



Weatherford

ARRAY INDUCTION
SHALLOW FOCUSED
ELECTRIC LOG

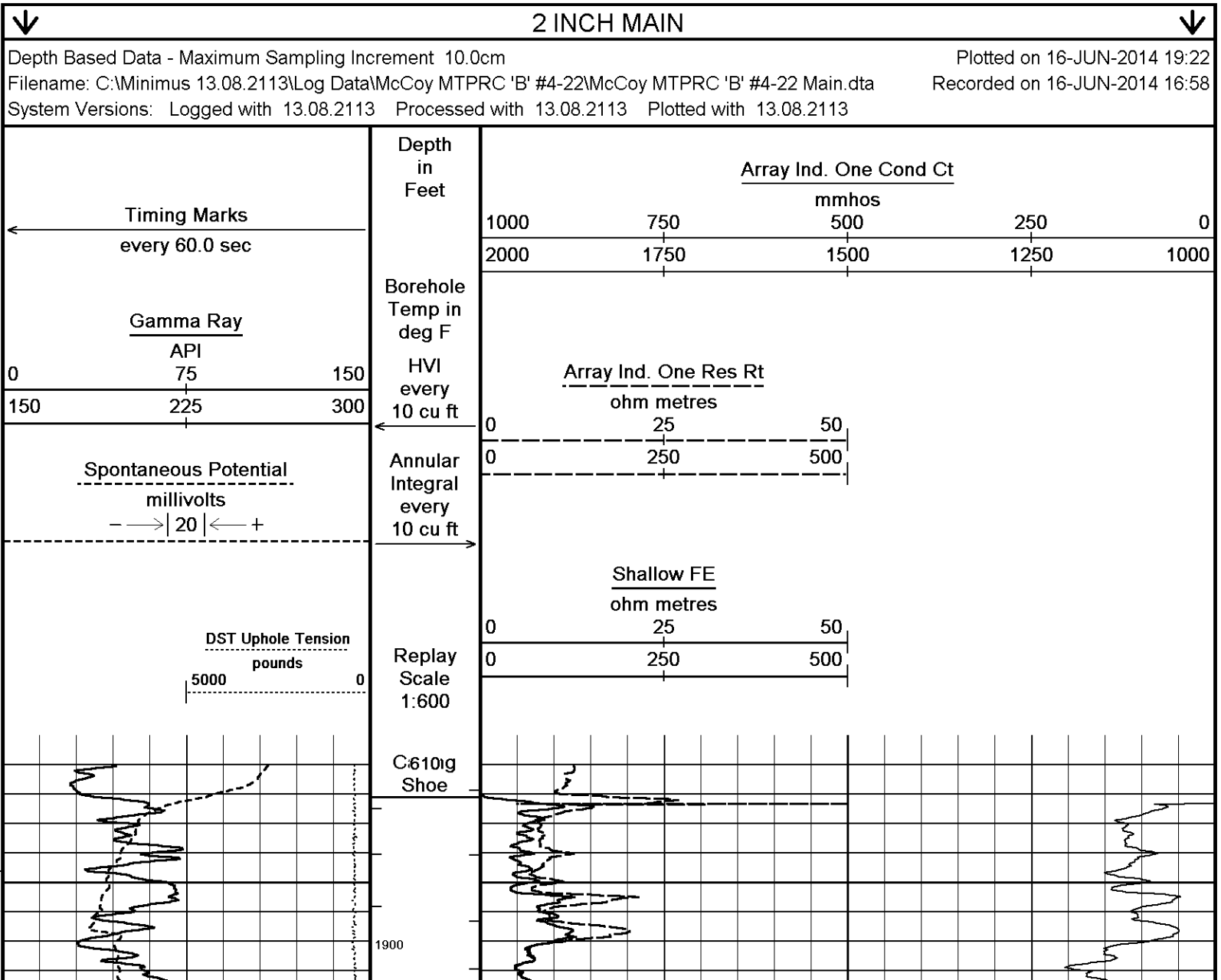
COMPANY			MCCOY PETROLEUM CORPORATION		
WELL			MTPRC 'B' #4-22		
FIELD			ALFORD		
PROVINCE/COUNTY			KIOWA		
COUNTRY/STATE			U.S.A. / KANSAS		
LOCATION			660' FSL & 1320' FEL		
SEC 22	TWP 30S	RGE 19W	Other Services		MML
Latitude			MPD/MDN		
Longitude					
API Number	15-097-21793				
Permanent Datum GL, Elevation 2220 feet					
Log Measured From KB					
Drilling Measured From KB @ 13 FEET					
Date	16-JUN-2014				
Run Number	ONE				
Service Order	7606-90113177				
Depth Driller	5200.00		feet		
Depth Logger	5198.00		feet		
First Reading	5194.53		feet		
Last Reading	621.00		feet		
Casing Driller	621.00		feet		
Casing Logger	621.00		feet		
Bit Size	7.875		inches		
Hole Fluid Type	CHEMICAL				
Density / Viscosity	9.30 lb/USg		65.00 CP		
PH / Fluid Loss	9.00		10.40 ml/30Min		
Sample Source	MUD PIT				
Rm @ Measured Temp	0.56 @ 75.0		ohm-m		
Rmf @ Measured Temp	0.448 @ 75.0		ohm-m		
Rmc @ Measured Temp	0.672 @ 75.0		ohm-m		
Source Rmf / Rmc	CALC	CALC			
Rm @ BHT	0.40 @107.0		ohm-m		
Time Since Circulation	3 HOURS				
Max Recorded Temp	107.00		deg F		
Equipment / Base	13096	LIB			
Recorded By	BEN WELDIN		DEREK CARTER		
Witnessed By	DAVE WILLIAMS				
JOB #	LB14-180				

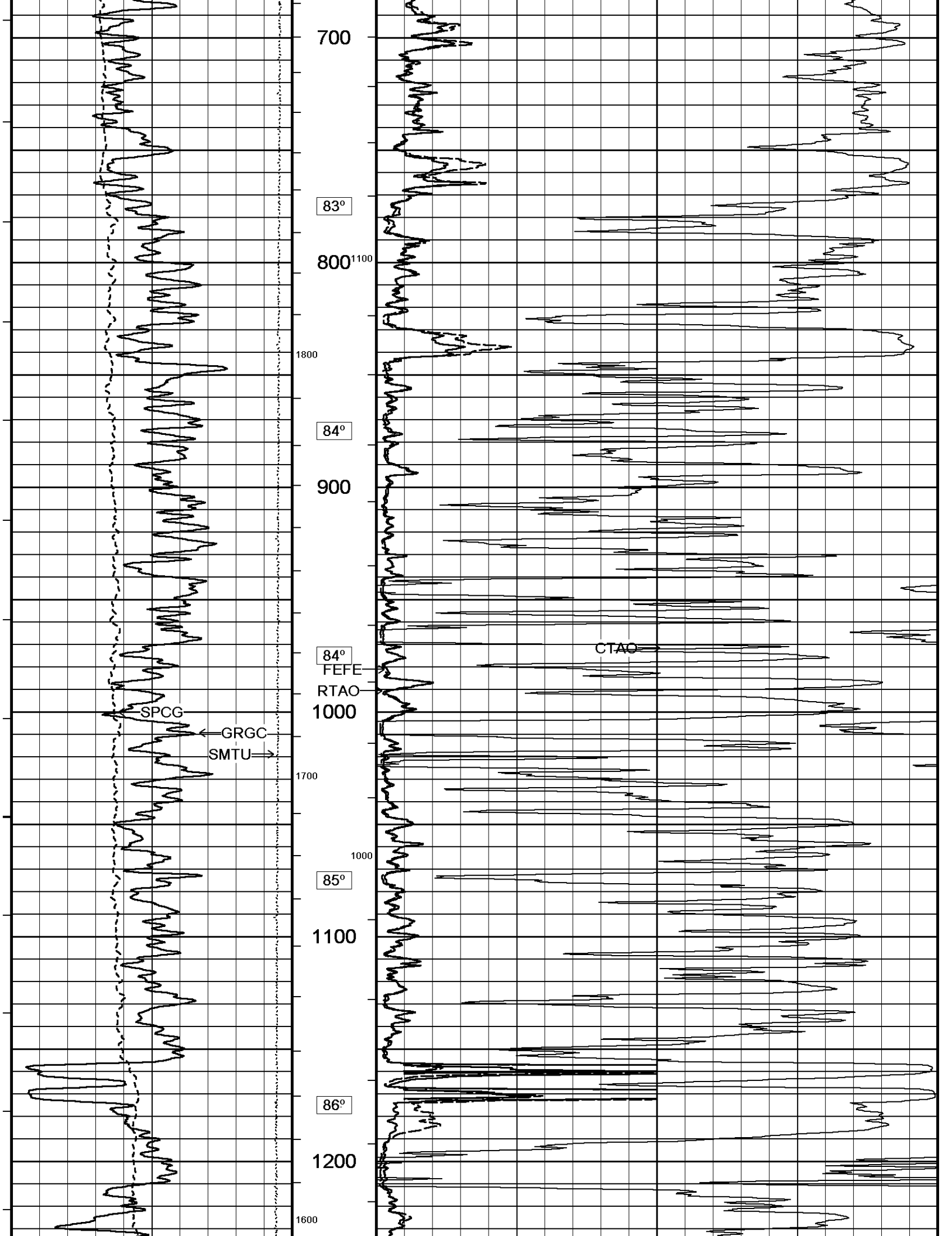
BOREHOLE RECORD					Last Edited: 16-JUN-2014 13:50
Bit Size inches		Depth From feet		Depth To feet	
10.750		0.00		621.00	
7.875		621.00		5200.00	
CASING RECORD					
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft	
SURFACE	8.625	0.00	621.00	24.00	

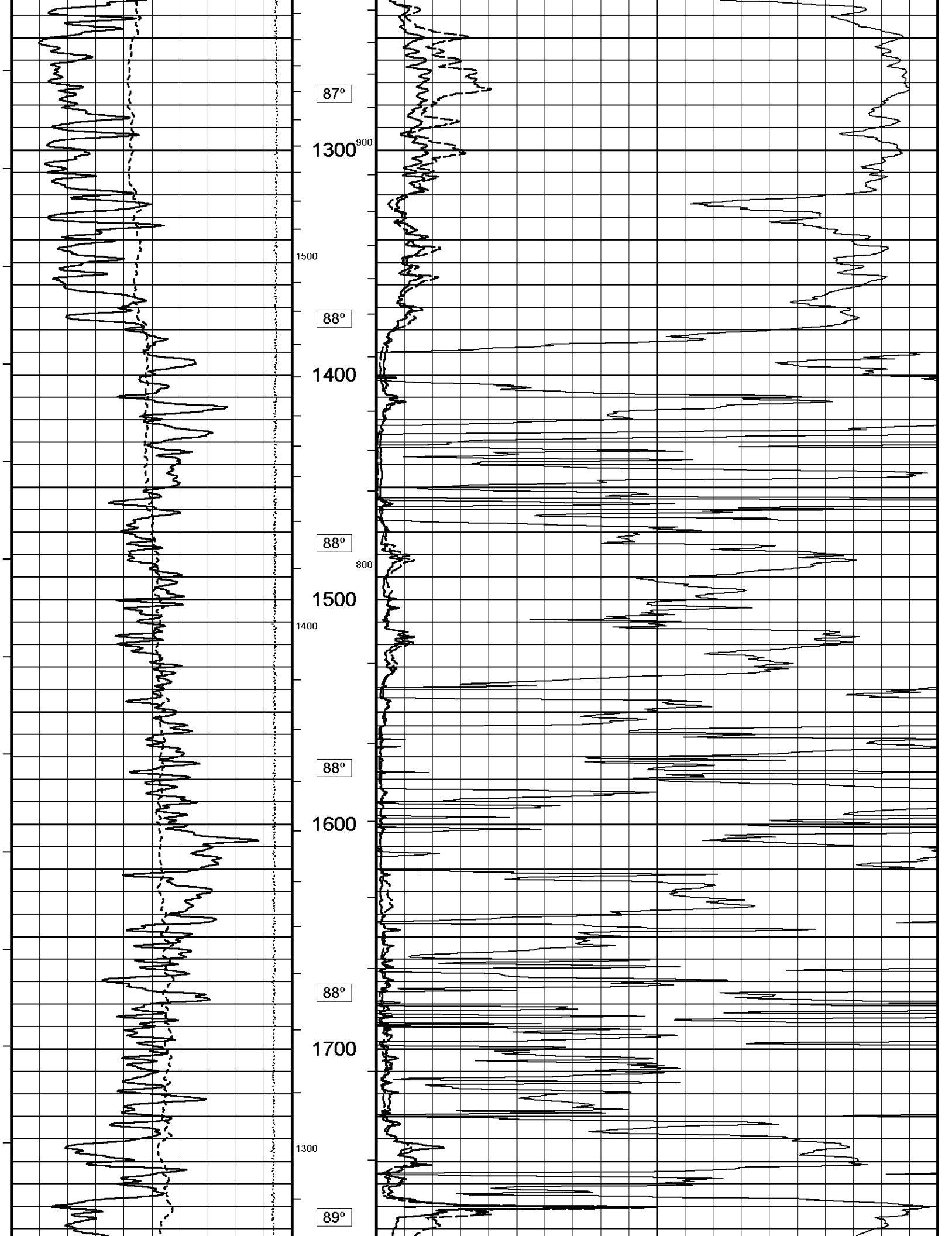
REMARKS
- SOFTWARE ISSUE: WLS 13.08.2113
- TOOL STRING: MCG, MML, MDN, MPD, MFE, MAI RUN IN COMBINATION
- HARDWARE: MDN: DUAL BOWSPRING ECCENTRALIZER MFE: 1 X 0.5 INCH STANDOFF MAI: 2 X 0.5 INCH STANDOFF
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY
- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL AFFECT DATA QUALITY
- ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST
- TOTAL HOLE VOLUME FROM TD TO SURFACE CASING: 1930 CU. FT.

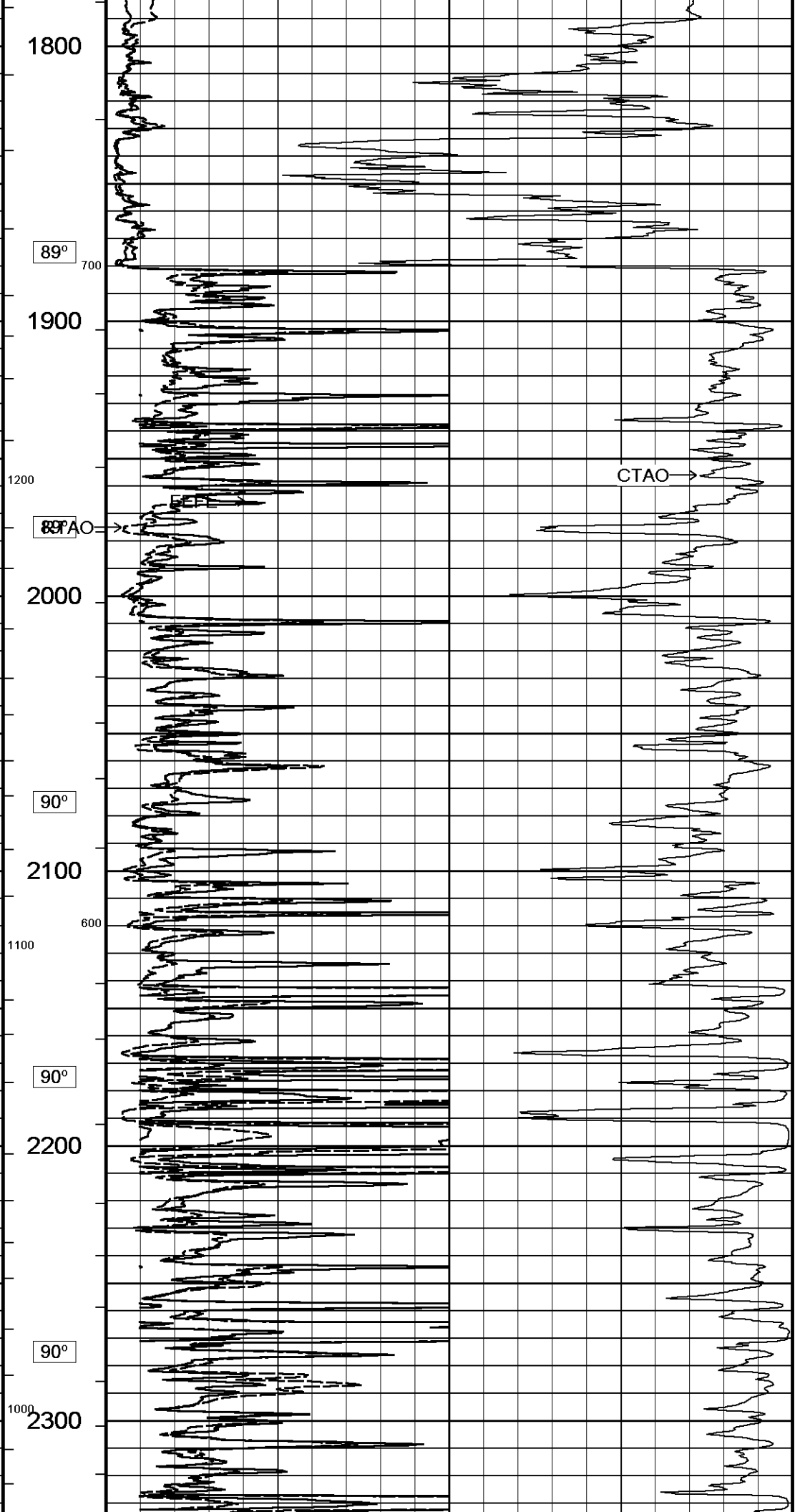
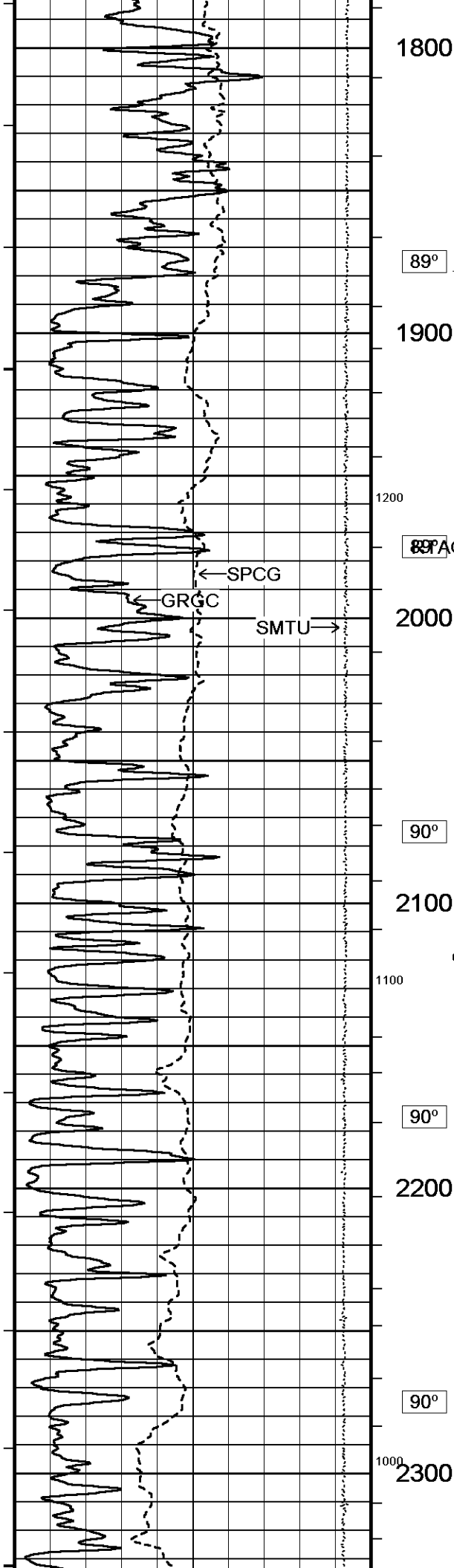
- ANNULAR HOLE VOLUME WITH 5.5 INCH CASING FROM TD TO 3900 FT.: 220 CU. FT.
- SERVICE ORDER # 7606-90113177
- RIG: STERLING #5
- ENGINEER: DEREK CARTER
- JUNIOR FIELD ENGINEER: BEN WELDIN
- OPERATOR: CARLOS RAMIREZ

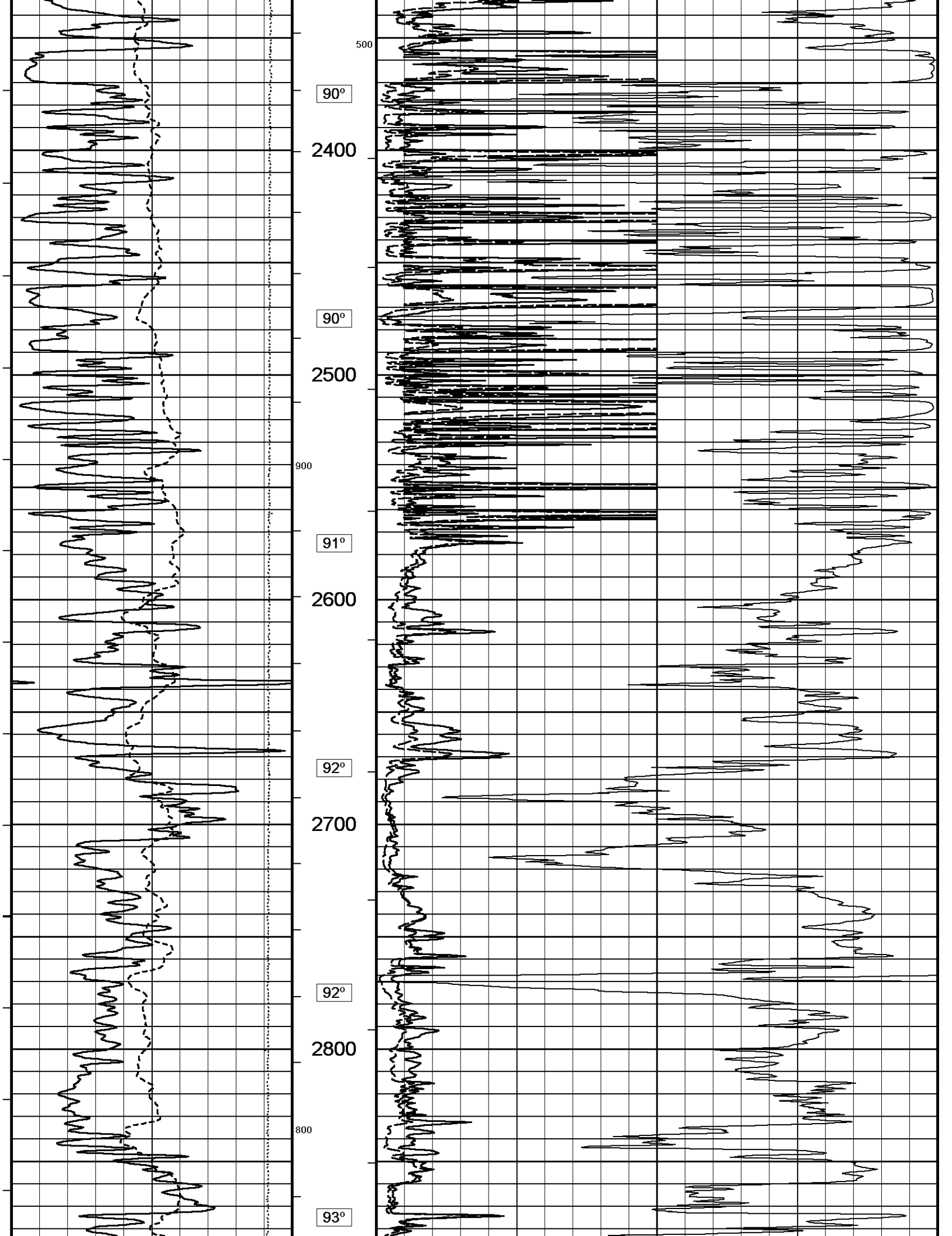
In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will 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.

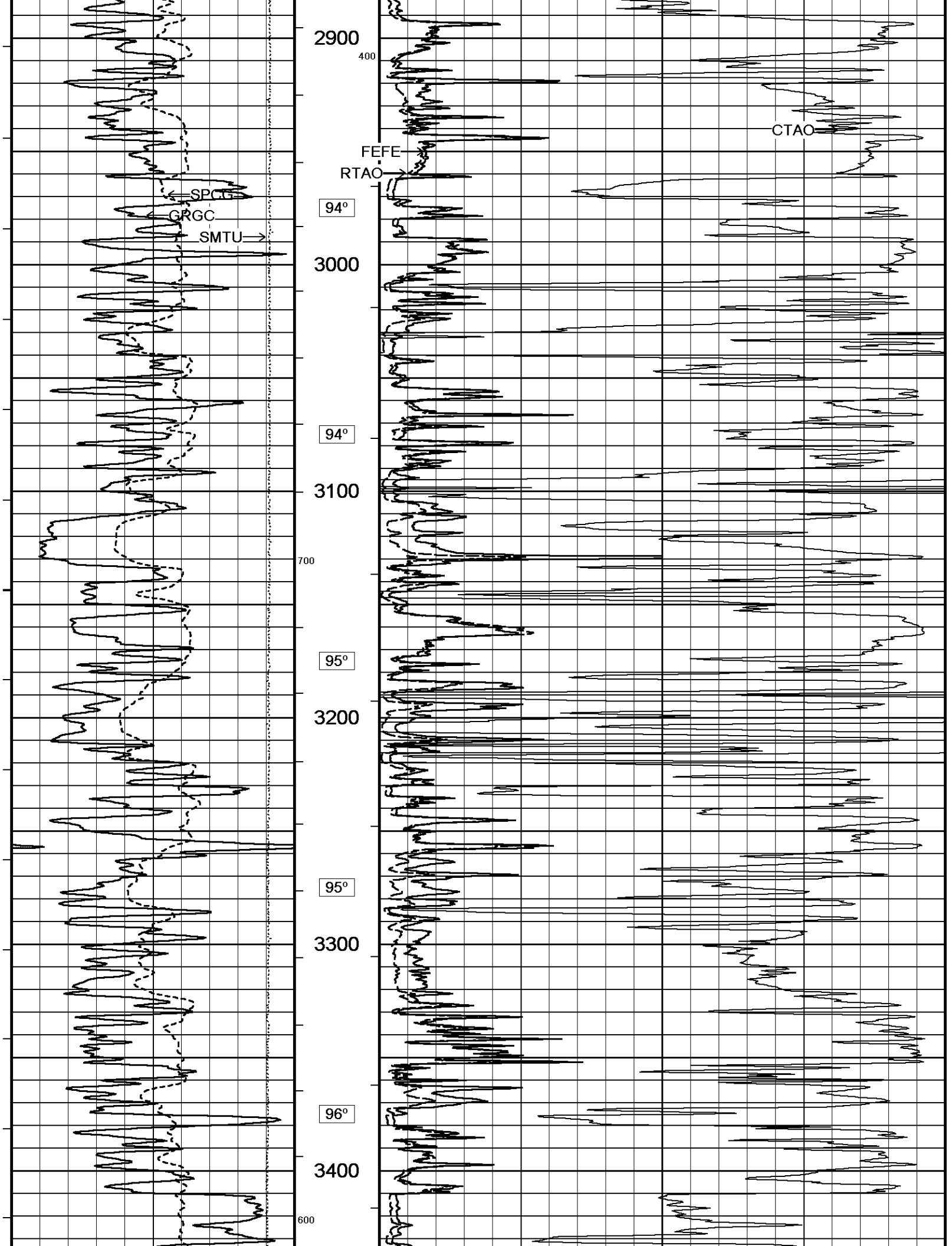


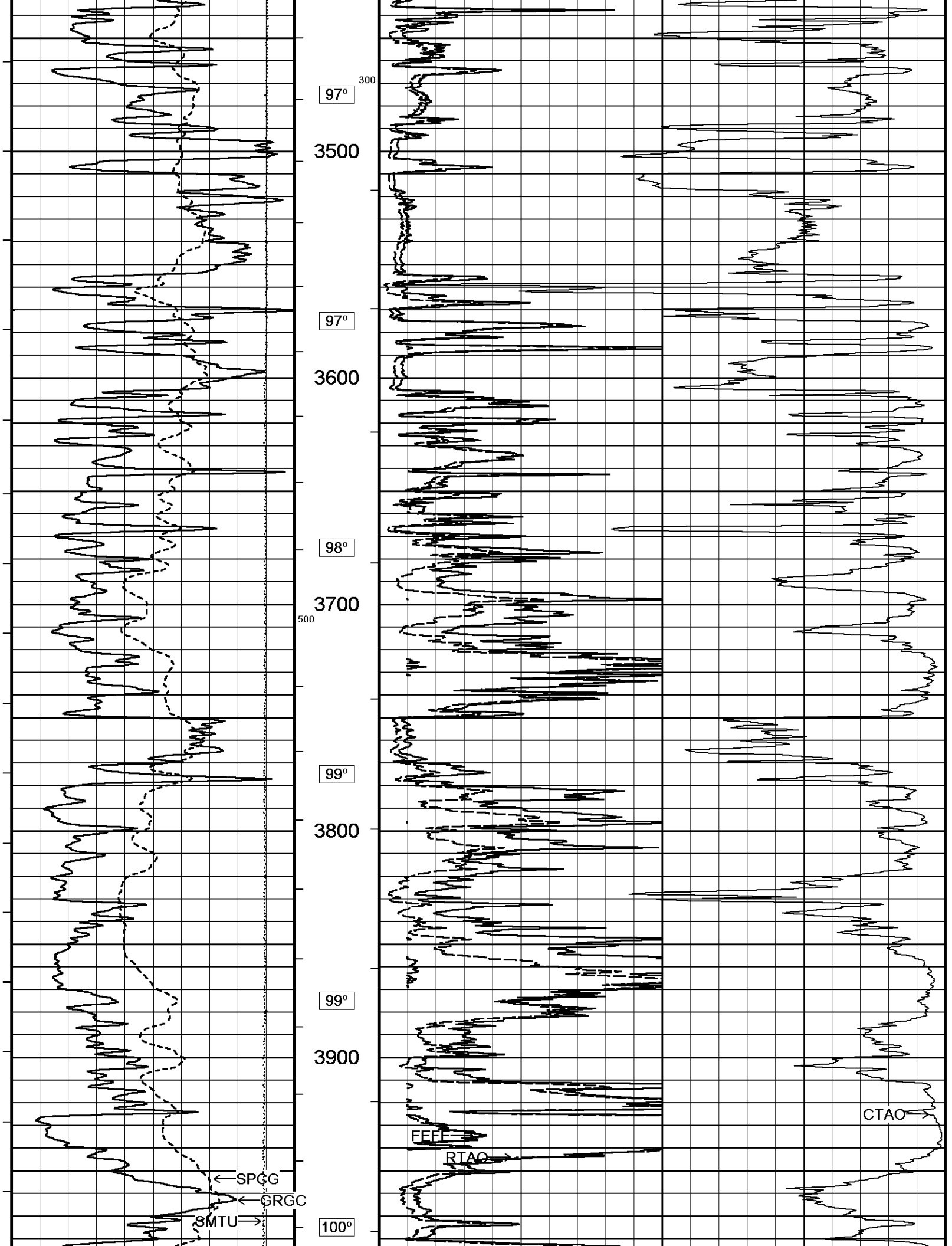


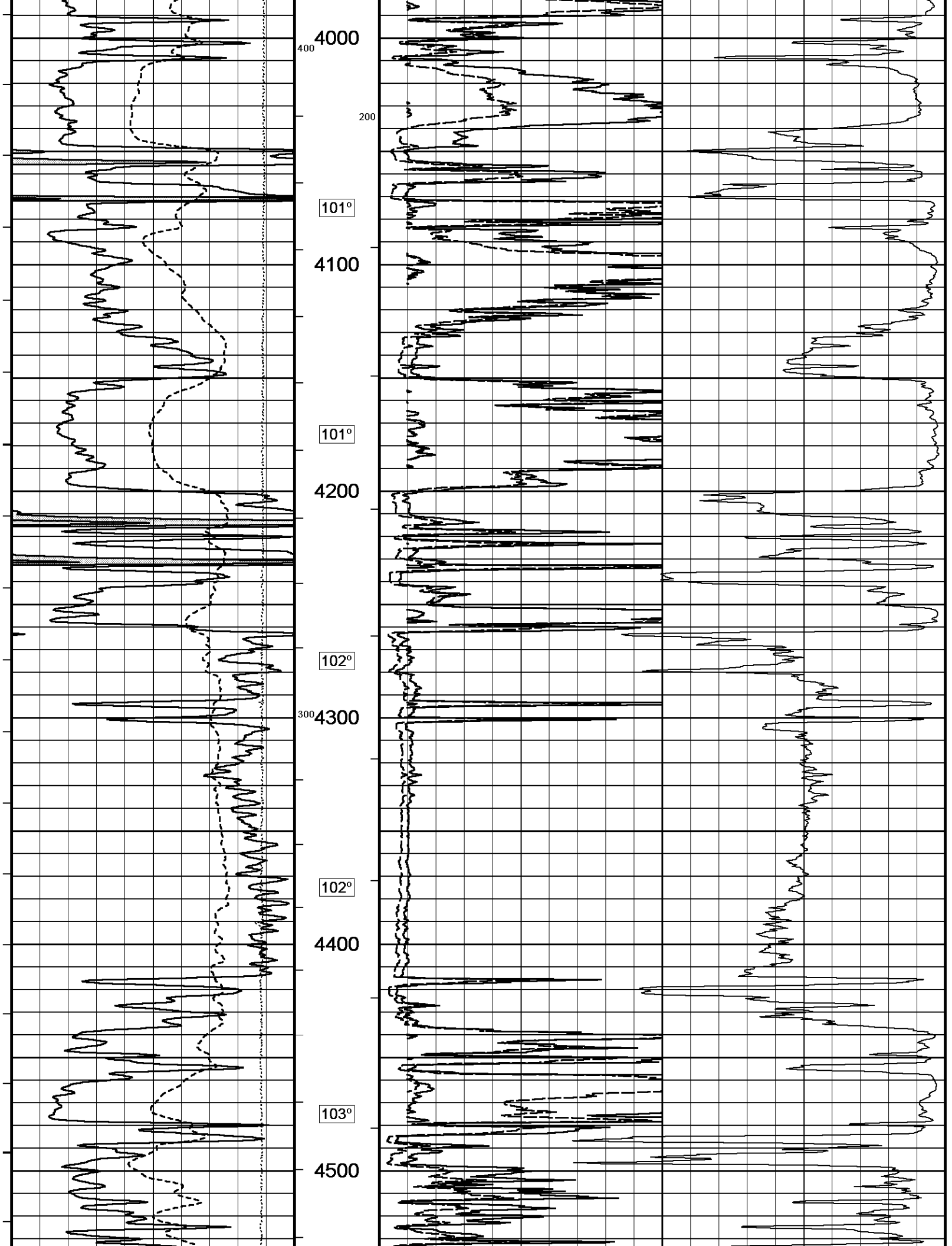


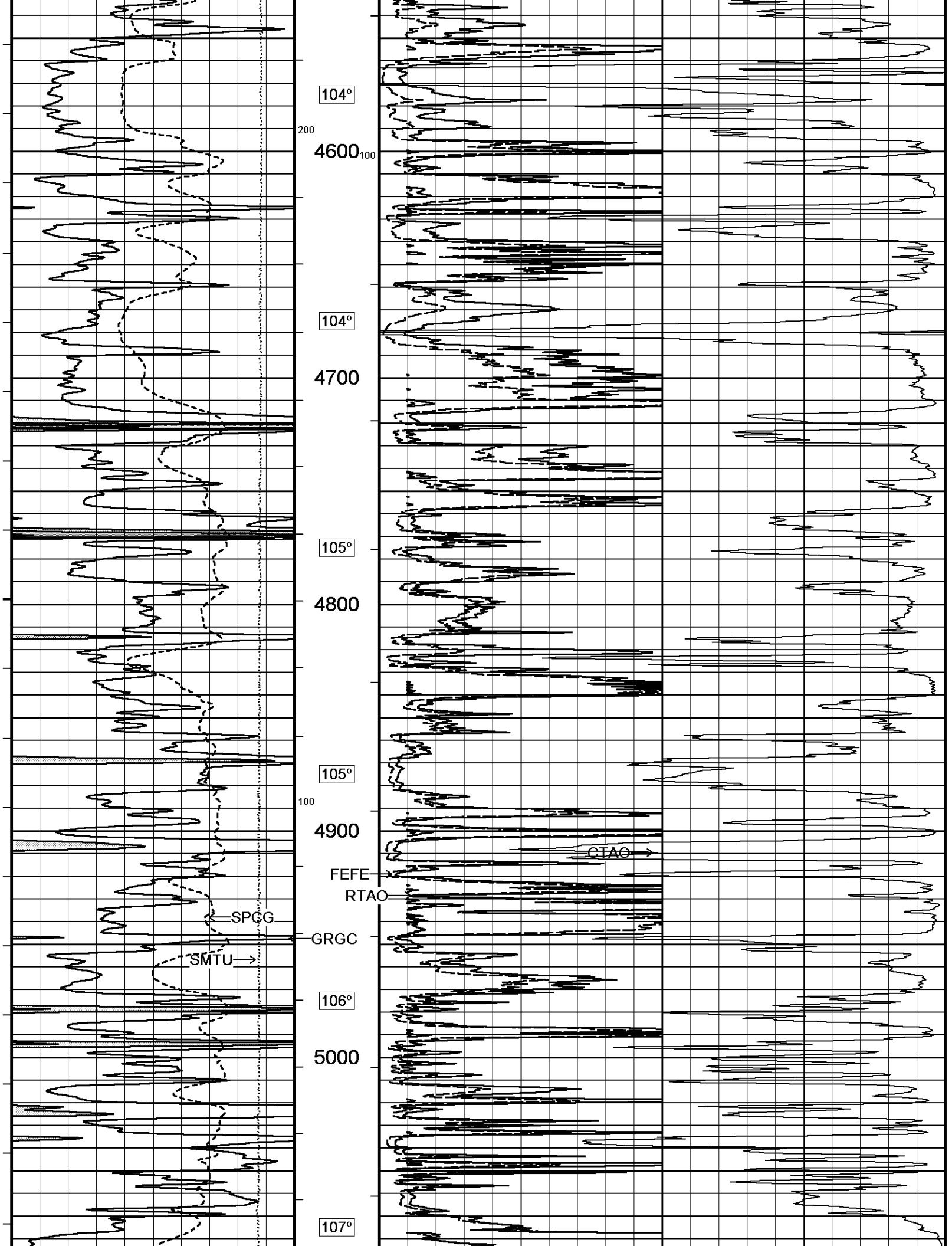


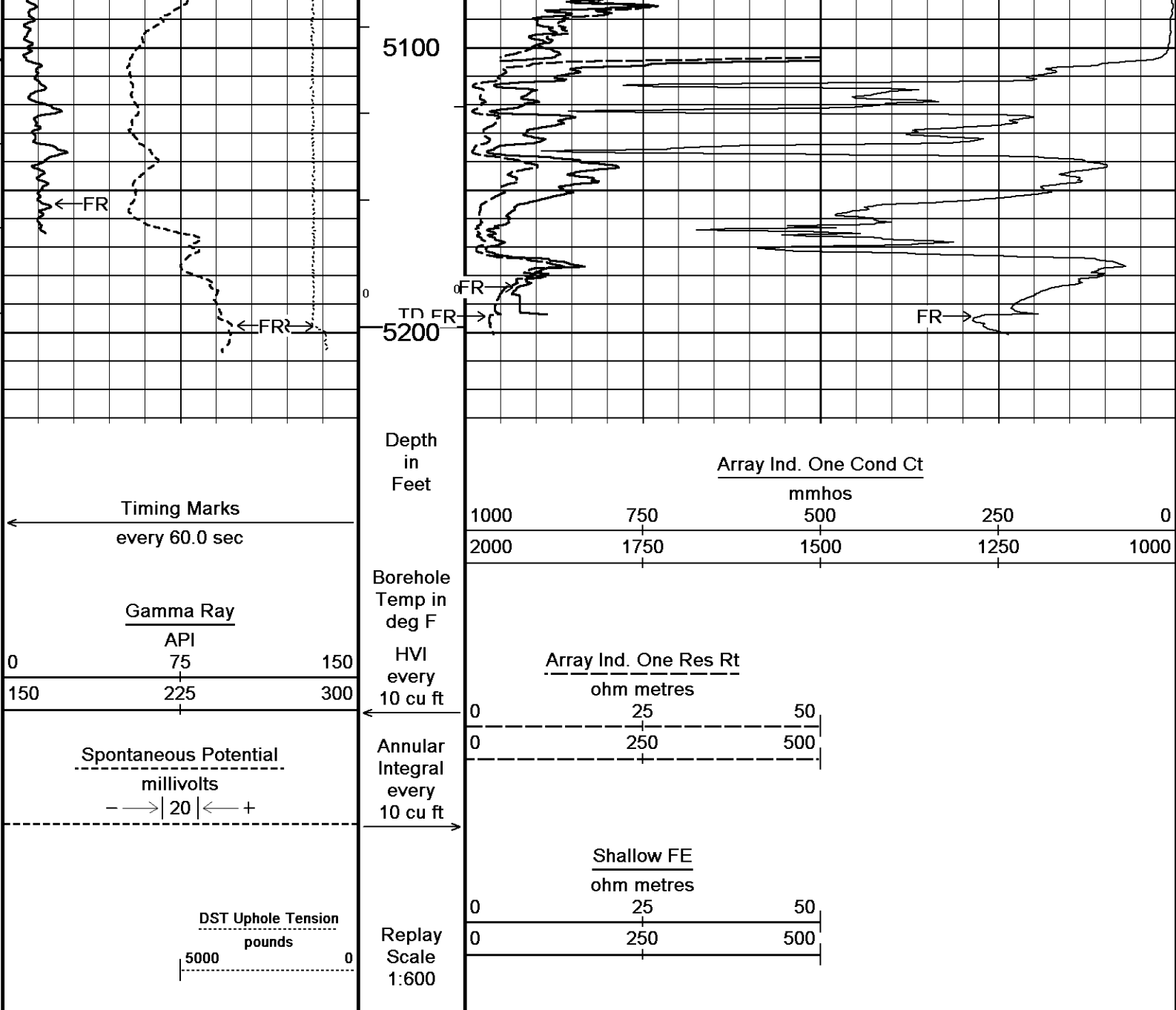










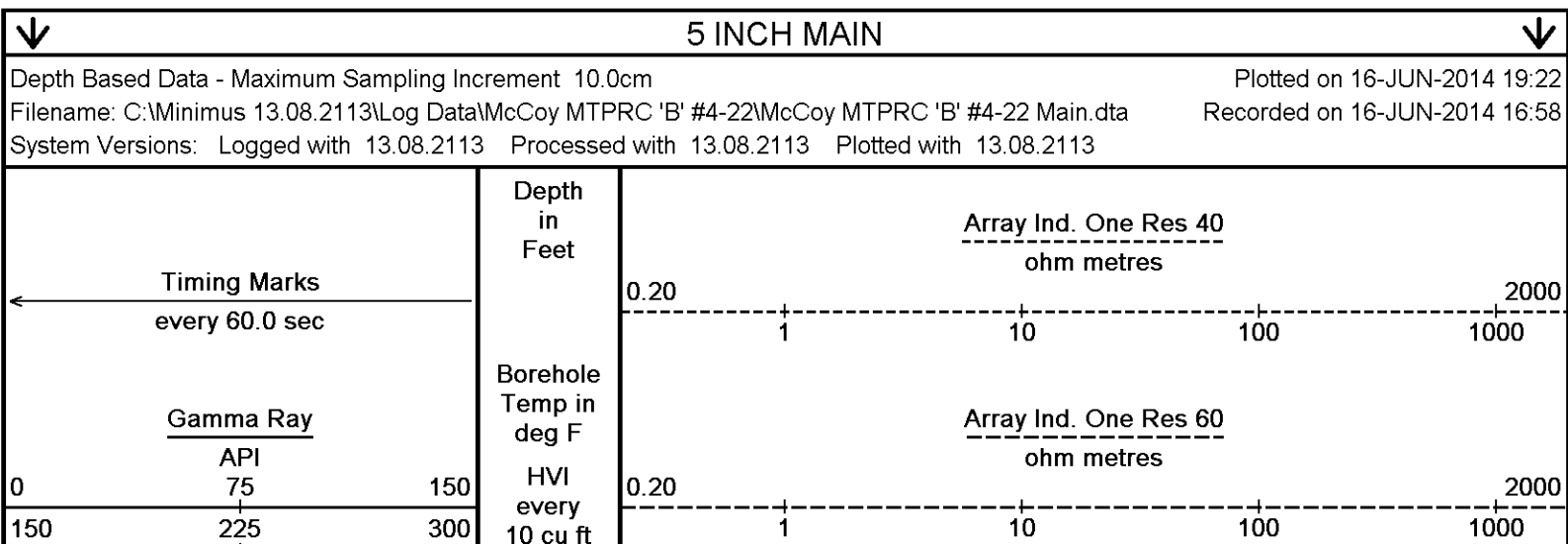


Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 16-JUN-2014 19:22

Filename: C:\Minimus 13.08.2113\Log Data\McCoy MTPRC 'B' #4-22\McCoy MTPRC 'B' #4-22 Main.dta Recorded on 16-JUN-2014 16:58

System Versions: Logged with 13.08.2113 Processed with 13.08.2113 Plotted with 13.08.2113

↑ 2 INCH MAIN ↑



Spontaneous Potential

millivolts

—→| 20 |←—+

Annular
Integral
every
10 cu ft

Array Ind. One Res Rt

ohm metres

0.20

2000

1

10

100

1000

DST Uphole Tension

pounds

5000

0

Replay

Scale

1:240

Shallow FE

ohm metres

0.20

2000

1

10

100

1000

3900

FEED

RTAO

R600

R400

SPCG

GRGC

SMTU

100°

3950

100°

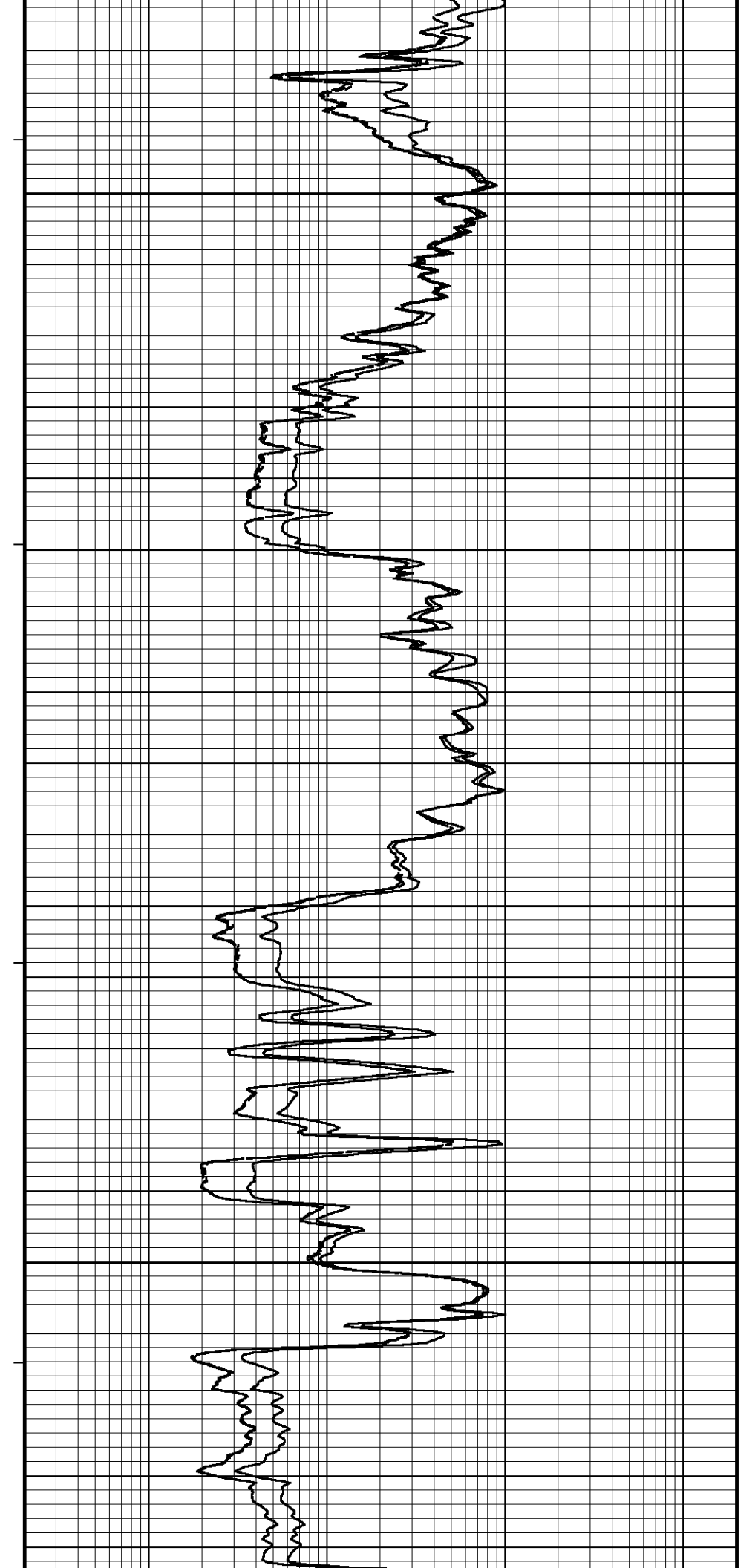
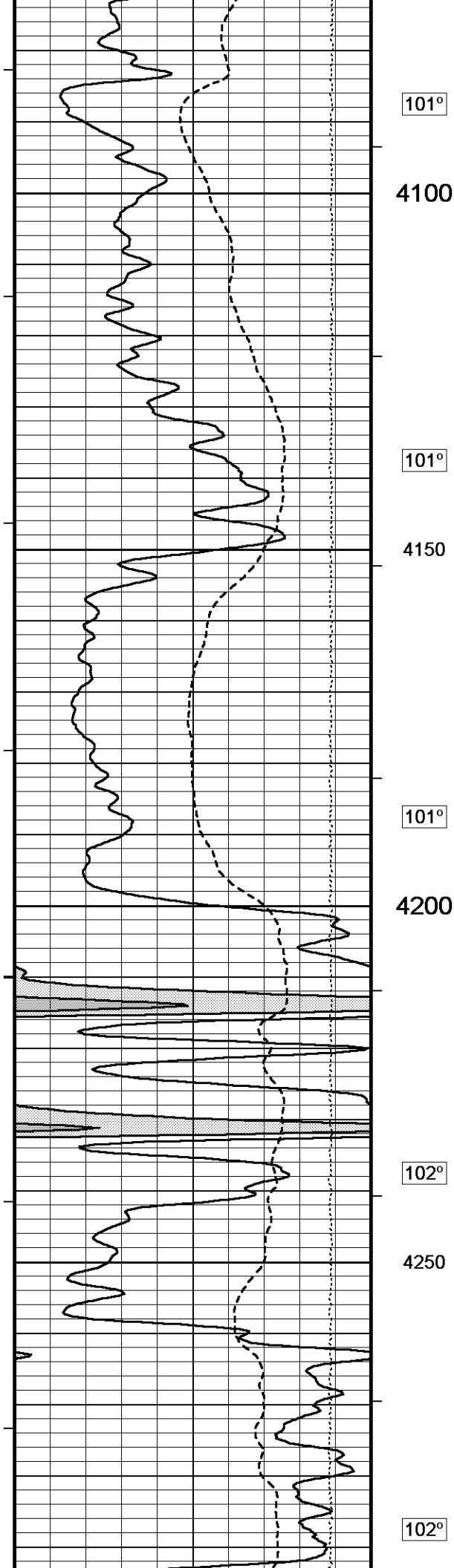
4000

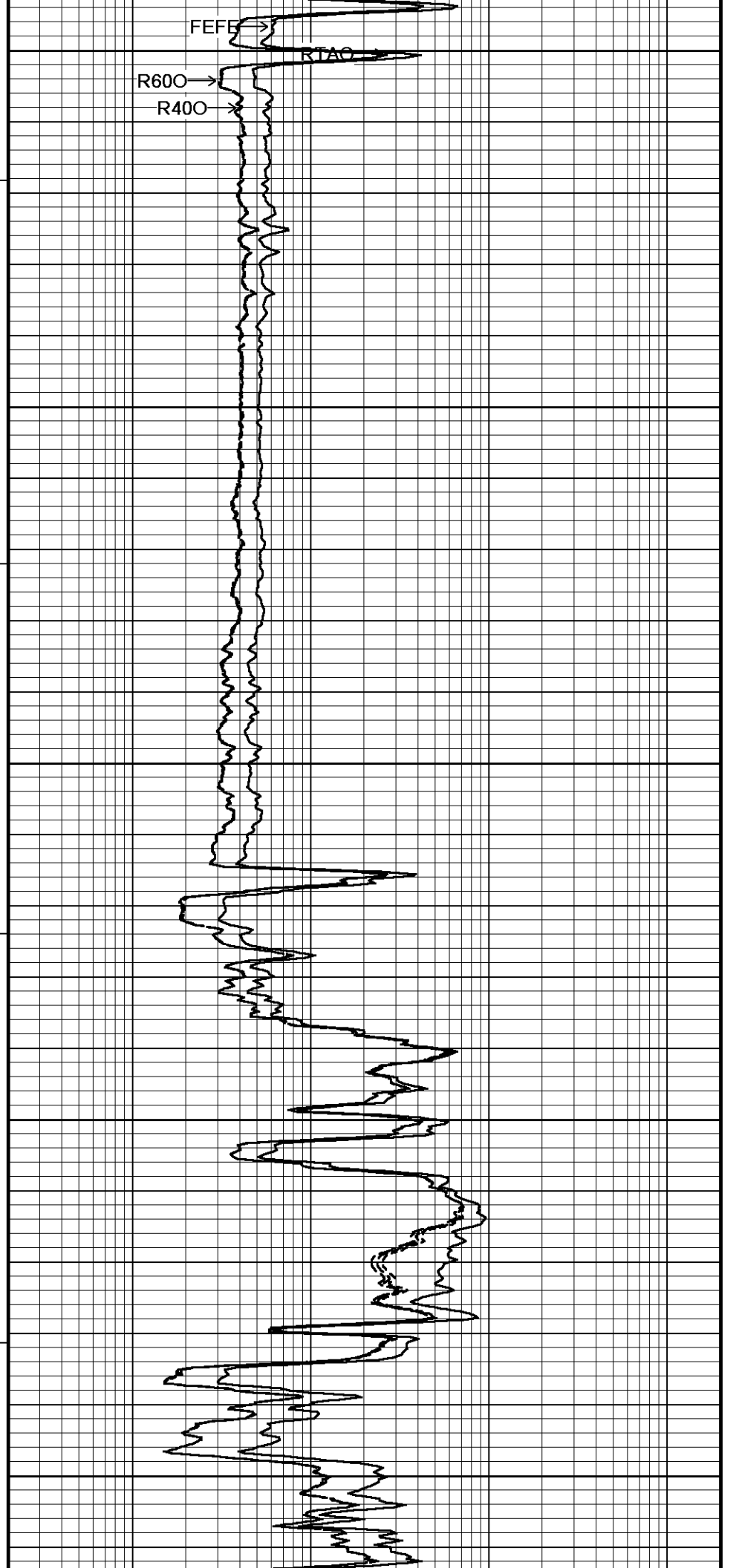
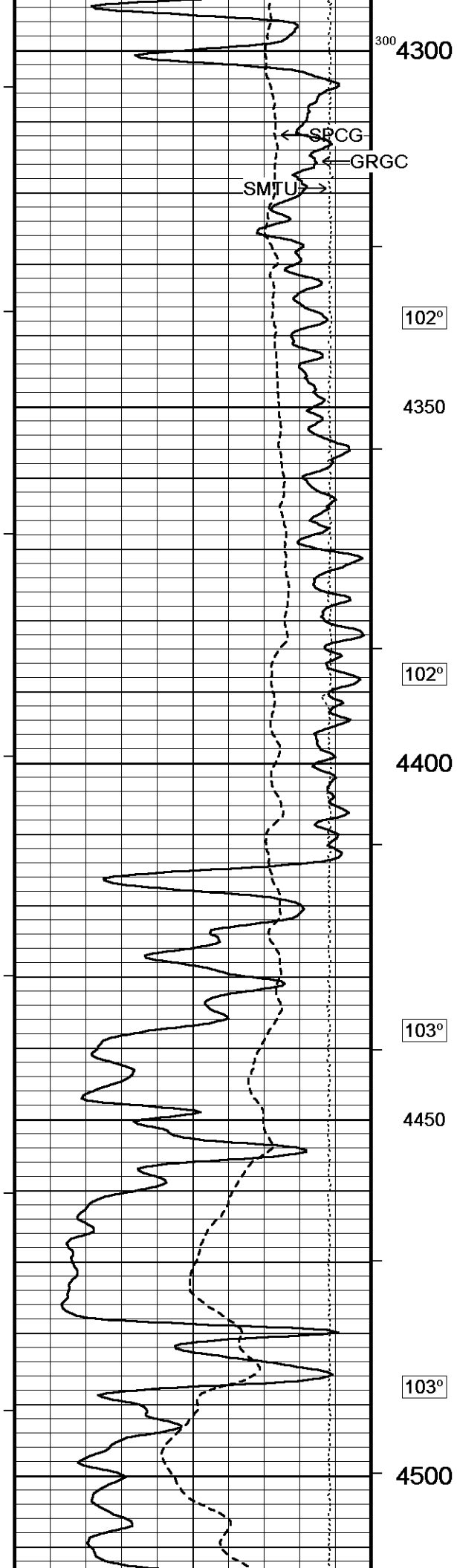
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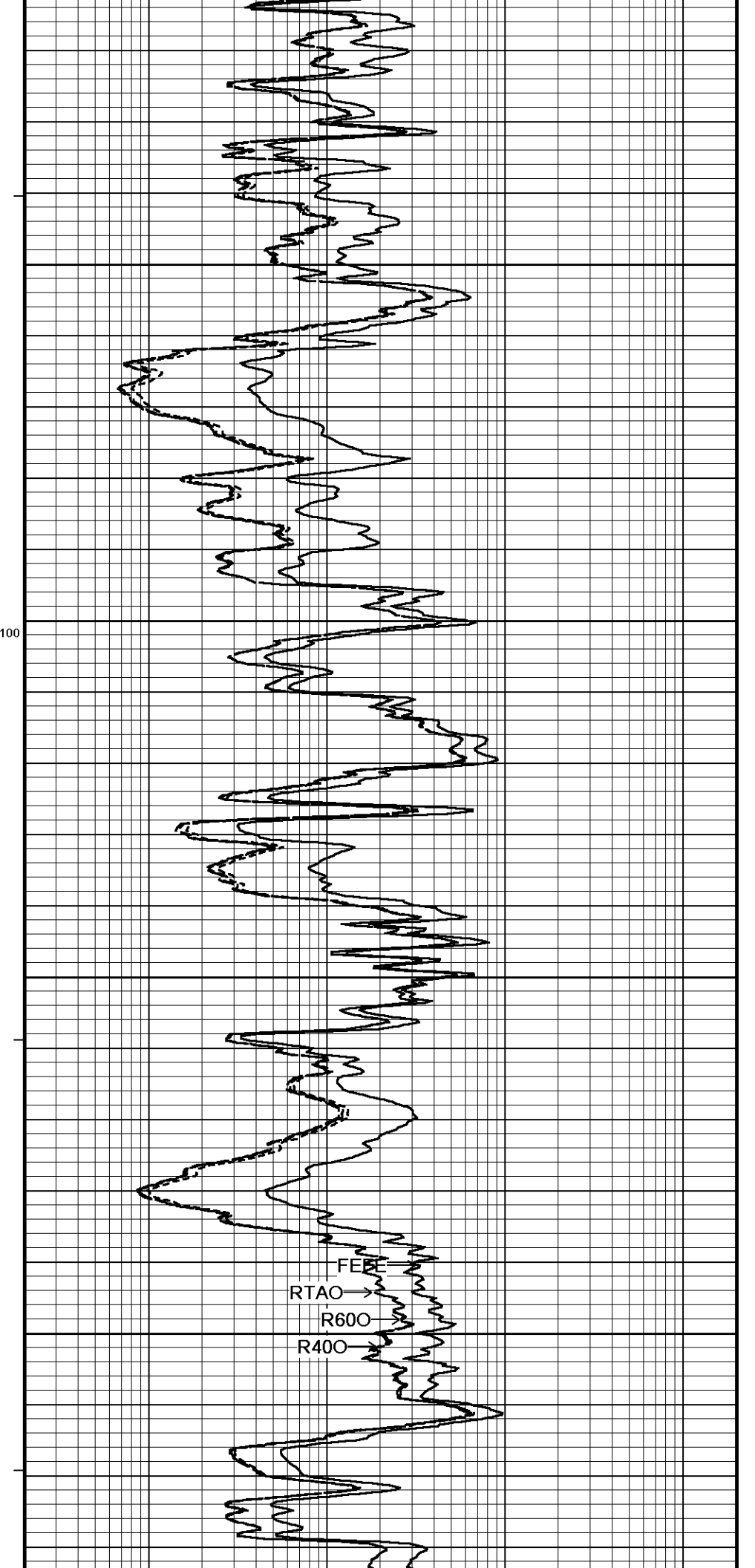
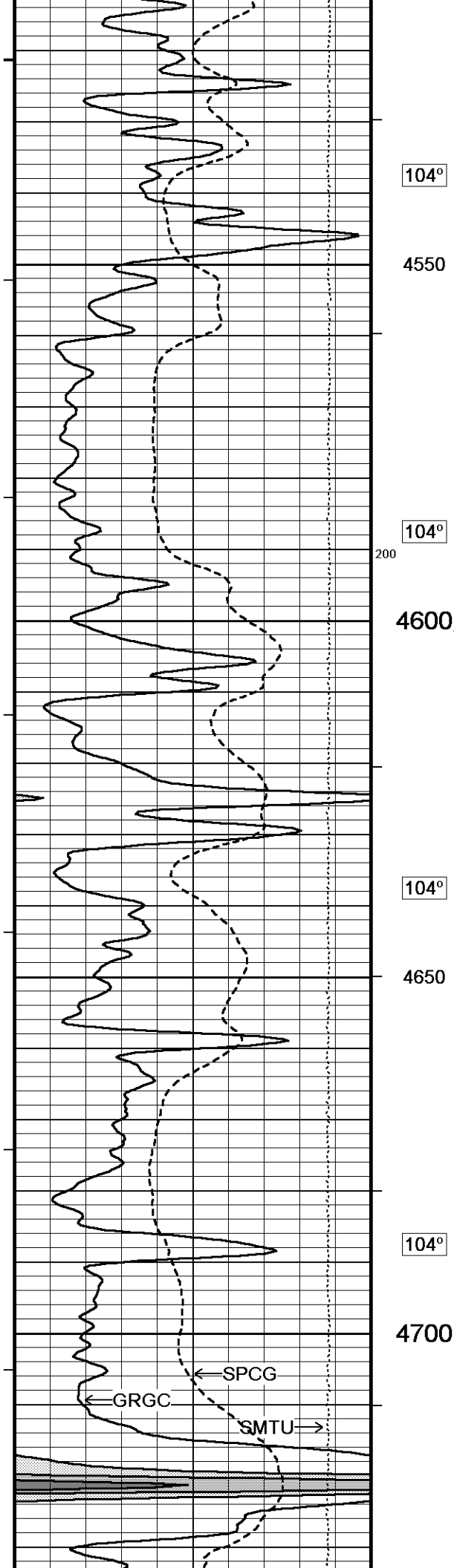
100°

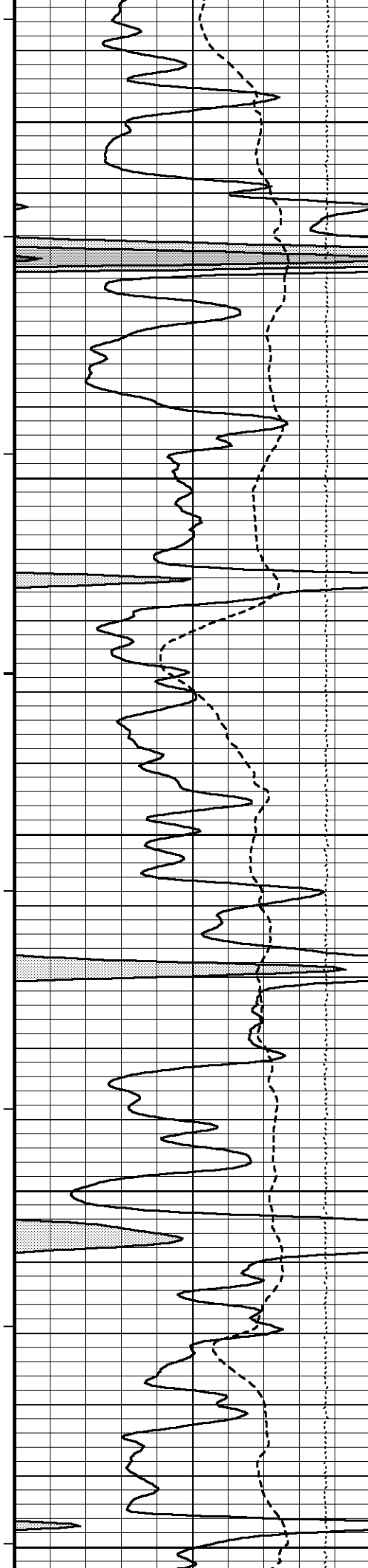
200

4050

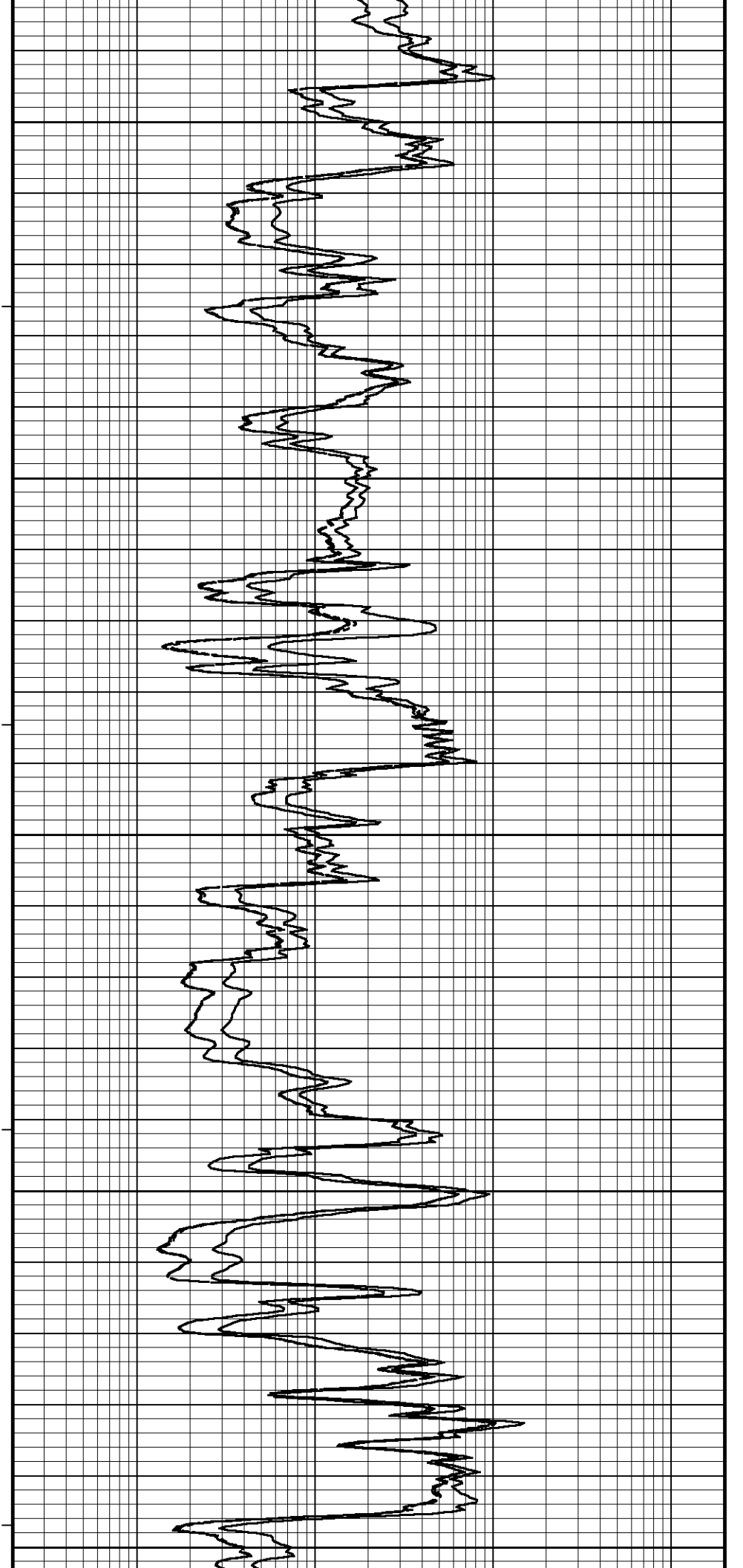


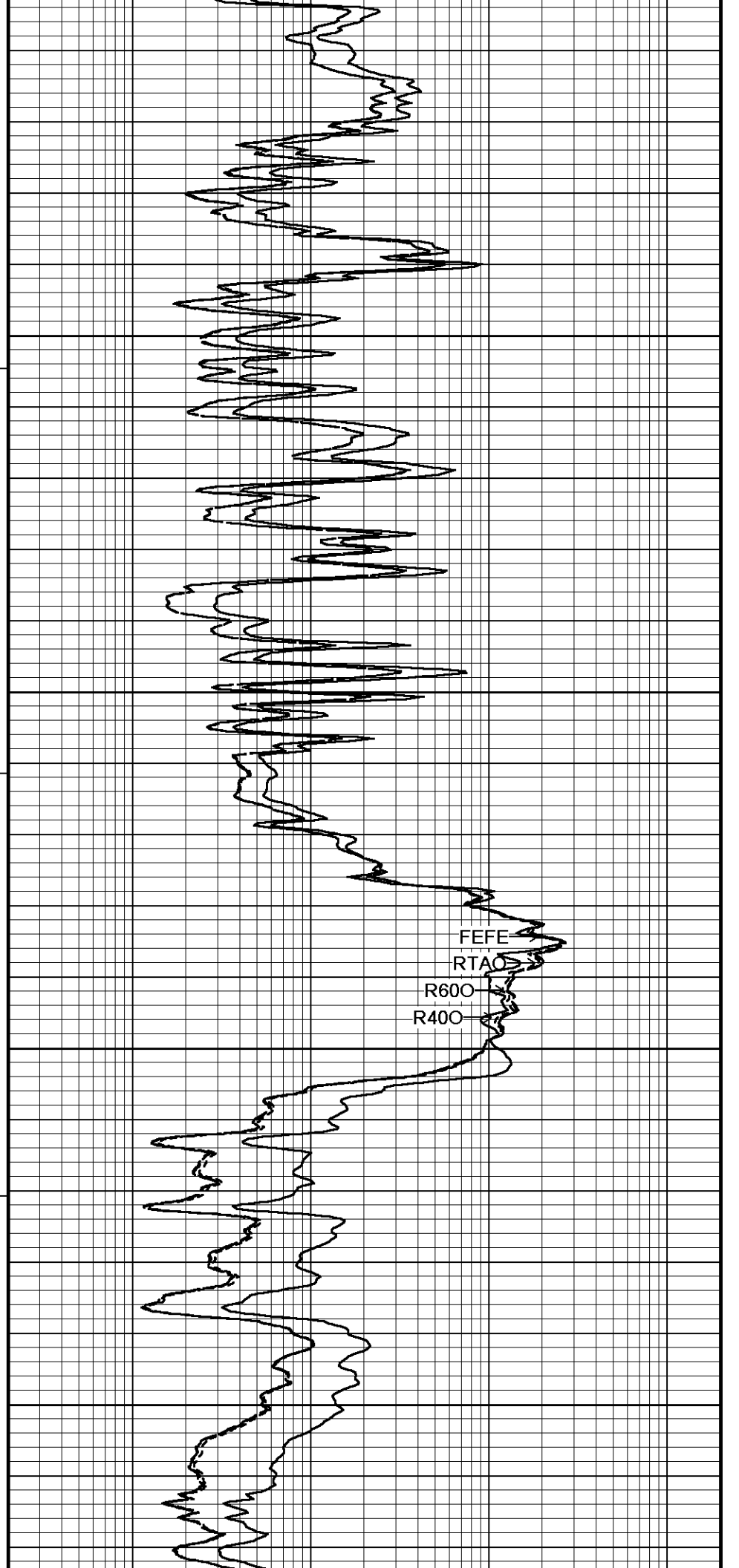
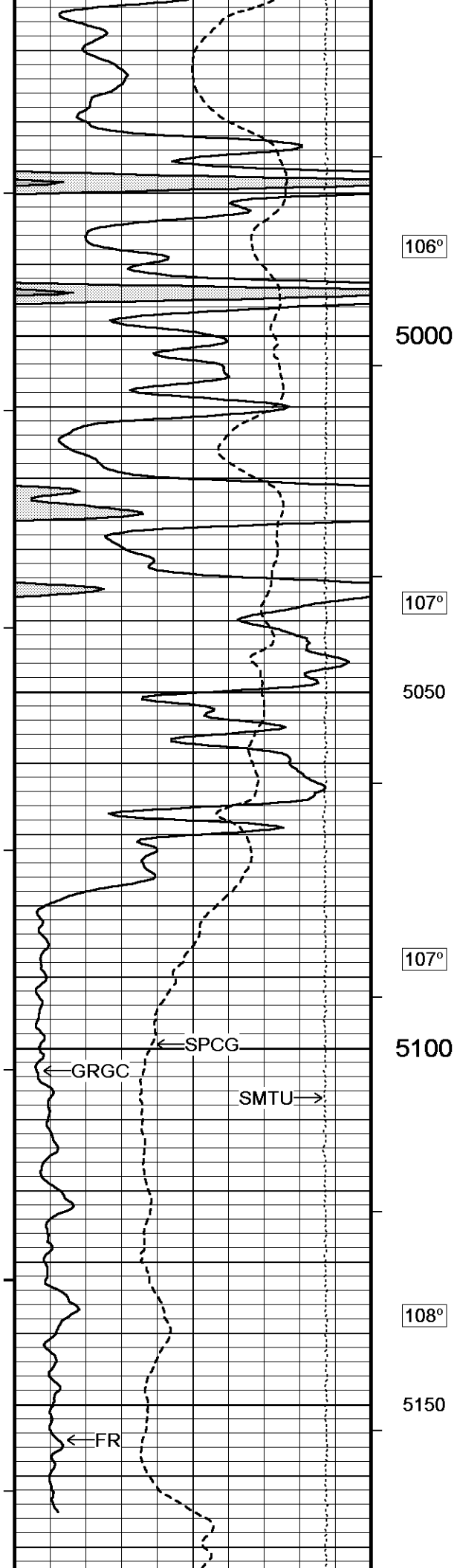


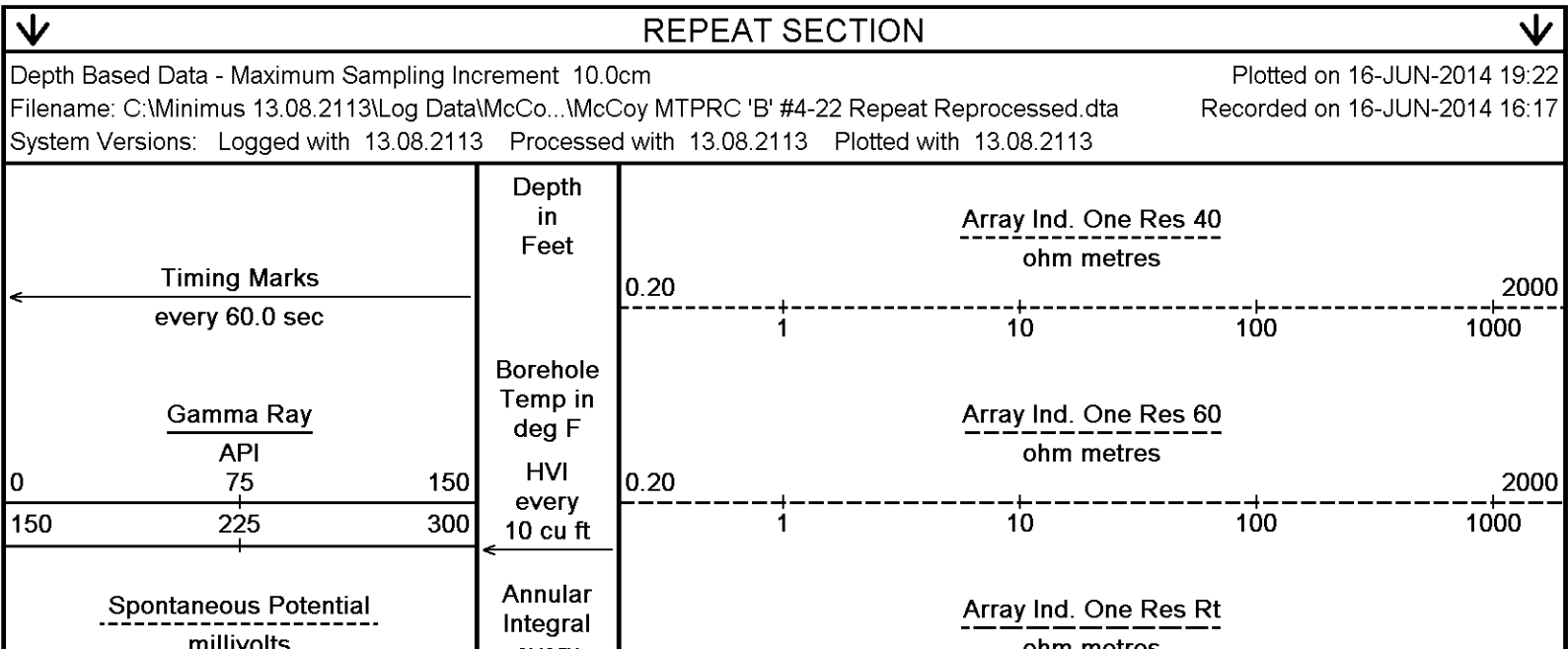
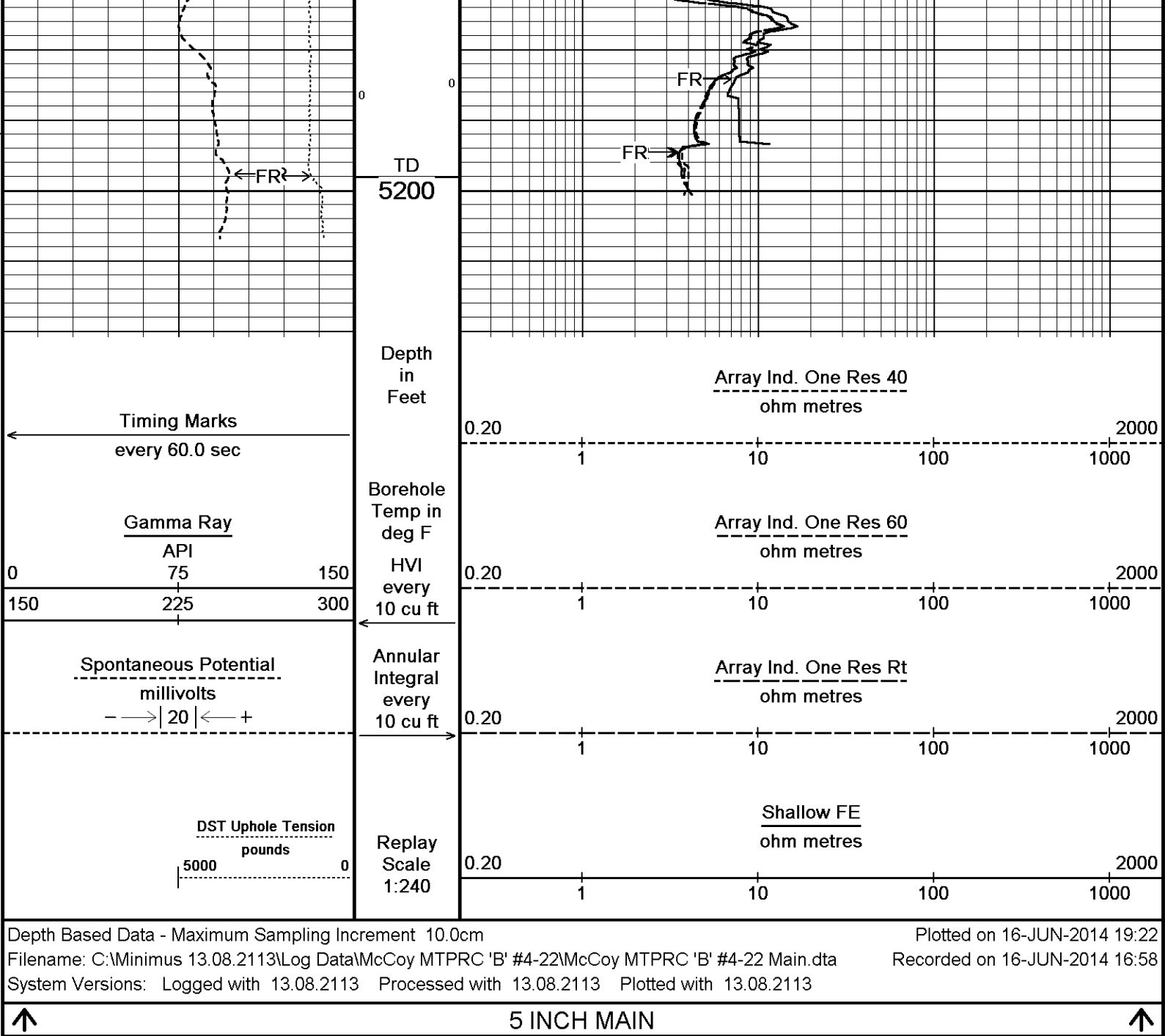


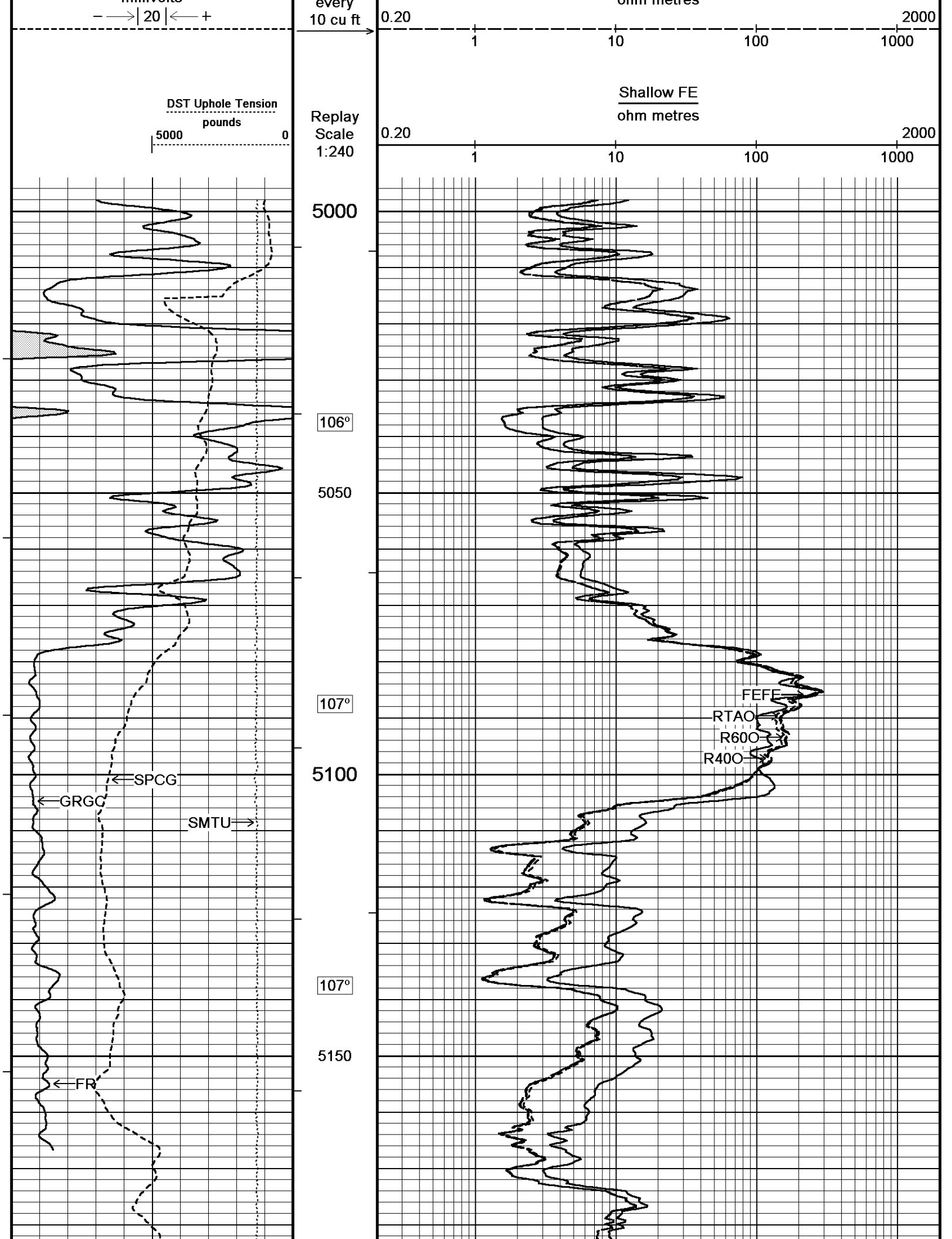


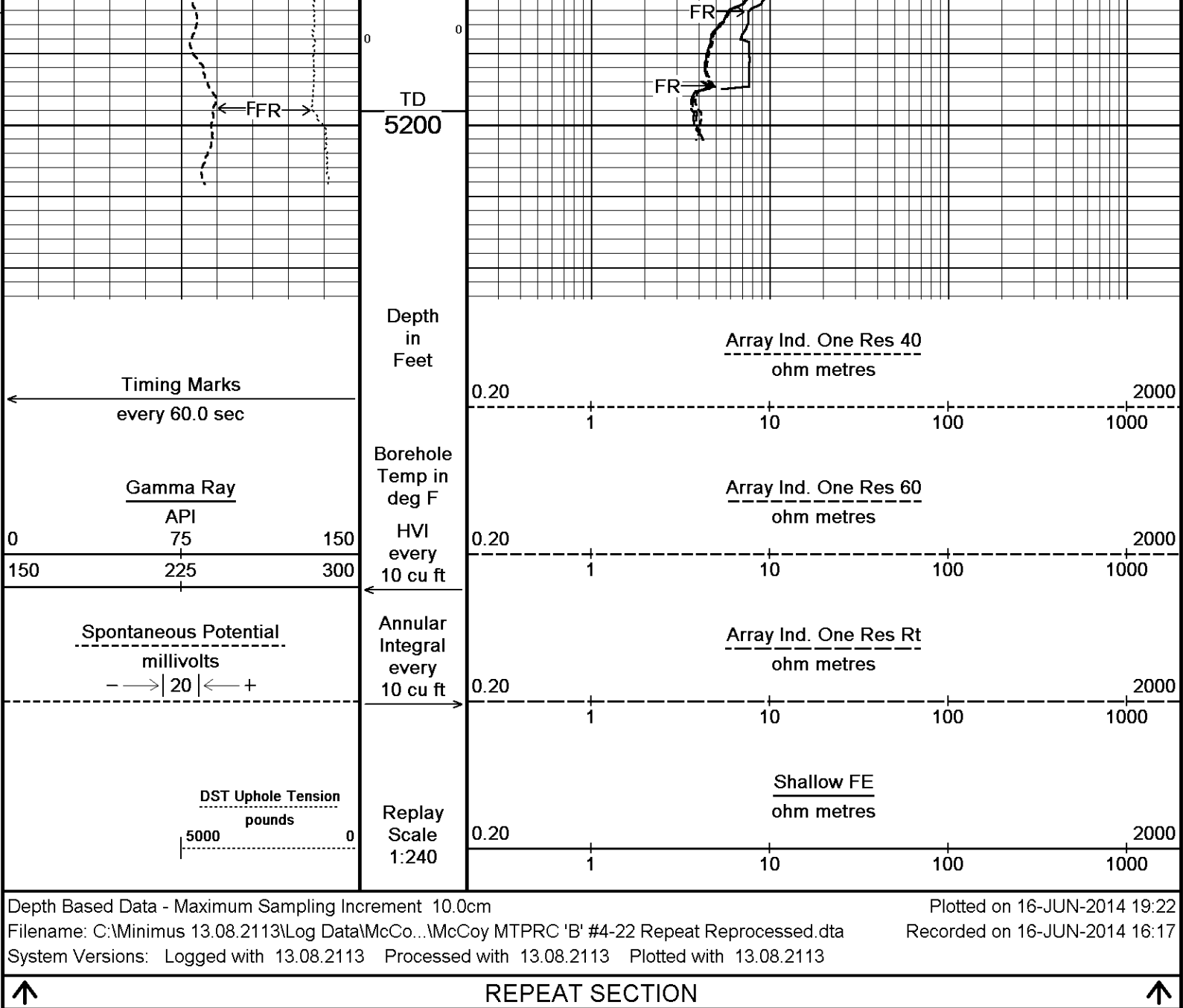
105°
4750
105°
4800
105°
4850
100 105°
4900
106°
4950











BEFORE SURVEY CALIBRATION

C:\Minimus 13.08.2113\Log Data\McCoy MTPRC 'B' #4-22\McCoy MTPRC 'B' #4-22 Repeat Reprocessed.dta

General Constants All 000

Last Edited on 16-JUN-2014,13:46

General Parameters

Mud Resistivity	0.560	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	Crossplot Porosity	
Resistivity used	Array Ind. One Res Rt	
RWA Constant A	0.610	
RWA Constant M	2.150	

Gamma Calibration MCG-D.K 469

Field Calibration on 16-JUN-2014 09:10

	Measured	Calibrated (API)
Background	68	45
Calibrator (Gross)	1160	770
Calibrator (Net)	1092	725

Gamma Constants MCG-D.K 469

Last Edited on 16-JUN-2014,13:45

Gamma Calibrator Number	GRC038	
Mud Density	1.12	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.K 469

Field Calibration on 12-MAY-2014,02:16

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

High Resolution Temperature Constants MCG-D.K 469

Last Edited on 12-JUN-2014,06:51

Pre-filter Length	11
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FE Calibration MFE-A.A 135

Base Calibration on 03-JUN-2014 20:44

Field Check on 16-JUN-2014 08:42

Base Calibration		
	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	963.0	126.8
Base Check		281.2
Field Check		281.4

FE Constants MFE-A.A 135

Last Edited on 16-JUN-2014,13:44

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 167

Base Calibration on 22-FEB-2014,14:07

Field Check on 16-JUN-2014 08:40

Base Calibration				
Test Loop Calibration		Measured	Calibrated (mmho/m)	
Channel	Low	High	Low	High
1	17.3	474.2	9.3	967.1
2	6.3	388.4	7.6	822.1
3	3.3	259.4	5.2	566.5
4	1.9	133.0	2.6	279.5
Array Temperature		76.8	Deg F	
Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1			13.2	3842.5
2			29.6	3479.7
3			29.2	3055.4
4			19.8	2083.3
Deep			18.6	2050.6
Medium			42.3	3994.3
Shallow			43.0	5058.0
Array Temperature				75.4 Deg F

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	8.0000	
Stand-off Fin Angle	45.00	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-C.A 216

Base Calibration on 30-MAY-2014 10:28

Field Calibration on 16-JUN-2014 08:50

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	16881	3.99
2	26816	5.98
3	36848	7.97
4	46640	9.86
5	57917	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.95	7.97

DOWNHOLE EQUIPMENT

C:\Minimus 13.08.2113\Log Data\McCoy MTPRC 'B' #4-22\McCoy MTPRC 'B' #4-22 Repeat Reprocessed.dta

3/8" Triple Cone Cable Head (MCB C A)

MCB-C.A 5 LG: 1.58 ft WT: 15.4 lb OD: 2.244 in

Compact Comms Gamma

MCG-D.K 469 LG: 8.70 ft WT: 63.9 lb OD: 2.240 in

Compact Micro-log

MML-A 3 LG: 7.97 ft WT: 81.6 lb OD: 2.240 in



42.87 ft

GRGC - Gamma Ray

39.96 ft

CGXT - MCG External Temperature

33.24 ft

MINV - Micro-inverse

33.24 ft

MNRL - Micro-normal

34.24 ft

MLTC - MML Caliper

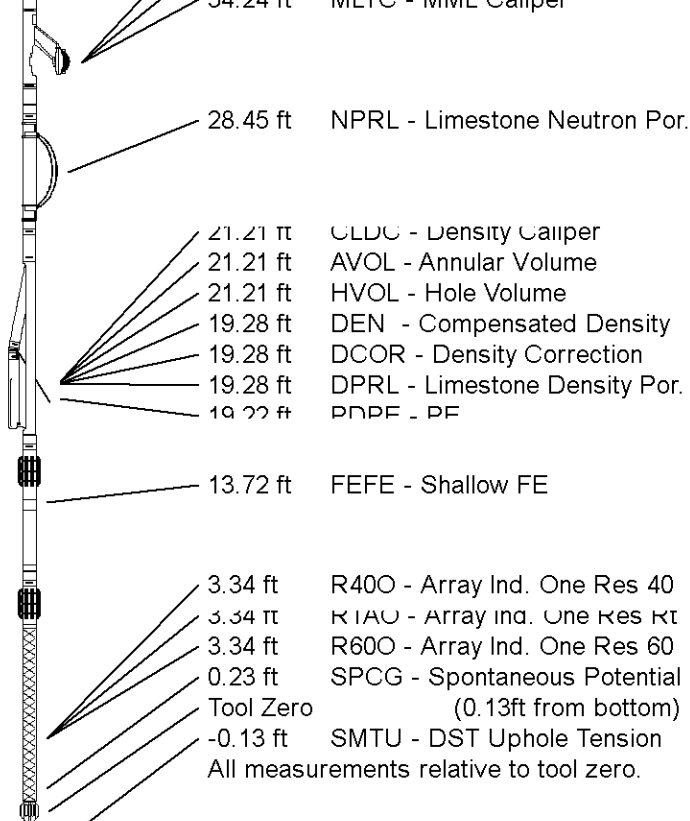
Compact Neutron
MDN-A.B 66 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

Compact Density/Caliper
MPD-C.A 216 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in

Compact Focussed Electric
MFE-A.A 135 LG: 6.05 ft WT: 48.5 lb OD: 2.244 in

Compact Induction
MAI-A.A 167 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in

Total Length: 49.73 ft Weight: 399.0 lb



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WELL MTPRC 'B' #4-22
FIELD ALFORD
PROVINCE/COUNTY KIOWA
COUNTRY/STATE U.S.A. / KANSAS

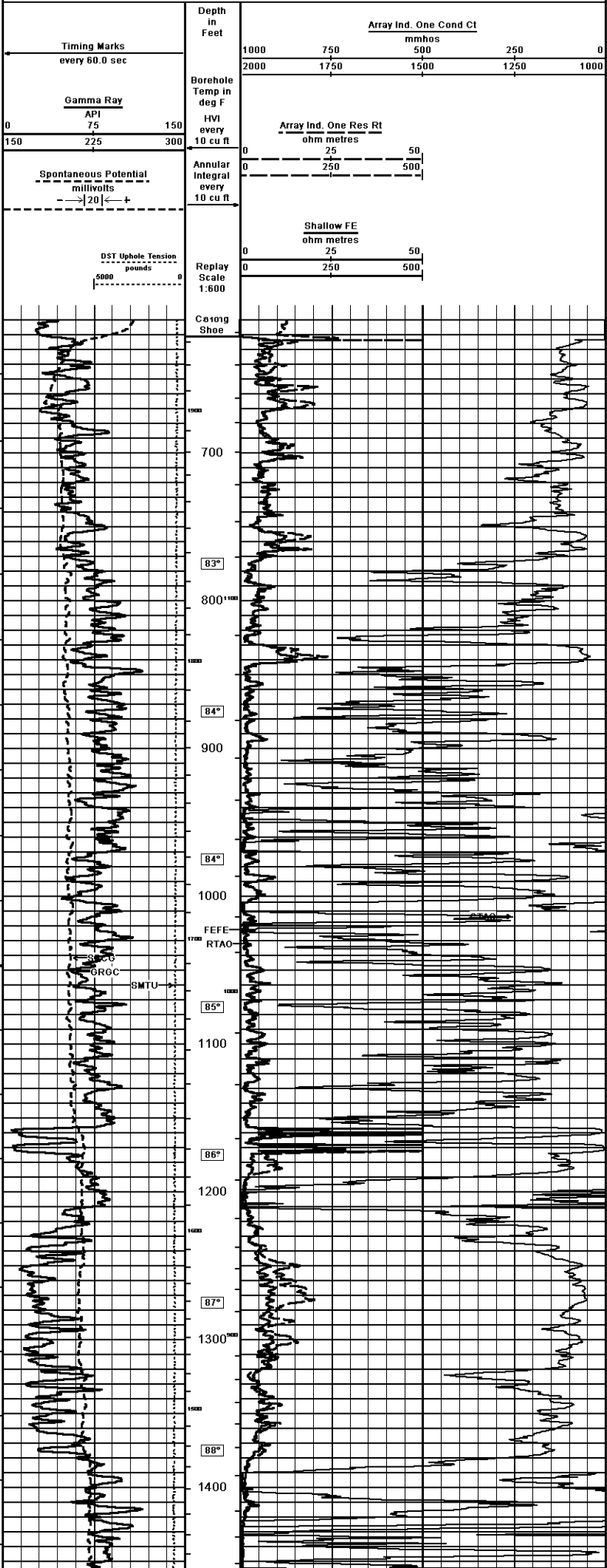
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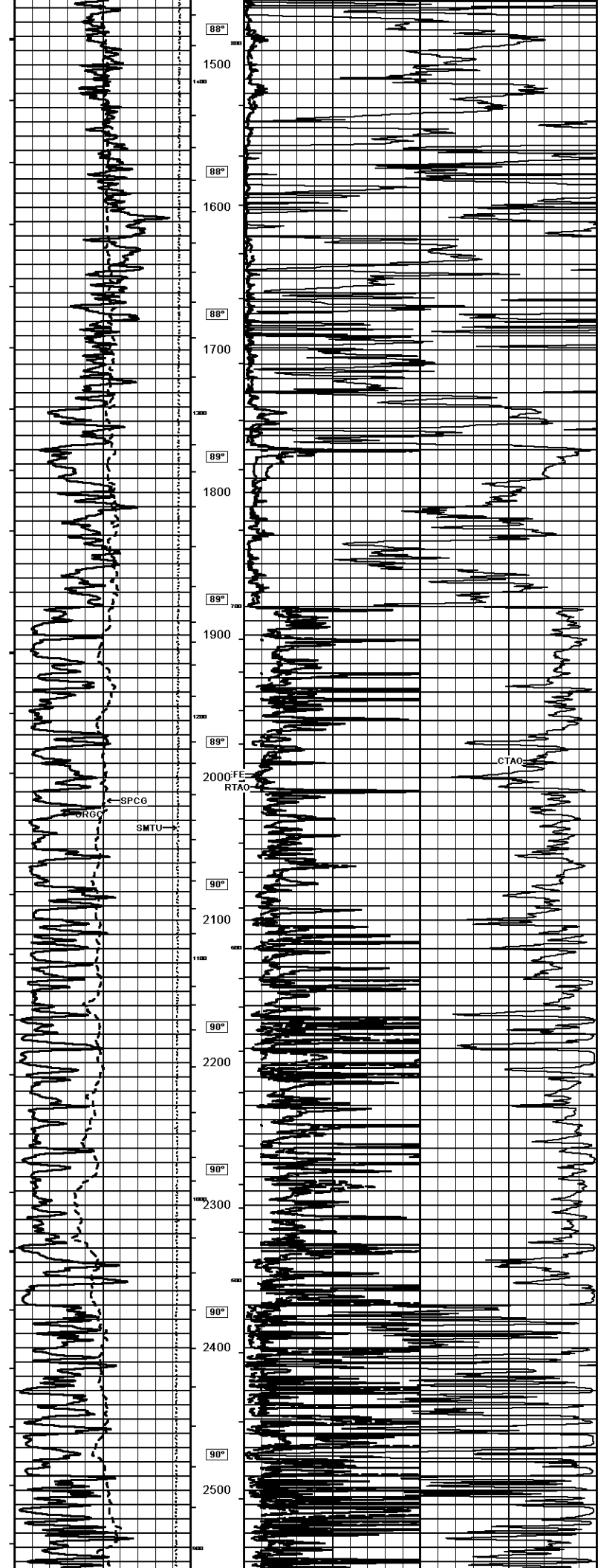


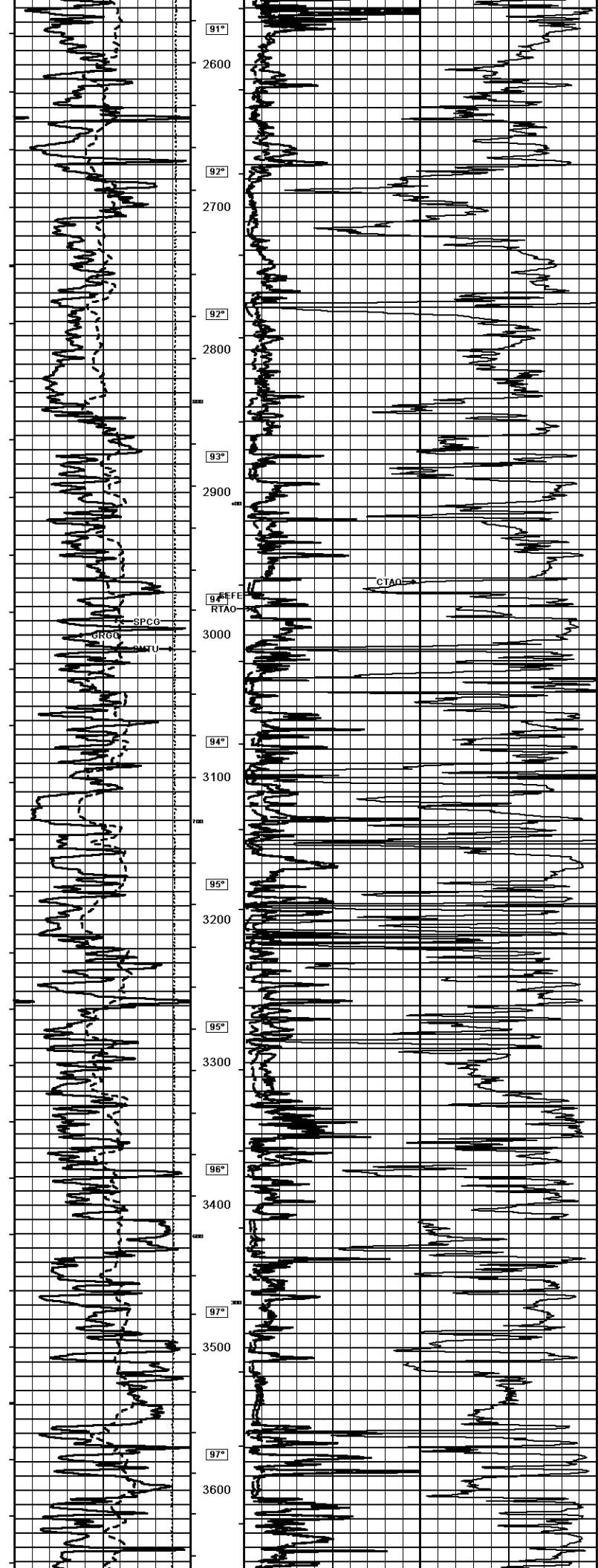
ARRAY INDUCTION
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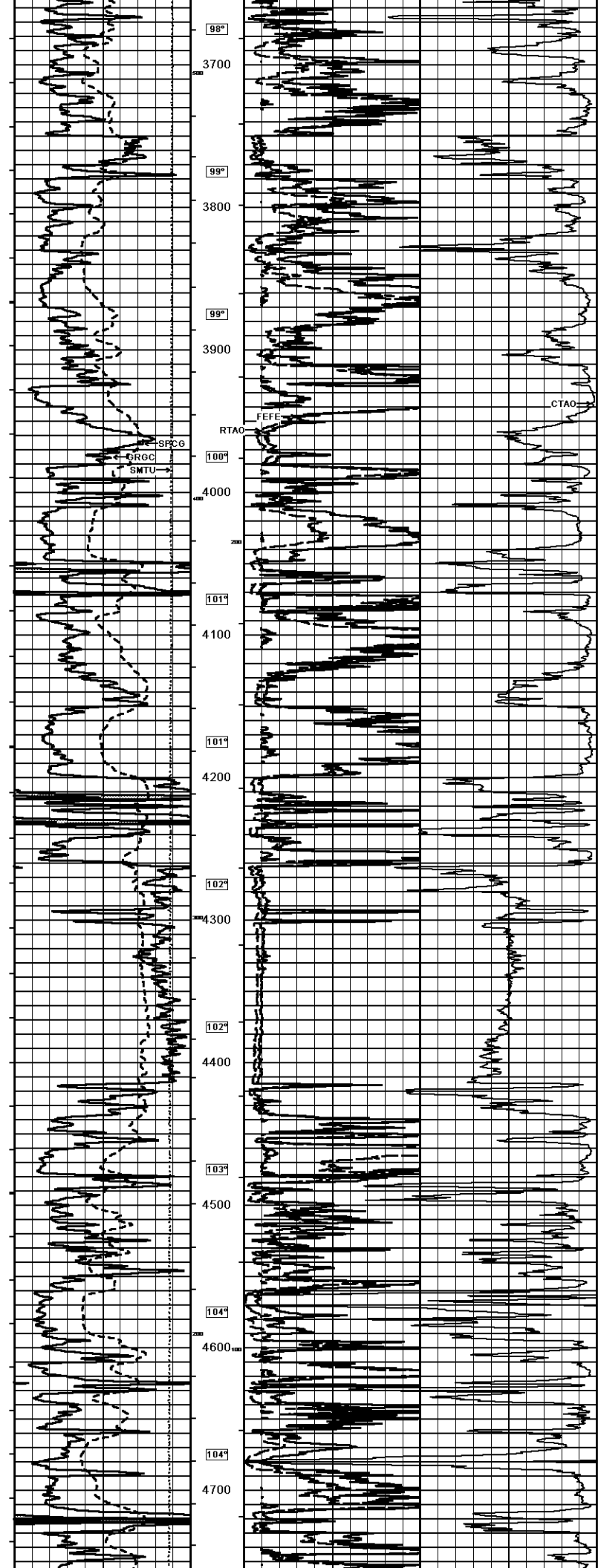
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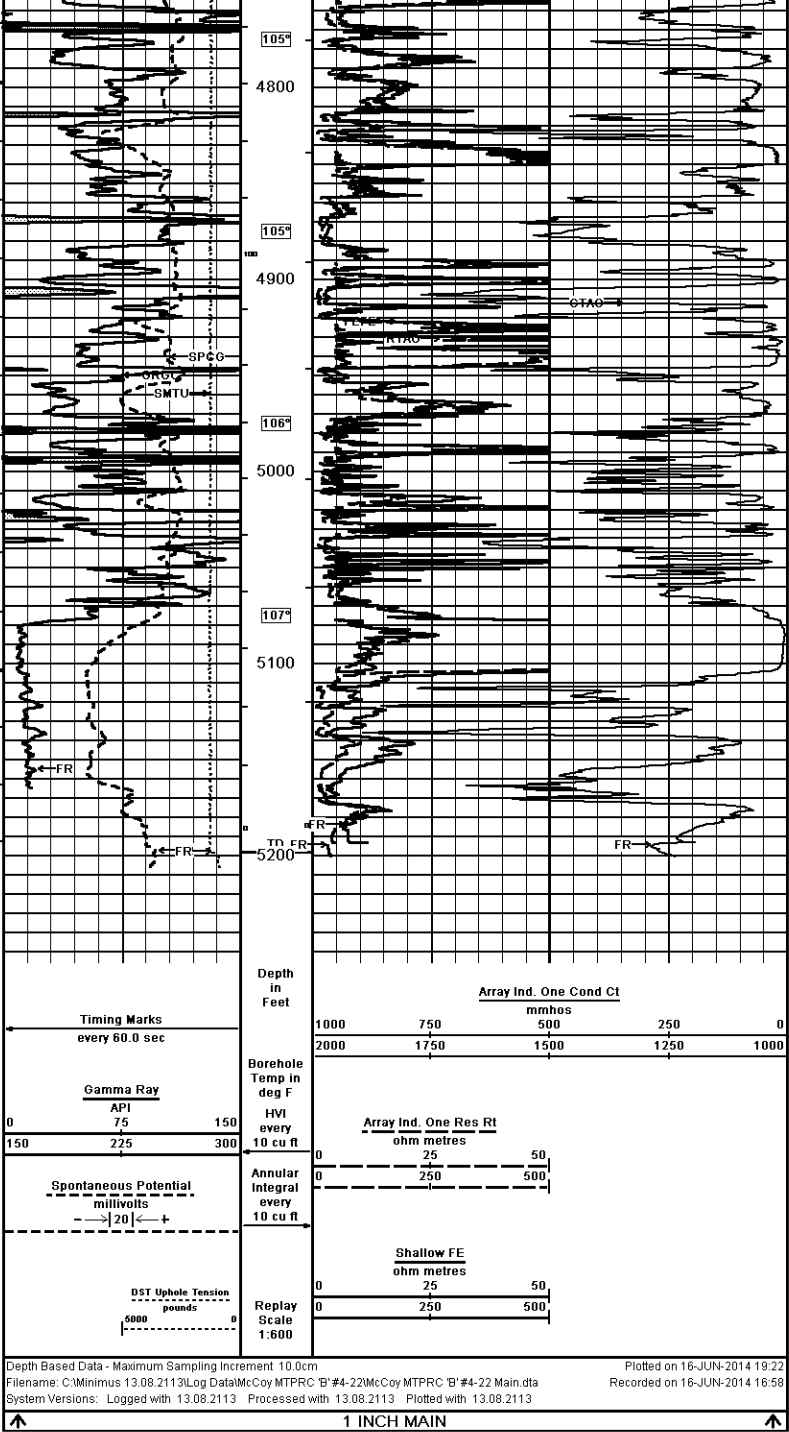
Weatherford		ARRAY INDUCTION SHALLOW FOCUSED ELECTRIC LOG	
COMPANY	MCCOY PETROLEUM CORPORATION		
WELL	MTPRC 'B' #4-22		
FIELD	ALFORD		
PROVINCE/COUNTY	KIOWA		
COUNTRY/STATE	U.S.A. / KANSAS		
LOCATION	680' FSL & 1320' FEL		
SEC. 22	TWP. 30S	R. 19W	Zone Services
DATE	15-SEP-21	TIME	13:00
LOGGERS	15-SEP-21	TIME	13:00
LOG NUMBER	15-SEP-21	TIME	13:00
Permanent Datum G.L. Elevation 2220 feet			
Log Measured From RA @ 13 FEET			
Drilling Measured From RA @ 13 FEET			
Date	15-JUN-2014		
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Last Reading	621.00	feet	
Casing Driller	621.00	feet	
Casing Logger	621.00	feet	
Bit Size	7 8/16	inches	
Hole Fluid Type	CHEMICAL		
Density/Viscosity	9.30 lb/lb	65.00 CP	
PH/Fluid Loss	9.00	10.40 ml/30min	
Sample Source	MUD PIT		
Run @ Measured Temp	0.56 @ 75.0	ohm-m	
Run @ Measured Temp	0.448 @ 75.0	ohm-m	
Run @ Measured Temp	0.672 @ 75.0	ohm-m	
Source Fmt / Fmc	CALC		
Run @ BHT	0.40 @ 107.0	ohm-m	
Time Since Circulation	3 HOURS		
Max Recorded Temp	107.00	deg F	
Equipment Base	11306	LIB	
Recorded By	DEREK CARTER		
Witnessed By	DEREK CARTER		
LOG #	1514180		











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