Company	BANKS RESOURCES
Well	SUNRAY FARMS #1-9
Field	WILDCAT
County	GREELEY
State	KANSAS

FINAL PRINT

RECON

COMPENSATED NEUTRON
LITHOLOGY DENSITY
GAMMA RAY X-Y CALIPER
MICROLOG

SEC	TWP	RGE	
09	17S	41W	

Location. 2305' FNL & 2406' FWL — E2/SE/SE/NW
SURF. SAME — API#. 015-071-20879-00-00

Permanent Datum . Ground Level — Elev 3740
Log Measured From . Kelly Bushing
Drilling Measured From Kelly Bushing

OTHER SERVICES:
DIL

ELEVATIONS K.B. 3757
G.L. 3740
D.F. N/A

Date		07-DEC-2014					
Run No.		ONE					
TD Driller		5250	ft.			ft.	
TD RECON		5242	ft.			ft.	
Bot Logged Interval		5241	ft.			ft.	
Top Logged Interval		400	ft.			ft.	
Casing Depth Driller		8 5/8	in.	@ 437		in.	@
Casing Depth RECON		8 5/8	in.	@ 437		in.	@
Bit Size		7 7/8	in.			in.	
Drilling Fluid Type		WBM					
Density	Viscosity	9.5		70			
Fluid Loss	PH	8.8		10			
Source Of Sample		Flowline					
RM @ Measured Temp		2.45	Ohmm	@ 75		Ohmm	@
RMF @ Measured Temp		1.84	Ohmm	@ 75		Ohmm	@
RMC @ Measured Temp		3.06	Ohmm	@ 75		Ohmm	@
RM @ MRT		0.93	Ohmm	@ 138		Ohmm	@
Max Recorded Temp		138	DegF			DegF	
Time Drilling Stopped		07-DEC-2014		05:45	08-DEC-2014		04:30
Time Circulation Stopped		07-DEC-2014		08:45	08-DEC-2014		06:30
Time Logger On Bottom		07-DEC-2014		20:30	08-DEC-2014		11:45
Unit Num	Location	S406		OKLAHOMA CITY, OK			
Recorded By		K.HELDERMON					
Witnessed By		S.BANKS					

RIG INFORMATION

Drill Contr/Rig# WILDCAT #1

GENERAL REMARKS SECTION

AHV CALCULATED ON 5.5" PROD. CASING

FIRST RUN IN THE HOLE
CNL AND LDT LOGGED IN A LIMESTONE MATRIX
TOP MARK - 567, BOTTOM MARK - 5071.8
CNL/LDT LOGGED MATRIX: 2.71 g/cc.

CHLORIDES: 4000
LCM: 2

THANK YOU FOR USING RECON PETROTECHNOLOGIES LTD.

CREW: J.ROSE

CEMENT VOLUME CALCULATIONS SUMMARY

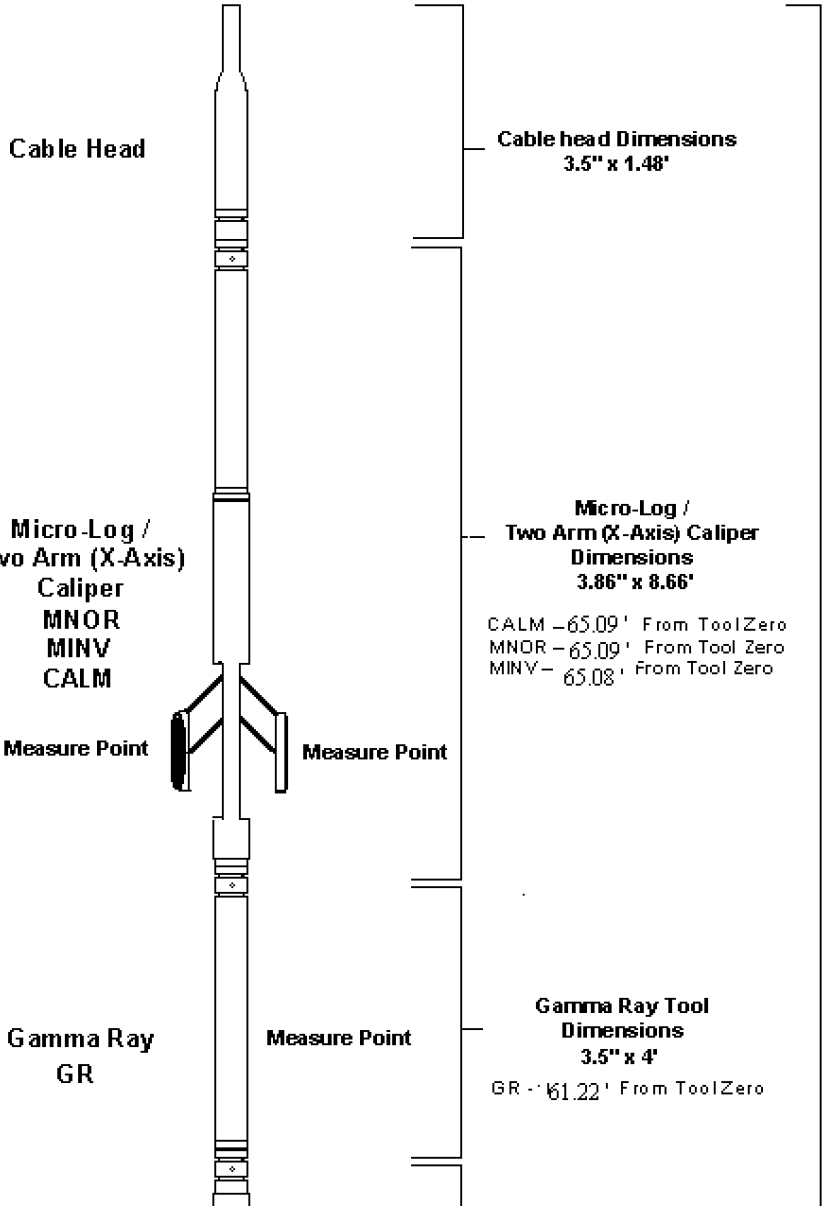
Tool Type	**LDT-CNT**		
Tool Serial #	**RN2007 / RL4101**	**Caliper Type**	**X-Y CALIPERS**

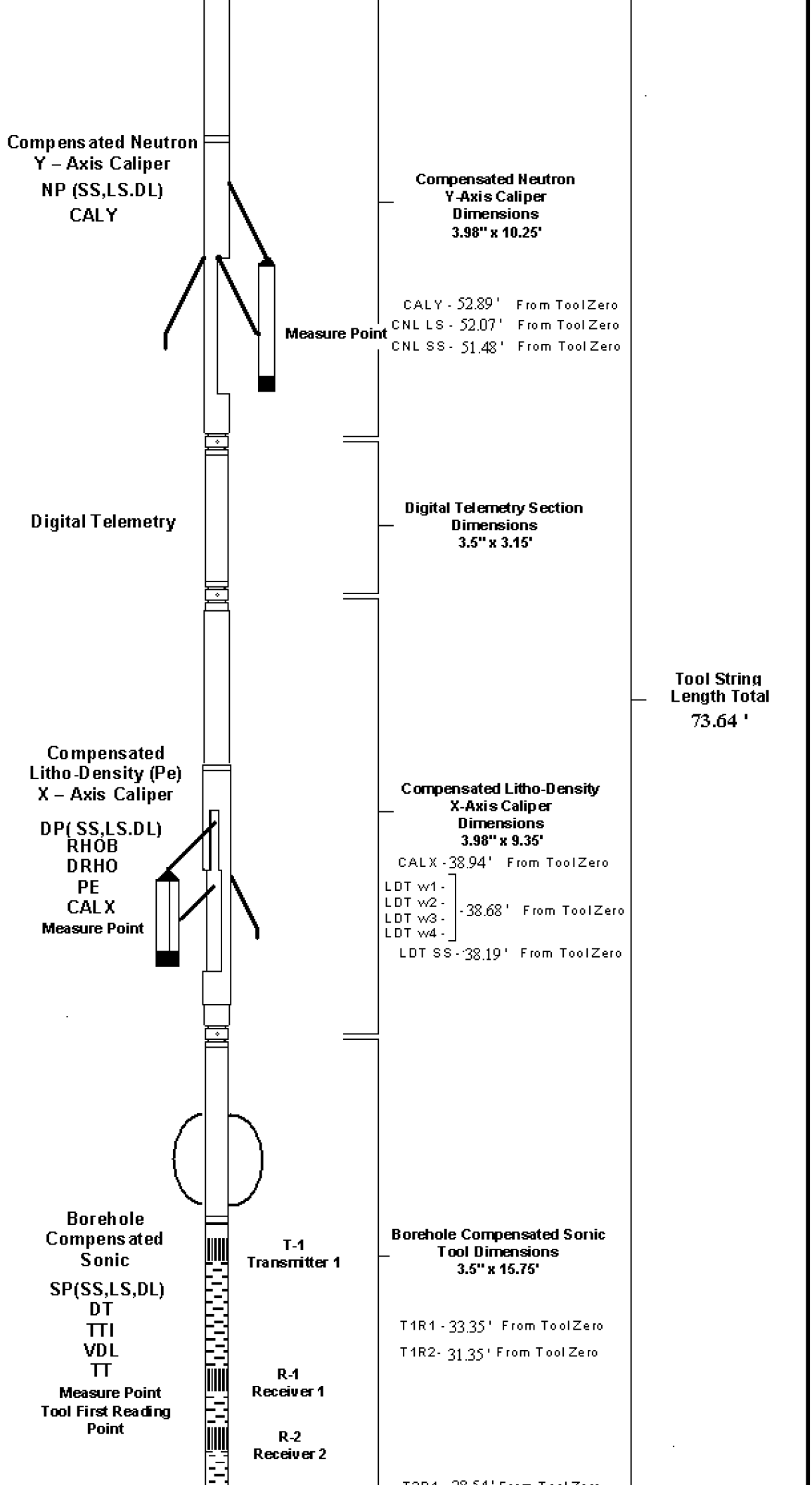
	Borehole Total	Annular Volume with Casing	From Depth (MKb)	To Depth (MKb)
VOLUMES	**1844 Cubic Feet**	**1044 Cubic Feet**	**400**	**5242**

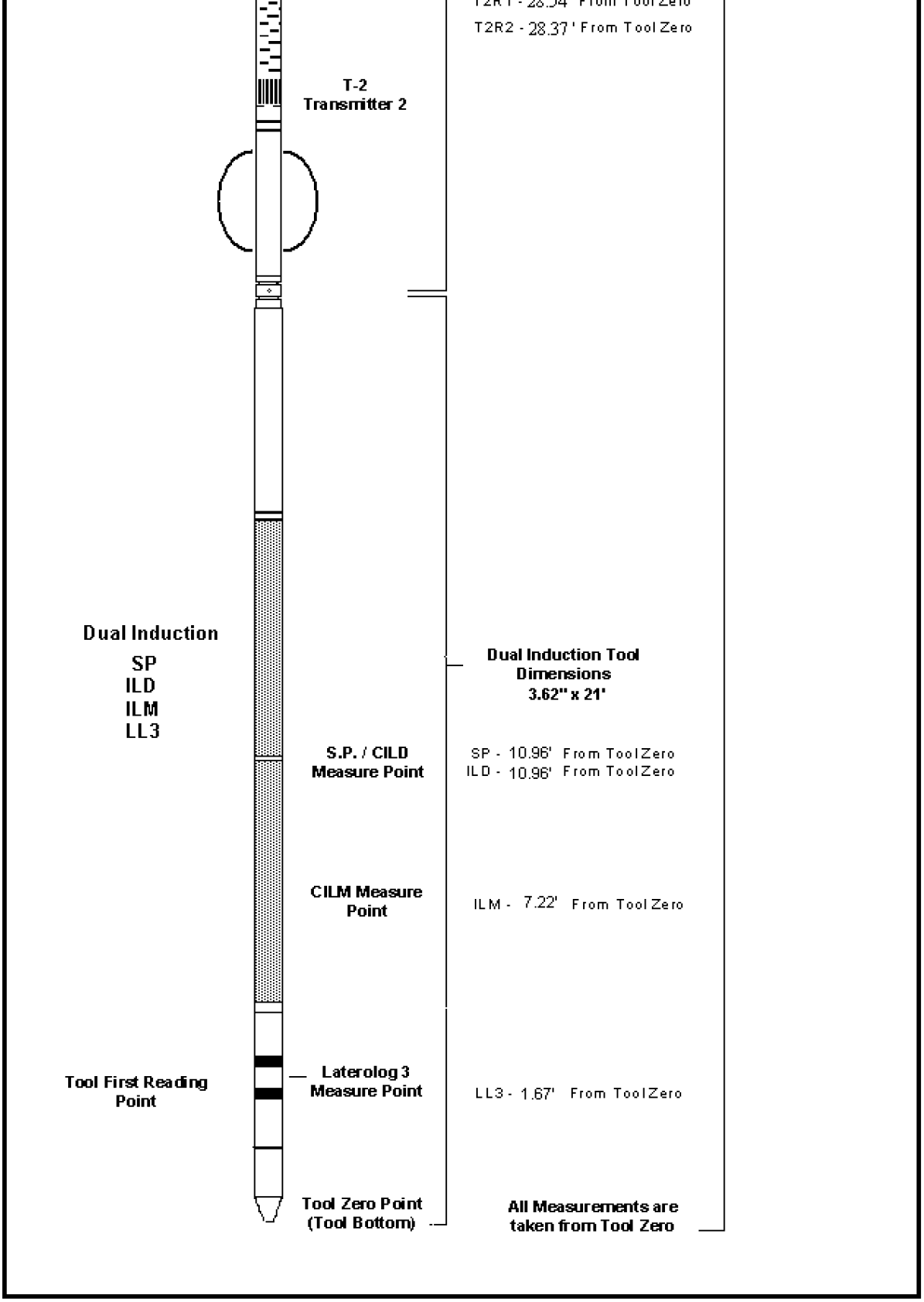
CASING INFORMATION

	SIZE (in)	GRADE	WEIGHT (lbs/ft)	ID (in)	TOP DEPTH	BOT DEPTH
SURFACE CASING	8 5/8	N/A	24	8.098	Surface	437
INTERMEDIATE CASING	N/A	N/A	N/A	N/A	Surface	N/A
PRODUCION CASING	5 1/2	N/A	15.5	4.950	Surface	N/A

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
Measure Point
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
Digital Telemetry
Digital Telemetry Section
Dimensions
3.5" x 3.15'
Tool String
Length Total
73.64 '
Compensated
Litho-Density (Pe)
X – Axis Caliper
DP(SS,LS.DL)
RHOB
DRHO
PE
CALX
Measure Point
Compensated Litho-Density
X-Axis Caliper
Dimensions
3.98" x 9.35'
CALX - 38.94 ' From ToolZero
LDT w1 -
LDT w2 -
LDT w3 -
LDT w4 -
- 38.68 ' From ToolZero
LDT SS - 38.19 ' From ToolZero
Borehole
Compensated
Sonic
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
Borehole Compensated Sonic
Tool Dimensions
3.5" x 15.75'
T1R1 - 33.35 ' From ToolZero
T1R2 - 31.35 ' From ToolZero

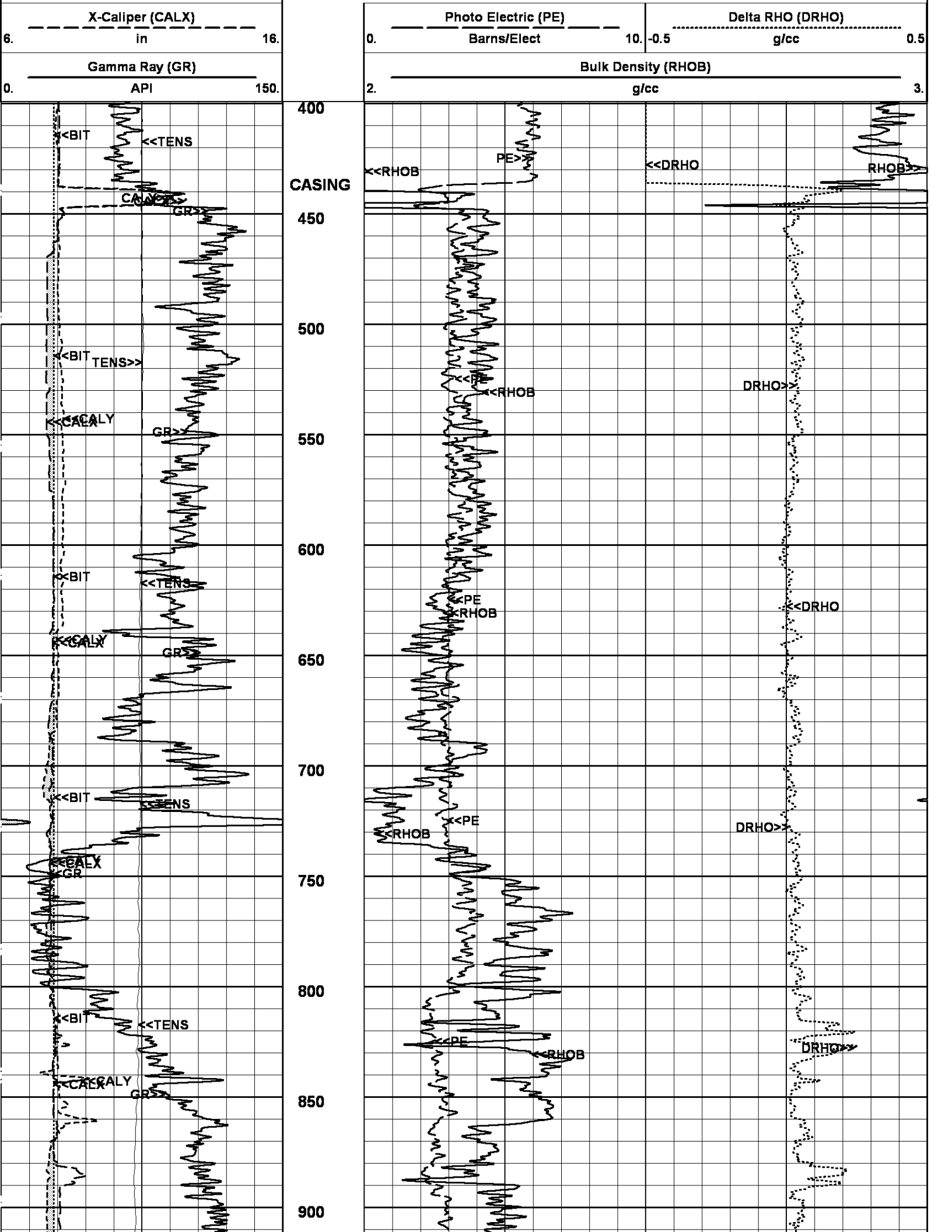


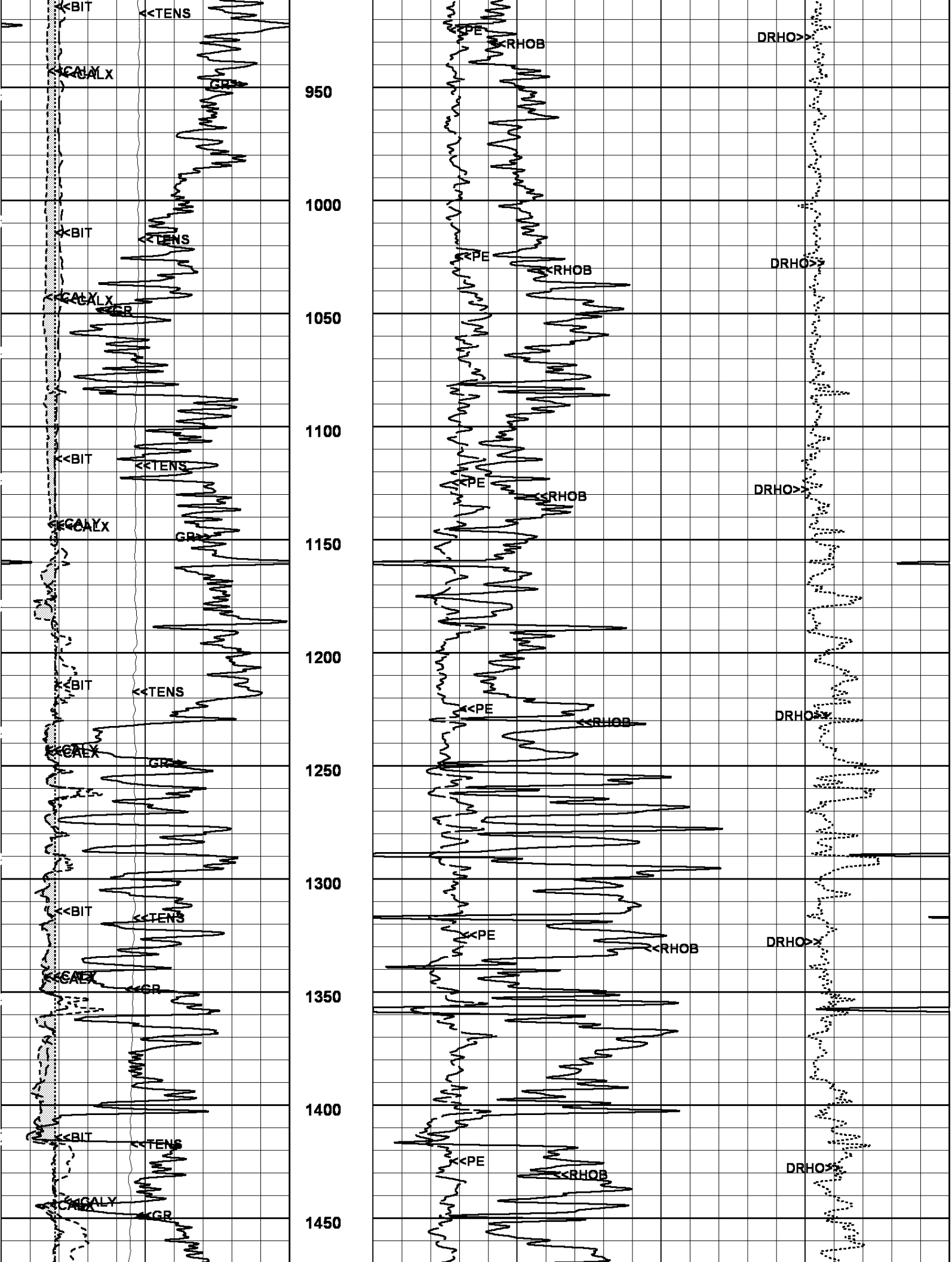
12/07/2014
22:42:19 => End Time

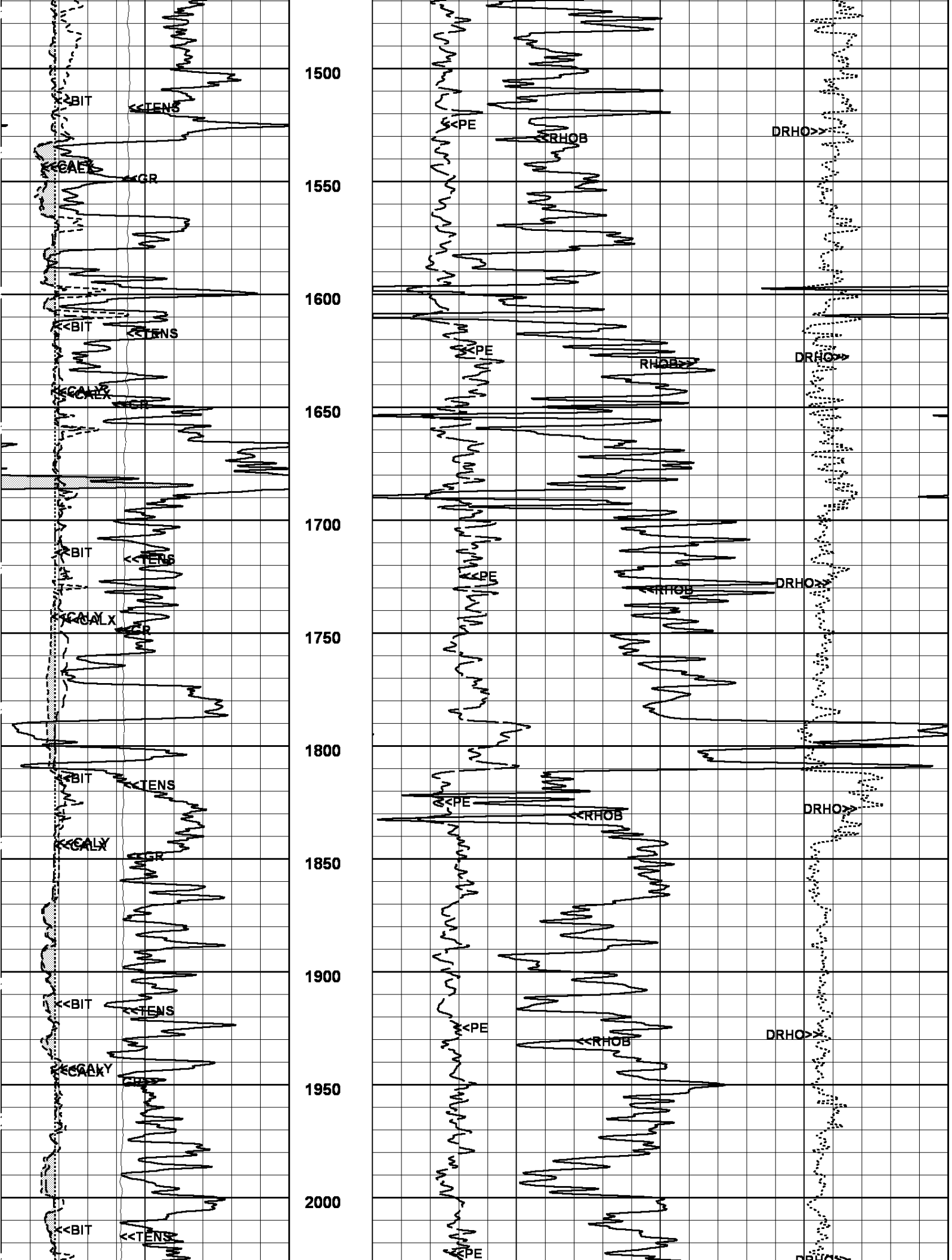
MAIN PASS - RHOB (2"/100Ft)

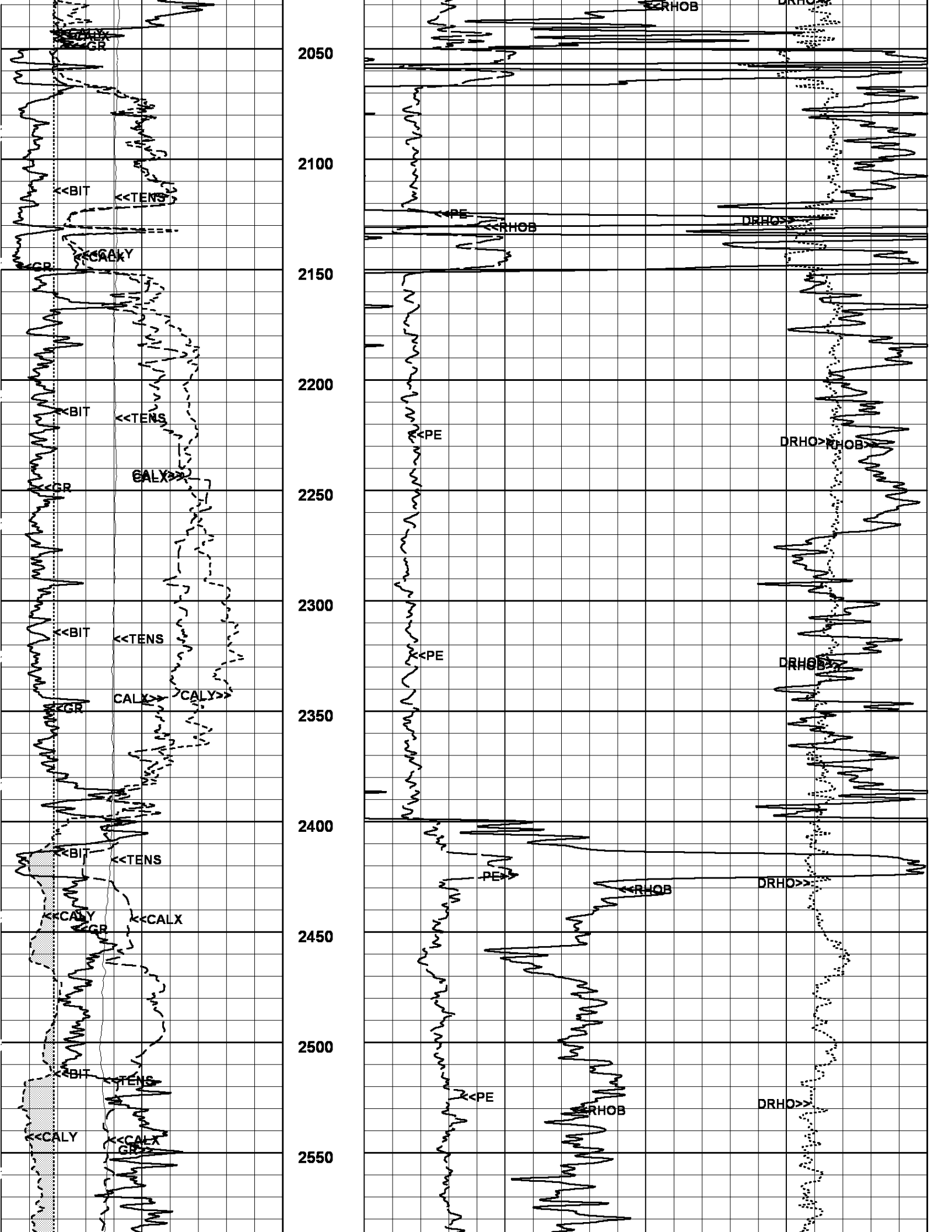
Log UP - (VER 11.10)
End Depth=> 399.75 Feet

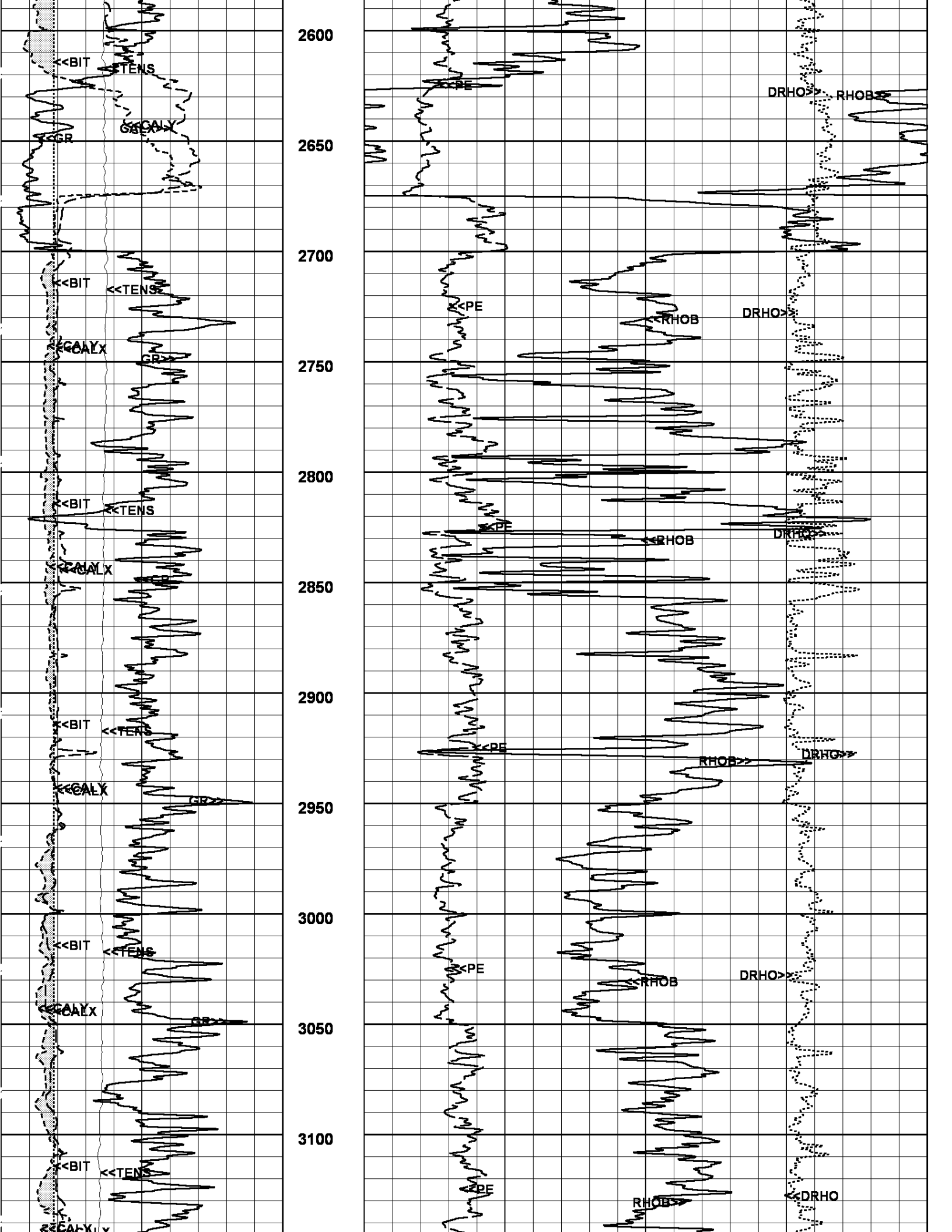
	Bit Size (BIT)	
6.	Ref in	16.
	Tension (TENS)	
5000.	Lbs	0.
	Y-Caliper (CALY)	
6.	in	16.

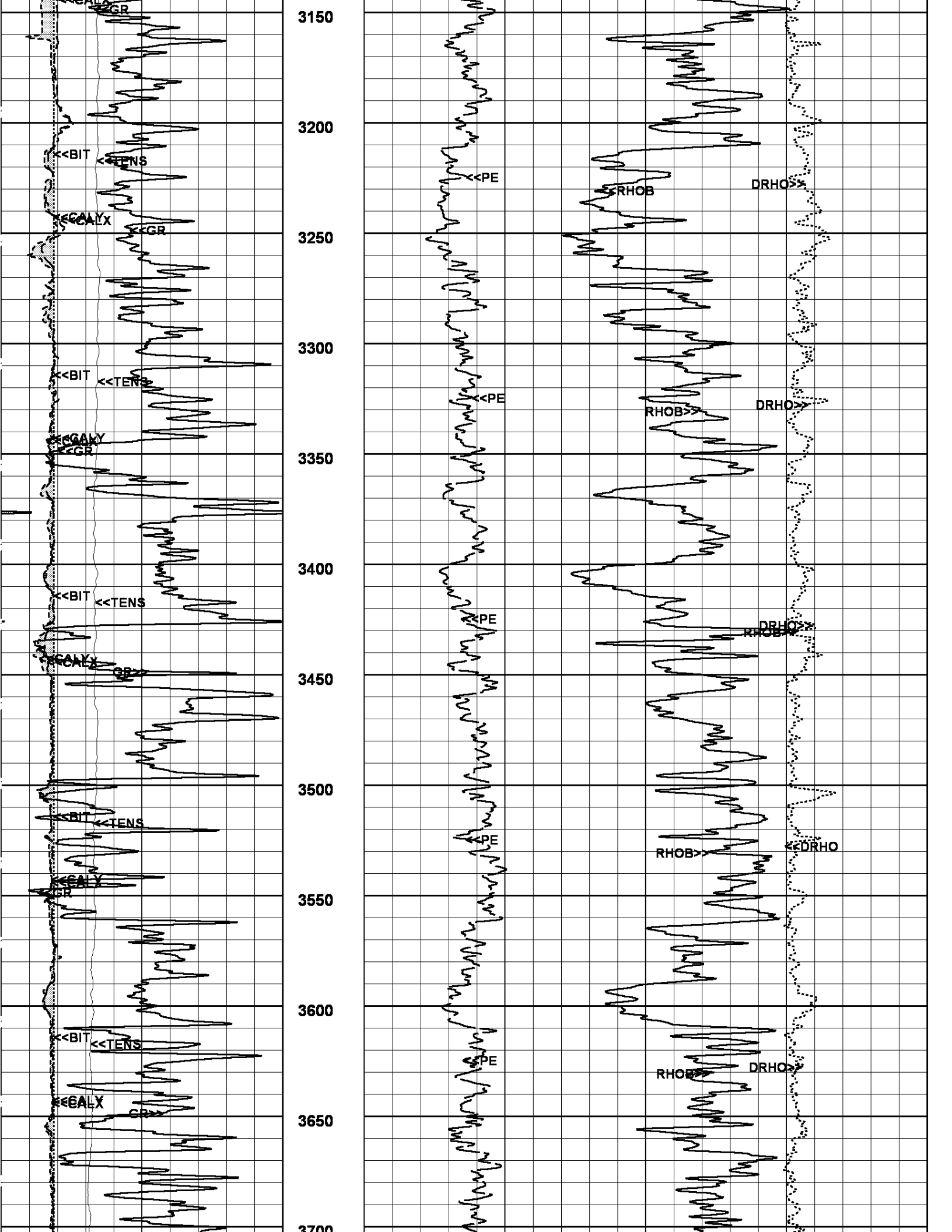

X-Caliper (CALX)
6.
in
16.
Gamma Ray (GR)
0.
API
150.
Photo Electric (PE)
0.
Barns/Elect
10.
Delta RHO (DRHO)
-0.5
g/cc
0.5
Bulk Density (RHOB)
2.
g/cc
3.
400
CASING
450
500
550
600
650
700
750
800
850
900
<BIT
<<TENS
CALX>>
GR>>
<<RHOB
PE>>
<<DRHO
RHOB>>
TENS>>
<PE
DRHO>>
<CALY
<GR

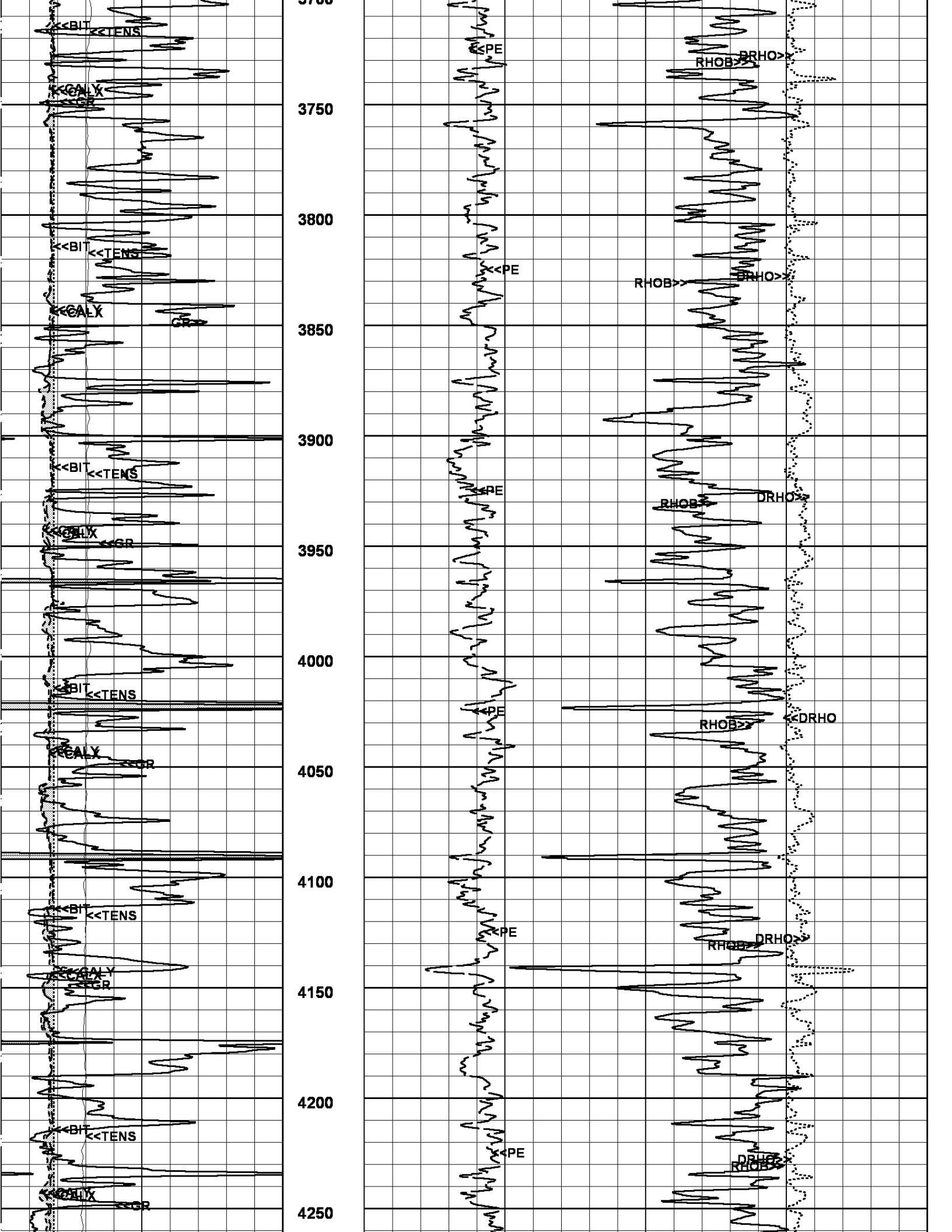

<BIT
<TENS
CALX
GR
PE
RHOB
DRHO
950
1000
1050
1100
1150
1200
1250
1300
1350
1400
1450

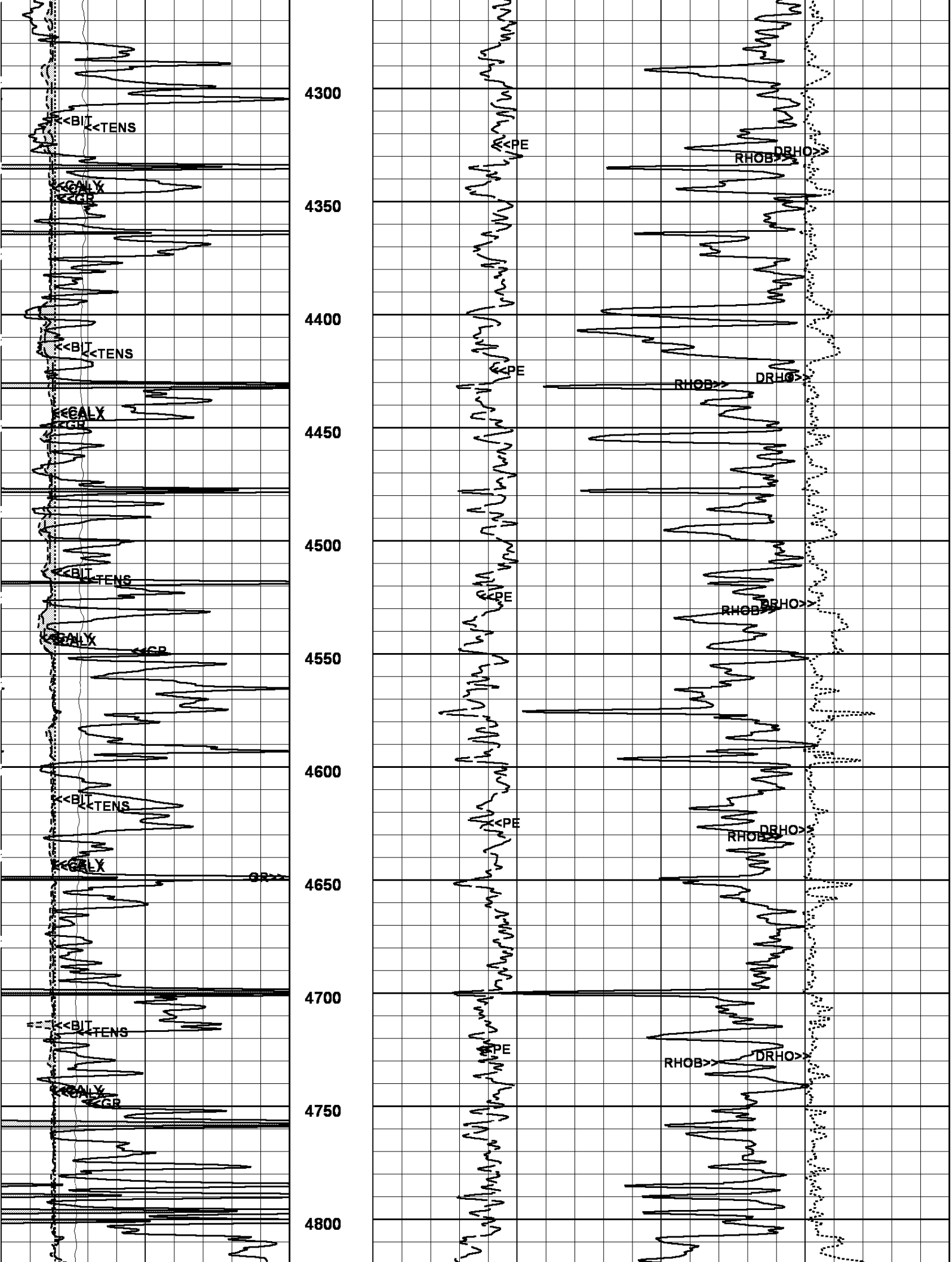

1500
1550
1600
1650
1700
1750
1800
1850
1900
1950
2000
<BIT
<<TENS
<CALX
<GR
<PE
<RHOB
DRHO>>
RHOB>>

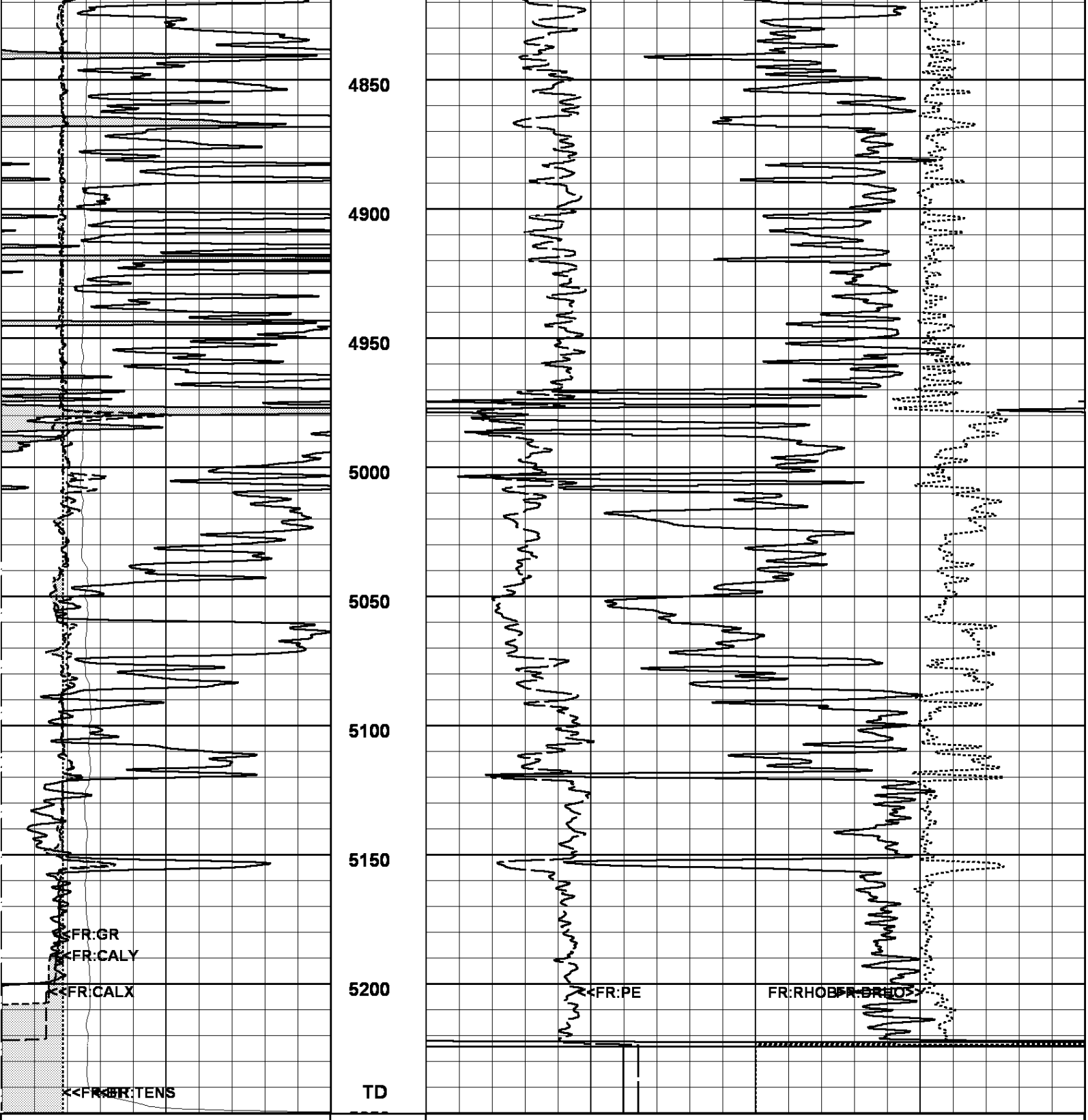

<<RHOB
DRHO>>
<<CALX
<<GR
2050
2100
<<BIT
<<TENS
<<PE
<<RHOB
DRHO>>
<<CALY
<<GR
2150
2200
<<BIT
<<TENS
<<PE
DRHO>>
<<RHOB>>
CALX>>
<<GR
2250
2300
<<BIT
<<TENS
<<PE
DRHO>>
CALX>>
CALY>>
<<GR
2350
2400
<<BIT
<<TENS
PE>>
<<RHOB
DRHO>>
<<CALY
<<CALX
<<GR
2450
2500
<<BIT
<<TENS
<<PE
<<RHOB
DRHO>>
<<CALY
<<CALX
<<GR
2550


<<BIT
<<TENS
<<CALX
GR>>
<<PE
RHOB>>
DRHO>>
2600
2650
2700
2750
2800
2850
2900
2950
3000
3050
3100


3150
3200
3250
3300
3350
3400
3450
3500
3550
3600
3650
3700
<<BIT
<<TENS
<<CALY
<<CALX
<<GR
<PE
<RHOB
DRHO>>
RHOB>>
<<DRHO


<<BIT
<<TENS
<<CALY
<<GR
<<PE
RHOB>>
DRHO>>
3750
3800
3850
3900
3950
4000
4050
4100
4150
4200
4250


<<BIT
<<TENS
<<CALX
<<GR
<<PE
RHOB>>
DRHO>>
4300
4350
4400
4450
4500
4550
4600
4650
4700
4750
4800



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

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

12/07/2014

MAIN PASS - RHOB (2"/100Ft)

Log UP - (VER 11.10)

20:50:55 => Start Time

Start Depth=> 5249.75 Feet

12/07/2014

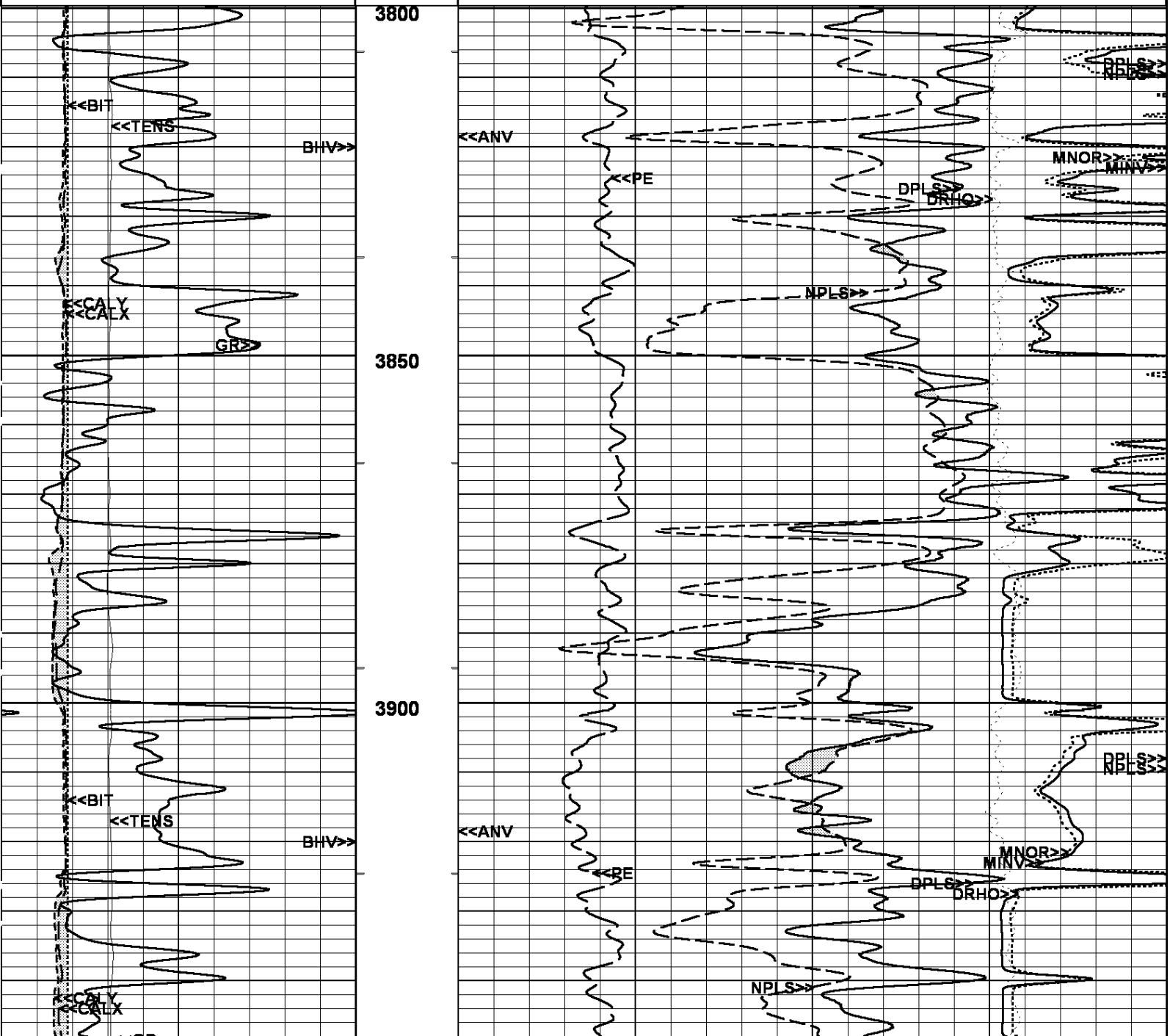
22:42:19 => End Time

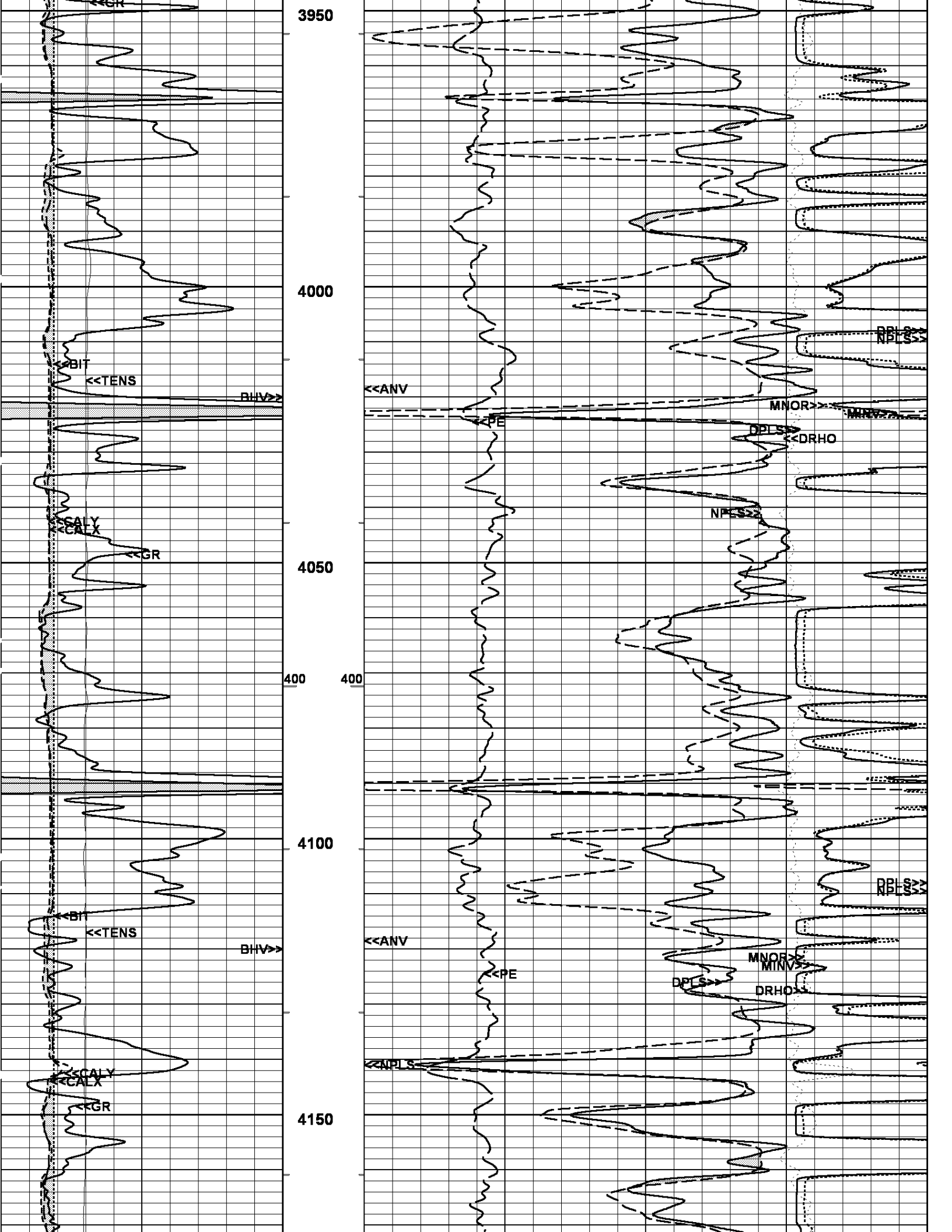
MAIN PASS - LIMESTONE (5"/100Ft)

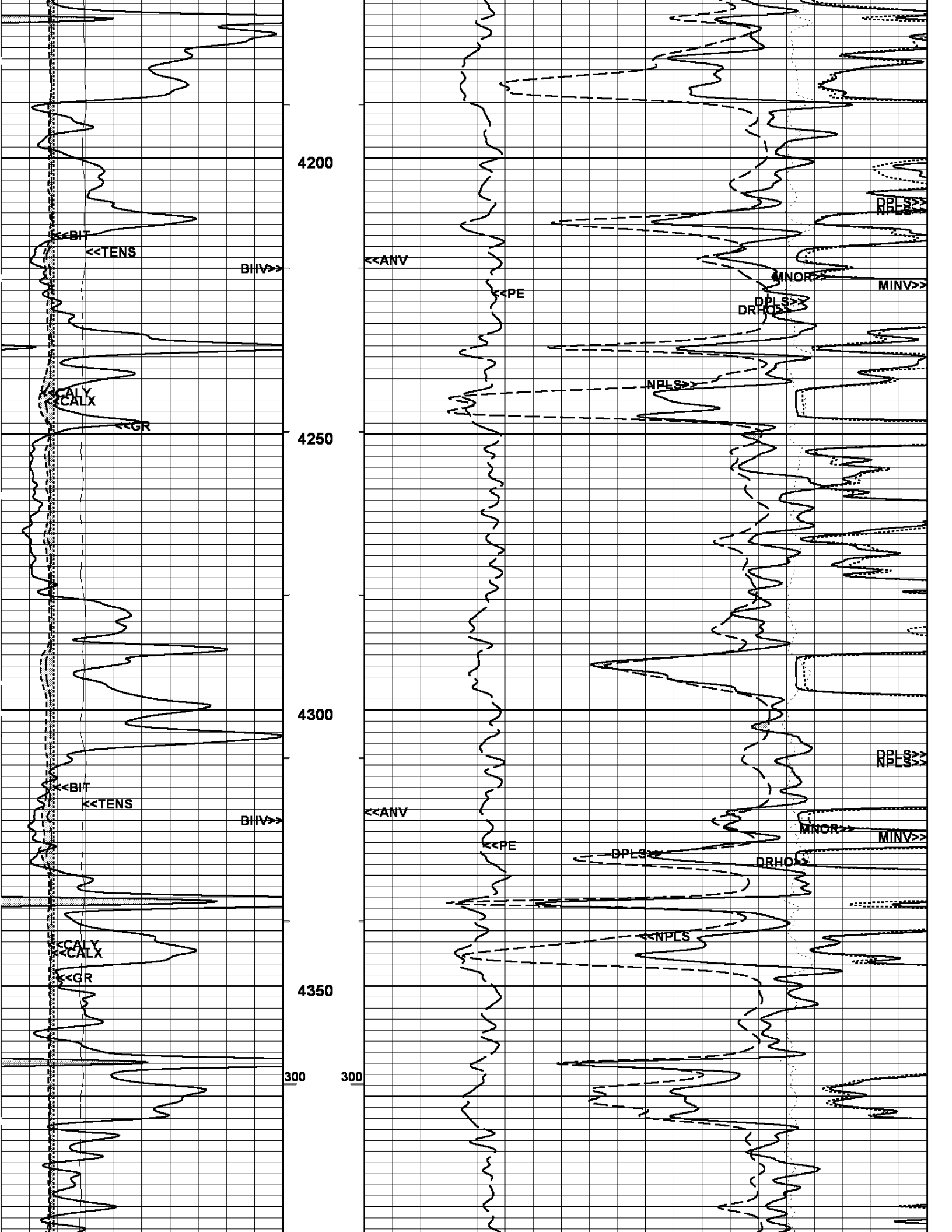
Log UP - (VER 11.10)

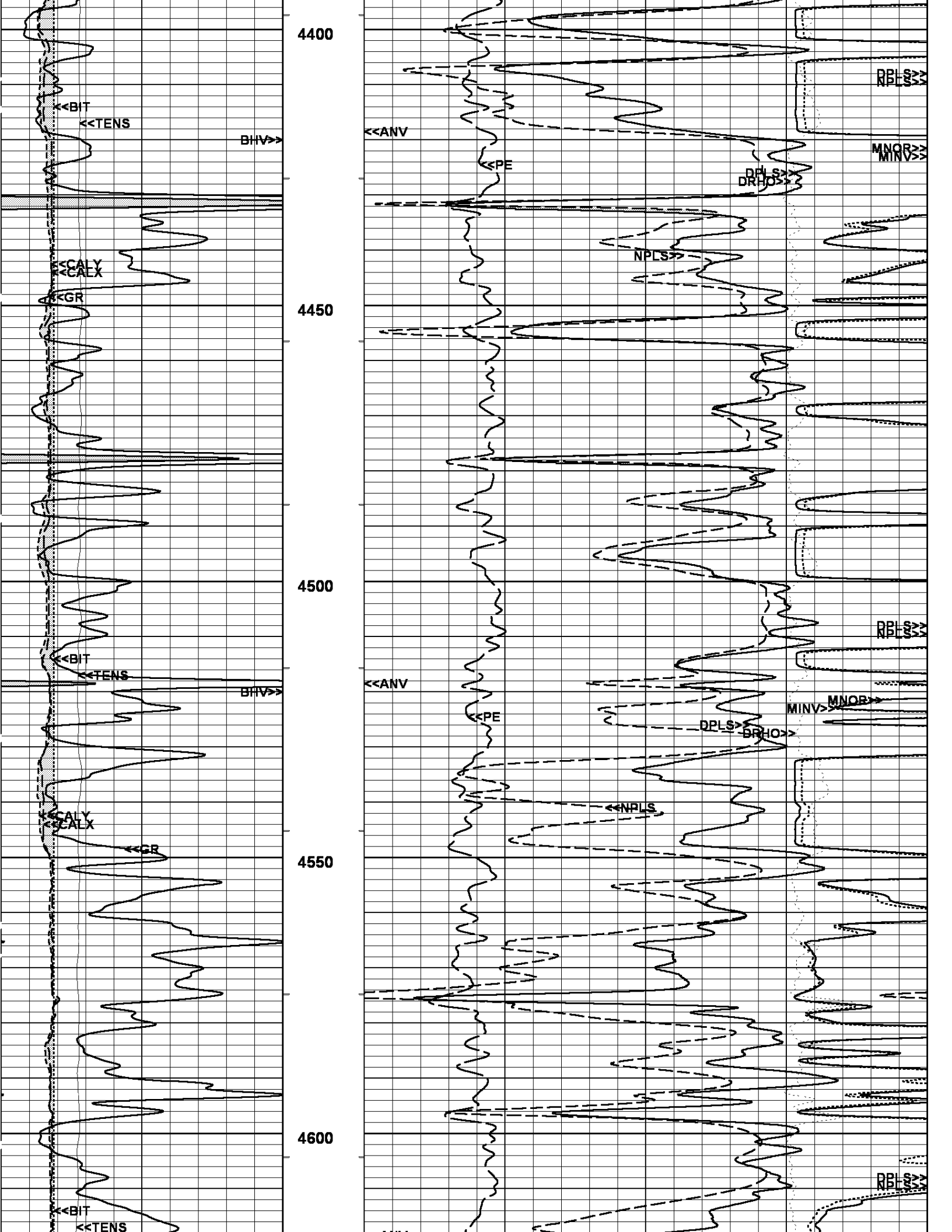
End Depth=> 3799.90 Feet

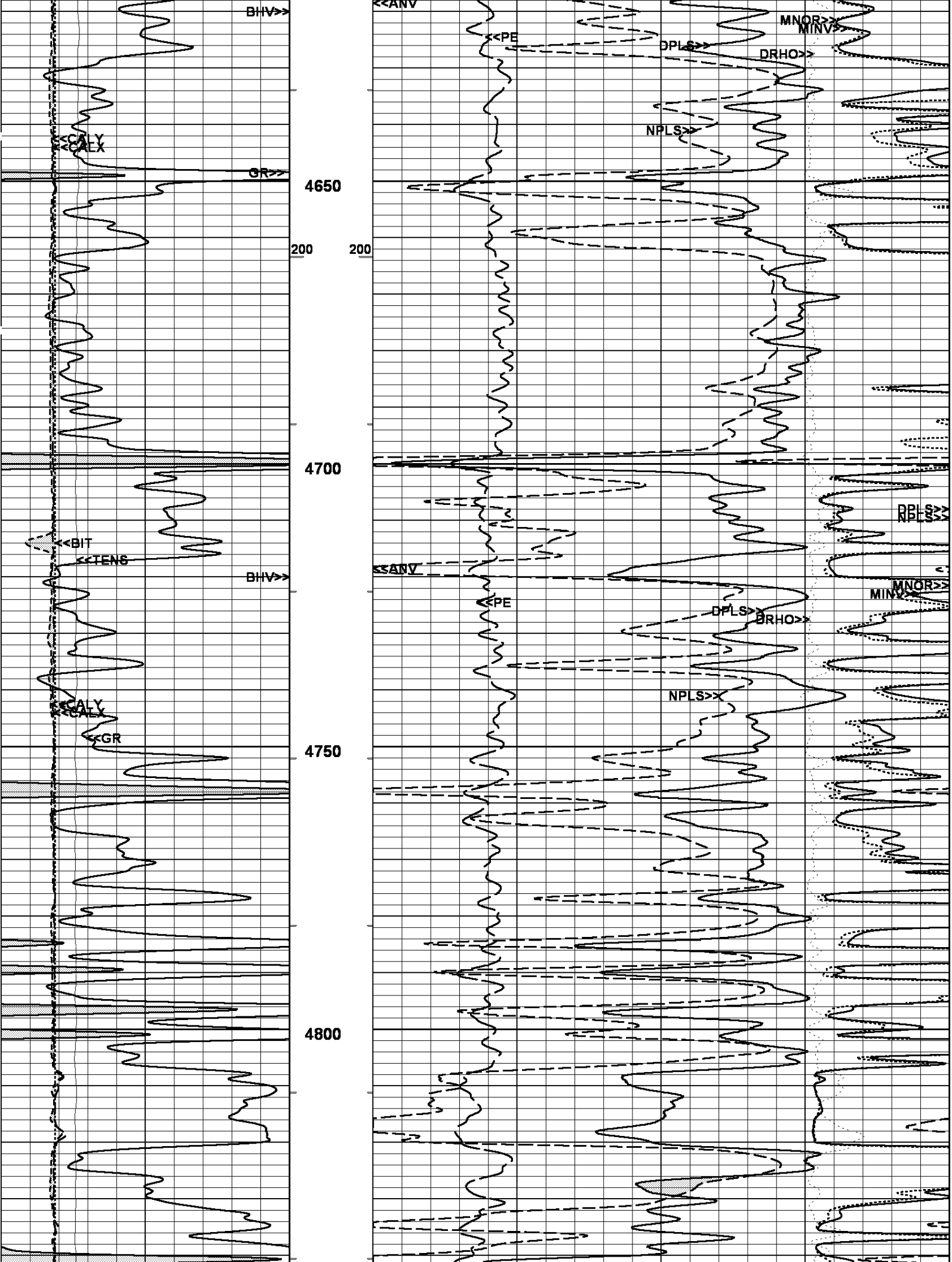
Bit Size (BIT) 6. Ref in 16.		Micro-Normal{2"} (MNOR) -40. ohms 40.
Tension (TENS) 5000. Lbs 0.		Micro-Inverse{1"} (MINV) -40. ohms 40.
Y-Caliper (CALY) 6. in 16.	Photo Electric (PE) 0. Barns/Elect 10.	Delta RHO (DRHO) -0.5 g/cc 0.5
X-Caliper (CALX) 6. in 16.	Density-Porosity (DPLS) 30. Limestone-Matrix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

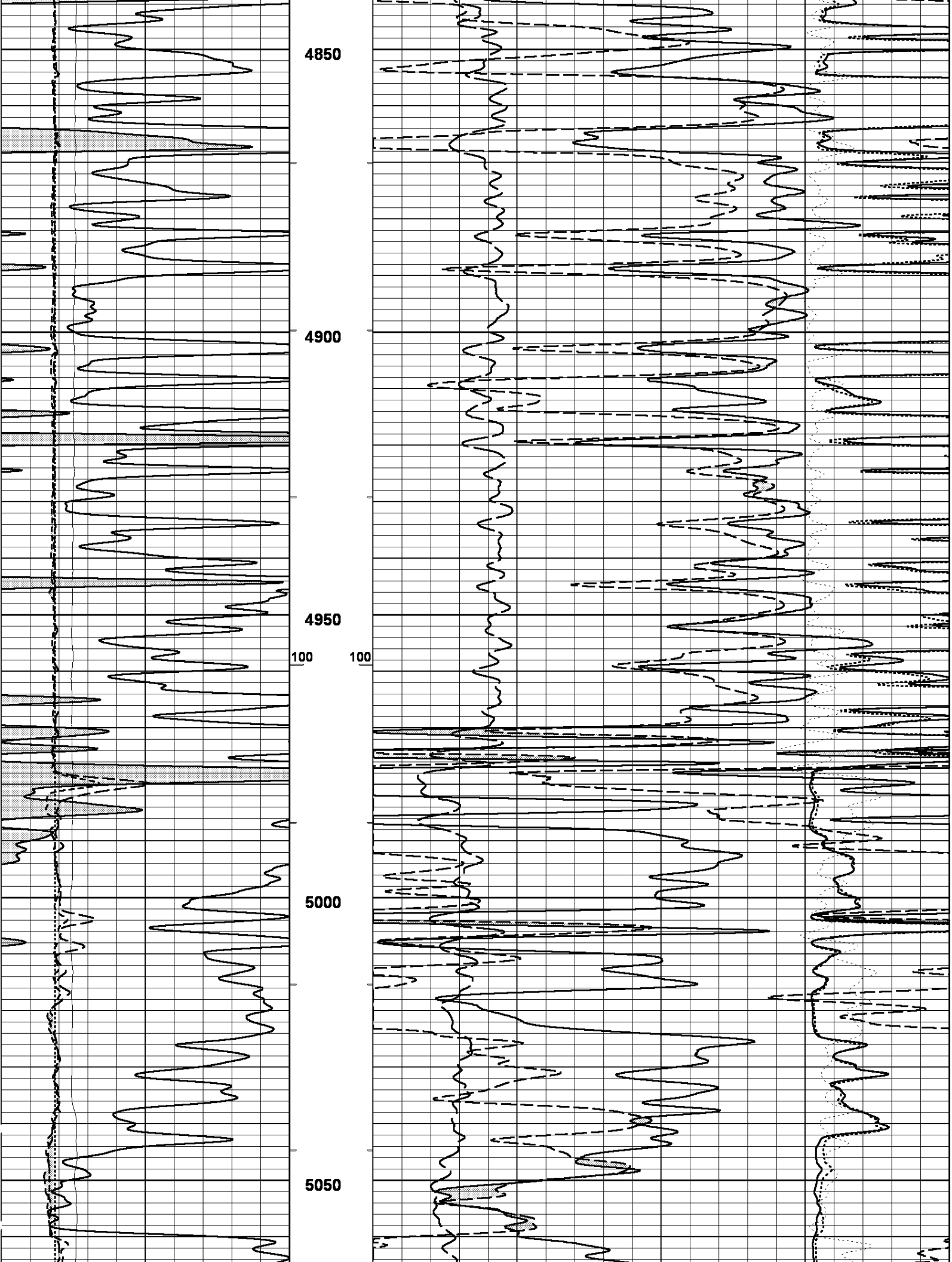


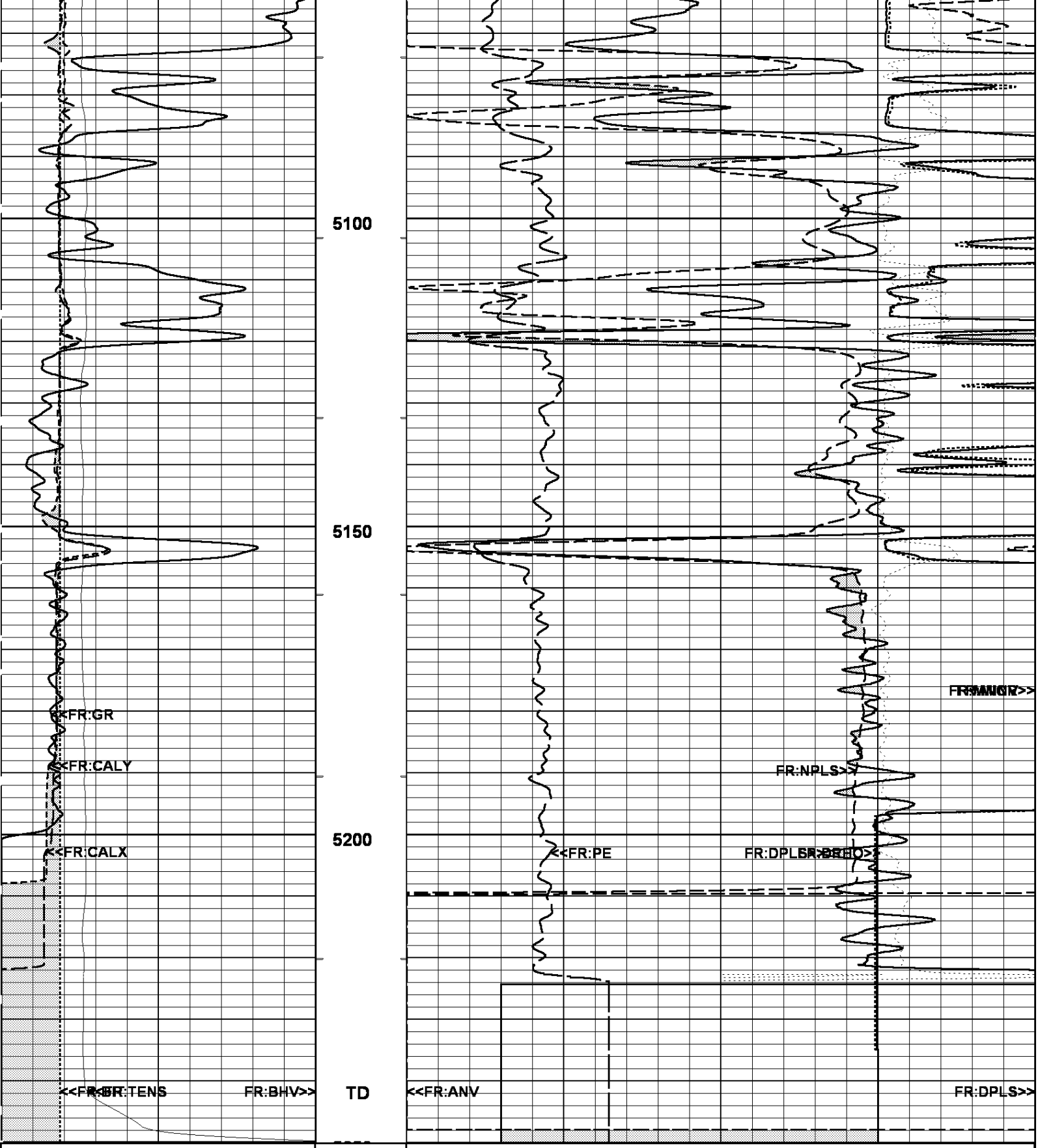

<<GR
3950
4000
<<BIT
<<TENS
BHV>>
<<ANV
DPLS>>
NPLS>>
MNOR>>
MINV>>
<<PE
DPLS>>
<<DRHO
NPLS>>
<<CALY
<<CALX
<<GR
4050
400
400
4100
<<BIT
<<TENS
BHV>>
<<ANV
DPLS>>
NPLS>>
MNOR>>
MINV>>
<<PE
DPLS>>
DRHO>>
<<CALY
<<CALX
<<GR
<<NPLS
4150


4200
4250
4300
4350
300
300
<<BIT
<<TENS
BHV>>
<<CALY
<<CALX
<<GR
<<ANV
<<PE
DPLS>>
NPLS>>
MNOR>>
MINV>>
DRHO>>


4400
4450
4500
4550
4600
<<BIT
<<TENS
BHV>>
<<CALY
<<CALX
<<GR
<<ANV
<<PE
DPLS>>
NPLS>>
MNOR>>
MINV>>
DRHO>>
<<NPLS


BHV>>
<<CALY
<<CALX
GR>>
4650
200
200
<<ANV
<<PE
DPLS>>
DRHO>>
MNOR>>
MINV>>
NPLS>>
4700
<<BIT
<<TENS
BHV>>
<<ANV
<<PE
DPLS>>
DRHO>>
NPLS>>
MNOR>>
MINV>>
<<CALY
<<CALX
<<GR
4750
4800


4850
4900
4950
100
100
5000
5050



Gamma Ray (GR)		Neutron-Porosity (NPLS)
0. API 150.		30. Limestone-Matrix (V/V) -10.
X-Caliper (CALX)		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)
6. Ref in 16.

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

12/07/2014
20:50:55 => Start Time

MAIN PASS - LIMESTONE (5"/100Ft)

Log UP - (VER 11.10)
Start Depth=> 5249.90 Feet

12/07/2014
20:38:44 => End Time

REPEAT PASS - LIMESTONE (5"/100Ft)

Log UP - (VER 11.10)
End Depth=> 4864.70 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.

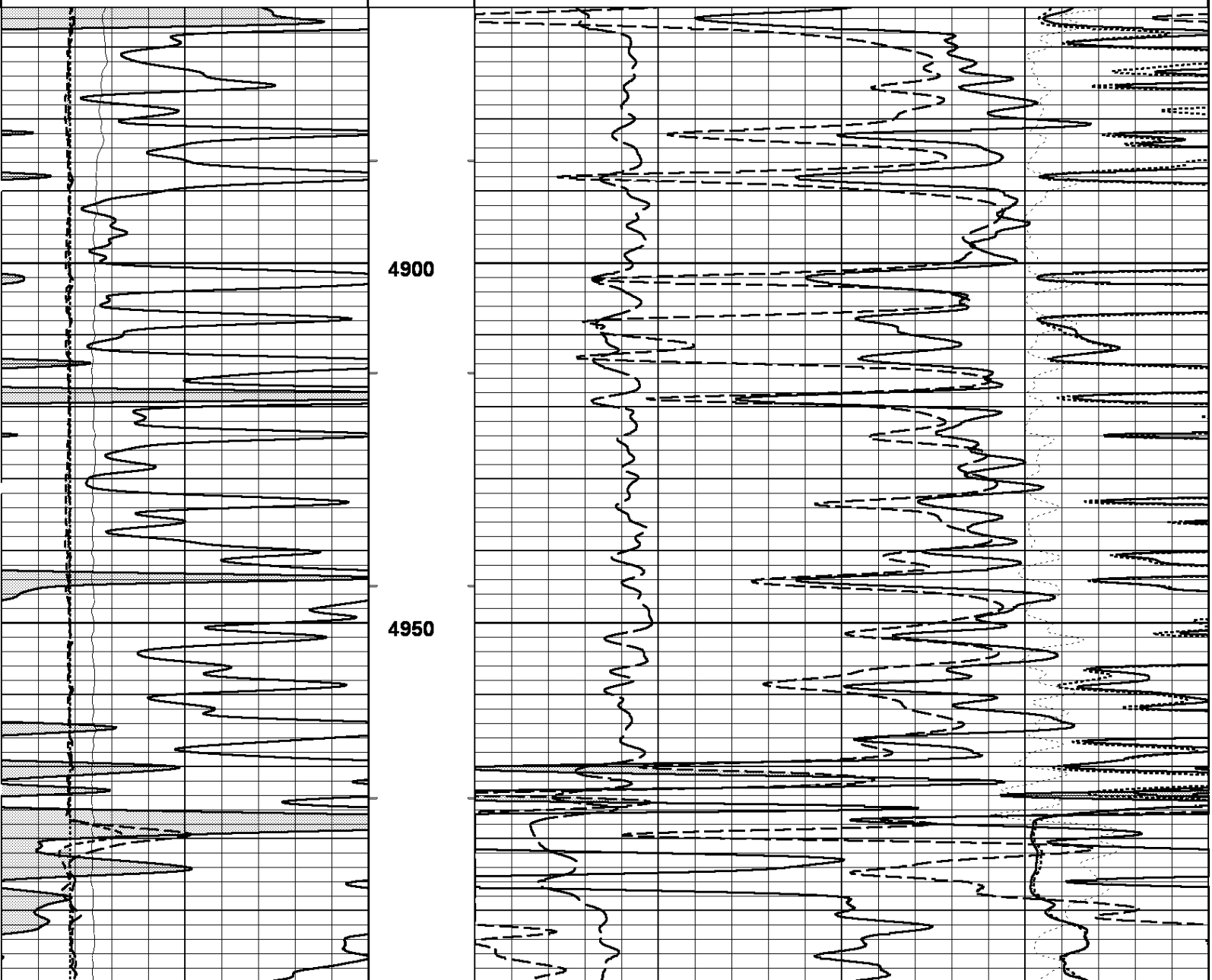
Delta RHO (DRHO)
-0.5 g/cc 0.5

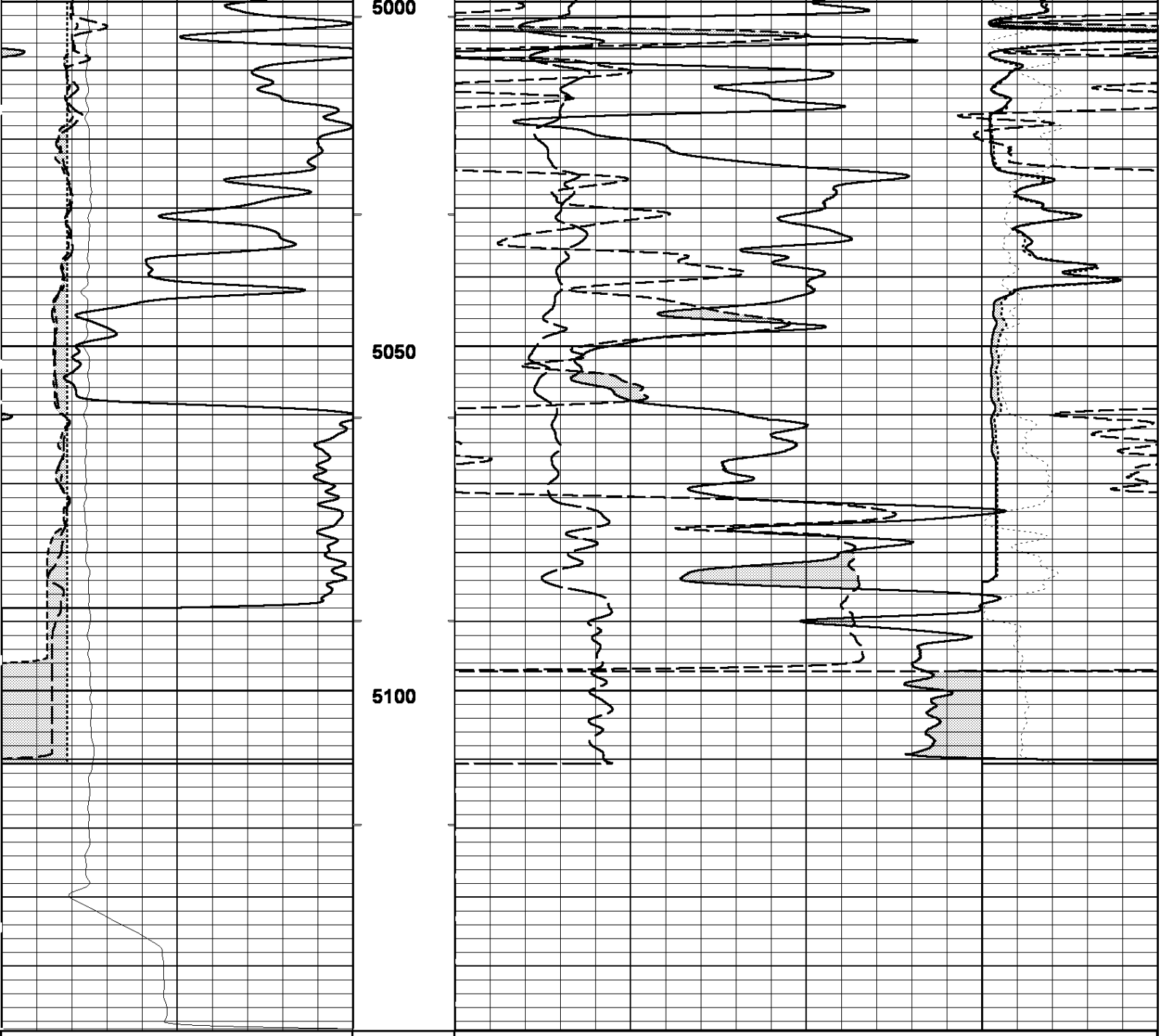
X-Caliper (CALX)
6. in 16.

Density-Porosity (DPLS)
30. Limestone-Matrix (V/V) -10.

Gamma Ray (GR)
0. API 150.

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





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

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

12/07/2014
20:30:49 => Start Time

REPEAT PASS - LIMESTONE (5"/100Ft)

Log UP - (VER 11.10)
Start Depth=> 5149.20 Feet

12/08/2014

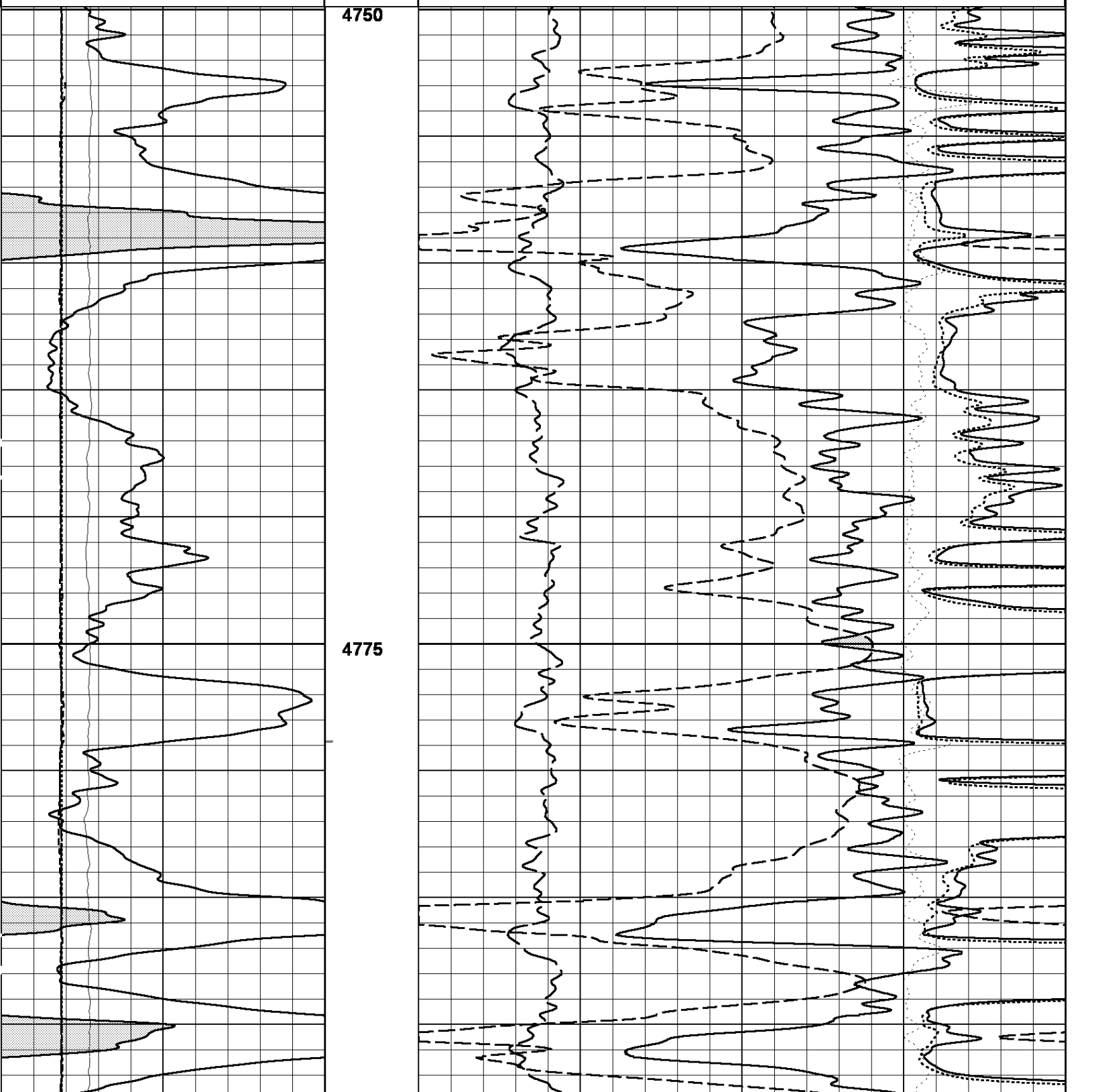
11:26:44 => End Time

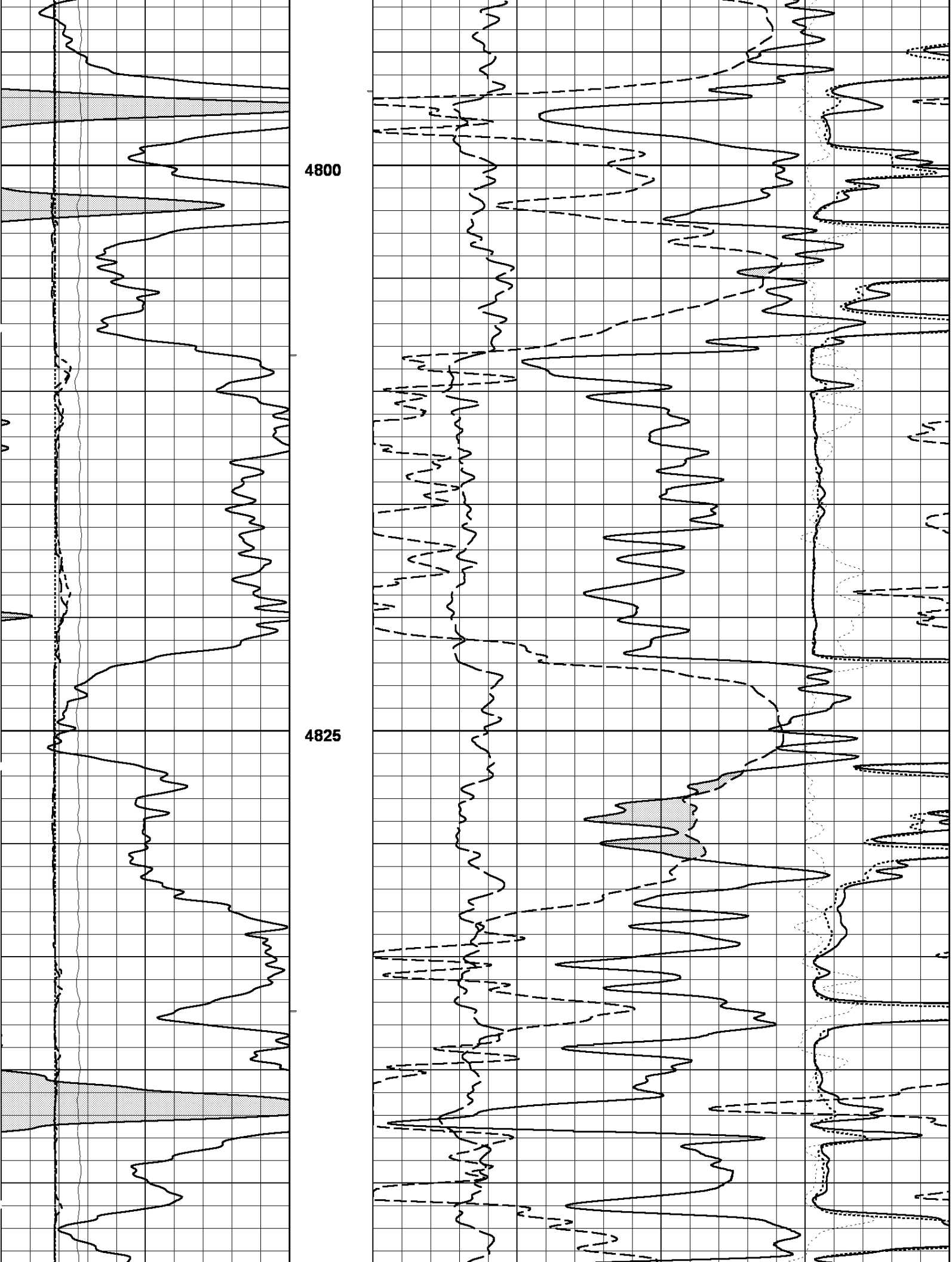
HIGH DEFINITION PASS - LIMESTONE (20"/100Ft)

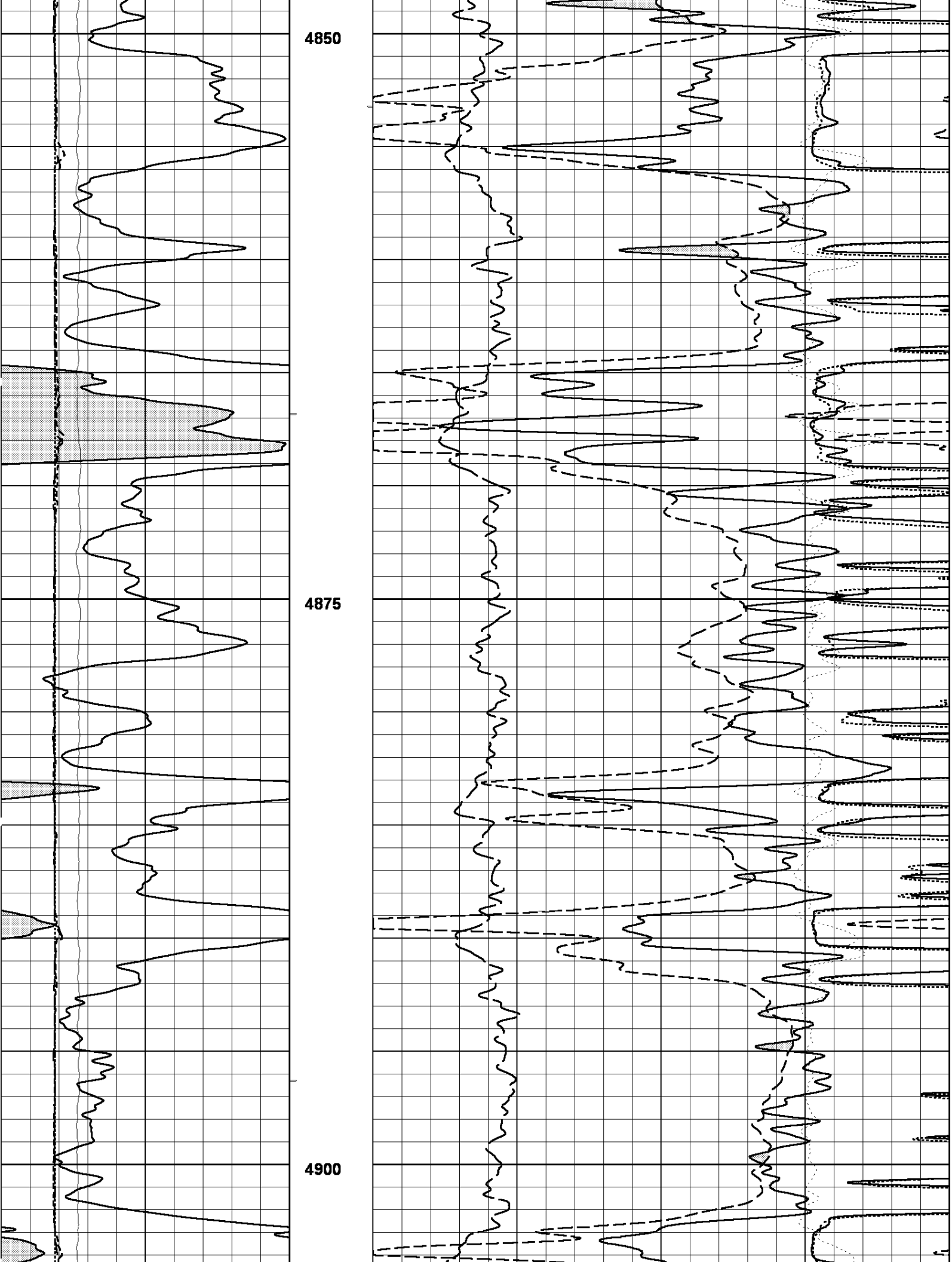
Log UP - (VER 11.10)

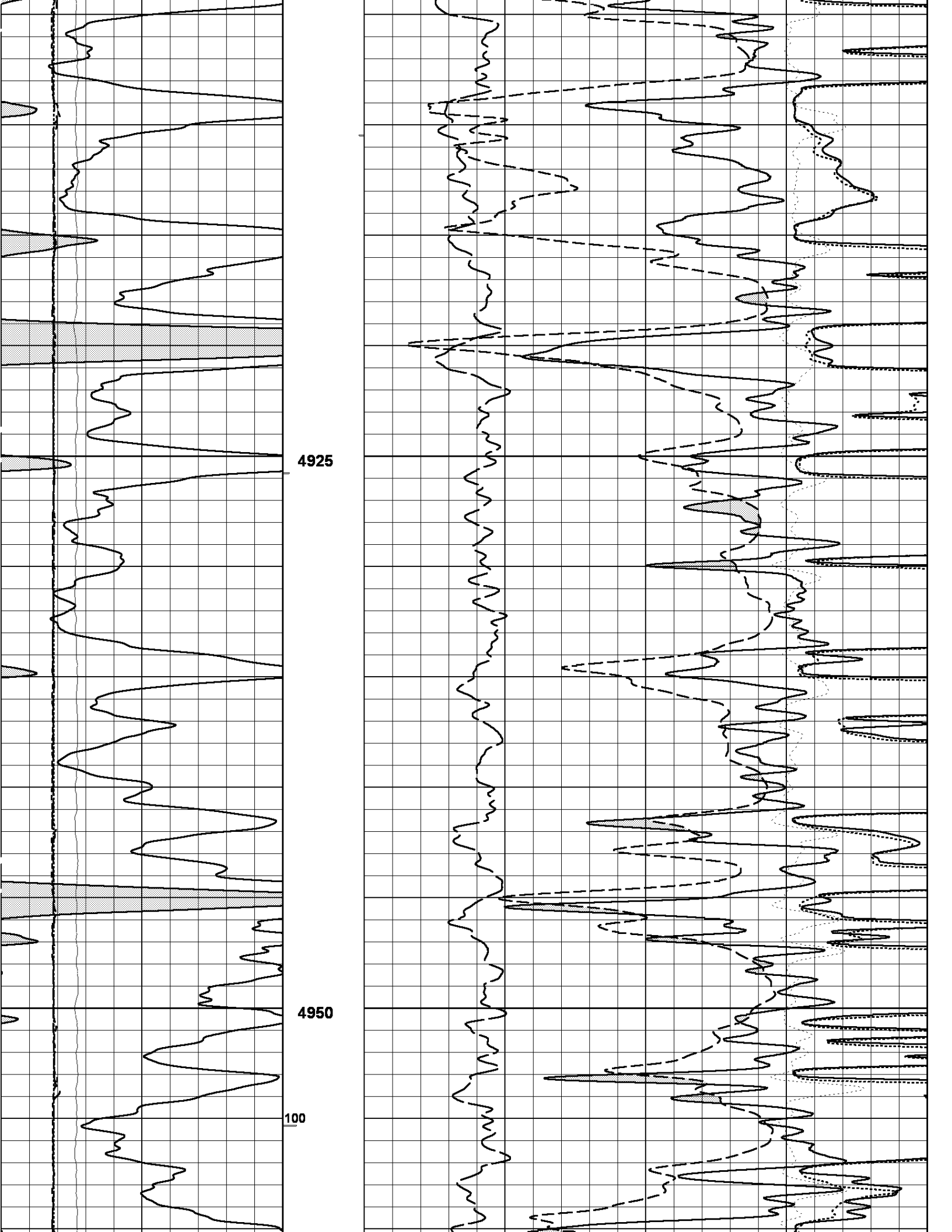
End Depth=> 4749.95 Feet

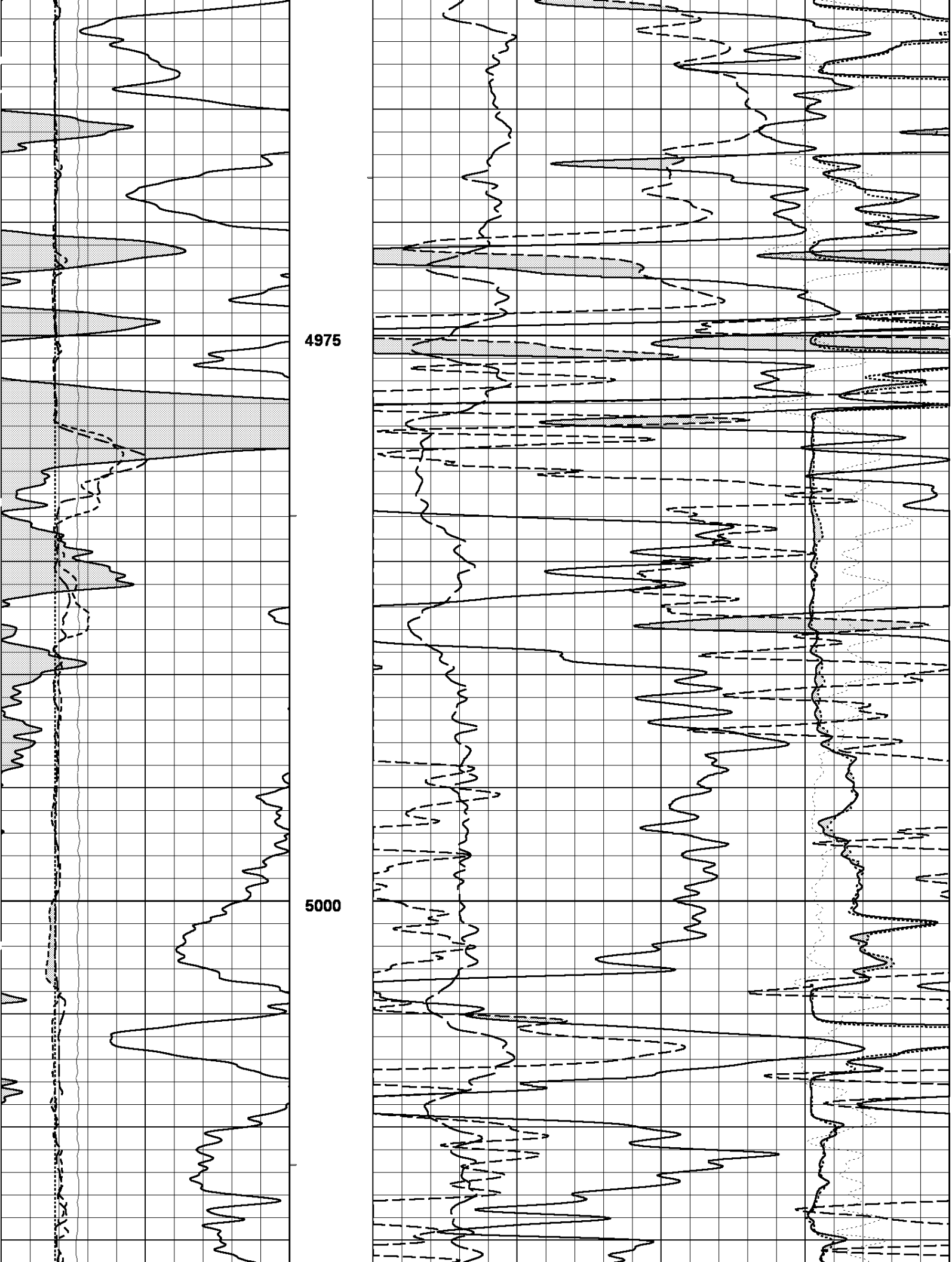
Bit Size (BIT)		Micro-Normal{2"} (MNOR)
6. Ref in 16.		-40. ohms 40.
Tension (TENS)		Micro-Inverse{1"} (MINV)
5000. Lbs 0.		-40. ohms 40.
Y-Caliper (CALY)	Photo Electric (PE)	Delta RHO (DRHO)
6. in 16.	0. Barns/Elect 10.	-0.5 g/cc 0.5
X-Caliper (CALX)	Density-Porosity (DPLS)	
6. in 16.	30. Limestone-Matrix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

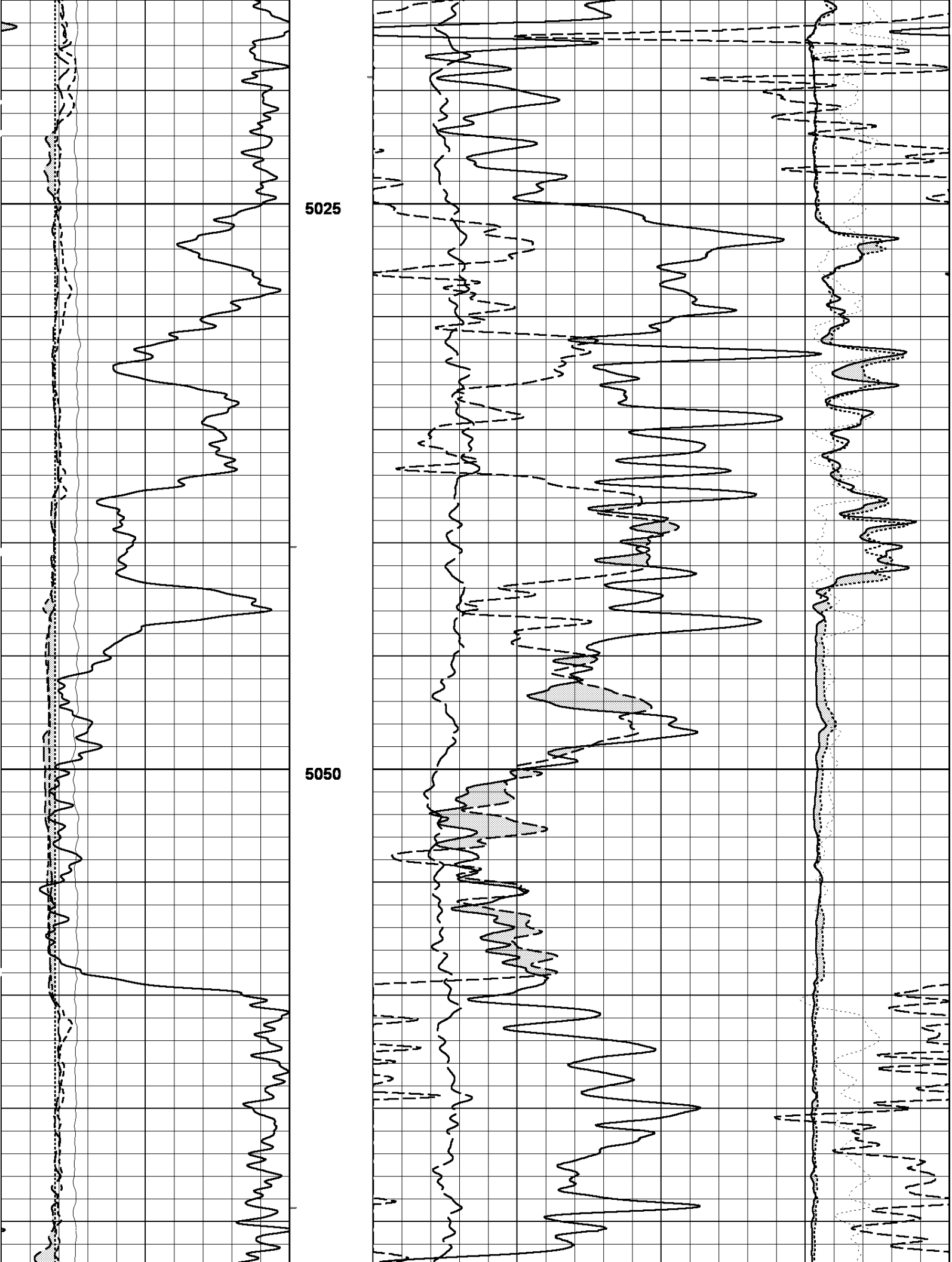


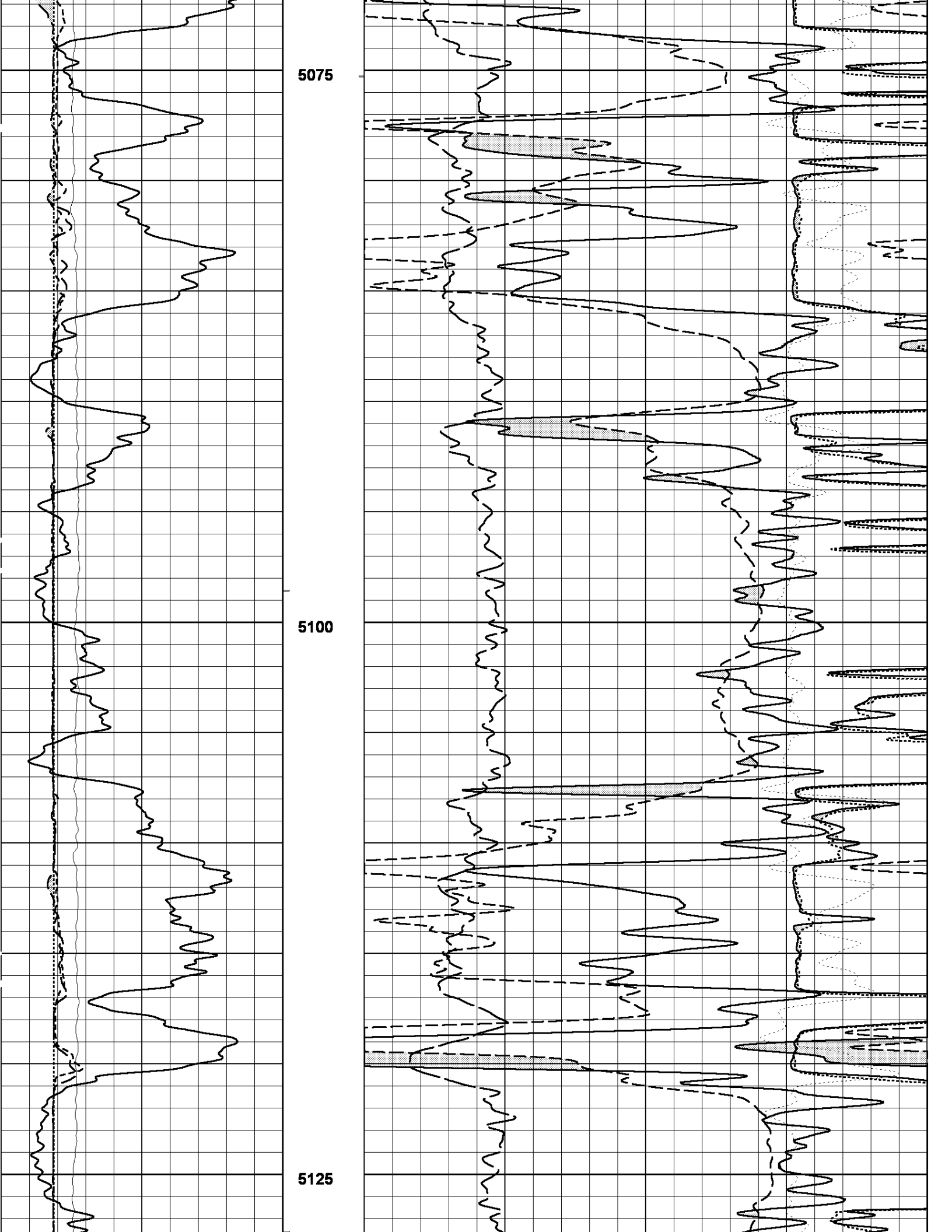

4800
4825

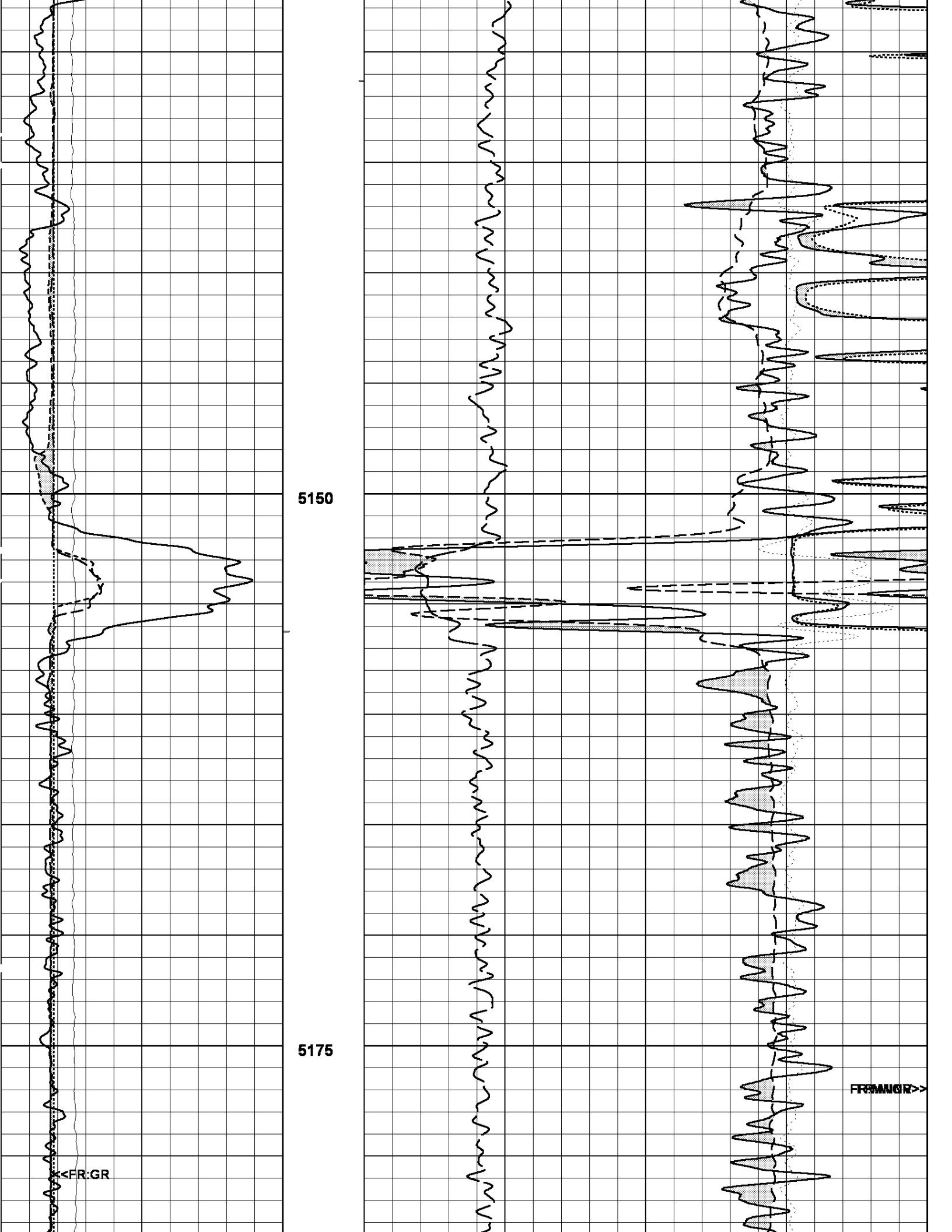

4850
4875
4900

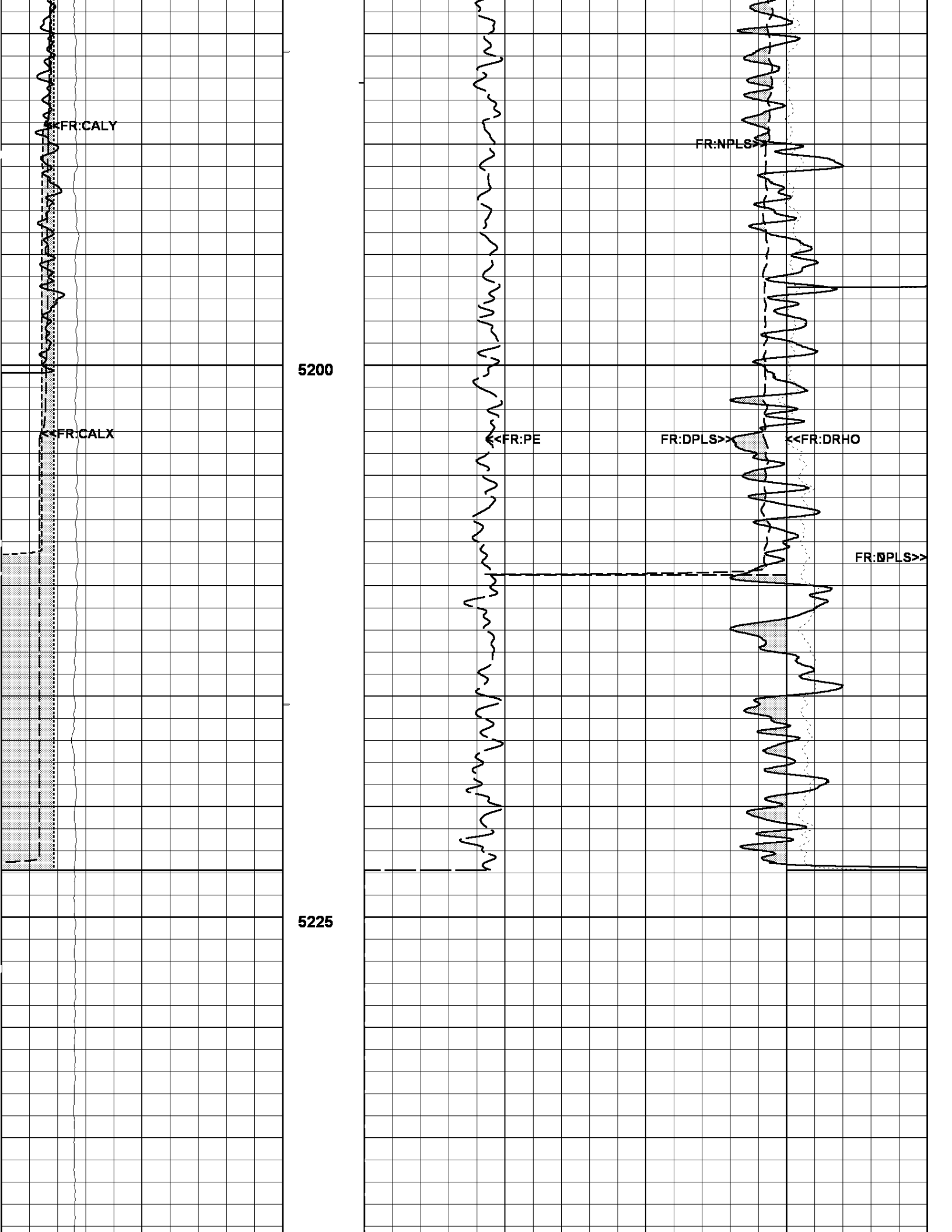

4925
4950
100

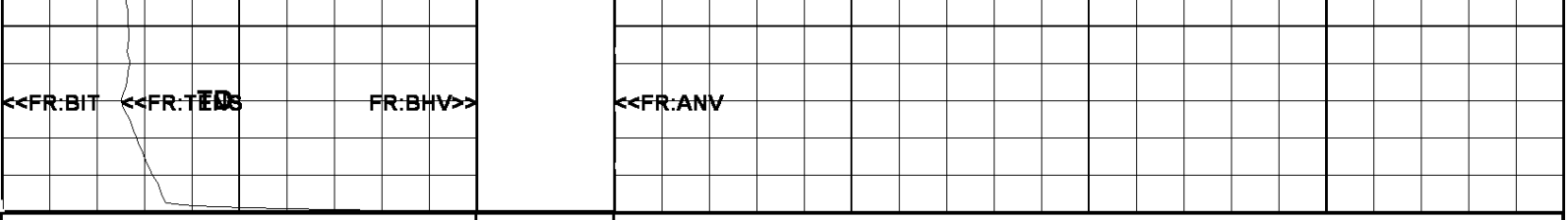

4975
5000


5025
5050


5075
5100
5125


5150
5175
<<FR:GR


<FR:CALY
<FR:CALX
5200
5225
<<FR:PE
FR:NPLS>>
FR:DPLS>>
<<FR:DRHO
FR:DPLS>>



Gamma Ray (GR)		Neutron-Porosity (NPLS)
0. API 150.		30. Limestone-Matrix (V/V) -10.
X-Caliper (CALX)		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.

12/08/2014
11:29:15 => Start Time

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

Log UP - (VER 11.10)
Start Depth=> 5244.98 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	4317.286	3710.898	1885.864	3.797	3267.8163	2.523(g/cc)	M/D/Y> 11/26/2014	H:M:S> 14:50:6
MAGNESIUM	12763.002	10776.194	4812.100	4.073	4768.4270	1.679(g/cc)		
BACKGROUND	1415.856	1247.706	862.889	3.778	4.4187			
SAND	12760.257	10774.361	4804.490	4.154		1.739(PE)		
IRON	3880.271	3377.034	1773.915	3.790		4.530(PE)		
FIELD VERIFIER(cps) / VER NUM LDP-4102	1614.960	1433.200	973.680	4.560	5.1200			

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	RN2007	SOURCE NUM			

MASTER TANK CALIBRATIONS

		NEAR(cps)	FAR(cps)	RATIO	K VALUE	CALIBRATION DATE	CALIBRATION TIME
LOW PHI	0.001						

LOW PHI	3.031			0.6510	1.0000	M/D/Y> 12/3/2014	H:M:S> 15:42:19
MED PHI	16.430			1.0671	1.0000		
HIGH PHI	26.740			1.2716	1.0003		
FIELD VERIFIER(cps)		0.100	0.100	1.0000			
VER NUM	7430						

WELL SITE CALIBRATIONS

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

GAMMA RAY CALIBRATION

SERIAL NUM	RG3006
BLANKET NUM	1A

MASTER CALIBRATIONS

	BackGrnd	CalVal: 159.000 API	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	118.034 - raw	636.485 - raw	0.307 - gain 0.000 - off	M/D/Y> 12/4/2014	H:M:S> 12:34:14

WELL SITE CALIBRATIONS

	BackGrnd	CalVal: 100.000 Mknuts	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

SERIAL NUM	RL4101

MASTER CALIBRATIONS

	ZeroVal: 6.000 In	CalVal: 10.000 In	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	2759.988 - raw	4867.911 - raw	0.002 - gain 0.763 - off	M/D/Y> 11/26/2014	H:M:S> 13:32:35

Y CALIPER CALIBRATIONS

SERIAL NUM	RN2007

MASTER CALIBRATIONS

	ZeroVal: 6.000 in	CalVal: 10.000 in	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	772.211 - raw	1474.102 - raw	0.006 - gain 1.599 - off	M/D/Y> 12/3/2014	H:M:S> 15:58:17

Company	BANKS RESOURCES
Well	SUNRAY FARMS #1-9
Field	WILDCAT
County	GREELEY
State	KANSAS

RECON

COMPENSATED NEUTRON
LITHOLOGY DENSITY
GAMMA RAY X-Y CALIPER
MICROLOG

RECON PETROTECHNOLOGIES LTD

Hardcopy Produced By
RECON
Petrotechnologies
Ltd.