Company	CMX, INCORPORATED
Well	HOMOLKA #1-35
Field	KRAFT-PRUSA
County	BARTON
State	KANSAS

RECON

COMPENSATED NEUTRON
LITHOLOGY DENSITY
GAMMA RAY X-Y CALIPER
MICROLOG

SEC	TWP	RGE	
35	16S	11W	

Location. 530' FNL & 2310' FEL — S2/NW/NW/NE
SURF. SAME — API#. 015-009-26089-00-00

Permanent Datum . Ground Level Elev 1919
Log Measured From . Kelly Bushing
Drilling Measured From Kelly Bushing

OTHER SERVICES:
DIL

ELEVATIONS K.B. 1932
G.L. 1919
D.F. 1930

Date		23-MAR-2015					
Run No.		ONE					
TD Driller		3372	ft.			ft.	
TD RECON		3371	ft.			ft.	
Bot Logged Interval		3370	ft.			ft.	
Top Logged Interval		460	ft.			ft.	
Casing Depth Driller		8 5/8	in.	@ 476		in.	@
Casing Depth RECON		8 5/8	in.	@ 478		in.	@
Bit Size		7 7/8	in.			in.	
Drilling Fluid Type		WBM					
Density	Viscosity	9.0		54			
Fluid Loss	PH	9.0		11.0			
Source Of Sample		Flowline					
RM @ Measured Temp		1.26	Ohmm	@ 75		Ohmm	@
RMF @ Measured Temp		0.94	Ohmm	@ 75		Ohmm	@
RMC @ Measured Temp		1.57	Ohmm	@ 75		Ohmm	@
RM @ MRT		0.83	Ohmm	@ 113		Ohmm	@
Max Recorded Temp		113	DegF			DegF	
Time Drilling Stopped		22-MAR-2015		08:30			
Time Circulation Stopped		23-MAR-2015		12:15			
Time Logger On Bottom		23-MAR-2015		15:32			
Unit Num	Location	S406		OKLAHOMA CITY, OK			
Recorded By		K.HELDERMON					
Witnessed By		K.LEBLANC					

FIELD PRINT

FIELD PRINT

RIG INFORMATION

Drill Contr/Rig# DUKE #7

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 - 499, BOTTOM MARK - 3301.6
CNL/LDT LOGGED MATRIX: 2.71 g/cc.

CHLORIDES: 3900
LCM: 4

THANK YOU FOR USING RECON PETROTECHNOLOGIES LTD.	CREW: J.ROSE, J.THOMAS

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	1257 Cubic Feet	774 Cubic Feet	460	3371

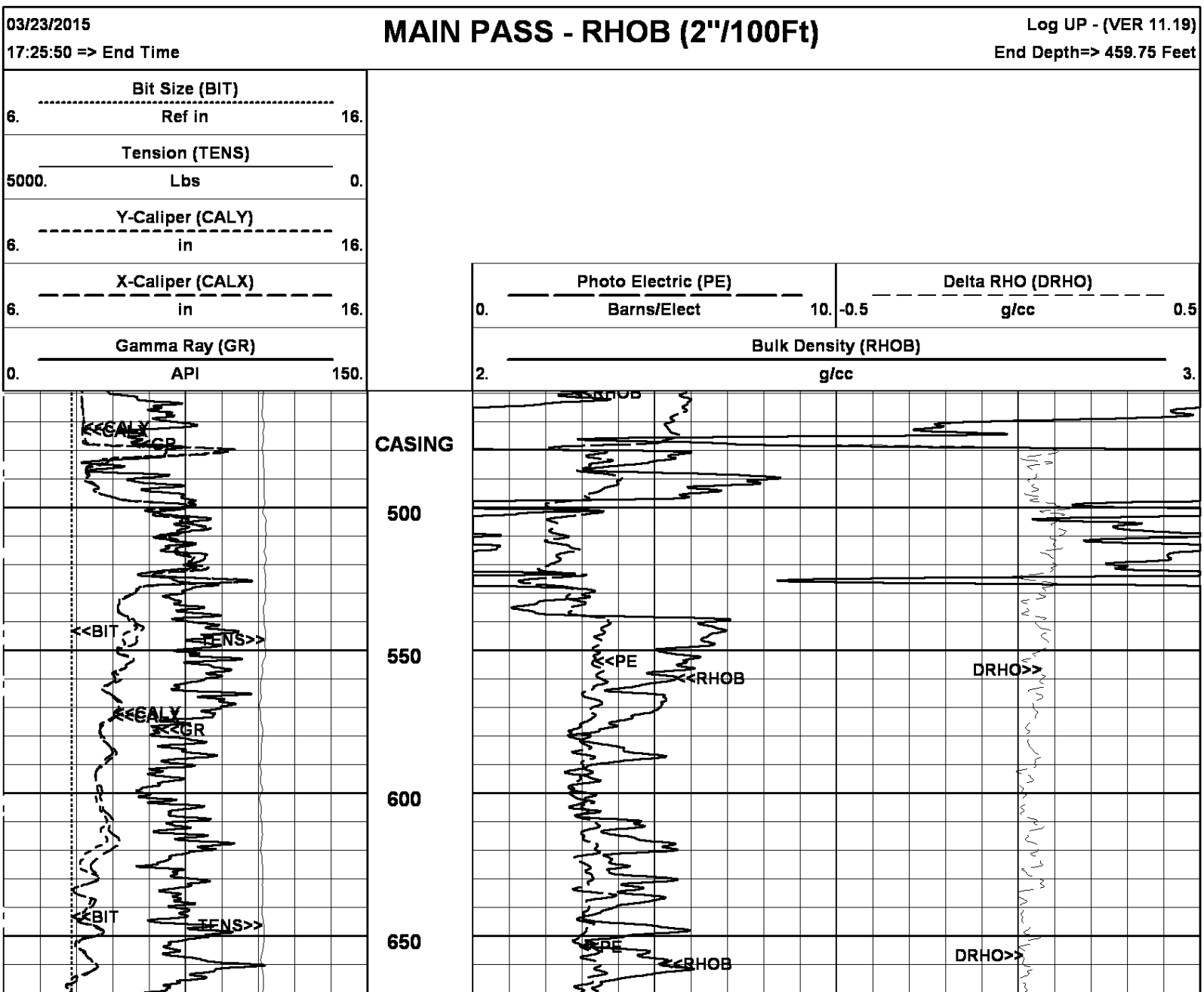
CASING INFORMATION

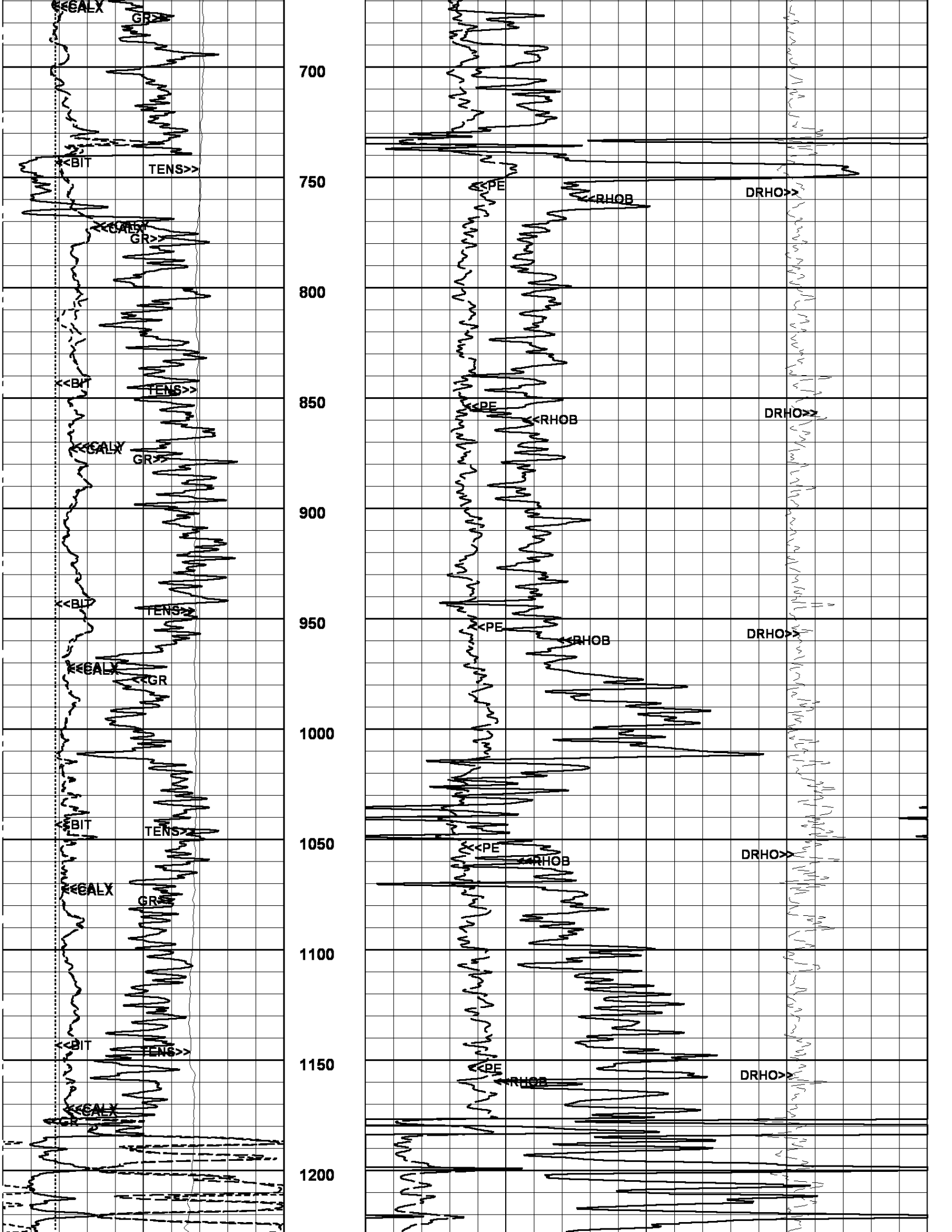
	SIZE (in)	GRADE	WEIGHT (lbs/ft)	ID (in)	TOP DEPTH	BOT DEPTH
SURFACE CASING	8 5/8	N/A	N/A	N/A	Surface	476
INTERMEDIATE CASING	N/A	N/A	N/A	N/A	Surface	N/A
PRODUCION CASING	5 1/2	N/A	N/A	N/A	Surface	3372

03/23/2015
17:25:50 => End Time

MAIN PASS - RHOB (2"/100Ft)

Log UP - (VER 11.19)
End Depth=> 459.75 Feet

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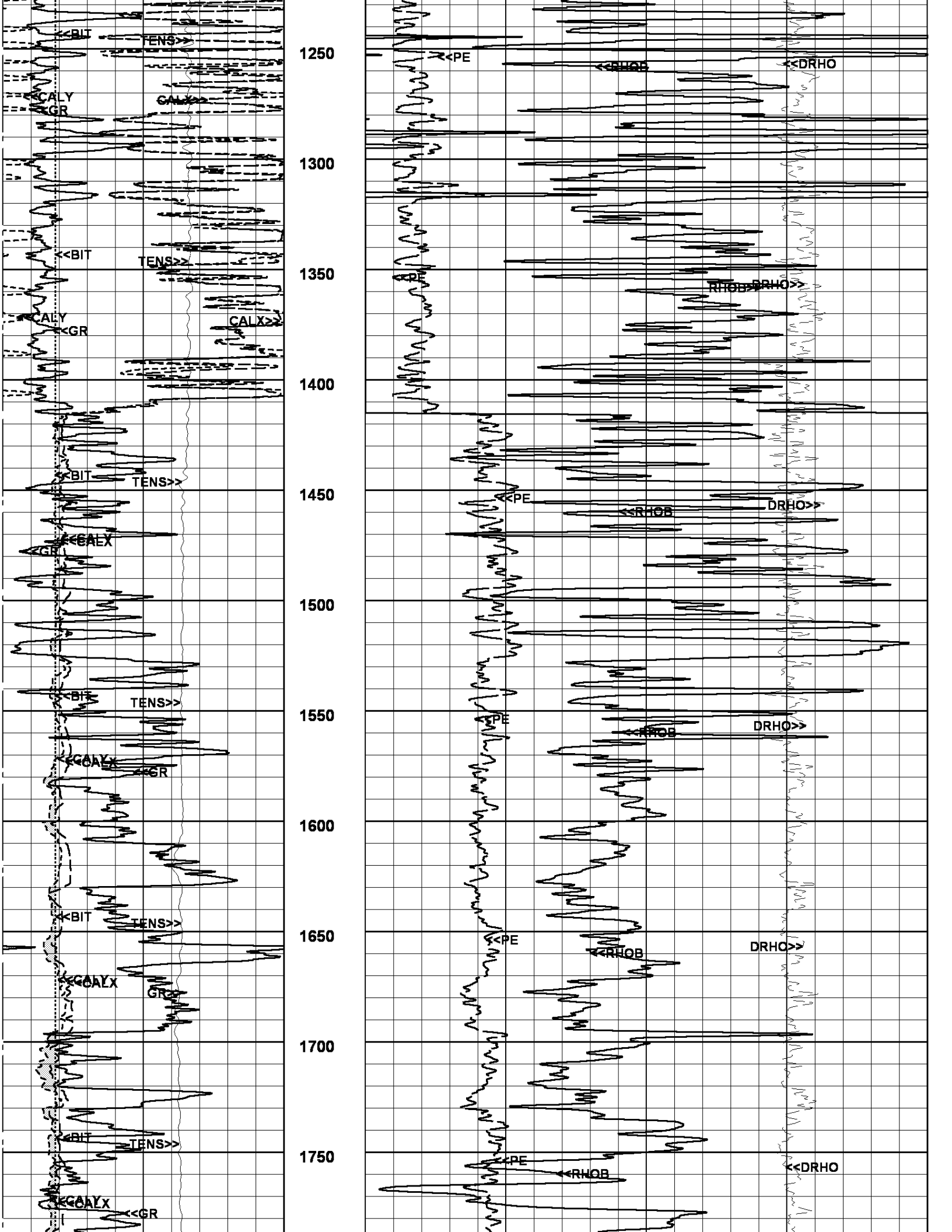
GR>>
<<BIT
TENS>>
<<PE
<<RHOB
DRHO>>
700
750
800
850
900
950
1000
1050
1100
1150
1200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<<CALY
<<GR
CALX>>
<<BIT
TENS>>
<<CALY
<<GR
CALX>>
<<BIT
TENS>>
<<CALX
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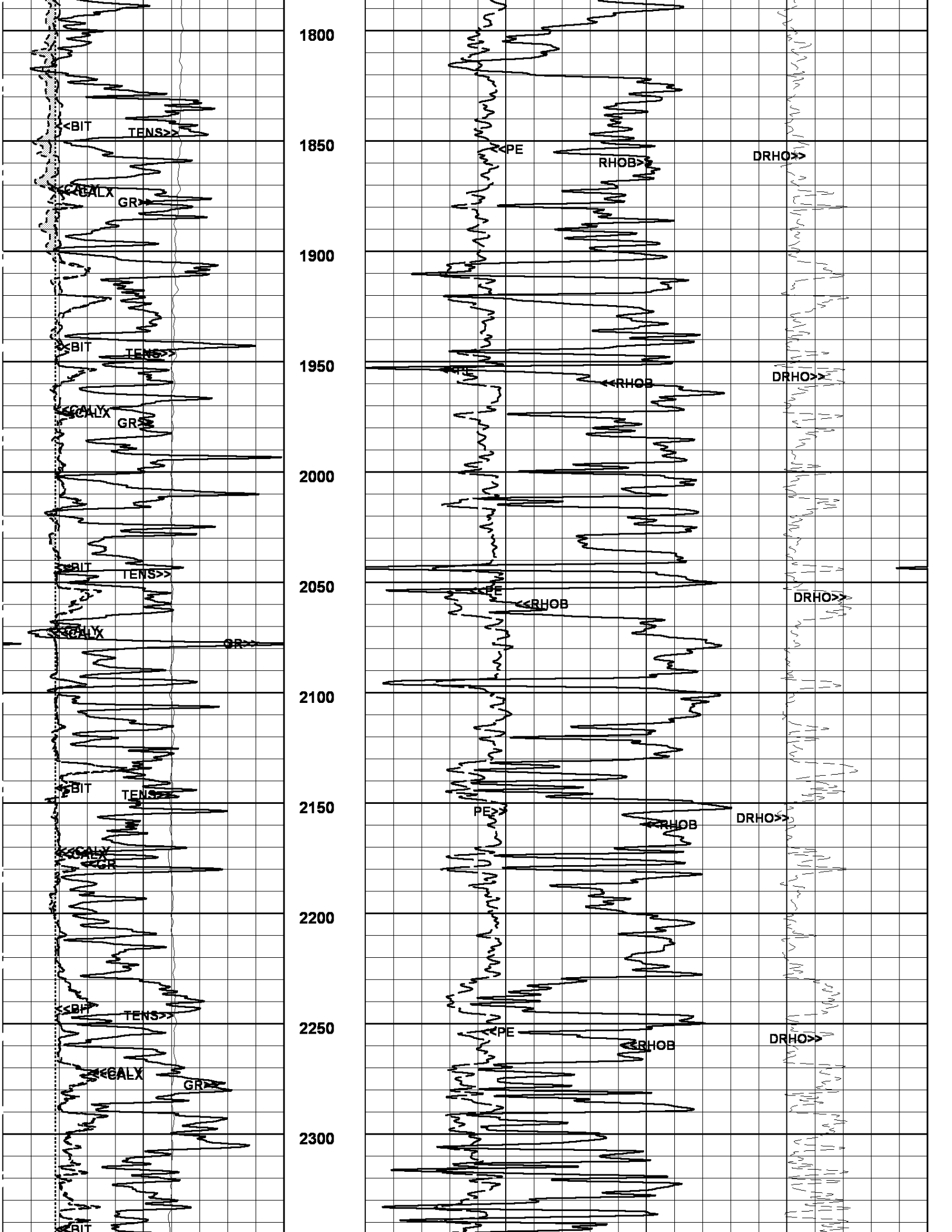
<<CALX
<<GR
1250
1300
1350
1400
1450
1500
1550
1600
1650
1700
1750
<<PE
<<RHOB
<<DRHO
RHOB>>
DRHO>>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1850
1900
1950
2000
2050
2100
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2200
2250
2300
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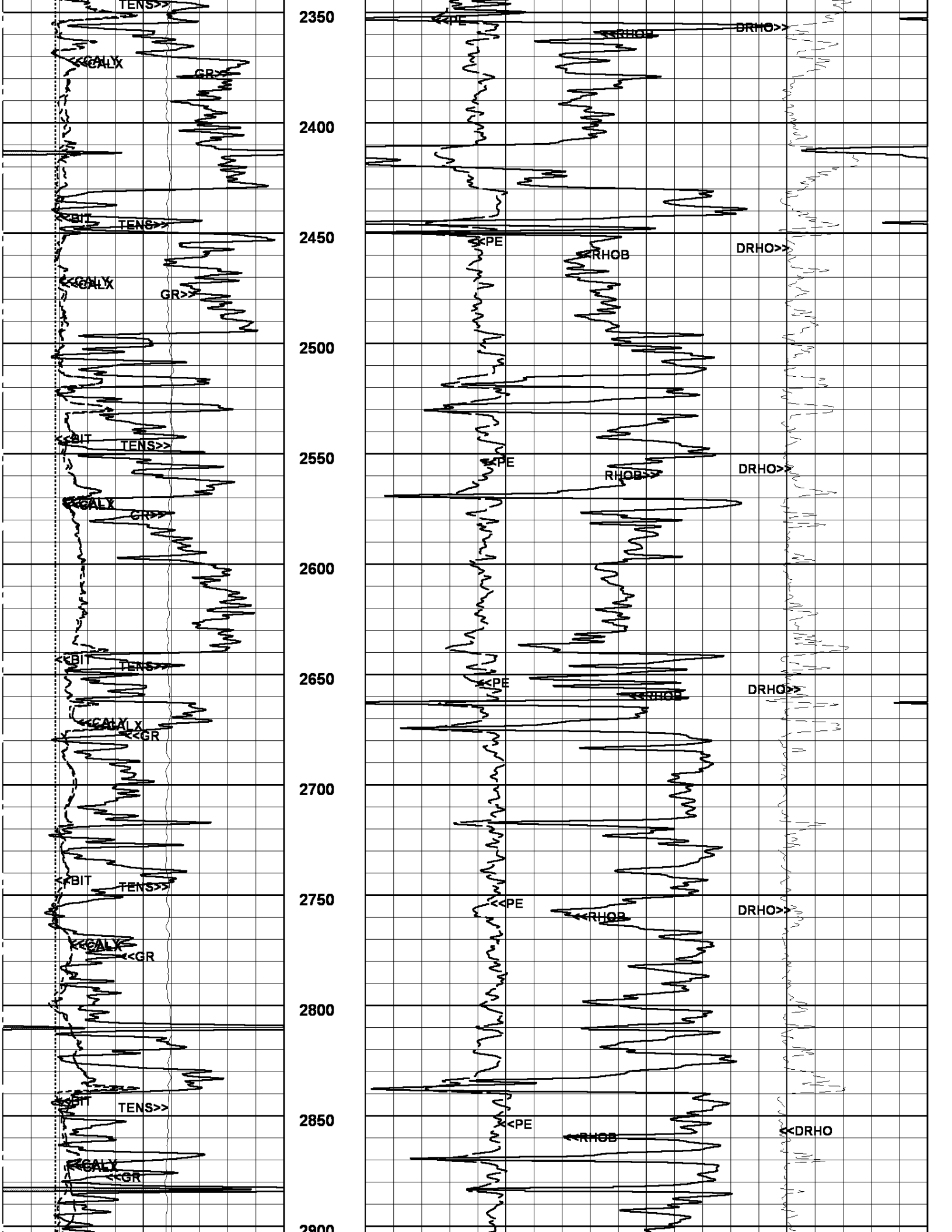
<CALX
GR>>
<PE
RHOB>>
DRHO>>
<RHOB


TENS>>
<<CALX
GR>>
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<<PE
<<RHOB
DRHO>>
2400
<<BIT
TENS>>
2450
<<PE
<<RHOB
DRHO>>
<<CALX
GR>>
2500
<<BIT
TENS>>
2550
<<PE
RHOB>>
DRHO>>
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GR>>
2600
<<BIT
TENS>>
2650
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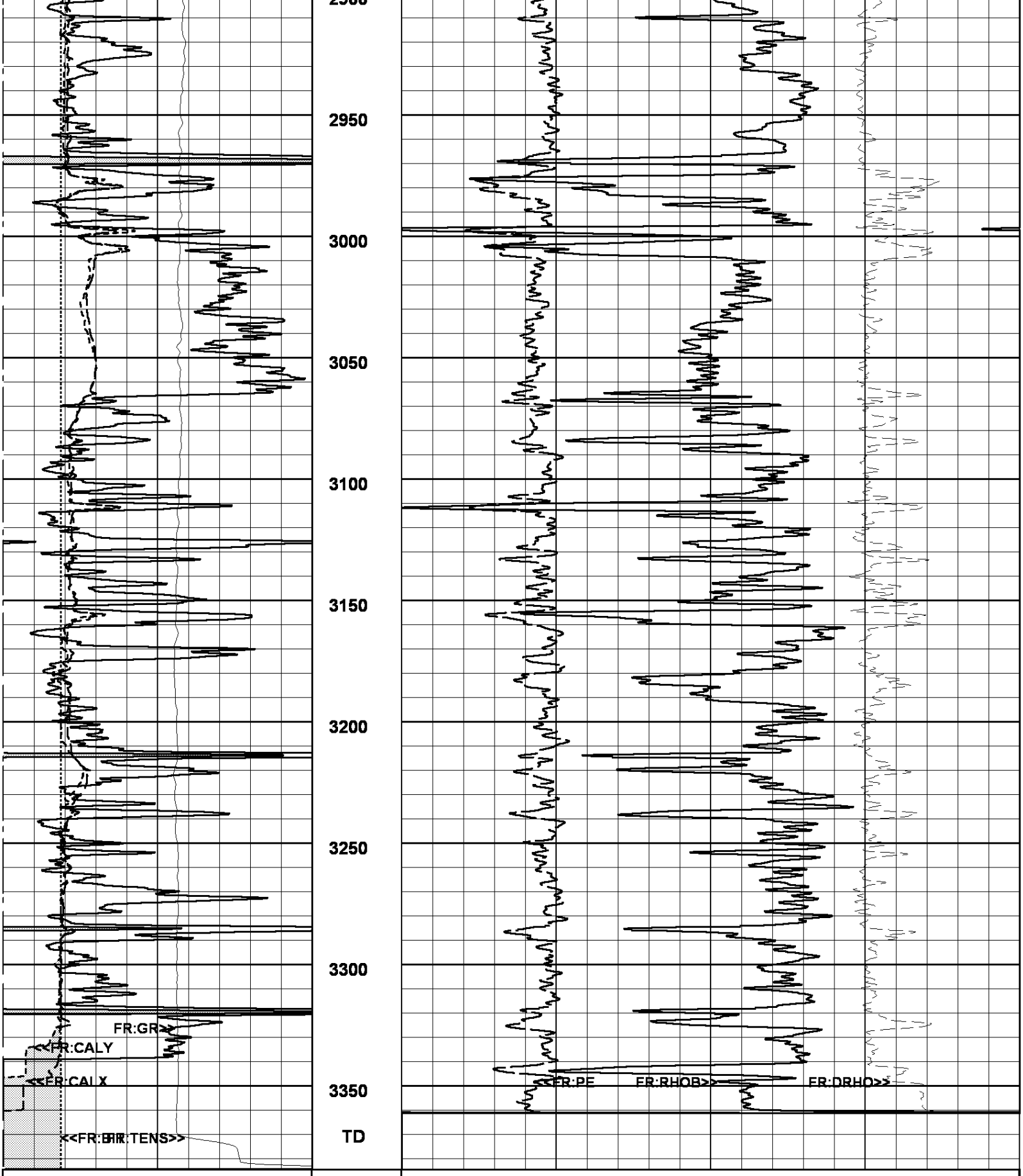
2750
<<PE
<<RHOB
DRHO>>
<<CALX
<<GR
2800
<<BIT
TENS>>
2850
<<PE
<<RHOB
<<DRHO
<<CALX
<<GR
2900


2950
3000
3050
3100
3150
3200
3250
3300
3350
TD
FR:GR>>
<<FR:CALY
<<FR:CALX
<<FR:BIR:TENS>>
<<FR:PE
FR:RHOB>>
FR:DRHO>>
Gamma Ray (GR)
0.
API
150.
X-Caliper (CALX)
6.
in
16.
Y-Caliper (CALY)
6.
in
16.
Tension (TENS)
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.

03/23/2015
15:55:01 => Start Time

MAIN PASS - RHOB (2"/100Ft)

Log UP - (VER 11.19)
Start Depth=> 3384.00 Feet

03/23/2015
17:25:50 => End Time

ANHYDRITE MARKER (5"/100Ft)

Log UP - (VER 11.19)
End Depth=> 700.90 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.

Gamma Ray (GR)
0. API 150.

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

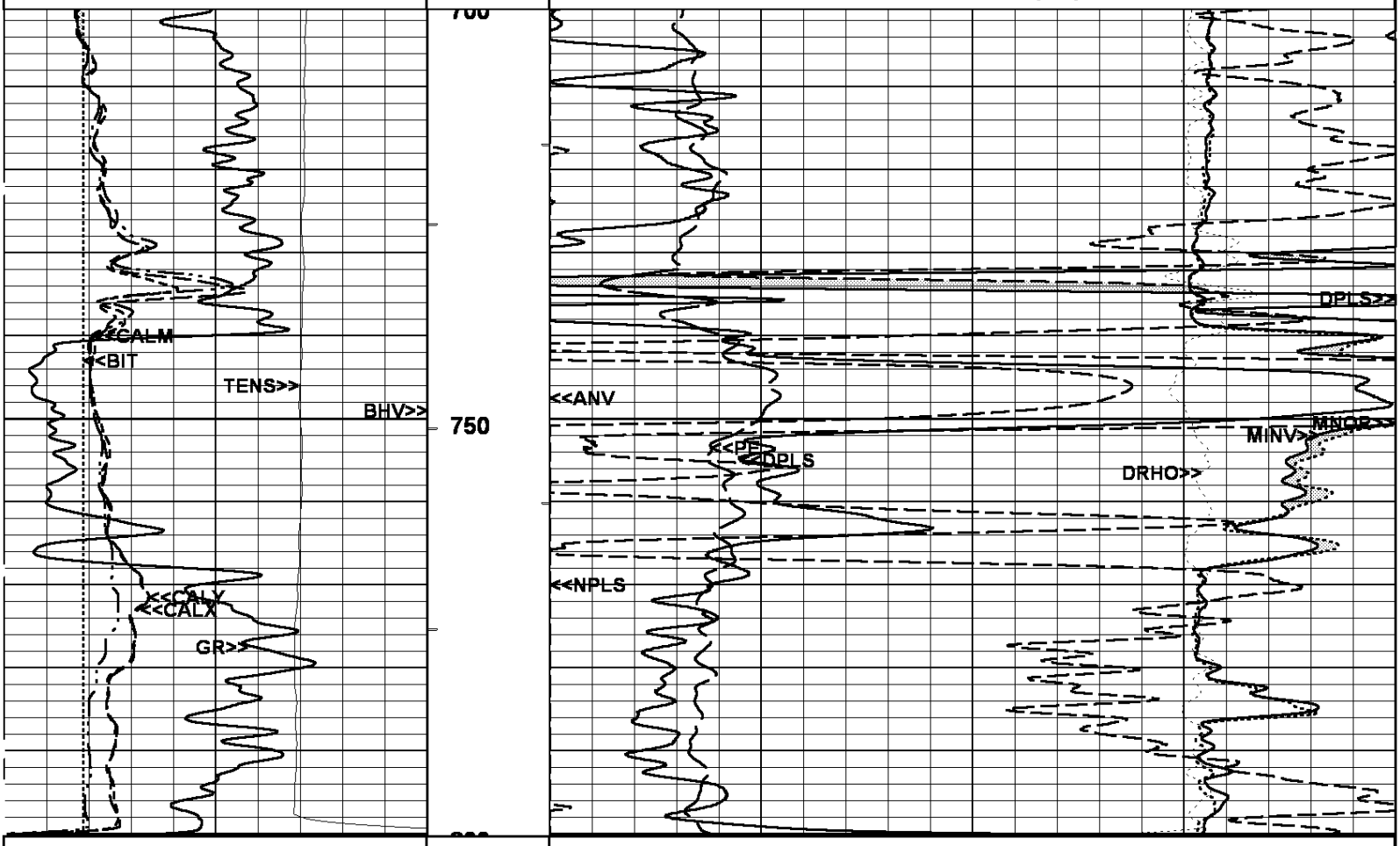
Micro-Inverse(1") (MINV)
-40. ohms 40.

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.



Gamma Ray (GR)
0. API 150.

X-Caliper (CALX)
6. in 16.

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

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

Y-Caliper (CALY)
6. in 16.

Tension (TENS)
5000. Lbs 0.

Bit Size (BIT)
6. Ref in 16.

Microlog-Caliper
6. in 16.

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.

03/23/2015
15:55:01 => Start Time

ANHYDRITE MARKER (5"/100Ft)

Log UP - (VER 11.19)
Start Depth=> 800.10 Feet

03/23/2015
17:25:50 => End Time

MAIN PASS - LIMESTONE (5"/100Ft)

Log UP - (VER 11.19)
End Depth=> 2599.90 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.

Gamma Ray (GR)
0. API 150.

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

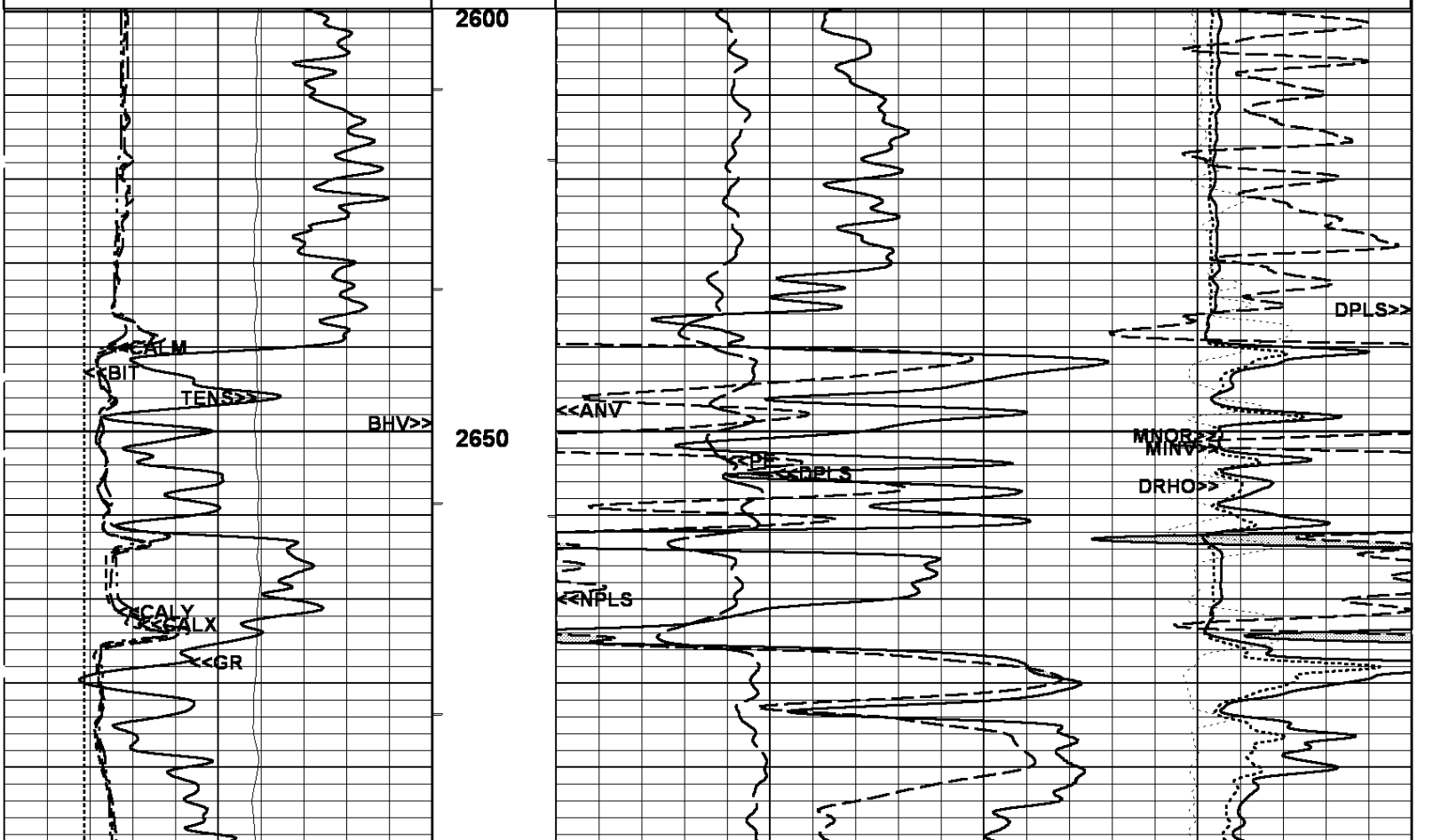
Micro-Inverse{1"} (MINV)
-40. ohms 40.

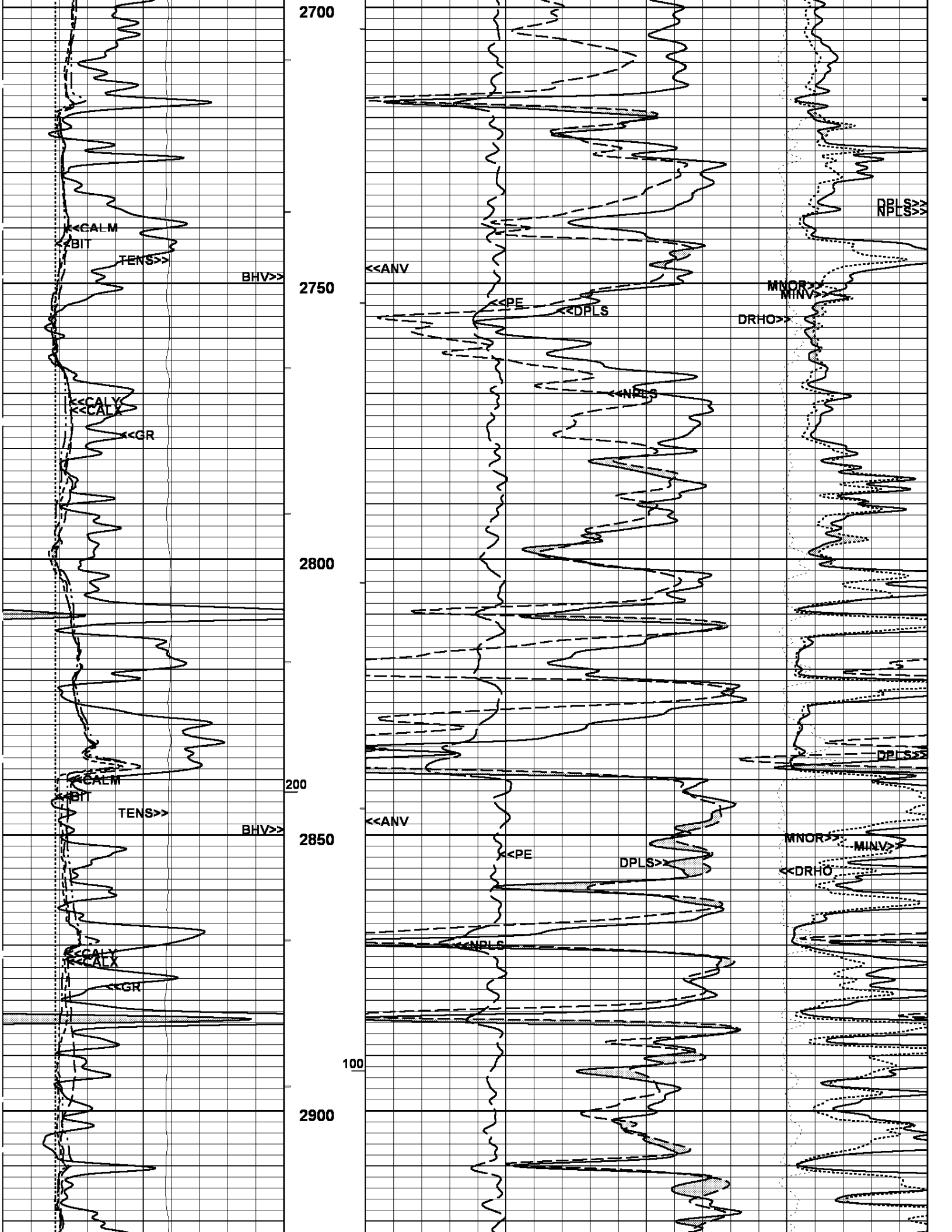
Photo Electric (PE)
0. Barns/Elect 10.

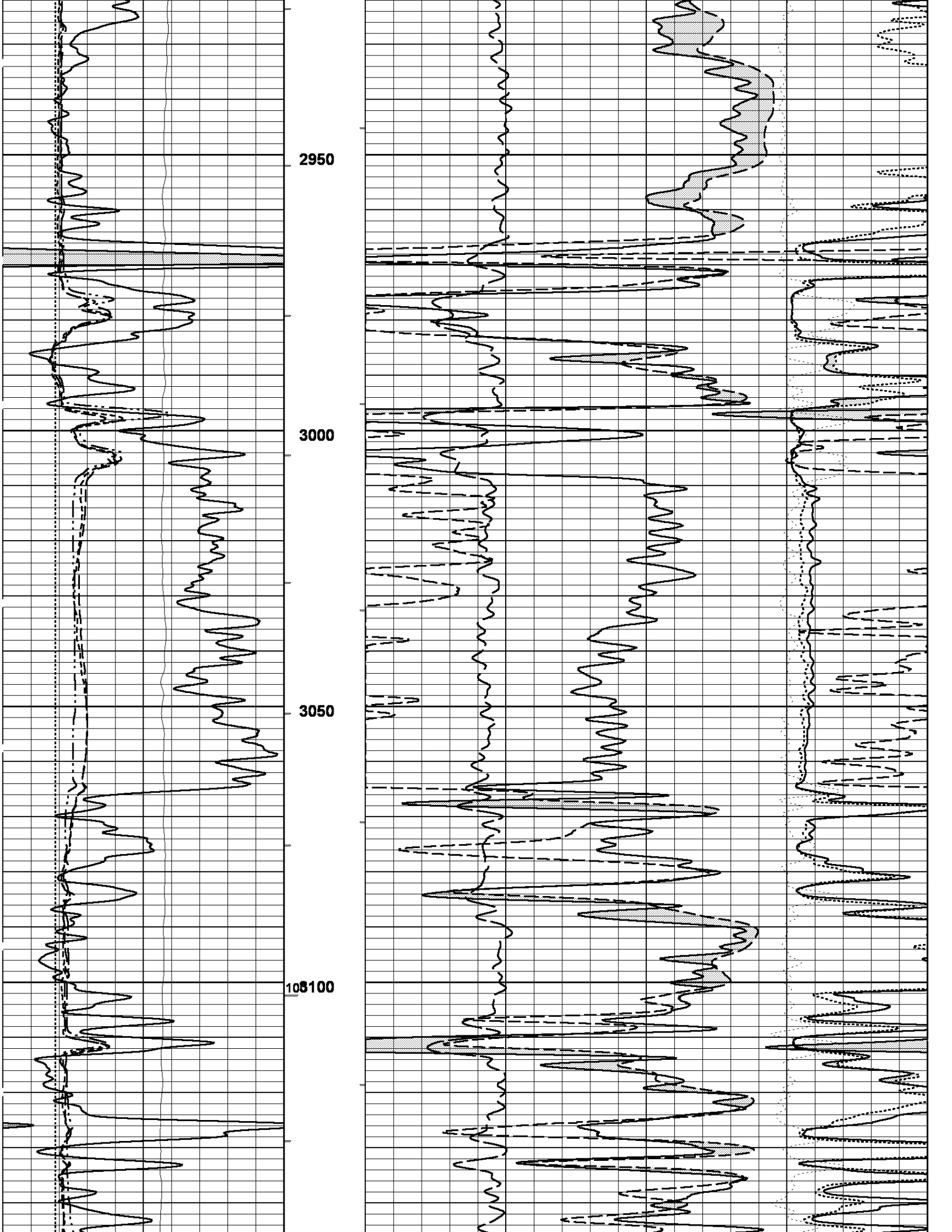
Delta RHO (DRHO)
-0.5 g/cc 0.5

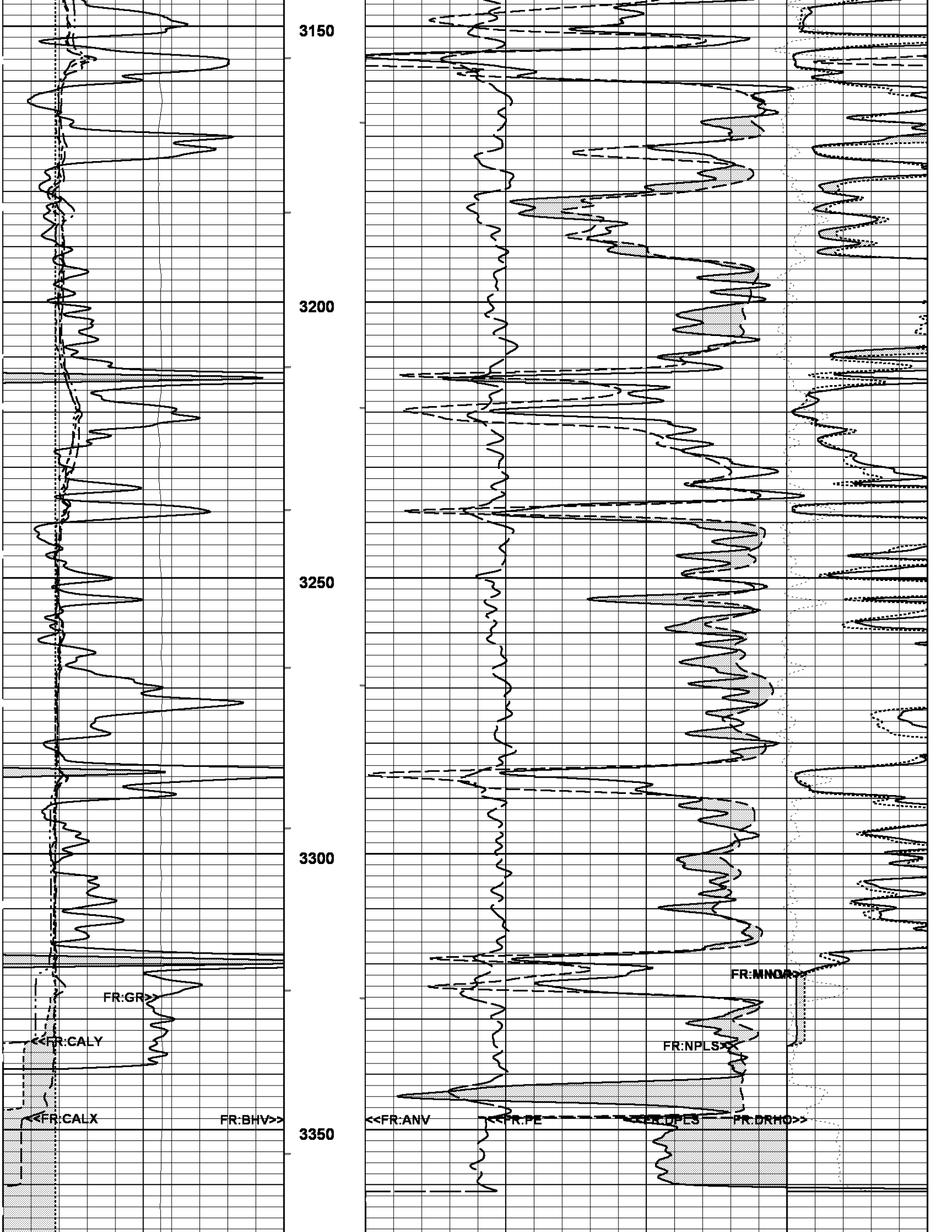
Density-Porosity (DPLS)
30. Limestone-Matrix (V/V) -10.

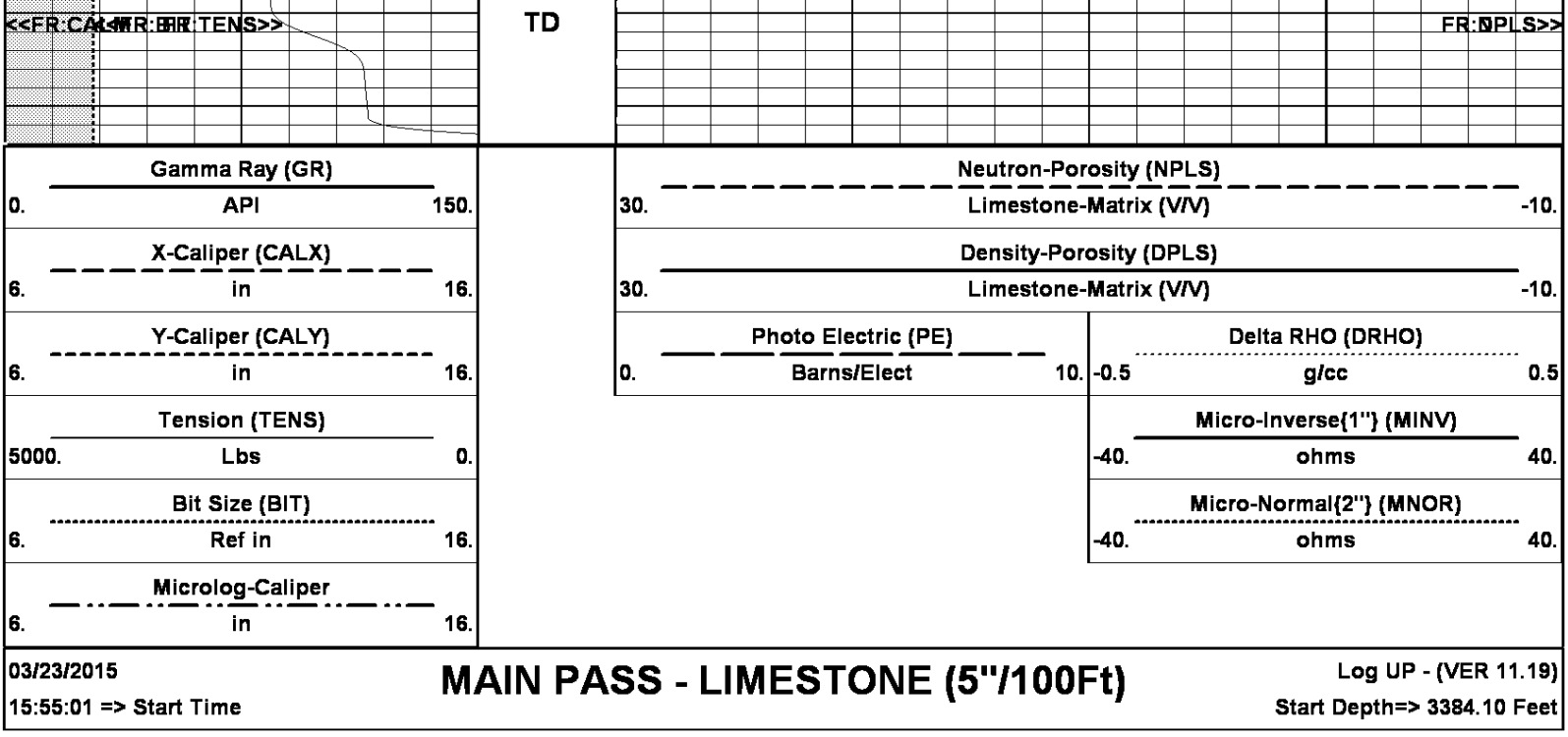
Neutron-Porosity (NPLS)
30. Limestone-Matrix (V/V) -10.

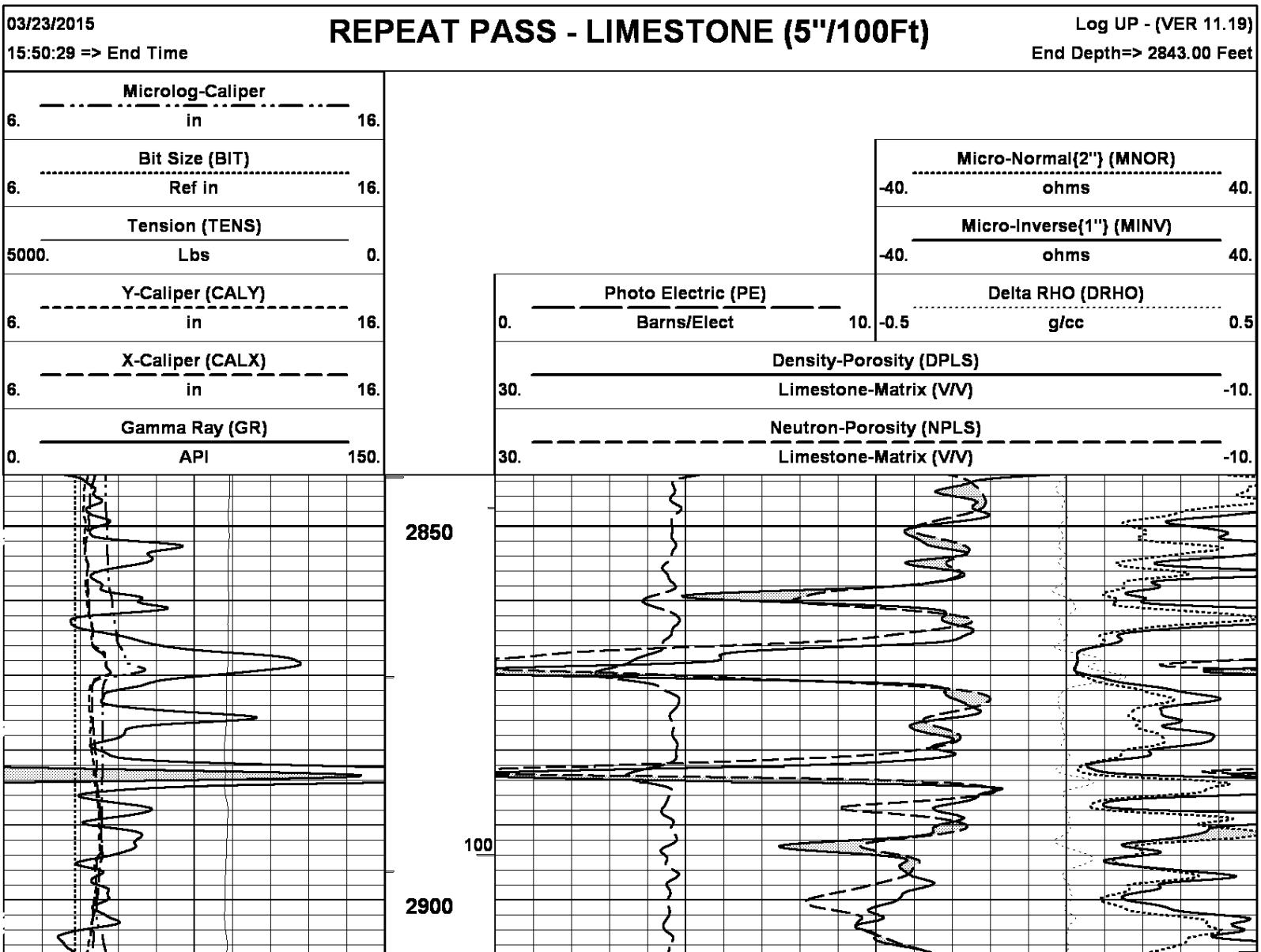


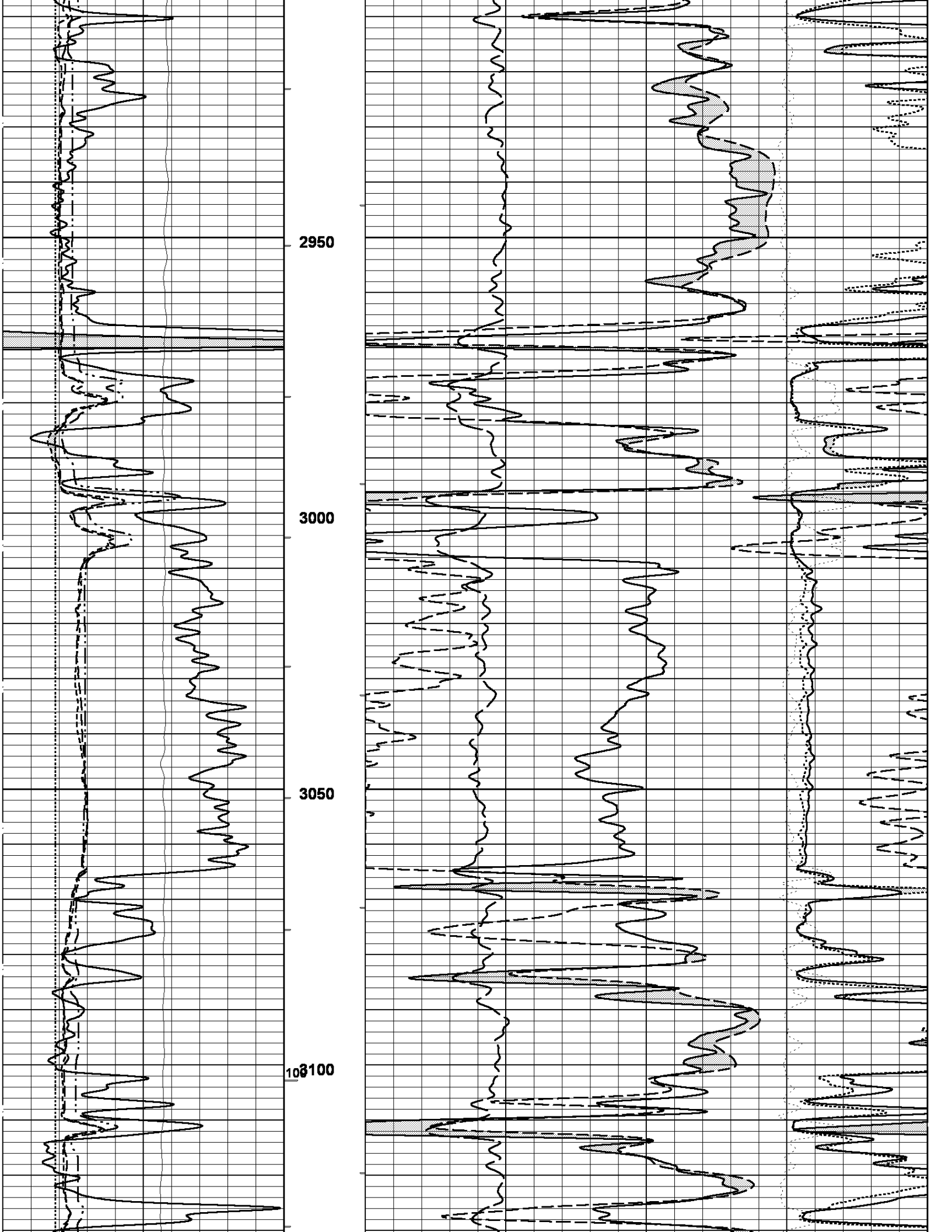

2700
<<CALM
<<BIT
TENS>>
BHV>>
<<ANV
2750
<<PE
<<DPLS
DRHO>>
MNOR>>
MINV>>
DPLS>>
NPLS>>
<<NPLS
<<CALY
<<CALX
<<GR
2800
200
<<CALM
<<BIT
TENS>>
BHV>>
<<ANV
2850
<<PE
DPLS>>
<<DRHO
MNOR>>
MINV>>
<<NPLS
<<CALY
<<CALX
<<GR
100
2900

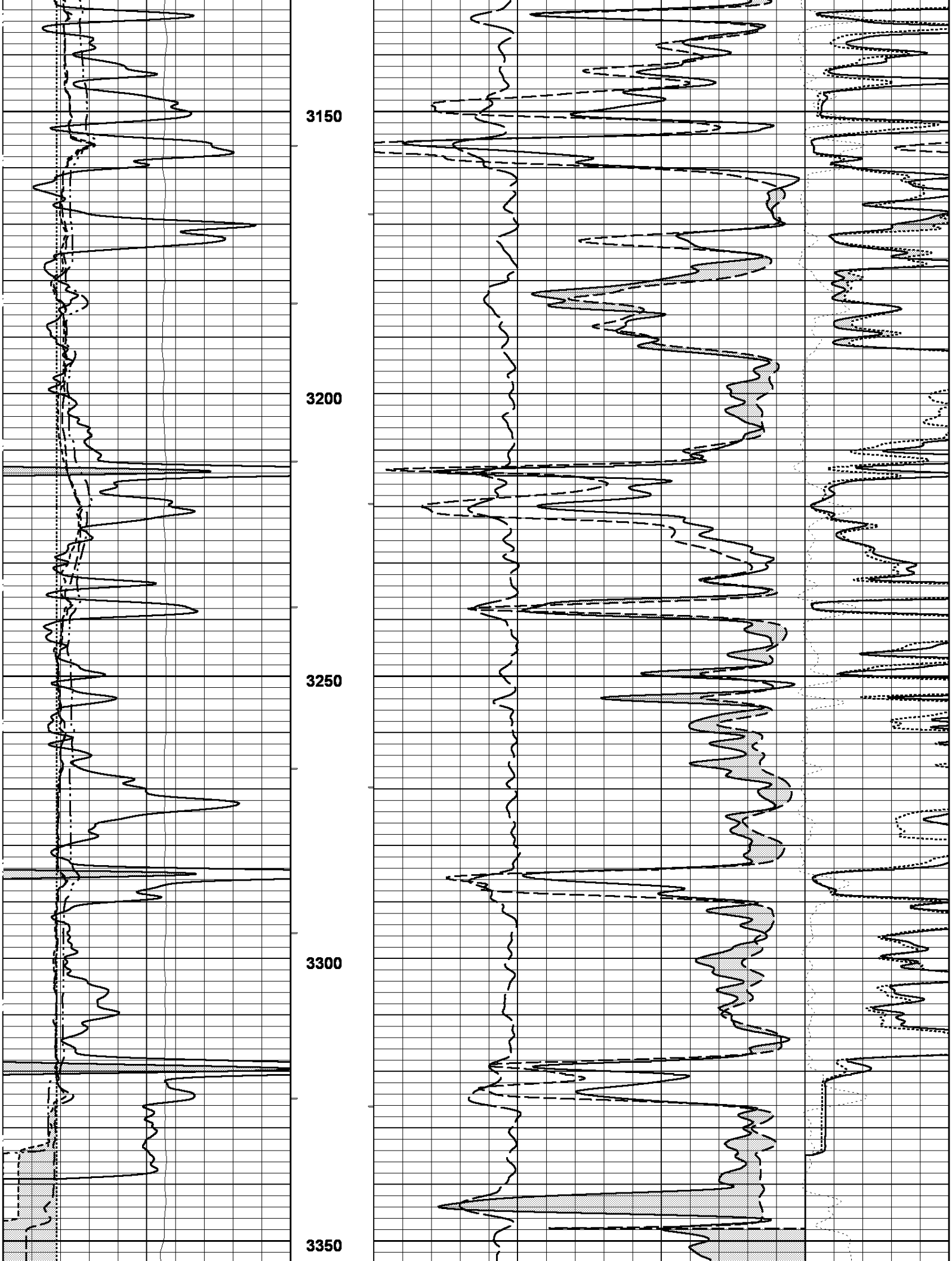

2950
3000
3050
3100

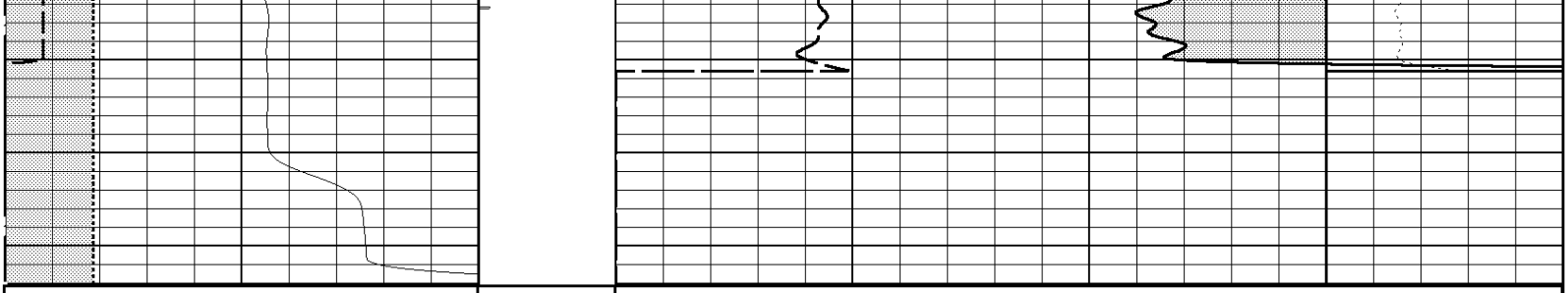

3150
3200
3250
3300
3350
FR:GR>>
<<FR:CALY
<<FR:CALX
FR:BHV>>
FR:MNOR>>
FR:NPLS>>
<<FR:ANV
<<FR:PE
<<FR:DPLS
FR:DRHO>>


<<FR:CALX FR:BIT FR:TENS>>
TD
FR:DPLS>>
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.
Microlog-Caliper
6. 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.
03/23/2015
15:55:01 => Start Time
MAIN PASS - LIMESTONE (5"/100Ft)
Log UP - (VER 11.19)
Start Depth=> 3384.10 Feet


03/23/2015
15:50:29 => End Time
REPEAT PASS - LIMESTONE (5"/100Ft)
Log UP - (VER 11.19)
End Depth=> 2843.00 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.
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.
2850
100
2900


2950
3000
3050
3100


3150
3200
3250
3300
3350



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.
Microlog-Caliper		
6. in 16.		

03/23/2015
15:27:06 => Start Time

REPEAT PASS - LIMESTONE (5"/100Ft)

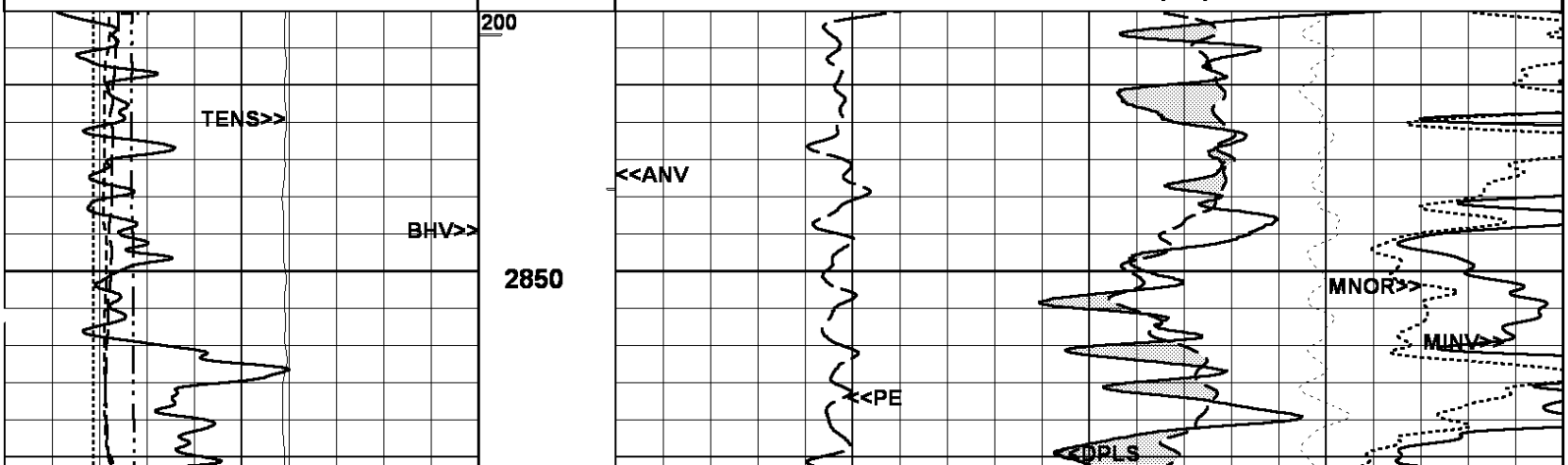
Log UP - (VER 11.19)
Start Depth=> 3384.10 Feet

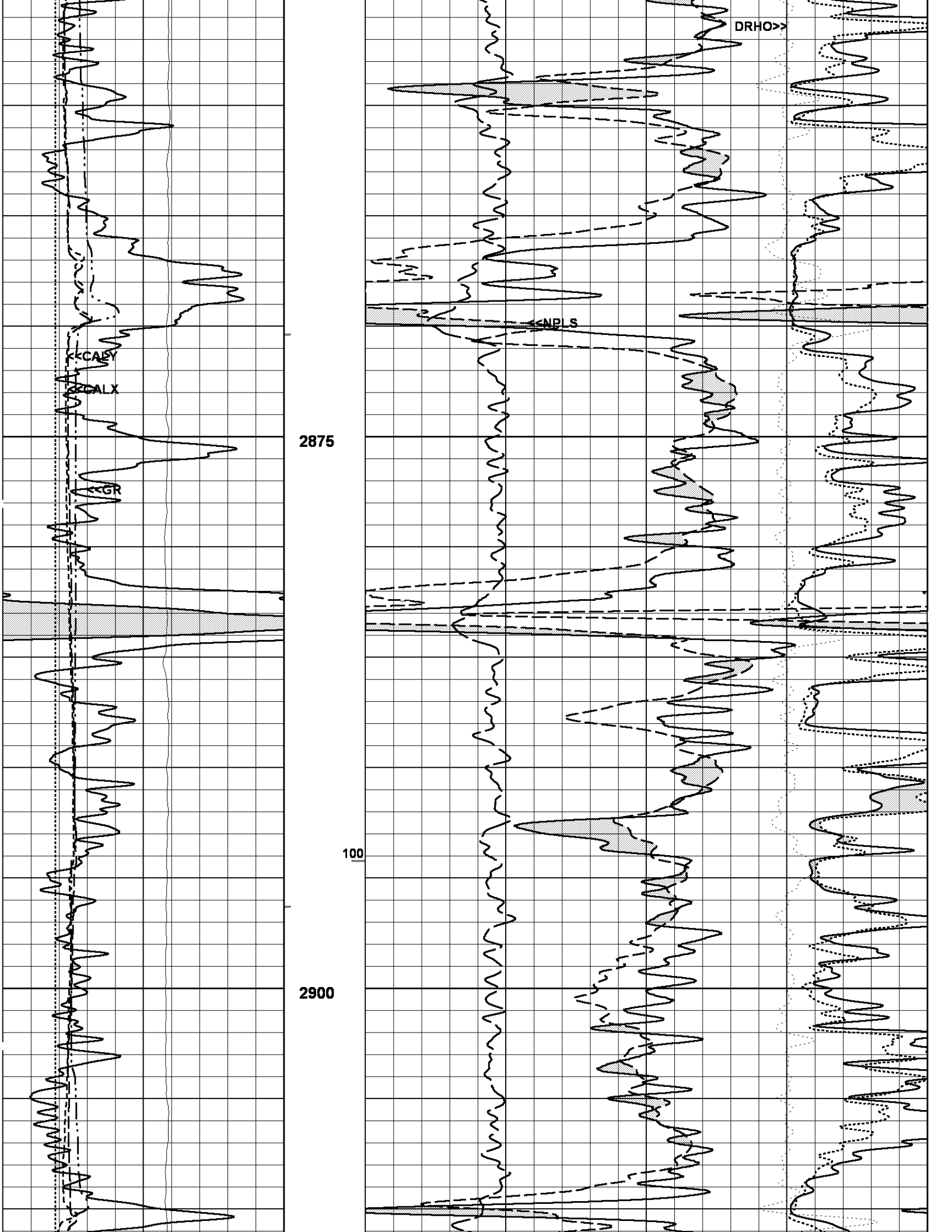
03/23/2015
15:50:29 => End Time

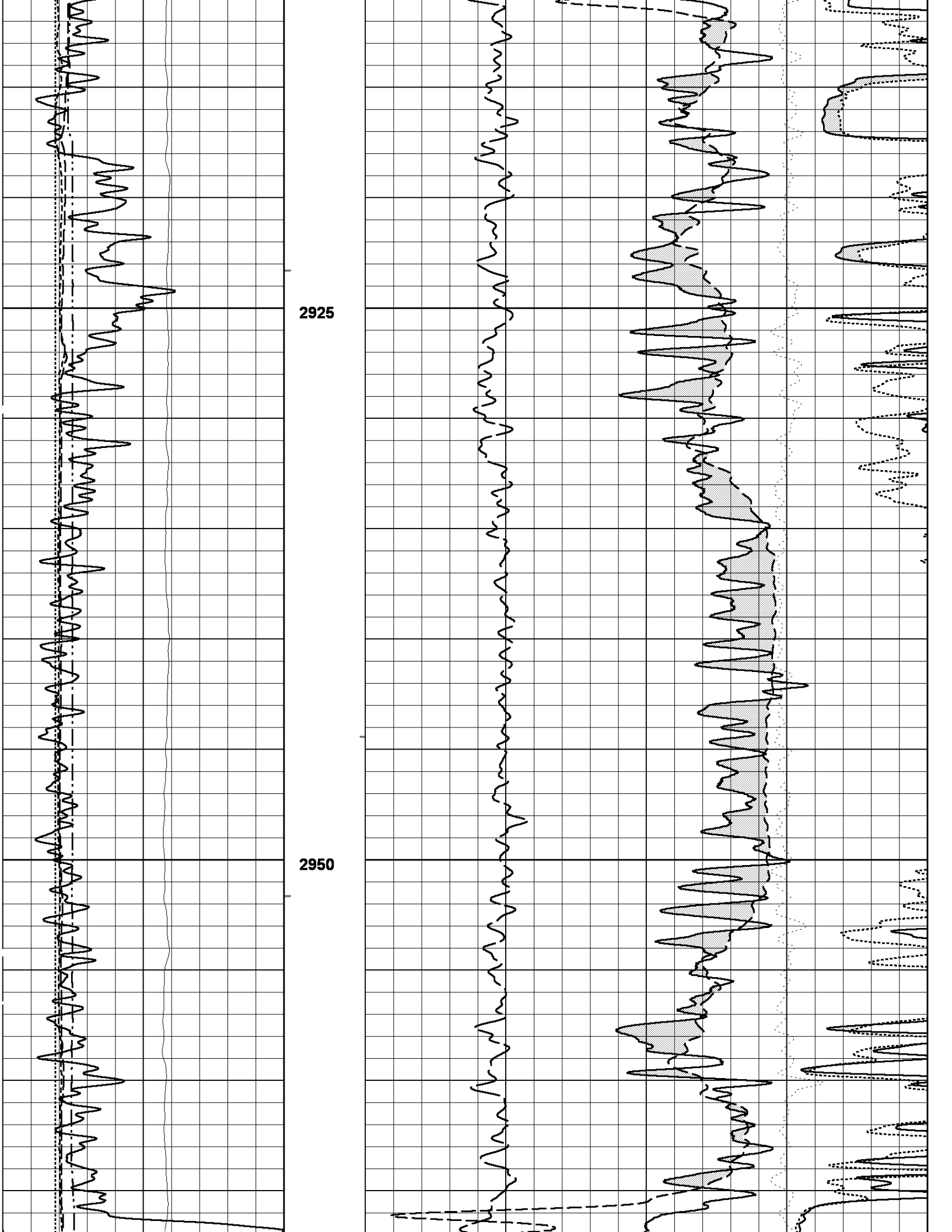
HIGH DEFINITION PASS - LIMESTONE (20"/100Ft)

Log UP - (VER 11.19)
End Depth=> 2843.07 Feet

Microlog-Caliper		
6. in 16.		
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.




DRHO>>
<<NPLS
<<CALY
CALX
2875
<<GR
100
2900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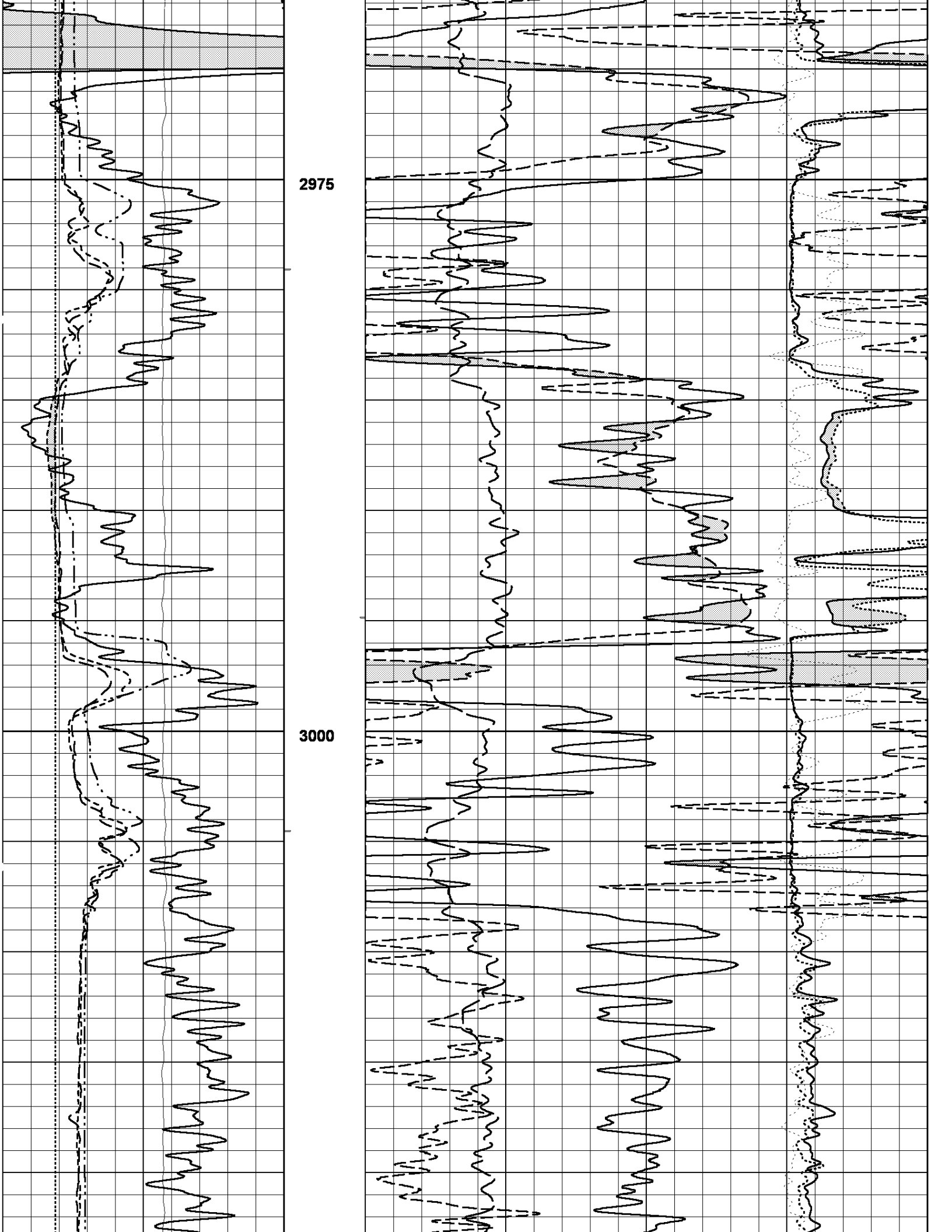
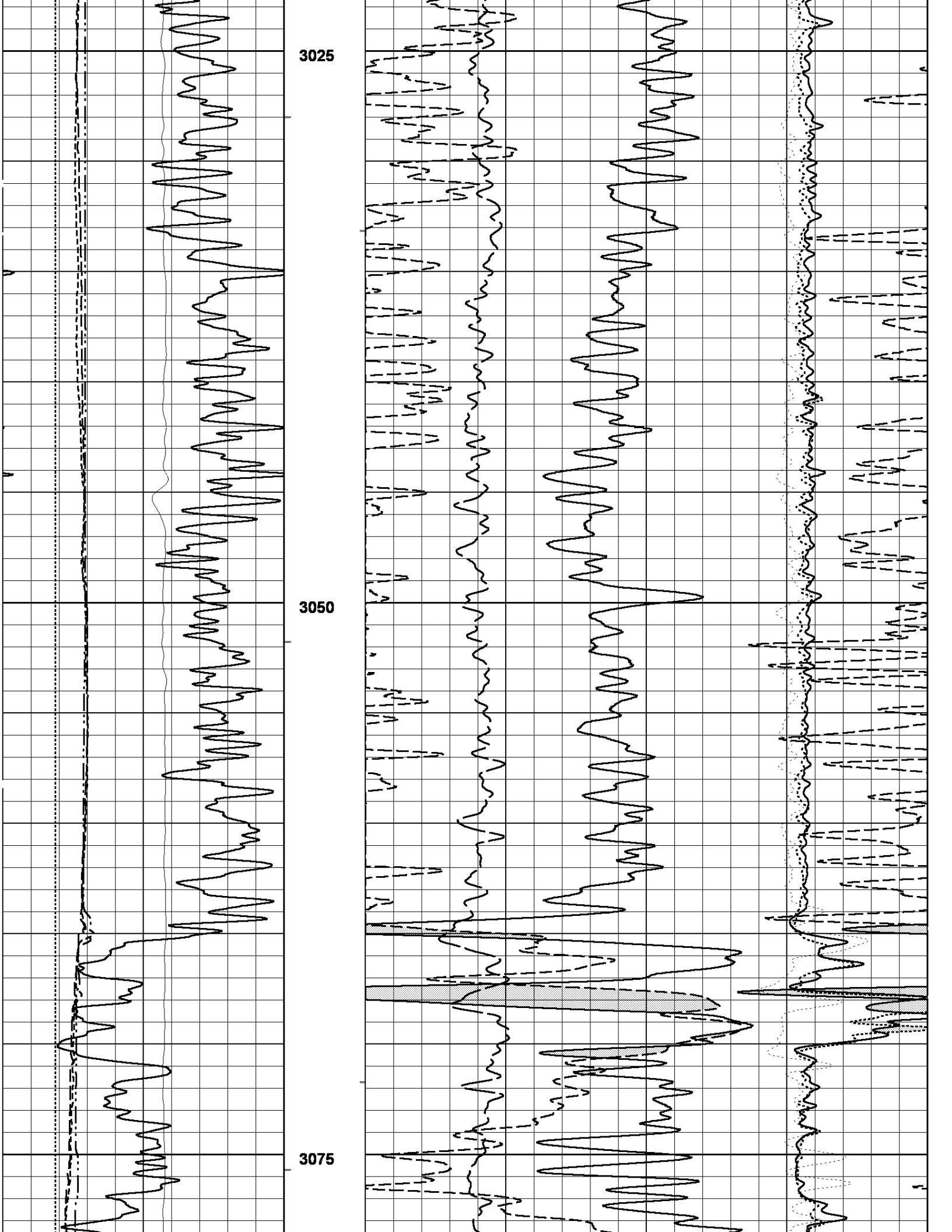
2950


2975
3000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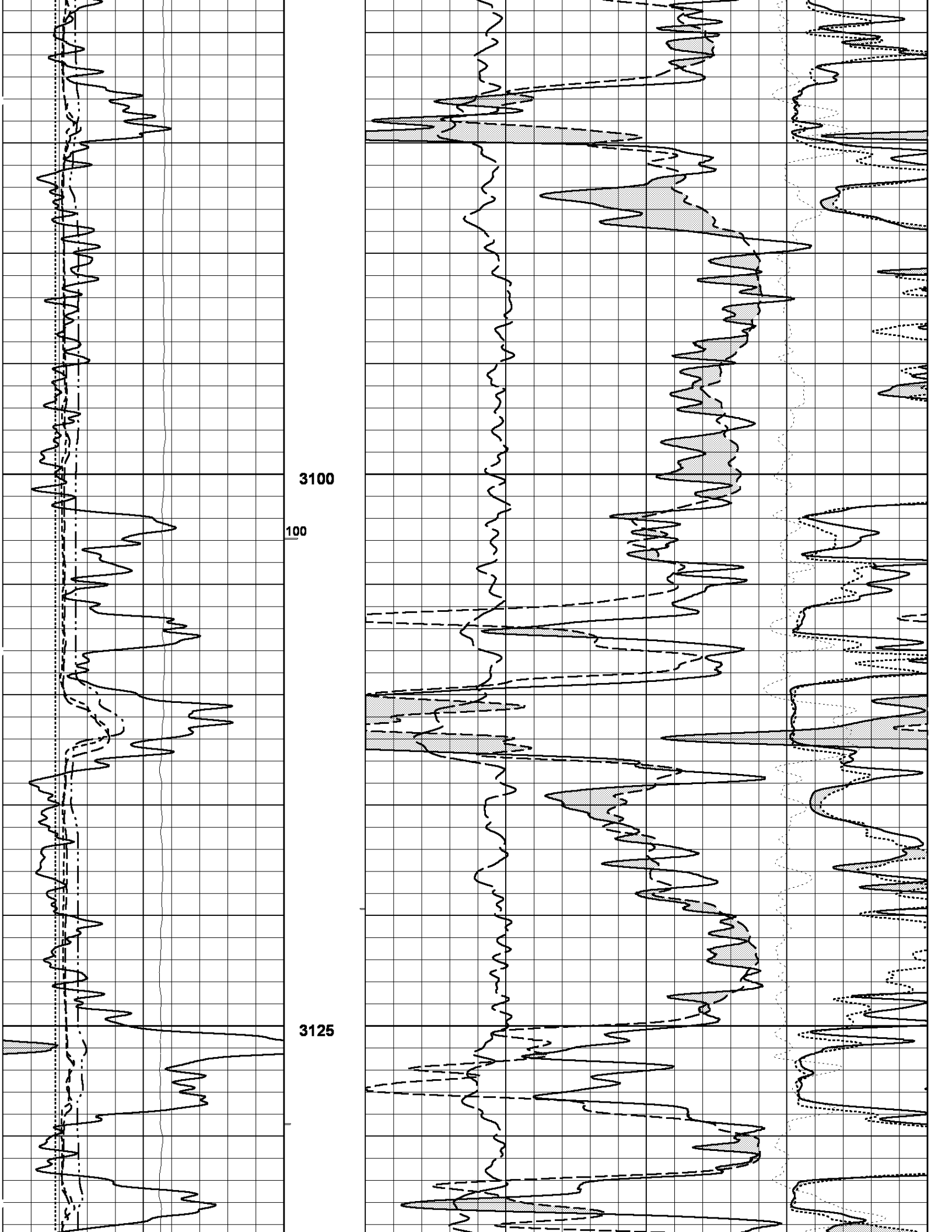
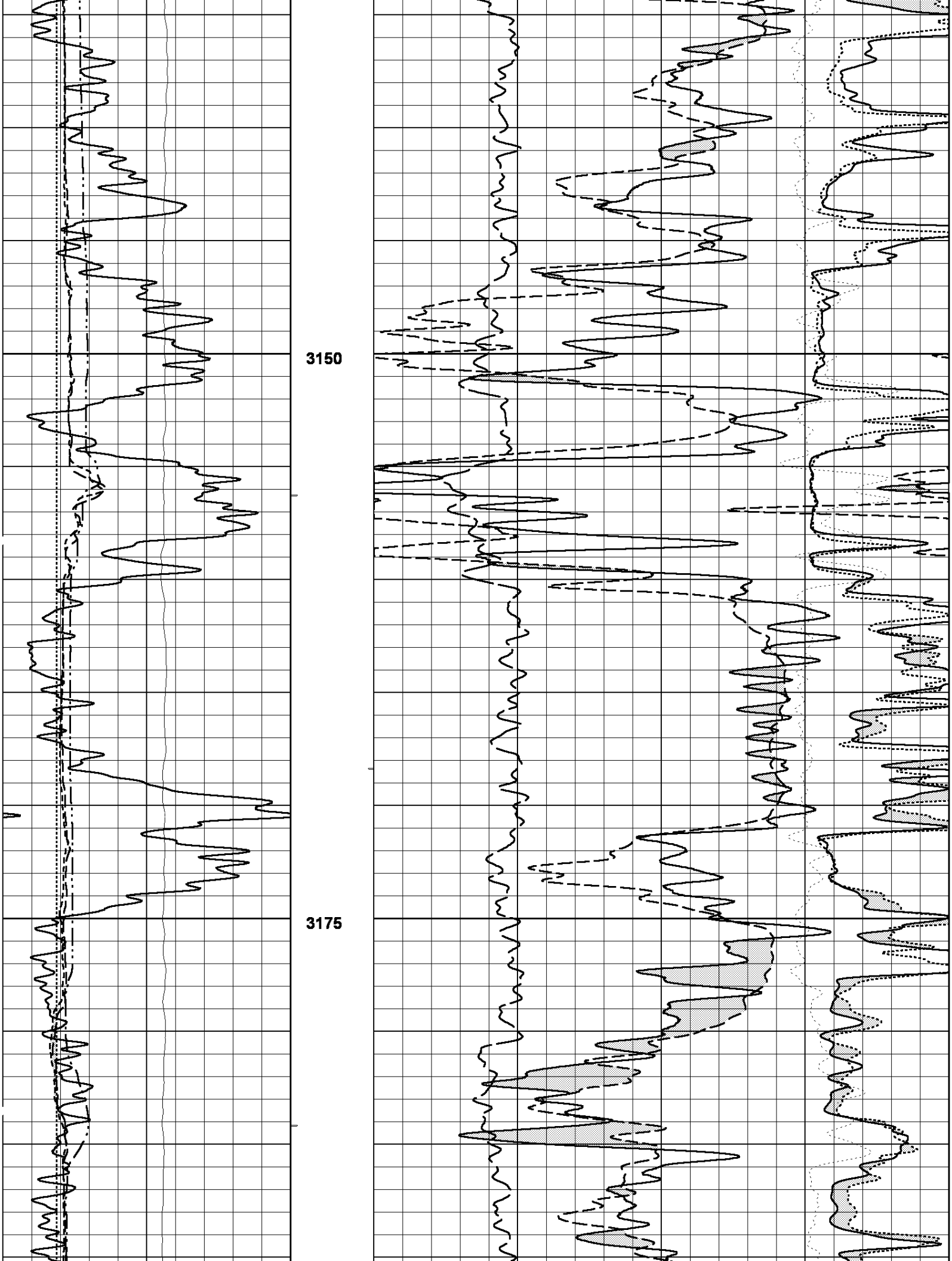
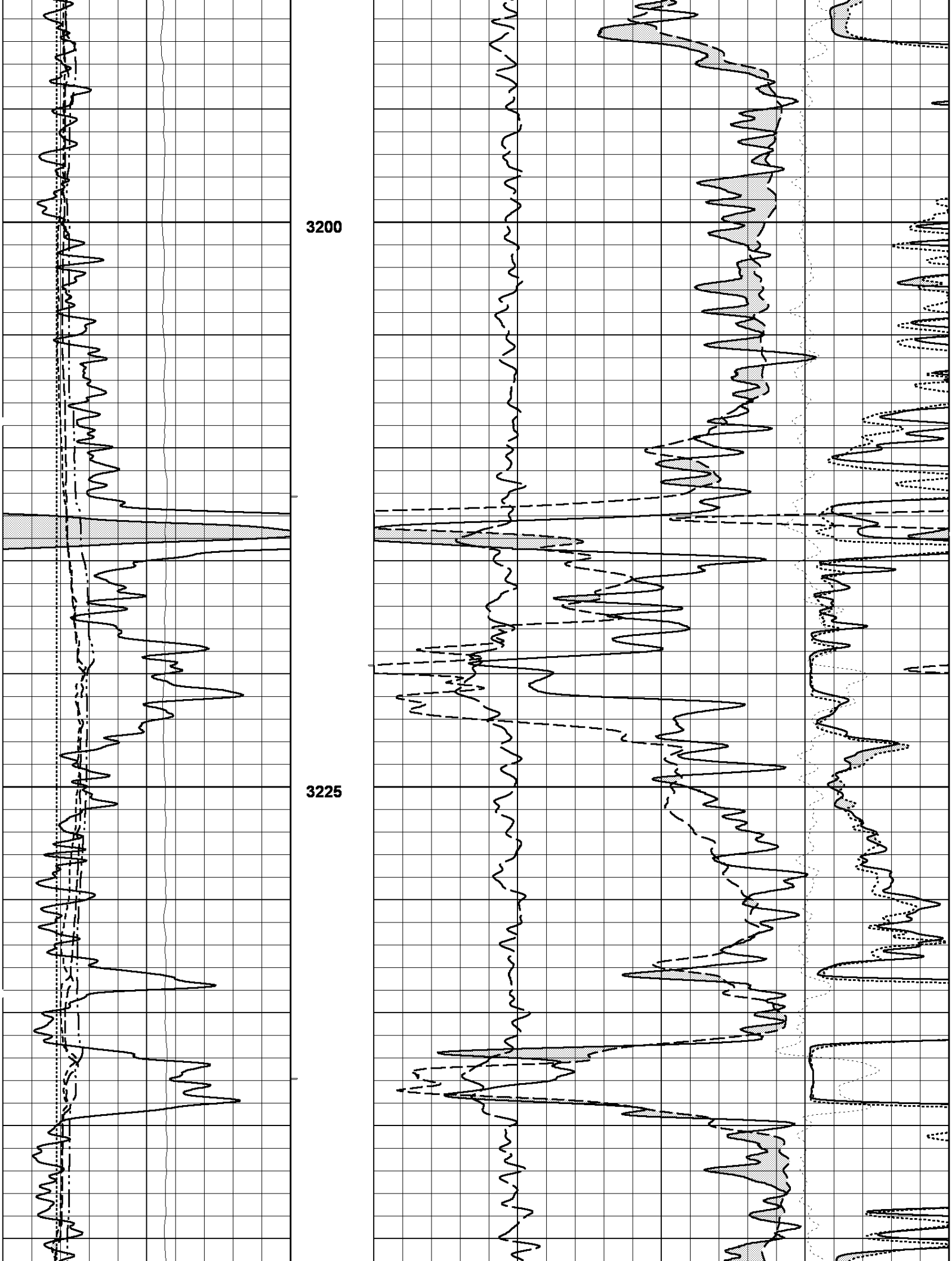
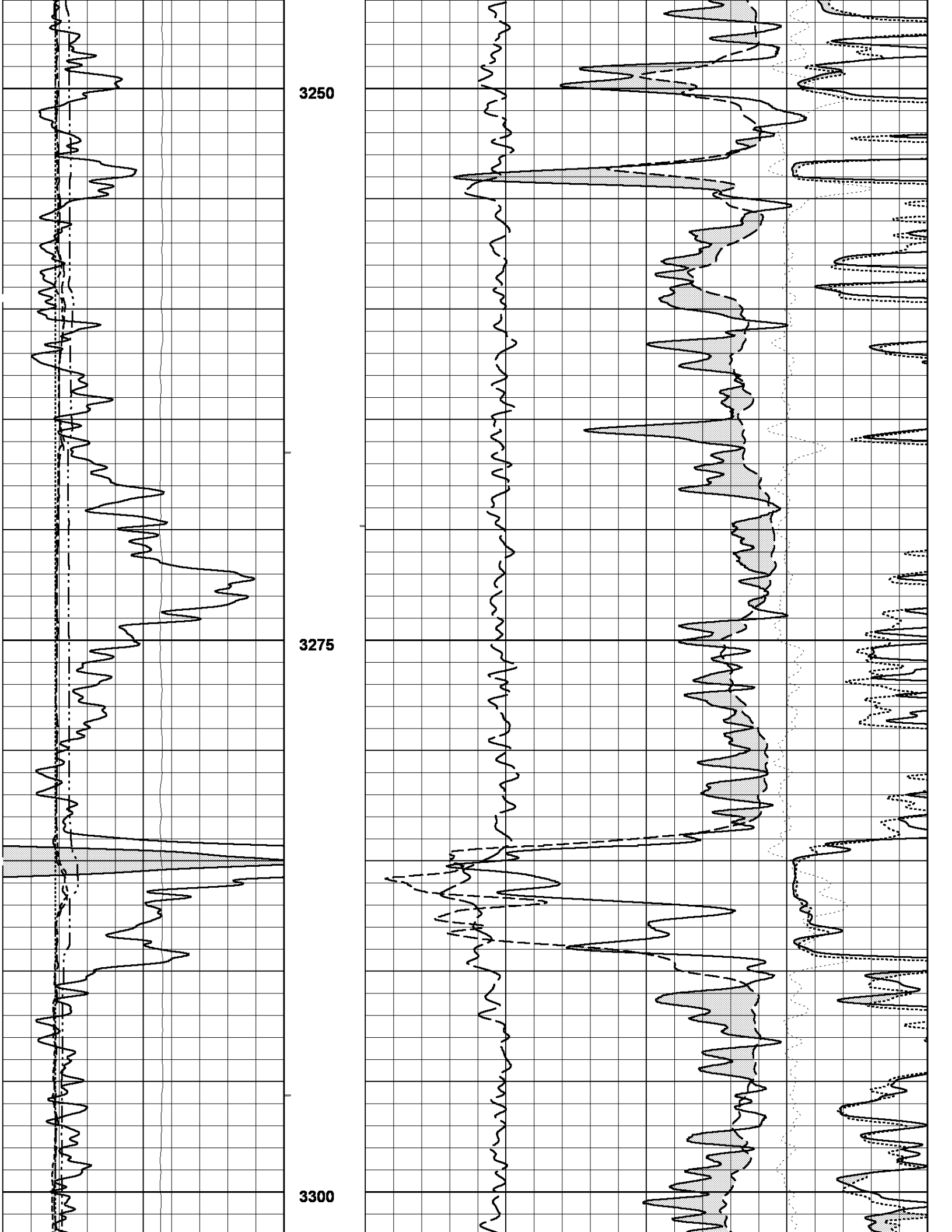
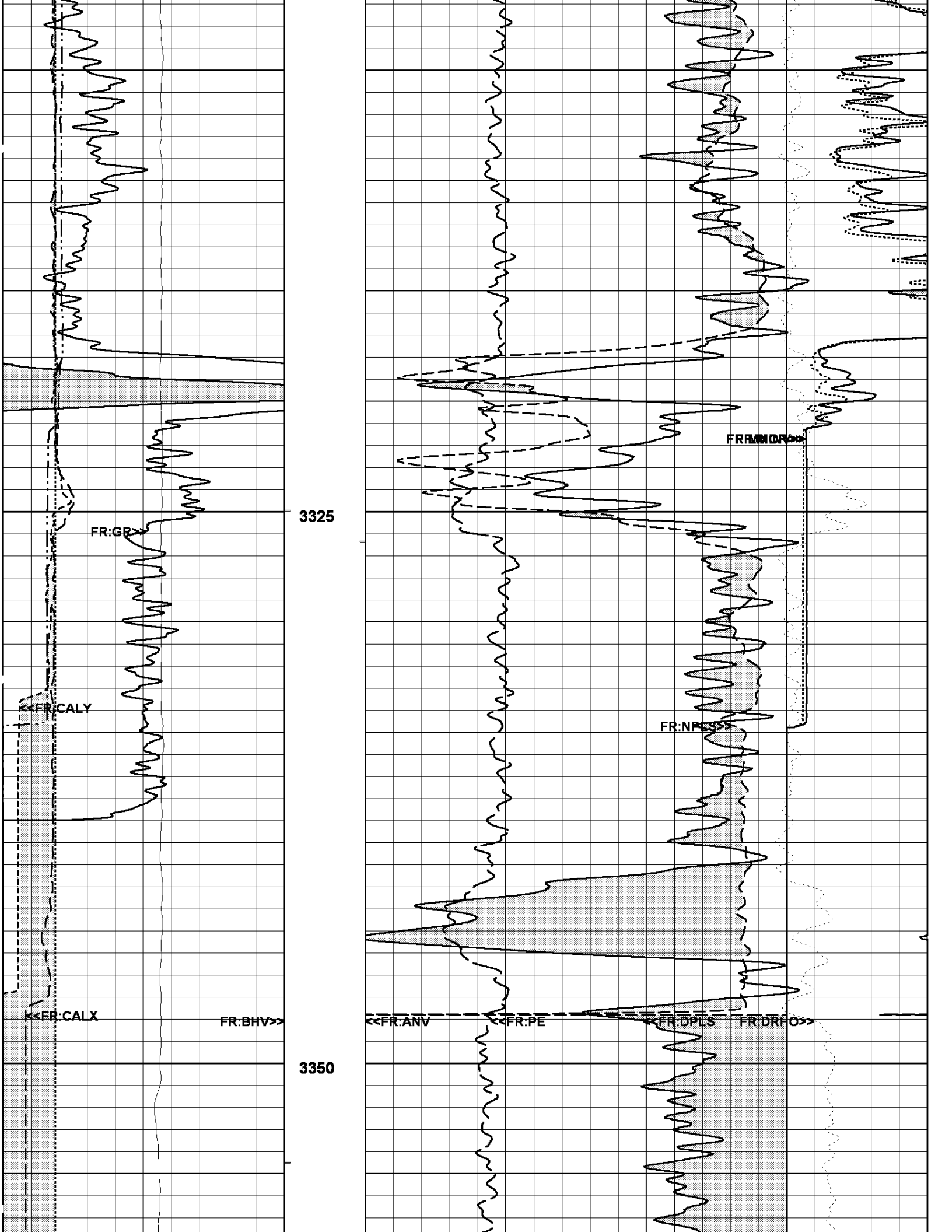
3050
3075


3100
100
3125


3150
3175


3200
3225


3250
3275
3300


FR:GR>>
3325
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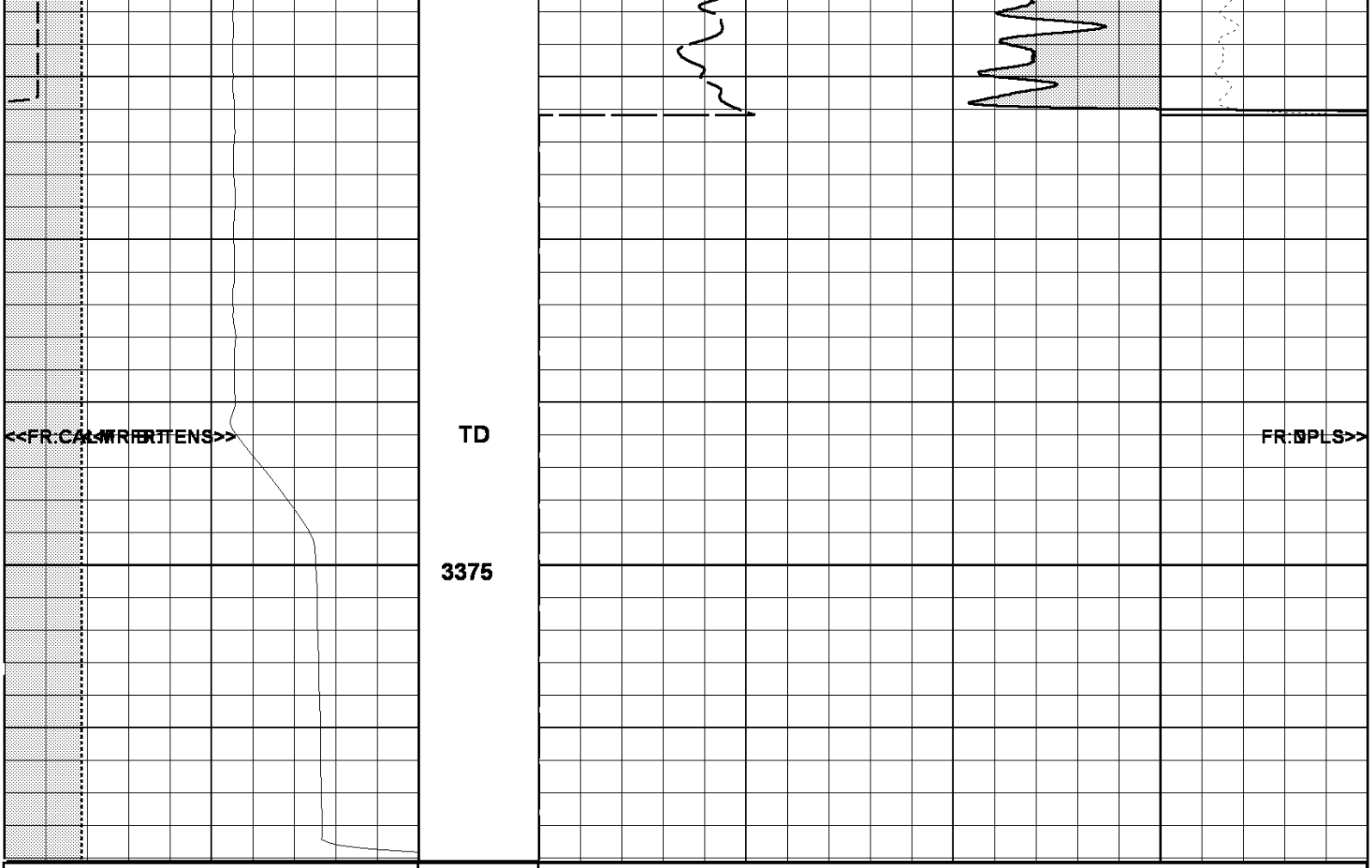
FR:NPLS>>
<<FR:CALX
FR:BHV>>
<<FR:ANV
<<FR:PE
<<FR:DPLS
FR:DRHO>>
3350



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.		
Microlog-Caliper		
6. in 16.		

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

03/23/2015
15:27:06 => Start Time

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

Log UP - (VER 11.19)
Start Depth=> 3384.10 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	4319.513	3739.580	1913.353	3.963	3312.6183	2.523(g/cc)	M/D/Y> 3/13/2015	H:M:S> 13:38:31
MAGNESIUM	12790.189	10883.634	4889.902	4.273	4853.9815	1.679(g/cc)		

BACKGROUND	1395.798	1234.616	858.899	3.788	4.2428			
SAND	12790.047	10889.672	4898.519	4.075		1.739(PE)		
IRON	3879.644	3400.750	1803.010	3.924		4.530(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	RN2007	SOURCE NUM	5929NE		

MASTER TANK CALIBRATIONS

		NEAR(cps)	FAR(cps)	RATIO	K VALUE	CALIBRATION DATE	CALIBRATION TIME
LOW PHI	3.150			0.6706	1.0207	M/D/Y> 3/13/2015	H:M:S> 11:5:47
MED PHI	19.130			1.1489	1.0207		
HIGH PHI	31.300			1.3772	1.0208		
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	RG3007
BLANKET NUM	1A

MASTER CALIBRATIONS

	BackGrnd	CalVal: 175.000 API	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	29.340 - raw	207.814 - raw	0.981 - gain 0.000 - off	M/D/Y> 3/12/2015	H:M:S> 12:17:54

X CALIPER

SERIAL NUM	RL4101

MASTER CALIBRATIONS

	ZeroVal: 6.000 In	CalVal: 10.000 In	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	2693.410 - raw	4852.950 - raw	0.002 - gain 1.011 - off	M/D/Y> 3/13/2015	H:M:S> 13:58:58

Y CALIPER CALIBRATIONS

SERIAL NUM	RN2007

MASTER CALIBRATIONS

	ZeroVal: 6.000 in	CalVal: 10.000 in	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	738.301 - raw	1455.113 - raw	0.006 - gain 1.880 - off	M/D/Y> 3/13/2015	H:M:S> 10:16:22

MICRO NORMAL CALIBRATIONS

SERIAL NUM	RM8002

MASTER CALIBRATIONS

	ZeroVal: 0.020 ohmm	CalVal: 10.000 ohmm	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	18.165 - raw	381.505 - raw	0.027 - gain -0.479 - off	M/D/Y> 3/17/2015	H:M:S> 11:27:34

MICRO INVERSE CALIBRATIONS

SERIAL NUM	RM8002

MASTER CALIBRATIONS

	ZeroVal: 0.020 ohmm	CalVal: 10.000 ohmm	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	17.979 - raw	258.509 - raw	0.041 - gain -0.726 - off	M/D/Y> 3/17/2015	H:M:S> 11:24:9

MICRO CALIPER CALIBRATIONS

SERIAL NUM	RM8002

MASTER CALIBRATIONS

	ZeroVal: 6.000 In	CalVal: 10.000 In	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	1978.282 - raw	3926.973 - raw	0.002 - gain 1.939 - off	M/D/Y> 3/17/2015	H:M:S> 11:33:12

Company	CMX, INCORPORATED
Well	HOMOLKA #1-35
Field	KRAFT-PRUSA
County	BARTON
State	KANSAS

RECON

COMPENSATED NEUTRON
LITHOLOGY DENSITY
GAMMA RAY, X-Y CALIPER

GAMMA RAY - X-CALIPER

MICROLOG

FIELD PRINT FIELD PRINT