WIRELINE LOGGING SOLUTIONS

COMPOSITE

COMPANY	NAVEX RESOURCES LLC
WELL	PFAFFLY #1-12
FIELD	NORTH CHEYENNE PROJECT/ PFAFFLY PROSPECT
COUNTY	KIT CARSON
STATE	COLORADO
LOCATION	1602' FSL & 1269' FWL

SEC 12	TWP 11S	RGE 46W	Other Services
Latitude	39.1037632		
Longitude	-102.5167609		
API Number	05-063-06363		

Permanent Datum GL, Elevation 4466.9 feet
Log Measured From KB, 12.10 feet above Permanent Datum
Drilling Measured From KB

Elevations:	feet
KB	4479.00
DF	4479.00
GL	4466.90

Date	26-MAY-2023				
Run Number	ONE				
Service Order	T1-230526WFT				
Depth Driller	6076.00	feet			
Depth Logger	6082.00	feet			
First Reading	6078.00	feet			
Last Reading	648.00	feet			
Casing Driller	651.00	feet			
Casing Logger	648.00	feet			
Bit Size	7.875	inches			
Hole Fluid Type	WBM				
Density / Viscosity	9.10	lb/USg	63.00	sec/qt	
PH / Fluid Loss	10.00		8.00	ml/30Min	
Sample Source	FLOWLINE				
Rm @ Measured Temp	0.71 @ 86.0	ohm-m			
Rmf @ Measured Temp	0.61 @ 86.0	ohm-m			
Rmc @ Measured Temp	1.01 @ 86.0	ohm-m			
Source Rmf / Rmc	CALC		CALC		
Rm @ BHT	0.36 @154.0	ohm-m			
Time Since Circulation	8 HRS				
Max Recorded Temp	154.00	deg F			
Equipment / Base	10001		OKC		
Recorded By	B. GRAHMANN				
Witnessed By	CRAIG ADAMS				
Rig Name	DUKE #9				

BOREHOLE RECORD

Last Edited: 26-MAY-2023 11:08

Bit Size inches	Depth From feet	Depth To feet
12.250	0.00	651.00
7.875	651.00	6076.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	651.00	36.00

REMARKS

WWLS VERSION 21.11

- TOOLSTRING:
  RUN 1 : MAI, MSS, MFE, SKJ, MVC, MPD, MDN, MMR, MCG, SHA, MTA, CBHC

- HARDWARE USED:
  MAI: 1" STANDOFF
  MFE: 1" STANDOFF
  MSS: 1" STANDOFFS
  MDN: DUAL ECCENTERED BOWSPRING

- 2.71 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY.

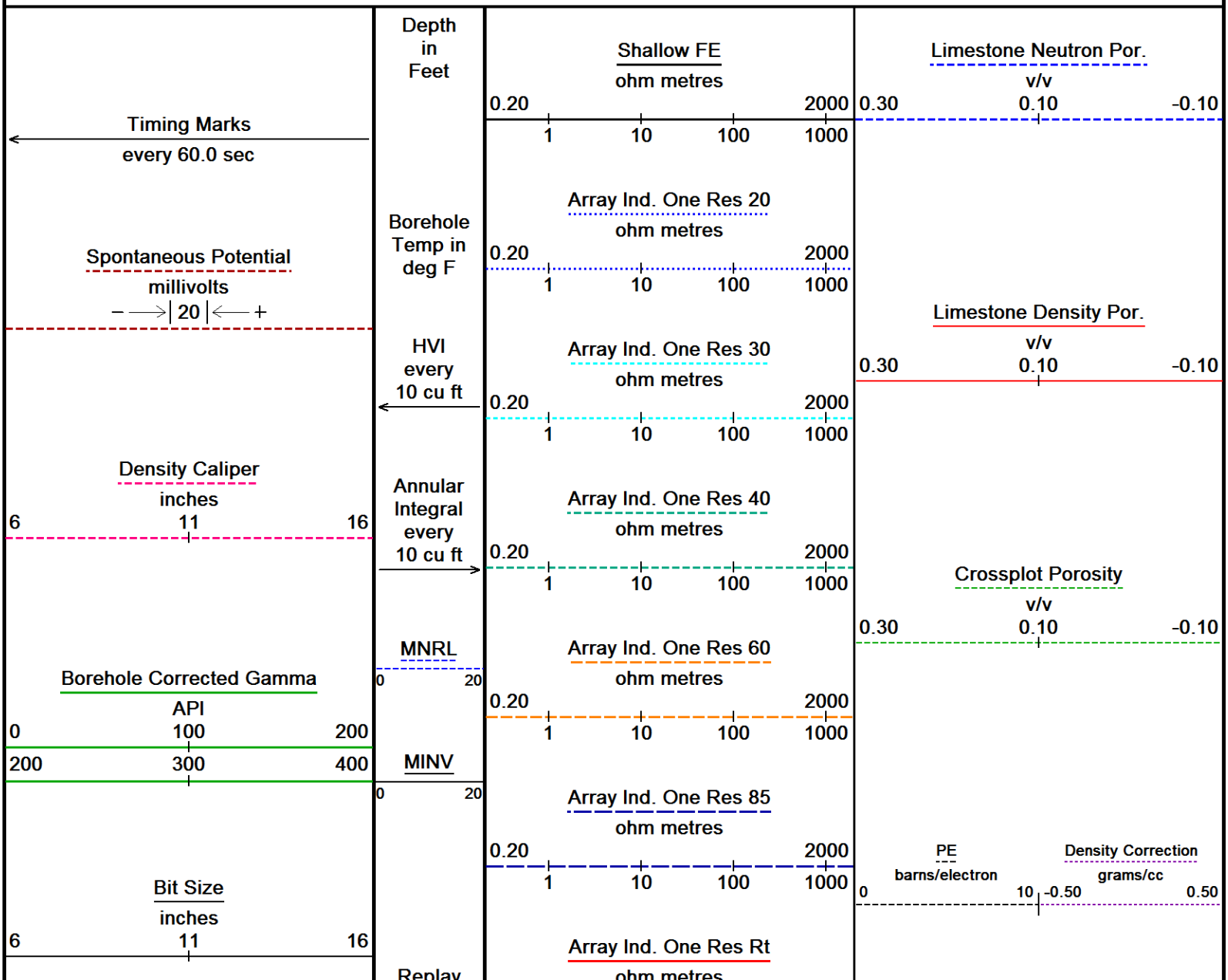
- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO SURFACE CASING

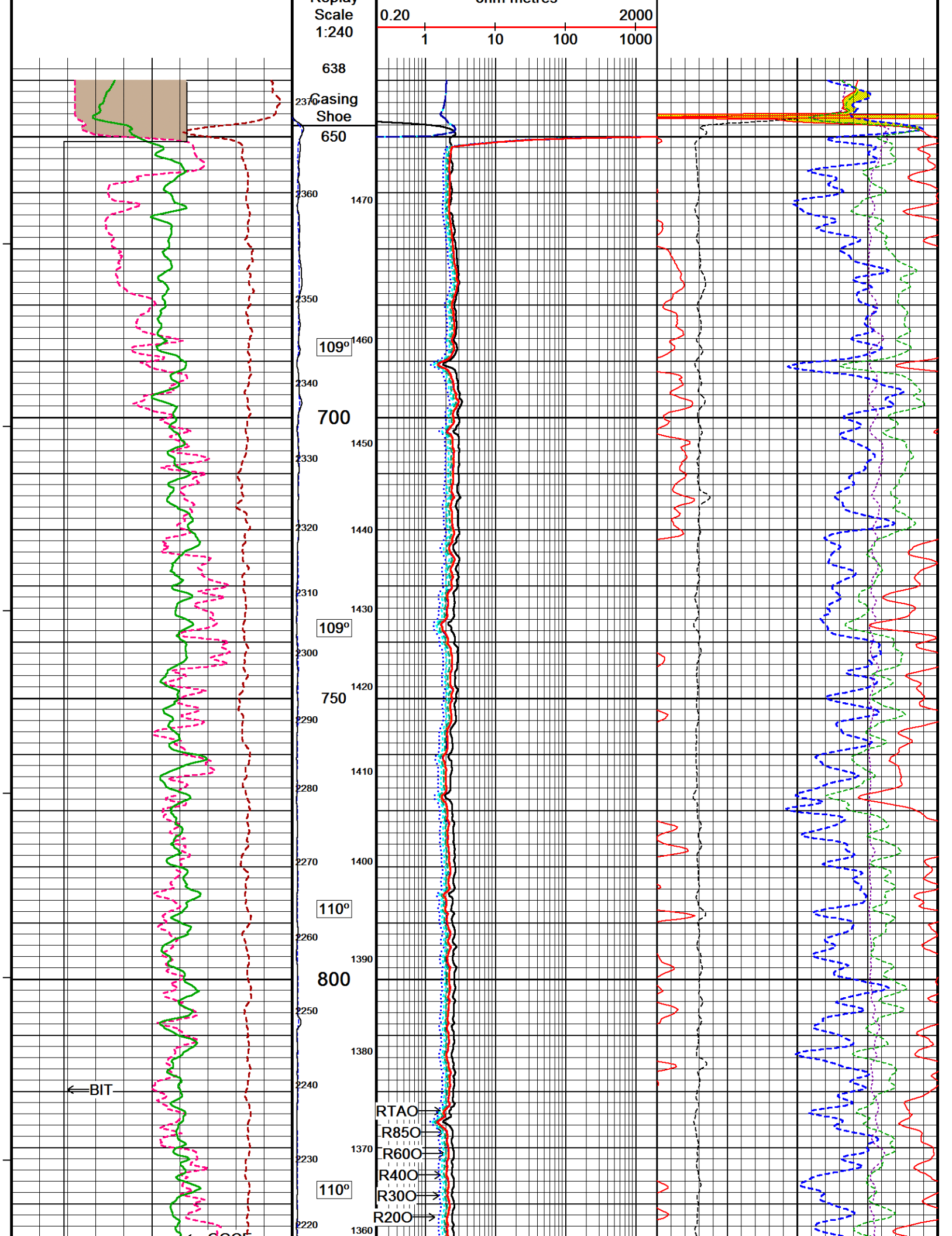
- CREW
J. WILLIS, D. STEELE

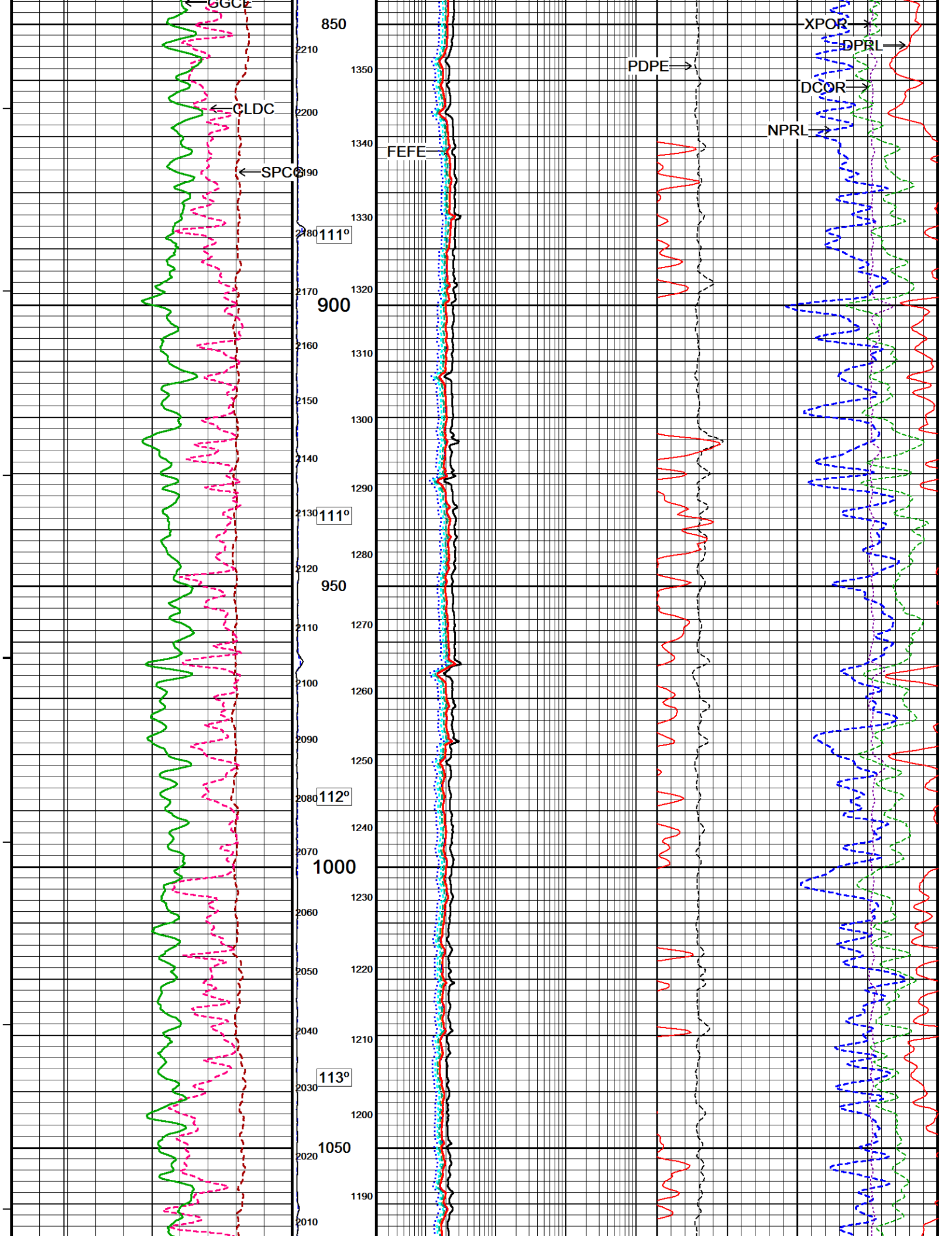
5 INCH MAIN PASS

Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:_LOGS\Trek Resources\Pfaffly #1-12\MainPass.dta
System Versions: Logged with 21.11.3172 Plotted with 21.11.3172

Plotted on 26-MAY-2023 17:07
Recorded on 26-MAY-2023 13:17




Replay
Scale
1:240
ohm metres
0.20
2000
1
10
100
1000
638
Casing
Shoe
650
700
750
800
109°
109°
110°
110°
2370
2360
2350
2340
2330
2320
2310
2300
2290
2280
2270
2260
2250
2240
2230
2220
1470
1460
1450
1440
1430
1420
1410
1400
1390
1380
1370
1360
BIT
RTAO
R85O
R60O
R40O
R30O
R20O


GGCE
CLDC
SPCG
FEFE
PDPE
XPOR
DPRL
DCOR
NPRL
850
900
950
1000
1050
111°
111°
112°
113°
2210
2200
2190
2180
2170
2160
2150
2140
2130
2120
2110
2100
2090
2080
2070
2060
2050
2040
2030
2020
2010
1350
1340
1330
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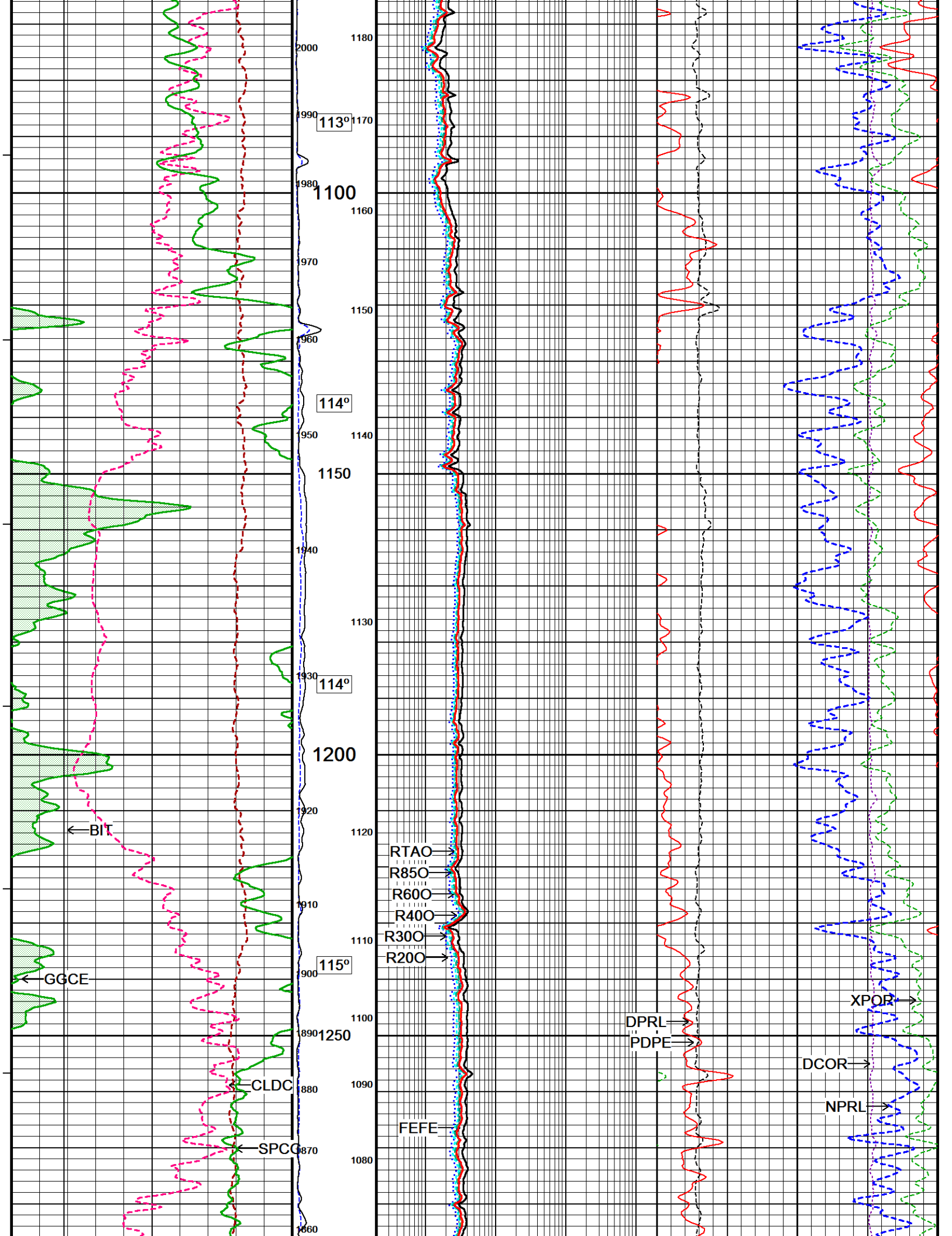
1300
1290
1280
1270
1260
1250
1240
1230
1220
1210
1200
1190


2000
1990
113°
1980
1100
1970
1960
114°
1950
1150
1940
1930
114°
1200
1920
1910
1900
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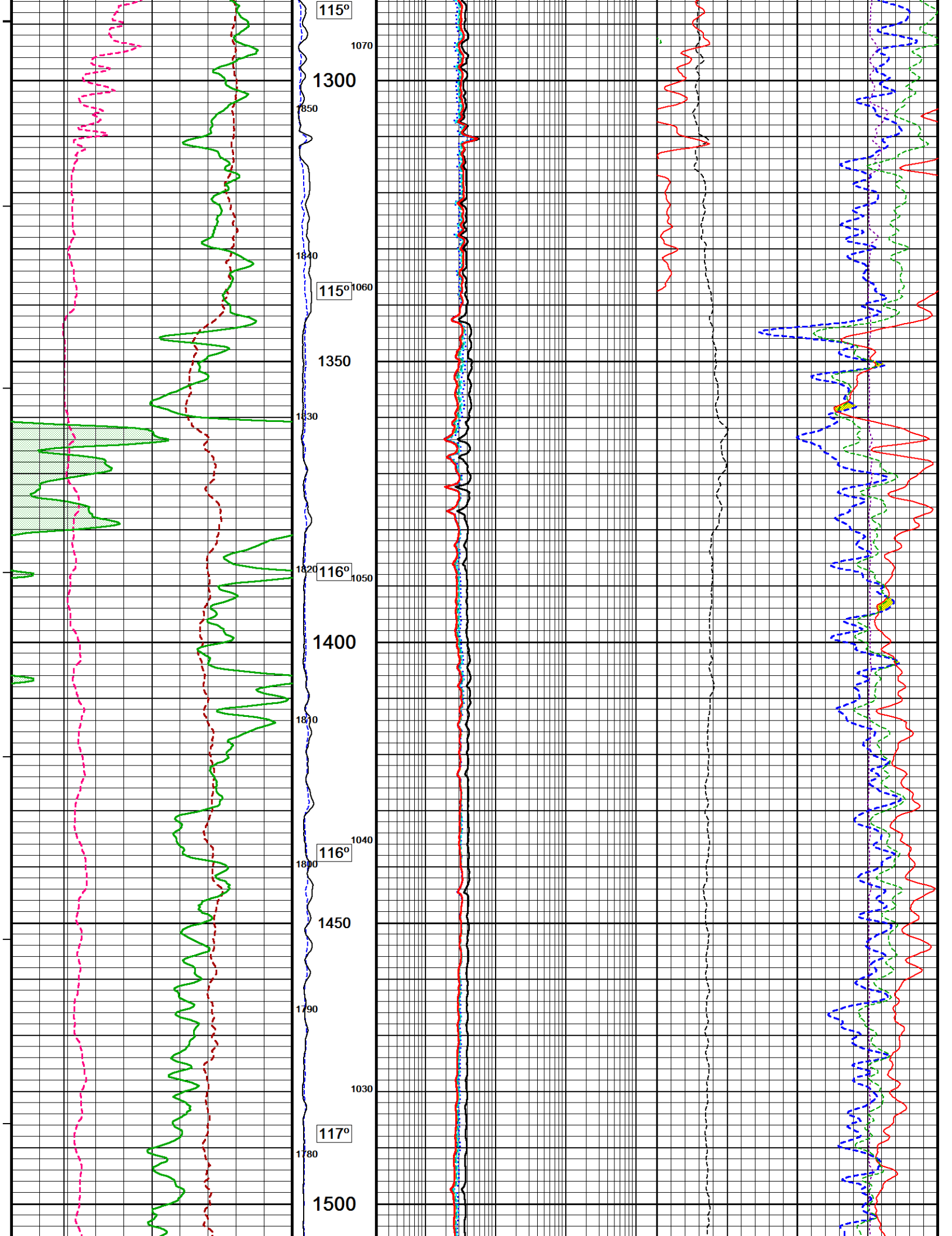
1890
1250
1880
1870
1860
1180
1170
1160
1150
1140
1130
1120
1110
1100
1090
1080
BIT
GGCE
CLDC
SPCG
RTAO
R85O
R60O
R40O
R30O
R20O
FEFE
DPRL
PDPE
XPOR
DCOR
NPRL


115°
1070
1300
1850
1840
115°
1060
1350
1830
1820
116°
1050
1400
1810
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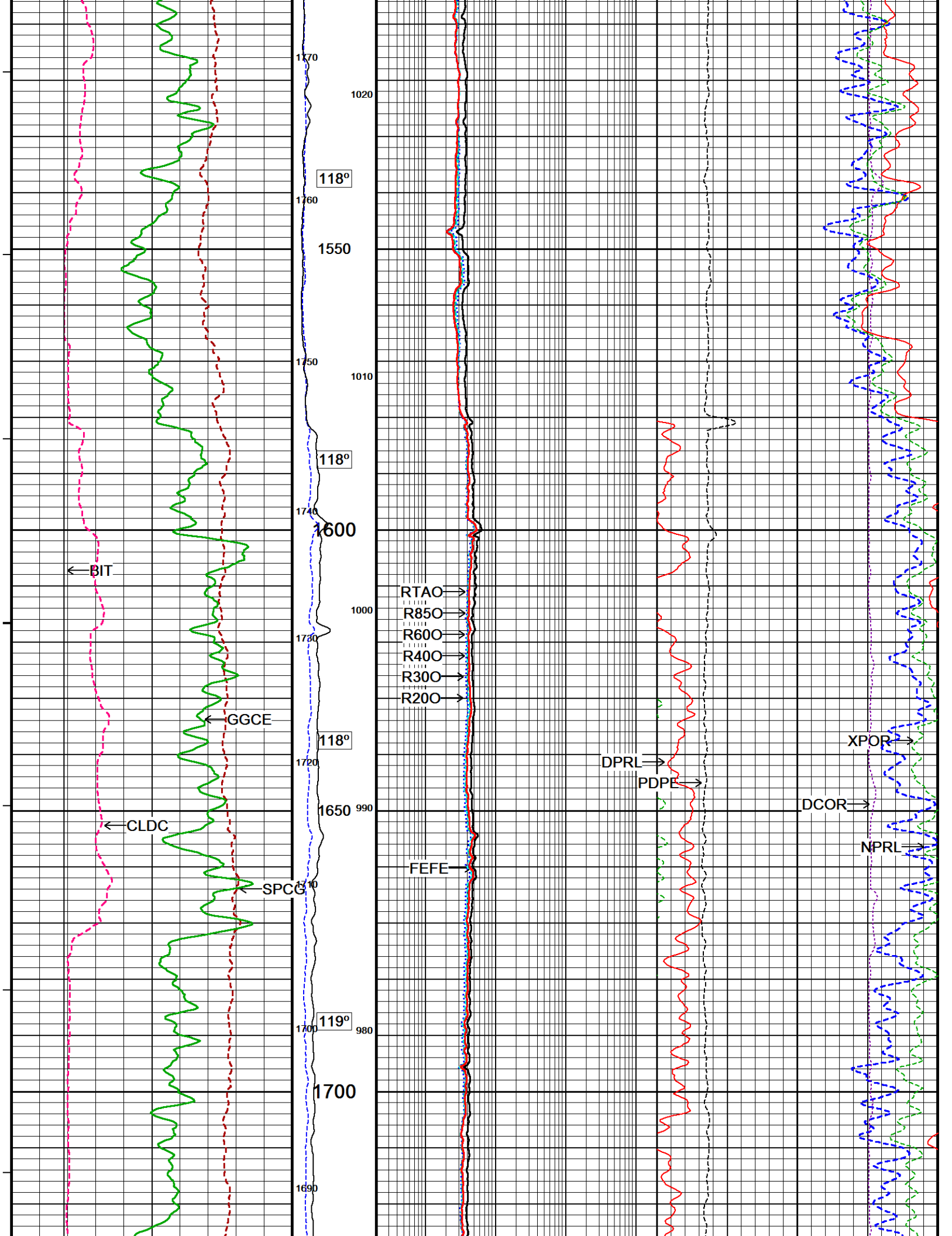
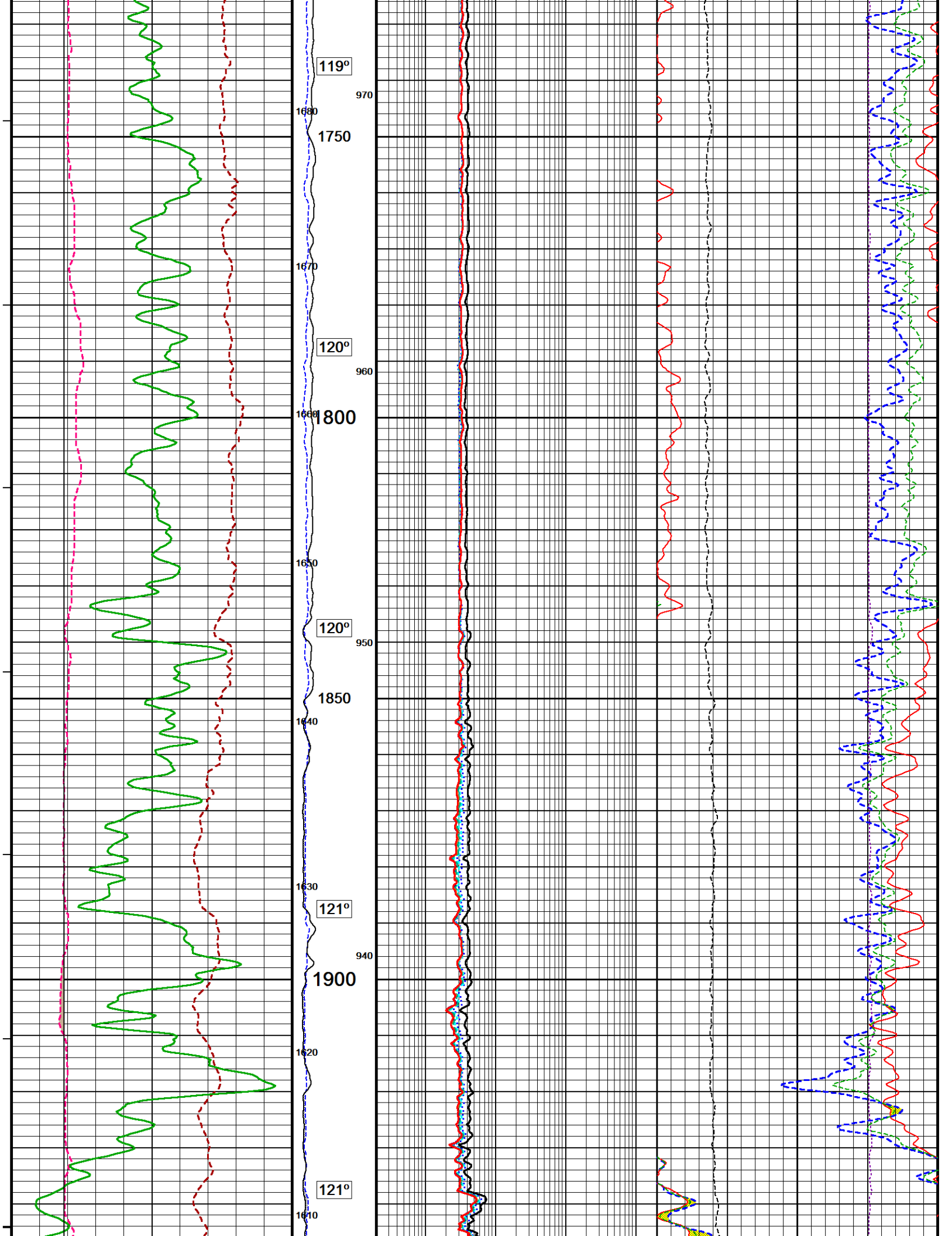
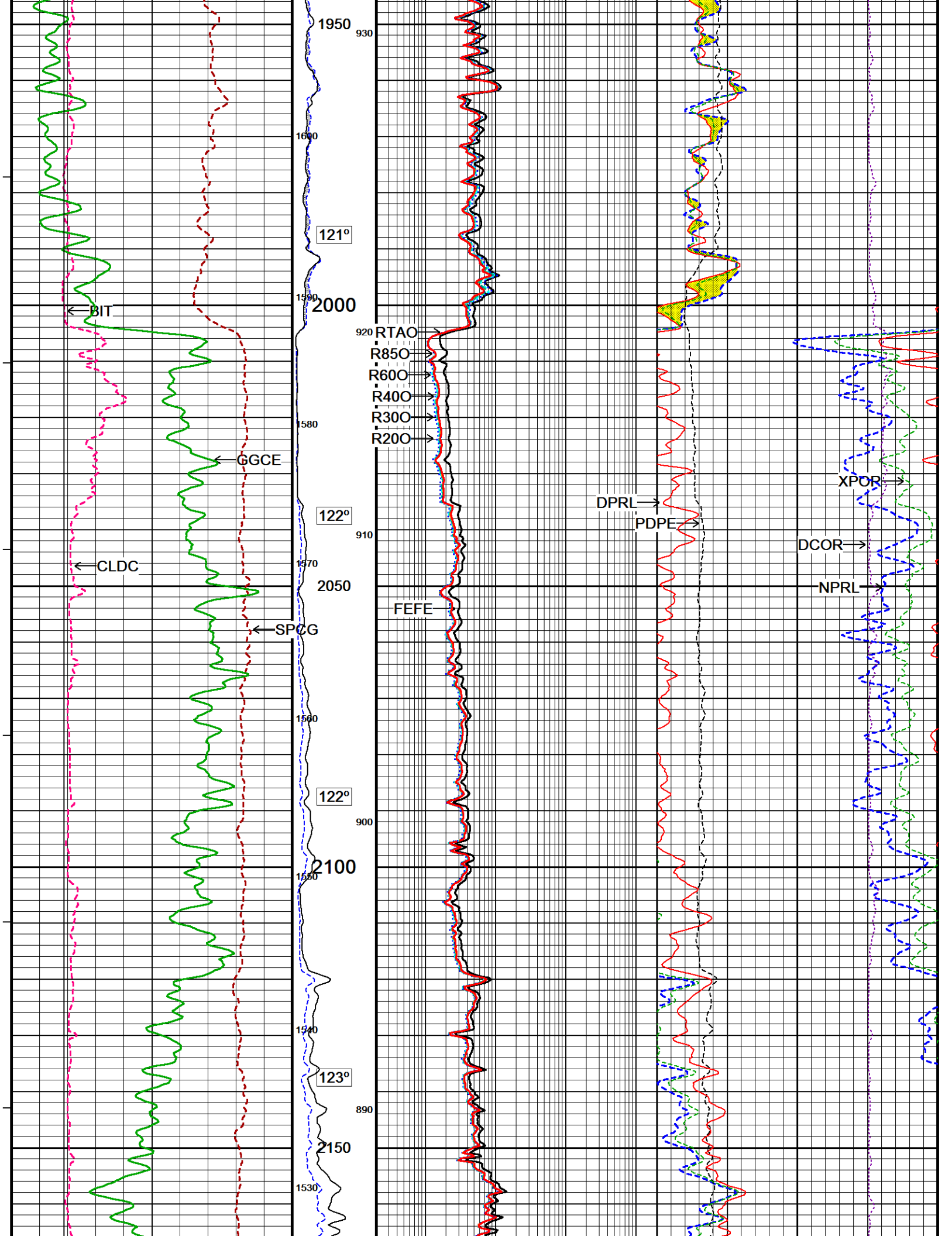
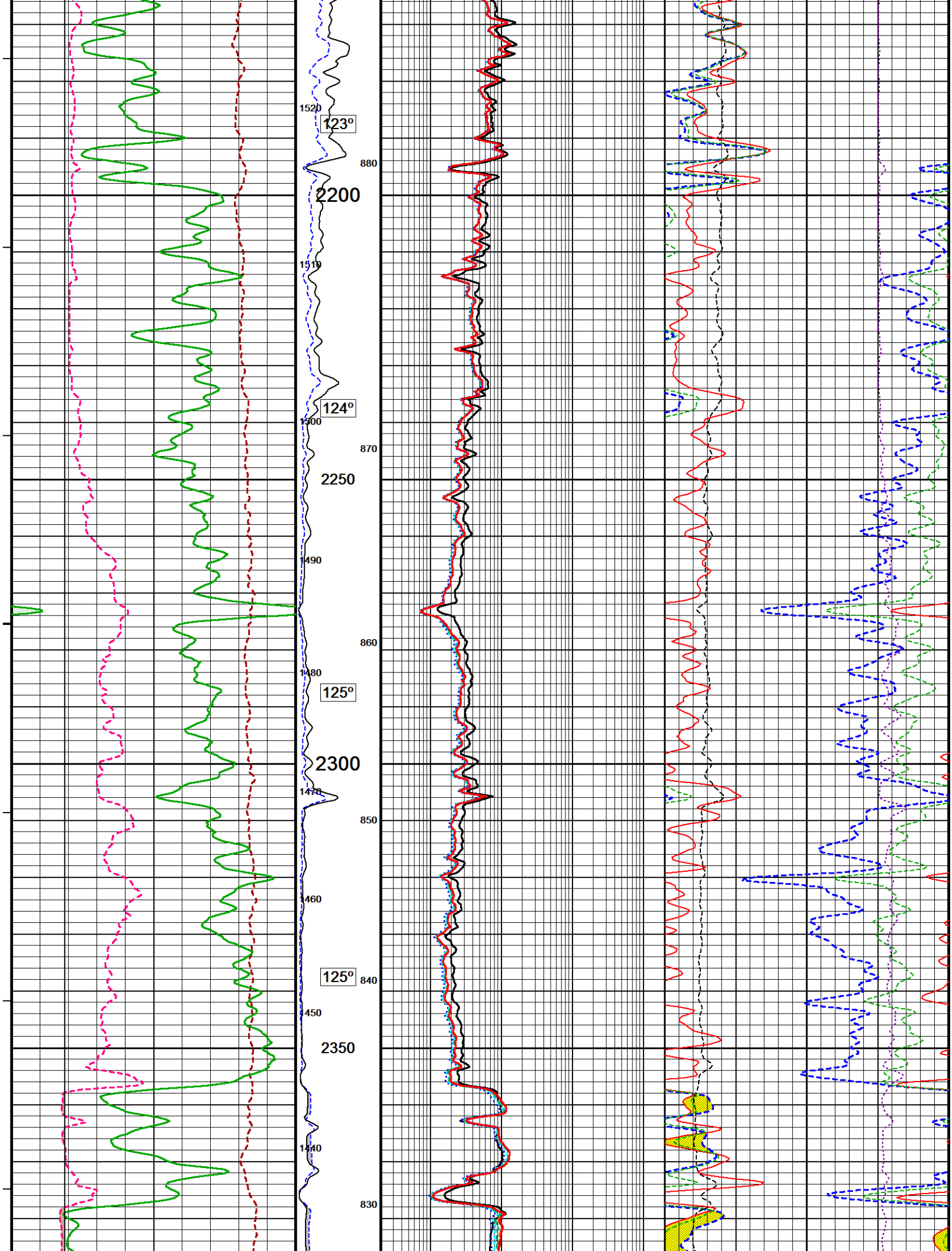
116°
1800
1450
1790
1030
117°
1780
1500


1770
1760
1750
1740
1730
1720
1710
1700
1690
1020
1010
1000
990
980
118°
118°
118°
119°
1550
1600
1650
1700
BIT
GGCE
CLDC
SPCG
RTAO
R85O
R60O
R40O
R30O
R20O
FEFE
DPRL
PDPE
XPOR
DCOR
NPRL


119º
1680
1750
1670
120º
960
1660
1800
1650
120º
950
1850
1640
1630
121º
940
1900
1620
121º
1610
970


1950
1690
121°
2000
1590
BIT
920
RTAO
R85O
R60O
R40O
R30O
R20O
1580
GGCE
122°
910
CLDC
1570
2050
FEFE
SPCG
1560
122°
900
2100
1550
1540
123°
890
2150
1530
930
DPRL
PDPE
XPOR
DCOR
NPRL


1520
123°
880
2200
1510
1500
124°
870
2250
1490
860
1480
125°
2300
1470
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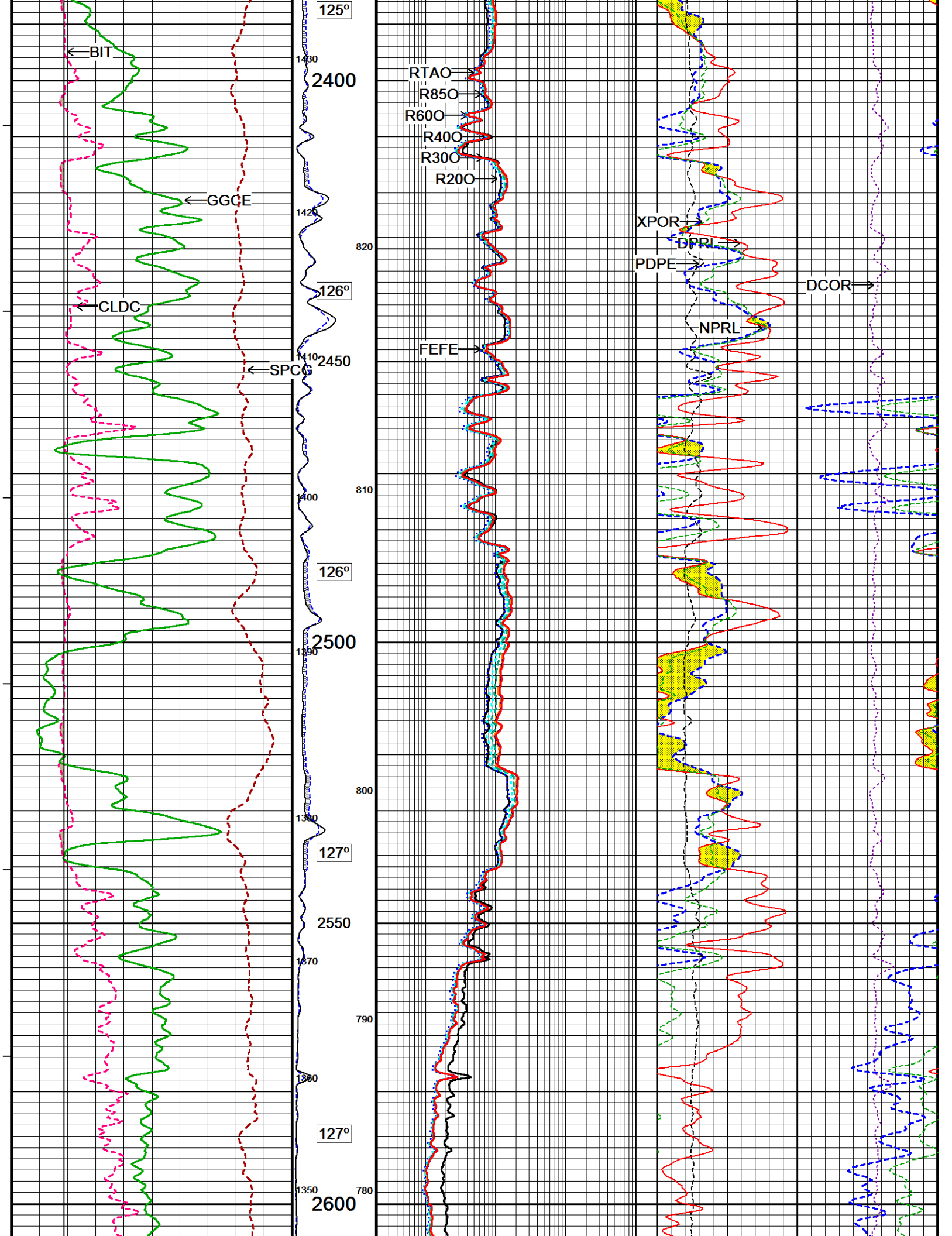
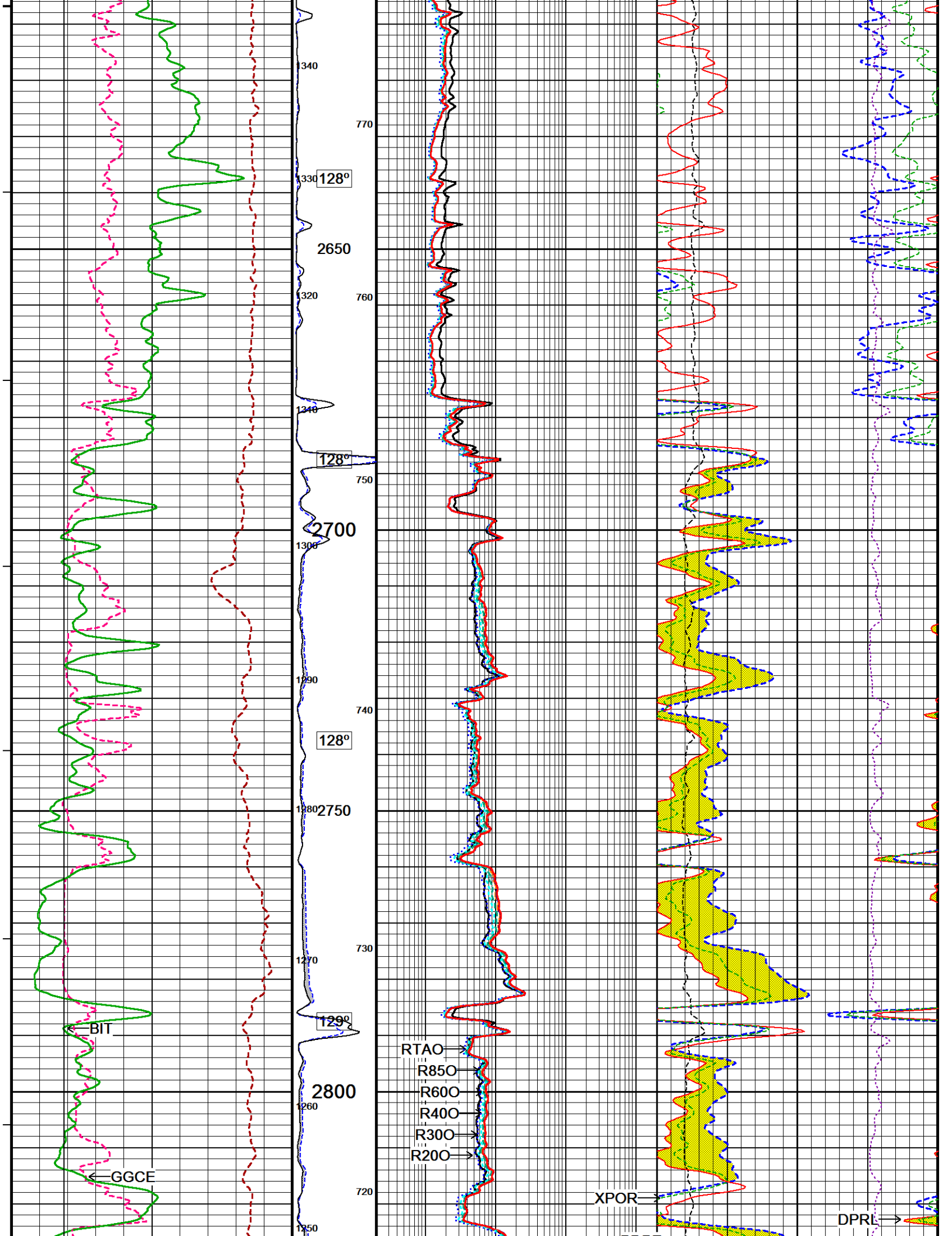
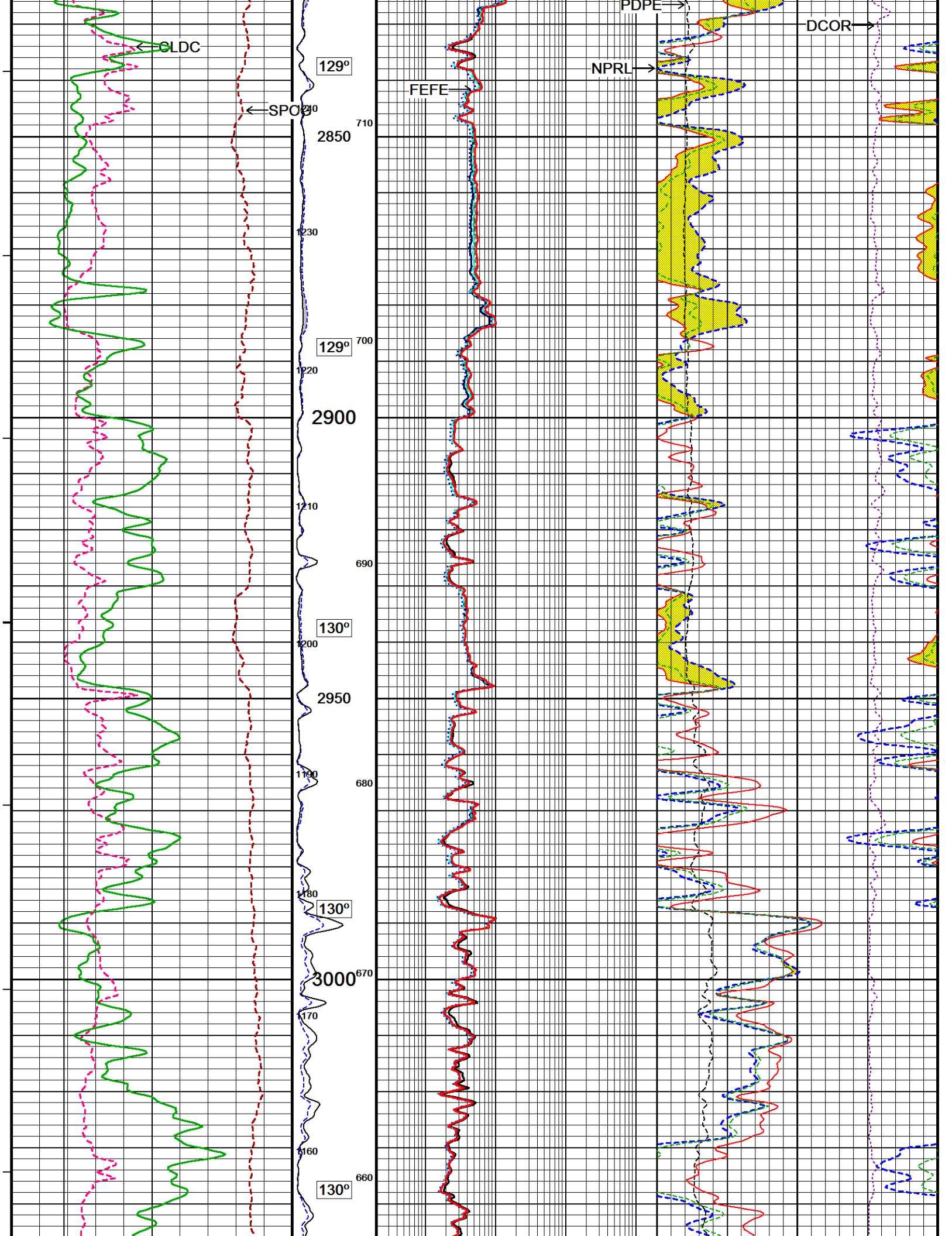
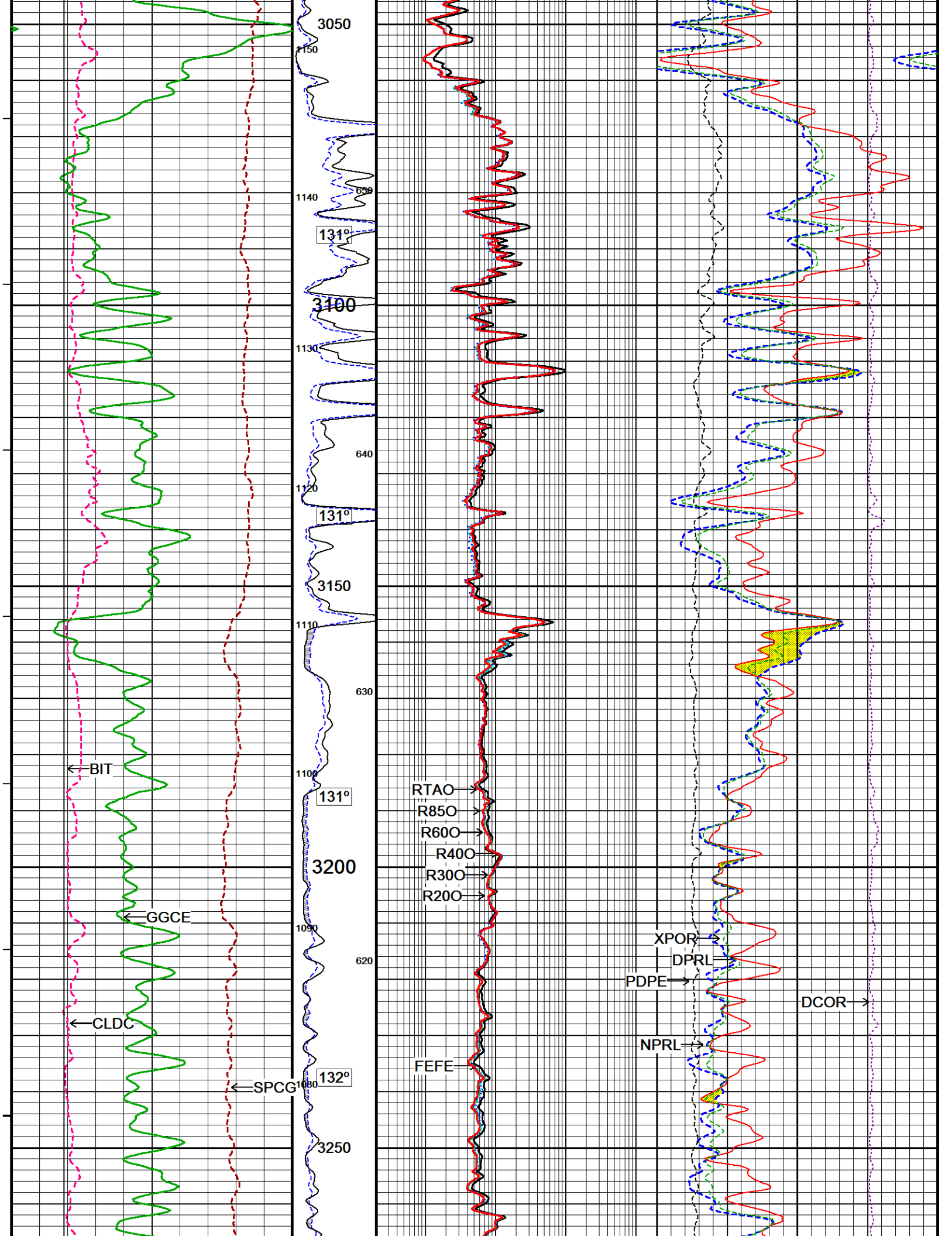
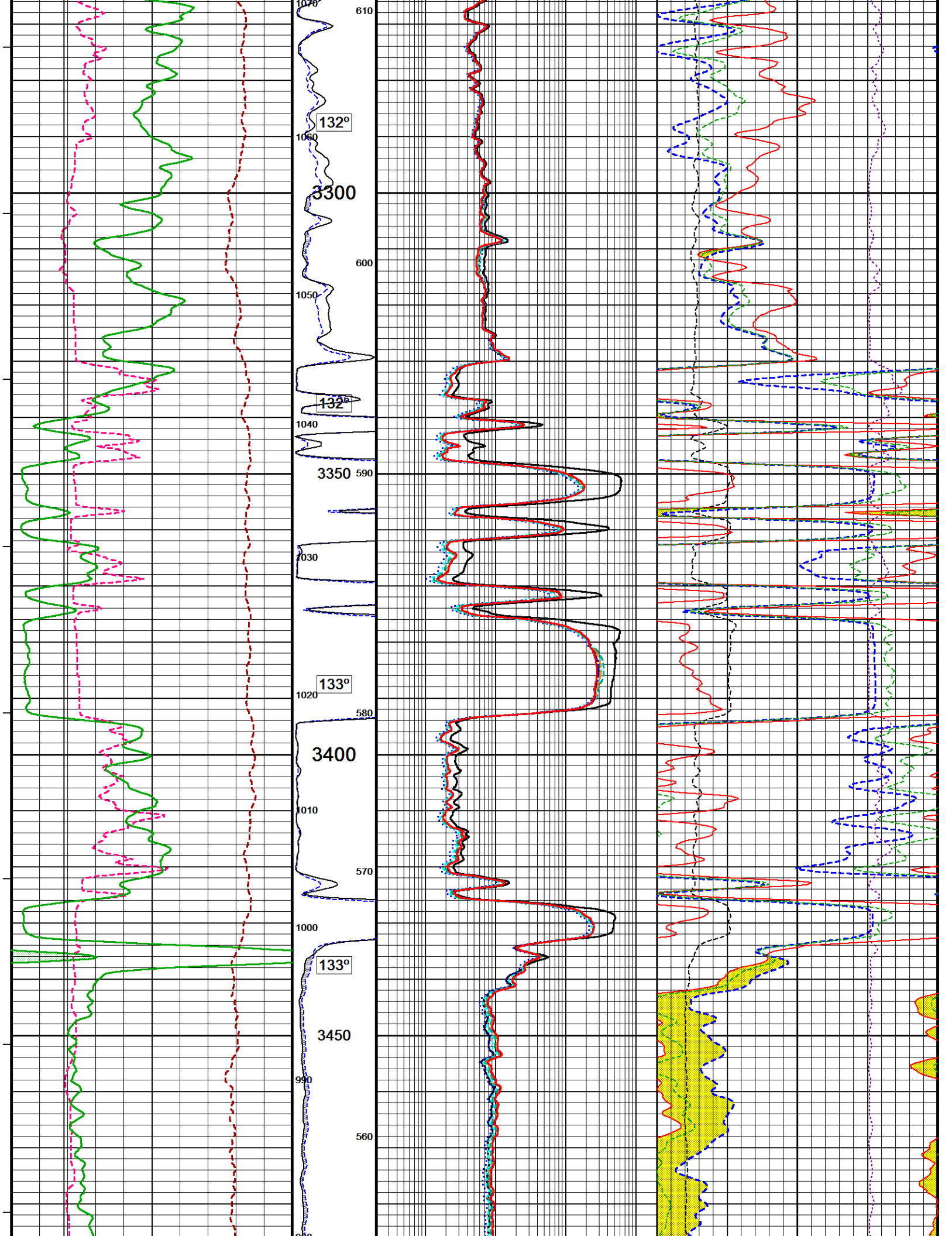
125°
840
1450
2350
1440
830


BIT
GGCE
CLDC
SPCG
125°
126°
126°
127°
127°
2400
2450
2500
2550
2600
1460
1420
1410
1400
1390
1380
1370
1360
1350
RTAO
R85O
R60O
R40O
R30O
R20O
FEFE
XPOR
DPRL
PDPE
NPRL
DCOR
820
810
800
790
780


1340
770
1330
128°
2650
1320
760
1310
128°
750
2700
1300
1290
740
128°
1280
2750
730
1270
129°
2800
1260
720
1250
BIT
RTAO
R85O
R60O
R40O
R30O
R20O
GGCE
XPOR
DPRL


CLDC
SPOR
FEFE
PDPE
NPRL
DCOR
129°
129°
130°
130°
130°
2850
2900
2950
3000
1230
1220
1210
1200
1190
1180
1170
1160
710
700
690
680
670
660


3050
1150
1140
131°
3100
1130
640
1120
131°
3150
1110
630
1100
131°
3200
1090
620
1080
132°
3250
BIT
GGCE
CLDC
SPCG
RTAO
R85O
R60O
R40O
R30O
R20O
FEFE
XPOR
DPRL
PDPE
DCOR
NPRL


1070
610
132°
1060
3300
600
1050
132°
1040
3350
590
1030
133°
1020
580
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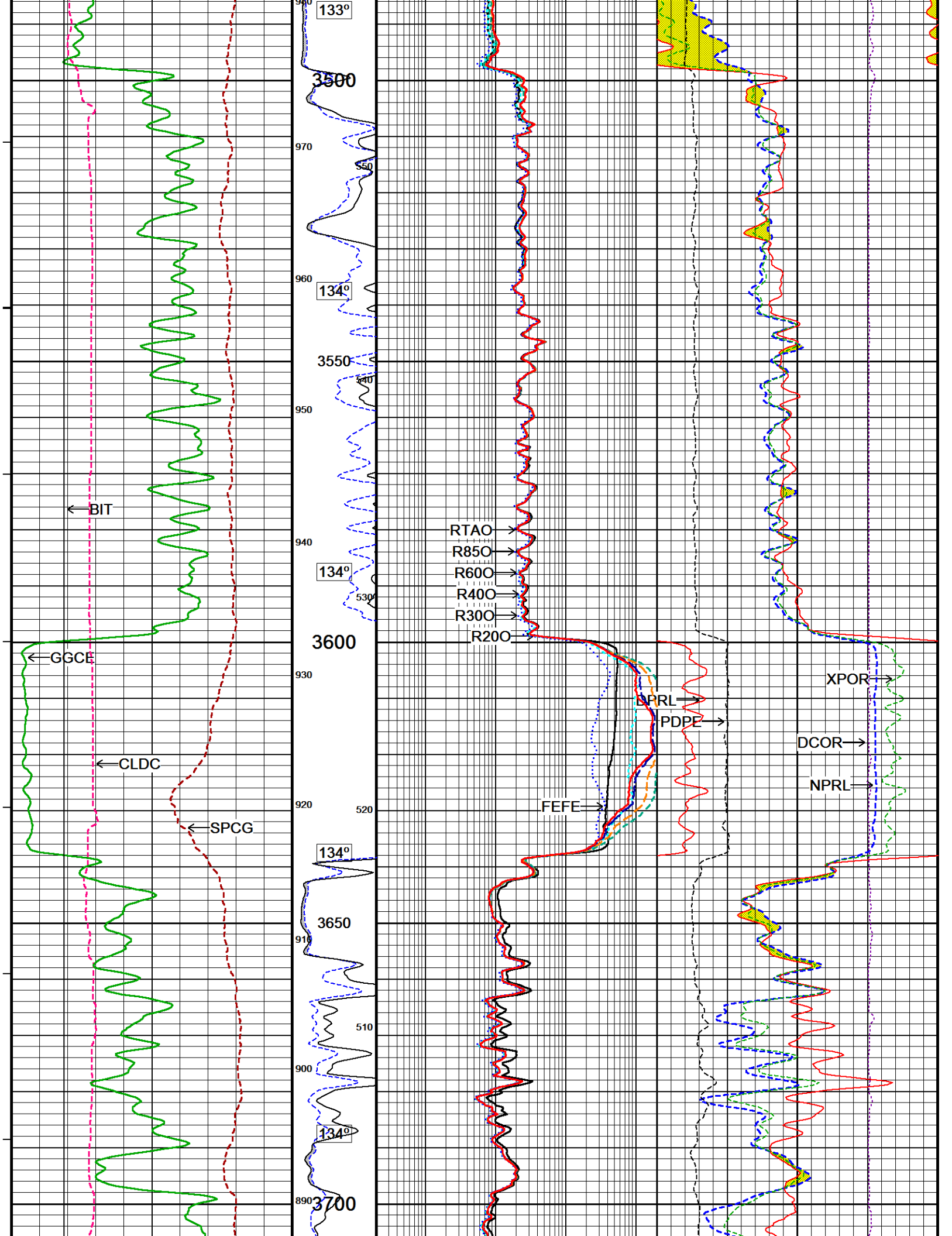
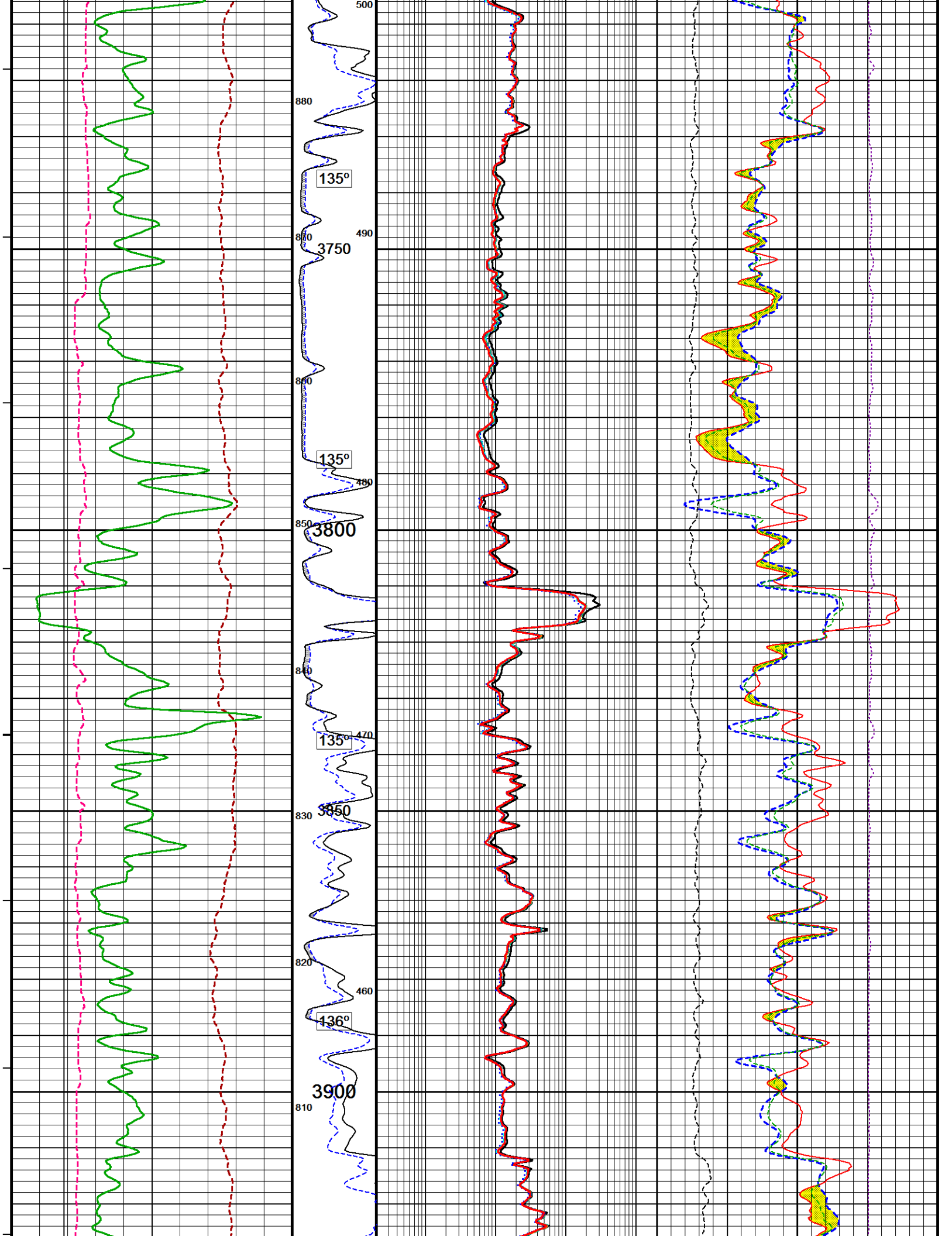
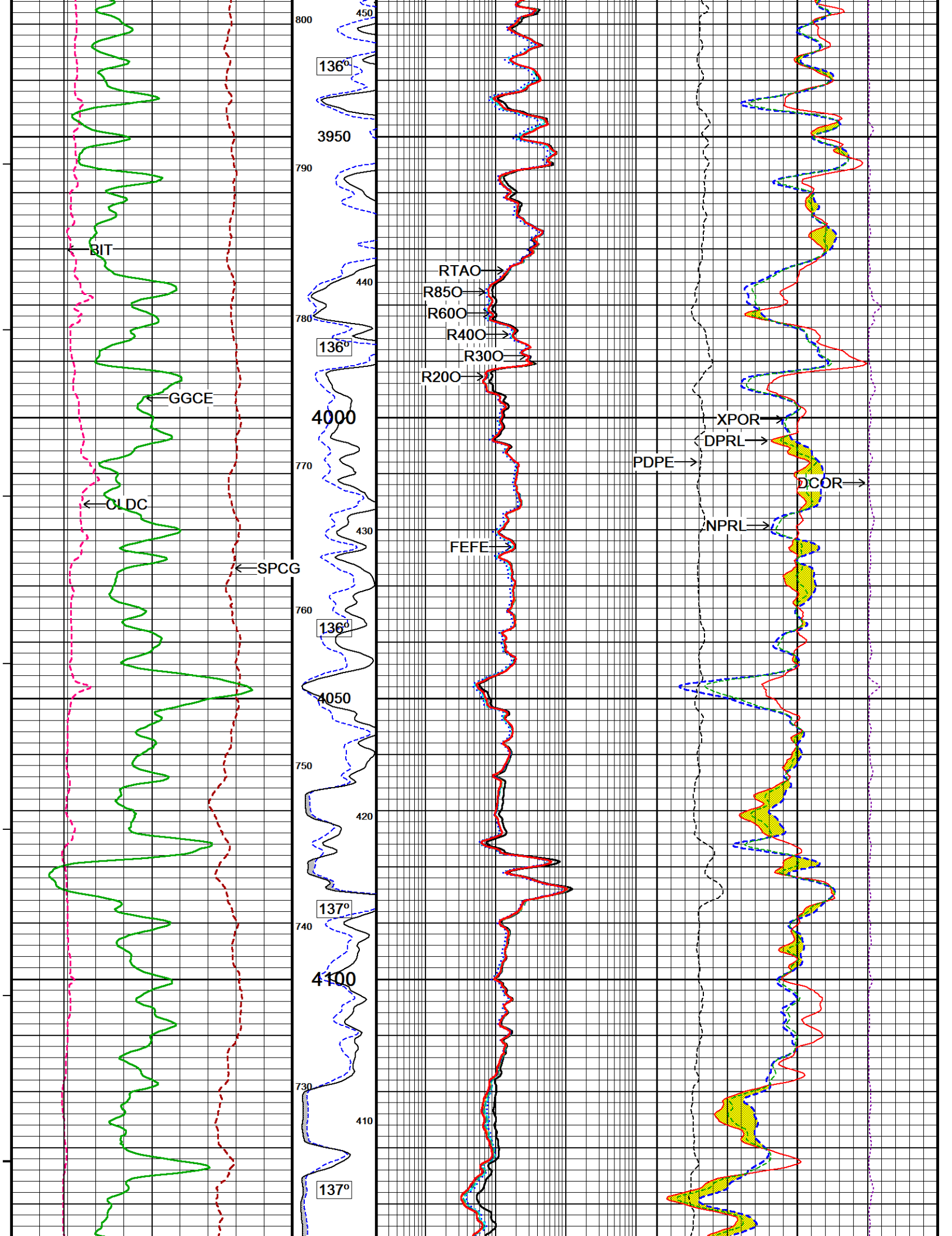
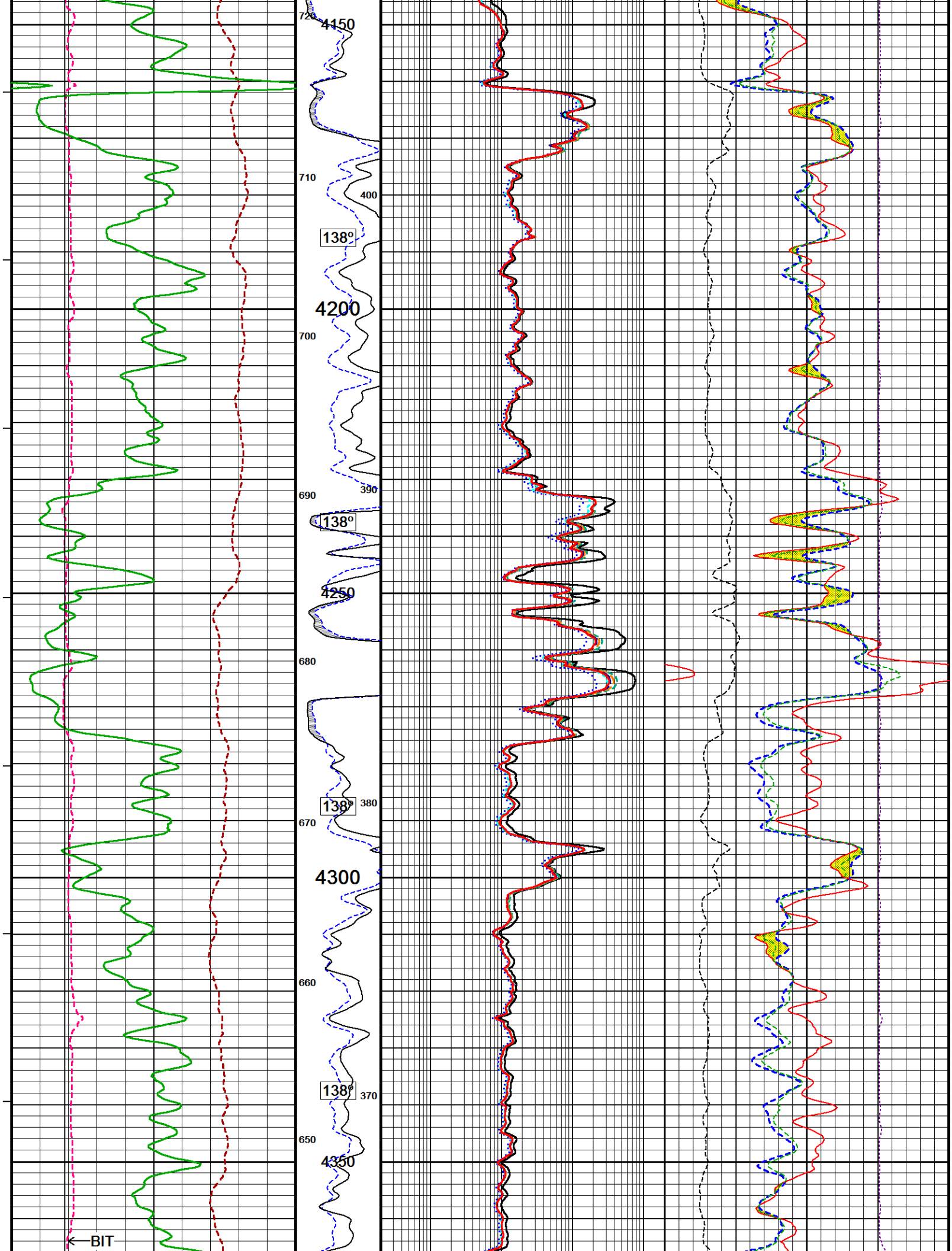
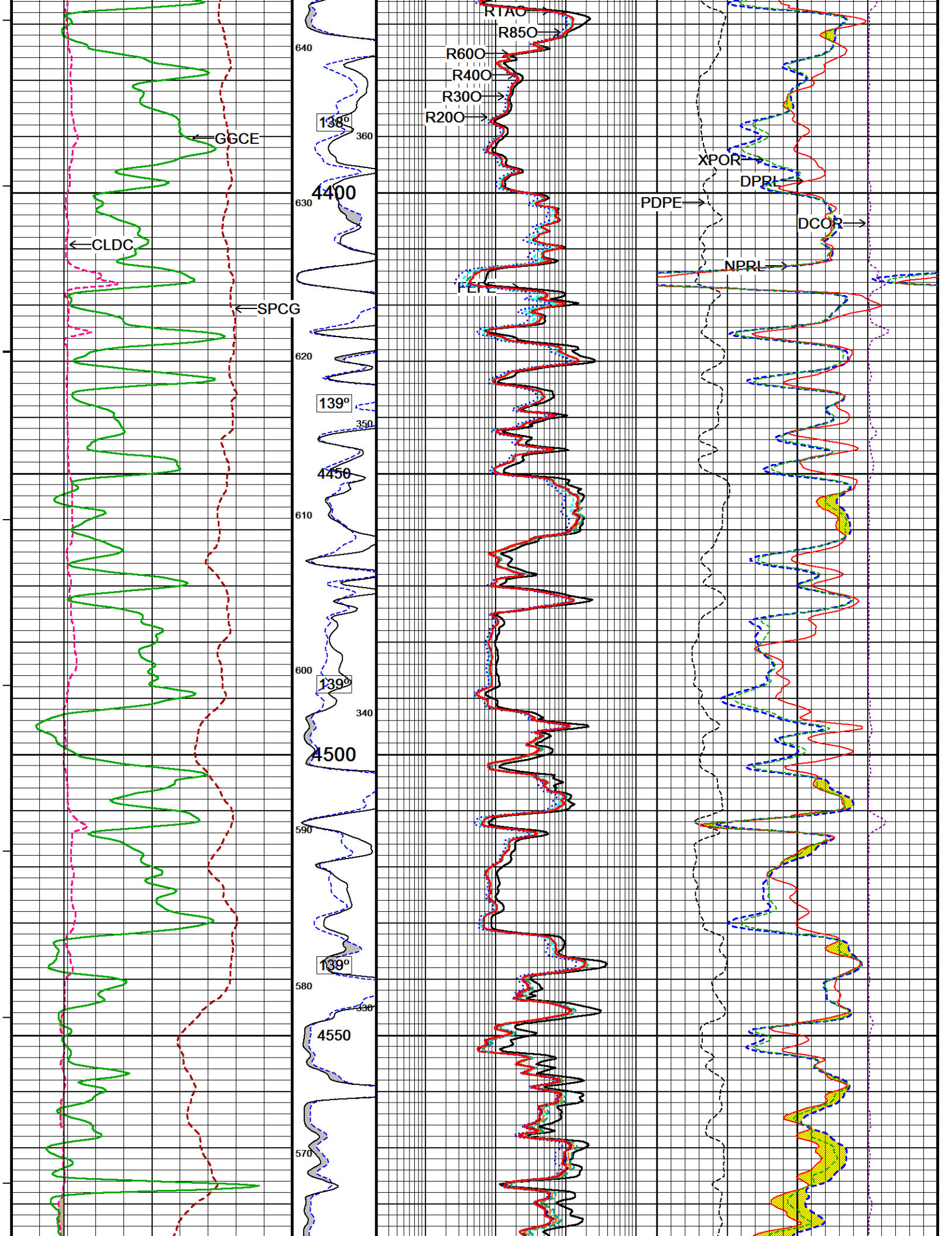
1000
133°
3450
990
560

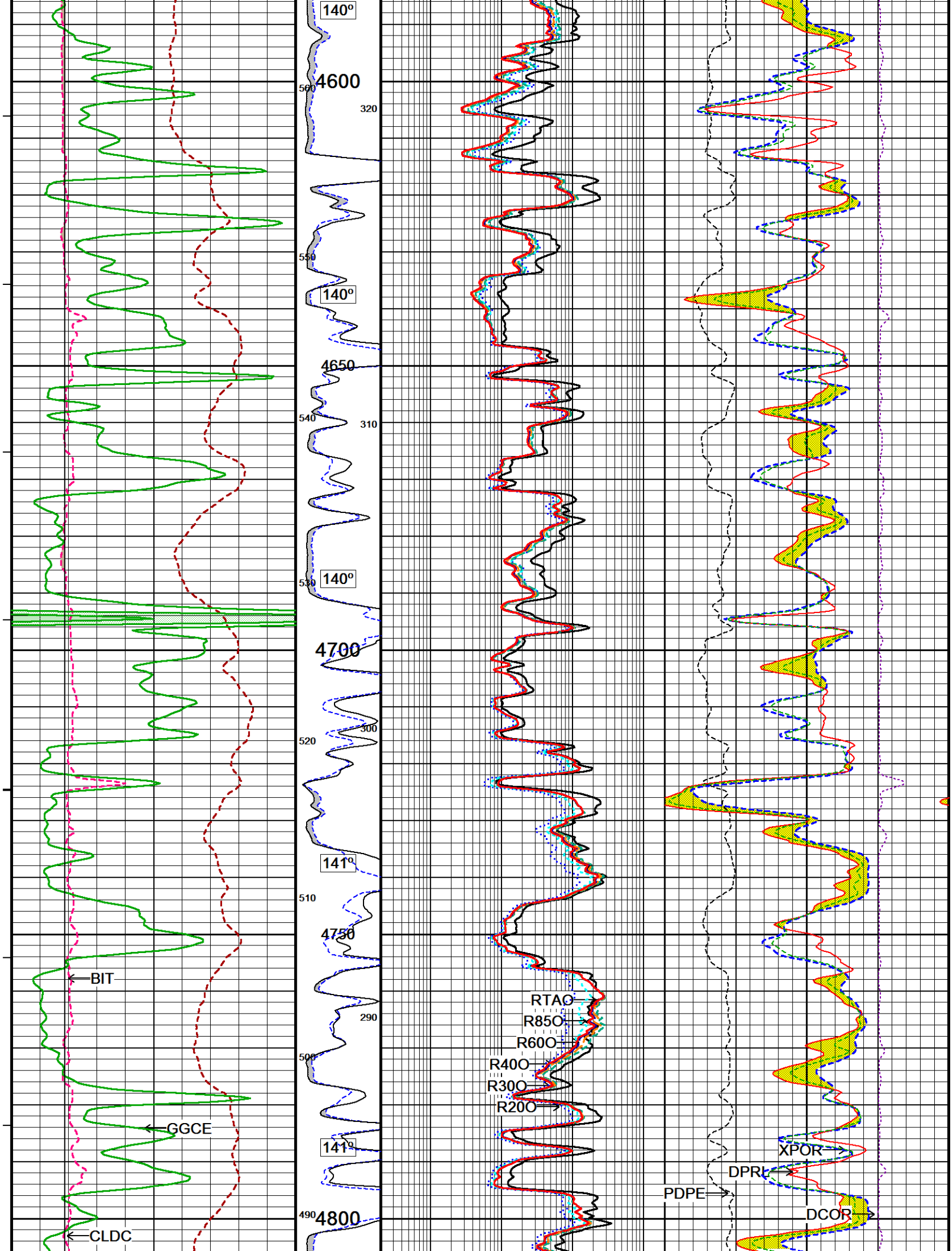

133°
3500
970
550
960
134°
3550
540
950
940
134°
530
3600
930
920
520
134°
3650
910
510
900
134°
890
3700
BIT
GGCE
CLDC
SPCG
RTAO
R85O
R60O
R40O
R30O
R20O
FEFE
NPRL
PDPE
XPOR
DCOR
NPRL

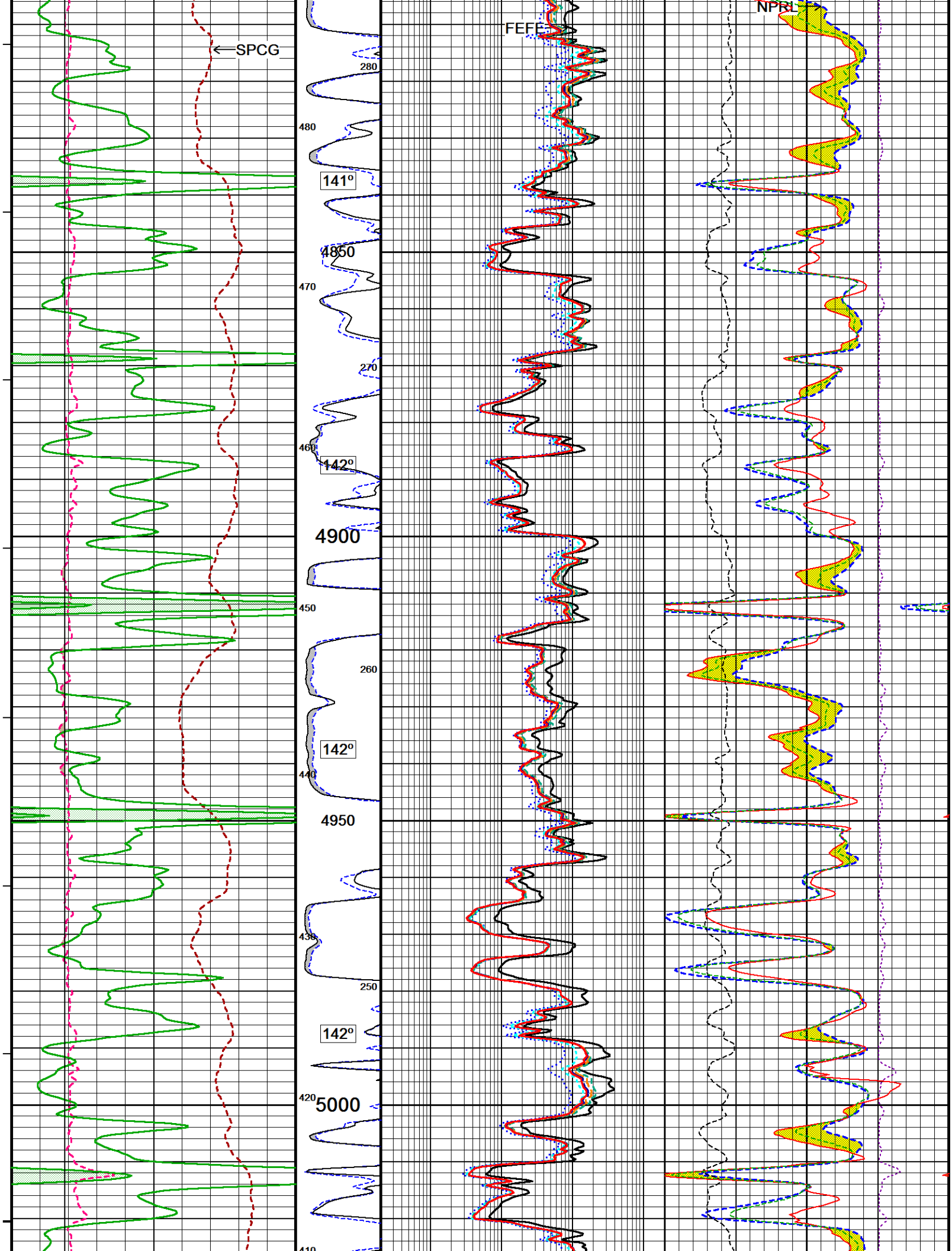

500
880
135°
490
3750
860
135°
480
850
3800
840
135°
470
830
3850
820
460
136°
3900
810

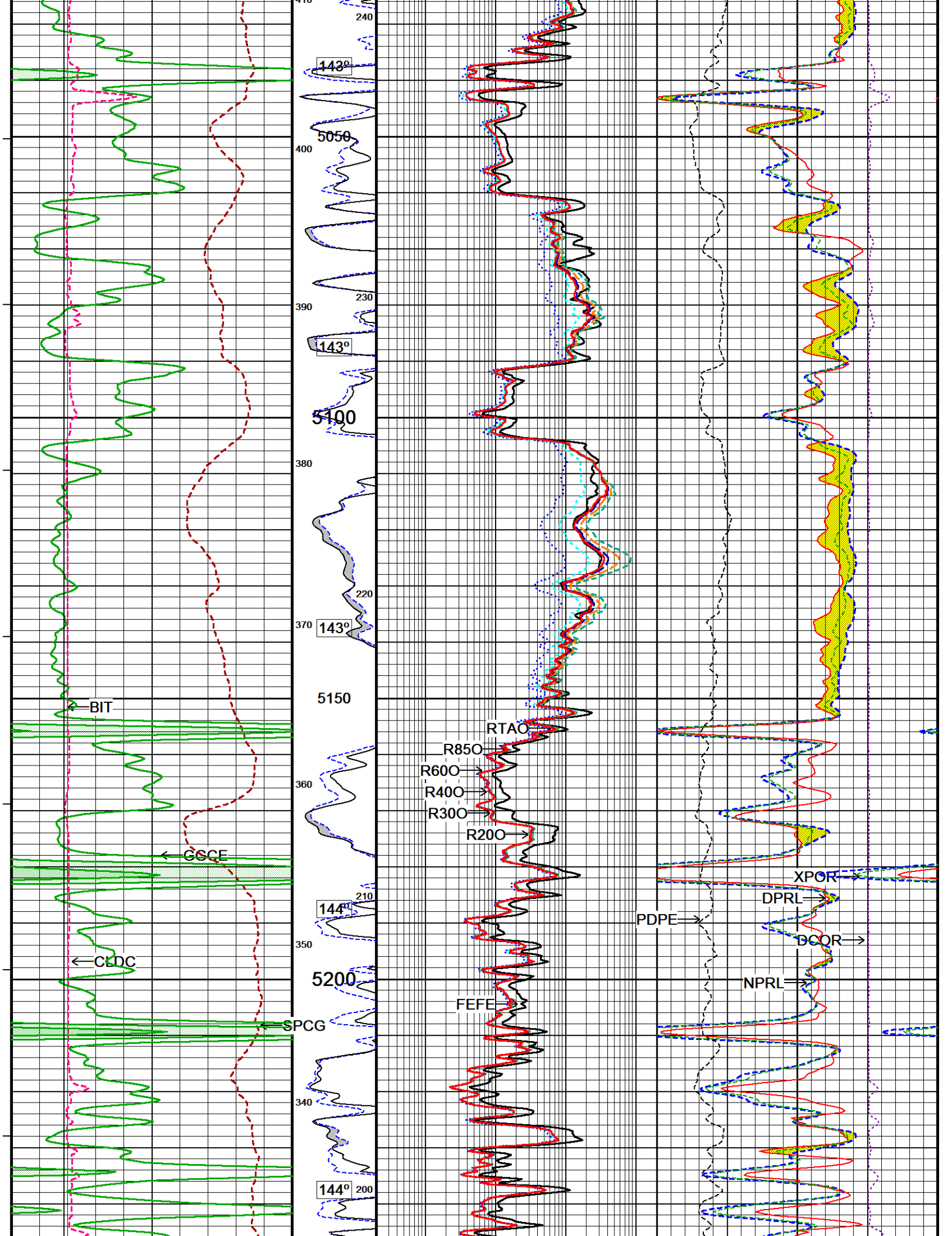

BIT
GGCE
CLDC
SPCG
800
790
780
770
760
750
740
730
450
440
430
420
410
136°
136°
136°
137°
137°
3950
4000
4050
4100
RTAO
R85O
R60O
R40O
R30O
R20O
FEFE
XPOR
DPRL
PDPE
DCOR
NPRL

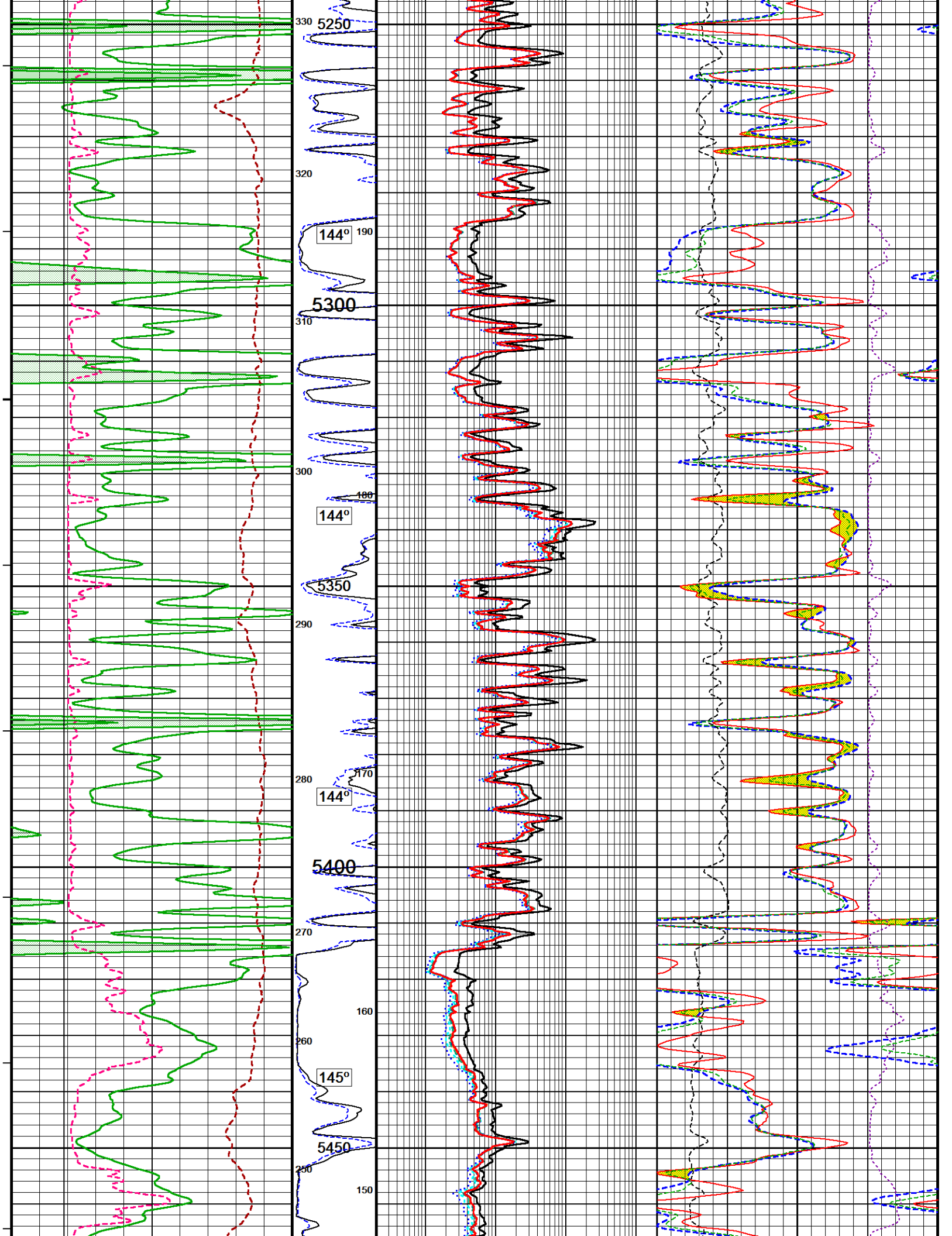

4150
710
400
138°
4200
700
390
690
138°
4250
680
138° 380
670
4300
660
138° 370
650
4350
BIT

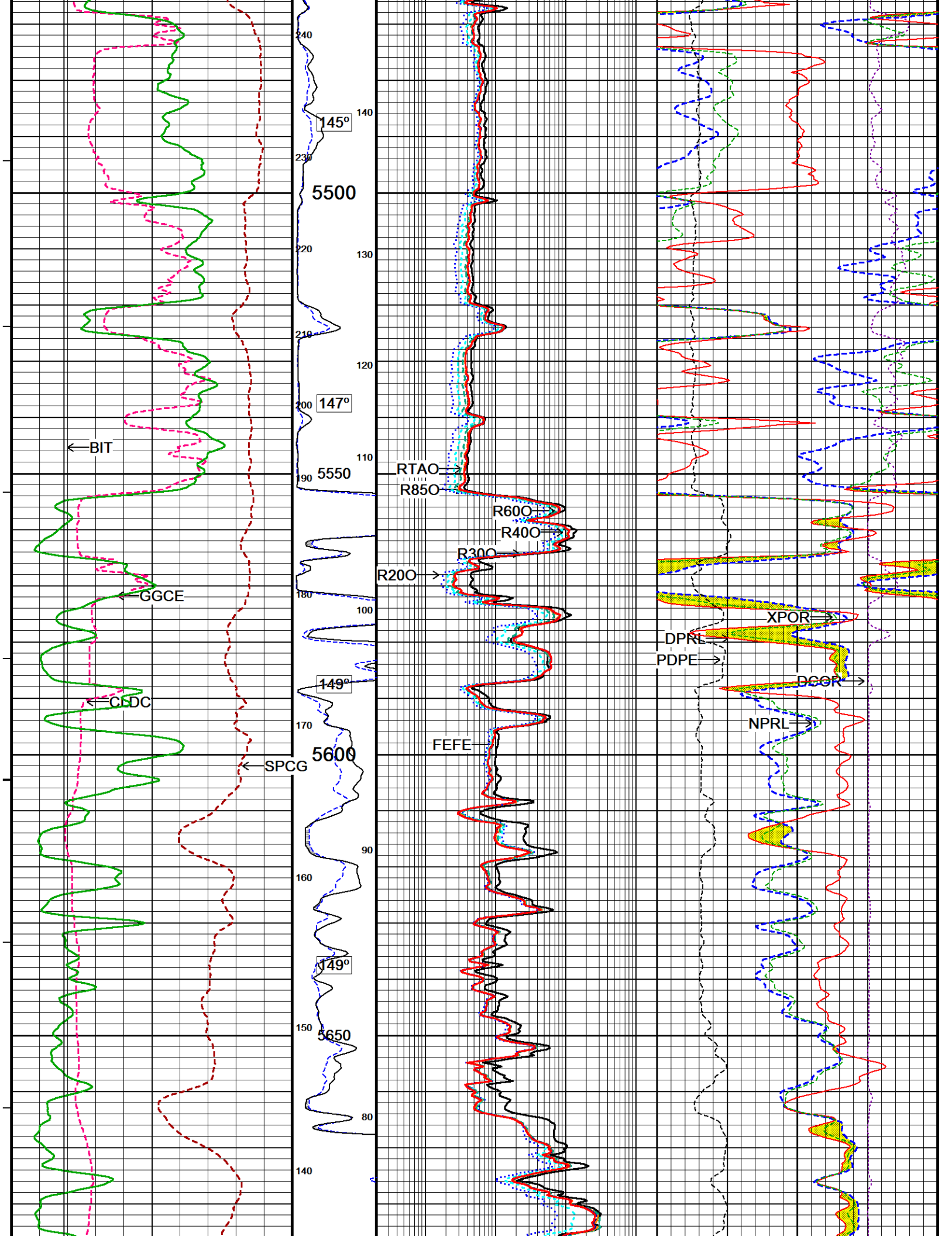

RTAO
R85O
R60O
R40O
R30O
R20O
GGCE
CLDC
SPCG
640
138°
360
4400
630
620
139°
350
4450
610
600
139°
340
4500
590
580
139°
330
4550
570
XPOR
DPRL
PDPE
DCOR
NPRL
PEFL

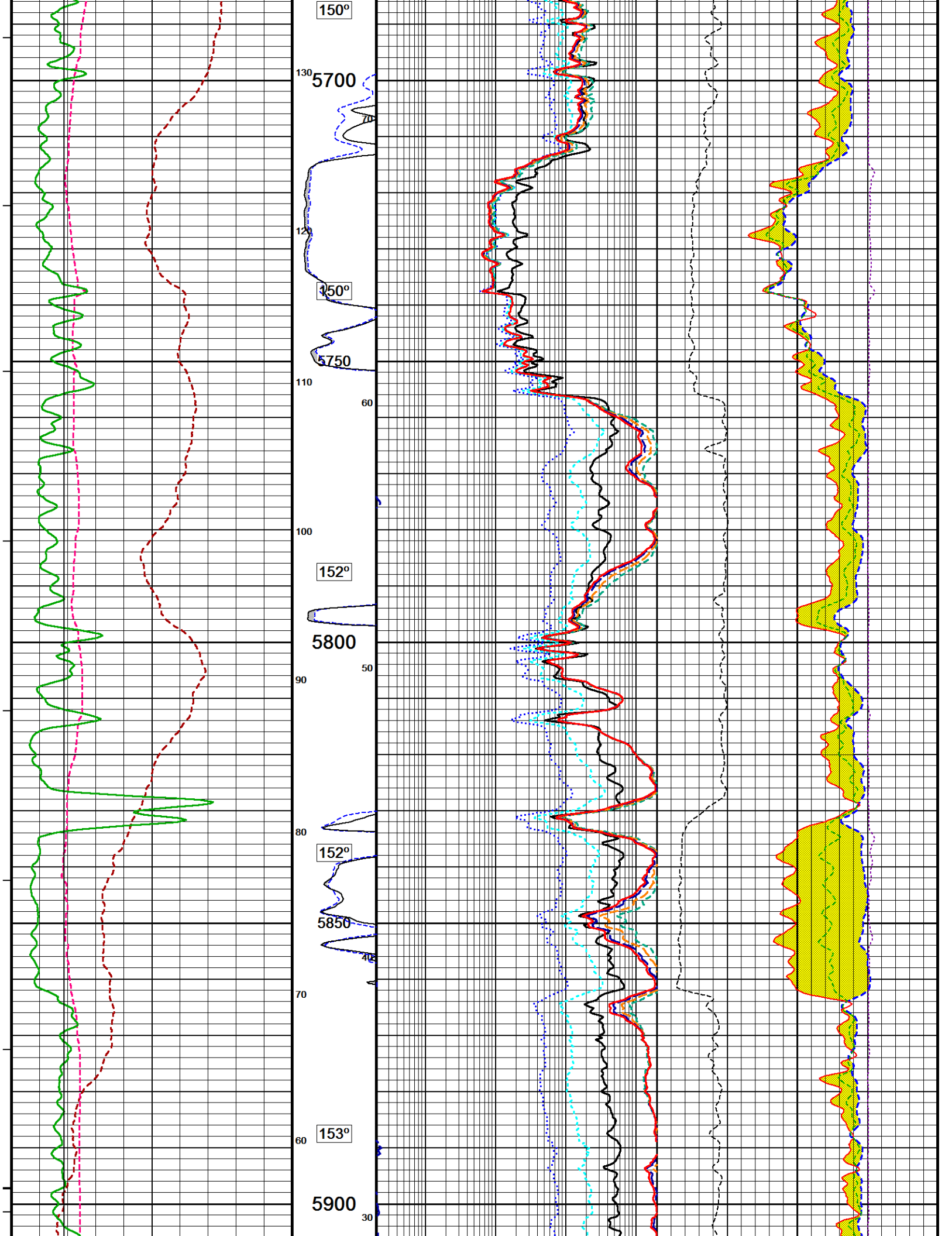

140°
4600
560
320
550
140°
4650
540
310
530
140°
4700
300
520
141°
510
4750
290
500
141°
4800
490
BIT
GGCE
CLDC
RTAO
R85O
R60O
R40O
R30O
R20O
XPOR
DPRL
PDPE
DCOR

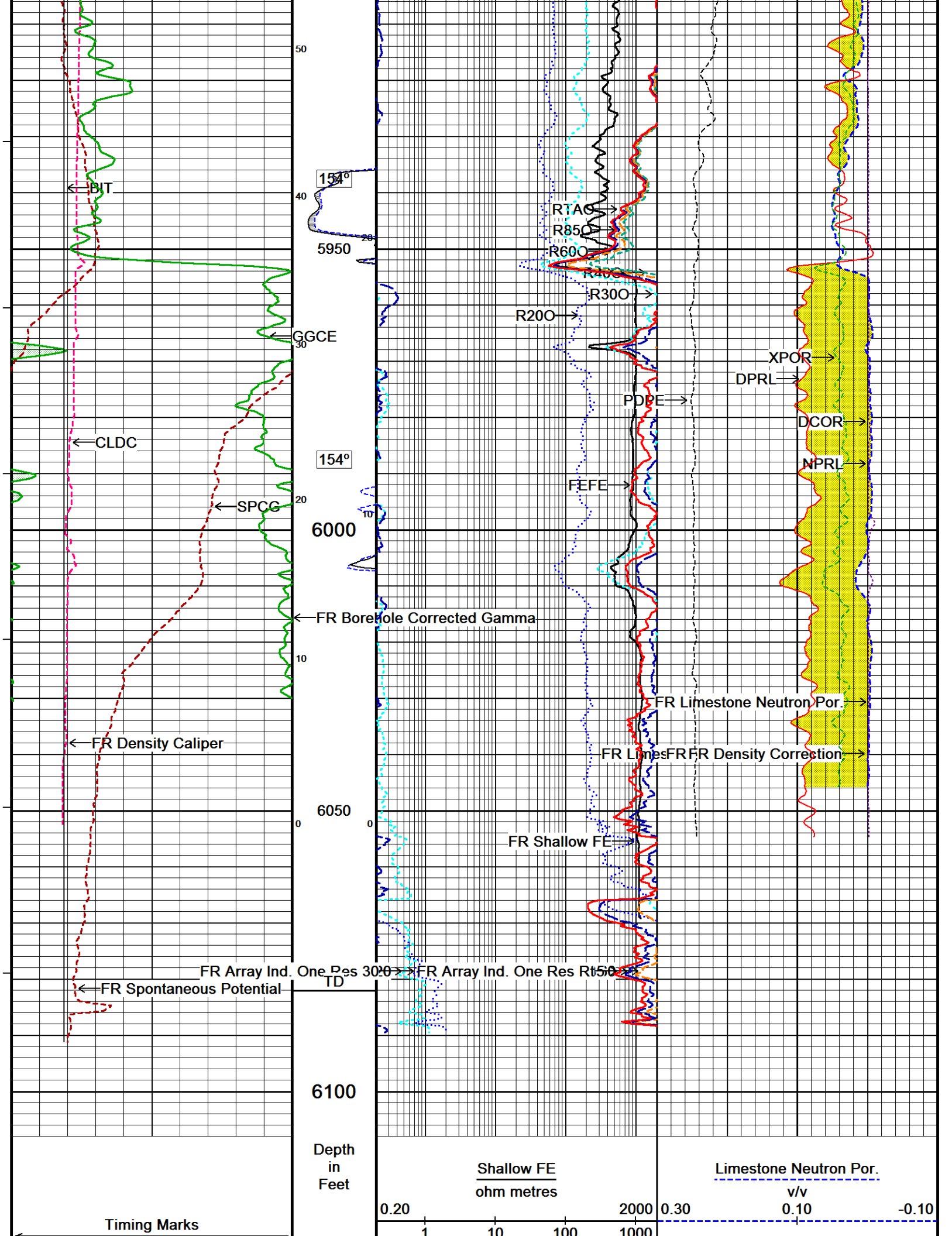

SPCG
FEFE
NPRL
280
480
141°
4850
470
270
460
142°
4900
450
260
142°
440
4950
430
250
142°
420
5000
410

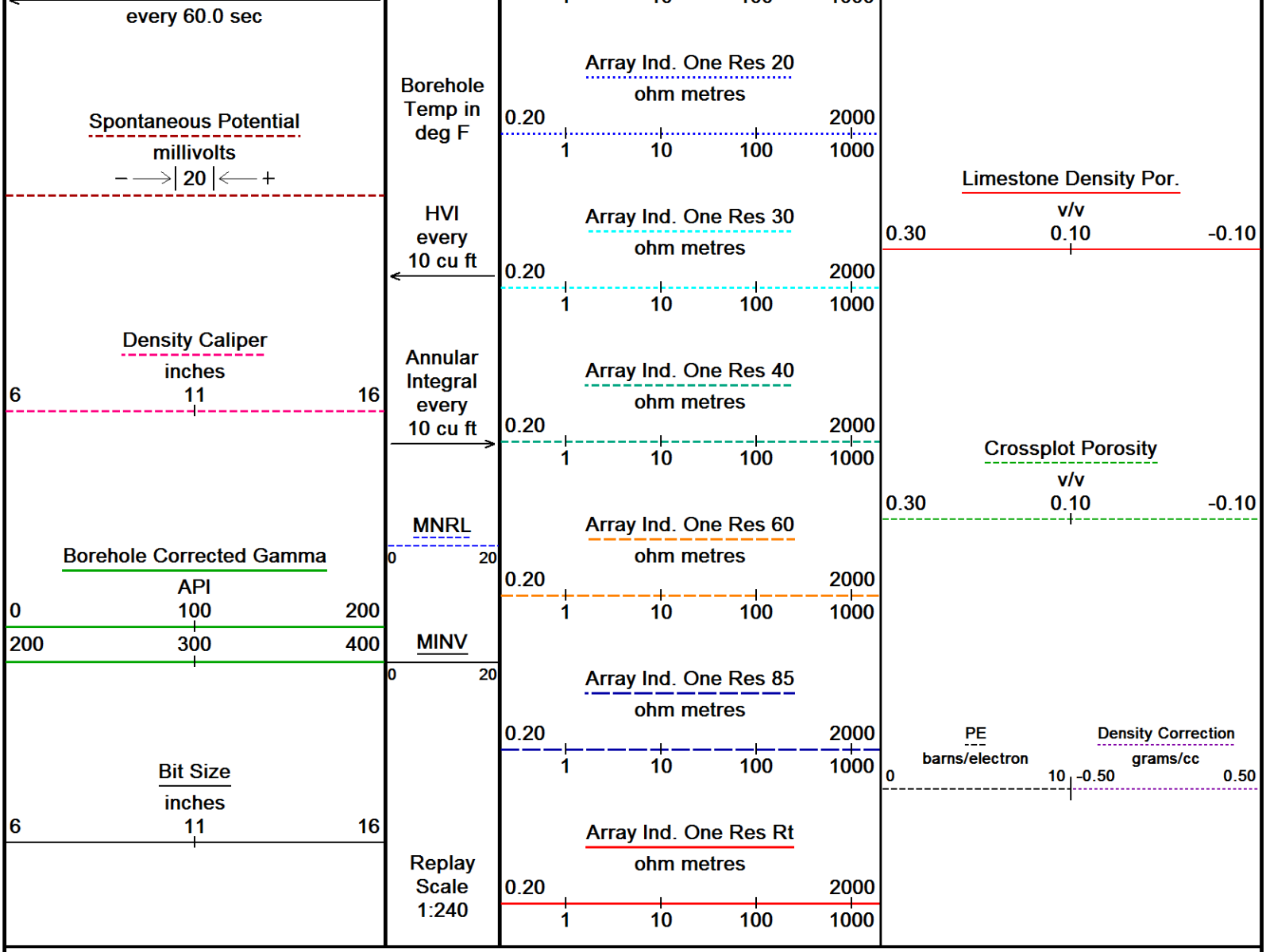

143°
5050
143°
5100
143°
5150
144°
5200
144° 200
BIT
GSCE
CLDC
SPCG
RTAO
R85O
R60O
R40O
R30O
R20O
FEFE
PDPE
XPOR
DPRL
DCOR
NPRL


330
5250
320
144°
190
5300
310
300
180
144°
5350
290
280
170
144°
5400
270
160
260
145°
5450
250
150


240
140
145°
230
5500
220
130
210
120
200
147°
BIT
110
190
5550
RTAO
R85O
R60O
R40O
R30O
R20O
GGCE
180
100
XPOR
DPRL
PDPE
DCOR
149°
CLDC
NPRL
170
FEFE
5600
SPCG
90
160
149°
150
5650
80
140


150°
130
5700
70
120
150°
5750
110
60
100
152°
5800
50
90
80
152°
5850
40
70
60
153°
5900
30


BIT
CLDC
SPCC
GGCE
FR Borehole Corrected Gamma
FR Density Caliper
FR Spontaneous Potential
154°
154°
5950
6000
6050
6100
TD
50
40
30
20
10
0
RTAO
R85O
R60O
R40O
R30O
R20O
PDPE
FEFE
XPOR
DPRL
DCOR
NPRL
FR Limestone Neutron Por.
FR Density Correction
FR Shallow FE
FR Array Ind. One Res 30
FR Array Ind. One Res Rt50
Depth
in
Feet
Shallow FE
ohm metres
0.20
2000
1
10
100
1000
Limestone Neutron Por.
v/v
0.30
0.10
-0.10
Timing Marks

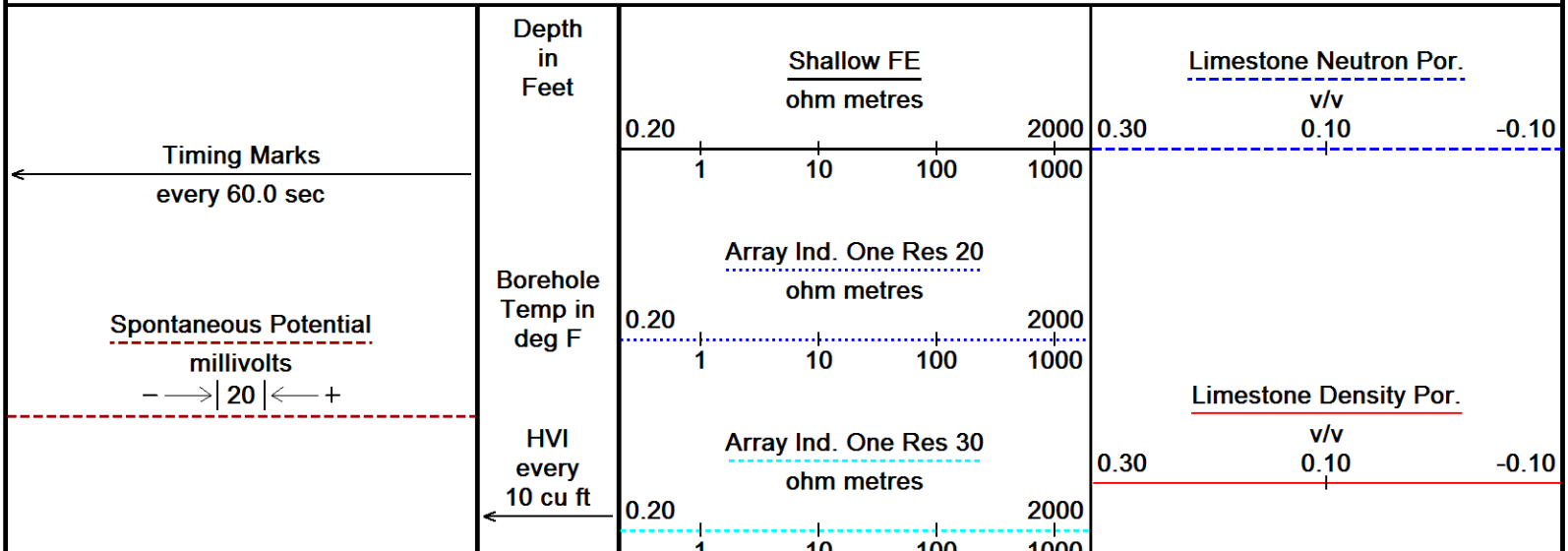


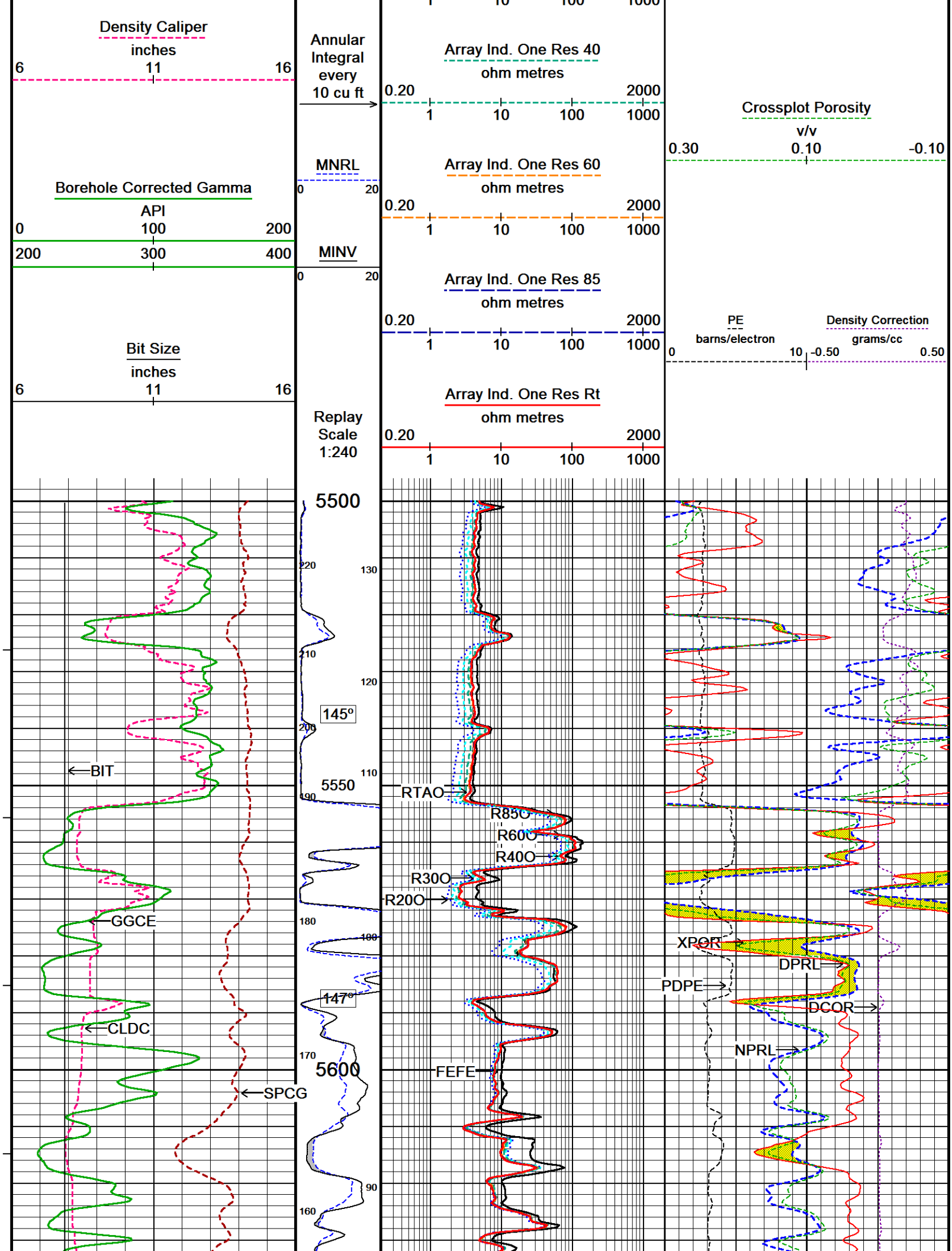
Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 26-MAY-2023 17:07
Filename: C:_LOGS\Trek Resources\Pfaffly #1-12\MainPass.dta
Recorded on 26-MAY-2023 13:17
System Versions: Logged with 21.11.3172 Plotted with 21.11.3172

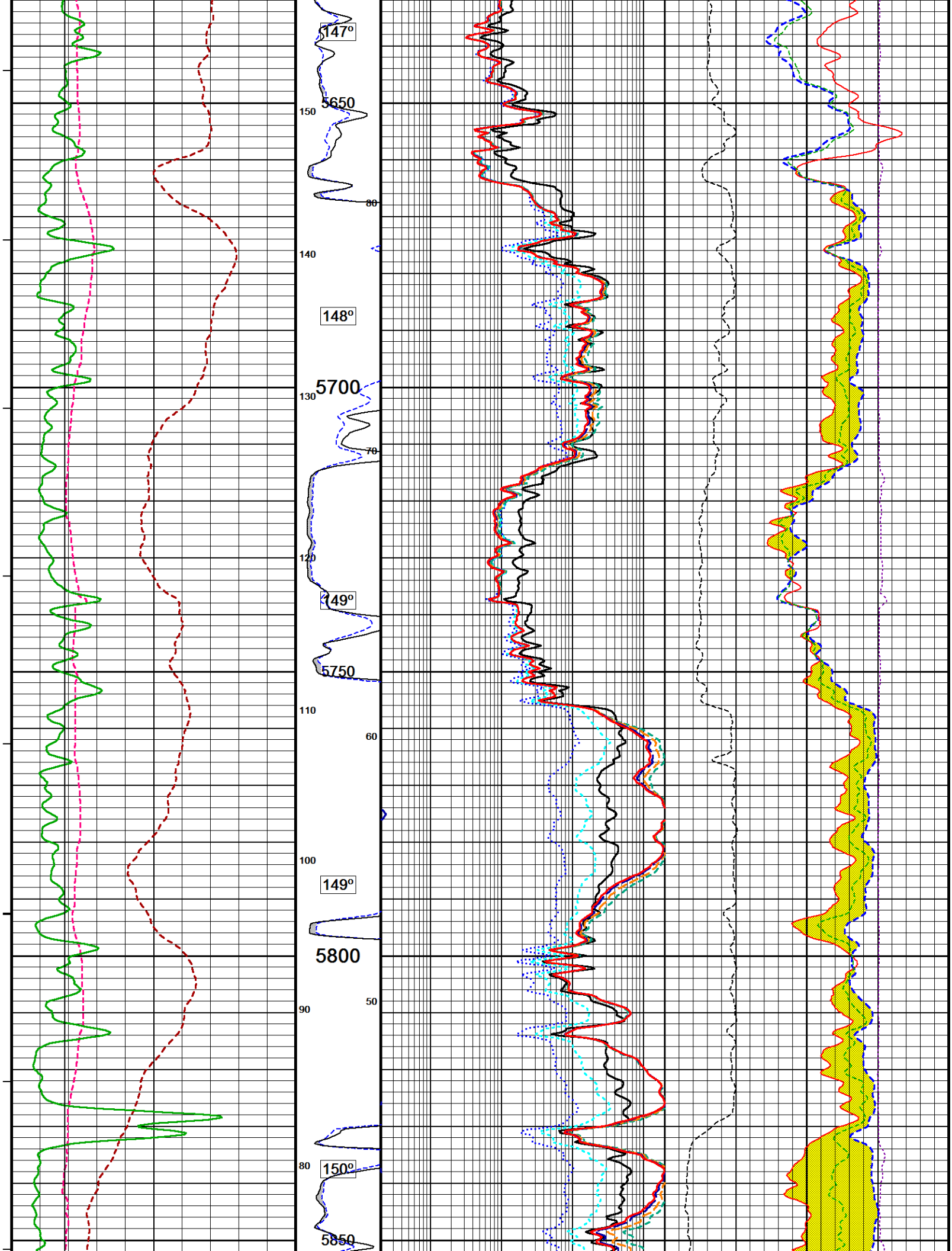
5 INCH MAIN PASS

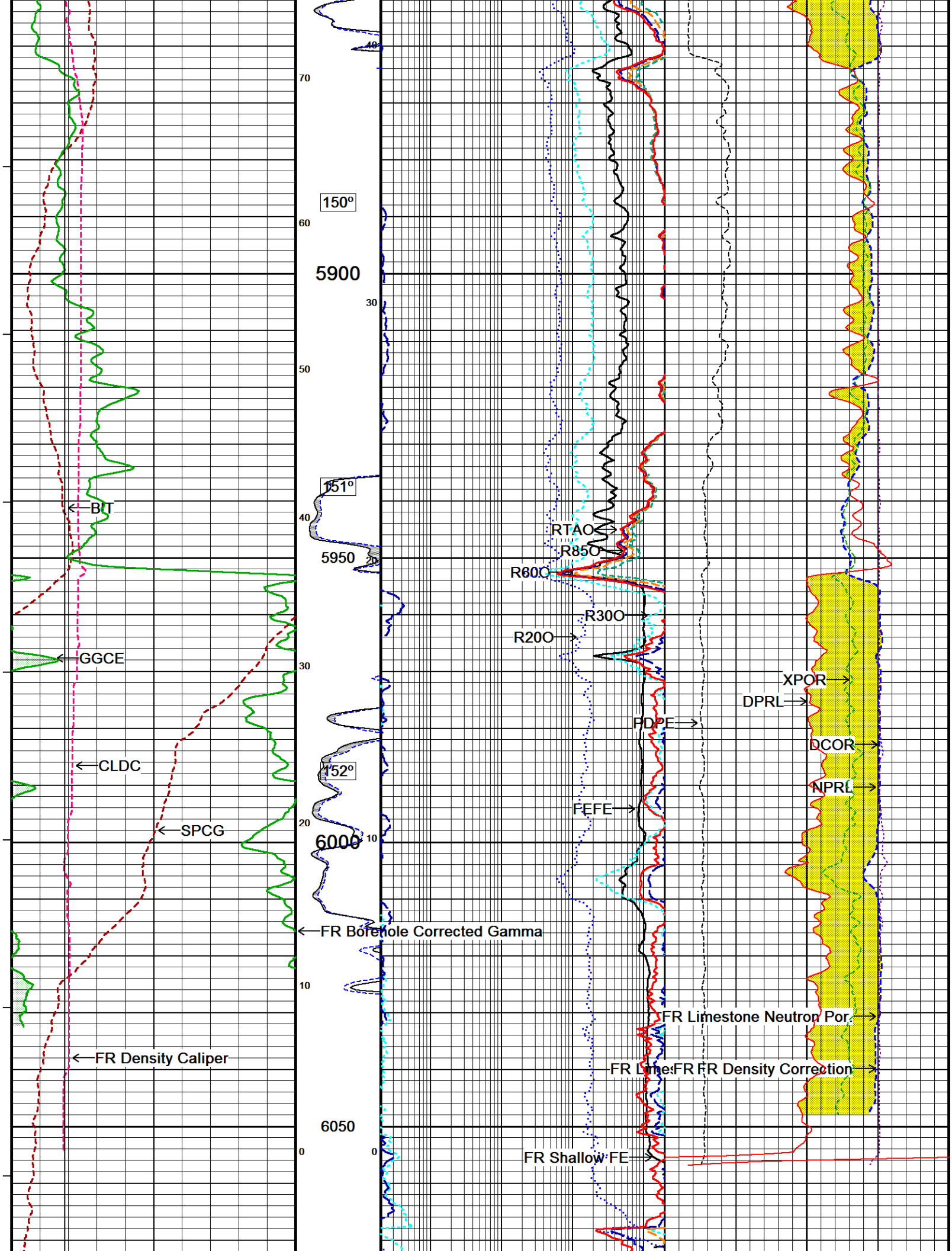
5 INCH REPEAT PASS

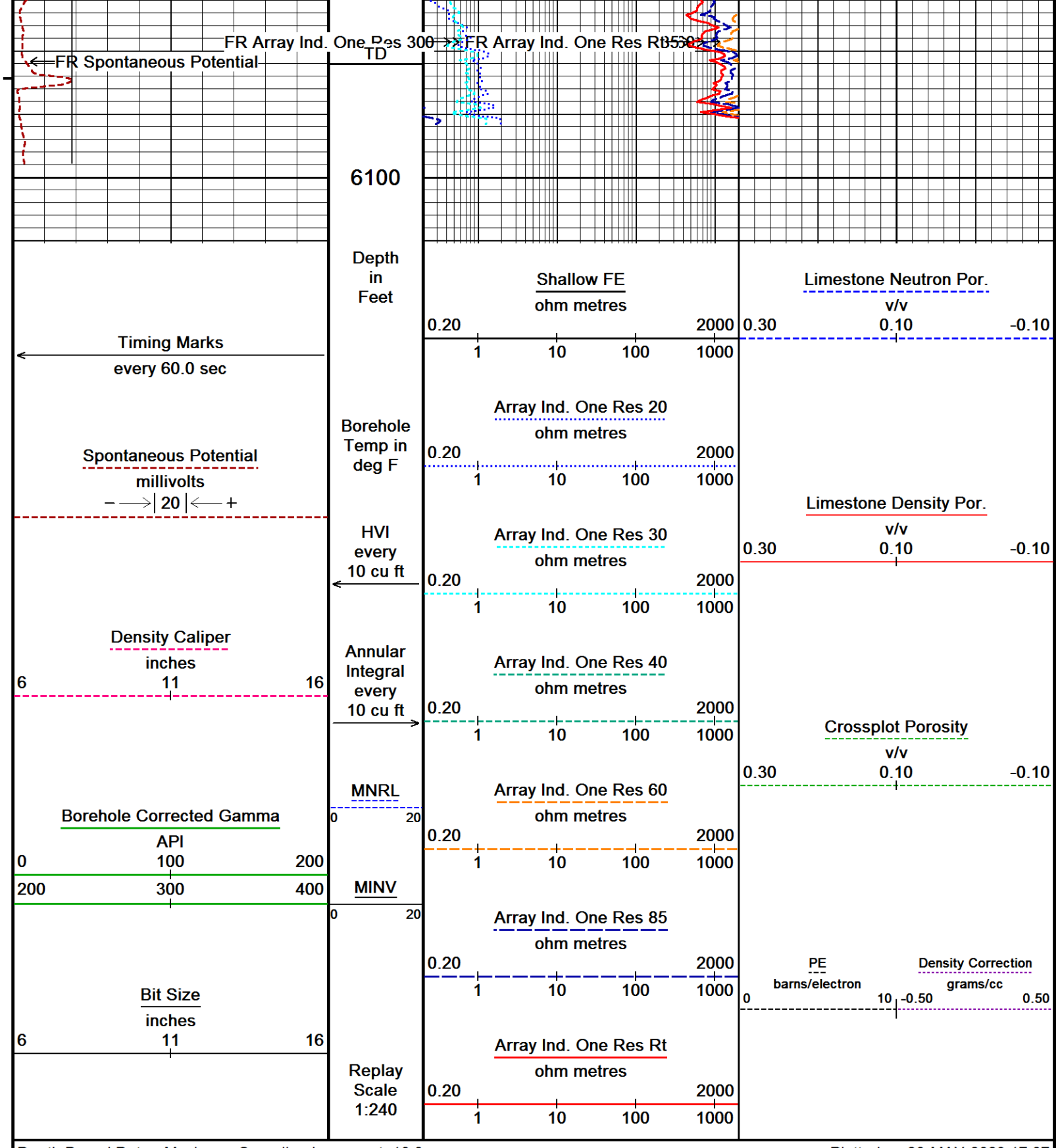
Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 26-MAY-2023 17:07
Filename: C:_LOGS\Trek Resources\Pfaffly #1-12\Repeat_Reprocessed.dta
Recorded on 26-MAY-2023 12:08
System Versions: Logged with 20.11.3980 Processed with 21.11.3172 Plotted with 21.11.3172




Density Caliper
inches
6
11
16
Borehole Corrected Gamma
API
0
100
200
200
300
400
Bit Size
inches
6
11
16
Annular Integral every 10 cu ft
MNRL
0
20
MINV
0
20
Replay Scale 1:240
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 85
ohm metres
0.20
2000
1
10
100
1000
Array Ind. One Res Rt
ohm metres
0.20
2000
1
10
100
1000
Crossplot Porosity
v/v
0.30
0.10
-0.10
PE
barns/electron
0
10
Density Correction
grams/cc
-0.50
0.50
5500
5550
5600
145°
147°
220
210
200
190
180
170
160
130
120
110
100
90
BIT
GGCE
CLDC
SPCG
RTAO
R85O
R60O
R40O
R30O
R20O
FEFE
XPOR
DPRL
PDPE
DCOR
NPRL


147°
5650
150
80
140
148°
5700
130
70
120
149°
5750
110
60
100
149°
5800
90
50
80
150°
5850


150°
5900
151°
5950
152°
6000
6050
BIT
GGCE
CLDC
SPCG
FR Density Caliper
FR Borehole Corrected Gamma
RTAO
R85O
R60O
R30O
R20O
PDPE
FEFE
XPOR
DPRL
DCOR
NPRL
FR Limestone Neutron Por
FR FR Density Correction
FR Shallow FE



Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 26-MAY-2023 17:07
Filename: C:_LOGS\Trek Resources\Pfaffly #1-12\Repeat_Reprocessed.dta
Recorded on 26-MAY-2023 12:08
System Versions: Logged with 20.11.3980 Processed with 21.11.3172 Plotted with 21.11.3172

5 INCH REPEAT PASS

BEFORE SURVEY CALIBRATION

C:_LOGS\Trek Resources\Pfaffly #1-12\MainPass.dta

General Constants All 000

Last Edited on 26-MAY-2023,12:35

General Parameters

Mud Resistivity	0.750	ohm-metres
Mud Resistivity Temperature	86.000	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	1.000	
RWA Constant M	2.000	
SW/APOR Tool Source	0.000	

Down-hole Tension Calibration SMS 0

Field Calibration on 25-APR-2023 19:13

Reading No	Measured	Calibrated (lbs)
1	15436.25	0.00
2	16961.69	516.00

High Resolution Temperature Constants MCG-E.A 551

Pre-filter Length	11

Gamma Calibration MCG-E.A 551

Field Calibration on 20-APR-2023 13:00

	Measured	Calibrated (API)
Background	52	35
Calibrator (Gross)	860	568
Calibrator (Net)	807	533

Gamma Calibration Tolerances MCG-E.A 551

		1.40	1.475	1.55	
Ratio	1.515				Counts/API

Gamma Constants MCG-E.A 551

Last Edited on 26-MAY-2023,12:36

Gamma Calibrator Number	MCG 111	
GRC-M Calibrator Jig in Use?	NO	
Inactive Background Jig in Use?	NO	
Mud Density	1.09	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Potassium Equivalence	Chloride	
K Mud Concentration	0.00	%

Micro-Resistivity Caliper Constants MMR-C.A 257

Sonde Configuration	Resistivity Mode

Micro Laterolog Calibration MMR-C.A 257

Base Calibration on 31-MAY-2021 11:30
Field Check on 31-MAY-2021 11:32

	Resistor 1 (ohm)	Resistor 2 (ohm)
	0.0	10000.0

Base Calibration

Measured		Calibrated (ohm-m)	
Ref 1	Ref 2	Ref 1	Ref 2
0.0	9858.5	0.0	128.0

Base Check (ohm-m)	Field Check (ohm-m)
5.2	5.2

Micro Laterolog Calibration Tolerances MMR-C.A 257

		-3%	9900.00	+3%	
Ref 2	9858.5				ohm
		-2%	5.2	+2%	
Base Check	5.2				ohm-m

Field Check	5.2	-2% 5.2 +2%	ohm-m

Micro Laterolog Constants MMR-C.A 257

Last Edited on 14-OCT-2020,10:32

Pad Type	6 in Solid Nylon B23059	
Standoff Offset	0.5000	inches
Micro Laterolog K Factor	0.0128	
Micro Laterolog Rm K Factor	N/A	

Mudcake Thickness Correction Constants

Mud Cake Source	Differential Caliper	
Mud Cake Thickness	N/A	inches
Mud Cake Thickness Caliper	MMR Caliper	
Mud Cake Resistivity	0.0470	ohm-m
Mud Cake Resistivity Temp.	72.00	Deg F
Mud Cake Resistivity Source	Temperature Corr	
Temp. for Rmc Corr.	MCG External Temperature	

Caliper Calibration MMR-C.A 257

Base Calibration on 01-MAY-2023 11:12
Field Calibration on 01-MAY-2023 11:13

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	13341	5.96
2	16469	7.97
3	19652	9.86
4	23513	11.88
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.99	7.97

Caliper Calibration Tolerances MMR-C.A 257

Short Arm Field Cal.	7.99	7.77 7.97 8.17	in

Micro Normal and Micro Inverse Calibration MMR-C.A 257

Base Calibration on 01-MAY-2023 11:02
Field Check on 01-MAY-2023 11:04

	Resistor 1 (ohm)		Resistor 2 (ohm)	
	10.0		50.0	

Base Calibration

		Measured	Calibrated (ohm-m)	
Micro Normal	9.9	49.4	5.1100	25.5500
Micro Inverse	9.9	49.4	3.3800	16.9000

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	94.3	94.3
Micro Inverse	62.3	62.3

Micro Normal & Micro Inverse Calibration Tolerance MMR-C.A 257

Micro Normal Res. 1	9.9	-5% 10.0 +5%	ohm	Micro Normal Res. 2	49.4	-5% 50.0 +5% ohm
Micro Inverse Res. 1	9.9	-5% 10.0 +5%	ohm	Micro Inverse Res. 2	49.4	-5% 50.0 +5% ohm
Micro Normal Base Check	94.3	-2% 94.20 +2%	ohm-m			
Micro Inverse Base Check	62.3	-2% 62.24 +2%	ohm-m			
Micro Normal Field Check	94.3	-2% 94.3 +2%	ohm-m			
Micro Inverse Field Check	62.3	-2% 62.3 +2%	ohm-m			

Micro Normal and Micro Inverse Constants MMR-C.A 257

Last Edited on 09-FEB-2023,09:37

Pad Type	8-12 in Soft Rubber Inflatable 006-9011-159	
Micro Normal K Factor	0.5110	
Micro Inverse K Factor	0.3380	
Standoff Offset	0.0000	inches

Neutron Calibration MDN-C.A 399

Base Calibration on 19-APR-2023 11:09
Field Check on 19-APR-2023 11:27

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3110	96	3714	110
Ratio	32.539		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	2014	2960
Ratio	0.681	

Field Check

	Calibrated (cps)	
	2016	2970
Ratio	0.679	

Neutron Calibration Tolerances MDN-C.A 399

Ratio	32.539	-5% 33 +5%
Base Check	0.681	0.65 0.7 0.75
Field Check	0.679	0.661 0.681 0.701

Neutron Constants MDN-C.A 399

Last Edited on 26-MAY-2023,12:36

Neutron Source Id	N-1054	
Neutron Jig Number	NJ5239	
Air Hole Processing	Modified Ratio	
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	None	
Temperature	N/A	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	

Caliper Calibration MVC-A.A 146

Base Calibration on 02-MAR-2023 08:28
Field Calibration on 02-MAR-2023 08:31

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	10494	4.01
2	17351	5.96
3	24456	7.97
4	31239	9.86
5	38707	11.88
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
8.00	7.97

FE Calibration MFE-C.A 399

Base Calibration on 20-APR-2023 09:32
Field Check on 20-APR-2023 09:38

	Resistor 1 (ohm)	Resistor 2 (ohm)
	0.0	1000.0

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	964.6	126.8
Base Check		281.2

Field Check	281.2

FE Calibration Tolerances MFE-C.A 399

Reference 2	964.6	-3% 980.0 +3%	ohm
Base Check	281.2	-2% 277.0 +2%	ohm-m
Field Check	281.2	-2% 281.2 +2%	ohm-m

FE Constants MFE-C.A 399

Last Edited on 26-MAY-2023,12:37

Running Mode	No Sleeve	
MFE K Factor	0.1268	
Borehole Correction Constants		
Sonde Position	1.0	inches
Hole Size Source	Density Caliper	
Hole Size Constant Value	N/A	inches
Rm Source	Global Value: Temperature Corrected	
Temp. for Rm Corr.	MCG External Temperature	

Sonic Constants MSS-C.K 374

Maximum Boundary Contrast	70.00	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
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 (m)
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
Waveform Discriminator Filter	Not Applied	
Semblance Window Width	150.00	micro-sec
Semblance Processing Enabled	Yes	
Tracking Boxes Enabled In Processing	Yes	

Induction Calibration MAI-C.A 490

Factory Loop Calibration 17-DEC-2012,20:04
Field Check on 10-MAY-2022 15:43

Factory Loop Calibration

High Conductivity Reference Resistor	3.3 ohm
Low Conductivity Reference Resistor	333.3 ohm

	Measured Signal (unitless)		Reference Conductivity (mmho/m)		Calibration	
Array	Low	High	Low	High	Gain	Offset
1 (near)	15.2	455.2	9.3	966.2	0.000	0.0
2	5.9	373.9	7.6	821.4	0.000	0.0
3	3.7	251.6	5.2	566.0	0.000	0.0
4 (far)	1.8	128.7	2.6	279.2	0.000	0.0

Array Temperature 75.6 Deg F

Tool Checks 10-MAY-2022 15:40

	Factory Reference (mmho/m)		Before Survey (mmho/m)		
Array	Low	High	Low	High	
1 (near)	-2.2	2114.9	-2.2	2114.9	
2	14.0	1921.9	13.9	1922.0	
3	14.0	1678.9	14.0	1679.0	
4 (far)	10.3	1145.1	10.3	1145.2	
Array Temperature		89.0		89.2	Deg F

Tool Zero Corrections

Array		
1 (near)	0.0	mmho/m
2	0.0	mmho/m
3	0.0	mmho/m
4 (far)	0.0	mmho/m

Induction Check Tolerances MAI-C.A 490

Low Array 1	-2.2	-3.7 / -2.2 / -0.7	mmho/m	High Array 1	2114.9	-0.5% / 2114.9 / +0.5%	mmho/m
Low Array 2	13.9	12.5 / 14.0 / 15.5	mmho/m	High Array 2	1922.0	-0.5% / 1921.9 / +0.5%	mmho/m
Low Array 3	14.0	12.5 / 14.0 / 15.5	mmho/m	High Array 3	1679.0	-0.5% / 1678.9 / +0.5%	mmho/m
Low Array 4	10.3	8.8 / 10.3 / 11.8	mmho/m	High Array 4	1145.2	-0.5% / 1145.1 / +0.5%	mmho/m

Induction Constants MAI-C.A 490

Last Edited on 26-MAY-2023,12:37

Induction Model	RtAP	
Borehole Correction Constants		
Tool Centred	No	
Hole Size Source	Density Caliper	
Hole Size Constant Value	N/A	inches
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
Rm Source	Global Value: Temperature Corrected	
Temp. for Rm Corr.	MCG External Temperature	
Borehole Correction Method	Default	
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

Symmetrised Receiver Gains	
Receiver 1	1.00
Receiver 2	1.00
Receiver 3	1.00
Receiver 4	1.00

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	

High Resolution Temperature Calibration MAI-C.A 490

Field Calibration on 17-DEC-2012,07:08

	Measured	Calibrated(Deg C)
Lower	10.00	10.00
Upper	100.00	100.00

High Resolution Temperature Constants MAI-C.A 490

Last Edited on 17-DEC-2012,20:09

Pre-filter Length	11

Photo Density Calibration MPD-C.J 438

Base Calibration on 06-APR-2023 14:01
Field Check on 06-APR-2023 14:07

Density Calibration

Base Calibration	Measured Near	Measured Far	Calibrated (sdu) Near	Calibrated (sdu) Far
Background	973	1140		
Reference 1	44856	20382	59814	31141
Reference 2	18117	2083	24963	2524

Field Check at Base		
	972.8	1140.5

Field Check		
	974.0	1140.0

PE Calibration

Base Calibration	WS	Measured WH	Measured Ratio	Calibrated Ratio
Background	183	877		
Reference 1	20347	44708	0.460	0.368
Reference 2	5757	18012	0.325	0.273

Field Check at Base		
	182.7	877.2

Field Check		
	182.8	875.9

Photo Density Calibration Tolerances MPD-C.J 438

Near Density Ratio	2.56	-5% 2.52 +5%	Far Density Ratio	20.41	-5% 21.00 +5%
PE Calibration	0.131	0.089 0.110 0.131			
Near Den. Field Check	974.0	-3% 972.8 +3%	Far Den. Field Check	1140.0	-3% 1140.5 +3%

PE WS Field Check	182.8	PE WH Field Check	875.9

Density Constants MPD-C.J 438

Last Edited on 26-MAY-2023,12:37

Density Source Id	H79956B	
Nylon Calibrator Number	DNCE 687	
Aluminium Calibrator Number	DACD 526	
Density Shoe Profile	8 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.09	gm/cc
Mud Density Type	Non-Barite	
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	
Precision Enhanced Density Processing	Applied	

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	

Caliper Calibration MPD-C.J 438

Base Calibration on 06-APR-2023 14:51
Field Calibration on 06-APR-2023 14:52

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	15285	4.01
2	23599	5.96
3	32288	7.97
4	40480	9.86
5	49552	11.88
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.98	7.97

Caliper Calibration Tolerances MPD-C.J 438

Long Arm Field Cal.	7.98	7.57	7.97	8.38	in

DOWNHOLE EQUIPMENT

C:_LOGS\Trek Resources\Pfaffly #1-12\MainPass.dta

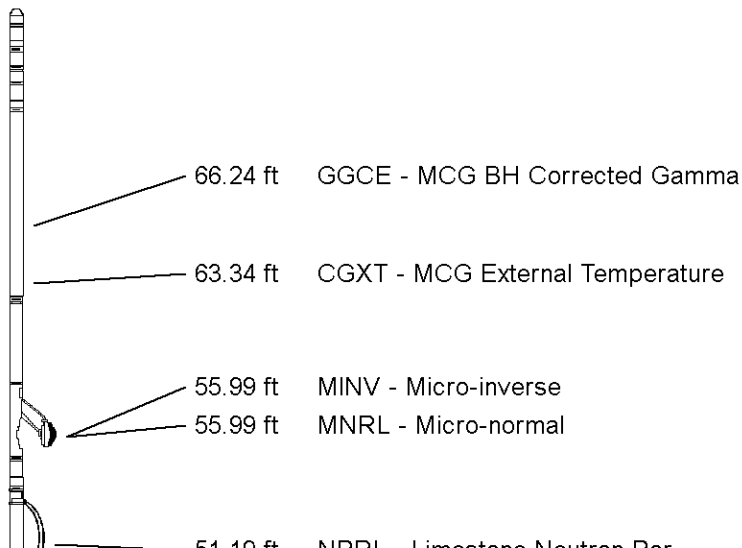
Cablehead, 11 pin
CBH-CC 348 LG: 2.40 ft WT: 24.3 lb OD: 2.244 in

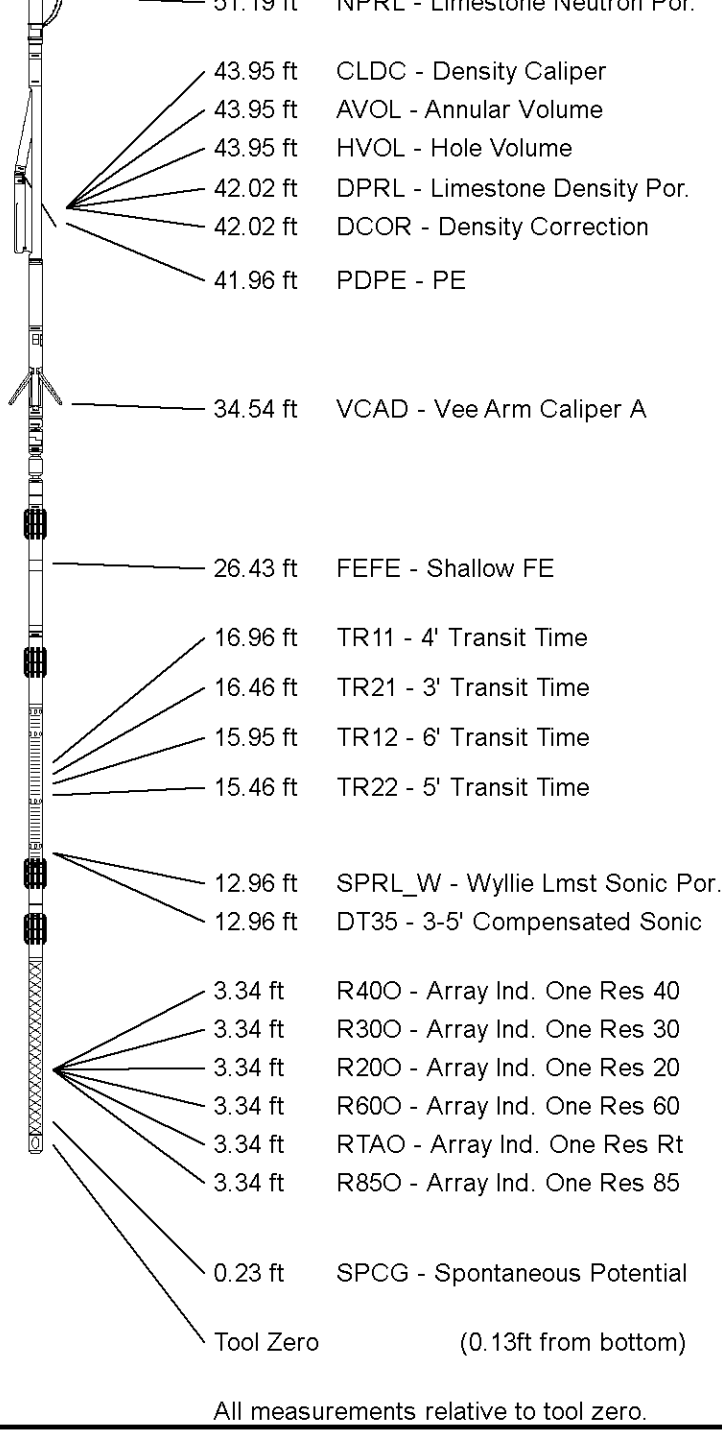
11C-11B Compact Tool Adaptor
MTA-K.A 189 LG: 1.53 ft WT: 13.2 lb OD: 2.240 in

Compact Comms Gamma
MCG-E.A 551 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in

Compact Micro-Resistivity
MMR-C.A 257 LG: 8.59 ft WT: 81.6 lb OD: 4.882 in

Compact Neutron
MDN-C.A 399 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in





Compact Density/Caliper
MPD-C.J 438 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in

Compact Vee Arm Caliper
MVC-A.A 146 LG: 8.06 ft WT: 61.7 lb OD: 2.244 in

Compact Knuckle Joint
SKJ-E.B 694 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

Compact Focussed Electric
MFE-C.A 399 LG: 6.05 ft WT: 48.5 lb OD: 2.244 in

Compact Sonic
MSS-C.K 374 LG: 12.52 ft WT: 72.8 lb OD: 2.244 in

Compact Induction
MAI-C.A 490 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in

Total Length: 75.45 ft Weight: 579.8 lb

All measurements relative to tool zero.

COMPANY	NAVEX RESOURCES LLC
WELL	PFAFFLY #1-12
FIELD	NORTH CHEYENNE PROJECT/ PFAFFLY PROSPECT
PROVINCE/COUNTY	KIT CARSON
COUNTRY/STATE	COLORADO

Elevation Kelly Bushing	4479.00	feet	Last Reading	648.00	feet
Elevation Drill Floor	4479.00	feet	First Reading	6078.00	feet
Elevation Ground Level	4466.90	feet	Depth Driller	6076.00	feet
			Depth Logger	6082.00	feet

WIRELINE LOGGING SOLUTIONS

COMPOSITE