

Company				K3 OIL & GAS OPERATING COMPANY			
Well				EATON #3-18			
Field				WILDCAT			
County				LANE			
State				KANSAS			
RECON DUAL INDUCTION - SP COMPENSATED NEUTRON LITHOLOGY DENSITY GAMMA - MICROLOG - SONIC							
SEC		TWP		RGE		OTHER SERVICES: N/A	
18		16S		28W			
Location, 879' FNL & 1966' FWL				NE/SW/NE/NW			
SURE. SAME		AP#.		015-101-22560-00-00			
Permanent Datum		Ground Level		Elev		2649	
Log Measured From		Kelly Bushing				ELEVATIONS K.B. 2657 G.L. 2649 D.F. N/A	
Drilling Measured From		Kelly Bushing					
Date		07-AUG-2015					
Run No.		ONE					
TD Driller		4540		ft		ft	
TD RECON		4540		ft		ft	
Bot Logged Interval		4539		ft		2100 ft	
Top Logged Interval		3500		ft		2000 ft	
Casing Depth Driller		8 5/8		in.		@ 305 in.	
Casing Depth RECON		8 5/8		in.		@ 304 in.	
Bit Size		7 7/8		in.		in.	
Drilling Fluid Type		WBM					
Density		9.3		Viscosity		49	
Fluid Loss		9.6		PH		8.0	
Source Of Sample		Flowline					
RM @ Measured Temp		3.37		Ohmm		@ 75 Ohmm @	
RMF @ Measured Temp		2.53		Ohmm		@ 75 Ohmm @	
RMC @ Measured Temp		3.01		Ohmm		@ 75 Ohmm @	
RM @ MRT		1.91		Ohmm		@ 131 Ohmm @	
Max Recorded Temp		131		DegF		DegF	
Time Drilling Stopped		07-AUG-2015		02:00			
Time Circulation Stopped		07-AUG-2015		04:45			
Time Logger On Bottom		07-AUG-2015		17:17			
Unit Num		S406		Location		OKLAHOMA CITY, OK	
Recorded By		K.HELDERMON					
Witnessed By		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 Neglegence or willfull damage. Interpretations are also subject to the terms and conditions of our Price Schedule and General Service Agreement.
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RIG INFORMATION	
Drill Contr/Rig#	DUKE DRILLING #4

GENERAL REMARKS SECTION	
FIRST RUN IN THE HOLE CNL AND LDT LOGGED IN A LIMESTONE MATRIX TOP MARK - 283, BOTTOM MARK - 4387.5 CNL/LDT LOGGED MATRIX: 2.71 g/cc. CHLORIDES: 3800 LCM: TRACE THANK YOU FOR USING RECON PETROTECHNOLOGIES LTD.	AHV CALCULATED ON 5.5" PROD. CASING MICROLOG PAD APPEARS TO HAVE RIPPED AT ABOUT 4225' ON HDD REPEAT (FIRST PASS). CREW: M.CALLENINE

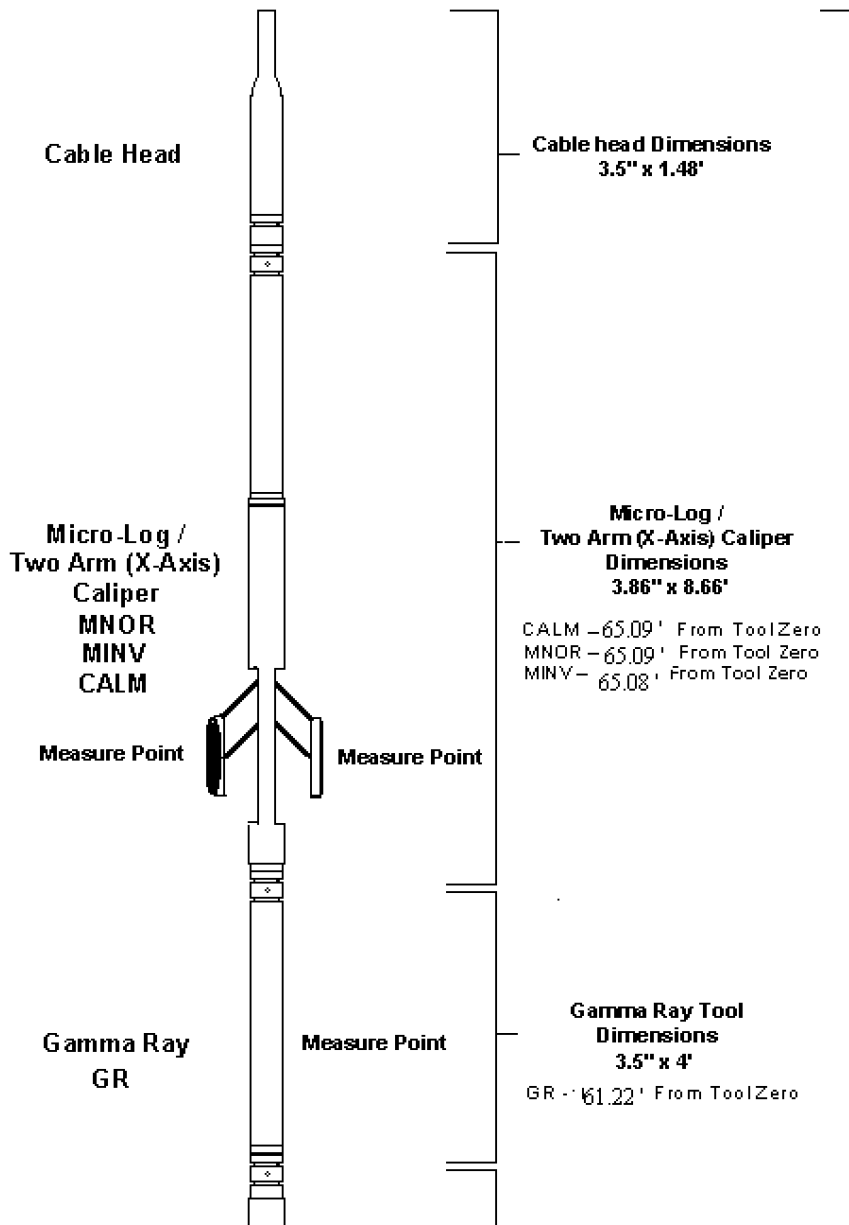
CEMENT VOLUME CALCULATIONS SUMMARY

Tool Type	LDT-CNT	Caliper Type		
Tool Serial #	RN2016 / RL4102			
	Borehole Total	Annular Volume with Casing	From Depth (MKb)	To Depth (MKb)
VOLUMES	1751 Cubic Feet	1049 Cubic Feet	290	4540

CASING INFORMATION

	SIZE (in)	GRADE	WEIGHT (lbs/ft)	ID (in)	TOP DEPTH	BOT DEPTH
SURFACE CASING	8 5/8	N/A	N/A	N/A	Surface	305
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	4540

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'

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
Measure Point

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

Tool String
Length Total
73.64'

Borehole
Compensated
Sonic

T-1
Transmitter 1

Borehole Compensated Sonic
Tool Dimensions
3.5" x 15.75'

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

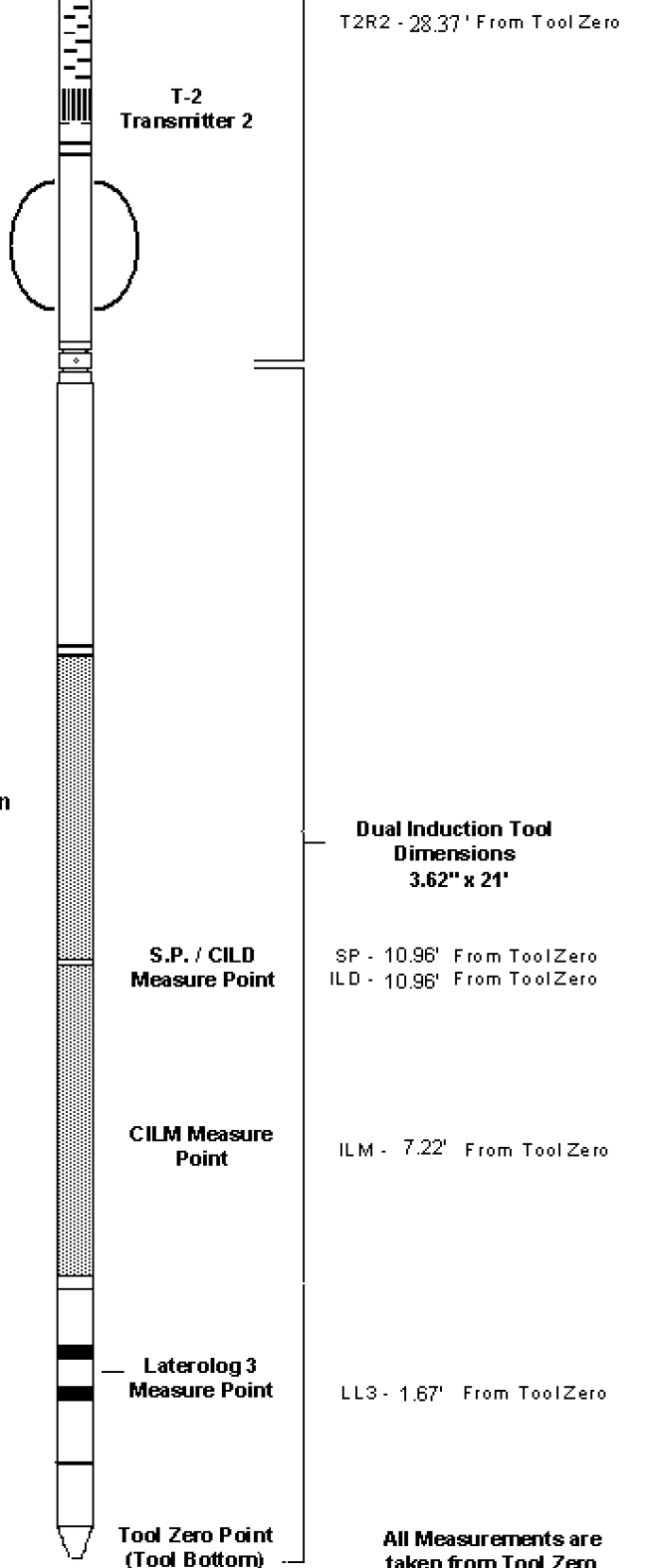
T1R1 - 33.35' From ToolZero
T1R2 - 31.35' From ToolZero

Measure Point
Tool First Reading
Point

R-1
Receiver 1

R-2
Receiver 2

T2R1 - 28.54' From ToolZero



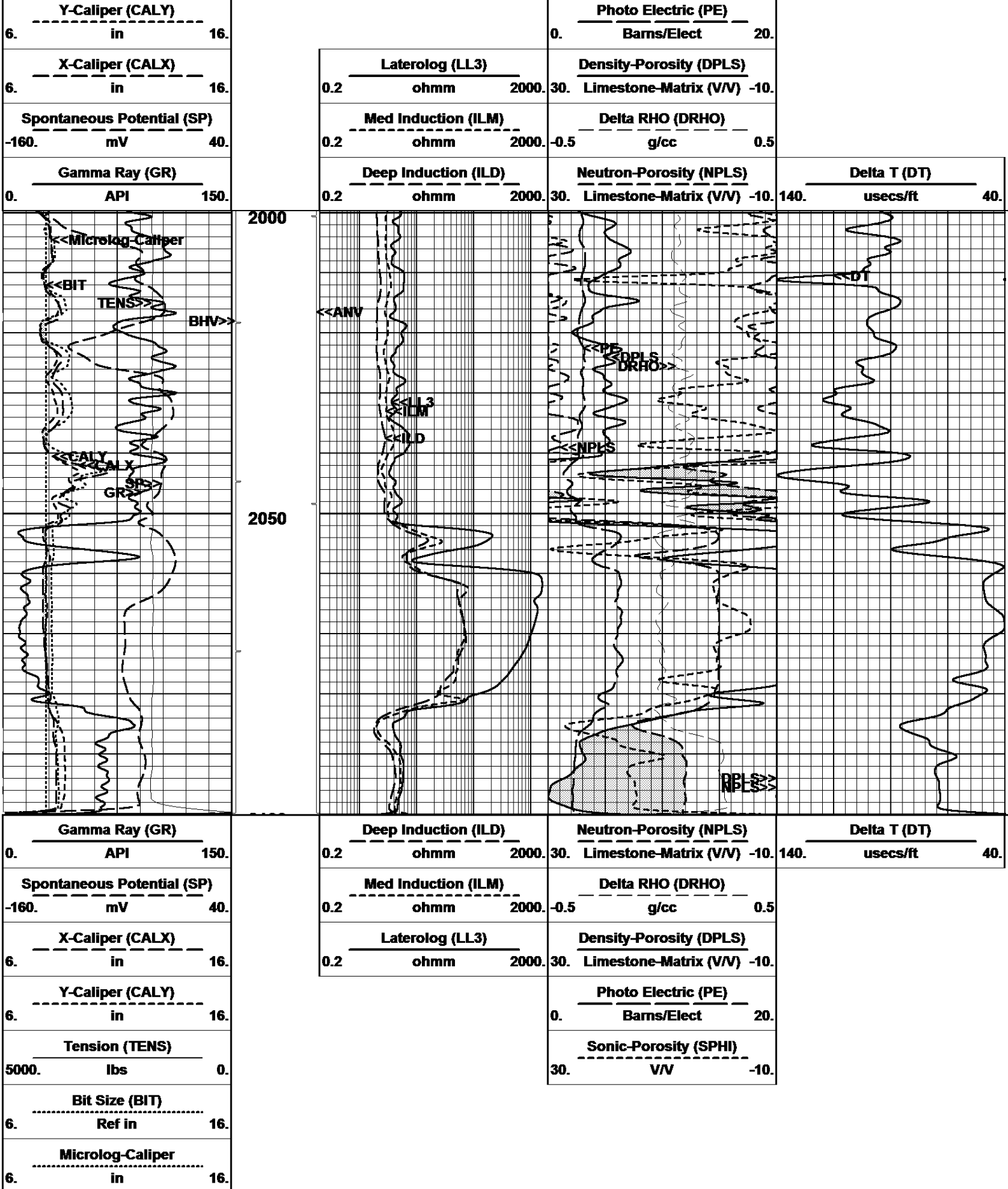
08/07/2015
20:05:19 => End Time

ANHYDRITE MARKER (5"/100Ft)

Log UP - (VER 11.19)
End Depth=> 1999.90 Feet

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

Sonic-Porosity (SPHI)		
30.	V/V	-10.



08/07/2015
18:28:37 => Start Time

ANHYDRITE MARKER (5"/100Ft)

Log UP - (VER 11.19)
Start Depth=> 2099.90 Feet

08/07/2015

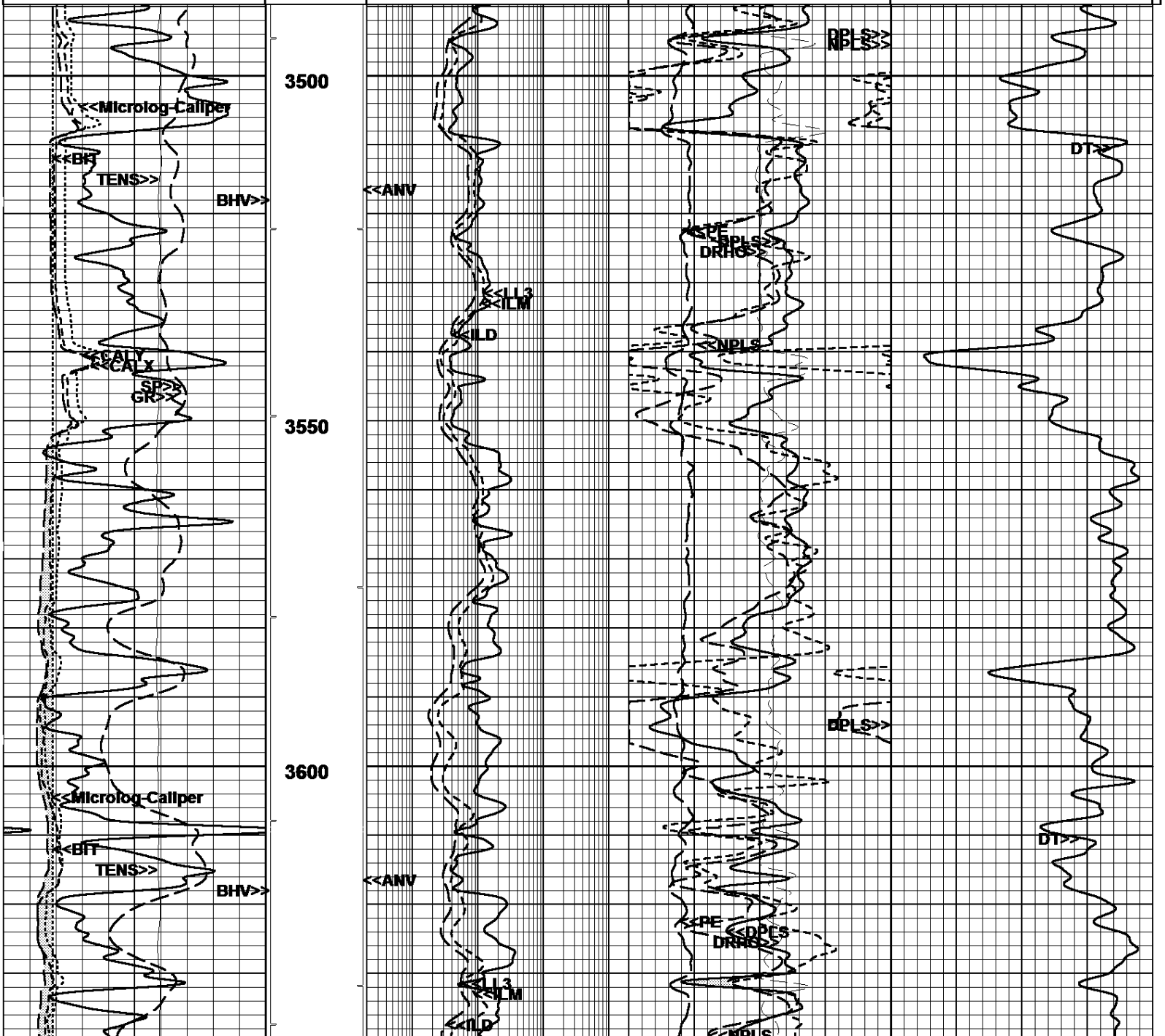
MAIN PASS - LIMESTONE (5"/100Ft)

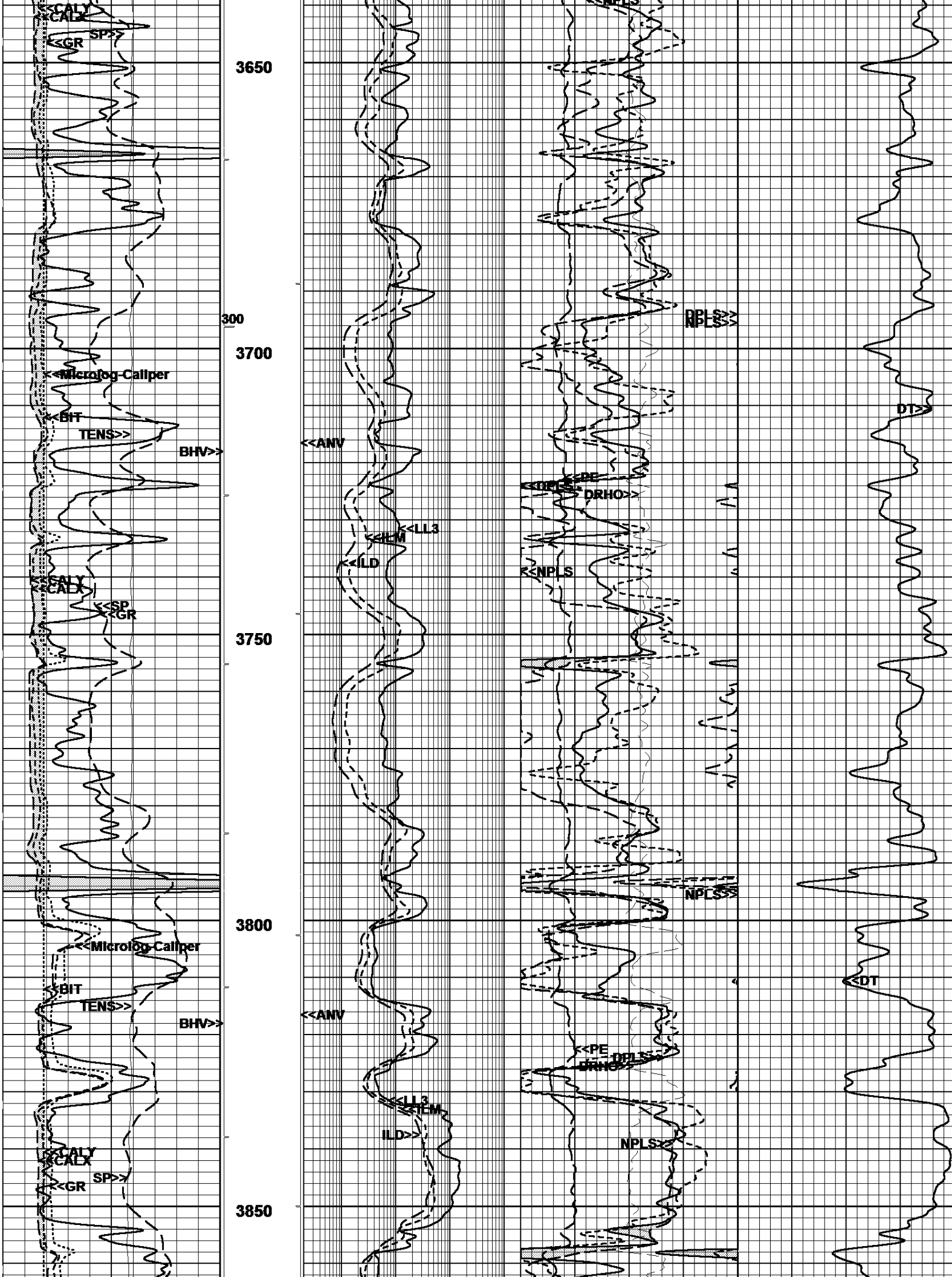
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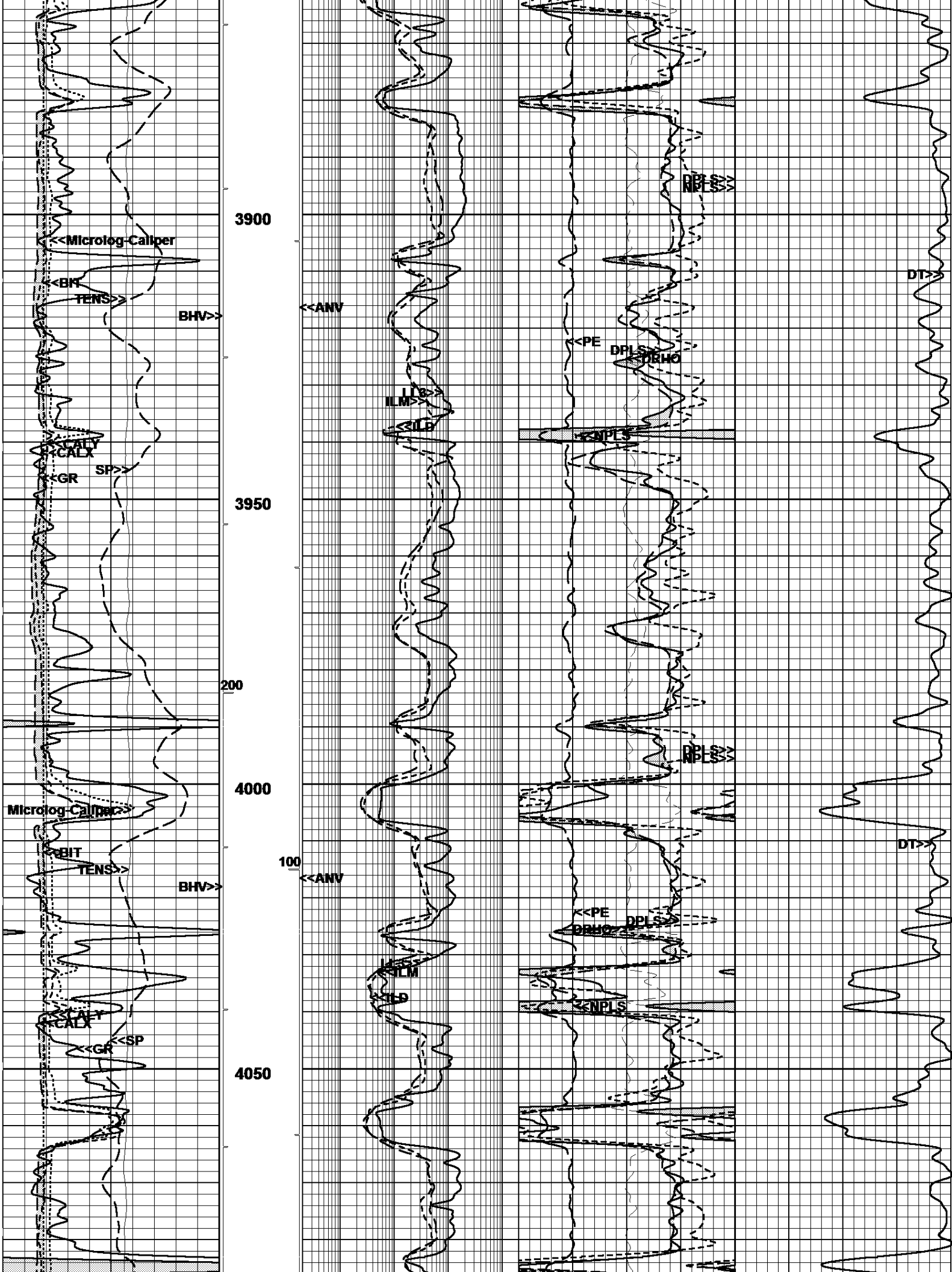
20:05:19 => End Time

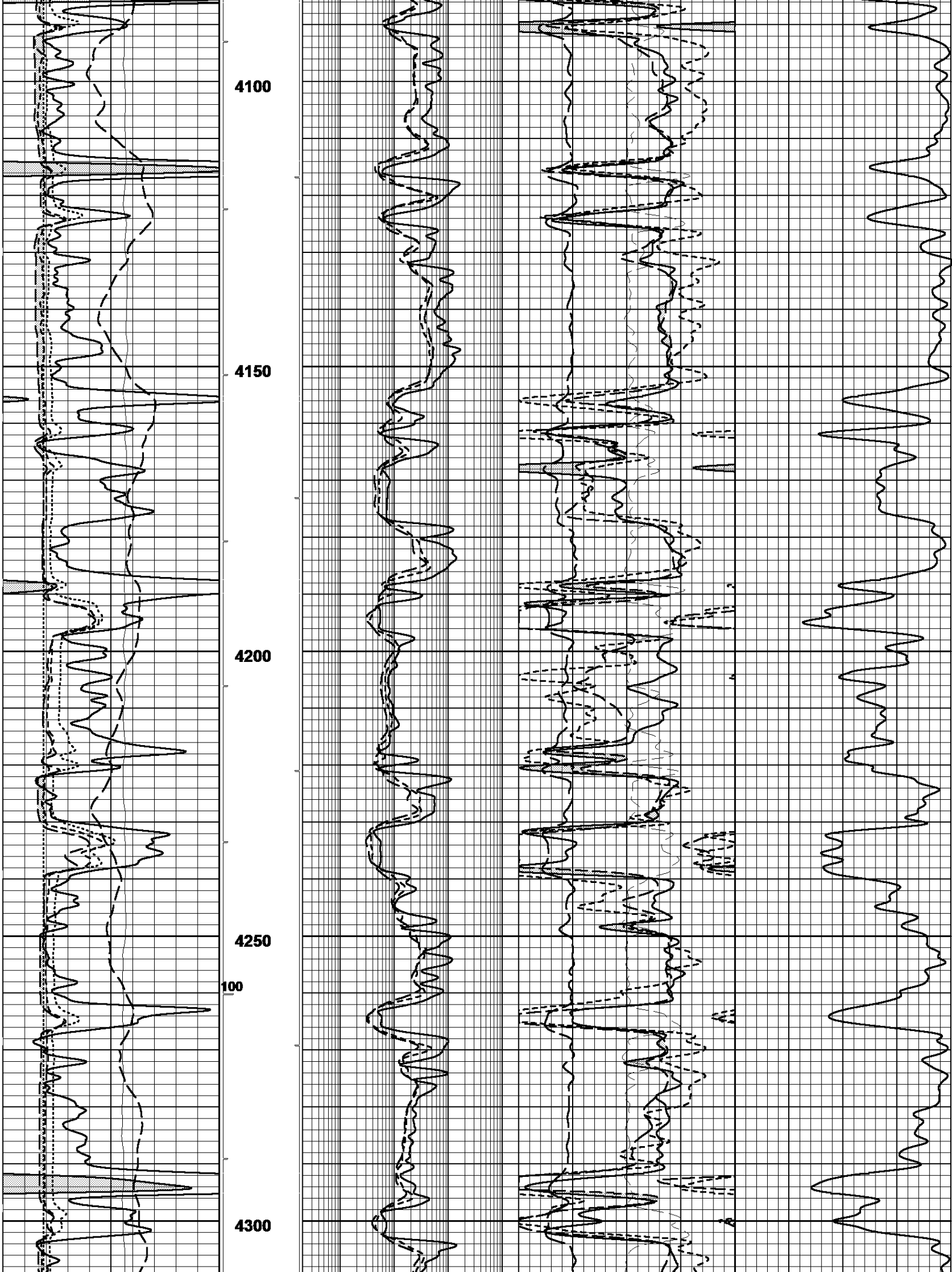
End Depth=> 3489.90 Feet

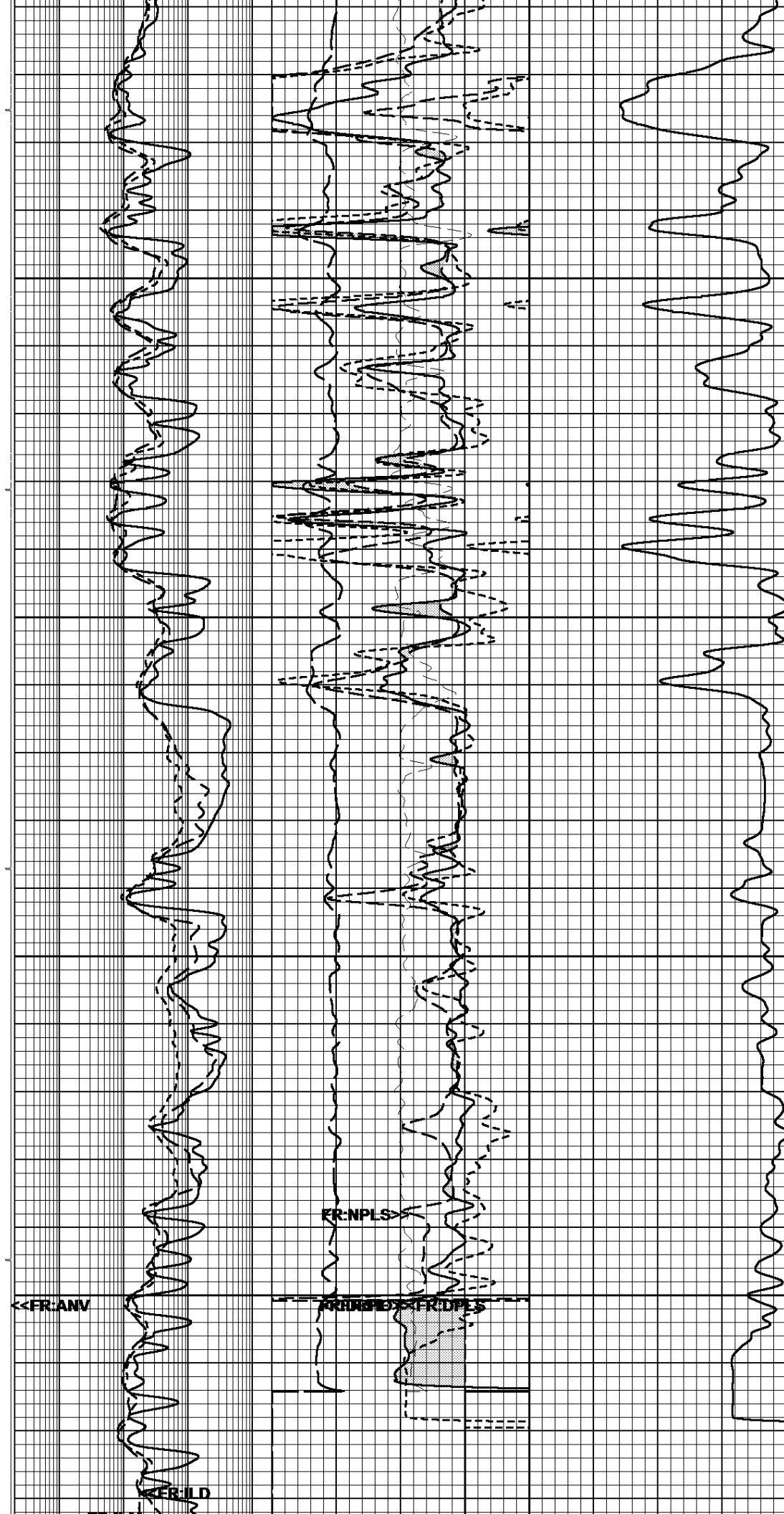
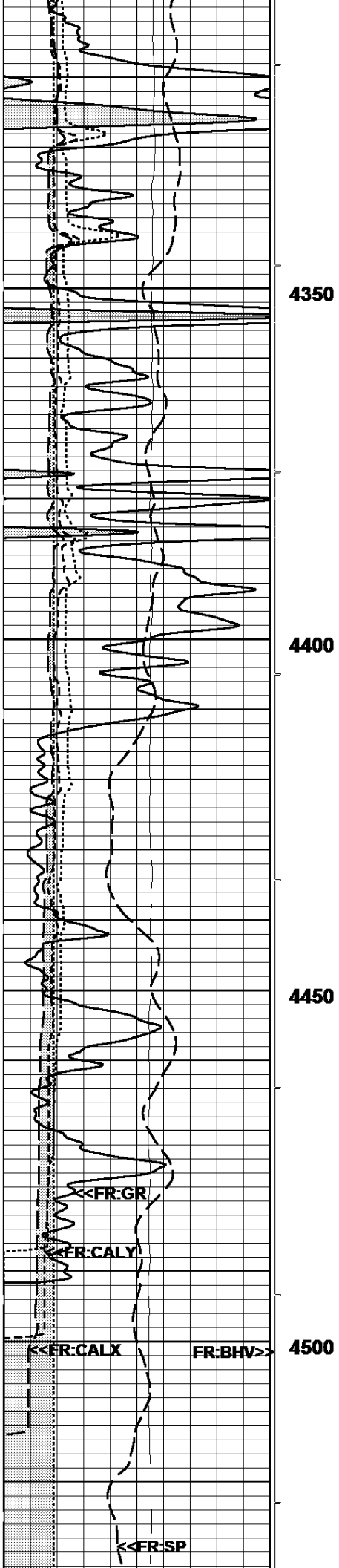
Microlog-Caliper ----- 6. in 16.		Sonic-Porosity (SPHI) ----- 30. V/V -10.	
Bit Size (BIT) ----- 6. Ref in 16.		Photo Electric (PE) ----- 0. Barns/Elect 20.	
Tension (TENS) ----- 5000. lbs 0.		Density-Porosity (DPLS) ----- 30. Limestone-Matrix (V/V) -10.	
Y-Caliper (CALY) ----- 6. in 16.		Delta RHO (DRHO) ----- -0.5 g/cc 0.5	
X-Caliper (CALX) ----- 6. in 16.		Neutron-Porosity (NPLS) ----- 30. Limestone-Matrix (V/V) -10.	
Spontaneous Potential (SP) ----- -160. mV 40.		Delta T (DT) ----- 140. usecs/ft 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.			

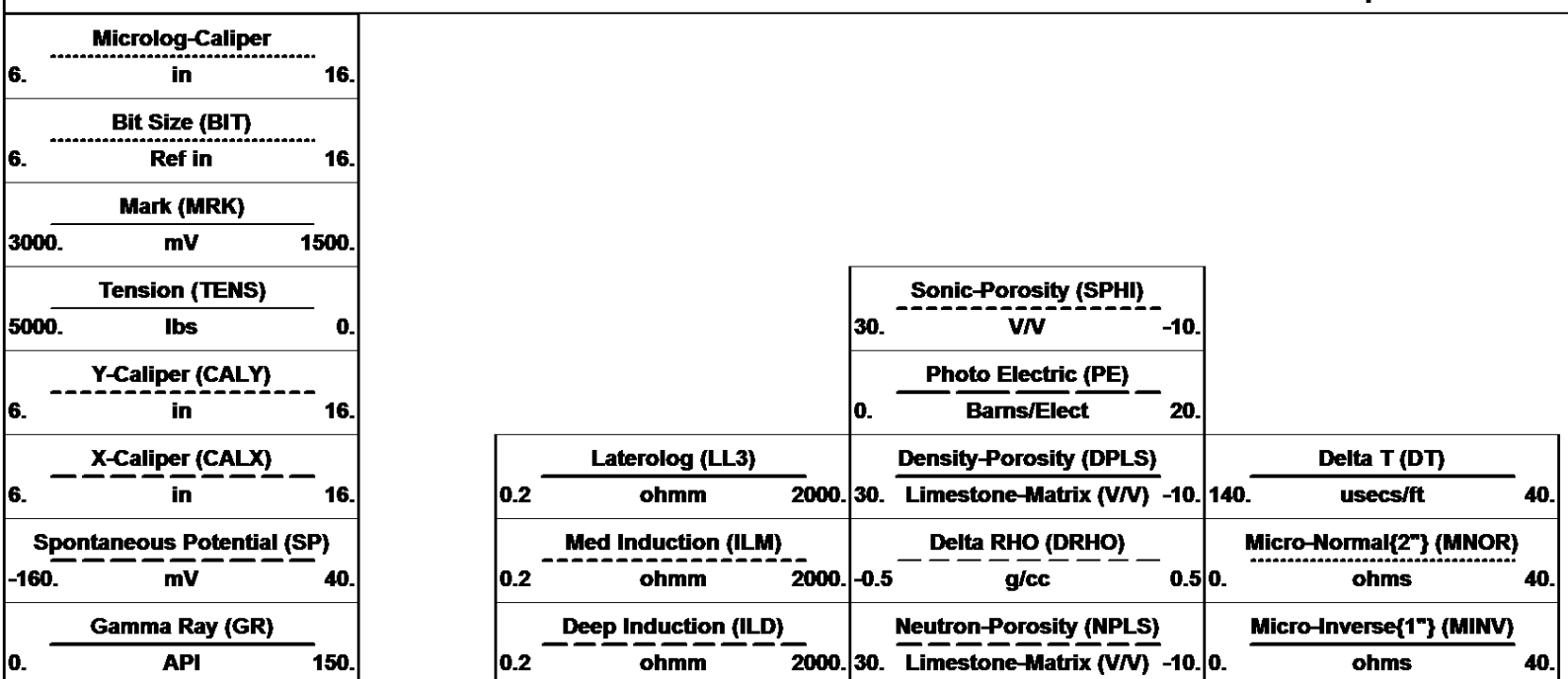








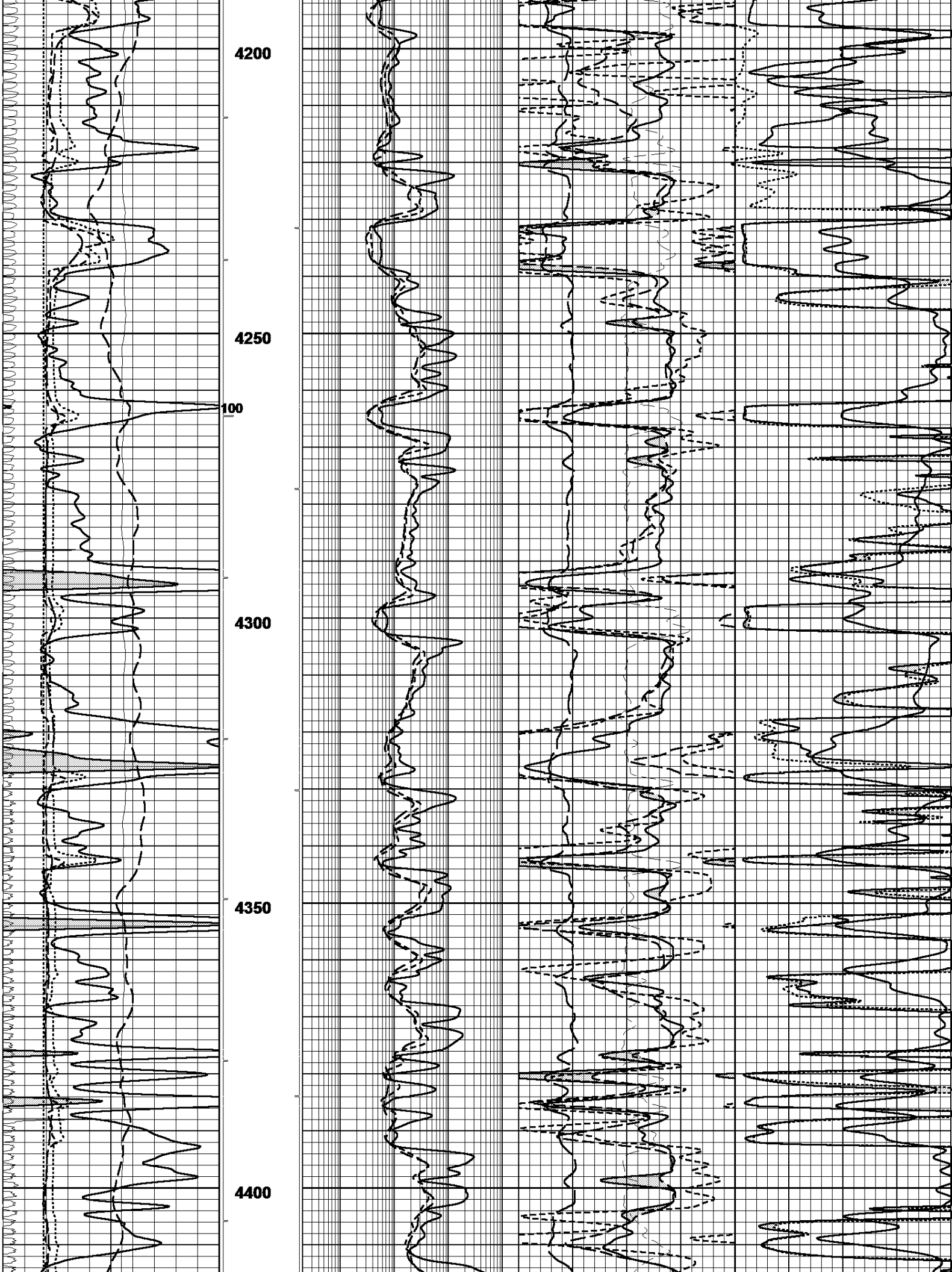


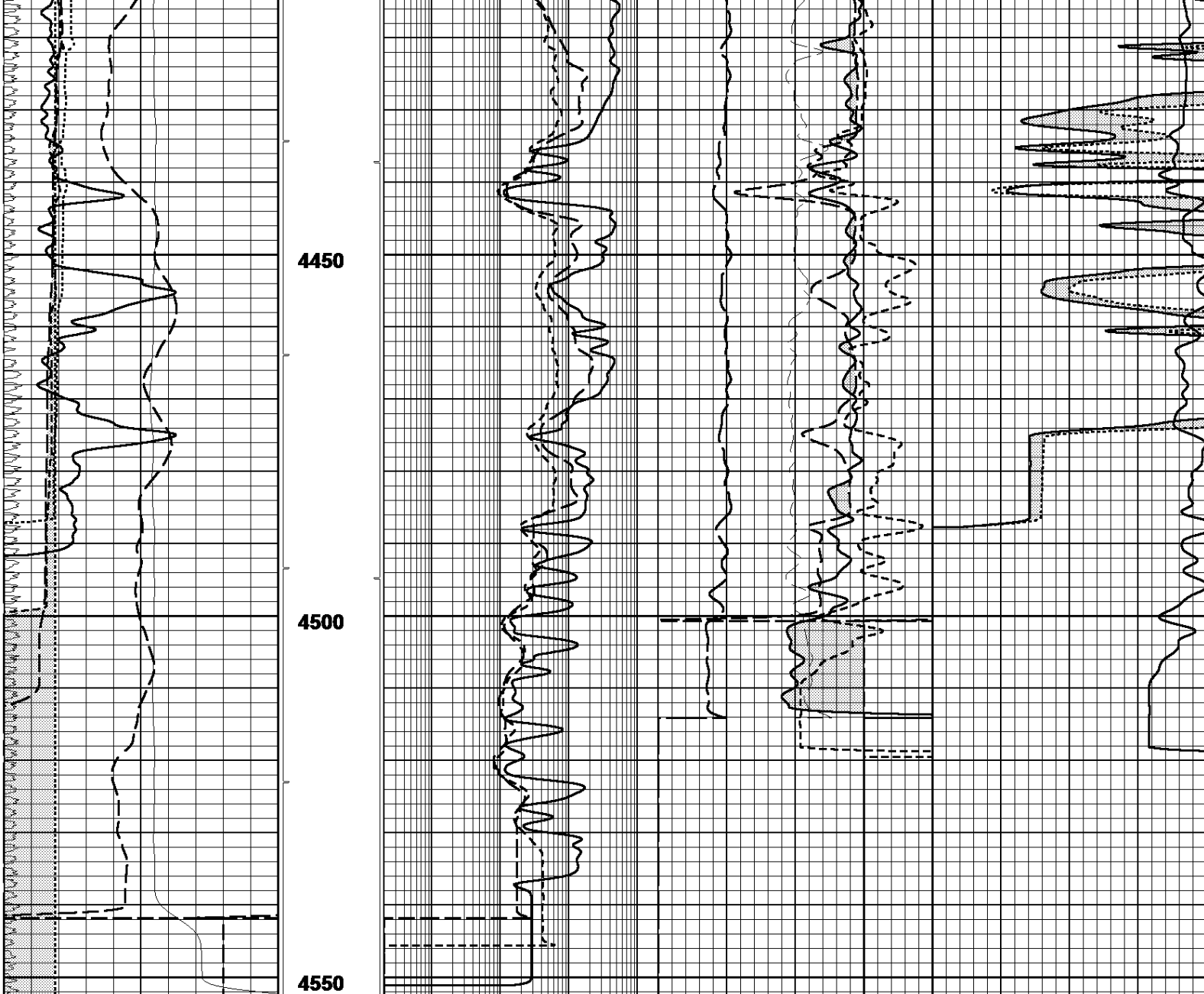










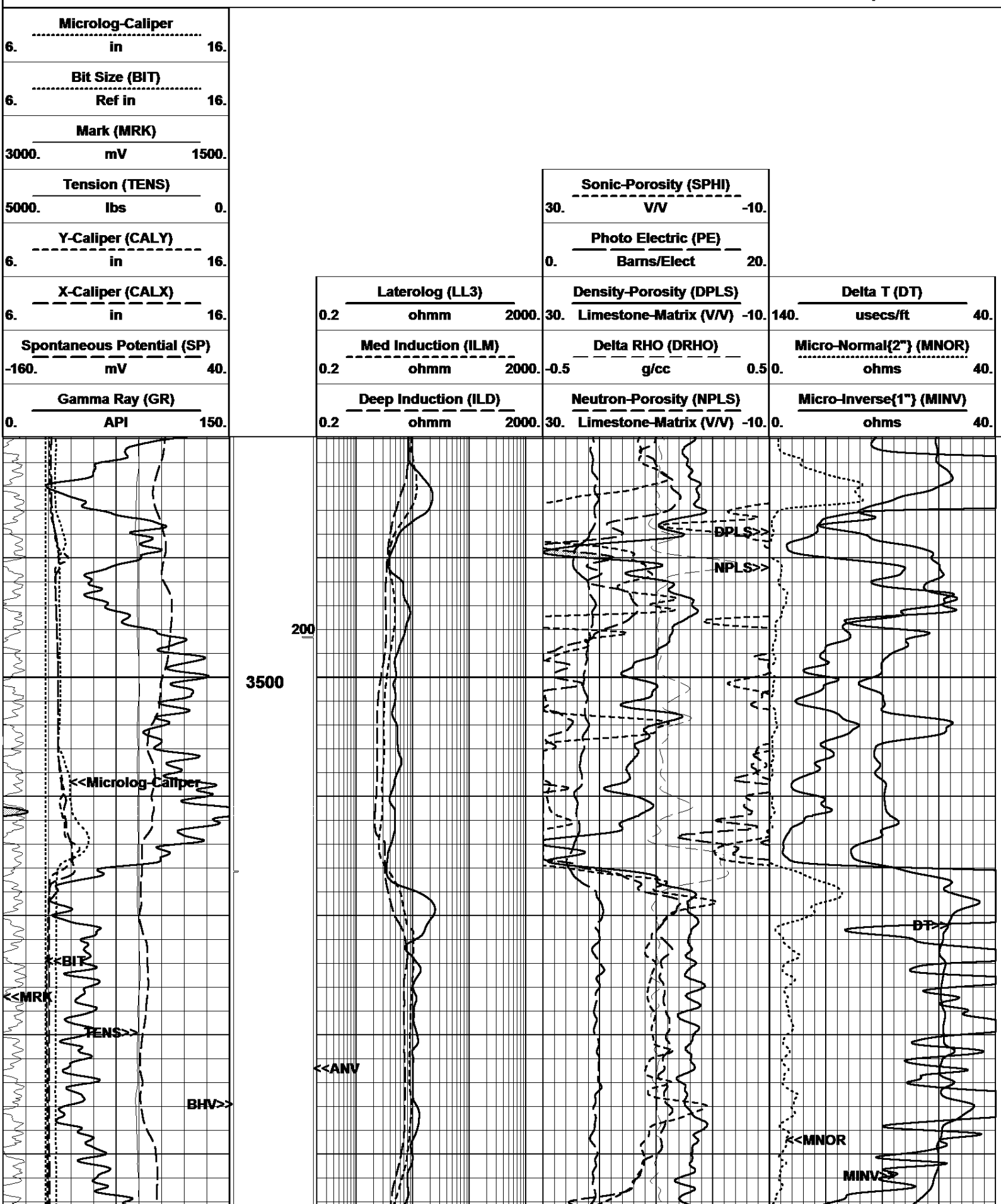


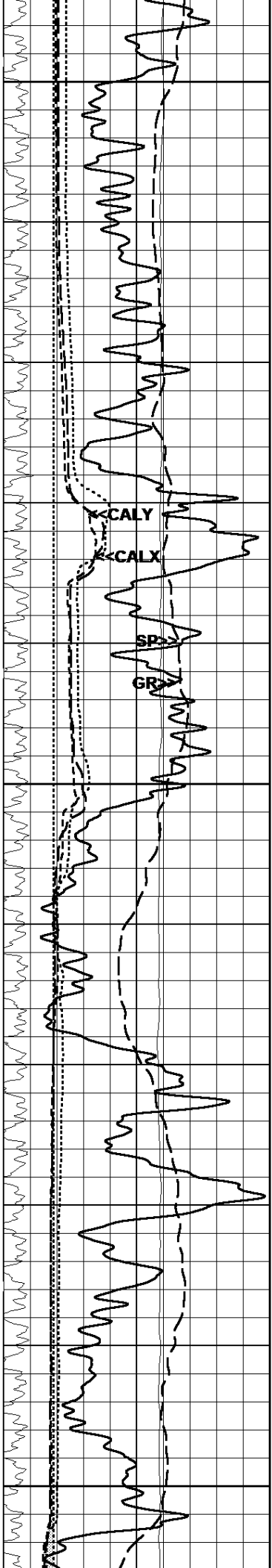
Gamma Ray (GR)			Deep Induction (ILD)			Neutron-Porosity (NPLS)			Micro-Inverse{1"} (MINV)		
0.	API	150.	0.2	ohmm	2000.	30.	Limestone-Matrix (V/V)	-10.	0.	ohms	40.
Spontaneous Potential (SP)			Med Induction (ILM)			Delta RHO (DRHO)			Micro-Normal{2"} (MNOR)		
-160.	mV	40.	0.2	ohmm	2000.	-0.5	g/cc	0.5	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)						Sonic-Porosity (SPHI)					
5000.	lbs	0.				30.	V/V	-10.			
Mark (MRK)											
3000.	mV	1500.									
Bit Size (BIT)											
6.	Ref in	16.									
Microlog-Caliper											
6.	in	16.									

08/07/2015
17:27:20 => Start Time

REPEAT PASS - LIMESTONE (5"/100ft)

Log UP - (VER 11.19)
Start Depth=> 4552.70 Feet

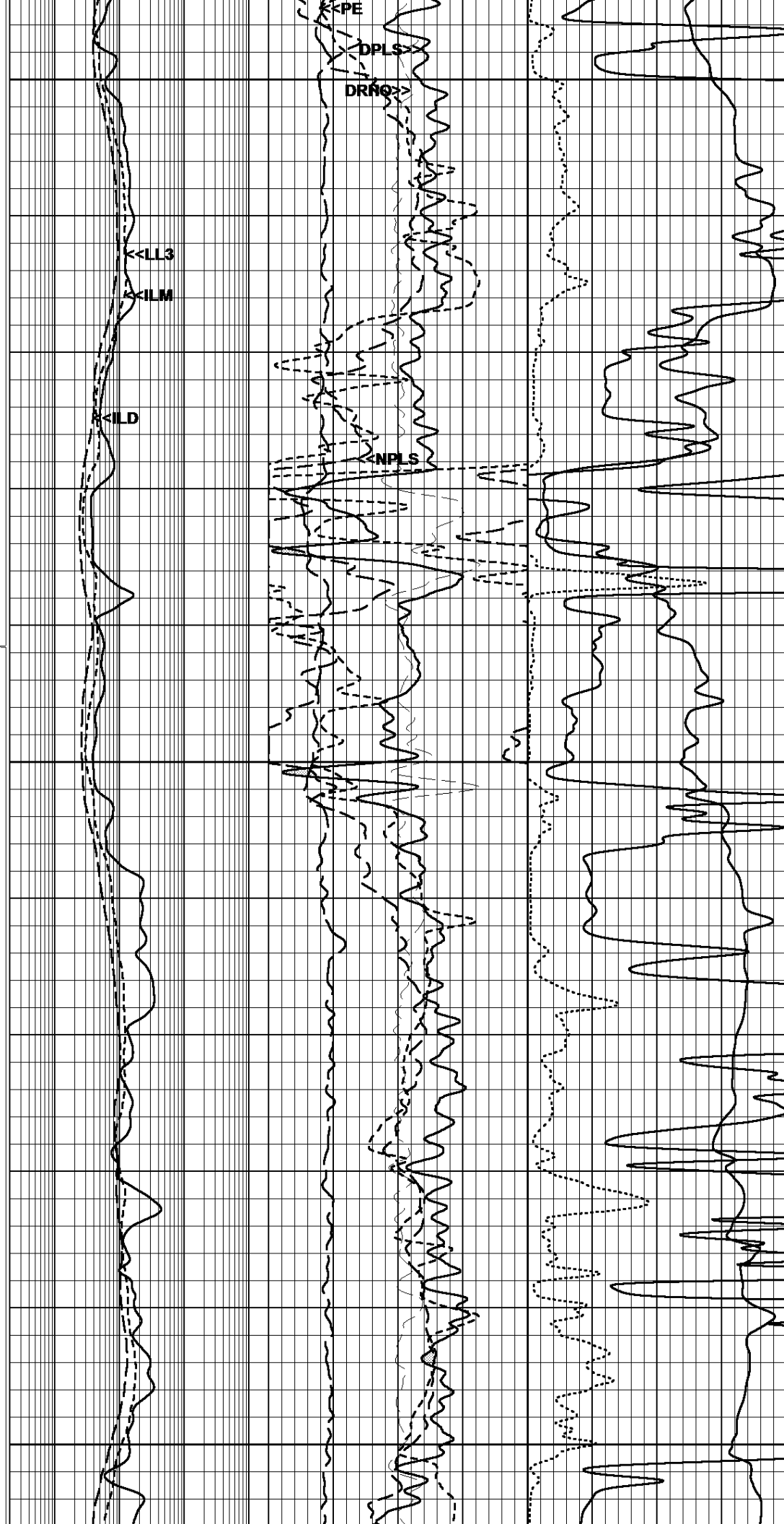


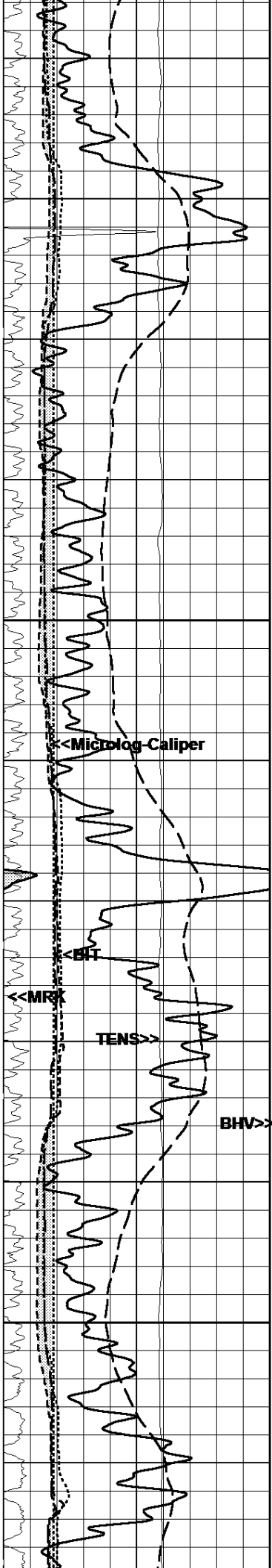


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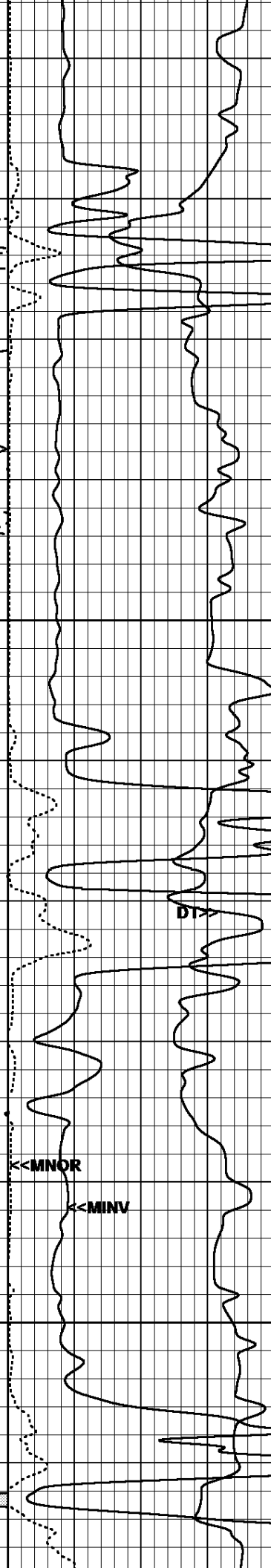
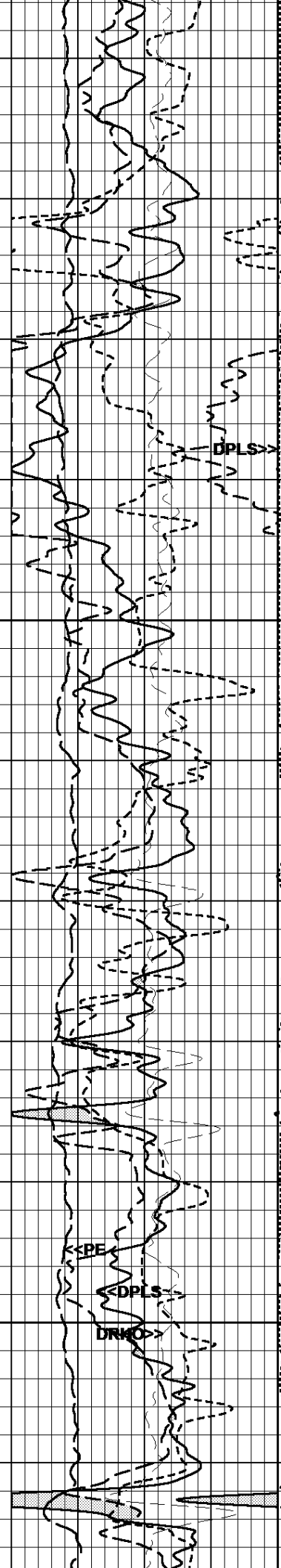
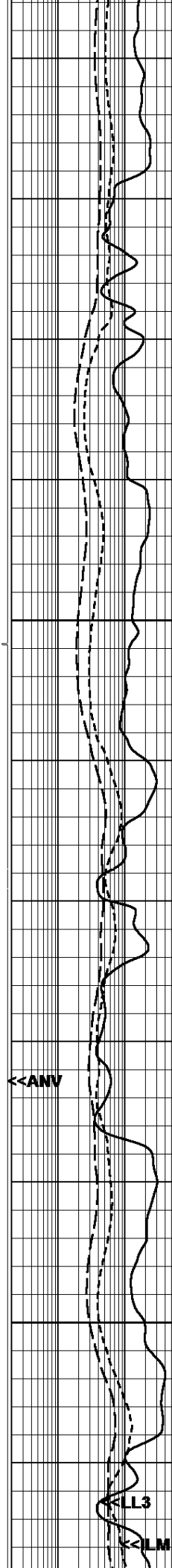
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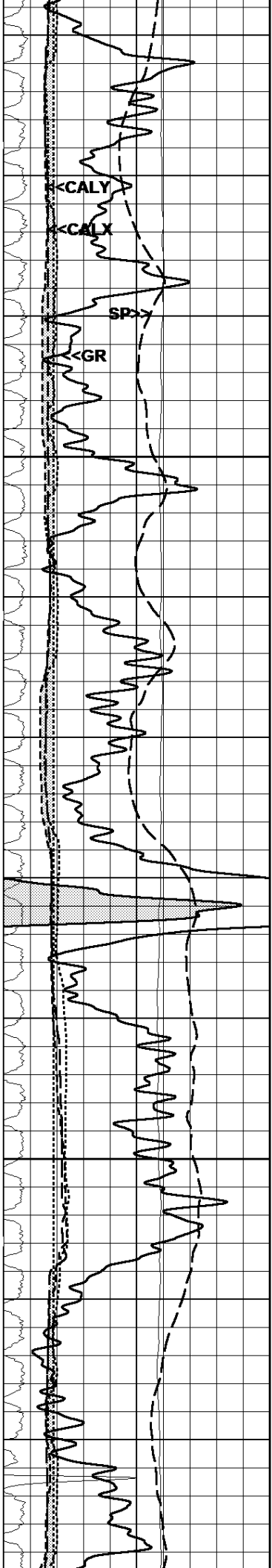




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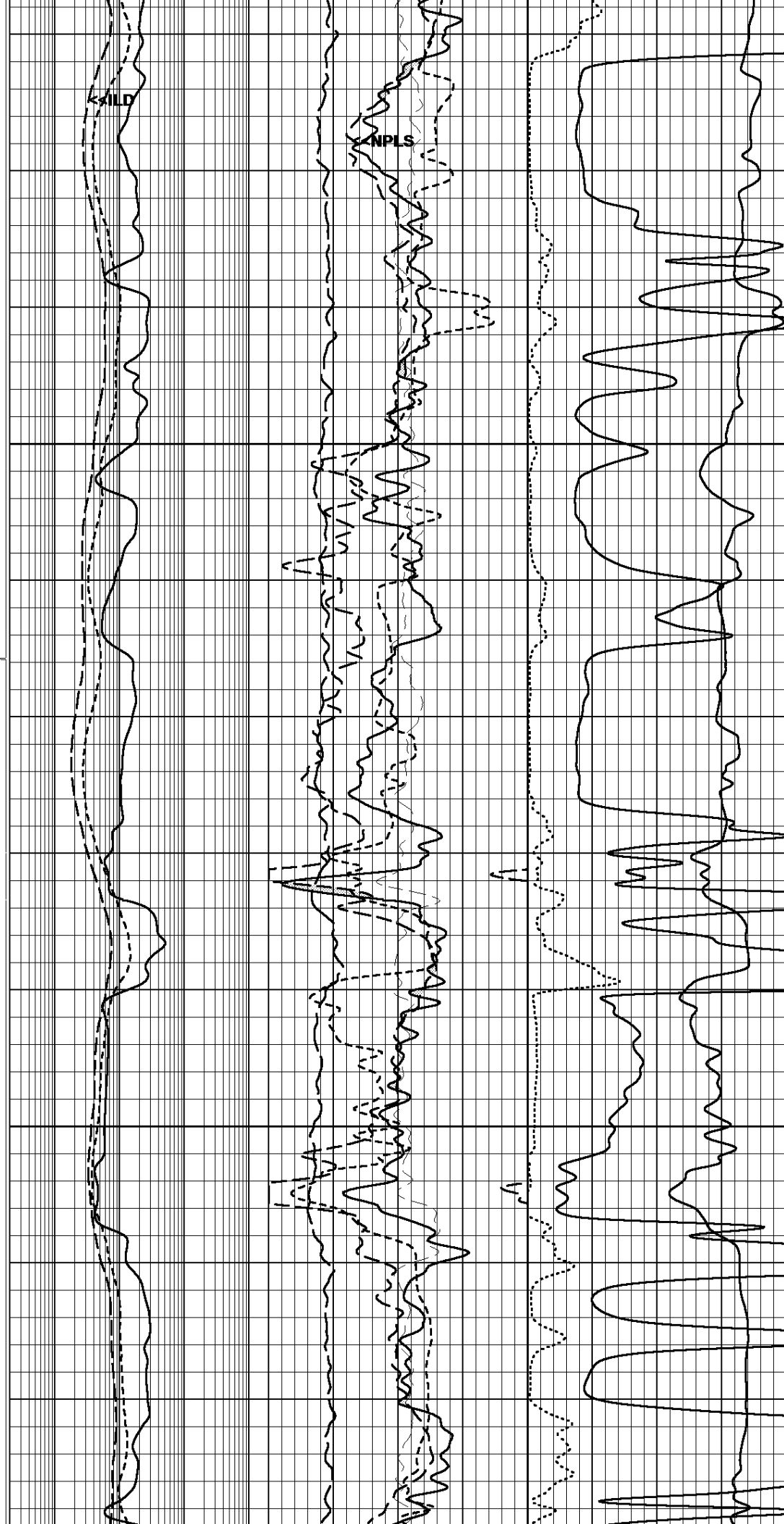
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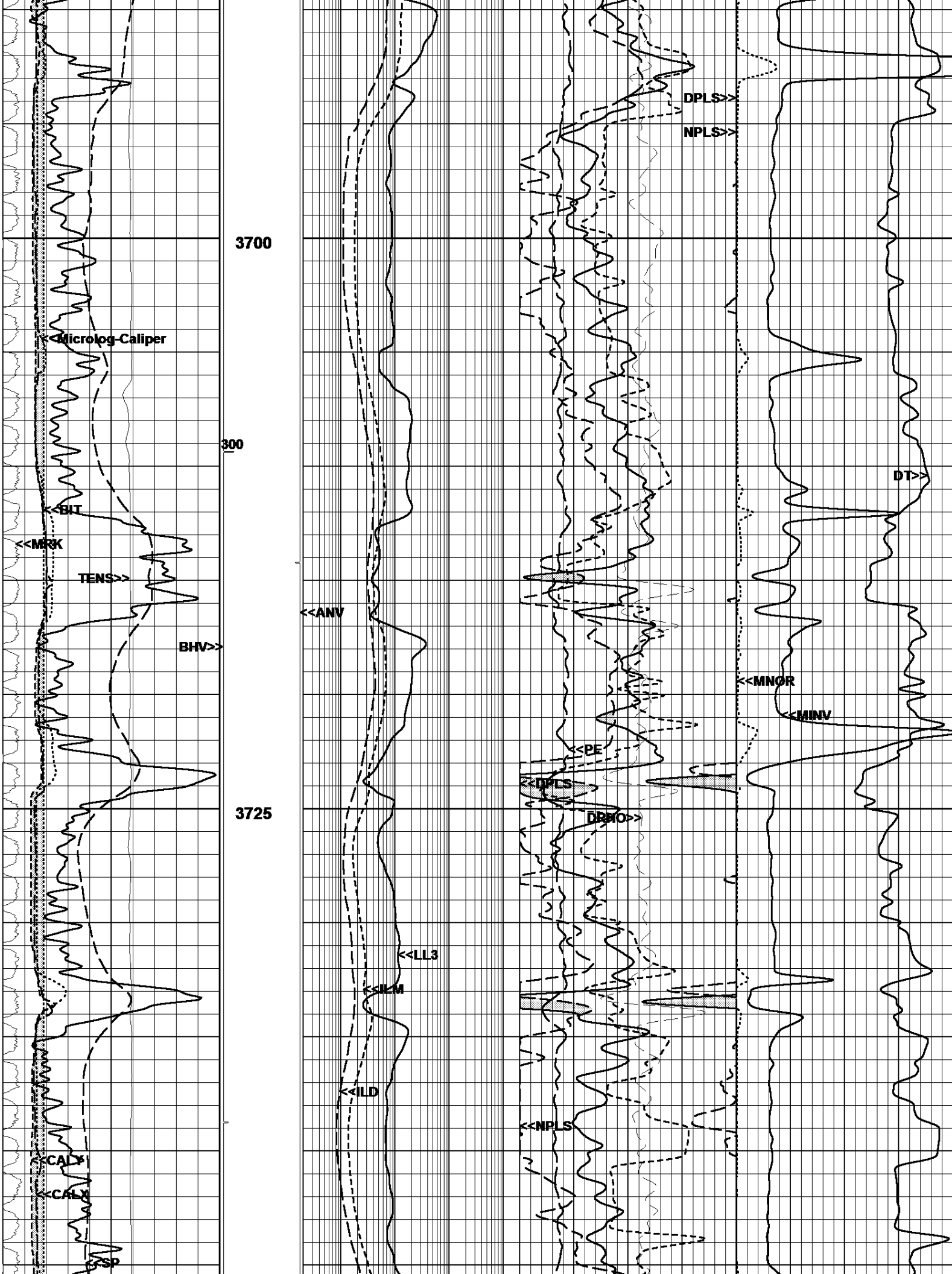


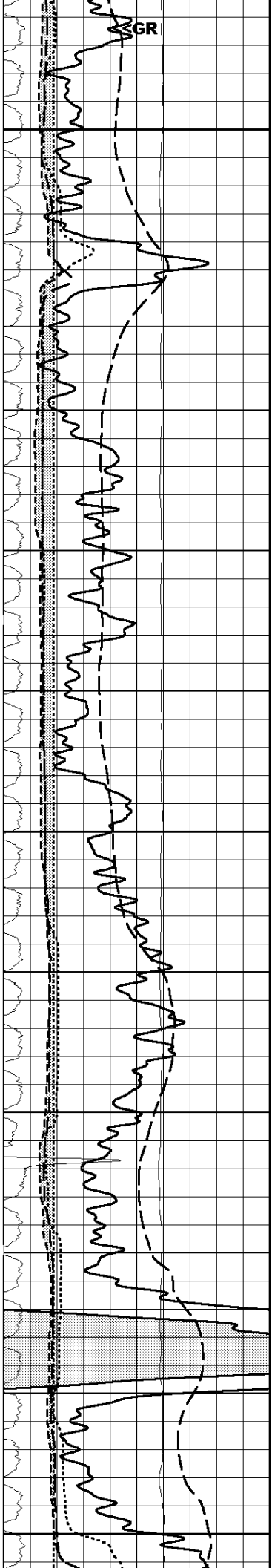


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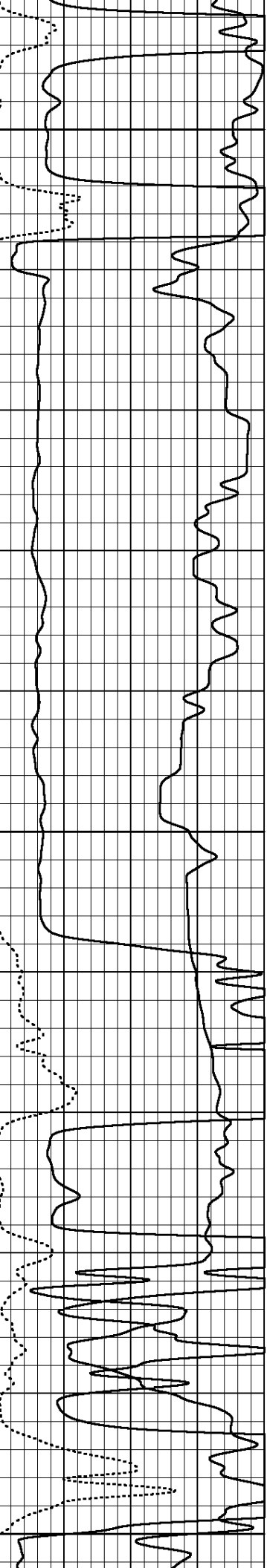
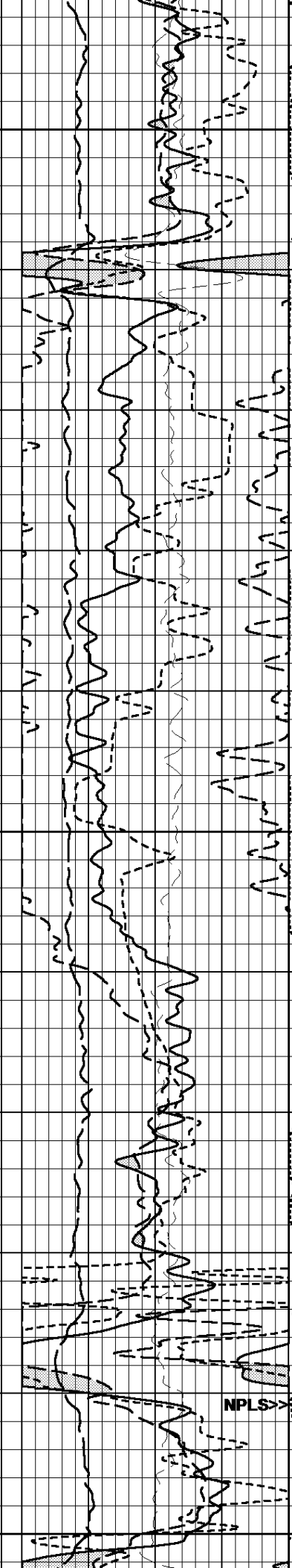
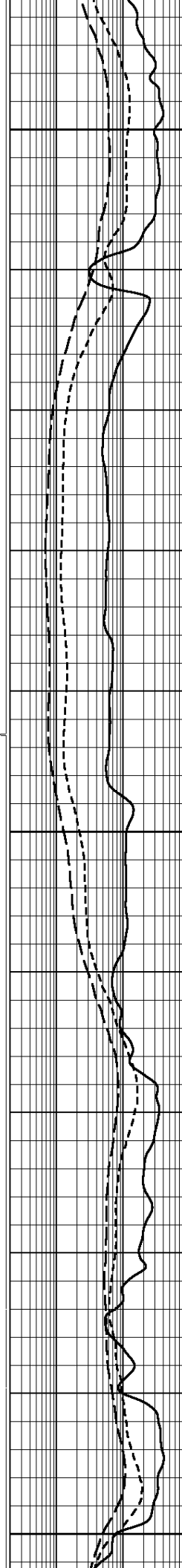


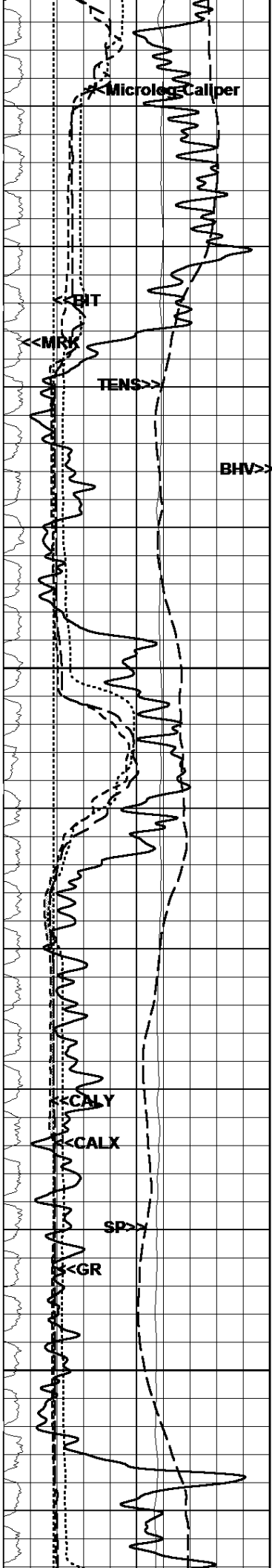


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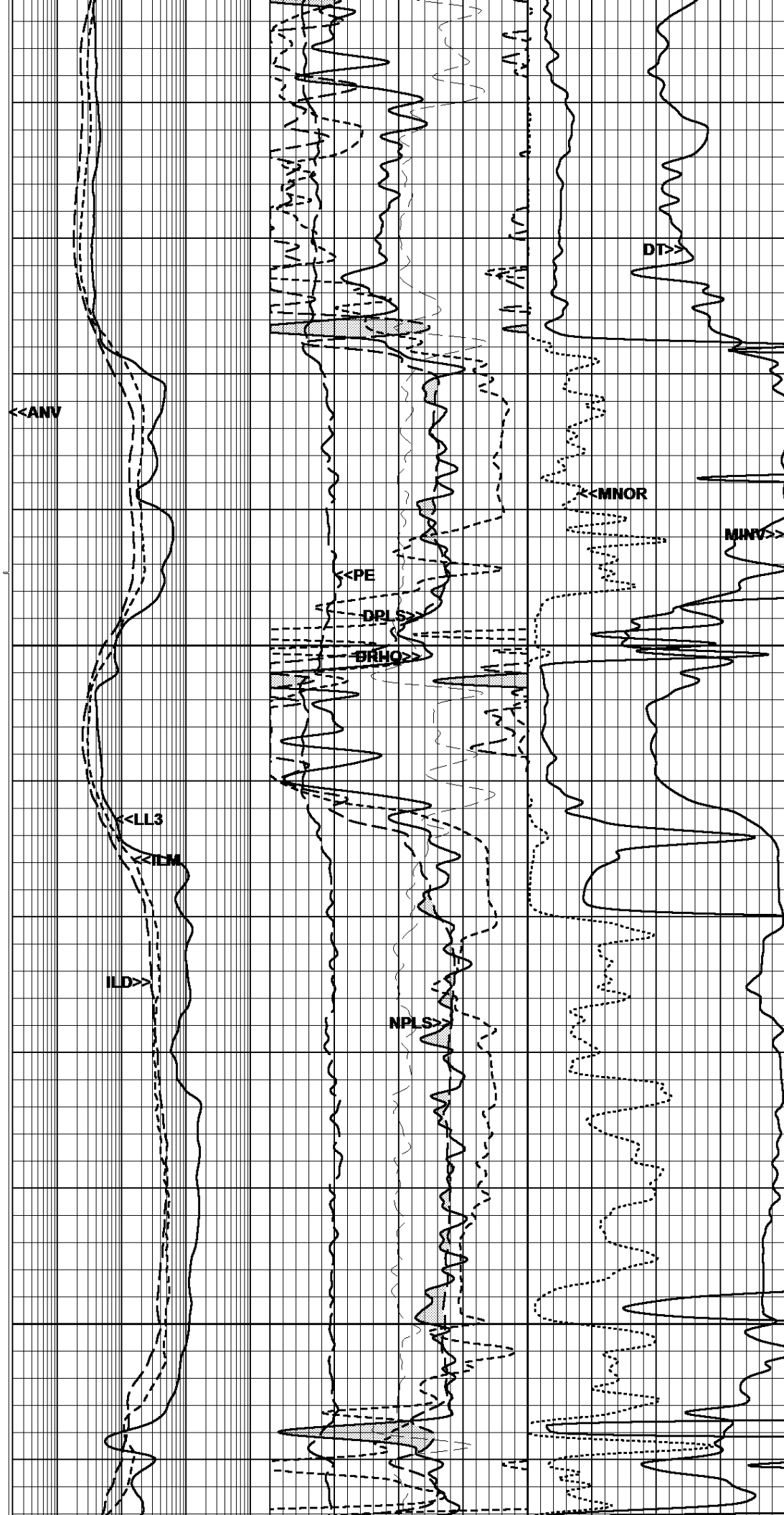
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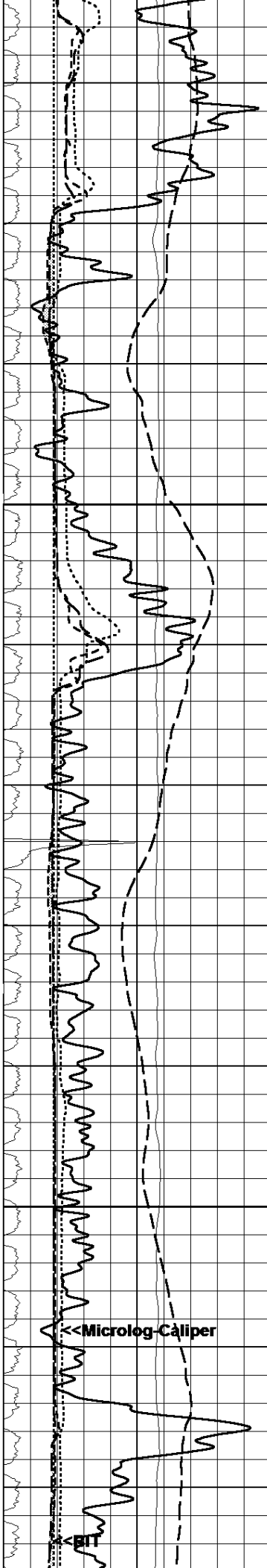




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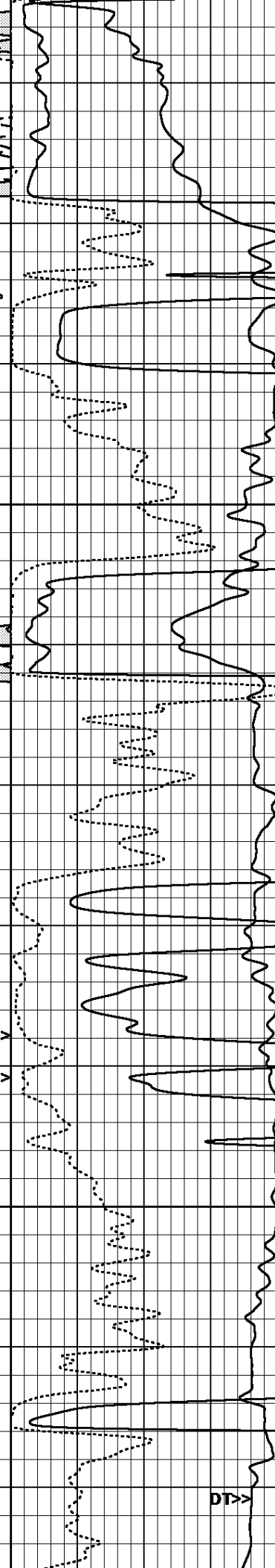
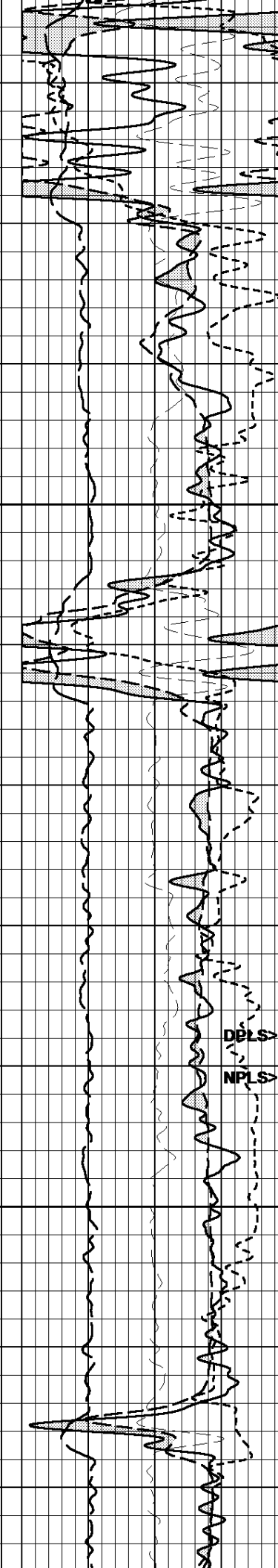
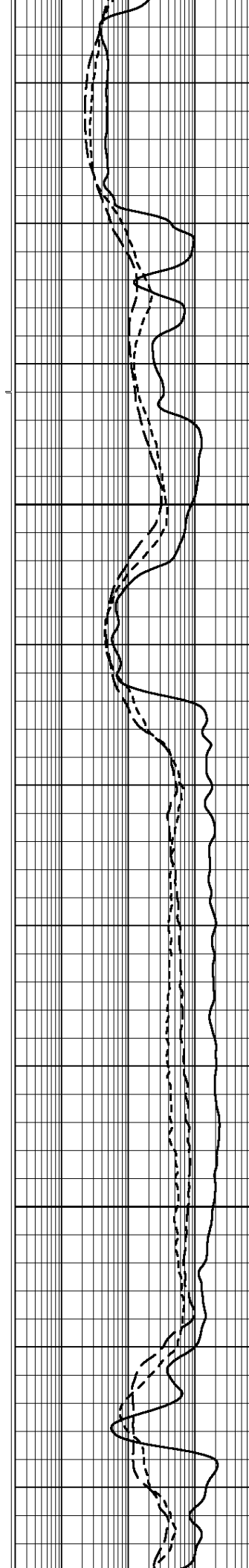
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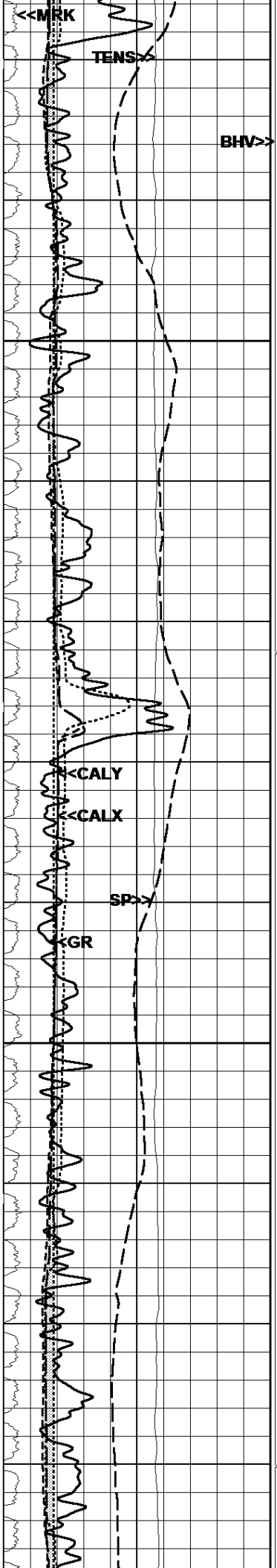


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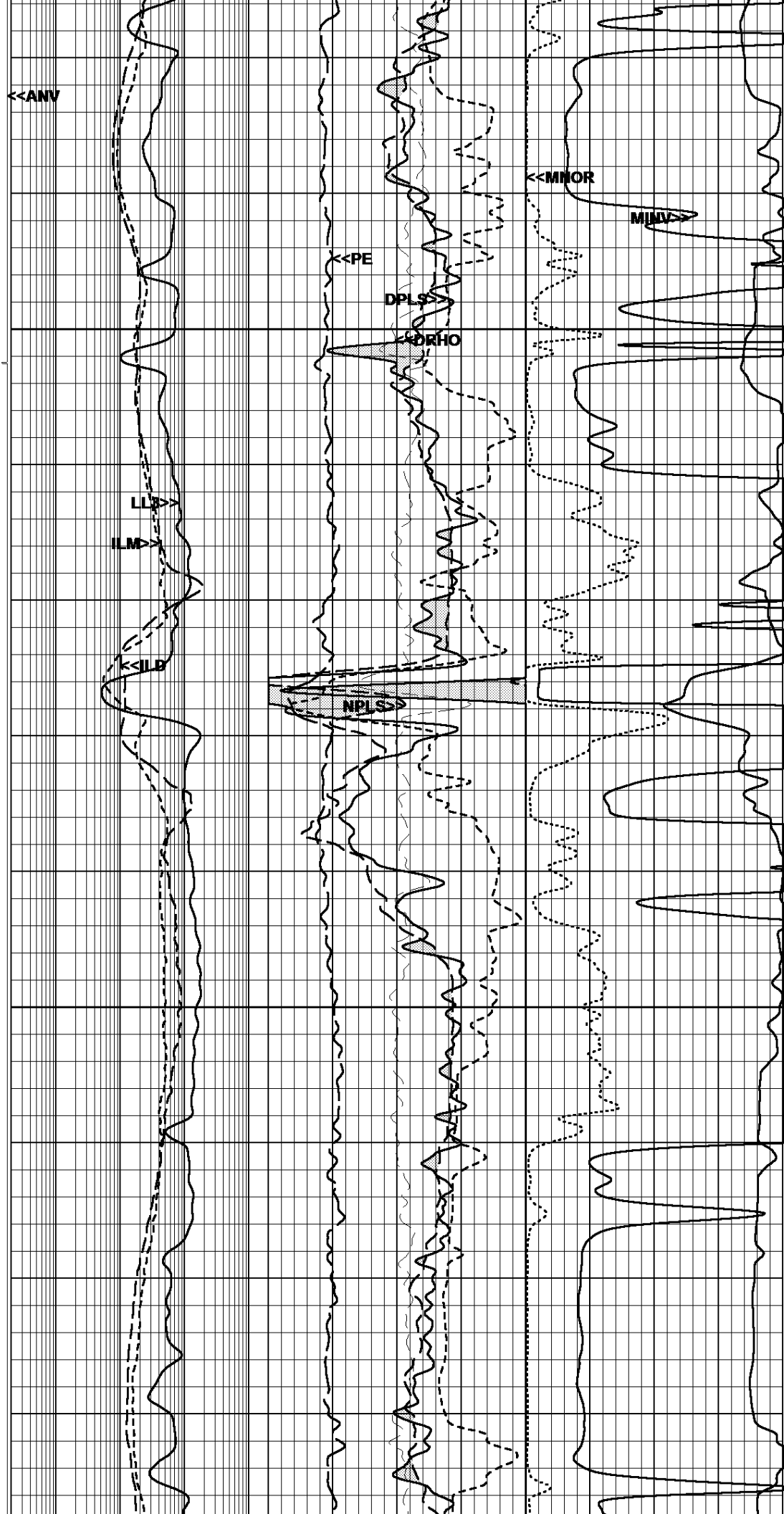


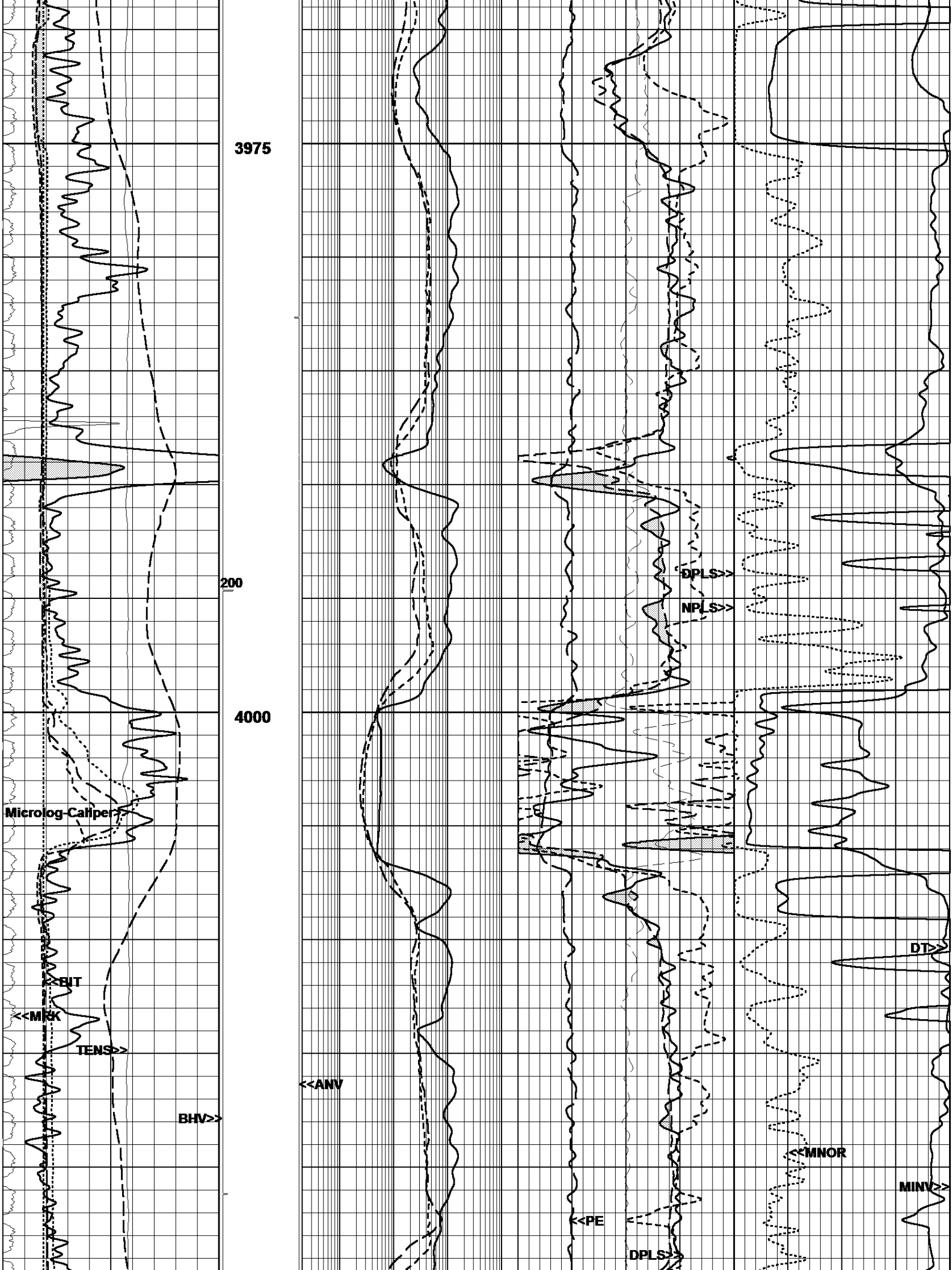
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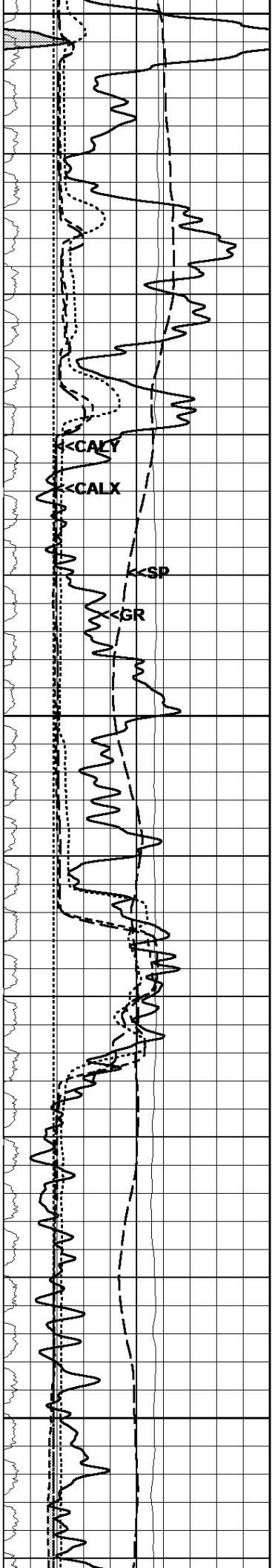


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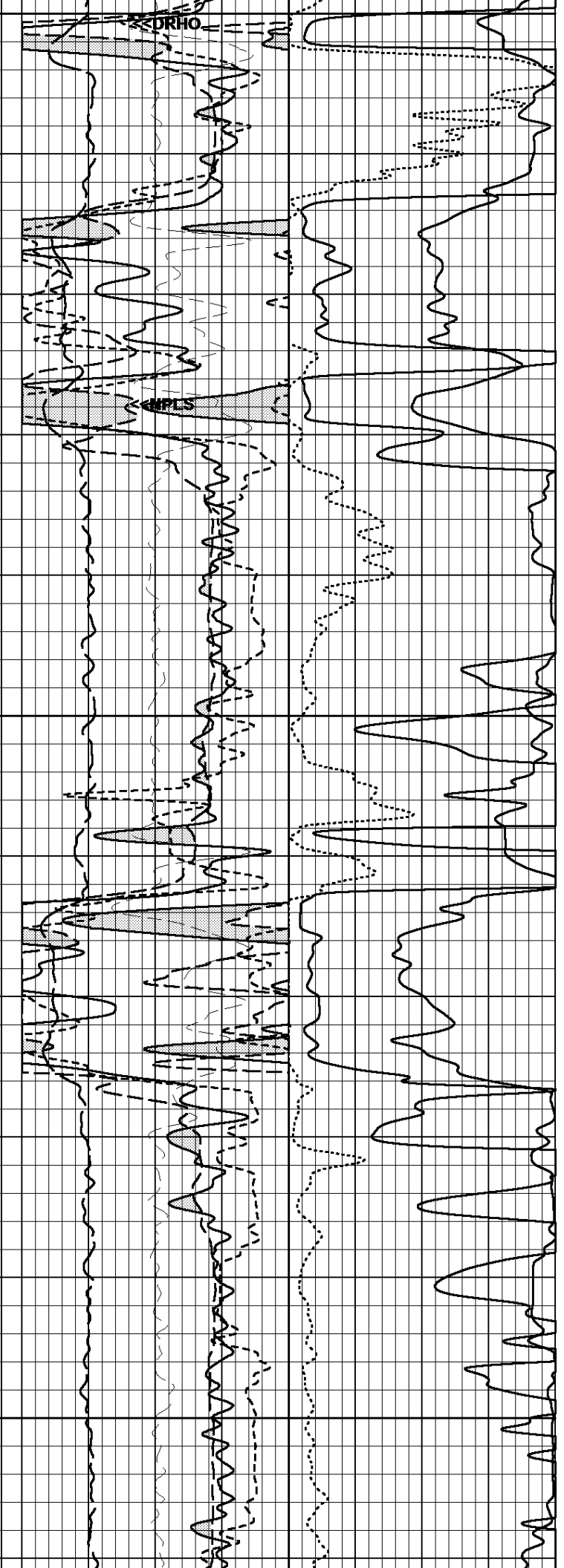
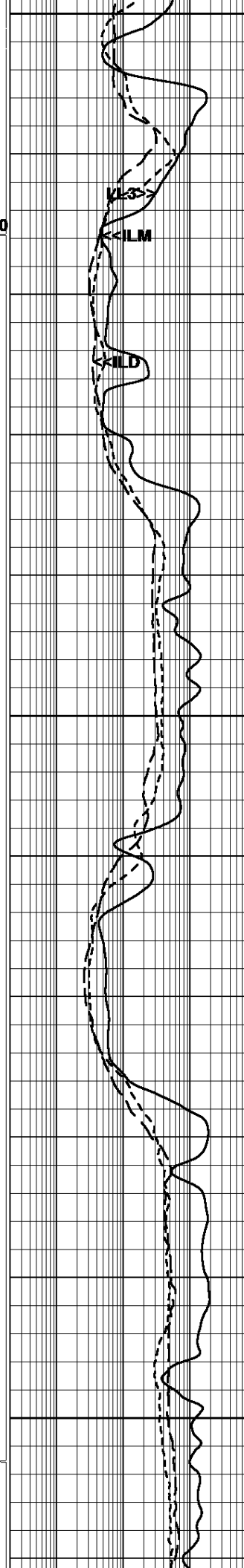


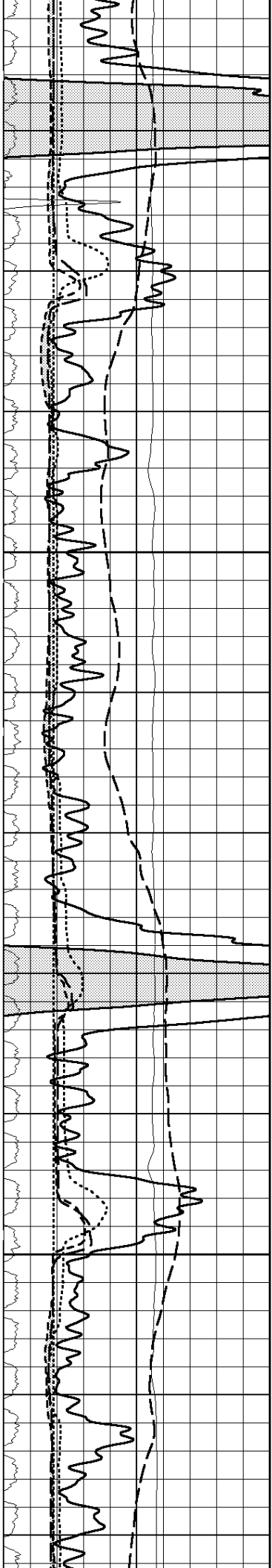
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4050

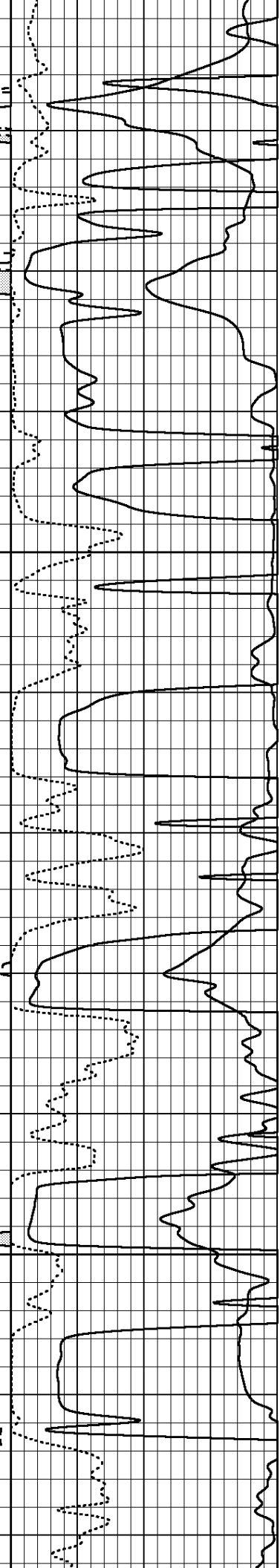
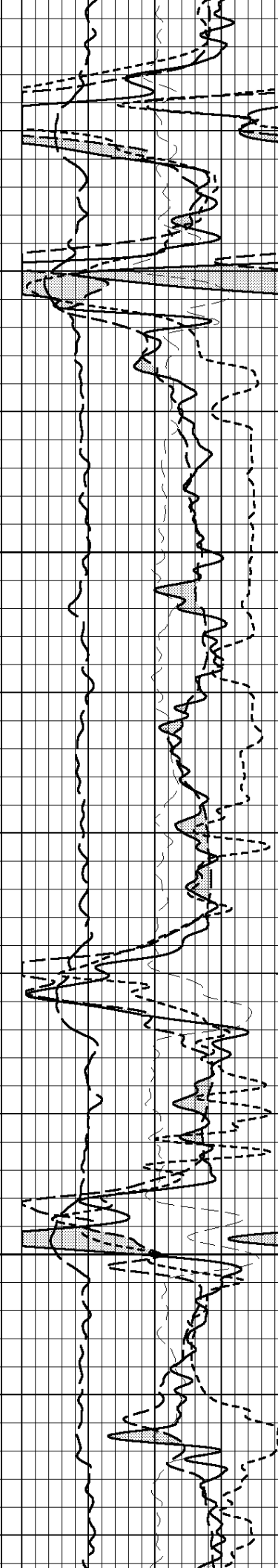
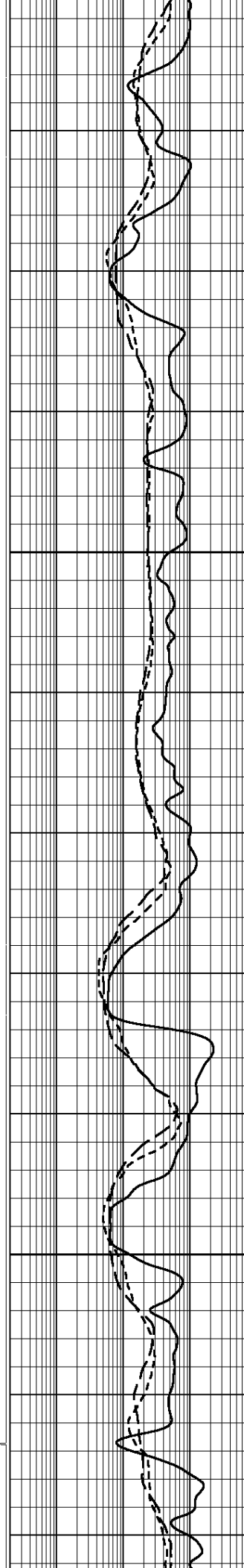
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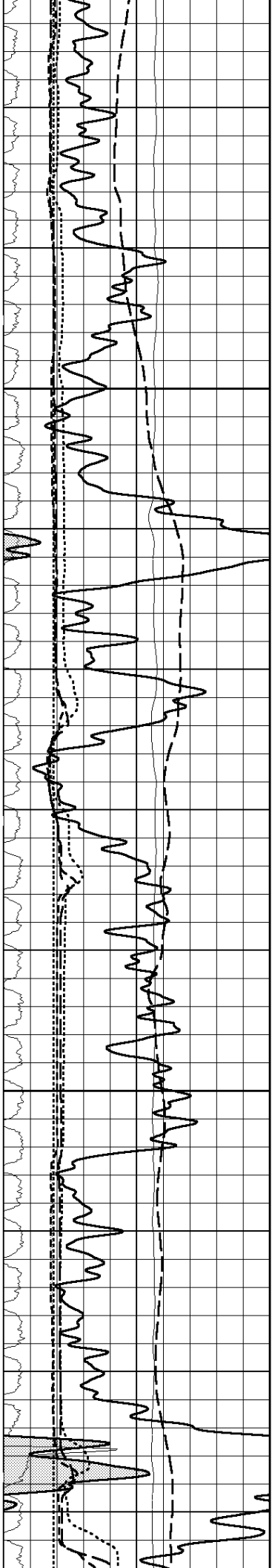




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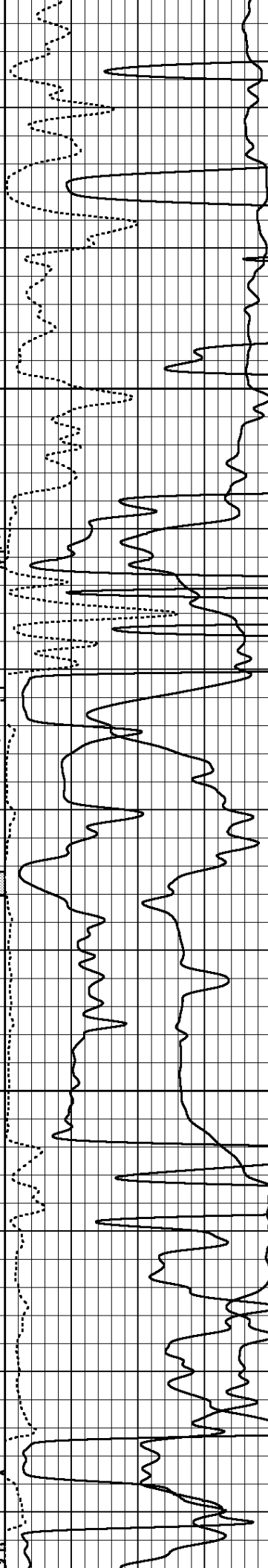
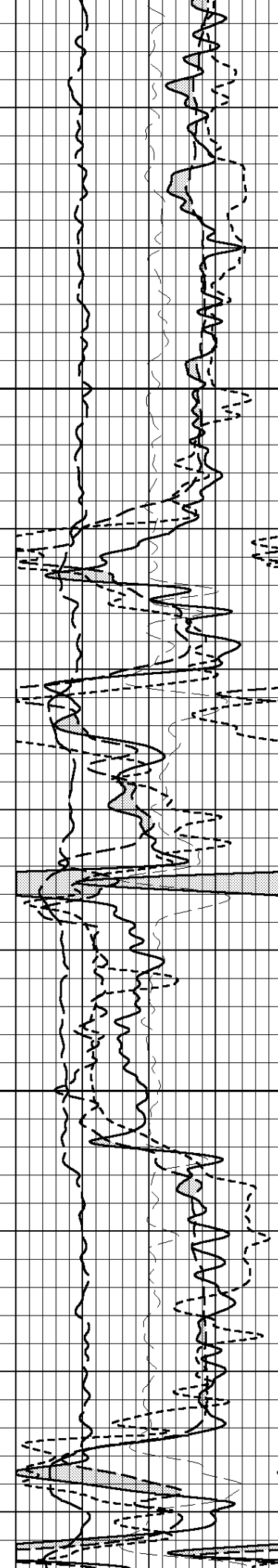
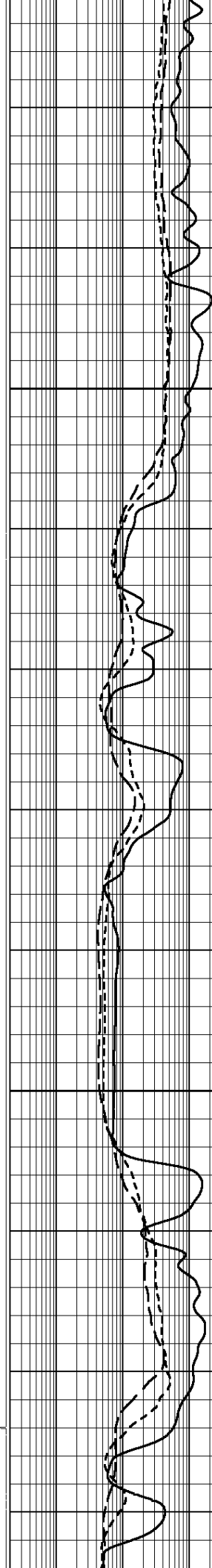
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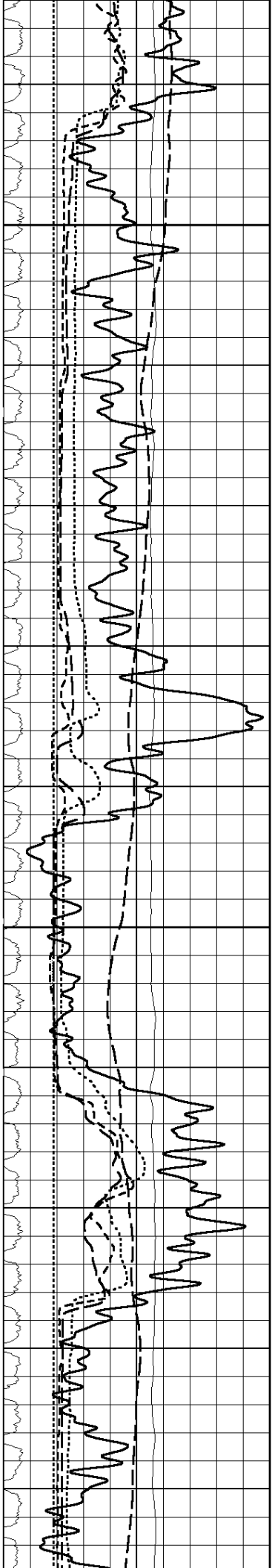




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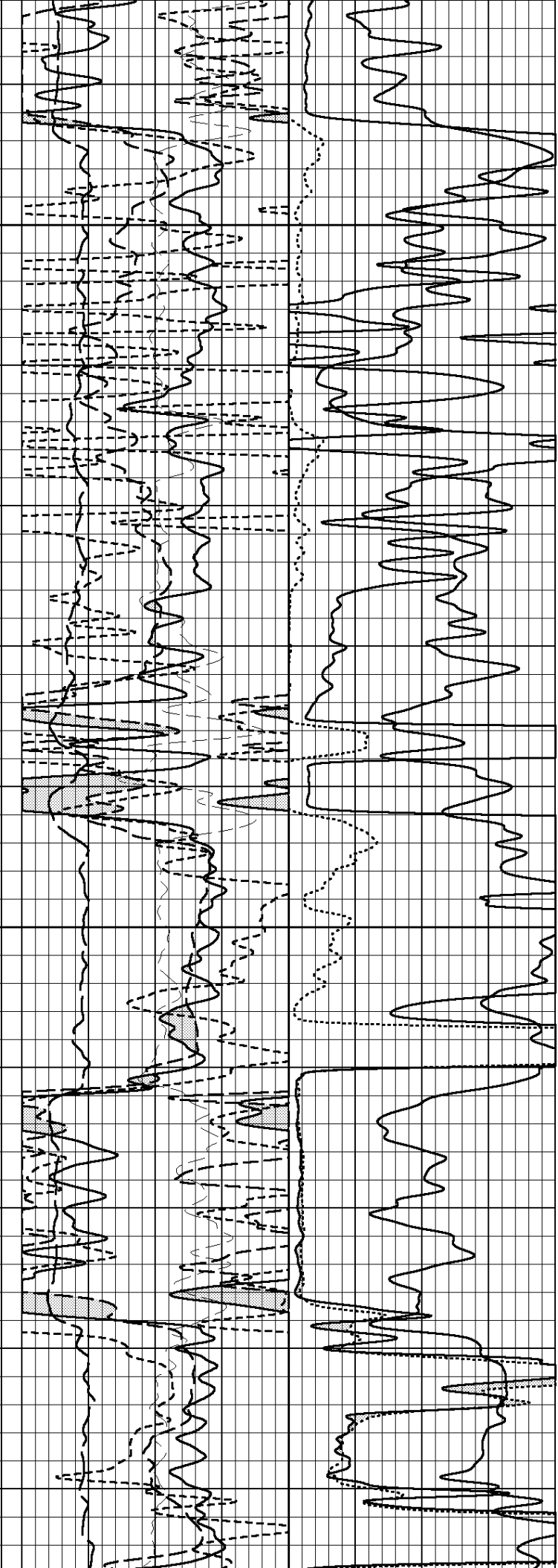
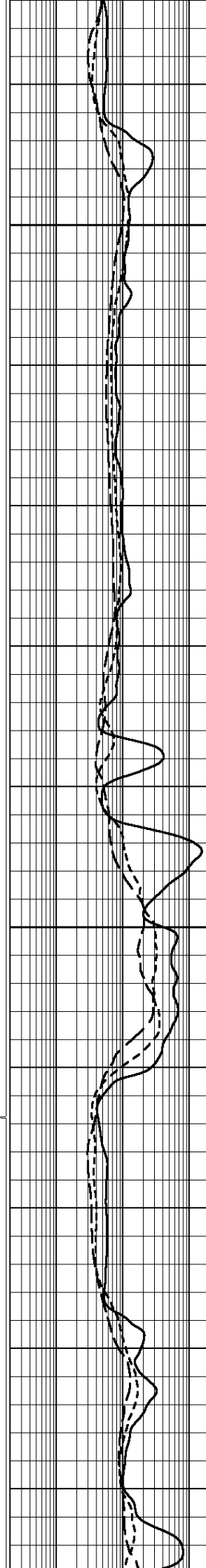
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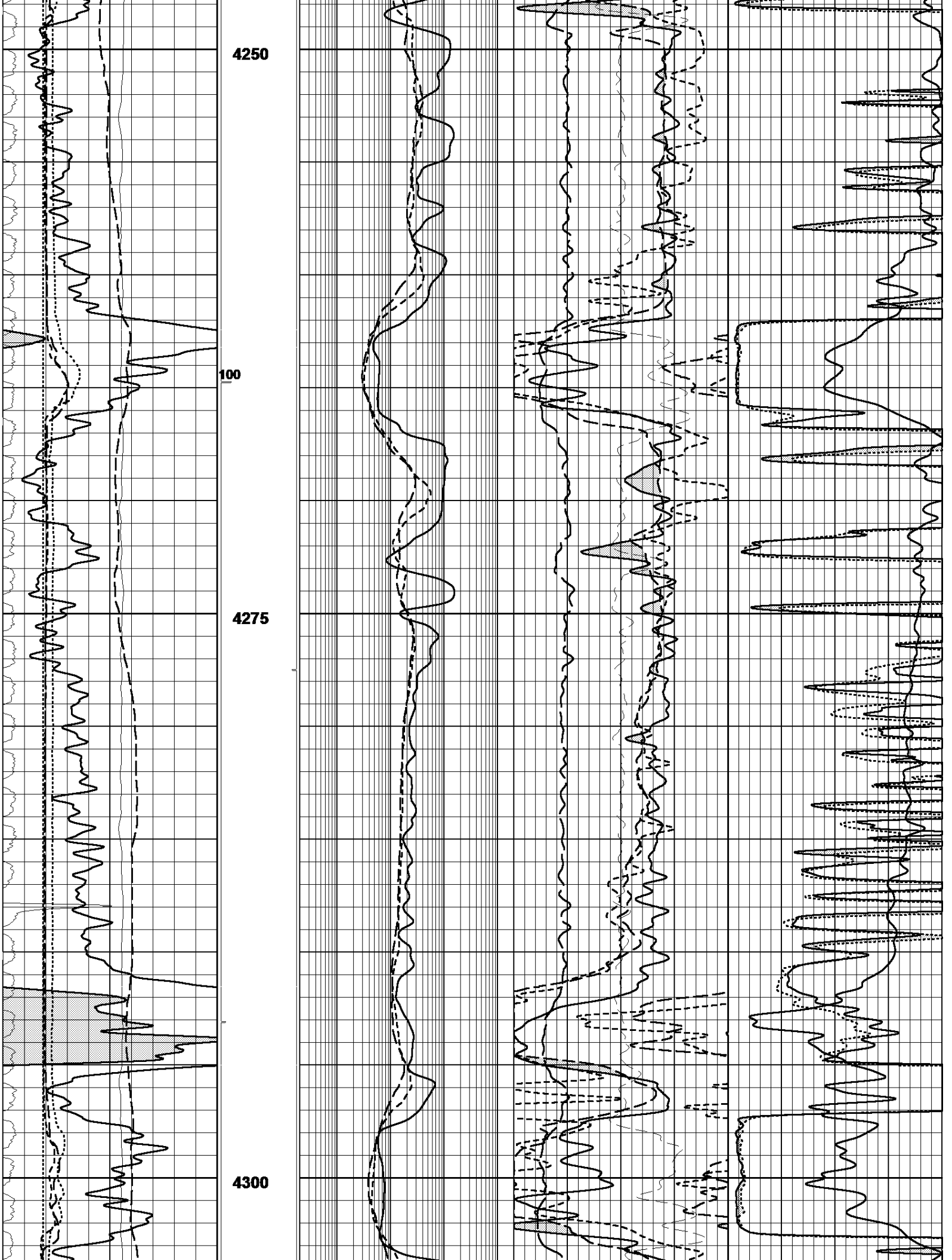


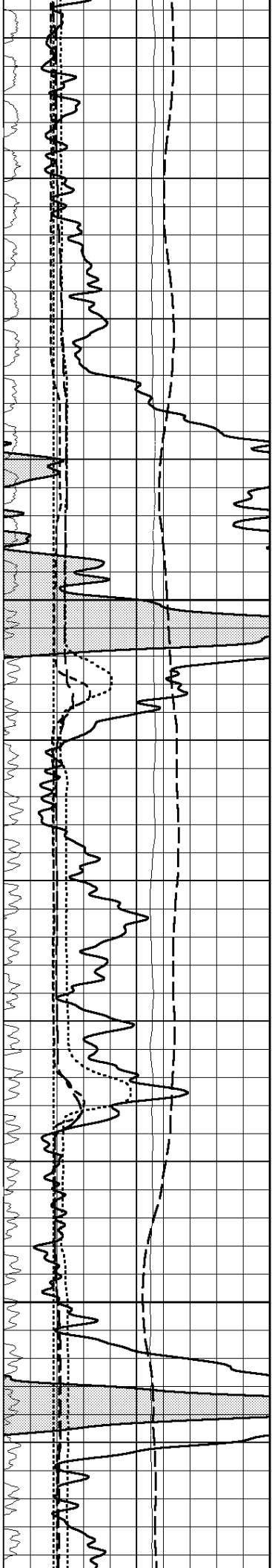


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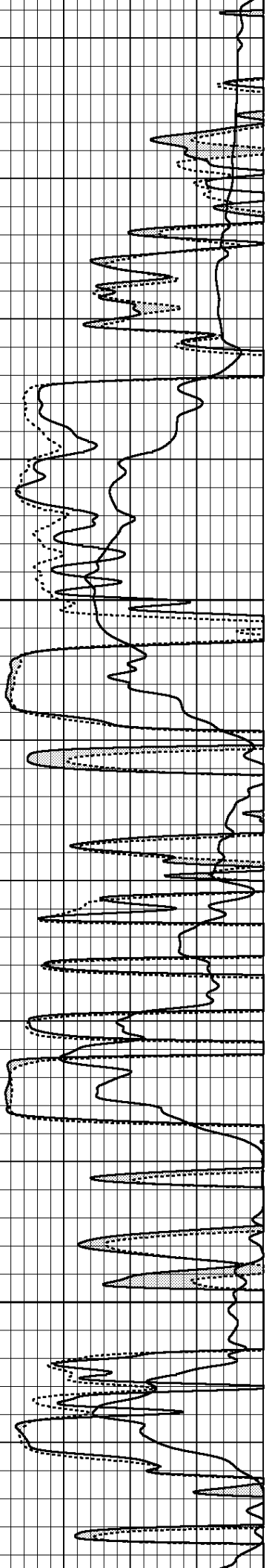
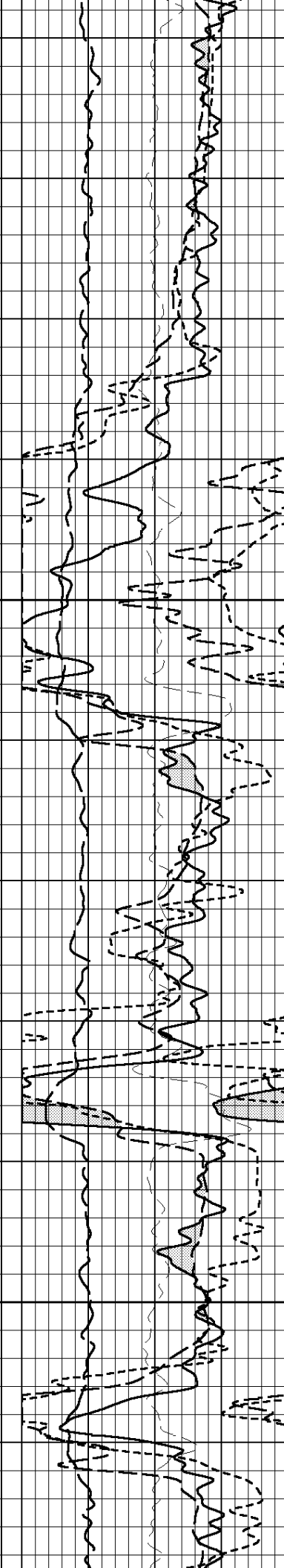
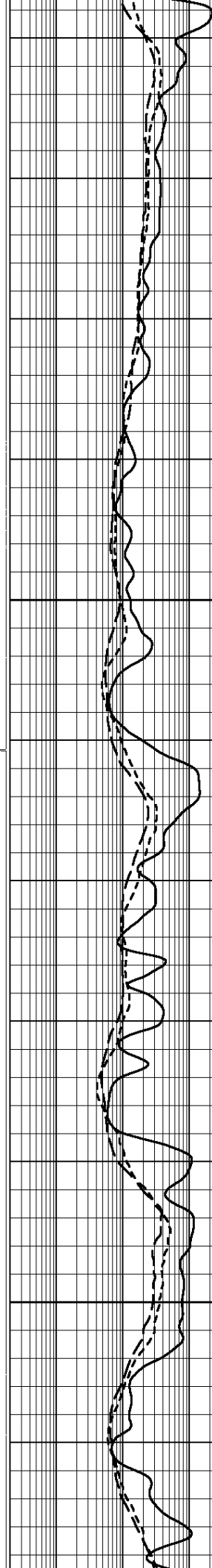


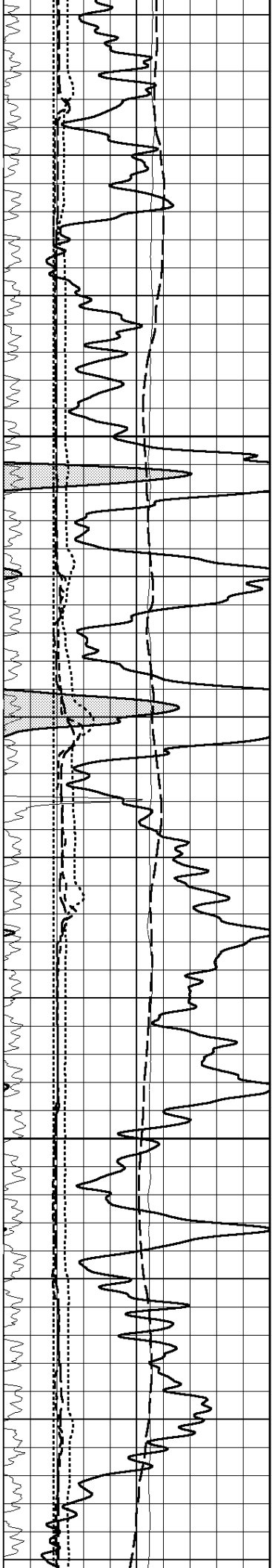




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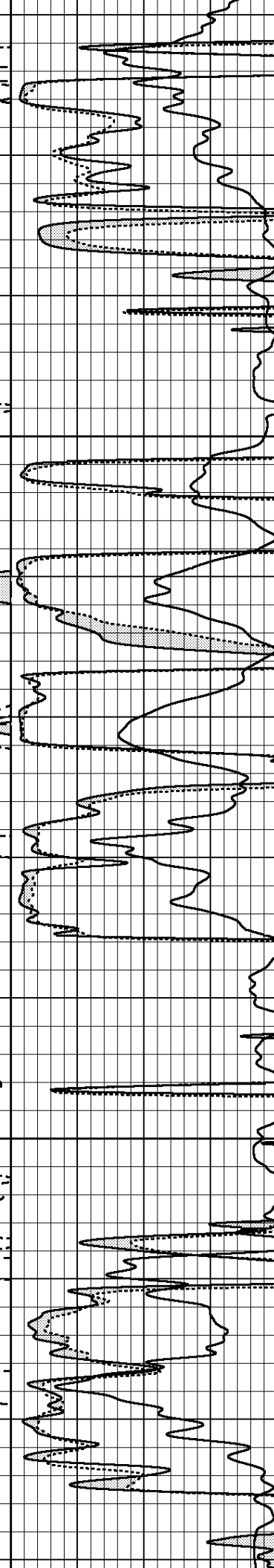
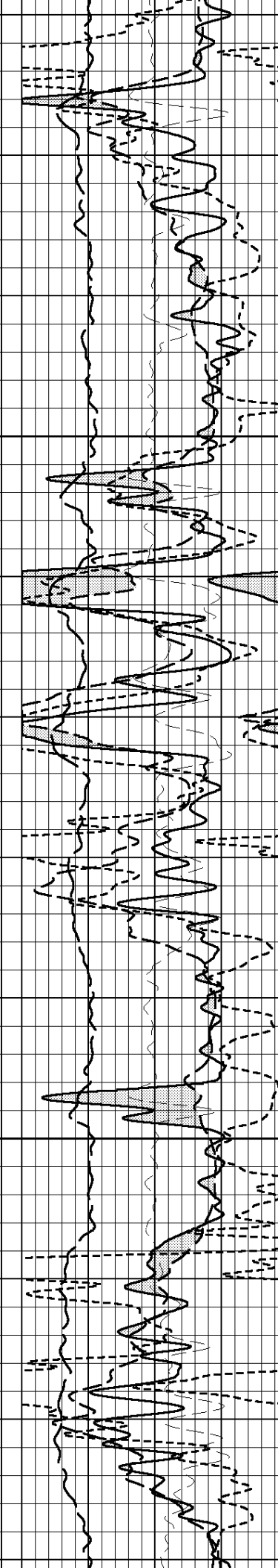
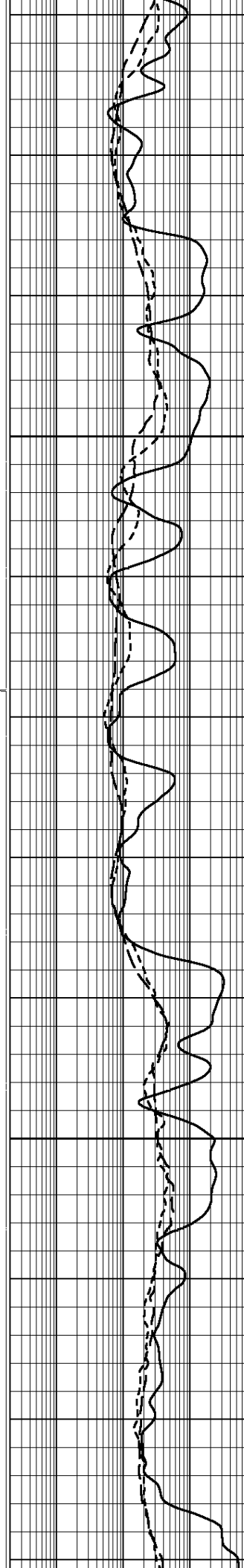
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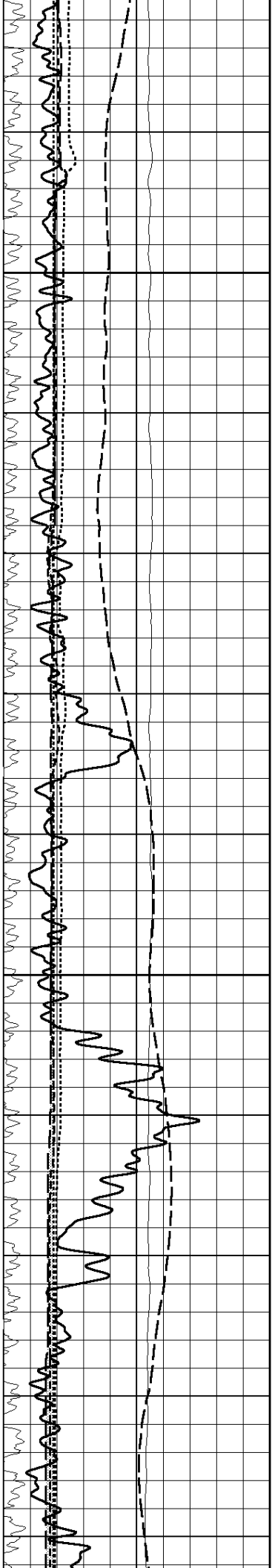




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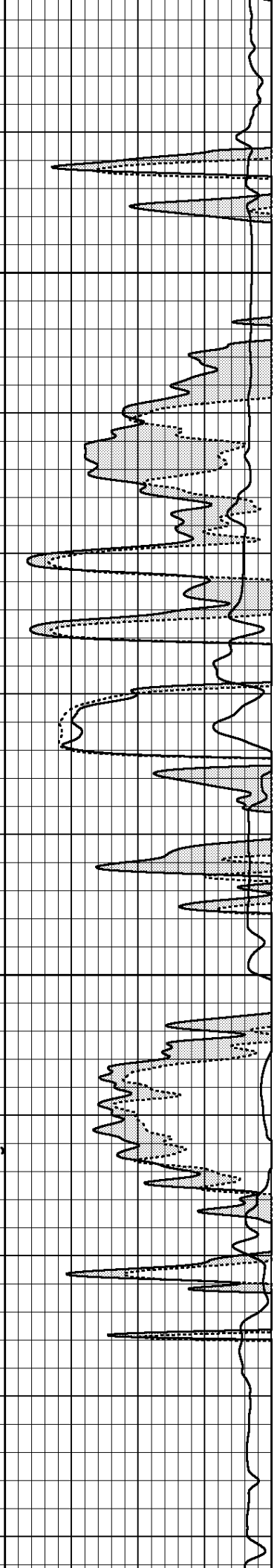
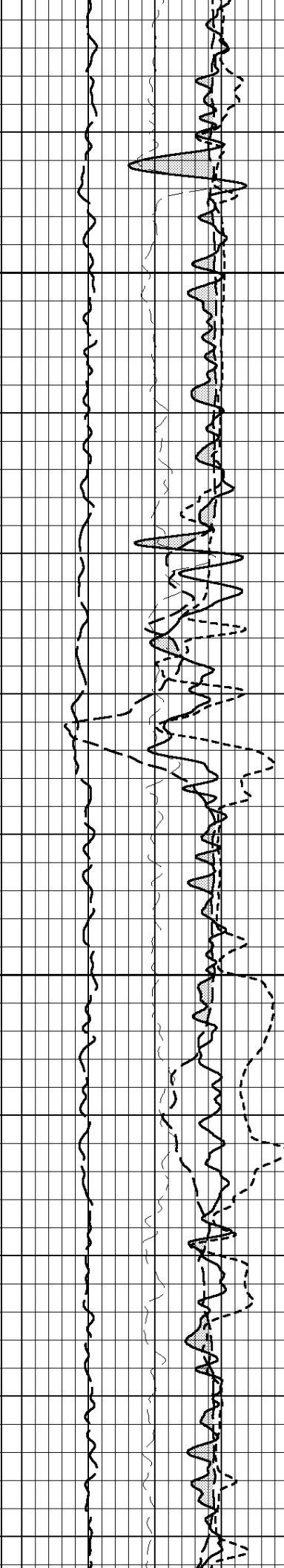
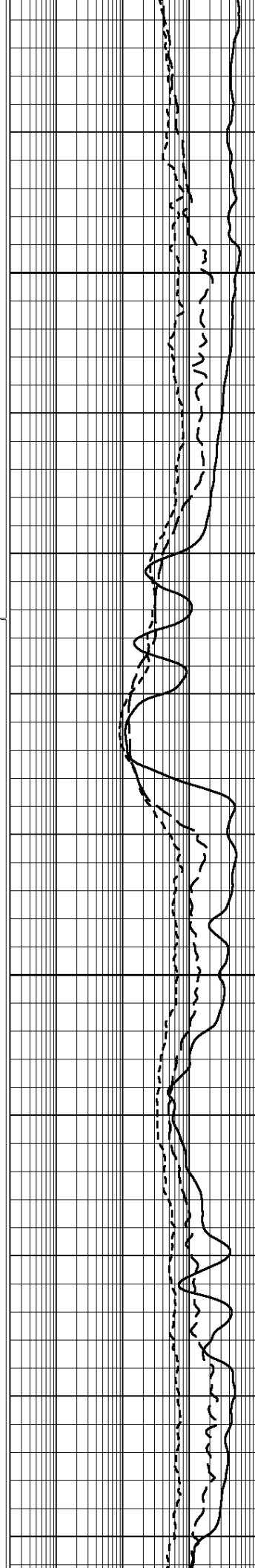
4400

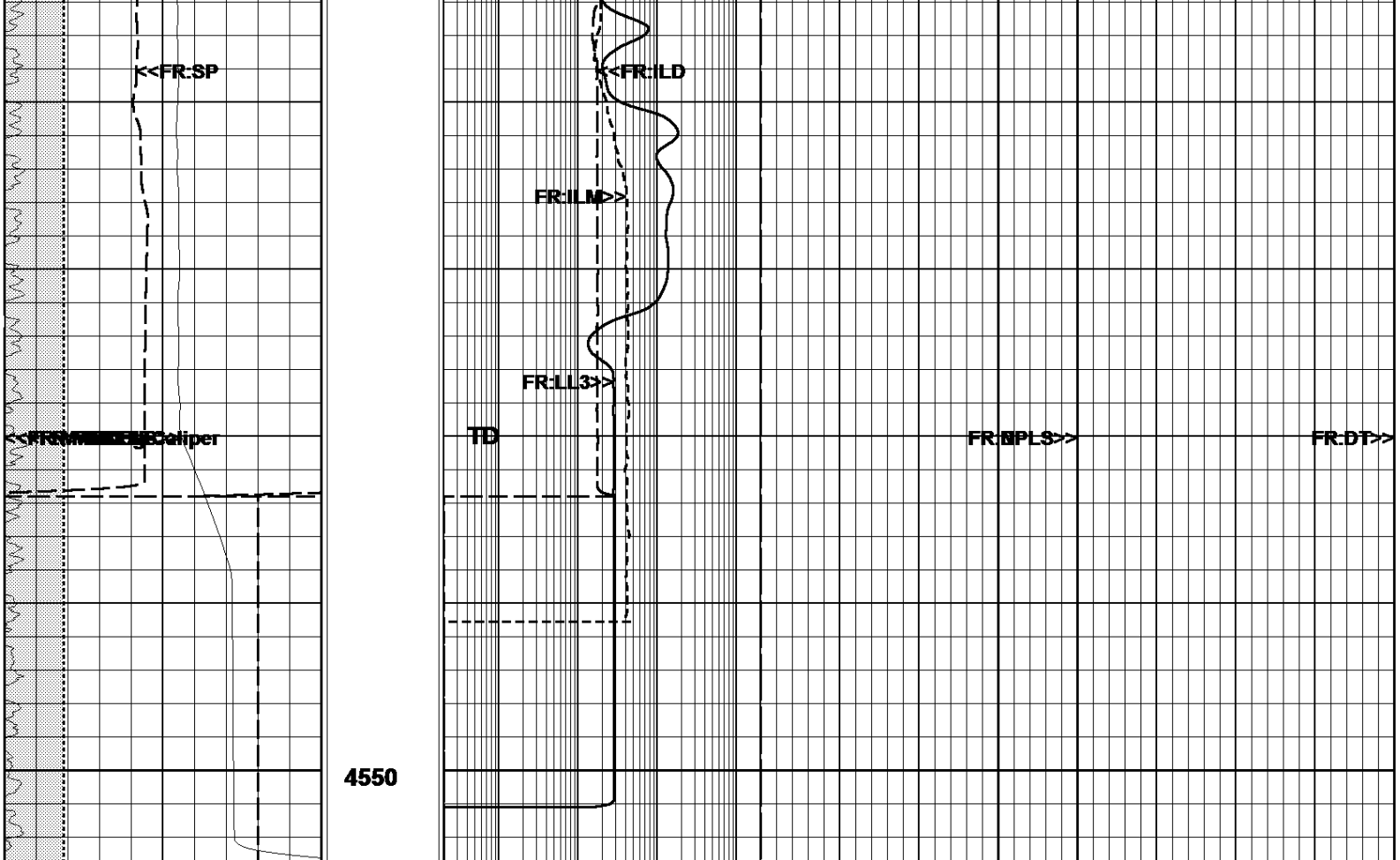




4425

4450





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)						Sonic-Porosity (SPHI)					
5000.	lbs	0.				30.	V/V	-10.			
Mark (MRK)											
3000.	mV	1500.									
Bit Size (BIT)											
6.	Ref in	16.									
Microlog-Caliper											
6.	in	16.									

08/07/2015
17:27:20 => Start Time

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

Log UP - (VER 11.19)
Start Depth=> 4552.75 Feet

Induction Resistivity / Conductivity Calibrations

TOOL TYPE
SERIAL NUM

Slim Hole Induction
RD1002

LOOP TYPE
LOOP NUM

MASTER CALIBRATIONS

OPEN LOOP(mmho)

CLOSED LOOP(mmho)

LOOP VERIFIER(mV)

	OPEN LOG (mV)		CLOSED LOG (mV)		LOG VERIFIER (mV)		CALIBRATION DATE	CALIBRATION TIME
	NO SKIN		NO SKIN	W/ SKIN	ZERO (mV)	SPAN (mV)		
DEEP INDUCTION	-0.000		400.000	499.231	-0.210	640.710	M/D/Y> 3/20/2015	H:M:S> 13:39:15
MED INDUCTION	0.000		462.500	501.895	-27.502	757.422	M/D/Y> 3/20/2015	H:M:S> 14:2:41
SHALLOW LATER LOG	CALIBRATOR LOW (ohm)		CALIBRATOR HI (ohm)		LOW (mV)	HI (mV)		
	2.000		500.000		9.859	2518.169	M/D/Y> 3/20/2015	H:M:S> 14:17:40

WELL SITE CALIBRATIONS

TEAM ONE QUESTIONS				

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

Litho-Density/PE Calibrations

TOOL TYPE SERIAL NUM	LFDC/Pe	SOURCE TYPE SOURCE NUM	CESIUM 137	SOURCE STRGTH	2 CURIE
	RL4102				

MASTER BLOCK CALIBRATIONS

		W1(cps)	W2(cps)	W3(cps)	W4(cps)	SS	UNITS	CALIBRATION DATE	CALIBRATION TIME
ALUMINUM		6326.992	5143.159	2367.487	4.051	5905.3543	2.523(g/cc)	M/D/Y> 7/8/2015	H:M:S> 14:13:48
MAGNESIUM		19293.847	15176.970	6275.095	4.518	8361.4160	1.679(g/cc)		
BACKGROUND		1411.705	1247.474	856.477	3.757	5.0636			
SAND		19312.580	15195.395	6287.843	4.538		1.739(PE)		
IRON		5520.417	4599.202	2197.001	4.074		4.529(PE)		
FIELD VERIFIER(cps)		1887.440	1658.720	1078.600	5.280	3.8400			
VER NUM	LDP-4102								

WELL SITE CALIBRATIONS

[illegible]

Compensated Neutron Calibrations

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

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)		294.161	282.345	1.0418			
VER NUM	7430						

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

X CALIPER					
SERIAL NUM	RL4102				
MASTER CALIBRATIONS					
	ZeroVal: 6.000 in	CalVal: 10.000 in	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	1969.329 - raw	4042.166 - raw	0.002 - gain 2.200 - off	M/D/Y> 7/8/2015	H:M:S> 14:25:21

Y CALIPER CALIBRATIONS					
SERIAL NUM	RN2016				
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					
	RM8002				
MASTER CALIBRATIONS					
	ZeroVal: 0.020 ohmm	CalVal: 10.000 ohmm	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	17.384 - raw	260.471 - raw	0.041 - gain -0.694 - off	M/D/Y> 7/25/2015	H:M:S> 15:46:10

MICRO NORMAL CALIBRATIONS						
SERIAL NUM		RM8002				

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MASTER CALIBRATIONS

	ZeroVal: 0.020 ohmm	CalVal: 10.000 ohmm	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	18.853 - raw	385.799 - raw	0.027 - gain -0.493 - off	M/D/Y> 7/25/2015	H:M:S> 15:51:11

MICRO CALIPER CALIBRATIONS

SERIAL NUM

RM8002

MASTER CALIBRATIONS

	ZeroVal: 6.000 In	CalVal: 10.000 In	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	2066.548 - raw	4112.003 - raw	0.002 - gain 1.959 - off	M/D/Y> 7/25/2015	H:M:S> 16:0:10

Company	K3 OIL & GAS OPERATING COMPANY
Well	EATON #3-18
Field	WILDCAT
County	LANE
State	KANSAS



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