



Weatherford[®]

**ARRAY INDUCTION
SHALLOW FOCUSED
ELECTRIC LOG**

COMPANY				O'BRIEN ENERGY RESOURCES CORP.			
WELL				KEYSTONE #2-4			
FIELD				ANGELL SE			
PROVINCE/COUNTY				MEADE			
COUNTRY/STATE				U.S.A. / KANSAS			
LOCATION				500' FSL & 716' FWL			
SEC 4	TWP 33S	RGE 29W	Other Services		MML		
Latitude		MDN/MPD					
Longitude							
API Number		15-119-21397					
Permanent Datum GL, Elevation 2585 feet							
Log Measured From KB							
Drilling Measured From KB @ 12 FEET				Elevations: KB 2597.00 DF 2595.00 GL 2585.00			
Date	10-NOV-2016						
Run Number	ONE						
Service Order	4558-166021107						
Depth Driller	6350.00			feet			
Depth Logger	6352.00			feet			
First Reading	6349.00			feet			
Last Reading	1494.00			feet			
Casing Driller	1495.00			feet			
Casing Logger	1494.00			feet			
Bit Size	7.875			inches			
Hole Fluid Type	WBM						
Density / Viscosity	9.40	lb/USg	48.00	CP			
PH / Fluid Loss	9.50		4.80	ml/30Min			
Sample Source	FLOWLINE						
Rm @ Measured Temp	1.18 @ 75.0			ohm-m			
Rmf @ Measured Temp	0.94 @ 75.0			ohm-m			
Rmc @ Measured Temp	1.42 @ 75.0			ohm-m			
Source Rmf / Rmc	CALC		CALC				
Rm @ BHT	0.71 @124.0			ohm-m			
Time Since Circulation	5 HOURS						
Max Recorded Temp	124.00			deg F			
Equipment / Base	13096		OKC				
Recorded By	ADAM SILL						
Witnessed By	ROGER PEARSON			PETE DEBENHAM			

BOREHOLE RECORD					Last Edited: 10-NOV-2016 22:35
Bit Size inches		Depth From feet		Depth To feet	
7.875		1495.00		6350.00	
CASING RECORD					
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft	
SURFACE	8.625	0.00	1495.00	24.00	

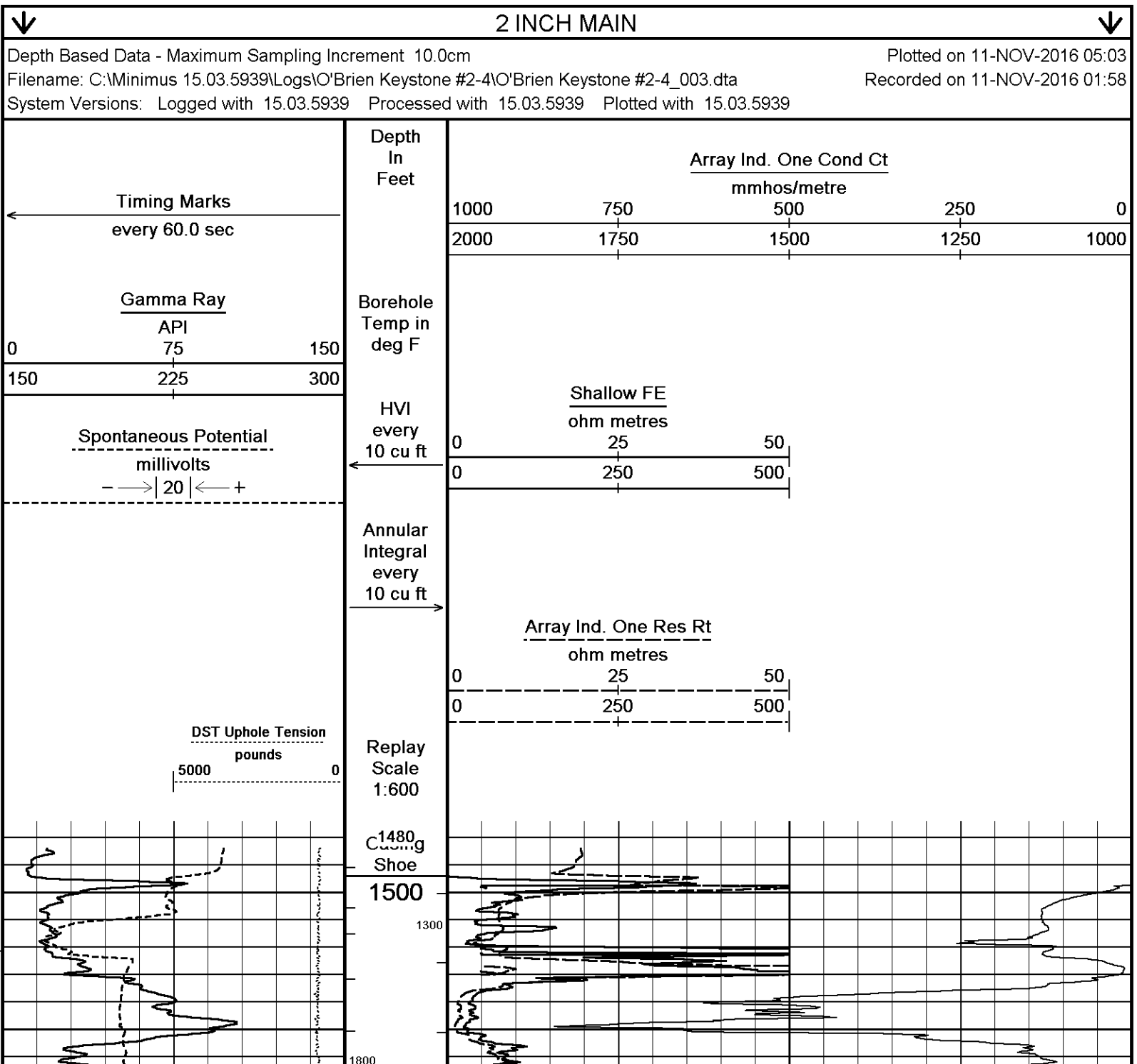
REMARKS
- SOFTWARE ISSUE: WLS 15.03.5939.
- RUN ONE: MCG, MML, MDN, MPD, MFE, MAI RUN IN COMBINATION. - HARDWARE: DUAL BOWSPRING USED ON MDN. 0.5 INCH STANDOFF USED ON MFE. 0.5 INCH STANDOFF USED ON MAI.
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY.
- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL AFFECT DATA QUALITY.
- ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.
- TOTAL HOLE VOLUME FROM TD TO SURFACE CASING: 1848 CU.FT.
- ANNULAR HOLE VOLUME WITH 4.5 INCH PRODUCTION CASING FROM TD TO 4000 FEET: 547 CU.FT.
- RIG: DUKE #1

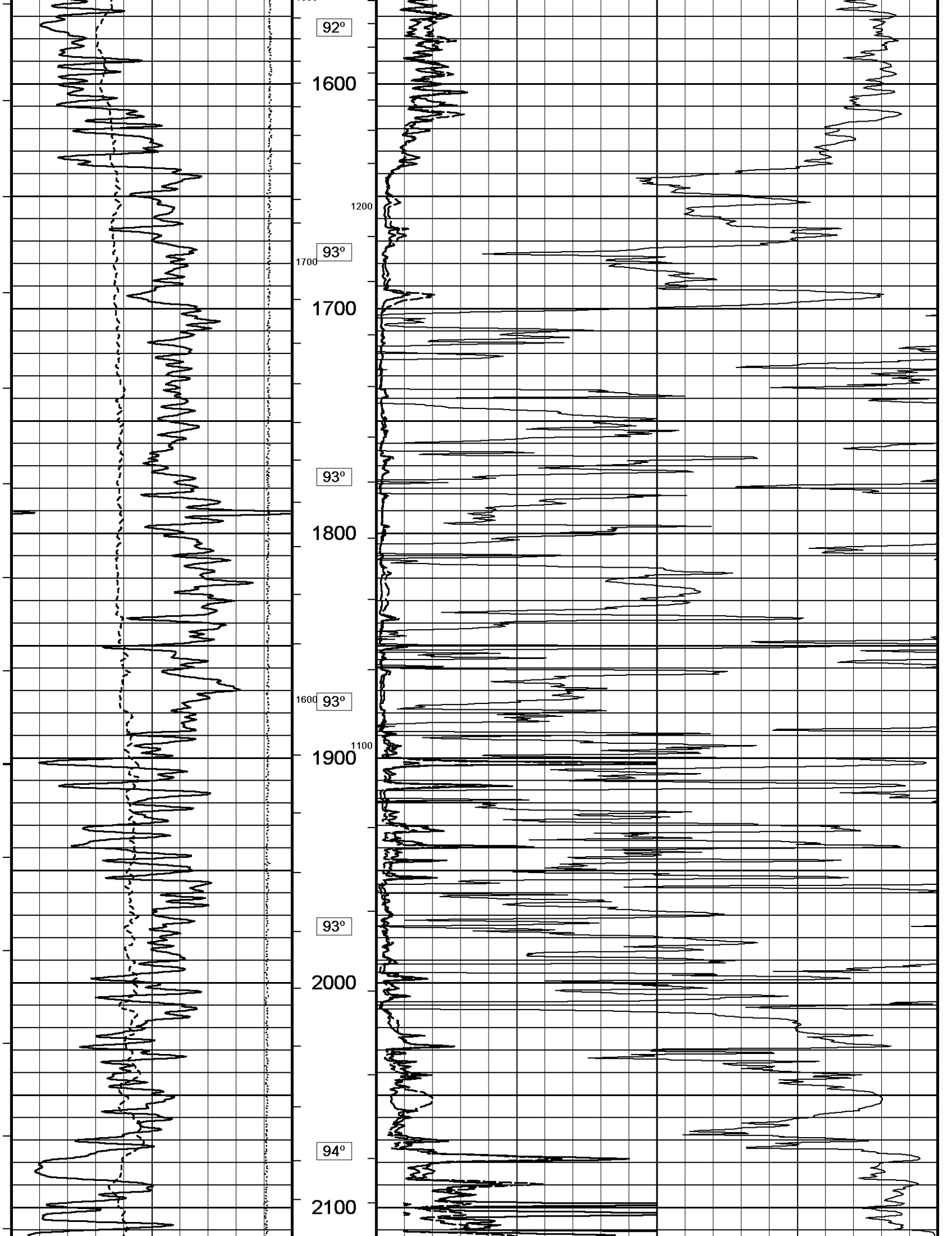
WELL: DORE #1.

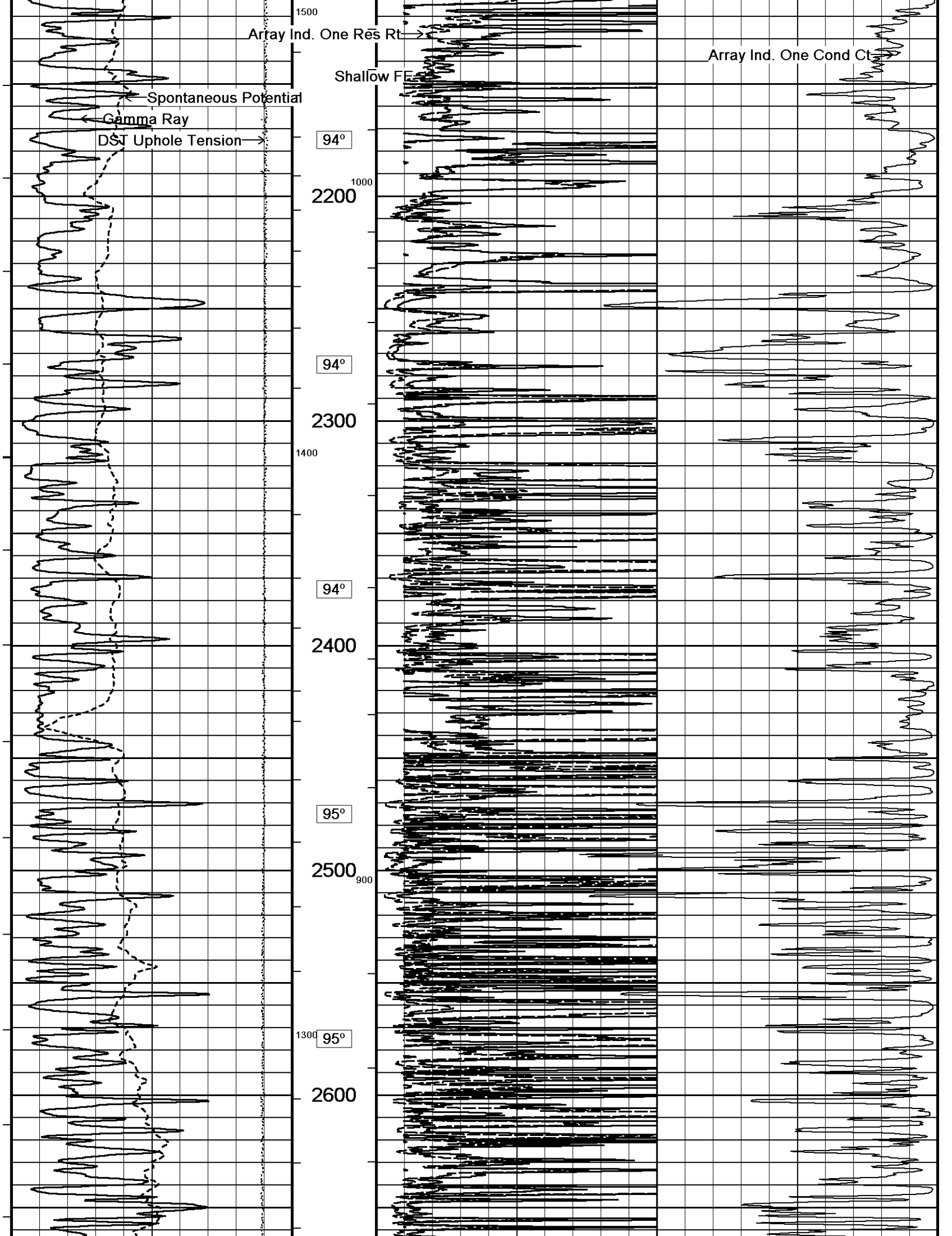
- ENGINEER: A. SILL.

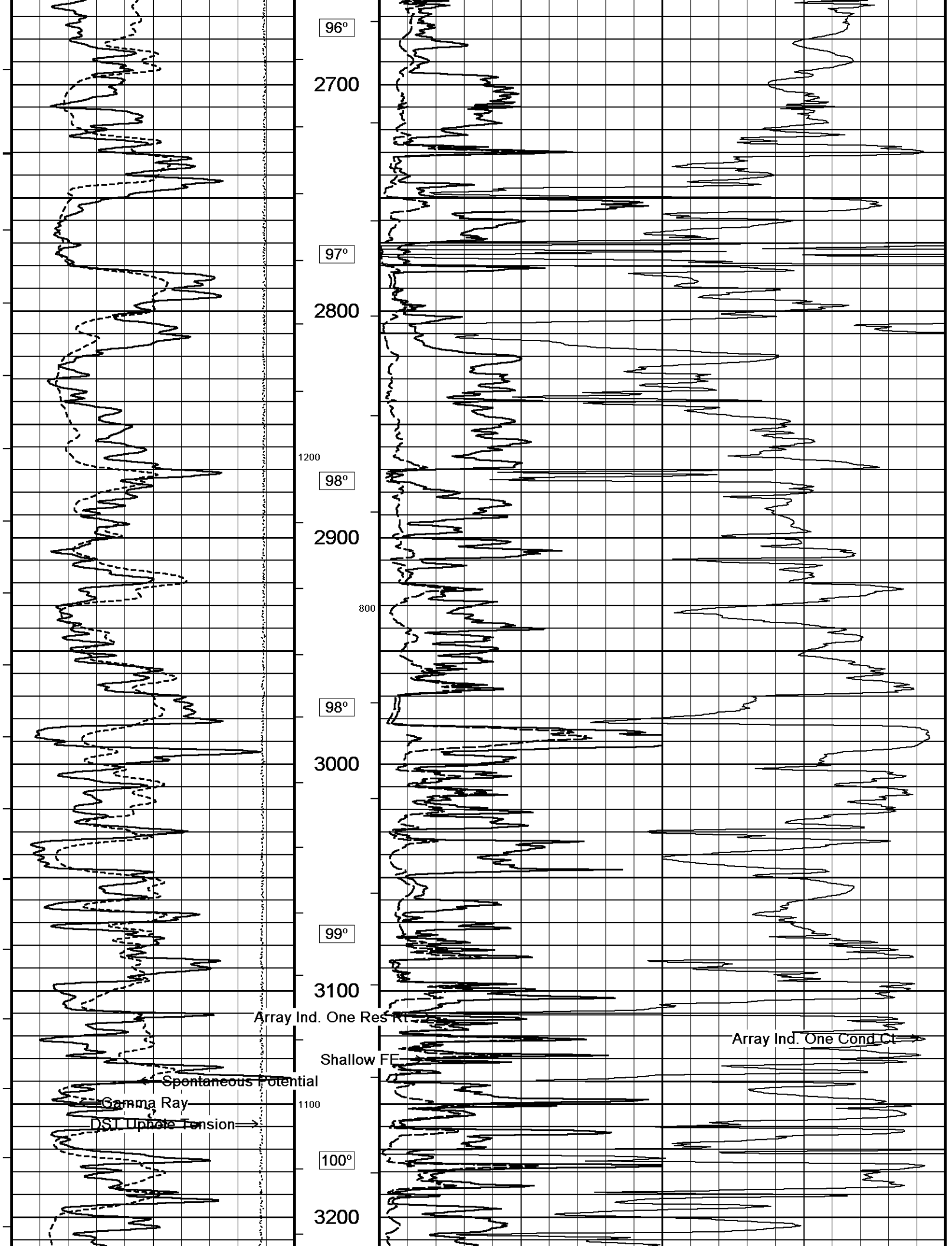
- OPERATOR: B. TOVAR.

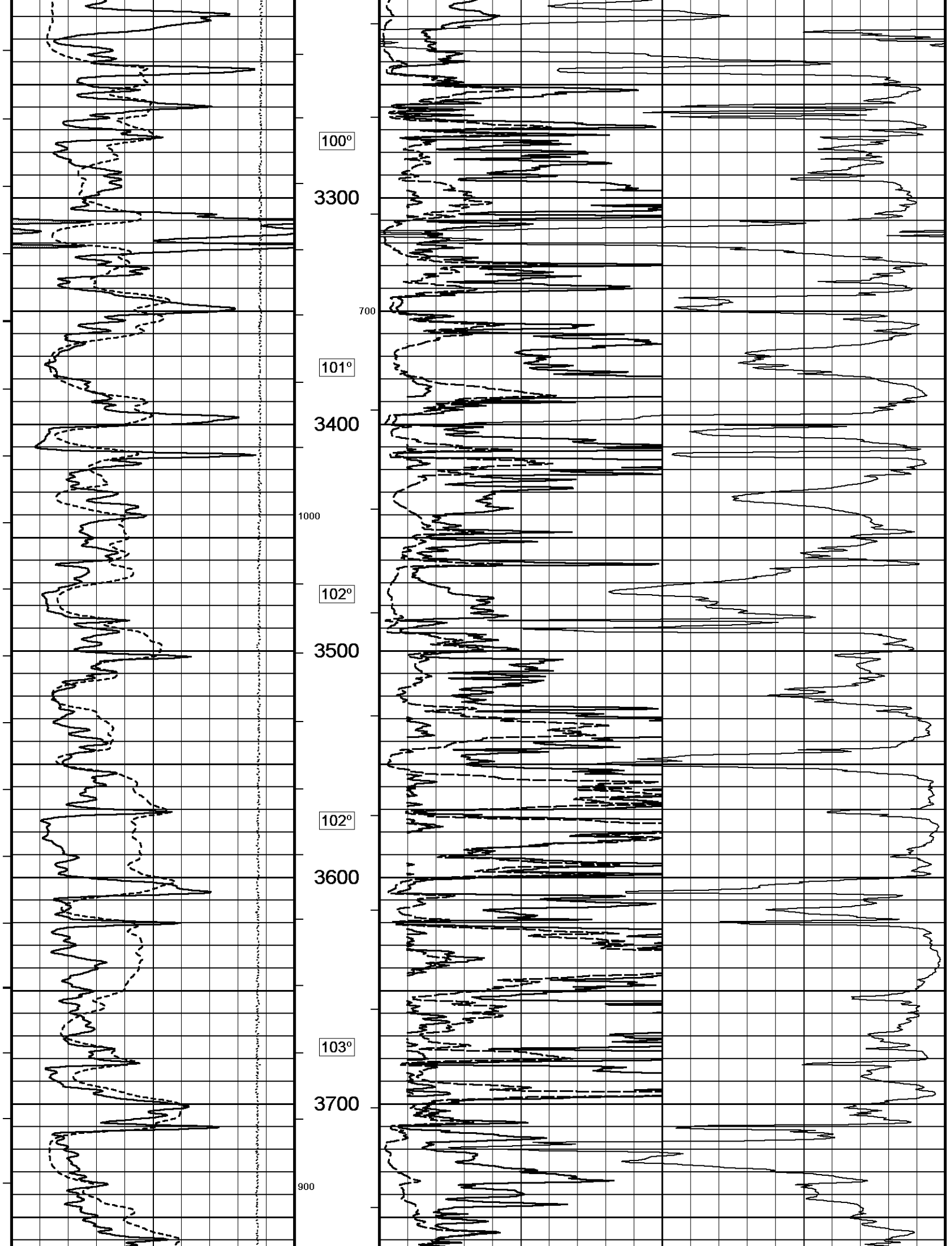
In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will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

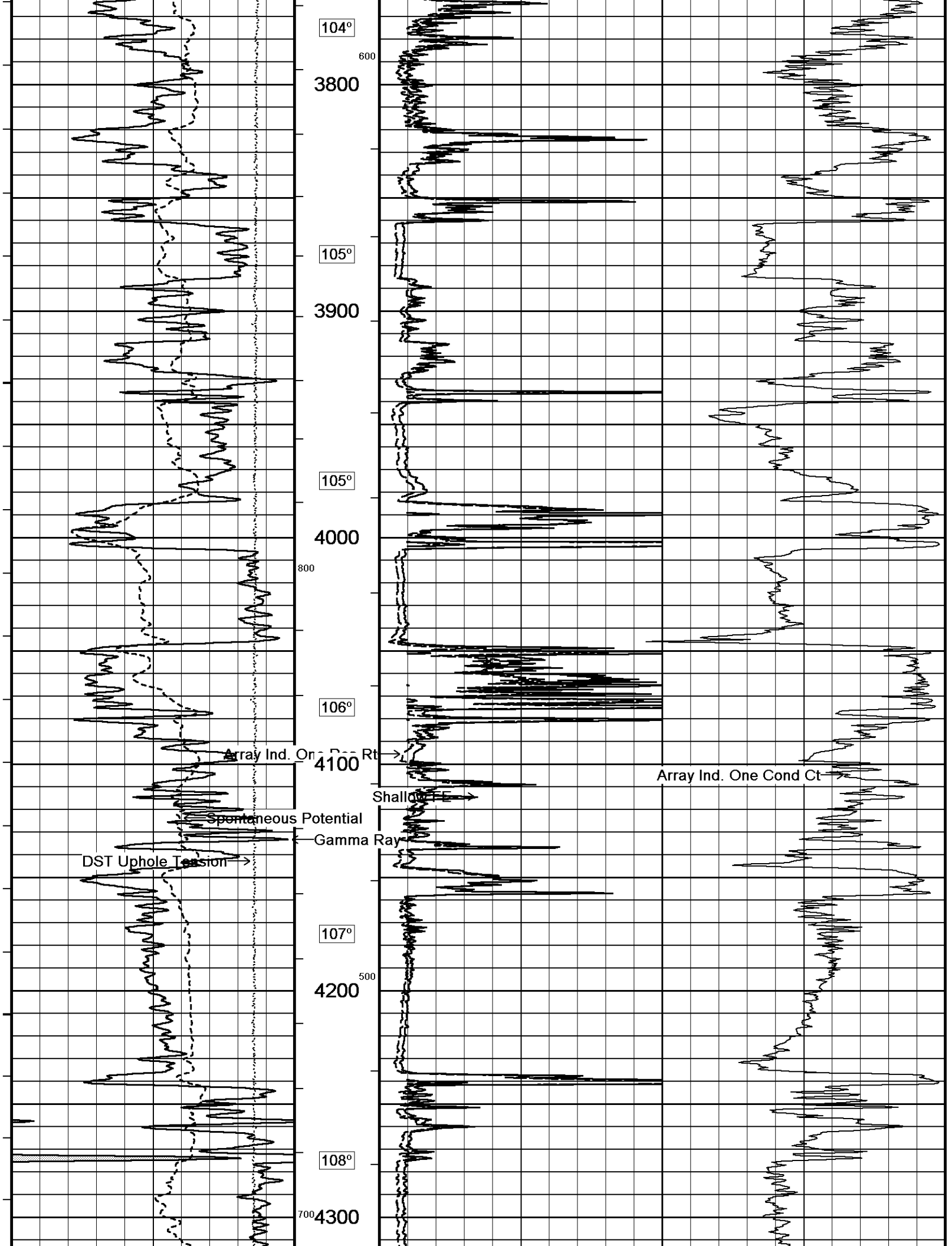


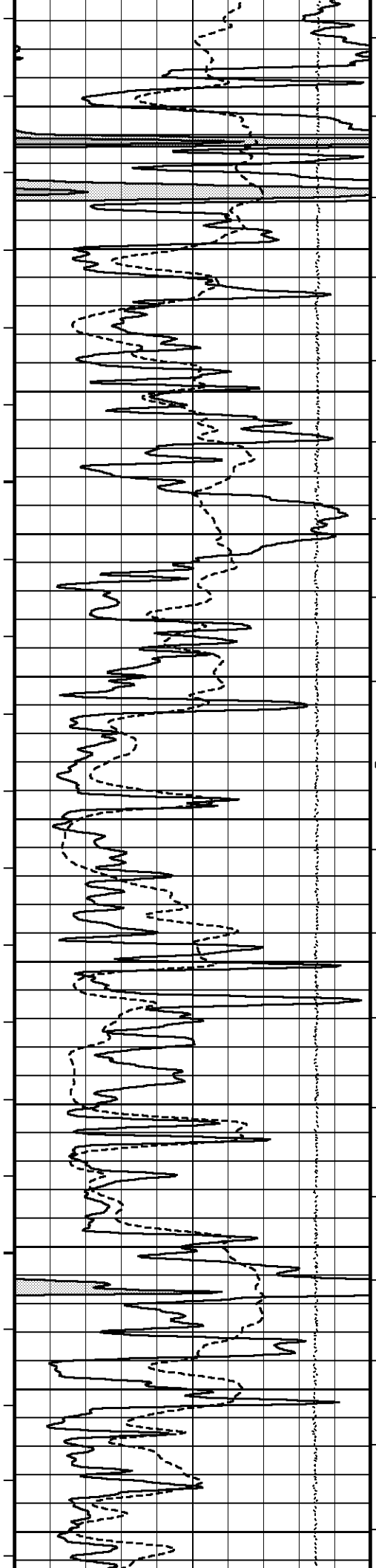




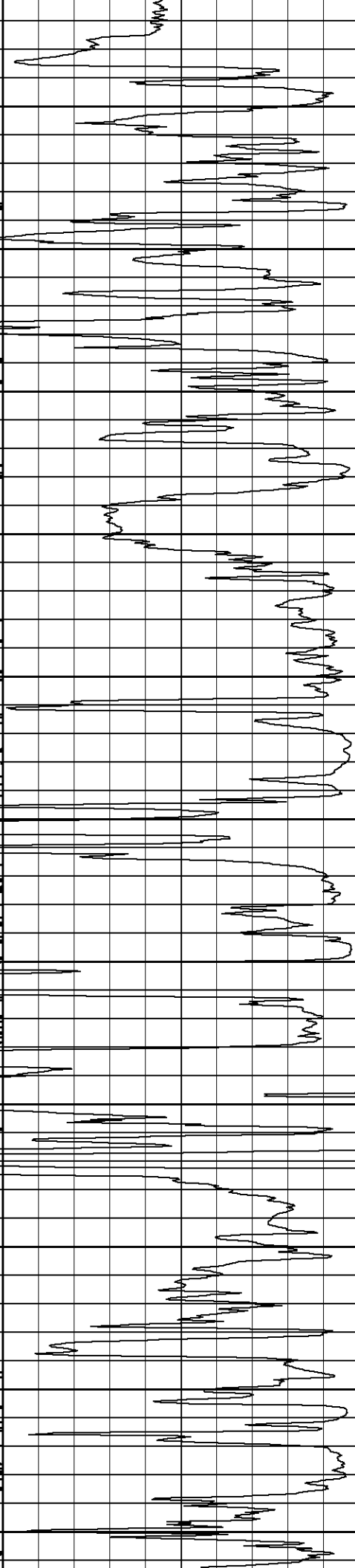
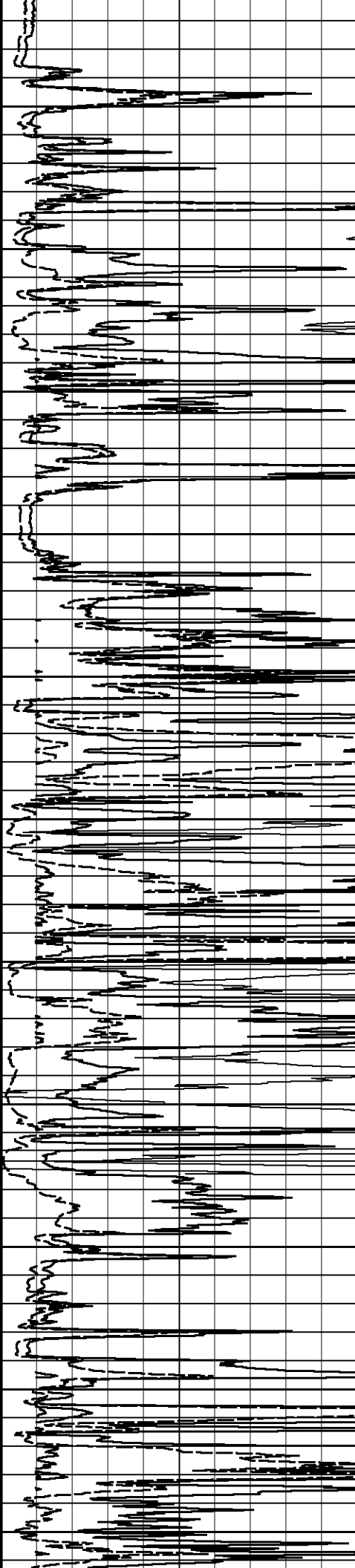


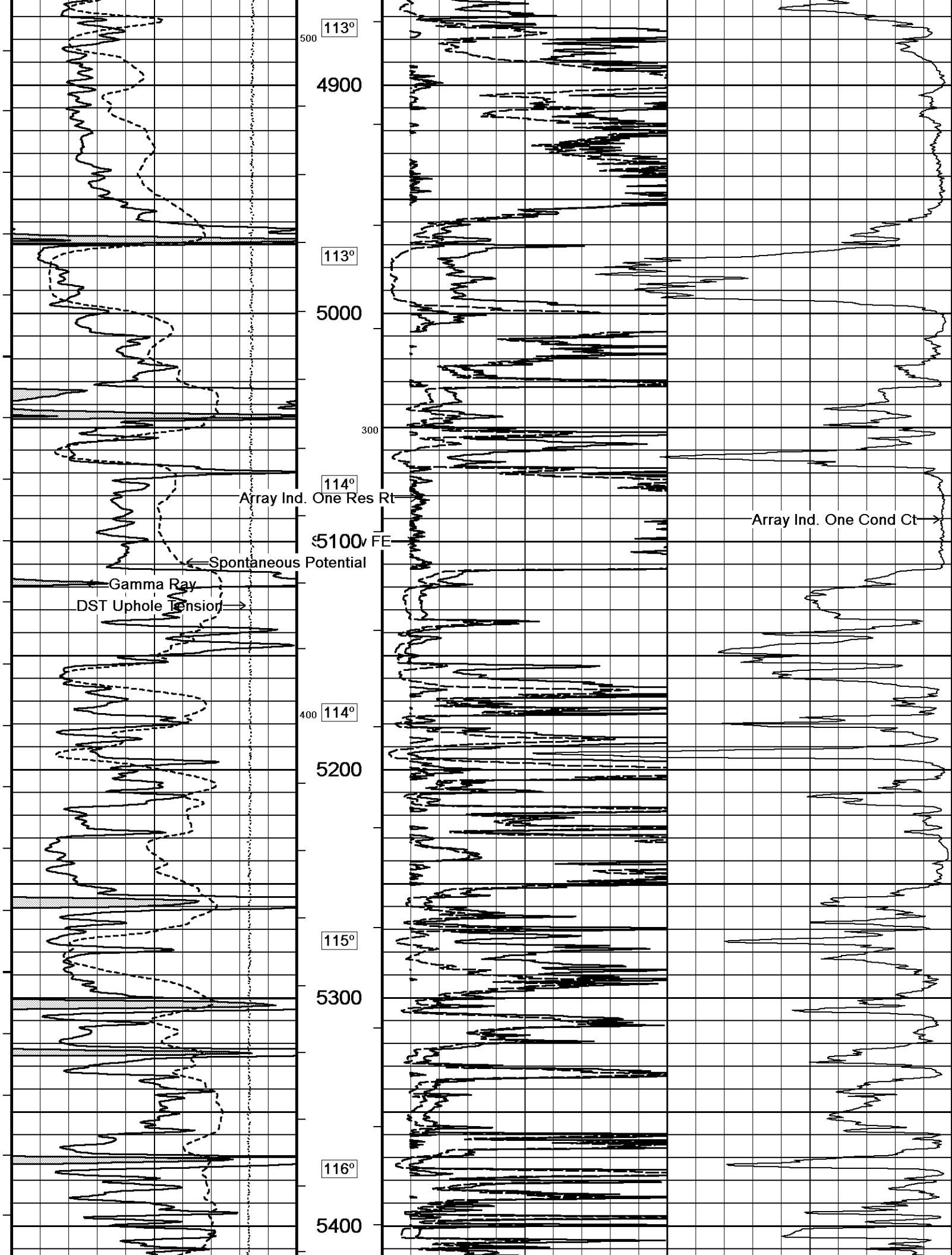


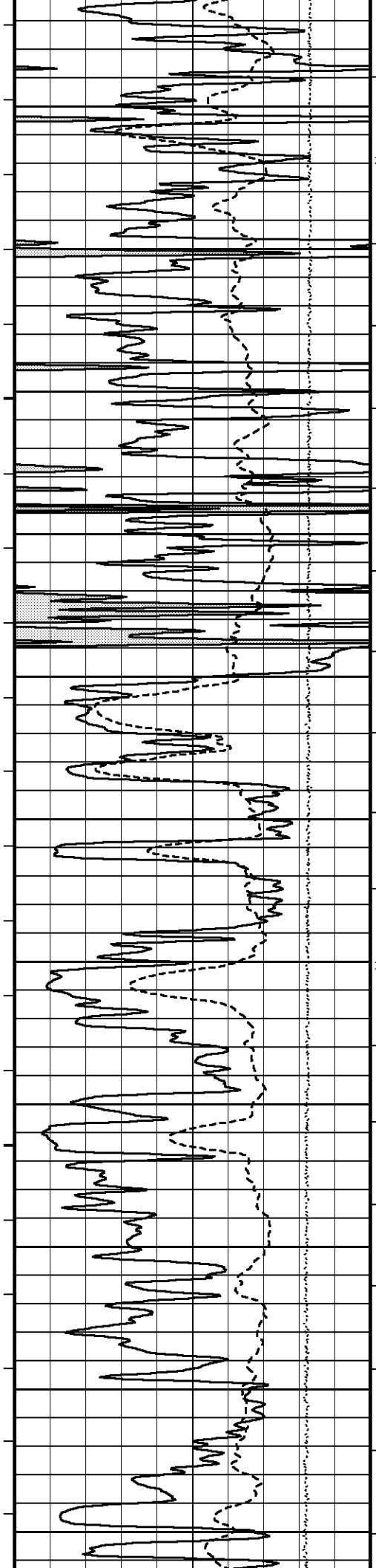




109°
4400
110°
4500
110°
4600
111°
4700
112°
4800







300
117°

5500

118°

5600

118°

5700

200

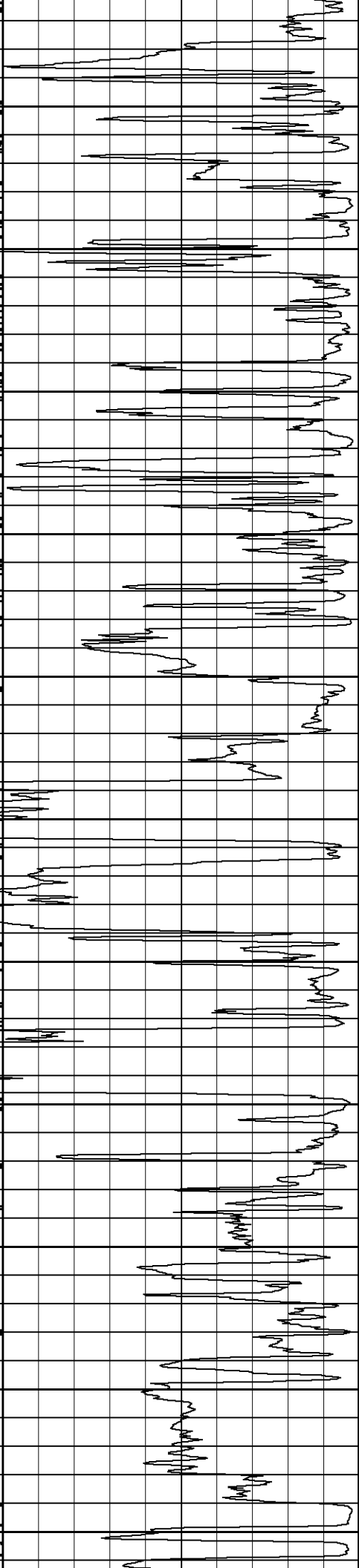
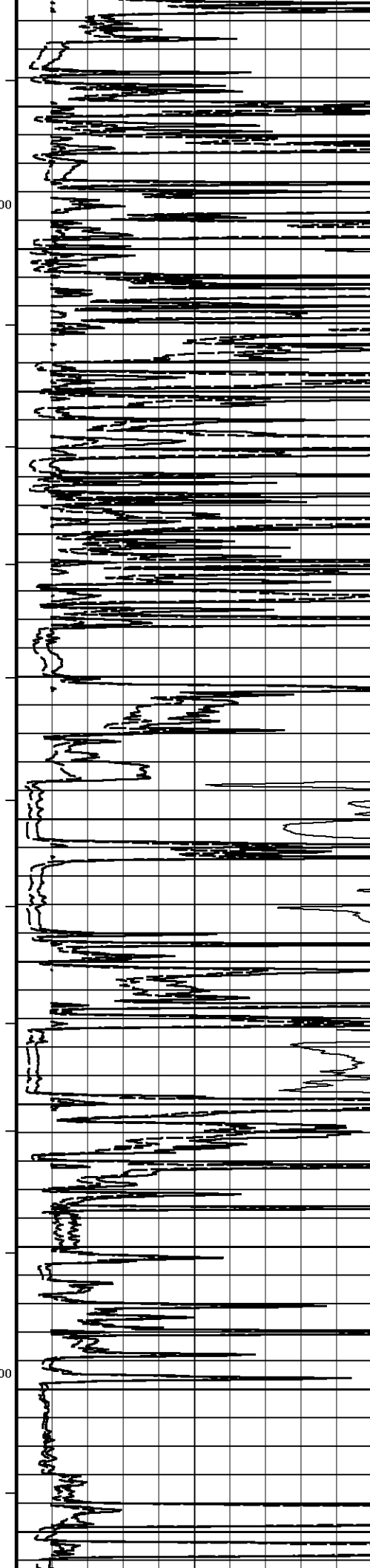
119°

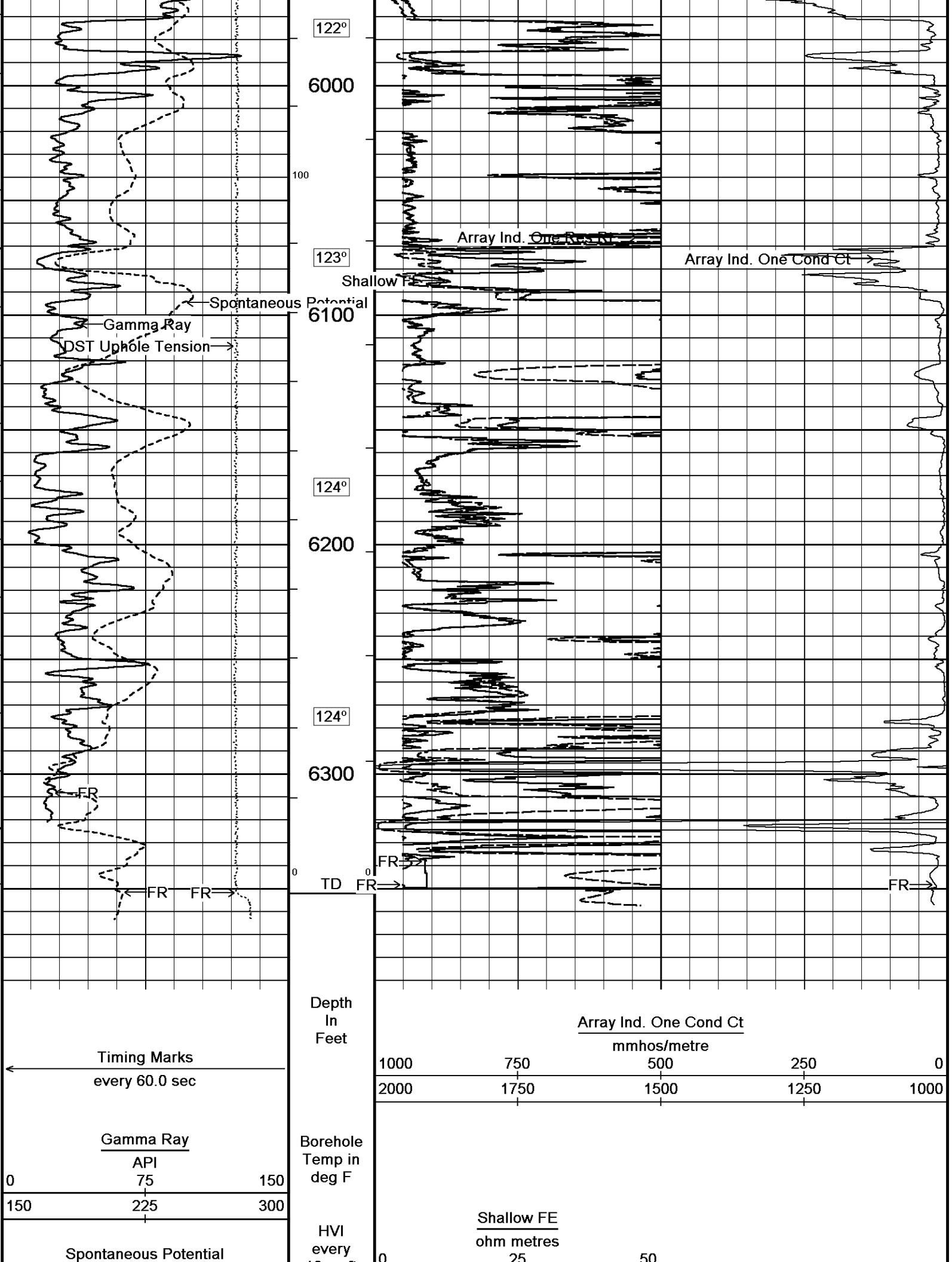
5800

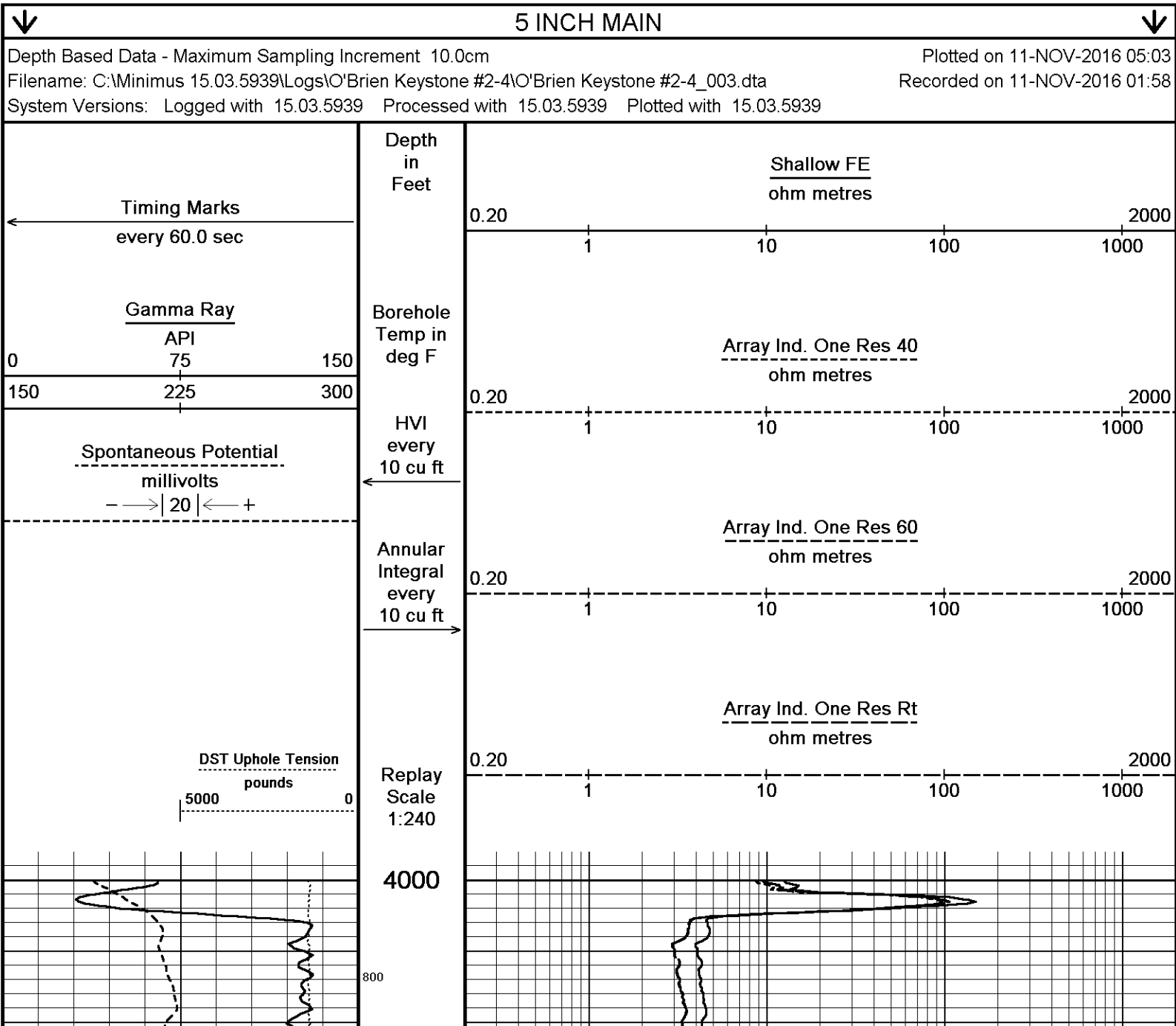
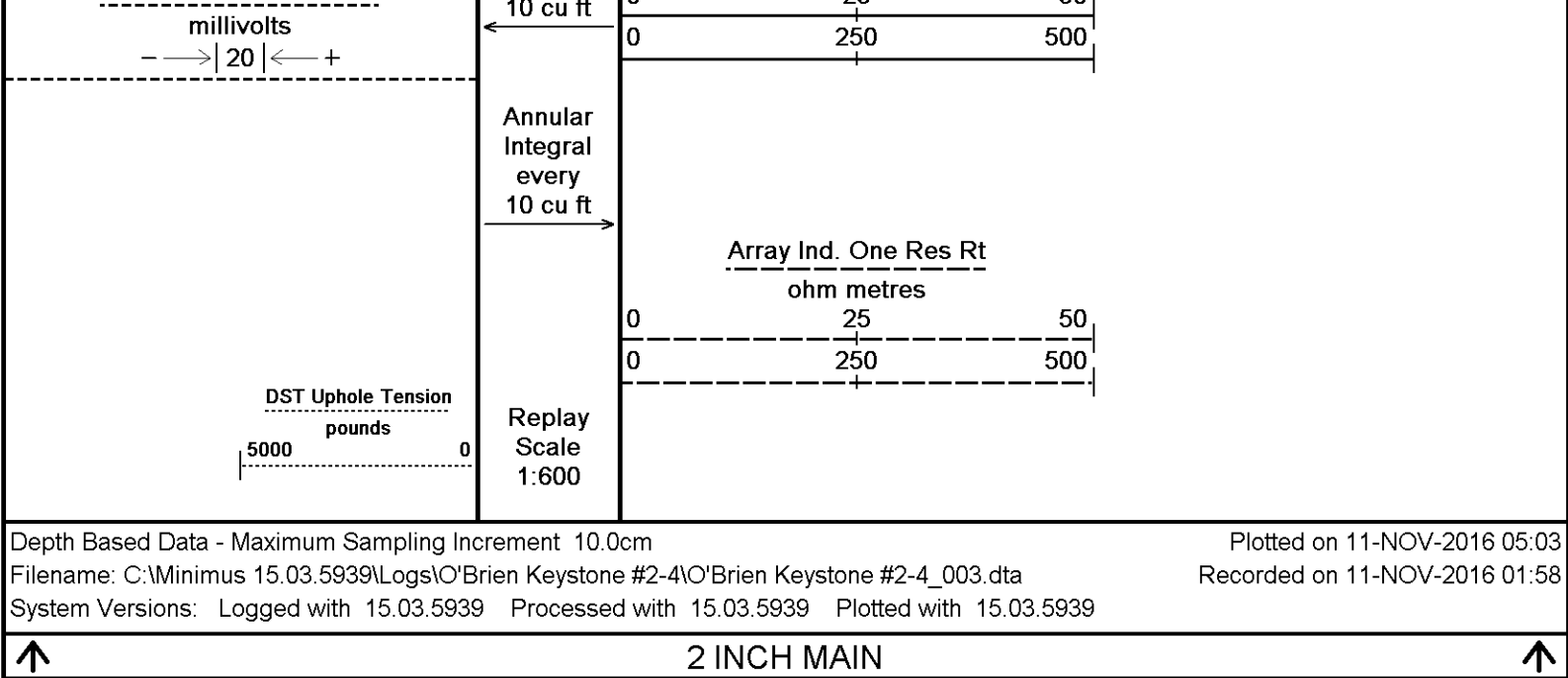
120°

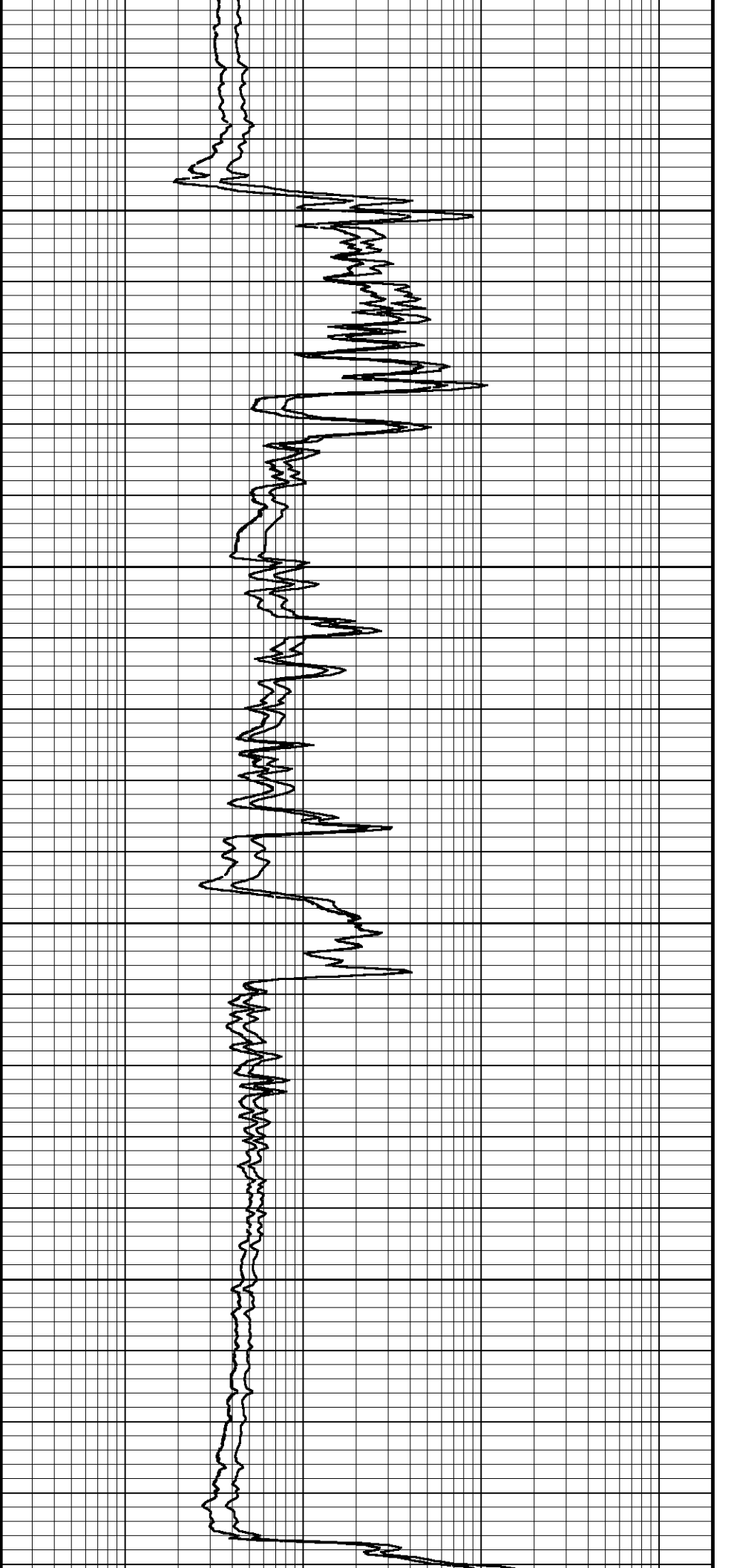
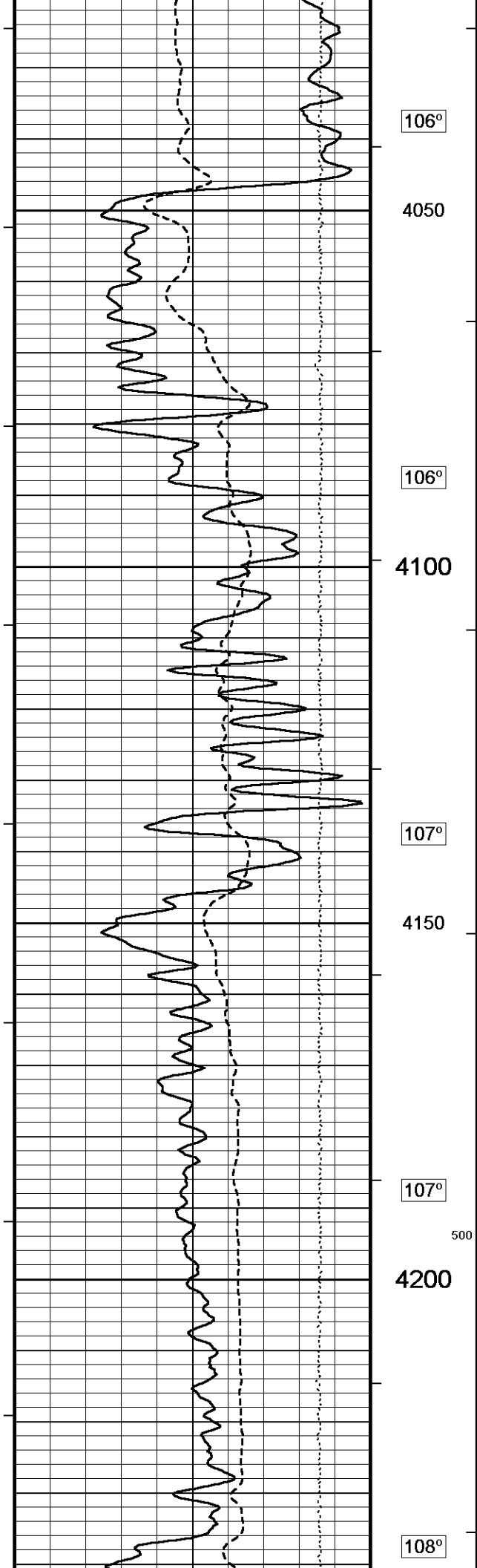
5900

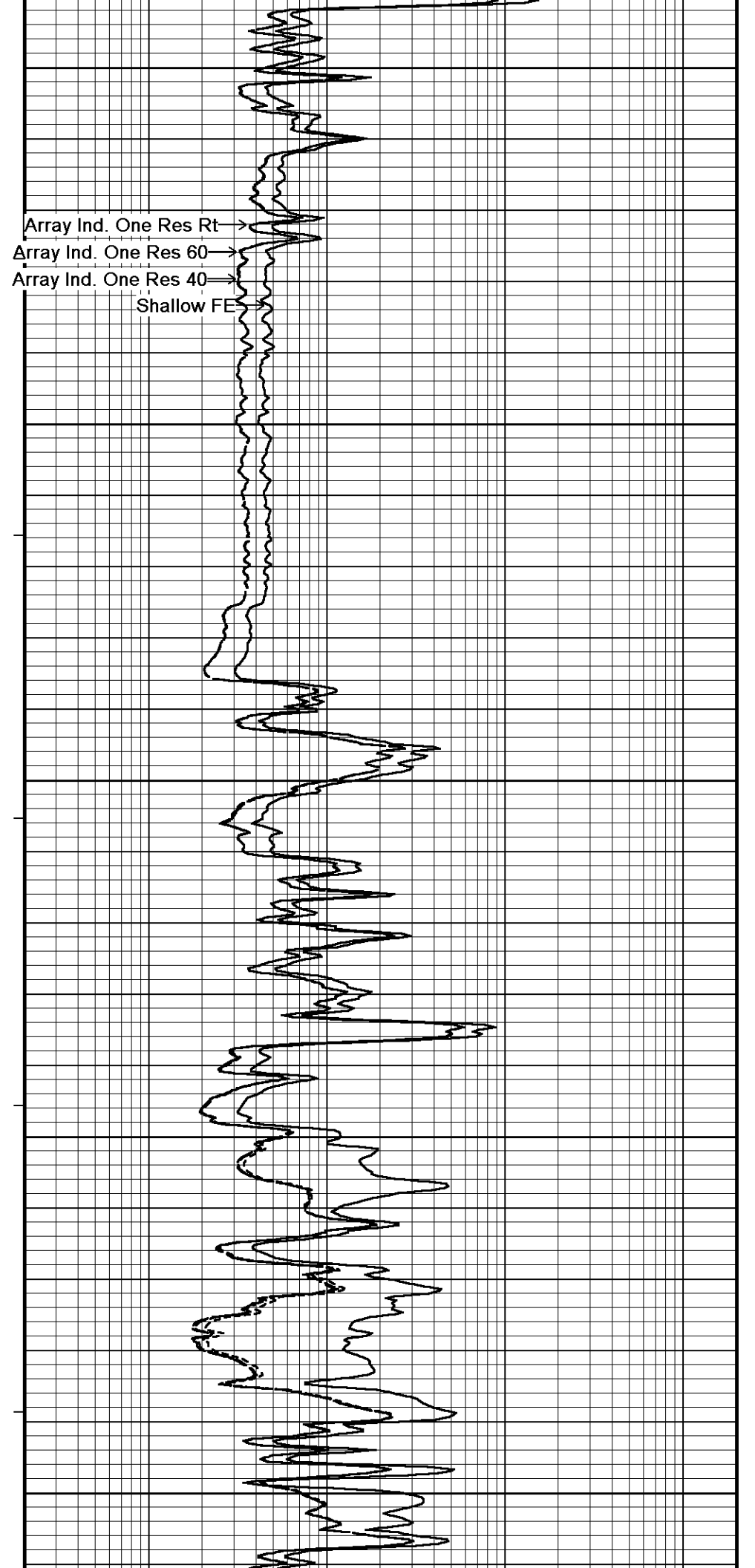
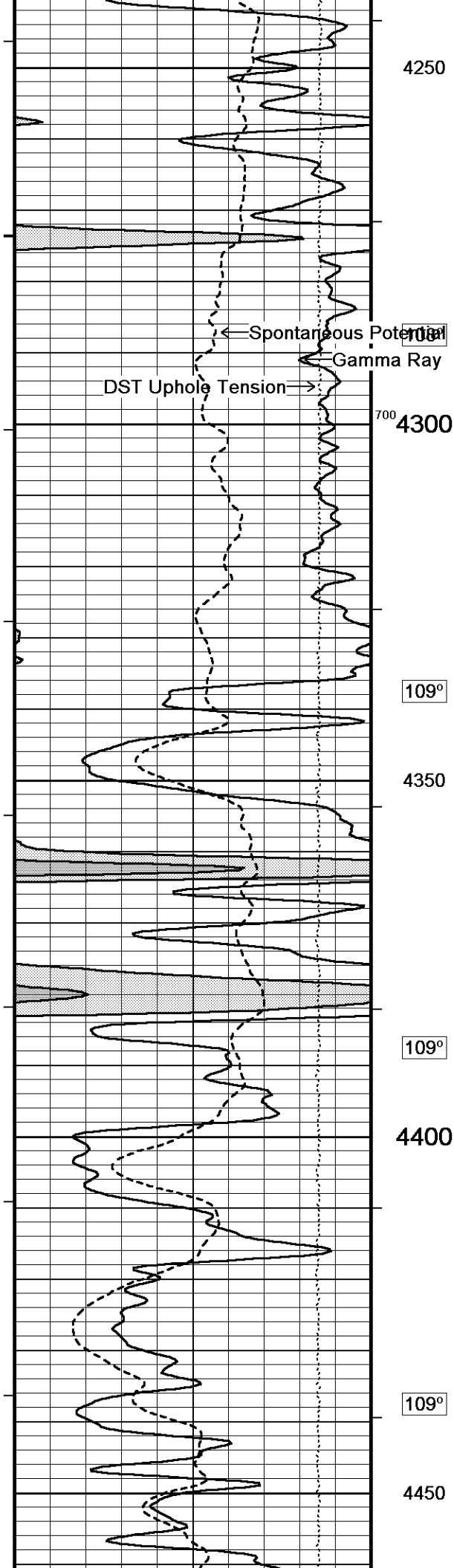
100

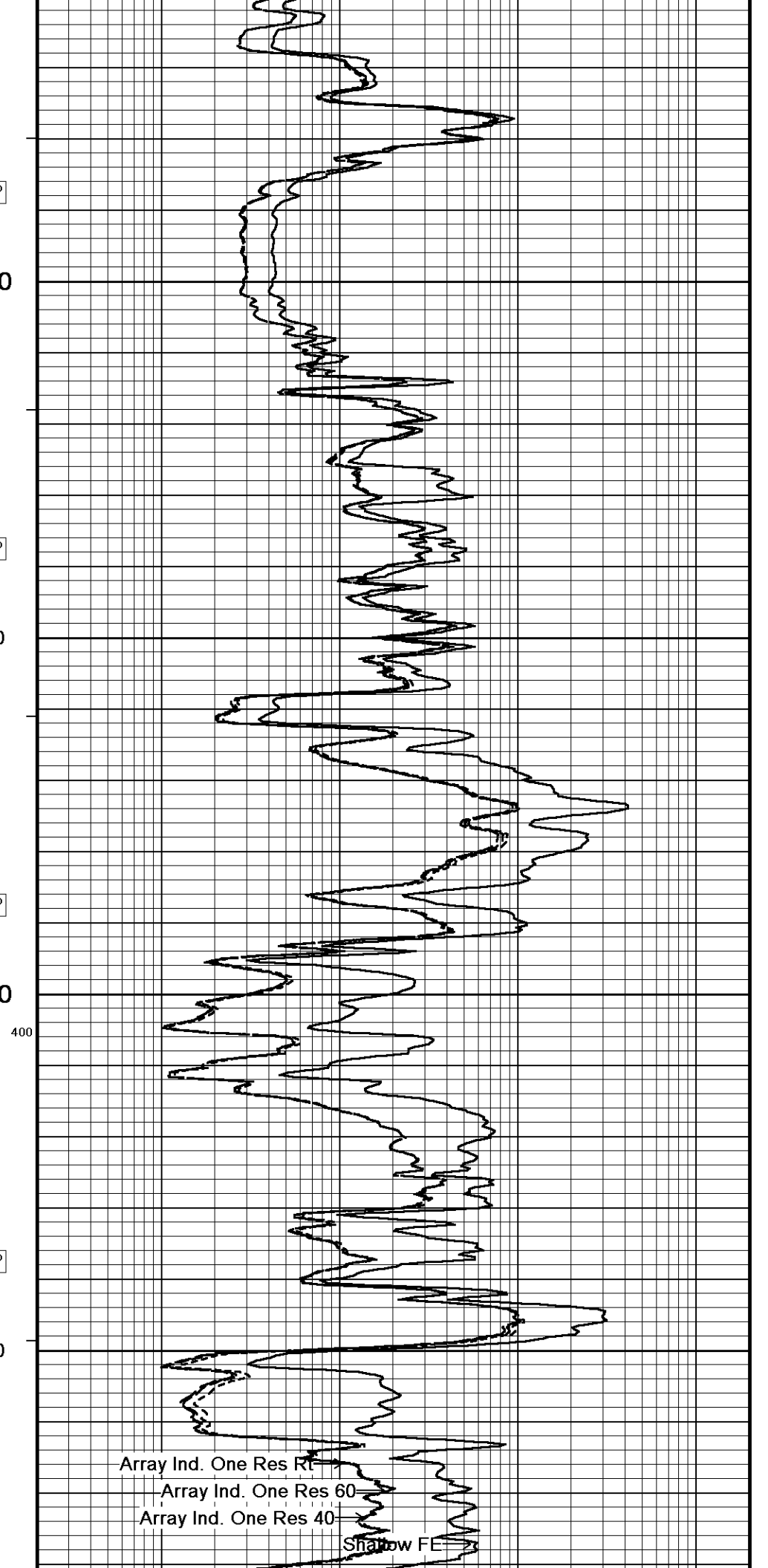
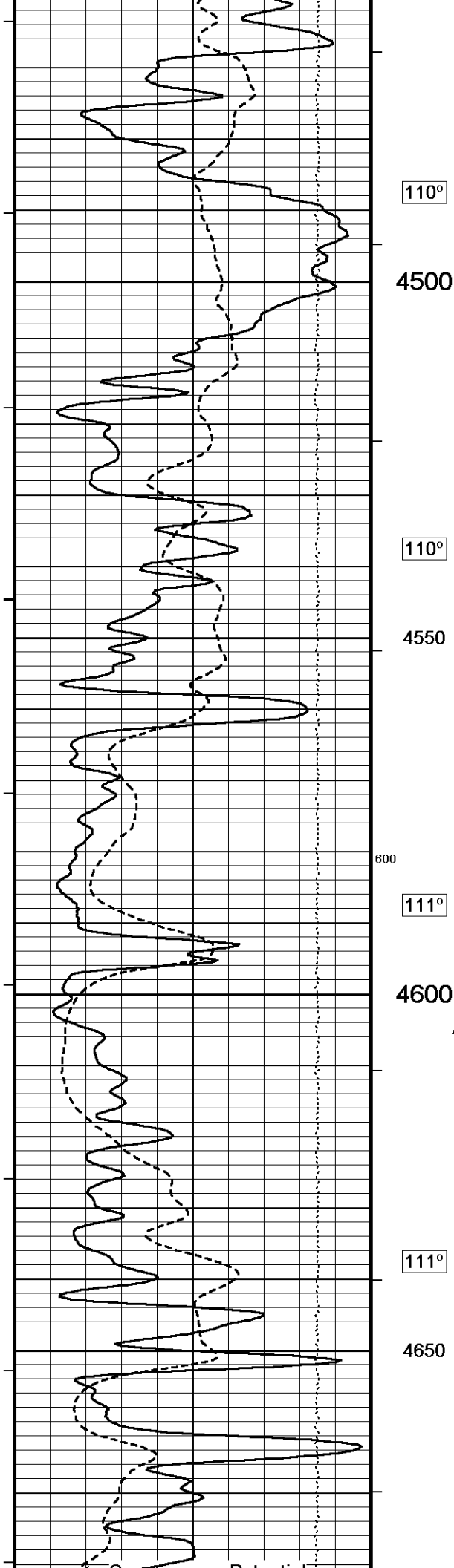










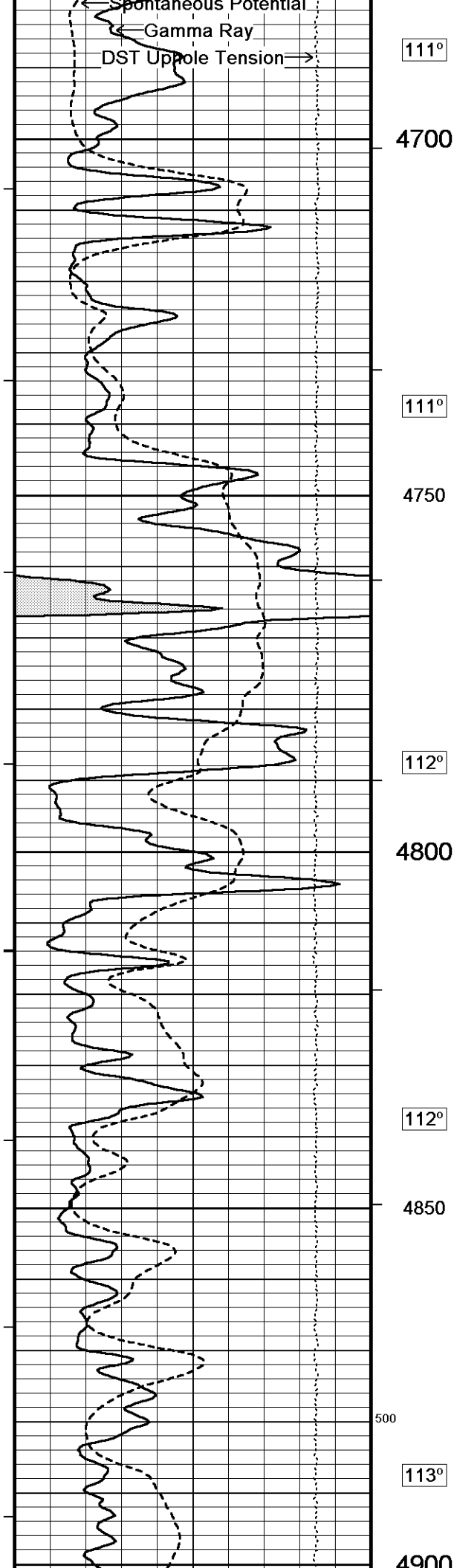


Array Ind. One Res Rt

Array Ind. One Res 60

Array Ind. One Res 40

Shallow FE



111°

4700

111°

4750

112°

4800

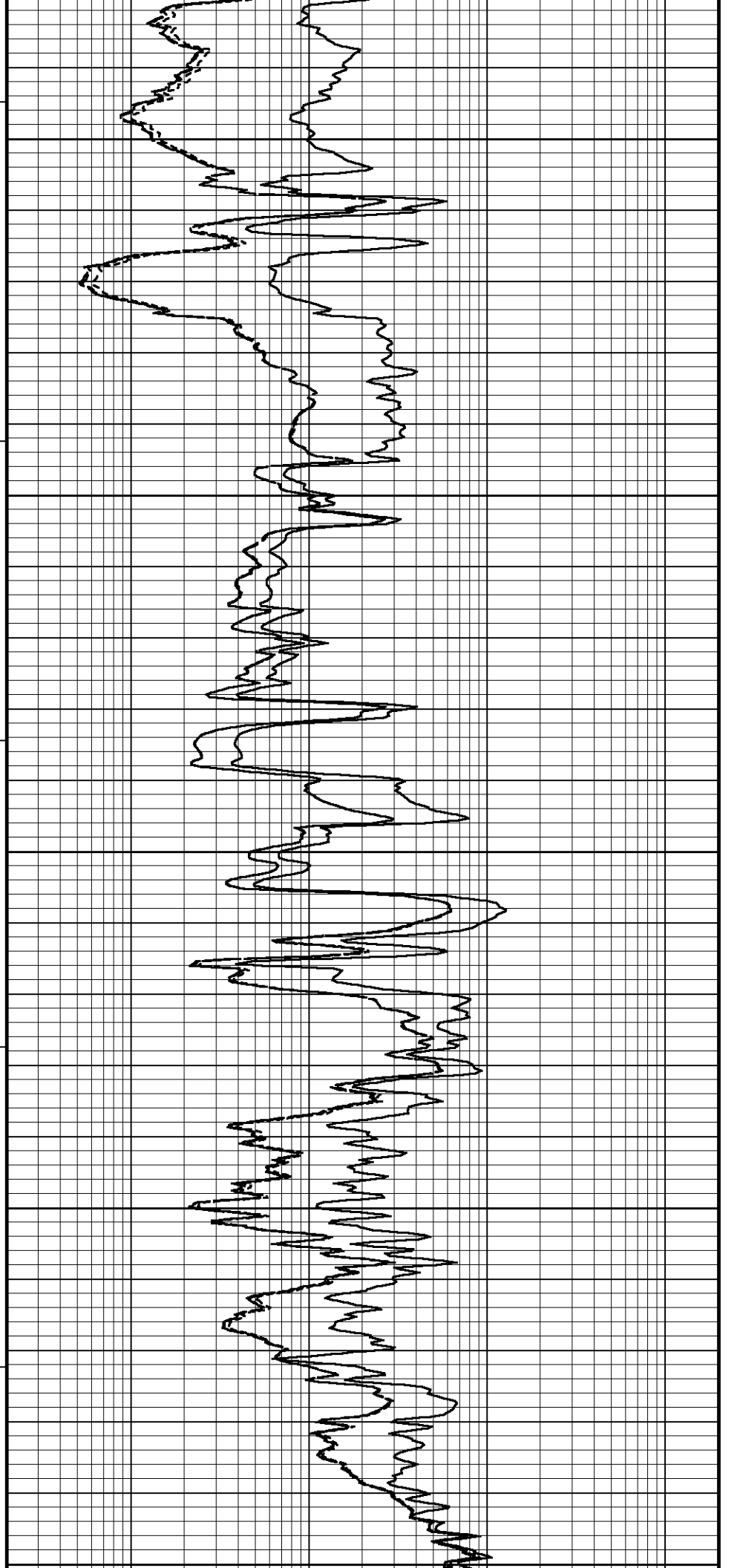
112°

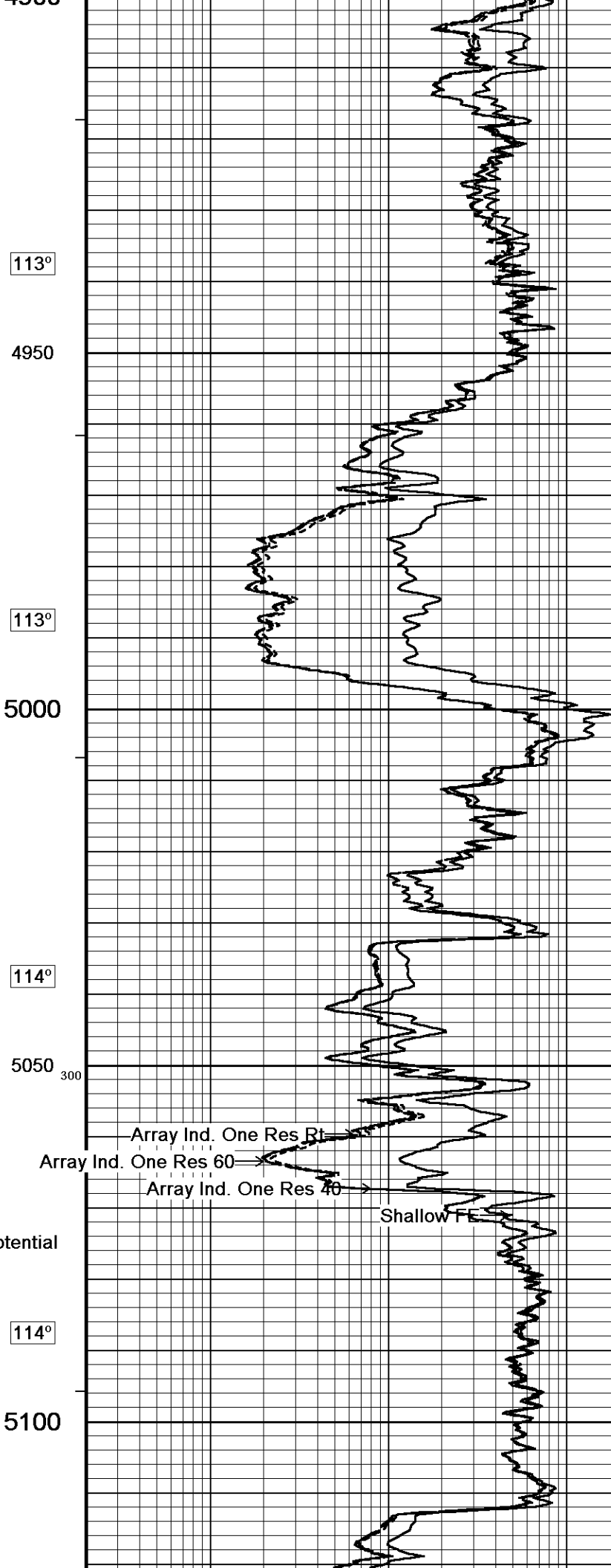
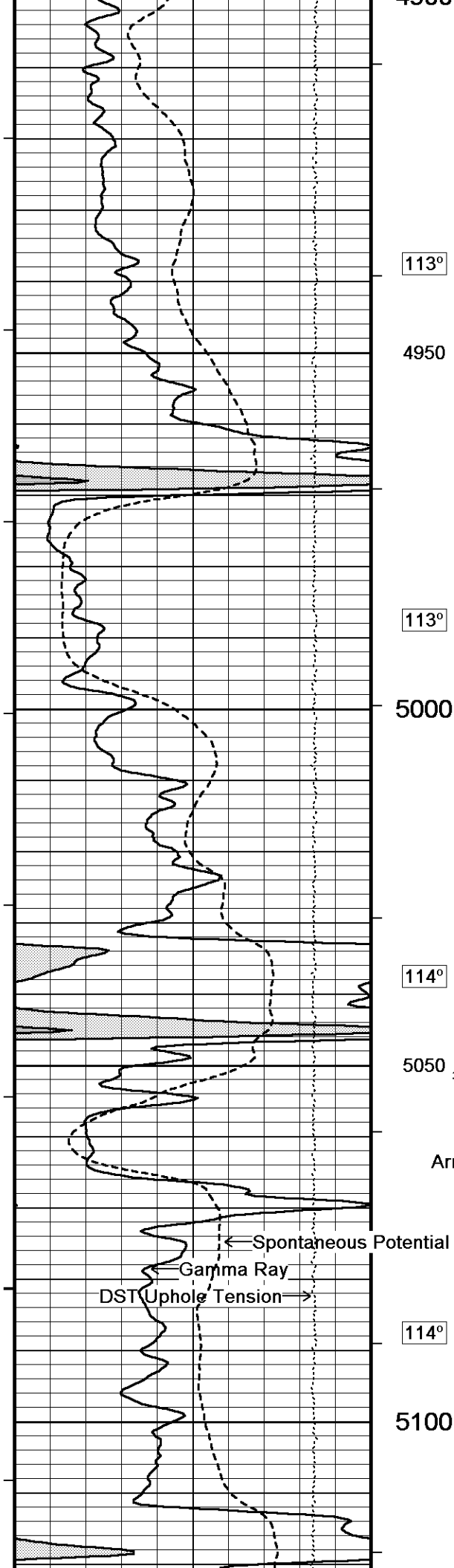
4850

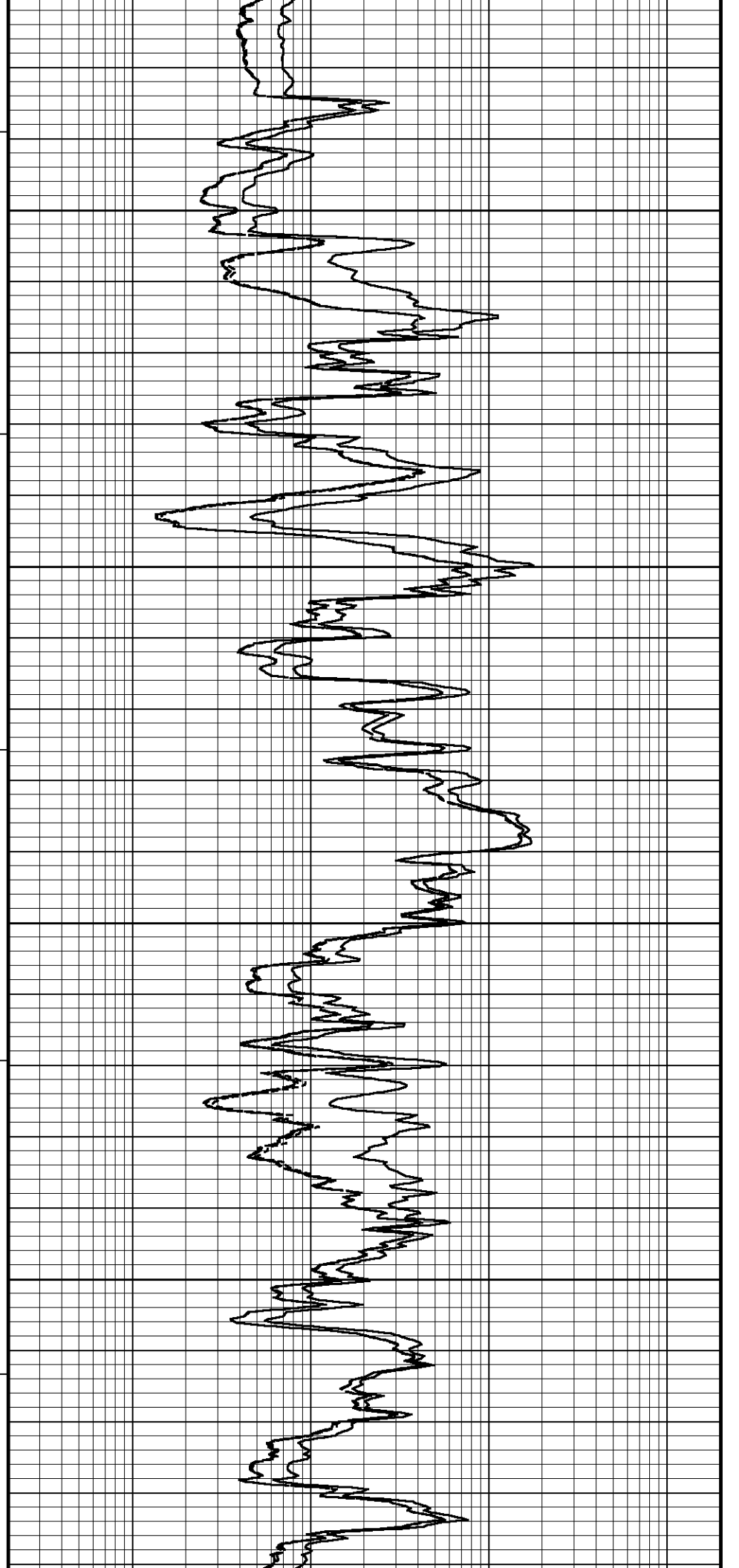
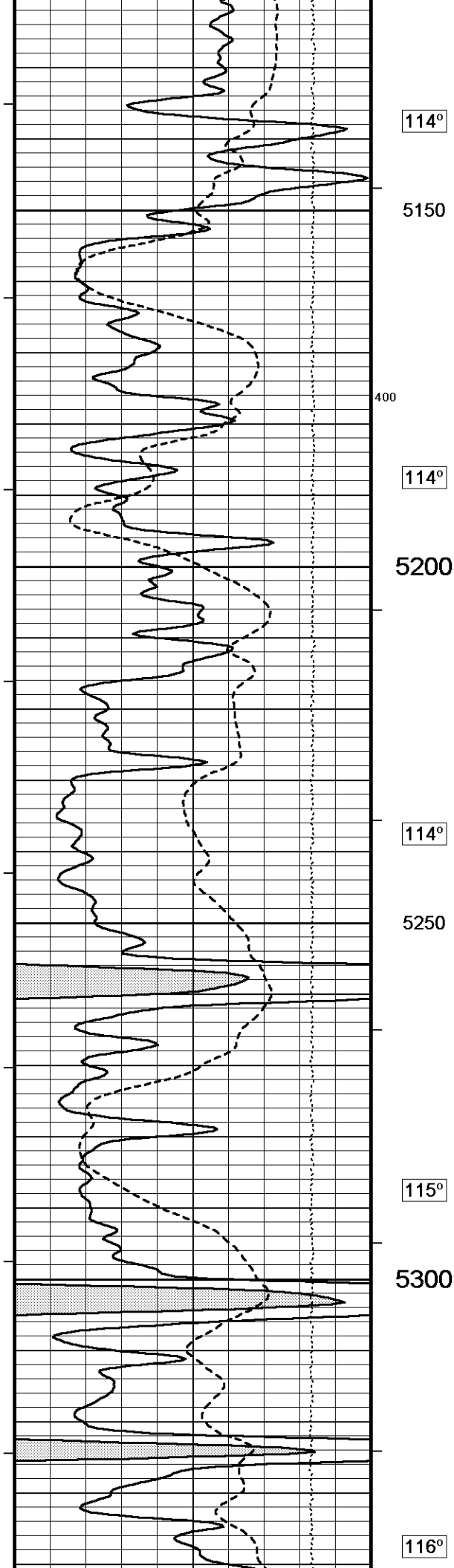
500

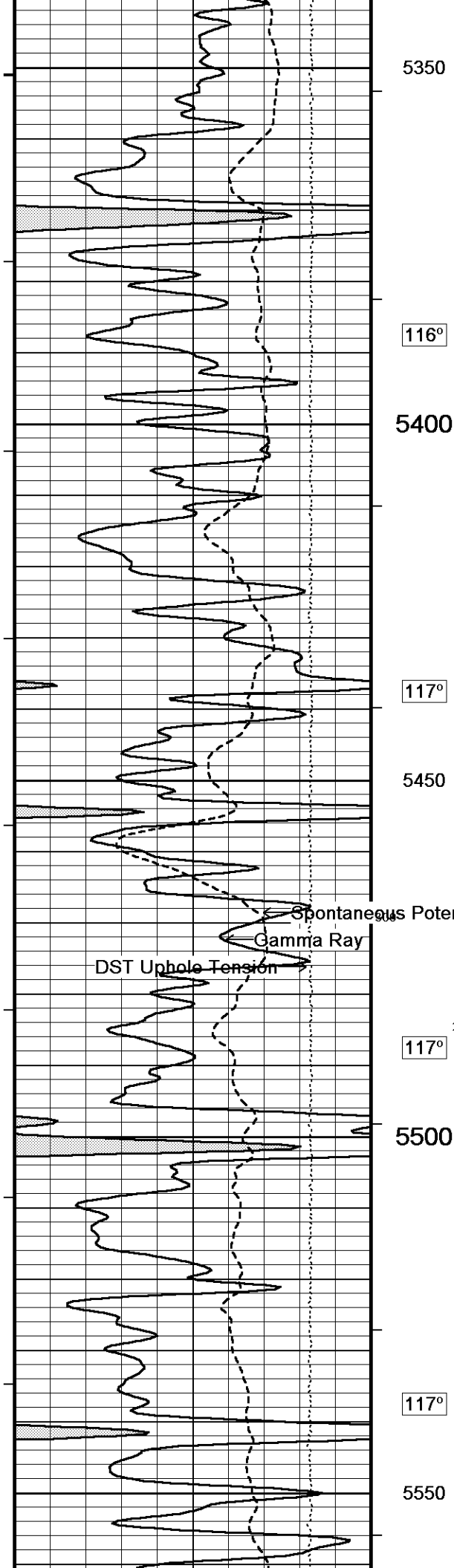
113°

4900









5350

116°

5400

117°

5450

Array Ind. One Res Rt

Array Ind. One Res 60

Array Ind. One Res 40

Shallow

Spontaneous Potential

Gamma Ray

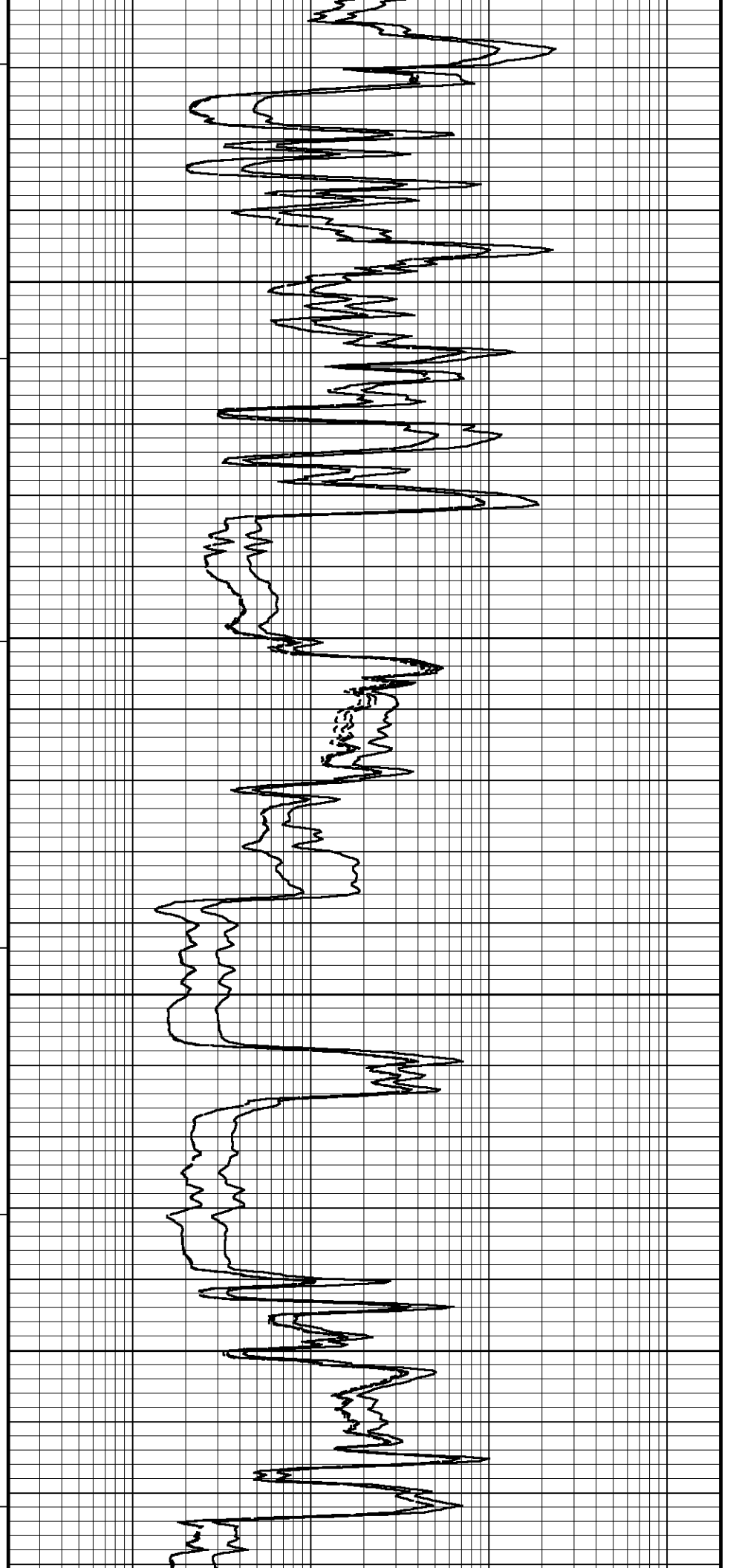
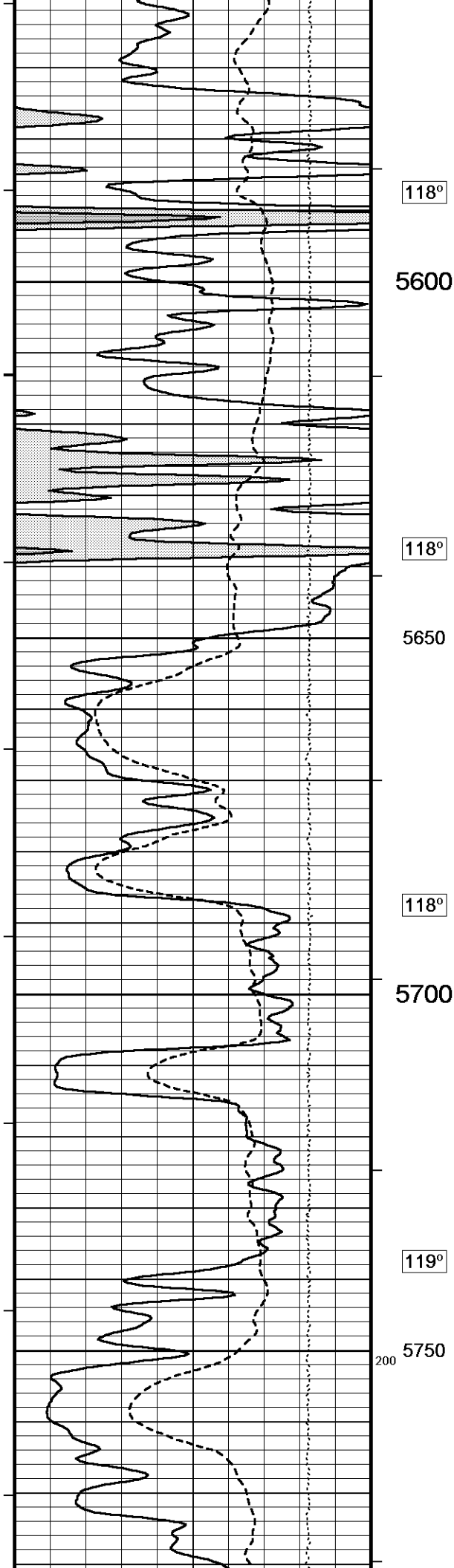
DST Up-hole Tension

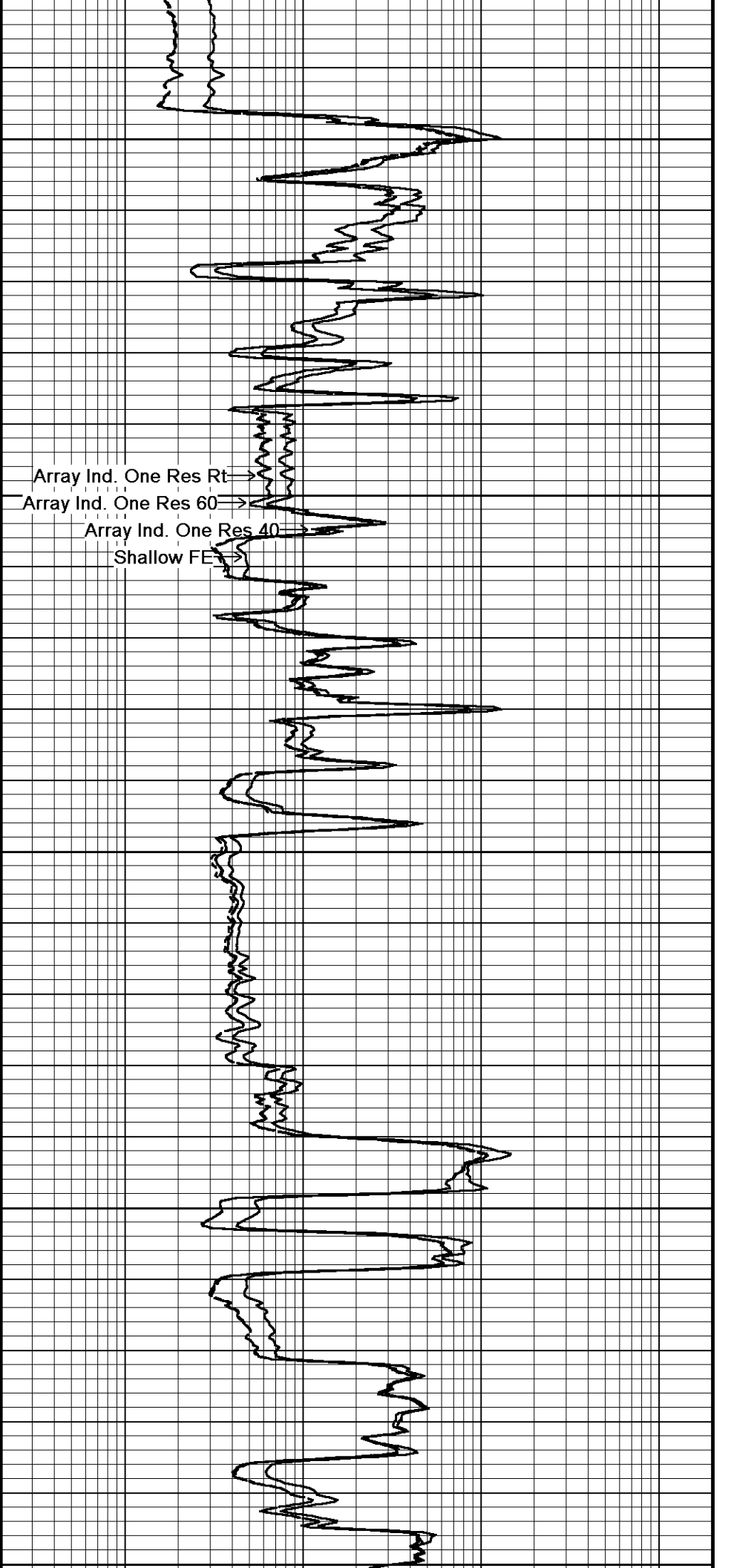
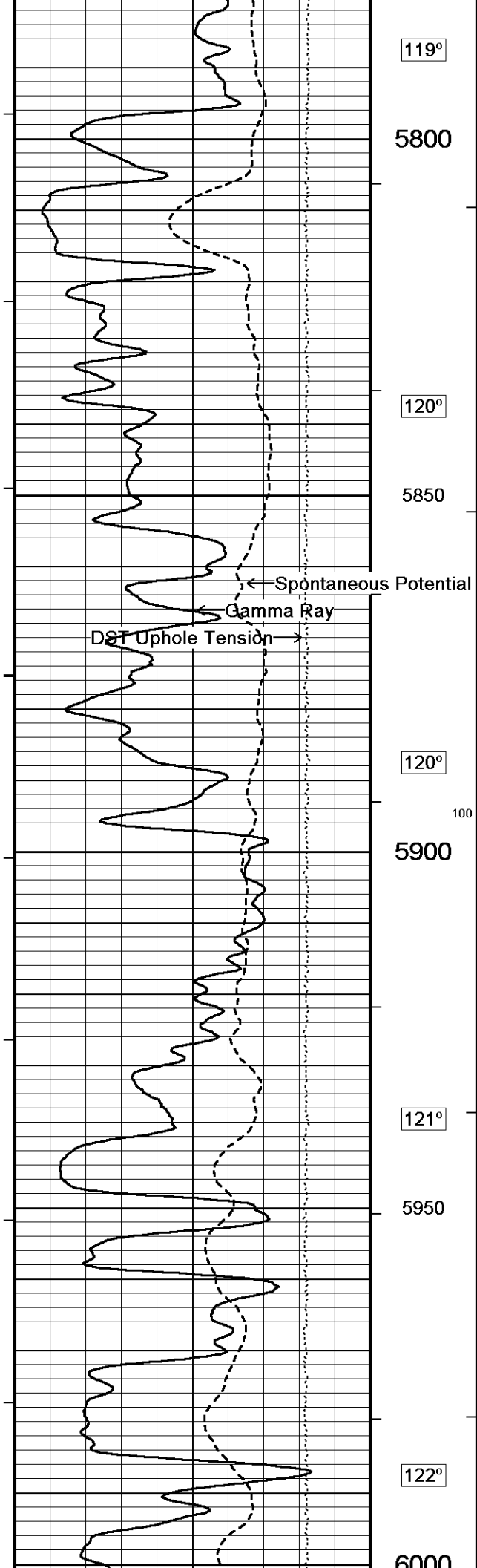
117°
200

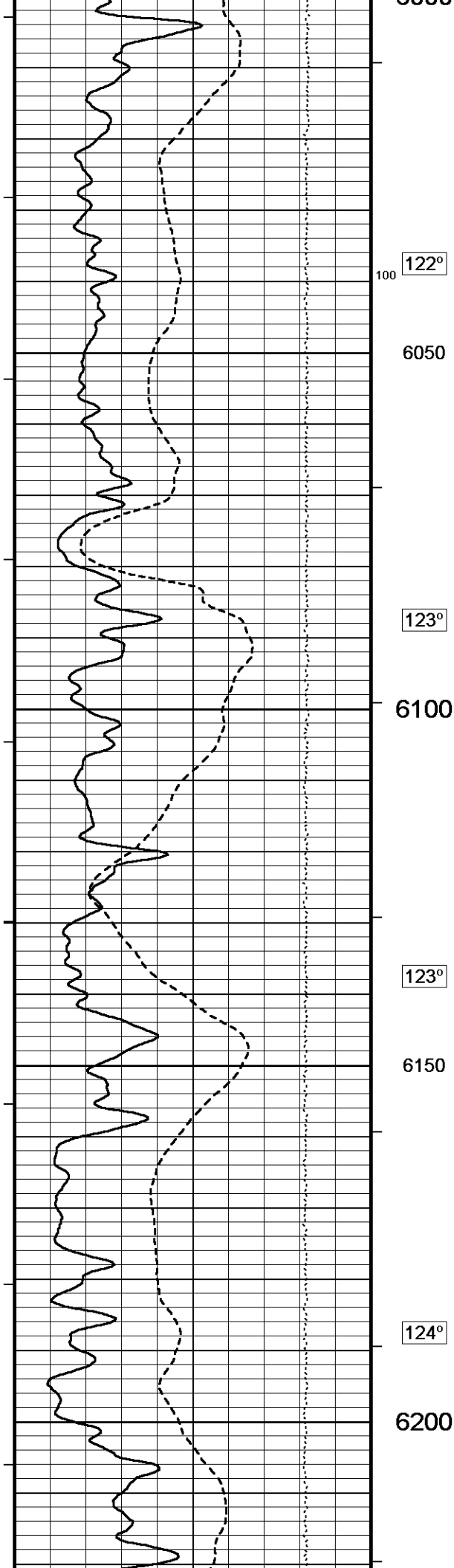
5500

117°

5550







122°

6050

123°

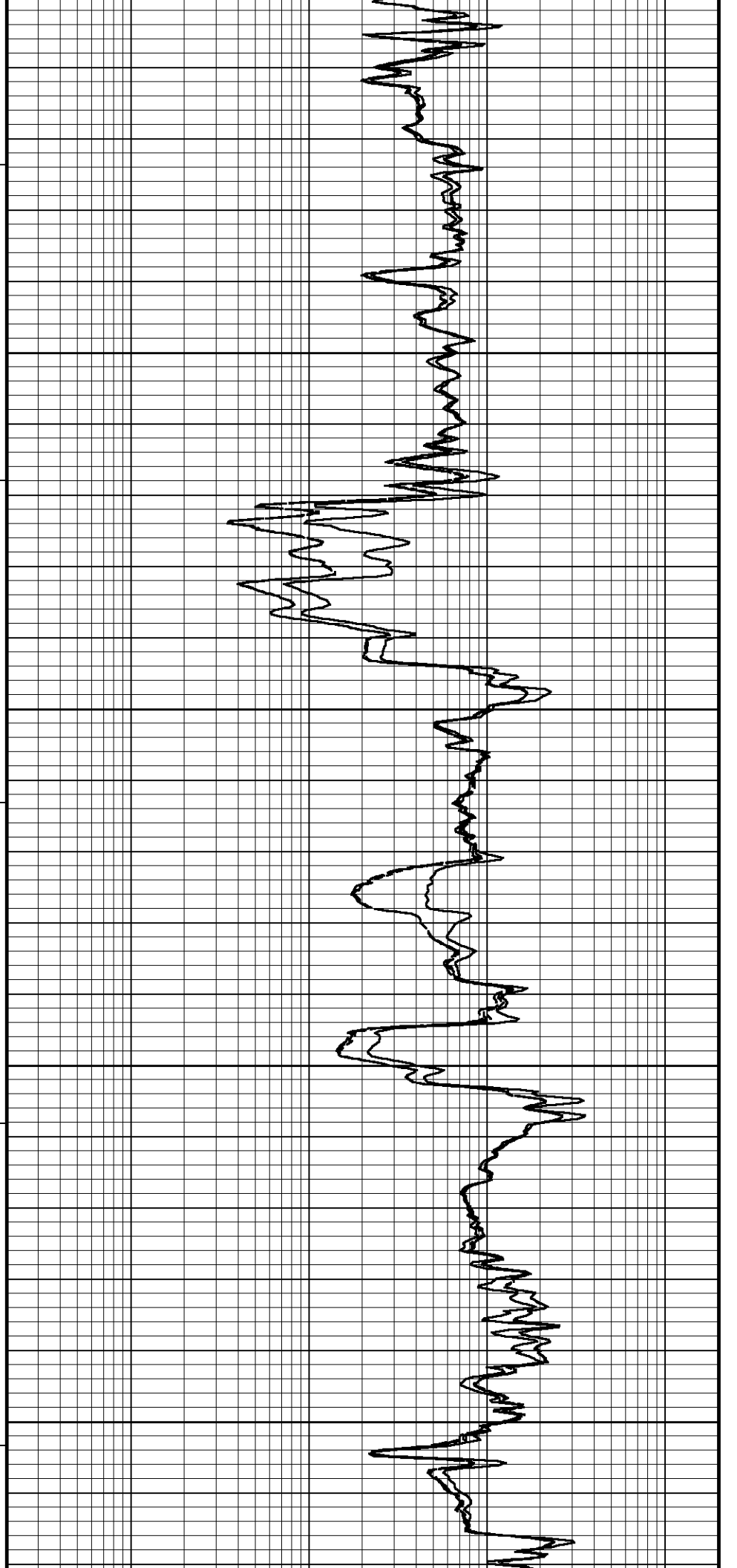
6100

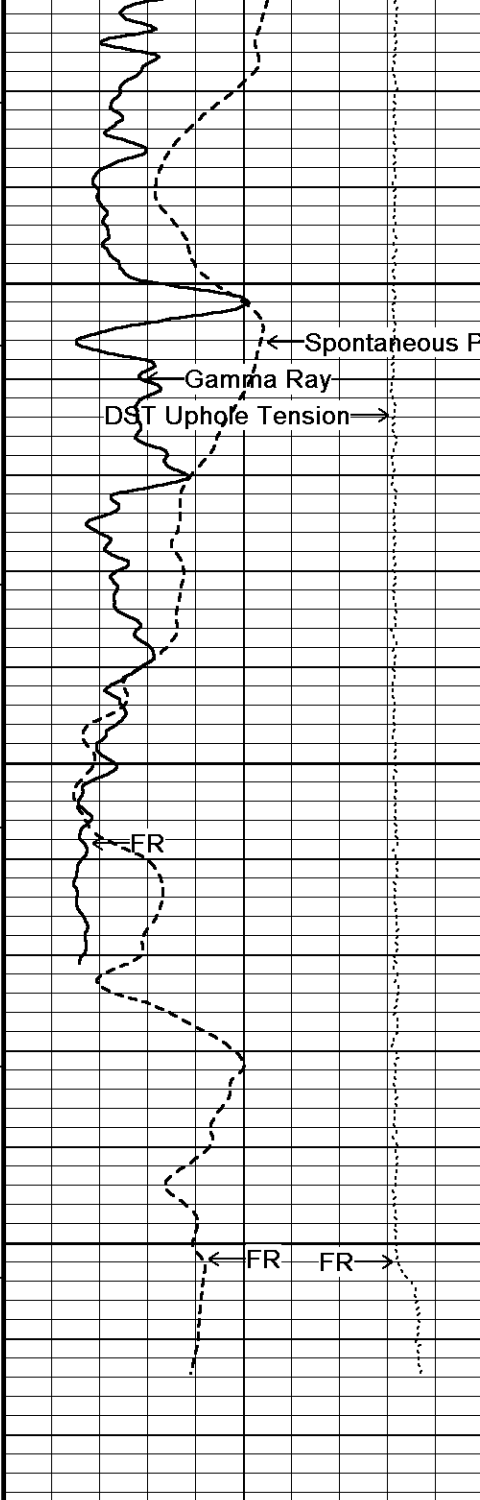
123°

6150

124°

6200





124°

6250

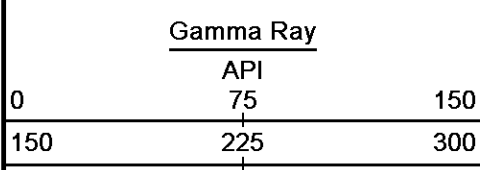
124°

6300

6350

Depth
in
Feet

Timing Marks
every 60.0 sec

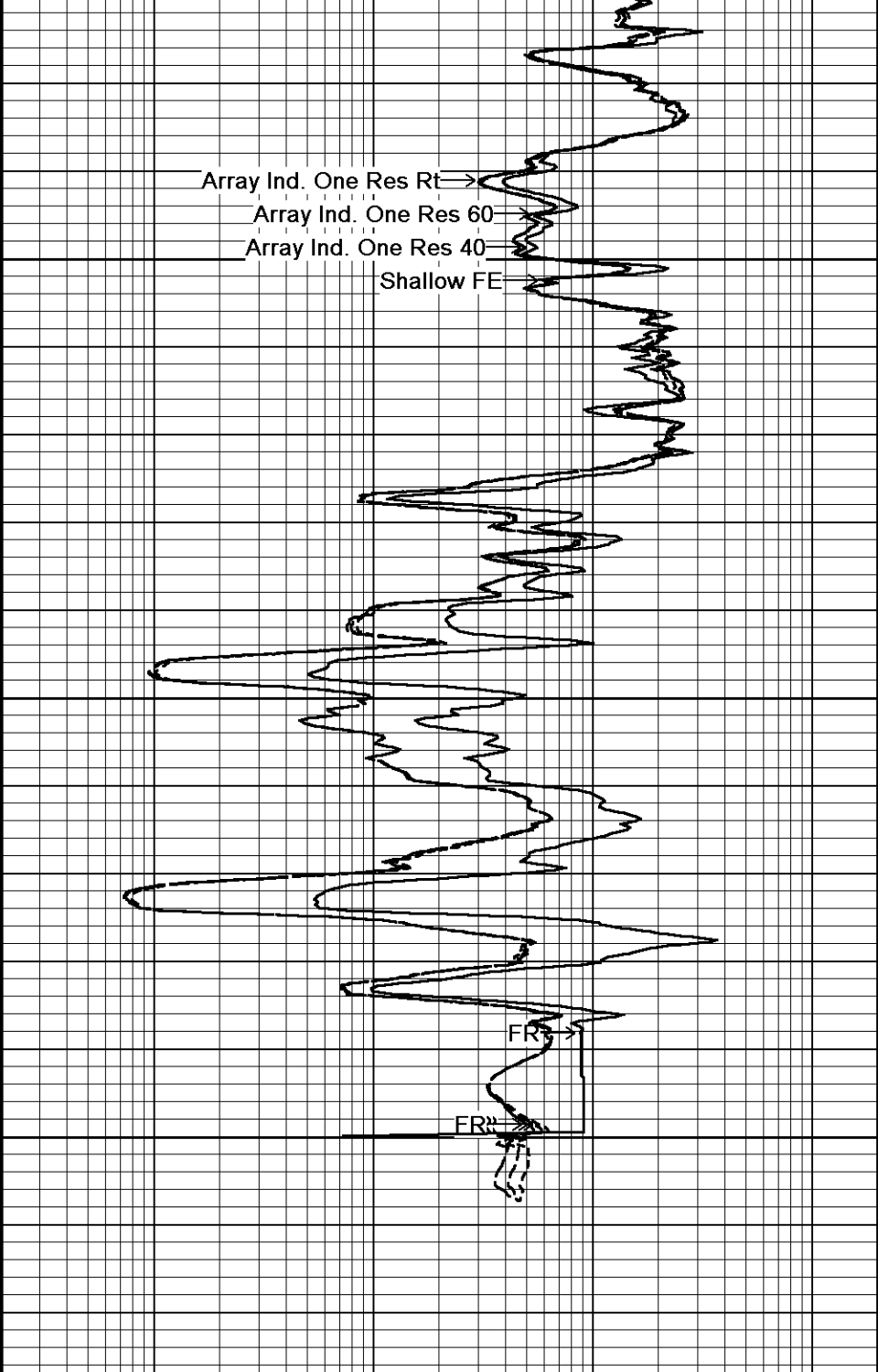


Spontaneous Potential
millivolts
- - - - - 20 - - - - - +

Borehole
Temp in
deg F

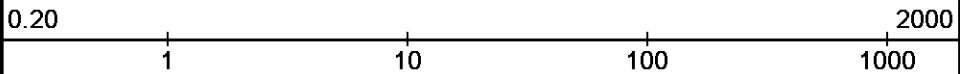
HVI
every
10 cu ft

Annular
Integral

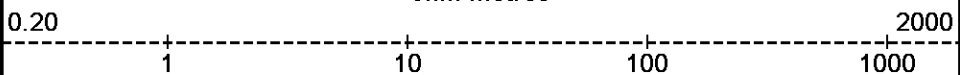


Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE

Shallow FE
ohm metres

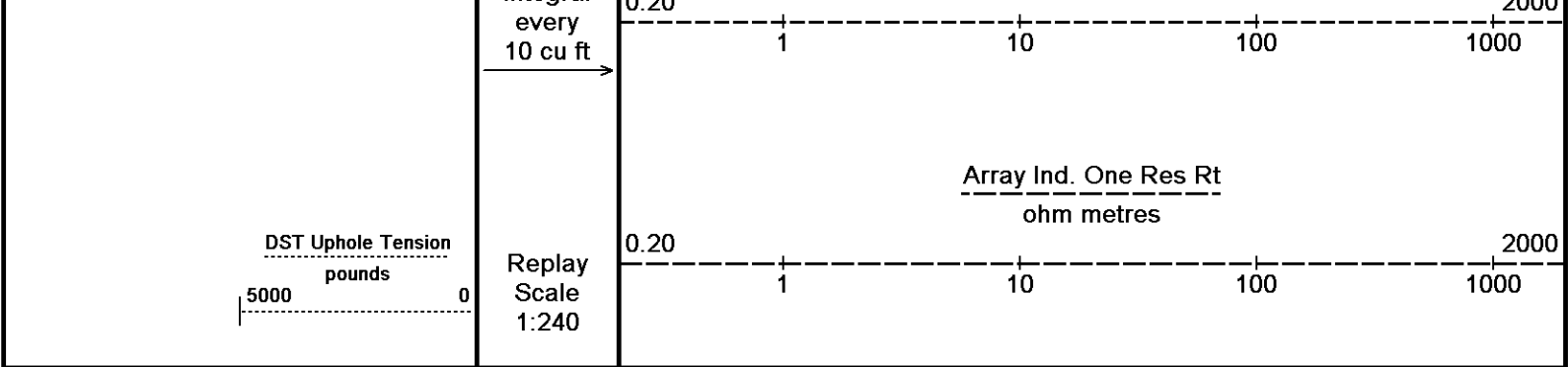


Array Ind. One Res 40
ohm metres



Array Ind. One Res 60
ohm metres



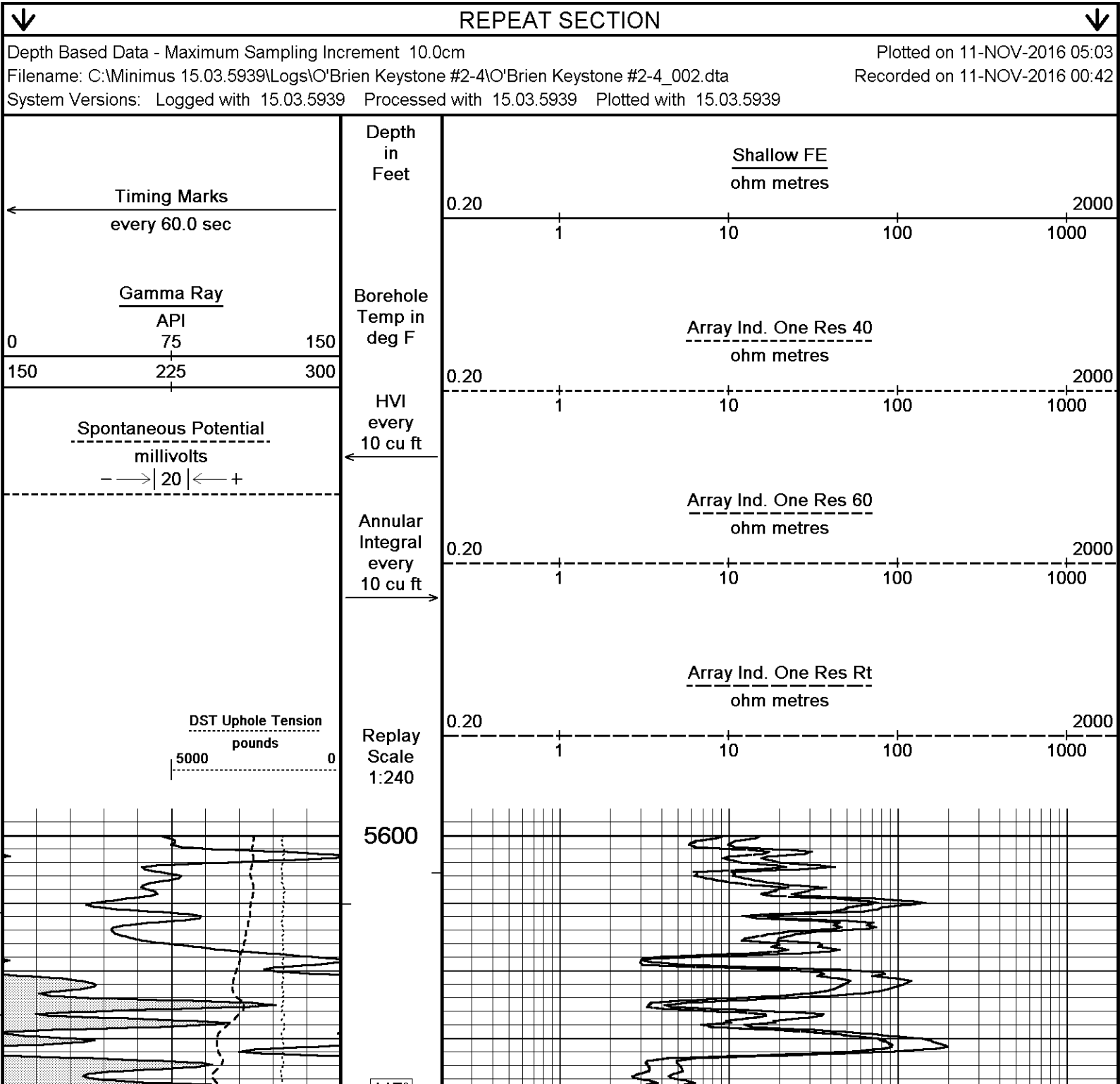


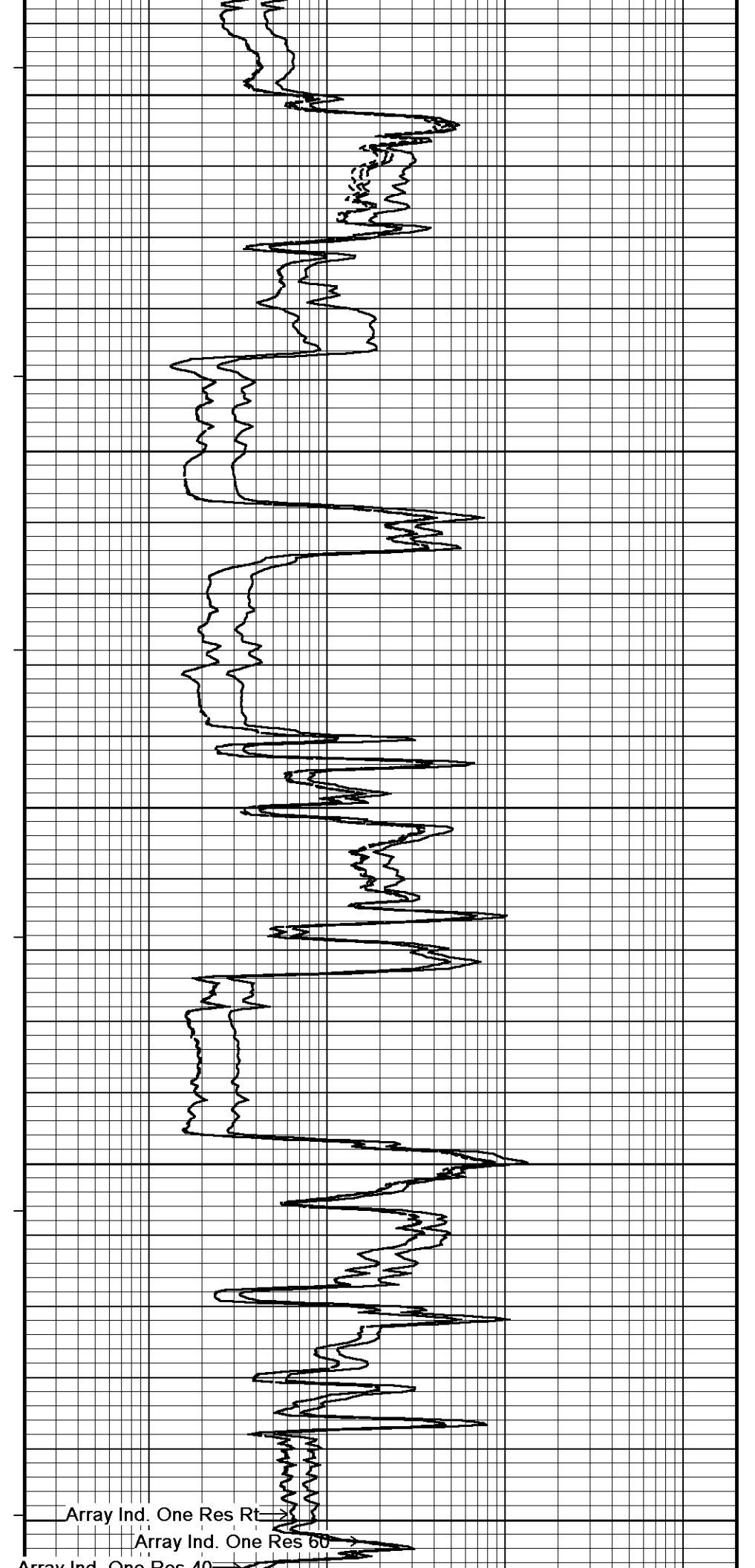
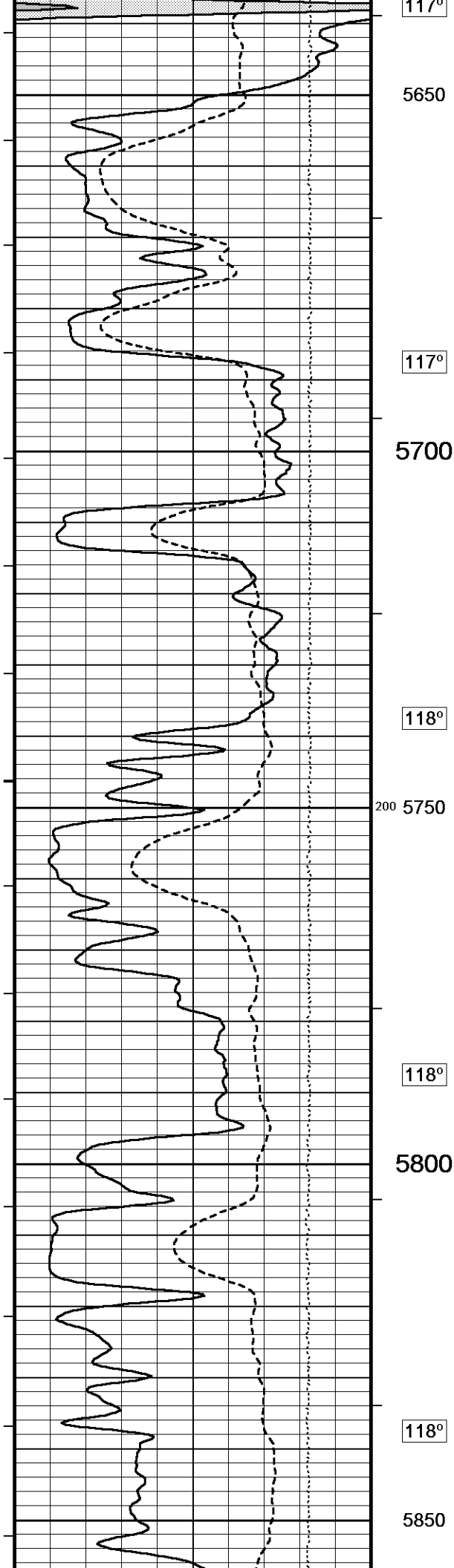
Depth Based Data - Maximum Sampling Increment 10.0cmPlotted on 11-NOV-2016 05:03

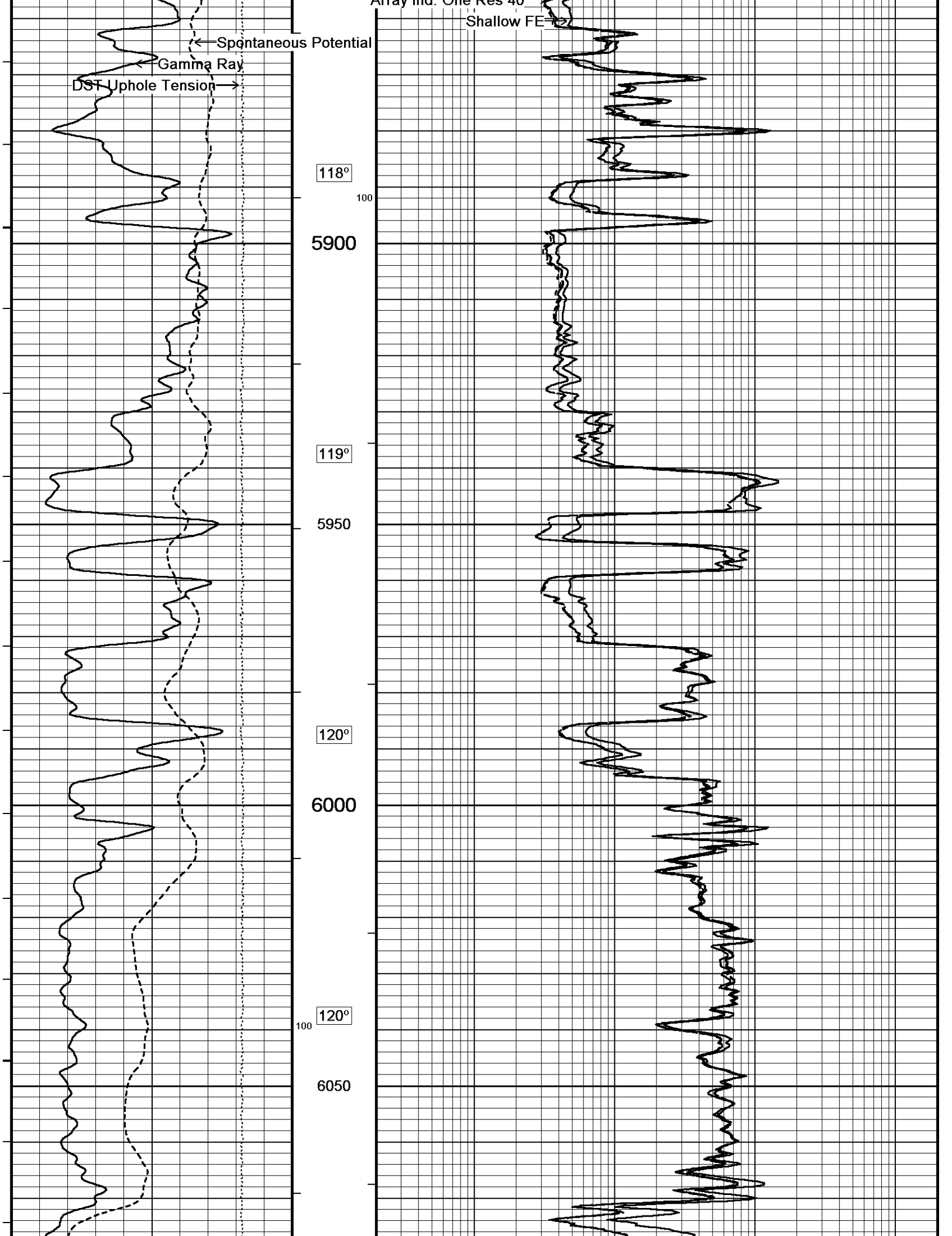
Filename: C:\Minimus 15.03.5939\Logs\O'Brien Keystone #2-4\O'Brien Keystone #2-4_003.dtaRecorded on 11-NOV-2016 01:58

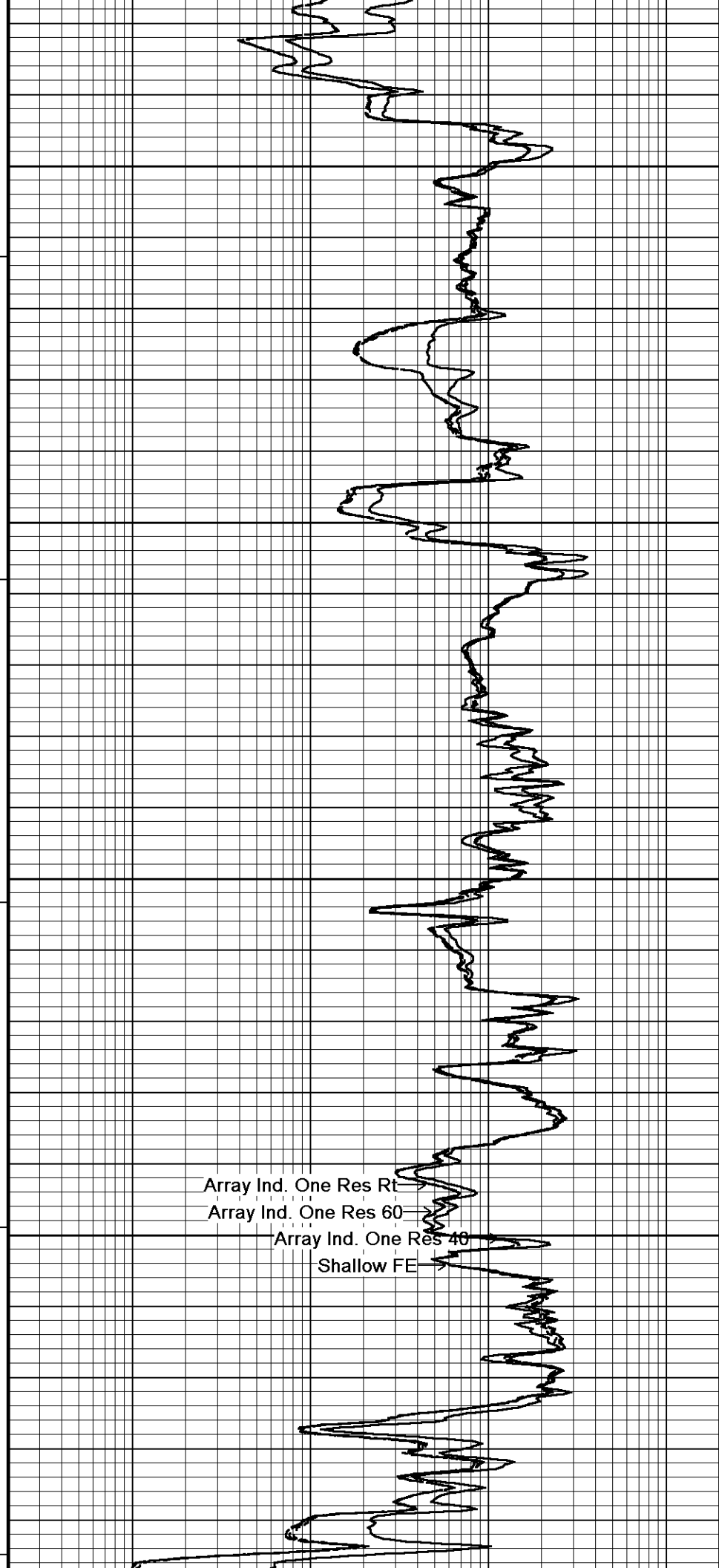
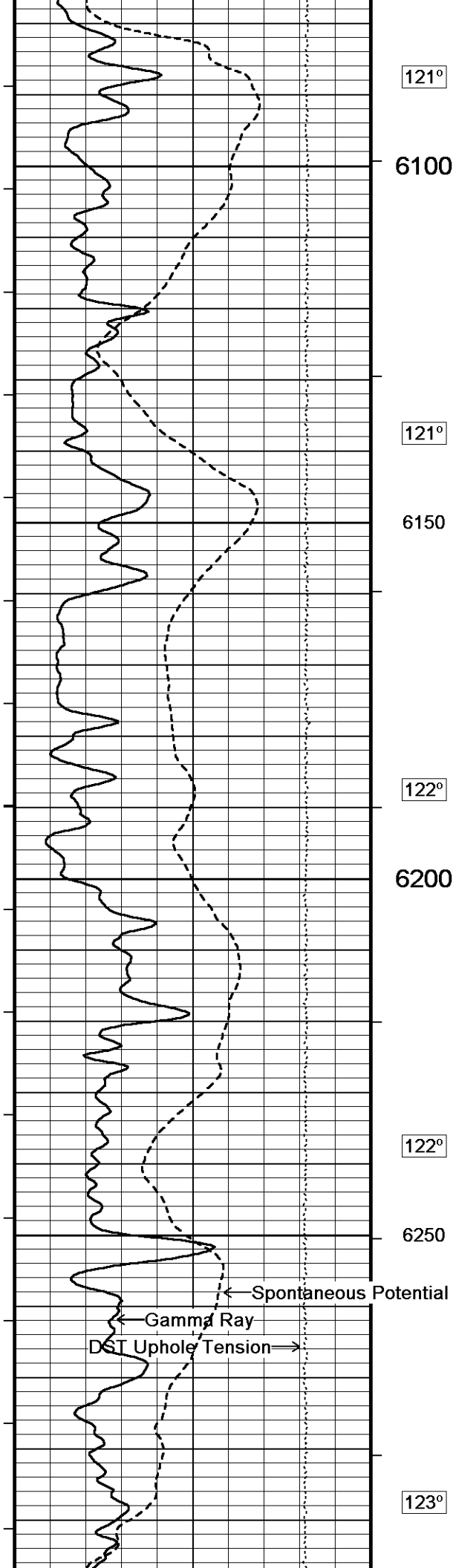
System Versions: Logged with 15.03.5939 Processed with 15.03.5939 Plotted with 15.03.5939

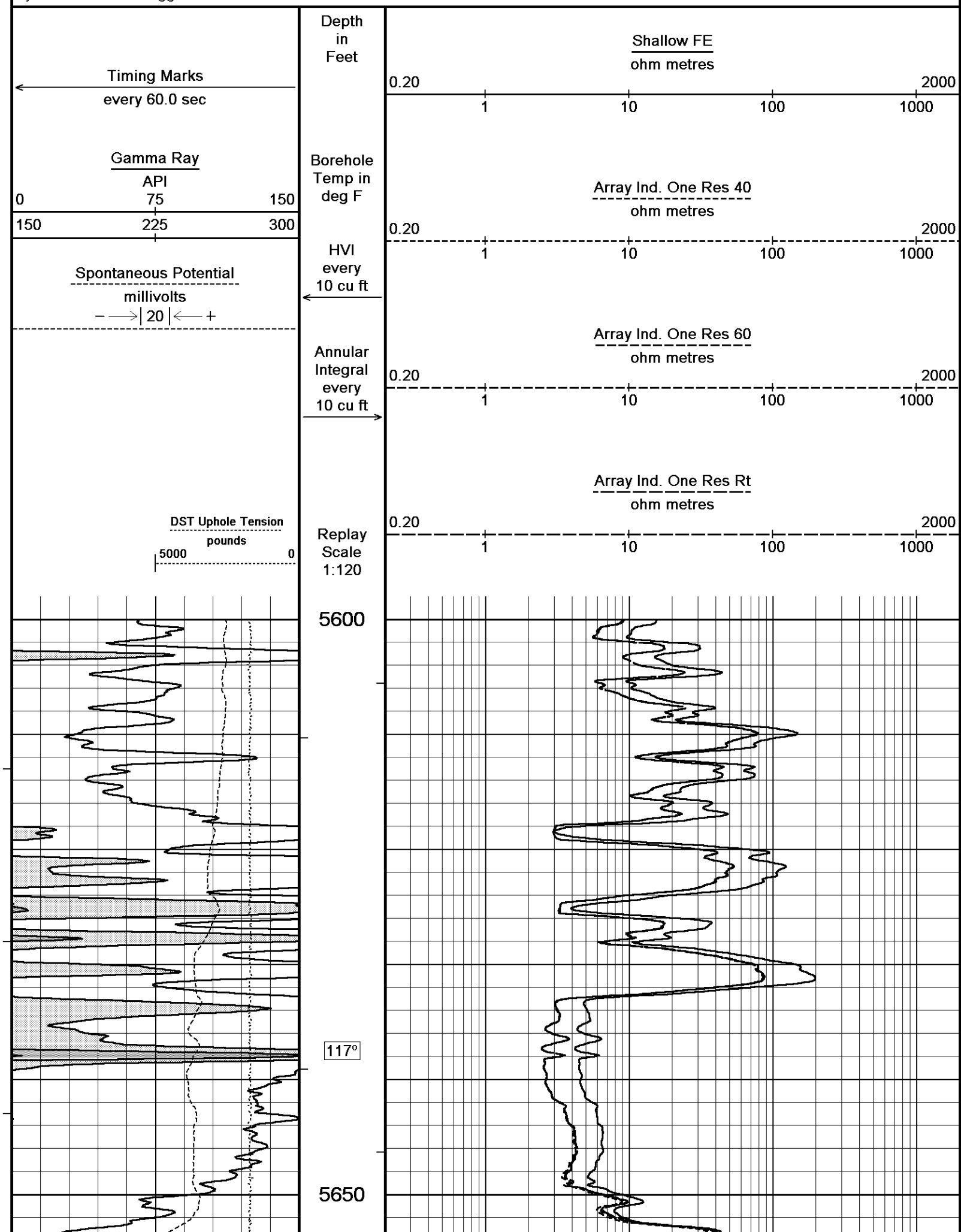
5 INCH MAIN

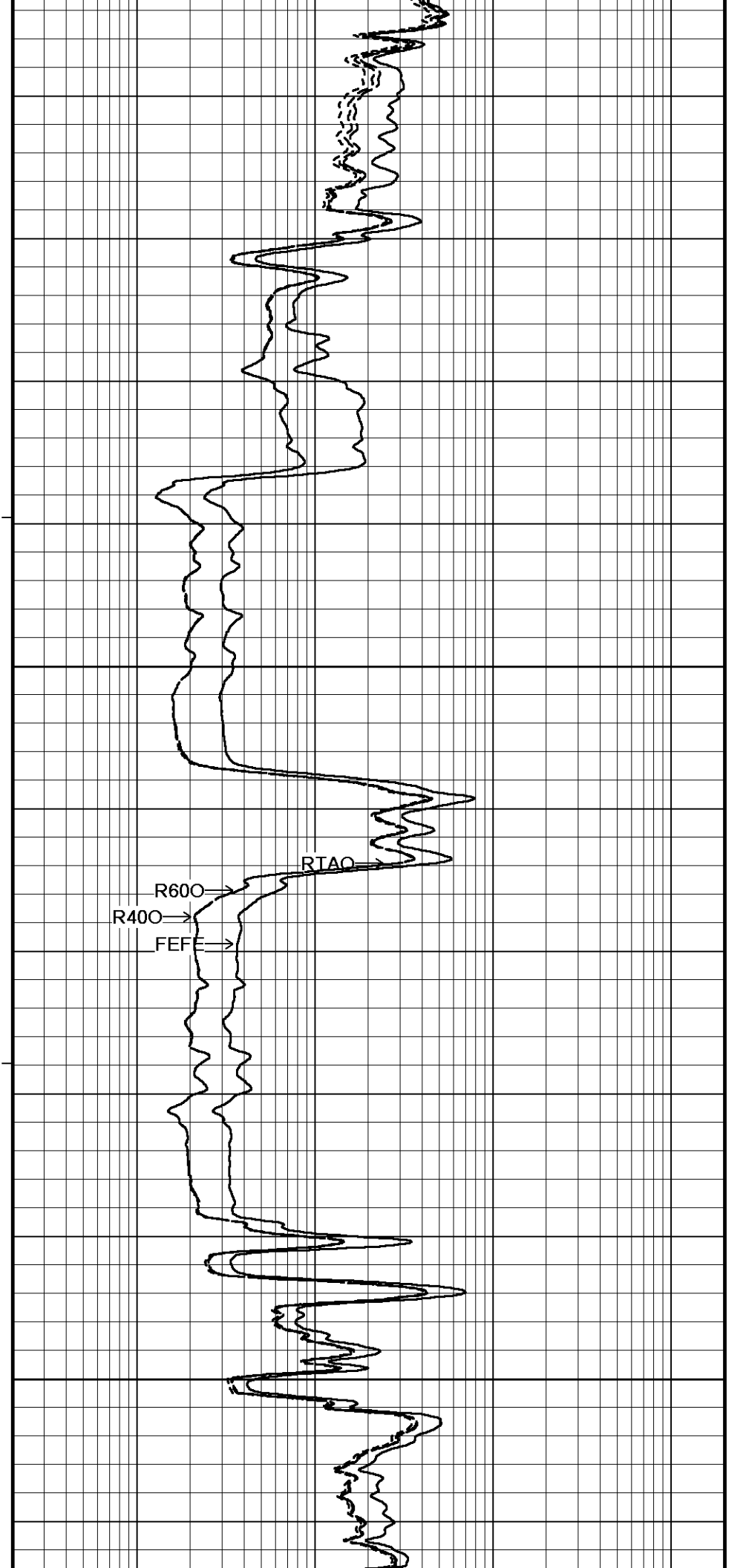
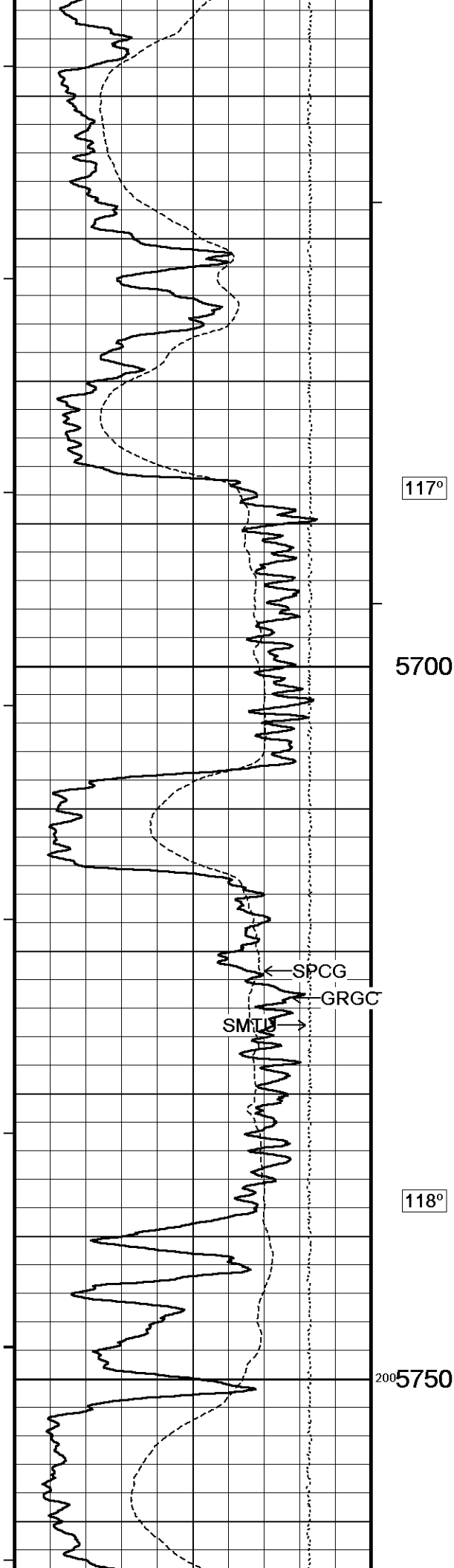


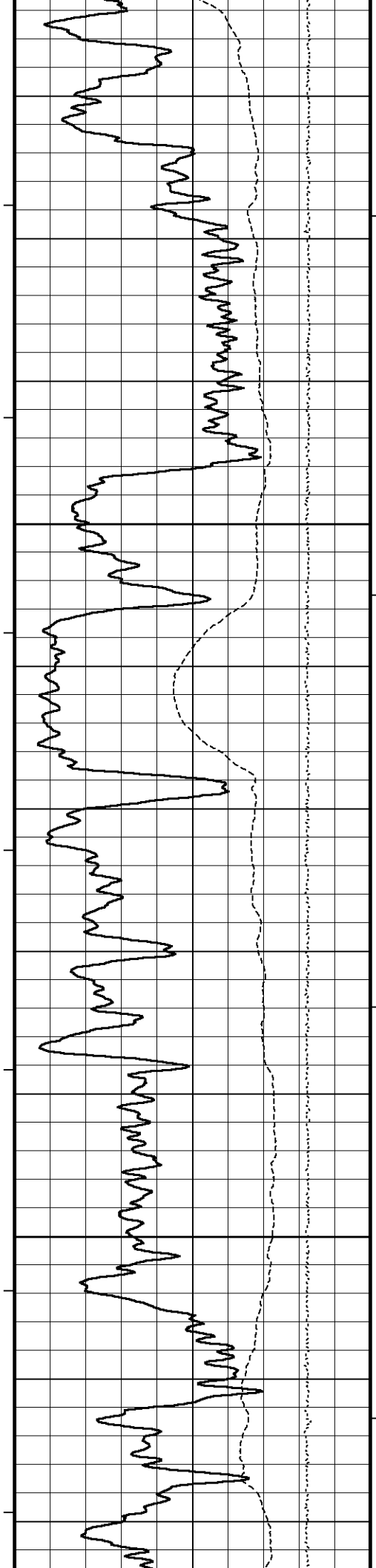










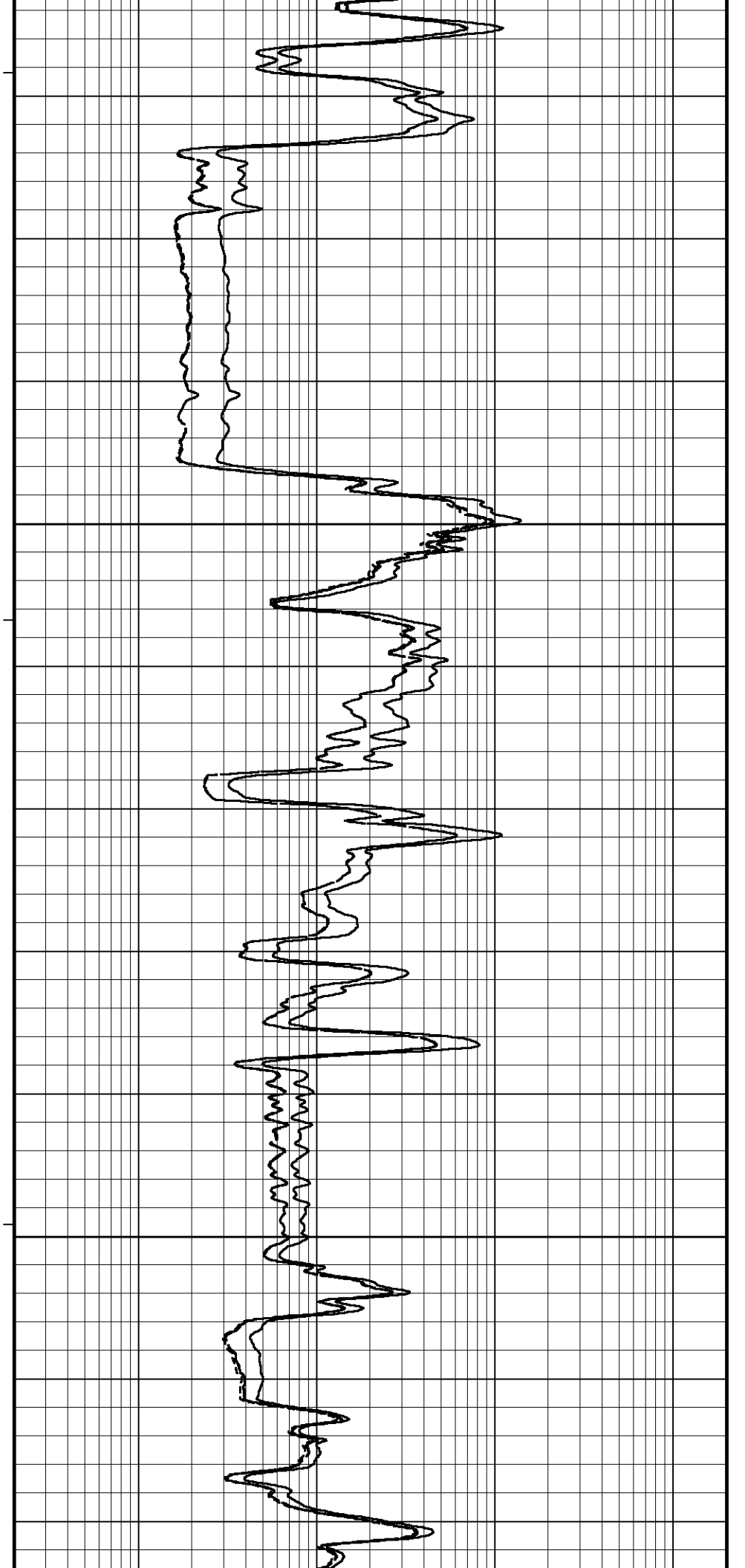


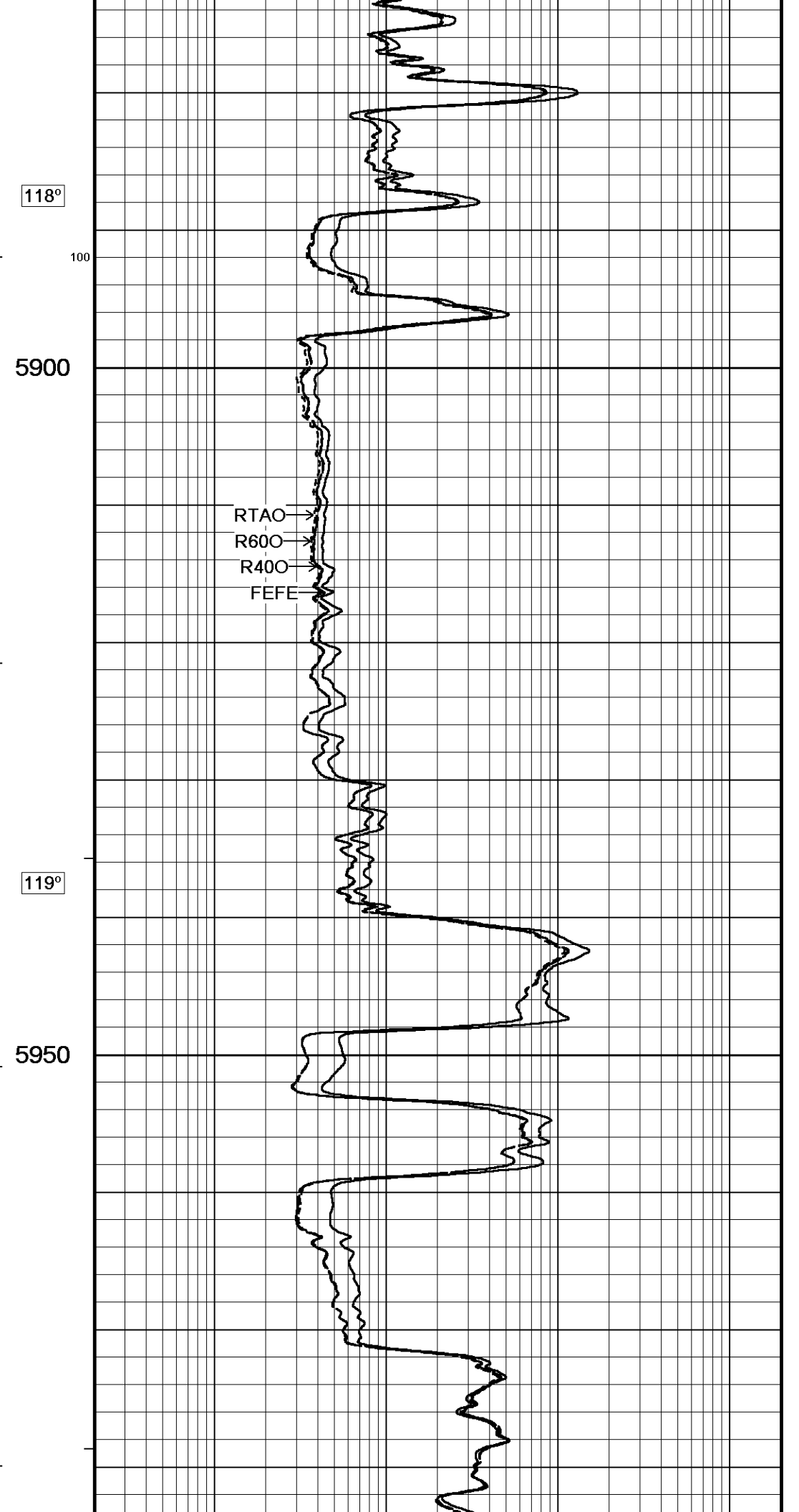
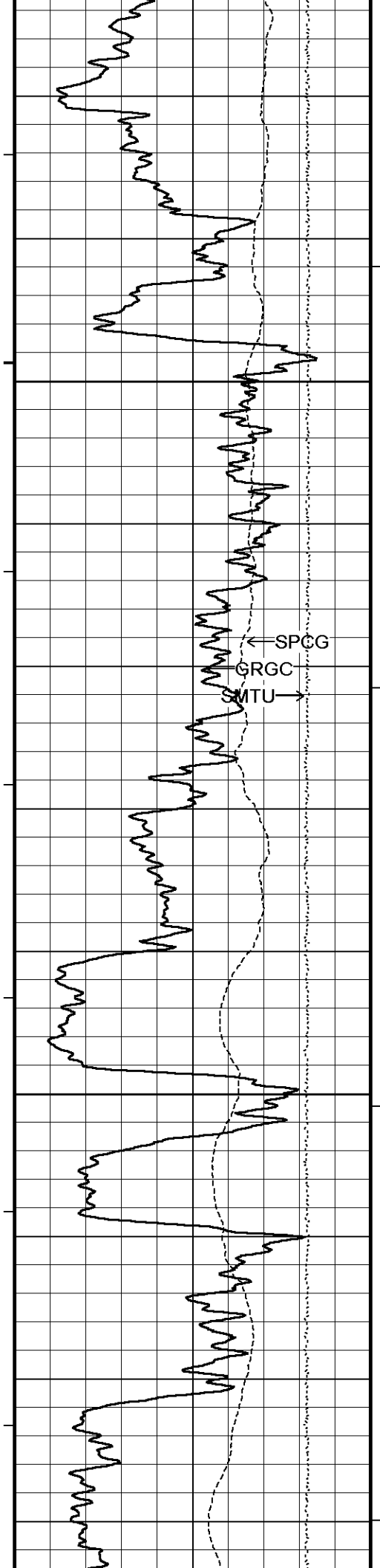
118°

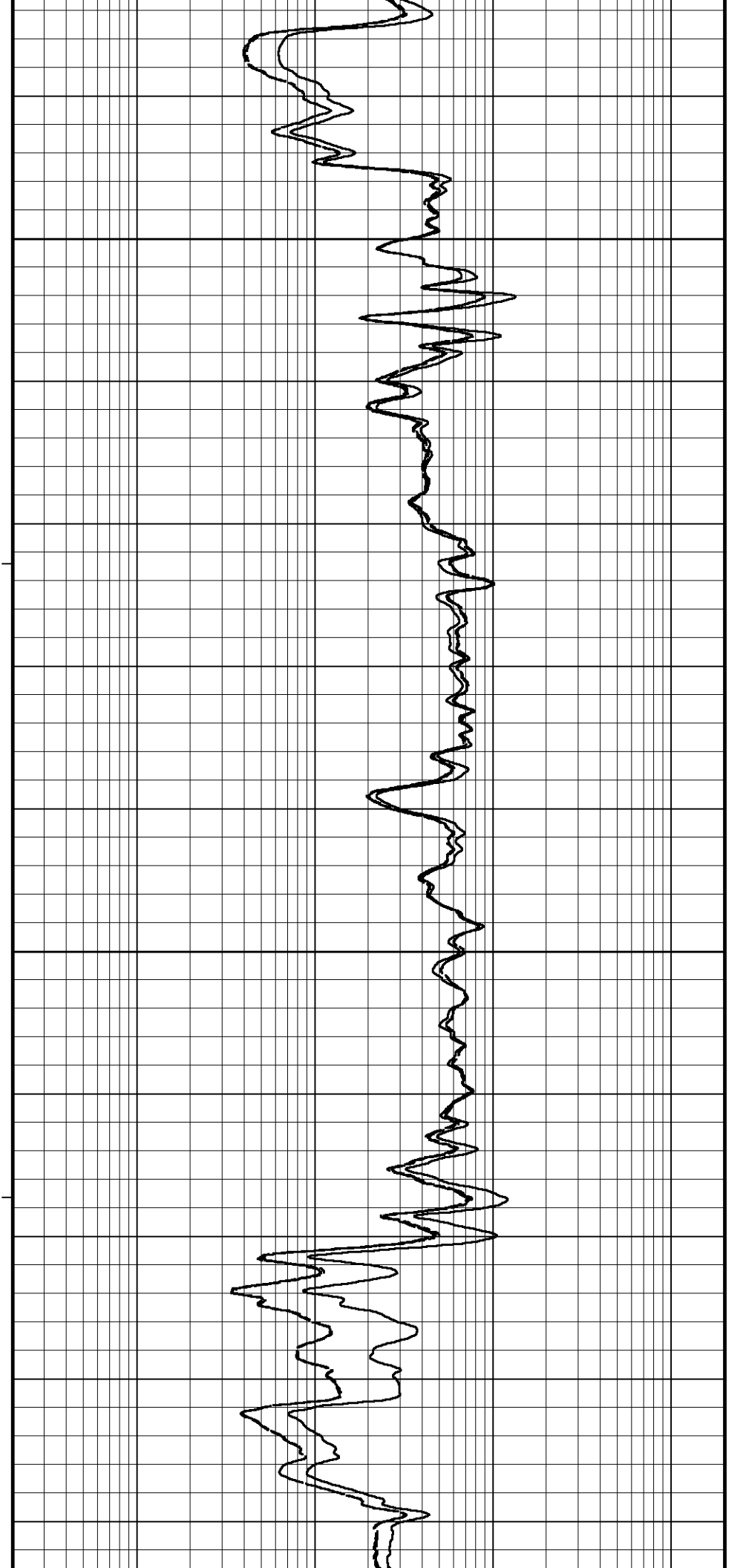
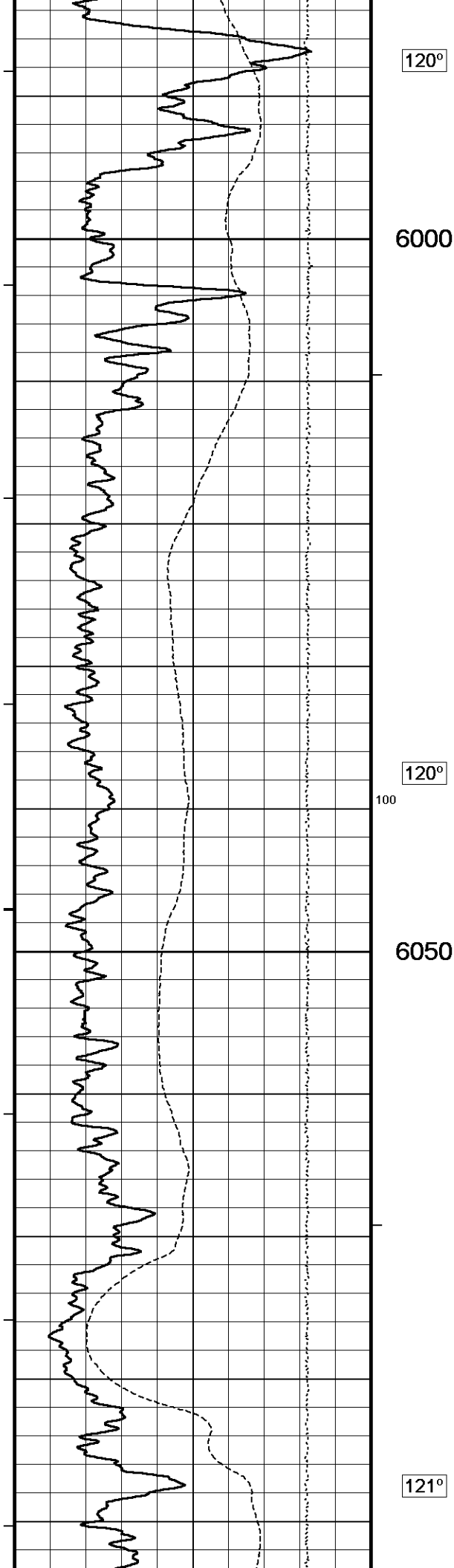
5800

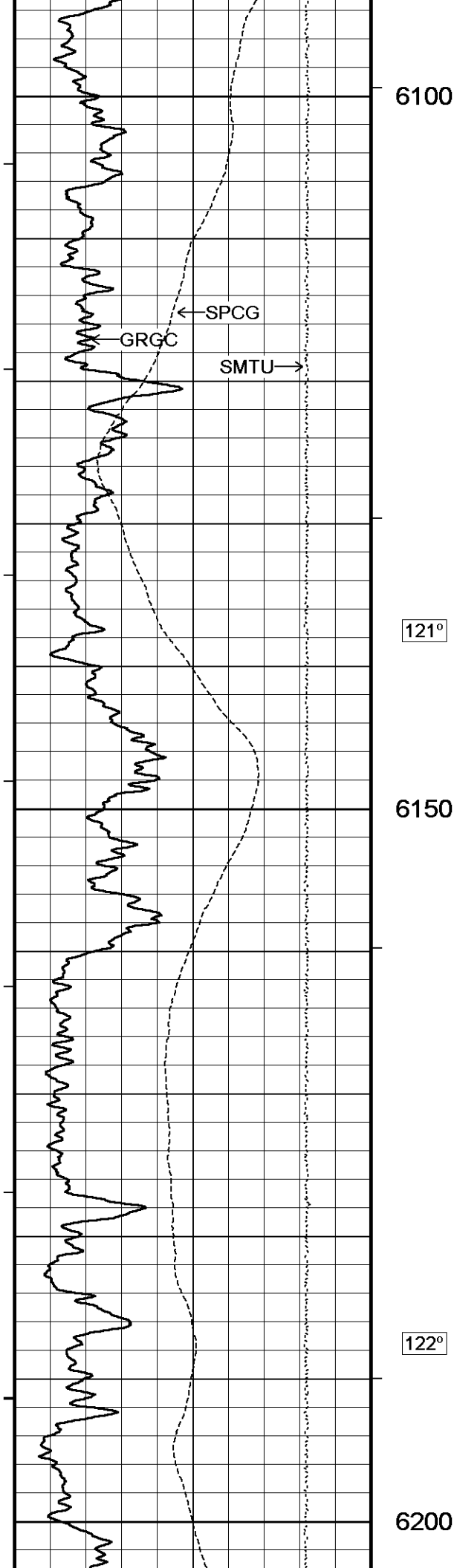
118°

5850







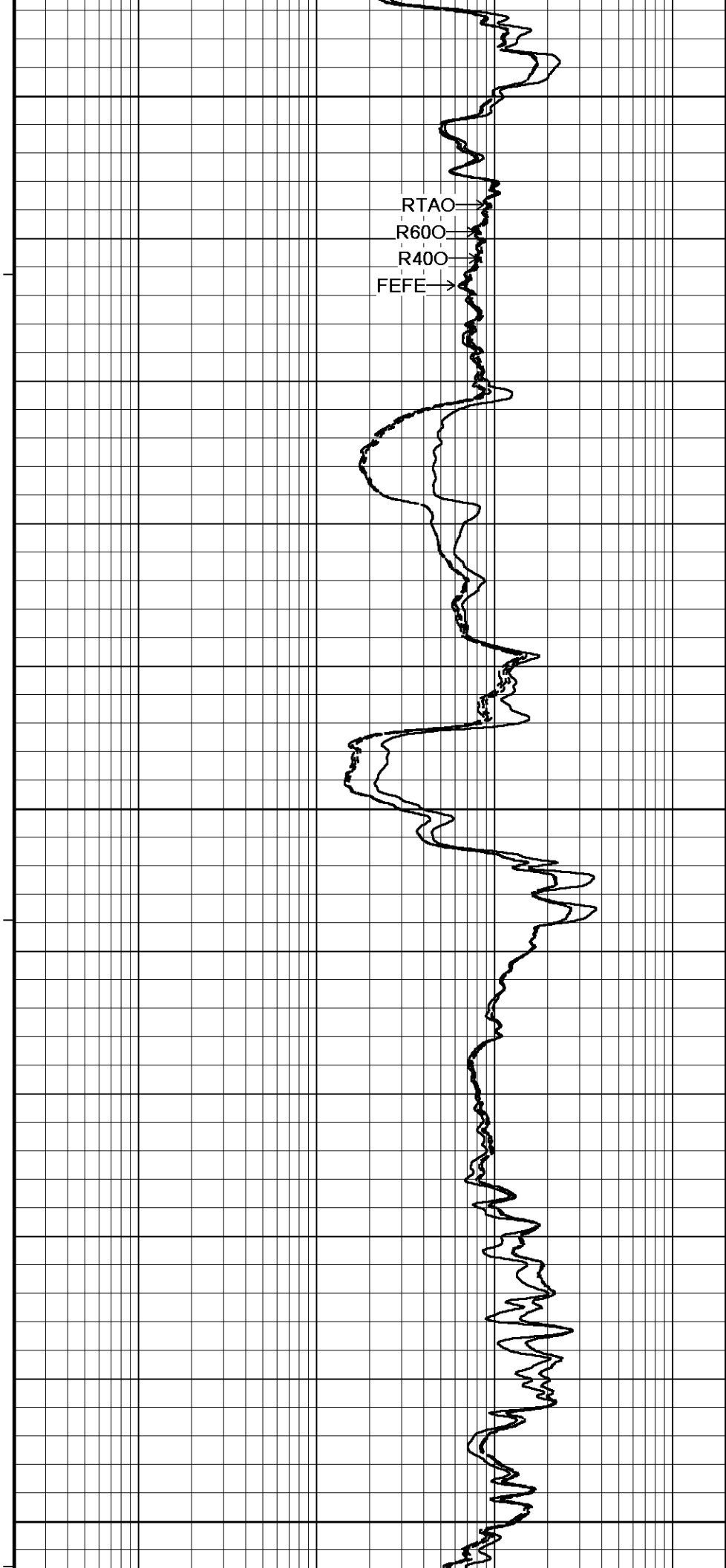


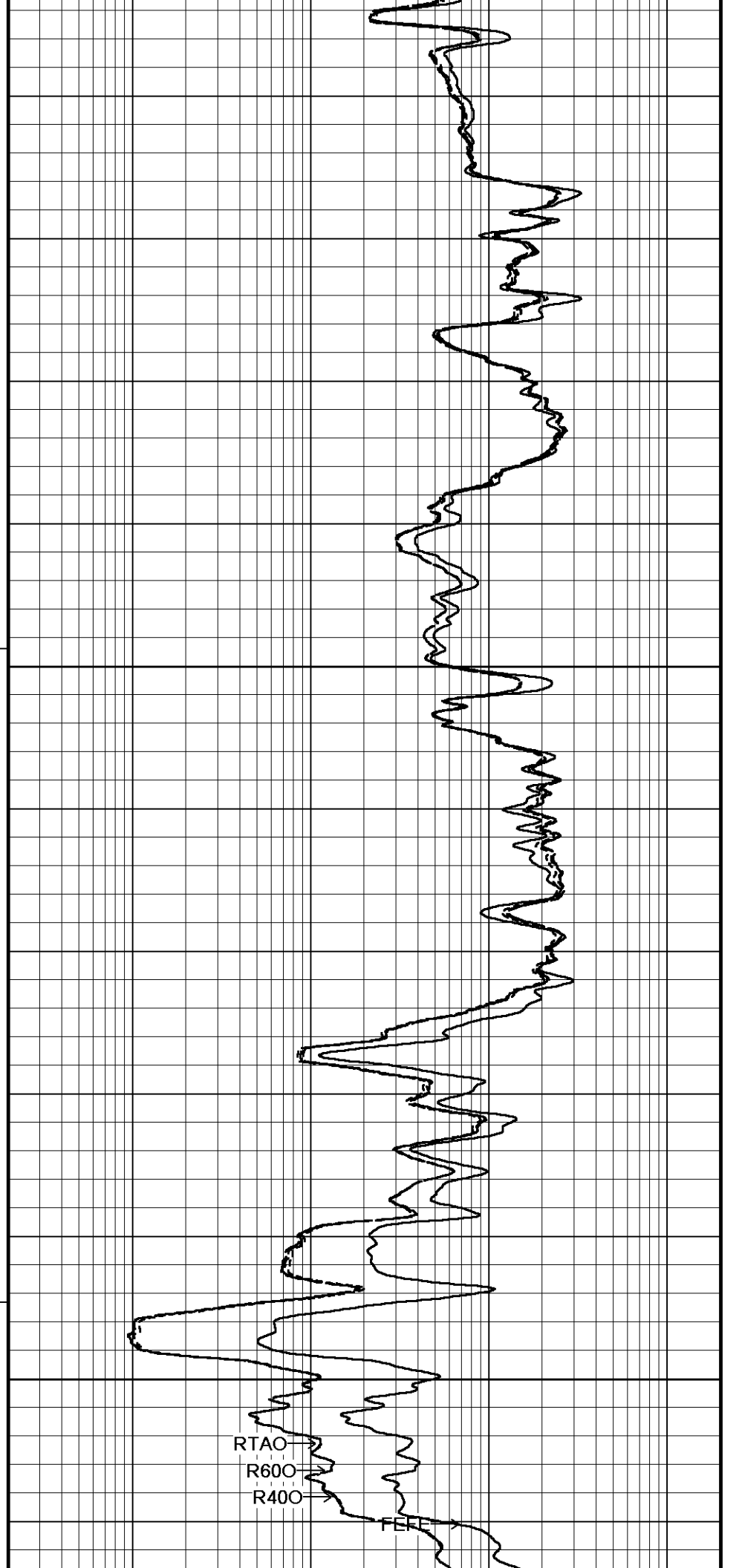
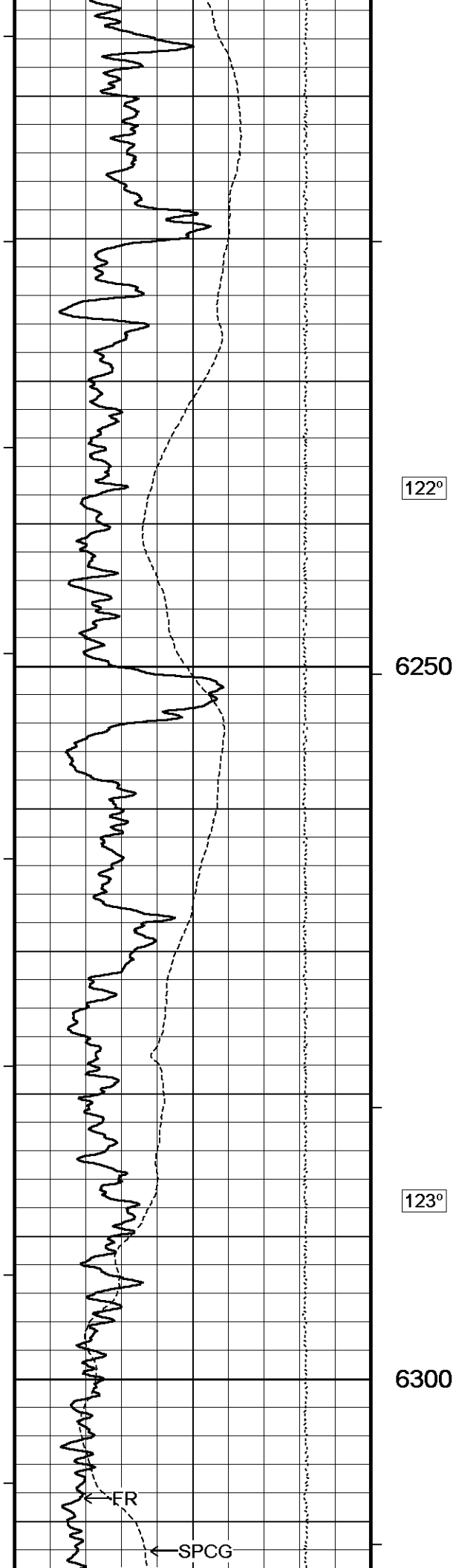
121°

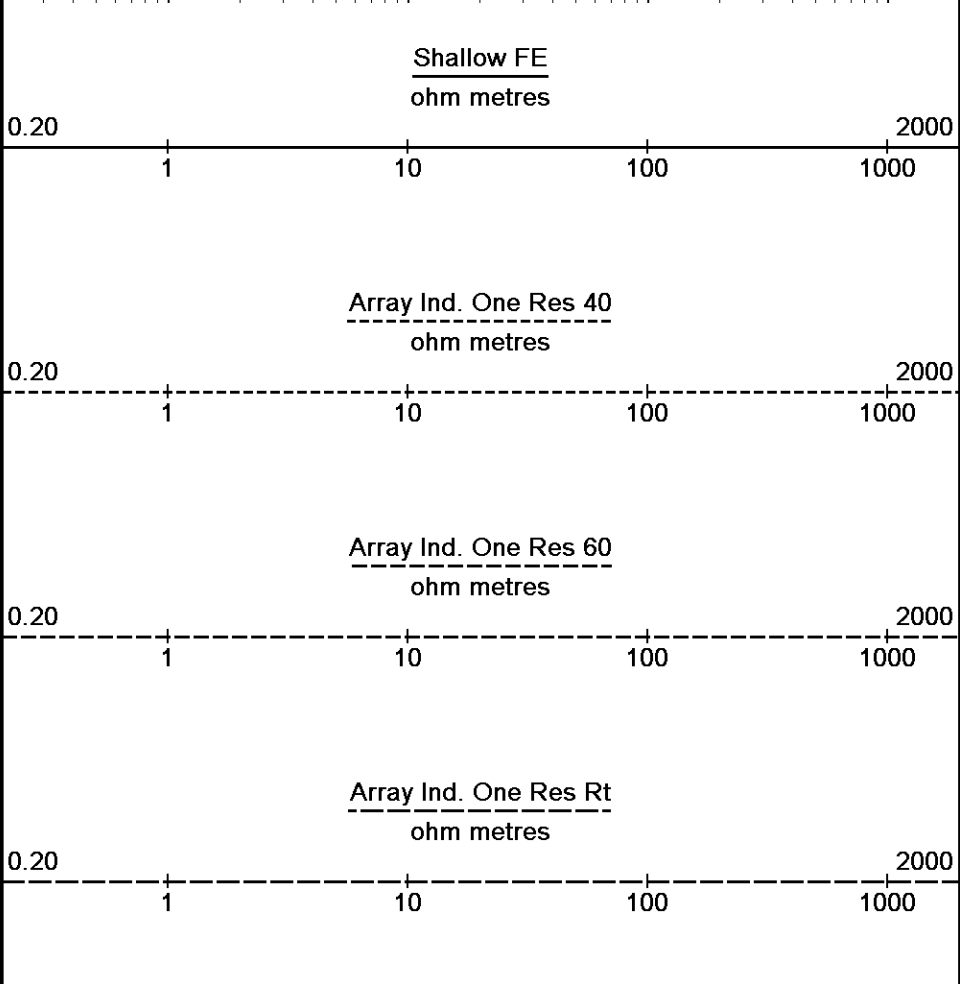
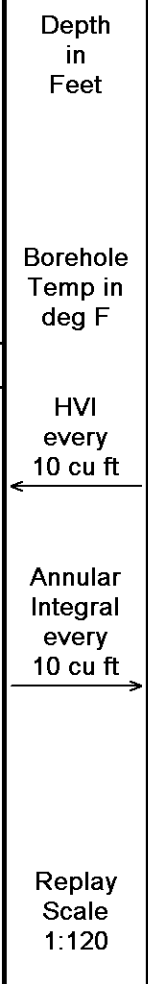
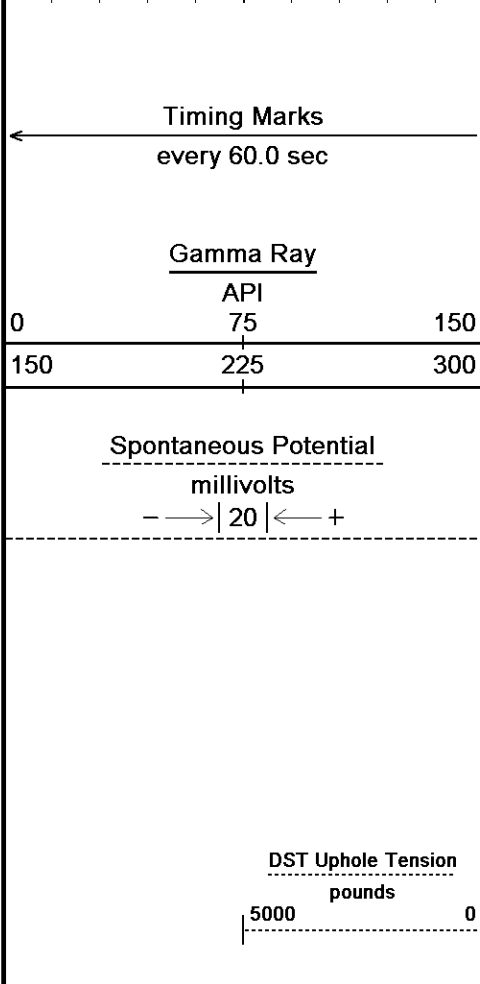
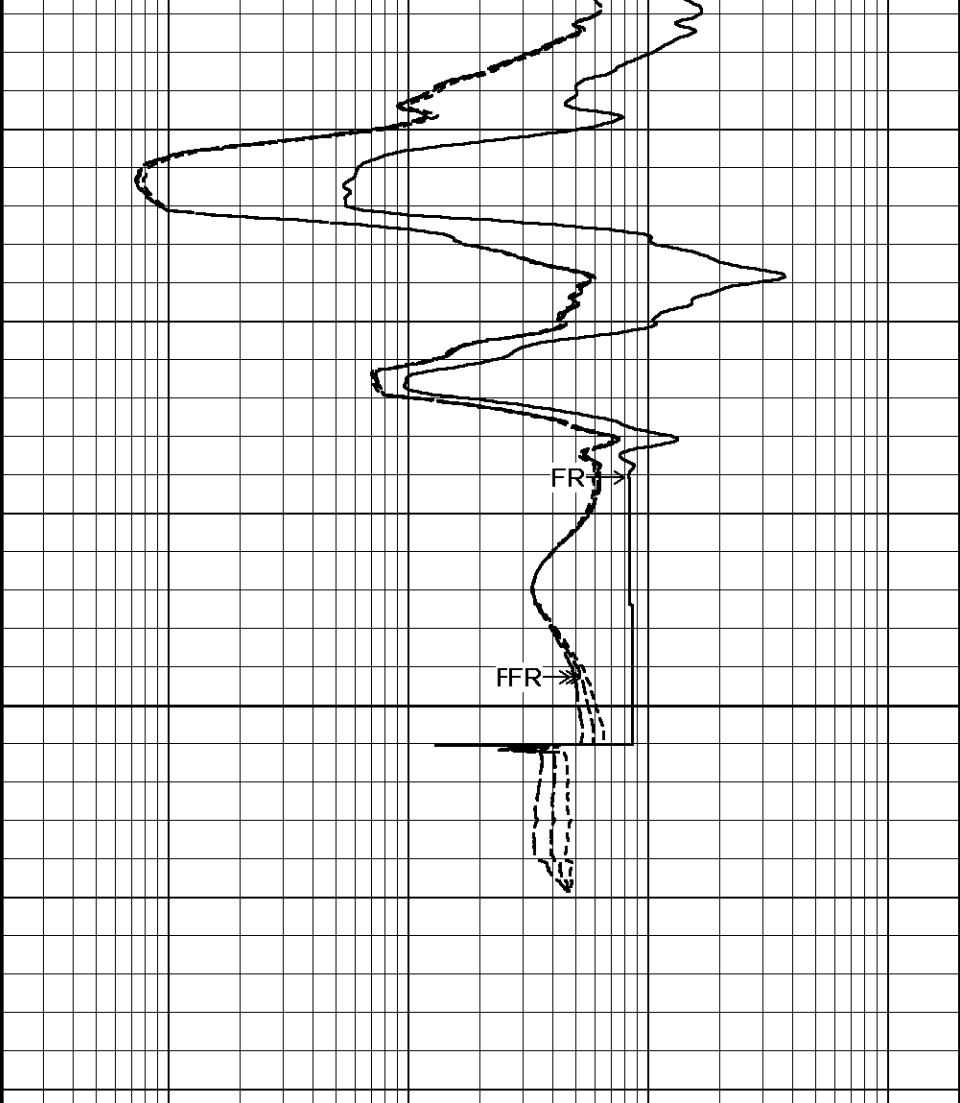
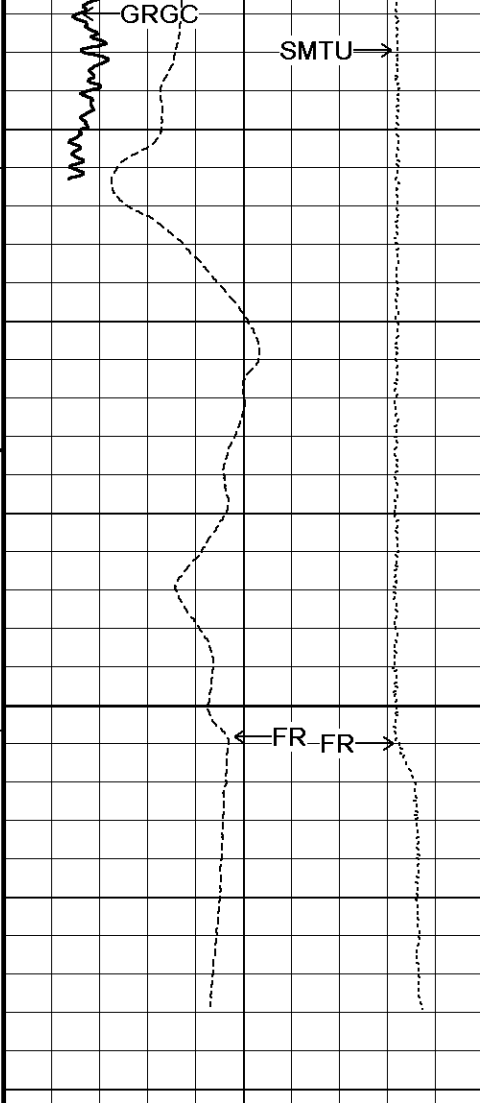
6150

122°

6200







BEFORE SURVEY CALIBRATION

C:\Minimus 15.03.5939\Logs\O'Brien Keystone #2-4\O'Brien Keystone #2-4_002.dta

General Constants All 000			Last Edited on 11-NOV-2016,00:03		
General Parameters					
Mud Resistivity	1.180		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	4.500		inches		
Caliper for Differential Caliper	None				
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-JUL-2016 15:20	
Reading No	Measured	Calibrated (lbs)	
1	15235.81	0.00	
2	16026.61	481.00	

Gamma Calibration MCG-C 123		Field Calibration on 08-NOV-2016 22:41	
	Measured	Calibrated (API)	
Background	73	51	
Calibrator (Gross)	728	507	
Calibrator (Net)	656	456	

Gamma Calibration Tolerances MCG-C 123			
Ratio	1.438	1.40 1.475 1.55	Counts/API

Gamma Constants MCG-C 123			Last Edited on 10-NOV-2016,22:37		
Gamma Calibrator Number	MCGGRCC141				
GRC-M Calibrator Jig in Use?	NO				
Inactive Background Jig in Use?	NO				
Mud Density	1.13	gm/cc			
Caliper Source for Processing	Density Caliper				
Tool Position	Eccentred				
Potassium Equivalence	Chloride				
K Mud Concentration	0.00	%			

High Resolution Temperature Calibration MCG-C 123		Field Calibration on 31-OCT-2015,17:05	
	Measured	Calibrated(Deg F)	
Lower	50.00	50.00	
Upper	100.00	100.00	

High Resolution Temperature Constants MCG-C 123		Last Edited on 22-SEP-2015,11:43	
Pre-filter Length	11		

SP Calibration MCG-C 123		Field Calibration on 14-JUL-2016 12:06	
	Measured	Calibrated (mV)	

Reference 1	101.2	100.6
Reference 2	-99.1	-99.9

Micro Normal and Micro Inverse Calibration MMR-C.A 247

Base Calibration on 28-AUG-2016 19:13

Field Check on 08-NOV-2016 22:26

Base Calibration

Channel	Measured		Calibrated (ohm-m)	
	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	10.2	49.9	5.1	25.6
Micro Inverse	10.0	49.5	3.4	16.9

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	93.6	93.6
Micro Inverse	62.2	62.2

Micro Normal & Micro Inverse Calibration Tolerance MMR-C.A 247

Micro Normal Res. 1	10.2		ohm	Micro Normal Res. 2	49.9		ohm
Micro Inverse Res. 1	10.0		ohm	Micro Inverse Res. 2	49.5		ohm
Micro Normal Base Check	93.6		ohm-m				
Micro Inverse Base Check	62.2		ohm-m				
Micro Normal Field Check	93.6		ohm-m				
Micro Inverse Field Check	62.2		ohm-m				

Micro Normal and Micro Inverse Constants MMR-C.A 247

Last Edited on 26-JUN-2016,15:44

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	

Caliper Calibration MMR-C.A 247

Base Calibration on 28-AUG-2016 19:08

Field Calibration on 08-NOV-2016 22:25

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	14869	5.98
2	18207	7.97
3	21411	9.86
4	25389	11.92
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
8.04	7.97

Caliper Calibration Tolerances MMR-C.A 247

Short Arm Field Cal.	8.04		in
----------------------	------	--	----

Micro-Resistivity Caliper Constants MMR-C.A 247

Last Edited on

Sonde Configuration	Resistivity Mode
---------------------	------------------

Neutron Calibration MDN-A.B 66

Base Calibration on 22-MAY-2016,18:15

Field Check on 08-NOV-2016 22:46

Base Calibration

Ratio	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3116	97	3714	110
	32.277		33.764	

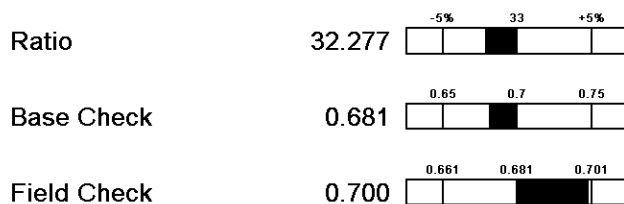
Field Calibrator at Base

Ratio	Calibrated (cps)
	2061
	3028
	0.681

Field Check

Calibrated (cps)
2161
3088

Neutron Calibration Tolerances MDN-A.B 66



Neutron Constants MDN-A.B 66

Last Edited on 10-NOV-2016,22:36

Neutron Source Id	P0204NN	
Neutron Jig Number	NJ5736	
Air Hole Processing	Legacy	
Caliper Source for Processing	Density Caliper	
Stand-off	0.00	inches
Mud Density	1.00	gm/cc
Limestone Sigma	7.10	cu
Sandstone Sigma	4.26	cu
Dolomite Sigma	4.70	cu
Formation Pressure Source	None	
Formation Pressure	N/A	kpsi
Temperature Source	Constant Value	
Temperature	68.00	degrees F
Mud Salinity	0.00	kppm
Salinity Correction	Not Applied	
Formation Fluid Salinity Source	None	
Formation Fluid Salinity	N/A	kppm
Barite Mud Correction	Not Applied	

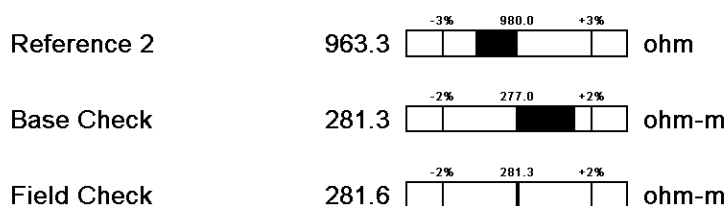
FE Calibration MFE-B.J 352

Base Calibration on 28-AUG-2016 18:58

Field Check on 08-NOV-2016 22:14

Base Calibration		
	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	963.3	126.8
Base Check		281.3
Field Check		281.6

FE Calibration Tolerances MFE-B.J 352



FE Constants MFE-B.J 352

Last Edited on 10-NOV-2016,22:36

Running Mode	No Sleeve	
MFE K Factor	0.1268	
Borehole Correction Constants		
Sonde Position	0.5	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	

Induction Calibration MAI-A.A 111

Base Calibration on 05-AUG-2014,09:34

Field Check on 08-NOV-2016 22:13

Base Calibration				
Test Loop Calibration		Measured	Calibrated (mmho/m)	
Channel	Low	High	Low	High
1	17.6	473.6	9.3	966.2
2	6.4	385.9	7.6	821.4
3	3.2	264.0	5.2	566.0

4 2.1 135.5 2.6 279.2

Array Temperature 23.0 Deg F

Test Loop Calibration Verified 22-MAY-2016,17:59

Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	12.1	3873.0	10.7	3868.1
2	29.8	3528.1	28.6	3523.9
3	29.1	3021.3	28.1	3017.8
4	19.1	2058.5	18.5	2056.2
Deep	17.7	1962.1	17.1	1959.8
Medium	43.1	3976.4	41.8	3971.7
Shallow	44.4	5232.7	42.6	5226.4
Array Temperature	65.8		62.1	Deg F

Induction Calibration Tolerances MAI-A.A 111

Low Conductivity 1	17.6		mmho/m	High Conductivity 1	473.6		mmho/m
Low Conductivity 2	6.4		mmho/m	High Conductivity 2	385.9		mmho/m
Low Conductivity 3	3.2		mmho/m	High Conductivity 3	264.0		mmho/m
Low Conductivity 4	2.1		mmho/m	High Conductivity 4	135.5		mmho/m
Background Vx 1	0.0		mmho/m	Phase Check Loop 1	0.0		%
Background Vx 2	0.0		mmho/m	Phase Check Loop 2	0.0		%
Background Vx 3	0.0		mmho/m	Phase Check Loop 3	0.0		%
Background Vx 4	0.0		mmho/m	Phase Check Loop 4	0.0		%

Induction Constants MAI-A.A 111

Last Edited on 10-NOV-2016,22:36

Induction Model	RtAP-WBM		
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	8.0000		
Stand-off Fin Angle	45.00	degrees	
Stand-off Fin Width	0.5000	inches	
Rm Source	Global Value: Temperature Corrected		
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	
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-A.A 111

Field Calibration on 24-NOV-2014,10:23

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

High Resolution Temperature Constants MAI-A.A 111

Last Edited on 26-JUN-2014,15:06

Pre-filter Length	11
-------------------	----

Photo Density Calibration MPD-B 104

Base Calibration on 28-AUG-2016 20:24

Field Check on 08-NOV-2016 22:23

Density Calibration

Base Calibration

	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Background	1145	1339		
Reference 1	49665	24007	59556	30836
Reference 2	20032	2442	24941	2541

Field Check at Base

1144.9 1338.6

Field Check

1139.6 1323.0

PE Calibration

Base Calibration

	WS	Measured	Ratio	Calibrated
		WH		Ratio
Background	211	1021		
Reference 1	20773	49486	0.424	0.371
Reference 2	5807	19899	0.296	0.272

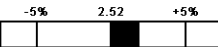
Field Check at Base

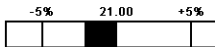
211.3 1021.2

Field Check

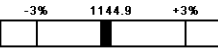
207.9 1017.4

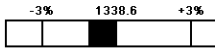
Photo Density Calibration Tolerances MPD-B 104

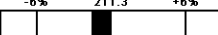
Near Density Ratio 2.57 

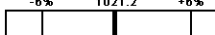
Far Density Ratio 20.54 

PE Calibration 0.119 

Near Den. Field Check 1139.6 

Far Den. Field Check 1323.0 

PE WS Field Check 207.9 

PE WH Field Check 1017.4 

Density Constants MPD-B 104

Last Edited on 10-NOV-2016,22:36

Density Source Id	P50557B	
Nylon Calibrator Number	DNCE695	
Aluminium Calibrator Number	DACD698	
Density Shoe Profile	8 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.13	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

CRCI	0.00
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

Caliper Calibration MPD-B 104

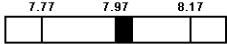
Base Calibration on 28-AUG-2016 19:51
Field Calibration on 08-NOV-2016 22:17

Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	13646	3.99
2	22688	5.98
3	31297	7.97
4	39521	9.86
5	48608	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
8.01	7.97

Caliper Calibration Tolerances MPD-B 104

Short Arm Field Cal. 8.01  in

DOWNHOLE EQUIPMENT

C:\Minimus 15.03.5939\Logs\O'Brien Keystone #2-4\O'Brien Keystone #2-4_002.dta

Cablehead, 11 pin
CBH-CA 176 LG: 2.40 ft WT: 24.3 lb OD: 2.244 in

Compact Comms Gamma
MCG-C 123 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in

Compact Micro-Resistivity
MMR-C.A 247 LG: 8.59 ft WT: 81.6 lb OD: 4.882 in

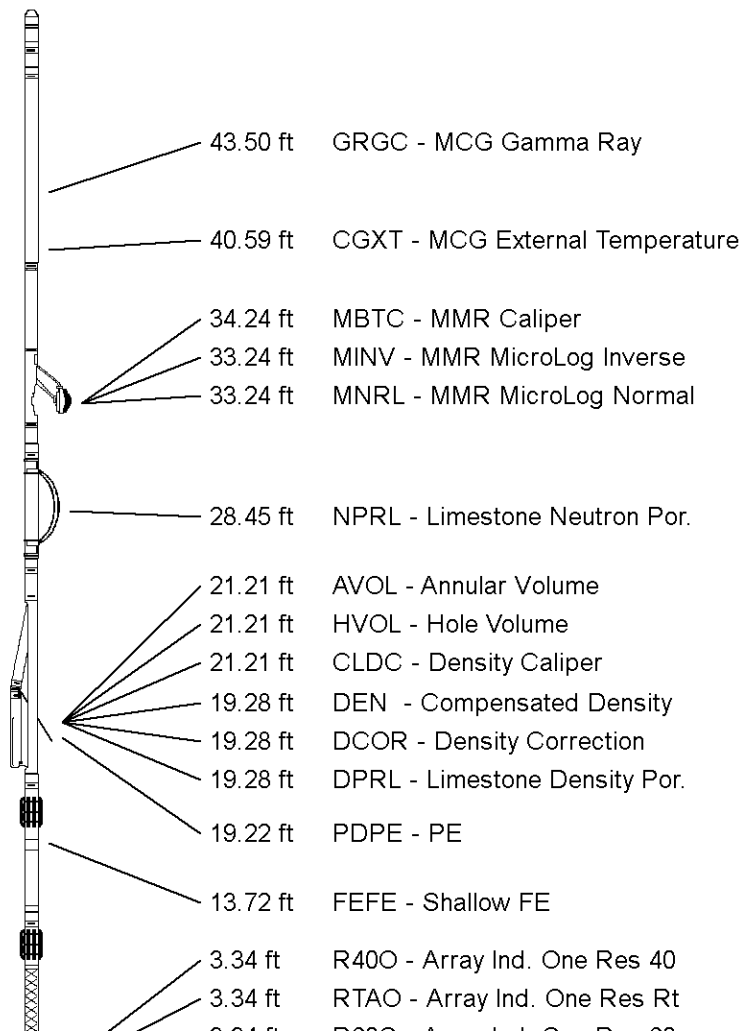
Compact Neutron
MDN-A.B 66 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

Compact Density/Caliper
MPD-B 104 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in

Compact Focussed Electric
MFE-B.J 352 LG: 6.05 ft WT: 48.5 lb OD: 2.244 in

Compact Induction
MAI-A.A 111 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in

Total Length: 51.18 ft Weight: 407.9 lb





All measurements relative to tool zero.

COMPANY O'BRIEN ENERGY RESOURCES CORP.
WELL KEYSTONE #2-4
FIELD ANGELL SE
PROVINCE/COUNTY MEADE
COUNTRY/STATE U.S.A. / KANSAS

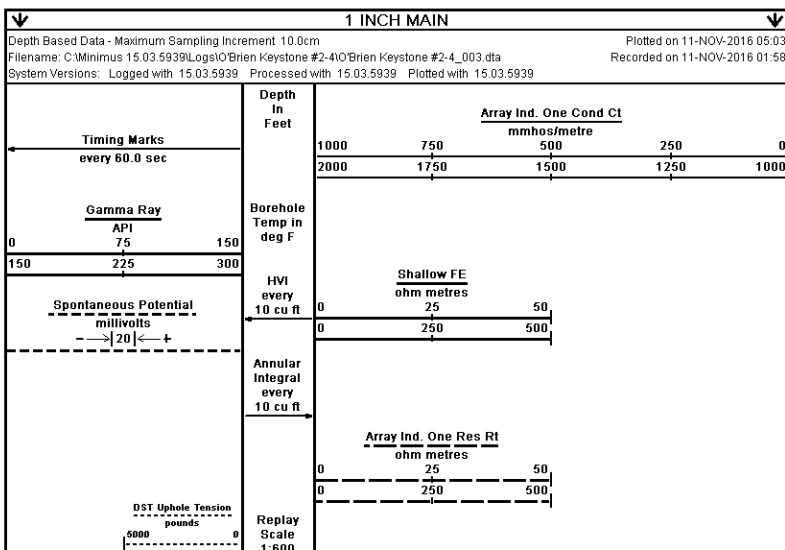
Elevation Kelly Bushing	2597.00	feet	First Reading	6349.00	feet
Elevation Drill Floor	2595.00	feet	Depth Driller	6350.00	feet
Elevation Ground Level	2585.00	feet	Depth Logger	6352.00	feet

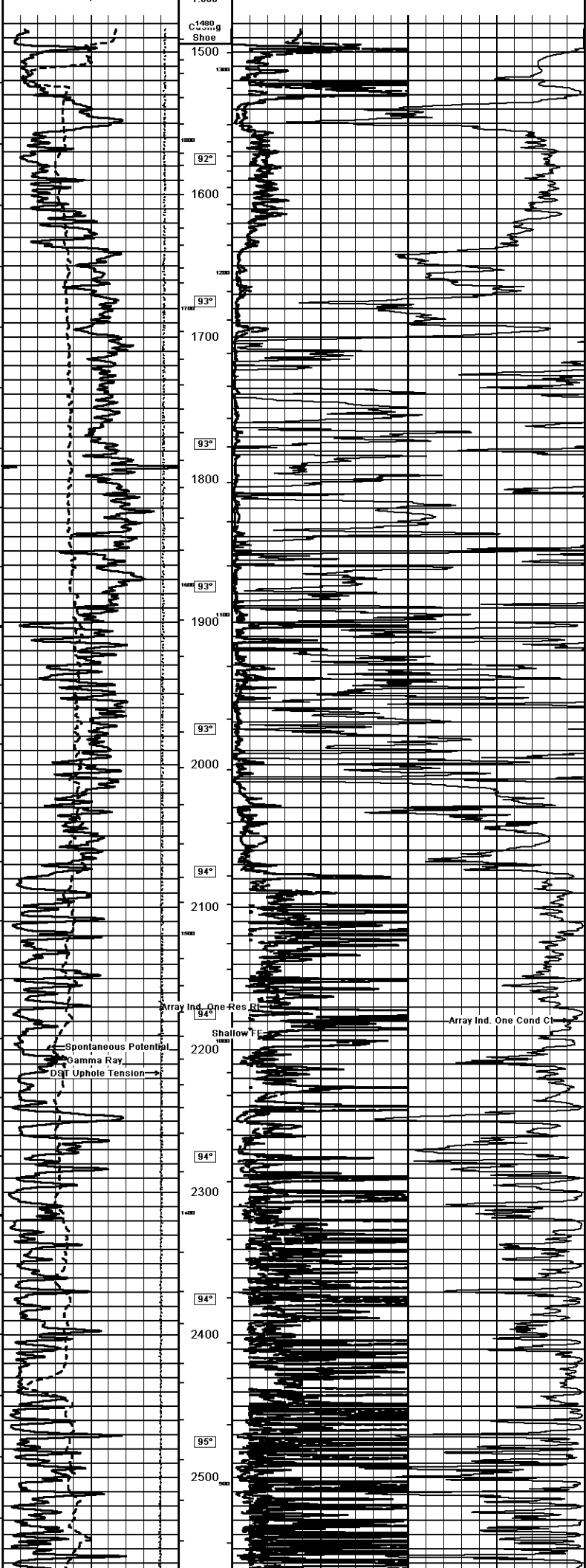


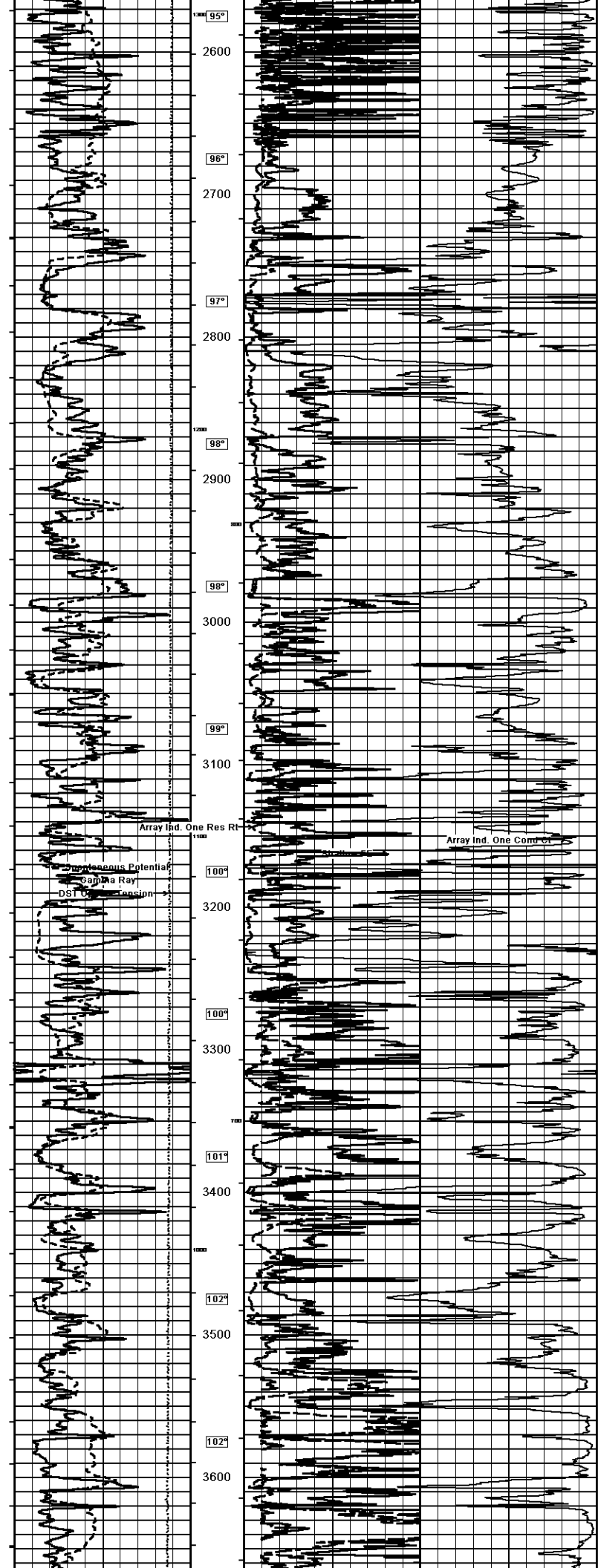
ARRAY INDUCTION
SHALLOW FOCUSED
ELECTRIC LOG

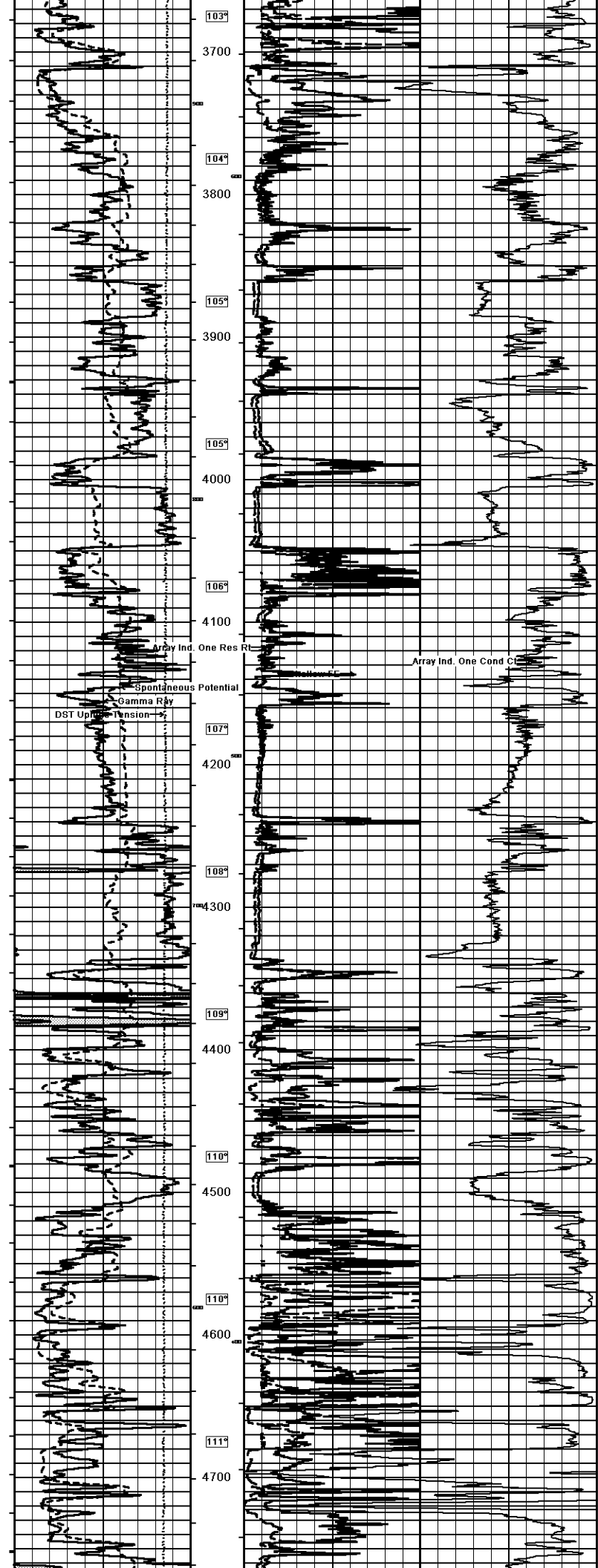
Weatherford®

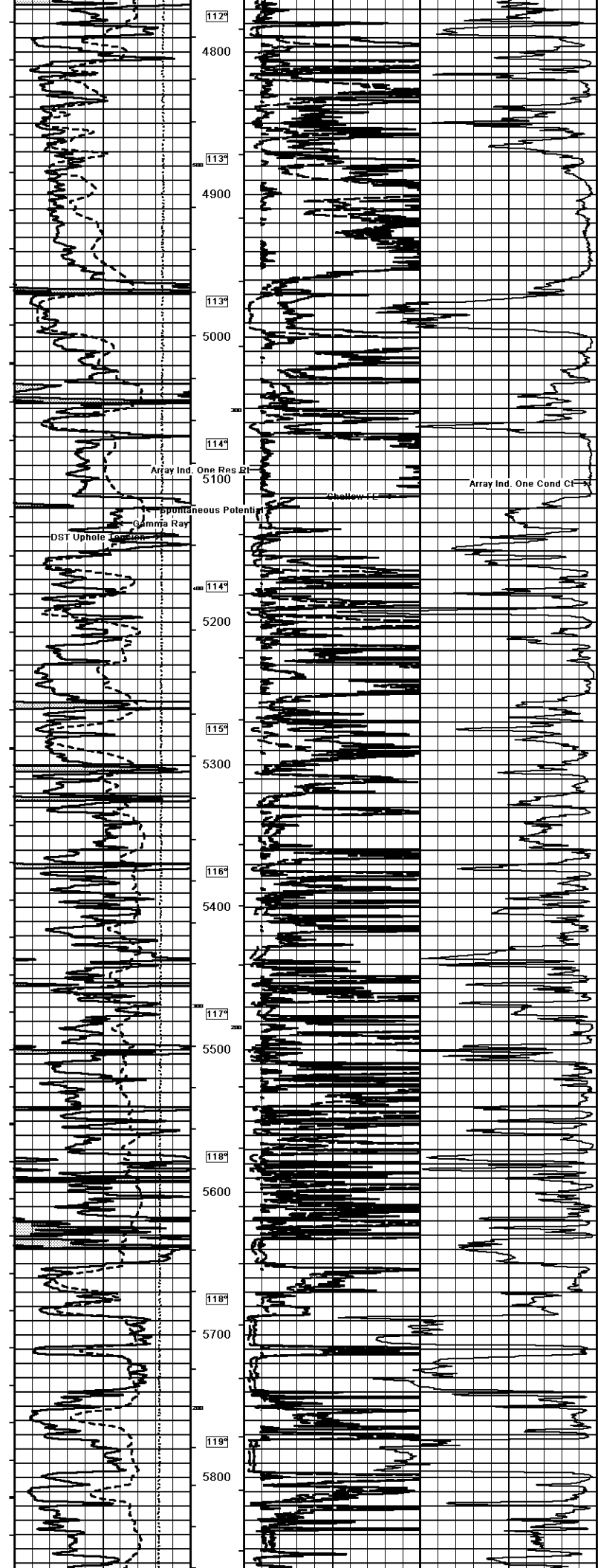
Weatherford		ARRAY INDUCTION SHALLOW FOCUSED ELECTRIC LOG	
COMPANY	O'BRIEN ENERGY RESOURCES CORP.		
WELL	KEYSTONE #2-4		
FIELD	ANGELL SE		
PROVINCE/COUNTY	MEADE		
COUNTRY/STATE	U.S.A. / KANSAS		
LOCATION	500' ESL & 716' FWL		
SEC. 4	TWP. 33S R6E 28W		
Latitude	37.11921397		
Longitude	-101.11921397		
Log Number	15-119-21397		
Permanent Datum G.L. Elevation	2595 feet		
Log Measured From	KB @ 12 FEET		
Drilling Measured From	KB @ 12 FEET		
Date	10-NOV-2016		
Run Number	ONE		
Service Order	4568-166021107		
Depth Driller	6350.00	feet	
Depth Logger	6352.00	feet	
First Reading	6349.00	feet	
Last Reading	1494.00	feet	
Casing Driller	1494.00	feet	
Casing Logger	1494.00	feet	
Bit Size	7 8/15	inches	
Hole Fluid Type	WBM		
Density/Viscosity	9.40	lbm/gal	
PH/Fund Loss	9.50	4.80	m/30min
Sample Source	FLOWLINE		
Rm @ Measured Temp	1.18 @ 75.0	ohm-m	
Rm @ Measured Temp	0.94 @ 75.0	ohm-m	
Rm @ Measured Temp	1.42 @ 75.0	ohm-m	
Source Rm / Rm	CALC		
Rm @ BHT	0.71 @ 24.0	ohm-m	
Time Since Circulation	5 HOURS		
Max Recorded Temp	124.00	deg F	
Equipment / Base	13096	OKC	
Recorded By	JOAN SILL		
Witnessed By	ROGER PEARSON		
	PETE DEBENHAM		

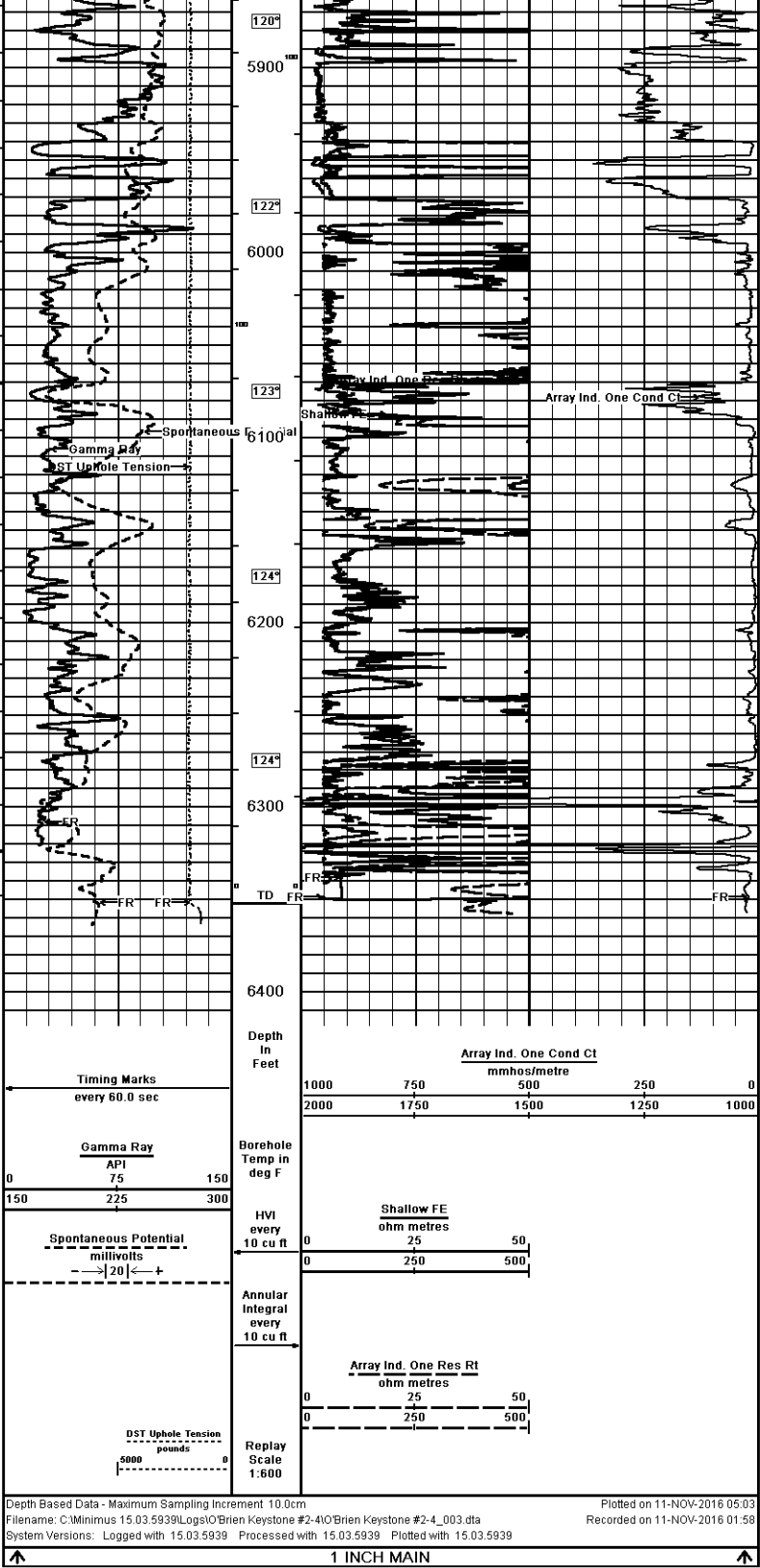












COMPANY		O'BRIEN ENERGY RESOURCES CORP.			
WELL		KEYSTONE #2-4			
FIELD		ANGELL SE			
PROVINCE/COUNTY		MEADE			
COUNTRY/STATE		U.S.A. / KANSAS			
Elevation Kelly Bushing	2597.00	feet	First Reading	6349.00	feet
Elevation Drill Floor	2595.00	feet	Depth Driller	6350.00	feet
Elevation Ground Level	2585.00	feet	Depth Logger	6352.00	feet
			ARRAY INDUCTION		
Weatherford			SHALLOW FOCUSED		
			ELECTRIC LOG		

