



Weatherford

ARRAY INDUCTION
SHALLOW FOCUSED
ELECTRIC LOG

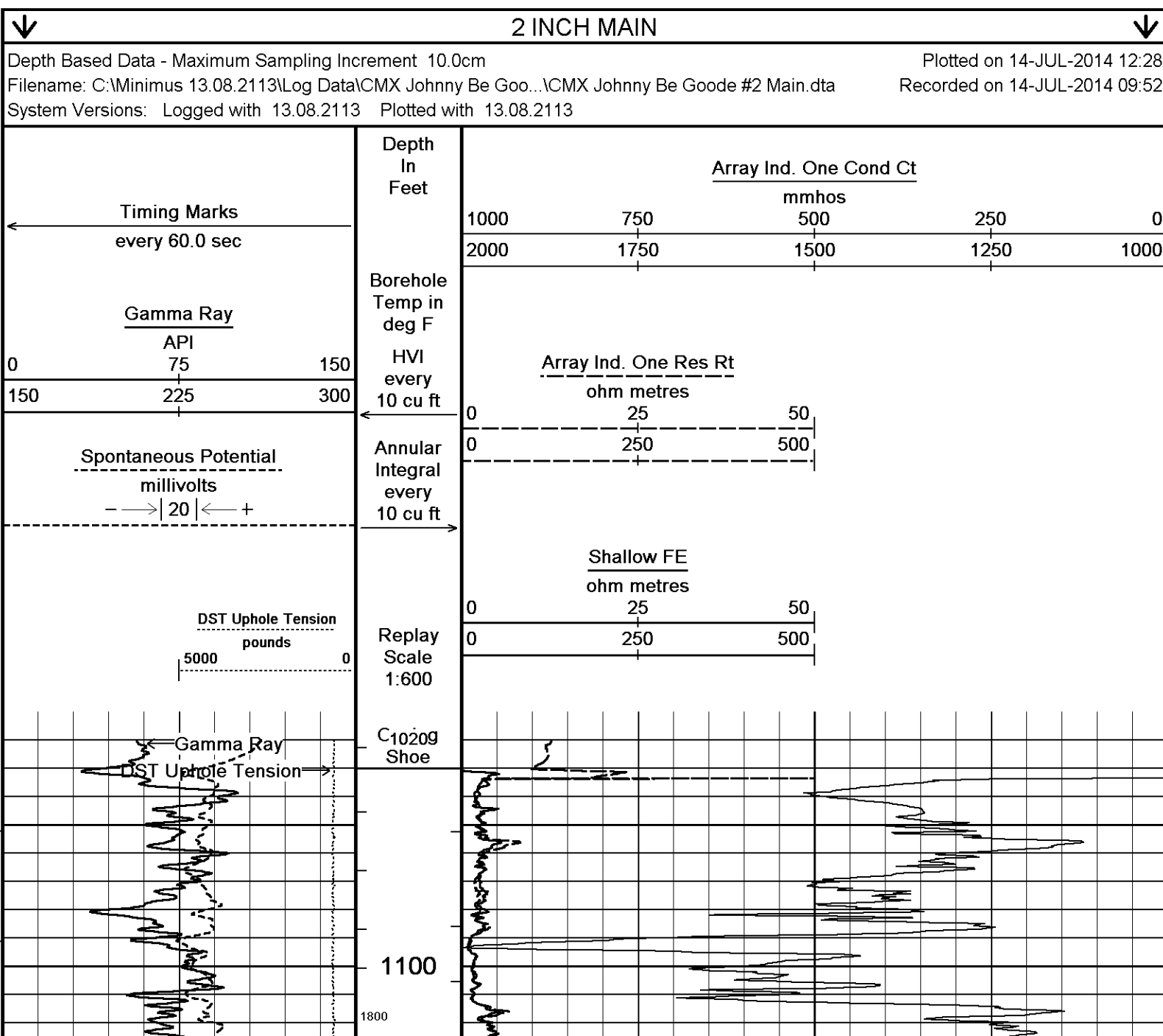
COMPANY	CMX, INC.		
WELL	JOHNNY BE GOODE #2		
FIELD	STRANATHAN		
PROVINCE/COUNTY	BARBER		
COUNTRY/STATE	U.S.A. / KANSAS		
LOCATION	1280' FSL & 330' FEL		
SEC 6	TWP 35S	RGE 11W	Other Services
Latitude	MPD/MDN		
Longitude	MML		
API Number	15-007-24193		
Permanent Datum GL, Elevation	1367 feet		
Log Measured From	KB	Elevations:	feet
Drilling Measured From	KB @ 13 feet	KB	1380.00
		DF	1378.00
		GL	1367.00
Date	14-JUL-2014		
Run Number	ONE		
Service Order	7577-92520479		
Depth Driller	5175.00	feet	
Depth Logger	5156.00	feet	
First Reading	5153.00	feet	
Last Reading	1030.00	feet	
Casing Driller	1027.00	feet	
Casing Logger	1030.00	feet	
Bit Size	7.875	inches	
Hole Fluid Type	WBM		
Density / Viscosity	9.00 lb/USg	22.00 CP	
PH / Fluid Loss	10.90	7.00 ml/30Min	
Sample Source	MUD PIT		
Rm @ Measured Temp	0.96 @ 96.0	ohm-m	
Rmf @ Measured Temp	0.77 @ 96.0	ohm-m	
Rmc @ Measured Temp	1.15 @ 96.0	ohm-m	
Source Rmf / Rmc	CALC	CALC	
Rm @ BHT	0.76 @122.0	ohm-m	
Time Since Circulation	3.75 HOURS		
Max Recorded Temp	122.00	deg F	
Equipment / Base	13096	LIB	
Recorded By	JEFFREY RANDLE		
Witnessed By	LEAH A. KASTEN	JERRROD MONROE	
JOB #	LB14-208		

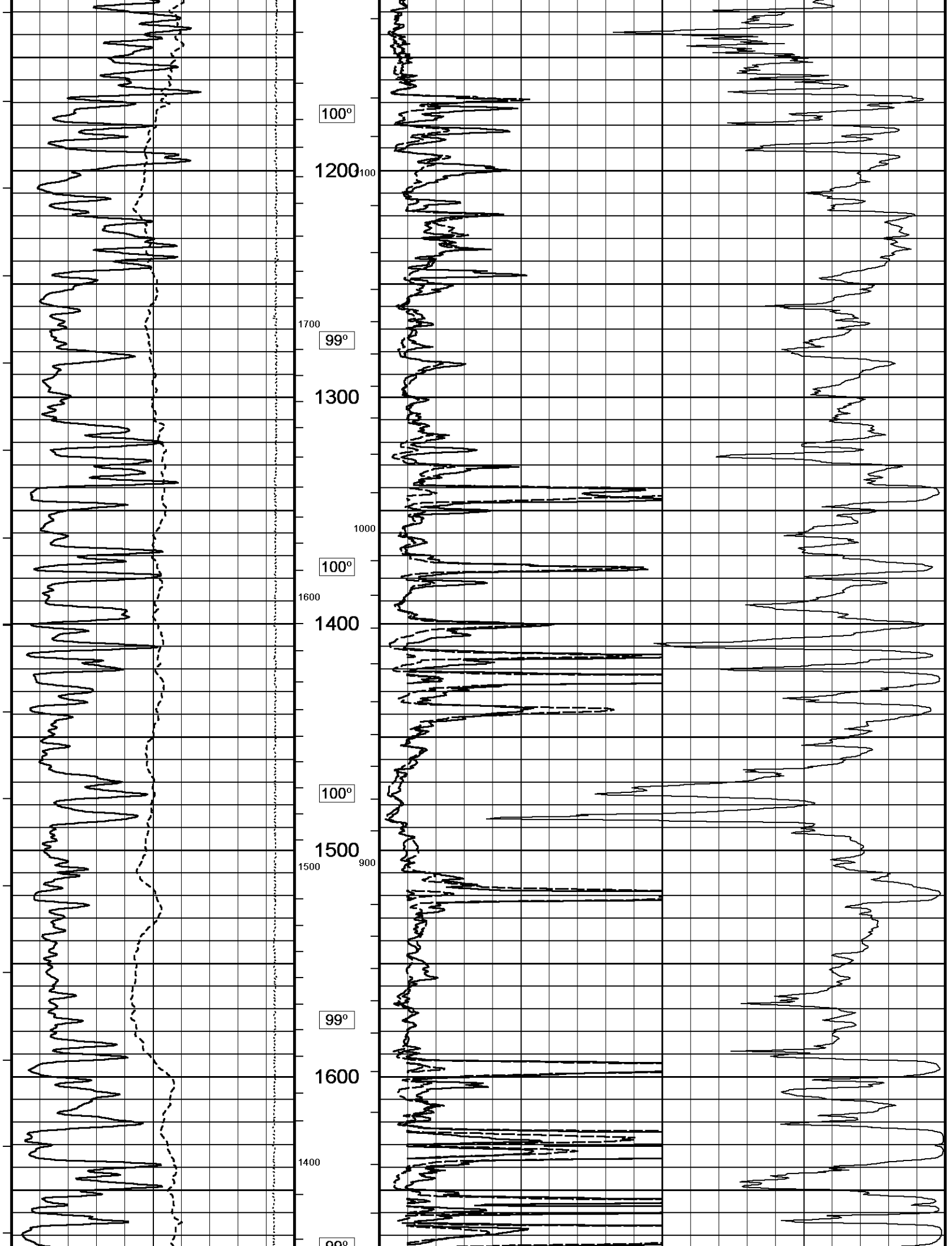
BOREHOLE RECORD					Last Edited: 14-JUL-2014 04:59
Bit Size inches		Depth From feet		Depth To feet	
7.875		1027.00		5175.00	
CASING RECORD					
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft	
SURFACE	8.625	0.00	1027.00	24.00	

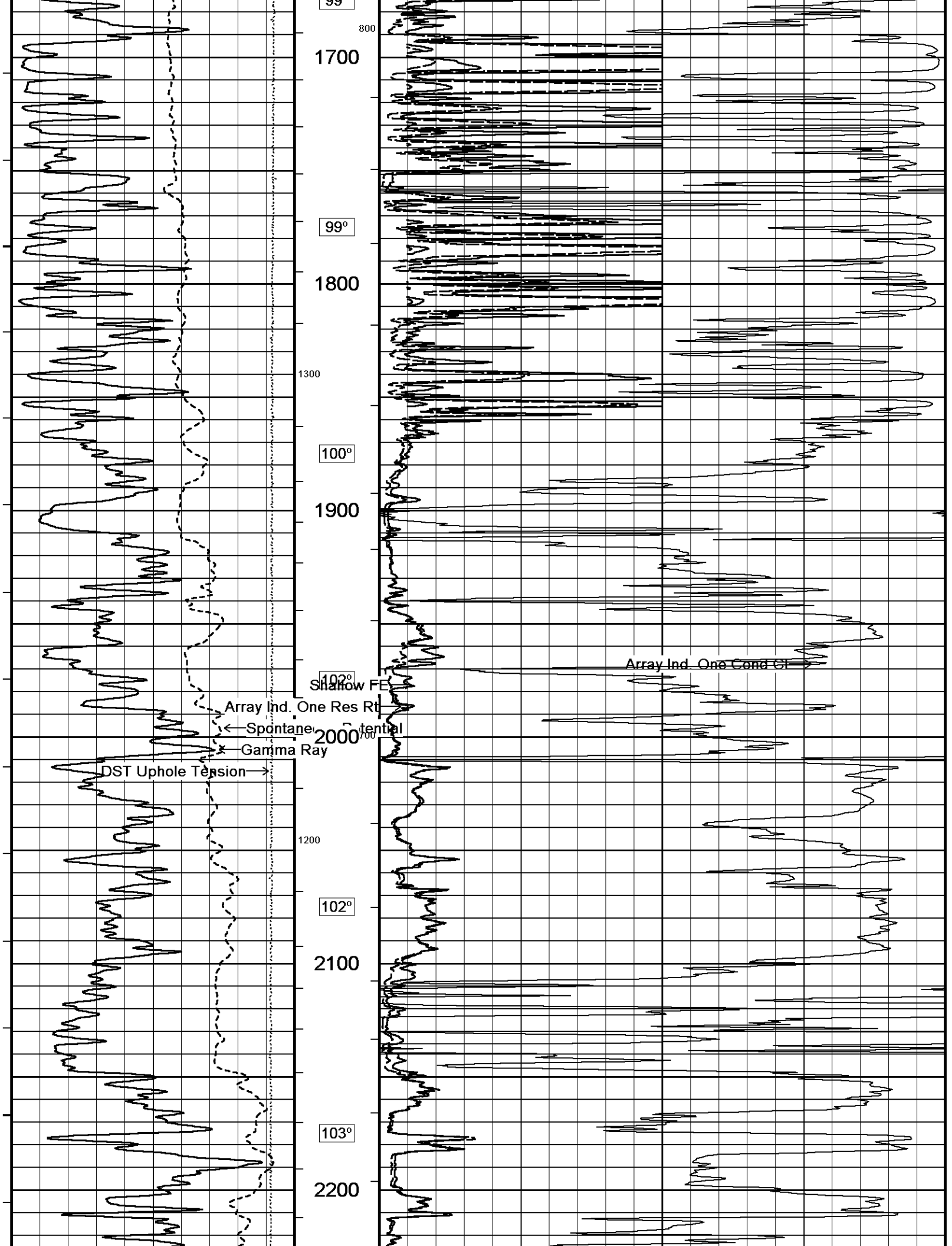
REMARKS
- SOFTWARE ISSUE: WLS 13.08.2113
- TOOL STRING: MCG, MML, MDN, MPD, MFE, MAI RUN IN COMBINATION
- HARDWARE: MDN: DUAL BOWSPRING ECCENTRALIZER MFE: 1 X 0.5 INCH STANDOFF MAI: 2 X 0.5 INCH STANDOFF
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY
- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL AFFECT DATA QUALITY
- ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST
- TOTAL HOLE VOLUME FROM TD TO SURFACE CASING: 1845 CU. FT.
- ANNULAR HOLE VOLUME WITH 5.5 INCH CASING FROM TD TO 3700 FT.: 288 CU. FT.

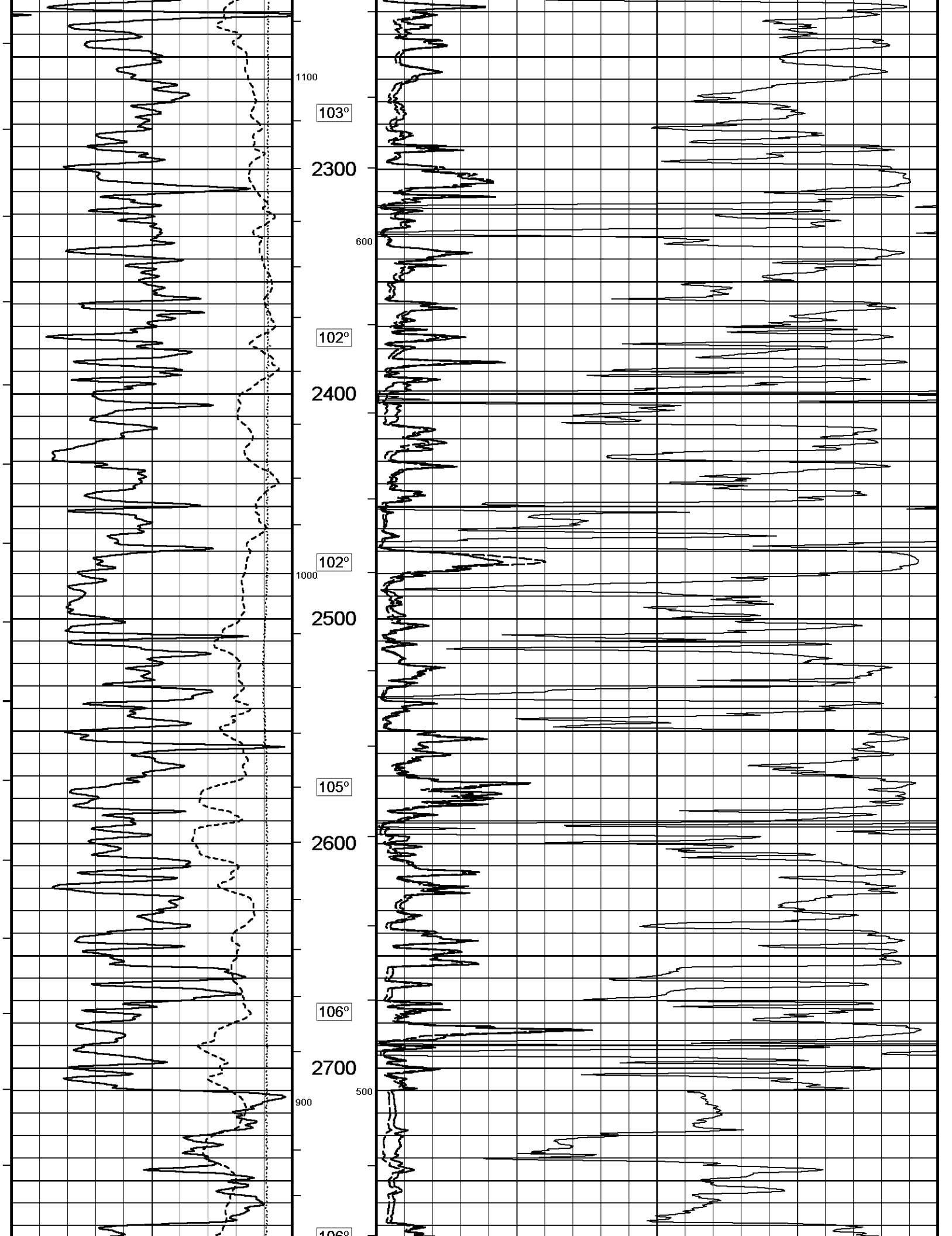
- OPERATOR: KENNETH RINEHART, JOHN DUNLAP.

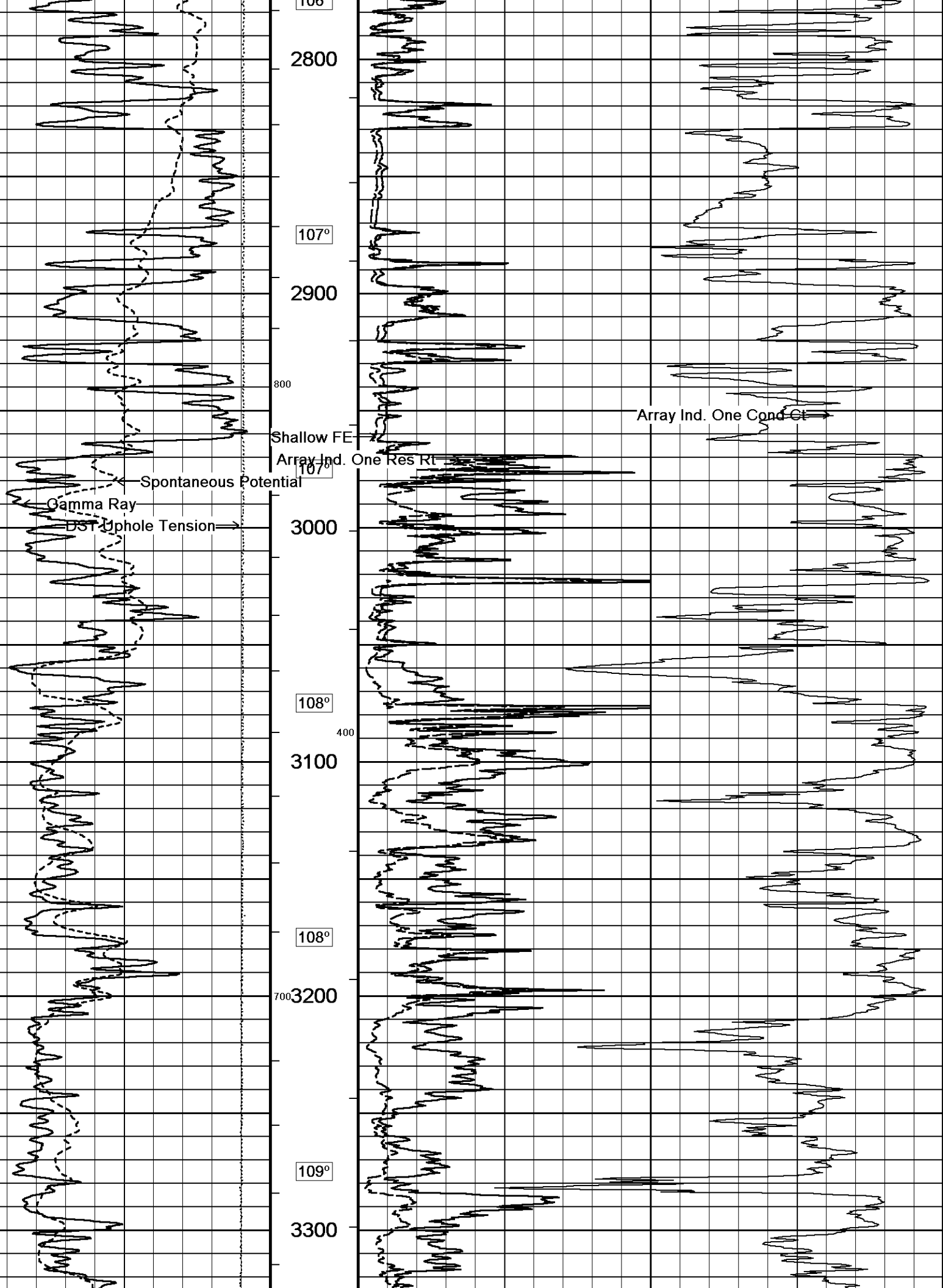
In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will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

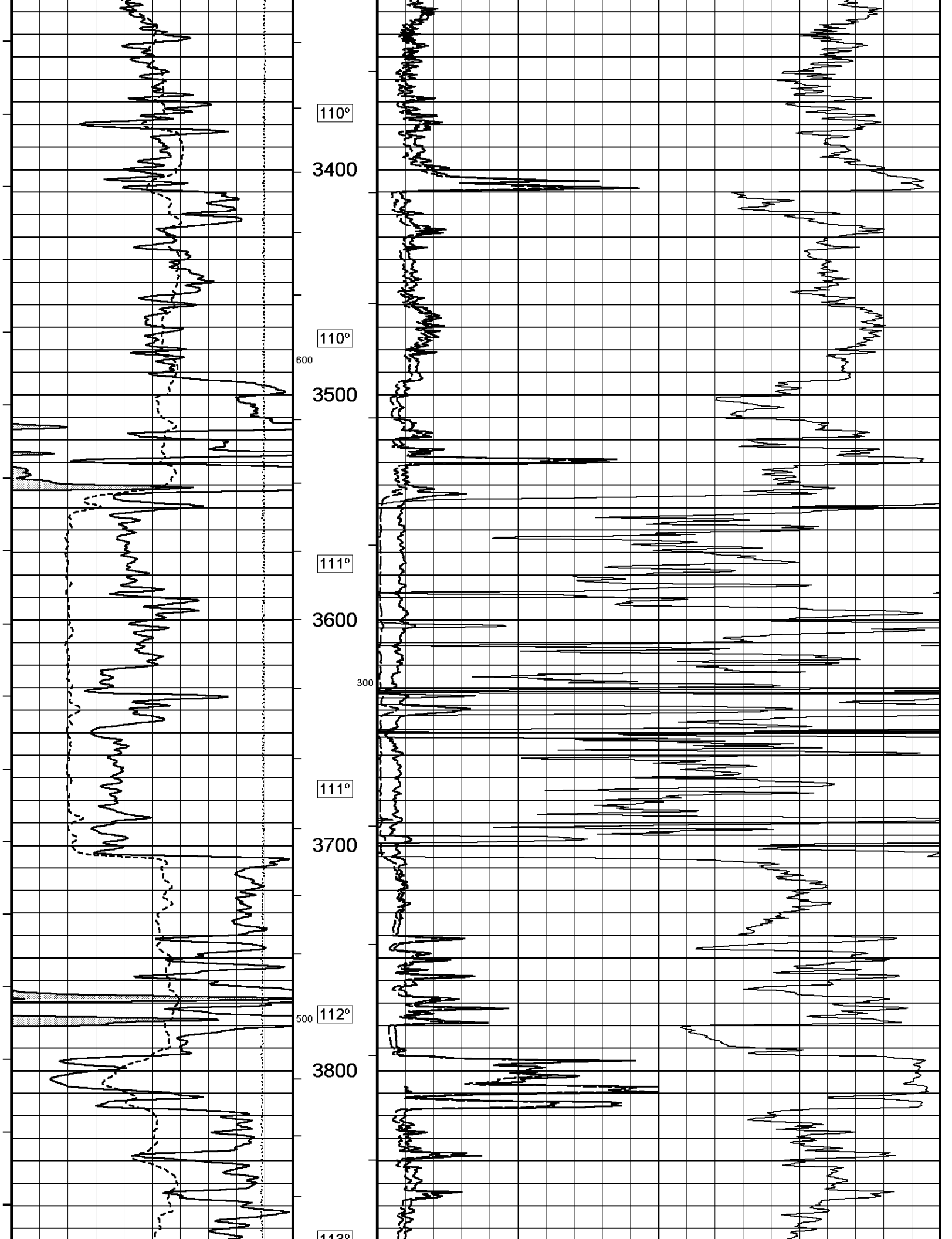


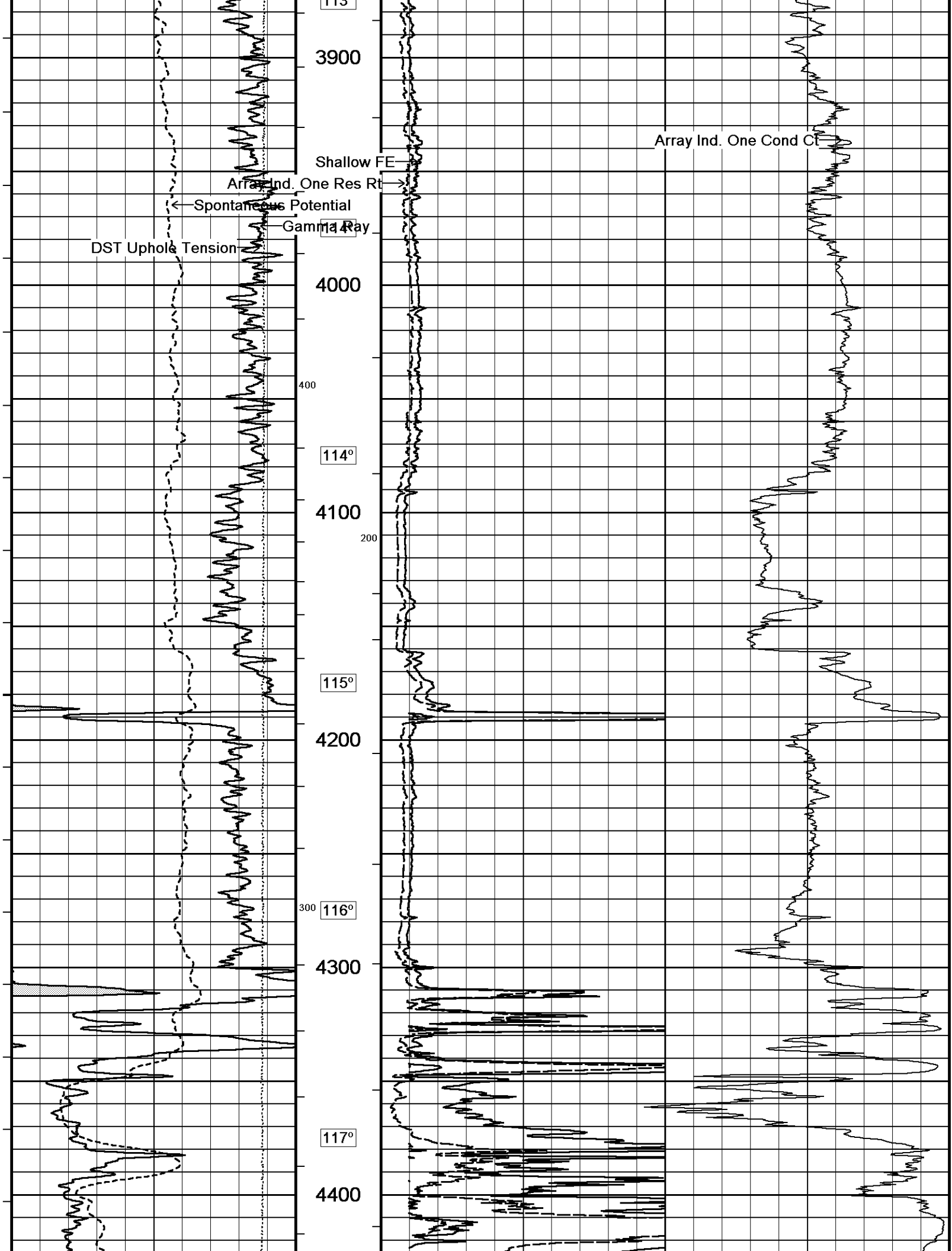


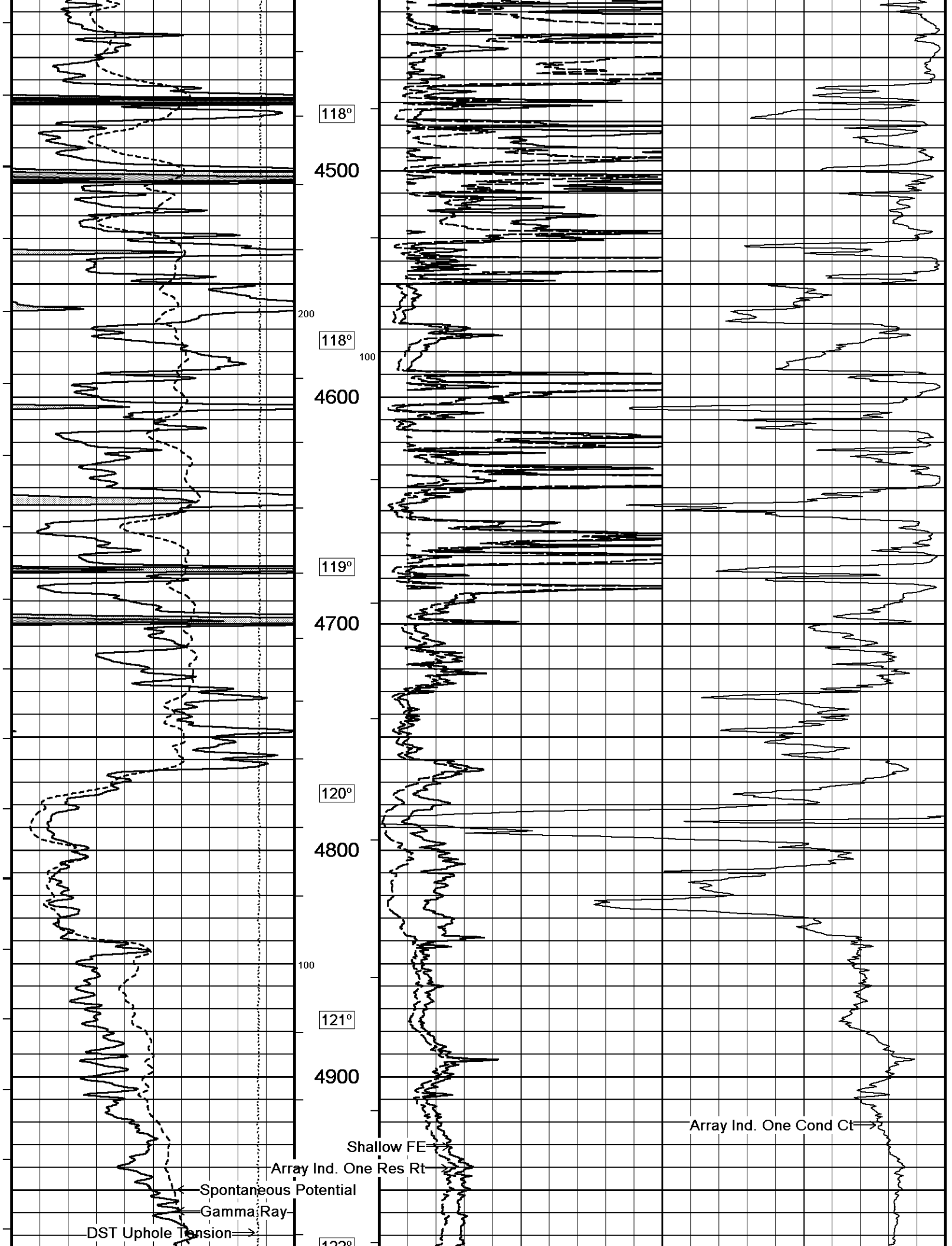


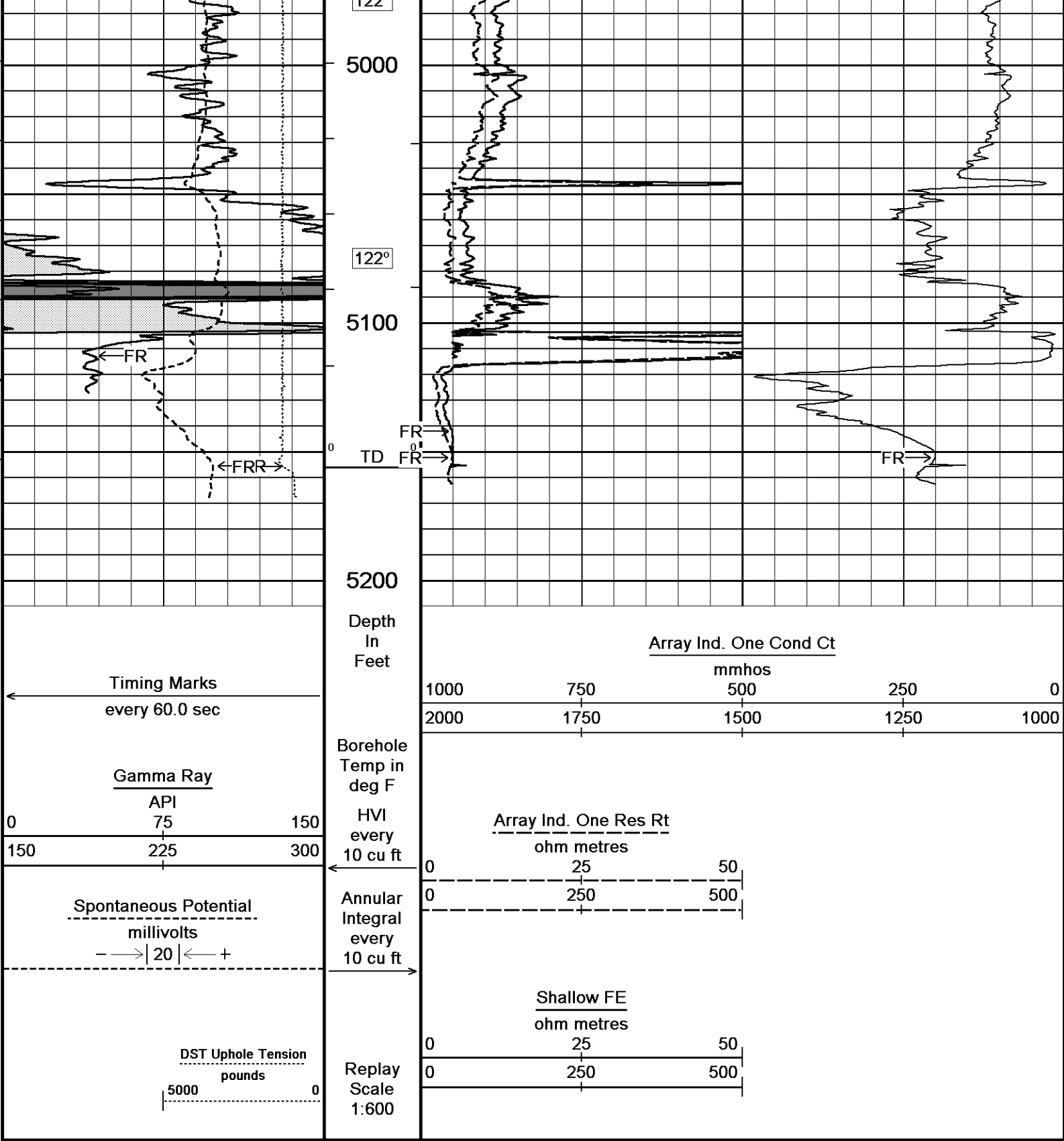










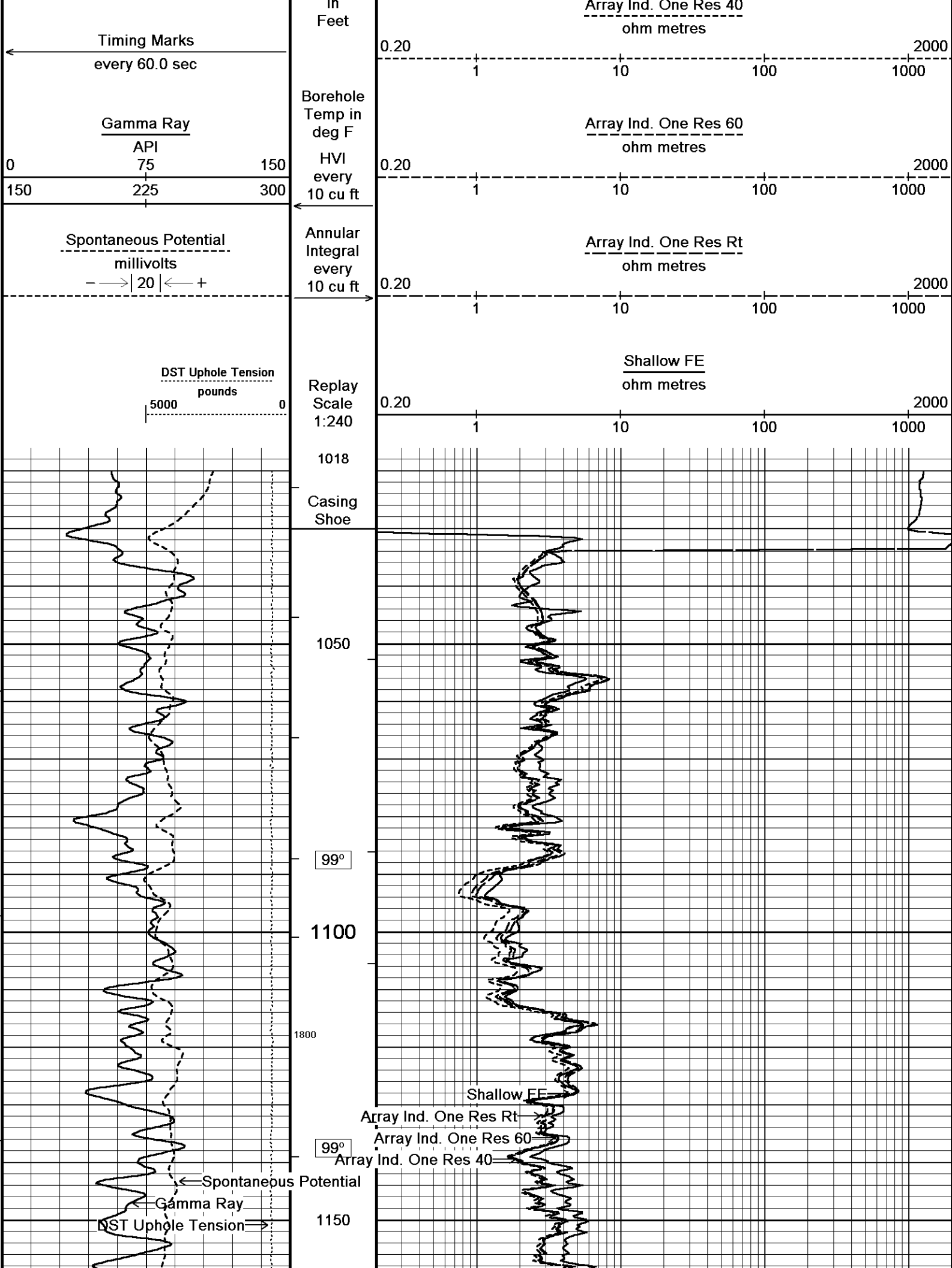


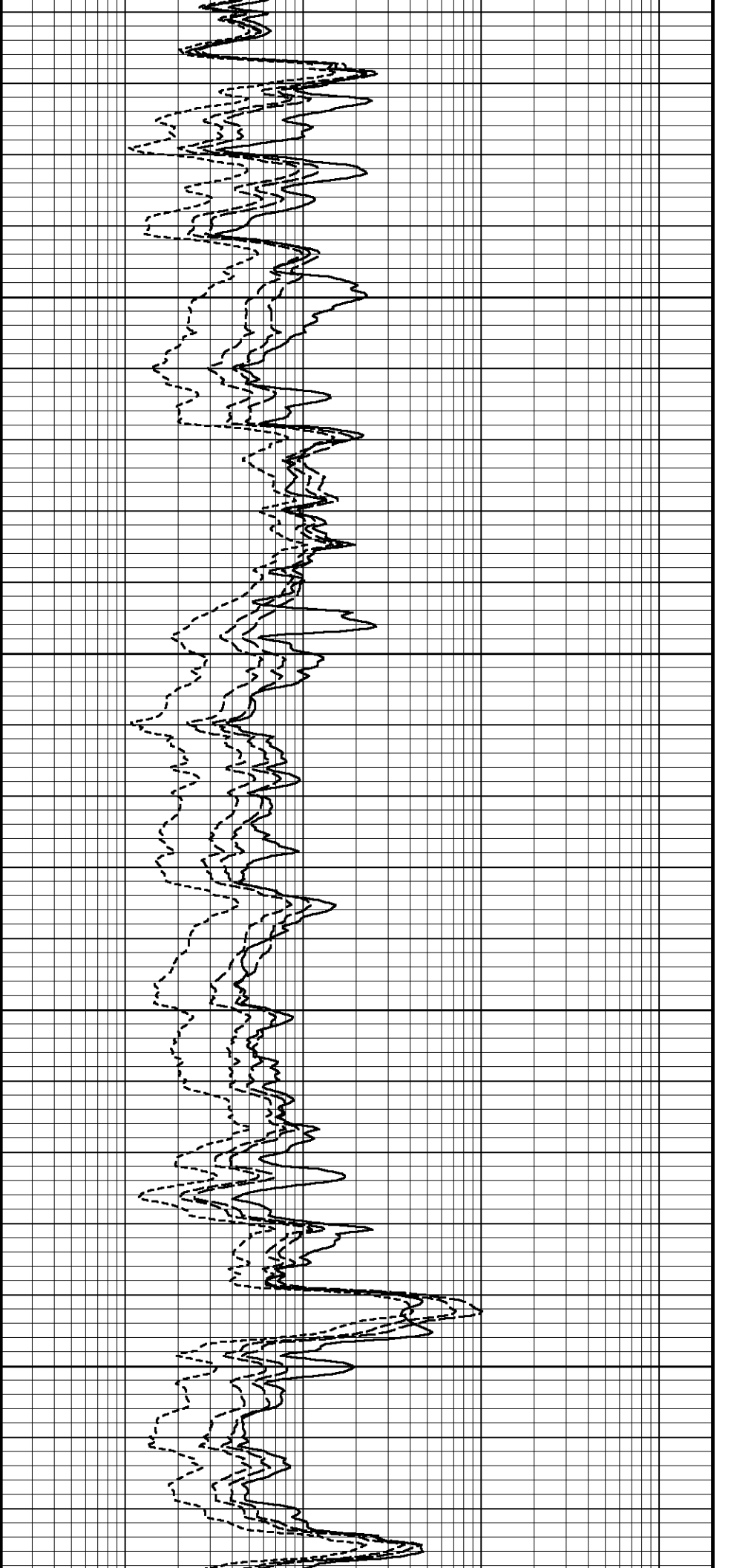
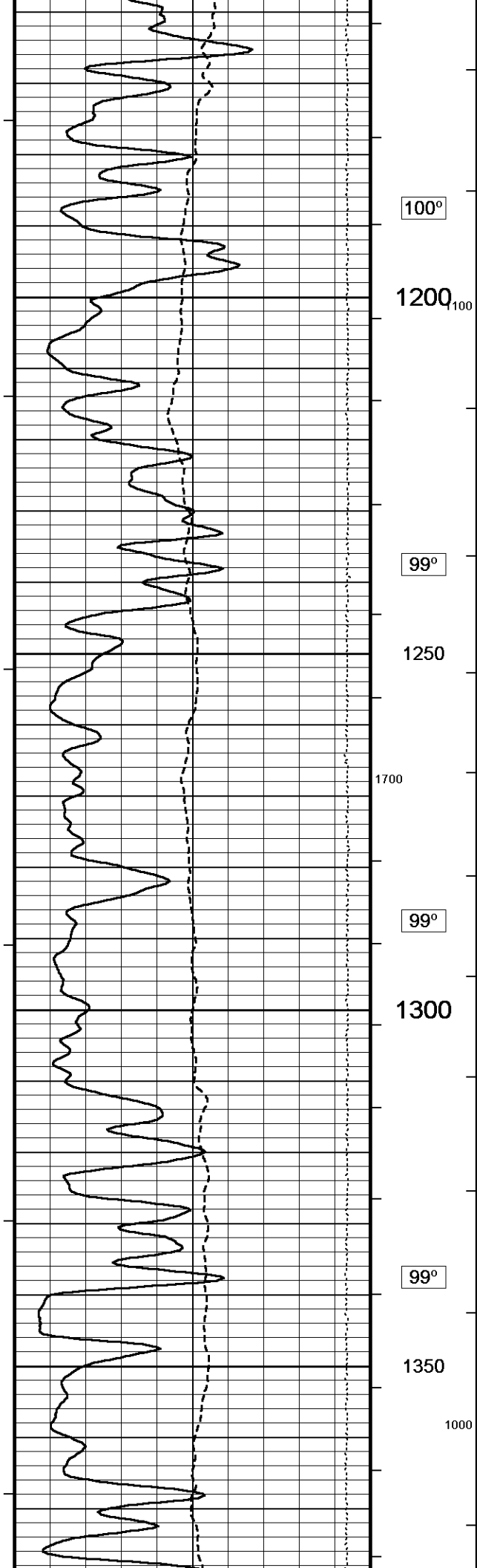
Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Minimus 13.08.2113\Log Data\CMX Johnny Be Goo...\CMX Johnny Be Goode #2 Main.dta
System Versions: Logged with 13.08.2113 Plotted with 13.08.2113

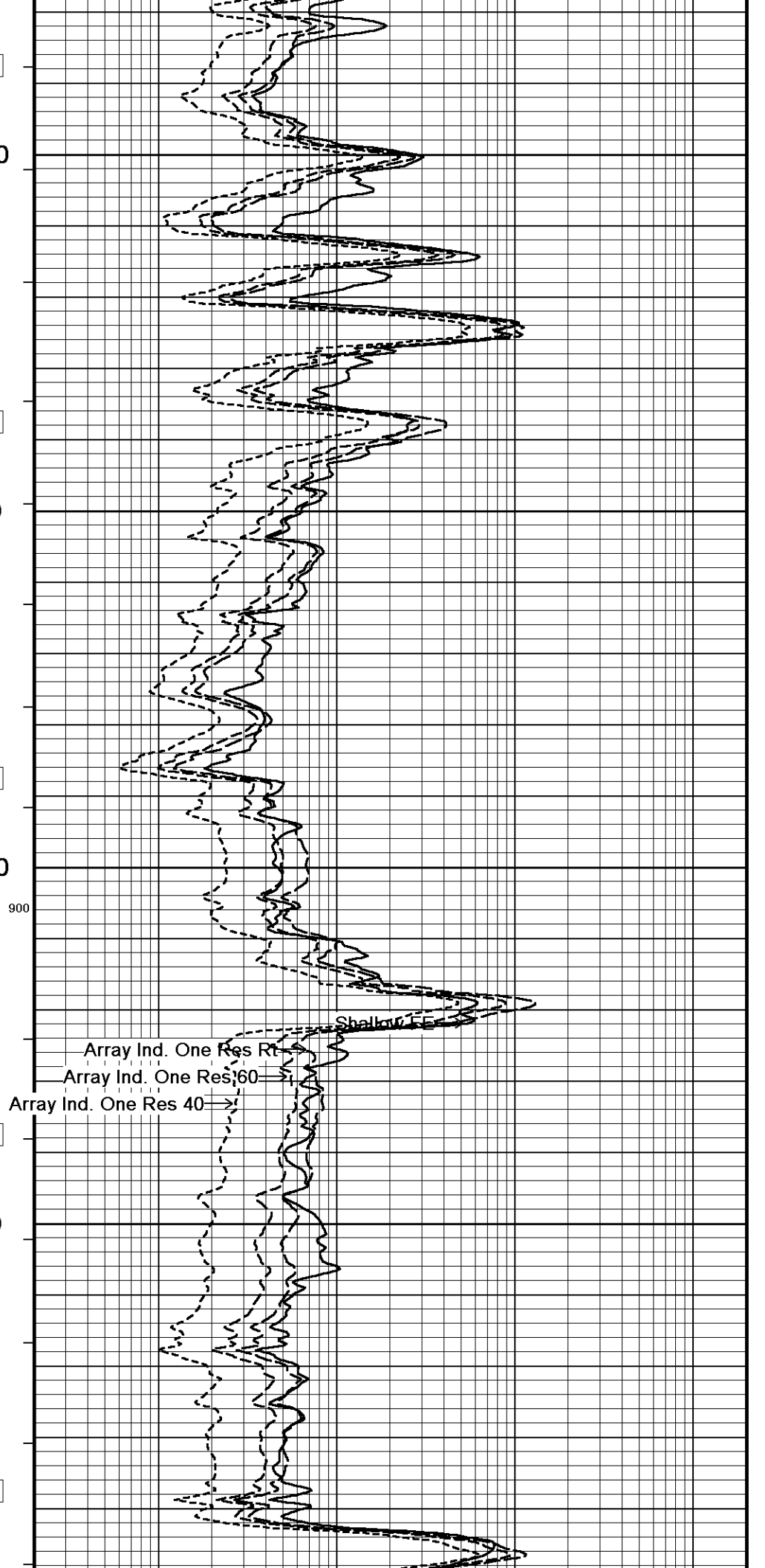
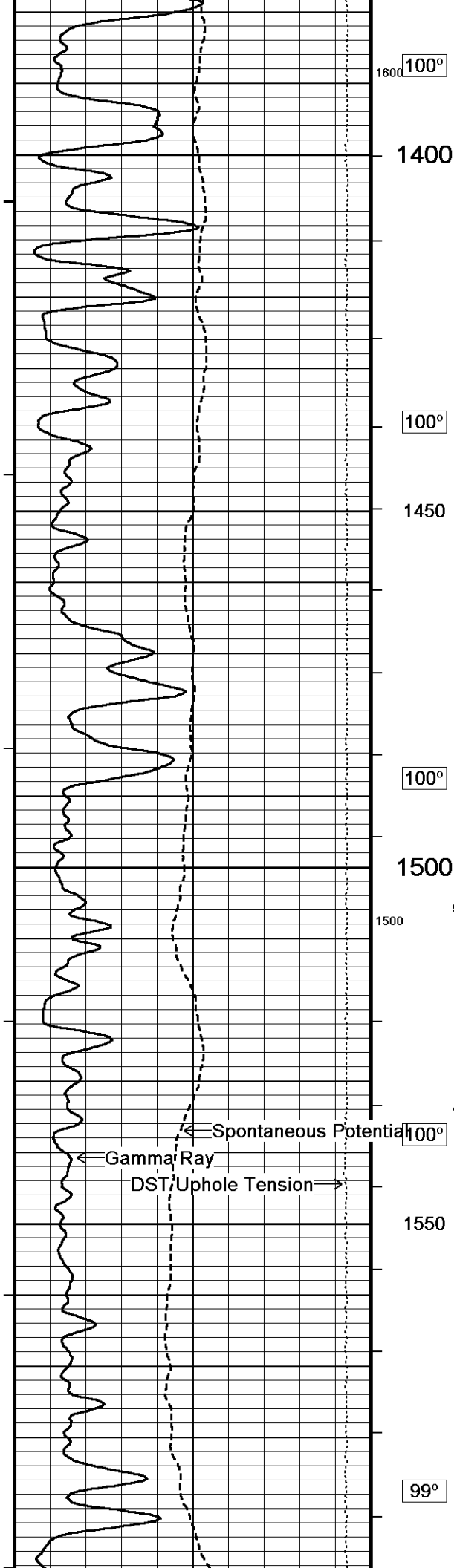
2 INCH MAIN

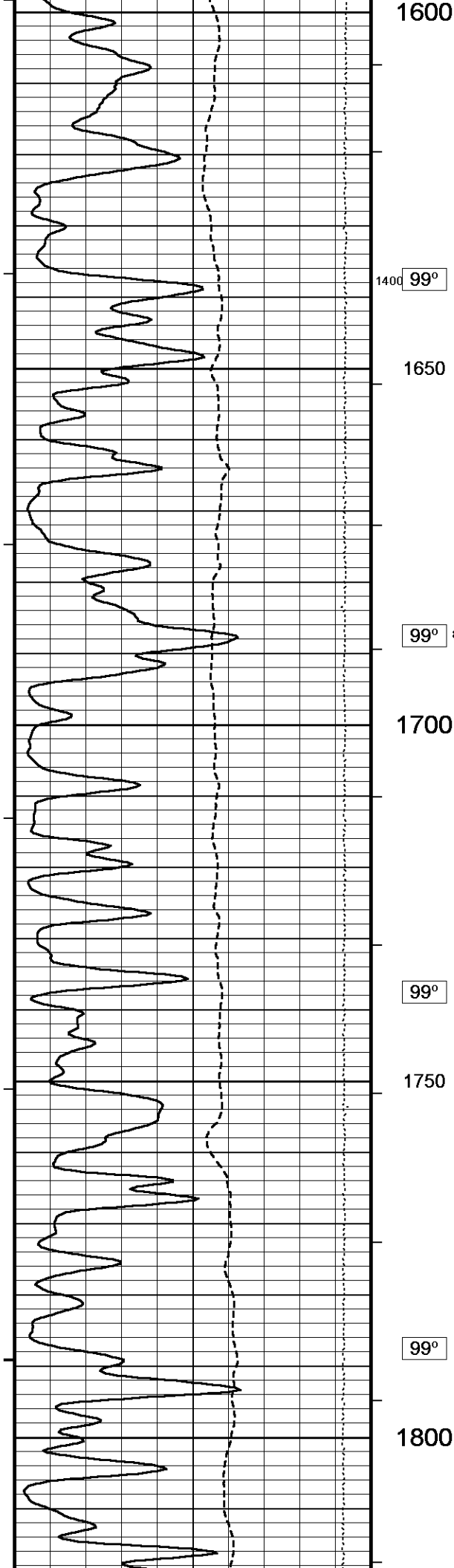
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System Versions: Logged with 13.08.2113 Plotted with 13.08.2113

5 INCH MAIN









1600

1400 99°

1650

99° 800

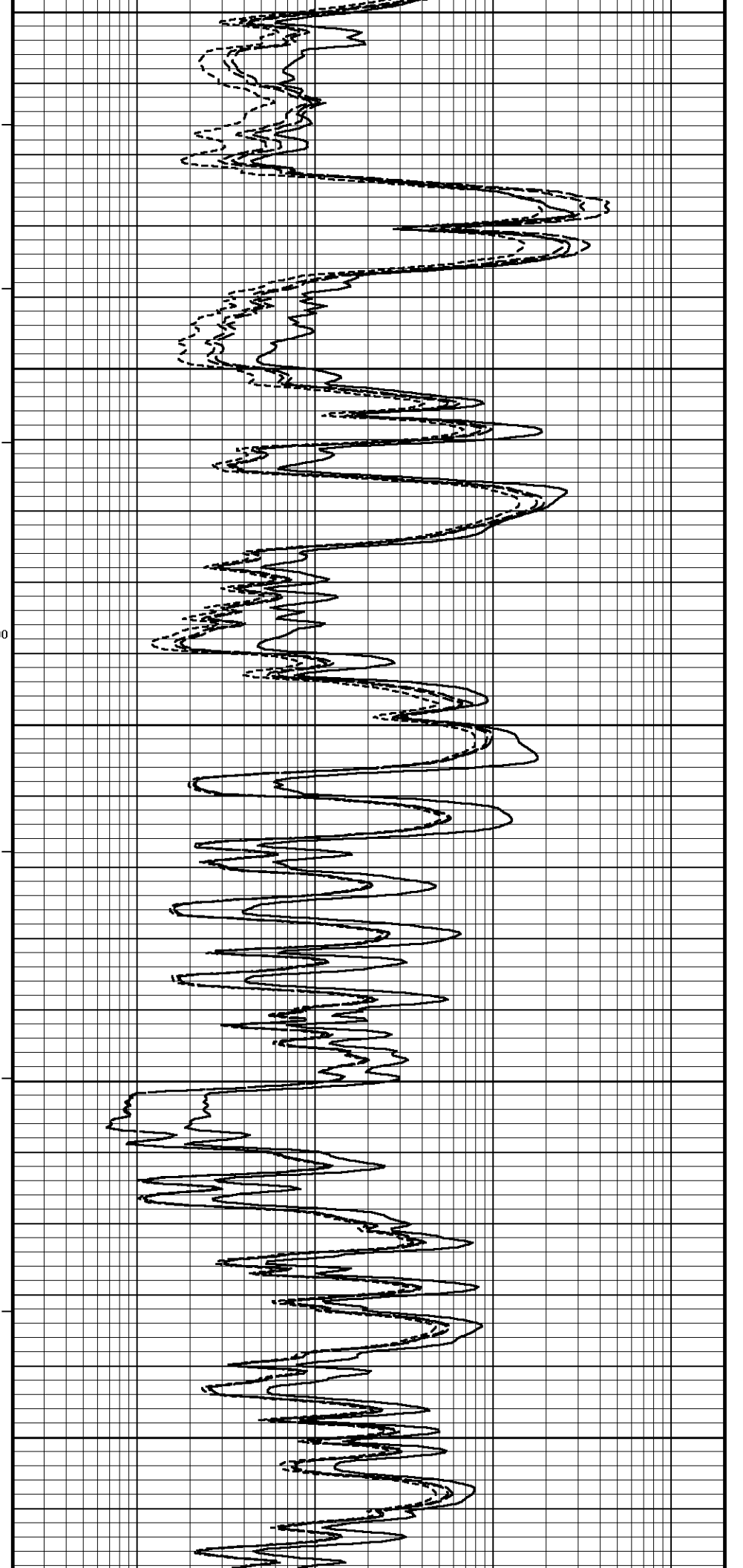
1700

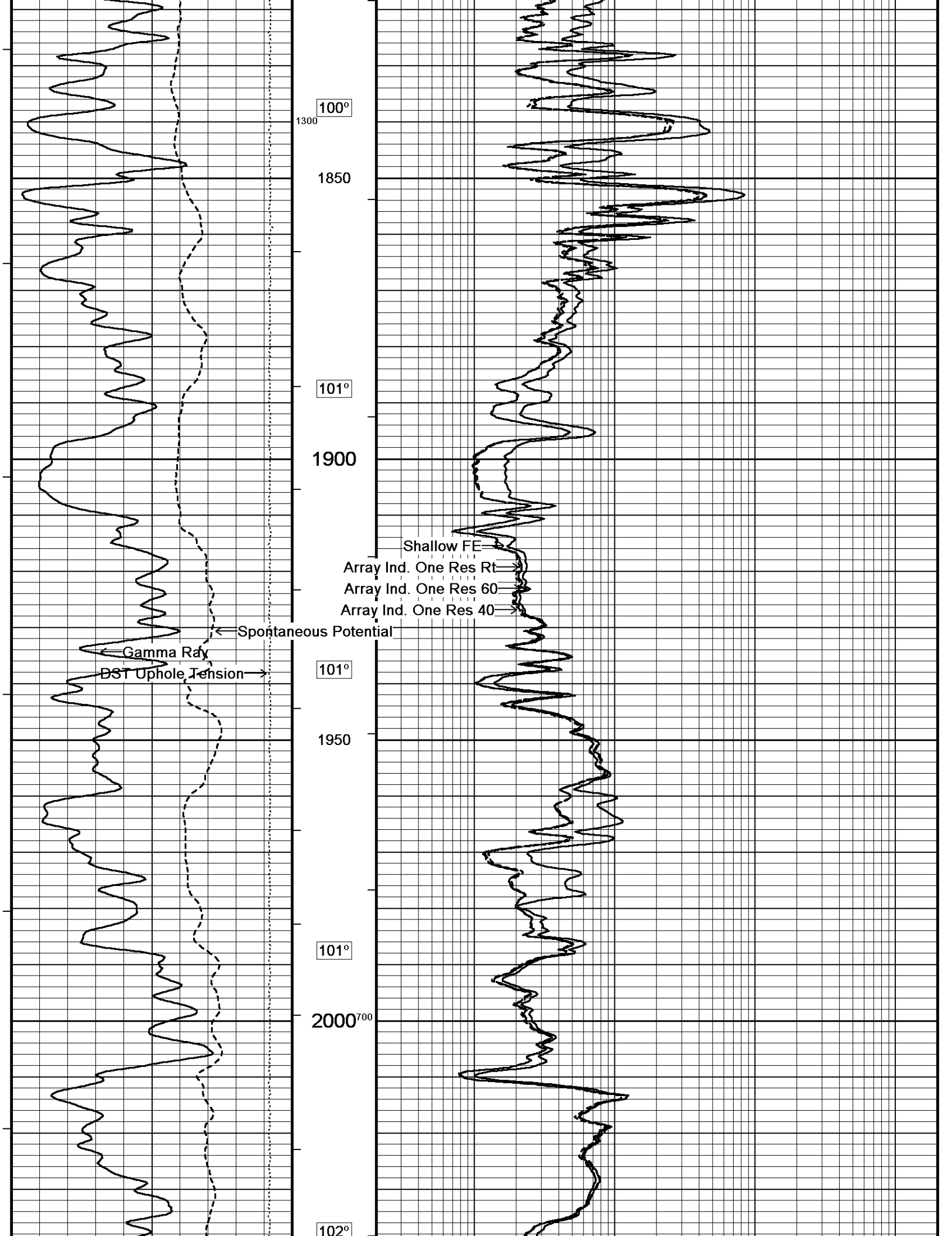
99°

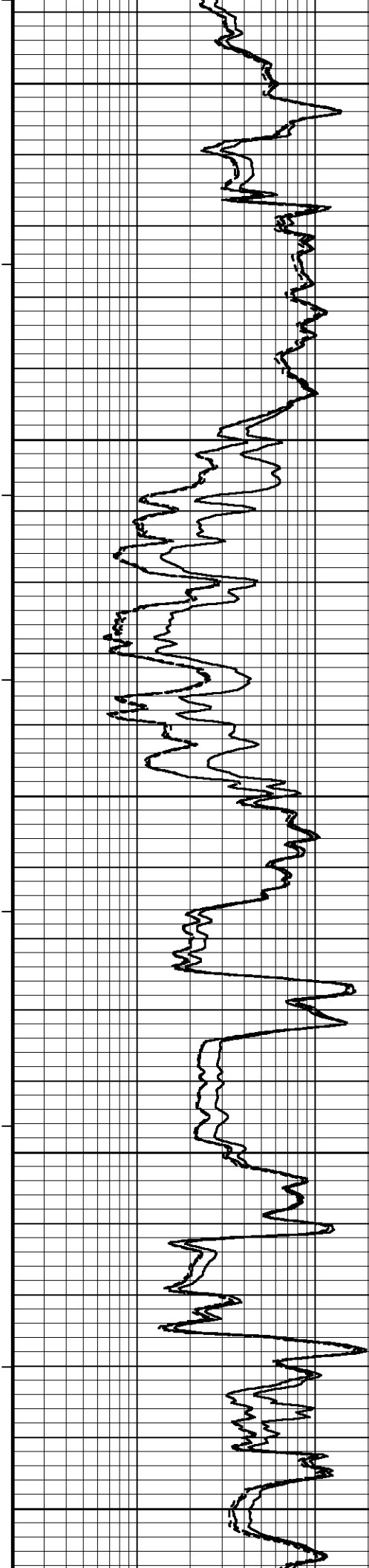
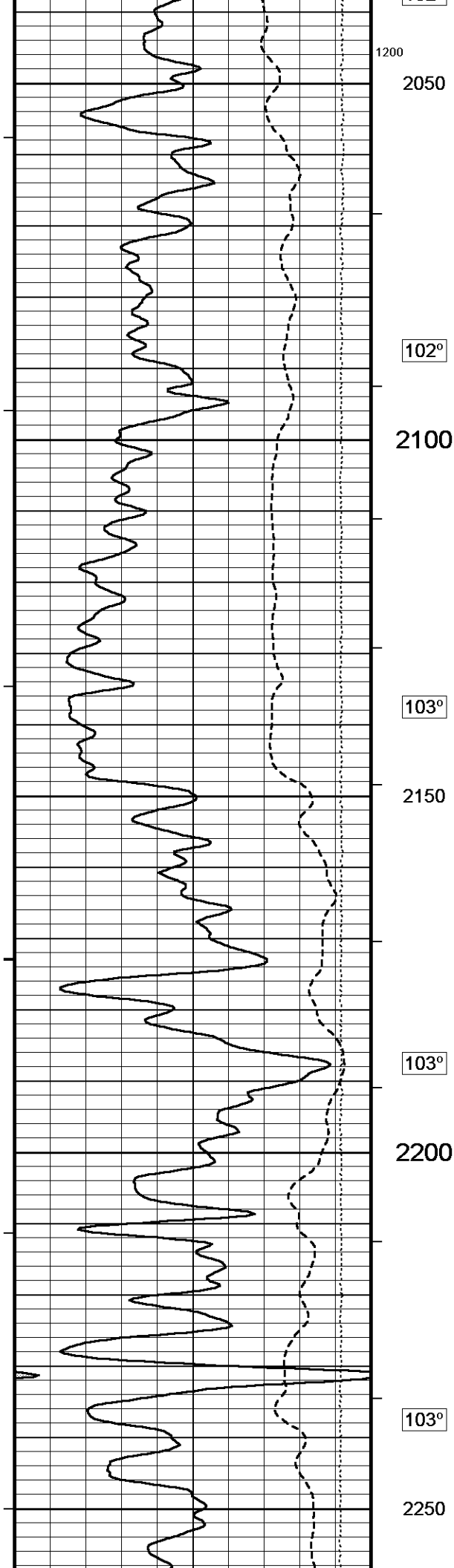
1750

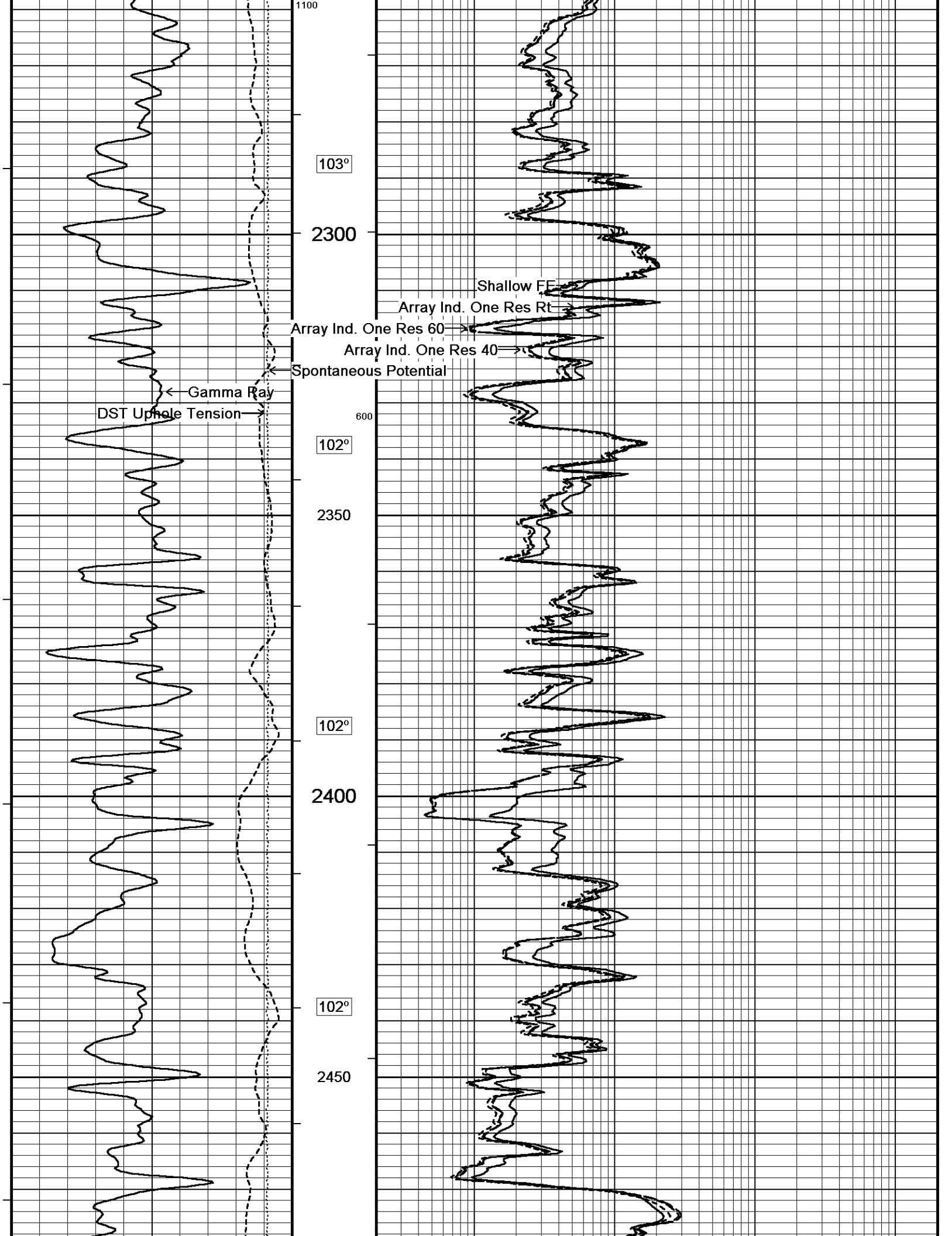
99°

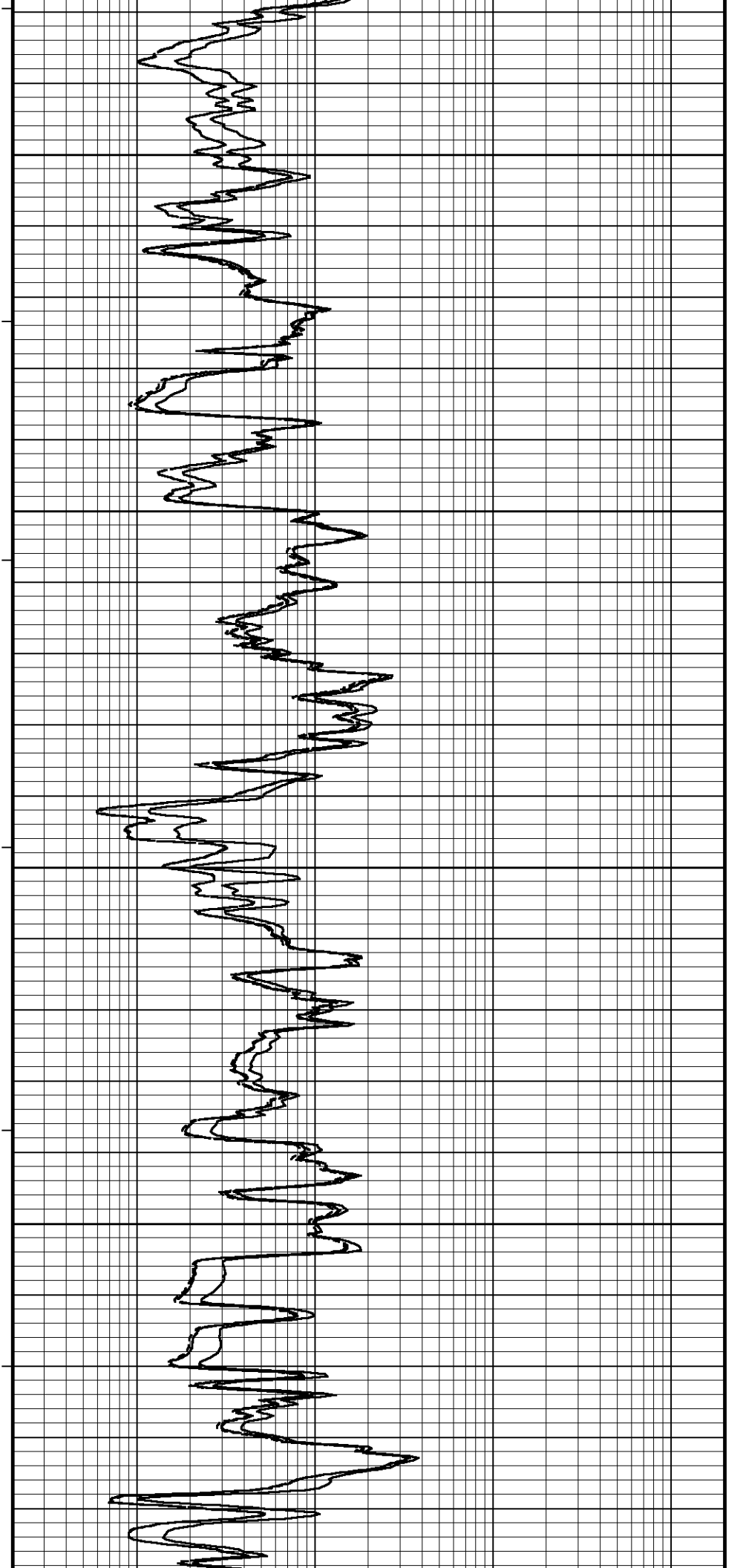
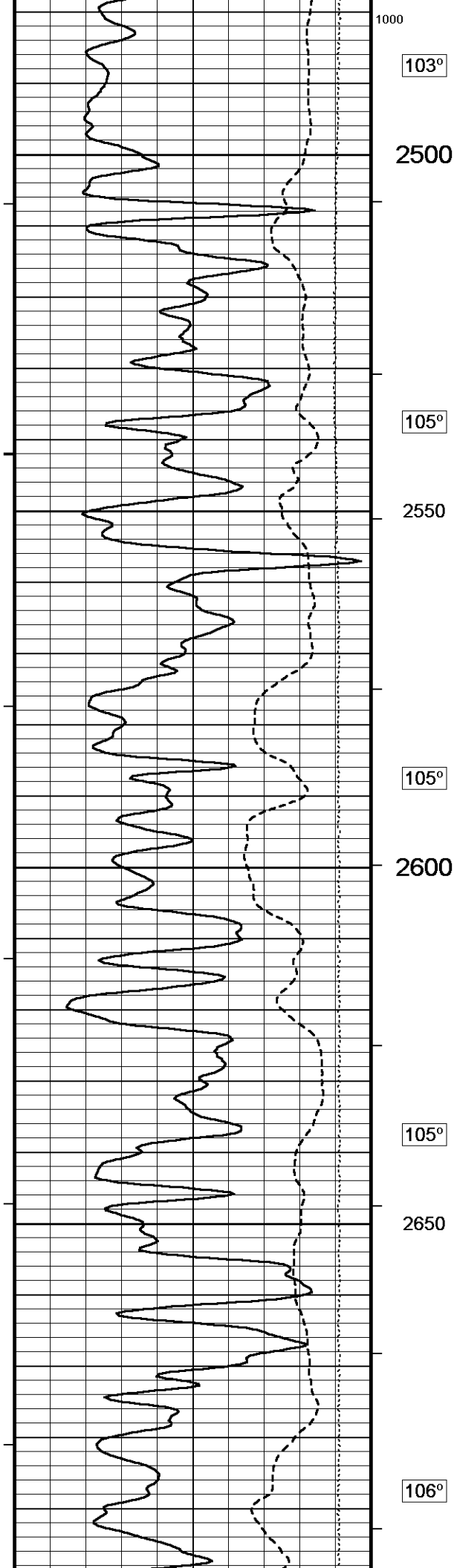
1800

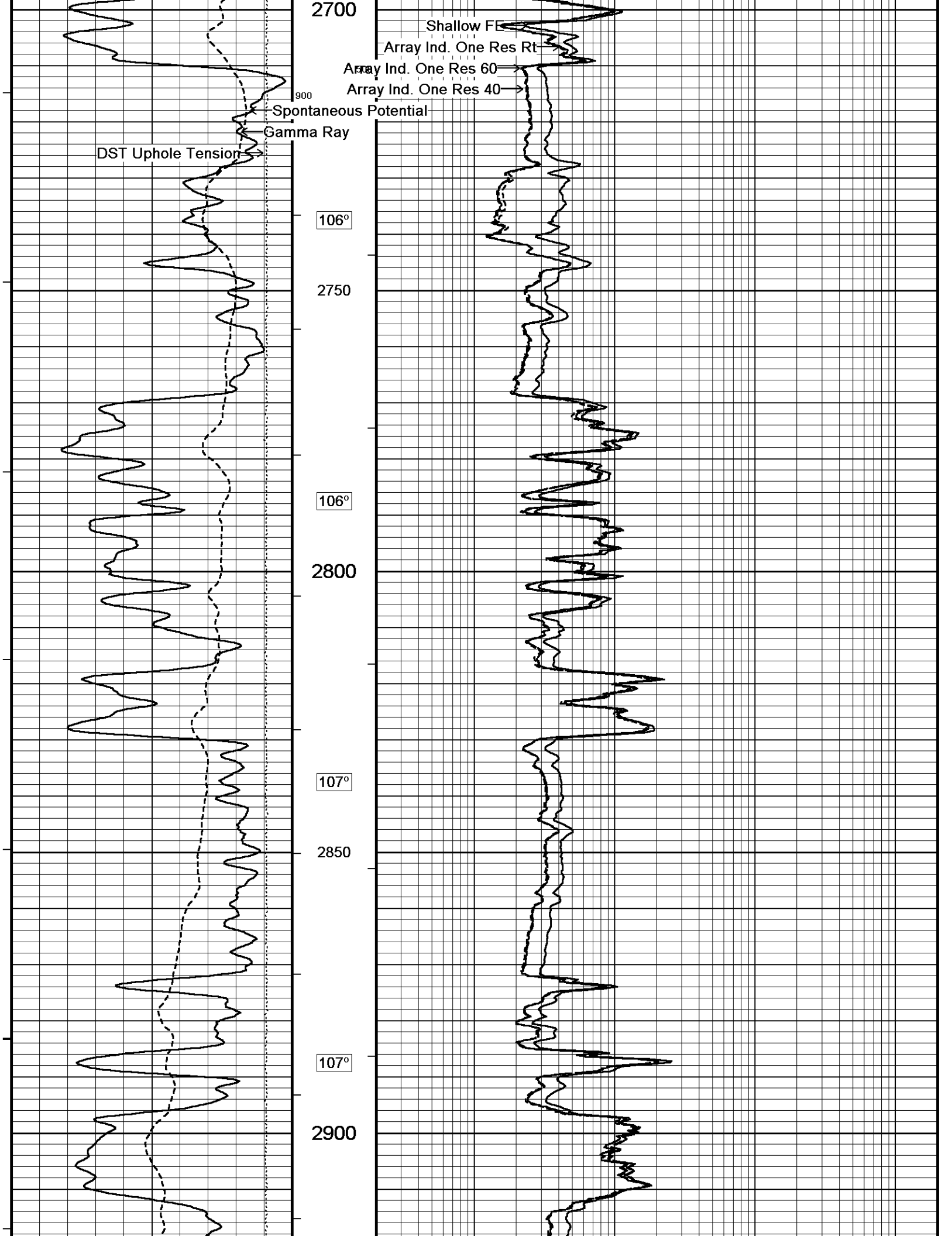


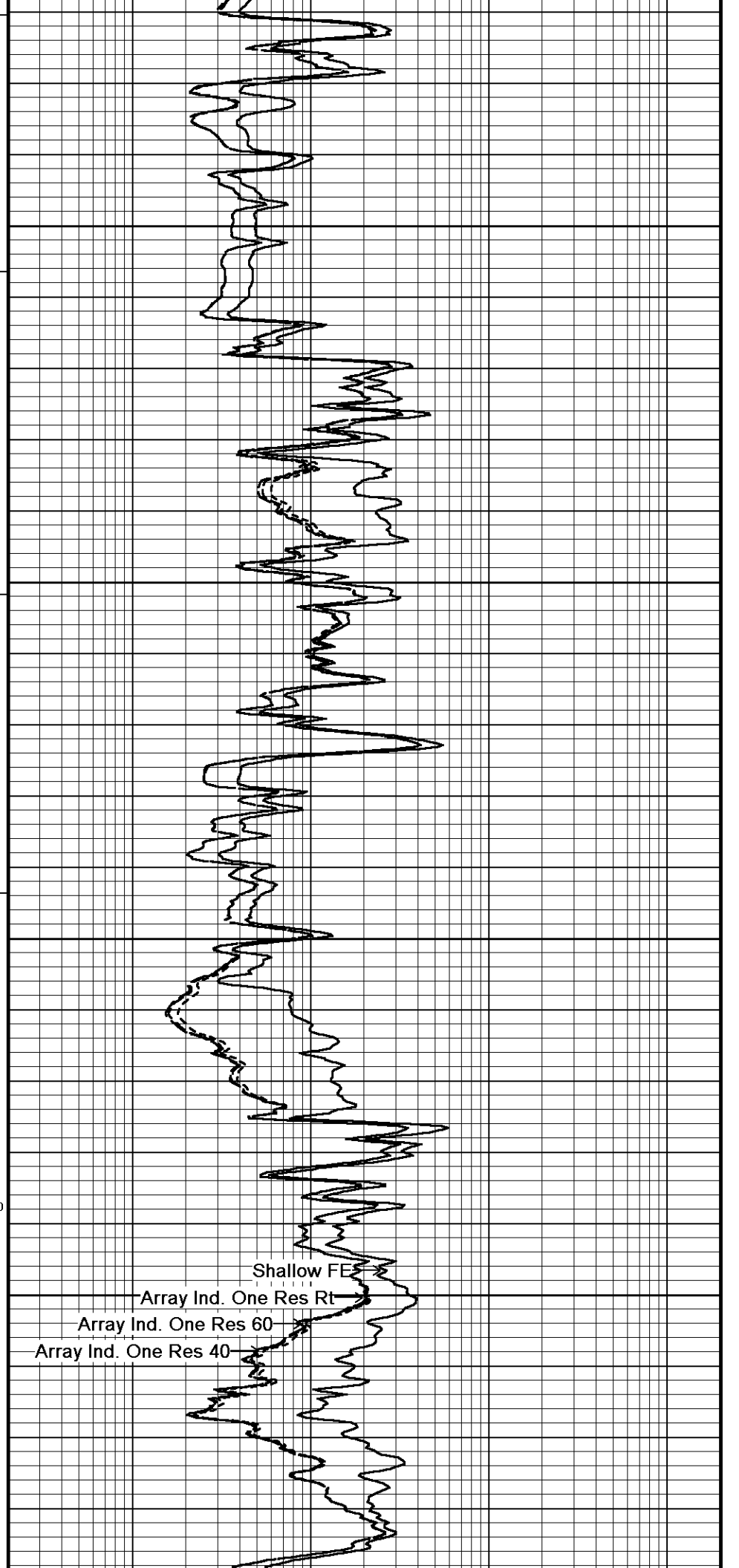
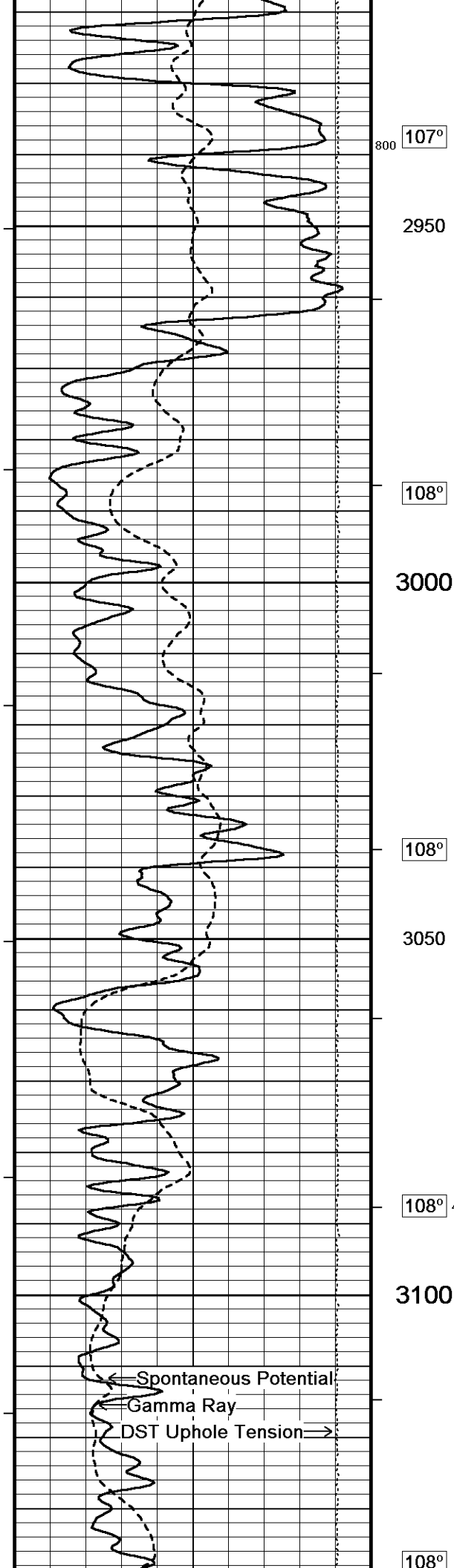


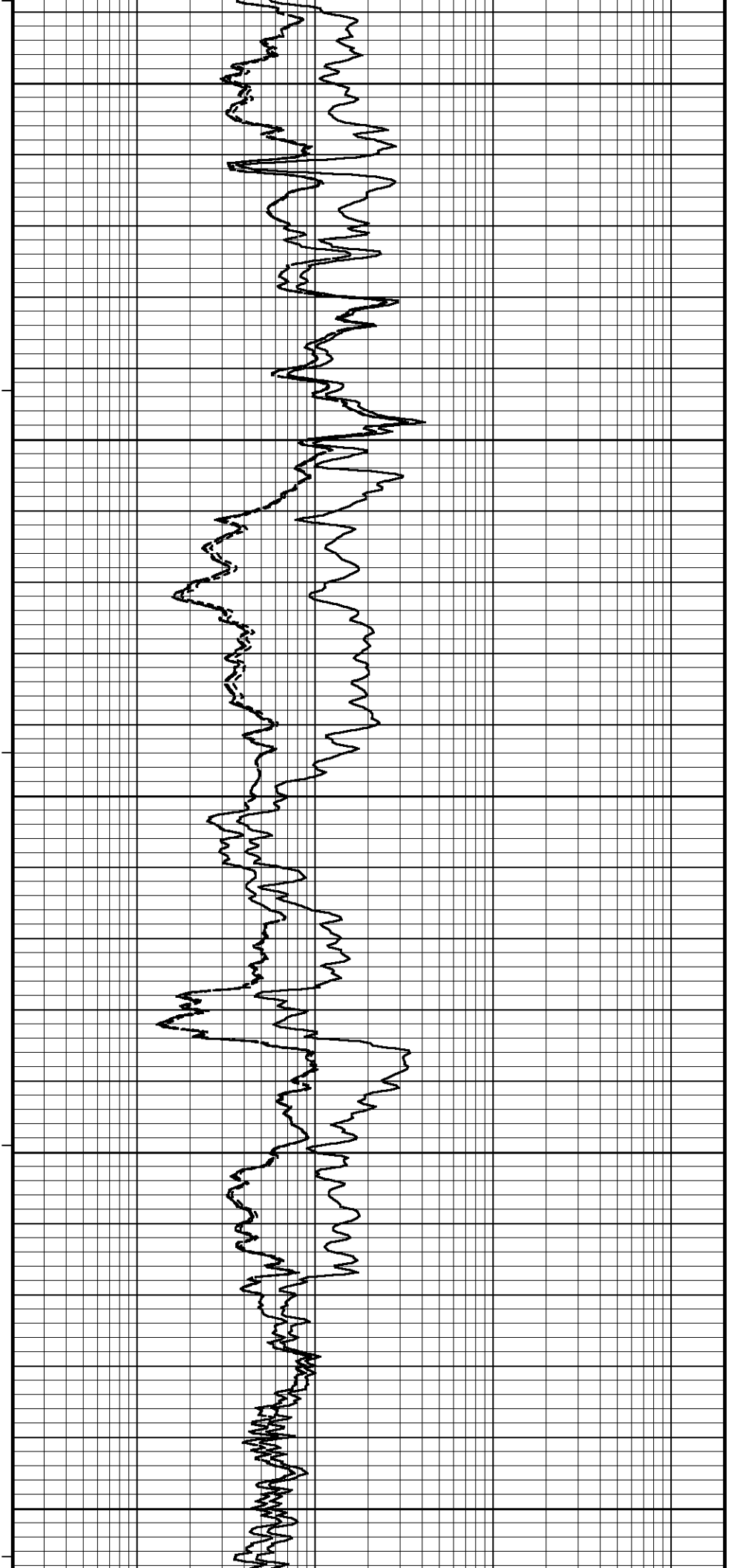
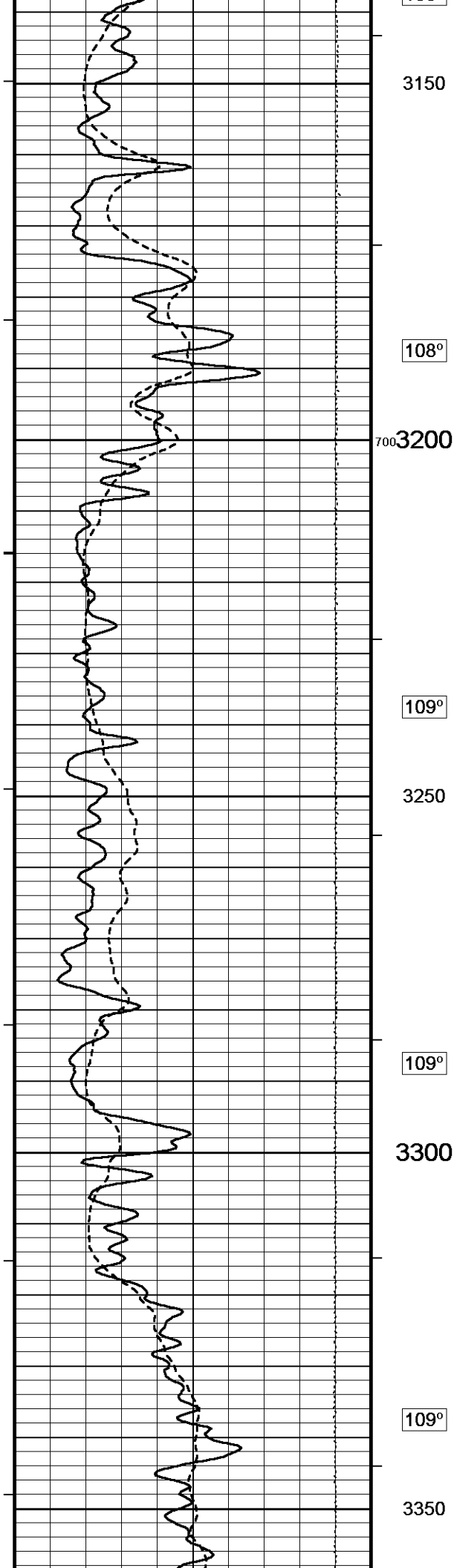


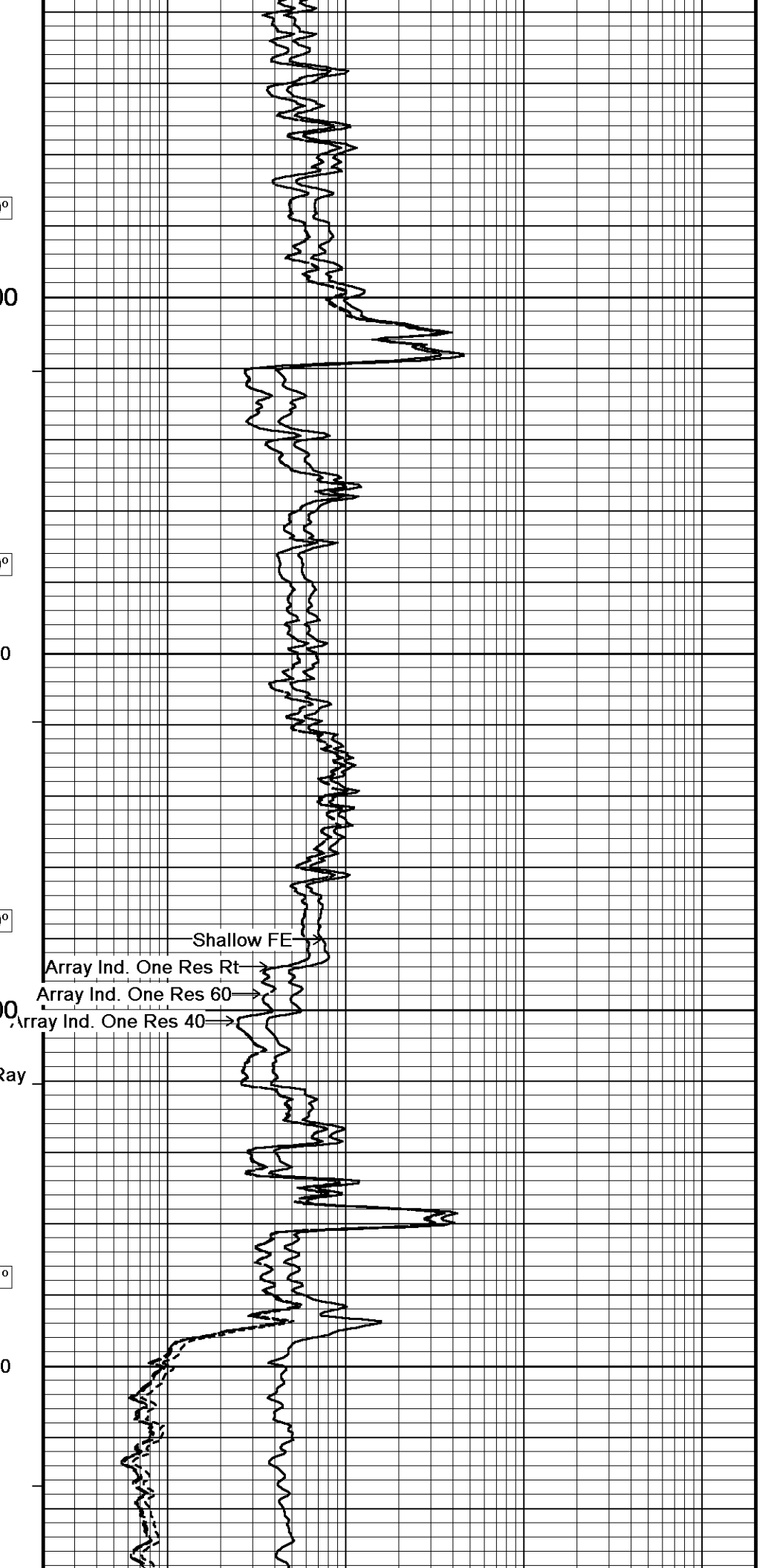
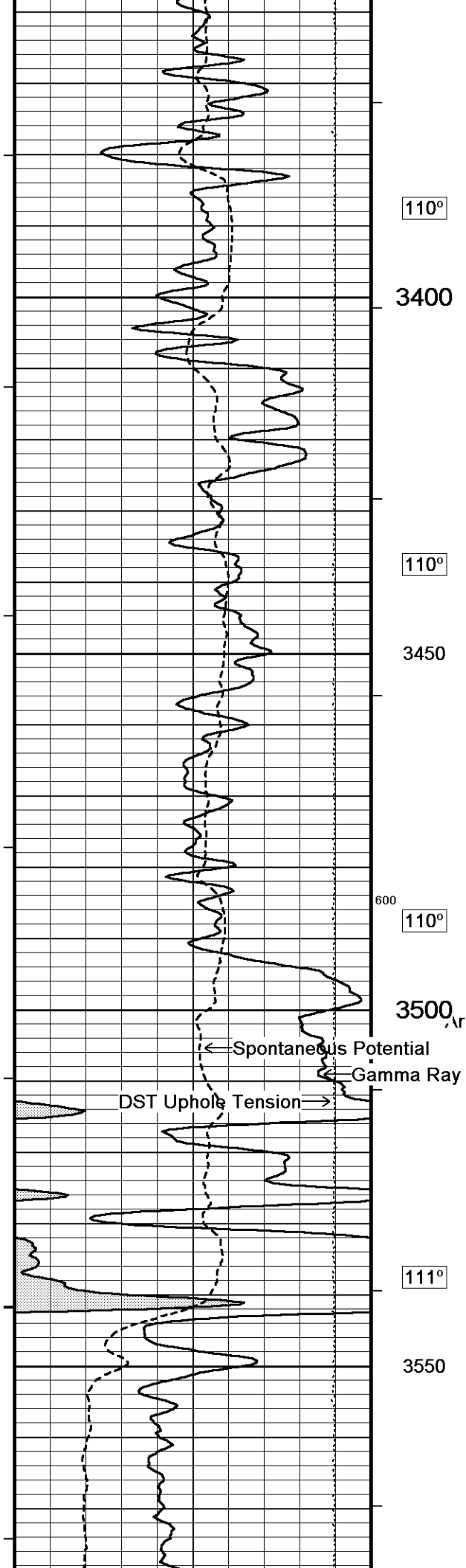


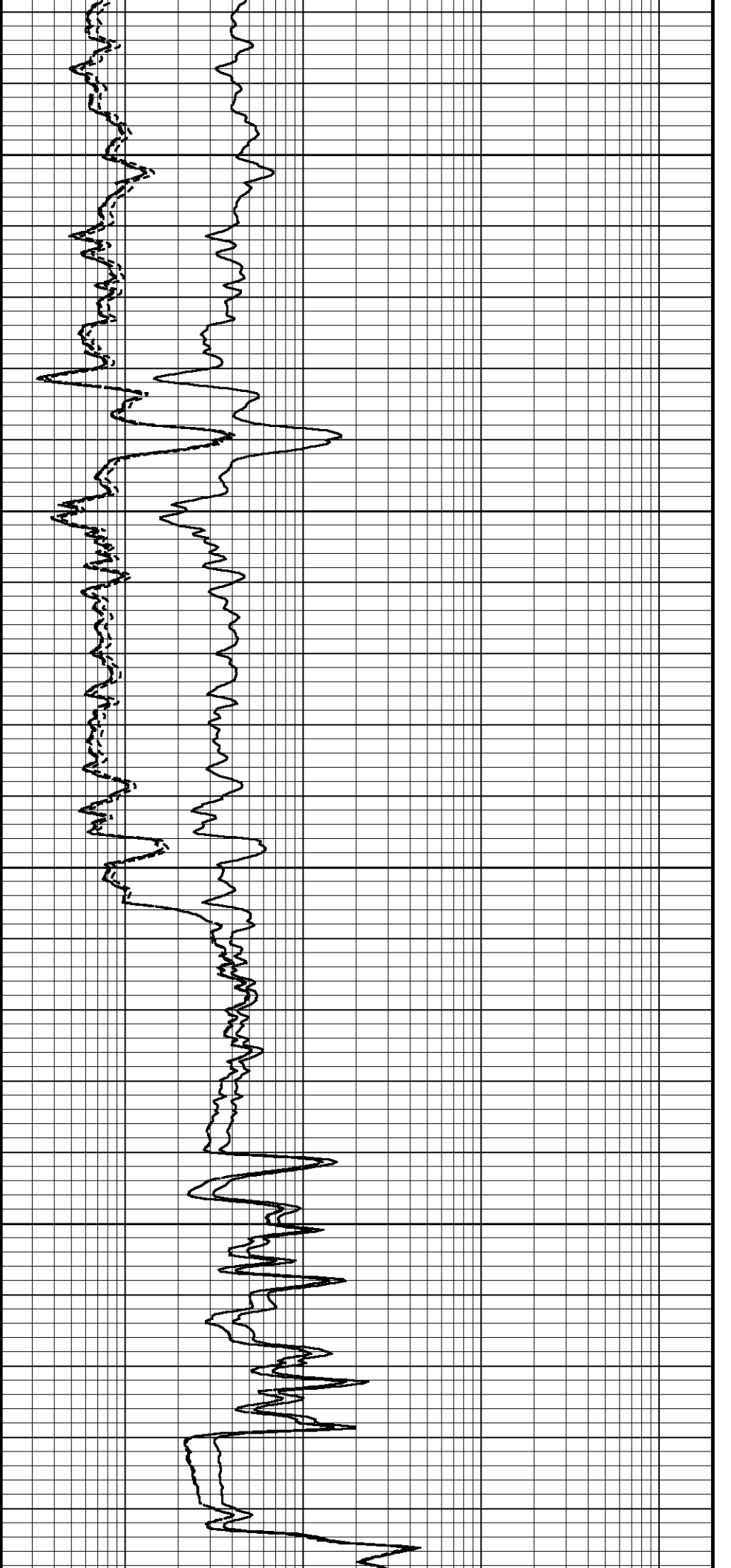
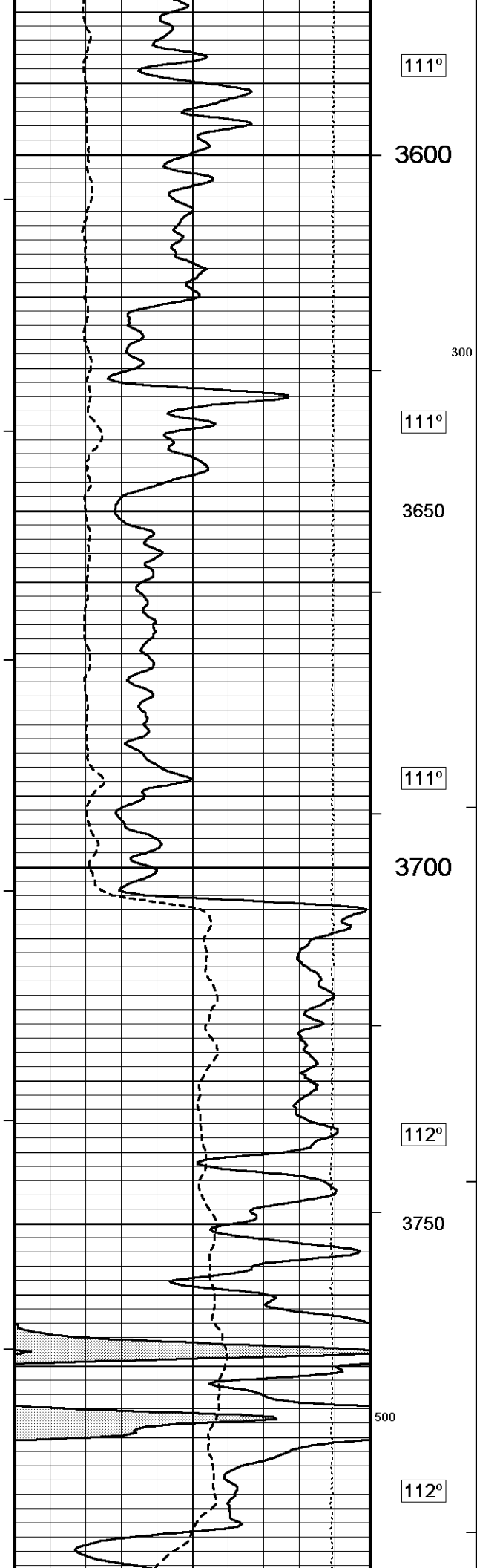


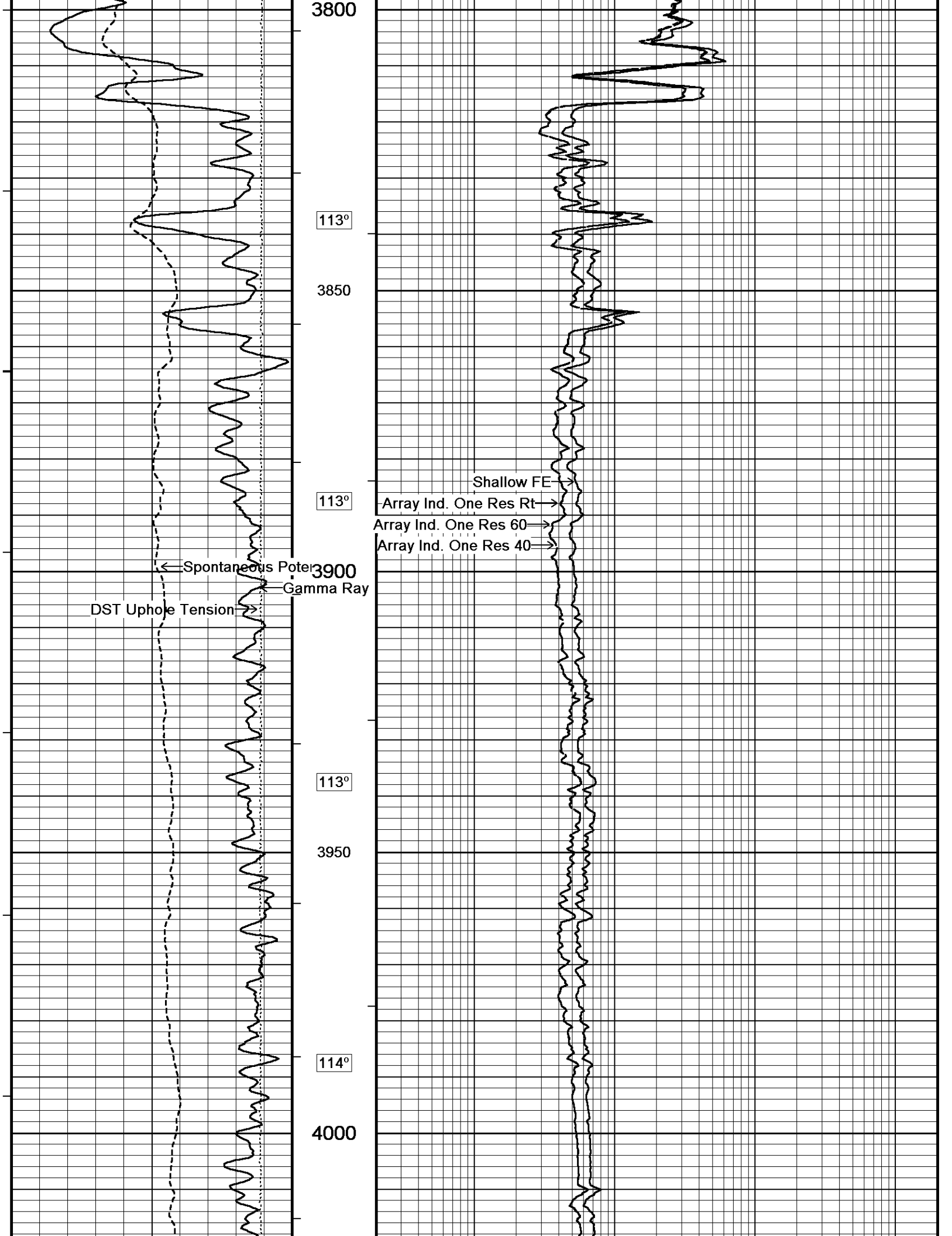


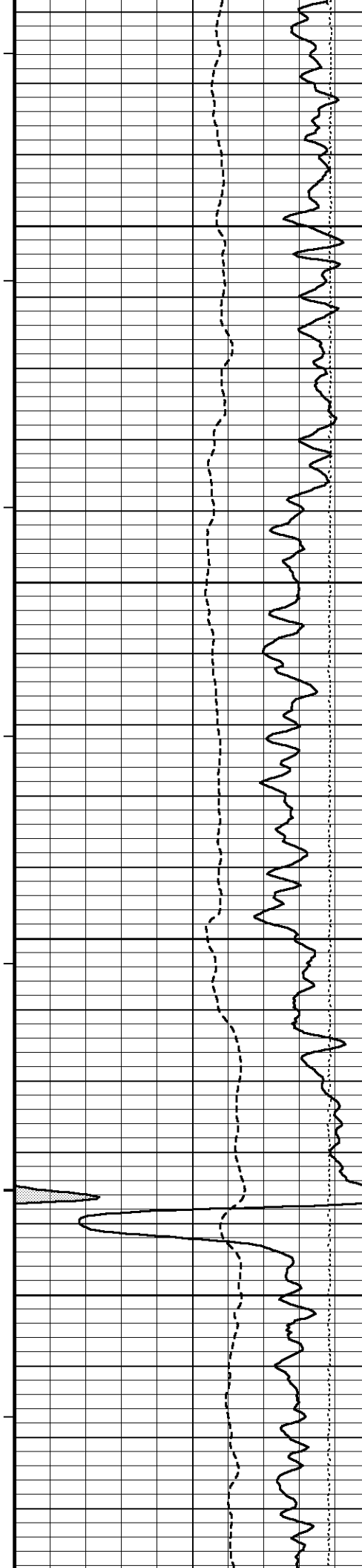




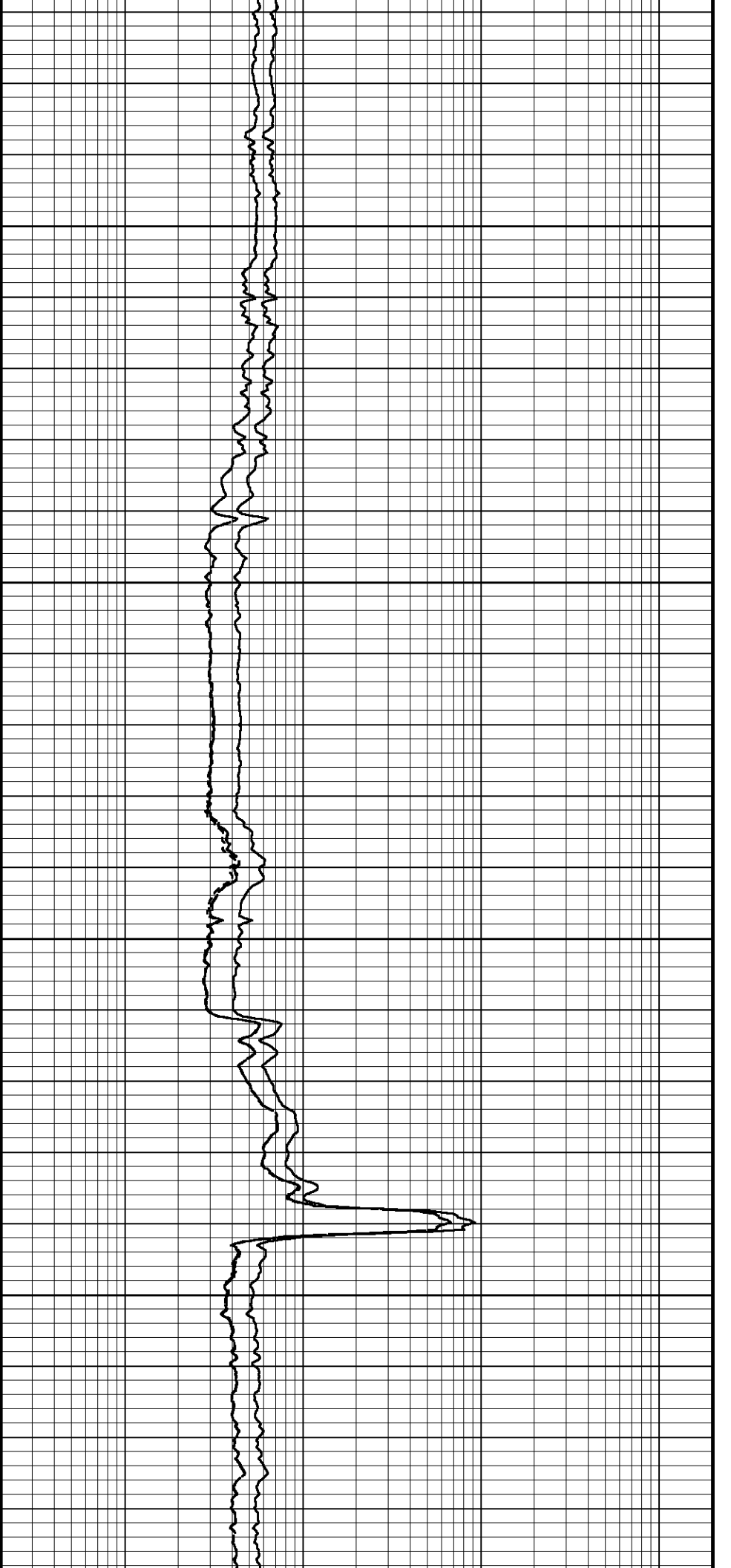


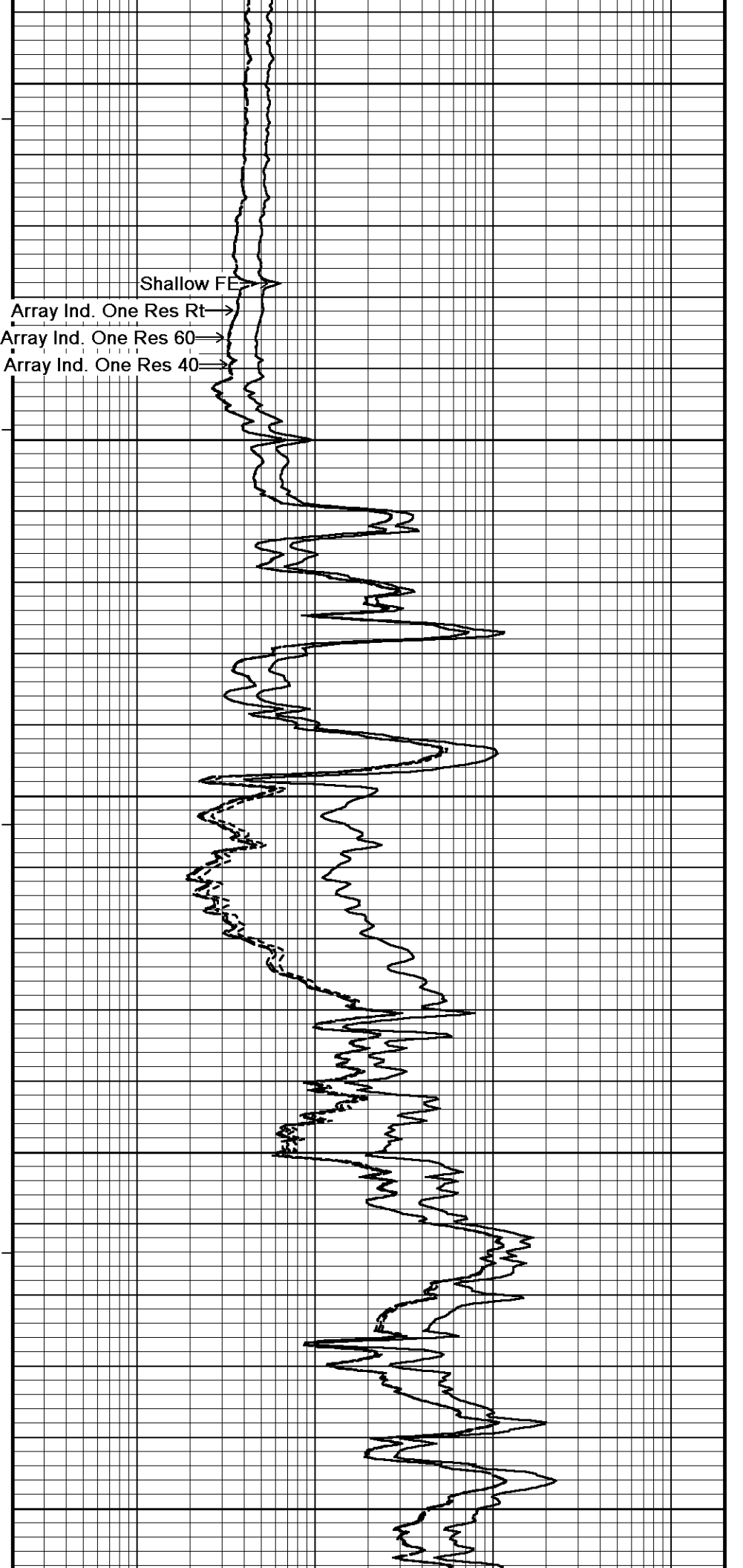
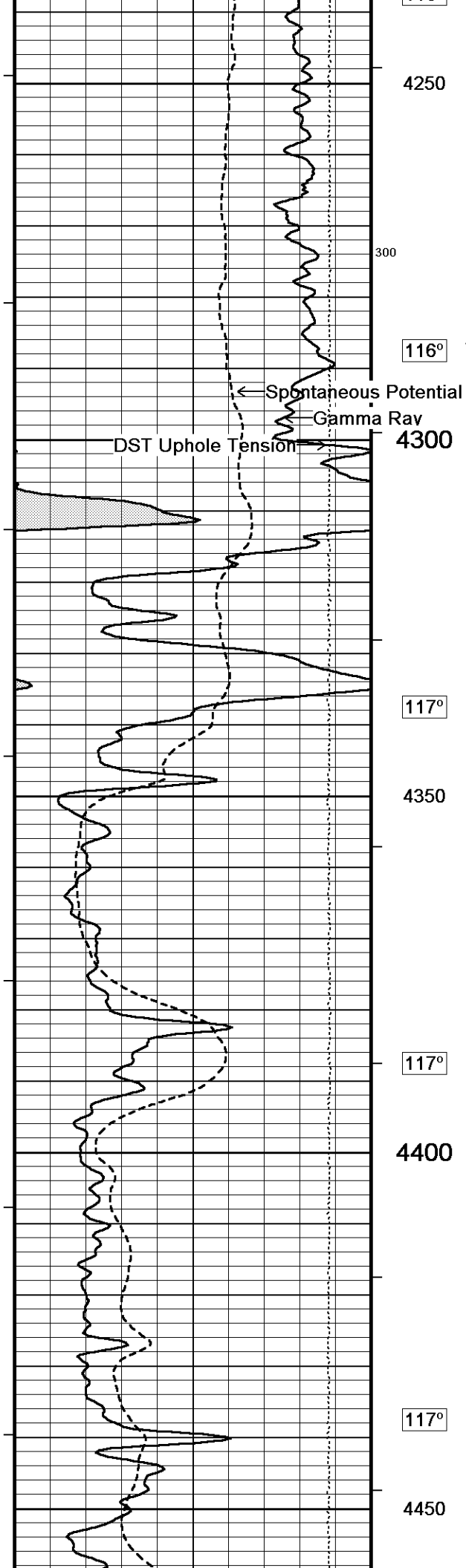


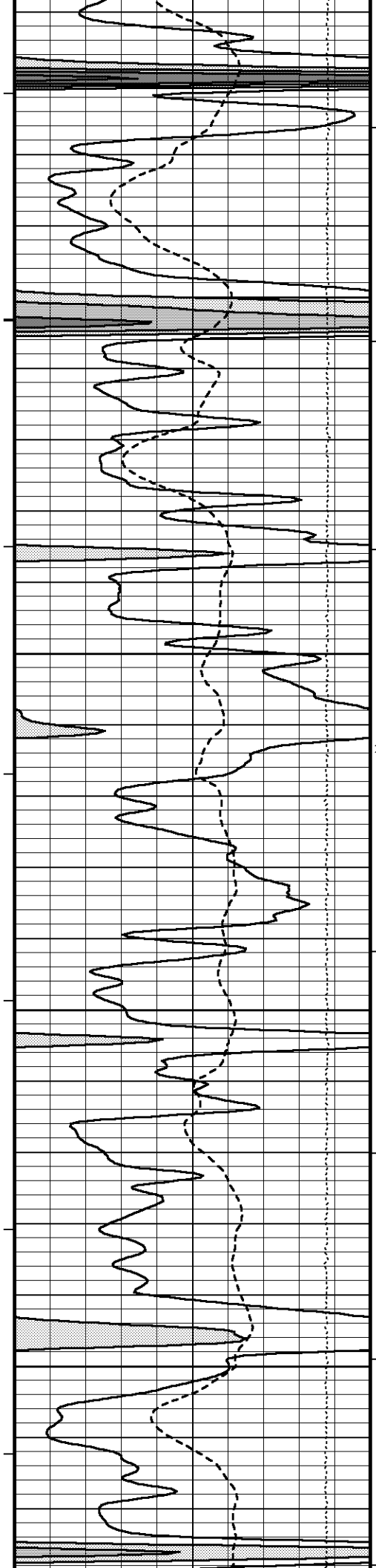




114°
400
4050
115°
4100
200
115°
4150
115°
4200
116°







118°

4500

118°

4550

200

118°

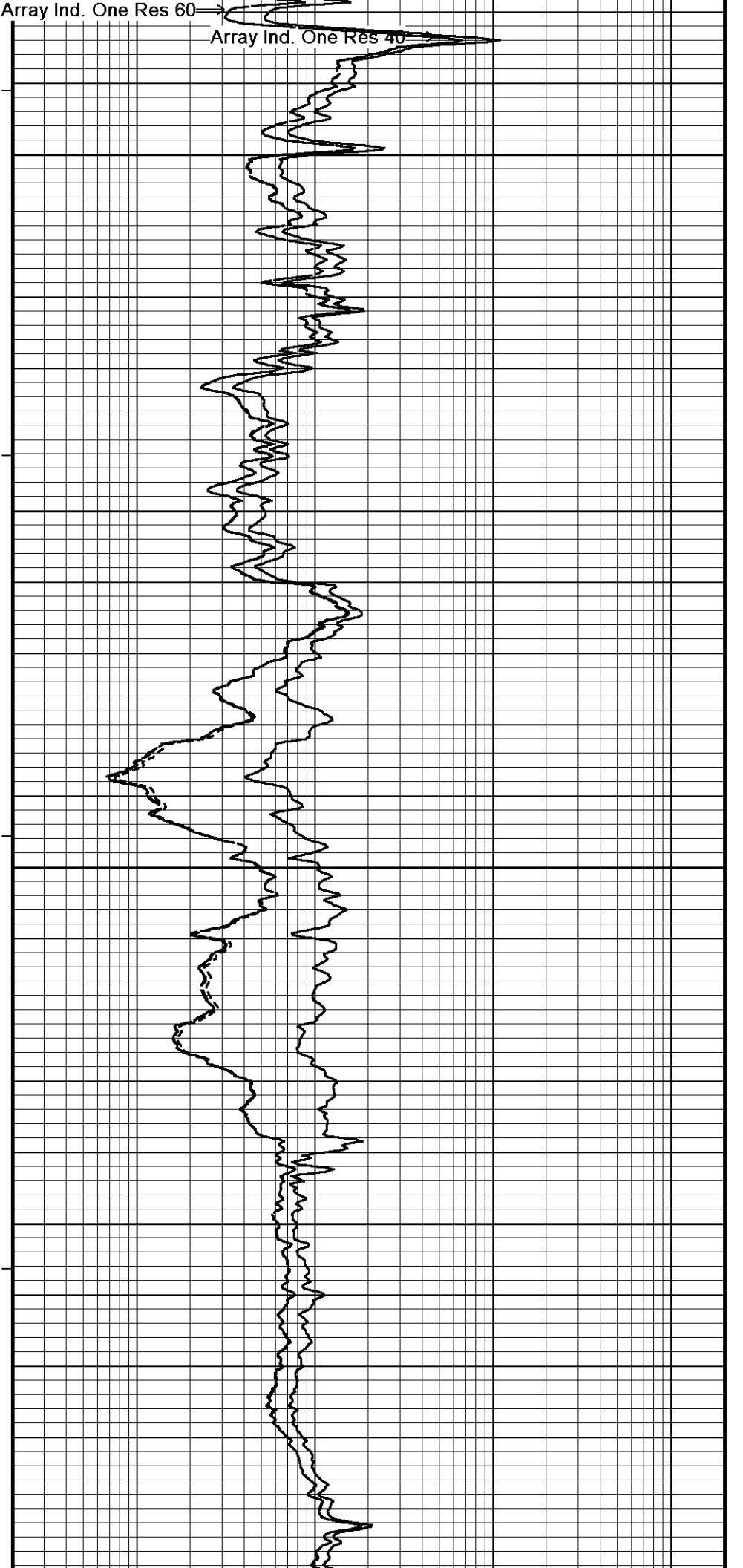
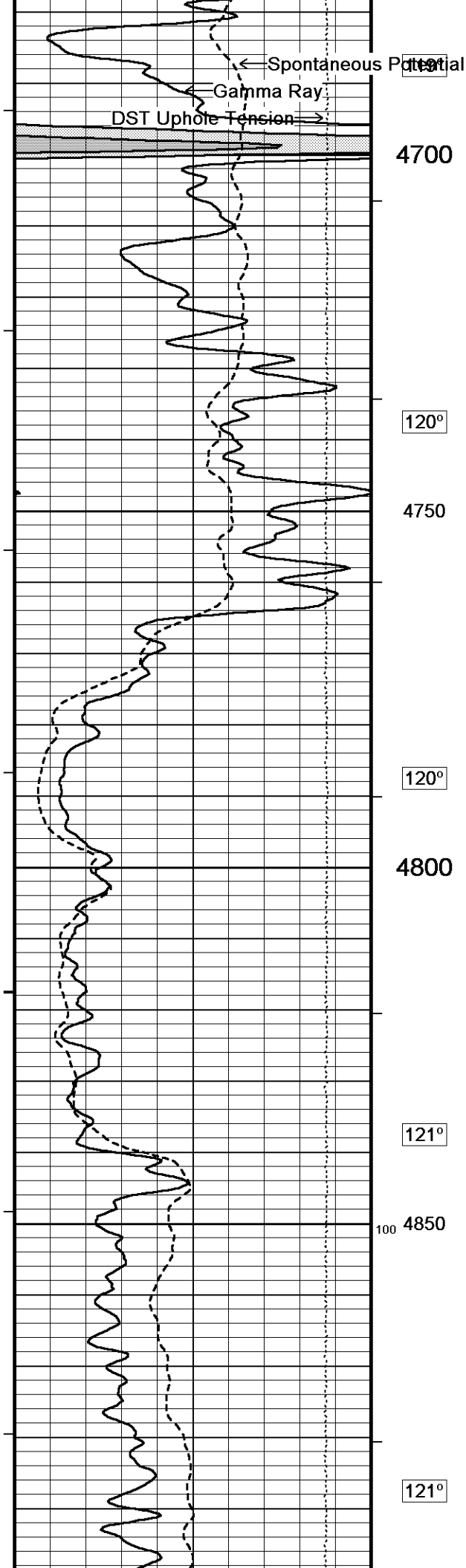
4600

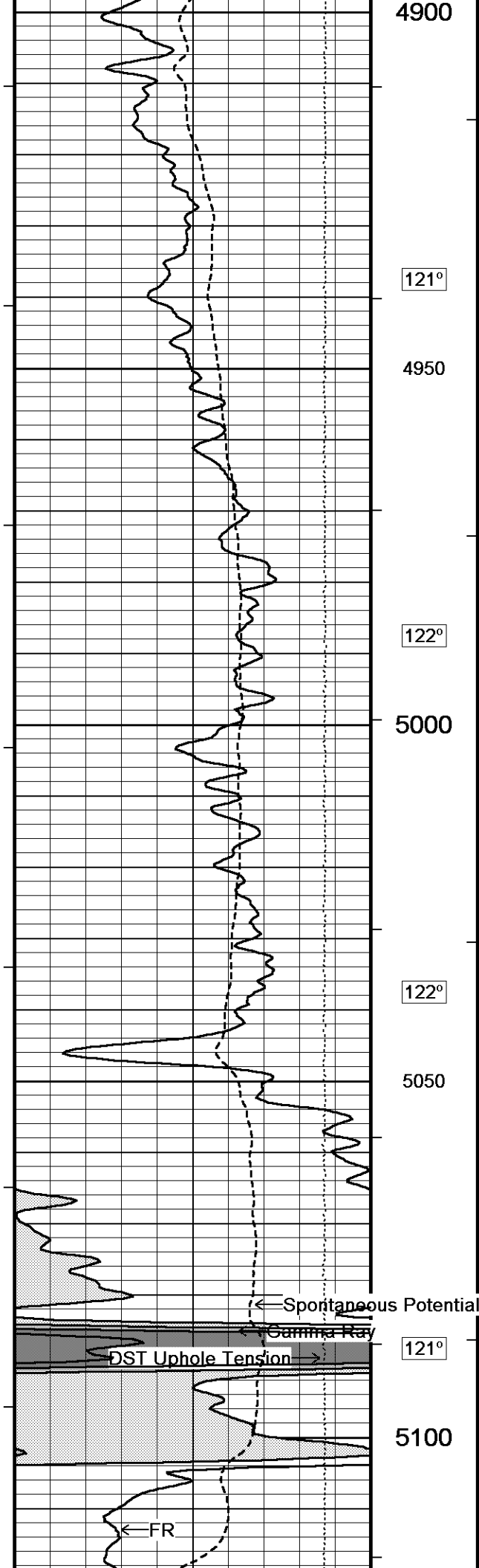
119°

4650

Array Ind. One Res Rt

Shallow EP





4900

121°

4950

122°

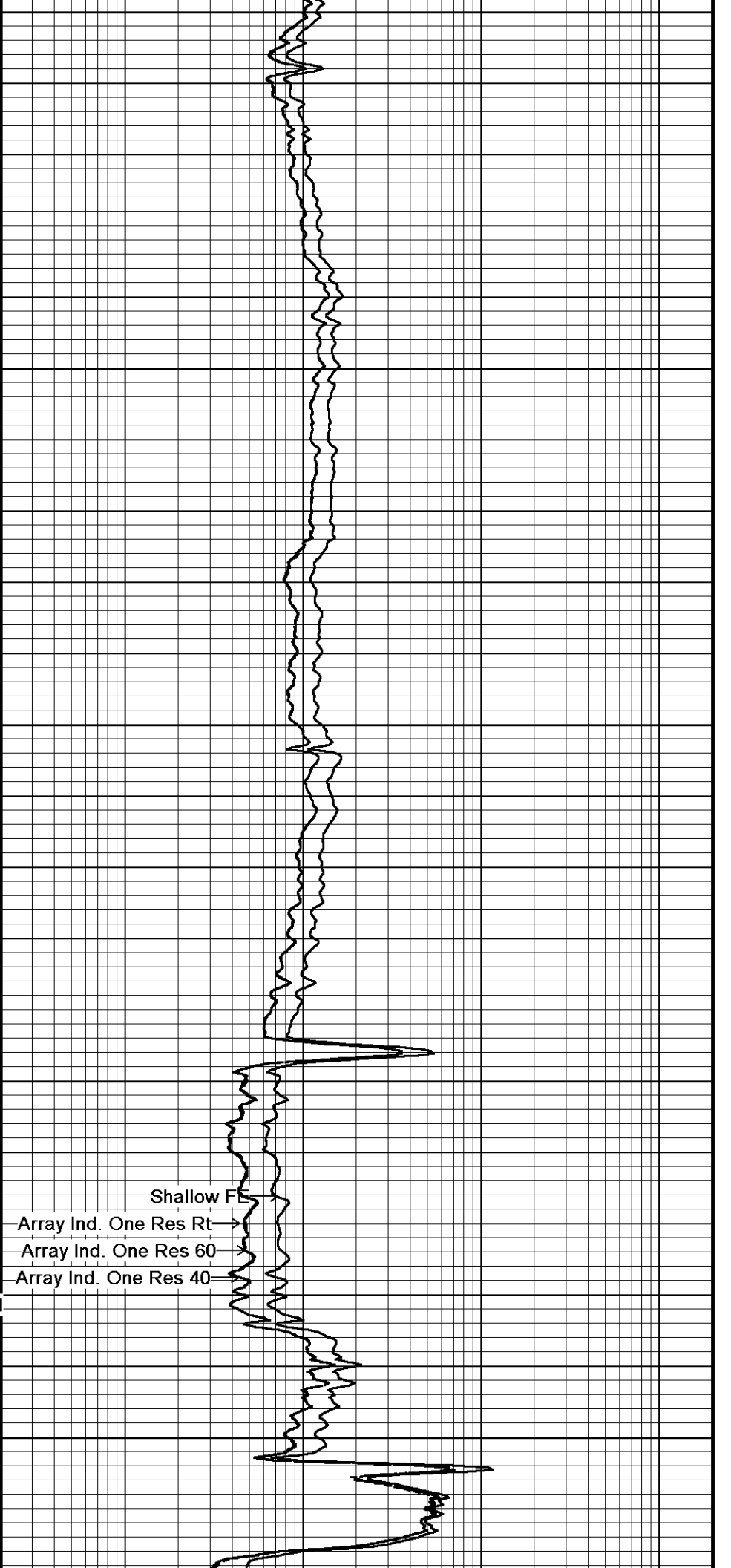
5000

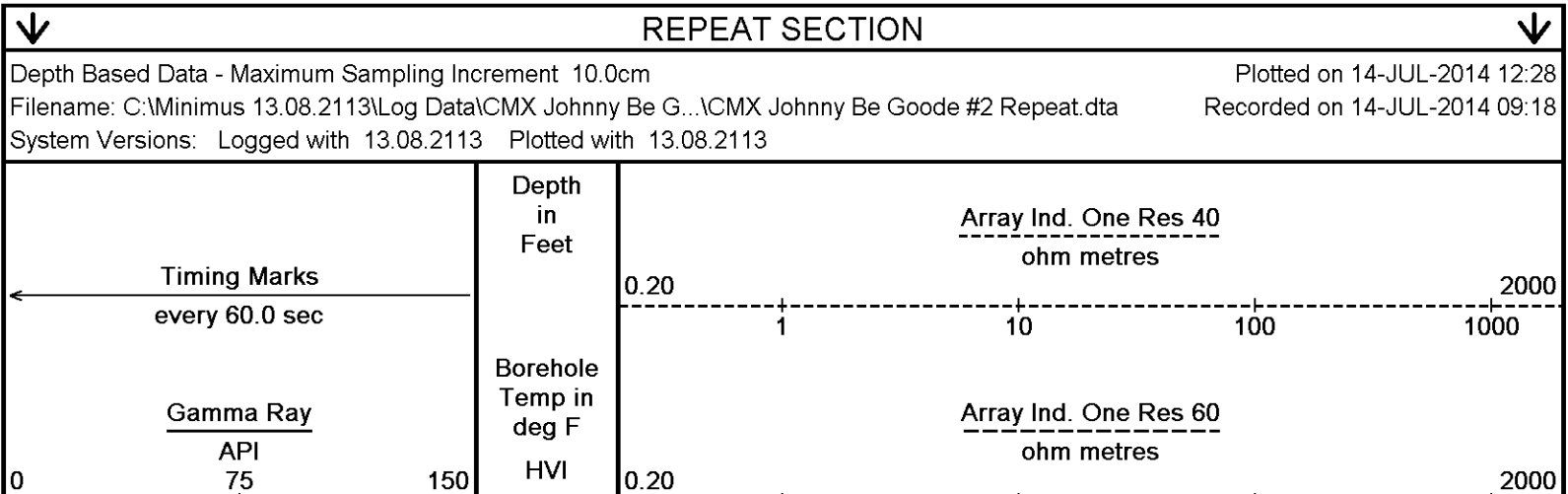
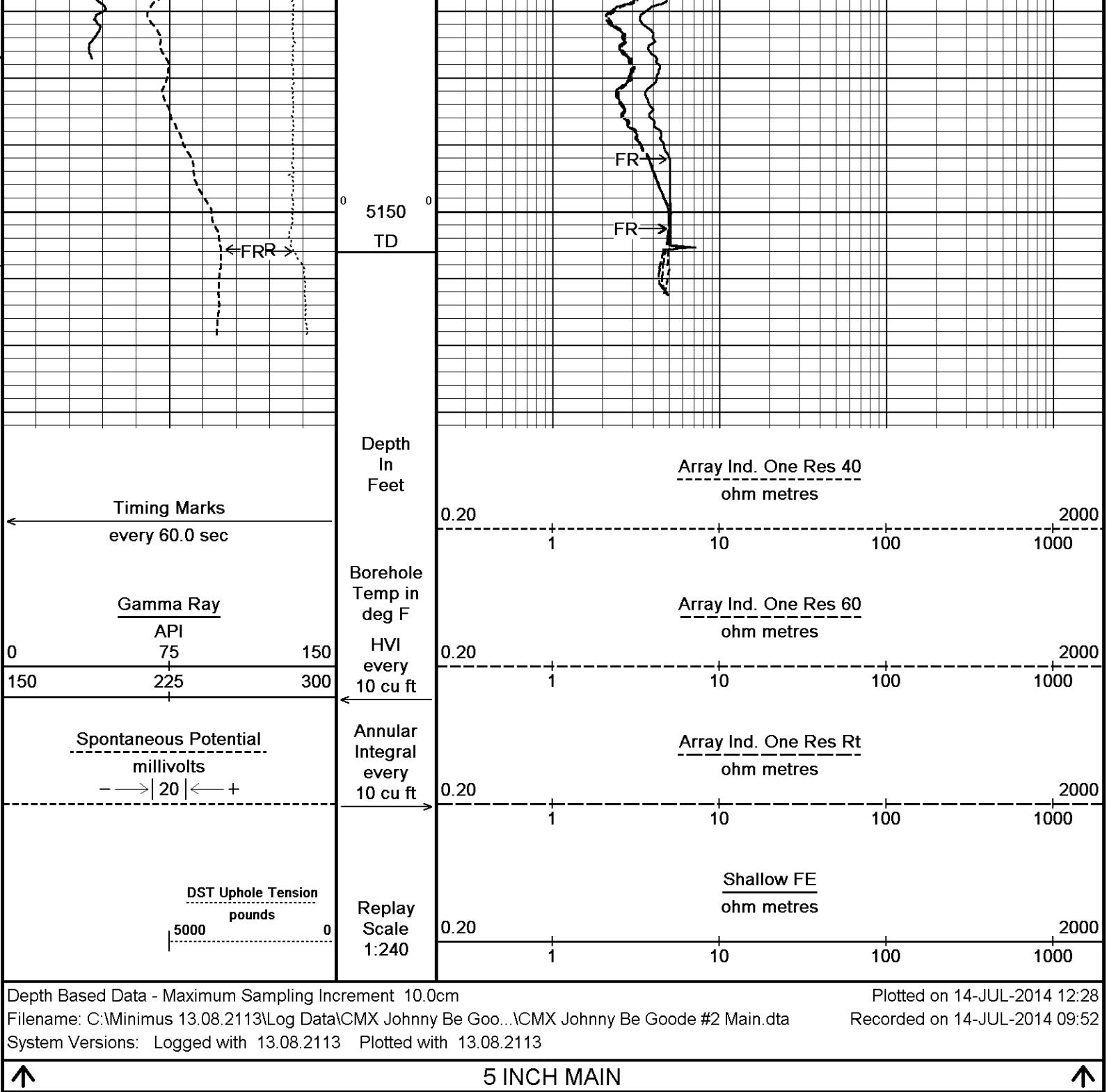
122°

5050

121°

5100





150 225 300

every
10 cu ft

1 10 100 1000

Spontaneous Potential
millivolts
—→|20|←+

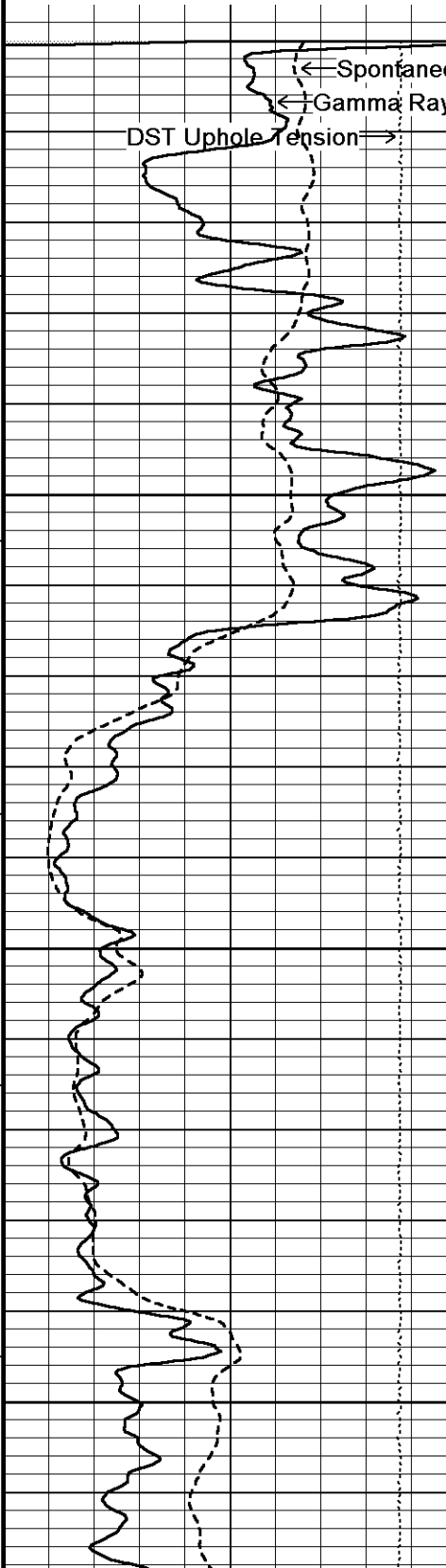
Annular
Integral
every
10 cu ft

Array Ind. One Res Rt
ohm metres
0.20 2000

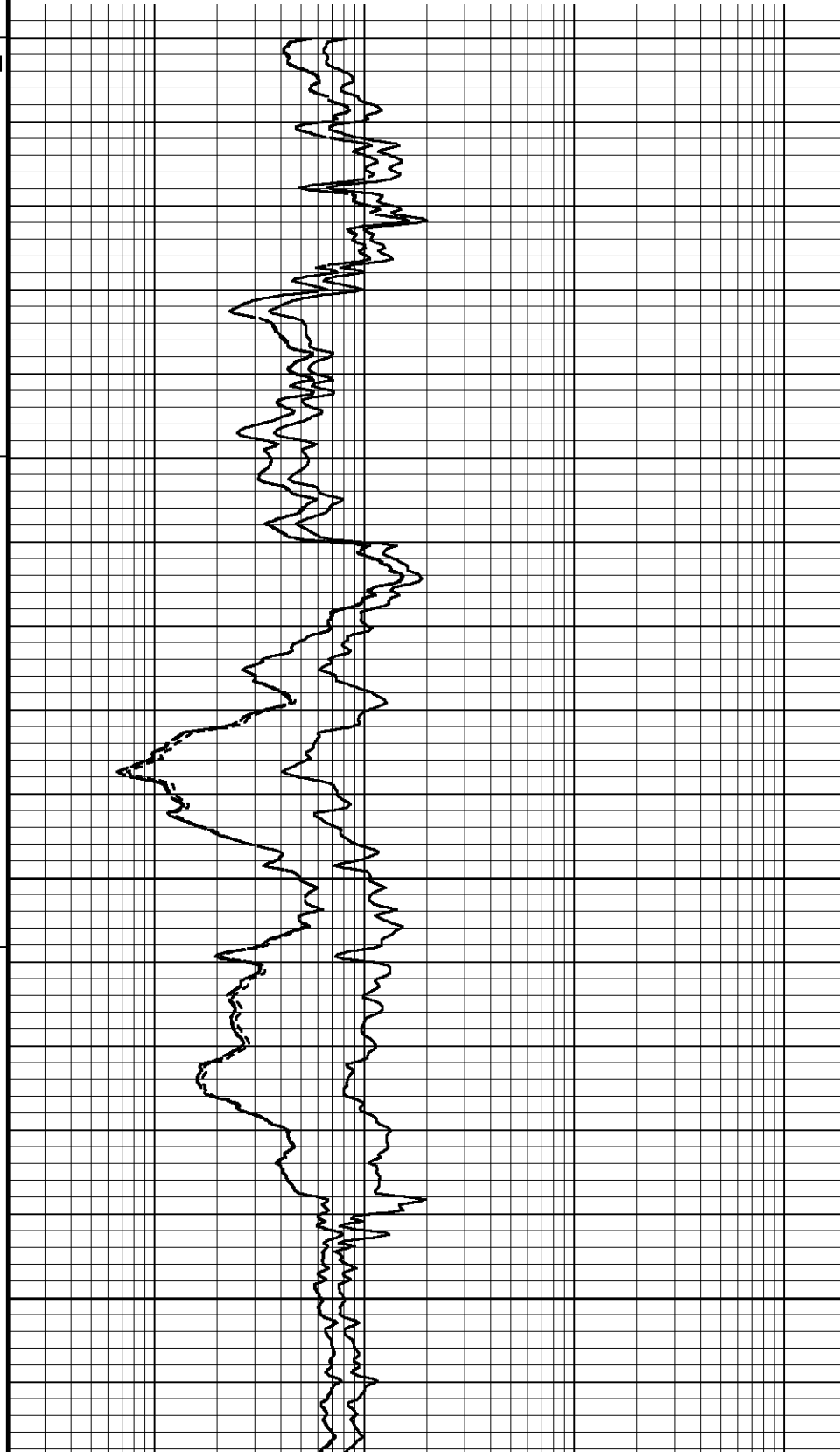
DST Uphole Tension
pounds
5000 0

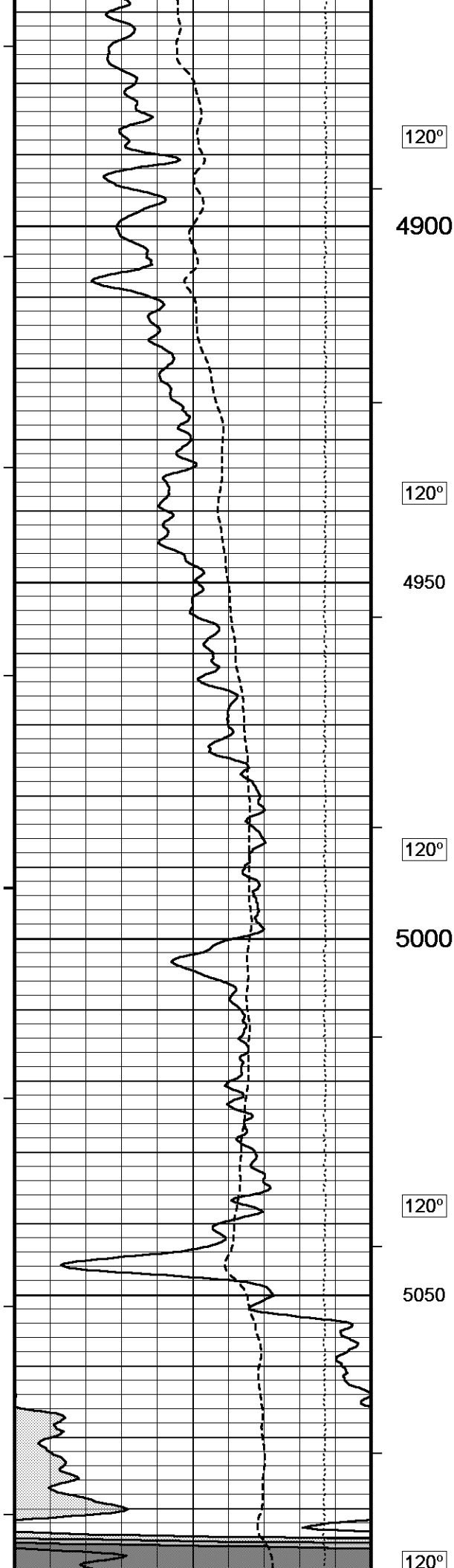
Replay
Scale
1:240

Shallow FE
ohm metres
0.20 2000

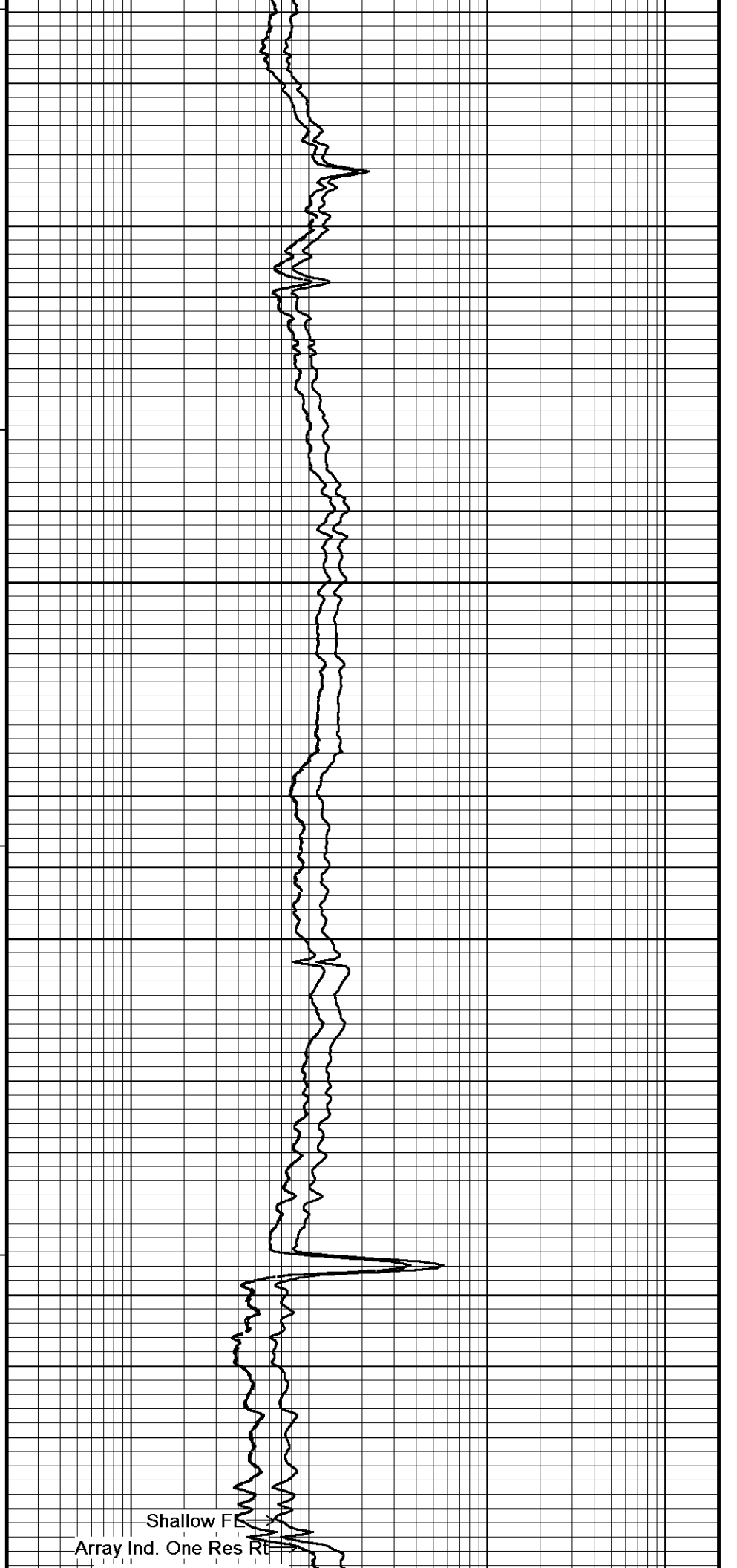


4700
119°
4750
119°
4800
120°
4850
100

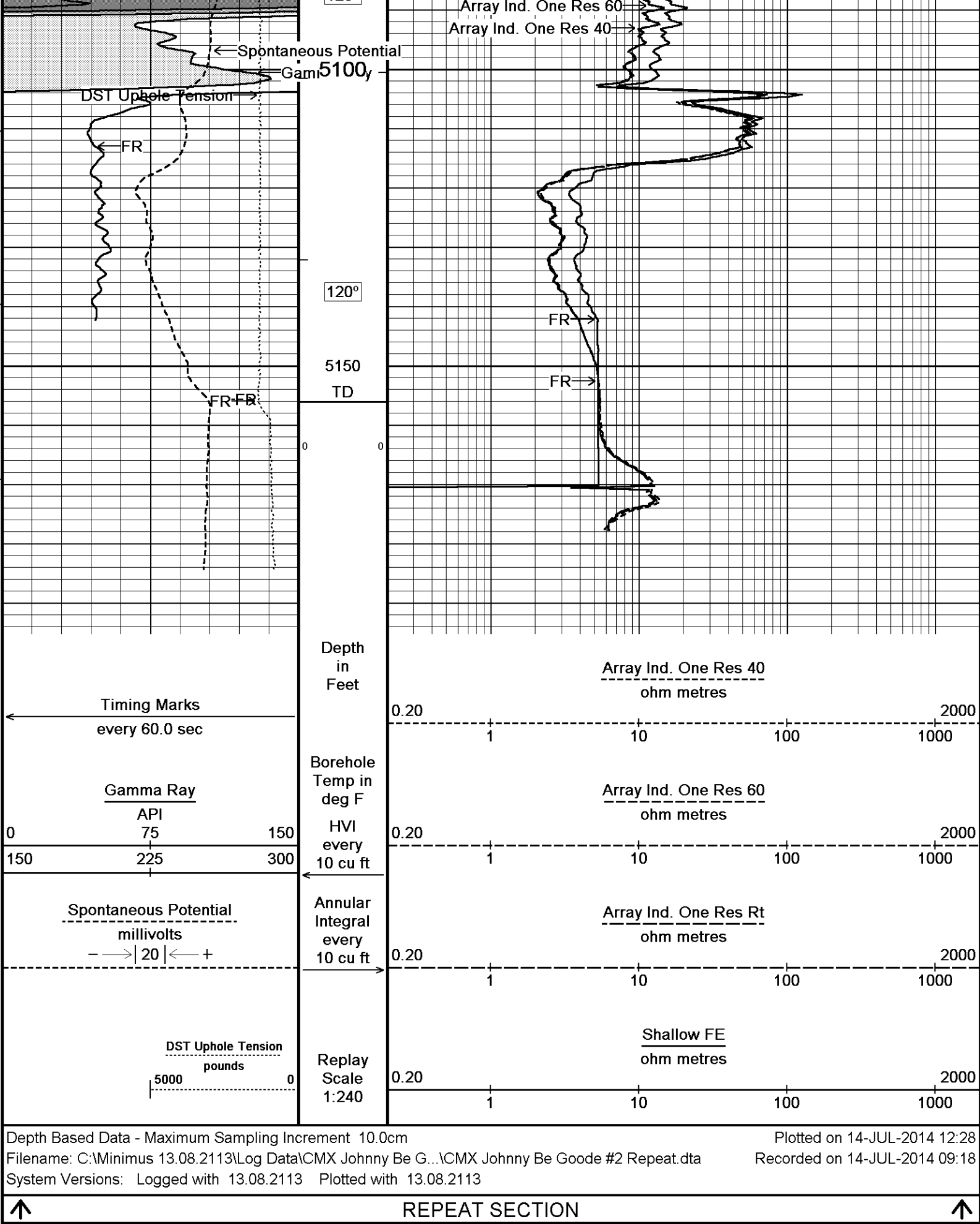




120°
4900
120°
4950
120°
5000
120°
5050
120°



Shallow F
Array Ind. One Res R



BEFORE SURVEY CALIBRATION

C:\Minimus 13.08.2113\Log Data\CMX Johnny Be Goode #2\CMX Johnny Be Goode #2 Repeat.dta

General Constants All 000

Last Edited on 14-JUL-2014,07:40

General Parameters

Mud Resistivity	0.960	ohm-metres
Mud Resistivity Temperature	96.000	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	None	

Rwa Parameters

Porosity used	Crossplot Porosity	
Resistivity used	Array Ind. One Res Rt	
RWA Constant A	1.000	
RWA Constant M	2.000	
SW/APOR Tool Source	0.000	

Gamma Calibration MCG-D.K 469

Field Calibration on 13-JUL-2014 10:58

	Measured	Calibrated (API)
Background	75	50
Calibrator (Gross)	1169	775
Calibrator (Net)	1094	725

Gamma Constants MCG-D.K 469

Last Edited on 14-JUL-2014,07:32

Gamma Calibrator Number	GRC038	
Mud Density	1.08	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 13-JUL-2014,14:53

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

Base Calibration on 02-JUL-2014 09:03

Field Check on 13-JUL-2014 10:32

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	963.3	126.8
Base Check		281.2
Field Check		281.2

FE Constants MFE-A.A 135

Last Edited on 13-JUL-2014,14:52

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 111

Base Calibration on 26-MAY-2010,08:56

Field Check on 13-JUL-2014 10:31

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	
Channel		Base Check (mmho/m)		Field Check (mmho/m)	
		Low	High	Low	High
1		13.0	3870.0	13.4	3871.3
2		29.9	3524.2	30.0	3525.7
3		29.0	3017.9	29.2	3019.0
4		19.1	2055.8	19.1	2056.8
Deep		17.7	1959.7	17.8	1960.5
Medium		43.0	3972.1	43.1	3973.4
Shallow		44.6	5227.3	44.8	5229.4
Array Temperature		76.0		81.0 Deg F	

Induction Constants MAI-A.A 111				Last Edited on 14-JUL-2014,07:30	
Induction Model		RtAP-WBM			
Caliper for Borehole Corr.		Density Caliper			
Hole Size for Borehole Correction		N/A		inches	
Tool Centred		No			
Stand-off Type		Fins			
Stand-off		0.50		inches	
Number of Fins on Stand-off		6.0000			
Stand-off Fin Angle		60.00		degrees	
Stand-off Fin Width		0.5000		inches	
Borehole Corr. Rm Source		Temperature Corr			
Temp. for Rm Corr.		MCG External Temperature			
Squasher Start		0.0020		mhos/metre	
Squasher Offset		N/A		mhos/metre	
Borehole Normalisation					
DRM1	0.0000	DRC1	0.0000		
DRM2	0.0000	DRC2	0.0000		
MRM1	0.0000	MRC1	0.0000		
MRM2	0.0000	MRC2	0.0000		
SRM1	0.0000	SRC1	0.0000		
SRM2	0.0000	SRC2	0.0000		
Calibration Site Corrections					
Channel 1		0.00	mmhos/metre		
Channel 2		0.00	mmhos/metre		
Channel 3		0.00	mmhos/metre		
Channel 4		0.00	mmhos/metre		
Apparent Porosity and Water Saturation Constants					
Archie Constant (A)		1.00			
Cementation Exponent (M)		2.00			
Saturation Exponent (N)		2.00			
Saturation of Water for Apor		100.00	percent		
Resistivity of Water for Apor and Sw		0.05	ohm-m		
Resistivity of Mud Filtrate for Sw		0.00	ohm-m		
Source for Rt		0.00			
Source for Rxo		0.00			

Caliper Calibration MPD-C.A 216			Base Calibration on 02-JUL-2014 11:15
			Field Calibration on 13-JUL-2014 10:44
Base Calibration			
Reading No	Measured	Calibrator Size (in)	
1	17551	3.99	
2	27136	5.98	
3	37121	7.97	
4	46912	9.86	
5	58208	11.92	
6	N/A	N/A	

Field Calibration

Measured Caliper (in)
7.99

Actual Caliper (in)
7.97

DOWNHOLE EQUIPMENT

C:\Minimus 13.08.2113\Log Data\CMX Johnny Be Goode #2\CMX Johnny Be Goode #2 Repeat.dta

CBH-C, Cablehead, 11 pin

CBH-CA 170 LG: 2.40 ft WT: 24.3 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

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

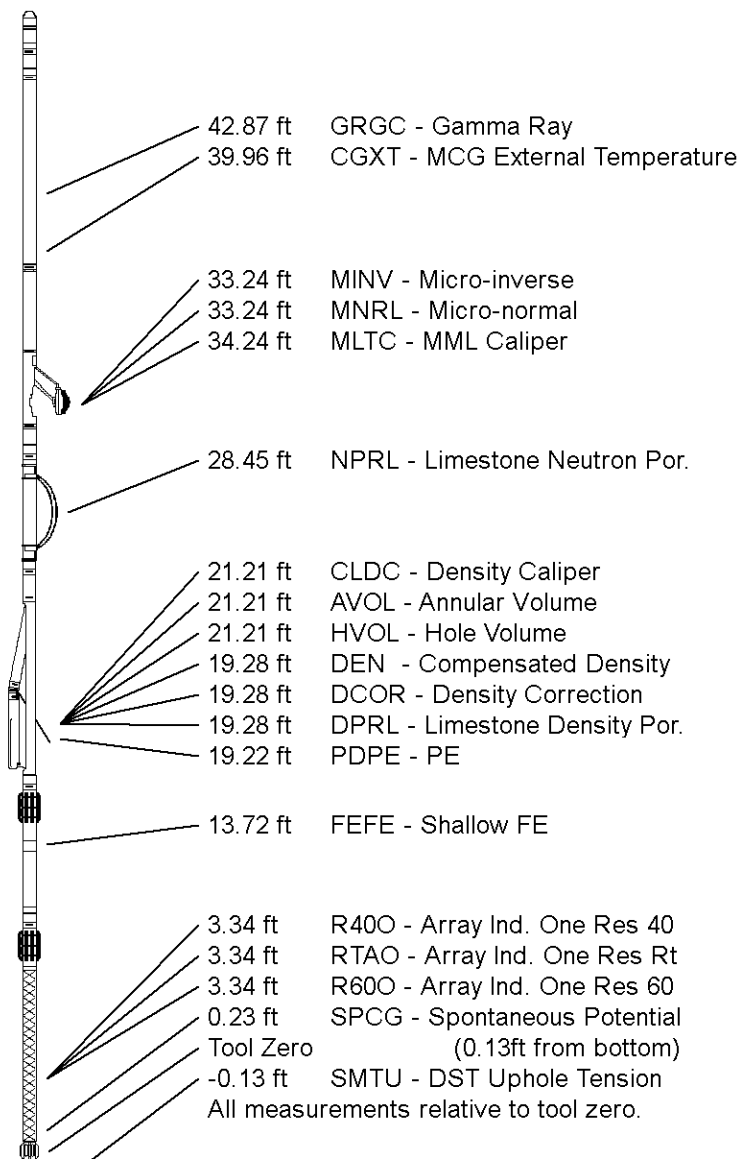
Compact Focussed Electric

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

Compact Induction

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

Total Length: 50.55 ft Weight: 407.9 lb



COMPANY

CMX, INC.

WELL

JOHNNY BE GOODE #2

FIELD

STRANATHAN

PROVINCE/COUNTY

BARBER

COUNTRY/STATE

U.S.A. / KANSAS

Elevation Kelly Bushing	1380.00	feet
Elevation Drill Floor	1378.00	feet
Elevation Ground Level	1367.00	feet

First Reading	5153.00	feet
Depth Driller	5175.00	feet
Depth Logger	5156.00	feet



ARRAY INDUCTION
SHALLOW FOCUSED
ELECTRIC LOG

Weatherford[®]

Weatherford		ARRAY INDUCTION SHALLOW FOCUSED ELECTRIC LOG	
COMPANY CMX, INC. JOHNNY BE GOODE #2 FIELD STRANATHAN PROVINCE/COUNTY BARBER COUNTRY/STATE U.S.A. / KANSAS LOCATION 1280' FSU & 330' FEL			
SEC. 6	TYPE 35S	ROD 11W	Coast Services
Latitude	35.407	Longitude	97.000
Log Number	15-007-24193	MPDUMCN	MML
Permanent Datum Q.L. Elevation	1367 feet	Log Measured From KB	
Drilling Measured From KB @	1.2 feet	End of Log	1387.00
Date	14-JUL-2014		
Run Number	ONE		
Service Order	7577-92520479		
Depth Chiller	5175.00	feet	
Depth Logger	5156.00	feet	
First Reading	5153.00	feet	
Last Reading	1103.00	feet	
Casing Chiller	1027.00	feet	
Casing Logger	1030.00	feet	
Bit Size	7.875	inches	
Hole Fluid Type	WBH		
Density/Viscosity	9.00	lbbl/Sg	22.00 CP
BH Fluid Loss	11.90	mi3/min	
Sample Source	MUD PIT		
Rm @ Measured Temp	0.96 @ 96.0	ohm-m	
Rmt @ Measured Temp	0.77 @ 96.0	ohm-m	
Rmt @ Measured Temp	1.15 @ 96.0	ohm-m	
Source Rmt / Rmc	CALC	CALC	
Rm @ BHT	0.76 @ 122.0	ohm-m	
Time Since Circulation	3.75 HOURS		
Max Recorded Temp	132.00	deg F	
Equipment / Base	13096	LIB	
Recorded By	JEFFREY RANDLE		
Witnessed By	LEAH KASTEN		
Job #	1514-208		

1 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm

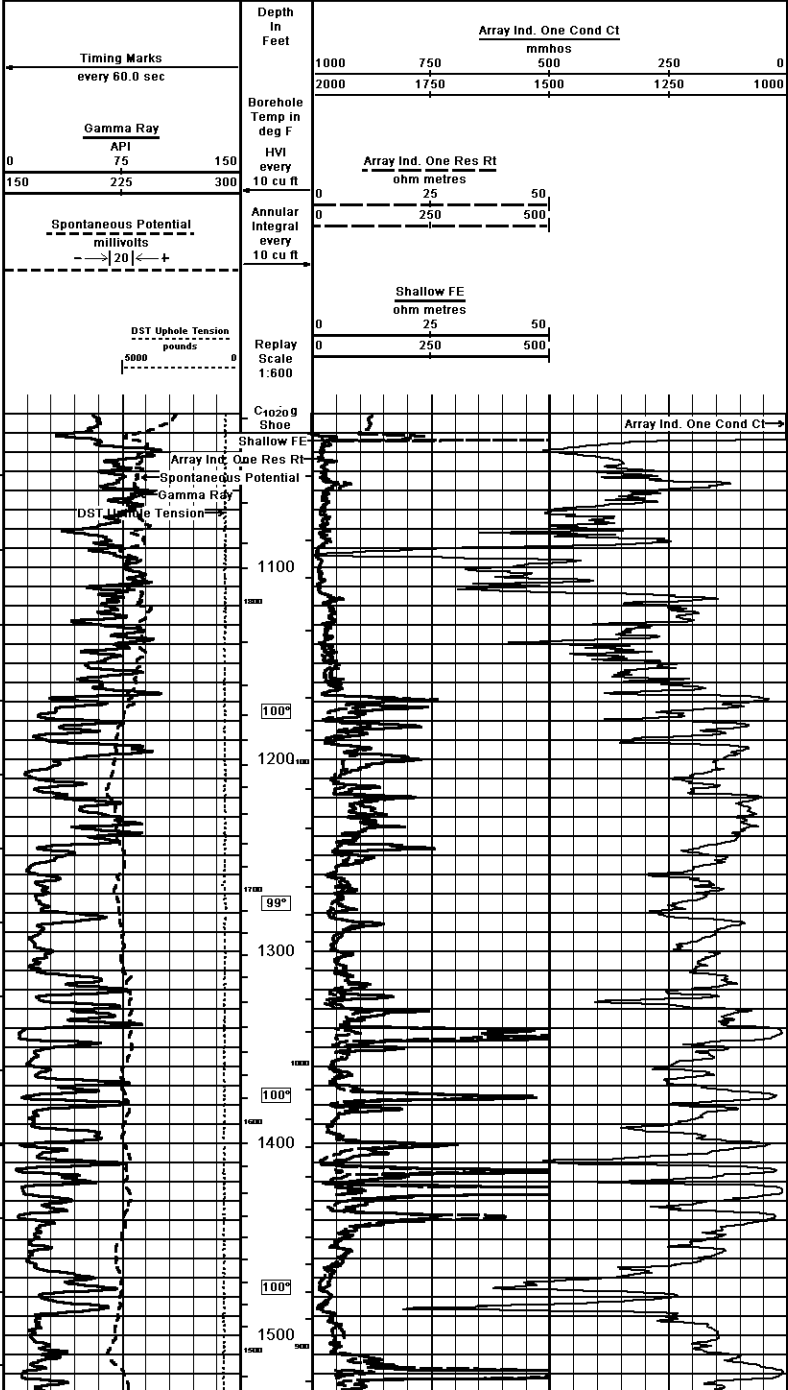
Plotted on 14-JUL-2014 12:28

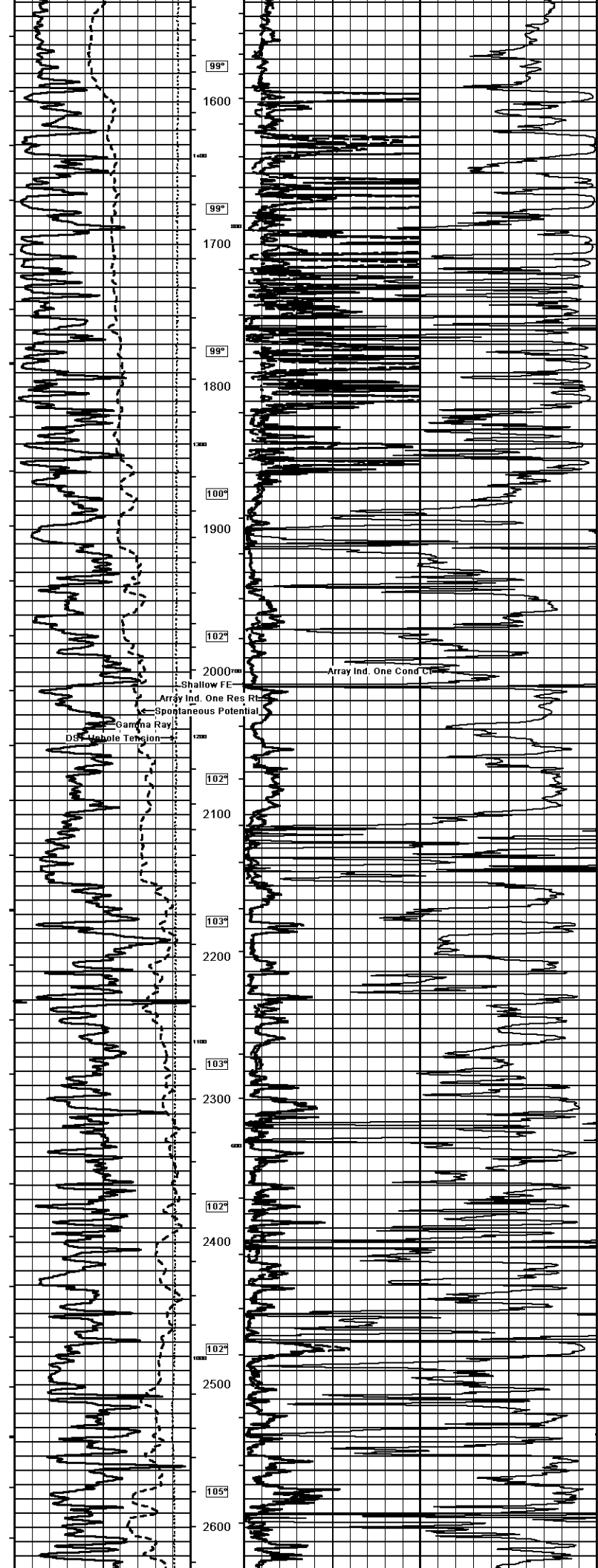
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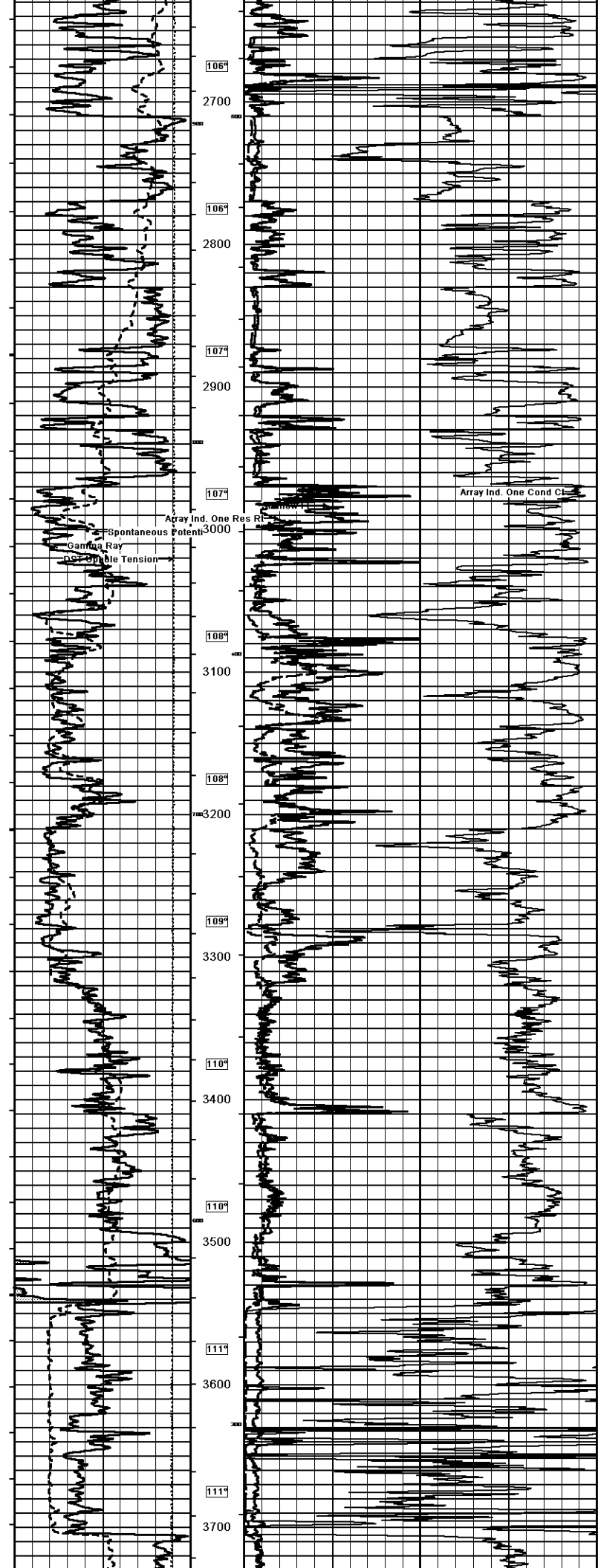
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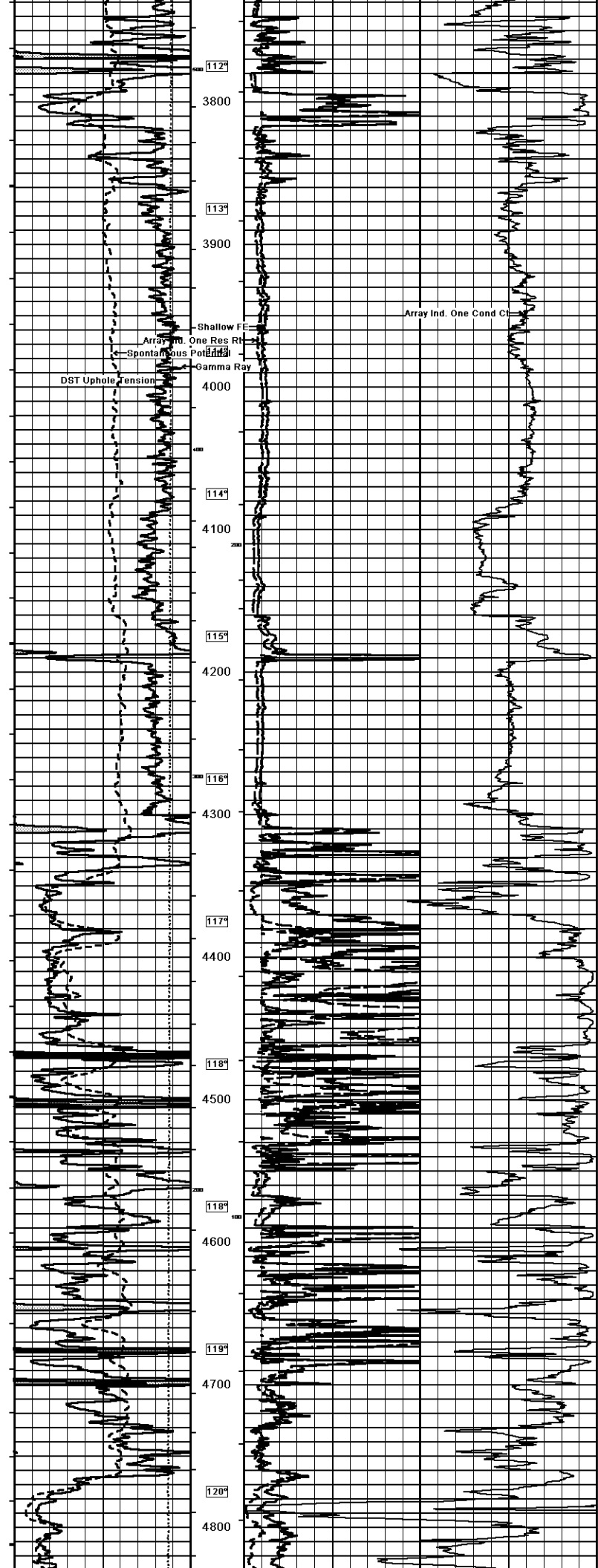
System Versions: Logged with 13.08.2113

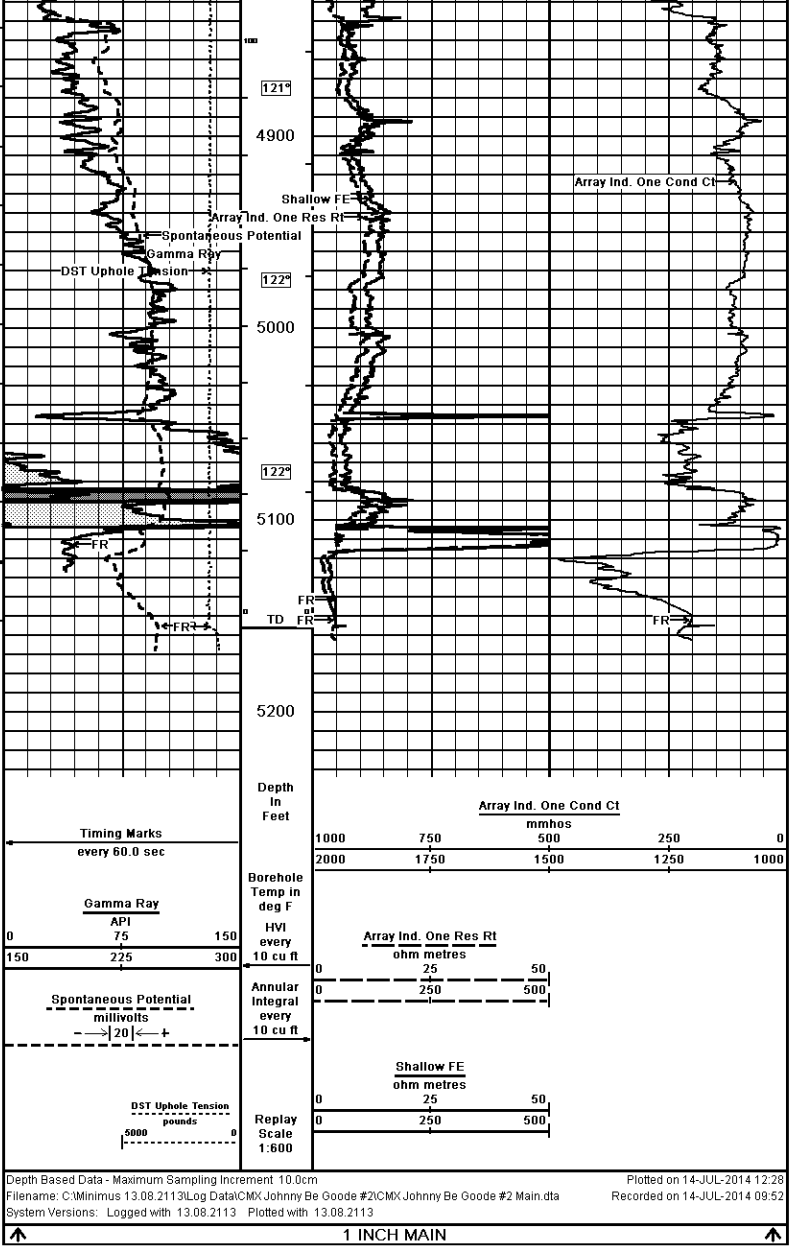
Plotted with 13.08.2113











COMPANY		CMX, INC.			
WELL		JOHNNY BE GOODE #2			
FIELD		STRANATHAN			
PROVINCE/COUNTY		BARBER			
COUNTRY/STATE		U.S.A. / KANSAS			
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