Company	GRAND MESA OPERATING CO.
Well	PARKINSON-GOUGH #1-8
Field	WILDCAT
County	SCOTT
State	KANSAS

RECON

COMPENSATED NEUTRON
LITHOLOGY DENSITY
GAMMA RAY X-Y CALIPER
MICROLOG

SEC	TWP	RGE	
08	17S	33W	

OTHER SERVICES:
DIL SONIC

Location. 1885' FSL & 2050' FWL NW SE NE SW
SURF. SAME API#. 015-171-21098

Permanent Datum . Ground Level Elev 3080
Log Measured From . Kelly Bushing
Drilling Measured From Kelly Bushing

ELEVATIONS K.B. 3089
G.L. 3080
D.F. 3088

Date		30-OCT-2014					
Run No.		ONE					
TD Driller		5050	ft.			ft.	
TD RECON		5053	ft.			ft.	
Bot Logged Interval		5052	ft.			ft.	
Top Logged Interval		2400	ft.			ft.	
Casing Depth Driller		8 5/8	in.	@ 222		in.	@
Casing Depth RECON		8 5/8	in.	@ 220		in.	@
Bit Size		7 7/8	in.			in.	
Drilling Fluid Type		Chemical					
Density	Viscosity	9.2 lb/gal		55 sec/qt			
Fluid Loss	PH	9.6 ml/30min		10.0 strip			
Source Of Sample		Flowline					
RM @ Measured Temp		0.475	Ohmm	@ 75		Ohmm	@
RMF @ Measured Temp		0.356	Ohmm	@ 75		Ohmm	@
RMC @ Measured Temp		0.594	Ohmm	@ 75		Ohmm	@
RM @ MRT		0.295	Ohmm	@ 125		Ohmm	@
Max Recorded Temp		125	DegF			DegF	
Time Drilling Stopped		29-OCT-2014		20:30			
Time Circulation Stopped		29-OCT-2014		22:00			
Time Logger On Bottom		30-OCT-2014		01:57			
Unit Num	Location	S409		OKLAHOMA CITY, OK			
Recorded By		H. GARCIA					
Witnessed By		MR. K. MATSON					

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 Neglegence 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 DRLG. #4

GENERAL REMARKS SECTION

FIRST RUN IN THE HOLE
CNL AND LDT LOGGED IN A LIMESTONE MATRIX
TOP MARK - 297, BOTTOM MARK - 5002.6
CNL/LDT LOGGED MATRIX: 2.71 g/cc.

CHLORIDES: 8000 ppm
LCM: 2 lbs/bbl

AHV CALCULATED ON 5.5" PROD. CASING

CREW: M. CALLENTINE

THANK YOU FOR USING RECON PETROTECHNOLOGIES LTD.

CEMENT VOLUME CALCULATIONS SUMMARY

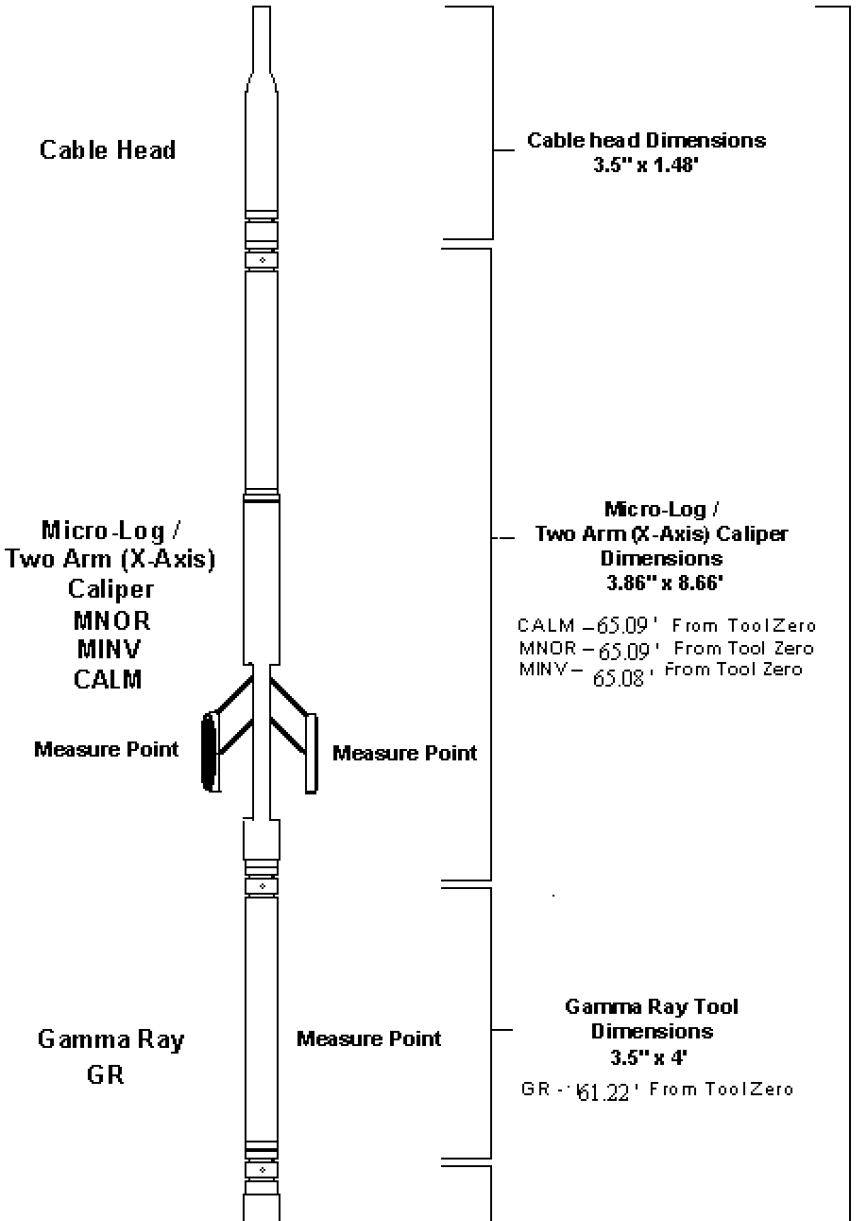
Tool Type	**LDT-CNT**		
Tool Serial #	**RN2002 / RL4106**	**Caliper Type**	**X-Y CALIPERS**

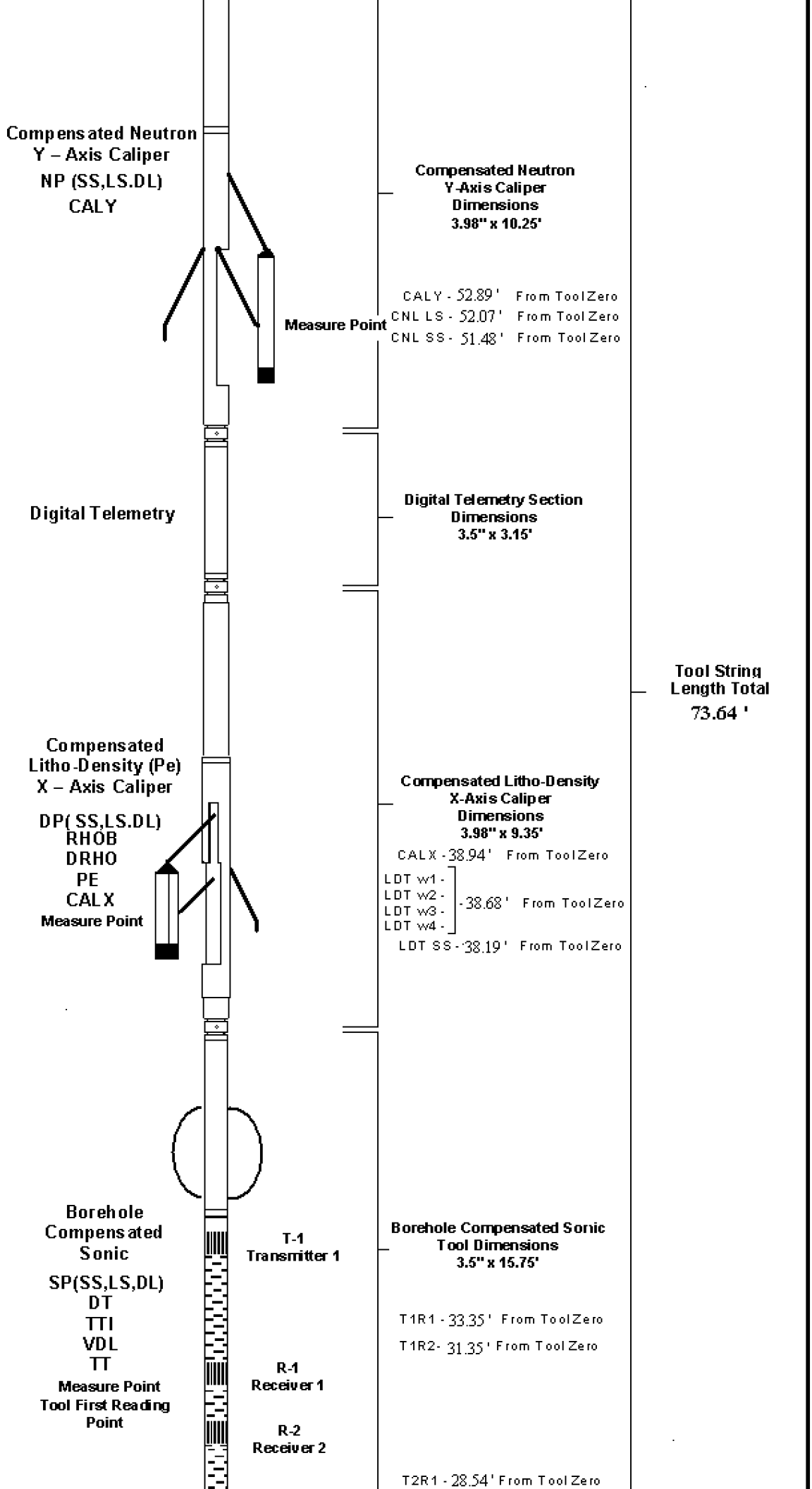
	Borehole Total	Annular Volume with Casing	From Depth (MKb)	To Depth (MKb)
VOLUMES	**2236.882 Cubic Feet**	**1436.525 Cubic Feet**	**SCG 220**	**TD 5053**

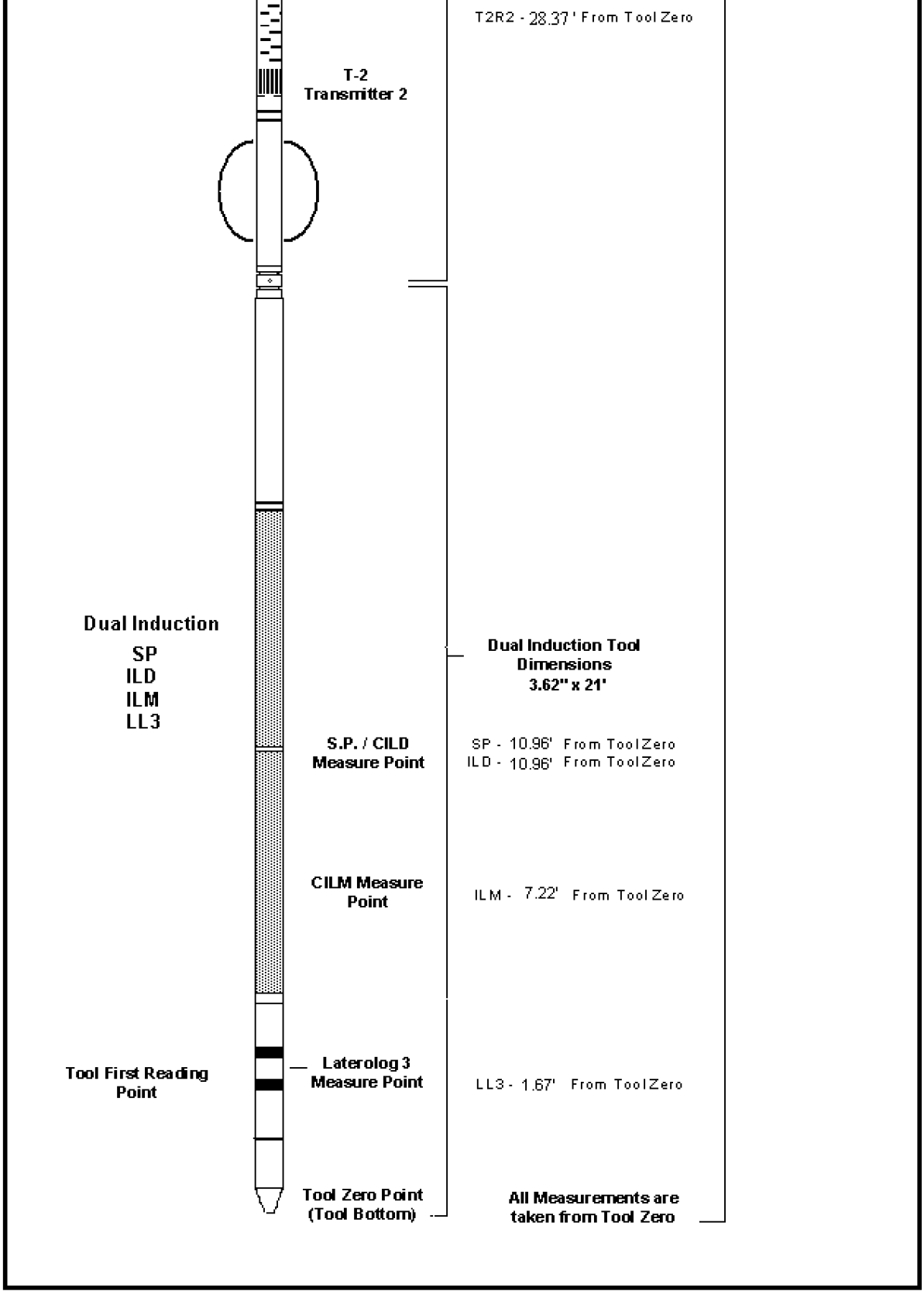
CASING INFORMATION

	SIZE (in)	GRADE	WEIGHT (lbs/ft)	ID (in)	TOP DEPTH	BOT DEPTH
SURFACE CASING	**8 5/8**	**J-55**	**24**	**8.097**	**Surface**	**220**
INTERMEDIATE CASING	**N/A**	**N/A**	**N/A**	**N/A**	**Surface**	**N/A**
PRODUCION 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

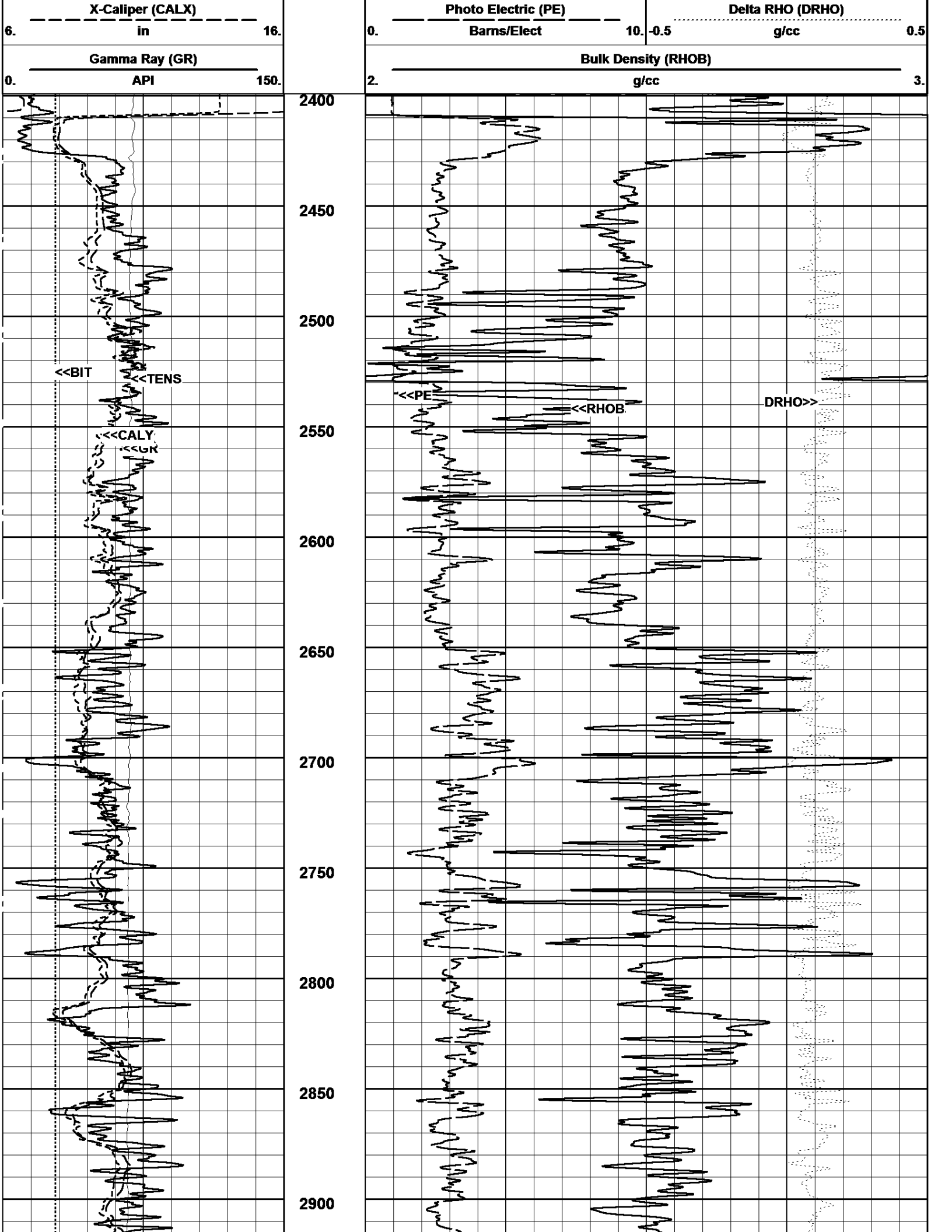



Compensated Neutron
Y – Axis Caliper
NP (SS,LS.DL)
CALY
Measure Point
Compensated Neutron
Y-Axis Caliper
Dimensions
3.98" x 10.25'
CALY - 52.89 ' From Tool Zero
CNL LS - 52.07 ' From Tool Zero
CNL SS - 51.48 ' From Tool Zero
Digital Telemetry
Digital Telemetry Section
Dimensions
3.5" x 3.15'
Tool String
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 Tool Zero
LDT w1 -
LDT w2 -
LDT w3 -
LDT w4 -
- 38.68 ' From Tool Zero
LDT SS - 38.19 ' From Tool Zero
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 Tool Zero
T1R2 - 31.35 ' From Tool Zero
T2R1 - 28.54 ' From Tool Zero



10/30/2014 02:33:40 => End Time	MAIN PASS - RHOB (2"/100Ft)	Log UP - (VER 11.19) End Depth=> 2399.75 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.
2400
2450
2500
2550
2600
2650
2700
2750
2800
2850
2900
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<<GR
<<PE
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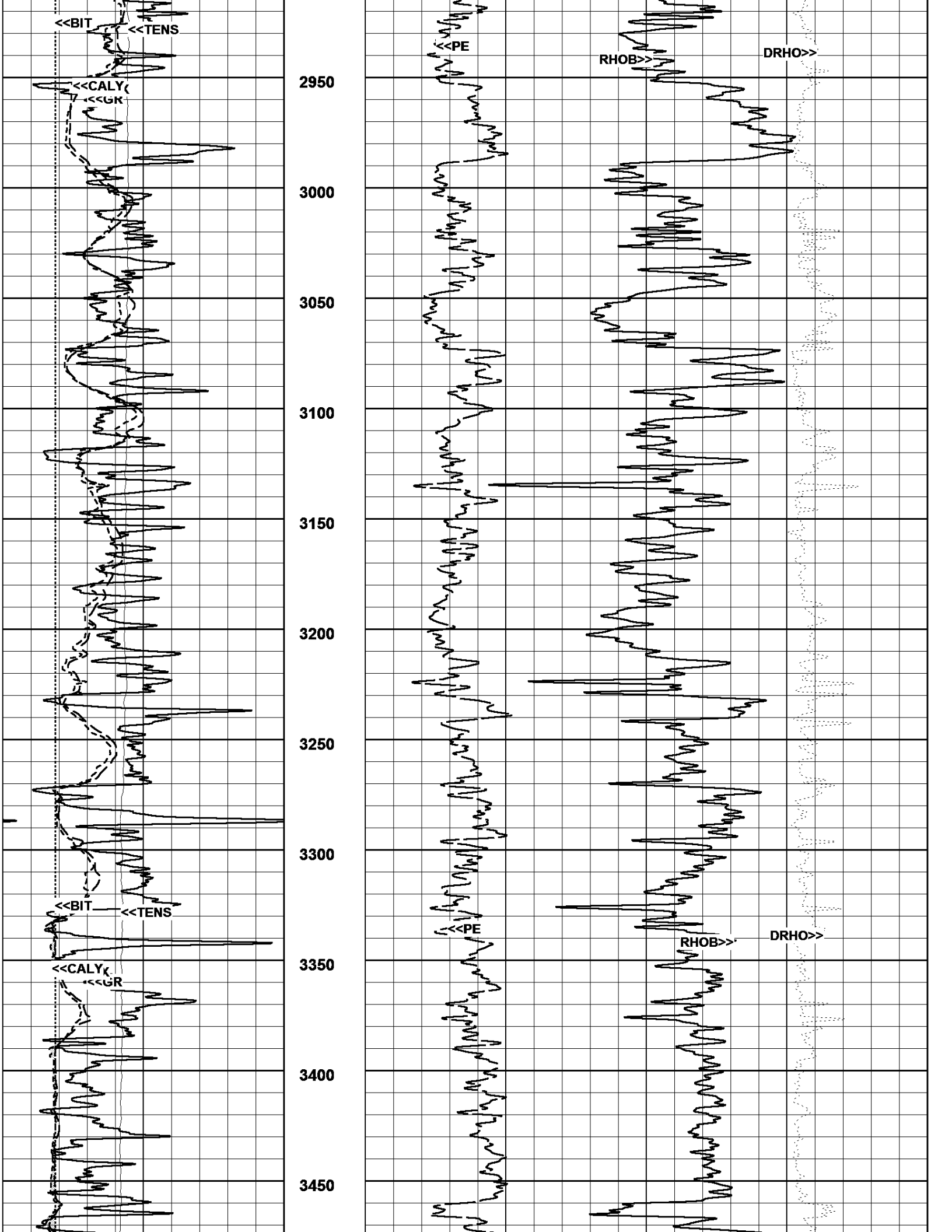
DRHO>>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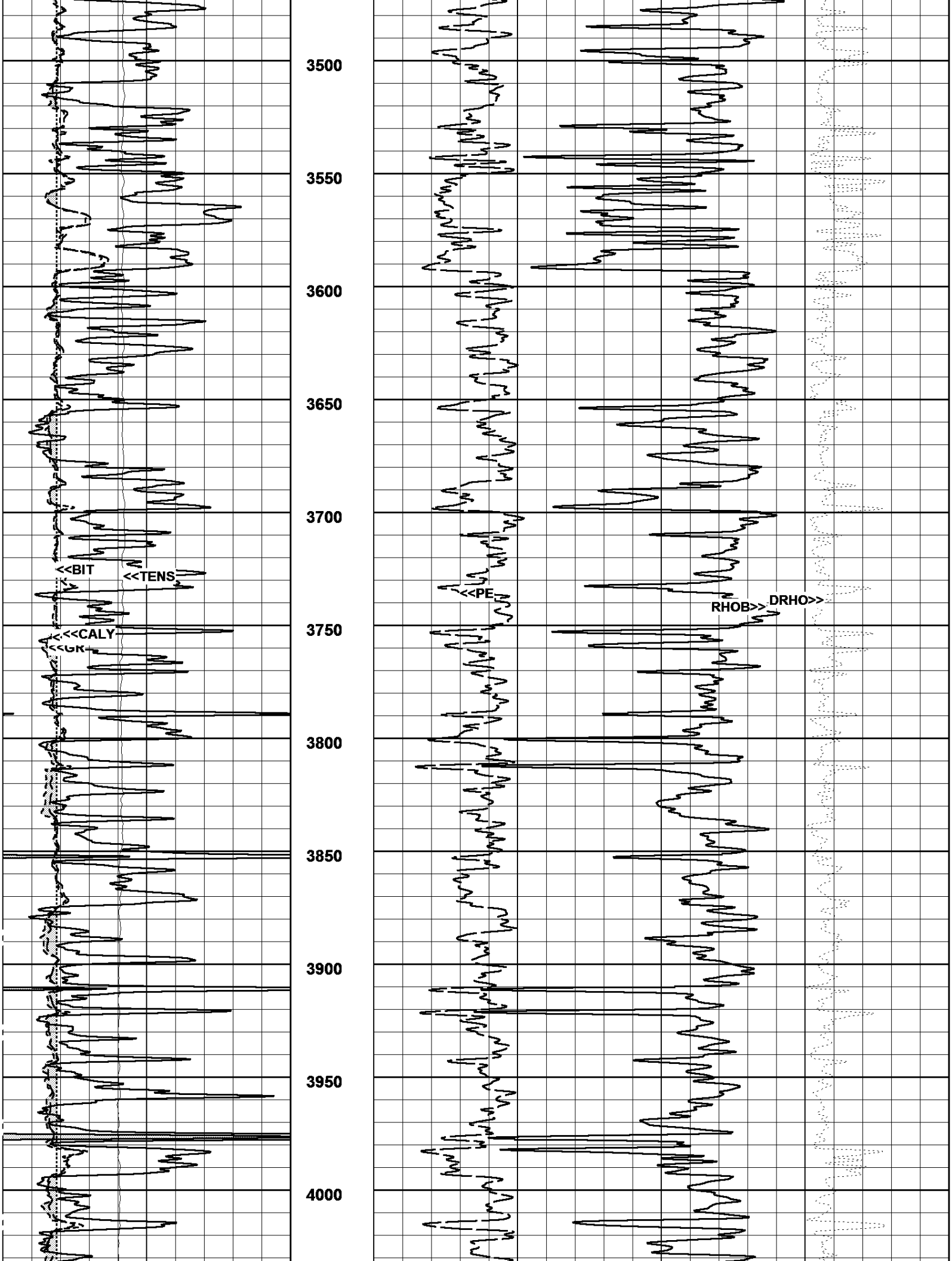
RHOB>>
DRHO>>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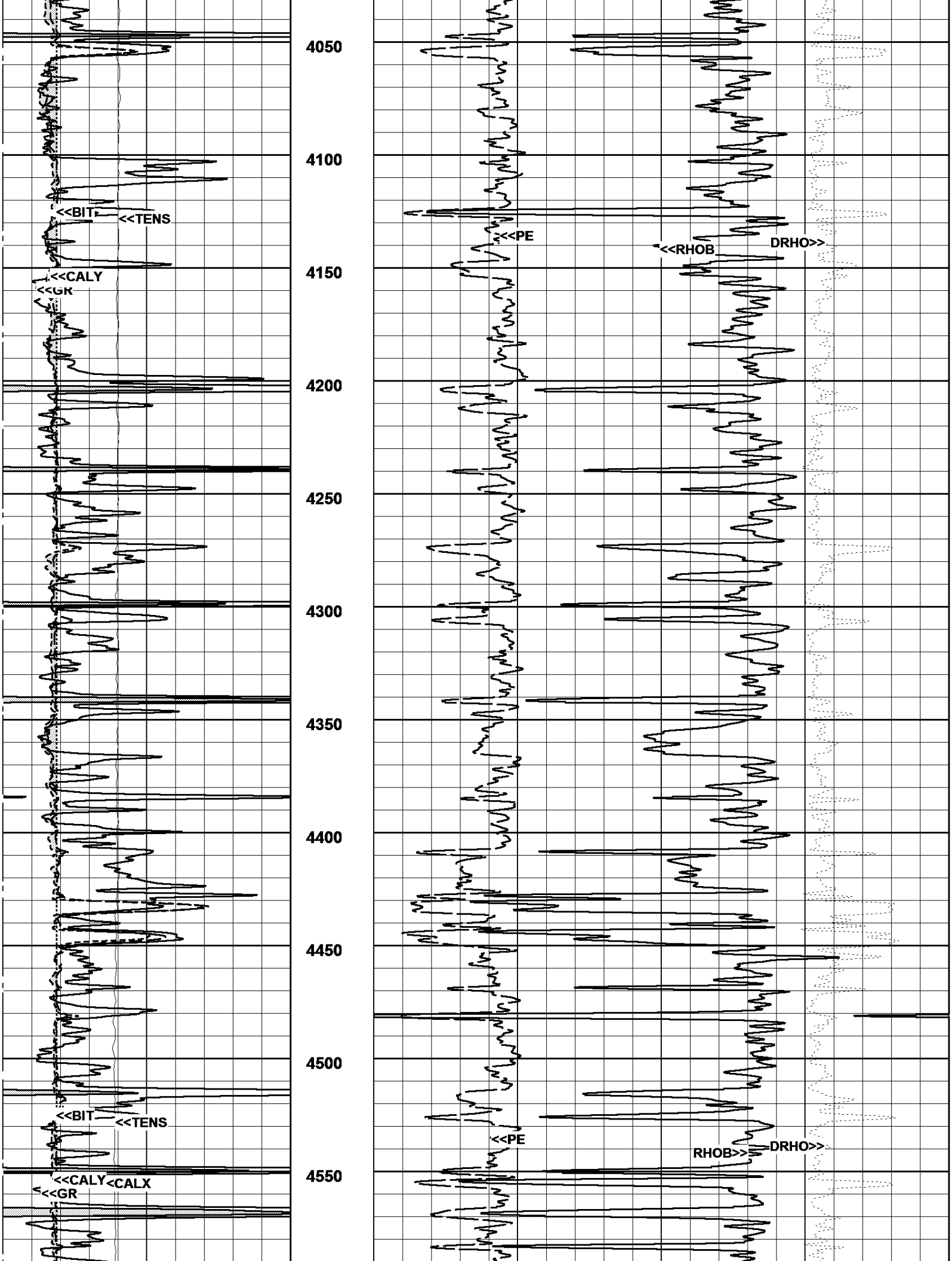
<<PE
RHOB>>
DRHO>>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DRHO>>
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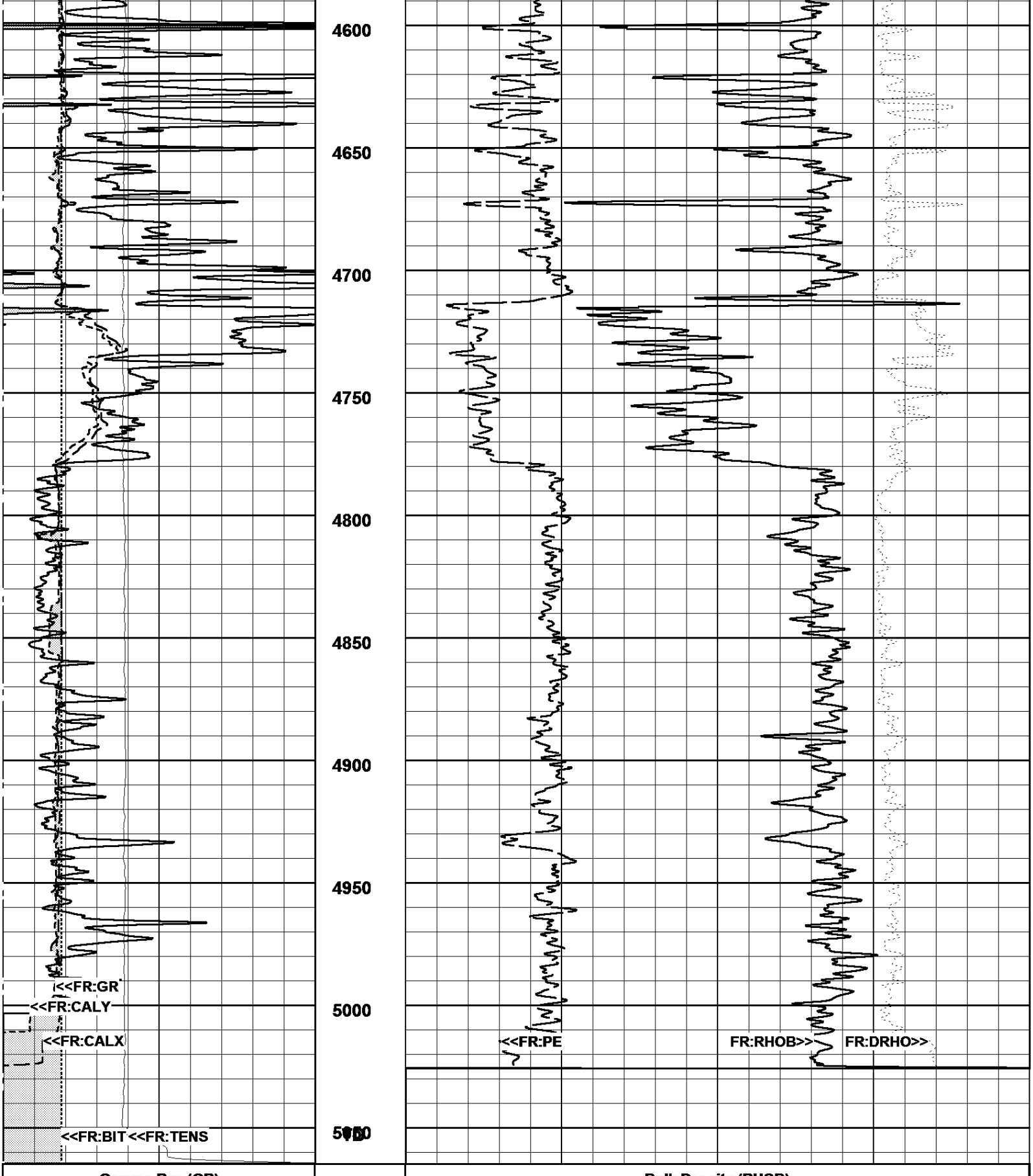
RHOB>>
DRHO>>



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

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

5000. Lbs 0.

Bit Size (BIT)

6. Ref in 16.

10/30/2014
01:59:04 => Start Time

MAIN PASS - RHOB (2"/100Ft)

Log UP - (VER 11.19)
Start Depth=> 5064.25 Feet

10/30/2014
02:33:40 => End Time

MAIN PASS - LIMESTONE (5"/100Ft)

Log UP - (VER 11.19)
End Depth=> 2399.90 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.

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

Micro-Inverse{1"} (MINV)
-40. ohms 40.

Photo Electric (PE)
0. Barns/Elect 10.

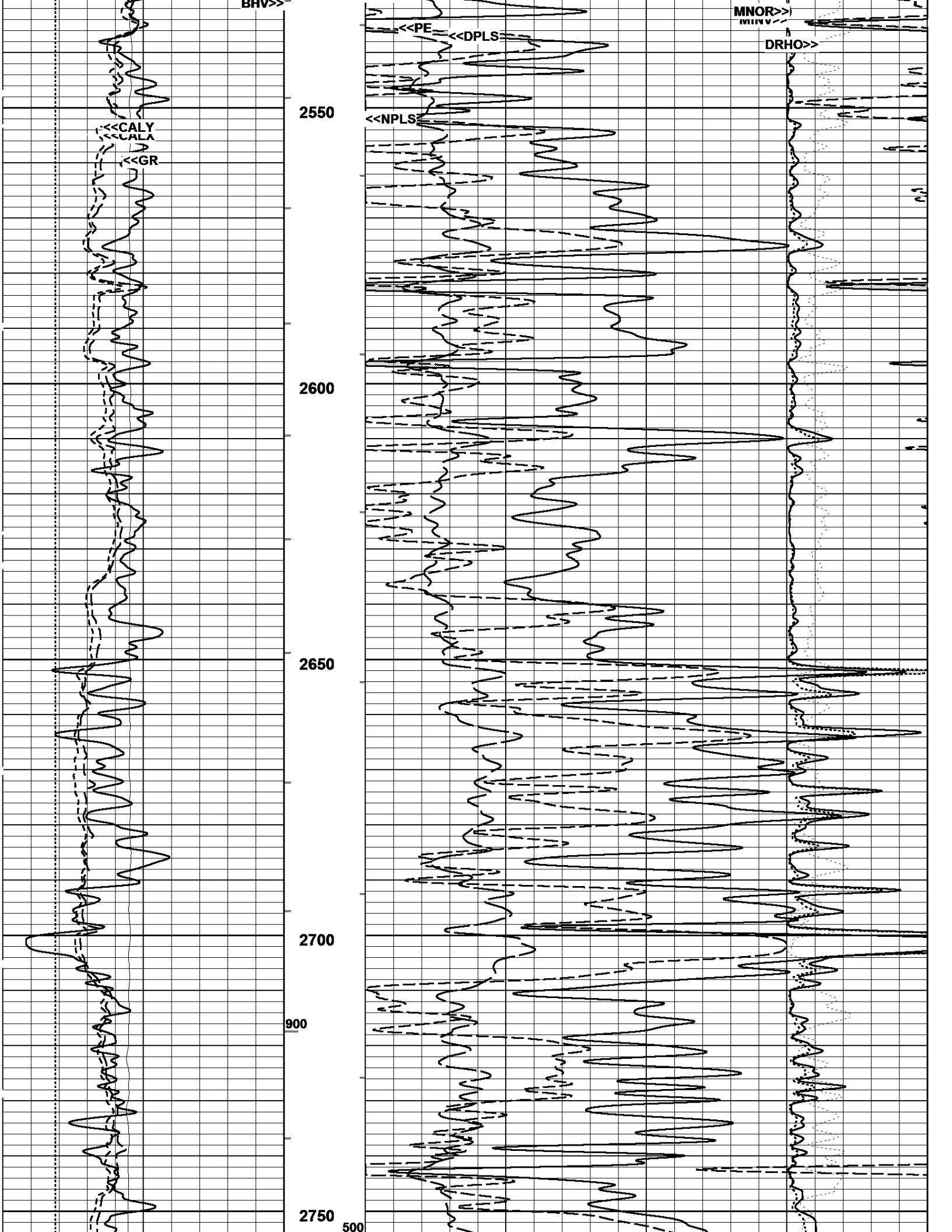
Delta RHO (DRHO)
-0.5 g/cc 0.5

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

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

2400
2450
600
2500
1000

<<BIT
<<TENS
<<ANV
DPLS>>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MNOR>>
MINV
DRHO>>
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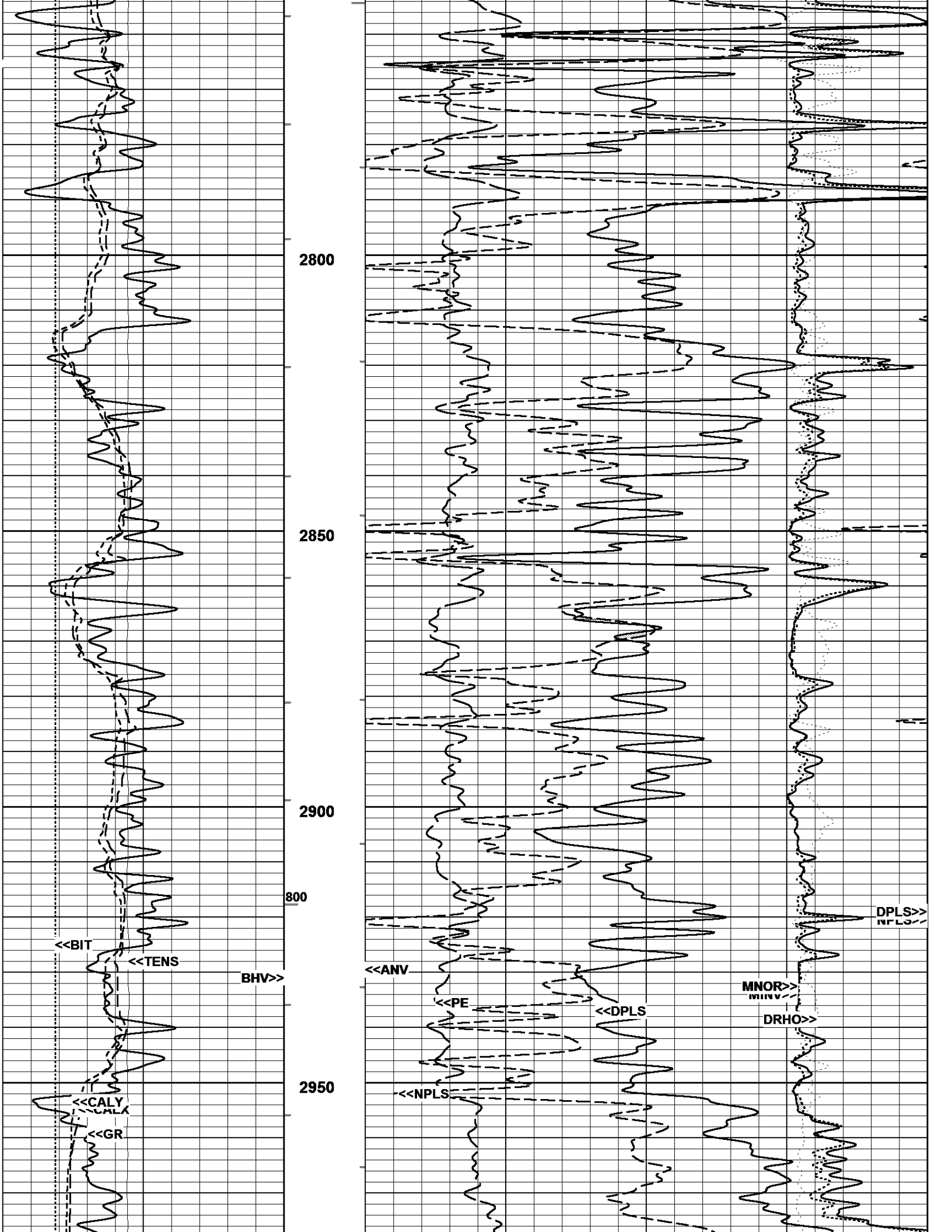
2600
2650
2700
900
2750
500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<<GR
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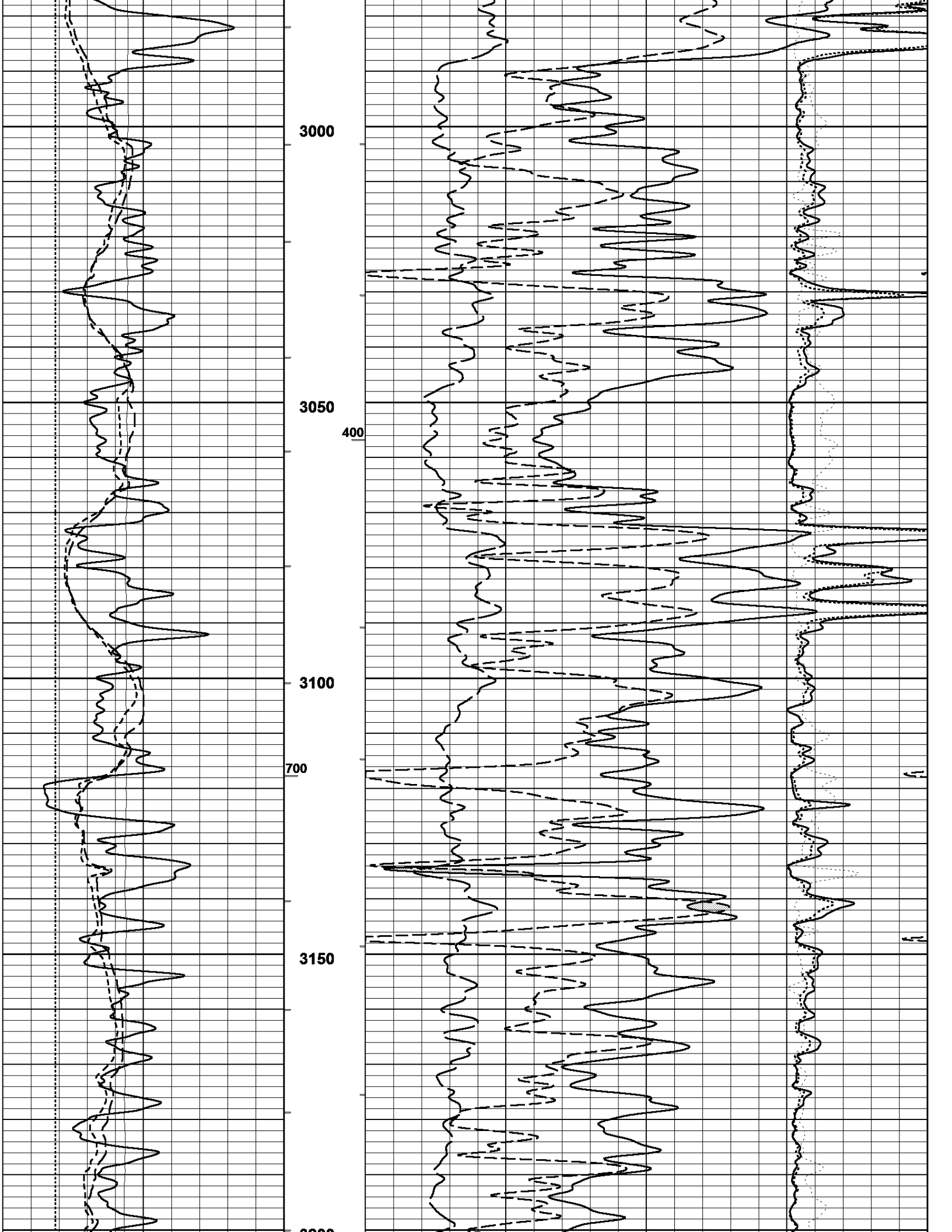
<<PE
<<DPLS
<<NPLS
DPLS>>
MNOR>>
DRHO>>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400
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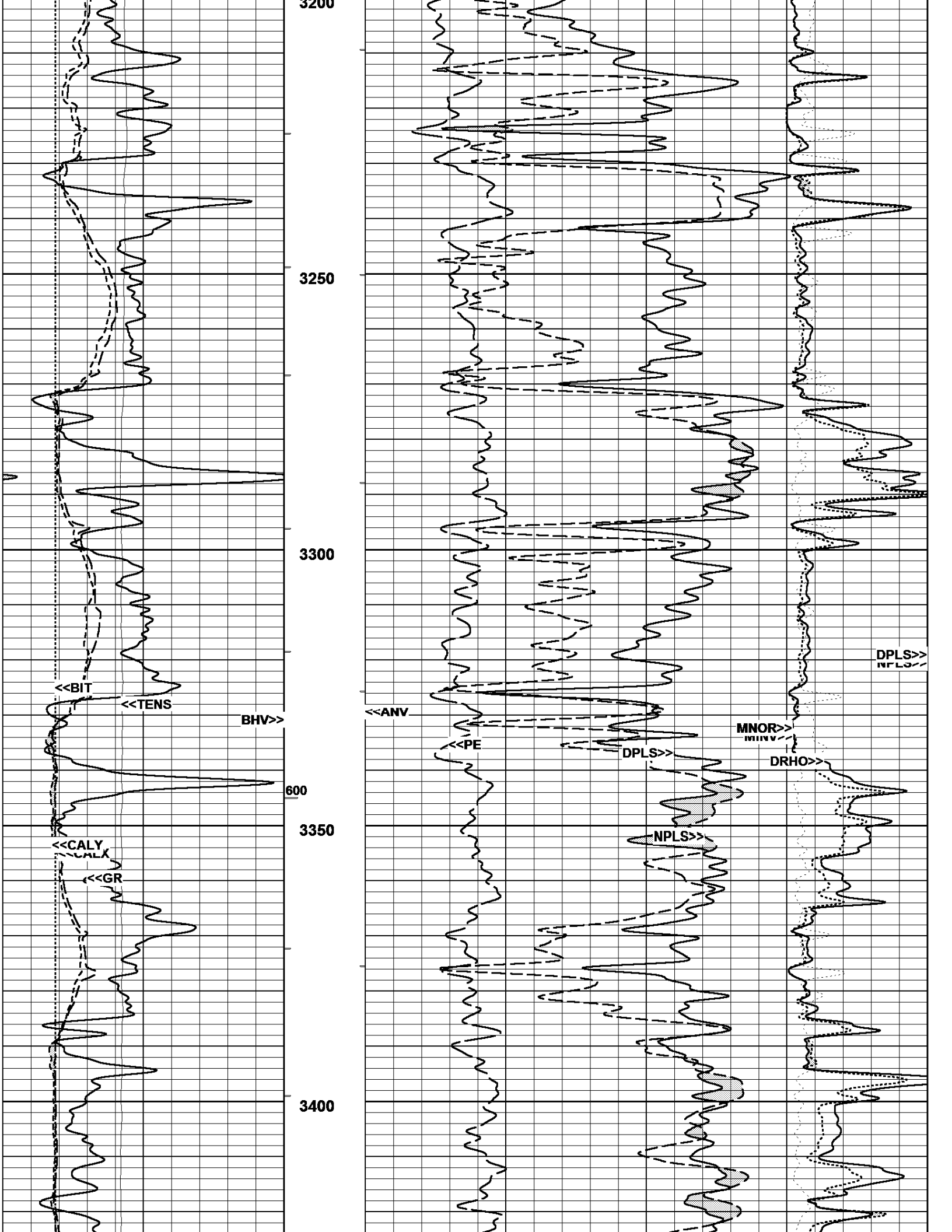
700
3150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BHV>>
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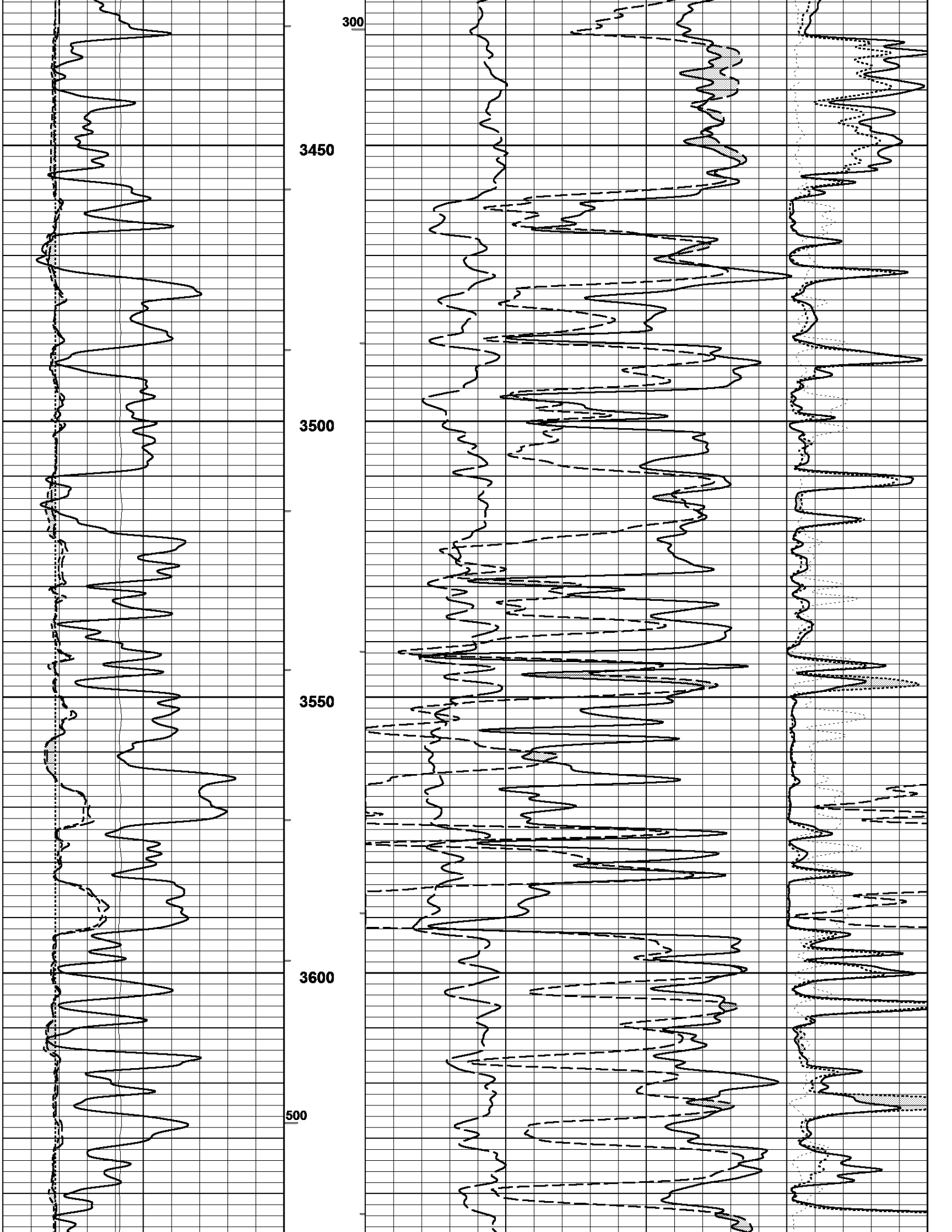
<<ANV
<<PE
DPLS>>
NPLS>>
MNOR>>
DRHO>>
DPLS>>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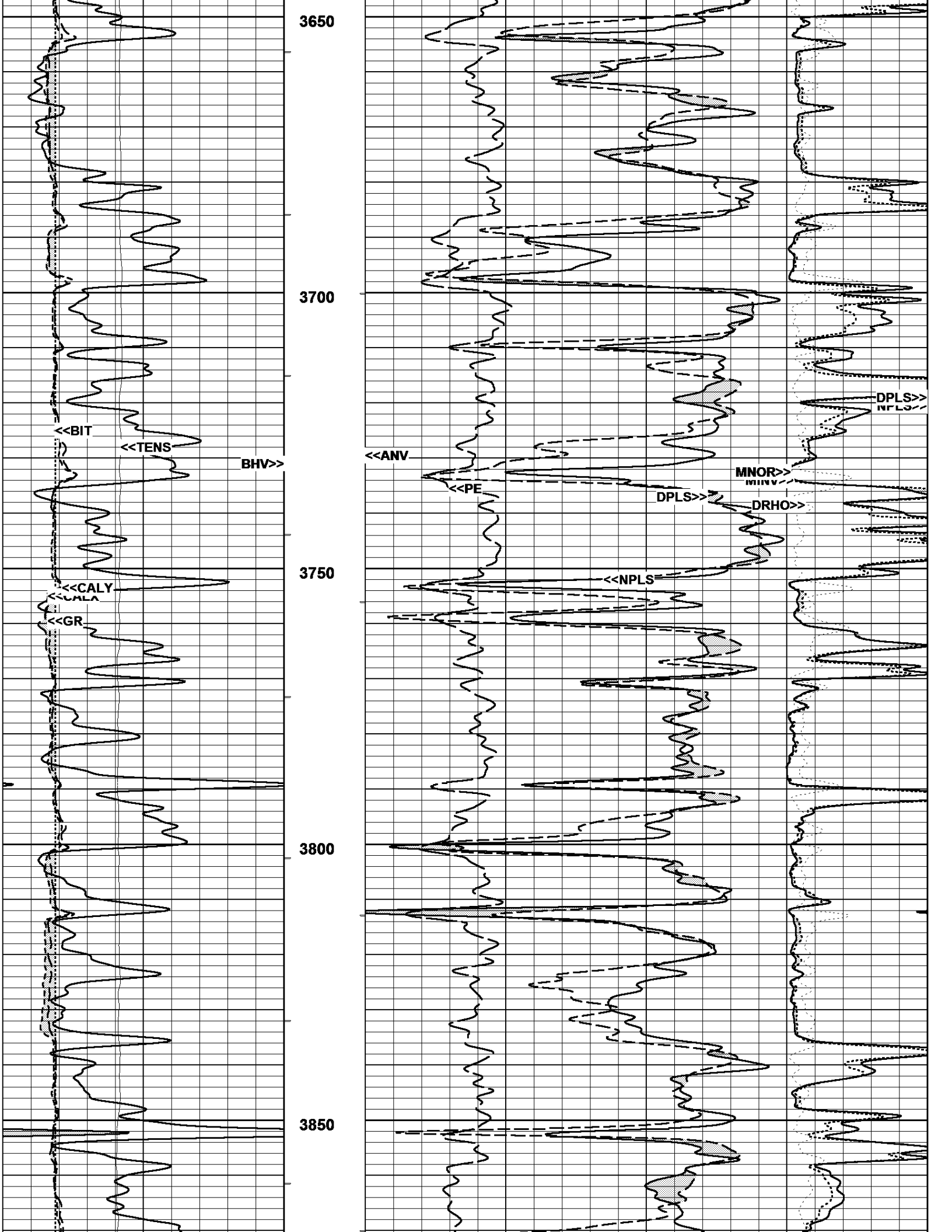
3500
3550
3600
500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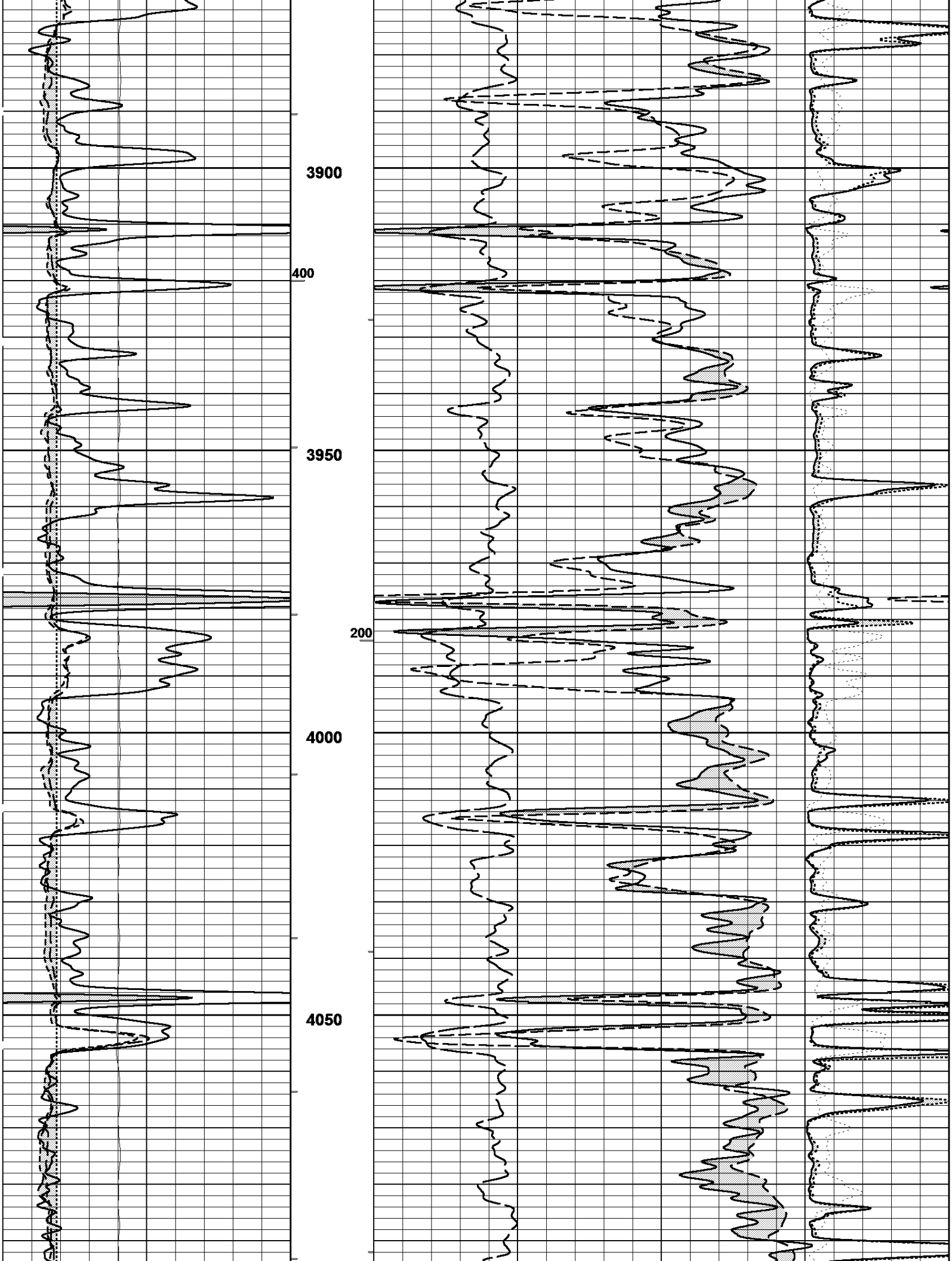
DPLS>>
DRHO>>
MNOR>>
<<NPLS
DPLS>>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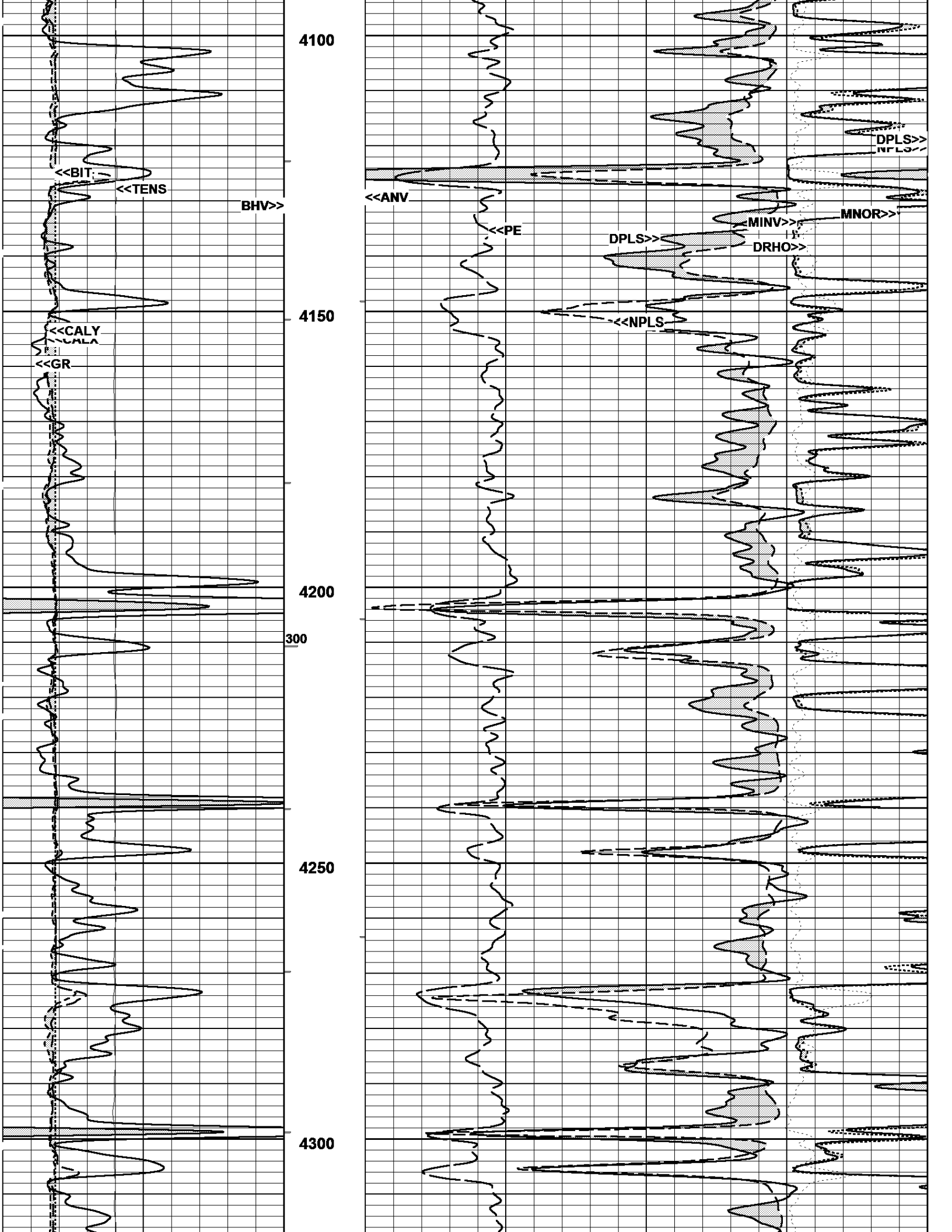
3950
200
4000
4050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BHV>>
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DPLS>>
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MNOR>>
DPLS>>
DRHO>>
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<<GR
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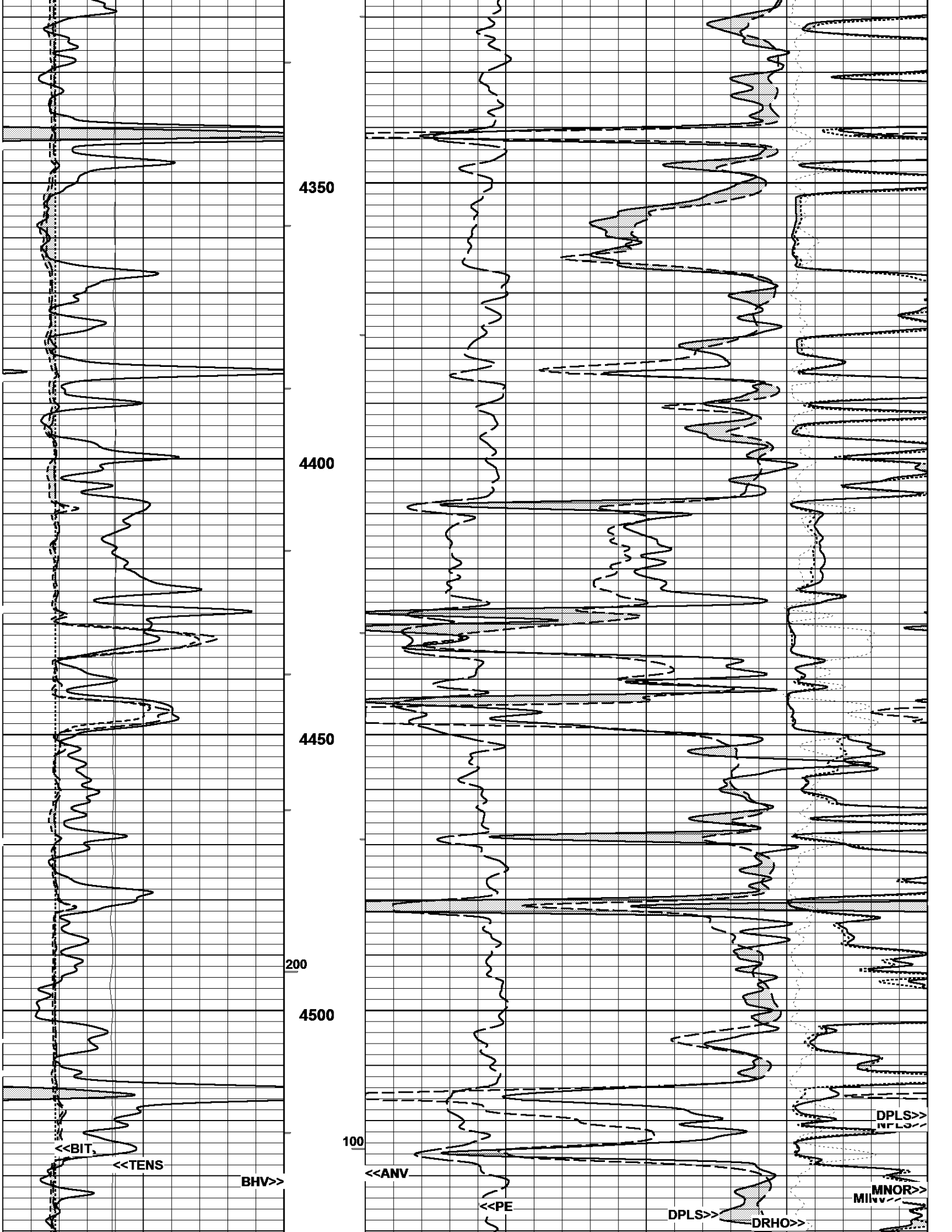
300
4250
4300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100
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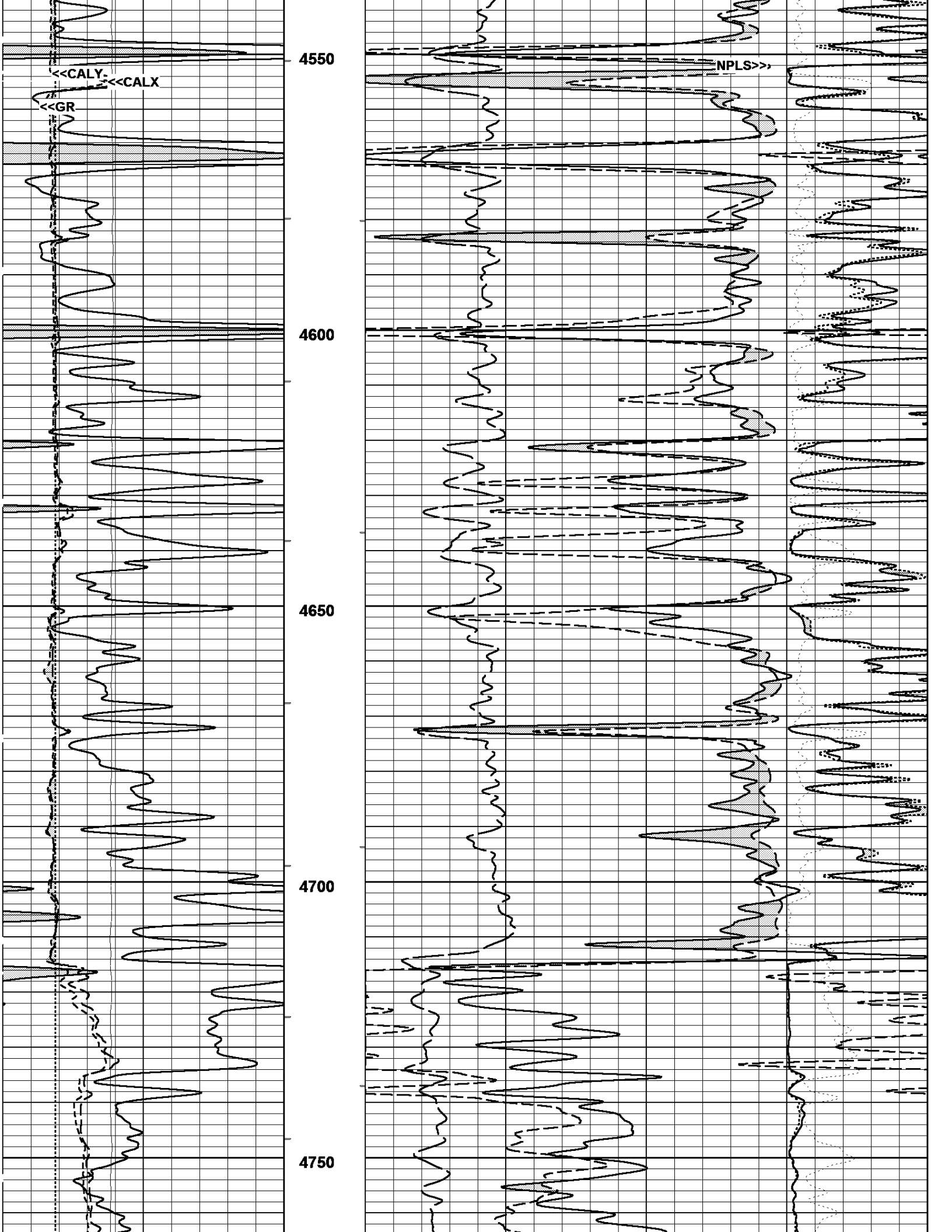
BHV>>
<<ANV
<<PE
DPLS>>
DRHO>>
DPLS>>
MNOR>>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NPLS>>>
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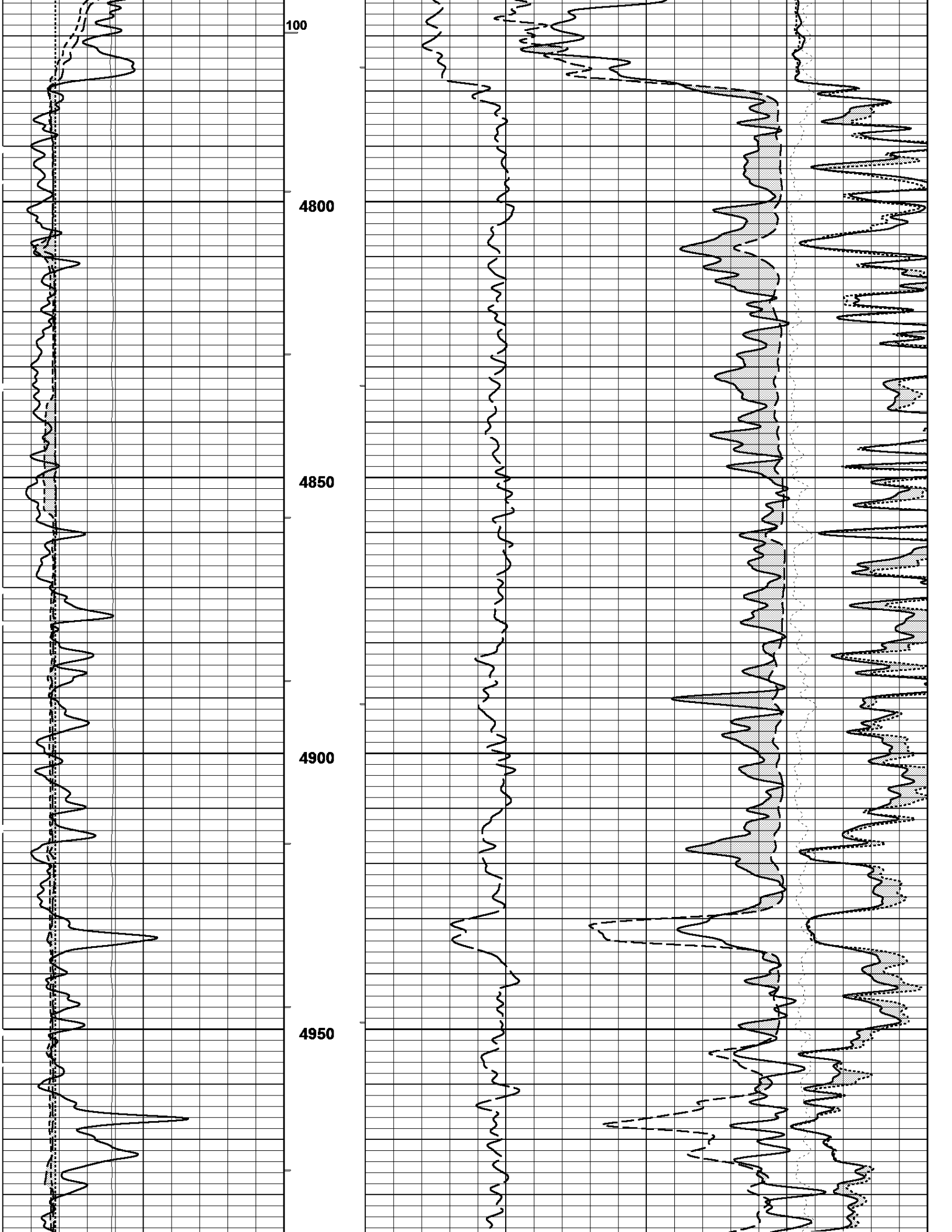
4650
4700
4750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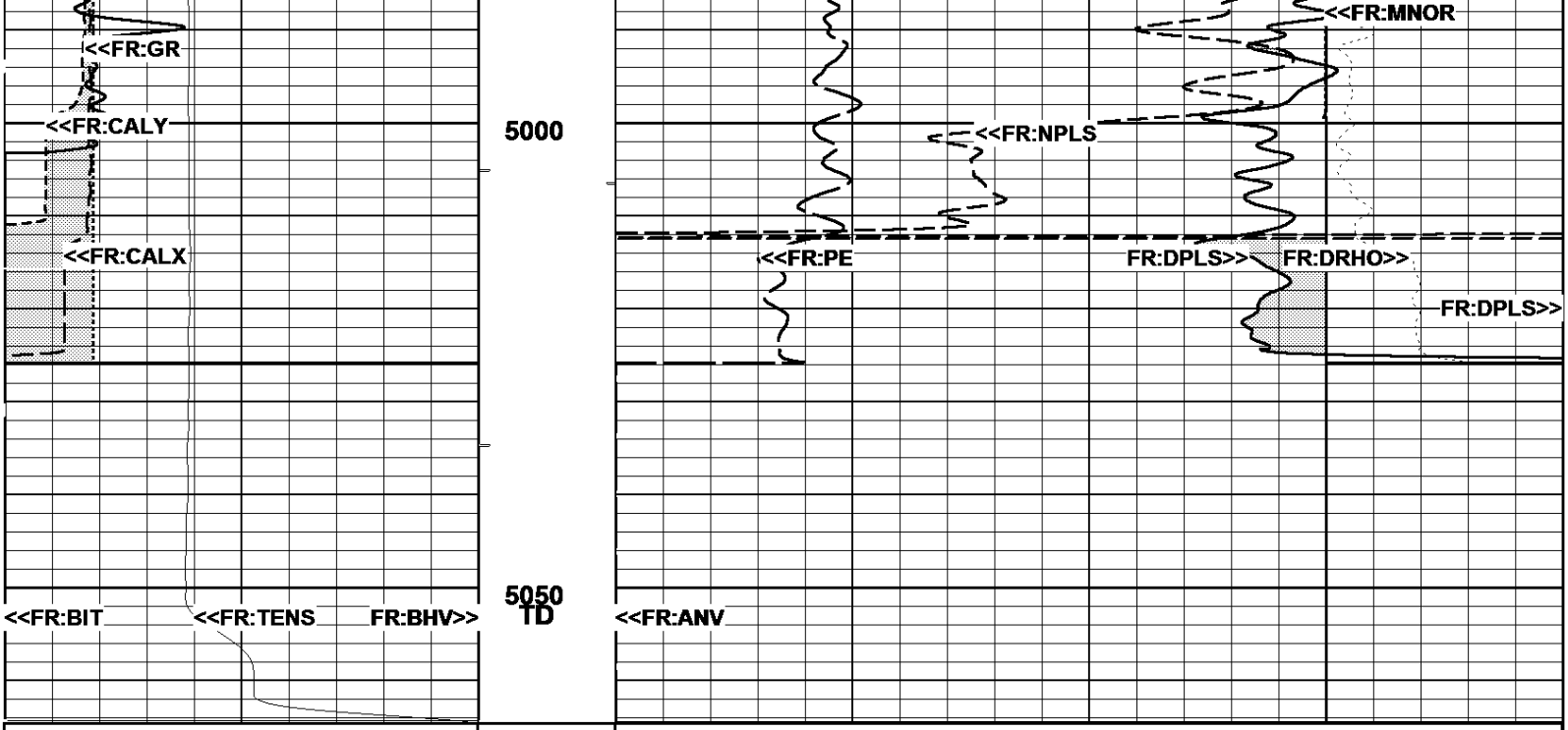
4900
4950



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.

10/30/2014
01:59:04 => Start Time

MAIN PASS - LIMESTONE (5"/100Ft)

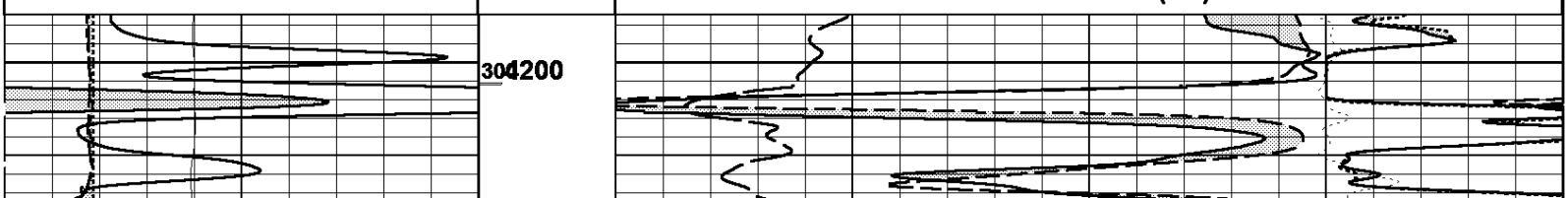
Log UP - (VER 11.19)
Start Depth=> 5064.40 Feet

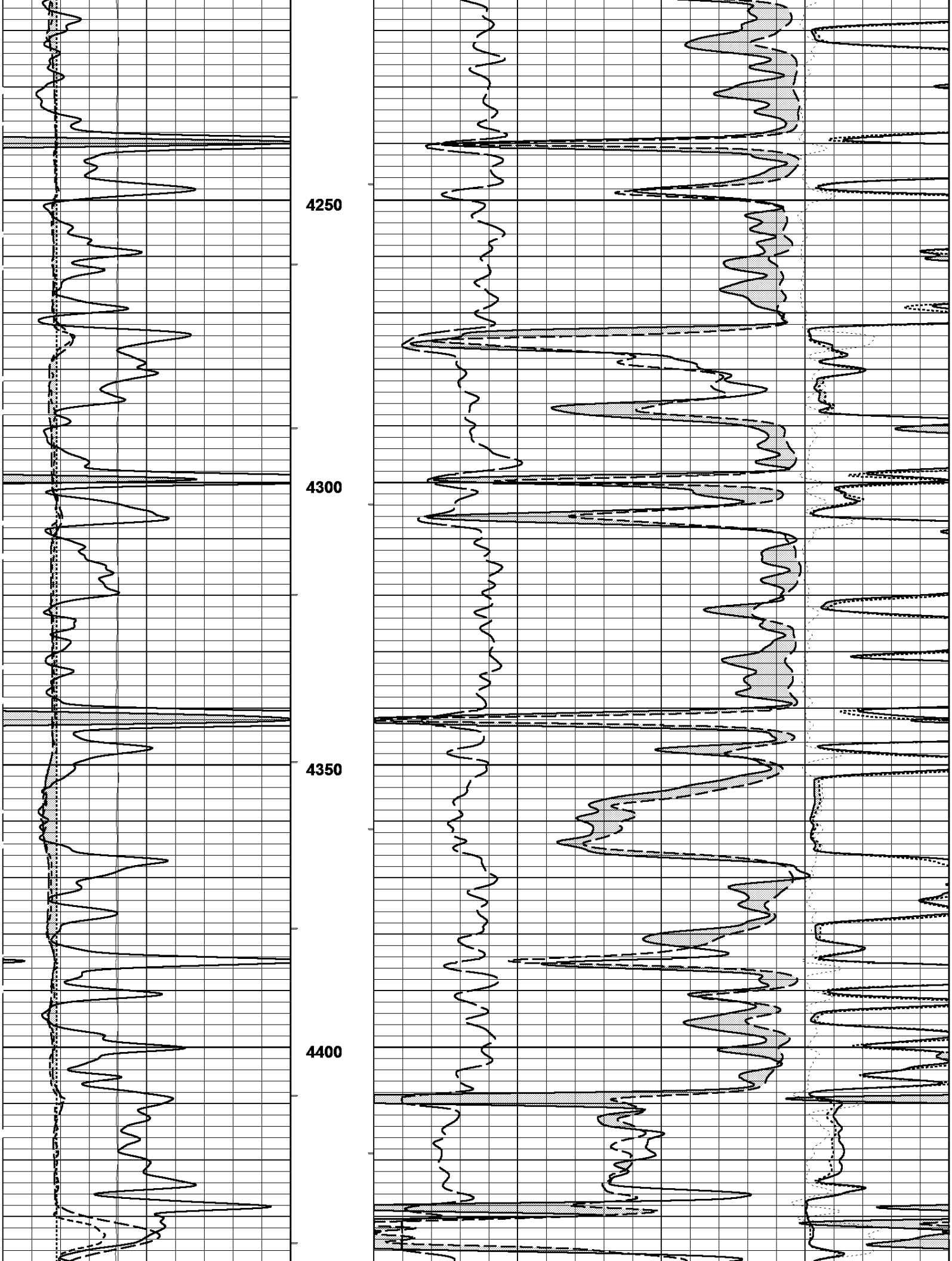
10/30/2014
02:33:40 => End Time

REPEAT PASS - LIMESTONE (5"/100Ft)

Log UP - (VER 11.19)
End Depth=> 4195.10 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.

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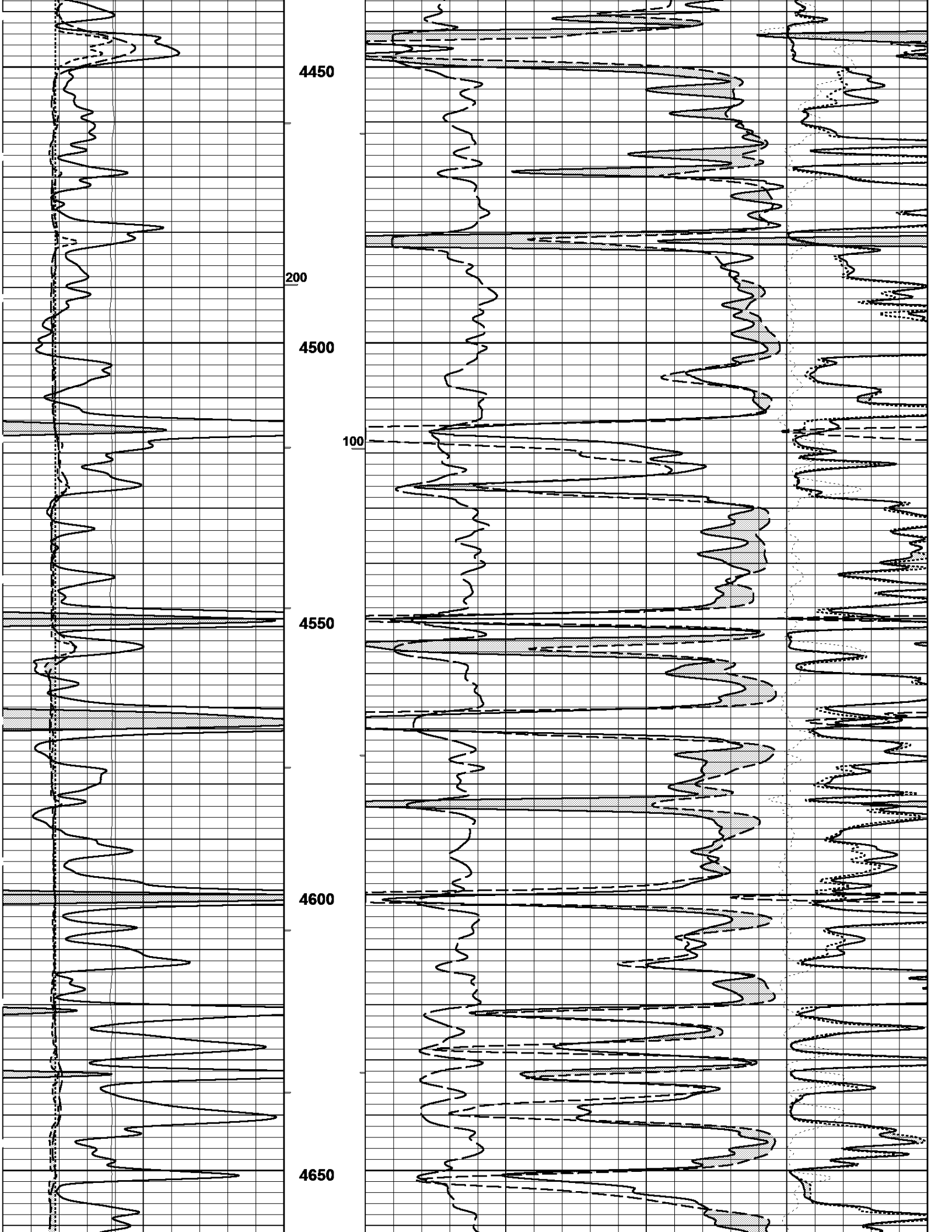
4300
4350
4400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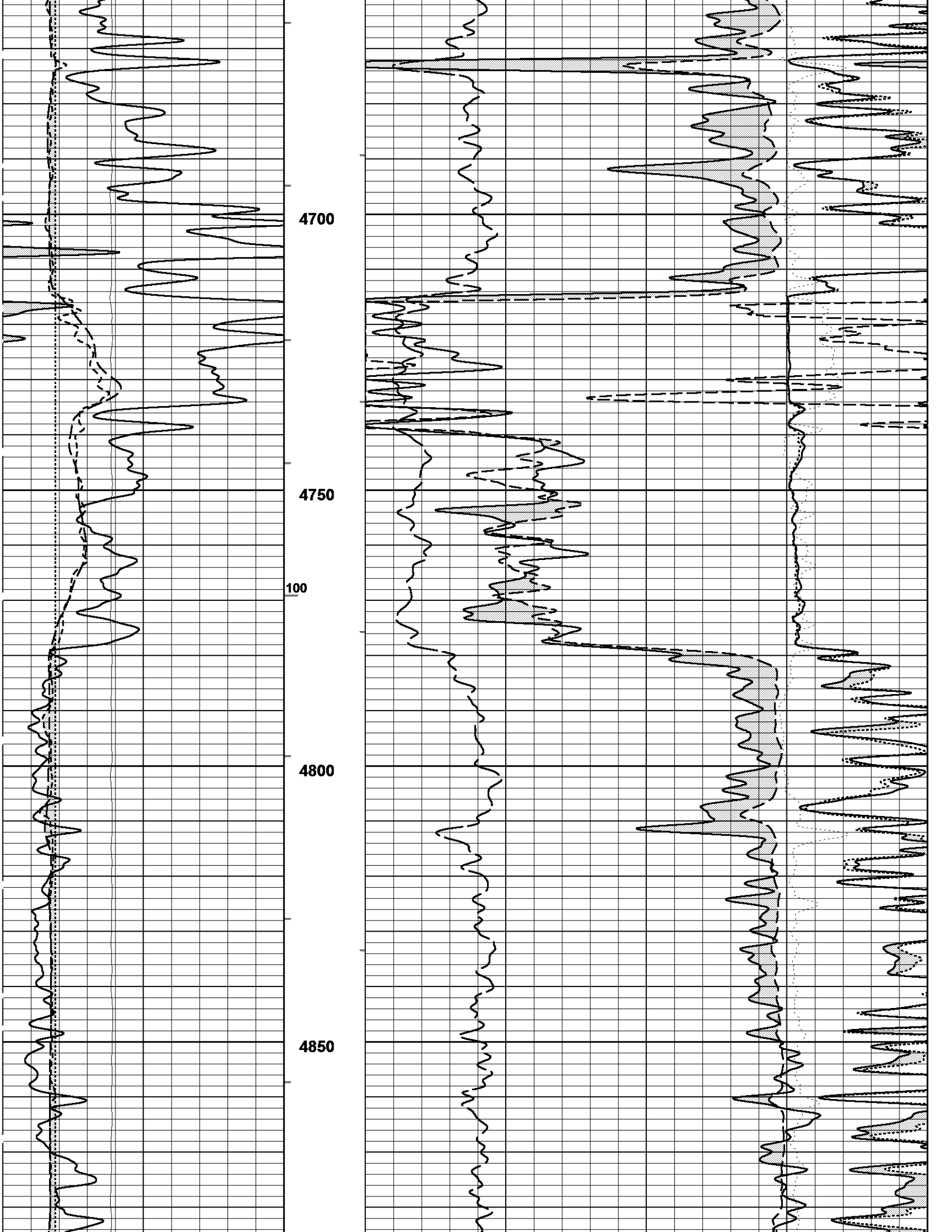
200
4500
100
4550
4600
4650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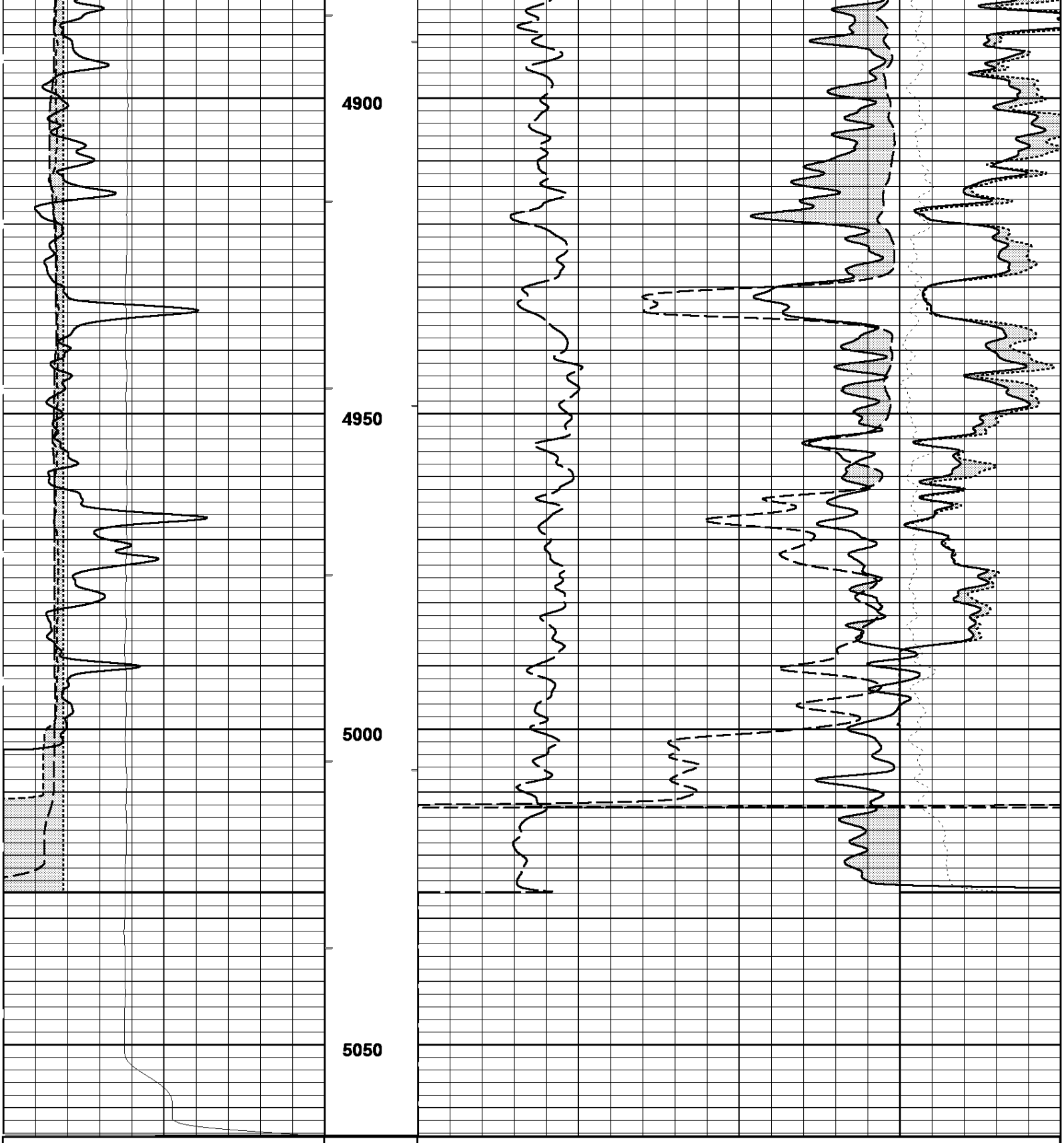

Gamma Ray (GR)		
0.	API	150.
X-Caliper (CALX)		
6.	in	16.
Y-Caliper (CALY)		
6.	in	16.
Tension (TENS)		
5000.	Lbs	0.
Bit Size (BIT)		
6.	Ref in	16.

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.

Litho-Density/PE Calibrations

TOOL TYPE	LFDC/Pe	SOURCE TYPE	CESIUM 137	SOURCE STRGTH	2 CURIE
SERIAL NUM	RL4106	SOURCE NUM			

MASTER BLOCK CALIBRATIONS

	W1(cps)	W2(cps)	W3(cps)	W4(cps)	SS	UNITS	CALIBRATION DATE	CALIBRATION TIME
ALUMINUM	5105.867	4337.084	2280.844	5.298	4177.6711	2.523(g/cc)	M/D/Y> 10/13/2014	H:M:S> 12:52:5
MAGNESIUM	13881.040	11524.044	5303.822	5.373	6022.1511	1.679(g/cc)		
BACKGROUND	2006.747	1767.458	1206.782	5.578	5.6178			
SAND	12092.311	10222.284	4830.356	5.391		1.739(PE)		
IRON	4644.264	3990.423	2161.202	5.353		4.529(PE)		
FIELD VERIFIER(cps)	1614.960	1433.200	973.680	4.560	5.1200			
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			0.5276	0.8030	M/D/Y> 10/14/2014	H:M:S> 11:45:53
MED PHI	19.130			0.9038	0.8030		
HIGH PHI	31.300			1.0834	0.8031		
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	RG3005
BLANKET NUM	1A

MASTER CALIBRATIONS					
	BackGrnd	CalVal: 159.000 API	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	61.816 - raw	466.230 - raw	0.393 - gain 0.000 - off	M/D/Y> 10/14/2014	H:M:S> 11:20:56

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: RL4106

MASTER CALIBRATIONS					
	ZeroVal: 6.000 in	CalVal: 10.000 in	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	3091.229 - raw	4990.326 - raw	0.002 - gain -0.511 - off	M/D/Y> 10/13/2014	H:M:S> 13:3:41

Y CALIPER CALIBRATIONS

SERIAL NUM: RN2002

MASTER CALIBRATIONS					
	ZeroVal: 6.000 in	CalVal: 10.000 in	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	1201.700 - raw	1932.862 - raw	0.005 - gain -0.574 - off	M/D/Y> 10/14/2014	H:M:S> 11:55:48

MICRO INVERSE CALIBRATIONS

SERIAL NUM: RM8005

MASTER CALIBRATIONS					
	ZeroVal: 0.020 ohmm	CalVal: 10.000 ohmm	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	16.293 - raw	282.836 - raw	0.037 - gain -0.590 - off	M/D/Y> 10/14/2014	H:M:S> 13:51:34

MICRO NORMAL CALIBRATIONS

SERIAL NUM: RM8005

MASTER CALIBRATIONS					
	ZeroVal: 0.020 ohmm	CalVal: 10.000 ohmm	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	33.633 - raw	366.923 - raw	0.030 - gain -0.987 - off	M/D/Y> 10/14/2014	H:M:S> 14:9:34

Company	GRAND MESA OPERATING CO.
Well	PARKINSON-COUCH #1-8

Well	PARKINSON-GOUGH #1-8
Field	WILDCAT
County	SCOTT
State	KANSAS

RECON

COMPENSATED NEUTRON
LITHOLOGY DENSITY
GAMMA RAY X-Y CALIPER
MICROLOG