



**Weatherford**

**ARRAY INDUCTION / MFE  
PHOTO DENSITY / DUAL NEUTRON  
GAMMA RAY LOG**

COMPANY **SMITH PRODUCTION COMPANY**  
WELL **7000 RA SUA; SL 18593 #1 ALT**  
FIELD **GILLIS - ENGLISH BAYOU**  
PROVINCE/COUNTY **CALCASIEU**  
COUNTRY/STATE **USA / LOUISIANA**  
LOCATION **X = 1,428,923.43 & Y = 594,026.26**  
PERMIT NUMBER **247742**

SEC 12 TWP 9S RGE 8W Other Services  
Latitude 30.287994 CALIPER LOG  
Longitude 93.142917 TVD  
API Number 17019223340000 SIDEWALL CORES  
Permanent Datum GL, Elevation 15 feet  
Log Measured From KB  
Drilling Measured From KB @ 32 FEET

Elevations:  
KB 32.00 feet  
DF 31.00 feet  
GL 15.00 feet

Date	09-MAY-2014
Run Number	ONE
Service Order	6154-86795757
Depth Driller	7720.00 feet
Depth Logger	7720.00 feet
First Reading	7720.00 feet
Last Reading	1829.00 feet
Casing Driller	1836.00 feet
Casing Logger	1829.00 feet
Bit Size	8.500 inches
Hole Fluid Type	WATER BASED
Density / Viscosity	10.10 lb/USg 45.00 sec/cSt
PH / Fluid Loss	9.50 4.80 ml/30Min
Sample Source	FLOWLINE
Rm @ Measured Temp	1.10 @ 75.0 ohm-m
Rmf @ Measured Temp	0.825 @ 75.0 ohm-m
Rmc @ Measured Temp	1.375 @ 75.0 ohm-m
Source Rmf / Rmc	CALCULATE
Rm @ BHT	0.52 @163.0 ohm-m
Time Since Circulation	5 HOURS
Max Recorded Temp	163.00 deg F
Equipment / Base	13046 BROUSS
Recorded By	J. OCHEJA
Witnessed By	H. ANTIE
Rig Name	GUICHARD #5

**BOREHOLE RECORD**

Last Edited: 08-MAY-2014 23:25

Bit Size inches	Depth From feet	Depth To feet
8.500	1836.00	7720.00

**CASING RECORD**

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	9.625	0.00	1836.00	36.00

**REMARKS**

SERVICE ORDER # 6154-86795757

TOOLS RUN1: HFS, MAI, MFE, MPD, MDN, MCG, SHA, MTA

HARDWARE: MAI: 0.5 INCH STANDOFF USED. HOLE FINDER RUN AT BOTTOM  
MDN: DUAL BOWSPRING  
MPD: 8 INCH PROFILE PLATE USED. HOLE STABILIZER USED

2.65 MATRIX DENSITY USED TO CALCULATE POROSITY

RWA CALCULATED USING; A=0.62 AND M=2.15

HOLE VOLUME FROM TD TO CASING SHOE FOUND TO BE = 2,760 CU FT

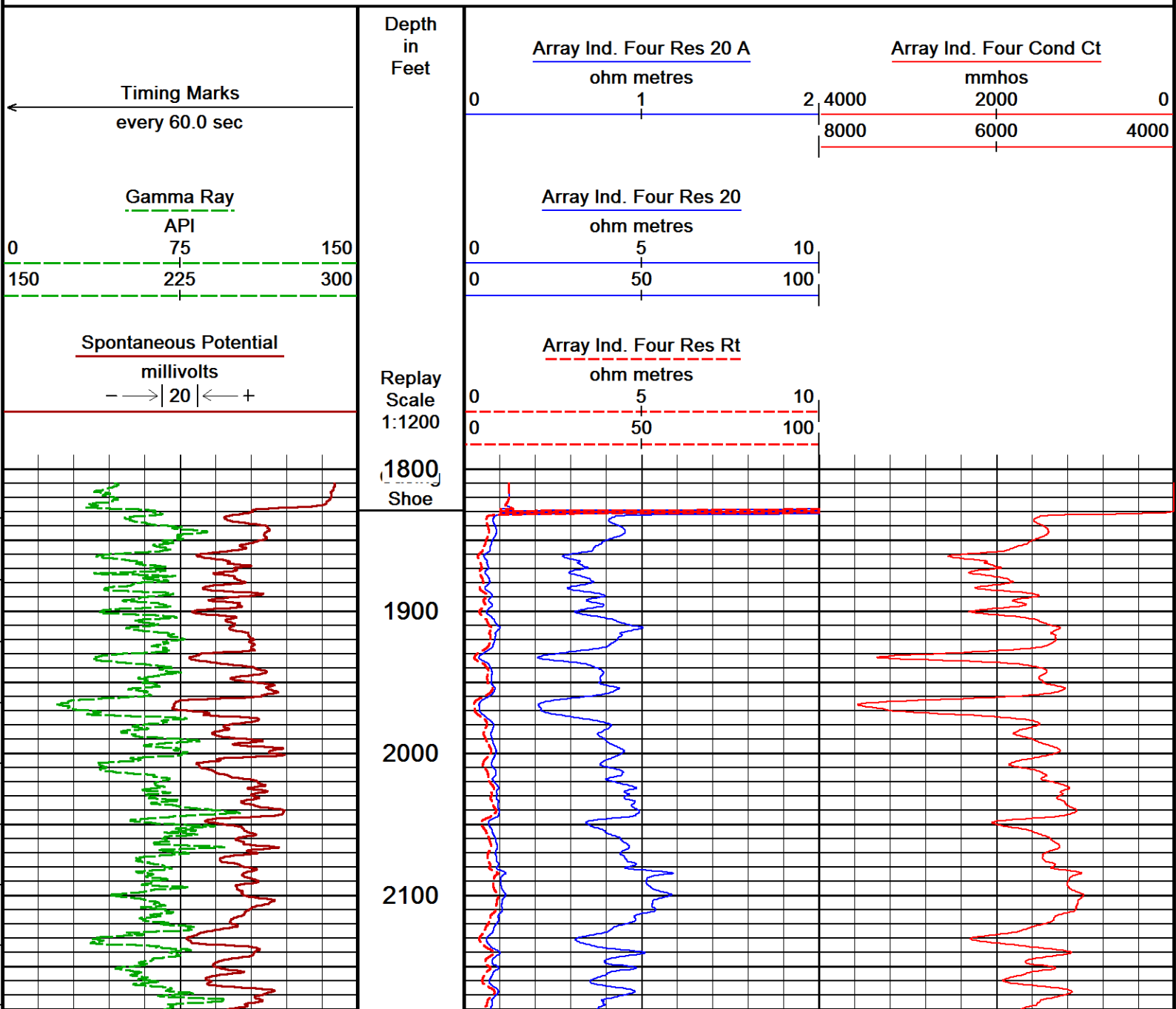
ANNULAR VOLUME FROM TD TO CASING SHOE CALCULATED FOR 5.5" PRODUCTION CASING = 1,780 CU FT

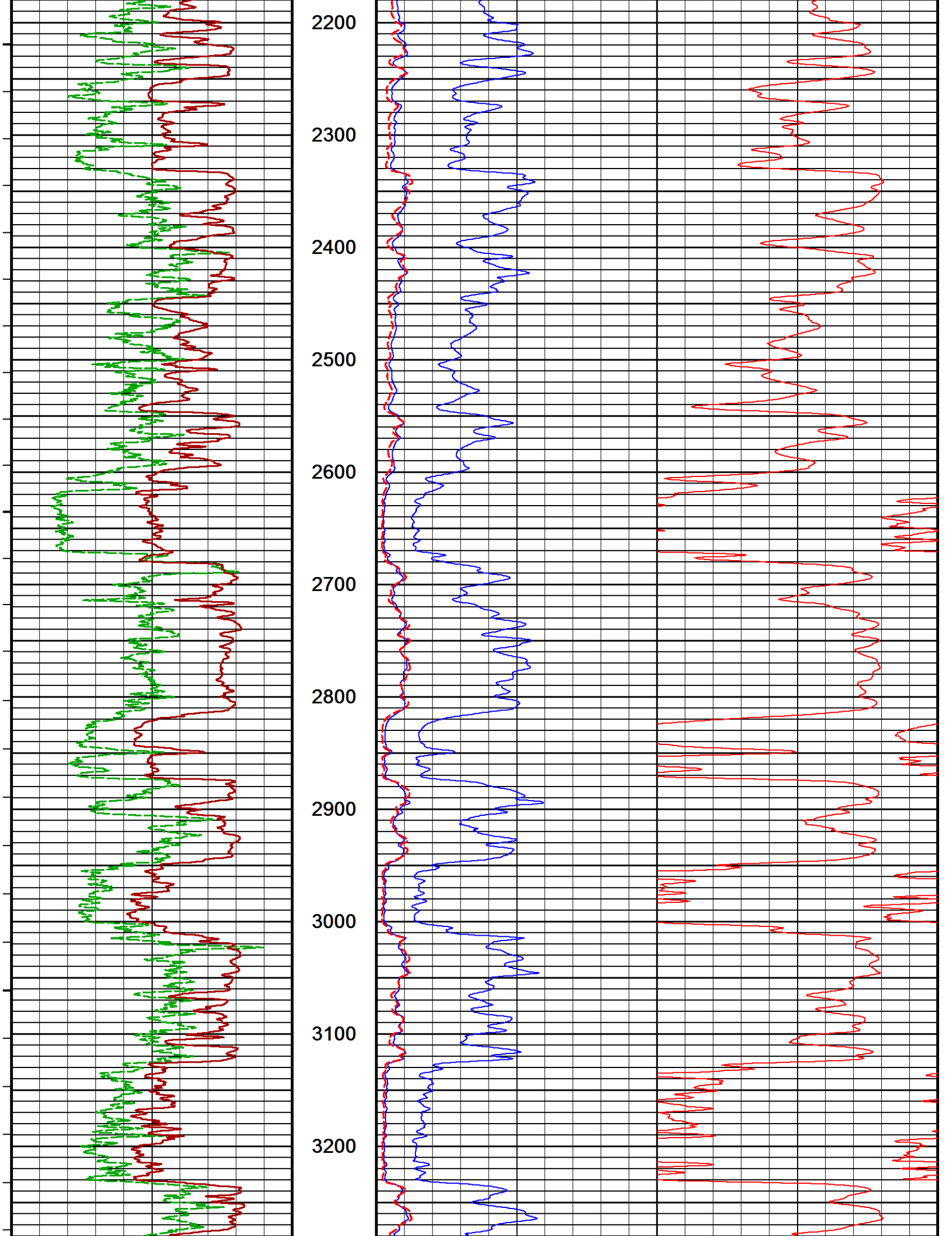
ALL INTERVALS LOGGED AND SCALED AS PER CUSTOMER REQUEST

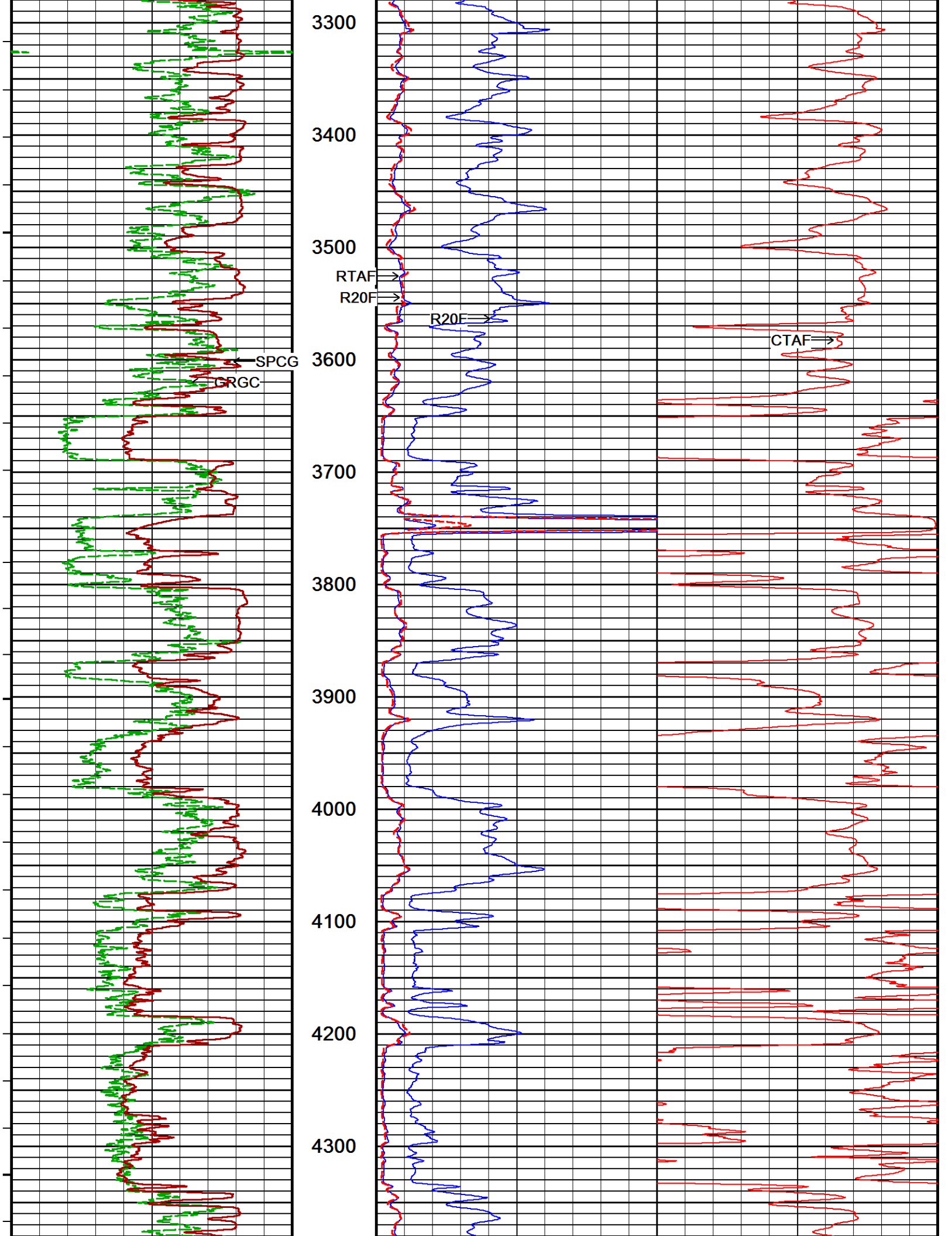
In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will give the Company the benefit of the Contractor's best judgment based on its experience and will perform all such Work in a good and workmanlike manner. Any interpretation of test or other data, and any recommendation or reservoir description based upon such interpretations, are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional engineers and analysts may differ. ACCORDINGLY ANY INTERPRETATION OR RECOMMENDATION RESULTING FROM THE SERVICES WILL BE AT THE SOLE RISK OF THE COMPANY, AND THE CONTRACTOR CANNOT AND DOES NOT WARRANT THE ACCURACY, CORRECTNESS OR COMPLETENESS OF ANY SUCH INTERPRETATION OR RECOMMENDATION, WHICH INTERPRETATIONS AND RECOMMENDATIONS SHOULD NOT, THEREFORE, UNDER ANY CIRCUMSTANCES BE RELIED UPON AS THE SOLE OR MAIN BASIS FOR ANY DRILLING, COMPLETION, WELL TREATMENT, PRODUCTION OR FINANCIAL DECISION, OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING ACTIVITY, DRILLING RIG OR ITS CREW OR ANY OTHER INDIVIDUAL. THE COMPANY HAS FULL RESPONSIBILITY FOR ALL DECISIONS CONCERNING THE SERVICES.

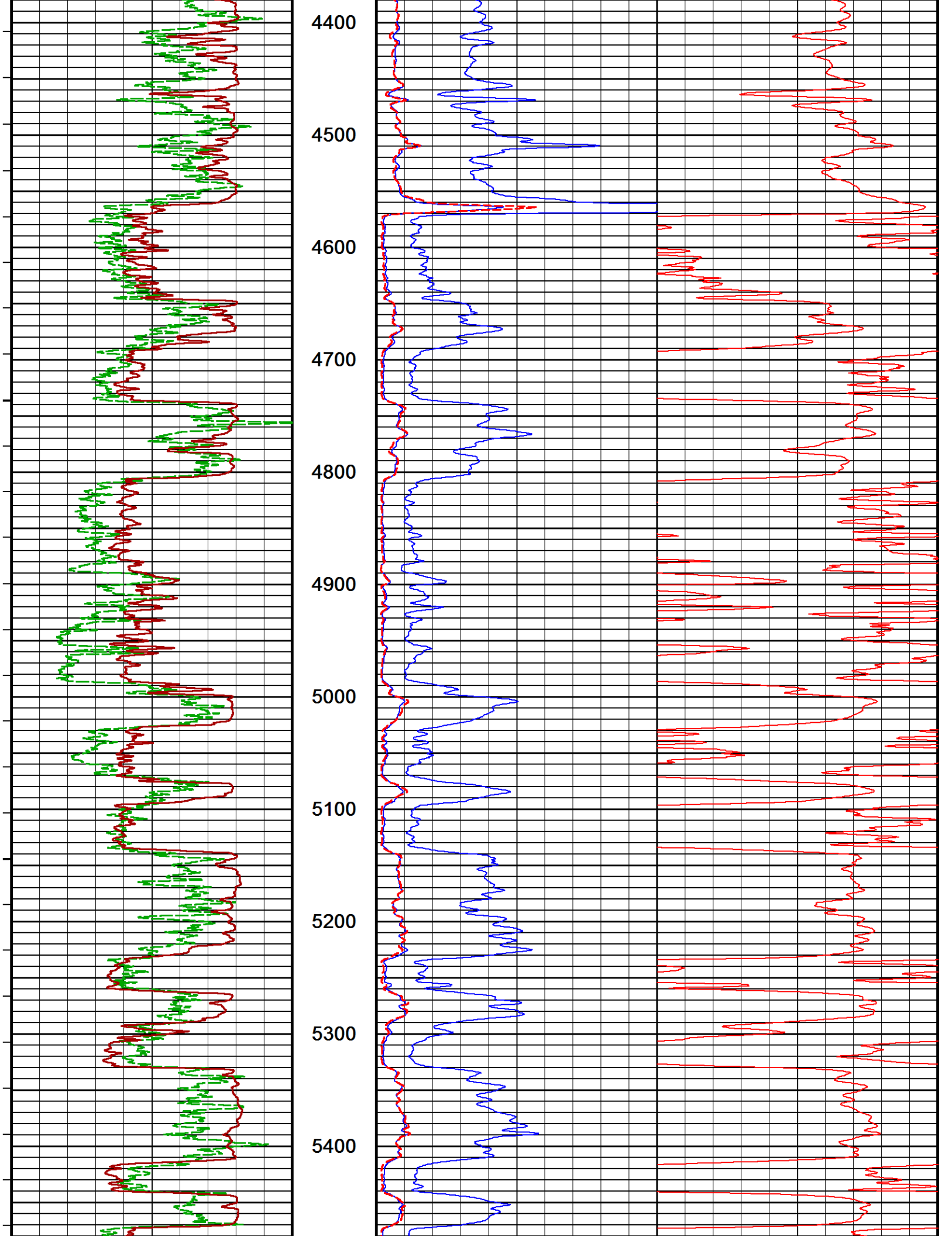
**ONE INCH MAIN PASS 1:1200**

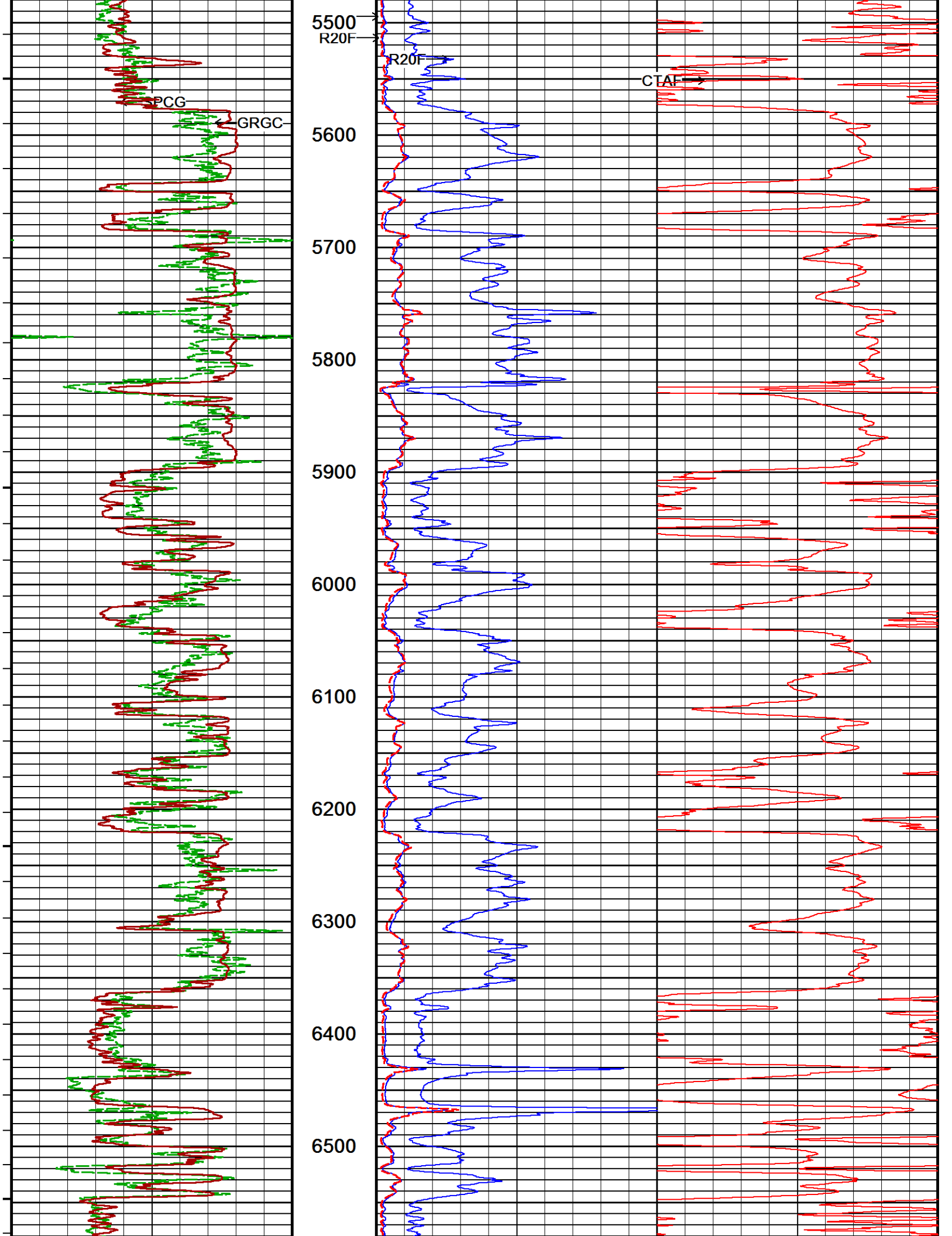
Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 09-MAY-2014 07:17  
 Filename: C:\Data\13.08\Smith Produ...\Copy of Smith Production\_SL 18593 #1 ALT\_T Combo MD2.dta Recorded on 09-MAY-2014 03:37  
 System Versions: Logged with 14.01.3016 Plotted with 14.01.3016

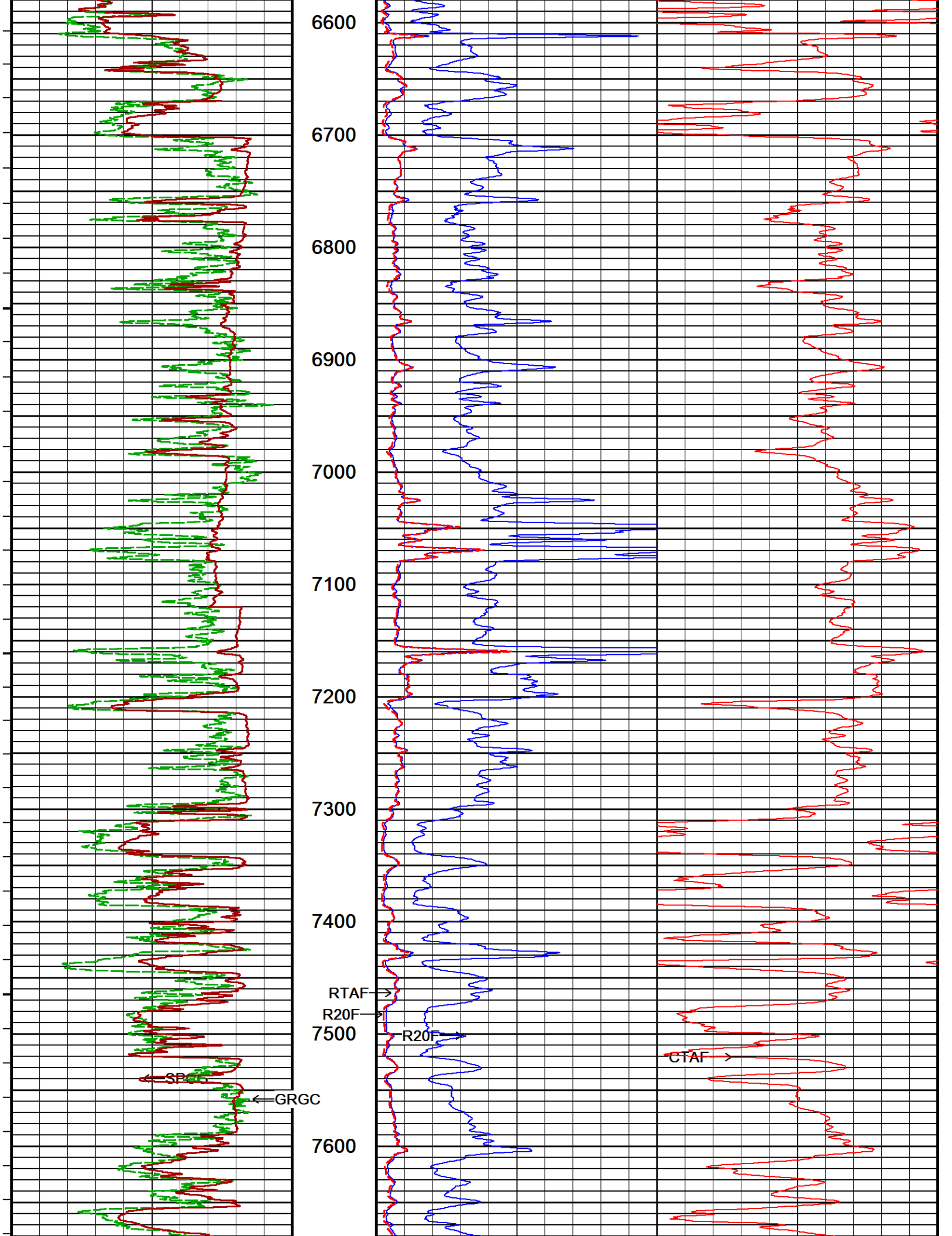


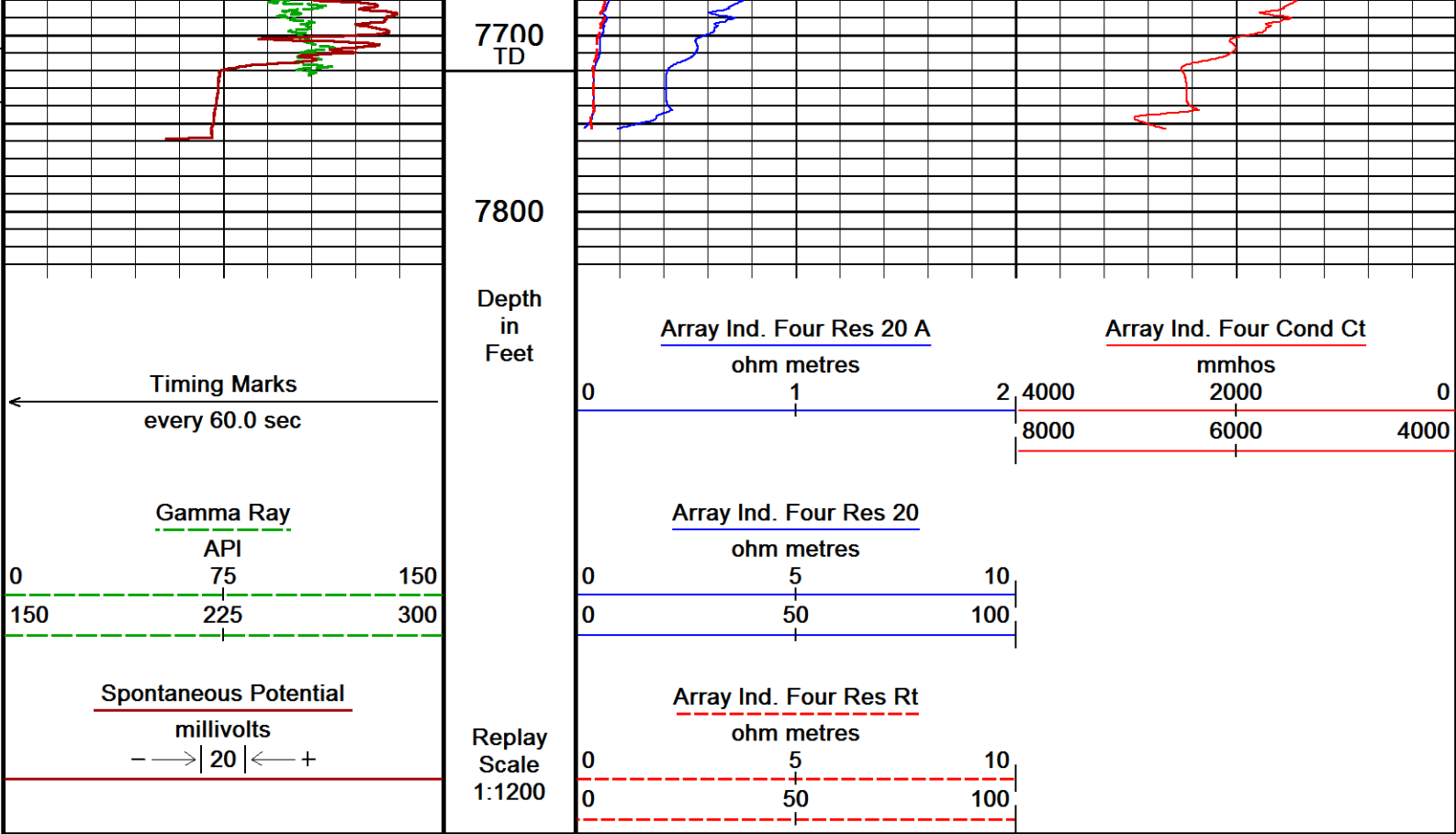










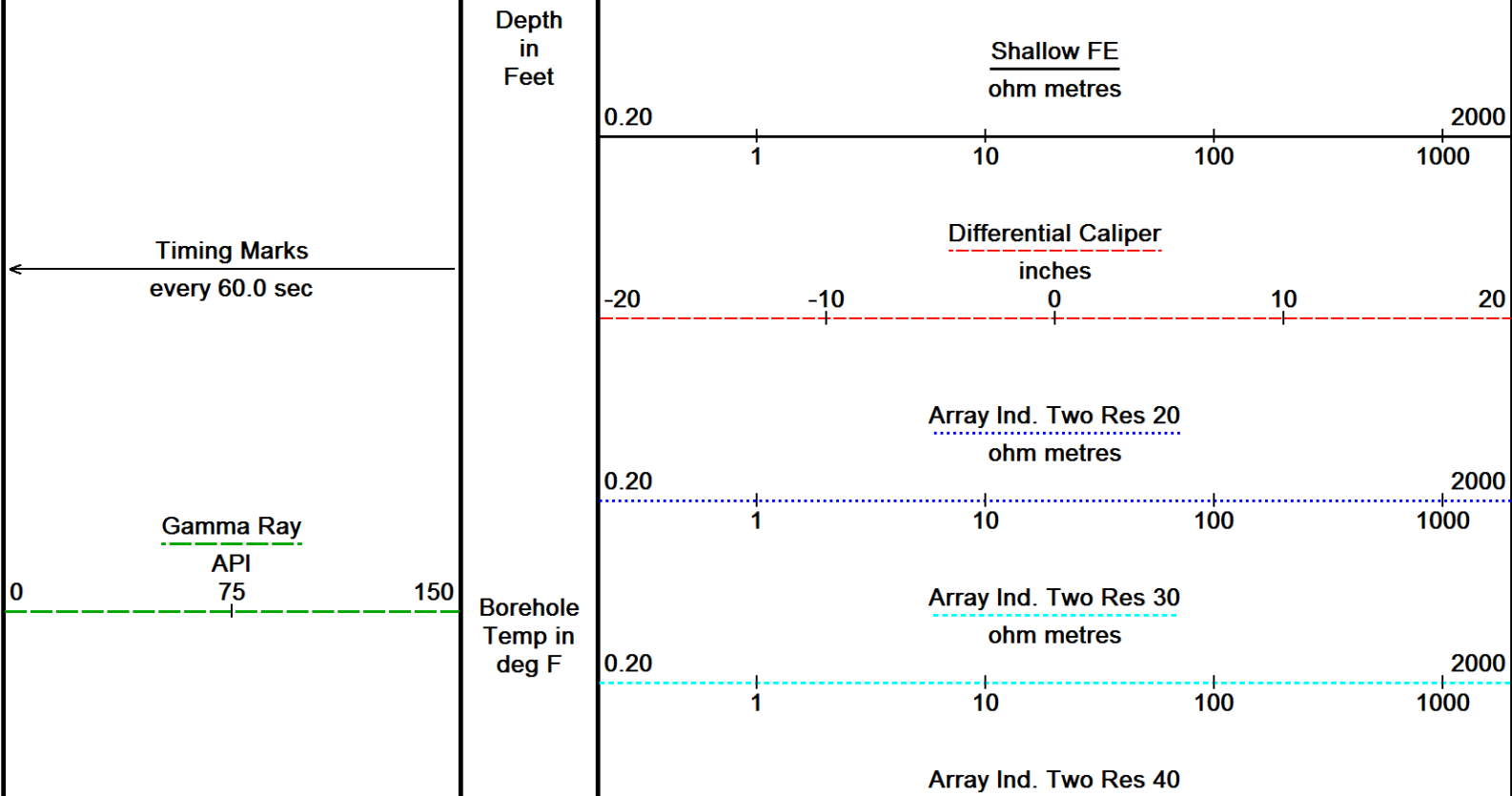


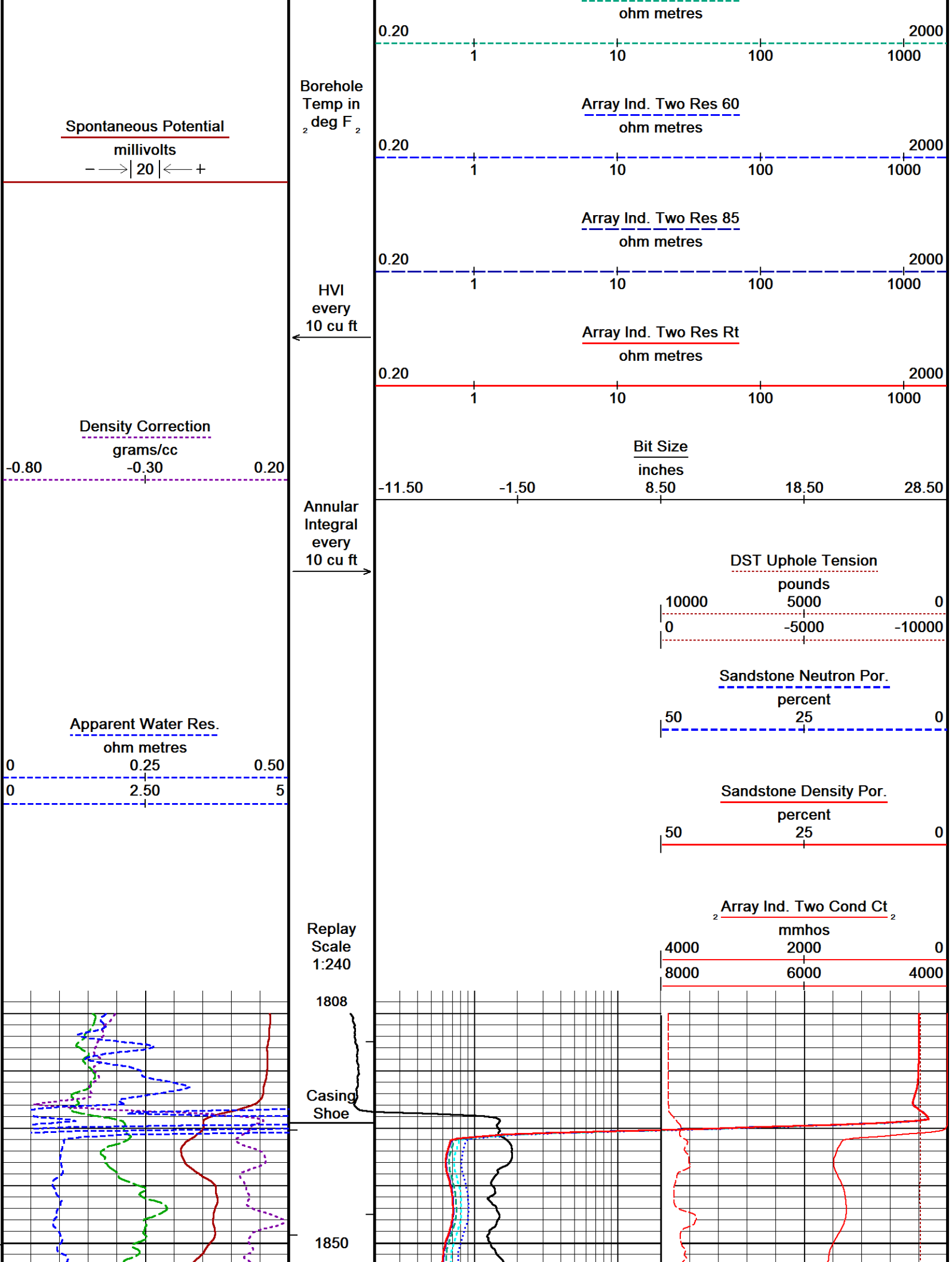
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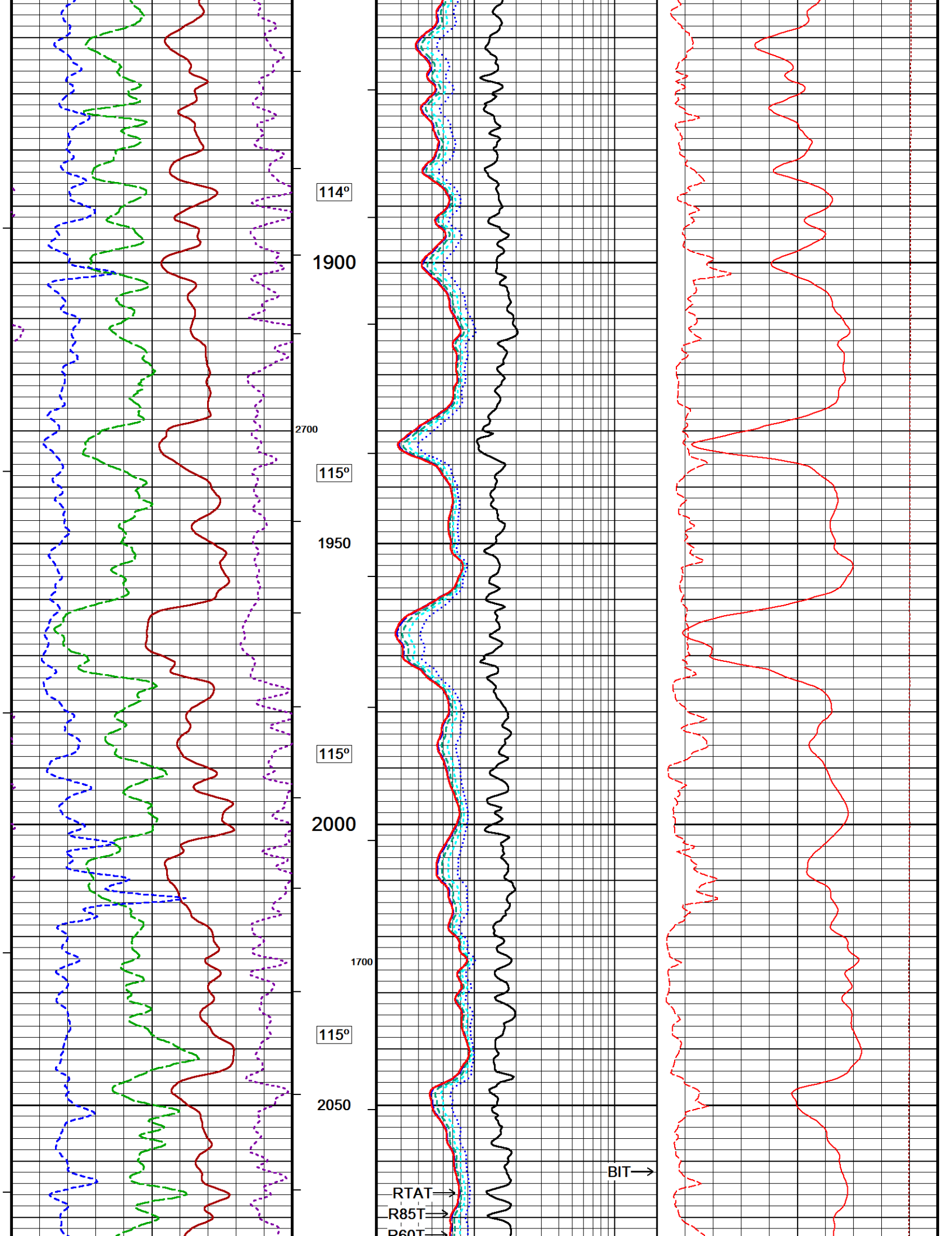
↑ ONE INCH MAIN PASS 1:1200 ↑

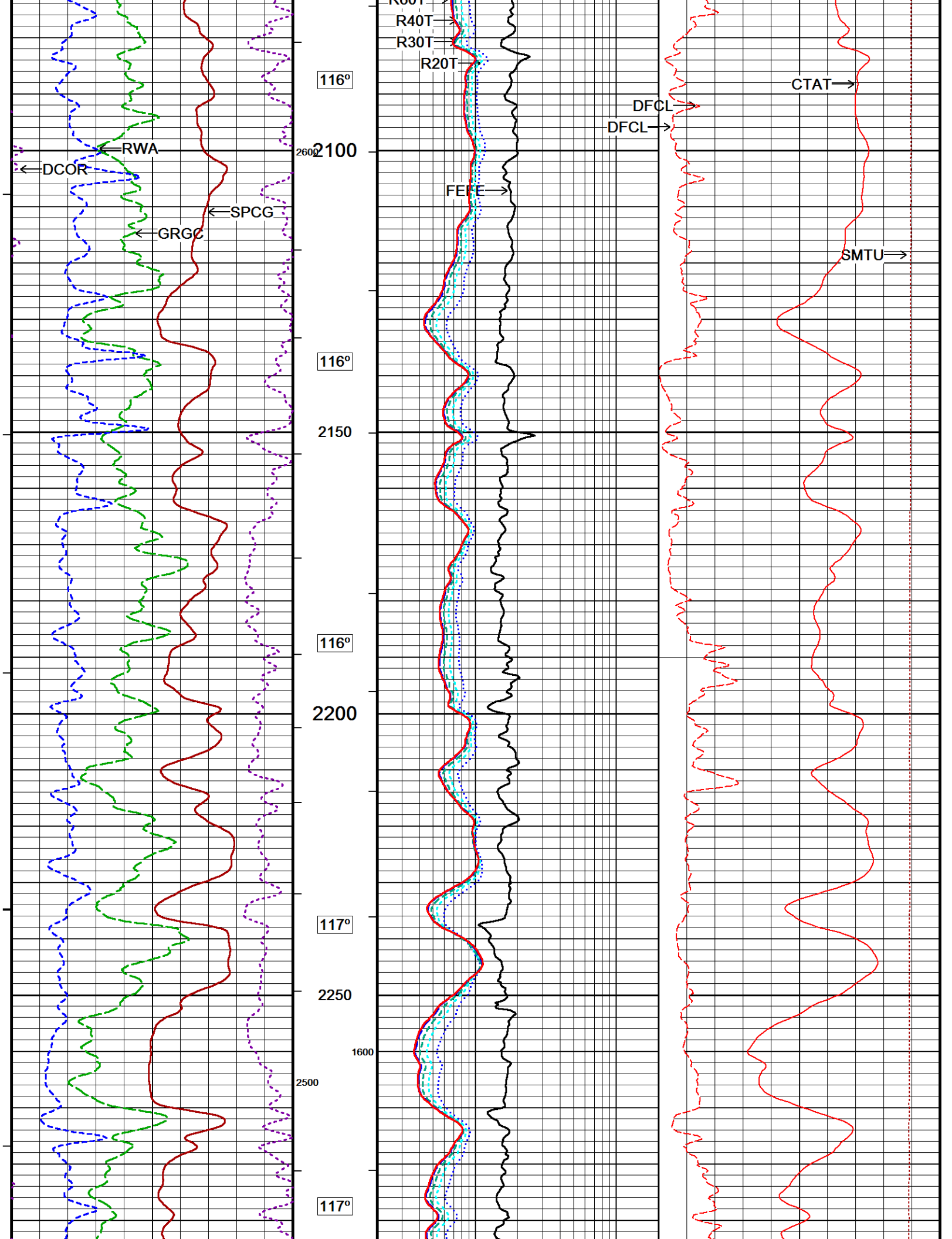
↓ FIVE INCH MAIN PASS 1:240 ↓

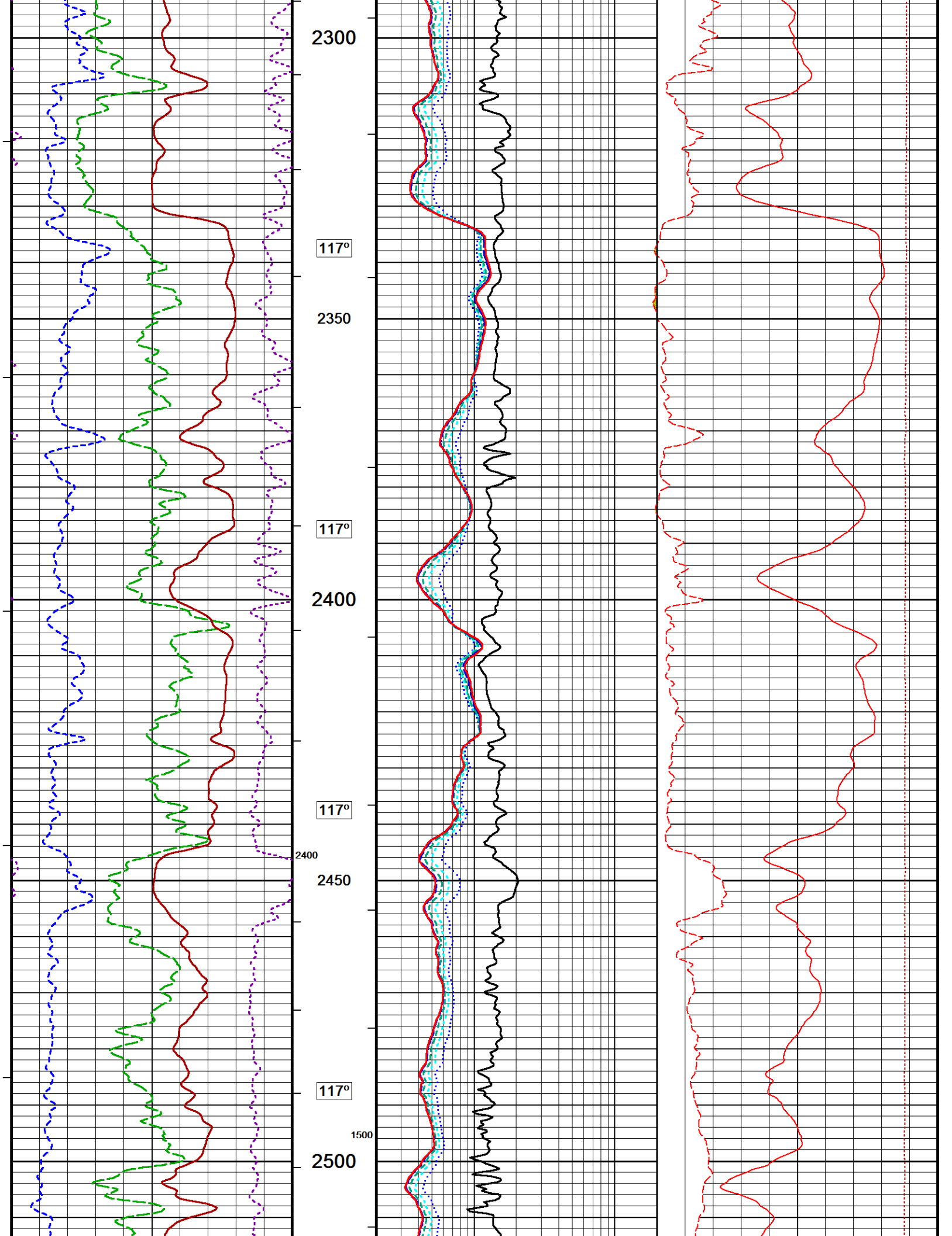
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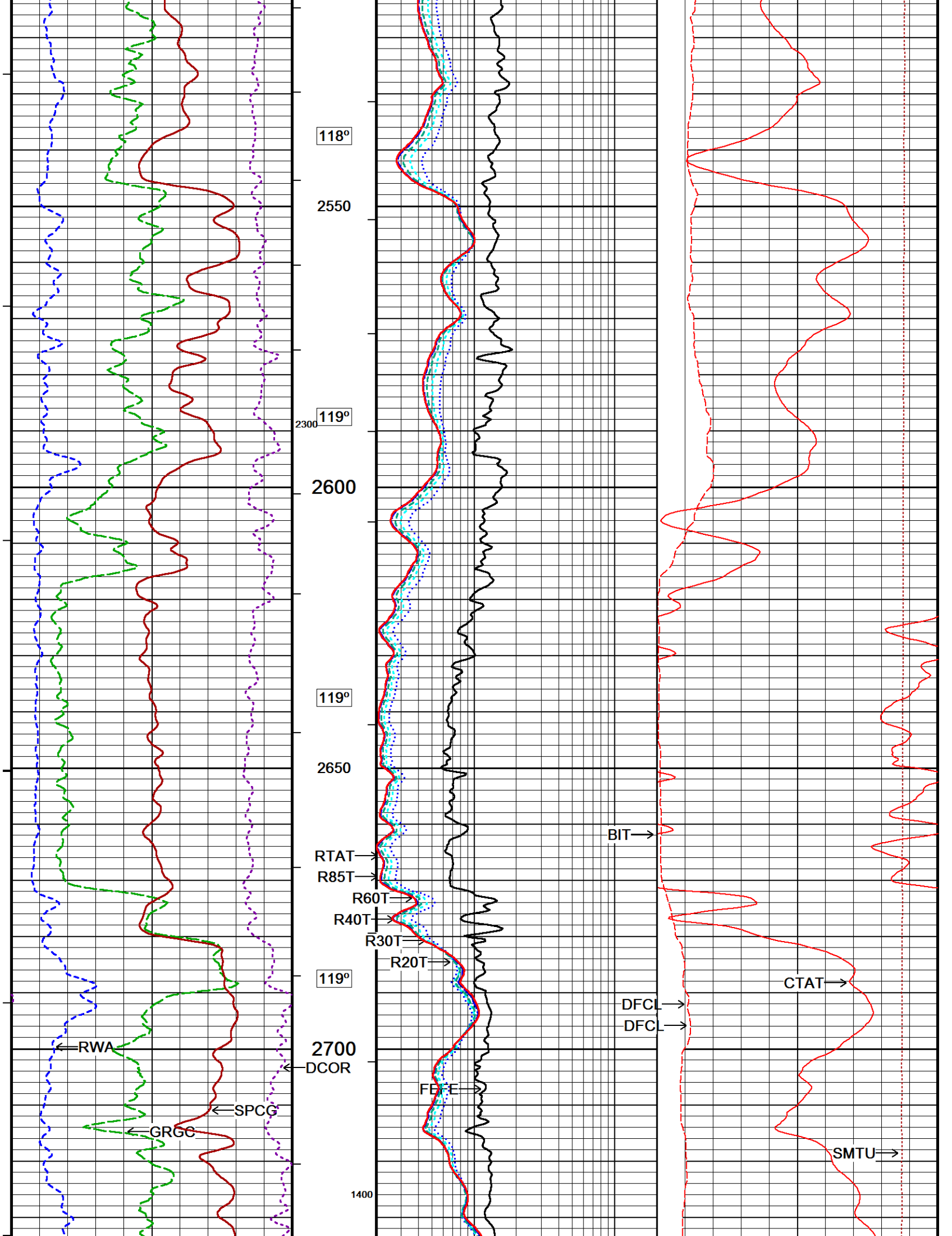


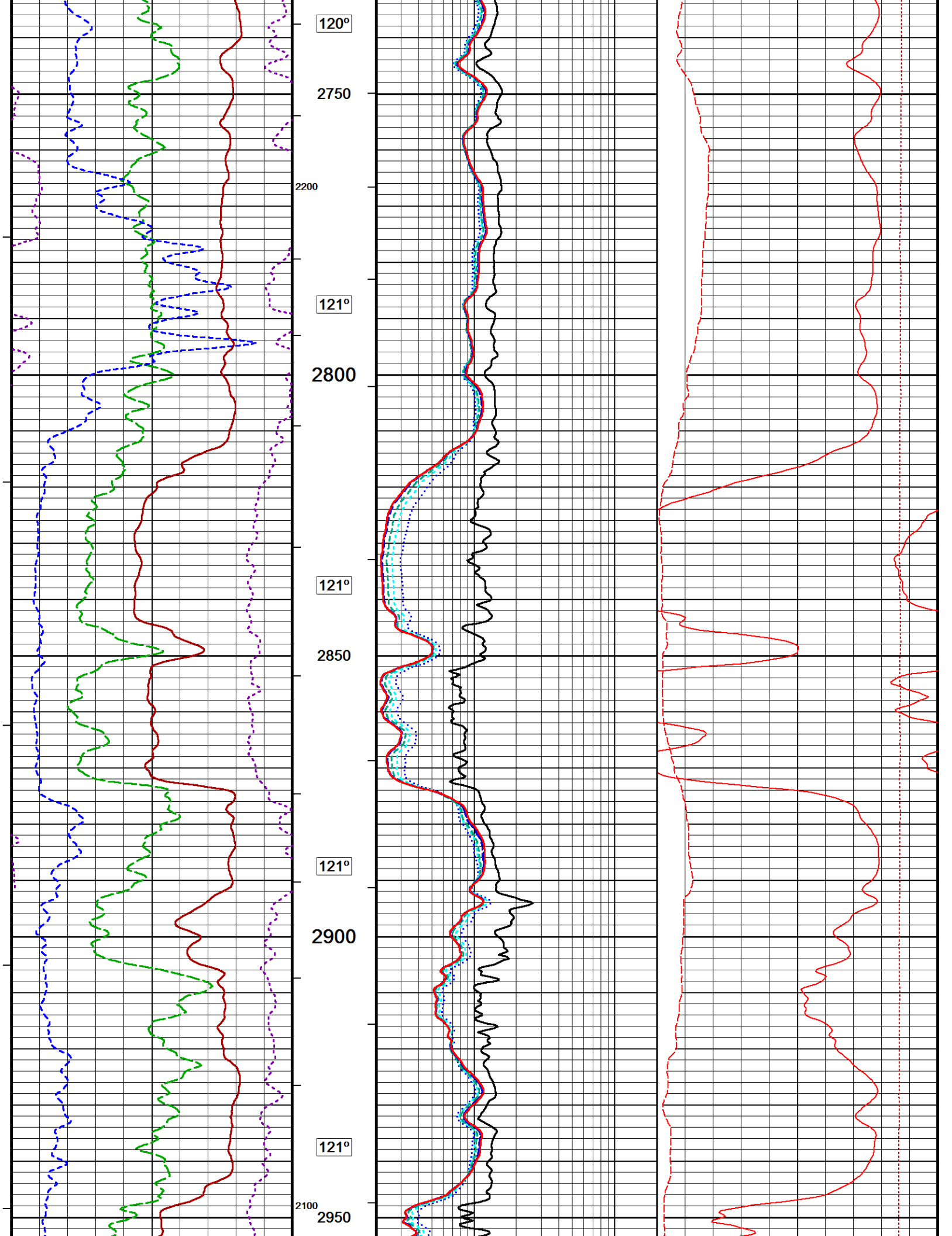


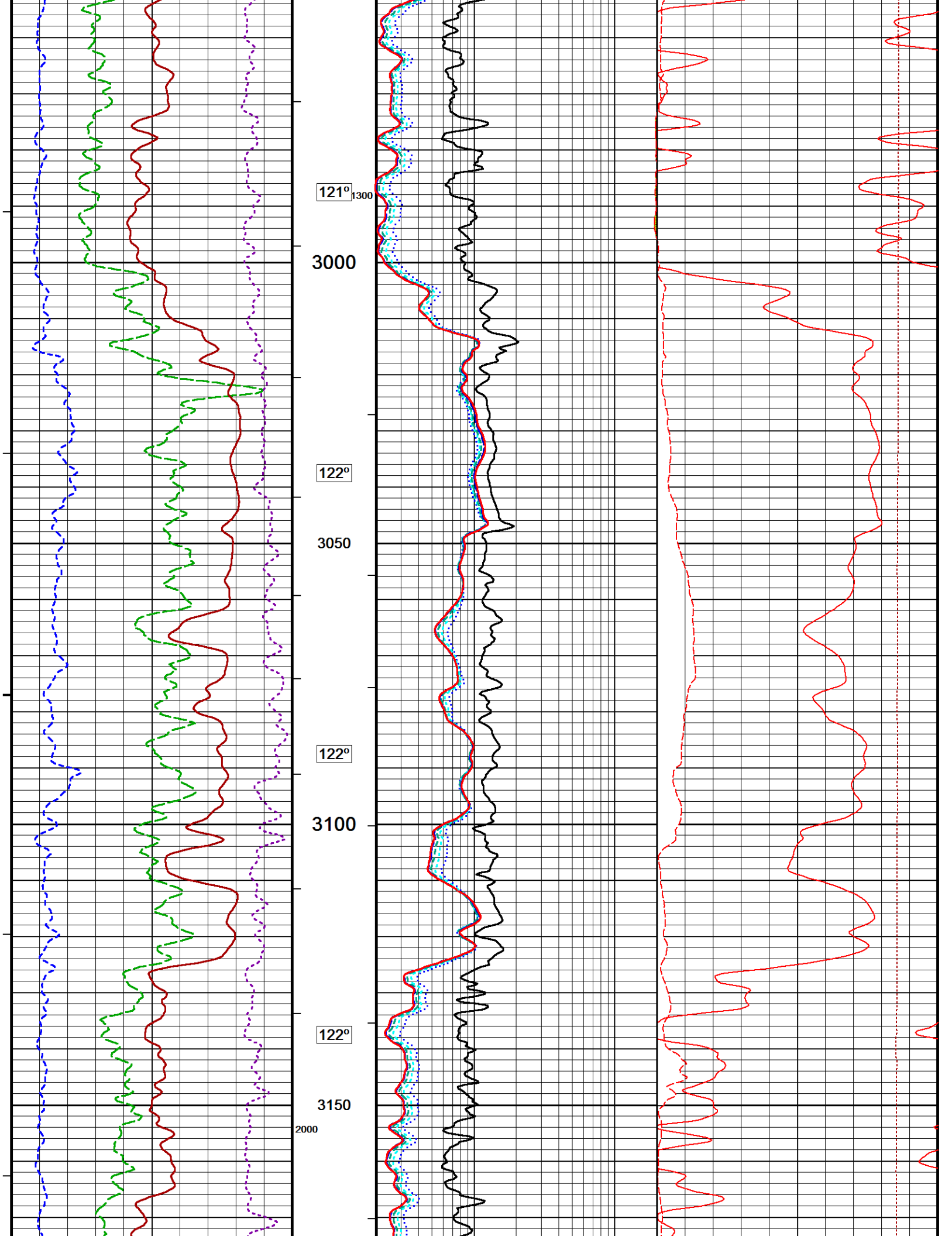


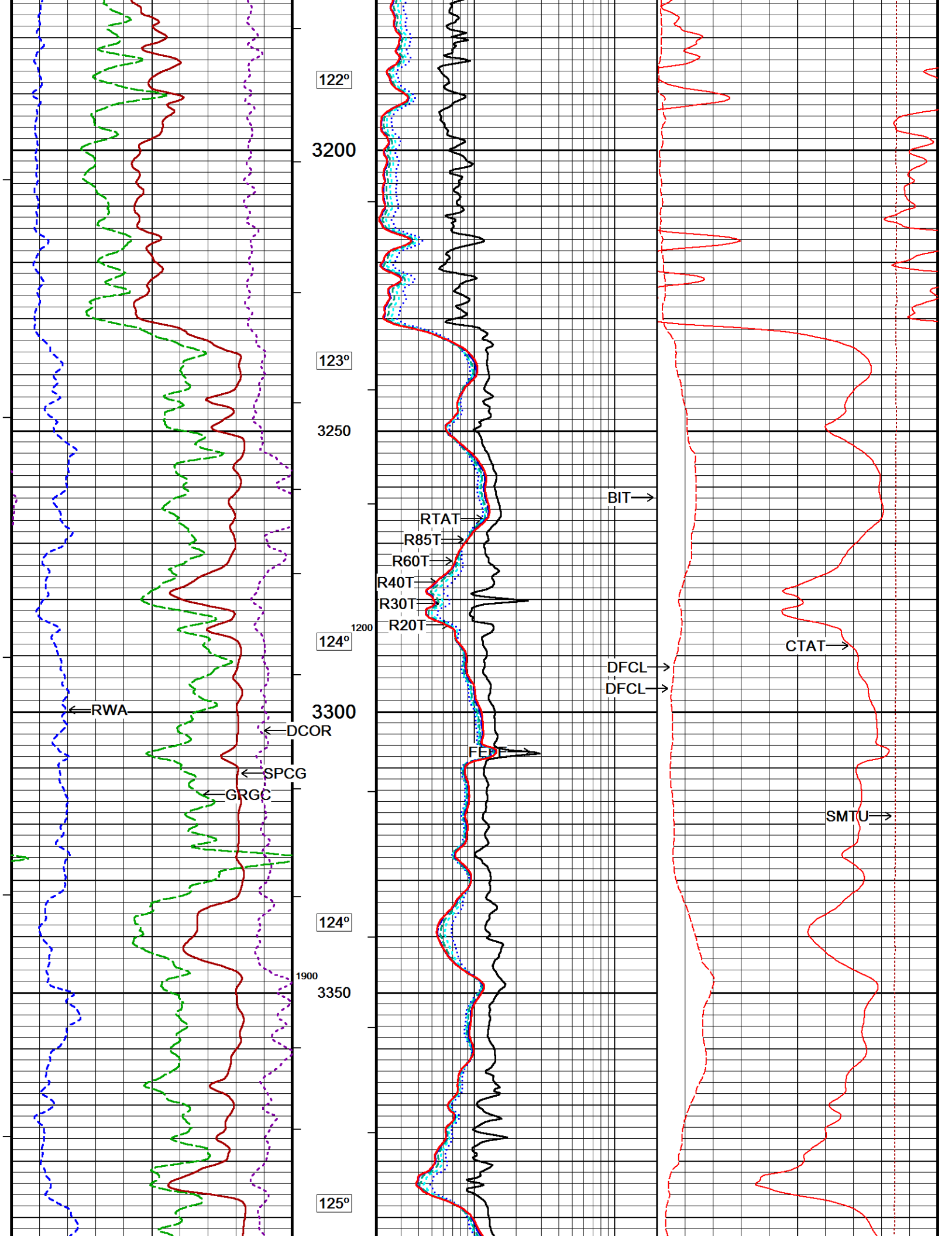


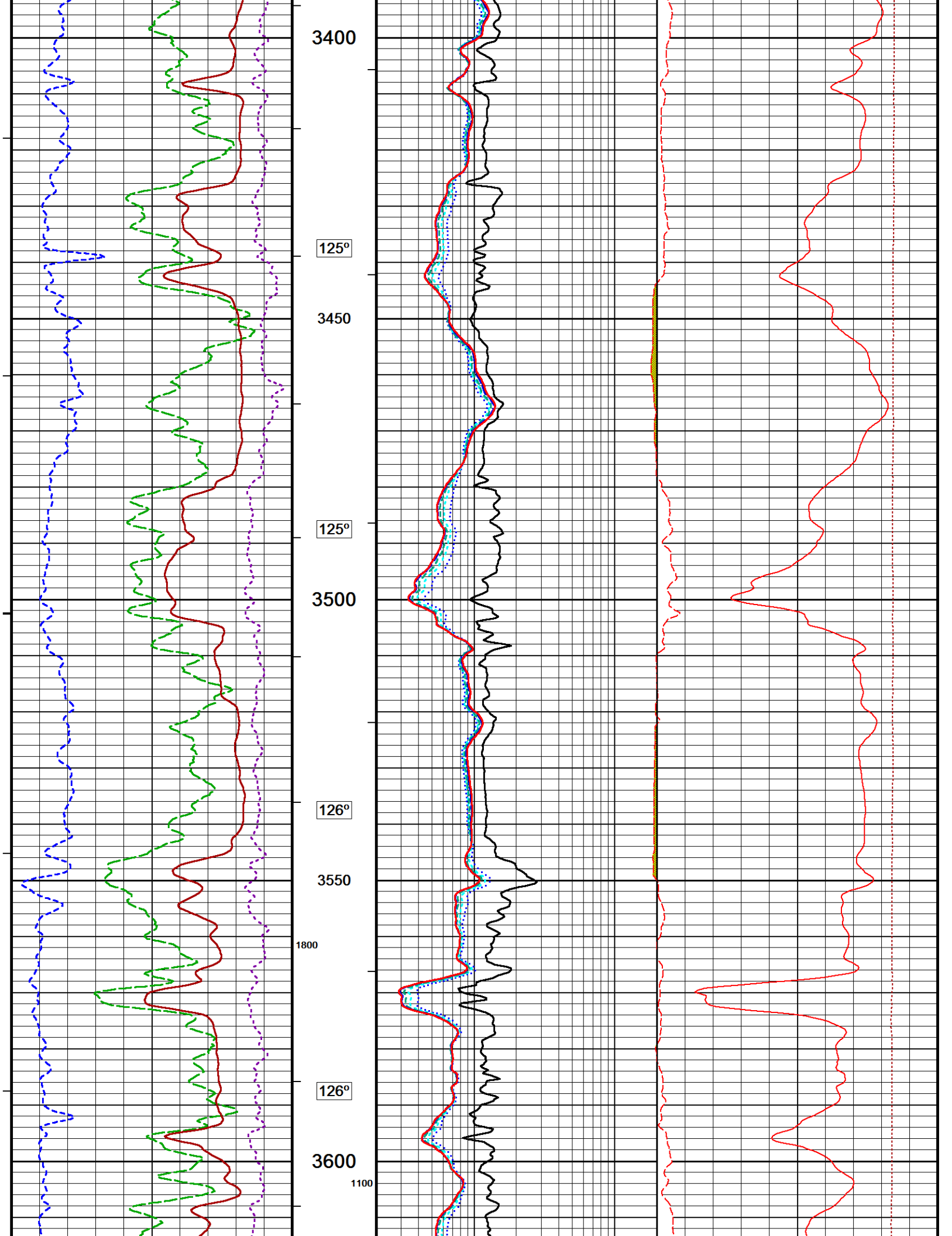


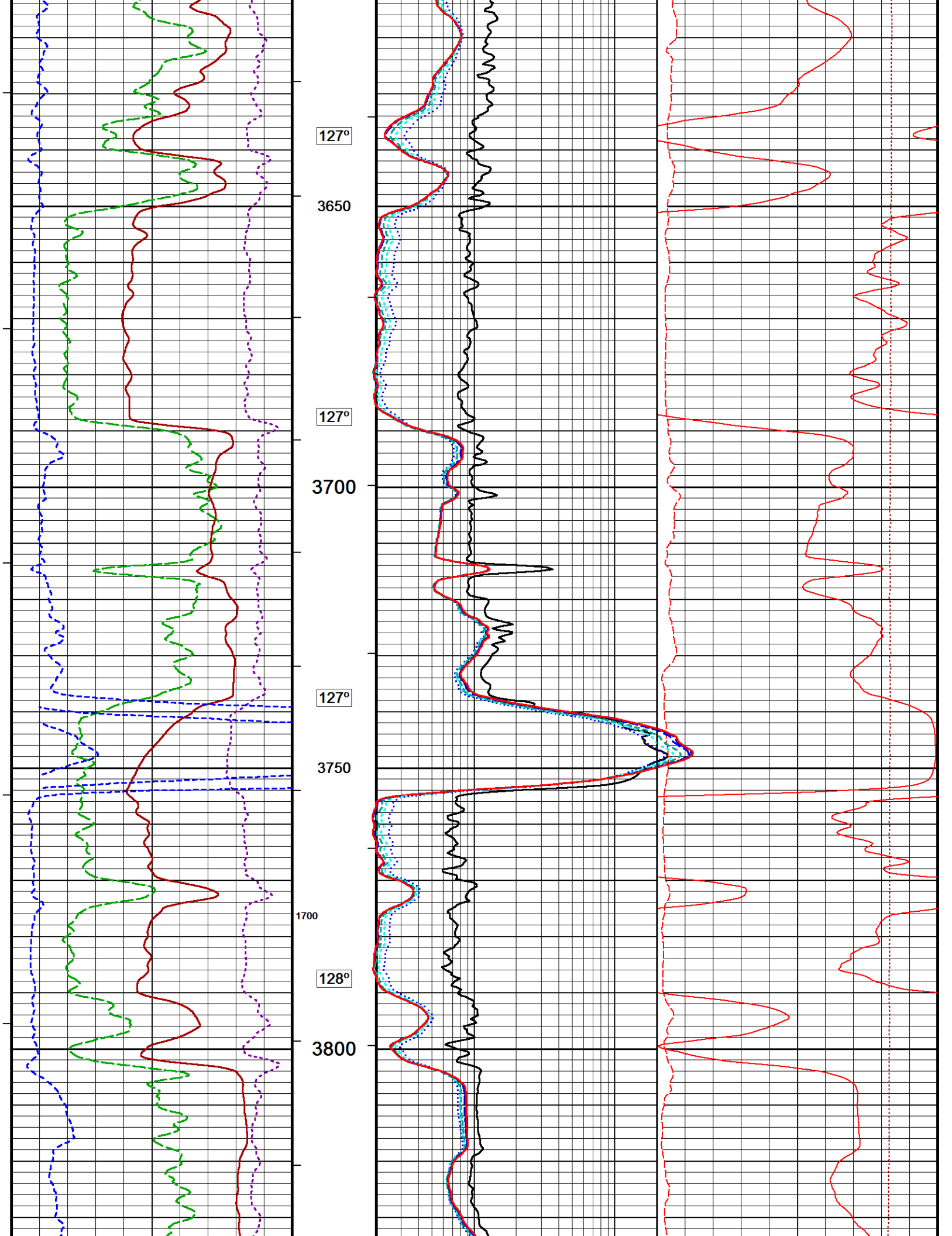


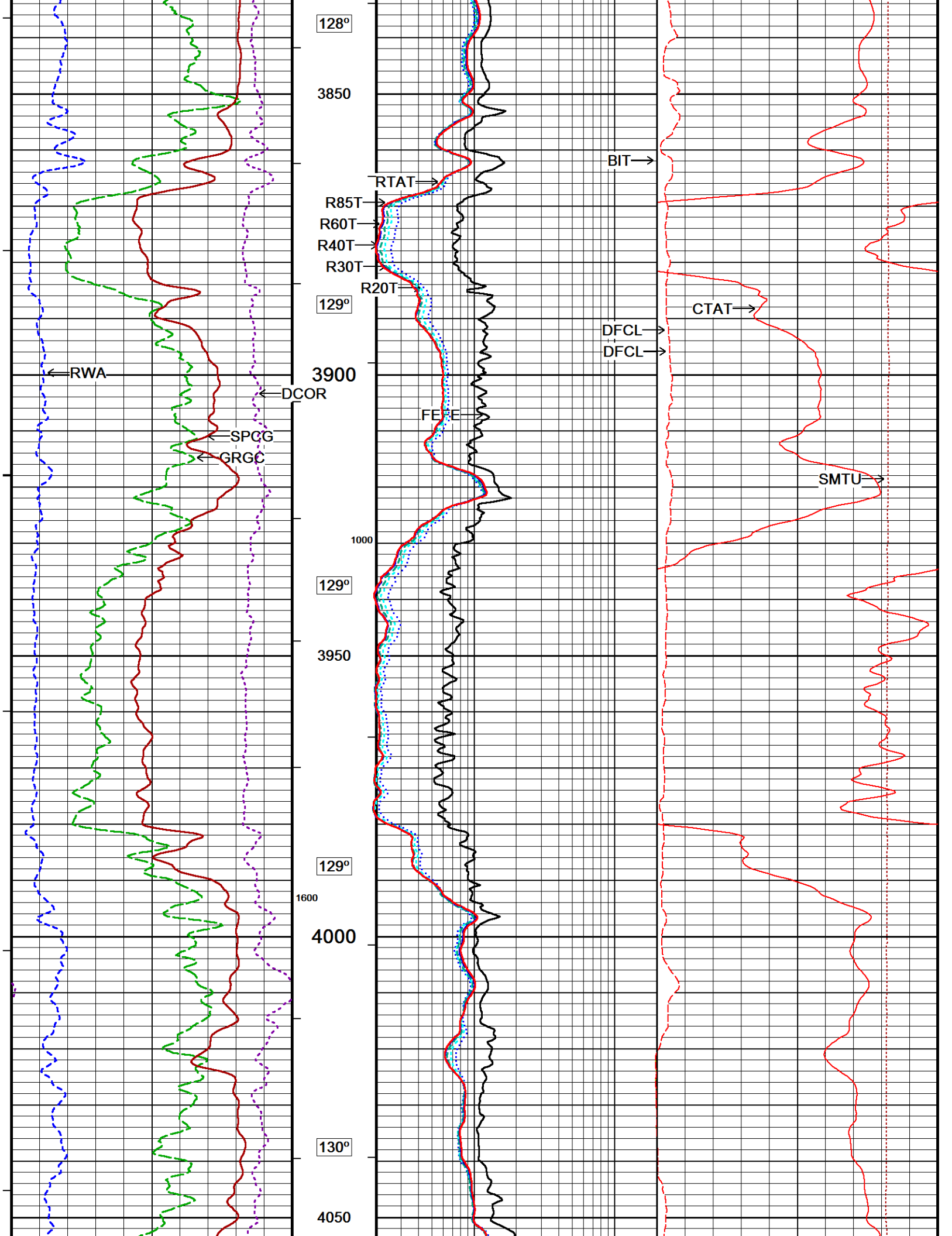


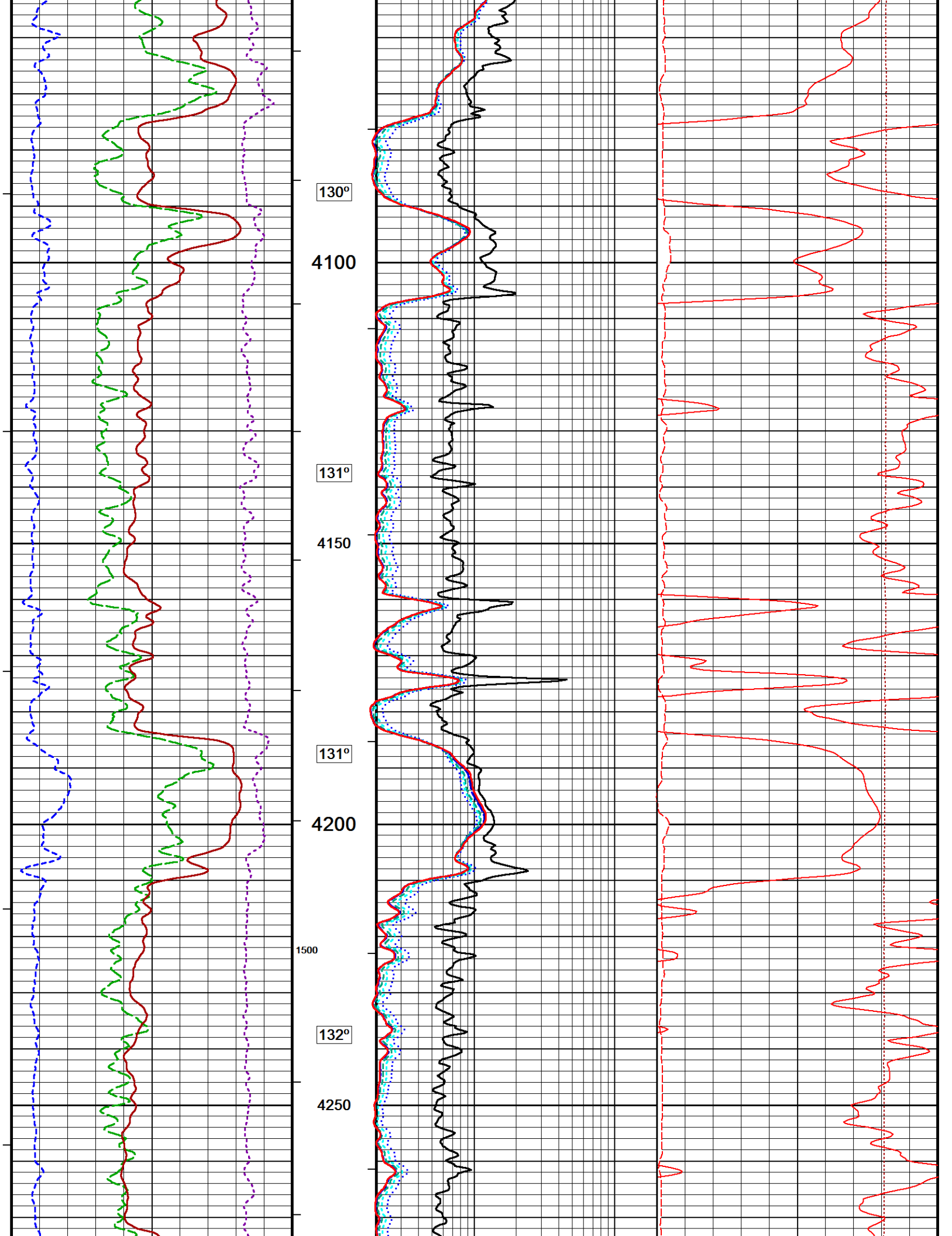


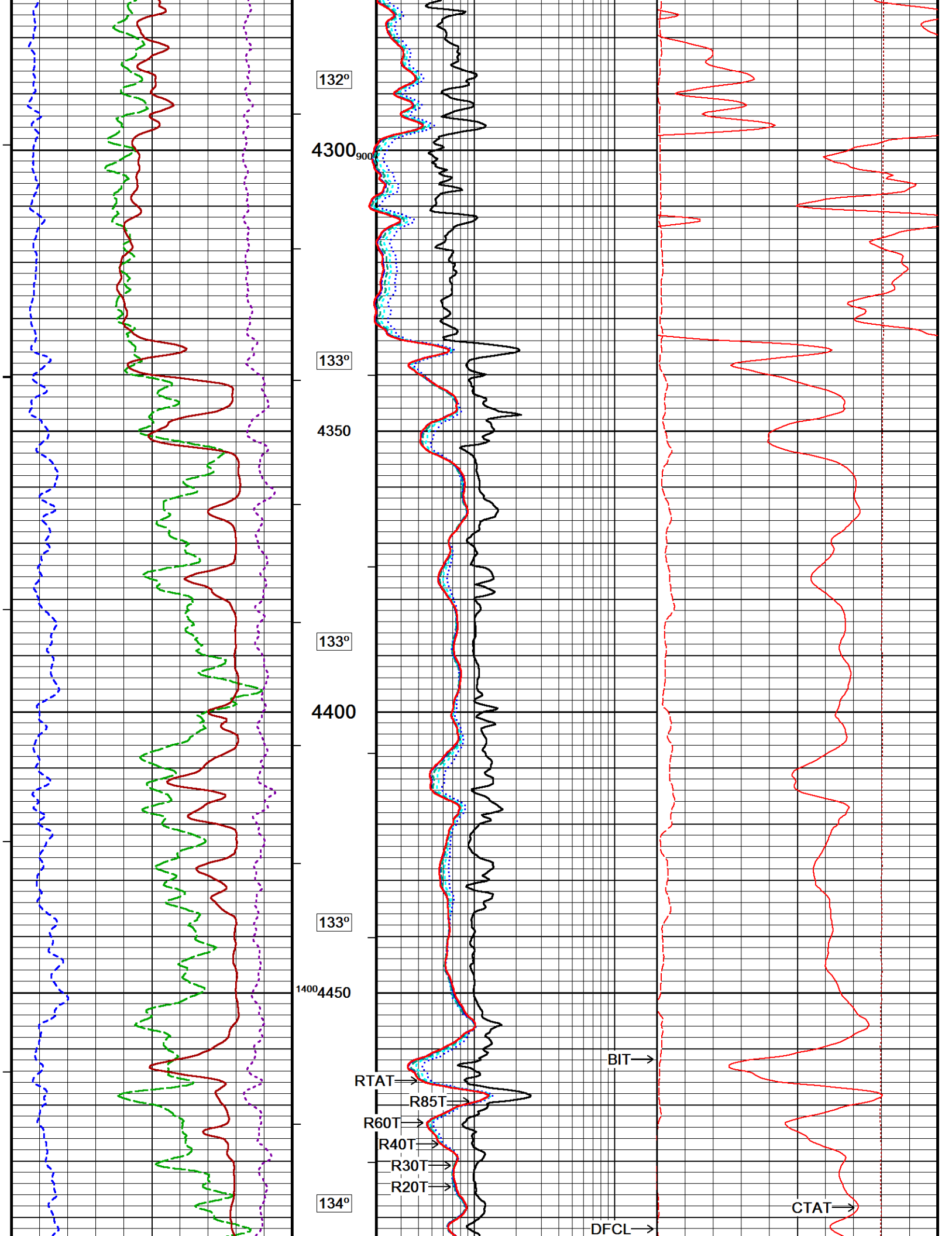


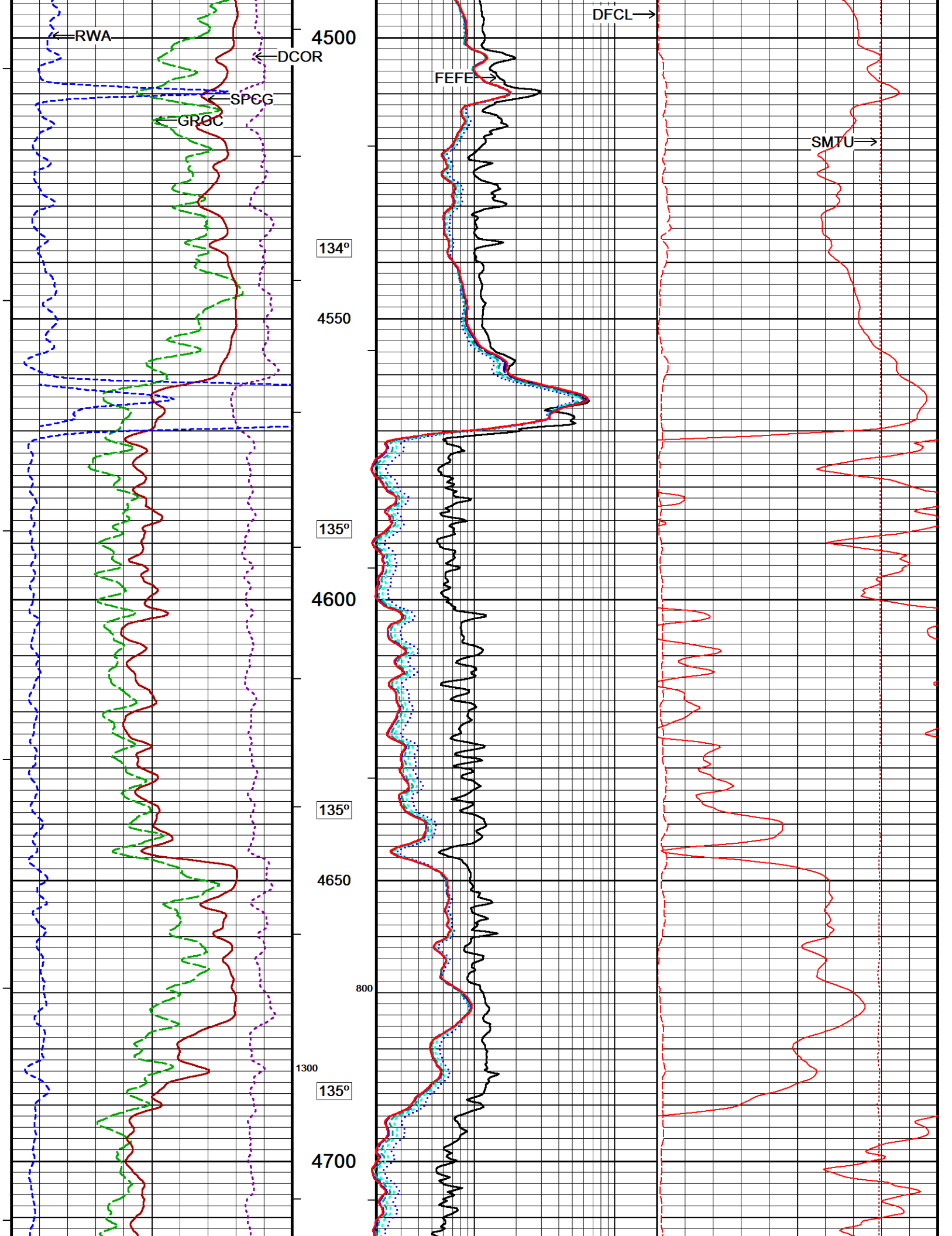


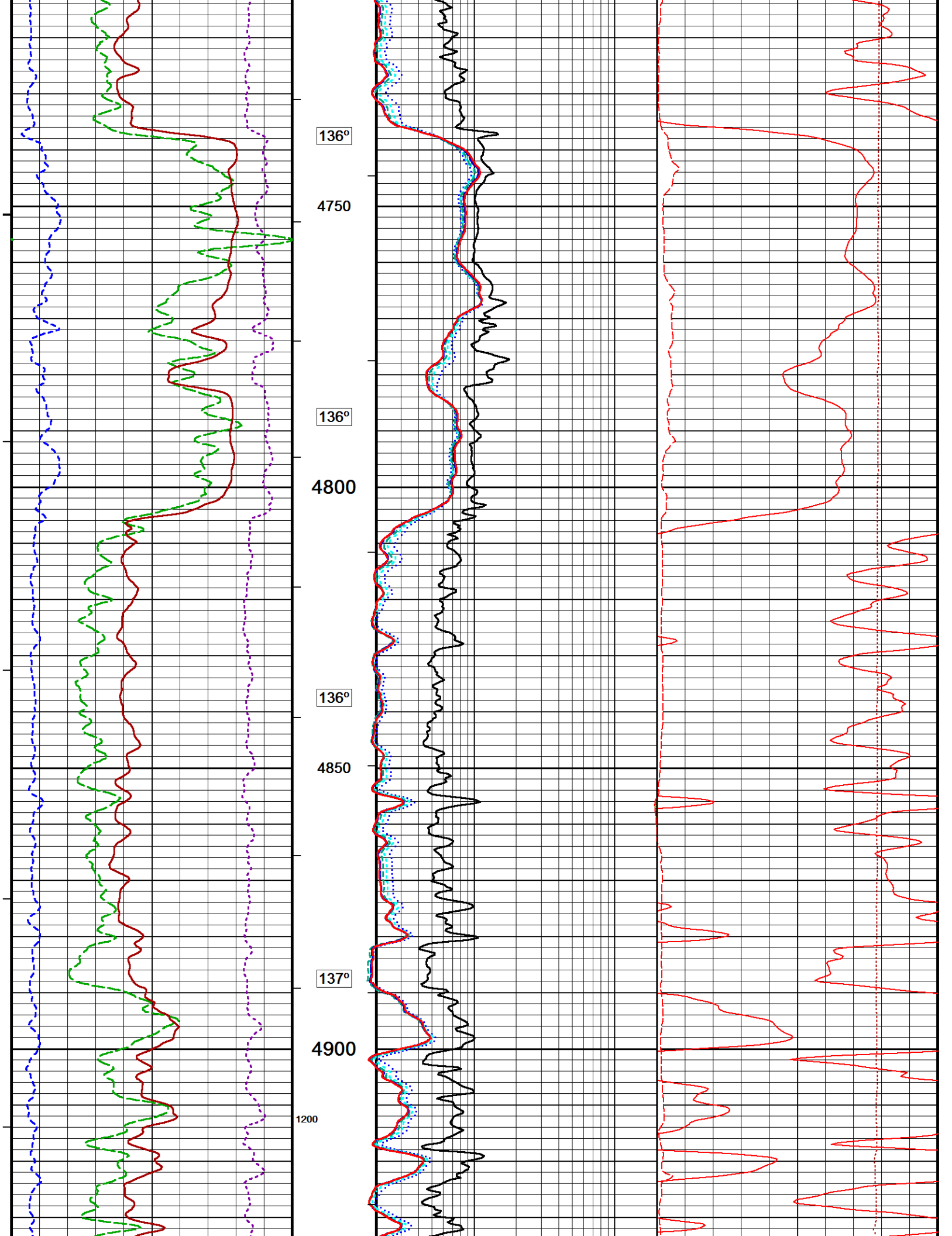


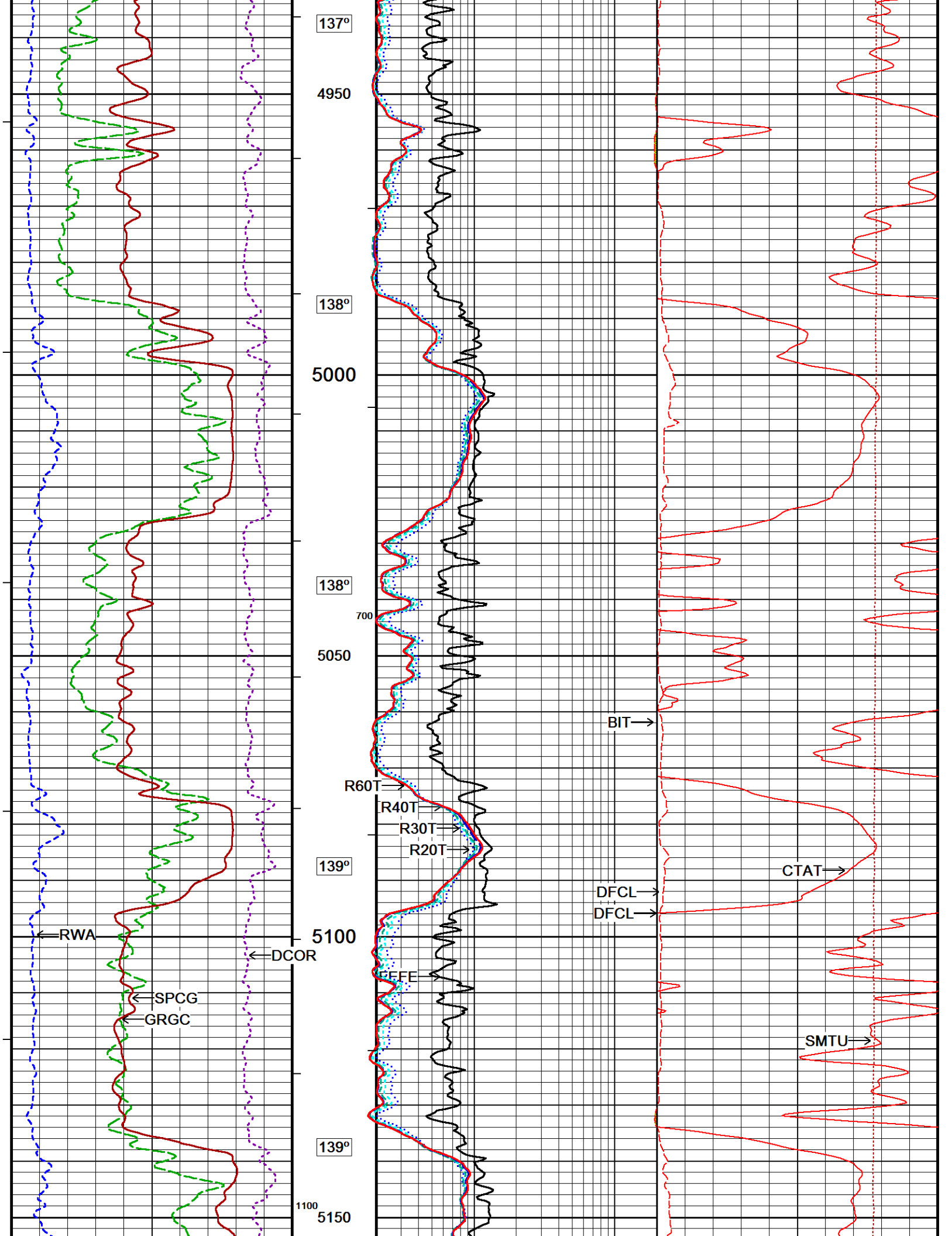


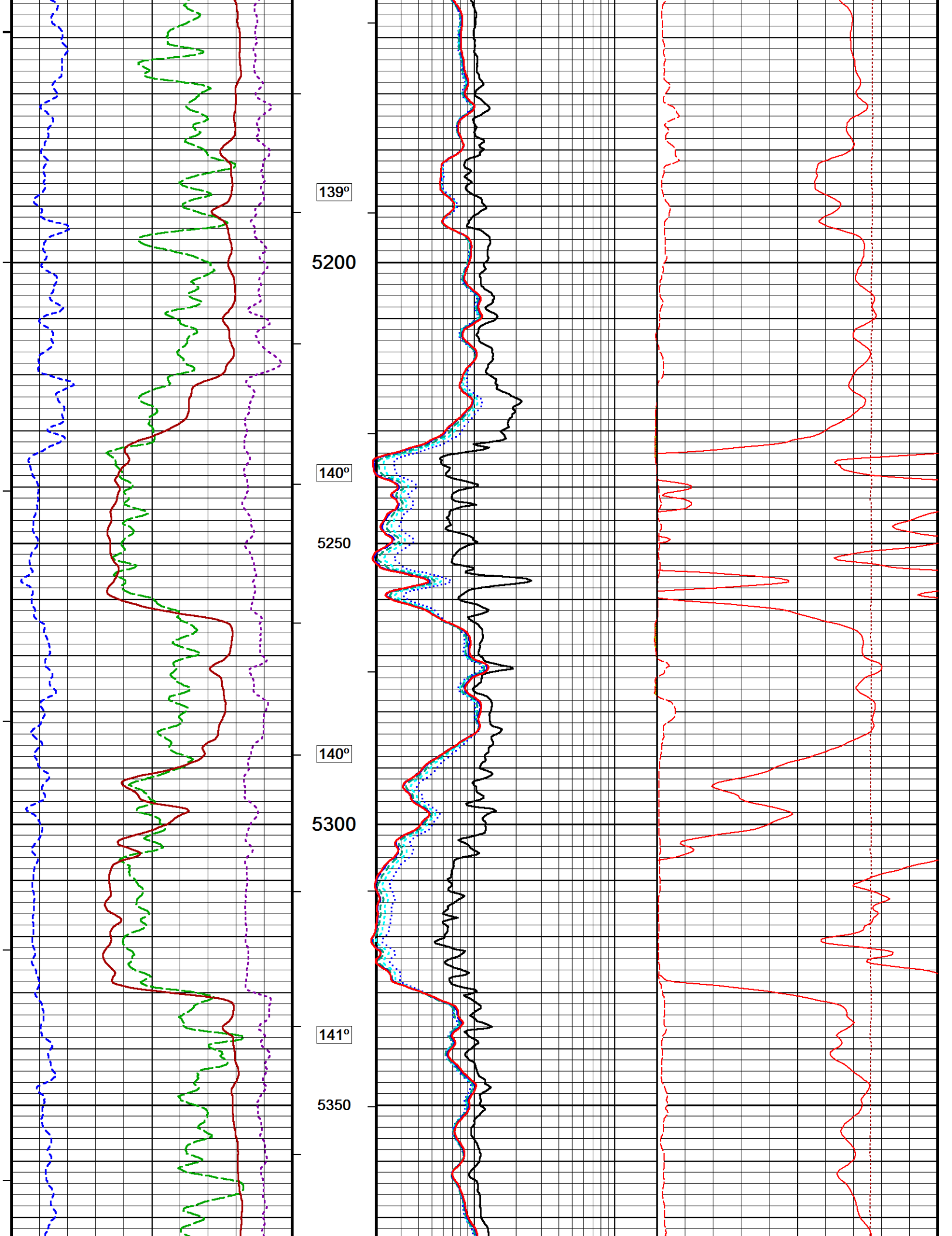


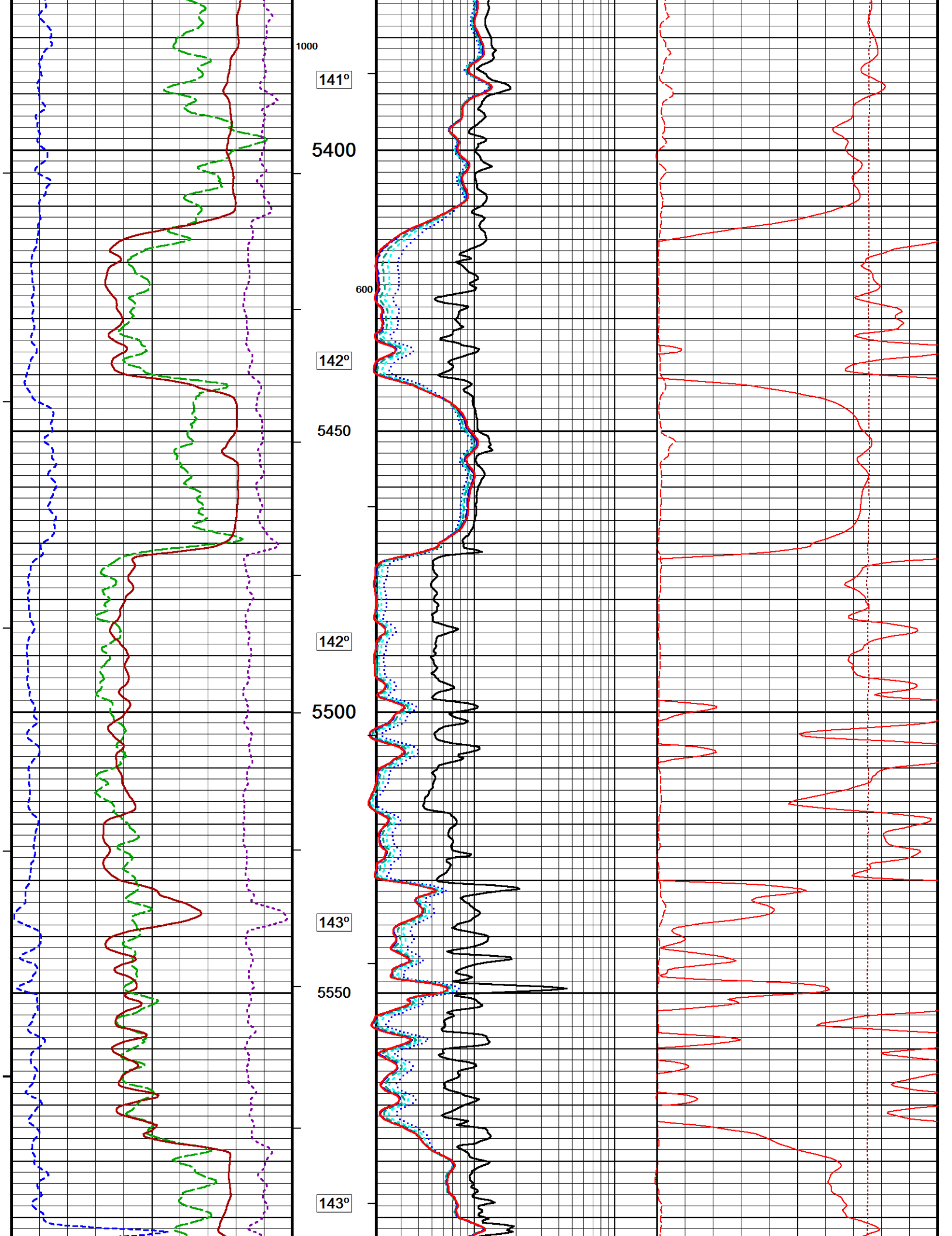


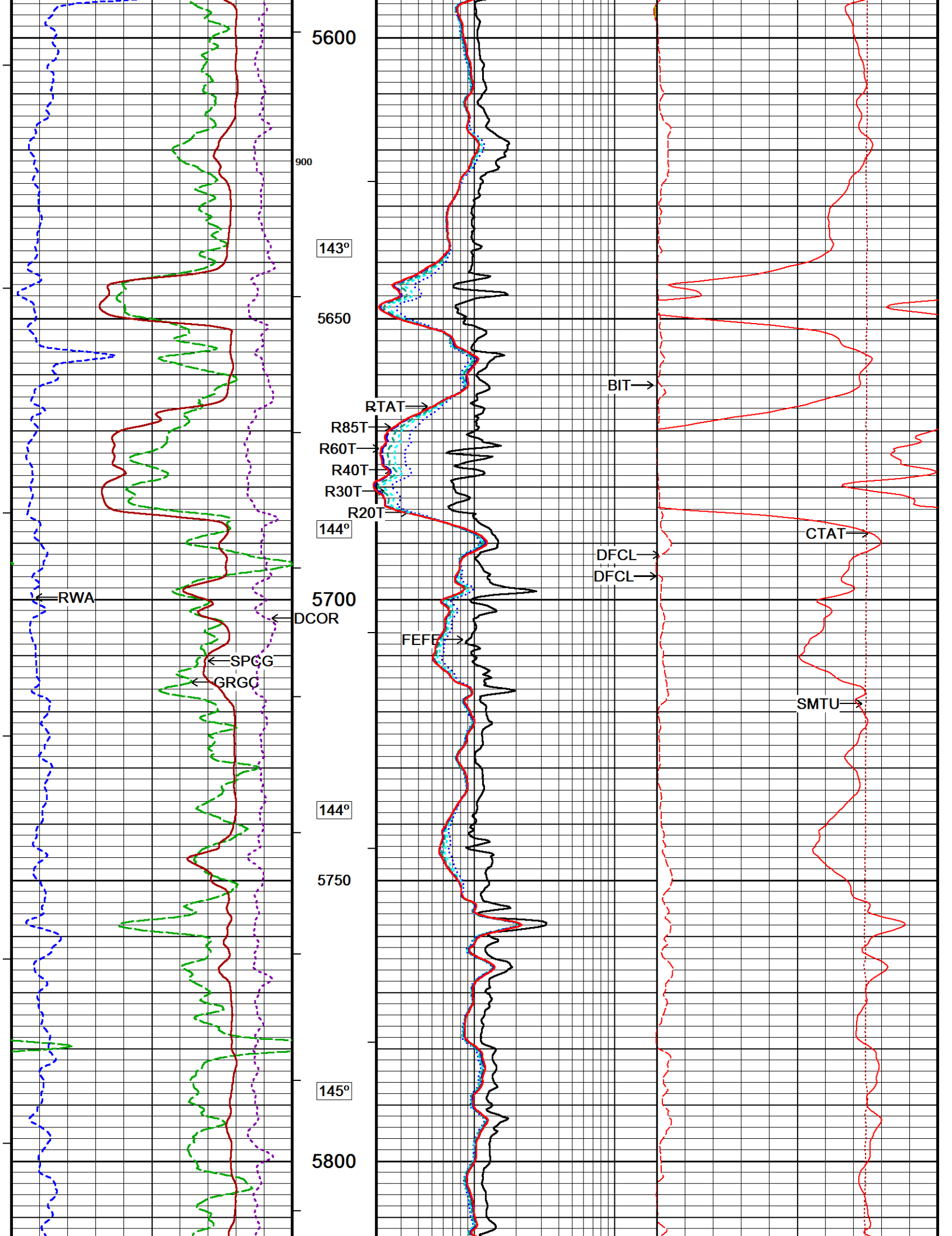


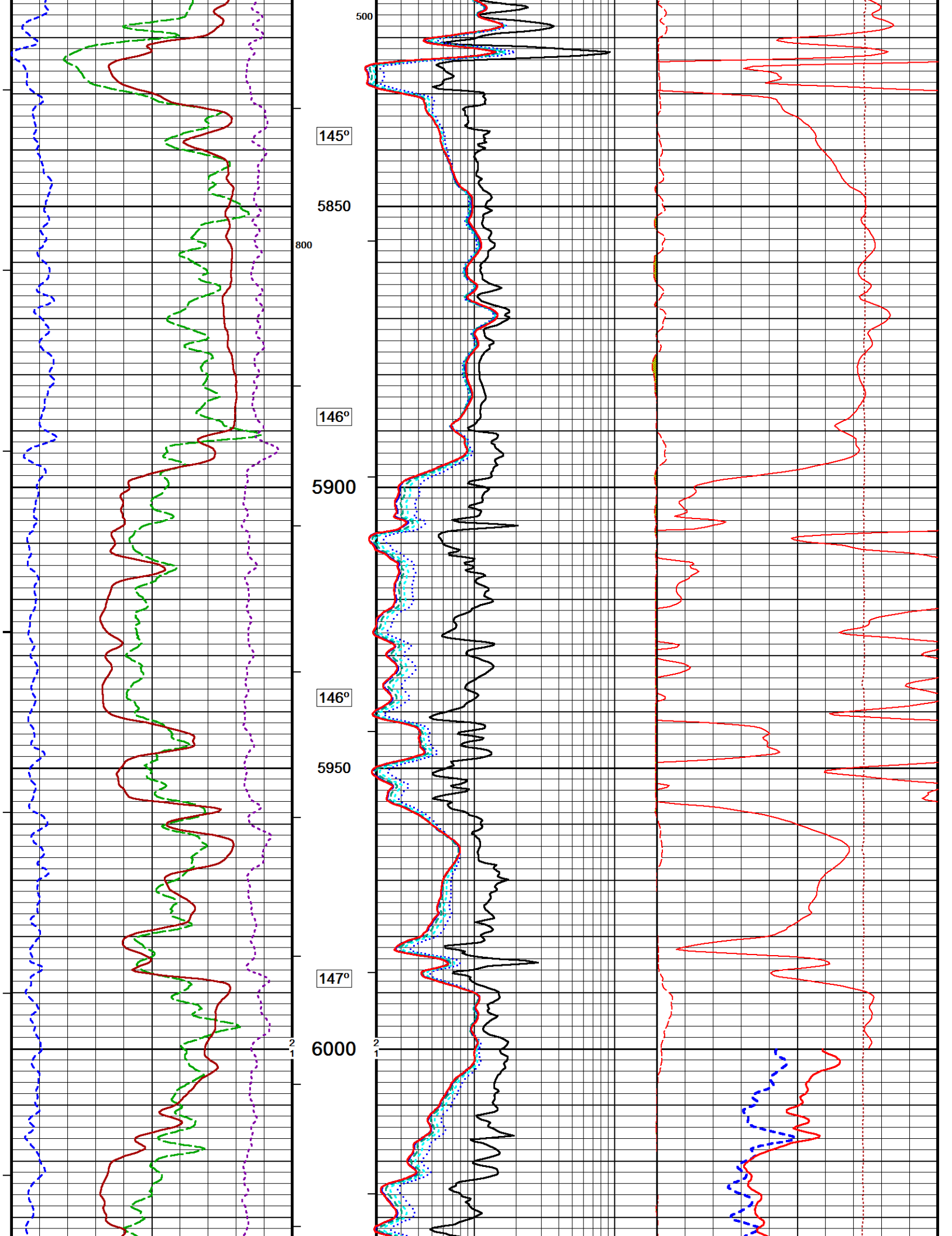


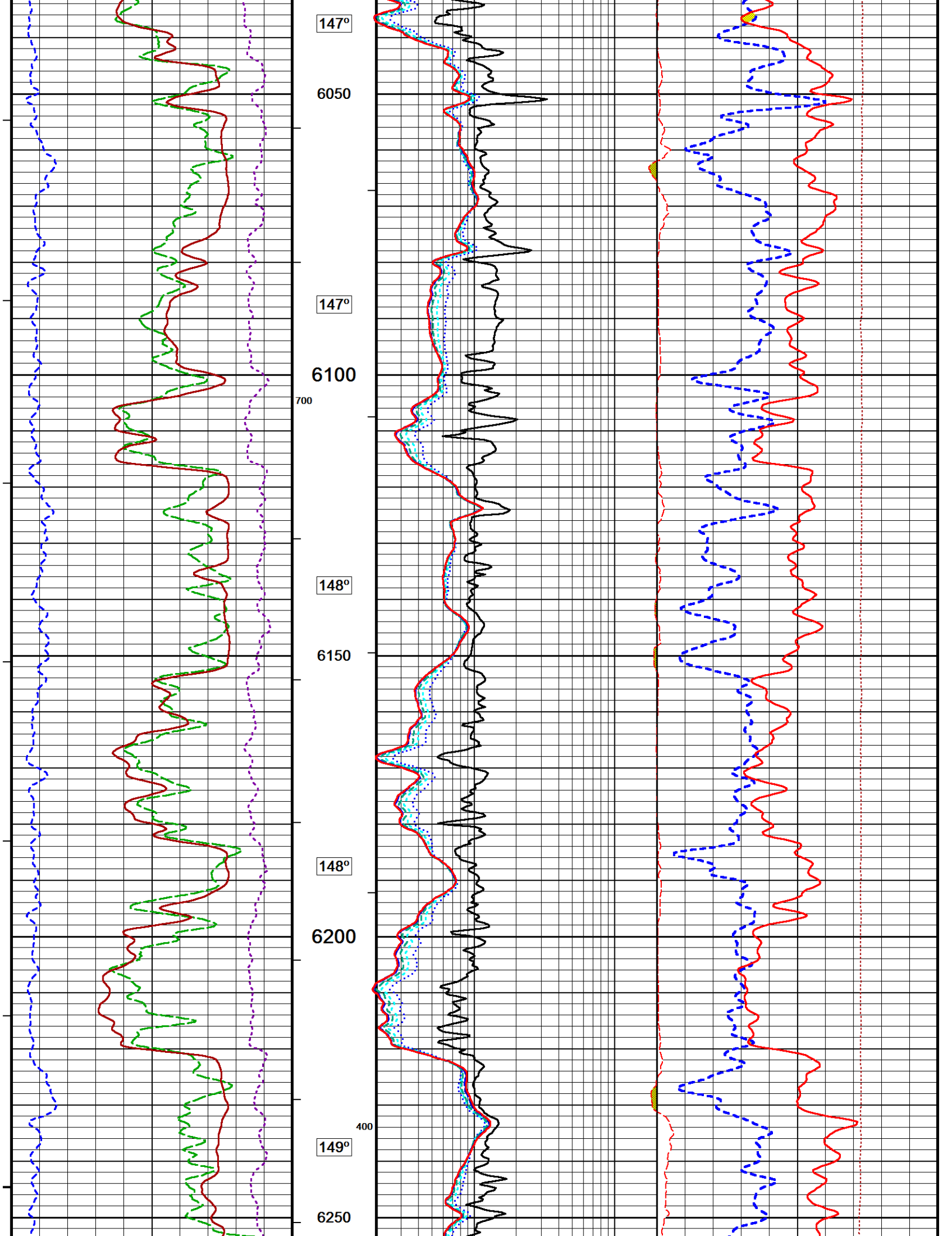


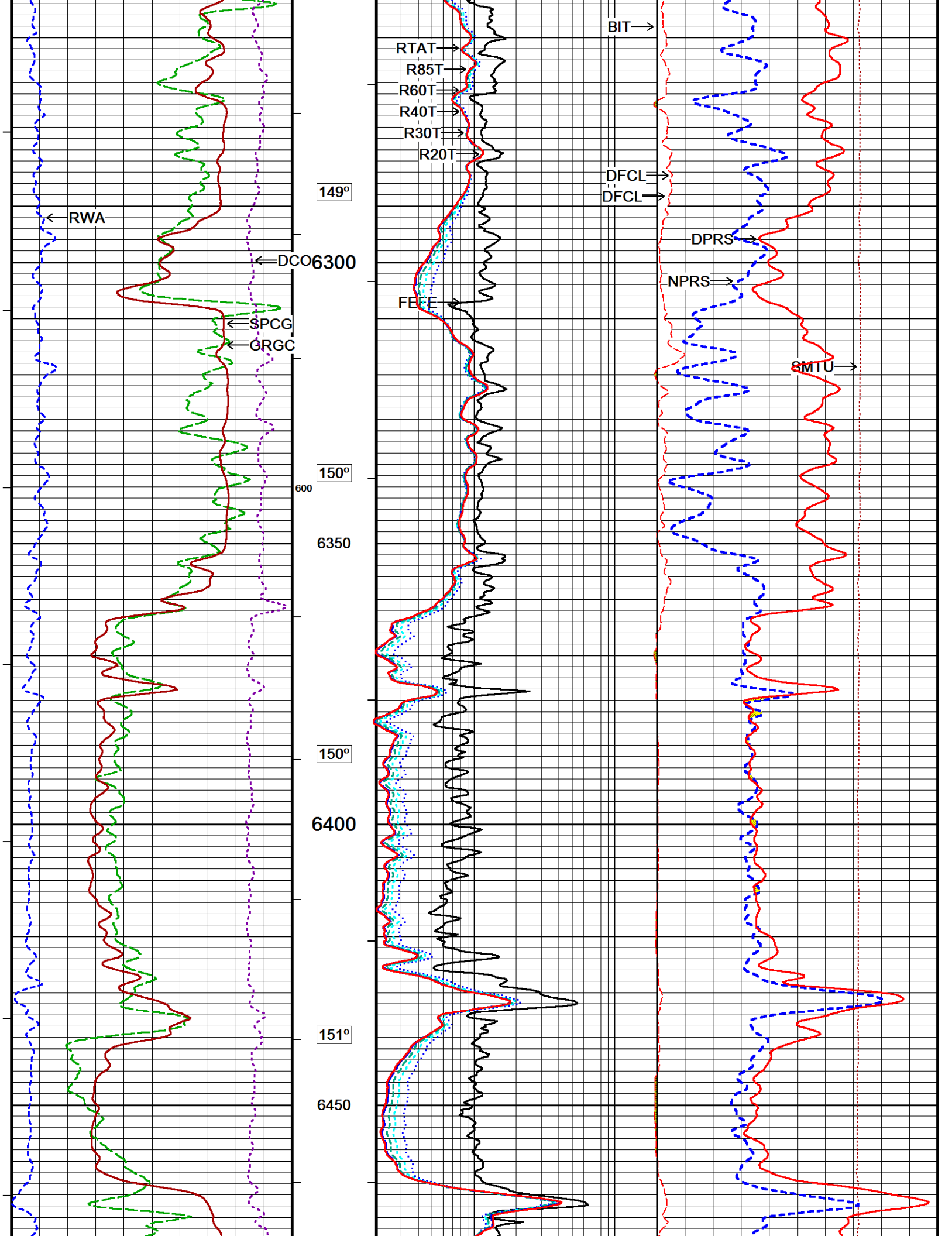


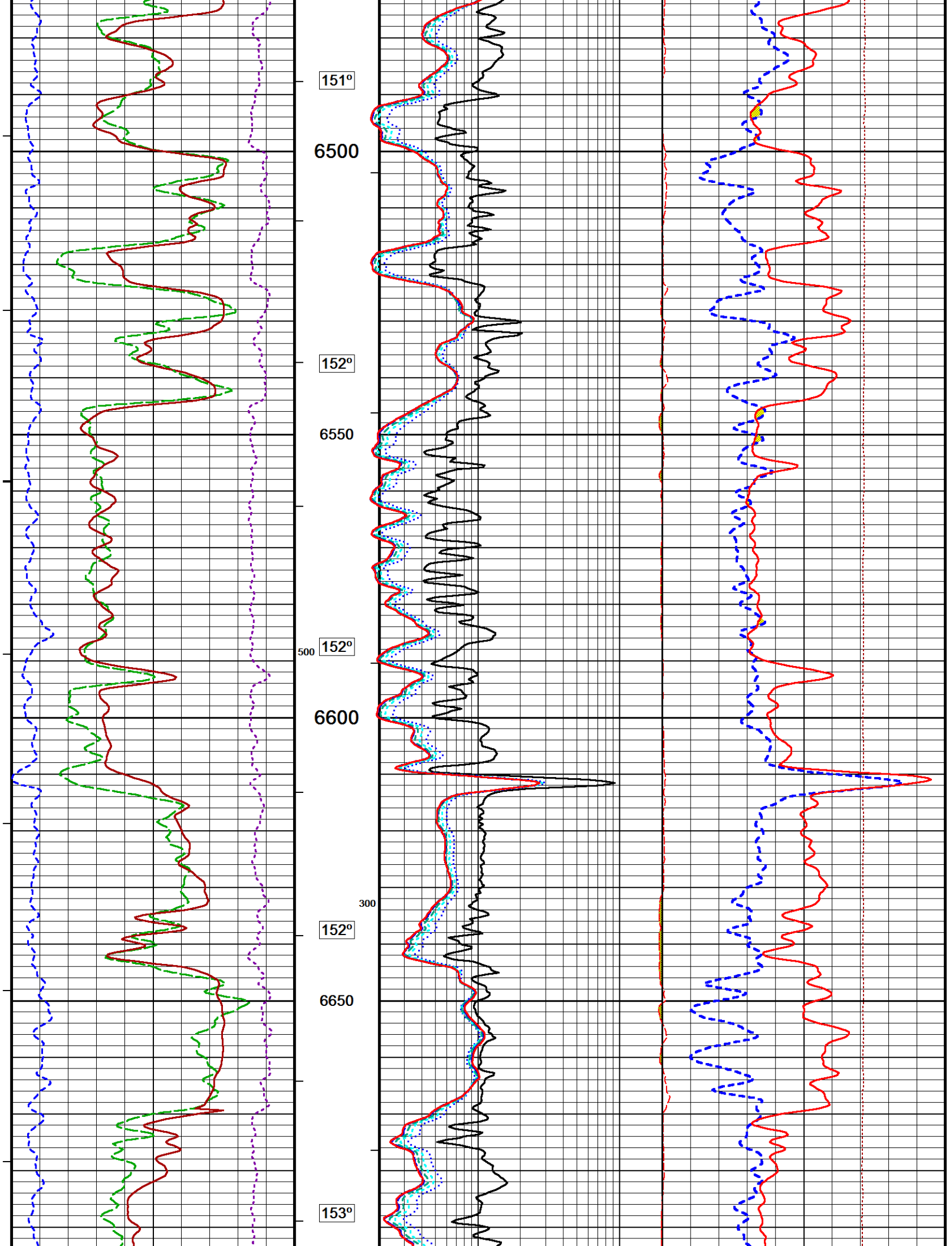


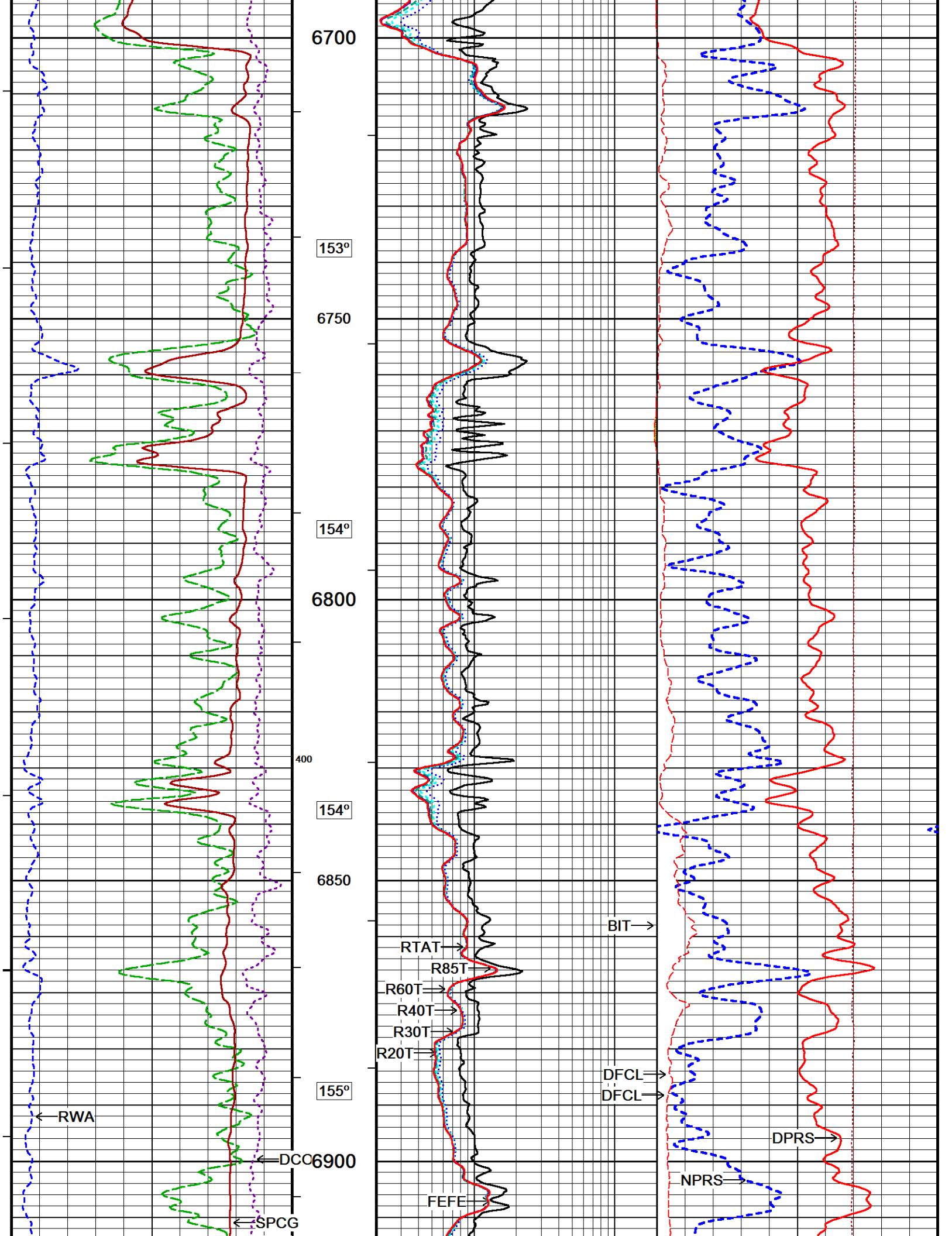


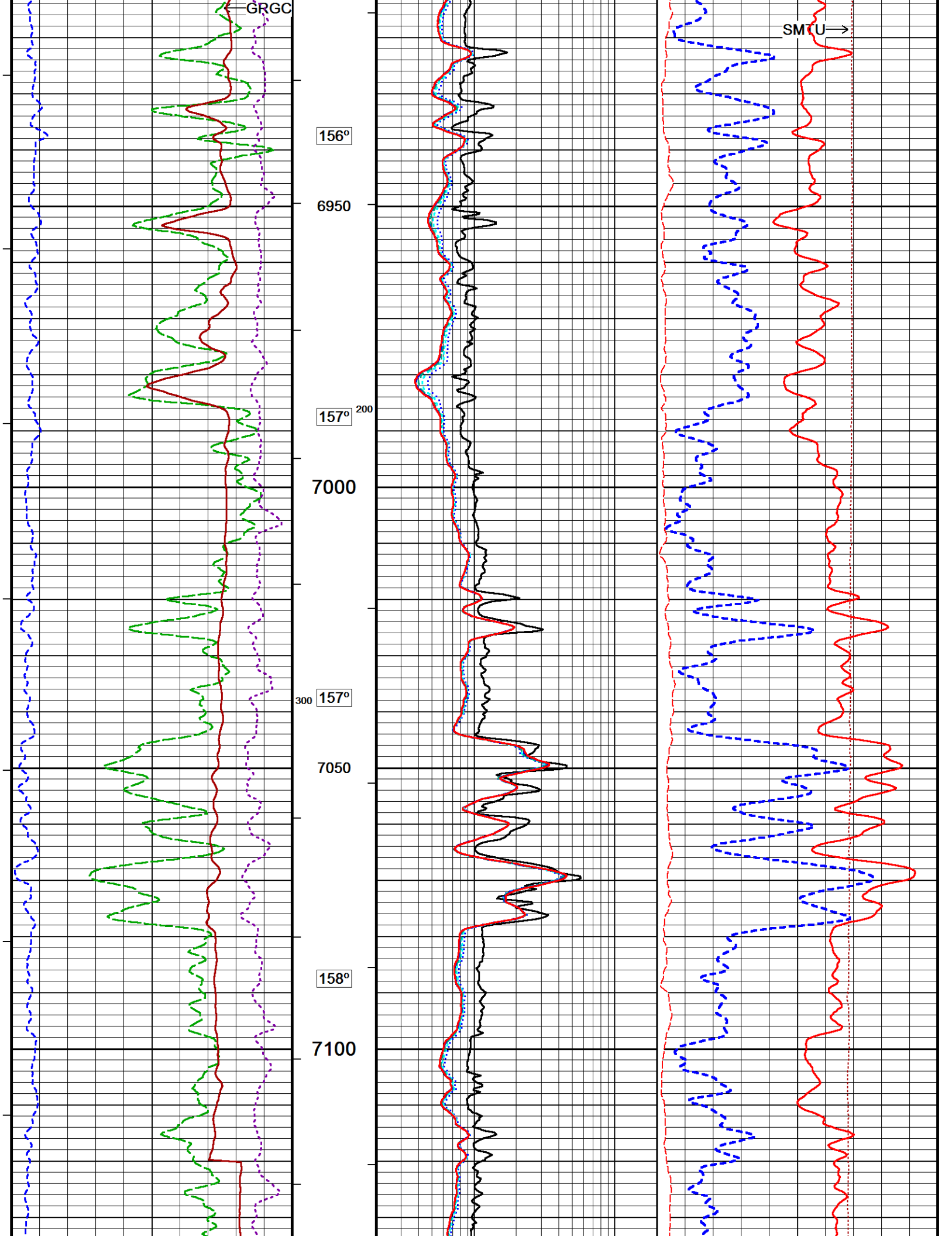


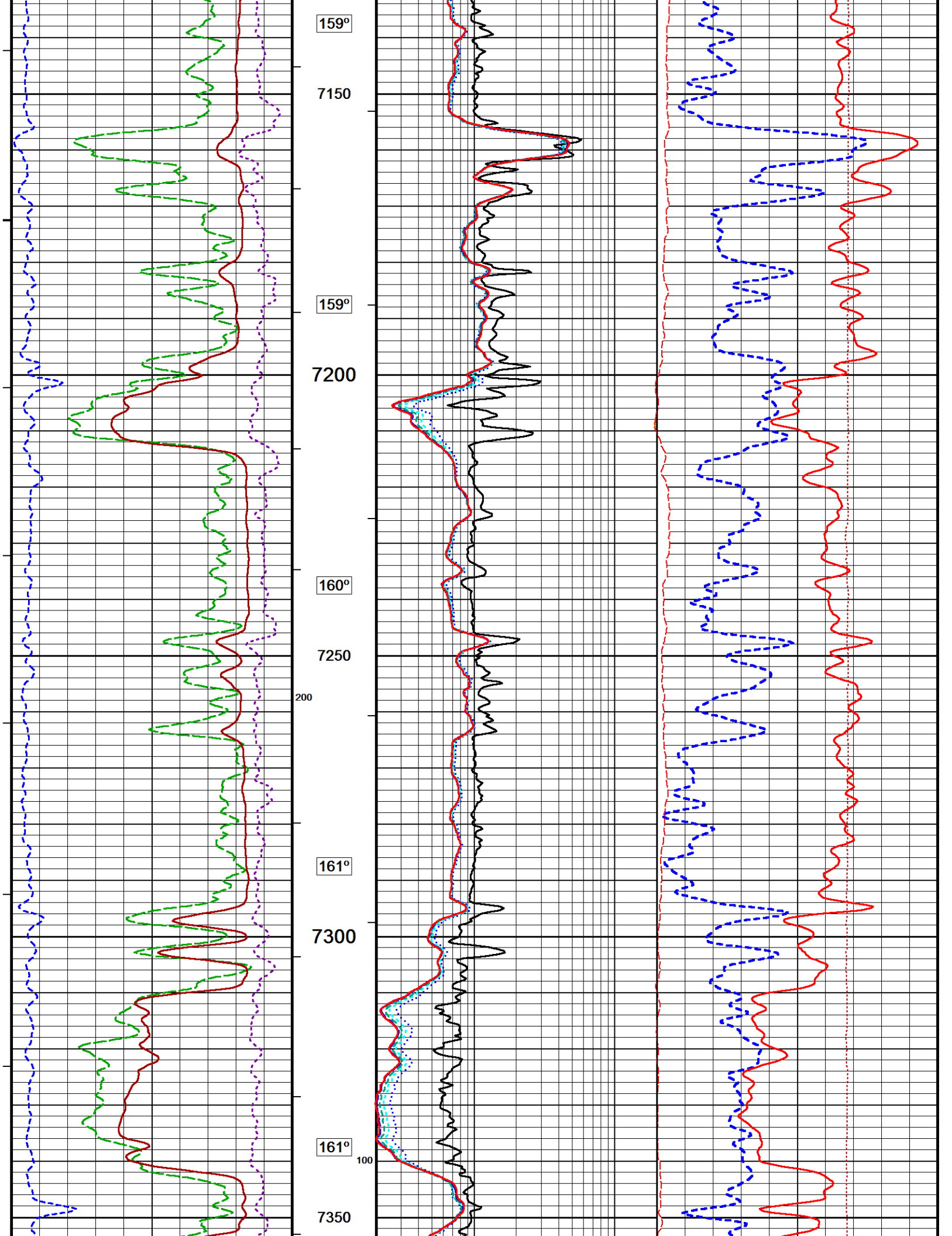


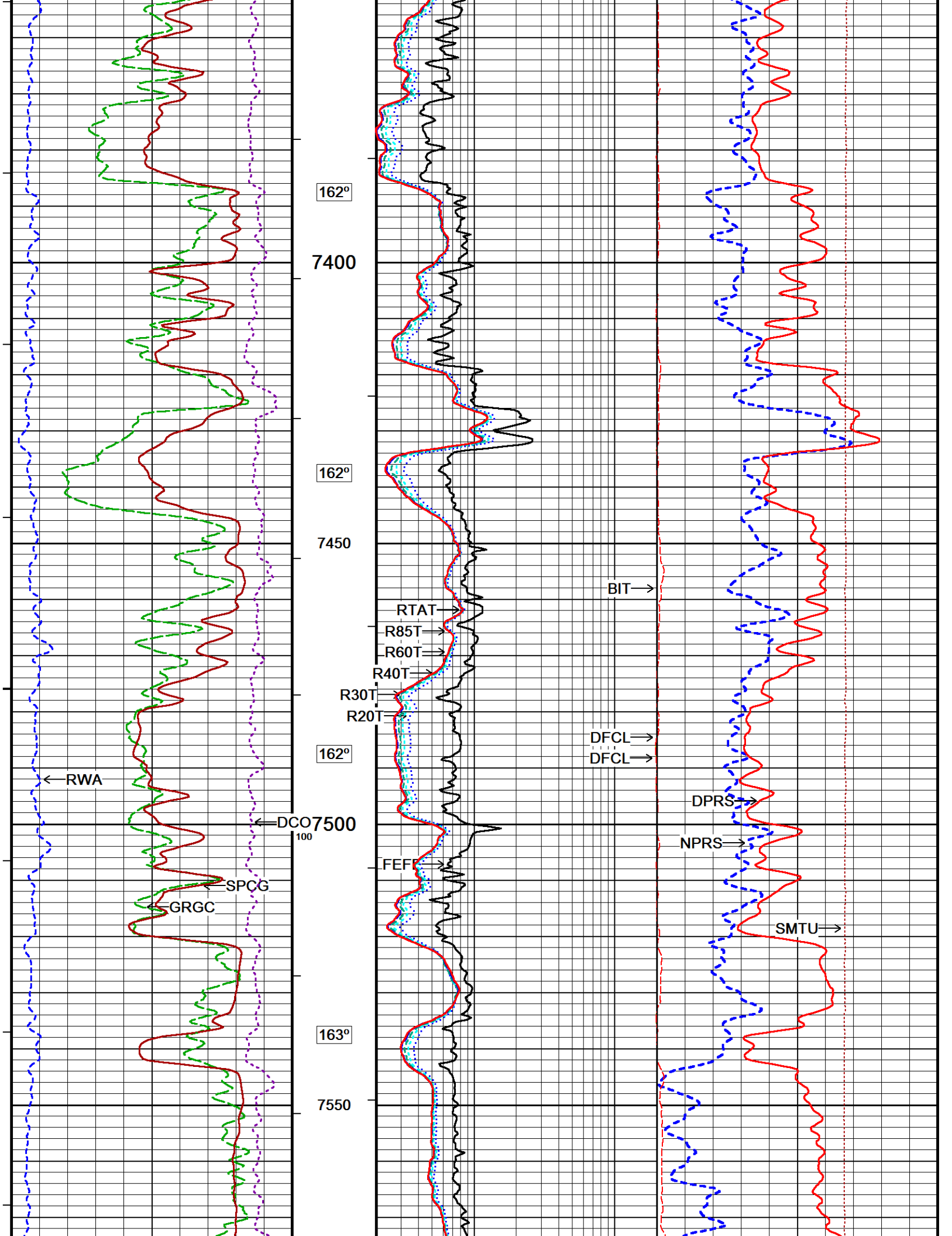


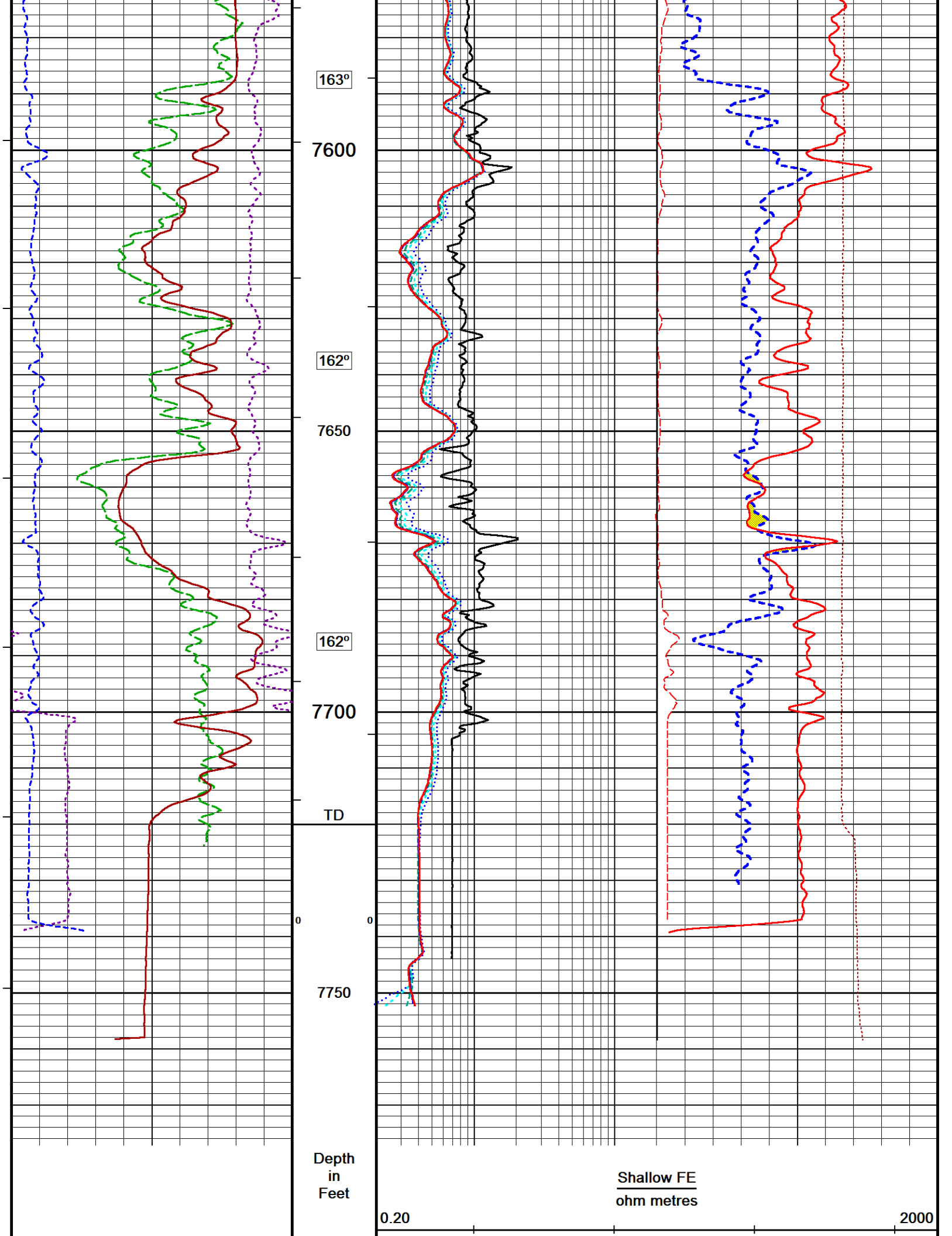












Timing Marks  
every 60.0 sec

Gamma Ray  
API  
0 75 150

Spontaneous Potential  
millivolts  
- -> | 20 | <- +

Density Correction  
grams/cc  
-0.80 -0.30 0.20

Apparent Water Res.  
ohm metres  
0 0.25 0.50

0 2.50 5

Borehole  
Temp in  
deg F

Borehole  
Temp in  
deg F<sub>2</sub>

HVI  
every  
10 cu ft

Annular  
Integral  
every  
10 cu ft

Differential Caliper  
inches  
-20 -10 0 10 20

Array Ind. Two Res 20  
ohm metres  
0.20 1 10 100 1000 2000

Array Ind. Two Res 30  
ohm metres  
0.20 1 10 100 1000 2000

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

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

Array Ind. Two Res 85  
ohm metres  
0.20 1 10 100 1000 2000

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

Bit Size  
inches  
-11.50 -1.50 8.50 18.50 28.50

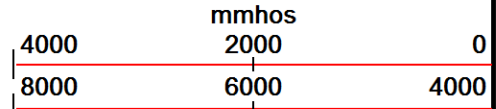
DST Uphole Tension  
pounds  
10000 5000 0  
0 -5000 -10000

Sandstone Neutron Por.  
percent  
50 25 0

Sandstone Density Por.  
percent  
50 25 0

Replay  
Scale  
1:240

Array Ind. Two Cond Ct<sub>2</sub>

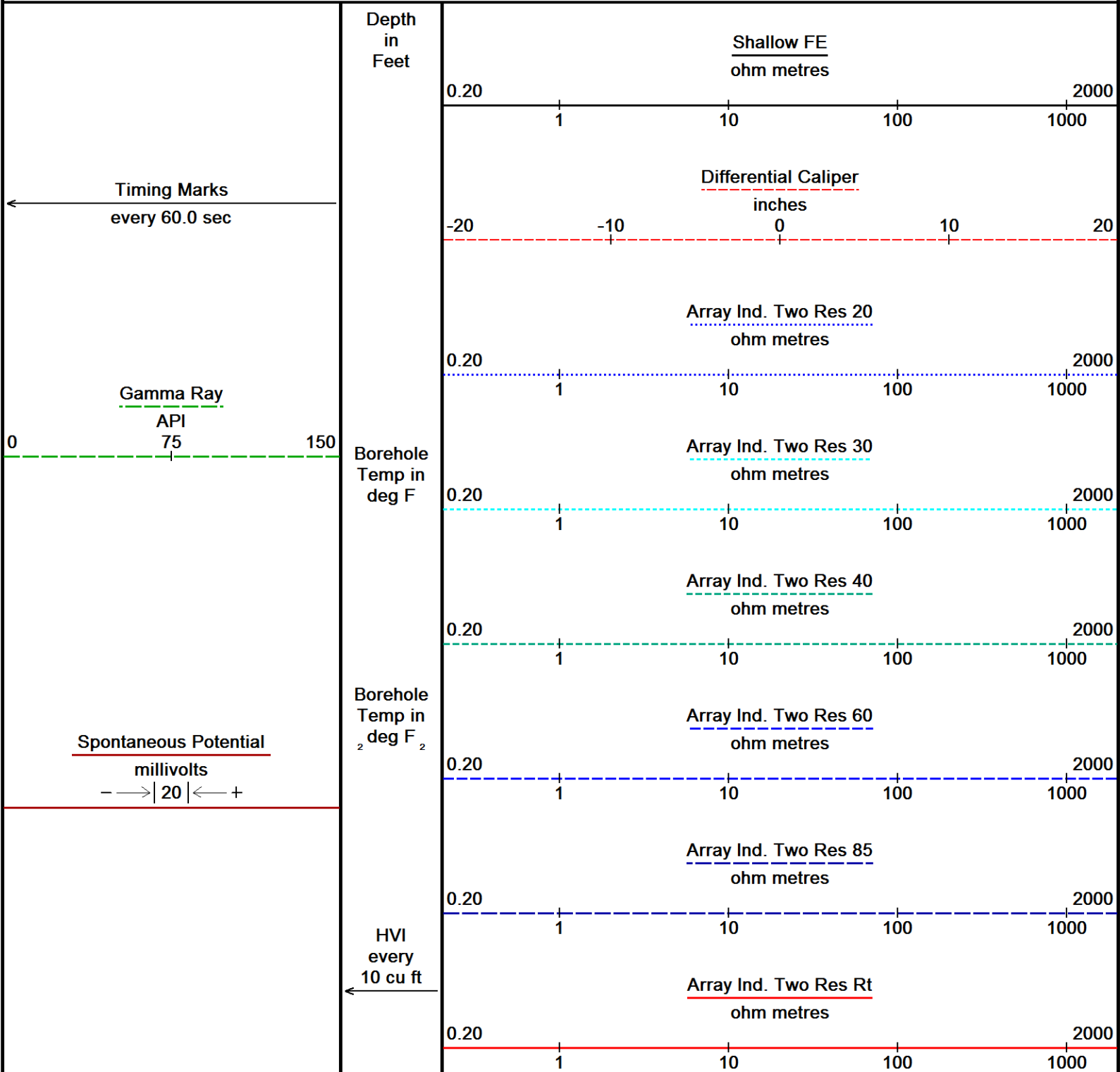


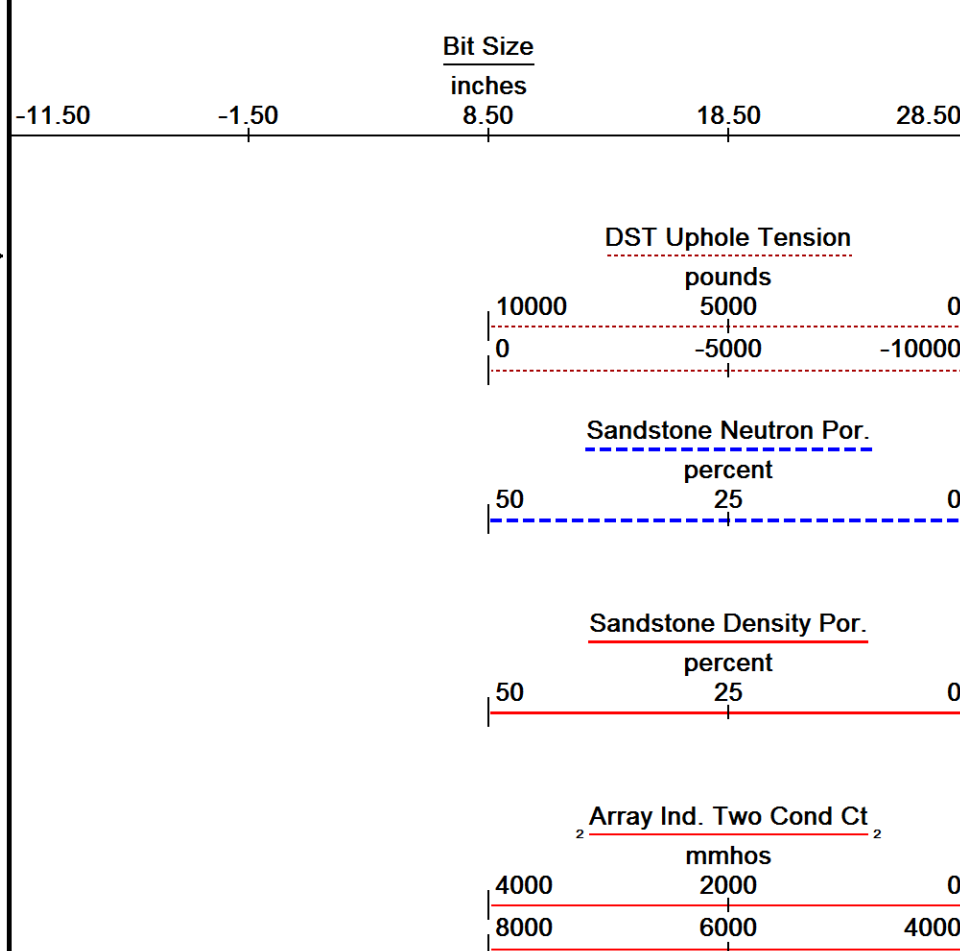
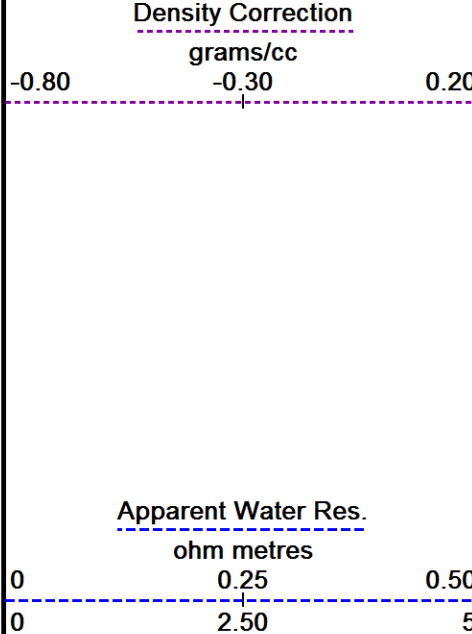
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FIVE INCH MAIN PASS 1:240

FIVE INCH REPEAT PASS 1:240

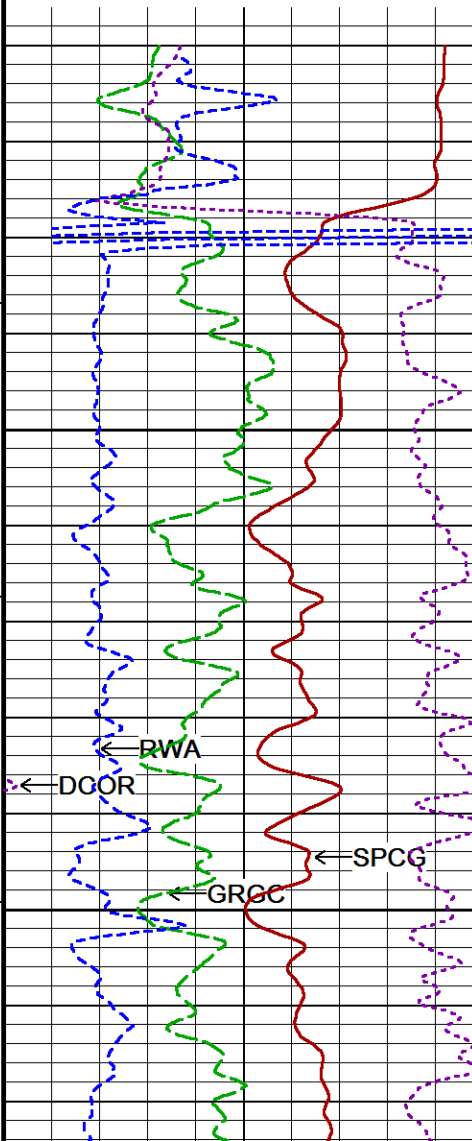
Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 09-MAY-2014 07:17  
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System Versions: Logged with 14.01.3016 Plotted with 14.01.3016





Annular  
Integral  
every  
10 cu ft

Replay  
Scale  
1:240



1808

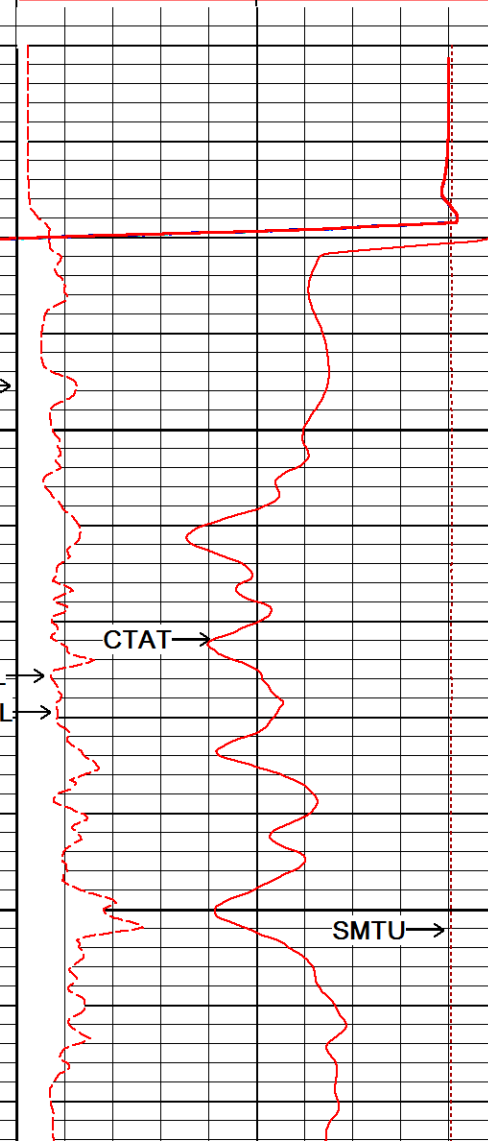
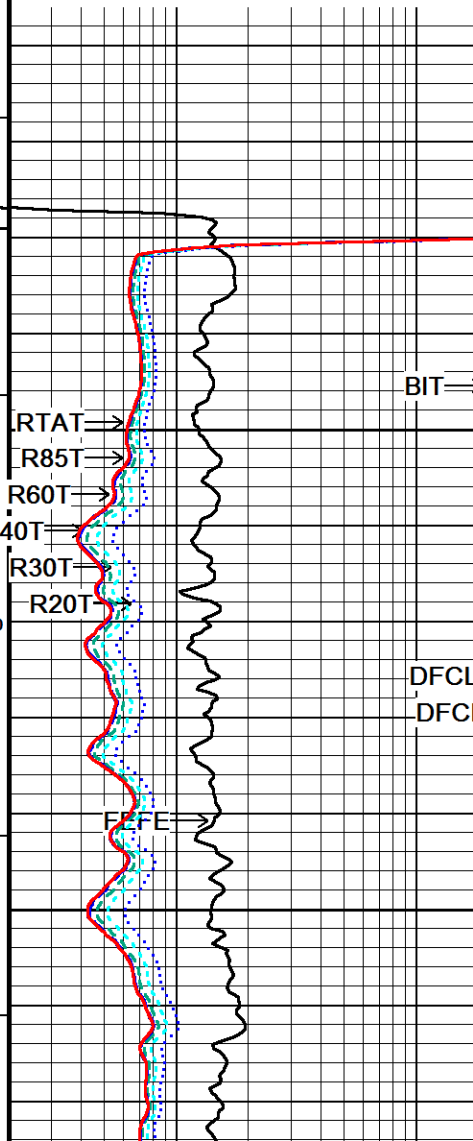
Casing  
Shoe

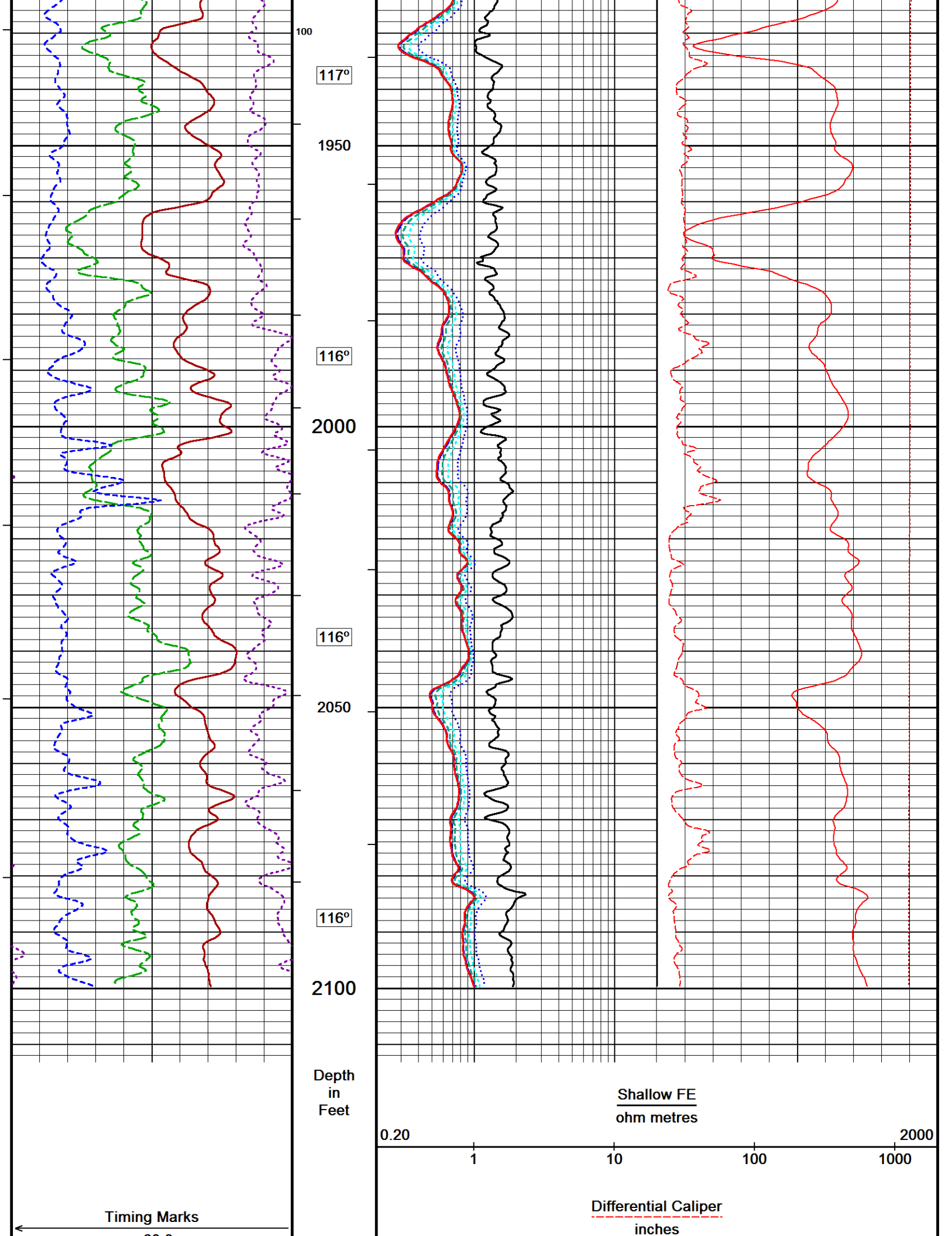
1850

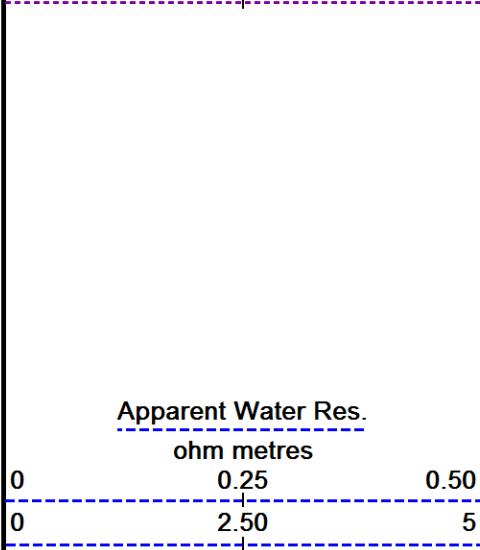
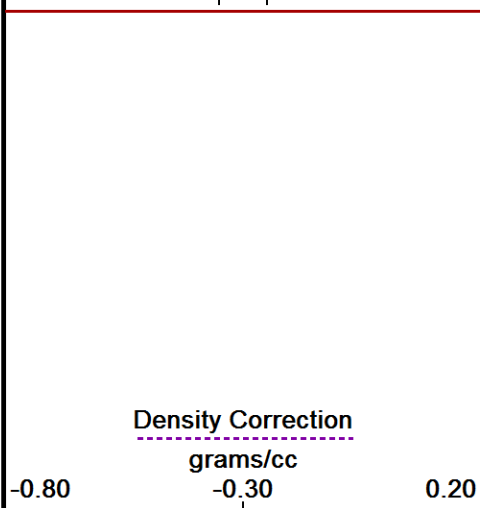
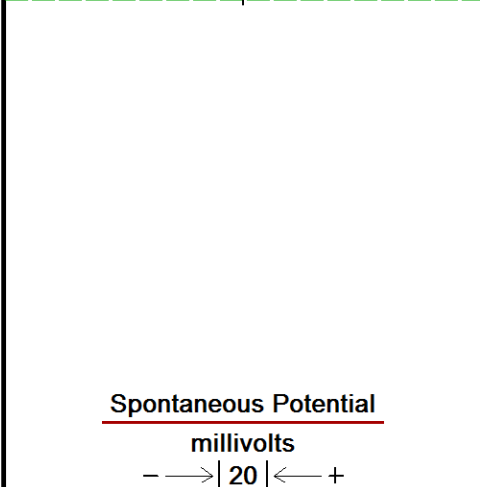
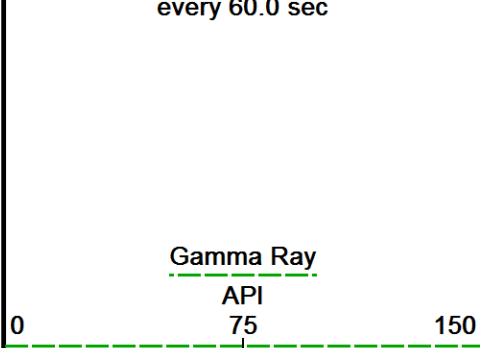
100

117°

1900







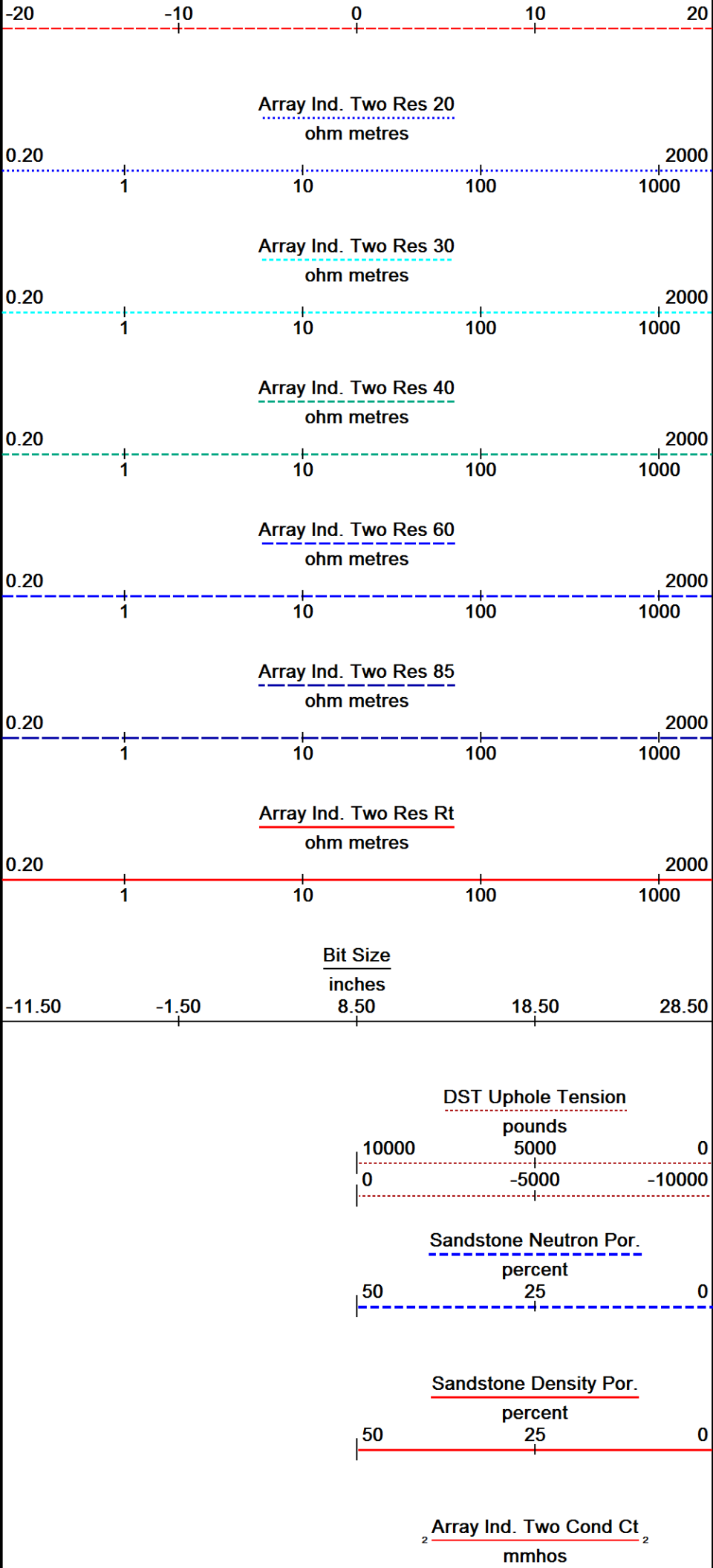
Borehole Temp in deg F

Borehole Temp in deg F<sub>2</sub>

HVI every 10 cu ft

Annular Integral every 10 cu ft

Replay



Scale  
1:240

4000	2000	0
8000	6000	4000

Depth Based Data - Maximum Sampling Increment 10.0cm  
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↑ FIVE INCH REPEAT PASS 1:240 ↑

**BEFORE SURVEY CALIBRATION**

C:\Data\13.08\Smith Production Co\RA SUA; SL 18593 #1 ALT\Smith Production\_SL 18593 #1 ALT\_T Combo MD2.dta

General Constants All 000 Last Edited on 09-MAY-2014,02:15

**General Parameters**

Mud Resistivity	1.100	ohm-metres
Mud Resistivity Temperature	75.000	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	Base Density Porosity
Resistivity used	Array Ind. Two Res Rt
RWA Constant A	0.620
RWA Constant M	2.150
SW/APOR Tool Source	0.000

**Gamma Calibration MCG-D.A 233**

Field Calibration on 29-APR-2014 15:55

	Measured	Calibrated (API)
Background	70	47
Calibrator (Gross)	1208	811
Calibrator (Net)	1138	764

**Gamma Constants MCG-D.A 233**

Last Edited on 09-MAY-2014,02:15

Gamma Calibrator Number	GRC-039	
Mud Density	1.21	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl		kppm
K Mud Type	Chloride	
K Mud Concentration	0.00	%

**High Resolution Temperature Calibration MCG-D.A 233**

Field Calibration on 16-AUG-2011,21:08

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

**High Resolution Temperature Constants MCG-D.A 233**

Last Edited on 28-MAY-2013,11:10

Pre-filter Length 11

**Neutron Calibration MDN-B.A 221**

Base Calibration on 24-APR-2014 14:02  
 Field Check on 09-MAY-2014,02:16

**Base Calibration**

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
Ratio	2832	85	3714	110
	33.276		33.764	

**Field Calibrator at Base**

Calibrated (cps)	
1373	2061

0.666

Field Check

Calibrated (cps)  
1373 2036

Ratio

0.674

Neutron Constants MDN-B.A 221

Last Edited on 09-MAY-2014,02:16

Neutron Source Id	PN-514		
Neutron Jig Number	5822NE		
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	7.00	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		

FE Calibration MFE-A.A 137

Base Calibration on 05-MAY-2014 09:41

Field Check on 09-MAY-2014 01:59

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	963.7	126.8
Base Check		281.4
Field Check		280.9

FE Constants MFE-A.A 137

Last Edited on 09-MAY-2014,02:16

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	

Induction Calibration MAI-A.A 77

Base Calibration on 11-MAY-2011,11:42

Field Check on 09-MAY-2014 01:58

Base Calibration

Test Loop Calibration Channel	Measured		Calibrated (mmho/m)	
	Low	High	Low	High
1	15.7	471.1	9.3	966.2
2	5.2	374.2	7.6	821.4
3	2.6	250.7	5.2	566.0
4	1.1	129.3	2.6	279.2

Array Temperature 61.2 Deg F

Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	15.5	3832.9	15.3	3832.9
2	31.5	3588.2	31.5	3588.3
3	30.0	3138.3	30.0	3138.4
4	21.1	2122.0	21.1	2122.0
Deep	19.2	2060.1	19.1	2060.2
Medium	42.9	4155.2	42.9	4155.3
Shallow	46.0	5275.6	46.0	5275.6

Array Temperature 83.3 81.5 Deg F

Induction Constants MAI-A A 77

Last Edited on 09-MAY-2014,02:18

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)	0.62	
Cementation Exponent (M)	2.15	
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	

**Photo Density Calibration MPD-B 154**

Base Calibration on 24-APR-2014 11:40  
Field Check on 09-MAY-2014 02:03

**Density Calibration**

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Background	1120	1345		
Reference 1	51129	22820	59553	30910
Reference 2	20856	2380	25010	2543

Field Check at Base	1120.1	1345.1
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Field Check	1123.3	1359.4
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**PE Calibration**

Base Calibration	WS	Measured		Calibrated
		WH	Ratio	Ratio
Background	204	998		
Reference 1	21826	50945	0.433	0.371
Reference 2	6120	20727	0.300	0.273

Field Check at Base	204.4	997.6
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Field Check	205.6	1000.8
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**Density Constants MPD-B 154**

Last Edited on 09-MAY-2014,02:16

Density Source Id	259
Nylon Calibrator Number	DNC-F662

Nylon Calibrator Number	DAC-2002	
Aluminium Calibrator Number	DAC-D687	
Density Shoe Profile	8 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.21	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)	
2.65	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	

Caliper Calibration MPD-B 154

Base Calibration on 24-APR-2014 11:20  
Field Calibration on 29-APR-2014 15:15

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	16224	4.00
2	24514	5.97
3	33084	7.96
4	41200	9.85
5	50496	11.91
6	N/A	N/A

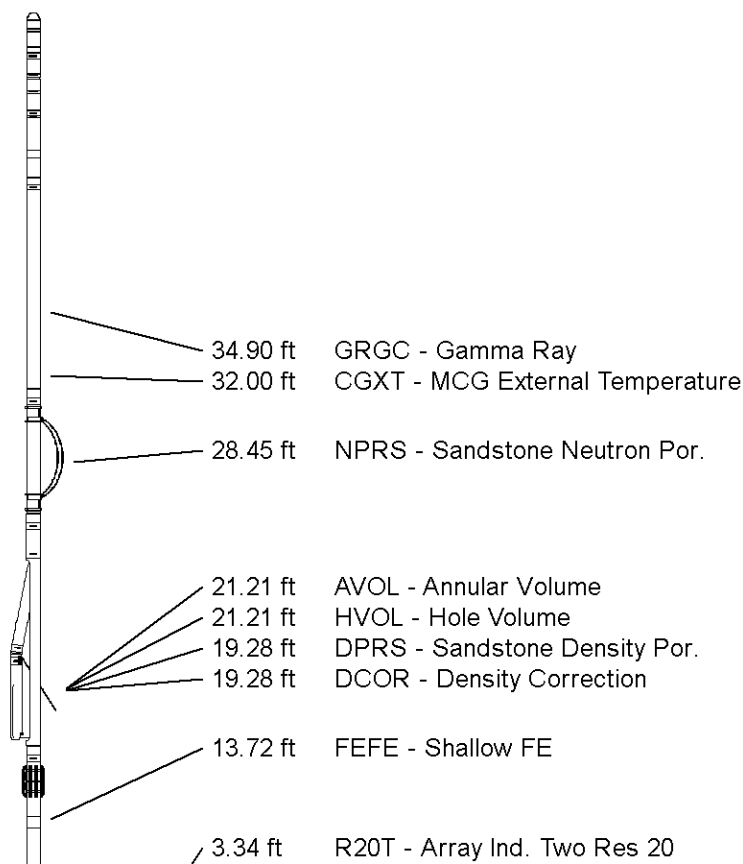
Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.96	7.96

### DOWNHOLE EQUIPMENT

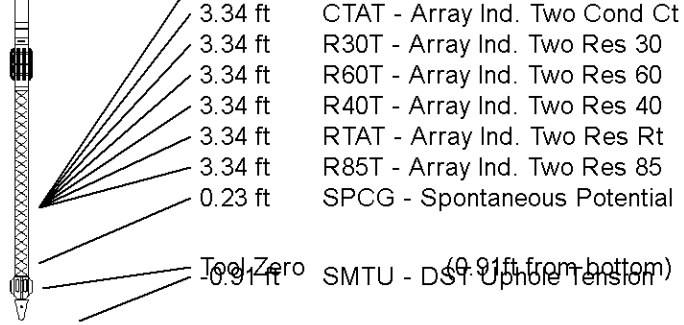
C:\Data\13.08\Smith Production Co\RA SUA; SL 18593 #1 ALT\Smith Production\_SL 18593 #1 ALT\_DL.dta

- CBH-C, Cablehead, 11 pin  
CBH-C 0 LG: 2.40 ft WT: 24.3 lb OD: 2.244 in
- 11C-11B MTA-K.A Compact Tool Adaptor  
MTA-K.A 109 LG: 1.53 ft WT: 13.2 lb OD: 2.240 in
- SHA-J.A Compact Swivel Head Adaptor  
SHA-J.A 226 LG: 2.30 ft WT: 22.0 lb OD: 2.244 in
- Compact Comms Gamma  
MCG-D.A 233 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in
- Compact Neutron  
MDN-B.A 221 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in
- Compact Density/Caliper  
MPD-B 154 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in
- Compact Focussed Electric  
MFE-A.A 137 LG: 6.05 ft WT: 48.5 lb OD: 2.244 in
- Compact Induction  
MAI-A.A 77 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in




Compact Hole Finder  
 HFS 1 LG: 0.78 ft WT: 2.2 lb OD: 2.240 in

Total Length: 47.19 ft Weight: 363.8 lb



COMPANY	SMITH PRODUCTION COMPANY
WELL	7000 RA SUA; SL 18593 #1 ALT
FIELD	GILLIS - ENGLISH BAYOU
PROVINCE/COUNTY	CALCASIEU
COUNTRY/STATE	USA / LOUISIANA

Elevation Kelly Bushing	32.00	feet	First Reading	7720.00	feet
Elevation Drill Floor	31.00	feet	Depth Driller	7720.00	feet
Elevation Ground Level	15.00	feet	Depth Logger	7720.00	feet



ARRAY INDUCTION / MFE

PHOTO DENSITY / DUAL NEUTRON

GAMMA RAY LOG