

Company **CMX, INC.**
 Well **BUSHTON #2-36**
 Field **HEIKEN**
 County **ELLSWORTH**
 State **KANSAS**



**COMPENSATED NEUTRON
 LITHOLOGY DENSITY
 GAMMA RAY X-Y CALLIPER
 MICROLOG**

SEC	TWP	RGE	OTHER SERVICES:	
36	17S	10W	DIL	
Location: 1360' FSL & 1660' FEL		SW/SE/NW/SE		
SURE: SAME		AP#: 015-053-21337-00-00		
Permanent Datum	Ground Level	Elev	1760	ELEVATIONS
Log Measured From	Kelly Bushing			K.B. 1768
Drilling Measured From	Kelly Bushing			G.L. 1760
				D.F. 1766

Date	27-AUG-2015			
Run No.	ONE			
TD Driller	3255	ft		ft
TD RECON	3252	ft		ft
Bot Logged Interval	3251	ft		ft
Top Logged Interval	370	ft		ft
Casing Depth Driller	8 5/8	in.	@ 389	in. @
Casing Depth RECON	8 5/8	in.	@ 389	in. @
Bit Size	7 7/8	in.		in.
Drilling Fluid Type	WBM			
Density	9.4		40	
Fluid Loss	8.8		8.6	
PH				
Source Of Sample	Flowline			
RM @ Measured Temp	5.32	Ohmm	@ 75	Ohmm @
RMF @ Measured Temp	3.99	Ohmm	@ 75	Ohmm @
RMC @ Measured Temp	6.65	Ohmm	@ 75	Ohmm @
RM @ MRT	3.71	Ohmm	@ 104.7	Ohmm @
Max Recorded Temp	104.7	DegF		DegF
Time Circulation Stopped	26-AUG-2015		18:30	
Time Drilling Stopped	27-AUG-2015		11:30	
Time Logger On Bottom	27-AUG-2015		14:50	
Unit Num	S406	Location	OKLAHOMA CITY, OK	
Recorded By	K.HELDERRMON			
Witnessed By	K.LebLanc			L.Kasten

All interpretations are based on inferences from electrical or other readings, and therefore, RECON cannot and will not guarantee the accuracy of any interpretations of log data. RECON shall not be liable for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from

interpretations made by any of our officers, agents or employees, except in the case of provable Gross Negligence or willfull damage. Interpretations are also subject to the terms and conditions of our Price Schedule and General Service Agreement.

RIG INFORMATION

Drill Contr/Rig#	DUKE DRILLING #2
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GENERAL REMARKS SECTION

FIRST RUN IN THE HOLE
 CNL AND LDT LOGGED IN A LIMESTONE MATRIX
 TOP MARK - 324, BOTTOM MARK - 3126.2
 CNL/LDT LOGGED MATRIX: 2.71 g/cc.

CHLORIDES: 6500
 LCM: NONE

THANK YOU FOR USING RECON PETROTECHNOLOGIES LTD.

AHV CALCULATED ON 5.5" PROD. CASING

CREW: J.THOMAS

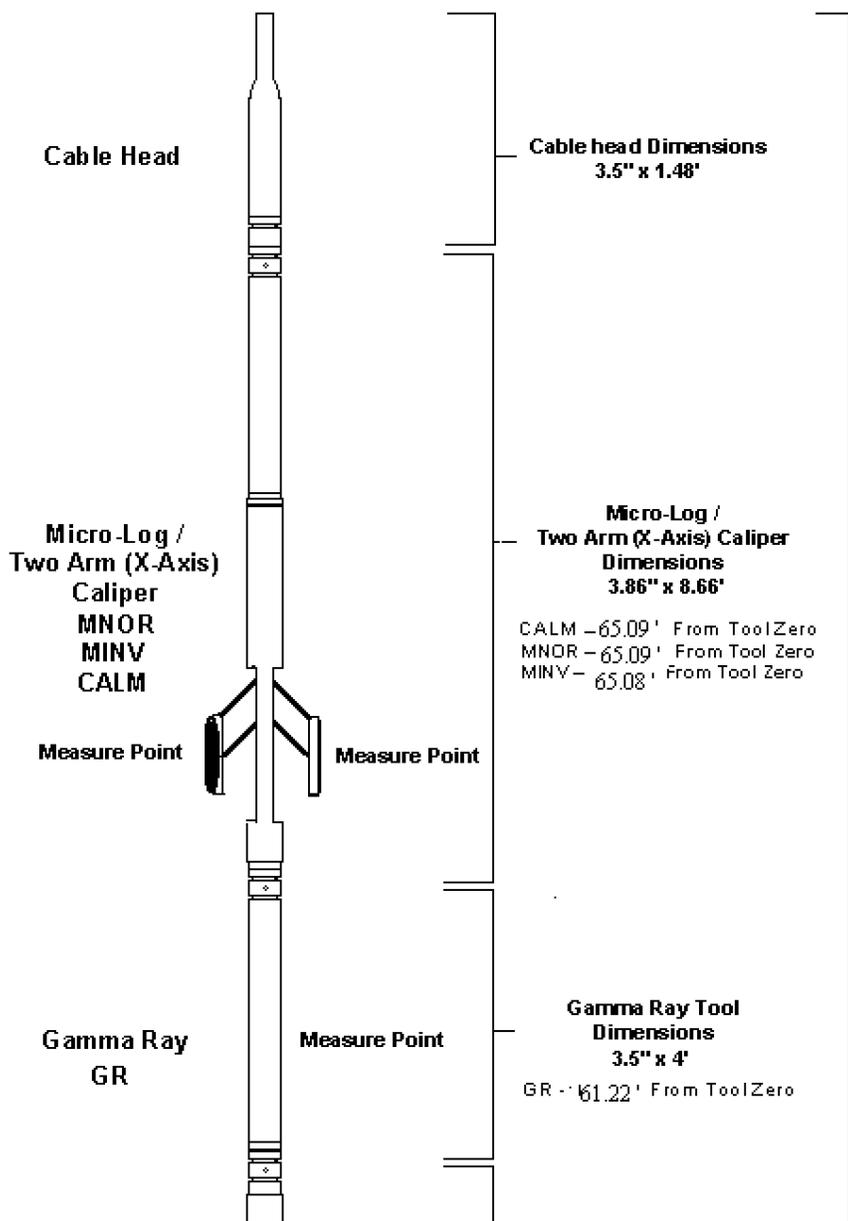
CEMENT VOLUME CALCULATIONS SUMMARY

Tool Type	LDT-CNT	Caliper Type X-Y CALIPERS		
Tool Serial #	RN2016 / RL4101			
	Borehole Total	Annular Volume with Casing	From Depth (MKb)	To Depth (MKb)
VOLUMES	1405 Cubic Feet	928 Cubic Feet	370	3252

CASING INFORMATION

	SIZE (in)	GRADE	WEIGHT (lbs/ft)	ID (in)	TOP DEPTH	BOT DEPTH
SURFACE CASING	8 5/8	J-55	23	N/A	Surface	389
INTERMEDIATE CASING	N/A	N/A	N/A	N/A	Surface	N/A
PRODUCTION CASING	5 1/2	N/A	N/A	N/A	Surface	3255

**DUAL INDUCTION – SP / BHC SONIC /
 GAMMA RAY / LITHO-DENSITY / X CALIPER
 COMPENSATED NEUTRON / Y-CALIPER
 MICRO - LOG / M-CALIPER**



Compensated Neutron
Y - Axis Caliper
NP (SS,LS,DL)
CALY

Compensated Neutron
Y-Axis Caliper
Dimensions
3.98" x 10.25'

CALY - 52.89' From ToolZero
CNL LS - 52.07' From ToolZero
CNL SS - 51.48' From ToolZero

Measure Point

Digital Telemetry

Digital Telemetry Section
Dimensions
3.5" x 3.15'

Tool String
Length Total
73.64'

Compensated
Litho-Density (Pe)
X - Axis Caliper

Compensated Litho-Density
X-Axis Caliper
Dimensions
3.98" x 9.35'

CALX - 38.94' From ToolZero
LDT w1 -
LDT w2 -
LDT w3 -] -38.68' From ToolZero
LDT w4 -
LDT SS - 38.19' From ToolZero

DP(SS,LS,DL)
RHOB
DRHO
PE
CALX
Measure Point

Borehole
Compensated
Sonic

Borehole Compensated Sonic
Tool Dimensions
3.5" x 15.75'

T1R1 - 33.35' From ToolZero
T1R2 - 31.35' From ToolZero

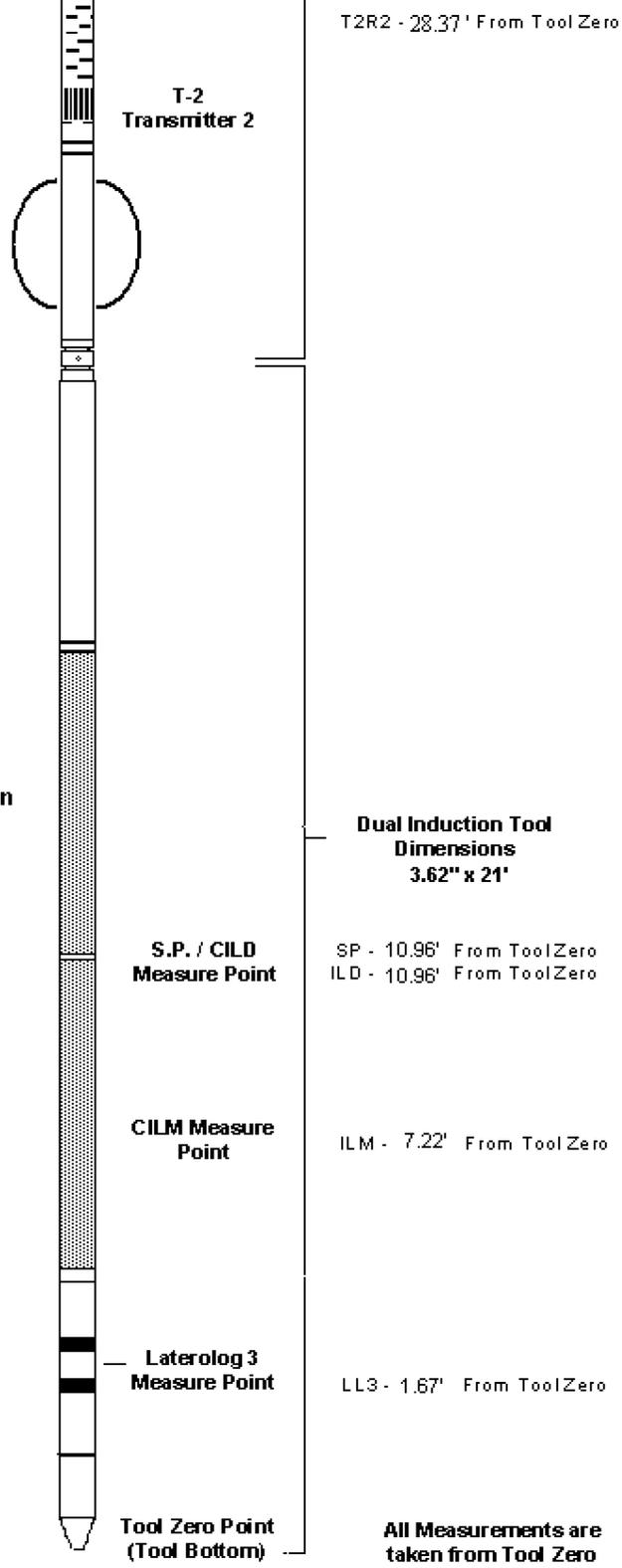
SP(SS,LS,DL)
DT
TTI
VDL
TT
Measure Point
Tool First Reading
Point

T-1
Transmitter 1

R-1
Receiver 1

R-2
Receiver 2

T2R1 - 28.54' From ToolZero



T2R2 - 28.37' From Tool Zero

T-2
Transmitter 2

Dual Induction
SP
ILD
ILM
LL3

Dual Induction Tool
Dimensions
3.62" x 21'

S.P. / CILD
Measure Point

SP - 10.96' From ToolZero
ILD - 10.96' From ToolZero

CILM Measure
Point

ILM - 7.22' From Tool Zero

Laterolog 3
Measure Point

LL3 - 1.67' From ToolZero

Tool Zero Point
(Tool Bottom)

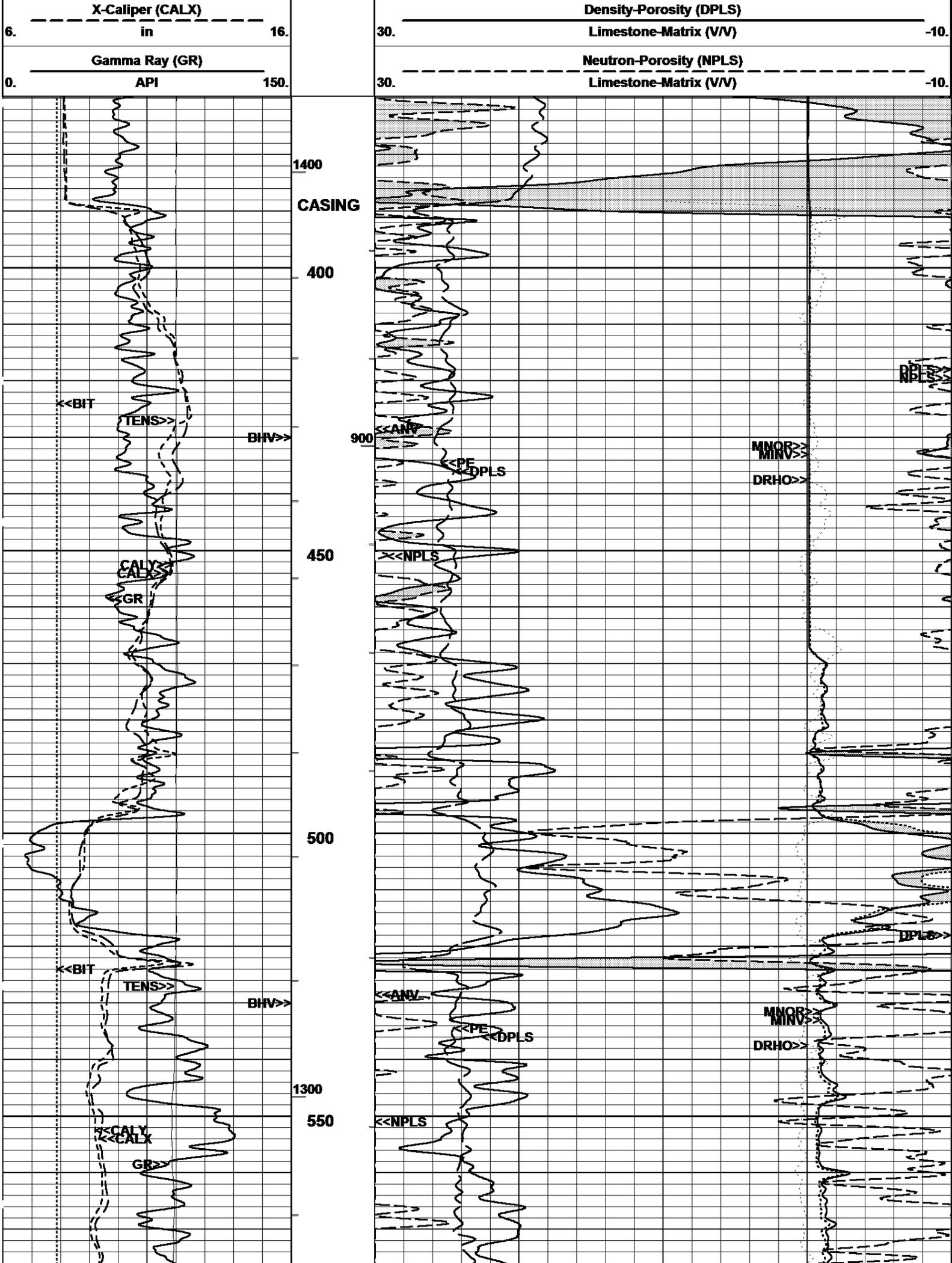
All Measurements are
taken from Tool Zero

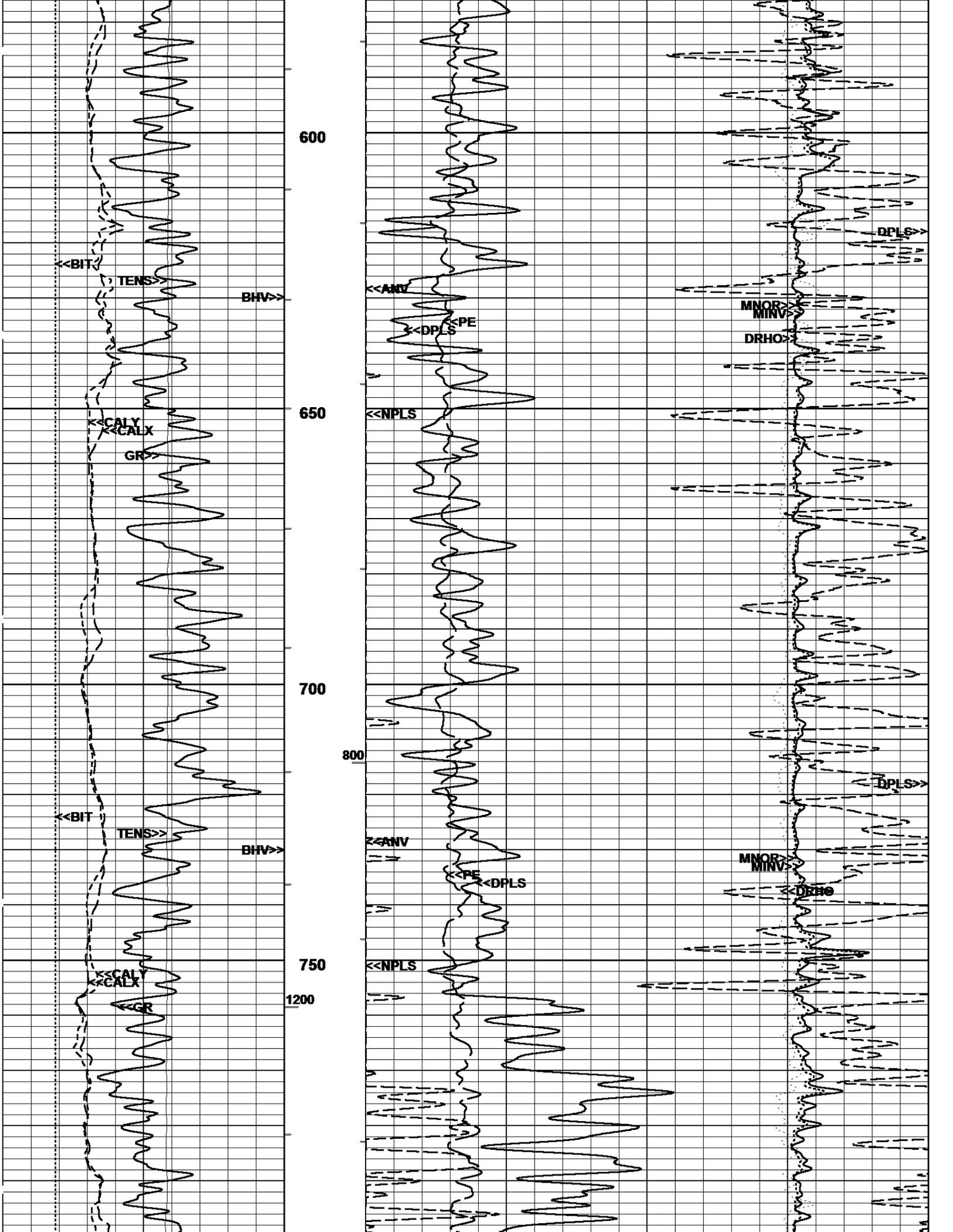
Tool First Reading
Point

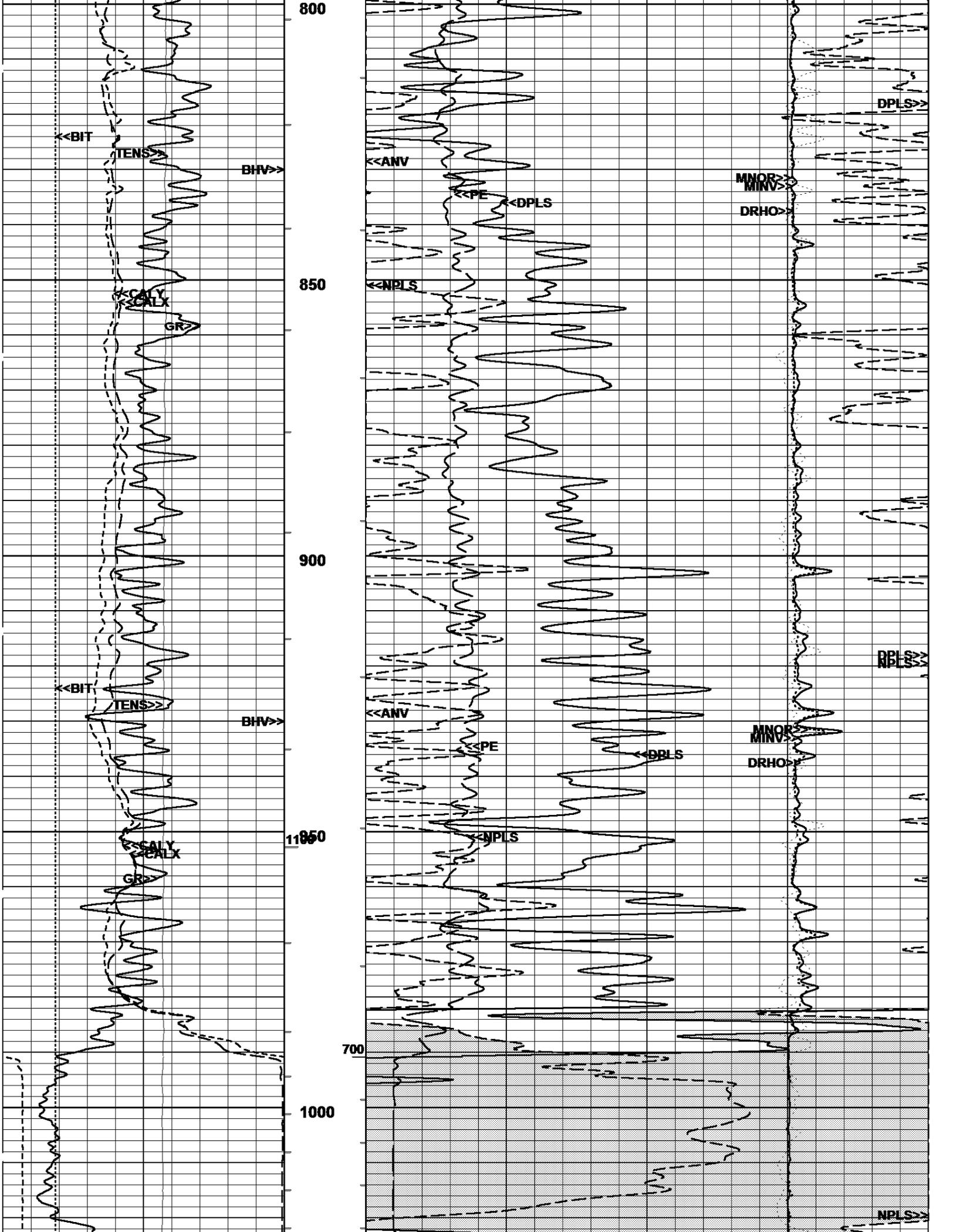
08/27/2015 **MAIN PASS - LIMESTONE (5"/100ft)** Log UP - (VER 11.19)
16:46:11 => End Time End Depth=> 369.90 Feet

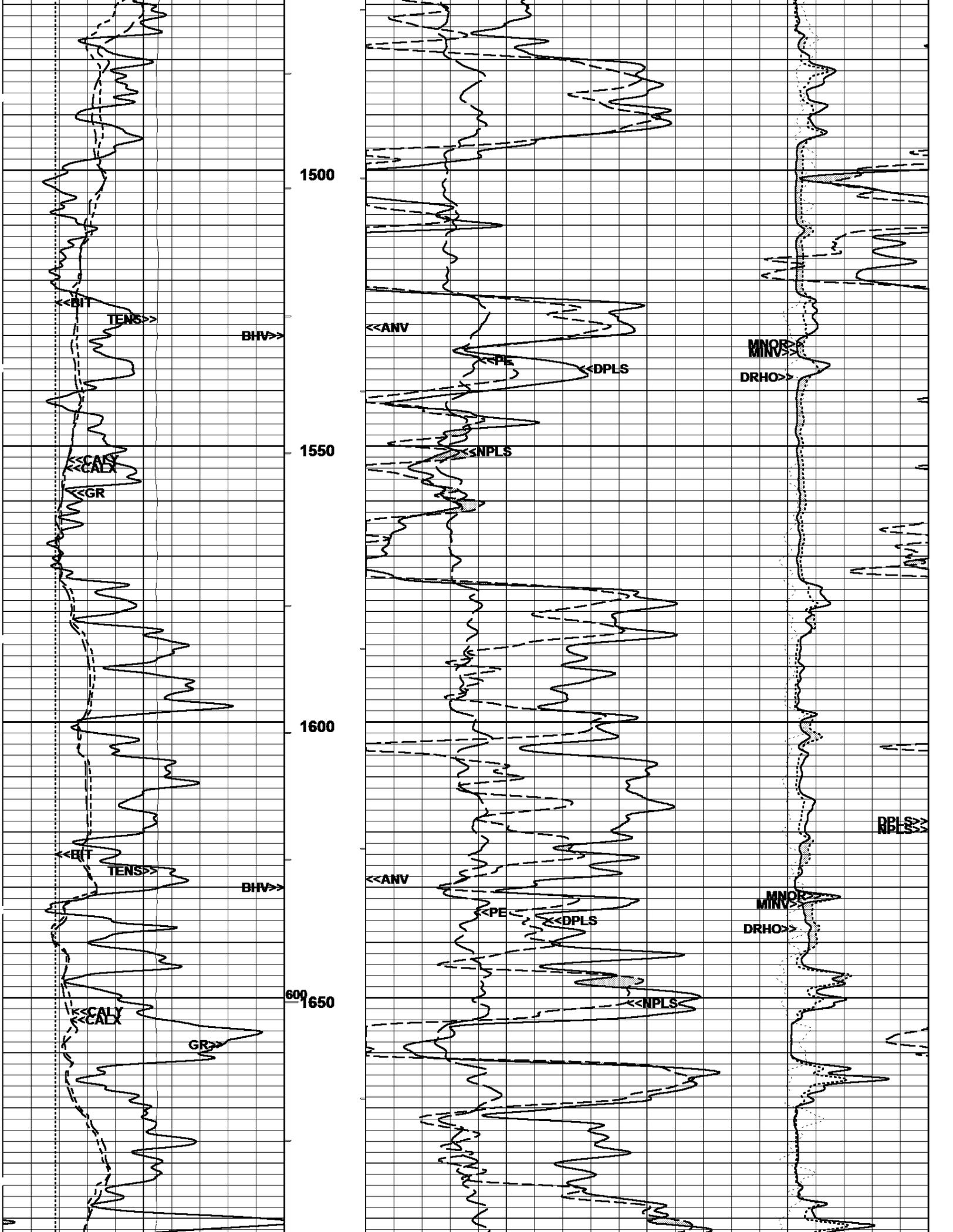
Bit Size (BIT)		
6.	Ref in	16.
Tension (TENS)		
5000.	Lbs	0.
Y-Caliper (CALY)		
6.	in	16.

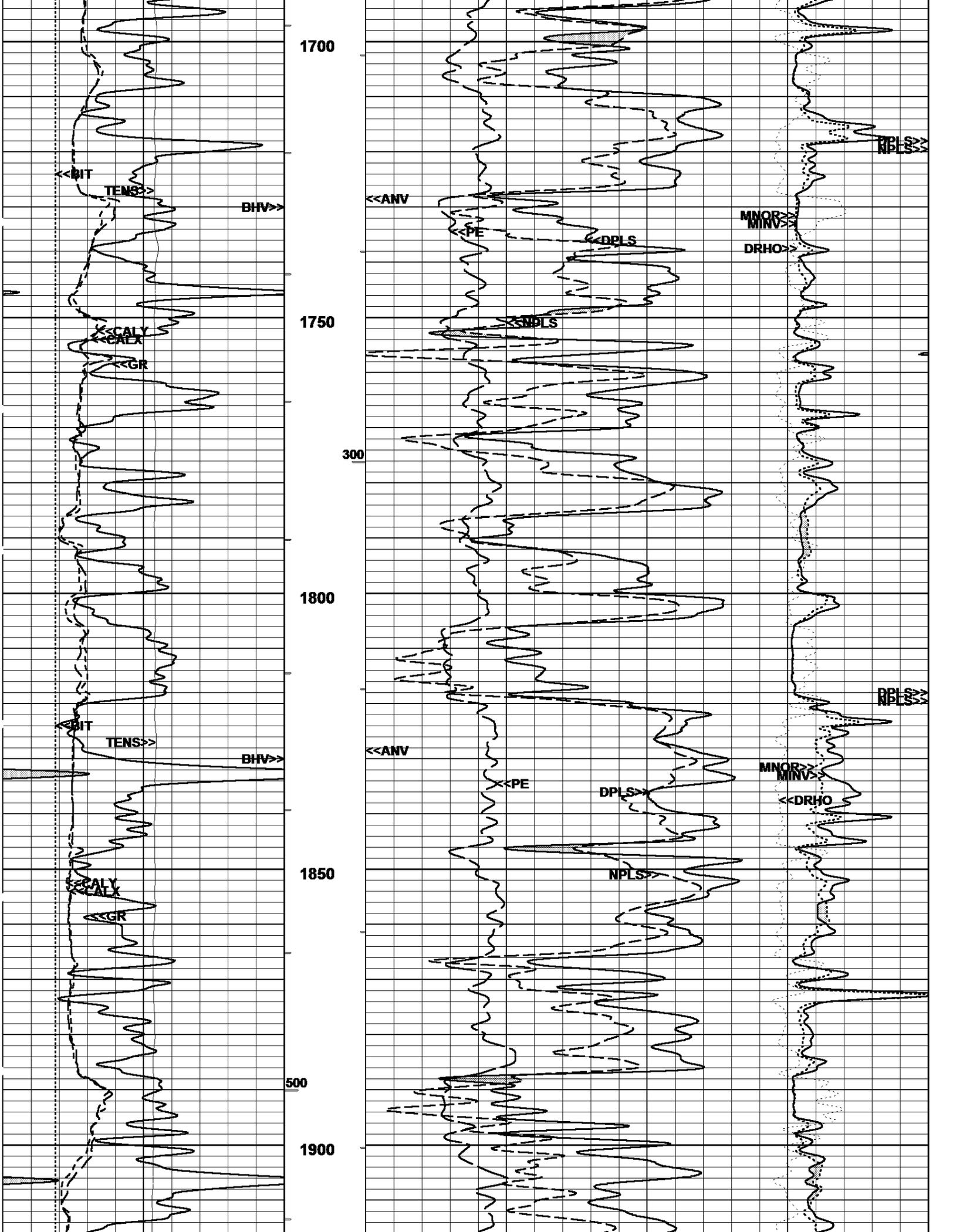
Photo Electric (PE)		Micro-Normal{2"} (MNOR)	
0.	Barns/Elect	10.	ohms
Micro-Inverse{1"} (MINV)		Delta RHO (DRHO)	
0.	g/cc	10.	g/cc

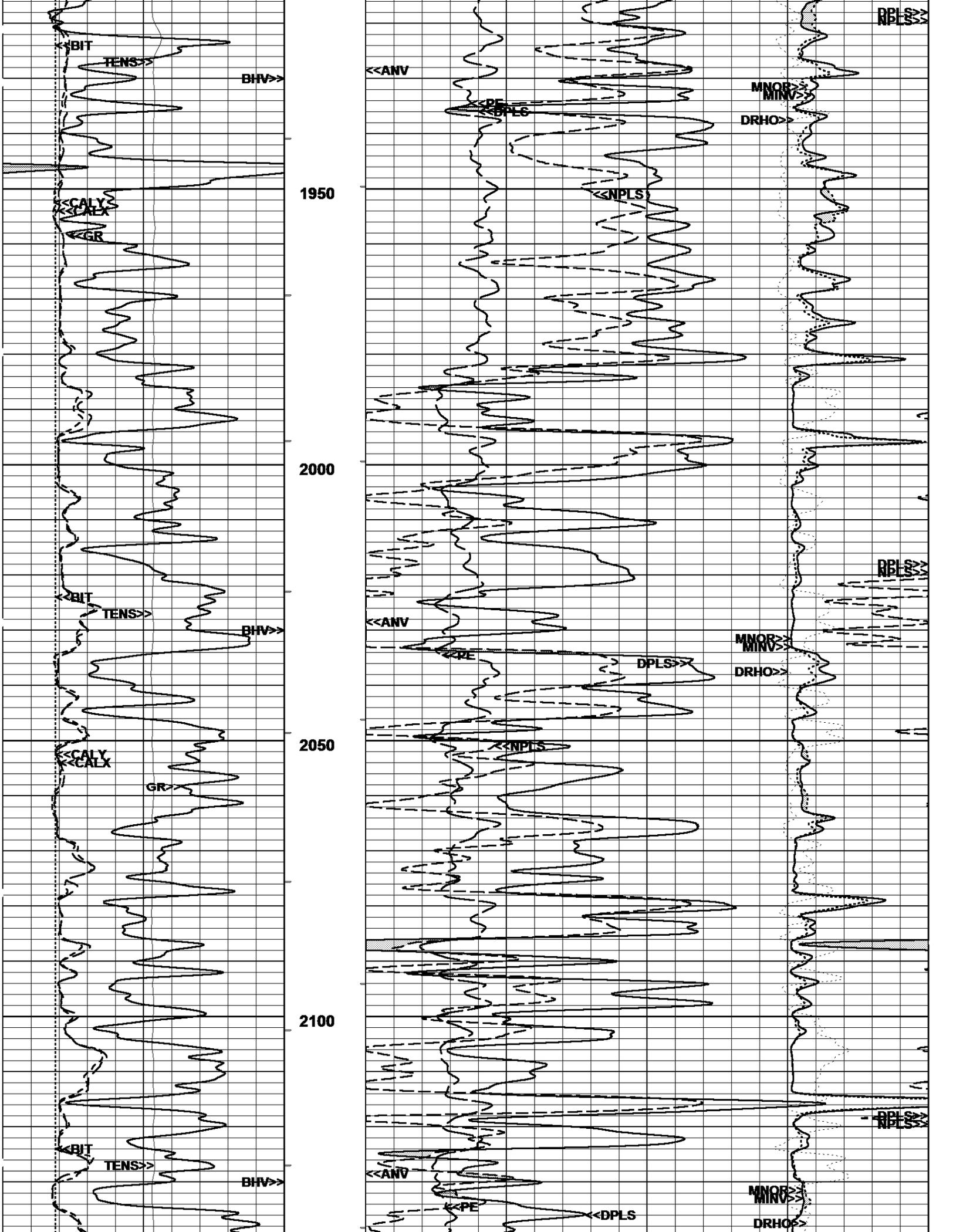


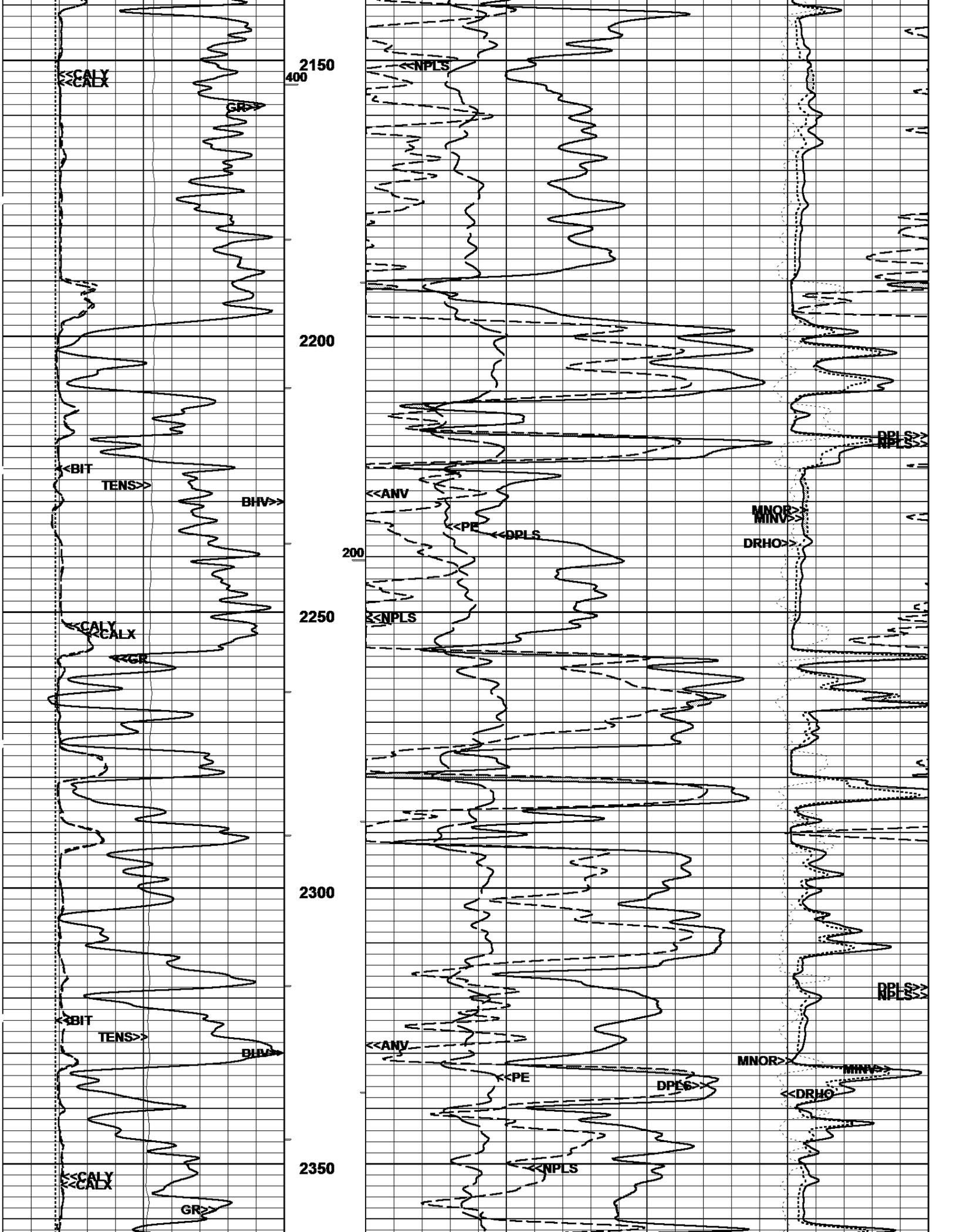


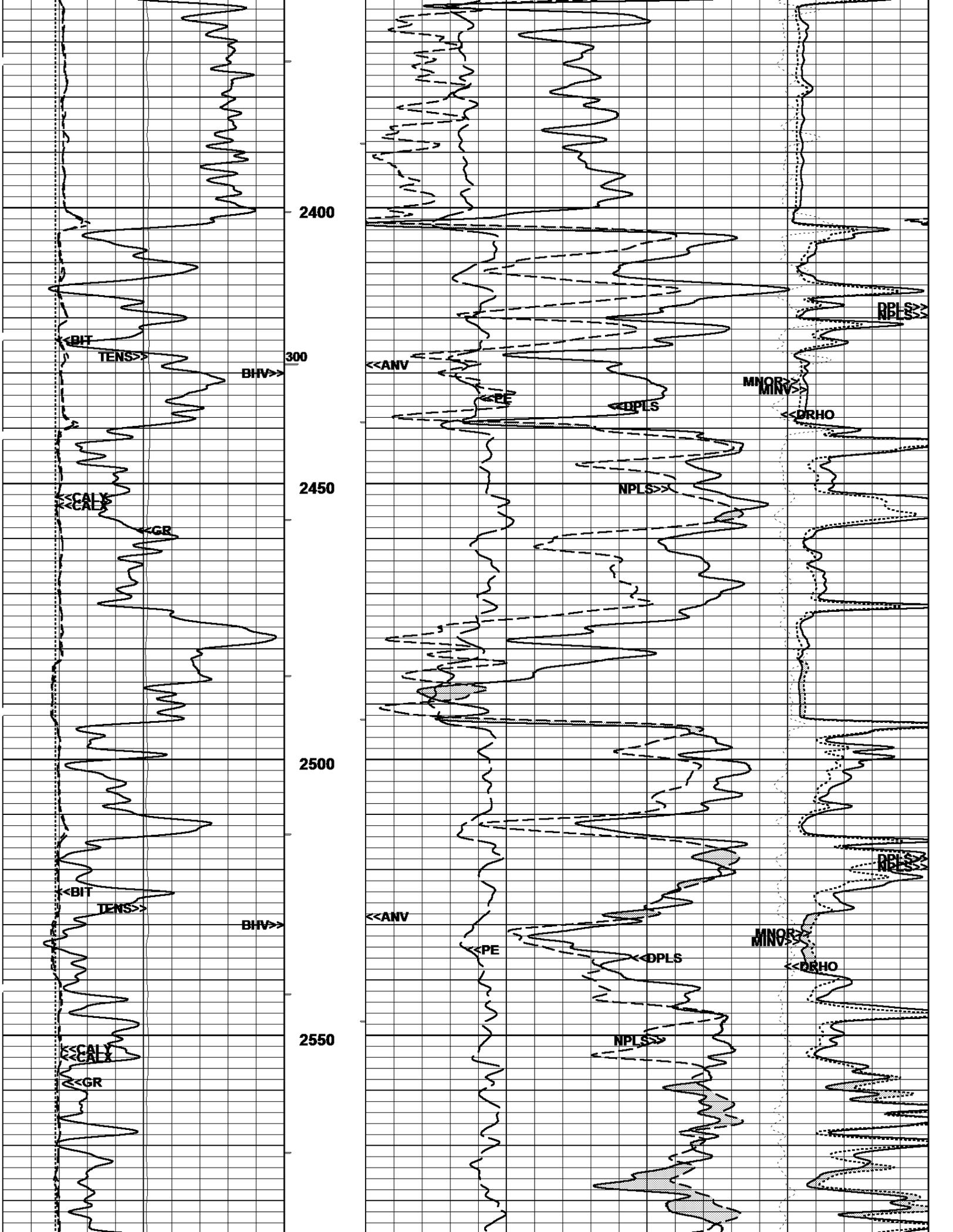


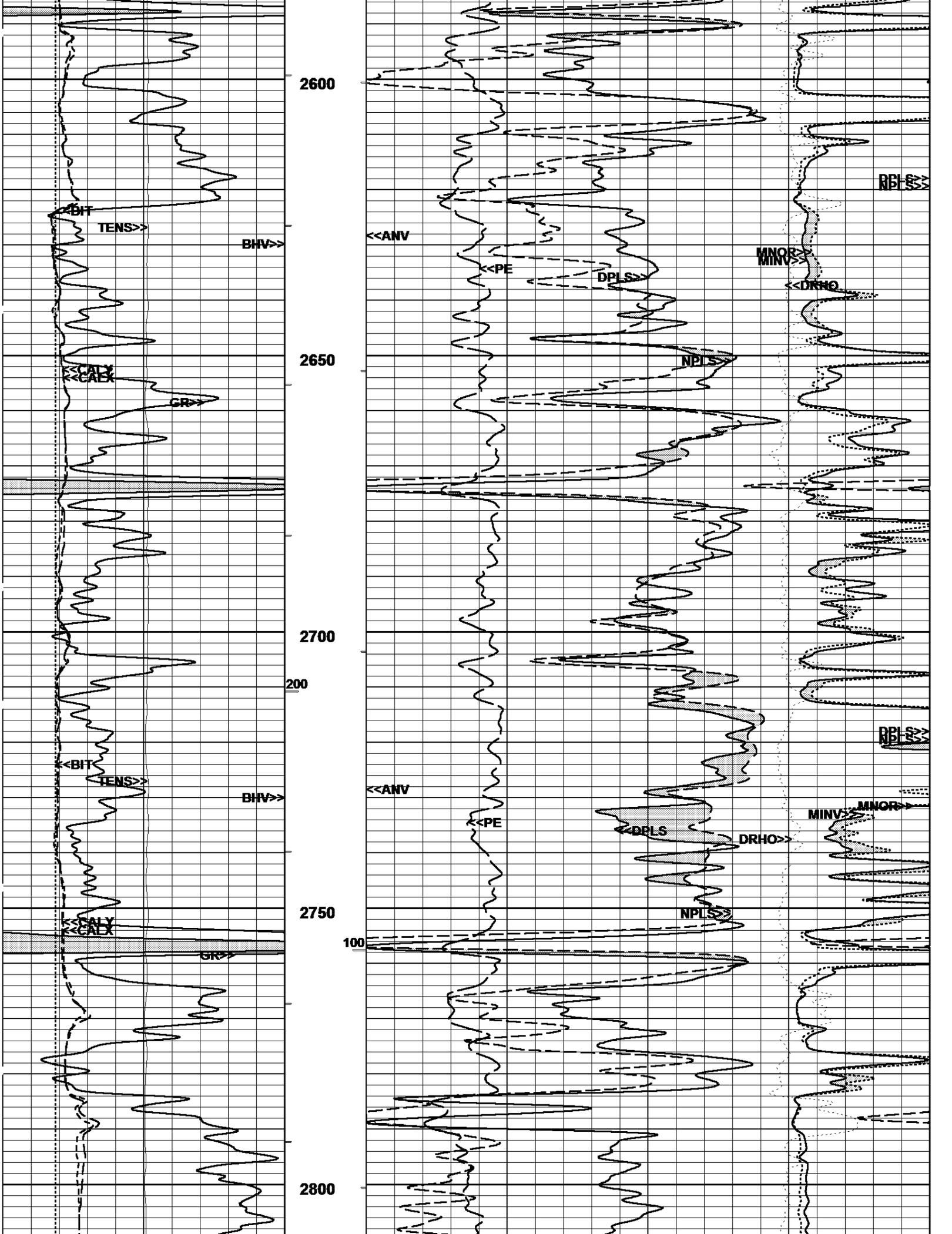


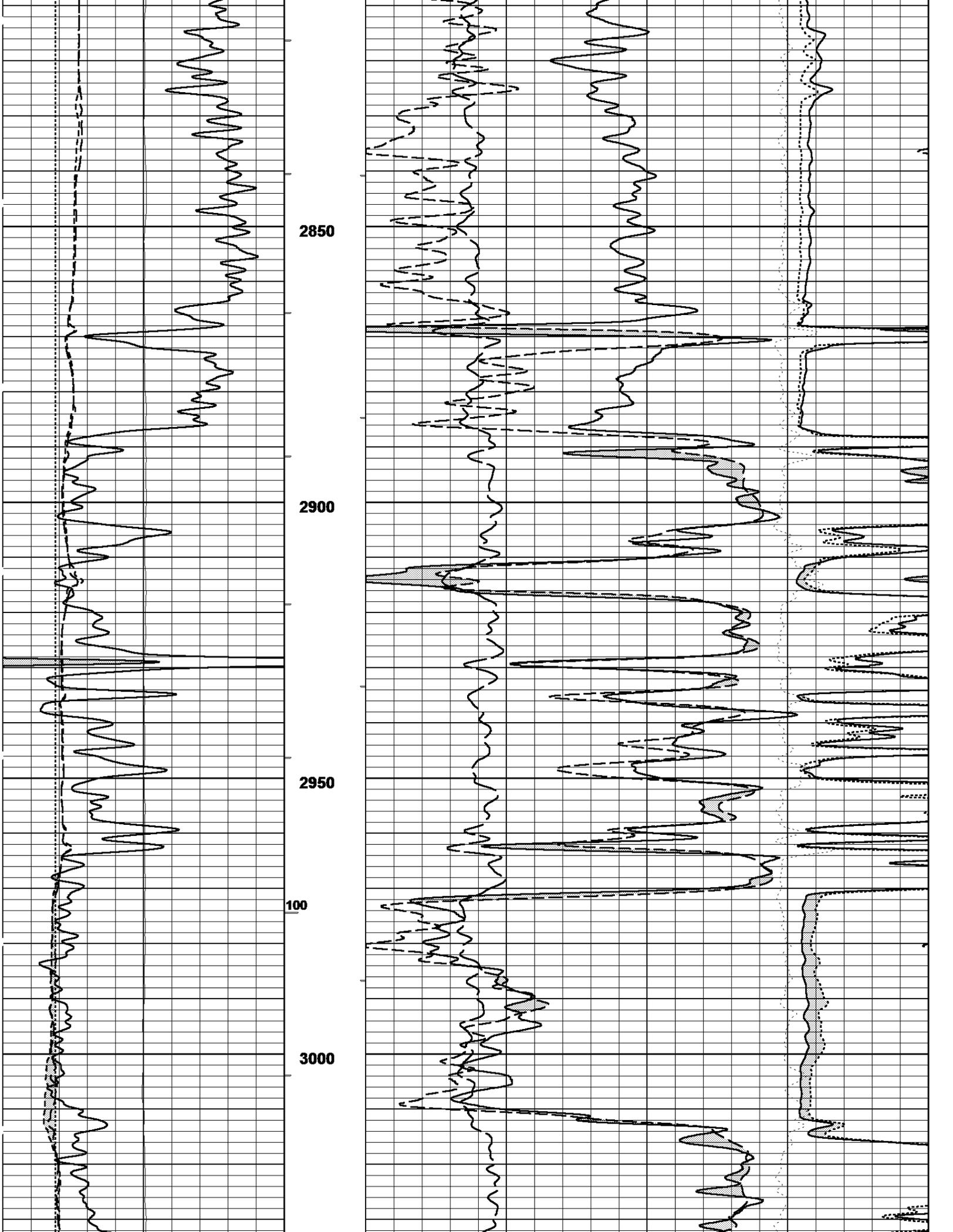


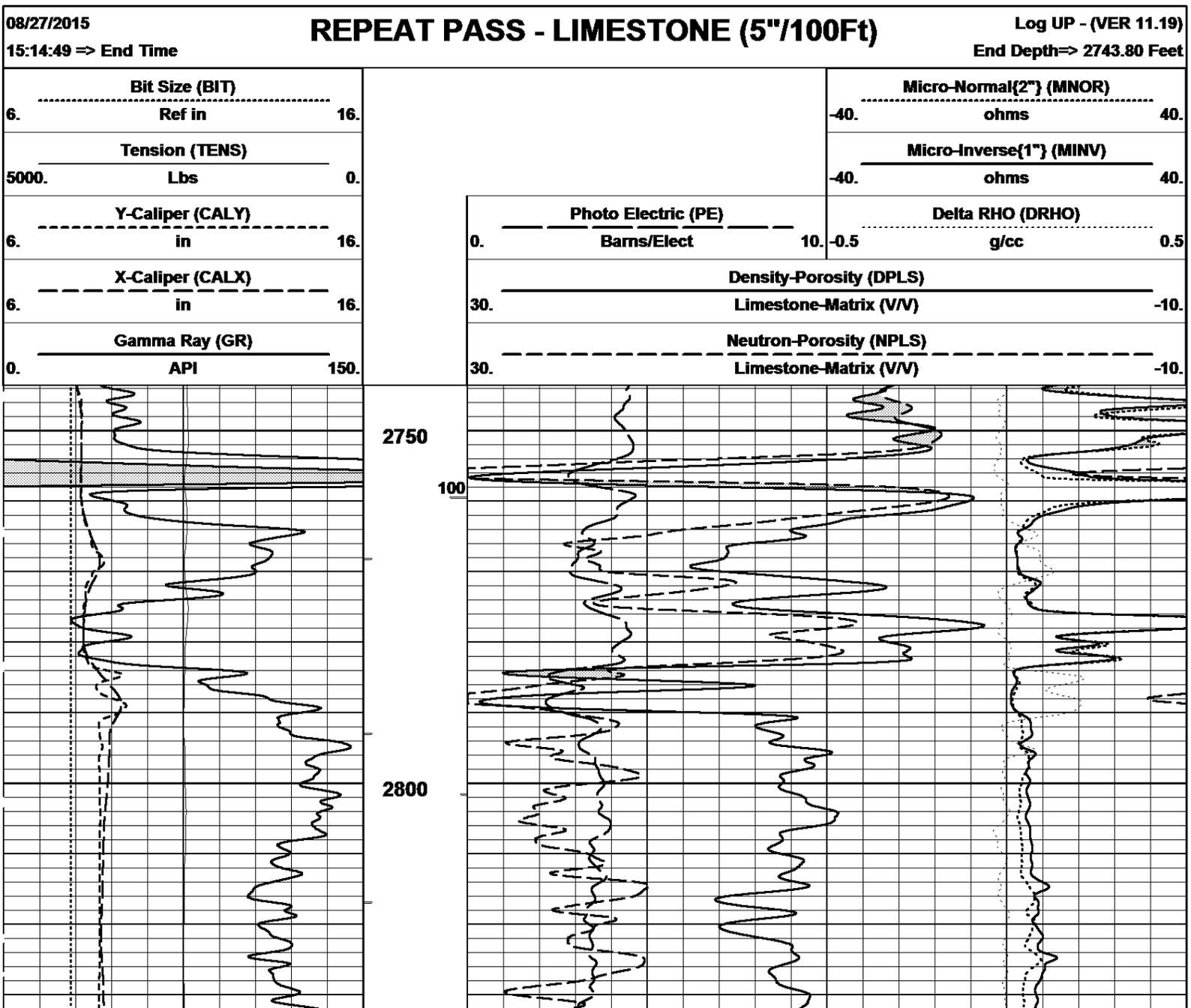
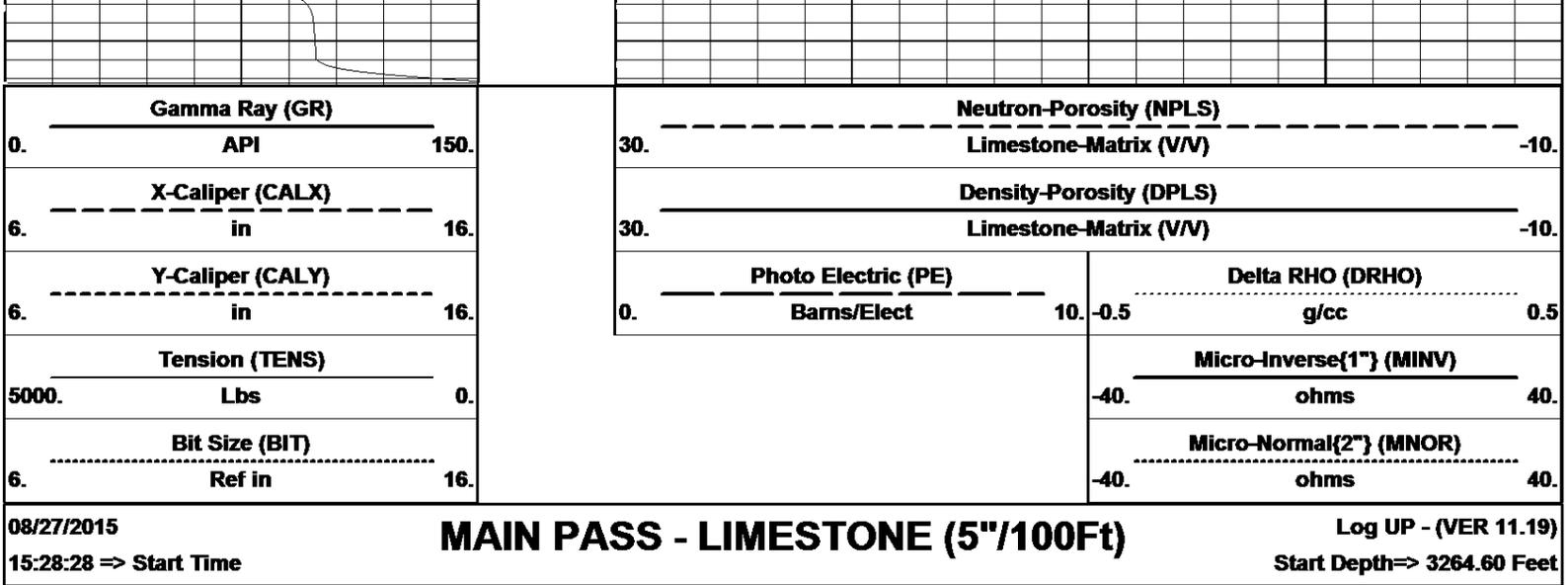


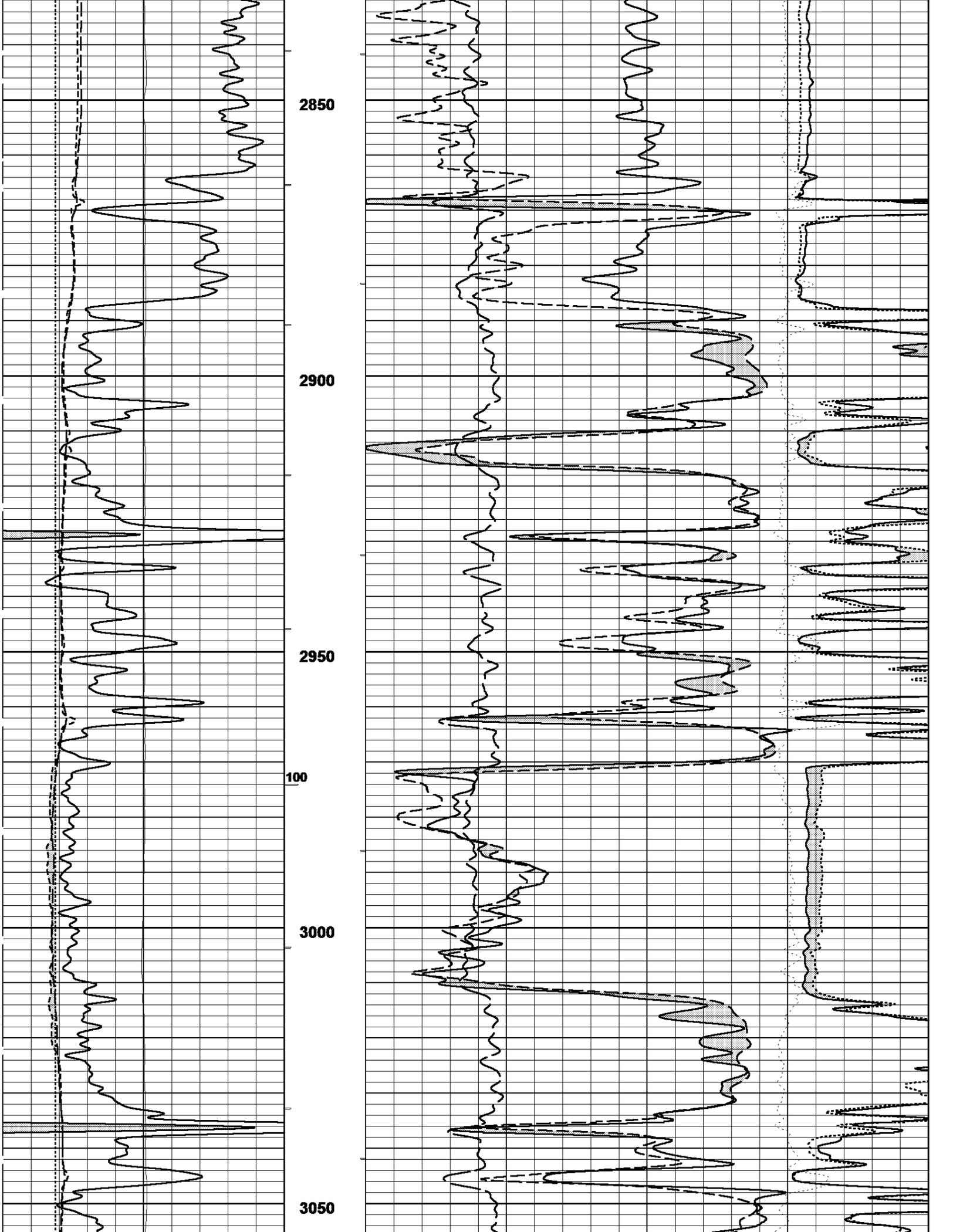


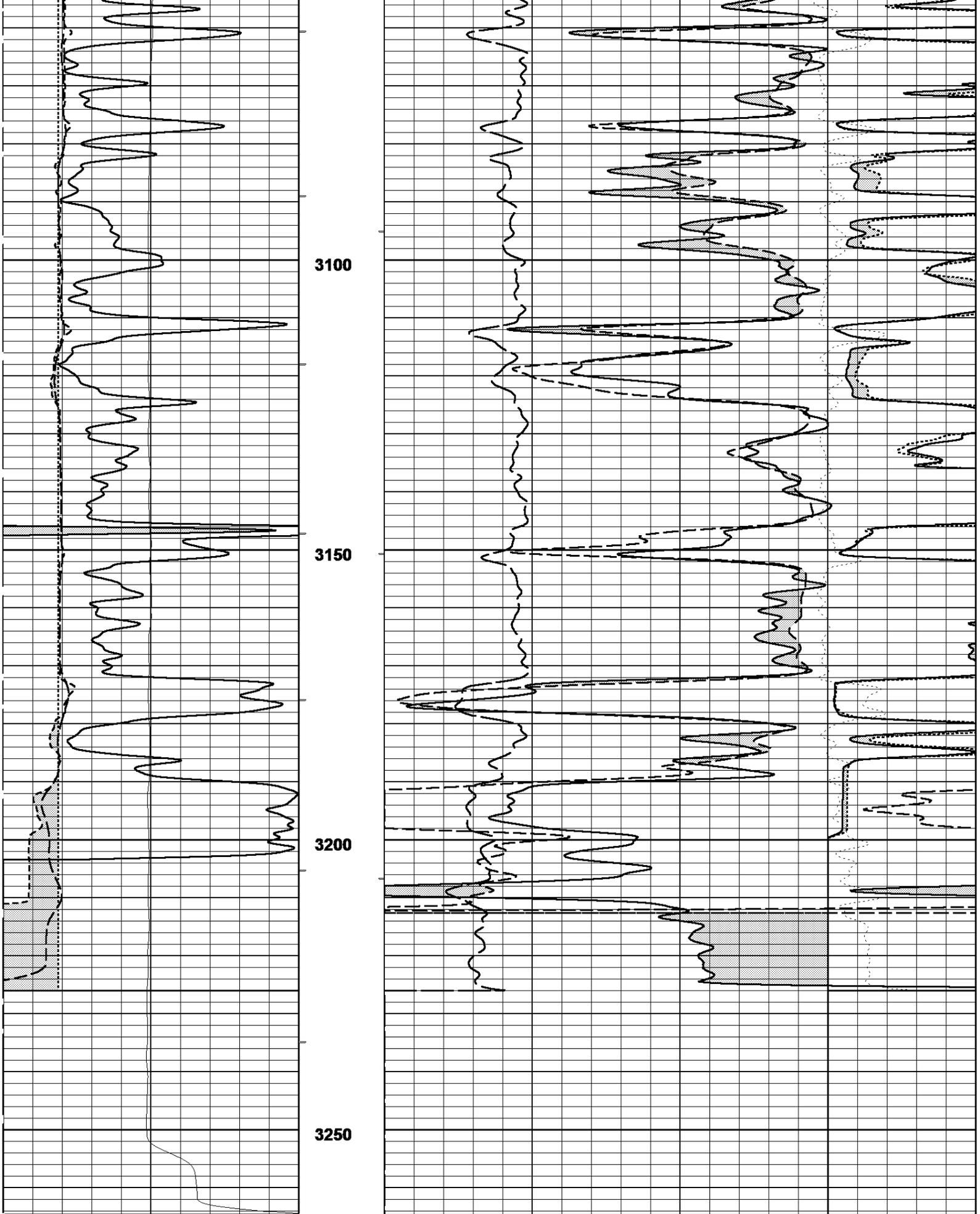












Gamma Ray (GR)

0. API 150.

X-Caliper (CALX)

Neutron-Porosity (NPLS)

30. Limestone-Matrix (V/V) -10.

Density-Porosity (DPLS)

6.	in	16.
Y-Caliper (CALY)		
6.	in	16.
Tension (TENS)		
5000.	Lbs	0.
Bit Size (BIT)		
6.	Ref in	16.

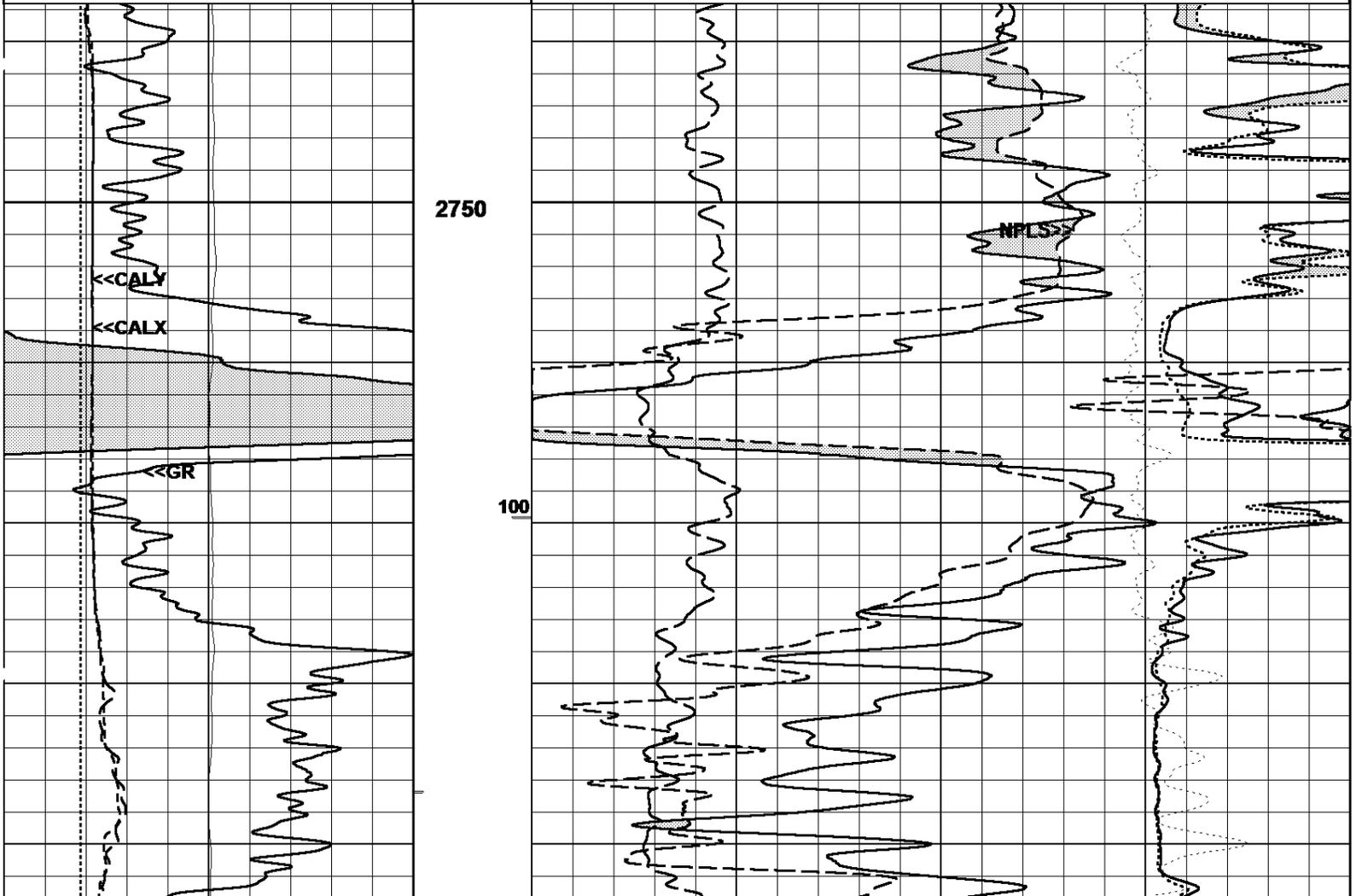
30.	Limestone-Matrix (V/V)		-10.
Photo Electric (PE)			
0.	Barns/Elect	10.	-0.5
Delta RHO (DRHO)			
			0.5
g/cc			
Micro-Inverse{1"} (MINV)			
-40.	ohms	40.	
Micro-Normal{2"} (MNOR)			
-40.	ohms	40.	

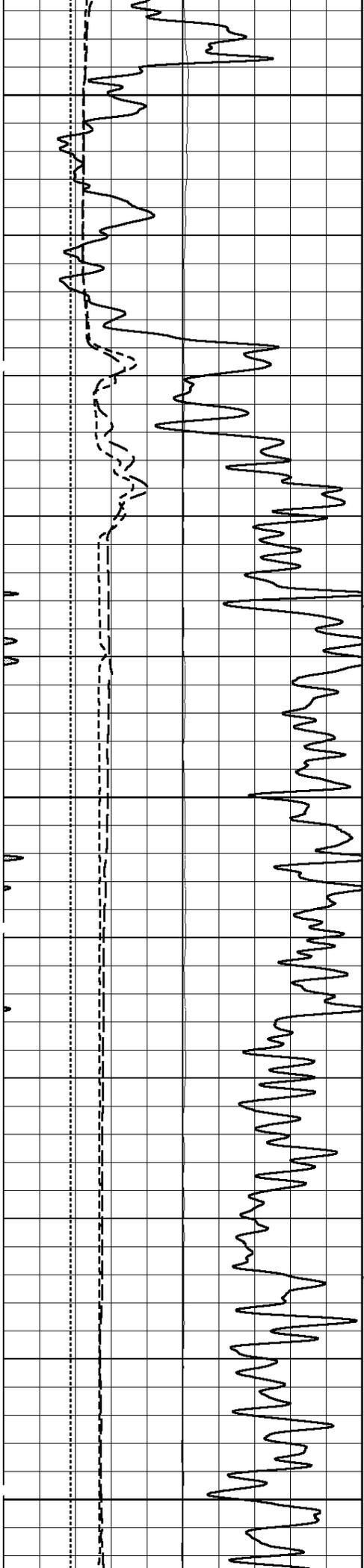
08/27/2015 **REPEAT PASS - LIMESTONE (5"/100ft)** Log UP - (VER 11.19)
 14:46:53 => Start Time Start Depth=> 3264.60 Feet

08/27/2015 **HIGH DEFINITION PASS - LIMESTONE (20"/100ft)** Log UP - (VER 11.19)
 15:14:49 => End Time End Depth=> 2743.88 Feet

6.	Bit Size (BIT)		16.
Ref in			
Tension (TENS)			
5000.	Lbs		0.
Y-Caliper (CALY)			
6.	in		16.
X-Caliper (CALX)			
6.	in		16.
Gamma Ray (GR)			
0.	API		150.

30.	Photo Electric (PE)		10.
Barns/Elect			
0.			-0.5
Delta RHO (DRHO)			
			0.5
g/cc			
Density-Porosity (DPLS)			
30.	Limestone-Matrix (V/V)		-10.
Neutron-Porosity (NPLS)			
30.	Limestone-Matrix (V/V)		-10.

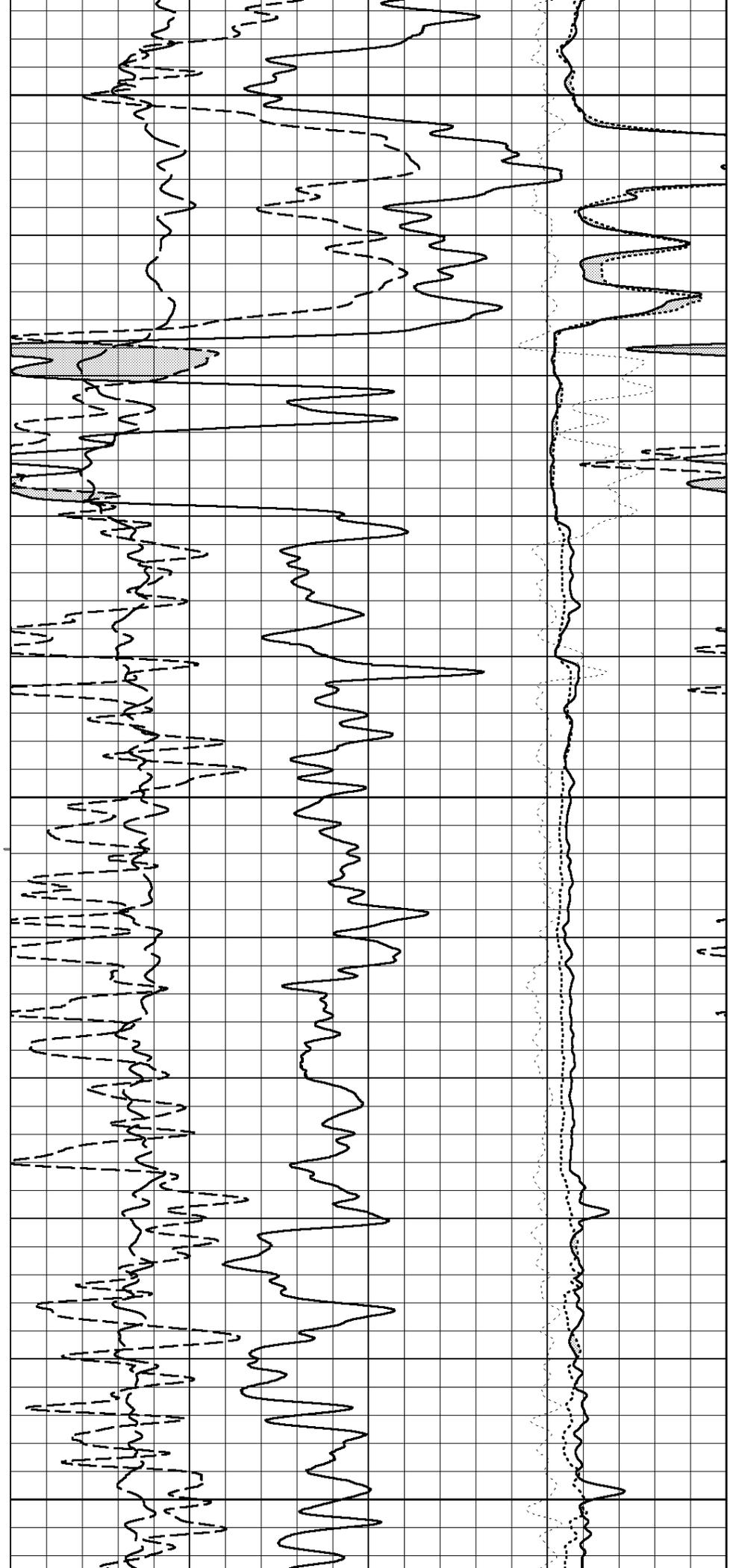




2775

2800

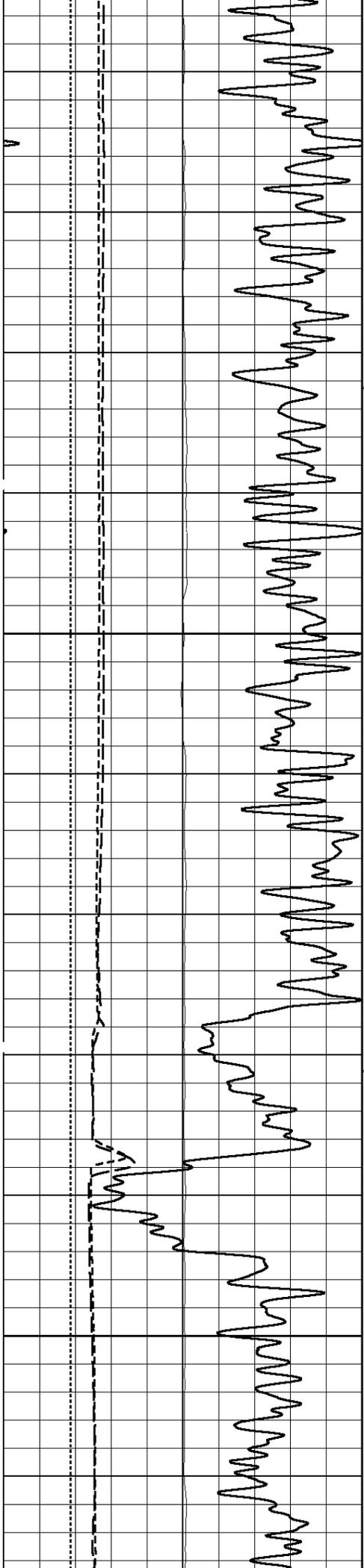
2825



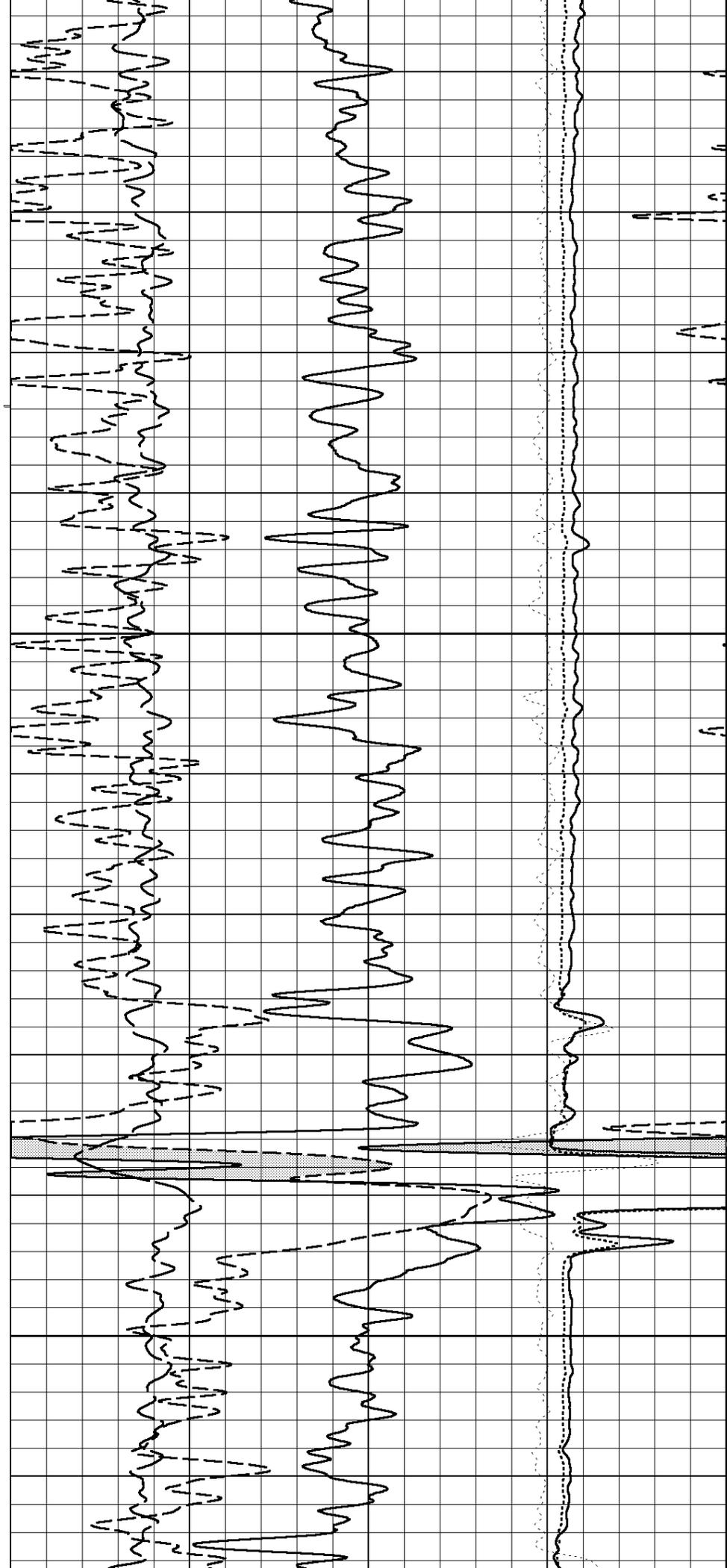
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2800

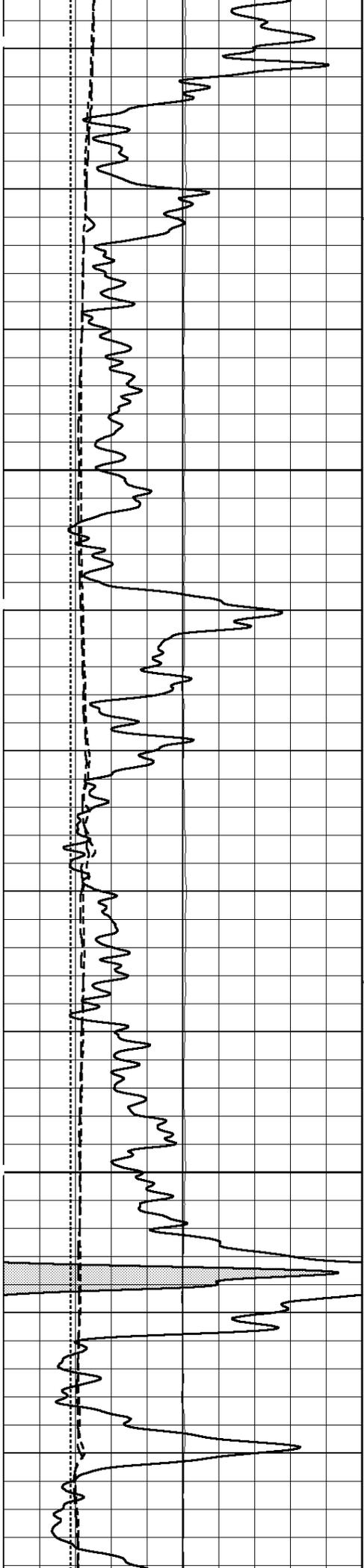
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2850

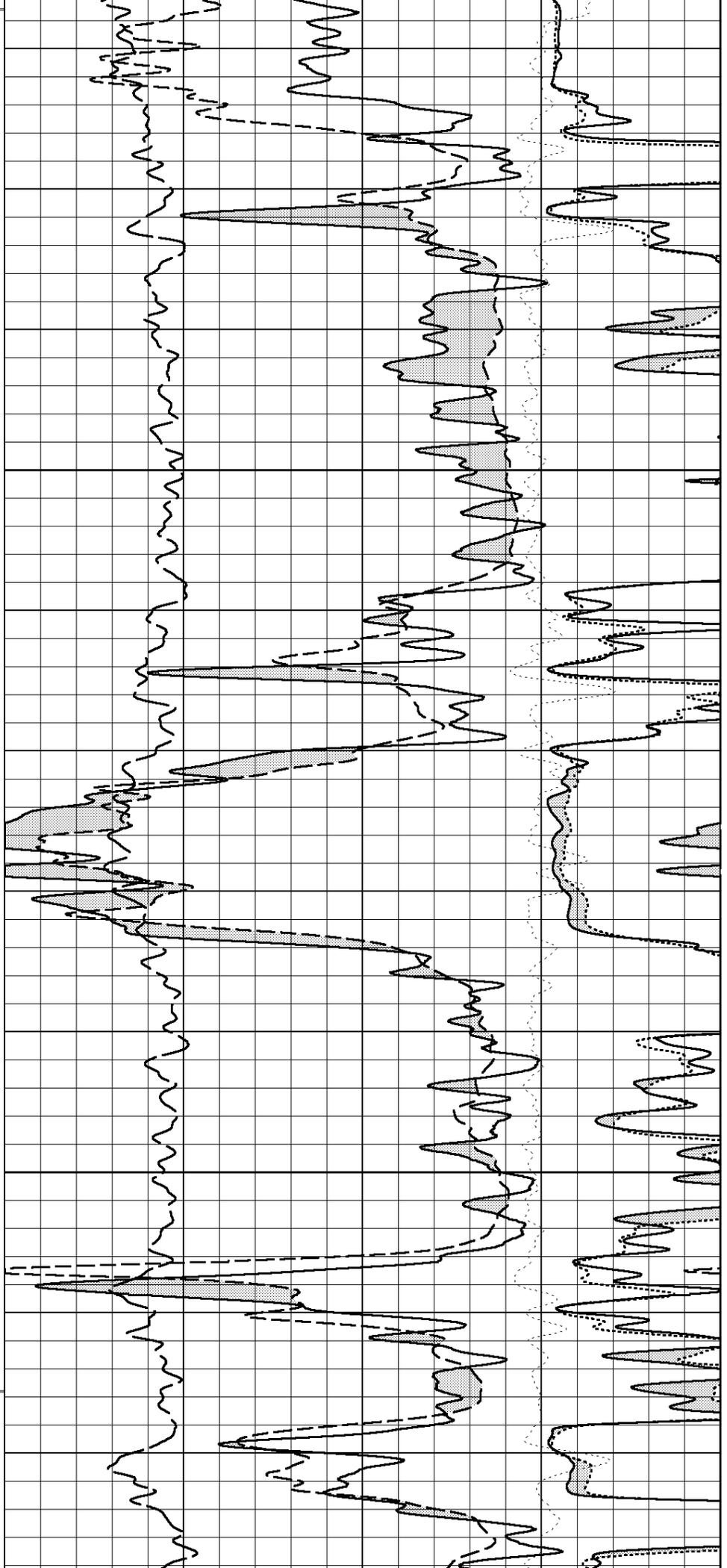


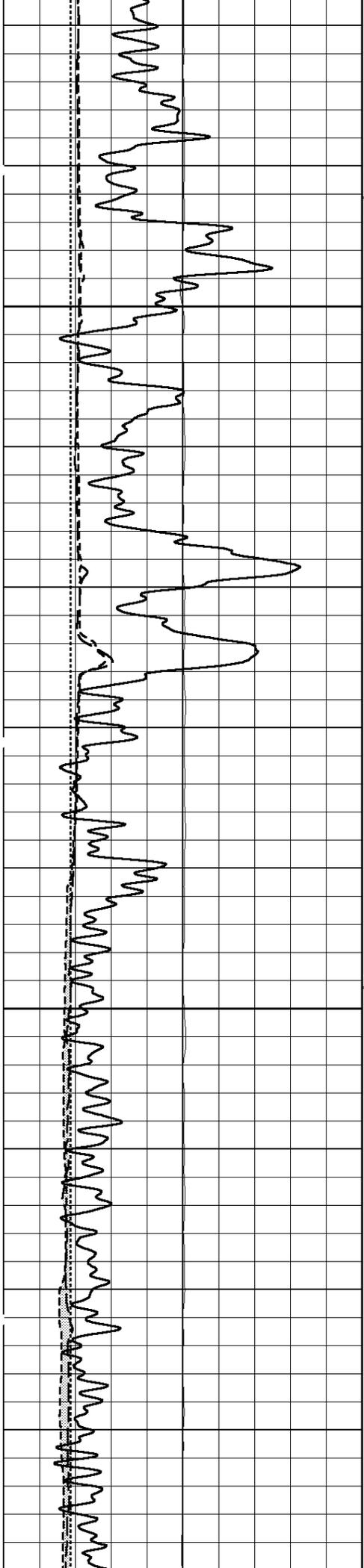
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2900

2925

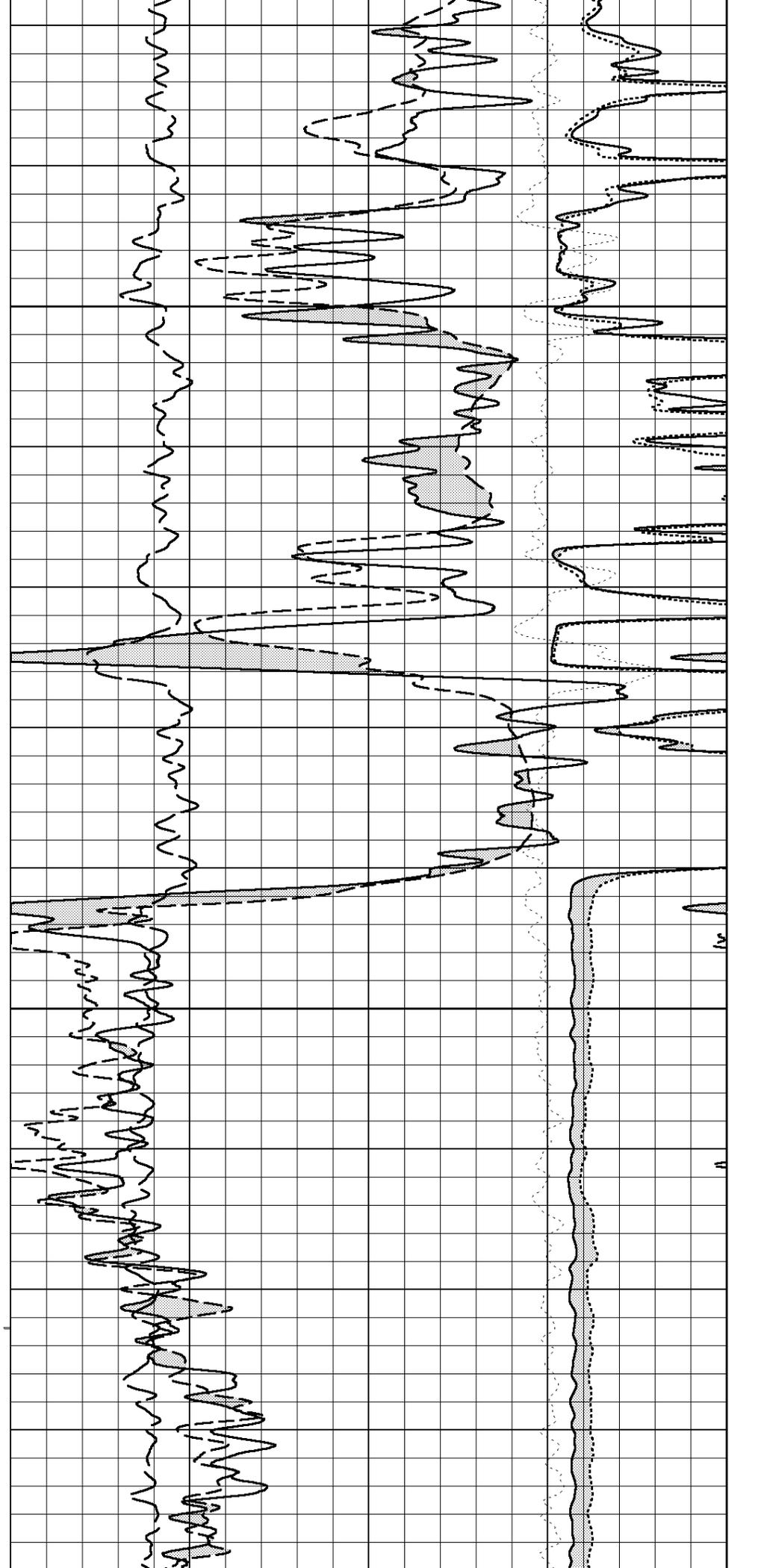


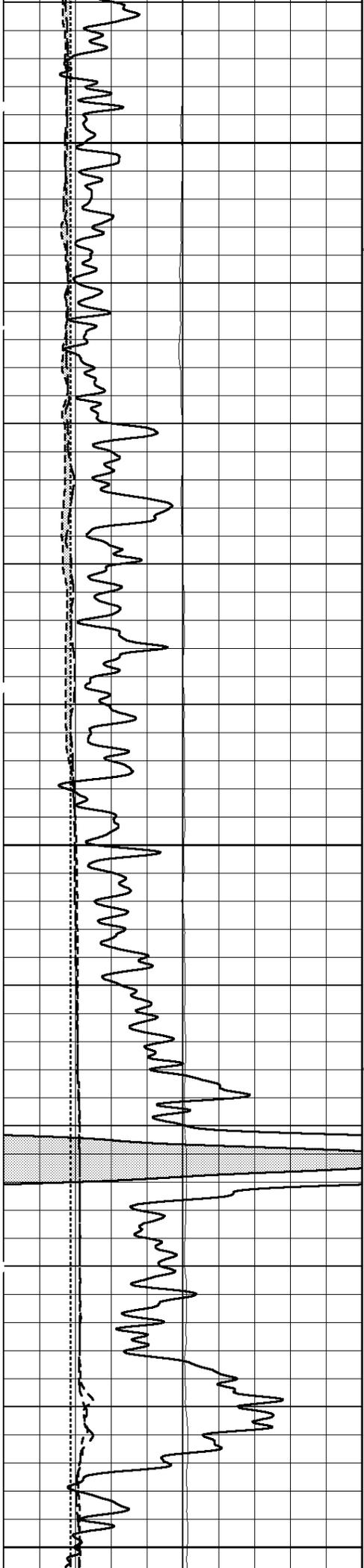


2950

100

2975

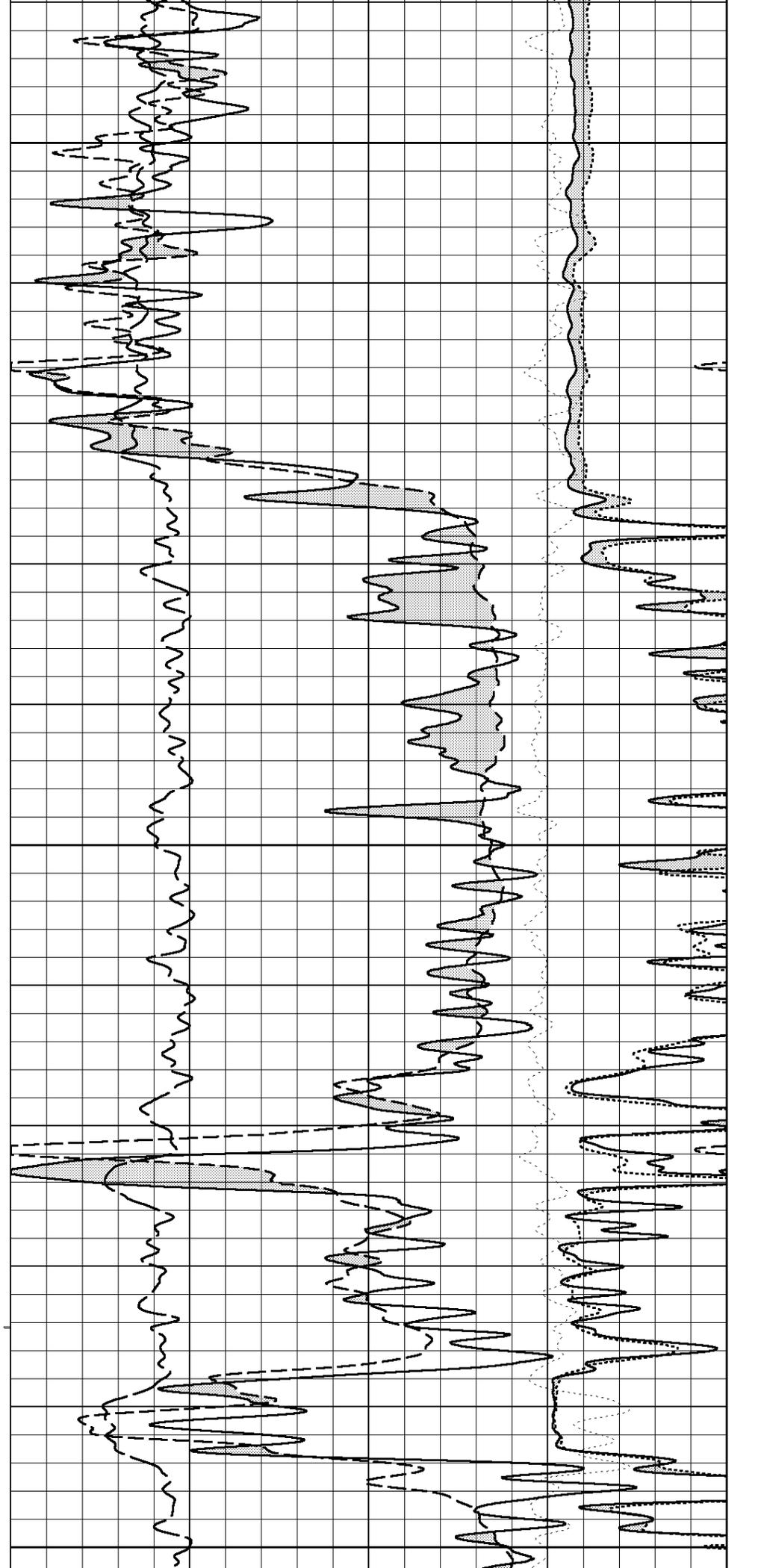


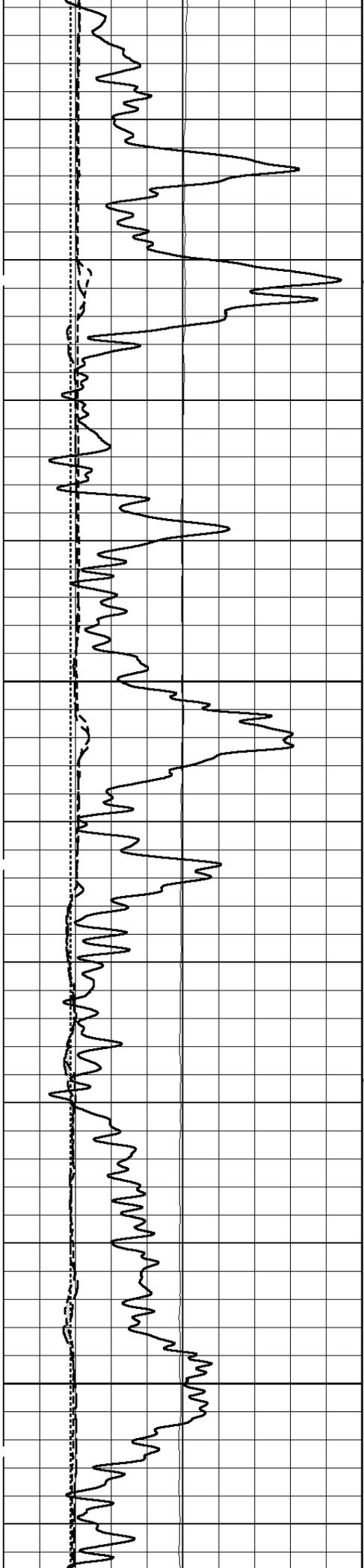


3000

3025

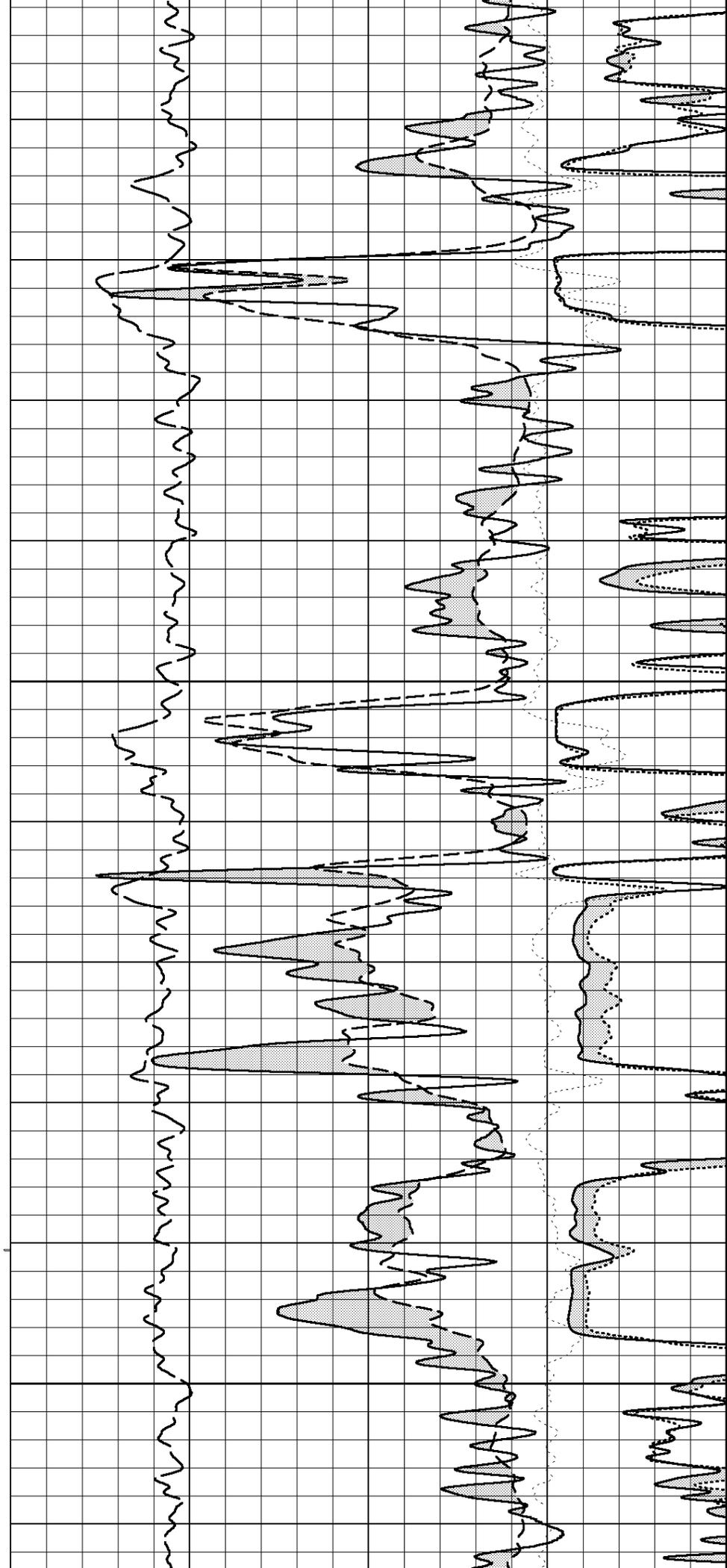
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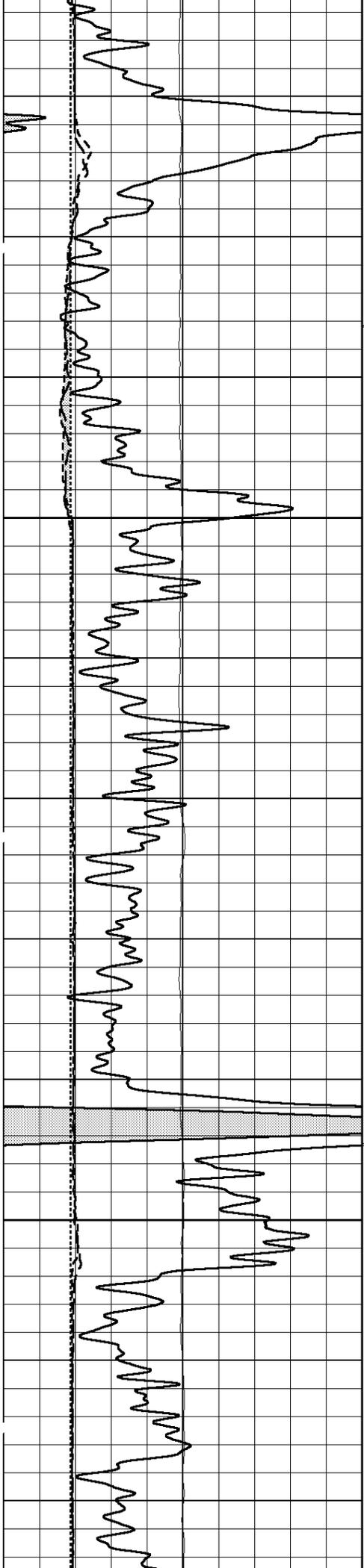




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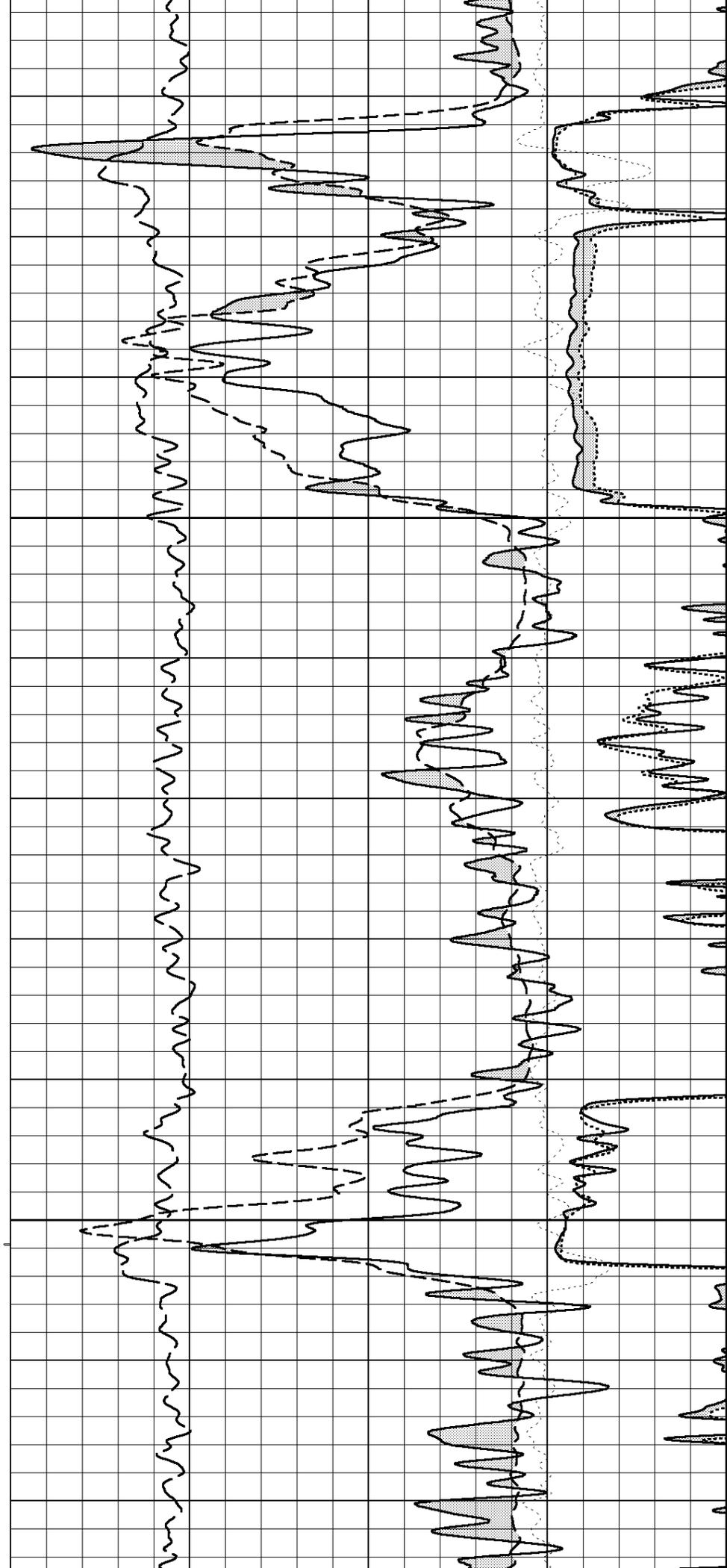
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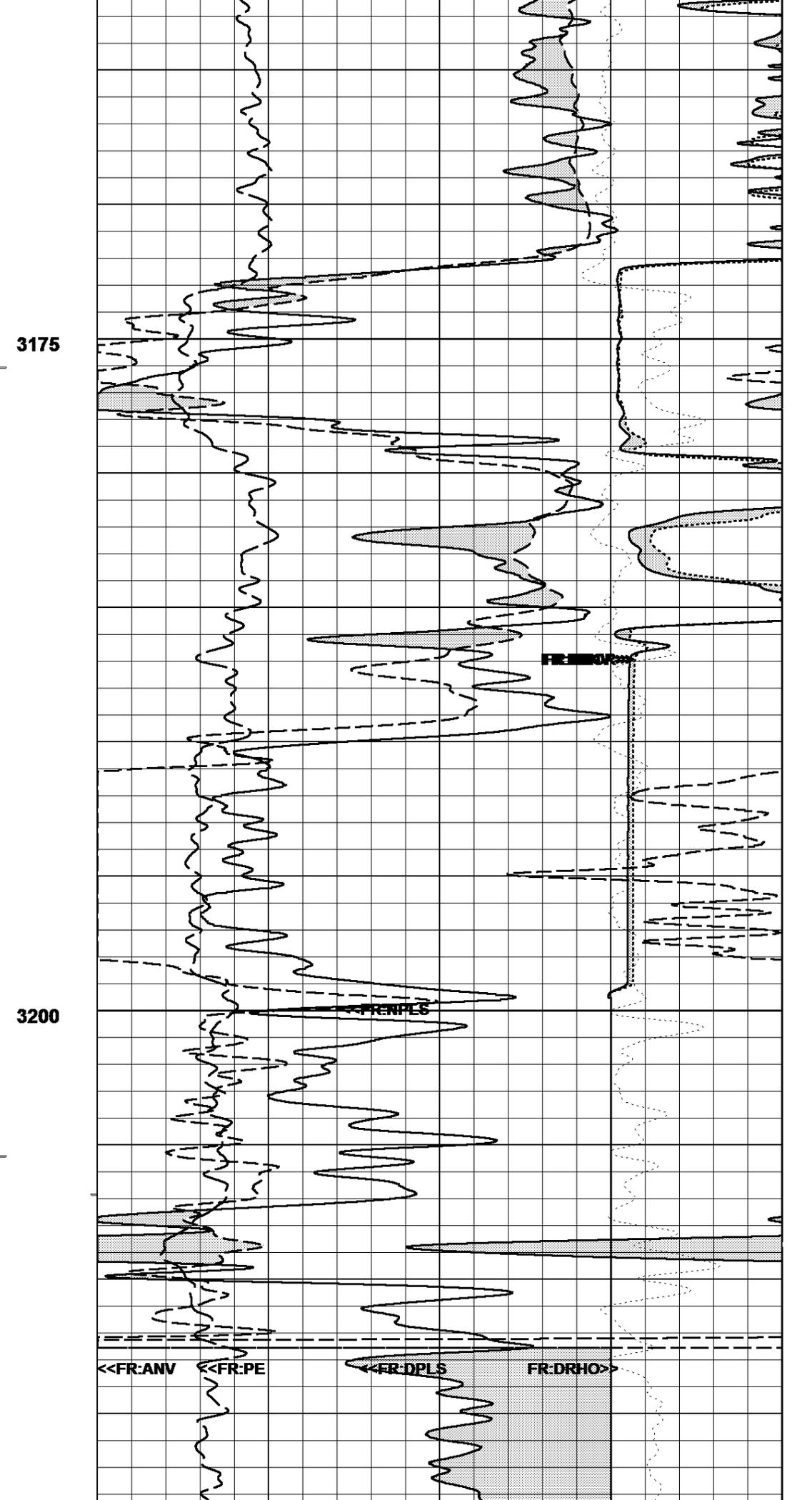
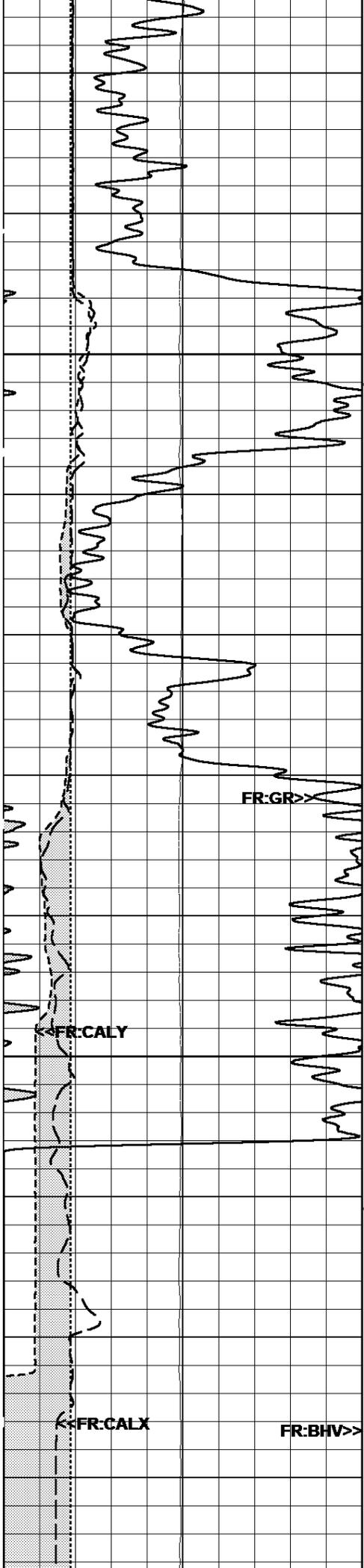


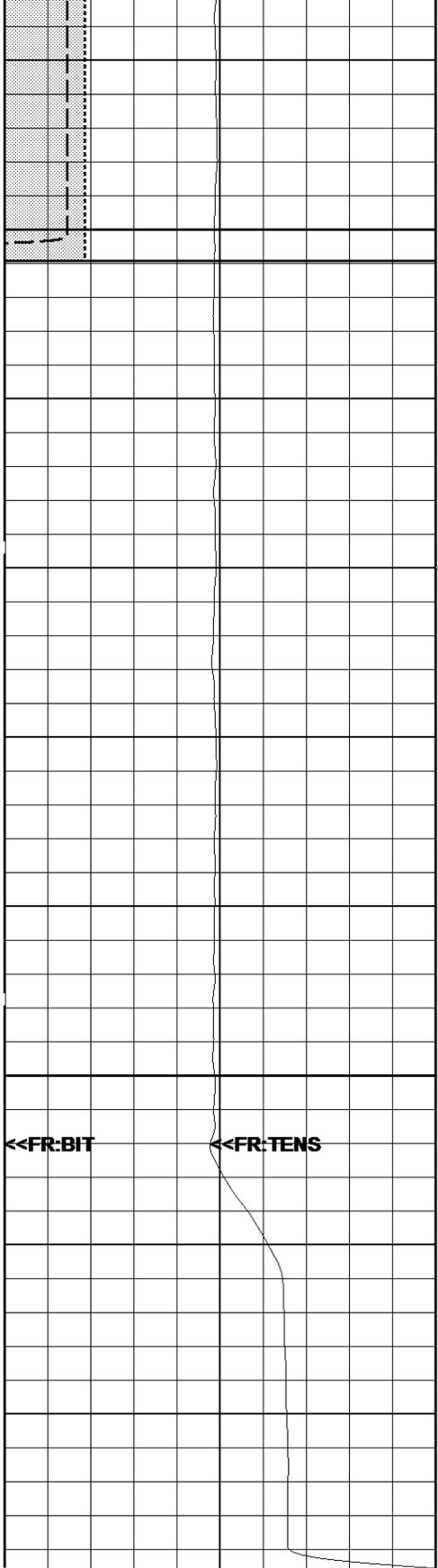


3125

3150







3225

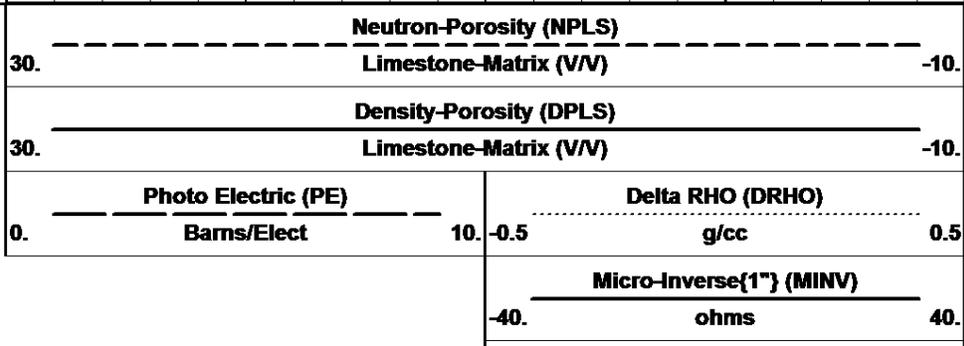
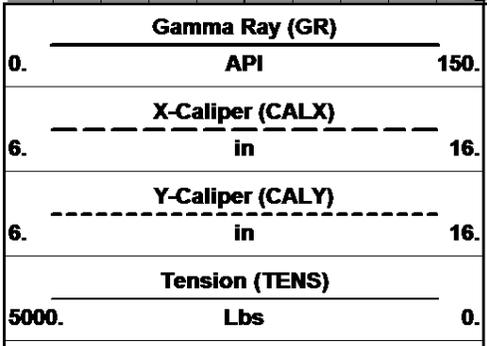
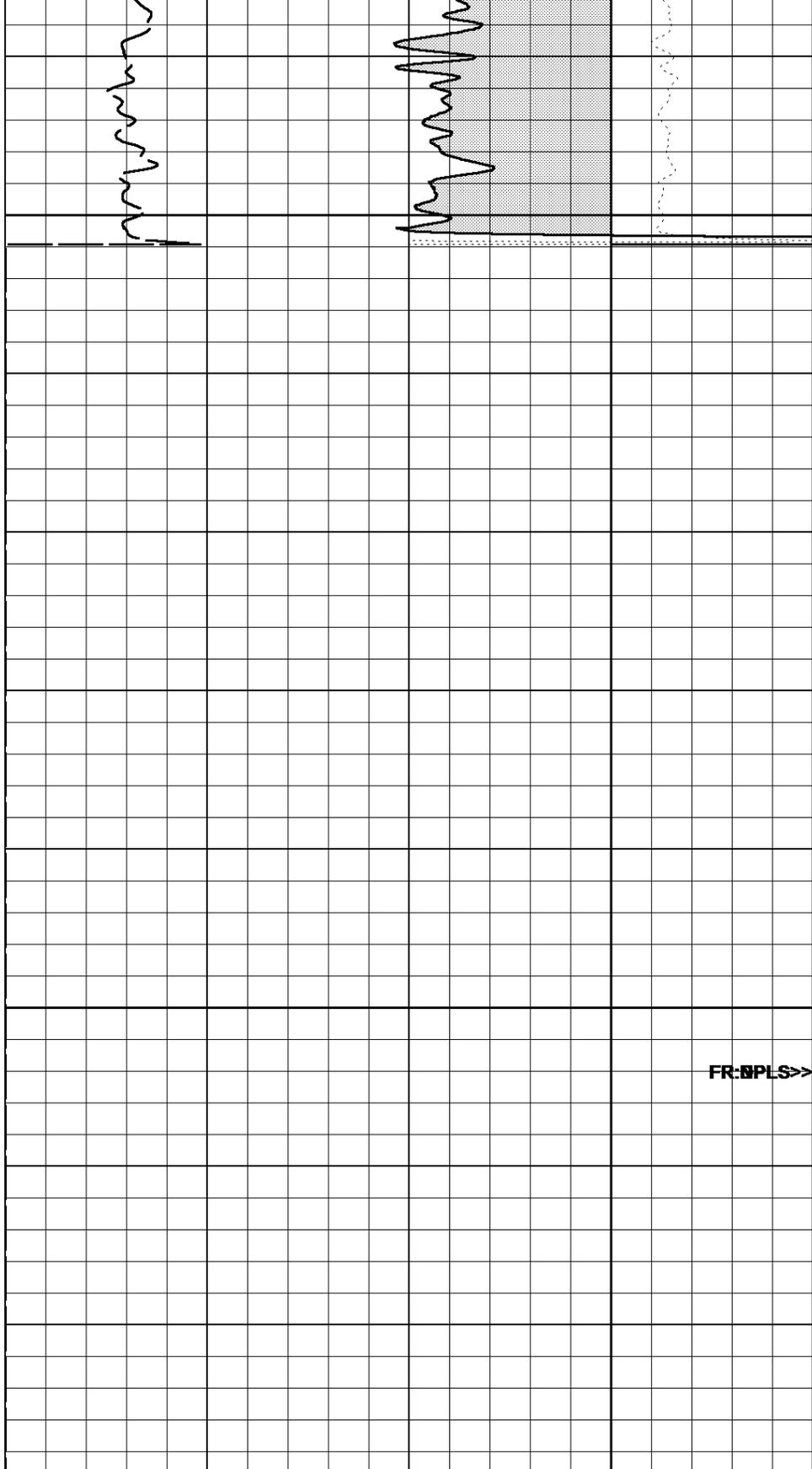
3250

TD

<<FR:BIT

<<FR:TENS

FR:NPLS>>



6. Bit Size (BIT) Ref in 16.

Micro-Normal(2") (MNOR) -40. ohms 40.

08/27/2015
14:46:53 → Start Time

HIGH DEFINITION PASS - LIMESTONE (20"/100ft)

Log UP - (VER 11.19)
Start Depth → 3264.60 Feet

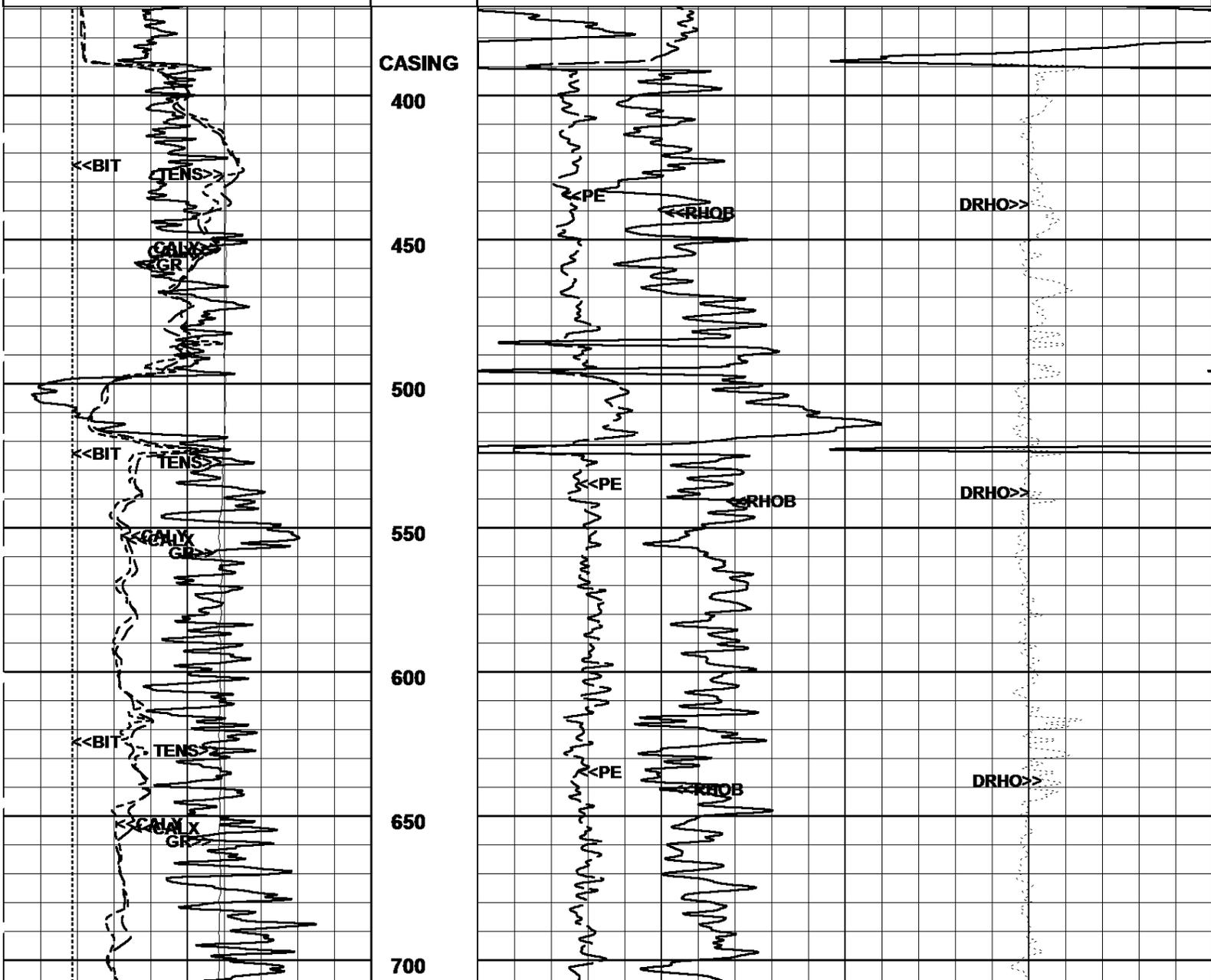
08/27/2015
16:46:11 → End Time

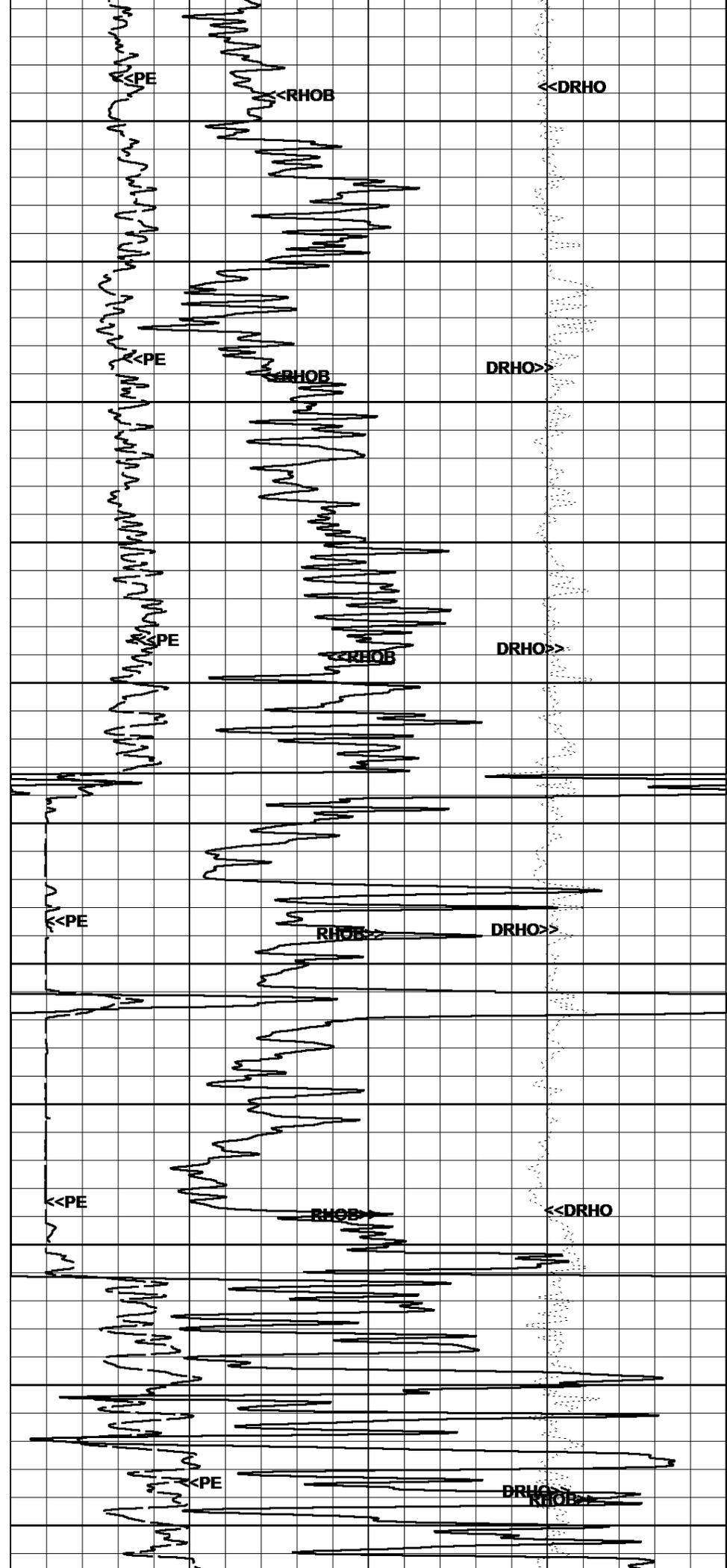
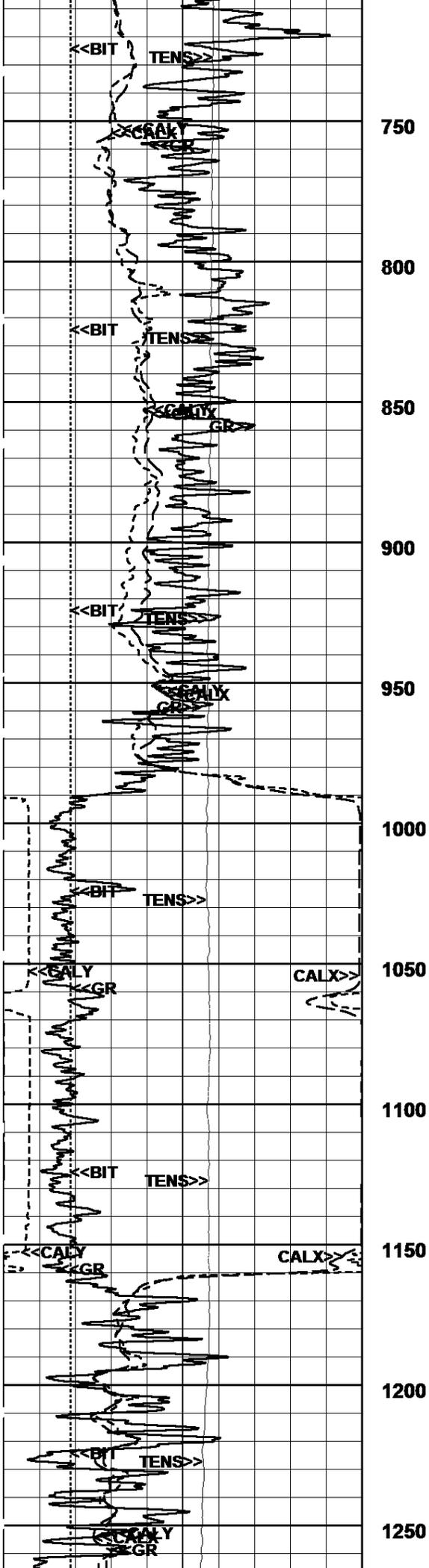
MAIN PASS - RHOB (2"/100ft)

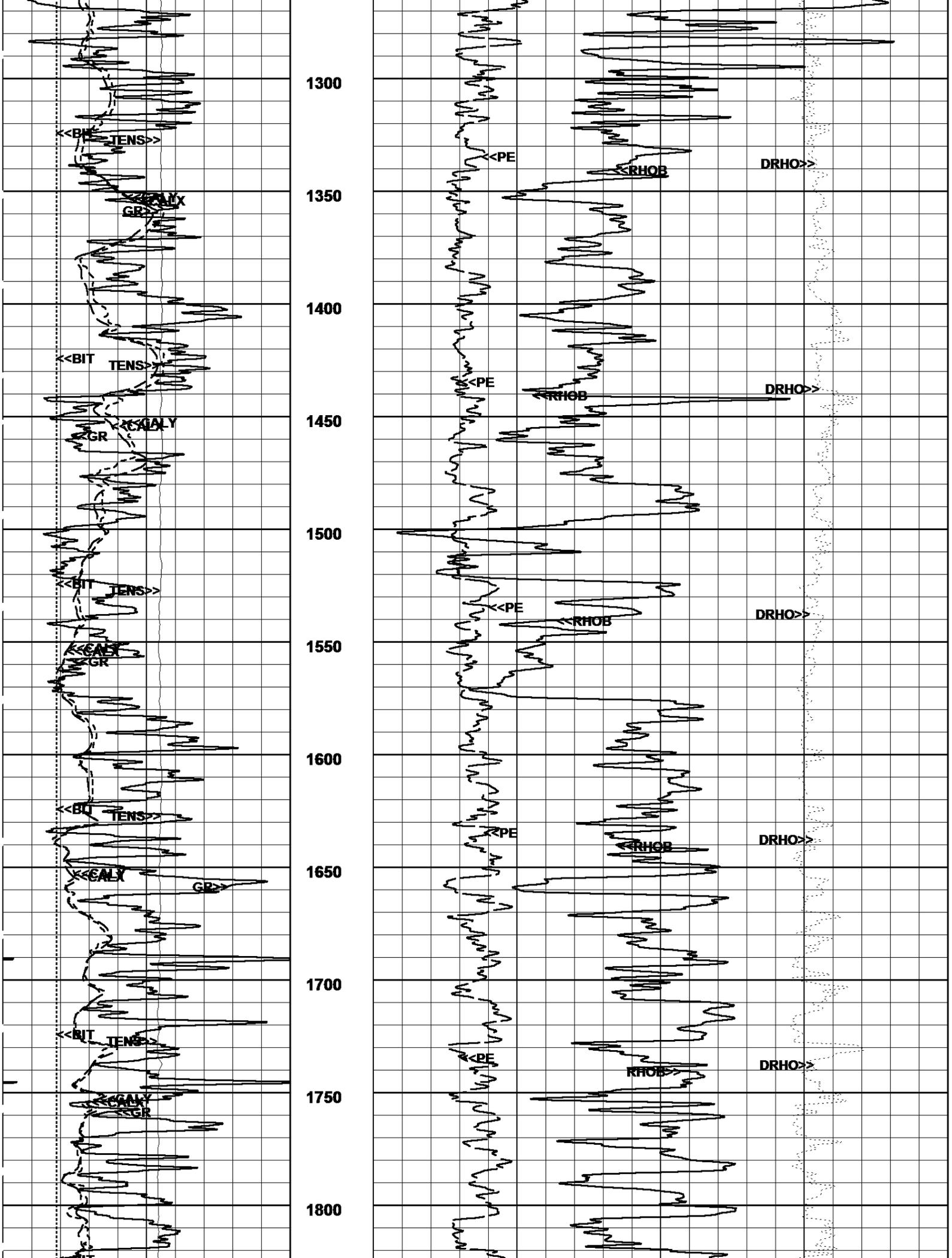
Log UP - (VER 11.19)
End Depth → 369.75 Feet

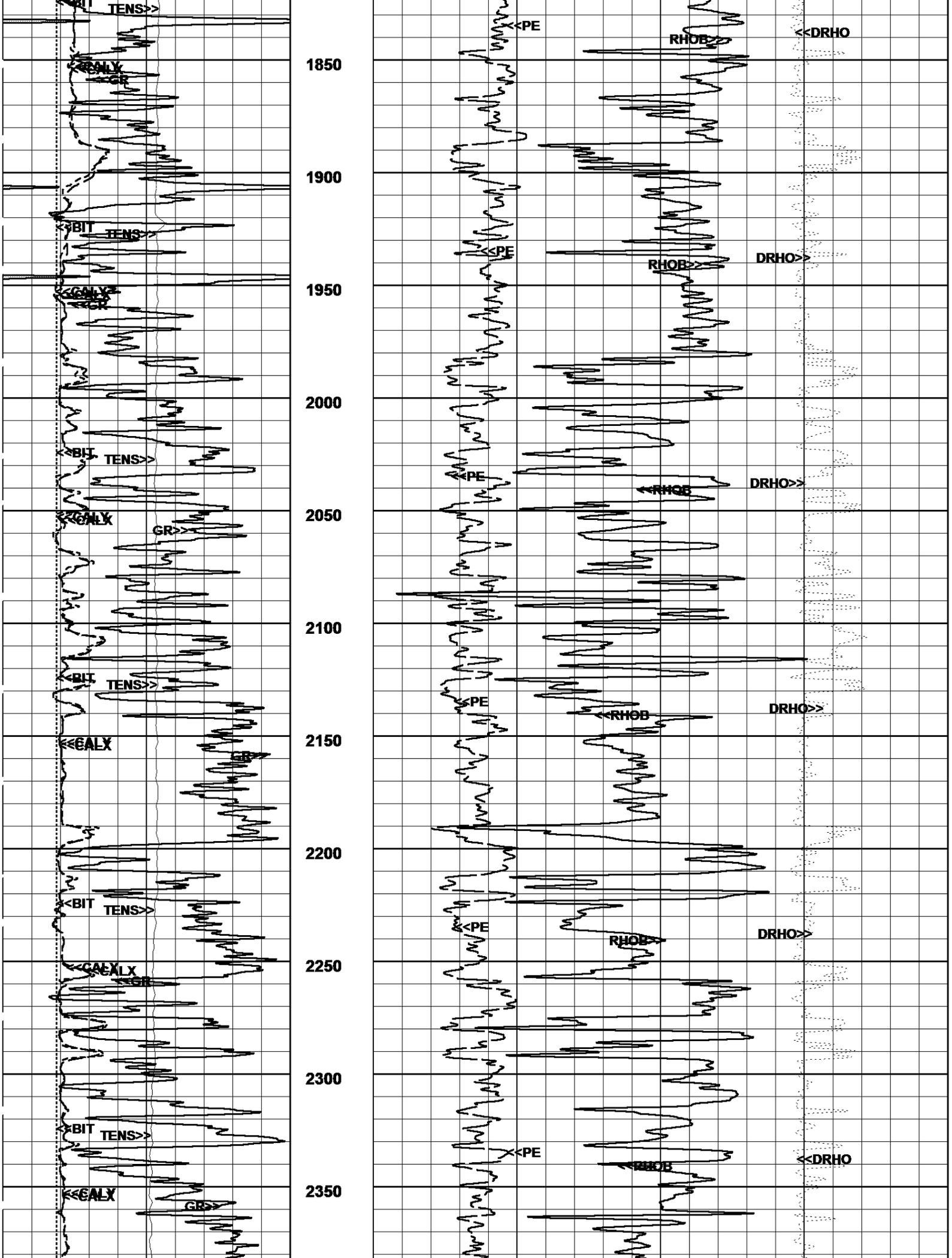
6. Bit Size (BIT) Ref in 16.
Tension (TENS) 5000. Lbs 0.
Y-Caliper (CALY) 6. in 16.
X-Caliper (CALX) 6. in 16.
Gamma Ray (GR) 0. API 150.

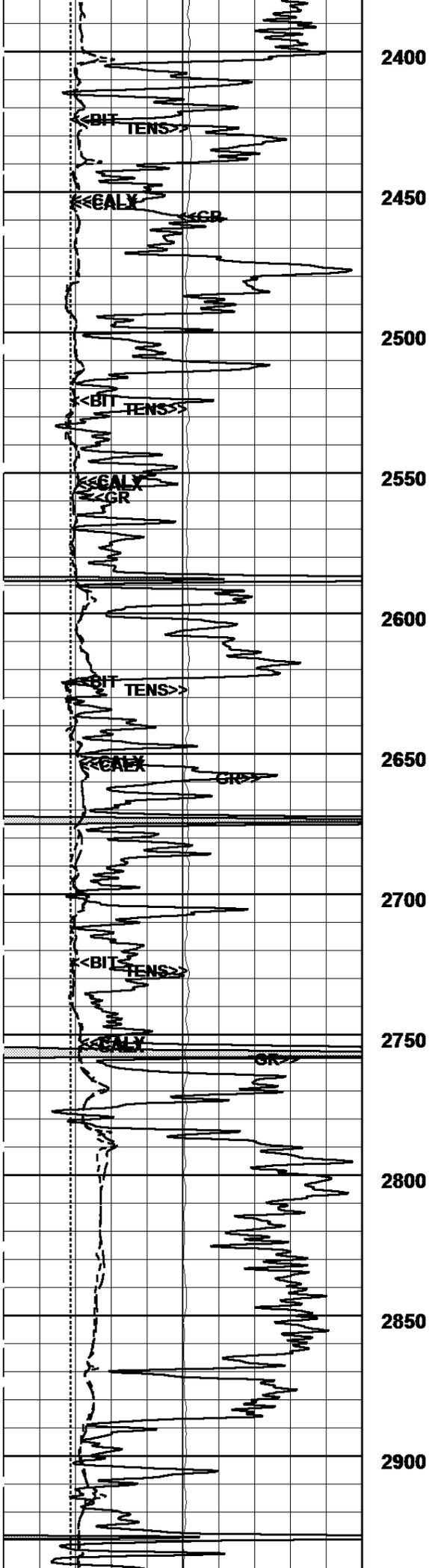
Photo Electric (PE) 0. Barns/Elect 10.
Delta RHO (DRHO) -0.5 g/cc 0.5
Bulk Density (RHOB) 2. g/cc 3.











2400

2450

2500

2550

2600

2650

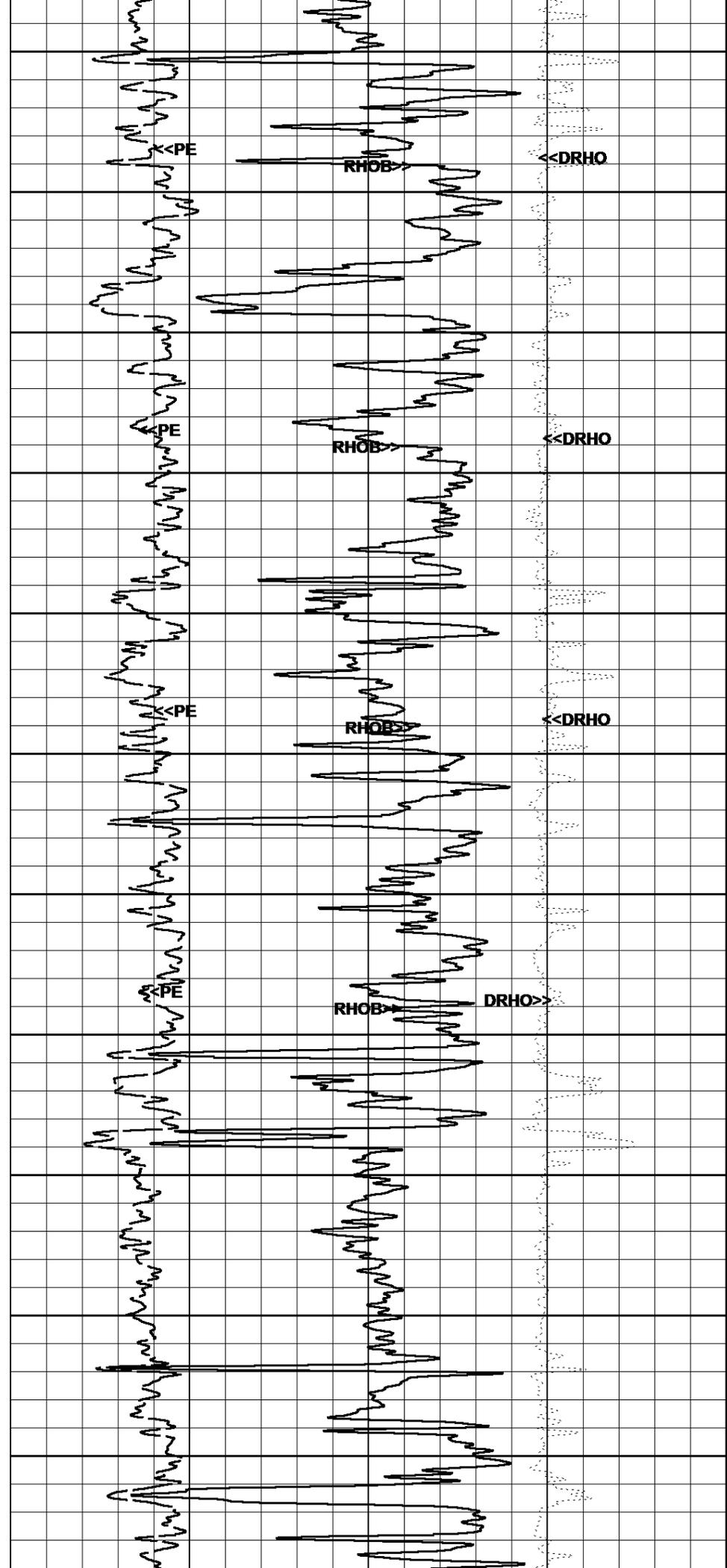
2700

2750

2800

2850

2900



<PE

RHO

<<DRHO

<PE

RHO

<<DRHO

<PE

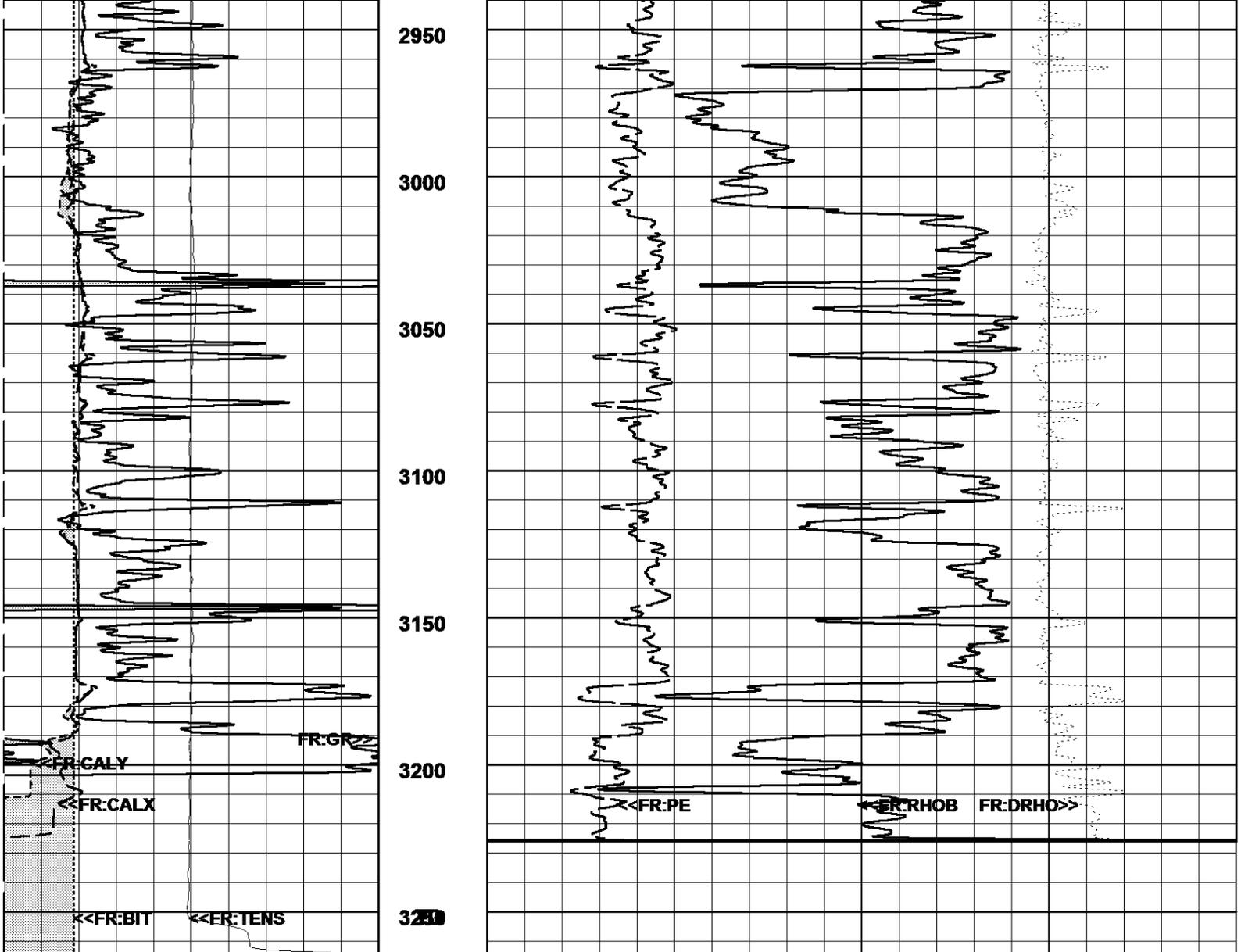
RHO

<<DRHO

<PE

RHO

>>DRHO



Gamma Ray (GR) 0. _____ 150. API		Bulk Density (RHOB) 2. _____ 3. g/cc	
X-Caliper (CALX) 6. - - - - - 16. in		Photo Electric (PE) 0. _____ 10. Barns/Elect	
Y-Caliper (CALY) 6. - - - - - 16. in		Delta RHO (DRHO) -0.5 _____ 0.5 g/cc	
Tension (TENS) 5000. _____ 0. Lbs			
Bit Size (BIT) 6. - - - - - 16. Ref in			

08/27/2015 **MAIN PASS - RHOB (2"/100ft)** Log UP - (VER 11.19)
 15:28:28 => Start Time Start Depth=> 3264.50 Feet

Litho-Density/PE Calibrations

TOOL TYPE	LFDC/Pe	SOURCE TYPE	CESIUM 137	SOURCE STRGTH	2 CURIE
SERIAL NUM	RL4101	SOURCE NUM			

MASTER BLOCK CALIBRATIONS

	W1(cps)	W2(cps)	W3(cps)	W4(cps)	SS	UNITS	CALIBRATION DATE	CALIBRATION TIME
ALUMINUM	4304.577	3708.530	1881.394	3.729	3316.8024	2.523(g/cc)	M/D/Y> 8/8/2015	H:M:S> 11:45:33
MAGNESIUM	12715.978	10772.765	4810.377	4.212	4842.1576	1.679(g/cc)		
BACKGROUND	1405.198	1239.898	857.654	3.632	4.3711			
SAND	12714.640	10768.618	4808.682	4.080		1.739(PE)		
IRON	3866.131	3367.860	1769.897	3.729		4.530(PE)		
FIELD VERIFIER(cps)	1614.960	1433.200	973.680	4.560	5.1200			
VER NUM								

WELL SITE CALIBRATIONS

VER NUM	LDP-4102	W1(cps)	W2(cps)	W3(cps)	W4(cps)	SS		CALIBRATION DATE	CALIBRATION TIME

Compensated Neutron Calibrations

TOOL TYPE	CNT-B	SOURCE TYPE	AM241BE	SOURCE STRGTH	20 CURIE
SERIAL NUM	RN2016	SOURCE NUM			

MASTER TANK CALIBRATIONS

		NEAR(cps)	FAR(cps)	RATIO	K VALUE	CALIBRATION DATE	CALIBRATION TIME
LOW PHI	3.150			0.5943	0.9045	M/D/Y> 8/6/2015	H:M:S> 13:22:38
MED PHI	19.130			1.0181	0.9045		
HIGH PHI	31.300			1.2205	0.9046		
FIELD VERIFIER(cps)	7430	294.161	282.345	1.0418			
VER NUM							

WELL SITE CALIBRATIONS

VER NUM	7430	NEAR(cps)	FAR(cps)	RATIO		CALIBRATION DATE	CALIBRATION TIME

GAMMA RAY CALIBRATION

SERIAL NUM	RG3007
BLANKET NUM	1A

MASTER CALIBRATIONS

	BackGrnd	CalVal: 175.000 API	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	31.235 - raw	207.385 - raw	0.993 - gain 0.000 - off	M/D/Y> 8/6/2015	H:M:S> 12:41:47

X CALIPER

SERIAL NUM	RL4101

MASTER CALIBRATIONS

MASTER CALIBRATIONS

	ZeroVal: 6.000 In	CalVal: 10.000 In	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	2657.837 - raw	4853.507 - raw	0.002 - gain 1.158 - off	M/D/Y> 8/8/2015	H:M:S> 12:7:34

Y CALIPER CALIBRATIONS

SERIAL NUM	<input type="text" value="RN2016"/>
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MASTER CALIBRATIONS

	ZeroVal: 6.000 IN	CalVal: 10.000 IN	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	850.111 - raw	1578.062 - raw	0.005 - gain 1.329 - off	M/D/Y> 8/6/2015	H:M:S> 13:25:17

MICRO INVERSE CALIBRATIONS

SERIAL NUM	<input type="text" value="RM8007"/>
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MASTER CALIBRATIONS

	ZeroVal: 0.020 ohmm	CalVal: 10.000 ohmm	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	14.833 - raw	279.479 - raw	0.038 - gain -0.539 - off	M/D/Y> 8/6/2015	H:M:S> 12:12:4

MICRO NORMAL CALIBRATIONS

SERIAL NUM	<input type="text" value="RM8007"/>
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MASTER CALIBRATIONS

	ZeroVal: 0.020 ohmm	CalVal: 10.000 ohmm	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	22.993 - raw	360.507 - raw	0.030 - gain -0.660 - off	M/D/Y> 8/6/2015	H:M:S> 12:17:45

MICRO CALIPER CALIBRATIONS

SERIAL NUM	<input type="text" value="RM8007"/>
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MASTER CALIBRATIONS

	ZeroVal: 6.000 in	CalVal: 10.000 in	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	2777.260 - raw	4814.381 - raw	0.002 - gain 0.547 - off	M/D/Y> 8/6/2015	H:M:S> 10:42:30

Company	CMX, INC.
Well	BUSHTON #2-36
Field	HEIKEN
County	ELLSWORTH
State	KANSAS

RECON

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LITHOLOGY DENSITY
GAMMA RAY X-Y CALIPER
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