ARRAY INDUCTION SHALLOW FOCUSSED ELECTRIC LOG

Weatherford®

COMPANY	O'BRIEN ENERGY RESOURCES CORP.
WELL	EAGLE # 1-10
FIELD	NOVINGER SOUTHWEST
PROVINCE/COUNTY	MEADE
COUNTRY/STATE	U.S.A. / KANSAS
LOCATION	660' FNL & 1980' FWL

40 Years of Wireline 1970 2010

SEC	TWP	RGE
10	34S	30W

Other Services
MPD/MDN
MML

API Number 15-119-21298
Permit Number

Permanent Datum G.L., Elevation 2681 feet
Log Measured From KB
Drilling Measured From K.B. @ 12 FEET

Elevations:	feet
KB	2693.00
DF	2691.00
GL	2681.00

Date	13-OCT-2011			
Run Number	ONE			
Depth Driller	6300.00	feet		
Depth Logger	6292.00	feet		
First Reading	6289.00	feet		
Last Reading	2500.00	feet		
Casing Driller	1505.00	feet		
Casing Logger	1500.00	feet		
Bit Size	7.875	inches		
Hole Fluid Type	CHEMICAL			
Density / Viscosity	9.10 lb/USg	60.00 CP		
PH / Fluid Loss	11.00	6.80 ml/30Min		
Sample Source	MML DOWNHOLE			
Rm @ Measured Temp	0.90 @ 82.0	ohm-m		
Rmf @ Measured Temp	0.72 @ 82.0	ohm-m		
Rmc @ Measured Temp	1.08 @ 82.0	ohm-m		
Source Rmf / Rmc	CALC	CALC		
Rm @ BHT	0.60 @125.0	ohm-m		
Time Since Circulation	5 HOURS			
Max Recorded Temp	126.00	deg F		
Equipment Name	COMPACT			
Equipment / Base	13096	LIB		
Recorded By	A. GIAMBALVO			
Witnessed By	ROGER PEARSON		PAUL WIEMANN	
S.O. / JOB #	3531163		LB11-263	

BOREHOLE RECORD

Last Edited: 13-OCT-2011 18:11

Bit Size inches	Depth From feet	Depth To feet
7.875	1500.00	6292.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	1500.00	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 = 888 Cubic Feet
Service order #3531163
Rig: Duke #6
Engineer: A. Giambalvo, W. Stambaugh
Operator(s): N. Adame

2 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 29-DEC-2011 10:38
Filename: C:\Users\Joe\AppData\Local\Temp\Weatherford PreView\0\O'Brien Eagle # 1-10_004.dta
Recorded on 13-OCT-2011 15:17
System Versions: Logged with 11.03.4044 Plotted with 12.01.3513

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150

Spontaneous Potential
millivolts
− → | 20 | ← +

DST Uphole Tension
pounds
5000 0

Depth in Feet

Borehole Temp in deg F

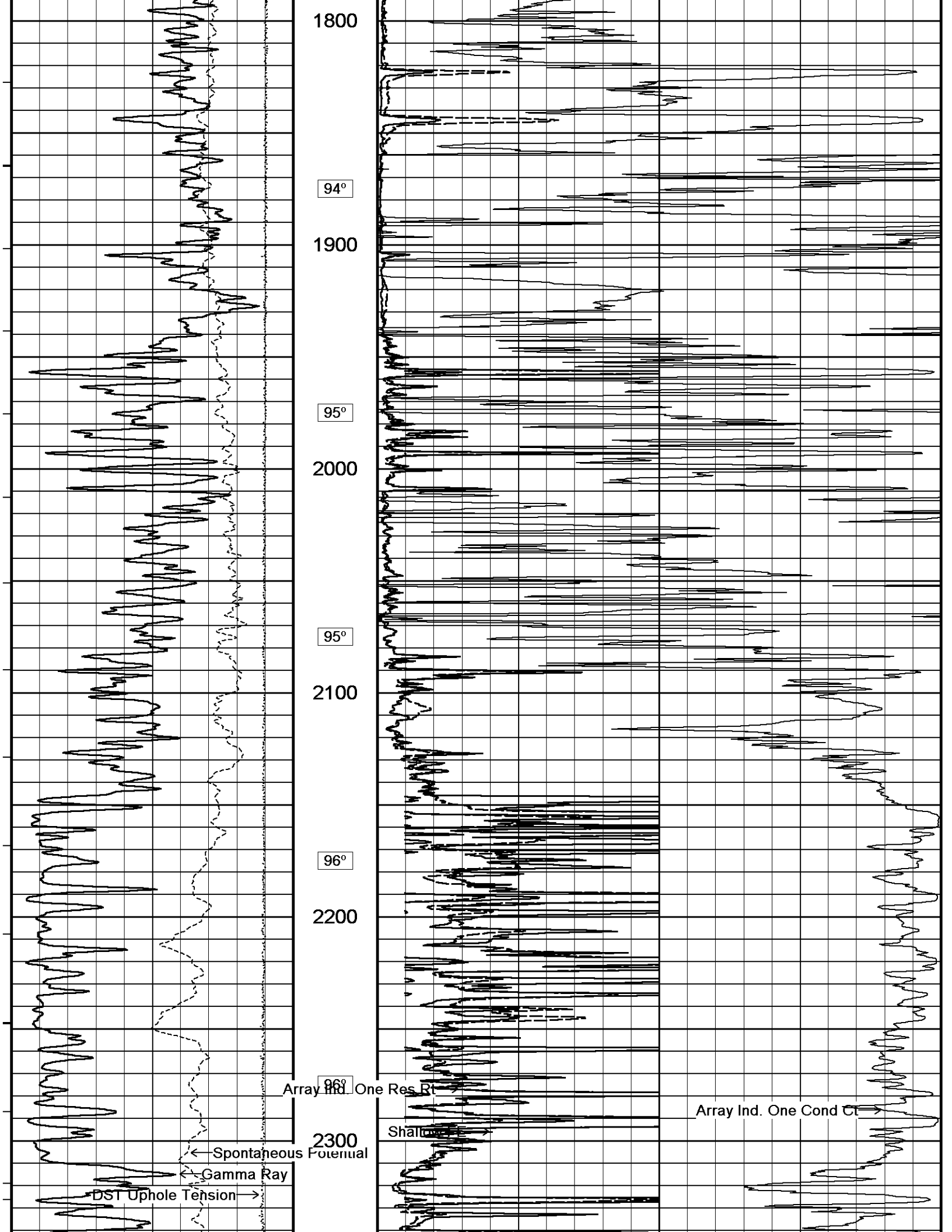
Replay Scale 1:600

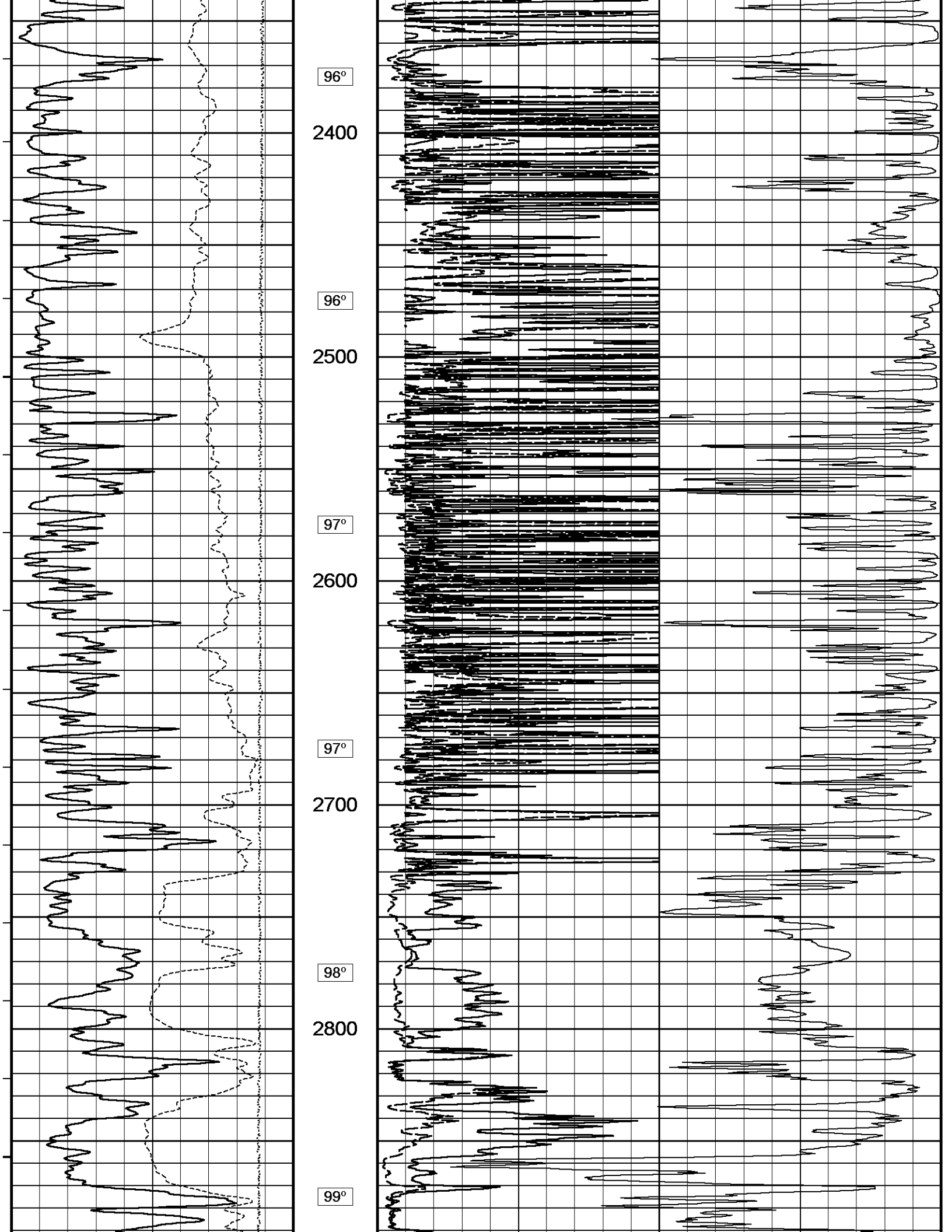
Array Ind. One Cond Ct
mmhos
1000 750 500 250 0
2000 1750 1500 1250 1000

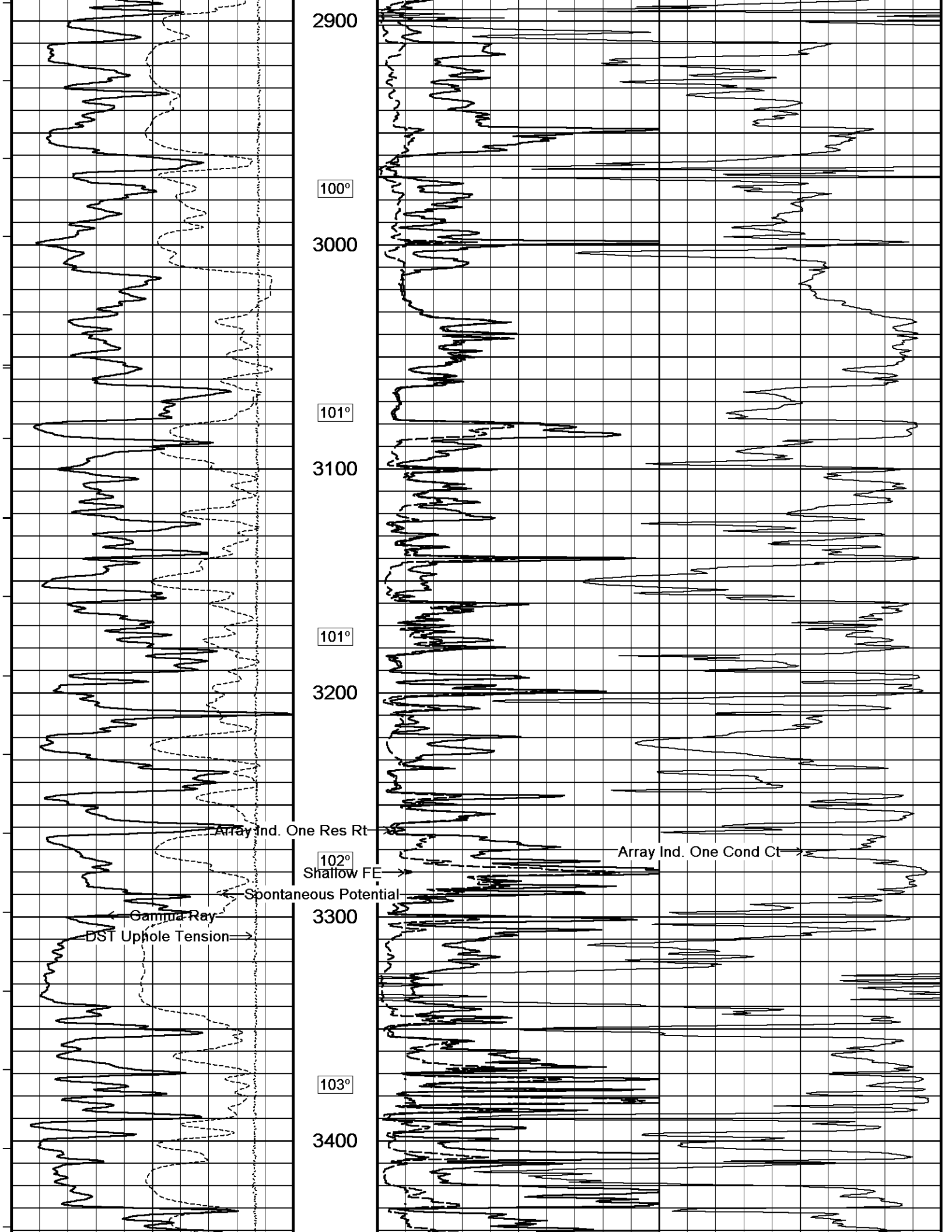
Shallow FE
ohm metres
0 25 50
0 250 500

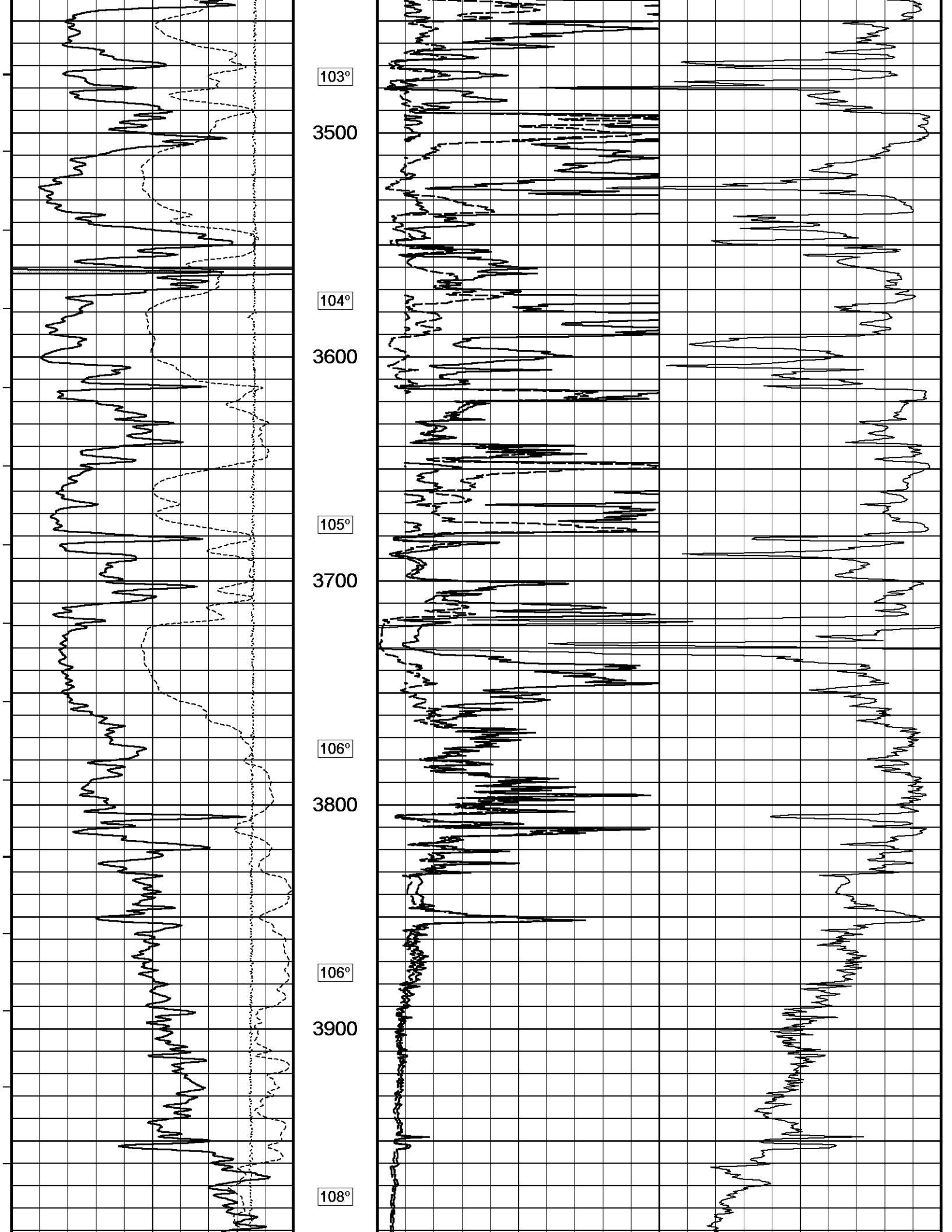
Array Ind. One Res Rt
ohm metres
0 25 50
0 250 500

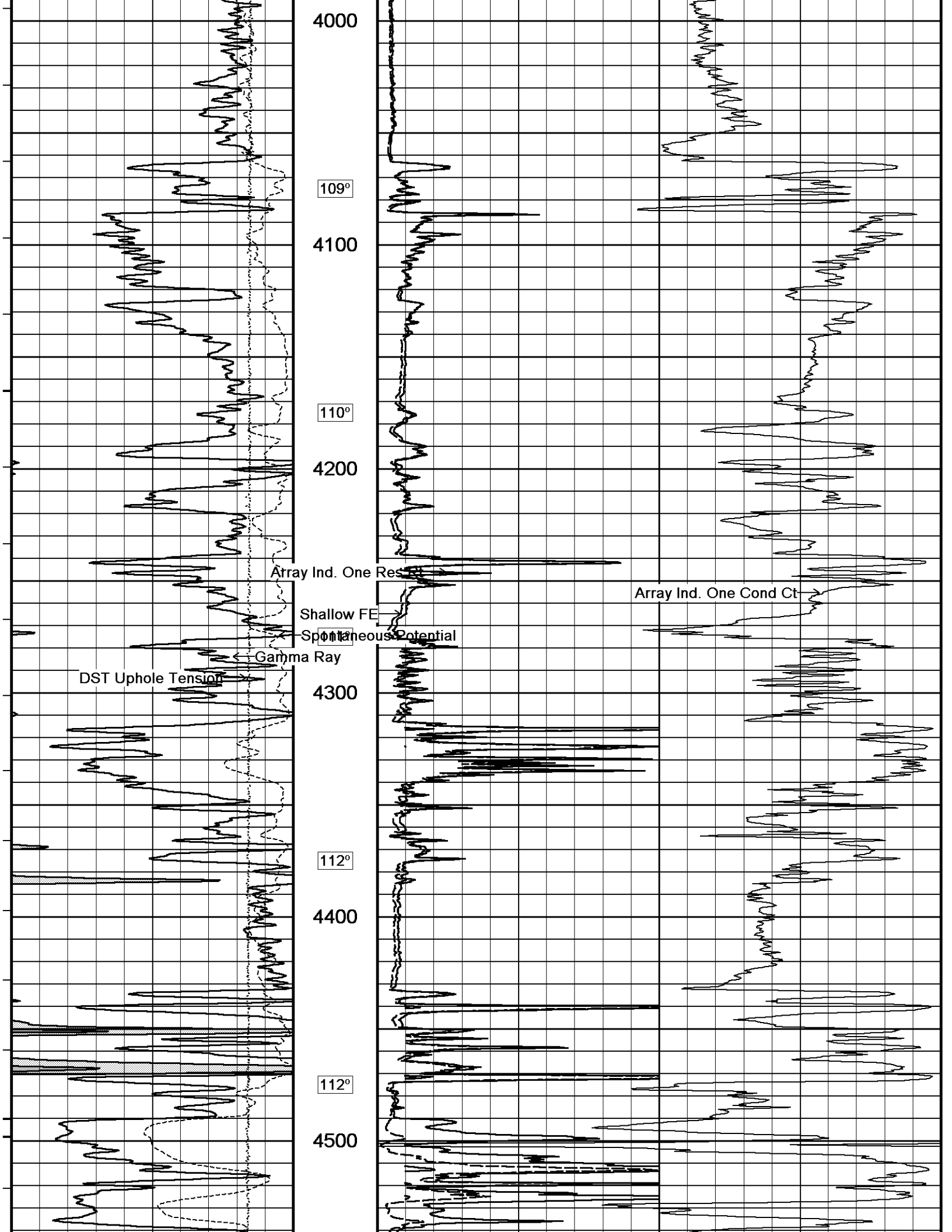
1500
93°
1600
94°
1700
94°

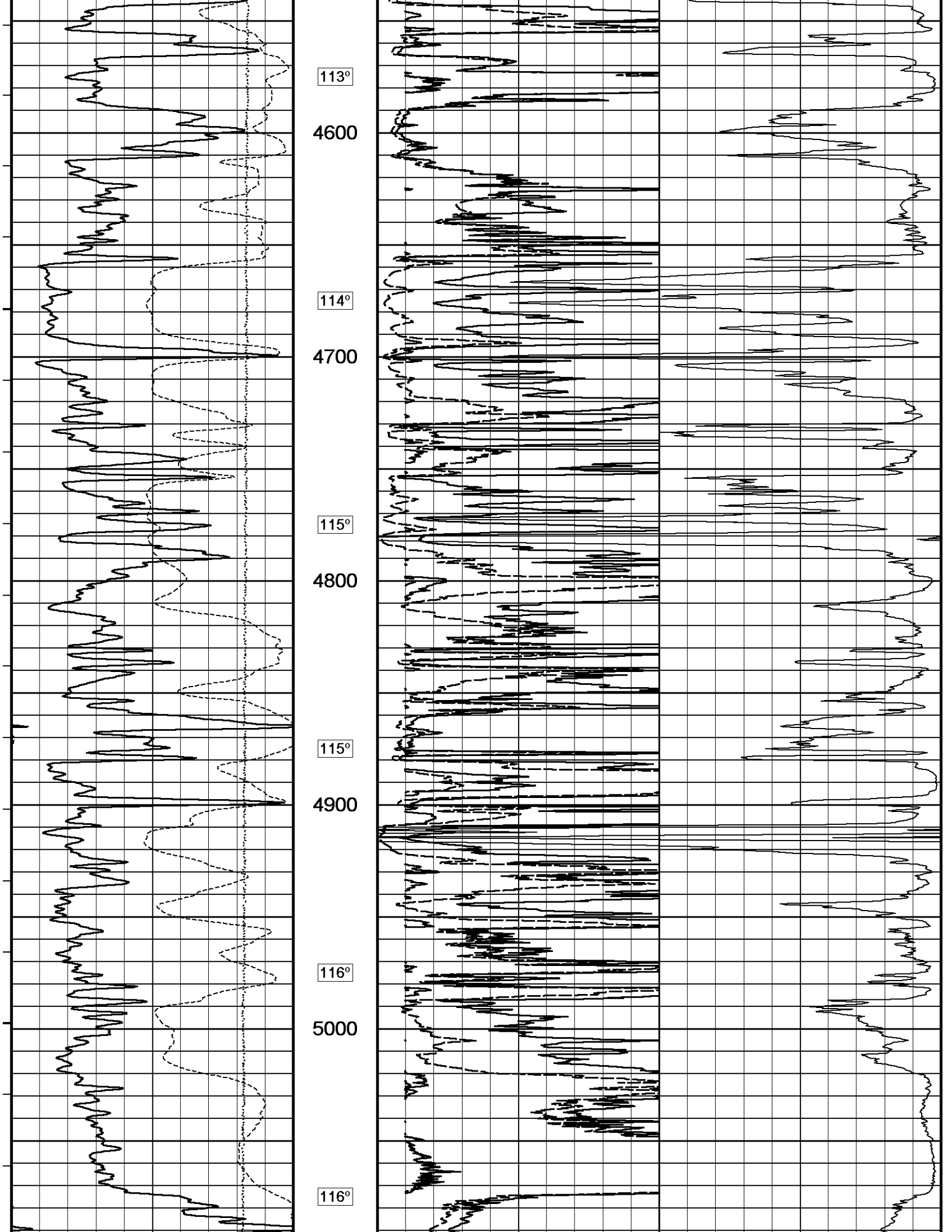

1800
94°
1900
95°
2000
95°
2100
96°
2200
96°
2300
Array Ind. One Res Rt
Array Ind. One Cond Ct
Shallow Rt
Spontaneous Potential
Gamma Ray
DST Uphole Tension

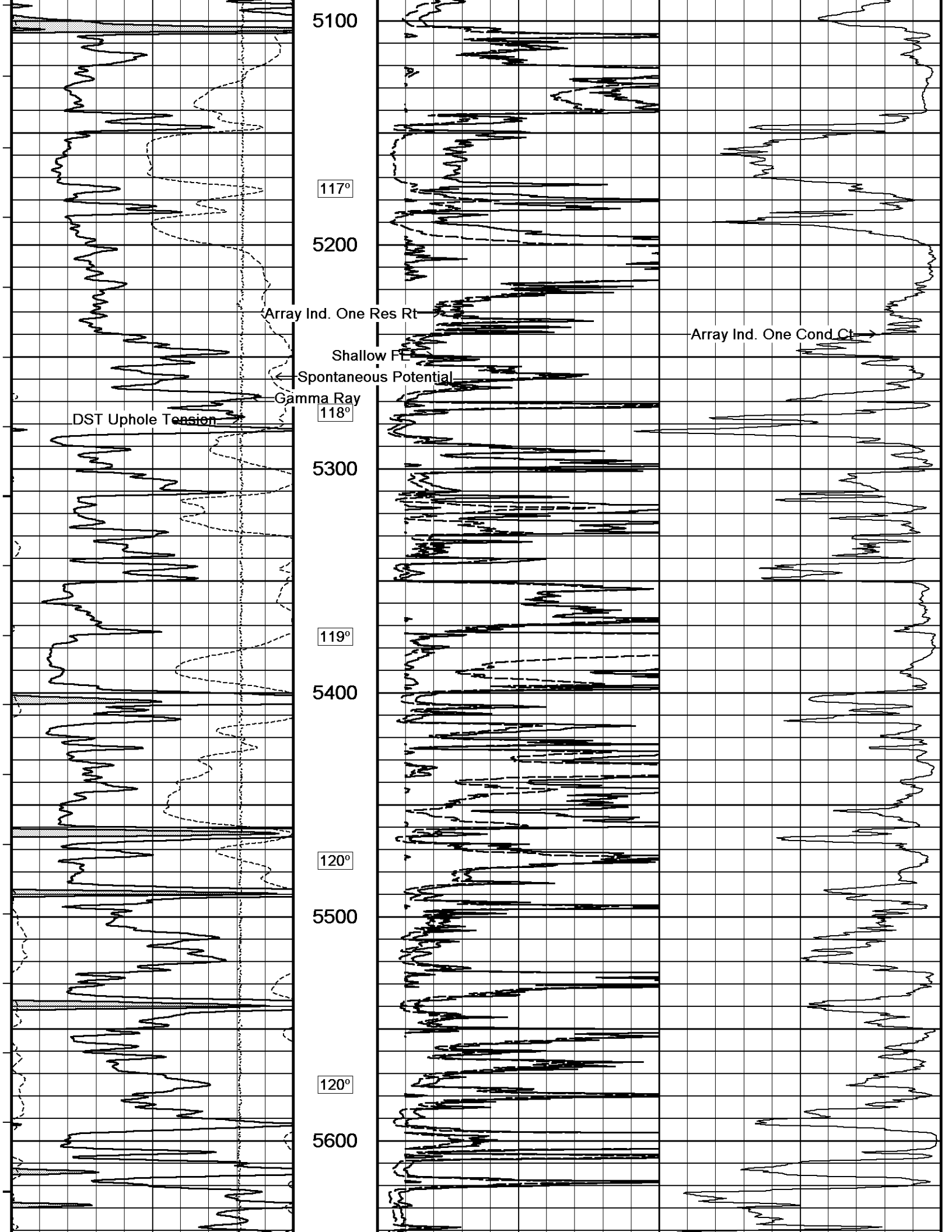

96°
2400
96°
2500
97°
2600
97°
2700
98°
2800
99°

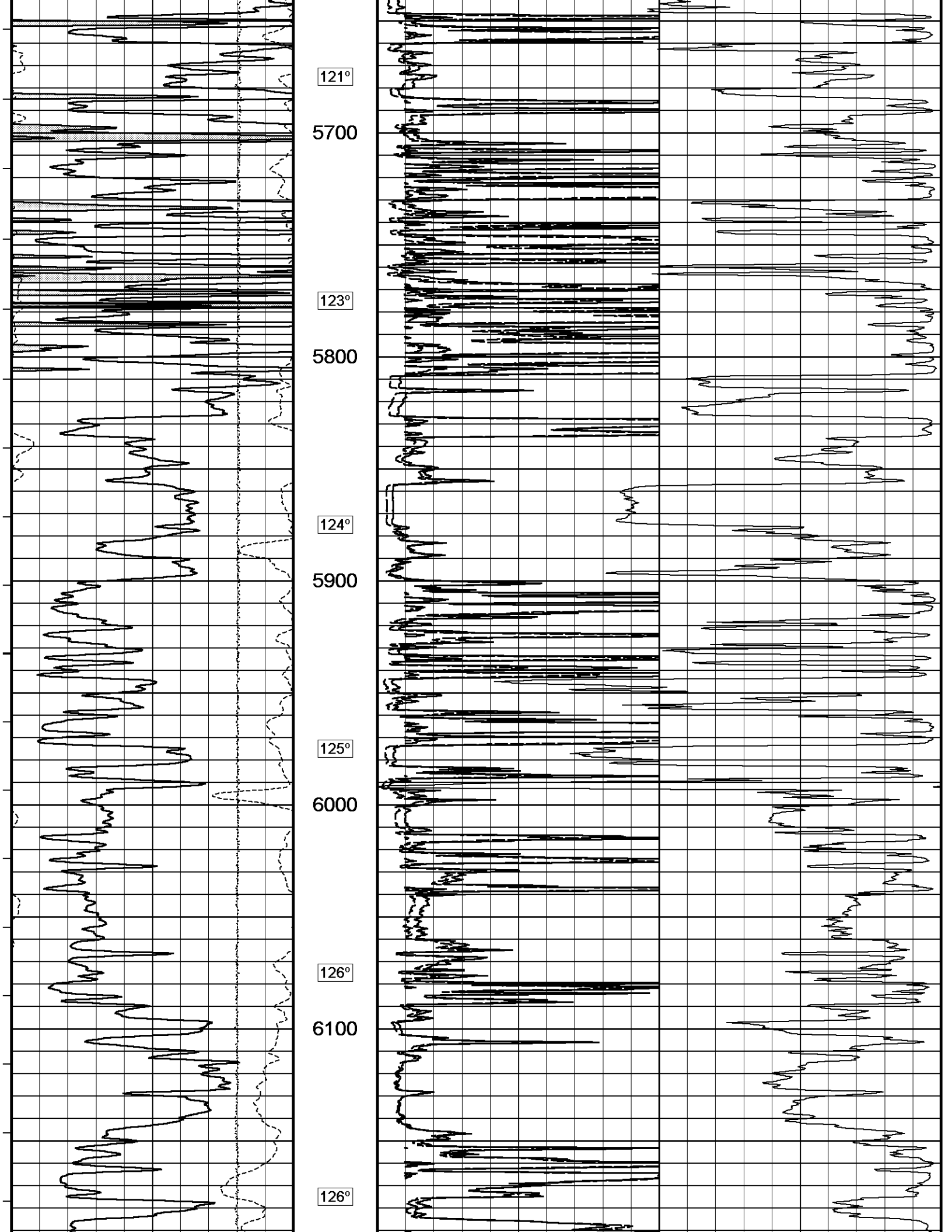

2900
100°
3000
101°
3100
101°
3200
Array Ind. One Res Rt
102°
Shallow FE
Spontaneous Potential
Gamma Ray
3300
DST Uphole Tension
Array Ind. One Cond Ct
103°
3400

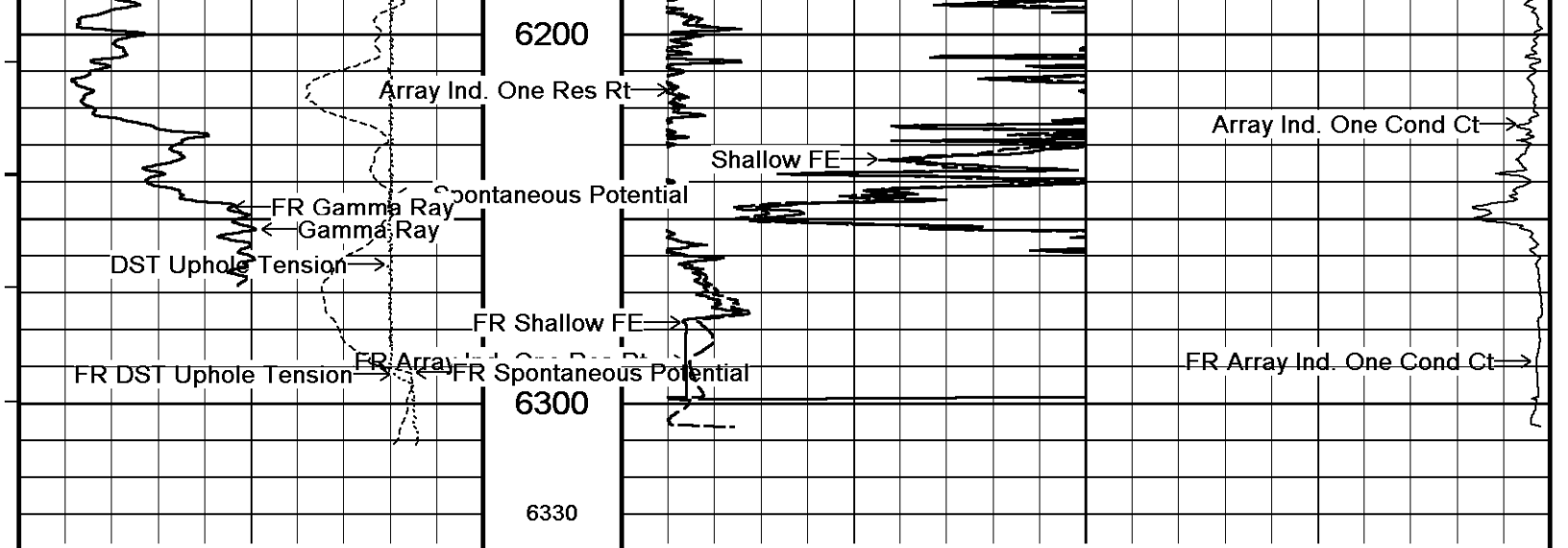

103°
3500
104°
3600
105°
3700
106°
3800
106°
3900
108°


4000
109°
4100
110°
4200
Array Ind. One Res Rt
Array Ind. One Cond Ct
Shallow FE
Spontaneous Potential
111°
Gamma Ray
DST Uphole Tension
4300
112°
4400
112°
4500


113°
4600
114°
4700
115°
4800
115°
4900
116°
5000
116°


5100
117°
5200
Array Ind. One Res Rt
Array Ind. One Cond Ct
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
118°
5300
119°
5400
120°
5500
120°
5600


121°
5700
123°
5800
124°
5900
125°
6000
126°
6100
126°



6330

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 1:600

Array Ind. One Cond Ct
mmhos
1000 750 500 250 0
2000 1750 1500 1250 1000

Shallow FE
ohm metres
0 25 50
0 250 500

Array Ind. One Res Rt
ohm metres
0 25 50
0 250 500

Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Users\Joe\AppData\Local\Temp\Weatherford PreView\0\O'Brien Eagle # 1-10_004.dta
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Plotted on 29-DEC-2011 10:38
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2 INCH MAIN

5 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Users\Joe\AppData\Local\Temp\Weatherford PreView\0\O'Brien Eagle # 1-10_004.dta
System Versions: Logged with 11.03.4044 Plotted with 12.01.3513
Plotted on 29-DEC-2011 10:38
Recorded on 13-OCT-2011 15:17

Depth in Feet

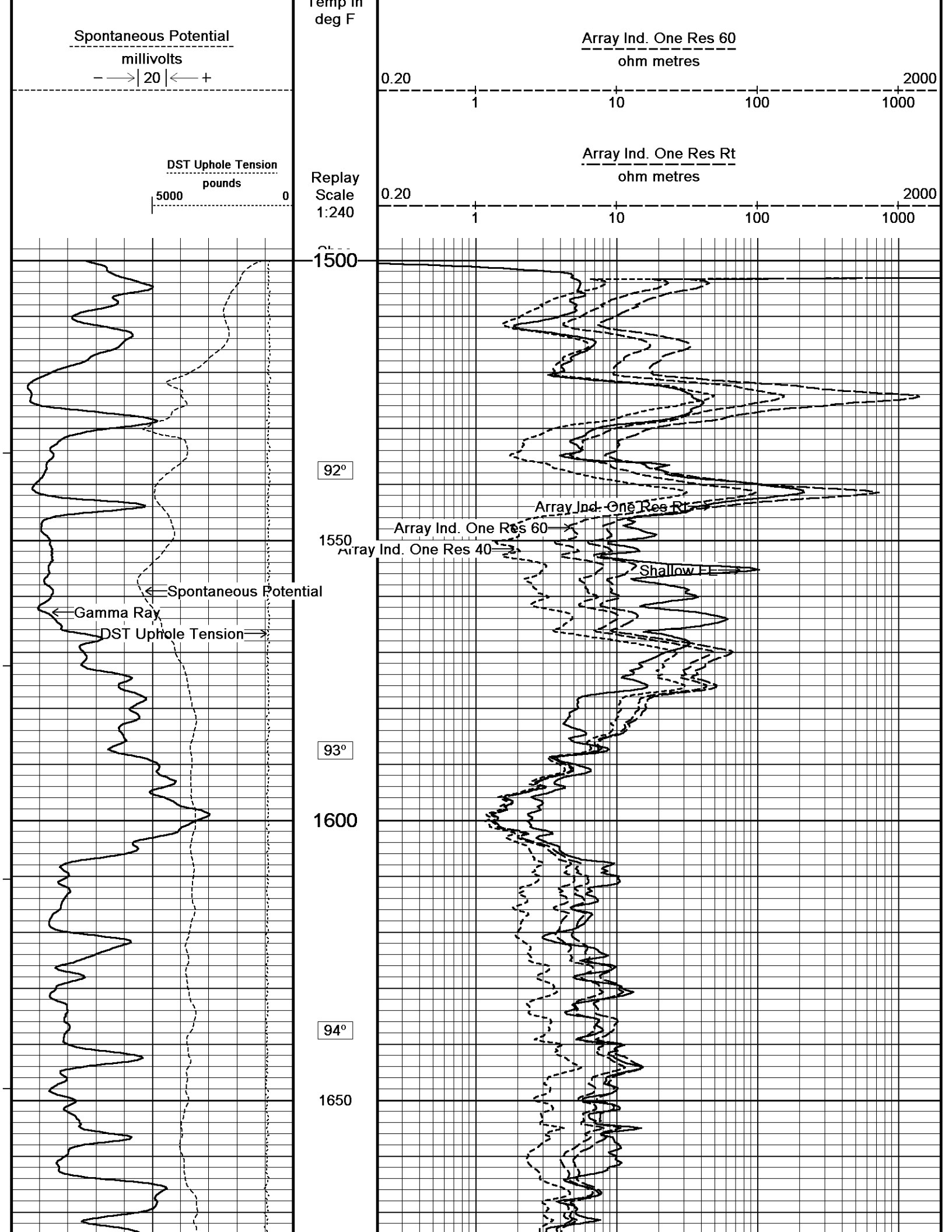
Timing Marks
every 60.0 sec

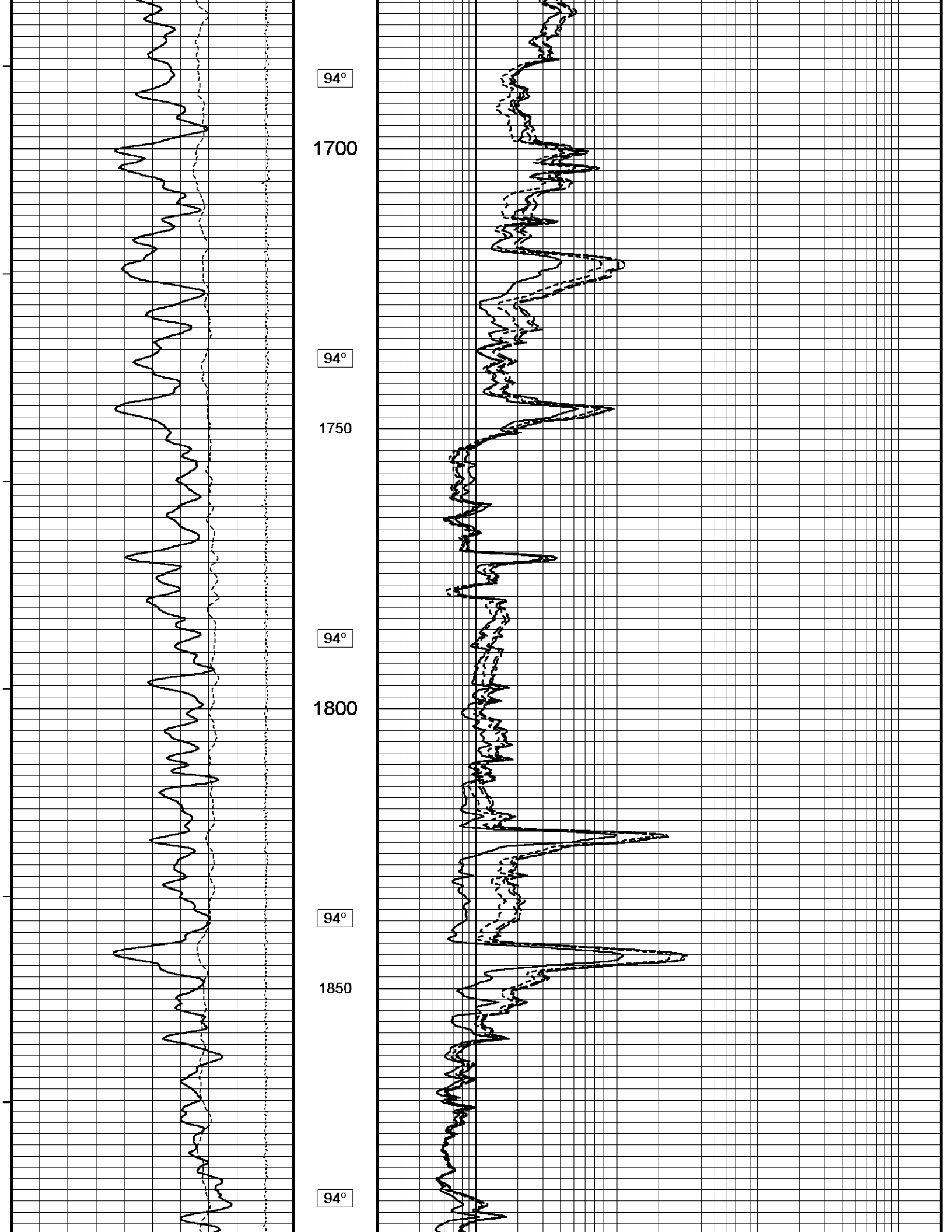
Gamma Ray
API
0 75 150

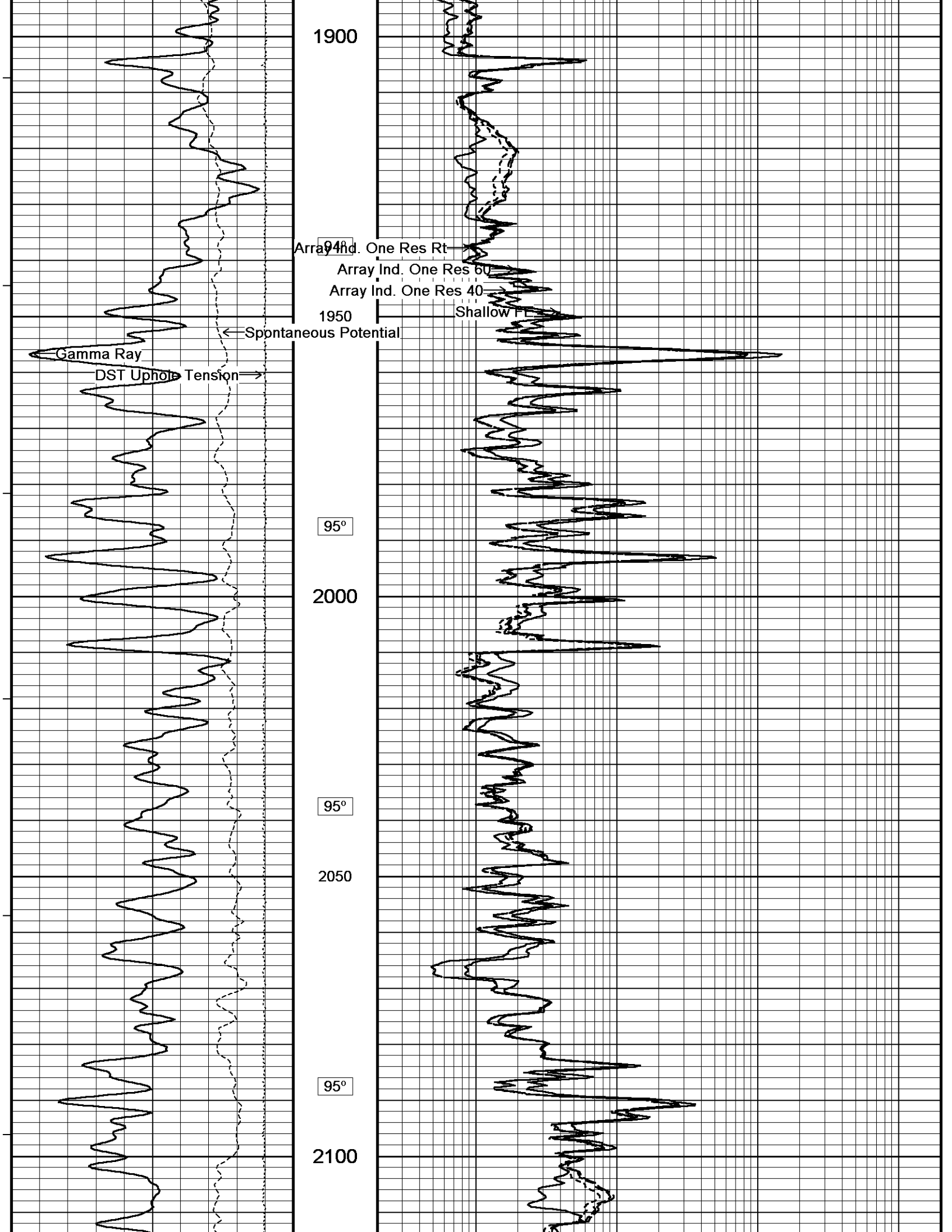
Shallow FE
ohm metres
0.20 2000
1 10 100 1000

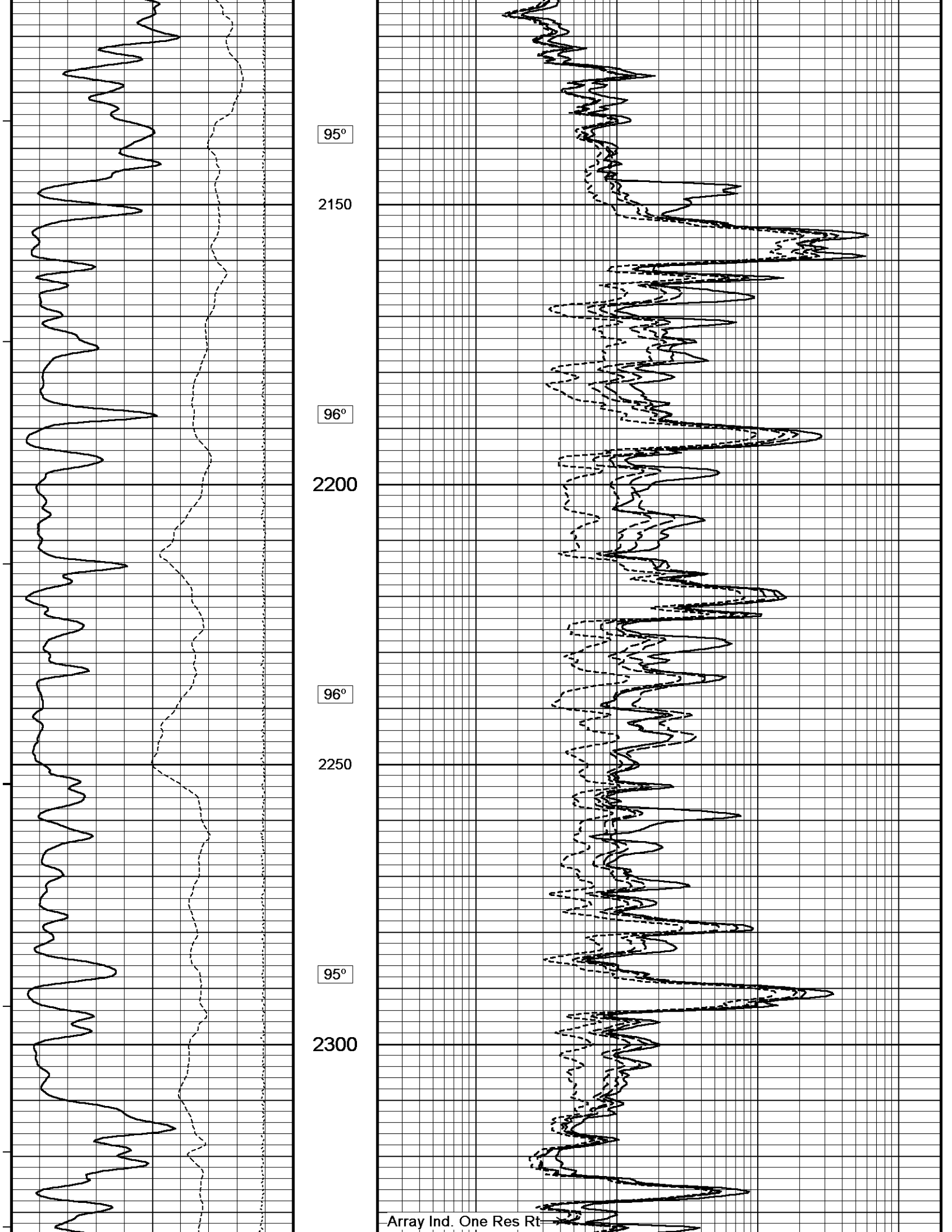
Array Ind. One Res 40
ohm metres
0.20 2000
1 10 100 1000

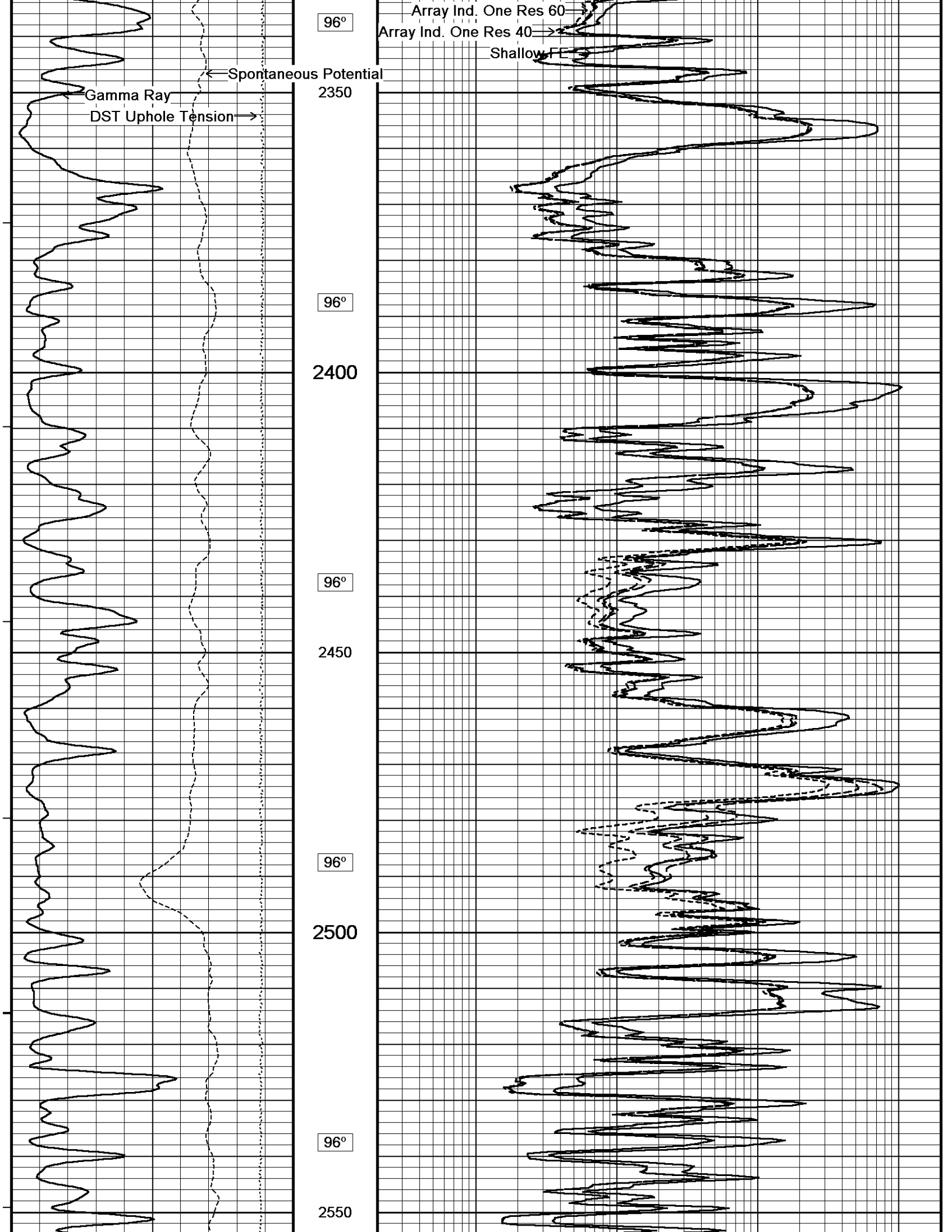
Borehole Temp in

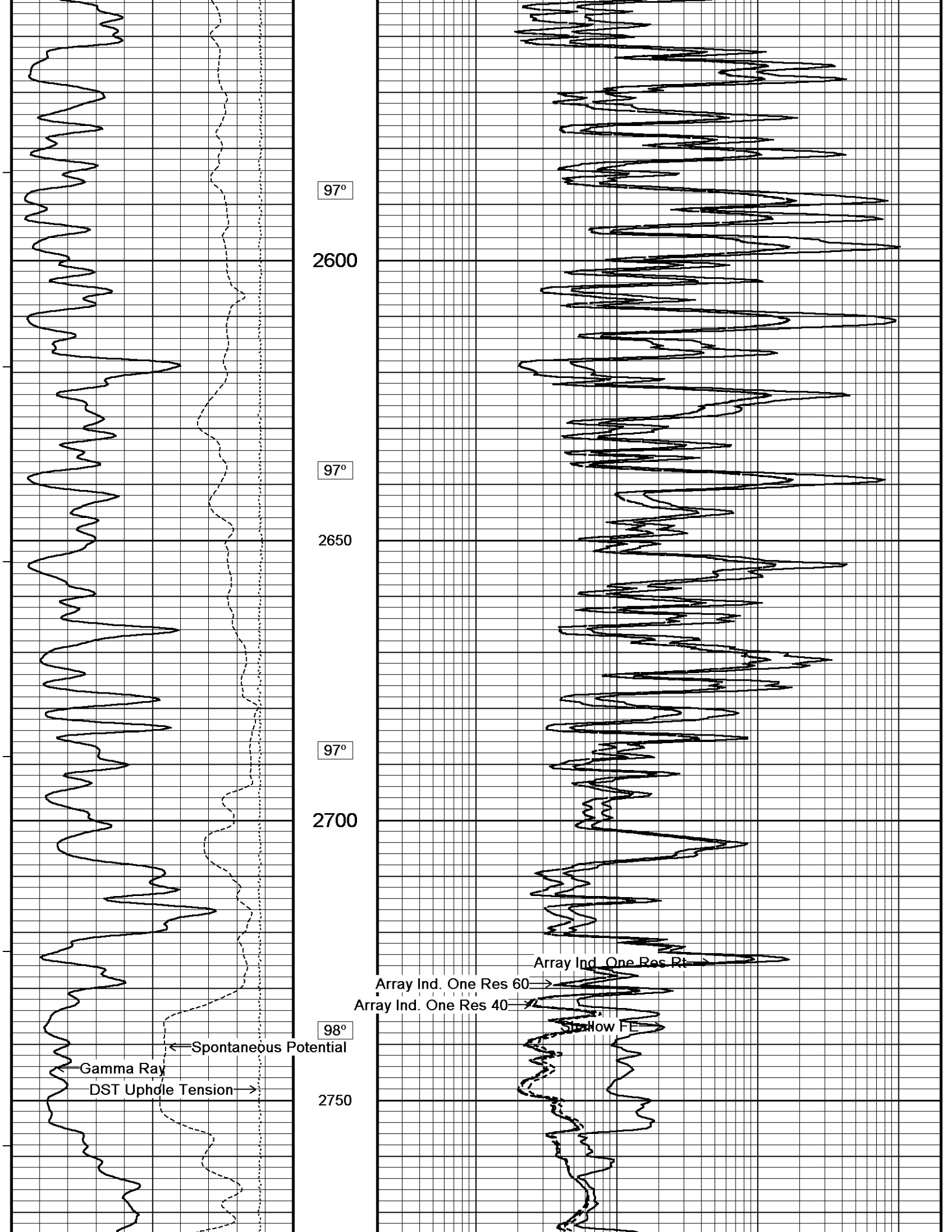

Temp in deg F
Spontaneous Potential
millivolts
− → | 20 | ← +
Array Ind. One Res 60
ohm metres
0.20
2000
1
10
100
1000
DST Uphole Tension
pounds
5000
0
Array Ind. One Res Rt
ohm metres
0.20
2000
1
10
100
1000
Replay Scale 1:240
1500
92°
1550
93°
1600
94°
1650
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension

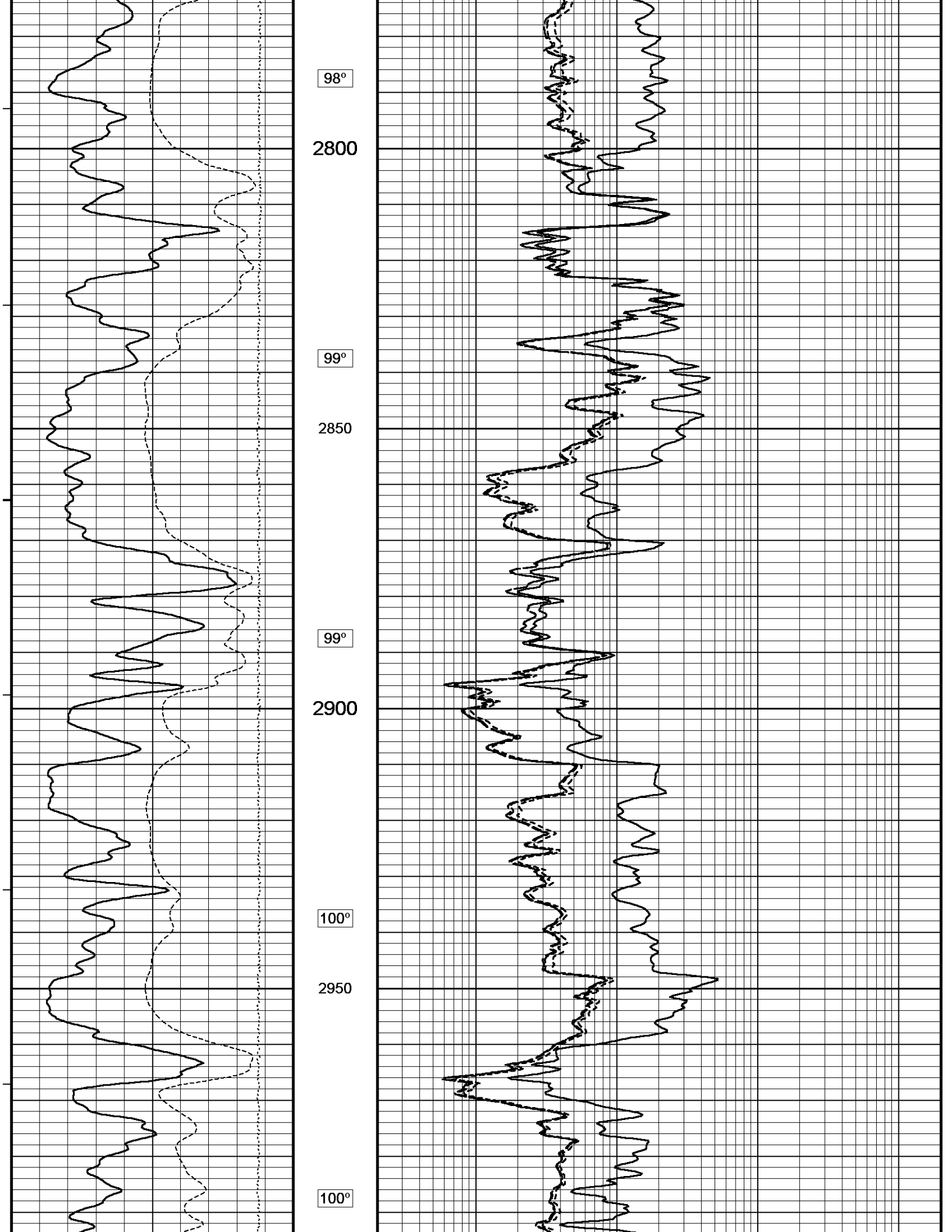

94°
1700
94°
1750
94°
1800
94°
1850
94°

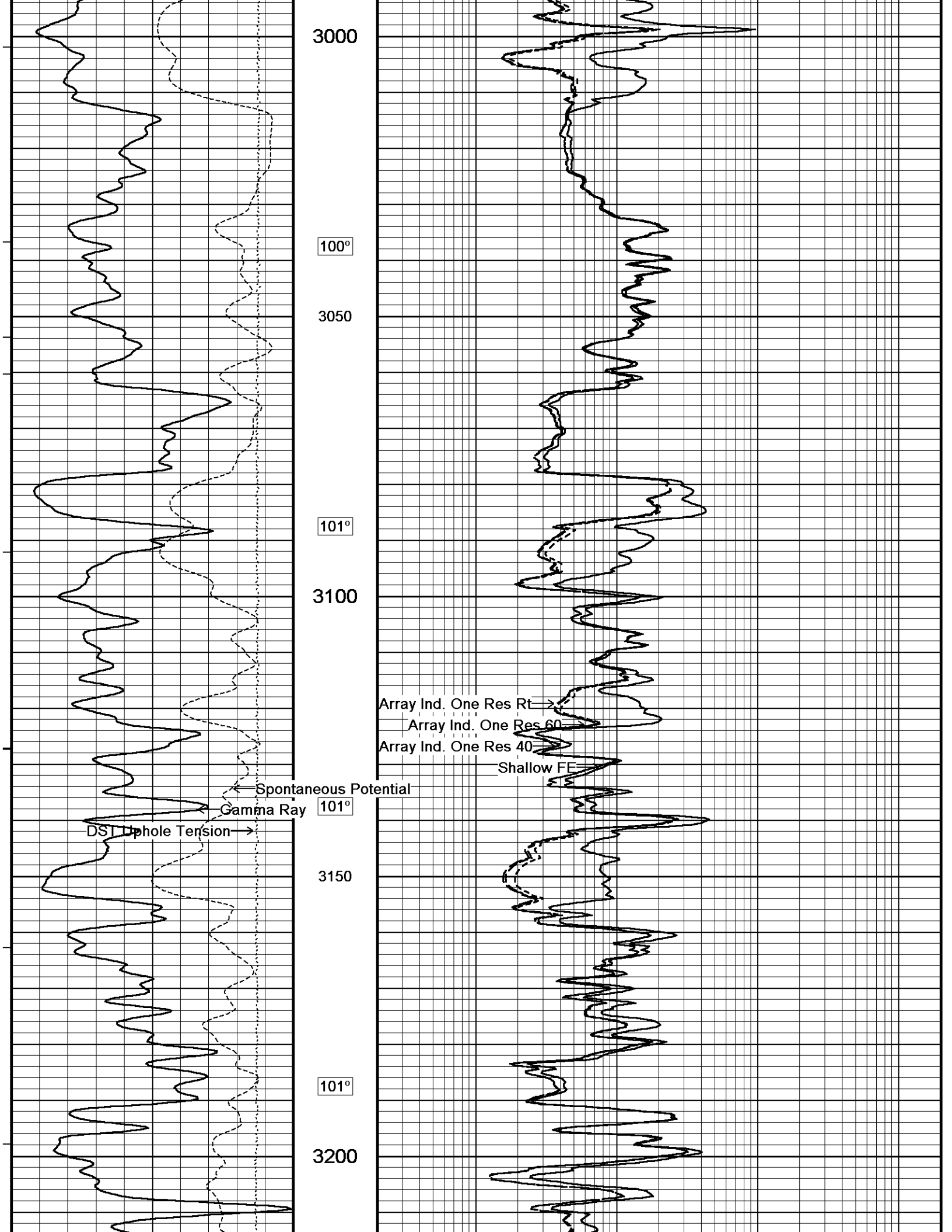

1900
94°
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
1950
Spontaneous Potential
Gamma Ray
DST Uphole Tension
95°
2000
95°
2050
95°
2100

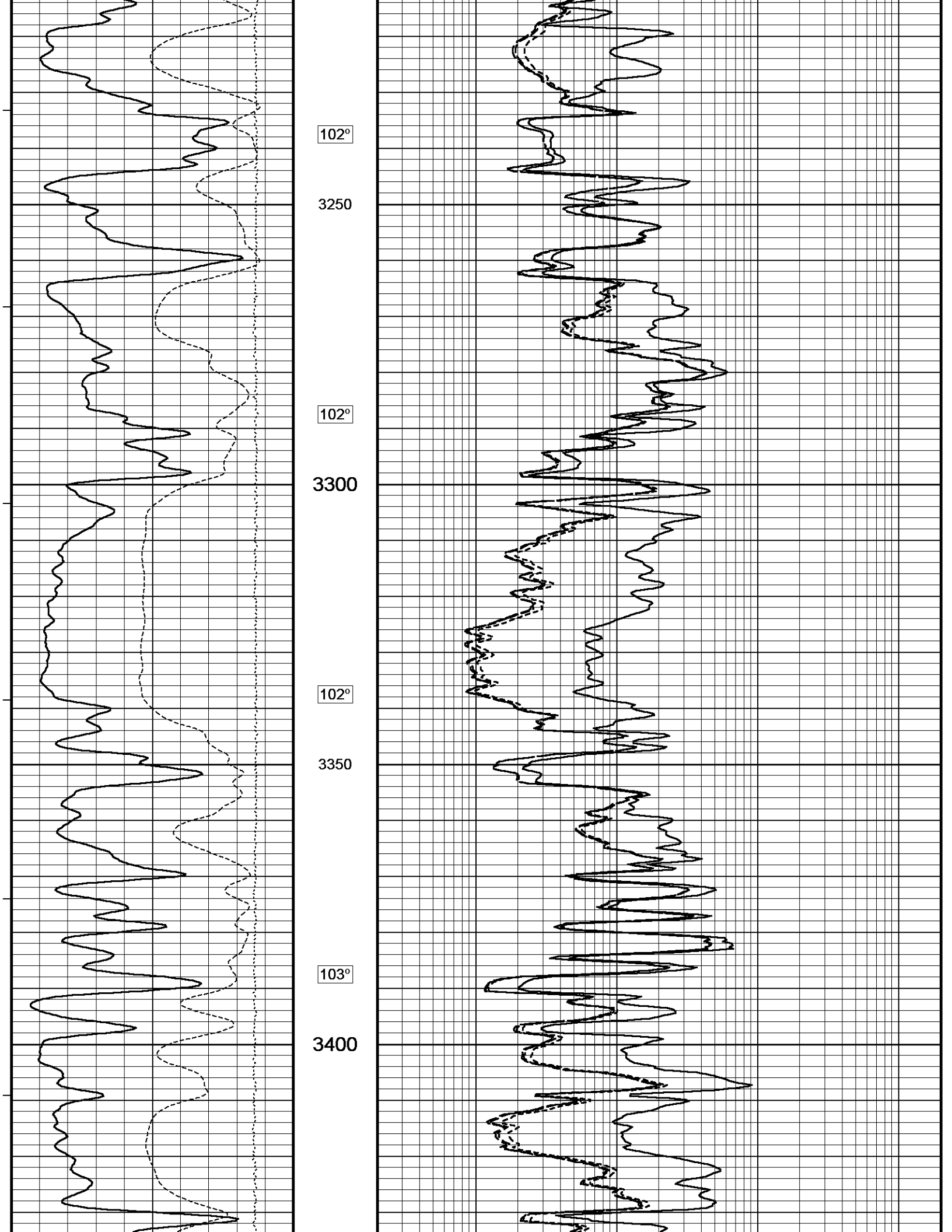

95°
2150
96°
2200
96°
2250
95°
2300
Array Ind. One Res Rt

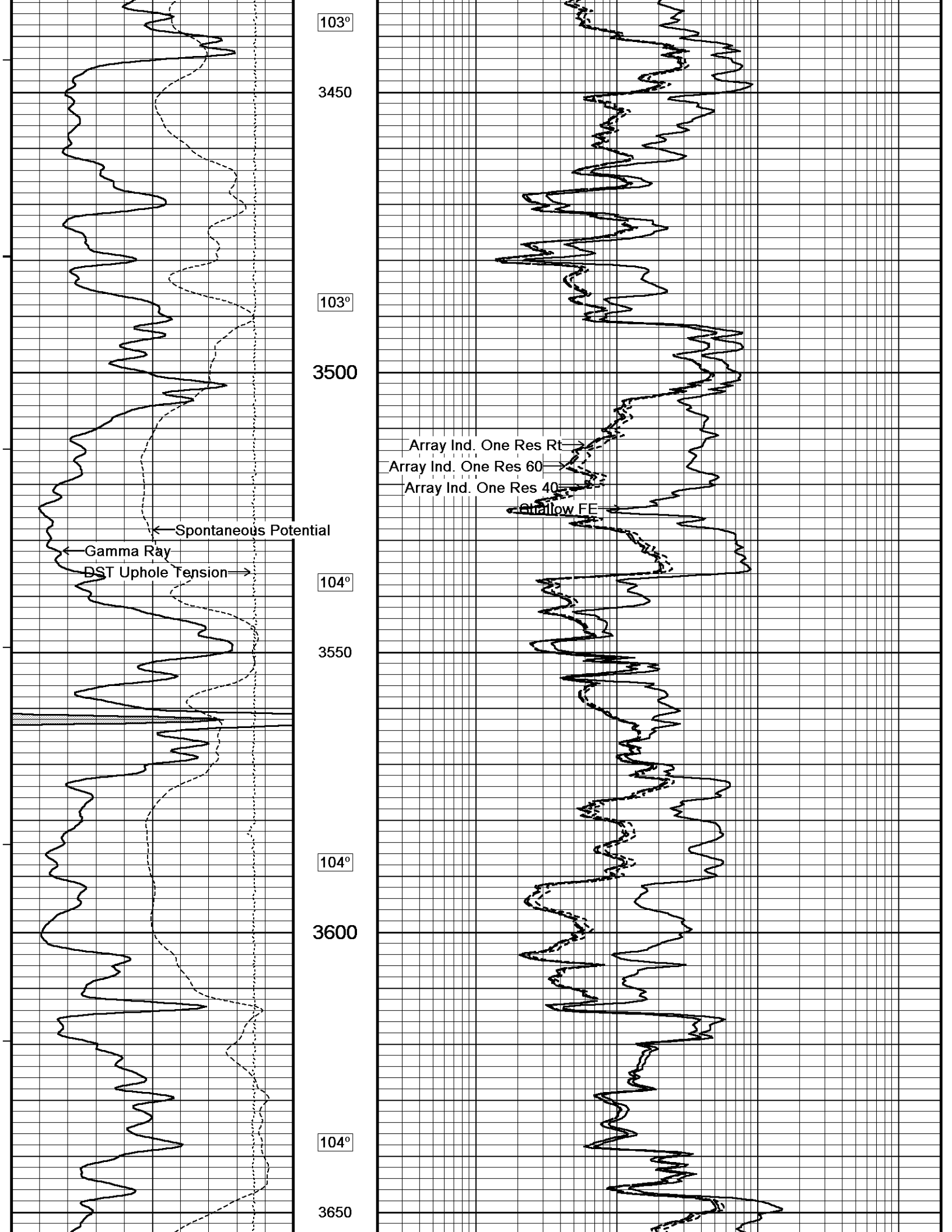

Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
96°
2350
96°
2400
96°
2450
96°
2500
96°
2550

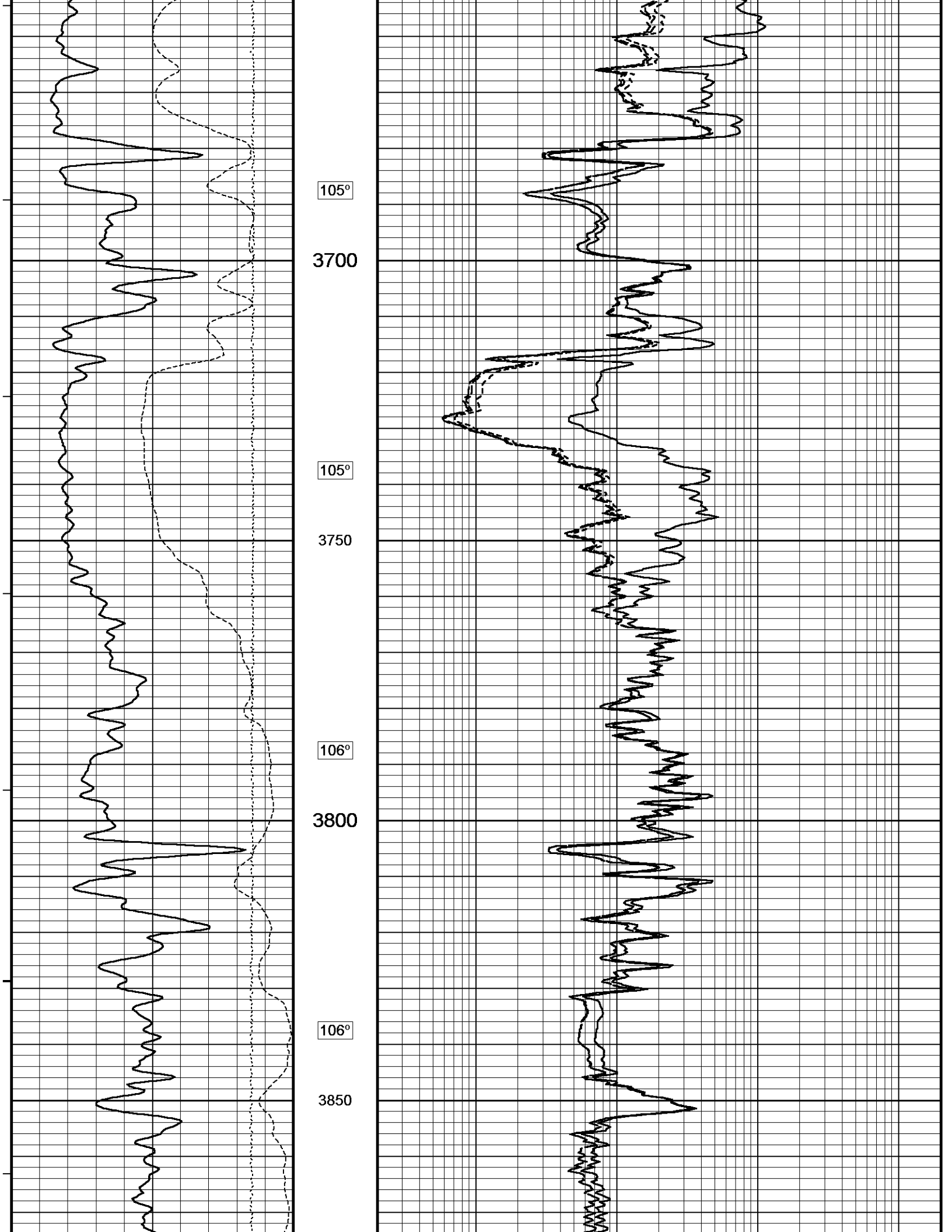

97°
2600
97°
2650
97°
2700
98°
2750
Spontaneous Potential
Gamma Ray
DST Uphole Tension
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE

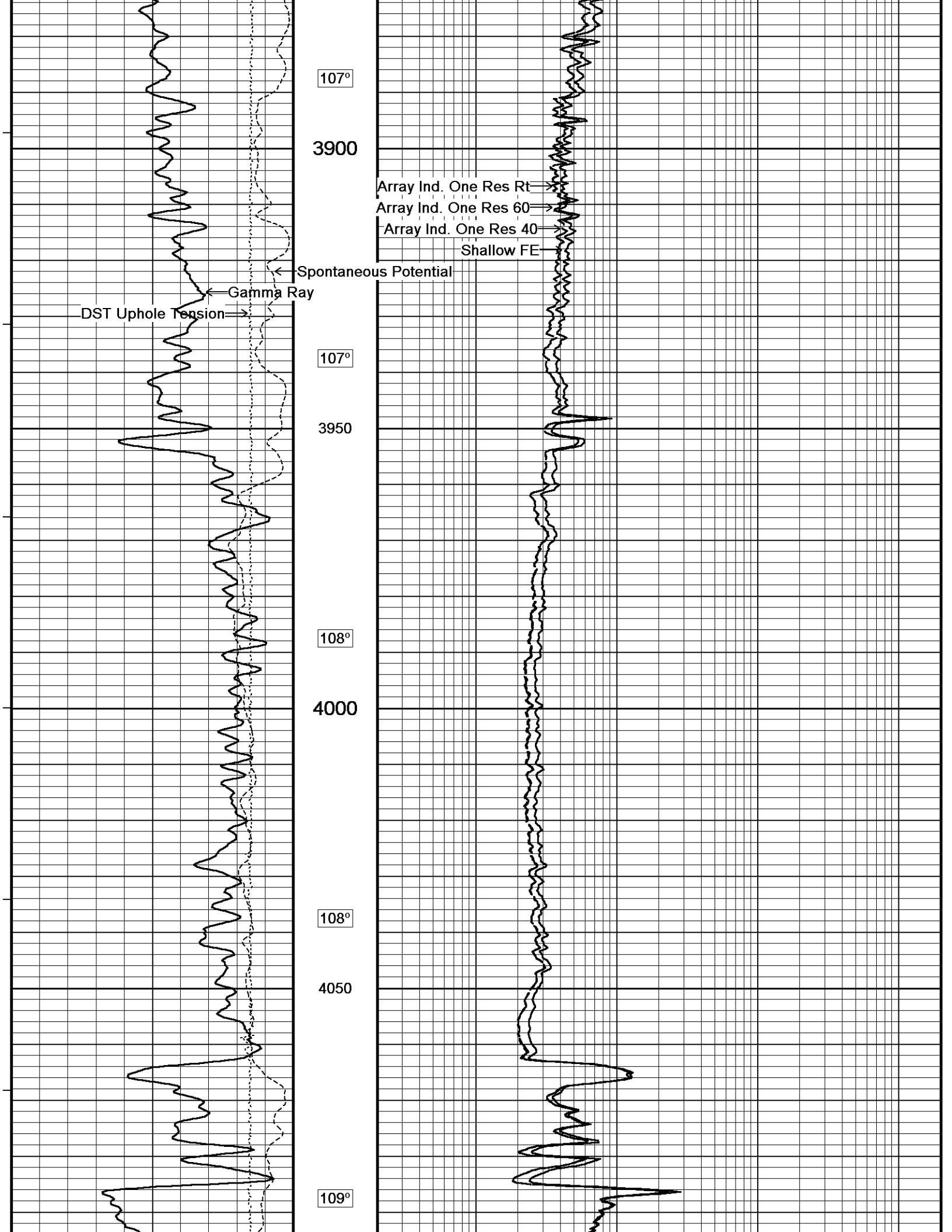

98°
2800
99°
2850
99°
2900
100°
2950
100°

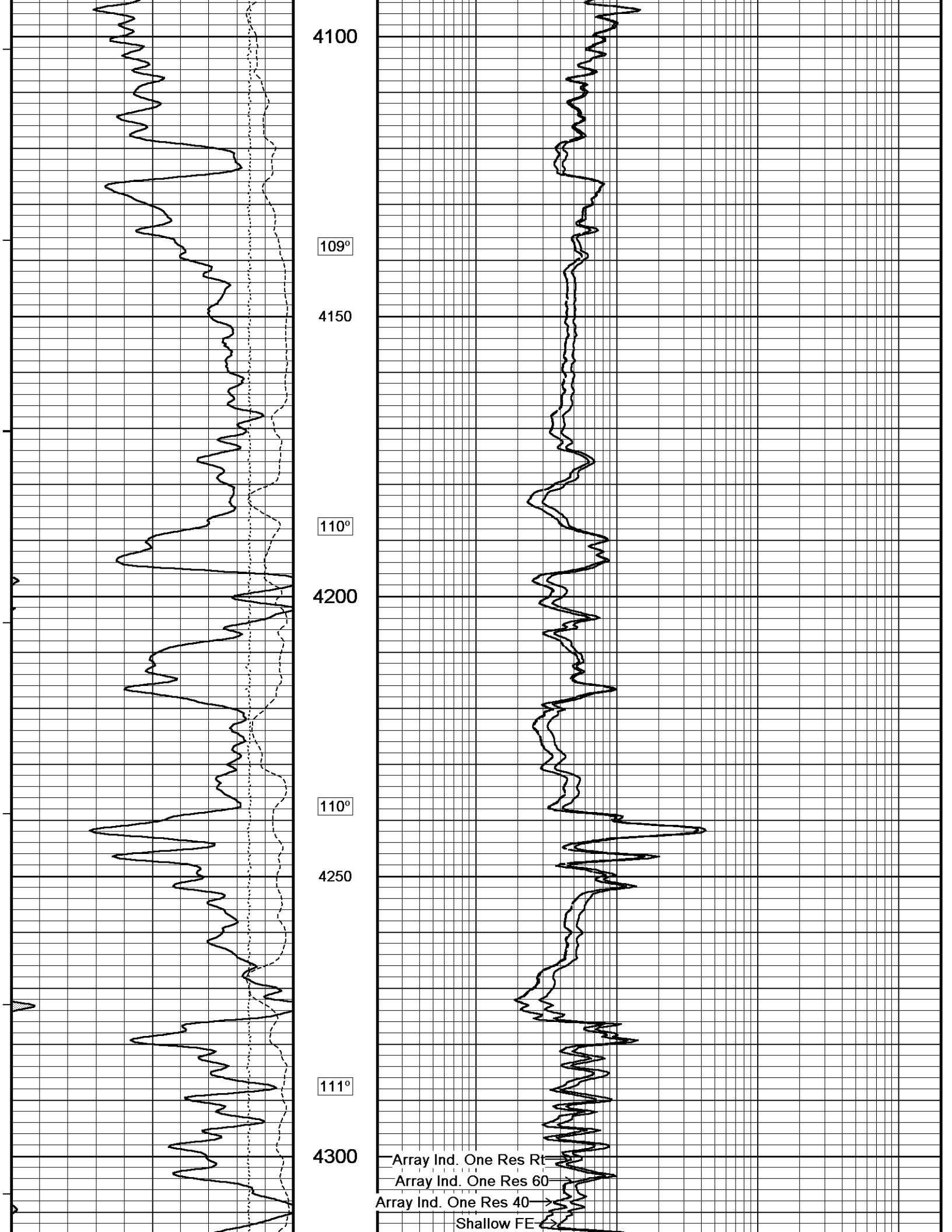

3000
100°
3050
101°
3100
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
101°
DST Uphole Tension
3150
101°
3200

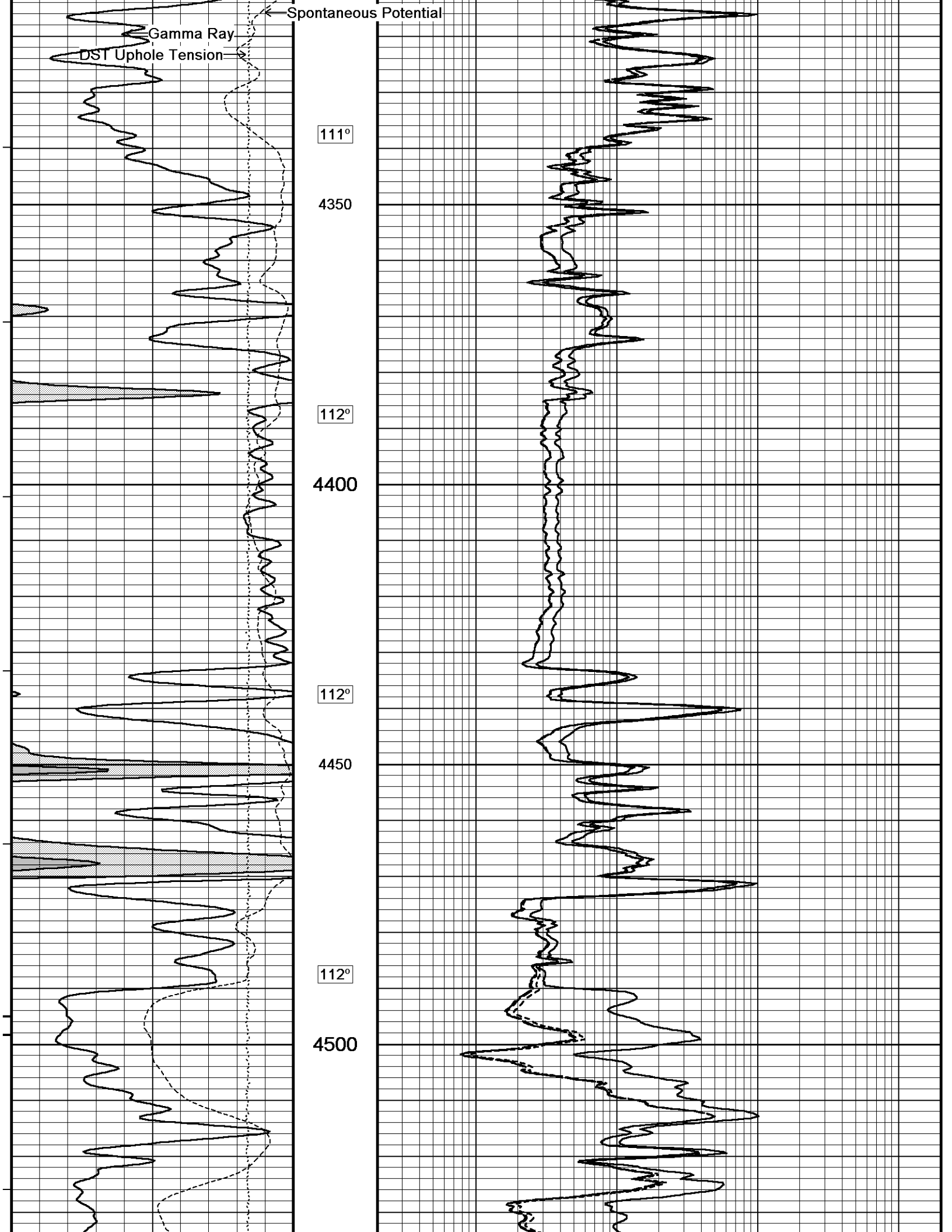

102°
3250
102°
3300
102°
3350
103°
3400

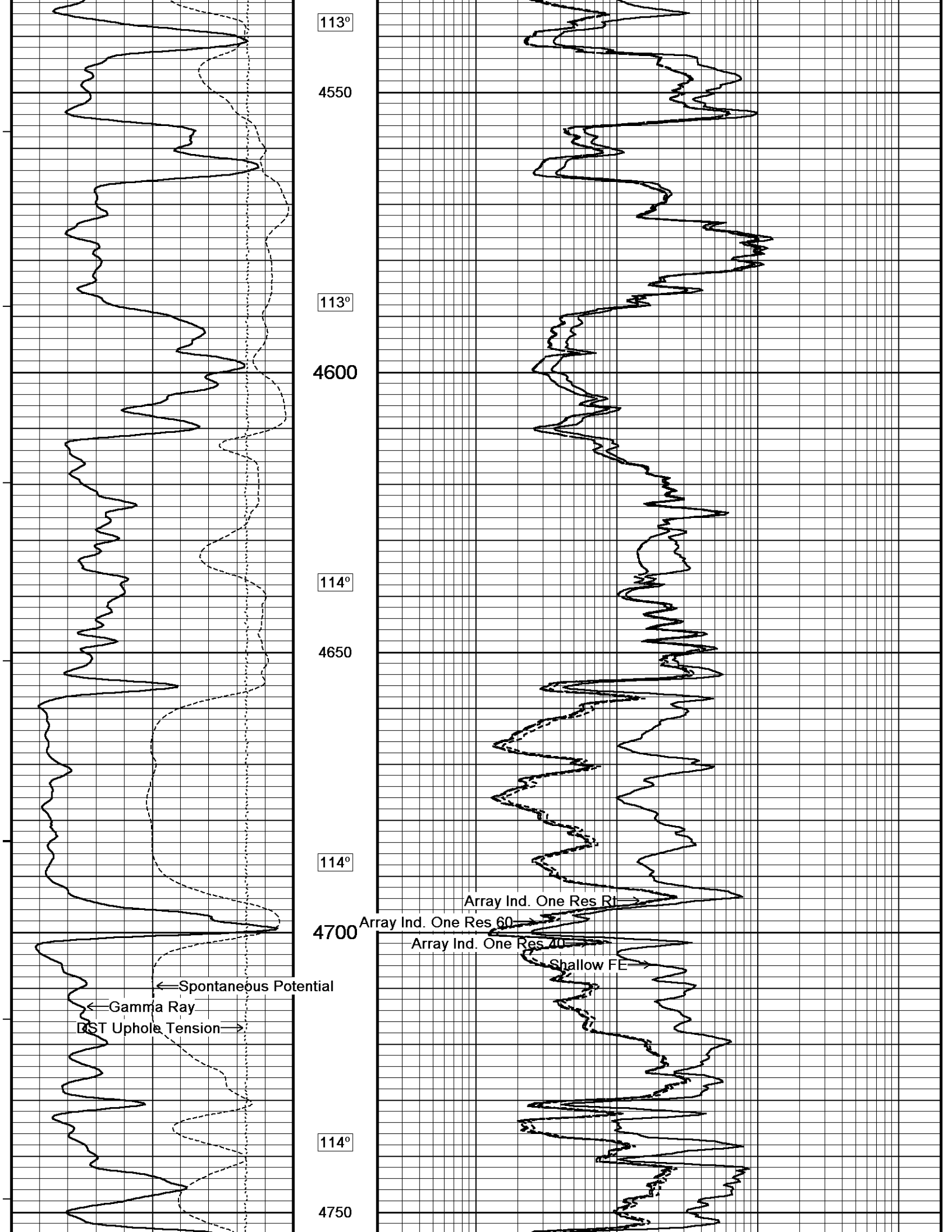

103°
3450
103°
3500
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
104°
3550
104°
3600
104°
3650

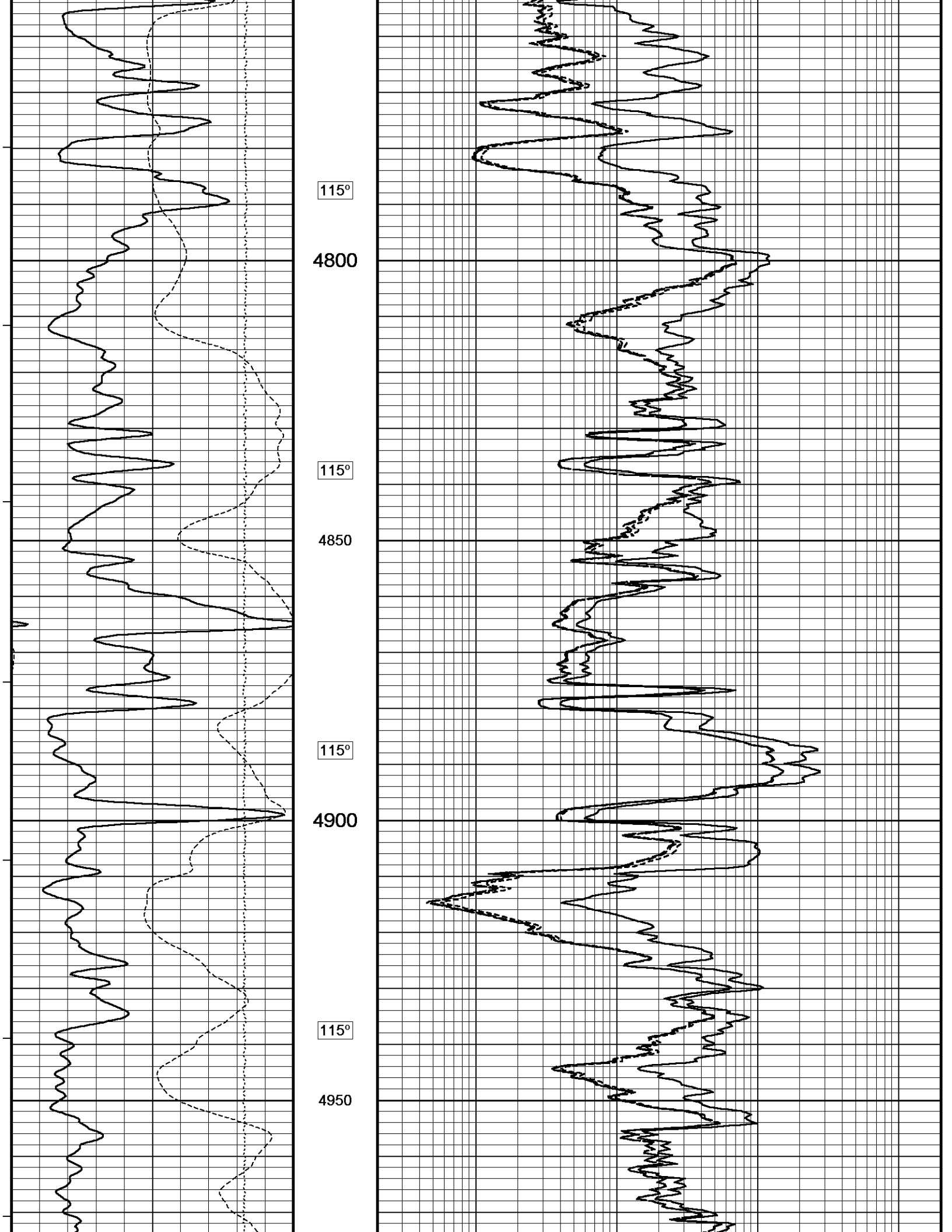

105°
3700
105°
3750
106°
3800
106°
3850

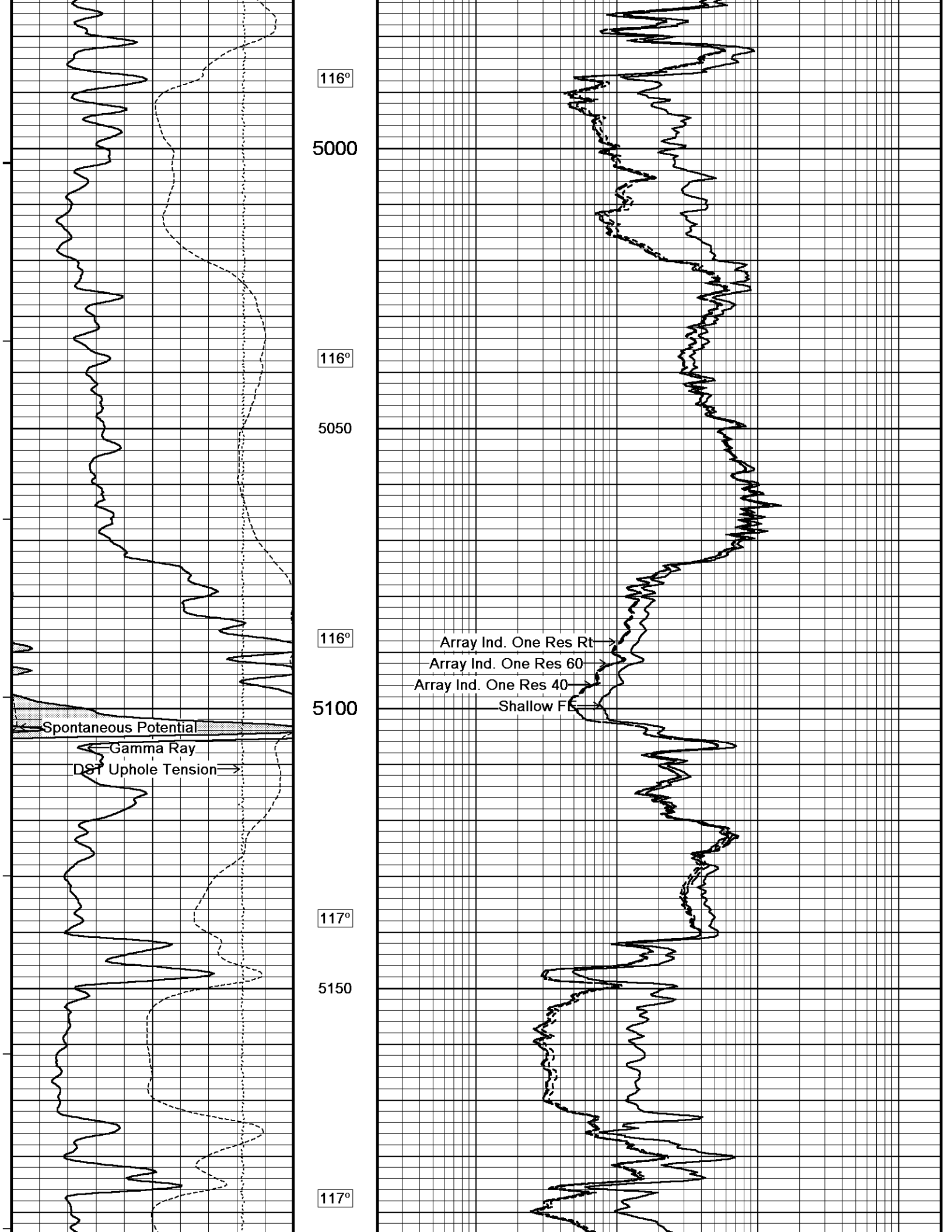

107°
3900
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
107°
3950
108°
4000
108°
4050
109°

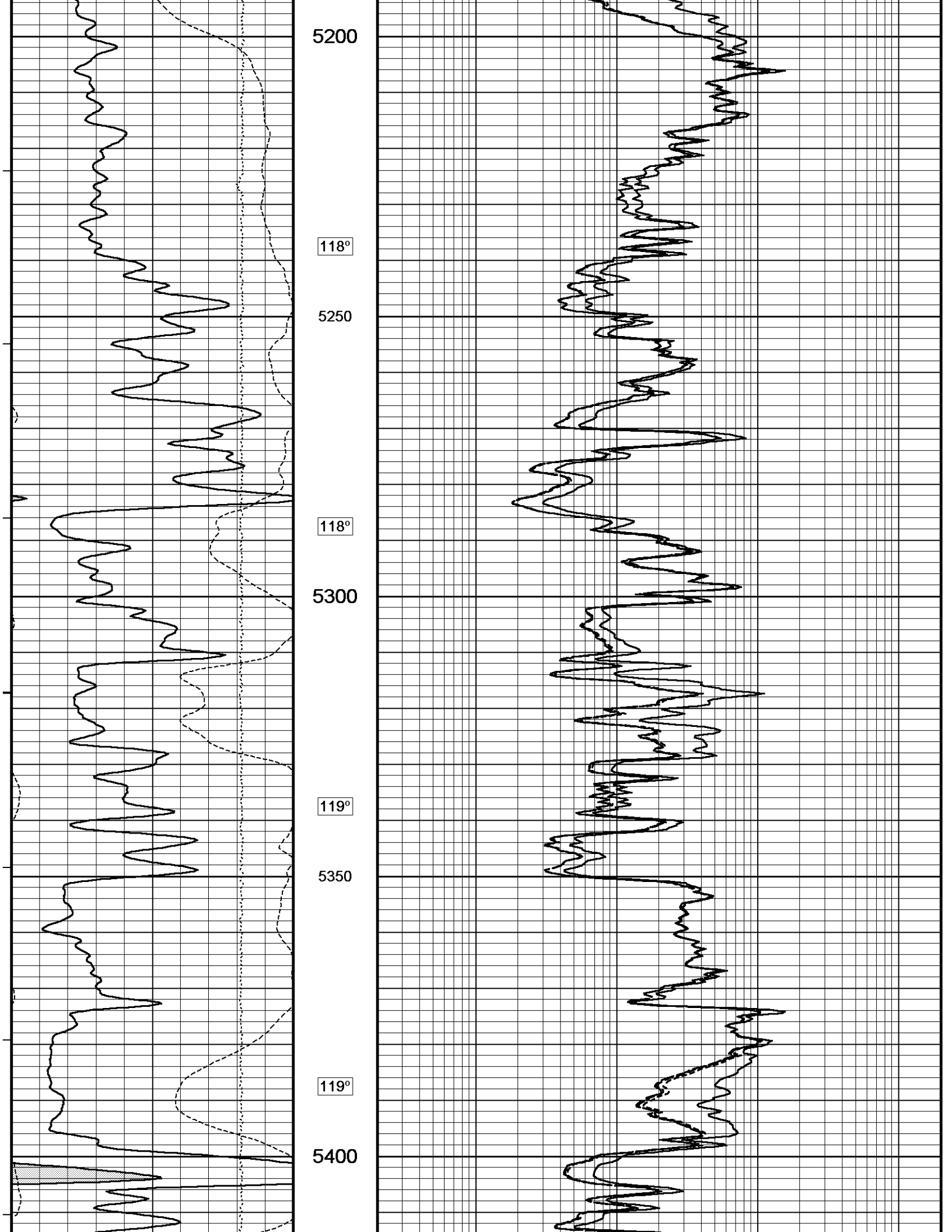

4100
109°
4150
110°
4200
110°
4250
111°
4300
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE

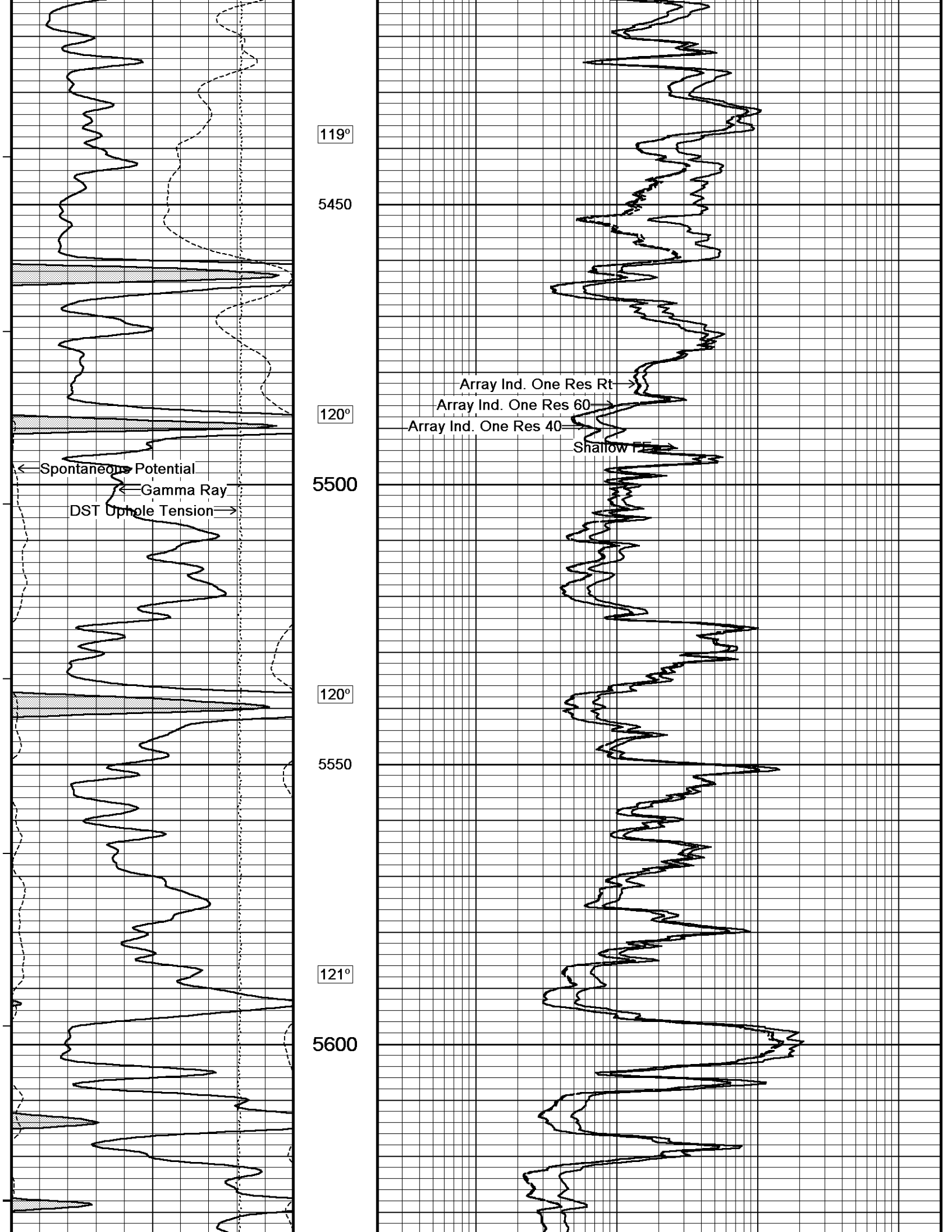

Spontaneous Potential
Gamma Ray
DST Uphole Tension
111°
4350
112°
4400
112°
4450
112°
4500

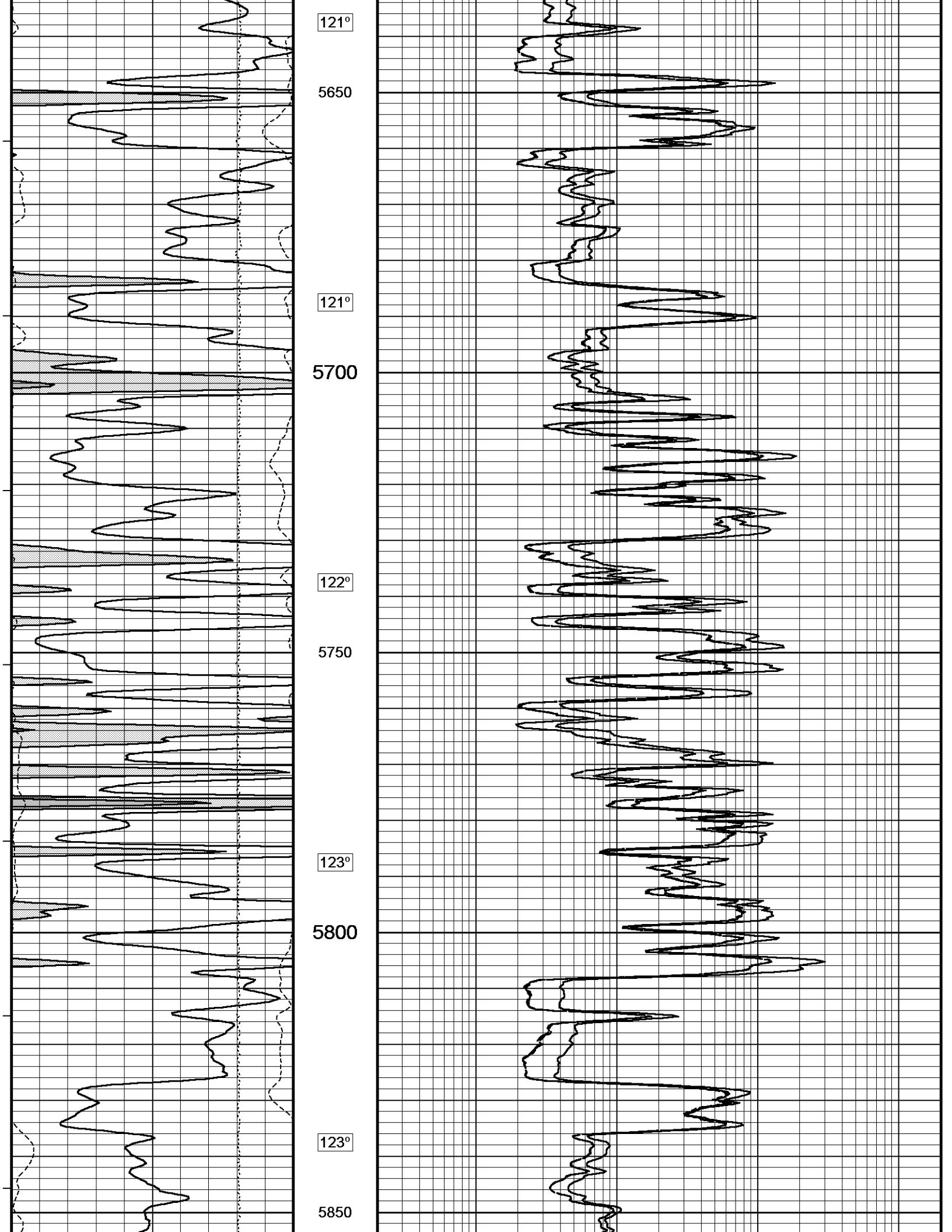

113°
4550
113°
4600
114°
4650
114°
4700
114°
4750
Array Ind. One Res RI
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension


115°
4800
115°
4850
115°
4900
115°
4950


116°
5000
116°
5050
116°
5100
117°
5150
117°
Spontaneous Potential
Gamma Ray
DST Uphole Tension
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE


5200
118°
5250
118°
5300
119°
5350
119°
5400


119°
5450
120°
5500
120°
5550
121°
5600
Spontaneous Potential
Gamma Ray
DST Uphole Tension
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow F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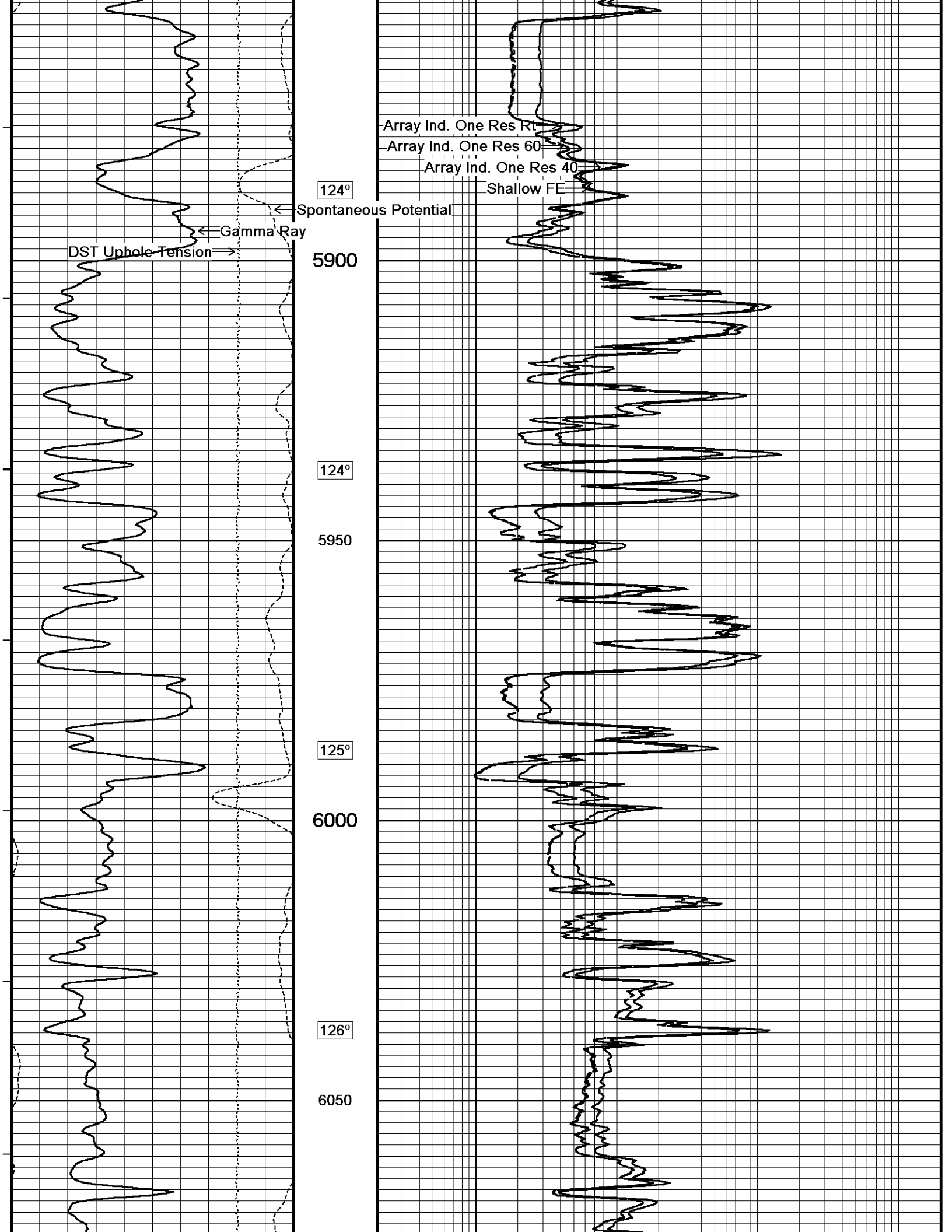
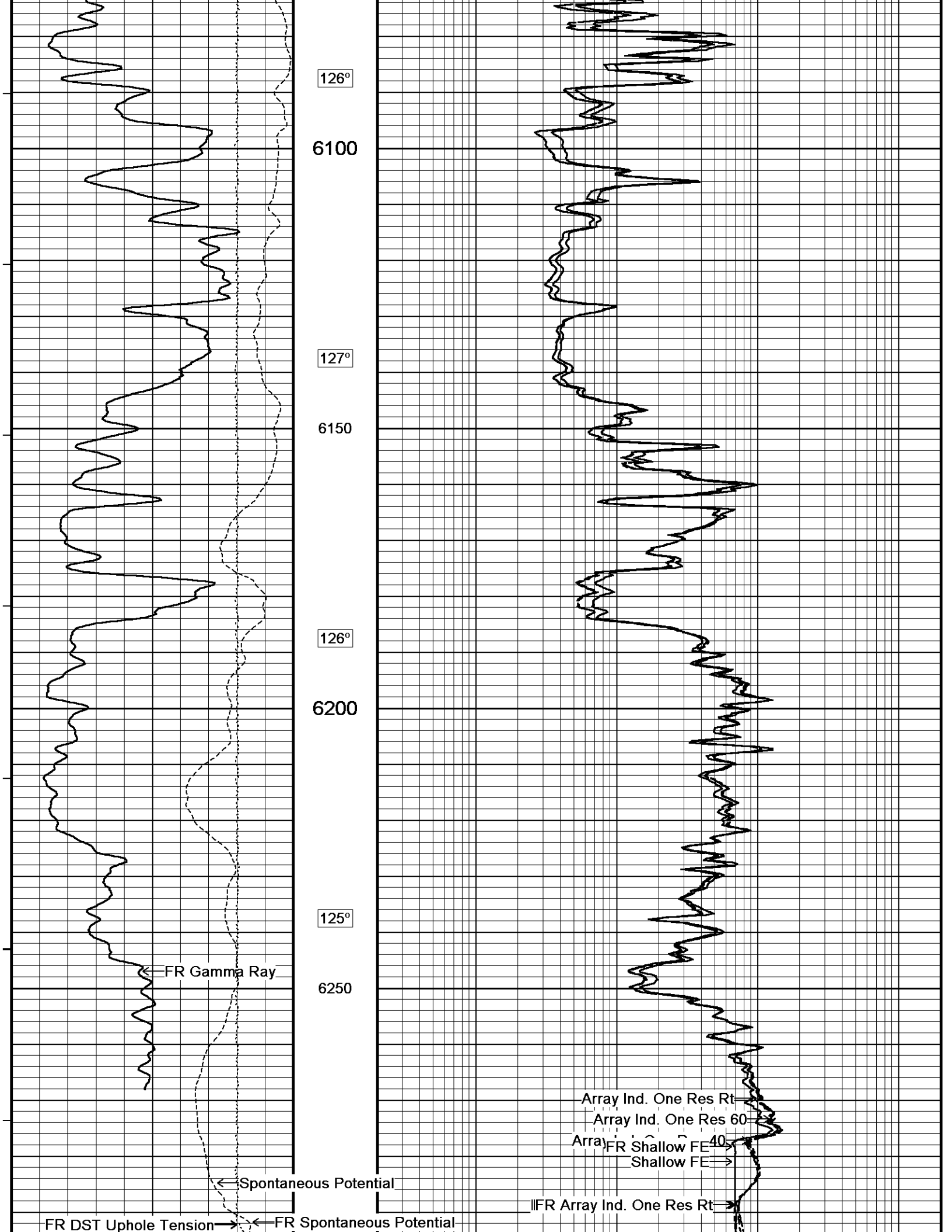
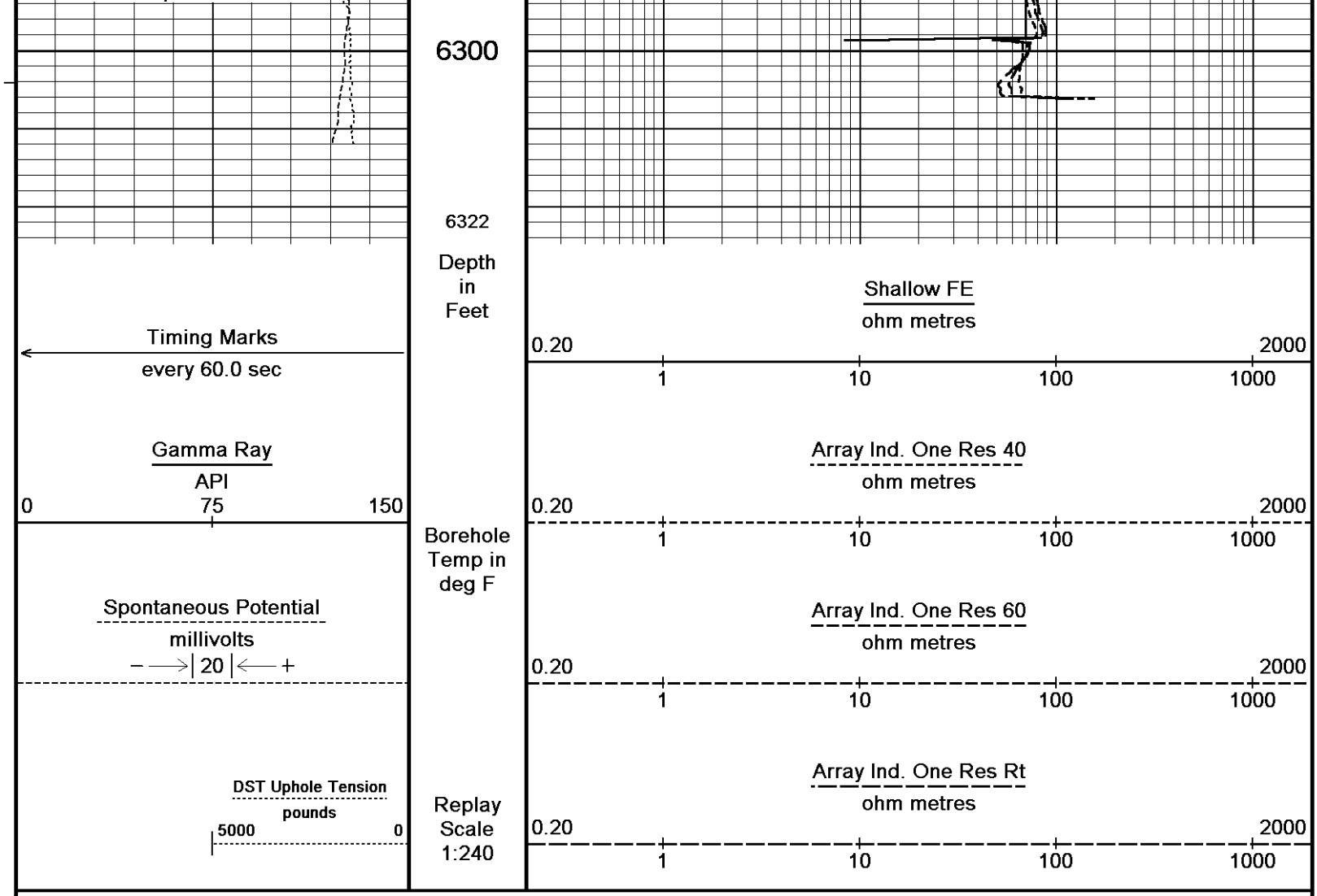
5650
121°
5700
122°
5750
123°
5800
123°
5850


Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
124°
Spontaneous Potential
Gamma Ray
DST Uphole Tension
5900
124°
5950
125°
6000
126°
6050


126°
6100
127°
6150
126°
6200
125°
FR Gamma Ray
6250
Array Ind. One Res Rt
Array Ind. One Res 60
FR Shallow FE
40
Shallow FE
Spontaneous Potential
FR Array Ind. One Res Rt
FR DST Uphole Tension
FR Spontaneous Potential



Depth Based Data - Maximum Sampling Increment 10.0cm
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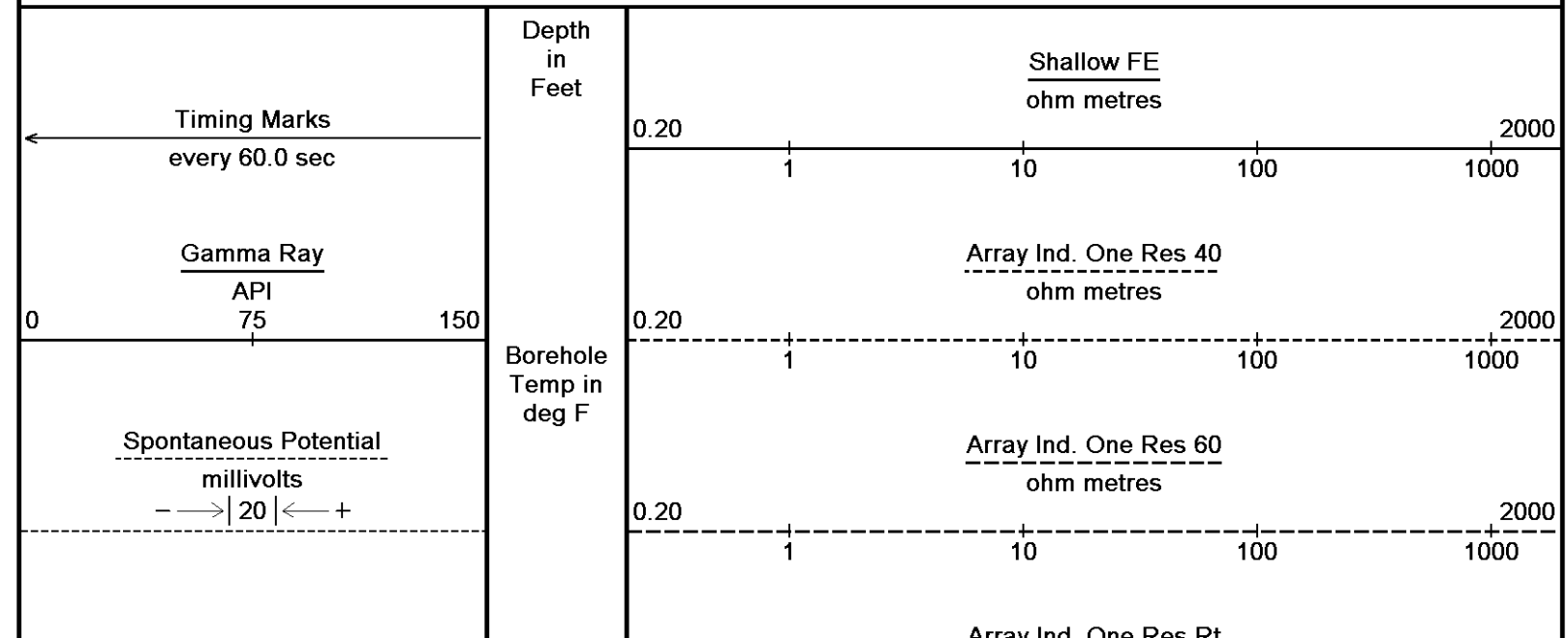
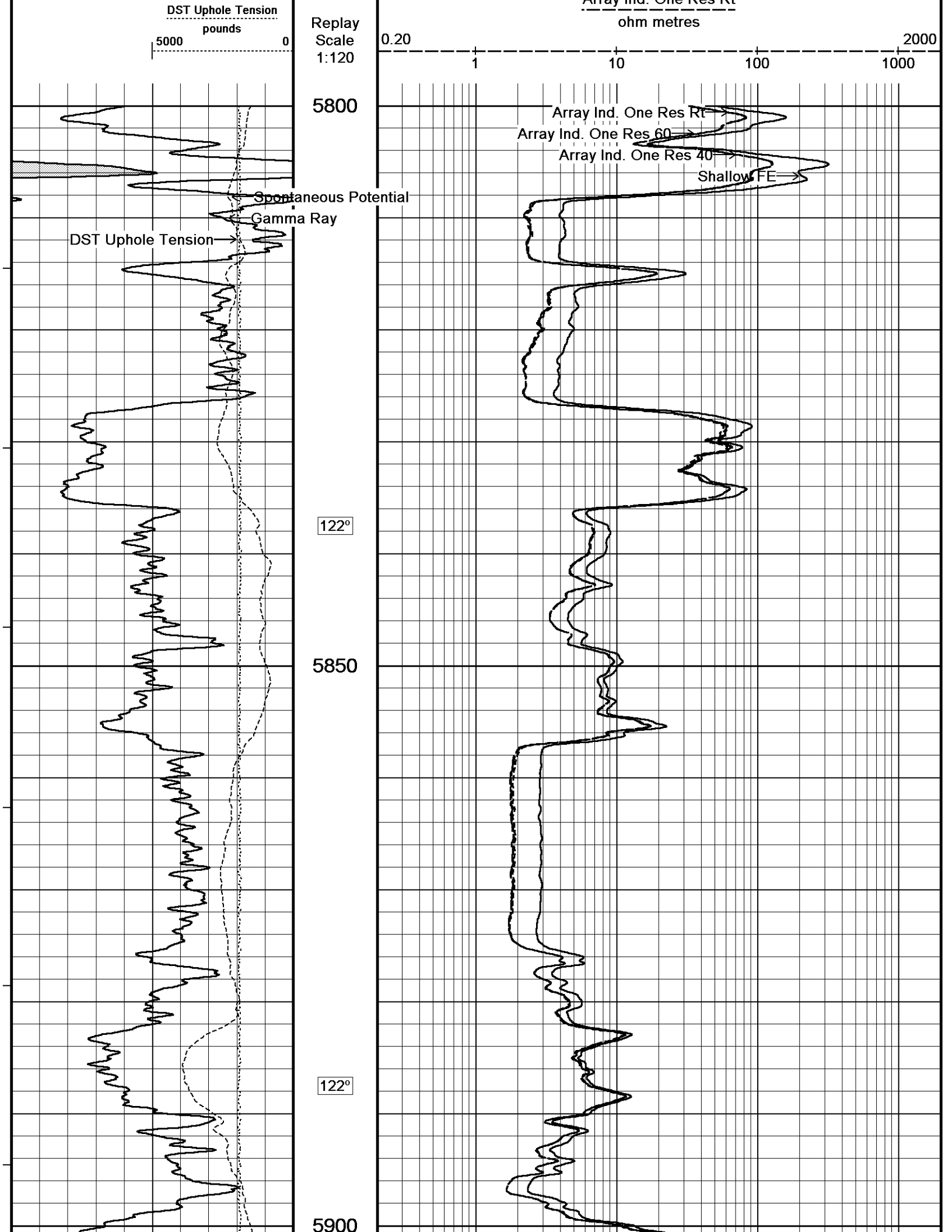
5 INCH MAIN

10 INCH HI-RES

Depth Based Data - Maximum Sampling Increment 2.5cm
Plotted on 29-DEC-2011 10:38
Filename: C:\Users\Joe\AppData\Local\Temp\Weatherford PreView\0\O'Brien Eagle # 1-10_003.dta
Recorded on 13-OCT-2011 14:48
System Versions: Logged with 11.03.4044 Plotted with 12.01.3513




DST Uphole Tension
pounds
5000
0
Replay
Scale
1:120
Array Ind. One Res Rt
ohm metres
0.20
2000
1
10
100
1000
5800
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
122°
5850
122°
5900

Depth Based Data - Maximum Sampling Increment 2.5cm
Plotted on 29-DEC-2011 10:38
Filename: C:\Users\Joe\AppData\Local\Temp\Weatherford PreView\0\O'Brien Eagle # 1-10_003.dta
Recorded on 13-OCT-2011 14:48
System Versions: Logged with 11.03.4044 Plotted with 12.01.3513

10 INCH HI-RES

REPEAT SECTION

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 29-DEC-2011 10:38
Filename: C:\Users\Joe\AppData\Local\Temp\Weatherford PreView\0\O'Brien Eagle # 1-10_002.dta
Recorded on 13-OCT-2011 14:35
System Versions: Logged with 11.03.4044 Plotted with 12.01.3513

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150

Spontaneous Potential
millivolts
− → | 20 | ← +

DST Uphole Tension
pounds
5000 0

Depth in Feet

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

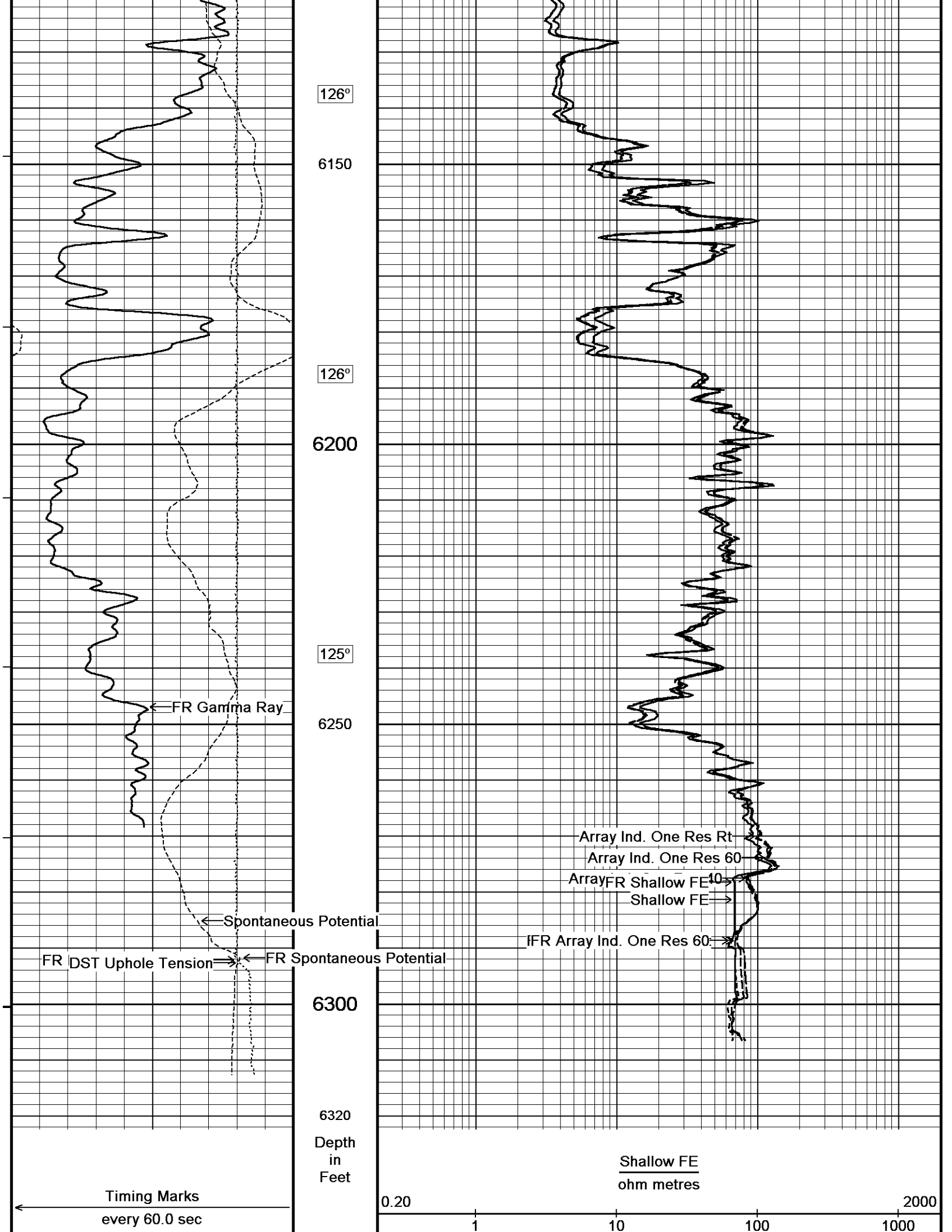
6000

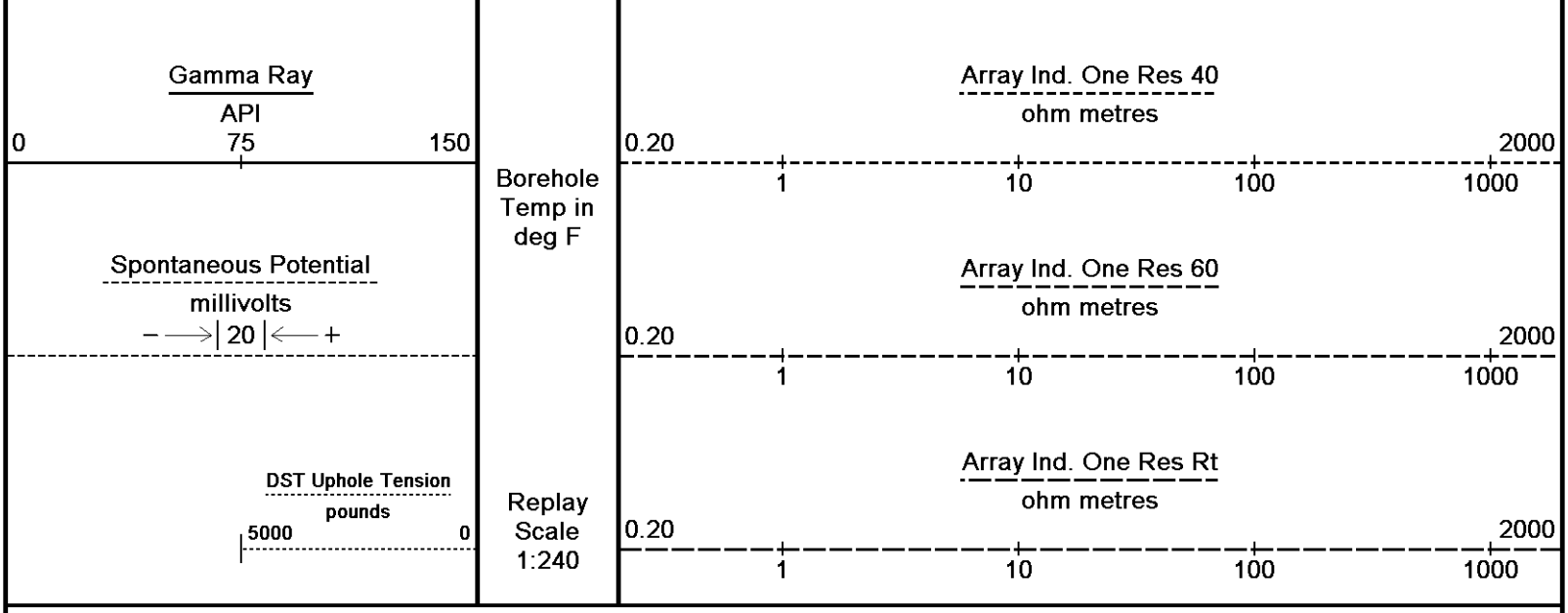
124°

6050

125°

6100


126°
6150
126°
6200
125°
6250
6300
6320
Depth
in
Feet
FR Gamma Ray
Spontaneous Potential
FR DST Uphole Tension
FR Spontaneous Potential
Array Ind. One Res Rt
Array Ind. One Res 60
Array
FR Shallow FE
10
Shallow FE
IFR Array Ind. One Res 60
Timing Marks
every 60.0 sec
Shallow FE
ohm metres
0.20
2000
1
10
100
1000



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 29-DEC-2011 10:38

Filename: C:\Users\Joe\AppData\Local\Temp\Weatherford PreView\0\O'Brien Eagle # 1-10_002.dta — Recorded on 13-OCT-2011 14:35

System Versions: Logged with 11.03.4044 Plotted with 12.01.3513

REPEAT SECTION

BEFORE SURVEY CALIBRATION

C:\Users\Joe\AppData\Local\Temp\Weatherford PreView\0\O'Brien Eagle # 1-10_004.dta

General Constants All 000

Last Edited on 13-OCT-2011 15:01

General Parameters		
Mud Resistivity	0.900	ohm-metres
Mud Resistivity Temperature	82.000	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. Four Res Rt	
RWA Constant A	1.000	
RWA Constant M	2.000	

Down-hole Tension Calibration SMS 0

Field Calibration on 28-JUL-2011 17:55

Reading No	Measured	Calibrated (lbs)
1	12257.67	0.00
2	13806.99	650.00

Gamma Calibration MCG-C 84

Field Calibration on 13-OCT-2011 10:38

	Measured	Calibrated (API)
Background	74	51
Calibrator (Gross)	1125	776
Calibrator (Net)	1052	725

Gamma Constants MCG-C 84

Last Edited on 13-OCT-2011 15:01

Gamma Calibrator Number	grc38	
Mud Density	1.09	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm

Concentration of KCl 0.00 kppm

SP Calibration MCG-C 84

Field Calibration on 28-DEC-2010 11:28

	Measured	Calibrated (mV)
Reference 1	100.3	100.0
Reference 2	-99.7	-100.0

High Resolution Temperature Calibration MCG-C 84

Field Calibration on 24-JUN-2010 14:02

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	75.00	75.00

High Resolution Temperature Constants MCG-C 84

Last Edited on

Pre-filter Length	11

Micro Normal and Micro Inverse Calibration MML-A 9

Base Calibration on 06-SEP-2011 11:42
Field Check on 13-OCT-2011 10:46

Base Calibration

	Measured		Calibrated (ohm-m)	
Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	12.1	59.5	2.6	12.8
Micro Inverse	15.6	77.7	1.7	8.4

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	32.5	32.5
Micro Inverse	16.4	16.4

Micro Normal and Micro Inverse Constants MML-A 9

Last Edited on 13-OCT-2011 14:39

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

Caliper Calibration MML-A 9

Base Calibration on 06-SEP-2011 11:51
Field Calibration on 13-OCT-2011 10:43

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	14909	5.98
2	18394	7.97
3	21677	9.86
4	25490	11.92
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
6.11	5.98

Neutron Calibration MDN-A.B 39

Base Calibration on 13-SEP-2011 12:16
Field Check on 13-OCT-2011 10:53

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	2859	90	3714	110
Ratio	31.838		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	2315	3367
Ratio	0.688	

Field Check

	Calibrated (cps)	
	2302	3331
Ratio	0.691	

Neutron Constants MDN-A.B 39

Last Edited on 13-OCT-2011 14:39

Neutron Source Id	N1095
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-SEP-2011 12:02
Field Check on 13-OCT-2011 11:04

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	960.5	126.8
Base Check		280.8
Field Check		280.7

FE Constants MFE-A.A 67

Last Edited on 13-OCT-2011 15:02

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

High Resolution Temperature Calibration MAI-A.A 188

Field Calibration on 12-AUG-2011 22:41

	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 20:05

Pre-filter Length	11

Induction Calibration MAI-A.A 188

Base Calibration on 25-JUL-2011 15:59
Field Check on 13-OCT-2011 11:06

Base Calibration

Test Loop Calibration

Channel	Measured Low	Measured High	Calibrated (mmho/m) Low	Calibrated (mmho/m) High
1	16.5	472.3	9.3	966.2
2	6.0	378.3	7.6	821.4
3	3.5	260.7	5.2	566.0
4	1.1	135.1	2.6	279.2
Array Temperature		82.2	Deg F	

Channel	Base Check (mmho/m) Low	Base Check (mmho/m) High	Field Check (mmho/m) Low	Field Check (mmho/m) High	
1	0.0	0.0	14.3	3847.2	
2	0.0	0.0	30.8	3568.5	
3	0.0	0.0	28.4	3039.9	
4	0.0	0.0	21.0	2038.1	
Deep	0.0	0.0	18.1	1923.1	
Medium	0.0	0.0	40.2	4054.1	
Shallow	0.0	0.0	45.3	5360.3	
Array Temperature		0.0		66.9	Deg F

Induction Constants MAI-A.A 188

Last Edited on 13-OCT-2011 15:02

Induction Model	RtAP-WBM	
Caliper for Borehole Corr.	Density Caliper	
Hole Size for Borehole Correction	N/A	inches

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-B 64

Base Calibration on 07-SEP-2011 16:24
Field Calibration on 13-OCT-2011 11:02

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	12081	3.99
2	21120	5.98
3	29684	7.97
4	38065	9.86
5	47376	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
5.98	5.98

Photo Density Calibration MPD-B 64

Base Calibration on 07-SEP-2011 16:45
Field Check on 13-OCT-2011 10:59

Density Calibration

Base Calibration

	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	59610	30619	59556	30836
Reference 2	23960	2758	24941	2541

Field Check at Base

1212.8	1410.1

Field Check

1212.1	1398.5

PE Calibration

Base Calibration

	Measured			Calibrated
	WS	WH	Ratio	Ratio
Background	221	1085		
Reference 1	22948	59410	0.390	0.371
Reference 2	6634	23822	0.282	0.272

Field Check at Base	221.4	1084.8
Field Check	219.1	1082.0

Density Constants MPD-B 64

Last Edited on 13-OCT-2011 15:01

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	1.09	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	0.00

DOWNHOLE EQUIPMENT

C:\Users\Joe\AppData\Local\Temp\Weatherford PreView\0\O'Brien Eagle # 1-10_004.dta

Compact Comms Gamma
MCG-C 84 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

45.04 ft GRGC - Gamma Ray
42.13 ft CGXT - MCG External Temperature

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

35.41 ft MINV - Micro-inverse
35.41 ft MNRL - Micro-normal
36.40 ft MLTC - MML Caliper

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

30.61 ft NPRL - Limestone Neutron Por.

Compact Density/Caliper
MPD-B 64 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

23.37 ft CLDC - Density Caliper
21.44 ft DPRL - Limestone Density Por.
21.44 ft DEN - Compensated Density
21.44 ft DCOR - Density Correction

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

21.38 ft PDPE - PE

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

13.72 ft FEFE - Shallow FE

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

3.34 ft R40O - Array Ind. One Res 40
3.34 ft RTAO - Array Ind. One Res Rt
3.34 ft R60O - Array Ind. One Res 60

Total	Length: 50.32 ft	Weight: 407.9 lb

0.23 ft SPCG - Spontaneous Potential (0.13ft from bottom)
Tool Zero
-0.13 ft SMTU - DST Uphole Tension
All measurements relative to tool zero.

COMPANY	O'BRIEN ENERGY RESOURCES CORP.
WELL	EAGLE # 1-10
FIELD	NOVINGER SOUTHWEST
PROVINCE/COUNTY	MEADE
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	2693.00	feet	First Reading	6289.00	feet
Elevation Drill Floor	2691.00	feet	Depth Driller	6300.00	feet
Elevation Ground Level	2681.00	feet	Depth Logger	6292.00	feet

Weatherford®

ARRAY INDUCTION
SHALLOW FOCUSSED
ELECTRIC LOG

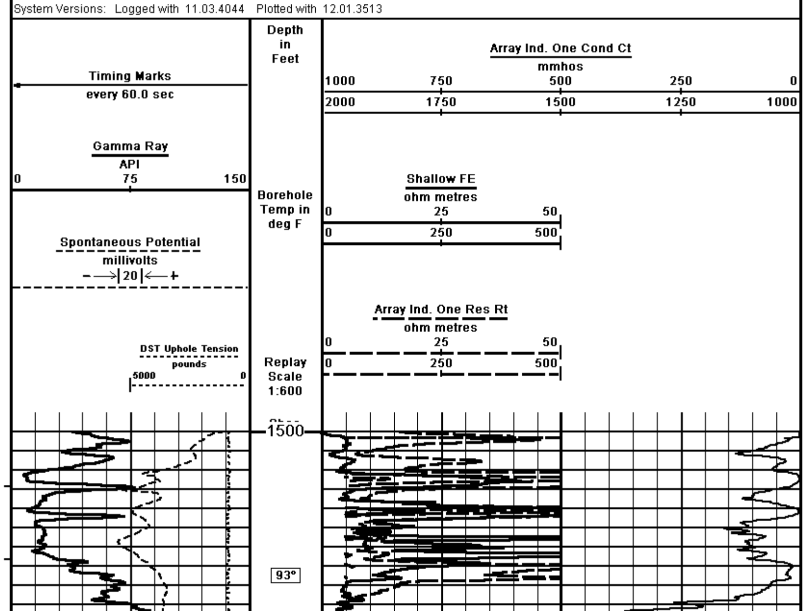
40 Years of Wireline 1970 2010

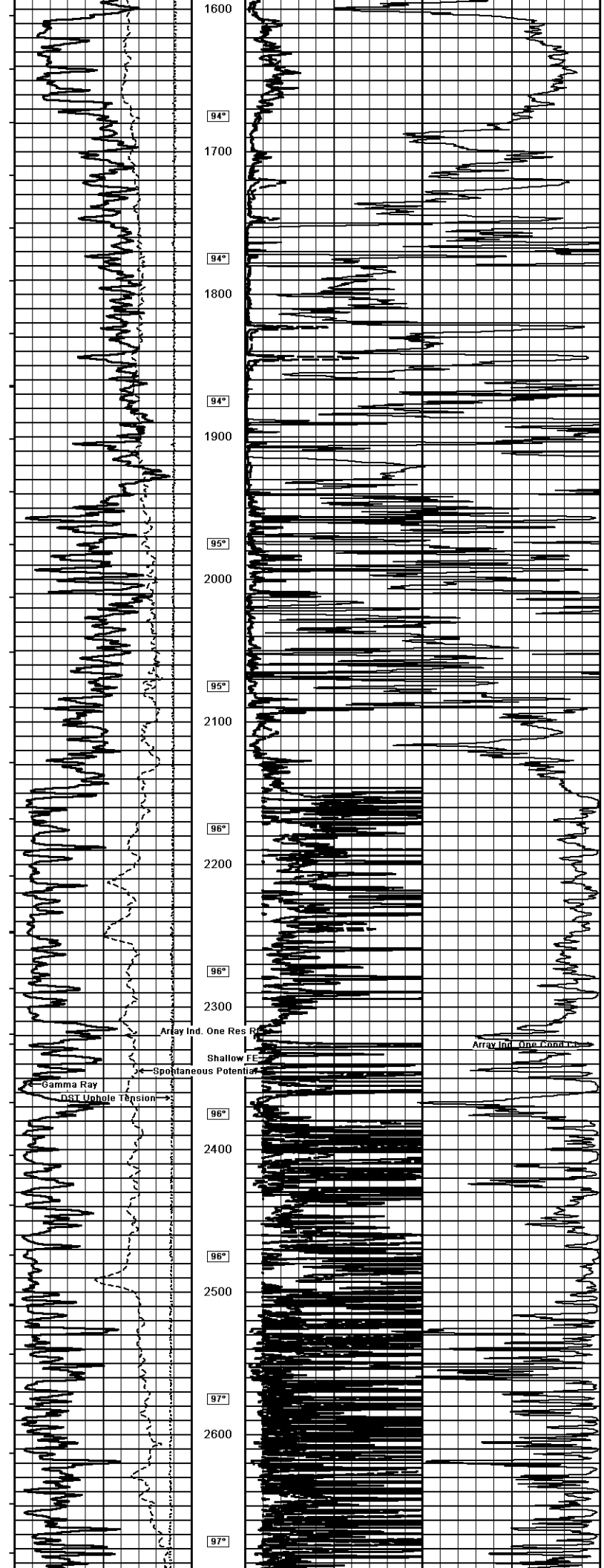
Weatherford
ARRAY INDUCTION
SHALLOW FOCUSSED
ELECTRIC LOG

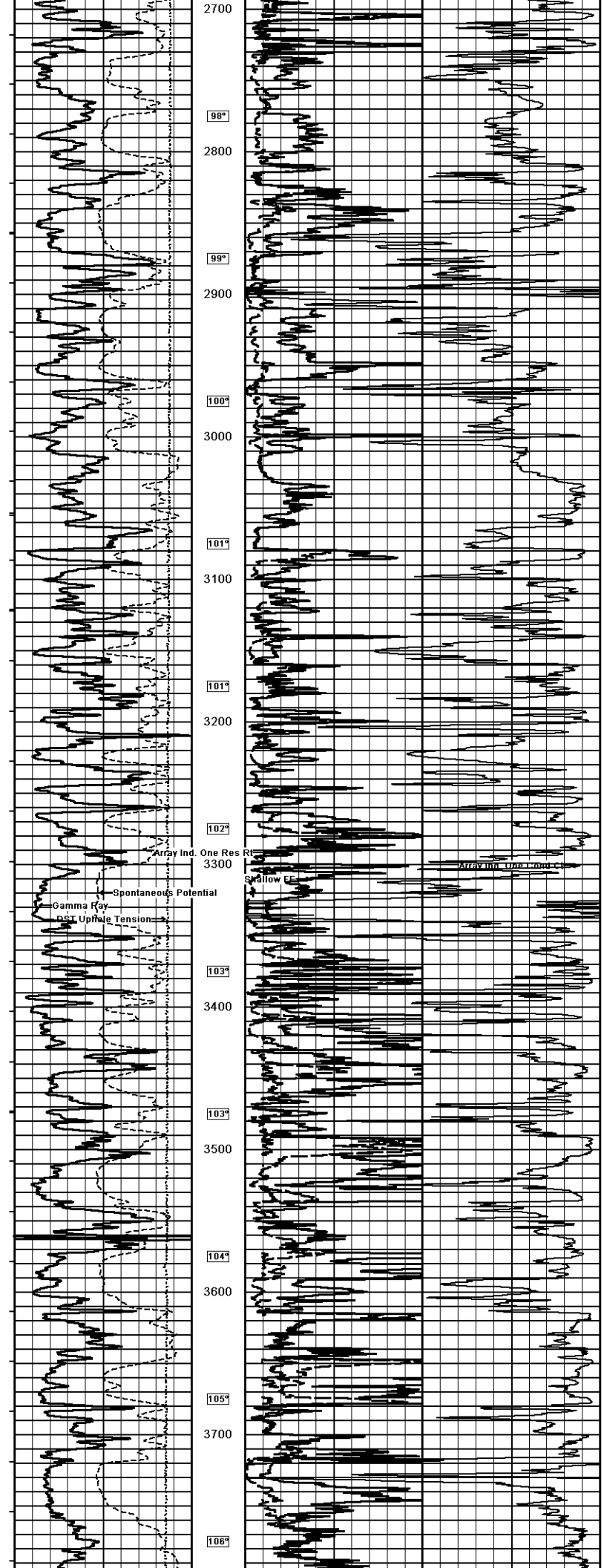
COMPANY	O'BRIEN ENERGY RESOURCES CORP.		
WELL	EAGLE # 1-10		
FIELD	NOVINGER SOUTHWEST		
PROVINCE/COUNTY	MEADE		
COUNTRY/STATE	U.S.A. / KANSAS		
LOCATION	660' FNL & 1980' FWL		
SEC 10	TWP 34S	RGE 30W	Other Services MPD/MDN MML
API Number	15-119-21298		
Permit Number			
Permanent Datum	G.L., Elevation 2681 feet		Elevations: feet
Log Measured From	KB		KB 2693.00
Drilling Measured From	K.B. @ 12 FEET		DF 2691.00
			GL 2681.00
Date	13-OCT-2011		
Run Number	ONE		
Depth Driller	6300.00 feet		
Depth Logger	6292.00 feet		
First Reading	6289.00 feet		
Last Reading	2500.00 feet		
Casing Driller	1505.00 feet		
Casing Logger	1500.00 feet		
Bit Size	7.875 inches		
Hole Fluid Type	CHEMICAL		
Density / Viscosity	9.10 lb/USg	60.00 CP	
PH / Fluid Loss	11.00	6.80 ml/30Min	
Sample Source	MML DOWNHOLE		
Rm @ Measured Temp	0.90 @ 82.0 ohm-m		
Rmf @ Measured Temp	0.72 @ 82.0 ohm-m		
Rmc @ Measured Temp	1.08 @ 82.0 ohm-m		
Source Rmf / Rmc	CALC	CALC	
Rm @ BHT	0.60 @125.0 ohm-m		
Time Since Circulation	5 HOURS		
Max Recorded Temp	126.00 deg F		
Equipment Name	COMPACT		
Equipment / Base	13096	LIB	
Recorded By	A. GIAMBALVO		
Witnessed By	ROGER PEARSON	PAUL WIEMANN	
S.O. / JOB #	3531163	LB11-263	

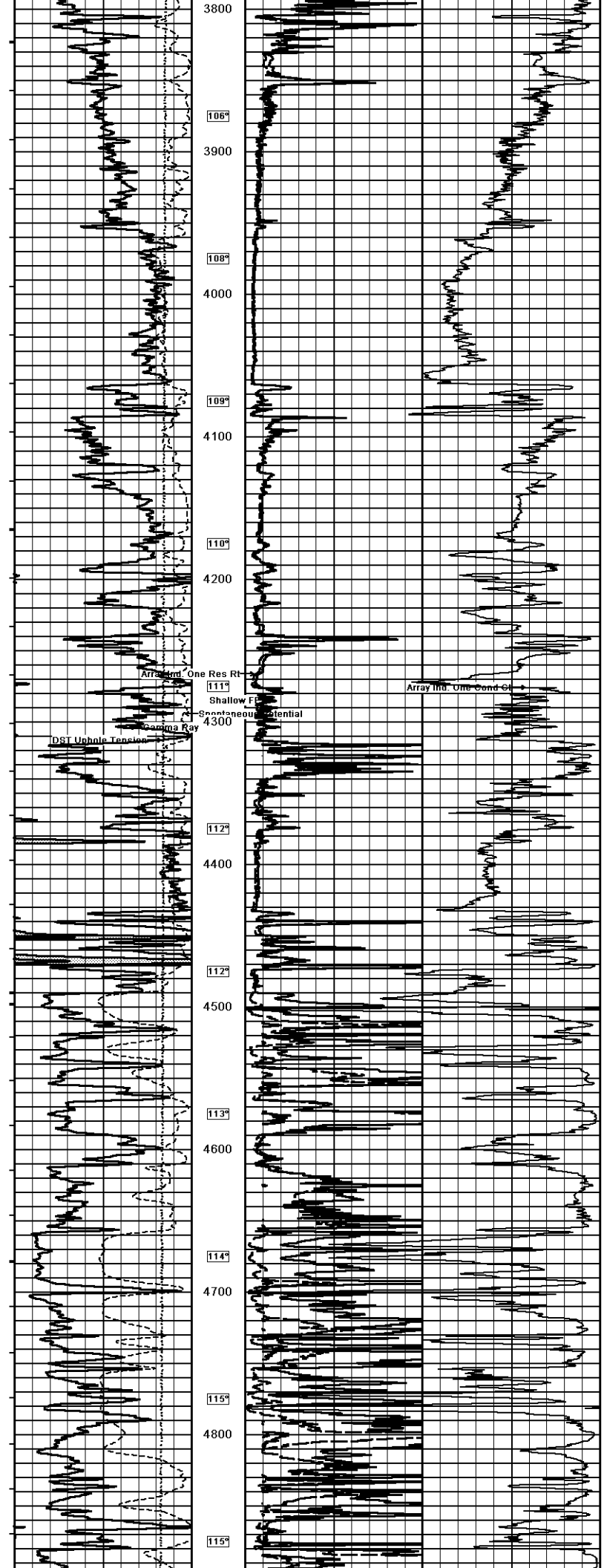
1 INCH MAIN

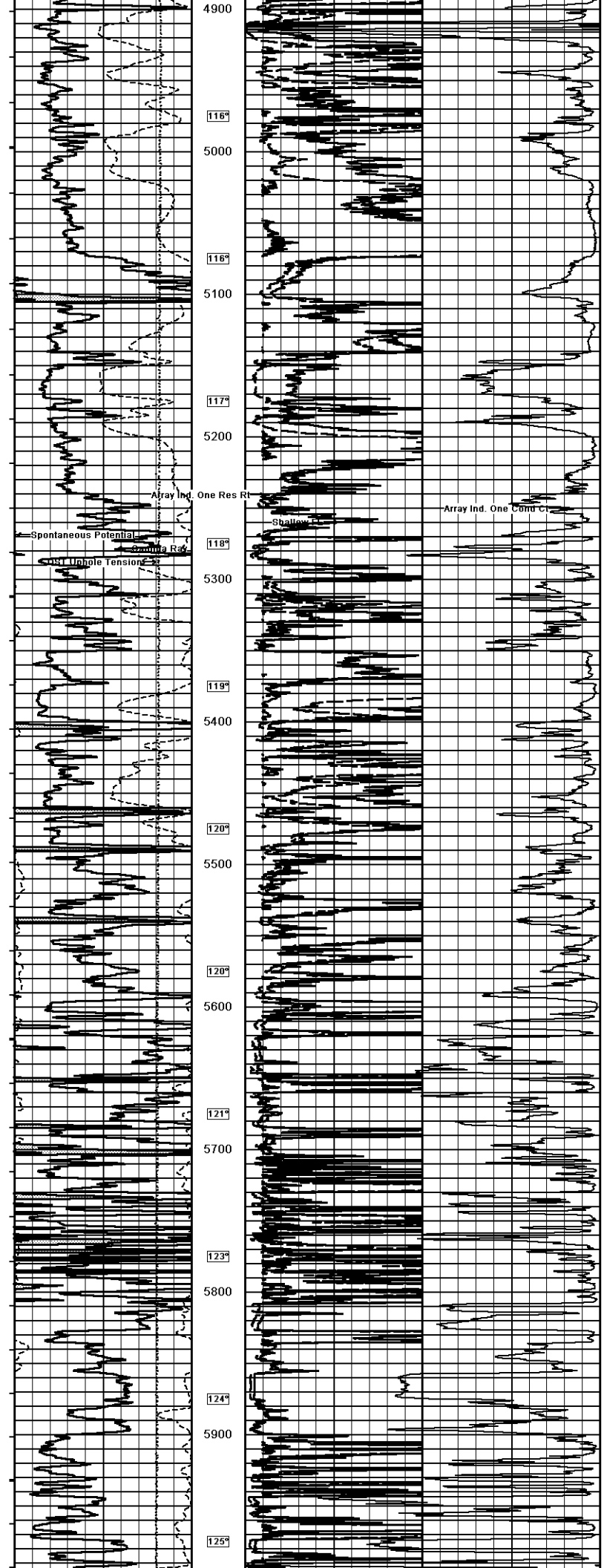
Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Users\Joe\AppData\Local\Temp\Weatherford PreView\0\O'Brien Eagle # 1-10_004.dta
System Versions: Logged with 11.03.4044 Plotted with 12.01.3513
Plotted on 29-DEC-2011 10:38
Recorded on 13-OCT-2011 15:17

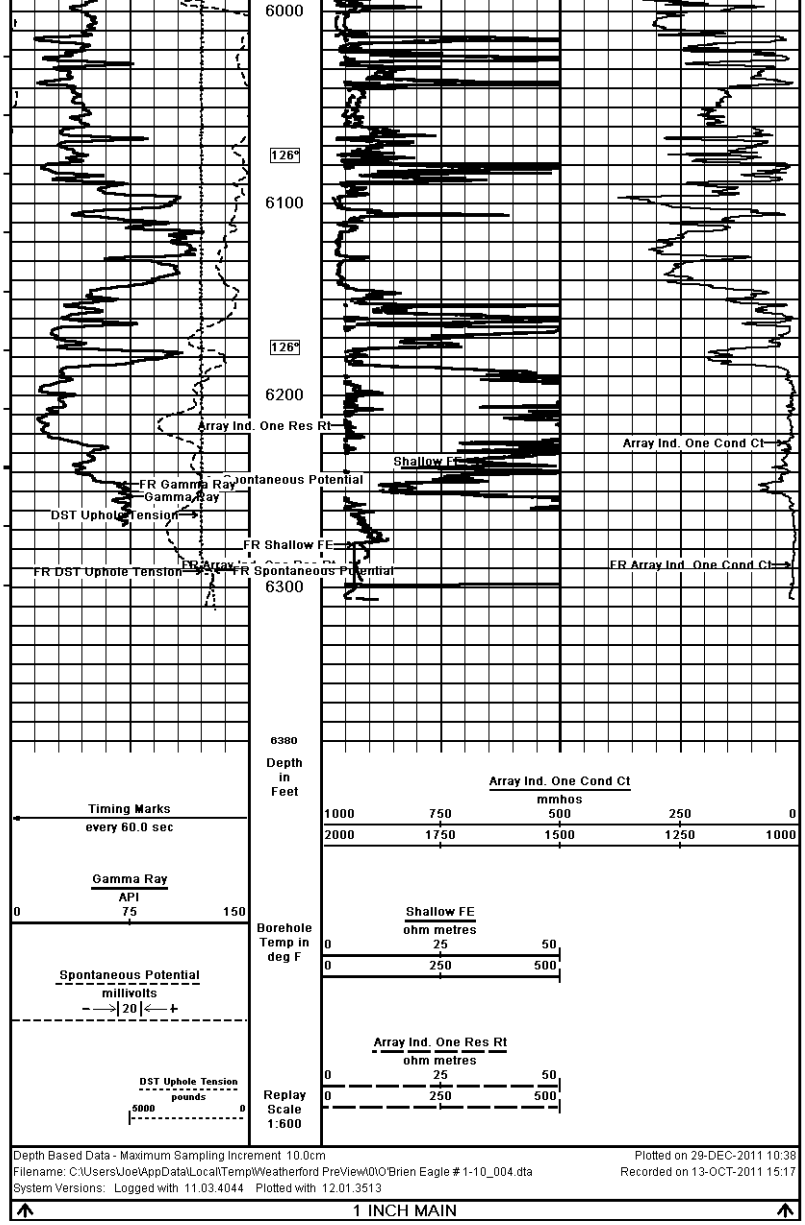



1600
94°
1700
94°
1800
94°
1900
95°
2000
95°
2100
96°
2200
96°
2300
Array Ind. One Res RI
Shallow FE
Spontaneous Potential
Gamma Ray
DST Unhole Tension
Array Ind. One Cond
96°
2400
96°
2500
97°
2600
97°


2700
98°
2800
99°
2900
100°
3000
101°
3100
101°
3200
102°
Array Ind. One Res RI
3300
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
103°
3400
103°
3500
104°
3600
105°
3700
106°


3800
106°
3900
108°
4000
109°
4100
110°
4200
Array Ind. One Res Rt
111°
Shallow Ft
Spontaneous Potential
Gamma Ray
4300
DST Uphole Tension
112°
4400
112°
4500
113°
4600
114°
4700
115°
4800
115°
Array Ind. One Cond Ct


4900
116°
5000
116°
5100
117°
5200
Array Ind. One Res Rt
Array Ind. One Cond Ct
Shallow Ct
Spontaneous Potential
118°
Gamma Ray
Cbhl Uphole Tension
5300
119°
5400
120°
5500
120°
5600
121°
5700
123°
5800
124°
5900
125°



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 29-DEC-2011 10:38
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1 INCH MAIN

COMPANY	O'BRIEN ENERGY RESOURCES CORP.
WELL	EAGLE # 1-10
FIELD	NOVINGER SOUTHWEST
PROVINCE/COUNTY	MEADE
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	2693.00	feet	First Reading	6289.00	feet
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Weatherford

ARRAY INDUCTION
SHALLOW FOCUSSED
ELECTRIC LOG