



Weatherford¹⁸⁰

ARRAY INDUCTION
SHALLOW FOCUSED
ELECTRIC LOG

COMPANY

O'BRIEN ENERGY RESOURCES CORP.

WELL

CROOKED CREEK OFFSET # 4-8

FIELD

ANGELL SOUTH

PROVINCE/COUNTY

MEADE

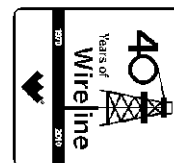
COUNTRY/STATE

U.S.A. / KANSAS

LOCATION

2271' FSL & 526' FEL

SW NE NE SE



SEC

TWP

RGE

Other Services

8

33S

29W

MPD/MDN

API Number

15-119-21309

MML

Permit Number

Permanent Datum G.L., Elevation 2644 feet

Log Measured From KB

Drilling Measured From K.B.

Elevations:

feet

KB

2656.00

DF

2654.00

GL

2644.00

Date

16-FEB-2012

Run Number

ONE

Depth Driller

6323.00

feet

Depth Logger

6323.00

feet

First Reading

6320.00

feet

Last Reading

1497.00

feet

Casing Driller

1501.00

feet

Casing Logger

1497.00

feet

Bit Size

7.875

inches

Hole Fluid Type

CHEMICAL

Density / Viscosity

9.00

lb/USg

58.00

CP

PH / Fluid Loss

10.50

8.00

ml/30Min

Sample Source

FLOWLINE

Rm @ Measured Temp

1.35 @ 65.0

ohm-m

Rmf @ Measured Temp

1.08 @ 65.0

ohm-m

Rmc @ Measured Temp

1.62 @ 65.0

ohm-m

Source Rmf / Rmc

CALC

CALC

Rm @ BHT

0.76 @ 118.0

ohm-m

Time Since Circulation

6 HOURS

Max Recorded Temp

118.00

deg F

Equipment Name

COMPACT

Equipment / Base

13096

LIB

Recorded By

A. GIAMBALVO

Witnessed By

ROGER PEARSON

PETER DEBENHAM

S.O. / JOB #

3534704

LB12-034

BOREHOLE RECORD

Last Edited: 16-FEB-2012 14:05

Bit Size
inches

7.875

Depth From
feet

1497.00

Depth To
feet

6323.00

CASING RECORD

Type

Size
inches

8.625

Depth From
feet

12.00

Shoe Depth
feet

1497.00

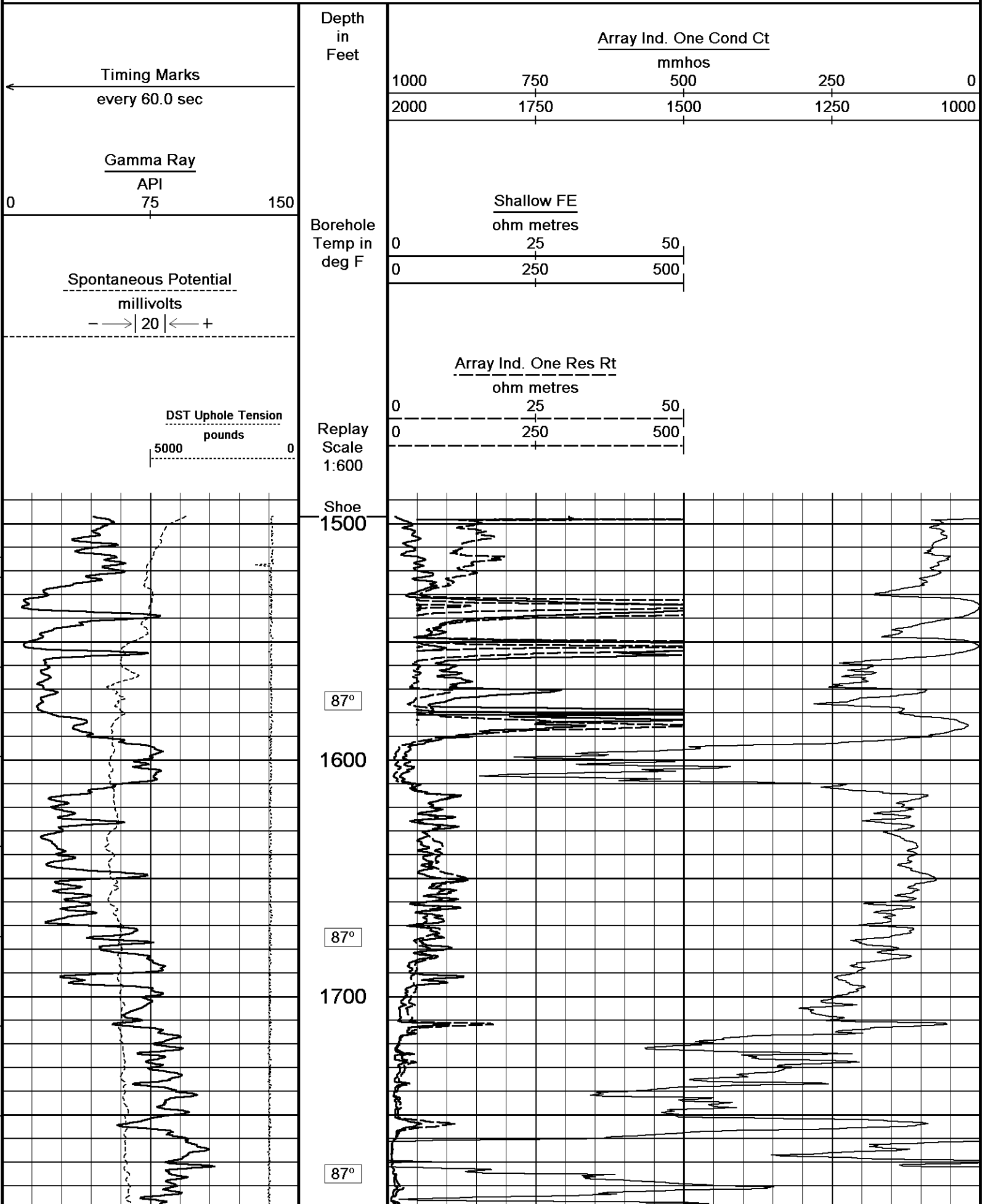
Weight
pounds/ft

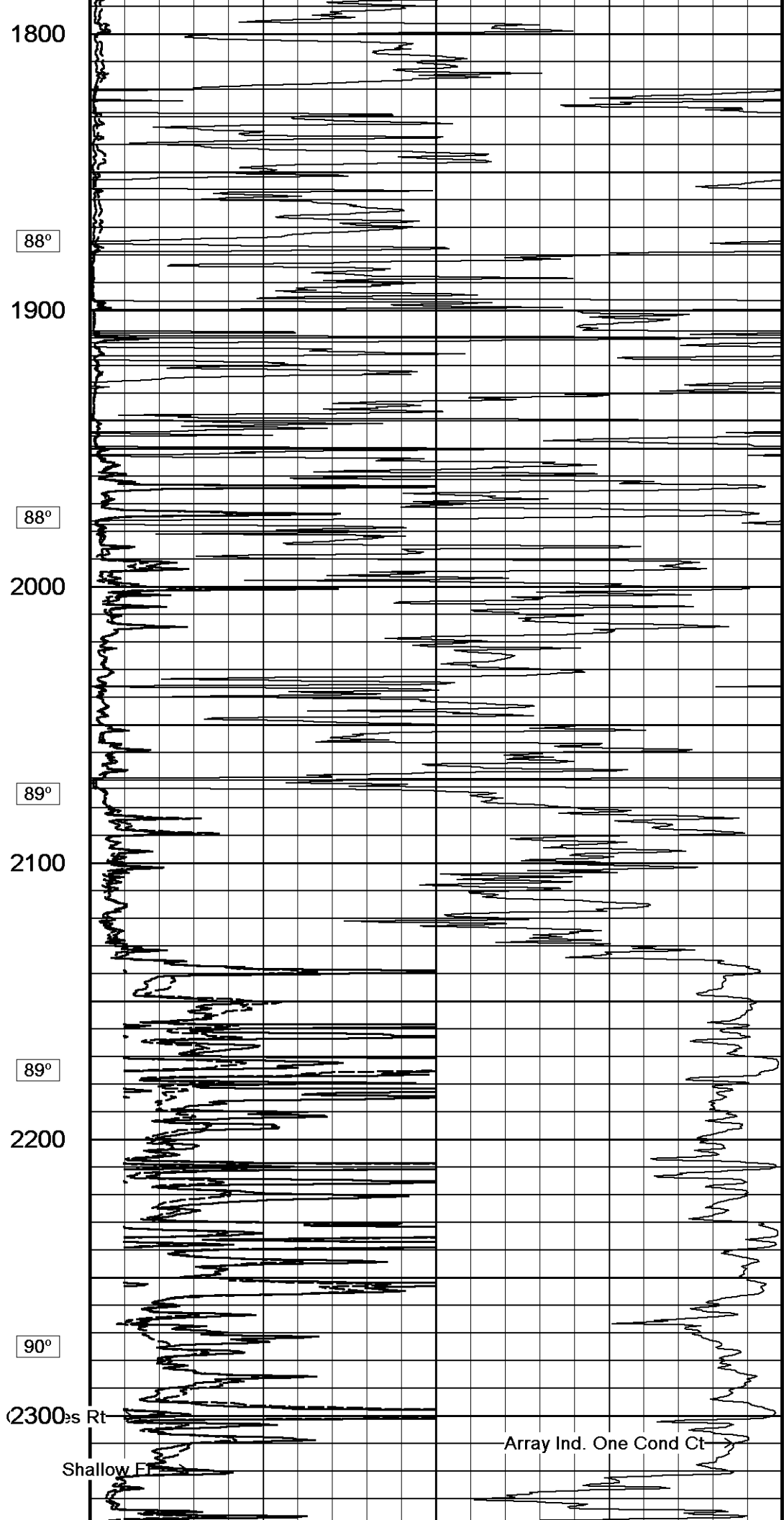
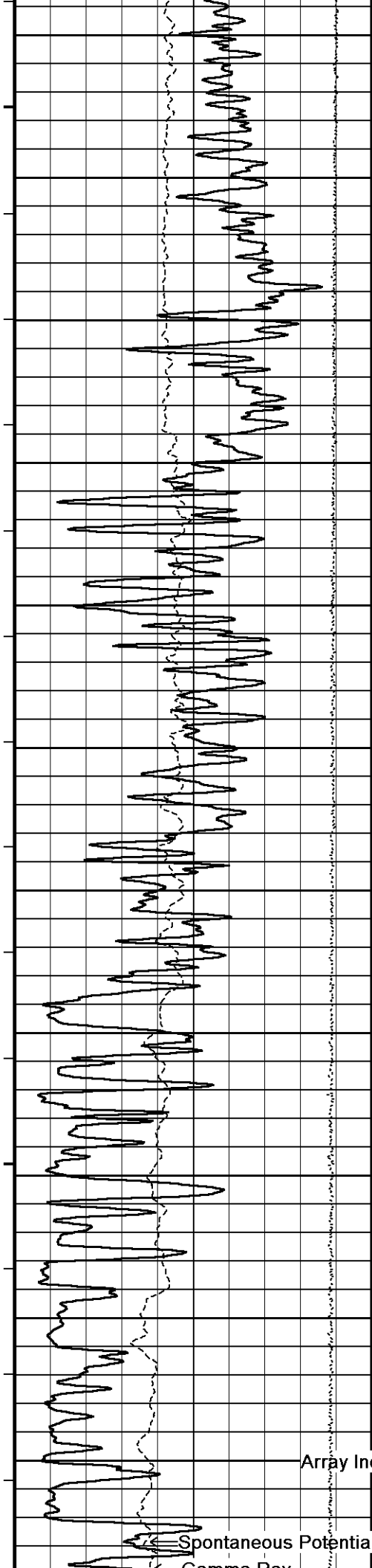
24.00

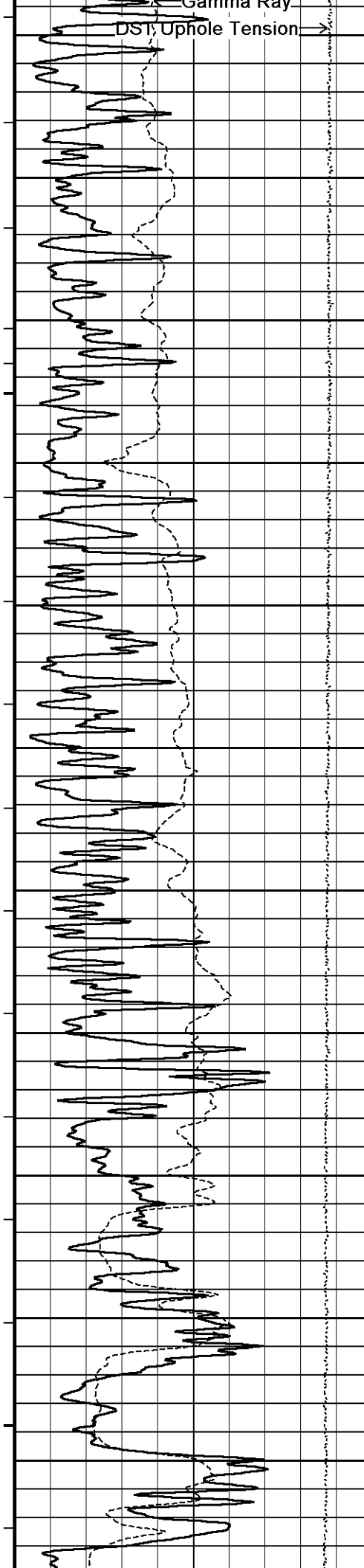
REMARKS

Tools Run: MAI, MPD, MCG, MDN, MFE, MML,
Hardware: MPD: 8 inch profile plate used. MAI and MFE: 0.5 inch standoffs used. MDN: Dual Eccentralizer used.
2.71 G/CC Limestone density matrix used to calculate porosity.
Borhole rugosity, tight pulls, and washouts will affect data quality.
All intervals logged and scaled per customer's request.
Annular volume with 4.5 inch production casing = 442 Cubic Feet
Service order #3534704
Rig: Duke #6
Engineer: A. Giambalvo
Operator(s): K. Rinehart

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions in our price schedule.







90°

2400

91°

2500

91°

2600

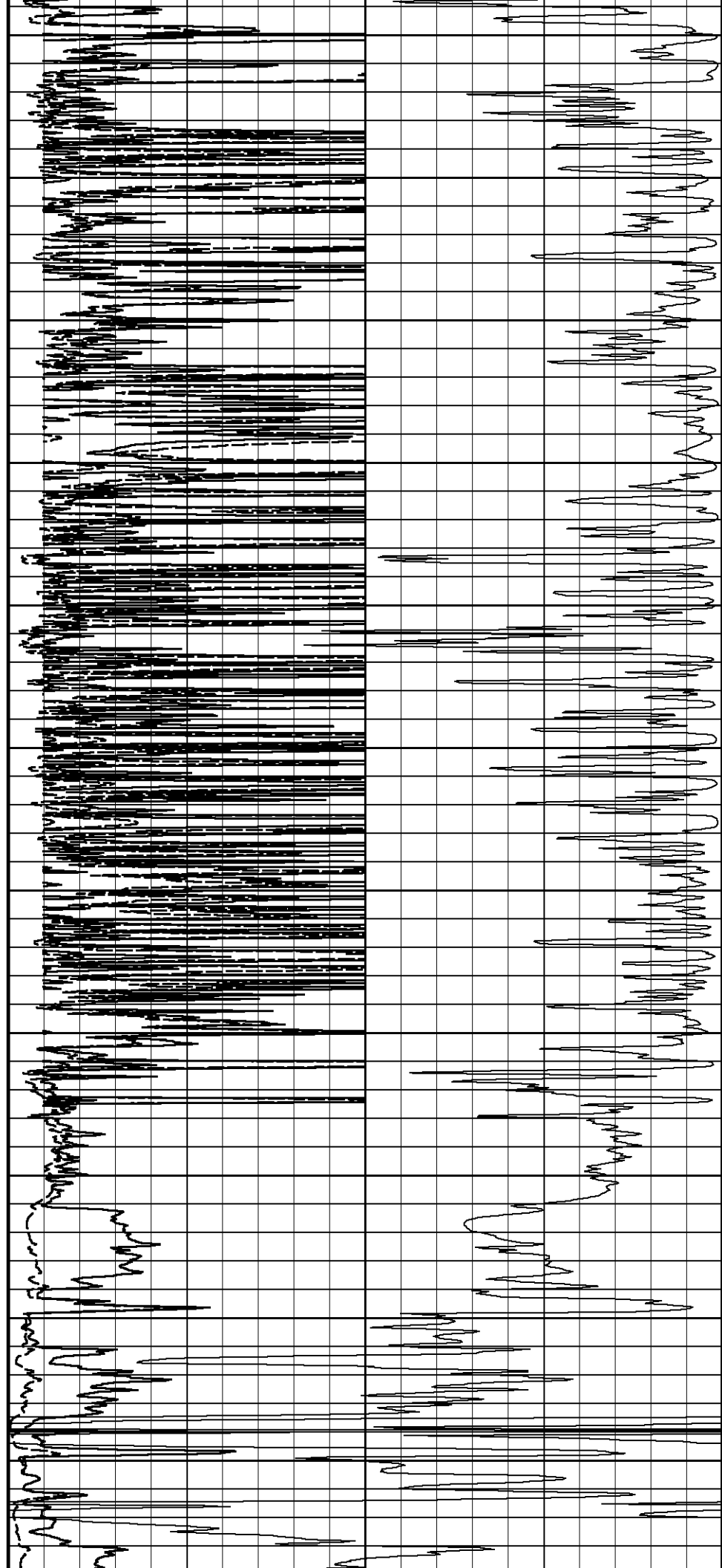
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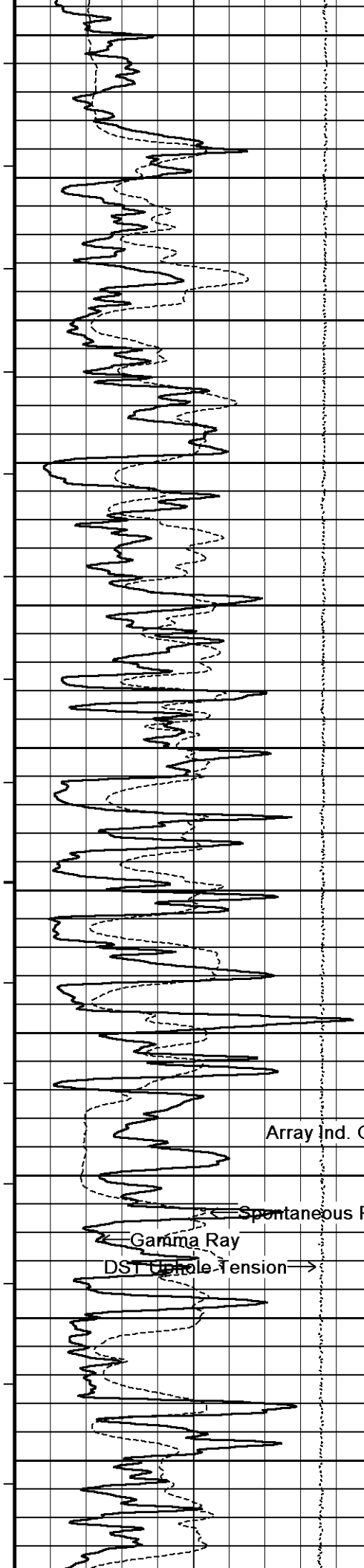
2700

92°

2800

93°





2900

94°

3000

95°

3100

95°

3200

96°

Array Ind. One Res Rt

3300

Channel FE

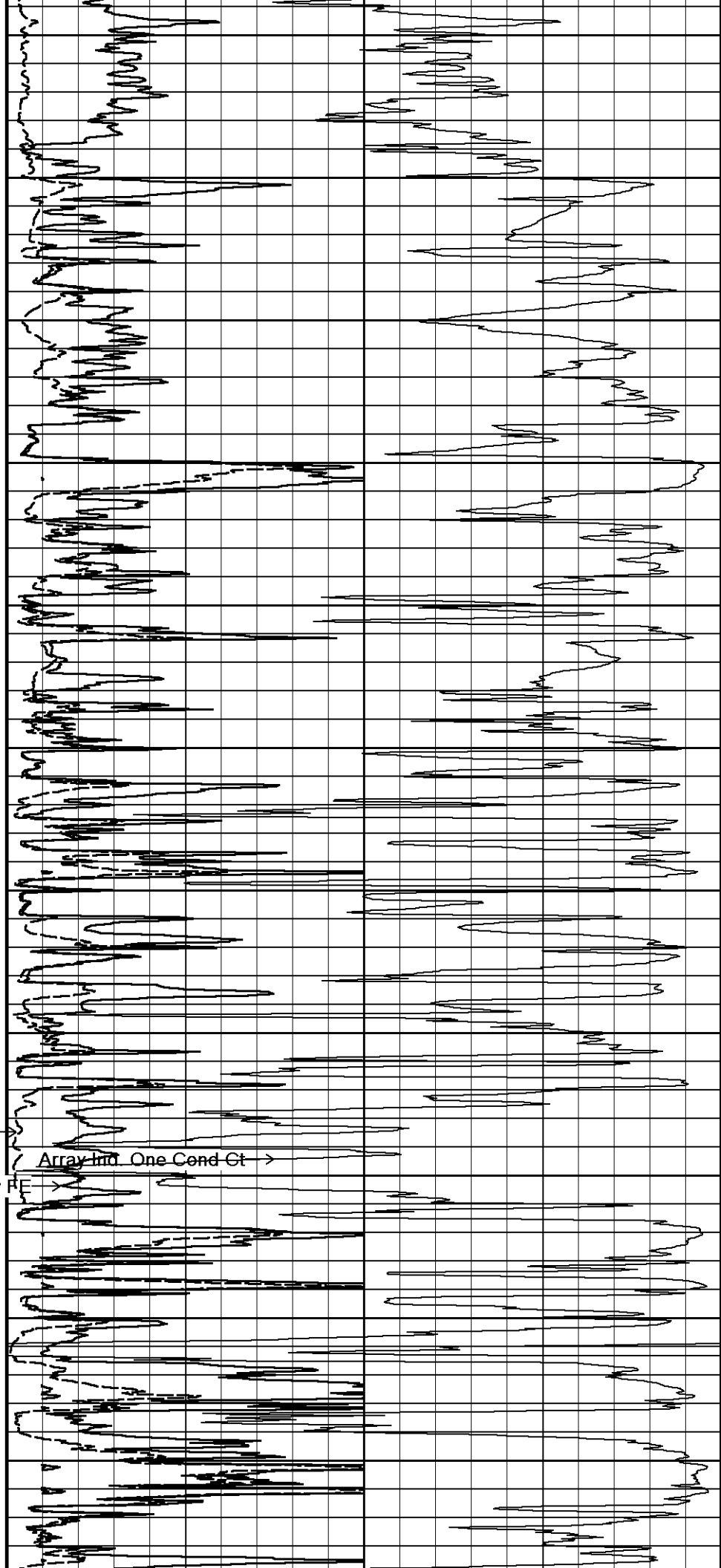
Spontaneous Potential

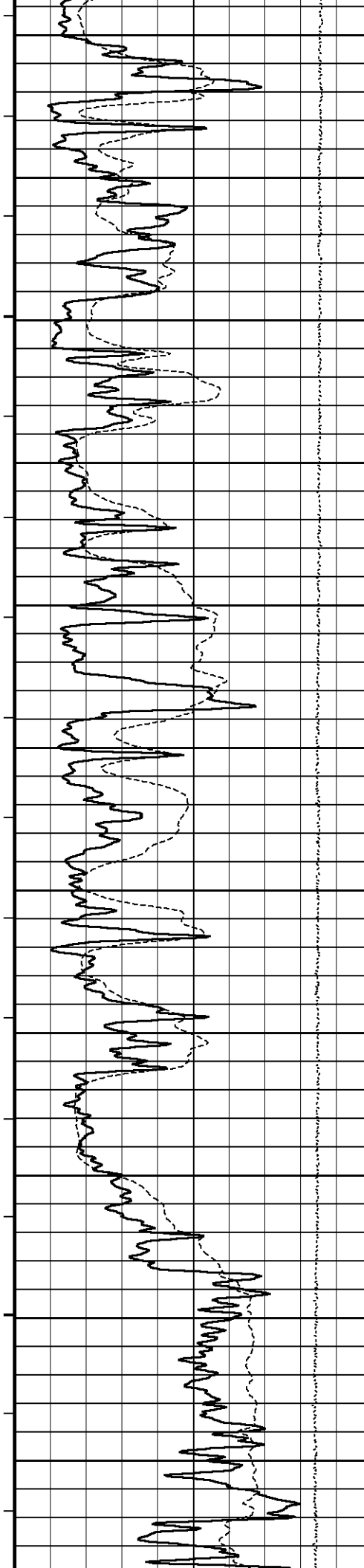
Gamma Ray

DST Up-hole Tension

97°

3400





97°

3500

98°

3600

99°

3700

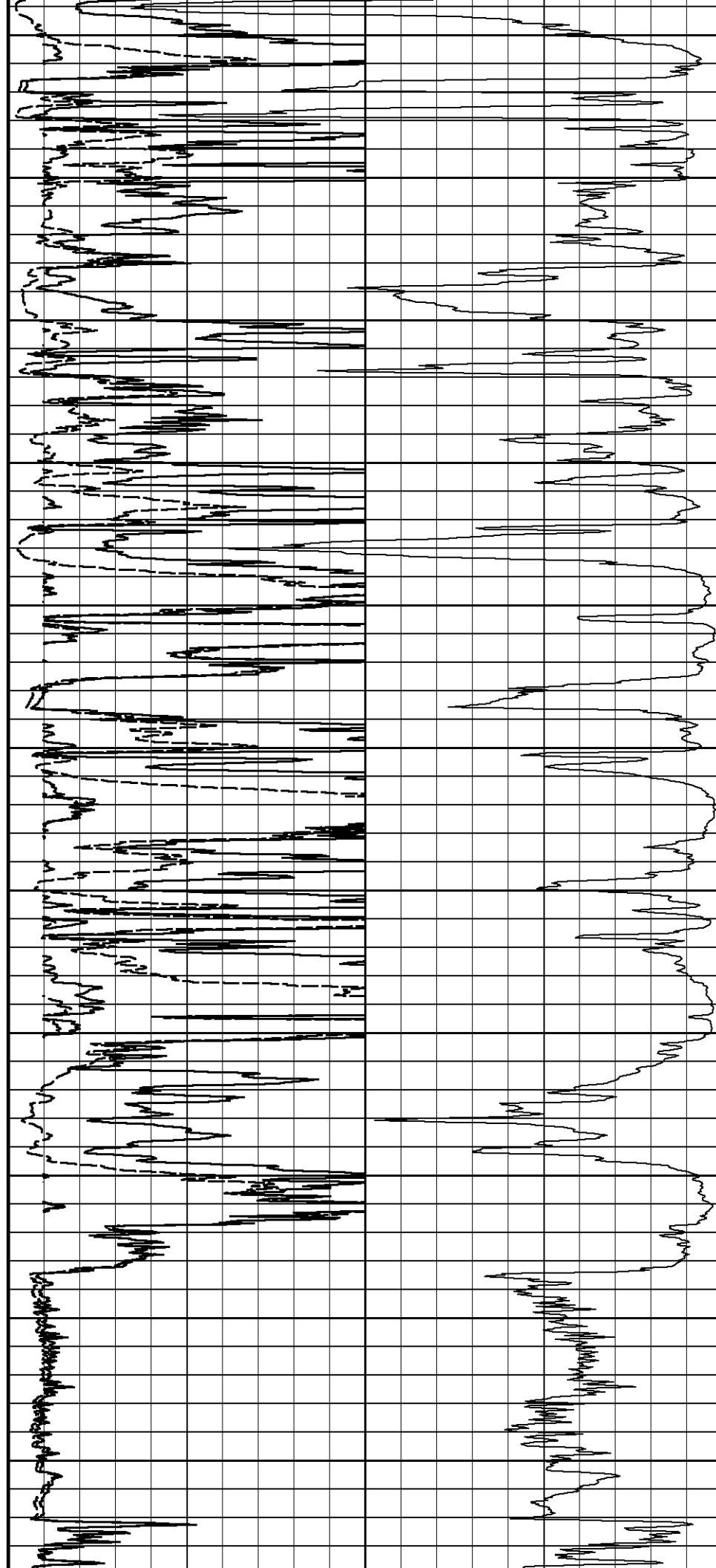
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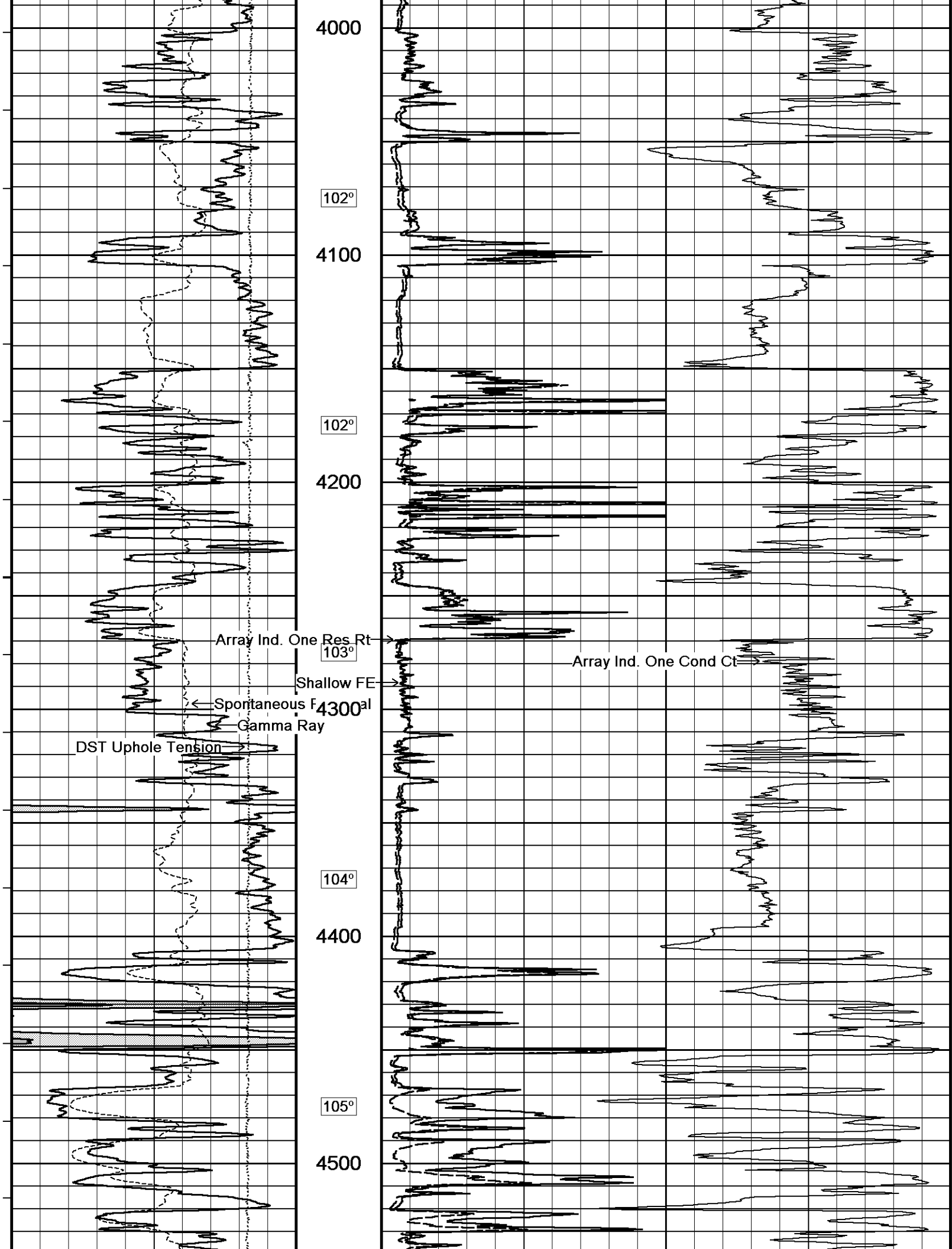
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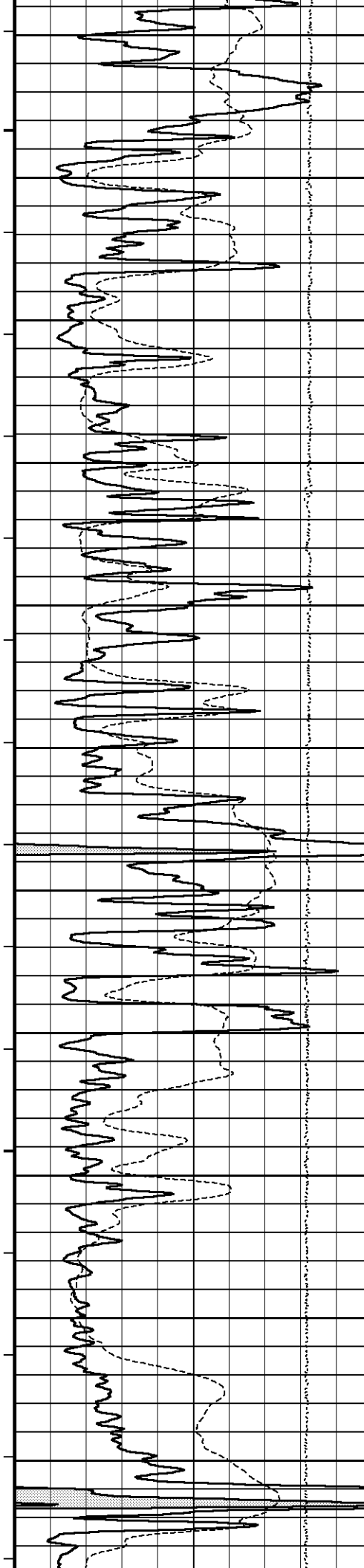
100°

3900

101°







106°

4600

107°

4700

107°

4800

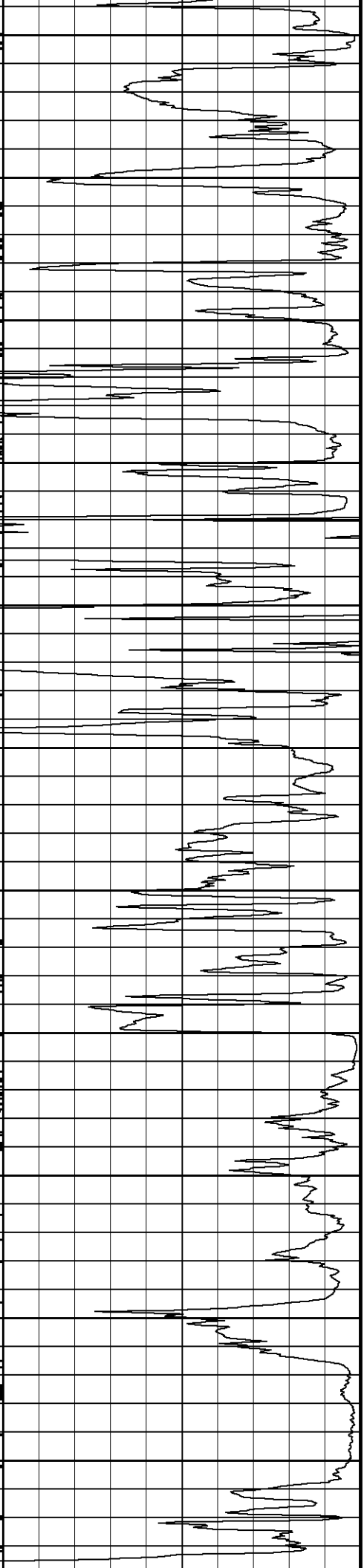
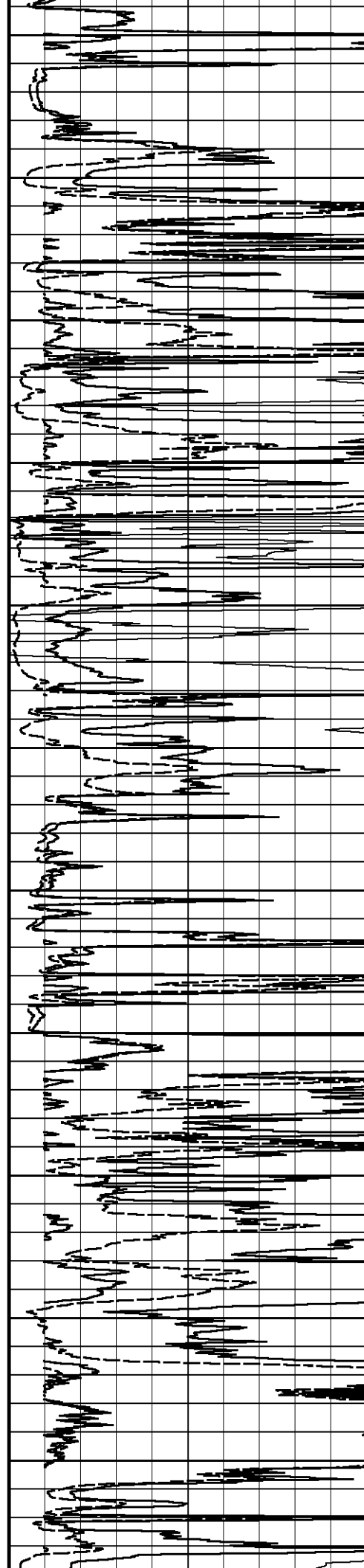
108°

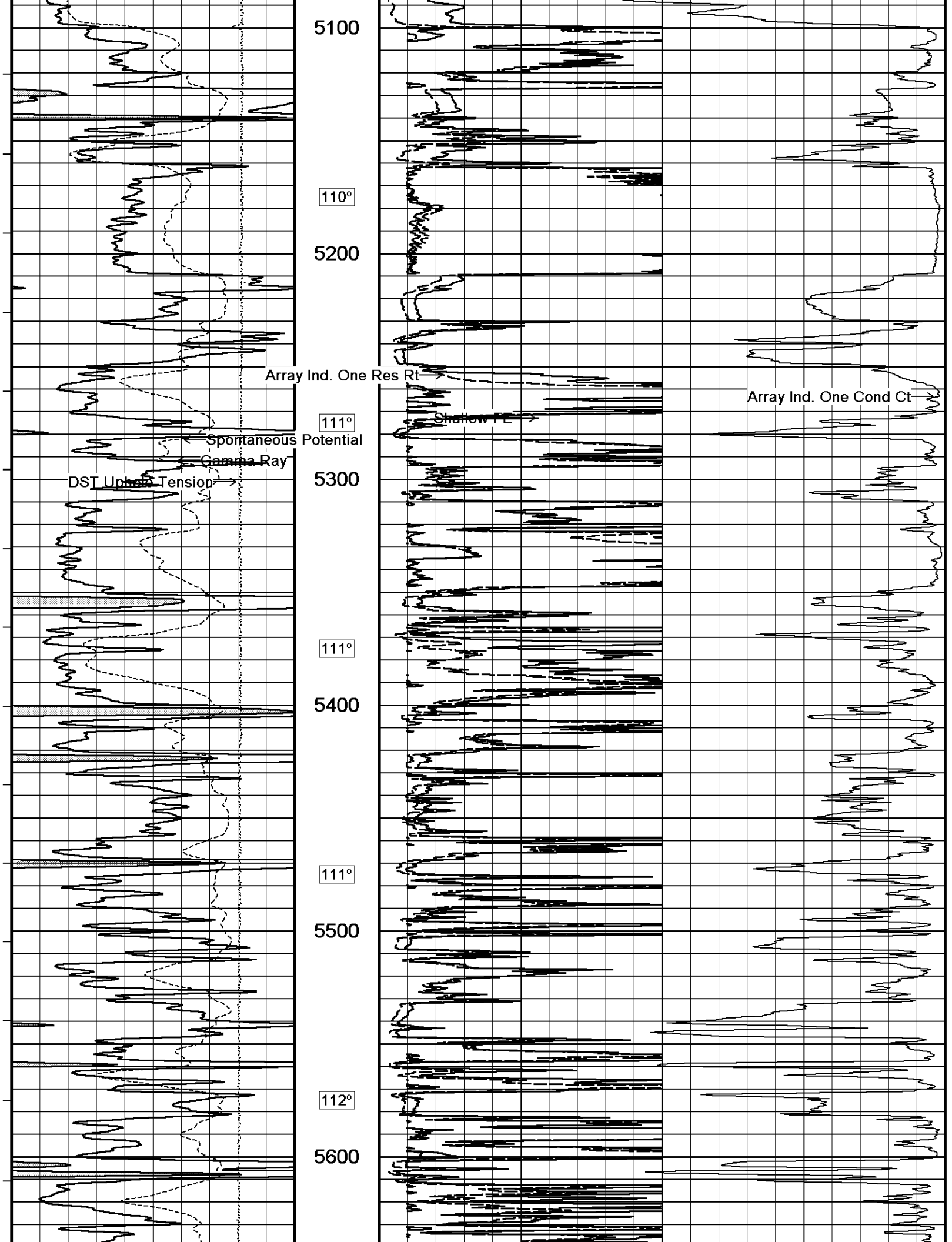
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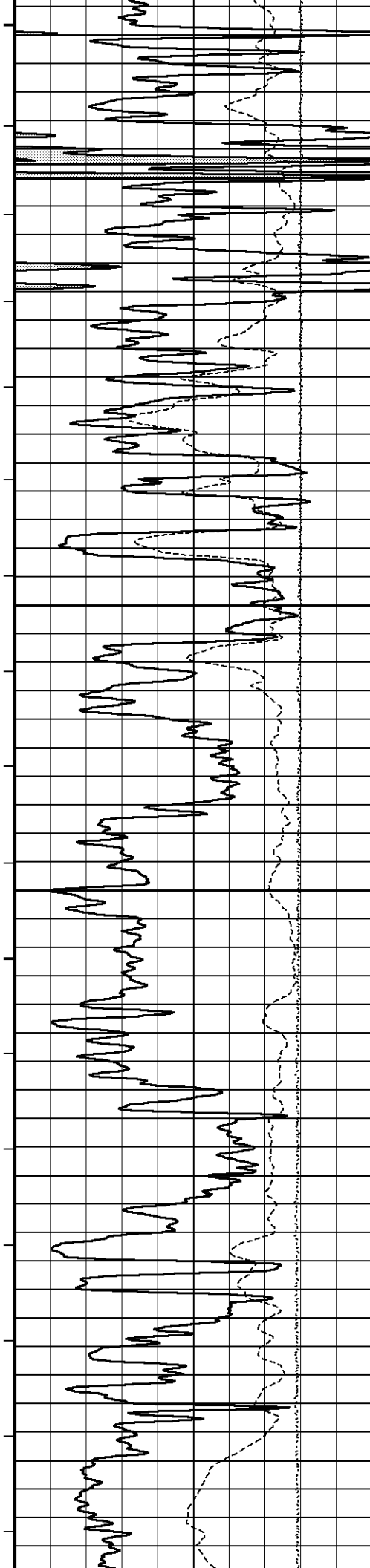
108°

5000

110°







112°

5700

114°

5800

114°

5900

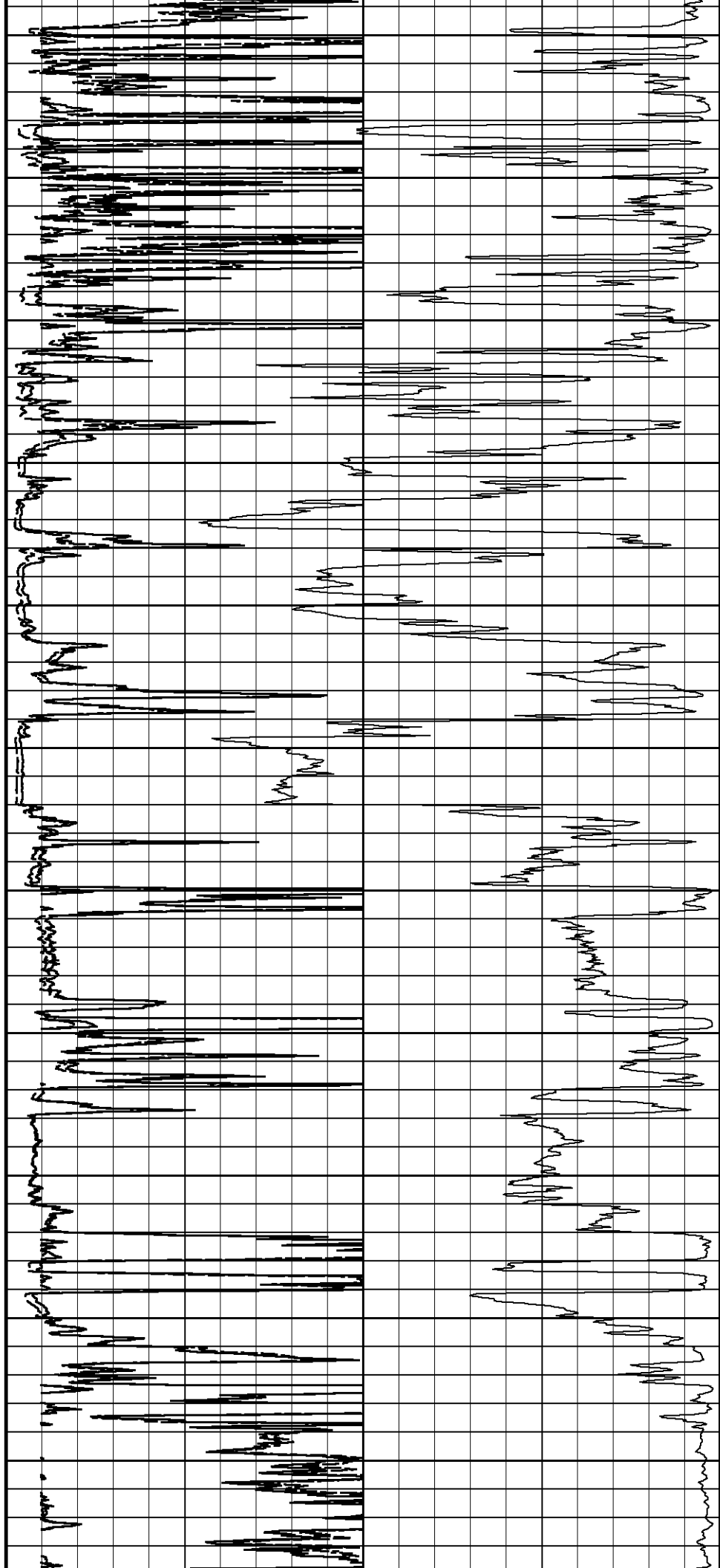
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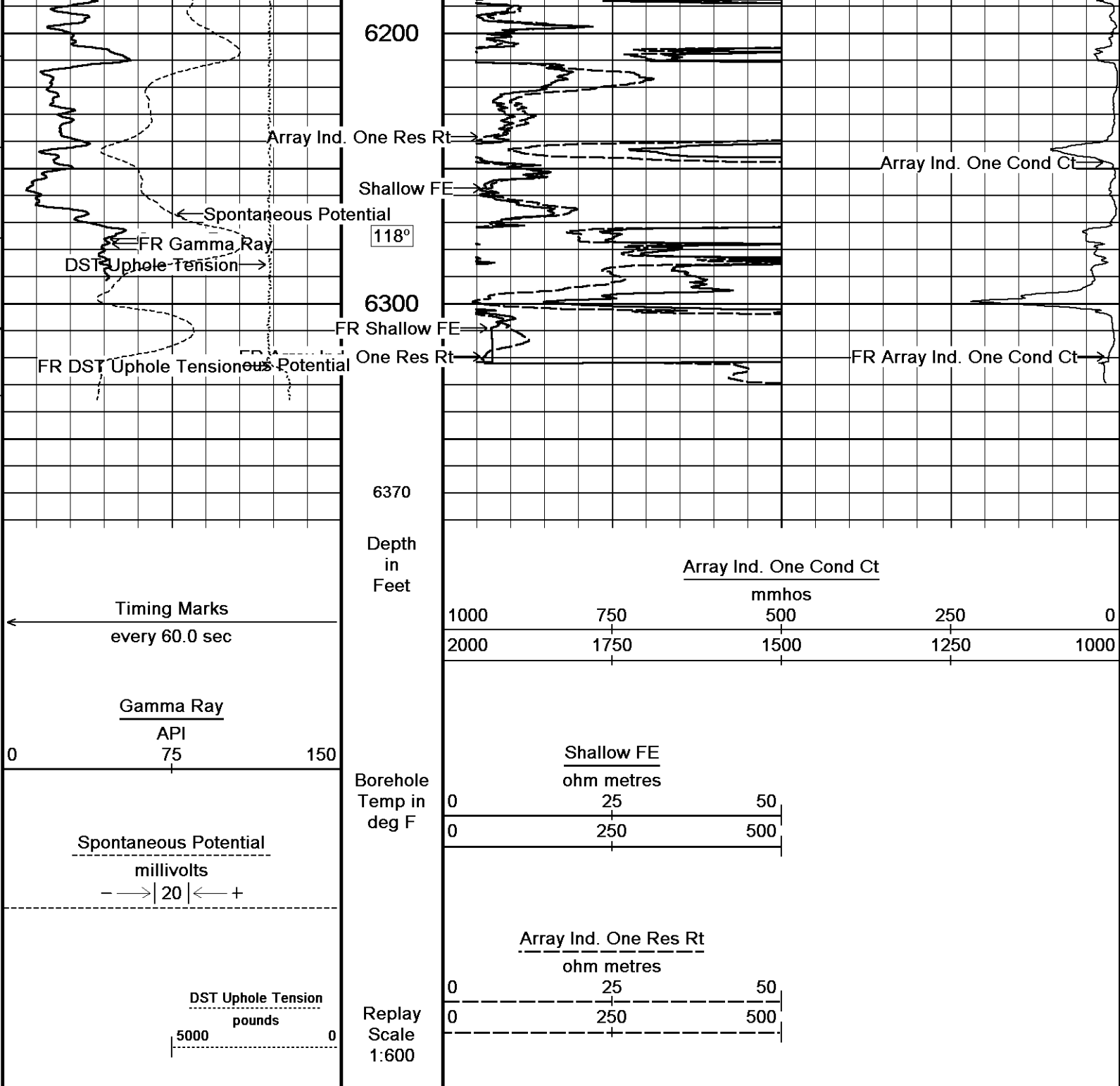
6000

118°

6100

118°



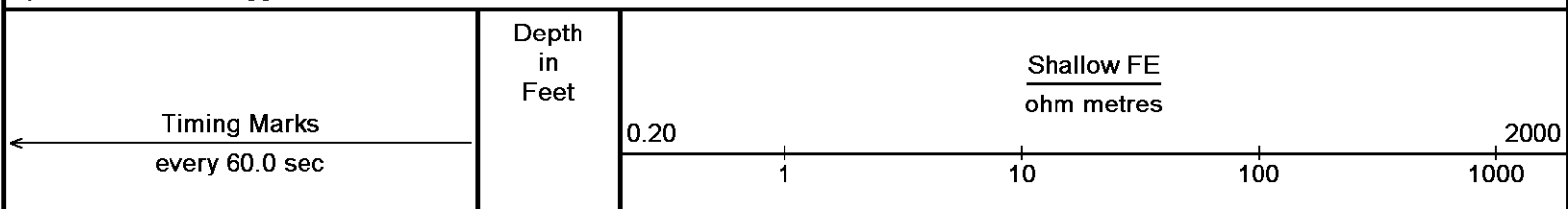


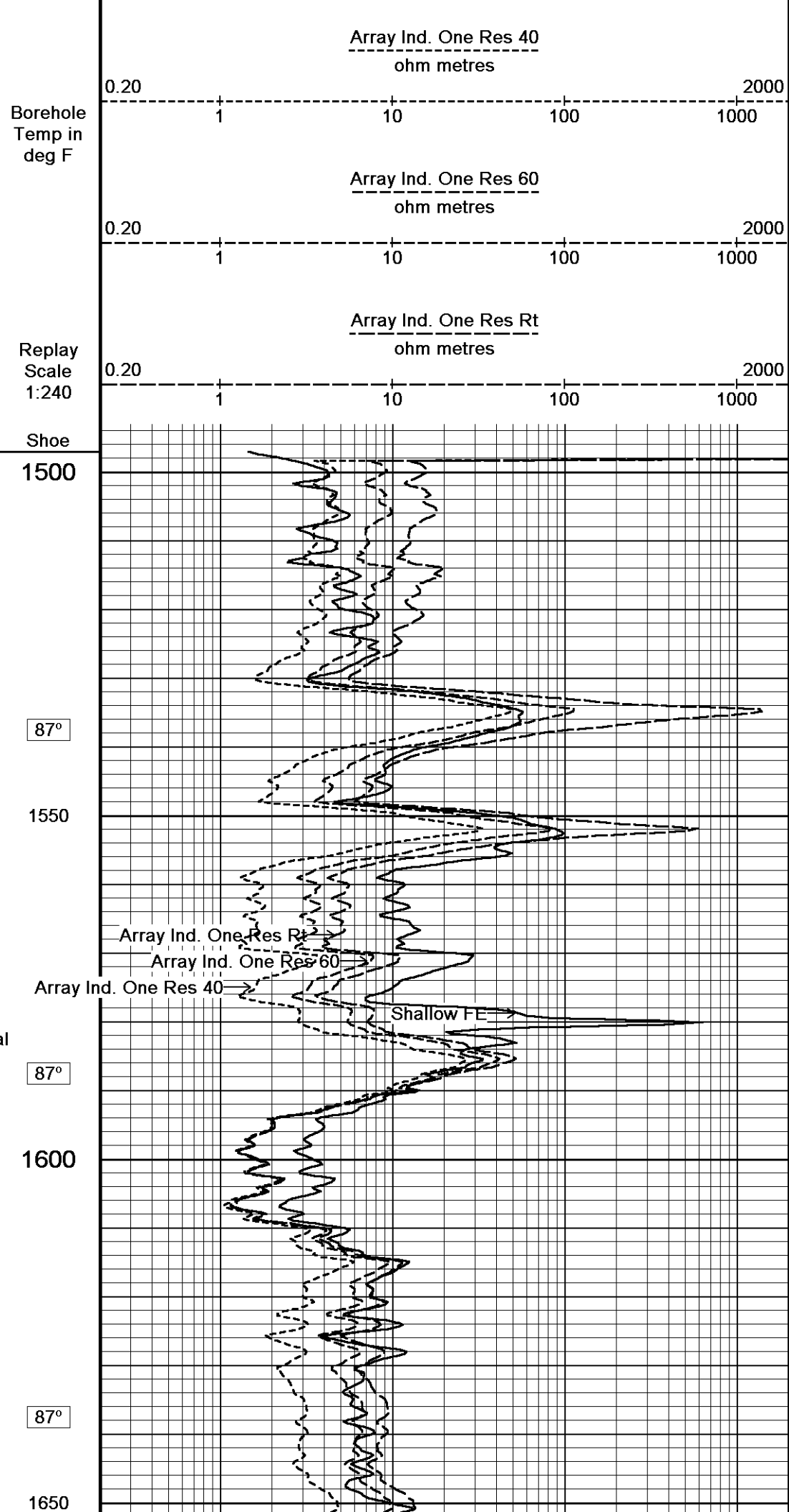
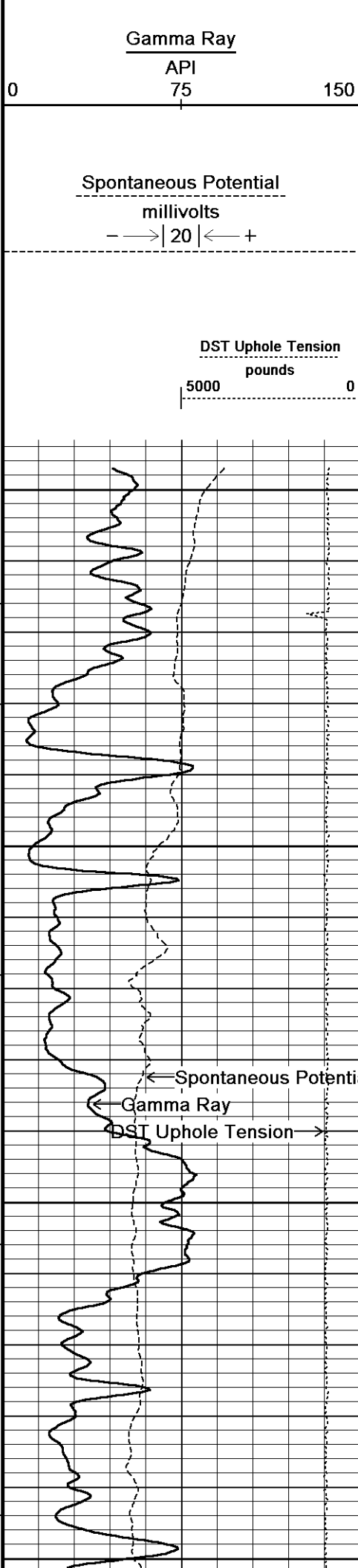
Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 16-FEB-2012 14:07
Filename: C:\Minimus 11_03_4044\Data\O'Brien Crooke...\O'Brien Crooked Creek Offset # 4-8_004.dta Recorded on 16-FEB-2012 11:34
System Versions: Logged with 11.03.4044 Processed with 11.03.4044 Plotted with 11.03.4044

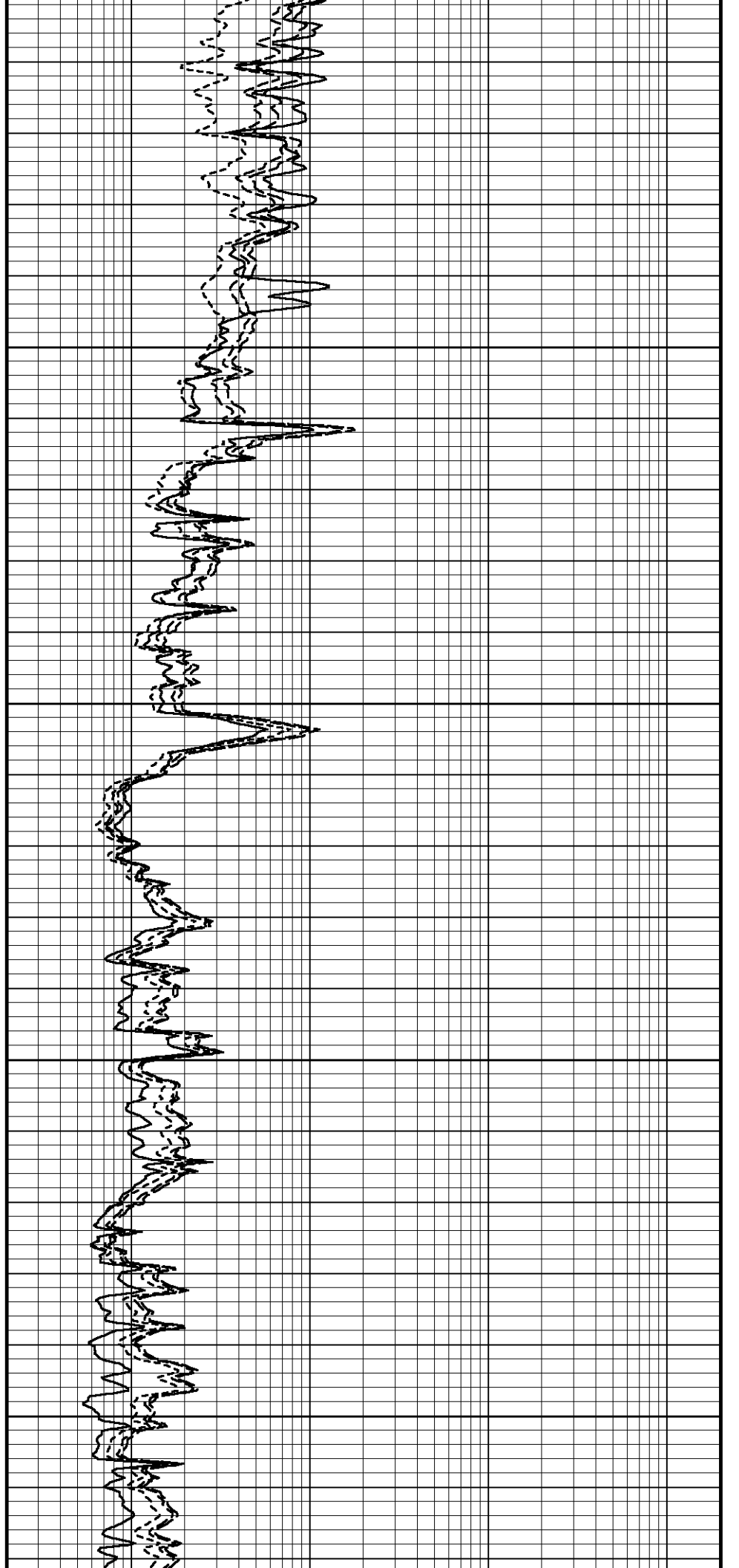
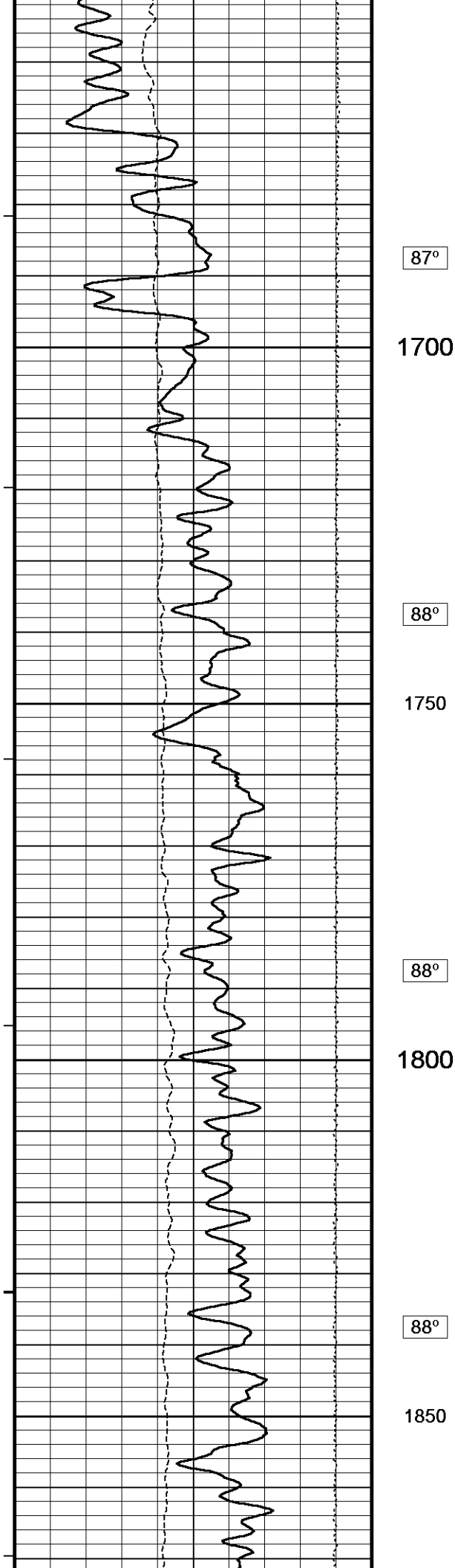
↑ 2 INCH MAIN ↑

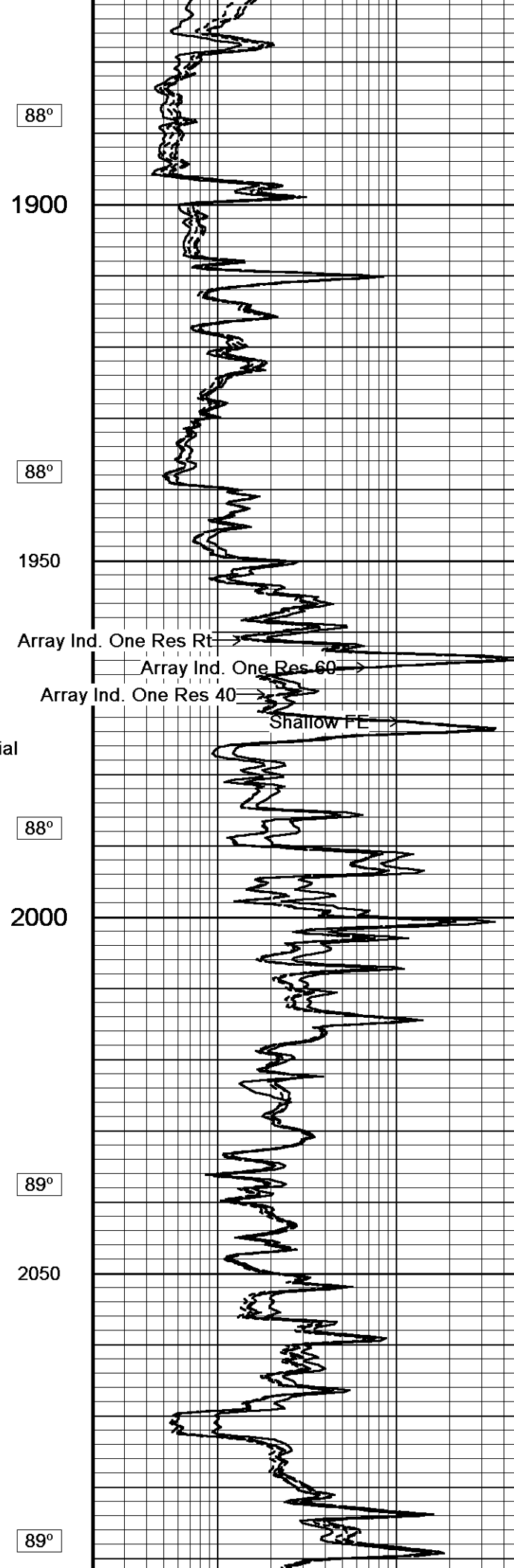
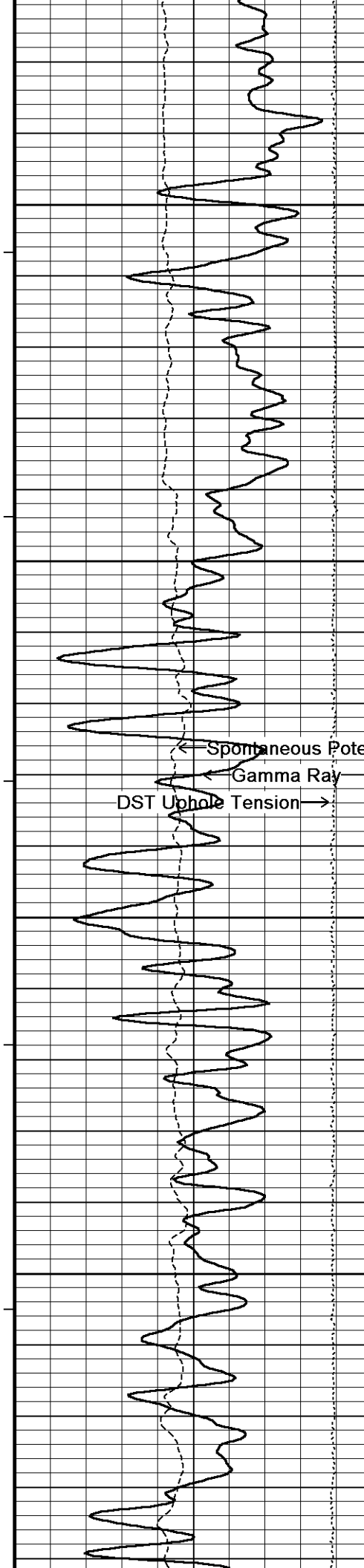
↓ 5 INCH MAIN ↓

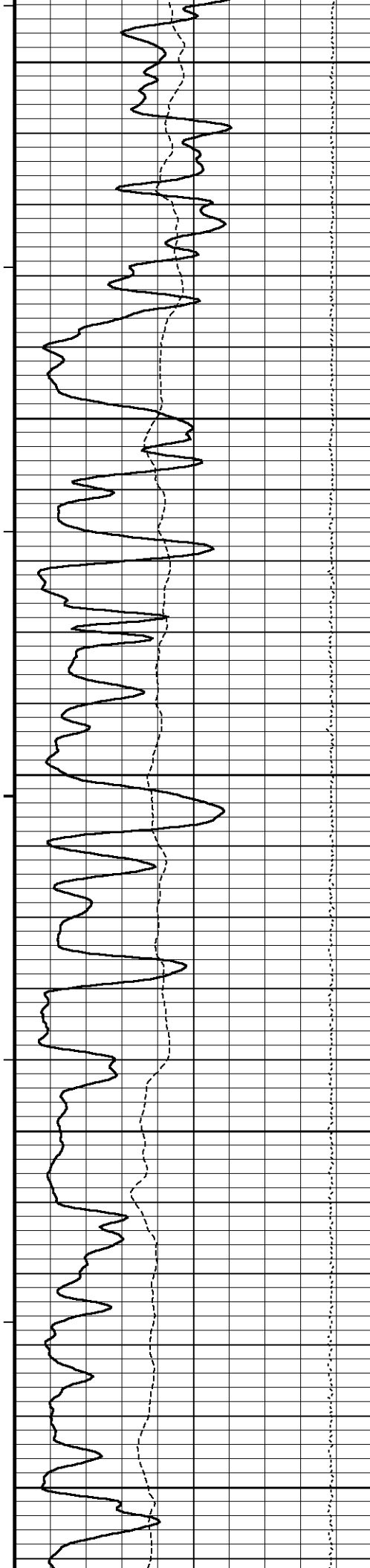
Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 16-FEB-2012 14:07
Filename: C:\Minimus 11_03_4044\Data\O'Brien Crooke...\O'Brien Crooked Creek Offset # 4-8_004.dta Recorded on 16-FEB-2012 11:34
System Versions: Logged with 11.03.4044 Processed with 11.03.4044 Plotted with 11.03.4044











2100

89°

2150

89°

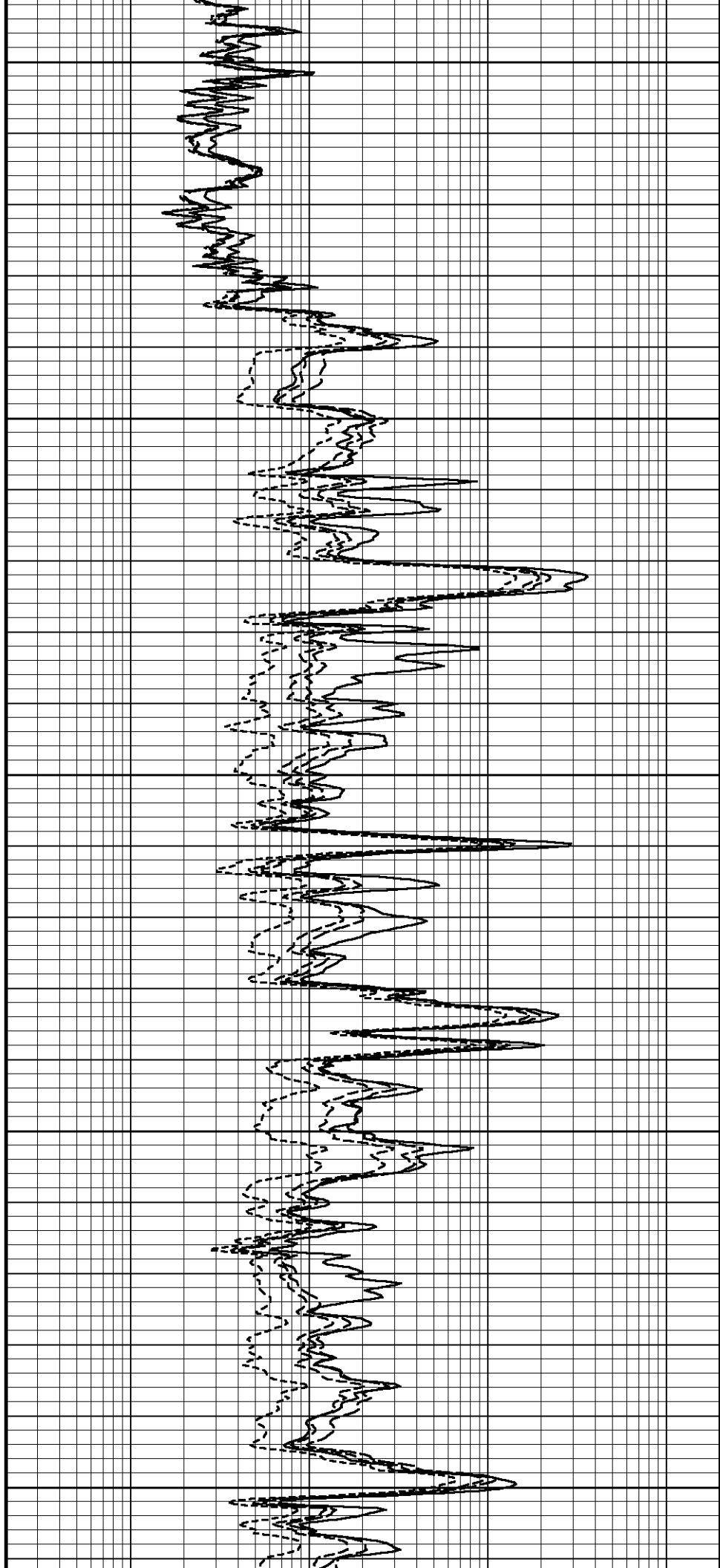
2200

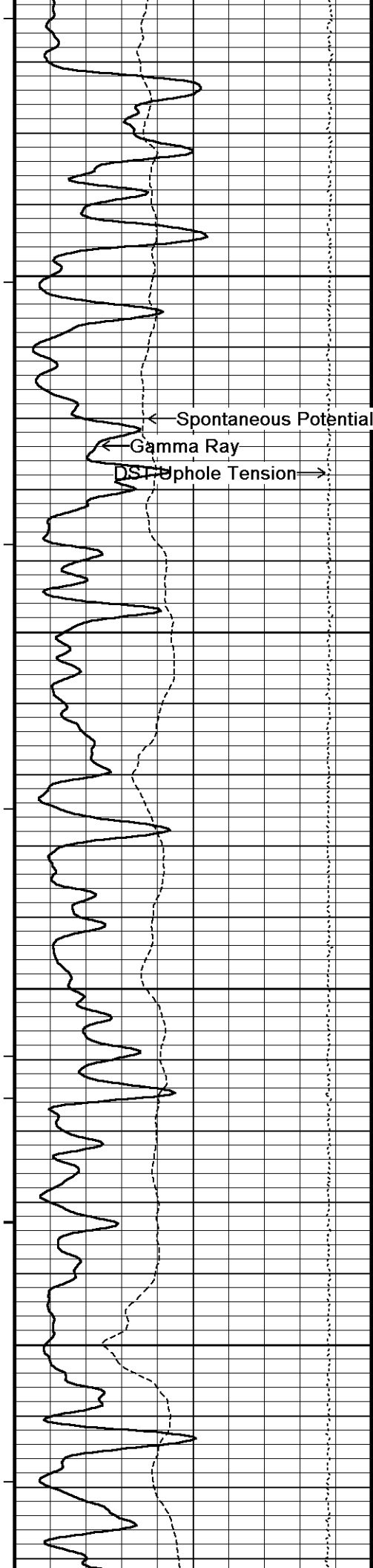
89°

2250

90°

2300





90°

2350

90°

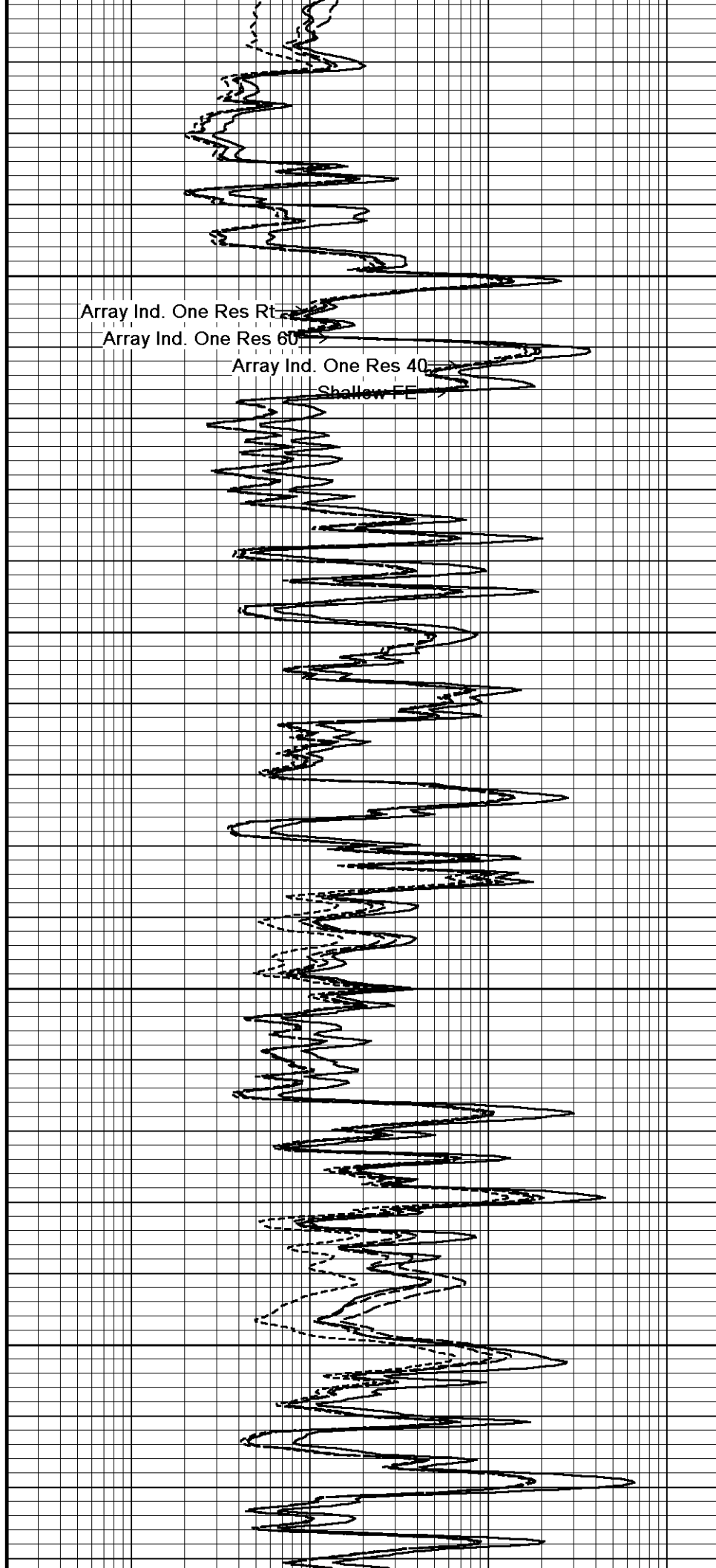
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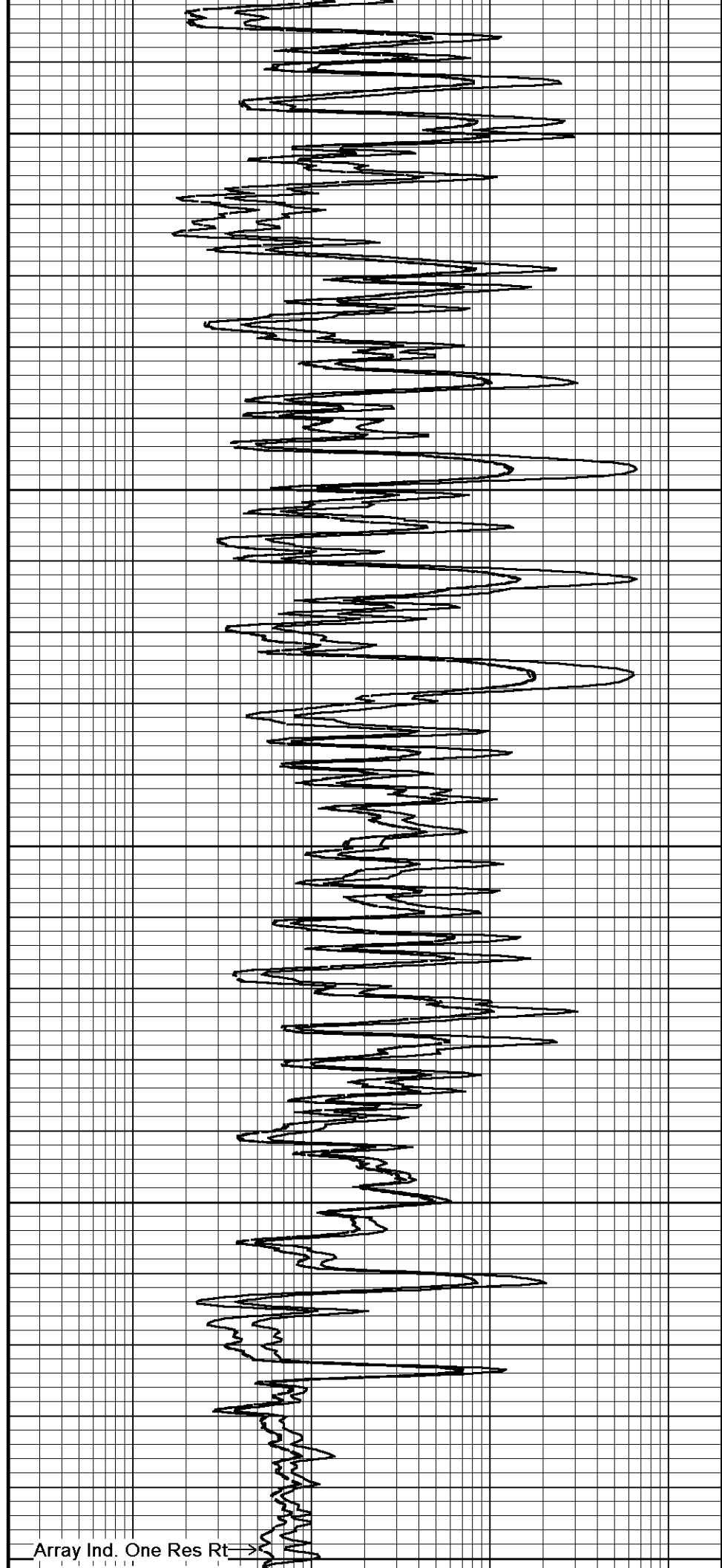
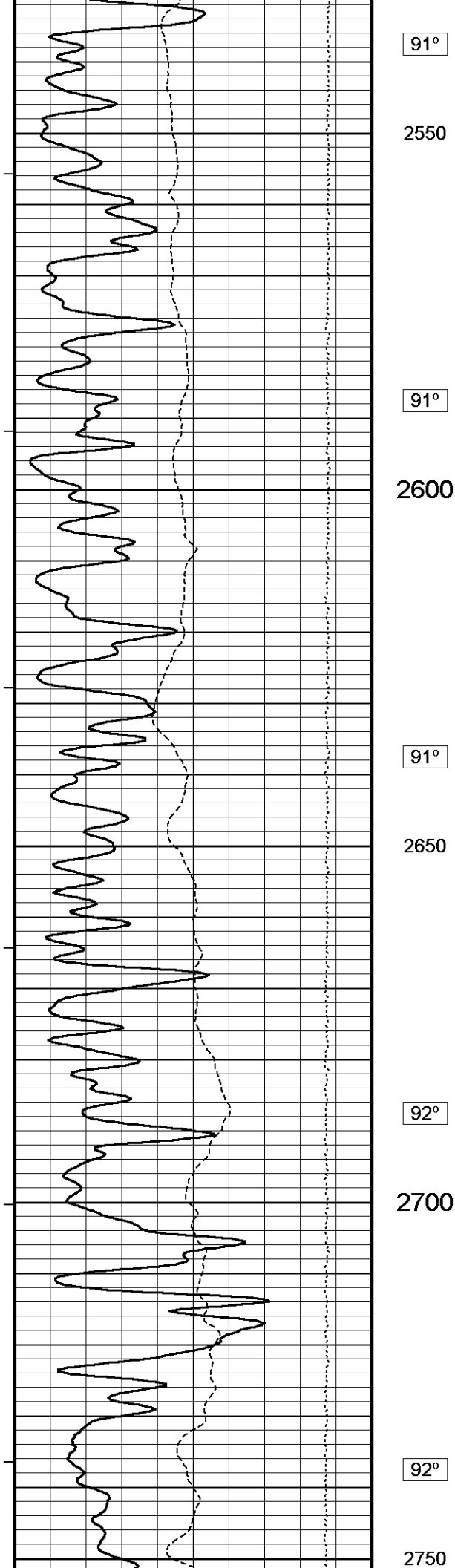
90°

2450

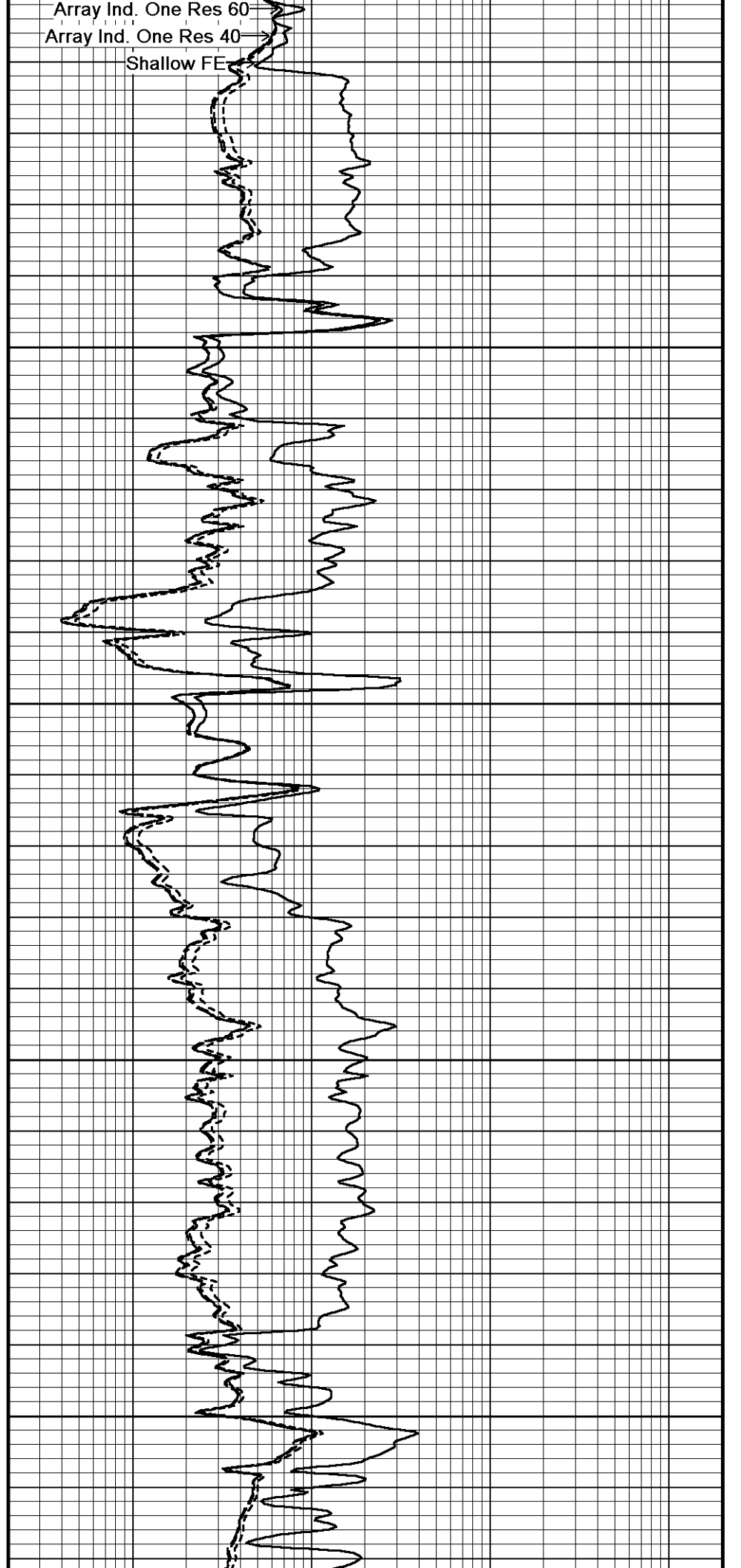
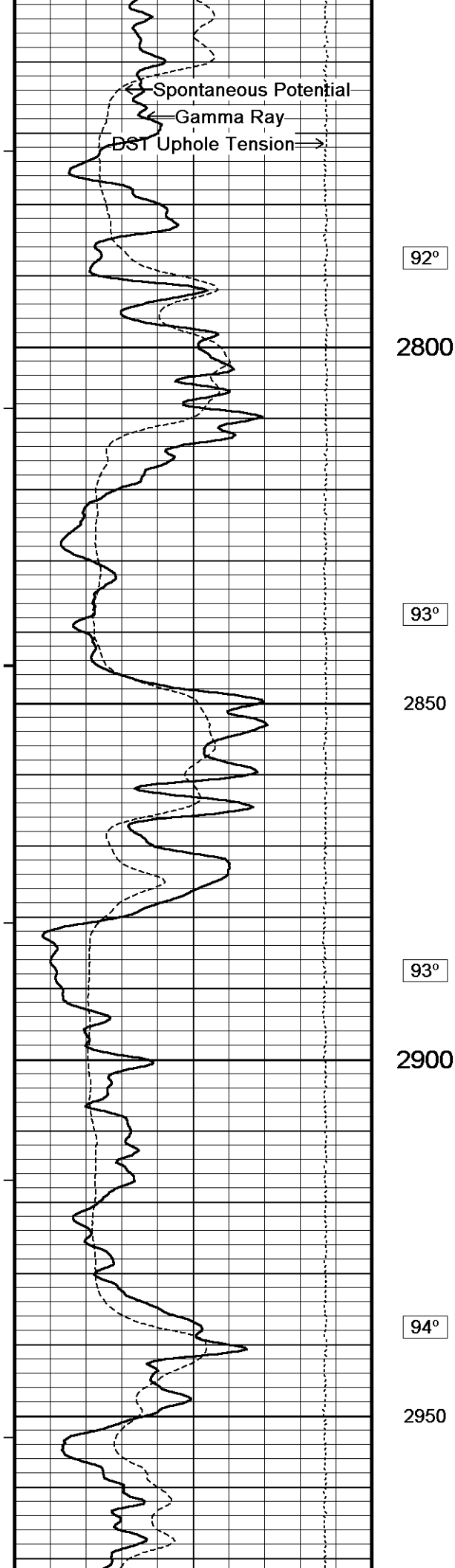
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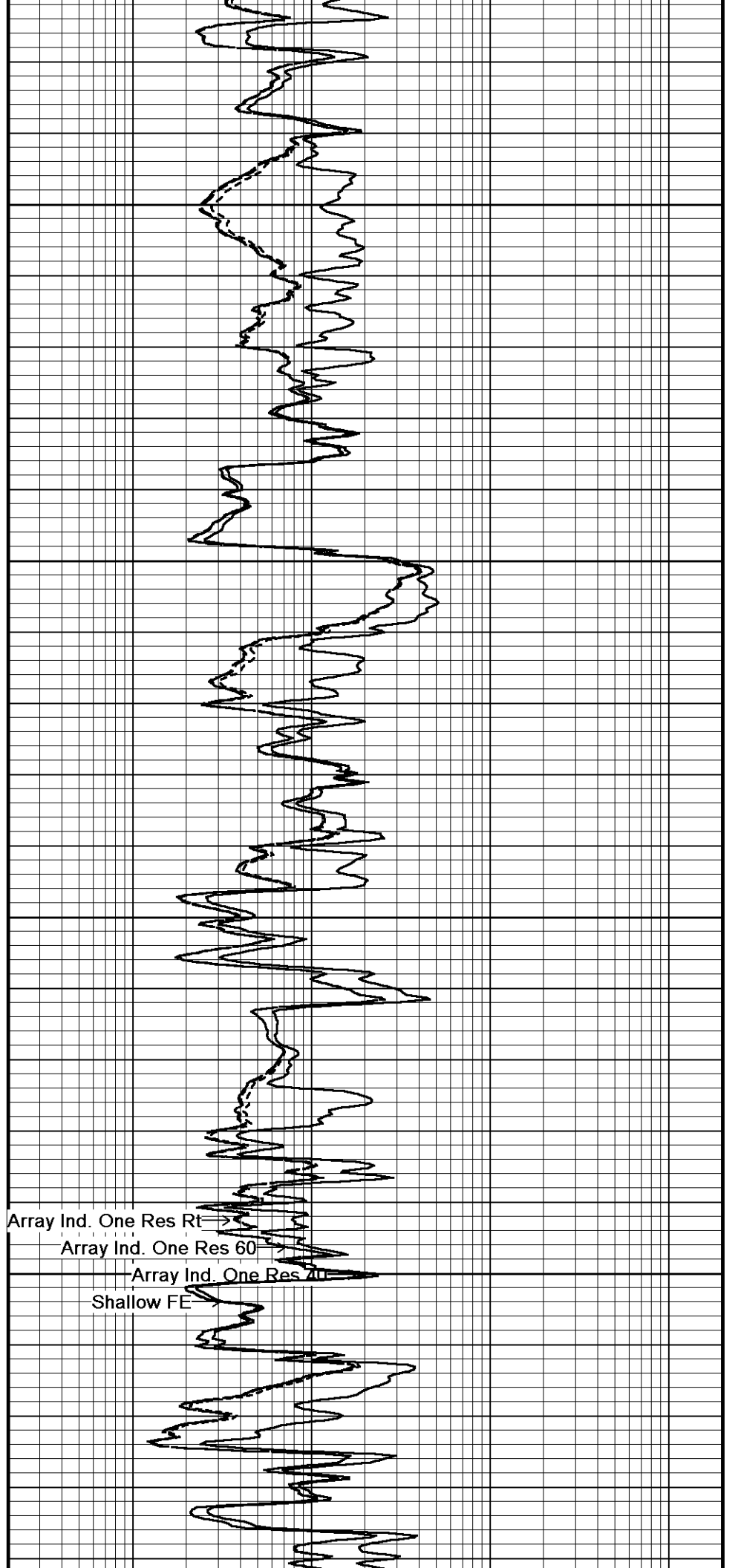
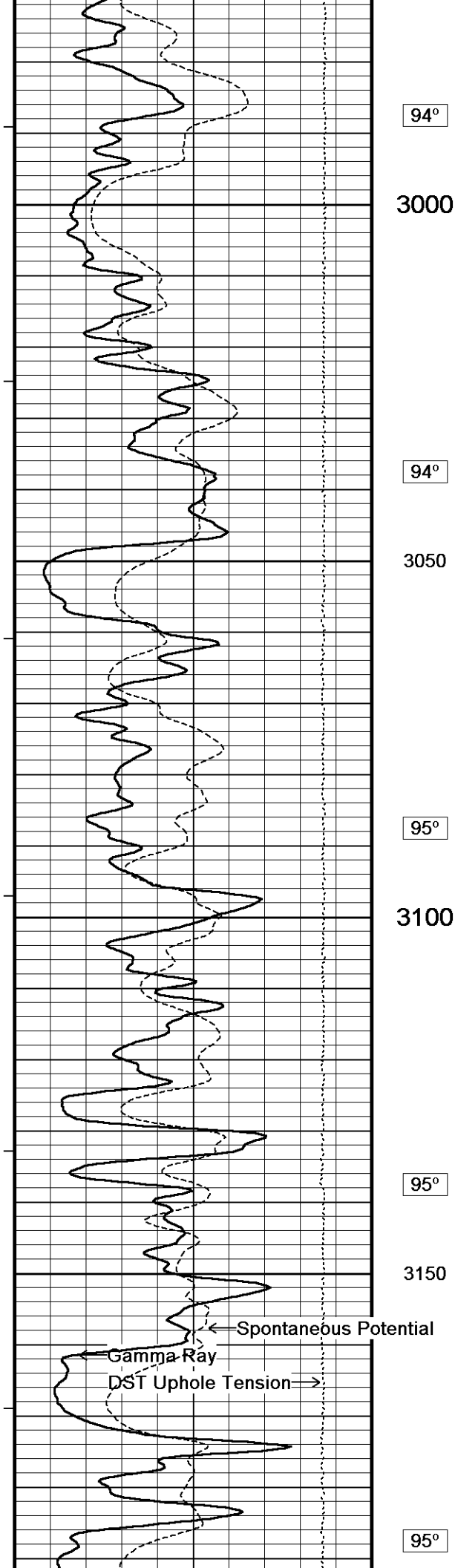
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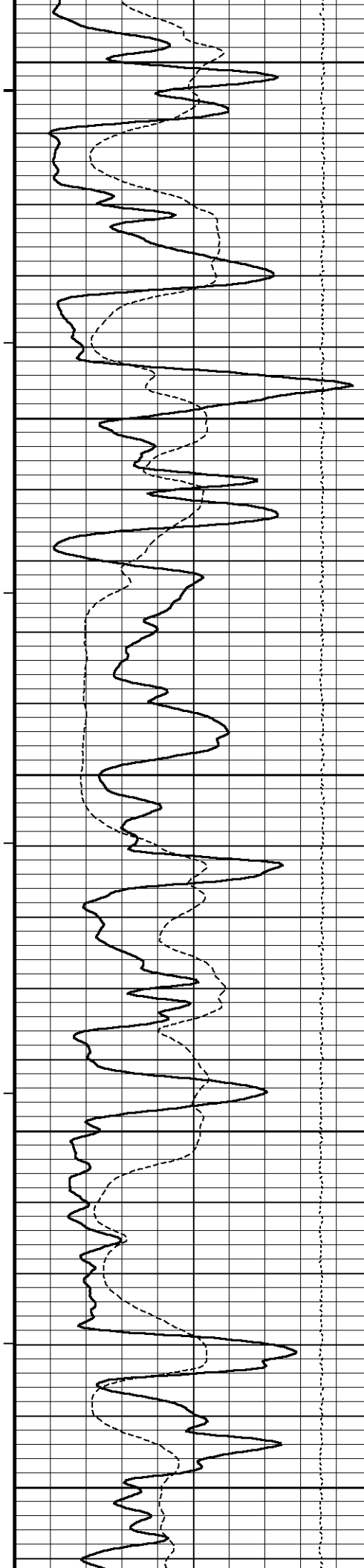




Array Ind. One Res Rt →







3200

96°

3250

96°

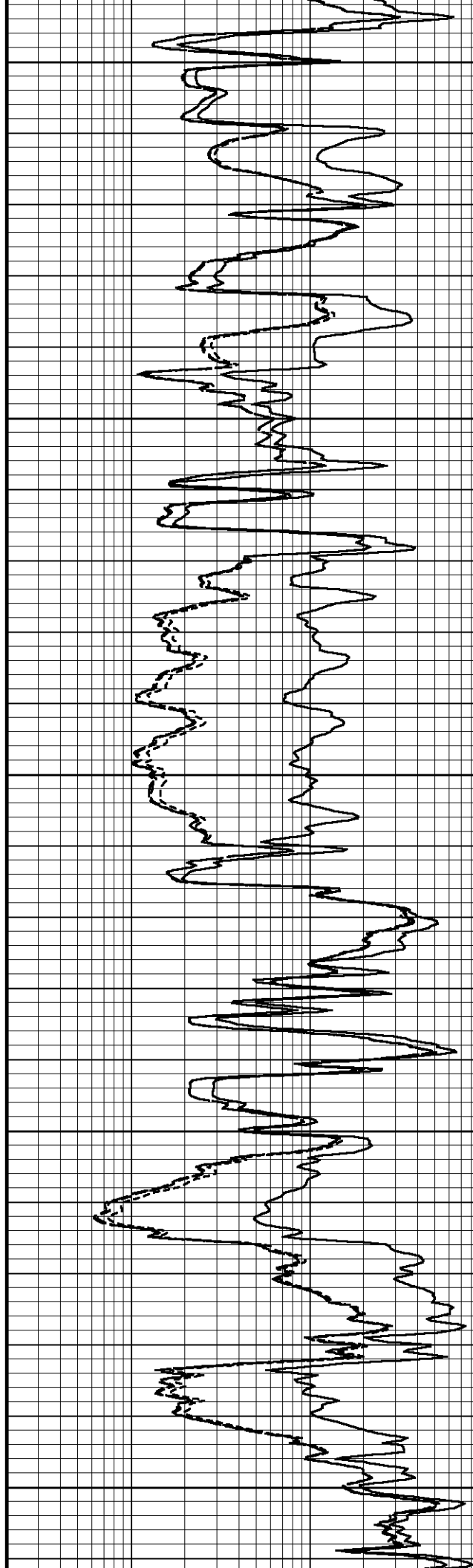
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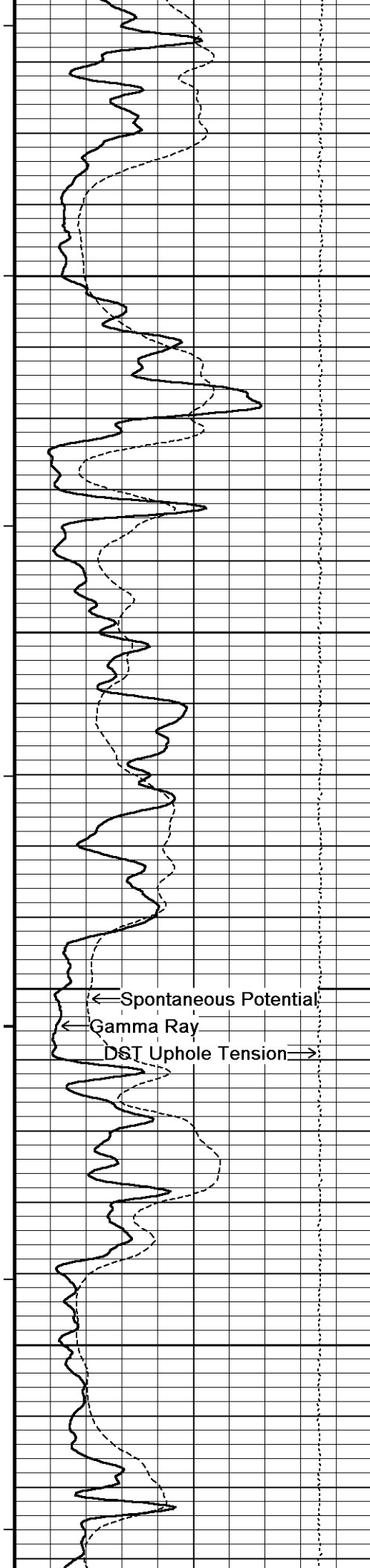
96°

3350

97°

3400





97°

3450

97°

3500

98°

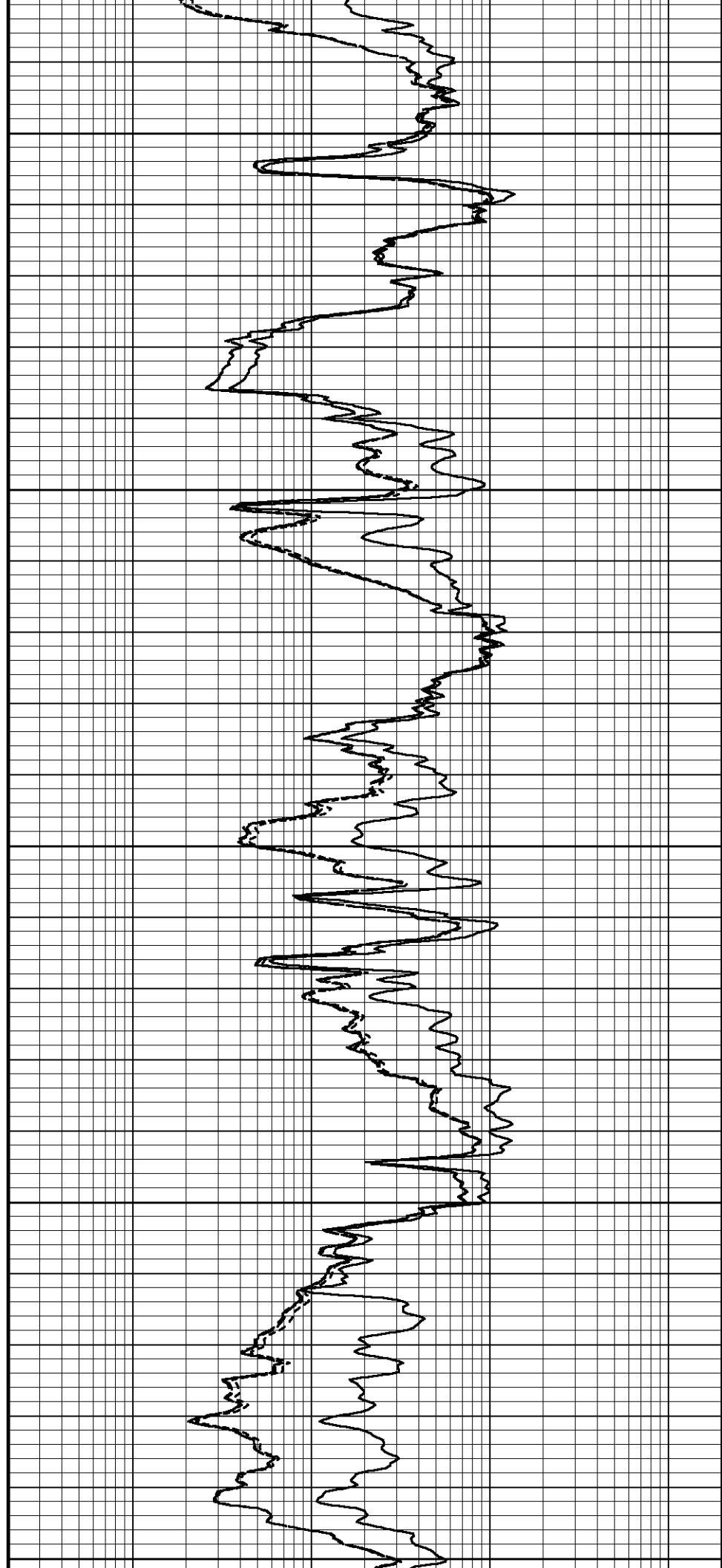
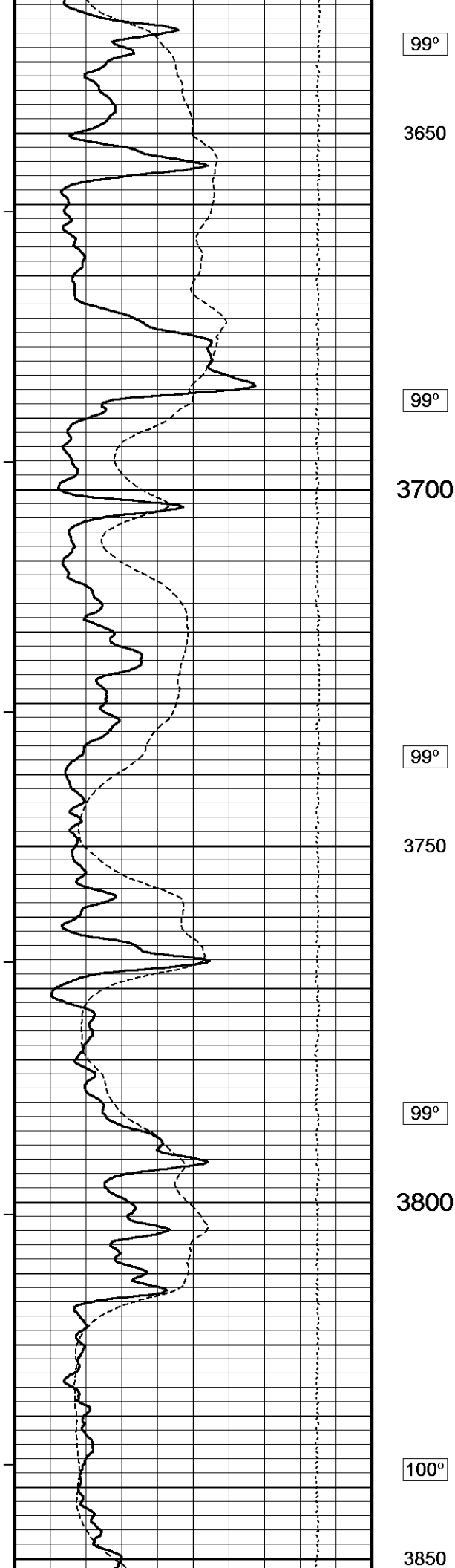
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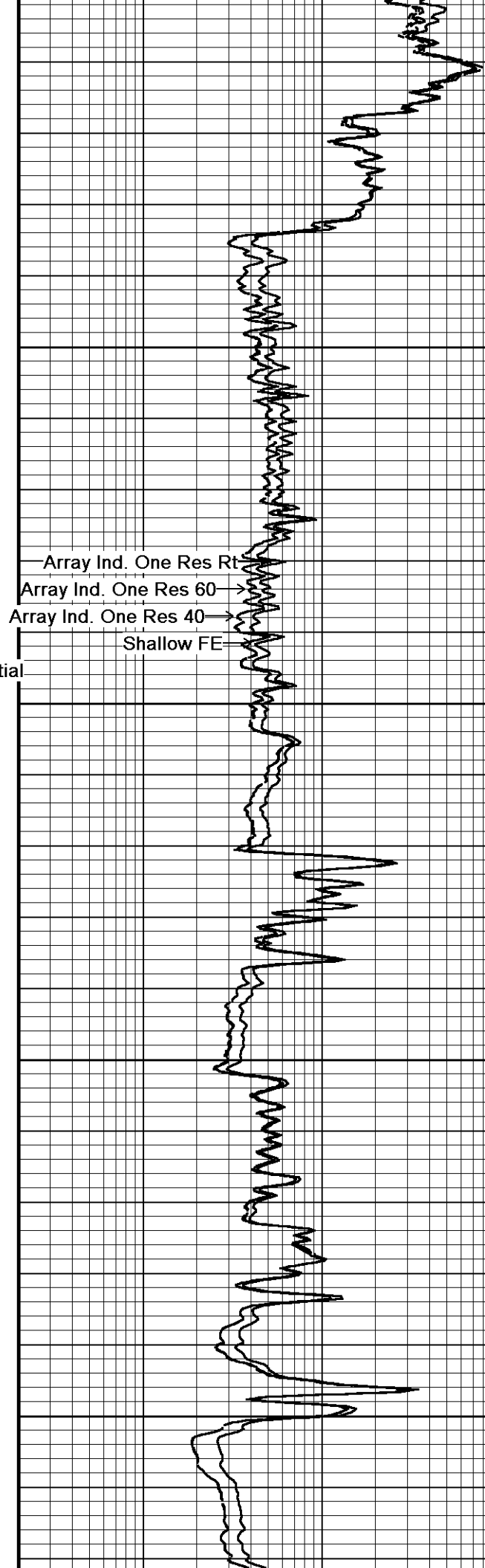
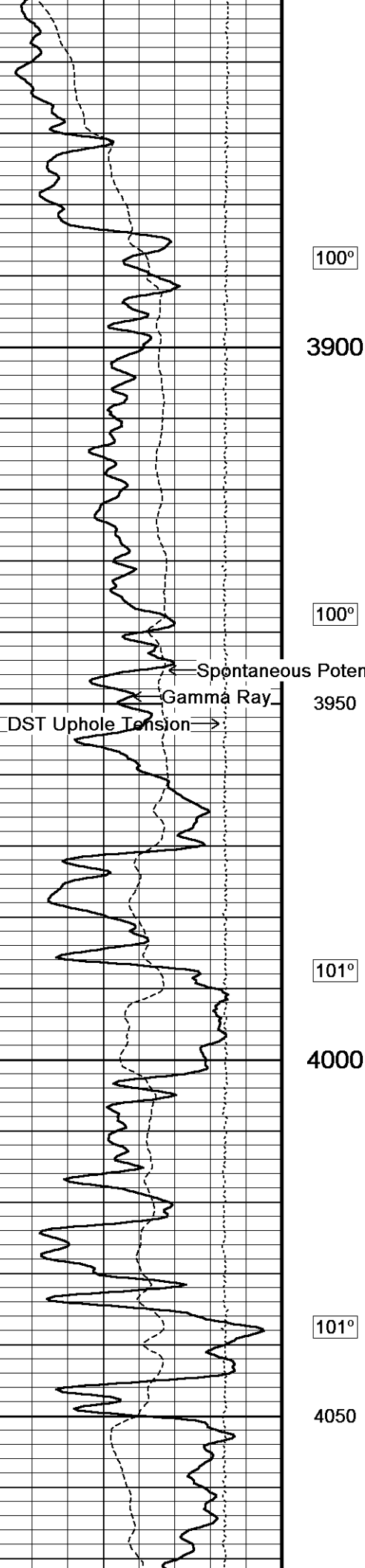
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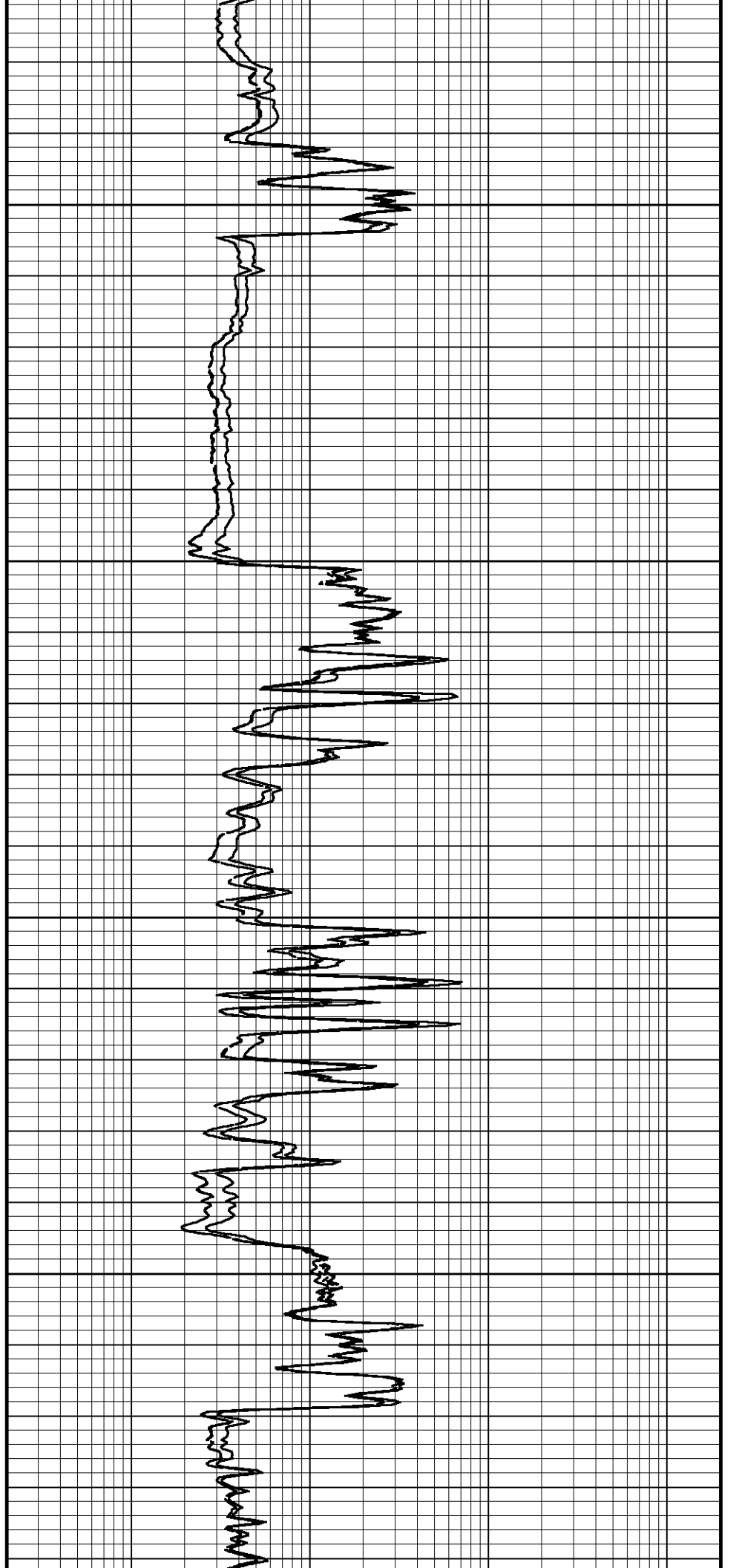
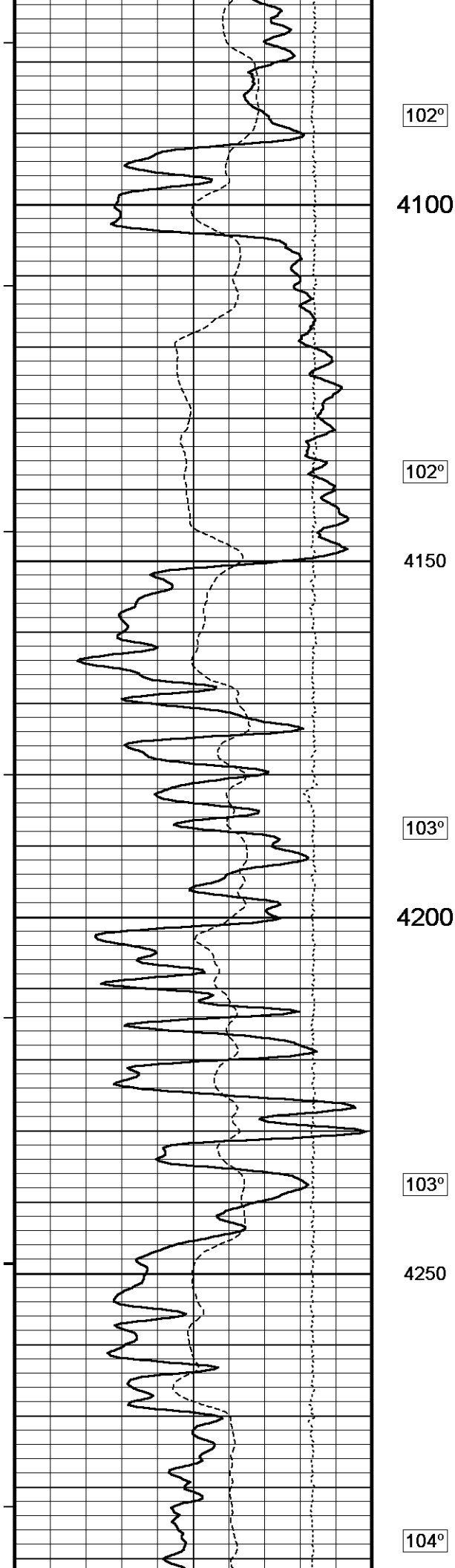
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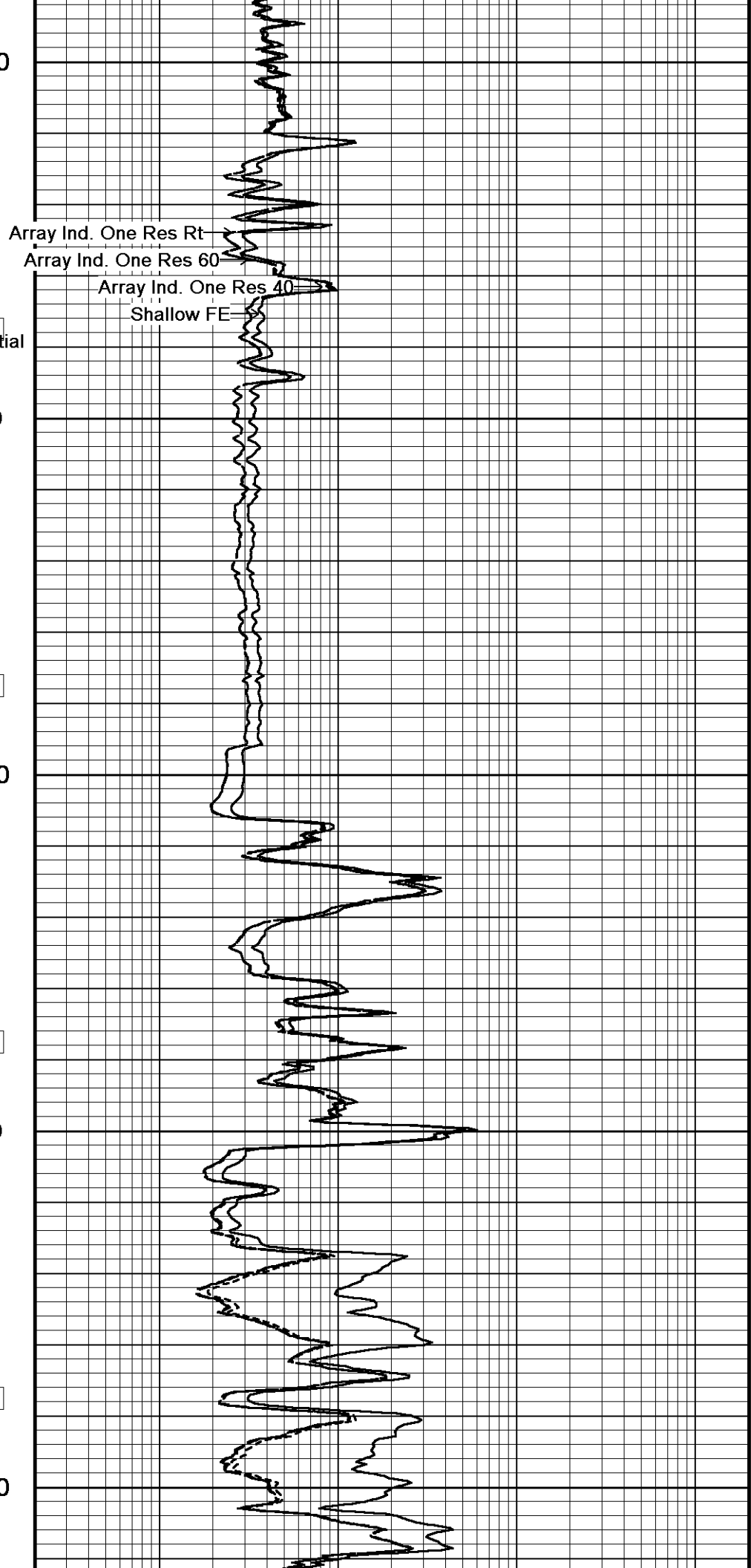
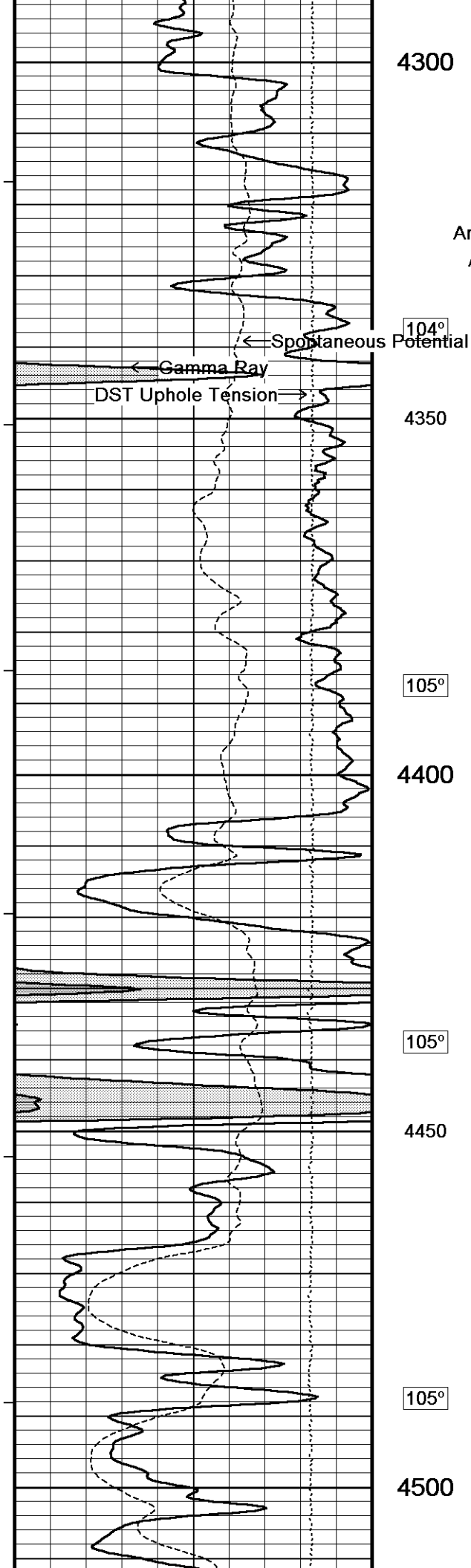
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40

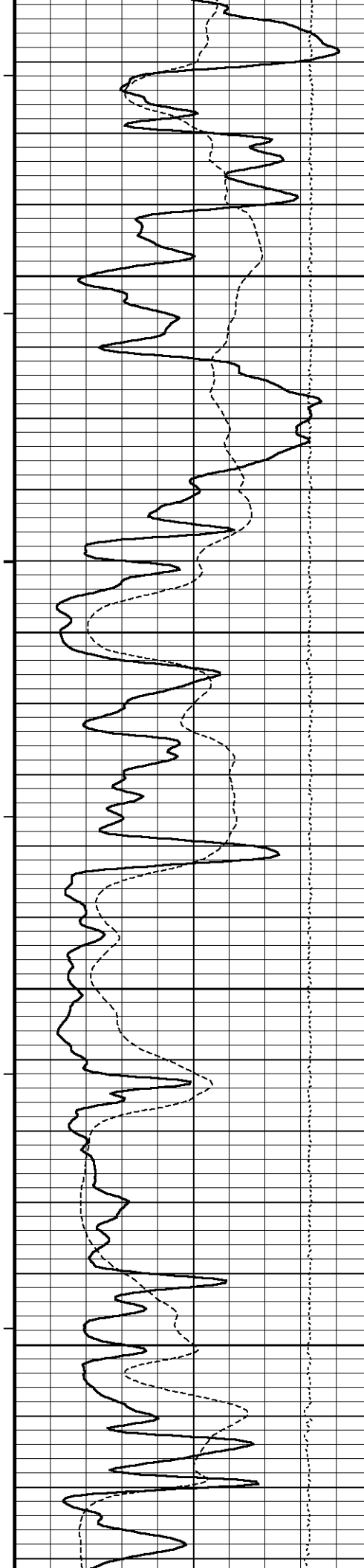
Shallow FE











106°

4550

106°

4600

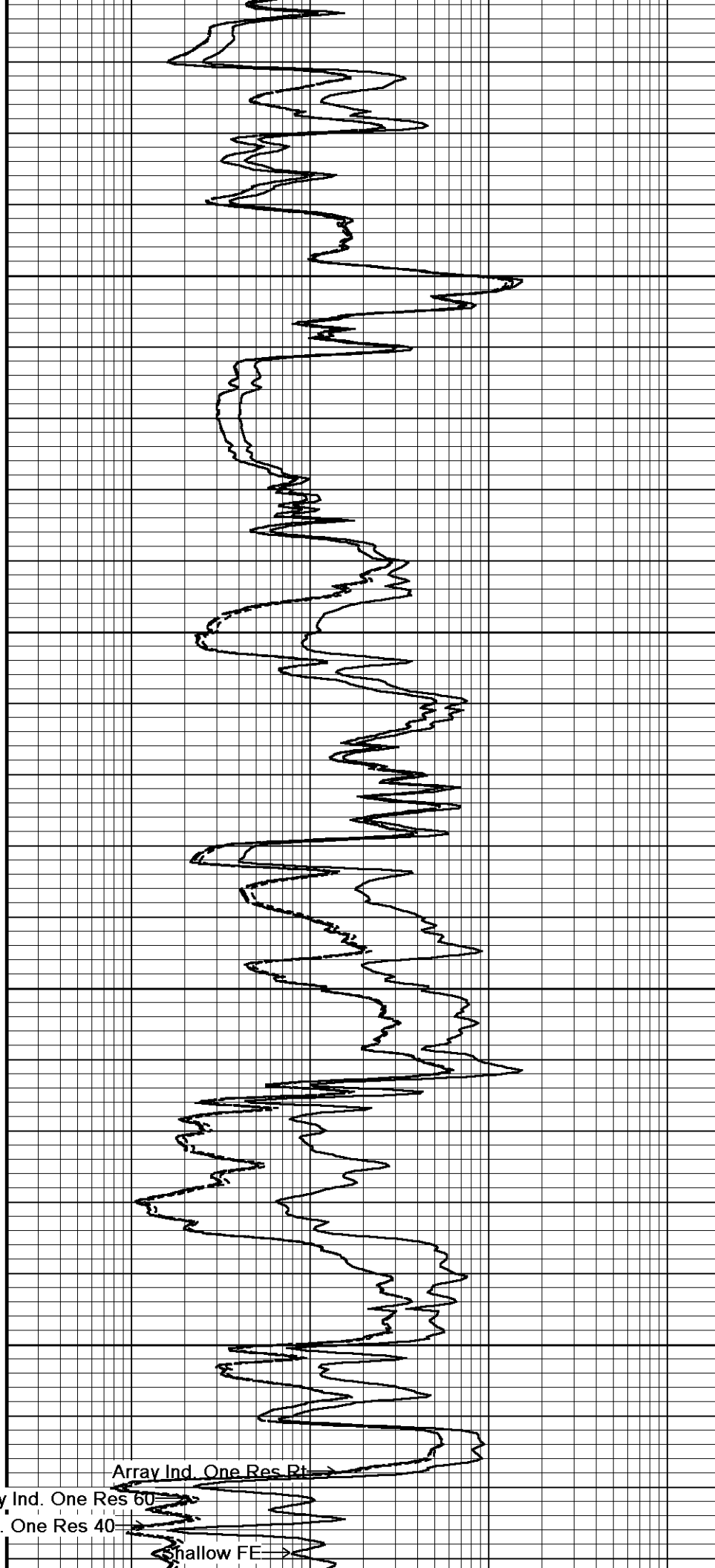
107°

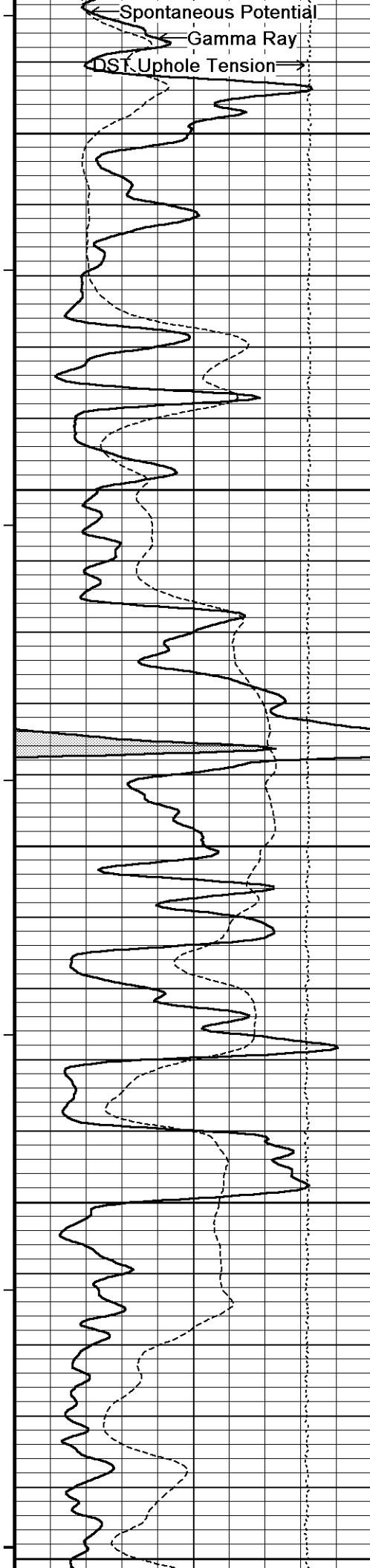
4650

107°

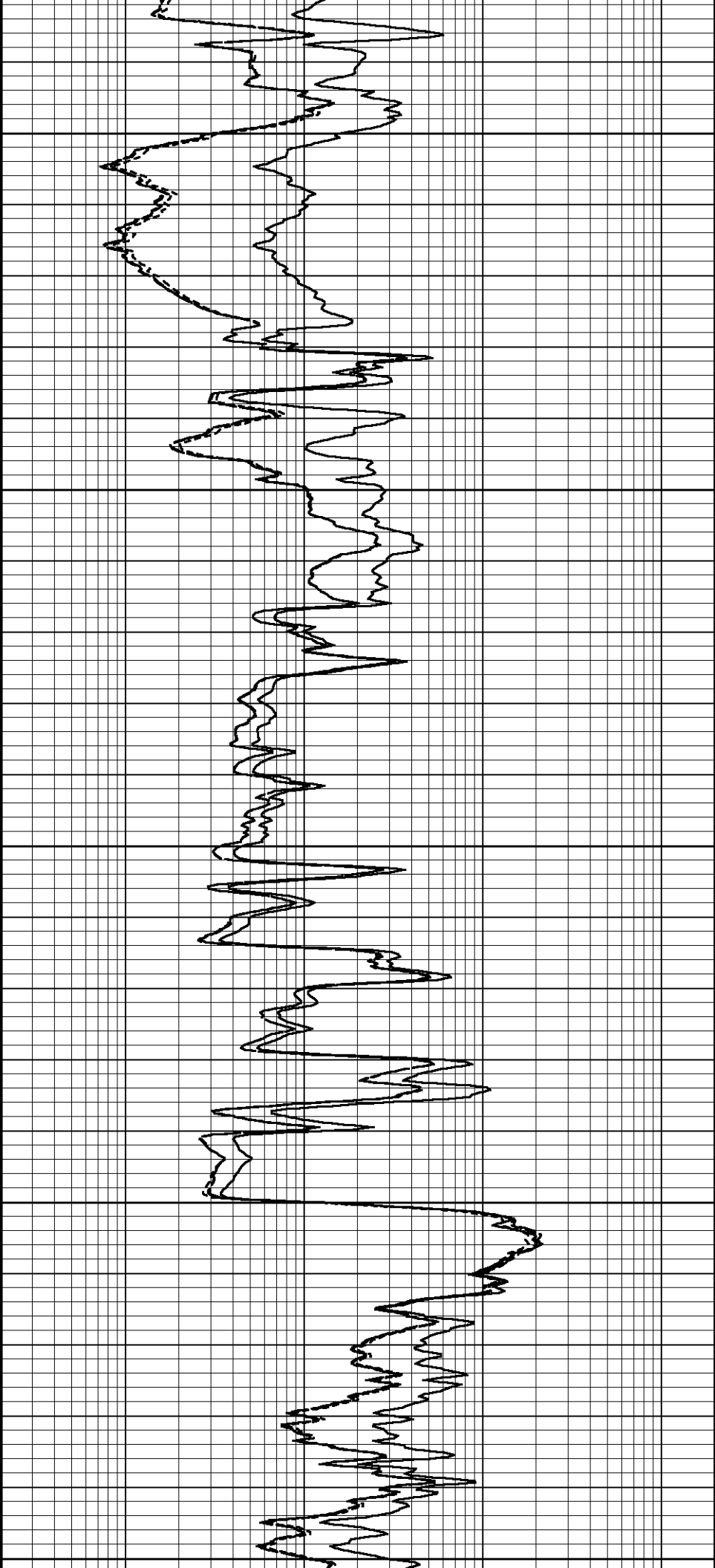
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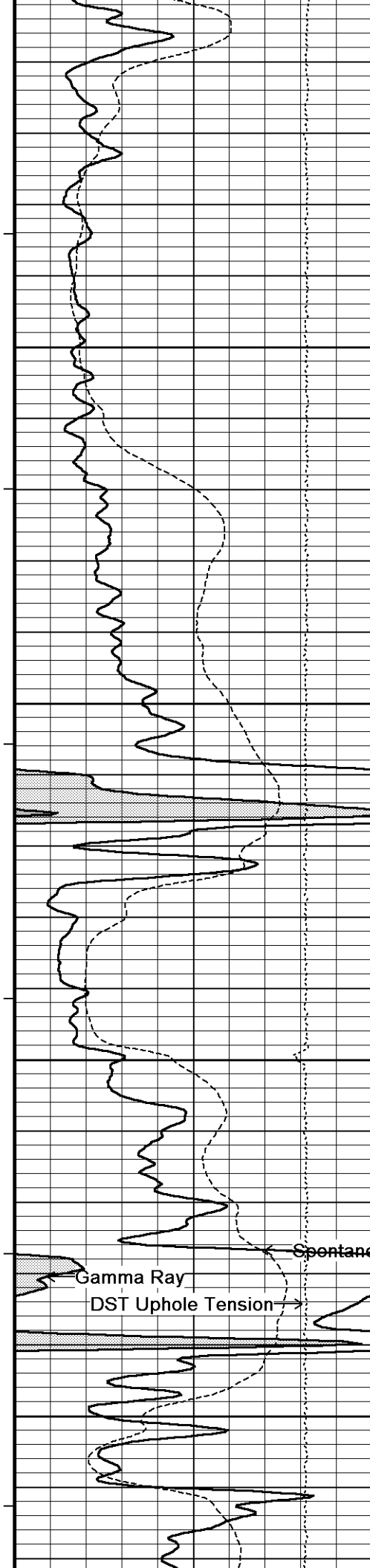
Array Ind. One Res 60 →
Array Ind. One Res 40 →
Shallow FE →





107°
4750
107°
4800
108°
4850
108°
4900
108°
4950





109°

5000

109°

5050

109°

5100

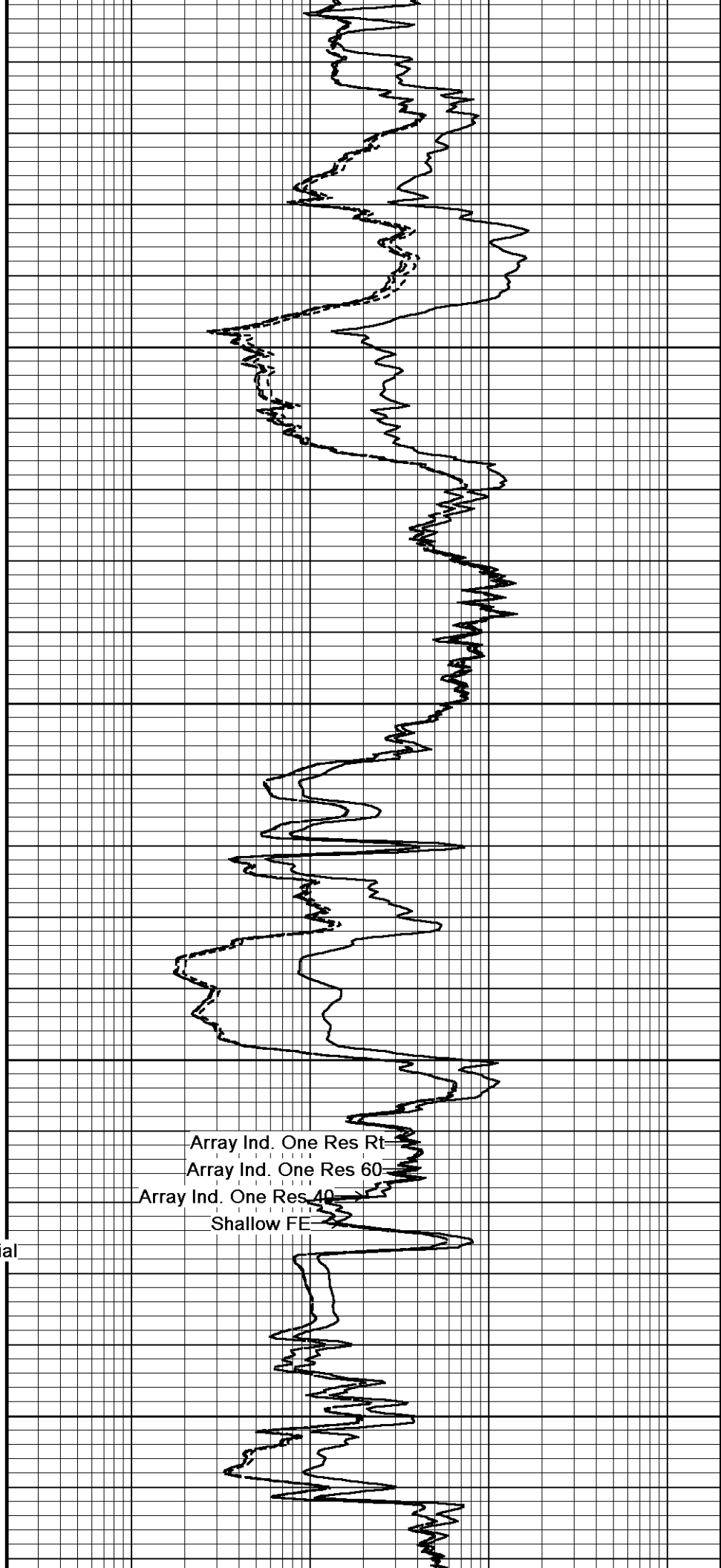
Spontaneous Potential

Gamma Ray

DST Uphole Tension

110°

5150

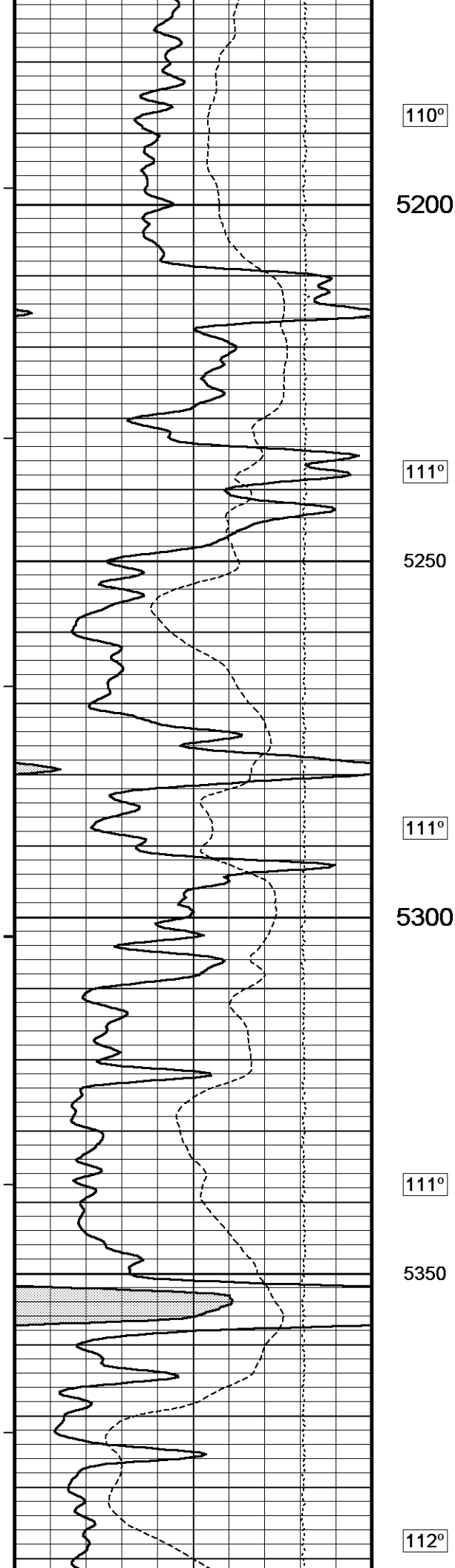


Array Ind. One Res Rt

Array Ind. One Res 60

Array Ind. One Res 40

Shallow FE



110°

5200

111°

5250

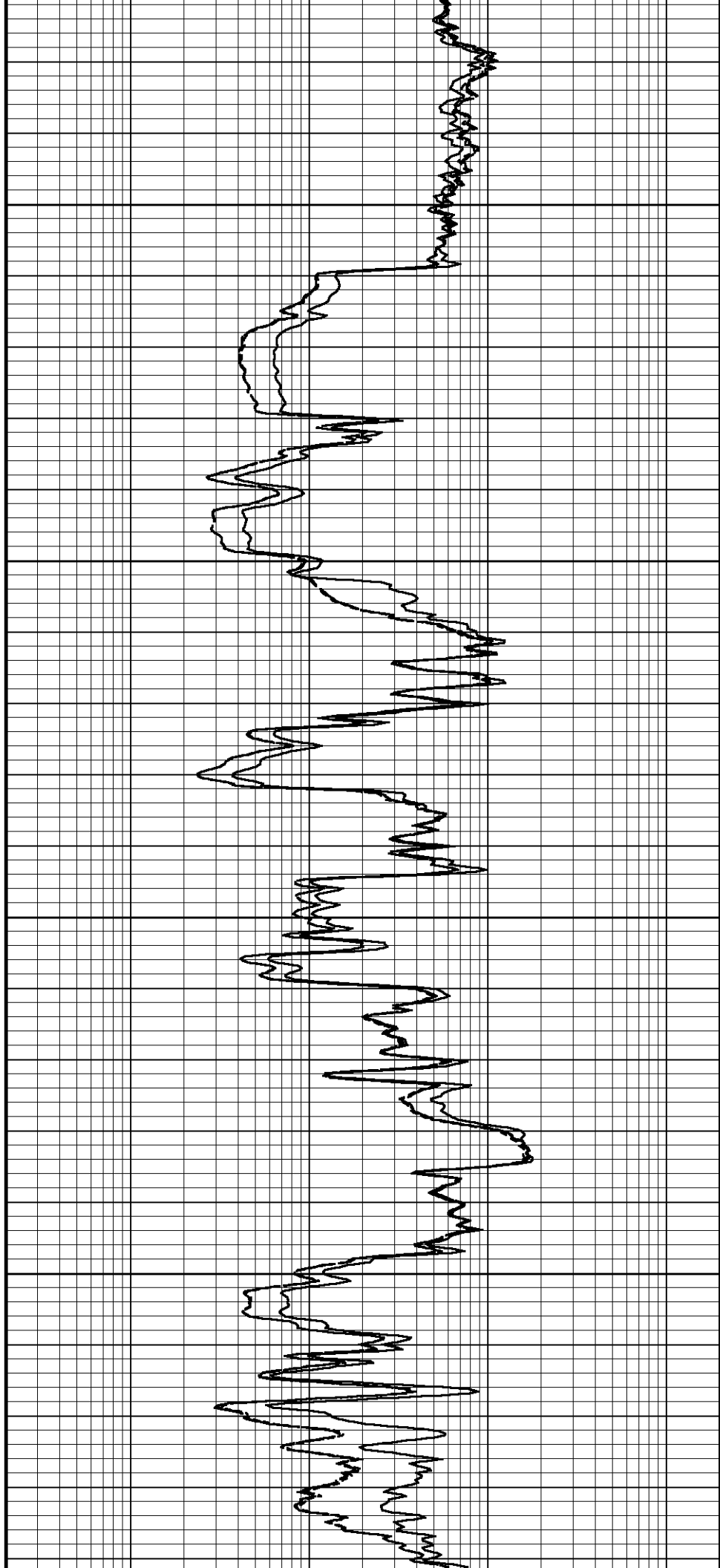
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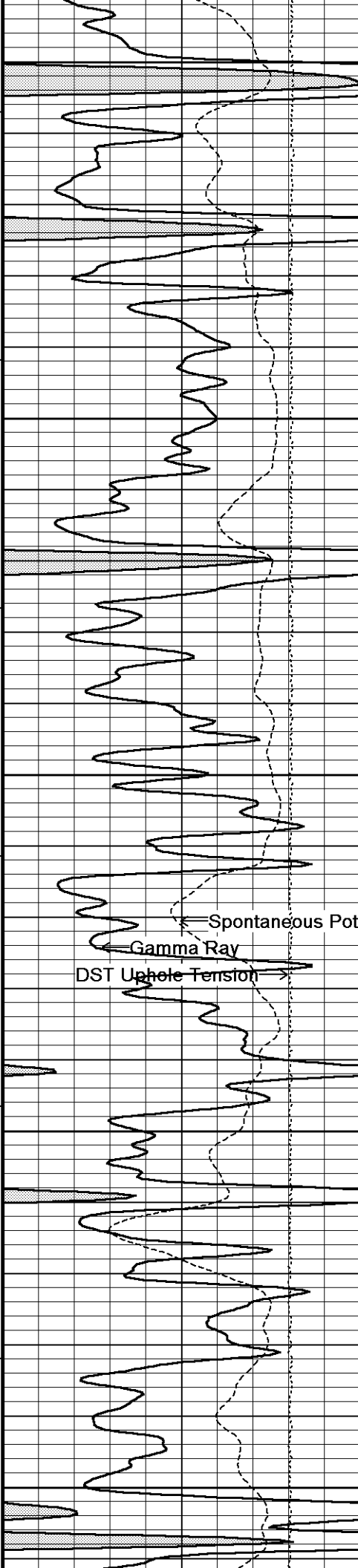
5300

111°

5350

112°





5400

111°

5450

111°

5500

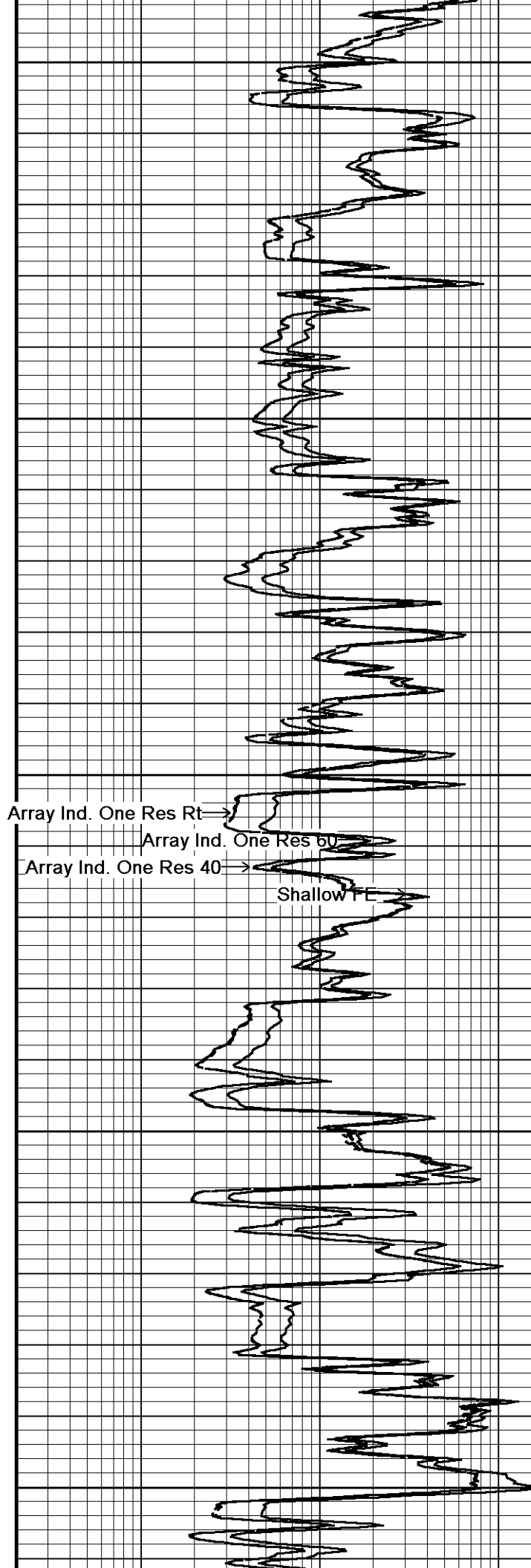
Spontaneous Potential
Gamma Ray
DST Up-hole Tension

112°

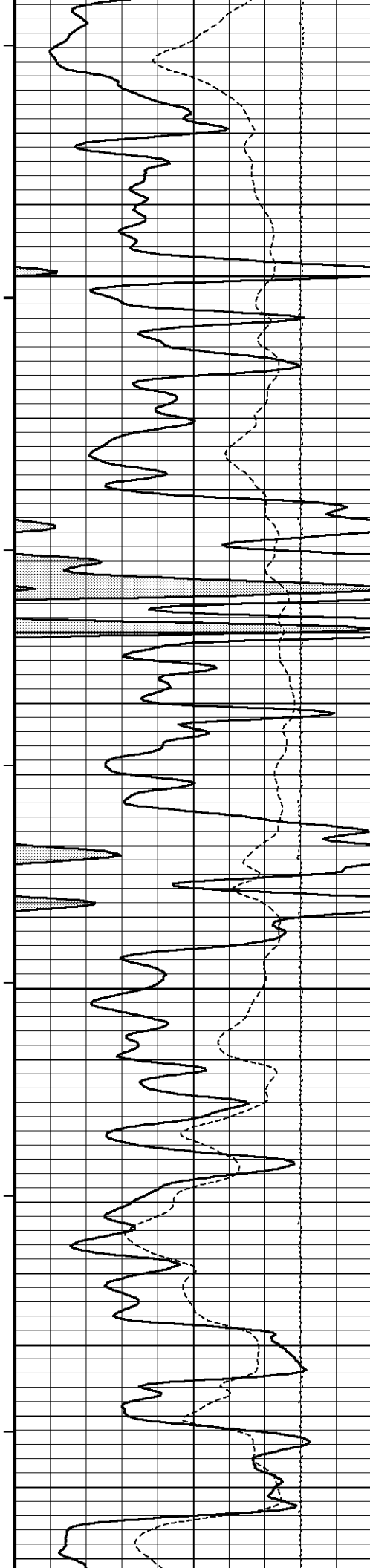
5550

112°

5600



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



112°

5650

112°

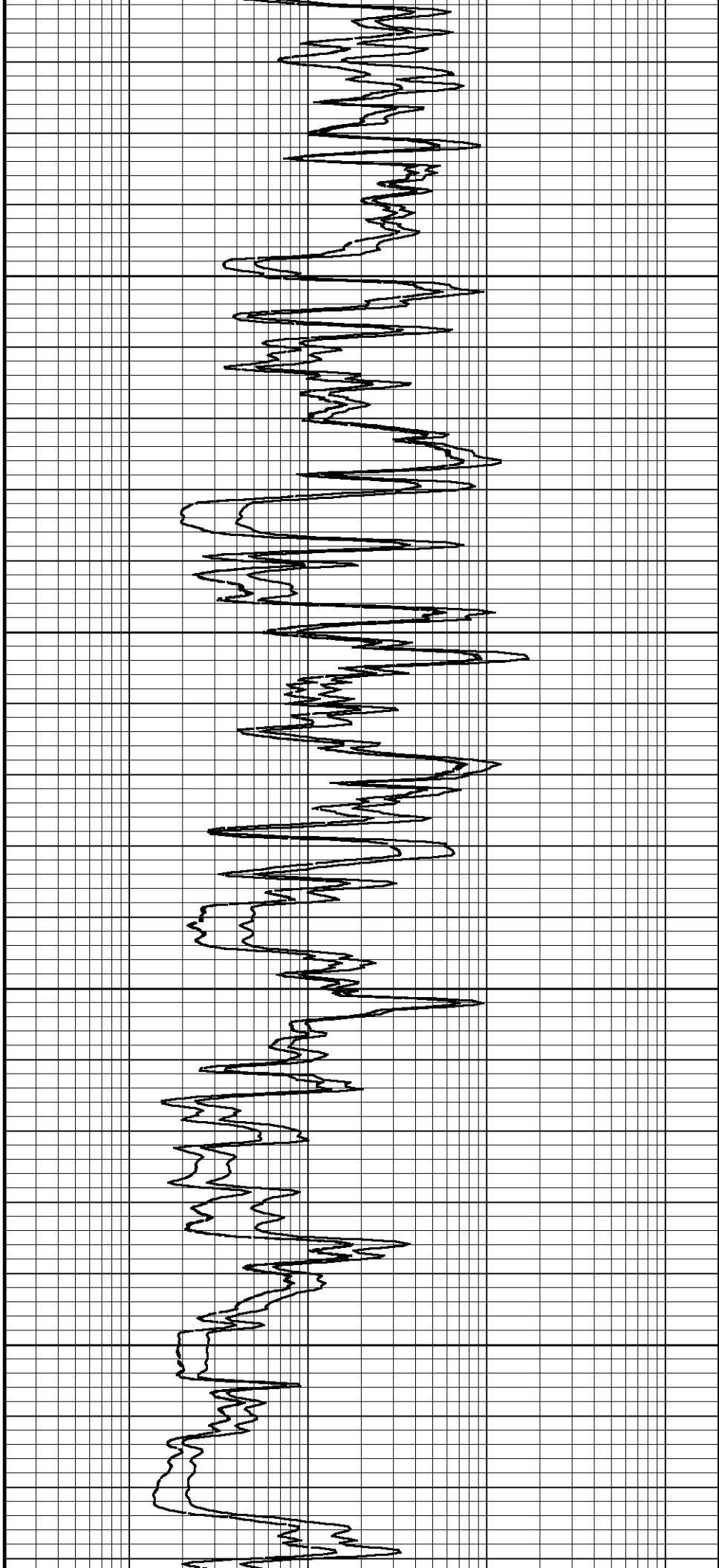
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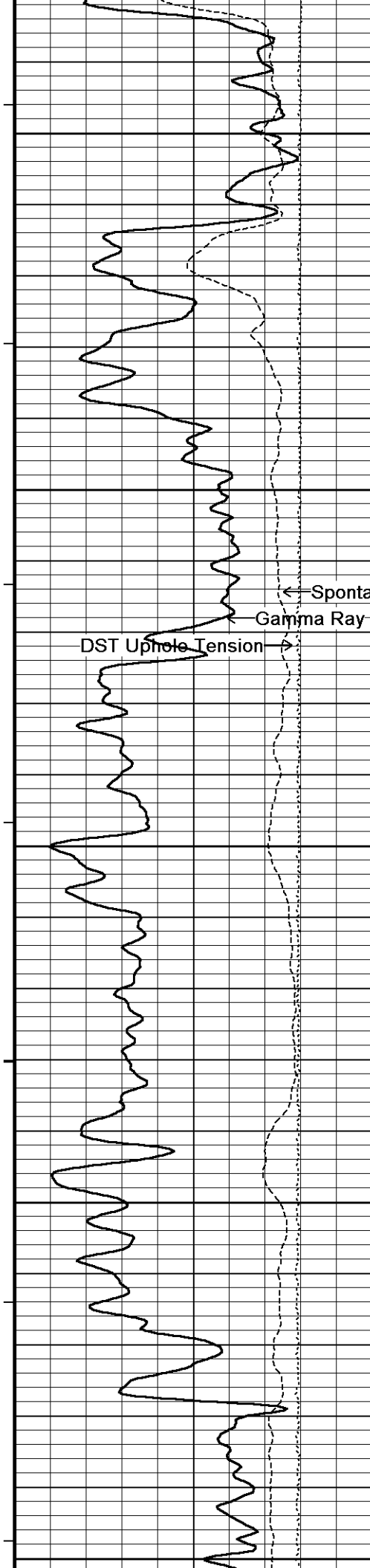
113°

5750

114°

5800





115°

5850

115°

5900' Ind. One Res Rt

Array Ind. One Res 60

Array Ind. One Res 40

Shallow FE

← Spontaneous Potential

Gamma Ray

DST Uphole Tension →

115°

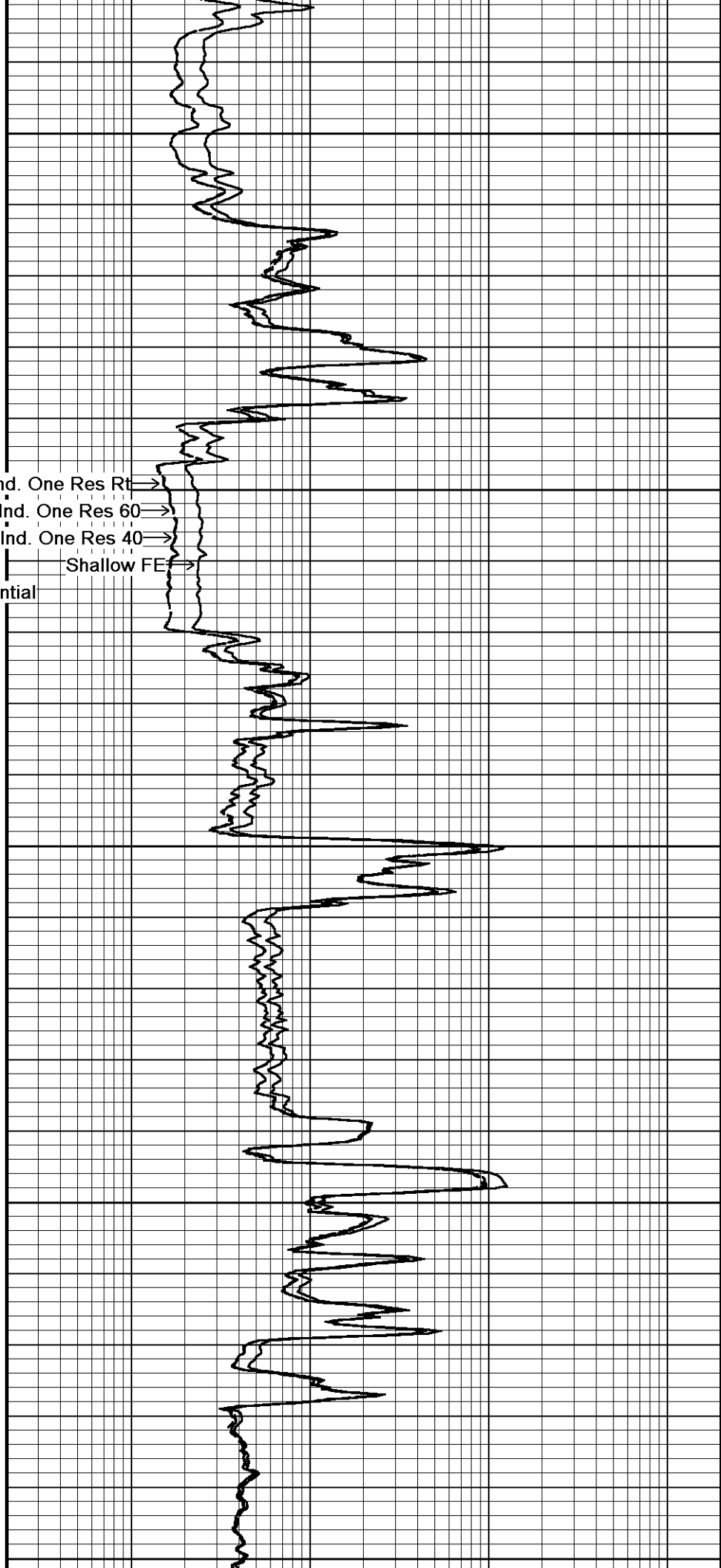
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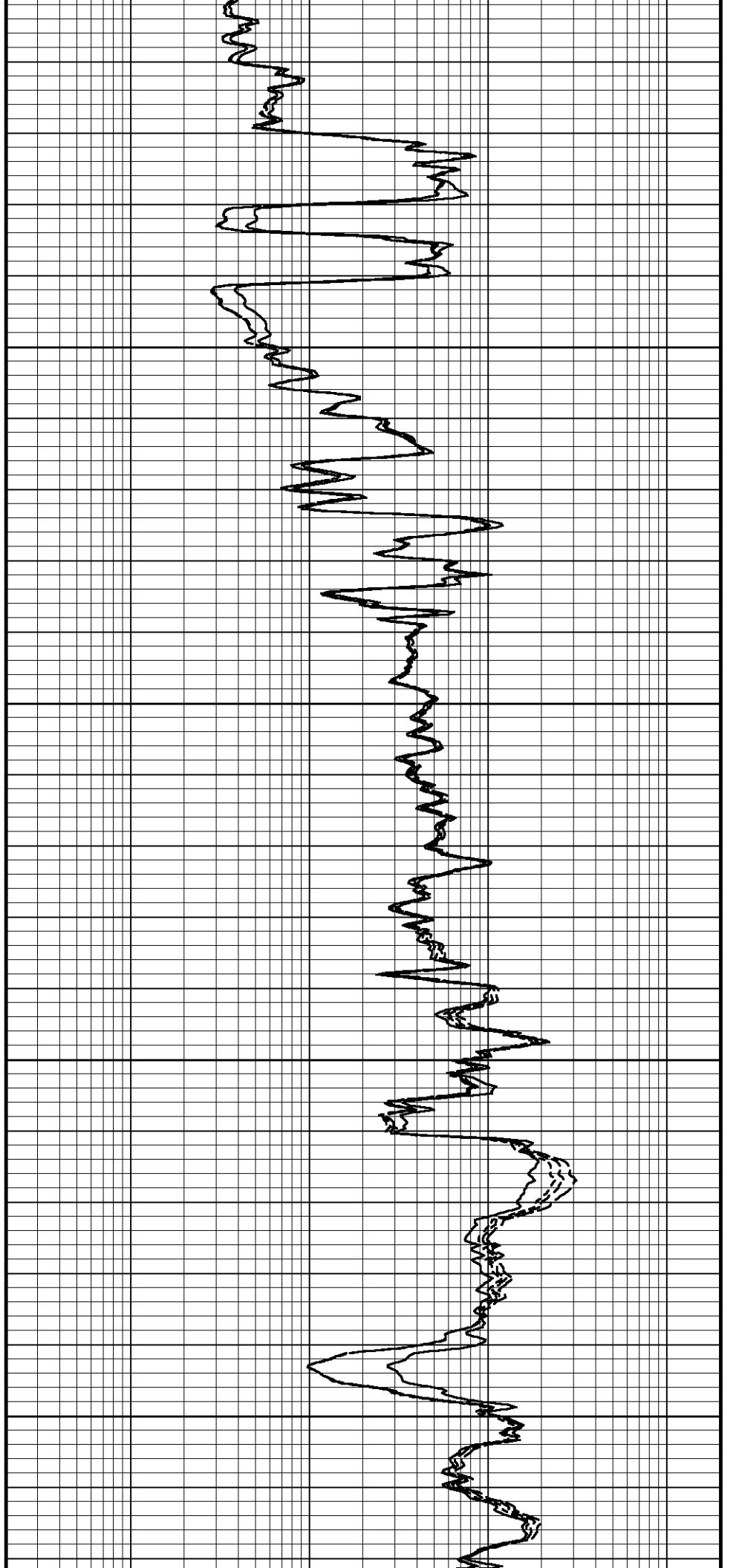
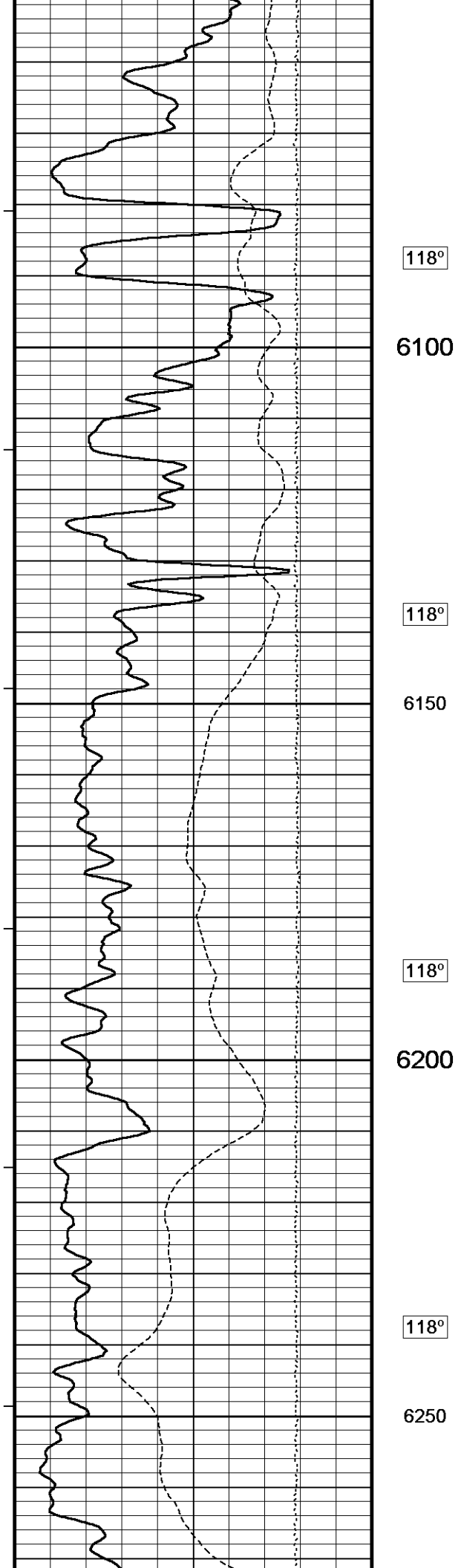
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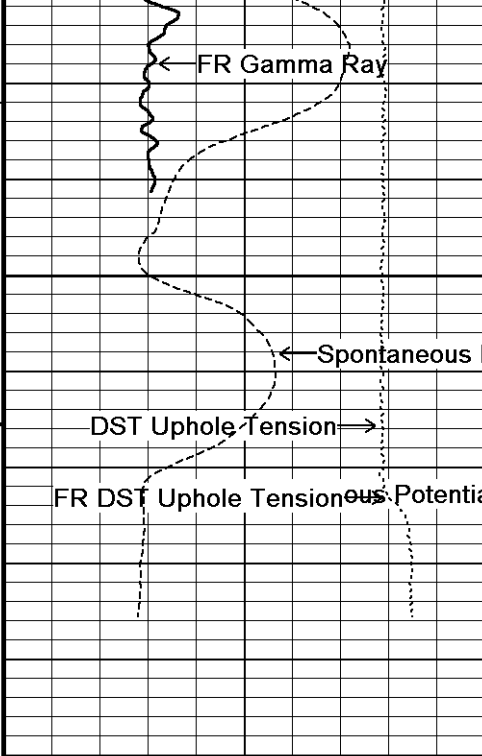
6000

117°

6050







118°

6300

6350
Depth
in
Feet

Timing Marks
every 60.0 sec

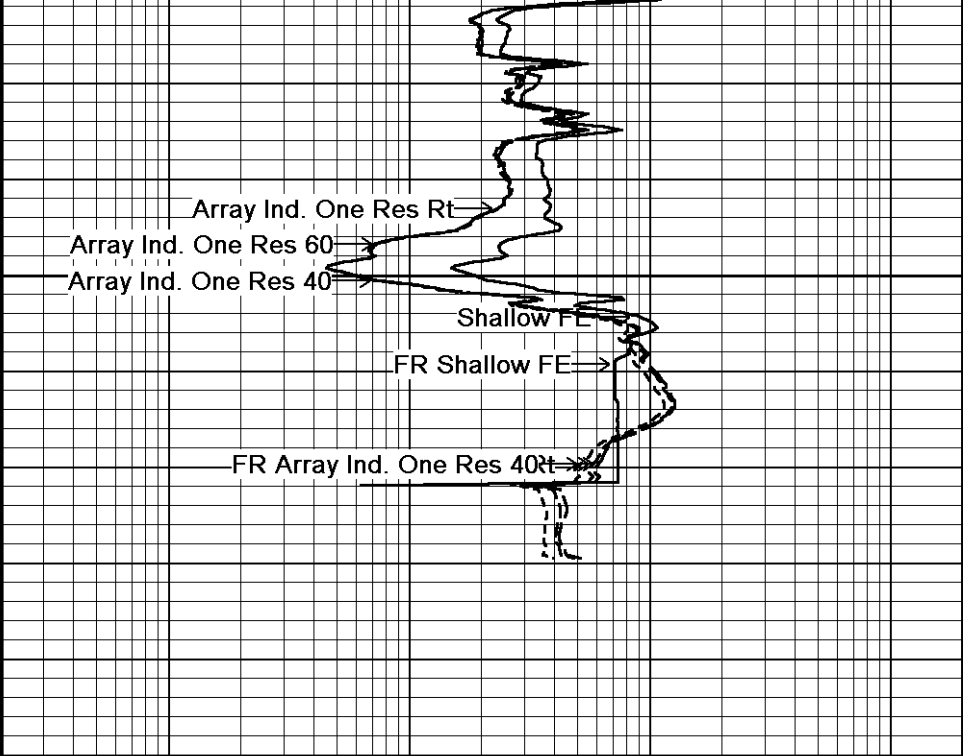
Gamma Ray
API
0 75 150

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

DST Uphole Tension
pounds
5000 0

Borehole
Temp in
deg F

Replay
Scale
1:240



Shallow FE
ohm metres

0.20 1 10 100 1000 2000

Array Ind. One Res 40
ohm metres

0.20 1 10 100 1000 2000

Array Ind. One Res 60
ohm metres

0.20 1 10 100 1000 2000

Array Ind. One Res Rt
ohm metres

0.20 1 10 100 1000 2000

Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 16-FEB-2012 14:07

Filename: C:\Minimus 11_03_4044\Data\O'Brien Crooke...\O'Brien Crooked Creek Offset # 4-8_004.dta

Recorded on 16-FEB-2012 11:34

System Versions: Logged with 11.03.4044 Processed with 11.03.4044 Plotted with 11.03.4044

↑ 5 INCH MAIN ↑

↓ 10 INCH HI-RES ↓

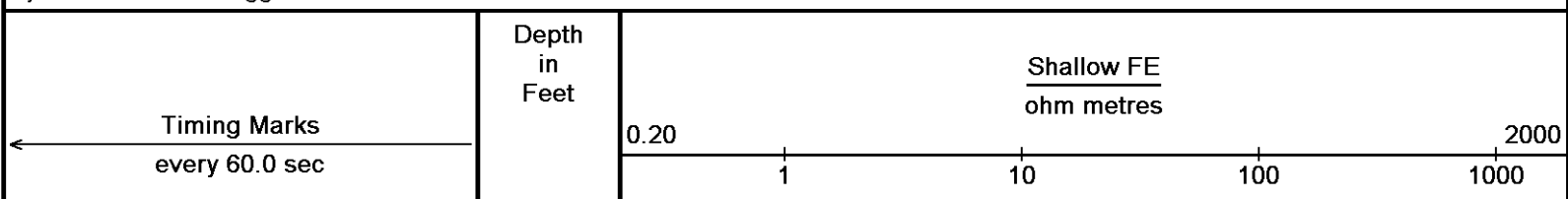
Depth Based Data - Maximum Sampling Increment 2.5cm

Plotted on 16-FEB-2012 14:07

Filename: C:\Minimus 11_03_4044\Data\O'Brien Crooke...\O'Brien Crooked Creek Offset # 4-8_002.dta

Recorded on 16-FEB-2012 10:24

System Versions: Logged with 11.03.4044 Plotted with 11.03.4044

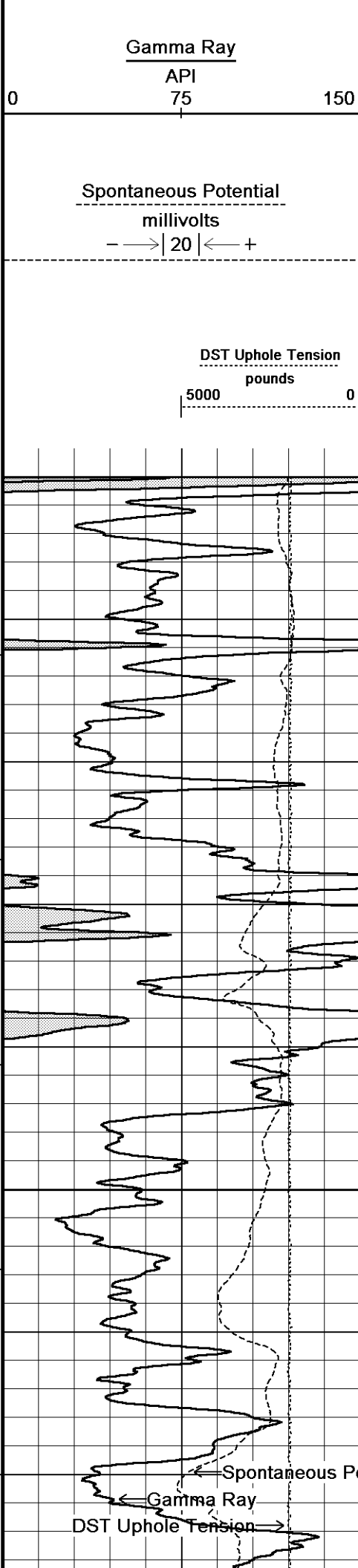


Shallow FE
ohm metres

Timing Marks
every 60.0 sec

0.20 1 10 100 1000 2000

Depth
in
Feet



Borehole
Temp in
deg F

Replay
Scale
1:120

5700

112°

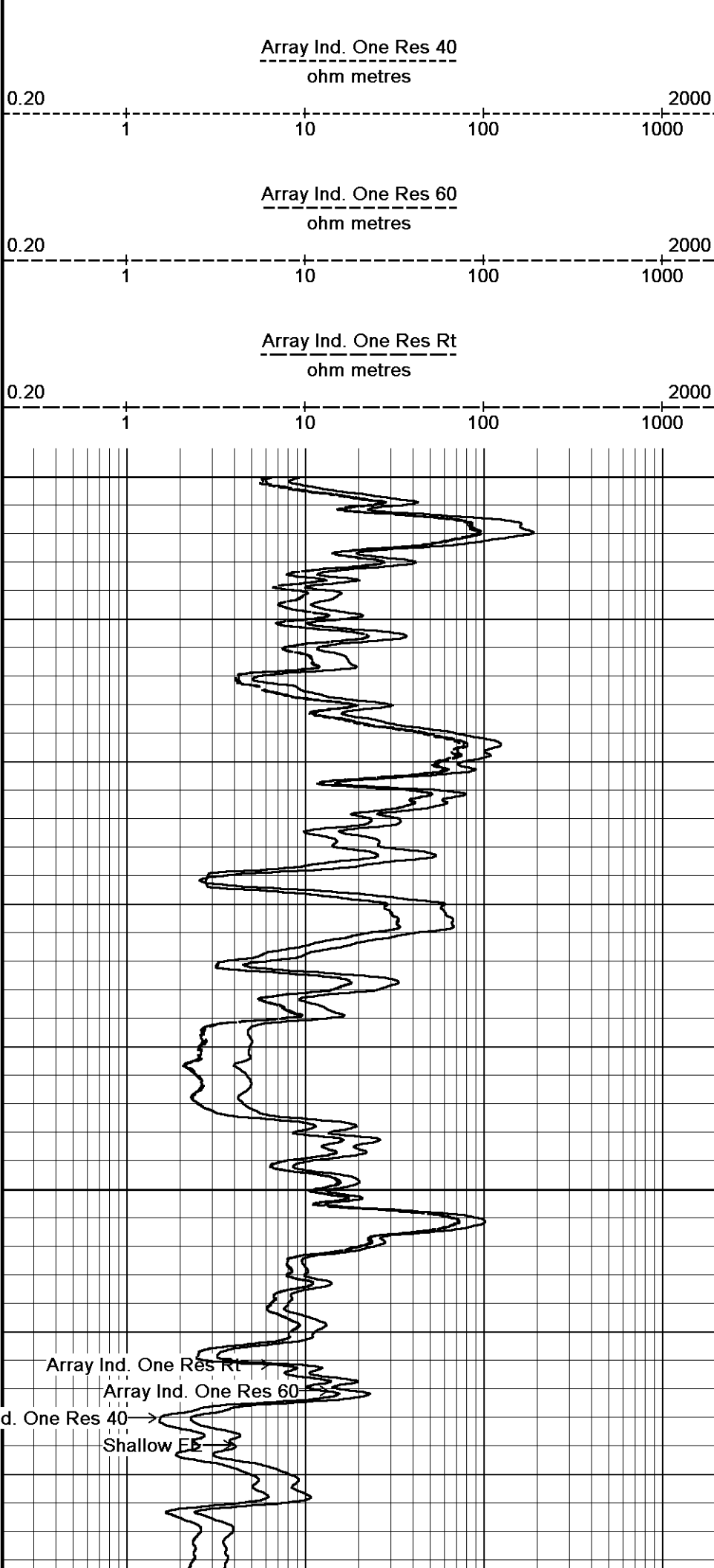
5750

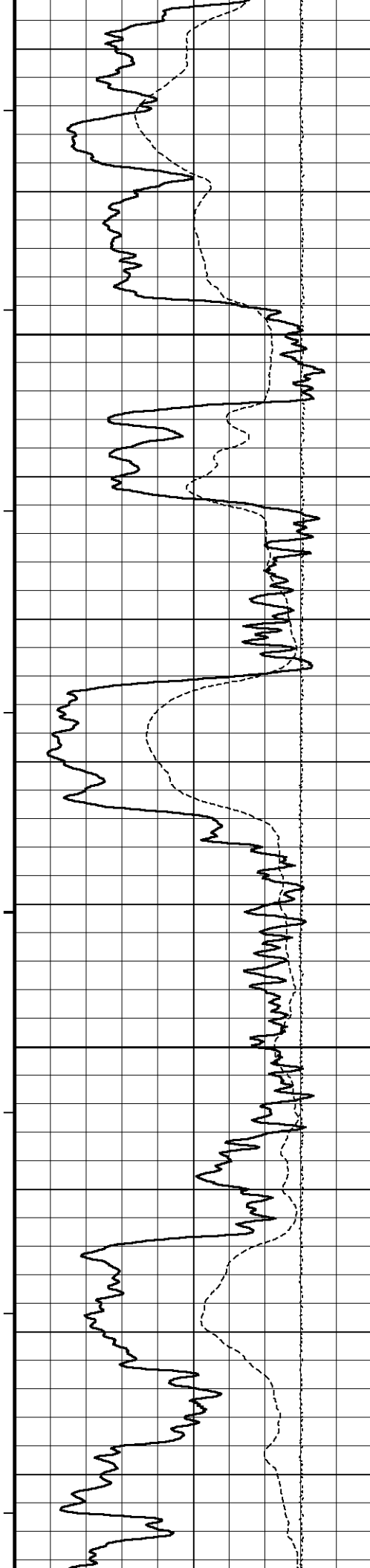
Array Ind. One Res 40 ->

Array Ind. One Res 60 ->

Array Ind. One Res Rt ->

Shallow ES ->



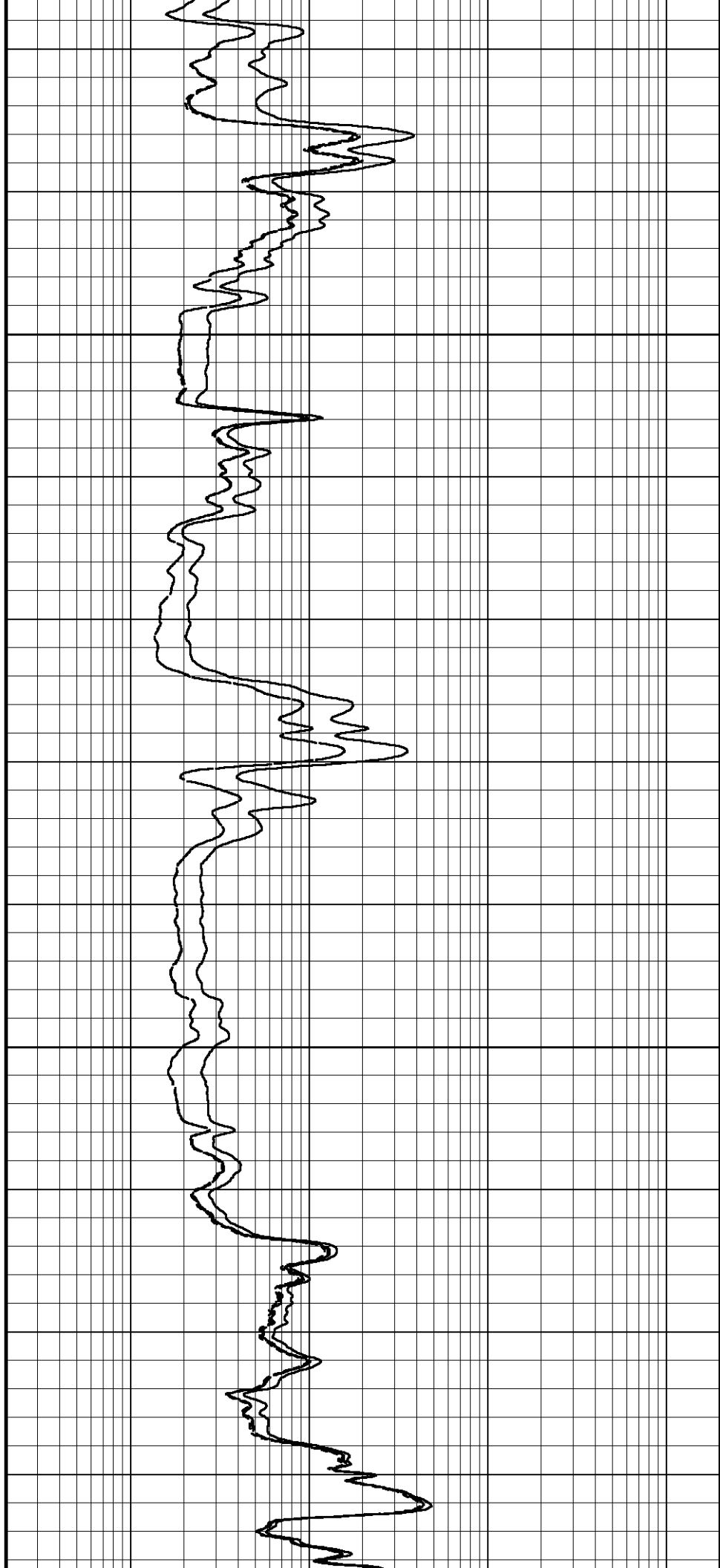


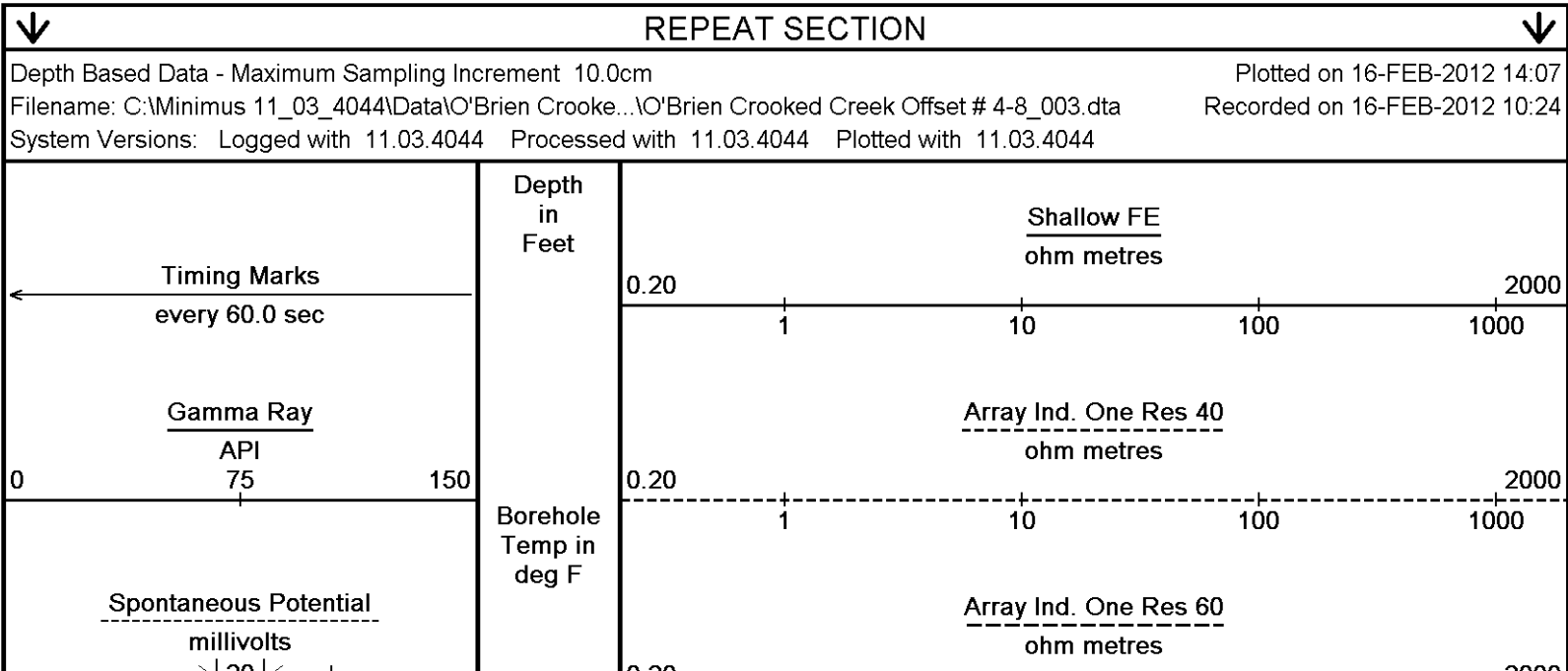
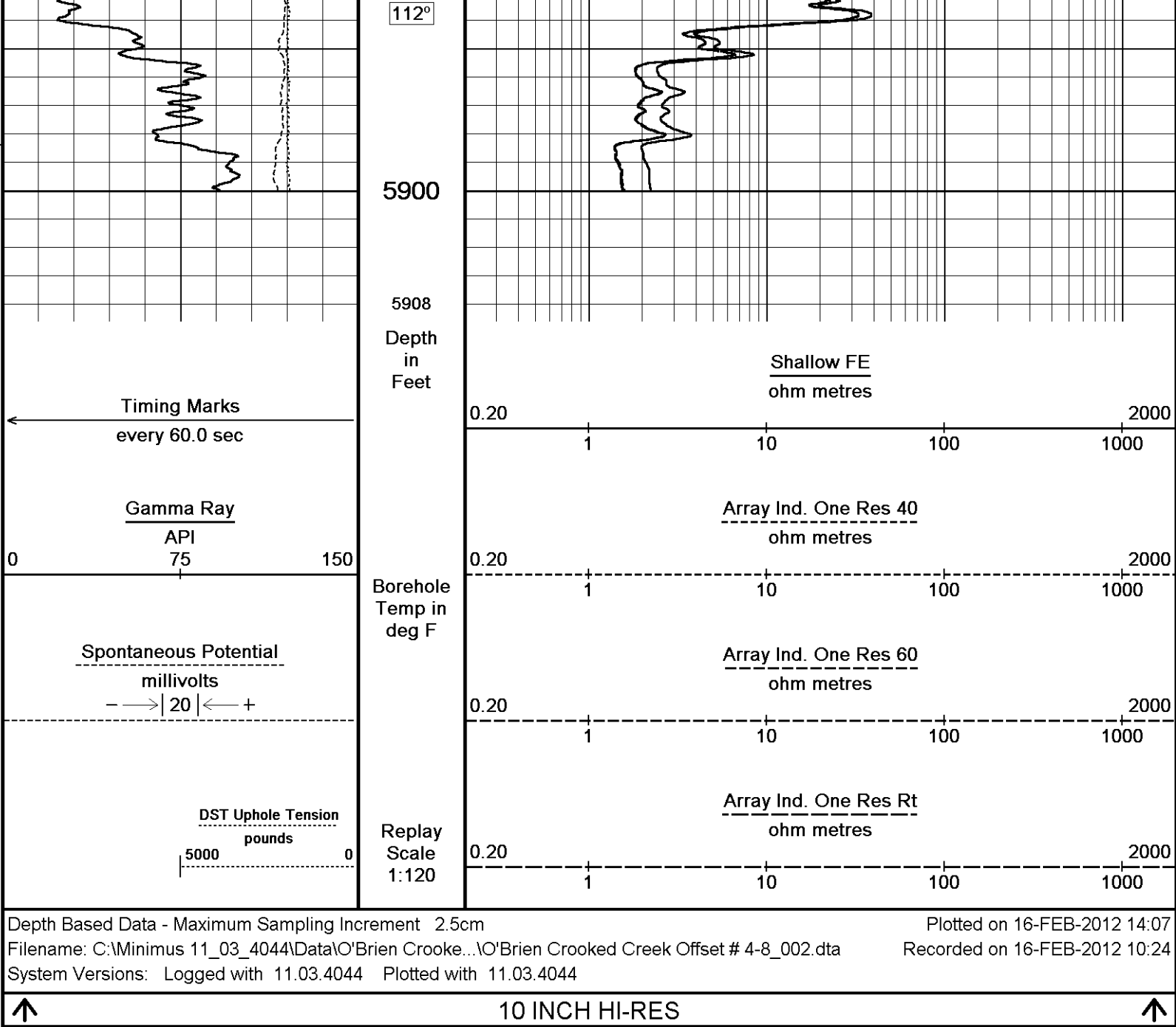
112°

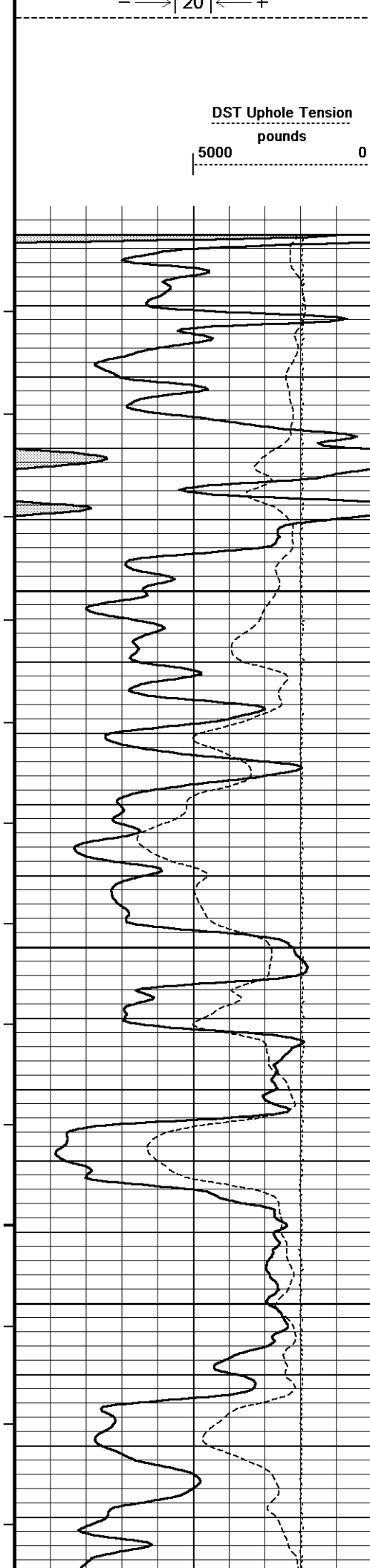
5800

112°

5850







Replay
Scale
1:240

5700

112°

5750

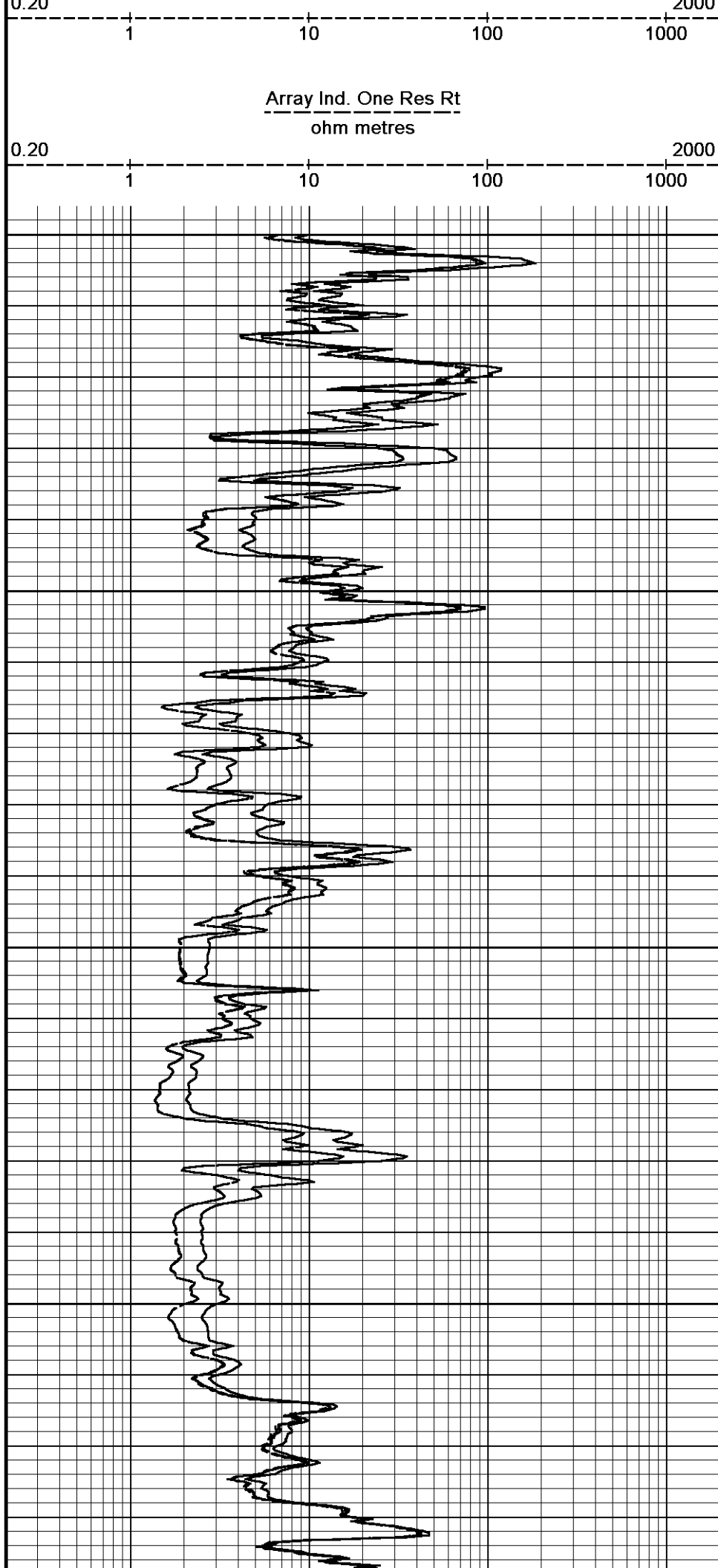
112°

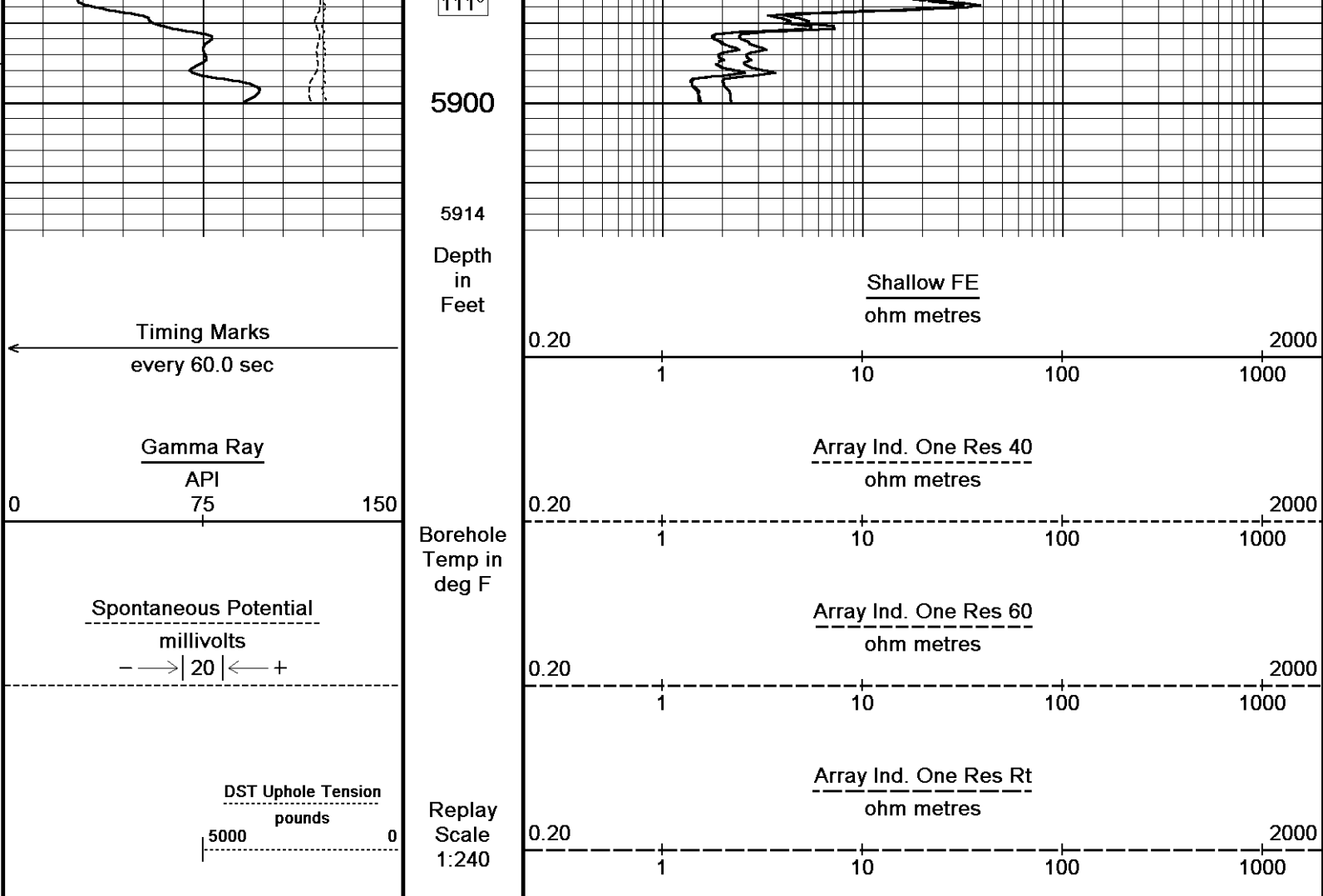
5800

112°

5850

112°





Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Minimus 11_03_4044\Data\O'Brien Crooked Creek Offset # 4-8_003.dta
System Versions: Logged with 11.03.4044 Processed with 11.03.4044 Plotted with 11.03.4044

↑ REPEAT SECTION ↑

BEFORE SURVEY CALIBRATION		
C:\Minimus 11_03_4044\Data\O'Brien Crooked Creek Offset # 4-8\O'Brien Crooked Creek Offset # 4-8_004.dta		
General Constants All 000		Last Edited on 16-FEB-2012,08:30
General Parameters		
Mud Resistivity	1.350	ohm-metres
Mud Resistivity Temperature	65.000	degrees F
Water Level	0.000	feet
Density/Neutron 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	Density Caliper	
Rwa Parameters		
Porosity used	Base Density Porosity	
Resistivity used	Array Ind. One Res Rt	
RWA Constant A	0.610	
RWA Constant M	2.150	

Down-hole Tension Calibration SMS 0		
Reading No	Measured	Calibrated (lbs)
1	12724.00	0.00

Field Calibration on 23-OCT-2011 03:19

1	12734.06	0.00
2	13523.27	454.00
Gamma Calibration MCG-D.K 443		
		Field Calibration on 15-FEB-2012 09:28
	Measured	Calibrated (API)
Background	80	53
Calibrator (Gross)	765	509
Calibrator (Net)	685	456
Gamma Constants MCG-D.K 443		
Last Edited on 16-FEB-2012,08:31		
Gamma Calibrator Number	grc141	
Mud Density	1.08	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm
SP Calibration MCG-D.K 443		
		Field Calibration on 01-FEB-2012 10:26
	Measured	Calibrated (mV)
Reference 1	100.9	100.0
Reference 2	-98.4	-100.0
High Resolution Temperature Calibration MCG-D.K 443		
		Field Calibration on 12-JAN-2012,09:06
	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	100.00	100.00
High Resolution Temperature Constants MCG-D.K 443		
Last Edited on		
Pre-filter Length	11	
Caliper Calibration MML-A 9		
		Base Calibration on 06-FEB-2012 09:52
		Field Calibration on 15-FEB-2012 09:41
Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	15071	5.98
2	18450	7.97
3	21808	9.86
4	25812	11.92
5	0	0.00
6	N/A	N/A
Field Calibration		
	Measured Caliper (in)	Actual Caliper (in)
	6.00	5.98
Micro Normal and Micro Inverse Calibration MML-A 9		
		Base Calibration on 06-FEB-2012 09:39
		Field Check on 15-FEB-2012 09:40
Base Calibration		
	Measured	Calibrated (ohm-m)
Channel	Resistor 1 Resistor 2	Resistor 1 Resistor 2
Micro Normal	12.1 59.8	2.6 12.8
Micro Inverse	15.6 78.1	1.7 8.4
Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	32.4	32.4
Micro Inverse	16.4	16.4
Micro Normal and Micro Inverse Constants MML-A 9		
Last Edited on 09-FEB-2012,13:46		
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	N/A	inches
Neutron Calibration MDN-A.B 39		
		Base Calibration on 04-JAN-2012 14:55
		Field Check on 15-FEB-2012 09:24
Base Calibration		
	Measured	Calibrated (cps)
	Near Far	Near Far
	2756 86	3714 110
Ratio	32.152	33.764

52.152

53.754

Field Calibrator at Base

Calibrated (cps)
2384 3432

Ratio

0.695

Field Check

Calibrated (cps)
2372 3438

Ratio

0.690

Neutron Constants MDN-A.B 39

Last Edited on 16-FEB-2012,08:31

Neutron Source Id	N-1095	
Neutron Jig Number	NECD117	
Epithermal Neutron	No	
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
Formation Fluid Salinity Source	Constant Value	
Formation Fluid Salinity	0.00	kppm
Barite Mud Correction	Not Applied	

FE Calibration MFE-A.A 67

Base Calibration on 06-FEB-2012 10:02
Field Check on 15-FEB-2012 09:36

Base Calibration

Measured Calibrated (ohm-m)

Reference 1 0.0 0.0

Reference 2 959.8 126.8

Base Check 280.8

Field Check 280.9

FE Constants MFE-A.A 67

Last Edited on 16-FEB-2012,08:32

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 188

Base Calibration on 04-JAN-2012,13:31
Field Check on 15-FEB-2012 09:38

Base Calibration

Test Loop Calibration Channel	Measured		Calibrated (mmho/m)	
	Low	High	Low	High
1	16.9	470.2	9.3	966.2
2	6.4	377.1	7.6	821.4
3	3.9	257.8	5.2	566.0
4	1.7	135.1	2.6	279.2

Array Temperature 66.3 Deg F

Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	0.0	0.0	13.6	3865.9
2	0.0	0.0	29.9	3582.9
3	0.0	0.0	27.9	3077.3
4	0.0	0.0	19.7	2046.0
Deep	0.0	0.0	17.2	1954.4
Medium	0.0	0.0	40.2	4112.7
Shallow	0.0	0.0	44.6	5366.5

Array Temperature

0.0

68.9

Deg F

Induction Constants MAI-A.A 188

Last Edited on 16-FEB-2012,08:32

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	

High Resolution Temperature Calibration MAI-A.A 188

Field Calibration on 12-AUG-2011,21:41

	Measured	Calibrated(Deg F)
Lower	32.00	32.00
Upper	68.00	68.00

High Resolution Temperature Constants MAI-A.A 188

Last Edited on 21-JUN-2011,19:05

Pre-filter Length	11
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Caliper Calibration MPD-B 65

Base Calibration on 06-FEB-2012 15:42

Field Calibration on 15-FEB-2012 09:35

Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	14246	3.99
2	22911	5.98
3	31473	7.97
4	39776	9.86
5	48992	11.92
6	N/A	N/A
Field Calibration		
	Measured Caliper (in)	Actual Caliper (in)
	5.95	5.98

Photo Density Calibration MPD-B 65

Base Calibration on 06-FEB-2012 16:03

Field Check on 15-FEB-2012 09:33

Density Calibration				
Base Calibration				
	Measured	Calibrated (sdu)		
	Near	Far	Near	Far

Reference 1	58421	27705	59556	30836
Reference 2	23654	2410	24941	2541

Field Check at Base

1233.9	1179.6
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Field Check

1227.5	1177.2
--------	--------

PE Calibration

Base Calibration

Measured

Calibrated

WS

WH

Ratio

Ratio

Background

226

1097

Reference 1

21385

58213

0.370

0.371

Reference 2

6241

23505

0.268

0.272

Field Check at Base

225.7

1097.3

Field Check

223.2

1088.1

Density Constants MPD-B 65

Last Edited on 16-FEB-2012,08:32

Density Source Id

P57072B

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

1.08

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)

2.71

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

DOWNHOLE EQUIPMENT

C:\Minimus 11_03_4044\Data\O'Brien Crooked Creek Offset # 4-8\O'Brien Crooked Creek Offset # 4-8_004.dta

MCB-A 11B Tension Cablehead

MCB-A 162 LG: 2.18 ft WT: 19.8 lb OD: 2.24 in

MCB-A 11B Tension Cablehead

MCB-A 162 LG: 2.18 ft WT: 19.8 lb OD: 2.24 in

SHA-F Compact Swivel Head Adaptor

SHA-F 88 LG: 2.74 ft WT: 26.5 lb OD: 2.24 in

SHA-F Compact Swivel Head Adaptor

SHA-F 88 LG: 2.74 ft WT: 26.5 lb OD: 2.24 in

Compact Comms Gamma

MCG-D.K 443 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Comms Gamma



45.04 ft

GRGC - Gamma Ray

MCG-D.K 443 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Micro-log

MML-A 9 LG: 7.97 ft WT: 81.6 lb OD: 2.24 in

Compact Micro-log

MML-A 9 LG: 7.97 ft WT: 81.6 lb OD: 2.24 in

Compact Neutron

MDN-A.B 39 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Neutron

MDN-A.B 39 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper

MPD-B 65 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

Compact Density/Caliper

MPD-B 65 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

SKJ-D.A Compact Knuckle Joint

SKJ-D.A 91 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

SKJ-D.A Compact Knuckle Joint

SKJ-D.A 91 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

Compact Focussed Electric

MFE-A.A 67 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Focussed Electric

MFE-A.A 67 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Induction

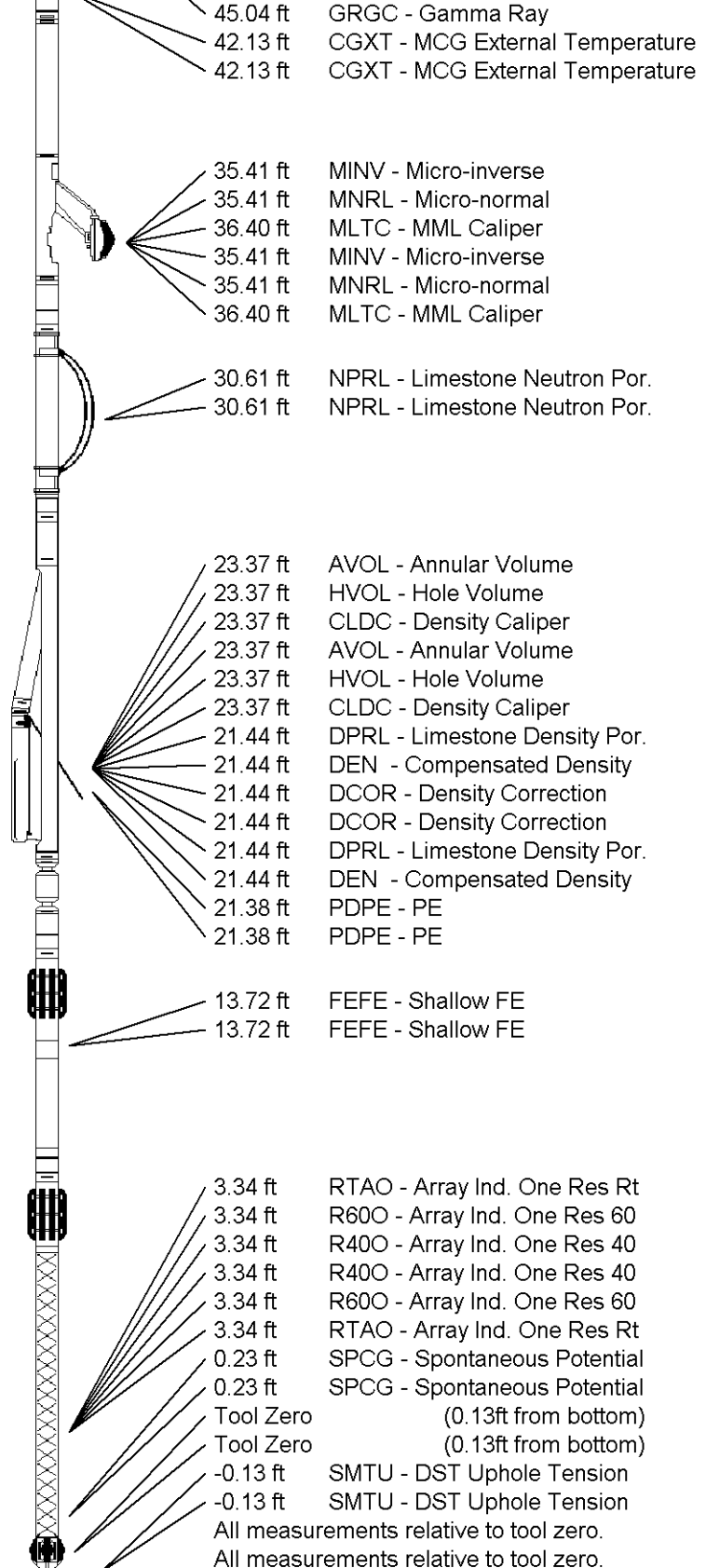
MAI-A.A 188 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Compact Induction

MAI-A.A 188 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 55.24 ft Weight: 454.2 lb

Total Length: 55.24 ft Weight: 454.2 lb



COMPANY

O'BRIEN ENERGY RESOURCES CORP.

WELL

CROOKED CREEK OFFSET # 4-8

FIELD

ANGELL SOUTH

PROVINCE/COUNTY

MEADE

COUNTRY/STATE

U.S.A. / KANSAS

Elevation Kelly Bushing 2656.00 feet

Elevation Drill Floor 2654.00 feet

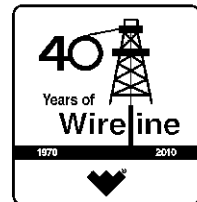
First Reading 6320.00 feet

Depth Driller 6323.00 feet

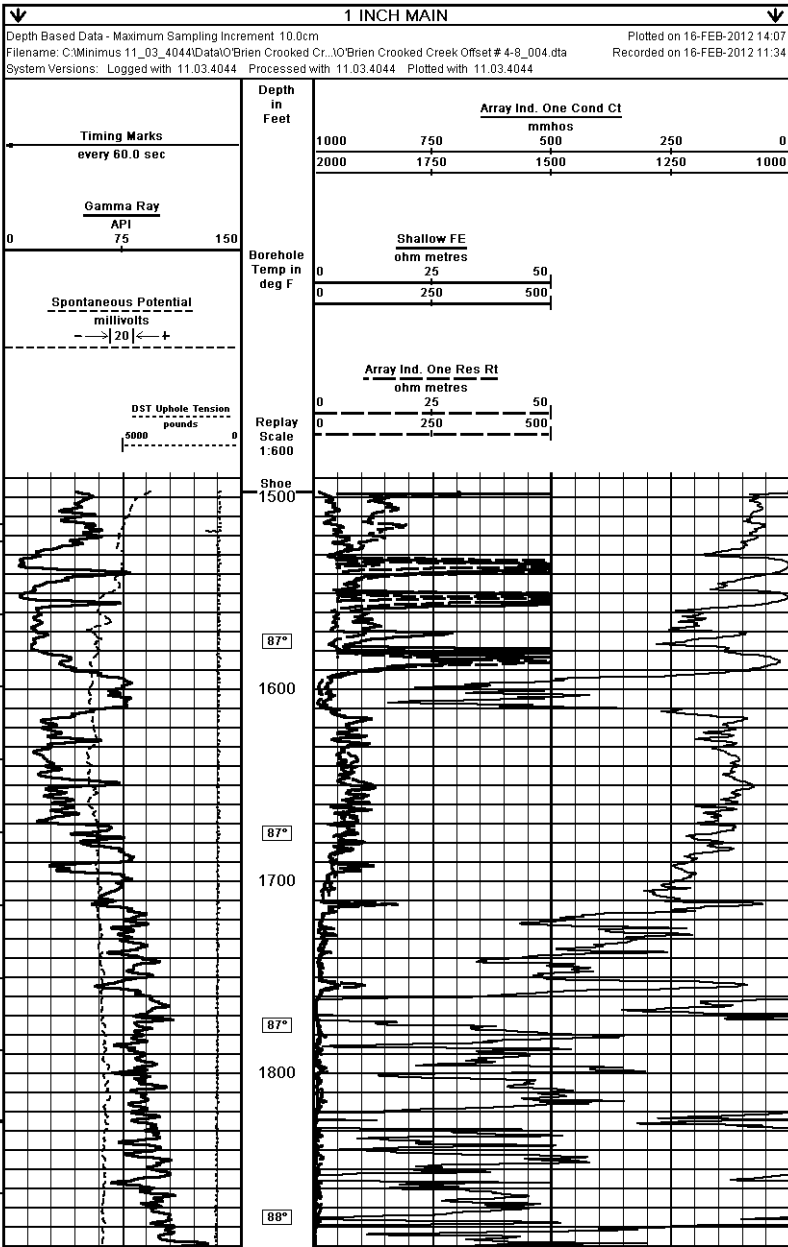


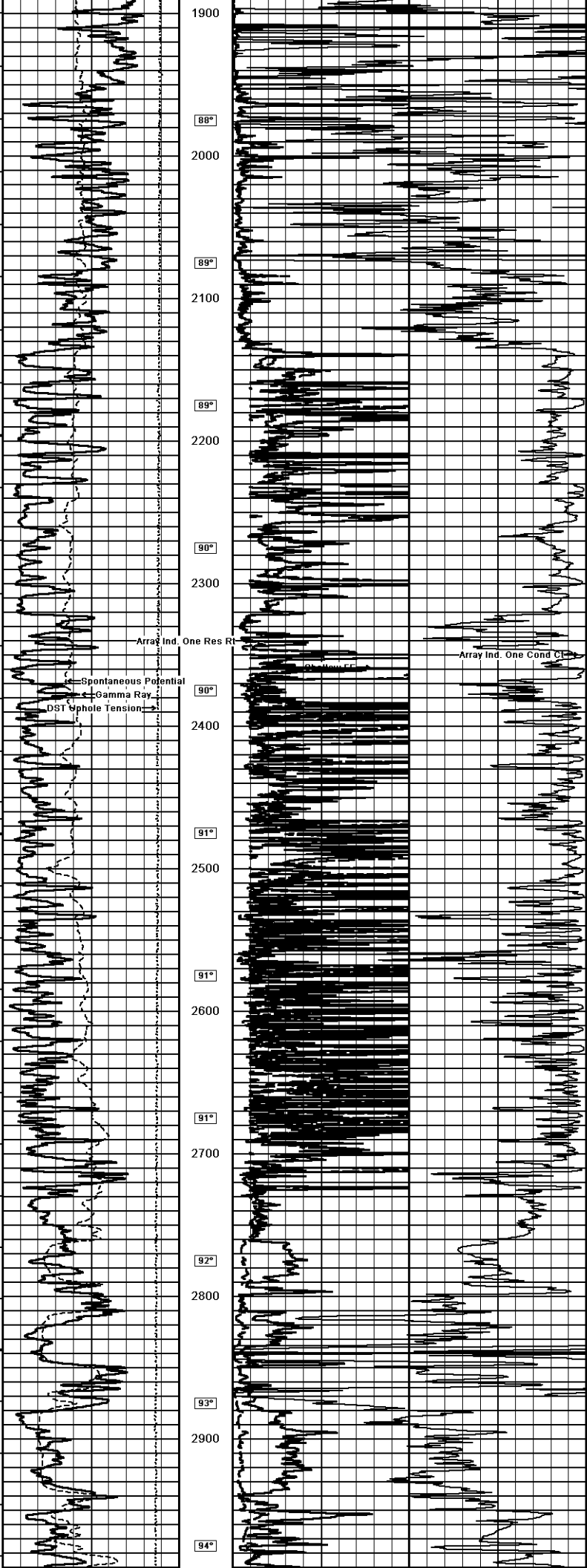
Weatherford®

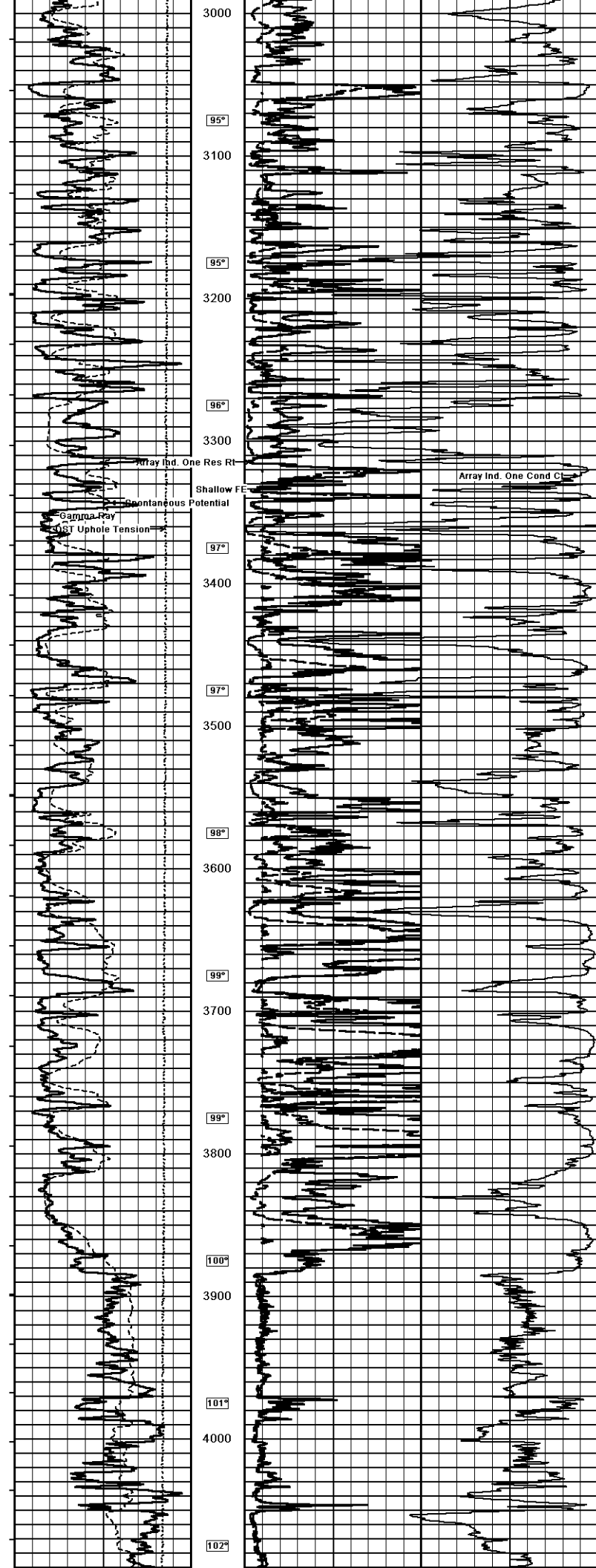
ARRAY INDUCTION
SHALLOW FOCUSED
ELECTRIC LOG

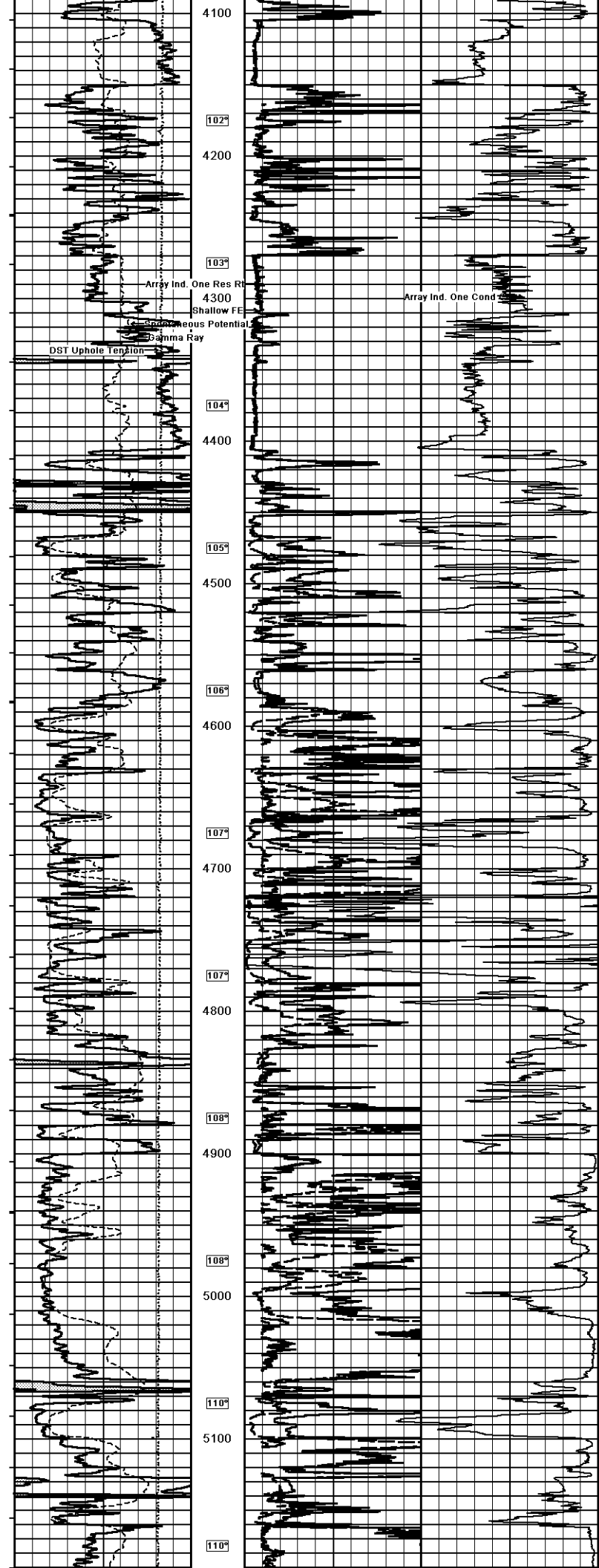


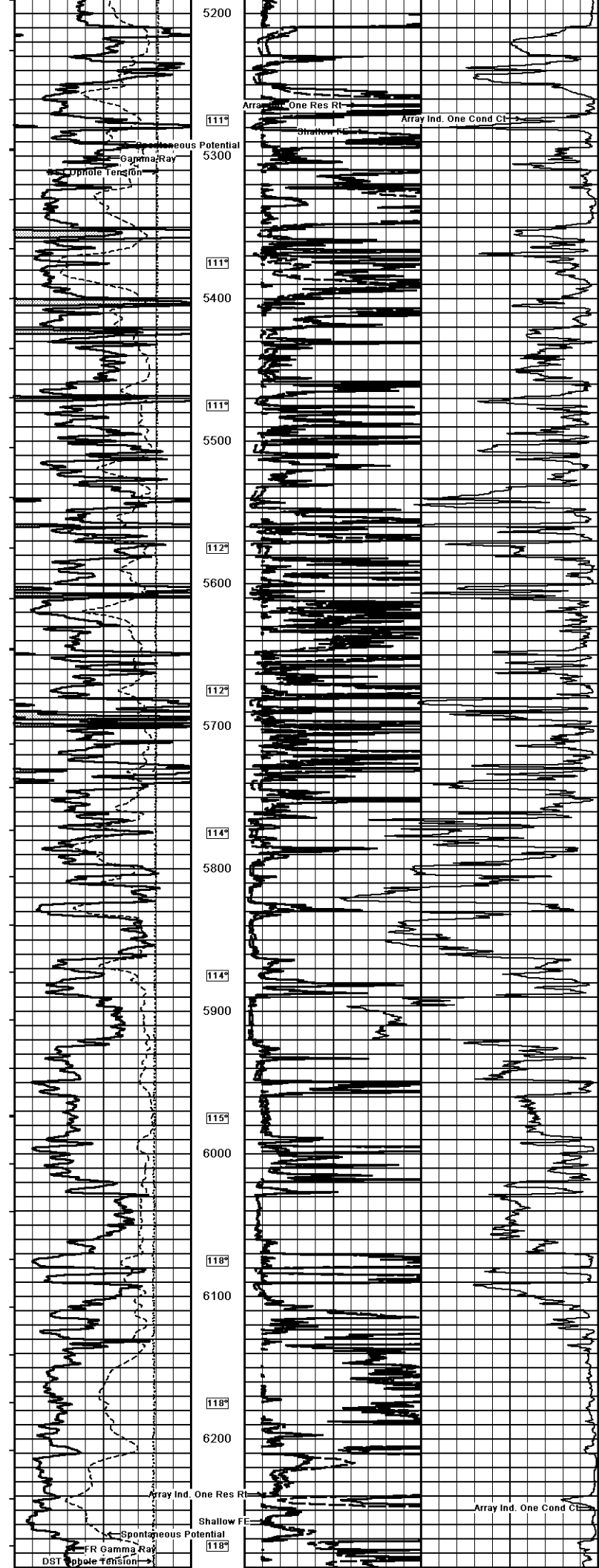
Weatherford		ARRAY INDUCTION SHALLOW FOCUSED ELECTRIC LOG	
COMPANY O'BRIEN ENERGY RESOURCES CORP.			
WELL CROOKED CREEK OFFSET # 4-8			
FIELD ANGELL SOUTH			
PROVINCE/COUNTY MEADE			
COUNTRY/STATE U.S.A. / KANSAS			
LOCATION 2271' FSL & 528' FEL SW NE NE SE			
SEC	TWP	RGE	Other Services
8	33S	28W	W/D/M/O/N
Log Number	15-119-21309		
Permanent Datum O.L., Elevation 2644 feet			
Log Measured From KB			
Drilling Measured From KB			
Date	16-FEB-2012		
Run Number	ONE		
Depth Driller	6323.00	feet	
Depth Logger	6323.00	feet	
First Reading	6320.00	feet	
Last Reading	1497.00	feet	
Casing Driller	1497.00	feet	
Casing Logger	1497.00	feet	
Bit Size	7 7/8	inches	
Hole Fluid Type	CHEMICAL		
Density/Viscosity	9.00 lbm/gal	58.00 cP	
PH / Fluid Loss	10.50	8.00 m/30min	
Sample Source	FLOWLINE		
Run @ Measured Temp	1.35 @ 65.0	ohm-m	
Run @ Measured Temp	1.08 @ 65.0	ohm-m	
Run @ Measured Temp	1.82 @ 65.0	ohm-m	
Source Run / Rmc	CALC		
Run @ BHT	0.76 @ 18.0	ohm-m	
Time Since Circulation	6 HOURS		
Max Recorded Temp	118.00	deg F	
Equipment Name	COMACT		
Equipment Base	13008		
Recorded By	A. CORREIA		
Witnessed By	ROGER PEARSON		
SOI JOB #	3534704		
			PETER DEBENHAM LE12-034

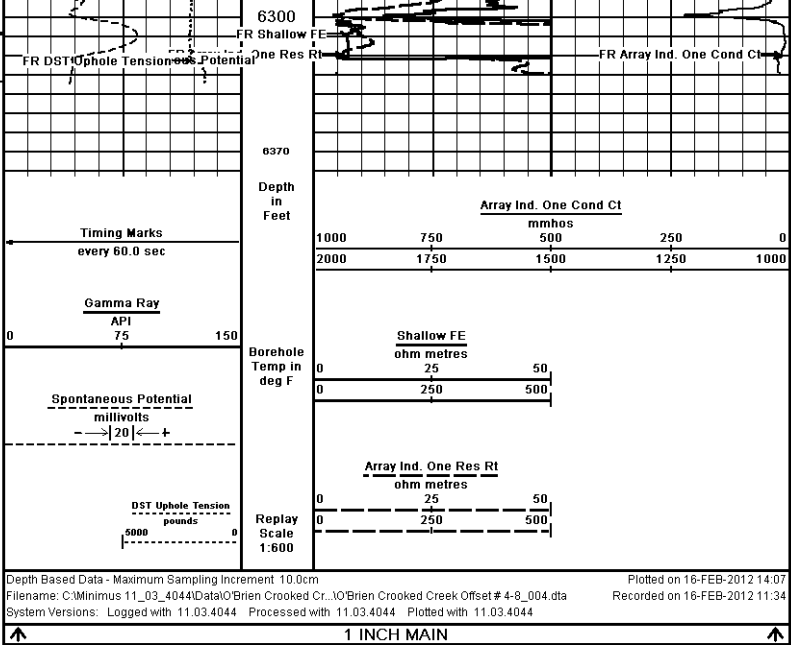












COMPANY	O'BRIEN ENERGY RESOURCES CORP.			
WELL	CROOKED CREEK OFFSET # 4-8			
FIELD	ANGELL SOUTH			
PROVINCE/COUNTY	MEADE			
COUNTRY/STATE	U.S.A. / KANSAS			
Elevation Kelly Bushing	2656.00	feet	First Reading	6320.00 feet
Elevation Drill Floor	2654.00	feet	Depth Driller	6323.00 feet
Elevation Ground Level	2644.00	feet	Depth Logger	6323.00 feet



ARRAY INDUCTION
SHALLOW FOCUSED
ELECTRIC LOG

