FINAL DISTRIBUTION

MADE SEP 15 1958

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

Administrative Audit Difference Statement

OFFICIAL FILE COPY
DMEA
RECEIVED SEP 17 1958

DATE	INITIALS	CODE
9/17	C	220
"		~~710~~
"	Murphy	760

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

Date: September 12, 1958

Payee's Reference: April 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 $ 9,912.57

Difference $ 44.82

Amount Approved $ 9,867.75

The reason for the difference was due to:

Disallowed, Excess Non-core Drilling

The contract specifies that holes designed to explore both the Poison Canyon and the Westwater Canyon sandstones shall not extend more than 10 feet into the underlying Recapture member. The following 12 holes were drilled in excess of the contract provision as follows, and the excess footage is disallowed:

(CONTINUED ON ATTACHED SHEET)

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

Very sincerely yours,

N. E. Stokes
Audit Section

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

Food Machinery & Chemical Corporation (April 1958)

Hole No.	Total Depth	Lower Contract Westmater	Excess Footage
2140-4040	350	334	6
2740-1040	320	306	4
2740-3440	336	320	6
3340-1640	310	295	5
3340-4040	376	364	2
3940-1040	290	275	5
3940-2240	315	298	7
4540-2840	340	324	6
4540-4040	365	353	2
5140-1040	300	286	4
5140-2240	320	306	4
5140-3440	330	317	3

Total excess footage ..... 54 feet

Disallowed

Reported cost including Incidental Allowance, 54 feet of drilling $44.82

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 Ida-EL167
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 April, 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.

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

Disallowance, Excess Non-core Drilling

The contract specifies that holes designed to explore both the Poison Canyon and the Westwater Canyon sandstones shall not extend more than 10 feet into the underlying Recapture member. The following 12 holes were drilled in excess of the contract provision as follows, and the excess footage is to be disallowed:

DMEA
DEPARTMENT OF THE INTERIOR

AUG 29 1958

REGION III
DENVER, COLORADO

August 12, 1958

[illegible]

To: Executive Officer, DMEA Field Team, Region III

From: T. M. [illegible], Mining Engineer, Tucson, Arizona

Subject: Progress Report for April 1958, Docket DMEA-4346 (Uranium) Contract Ida-E1167, Food Machinery and Chemical Corporation (Westvaco Mineral Products Division) McKinley County, New Mex.

Enclosed are the original and 5 copies of subject report and the Operator's report comprising:

1. The original and 4 copies of each the narrative section and Forms MF-104 and 104-A.

2. Five prints of a geologic and a radiometric log for each of 43 holes.

3. Five photo copies of an assay certificate.

4. Five copies of each the surveyor's and driller's statement of costs.

A final inspection of all work completed under stage 1 of subject contract was made by us August 5, 1958. I was accompanied by [illegible]. L. Emerick and W. S. [illegible], the corporation's Manager of Exploration. The inspection included a visit to the sites of holes drilled and an examination of drilling hole cuttings at the drill sites and those stored at the corporation's nearby Smith mine.

[illegible] Executive Officer (Orig. & 5)
DMEA-4346
DM

T.M.[illegible]:fr]

The inspection indicated that the work performed during April 1958 and the findings are as described by Mr. Cavender. The work performed included the non-core drilling of the authorized 71 holes of which 53 were designed to penetrate the Poison Canyon formation and the remaining 18 were to be drilled to the Brushpan member of the Morrison formation. A review of the drill logs showed that 28 of the Poison Canyon test holes had been prematurely bottomed. These 28 holes were deepened during July 1958.

Radiometric logging of the holes followed by chemical assays of the 2-foot samples from mineralized intervals indicates that no zones of significant uranium mineralization were penetrated.

Information obtained during the inspection also indicated that Mr. Cavender supervised the project in a competent manner and devoted full time to the job.

ANALYSIS OF THE OPERATOR'S REPORT

The report, lacking logs and maps, was received at Tucson July 29. The logs were picked up by me at the property August 5 and the maps were received at Tucson 8/19/58.

Form AEC-104

Drilling - The $7,488.85 is the cost of non-core drilling on authorized and approved 11,839 feet in the 48 completed holes at the specified rate of $0.65 per foot. An additional 54 feet of drilling at depths greater than 10 feet into the Brushpan formation was disallowed by the operator in accordance with the contract.

The original and 4 copies of drilling contractor's invoice is included with 5 copies of each the geologic and radiometric logs.

Sampling and Analysis - The $74.50 is for the chemical assay of 27 samples for U_3O_8 at $3.50 a sample, or $1.50 less than the specified maximum of $5.00. Although none of the samples contained significant amounts of U_3O_8 the assaying was justified on the basis of hole probing records and Geiger counter testing of samples.

Oneida Assay Office and Laboratories assayed the samples. The original and four copies of their Assay Certificate and Cost Statement are attached.

Totals - The total monthly and to date cost of $9,912.57 is correct.

Form MF-104-A

The form has been properly completed.

Narrative Report

The narrative report with map is considered acceptable.

Original signed by
T. M. Romslo

T. M. Romslo

July 26, 1958

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

Re: Progress Report - April, 1958
Docket No. DMEA 4845
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:

On April 8, 1958, Westvaco Mineral Products began the Stage I exploration drilling program as authorized by the DMEA Contract.

The Stage I program consisted of 71 holes placed on a 300 by 600 foot grid spacing. Eighteen holes were to penetrate to the Recapture member of the Morrison formation, with the remainder penetrating only through the base of the Poison Canyon. Review of the drill logs after the completion of the drilling revealed 28 of the Poison Canyon test holes were stopped at too shallow a depth. These 28 holes will be deepened and completed at a later date and therefore are not included in this report.

All holes were drilled by rotary non-core methods, and 4½" bits were used. Two foot cutting samples were taken from the top of the Poison Canyon sandstone to the bottom of the hole. These samples were logged geologically and radiometrically, packaged, and labelled. In addition, Westvaco contracted to have all holes logged by gamma ray and electric resistance methods. This logging is done mechanically and recorded on graph paper. Prints of the written geologic logs and of the gamma-resistance logs are included with this report.

Geologic information gained from the exploration program shows the Poison Canyon sandstone to be a gray to green, fine to coarse grained, and averaging 75 feet in thickness. Shale lenses in the sand are very common, although some holes indicate that the rock is a sandstone but contains a high percentage of shale particles.

Mineralization was encountered in ten holes, but it was very minor. Chemical assays were made of samples from seven of the mineralized holes, but the results were low. Most mineralization is localized in the basal

Poison Canyon sand, while other mineralized zones occur in the Recapture shales and shales within the Poison Canyon. Both the Poison Canyon and Westwater sandstones show the favorable coarse texture and gray coloration.

Mineralized holes are:

940-4340	3940-1040
3340-1040	3940-1340
3340-1640	3940-1640
3340-1940	4540-2840
3340-2240	5140-2240

The 18 Westwater holes are limited by contract to a maximum depth of 10 feet below the Westwater - Recapture contact. A listing of these holes follows:

Hole No.	Total Depth	Lower Contact Westwater	Disallowed Footage
940-2840	320	310	0
1540-3440	304	303	0
2140-2840	345	338	0
2140-4040	350	334	6
2740-1040	320	306	4
2740-3440	336	320	6
3340-1640	310	295	5
3340-2840	303	293	0
3340-4040	376	364	2
3940-1040	290	275	5
3940-2240	315	298	7
3940-3440	347	337	0
4540-1640	320	311	0
4540-2840	340	324	6
4540-4040	365	353	2
5140-1040	300	286	4
5140-2240	320	306	4
5140-3440	330	317	3
Total	5891		54

Chargeable Footage - 5837

Other holes completed in addition to the Westwater holes are:

Hole No.	Total Depth	Hole No.	Total Depth
1540-4340	240	3340-2540	210
2740-1940	200	3940-1340	224
2740-3140	245	3940-1640	225
3340-1940	200	3940-1940	230
3340-2240	207	3940-2540	215

Hole No.	Total Depth	Hole No.	Total Depth
3940-3140	241	5140-1340	227
4540-1940	358	5140-1640	260
4540-2540	230	5140-1940	255
4540-3140	270	5140-2540	235
4540-3440	170	5140-3140	265
4540-3740	242	5140-3740	276
4540-4340	256	5140-4040	276
		5140-4340	281

Chargeable Footage - 5938

Total Chargeable Footage for All April Drilled Holes - 11,829

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of April, 1958 Docket No. DMEA 4845 Contract No. Idm E-1167
Operator's Name Westvaco Mineral Prod. (Food Mach & Chem Corp) Minerals Uranium
Address Box 327, Grants, New Mexico
Contract Amount, $ 28,460 Government Participation: 75 % Amount, $ 21,345

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling	7688.85	0	7688.85			
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis	94.50	0	94.50			
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify): Incidental allowance at .18/ft	2129.22	0	2129.22			
TOTALS	9912.57	0.00	9912.57	9,867.75		9,867.75

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

Per [signature] Title Mgr. Exploration

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

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

(Instructions on reverse)

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

$ 7400.81

Signature [signature]
(Authorized Certifying Officer)

Date 9/12/58 Vou. No. DMEA 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-E 1167 in accordance with the terms of the contract.

Signature [illegible] Title Mining Engineer Date 8/13/58

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE: Checked by Engineering Geology

Signature [illegible] 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

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

Month of April 195 8 Docket No. DMEA 4845 Contract No. Idm E-1167
Operator's Name Westvaco Mineral Prods (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	per/ft	7688.85	11,829	7688.85	11,829	0.65/ft	32,220	0.65/ft
Auger								
Stripping								
Trenching allowance								
Incidental/	per/ft	2129.22	11,829	2129.22	11,829	0.18/ft	32,220	0.18/ft
Roads and Trails								
Assaying	per/sample	94.50	27	94.50	27	3.50	108	5.00/sample
TOTAL DISTRIBUTED COSTS		9912.57		9912.57				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		9912.57		9912.57				28,460

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 Prod (FMC)

Per W. S. Cavendy Title Mgr. Exploration

REMARKS:

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

(Instructions on reverse)

(For Government use only)

D M Roberts

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

FROM Grants Assay Office & Lab
P.O. Box 532; Grants, N. Mex
July 28 1958

TO Westbuco Mineral Products
ADDRESS P.O. Box 327
CITY Grants, N. Mexico
TERMS Analytical Work

27	Chemical U_3O_8 assays at ~~$3~~ $3.50 each			$94	50
	Total			$94	50

STATEMENT

DATE May 5, 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, N. M. during April, 1958 as follows:	
43 holes, 11,829 feet @ 65¢ per ft.	$7,688.85

THANKS

Hbr Stewart

Grants Assay Office and Laboratories

ASSAY CERTIFICATE GRANTS NEW MEXICO May 7 1958

Sample No.	U308	V2C 5	Lime	Copper	Pb	Zn	OTHER	OTHER
3940-1340	.014							206-208
"	.021							208-210
3340-1040	.016							197-199
" "	.011							199-201
" "	.021							201-203
" "	.016							203-205
" "	.014							205-207
3940-1040	.009							209-211
" "	.011							211-213
" "	.014							213-215
" "	.002							215-217
3340-1940	nil							172-174
" "	.007							174-176
" "	.011							176-178
" "	.014							178-180
" "	.018							180-182
3340-2240	.014							181-183
" "	.007							183-185
" "	.017							189-191
" "	.016							191-193
" "	.011							193-195
3340-1640	.022							178-180
" "	.026							180-182
3940-1640	.023							195-197
" "	.029							197-199
" "	.031							199-201
" "	.025							201-203
# 10856	.169							

L. Gurney, Jr.
Chemist

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

224 New Customhouse
Denver 2, Colorado
March 26, 1959

OFFICIAL FILE COPY
O. M. E.
RECEIVED MAR 30 1959

DATE	INITIALS	CODE
3/30	C	220
3/31		110
		700

Memorandum

To: Chairman, Operating Committee, OME

From: Executive Officer, OME Field Team, Region III

Subject: Docket No. DMEA 4845 (Uranium) Contract Idm-E1167, Food Machinery and Chemical Corporation, (Westvaco Minerals Products Division) (Sec. 17, T 13 N, R 9 W) McKinley County, New Mexico - FINAL PAYMENT

Enclosed are two copies of a memorandum to T. A. Christensen, dated March 25, 1959, relative to final payment under the terms of the subject contract.

J. W. Townsend

Enclosure

224 New Customhouse
Denver 2, Colorado
March 25, 1959

Memorandum

To: W. A. Christensen

From: Executive Officer, GME Field Team, Region III

Subject: Docket No. DMEA 4845 (Uranium) Contract Lem-E1167, Food Machinery and Chemical Corporation, (Westvaco Mineral Products Division) (Sec. 17, T 13 N, R 9 W) McKinley County, New Mexico - FINAL PAYMENT

Reference is made to our memorandum of September 11, 1958, whereby we forwarded the final Form NF-104, Operator's Monthly Report and Voucher, for the month of July 1958, and requested you to withhold an amount of $500.00 from reimbursement to the Operator, pending resolution of matters prerequisite to closing the account.

The Operator's final report has been received, therefore final payment to the Operator is to be made on the following basis, which is in conformance with the Report of Review of reported project costs, by the Contract Administration and Audit Division, GME, dated March 12, 1959.

Basis for Final Payment

Total accepted costs	$15,690.20
Government participation at 75 percent	11,767.65
Total prior payments	11,267.65
Balance due the Operator	$ 500.00

Original signed by
J. W. TOWNSEND

J. W. Townsend

JWT:bmk

cc: Chem. Op. Comm. (2)
Barshman
Emerick
Remsle, GME/Phe.
NF-104 file, Reg. III
Corres.file, Reg. III
Cooper
Chrem

$500.00
3/25/59 GME 59-98

Hole No.	Total Depth	Lower Contact Westwater	Excess Footage
2140-4040	350	334	6
2740-1040	320	306	4
2740-3040	336	320	6
3340-1640	318	293	5
3340-4040	376	364	2
3940-1040	290	273	5
3940-2640	315	298	7
4540-2640	340	324	6
4540-4040	365	353	2
5140-1640	300	286	4
5140-2840	320	306	4
5140-3440	330	317	3

Total excess footage---------- 54 feet

Disallowance

Reported cost including Incidental Allowance, 54 feet of drilling---------- $ 44.82

Reconciliation with Amount Reported by the Operator on Form MP-104 for the month of April, 1958

Amount Reported on Form MP-104 for April, 1958----------$9,912.57
Amount to be disallowed---------- 44.82
Acceptable cost for April, 1958----------$9,867.75

Government participation at 75 percent----------$7,400.81

Remarks:

Date of Report----------July 28, 1958
Date Received in Field Office----------August 19, 1958*
Date Received in Region Office----------Sept. 29, 1958

* Processing voucher delayed pending receipt of additional information required from the Operator.

Enclosures
EEM:hmh

Original signed by
E. N. HARSHMAN

E. N. Harshman

cc: Chem. Op. Comm. (2)
Romslo, EMEA/Tun.
MP-104 file, Reg. III
Emerich
Harshman } w/copy of Engr's Report
Cooper
Chren

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
940-2840	17	6987.9	1 – 2	One	4/8/58	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 tan	Fine to med grained.										
20														
40	Kd	SH	DK gry											
		Ss	Lt. tan	Fine grained										
			DK gry brn	Shale seam										
		Ss		Fine to med. grained										
60														
		SH	DK gry	carbo										
		Ss	" "	" Fine										
80														
		SH	lt. gry green	arena.										
100	Jmb													
120														
		Ss	lt gry-green to lt. gry	Fine to med. green cly										
140														
160	PC													
		SH	gry-green	arena.										
180		Ss	" "	Fine to med										
200														
		SH	gry-green	Arena										
220	Jmb													
240														
260	Vmw	Ss	Gray	shaly zones										

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

No cutting samples

310 —— 310
Jmr sh - Red brown
TD 320

320

Dwg No. 792

Hole No. 940-2840
Section 17

Insert Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
940-2840	17	2 — 2	4/20/58	RRB

Footage		Formation	Geology Description	Samples
126	134	PC	Ss, lt. gry-green, fine grained, arkosic, green cly	
134	144	"	", lt gry, fine to medium grained, lmy, cht, slightly pyritic	
144	158	"	", " " " " " " " " , pink & wht calcite	
158	174	"	" " " " " " " " " " " "	
174	181	"	Sh, gry-green, w/ arena	
181	189	"	Ss, lt. gry-green, fine grained, arkosic, green cly galls	
189	197	"	", ", med grained, lmy, cht, " " "	
197	205	"	" " " " " " " " " " " "	
205	228	Jmb	Sh, gry-green, arena, wht cht, pyritic	
228	243	Jmb	Sh, gray, limy	
243	310	Jmw	Ss, gray, shaly zones	
310	320	Jmr	Sh, red brown,	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
1540N-3440E	17	6946.7	1 of 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	Tan	medium grained										
			Lt. gry	Fine to medium grained										
20														
	Kd			1' dk shale stringer										
40														
		Sh	dk gry	CARBO.										
		Ss	Yellow tan	medium grained										
			Lt. gry	Fine grained										
60			Yellow tan	medium grained										
			dk gry	carbo - fine to med. grained										
			no sample											
80		Sh	Lt. gry to green											
100	Jmb													
120														
140														
160		Ss	Lt. gry to green	medium to coarse grained some clay and shale										
	PC													
180														
200		Sh	Lt. gry to green											
220		Ss	red - green - Brown	Fine to med - w/shly										
	Jmb	Sh	Lt gry to green											
		Ss	Lt. gry to green to brown	med to coarse grained										
240	W													
260														

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

2" cutting samples

Dwg No 792

Hole No. _____
Section _____

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
1540N-3440E			2 3			

Geology								Probe			Scaler				
Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Depth	Reading	Scale	Foot Interval	Assay	Graphic log	Description	Dotted line Graphic Assay Solid Line - Probe 0% .20% .60
260	Ww	ss													0
280															20
300	Jmr TD 305	sh	Red to Brown												40
60															60
80															80
100															100
120															120
140															140
160															160
180															180
200															200
220															220
240															240
260															260

Dwg No 792

Hole No. _____

Section _____

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
1540N. 3440E	17	3 3	4/20/58	BB VEL

Footage From	Footage To	Formation	Geology: Description	Samples
167	187	Pc	SS, FG, LT. GRY, PINK CALCITE, MINOR LIMONITE	
187	191	✓	✓, MG TO FG, LT. GRY, ✓ ✓, DRK. GRY. LMS.	
191	194	✓	SS, ✓ ✓ ✓, ✓ ✓, QUITE SHALY. PINK CALCITE	
194	200	✓	✓, F.G., LT. GRY, DRK. GRY. LMS. PEBBLES, MINOR CARBON. MATERIAL	
200	209	✓	SHL, LT. GRY. GREEN. BREN	
209	213	✓	✓ ✓ ✓ ✓ ✓ w/ THIN GRY. LMS.	
213	221	✓	SS, MG TO FG LT GRY. w/ PINK CALCITE & GRY LMS	
221	225	✓	✓, ✓ ✓ ✓, ✓ ✓, FEW CSE PEBBLES. GRY LMS & PINK & WHITE CALCITE	
225	229	Jmb	SHL, BREN, LT. GRY. GREEN	
229	231	Jmb	SS, F.G., ✓ ✓, ARKOSIC	
231	235	Jmb	SHL, LT. GRY. GREEN. BREN	
235	250	Jmw	SS, ✓ ✓ ✓ & RED. BRN. MDSTNE	
250	254	✓	SHL, ✓ ✓ ✓, BREN	
254	260	✓	✓, V. BREN, RED. BRN.	
260	264	✓	SHL, BREN, RED & GRN.	
264	278	✓	SS, MG TO FG, GRY. GRN.	
278	294	✓	✓, F.G, LT. GRY, SHALY, PEBBLY w/ GRY. LMS	
294	303	✓	SS & SHL, LT. GRY. GRN	
303	305	MR	SHL, DUR. RED, V. BREN.	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
1540N-4340E	17	6923.8	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
0		SS	Tan to Gray.	Fine grained										
20														
40	KC													
		SH	GRY	ARENA										
		SS	TAN TO GRY	Med to Fine grained										
60			GRY											
		SH	DK GRY	CARBO										
		SS	Yellow TAN TO GRY	MEDIUM grained										
80		SH	GRY GREEN	ARENA.										
100														
	Jmb													
120														
140														
160		SS	Gray green	Arkosic — some shaly beds										
180														
	PC													
200		sh	grn	arena										
		SS	Gray green											
220														
240	Jmb	sh	gry-grn											
	TD 240													
260														

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

2' cutting sample

Dwg No 792

Hole No 1540-4340
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
1540N 4340E	17	2 2	4/20/58	BB VEL

Footage From	Footage To	Formation	Description	Samples
155	157	Pc	SHL & SS 50-50, LT. GRY. GREEN	
157	169	✓	SS, VFG, LT. GRY, ARKOSIC & PYRITIC	
169	171	✓	✓, F.G. , ✓, CSE PEBBLES, PYRITIC, PINK CALCITE, LMS, DRK GRY	
171	173	✓	✓ ✓ ✓ ✓, w/ PINK CALCITE & LMS. DRK GRY	
173	177	✓	✓, VFG, LT. GRY	
177	189	✓	SS, MED TO CSG, LT GRY, PINK CALCITE w/ MINOR SHL DRK GRY GREEN, LMS DR GRY MINOR	
189	191	✓	✓, VFG ✓ ✓, MINUTE PARTICLES of PYRITE	
191	199	✓	SS, MG, LT. GRY, PEBBLY, PINK CALCITE, DRK GRY LMS	
199	203	✓	SHL, LT. GRY GREEN, ARGN.	
203	207	✓	✓, GRY, GREEN, ✓, w/ MDSTONE RED	
207	221	✓	SS, VFG, ARKOSIC, LT. GRY	
221	223	✓	✓, MG TO FG, LT GRY w/ PINK CALCITE	
223	225	✓	SS, FG , ✓ ✓, CSE PEBBLES w/ MINOR PINK CALCITE, DRK. GRY LMS	
		✓	& GREEN CLAY BALLS	
225	229	✓	SS, VFG, LT. GY, ARKOSIC, PINK CALCITE, DRK GRY LMS, GREEN CLAY BALLS	
229	234	✓	SS, ✓, ✓ ✓, MED. PEBBLES, PINK CALCITE, SM. AMT. of SS, BRN, VFG.	
234	240	JMB	SHL, LT. GRY GRN, V. ARGN, SM. AMT. of BLK. CARBON. MAT. & MDSTNE RED	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
2140N-2840E	17	6958.9	1 / 3		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										
20		Ss	Brown	medium grained - some shale										
40	Kd													
60		sh	dk gry	Carbo.										
		Ss	lt. gry	Fine grained - small amt. shale										
80		Ss	Yellow to br.	Medium to coarse - slightly shaly										
		sh.	dk gry	Carbo - wet										
100		Sh.	light grey to green	Some clay & mud - sandy Stringers										
120	Jmb													
140														
160		Ss	lt gry to green	Medium to coarse - Arkosic clay - mud - shaley										
180	PC													
200		sh	light gry to green	sandy										
		Ss	" "	fine to med										
220		SH	lt gry-green											
240	Jmb													
260														

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

21 cutting samples

Dwg No 792

Hole No. 2140-2840
Section 17

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
2140 - 2840 cont.			2 3			

Geology								Probe			Scaler				
Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Depth	Reading	Scale	Foot Interval	Assay	Graphic log	Description	Dotted line Graphic Assay Solid Line - Probe 0% .20% .60
260	Jmb														
		SS	light gry to green to tan	medium to coarse											
280 ~~20~~															
	Jmw														
300 ~~40~~															
320 ~~60~~															
340 ~~80~~		Sh	green red Brown												
	Jmr														
350	TD 345														

Dwg No. 792

Hole No. 2140 - 2840

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
2140N-2840E	17	3 3	4-22-58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
162	174	PC	Ss, lt. gry-green, fine grained, arkosic, green clay galls	
174	184	"	" lt. gry, medium grained w/ crse pebbles, gry ls, calcite, sm. cht.	
184	188	"	" lt. gry-green, v/ shly	
188	194	"	" lt. gry-medium to coarse grained, limy, flesh & green cht.	
194	198	"	" lt. gry-green v/ shly	
198	210	PC	Sh, lt. gry-green, arena, small wht. cht. frags, slightly pyritic	
210	220	PC	Ss, lt. gry, medium grained, slightly limy, small amt cht.	
220	228	PC	" " " " " w/ crse pebbles	
228	266	J_{mb}	Sh, lt. gry-green, very arena, small frags white chert, slightly pyritic	
266	267	J_{mw}	Ss " " " " v/ shly	
267	269	"	" " " " " less shl.	
269	271	"	Sh. lt. gry-green, v/ arena	
271	275	"	Ss, lt. gry, medium grained, small amt. brn cht, minor lim	
275	278	"	" " " " " " " " " " " v/ shly.	
278	288	"	" " " " " " limy, calcite	
288	296	"	Sh, lt. gry-green, v/ arena, small amt. white cht., slightly pyritic	
296	304	"	Ss, lt. gry-green, fine grained arkosic	
304	310	"	" " " " " " v/ shly.	
310	320	"	" " " " medium grained, limey, some calcite, minor cht.	
320	332	"	" lt. gry, medium grained, slightly pyritic, lg. cht.	
332	338	"	" " " " " " " pink & white calcite, minor cht, lr.	
338	345	J_{mR}	Sh, Gry-green & red-brn, v/ arena	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
2140N-4040E OFFSET 30' NW	17	6916.4	1 3	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										
20														
40	Kd		Brown to gry	medium grained										
60														
80			lt. gry	Fine grained - some dk gry shale										
	Jmb	sh	lt gry to green											
100														
120														
140														
160														
180	PC	ss	lt gry to green	Medium to coarse grained Arkosic - some clay galls										
200														
220		sh	Lt gry to green - arena											
		ss	Lt gray	Clay gall - med gr.										
240	Jmb	sh	gry-green	arena, slightly pyritic, lwht. cht.										
260														

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

Sample Gallon 2"

Dwg No. 792

Hole No 2140 4040
Section 17-13-9

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
2140N	17	3 3	4/20/58	BB VEL

Footage 4040E

From	To	Formation	Description	Samples
164	176	PC	Ss, fine grained, lt. gry-green, arkosic, green cly galls	
176	182	"	", lt. gry " to medium grained, slightly pebbley, green cly galls, ls, pink & white calcite, shly	
182	189	"	", " medium grained w/ crse pebbles, ls, calcite, green cly galls, cht, shly.	
189	200	"	", " " " " " ", " ", " " ", ".	
200	210	"	", " " " " " " " " " " " ".	
210	215	"	", fine to medium grained, " " " " " ".	
215	225	"	Sh, lt. gry-green, v/ arena, minor green cht.	
225	230	"	Ss, " " ", v/ shly, fine grained, green cly galls.	
230	240	"	", " " ", fine to medium grained, green cly galls.	
240	250	J_{mb}	Sh, lt. gry-green, arena, slightly pyritic	
250	264	"	", " " " ", v/ arena, " "	
264	274	J_{m} W	Ss, fine to medium grained, lt. gry-green, wht. cht, ls, calcite.	
274	280	"	", medium grained, lt. gry, arkosic, " " " "	
280	288	"	", " " " " " ", " " " " ", slightly pyritic	
288	296	"	", " " " " ", v/ shly.	
296	300	"	", " " " " ", " " " " " " " "	
300	310	"	", " " ", shl. stringers	
310	330	"	", " " ", " " ", w/ crse pebbles	
330	334	"	", " to crse grained, shl, stringers, lmy, cht.	
334	344	J_{m} R	Sh, red-brn & green, slight purple tint, brn-mud	
344	350	"	Ss-sh, " " ", " " ", lrg. amt. brn mud.	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
2140 - 4040	11	6916.9	2 3	One	4/10/58	KJL

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
260	Jmb	sh	Lt. gry to green	Medium to coarse grained small amt. shale										
		ss												
280 20	Jmw													
300 40														
320 60														
340 80	Jmr	sh	Red-green Purple	Some brown mud										
	TD 350													
100														
120														
140														
160														
180														
200														
220														
240														
260														

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

Dwg. No. 792

Hole No. 2140-4040
Section 17

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
2740N-1040E	17	7007.2	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
0		SS	BROWN	MEDIUM TO COARSE GRAINED - 0' TO 2' BLOW SAND										
		SH	BROWN-GRY	POOR SHALE OR MUDSTONE - SMALL SEAMS BROWN SAND										
20		SS	GRY	MEDIUM GRAINED										
			TAN LT. GRY	FINE GRAINED FINE TO MEDIUM GRAINED										
40	Kd													
60		SH	DK GRY	CARBO										
		SS	GRY	FINE GRAINED										
		SH	DK GRY	CARBO.										
		SS	GRY	FINE GRAINED										
80			DK GRY	MEDIUM TO COARSE-CARBO.										
		SH	GRY GREEN											
100														
120	Jmb													
140		sh	Green	Very sandy										
160			RED											
			GRY GREEN	SANDY-SHALEY - 50-50										
		SS	Gray											
180		sh	Green	FINE GRAINED - ARKOSIC - SOME GREEN CLAY BALLS										
		SS												
	PC													
200		sh	GRY GREEN	SANDY										
		SS	Gray	Med grain										
220		SH	GRY GREEN											
	Jmb													
240														
	Jmb	SS	GRY GREEN	MEDIUM GRAINED Very shaley										
260														

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

2' drilling 3-4-58

Dwg No 192

Hole No. 2740-1040
Section 17

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
2740N-1040E	17	7007.2	Two 3		4-16-58	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	Dotted line Graphic Assay Solid Line - Probe 0% .20% .60
260															0
		SS	Gray	- Shaley											
280	Jmw														20
		SH													
		SS	GRY GREEN	MEDIUM TO COARSE - SOME RED MUD											
300															40
	JmR	SH	GREEN & RED	MUD											
320															60
	TD 320														
340															80
360															100
120															120
140															140
160															160
180															180
200															200
220															220
240															240
260															260

Dwg No 792

Hole No. 2740-1040

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
2740N-1040E	17	3 of 3	4/22/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
169	172	PC	Ss, very shaley, lt. gry-green, fine grained	
172	176	✓	✓, lt. grey, fine grained, arkosic, green cly. galls	
176	180	✓	Sh, lt. grey-green, arena, slightly limey.	
180	184	✓	Ss, lt. gry, fine to medium grained, green cly. galls, minor ls., some calcite	
184	186	✓	Sh, lt. gry-green, arena	
186	190	✓	Ss, lt gry-green, medium grained, ar-kosic, minor ls. & calcite	
190	195	✓	Ss, lt. gry, medium grained, ar-kosic, ls, calcite, small frags. white chert.	
195	211	✓	Sh, lt gry-green, very arena, limey.	
211	218	✓	Ss, lt. gry-green, fine grained, ar-kosic.	
218	241	Jm_b	Sh, lt. gry-green, arena, slightly pyritic.	
241	247	Jm_w	Ss, lt gry-green, fine grained, arkosic, calcite, ls	
247	260	Jm_w	Sh, lt. gry-green, arena, slightly pyritic	
260	265	Jm_w	Grades from shale to fine grained arkosic ss	
265	278	Jm_w	Ss, lt. gry-green, fine to medium grained, slightly limey	
278	292	Jm_w	Sh, lt. gry-green, very arena.	
292	300	Jm_w	Ss, lt. gry-green, fine grained, very shaley, slightly limey.	
300	306	Jm_w	Ss, lt. gry, medium grained, white calcite, small white frags. chert.	
306	320	Jm_R	Sh, gry-green & red-brn, red-brn mudstone.	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
2740N-1940E	17	6972.9	1 2	One	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		SS	TAN	FINE TO MEDIUM										
20														
40	Kd													
				DAMP										
60			MED. GRY											
		SH	DK GRY	CARBO SH. WITH DK. GRY. SAND										
80		SH	GRY GREEN											
100	Jmb													
				SLIGHT RARE TINT TO SHALE										
				SLIGHTLY SANDY										
120														
140		SS	LT. GRY. GREEN	MEDIUM TO COARSE GRAINED										
		SH	MED GRY GREEN											
		SS	LT. GRY GREEN	MEDIUM TO COARSE - ARKOSIC										
160	PC													
		SH	GRY GREEN	SANDY										
				VERY SANDY										
			RED-BROWN	SANDY										
180														
		SS	GRY GREEN											
			DK GRY	SOME BROWN 188-190' SANDY										
	Jmb	SH	GREEN	Good SHALE 181' - DARKER GRY & GREEN										
200	TD 200'													
220														
240														
260														

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

2' cutting sample

Dwg No 792

Hole No 2740-1940
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
2740N-1940E	17	2 2	4/22/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
140	144	PC	Ss. Medium grained, lt. gry green, pebbly, arkosic, ls, calcite	
144	149	PC	Ss. Medium grained, lt. gry, crse pebbles, ls., calcite, cht.	
149	154	PC	Slt, Gray-Green, arena.	
154	158	PC	Ss., fine grained, arkosic, minor green cly galls, lt. gry overall.	
158	159	PC	Ss., Gry.-Green,	
159	164	PC	Ss., lt. gray, medium grained, crse pebbles, ls., pink calcite.	
164	174	PC	Sh, gry-green, red-brn mudstone, slightly pyritic	
174	180	PC	Siltst.? -red-brn, arena.	
180	189	PC	Ss., lt. gry-green, fine grained, arkosic, green cly galls.	
189	190	Jmb	Sh., gry-green, minor red-brn., arena.	
190	200	Jmb	Sh., gry-green, arena, slightly pyritic	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
2740N-3140E	17	6959.8	1 2		4-14-58	RRB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Depth	Probe Reading	Probe Scale	Scaler Foot Interval	Scaler Assay	Graphic log	Description
0		Ss	Tan	Medium to fine grained										
20														
	Kd													
40														
60			Lt. gry	Fine grained										
				Small Blk. shale stringer										
			gry	Fine grained										
		Sh	Lt. gry green											
80				Sandy - Rosy tan sand in gry. shale										
			Lt. Gry.											
100														
	Jmb													
120														
			Gry. to Tan											
140			Lt. Gry. Green											
		Ss	Lt. Gry Green	Medium to coarse - Arkosic										
160														
180							2' cutting samples							
	PC													
200														
		Sh	Lt. Gry Green	Some sandy streaks										
			Red-Brn + Gry Green											
220		Ss	Lt Gry Green	Fine to medium grained										
			Lt Gry Green	Very sandy - ok coarse strings										
240		Sh		Some sand										
	Jpb													
	TD 245													
260														

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

Dwg No 792

Hole No. 2740-3140
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
2740N-3140E	17	2 2	4/22/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
153	156	PC	Ss, lt. gry-green, fine grained, arkosic, green cly galls	
156	162	✓	✓, lt. gry, medium grained, quite shaley-lt. gry-green, minor lime, calcite	
162	166	✓	✓, ✓ ✓, ✓ ✓, pebbly, gry. ls, pink & white calcite, flesh cht.	
166	172	✓	✓, ✓ ✓, ✓ ✓, CRSE pebbles, ✓, ✓ ✓ ✓, ✓ ✓	
172	175	✓	✓, ✓ ✓, ✓ ✓, shaley, ✓	
175	185	✓	✓, ✓ ✓, ✓ ✓, crse pebbles, gry. ls, calcite	
185	194	✓	✓, ✓ ✓, ✓ ✓, slightly pebbly, gry, ls, calcite, minor cht	
194	195	✓	SH, lt. gry-green, arena.	
195	203	✓	SS, lt. gry, fine grained, arkosic, green cly galls	
203	217	PC	SH, lt. gry-green, arena, slightly pyritic.	
217	222	PC	SS, lt. grey-green, fine grained, arkosic, green cly. galls	
222	230	PC	✓, ✓ ✓ ✓, ✓ ✓, shaley, ✓ ✓ ✓, minor ls.	
230	235	PC	✓, ✓ ✓ ✓, ✓ ✓, arkosic, ✓ ✓ ✓ ✓ ✓	
235	245	Jm b	SH, lt. gry-green, arena, small frags. white chert, slightly pyritic.	

Drawing No. 793

Hole No	Sec.	Elevation	Page of Pages	No Insets	Date	Logged by
2740N-3440E	17	6945.7	1 3		4-15-58	RRB

Geology

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Probe Depth	Probe Reading	Scale	Scaler Foot Interval	Assay	Graphic log	Description
0		Ss	Tan to gry.	Fine to medium grained										
20	Kd													
40														
60														
			GRY	Fine grained - Dk gry carbo sh. stringer										
80		Sh	Lt. gry to green											
	Jmb	Ss	Lt. gry to green	Fine to medium grained										
100														
		Sh	Lt. gry to green											
120														
140														
			G. gry green	Medium grained - quite shaly										
160		Ss & Sh												
	PC													
180		Ss	Gray	Contains sh lenses										
		Sh	Gray green	Arena										
200														
220				RED BROWN SHALE STRINGR										
		Ss	LT GRY GREEN	FINE TO MEDIUM										
		SH	LT GRY GREEN											
240	Jmb													
	Jmbl	SS	LT GRY GREEN											
260														

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

N - cutting samples

Dwg No 792

Hole No 2740-3440
Section 17

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
2740-3440	17		2 3			

Geology: Footage, Formation, Type of Rock, Color, Description, Diagnostic Features, Geiger, Samples Taken

Probe: Depth, Reading, Scale

Scaler: Foot Interval, Assay

Graphic log, Description

Dotted line Graphic Assay Solid Line - Probe

0% .20% .60

Footage	Formation	Type of Rock	Color	Description
260				
	Vmw	ss	LT. GRY GREEN	FINE TO MEDIUM GRAINED
280 20				
300 40				
				SHALEY
320 60				
	Smr	SH	RED BROWN GREEN	
	TD 336			

Depth scale: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 220, 240, 260

Dwg No 792

Hole No 2740-3440(2)

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
2740N-3440E	17	3 of 3	4/21/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
152	154	Jmb	Ss-shaley, fine grained, lt. gry.-green.	
154	159	Jmb	Sh-very arena, lt. gry-green, minor lime	
159	163	PC	Ss-medium grained, pebbly, lt. gry, calcite, ls., cht	
163	168	PC	Sh-very arena, lt. gry-green, slightly pyritic	
168	170	PC	Sh-Ss, 50-50, lt. gry-green, light gry. ls	
170	175	PC	Ss-quite shaley, lt. gry-green, light gry ls.	
175	178	PC	Sh. lt. gry-green, arena.	
178	180	PC	Ss-fine grained, lt gry-green, arkosic	
180	192	PC	Ss-fine grained, thin shale stringers, overall light gry-green, quite limey.	
192	225	PC	Sh, lt. gry-green, very arena, thin red-brn. mudstone @ 220, slightly pyritic	
225	232	PC	Ss., lt. gry, slight green tint, fine to medium grain, minor crse pebbles, gry ls., calcite	
232	250	Jmb	Sh, lt. gry-green, slightly pyritic, arena.	
250	268	Jmw	Ss., lt. gry-green, fine to medium grained.	
268	280	Jmw	Ss, lt. gry-green, fine grained, very shaley, slightly pyritic, minor lime.	
280	285	Jmw	Sh.-Ss., 50-50, minor ls., gry-green	
285	303	Jmw	" " " ", lime stringers, slightly darker gry-green	
303	306	Jmw	Ss, fine grained, medium shaley, gry-green, minor ls., cht, calcite	
306	320	Jmw	Ss-sh, 50-50, minor ls, gry-green	
320	336	JmR	Sh-Very arena, altern. brn-red mudstone & grey-green shale.	

Drawing No. 793

Hole No.	Sec	Elevation	Page of Pages	No. Insets	Date	Logged by
3340N-1640E	17	6960.1	ONE 3		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	BLOW SAND										
		SS	Yellow TAN	MEDIUM GRAINED										
			Yellow gry.	FINE TO MEDIUM GRAINED										
20			LT. GRY.	FINE TO MEDIUM GRAINED										
40	Kd			THIN-LIGHT GRY SHALE SEAM										
60			BROWN	MEDIUM GRAINED - DAMP										
			LT. GRY.	FINE GRAINED - DAMP										
80		SH	BLK	CARBO										
		SS	GRY	FINE GRAINED - CARBO - DAMP										
		SH	GREEN											
100														
120	Jmb		RED & GREEN											
		SH	Red grn	Sandy zones										
140			GRY-GREEN	SANDY										
160		SS	GRY GREEN	MEDIUM GRAINED - ARKOSIC										
		SH.	GRY GREEN					Chemical						
180	PC		GRY	MEDIUM TO COARSE GRAINED SOME SLIGHTLY DARKER GRY. STREAKS				178-80		.022				
		SS	Gray	GRADES TO FINER GRAINED THEN SHALEY				180-82		.026				
200	Jmb	SH.	RED GREEN	QUITE SANDY			2' cutting samples							
220	Jmn	SS	GRY GREEN	FINE TO MEDIUM GRAINED										
				Shaley zones										
240														
260														

Graphic Assay Solid Line - Probe: 0% .20% .60

Dotted line

Dwg No 792

Hole No 3340-1640

Section 17

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3340N-1640E	17	6960.1	Two		4-16-58	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	Dotted line Graphic Assay Solid Line - Probe 0% .20% .60
260															0
		SH Ss	GRY GREEN	ALTERNATELY GREY-GREEN SAND & SHALE 262'-295'											
280															20
300	Jmr	SH	RED-BROWN & GREEN												40
	TD 310														
320															60
340															80
360															100
120															120
140															140
160															160
180															180
200															200
220															220
240															240
260															260

Dwg No 792

Hole No 3340-1640

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
3340-1640	17	3 3	4-16-58	

Footage From	Footage To	Formation	Geology Description	Samples
124	137	Pc	Sh, , red-green, very sandy,	
137	158	Pc	Sh, gray-green, arena, limy — Sandy zone 149-151	
158	167	Pc	Ss, Gray-green, med grained, arkosic, some chert	
167	179	Pc	Sh, " " , limy, pyrite	
179	193	Pc	Ss, Gray, Shaley at top and base, med-coarse grained	
193	216	Umb	Sh, Red-green, arena, limy	
216	262	Umw	Ss, Gray-green, fine to med grained, clay galls	
262	295	Umw	Sh, gray-green, sandy zones	
295	310	Umr	Sh, Red-brown,	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3340N-1940E	17	6948.3	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	BLOW SAND										
		SS	LT. TAN GRY.	FINE GRAINED										
20														
40	Kcl			SMALL LT. GRY SM. STRINGER										
60														
		SH	DK. GRY	CARBO.										
		SS	DK. GRY	FINE GRAINED - CARBO.										
		SH	LT. GRY.											
80		SS	GRY	FINE GRAINED										
		SH.	GRY GREEN											
100	Jmb													
			REDDISH BROWN	SANDY										
120			GRY GREEN											
		SH												
			REDDISH BROWN											
			GRY GREEN											
140		SS	GRY GREEN	FINE TO MEDIUM GRAINED										
				Some shaley zones										
			LT. GRY	MEDIUM GRAINED										
160	PC	SH	LT. GRY GREEN	SMALL AMT. RED-BROWN SHALE 159'-160'										
				SANDY - SMALL SEAM RED-BROWN SHALE										
				SLIGHT GREEN TINT										
		SS		MEDIUM TO COARSE GRAINED										
			Gray	SOME SLIGHTLY DARKER STREAKS										
180														
	Jmb	SH.	RED-BROWN	SANDY										
			RED-BROWN	LT GRAY GREEN - LESS SAND										
			LT. GRY GREEN											
				SANDY 196-198										
200	TD 200													
220														
240														
260														

Chemical

172-174	Nil
174-76	.007
176-78	.011
178-80	.014
180-82	.018

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

Dwg No 192

Hole No. 3340-1940
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
3340-1940	17	2 2	4-16-58	

Footage From	Footage To	Formation	Geology: Description	Samples
135	137	PC	Sh, gray green, limy	
137	152	"	Ss, " ", fine to med grained, shaley zones,	
152	155	"	Ss, lt gray, med grained, clay galls	
155	171	"	Sh, lt. " - green, limy, sandy zones, Red-brown 159-160	
171	185	"	Ss, lt green, arkosic, med to coarse grains, clay galls	
185	200	Vm b	Sh, Red-brown top 3', lower part gray green — sandy zones	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3340N-2240E	17	6943.3	1 of 2		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
0			BROWN	BLOW SAND										
		SS	TAN TO GRY	FINE TO MEDIUM GRAINED										
20														
40	Kd	SH	LT. GRY											
		SS	LT. GRY	FINE GRAINED										
60														
		SH	BLK.	CARBO.										
80		SS	YELLOW TAN OR PINK	FINE GRAINED										
				FINE GRAINED-CARBO										
			LT. GRY.	FINE GRAINED										
		SH.	GRY. GREEN											
100	Jmb													
120														
		SS	LT. GRY. GREEN	FINE GRAINED										
140														
	PC		LT. GRY.	MEDIUM GRAINED										
160		SH.	GRY. GREEN											
				MINOR AMT. REDDISH SHALE WITH GRY. GREEN SH. SOME SAND - MORE RED AT 168-174										
				FINE GRAINED										
		SS	GRYSH GRN	177-188 SLIGHTLY DARKER-MEDIUM GRAINED										
180				182-184 - SHALEY										
			RED GRY.	MEDIUM GRAINED - DAMP										
				190'-193' SLIGHTLY DARKER										
				SLIGHTLY FINER GRAINED										
200	Jmb	SH	PURPLE GREY GREEN	1' PURPLE SHALE										
				SLIGHT PURPLE TINT - SLIGHTLY SANDY										
				SMALL AMT. DK. GRY										
	TD													
	207													
220														
240														
260														

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

Samples Taken

No.	Chemical	
	181-83	.014
	183-85	.007
	189-91	.017
	191-93	.016
	193-96	.011

Dwg No. 792

Hole No. 3340-2240
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
3340-2240	17	2 of 2	4/17/58	RRB

Footage From	Footage To	Formation	Geology Description	Samples
130	138	PC	Ss, lt. gry-green, fine grained, arkosic, green dy galls, minor ls.	
138	146	″	″, lt. gry, fine to medium grained, green dy galls, lmy, cht.	
146	154	″	″, ″ ″, medium grained, slightly pebbley, lmy, cht, slightly pyritic.	
154	159	″	″, ″ ″, ″ ″ ″ ″ ″ ″ ″ small amt. fine red sand.	
159	166	″	Sh, lt. gry-green, arena	
166	168	″	″ ″ ″ ″, small amt. red shl., minor sand.	
168	174	″	″ ″ ″ ″, red-brn.	
174	177	″	Ss, lt. gry-green, fine grained, green dy.	
177	182	″	″, ″ ″, medium grained, lmy, cht, slightly-pyritic	
182	184	″	″ ″ ″ ″ ″ ″ ″ ″ ″ ″ shly.	
184	190	″	″ ″ ″ ″ ″ ″ ″ ″ ″ ″.	
190	193	″	″ ″ ″ ″, slightly dker, med. gr., ″ ″ ″ ″	
193	197	″	″ ″, ″ ″, fine to medium grained, ″ ″ ″ ″	
197	207	Jm b	Sh, gry-green, arena, slightly pyritic, minor cht & lm.	

Hole No.	Sec.	Elevation	Page of Pages	No Insets	Date	Logged by
3340N - 2540E	17	6937.9	1 2	One	4-17-58	RRB

Geology: Footage, Formation, Type of Rock, Color, Description, Diagnostic Features, Geiger, Samples Taken

Probe: Depth, Reading, Scale

Scaler: Foot Interval, Assay, Graphic log, Description

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

Footage	Formation	Type of Rock	Color	Description
0			BROWN	Blow sand
		SS	BROWN	Medium to coarse
20				
		SH	GRY	
		SS	TAN	FINE GRAINED
40	KA		GRY	coarse
		SH	DK GRY	
		SS	LT TAN TO GRY	Fine grained
60				
			DK GRY	coarse VERY THIN SEAM BLK CARBO SH.
80			LT GRY	Medium grained
		SH	LT GRY GREEN	
100	Vmb			
		SS	LT gray green	Shaley
		SH	"	Sandy layers
		SS	"	MEDIUM GRAINED
120				
140			LT GRY GREEN	Medium grained
		SH		
160			LT GRY GREEN	
	PC	SS		Shaley zones
180		SH	LT GRY GREEN	GRADATIONAL SHALEY TO SANDY AND BACK
	Vmb			
			LT GRY GREEN	MEDIUM GRAINED
200	Vmw	SS		
		SH	LT GRY GREEN	ARGILLA
		SS		
		TD 210		
220				
240				
260				

2 cutting samples

Dwg No 792

Hole No 3340-2540

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
3340-2540	17	2 2	4/17/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
150	156	PC	SH, lt. gry-green; green cly galls.	
156	159	"	Ss, " " " , fine to medium grained, lmy, cht.	
159	161	"	Sh, " " " , u/arena, lmy.	
161	164	"	Ss, " " " , fine grained, green cly.	
164	167	"	Sh, " " " , u/arena.	
167	171	"	Ss, " " " , fine grained, green cly.	
171	174	"	Sh, " " " , u/arena	
174	177	"	Ss, " " " , fine grained, " "	
177	192	Jmb	Sh, " " " , u/arena, slightly pyritic, lmy.	
192	203	Jmw	Ss, " " " , fine to medium grained, lmy.	
203	206	Jmw	Sh, lt. gry-green, arena, lmy, minor cht.	
206	210	Jmw	Ss-Sh, " " " " "	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3340N-2840E	17	6934.1	ONE 3		4-17-58	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	LT. TAN	MEDIUM GRAINED										
			LT GRY	MEDIUM GRAINED										
		SH	GRAY											
20		SS	LT GRY TO TAN	MEDIUM GRAINED										
	Kd													
40			TAN	FINE GRAINED										
		SH	DK GRY	CARBO.										
60		SS	DK GRY	CARBO. - MINOR SEAMS CARBO. SHALE										
		SH	GRY. GREEN											
80														
100	Jmb		RED & GREEN											
			GRY GREEN											
120		SS	LT. GRY GREEN	MEDIUM GRAINED										
140			LT GRY	MEDIUM GRAINED										
				FINE TO MEDIUM GRAINED - MINOR AMT. CHERT & LIME										
160	PC													
				SLIGHTLY SHALEY										
		SH	GRY GREEN											
180			GRY GREEN	SOME RED - FINE GRAINED										
		SS												
			LT GRY	FINE GRAINED - MINOR LIME - VERY DENSE										
200			Med GRY	MEDIUM GRAINED										
		SH	PURPLE											
	Jmb	SH	GRY GREEN											
220														
	Jmb	SS	GRY GREEN	MEDIUM GRAINED										
240														
260														

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

N - Cutting Spud Pts

Dwg No. 792

Hole No. 3340-2840
Section 17

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3340N-2840E	17	6934.1	Two 3		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
260														
	Jmm	SH	vry-gr	Arena										
280 20		SS	LT GRAY GREEN	ALTERNATING SHALEY-SAND SOME lime & chert										
			Red-green mottled	LIME-MUD										
300 40	Jmm	SH												
		SS	RED-BROWN	FINE GRAINED										
	TD 303													
60														
80														
100														
120														
140														
160														
180														
200														
220														
240														
260														

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

Dwg No 792

Hole No. 3340-2840
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
3340N-2840E	17	3 of 3	4/17/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
120	126	PC	Ss, lt. gry-green, fine grained, arkosic, green cly galls, slightly lmy.	
126	130	PC	Ss, lt gry, medium grained, cht, lmy, minor pyrite	
130	136	PC	Ss, ✓ ✓ ✓ ✓ w/ stringers lt gry-green sh.	
136	146	PC	Ss, ✓ ✓ ✓ ✓, cht, lm, slightly pyritic, small amt. v/fine red sand, green cly galls.	
146	156	PC	Ss, ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ v/ shly.	
156	158	PC	Ss, ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
158	161	PC	Sh, lt. gry-green, v/ arena.	
161	169	PC	Ss, ✓ ✓ ✓, fine to medium grained, lmy, cht, pyritic.	
169	183	PC	Sh, ✓ ✓ ✓, v/ arena, ✓ ✓	
183	189	PC	Ss, lt. gry-green, fine grained, shly, green cly galls	
189	197	PC	Ss, lt. gry, fine grained, minor lm, very dense.	
197	205	PC	Ss, medium gry, medium grained, ✓ ✓ ✓, cht, calcite, pyrite.	
205	209	J_{m_b}	Sh. purple, arena.	
209	218	✓	Sh, Gry-green, arena.	
218	223	J_{m_w}	Ss, Gry-green, medium grained, cht, lm, pyrite	
223	233	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
233	243	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
243	253	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
253	270	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
270	275	✓	Sh, ✓ ✓, arena, ✓ ✓ ✓	
275	283	✓	Ss, ✓ ✓, medium grained, ✓ ✓ ✓	
283	293	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓, shly.	
293	299	J_{m_r}	Sh, Red, green, brown — limy	
299	303	✓	SS Red-brown - fine grained	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3340N-4040E	17	6899.2	One 3	One	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			Brn	Blow sand										
20		Ss	Lt. tan	Fine to medium grained										
			Lt. gry to tan	↙ ↙										
40														
			Yellow Tan	↙ ↙										
	Kd													
60			Dk gry	Alternating gry Ss & carbo SH.										
			gry	50-50										
80														
		SH	Gry green	Arena										
100														
		Ss	gry-green	medium grained										
120														
		SH	↙ ↙	w/ sandy stringers										
	Jmb													
140														
160														
180														
			Lt. gry green	fine to medium grained										
200		Ss												
							N' cutting samples							
220	pC													
		sh	Lt. gray green	Arena										
240		Ss	↙ ↙	Fine to medium										
260														

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

Hole No 3340-4040
Section 17

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3340N-4040E	17	6899.2	Two 3	One	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
260														
	Vmb	SH	Lt. gry green	u/arena										
280 ~~20~~														
		SS	" " "	Med.										
300 ~~40~~														
320 ~~60~~														
	Jmu	Sh	" "	arena										
340 ~~80~~		SS	Lt gray green	Med grain										
360 ~~100~~														
	Jmf	SH	Red-brn Gry-green											
	TD 376													

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

Dwg No 792

Hole No 3340-4040
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
3340-4040	17	3 3	4/22/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
185	192	Jmb	Sh – green-gray, very arena	
192	195	PC	Ss, lt gry-green, green cly galls, fine grained, shly	
195	200	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ arkosic	
200	208	✓	✓ ✓ ✓ ✓, fine grained w/medium pebbles, green cly galls, sty ls, wht calcite	
208	214	✓	✓ ✓ ✓ ✓, ✓ ✓, shly, lmy.	
214	226	✓	✓, lt. gry, arkosic	
226	238	✓	SH, lt. gry-green, arena, lmy.	
238	246	✓	Ss, ✓ ✓ ✓, fine grained arkosic, green cly galls	
246	254	✓	✓, ✓ ✓ ✓, ✓ ✓, shly, lmy	
254	264	✓	✓, ✓ ✓, arkosic, lmy, cht, green cly galls	
264	274	Jmb	SH, lt. gry-green, w/arena, pyritic, lmy.	
274	296	Jmw	Ss, ✓ ✓ ✓, arkosic, ✓ ✓, wht cht, medium grained	
296	323		✓, ✓ ✓ ✓, pebbley, ✓ ✓ ✓ ✓, ✓ ✓	
323	328	✓	SH, ✓ ✓ ✓, w/arena, ✓ ✓ ✓ ✓	
328	336	✓	Ss, ✓ ✓ ✓, arkosic, ✓ ✓ ✓ ✓ ✓ ✓	
336	346	✓	✓, ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓, pink & wht calcite	
346	364	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
364	376	Jmr	SH, Red-brn & gry-green, w/arena	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3940 N-1040E	17	6976.4	ONE 3	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	SLOW SAND										
		SS	LT TAN TO GRAY	FINE GRAINED										
20														
40	Kd													
60		SH	GRY	ARENA.										
		SS	GRY	FINE GRAINED										
		SH	DK GRAY	CARBO										
		SS	TAN	FINE GRAINED										
80			GRY	CARBO FINE GRAINED										
		SH	GRY GREEN	ARENA.										
100														
	Jmb													
120		SS	GRY GREEN	MEDIUM GRAINED.										
		SH	GRY GREEN	ARENA.										
140														
		SS	LT GRY	FINE TO MEDIUM GRAINED										
				ARKOSIC										
			GRY	GREEN CLY GALLS										
160		SH	GREEN	ARENA										
		SS	LT GRY GREEN	MEDIUM GRAINED- MINOR LIME-CHERT										
			LT GRY	MEDIUM GRAINED										
180	PC													
		SH.	GRY GREEN	ARENA.										
		SS	LT GRY	MEDIUM TO COARSE - SOME LIME										
200														
				SLIGHTLY DARKER										
220		SH.	GRY GREEN	ARENA. - SAND STRINGERS										
	Jmb													
240														
		SS	GRY GREEN	MEDIUM GRAINED										
260														

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

N. Cutting Samples

Chemical	
209-11	.009
211-13	.011
213-15	.014
215-17	.002

Dwg No 792

Hole No. 3940-1040
Section 17

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3940N - 1090E	17	6976.4	TWO 3		4-19-58	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	Dotted line Graphic Assay Solid Line - Probe 0% .20% .60
260															0
280 20	JMR	SH.	RED & GREEN	VERY ARENA.											20
	TD. 290														
300 40															40
60															60
80															80
100															100
120															120
140															140
160															160
180															180
200															200
220															220
240															240
260															260

Dwg No. 792

Hole No. 3940-1090

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
3940N-1040E	17	3 3	4-19-58	RRB

Footage From	Footage To	Formation	Geology Description	Samples
145	157	PC	SS - LT. GRY. Fine to medium Grained - ARKOSIC - GREEN CLAY GALLS - PINK CALCITE	
157	161	PC	SH - ARENA - GRY GREEN - SLIGHTLY PYRITIC	
161	171	PC	SS LIGHT GRY-GREEN - MEDIUM GRAINED - MINOR GRY LS - BRN CHERT	
171	185	PC	SS - LT. GRY - MEDIUM TO COARSE - SOME LS	
185	192	PC	SH. - GRY GREEN - ARENA	
192	210	PC	SS. - MEDIUM TO CRSE GRAINED - SOME GRY LS - LT. GRY	
210	218	PC	SS - " " " " " " - MEDIUM GRY	
218	240	Jm b	SH. - GRY GREEN - ARENA	
240	275	Jm w	SS - GRY GREEN - MEDIUM GRAINED - ARKOSIC	
275	290	Jm R	SH. GREEN w/ RED-BRN MUDSTONE - VERY ARENA	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3940N-1340E	17	6967.2	1 — 2		4-18-58	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. TAN TO LT. GRY.	FINE TO MEDIUM GRAINED										
20														
40	Kc			THIN GRY SHALE SEAM										
			YELLOW TAN	MEDIUM GRAINED										
		SH.	GRY.											
60		SS	YELLOW TAN	MEDIUM GRAINED										
		SH	DK. GRY	CARBO.										
		SS	GRY											
			DK GRY	CARBO.										
80		SH.	LT GRY GREEN											
100	Jmb													
120				SLIGHT REDDISH TINT.										
140		SS	LT. GRY GREEN	SHALEY. MEDIUM GRAINED										
			LT. GRY	MEDIUM GRAINED										
160		SH		THIN GRY GREEN SHALE SEAM										
		SS												
	PC	SH.	LT. GRY GREEN + RED					Chemical						
180								206-08	.014					
								208-10	.021					
		SS	LT. GRY	FINE GRAINED										
				MEDIUM GRAINED · SLIGHTLY DARKER										
200				MEDIUM TO COARSE GRAINED										
	Jmb	SH.	GRY GREEN + RED - RED											
220														
	TD 224													
240														
260														

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

Scaler Assay: N — 1 Inch = 5 Counts

Dotted line Graphic Assay Solid Line - Probe

Dwg No. 792

Hole No. 3940-1340

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
3940-1340	17	2 — 2	4/18/58	RRB.

Footage From	Footage To	Formation	Geology: Description	Samples
138	144	PC	Ss, lt. gry-green, fine grained, arkosic, green cly galls, slightly shly.	
144	145	"	Sh, " " " , u/arena.	
145	151	"	Ss, " " ; fine to medium grained, slightly lmy, minor cht.	
151	157	"	" , " " , medium grained, slightly pebbley, ls, cht, mud.	
157	161	"	" , " " , " " " " " " " , small amt. pyrite	
161	164	"	Sh, lt. gry-green, u/arena.	
164	174	"	Ss, fine to medium grained, slightly pebbley, lmy, cht, green cly galls.	
174	180	"	Sh, lt. gry-green, arena.	
180	186	"	" , " " " & red-brn, arena.	
186	190	"	Ss, lt. gry-green, fine grained, arkosic, green cly galls.	
190	200	"	" , lt. gry, medium grained, green cly galls, slightly pyritic, minor lm. cht.	
200	209	"	" , slightly darker gry, medium to crse grained, pyritic, lmy, cht, green cly.	
209	212	Smb	Sh, gry-green, arena, small whl. cht. frags.	
212	216	"	" , " " & red-brn.	
216	224	"	" , " " , arena, slightly pyritic.	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3940 N-1640 E	17	6957.3	1 2	One	4-18-58	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	GLOW SAND										
			LT. TAN TO LT. GRY.	FINE GRAINED										
20														
40	Kd													
		SH	GRY											
60		SS	BROWN TAN	MEDIUM GRAINED										
			DK GRY.	CARBO - FINE GRAINED										
80			TAN	FINE GRAINED										
		SH	DK.	CARBO										
		SS	GRY	MEDIUM GRAINED										
100		SH	LT GRY GREEN											
120	Jmb													
140			RED & GREEN											
			GRY GREEN											
		SS	VERY LT GRY GREEN	FINE TO MEDIUM GRAINED										
160														
180	PC													
		SH.	LT GRY GREEN											
			RED & GREEN											
200		SS	LT. GRY GREEN	FINE GRAINED										
220	Jmb	sh	lt gray	Arena										
	TD 226													
240														
260														

Chemical

195-97	.023
197-99	.029
199-201	.031
201-03	.025

N

2' cutting samples

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

Hole No 3940-1640
Section 17

Dwg No 792

Hole No.	Sec.	Page of Pages	Date	Logged by
3940-1640	17	2 2	4/18/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
152	154	PC	SS Fine grained, light gry-green, arkosic, green cly galls	
154	158	✓	Ss, fine to medium grained, lmy, slightly pyritic, lt. gry.	
158	162	✓	✓, ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓, shly.	
162	166	✓	✓, ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓.	
166	176	✓	✓, medium grained, pebbley, u/lmy., slightly pyritic, lt. gry, cht.	
176	184	✓	✓, ✓ ✓ ✓, calcite; ls, lt. gry, minor cht.	
184	189	✓	✓, medium to crse grained, pebbley, slightly darker gry, slightly pyritic, limonite.	
189	192	✓	Sh, lt. gry-green, u/arena, slightly pyritic, slightly lmy.	
192	196	✓	Sh, lt. gry-green & red-brn, u/arena.	
196	202	✓	Ss, lt. gry, minor amt. darker gry streaks, medium to crse grained, slightly pyritic, cht, lmy.	
202	208	✓	Ss, lt. gry, medium grained, slightly pebbley, cht, minor pyrite, slightly lmy.	
208	214	✓	✓, ✓ ✓, fine to medium grained, cht, lmy, calcite, green cly galls	
214	225	J_{m_b}	Sh, lt. gry-green, u/arena, slightly pyritic, lmy, minor cht. frags.	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3940N-1940E	17	6945.9	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
0			Brown	Blow sand										
		SS	LT TAN TO LT GRY	Fine grained										
20														
40	Kd													
		SH	GRY											
		SS	YELLOW TAN	MEDIUM GRAINED										
60			Tan	Fine grained										
			DK gry	CARBO. - FINE TO MEDIUM GRAINED										
80			TAN	MEDIUM GRAINED										
		SH.	GRY											
			DK GRY	carbo.										
		SS.	DK gry	Fine grained										
100		SH.	GRY. GREEN											
120	Jmb													
				ROSEY TINT										
140		SS.	LT gry GREEN	Fine grained										
160				MEDIUM GRAINED										
	PC													
180		SH.	LT. GRY GREEN											
			RED-GREEN											
		SS.	LT GRY GREEN	MEDIUM GRAINED										
200														
		SH.	RED & GREEN											
220	Jmb		LT. GRY GREEN											
			RED-GREEN											
			LT GRY GREEN											
	230													
240														
260														

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

2" cutting samples

Dwg No 792

Hole No 3940-1940
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
3940-1940	17	2 2	4/17/58	RRB

Footage From	Footage To	Formation	Description	Samples
137	141	PC	Ss, lt. gry-green, fine grained, arkosic, green dy galls.	
141	147	"	", lt. gry, fine grained, slightly pebbley, " " ", cht, lmy.	
147	153	"	", ", ", fo medium grained, " " " " "	
153	155	"	Sh, lt. gry-green, w/ arena, lmy.	
155	159	"	Ss, " " ", fine grained, arkosic, " " ".	
159	162	"	Sh, " " ", w/ arena, lmy.	
162	167	"	Ss, " " ", fine grained, arkosic, " " ".	
167	170	"	Sh, " " ", w/ arena, lmy.	
170	178	"	Ss, fine to medium grained, ", cht, green dy galls.	
178	188	"	Sh, lt. gry-green, arena	
188	195	"	", " " " & red-brn.	
195	200	"	Ss, " " ", fine grained, " " " ", lmy.	
200	210	"	", lt. gry, fine to medium grained, minor ls, cht, slightly pyritic, green dy.	
210	216	Jmb	Sh, lt. gry-green & red-brn	
216	222	"	", " " ", arena	
222	225	"	", " " " & red-brn	
225	230	"	", " " ", arena, slightly pyritic	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3940N-2240E	17	6940.0	One 3	One	4/18/58	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										
		Ss	Tan to lt. gry	Fine to medium grained										
20														
40														
	kd													
		Sh	Gry											
		Ss	Tan to gry	Medium grained										
60														
		Sh	Dk. gry	Arena										
		Ss	Med. gry	Medium grained										
80														
		Sh	Dk. gry	Carbo										
		Ss	" "	" Fine grained										
		Sh.	Lt. gry-green	Arena										
100														
	Jmb													
120														
		Ss	Lt. gry	Fine grained										
140														
		Ss	Lt. gry-green to Lt. gry	Fine to medium grained green cly gals										
160														
	pC													
180		Sh	Lt. gry-green	Arena										
		Ss	Lt. gry	Fine grained										
200														
		Sh	Lt. gry-green	Arena										
220														
	Jmb			Shly.- fine to medium grained										
240		Ss	Lt gry to grn											
	Jm w													
260		Sh												

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

Nicholas Stamos

Dwg No. 792

Hole No. 3940-2240
Section 17

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3940 N-2240 E	17	6940.0	Two 3	One	4/18/58	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
260		sh	Lt. grey green	Arena										
		ss	" "	Med grn										
		sh	" "	Arena										
280 ~~20~~	Jmw	ss	" "	Med grain										
300 ~~40~~	Jmr	sh	Lt gry-green + red	Arena										
320 ~~60~~	TD 315													

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

Footage: 260, 280, 300, 320, 80, 100, 120, 140, 160, 180, 200, 220, 240, 260

Graphic log: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 220, 240, 260

Dwg No 192

Hole No 3940-2240

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
3946-2240	17	3 — 3	4/18/58	RRB

Footage From	Footage To	Formation	Description	Samples
140	148	PC	Ss, fine grained, lt. gry-green, u/shly, green cly galls	
148	150	"	" " " " " " , arkosic, " " "	
150	152	"	" , " " " " " , u/shly, " " "	
152	161	"	" , fine to medium grained, lt. gry, lmy, cht, pink & white calcite, green cly.	
161	171	"	" , " grained, lt. gry-green, u/shly, green cly galls, ls, cht, slightly pyritic	
171	178	"	" , " to medium grained, lt. gry, lmy, cht., calcite, green cly.	
178	190	"	Sh, lt. gry-green, arena, slightly lmy, slightly pyritic.	
190	194	"	Ss, fine grained, lt. gry-green, arkosic, green cly galls.	
194	200	"	" , fine to medium grained, lt. gry, lmy, cht, calcite, small amt. u/fine redsand.	
200	208	"	" , " " " " " " " " " " " " " " , green cly.	
208	238	J_{mb}	Sh, gry-green, u/arena, slightly lmy, slightly pyritic.	
238	240	J_{mb}	Ss, " " , medium grained, " , " " , wht. cht, shly.	
240	248	"	" , " " , " " , " , wht cht, slightly shly	
248	259	"	" , " " , " " , " , " " , calcite	
259	265	"	SH, " " , u/arena, , " , " " , "	
265	269	"	Ss, " " , fine to medium grained, lmy, pyritic, wht. cht.	
269	274	"	SH, " " ,	
284	298	"	Ss, " " , " " " " " " " "	
298	310	J_{mR}	Sh, gry-green, u/arena	
310	315	"	" , " " & red-brn.	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3940N-2540E	17	6937.6	1 2		4-18-58	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										
20														
		SS	LT. TAN TO GRAY	FINE GRAINED										
40	Kd	SH	GRY											
		SS	BROWN TAN											
		SH	DK GRAY LT. GRAY	CARBO										
60		SS	TAN TO GRAY											
		SH	GRAY GREEN											
80		SS	LT. GRAY GREEN	MEDIUM GRAINED										
	Jmb													
100		SH	LT GRAY GREEN											
120		SS	LT GRY GREEN	MEDIUM GRAINED - GRY-GREEN CLAY GALLS										
140	PC													
160		SH	GRAY GREEN											
		SS	LT GRAY	MEDIUM GRAINED										
180														
		SH	LT gray green	ARGILLA										
200	Jmb			SOME RED SH.										
				SANDY - SOME RED.										
220	TD 215													
240														
260														

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

Samples Taken, N

Dwg No. 792

Hole No. 3940-2540
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
3940N-2540E	17	2 2	4/21/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
121	131	PC	Ss, lt. gry. green, medium grained, very shaley, green clay galls.	
131	135	✓	✓, lt. gry-green, fine grained, about 50-50 shl, ✓ ✓ ✓	
135	141	✓	✓, ✓ ✓ ✓, ✓ ✓, w/ shly, minor ls., ✓ ✓ ✓	
141	146	✓	✓, ✓ ✓, medium grained, flesh & green chert, lmy.	
146	150	✓	✓, ✓ ✓, ✓ ✓, pebbley, lmy, cht, pink & white calcite	
150	156	✓	✓, ✓ ✓, ✓ ✓, w/ crse pebbles, ✓ ✓ ✓ ✓ ✓	
156	162	✓	✓, ✓ ✓, ✓ ✓, pebbley, ✓ ✓ ✓ ✓ ✓, green cly galls	
162	170	✓	Sh, grey-green, lmy, arena.	
170	178	✓	Ss, lt gry-green, arkosic, fine grained, green cly galls	
178	185	✓	✓, lt. gry, fine to medium grained, pebbley, lmy, cht.	
185	198	J_{mb}	Sh, lt. gry-green, arena, slightly pyritic, some cht.	
198	214	✓	Sh, ✓ ✓ ✓, w/ sandy altern, ✓, ✓ ✓	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3940N-3140E	17	6919.0	1 2		4-18-58	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	BLOW SAND											
	Kd	SS	TAN TO LT. GRY.	FINE GRAINED											
				THIN SEAM GRY SHALE											
20															
40															
60															
				THIN SEAM BLK. CARBO. SHALE											
		SH.	BLK	CARBO.											
		SS	Yellow TAN	MEDIUM GRAINED											
80		SS	DK GRY.	FINE GRAINED - FEW SMALL PARTICLES PYRITE											
		SH.	LT. GRY GREEN												
100															
	Jmb														
120				THIN SEAM GRY SHALE											
		SS	LT. GRY GREEN	FINE TO MEDIUM GRAINED											
140		Sh	GRY GREEN	LIMEY - MINOR SAND WITH CHERT											
160		SS	LT. GRY	FINE GRAINED											
				FINE TO MEDIUM GRAINED											
180															
	PC														
200			DK GRY TO GRY GREEN	SANDY - LIME											
		Sh	GRY GREEN	MINOR SAND											
220		SS	LT GRY	FINE TO MEDIUM GRAINED											
		Sh	RED & GREEN SHALE												
240	Jmb														
	TD 241														
260															

N, cutting sample

Dwg No 792

Hole No. 3940-3140
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
3940N-3140E	17	2 2	4/21/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
156	162	PC	SS Lt. gry-green, fine grained, arkosic.	
162	168	PC	SS Lt gry, medium grained, pebbly, small amt. gry ls., minor chert.	
168	178	PC	SS Lt. gry, medium grained, pebbly, small amt. gry. ls., minor chert & pyrite	
178	190	PC	SS Lt. gry-green, fine grained, arkosic	
190	200	PC	SS " " " " " , minor amt. pebbles ls. gry, brn. chert.	
200	211	PC	Gry to gry-green shale, very arena, pyritic.	
211	220	PC	Ss, lt. gry, Fine to medium grained, ls., pink calcite.	
220	227	PC	" " " " " " " " , brn. chert.	
227	241	J_{m_b}	Shale, red & green, very arena.	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged By
3940N-3440E	17	6910±1	One 3	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										
		Ss	lt tan to lt gry	Fine grained										
20														
40	Rd													
60														
		SH	Gry	Slightly carbo										
		Ss	yellow-Brn	medium grained										
		SH	DK gry	carbo										
		Ss	gry	medium grained										
80		SH	DK gry	carbo										
		Ss	DK gry	medium grained, slightly carbo.										
		SH.	gry-green	arena										
100	Jmb													
120														
		Ss	lt. gry-green	fine grained, arkosic, greenish gy silt										
140			lt. gry	" " , slightly pebbly, lt. calc										
			" "	medium " , " " " " , cly										
		SH.	gry-green	arena										
160			lt. gry-green	"										
		Ss	lt. gry-green	fine grained, arkosic, greenish gy silt										
180			lt. gry	Fine to medium grained w/ large pebbles, lt. pink & wht calcite, lht.										
			" "	medium grained w/ few large pebbles, lt. pink & wht calcite, flesh & green lht.										
200	PC													
		SH.	Gry-green	v/ arena										
220			lt. gry green	arena, slightly pyritic										
			" "	" " " , wht. lht										
		Ss	lt. gry green	medium grained, arkosic, " "										
240		SH.	lt. gry green	arena, slightly pyritic, minor clay whitecap.										
	Jmb													
260														

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

2 - cutting samples

Dwg No 192

Hole No 3940-3440
Section 17

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
3940N-3440E	11	6910.1	Two 3	One	4/14/58	KKL

Geology								Probe			Scaler				
Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Depth	Reading	Scale	Foot Interval	Assay	Graphic log	Description	Dotted line Graphic Assay Solid Line - Probe 0% .20% .60
260	Jmb	SS	lt. grey	medium grained, arkosic, whl. chl., lmy											
280 20															
300 40	Jmd														
320 60															
340 80	JMR	SH	Red & green	arena, arg mud											
	TD 3A?														

Dwg No 792

Hole No. 3940-3440

Section 11

Inset Sheet

Hole No	Sec.	Page of Pages	Date	Logged by
3940-3440	17	3 3	4/19/58	RRB

Footage From	Footage To	Formation	Geology Description	Samples
130	136	Jmb	SS. Lt. gry-green, fine grained, green cly galls	
136	142	✓	SS. Lt. gry, fine grained, slightly pebbley, ls, cht	
142	151	✓	SS. ✓ ✓ med ✓ , ✓ ✓ ✓ ✓	
151	160	✓	SH, gry-green, arena	
160	164	✓	✓, lt. gry-green, arena (ab 50-50)	
164	170	✓	✓ ✓ ✓ ✓, 50-50 ss.sh	
170	178	PC	SS, lt. gry-green, fine grained, arkosic, green cly galls	
178	192	✓	✓ ✓ ✓, fine to medium grained w/crse pebbles, ls, pink & wht. calcite, cht.	
192	207	✓	✓ ✓ ✓, medium grained w/few crse pebbles, ls, calcite, flesh & green cht	
207	217	✓	SH, gry-green, u/arena	
217	225	✓	✓, lt. gry-green, arena, slightly pyritic	
225	235	✓	SS, lt. gry-green, medium grained, arkosic, wht. cht	
235	264	Jmb	SH, ✓ ✓ ✓, u/arena, slightly pyritic, minor wht. cht. frags	
264	337	Jmw	SS, lt. gry, medium grained, arkosic, wht. cht, minor lmy streaks, u/uniform for so thick	
337	347	JmR	SH, Gry-green & red-brn, arena	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
4540N-1640E	17	6944.3	1 3		4/23/58	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										
		Ss	lt. tan to lt. gry	fine grained										
20														
40														
60	Kd													
80		SH	Gry	Arena										
		Ss	"	fine grained										
		SH.	Blk	carbo										
		SH	Gry	carbo										
100		Ss	Gry	medium grained										
		SH.	Gry-Green	Arena										
120	Umb													
		Ss	lt. gry	Fine-grained, arkosic, green cly galls										
140			" "	Med, " , pebbly, lsy, chts, green cly galls										
			" "	" " " " " , pink. chlorite										
			" "	" " , crse " " " "										
160			" "	" " , med. " " " " "										
		SH.	Gry-green	very sandy, lmy.										
180														
		Ss	lt. gry	fine to medium grained, lmy, chl, chlorite										
200			" "	m. to grained, lmy, crse pebbles, green cly galls										
			" "	" " " " " " " " " , pink coated										
	Pc													
220		SH.	Gry-Green	v, arena, v/lmy, slightly pyritic										
		Ss	lt. gry	med. grained, crse pebbles, lmy, slightly pyritic.										
240			Slightly drk	" " " " " " "										
			lt. gry	" " " " " " " , green cl. galls.										
	Umb	SH	Gry-green	v/arena, v/lmy, slightly pyritic										
260														

Probe: Graphic log — Dotted line; Description — Graphic Assay; Solid Line - Probe; 0% .20% .60

2" cutting samples

DWG NO 192

Hole No 4540-1640

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
#4540-1640	17	3 3	4/23/58	RRB

Footage From	Footage To	Formation	Geology Description	Samples
134	140	J_{mb}	Ss, fine grained, arkosic, green cly gall, lt. gry,	
140	146	✓	✓, med ✓, pebbley, ls, cht, green cly galls, lt. gry	
146	150	✓	✓ ✓ ✓ ✓ ✓ ✓, pink calcite ✓ ✓	
150	156	✓	✓ ✓ ✓, w/crse pebbles, ls, cht, pink calcite, lt. gry	
156	170	✓	✓ ✓ ✓ ✓ med ✓ ✓ ✓ ✓ ✓, ✓ ✓	
170	191	✓	SH, gry-green, v/arena, v/lmy, slightly pyritic	
191	196	P_c	Ss, lt. gry, fine to medium grained, lmy, cht, calcite	
196	206	✓	✓ ✓ ✓, medium grained w/crse pebbles, lmy, green cly galls.	
206	220	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ pink calcite.	
220	230	✓	SH, gry-green, v/arena, v/lmy, slightly pyritic	
230	238	✓	Ss, lt. gry, medium grained, crse pebbles, lmy, slightly pyritic	
238	244	✓	Ss, slightly dkr gry, med. ✓ ✓ ✓ ✓ ✓ ✓	
244	249	✓	✓, lt. gry, ✓ ✓ ✓ ✓ ✓ ✓ ✓	
249	280	J_{mb}	SH, gry-green, v/arena, v/lmy, slightly pyritic	
280	288	J_{mw}	Ss, lt. gry, fine grained, arkosic, wht. cht, pyritic	
288	299	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓, lmy	
299	310	✓	✓ ✓ ✓ med ✓ ✓ ✓ ✓ ✓ ✓ ✓	
310	315	J_{mR}	SH, gry-green & red-brn, v/arena. red mud	
315	320	✓	SH-Ss	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
4540N-1640E	17		2 3			

Geology								Probe			Scaler				
Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Depth	Reading	Scale	Foot Interval	Assay	Graphic log	Description	Dotted line Graphic Assay Solid Line - Probe 0% .20% .60
260		SH	Gry-Green	Arena, lmy, slightly pyritic											
	Umb														
280 ~~240~~															
	Imb	SS	M.Gry	fine grained, jrkosic											
			" "	" " " , lmy											
			" "	med, " " "											
300 ~~40~~															
	Umr?	SH	Gy-Green	very arena, red mud											
320 ~~60~~		SS													
	TD 320														

0 20 40 60 80 100 120 140 160 180 200 220 240 260

Dwg No. 792

Hole No. 4540-1640

Section 17

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	L
4540N-1940E	17	6941.2	1 2	One	4-22-58	RRD

OFFSET 5' S

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														
60	Ko													
		SH	Gray	Arena										
		Ss	Yellow-brn to Gry	fine to med. grained										
80														
		SH	dk gry	carbo										
		Ss	dk gry	" , fine to medium grained										
100														
		SH.	Gry-green	Arena.										
120														
	Jmb													
				w/ sandy 130'-135'										
140														
160		SS	lt gry to lt gry-green	fine to medium grained (INSET)										
180														
200	PC													
220				Shaley layers										
240														
	Jmb	SH	lt gry-green	Arena										
260	TD 258													

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

2 cutting samples

Hole No. 4540-1940
Section 17

JMS No. 792

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
4540N-1940E	17	2 2	4/22/58	RRB

Footage From	Footage To	Formation	Geology Description	Samples
160	164	Jm	Sh, gray green, limy	
164	170	PC	Ss, fine grained, lt. gry-green, pebbly, shly, lmy, cht., green cly galls	
170	180	PC	Ss, fine to medium grained, lt. gry, lmy, cht.	
180	184	PC	Ss, medium grained, lt. gry, pebbly, ls, cht, calcite.	
184	190	PC	Ss, " " " " " crse ls, cht, calcite.	
190	196	PC	" " " " " " " " " " , green cly galls	
196	204	PC	" " " " " " " " " " , slightly pyritic	
204	212	PC	", fine to medium grained, lt. gry, green cly galls.	
212	216	PC	", " " " " " " " " , shly	
216	222	PC	", " " " " " " " " "	
222	230	PC	", medium grained, lt. gry (slightly dkr.), crse pebbles, ls, calcite, slightly pyritic	
230	245	PC	" " " " " " " " " " , green cly galls	
245	250	PC	", fine to medium grained, lt. gry-green, " " " " " " "	
250	266	Jm	Sh, gry-green, arena, white chert, pyrites	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
4540N-2540N	17	6940.3	1 2	One	4/22/58	RRD

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	Tan	Fine grained										
20			H. gry	Fine grained										
40	Kd													
60		Sh.	Gry	Arena										
		Ss	Tan to Brn	medium grained										
80			Gry	" "										
			Dk Gry	" " , Carbo										
		Sh.	Lt. Gry green	Arena										
100														
120	Jmb													
140		Ss	H gry	Fine to medium grained - pebbly										
160														
180	pc													
		Sh	gry green	Arena										
200		Ss	Lt gray	Med grain										
220		Sh.	H. gry GREEN	Arena										
	Jmb													
	TD 236													
240														
260														

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

N, cutting samples

Dwg No 792

Hole No. ~~4540N-2540N~~
Section 11

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
4540N-2540E	17	2 2	4/22/58	BRB

Footage From	Footage To	Formation	Description	Samples
142	148	PC	Ss., lt. gry., fine grained, slightly shaley & limey, green dy. galls.	
148	155	✓	✓, ✓ ✓, ✓ ✓, medium pebbles, gry ls., calcite	
155	158	✓	✓, ✓ ✓, medium grained, crse ✓, ✓ ✓, ✓	
158	168	✓	✓, ✓ ✓, ✓ ✓ ✓ ✓, quite limey, pink & white calcite, minor cht.	
168	176	✓	✓, ✓ ✓, fine grained, crse pebbles, ls, calcite, chert	
176	186	✓	✓, ✓ ✓, ✓ ✓, medium ✓ ✓ ✓ ✓	
186	189	✓	✓, ✓ ✓, fine to medium grained, crse pebbles, gry. ls., pink & white calcite	
189	192	✓	Sh, Red-brn & gry-green, very arena.	
192	199	✓	✓, gry-green, arena	
199	206	✓	Ss, fine grained, lt. gry, medium pebbles, gry. ls., pink & white calcite	
206	212	✓	✓, fine to medium grained, light gry, medium gry ls.	
212	219	✓	✓, medium grained, crse pebbles, gry. ls., overall slightly darker gry.	
219	222	Tm ✓	Sh, red-brn & green-gry, very arena.	
222	230	✓	✓, gry-green, very arena - quite limey.	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
4540N-2840E	17	6927.1	One 3	One	4/22/58	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										
		Ss	lt. tan to lt. gry.	fine grained										
20														
40														
	Ks													
60														
		SH. Ss	Gry Yellow Brn Gry	Arena medium grained										
80														
		SH. Ss	DK Gry Gry	Carbo medium grained										
100		SH.	Gry GREEN	ARENA										
120														
	Jsd													
140														
160		Ss	lt gry to lt. gry green	fine to medium grained (Wash.)										
180														
200	PC													
		SH.	GRY GREEN	ARENA.										
220		Ss												
240														
	Jmb	SH.	Gry GREEN											
260		Ss	Gray	Arena										

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

Dotted line: Cutting water

Dwg No. 192

Hole No 4540-2840
Section 17

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
4540N-2850	17		Two 3	One	4/22/58	W.D.L.

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
260														
		SS	Gry-green	fine, Arky, green cly.										
280 ~~20~~		SS	GRY-GREEN TO GRY	FINE TO MEDIUM GRAINED - MLY.										
300 ~~40~~	Jm													
320 ~~60~~														
	Jmr		SH. GRY-GREEN + RED-BRN.	ARENA.										
340 ~~80~~	TD 340													

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

Footage: 260, 280, 300, 320, 340, 100, 120, 140, 160, 180, 200, 220, 240, 260

Dotted line: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 220, 240, 260

Dwg No 792

Hole No. 4540-2850
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
4540N-2840E	17	3 — 3	4/22/58	RRB

Footage From	Footage To	Formation	Description	Samples
161	167	PC	Ss, fine grained, arkosic, lt. gry-green, green cly galls.	
167	170	✓	✓, ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓, slightly shly.	
170	180	✓	✓, medium grained, lt. gry, lmy, cht., calcite	
180	186	✓	✓, ✓ ✓, crse pebbles, ls, cht, calcite.	
186	194	✓	✓, ✓ ✓, ✓ ✓, ✓ ✓ ✓, slightly darker gry.	
194	200	✓	✓, ✓ ✓, ✓ ✓, v/lmy, shly, ✓ ✓ ✓	
200	206	✓	✓, ✓ ✓, lt. gry, arkosic, green ~~galls~~ cly. galls	
206	213	✓	Sh, gry-green, arena	
213	216	✓	Ss., lt. gry-green, fine grained, arkosic, green cly galls	
216	218	✓	Sh, gry-green, arena	
218	223	✓	Ss, lt gry-green, fine grained, arkosic, green cly galls	
223	230	✓	Sh, gry-green, v/ sandy, lmy.	
230	237	✓	Ss, lt. gry, medium grained, slightly pebbly, ls, calcite, cht.	
237	258	J_{m_b}	Sh, gry-green, v/ARENA, white chert, slightly pyritic, grades to the sand.	
258	290	J_{m_w}	Ss, ✓ ✓, medium grained, ✓ ✓, lmy.	
290	300	✓	✓, ✓ ✓, ✓ ✓, ✓ ✓, ✓, slightly pebbley	
300	310	✓	✓, ✓ ✓, ✓ ✓, ✓ ✓ ✓ ✓ ✓	
310	328	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
328	330	J_{m_R}	Sh, gry-green, v/arena - minor Brn.	
330	340	J_{m_R}	Sh, ✓ ✓, red-brn, arena.	

Drawing No. 793

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged By
4540N-3140E	17	6925.3	1 of 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										
		Sltst	Yellow Brn											
			Gry											
		Ss	lt. gry	Very fine grained										
20			Tan gry	Very fine grained										
40														
60	Kd													
80														
		Sh	DK Gry	Carbo.										
		Ss	Gry	Fine grained										
100		Sh	DK Gry	Carbo										
		Ss	Brn-Blk	Carbo - Fine to medium gry.										
		Sh	gry-green	Arena.										
120														
140	Jmb													
160														
180		Ss	lt. gry	fine to medium grained, pebbly										
200														
220	pc													
		Sh	Gray											
240		Ss												
260														

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

2' cutting sample

Jmb 269 SH-AREN-GRY GREEN

TD 270

Hole No 4540-3140

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
4540N-3140E	17	2 2	4/21/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
184	188	PC	SF lt. gry-green, very fine grained, arkosic, green cly galls	
188	192	"	Ss, lt. gry, fine to medium grained, gry ls., pink & white " : calcite	
192	194	"	" , lt. gry-green, very shaley, fine grained	
194	202	"	" , lt. gry, very fine grained	
202	206	"	" , slightly darker gry, fine grained, crse pebbles, lt. gry ls., calcite, minor chert	
206	218	"	" , very lt. gry-green, very fine grained, arkosic	
218	230	"	" , " " " " , " " " , " , minor cht, green cly galls.	
230	238	"	" , lt gry, fine grained, medium pebbles, gry. ls., calcite	
238	250	"	" , lt. gry, medium grained, arkosic, gry ls., calcite	
250	264	"	" , " " , " . " , alternatley shaley	
264	270	Sm	shale, gry-green, very arena, small frags white chert	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
4540N-3440E	17	6917.2	1 — 1		4/21/58	KKB

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										
		Sltst	Yellow-BRN											
20		Ss	Lt. tan	Fine grained										
40														
60														
80														
		Gl	Gry	ARENA.										
		Ss	Gry	Fine grained										
		Sh	BLK	Carb.										
100		Ss	—	—										
		Ss	Gry	Fine to medium grained										
120		Sh.	Gry Green	Very Arena										
140														
160														
180	TD 170			Had to quit hole - no return on air or water										
200														
220														
240														
260														

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

Dwg No 792

Hole No: 4540-3440
Section 11

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
4540 - 3740	17	6915.5	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										
			Brn & gry	Mudstone inter w/sand										
		SS	lt. tan to gry	u/fine										
20														
				lt tan ss, lt green shl, gry mudstone inter.										
40		SS	lt. tan & lt. gry	Very fine grained										
60	Kd													
80														
		SH	Gry	Arena										
		SS	Yell Tan	Med										
100		SH	Blk	Carbo										
		SS	Dk gry	Med, slightly carbo										
		SH	Gry-green	Arena										
120														
140	Jmb													
160														
		SS	lt. gry	fine grained, arkosic, green cly			2 cutting samples							
180														
200	pC													
220														
240	Jmb	SH	gry-green	Arena										
	TD 242													
260														

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

Dwg No 792

Hole No. 4540-3740
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
4540-3740	17	2 2	4/21/58	RR13

Footage From	Footage To	Formation	Geology: Description	Samples
172	180	PC	Ss, lt. gry-green, fine grained, arkosic, green cly galls	
180	190	"	" " " , " " w/ crse pebbles, gry ls, cht, calcite	
190	200	"	" slightly dkr gry, " " " " " " " " "	
200	215	"	" " " " " " " " " " " " "	
215	231	"	" , lt gry, w/ fine grained, arkosic, green cly galls	
231	235'	"	" " " " " " " " " "	
235'	242	Sm	SH, lt gry-green, arena,	

Hole No.	Sec.	Elevation	Page of Pages	No Insets	Date	Logged by
4540N-4040E	17	6907.6	1 of 3	One	4/25/58	RRB

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Depth	Reading	Scale	Foot Interval	Assay	Graphic log	Description
0			Brn.	Blow sand										
		Sltst.	Kakhi											
		Ss	lt. tan to lt. gry.	Fine grained										
20														
40														
	Kd	Sh.	Gry-brn	arena.										
60		Ss	lt. tan to lt. gry	Fine grained										
80														
100		Sh.	dk gry	carbo										
		Sh-Ss	gry	slightly carbo										
		Ss	gry	" " fine to medium grained										
	Sh	Sh.	gry-green	arena										
120														
140	Jmb		gry	vi arena										
			gry-green	arena										
160														
180														
		Ss	lt. gray-green	fine grained arkosic, green clay veins										
200			lt. gry.	fine grained, slightly pebbley, green clay galls, limy, greenish thin cht.										
	pc		" "	fine to medium grained, limy, fleshy green cht, calcite										
220			" "	medium grained, limy, slightly pebbly										
			" "	" " " " " slightly pyritic										
240			" "	" " " " " " " , pink and wht. calcite										
			" "	green, fine grained, arkosic, green clay galls										
			" "	medium grained, limy, calcite, cht.										
260	Jmb	Sh.	gry-green	minor frags. wht. cht., arenas, slightly pyritic										

Probe: Scaler

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

2" cuttings samples

Dwg No 792

Hole No. 4540N-4040E
Section 11

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
4540N-4040E	17	6907.6	2 of 2		4/25/58	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
260	Vmb	SH	Gry-green, w/arena, lmy, slightly pyritic											
		SS	Gry-green - medium grained, arkosic, calcitic, clay											
280 (20)														
300 (40)				medium grained, lmy, sily										
	Jmw			, arkosic										
320 (60)														
				slightly p. uniq, lmy, small bryos. wat. expert, slightly pyritic										
340 (80)														
360 (100)	Jmk	SH	Green & red	w/arena - more brn - mus to bar. bottom at bot.										
	TD 365													

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

Dwg No. 792

Hole No. ~~4540-4040~~
Section 17

Insert Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
4540-4040	17	3 — 3	4/25/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
188	190	PC	Ss, lt. gry-green, fine grained, v/shly, green cly galls	
190	198	✓	✓ ✓ ✓ ✓ ✓ ✓ arkosic, green cly galls	
198	208	✓	✓ ✓ ✓, ✓ ✓, slightly pebbley, green cly galls, lmy, green & flesh cht, calcite	
208	220	✓	Ss, lt. gry, fine to medium grained, lmy, flesh & green cht, calcite	
220	226	✓	Ss, lt gry medium grained, lmy, pebbley	
226	234	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓, slightly pyritic	
234	240	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓, pink & wht calcite	
240	246	✓	Ss, lt. gry-green, fine grained, arkosic, green cly galls	
246	253	✓	✓ ✓ ✓, medium ✓, lmy, calcite, cht	
253	268	J_{mb}	Sh, gry-green, arena., frags wht cht, lmy, pyritic	
268	280	J_{mu}	Ss, ✓ ✓, medium grained, arkosic, calcite, cht	
280	296	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
296	330	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓, lmy	
330	353	✓	✓ ✓ ✓ ✓ ✓ ✓, pebbley, lmy, small frags, wht cht, slightly pyritic	
353	365	J_{mR}	Sh, v/arena, more brn mud toward bottom, overall gry-green & red-brn	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
4540N-4340E	17	6843.0	1 2	ONE	4/25/58	KRD

Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Depth	Reading	Scale	Foot Interval	Assay	Graphic log	Description
0			Brn	Blow sand										
		SS.	lt. tan to lt. gry	fine grained										
20														
40														
60	Kd													
80														
		SH.	DK gry	carbo										
100		SS	DK. gry	fine to medium grained, slightly carbo										
		SH.	Gry-green	Arena, lmy.										
120														
	Jmb													
140														
160														
		SS	lt. gry-green	fine grained, arkosic, green cly galls										
180		SS	lt. gry	fine grained, slightly pebbley, green cly galls, lmy, cht.										
		SS	" "	fine to med grained, " " "										
200	PC	SS	" "	medium grained pebbley, lmy, flesh and green cht.										
		SS	" "	" " " " " , pink and wht. calcite										
220		SS	" "	" " " " " " slightly pyritic.										
		SS	" "	" " " " " " "										
240	Jmb			SH. gry-green, arena, slightly pyritic, small frags wht. cht.										
260	TD 256													

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

2" Drilling Sample

Dwg No 792

Hole No. 4540-4340
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
4540-4340	17	2 of 2	4/25/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
179	182	PC	SS, LT GRY-GREEN, FINE GRAINED, ARKOSIC, GREEN CLY GALLS	
182	192	"	" " " " " , pebbley, " " " , lmy, cht	
192	200	"	" " " FINE TO MEDIUM GRAINED, " " " " "	
200	216	"	" " " " " pebbley, lmy, FLESH & GREEN CHT.	
216	226	"	" " " " " " " " " " " , PINK & WHT. CALCITE	
226	234	"	" " " " " " " " " " " , SLIGHTLY PYRITIC	
234	246	"	" " " " " " " " " " " " " "	
246	256	J_{mb}	SH, GRY-GREEN, ARENA, SLIGHTLY PYRITIC, SMALL FRAGS WHT CHT	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
5140N-1040E	17	6945.6	1 3		4/23/58	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										
		SS	Lt tan to lt. gry.	Fine grained										
20														
40														
	Kd													
60														
		SH	Gry	Arena										
		SS.	"	medium grained.										
80		SH.	Dk. gry	carbo										
		SS.	gry	slightly carbo										
		SH.	Dk gry	"										
		SH	Dk gry	carbo										
100		SH.	gry green	Arena.										
120	Jmb													
40														
		SS	lt. gry-green, fine grained, v/shly, green cly galls											
60			" " " " , green cly galls											
			lt gry	fine to medium grained, pebbley, ls, cht.										
			" " " " " " " , pink calcite											
80			lt. gry-green, fine grained, arkosic, green cly galls.											
	PC		lt. gry	fine to medium grained, pebbley, lmy.										
			lt. gry " " " , crse pebbles, ls, cht, calcite											
00		SH.	Gry-green, arena											
		SS	lt. gry-green, fine grained v/shly, green cly galls											
			lt. gry, fine to medium grained, pebbley, lmy, cht, cly galls											
20			" " medium " " " " " "											
		SH.	Gry-Green, slightly pyritic											
			" " , v/arena, pyritic											
40	Jmb		" " " " , fresh & greenish, sm. amt whitish cht											
60	Jmb	SS	lt. gry-green, medium grained, slightly pyritic, lmy.											

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

Dwg No 792

Hole No. 5140-1040
Section 17

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
5140N-1040E	17	6945.6	2 of 3		4/23/58	RRB

Geology								Probe			Scaler				
Footage	Formation	Type of Rock	Color	Description	Diagnostic Features	Geiger	Samples Taken	Depth	Reading	Scale	Interval Foot	Assay	Graphic log	Description	Dotted line Graphic Assay Solid Line - Probe 0% .20% .60
260 ~~0~~															
		SS	lt. gry-green, medium grained, pebbley, lmy, wht. ht.												
	Jmus	SH	gry-green, arena, slightly pyritic												
280 ~~20~~		SS	lt. gry-green, medium grained, lmy, ht., slightly pyritic												
			" " , medium grained, lmy, pebbley, "												
		SH.	RED. Arena,												
	JmR?		Gry-green & red, arena, slightly pyritic												
300 ~~40~~			" " " " " ,												
	TD 300														

0 20 40 60 80 100 120 140 160 180 200 220 240 260

Dwg No 192

Hole No 5140-1040

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
5140N-1040E	17	3 — 3	4/23/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
150	156	PC	Ss, lt. gry-green, fine grained, u/shly, green dly galls	
156	162	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
162	176	✓	✓ ✓ ✓, fine to med ✓, pebbley, ls, cht, calcite	
176	182	✓	✓ ✓ ✓ - green, fine ✓, arkosic, green dly galls	
182	190	✓	✓ ✓ ✓, fine to med ✓, pebbley, lmy	
190	198	✓	✓ ✓ ✓, ✓ ✓ ✓, crse pebbles, ls, cht, calcite	
198	206	✓	sh, gry-green, arena	
206	212	✓	Ss lt ✓ ✓, fine grained, u/shly, green gly galls.	
212	216	✓	✓ ✓ ✓, fine to med ✓, pebbley, lmy, cht, dy galls	
216	222	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
222	226	J_{mb}	sh, grg-green, slightly pyritic	
226	234	✓	✓ ✓ ✓, u/arena, pyritic	
234	255	✓	✓ ✓ ✓ ✓ ✓, flesh & green cht, small amt wht cht	
255	264	J_{mw}	Ss, lt gry-green, medium grained, slightly pyritic, lmy	
264	272	✓	✓ ✓ ✓ ✓ ✓ ✓, pebbley ✓ CHT.	
272	275	✓	sh, ✓ ✓ ✓, arena, slightly pyritic	
275	280	✓	Ss, ✓ ✓ ✓, medium grained, lmy, cht, slightly pyritic	
280	286	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ pebbley	
286	292	J_{mR}?	sh, red-brn, arena	
292	296	✓	✓ ✓ ✓ & gry-green, arena, slightly pyritic	
296	300	✓	✓ ✓ ✓ ✓ ✓ u/arena, almost 50-50	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
5140N-1340E	17	6935.8	1 — 2	ONE	4/23/58	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			Brn	Blow sand											
		Ss	lt. tan to lt. gry.	Fine grained											
20															
40	Kd														
60															
		Sh	Gry	Arena											
		Ss	yellow Tan												
80		Sh.	Dk gry	Carbo.											
		Sh.	LT. Gry Green	Arena.											
100															
120	Jrb														
140															
			Red												
		Ss	lt. gry.	Medium grained w/ corse pebbles, cht., lmy.											
160			slightly dkr. gry some	fine red sand.											
			lt. gry	Fine to medium gr. few corse pebbles, lmy, cht, calcite											
180	PC			grained w/ corse pebbles, med. small amt. fine red sand											
		Sh.	Gry	very arena, very limey, slightly pyrite.											
200		Sh.	Gry-Green	slightly lmy,											
		Ss	lt. Gry	fine to med grained, corse pebbles, minor red sand lmy, cht., calcite											
220			slightly dkr. gry.												
	Jmb	Sh.	Gry	very lmy, quite arena											
	TD 221		Gry green	slightly lmy, arena, slightly pyritic, wht cht.											
				bottom cased											
240															
260															

2' cutting samples

Dwg No 192

Hole No 5140-1340

Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
5140-1340	17	2 — 2	4/23/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
151	162	PC	SS, LT GRY, MEDIUM GRAINED W/CRSE PEBBLES, CHT, LMY	
162	172	✓	✓, SLIGHTLY DKR GRY, MEDIUM GRAINED W/CRSE PEBBLES, CHT, LMY, SMALL AMT FINE RED SAND	
172	186	✓	✓, LT GRY, FINE TO ✓ ✓ ✓ ✓ ✓ ✓ ✓, CALCITE	
186	192	✓	✓, ✓ ✓, ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
192	199	✓	SH, GRY, U/ARENA, U/LMY, SLIGHTLY PYRITIC	
199	210	✓	✓, GRY-GREEN, V/ARENA, SLIGHTLY LMY, SLIGHTLY PYRITIC	
210	218	✓	SS, LT GRY, FINE TO MEDIUM GRAINED, CRSE PEBBLES, MINOR RED SAND, LMY, CHT, CALCITE	
218	221	✓	✓, SLIGHTLY DKR GRY, ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
221	225	Jmb	SH, GRY, U/LMY, QUITE ARENA	
225	227	✓	✓, GRY-GREEN, SLIGHTLY LMY, ARENA, SLIGHTLY PYRITIC, W/HT CHT	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
5140N-1640E	17	6927.0	1 2		4/23/58	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	Fine grained										
40			Lt Gry	" "										
60		SH	Gry	Arena.										
		SS	Brn.	Fine to med. grained										
80		SH	Gry-brn.	Arena.										
		Ss.	Gry-brn	medium grained										
100	DK	SH	Gry	Arena										
			DK Gry	Carbo										
		Ss.	Gry	Arena medium grained, slightly carbo.										
120		SH.	DK Gry	carbo										
		SS	DK Gry	carbo, medium grained										
140		SH.	Gry-Green	Arena										
160	Vnb													
180		Ss	H. gry green	fine grained, v/shly, lmy										
			Lt. gry	fine to medium grained, lmy, sdl., green cly galls										
		SH	Lt. gry-green, v/sandy											
		SS	Lt. gry - medium grained, pebbly, lmy											
			" " " " " " , pink calcite											
200	PC	SH.	Lt. Gry-Green	v/arena, lmy										
		Ss	Lt. Gry	fine grained, arkosic, green cly galls										
		SH.	Lt gry-green, arena, lmy.											
		Ss	Lt gry - fine grained, slightly pebbley, lmy											
220		SH	Lt gry-green, arena, lmy.											
		SS	Lt. gry, fine to medium grained, pebbley, chl, lmy, calcite											
		SH	Red	Arena										
			gry-green, arena, slightly pyritic											
			Red	"										
			gry-green " , " "											
240		Ss	H. gry	medium grained, pebbley, lmy, white cbt.										
			" " " " " " " " " , & green chl.											
			" " " " " " " " " " , calcite											
		sh	Lt. gry-green - arena											
260	Jnb		" " " " " , slightly pyritic											

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

TO 260

Dwg No 792

Hole No. 5140-1640
Section 11

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
5140N-1640E	17	2 2	4/23/58	RRB

Footage From	Footage To	Formation	Geology Description	Samples
178	180	PC	Ss, LT GRY-GREEN, FINE GRAINED, w/ SHLY, LMY	
180	186	✓	✓ ✓ ✓, FINE TO MED ✓, LMY, CHT, GREEN CLY GALLS	
186	189	✓	SH, LT GRY-GREEN, w/ SANDY	
189	194	✓	Ss, ✓ ✓, MEDIUM GRAINED, PEBBLEY, LMY	
194	198	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ PINK & WHT CALCITE	
198	204	✓	SH, LT GRY-GREEN, w/ ARENA, LMY	
204	211	✓	Ss, ✓ ✓ ✓, FINE GRAINED, ARKOSIC, GREEN CLY GALLS	
211	213	✓	SH, ✓ ✓ ✓, ARENA, LMY	
213	217	✓	Ss, ✓ ✓, FINE GRAINED, SLIGHTLY LMY, PEBBLEY	
217	219	✓	SH, LT GRY-GREEN, ARENA, LMY	
219	224	✓	Ss, ✓ ✓, FINE TO MEDIUM GRAINED, PEBBLEY, CHT, LMY, CALCITE	
224	226	✓	SH, RED-BRN, ARENA	
226	230	✓	SH, GRY-GREEN, ARENA, SLIGHTLY PYRITIC	
230	232	✓	✓, RED-BRN, ✓	
232	237	✓	✓, GRY-GREEN, ✓ ✓ ✓	
237	240	✓	Ss, LT GRY, MEDIUM GRAINED, PEBBLEY, LMY, WHT CHT	
240	244	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ & GREEN CHT	
244	248	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ & calcite	
248	254	Sm	SH, GRY-GREEN, ARENA	
254	260	✓	✓ ✓ ✓ ✓ ✓ SLIGHTLY PYRITIC	

Hole No	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
5140N-1940 E	11	6920.2	1 2		4/22/58	RRG

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										
		Silt	Kakhi											
20														
		Ss	lt. gry	fine grained										
40														
60														
		Sh	Gry											
	Ko	Ss	lt tan	fine grained										
80														
100														
		Sh.	Gry bk.	Carbo										
120														
		Ss	Gry	Fine to medium										
		Sh.	Gry-Green	Arena.										
140														
160	Jmb													
180		Sh & Ss	lt gray to grn											
200		Ss	lt. gry-green	fine grained, arkosic, green cly gall.										
			lt. gry	fine to medium grained, limy, green chl.										
				pebbley, calcite										
220				medium										
	PC	Sh.	Gry-Green	arenac - grades from sandy shl. to shly-sand at 250, limey, some chl.										
240		Ss		50-50										
		Ss	Gry-Green	Arena, slightly pyritic.										
		Sh												
260	TD 256													

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

← 2 cutting samples →

Dwg No 792

Hole No 5140N-1940E
Section 11

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
5140-1940	17	2 2	4/23/58	RRB

Footage From	Footage To	Formation	Geology Description	Samples
201	205	PC	SS, LT. GRY-GREEN, FINE GRAINED, ARKOSIC, GREEN CLY BALLS	
205	213	✓	✓ ✓ ✓, FINE TO MED ✓, LMY, GREEN CHT.	
213	217	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓, BERRLEY, CALCITE	
217	222	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
222	252	✓	GRY-GREEN ARENA SHL GRADING INTO SHLY SAND - LMY, SOME CHT.	
252	255	$\sqrt{m_b}$	SH, GRY-GREEN, ARENA, SLIGHTLY PYRITIC.	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
5140N-2240E	17	6941.3	1 - 3		4/24/58	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			Grn	Blow sand										
		Sltst	Kakhi											
20														
40		Ss	Lt. tan to lt. gry.	Fine grained										
60														
80	Kd													
100														
		Sh.	Gry	Arena										
		Ss	Yellowbrn.	Medium grained										
		Sh.	Blk	Carbo										
120		Ss	Dk gry brn	slightly carbo, medium grained										
140		Sh.	Gry Green	s/sandy										
160	Jmd													
180		Ss and Sh	Gray green slightly dkr. Gry green											
			Gry-Green	U/shly-fine grained, lmy										
			Gry-Green	U/sandy										
200		Ss		U/shly, fine grained, medium pebbles										
	Pc		Lt gry	fine to medium grained, coarse pebbles, ls, cht.										
				, green cly galls										
220				medium grained, arkosic, ls, cht, green cly galls										
		Sh.	Gry-green	U/arena, slightly lmy, white cht.										
				, slightly pyritic										
240														
Indefinite contact		Ss	Gry-green	fine to medium grained, sh/y, ls.										
260				medium grained, ls, cht, calcite										

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

2" Cuttings samples

Dwg No 792

Hole No 5140N-2240E
Section 17

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
5140 N-2240E	11	6941.3	2 3		4/24/58	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)
260		ss	gry	medium grained, arkosic, lmy, green-brn poly galls											
280 20		sh.	Gry-green	- arena, slightly lmy & pyritic											
	Jmw	ss	"	" "											
300 40															
		sh.	Red-Brn & green	- arena, mudstone											
	Jmr														
320 60															
	TD 320														

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

Dwg No 792

Hole No. 5140-2240

Section 11

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
5140 – 2240	17	3 3	4-24-58	

Footage From	Footage To	Formation	Geology Description	Samples
188	192	PC	Ss, Gray-green, fine grained, limy	
192	202	"	Sh, " " , arena, pyrite	
202	206	"	Ss, " " , shaly, med grained, some pebbles	
206	221	"	Ss, " " , med grained, arkosic, shaley to top, chert	
221	248	"	Sh, " " , limy, arena	
			Contact between Jmb and PC in zone of 245-55'	
248	277	?	Ss, Gray-green, med grained, calcite, shaley	
277	286	Jmb	Sh, " " , arena, pyrite, limy	
286	306	Jmb	Ss, " " , med grained, limy, chert, clay galls	
306	320	Jmb	Sh, Red-brown-green, sandy zones, pyritic	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
5140N-2540E	17	6926.1	1 – 2		4/23/58	RRB

Geology: Footage, Formation, Type of Rock, Color, Description, Diagnostic Features, Geiger, Samples Taken. Probe: Depth, Reading, Scale. Scaler: Foot Interval, Assay. Graphic log, Description. Dotted line Graphic Assay Solid Line – Probe: 0% .20% .60

Footage	Formation	Type of Rock	Color	Description
0			Brn	Blow sand
		ss	Lt. tan to lt. gry	Fine grained
20				
40				
	Kd			
60			Brn to gry brn	Medium grained
		SH.	Blk	carbo
			Gry	slightly carbo
80			Blk	carbo
			Dk gry	slightly carbo
		ss	Blk	carbo, fine grained
100		SH.	Lt. gry-green	arena-minor red stringers
120	Jmb			
140				
160		ss	lt. gry	fine grained, slightly pebbly, greenish yellow
			— —	medium grained, orange, pink, white, wht
			— —	fine grained, pebbly, greenish yellow
180	pl		— —	fine to med. grained, coarse pebbly, small amt. red, lim. white
			— —	medium grained, pebbly, limy, greenish yellow
200		SH.	gry-green	arena, slightly lim.
		ss.	lt. gry	fine grained, slightly pebbly, greenish yellow
			— —	to medium grained, pollyhedy pebbly, lt. pink, white, wht
220			— —	small amt. fine red scale
	Jmb	SH.	Gry-green-gry	arena, slight red tint
				arena, — — —
240	TD 284			
260				

Diffusing sample 2'

Dwg No 792

Hole No. 5140-2540

Section 11

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
5140-2540	17	2 — 2	4/23/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
150	162	PC	SS, LT GRY, FINE GRAINED, SLIGHTLY PEBBLEY, GREEN CLY BALLS	
162	170	"	" " " , MED " , ARKOSIC, PINK & WHT CALCITE	
170	176	"	" " " , FINE PEBBLES, GREEN CLY BALLS	
176	186	"	" " " , FINE TO MEDIUM GRAINED W/ CRSE PEBBLES, SMALL AMT FINE RED SAND	
186	194	"	SS, MED GRA, PEB, LMY, GREEN CLY	
194	209	"	SH, DK-GREEN, ARENA, SLIGHTLY LMY	
209	214	"	SS, LT GRY, FINE GRAINED, SLIGHTLY PEBBY LS, GREEN CLY	
214	223	"	" " " " TO MED, " " , PINK & WHT CALCITE, SMALL AMT FINE RED SAND	
223	226	Jm	SH, GRY, ARENA, SLIGHT RED TINT	
226	230	"	" , GRY-GREEN "	
230	234	"	" , " " , " " "	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
5140N - 3140E	17	6912.1	1 - 2	One	4/24/58	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										
		SS	Lt. tan to Lt. gry.	Fine grained										
20														
40														
60	Kd													
80		SH	Gry	Arena. slightly carbo										
		SS	Lt brn	fine grained										
		SH	grey	Arena										
		SS	Gry	fine grained										
100		SH	Dk gry	Carbo										
		SS	Dk gry	medium grained, carbo										
		SH	Gry green	Arena										
120														
	Jmb													
140														
160														
		SS	gry-green	Fine grained, arkosic, green sy gals										
180				to medium grained, slightly pebbly Ls, cht.										
				slightly pyritic, lmy, flesh & green cht.										
200	PC			medium grained, pebbly, lmy, flesh and green cht., pink & wht. calcite										
220														
		SH	gry-green	some red arena										
240		SS	lt. gry	Fine grained, arkosic, green sy gals										
				to medium grained, lmy, cht., calcite										
				small amt. fine red sand										
260	Smb	SH	gry-green	Arena, white cht. frags, slightly pyritic										

2' cutting samples

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

TD 263 Aug 1958

Hole No 5140-3140
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
5140-3140	17	2 — 2	4/24/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
170	178	PC	SS, LT. GRY-GREEN, FINE GRAINED, ARKOSIC, GREEN CLY GALLS	
178	188	PC	SS, LT. GRY-GREEN, FINE TO MEDIUM GRAINED, SLIGHTLY PEBBLEY, LS, CHT.	
188	208	PC	SS, 〃 〃 〃 〃 〃 〃 〃, CRSE PEBBLES, SLIGHTLY PYRITIC, LMY,	
			FLESH & GREEN CHT.	
208	230	PC	SS, MEDIUM GRAINED, PEBBLEY, LMY, FLESH & GREEN CHT, PINK & WHT CALCITE	
230	240	PC	SH, GRY-GREEN. MINOR RED, ARENA	
240	246	PC	SS, LT. GRY, FINE GRAINED, ARKOSIC, GREEN CLY GALLS	
246	250	PC	SS, 〃 〃, 〃 TO MED, LMY, CHT, CALCITE	
250	256	PC	SS 〃 〃 〃 〃 〃 〃 〃, SMALL AMT FINE RED SAND	
256	263	Jmb	SH, GRY-GREEN, ARENA, WHT CHT FRAGS, SLIGHTLY PYRITIC.	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
5140N-3440E	17	6907.9	1 of 3	ONE	4/24/58	RRW

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										
		Sltst	Kakhi											
20		Ss	Lt. tan to lt. gry	Fine grained										
40														
60	Ks													
80														
		Sh	Gry.	Arena.										
		Ss	drn	Medium grained										
		Sh	Gry	Slightly carbo										
100		Ss	Gry	" " , medium grained										
		Sh.	Dk Gry	Carbo										
		Ss	Dk Gry	Slightly carbo.										
		Sh.	Green	Arena										
120			Gry-Green	"										
140	Jmb													
160														
180		Ss	lt. gry-green	Fine grained, arkosic, green cly galls.										
			lt. gry	Fine to medium grained, slightly imy, cht.										
			" "	" " , pebbly, " " , calcit.										
200			" "	Medium grained, imy, flesh & green cht, green cly galls.										
	Pu		" "	Fine " , " " " " " " "										
220			" "	" " to medium grained " " " " " "										
		Sh.	gry-green	Arena, imy.										
240		Ss.	" "	Fine grained, arkosic, green cly galls.										
			lt. gry	" to medium grained, cht, imy, slightly pyritic										
260	Jmb sh		lt. gry-green	Arena, wht. cht, slightly pyritic										

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

2" cutting samples

Dwg No 792

Hole No. 5140-3440
Section 11

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
5140N-3440E	17	6907.9	2 3		4/24/58	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
260														
		SH	gry-green, lmy, arena, slightly pyritic											
280 ~~20~~														
	JMW	SS	dry-green, medium grained, arkosic, wht. cht., slightly pyritic, cly.											
			lt. gry	lmy										
300 ~~40~~														
			pink & white calcite											
				med grained, slightly pebbly, lo. calcite										
				green-brn sly										
320 ~~60~~		SH.	Green & red, arena., red-brn mud											
	JMR?	SS		slmy										
	TD 330													

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

Dwg No. 792

Hole No. 5140-3440
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
5140-3440	17	3 3	4/24/58	RRB

Footage From	Footage To	Formation	Description	Samples
176	184	PC	SS, LT GRY-GREEN, FINE GRAINED, ARKOSIC, GREEN CLY GALLS	
184	192	✓	✓, ✓ ✓, FINE TO MED ✓ , LMY, CALCITE	
192	198	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ PEBBLEY	
198	212	✓	✓ ✓ ✓ ✓ ✓ ✓ , FLESH & GREEN CHT, GREEN CLY GALLS	
212	226	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
226	232	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
232	241	✓	SH, GRY-GREEN, W/ ARENA, ✓	
241	248	✓	SS, ✓ ✓ , FINE GRAINED, ARKOSIC, GREEN CLY GALLS	
248	259	I	SS, LT GRY, FINE TO MED ✓ , CHT, LMY, SLIGHTLY PYRITIC	
259	264	J_{mb}	SH, GRY-GREEN, ARENA, WHT CHT, SLIGHTLY PYRITIC	
264	284	✓	✓ ✓ ✓ ✓ , LMY, ✓ ✓	
284	292	J_{mw}	SS, LT GRY-GREEN, MEDIUM GRAINED, ARKOSIC, WHT CHT, SLIGHTLY PYRITIC, CLY.	
292	300	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ , LMY	
300	308	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ PINK & WHT CALCITE	
308	312	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ PEBBLEY, LS, CALCITE	
312	317	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ , GREEN & BRN CLY	
317	323	J_{mR}?	SH, GRY-GREEN & RED BRN, ARENA, MUCH RED-BRN MUD	
323	330	✓	SS, ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ , FINE GRAINED, LMY	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
5140N-3740E	11	6906.4	1 of 2	ONE	4/24/58	RKL

Geology: Footage | Formation | Type of Rock | Color | Description | Diagnostic Features | Geiger | Samples Taken. Probe: Depth | Reading | Scale. Scaler: Foot Interval | Assay. Graphic log | Description | Dotted line Graphic Assay, Solid Line - Probe (0% .20% .60)

Formation	Type of Rock	Color	Description	Samples Taken
		Brn	Blow sand	
	Siltst	Kakhi & Gry		
	Ss.	Lt tan to Lt grey	Fine grained	
			Thin grey shl seam	
Kd				
		Gry	slightly carbo	
	SH	Dk gry	carbo	
	Ss	Gry	Medium grained, slightly carbo	
	SH.	Gry-green	Arena	
Jmb		Gry	—	
		Gry green	—	
		Gry	—	
		Gry green & red	—	
	Ss	Gry-green	fine grained, arkosic, green cly gall, minor chl pebbles	2 CUTTING SAMPLES (to 276)
		Lt gry	— — — — — —	
			— — —, "	
		— —	fine grained, medium pebbles, lmy, — —	
		— —	— —, arkosic, lmy.	
		slightly gry — —	medium grained	
		— —	— —, pebbley, lmy, chl.	
		— —	— — — — — —, slightly pyritic	
pC		— —	— —, cros — — — — —	
		slightly chl	— — — — — —	
	SH		Gry-green Arena	
			— — green Arena	
			— — Arena	
	Ss	Lt. grq.	Fine grained, chl, lmy, pink & white [illegible]	
			— — — — — — — —	

264 Jmb — SH., gry-green-arena, slightly lmy, slightly pyritic

No. 792

TD 276

Hole No. 5140N-3740E

Section 11

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
5140-3740	17	2 of 2	4/24/58	RRB

Footage From	Footage To	Formation	Geology Description	Samples
189	184	PC	SS, LT GRY-GREEN, FINE GRAINED, ARKOSIC, GREEN CLY GALLS, MINOR CHT PEBBLES	
184	198	✓	✓ LT GRY, ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
198	203	✓	✓ ✓ ✓ ✓ ✓ MEDIUM PEBBLES, LMY, GREEN CLY GALLS	
203	207	✓	✓ ✓ ✓ ✓ ✓ ARKOSIC ✓	
207	210	✓	✓ SLIGHTLY DKR GRY, ~~[illegible]~~ MEDIUM GRAINED	
210	216	✓	✓ LT GRY, ✓ ✓ PEBBLEY, LMY, CHT	
216	224	✓	✓ ✓ ✓ ✓ ✓ CRSE PEBB, ✓ ✓, SLIGHTLY PYRITIC	
224	230	✓	✓ SLIGHTLY DKR GRY ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
230	235	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
235	238		SH, GRY-GREEN, ARENA	
238	240	✓	✓ ✓ ✓ & RED-BRN, ARENA	
240	245	✓	✓ ✓ ✓ ✓	
245	264	✓	SS, LT GRY, FINE GRAINED, LMY, CHT, PINK & WHT CALCITE	
264	276	J_{m_b}	SH, GRY-GREEN, SLIGHTLY LMY, SLIGHTLY PYRITIC, ARENA	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
5140N-4040E	17	6903.2	1 2		4/25/58	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										
		Sltst	Kaki											
20		Ss	lt. tan to lt. gry	Fine grained										
40														
60	Ka													
80														
100		Sh	gry	Arena										
		Sh	dk gry	Carbo										
		Ss	gry	fine to medium grained slightly carbo										
120		Sh	gry-green	Arena										
140														
160	Jmb													
180			Rec gry grn											
		Ss	lt. gry green	fine grained, arkosic, green cly galls										
200		Sh	lt gry green	arena										
		Ss		, fine grained, arkosic, green cly galls										
		Sh		, arena										
		Ss		, fine grained,										
220			lt. gry	fine grained, lmy, minor ch. cht.										
	pc			to medium grained, slightly pebbly, slightly pyritic, minor ch. cht, calcite, lt.										
240		Sh	lt. gry-green	arena, some red tint.										
				fine grained, arkosic, green cly galls.										
			lt. gry	fine to medium grained, slightly pebbley, slightly pyritic, minor ch cht, calcite, lt.										
260		Ss												
265														
276														

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

Z - CUTTING SAMPLES

Dag. No 192
Jmb 265-276 - gry-green sltst., arena, slightly pyritic, minor white cht. trags.

TD 276

Hole No 5140-4040
Section 17

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
5140-4040	17	2 2	4/25/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
190	201	PC	SS, LT GRY-GREEN, FINE GRAINED, ARKOSIC, GREEN CLY GALLS.	
201	204	✓	SH, ✓ ✓ ✓, U/ARENA	
204	209	✓	SS, ✓ ✓ ✓, FINE GRAINED, ✓ ✓ ✓ ✓	
209	218	✓	✓, LT GRY, ✓ ✓, MINOR DK CHT.	
218	228	✓	✓ ✓ ✓, FINE TO MEDIUM GRAINED, SLIGHTLY PEBBLEY, SLIGHTLY PYRITIC, MINOR DK CHT, CALCITE, LS.	
228	238	✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
238	245	✓	SH, LT GRY-GREEN, U/ARENA, SLIGHT RED TINT	
245	252	✓	SS, ✓ ✓ ✓, FINE GRAINED, ARKOSIC, GREEN CLY GALLS	
252	265	✓	SS, LT GRY, FINE TO MED GRAINED, SLIGHTLY PEBBLEY, SLIGHTLY PYRITIC, MINOR DK CHT, CALCITE, LS.	
265	276	J_{mb}	SH, GRY-GREEN, SLIGHTLY PYRITIC, MINOR WHT CHT FRAGS.	

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
5140N - 4340E	17	6898.6	1 of 3	ONE	4/25/58	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										
		SH	Kohbi & gry											
20		SS	lt. tan to lt. gry	fine grained										
40														
60	Kd													
80														
		SH	gry	arena										
100			Blk	carbo										
		SS	DK gry	slightly carbo, fine to med grained										
		SH	Gry-grn	arena, lmy, micac										
120														
140														
	Jmb													
160														
180														
		SS	lt. gry-grn	fin. grained, arkosic, poorly sort gall										
200			lt. gry	fine to medium grained, pebbly, lmy, slt. micac										
220	PC													
240		SH	lt. gry-grn	arena, lmy, slt.										
			lt. gry-grn	fin. grained, arkosic, poorly sort gall										
260		SS												

Dotted line Graphic Assay Solid Line - Probe

0% .20% .60

Dwg No 792

Hole No. 5140-4340

Section 11

Hole No.	Sec.	Elevation	Page of Pages	No. Insets	Date	Logged by
5140N-4340E	17		2 3		4/25/58	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
260	PC	SS	lt. gry	fine to medium grained, pebbly, [illegible] calcite.											
		SH	gry-green	arena, whl. chl. frags, slightly pyritic, imy.											
	Jmb														
280															
20	TD 281														
40															
60															
80															
100															
120															
140															
160															
180															
200															
220															
240															
260															

Dwg No 792

Hole No 5140-4340

Section 11

Inset Sheet

Hole No.	Sec.	Page of Pages	Date	Logged by
5140-4340	17	3 — 3	4/25/58	RRB

Footage From	Footage To	Formation	Geology: Description	Samples
194	202	PC	SS, FINE GRAINED, LT GRY-GREEN, ARKOSIC, GREEN CLY GALLS.	
202	236	✓	✓, FINE TO MEDIUM GRAINED, LT GRY, PEBBLEY, LMY, CHT, CALCITE	
236	247	✓	SH, GRY-GREEN, U/ARENA, LMY, CHT.	
247	260	✓	SS, FINE GRAINED, LT GRY-GREEN, ARKOSIC, GREEN CLY GALLS	
260	265	✓	✓, ✓ TO MEDIUM GRAINED, LT GRY, PEBBLEY, LS, CALCITE	
265	281	J_{m_b}	SH, GRY-GREEN, ARENA, WHT CHT FRAGS, SLIGHTLY PYRITIC, LMY.	

Log-Master Services, Inc.
ENID, OKLAHOMA

Type of Survey: GAMMA RAY - RESISTANCE

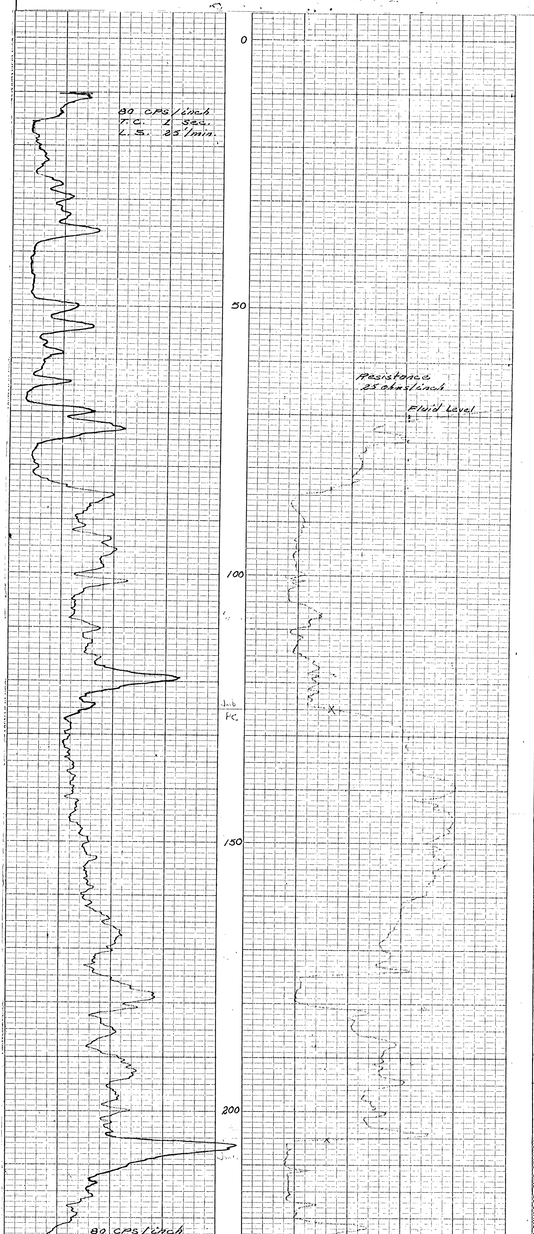
Well	#940-2840
Field	--
Company	Westvaco
Location	Sec. 17-T13N-R9W
County	McKinley
State	New Mexico

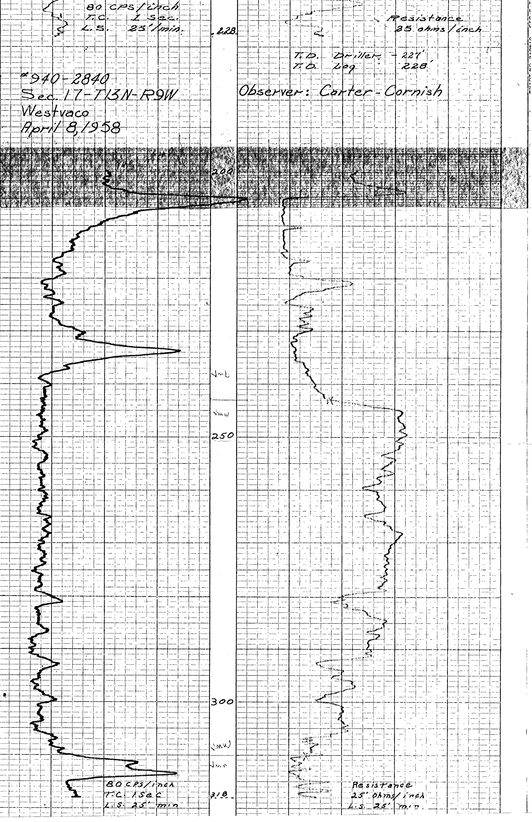
Well	#940-2840
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17-T13N-R9W
Date	April 8, 1958

Depth Datum	Ground Level	Elev.	6987.9
Bottom Depth: Log	228'	Driller	
Size Hole	4 3/4" to T.D.		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

Remarks: Scintillation Probe Model AMS-200 Serial No. 101
Crystal Size 3"x15"
Calibration Source No. 2
Truck No. 101

Date: April 8, 1958 Observer: Carter - Carnish





Log-Master Services, Inc.
ENID, OKLAHOMA

Well: 4540-2540
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec. 17, T13N-R9W
Date: April 21, 1958

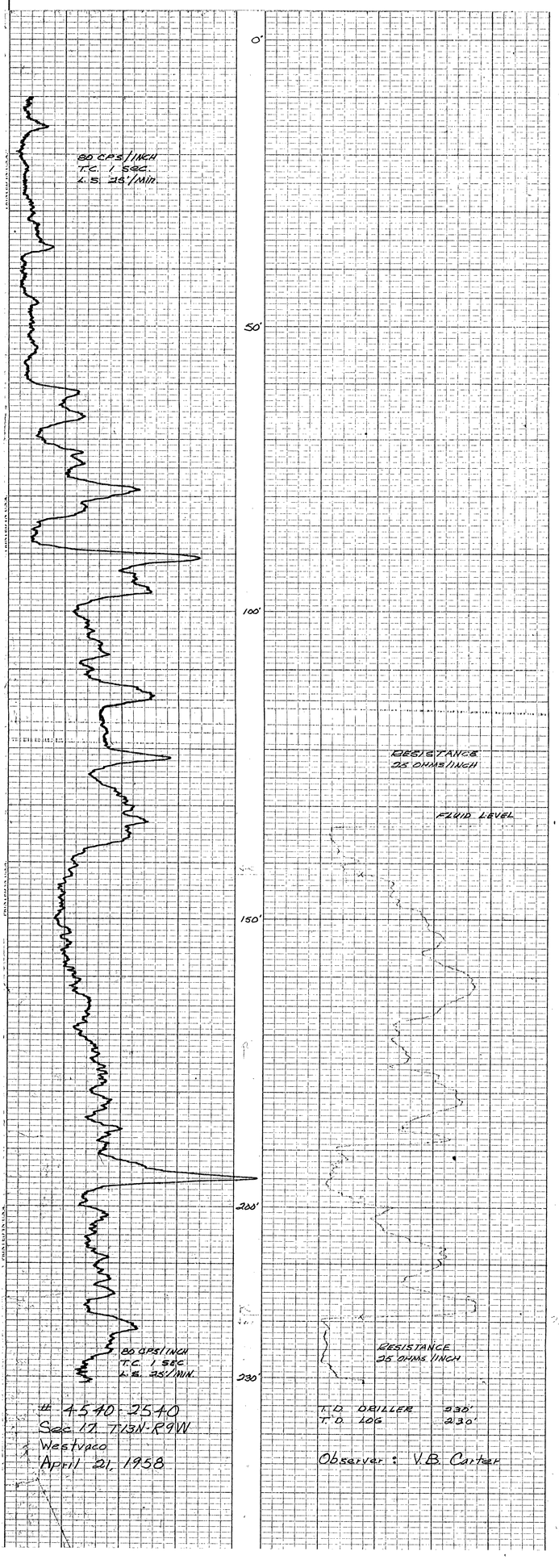
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	4540-2540
Field	—
Company	Westvaco
Location	Sec. 17, T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6940
Bottom Depth: Log	230'	Driller	230'
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" - 2"
Calibration Source No. 2
Truck No. 101

Date: April 21, 1958 Observer: V.B. Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

Well	4540-2840
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17 T13N-R9W
Date	April 22, 1958

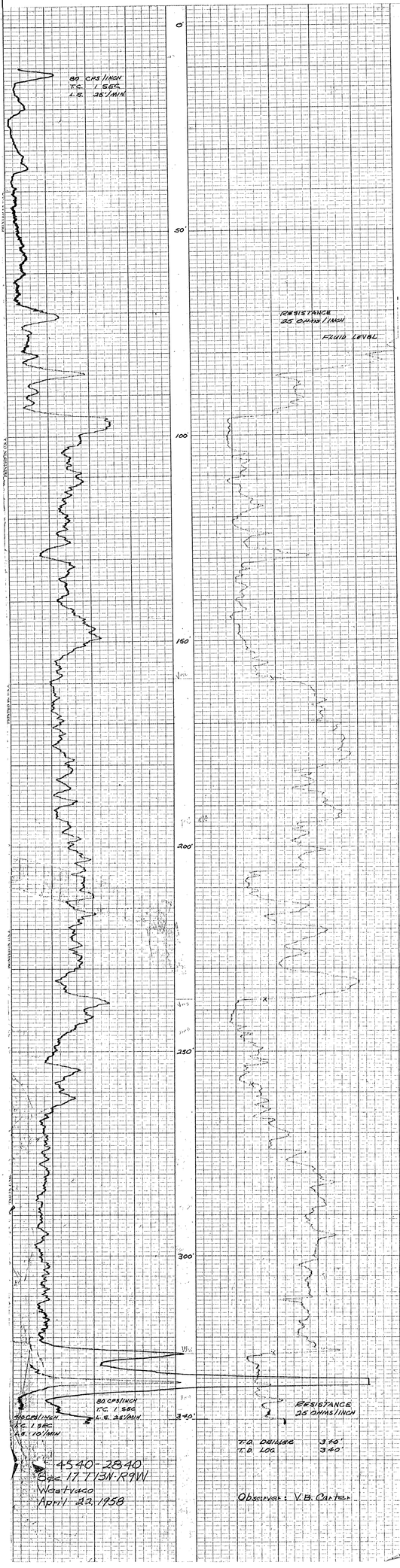
Type of Survey: GAMMA RAY - RESISTANCE

Well	4540-2840
Field	---
Company	Westvaco
Location	Sec. 17 T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6327
Bottom Depth: Log	340'	Driller	340'
Size Hole	4 1/2"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

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

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



Log-Master Services, Inc.
ENID, OKLAHOMA

Well	4540-3140
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17 T13N-R9W
Date	April 21, 1958

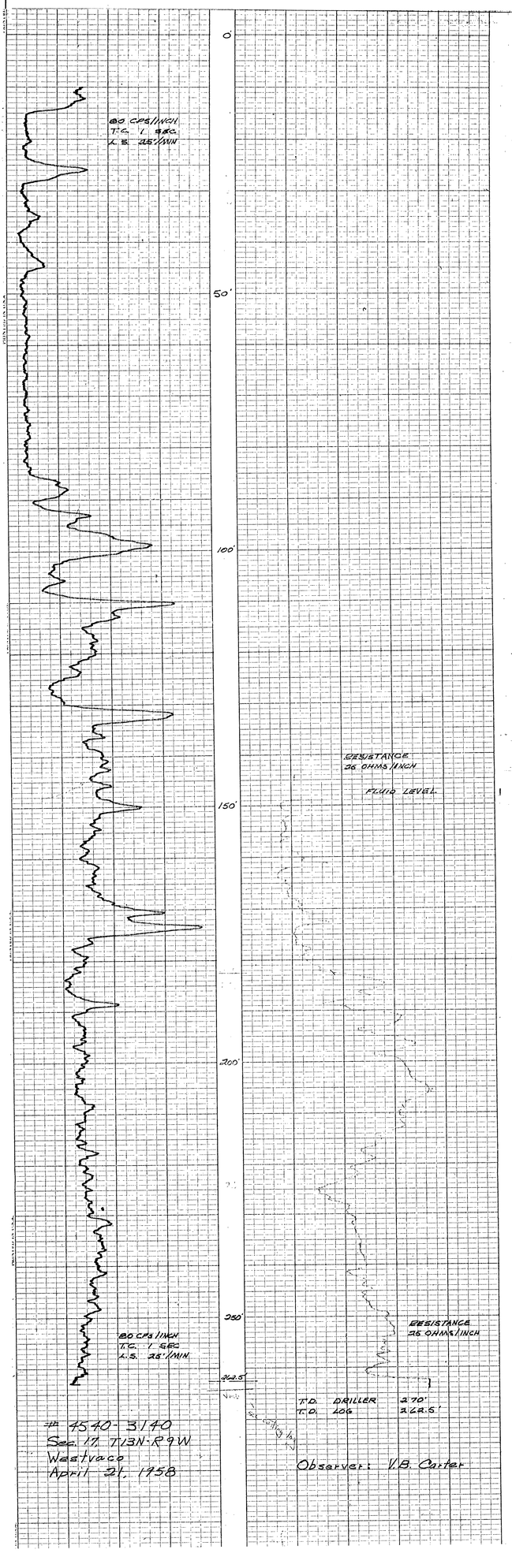
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	4540-3140
Field	—
Company	Westvaco
Location	Sec. 17 T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6925
Bottom Depth: Log	262.5'	Driller	270'
Size Hole	4 1/2"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

Remarks:
Scintillation Probe Model XMS-202, Serial 101
Crystal Size 3/4"-3"
Calibration Source No. 2
Truck No. 101

Date: April 21, 1958 Observer: V.B. Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

Well: 4540-3440
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec. 17 T13N-R9W
Date: April 21, 1958

TYPE OF SURVEY: GAMMA-RAY RESISTANCE

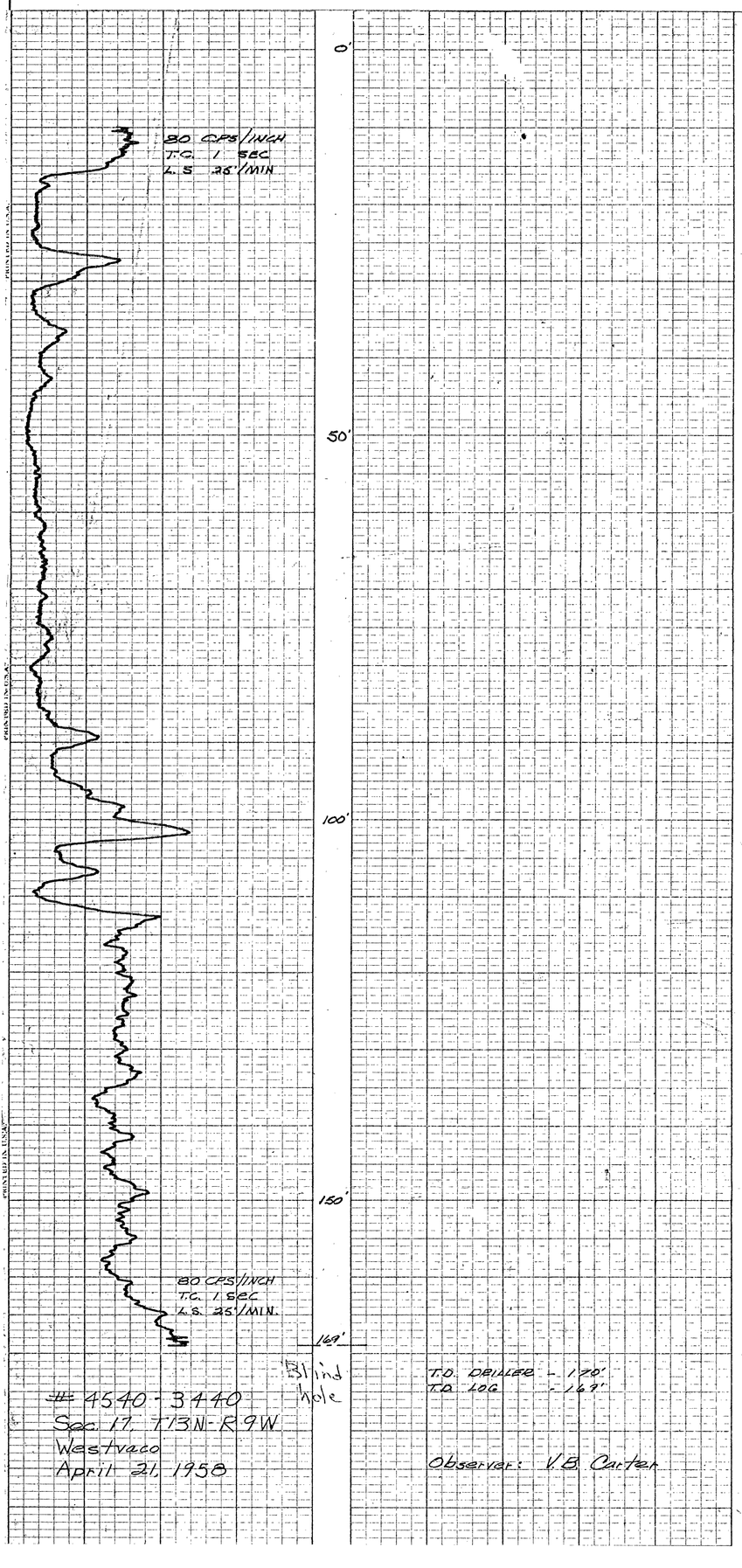
Well	4540-3440
Field	—
Company	Westvaco
Location	Sec. 17, T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6917
Bottom Depth: Log	169'	Driller	170'
Size Hole	4½"		
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

Hole Contained No Fluid

Date: April 21, 1958 Observer: V.B. Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

Well 4540-3740
Company Westvaco
County McKinley
State New Mexico
Location Sec. 17 T13N-R9W
Date April 19, 1958

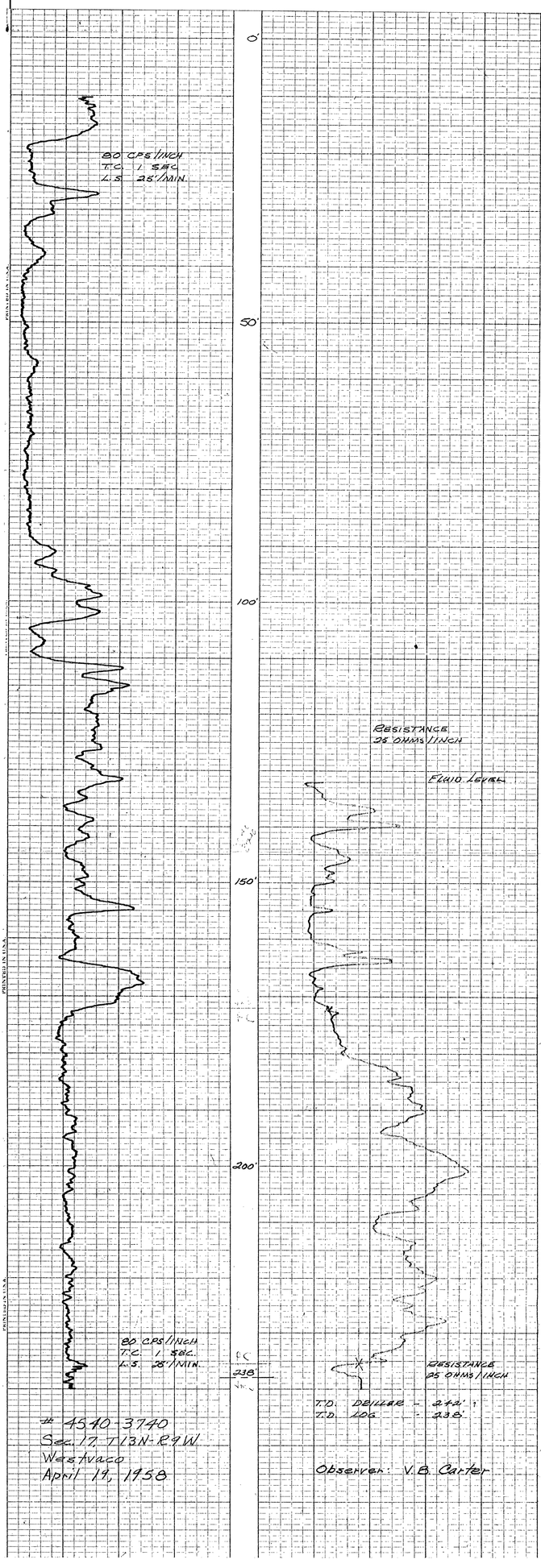
TYPE OF SURVEY GAMMA RAY - RESISTANCE

Well 4540 - 3740
Field —
Company Westvaco
Location Sec. 17 T13N-R9W
County McKinley
State New Mexico

Depth Datum Ground Level — Elev. 6920
Bottom Depth: Log 238' — Driller 242'
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

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



Log-Master Services, Inc.
ENID, OKLAHOMA

Well: 4540-5040
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec. 17, T13N-R9W
Date: April 25, 1958

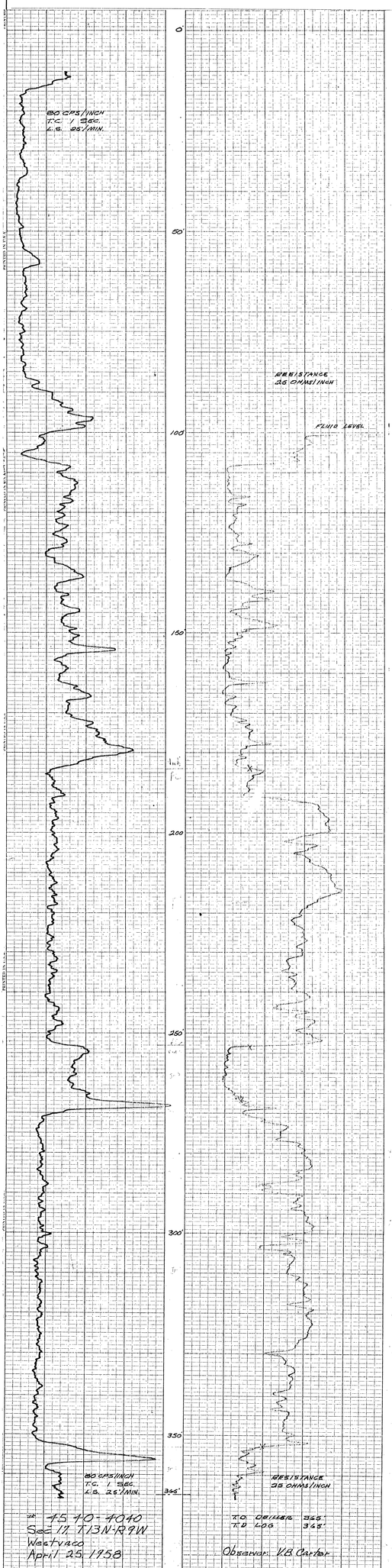
Title of Survey: GAMMA RAY - RESISTANCE

Well: 4540-4040
Field: ---
Company: Westvaco
Location: Sec 17, T13N-R9W
County: McKinley
State: New Mexico

Depth Datum: Ground Level — Elev.
Bottom Depth: Log 365' — Driller 365'
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
Tracer No. 101

Date: April 25, 1958 Observer: V.B. Carter



4540-4040
Sec 17, T13N-R9W
Westvaco
April 25 1958

Log-Master Services, Inc.
ENID, OKLAHOMA

Well: 4540 - 4340
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec. 17, T13N-R9W
Date: April 25, 1958

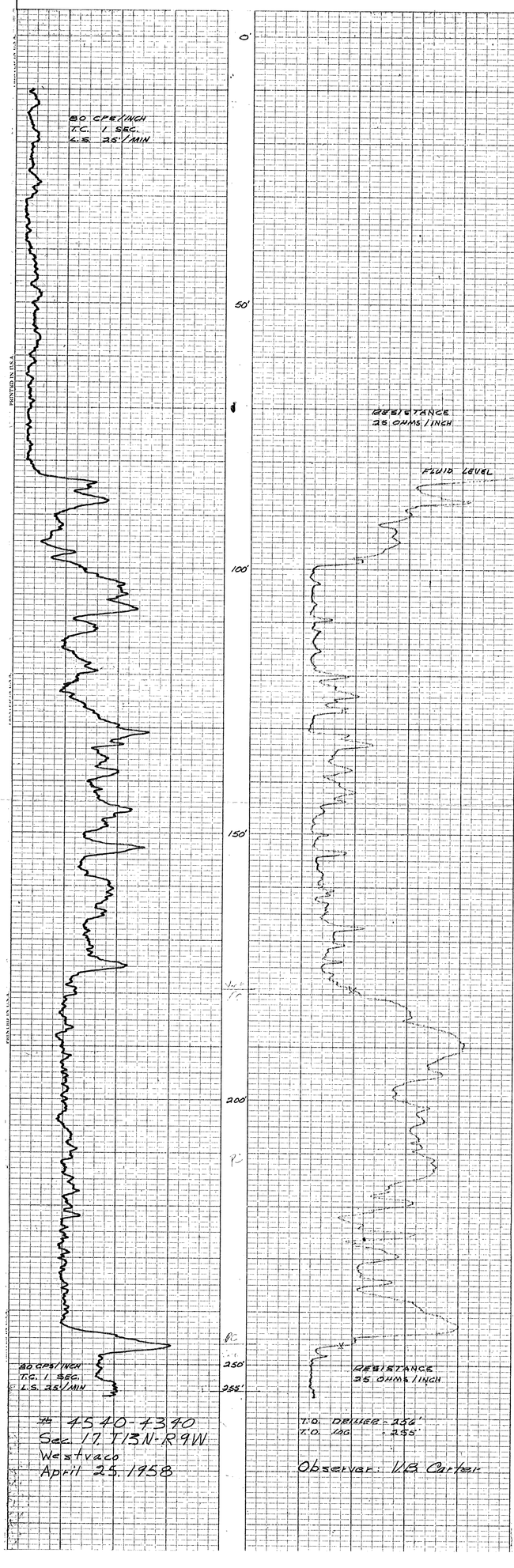
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	4540 - 4340
Field	—
Company	Westvaco
Location	Sec. 17, T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6893
Bottom Depth: Log	255'	Driller	256'
Size Hole	4½"		
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 25, 1958 Observer: V.B. Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

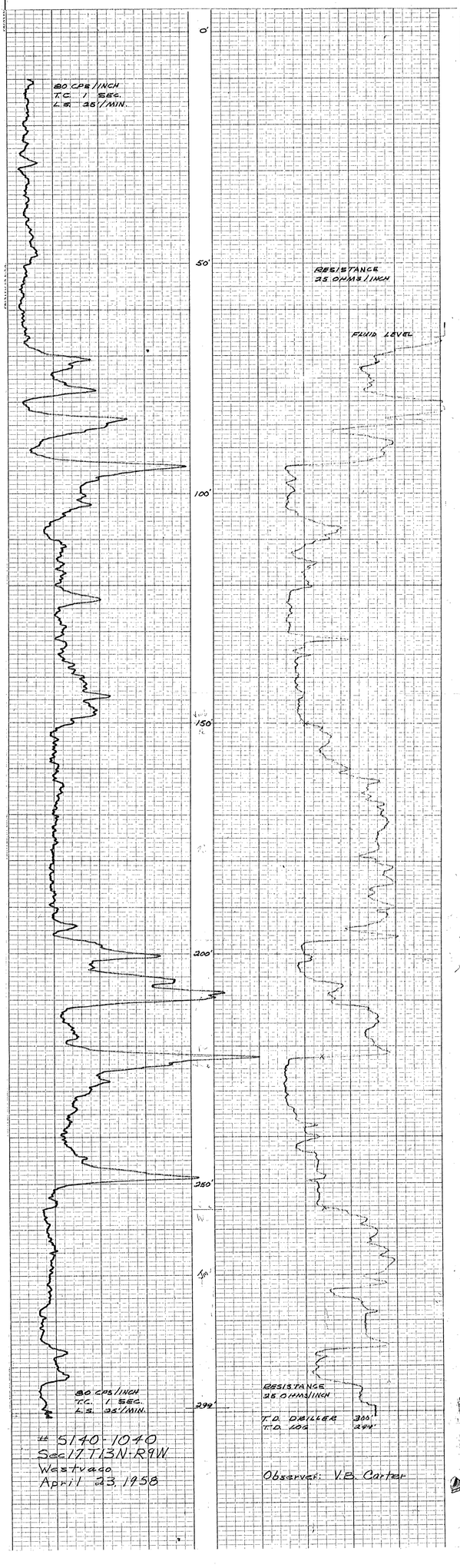
Type of Survey	GAMMA RAY - RESISTANCE
Well	5140-1040
Field	----
Company	Westvaco
Location	Sec. 17 T13N-R 9 W
County	McKinley
State	New Mexico

Well: 5140-1040
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec. 17 T13N-R9W
Date: April 23, 1958

Depth Datum	Ground Level	Elev.	
Bottom Depth: Log	299'	Driller	300'
Size Hole	4 1/2"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

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

Date April 23, 1958 Observer V.B. Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

Well	5140-1340
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17 T13N-R9W
Date	April 22, 1958

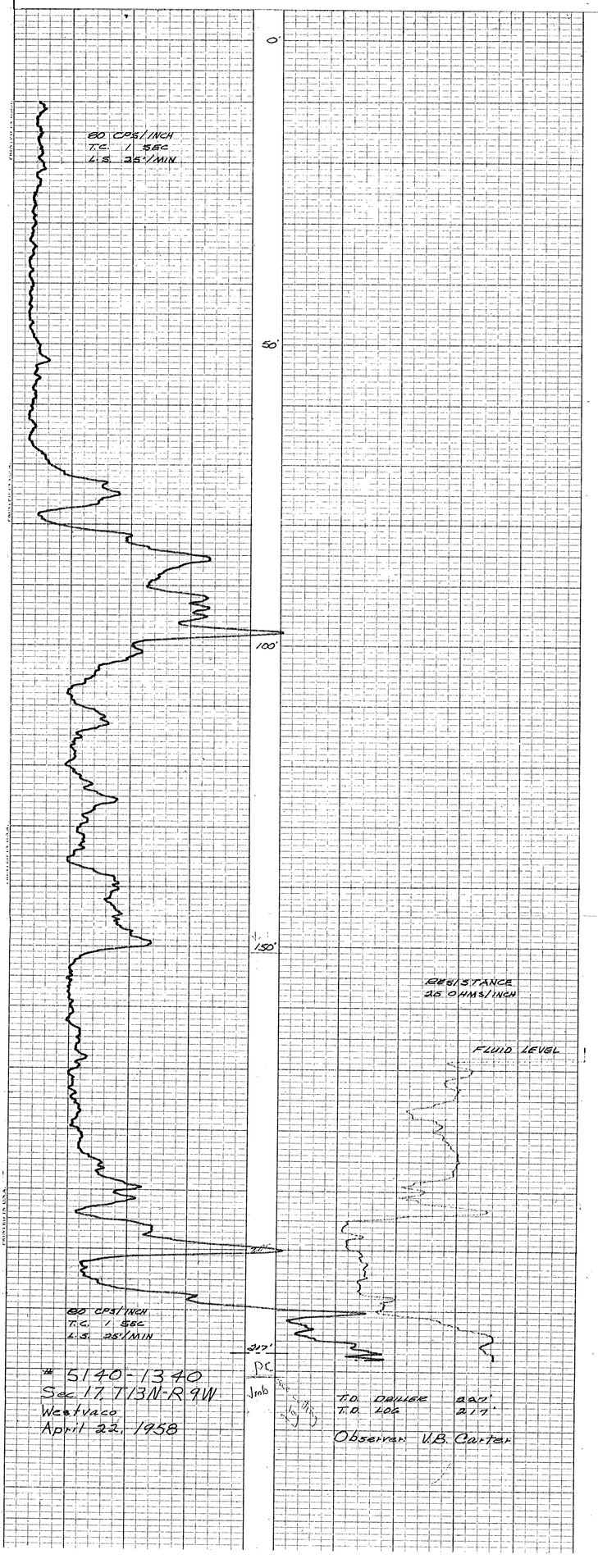
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	5140-1340
Field	—
Company	Westvaco
Location	Sec. 17 T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground level	Elev.	6936
Bottom Depth: Log	217'	Driller	227'
Size Hole	4½"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

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

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



Log-Master Services, Inc.
ENID, OKLAHOMA

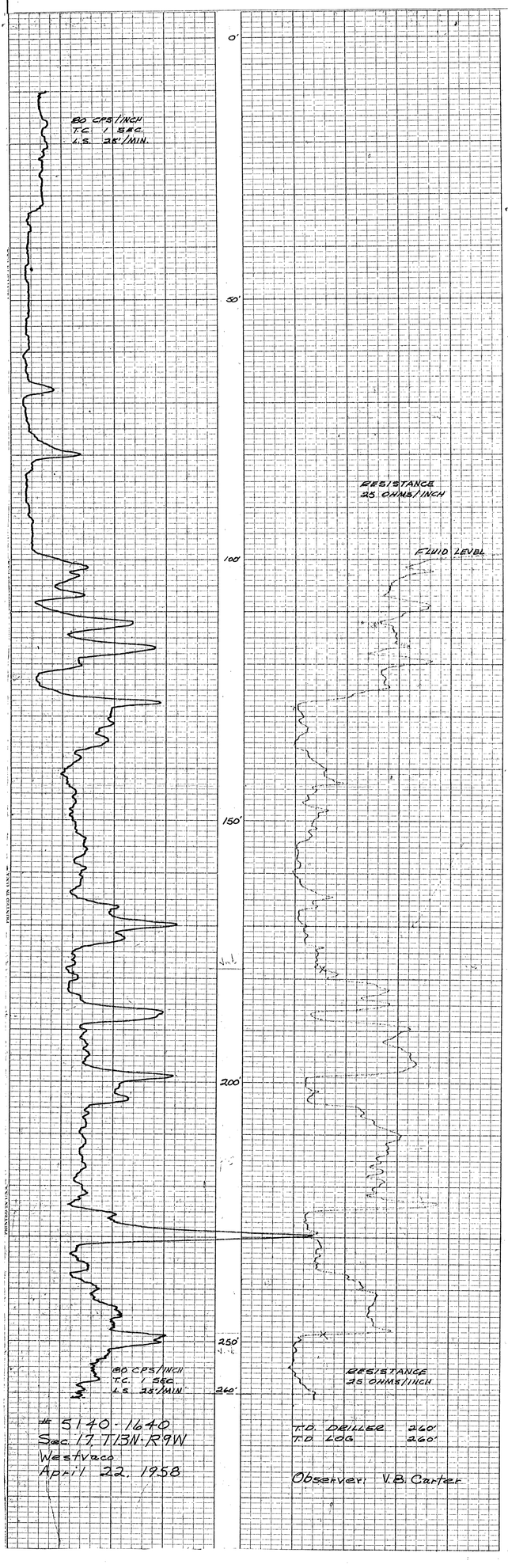
Type of Survey	GAMMA RAY - RESISTANCE
Well	5140-1640
Field	—
Company	Westvaco
Location	Sec. 17, T13N-R9W
County	McKinley
State	New Mexico

Well: 5140-1640
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec. 17 T13N-R9W
Date: April 22, 1958

Depth Datum	Ground Level	Elev.	6927
Bottom Depth: Log	260'	Driller	260'
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 3/8" - 3"
Calibration Source No. 2
Truck No. 101

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



Log-Master Services, Inc.
ENID, OKLAHOMA

Well	5140-1940
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17, T13N-R9W
Date	April 23, 1958

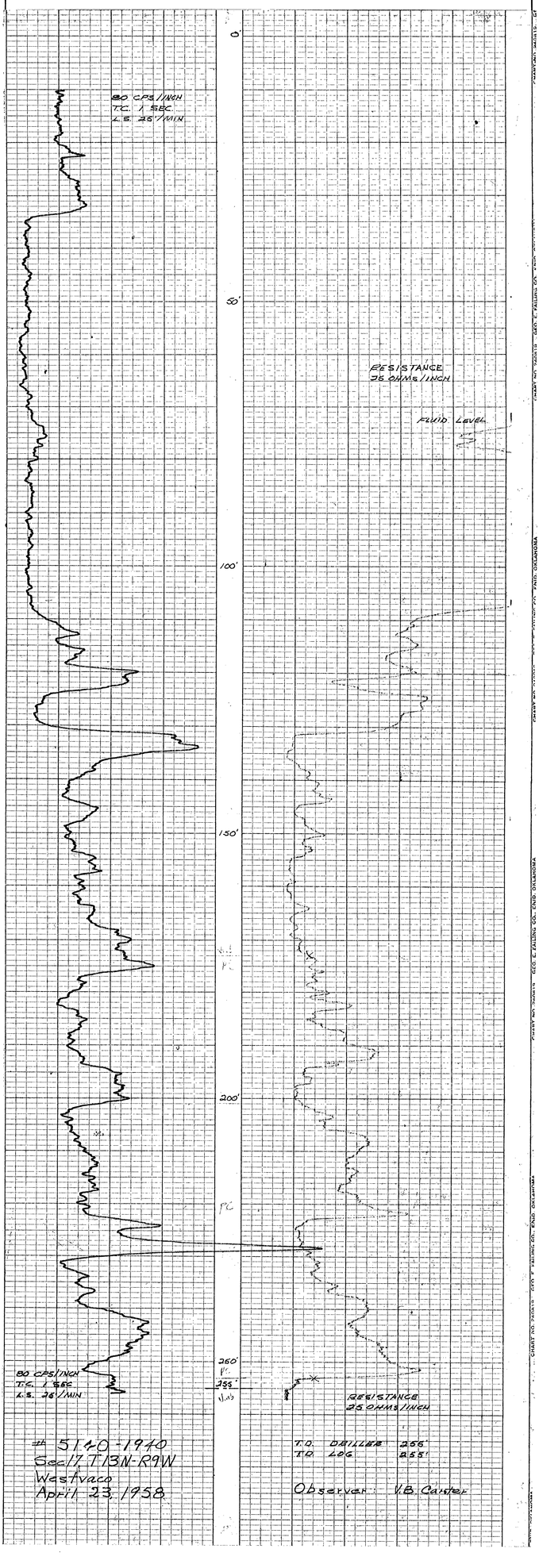
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	5140-1940
Field	—
Company	Westvaco
Location	Sec. 17, T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6920
Bottom Depth: Log	255'	Driller	255'
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 23, 1958 Observer: V.B. Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

Well: 5140-2240
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec. 17, T13N-R9W
Date: April 23, 1958

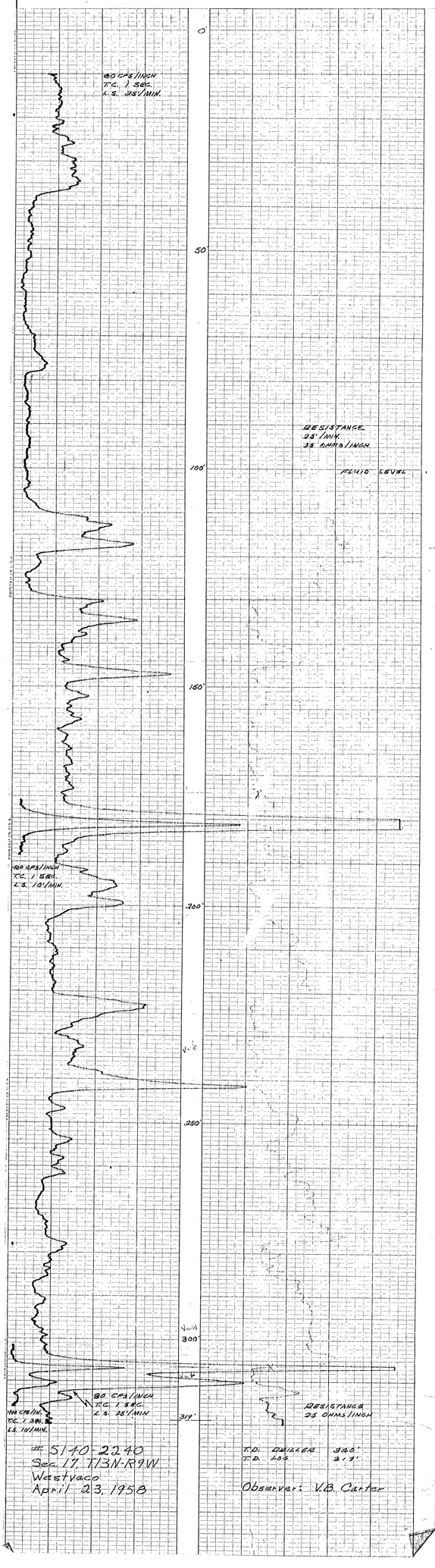
TYPE OF SERVICE: GAMMA RAY - RESISTANCE

Well	5140-2240
Field	---
Company	Westvaco
Location	Sec. 17, T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6991
Bottom Depth: Log	319'	Driller	320'
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 23, 1958 Observer: V.B. Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

Well	5140-2540
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17, T13N, R9W
Date	April 23, 1958

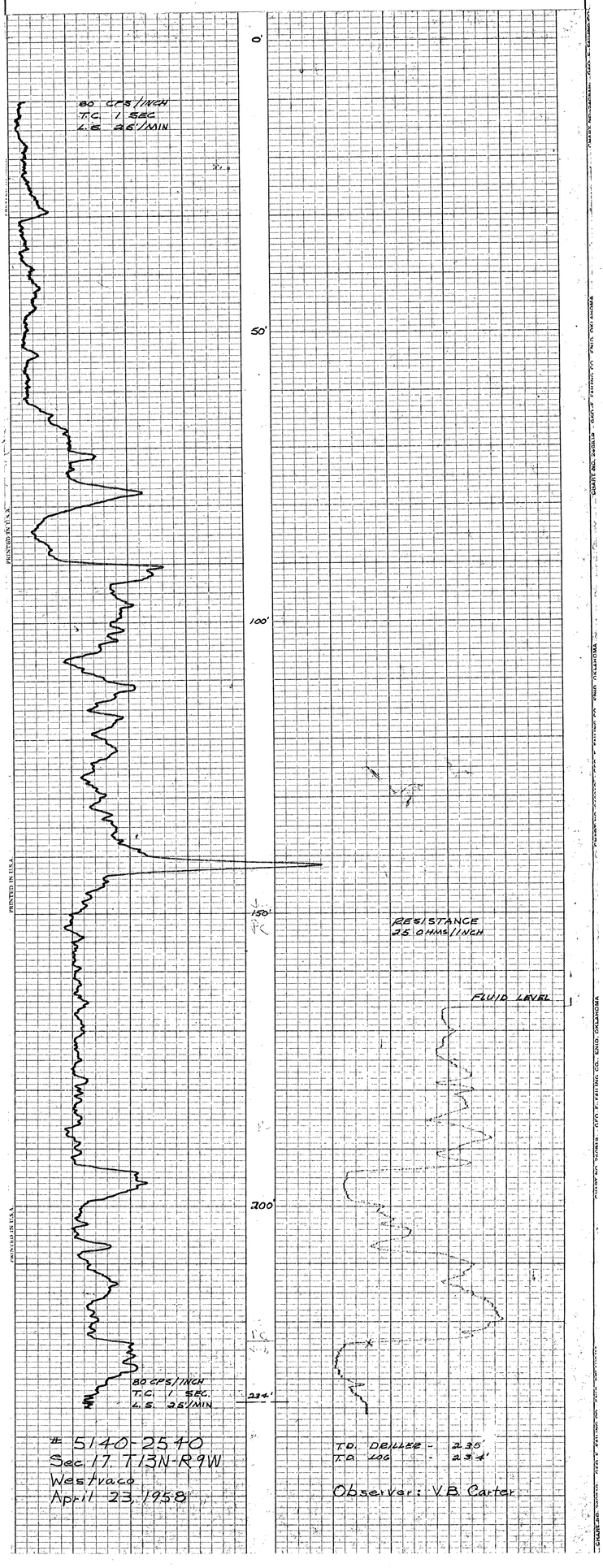
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	5140-2540
Field	—
Company	Westvaco
Location	Sec. 17, T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6926
Bottom Depth: Log	234'	Driller	230'
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 23, 1958 Observer: V.B. Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

Well	5140-3140
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17 T13N-R9W
Date	April 24, 1958

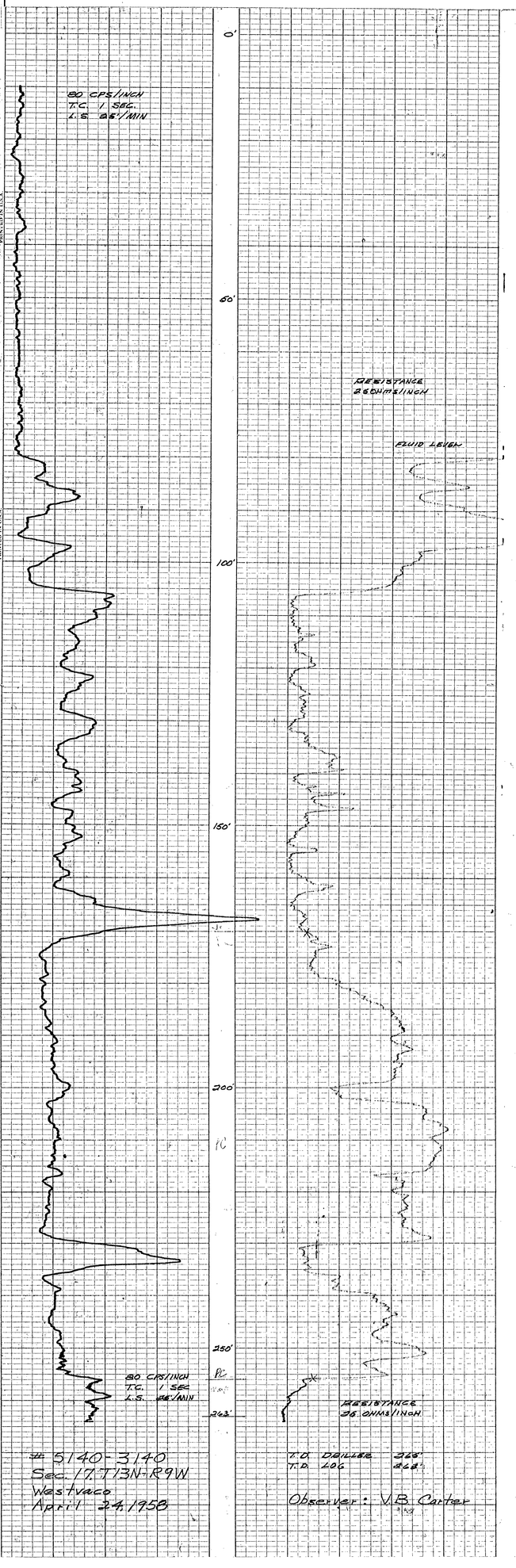
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	5140-3140
Field	—
Company	Westvaco
Location	Sec. 17 T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6912
Bottom Depth: Log	268'	Driller	265'
Size Hole	4 1/2"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

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

Date: April 29, 1958 Observer: V.B. Carter



5140-3140
Sec. 17 T13N-R9W
Westvaco
April 24, 1958

T.D. DRILLER 265'
T.D. LOG 268'

Observer: V.B. Carter

Log-Master Services, Inc.
ENID, OKLAHOMA

Well: 5140-3440
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec. 17, T13N-R9W
Date: April 24, 1958

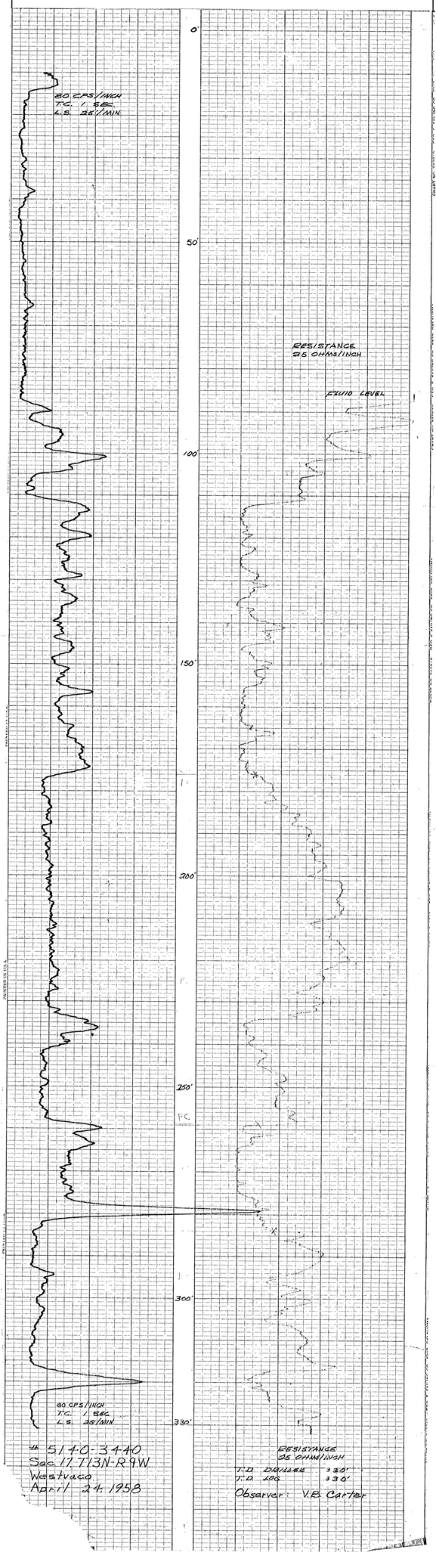
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	5140-3440
Field	—
Company	Westvaco
Location	Sec. 17, T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6908
Bottom Depth: Log	330'	Driller	330'
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 1/4" - 3"
Calibration Source No. 2
Truck No. 101

Date: April 24, 1958 Observer: V.B. Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

Well	5140 - 3740
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17 T13N-R9W
Date	April 24, 1958

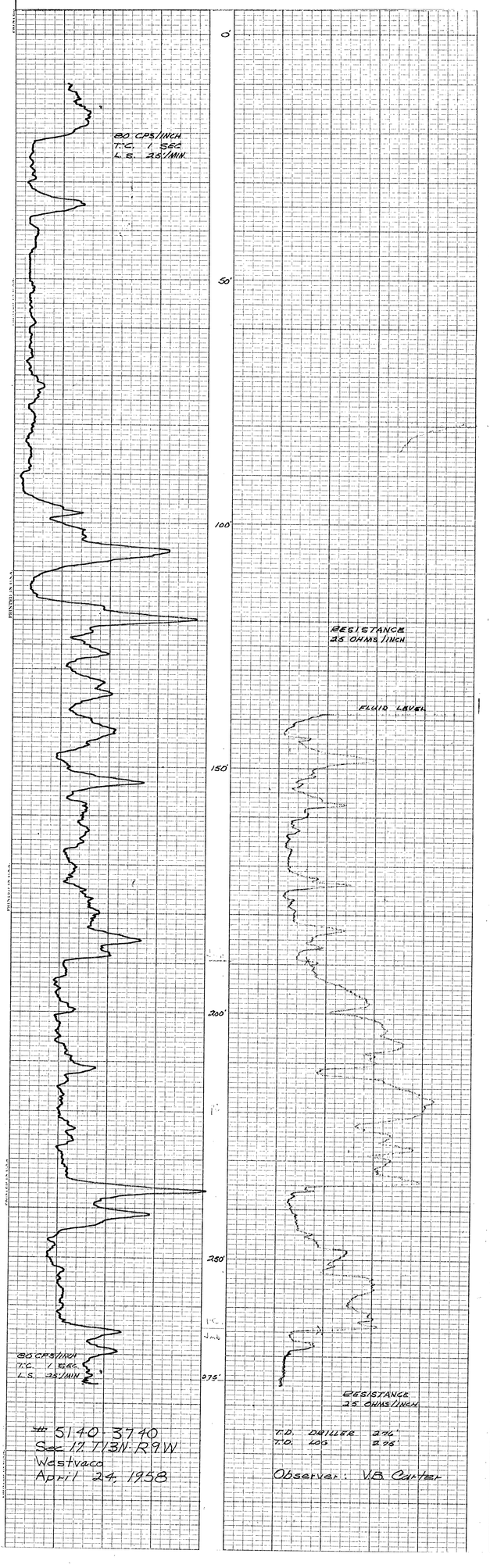
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	5140 - 3740
Field	----
Company	Westvaco
Location	Sec. 17 T13N. R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6906
Bottom Depth: Log	275'	Driller	276'
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 24, 1958 Observer: V.B. Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

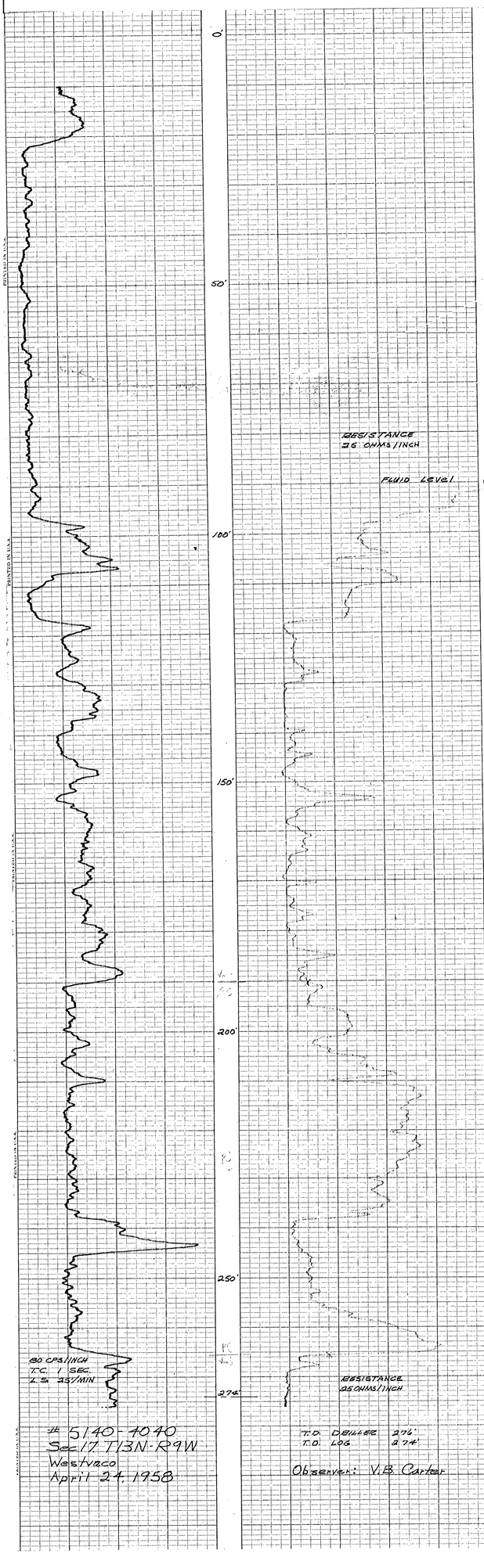
Type of Survey	Gamma Ray - Resistance
Well	5140-4040
Field	—
Company	Westvaco
Location	Sec. 17, T13N-R9W
County	McKinley
State	New Mexico

Well: 5140-4040
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec. 17, T13N-R9W
Date: April 24, 1958

Depth Datum	Ground Level	Elev.	6903
Bottom Depth: Log	274'	Driller	276'
Size Hole	4½"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

Remarks:
Scintillation Probe Model XMS-200, Serial No. 101
Crystal Size 2½" - 3"
Calibration Source No. 2
Truck No. 101

Date: April 24, 1958 Observer: V.B. Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

Well: 5140-4340
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec. 17 T13N-R9W
Date: April 25, 1958

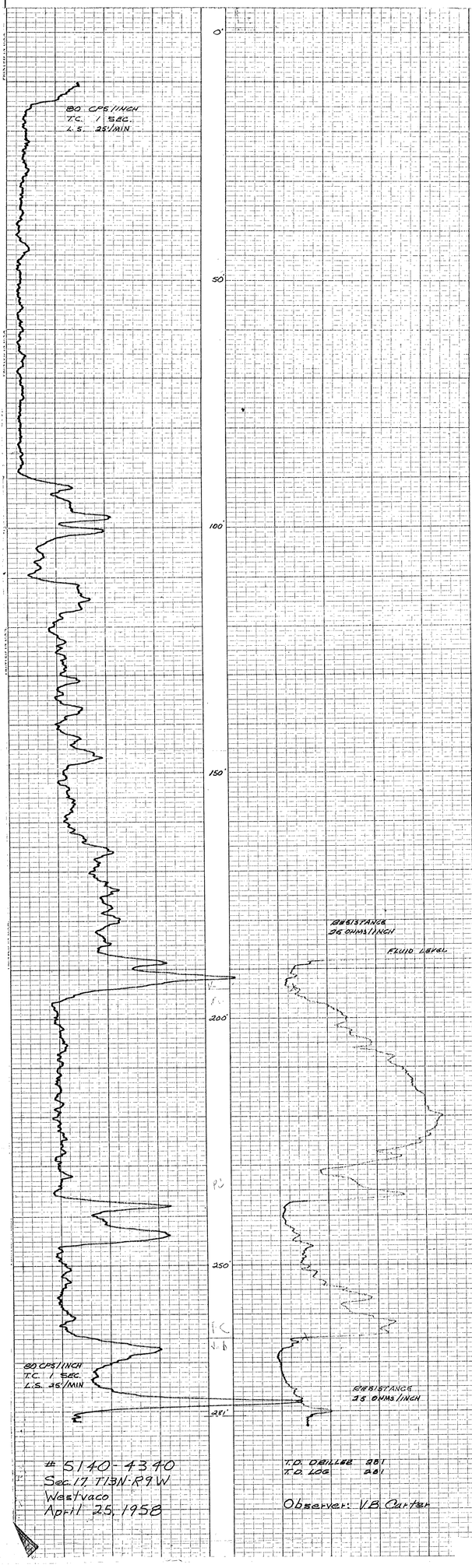
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	5140-4340
Field	---
Company	Westvaco
Location	Sec. 17 T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6849
Bottom Depth: Log	281'	Driller	281'
Size Hole	4 1/2"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

Remarks:
Scintillation Probe Model XMS-220, Serial 101
Crystal Size 3/4" - 3"
Calibration Source No. 2
Truck No. 101

Date: April 25, 1958 Observer: V.B. Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

Well	4540-1640
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17 T13N-R9W
Date	April 22, 1958

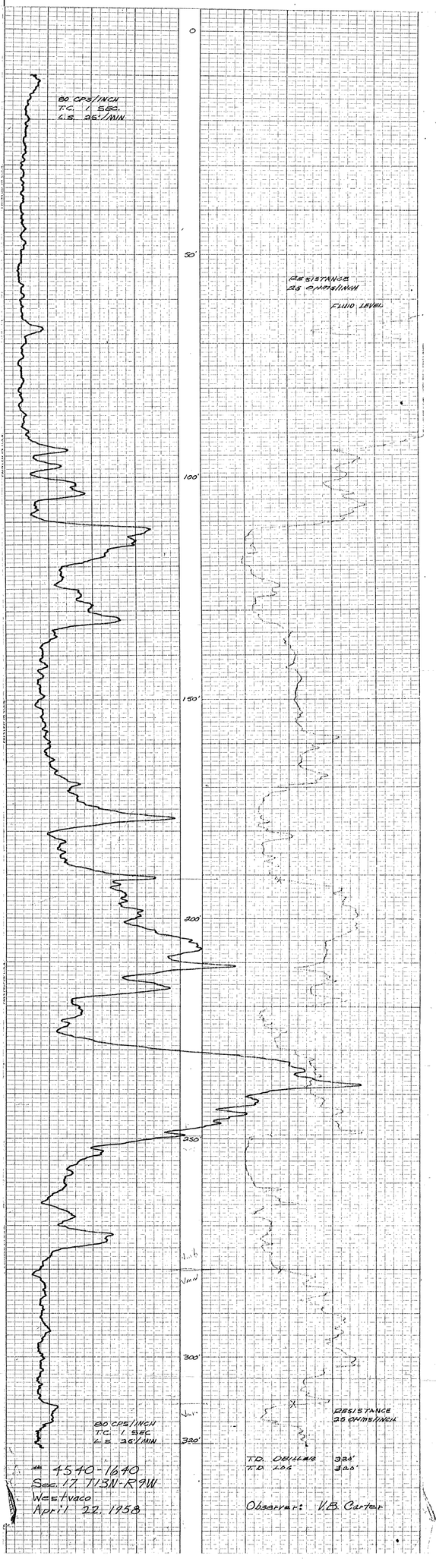
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	4540-1640
Field	—
Company	Westvaco
Location	Sec. 17 T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6944
Bottom Depth: Log	320'	Driller	320'
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 22, 1958 Observer: V.B. Carter



4540-1640
Sec. 17 T13N-R9W
Westvaco
April 22, 1958

T.D. DRILLER 320'
T.D. LOG 320'

Observer: V.B. Carter

Log-Master Services, Inc.
ENID, OKLAHOMA

Well 4540-1940
Company Westvaco
County McKinley
State New Mexico
Location Sec. 17 T13N-R9W
Date April 22, 1958

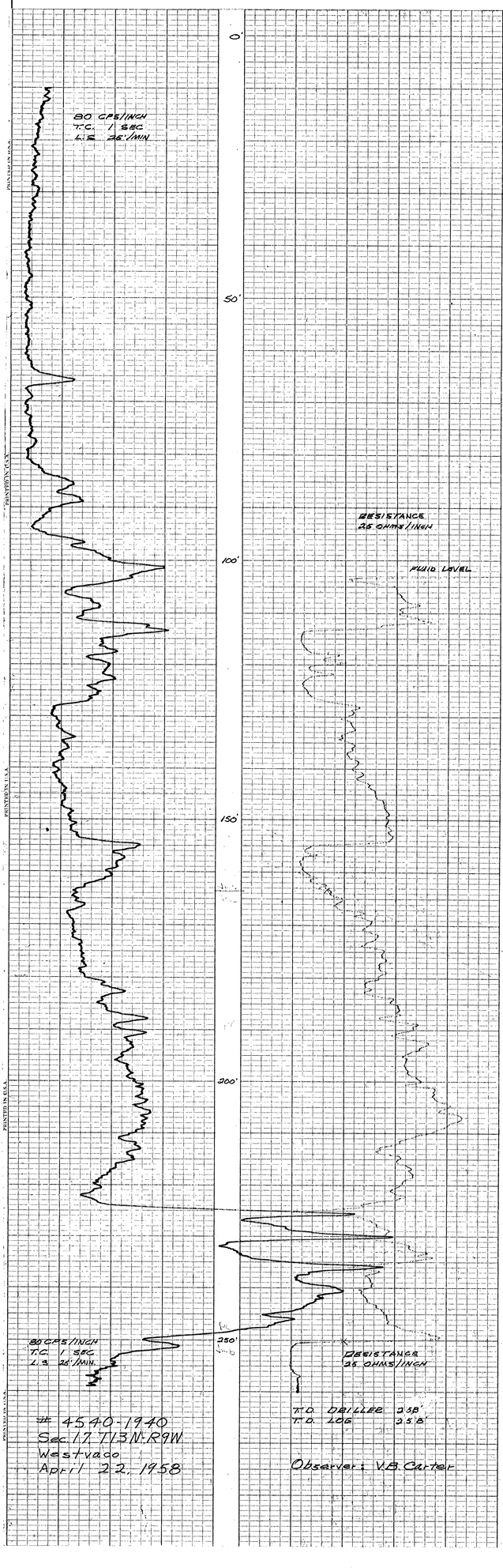
TYPE OF SURVEY GAMMA-RAY RESISTANCE

Well 4540-1940
Field ---
Company Westvaco
Location Sec. 17 T13N-R9W
County McKinley
State New Mexico

Depth Datum Ground Level — Elev. 6941
Bottom Depth: Log 258' — Driller 260'
Size Hole 4 1/2"
Mud: Kind Natural — Weight
Viscosity None — Resistivity °F.
Casing Data

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

Date April 22, 1958 Observer V.B. Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

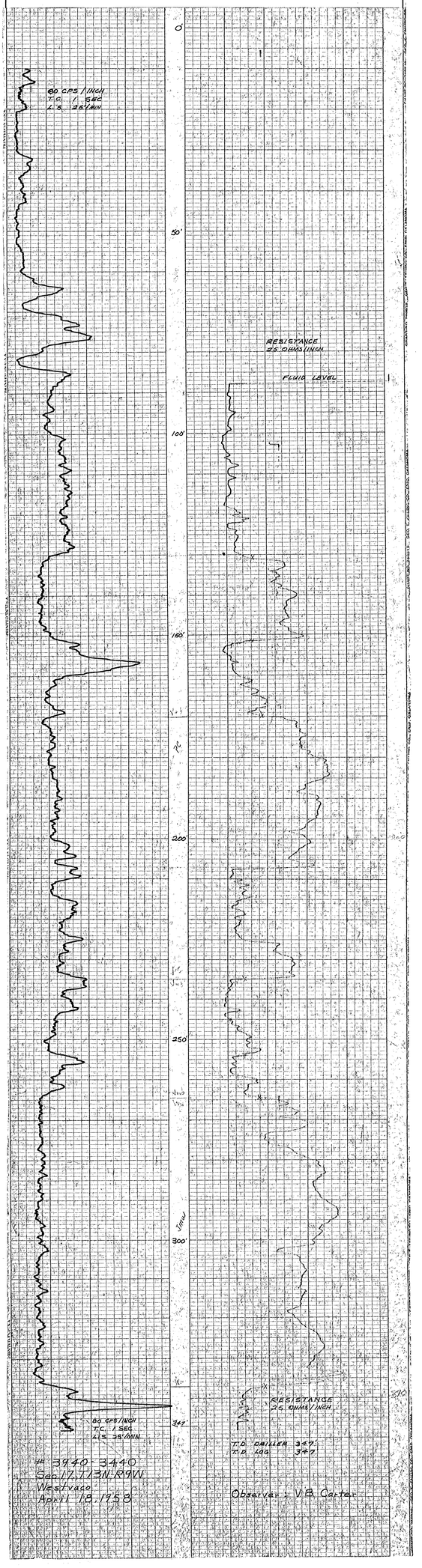
Well	3940-3440
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17 T13N-R9W
Date	April 18, 1958

TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	3940-3440		
Field	—		
Company	Westvaco		
Location	Sec. 17 T13N-R9W		
County	McKinley		
State	New Mexico		
Depth Datum	Ground Level	Elev.	6910
Bottom Depth: Log	347'	Driller	347'
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 18, 1958 Observer V.B. Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

Well 3940-3140
Company Westvaco
County McKinley
State New Mexico
Location Sec. 17, T13N-R9W
Date April 18, 1958

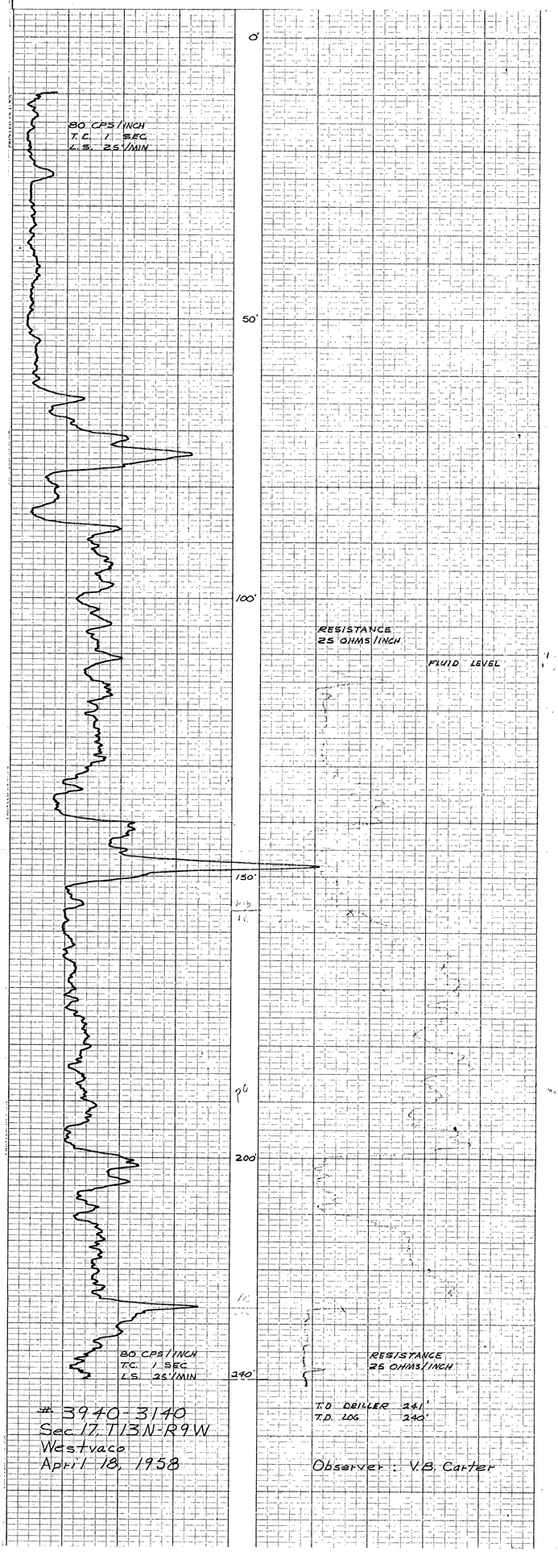
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well: 3940-3140
Field: —
Company: Westvaco
Location: Sec 17, T13N-R9W
County: McKinley
State: New Mexico

Depth Datum: Ground Level — Elev. 6919
Bottom Depth: Log 240' — Driller 241'
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 18, 1958 — Observer: V.B. Carter



Log-Master Services, Inc.
ENID OKLAHOMA

Well 3940-2540
Company Westvaco
County McKinley
State New Mexico
Location Sec. 17, T13N-R9W
Date April 18, 1958

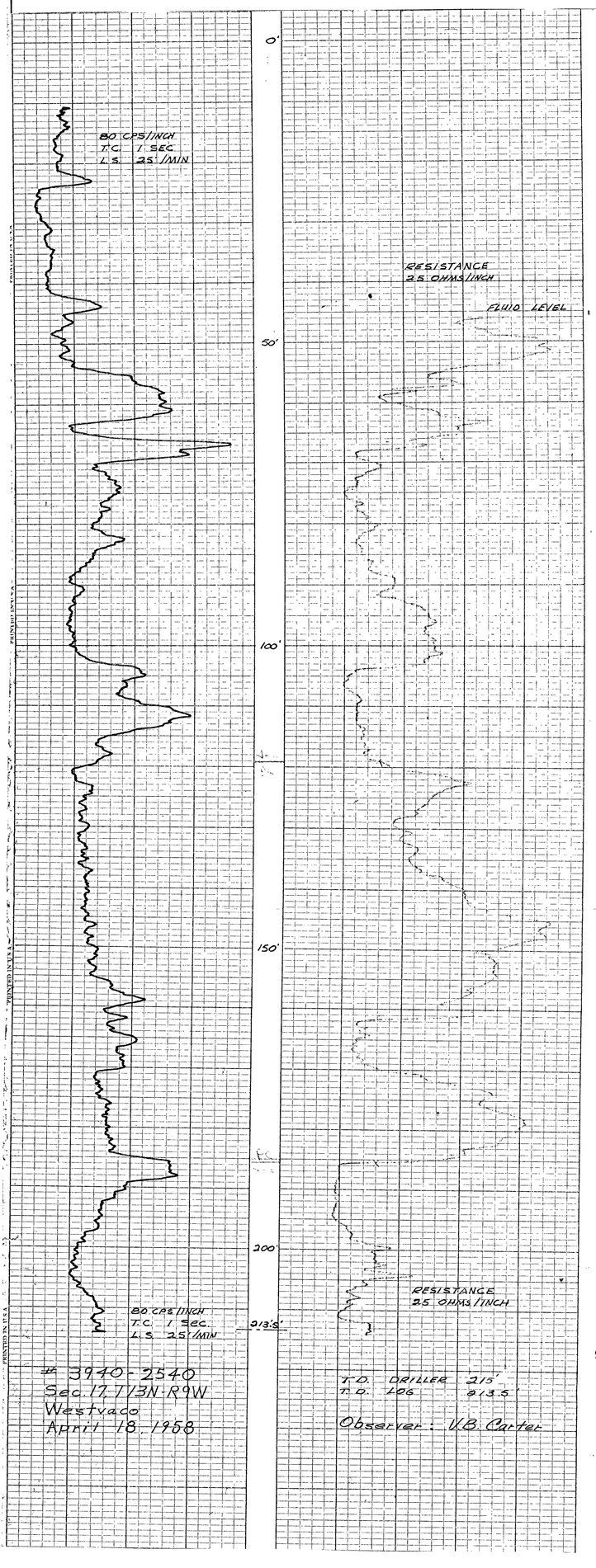
TYPE OF SURVEY GAMMA RAY - RESISTANCE

Well 3940 - 2540
Field —
Company Westvaco
Location Sec. 17, T13N-R9W
County McKinley
State New Mexico

Depth Datum Ground Level Elev. 6939
Bottom Depth: Log 213.5' Driller 214'
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 18, 1958 Observer V. B. Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

Well	3940-2240
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17 T13N-R9W
Date	April 18, 1958

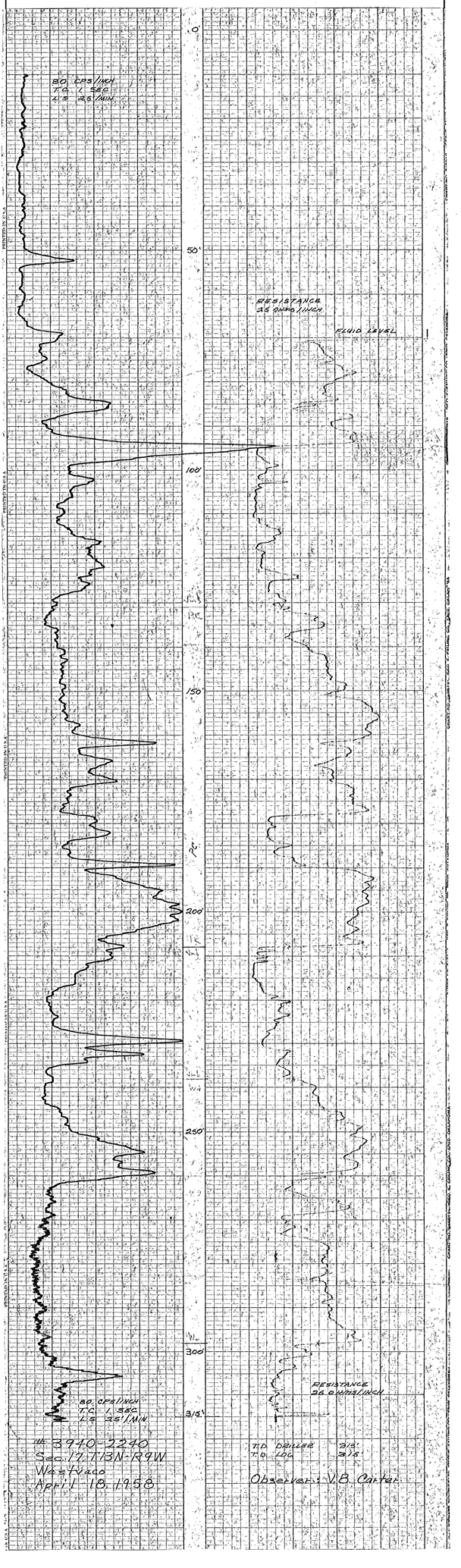
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	3940-2240
Field	—
Company	Westvaco
Location	Sec. 17 T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6940
Bottom Depth: Log	315'	Driller	315'
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 18, 1958 Observer: V.B. Carter



File 3940-2240
Sec. 17 T13N-R9W
Westvaco
April 18, 1958

Log-Master Services, Inc.
ENID, OKLAHOMA

Well	3940-1940
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec 17-T13N-R9W
Date	April 17, 1958

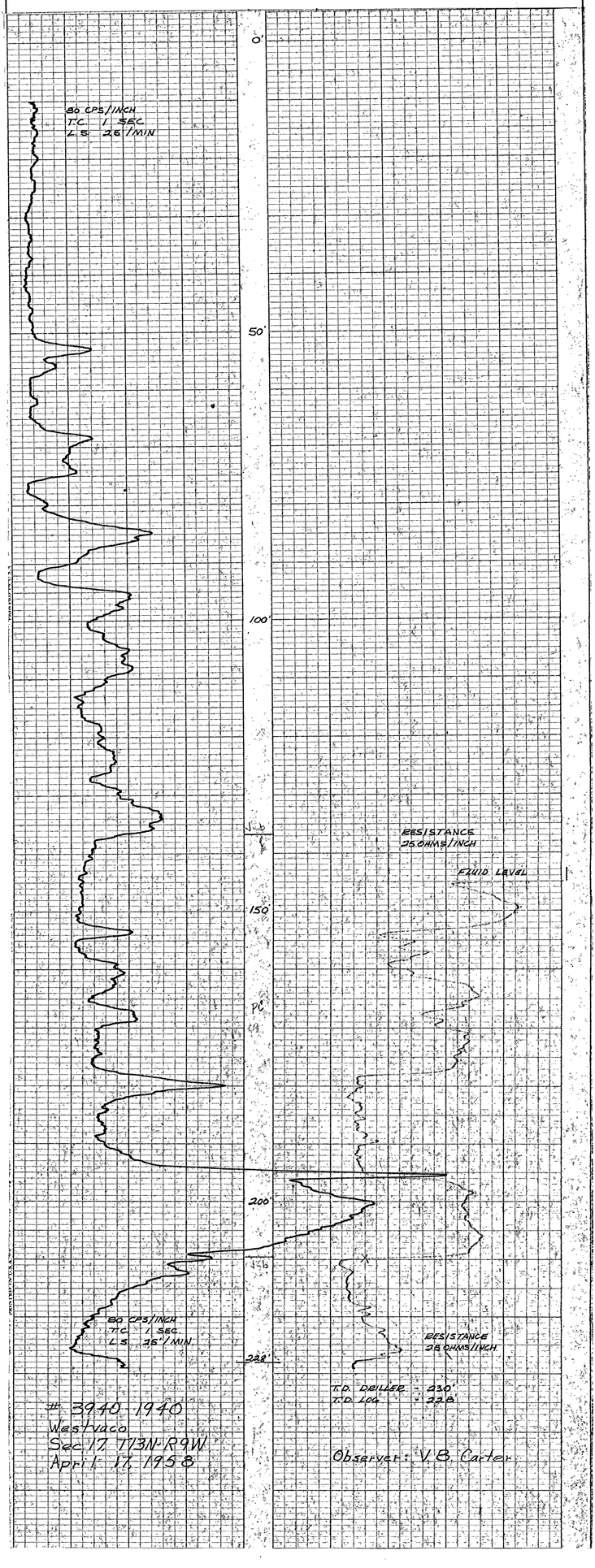
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	3940 - 1940
Field	—
Company	Westvaco
Location	Sec 17 - T13N - R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6946
Bottom Depth: Log	228'	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 17, 1958 Observer: V. B. Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

Well: 3940-1640
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec 17 T13N-R9W
Date: April 18, 1958

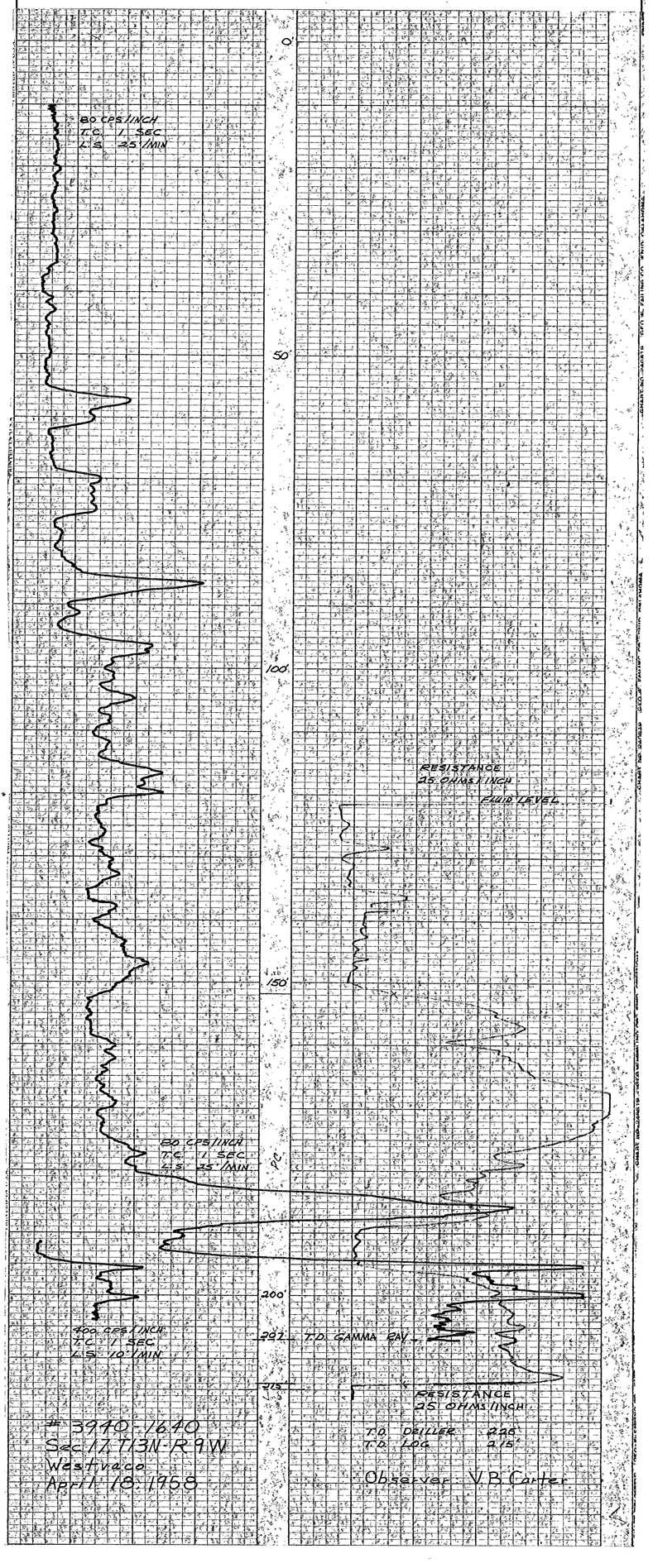
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	3940-1640
Field	—
Company	Westvaco
Location	Sec 17 T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6957
Bottom Depth: Log	215'	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 18, 1958 Observer: V.B. Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

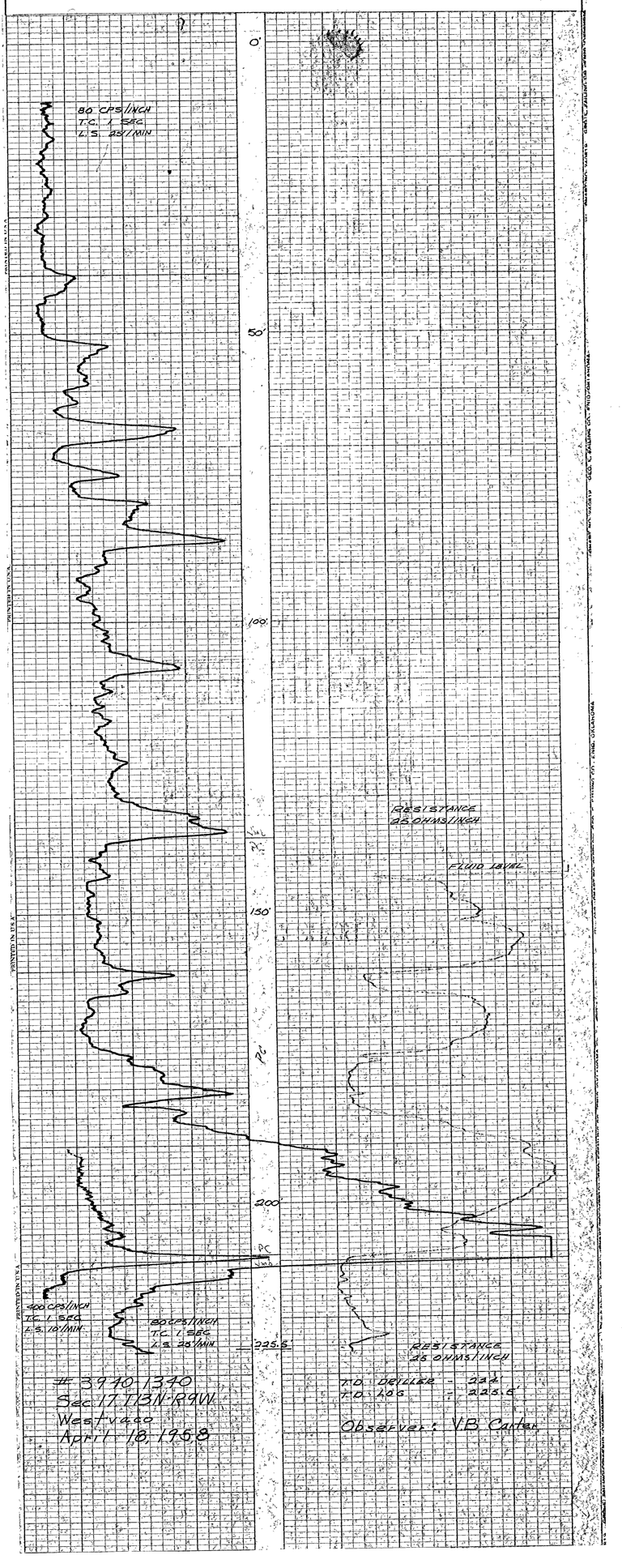
Well	3940-1340
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec 17 T13N-R9W
Date	April 18, 1958

TYPE OF SURVEY	GAMMA RAY - RESISTANCE
Well	3940-1340
Field	—
Company	Westvaco
Location	Sec 17, T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6967
Bottom Depth: Log	225.5'	Driller	224'
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 18, 1958 Observer Carter



3940 1340
Sec 17 T13N-R9W
Westvaco
April 18, 1958

Log-Master Services, Inc.
ENID, OKLAHOMA

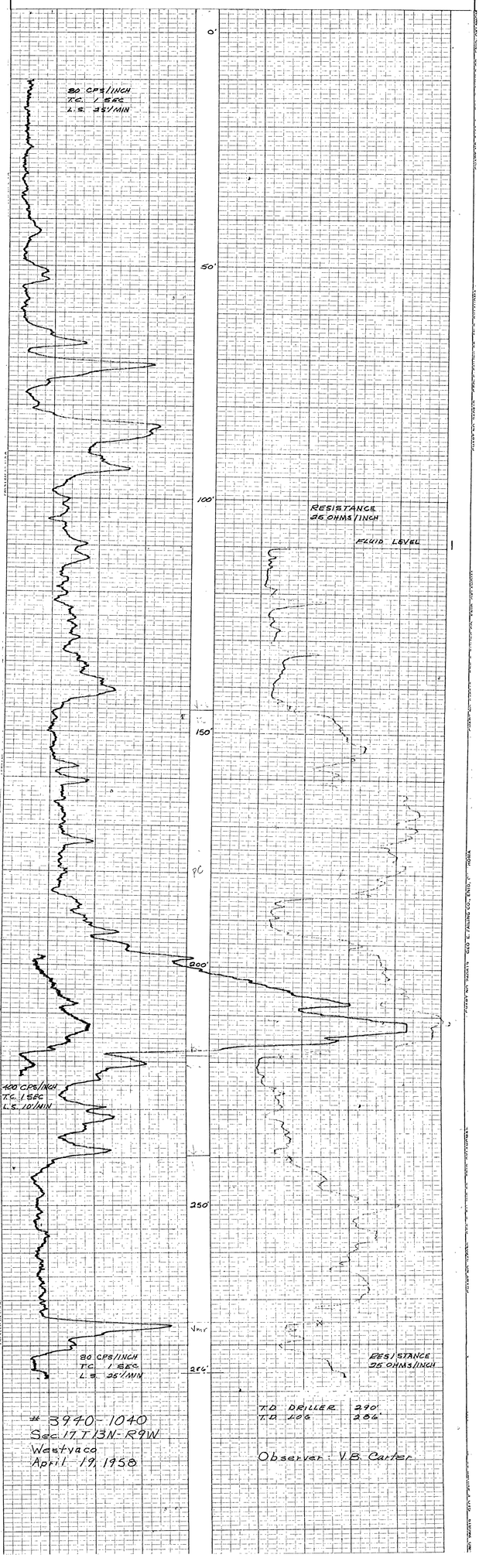
Type of Survey	GAMMA-RAY RESISTANCE
Well	3940-1040
Field	—
Company	Westvaco
Location	Sec. 17 T13N-R9W
County	McKinley
State	New Mexico

Well	3940-1040
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17 T13N-R9W
Date	April 19, 1958

Depth Datum	Ground Level	Elev.	6976
Bottom Depth: Log	286'	Driller	290'
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	3340-4040
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17, T13N-R9W
Date	April 15, 1958

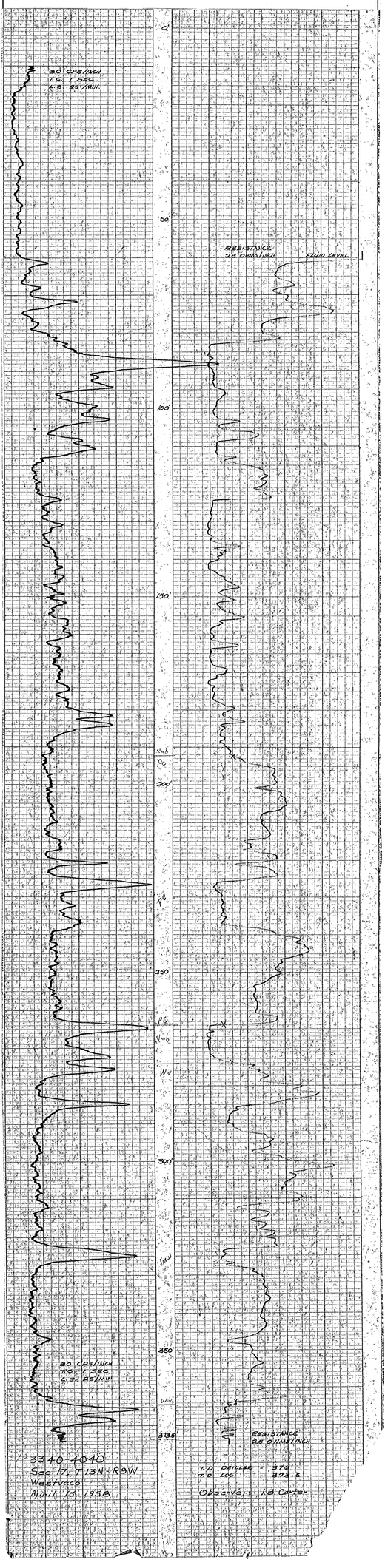
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	3340 - 4040
Field	—
Company	Westvaco
Location	Sec. 17, T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6899
Bottom Depth: Log	373.5'	Driller	376'
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 15, 1958 Observer: Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

Well 3340-2840
Company Westvaco
County McKinley
State New Mexico
Location Sec 17-T13N-R9W
Date April 17, 1958

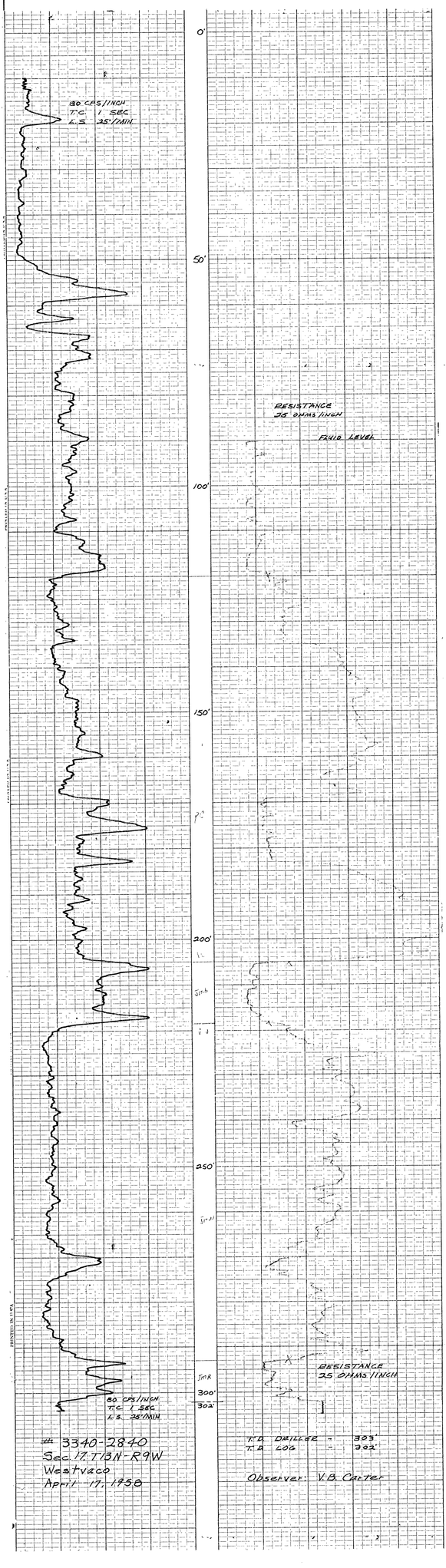
TYPE OF SURVEY GAMMA RAY · RESISTANCE

Well 3340-2840
Field —
Company Westvaco
Location Sec. 17. T13N: R 9 W
County McKinley
State New Mexico

Depth Datum Ground Level Elev. 6934
Bottom Depth: Log 302' Driller 303'
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
Tube No. 101

Date April 17, 1958 Observer V.B. Carter



Log-Master Services, Inc.
ENID OKLAHOMA

Well 3340-2540
Company Westvaco
County McKinley
State New Mexico
Location Sec. 17, T13N-R9W
Date April 17, 1958

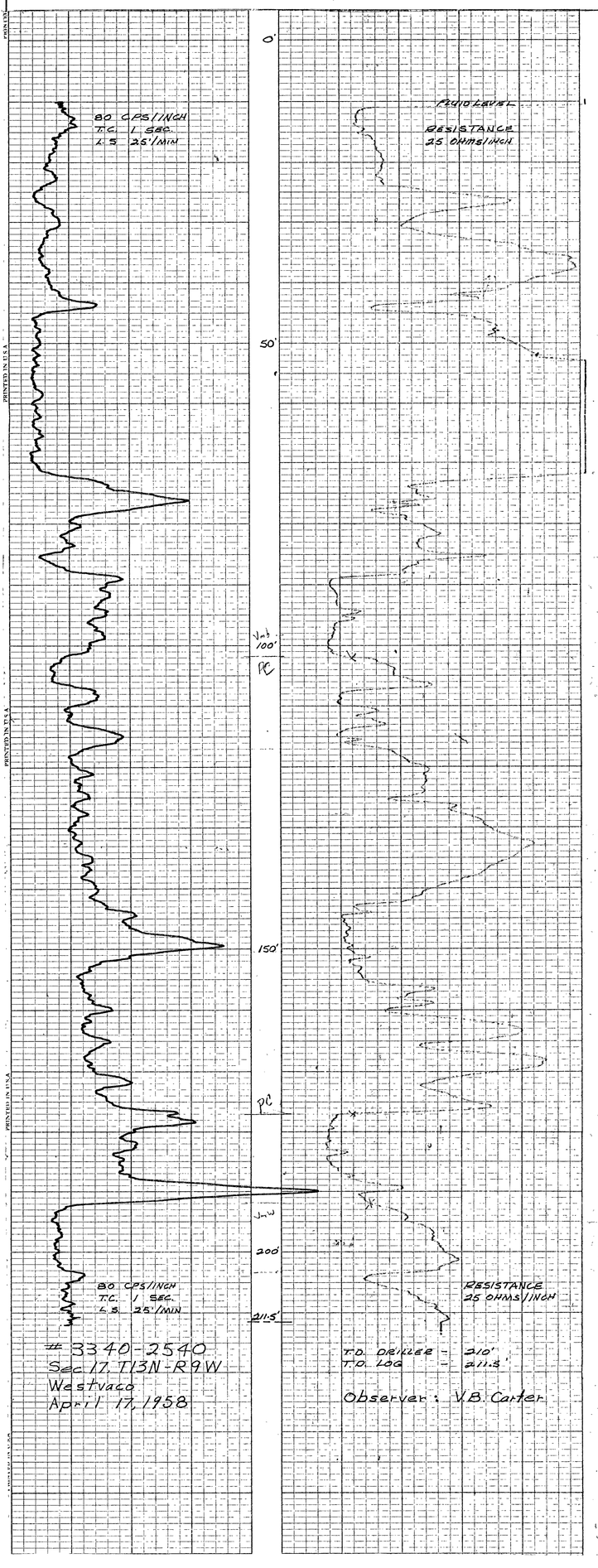
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	3340-2540
Field	—
Company	Westvaco
Location	Sec. 17, T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6938
Bottom Depth: Log	211.5'	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
Crystal Size 3/4" - 3"
Calibration Source No. 2
Truck No. 101

Date April 17, 1958 Observer V. B. Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

Well	3340-2240
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17, T13N-R9W
Date	April 17, 1958

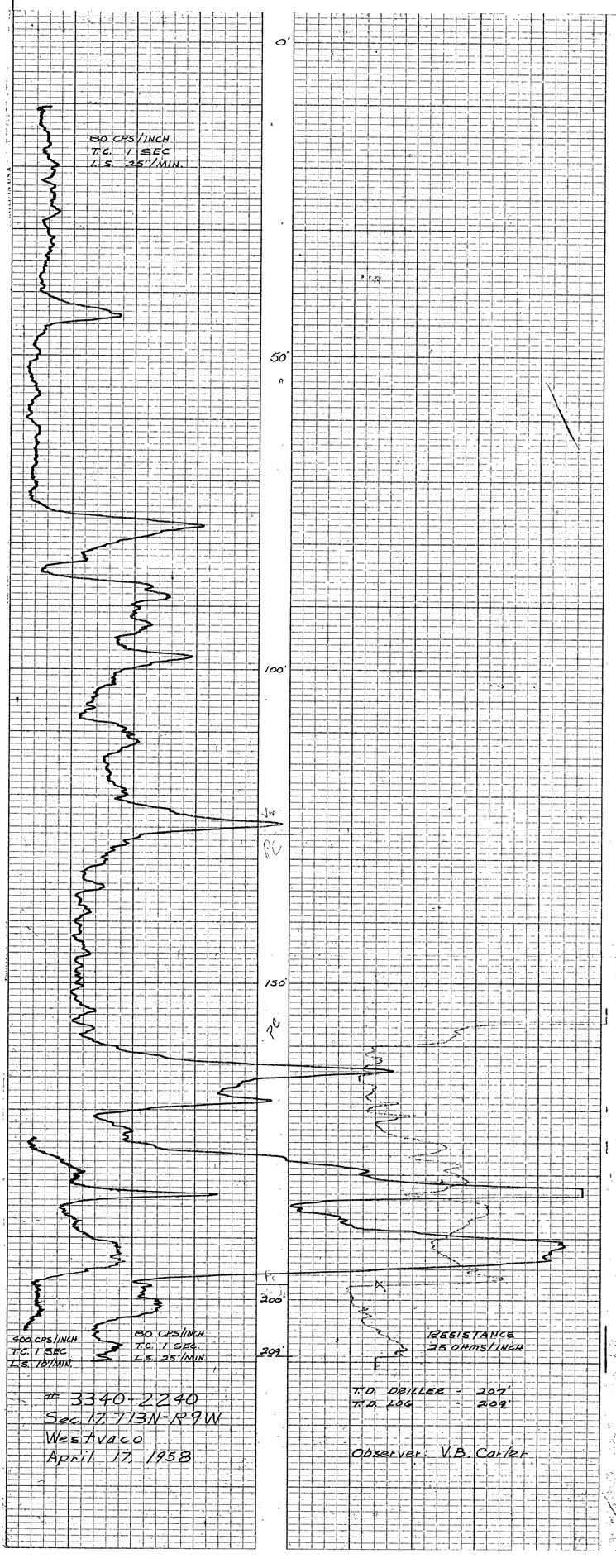
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	3340-2240
Field	—
Company	Westvaco
Location	Sec. 17, T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6943
Bottom Depth: Log	209'	Driller	207'
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



Log-Master Services, Inc.
ENID, OKLAHOMA

Well	3340-1940
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17, T13N-R9W
Date	April 16, 1958

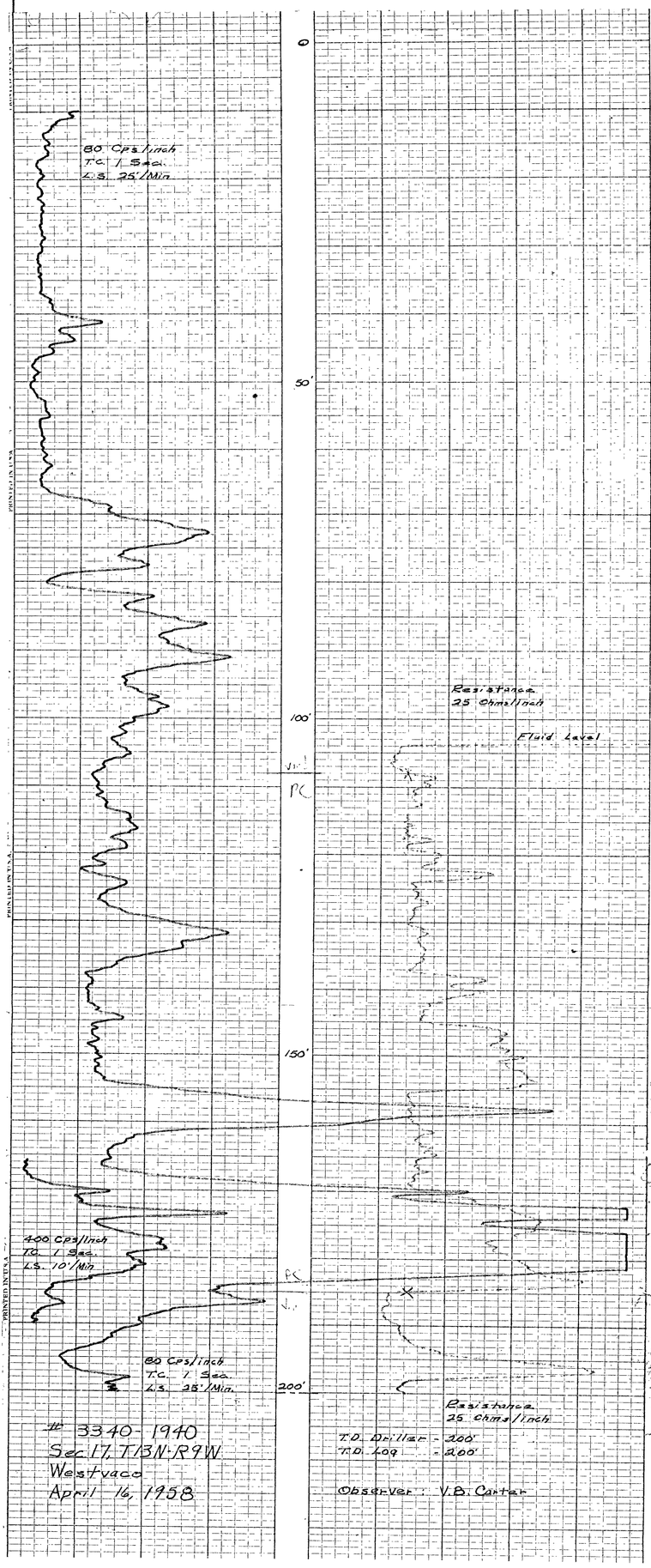
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	3340-1940
Field	—
Company	Westvaco
Location	Sec. 17, T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6948
Bottom Depth: Log	200'	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
Truck No. 101

Date April 16, 1958 Observer V.B. Carter



Log-Master Services, Inc.
ENID OKLAHOMA

Well	3340-1640
Company	Westvaco
County	Mc Kinley
State	New Mexico
Location	Sec 17-T13N-R9W
Date	April 16, 1958

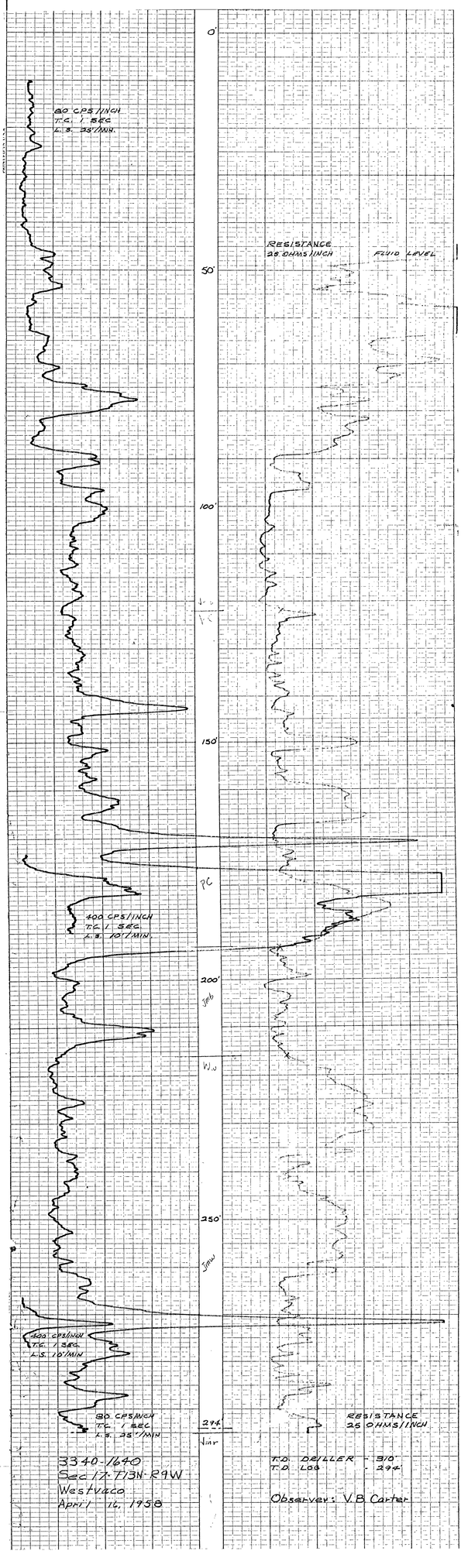
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	3340-1640
Field	—
Company	Westvaco
Location	Sec 17-T13N-R9W
County	Mc Kinley
State	New Mexico

Depth Datum	Ground Level	Elev.	6900
Bottom Depth: Log	294'	Driller	310'
Size Hole	4 1/2"		
Mud: Kind	Natural	Weight	
Viscosity		Resistivity	°F.
Casing Data	None		

Remarks:
Scintillation Probe Model No. 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	2740-3440
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17 T13N-R9W
Date	April 15, 1958

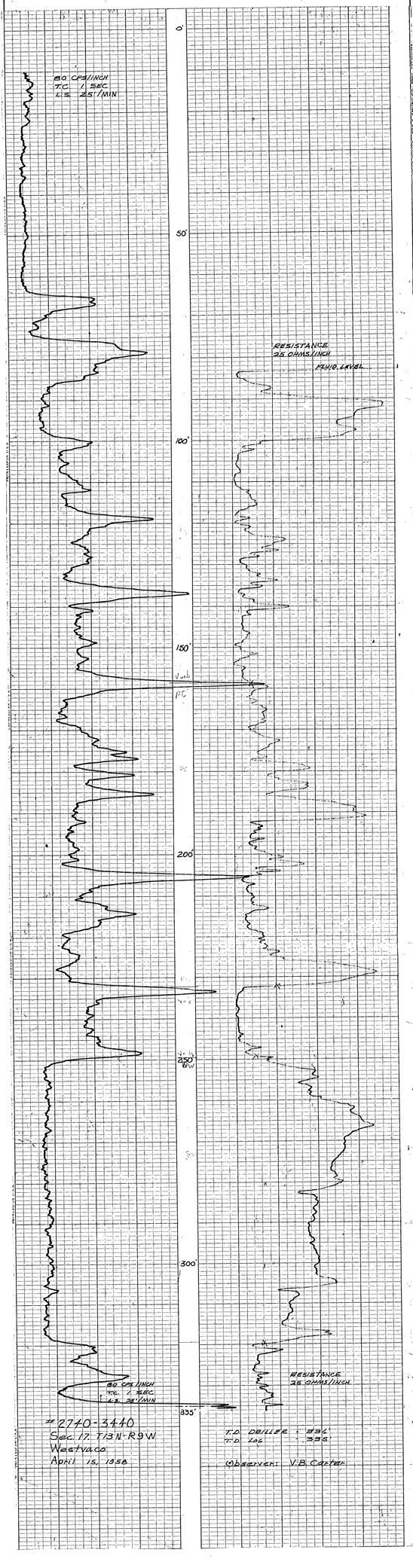
TYPE OF SURVEY: GAMMA RAY - RESISTANCE

Well	2740-3440
Field	—
Company	Westvaco
Location	Sec. 17 T13N-R9W
County	McKinley
State	New Mexico

Depth Datum	Ground level	Elev.	6996
Bottom Depth: Log	335'	Driller	336'
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 3/12" - 3"
Calibration Source No. 2
Truck No. 2

Date April 15, 1958 Observer V.B. Carter



Log-Master Services, Inc.
ENID OKLAHOMA

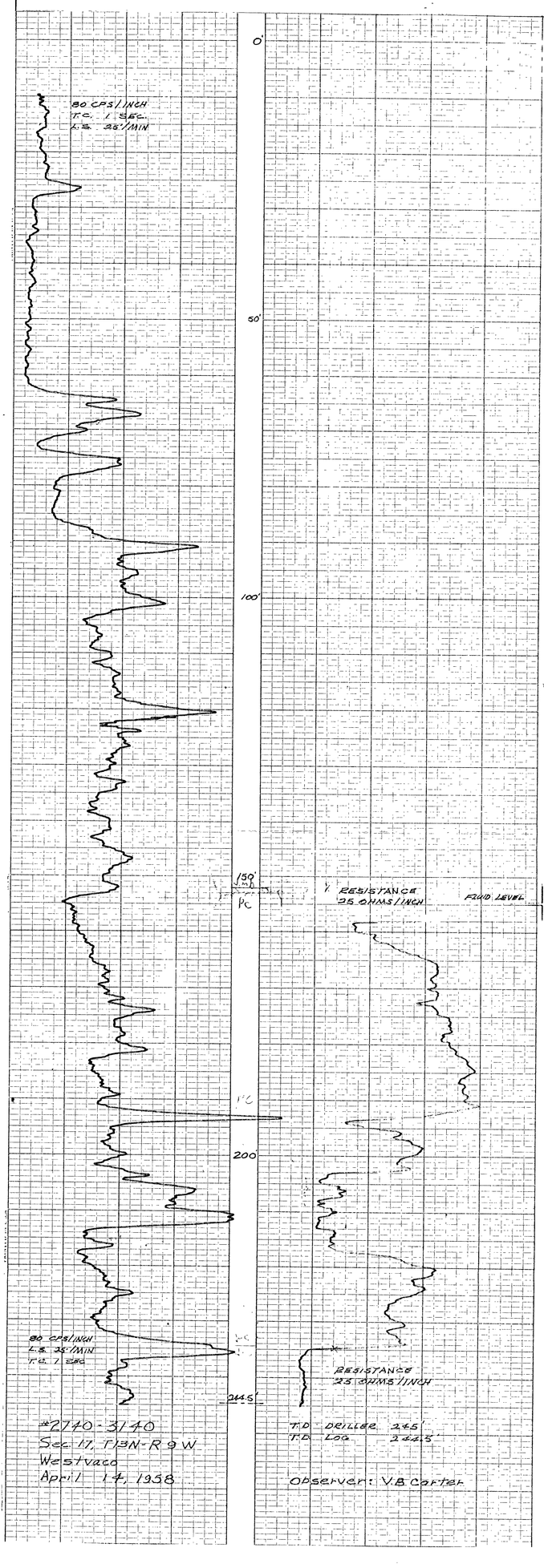
Type of Survey	GAMMA RAY - RESISTANCE
Well	2740-3140
Field	—
Company	Westvaco
Location	Sec 17, T13N-R9W
County	McKinley
State	New Mexico

Well: 2740-3140
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec. 17, T13N-R9W
Date: April 14, 1958

Depth Datum	Ground Level	Elev.	6960
Bottom Depth: Log	244.5'	Driller	245'
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



Log-Master Services, Inc.
ENID, OKLAHOMA

Well 2740-1940
Company Westvaco
County McKinley
State New Mexico
Location Sec 17 T13N-R9W
Date April 15, 1958

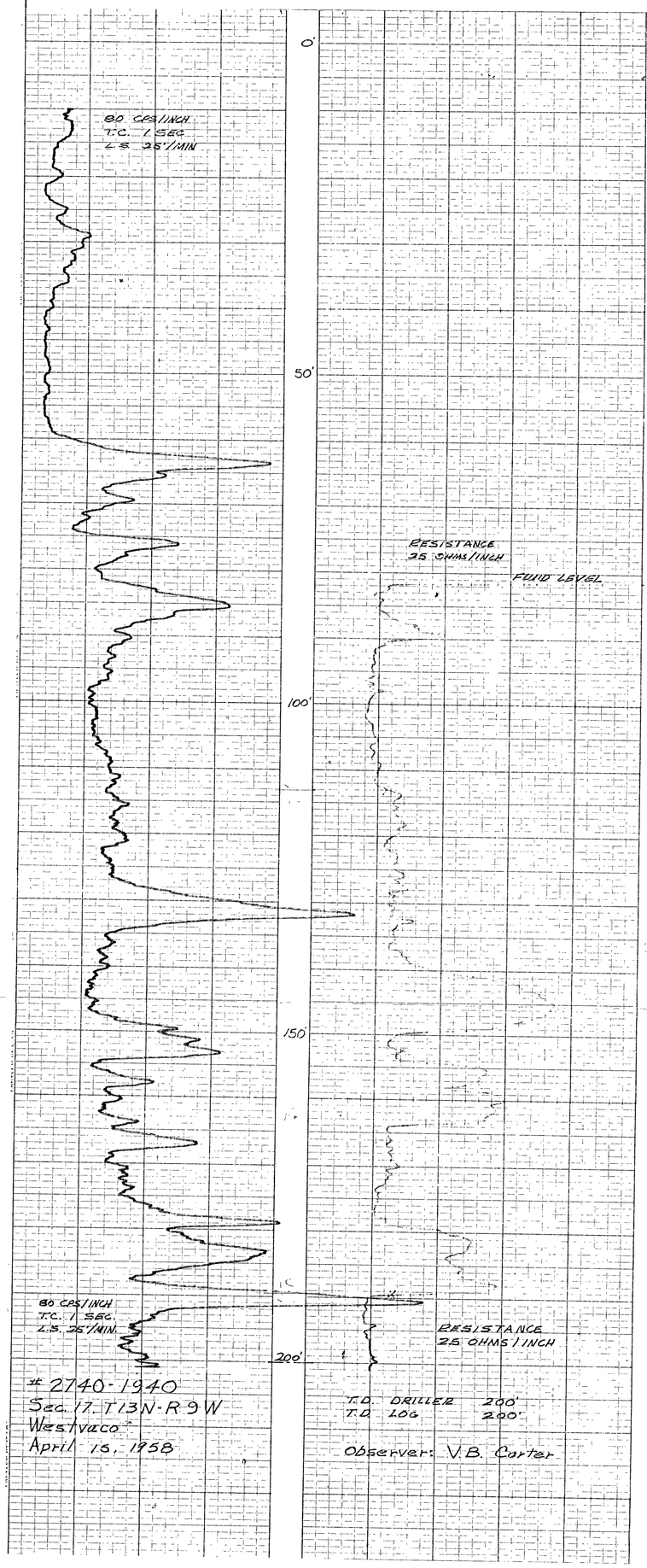
TYPE OF SURVEY GAMMA RAY RESISTANCE

Well 2740-1940
Field —
Company Westvaco
Location Sec 17 T13N-R9W
County McKinley
State New Mexico

Depth Datum Ground Level Elev. 6973
Bottom Depth: Log 200' Driller 200'
Size Hole 4-1/2"
Mud: Kind Natural Weight
Viscosity Resistivity °F.
Casing Data None

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

Date April 15, 1958 Observer Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

Type of Survey: GAMMA RAY - RESISTANCE

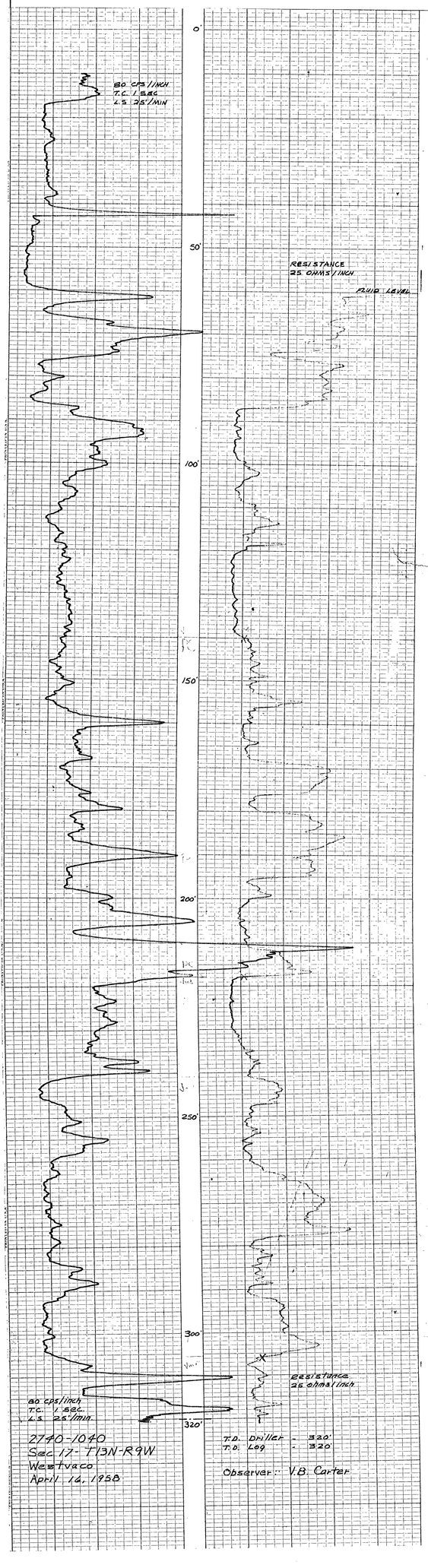
Well	2740-1040
Field	—
Company	Westvaco
Location	Sec. 17-T13N-R9W
County	McKinley
State	New Mexico

Well: 2740-1040
Company: Westvaco
County: McKinley
State: New Mexico
Location: Sec. 17-T13N-R9W
Date: April 16, 1958

Depth Datum	Ground Level	Elev.	7007
Bottom Depth: Log	320'	Driller	320'
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

Type of Survey: GAMMA RAY - ELECTRIC LOG

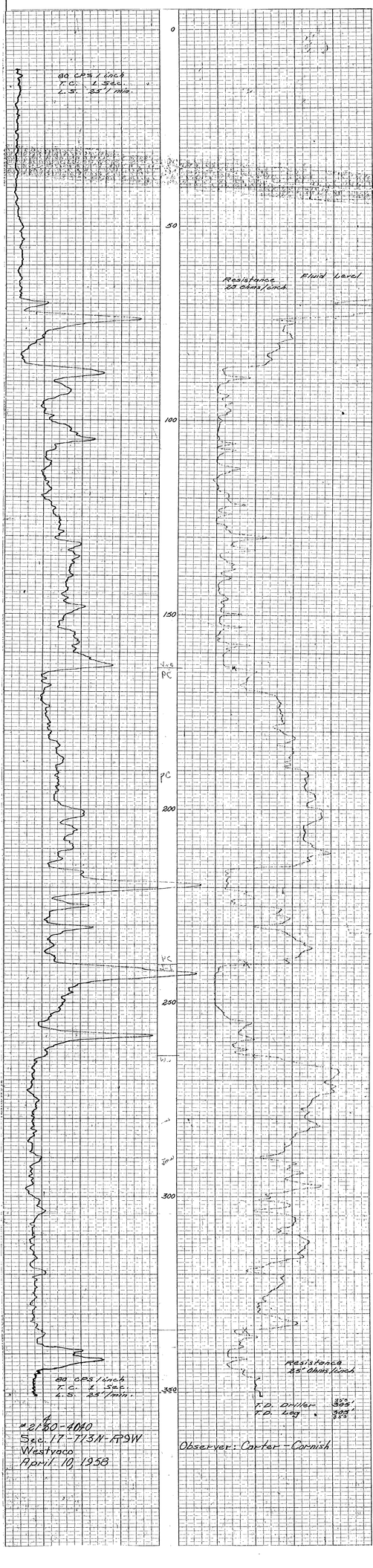
Well: # 21-50-4040
Field: —
Company: Westvaco
Location: Sect. 17-T13N-R9W
County: McKinley
State: New Mexico

Date: April 10, 1958
Location: Sec. 17-T13N-R9W
State: New Mexico
County: McKinley
Company: Westvaco
Well: # 21-50-4040

Depth Datum: Ground Level — Elev. 6916
Bottom Depth: Log 350' — Driller 350'
Size Hole: 4 7/8" to T.D.
Mud: Kind: Natural — Weight
Viscosity — Resistivity — °F.
Casing Data: None

Remarks: Scintillation Probe, Model XMS-200 Ser. No. 101
Crystal Size 4"x3"
Calibration Source No. 2
Truck No. 101

Date: April 10, 1958 — Observer: Carter - Cornish



Log-Master Services, Inc.
ENID OKLAHOMA

Type of Survey: GAMMA RAY - RESISTANCE

Well: #2140-2840
Field:
Company: Westraco
Location: Sec 17, T13N - R9W
County: Mc Kinley
State: New Mexico

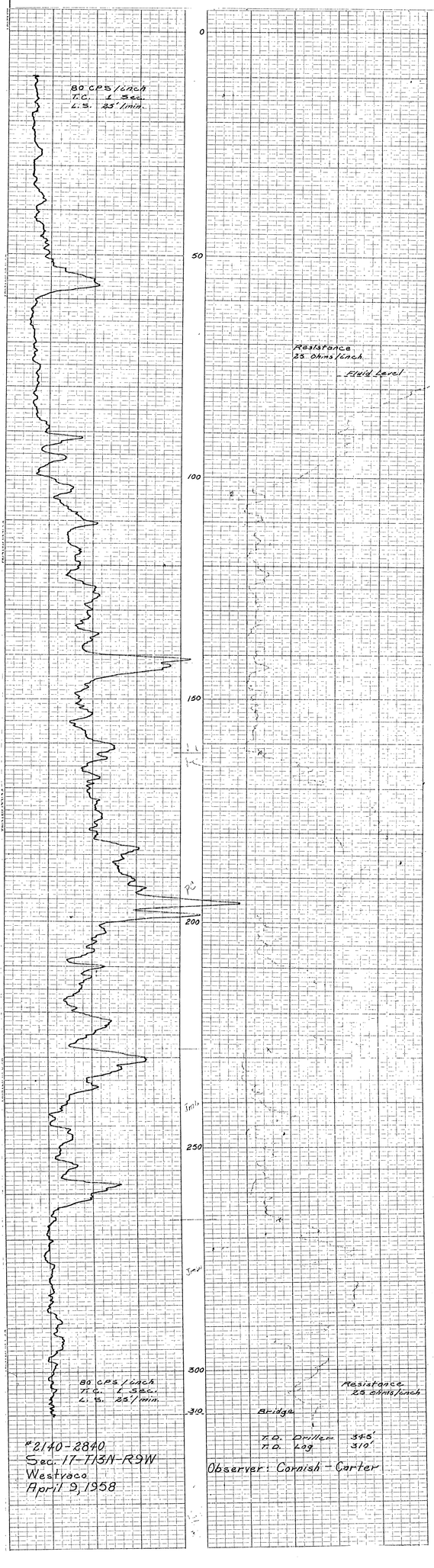
Date: April 9, 1958

Well: #2140-2840
Company: Westraco
County: Mc Kinley
State: New Mexico
Location: Sec 17, T13N-R9W
Date: April 9, 1958

Depth Datum: Ground level
Elev. 6959
Bottom Depth: Log 310'
Driller 345'
Size Hole 4-1/2"
Mud: Kind Natural
Weight
Viscosity
Rosistivity
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
Hit bridge at 310'

Date April 9, 1958
Observer Cornish - Carter



Log-Master Services, Inc.
ENID, OKLAHOMA

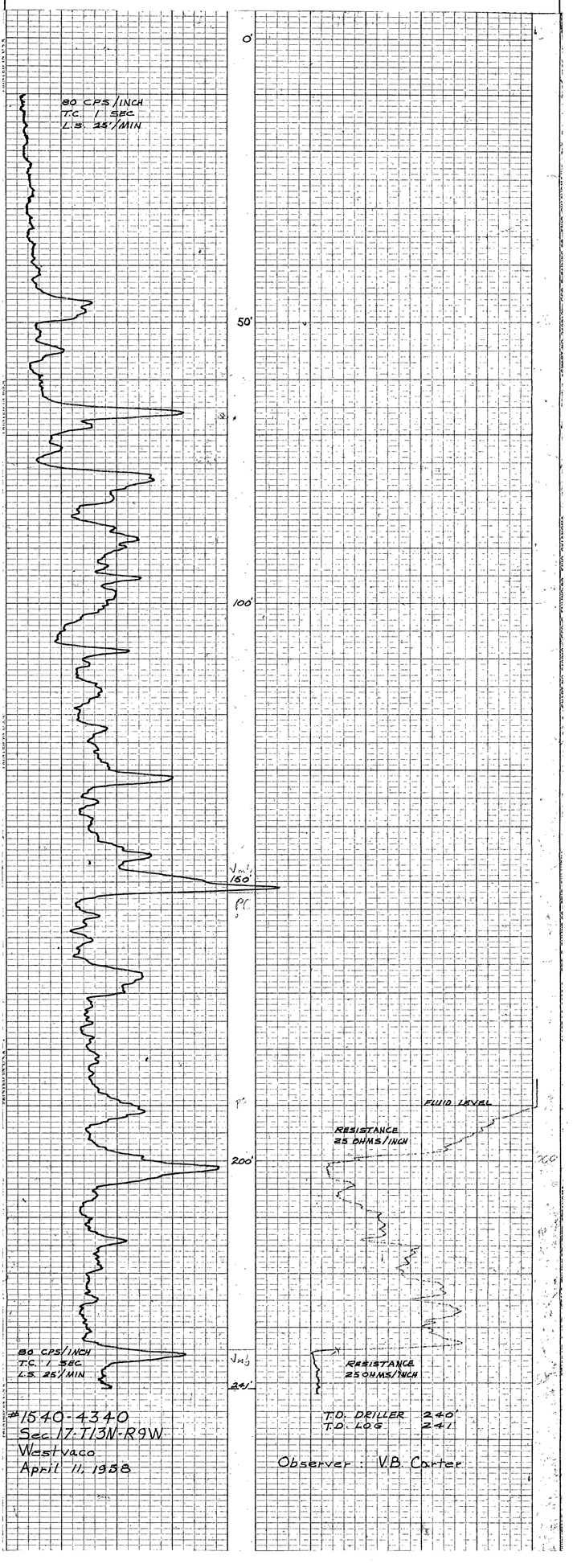
Type of Survey	GAMMA RAY RESISTANCE
Well	1540-4340
Field	---
Company	Westvaco
Location	Sec. 17. T13N-R9W
County	McKinley
State	New Mexico

Well	1540-4340
Company	Westvaco
County	McKinley
State	New Mexico
Location	Sec. 17. T13N-R9W
Date	April 11, 1958

Depth Datum	Ground Level	Elev.	6924
Bottom Depth: Log	241'	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
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 #1540-3440
Company Westraco
County McKinley
State New Mexico
Location Sec. 17, T13N-R9W
Date April 9, 1958

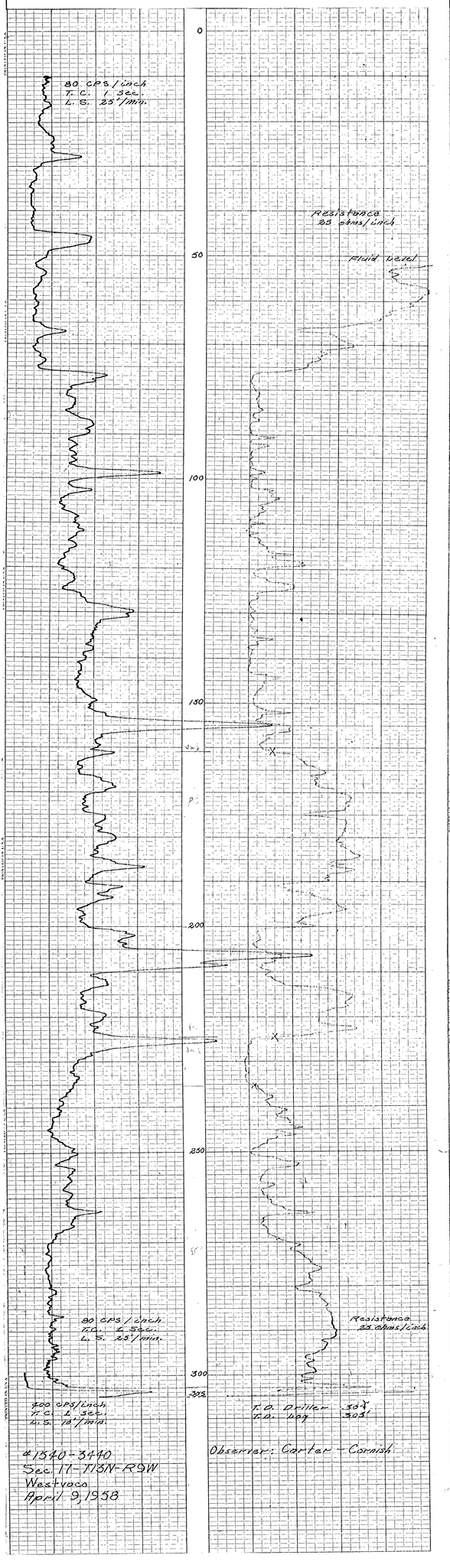
Type of Survey: GAMMA RAY - RESISTANCE

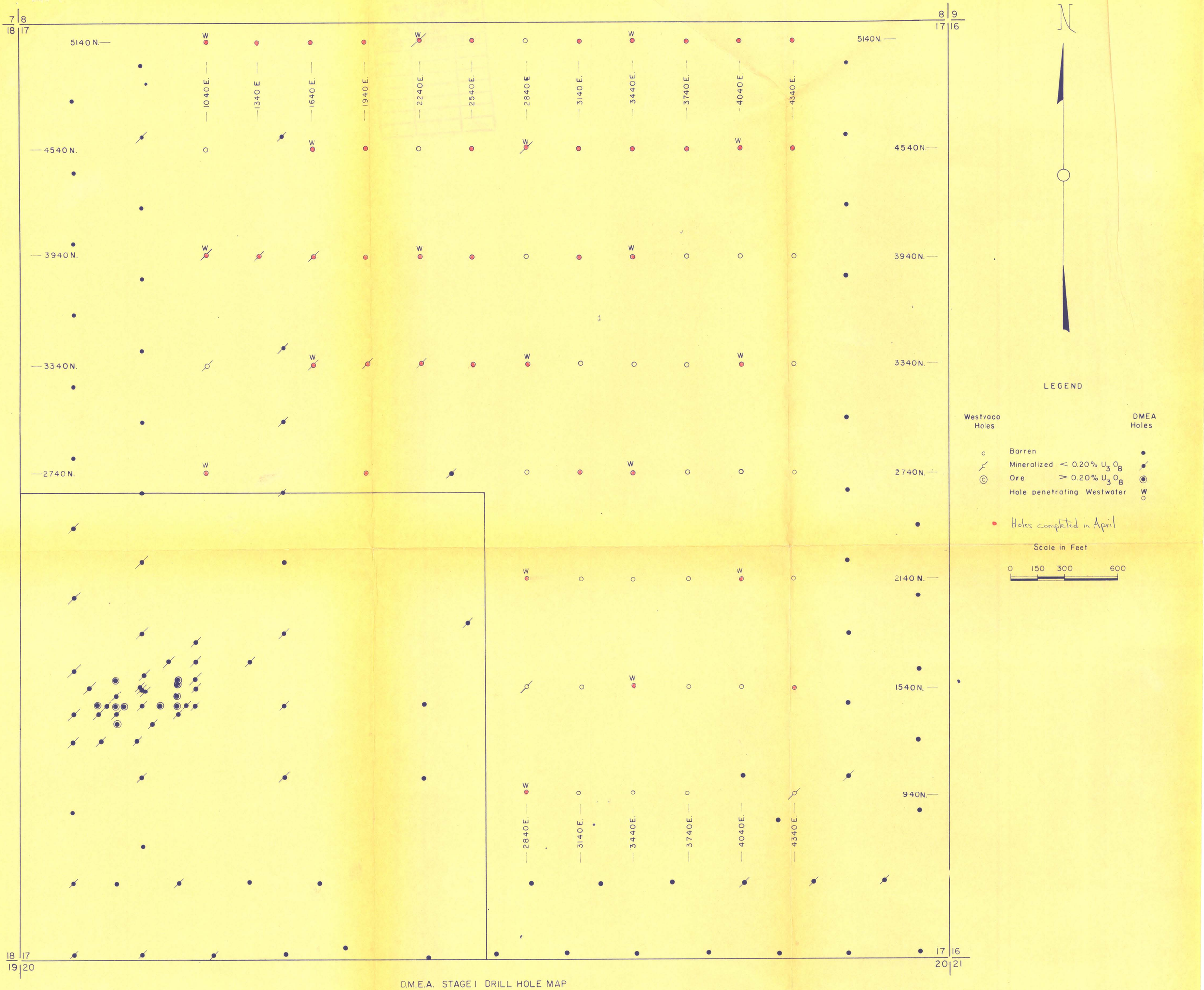
Well #1540-3440
Field —
Company Westraco
Location Sec. 17, T13N-R9W
County Mc Kinley
State New Mexico

Depth Datum Ground level — Elev. 6947
Bottom Depth: Log 304' — Driller 305'
Size Hole
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





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

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

Contract No. Idm-E1167
Docket No. 4845

DMEA holes drilled April and July, 1958