
Taxes and Expenses	3,947,315
Funds Held under Reinsurance Treaties	3,524,744
Non-Admitted Reinsurance	5,011,442
Total Liabilities	81,737,836
Capital Stock—$4 Par Value—3,087,916 shares	12,351,664
Surplus	47,766,738
Unrealized Appreciation of Investments	27,609,726
Surplus to Policyholders	87,728,128
Total Liabilities and Surplus to Policyholders	$169,465,964

Note: Investments are valued in accordance with requirements of the National Association of Insurance Commissioners. On the basis of market values at December 31, 1957 for all investments other than affiliates, Total Investments would be decreased by $403,426 and Surplus to Policyholders would be $87,324,702.

Investments valued at $6,899,359 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 25th day of June, 1958.

George C. Josephson
Assistant Secretary

Form 11158-F Rev. (2-58)
F-3852 (4M)

DMEA Form 14

Contract No. Idm-E1220

Docket No. 5009

DEPARTMENT OF THE INTERIOR

Approved contract

DEFENSE MINERALS EXPLORATION ADMINISTRATION

Obligation Document

TO: Chief, Finance Section, Budget and Finance Branch, Bureau of Mines

Please make the following entry on the records of the Defense Minerals Exploration Administration under the Strategic and Critical Minerals Exploration Program.

Date of Contract	Region	State	Commodity
June 24, 1958	III	New Mexico	Uranium

Name and Address of Operator: Food Machinery & Chemical Corporation
Westvaco Minerals Products Division
161 East 42nd Street
New York 17, New York

	Reserve	Obligation
Prior Amount	0	0
Increase	11,100.00	0
Decrease	0	0
Revised Amount	11,100.00	0

Remarks:

(Name)
Allen S. Dakan, Chief
Operations Control and
Statistics Division
(Title)

Date delivered to Bureau of Mines, Washington 6/24/58

22845

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
MAY 1958
DOCKET 5009

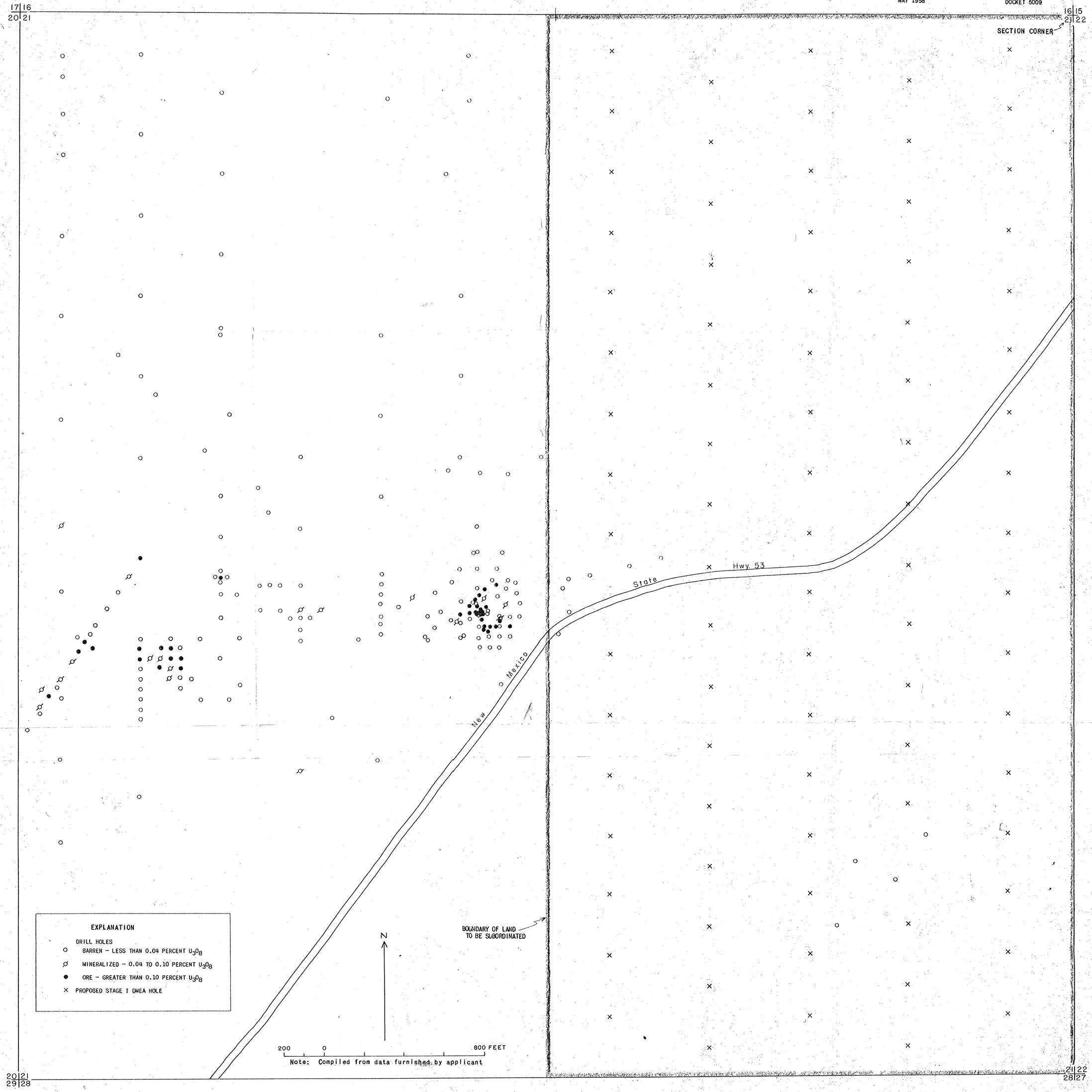

Figure 3.--MAP OF SECTION 21, T.13 N., R.9 W., N.M.P.M. SHOWING THE LOCATIONS OF PREVIOUSLY DRILLED HOLES AND PROPOSED LOCATIONS OF STAGE I DMEA HOLES, WESTVACO MINERAL PRODUCTS DIVISION, FOOD MACHINERY AND CHEMICAL CORPORATION, McKINLEY COUNTY, NEW MEXICO.