



**GAMMA RAY  
NEUTRON  
LOG**

Company **ENTANSCO ENERGY LLC**  
 Well **T. WIEBE #31-1**  
 Field **HAZLETT**  
 County **BUTLER** State **KANSAS**

Comp. ENTANSCO ENERGY LLC  
 Well T. WIEBE #31-1  
 Field HAZLETT  
 Co. BUTLER  
 State KANSAS

Location: 4620' FSL & 460' FEL  
 W/2 E/2 NE NE  
 SEC TWP RGE  
 Permanent Datum GL Elevation 1461'  
 Log Measured From KB 6' Above Perm. Datum  
 Drilling Measured From KB  
 Other Services GRN/  
 PERF  
 Elevation  
 K.B. 1467'  
 D.F. 1466'  
 G.L. 1461'

Date of Service	10/23/2018			
Run Number	ONE			
Depth Driller or PBTD	2610'			
Depth Logger	2600'			
Bottom Log Interval	2599'			
Top Log Interval	1200'			
Open Hole Size	7.875"			
Type Fluid	WATER			
Fluid Level	FULL			
Fluid Density	N/A			
Max. Recorded Temperature	100 DEG. F.			
Max. Wellhead Pressure	00 PSI			
Wellhead Connection	N/A			
Estimated Cement Top	1400'			
Unit Number	106			
Wireline Size	.288"			
Location	HAYS, KS			
Recorded By	M. HISS			
Witnessed By	RAY GILBERT			
Tubing Record	Size	WFt	Top	Bottom
Surface Casing	8.625"	23#	00'	209'
Production Casing	5.5"	15.5#	00'	TD
Liner Record				

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All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.  
 NEWTON KANSAS  
 EAST ON 150TH RD TO PURITY SPRINGS RD,  
 SOUTH 2 MILES  
 SOUTH AND WEST INTO

THANK YOU FOR USING PIONEER ENERGY SERVICES!

Your Pioneer Energy Services Crew	Tool Data - Services	Serial Number
Engineer: M. HISS Operator: K. PHANNENSTIEL Operator: Operator:	RBT-011	

# Log Variables

DatabaseC:\ProgramData\Warrior\Data\transco\_t\_wiebe#31\_1\_cbl\_grn.db  
Dataset field/well/run1/pass5/\_vars\_

## Top - Bottom


BOREID in 7.875	BOTTEMP degF 100	CASEOD in 5.5	CASETHCK in 0.275	CASEWGHT lb/ft 15.5	MAXAMPL mV 0	MINAMPL mV 1	MINATTN db/ft 0.08
NPORSEL Limestone	NPORSHIFT 0	PERFS 0	PPT usec 0	SRFTEMP degF 70	TDEPTH ft 2600		

## Variable Description

BOREID : Borehole I.D.  
BOTTEMP : Bottom Hole Temperature  
CASEOD : Casing O.D.  
CASETHCK : Casing Thickness  
CASEWGHT : Casing Weight  
MAXAMPL : Maximum Amplitude  
MINAMPL : Minimum Amplitude

MINATTN : Minimum Attenuation  
NPORSEL : Neutron Porosity Curve Select  
NPORSHIFT : NPORSHIFT  
PERFS : Perforation Flag  
PPT : Predicted Pipe Time  
SRFTEMP : Surface Temperature  
TDEPTH : Total Depth

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)	
			Cable Head-Titan_144 1 7/16" Titan Cable Head	1.03	1.44	2.00	
			Centralizer-275 Probe 2 3/4" Probe Adjustable Spring Centralizer	2.88	2.75	15.00	
			PROBE-RBT-DIGITAL-RBL-D (080554) Probe 2 3/4" Radii Bond-Digital	8.75	2.75	100.00	
WVFS8	16.35						
WVFS7	16.35						
WVFS6	16.35						
WVFS5	16.35						
WVFS4	16.35						
WVFS3	16.35						
WVFS2	16.35						
WVFS1	16.35						
WVFCAL	16.35						
WV3FT	16.35						
WV5FT	15.35						
HEADVOLT	12.17		Centralizer-275 Probe 2 3/4" Probe Adjustable Spring Centralizer	2.88	2.75	15.00	
CCL	8.39						

GR	7.08		PROBE-GR/CCL-DIGITAL-275 Probe GR-4.54 (11102.75 Probe 2 3/4" Gamma Ray / CCL DIGITAL			60.00
NEU	1.08		NEU-PRNEU (ProbeNEU1)	4.75	1.88	

Dataset: entransco\_t\_wiebe#31\_1\_cbl\_grn.db: field/well/run1/pass5  
 Total length: 24.83 ft  
 Total weight: 192.00 lb  
 O.D.: 2.75 in

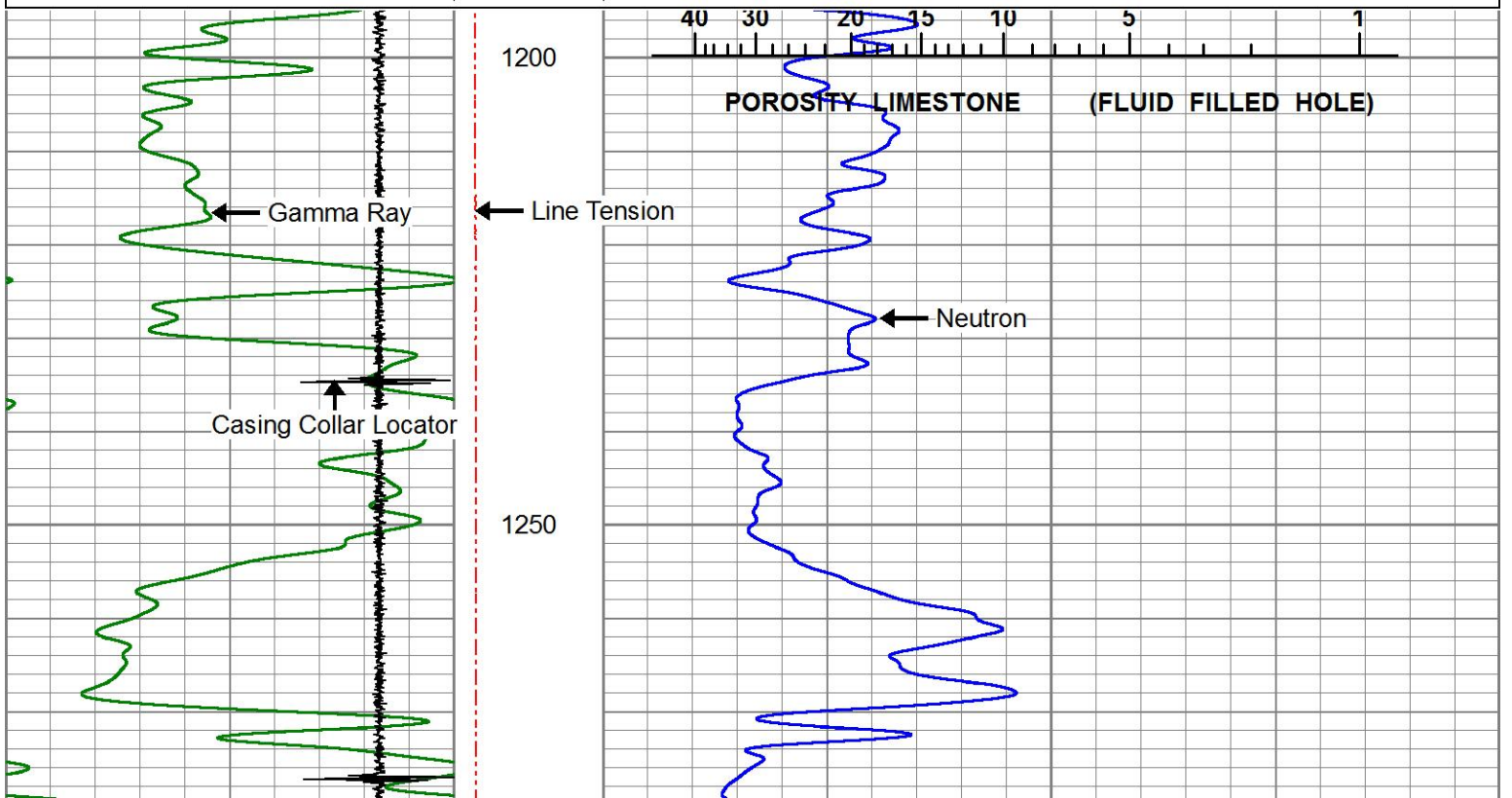


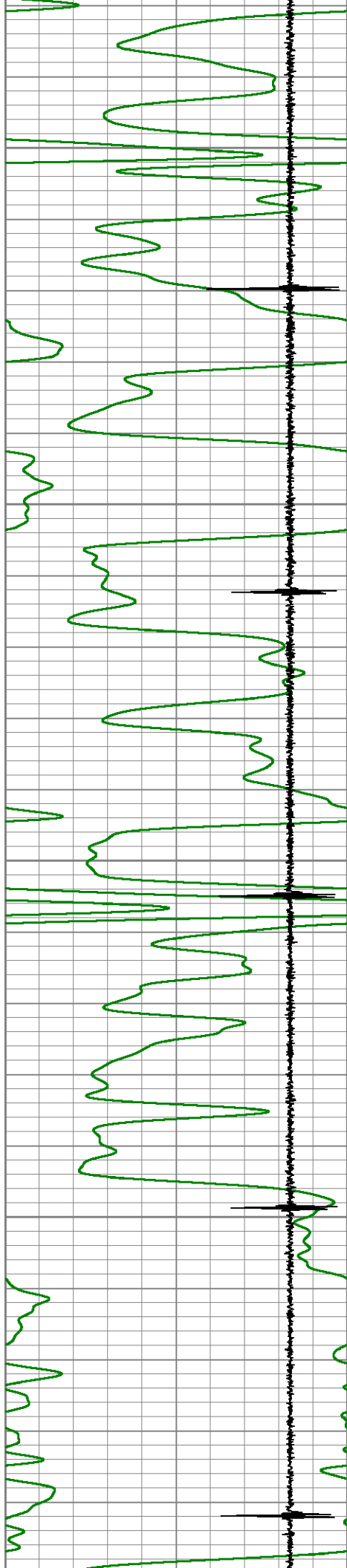
# MAIN LOG

ZERO PSI APPLIED AT SURFACE

Database File: entransco\_t\_wiebe#31\_1\_cbl\_grn.db  
 Dataset Pathname: pass5  
 Presentation Format: PINR\_G~4  
 Dataset Creation: Tue Oct 23 08:48:41 2018  
 Charted by: Depth in Feet scaled 1:240

0	GR (GAPI)	150	LTEN	20	NEU (NAPI)	345
-5	CCL	1	0	(lb2000)		





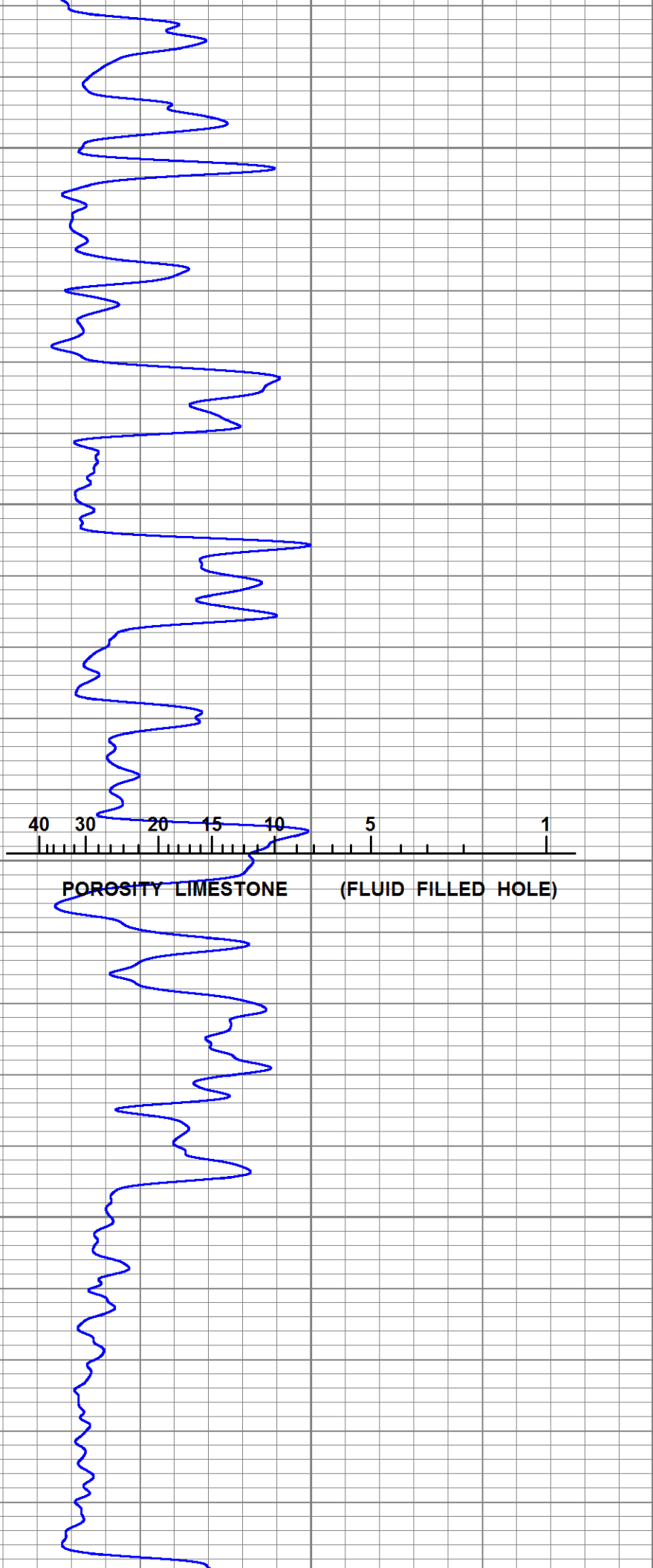
1300

1350

1400

1450

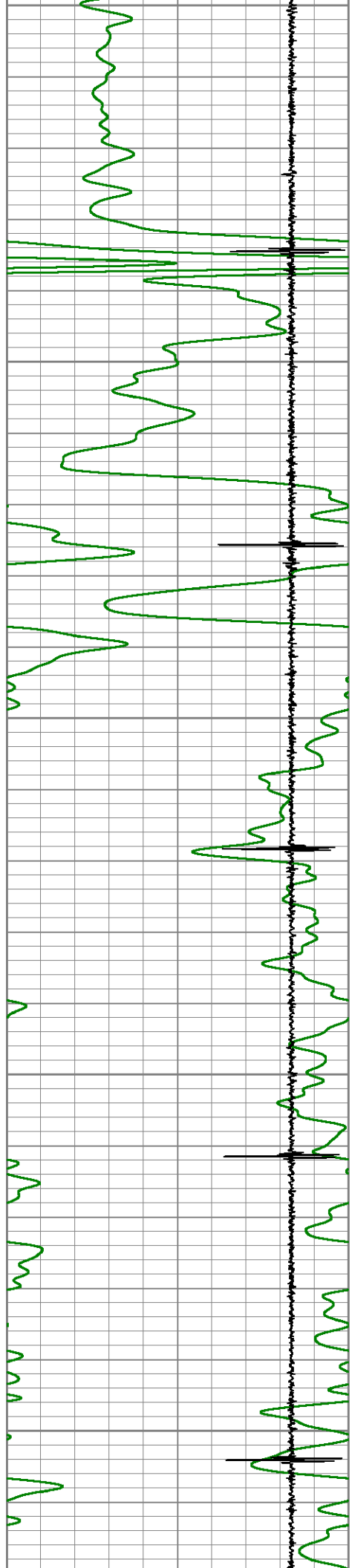
1500



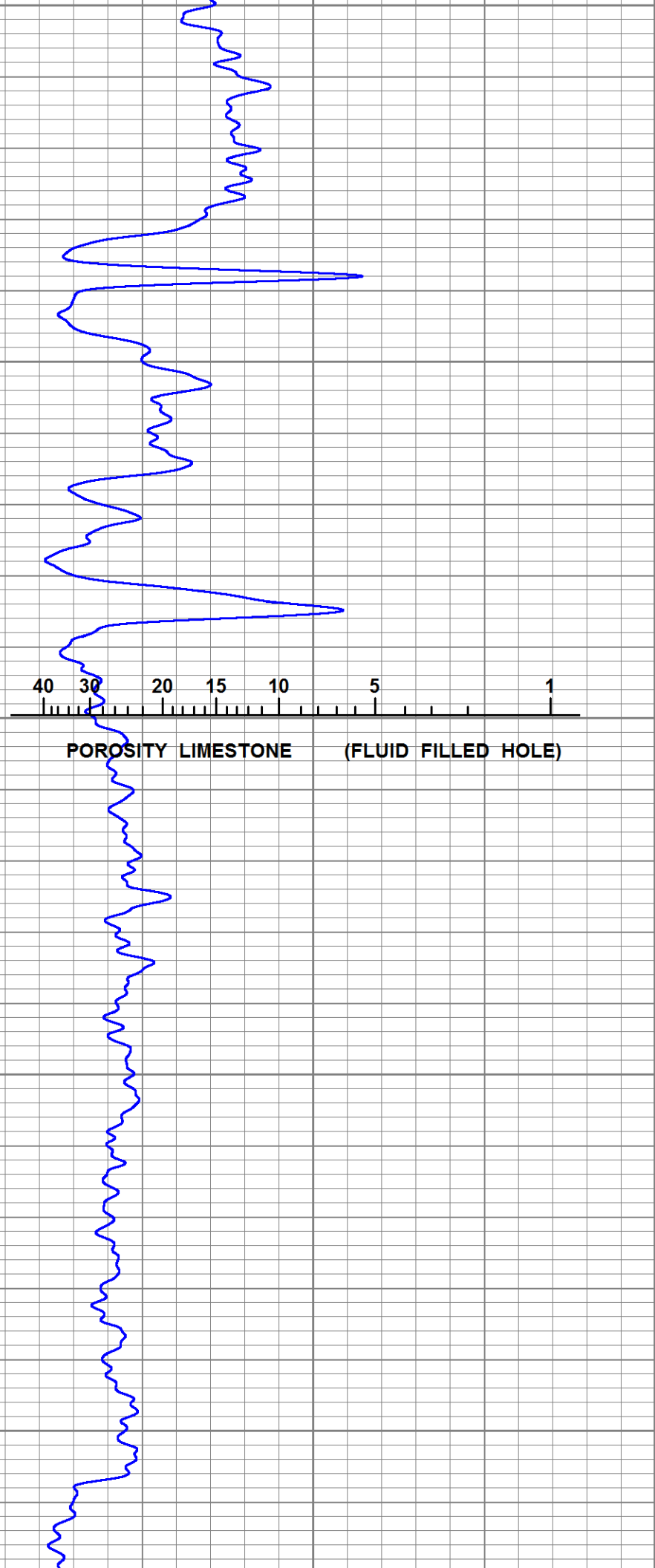
40 30 20 15 10 5 1

POROSITY LIMESTONE

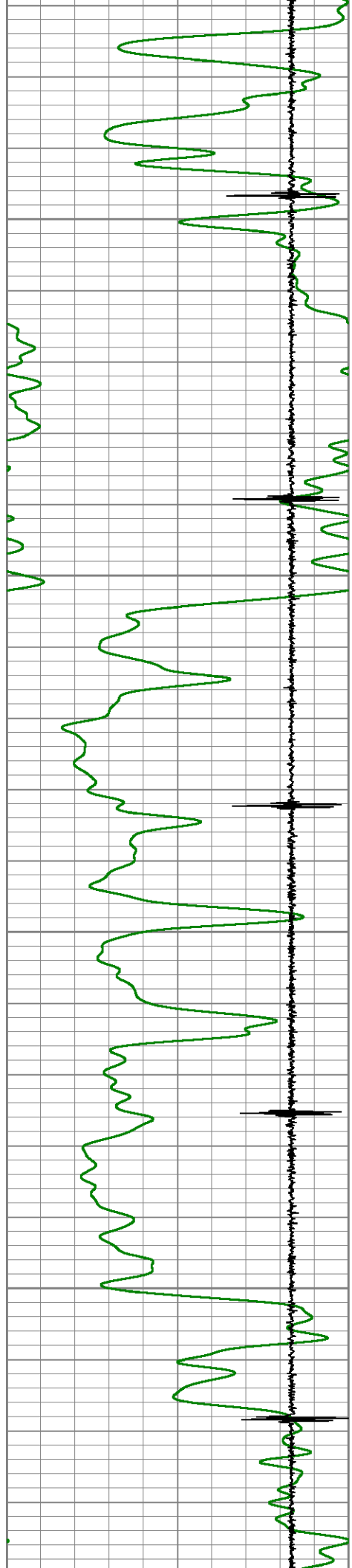
(FLUID FILLED HOLE)



1500  
1550  
1600  
1650  
1700



40 30 20 15 10 5 1  
POROSITY LIMESTONE (FLUID FILLED HOLE)

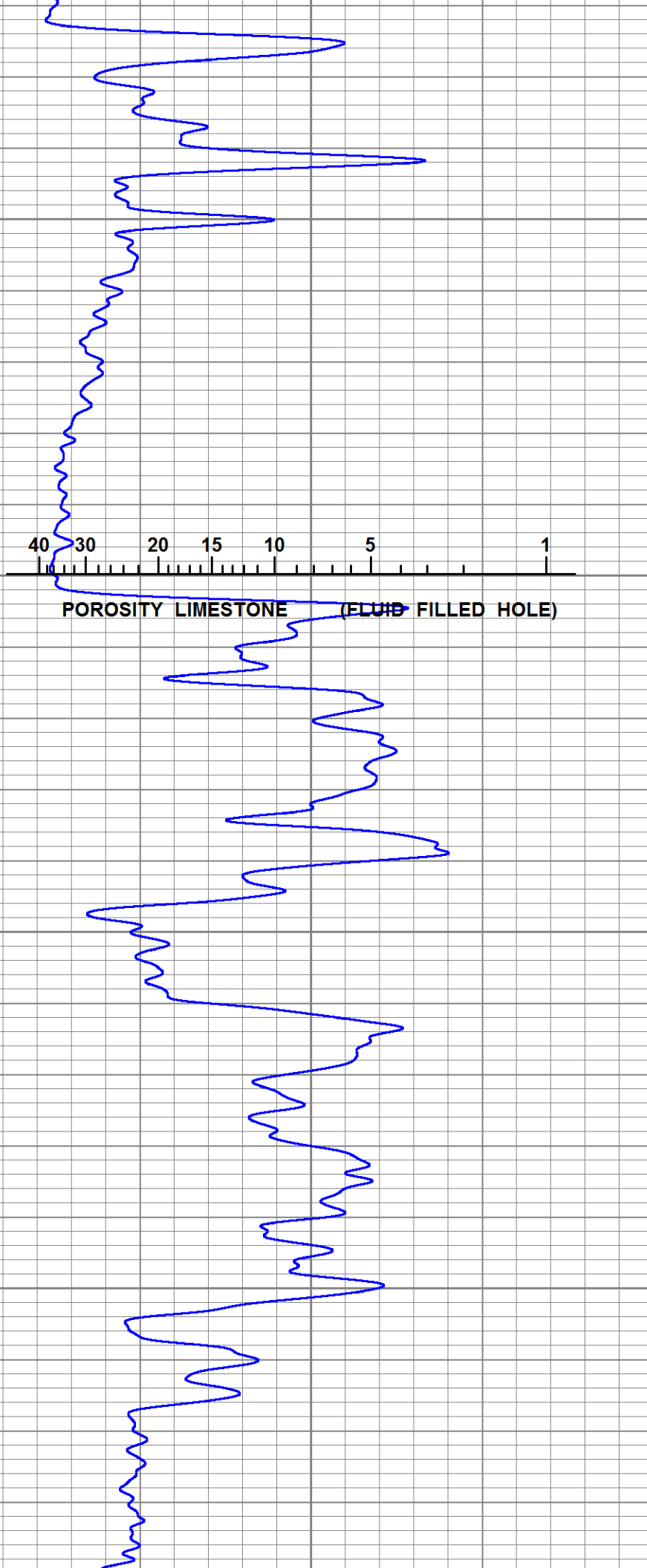


1750

1800

1850

1900



40

30

20

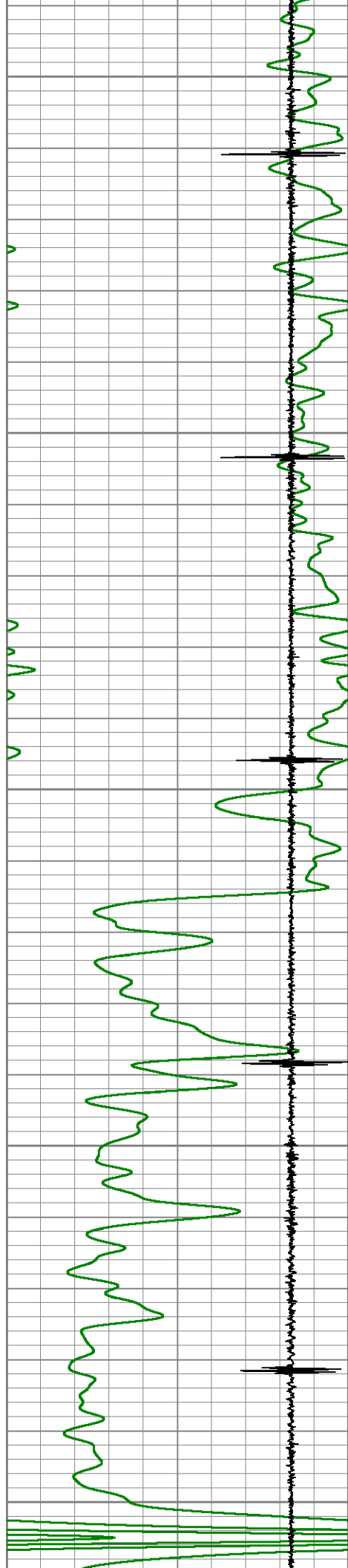
15

10

5

1

POROSITY LIMESTONE (FLUID FILLED HOLE)



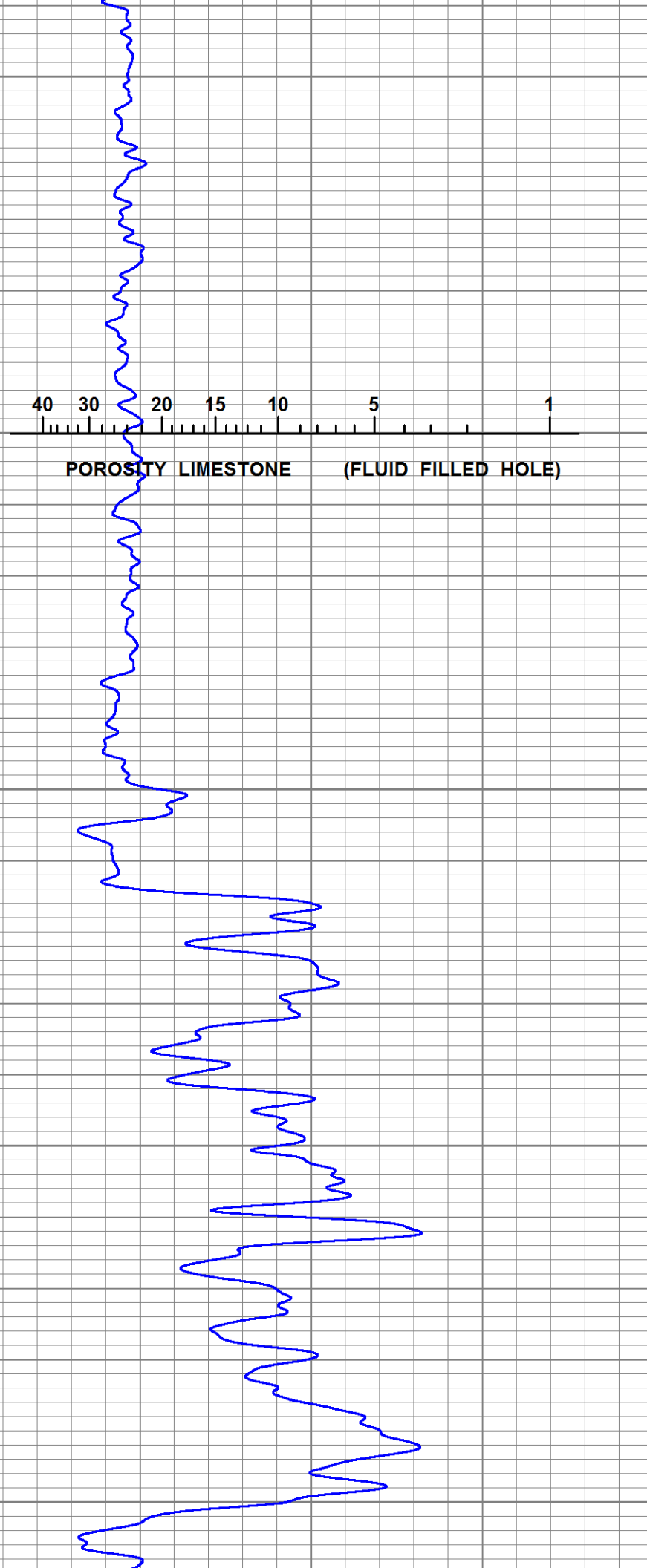
1950

2000

2050

2100

2150



40

30

20

15

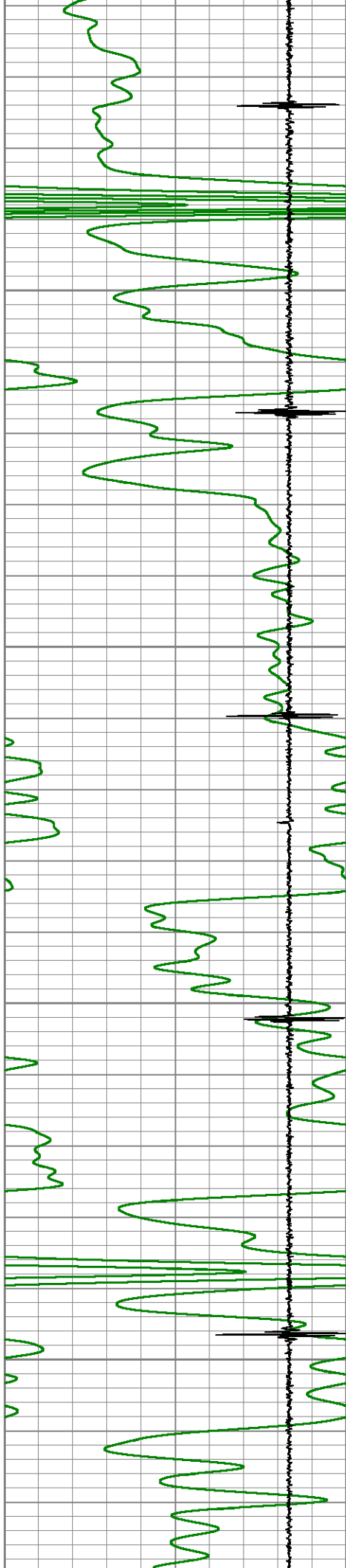
10

5

1

POROSITY LIMESTONE

(FLUID FILLED HOLE)

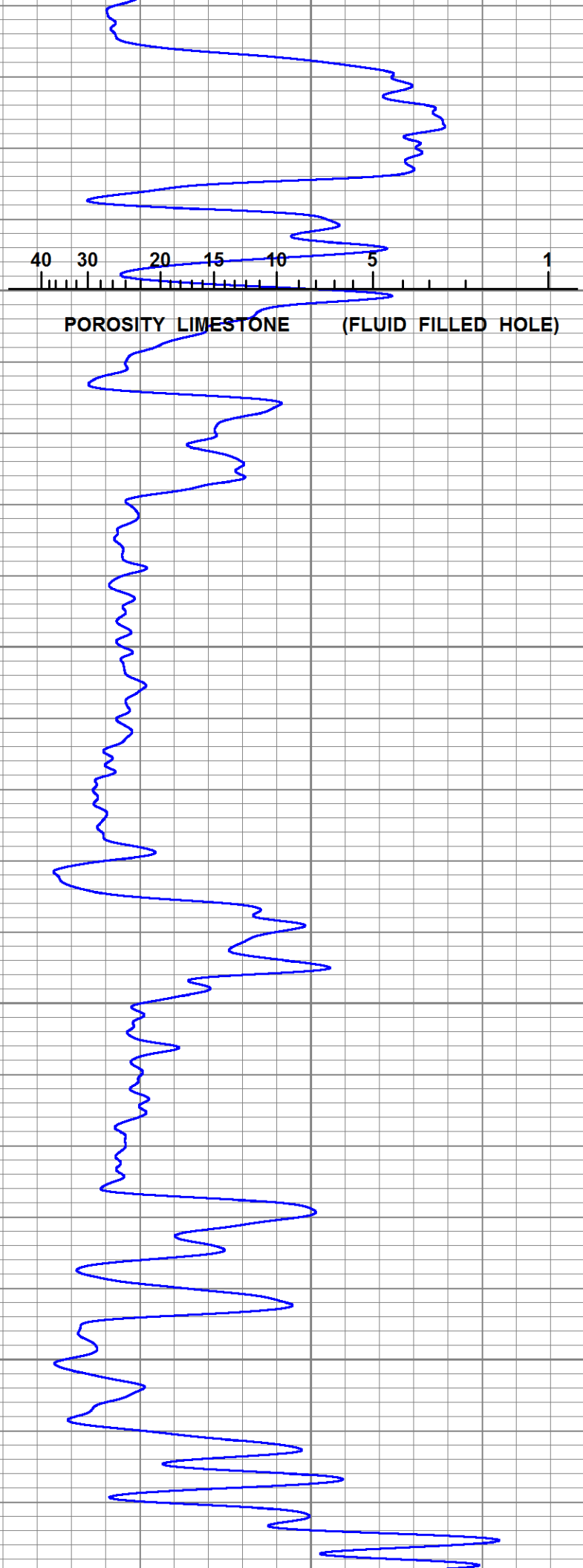


2200

2250

2300

2350



40

30

20

15

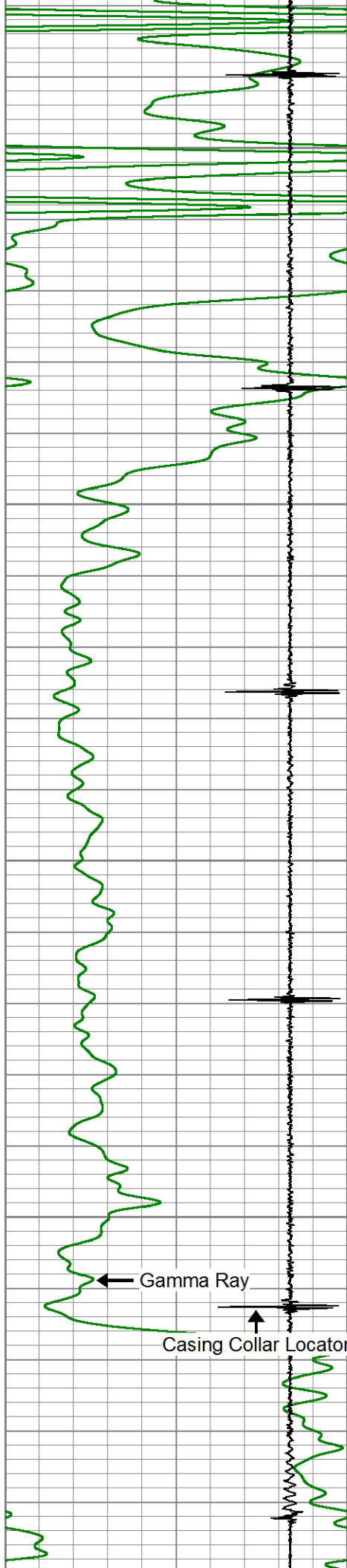
10

5

1

POROSITY LIMESTONE

(FLUID FILLED HOLE)



2400

2450

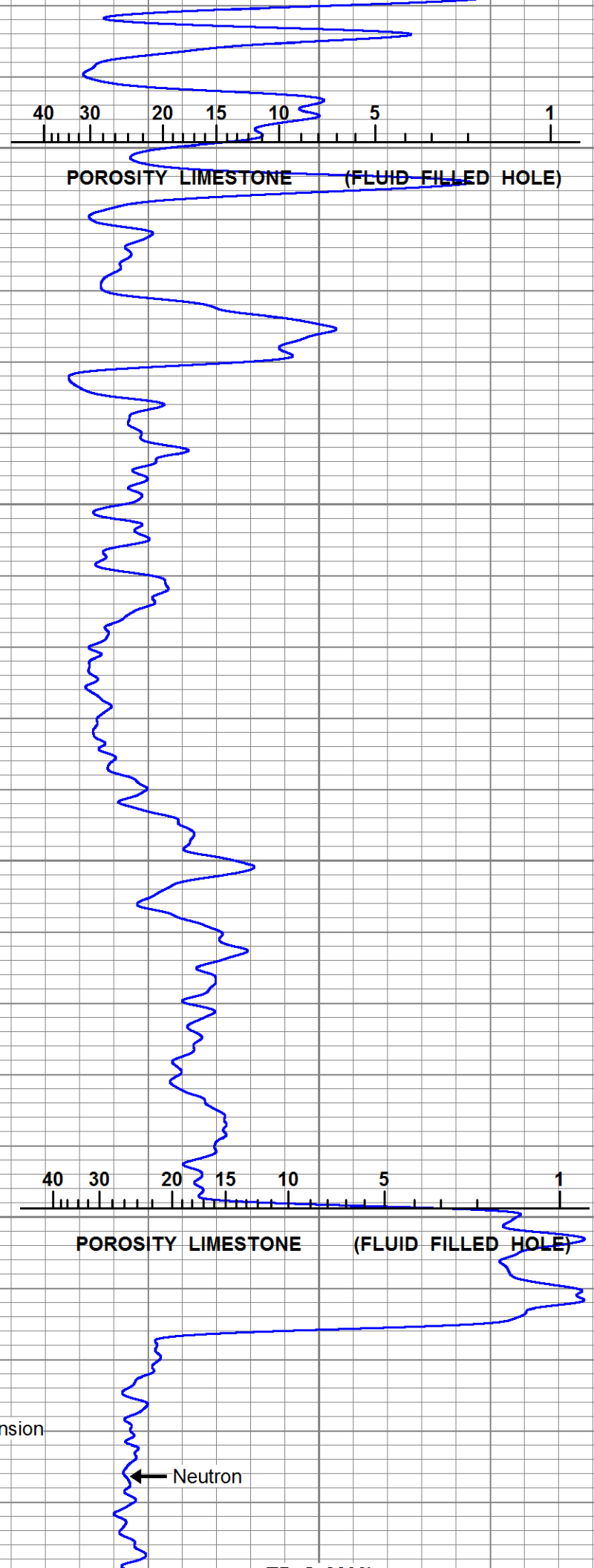
2500

2550

Gamma Ray

Casing Collar Locator

Line Tension



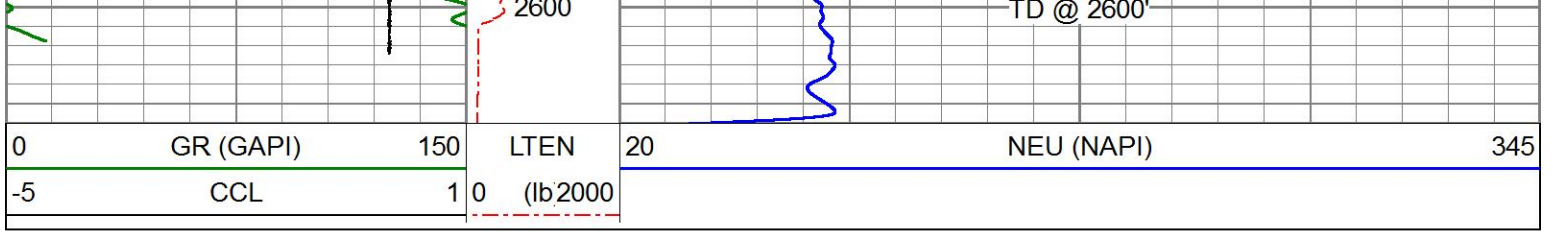
40 30 20 15 10 5 1


POROSITY LIMESTONE (FLUID FILLED HOLE)

40 30 20 15 10 5 1

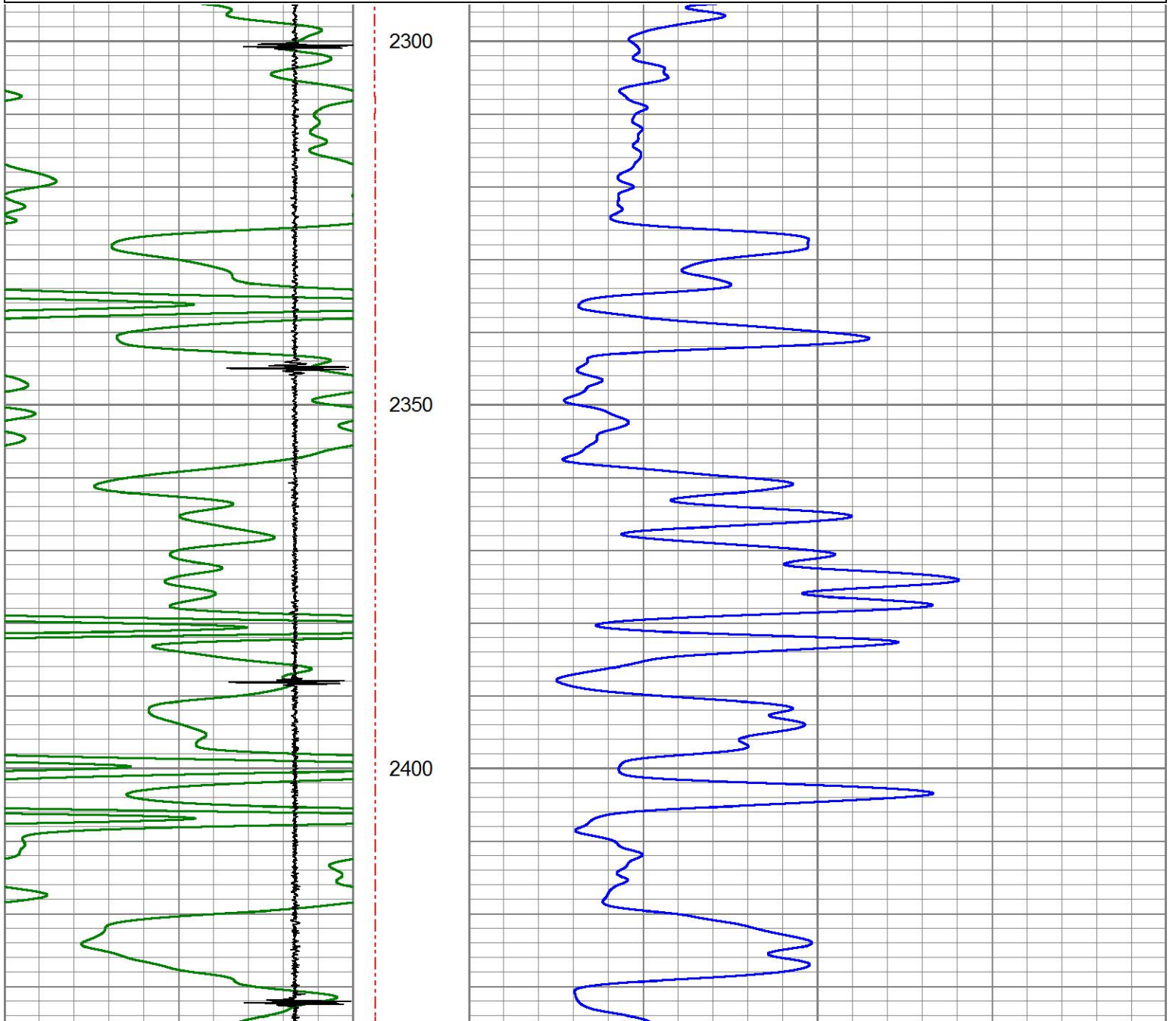
POROSITY LIMESTONE (FLUID FILLED HOLE)

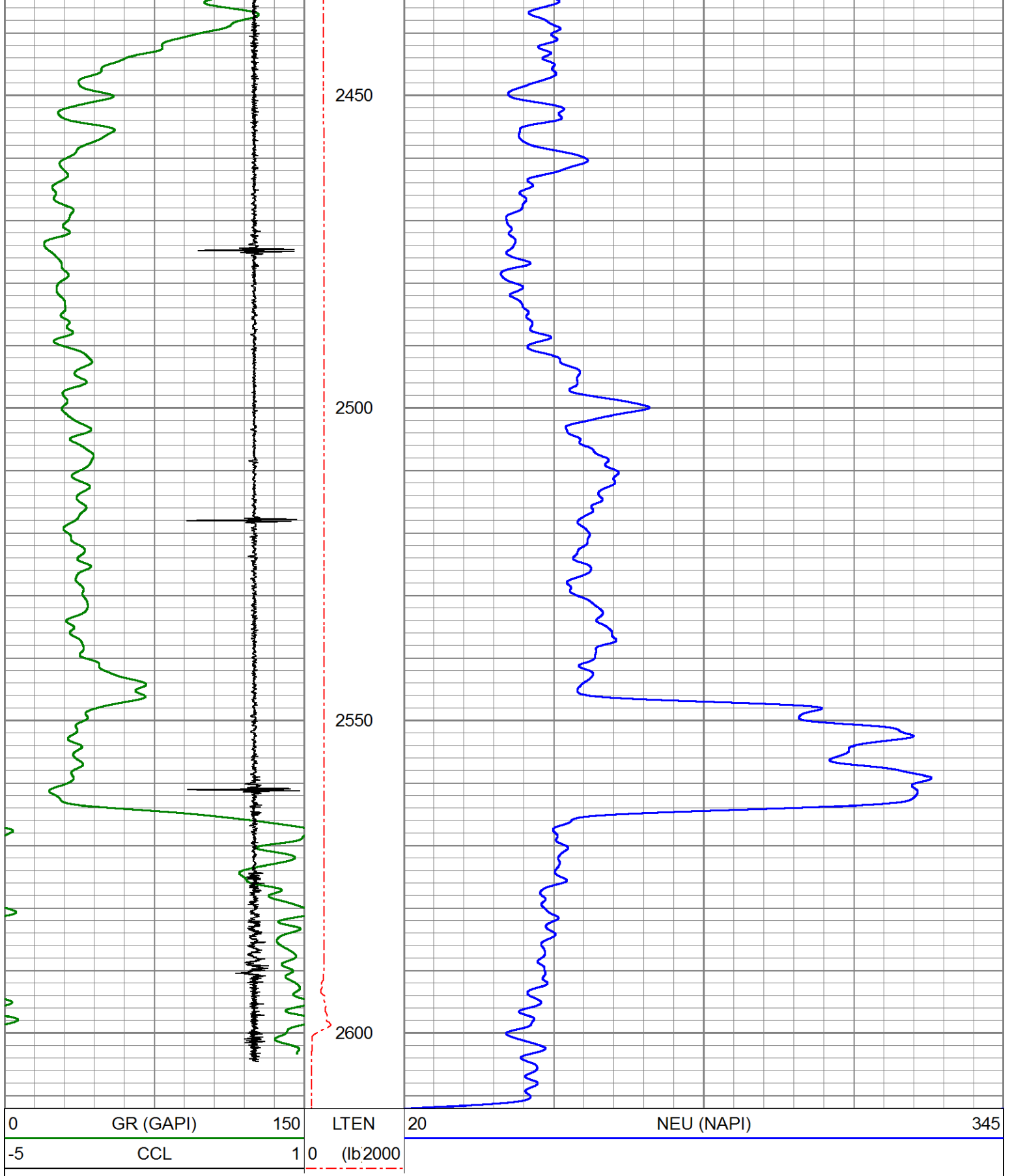
Neutron



	<h2 style="margin: 0;">REPEAT SECTION</h2> <h3 style="margin: 0;">ZERO PSI APPLIED AT SURFACE</h3>
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Database File	entransco_t_wiebe#31_1_cbl_grn.db
Dataset Pathname	pass4
Presentation Format	PINR_G~4
Dataset Creation	Tue Oct 23 08:36:17 2018
Charted by	Depth in Feet scaled 1:240





Calibration Report

Database File entransco\_t\_wiebe#31\_1\_cbl\_grn.db  
 Dataset Pathname pass5  
 Dataset Creation Tue Oct 23 08:48:41 2018

Neutron Calibration Report

Serial Number:

ProbeNEU11

Serial Number: 11032  
 Tool Model: PRNEU  
 Performed: (Not Performed)

Calibrator Value: 1 NAPI  
 Calibrator Reading: 1 cps  
 Sensitivity: 1 NAPI/cps

Gamma Ray Calibration Report

Serial Number: 111032  
 Tool Model: 275 Probe GR-CCL  
 Performed: Wed Sep 26 09:20:51 2018

Calibrator Value: 1.0 GAPI  
 Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps  
 Sensitivity: 1.1000 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: 080554  
 Tool Model: RBL-D

Calibration Casing Diameter: 5.500 in  
 Calibration Depth: 1279.589 ft

Master Calibration, performed Tue Oct 23 08:26:33 2018:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	2.145	0.700	71.921	33.214	0.692
CAL	-0.004	2.370				
5'	-0.001	2.151	0.700	71.921	33.102	0.728
SUM						
S1	0.036	2.010	0.000	100.000	50.637	-1.801
S2	0.013	2.047	0.000	100.000	49.165	-0.619
S3	0.014	2.123	0.000	100.000	47.429	-0.681
S4	0.018	2.189	0.000	100.000	46.059	-0.838
S5	0.017	2.251	0.000	100.000	44.759	-0.742
S6	0.018	2.280	0.000	100.000	44.214	-0.797
S7	0.009	2.228	0.000	100.000	45.065	-0.422
S8	0.005	2.071	0.000	100.000	48.411	-0.255

Air Zero Calibration, performed Tue Oct 23 08:14:48 2018:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.000		0.000			0.000
5'	0.000		0.000			0.000
SUM						
S1	0.000		0.000			0.000
S2	0.000		0.000			0.000
S3	0.000		0.000			0.000
S4	0.000		0.000			0.000
S5	0.000		0.000			0.000
S6	0.000		0.000			0.000
S7	0.000		0.000			0.000
S8	0.000		0.000			0.000



**PIONEER**

Pioneer Energy Services

Company	ENTANSCO ENERGY LLC
Well	T. WIEBE #31-1
Field	HAZLETT
County	BUTLER
State	KANSAS