

Company **MIDWESTERN EXPLORATION COMPANY**
 Well **MILLS-GOOCH #2-7**
 Field **GOOCH**
 County **STEVENS**
 State **KANSAS**



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

SEC	TWP	RGE	OTHER SERVICES:
07	35S	35W	DIL
Location: 660' FSL & 1650' FWL		W2 SE SW	
SURF. SAME		AP#:	015-189-22835
Permanent Datum	Ground Level	Elev	3017
Log Measured From	Kelly Bushing		
Drilling Measured From	Kelly Bushing		
		ELEVATIONS	K.B. 3027
			G.L. 3017
			D.F. 3026

Date	25-JUN-2014	
Run No.	ONE	
TD Driller	6710	ft
TD RECON	6713	ft
Bot Logged Interval	6712	ft
Top Logged Interval	3400	ft
Casing Depth Driller	8 5/8	in. @ 1685
Casing Depth RECON	8 5/8	in. @ 1644/1714
Bit Size	7 7/8	in.
Drilling Fluid Type	WBM	
Density	9.15	ppg
Viscosity	7.6	cm/30min
Fluid Loss	PH	10.0
Source Of Sample	Flowline	
RM @ Measured Temp	1.976	Ohmm @ 75
RMF @ Measured Temp	1.482	Ohmm @ 75
RMC @ Measured Temp	2.470	Ohmm @ 75
RM @ MRT	1.093	Ohmm @ 141
Max Recorded Temp	141	DegF
Time Drilling Stopped	25-JUN-2014	03:30
Time Circulation Stopped	25-JUN-2014	10:20
Time Logger On Bottom	25-JUN-2014	15:31
Unit Num	S409	OKLAHOMA CITY, OK
Location		
Recorded By	H. GARCIA	
Witnessed By	MR. B. DAUGHERTY	MR. T. WILLIAMS

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#	VAL ENERGY DRLG. #2

GENERAL REMARKS SECTION	
<p>FIRST RUN IN THE HOLE CNL AND LDT LOGGED IN A LIMESTONE MATRIX TOP MARK - 791.2, BOTTOM MARK - 6599.9 CNL/LDT LOGGED MATRIX: 2.71 g/cc.</p> <p>CHLORIDES: 1700 mg/l LCM: 10 lb/bbl</p> <p>THANK YOU FOR USING RECON PETROTECHNOLOGIES LTD.</p>	<p>AHV CALCULATED ON 5.5" PROD. CASING</p> <p>BOTTOM JOINT PARTED OFF OF SURFACE CASING STRING AND FELL 32'</p> <p>CREW: M. CALLENTINE, K. HELDERMON</p>

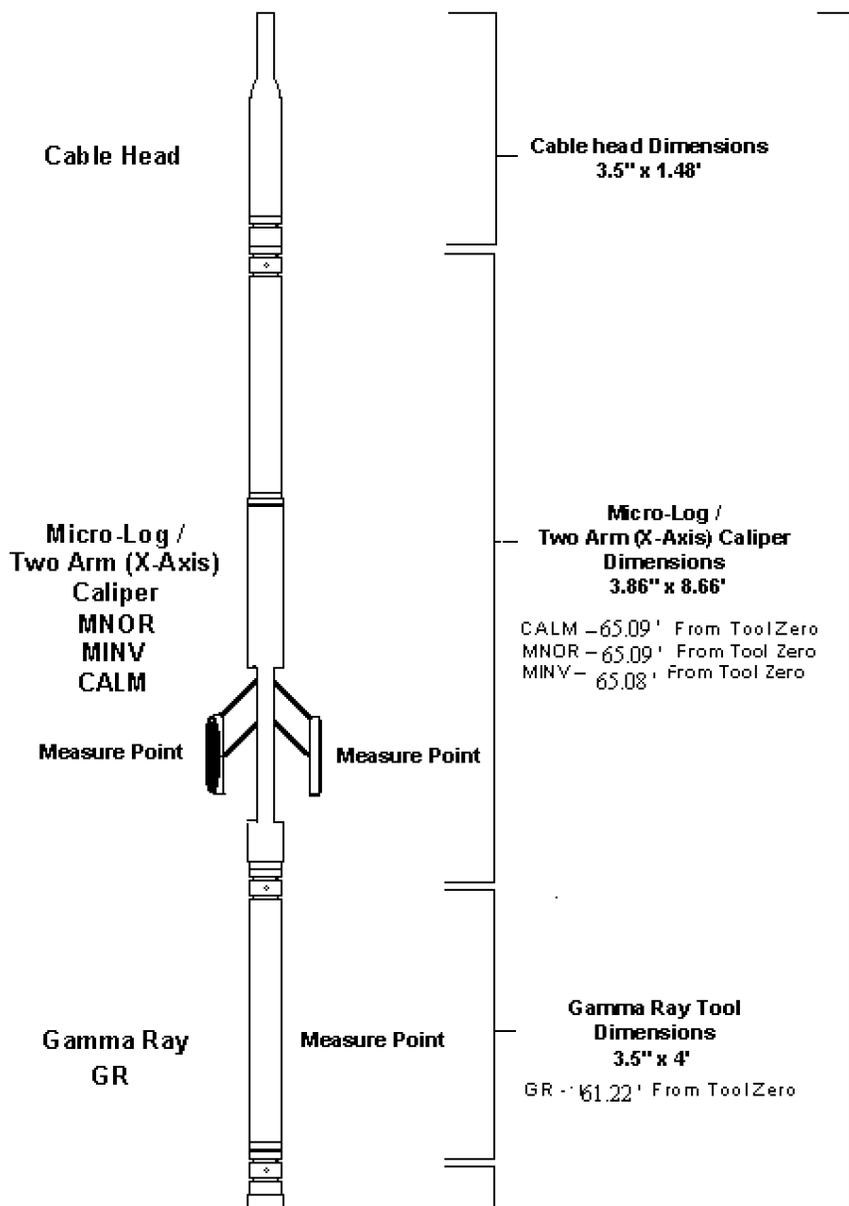
CEMENT VOLUME CALCULATIONS SUMMARY

Tool Type	LDT-CNT	Caliper Type X-Y CALIPERS		
Tool Serial #	RN2002 / RL4112			
	Borehole Total	Annular Volume with Casing	From Depth (MKb)	To Depth (MKb)
VOLUMES	1856.336 Cubic Feet	1017.256 Cubic Feet	SCG 1644	TD 6713

CASING INFORMATION

	SIZE (in)	GRADE	WEIGHT (lbs/ft)	ID (in)	TOP DEPTH	BOT DEPTH
SURFACE CASING	8 5/8	J-55	24	8.097	Surface	1644/1714
INTERMEDIATE CASING	N/A	N/A	N/A	N/A	Surface	N/A
PRODUCTION CASING	5 1/2	J-55	15.5	4.950	Surface	TD

**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'

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

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

Measure Point

Borehole
Compensated
Sonic

Borehole Compensated Sonic
Tool Dimensions
3.5" x 15.75'

SP(SS,LS,DL)
DT
TTI
VDL
TT

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

Measure Point
Tool First Reading
Point

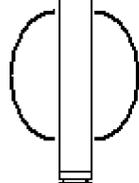
T-1
Transmitter 1

R-1
Receiver 1

R-2
Receiver 2

T2R1 - 28.04' From Tool Zero
 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 First Reading
 Point

Tool Zero Point
 (Tool Bottom)

All Measurements are
 taken from Tool Zero

06/25/2014

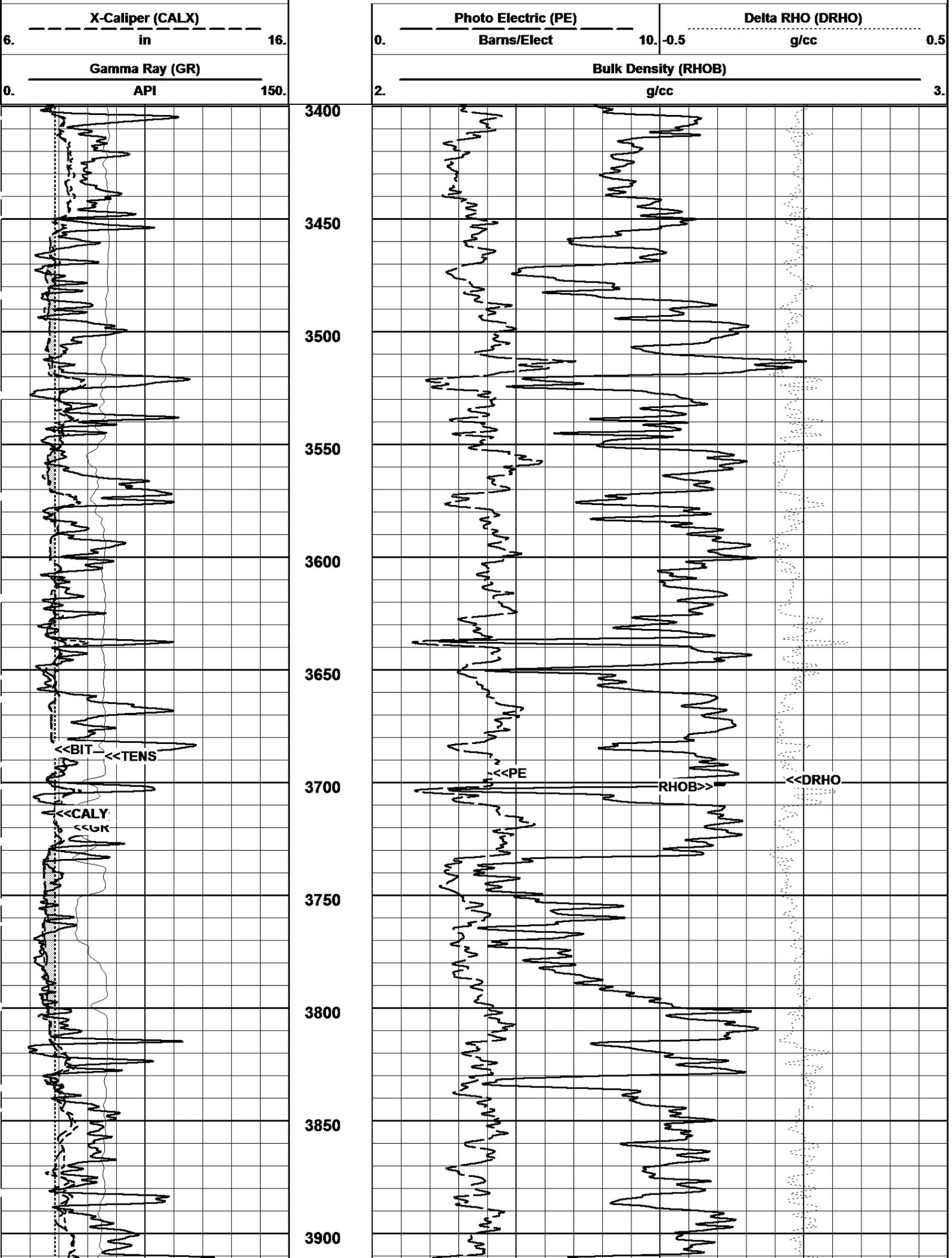
MAIN PASS - RHOB (2"/100Ft)

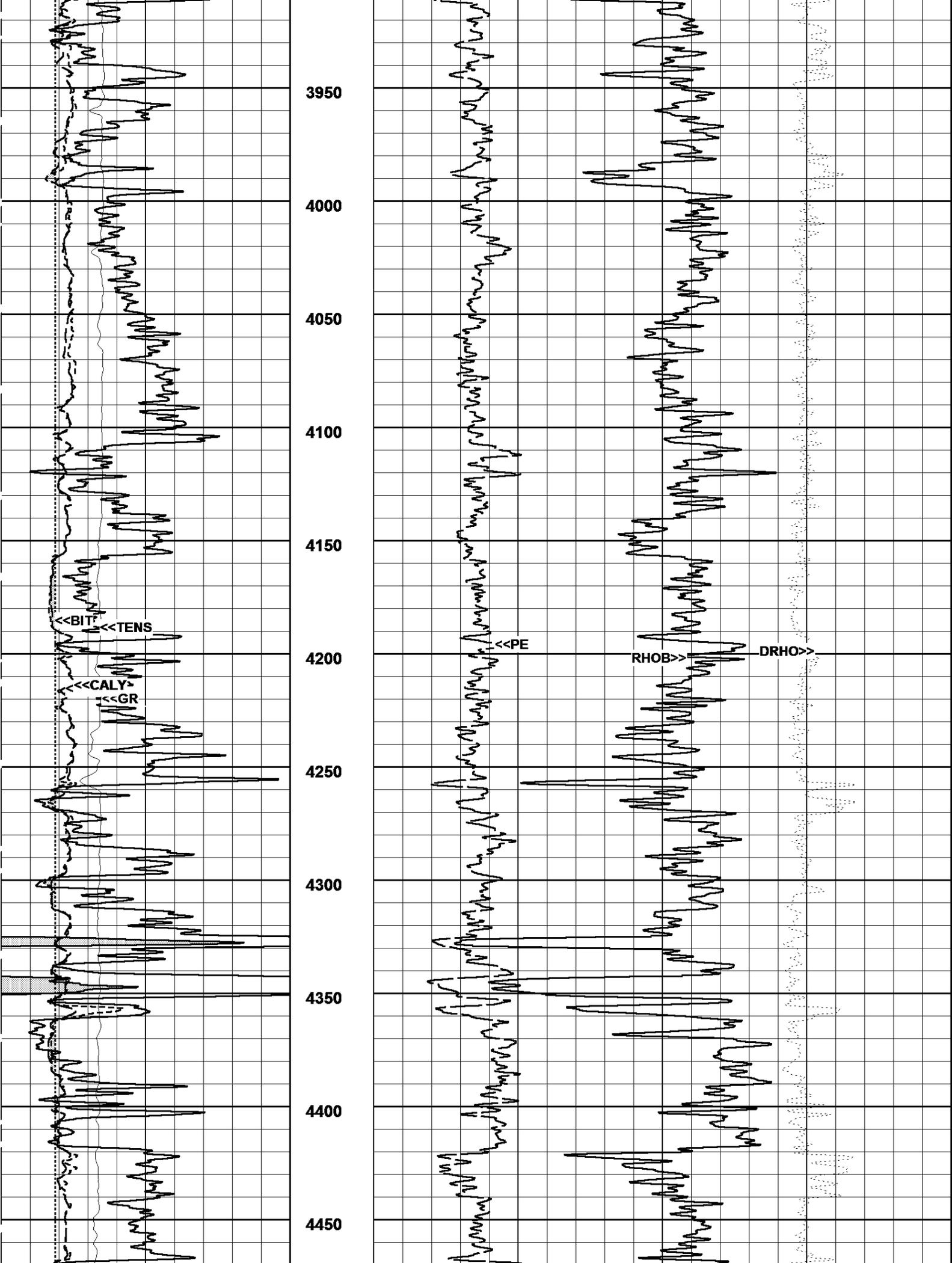
Log UP - (VER 11.19)

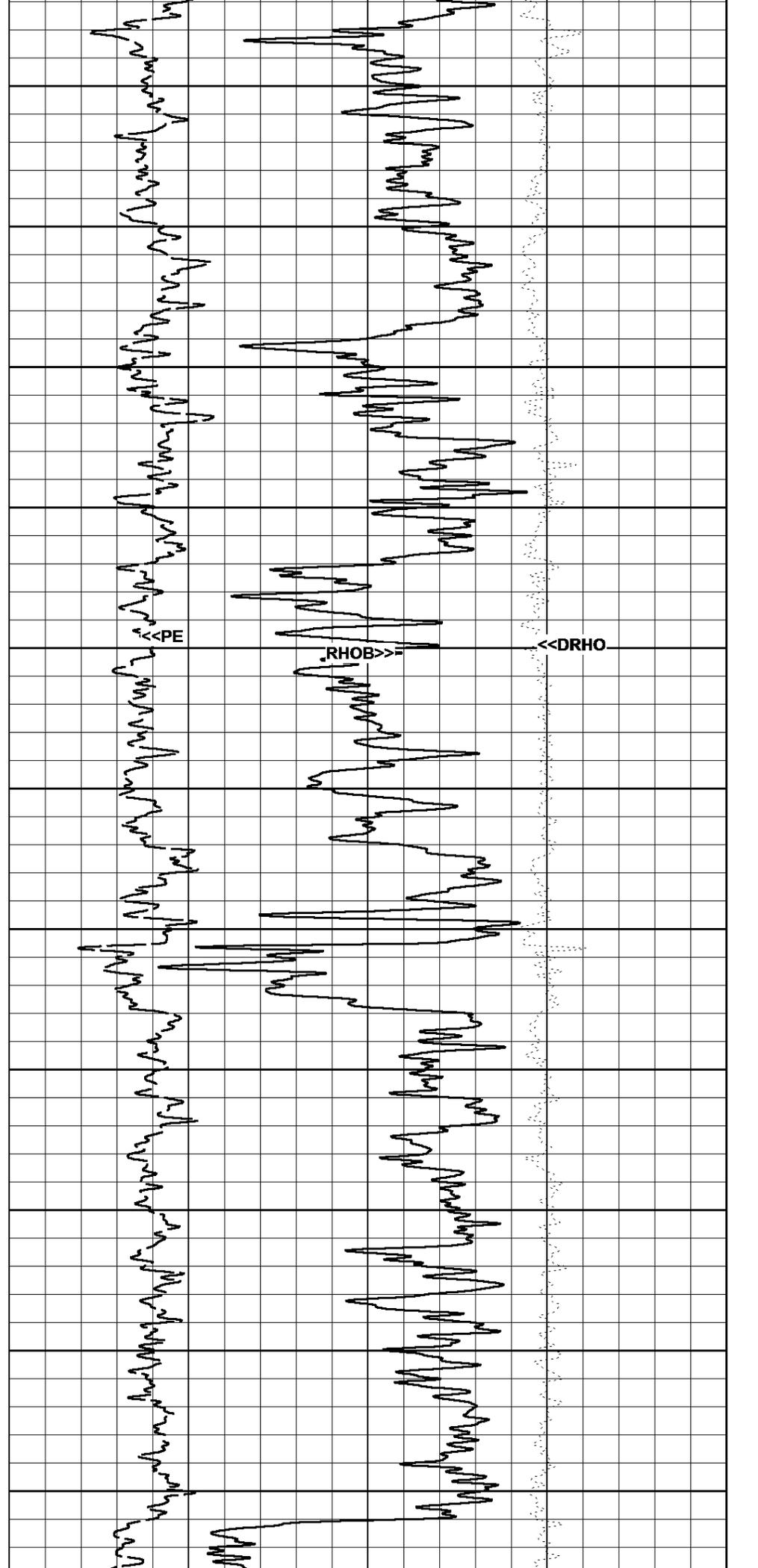
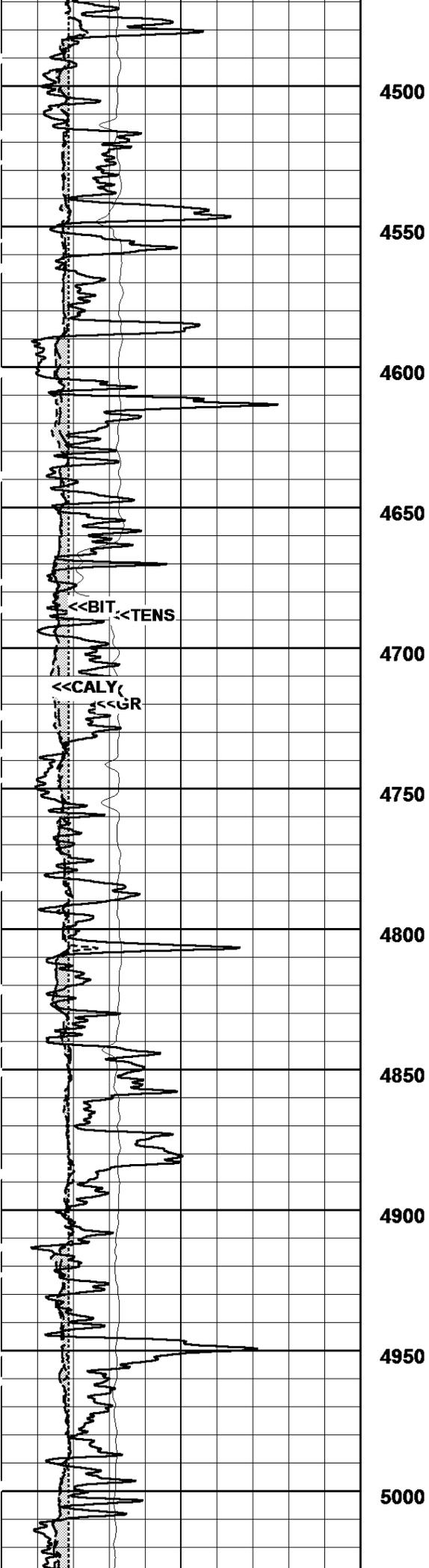
18:36:46 => End Time

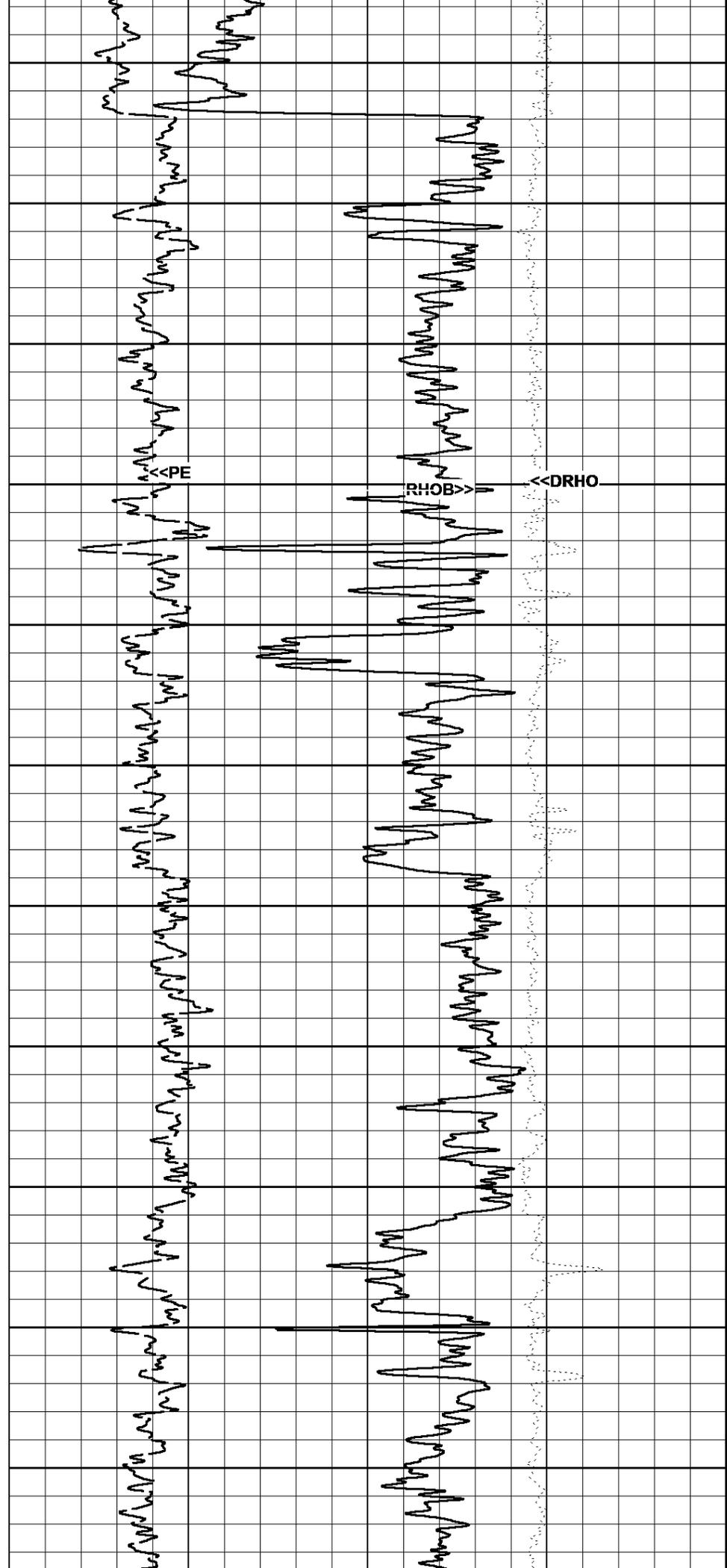
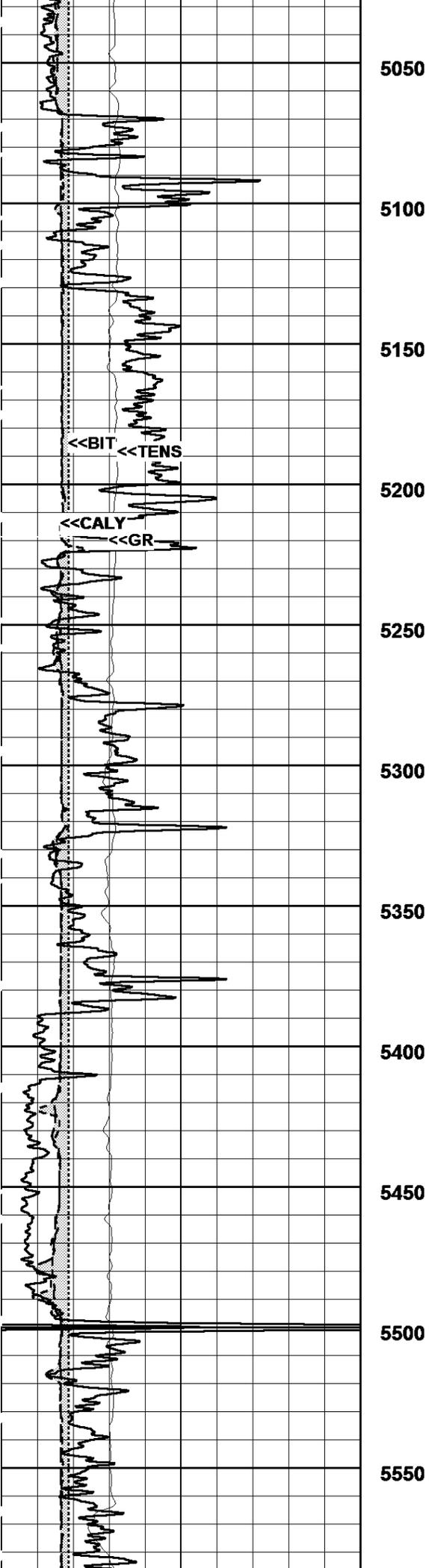
End Depth=> 3399.75 Feet

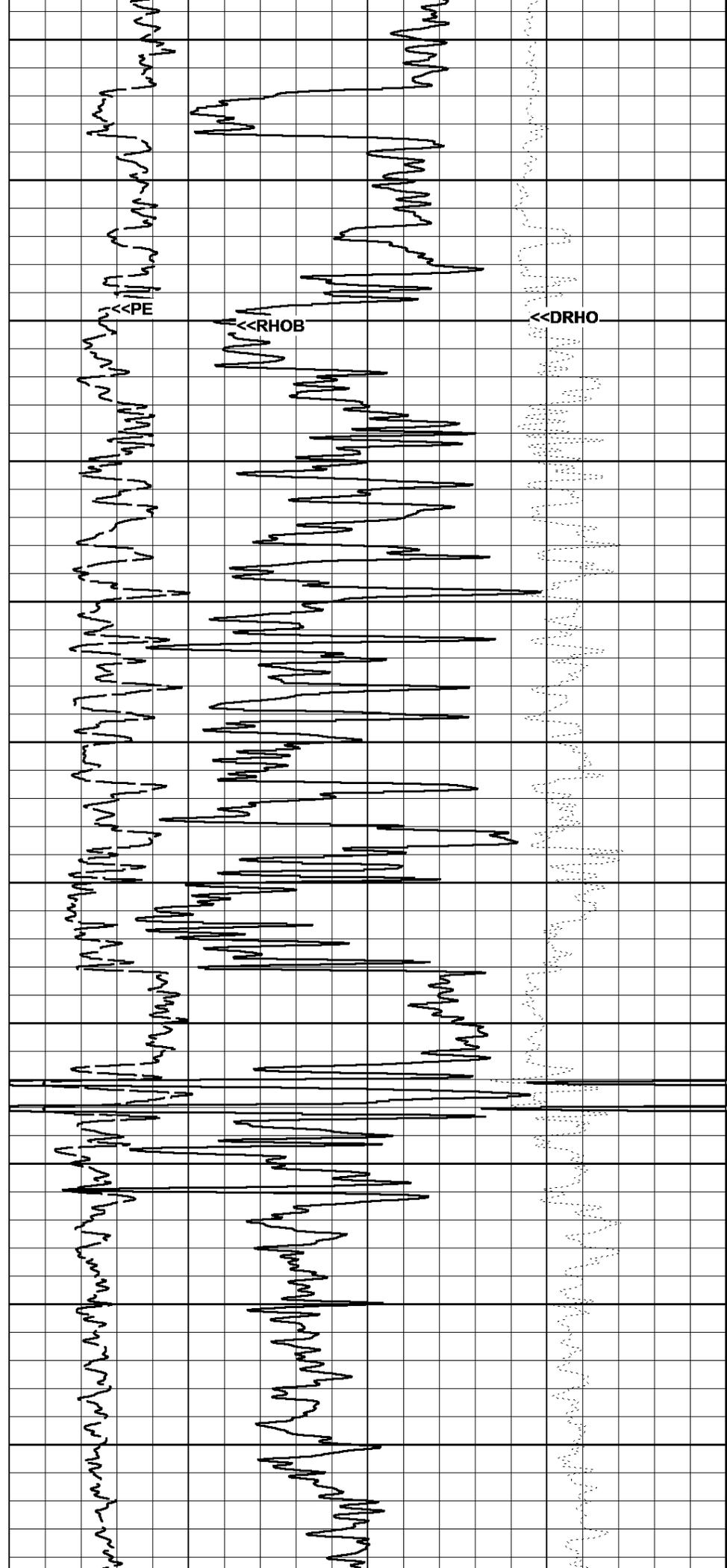
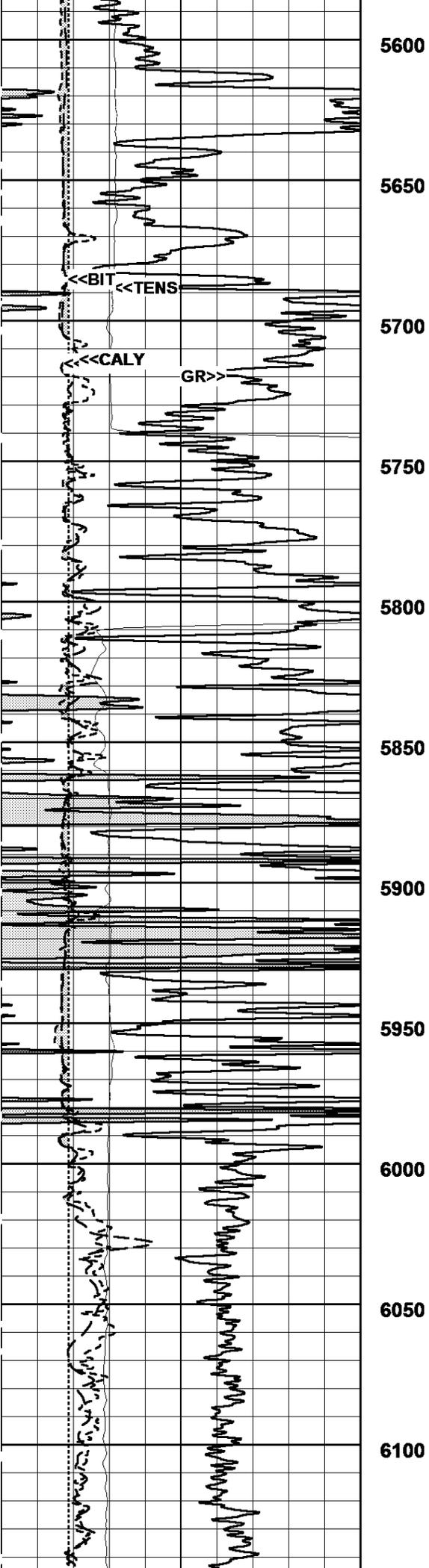
Bit Size (BIT)		
6.	----- Ref in	16.
Tension (TENS)		
5000.	----- Lbs	0.
Y-Caliper (CALY)		
6.	----- in	16.

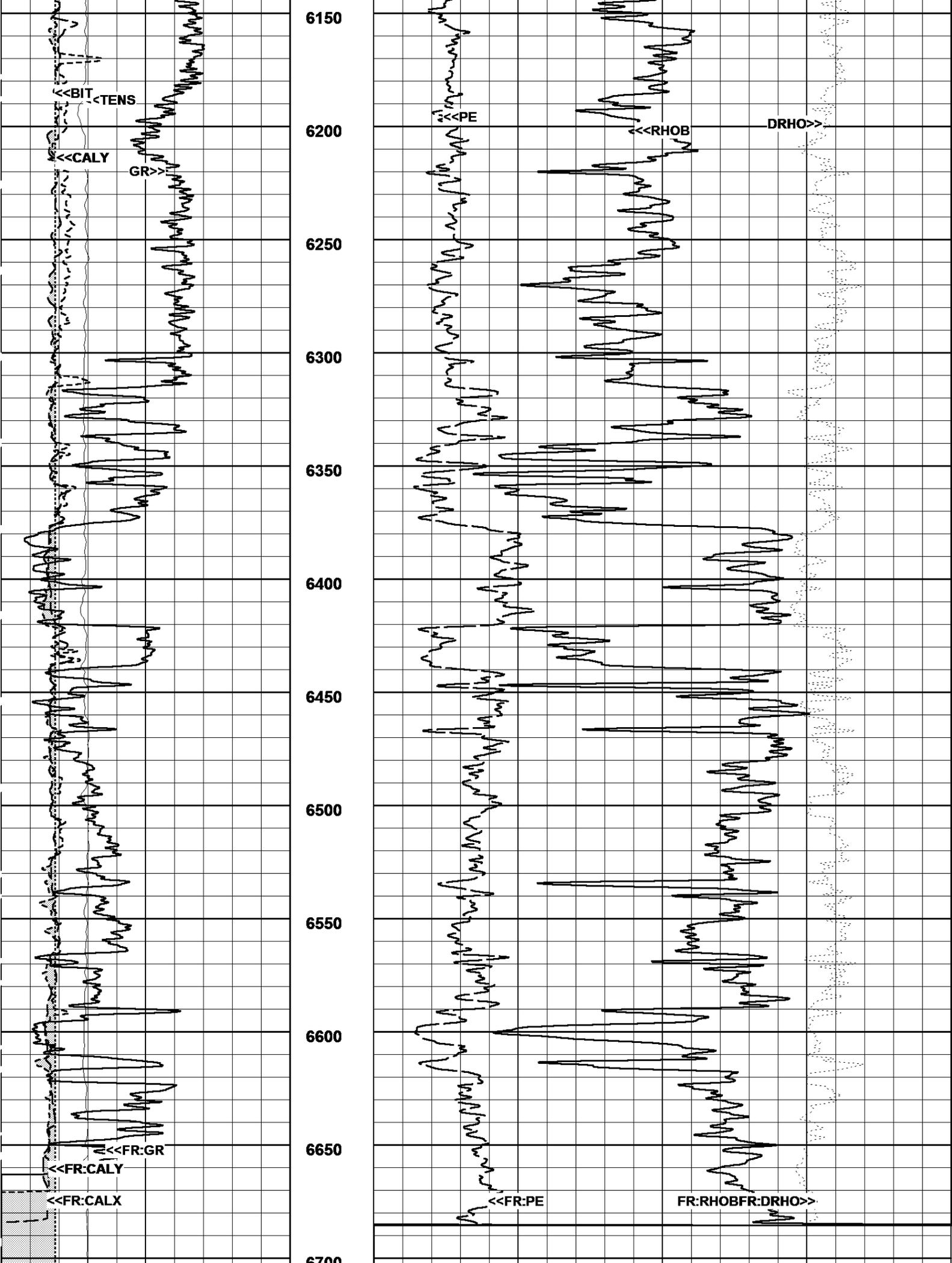












<<FR:BIT:TENS

TD

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

06/25/2014
15:56:22 => Start Time

MAIN PASS - RHOB (2"/100Ft)

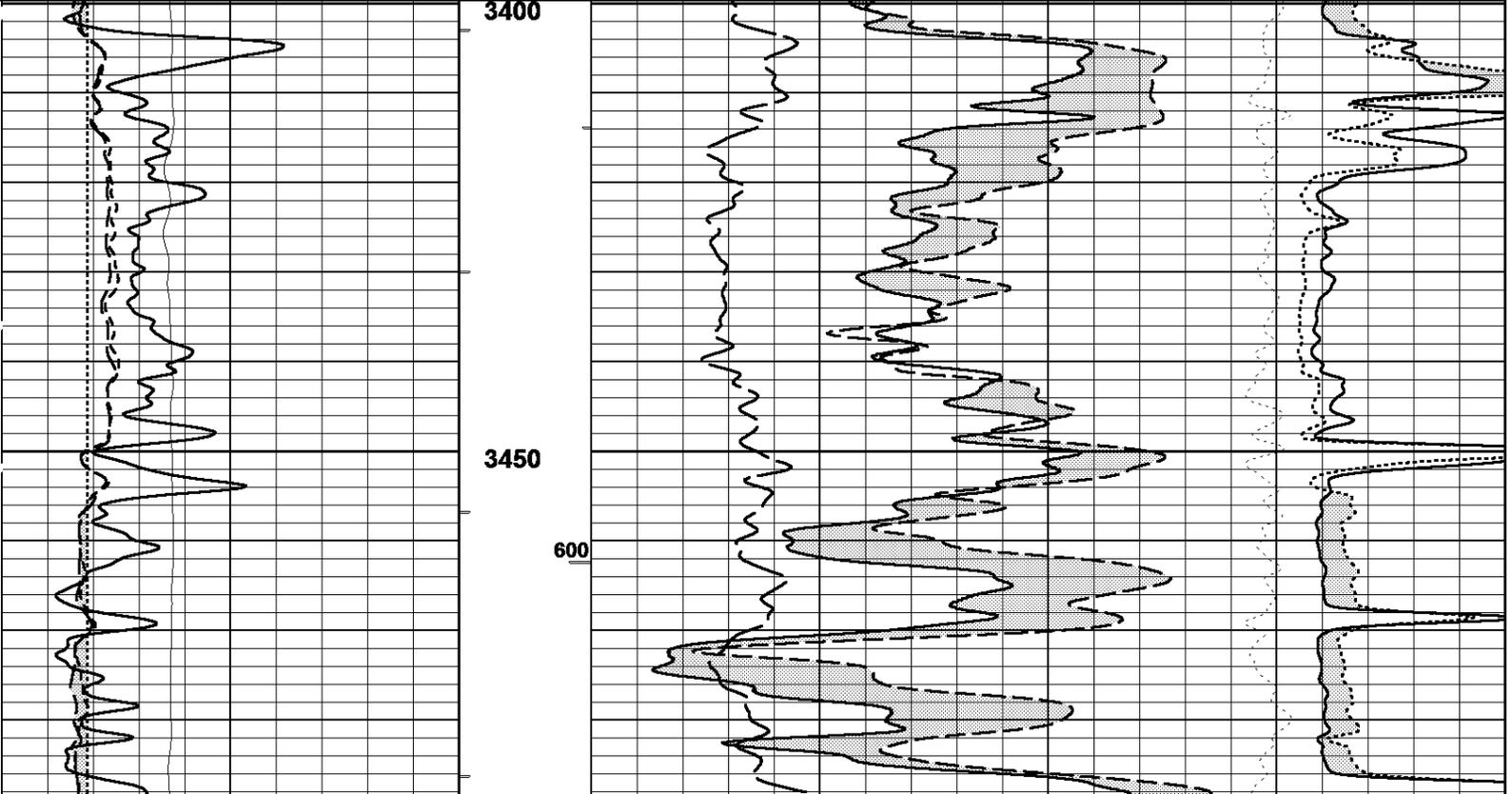
Log UP - (VER 11.19)
Start Depth=> 6724.00 Feet

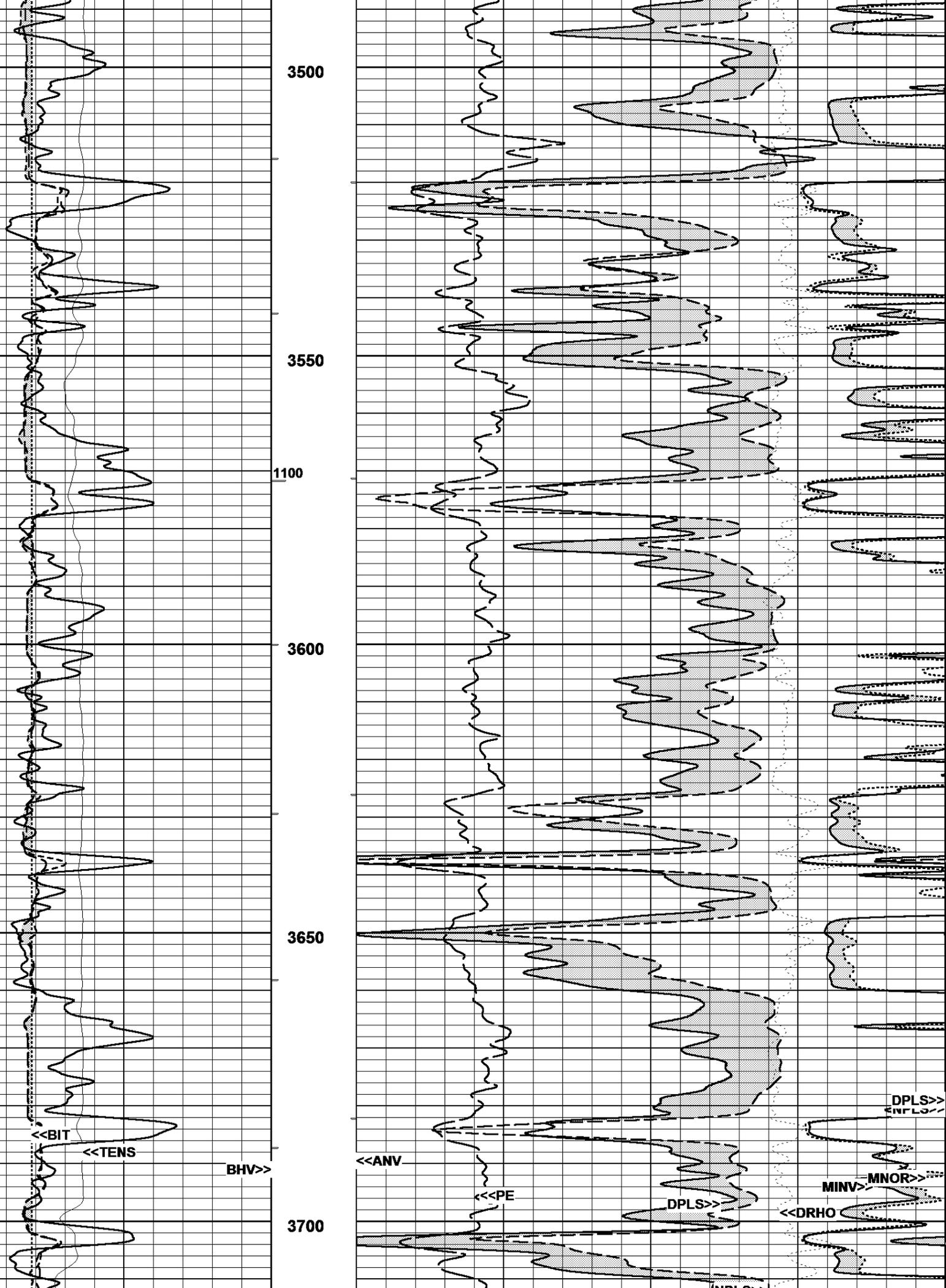
06/25/2014
18:36:46 => End Time

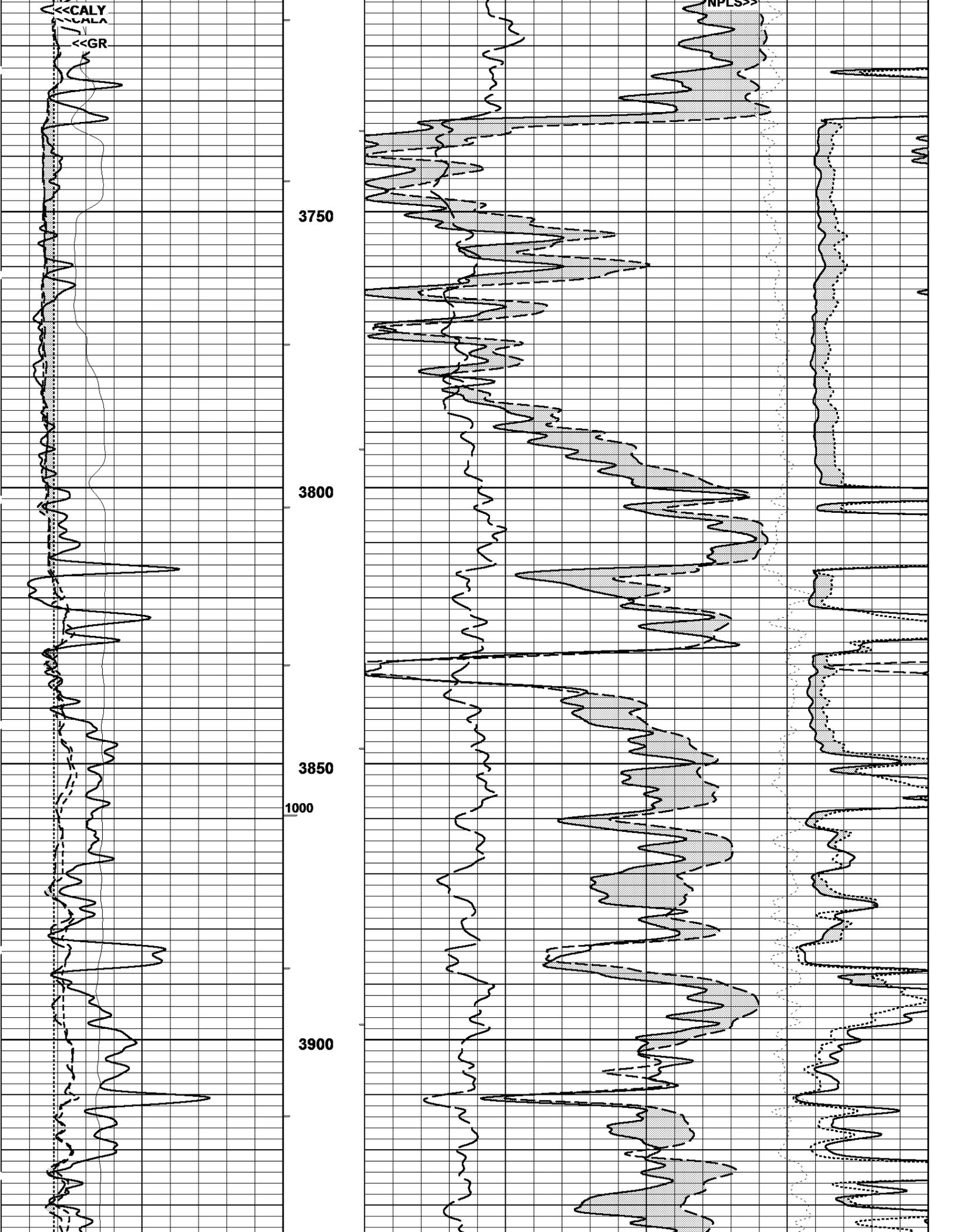
MAIN PASS - LIMESTONE (5"/100Ft)

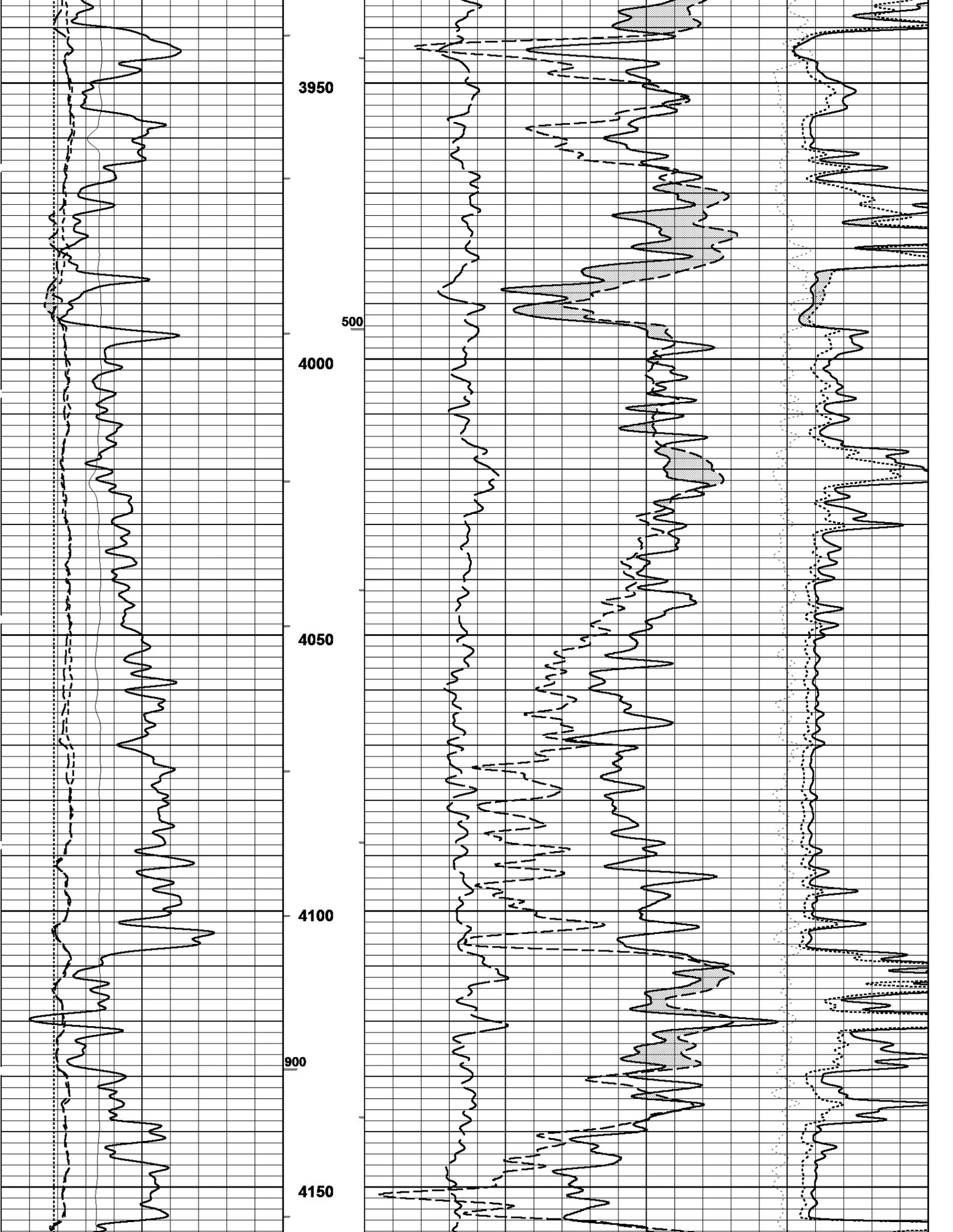
Log UP - (VER 11.19)
End Depth=> 3399.90 Feet

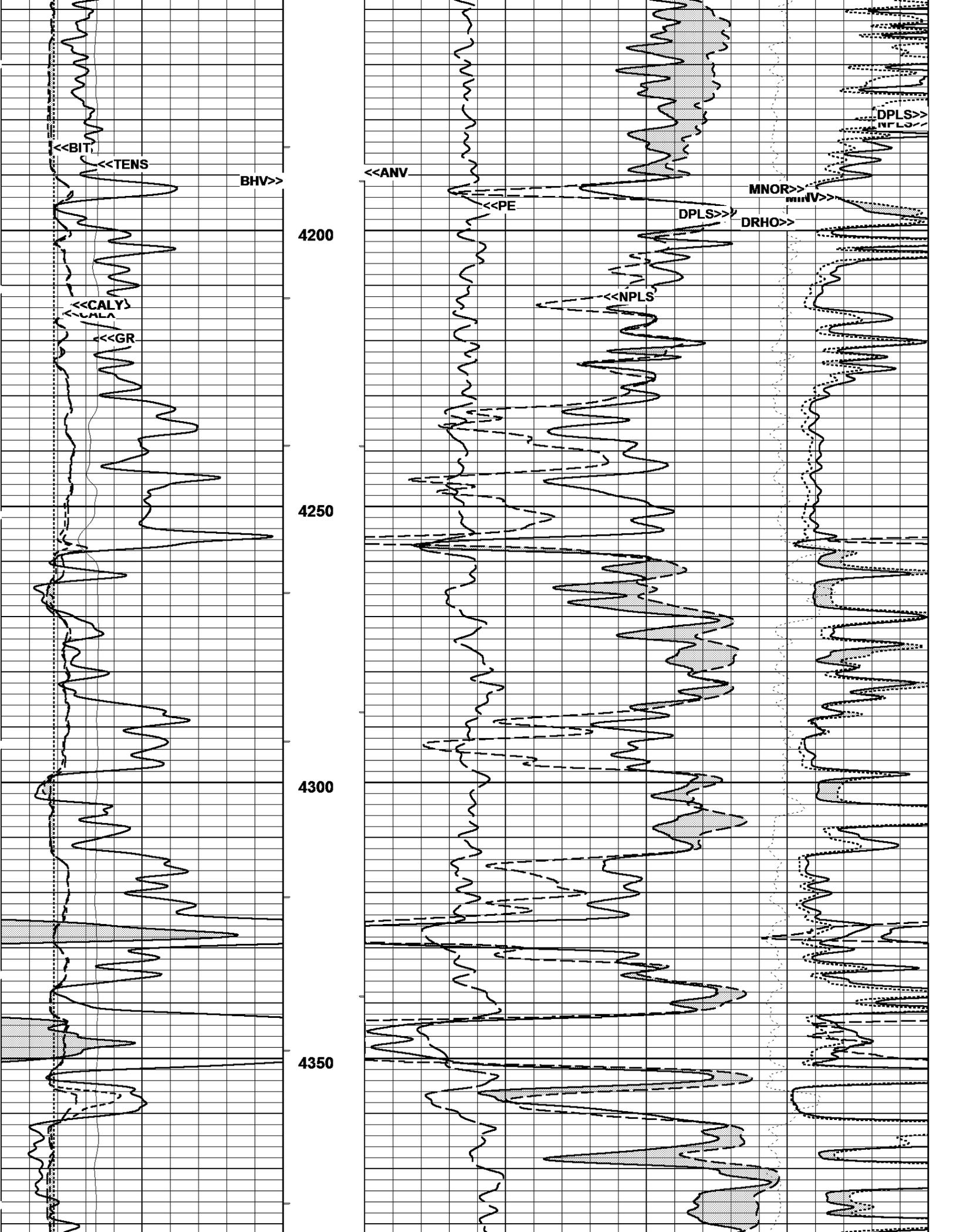
Bit Size (BIT) 6. <u>Ref in</u> 16.		Micro-Normal{2"} (MNOR) -40. <u>ohms</u> 40.	
Tension (TENS) 5000. <u>Lbs</u> 0.		Micro-Inverse{1"} (MINV) -40. <u>ohms</u> 40.	
Y-Caliper (CALY) 6. <u>in</u> 16.		Photo Electric (PE) 0. <u>Barns/Elect</u> 10.	
X-Caliper (CALX) 6. <u>in</u> 16.		Delta RHO (DRHO) -0.5 <u>g/cc</u> 0.5	
Gamma Ray (GR) 0. <u>API</u> 150.		Density-Porosity (DPLS) 30. <u>Limestone-Matrix (V/V)</u> -10.	
		Neutron-Porosity (NPLS) 30. <u>Limestone-Matrix (V/V)</u> -10.	

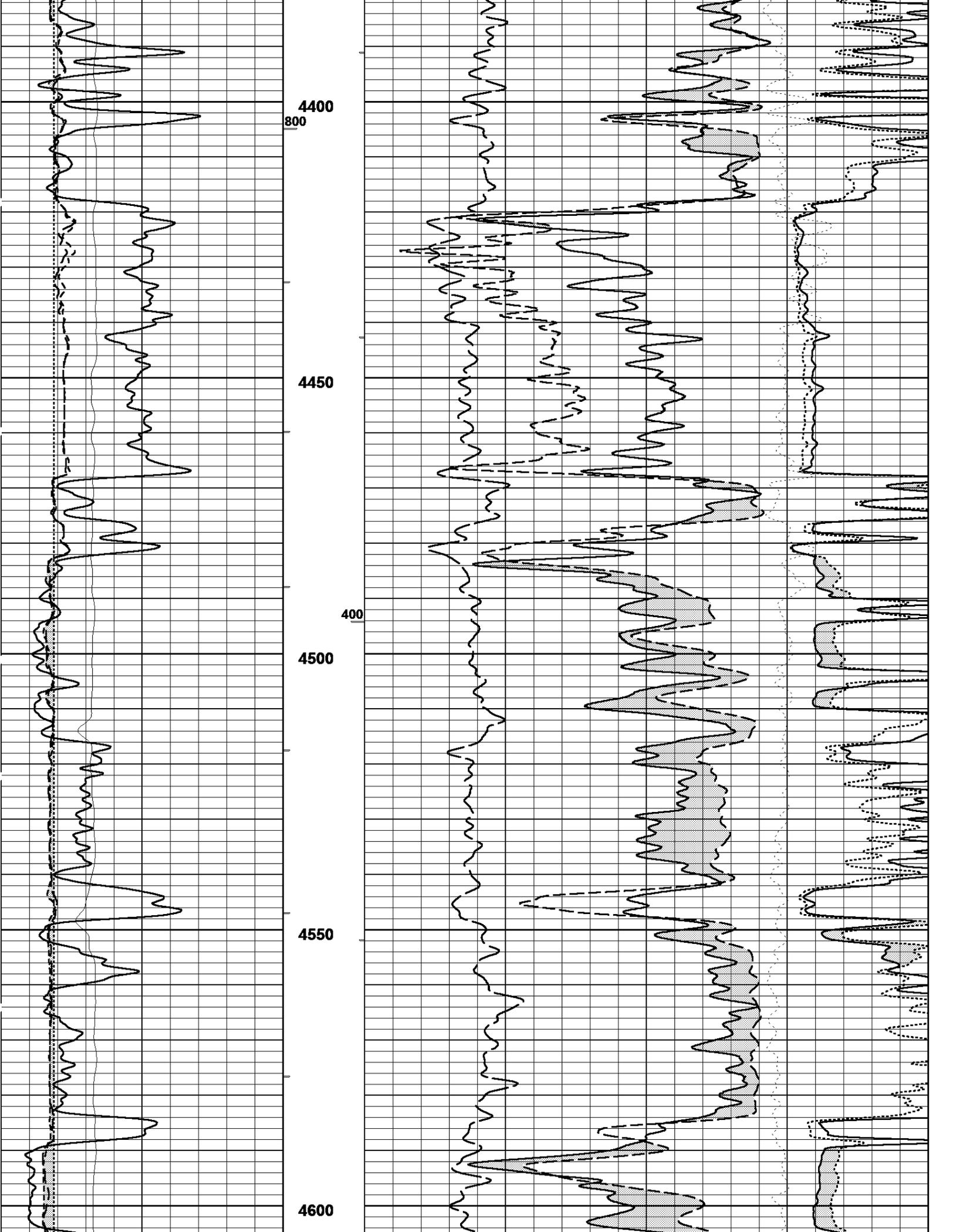


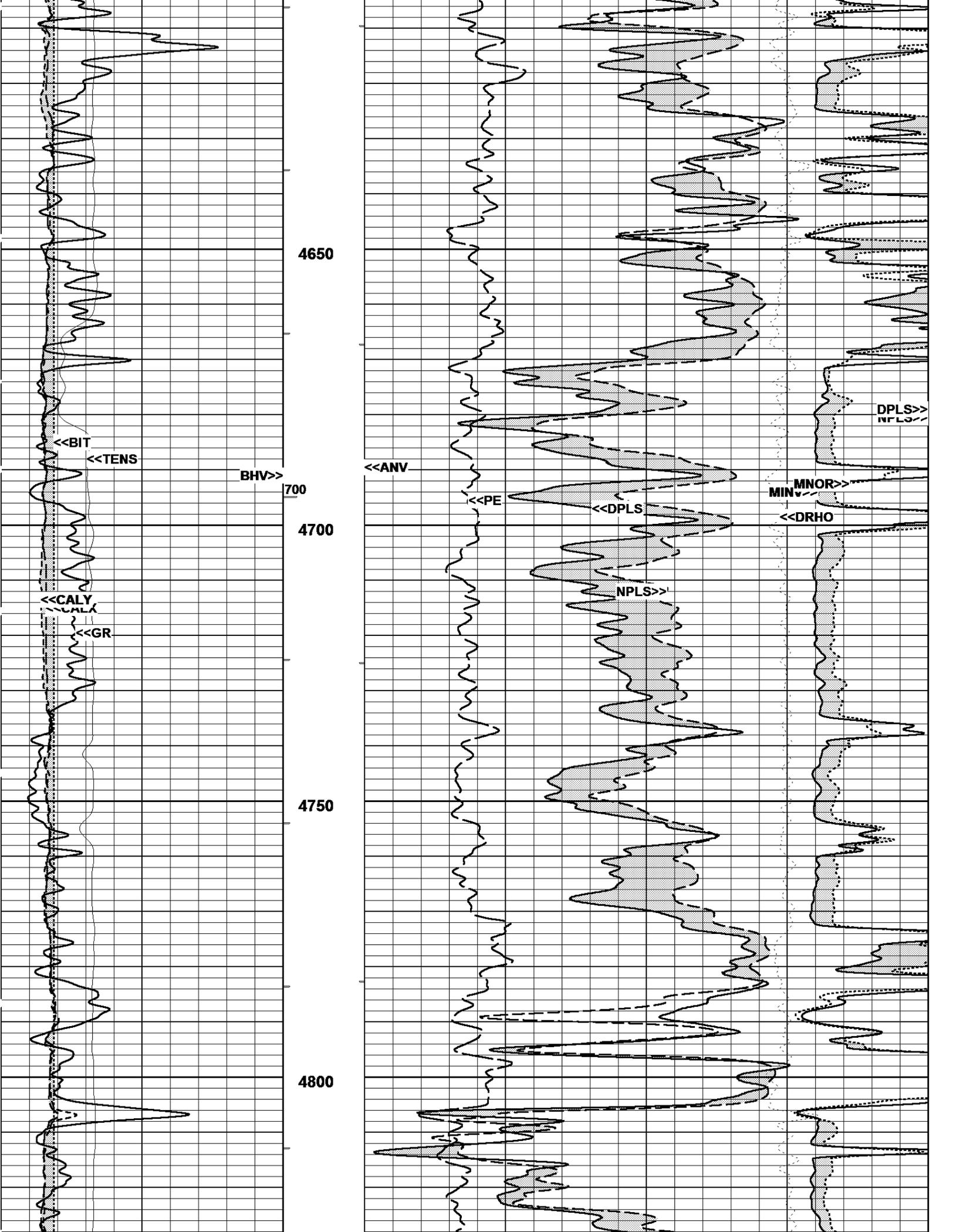


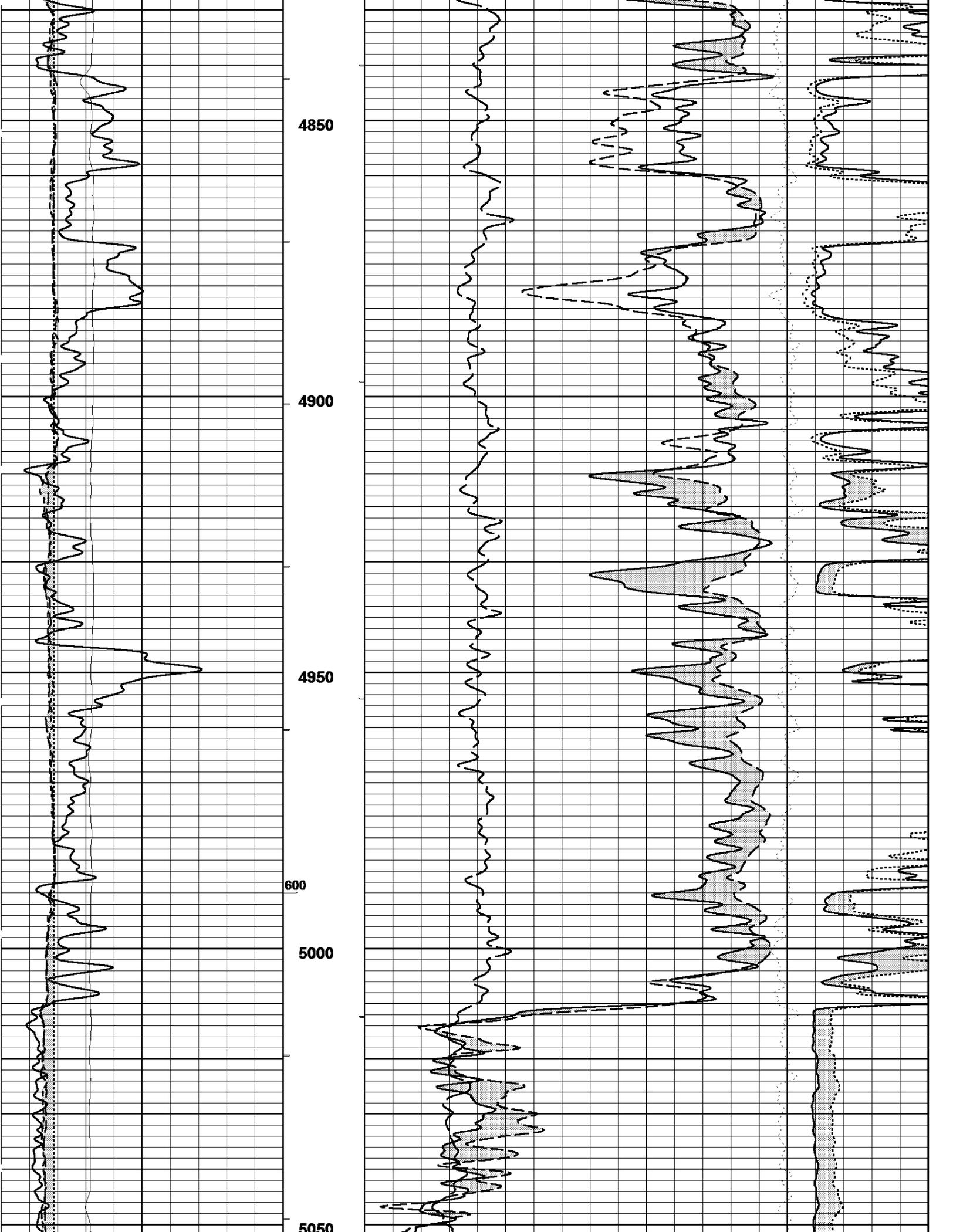


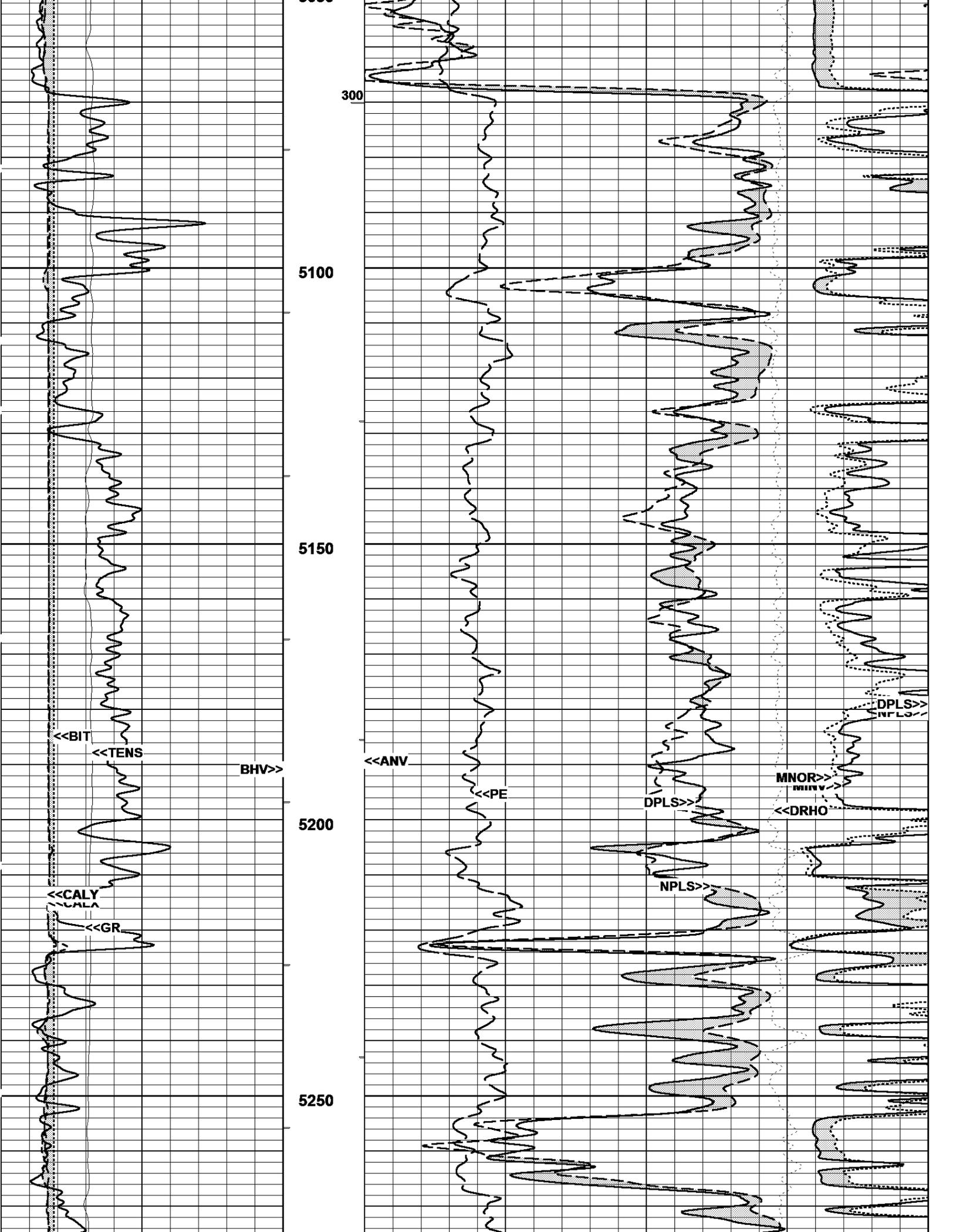












5300

300

5100

5150

<<BIT

<<TENS

BHV>>

<<ANV

<<PE

DPLS>>

MNOR>>

MINV>>

5200

<<CALY

<<CALA

<<GR

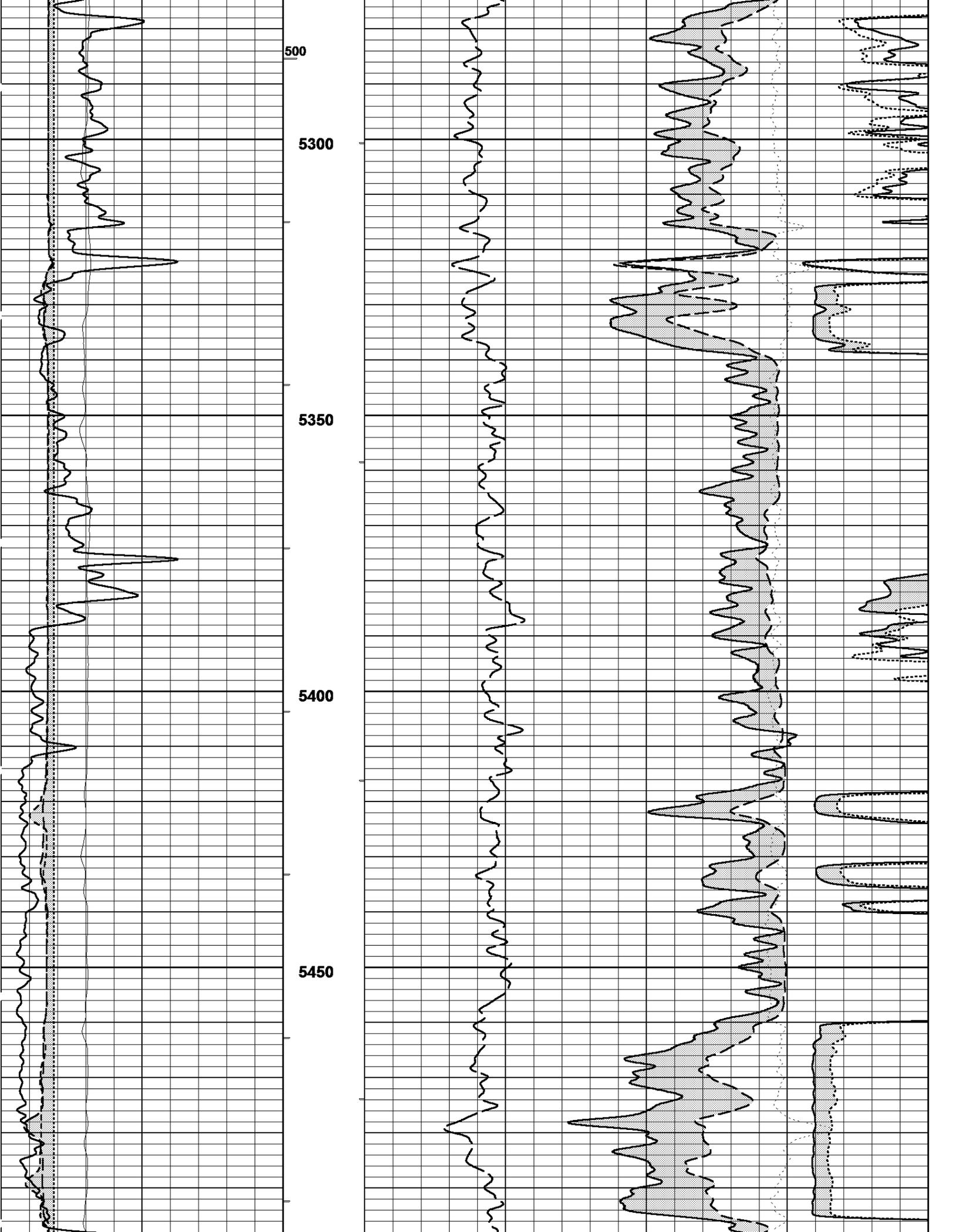
NPLS>>

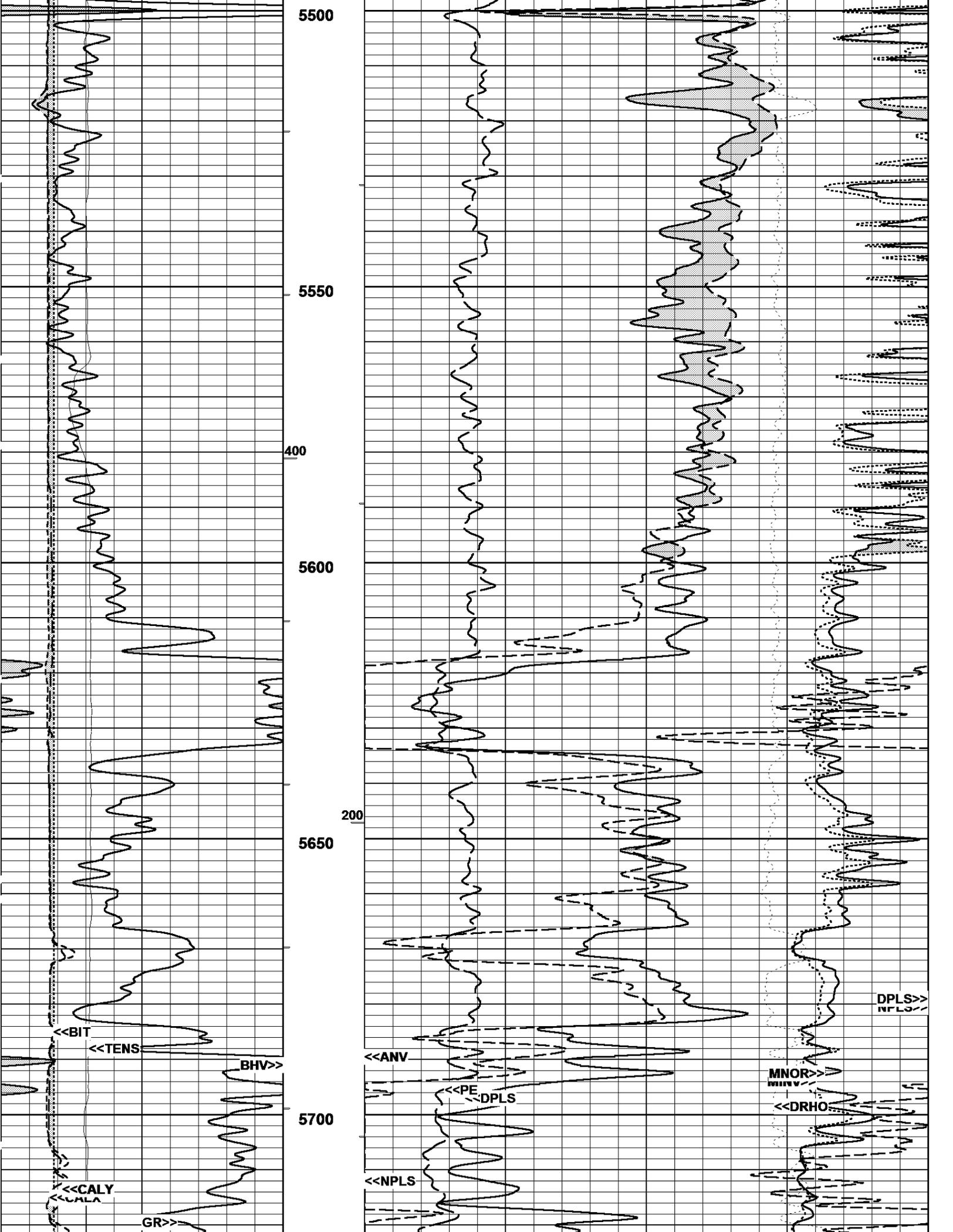
<<DRHO

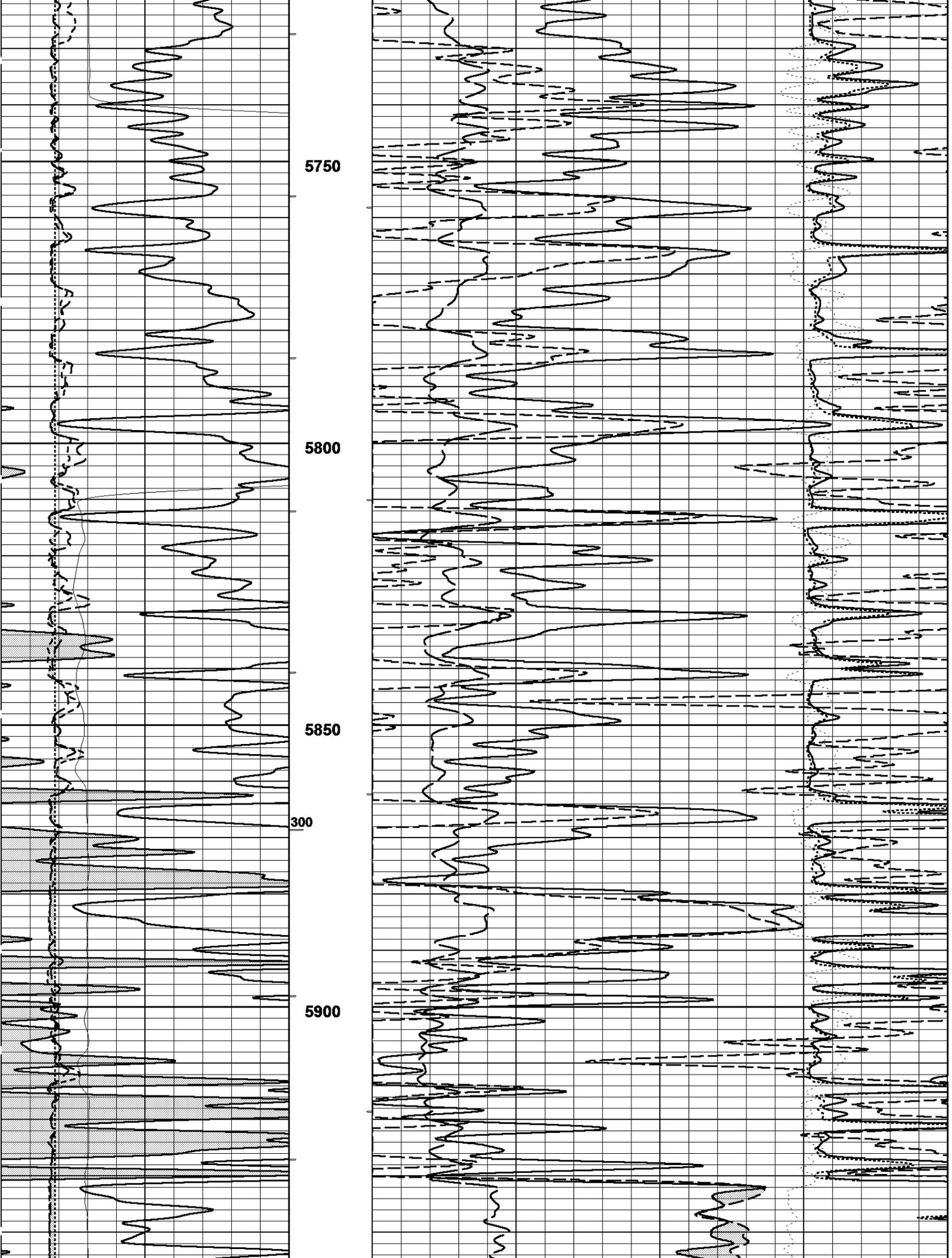
5250

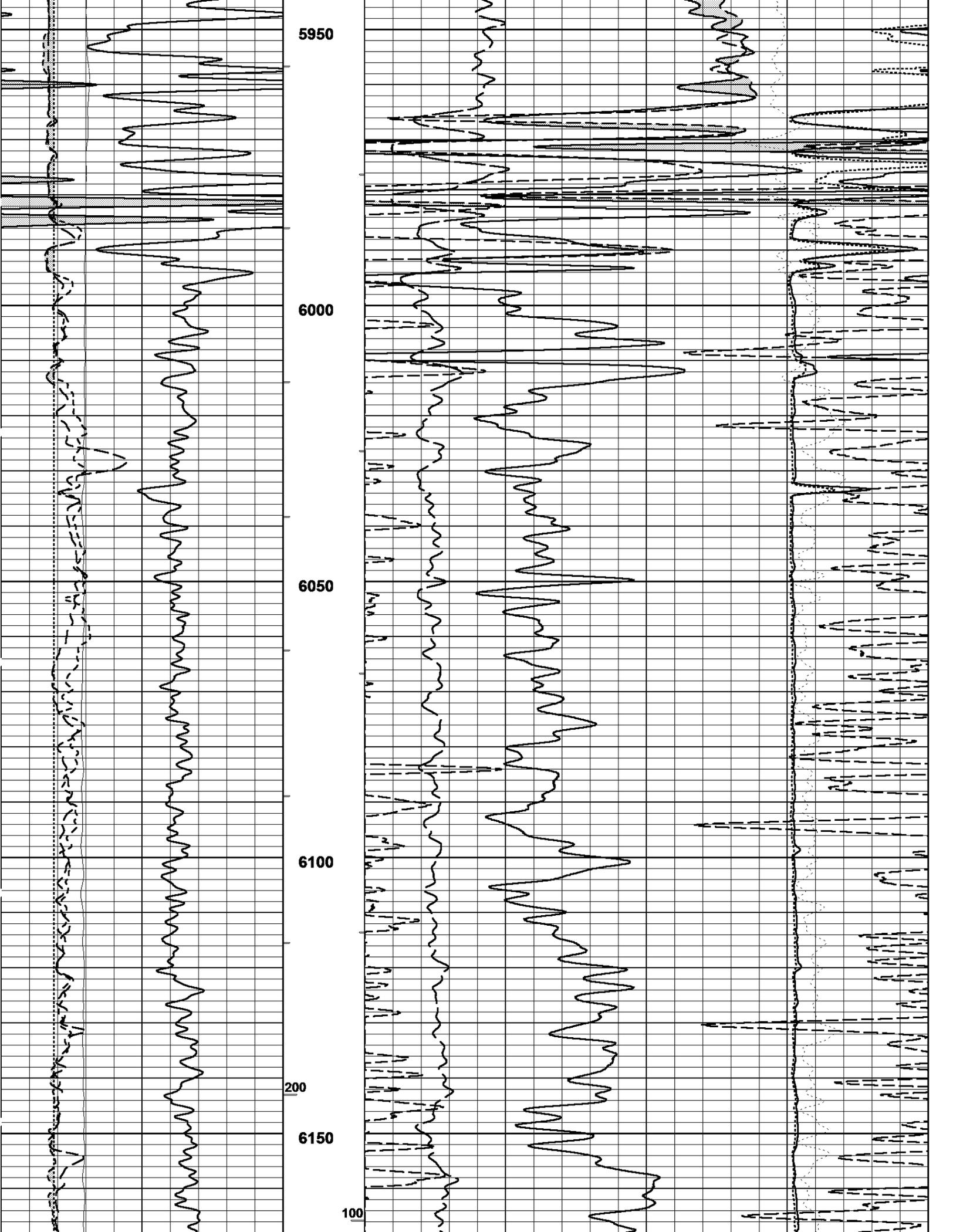
DPLS>>

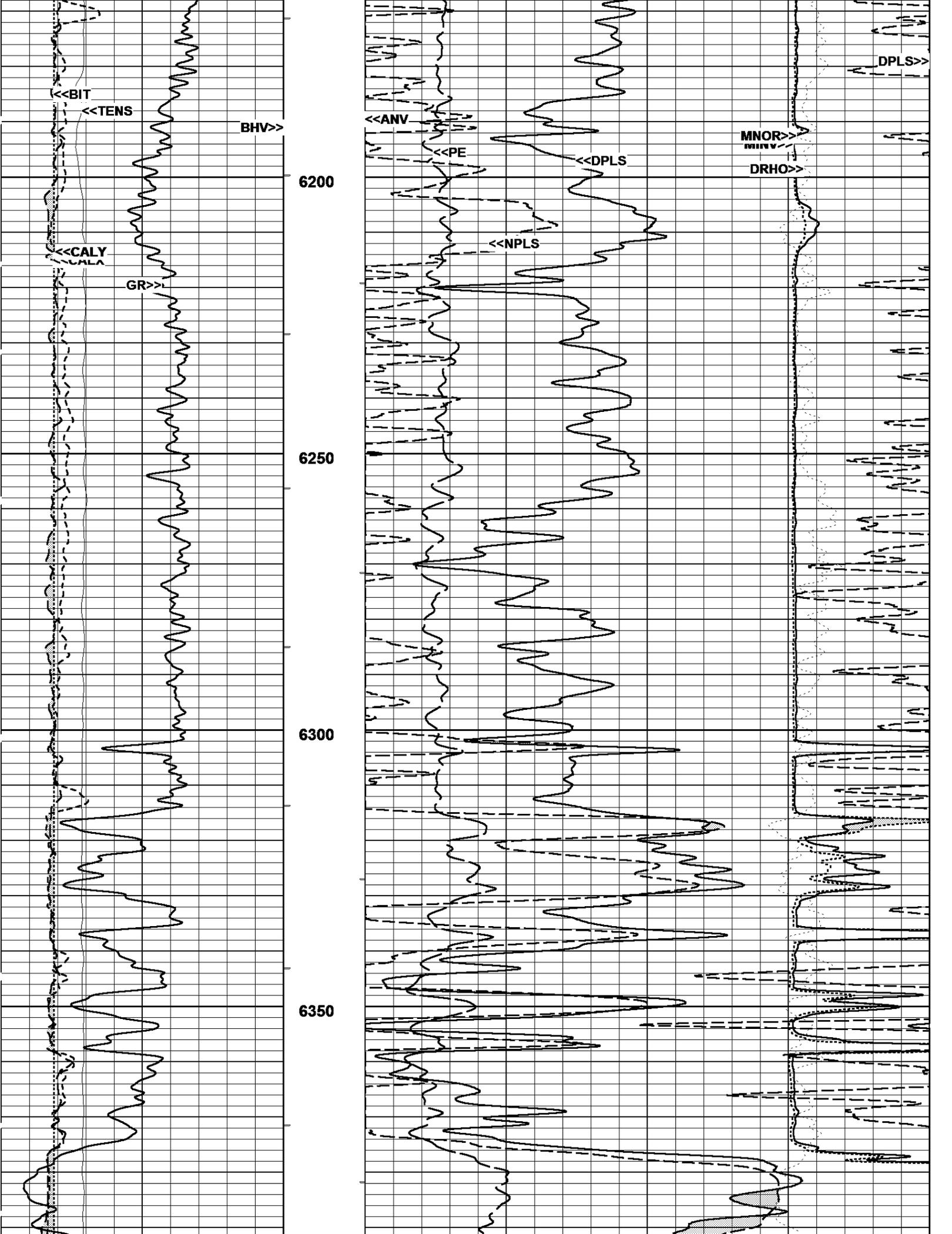
INFL>>

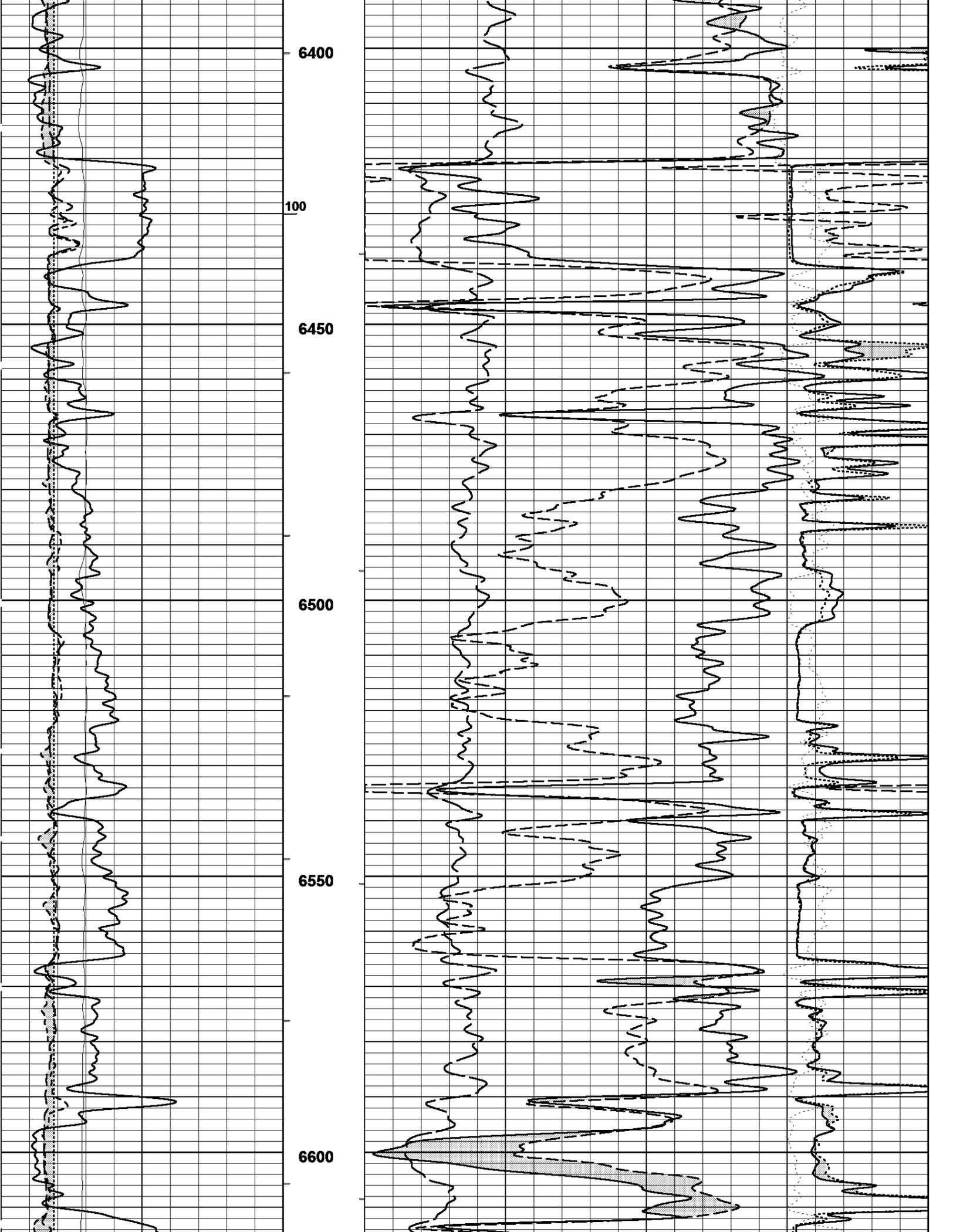


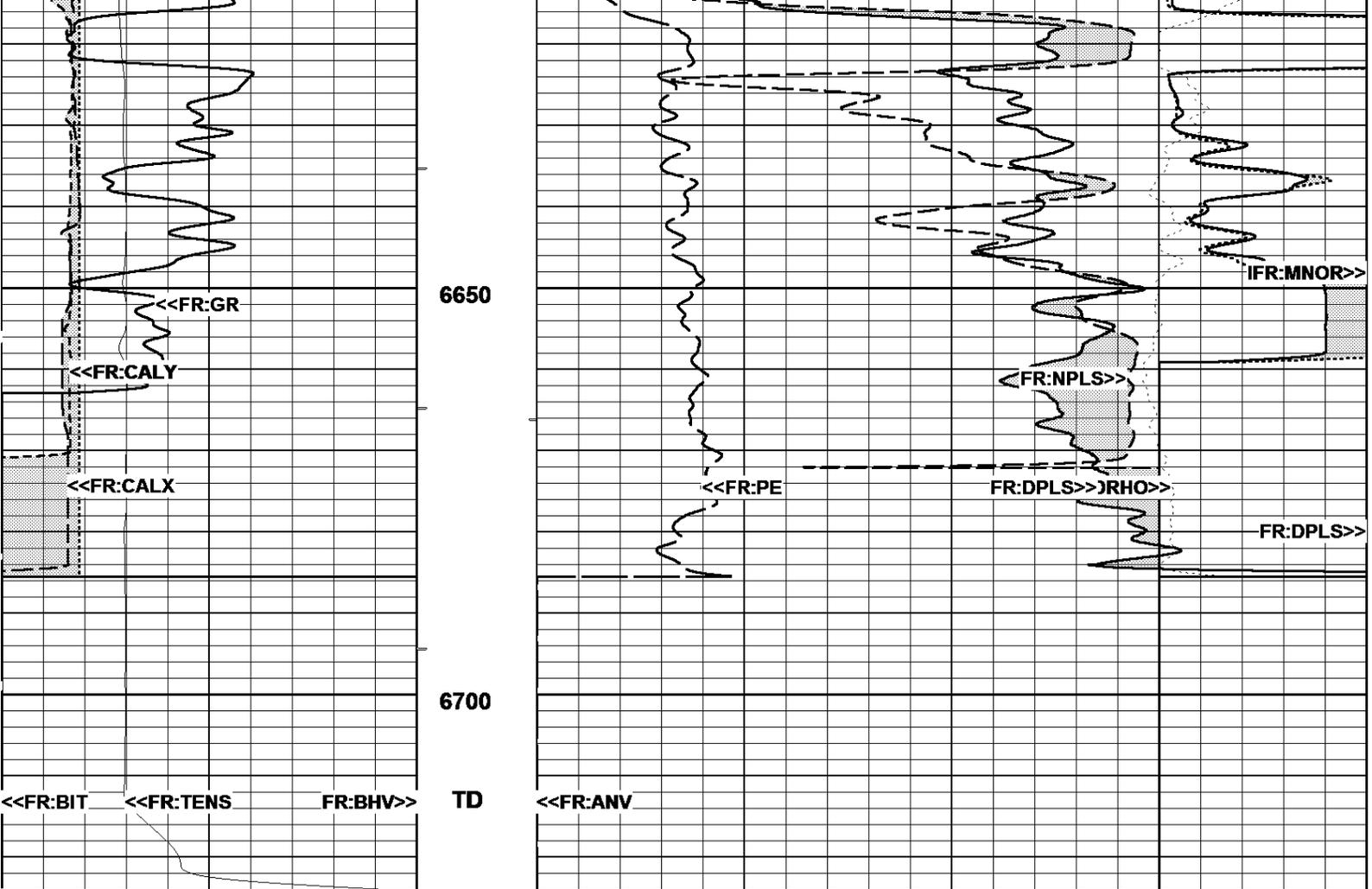










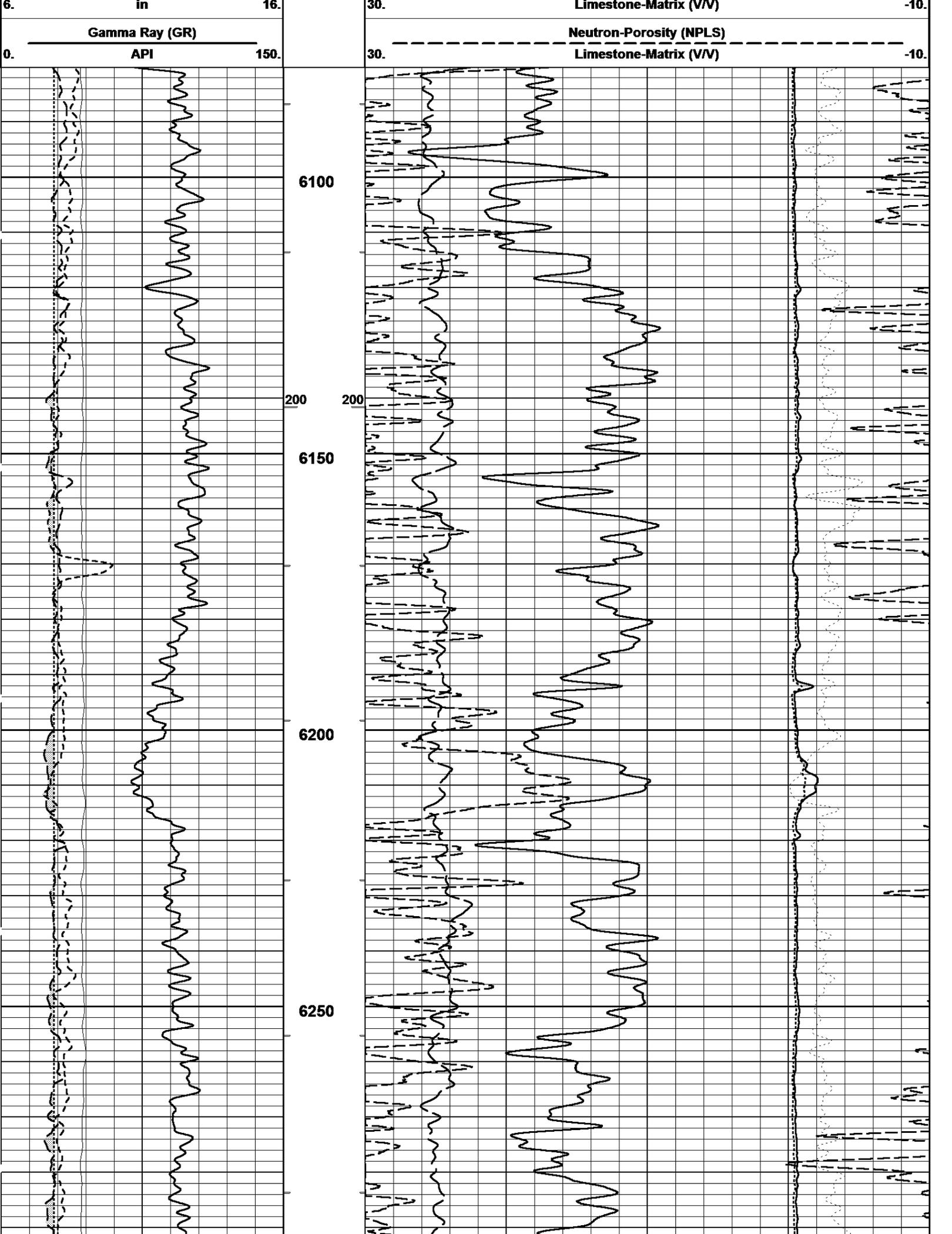


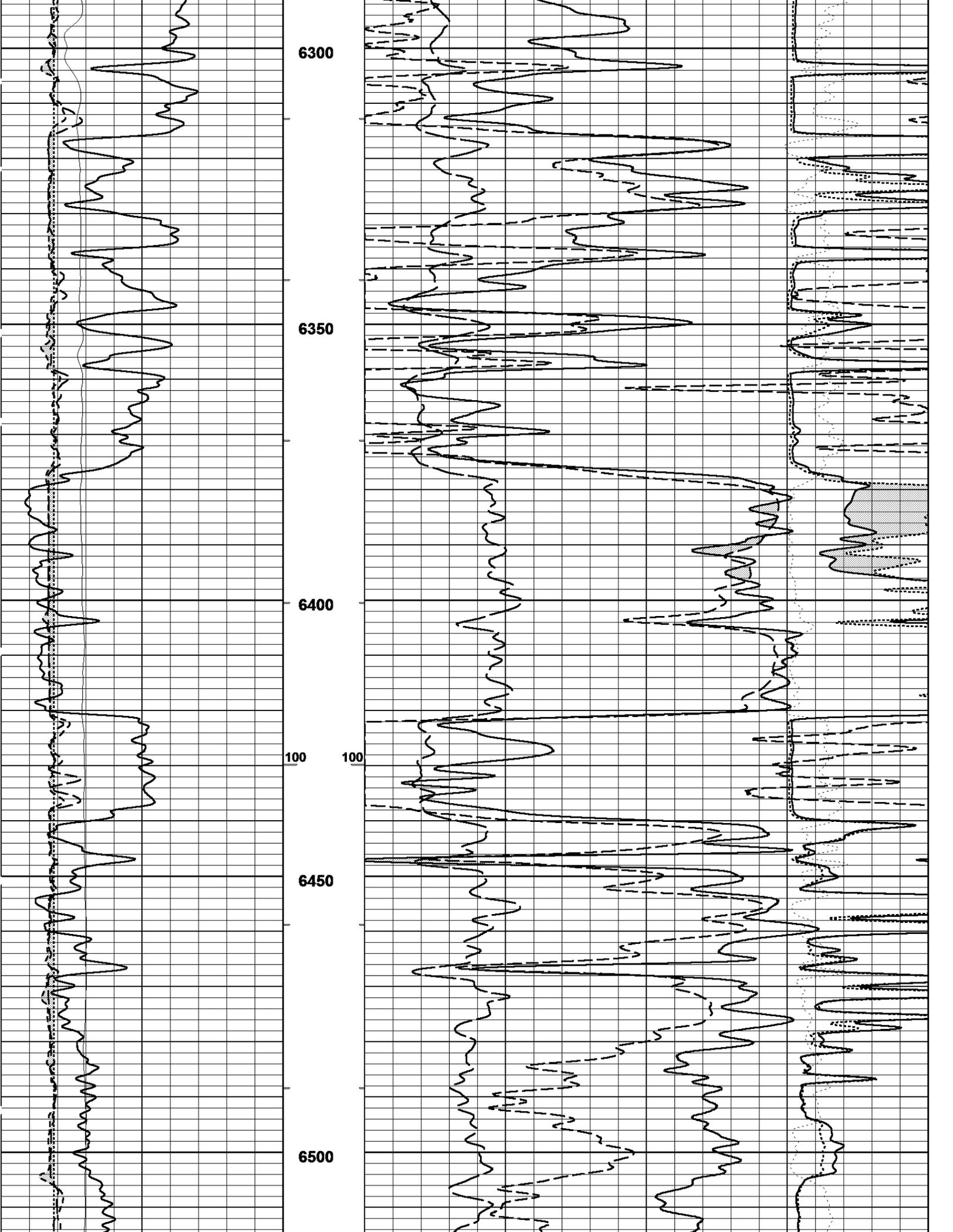
Gamma Ray (GR) 0. API 150.		Neutron-Porosity (NPLS) 30. Limestone-Matrix (V/V) -10.	
X-Caliper (CALX) 6. in 16.		Density-Porosity (DPLS) 30. Limestone-Matrix (V/V) -10.	
Y-Caliper (CALY) 6. in 16.		Photo Electric (PE) 0. Barns/Elect 10.	
Tension (TENS) 5000. Lbs 0.		Delta RHO (DRHO) -0.5 g/cc 0.5	
Bit Size (BIT) 6. Ref in 16.		Micro-Inverse{1"} (MINV) -40. ohms 40.	
		Micro-Normal{2"} (MNOR) -40. ohms 40.	

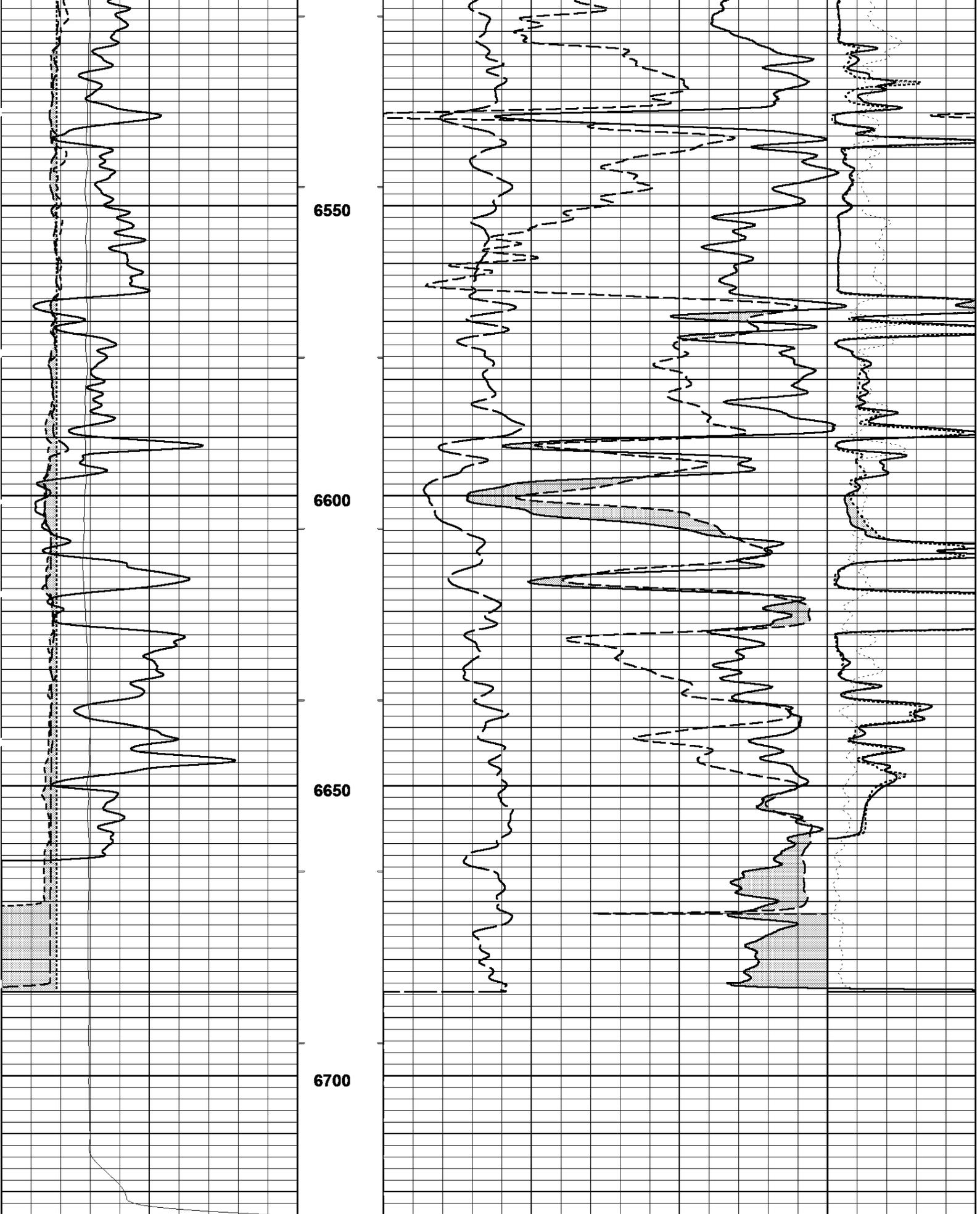
06/25/2014 **MAIN PASS - LIMESTONE (5"/100ft)** Log UP - (VER 11.19)
 15:56:22 => Start Time Start Depth=> 6724.10 Feet

06/25/2014 **REPEAT PASS - LIMESTONE (5"/100ft)** Log UP - (VER 11.19)
 15:48:29 => End Time End Depth=> 6080.40 Feet

Bit Size (BIT) 6. Ref in 16.		Micro-Normal{2"} (MNOR) -40. ohms 40.	
Tension (TENS) 5000. Lbs 0.		Micro-Inverse{1"} (MINV) -40. ohms 40.	
Y-Caliper (CALY) 6. in 16.		Photo Electric (PE) 0. Barns/Elect 10.	
X-Caliper (CALX)		Delta RHO (DRHO) -0.5 g/cc 0.5	
		Density-Porosity (DPLS)	







0. **Gamma Ray (GR)** 150.
API

X-Caliper (CALX)

30. **Neutron-Porosity (NPLS)** -10.
Limestone-Matrix (V/V)

Density-Porosity (DPLS)

6.	in	16.	30.	Limestone-Matrix (V/V)		-10.
Y-Caliper (CALY)			Photo Electric (PE)		Delta RHO (DRHO)	
6.	in	16.	0.	Barns/Elect	10.	-0.5 g/cc 0.5
Tension (TENS)					Micro-Inverse{1"} (MINV)	
5000.	Lbs	0.			-40. ohms 40.	
Bit Size (BIT)					Micro-Normal{2"} (MNOR)	
6.	Ref in	16.			-40. ohms 40.	

06/25/2014 **REPEAT PASS - LIMESTONE (5"/100Ft)** Log UP - (VER 11.19)
15:31:32 => Start Time Start Depth=> 6724.10 Feet

Litho-Density/PE Calibrations

TOOL TYPE	LFDC/Pe	SOURCE TYPE	CESIUM 137	SOURCE STRGTH	2 CURIE
SERIAL NUM	RL4112	SOURCE NUM			

MASTER BLOCK CALIBRATIONS

	W1(cps)	W2(cps)	W3(cps)	W4(cps)	SS	UNITS	CALIBRATION DATE	CALIBRATION TIME
ALUMINUM	4712.400	3914.024	1900.115	3.655	3303.9057	2.523(g/cc)	M/D/Y> 6/12/2014	H:M:S> 14:29:3
MAGNESIUM	14198.063	11464.778	4889.374	3.969	4744.9066	1.679(g/cc)		
BACKGROUND	1429.094	1260.804	855.587	3.910	4.7769			
SAND	12240.467	10134.459	4443.437	3.860		1.739(PE)		
IRON	4198.849	3552.101	1782.282	3.770		4.529(PE)		
FIELD VERIFIER(cps)	1426.105	1256.423	851.962	3.595	4.6962			
VER NUM	LDP-4102							

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	RN2002	SOURCE NUM			

MASTER TANK CALIBRATIONS

		NEAR(cps)	FAR(cps)	RATIO	K VALUE	CALIBRATION DATE	CALIBRATION TIME
LOW PHI	3.150			0.5437	0.8276	M/D/Y> 5/15/2014	H:M:S> 12:5:25
MED PHI	19.130			0.9315	0.8276		
HIGH PHI	31.300			1.1167	0.8277		
FIELD VERIFIER(cps)	294.161		282.345	1.0418			
VER NUM	7430						

WELL SITE CALIBRATIONS

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

GAMMA RAY CALIBRATION

SERIAL NUM
BLANKET NUM

RG3005
1A

MASTER CALIBRATIONS

	LowVal: 0.000 API	HighVal: 122.000 API	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	0.000 - raw	462.227 - raw	0.305 - gain 0.000 - off	M/D/Y> 5/15/2014	H:M:S> 15:28:13

WELL SITE CALIBRATIONS

	LowVal: 0.000 API	CalVal: 100.000 Mknuhs	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
PRE CAL	-0.059 - raw	26.967 - raw	3.700 - gain	M/D/Y> 11/12/2004	H:M:S> 12:40:27

X-CALIPER CALIBRATION

SERIAL NUM

RL4112

MASTER CALIBRATIONS

	LowVal: 6.000 mm	HighVal: 10.000 mm	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	3116.507 - raw	5195.836 - raw	0.002 - gain 0.005 - off	M/D/Y> 6/12/2014	H:M:S> 11:42:9

Y CALIPER CALIBRATIONS

SERIAL NUM

RN2002

MASTER CALIBRATIONS

	LowVal: 6.000 in	HighVal: 10.000 in	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	1221.320 - raw	1889.117 - raw	0.006 - gain -1.316 - off	M/D/Y> 5/15/2014	H:M:S> 12:17:4

Company

MIDWESTERN EXPLORATION COMPANY

Well

MILLS-GOOCH #2-7

Field

GOOCH

County

STEVENS

State

KANSAS



COMPENSATED NEUTRON
LITHOLOGY DENSITY
GAMMA RAY X-Y CALIPER
MICROLOG



Hardcopy Produced By
RECON
Petrotechnologies
Ltd.