Company	TREK AEC
Well	BLACKWELDER #1-30
Field	WILDCAT
County	PRATT

RECON

DUAL INDUCTION - SP
COMPENSATED NEUTRON
LITHOLOGY DENSITY
GAMMA - MICROLOG - SONIC

	SEC	TWP	RGE	
	30	29S	11W	

OTHER SERVICES:

U.W.I. N/A — NW SW NE NE
SURF. SAME — API#. 15-151-22444-00-00

Permanent Datum . Ground Level Elev 1857
Log Measured From . Kelly Bushing
Drilling Measured From Kelly Bushing

ELEVATIONS K.B. 1869
G.L. 1857
D.F. 1868

Date		02-DEC-2014					
Run No.		ONE					
TD Driller		4850	ft.			ft.	
TD RECON		4855	ft.			ft.	
Bot Logged Interval		4854	ft.			ft.	
Top Logged Interval		265	ft.			ft.	
Casing Depth Driller		8 5/8	in.	@ 268		in.	@
Casing Depth RECON		8 5/8	in.	@ 265		in.	@
Bit Size		7 7/8	in.			in.	
Drilling Fluid Type		Chemcial					
Density	Viscosity	8.9 ppg		60 sec/qt			
Fluid Loss	PH	12.4 ml/30min		10.0 strip			
Source Of Sample		Flowline					
RM @ Measured Temp		0.429	Ohmm	@ 75		Ohmm	@
RMF @ Measured Temp		0.322	Ohmm	@ 75		Ohmm	@
RMC @ Measured Temp		0.536	Ohmm	@ 75		Ohmm	@
RM @ MRT		0.249	Ohmm	@ 134		Ohmm	@
Max Recorded Temp		134	DegF			DegF	
Time Drilling Stopped		01-DEC-2014		20:00			
Time Circulation Stopped		01-DEC-2014		23:15			
Time Logger On Bottom		02-DEC-2014		08:14			
Unit Num	Location	S409		OKLAHOMA CITY, OK			
Recorded By		H. GARCIA					
Witnessed By		MR. D. GOULD					

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# FOSSIL DRLG. #3

GENERAL REMARKS SECTION

FIRST RUN IN THE HOLE
CNL AND LDT LOGGED IN A LIMESTONE MATRIX
TOP MARK - 291, BOTTOM MARK - 4796.3
CNL/LDT LOGGED MATRIX: 2.71 g/cc.

CHLORIDES: 10,000 ppm
LCM: 4 lb/bbl

AHV CALCULATED ON 5.5" PROD. CASING

THANK YOU FOR USING RECON PETROTECHNOLOGIES LTD.

CREW: J. ROSE, B. THOMAS

CEMENT VOLUME CALCULATIONS SUMMARY

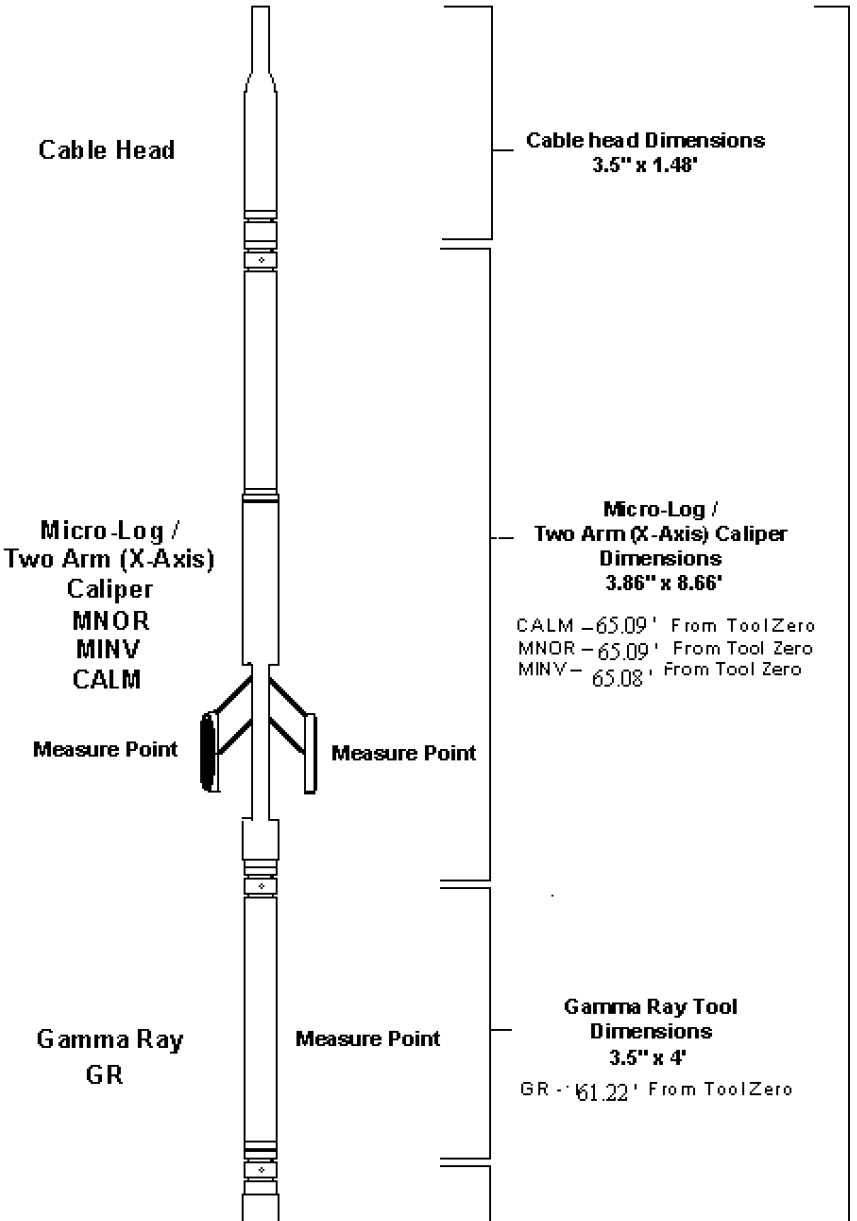
Tool Type	**LDT-CNT**		
Tool Serial #	**RN2002 / RL4106**	**Caliper Type**	**X-Y CALIPERS**

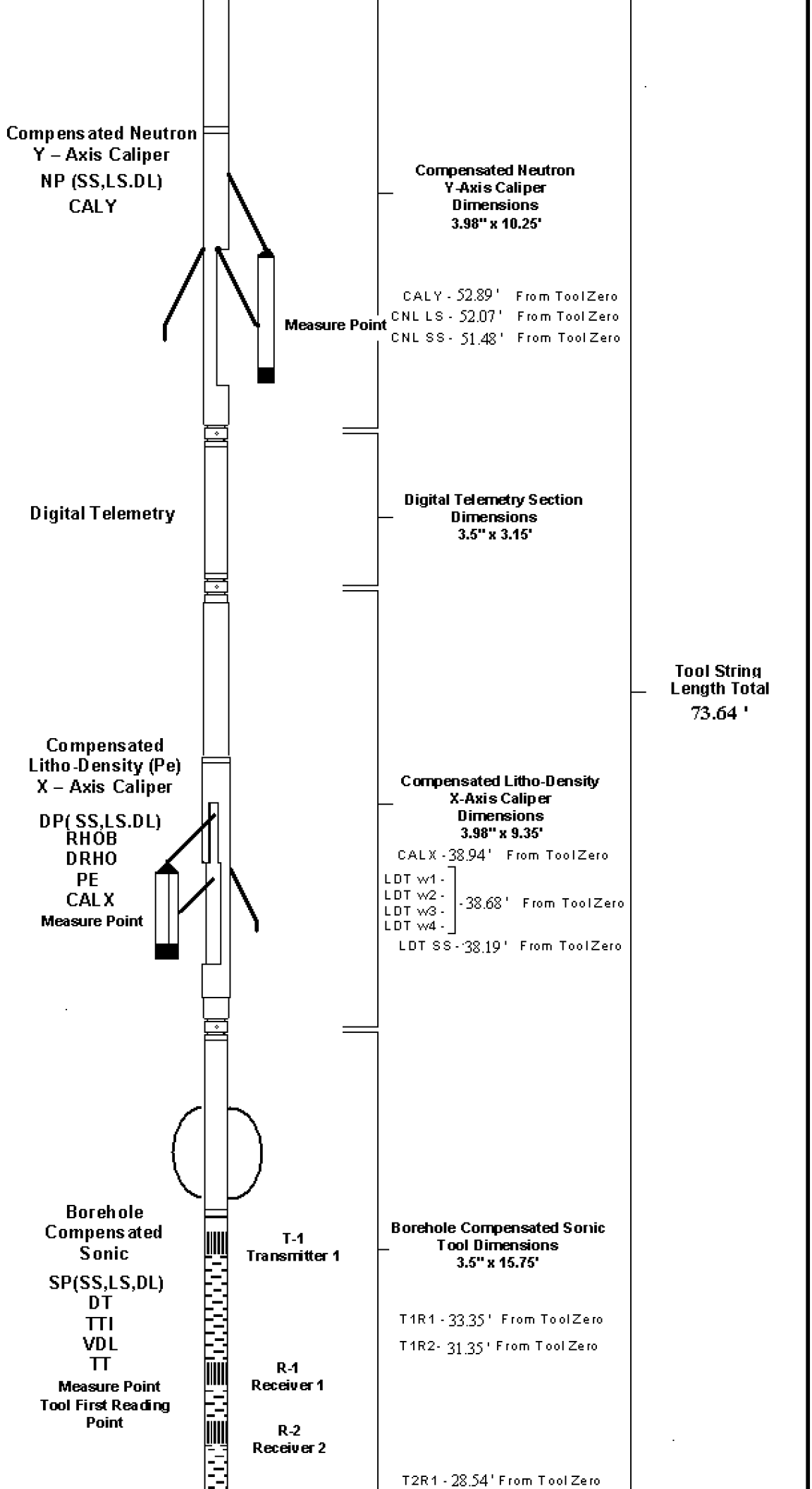
	Borehole Total	Annular Volume with Casing	From Depth (MKb)	To Depth (MKb)
VOLUMES	**2272.951 Cubic Feet**	**1510.904 Cubic Feet**	**SCG 265**	**TD 4855**

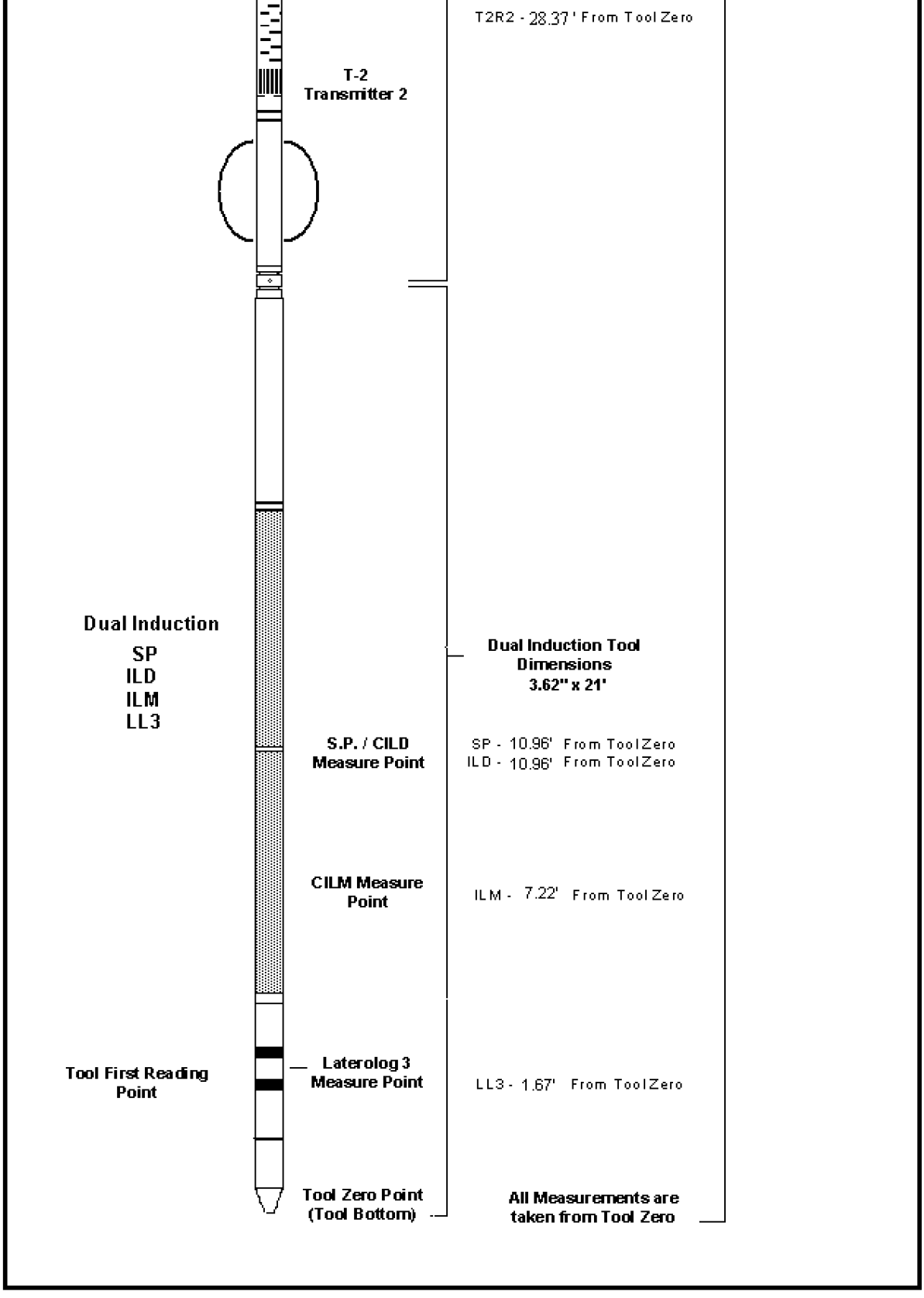
CASING INFORMATION

	SIZE (in)	GRADE	WEIGHT (lbs/ft)	ID (in)	TOP DEPTH	BOT DEPTH
SURFACE CASING	**8 5/8**	**J-55**	**24**	**8.097**	**Surface**	**265**
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

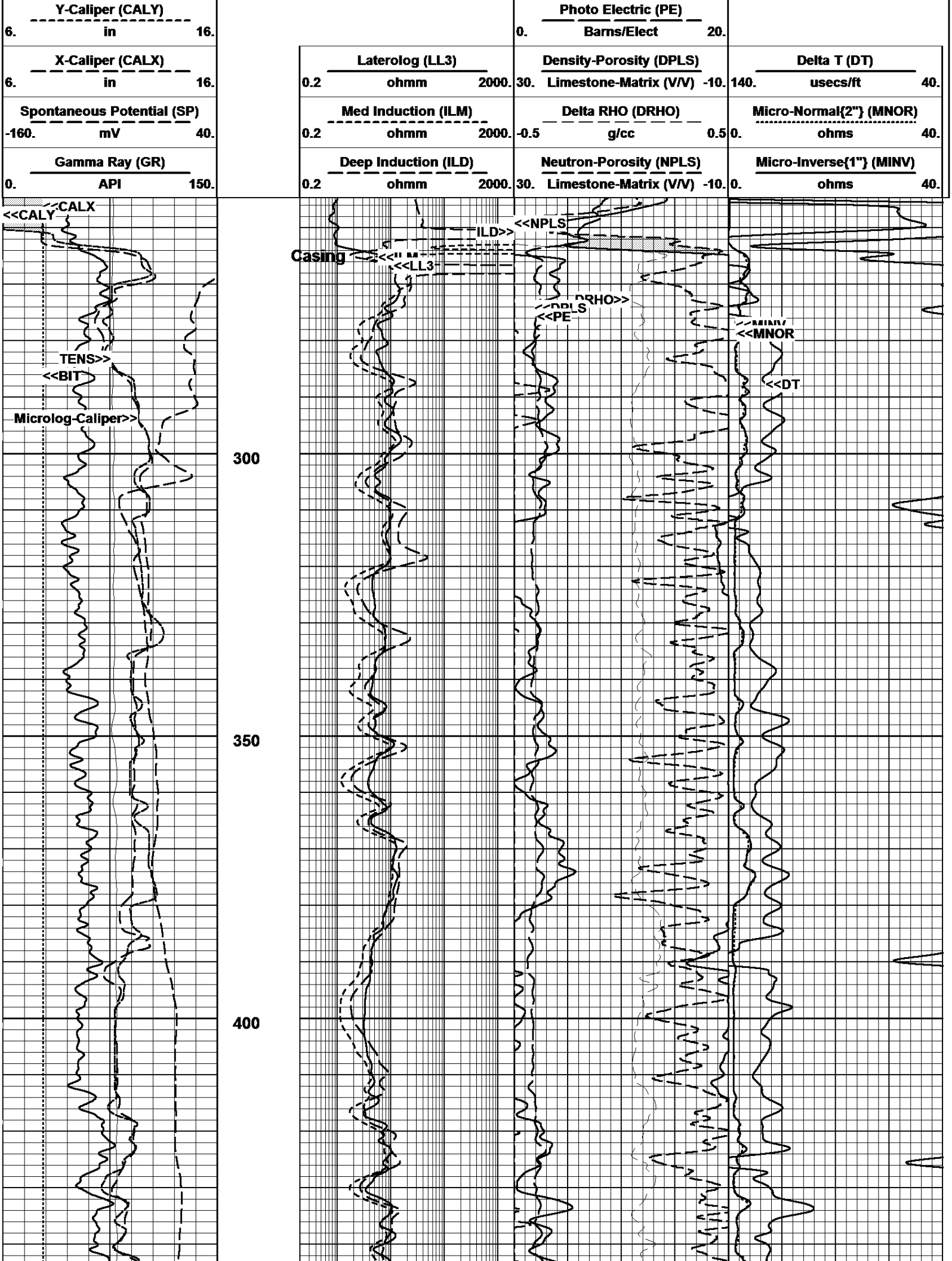


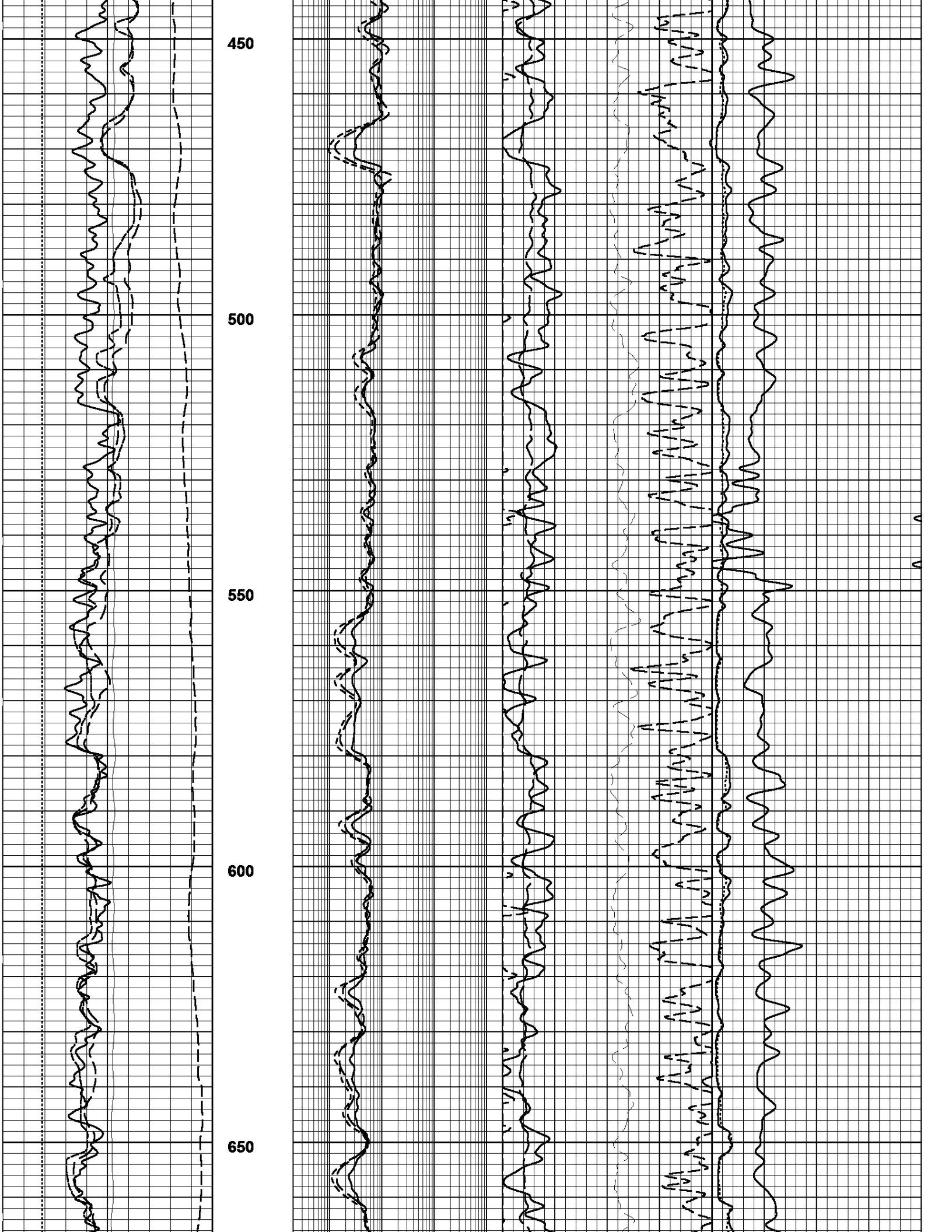

Compensated Neutron
Y – Axis Caliper
NP (SS,LS.DL)
CALY
Measure Point
Compensated Neutron
Y-Axis Caliper
Dimensions
3.98" x 10.25'
CALY - 52.89 ' From Tool Zero
CNL LS - 52.07 ' From Tool Zero
CNL SS - 51.48 ' From Tool Zero
Digital Telemetry
Digital Telemetry Section
Dimensions
3.5" x 3.15'
Tool String
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



12/02/2014 22:43:20 => End Time	MAIN COMPOSITE - LIMESTONE (5"/100Ft)	Log UP - (VER 11.19) End Depth=> 254.90 Feet

Microlog-Caliper		
6.	in	16.
Bit Size (BIT)		
6.	Ref in	16.
Tension (TENS)		
5000.	lbs	0.


Y-Caliper (CALY)
6. in 16.
X-Caliper (CALX)
6. in 16.
Spontaneous Potential (SP)
-160. mV 40.
Gamma Ray (GR)
0. API 150.
Laterolog (LL3)
0.2 ohmm 2000.
Med Induction (ILM)
0.2 ohmm 2000.
Deep Induction (ILD)
0.2 ohmm 2000.
Photo Electric (PE)
0. Barns/Elect 20.
Density-Porosity (DPLS)
30. Limestone-Matrix (V/V) -10.
Delta RHO (DRHO)
-0.5 g/cc 0.5
Neutron-Porosity (NPLS)
30. Limestone-Matrix (V/V) -10.
Delta T (DT)
140. usecs/ft 40.
Micro-Normal{2"} (MNOR)
0. ohms 40.
Micro-Inverse{1"} (MINV)
0. ohms 40.
<<CALY
CALX
TENS>>
<<BIT
Microlog-Caliper>>
Casing
ILD>>
<<NPLS
<<LL3
<<PE
<<MNOR
<<DT
300
350
400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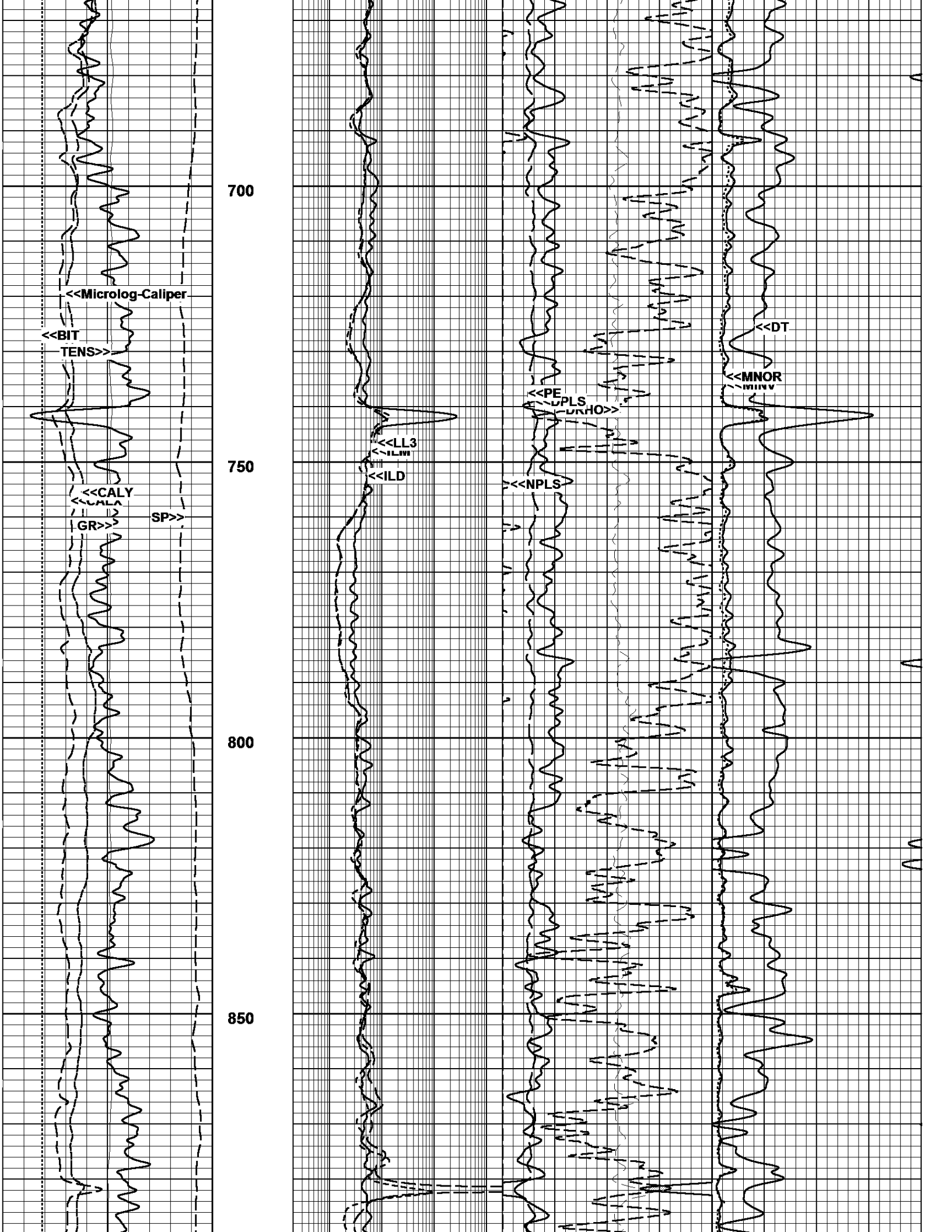
500
550
600
650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750
800
850
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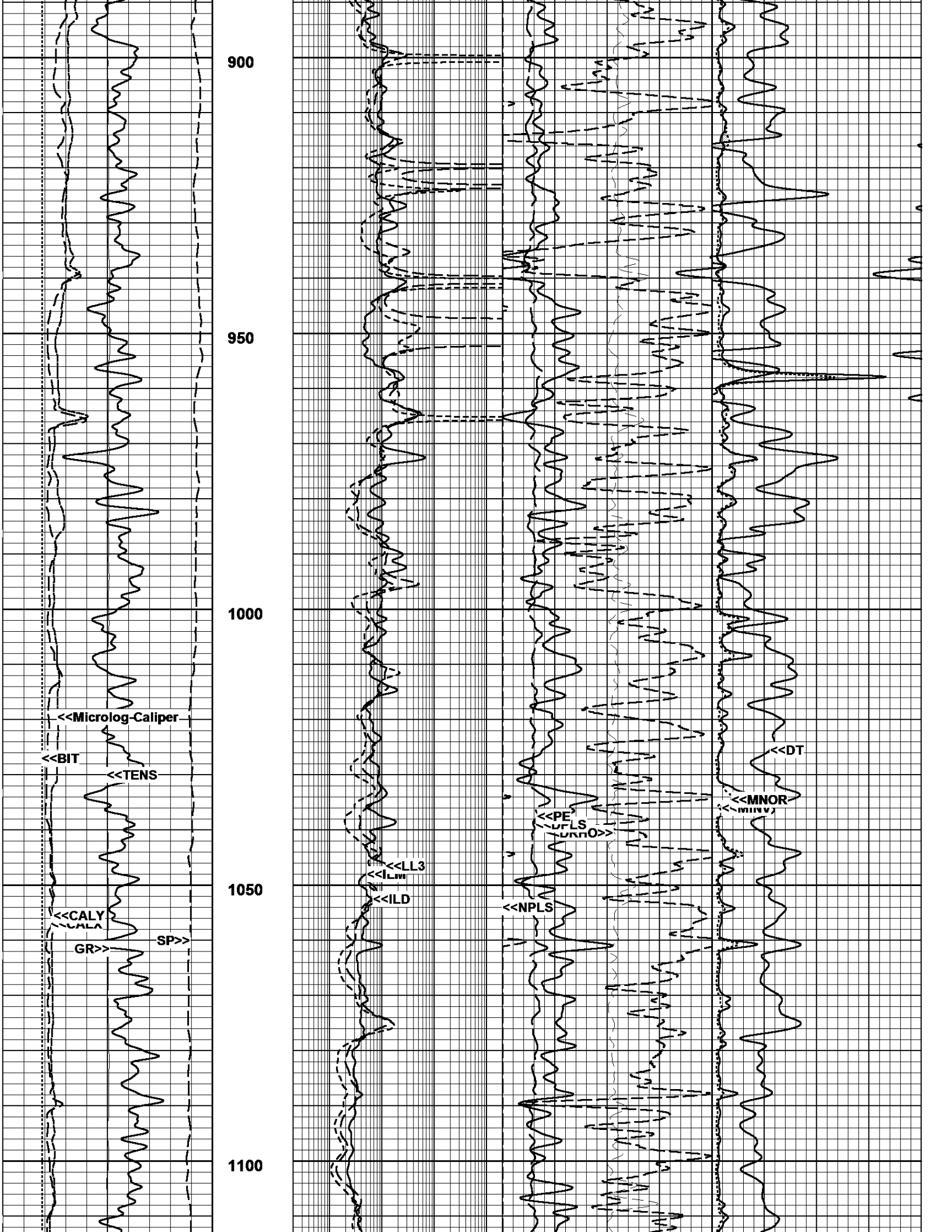
GR>>>
SP>>
<<LL3
<<ILD
<<PE
<<NPLS
<<DT
<<MNOR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950
1000
1050
1100
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<<CALY
GR>>
SP>>
<<LL3
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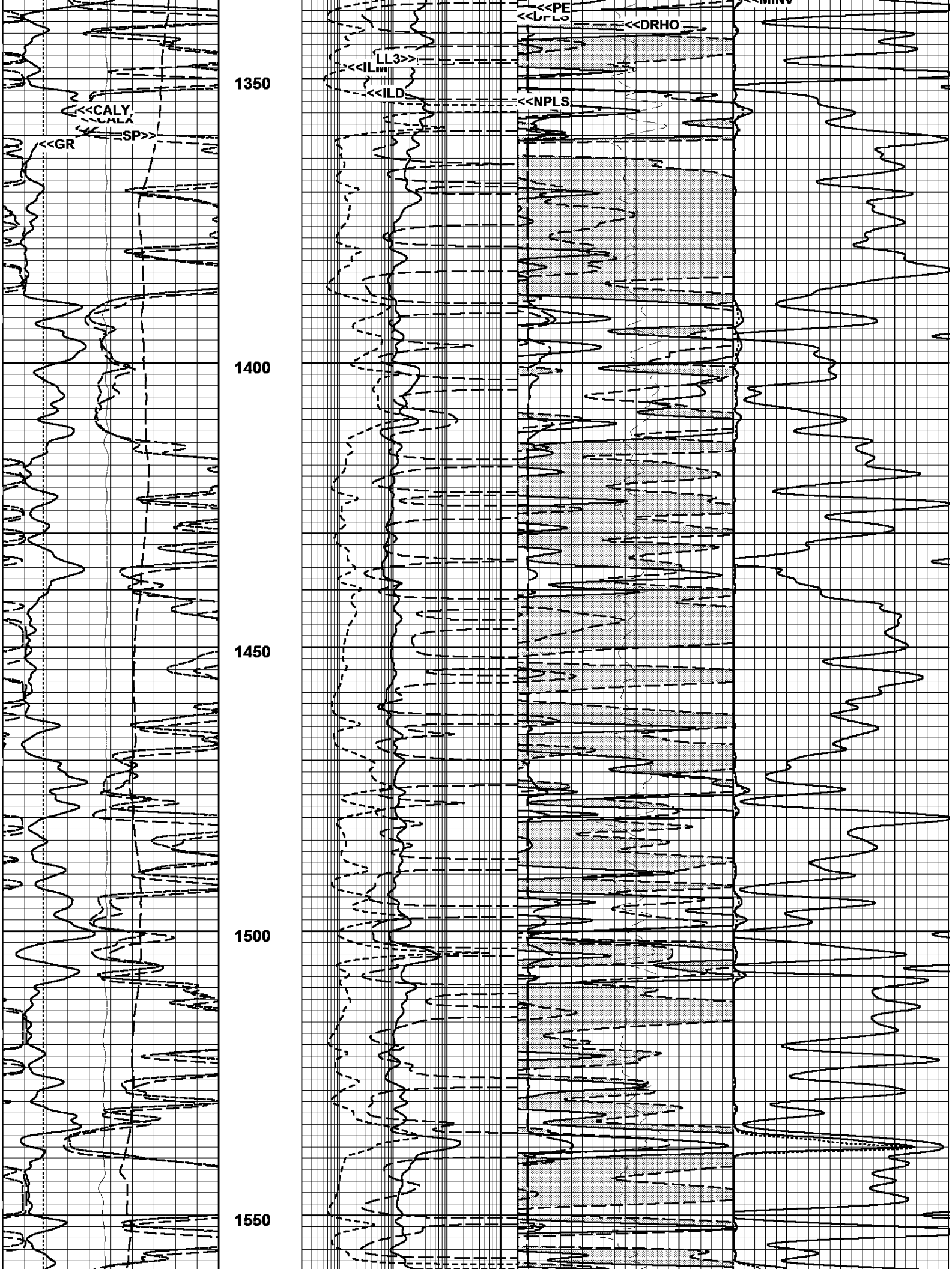
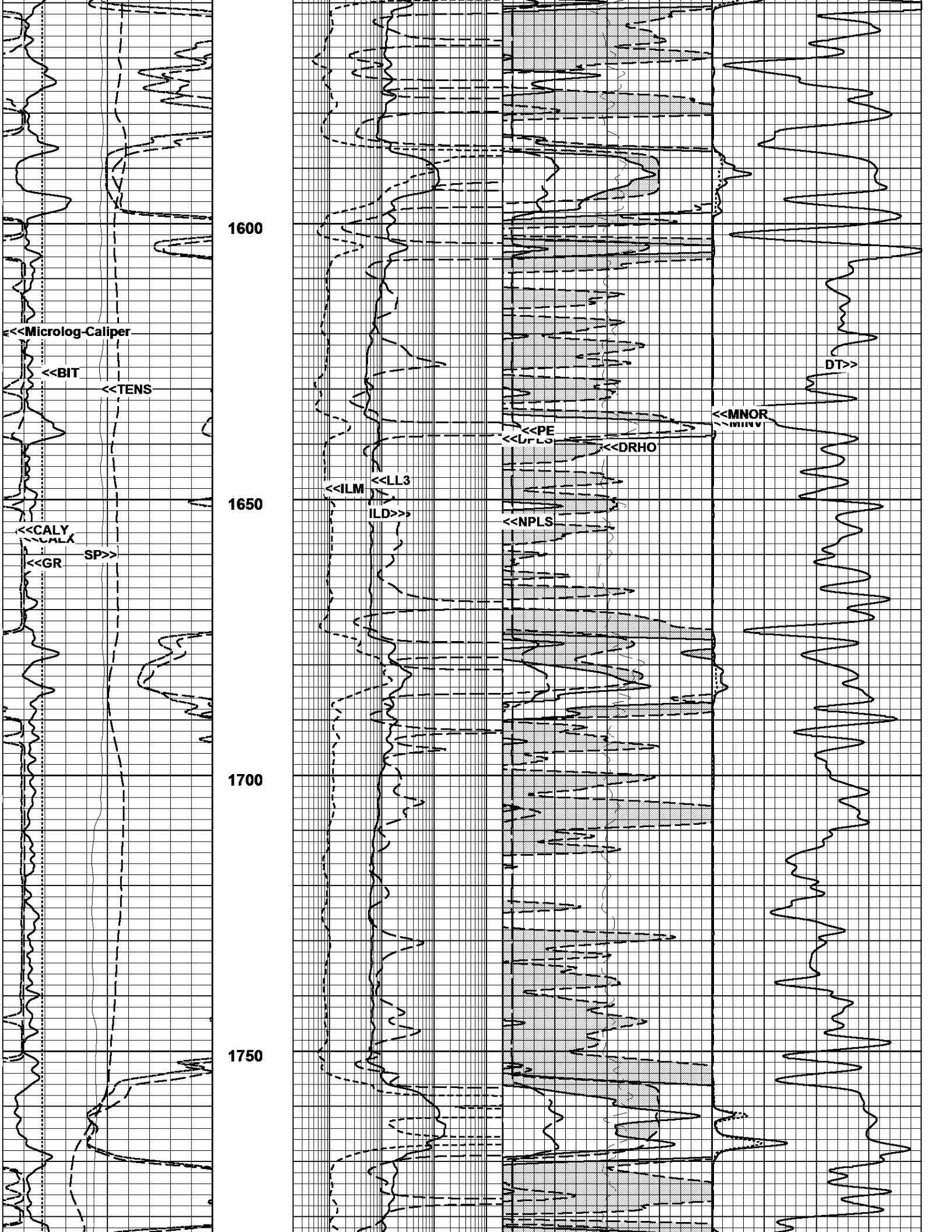
<<PE
<<DT
<<MNOR


1150
1200
1250
1300
<<Microlog-Caliper
<<BIT
<<TENS
DT>>'
<<MNOR


<<PE
<<DRHO
<<MINV
LL3>>
<<ILM
<<ILD
<<NPLS
<<CALY
<<SP>>
<<GR
1350
1400
1450
1500
1550


1600
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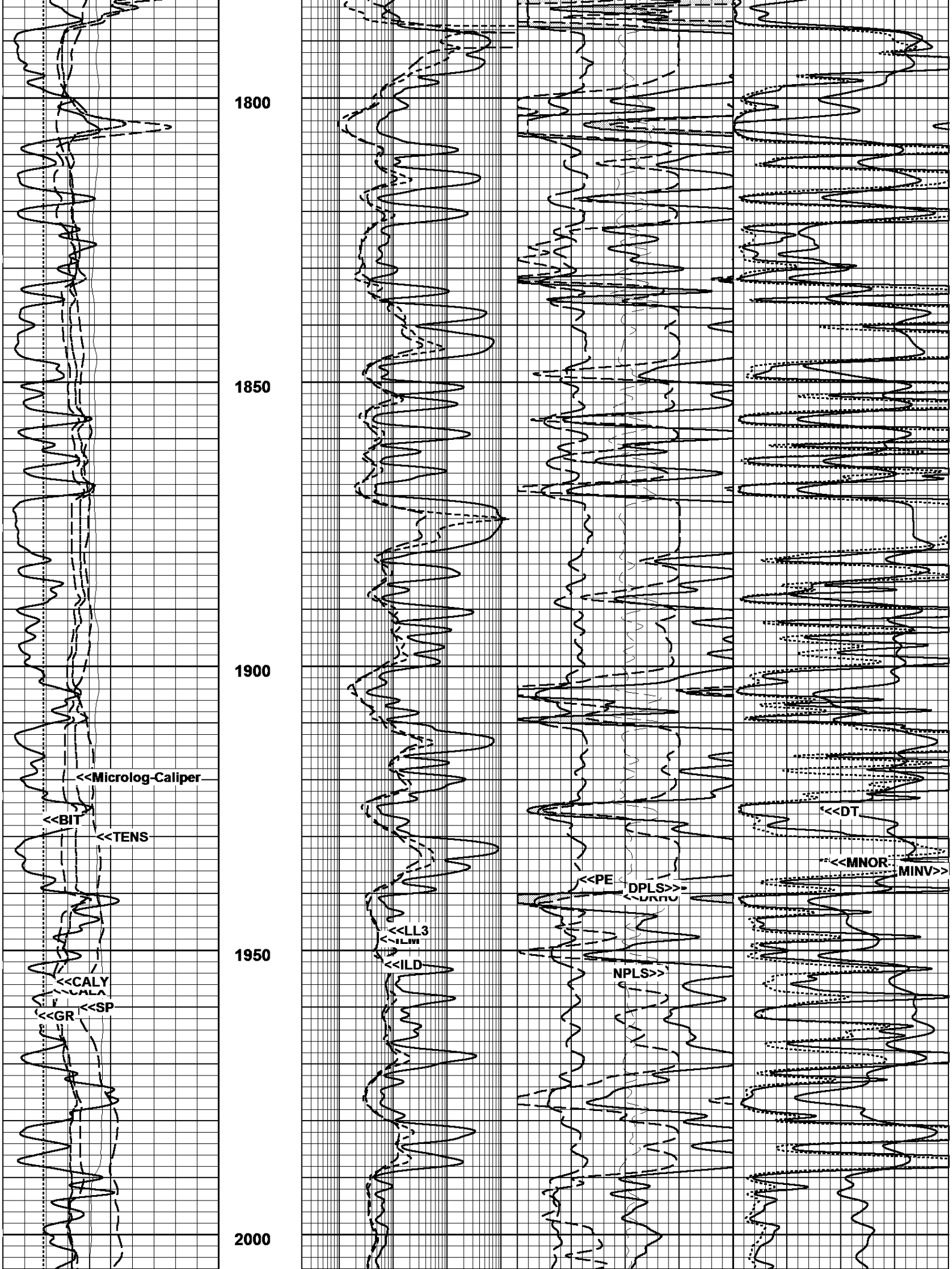
<<BIT
<<TENS
DT>>
<<MNOR
<<PE
<<DRHO
<<ILM
<<LL3
1650
ILD>>>
<<NPLS
<<CALY
SP>>
<<GR
1700
1750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1850
1900
1950
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DPLS>>>
NPLS>>
<<DT
<<MNOR
MINV>>


2050
2100
2150
2200
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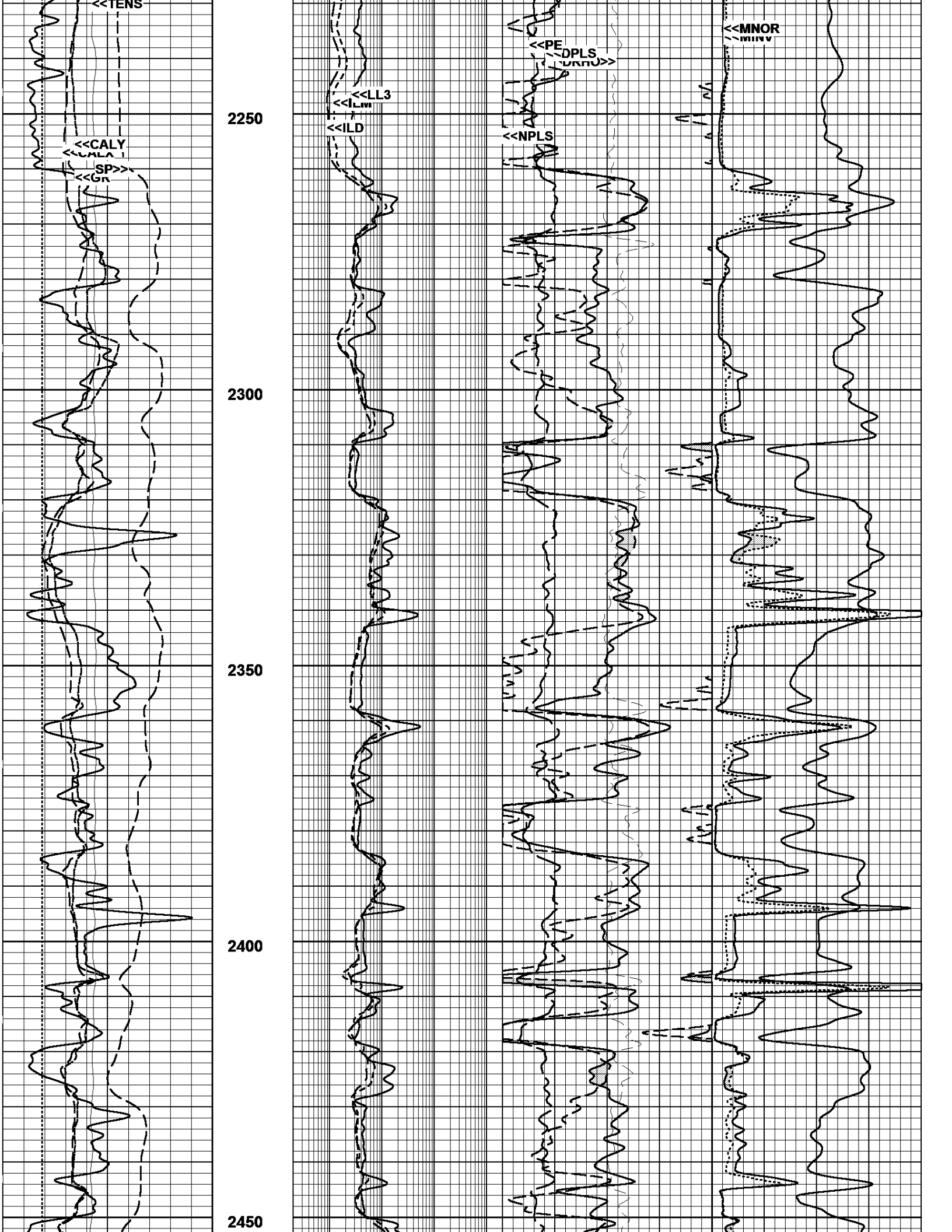
<<BIT
DT>>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DPLS
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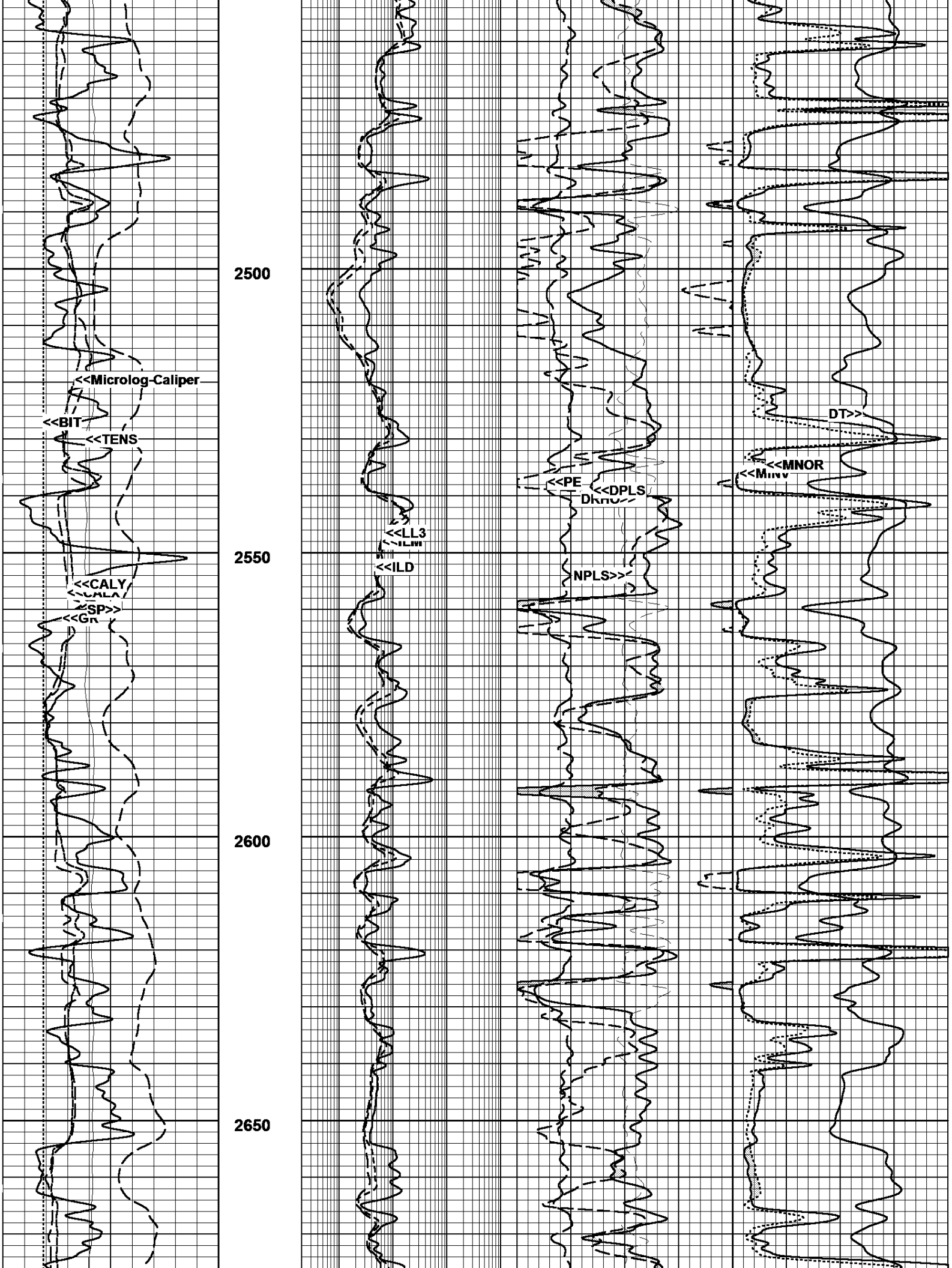
2400
2450


2500
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NPLS>>
DT>>
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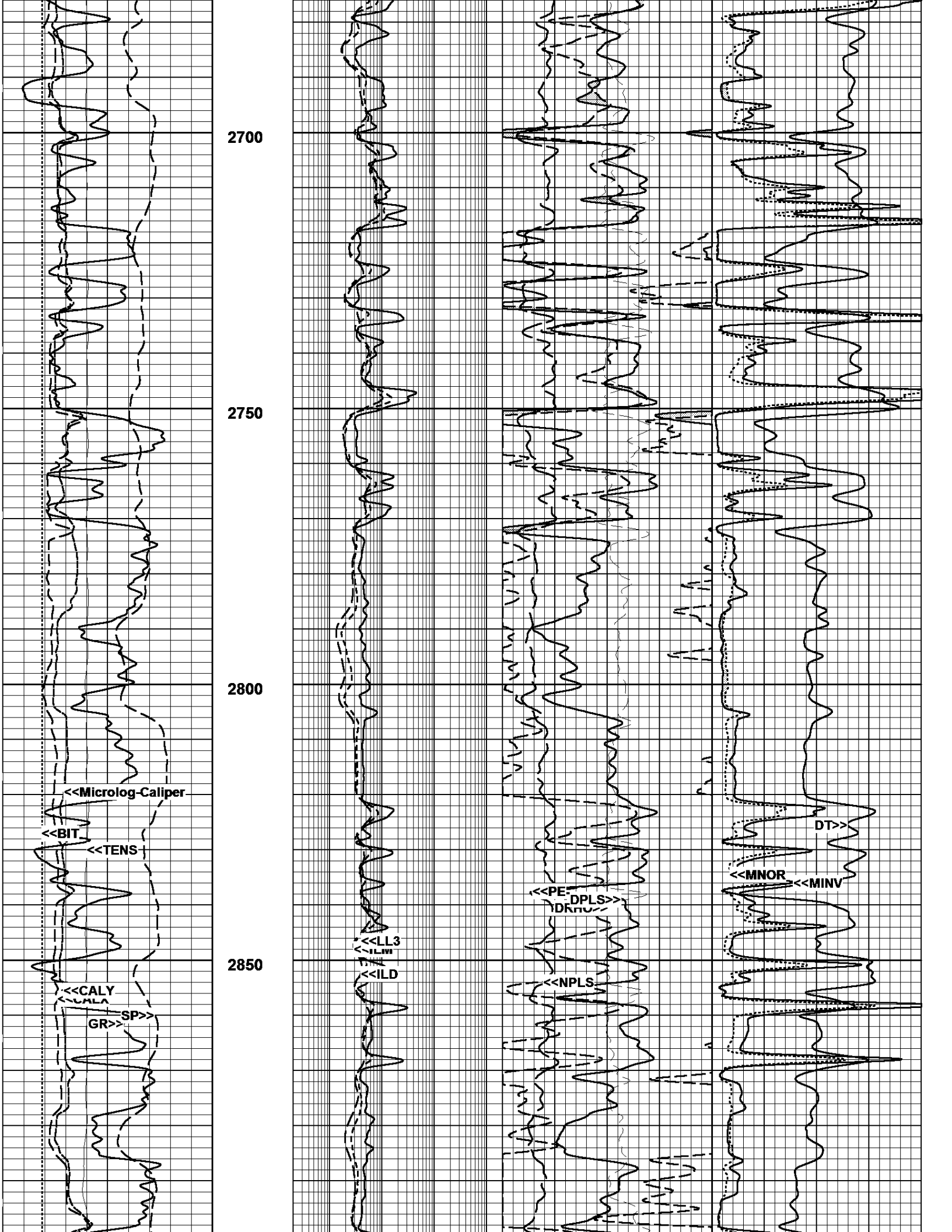
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2750
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<<BIT
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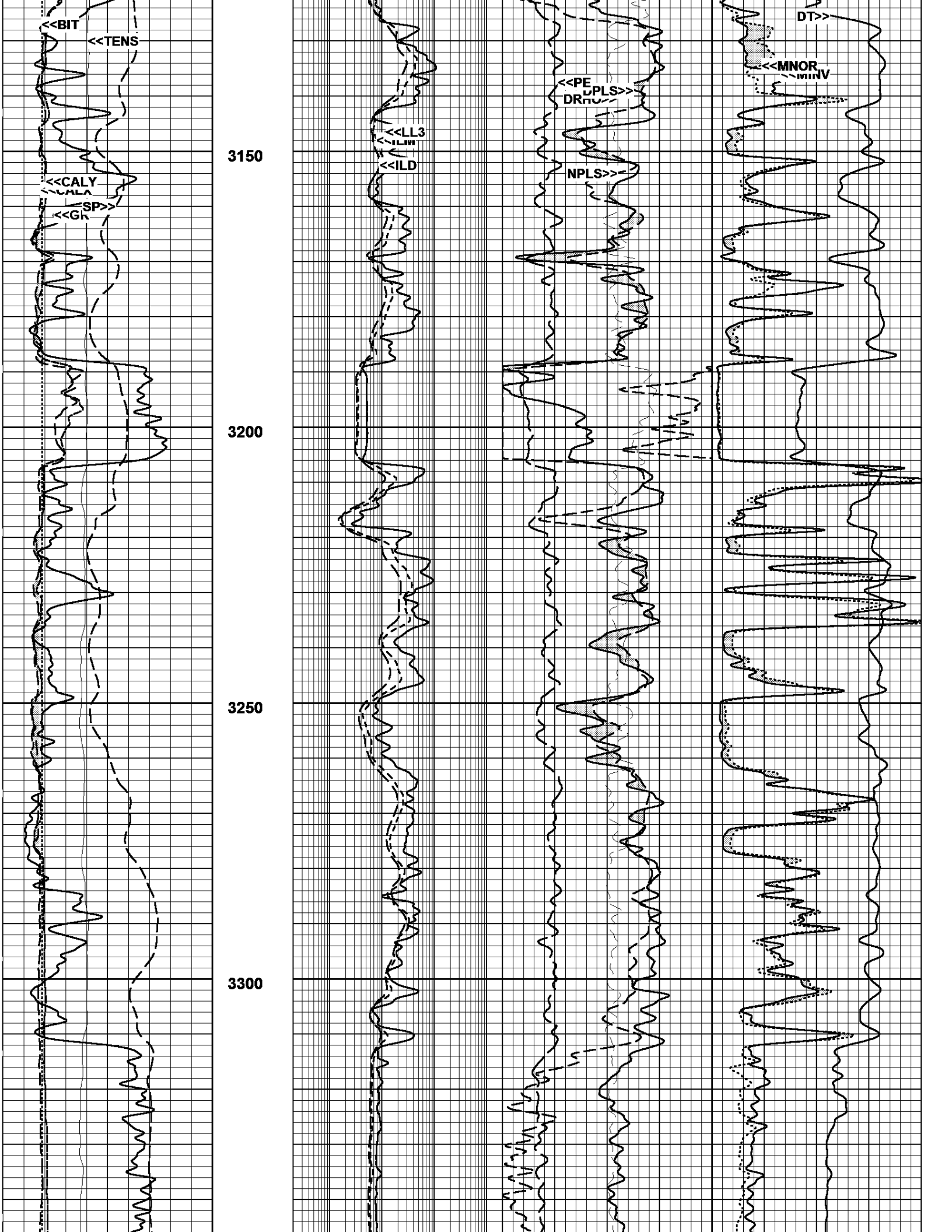
<<CALY
SP>>
GR>>
<<LL3
<<ILD
<<PE
DPLS>>
<<NPLS
DT>>
<<MNOR
<<MINV


2900
2950
3000
3050
3100
<<Microlog-Caliper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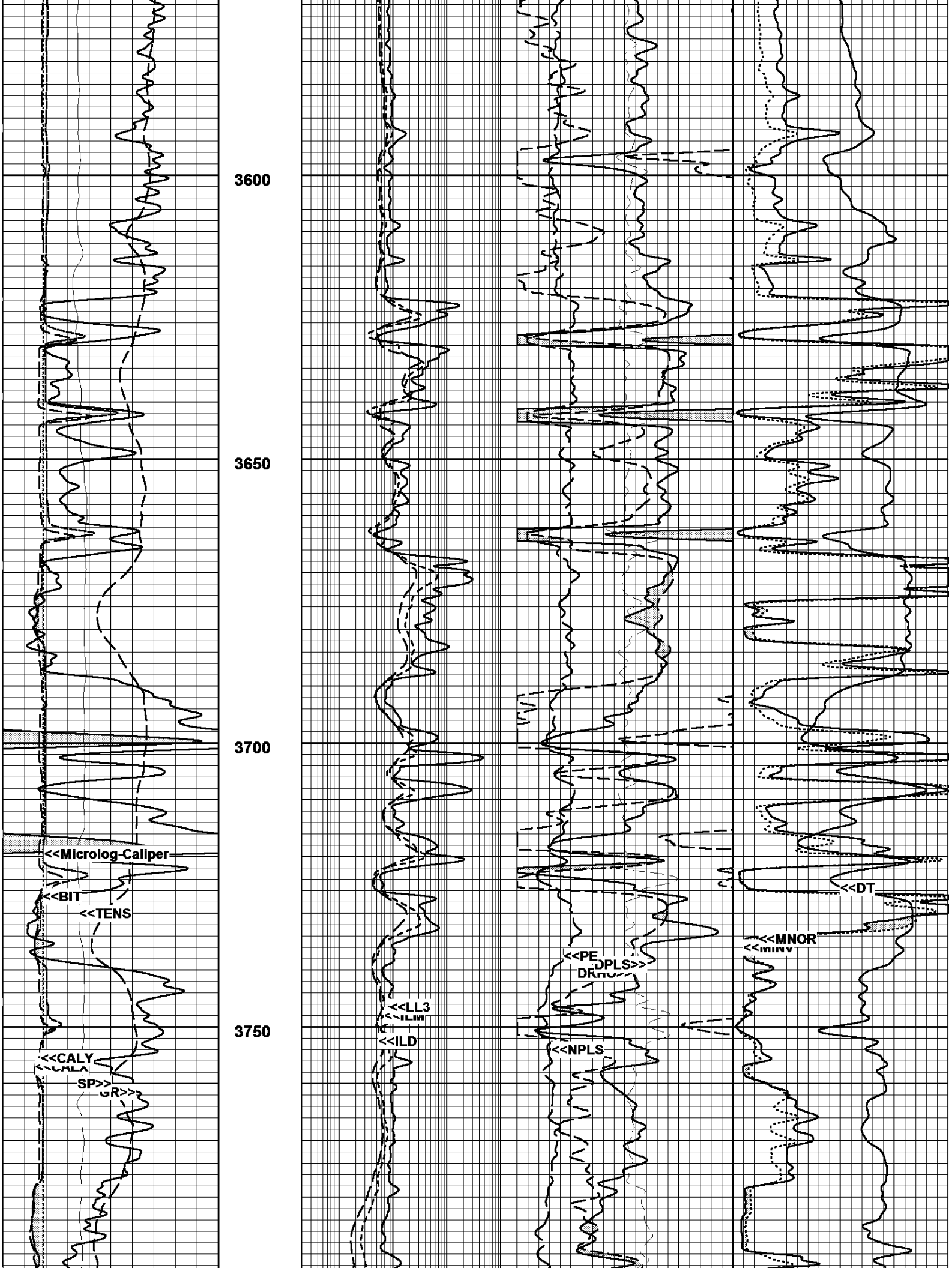
<<CALY
SP>>
<<GR
<<LL3
<<ILD
<<PE
NPLS>>
DT>>
<<MNOR
3150
3200
3250
3300


3350
3400
3450
3500
3550
<<Microlog-Caliper
<<BIT
<<TENS
<<CALY
<<GR
SP>>
LL3>>
<<ILD
<<PE
NPLS>>
DT>>
<<MINV
MNOR>>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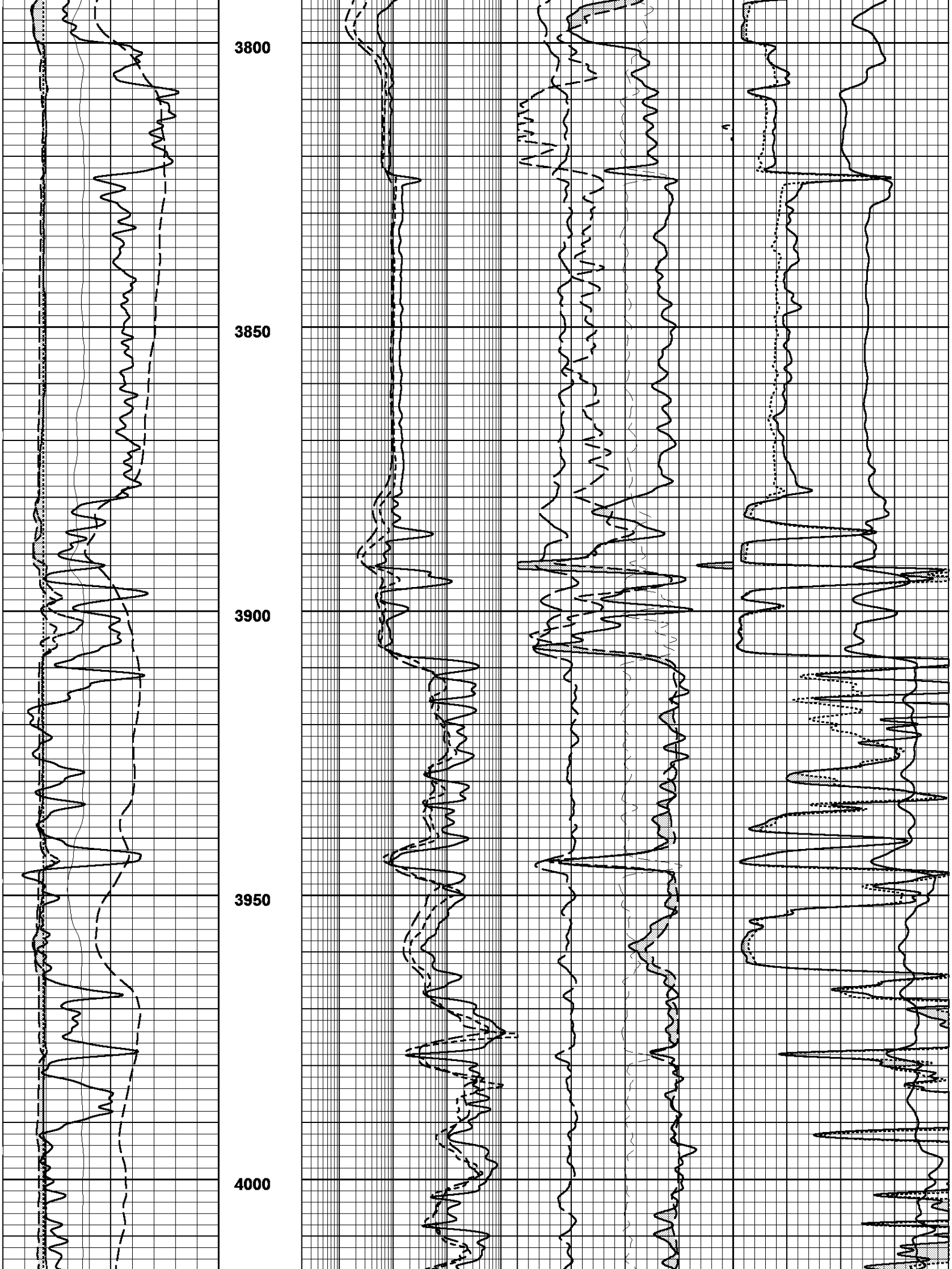
SP>>
<<LL3
<<ILD
<<PE
<<NPLS
<<DT
<<MNOR


3800
3850
3900
3950
4000


<<Microlog-Caliper
<<BIT
<<TENS
<<CALY
<<SP
<<GR
4050
4100
4150
4200
ILM>>
LL3>>
ILD>>
<<PE
DPLS>>
NPLS>>
DT>>
<<MNOR


4250
4300
4350
4400
4450
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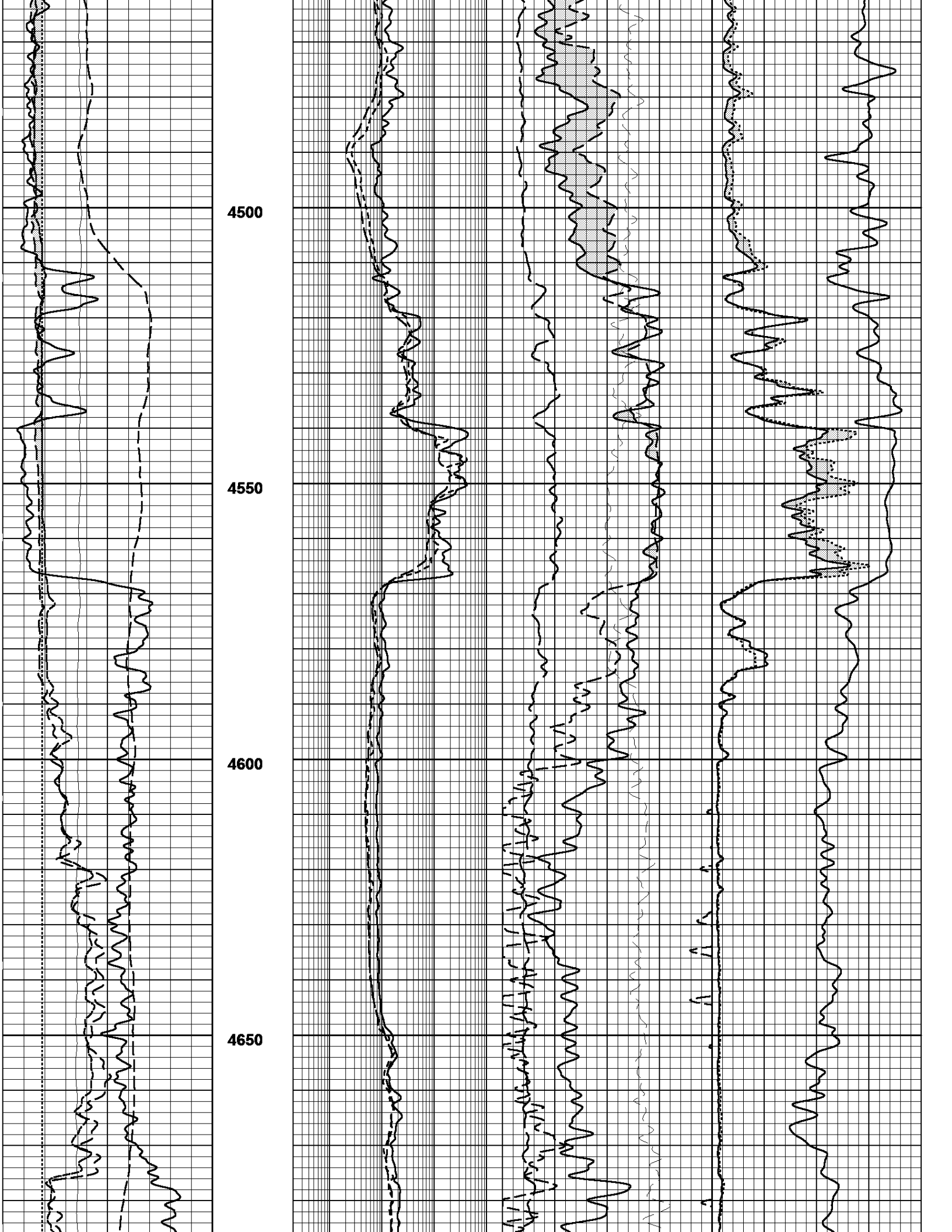
<<BIT
<<TENS
<<CALY
<<SP
<<LL3
<<ILD
<<PE
DPLS>>
NPLS>>
DT>>
MNOR>>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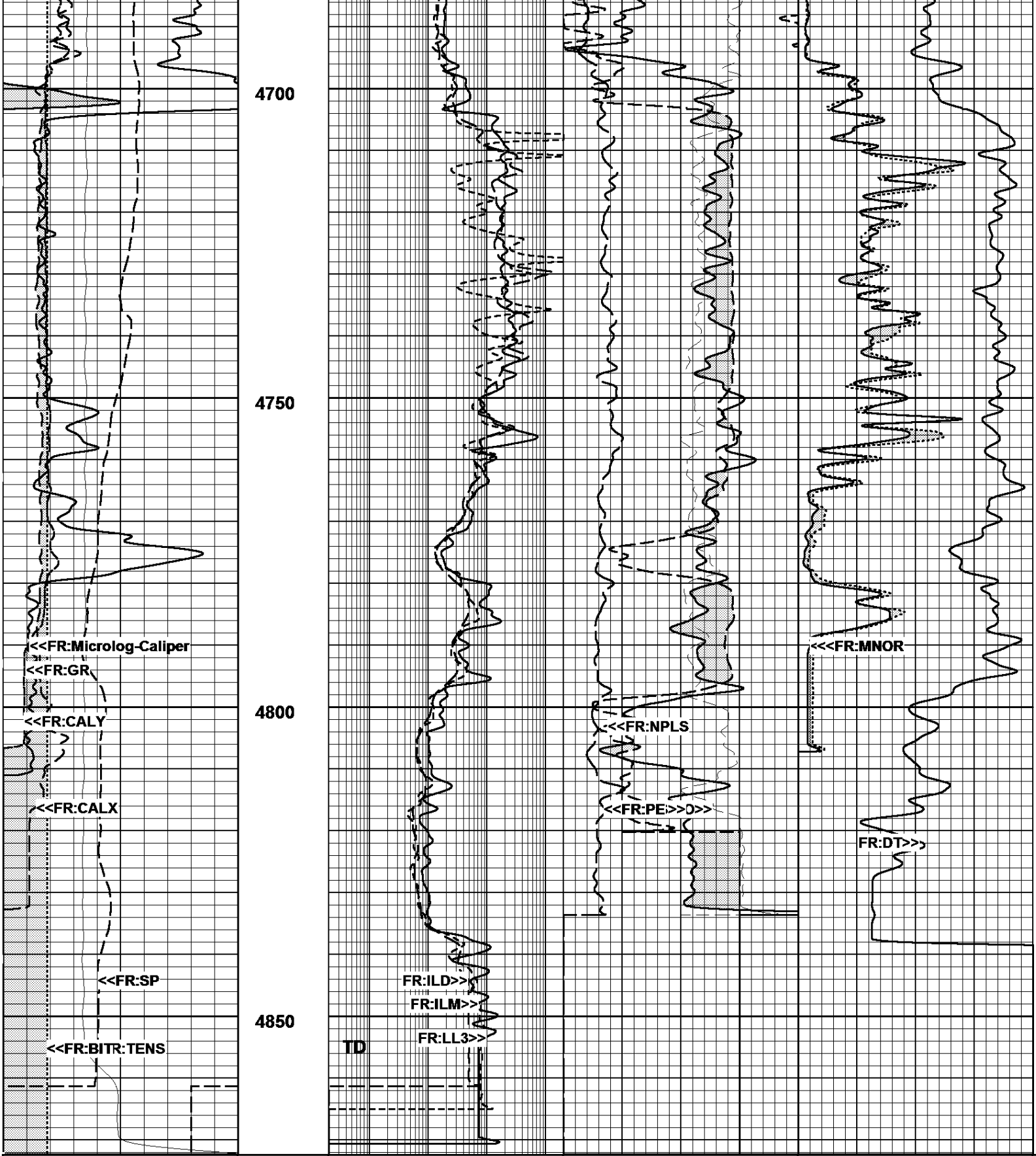
4650



Gamma Ray (GR)	Deep Induction (ILD)	Neutron-Porosity (NPLS)	Micro-Inverse{1"} (MINV)
0. API 150.	0.2 ohmm 2000.	30. Limestone-Matrix (V/V) -10.	0. ohms 40.
Spontaneous Potential (SP)	Med Induction (ILM)	Delta RHO (DRHO)	Micro-Normal{2"} (MNOR)
-160. mV 40.	0.2 ohmm 2000.	-0.5 g/cc 0.5	0. ohms 40.
X-Caliper (CALX)	Laterolog (LL3)	Density-Porosity (DPLS)	Delta T (DT)
6. in 16.	0.2 ohmm 2000.	30. Limestone-Matrix (V/V) -10.	140. usecs/ft 40.
Y-Caliper (CALY)		Photo Electric (PE)	
6. in 16.		0. Barns/Elect 20.	

Tension (TENS)
5000. lbs 0.

Bit Size (BIT)
6. Ref in 16.

Microlog-Caliper
6. in 16.

12/02/2014
20:48:32 => Start Time

MAIN COMPOSITE - LIMESTONE (5"/100Ft)

Log UP - (VER 11.19)
Start Depth=> 4872.20 Feet

12/02/2014
20:42:10 => End Time

REPEAT COMPOSITE - LIMESTONE (5"/100Ft)

Log UP - (VER 11.19)
End Depth=> 4190.70 Feet

Microlog-Caliper
6. in 16.

Bit Size (BIT)
6. Ref in 16.

Tension (TENS)
5000. lbs 0.

Y-Caliper (CALY)
6. in 16.

X-Caliper (CALX)
6. in 16.

Spontaneous Potential (SP)
-160. mV 40.

Gamma Ray (GR)
0. API 150.

Laterolog (LL3)
0.2 ohmm 2000.

Med Induction (ILM)
0.2 ohmm 2000.

Deep Induction (ILD)
0.2 ohmm 2000.

Photo Electric (PE)
0. Barns/Elect 20.

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

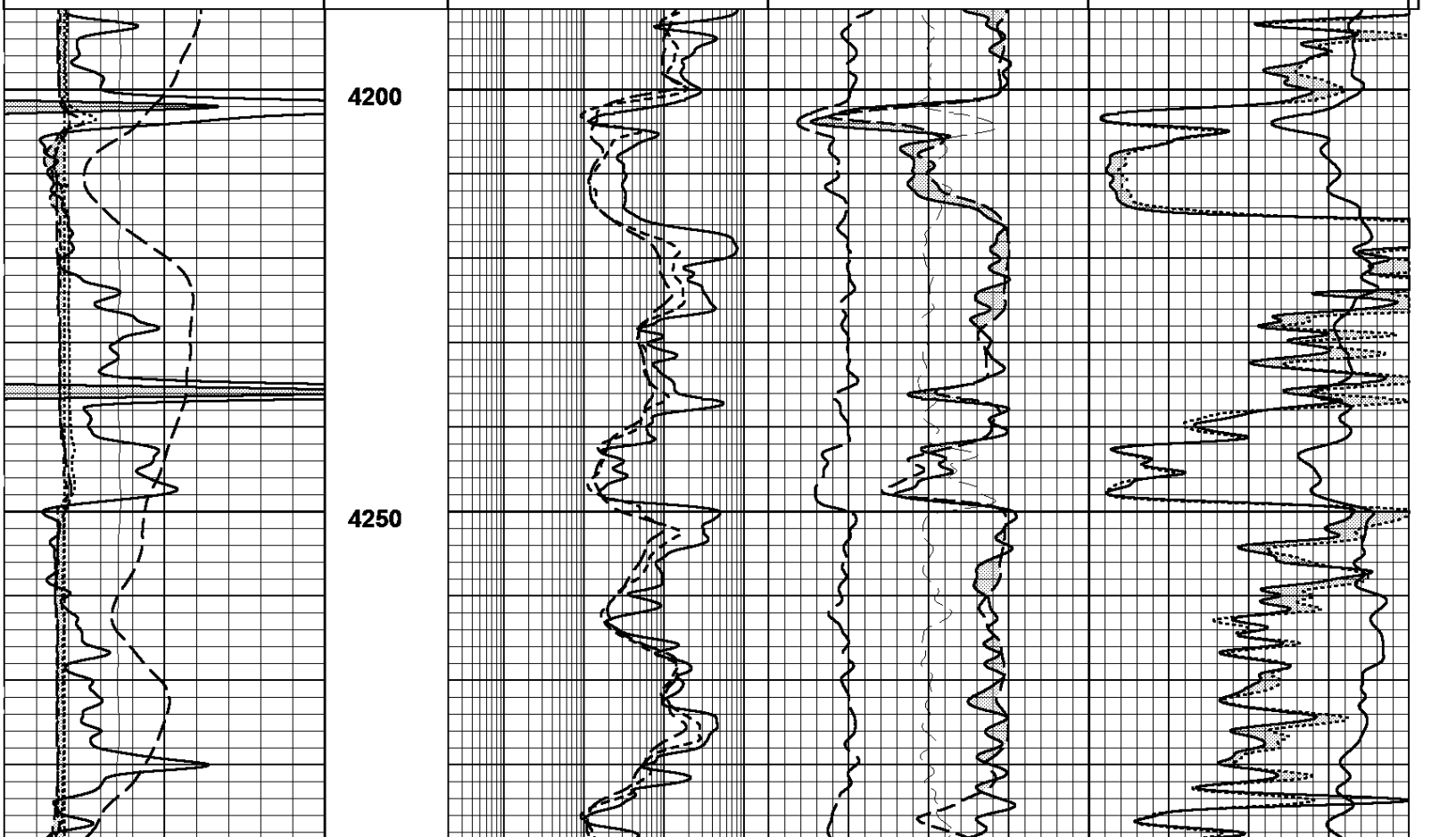
Delta RHO (DRHO)
-0.5 g/cc 0.5

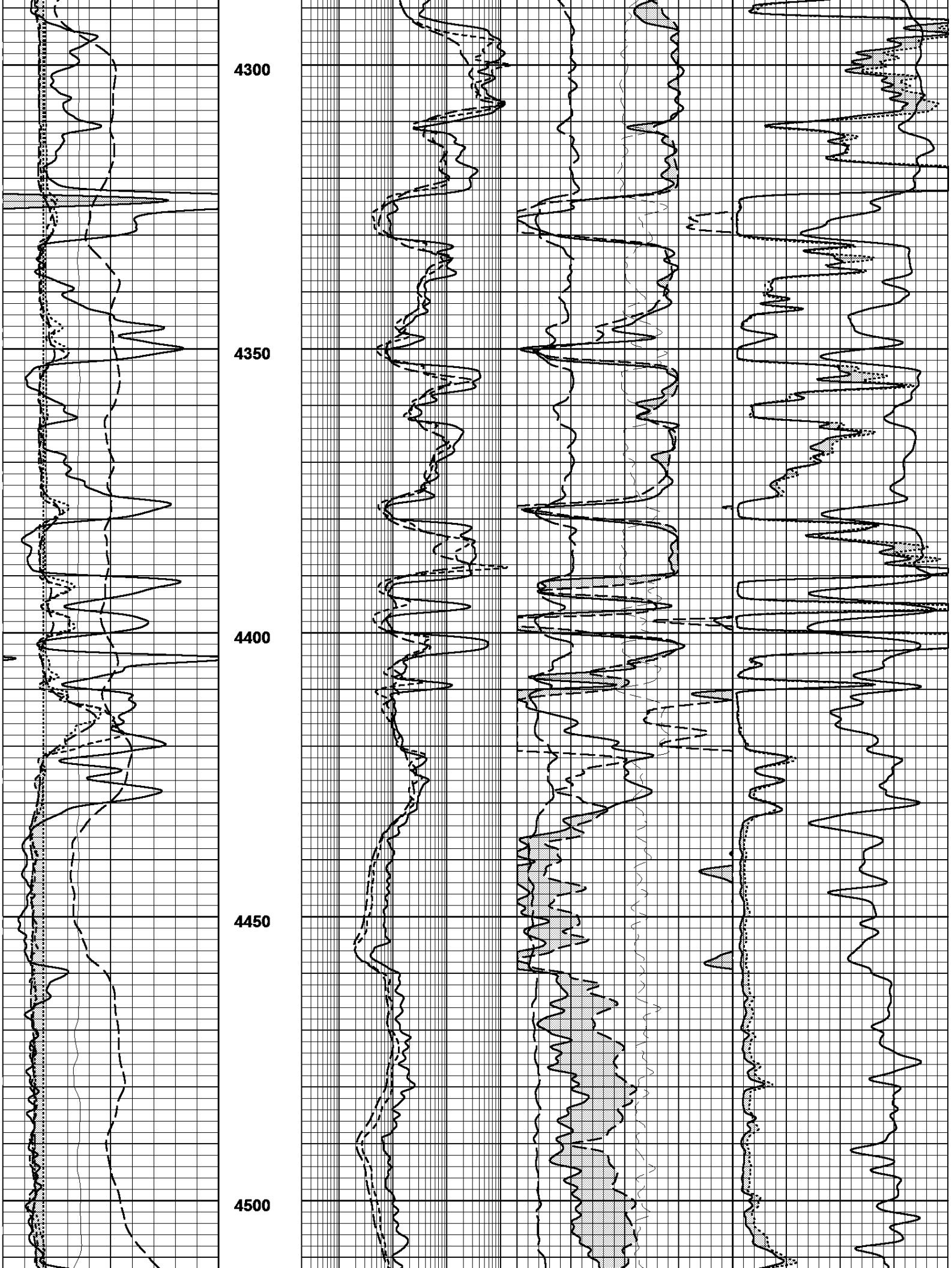
Neutron-Porosity (NPLS)
30. Limestone-Matrix (V/V) -10.

Delta T (DT)
140. usecs/ft 40.

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

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

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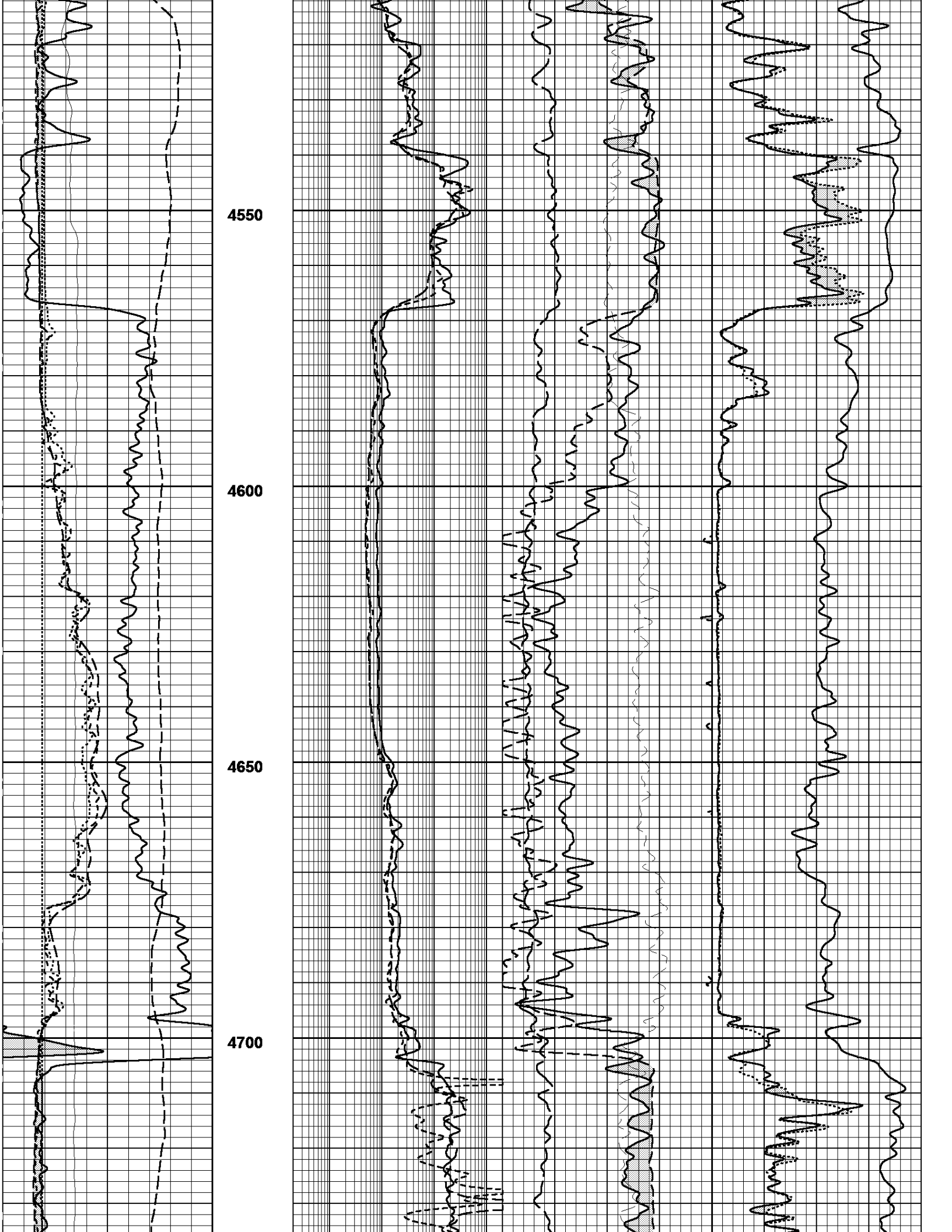
4500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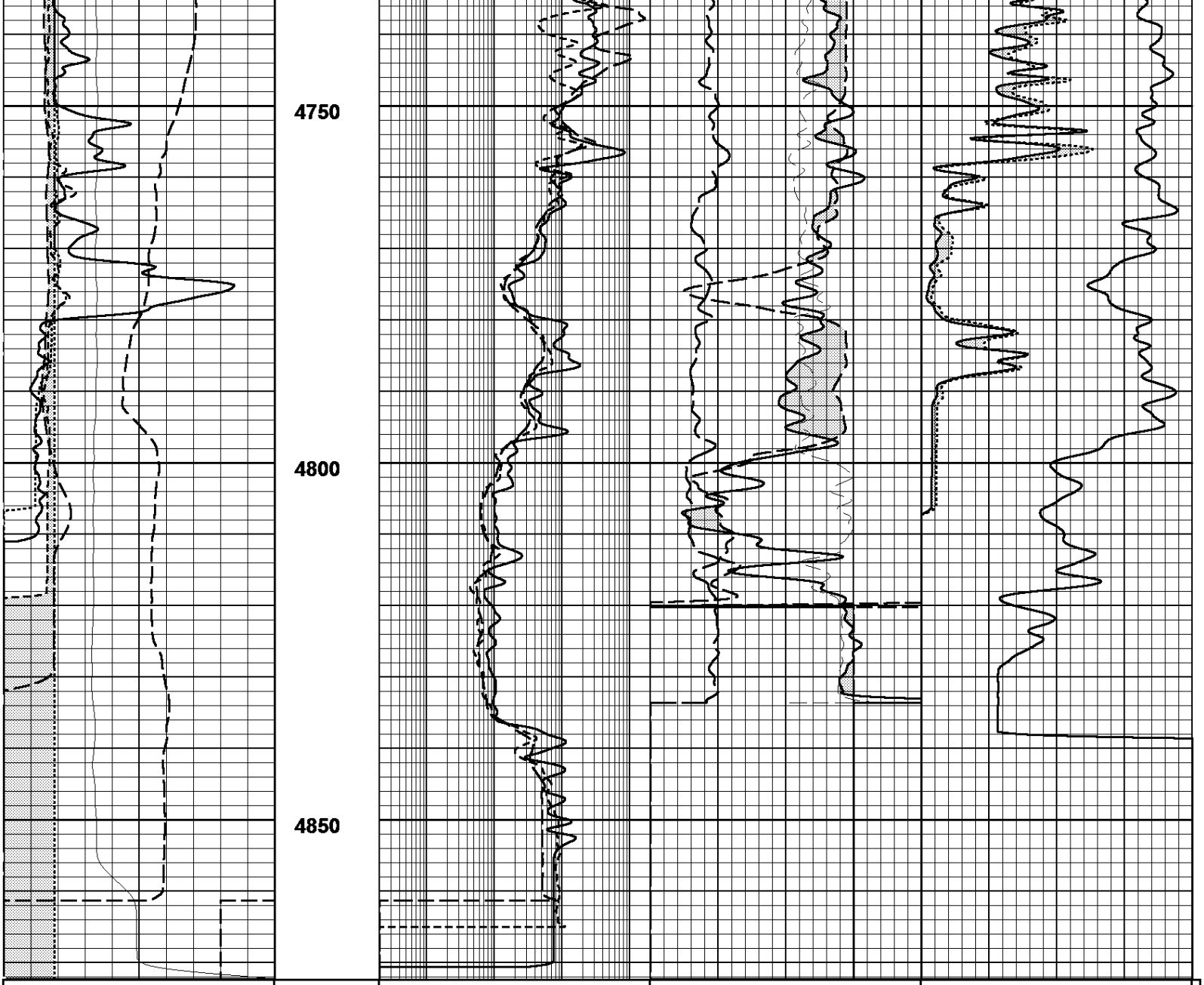
4600
4650
4700



Gamma Ray (GR)			Deep Induction (ILD)			Neutron-Porosity (NPLS)			Micro-Inverse{1"} (MINV)		
0.	API	150.	0.2	ohmm	2000.	30.	Limestone-Matrix (V/V)	-10.	0.	ohms	40.
Spontaneous Potential (SP)			**Med Induction (ILM)**			**Delta RHO (DRHO)**			**Micro-Normal{2"} (MNOR)**		
-160.	mV	40.	0.2	ohmm	2000.	-0.5	g/cc	0.5	0.	ohms	40.
X-Caliper (CALX)			**Laterolog (LL3)**			**Density-Porosity (DPLS)**			**Delta T (DT)**		
6.	in	16.	0.2	ohmm	2000.	30.	Limestone-Matrix (V/V)	-10.	140.	usecs/ft	40.
Y-Caliper (CALY)						**Photo Electric (PE)**					
6.	in	16.				0.	Barns/Elect	20.			
Tension (TENS)											
5000.	lbs	0.									
Bit Size (BIT)											
6.	Ref in	16.									
Microlog-Caliper											
6.	in	16.									

12/02/2014
20:14:48 => Start Time

REPEAT COMPOSITE - LIMESTONE (5"/100Ft)

Log UP - (VER 11.19)
Start Depth=> 4872.20 Feet

12/02/2014
20:42:10 => End Time

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

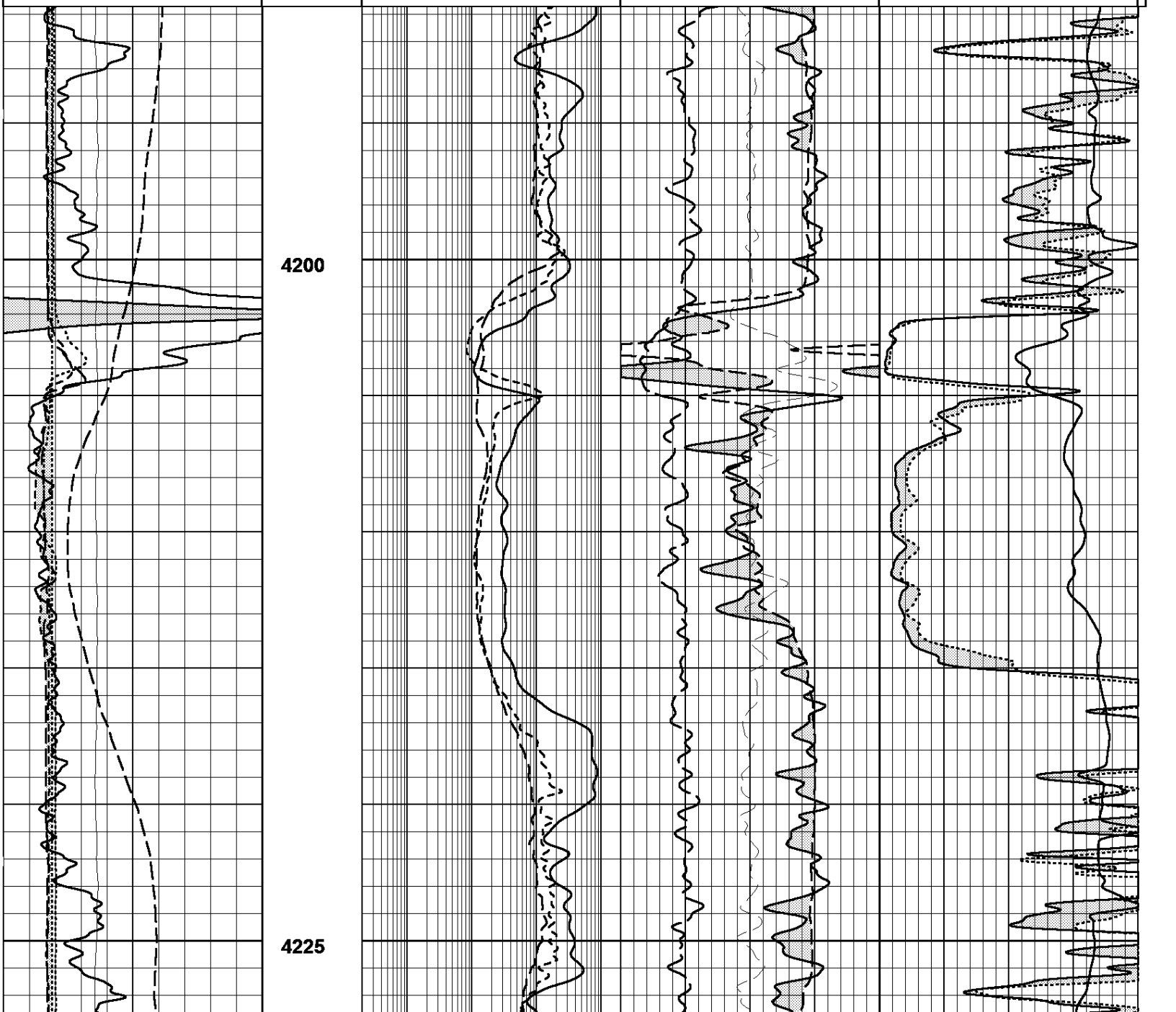
Log UP - (VER 11.19)
End Depth=> 4190.77 Feet

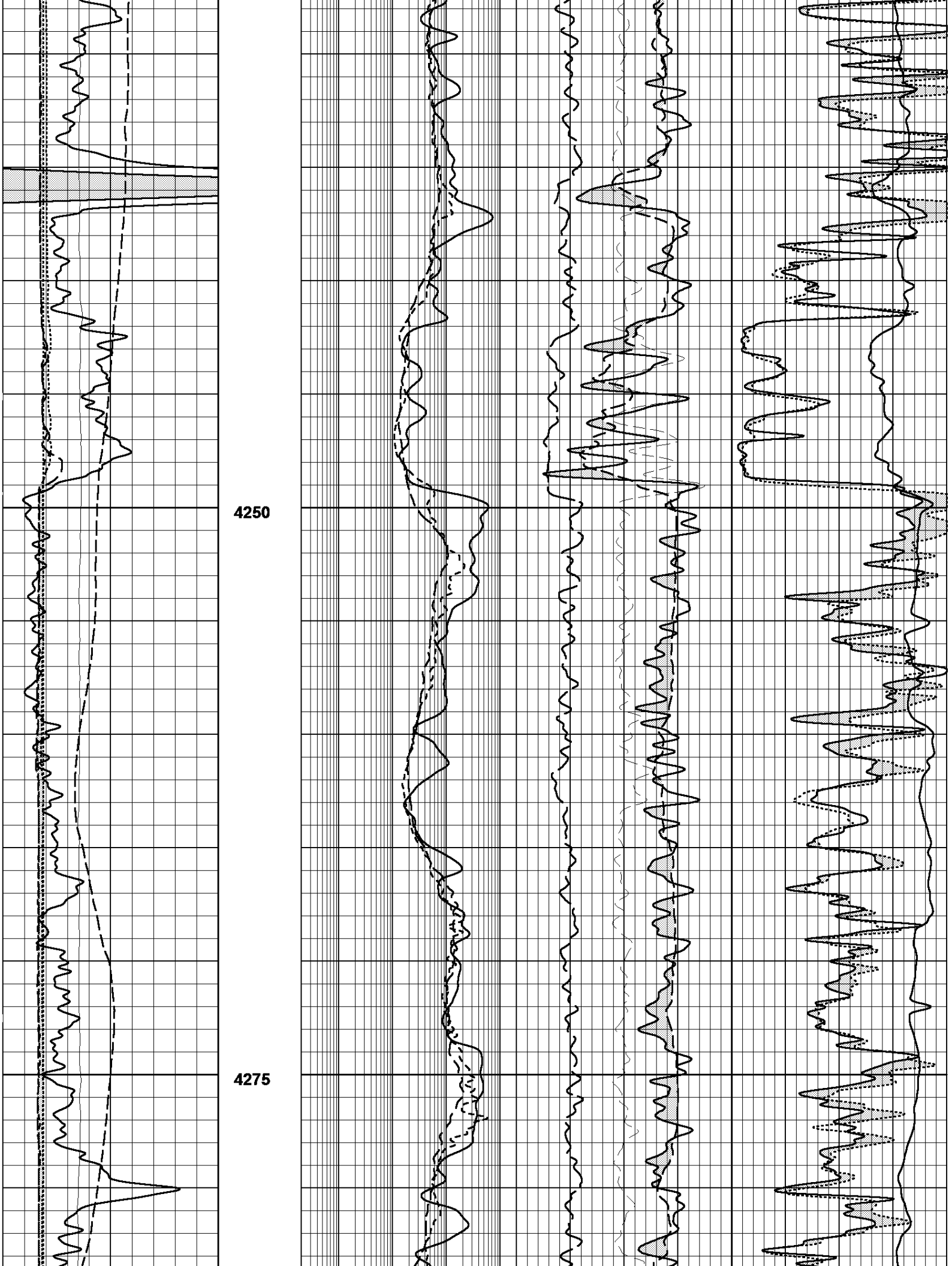
Microlog-Caliper		
6.	in	16.
Bit Size (BIT)		
6.	Ref in	16.
Tension (TENS)		
5000.	lbs	0.
Y-Caliper (CALY)		
6.	in	16.
X-Caliper (CALX)		
6.	in	16.
Spontaneous Potential (SP)		
-160.	mV	40.
Gamma Ray (GR)		
0.	API	150.

Laterolog (LL3)		
0.2	ohmm	2000.
Med Induction (ILM)		
0.2	ohmm	2000.
Deep Induction (ILD)		
0.2	ohmm	2000.

Photo Electric (PE)		
0.	Barns/Elect	20.
Density-Porosity (DPLS)		
30.	Limestone-Matrix (V/V)	-10.
Delta RHO (DRHO)		
-0.5	g/cc	0.5
Neutron-Porosity (NPLS)		
30.	Limestone-Matrix (V/V)	-10.

Delta T (DT)		
140.	usecs/ft	40.
Micro-Normal{2"} (MNOR)		
0.	ohms	40.
Micro-Inverse{1"} (MINV)		
0.	ohms	40.

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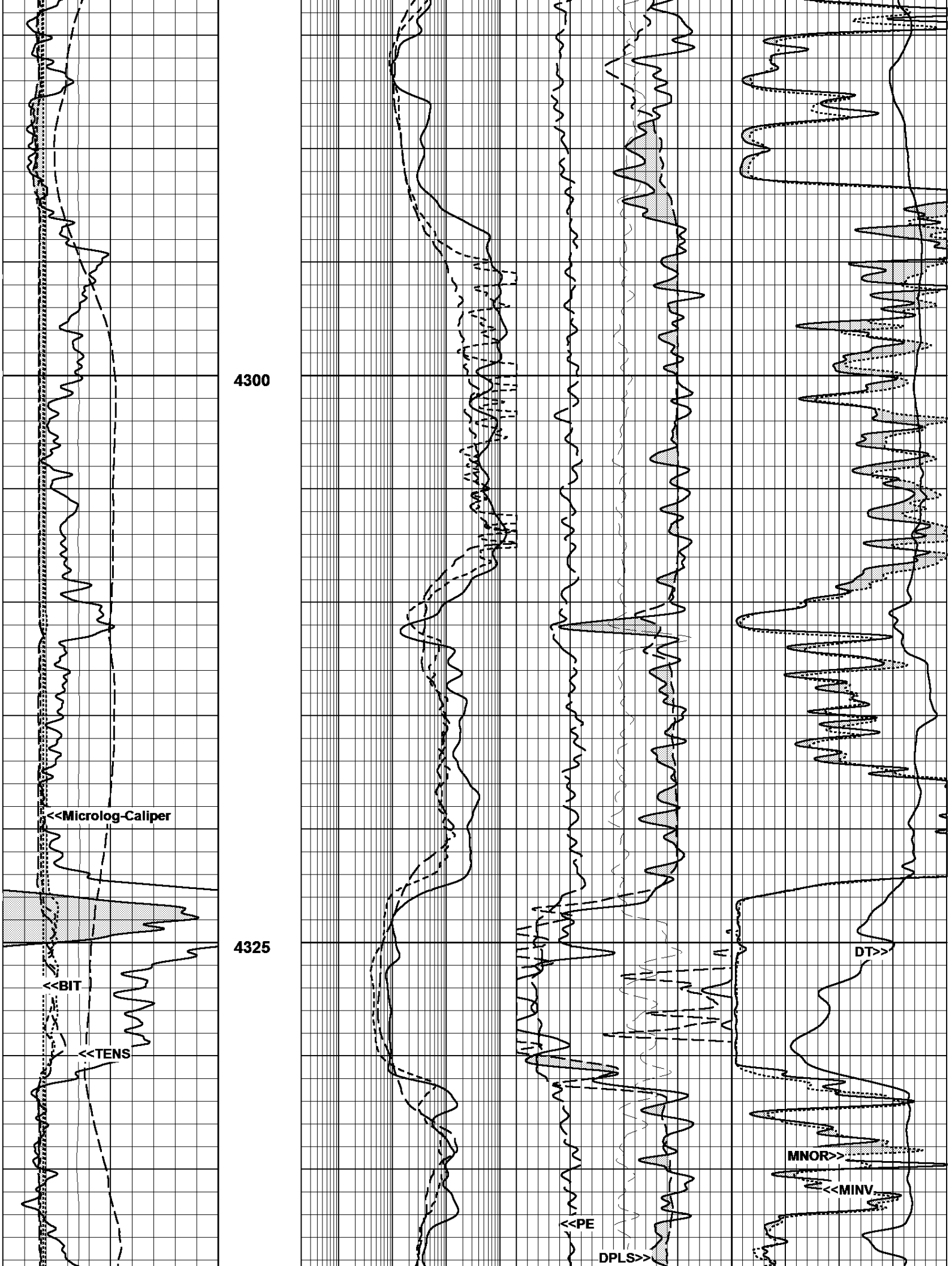
4275


4300
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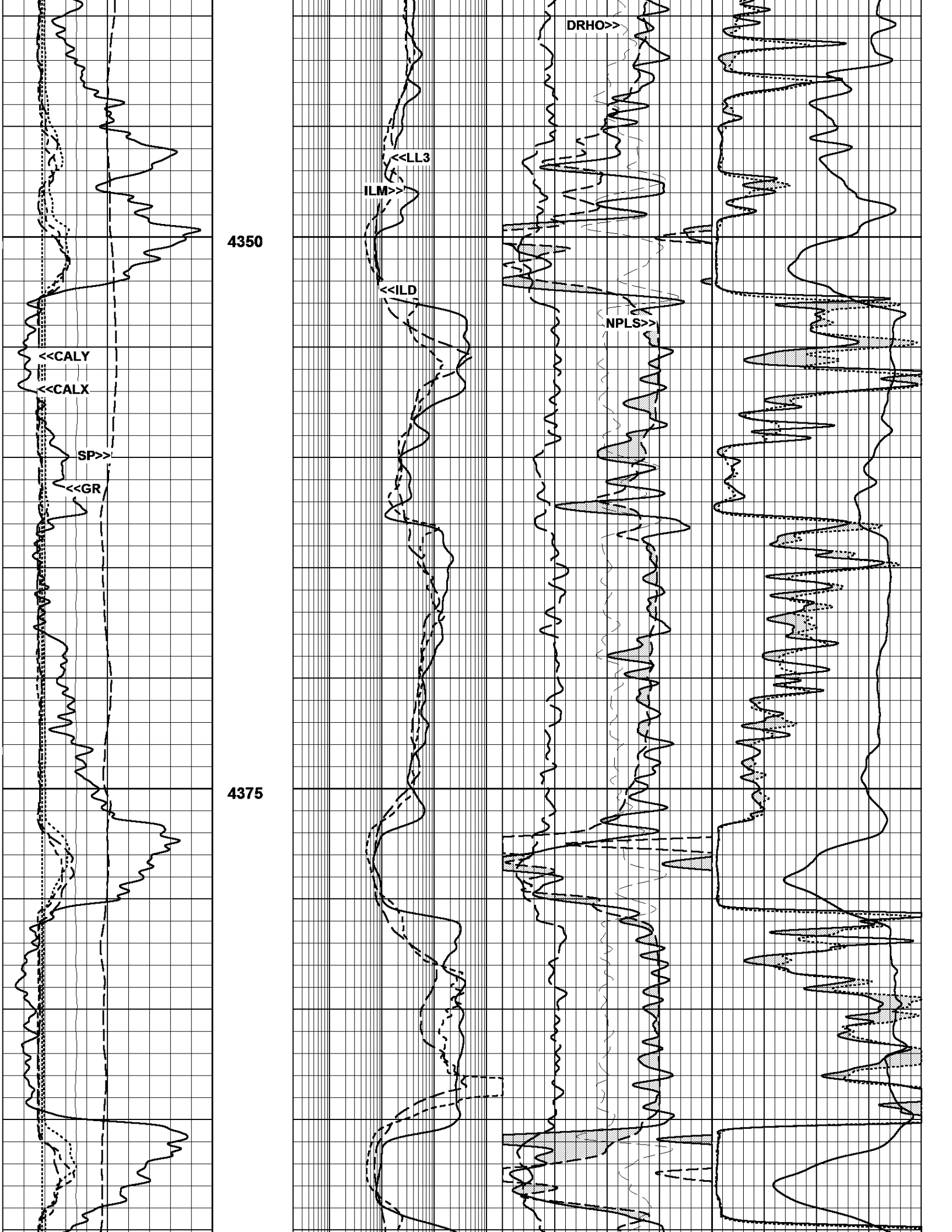
DPLS>>
DT>>
MNOR>>
<<MINV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<<LL3
ILM>>
4350
<<ILD
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<<CALY
<<CALX
SP>>
<<GR
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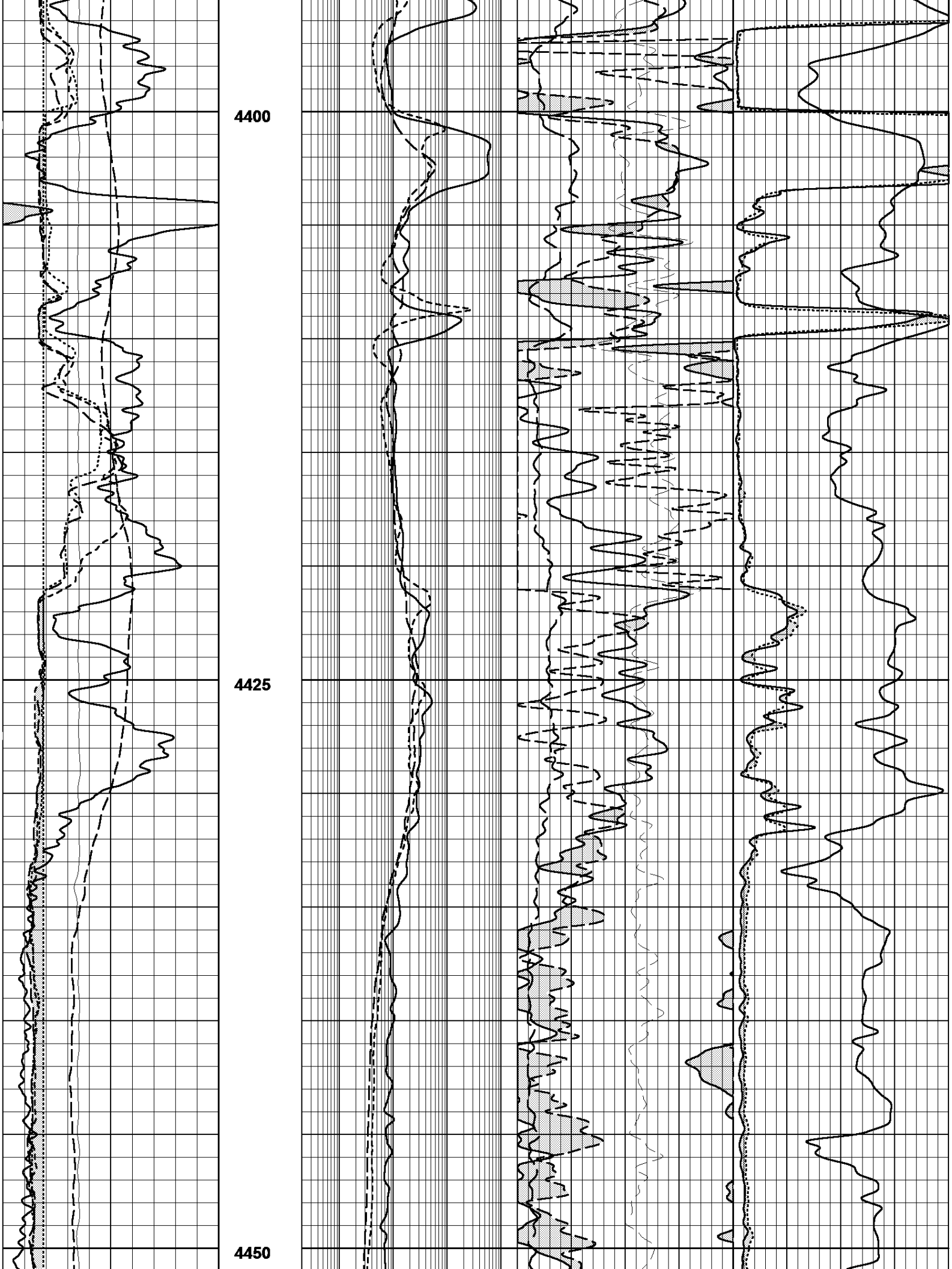
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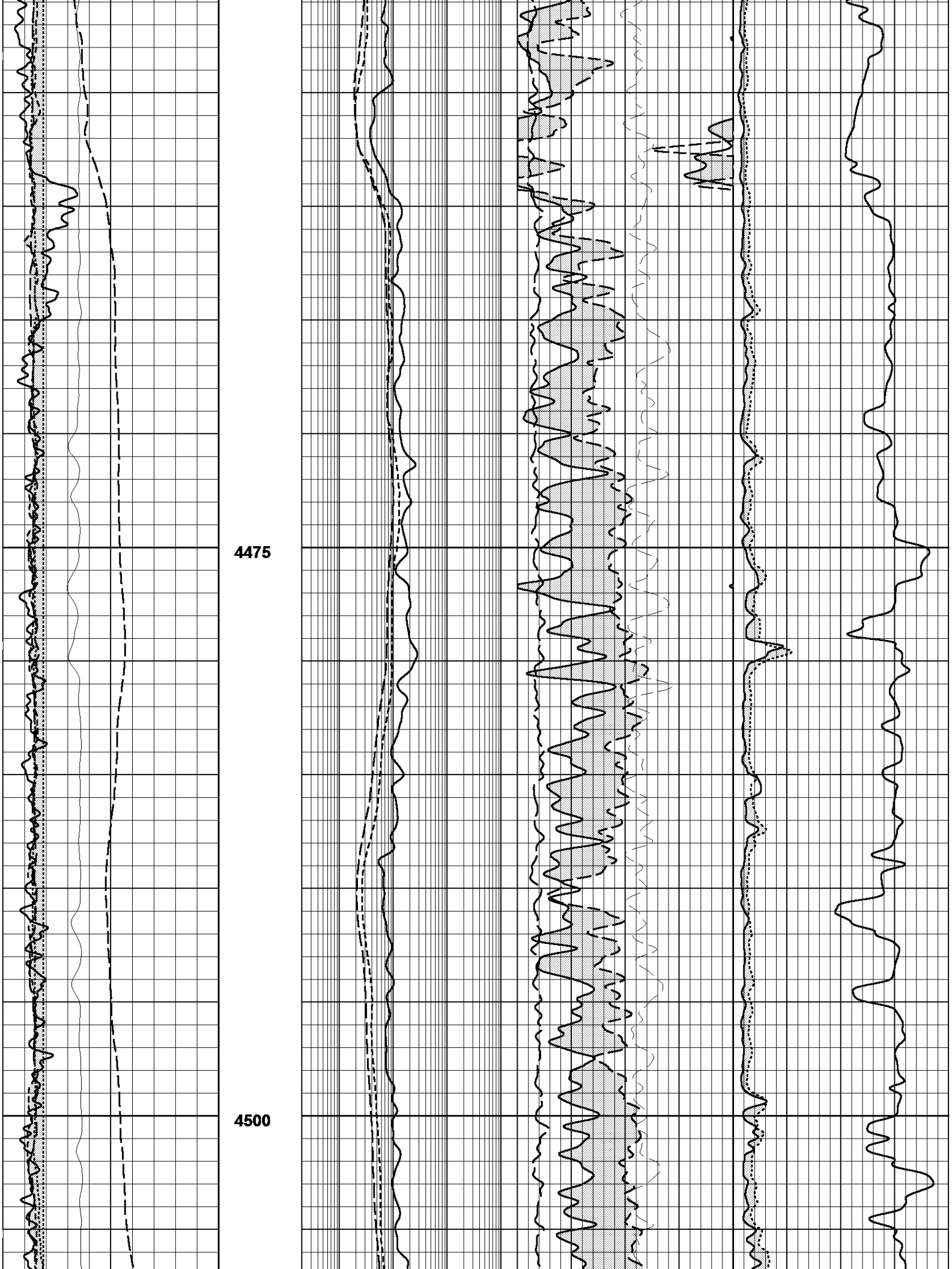
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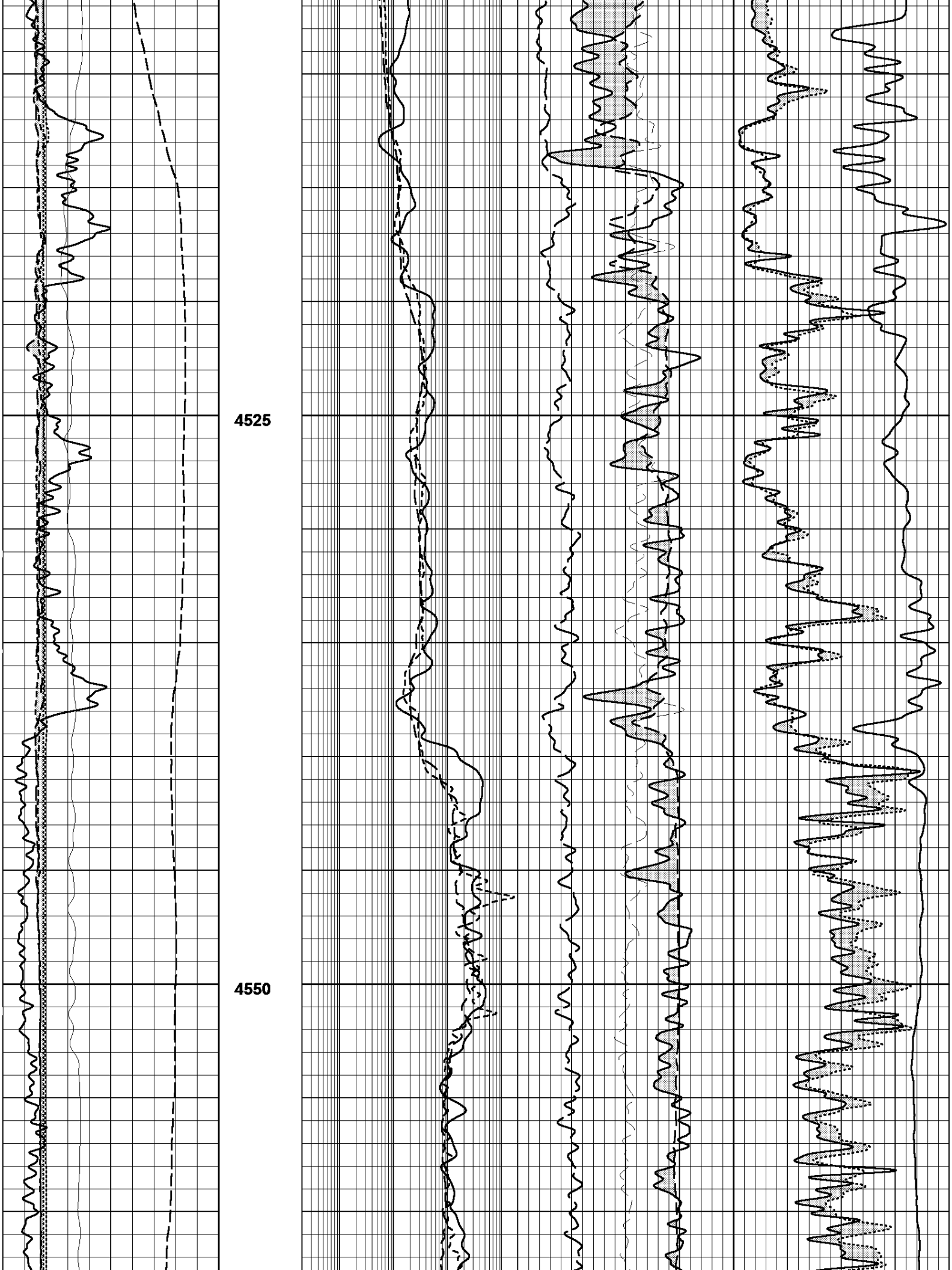
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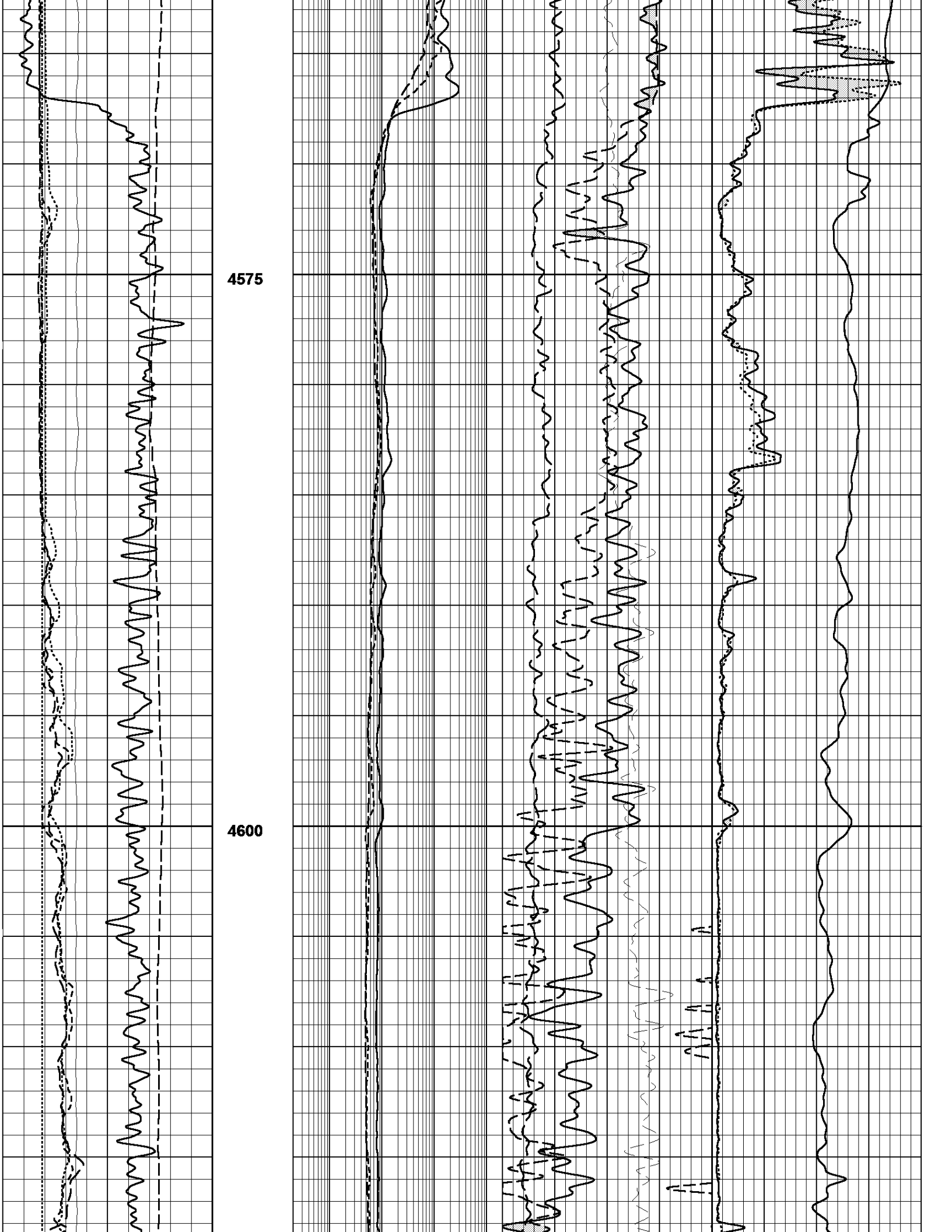
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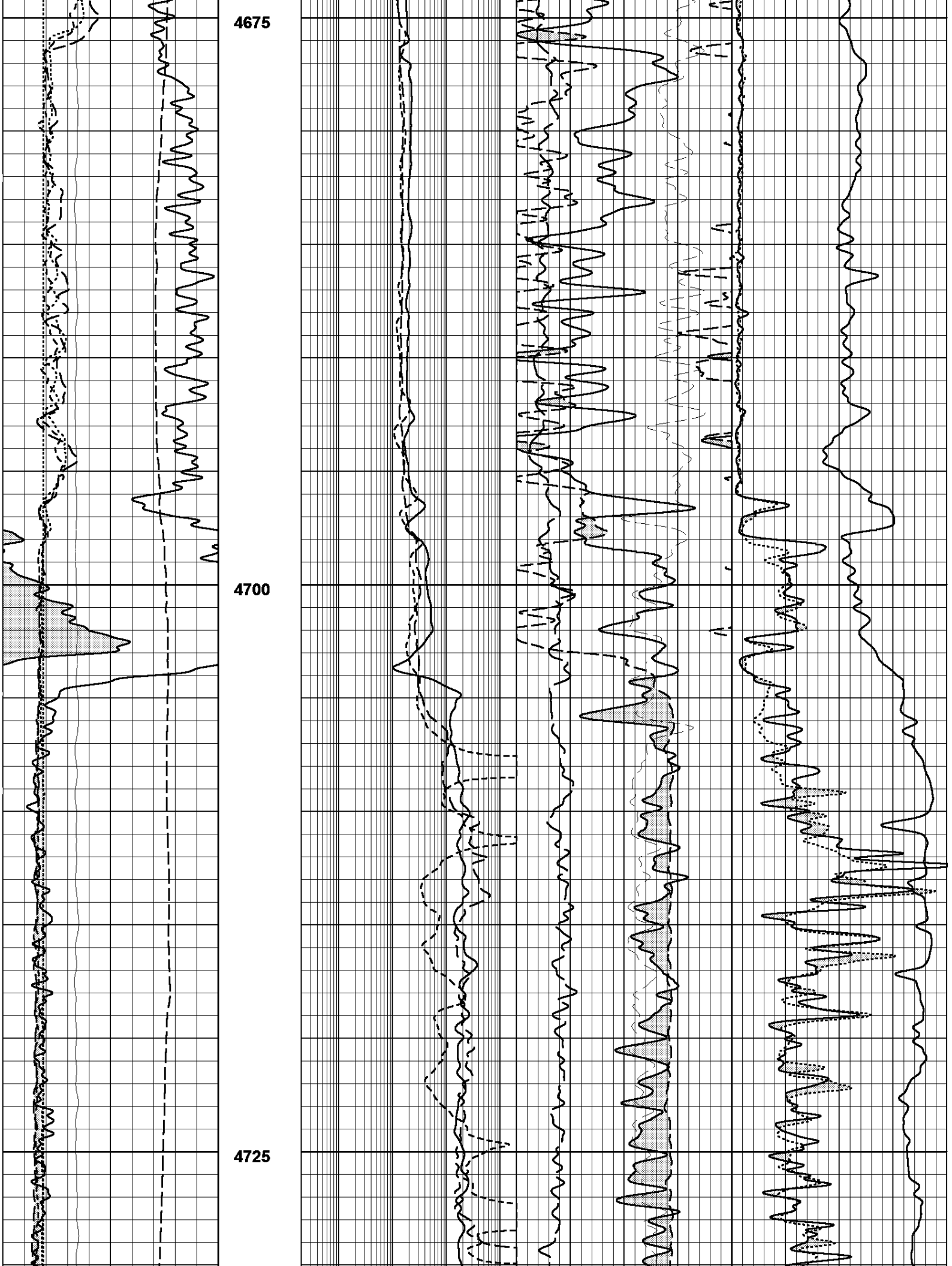
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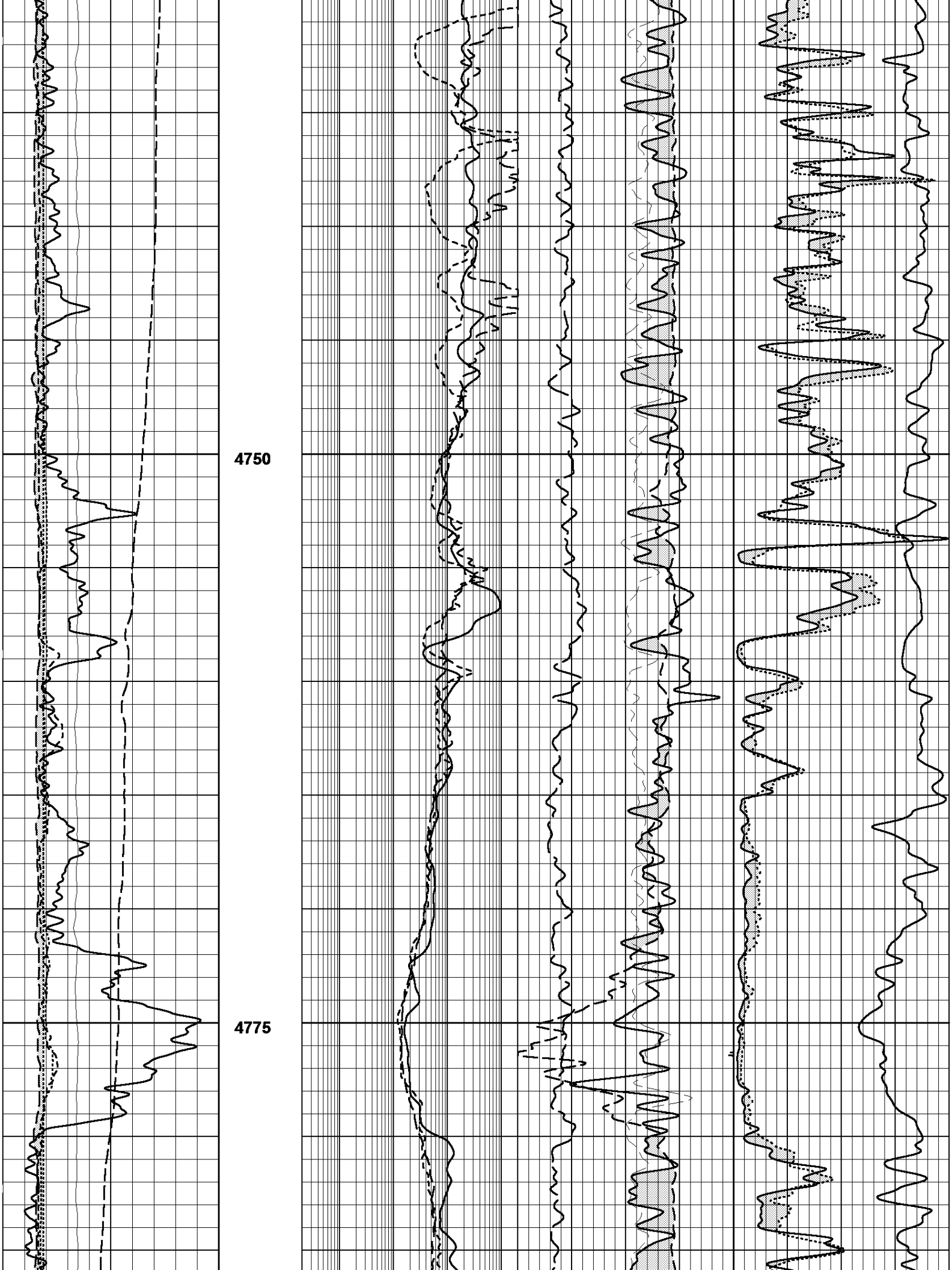
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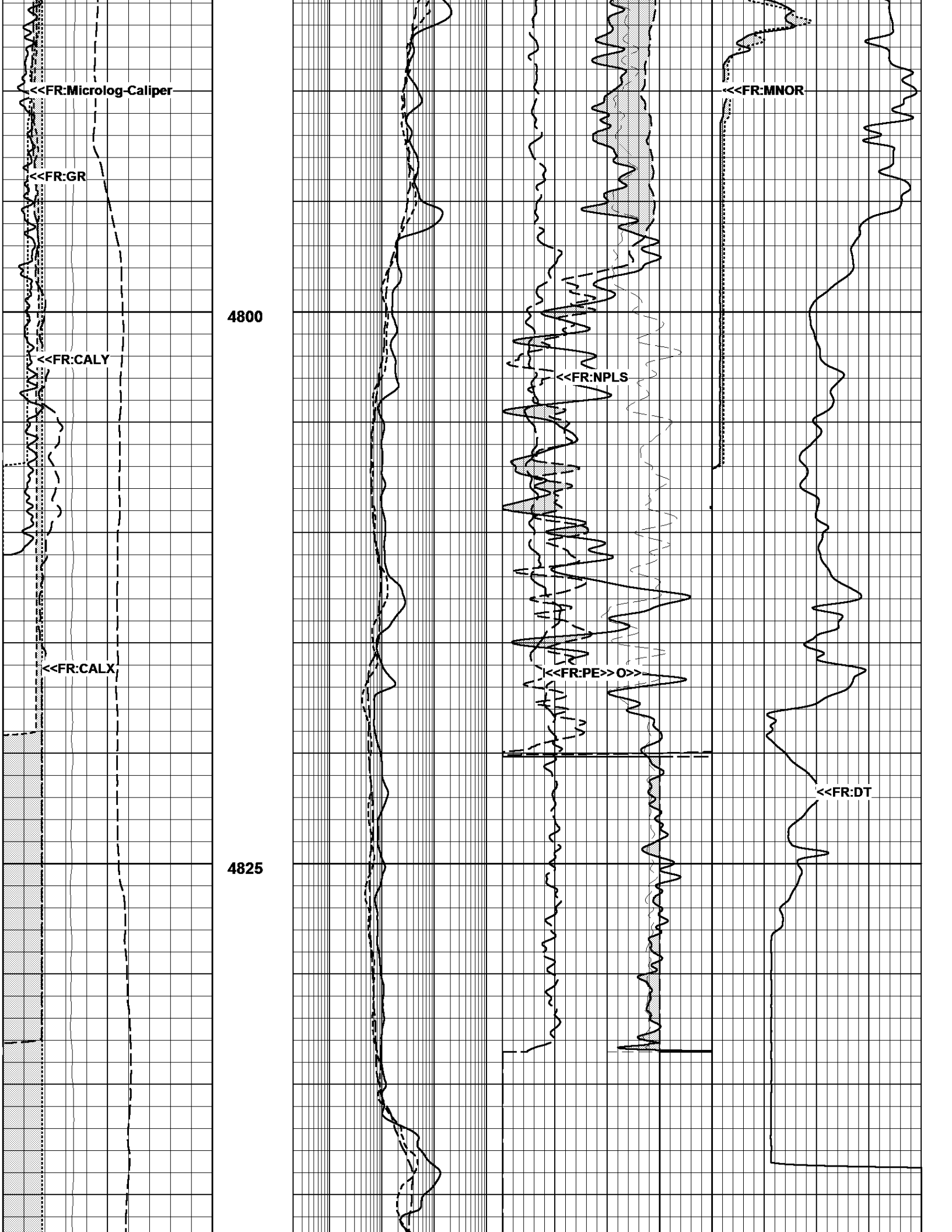
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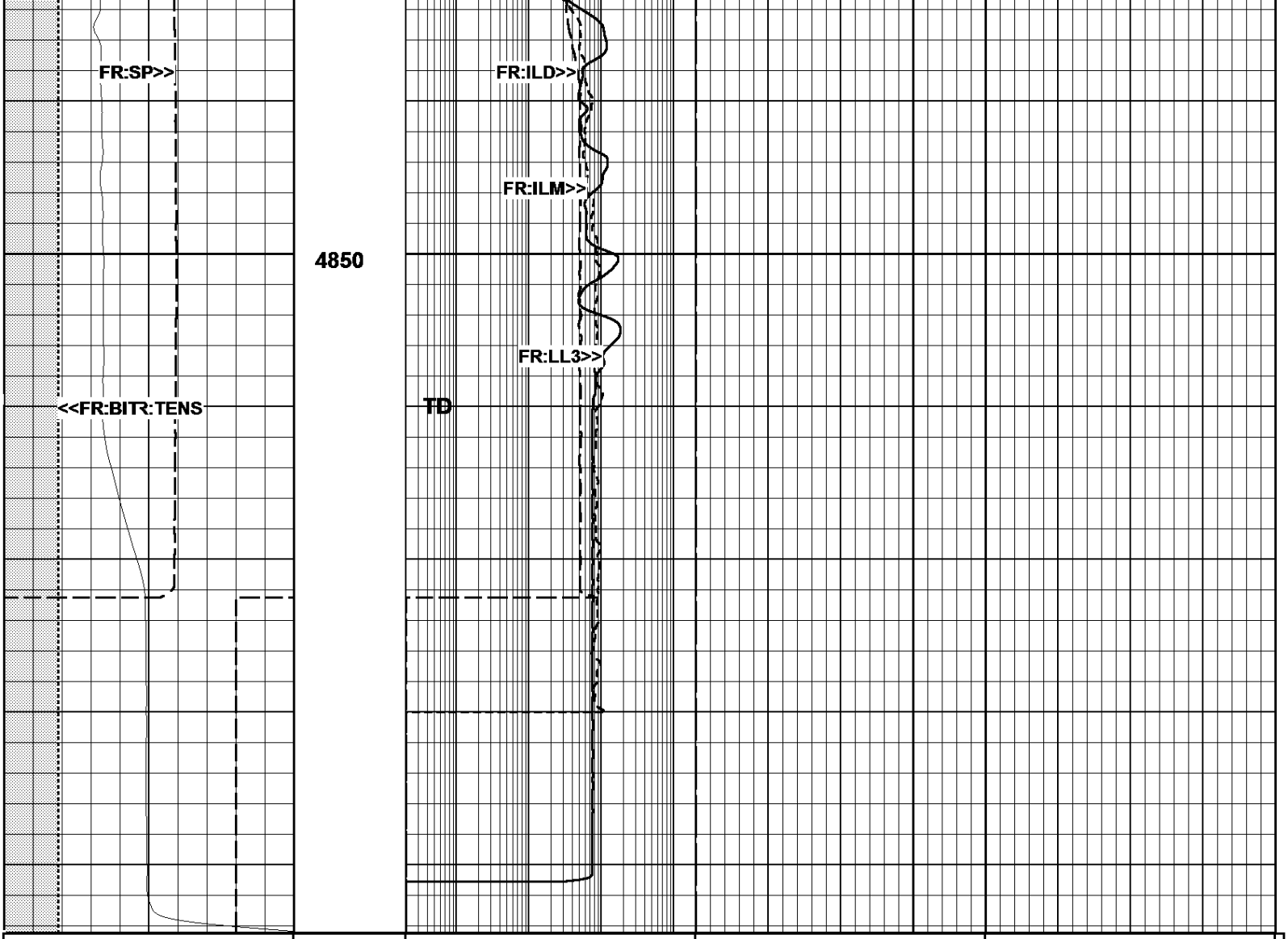

Gamma Ray (GR)			Deep Induction (ILD)			Neutron-Porosity (NPLS)			Micro-Inverse{1"} (MINV)		
0.	API	150.	0.2	ohmm	2000.	30.	Limestone-Matrix (V/V)	-10.	0.	ohms	40.
Spontaneous Potential (SP)			**Med Induction (ILM)**			**Delta RHO (DRHO)**			**Micro-Normal{2"} (MNOR)**		
-160.	mV	40.	0.2	ohmm	2000.	-0.5	g/cc	0.5	0.	ohms	40.
X-Caliper (CALX)			**Laterolog (LL3)**			**Density-Porosity (DPLS)**			**Delta T (DT)**		
6.	in	16.	0.2	ohmm	2000.	30.	Limestone-Matrix (V/V)	-10.	140.	usecs/ft	40.
Y-Caliper (CALY)						**Photo Electric (PE)**					
6.	in	16.				0.	Barns/Elect	20.			
Tension (TENS)											
5000.	lbs	0.									
Bit Size (BIT)											
6.	Ref in	16.									
Microlog-Caliper											
6.	in	16.									

12/02/2014
20:14:48 => Start Time

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

Log UP - (VER 11.19)
Start Depth=> 4872.20 Feet

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

Induction Resistivity / Conductivity Calibrations

TOOL TYPE Slim Hole Induction
SERIAL NUM RD1012

LOOP TYPE
LOOP NUM

MASTER CALIBRATIONS

	OPEN LOOP(mmho)		CLOSED LOOP(mmho)		LOOP VERIFIER(mV)		CALIBRATION DATE	CALIBRATION TIME
	NO SKIN		NO SKIN	W/ SKIN	ZERO(mV)	SPAN(mV)		
DEEP INDUCTION	-0.000		400.000	499.231	-7.412	662.779	M/D/Y> 8/5/2014	H:M:S> 12:29:59
MED INDUCTION	0.000		462.500	501.895	-11.684	763.026	M/D/Y> 8/5/2014	H:M:S> 12:36:51
	CALIBRATOR LOW(ohm)		CALIBRATOR HI(ohm)		LOW(mV)	HI(mV)		
SHALLOW LATERLOG	2.000		500.000		11.451	2494.822	M/D/Y> 8/5/2014	H:M:S> 12:42:35

WELL SITE CALIBRATIONS

MICRO INVERSE CALIBRATIONS

SERIAL NUM RM8005

MASTER CALIBRATIONS

	ZeroVal: 0.020 ohmm	CalVal: 10.000 ohmm	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
			0.027 - gain		

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

MICRO CALIPER CALIBRATIONS

SERIAL NUM RM8005

MASTER CALIBRATIONS

	ZeroVal: 6.000 in	CalVal: 10.000 in	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	2139.619 - raw	4174.007 - raw	0.002 - gain 1.793 - off	M/D/Y> 10/14/2014	H:M:S> 14:18:59

Company	TREK AEC
Well	BLACKWELDER #1-30
Field	WILDCAT
County	PRATT
Country	UNITED STATES

RECON

DUAL INDUCTION - SP
COMPENSATED NEUTRON
LITHOLOGY DENSITY
GAMMA - MICROLOG - SONIC