Weatherford®

COMPOSITE LOG
DENSITY / NEUTRON
INDUCTION / MICRO-LOG

COMPANY	TAOS RESOURCES OPERATING COMPANY, LLC
WELL	BROTHERS DAIRY 36-1
FIELD	BURDEN
PROVINCE/COUNTY	COWLEY
COUNTRY/STATE	USA / KANSAS
LOCATION	330' FSL & 330' FEL OF C SE SE SE

SEC	TWP	RGE	Other Services
			MSS
API Number	15-035-24542		

Permanent Datum GL, Elevation 1365 feet
Log Measured From KB
Drilling Measured From KB

Elevations:	feet
KB	1374.00
DF	1372.00
GL	1365.00

Date	24-NOV-2013					
Run Number	ONE					
Service Order	3545999					
Depth Driller	3606.00	feet				
Depth Logger	3606.00	feet				
First Reading	3603.00	feet				
Last Reading	261.00	feet				
Casing Driller	262.00	feet				
Casing Logger	261.00	feet				
Bit Size	7.875	inches				
Hole Fluid Type	WBM					
Density / Viscosity	9.30	lb/USg	41.00	CP		
PH / Fluid Loss	9.50		8.00	ml/30Min		
Sample Source	MUD TANK					
Rm @ Measured Temp	3.10 @ 73.0	ohm-m				
Rmf @ Measured Temp	2.48 @ 73.0	ohm-m				
Rmc @ Measured Temp	3.72 @ 73.0	ohm-m				
Source Rmf / Rmc	CALC		CALC			
Rm @ BHT	2.11 @107.0	ohm-m				
Time Since Circulation	3 HOURS					
Max Recorded Temp	111.00	deg F				
Equipment / Base	13145		OKC			
Recorded By	JIM SCHULER					
Witnessed By	DAVID GRIFFITH				BLAKE JOHNSON	

BOREHOLE RECORD

Last Edited: 24-NOV-2013 12:29

Bit Size inches	Depth From feet	Depth To feet
7.875	262.00	3606.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	262.00	24.00

REMARKS

WLS 13.06.9804

DEPTH CONTROL: CALIBRATED MEASURING WHEEL.

TOOLS RAN: MCG, MML, MDN, MPD, MFE, MSS, MAI RAN IN COMBINATION.

HARDWARE:
MAI: TWO 0.5 INCH STANDOFFS USED.
MFE: ONE 0.5 INCH STANDOFF USED.
MSS: THREE 0.5 INCH STANDOFFS USED.
MDN: DUAL NEUTRON BOW SPRINGS USED.
MPD: 8 INCH PROFILE PLATE USED.

2.71 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY.
ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.

TOTAL HOLE VOLUME FROM TD TO 261' = 1353 CU.FT.
ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO 261' = 802 CU.FT.

ANNULAR HOLE VOLUME WITH 0.0 INCH PRODUCTION CASING FROM TD TO 20' = 352 CU.FT.

SERVICE ORDER # 3545999

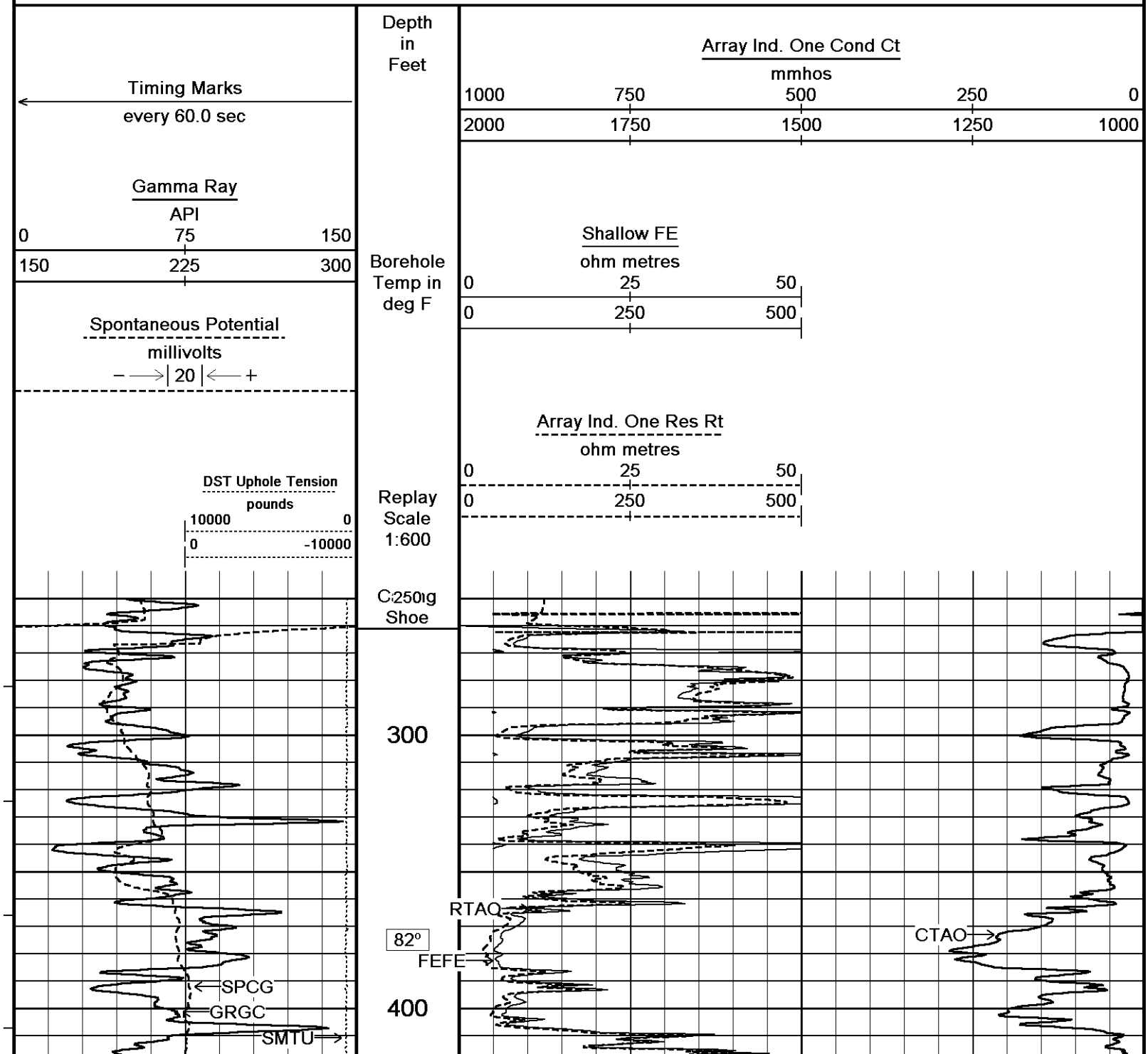
RIG: VAL DRILLING, RIG # 3

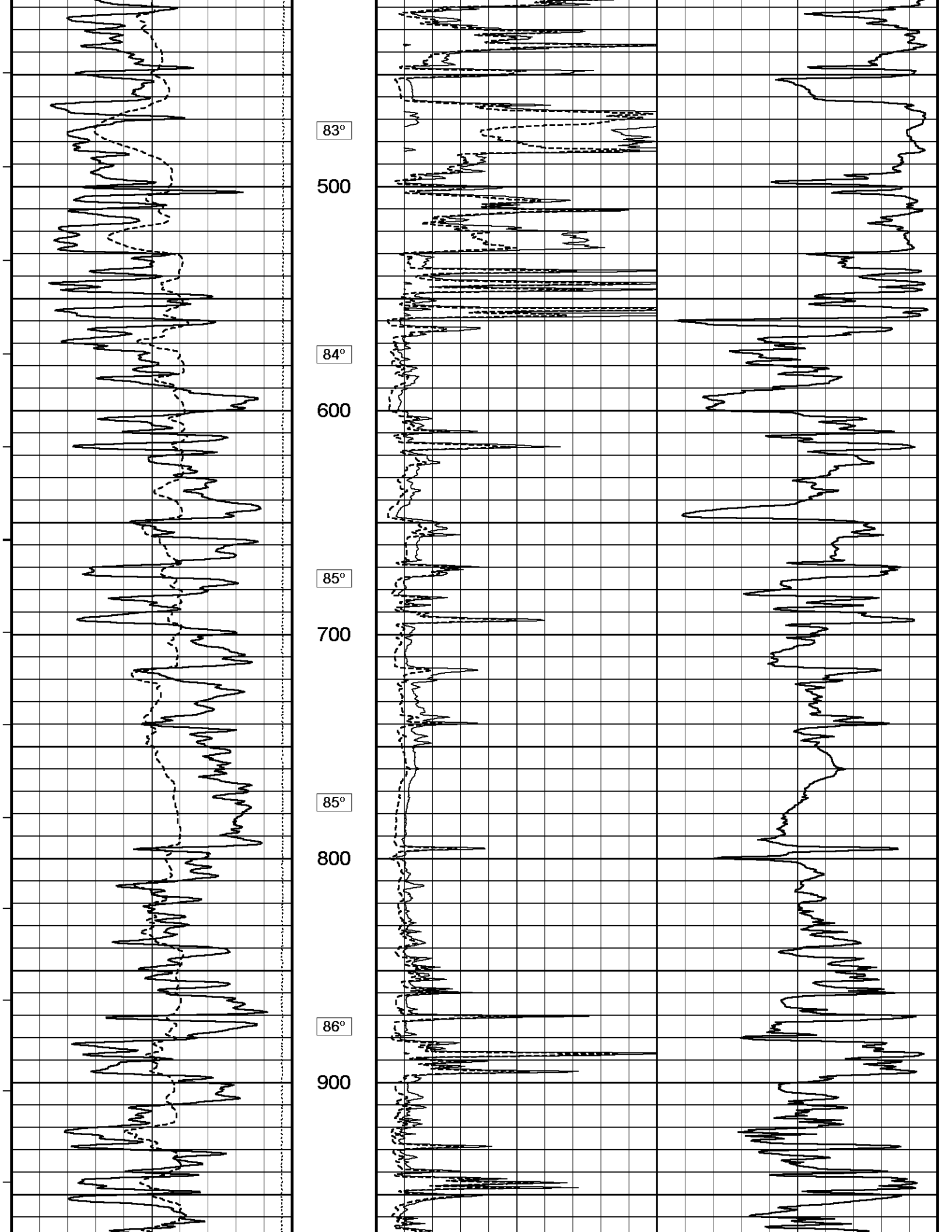
OPERATOR(S): JASON TURNER

HOLE WASHOUTS AND RUGOSITY WILL AFFECT LOG QUALITY AND REPEATABILITY

2 INCH MAIN LOG 1:600

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 24-NOV-2013 22:57
Filename: C:\Program Files\Weatherford\WLS 13.06\DATA\Taos Brothers Dairy 36-1\MAIN_003.dta — Recorded on 24-NOV-2013 14:48
System Versions: Logged with 13.06.9804 Processed with 13.06.9804 Plotted with 13.06.9804

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500
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600
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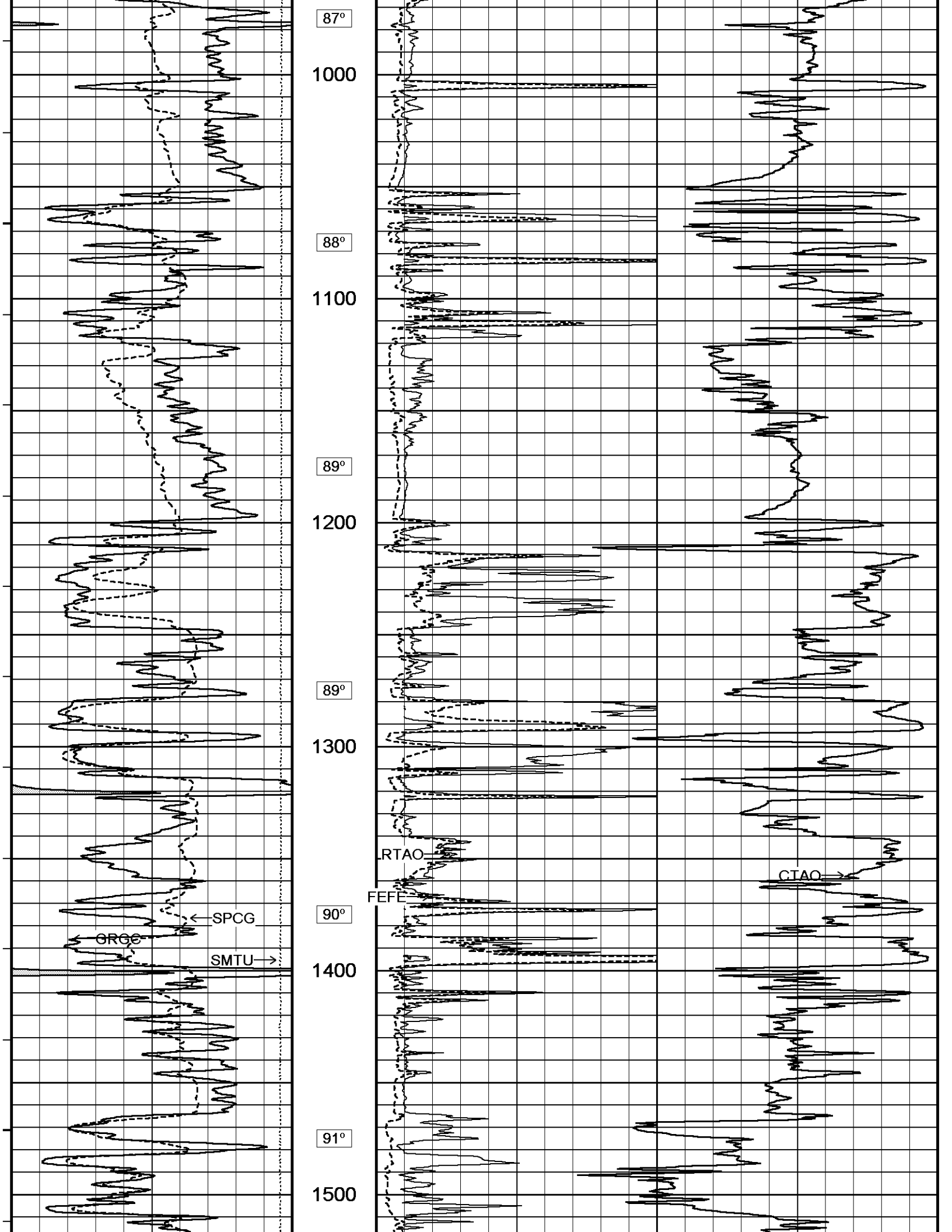
700
85°
800
86°
900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1100
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1200
89°
1300
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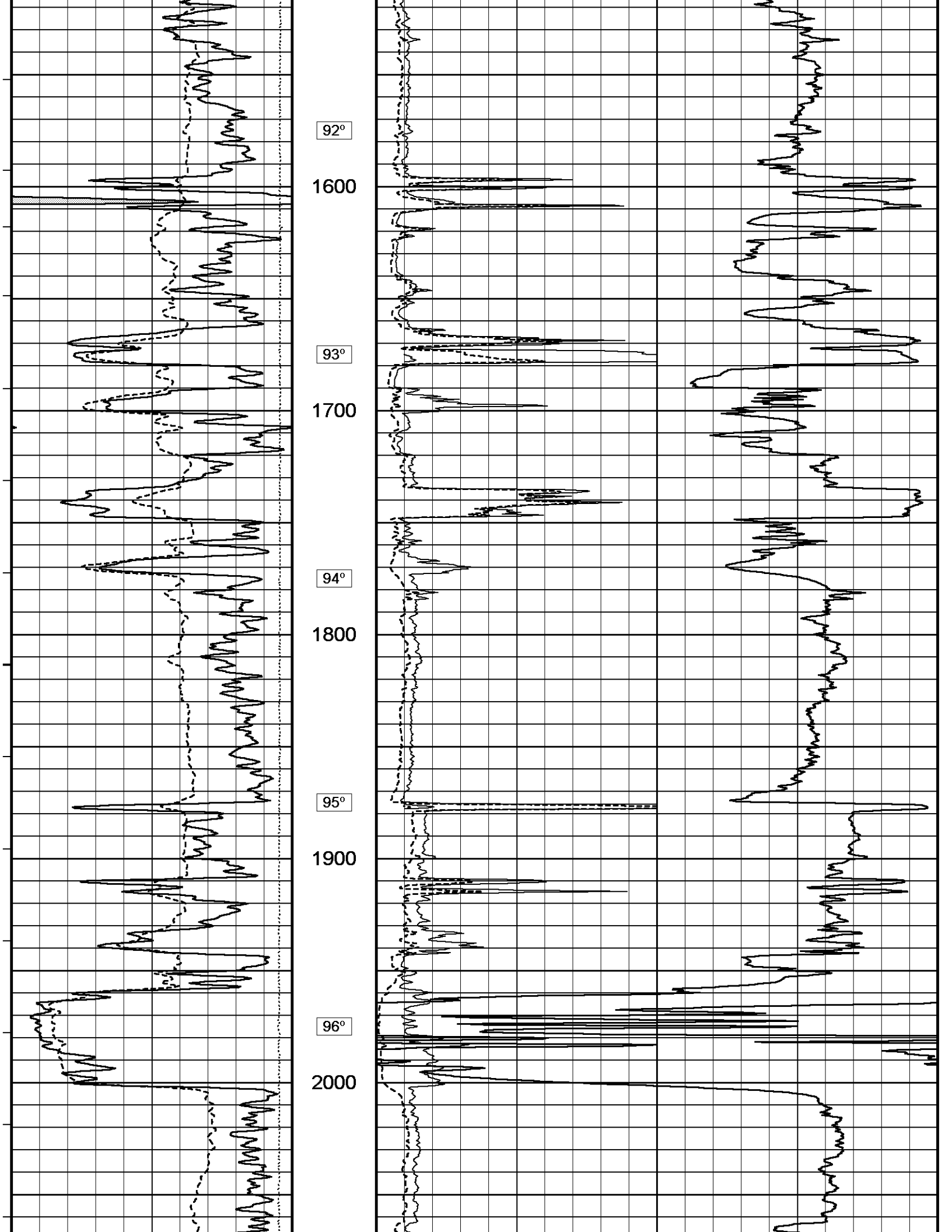
CTAO
FEFE
90°
SPCG
ORGC
SMTU
1400
91°
1500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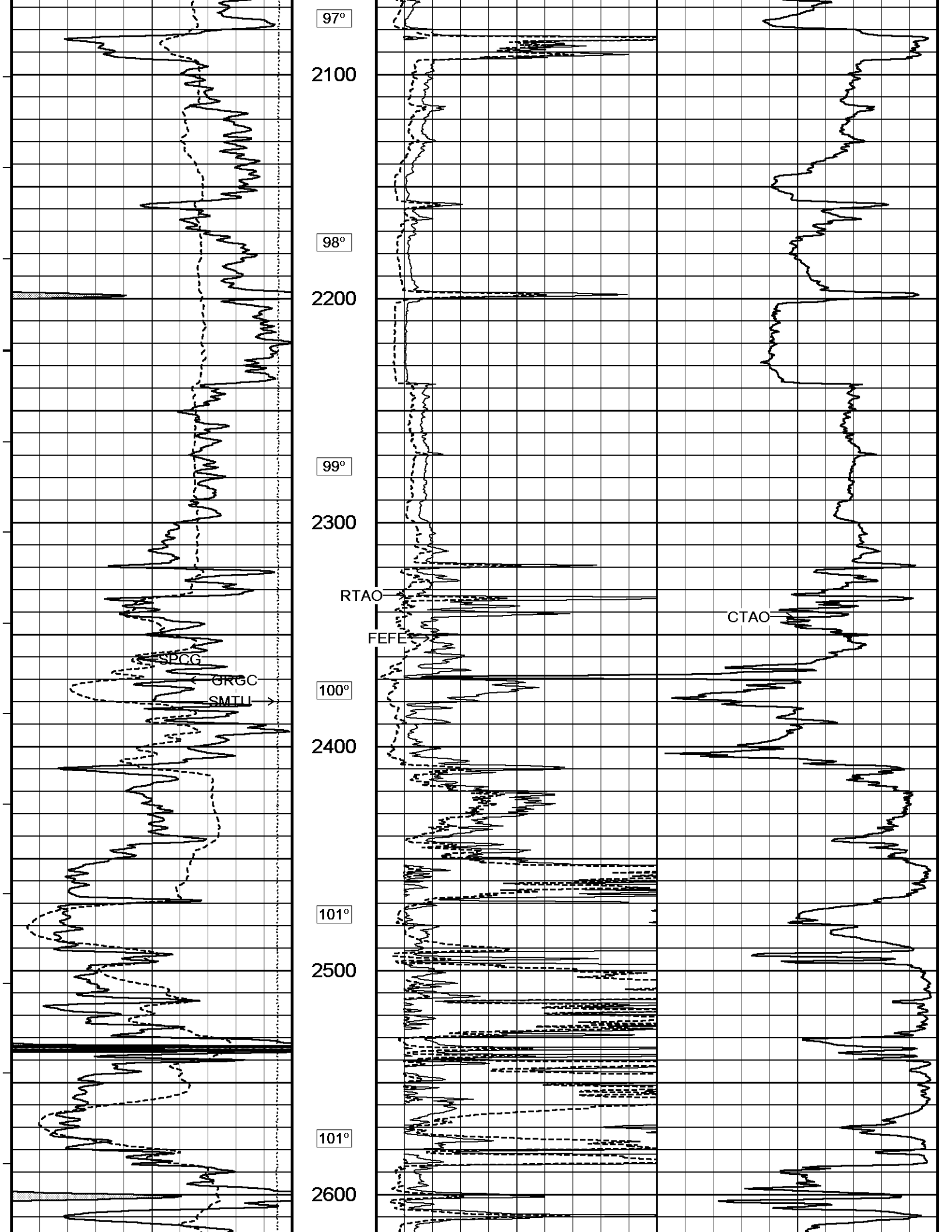
1800
95°
1900
96°
2000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2100
98°
2200
99°
2300
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CTAO
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GRGC
SMTU
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2400
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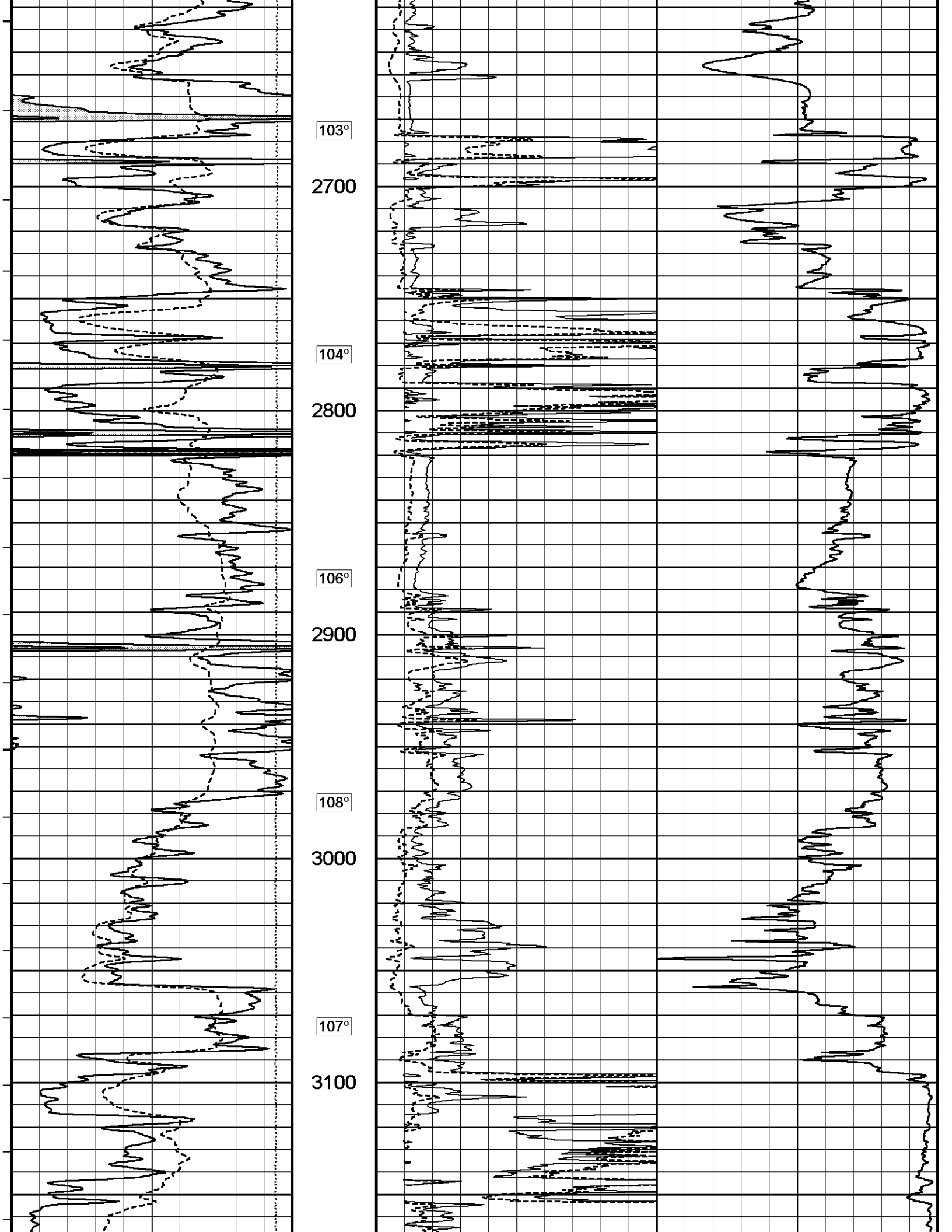
2500
101°
2600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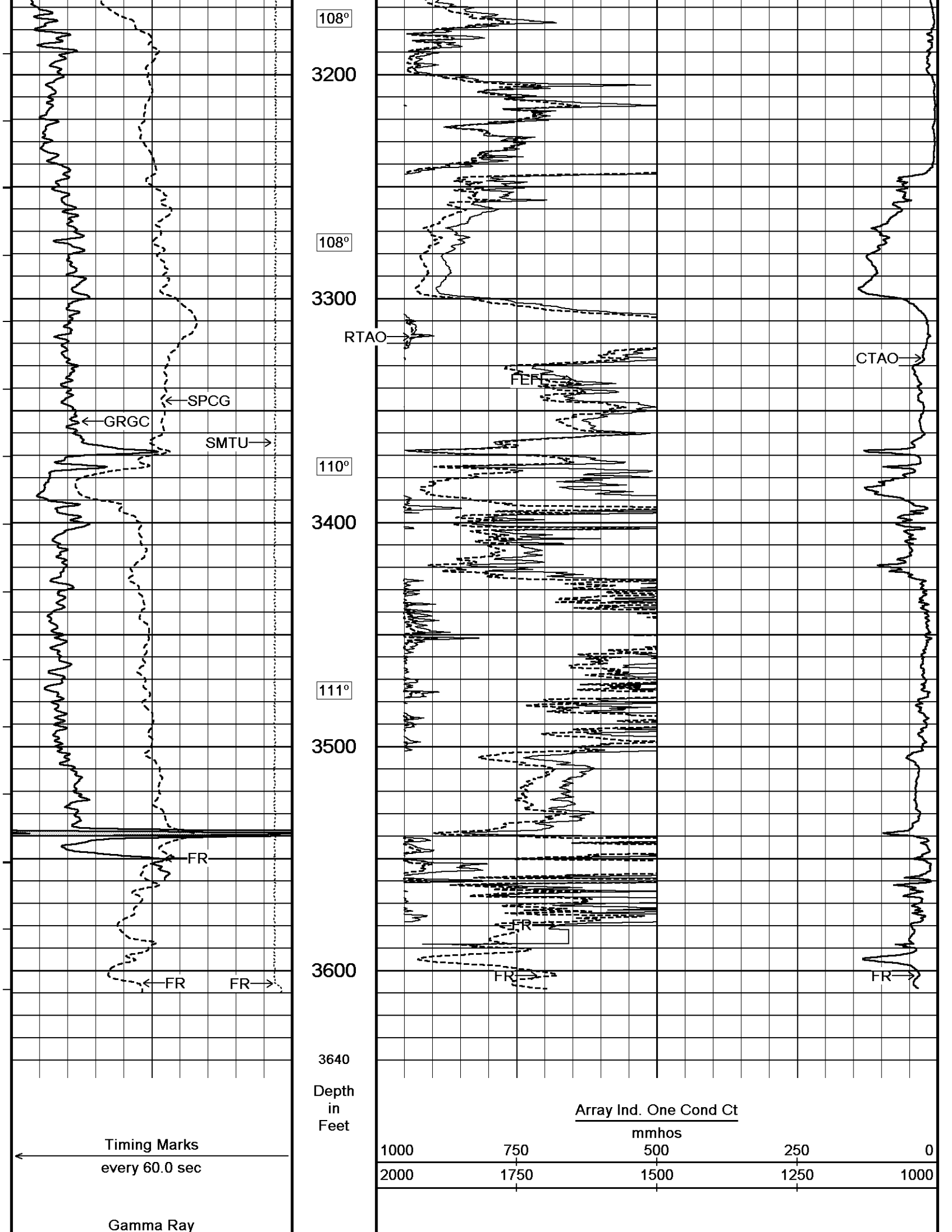
104°
2800
106°
2900
108°
3000
107°
3100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3200
108°
3300
RTAO
CTAO
FEFE
SPCG
GRGC
SMTU
110°
3400
111°
3500
FR
FR
FR
FR
FR
3600
3640
Depth
in
Feet
Timing Marks
every 60.0 sec
Gamma Ray
Array Ind. One Cond Ct
mmhos
1000
750
500
250
0
2000
1750
1500
1250
1000

API
0 75 150
150 225 300

Spontaneous Potential
millivolts
− → | 20 | ← +

DST Uphole Tension
pounds
10000 0
0 -10000

Borehole Temp in deg F

Replay Scale 1:600

Shallow FE
ohm metres
0 25 50
0 250 500

Array Ind. One Res Rt
ohm metres
0 25 50
0 250 500

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 24-NOV-2013 22:57
Filename: C:\Program Files\Weatherford\WLS 13.06\DATA\Taos Brothers Dairy 36-1\MAIN_003.dta
Recorded on 24-NOV-2013 14:48
System Versions: Logged with 13.06.9804 Processed with 13.06.9804 Plotted with 13.06.9804

2 INCH MAIN LOG 1:600

10 INCH MAIN PASS 1:240

Depth Based Data - Maximum Sampling Increment 2.5cm
Plotted on 24-NOV-2013 22:57
Filename: C:\Program Files\Weatherford\WLS 13.06\DATA\Taos Brothers Dairy 36-1\MAIN_001.dta
Recorded on 24-NOV-2013 13:34
System Versions: Logged with 13.06.9804 Processed with 13.06.9804 Plotted with 13.06.9804

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150
150 225 300

Spontaneous Potential
millivolts
− → | 20 | ← +

Density Caliper
inches
6 11 16

Bit Size
inches
6 11 16

DST Uphole Tension
pounds
10000 0

Depth in Feet

Borehole Temp in deg F

MNRL
0 20

MINV
0 20

HVI every 10 cu ft

Annular Integral every 10 cu ft

Replay Scale 1:240

2888

Shallow FE
ohm metres
0.20 2000
1 10 100 1000

Array Ind. One Res 40
ohm metres
0.20 2000
1 10 100 1000

Array Ind. One Res 60
ohm metres
0.20 2000
1 10 100 1000

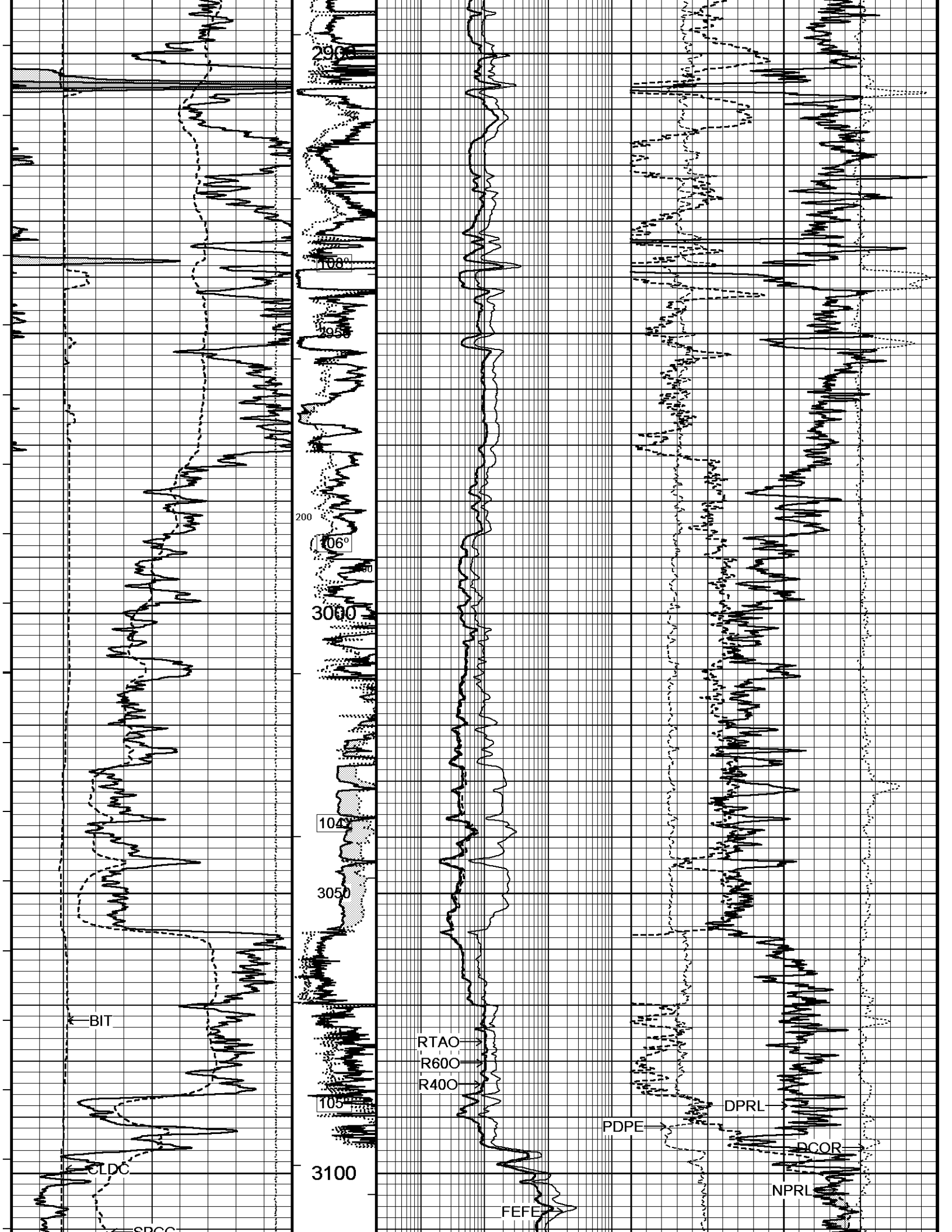
Array Ind. One Res Rt
ohm metres
0.20 2000
1 10 100 1000

Limestone Neutron Por.
percent
30 10 -10

Limestone Density Por.
percent
30 10 -10

PE
barns/electron
0 10

Density Correction
grams/cc
-0.25 0.25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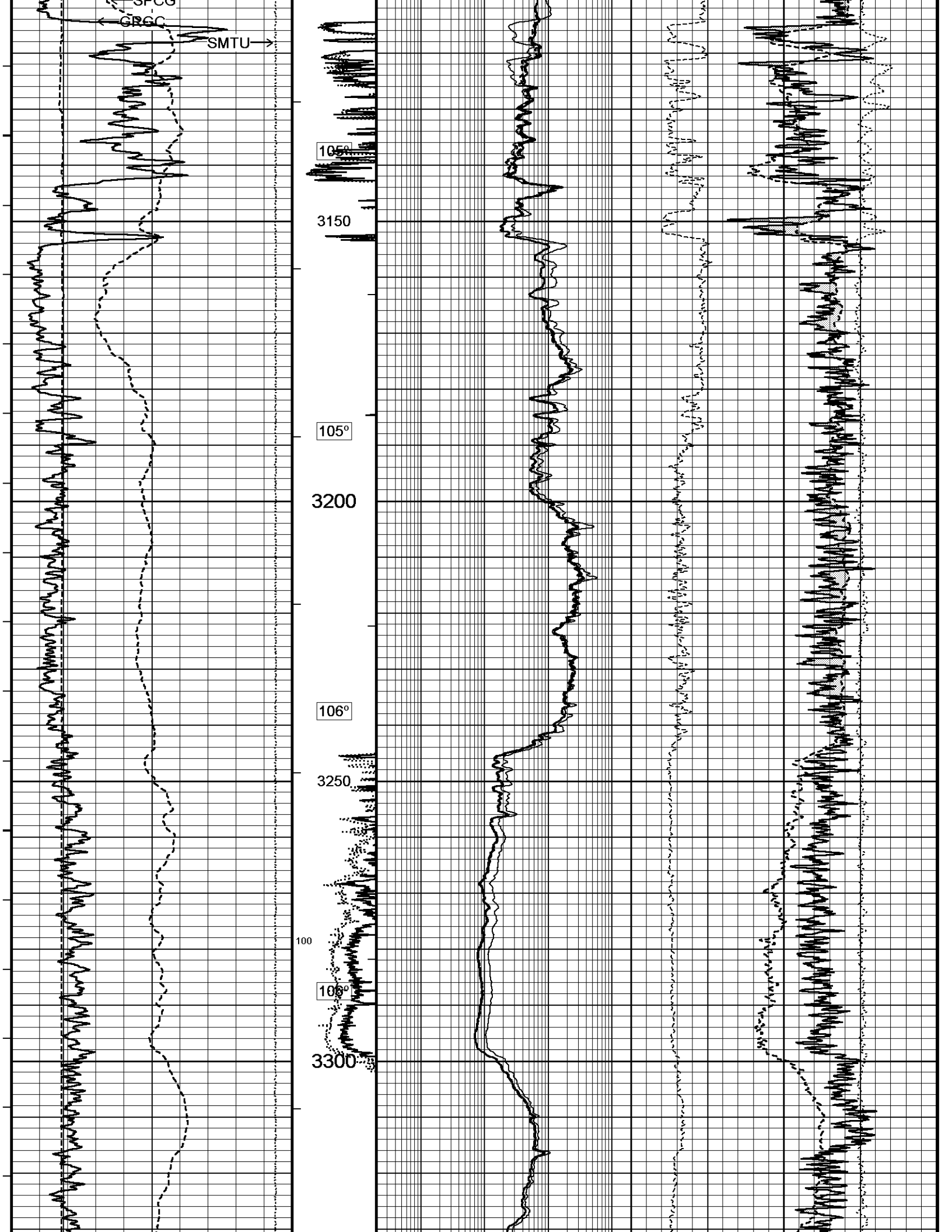
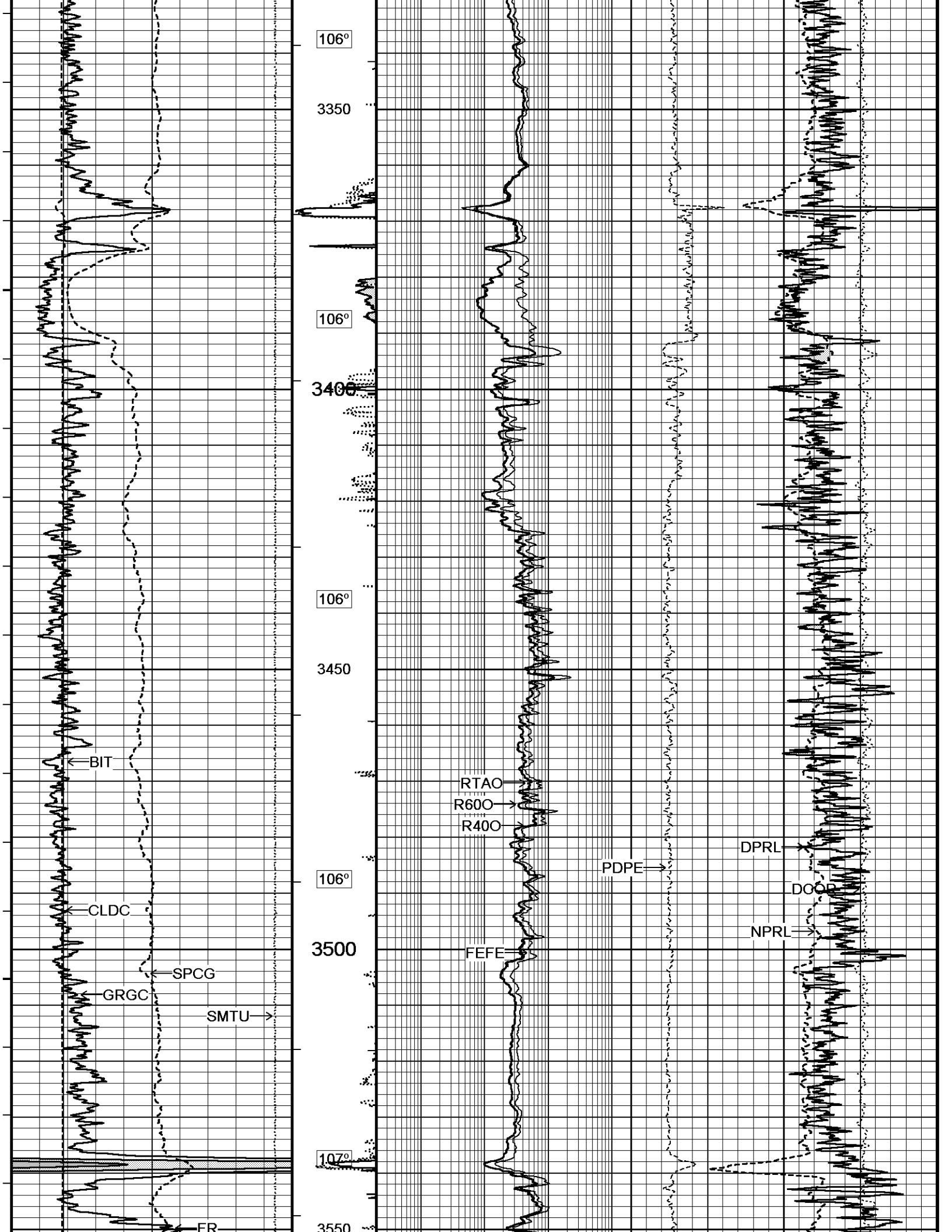
108°
2950
200
106°
3000
104°
3050
BIT
RTAO
R60O
R40O
105°
DPRL
PDPE
DCOR
3100
CLDC
NPRL
FEFE


SPCG
GRGC
SMTU
105°
3150
105°
3200
106°
3250
100
106°
3300


106°
3350
106°
3400
106°
3450
106°
3500
107°
3550
BIT
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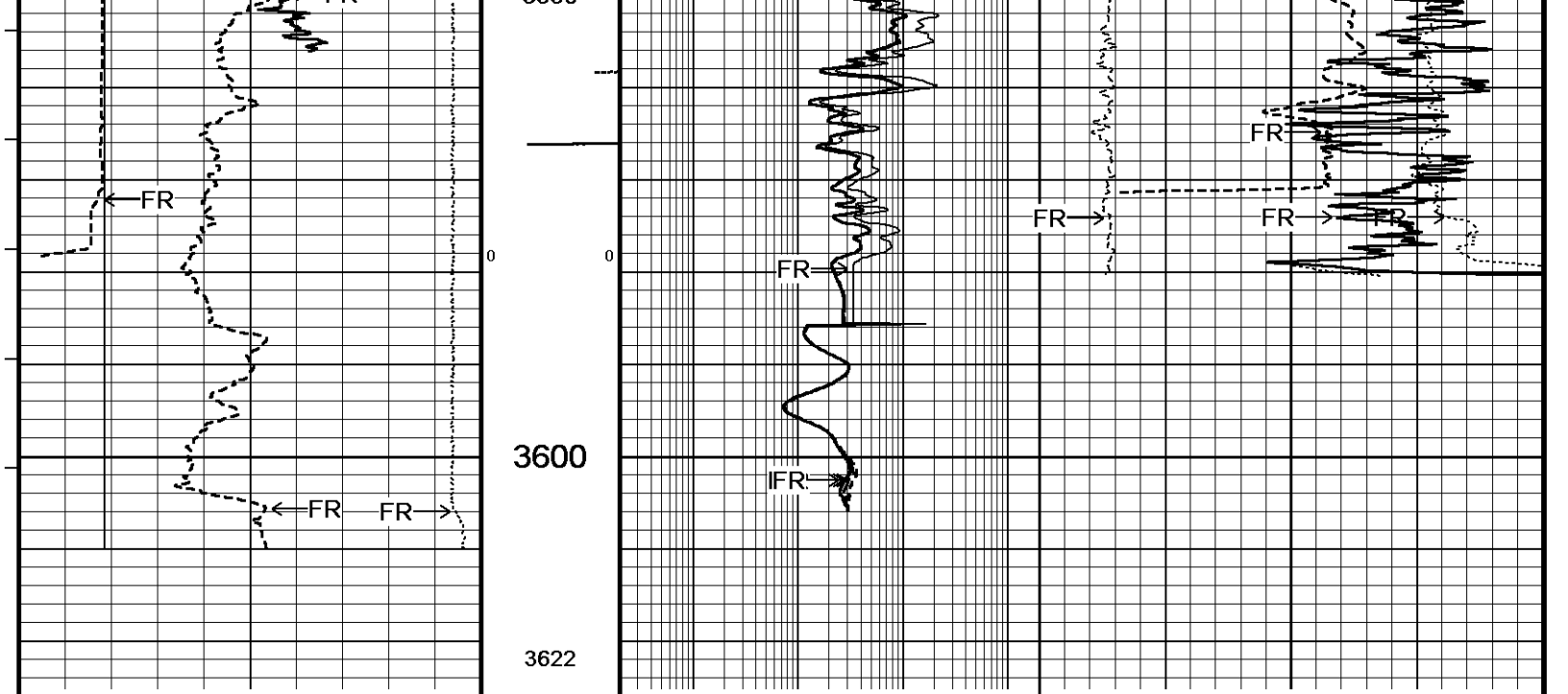
SPCG
GRGC
SMTU
FR
RTAO
R60O
R40O
FEFE
PDPE
DPRL
DOOP
NPRL



3622

Depth in Feet

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150
150 225 300

Spontaneous Potential
millivolts
− → | 20 | ← +

Density Caliper
inches
6 11 16

Bit Size
inches
6 11 16

DST Uphole Tension
pounds
10000 0

Borehole Temp in deg F

MNRL
0 20

MINV
0 20

HVI every 10 cu ft

Annular Integral every 10 cu ft

Replay Scale 1:240

Shallow FE
ohm metres
0.20 2000
1 10 100 1000

Array Ind. One Res 40
ohm metres
0.20 2000
1 10 100 1000

Array Ind. One Res 60
ohm metres
0.20 2000
1 10 100 1000

Array Ind. One Res Rt
ohm metres
0.20 2000
1 10 100 1000

Limestone Neutron Por.
percent
30 10 -10

Limestone Density Por.
percent
30 10 -10

PE
barns/electron
0 10

Density Correction
grams/cc
-0.25 0.25

Depth Based Data - Maximum Sampling Increment 2.5cm
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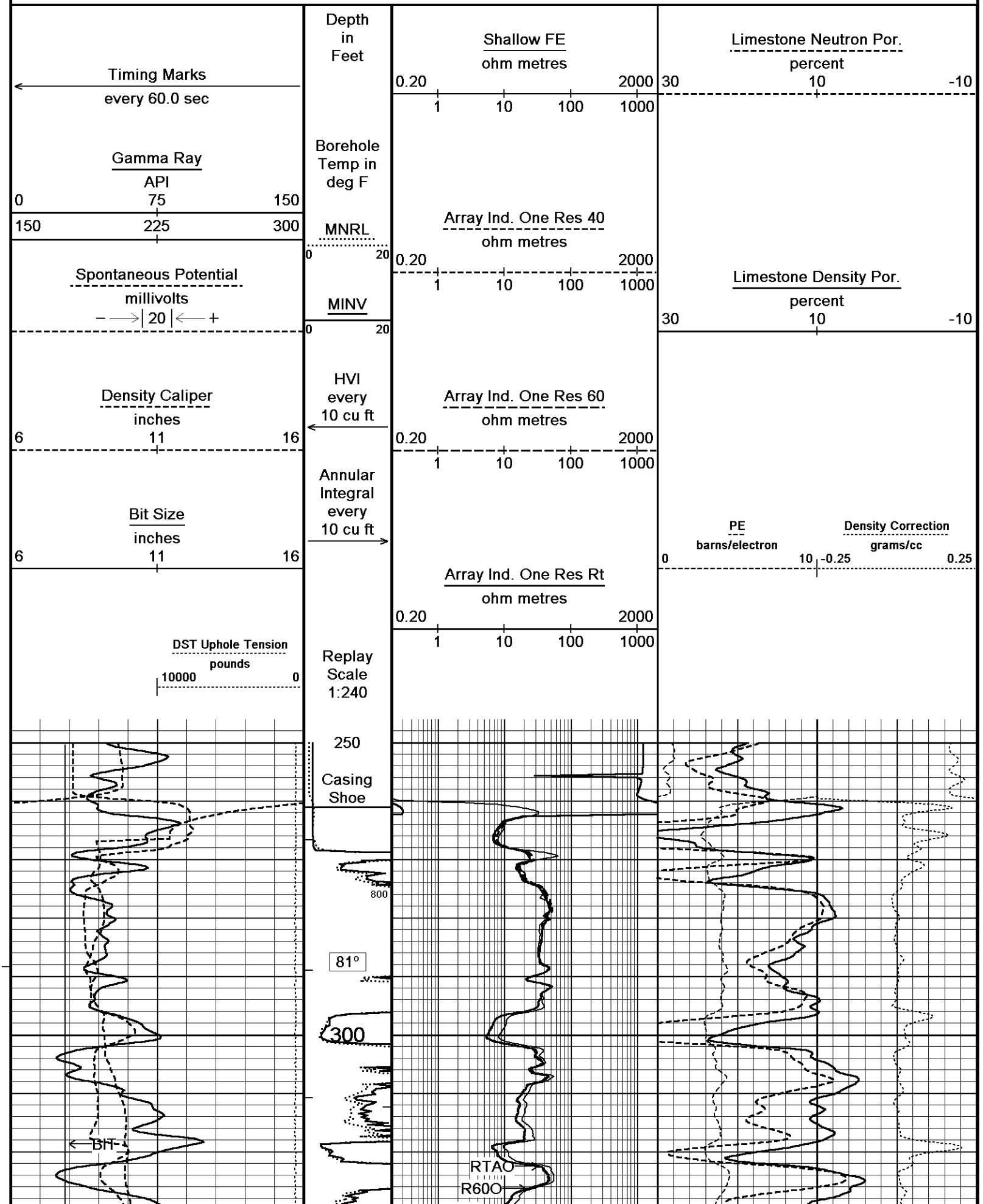
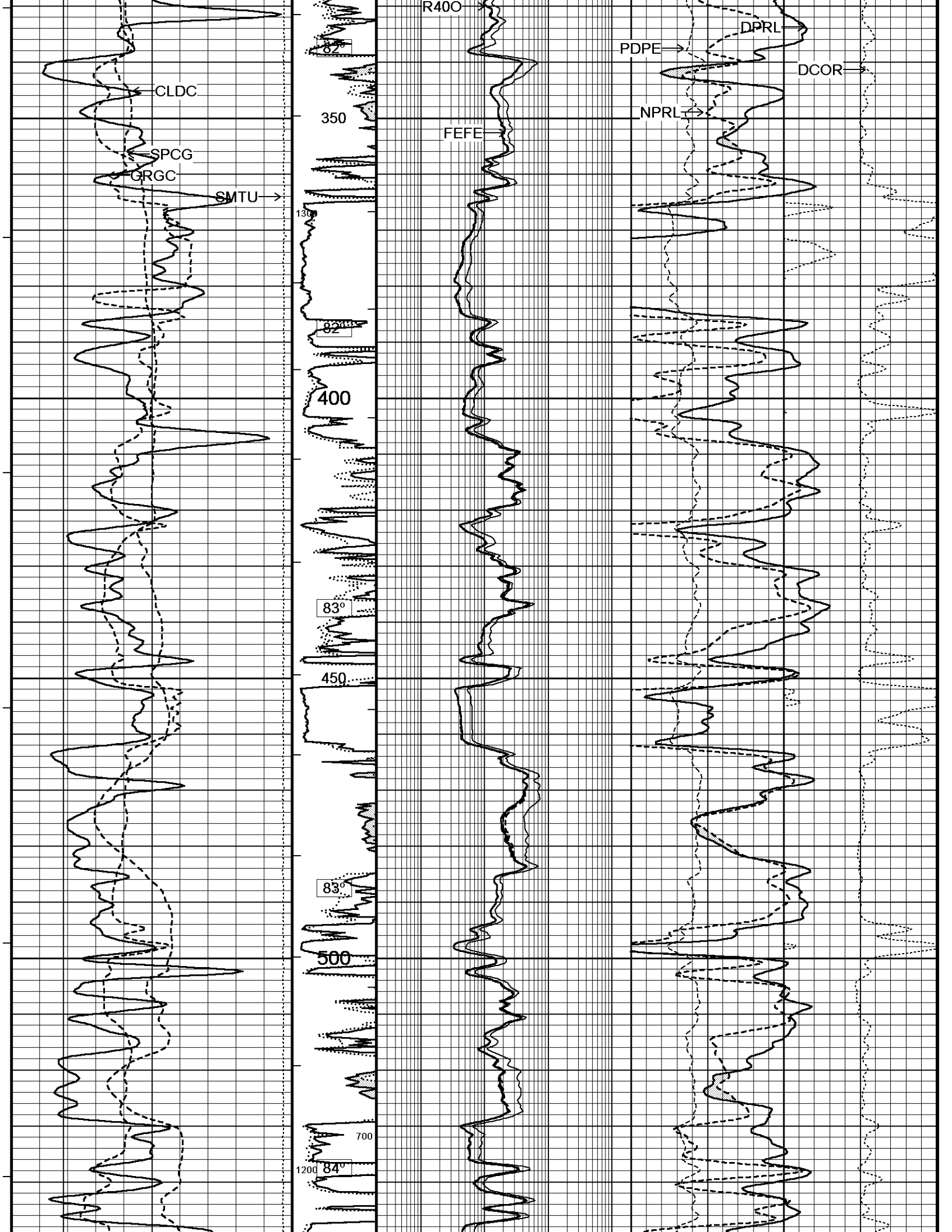
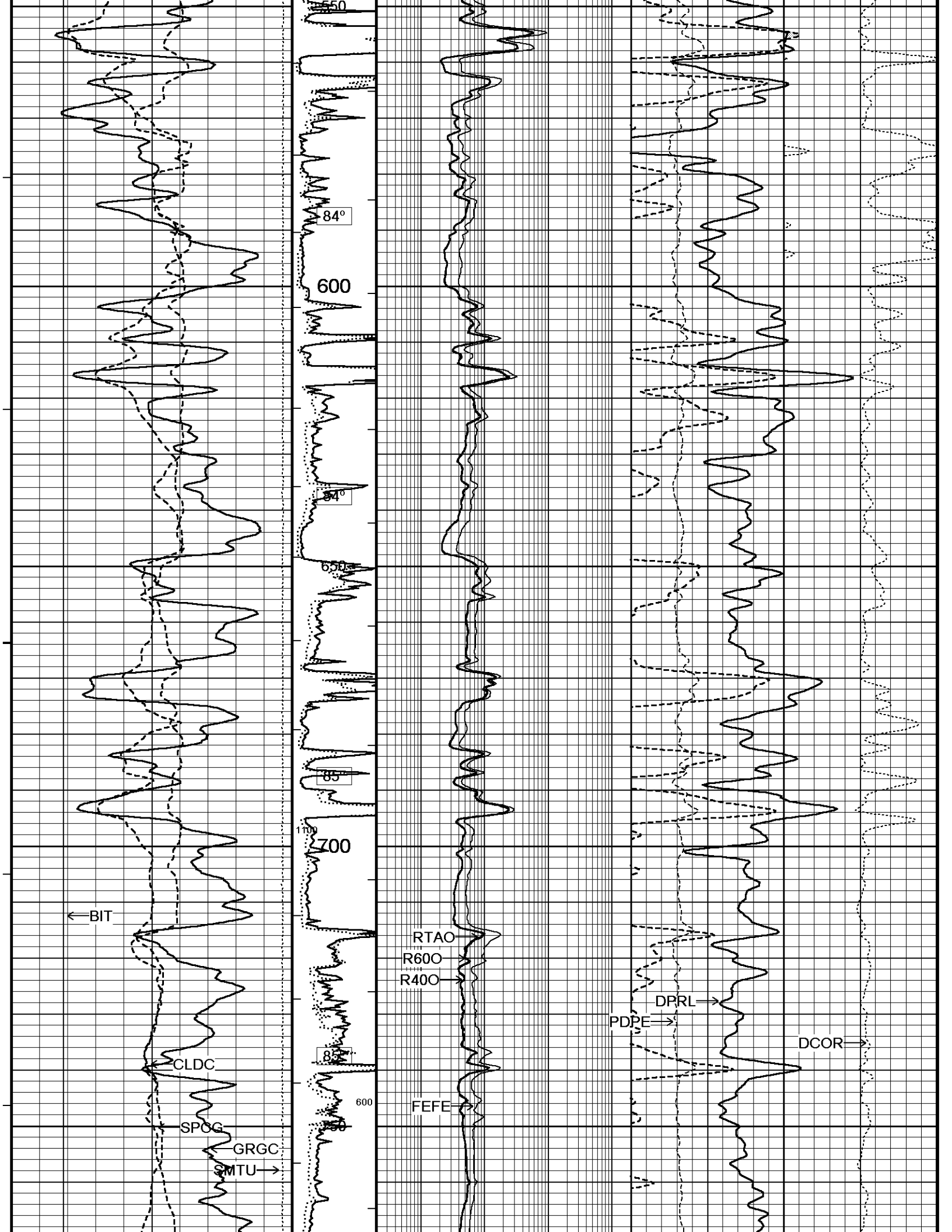
10 INCH MAIN PASS 1:240

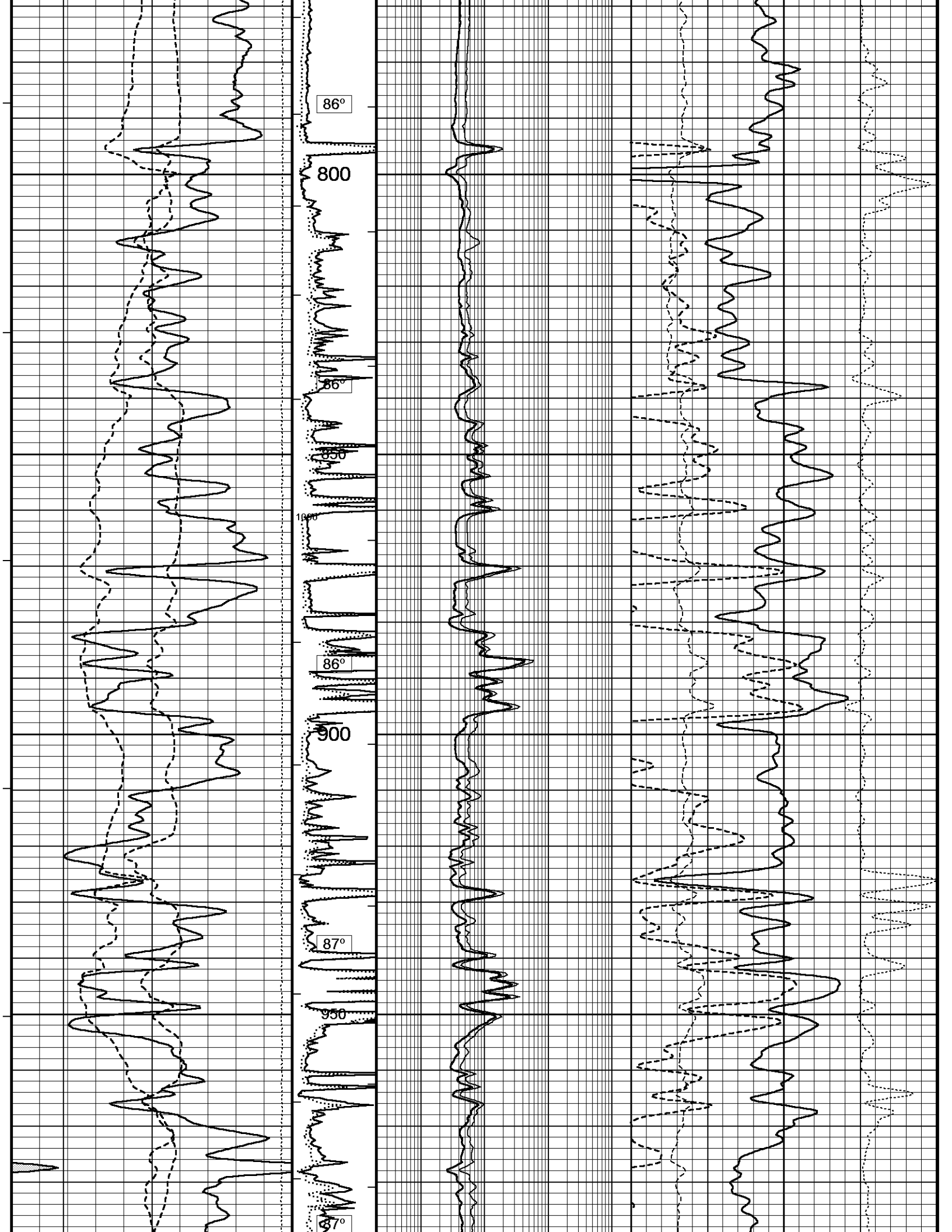
5 INCH MAIN LOG 1:240

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 24-NOV-2013 22:57
Filename: C:\Program Files\Weatherford\WLS 13.06\DATA\Taos Brothers Dairy 36-1\MAIN_003.dta
Recorded on 24-NOV-2013 14:48
System Versions: Logged with 13.06.9804 Processed with 13.06.9804 Plotted with 13.06.9804




CLDC
SPCG
GRGC
SMTU
R40O
FEFE
DPRL
PDPE
DCOR
NPRL
350
400
450
500
82°
82°
83°
83°
84°
1300
700
1200


650
84°
600
84°
650
85°
1100
700
BIT
RTAO
R60O
R40O
DPRL
PDPE
DCOR
CLDC
85°
600
FEFE
SPSG
GRGC
SMTU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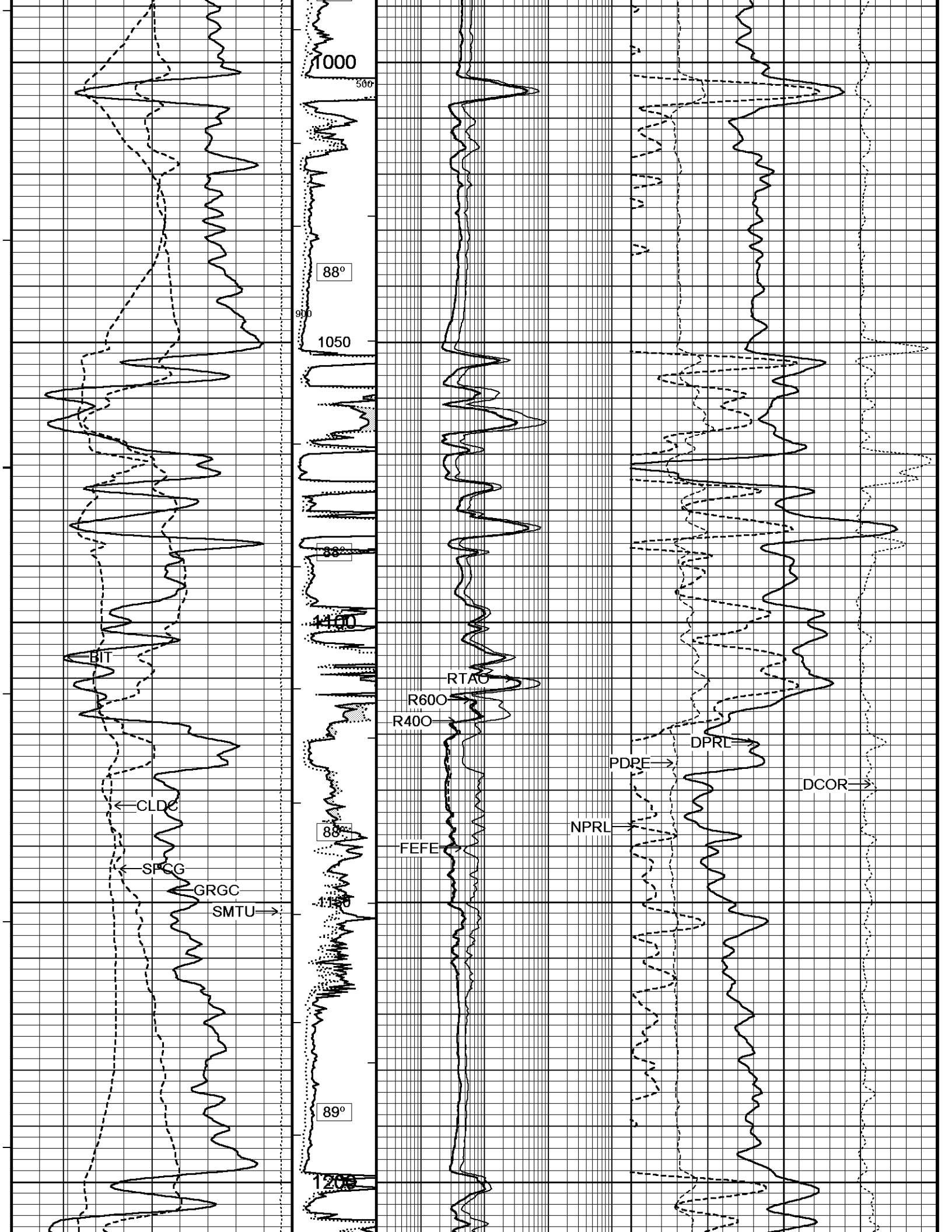
800
86°
850
1000
86°
900
87°
950
87°


1000
500
88°
900
1050
88°
1100
BIT
RTAO
R60O
R40O
DPRL
PDPE
DCOR
CLDC
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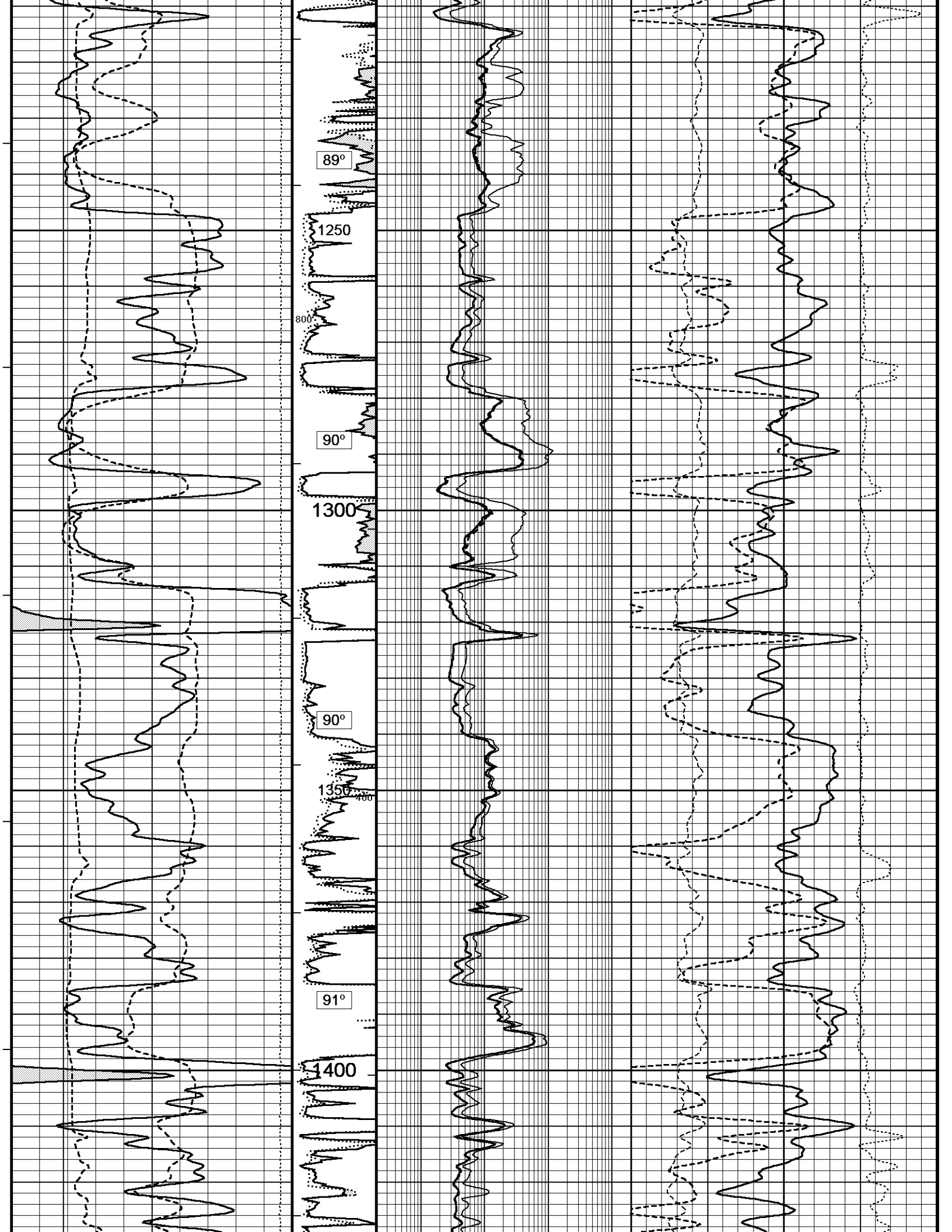
SMTU
1150
89°
1200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90°
1300
90°
1350
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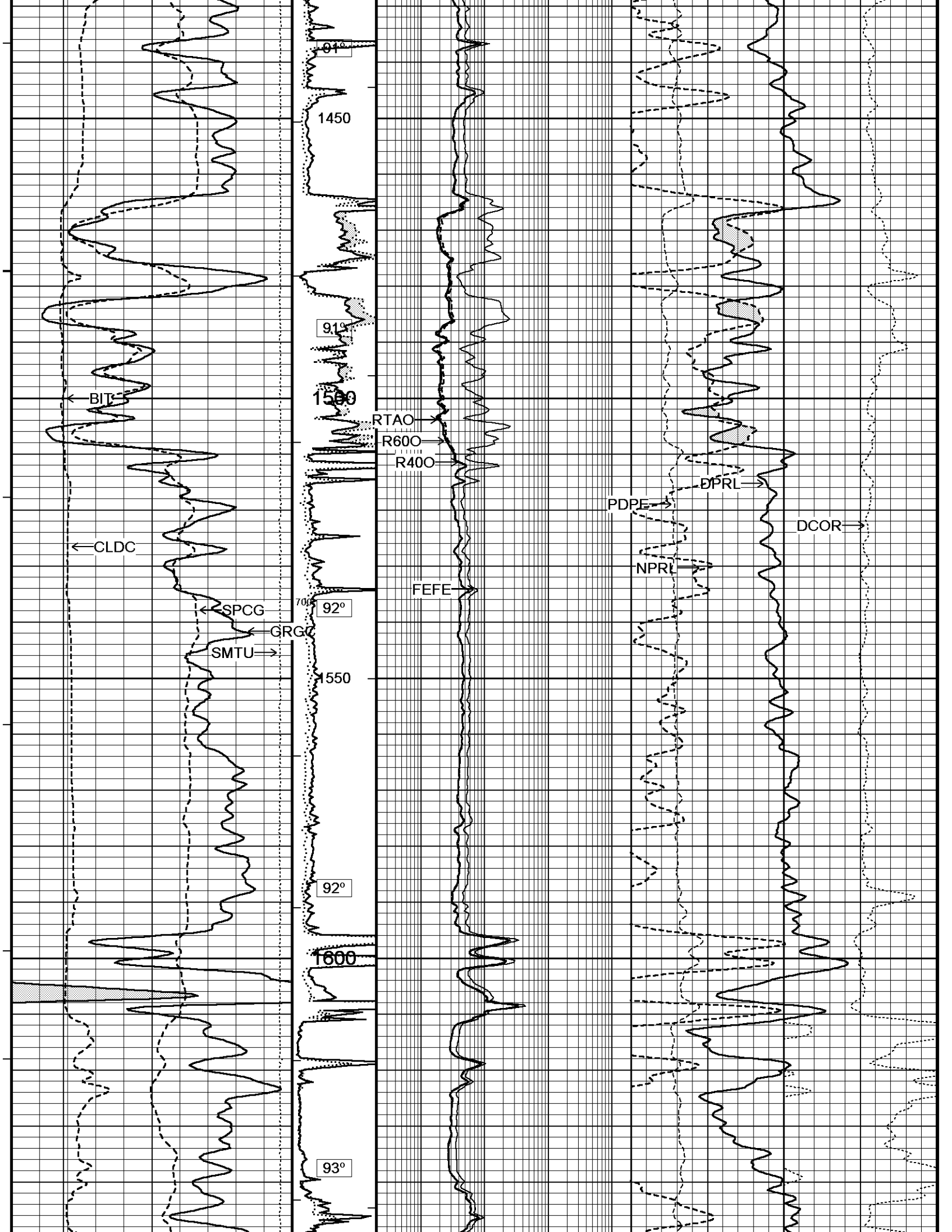
1400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1450
91°
BIT
1500
RTAO
R60O
R40O
DPRL
PDPE
DCOR
CLDC
NPRL
FEFE
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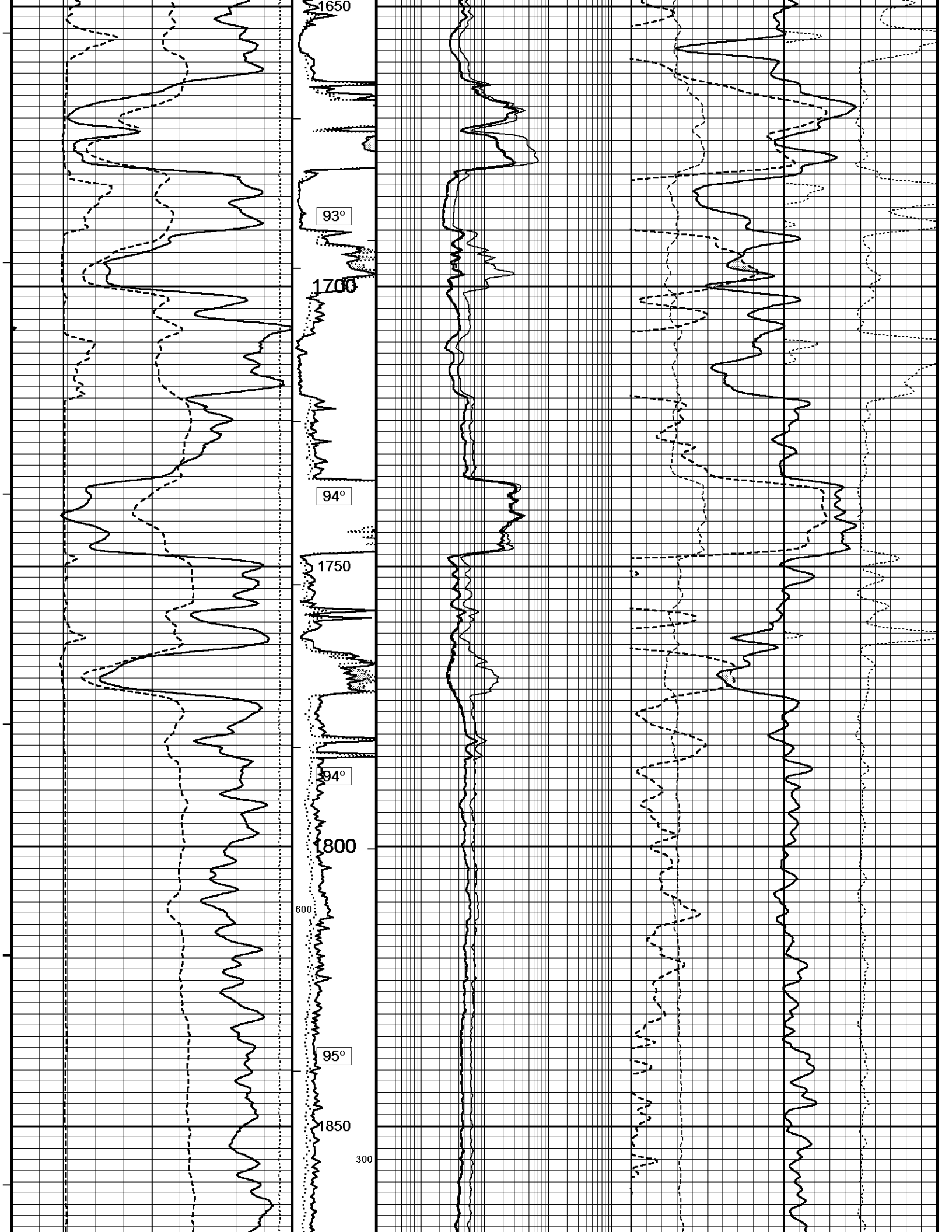
92°
SPCG
GRGC
SMTU
1550
92°
1600
93°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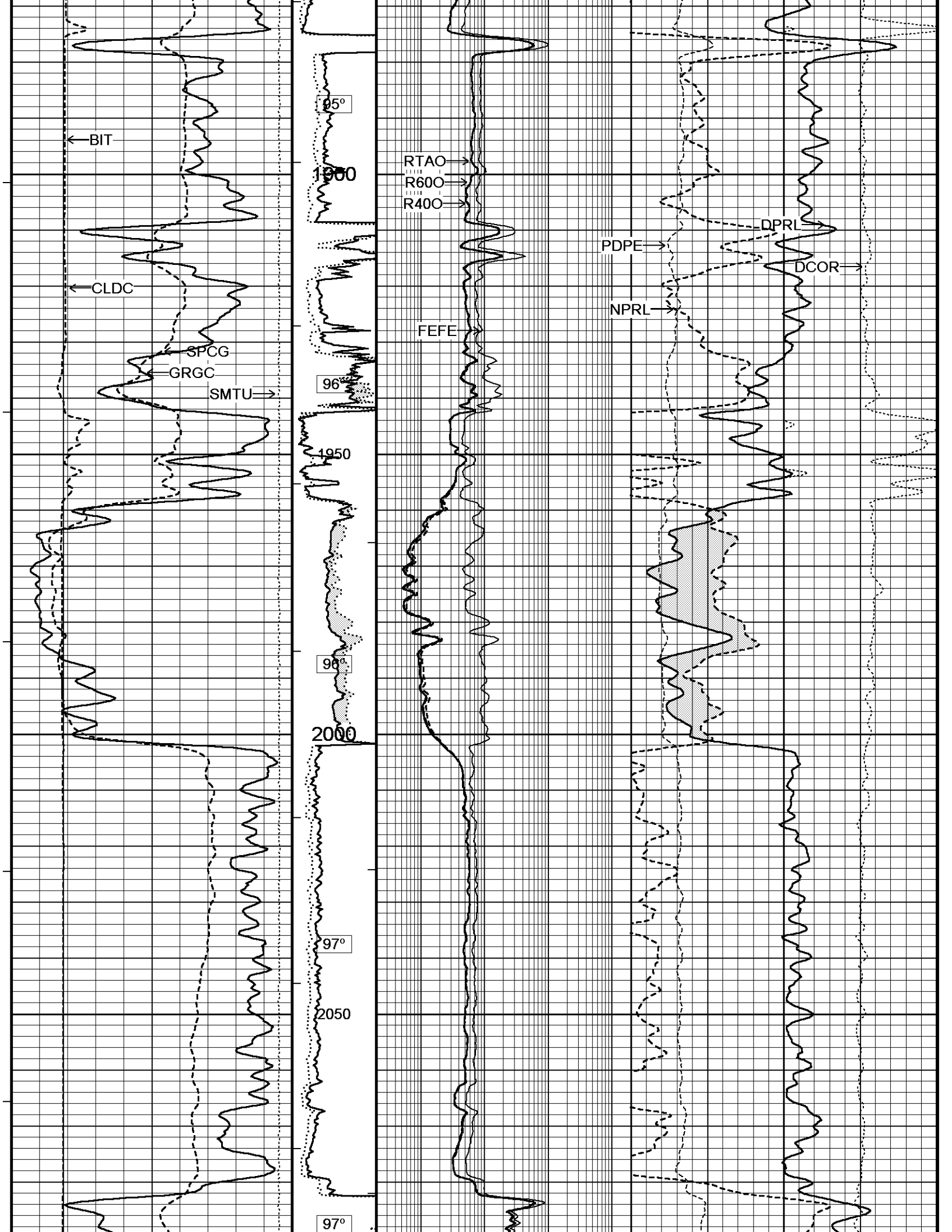
1800
600
95°
1850
300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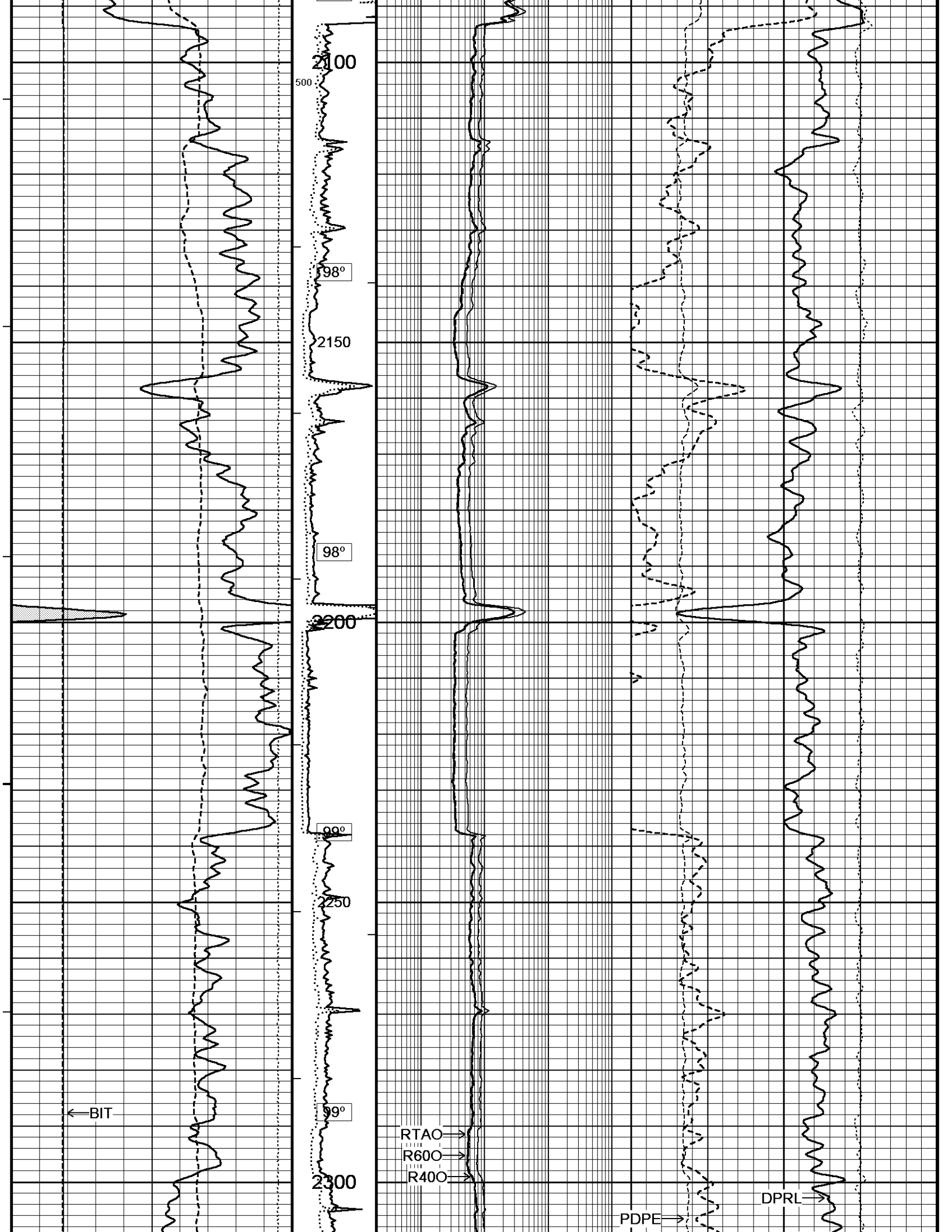
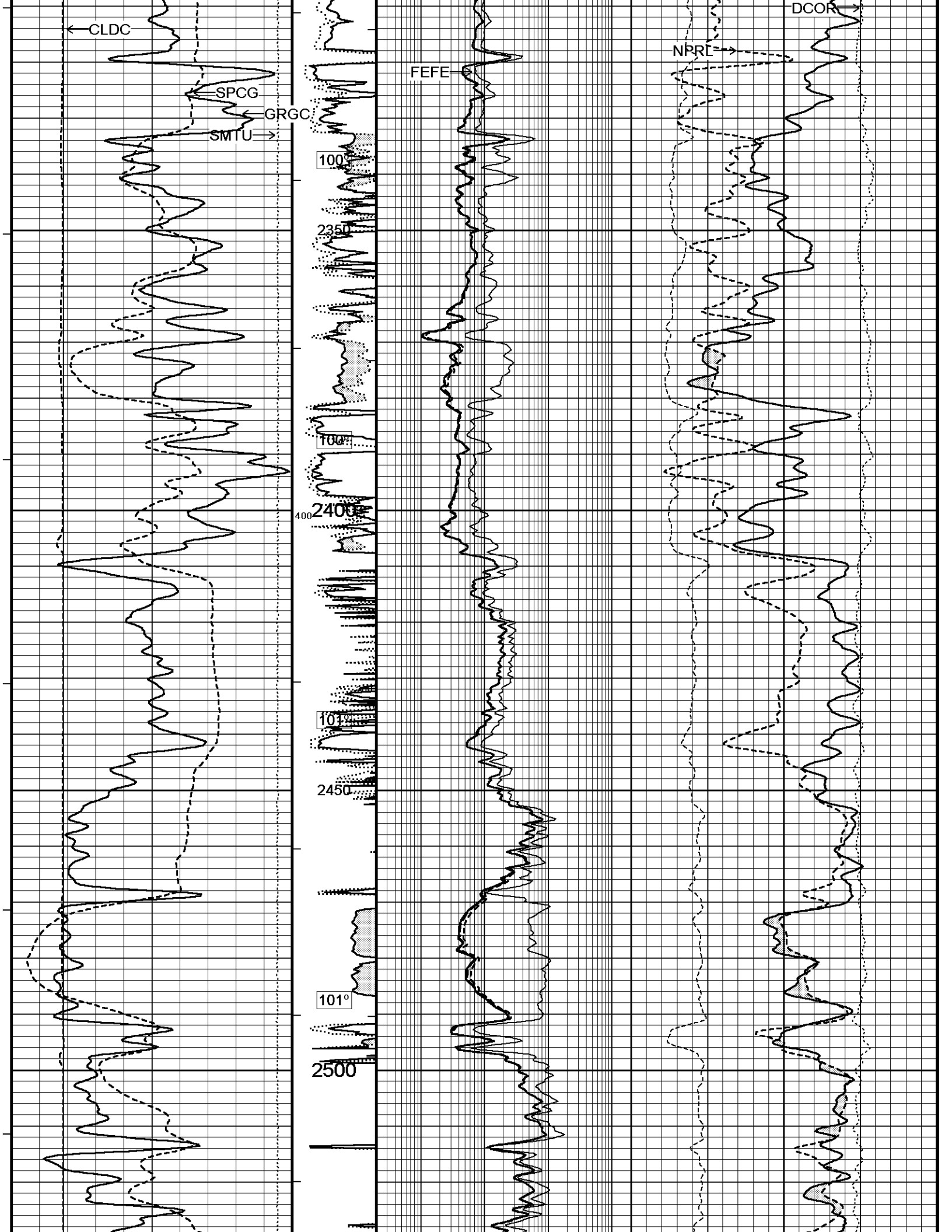
CLDC
SPCG
GRGC
SMTU
95°
1900
96°
1950
98°
2000
97°
2050
97°
RTAO
R60O
R40O
FEFE
DPRL
PDPE
DCOR
NPRL


2100
500
98°
2150
98°
2200
99°
2250
99°
2300
←BIT
RTAO→
R60O→
R40O→
PDPE→
DPRL→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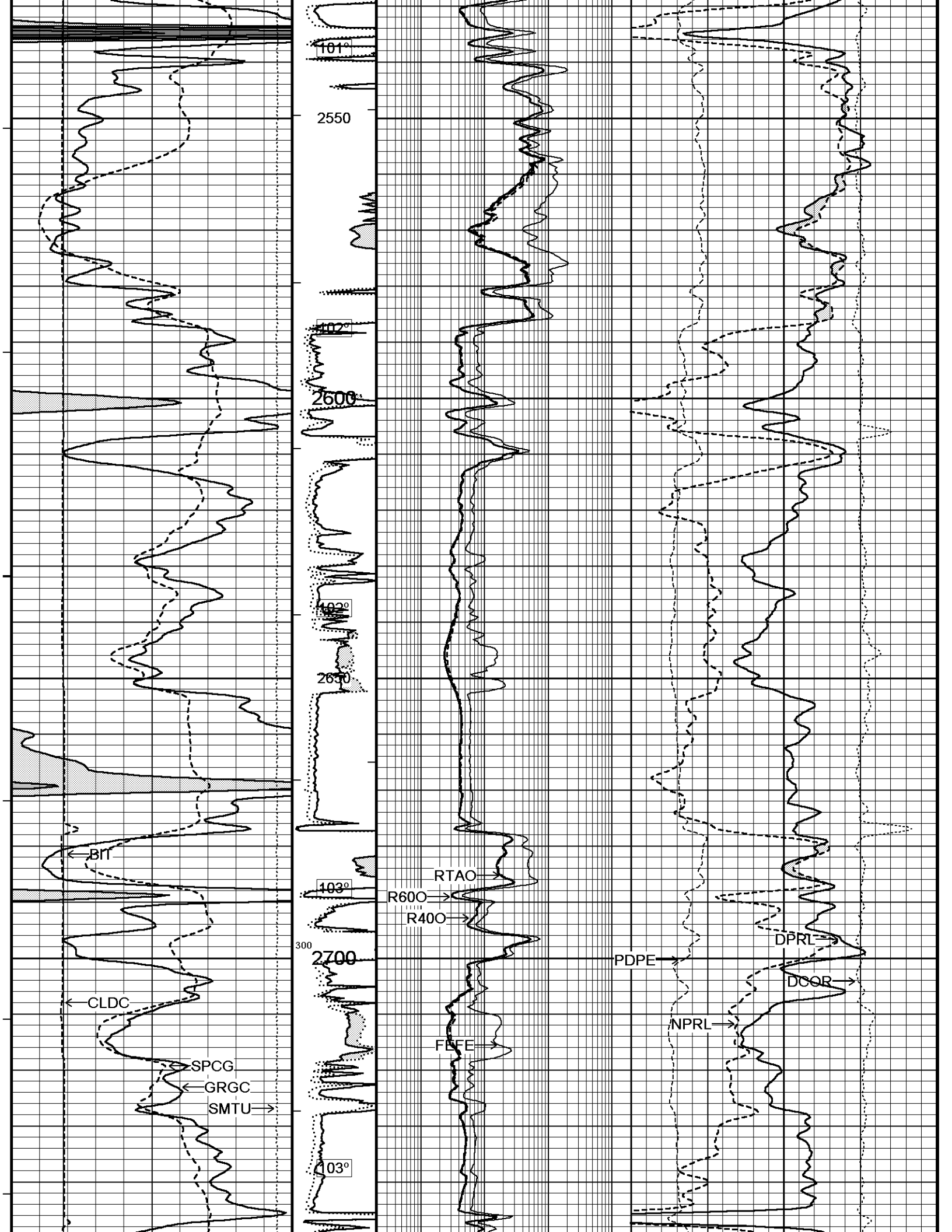
SMTU
100
2350
100
400
2400
101
2450
101°
2500
FEFE
NPRL
DCOR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2550
102°
2600
102°
2650
BIT
103°
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R60O
R40O
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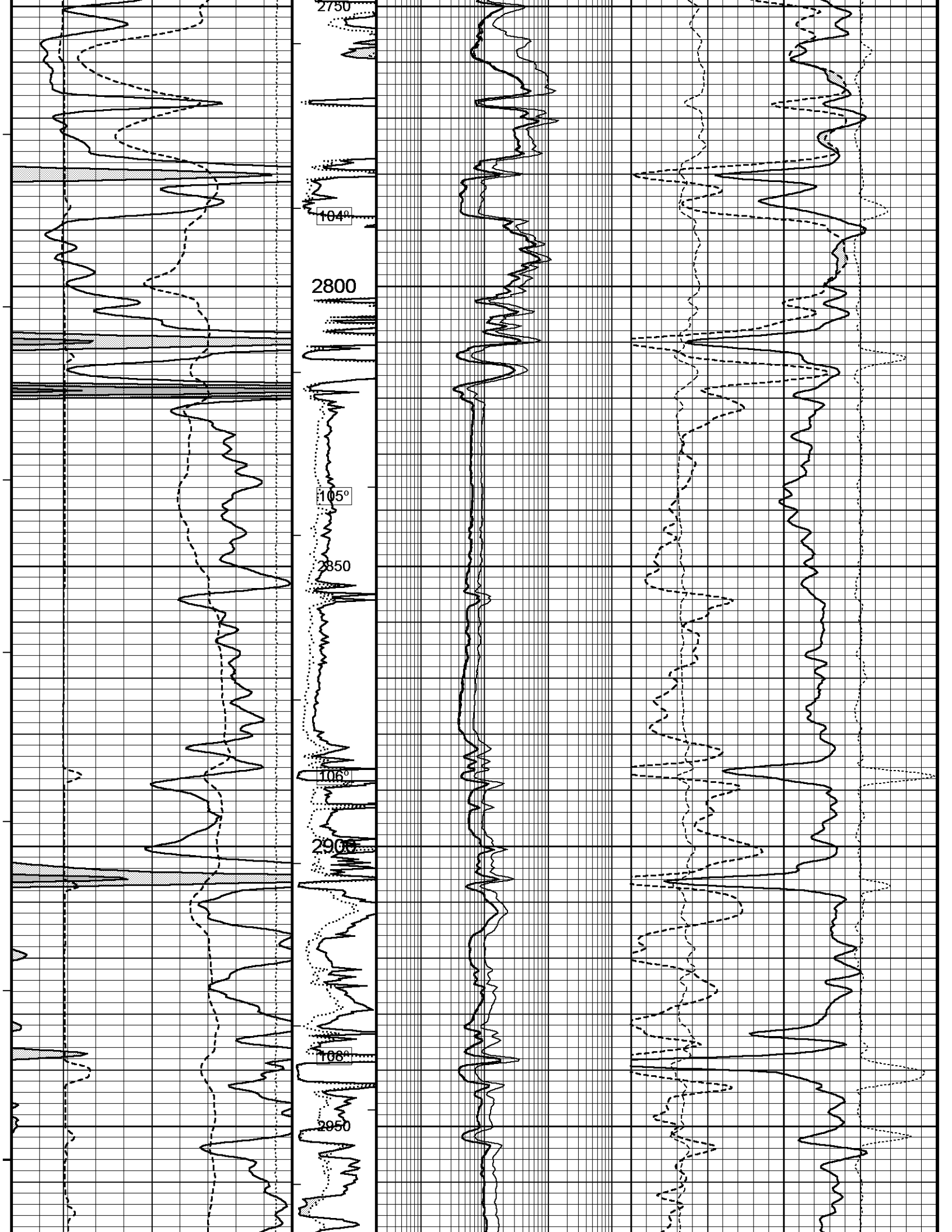
2700
CLDC
SPCG
GRGC
SMTU
FEFE
103°
PDPE
DPRL
DCOR
NPRL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105°
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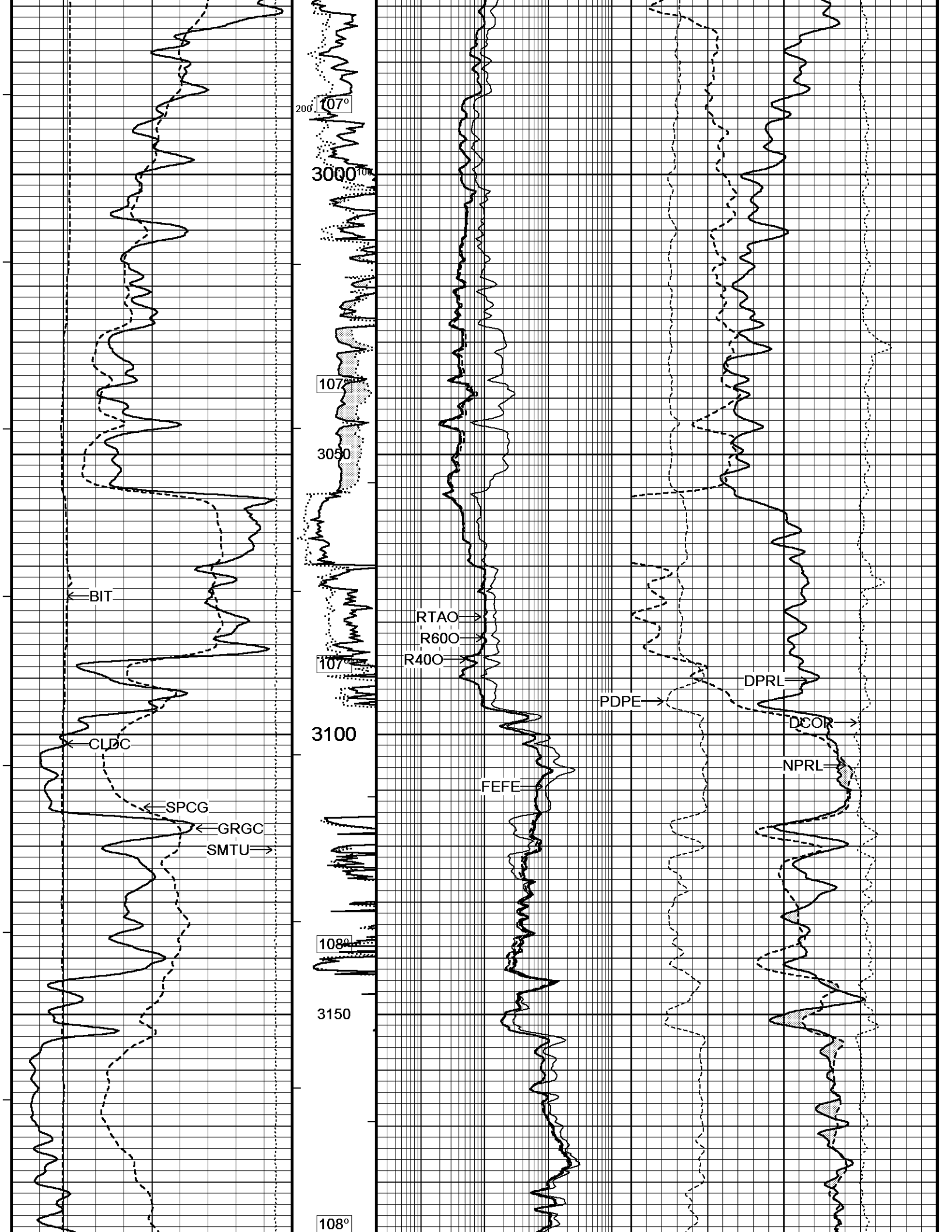
2900
108°
2950


200
107°
3000
107°
3050
107°
BIT
RTAO
R60O
R40O
107°
DPRL
PDPE
DCOR
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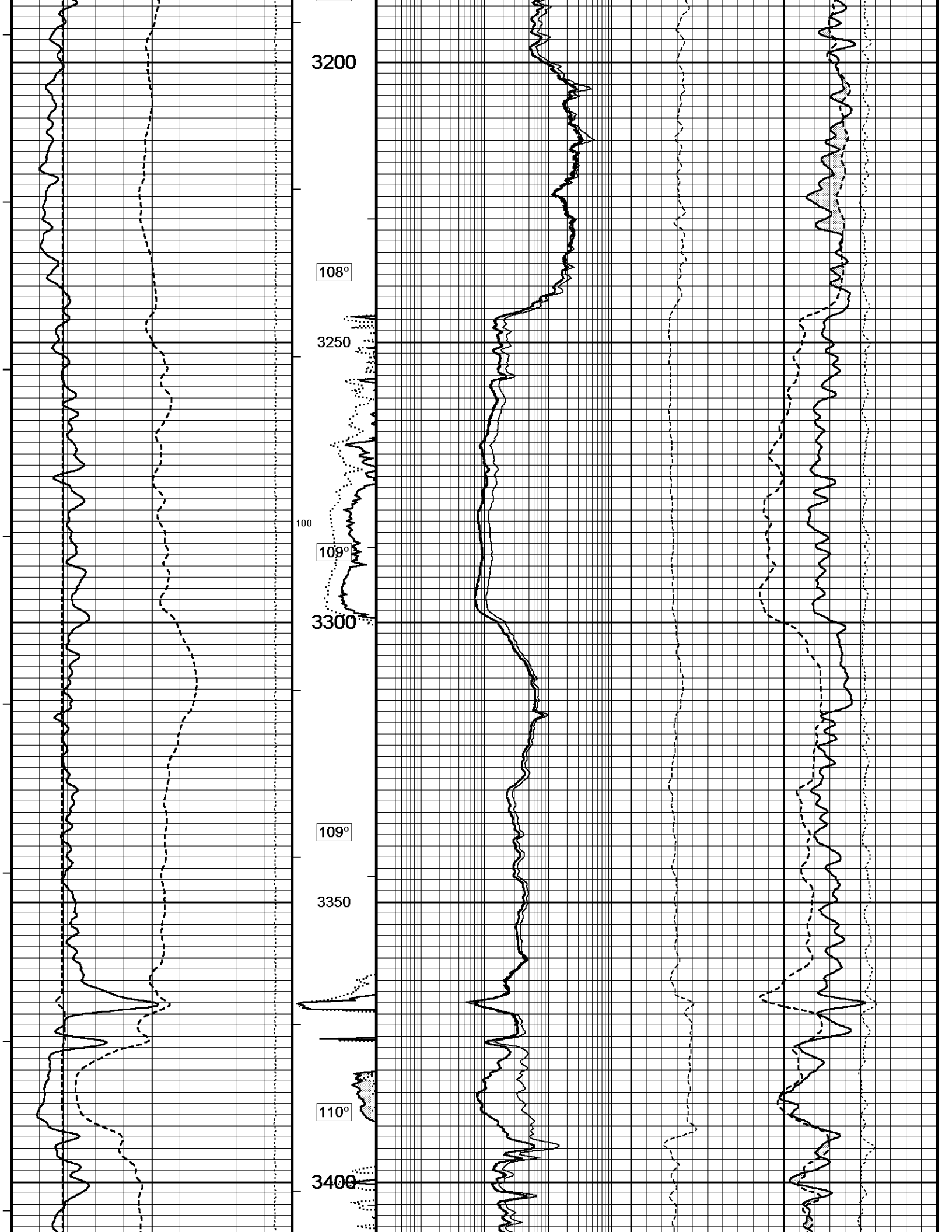
CLDC
NPRL
FEFE
SPCG
GRGC
SMTU
108°
3150
108°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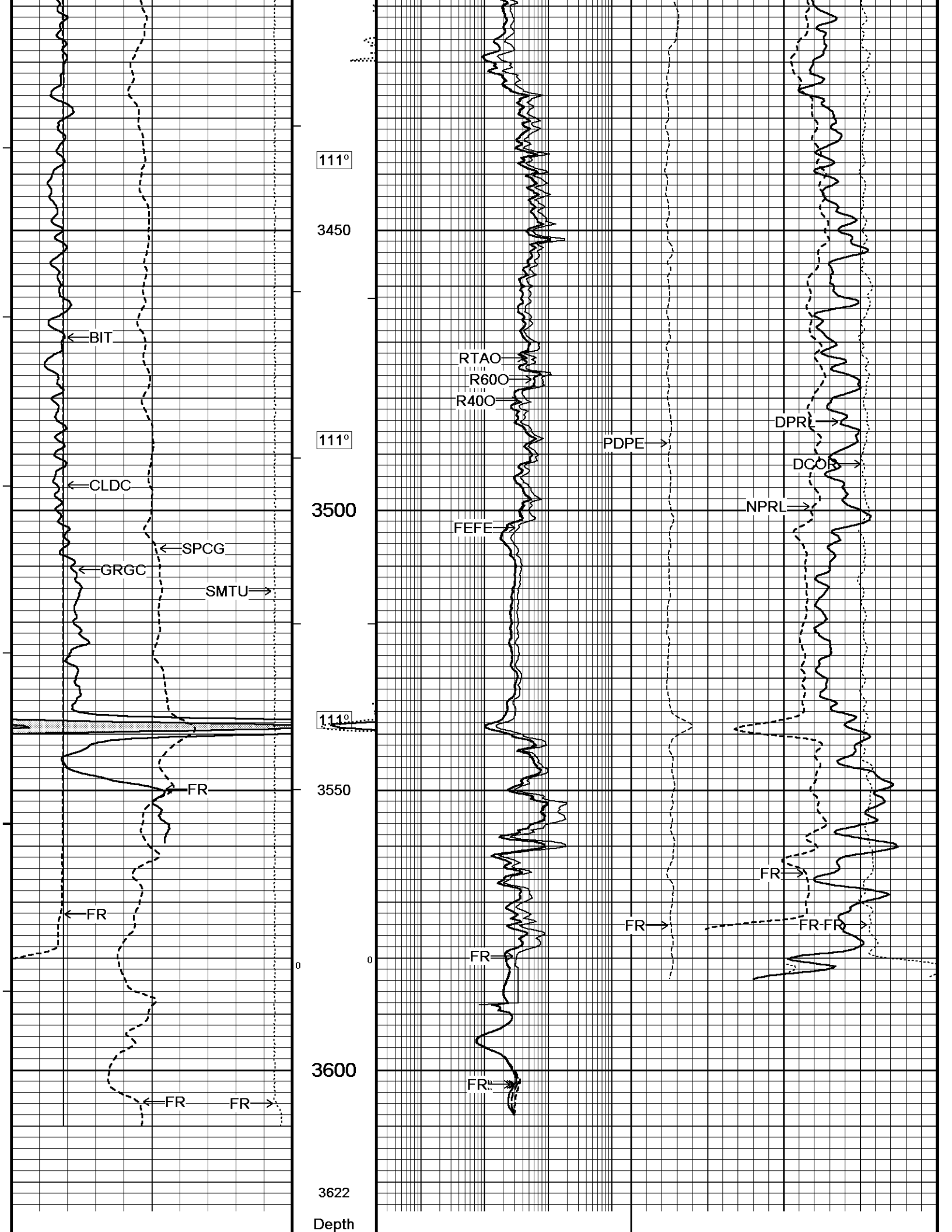
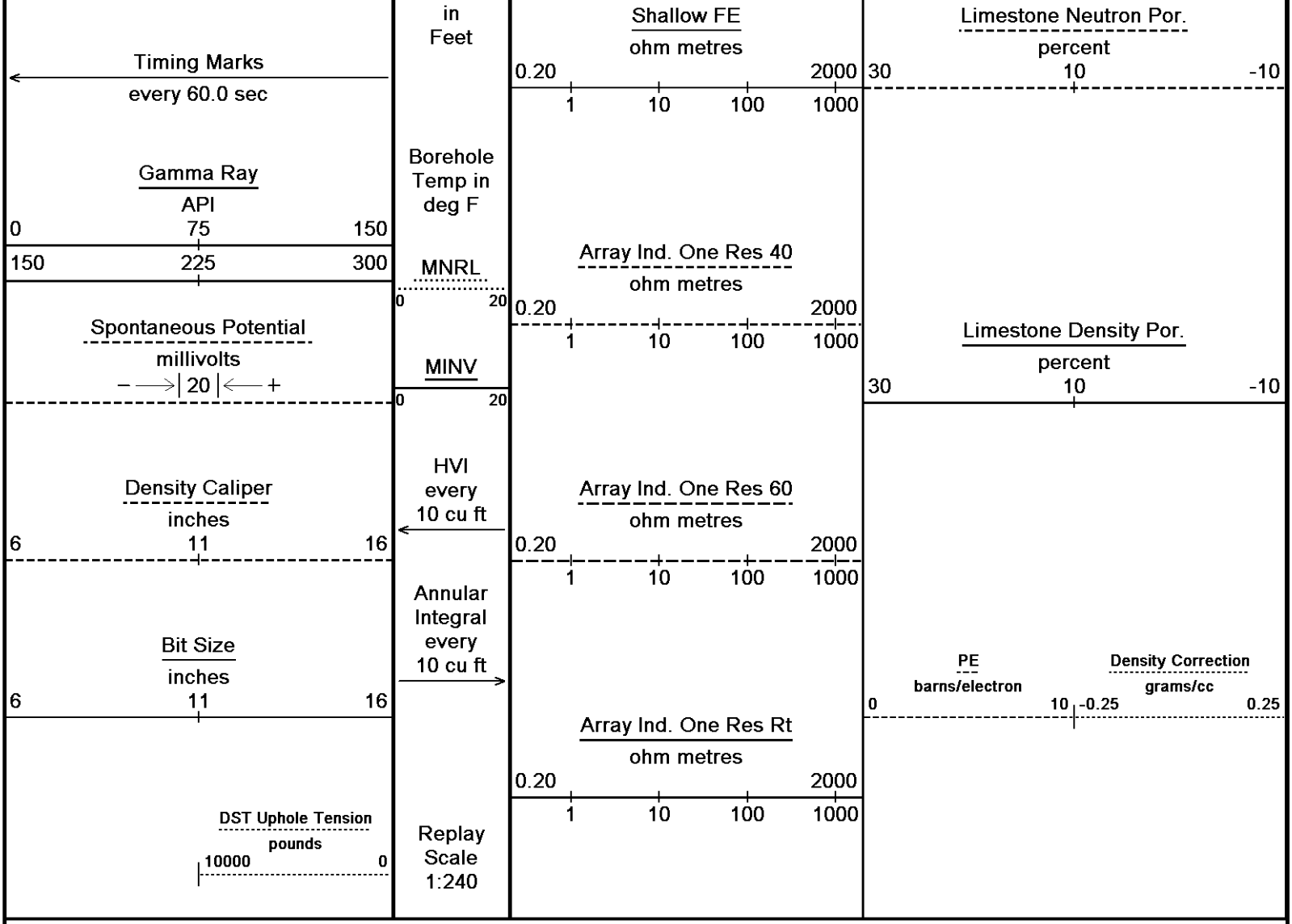
3250
100
109°
3300
109°
3350
110°
3400


111°
3450
BIT
RTAO
R60O
R40O
111°
PDPE
DPRL
DCOR
CLDC
3500
NPRL
FEFE
SPCG
GRGC
SMTU
111°
3550
FR
FR
FR
FR
FR
FR
FR
0
0
3600
FR
3622
Depth

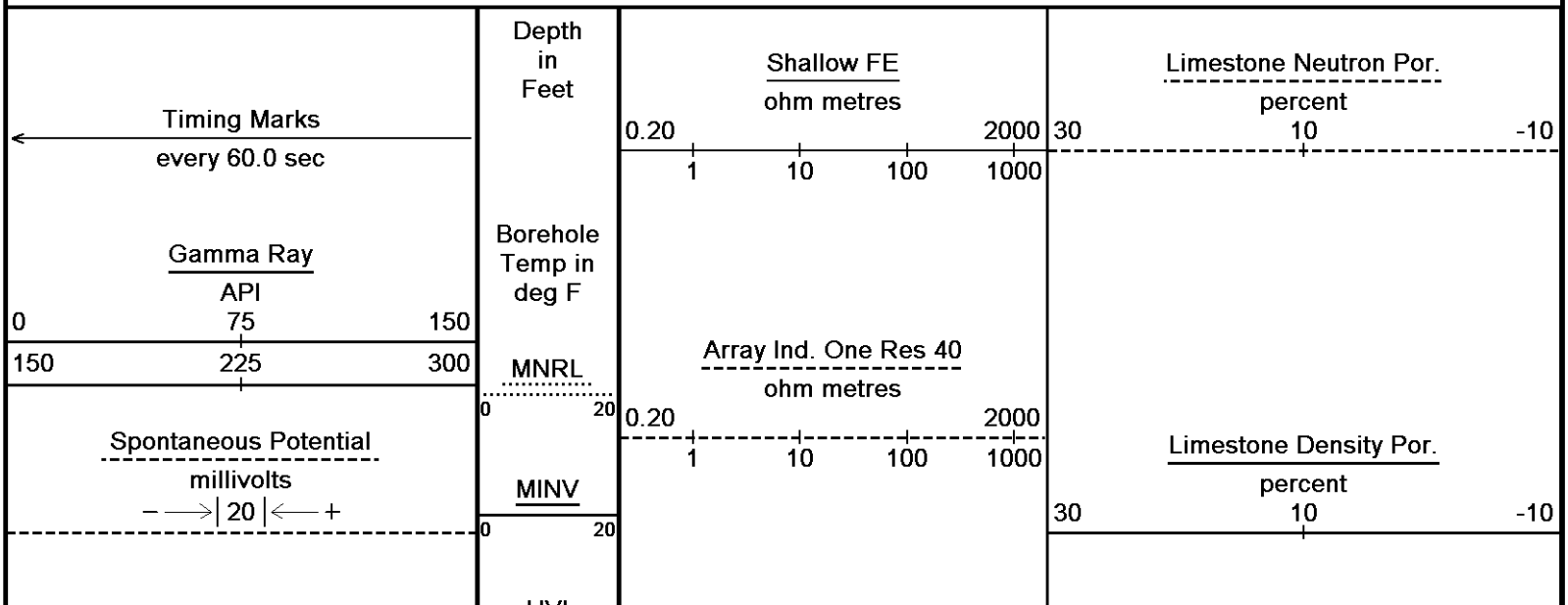


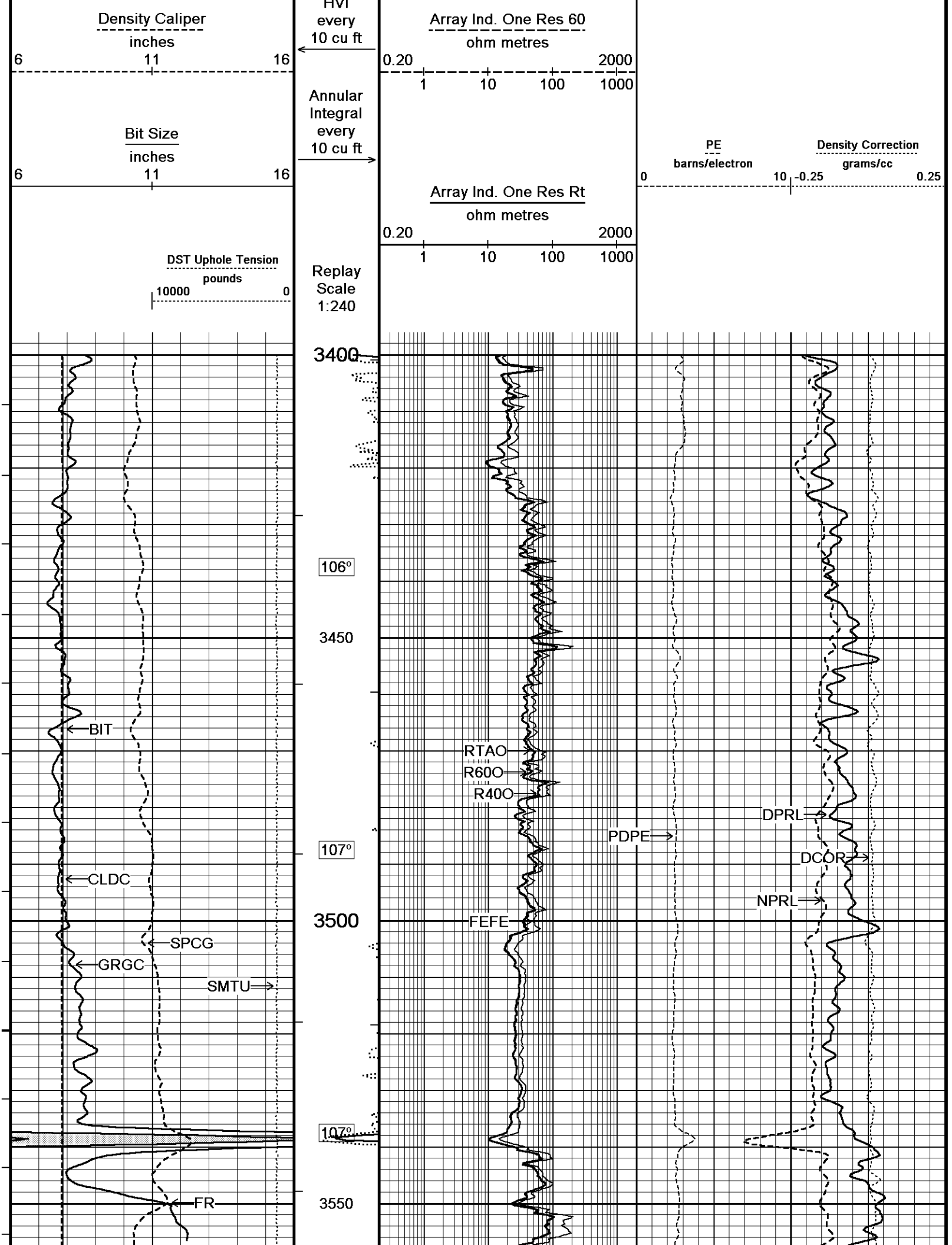
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 24-NOV-2013 22:57
Filename: C:\Program Files\Weatherford\WLS 13.06\DATA\Taos Brothers Dairy 36-1\MAIN_003.dta — Recorded on 24-NOV-2013 14:48
System Versions: Logged with 13.06.9804 Processed with 13.06.9804 Plotted with 13.06.9804

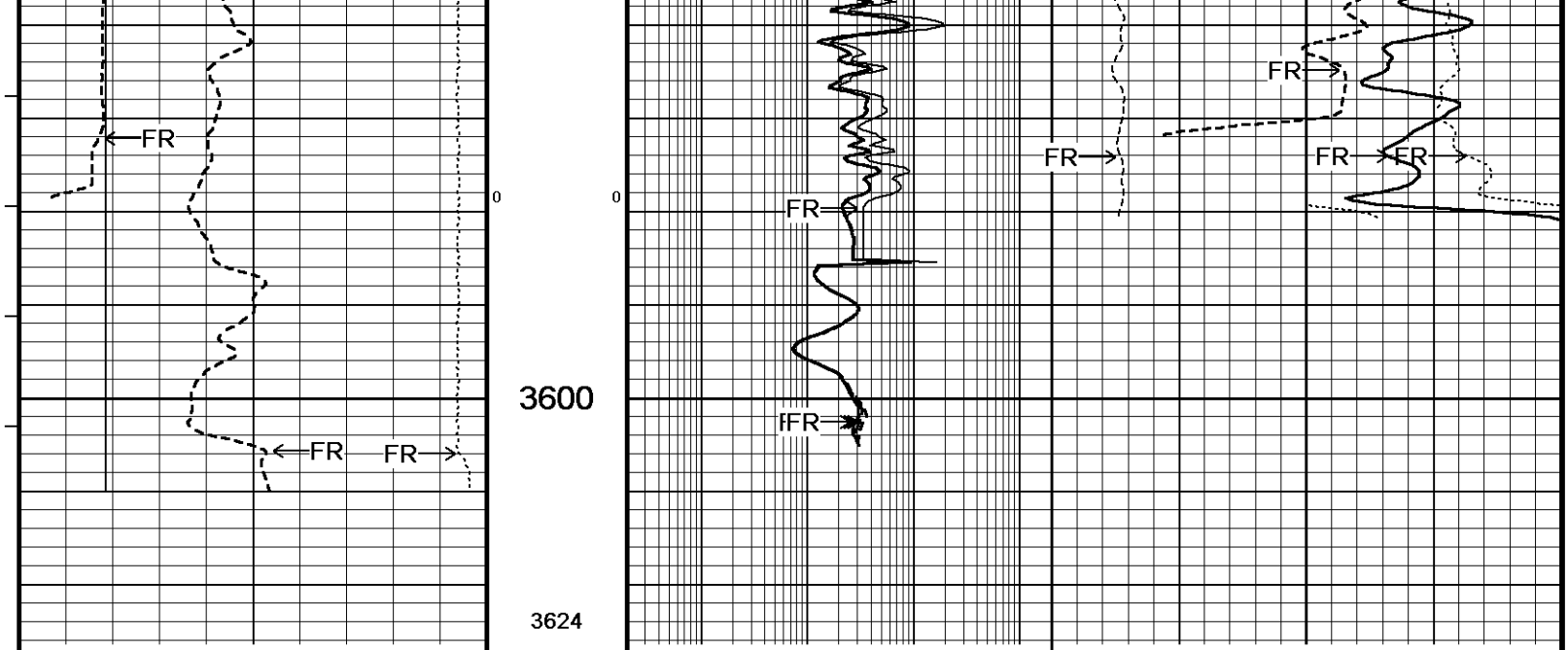
5 INCH MAIN LOG 1:240

REPEAT SECTION 1:240

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 24-NOV-2013 22:57
Filename: C:\Program Files\Weatherford\WLS 13.06\DATA\Taos Brothers Dairy 36-1\MAIN_002.dta — Recorded on 24-NOV-2013 13:34
System Versions: Logged with 13.06.9804 Processed with 13.06.9804 Plotted with 13.06.9804




Density Caliper
inches
6
11
16
HVI
every
10 cu ft
Array Ind. One Res 60
ohm metres
0.20
2000
1
10
100
1000
Annular
Integral
every
10 cu ft
Bit Size
inches
6
11
16
PE
barns/electron
0
10
Density Correction
grams/cc
-0.25
0.25
Array Ind. One Res Rt
ohm metres
0.20
2000
1
10
100
1000
DST Uphole Tension
pounds
10000
0
Replay
Scale
1:240
3400
106°
3450
107°
3500
107°
3550
BIT
CLDC
SPCG
GRGC
SMTU
FR
RTAO
R60O
R40O
FEFE
PDPE
DPRL
DCOR
NPRL



3624

Depth in Feet

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150
150 225 300

Spontaneous Potential
millivolts
– → | 20 | ← +

Density Caliper
inches
6 11 16

Bit Size
inches
6 11 16

DST Uphole Tension
pounds
10000 0

Borehole Temp in deg F

MNRL
0 20

MINV
0 20

HVI every 10 cu ft

Annular Integral every 10 cu ft

Replay Scale 1:240

Shallow FE
ohm metres
0.20 2000
1 10 100 1000

Array Ind. One Res 40
ohm metres
0.20 2000
1 10 100 1000

Array Ind. One Res 60
ohm metres
0.20 2000
1 10 100 1000

Array Ind. One Res Rt
ohm metres
0.20 2000
1 10 100 1000

Limestone Neutron Por.
percent
30 10 -10

Limestone Density Por.
percent
30 10 -10

PE
barns/electron
0 10

Density Correction
grams/cc
-0.25 0.25

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 24-NOV-2013 22:57
Filename: C:\Program Files\Weatherford\WLS 13.06\DATA\Taos Brothers Dairy 36-1\MAIN_002.dta
Recorded on 24-NOV-2013 13:34
System Versions: Logged with 13.06.9804 Processed with 13.06.9804 Plotted with 13.06.9804

REPEAT SECTION 1:240

BEFORE SURVEY CALIBRATION

C:\Program Files\Weatherford\WLS 13.06\DATA\Taos Brothers Dairy 36-1\MAIN.dta

General Constants All 000

Last Edited on 24-NOV-2013,12:25

General Parameters		
Mud Resistivity	3.100	ohm-metres
Mud Resistivity Temperature	73.000	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	Density Caliper	
Rwa Parameters		
Porosity used	Limestone Density Por.	
Resistivity used	Array Ind. One Res Rt	
RWA Constant A	0.610	
RWA Constant M	2.150	
SW/APOR Tool Source	0.000	

Down-hole Tension Calibration SMS 0

Field Calibration on 24-NOV-2013 13:01

Reading No	Measured	Calibrated (lbs)
1	17497.19	6.00
2	17525.23	440.00

High Resolution Temperature Calibration MCG-C 86

Field Calibration on 24-NOV-2013,04:28

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	100.00	100.00

High Resolution Temperature Constants MCG-C 86

Last Edited on 24-NOV-2013,04:28

Pre-filter Length	11

SP Calibration MCG-C 86

Field Calibration on 24-NOV-2013,04:28

	Measured	Calibrated (mV)
Reference 1	100.0	100.0
Reference 2	-100.0	-100.0

Gamma Calibration MCG-C 86

Field Calibration on 24-NOV-2013,04:46

	Measured	Calibrated (API)
Background	39	26
Calibrator (Gross)	1072	722
Calibrator (Net)	1033	696

Gamma Constants MCG-C 86

Last Edited on 24-NOV-2013,12:24

Gamma Calibrator Number	46	
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	%

Micro Normal and Micro Inverse Calibration MMR-B.A 68

Base Calibration on 11-NOV-2013 13:28
Field Check on 24-NOV-2013 04:20

Base Calibration

	Measured		Calibrated (ohm-m)	
Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	11.9	58.8	5.0	25.0
Micro Inverse	15.5	76.9	5.0	25.0

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	77.5	77.5
Micro Inverse	59.2	59.2

Micro Normal and Micro Inverse Constants MMR-B.A 68

Last Edited on 11-NOV-2013,13:30

Pad Type	8-12 in Soft Rubber Inflatable 006-9011-159	
Micro Normal K Factor	1.0000	
Micro Inverse K Factor	1.0000	
Standoff Offset	0.0000	inches

Caliper Calibration MMR-B.A 68

Base Calibration on 11-NOV-2013 13:44
Field Calibration on 24-NOV-2013 04:21

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	14449	5.96
2	17823	7.98
3	21061	9.94
4	24937	11.91
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.94	7.98

Micro Laterolog Calibration MMR-B.A 68

Base Calibration on 31-DEC-1999 00:00
Field Check on 31-DEC-1999 00:00

Base Calibration

Measured		Calibrated (ohm-m)	
Ref 1	Ref 2	Ref 1	Ref 2
0.0	0.0	0.0	0.0

Base Check (ohm-m)	Field Check (ohm-m)
0.0	0.0

Micro Laterolog Constants MMR-B.A 68

Last Edited on

Pad Type	6 in Solid Nylon B23059	
Micro Laterolog K Factor	0.0128	
Standoff Offset	0.0000	inches

Mudcake Thickness Correction Constants

Mud Cake Source	Constant Value	
Mud Cake Thickness	0.4000	inches
Mud Cake Thickness Caliper		
Mud Cake Resistivity	0.1500	ohm-m
Mud Cake Resistivity Temp.	68.00	Deg F
Mud Cake Resistivity Source	Constant Value	
Temp. Source Rmc Correc.	MCG External Temperature	

Neutron Calibration MDN-A.B 55

Base Calibration on 05-NOV-2013 09:31
Field Check on 24-NOV-2013 04:42

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3153	94	3714	110
Ratio	33.699		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	2318	3491
Ratio	0.664	

Field Check

	Calibrated (cps)	
	1224	1844
Ratio	0.664	

Neutron Constants MDN-A.B 55

Last Edited on 24-NOV-2013,04:38

Neutron Source Id	P14033B	
Neutron Jig Number	N639	
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	0.00	kpsi
Temperature Source	MCG External Temperature	
Temperature	20.00	degrees F
Mud Salinity	0.00	kppm
Salinity Correction	Not Applied	
Formation Fluid Salinity Source	None	
Formation Fluid Salinity	0.00	kppm
Barite Mud Correction	Not Applied	

FE Calibration MFE-B.J 363

Base Calibration on 11-NOV-2013 14:25
Field Check on 24-NOV-2013 04:06

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	961.8	126.8
Base Check		282.3
Field Check		282.5

FE Constants MFE-B.J 363

Last Edited on 24-NOV-2013,12:25

Running Mode	No Sleeve	
MFE K Factor	0.1268	
Caliper Source for FE correction	Density Caliper	
Caliper Value for FE correction	N/A	inches
Rm Source for FE correction	Temperature Corr	
Temp. for Rm Corr.	MCG External Temperature	
Stand-off	0.5	inches

Sonic Constants MSS-C.K 336

Last Edited on 24-NOV-2013,04:47

Maximum Boundary Contrast	100.00	micro-sec/ft
Fluid Transit Time	189.00	micro-sec/ft
Limestone Transit Time	47.50	micro-sec/ft
Sandstone Transit Time	55.50	micro-sec/ft
Dolomite Transit Time	43.50	micro-sec/ft
Sonic used for Porosities	3-5' Compensated	
Correction for Sonde Skew	Applied	
Cycle Stretch Algorithm	Applied	
MN3FT	0.00	micro-sec
MX3FT	1500.00	micro-sec
Hunt-Raymer Constant	83.13	micro-sec/ft
Sonde Mode	Compensated	
Hole Type	Open Hole	

Sonde Parameters

	Measured	Calibrated
Offset	0.0000	0.0000
Free Pipe	0.0000	

Peak Amplitude Source

Waveform	Start Time (micro-sec)	Width (micro-sec)	Pre Gain	Start Gain	Discriminator (mV)
3'	N/A	N/A	N/A	N/A	N/A
4'	N/A	N/A	N/A	N/A	N/A
5'	N/A	N/A	N/A	N/A	N/A
6'	N/A	N/A	N/A	N/A	N/A

Processed Fixed Gate Parameters

Waveform Used For Processing N/A

Start Time (micro-sec)	End Time (micro-sec)	Discriminator (mV)	Depth (ft)
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
0.00	0.00	0.00	

Full Waveform Parameters

Use 3' Waveform to derive TR	No	
Use 4' Waveform to derive TR	No	
Use 5' Waveform to derive TR	No	
Use 6' Waveform to derive TR	No	
3' Waveform Discriminator Level	0.30	mV
4' Waveform Discriminator Level	0.30	mV
5' Waveform Discriminator Level	0.15	mV
6' Waveform Discriminator Level	0.15	mV
3' Waveform Filter		
4' Waveform Filter		
5' Waveform Filter		
6' Waveform Filter		
Semblance Level	0.50	
Semblance Window Width	120.00	micro-sec
Sonic 1 Despiker	100.00	micro-sec/ft
Sonic 2 Despiker	100.00	micro-sec/ft

High Resolution Temperature Calibration MAI-A.A 66

Field Calibration on 24-NOV-2013,04:01

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	100.00	100.00

High Resolution Temperature Constants MAI-A.A 66

Last Edited on 24-NOV-2013,12:25

Pre-filter Length	11

Induction Calibration MAI-A.A 66

Base Calibration on 20-NOV-2013,10:21
Field Check on 24-NOV-2013 04:04

Base Calibration

Test Loop Calibration

Channel	Measured Low	Measured High	Calibrated (mmho/m) Low	Calibrated (mmho/m) High
1	16.3	454.6	9.3	966.2
2	5.6	370.2	7.6	821.4
3	3.7	253.8	5.2	566.0
4	1.9	131.5	2.6	279.2

Array Temperature 78.4 Deg F

Channel	Base Check (mmho/m) Low	Base Check (mmho/m) High	Field Check (mmho/m) Low	Field Check (mmho/m) High
1			14.5	4010.7
2			31.9	3652.9
3			28.5	3136.4
4			19.9	2112.6
Deep			16.3	2024.4
Medium			42.0	4148.6
Shallow			49.5	5431.5

Array Temperature 61.1 Deg F

Induction Constants MAI-A.A 66

Last Edited on 24-NOV-2013,12:25

Induction Model	RtAP-WBM	
Caliper for Borehole Corr.	Density Caliper	
Hole Size for Borehole Correction	N/A	inches
Tool Centred	No	
Stand-off Type	Fins	
Stand-off	0.50	inches
Number of Fins on Stand-off	6.0000	
Stand-off Fin Angle	60.00	degrees
Stand-off Fin Width	0.5000	inches
Borehole Corr. Rm Source	Temperature Corr	
Temp. for Rm Corr.	MCG External Temperature	
Squasher Start	0.0020	mhos/metre
Squasher Offset	N/A	mhos/metre

Borehole Normalisation

DRM1	0.0000	DRC1	0.0000

DRM2	0.0000	DRC2	0.0000
MRM1	0.0000	MRC1	0.0000
MRM2	0.0000	MRC2	0.0000
SRM1	0.0000	SRC1	0.0000
SRM2	0.0000	SRC2	0.0000

Calibration Site Corrections

Channel 1	0.00	mmhos/metre
Channel 2	0.00	mmhos/metre
Channel 3	0.00	mmhos/metre
Channel 4	0.00	mmhos/metre

Apparent Porosity and Water Saturation Constants

Archie Constant (A)	1.00	
Cementation Exponent (M)	2.00	
Saturation Exponent (N)	2.00	
Saturation of Water for Apor	100.00	percent
Resistivity of Water for Apor and Sw	0.05	ohm-m
Resistivity of Mud Filtrate for Sw	0.00	ohm-m
Source for Rt	0.00	
Source for Rxo	0.00	

Caliper Calibration MPD-D.A 479

Base Calibration on 11-NOV-2013 10:57
Field Calibration on 24-NOV-2013 04:23

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	20407	4.01
2	30283	5.96
3	40519	7.98
4	50622	9.94
5	61338	11.91
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
5.92	5.96

Photo Density Calibration MPD-D.A 479

Base Calibration on 11-NOV-2013 12:18
Field Check on 24-NOV-2013 04:28

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	46411	23497	59869	31110
Reference 2	20026	2610	24557	2522

Field Check at Base

1252.1	1508.9

Field Check

1257.4	1527.1

PE Calibration

Base Calibration	Measured			Calibrated
	WS	WH	Ratio	Ratio
Background	241	1108		
Reference 1	19998	46209	0.438	0.369
Reference 2	6006	19874	0.307	0.271

Field Check at Base

241.3	1108.0

Field Check

240.9	1113.8

Density Constants MPD-D.A 479

Last Edited on 24-NOV-2013,12:25

Density Source Id	260
Nylon Calibrator Number	DNCE 633
Aluminium Calibrator Number	DACD 633
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

DOWNHOLE EQUIPMENT

C:\Program Files\Weatherford\WLS 13.06\DATA\Taos Brothers Dairy 36-1\MAIN.dta

Compact Comms Gamma
MCG-C 86 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Micro-Resistivity
MMR-B.A 68 LG: 8.59 ft WT: 81.6 lb OD: 4.88 in

Compact Neutron
MDN-A.B 55 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

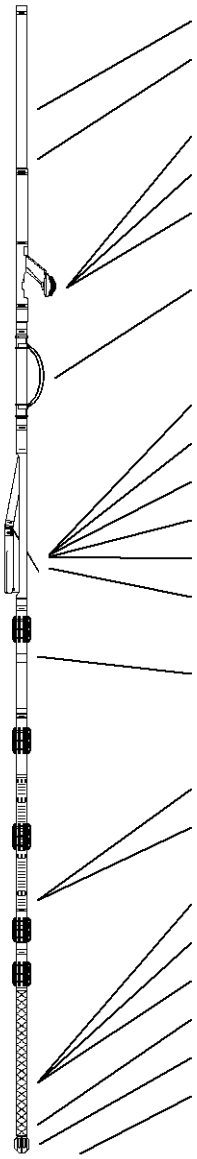
Compact Density/Caliper
MPD-D.A 479 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

Compact Focussed Electric
MFE-B.J 363 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Sonic
MSS-C.K 336 LG: 12.52 ft WT: 72.8 lb OD: 2.24 in

Compact Induction
MAI-A.A 66 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 61.30 ft Weight: 456.4 lb



56.02 ft	GRGC - Gamma Ray
53.11 ft	CGXT - MCG External Temperature
45.76 ft	MBTC - MMR Caliper
45.76 ft	MINV - MMR MicroLog Inverse
45.76 ft	MNRL - MMR MicroLog Normal
40.97 ft	NPRL - Limestone Neutron Por.
33.73 ft	CLDC - Density Caliper
33.73 ft	AVOL - Annular Volume
33.73 ft	HVOL - Hole Volume
31.80 ft	DPRL - Limestone Density Por.
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	R40O - Array Ind. One Res 40
3.34 ft	RTAO - Array Ind. One Res Rt
3.34 ft	R60O - Array Ind. One Res 60
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	TAOS RESOURCES OPERATING COMPANY, LLC
WELL	BROTHERS DAIRY 36-1
FIELD	BURDEN

FIELD	BURDEN
PROVINCE/COUNTY	COWLEY
COUNTRY/STATE	USA / KANSAS

Elevation Kelly Bushing	1374.00	feet	First Reading	3603.00	feet
Elevation Drill Floor	1372.00	feet	Depth Driller	3606.00	feet
Elevation Ground Level	1365.00	feet	Depth Logger	3606.00	feet

Weatherford®

COMPOSITE LOG

DENSITY / NEUTRON

INDUCTION / MICRO-LOG