FINAL DISTRIBUTION

MADE SEP 15 1958

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: September 12, 1958
Payee's Reference: July 1958

DMEA-4845

Gentlemen:

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

Amount Claimed	$	5,822.45
Difference	$	None
Amount Approved	$	5,822.45

The reason for the difference was due to:

Withheld an amount of $500.00 pending completion of additional Stage II work, or in event the anticipated proposal for Stage II drilling is denied pending resolution of matters prerequisite to closing the account.

DMEA
RECEIVED SEP 17 1958

DATE	INITIALS	CODE
9/12	C	220
		~~700~~
"	Murphy (Ching)	700

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

224 New Customhouse
Denver 2, Colorado
Sept. 11, 1958

Memorandum

To: T. A. Christensen

From: Acting Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 4845 (Uranium) Contract IAm-EE167
Food Machinery and Chemical Corporation, (Westvaco Mineral Products Division) (Sec. 17, T 13 N, R 9 W), McKinley County, New Mexico - Operator's Monthly Progress Report for the month of July, 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. Under the circumstances, the rates for the work performed under independent subcontract are considered to be reasonable.

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 for 75 percent of the amount reported on Form MF-104 for July, 1958, contingent on your verification of the correctness of applicable rates and arithmetical accuracy of computations, except for the following withholding:

Withhold an amount of $500.00 pending completion of additional Stage II work, or in event the anticipated proposal for Stage II drilling is denied pending resolution of matters prerequisite to closing the account.

Remarks:

Date of Report ———————— July 28, 1958
Date Received in Field Office ———————— July 29, 1958
Date Received in Region Office ———————— August 29, 1958

Enclosures
MEH:bmh
CC: Chmn. Op. Comm. (2)
Rosalo, DMEA/Tuc.
MF-104 file, Reg. III
Emerick } w/copy of
Harshman } Engr's
Cooper } Report

Original signed by
E. N. HARSHMAN

E. N. Harshman

Chmn.

DMEA
DEPARTMENT OF THE INTERIOR
AUG 29 1958
REGION III
DENVER, COLORADO

August 14, 1958

Memorandum

To: Executive Officer, DMEA Field Team, Region III

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

Subject: Progress Report for July 1958, Docket DMEA-4845 (Uranium) Contract Dm-E1167, Food Machinery and Chemical Corporation, (Westvaco Mineral Products Division), McKinley County, N. Mex.

Enclosed with the original and 8 copies of subject report is the Operator's report that comprises:

1. The original and 4 copies of each a narrative section with map, Forms MF-104 and 104A, and the drilling contractor's invoice.

2. Five copies of a geologic and a radiometric log for each of the 18 holes drilled.

I made a final inspection of the completed work of Stage 1 of captioned contract August 5, 1958 in the company of W. L. Emerick, geologist, U.S. Geological Survey and W. S. Cavender, the corporation's Manager of Exploration.

The inspection included a visit to the drilling sites and an inspection of drill hole cuttings at the drill sites and those stored at the corporation's nearby Faith mine. Information obtained indicated that the work performed and the findings are as described by Mr. Cavender in the Operator's narrative report.

CC Executive Officer (Orig. & 8)
DMEA-4845
DF

TMRomslo:ir

The July drilling consisted of deepening 28 holes of the 71 holes put down in April 1958. The 28 holes were extended through the Falcon Canyon sandstone in which they had previously been bottomed. The total footage in the 28 holes is 7,015 feet which includes 889 feet drilled during the deepening operation. A review of the radiometric log and testing of drill cuttings indicated that no zones of significant uranium mineralization were penetrated.

Information obtained during the inspection also indicates that Mr. Cavender competently supervised the project on a full time basis.

ANALYSES OF THE OPERATOR'S REPORT

Form MF-104

Drilling - The $4,559.75 is for the approved 7,015 feet of drilling at the specified rate of 65 cents per foot. It is documented by the attached drilling contractor's invoice.

The footage drilled to date in completing Stage I work is 18,844 feet of 1,424 feet more than allotted 17,424 feet. Transfer of the 1,424 feet and deduction of necessary funds from Stage II is allowed by the contract, if required. It has been recommended for approval by Mr. Emerick and me as no excessive drilling appeared to have been done in completing the authorized 71 holes of Stage I. Furthermore, my inspection of the geologic logs indicates that our preliminary findings were correct.

Incidental Allowance - The $1,262.70 is the additional cost of drilling the 7,015 feet at the specified rate of 18 cents per foot. The costs date for this item is $3,391.20 or $386.32 more than the maximum allowed for Stage I. However, the full amount of the voucher, $1,262.70 is approved on the basis that the required footage and funds for this item may also be transferred and deducted from Stage II.

Totals - The totals, $5,822.45, $9,912.57 and $15,735.02, appear to be correct.

Form MF-104-A

The form has been properly completed.

Narrative Report

The narrative report with map is considered adequate.

Recommendation

Withhold payment of the customary amount pending completion of additional work or pending resolution of matters prerequisite to closing the account in event the anticipated proposal for Seagull drilling is denied.

Original signed by
T. M. Romslo

T. M. Romslo

July 26, 1958

DMEA
DEPARTMENT OF THE INTERIOR
AUG 29 1958
REGION III
DENVER, COLORADO

Mr. T. M. Romslo
U. S. Bureau of Mines
Box 4097, University Station
Tucson 5, Arizona

Re: Progress Report - July, 1958
Docket No. DMEA 4045
Contract Idm E-1167
Food Mach. & Chem. Corp.
Westvaco Mineral Products
NE¼, SE¼, NW¼, Sec. 17,
T. 13 N., R. 9 W.
McKinley County, New Mexico

Dear Mr. Romslo:

During the review of the drilling results obtained in April, 1958, it was determined that all provisions of the contract had not been fulfilled, and that correcting adjustments should be made.

The contract states that all the drill holes will test the Poison Canyon sandstone but shall not extend to excessive depths below the basal contact, except when a hole is designated as a Westwater test hole. Inasmuch as the basal Poison Canyon contact is not easily determined in the field due to the irregular number and character of included shale lenses, it was found that certain holes had not penetrated the entire member. It was then necessary to reopen and deepen the shallow holes.

In all holes, it was deemed necessary to drill slightly deeper than the projected lower contact, in order to provide a sump for hole wall material loosened during the reopening. This was done for the purpose of insuring the descent of the hole probe past the critical contact. It is not felt that any of the holes were drilled to excessive depths.

In total, 28 holes were deepened for a sum of 889 feet. None of the deepened portions showed any promising sandstone mineralization; however, one foot of 0.02% U_3O_8 was found in Hole 1540-2840.

As required, 2 foot cutting samples were taken, logged, and stored. The newly drilled portion of each hole was logged by gamma ray and electrical resistance methods.

Completed holes are:

Hole No.	Total Depth	Thickness Poison Canyon	Mineralization
940-3140	230	58	Barren
940-3440	240	72.5	"
940-3740	240	70.5	"
940-4340	250	70	Weak
1540-2840	255	63	"
1540-3140	235	62	Barren
1540-3740	240	69	"
1540-4040	250	79	"
2140-3140	250	72	"
2140-3440	250	75.5	"
2140-3740	250	77.5	"
2140-4340	240	77	"
2740-2840	235	77	"
2740-3740	255	71	"
2740-4040	260	73	"
2740-4340	250	86.5	"
3340-1040	235	86	Weak
3340-3140	250	75	Barren
3340-3440	265	70	"
3340-3740	270	75.5	"
3340-4340	275	75	"
3940-2840	225	66	"
3940-3740	255	71	"
3940-4040	265	73	"
3940-4340	275	75	"
4540-1040	245	77.5	"
4540-2240	265	82	"
5140-2840	260	82.5	"
Total	7015		

The July drilling program completed Stage I, and the proposal for a limited Stage II program is being prepared.

Costs for the month include all those related to the deepened holes, even though portions of the holes were drilled in April, 1958.

Very truly yours,

W. S. Cavender

W. S. Cavender
Mgr. of Exploration
Food Mach. & Chem. Corp.
Box 327
Grants, New Mexico

WSC/ac

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

Budget Bureau No. 42-R1036.5

RECEIVED SEP 17 '958

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

July 8 4845 Idm E-1167

Month of Westvaco Mincrsl Prods (Fmcd Nad DMEA Chem Corp) Contract No. Uranium

Operator's Name Box 327, Grants, New Mexico Minerals

Address 28,460 75 21,345

Contract Amount, $ Government Participation: % Amount, $

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:	4559.75	7688.85	12,248.60			
Drilling						
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	----	94.50	94.50			
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify): Incidental allowance at .18/ft	1262.70	2129.22	3391.92			
	5822.45	9912.57	15,735.02			
TOTALS				5822.45	9912.57	15,690.20
					244.82	244.82

I certify that the above bill is correct and just and that payment therefor has not been received. July 28, 1958 Westvaco Mineral Prods (FMC)

Date *Payee

Mgr Exploration

Per Title

*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.

Previously disallowed

(Instructions on reverse)

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

$ ~~4266~~ 3866.84

Signature
(Authorized Certifying Officer)

Date 9/12/58 Vou. No. DMA 59-27

(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. Idm-E1167 in accordance with the terms of the contract.

Signature D M Pomeroy Title Mining Engineer Date 8/14/58

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature E. M. Hendricksen Title acting Executive Officer Date SEP 11 1958

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

RECEIVED
SEP 17 1958
D.M.E.A.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of July 195 8 Docket No. DMEA 4845 Contract No. Idm E-1167
Operator's Name Westvaco Mineral Products (Food Mach & Chem Corp) Minerals Uranium
Address Box 327, Grants, New Mexico

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core ~~Rotary~~ Churn	per/ft	4559.75	7015	12,248.60	18,844	0.65/ft	32,220	0.65/ft
Auger								
Stripping								
Trenching ~~Incidental~~ allowance	per/ft	1262.70	7015	3,391.92	18,844	0.18/ft	32,220	0.18/ft
Test Pits								
Roads and Trails								
Assaying	per/sample	----		94.50	27	3.50	108	5.00/sample
Total Distributed Costs		5822.45		15,735.02				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs		~~5822.45~~		~~15,735.02~~				

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 July 28, 1958 Operator Westvaco Mineral Prods (FMC)

Per W S Carwardin Title Mgr. Exploration

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

Remarks:

(Instructions on reverse)

(For Government use only)

T. W. Pemslo

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

STATEMENT

DATE July 25, 19 58

NAME Westvaco Mineral Products

ADDRESS Box 24, Star Route
Grants, New Mexico

In Account With

Stewart Bros. & Parker

Drilling Company

Phone AT 7-4416 P. O. Box 154

GRANTS, NEW MEXICO

	Amount
Drilling on Section 17, T13N, R9W, McKinley County, New Mexico during July, 1958, as follows:	
28 holes, 7,015 feet @ 65¢ per ft.	$4,559.75

THANKS

H. M. Stewart

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
940-3140	17	6979.0	1 — 2	ONE	4/8/58	RRB - WSC

OFFSET 30' West

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description
0		ss	Yellow to tan											
20		sh.	Dk grey											
40		ss	Lt. tan	Fine grained sandstone										
	Kd	ss	Brown	Fine to med grained ss slightly argilleaceous										
60														
			dk gry	carbonaceous										
		ds	dk gry	Med to Coarse Carbonaceous ss										
80		sh	lt gry to green											
	Jmb													
100														
120														
140		ss	lt. gry to green	medium to coarse grained Arkosic - some green clay galls										
160	PC													
180		sh	lt gry to green											
		ss	lt gray											
200	Jmb	sh	lt gray to green											
	Jm W	ss + sh												
220														
	TD 230													
240														
260														

Dotted line Graphic Assay Solid Line - Probe

0% .20% .60

Cuttings sample log.

Dwg No 192

Hole No 940-3140

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
940 - 3140	17	2 - 2	4/20/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
140	148	PC	Ss, lt gry-green, fine grained, arkosic, green cly galls.	
148	156	"	" " " " " " w/ sltly, " " "	
156	162	"	" " " fine to medium grained, pyritic, cht, lmy, green cly galls	
162	168	"	" " " med. grained w/pebbles, " " " " " "	
168	176	"	" " " " " " " " " " " " " small amt fine red sand	
176	180	"	" " " " " " " " " " " " "	
180	187	"	Sh, gry-green, wht. cht, pyritic	
187	198	"	Ss, " "	
198	208	J_{mb}	Sh, green-gray	
208	230	J_{mw}	Ss, " " with sh lenses	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
940N-3440	17	6995.2	1 - 2	ONE	4/10/58	RRB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description
0		Ss	Yellow to tan	Fine to medium grained - small amt. calcite										
20				Rose to brown ss stringer										
			Lt. gry to br.	Medium grained ss with dk gry shale stringers										
40	Kd		Lt. gry	Fine grained										
			Brown	Medium to coarse grained										
			Tan	" " " "										
60			Lt. gry	Fine grained										
			Lt. tan	" "										
			Blk to dk gry	Carbo. - about 50% Fine sand " " Shale										
80		Sh	Lt. gry to green											
	Jmb													
100														
120														
140			Lt gry to green	Medium to course grained -										
		SS		Arkosic - some shaly stringers										
160	PC													
180														
		Sh	Lt. gry to green	Small amt red-brown shale & mud at top										
200		SS	Lt gry to green											
220	Jmb	Sh	Green											
	Jmm	SS & Sh												
240	TD 240													
260														

Dotted line Graphic Assay
Solid Line - Probe
0% .20% .60

2' cuttings samples

Dwg No 792

Hole No. ~~940-3340~~ 3440

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
940N-3440E	17	2 — 2	4-20-53	BRB - VEL

Footage From	Footage To	Formation	Geology Description	Samples
140	154	PC	SS, FG, LT. GRY, ARKOSIC	
154	156	✓	SS, SHALY, MINOR CALCITE, GRY GREEN	
156	164	✓	SS, FG, LT. GRY, ARKOSIC	
166	186	✓	✓ VFG, ✓ ✓ ✓	
186	190	✓	✓ ✓, LT. GRY. GREEN	
190	197	✓	SHL, SANDY, LT. GRAY GREEN	
197	214	✓	SS, Med grain, gray	
214	227	✓nb	Sh, gray-green	
227	240	✓mw	SS, with shale layers	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
940N-3740E	17	6943.2	1 – 2	1	4-10-58	RRB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description
0		Ss	Lt. gry. to tan	Fine to medium grained										
20														
				small gry shale stringer										
	Kd													
40			Tan	Medium to coarse grained										
		Sh	dk gry	carbo.										
		Ss	Lt. gry	Fine grained										
60			Lt to dk gry Tan	medium to coarse - quite shaly										
80		Sh	Lt. gry to green											
	Jmb													
100														
120														
140			Lt gry to green	Medium to coarse grained small shaly stringers										
	PC	Ss												
160														
180														
		Sh	Lt. gry to green											
200														
		Ss	Lt gray to grn											
220														
	Jmb	Sh	Green to gray											
240	Ww	Ss	Gray											
	TD 240													
260														

Dotted line Graphic Assay
Solid Line - Probe
0% .20% .60

2' cutting sample

Hole No. 940-3740
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
940N 3740E	17	2 – 2	4/20/58	BB VEL

Footage From	Footage To	Formation	Geology: Description	Samples
150	152	Pc	SS, LT. GRY, GREEN, VFG, ARKOSIC	
152	156	✓	SS, VFG, ARKOSIC, LT. GRY	
156	158	✓	✓ ✓ ✓ ✓ ✓ w/GREEN CLAY GALLS	
156	162	✓	✓ ✓ ✓ ✓ ✓	
162	168	✓	SS, MED TO FG, ARKOSIC, LT. GRY.	
168	172	✓	SS, MG, LT. GRY	
172	180	✓	SS, VFG, ARKOSIC, LT. GRY	
180	190	✓	SS, LT. GRY GREEN, MED. TO CSE, CALCITE, MINOR	
190	203	✓	SHL, SANDY, LT. GRY. GREEN	
203	220	✓	SS, Lt gray to green, coarse grain	
220	235	Jmf	Sh, Gray - green,	
235	240	Ww	SS w/sh lenses	

Drawing No. 707

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
940-4340	17	6975.8	1 - 2	1	4-11-58	RRB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description
0	Kd	ss	Lt gry tan	Fine grained										
			Brown	Medium grained										
60			Lt. gry	Fine grained										
			Med gry	Fine grained										
		sh	Mk gry	carbo										
80			Lt gry green	Limey streaks all though										
				Stringer of chert @ 120'										
		sh												
100	Jmb													
120														
140														
160		ss	Lt gry to green	Very coarse quite shaley										
		sh		Minute chert										
180	PC	ss												
200		sh	Lt. gry to green											
		ss												
220														
240	Jmb		Gray to green sh											
	TD 250													
260														

Dotted line Graphic Assay
Solid Line - Probe
0% .20% .60

Cuttings sample

Dwg No 792

Hole No 940-4340
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
940N 4340E	17	2 - 2	4/20/58	BB VEL

Footage From	Footage To	Formation	Geology: Description	Samples
167	175	Pc	SS, LT. GRY. GREEN, MED TO FG, SHALY	
175	181	Pc	✓ ✓ ✓ ✓, MED G., ARKOSIC	
181	193	Pc	SS, ✓ ✓ ✓, CSE G., CALCITE, ARKOSIC	
193	195	Pc	SHL, LT. GRY GREEN, ARGN, SMALL AMT PYRITE	
195	203	✓	SS, MG, LT. GRY, GRN, ARKOSIC	
203	210	✓	SHL, LT. GRY GRN, ARN, MINOR LMS & MDSTONE, RED	
210	229	✓	SS, Coarse, green	
229	250	Jm	Sh, gray, green	

Drawing No. 58-3

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
1540N-2840E	17	6981.7	1 2	ONE	4-9-58	RRB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description
0		Ss	Yellow to tan	Fine to medium grained - some dk. clay galls - some calcite										
20														
40	Kd	Ss	Brown to tan	Medium to coarse grained some dark shale stringers										
		Ss	dk. gry.	Fine to medium grained - Carbo. Ss										
60		Sh.	dk. gry.	Dark to light gray shale - Carbo. some light gray sand.										
		Ss	Lt. gry.	Fine grained										
		Ss	Tan	Tan to brown ss with dk. carbo. shale										
80		Ss	Lt. gry	Fine grained										
		Sh	Lt. gry to green	Alternatly sandy										
100	Jmb													
120														
140														
160														
		Ss	Lt. gry to green	medium to coarse - some clay - shaly										
180	PC													
200		Sh	Lt. gry to green	sandy shale										
		Ss												
220		Sh												
		Ss												
240		Sh												
	Jmb		Gray-green	Arena to base										
260		TD 255												

Dotted line Graphic Assay Solid Line - Probe

0% .20% .60

N - Cut in upper section

Dwg. No. 792

Hole No. 1540N-2840E

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
1540N 2840E	17	2 2	4/20/58	BB VEL

Footage From	Footage To	Formation	Geology: Description	Samples
173	183	P_C	SS, VFG, ARKOSIC, LT. GRY	
183	185	✓	✓, FG, PEBBLY, ✓ ✓; PINK CALCITE; LMS. GRY.	
185	187	✓	✓, VFG, LT. GRY, ARKOSIC	
187	189	✓	SS, FG. w/CSE PEBBLES, LT. GRY	
189	197	✓	✓, MG TO FG, LT. GRY; LMS. GRY, CALCITE PINK	
197	202	✓	SS, MG TO FG, LT. GRY. GRN, V. SHALY	
202	204	✓	Shale — Lt green — arena	
204	212		Ss — fine grn., gray	
212	222	✓	Sh, Lt gray - arena	
222	236	✓	SS, CSE G, LT. GRY. GRN; CALCITE PINK & WHITE; LMS. GRY.	
236	255	J_{Mb}	SHL, V. AREN, LT. GRY. GRN	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
1540 N-3140E	17	6964.2	1 2	ONE	4-9-58	RRB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description	Dotted line Graphic Assay Solid Line - Probe 0% .20% .60
0		Ss	Yellow to tan	Fine to medium grained Ss											
20		Ss	tan to brown	Medium to coarse - Some dark shaly stringers											
40		Shale	Dk gry	Carbo.											
	Ko	Ss	H. gry	Fine to medium - some tan sand											
		Ss	Lt. to dk. gry.												
		Ss	Brown to gry	medium grained Ss with stringers of grey sh											
60		Ss	Lt gry	medium to coarse - some rosy-tan sand											
80		Sh	Lt. green to gry												
	Jmb														
100		Sh	Lt gry												
		Sh	Lt gry green												
		Sh	Lt green gry												
120		Sh	Lt gry to green												
140															
160		Ss	Lt. gry to green	Medium to coarse - Arkosic slight amount green clay - quite shaly											
	PC														
180		Sh													
		Ss	Lt. gry to green	minor amounts green to tan sand											
200		Sh													
		Ss	Green gray												
220		Ss	Gray - Med												
	Jmb	Sh	Gray-green												
240	TD 235														
260															

N. cutting samples

Dwg No. 792

Hole No. 1540-3140

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
1540N 3140E	17	2 2	1/20/58	BB VEL

Footage From	Footage To	Formation	Geology Description	Samples
160	176	Pc	SS, FG, LT. GRY; CALCITE, PINK; LMS. GRY	
176	180	✓	✓, VFG, ✓ ✓	
180	185	✓	✓, MG TO FG, LT. GRY	
185	190	✓	SHL, LT. GRY. GREEN, V. SANDY, MINOR PYRITE, W/PINK CALCITE & GRY. LMS	
190	195	✓	SS, VFG, LT. GRY; SMALL. GREEN. CLAY BALLS	
195	205	✓	SHL, V. AREN, GRY. GREEN.	
205	220	✓	SS, Gray-Green, Med grain	
220	235	Lmb	Sh, gray-green	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
1540N-3740E	17	6943.2	1 of 2	One	4-11-58	RRB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description
0	Kd	Ss	Lt gry to Yeh	Fine to medium grained										
20														
40			Brown	medium to coarse grained - small dk gry shale stringer										
60			Lt gry	Fine grained										
			Dk gry	Fine grained carbo.										
		Sh	Med gry	Medium gry shale stringer with Brown sand interfingered										
80		Sh	Blue-green											
100	Jmb		Lt. gry green											
120														
140			Lt gry											
160				Slight red tint to lt. gry shale 2'										
		Ss	Lt. gry green	Medium to coarse Arkosic slightly shaly at 172'-175'										
180	PC													
200														
		Sh	Lt. gry to green	More gry on top.										
220		Ss	Gray	Med grain										
	Jmb	Sh	Gray to green											
240	TD 240													
260														

Dotted line Graphic Assay
Solid Line - Probe
0% .20% .60

2' cuttings samples

Dwg No 792

Hole No 1540-3740
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
1540N 3740E	17	2 – 2	4/20/58	B B VEL

Footage From	Footage To	Formation	Geology: Description	Samples
160	165	Pc	SHL & SS 50-50, LT GRY GREEN	
165	167	✓	SS, LT GRY GREEN, VFG, GRN. CLY. GALLS	
167	175	✓	✓, FG, ARKOSIC, LT. GRY, CALCITE PINK, LMS BLK. (MINOR AMT)	
175	185	✓	SS, MED TO FG, LT. GRY, CALCITE PINK MINOR, SHL LT. GRY. GREEN MINOR	
185	187	✓	✓ ✓ ✓ CSE, ✓ ✓, ✓ ✓ ✓,	
187	193	✓	SS, FG, ARKOSIC, ✓ ✓	
193	197	✓	✓, VFG, LT. GRY	
197	202	✓	SS, MG TO FG, LT. GRY	
202	205	✓	SH, ~~V/GREEN~~ LT. GRY. GREEN	
205	207	✓	SHL GREEN, PYRITIC, LT GRY. GREEN	
207	210	✓	✓, ✓, ✓, GRY GREEN	
210	215	✓	Shale, gray green	
215	227	✓	Ss, med, gray	
227	240	Pmb	Sh, gray green	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
1540.4040	17	6939.5	1 — 2	One	4/11/58	RRB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description	Dotted line Graphic Assay Solid Line - Probe (0% .20% .60)
0		Ss	Tan	Fine to medium grained											
20			Lt. gry	Fine grained											
40	Kd		Brn	Medium to crse grained, gry Shl stringer 52 to 54											
60			Rosey-Brn	Medium grained											
		SH	DK gry	Carbo.											
		Ss	gry	Fine grained											
80		SH.	Lt. gry-green												
100															
120			Lt gry												
	Jmb		Rosa gry, Lt gry												
140			Lt gry-green												
160		Ss	Lt gry-green	fine to medium grained											
180	pC														
200		SH	gry-green	arena.											
220		SS	Gray-green	Arkosic											
240	Jmb	sh	Gray green	Arena.											
260	ED 250'														

2' cutting samples

Dwg No 792

Hole No. 1540-4040

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
1540N 4040E	17	2 — 2	4/20/58	BB VEL

Footage From	Footage To	Formation	Geology: Description	Samples
165	167	Pc	Ss, LT. GRY, FG, w/ FEW GRAINS of CSE PYRITE	
167	173	✓	✓ ✓ ✓ VFG, LMS, BLK, MINOR AMT.	
173	181	✓	Ss, ✓ ✓ MG TO FG	
181	189	✓	✓, ✓ ✓ ✓ ✓ ✓, GRN. CLAY GALLS, SLT. SHALY	
189	193	✓	✓ LT. GRY, ARKOSIC, FG, CALCITE, PINK	
193	197	✓	✓ FG, LT GRY, V. PEBBLY, CALCITE PINK IN LGE AMT & LMS DK GRY, MINOR PYRITE	
197	201	✓	Ss, ✓ ARKOSIC, LT. GRY	
201	205	✓	✓, MG TO FG, ✓ ✓, Sm. AMTS, PINK CALCITE, PYRITIC	
205	207	✓	✓, FG, ~~GY~~ LT. GRY, GREEN, CSE PEBBLES, PINK CALCITE	
207	213	✓	Shl, LT. GRY. GREEN, V. ARGN	
213	218	✓	✓, ✓ ✓ ✓, w/ RED MDSTONE, PYRITE V. MINOR	
218	220	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
220	243	✓	Ss, med grain, gray-green	
243	250	Jmb	Sh, green, red	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
2140N-3140E	17	6954.3	1 2	One	4-10-58	RRB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description	Dotted line Graphic Assay Solid Line - Probe 0% .20% .60
0		Ss	Tan to lt. gry	Fine to medium grained											
20															
	Kd	Sh	DK gry.	Carbo.											
40		Ss	Lt gry tan	Fine grained											
60			Tan	medium grained											
			Gry	Fine grained - damp - little cly.											
80	Jmb	Sh	Lt. gry to green												
100															
120															
140															
160	PC	Ss	Lt. gry to green	Medium to coarse grained Clay galls - shaley towards bottom.											
180															
200		Sh	Gray	Arena											
		Ss													
		Sh	Lt. gry to green	sandy											
220		Ss													
240	Jmb	Sh	Gray to green	Arena											
	TD 250														
260															

N - cutting samples

Dwg No. 792

Hole No. 2140-3140

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
2140N-3140E	17	2 2	4-21-58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
164	170	PC	Ss Medium grained-Lt. gry. green-pink calcite-gry lime-Arkosic	
170	178	✓	Ss-Fine to medium grained-Lt gry-shaky	
178	194	✓	Ss-Medium to coarse grained-Lt. gry-green cly galls	
194	197	PC	SH-U Arena.-gry green	
197	204	✓	Ss. Fine to medium grained-Lt. gry-pink calcite-gry ls.	
204	218	✓	SH-Arena-gry green-Alternatly sandy.	
218	236	✓	Ss-Med grn.-gray-clay galls	
236	250	Jm b	Sh-Light grn-sandy	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
2140N-3440E	17	6954.3	1 2	One	4-9-58	RBB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description
0			Brown	Blow sand										
		Ss	Yellow Brown	Some clay - med. gr. sand stone										
20		Ss	lt gry	Fine to medium grained - some light tan ss.										
40	Kd	Ss	Very light gray	Fine to med grained										
60		Ss	light gry	Fine grained with some tan										
		sh	blk	Carbo shale stringer										
		Ss	tan to drk gry											
80		Sh	light gry to green											
100	Jmb													
120														
140														
160		Ss	light gry to green	Fine to med. grained										
				Clay balls - damp										
180	PC													
		sh	gry green to rosy tan	Arena										
		Ss	lt. gry to green											
200		sh	gry to green	Arena										
		Ss	green & red gry & green	Shaley lenses, clay balls										
220														
240	Jmb	sh	Gray Red	Sandy to base										
260	TD 250													

Dotted line Graphic Assay
Solid Line - Probe
0% .20% .60

Not enough samples

Hole No. 2140-3440
Section 17

Dwg No 792

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
2140N-3440E	17	2 2	4/22/58	RRB

Footage From	Footage To	Formation	Geology Description	Samples
158	164	PC	Ss, fine grained, lt. gry-green, arkosic, green cly. galls	
164	170	✓	✓, fine to medium grained, lt. gry, cht, ls., slightly pebbly	
170	172	✓	✓, medium grained, arkosic, green cly. galls, slightly lmy, small amt. cht.	
172	176	✓	ss, lt. gry-green,	
176	188	✓	Ss, medium grained, lt. gry, crse pebbles, lmy, cht, green cly galls.	
188	194	✓	Sh, lt. gry-green w/ rosey tan streaks, arena	
194	201	✓	Ss, lt gry-green, fine grained, arkosic, green cly galls	
201	205	✓	Sh, gry-green, arena	
205	210	✓	Sh, ✓ ✓ & red-brn, arena.	
		✓		
210	233	✓	ss ✓ ✓	
233	250	Pb	Sh, Gray-green, arena	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
2140N-3740E	17	6924.1	1 2	One	4/10/58	BRL

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description
0	Kd	Ss	Yellow tan	Fine to medium grained										
			lt tan to lt gry	Fine grained										
20														
40			lt. tan	Fine to medium grained										
60			lt. gry	— — —										
			gry	— — —										
			Dk gry	— — —										
80		Sh	Lt gry to tan	— — —										
			Lt gry-green	Aren.										
100														
120	Jmb													
140														
160		Ss.	lt. gry-green	Fine to medium, greenish gray										
180	Pc													
		Sh	Gry-Green	are mus.										
200		Ss.	lt. gry	- fine to medium - green sly galls										
		Sh	Gray											
220		Ss	Gray-grn	Med grain										
240	Jmb	Sh	Green	Some sand										
	TD 250													
260														

Dotted line Graphic Assay
Solid Line - Probe
0% .20% .60

N cutting samples

Dwg No 792

Hole No. _____
Section _____

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
2140N-3740E	17	2 2	4/23/58	RRB

Footage From	Footage To	Formation	Geology Description	Samples
161	167	PC	Ss, lt. gry-green, very shly, green cly galls	
167	175	✓	✓, lt. gry, fine to medium grained w/ crse pebbles, ls, cht, calcite pink & white	
175	176	✓	SH, gry-green, v/ arena, minor frags flesh & green cht.	
176	185	✓	Ss, lt. gry, fine to medium grained w/ crse pebbles, ls, cht, pink calcite, small amt. green cly galls	
185	186	✓	SH, gry-green, v/ arena, streaks brn st.	
186	193	✓	Ss, lt. gry, medium grained, arkosic, small amt green cly galls, minor cht, ls	
193	201	✓	SH, lt gry-green, v/ arena, minor green cht., slightly lmy	
201	206	✓	Ss, fine to medium grained, green cly galls, cht, ls, pink calcite.	
206	208	✓	Ss, medium grained, pebbley, ✓ ✓ ✓ ✓ ✓ ✓ ✓	
208	219	✓	SH, gry-green, arena, lmy, slightly pyritic	
219	225	✓	Ss, gry green, shly-sand-sandy-shl., minor cht., lmy.	
225	238	✓	Ss, gray — med grain	
238	250	Jmb	Sh, gray-green	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
2140-4340	17	6902.5	1 2	ONE	4-11-58	RRB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Interval Foot	Scaler Assay	Graphic log	Description
0			GRN	Blow sand										
	Kd	SS	TAN TO LT. GRY	FINE grained										
20														
40														
		SH	GRY	ARENA.										
		SS	GRY	FINE grained										
60		SH	DRK. GRY	CARBO.										
		SS	GRY.	Fin. to med. grained										
		SH	GRY GREEN	ARENA.										
80														
100	Jmb													
120														
140														
		SS	LT. GRY	FINE grained - ARKOSIC										
160														
180	PC			MED grained										
200		SH	LT. GRY GREEN	- LIMEY										
220		SS	GRAY	MED grain										
	Jmb	SH	GRAY GREEN	ARENA										
240		TD 240												
260														

Dotted line Graphic Assay
Solid Line - Probe
0% .20% .60

Drilling stopped 2'

Dwg No 792

Hole No. 2140-4340
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
2140N 4340E	17	2 2	4/20/58	BB VEL

Footage From	Footage To	Formation	Geology: Description	Samples
155	173	Pc	Ss, FG, LT. GRY, ARKOSIC	
173	181	✓	Ss, MG, ✓ ✓, W/SME PEBBLES, PINK CALCITE, MINOR. DRK GRY LMS	
181	193	✓	Ss, MG TO CSE. GR, LT. GRY, W/CSE GRY LMS. & PINK & WHITE CALCITE, GR. CHERT	
193	199	✓	✓, MG TO FG, ✓ ✓, PYRITIC	
199	217	✓	SHL, LT. GRY. GREEN W. THIN LMS NEAR TOP	
217	224	✓	Ss, Gray, med grain, clay galls.	
224	240	Jb	Sh, Gray green, arena	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
2740N-2840E	17	6955.9	1 2	One	4-14-58	RRB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description
0		Ss	Tan	Fine to medium grained										
20														
	Kd	Sh	gray											
		Ss	Lt. gry	Fine grained										
40														
			Tan	Fine grained										
60			dk gry	Fined grained - carbo - damp Inter. Blk. carbo shale stringers										
		Sh	Lt. gry green											
80														
100	Jmb													
120														
140		ss	Lt. gry green	Medium to coarse grained Arkosic										
160	PC													
180			Lt. gry green											
		Sh	Lt gray											
			Red Br	sh stringer										
			Lt. gry green											
200		ss												
			sh - gray - grn											
		ss												
220	Jmb	Sh	Lt gray - green	Arena										
240	TD 235													
260														

Dotted line Graphic Assay
Solid Line - Probe
0% .20% .60

Cutting samples

Dwg No 792

Hole No. 2740-2840
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
2740N-2840E	17	2 2	4/22/58	RRB

Footage From	Footage To	Formation	Description	Samples
139	144	PC	Ss, lt. gry, fine to medium grained, minor cht, lmy	
144	150	✓	✓, ✓ ✓, medium grained, crse pebbles, pink & white calcite	
150	154	✓	✓, ✓ ✓, ✓ ✓, ✓ ✓, u/ shly	
154	156	✓	✓, ✓ ✓, ✓ ✓, ✓ ✓	
156	164	✓	✓, ✓ ✓, ✓ ✓, ✓ ✓, ✓ ✓	
164	170	✓	✓, ✓ ✓, ✓ ✓, quite lmy, flesh & green cht.	
170	178	✓	✓, ✓ ✓, fine grained, medium pebbles, gry-lms, cht., calcite	
178	184	✓	✓, ✓ ✓, ✓ ✓, ✓ ✓, ✓ ✓, ✓, ✓, u/ small amt. pyrite	
184	188	✓	Sh, lt. gry-green, arena, slightly pyritic	
188	193	✓	✓, Red-brn, arena,	
193	198	✓	✓, lt gry-green, arena, slightly pyritic	
198	203	✓	Ss, med grain, grn clay galls	
203	204	✓	SH, Green-gray	
204	216	✓	Ss, med grain, gray, thin sh layers	
216	235	✓ #b	Sh, arena, gray grn	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
2740N-3740E	17	6938.6	1 2	One	4-14-58	RRB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Depth	Reading	Scale	Foot Interval	Assay	Graphic log	Description
0		Ss	Yellow tan	Medium grained										
20			Lt. tan	Fine grained										
	Kd		Lt. gry tan	Fine grained										
40														
60			Brown	Medium grained										
			Lt. gry to tan	DK gry. carbo. shale stringer in Fine grained sand										
			gry	Medium to coarse grained										
80		Sh	Lt. gry to green											
100			Lt. gry to green	Brown sand stringers										
120	Jmb		Red Brown	quite sandy										
140														
160														
180		Ss	Lt. gry green	Coarse grained - inter. shaley										
	PC			Medium grained										
200														
220		Sh	Lt. gry to green	gradational contact - sandy to shaly										
		Ss	Lt gray	- med grain										
240	Jmb	Sh	Gray to green											
260		TD 255												

Probe: Scale

Scaler: Assay

Dotted line Graphic Assay
Solid Line - Probe
0% .20% .60

No cutting samples

Dwg No. 792

Hole No. 2740-3740
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
2740N-3740E	17	2 2	4/22/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
164	176	PC	Ss, lt gry-green, medium grained w/ crse pebbles, shly, ly, minor chl	
176	178	PC	Ss, lt gry, med. grnd, w/ crse pebbles, lmy, minor chl	
178	184	PC	" " " " " lmy, green cly galls	
184	190	PC	Sh, lt. gry-green, very sndy, minor lm. & chl	
190	195	PC	Ss, lt. gry, medm grnd, w/ few crse pebbles, lmy, chty, pink & white calcite	
195	200	PC	" " " " " " " " " " " " w/ shly	
200	204	PC	" " " " " " " " " " " " "	
204	211	PC	" " " " " " " " " " " " " grading to shy	
211	228	PC	sh, lt. gry-green, arena, small frags. white chert, slightly lmy	
228	235	PC	Ss - Lt gray - med grain	
235	255	Nb	Sh - Gray to green, arena to base	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
2740N-4040E	17	6942.6	1 2	one	4-14-58	RRB

2740N-4040E

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description
0		SS	LT TAN TO GRAY	FINE TO MEDIUM GRAINED										
20														
40	Kd													
60														
		SH	MED GRY											
		SS	MED GRY	FINE GRAINED										
80			LT GRY	FINE GRAINED - DK GRY CARBO. SHALE STRINGER										
		SH	RED GRY											
		SH	LT GRY TO GREEN											
100														
120														
	Jmb													
140														
160														
		SS	LT GRY GREEN	FINE GRAINED, ARKOSIC, GREEN CLY. BALLS										
180			LT GRY-GREEN	MEDIUM GRAINED ARKOSIC - SMALL AMT CLAY BALLS										
200	PC													
220		SH	LT GRY TO GREEN	Slightly sandy										
240		SS												
	Jmb	SH	Red + Green	Arenna to base										
260														

Dotted line Graphic Assay
Solid Line - Probe
0% .20% .60

2' Cutting Samples

TD 260

Dwg No 792

Hole No. 2740-4040
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
2740N-4040E	17	2 of 2	4/22/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
180	184	PC	Ss, lt. gry-green, fine grained, arkosic, green cly. galls	
184	188	✓	✓, lt. gry, fine grained, medium pebbles, gry. ls., pink calcite, minor cht. frags.	
188	192	✓	ss, lt. gry, fine to medium grained, few crse pebbles, gry. ls, pink & white calcite	
192	196	✓	Ss, lt. gry-green, fine grained, shaley; green cly. galls	
196	200	✓	✓, ✓ ✓ ✓, ✓ to medium grained, shaley, green cly. galls, small white cht.	
200	206	✓	✓, lt. gry, medium grained, pebbly, gry. ls., pk & wh. calcite, white chert frags.	
206	212	✓	✓, ✓ ✓, ✓ ✓, crse pebbles, ✓ ✓ ✓, flesh cht., gry. ls.	
212	216	✓	✓, ✓ ✓, ✓ ✓, pebbly, ✓ ✓ ✓ ✓ ✓ ✓ ✓	
216	235	✓	Sh., lt. gry green, arena, slightly pyritic.	
235	242	✓	Ss, ✓ ✓ ✓, ✓ ✓	
242	260	Vm	Sh, green-red- Sandy	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
2740 N-4340 E	17	6927.4	1 2	One	4-14-58	RRB

Geology | Probe | Scaler

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Depth	Reading	Scale	Foot Interval	Assay	Graphic log	Description
0		ss	Yellow Brown	Medium grained										
20														
40	Kd													
			Lt. gry	Fine grained										
60			Yellow brown	Coarse grained with carbo sh stringer										
		sh	dk. gry	carbo										
		ss	dk gry	Fine grained										
80		sh	Lt. gry green											
100	Jmb													
120			rosy gry green											
140														
160		ss	Lt. gry green	medium to coarse grained										
180	PC	sh	Green											
		ss												
200		sh	Lt. gry to green											
			Red Brown											
		ss	Lt. gry	Fine to medium grained										
220														
240	Vmb	sh	Gray	Sandy to base										
	TD 250													
260														

Dotted line Graphic Assay
Solid Line - Probe
0% .20% .60

Cutting samples

Dwg No 792

Hole No. 2740-4340
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
2740N-4340E	17	2 2	4/22/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
154	160	PC	Ss, lt. gry-green, fine grained, arkosic, green cly. galls	
160	183	PC	Ss, lt. gry, medium grained, arse pebbles, lmy, minor cht, some calcite	
183	185	PC	Sh, Green	
185	190	PC	↙, ↙ ↙, ↙ grained, minor arse pebbles, flesh & green cht, some calcite	
190	196	PC	↙, ↙ ↙, fine to medium grained, flesh & green cht	
196	197	PC	Sh, lt. gry-green, uf arena	
197	201	PC	Ss, lt. gry-green, fine grained, arkosic, green cly. galls	
201	208	PC	sh, lt. gry-green, uf arena, small frags white chert	
208	211	PC	sh, ↙ ↙ ↙ & red-brn, arena	
211	238	PC	Ss, ↙ ↙ ↙, very SMLY minor pyrite, small white frags. cht	
238	250	Sm	SH. ↙ ↙ ↙, ↙ arena	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3340N-1040E	17	6979.6	1 - 2	One	4-16-58	BRB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description
			Brown	Blow sand										
	Kd	Ss	Tan	Fine to medium grained										
		Sh	Dk Gray	Carbo.										
		Ss	Yellow-Tan	Fine grained										
		Sh.	Blk.	Carbo.										
		Ss	Dk Gray Blk	Fine grained Fine grained - carbo.										
		Sh.	Gray-Green											
	Jnb													
			Gray											
		Ss	Gray Green	Very shaley										
		Ss	Gry. Green	Fine grained										
		Sh	Gray											
	PC													
		Sh	Gray Green	sandy										
		Ss	Lt Gry Green	Medium grained										
	Jab	Sh.	Lt Gry Green	Sand streaks										
	TD 235													

Dotted line Graphic Assay
Solid Line - Probe
0% .20% .60

Samples

No.	Chemicals	
	197-199	.016
	199-201	.011
	201-203	.021
	203-205	.016
	205-207	.014

Dwg No 792

Hole No. 3340-1040
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
3340-1040	17	2 - 2	4/16/58	RRB

Footage From	Footage To	Formation	Geology Description	Samples
129	137	PC	Ss, lt gry-green, fine grained, arkosic, green cly galls	
137	145	✓	✓, lt gry, fine to medium grained, pebbley, lmy, cht, calcite, green cly galls.	
145	155	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
155	157	✓	SH, lt gry-green, ulareno	
157	163	✓	Ss, lt gry-green, fine grained, arkosic, green cly	
163	172	✓	Ss, lt gry, fine to medium grained, lmy, cht, green cly	
172	178	✓	SH, gry-green, areno	
178	181	✓	✓, red-brn & gry-green, areno	
181	190	✓	Ss, lt gry to lt gry-green, medium grained, lmy, cht, calcite	
191	199	✓	Ss, lt gry w/ small amt dkr gry, lmy, cht, calcite - med to crse	
197	200	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓, green cly galls	
200	203	✓	SH, red-brn, areno	
203	205	✓	Ss, lt gry, slightly pyritic, cht, lmy, medium grained	
205	215	Jm	SH, Gry-green, wht cht frag, slightly pyritic.	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3340N-3140E	17	692.0.1	1 2		4-16-58	RRB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description
0			BROWN	SAND -										
	kd	SS	BROWN	MEDIUM GRAINED										
				SLIGHT REDDISH TINT										
20														
			TAN	FINE TO MEDIUM GRAINED										
40														
			LT. GRY TAN	FINE GRAINED										
			BROWN	SMALL SHALE SEAM IN MEDIUM GRAINED SS										
			LT GRY	FINE GRAINED										
60		SH	BLK.	CARBO										
		SS	REDDISH GRY	MEDIUM GRAINED										
80		SH	GRY GREEN											
100		SS	GRY GREEN	MEDIUM GRAINED - SHALY										
	Jrb.	SH	REDDISH GRY GREEN											
120			RED-BR.											
			GRY GREEN											
			RED-BROWN											
			GRY. GREEN											
140														
160		SS	GRY. GREEN	FINE TO MEDIUM GRAINED										
				SOME MINOR AMOUNTS LIME										
180	pC													
200			LT. GRY GREEN	GRAY MUD SEAMS										
		sh	REDDISH-BROWN LT. GRY GREEN	LIMEY STREAKS										
		SS												
220														
240	Jmb	sh	gray & red	arena.										
	Jmw	SS	red	fine grained										
	TD 250													
260														

Dotted line Graphic Assay Solid Line - Probe
0% .20% .60

2' cutting samples

Dwg No 792

Hole No. 3340-3140
Section 17

Inset Sheet

Hole No	Sec.	Page of Pages	Date	Logged by
3340N-3140E	17	2 of 2	4/16/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
153	156	PC	Ss, lt. gry-green, fine grained, arkosic, green cly galls	
156	164	"	", " ", fine to medium grained, lmy, cht, green cly galls	
164	170	"	", " ", " " " " " " " ", slightly pyritic	
170	178	"	", " ", medium grained, pebbly, lmy, " " " " " "	
178	188	"	", " ", " " " " " " " ", cht	
188	195	"	", " " " " " " " " " " ", sm amt. fine red sand	
195	202	"	Sh, lt. gry-green, gry-mud seams, lmy.	
202	206	"	", Red-brn, arena.	
206	210	"	", lt. gry-green, " " " "	
210	228	"	Ss, lt grn-gray, clay galls	
228	247	$\frac{1}{m_b}$	Sh, red, gray, arena to base	
247	250	$\frac{1}{m_w}$	Ss, red, fine gn.	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3340N-3440E	17	6911.8	1 2	One	4-16-58	RRB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description	Dotted line Graphic Assay Solid Line - Probe (0% .20% .60)
0	Qal?	Ss / Mudstone	Brown	Medium grained sand & poor mudstone in alternate thin seams											
	Kd	Ss	Brown	Medium to coarse - poorly consolidated											
20															
				Slight reddish tint											
40															
			Tan	Fine grained											
60			Gry	Fine grained											
		Sh	Dk Gry	Coaly											
		Ss	Gry	Fine grained											
		Sh	Med Gry												
		Ss	Med Gry	Slight rosey tint - fine grained											
80		Sh	Gry Green												
100															
120	Jmb		Gry												
			Gry Green												
			Gry												
140			Gry Green												
				Slight reddish brown seam											
160															
		Ss	Gry Green	Fine to medium grained - Arkosic. Some mica											
				Shaley 170 - 172											
	PC														
180				Shaley 181 - 183											
200															
		Sh		Shale seam 205 - 207'											
		Ss		Red sand fine 207 - 210											
		Sh	Gry Green	- slight reddish tint on top											
220				Sandy											
		Ss	Gray-grn	— Shaley at top											
240															
		Sh	Gray green	Arena											
	Jmb														
260		Jmb Ss	Gray	Med grain											
265 To 265			Gry	192											

Cutting Sample

Hole No 3340-3440

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
3340N-3440E	17	2 2	4/22/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
163	170	PC	Ss, lt. gry-green, fine grained, arkosic, green cly galls	
170	176	PC	Ss, lt gry., medium pebbles, fine grained, small amt. ls., chl, calcite — 170-172 Shaley zone	
176	181	PC	Ss, lt. gry., medium grained, crse pebbles, " " " " "	
181	182	PC	SH, lt. gry-green, very arena	
182	183	PC	" " " " " " , slightly pyritic	
183	188	PC	Ss, " " " , fine grained, arkosic, green cly galls.	
188	192	PC	Ss, lt. gry, fine grained, medium pebbles, small amt gry ls., chl., calcite	
192	194	PC	Ss. lt. gry-green, fine grained, green cly. galls, shaley.	
194	205	PC	Ss. lt. gry., fine to medium grained, some crse. pebbles, gry ls., chl., pink calcite	
205	207	PC	SH, lt. gry-green, very arena.	
207	210	PC	Ss, lt. gry, fine grained, small amt. of fine reddish sand	
210	214	PC	SH, lt. gry-green, very arena, streaks of reddish tint.	
214	227	PC	SH, " " " , arena, slightly pyritic, small frags. white chl.	
227	233	PC	Ss, Gray-green, shaley at top	
233	258	J_{mb}	SH, " " , arena	
258	265	J_{mw}	Ss, Gray, med grain	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3340N-3740E	17	6906.6	1 2		4-15-58	RRB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description
0			TAN	BLOW SAND										
		SS MUD STONE	BROWN	ALTERNATING THIN SEAMS SAND & MUD STONE										
		SS	BROWN	MEDIUM GRAINED										
20														
40	Kd		YELLOW TAN	FINE GRAINED										
			GRY	FINE TO MEDIUM GRAINED										
60		SH	DK GRY	CARBO.										
		SS	MED. GRY.	FINE GRAINED										
80		SH	GRY GREEN											
100														
	Jmb	SS	GRY GREEN	MEDIUM GRAINED - SHALEY										
		SH	LT. GRY GREEN											
120				1' BROWN FINE SAND										
140														
160														
180	PC	SS	GRY GREEN	FINE TO MEDIUM GRAINED										
				SHALY LENSE										
200				VERY FINE GRAINED										
			RED & GRY GREEN	VERY FINE GRAINED										
220		SH	GRY GREEN											
		SS	Gray green	Med grain, clay galls										
240														
	Jmb	Sh	Gray green	Arena to base										
260	Jmd	SS	Gray	Med grain										
270	TD 270													

Dotted line Graphic Assay
Solid Line - Probe
0% .20% .60

Minor limey streaks

2' cutting samples

Dwg No 792

Hole No. 3340-3740
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
3340N-3740E	17	2 2	4/21/58	RBB

Footage From	Footage To	Formation	Geology Description	Samples
172	178	PC	Ss., lt. gry-green, Fine grained, arkosic, green cly. galls	
178	184	✓	✓, ✓ ✓ ✓, ✓ to medium grained, pebbly, gry., ls., pink calcite.	
184	188	✓	✓, lt. gry., medium grained, shaley, minor lime.	
188	190	✓	Sh, lt. gry-green, very arena.	
190	196	✓	Ss., lt. gry, medium grained, shaley, minor lime, small amt. calcite	
196	200	✓	✓, slightly darker gry., medium grained, quite limey, minor cht., calcite	
200	209	✓	✓ lt. gry., fine grained, arkosic, green cly galls.	
209	212	✓	✓ ✓ ✓, ✓ ✓, ✓, ✓ ✓ ✓, significant lime, minor red sand.	
212	227	✓	Sh, gry-green, very arena, slightly pyritic.	
227	244	✓	Ss, Gray-green, Med grain, clay galls	
244	260	t_b	Sh, Gray-green, Arena to base	
260	270	t_m	Ss, Gray, Med grain, arkosic	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3340-4340	17	6894.8	1 of 2	One	4-16-58	R.R.B.

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description
0			Brown	Blowsand										
	Kd	Ss	Tan	Coarse grained										
			Lt. Tan	Medium grained										
20				Mudstone seam 2'										
			Gray to Tan	Fine to medium grained										
40														
60		Sh.	Dk Gry	Carbo.										
		Ss	Dk Gray Brown	Medium grained										
		Sh.	Blk Gray	Carbo.										
		Ss.	Dk gry	Medium grained.										
80		Sh.	Gray Green											
100		Ss	Lt. Gray Green	Medium grained										
120	Jmb	Sh.	Gray Green											
				Alternating small red chale seams 125'-128'										
140														
160														
180			Lt. Gray Green	Medium to fine grained Arkosic.										
		Ss												
	PC	Ss	grn	Very shaley										
		Ss	Gray-grn											
200		Sh	grn											
		Ss	gray-green											
220		Sh	Gray green	arena										
		Ss	Gray green	Med grain										
240														
260		Sh	Red & Gray	Arena										
	Jmb		Gray	Sandier to base										
270	Jmb	Ss	Gray											
	TD 275													

Dotted line Graphic Assay
Solid Line - Probe
0% .20% .60

N. Cutting Samples

Hole No 3340-4340
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
3340N-4340	17	2 2	4/22/58	BRB

Footage From	Footage To	Formation	Description	Samples
179	188	PC	Ss-lt. gry-green, fine grained, arkosic, minor ls, cht, calcite	
188	192	✓	ss-✓ ✓, very shaley, quite limey, slightly pyritic	
192	198	✓	Ss-lt. gry, fine grained, pebbly, ls., cht, calcite pink & white	
198	204	✓	SH-lt. gry-green, very arena., limey	
204	218	✓	Ss-lt. gry-fine to medium grained, gry. ls., calcite, cht.	
218	226	✓	SH, lt. gry-green, arena.	
226	254	✓	SS, Gray, green, med grain	
254	266	Tmb	sh, Red & gray, areng	
266	275	Jow	SS, Gray-med-fine gn.	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3940N-2840E	17	6933.8	1 2	One	4-17-58	RRB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description	Dotted line Graphic Assay Solid Line - Probe (0% .20% .60)
0			BROWN	BLEW SAND											
		SS	TAN TO GRY	FINE SAND											
20															
40	Nd														
				LT GRY SHALE STRINGER											
				THIN DK GRY SHALE SEAM											
			BROWN	MEDIUM GRAINED											
60			GRY	FINE GRAINED											
			TAN	FINE GRAINED											
		SH	GRY												
			DK GRY	CARBO											
		SS	DK GRY	FINE GRAINED											
80		SH.	GRY. GREEN												
100	Jmb														
		SS	GRY GREEN	MEDIUM GRAINED											
120				FINE GRAINED - MINOR LIME											
		SH.	GRY GREEN												
140															
		SS	LT GRY GREEN	FINE GRAINED - DAMP											
160	PC														
				MEDIUM TO COARSE GRAINED GREEN CLAY GALLS - MINOR LIME SLIGHTLY GRAVEL											
180															
		SH	RED & GREEN												
			GRY GREEN	SANDY											
200		SS	Gray												
	Jmb	sh	Gray green	Arena											
220															
		TD 229													
240															
260															

2" Casing Stopped

Dwg No 192

Hole No 3940-2840

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
3940-2840	17	2 2	4/11/58	RRB

Footage From	Footage To	Formation	Geology Description	Samples
141	147	PC	Ss, fine grained, lt. gry-green, arkosic, green cly galls, w/ damp.	
147	155	"	", fine to medium grained, lt. gry, pebbley, cht, ls, green cly.	
155	165	"	", medium grained, pebbley, " ", cht, lmy, calcite, slightly pyritec, green cly.	
165	171	"	", " to crse grained, " ", slightly dker, lmy., " " " "	
171	181	"	", " " " " , " ", lmy, pebbley, small amt fine red sand	
181	190	"	Sh, lt. gry-green & red-brn, arena.	
190	194	"	", " " " , ~~w~~ arena.	
194	207	"	Ss, Gray, med grain	
207	225	Vm 6	Sh, Gray, green, arena to base	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3940N-3740E	17	6903.0	1 of 2	One	4/19/58	RRB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description
0			Brown	Blow sand										
		SS	Tan	Fine grained										
20			Lt. gry	✓ ✓										
			Tan	✓ ✓										
40	Kd													
			Lt. gry	✓ ✓										
60		SH	Dk. gry	Carbo.										
		SS	Gry-tan	Fine to medium grained										
			Dk gry	✓ ✓ ✓										
		SH	Dk gry	Carbo										
80		SS	Med gry	Fine grained										
		SH	Lt. gry green	Arena.										
100	Jmb													
120														
			gry	✓										
140		SS	lt gry-green	Fine grained, arkosic										
		SH	✓ ✓											
160		SS	✓ ✓ ✓ ✓ ✓											
	PC													
180														
200														
		SH	Gry green	Arena.										
220				Sandy zones at 217 and 230-233.										
240	Jmb	SH	Gray & red	Arena										
	Jmb	SS	Gray	Shaley										
260		TD 255												

Dotted line Graphic Assay
Solid Line - Probe
0% .20% .60

2' cutting samples

Dwg No 792

Hole No. 3940-3740
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
3940N-3740E	17	2 of 2	4-21-58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
140	148	Jmb	Ss Lt. Gry-green, very fine grained, pink calcite, brown chert, lt. gry ls.	
145	152	Jmb	Ss-Gry-green, slightly darker, ✓ ✓ ✓ ✓ ✓ ✓ ✓	
152	162	Jmb	SH-Gry-green, very arena.	
162	171	PC	Ss-Lt. grey, very fine grained, minor gry. lime	
171	180	PC	Ss-Lt. grey, fine to medium grained, small amt. blk. carbo. material.	
180	189	PC	Ss-Lt. grey, medium grained, arkosic	
189	198	PC	Ss-Slightly darker gry., medium to coarse grained	
198	210	PC	Ss ✓ ✓ ✓ ✓ ✓ ✓ , pink calcite, sm. amt. chl.	
210	233	PC	SH-Gry-green, very arena., slightly pyritic. Sand zones at 217 and 230-233	
233	247	Jmb	SH, Gray + red, arena	
247	255	Jmw	Ss, Gray, med grain	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3940N-4040E	17	6898.3	1 of 2	One	4-19-58	RRB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description
0			BRN	Blow sand										
	Kd	Ss	Tan	Fine grained										
20			Lt. gry	Very fine grained										
40														
60		SH	Gry	Arena.										
		Ss	Gry.	Fine grained										
		SH	Blk	Carbo.										
80		Ss	Dk. Gry	Carbo.-fine grained										
		SH	Lt. gry-green	Very arena.										
100														
	Jmb													
120														
				Very sandy 135'-145'										
140														
160		Ss	Lt. gry-green	Fine grained										
		Sh		Sandy										
180	pC	Ss		Green clay balls										
200														
				Shaley zones										
220		Sh	Gray-green	Arena to base										
240		Ss	Gray	Med grain										
	Jmb	Sh	Gray green red											
	Jmw	Ss	Gray	Shaly										
260														

Dotted line Graphic Assay
Solid Line - Probe
0% .20% .60

2' cutting samples

TD 265

265

Dwg No 192

Hole No 3940-4040

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
3940N-4040E	17	2 2	4-21-58	RRB

Footage From	Footage To	Formation	Geology Description	Samples
166	167	Jm b	Sh, Gray green	
167	168	PC	Ss - Lt gry-green, very fine grained, arkosic, green cly. galls, shaley	
168	170	PC	Ss - Medium grained, pebbly, calcite, gry. ls., Lt. gry., shaley	
170	184	PC	Ss. ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓, green cly galls, shaley	
184	190	PC	Ss - Fine grained, pink calcite, gry. ls., lt. gry., shaley	
190	198	PC	Ss - Med. ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
198	210	PC	Ss - Fine grained, white & pink calcite, pale gry. ls., lt. gry. slightly, shaley	
210	215	PC	Ss - lt gry., medium grained, minor lime & calcite, brn. chert.	
215	240	PC	Sh - Gry. green, very arena, slightly pyritic. — Ss layer at 235-240	
240	253	Jm b	Sh - Gray, green, red	
253	265	Jm w	Ss - Gray, very shaley, med grain	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3940N-4340E	17	6891.5	1 of 2	One	4/21/58	RRL

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description
0			BRN	Blow sand										
		SS	Lt tan to lt. gry	fine grained										
20														
40														
	Kd													
60														
			BLK-Grn Dk gry	medium grained										
80														
		SH.	BLK	Carbo.										
		SS	Dk gry	fine grained										
		Sh.	Gry-green	Arena.										
100														
120														
	Jmb													
140														
160														
		SH	Gray grn	Very sandy										
180														
		SS	Gry-green	fine to medium grained (inset)										
200														
	pC													
		SH	Gray green											
220		SS	Gray Green	Clay galls			2' cutting samples							
			Gray green											
240		SH.	Gray green	Arena - red. mudst.										
		SS	Gray	Arkosic										
	Jmb	SH	Red & gray	Arena										
260														
	Jmb	SS	Gray	Clay galls										

Dotted line Graphic Assay
Solid Line - Probe
0% .20% .60

Hole No 3940-4340
Section 17

TD 275

275

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
3940N-4340E	17	2 2	4/21/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
185	189	PC	Ss, Sh, 50-50, lt. gry green.	
189	193	PC	Ss, fine to medium grained, lt. gry. green cly galls, gry ls., calcite.	
193	197	PC	Ss, sh, 50-50, lt. gry green, slightly pyritic.	
197	215	PC	Ss, medium grained, lt. gry, crse pebbles, white chert, pink calcite, 5' sh bed-at base; gray. green	
215	220	PC	Ss, sh, 60-40, lt. gry green, very limey.	
220 222		PC	Ss, fine grained, lt. gry., arkosic, green cly galls.	
222	240	PC	Sh, gry.-green, very arena, limey, red mudst	
240	245	PC	Ss, Gray, arkosic, clay galls	
245	259	Jm b	sh, Red & gray, arena to base	
259	275	Jm w	Ss, Gray, med grain	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
4540N-1040E	17	6964.5	1 — 2	One	4/23/58	KRC

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description
0			Brn	Blow sand.										
		SS	lt. tan to lt. gry	Fine grained										
20														
40														
	Kd													
		SH	Gry	ARENA										
60		SS	Tan	Med. grained										
		SH	Gry	Arena										
		SS	"	Med. grained										
		SH	Dk gry	Carbo										
80		SS	" "	Med. grained, slightly carbo										
		SH	" "	Carbo										
		SS	" "	" , Med grained										
		SH.	Gry-Green	V/arena										
100														
120	Jmb													
140														
		SS	lt. gry-Green	fine grained, arkosic, green cly galls										
			lt. gry	fine to med grained, pebbly, lmy, chty, calcite										
160			" "	med grained, " " " "										
	PC		lt. gry-green	THIN SH STRINGER										
		SS	lt. gry	med grained " " " "										
			" "	" " " " " " , green cly galls										
180														
			" "	" " " " " " " "										
200		SH.	gry-green	arenaceous, lmy, slightly pyritic										
		SS	Gray											
220														
	Vmb		Gray											
		sh	green	Arena zones										
240														
		TD 245												
260														

Dotted line Graphic Assay
Solid Line - Probe
0% .20% .60

Dwg No 792

Hole No. 4540-1040
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
4540-1040	17	2 — 2	4/23/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
149	155	PC	Ss, lt. gry-green, fine grained, arkosic, green cly galls.	
155	165	✓	✓, ✓ ✓, ✓ to medium grained, pebbley, limy, chit, calcite	
165	169	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
169	170	✓	SH ✓ ✓ ✓, THIN SEAM	
170	176	✓	Ss ✓ ✓, med grained ✓ ✓ ✓ ✓ ✓ ✓	
176	200	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓, green cly galls	
200	210	✓	SH, gry-green, arena, limy, slightly pyritic	
210	226	✓	Ss, Gray, med grained, limy	
226	245	Vm b	SH, Gray green, Arena, limy	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
4540N-2240E	17	6944.6	1 2	One	4/21/58	RRB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description
0			Brn.	Blow sand										
20		Ss	Lt. tan to lt. gry.	Fine grained										
40														
60	Kd													
80														
		Sh.	Dk. gry	Carbo.										
		Ss	Yellow tan	Medium grained										
100			Gray	Fine to medium grained										
120		Sh.	Gray green	Arena.										
140	Jmb													
160		Ss	Gray	Shaley										
		Ss	Lt. gry	Fine to medium grained - pebbly										
180	PC													
200														
		Sh	Green	Arena, red mud stone										
		Ss	Gray green	Clay galls										
220		Sh	Gray green											
		Ss	Gray											
240	Vnb	Sh	Gray red	Arena, limy										
260														

Dotted line Graphic Assay Solid Line - Probe
0% .20% .60

Drilling stopped 265

TD 265

Dwg No 792

Hole No. 4540-2240

Section 11

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
4540N-2240E	17	2 of 2	4/21/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
164	168	PC	Ss, lt. gry. green, very fine grained, arkosic	
168	174	✓	Ss, lt. gry., fine grained, pebbly, gry. ls., brn & green cht., calcite	
174	180	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓, green clay galls	
180	196	✓	✓ ✓ ✓, fine to medium grained, very crse pebbles, ls., calcite, cht., clay	
196	205	✓	✓ ✓ ✓, fine grained, medium pebbles, ✓ ✓ ✓ ✓	
205	208	✓	Sh., Gry-green, w/ red mudstone,	
208	221	✓	Ss, med grain, gray green, clay galls	
221	230	✓	SH, Gray green, limy	
230	238	✓	Ss, Gray, med to fine grain, some chert	
238	265	Jrb	Sh, Gray-red, arena, limy	

Drawing No. 7[illegible]

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
5140N-2840N	17	6919.0	1 of 2	ONE	4/23/58	RKB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description
0			~~Tan~~	Blow sand										
		Ss	Lt. ~~br.~~ to lt. gry	Fine grained										
20														
40														
	Kd													
60														
80			Yellow tan	Medium grained										
			Gry	slightly carbo										
		Sh.	~~Dk~~ gry	carbo										
		Ss	Dk.	slightly carbo										
100		Sh.	Gry-Green	Arena - minor streaks rec.										
120														
	Jmb													
140														
160														
		Ss + Sh	lt. gry	fine grained, arkosic, green dy galls										
180		Ss		, slightly pebbley, calcite cbl.										
				, small amt. finer ss sand										
				medium										
	PC													
200														
220		Sh.	Gry-Green. Arena and Gry-Green											
		Ss	Gray green	Shaley zones										
240														
	Jmb	Sh	Light green	Arena to top										
260														

Dotted line Graphic Assay
Solid Line - Probe
0% .20% .60

Gold Assays

TD 260

Dwg. No. 792

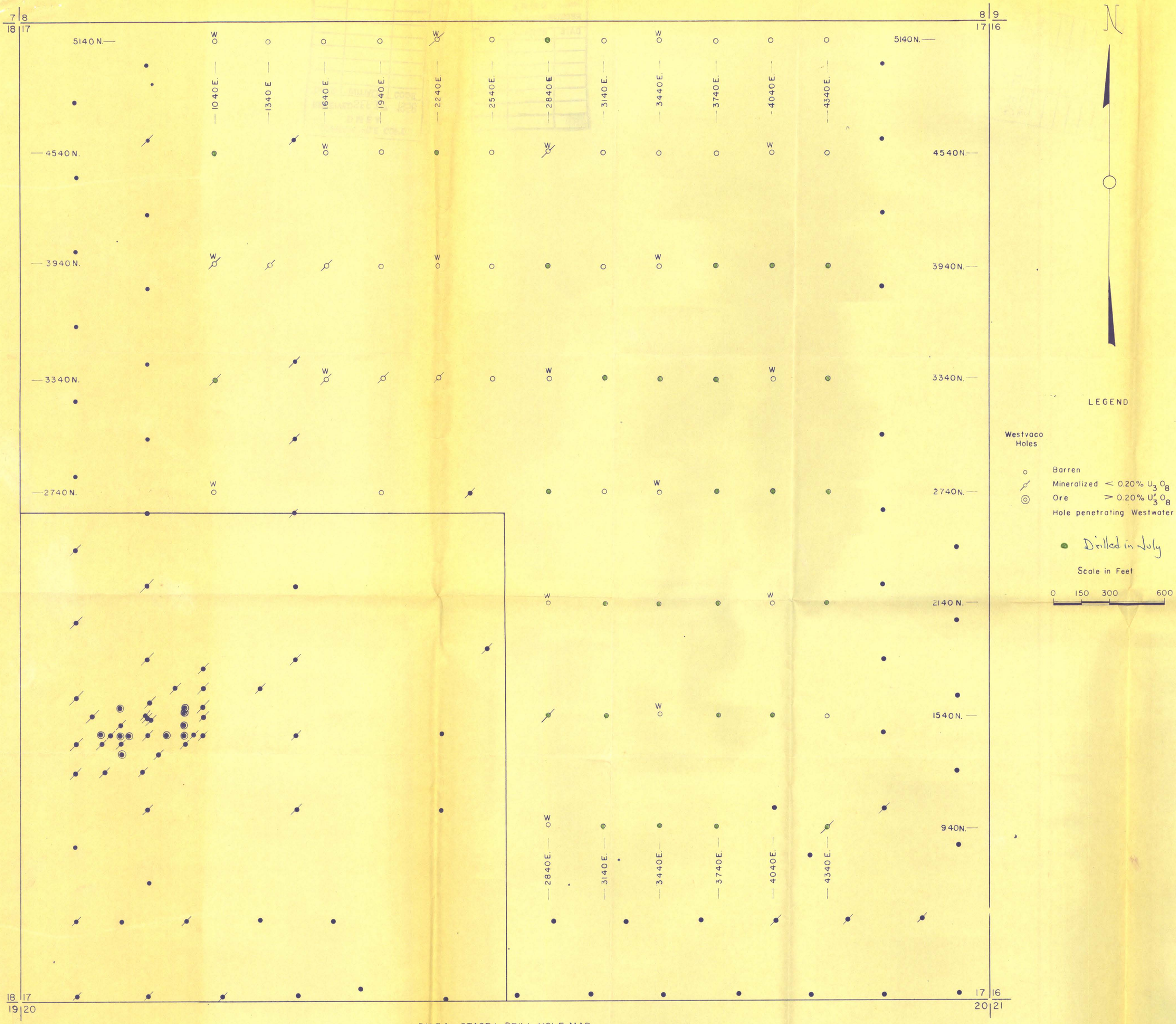
Hole No. 5140-2840

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
5140 N-2840 E	17	2 of 2	4/23/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
166	177	PC	SS, LT GRY, FINE GRAINED, ARKOSIC, GREEN CLY SPLRS – Very shaley	
177	180	"	" " " " " SLIGHTLY PEBBLEY, CALCIFR, CHT.	
180	186	"	" " " " " " " " " SMALL AMT FINE RED SAND	
186	217	"	" " " MED " " " " " " " " " "	
217	220	"	SH, GRY-GREEN, ARENA	
220	222	"	", RED-BRN, "	
222	226	"	", GRY-GREEN, "	
226	245	"	SS, med grain, some calcite, gray green — shaley zones	
245	260	Nm b	SH, Red, green, Arena towards top	



D.M.E.A. STAGE I DRILL HOLE MAP

McKinley County, New Mexico
Section 17, T. 13 N., R. 9 W.

Contract No. Idm-E1167
Docket No. 4845

DMEA holes drilled April and July, 1958

Log-Master Services, Inc.
ENID, OKLAHOMA

Well 3340-1040
Company Westvaco
County McKinley
State New Mexico
Location Sec. 17-T13N-R9W
Date April 16, 1958

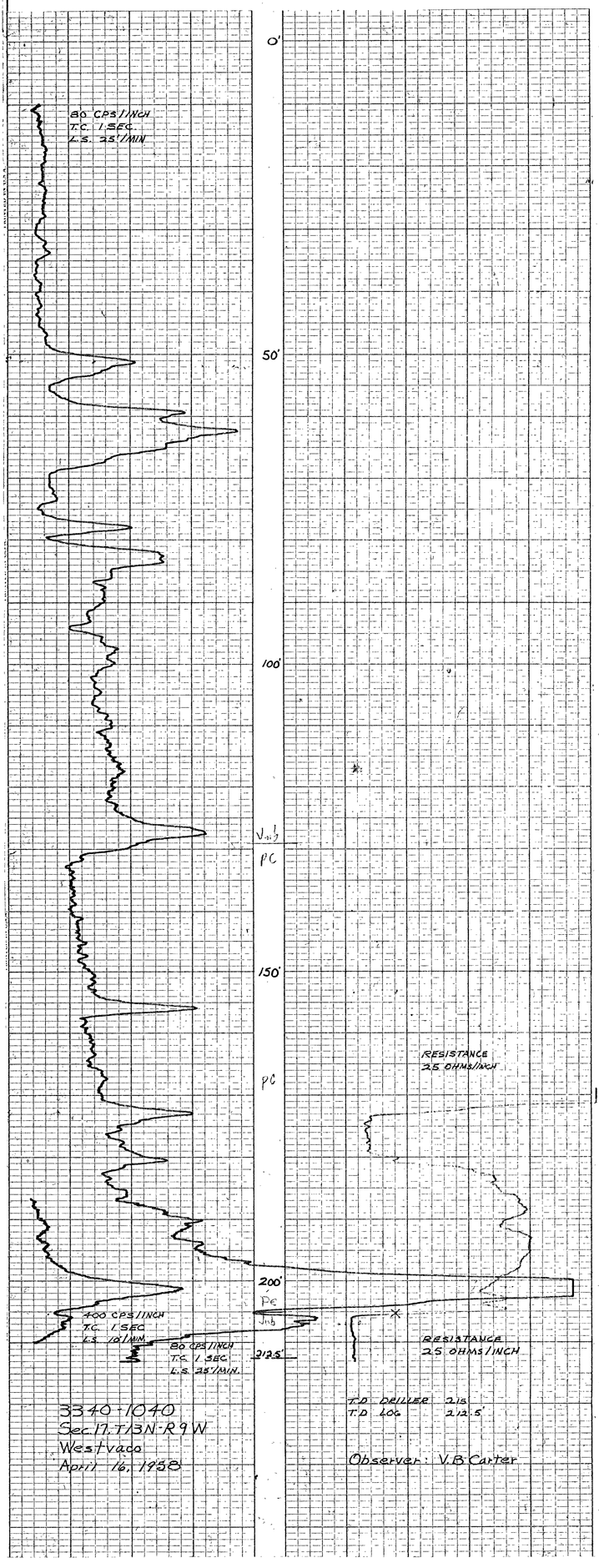
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

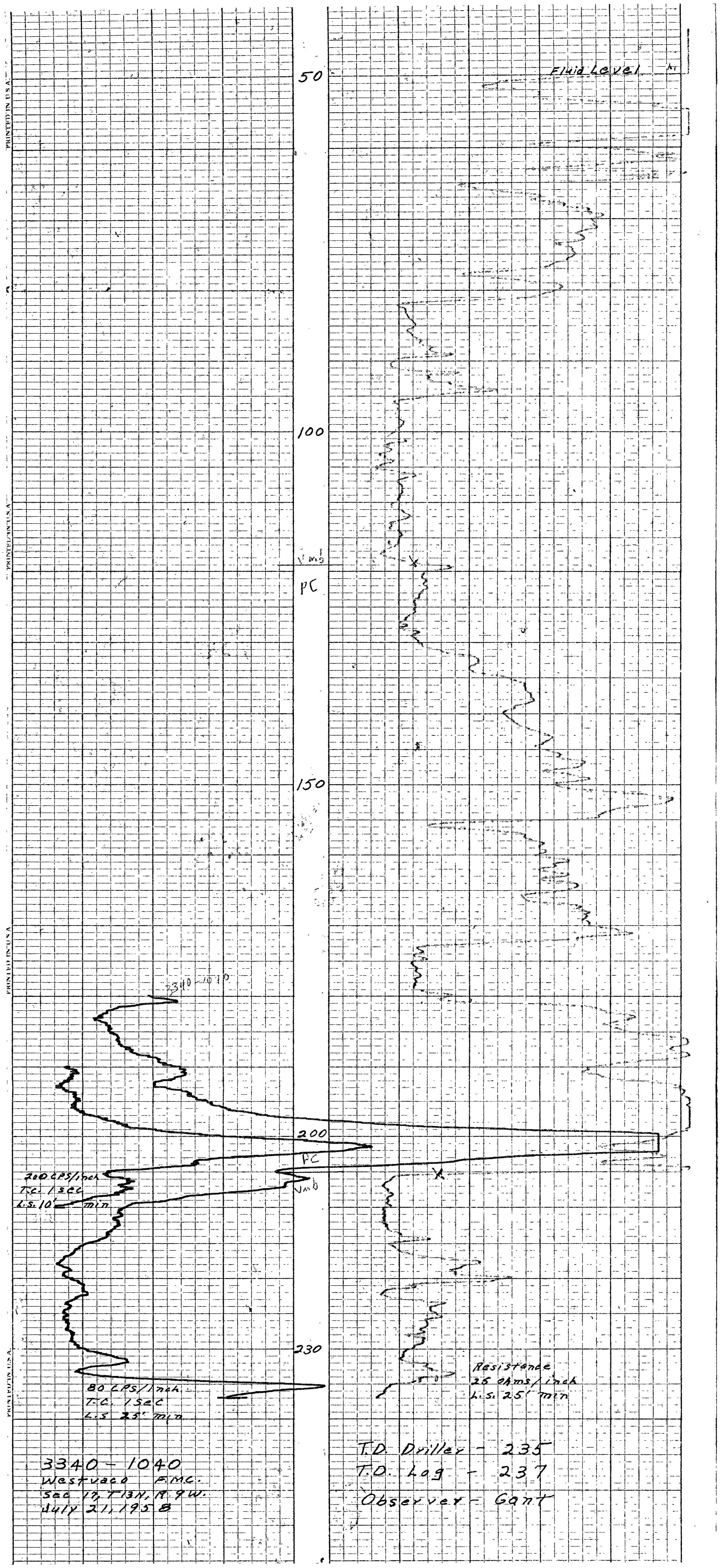
Well	3340-1040
Field	—
Company	Westvaco
Location	Sec. 17-T13N-R9W
County	McKinley
State	Sec 17-T13N-R9W

Depth Datum	Ground Level	Elev.	6980
Bottom Depth: Log	212.5'	Driller	215'
Size Hole	4-1/2"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

Remarks:
Scintillation Probe Model XMS-200 Serial No. 101
Crystal Size 3/4" - 3"
Calibration Source No. 2
Truck No. 101

Date April 16, 1958 Observer V. B. Carter




Fluid Level
50
100
PC
150
200
PC
Vmb
230
3310 - 1010
200 CPS/inch
T.C. 1 sec
L.S. 10' min
80 CPS/inch
T.C. 1 sec
L.S. 25' min
Resistance
25 ohms/inch
L.S. 25' min
3340 - 1040
Westvaco F.M.C.
Sec 17, T13N, R9W.
July 21, 1958
T.D. Driller - 235
T.D. Log - 237
Observer - Gant

Log-Master Services, Inc.
ENID, OKLAHOMA

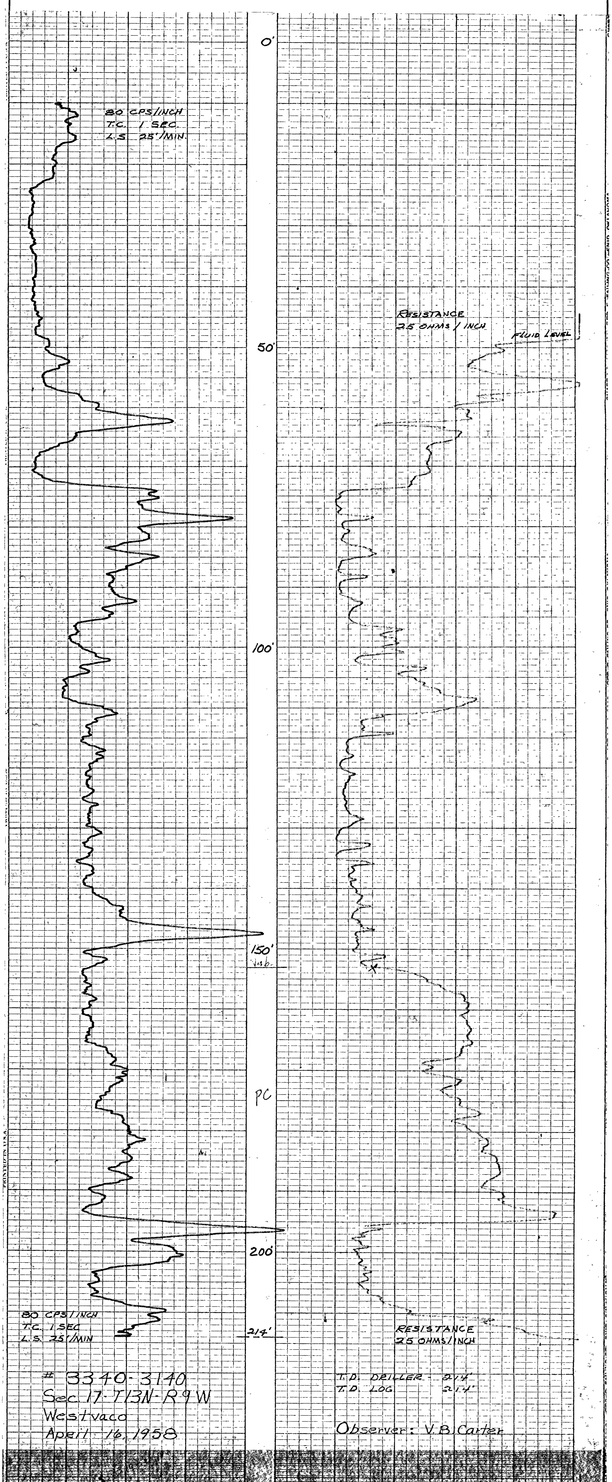
Type of Survey	GAMMA RAY - RESISTANCE
Well	3340-3140
Field	—
Company	Westvaco
Location	Sec 17, T13N-R9W
County	McKinley
State	New Mexico

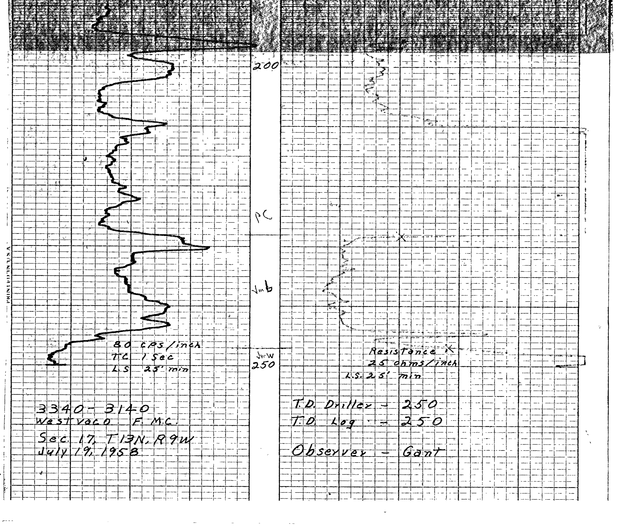
Well: 3340-3140
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec 17-T13N-R9W
Date: April 16, 1958

Depth Datum	Ground Level	Elev.	6920
Bottom Depth: Log		Driller	250'
Size Hole	4 1/2"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

Remarks:
Scintillation Probe Model XMS-200, Serial No. 101
Crystal Size 3/4" - 3"
Calibration Source No. 2
Truck No. 101

Date: April 16, 1958 Observer: V. B. Carter





Log-Master Services, Inc.
ENID, OKLAHOMA

Well: 3340-3440
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec. 17, T13N-R9W
Date: April 16, 1958

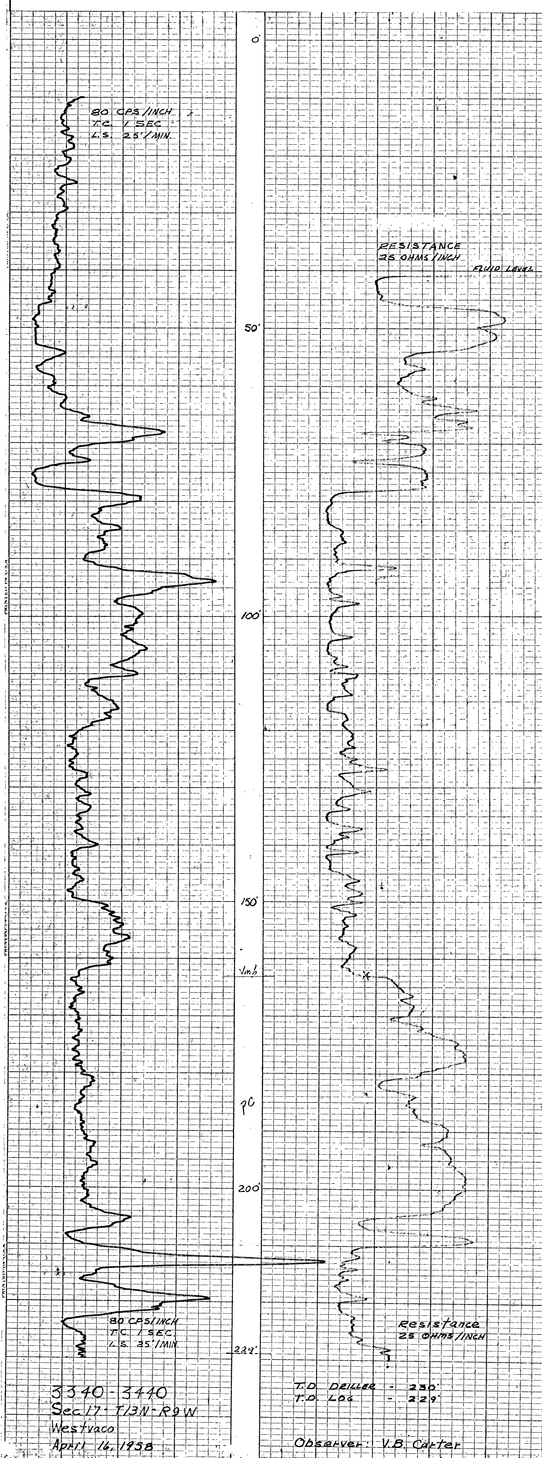
TYPE OF SURVEY: GAMMA RAY · RESISTANCE

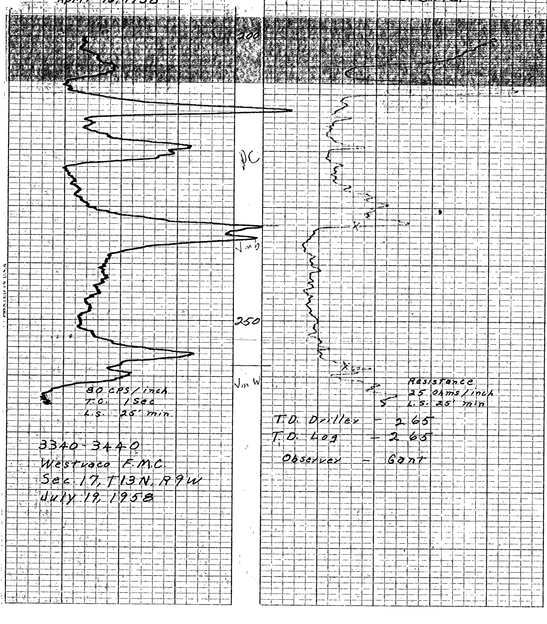
Well	3340-3440
Field	——
Company	Westvaco
Location	Sec 17, T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6912
Bottom Depth: Log	229'	Driller	230'
Size Hole	4-1/2"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

Remarks:
Scintillation Probe Model XMS 200 · Serial No. 101
Crystal Size 3/4" · 3"
Calibration Source No. 2
Truck No. 101

Date: April 16, 1958 Observer: V.B. Carter





Log-Master Services, Inc.
ENID, OKLAHOMA

Well	3340 - 3740
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec 17, T13N-R9W
Date	April 15, 1958

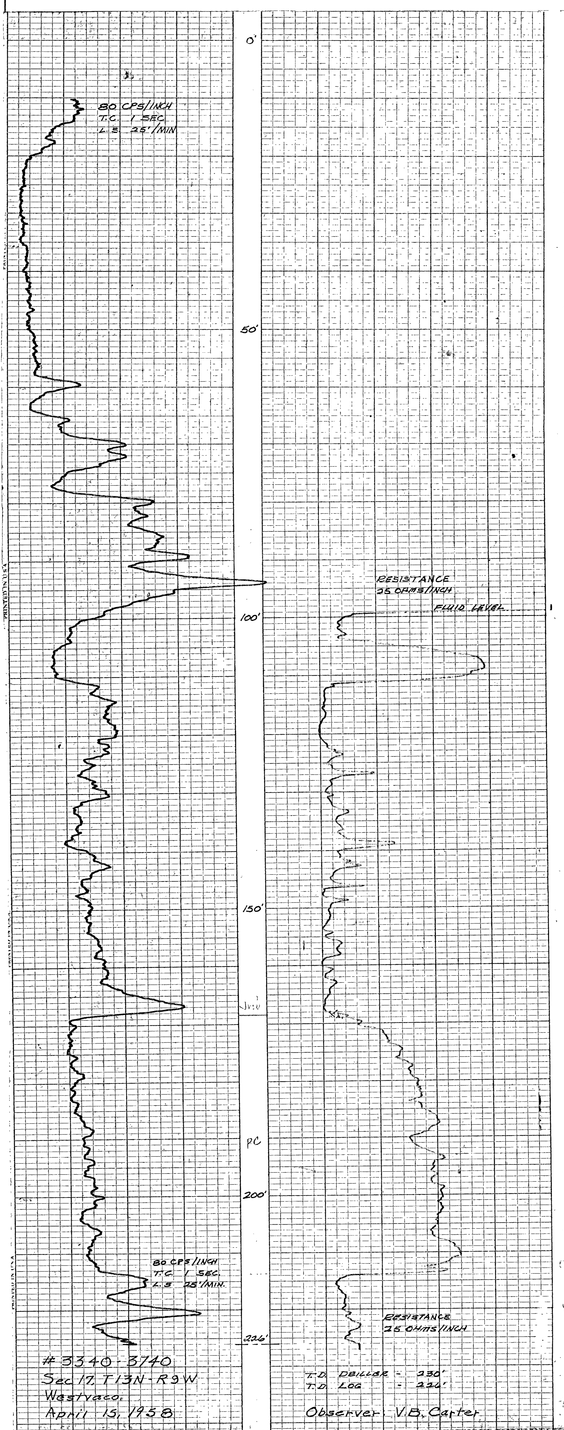
TYPE OF SURVEY: GAMMA RAY RESISTANCE

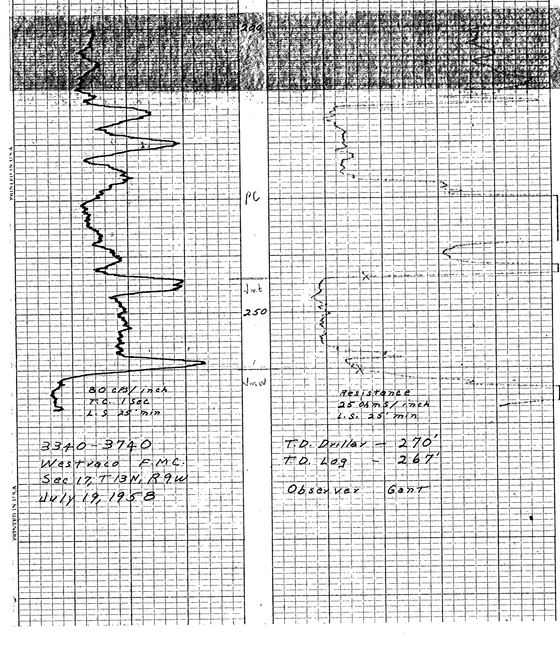
Well: 3340 - 3740
Field: —
Company: Westvaco
Location: Sec 17, T13N-R9W
County: McKinley
State: New Mexico

Depth Datum: Ground level — Elev. 6907
Bottom Depth: Log 226' — Driller 230'
Size Hole: 4½"
Mud: Kind: Natural — Weight
Viscosity — Resistivity — °F.
Casing Data: None

Remarks:
Scintillation Probe Model XMS-200 Serial No. 101
Crystal Size 3/4" - 3"
Calibration Source No. 2
Truck No. 101

Date: April 15, 1958, Observer: Carter





Log-Master Services, Inc.
ENID, OKLAHOMA

Well	3340-4340
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17- T13N-R9W
Date	April 16, 1958

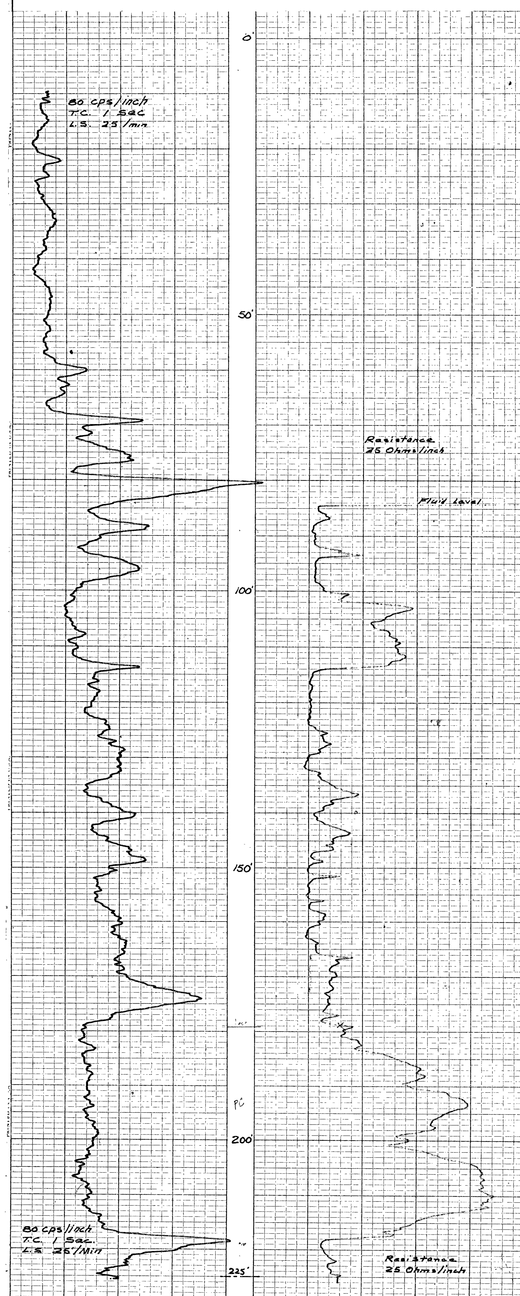
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

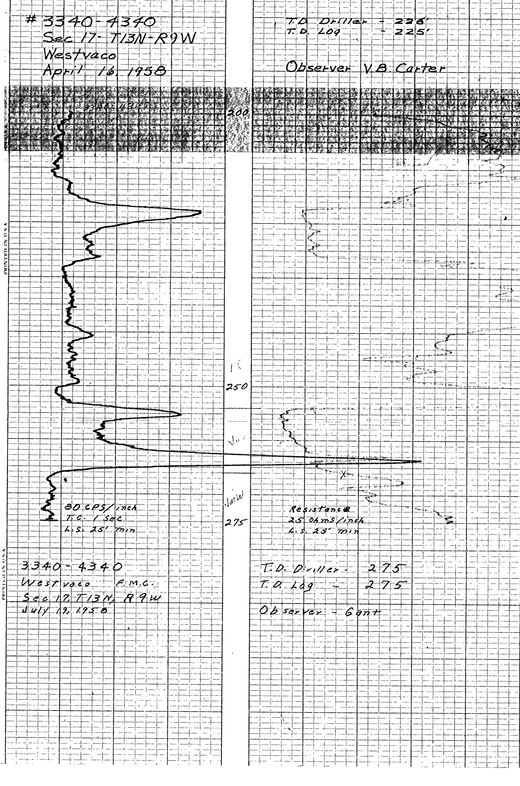
Well	3340-4340
Field	—
Company	Westvaco
Location	Sec. 17- T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6895
Bottom Depth: Log	225'	Driller	225'
Size Hole	4 1/2"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

Remarks:
Scintillation Probe Model XMS-200: Serial No. 101
Crystal Size 3/4" - 3"
Calibration Source No. 2
Truck No. 101

Date: April 16, 1958 Observer: V.B. Carter





Log-Master Services, Inc.
ENID OKLAHOMA

Well	3940-2840
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17-T13N-R9W
Date	April 17, 1958

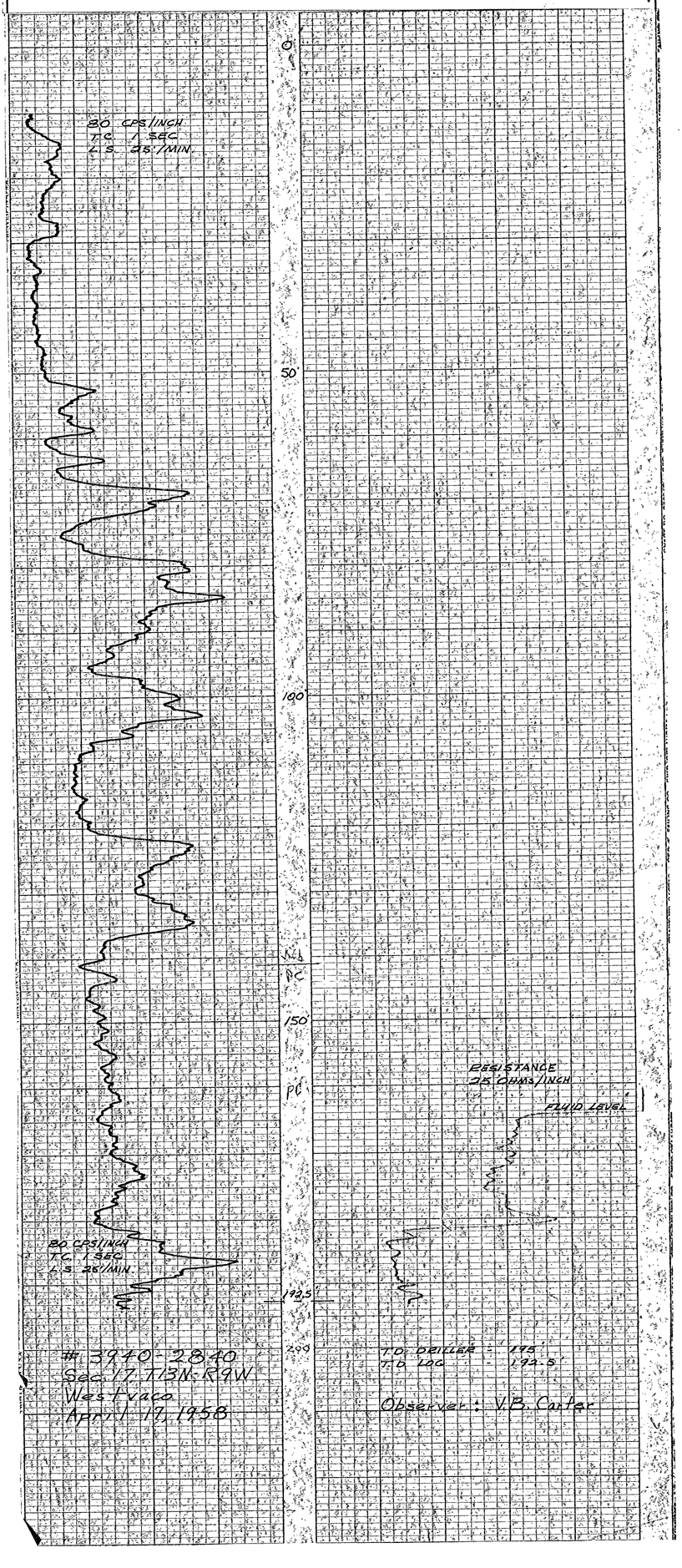
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

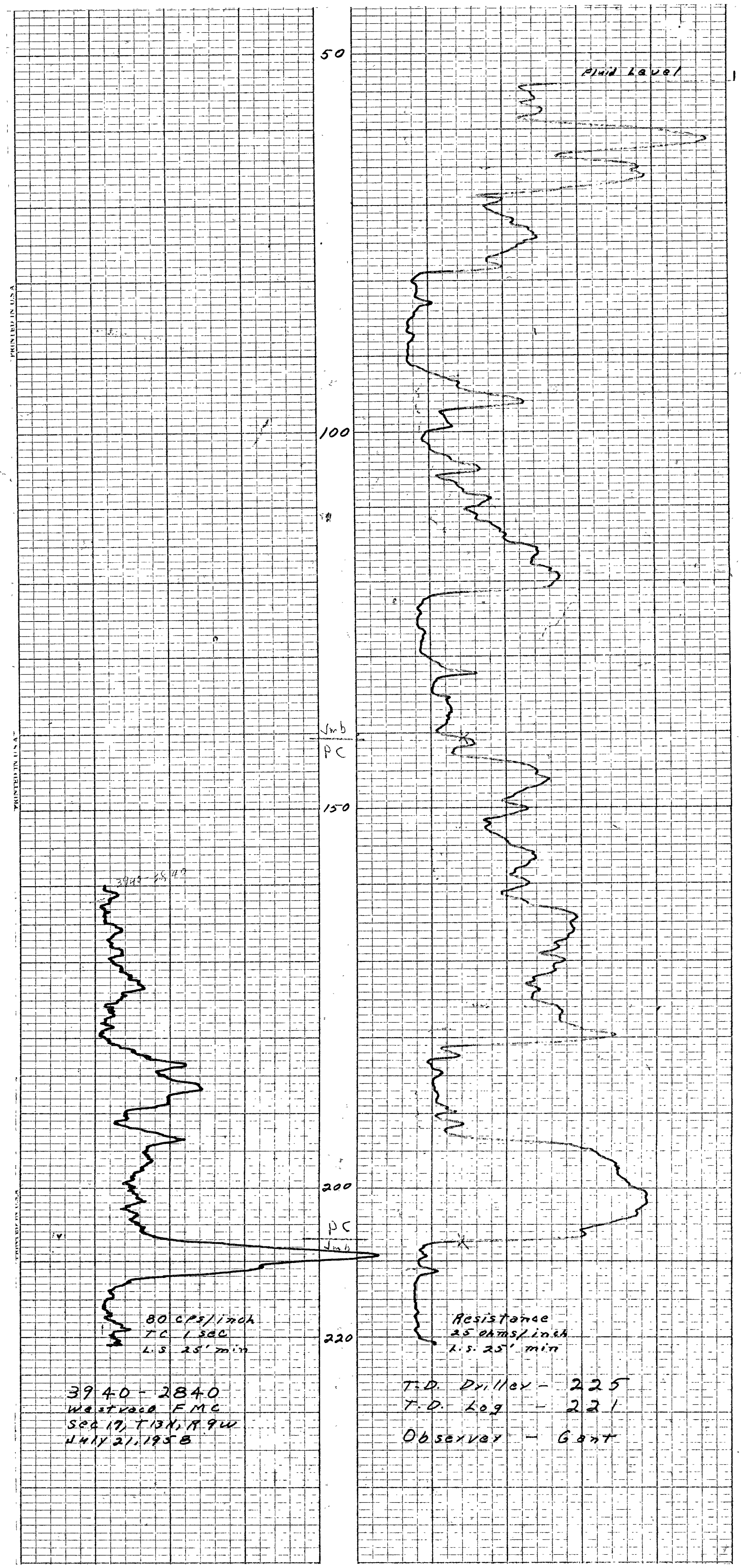
Well	3940-2840
Field	—
Company	Westvaco
Location	Sec. 17-T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground level	Elev.	6934
Bottom Depth: Log	192.5'	Driller	195'
Size Hole	4-1/2"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

Remarks:
Scintillation Probe Model XMS 200 - Serial No. 101
Crystal Size 3/4" - 3"
Calibration Source No. 2
Truck No. 101

Date: April 17, 1958 Observer: V.B. Carter




50
Fluid Level
100
Vmb
PC
150
3945 - 2847
200
PC
Vmb
80 cps/inch
TC 1 sec
L.S. 25' min
220
Resistance
25 ohms/inch
L.S. 25' min
3940 - 2840
Westvaco FMC
Sec 17, T13N, R9W
July 21, 1958
T.D. Driller - 225
T.D. Log - 221
Observer - Gant

Log-Master Services, Inc.
ENID OKLAHOMA

Well	3940-3740
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec 17 T13N-R9W
Date	April 19, 1958

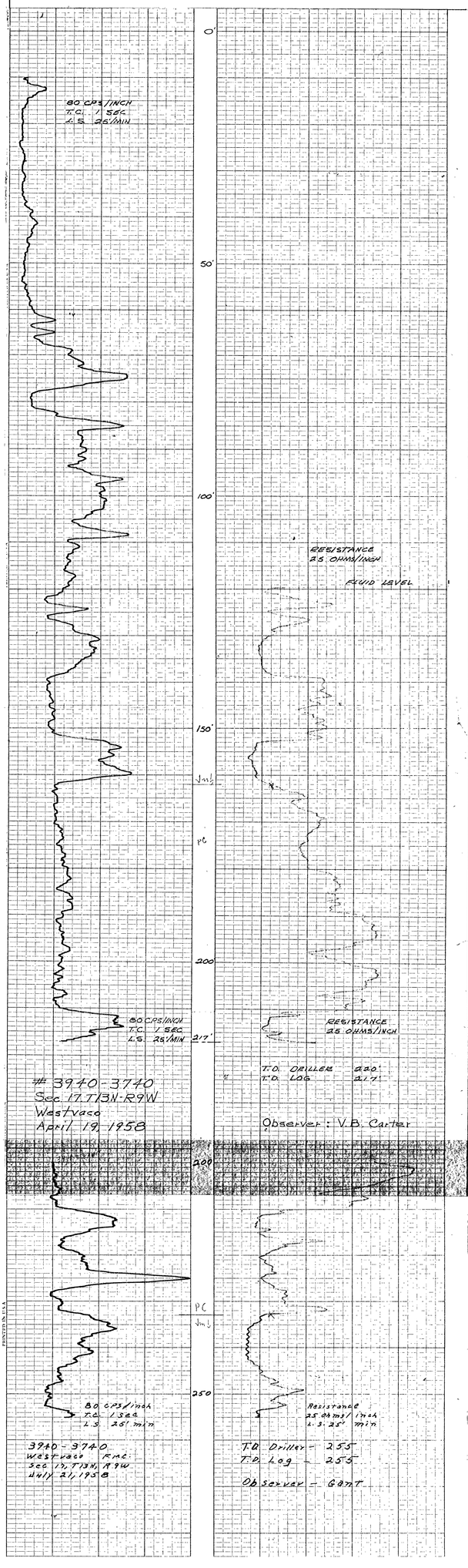
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	3940-3740
Field	—
Company	Westvaco
Location	Sec 17 T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6903
Bottom Depth: Log	217'	Driller	220'
Size Hole	4 1/2"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

Remarks:
Scintillation Probe Model XMS-200, Serial 101
Crystal Size 3/4" - 3"
Calibration Source No. 2
Truck No. 101

Date: April 19, 1958 Observer: V.B. Carter



Log-Master Services, Inc.
ENID OKLAHOMA

Well	3940-4040
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17, T13N-R9W
Date	April 19, 1958

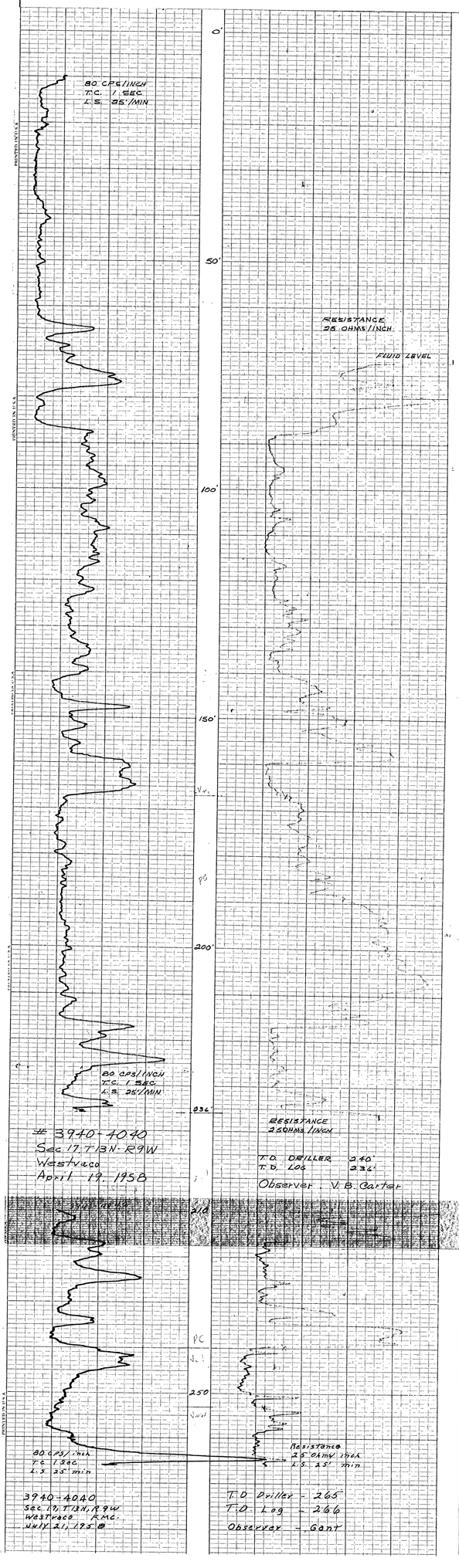
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	3940-4040
Field	—
Company	Westvaco
Location	Sec. 17, T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6898
Bottom Depth: Log	236'	Driller	240'
Size Hole	4-1/2"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

Remarks:
Scintillation Probe Model XMS-200. Serial 101
Crystal Size 3/4" - 3"
Calibration Source No. 2
Truck No. 101

Date: April 19, 1958 Observer: V.B. Carter



Log-Master Services, Inc.
ENID OKLAHOMA

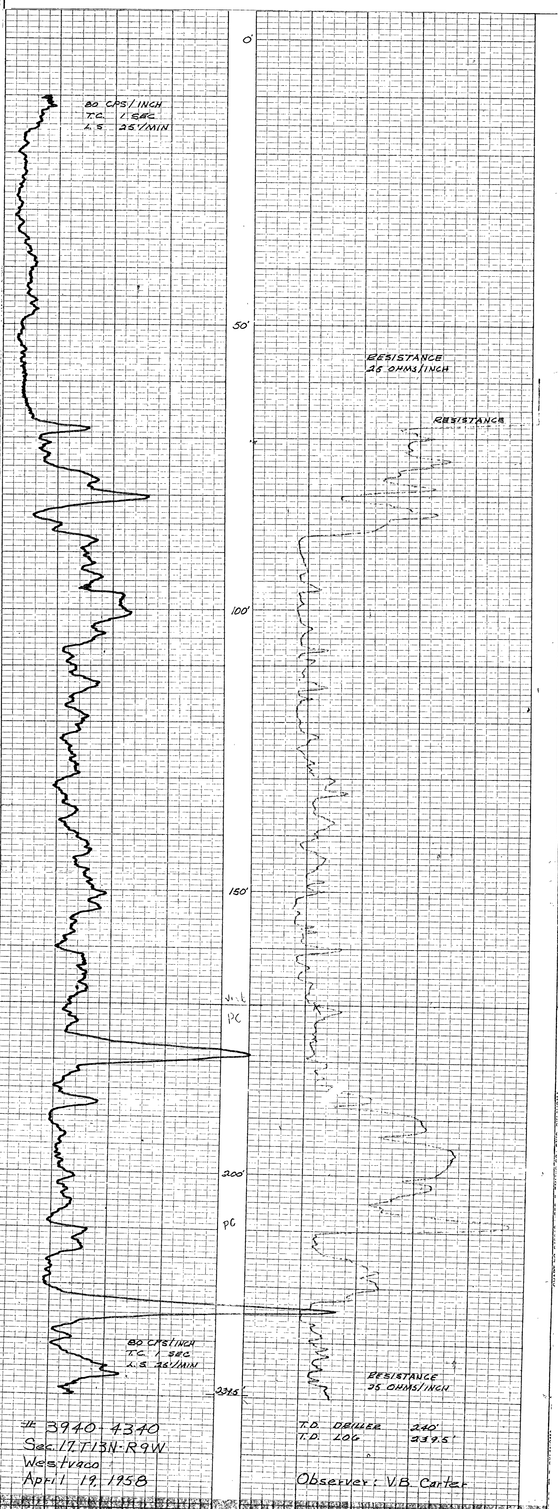
Well	3940-4340
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17, T13N-R9W
Date	April 19, 1958

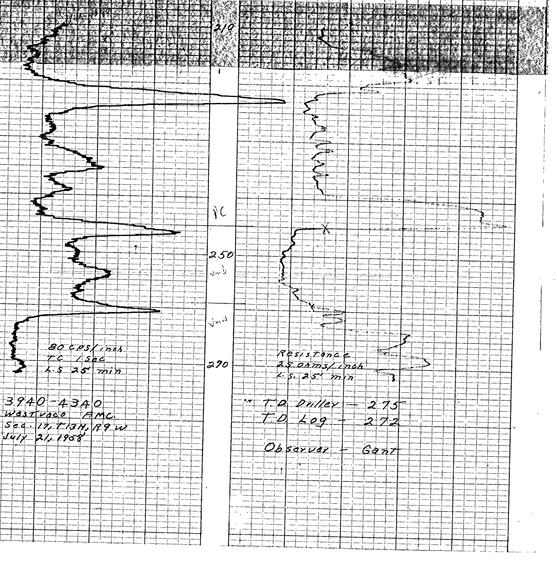
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	3940-4340		
Field	---		
Company	Westvaco		
Location	Sec. 17, T13N-R9W		
County	McKinley		
State	New Mexico		
Depth Datum	Ground Level	Elev.	6892
Bottom Depth: Log	239.5'	Driller	240'
Size Hole	4 1/2"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

Remarks:
Scintillation Probe Model XMS-200, Serial No. 101
Crystal Size 3/4" - 3"
Calibration Source No. 2
Truck No. 101

Date: April 19, 1958 Observer: V.B. Carter





Log-Master Services, Inc.
ENID, OKLAHOMA

Well	4540 - 1040
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17 T13N-R9W
Date	April 22, 1958

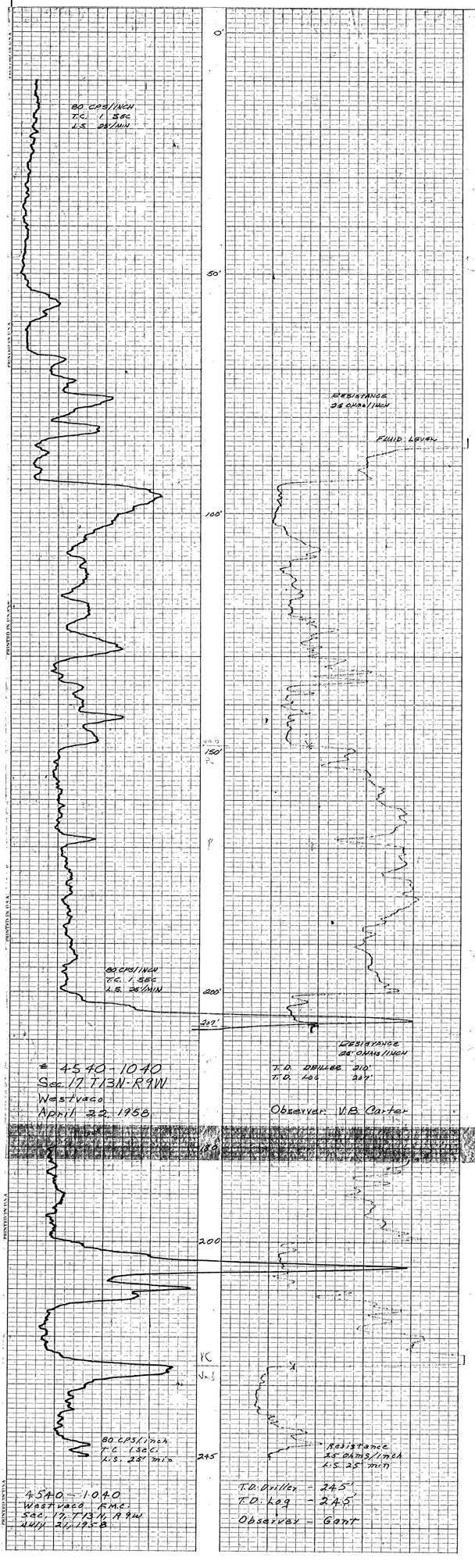
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	4540 - 1040
Field	—
Company	Westvaco
Location	Sec. 17 T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6465
Bottom Depth: Log	207'	Driller	210'
Size Hole	4 1/2"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

Remarks:
Scintillation Probe Nodal XMS 200, Serial 101
Crystal Size 3/4" - 3"
Calibration Source No. 2
Track No. 101

Date: April 22, 1958 Observer: V.B. Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

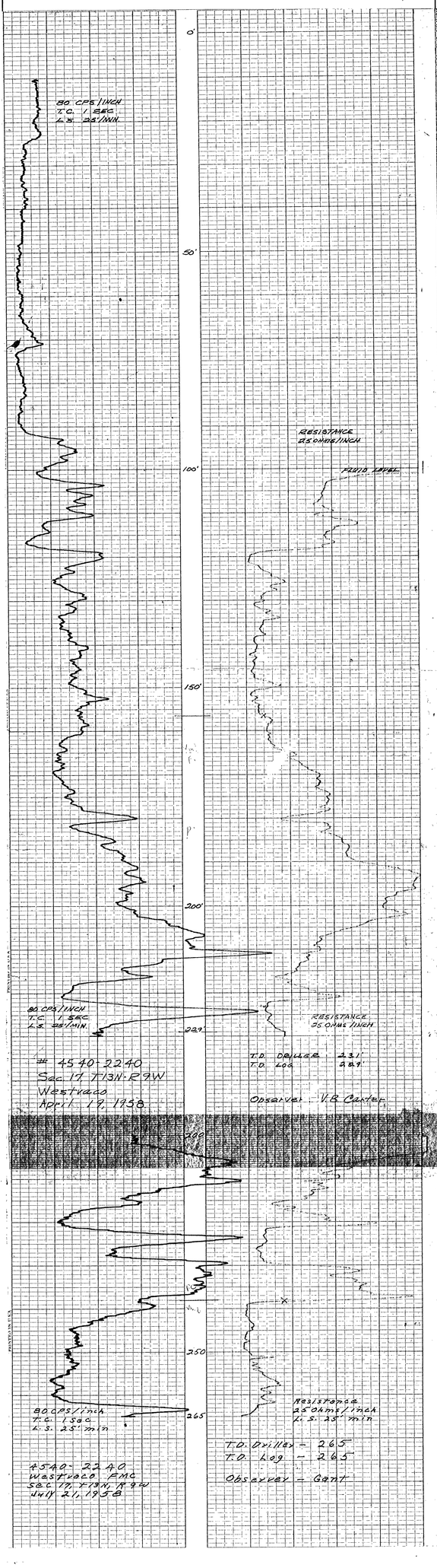
Type of Survey	GAMMA RAY - RESISTANCE
Well	4540 - 2240
Field	—
Company	Westvaco
Location	Sec. 17, T13N-R9W
County	McKinley
State	New Mexico

Well: 4540-2240
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec. 17, T13N-R9W
Date: April 19, 1958

Depth Datum	Ground Level	Elev.	6945
Bottom Depth: Log	229'	Driller	231'
Size Hole	4-1/2"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

Remarks:
Scintillation Probe Model XMS-200, Serial 101
Crystal Size 3/4" - 3"
Calibration Source No. 2
Truck No. 101

Date: April 19, 1958 Observer: V.B. Carter



Log-Master Services, Inc.
ENID OKLAHOMA

Well	5140-2840
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17, T13N-R9W
Date	April 23, 1958

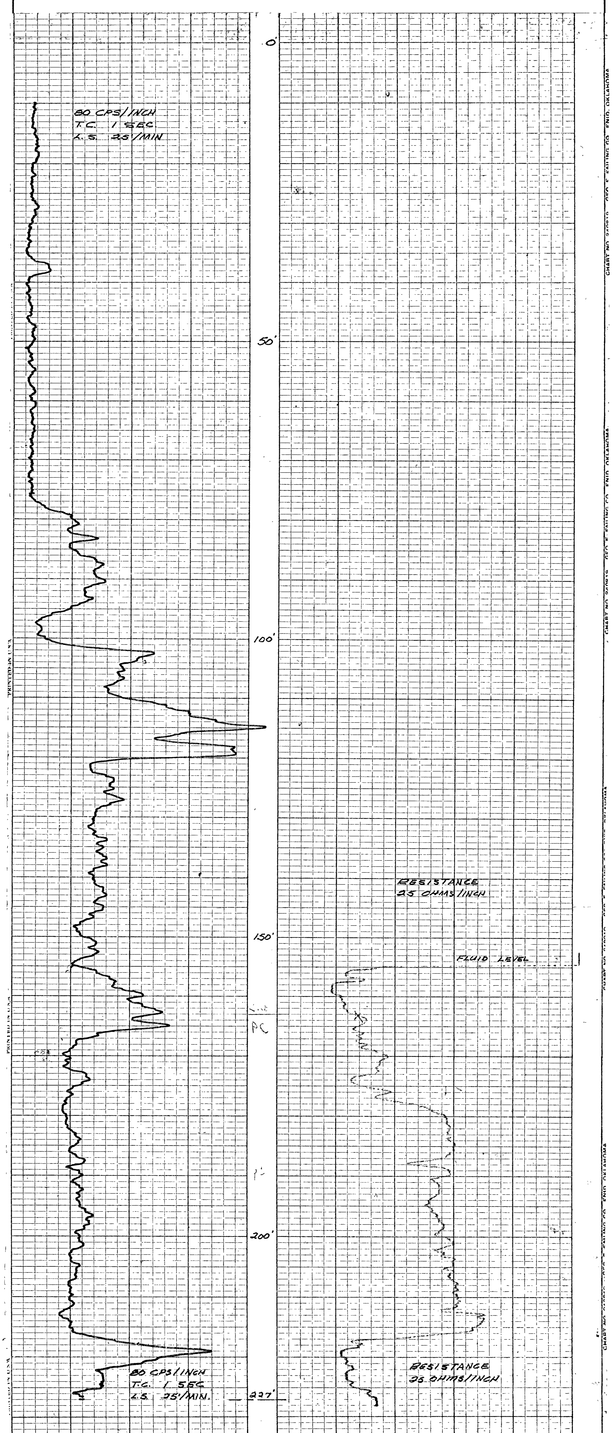
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

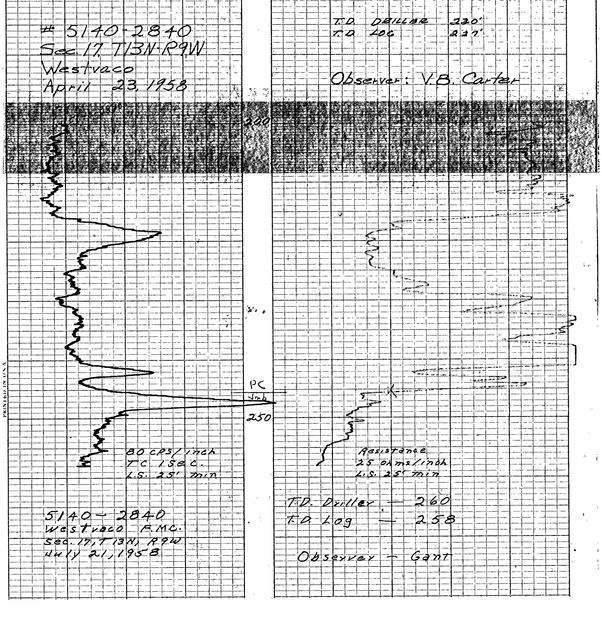
Well: 5140 — 2840
Field:
Company: Westvaco
Location: Sec 17, T13N-R9W
County: McKinley
State: New Mexico

Depth Datum: Ground Level — Elev. 6919
Bottom Depth: Log 227' — Driller 220'
Size Hole: 4 1/2"
Mud: Kind: Natural — Weight:
Viscosity — Resistivity — °F.
Casing Data: None

Remarks:
Scintillation Probe Model XMS-200 - Serial 101.
Crystal Size 3/4" - 3"
Calibration Source No. 2
Trucle No. 101

Date: April 23, 1958 — Observer: V.B. Carter





Log-Master Services, Inc.

ENID OKLAHOMA

Well #940-3140
Company Westvaco
County McKinley
State New Mexico
Location Sec. 17-T13N-R9W
Date April 8, 1958

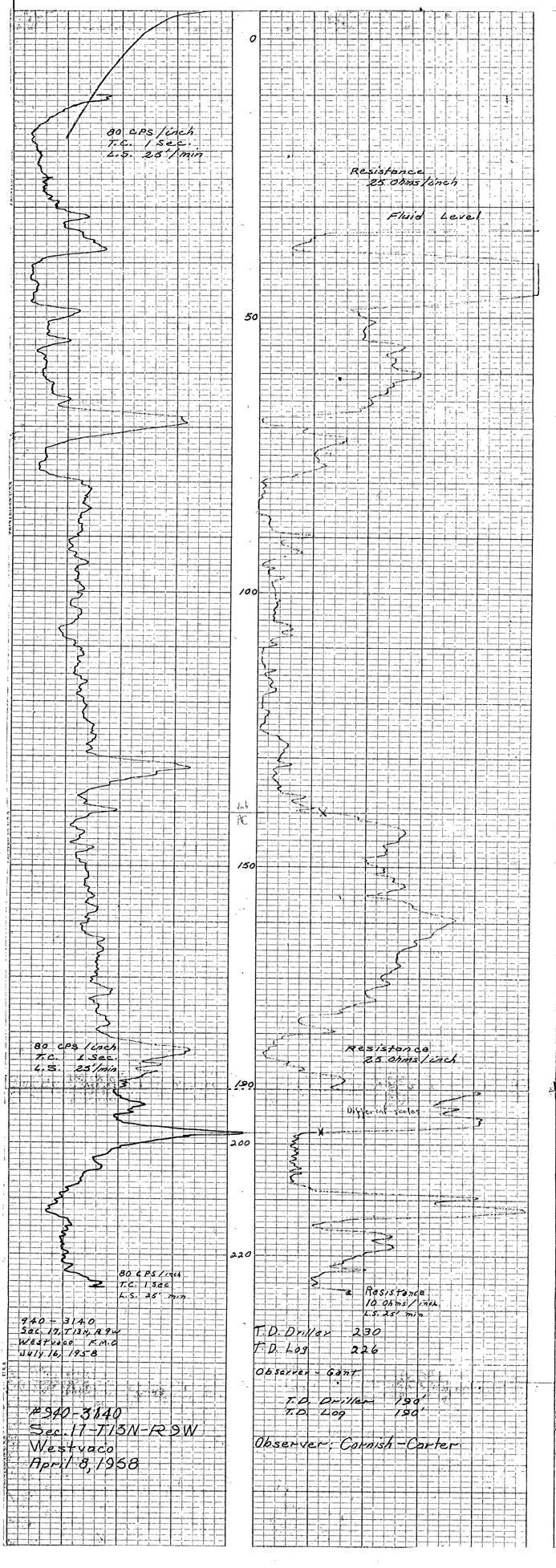
TYPE OF SURVEY GAMMA RAY - RESISTANCE

Well #940-3140
Field —
Company Westvaco
Location Sect. 17-T13N-R9W
County McKinley
State New Mexico

Depth Datum Ground Level — Elev. 6979 o
Bottom Depth: Log 190' — Driller 190'
Size Hole 4 3/4" to T.D.
Mud: Kind — Weight
Viscosity — Resistivity — °F.
Casing Data None

Remarks: Scintillation Probe Model XMS-800 Serial No. 101
Crystal Size 3/4 x 3"
Calibration Source No. 2
Truck No. 101

Date April 8, 1958 — Observer Carter - Cornish



Log-Master Services, Inc.
A DIV. OF LAMONA

Well #940-3440
Company Westvaco
County McKinley
State New Mexico
Location Sec. 17-T13N-R9W
Date April 10, 1958

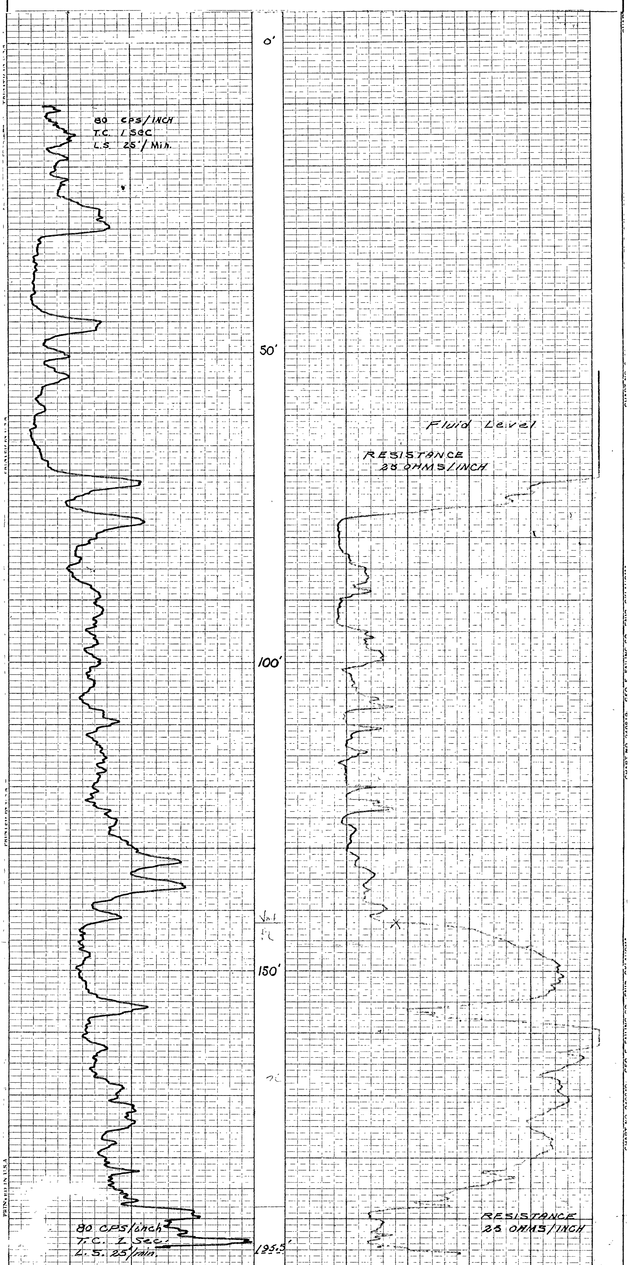
TYPE OF SURVEY GAMMA RAY - RESISTANCE

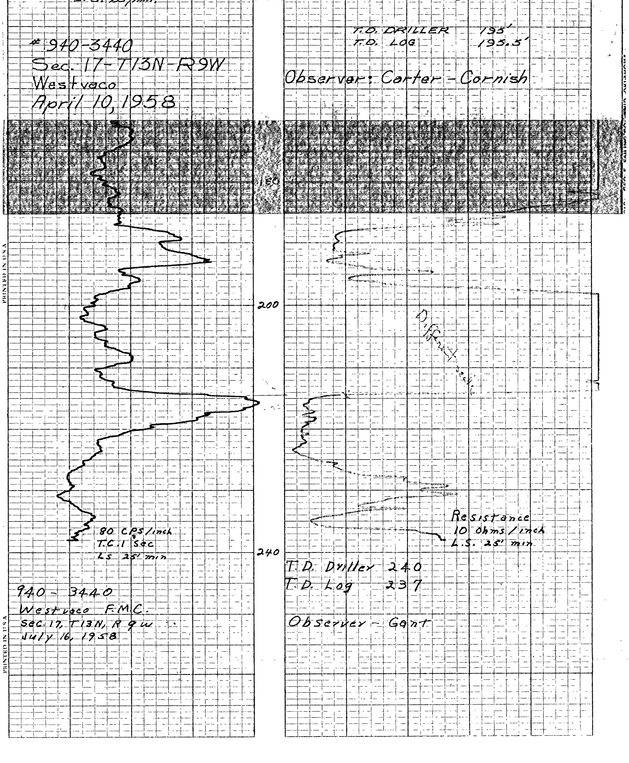
Well #940-3440
Field —
Company Westvaco
Location Sec. 17-T13N-R9W
County McKinley
State New Mexico

Depth Datum Ground Level — Elev. 6995.2
Bottom Depth: Log 195.5' — Driller 195'
Size Hole 4 1/2" to T.D.
Mud: Kind Natural — Weight
Viscosity — Resistivity — °F.
Casing Data None

Remarks: Scintillation Probe Model XMS-200 Serial No. 101
Crystal Size 3/4" x 3"
Calibration Source No. 2
Truck No. 101

Date April 10, 1958 — Observer Carter - Cornish





Log-Master Services, Inc.
ENID OKLAHOMA

Well # 940-3740
Company Westvaco
County McKinley
State New Mexico
Location Sec. 17-T13N-R9W
Date April 10, 1958

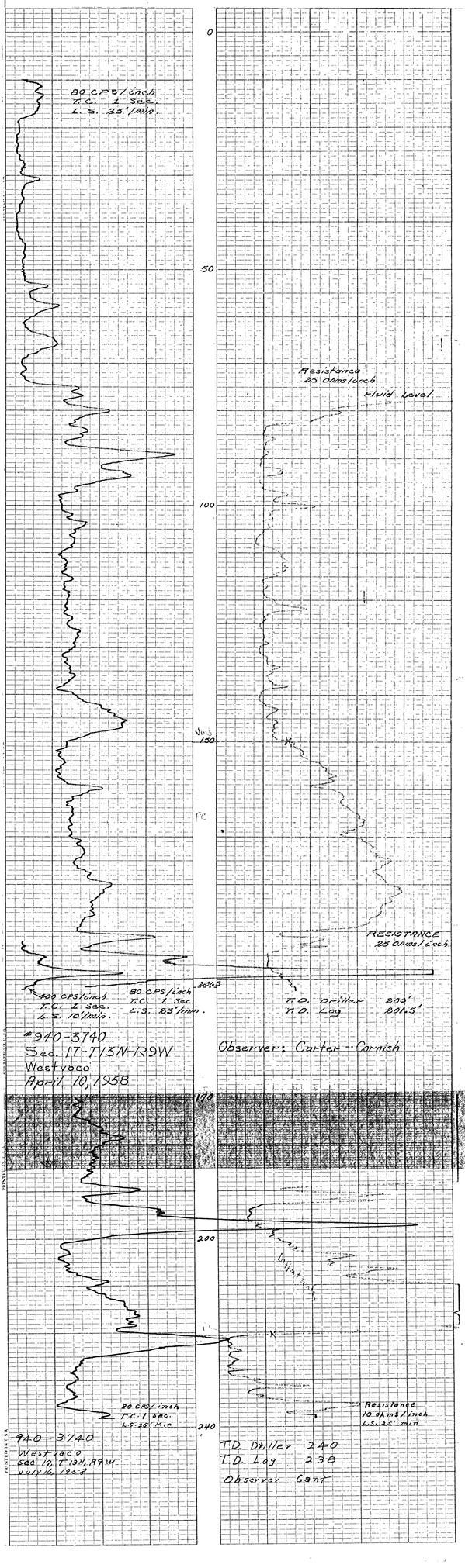
TYPE OF SURVEY: GAMMA RAY-ELECTRIC LOG

Well # 940-3740
Field —
Company Westvaco
Location Sec. 17-T13N-R9W
County McKinley
State New Mexico

Depth Datum: Ground Level — Elev. 6943.2
Bottom Depth: Log # 201.5' — Driller 200'
Size Hole 4½" to T.D.
Mud: Kind Natural — Weight
Viscosity — Resistivity — °F.
Casing Data None

Remarks: Scintillation Probe Model XMS-200 Ser. No. 101.
Crystal Size 3¼" x 5".
Calibration Source No. 2
Truck No. 101

Date April 10, 1958 — Observer Carter - Cornish



Log-Master Services, Inc.
ENID, OKLAHOMA

Well: 940-4340
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec. 17, T13N-R9W
Date:

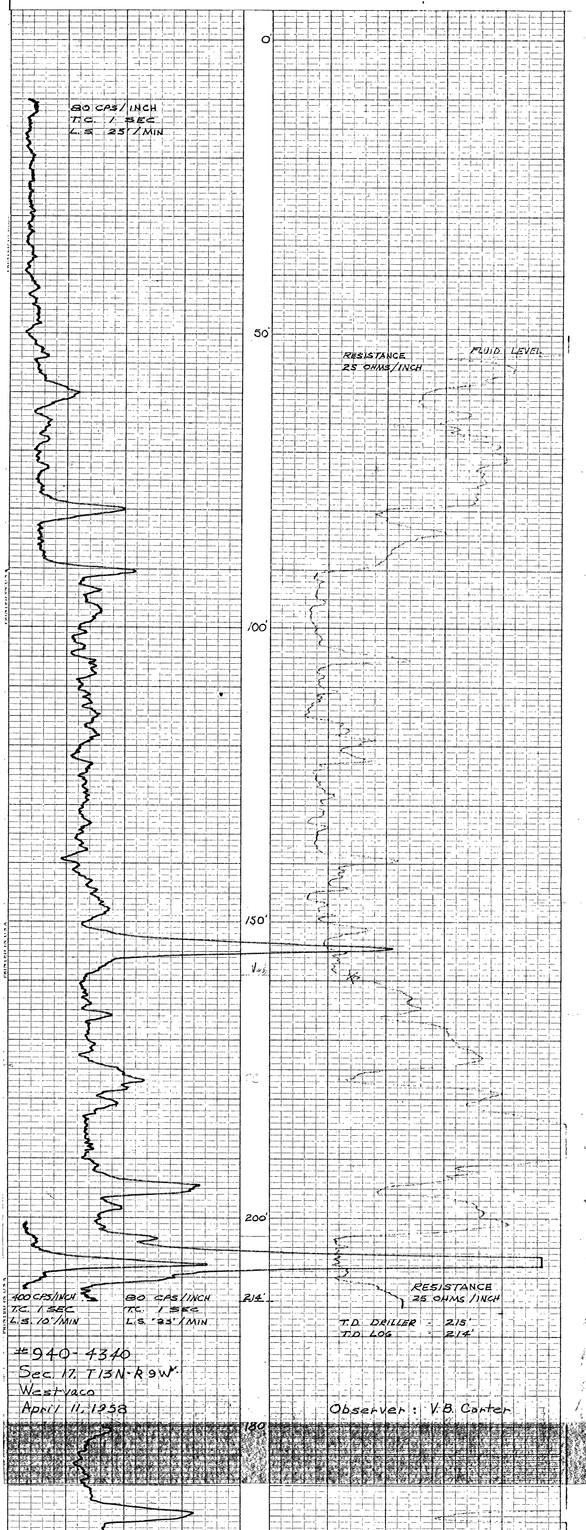
TYPE OF SURVEY: GAMMA-RAY RESISTANCE

Well: 940-4340
Field:
Company: Westvaco
Location: Sec. 17, T13N-R9W
County: Mc Kinley
State: New Mexico

Depth Datum: Ground Level — Elev. 6975.8
Bottom Depth: Log 214' — Driller 215'
Size Hole: 4-1/2"
Mud: Kind: Natural — Weight
Viscosity — Resistivity — °F.
Casing Data: None

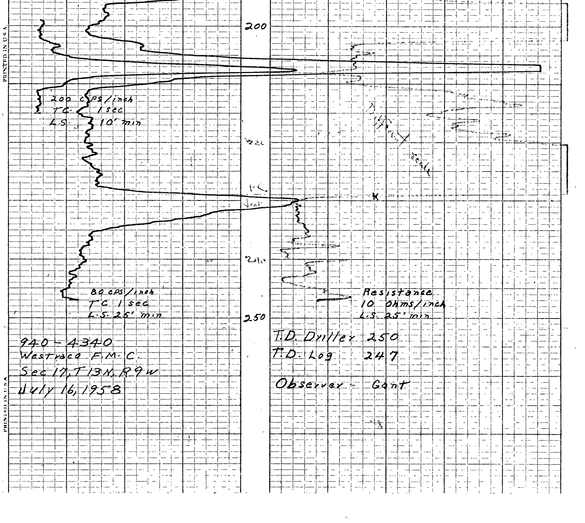
Remarks: Scintillation Probe Model XMS 200, Serial No. 101
Calibration Source No. 2
Truck No. 101
Crystal Size 3/4" - 3"

Date: April 11, 1958 — Observer: Carter



#940-4340
Sec. 17, T13N-R9W
Westvaco
April 11, 1958

Observer: V.B. Carter



940-4340
Westvaco F.M.C.
Sec 17, T13N, R9W
July 16, 1958

T.D. Driller 250
T.D. Log 247

Observer - Gant

Log-Master Services, Inc.
ENID, OKLAHOMA

Wire Line Log: GAMMA RAY - RESISTANCE

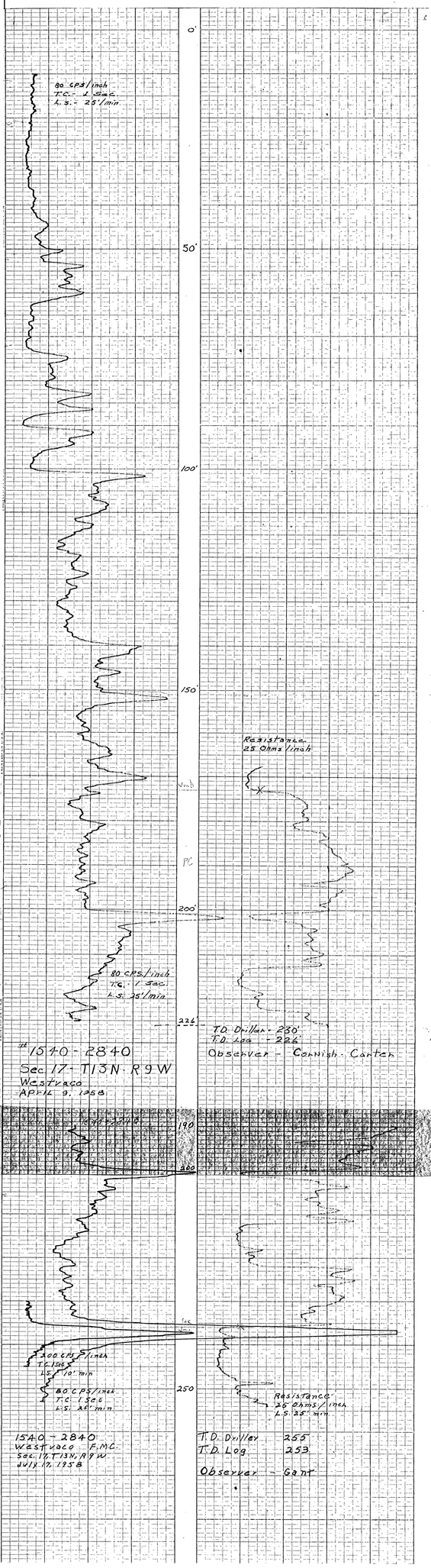
Well: 1540-2840
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec. 17, T13N, R9W
Date: April 9, 1958

Well: 1540-2840
Field:
Company: Westvaco
Location: Sec 17 - T13N - R9W
County: McKinley
State: New Mexico

Depth Datum: Ground level — Elev. 6982
Bottom Depth: Log 226' — Driller 230'
Size Hole: 4-1/2"
Mud: Kind: Natural — Weight:
Viscosity: — Resistivity: °F.
Casing Data: None

Remarks: Scintillation Probe Model XMS-200 Serial No. 101
Crystal Size 3/4" x 3"
Calibration Source No. 2
Truck No. 101

Date: April 9, 1958 — Observer: Cornish - Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

Type of Survey: GAMMA RAY - RESISTANCE

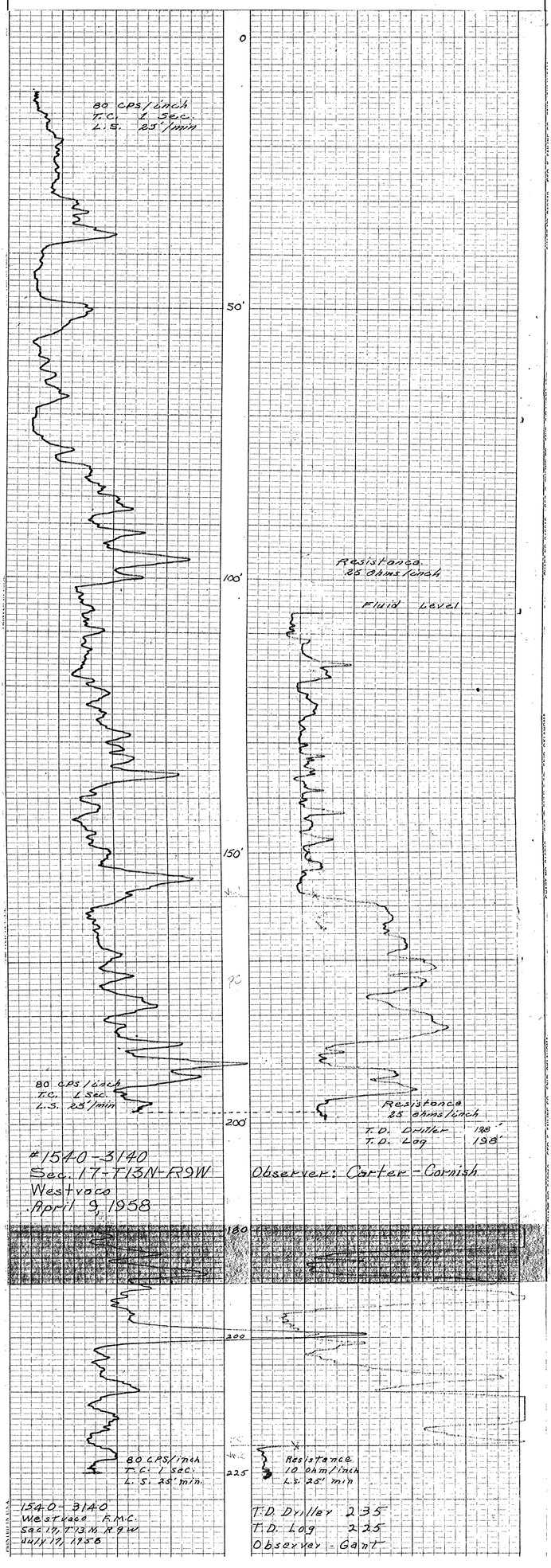
Well: #1540-3140
Field: —
Company: Westvaco
Location: Sec. 17-T13N-R9W
County: McKinley
State: New Mexico

Well: #1540-3140
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec. 17-T13N-R9W
Date: April 9, 1958

Depth Datum: Ground Level — Elev. 6964
Bottom Depth: Log 198' — Driller 205'
Size Hole: 4-1/2"
Mud: Kind: Natural — Weight
Viscosity — Resistivity — °F.
Casing Data: None

Remarks: Scintillation Probe Model XMS-200 Serial No. 101
Crystal Size 3/4 x 3"
Calibration Source No. 2
Track No. 101

Date: April 9, 1958 — Observer: Carter - Cornish



Log-Master Services, Inc.
ENID, OKLAHOMA

TYPE OF SURVEY: GAMMA RAY - RESISTANCE

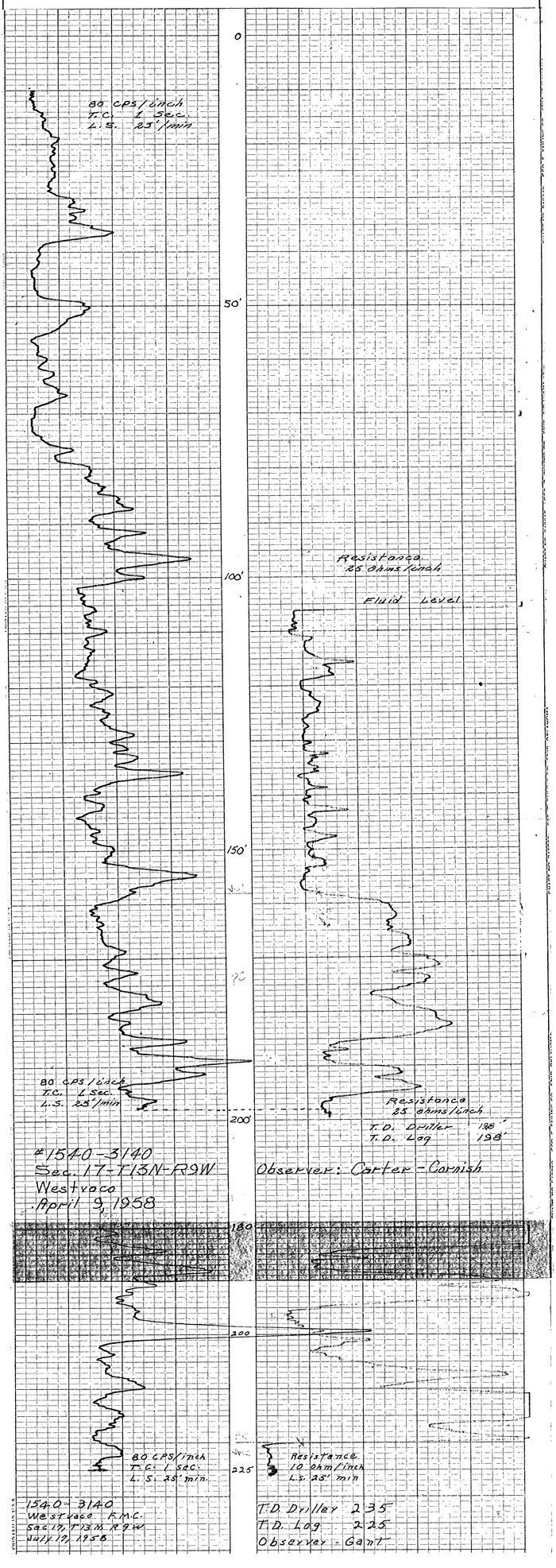
Well: #1540-3140
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec. 17-T13N-R9W
Date: April 9, 1958

Well: #1540-3140
Field: —
Company: Westvaco
Location: Sec. 17-T13N-R9W
County: McKinley
State: New Mexico

Depth Datum: Ground Level — Elev. 6914
Bottom Depth: Log 198' — Driller 205'
Size Hole: 4-1/2"
Mud: Kind: Natural — Weight
Viscosity — Resistivity — °F.
Casing Data: None

Remarks: Scintillation Probe Model KMS-200 Serial No. 101
Crystal Size 3/4" x 3"
Calibration Source No. 2
Truck No. 101

Date: April 9, 1958 — Observer: Carter - Cornish



Log-Master Services, Inc.
ENID OKLAHOMA

Well 1540-3740
Company Westvaco
County McKinley
State New Mexico
Location Sec 17 T13N R9W
Date April 11, 1958

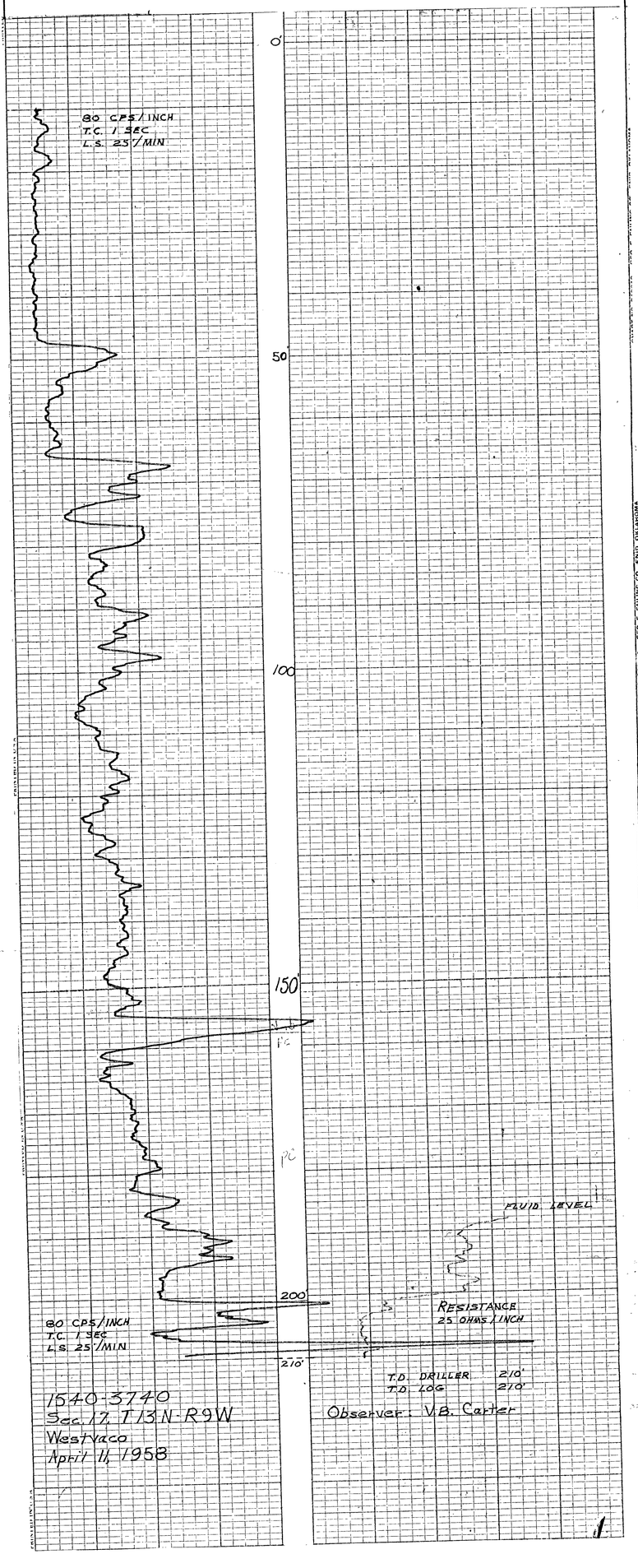
TYPE OF SURVEY GAMMA RAY - RESISTANCE

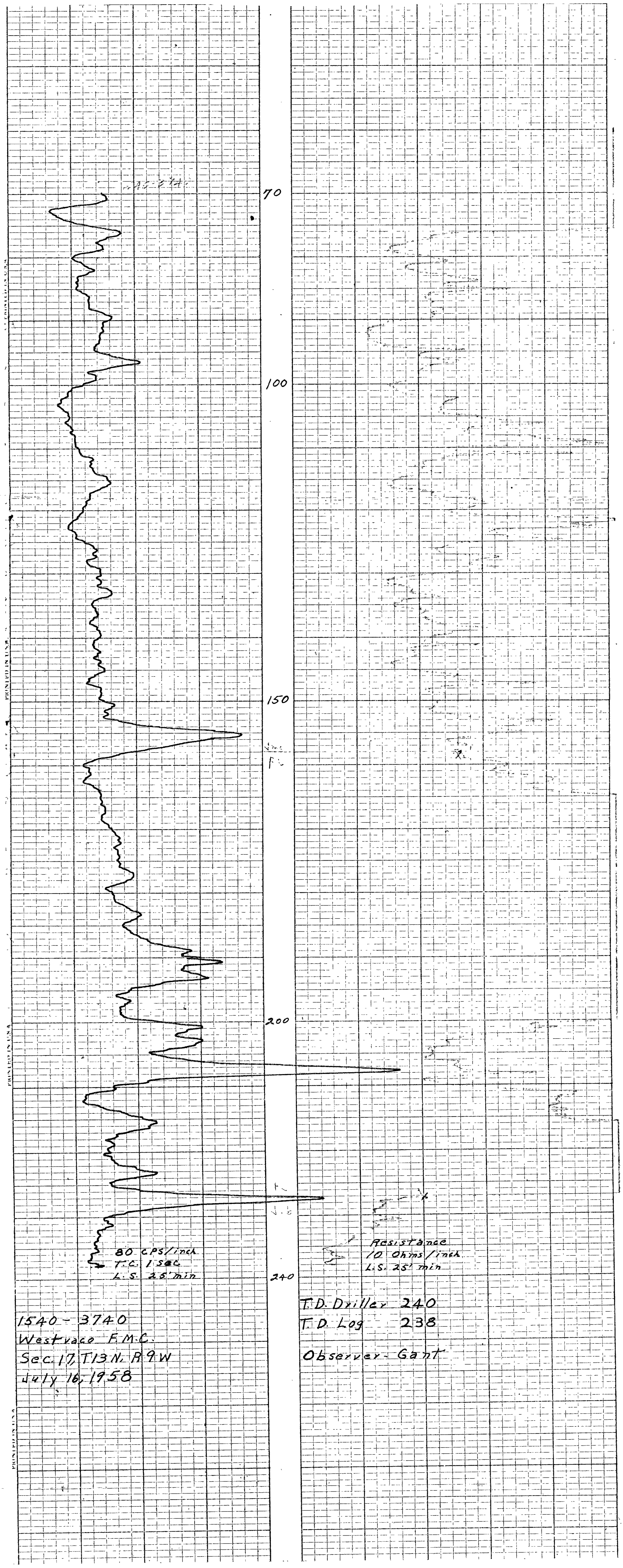
Well 1540-3740
Field
Company Westvaco
Location Sec 17, T13N-R9W
County McKinley
State New Mexico

Depth Datum Ground Level — Elev. 6943
Bottom Depth: Log 210' — Driller 210'
Size Hole 4-1/2"
Mud: Kind Natural — Weight
Viscosity — Resistivity — °F.
Casing Data None

Remarks:
Scintillation Probe Model XMS 200, Serial No. 101
Calibration Source No. 2
Tube No. 101
Crystal Size 3/4" - 3"

Date April 11, 1958 — Observer Carter




70
100
150
200
240
80 CPS/inch
T.C. 1 sec
L.S. 25' min
Resistance
10 Ohms/inch
L.S. 25' min
T.D. Driller 240
T.D. Log 238
Observer - Gant
1540 - 3740
Westvaco F.M.C.
Sec. 17, T13N, R9W
July 16, 1958

Log-Master Services, Inc.
ENID OKLAHOMA

Type of Survey: GAMMA-RAY RESISTANCE

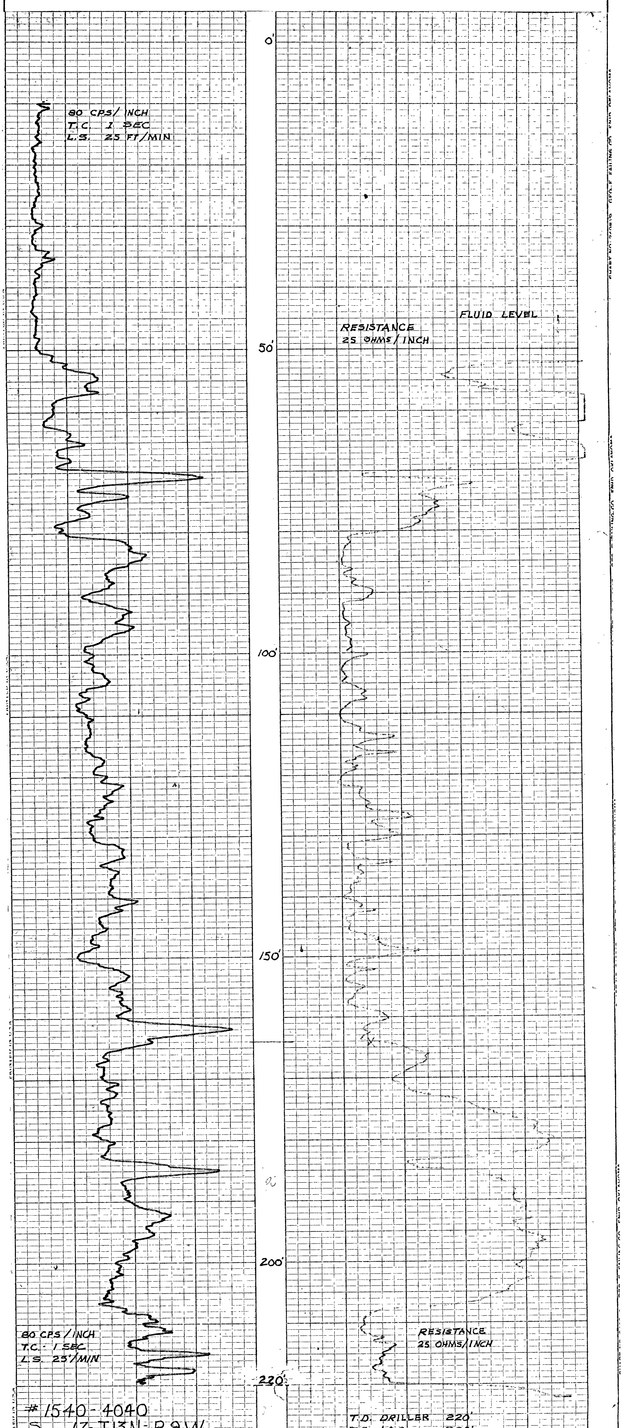
Well: 1540-4040
Field: -
Company: Westvaco
Location: Sec. 17, T13N-R9W
County: McKinley
State: New Mexico

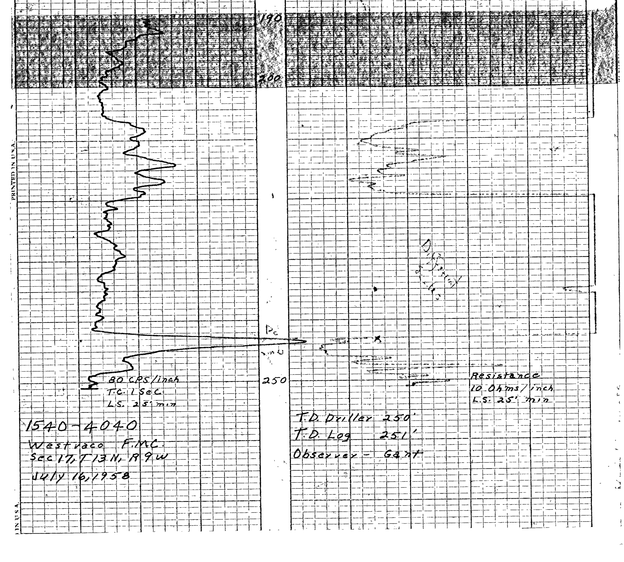
Well: 1540-4040
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec. 17, T13N-R9W
Date: April 11, 1958

Depth Datum: Ground Level — Elev. 6940
Bottom Depth: Log 220' — Driller 220'
Size Hole: 4-1/2"
Mud: Kind: Natural — Weight
Viscosity — Resistivity — °F.
Casing Data: None

Remarks:
Scintillation Probe Model XMS 200, Serial No. 101
Calibration Source No. 2
Track No. 101
Crystal Size 3/4" - 3"

Date: April 11, 1958 — Observer: Carter





Ray Master Services Inc.

GAMMA RAY - RESISTANCE

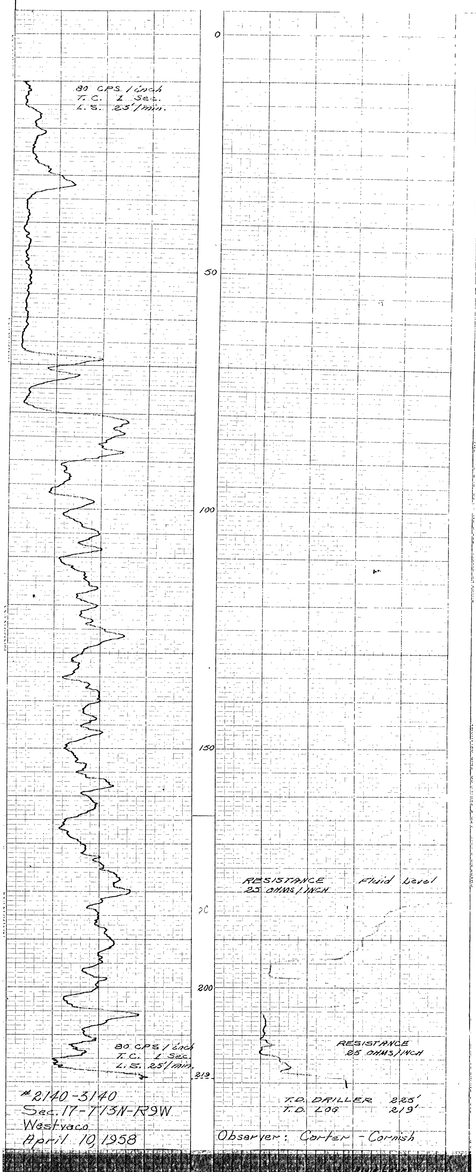
Well #2140-3140
Field —
Company Westvaco
Location Sec. 17-T13N-R9W
County McKinley
State New Mexico

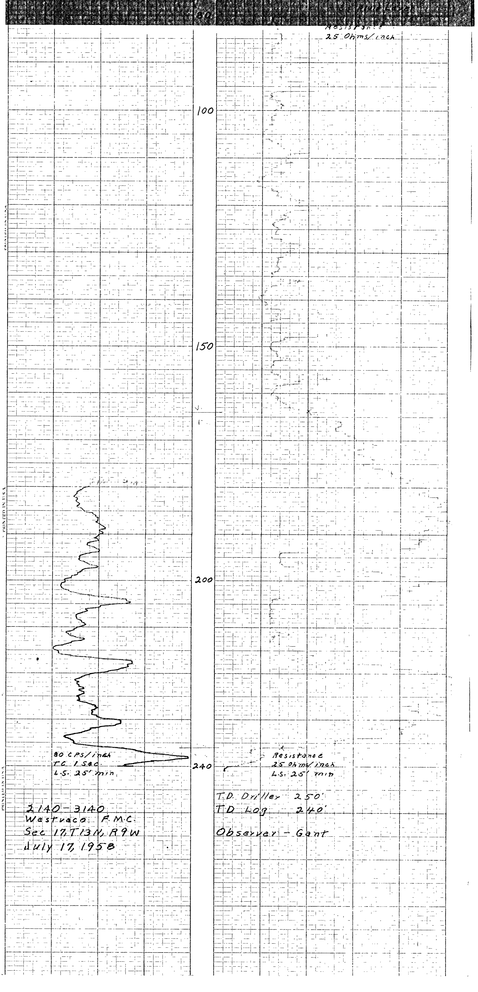
Depth Datum Ground Level
Elev. 6954
Bottom Depth: Log 2119'
Driller 2125'
Size Hole 6¼" to T.D.
Mud: Kind Natural
Weight
Viscosity
Resistivity
F.
Casing Data None

Remarks: Scintillation Probe Model KMS-500 Serial No. 121
Crystal Size 3/4" x 3"
Calibration Source Iron
Tube No. 1

Date April 10, 1958
Observer Carter - Cornish

Well #2140-3140
Company Westvaco
County McKinley
State New Mexico
Location Sec. 17-T13N-R9W
Date April 10, 1958





Log-Master Services, Inc.
ENID OKLAHOMA

Type of Survey: GAMMA RAY - RESISTANCE

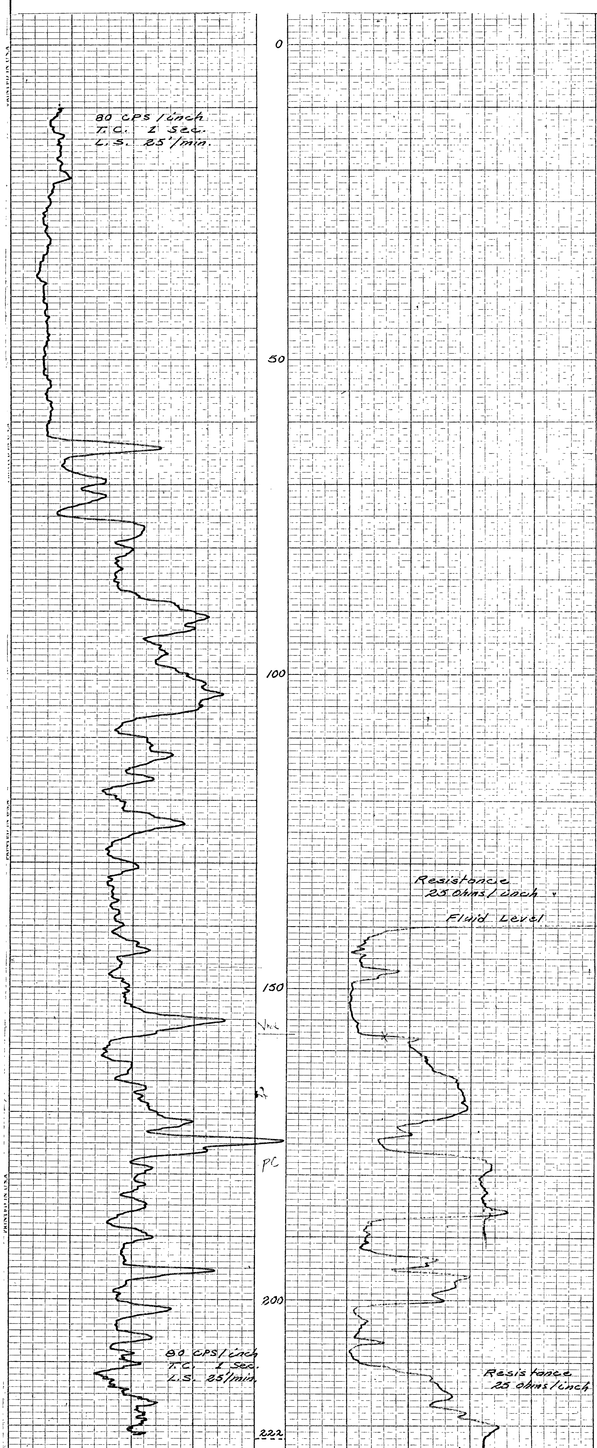
Well: #2140-3440
Field: —
Company: Westraco
Location: Sec. 17. T13N - R9W
County: McKinley
State: New Mexico

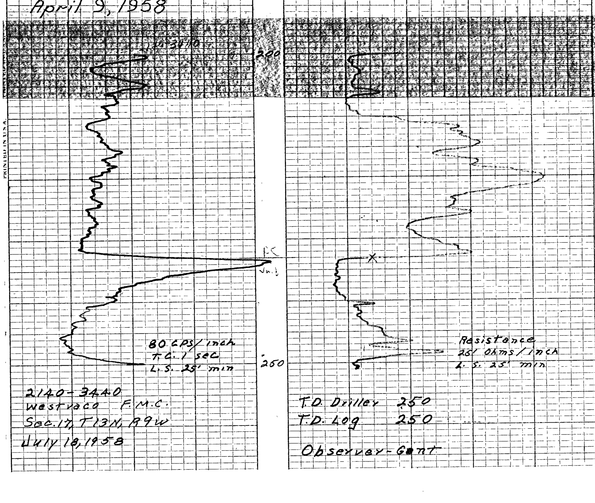
Depth Datum: Ground level — Elev. 6954
Bottom Depth: Log 222' — Driller 230'
Size Hole: 9½" to T.D.
Mud: Kind: Natural — Weight
Viscosity — Resistivity — °F.
Casing Data: None

Remarks: Scintillation Probe Model XMS 200. Serial No 101
Crystal Size = 3/4" x 3"
Calibration Source No 2
Truck No 101

Date: April 9, 1958 — Observer: Carter - Cornish

Well #2140-3440
Company Westraco
County McKinley
State New Mexico
Location Sec. 17 T13N - R9W
Date April 9, 1958





Log-Master Services, Inc.
ENID, OKLAHOMA

TYPE OF SURVEY: Gamma Ray - Resistance

Well: # 2140-3740
Field: —
Company: Westvaco
Location: Sec. 17, T13N-R9W
County: Mc Kinley
State: New Mexico

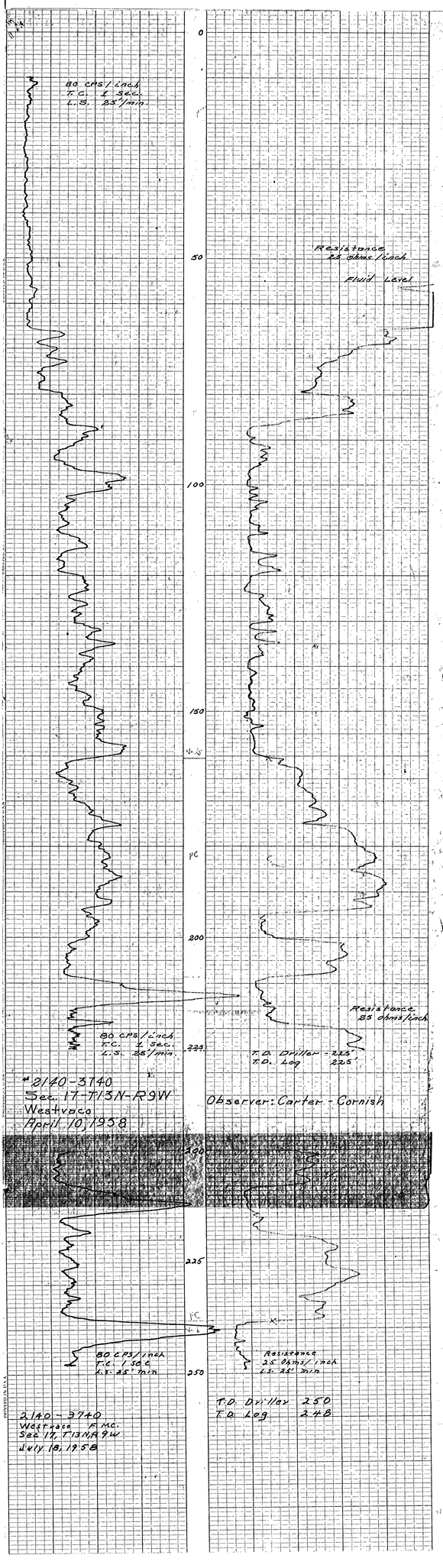
Date: April 10, 1958

Well # 2140-3740
Company Westvaco
County Mc Kinley
State New Mexico
Location Sec. 17, T13N-R9W
Date April 10, 1958

Depth Datum	Ground level	Elev.	6424
Bottom Depth: Log	225'	Driller	225'
Size Hole	4-1/2"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

Remarks: Scintillation Probe Model KMS 200 Serial Nº 101
Crystal Size 3¼" x 3"
Calibration Source Nº 2
Truck Nº 101

Date April 10, 1958 Observer Carter - Cornish



Log-Master Services, Inc.
ENID OKLAHOMA

Well	2140-4340
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17, T13N, R9W
Date	April 11, 1958

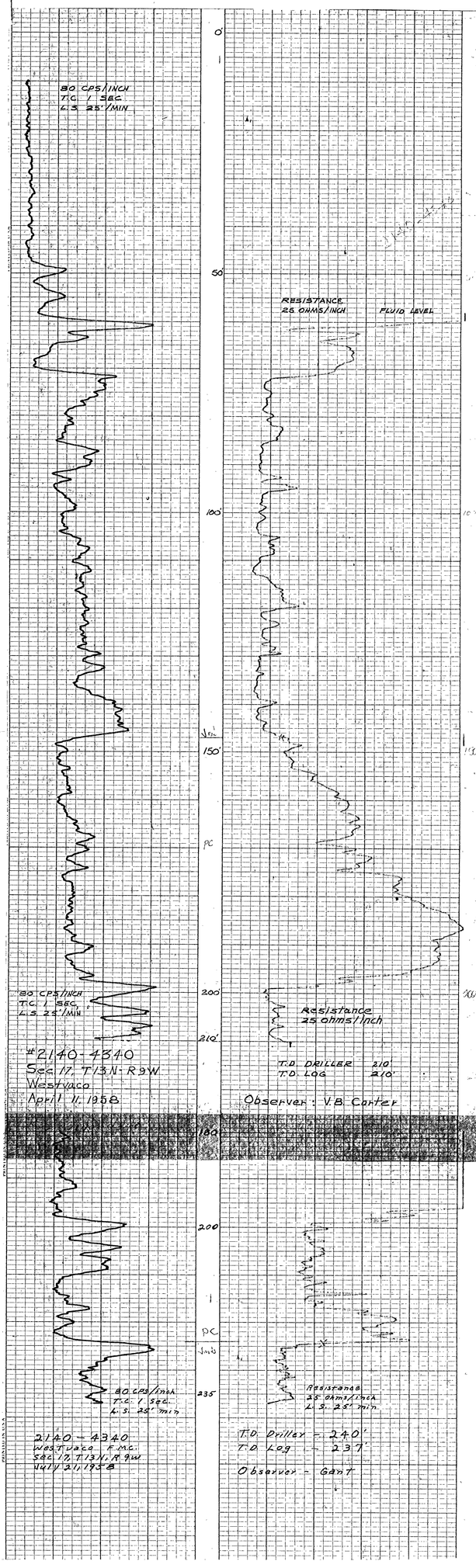
TYPE OF SURVEY: GAMMA RAY RESISTANCE

Well	2140-4340
Field	—
Company	Westvaco
Location	Sec. 17 T13N. R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6903
Bottom Depth: Log	210'	Driller	
Size Hole	4-1/2"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

Remarks:
Scintillation Probe Model XMS 200, Serial No. 101
Calibration Source No. 2
Truck No. 101
Crystal Size 3/4" - 3"

Date April 11, 1958 Observer Carter



Log-Master Services, Inc.
ENID OKLAHOMA

Well: 2740-2840
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec. 17, T13N-R9W
Date: April 14, 1958

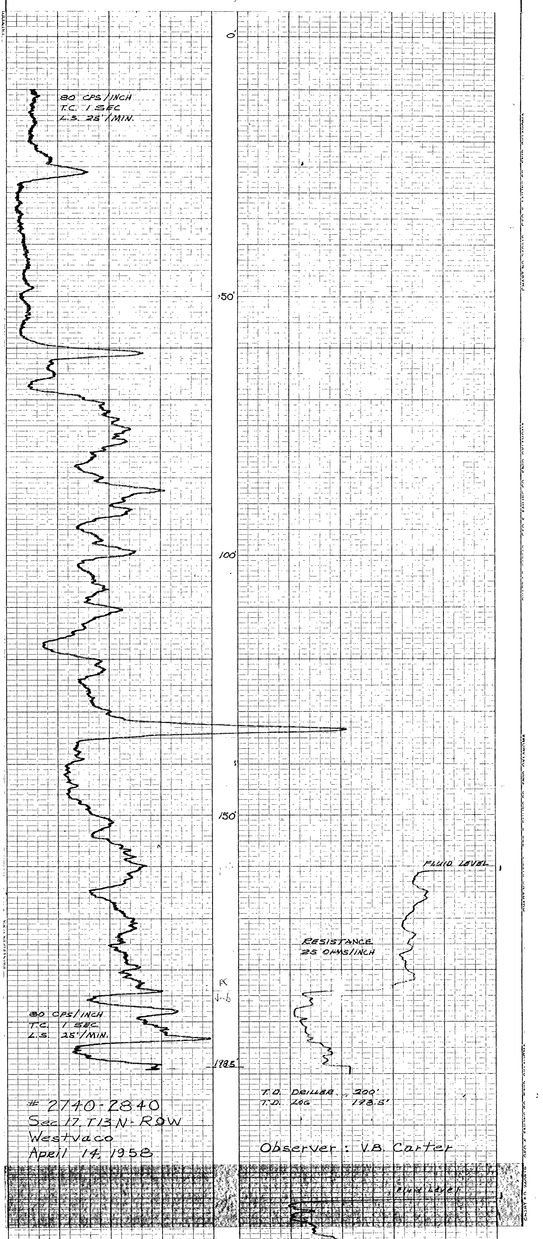
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

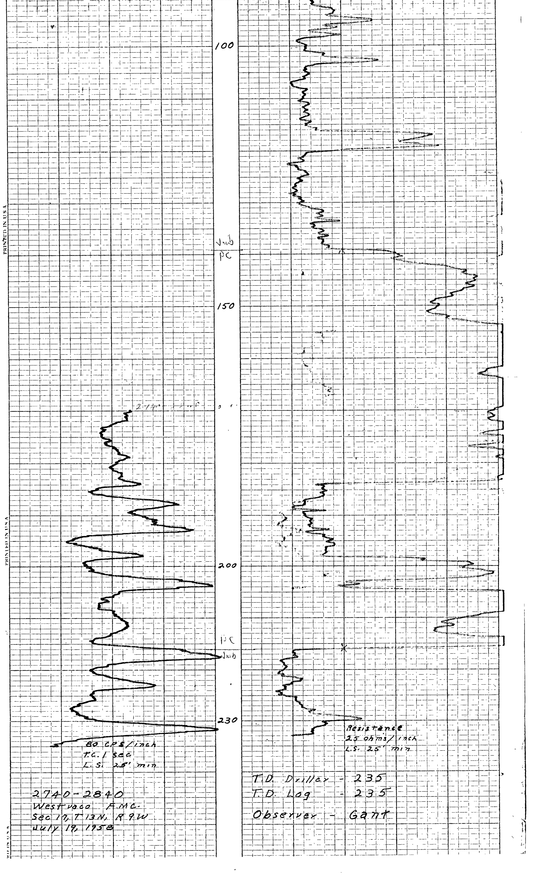
Well	2740-2840
Field	—
Company	Westvaco
Location	Sec. 17, T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6956
Bottom Depth: Log	198.5'	Driller	200'
Size Hole	4-1/2"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

Remarks:
Scintillation Probe Model XMS-200, Serial No. 101
Crystal Size 3/4"-3"
Calibration Source No. 2
Trace No. 101

Date: April 14, 1958 Observer: V.B. Carter





Log-Master Services, Inc.
ENID, OKLAHOMA

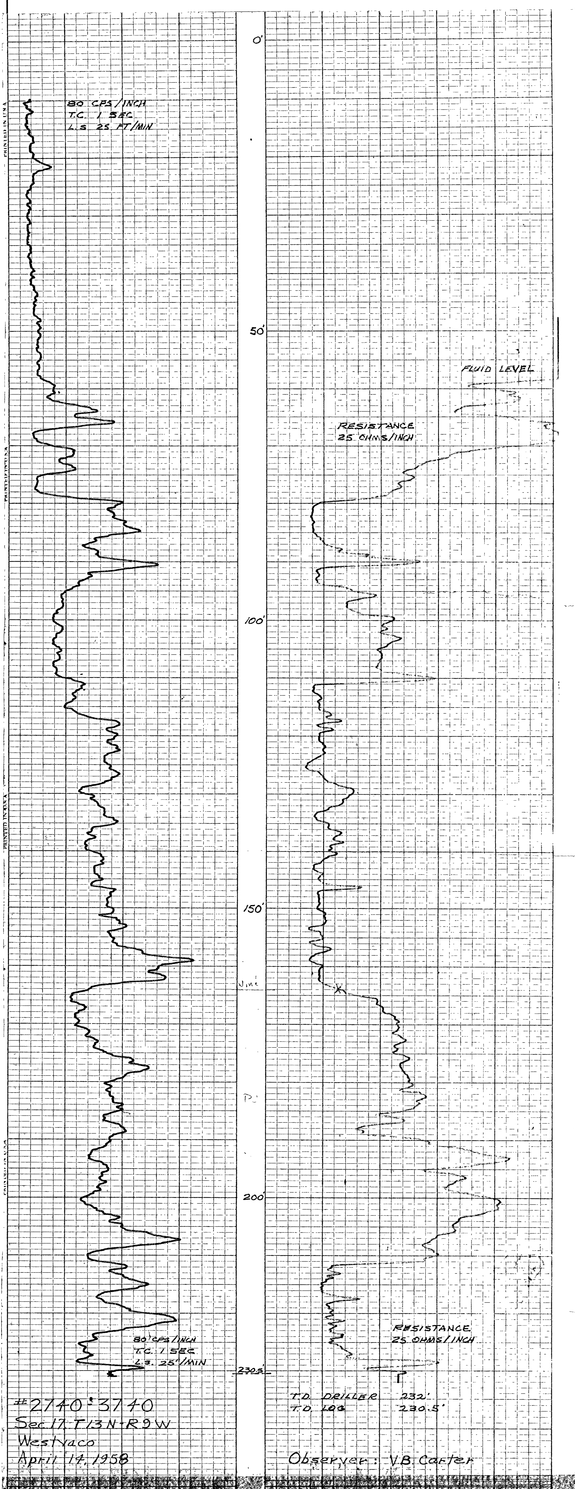
Well	2740-3740
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17, T13N-R9W
Date	April 14, 1958

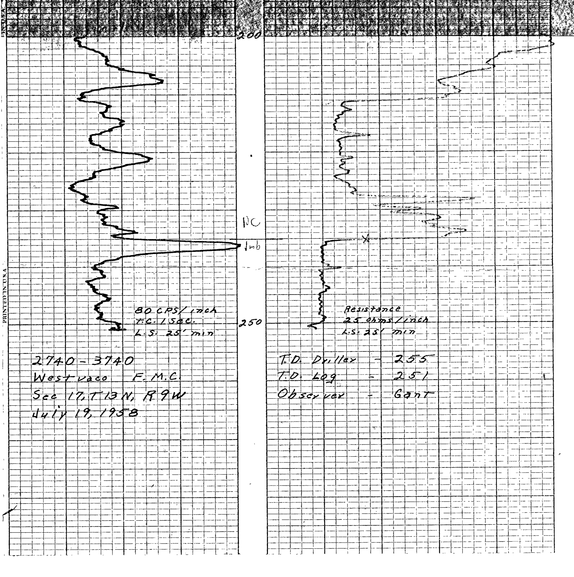
TYPE OF SURVEY	GAMMA RAY - RESISTANCE
Well	2740-3740
Field	---
Company	Westvaco
Location	Sec. 17, T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6939
Bottom Depth: Log	230.5'	Driller	232'
Size Hole	4-1/4"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

Remarks:
Scintillation Probe Model XMS-200 Serial No. 101
Crystal Size 1/2" - 3"
Calibration Source No. 2
Truck No. 101

Date April 14, 1958 Observer V.B. Carter





Log-Master Services, Inc.
LOG GRAPHICS

Well	2740-4340
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec 17, T13N: R9W
Date	April 14, 1958

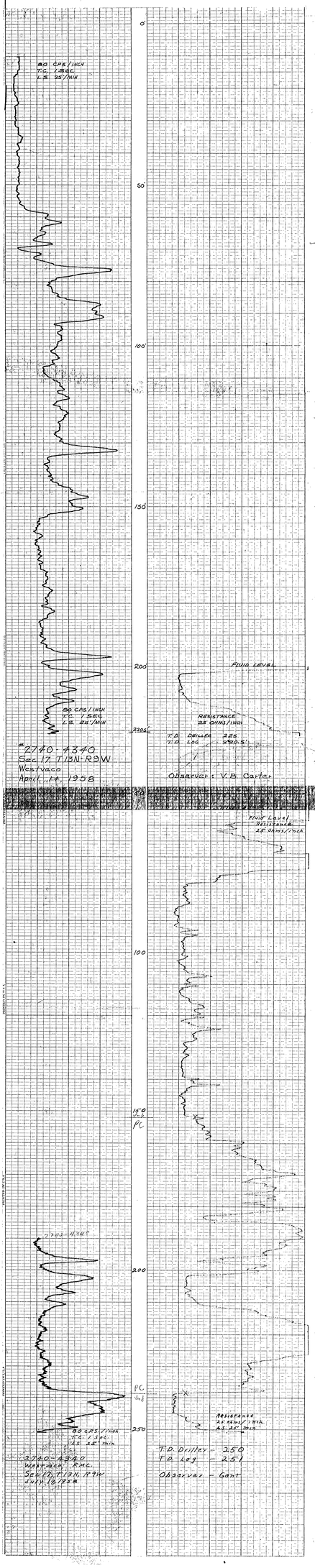
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	2740-4340
Field	—
Company	Westvaco
Location	Sec 17, T13N: R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6127
Bottom Depth: Log	220.5'	Driller	225'
Size Hole	4-1/8"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

Remarks:
Scintillation Probe Model XMS-200, Serial No. 101
Crystal Size 3/4" - 3"
Calibration Source No. 2
Truck No. 101

Date: April 14, 1958 Observer: V.B. Carter

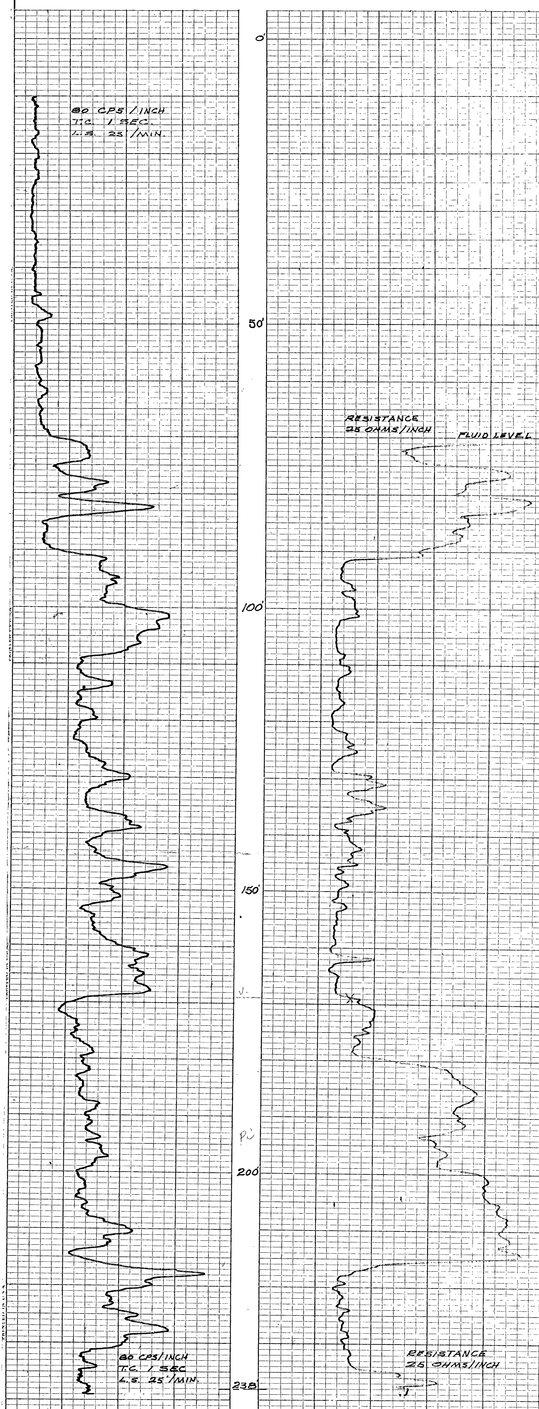
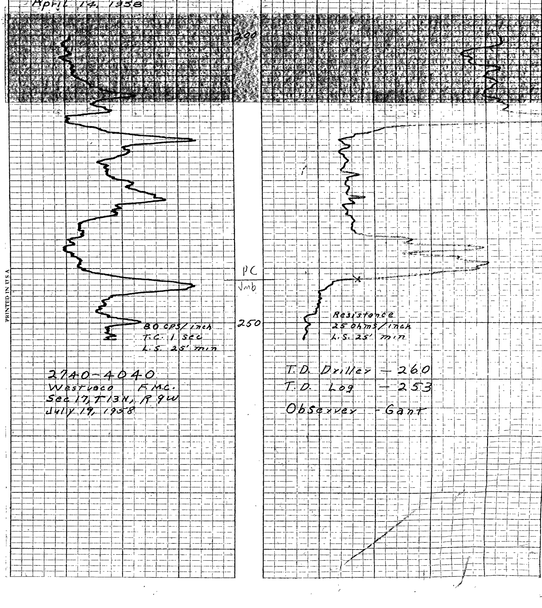


Log-Master Services, Inc.
ENID, OKLAHOMA

Type of Survey	GAMMA RAY - RESISTANCE
Well	2740-4040
Field	—
Company	Westvaco
Location	Sec 17 T13N-R9W
County	McKinley
State	New Mexico

Well 2740-4040
Company Westvaco
County McKinley
State New Mexico
Location Sec 17 T13N-R9W
Date April 14, 1958

Depth Datum	Ground Level	Elev.	6943
Bottom Depth: Log	238'	Driller	240'
Size Hole	4 1/2"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

Remarks:
Scintillation Probe Model XMS-200, Serial No. 101
Crystal Size 3/4" - 3"
Calibration Source No. 2
Truck No. 101

Date April 14, 1958 Observer V.B. Carter