SPECTRAL GAMMA RAY

COMPANY	MCELVAIN ENERGY, INC.
WELL	PRICE 14-5
FIELD	LIANOS SE
PROVINCE/COUNTY	SHERMAN
COUNTRY/STATE	U.S.A. / KANSAS
LOCATION	1717' FNL & 388' FWL SE NW SW NW

SEC	TWP	RGE	Other Services
14	6S	37W	MPD/MDN MSS
API Number 15-181-20597			MAI/MFE
Permit Number			MML

Permanent Datum GL, Elevation 3441 feet	Elevations:	feet
Log Measured From KB	KB	3452.00
Drilling Measured From KB @ 11 FEET	DF	3450.00
	GL	3441.00

Date	23-NOV-2013			
Run Number	ONE			
Service Order	3547622			
Depth Driller	5082.00	feet		
Depth Logger	5078.00	feet		
First Reading	5024.00	feet		
Last Reading	331.00	feet		
Casing Driller	352.00	feet		
Casing Logger	351.00	feet		
Bit Size	7.875	inches		
Hole Fluid Type	CHEMICAL			
Density / Viscosity	9.30 lb/USg	50.00 CP		
PH / Fluid Loss	10.50	8.00 ml/30Min		
Sample Source	FLOW LINE			
Rm @ Measured Temp	1.60 @ 49.0	ohm-m		
Rmf @ Measured Temp	1.28 @ 49.0	ohm-m		
Rmc @ Measured Temp	1.92 @ 49.0	ohm-m		
Source Rmf / Rmc	CALC	CALC		
Rm @ BHT	0.60 @130.0	ohm-m		
Time Since Circulation	3 HRS			
Max Recorded Temp	130.00	deg F		
Equipment / Base	13057	LIB		
Recorded By	J. LAPOINT		R. HOFFMAN	
Witnessed By	L. NICHOLSON			
JOB #	LB 13-331			

BOREHOLE RECORD

Last Edited: 24-NOV-2013 07:12

Bit Size inches	Depth From feet	Depth To feet
7.875	351.00	5078.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	351.00	24.00

REMARKS

- SOFTWARE ISSUE: WLS 13.05.9583.
- MCG, SGS, MML, MDN, MPD, MFE, MSS, MAI RAN IN COMBINATION.
  - HARDWARE: DUAL BOWSPRING USED ON MDN.
  0.5 INCH STANDOFF USED ON MFE.
  TWO 0.5 INCH STANDOFFS USED ON MSS.
  0.5 INCH STANDOFF USED ON MAI.
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY.
- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL AFFECT DATA QUALITY.
- ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.
- TOTAL HOLE VOLUME FROM TD TO SURFACE CASING: 1847 CU. FT.
- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO SURFACE CASING: 1071 CU. FT.

- RIG: H2 DRILLING

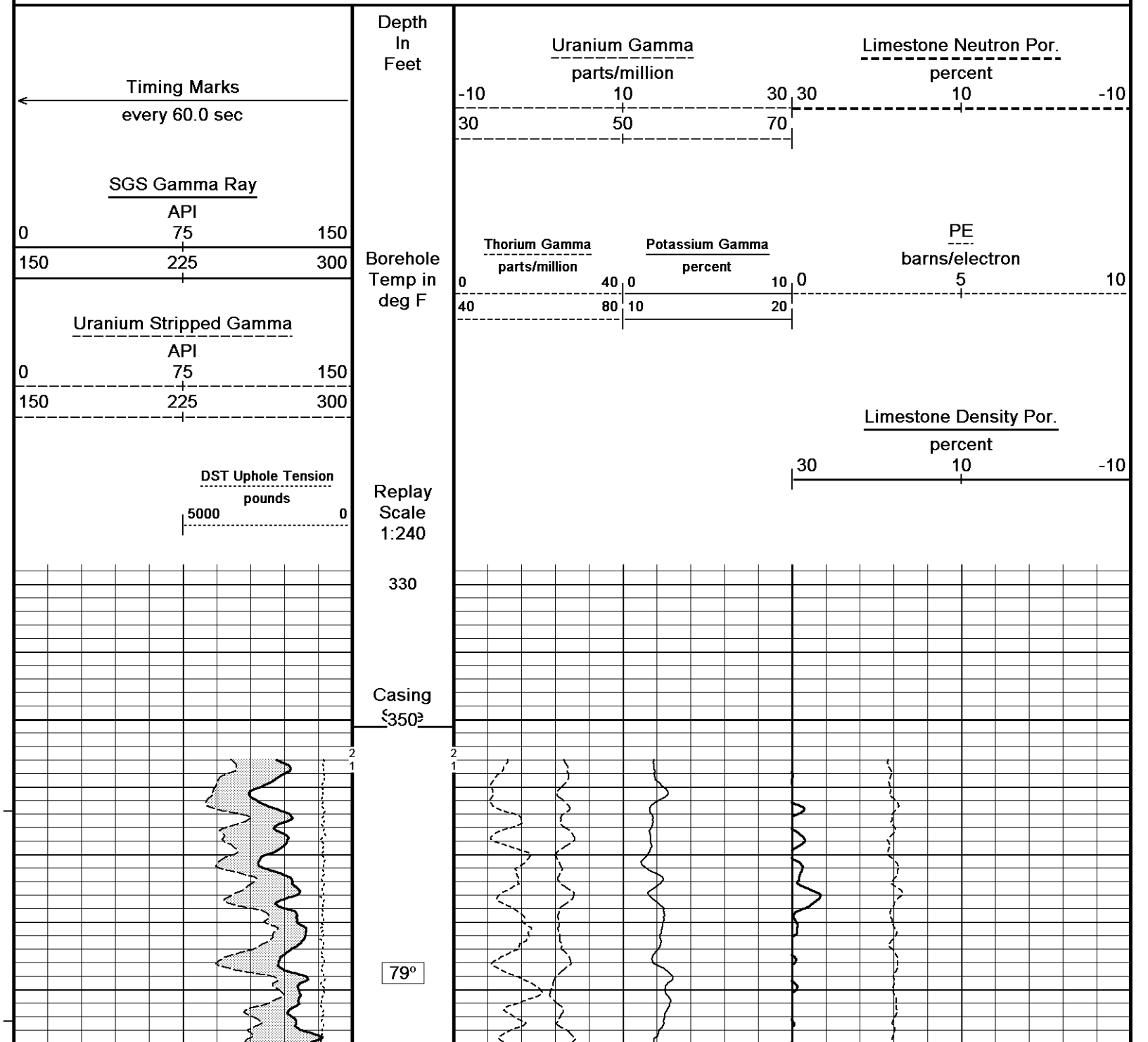
- ENGINEER: J. LAPOINT AND R. HOFFMAN

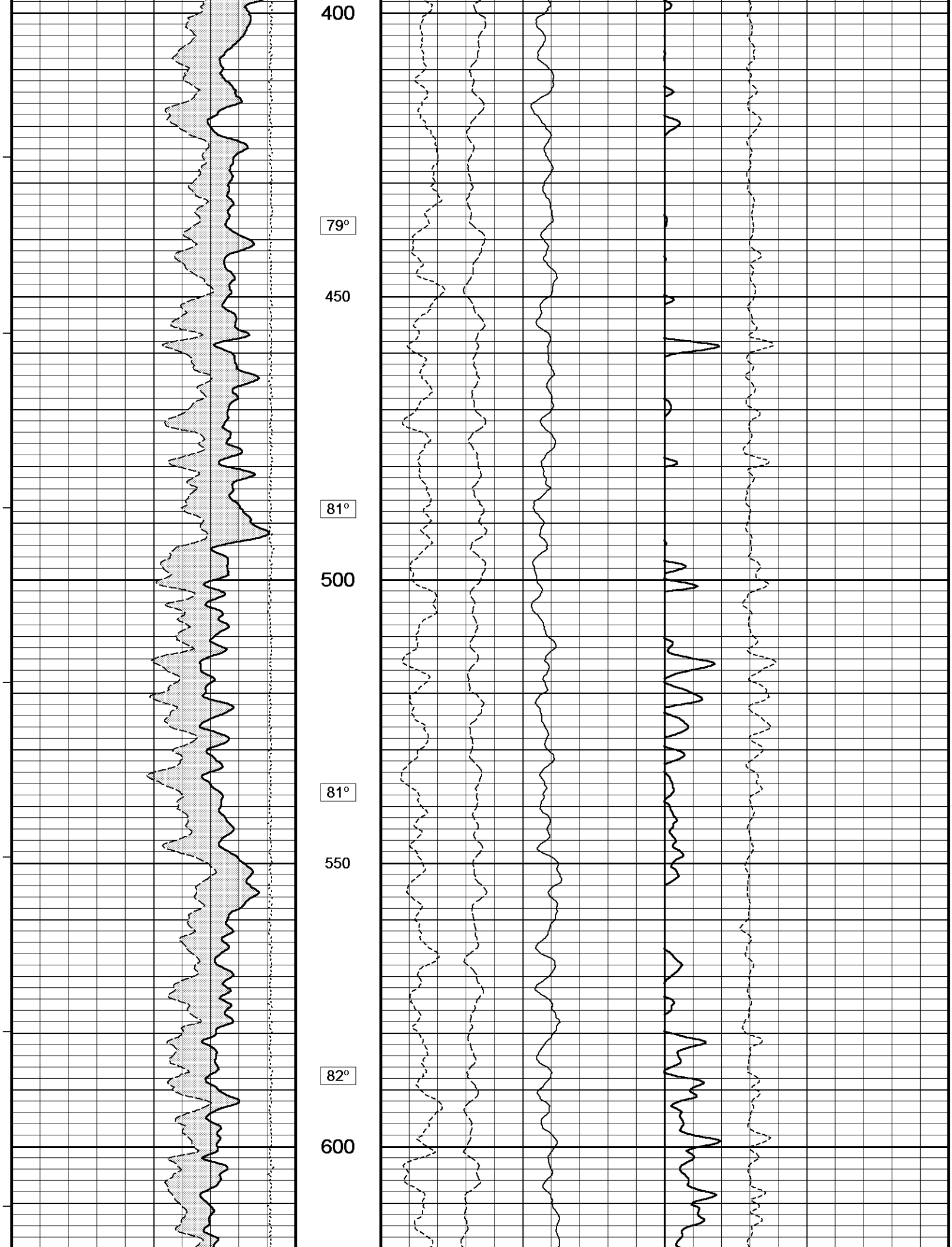
- OPERATOR(S): K. RINEHART AND C. RAMIREZ

- LCM: 8 LBS/PBL

5 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 24-NOV-2013 11:40
Filename: C:\Minimus 13.05.9583\Logs\McElvain Price 14-5\McElvain Price 14-5 Main.dta
Recorded on 24-NOV-2013 02:52
System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.05.9583

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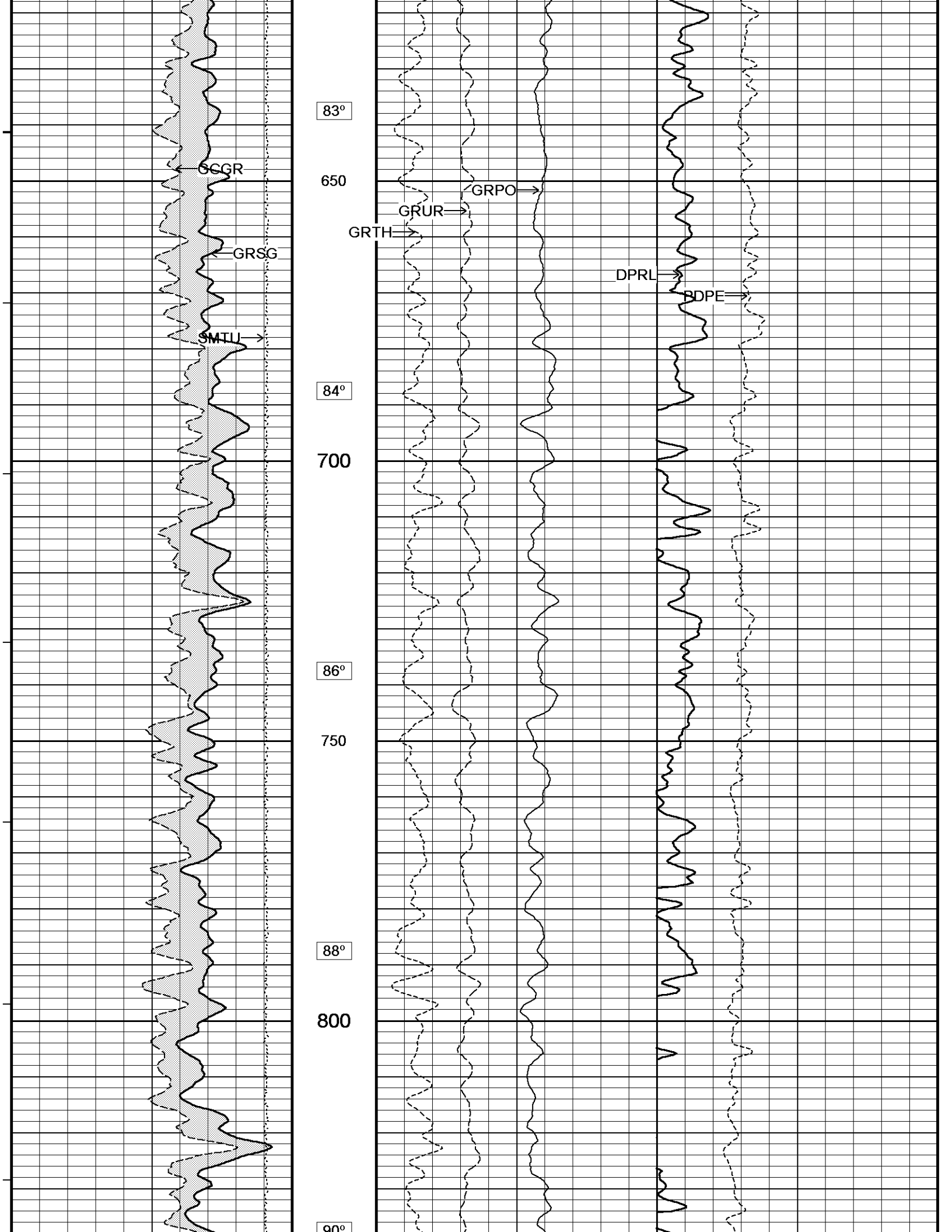
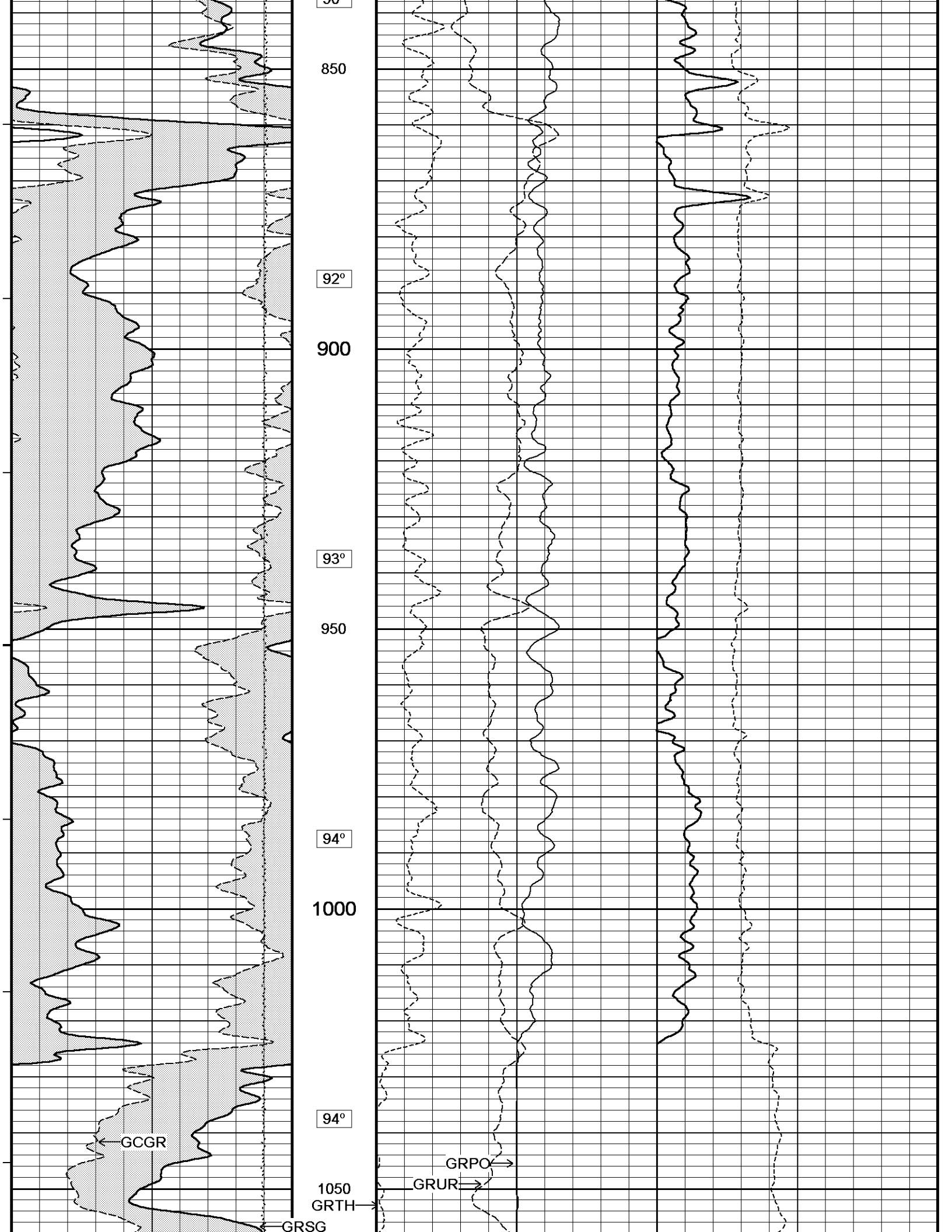
79°
450
81°
500
81°
550
82°
600


83°
650
84°
700
86°
750
88°
800
90°
SCGR
GRSG
SMTU
GRPO
GRUR
GRTH
DPRL
RDPE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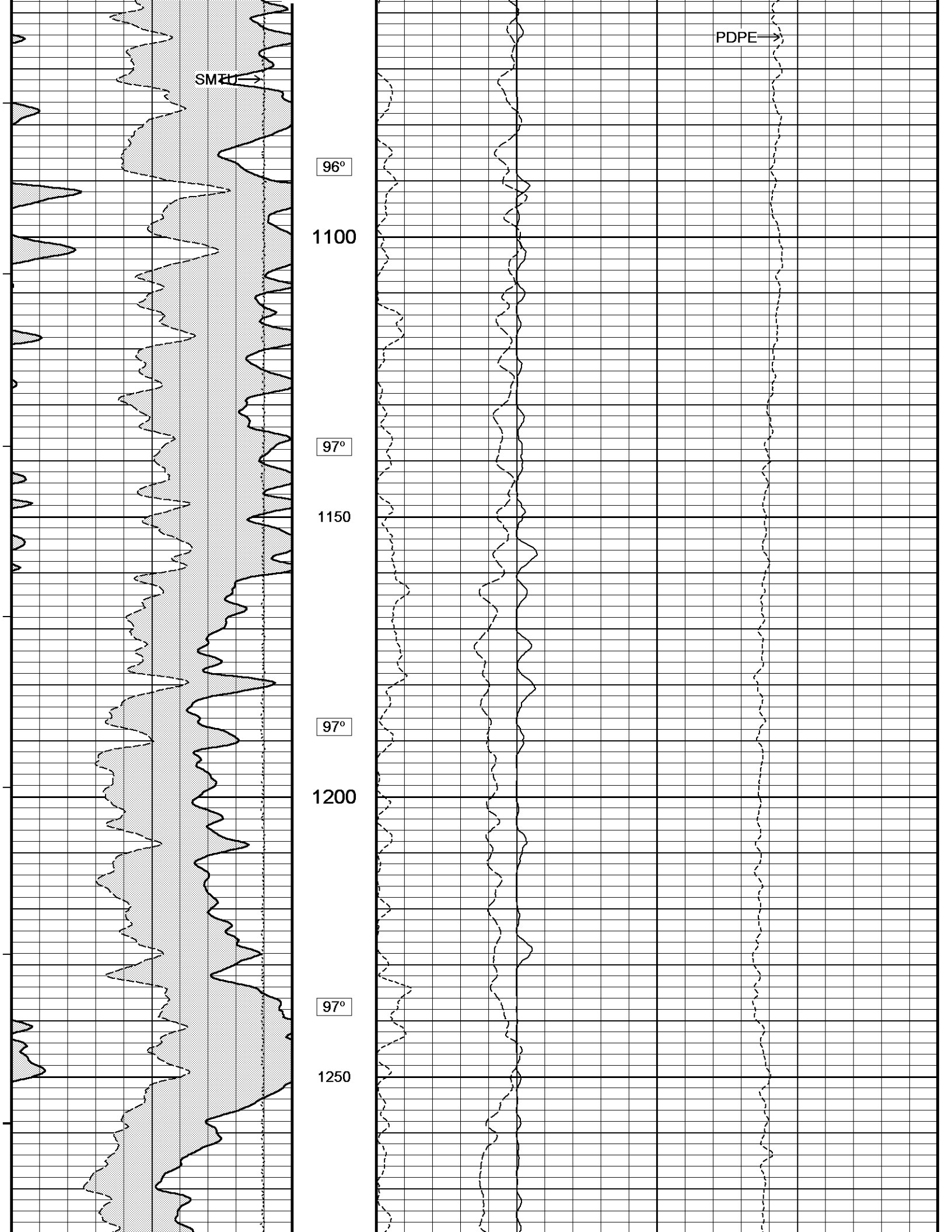
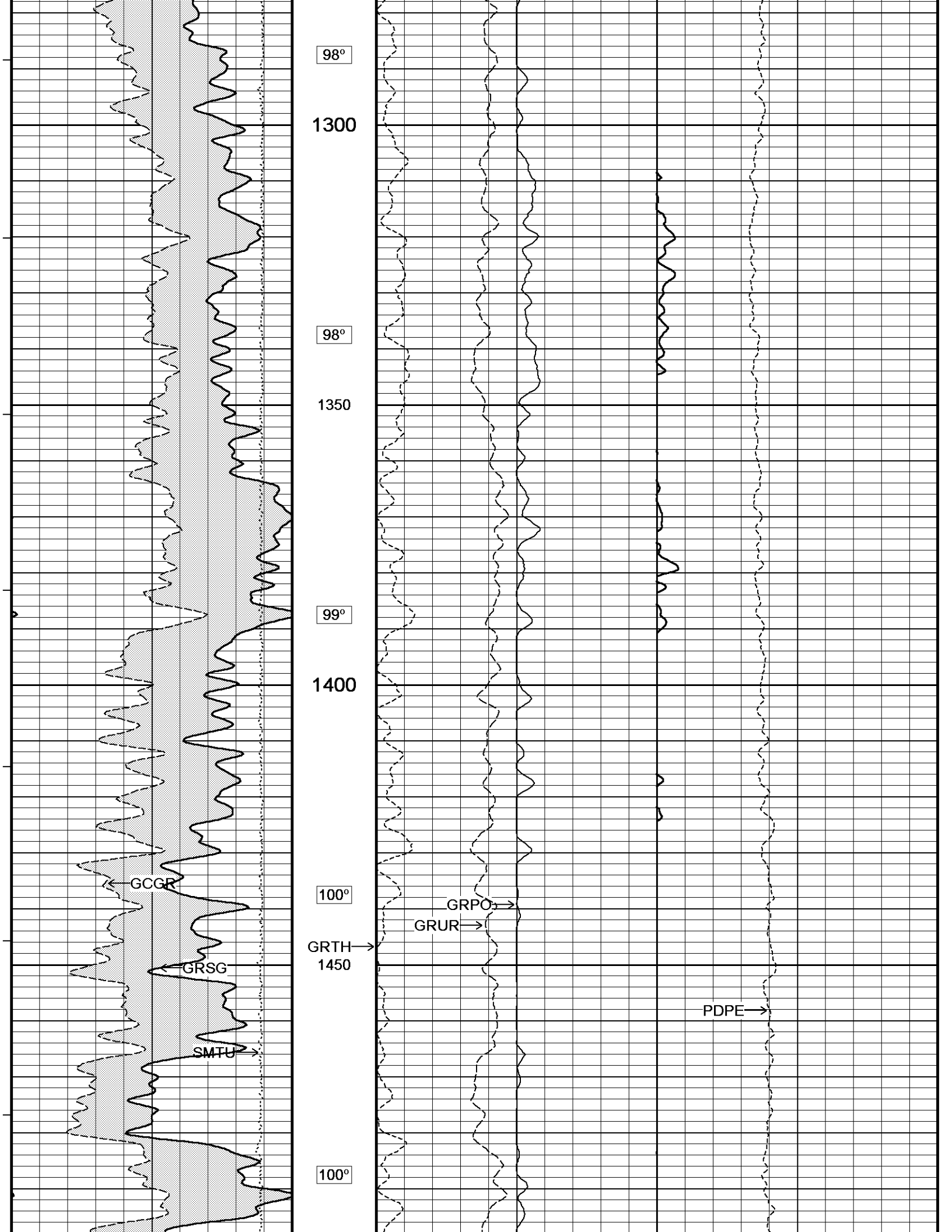
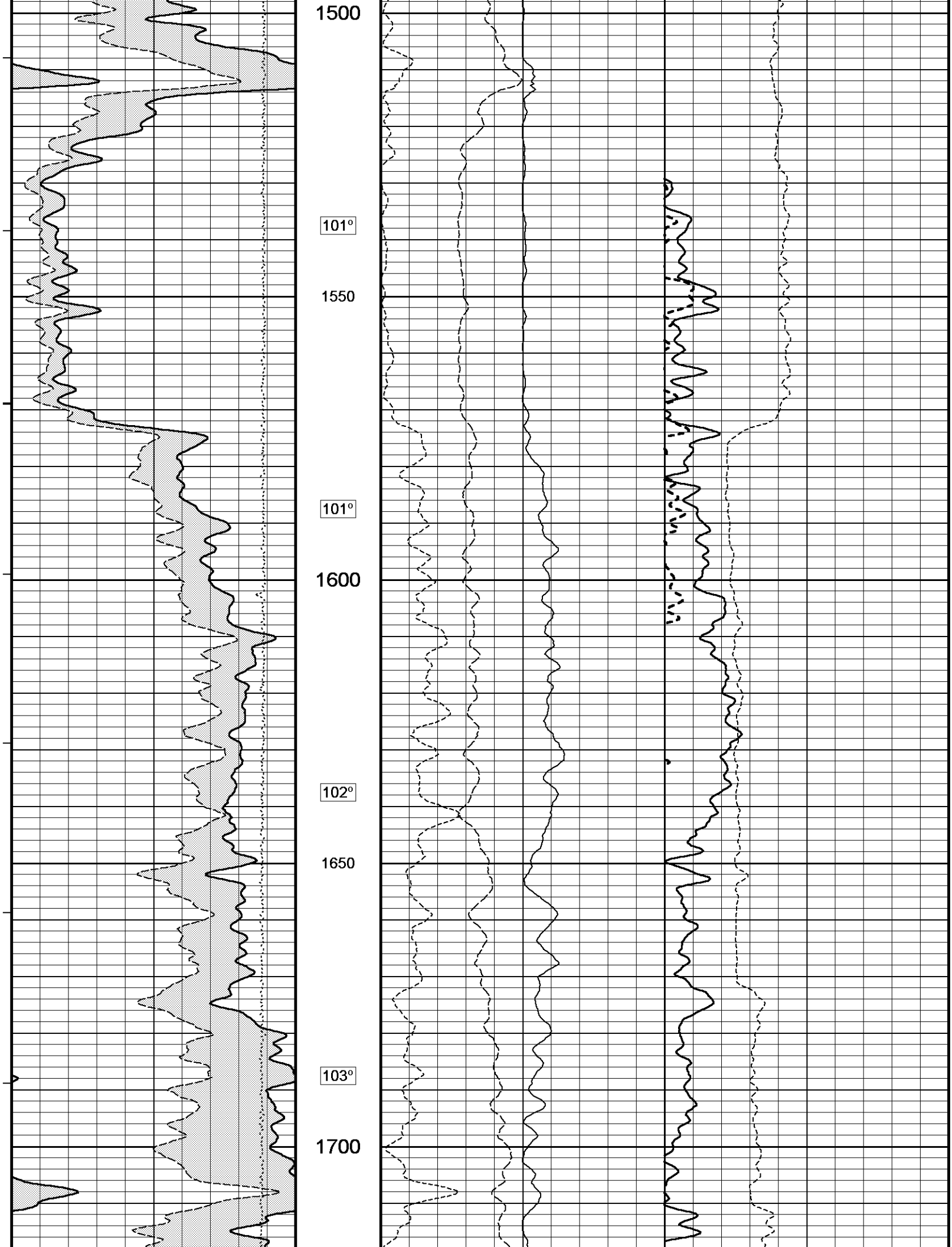
92°
900
93°
950
94°
1000
94°
GCGR
GRPO
GRUR
1050
GRTH
GRSG


SMTU
PDPE
96°
1100
97°
1150
97°
1200
97°
1250


98°
1300
98°
1350
99°
1400
100°
GRPO
GRUR
GRTH
1450
PDPE
GCGR
GRSG
SMTU
100°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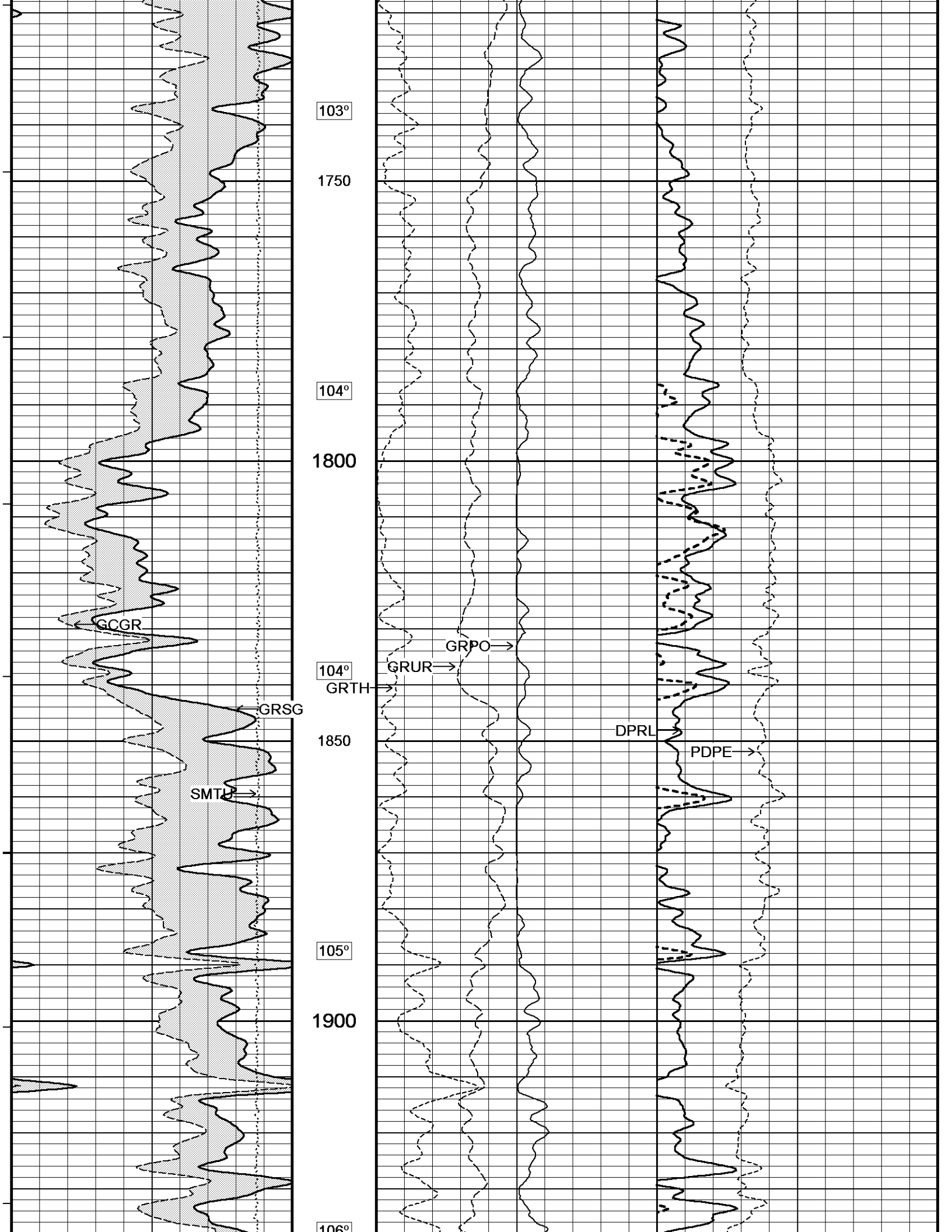
101°
1550
101°
1600
102°
1650
103°
1700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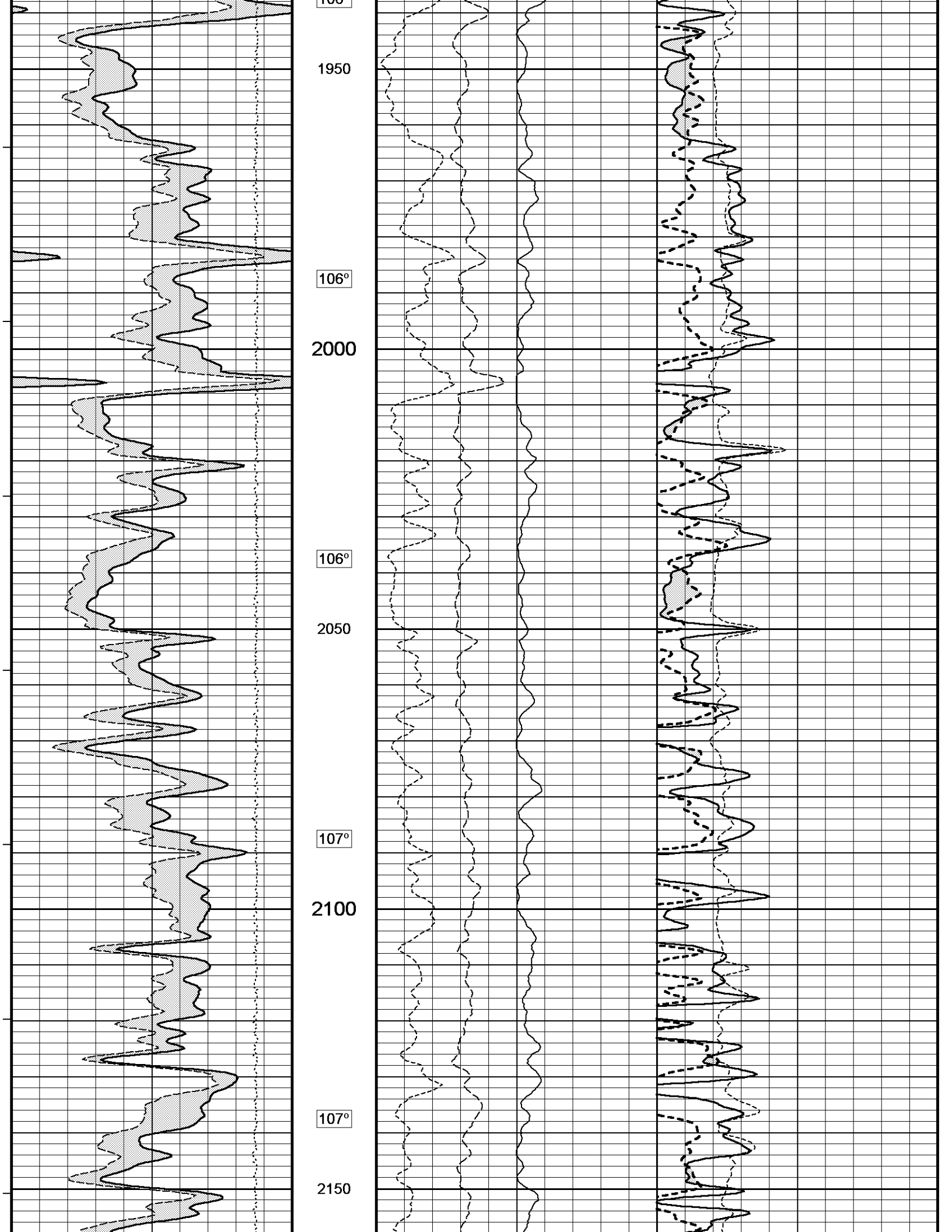
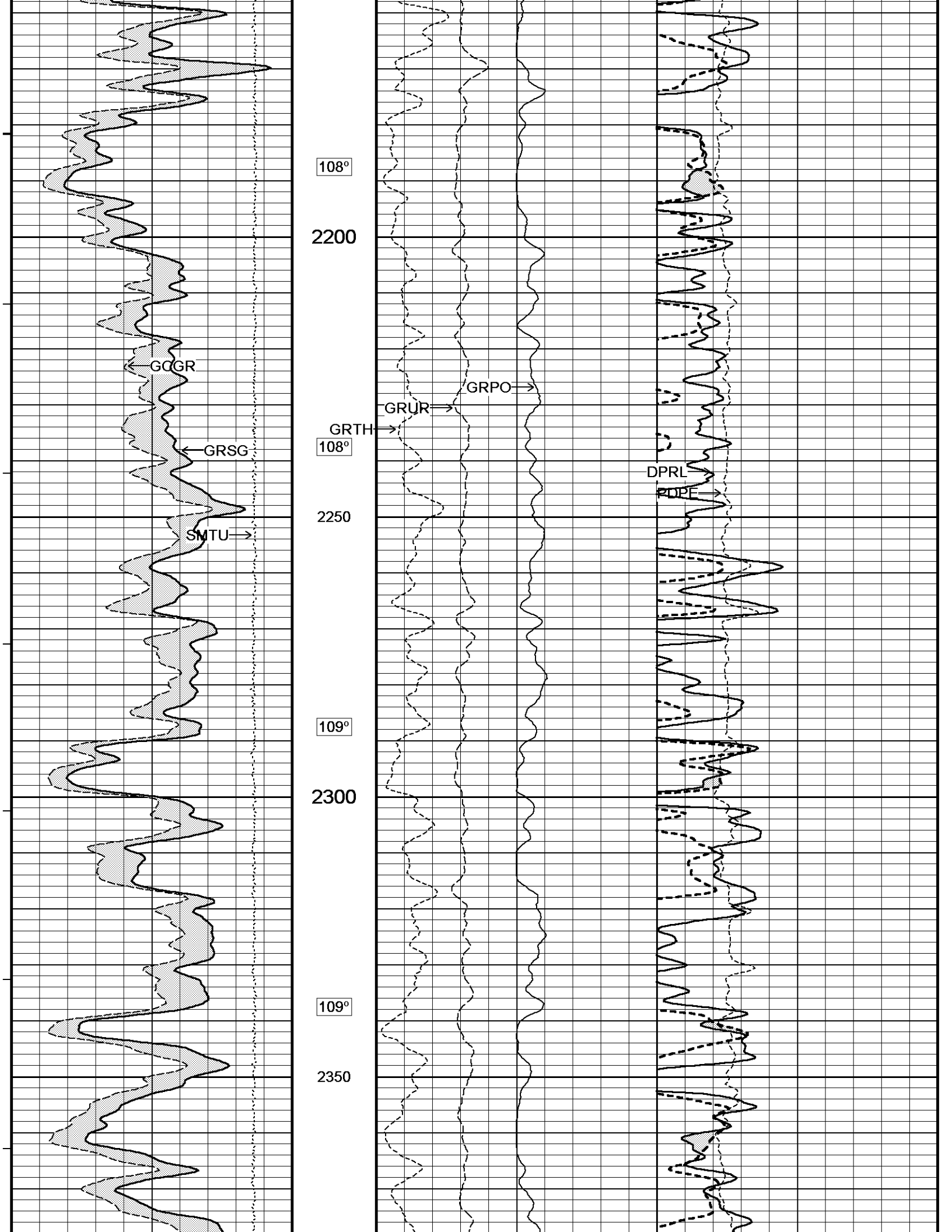
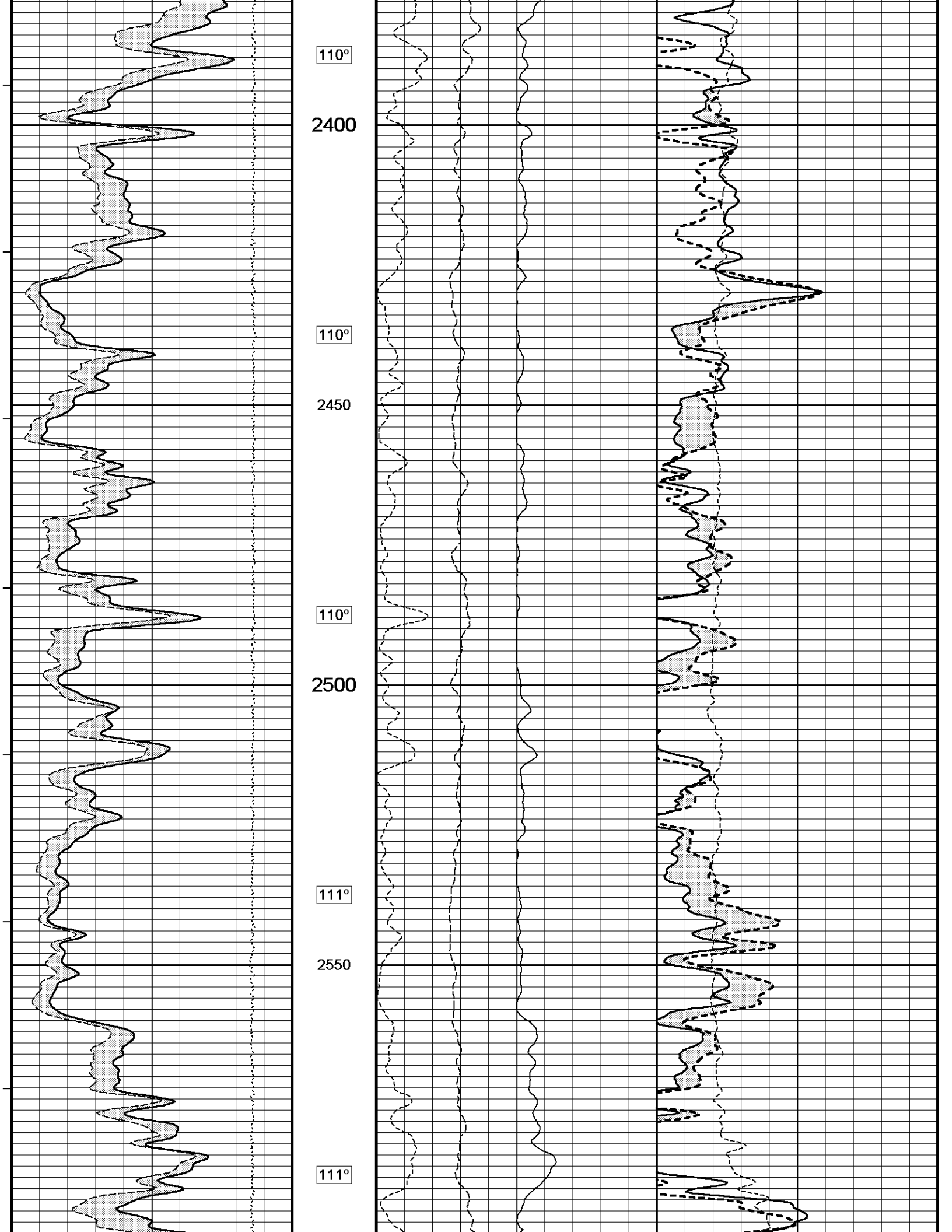
1750
104°
1800
GCGR
GRPO
GRUR
104°
GRTH
GRSG
1850
DPRL
PDPE
SMTH
105°
1900
106°


1950
106°
2000
106°
2050
107°
2100
107°
2150


108°
2200
GCGR
GRPO
GRUR
GRTH
108°
GRSG
DPRL
PDPE
2250
SMTU
109°
2300
109°
2350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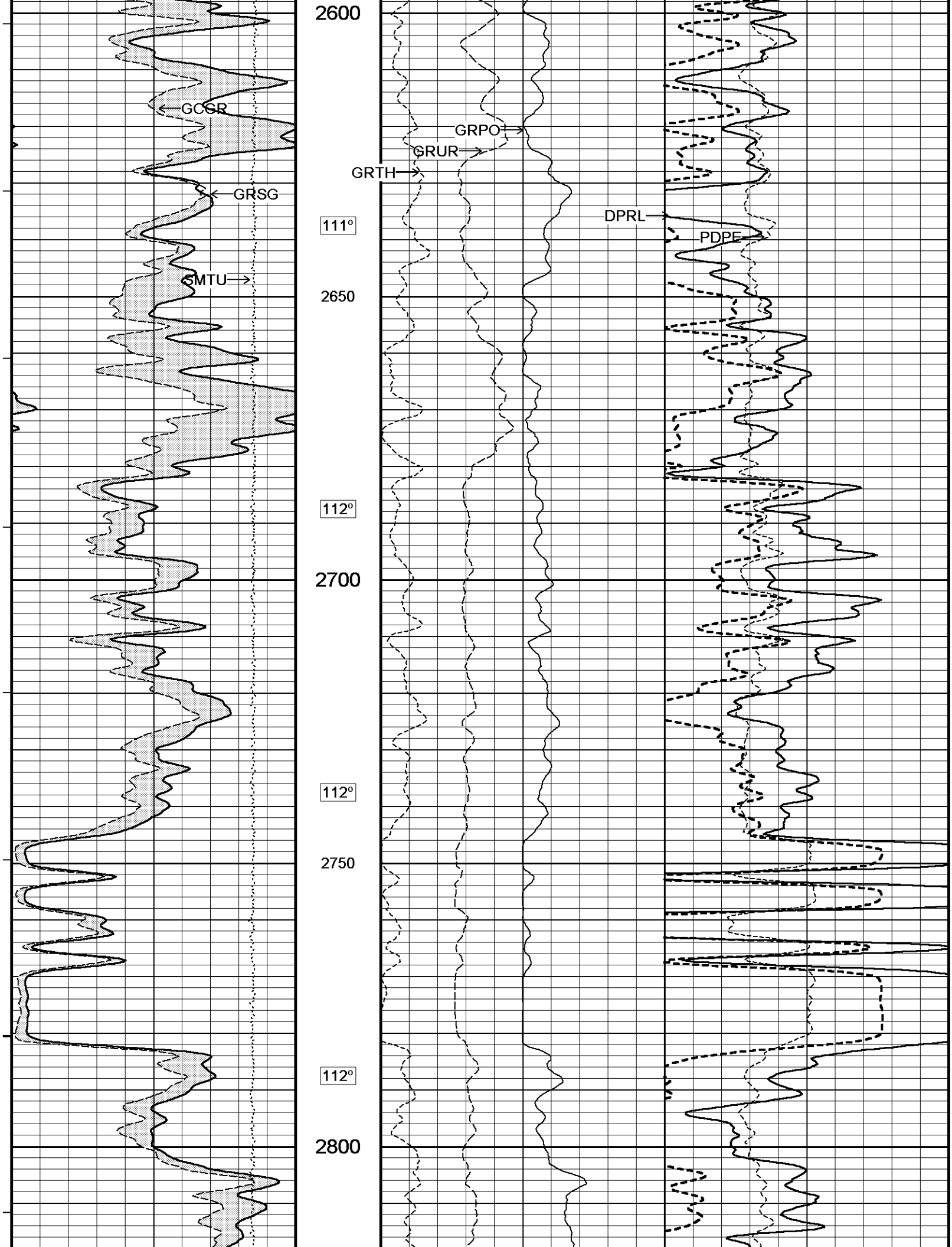
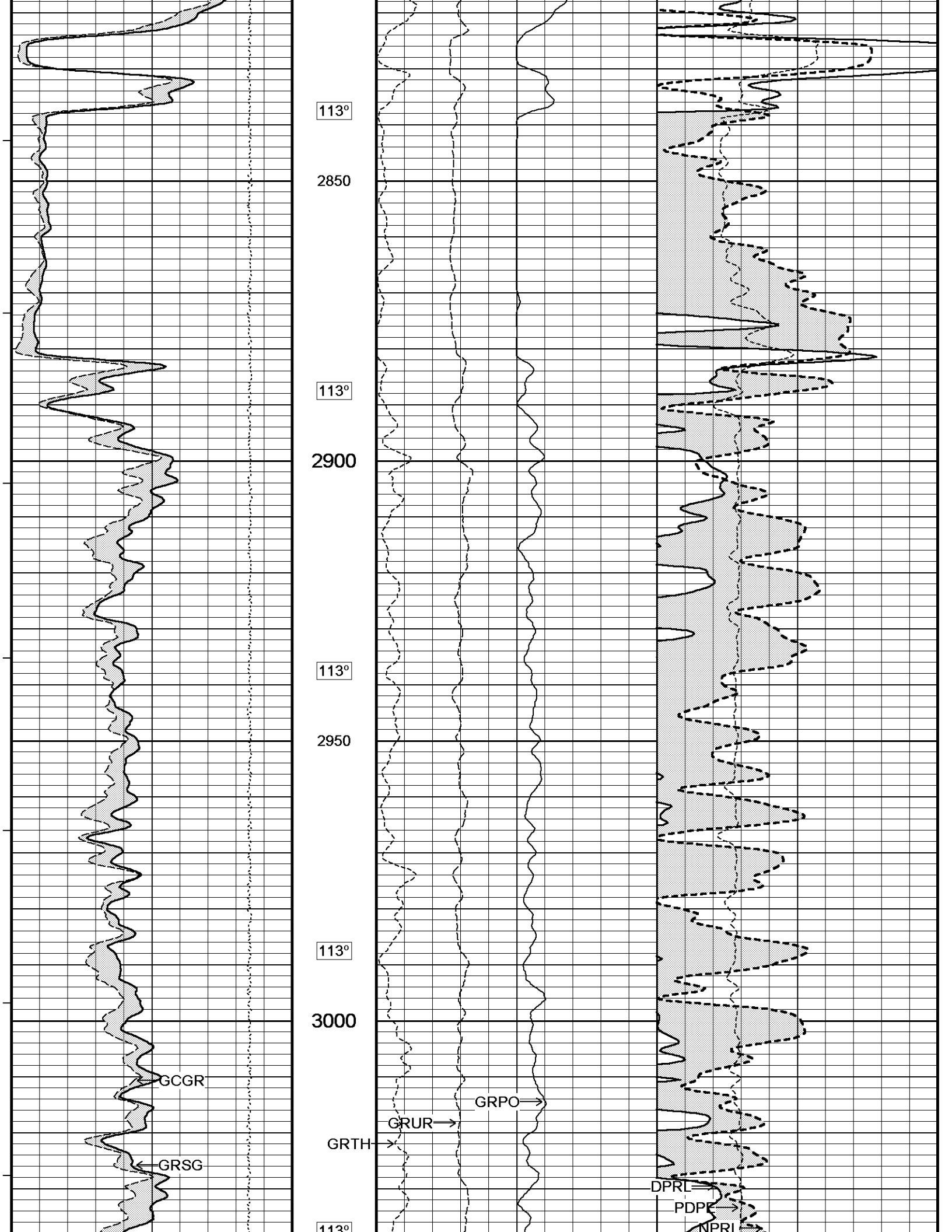
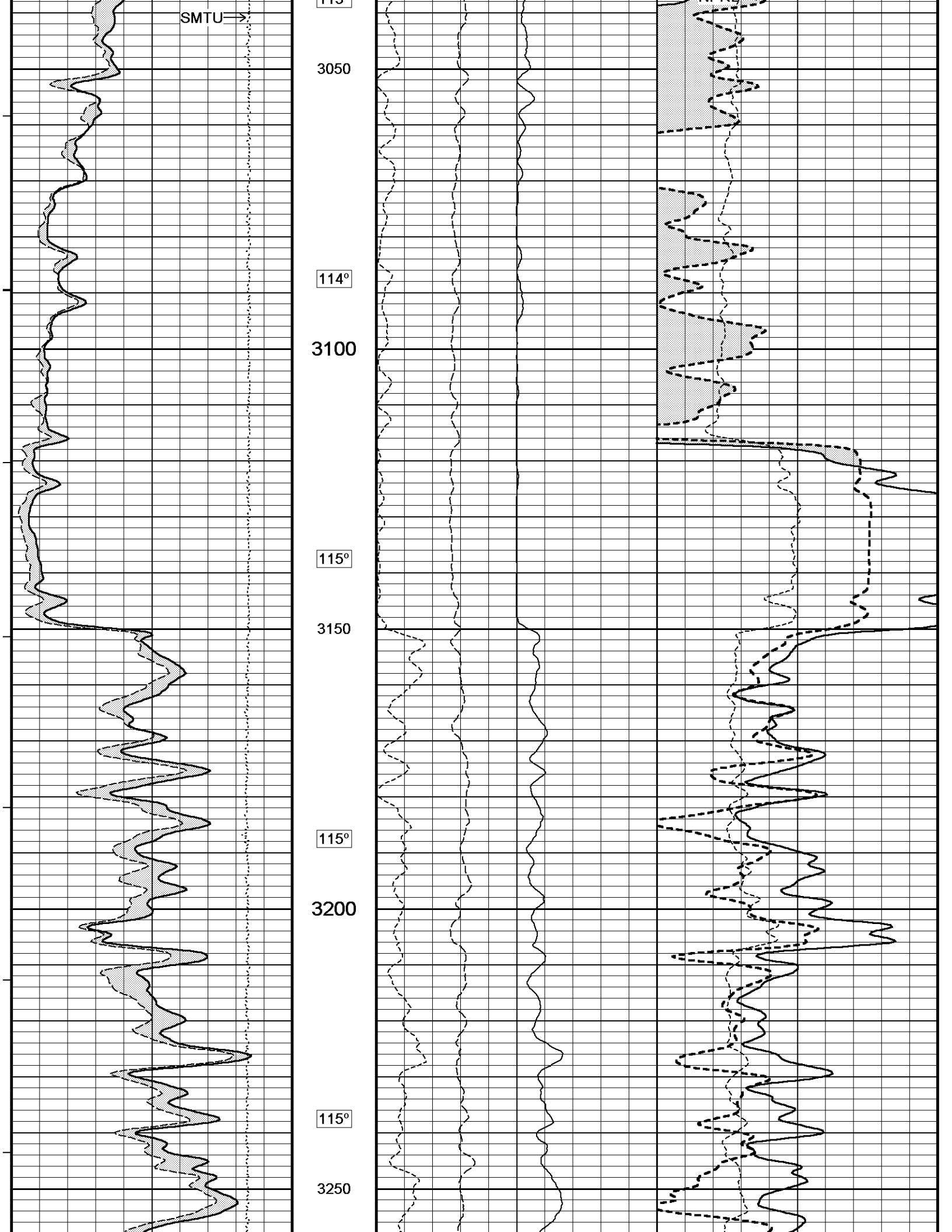
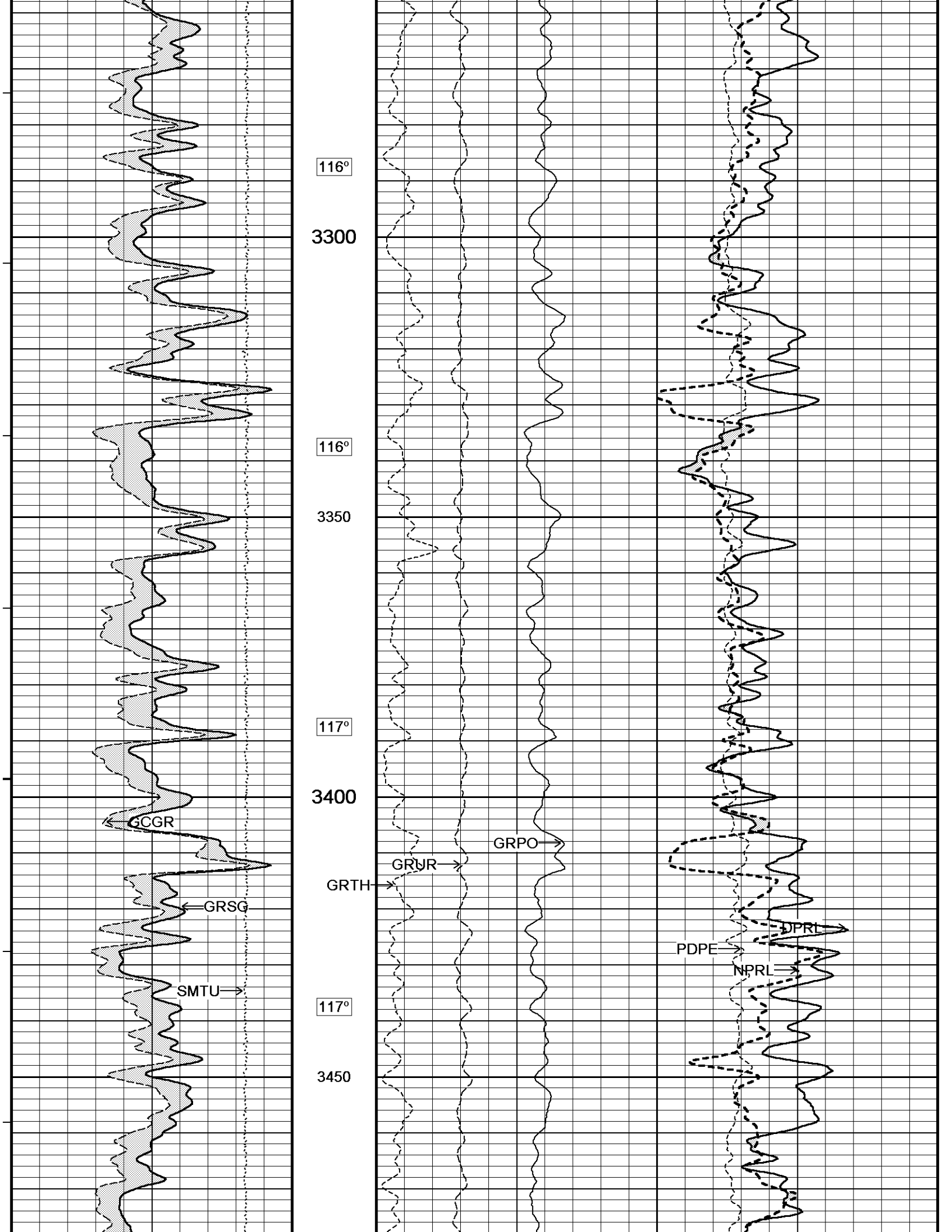
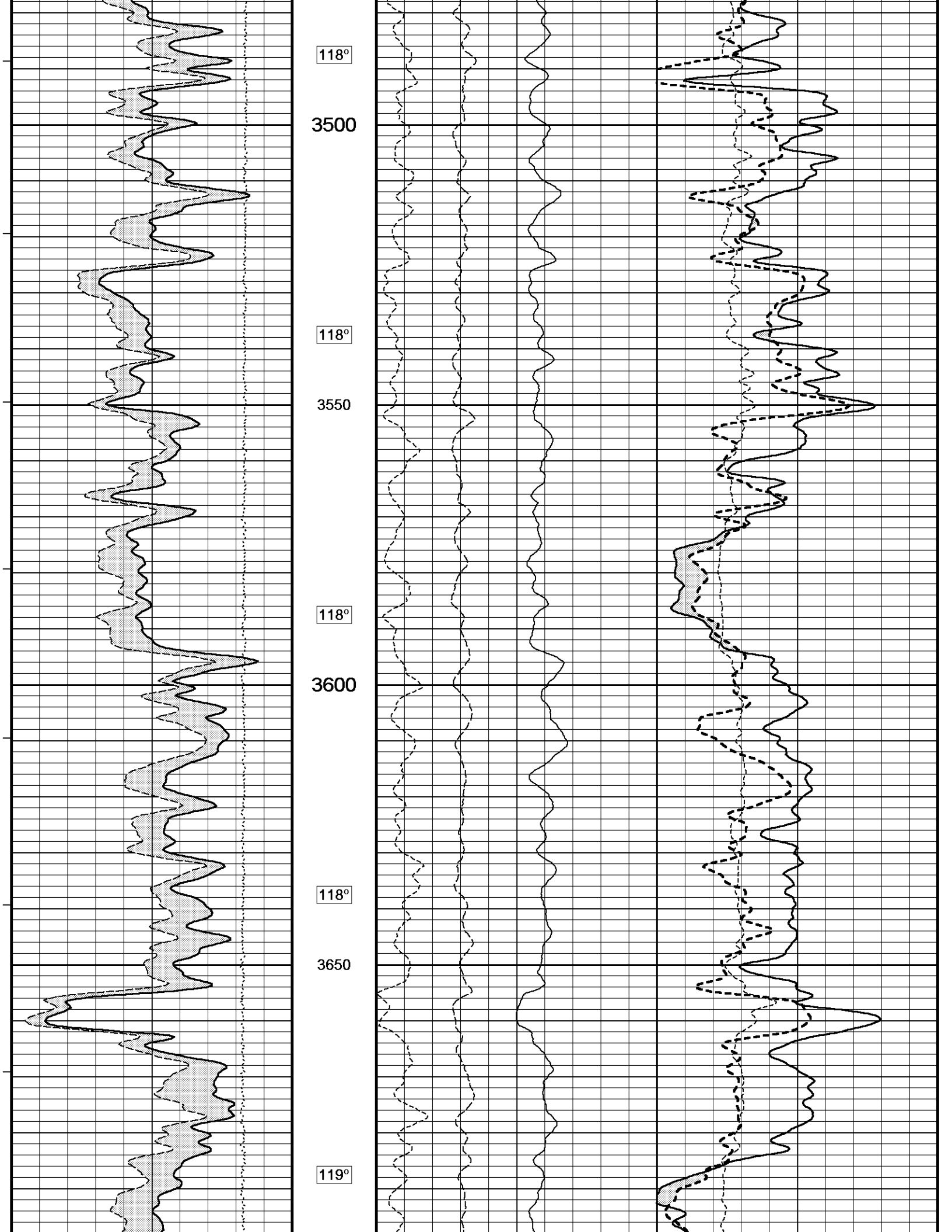
2400
110°
2450
110°
2500
111°
2550
111°

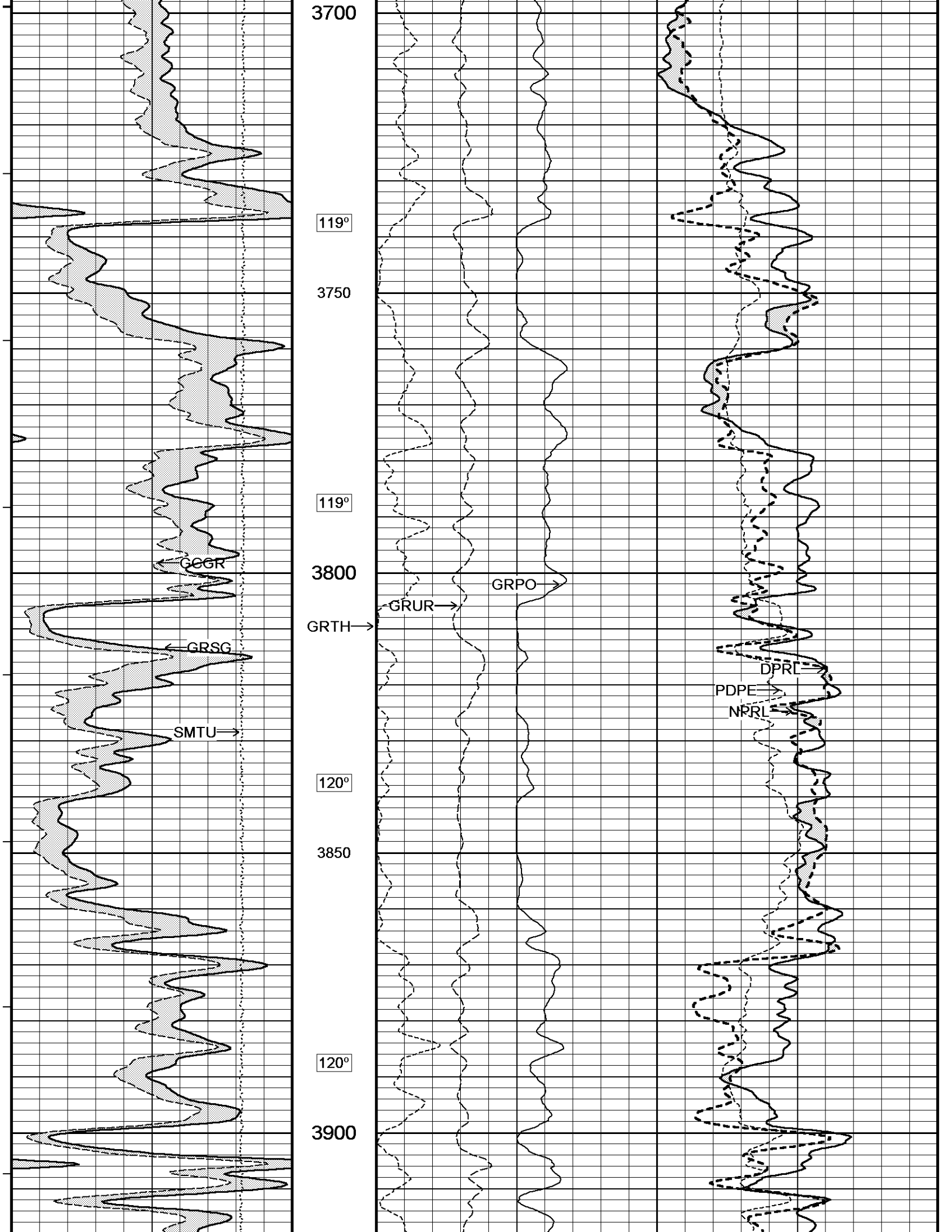

2600
GCGR
GRPO
GRUR
GRTH
GRSG
DPRL
PDPE
111°
SMTU
2650
112°
2700
112°
2750
112°
2800

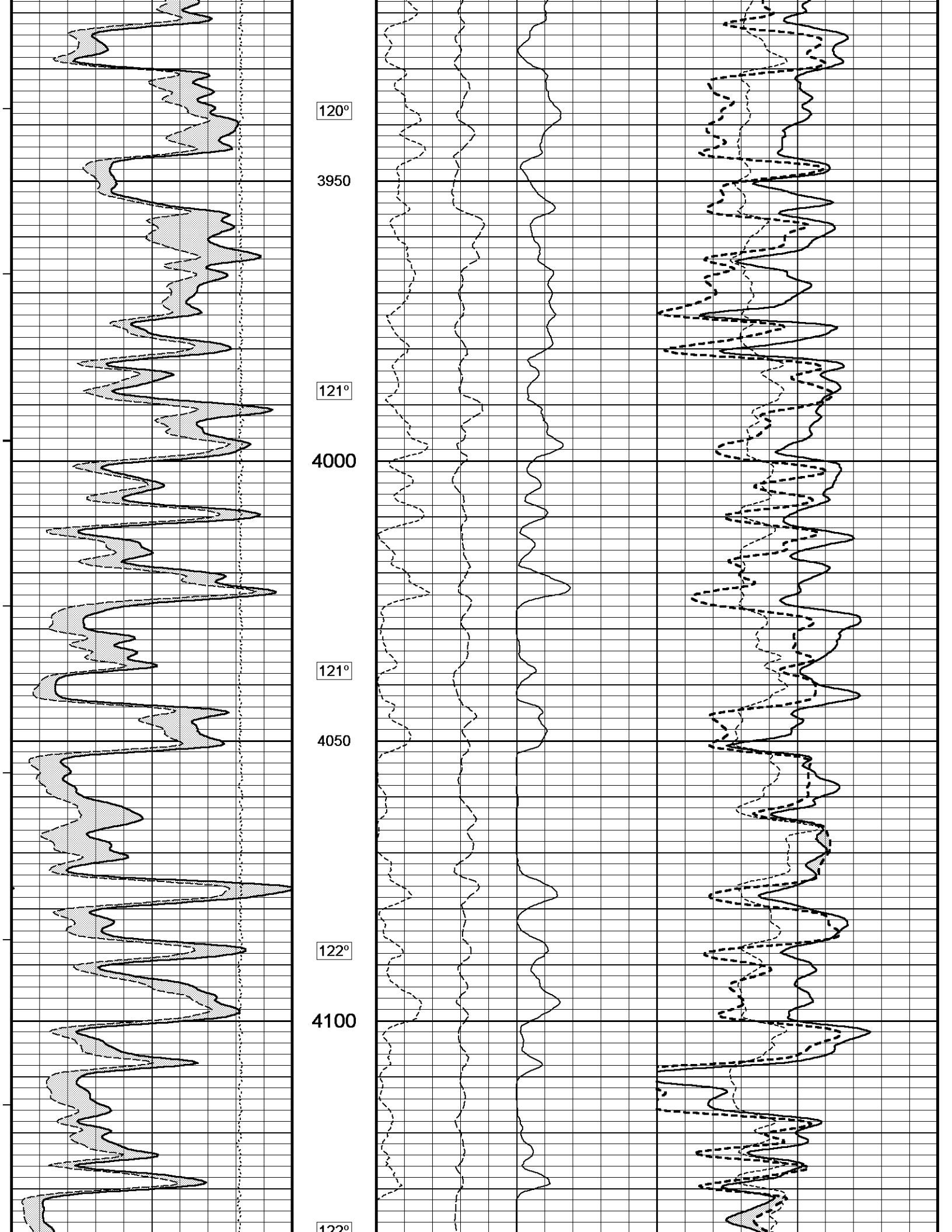

113°
2850
113°
2900
113°
2950
113°
3000
GCGR
GRSG
GRTH
GRUR
GRPO
DPRL
PDPE
NPRL


SMTU
3050
114°
3100
115°
3150
115°
3200
115°
3250


116°
3300
116°
3350
117°
3400
GCGR
GRPO
GRUR
GRTH
GRSG
DPRL
PDPE
NPRL
SMTU
117°
3450


118°
3500
118°
3550
118°
3600
118°
3650
119°


3700
119°
3750
119°
GCGR
3800
GRPO
GRUR
GRTH
GRSG
DPRL
PDPE
NPRL
SMTU
120°
3850
120°
3900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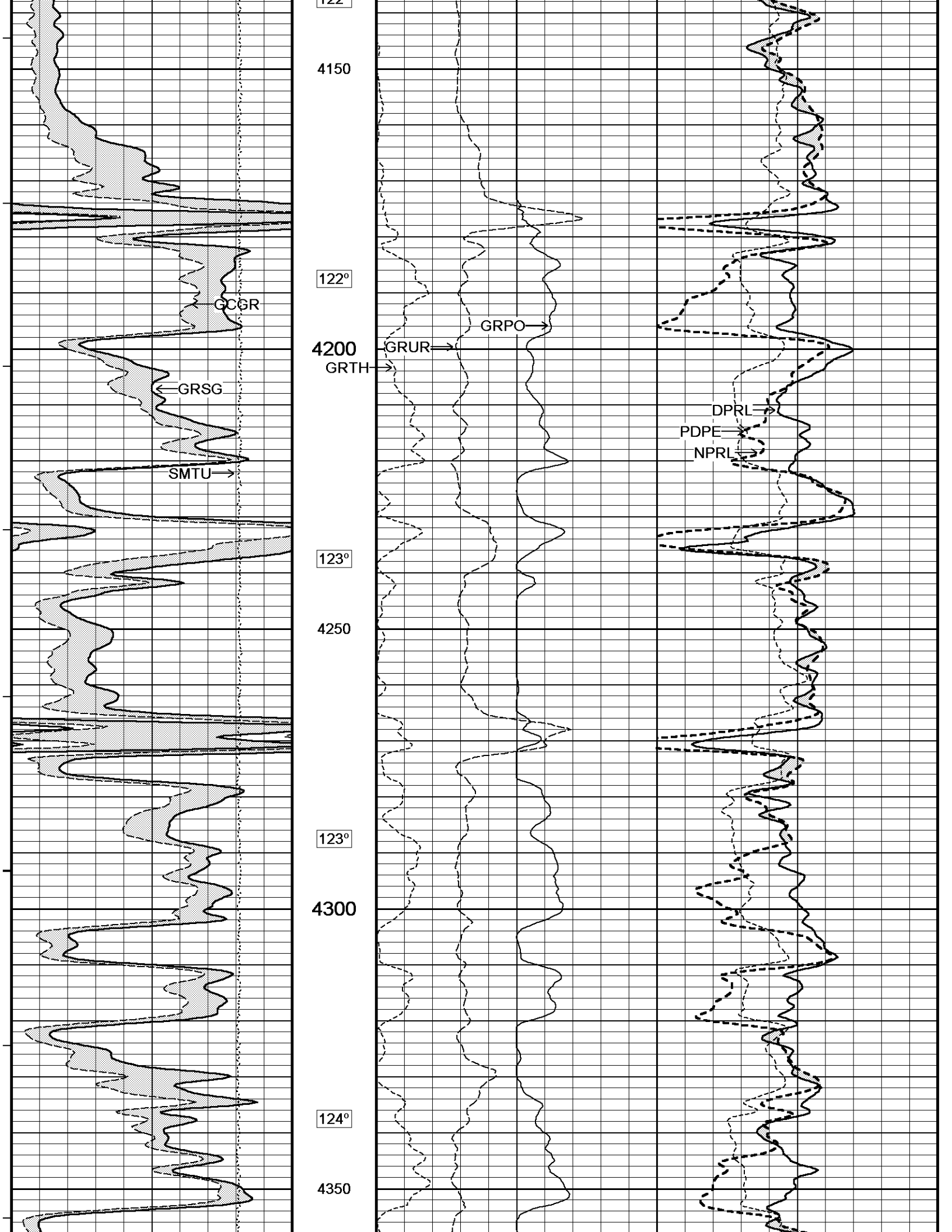
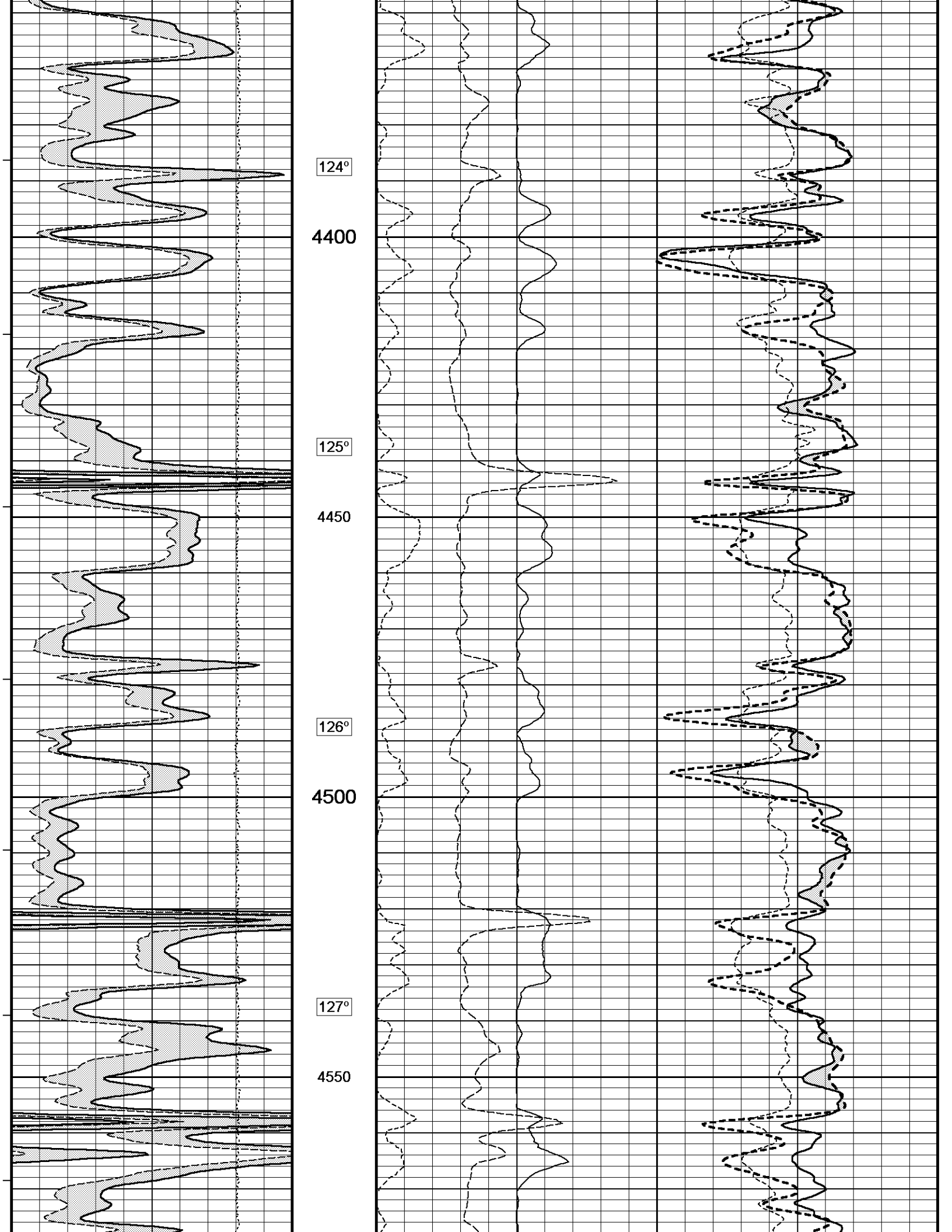
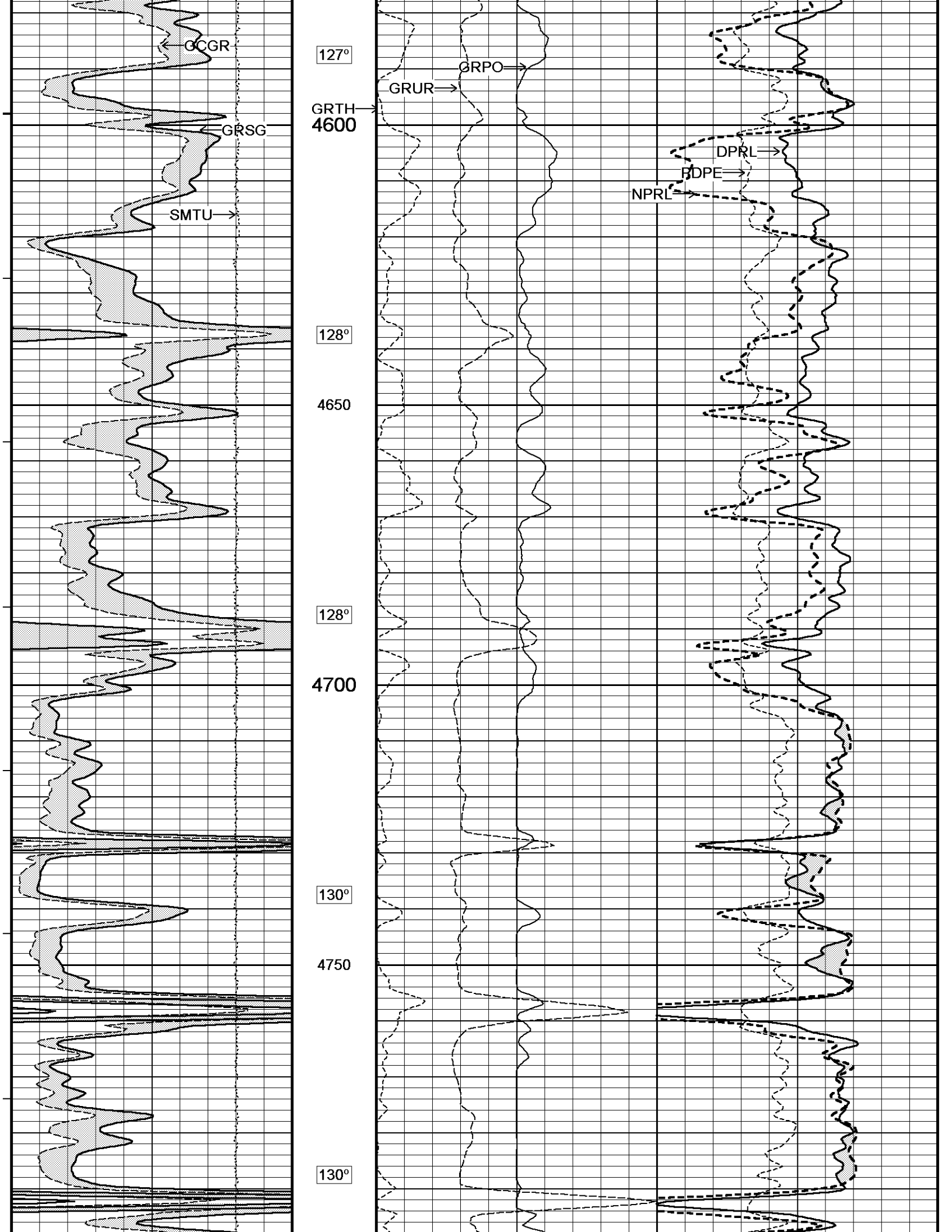
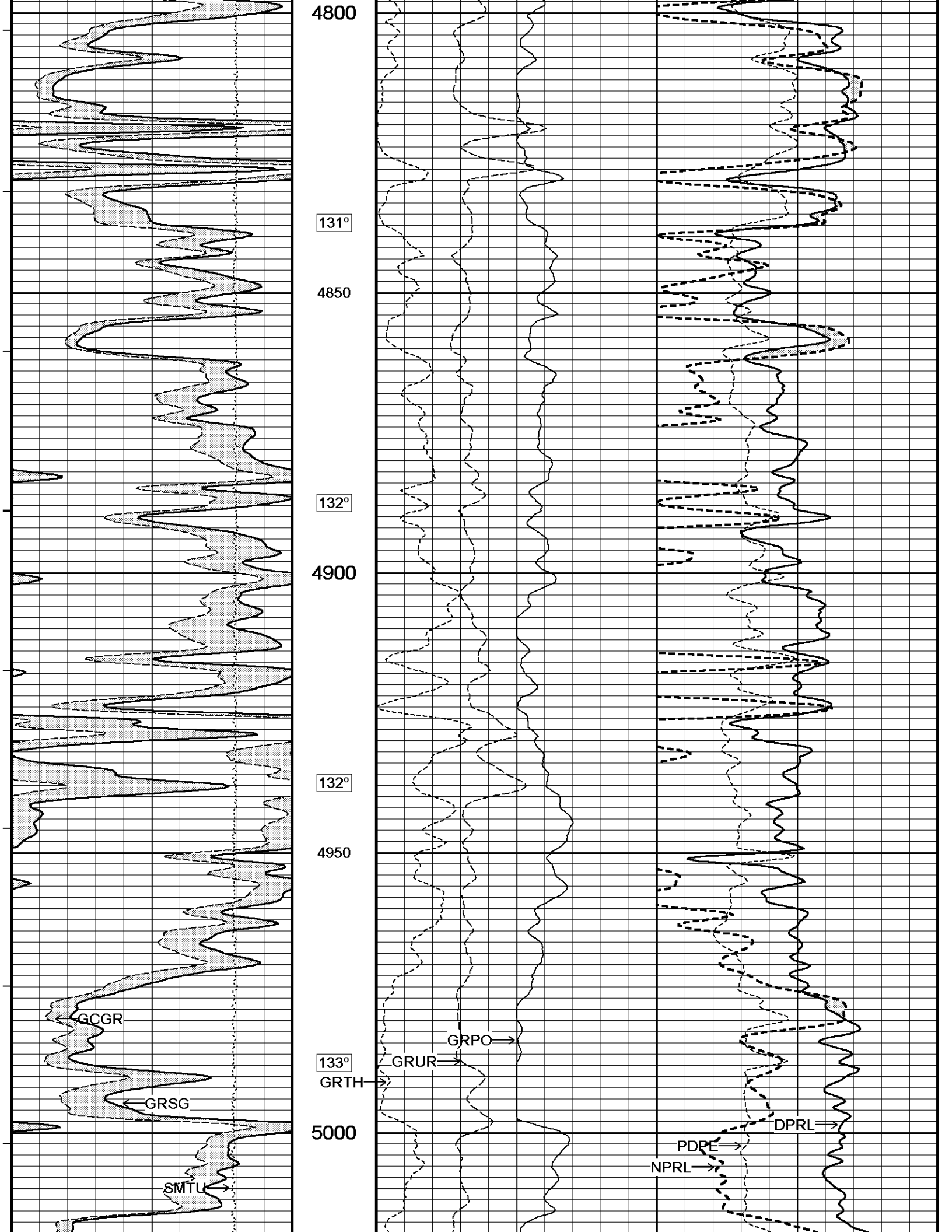
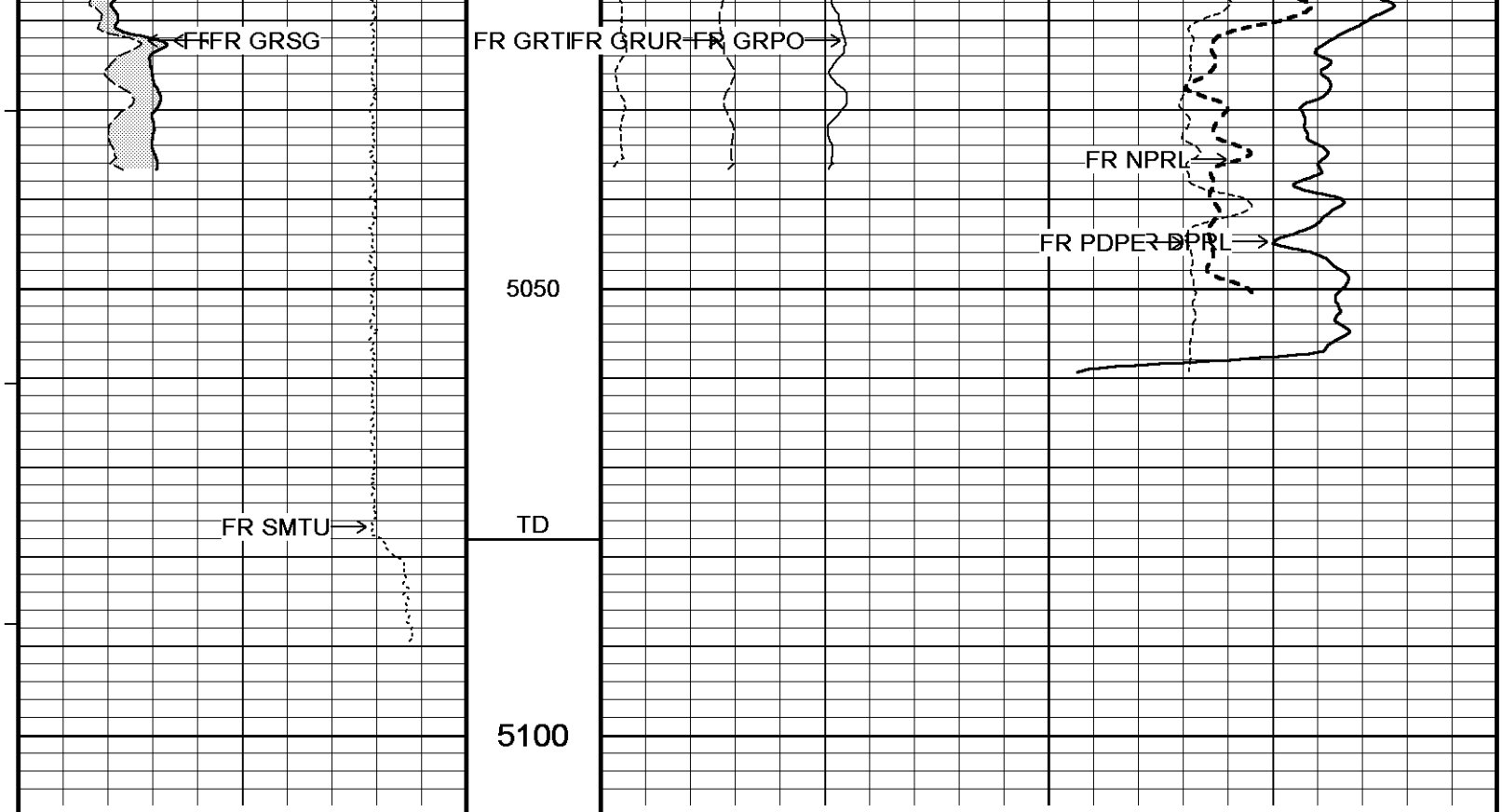
3950
121°
4000
121°
4050
122°
4100
122°


122
4150
122°
GCGR
GRPO
4200
GRUR
GRTH
GRSG
DPRL
PDPE
NPRL
SMTU
123°
4250
123°
4300
124°
4350


124°
4400
125°
4450
126°
4500
127°
4550


GCGR
GRSG
SMTU
127°
GRTH
4600
GRPO
GRUR
DPRL
RDPE
NPRL
128°
4650
128°
4700
130°
4750
130°


4800
131°
4850
132°
4900
132°
4950
133°
5000
GCGR
GRSG
SMTU
GRPO
GRUR
GRTH
DPRL
PDPE
NPRL



Depth In Feet

Timing Marks
every 60.0 sec

SGS Gamma Ray
API
0 75 150
150 225 300

Uranium Stripped Gamma
API
0 75 150
150 225 300

DST Uphole Tension
pounds
5000 0

Borehole Temp in deg F

Replay Scale 1:240

Uranium Gamma
parts/million
-10 10 30
30 50 70

Limestone Neutron Por.
percent
30 10 -10

Thorium Gamma
parts/million
0 40
40 80

Potassium Gamma
percent
0 10
10 20

PE
barns/electron
0 5 10

Limestone Density Por.
percent
30 10 -10

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 24-NOV-2013 11:41
Filename: C:\Minimus 13.05.9583\Logs\McElvain Price 14-5\McElvain Price 14-5 Main.dta
Recorded on 24-NOV-2013 02:52
System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.05.9583

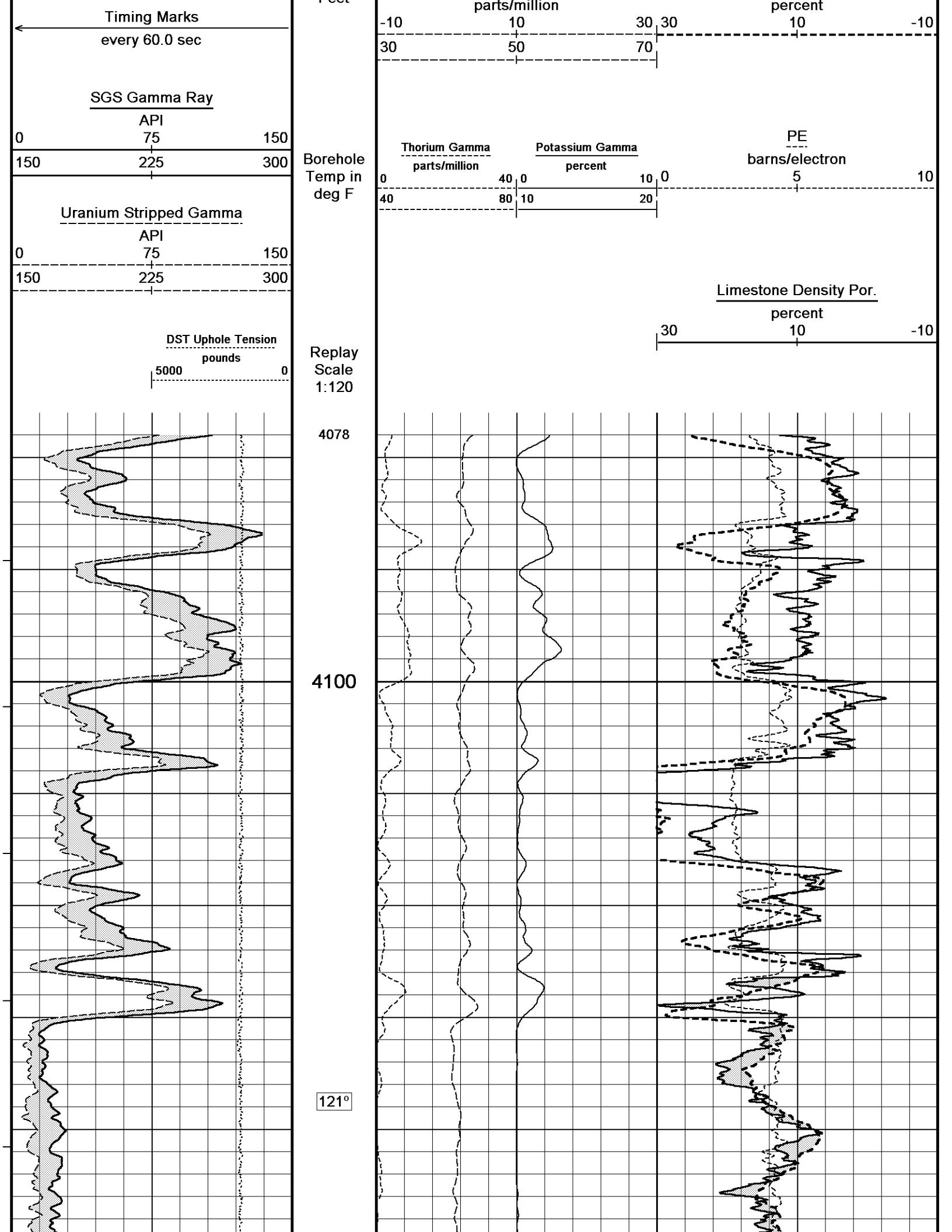
↑ 5 INCH MAIN ↑

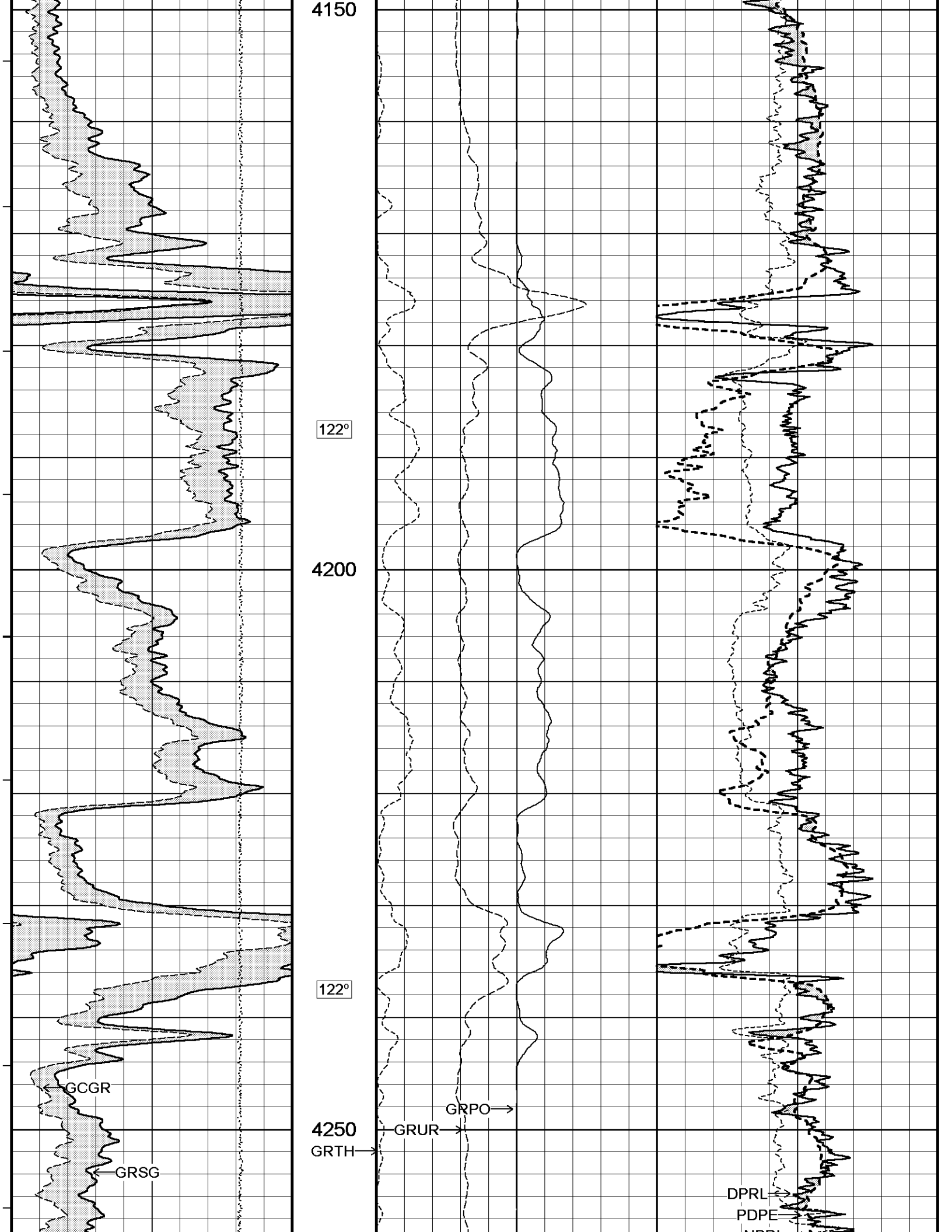
↓ 10 INCH HI-RES ↓

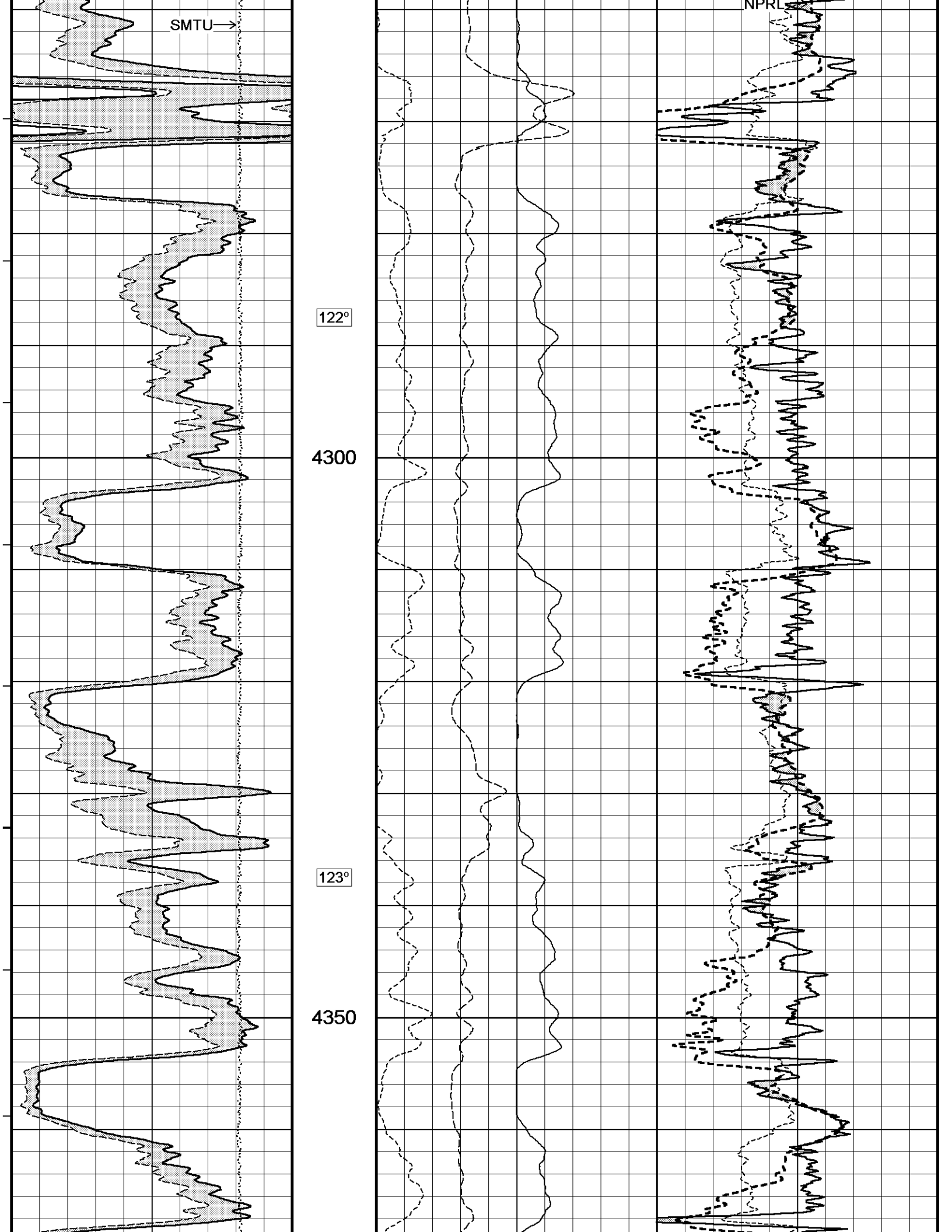
Depth Based Data - Maximum Sampling Increment 2.5cm
Plotted on 24-NOV-2013 11:41
Filename: C:\Minimus 13.05.9583\Logs\McElvain Price 14-5\McElvain Price 14-5 High Res.dta
Recorded on 24-NOV-2013 01:03
System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.05.9583

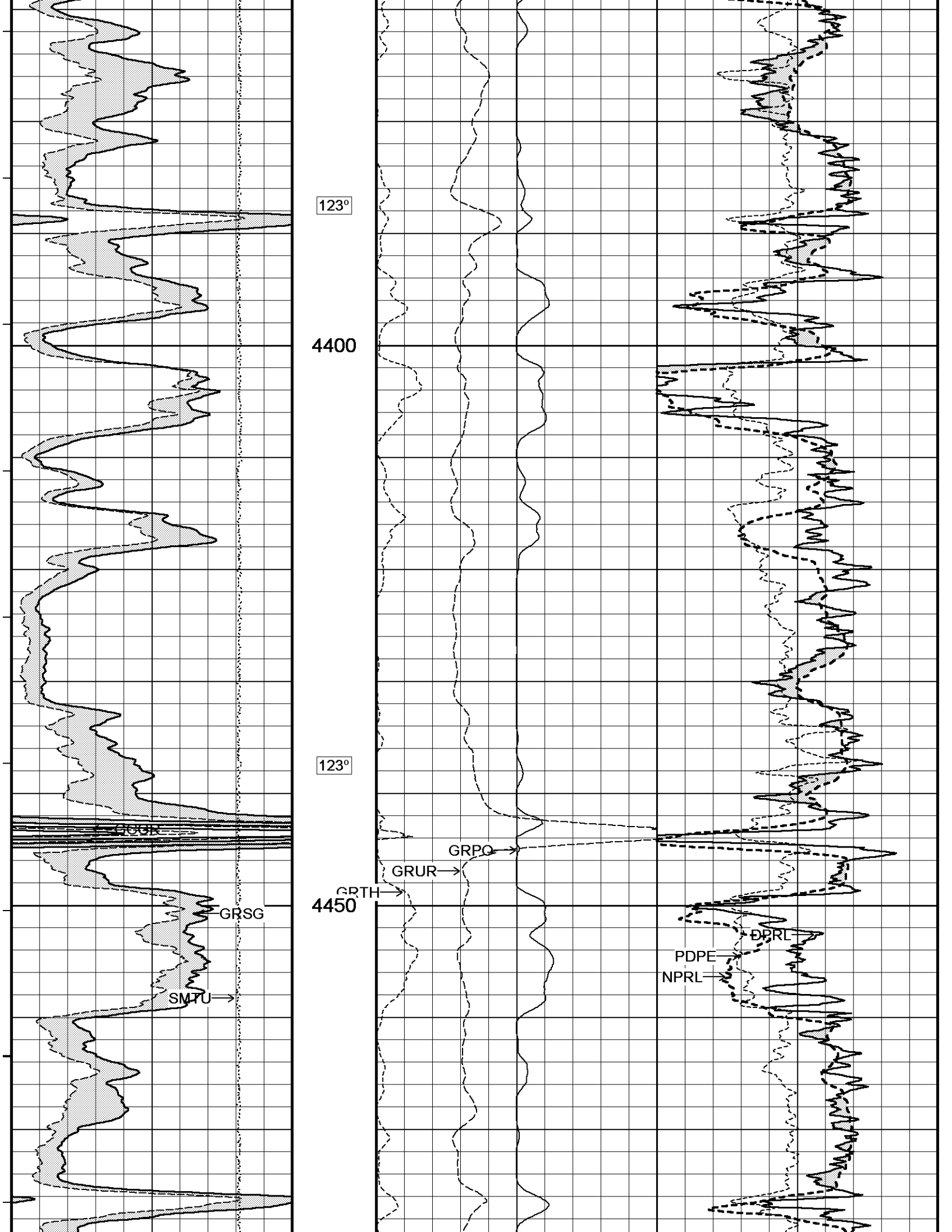
Depth in Feet

Uranium Gamma
Limestone Neutron Por.


Timing Marks
every 60.0 sec
SGS Gamma Ray
API
0 75 150
150 225 300
Uranium Stripped Gamma
API
0 75 150
150 225 300
DST Uphole Tension
pounds
5000 0
Borehole Temp in deg F
Replay Scale 1:120
4078
4100
121°
parts/million
-10 10 30
30 50 70
percent
30 10 -10
Thorium Gamma
parts/million
0 40
40 80
Potassium Gamma
percent
0 10
10 20
PE
barns/electron
0 5 10
Limestone Density Por.
percent
30 10 -10


4150
122°
4200
122°
GCGR
GRSG
GRPO
4250
GRUR
GRTH
DPRL
PDPE


SMTU
NPRL
122°
4300
123°
4350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4400
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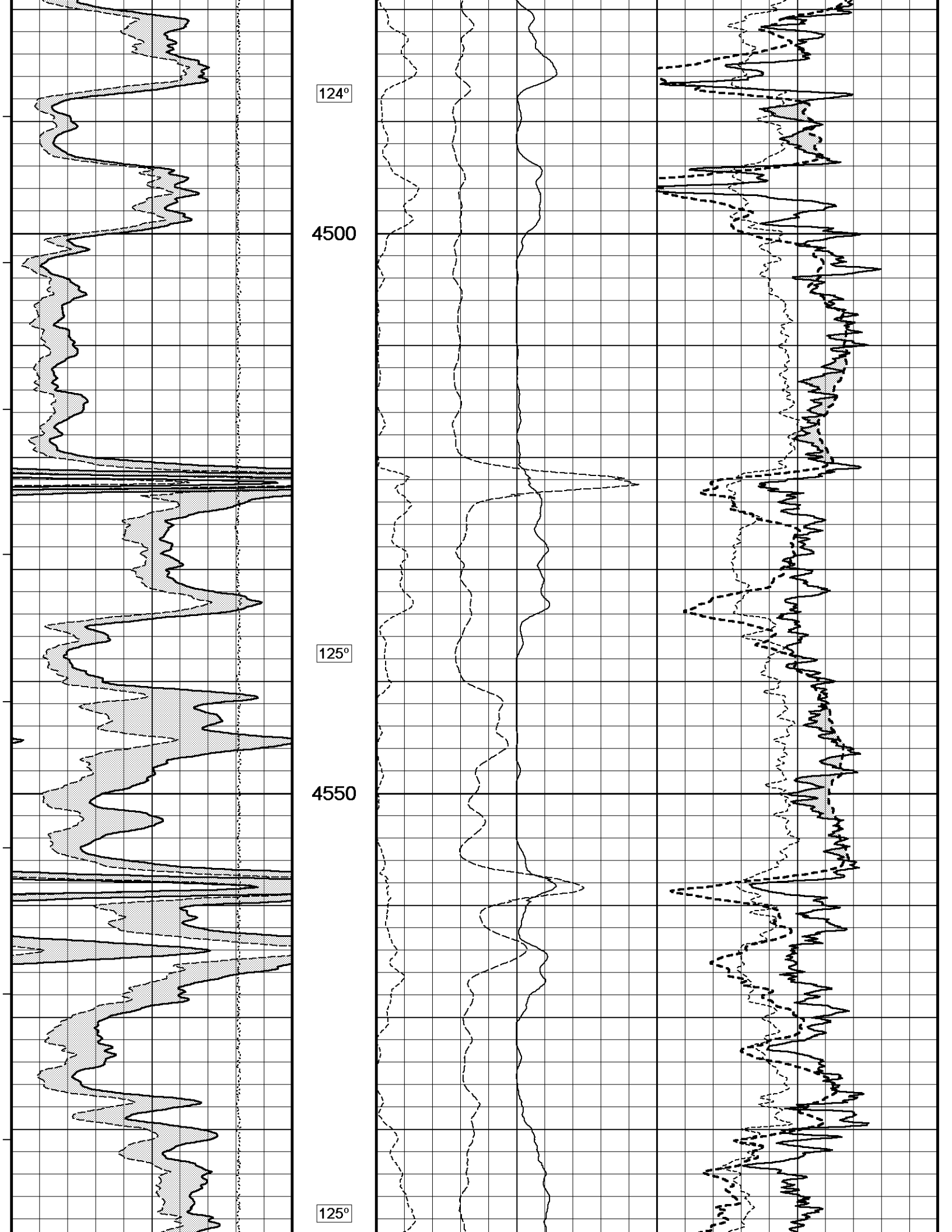
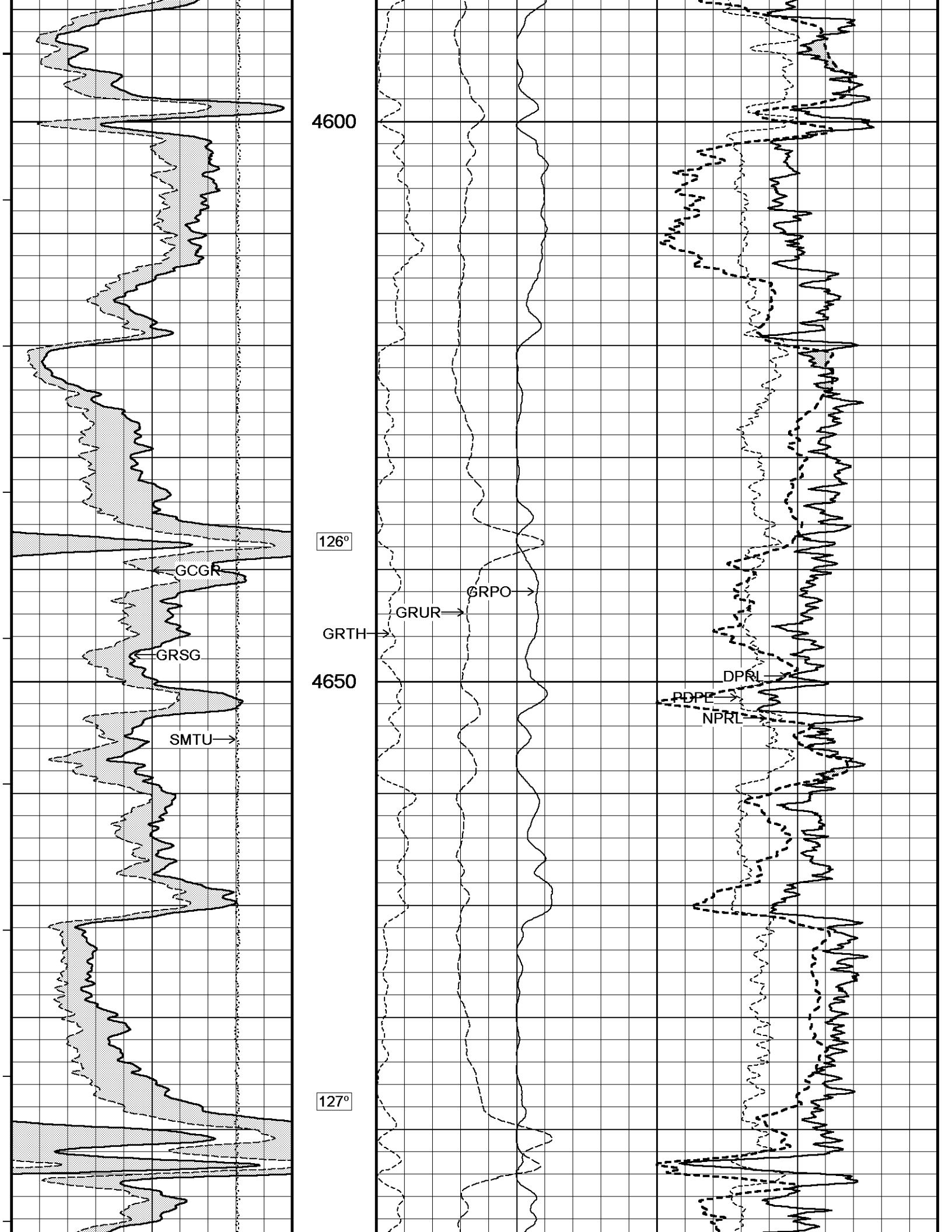
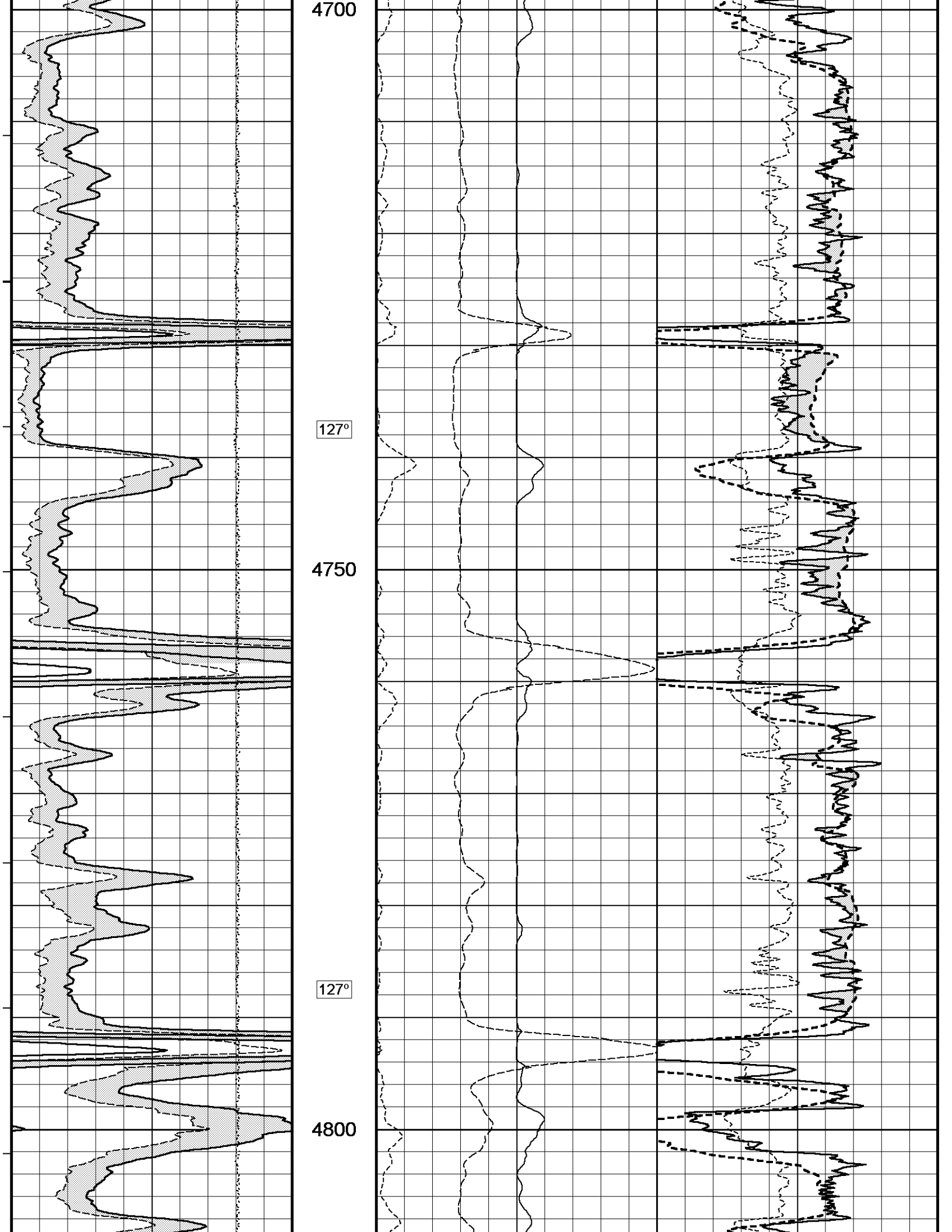
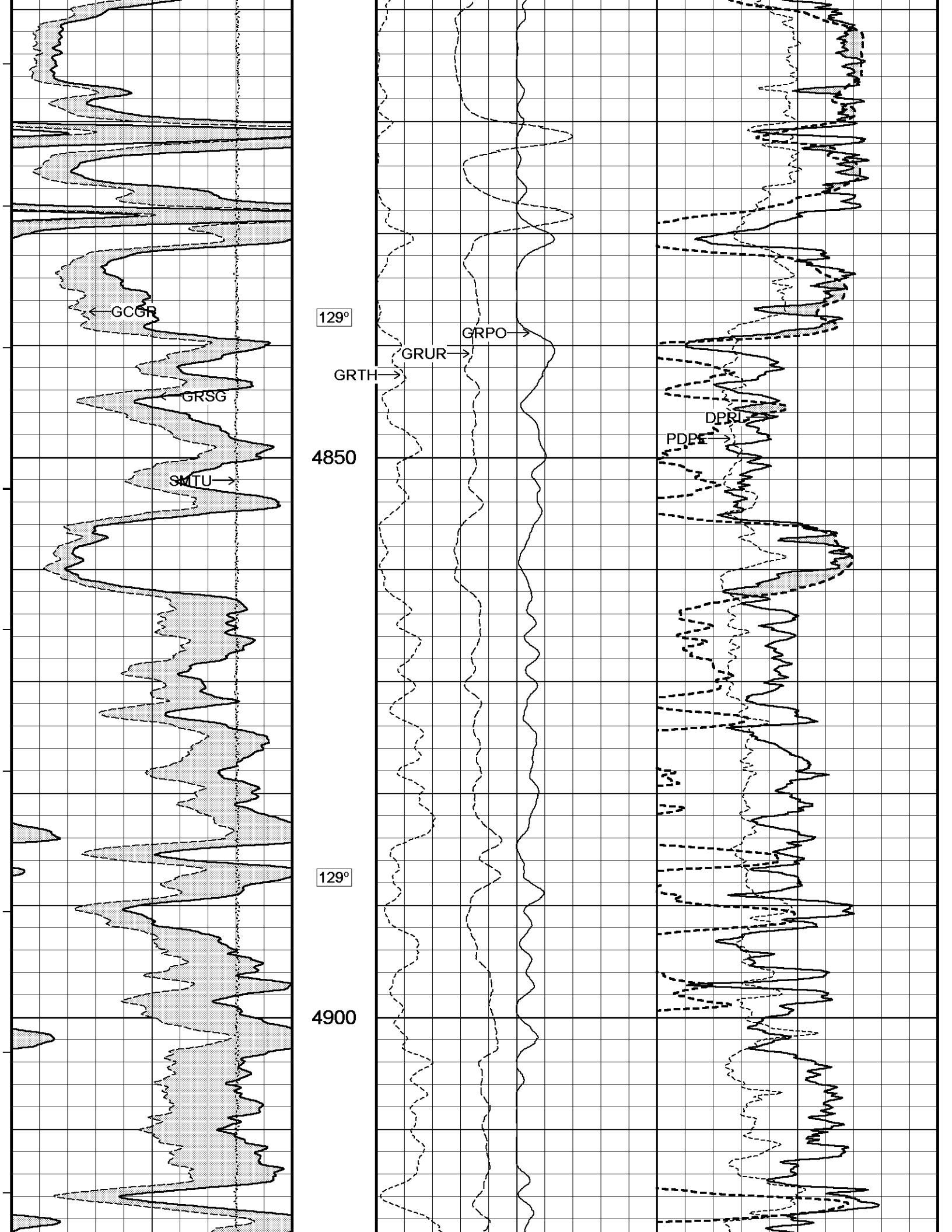
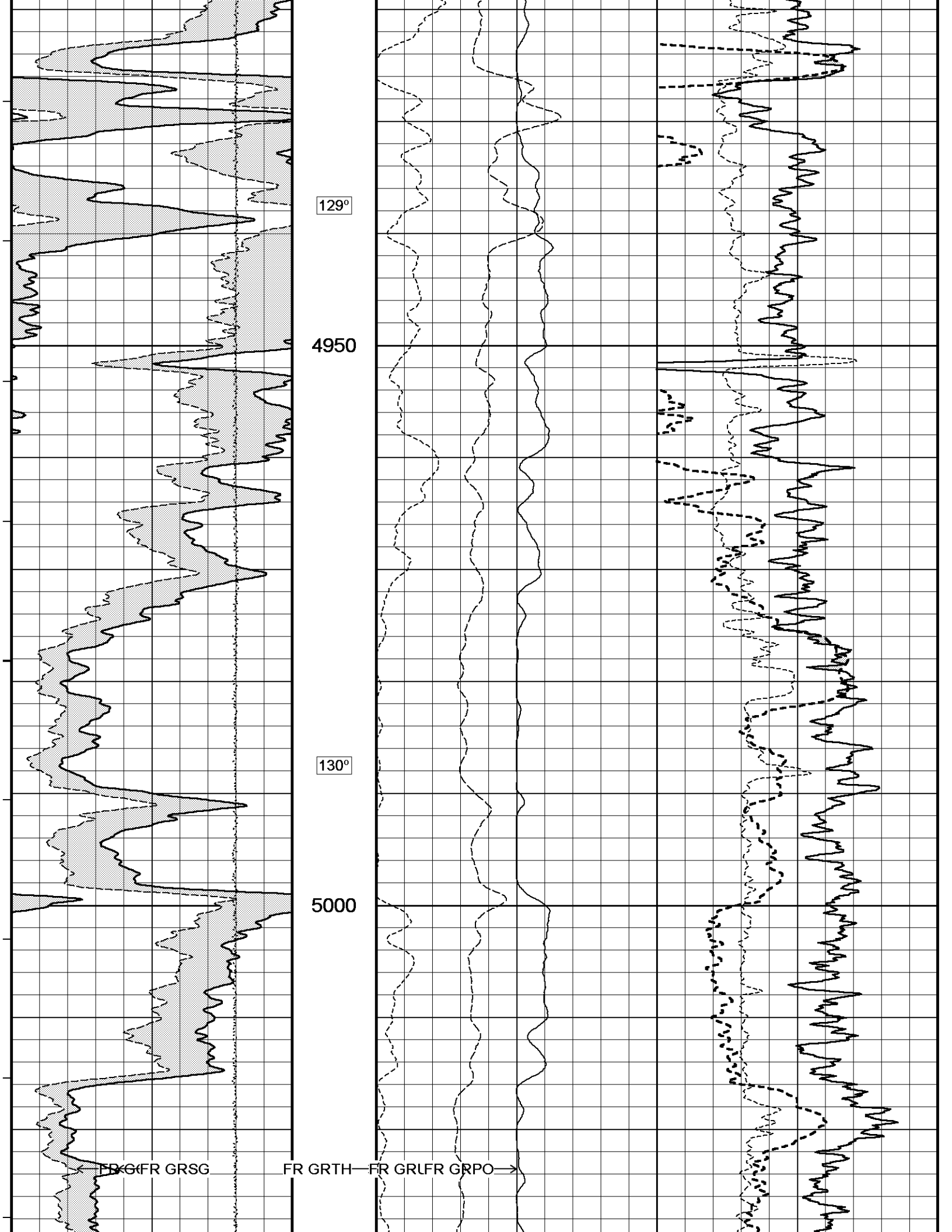
GRPO
GRUR
GRTH
4450
GRSG
SMTU
PDRL
PDPE
NPRL

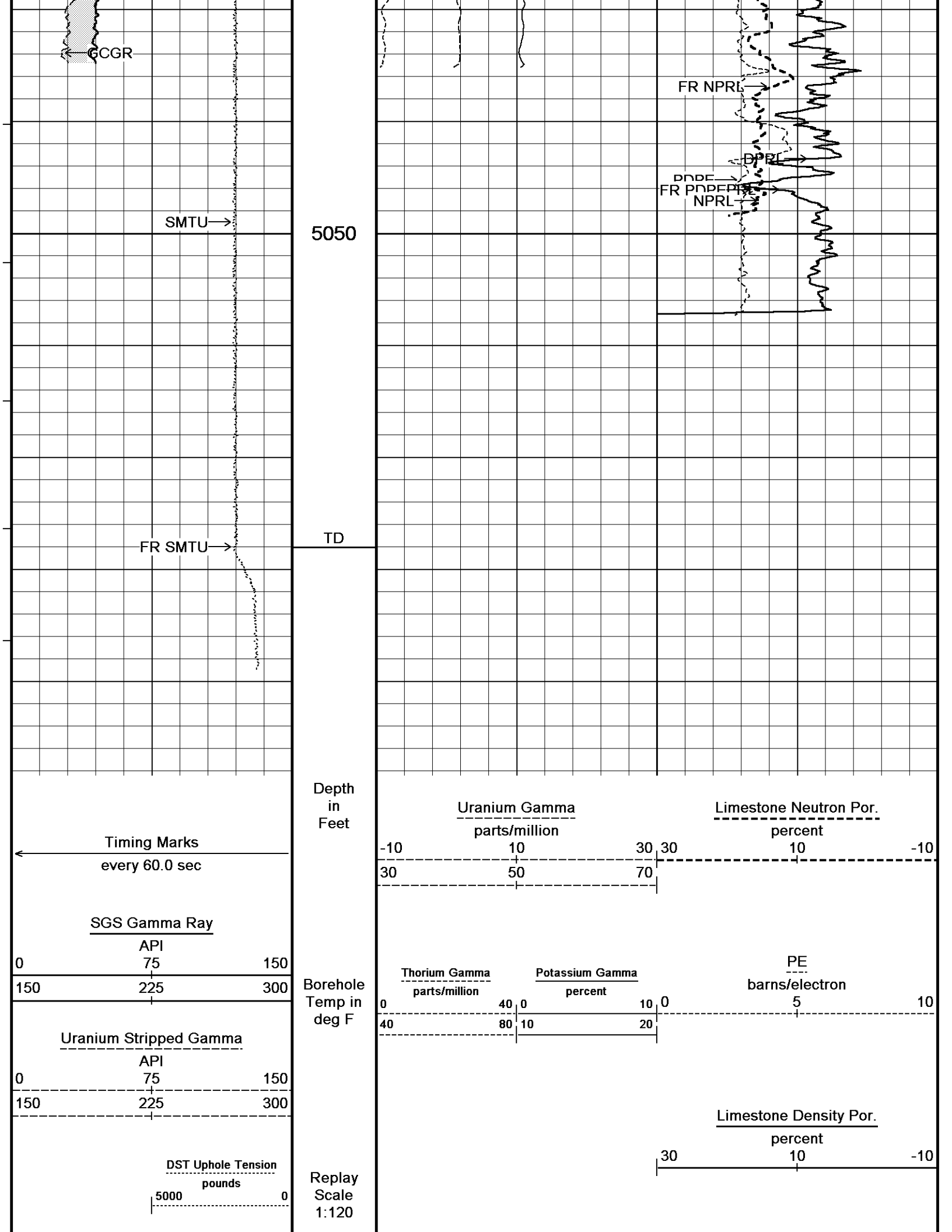

124°
4500
125°
4550
125°


4600
126°
GCGR
GRSG
SMTU
GRTH
GRUR
GRPO
4650
DPRL
PDPE
NPRL
127°


4700
127°
4750
127°
4800


GCGR
129°
GRPO
GRUR
GRTH
GRSG
DPRL
PDPE
4850
SMTU
129°
4900


129°
4950
130°
5000
FR GRSG
FR GRTH
FR GRPO

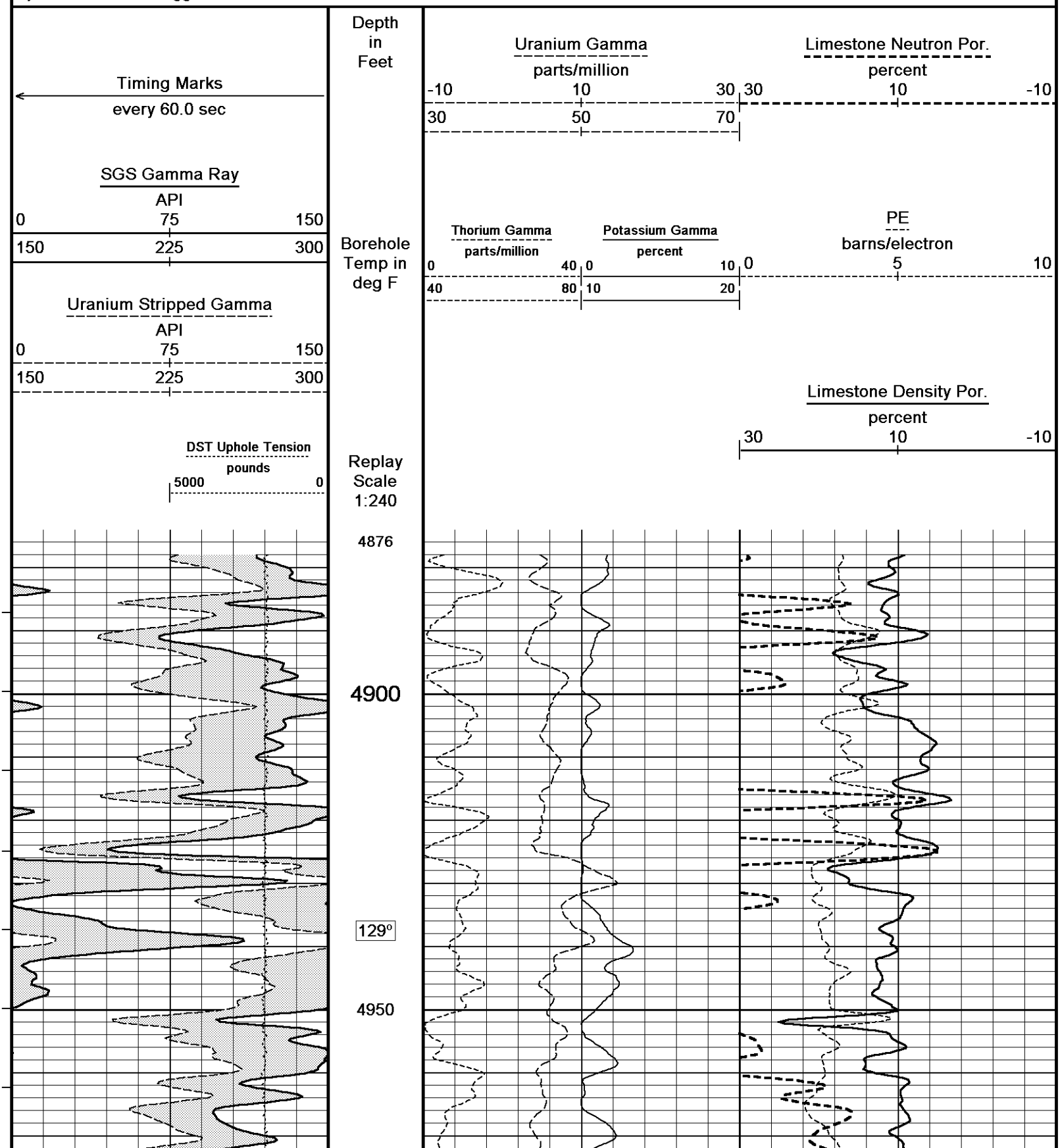

CCGR
SMTU
FR SMTU
FR NPRL
DPRL
PDPE
FR PDPE
NPRL
5050
TD
Depth
in
Feet
Timing Marks
every 60.0 sec
SGS Gamma Ray
API
0 75 150
150 225 300
Uranium Stripped Gamma
API
0 75 150
150 225 300
DST Uphole Tension
pounds
5000 0
Borehole
Temp in
deg F
Replay
Scale
1:120
Uranium Gamma
parts/million
-10 10 30
30 50 70
Thorium Gamma
parts/million
0 40
40 80
Potassium Gamma
percent
0 10
10 20
Limestone Neutron Por.
percent
30 10 -10
PE
barns/electron
0 5 10
Limestone Density Por.
percent
30 10 -10

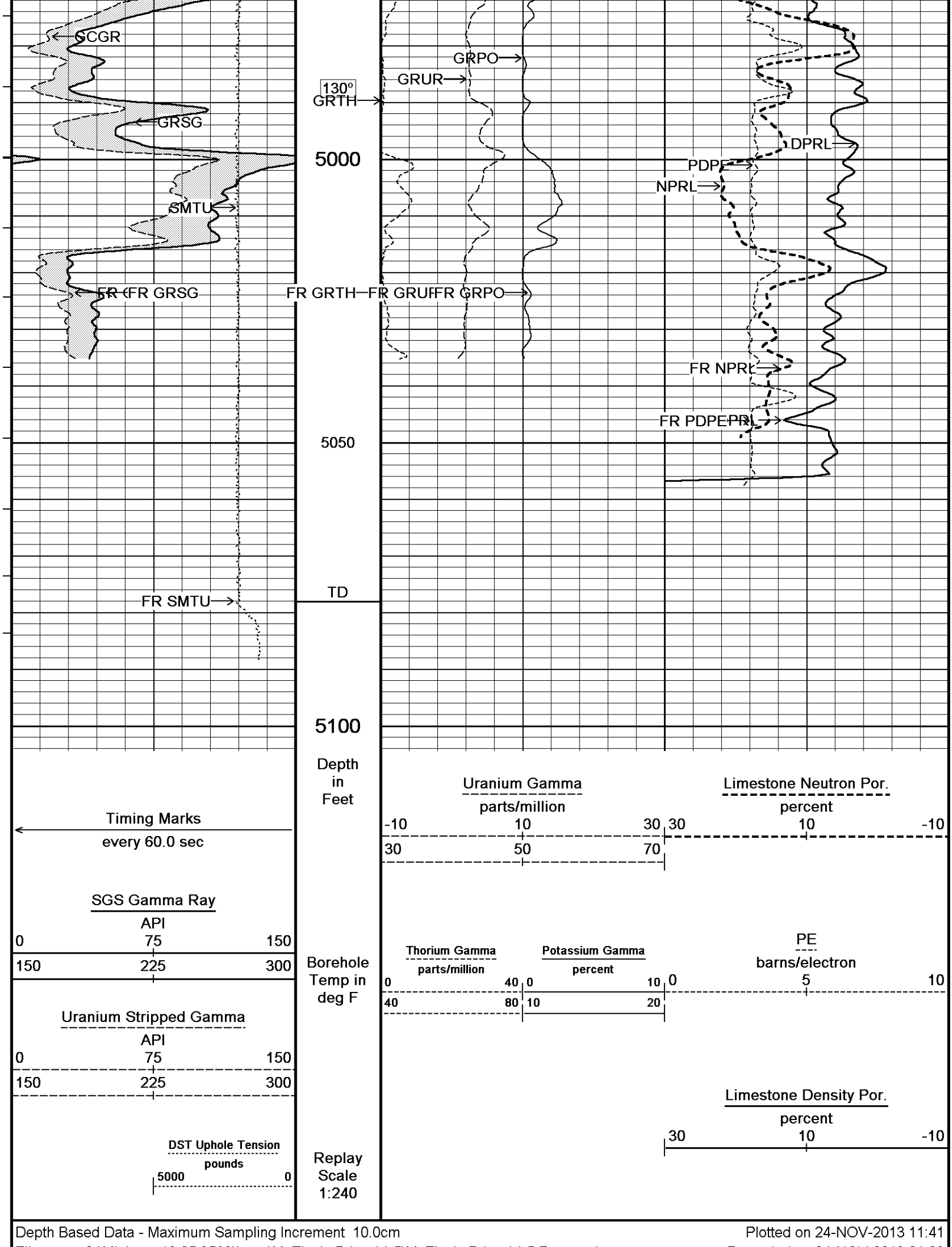
Depth Based Data - Maximum Sampling Increment 2.5cm
Plotted on 24-NOV-2013 11:41
Filename: C:\Minimus 13.05.9583\Logs\McElvain Price 14-5\McElvain Price 14-5 High Res.dta
Recorded on 24-NOV-2013 01:03
System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.05.9583

10 INCH HI-RES

REPEAT SECTION

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 24-NOV-2013 11:41
Filename: C:\Minimus 13.05.9583\Logs\McElvain Price 14-5\McElvain Price 14-5 Repeat.dta
Recorded on 24-NOV-2013 01:03
System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.05.9583





Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 24-NOV-2013 11:41

REPEAT SECTION

BEFORE SURVEY CALIBRATION

C:\Minimus 13.05.9583\Logs\McElvain Price 14-5\McElvain Price 14-5 Repeat.dta

General Constants All 000

Last Edited on 23-NOV-2013,18:00

General Parameters		
Mud Resistivity	1.600	ohm-metres
Mud Resistivity Temperature	49.000	degrees F
Water Level	0.000	feet
Borehole Fluid Processing	Wet Hole	
Hole/Annular Volume and Differential Caliper Parameters		
HVOL Method	Single Caliper	
HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	N/A	
Annular Volume Diameter	5.500	inches
Caliper for Differential Caliper	MMR Caliper	
Rwa Parameters		
Porosity used	Crossplot Porosity	
Resistivity used	Array Ind. One Res Rt	
RWA Constant A	0.610	
RWA Constant M	2.150	
SW/APOR Tool Source	0.000	

High Resolution Temperature Calibration MCG-D.K 442

Field Calibration on 29-OCT-2013,14:34

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	75.00	75.00

High Resolution Temperature Constants MCG-D.K 442

Last Edited on 29-OCT-2013,14:34

Pre-filter Length	11

Neutron Calibration MDN-A.B 65

Base Calibration on 20-NOV-2013 11:14
Field Check on 20-NOV-2013 11:32

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3004	93	3714	110
Ratio	32.208		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	1696	2451
Ratio	0.692	

Field Check

	Calibrated (cps)	
	1693	2463
Ratio	0.687	

Neutron Constants MDN-A.B 65

Last Edited on 23-NOV-2013,18:01

Neutron Source Id	PN-521	
Neutron Jig Number	5824NE	
Epithermal Neutron	No	
Caliper Source for Processing	Density Caliper	
Stand-off	0.00	inches
Mud Density	1.00	gm/cc
Limestone Sigma	7.10	cu
Sandstone Sigma	4.26	cu
Dolomite Sigma	4.70	cu
Formation Pressure Source	None	
Formation Pressure	N/A	kpsi
Temperature Source	Constant Value	
Temperature	68.00	degrees F

Mud Salinity	0.00	kppm
Salinity Correction	Not Applied	
Formation Fluid Salinity Source	None	
Formation Fluid Salinity	N/A	kppm
Barite Mud Correction	Not Applied	

Photo Density Calibration MPD-B 31

Base Calibration on 20-NOV-2013 10:41
Field Check on 20-NOV-2013 10:47

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	45885	23182	59556	30836
Reference 2	18785	1902	24941	2541

Field Check at Base		
	671.6	820.8

Field Check		
	670.2	825.6

PE Calibration

Base Calibration	Measured			Calibrated
	WS	WH	Ratio	Ratio
Background	123	595		
Reference 1	19304	45771	0.425	0.371
Reference 2	5624	18702	0.304	0.272

Field Check at Base		
	122.7	594.8

Field Check		
	124.5	591.8

Density Constants MPD-B 31

Last Edited on 23-NOV-2013,18:01

Density Source Id	254	
Nylon Calibrator Number	DNCE695	
Aluminium Calibrator Number	DACD698	
Density Shoe Profile	8 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.11	gm/cc
Mud Density Z/A Multiplier	1.11	
Mud Filtrate Density	1.00	gm/cc
Dry Hole Mud Filtrate Density	1.00	gm/cc
DNCT	0.00	gm/cc
CRCT	0.00	gm/cc
Density Z/A Correction	Hybrid	

Matrix Density (gm/cc)	Depth (ft)
2.71	
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00

Spectral Gamma Calibration SGS-E.J 150

Base Calibration on 19-APR-2013,17:21
Field Calibration on 19-APR-2013,17:21

Base Calibration

Potassium Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	79.9	23.1	2.2	0.8	1.4
Calibrator (Gross)	204.7	109.8	22.0	0.9	1.3
Calibrator (Net)	124.8	86.7	19.7	0.2	-0.1

	K %	U ppm	Th ppm
Concentrations	5.8	0.0	0.0

Uranium Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	79.9	23.1	2.2	0.8	1.4
Calibrator (Gross)	480.7	164.8	14.5	7.2	4.1
Calibrator (Net)	400.8	141.7	12.3	6.5	2.7

	K %	U ppm	Th ppm
Concentrations	0.0	9.8	0.0

Thorium Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	79.9	23.1	2.2	0.8	1.4
Calibrator (Gross)	397.7	137.8	11.3	6.3	15.0
Calibrator (Net)	317.8	114.7	9.0	5.6	13.6

	K %	U ppm	Th ppm
Concentrations	0.0	0.0	44.3

Mixture Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	79.9	23.1	2.2	0.8	1.4
Calibrator (Gross)	914.0	361.7	43.2	12.9	17.8
Calibrator (Net)	834.0	338.5	41.0	12.1	16.4

Field Calibration

Gamma Ray

	Measured	Calibrated (API)
Background	112	23
Calibrator (Gross)	1354	273
Calibrator (Net)	1242	250

Mixture Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	79.9	23.1	2.2	0.8	1.4
Calibrator (Gross)	914.0	361.7	43.2	12.9	17.8
Calibrator (Net)	834.0	338.5	41.0	12.1	16.4

Spectral Gamma Constants SGS-E.J 150

Last Edited on 23-NOV-2013,18:01

Background Calibrator Number	0	
Mixture Calibrator Number	147-1	
Potassium Calibrator Number	148-1	
Uranium Calibrator Number	150-1	
Thorium Calibrator Number	149-1	
Mud Density	1.11	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl		kppm
K Mud Type	Chloride	
K Mud Concentration	0.00	%

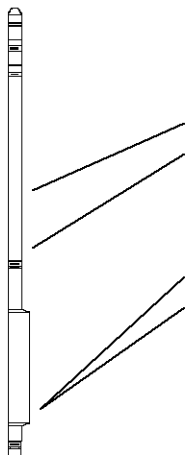
DOWNHOLE EQUIPMENT

C:\Minimus 13.05.9583\Logs\McElvain Price 14-5\McElvain Price 14-5 Repeat.dta

CBH-C, Cablehead, 11 pin
CBH-CA 170 LG: 2.40 ft WT: 24.3 lb OD: 2.24 in

Compact Comms Gamma
MCG-D.K 442 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Spectral Gamma Ray Sub
SGS-E.J 150 LG: 7.78 ft WT: 105.8 lb OD: 3.54 in



63.79 ft GRGC - Gamma Ray
60.89 ft CGXT - MCG External Temperature

54.33 ft GCGR - Uranium Stripped Gamma
54.33 ft GRSG - SGS Gamma Ray

45.76 ft MINV - MMR MicroLog Inverse

Compact Micro-Resistivity
MMR-A 11 LG: 8.59 ft WT: 81.6 lb OD: 4.88 in

Compact Neutron
MDN-A.B 65 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

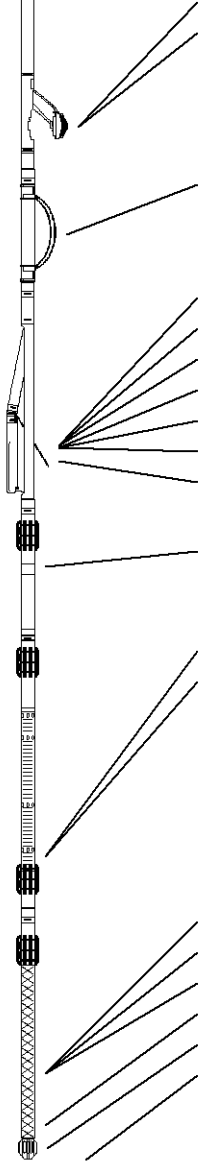
Compact Density/Caliper
MPD-B 31 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

Compact Focussed Electric
MFE-B.J 352 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Sonic
MSS-A.A 55 LG: 12.52 ft WT: 72.8 lb OD: 2.24 in

Compact Induction
MAI-A.A 45 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 71.47 ft Weight: 586.4 lb



45.76 ft	MINV - MMR MicroLog Inverse
45.76 ft	MNRL - MMR MicroLog Normal
40.97 ft	NPRL - Limestone Neutron Por.
33.73 ft	AVOL - Annular Volume
33.73 ft	HVOL - Hole Volume
33.73 ft	CLDC - Density Caliper
31.80 ft	DPRL - Limestone Density Por.
31.80 ft	DEN - Compensated Density
31.80 ft	DCOR - Density Correction
31.74 ft	PDPE - PE
26.24 ft	FEFE - Shallow FE
12.96 ft	DT35 - 3-5' Compensated Sonic
12.96 ft	SPRL - Wyllie Lime. Sonic Por.
3.34 ft	R60O - Array Ind. One Res 60
3.34 ft	R40O - Array Ind. One Res 40
3.34 ft	RTAO - Array Ind. One Res Rt
0.23 ft	SPCG - Spontaneous Potential
Tool Zero	(0.13ft from bottom)
-0.13 ft	SMTU - DST Uphole Tension

All measurements relative to tool zero.

COMPANY	MCELVAIN ENERGY, INC.
WELL	PRICE 14-5
FIELD	LIANOS SE
PROVINCE/COUNTY	SHERMAN
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	3452.00	feet	First Reading	5024.00	feet
Elevation Drill Floor	3450.00	feet	Depth Driller	5082.00	feet
Elevation Ground Level	3441.00	feet	Depth Logger	5078.00	feet

Weatherford®

SPECTRAL GAMMA RAY