Weatherford®

ARRAY INDUCTION SHALLOW FOCUSED ELECTRIC LOG

COMPANY	O'BRIEN RESOURCES, LLC.
WELL	SWART 5 #1
FIELD	WILDCAT
PROVINCE/COUNTY	GOVE
COUNTRY/STATE	UNITED STATES / KANSAS
LOCATION	2292' FNL & 87' FEL

SEC	TWP	RGE	Other Services
5	14S	3W	MPD/MDN
API Number 15-063-22118			MML
Permit Number			

Permanent Datum G.L., Elevation 2704 feet
Log Measured From KB
Drilling Measured From K.B. @ 10 FEET

Elevations:	feet
KB	2714.00
DF	2712.00
GL	2704.00

Date	21-AUG-2013			
Run Number	ONE			
Service Order	3541071			
Depth Driller	4550.00	feet		
Depth Logger	4550.00	feet		
First Reading	4547.00	feet		
Last Reading	3550.00	feet		
Casing Driller	260.00	feet		
Casing Logger	260.00	feet		
Bit Size	7.880	inches		
Hole Fluid Type	CHEMICAL			
Density / Viscosity	9.15 lb/USg		45.00 CP	
PH / Fluid Loss	10.50		8.00 ml/30Min	
Sample Source	MUDPIT			
Rm @ Measured Temp	1.84 @ 75.0	ohm-m		
Rmf @ Measured Temp	1.47 @ 75.0	ohm-m		
Rmc @ Measured Temp	2.21 @ 75.0	ohm-m		
Source Rmf / Rmc	CALC		CALC	
Rm @ BHT	1.08 @128.0	ohm-m		
Time Since Circulation	5 HOURS			
Max Recorded Temp	128.00	deg F		
Equipment / Base	13096		LIB	
Recorded By	W. STAMBAUGH			
Witnessed By	SEAN DEENIHAN			
JOB#	LB13-229			

BOREHOLE RECORD

Last Edited: 21-AUG-2013 06:25

Bit Size inches	Depth From feet	Depth To feet
7.880	260.00	4550.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	260.00	24.00

REMARKS

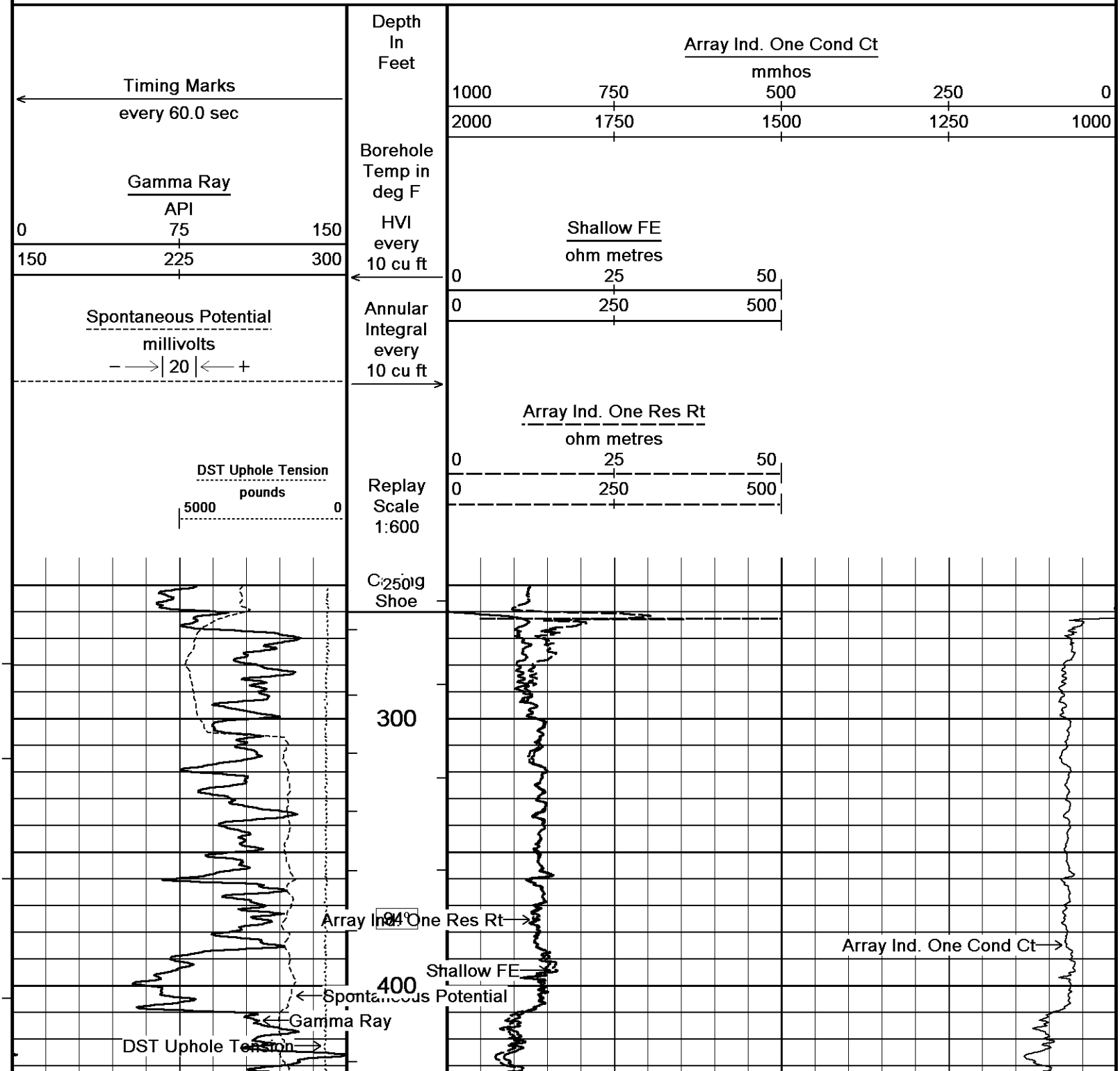
- SOFTWARE ISSUE: WLS 13.05.9583
- TOOLS: MCG, MML, MDN, MPD, MFE, MAI RUN IN COMBINATION
- HARDWARE:
  - MDN: DUAL BOWSPRING ECCENTRALIZER
  - MFE: 1 x 0.5 INCH STANDOFF
  - MAI: 1 x 0.5 INCH STANDOFF
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY
- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL AFFECT DATA QUALITY
- ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST
- TOTAL HOLE VOLUME FROM TD TO SURFACE CASING: 2000 CU. FT
- ANNULAR HOLE VOLUME WITH 5.5 INCH CASING FROM TD TO 260 FT: 1290 CU. FT

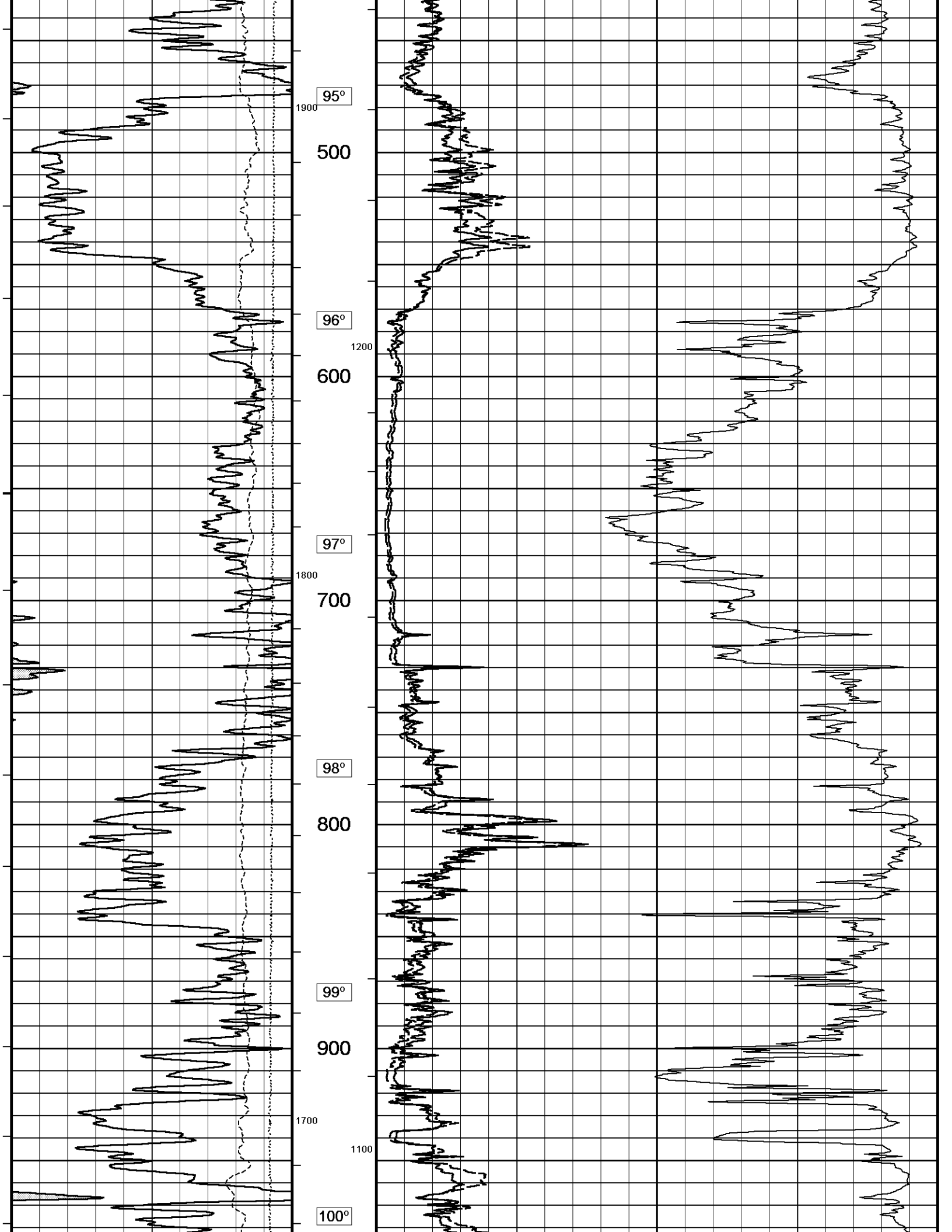
- RIG: MAVERICK DRILLING #106

- CREW:
  - ENGINEER: W. STAMBAUGH
  - OPERATOR(S): K. RINEHART

2 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 21-AUG-2013 11:34
Filename: C:\Minimus 13.05.9583\Log\OBrien Resources llc...\OBrien Resources llc Swarts 5-1_002.dta — Recorded on 21-AUG-2013 08:19
System Versions: Logged with 13.05.9583 Plotted with 13.05.9583

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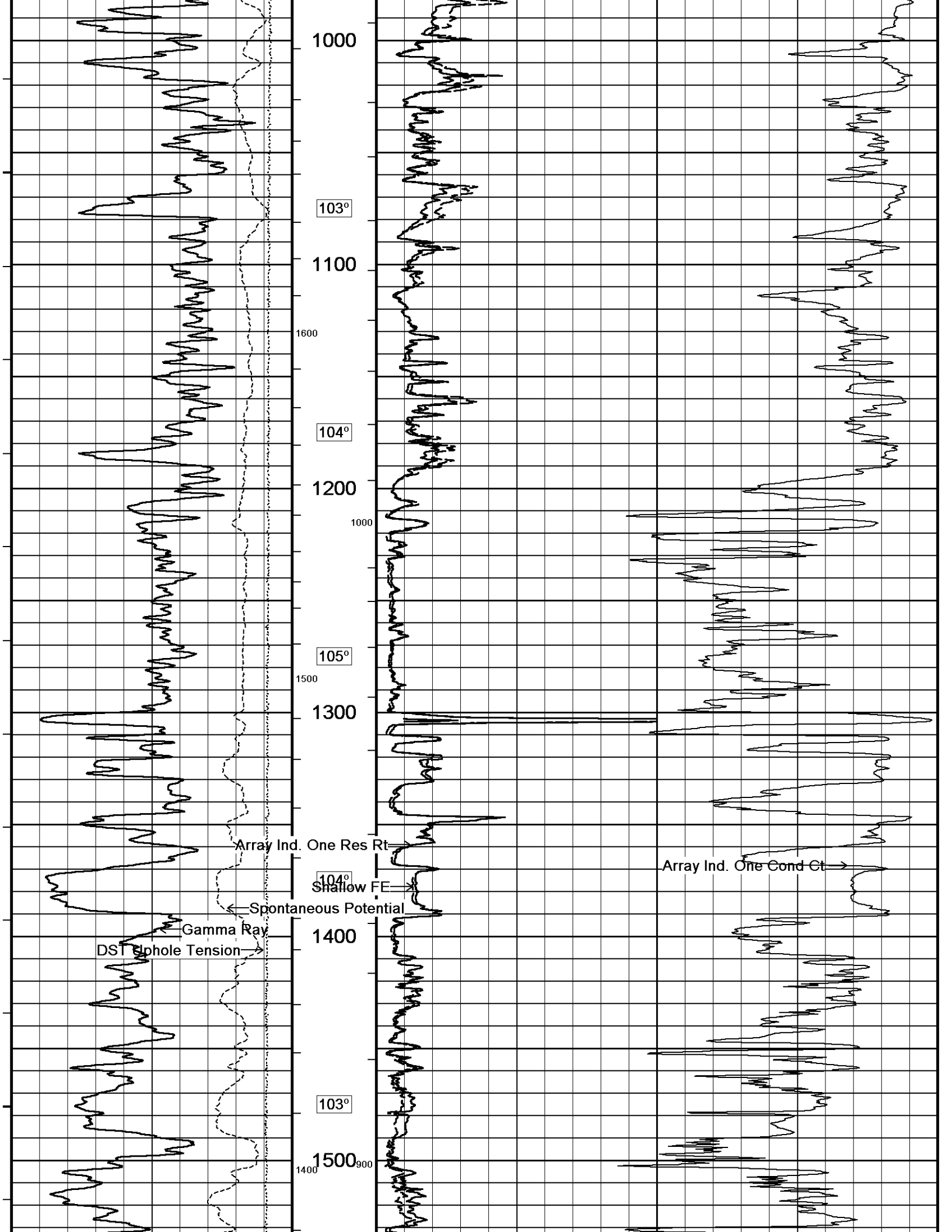
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1100
1600
104°
1200
1000
105°
1500
1300
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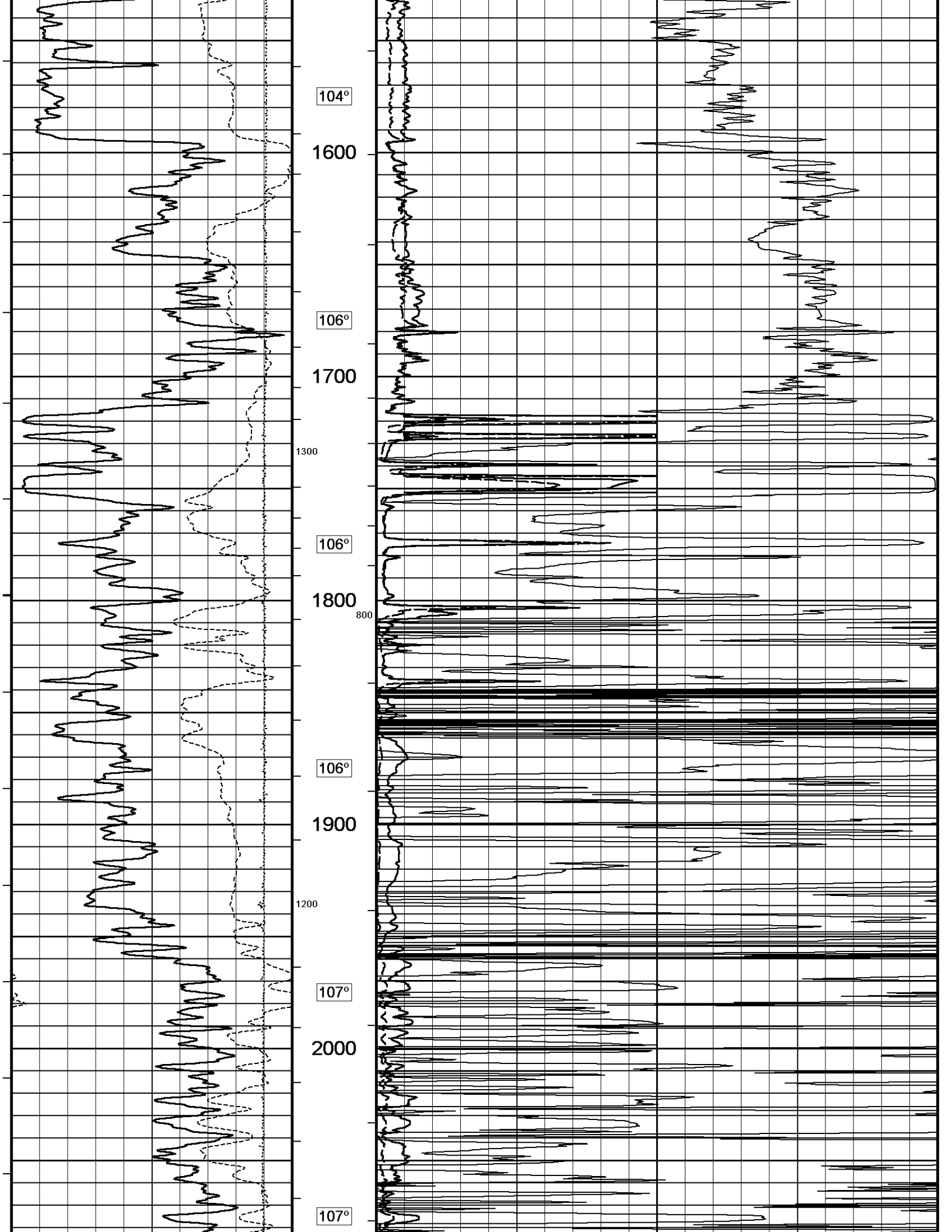
Shallow FE
Spontaneous Potential
Gamma Ray
DST Bphole Tension
1400
103°
1500
900
1400
Array Ind. One Cond Ct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107°
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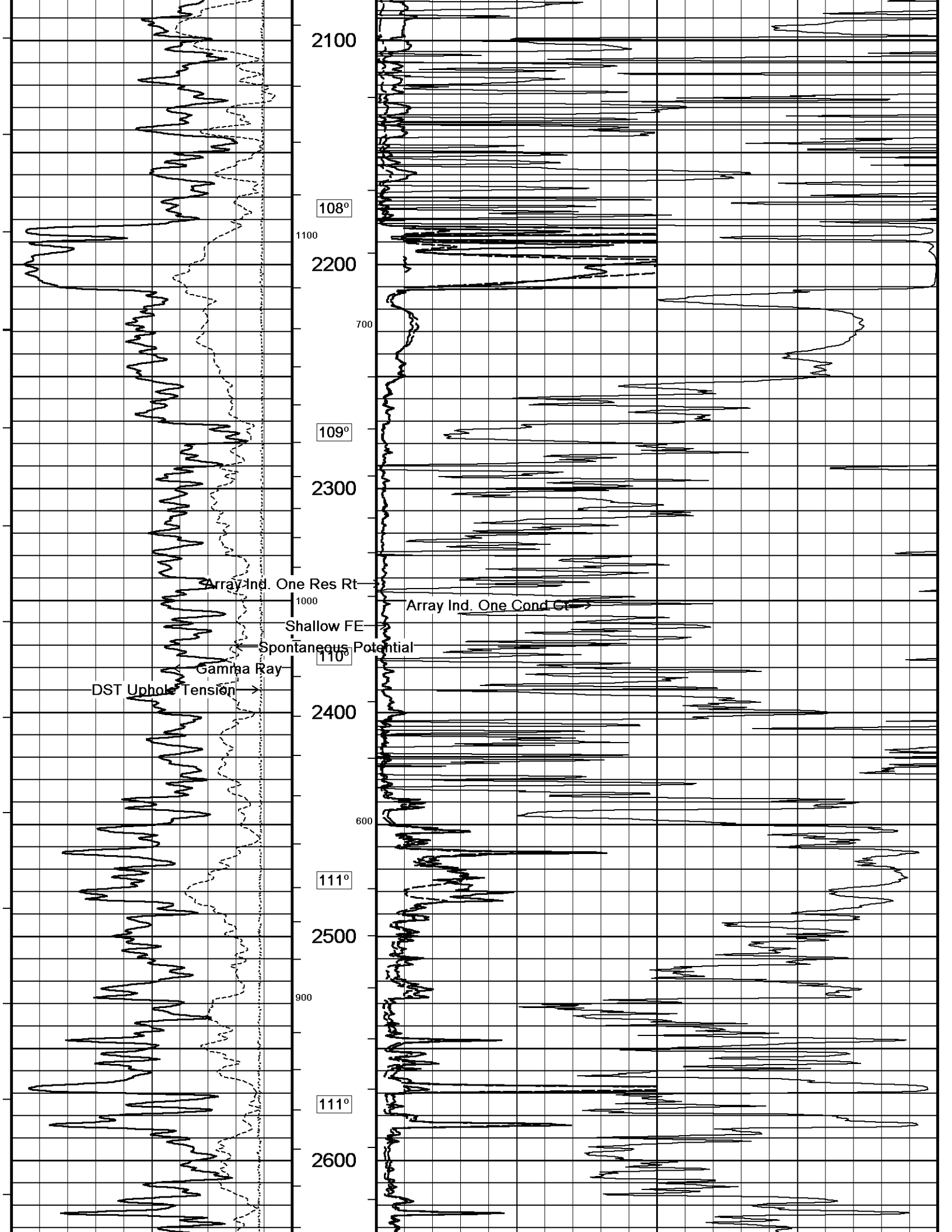
107°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108°
1100
2200
700
109°
2300
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1000
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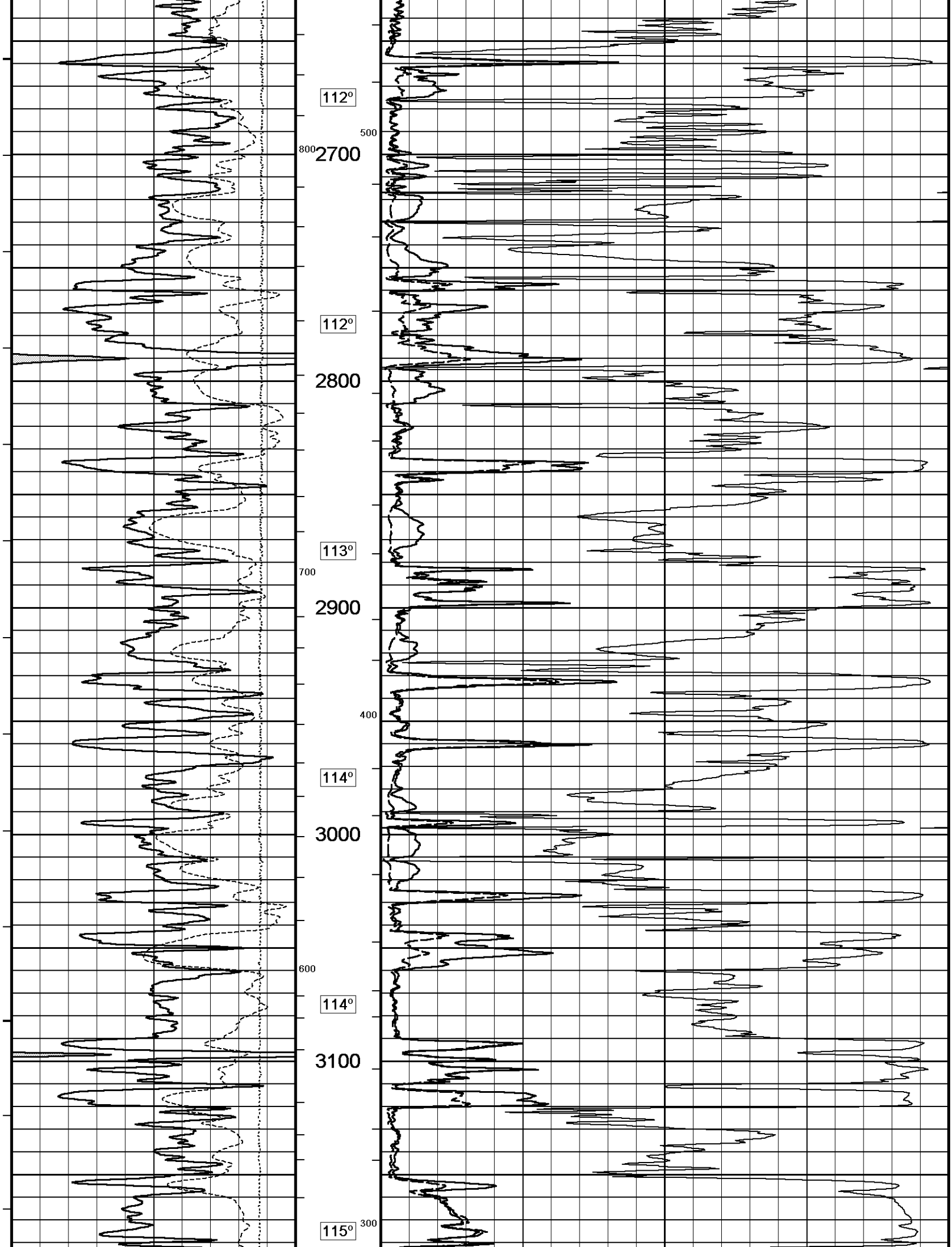
Spontaneous Potential
110°
Gamma Ray
DST Uphole Tension
2400
600
111°
2500
900
111°
2600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115°
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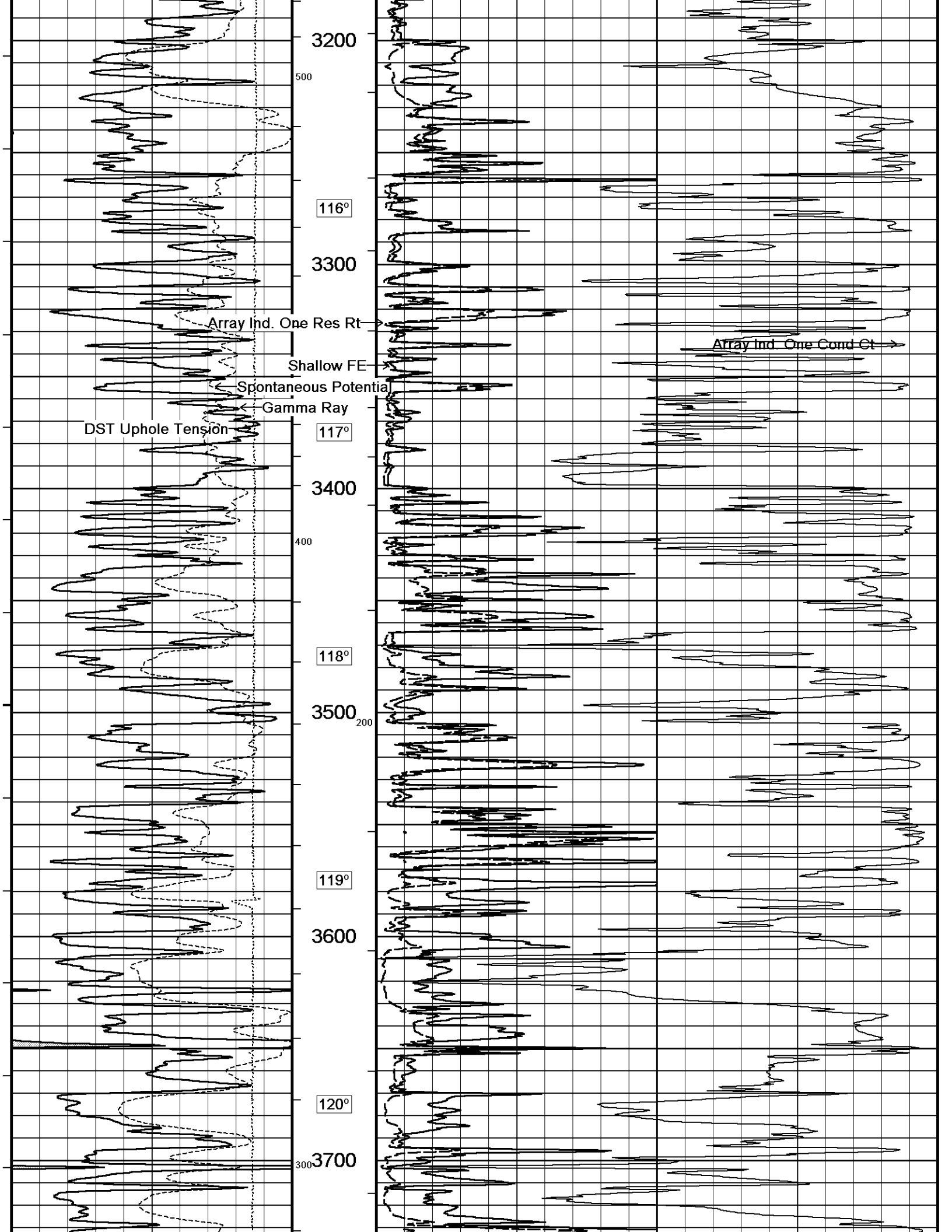
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Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
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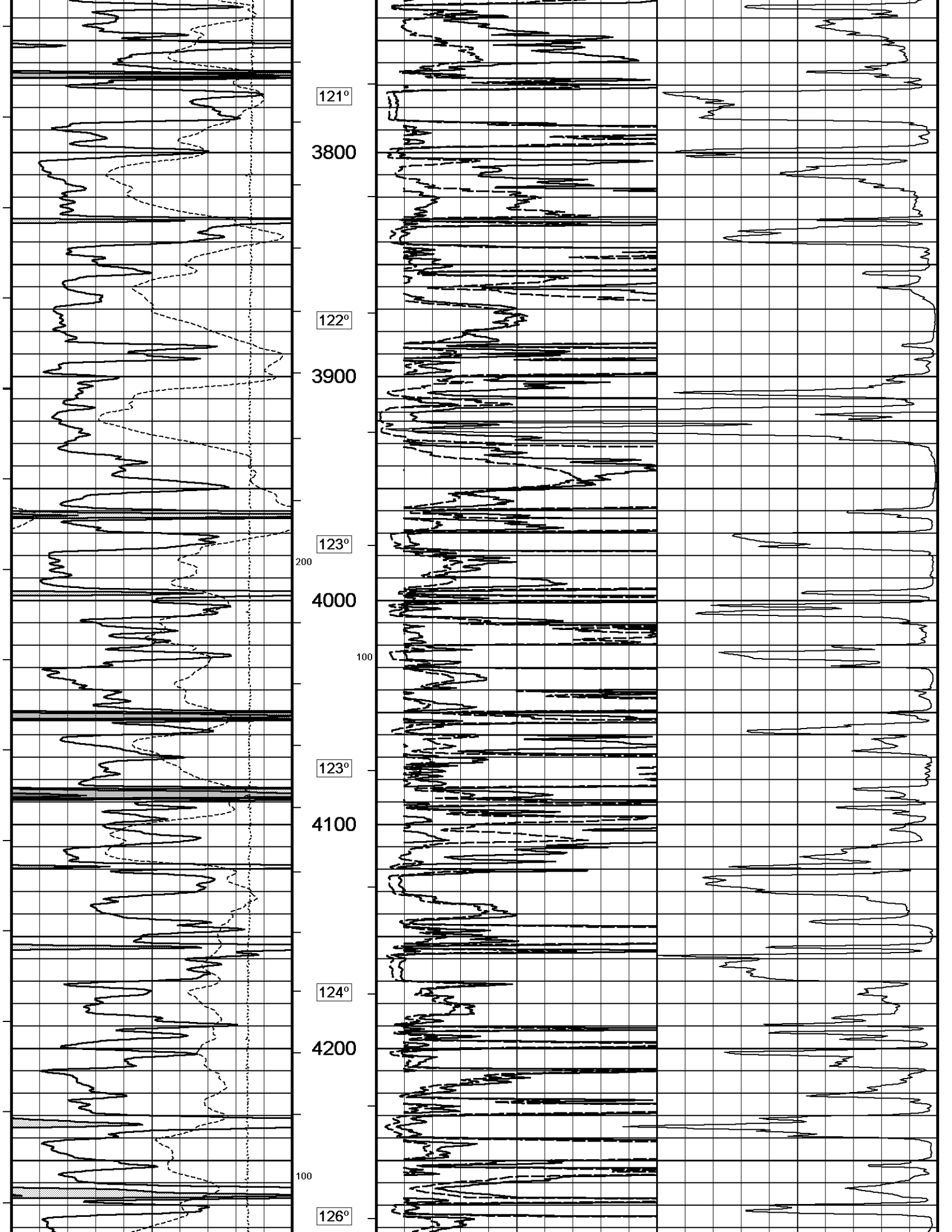
3400
400
118°
3500
200
119°
3600
120°
300
3700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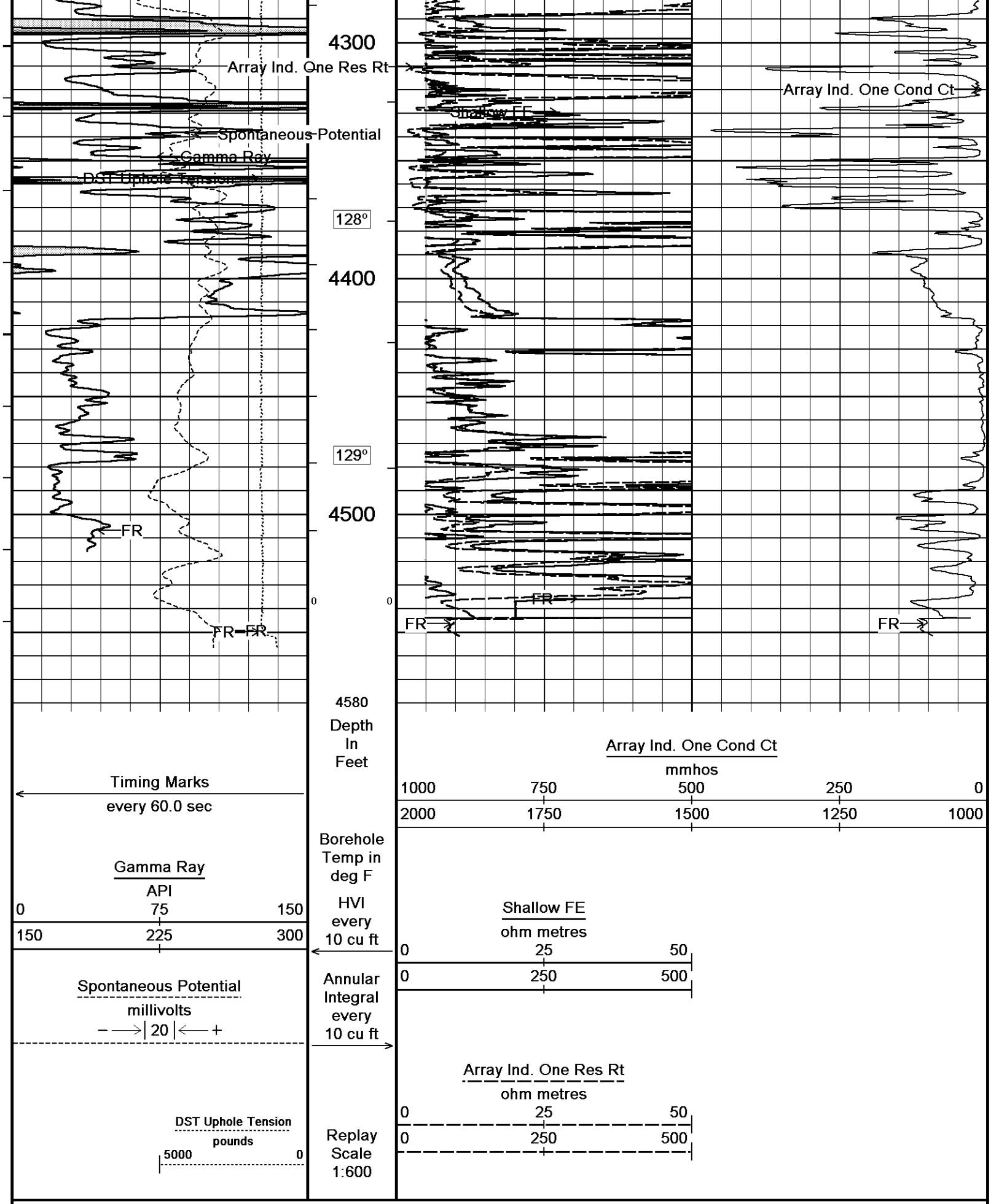
122°
3900
123°
200
4000
100
123°
4100
124°
4200
100
126°



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Recorded on 21-AUG-2013 08:19
System Versions: Logged with 13.05.9583 Plotted with 13.05.9583

2 INCH MAIN

5 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 21-AUG-2013 11:34
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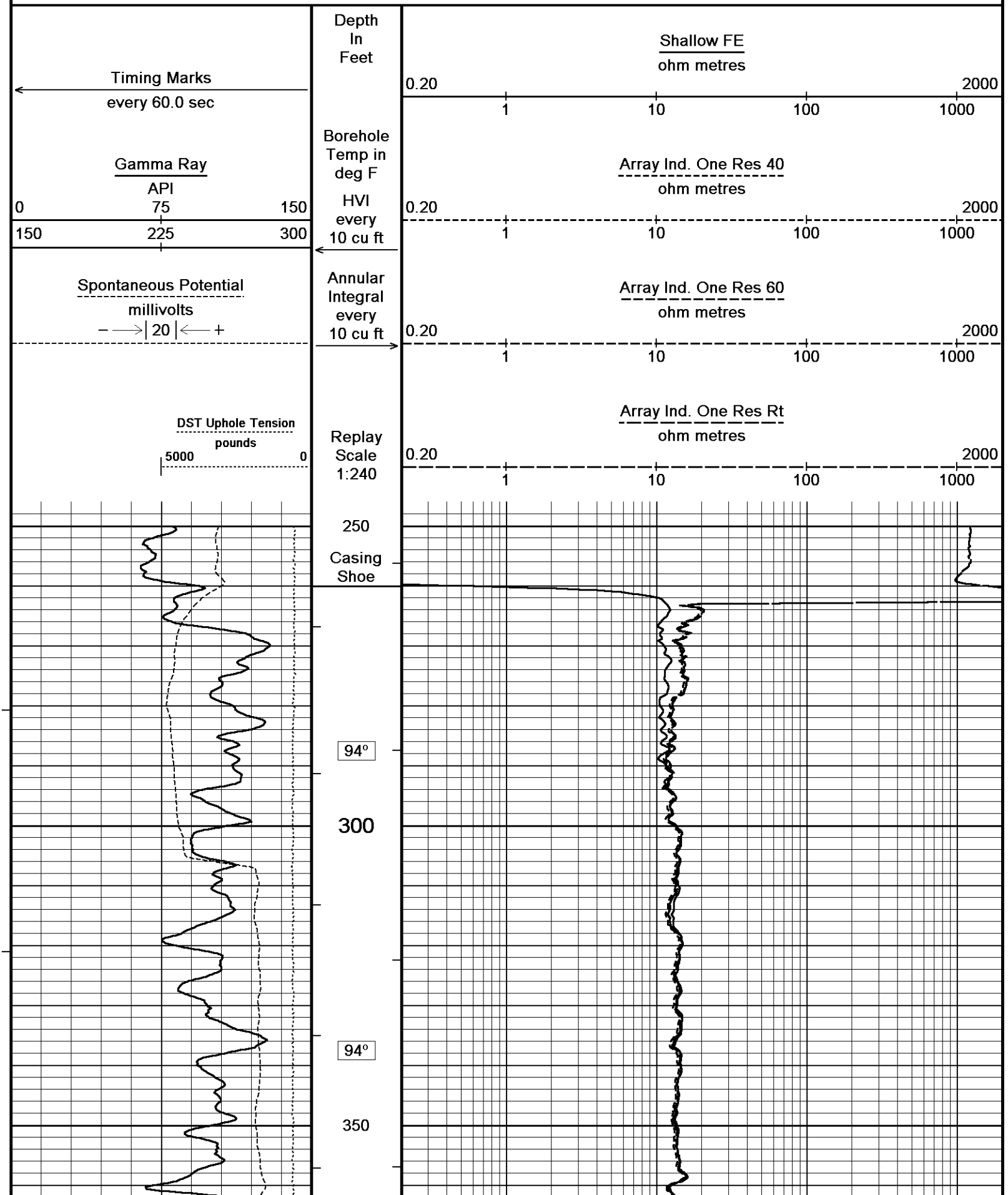
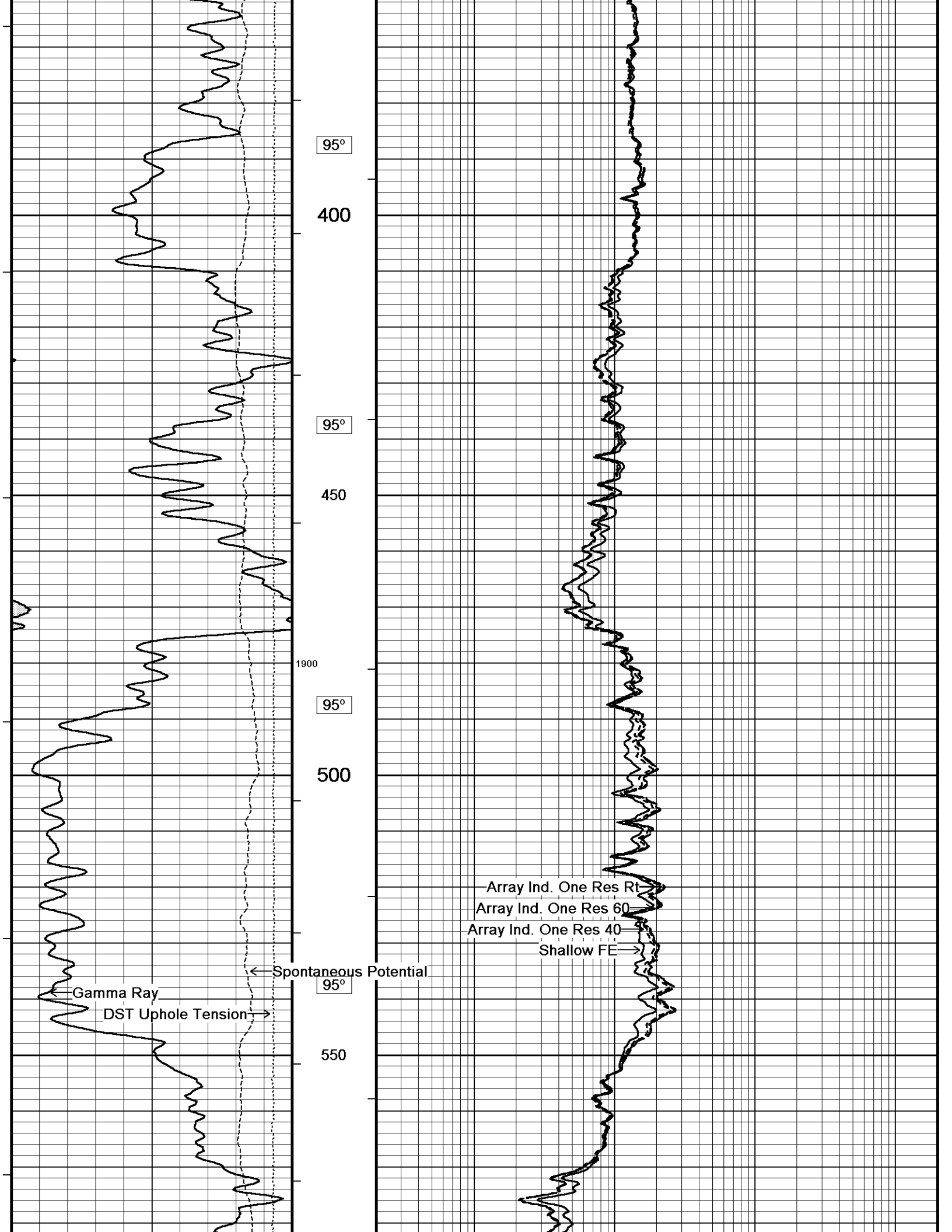
Recorded on 21-AUG-2013 08:19
System Versions: Logged with 13.05.9583 Plotted with 13.05.9583

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400
95°
450
1900
95°
500
95°
550
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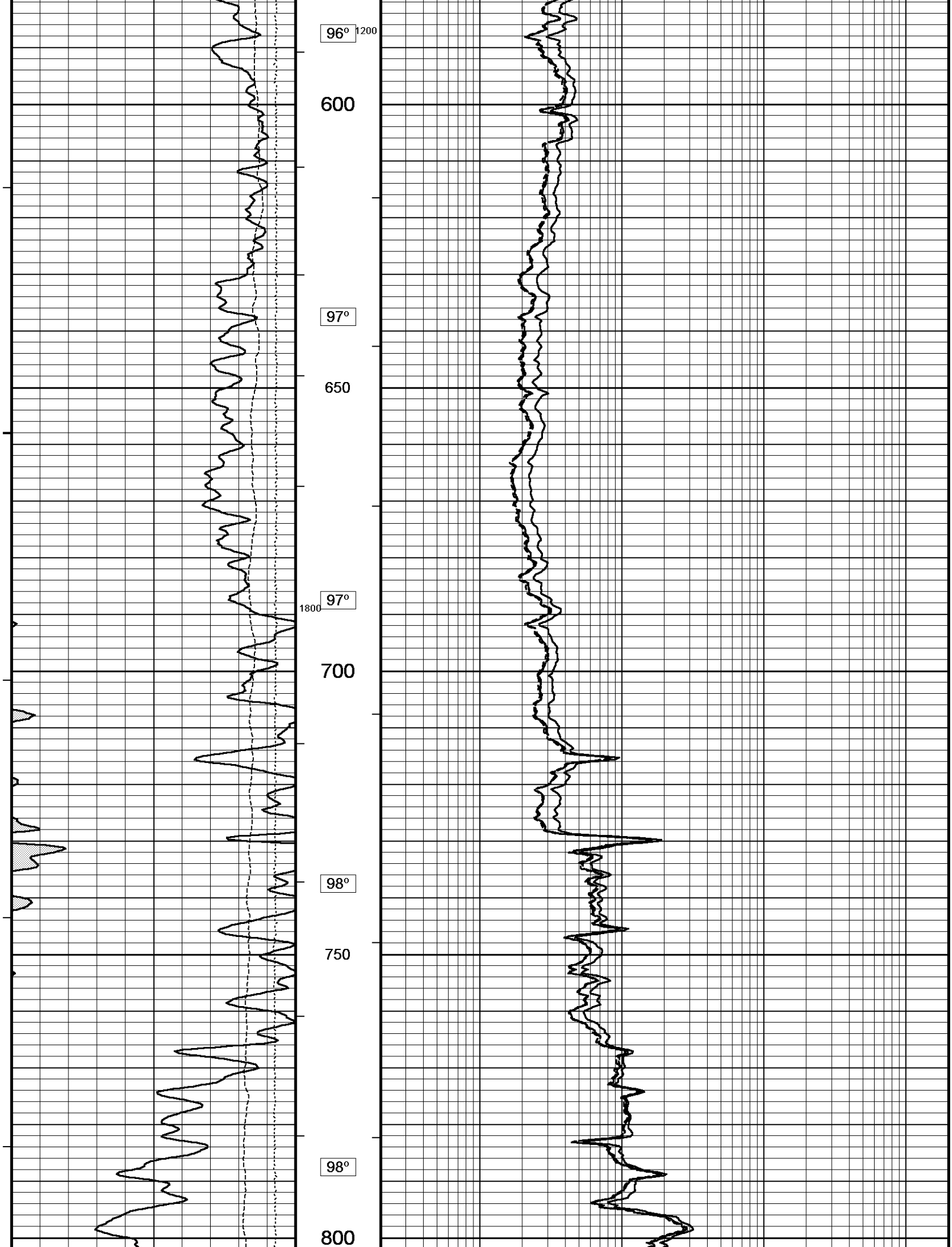
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension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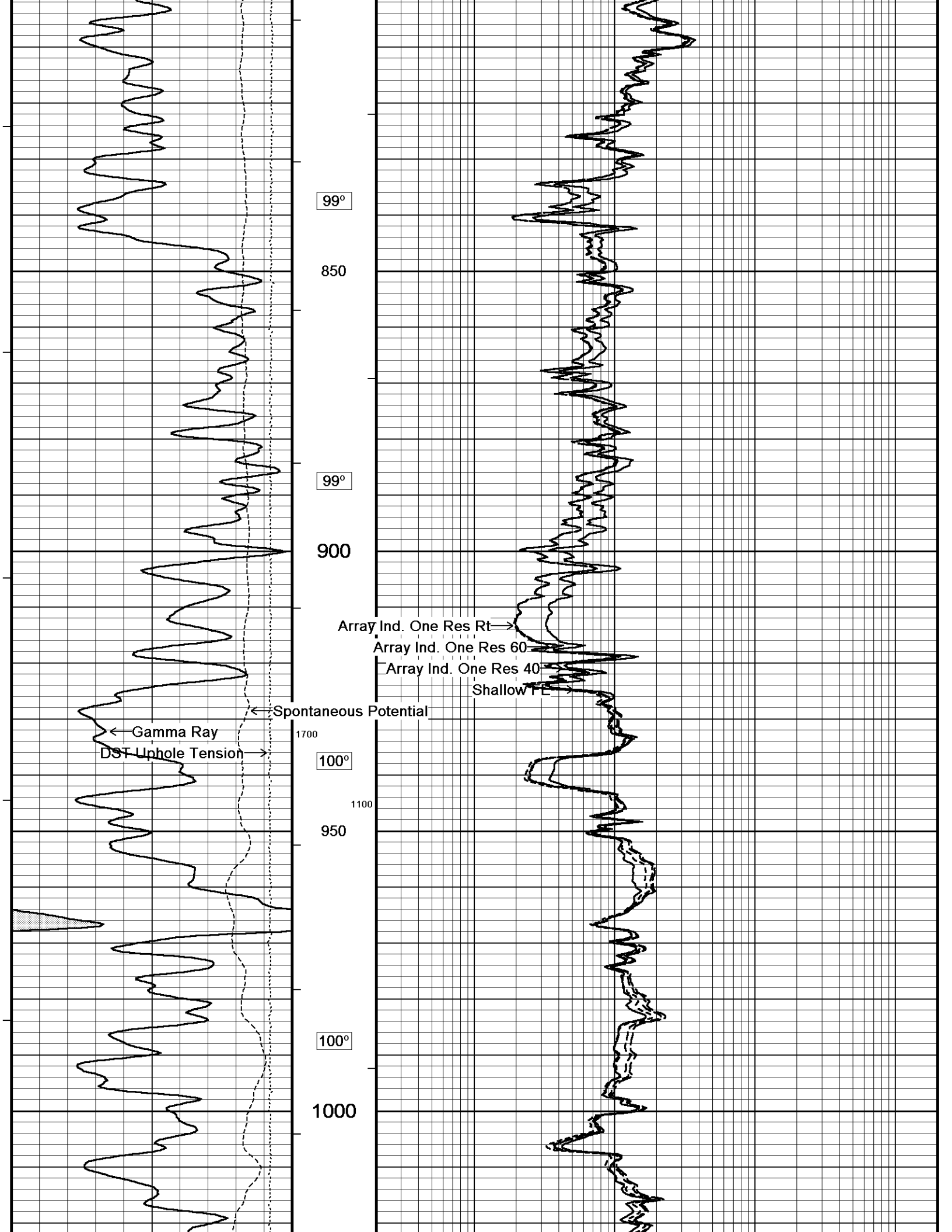
97°
650
97°
1800
700
98°
750
98°
800


99°
850
99°
900
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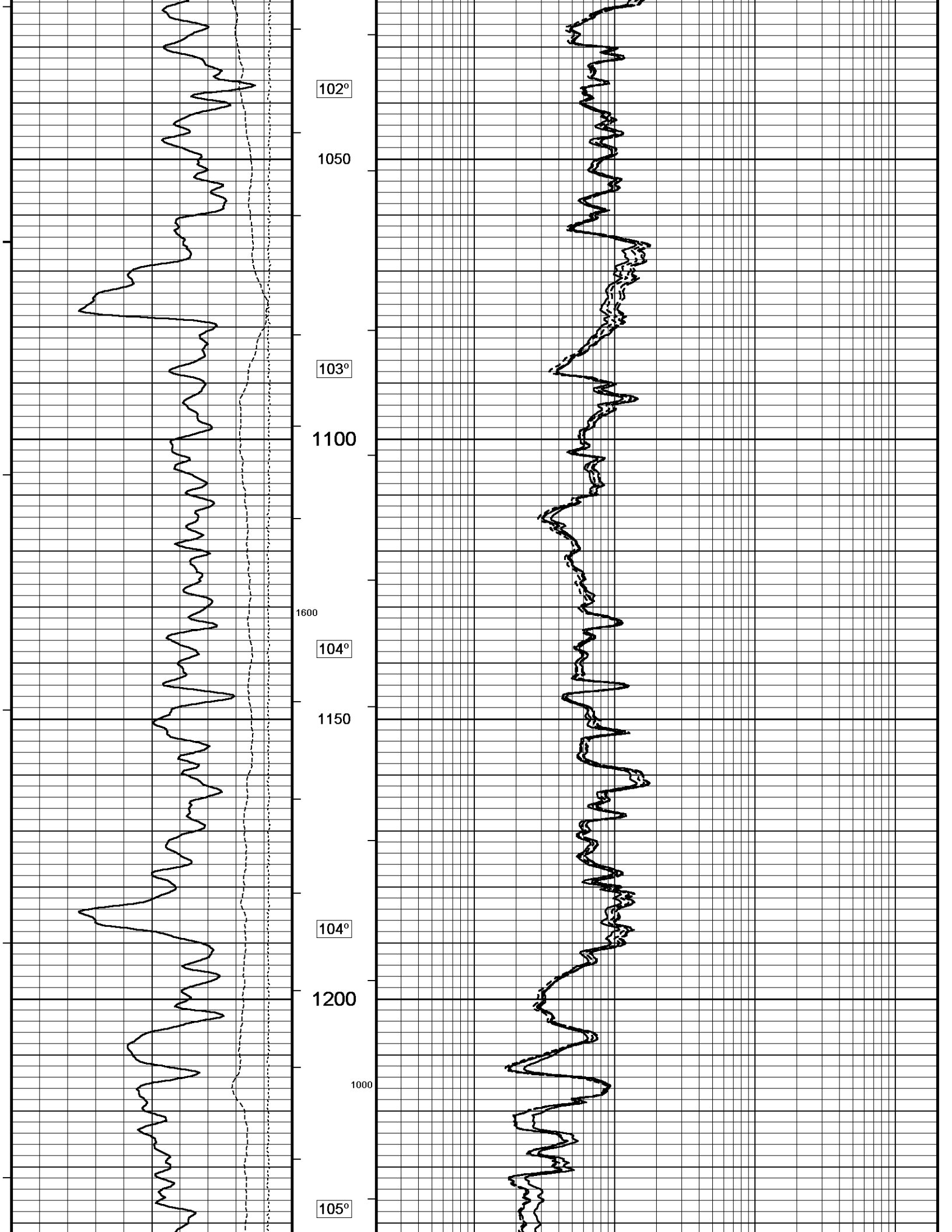
Shallow FE
Spontaneous Potential
Gamma Ray
1700
DST Uphole Tension
100°
1100
950
100°
1000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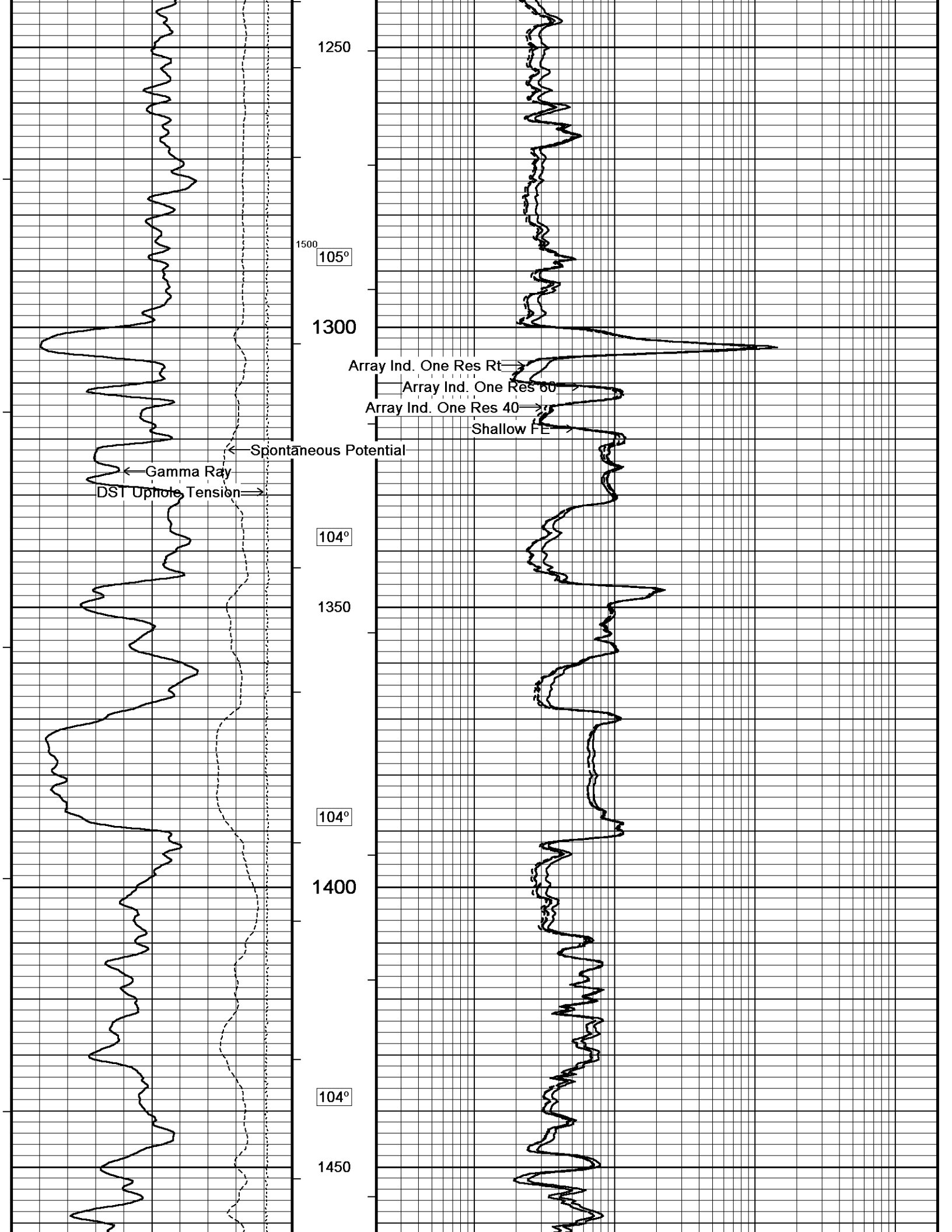
1100
1600
104°
1150
104°
1200
1000
105°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1500
105°
1300
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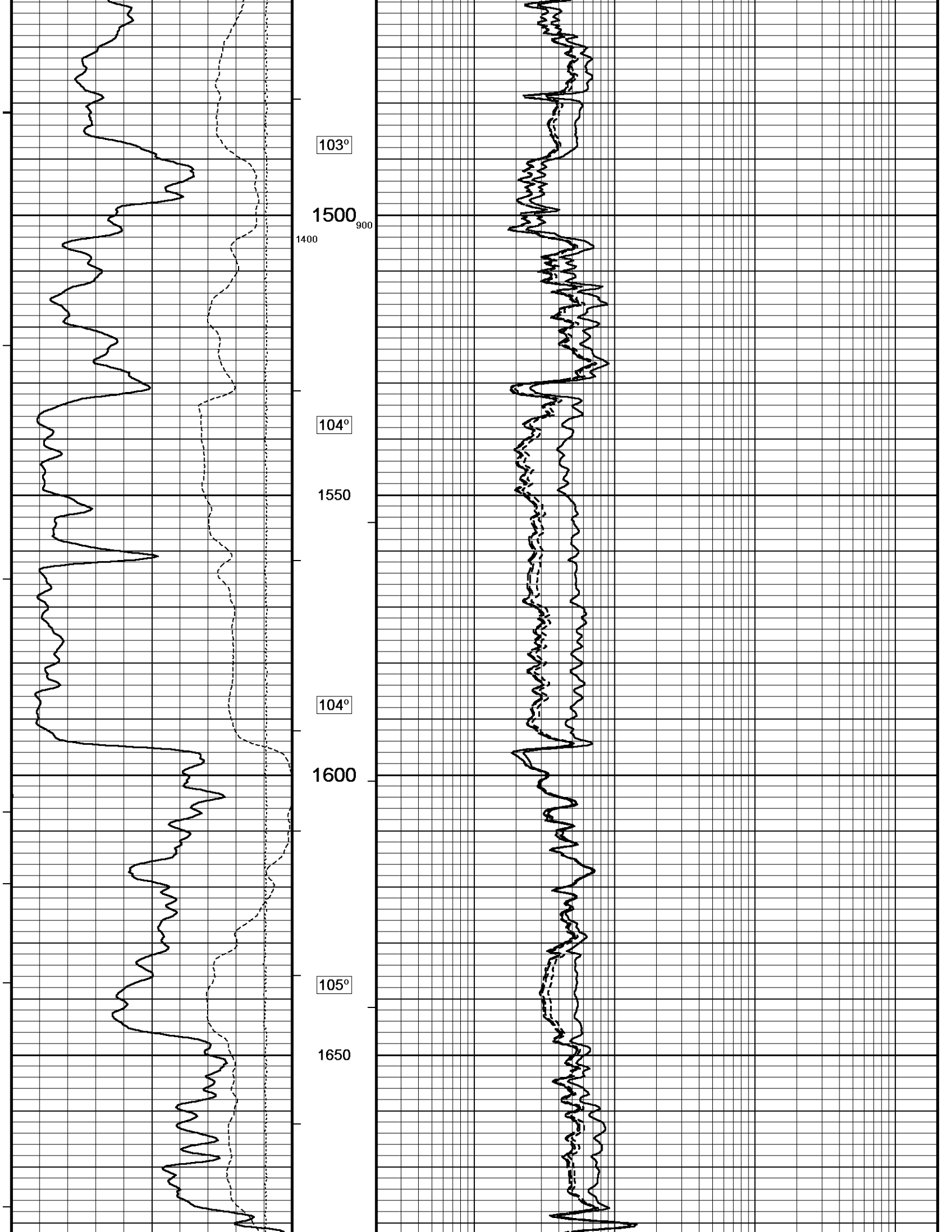
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
104°
1350
104°
1400
104°
1450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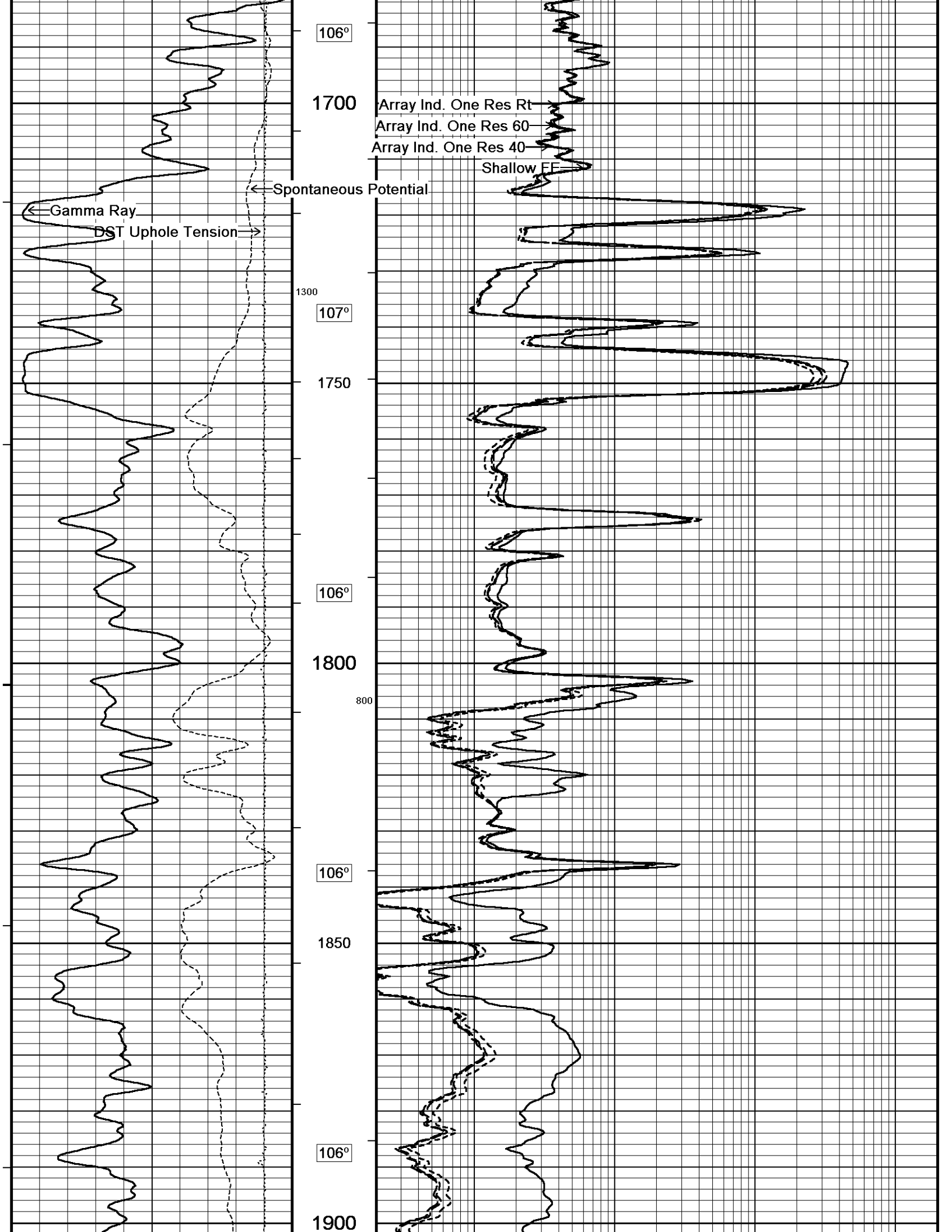
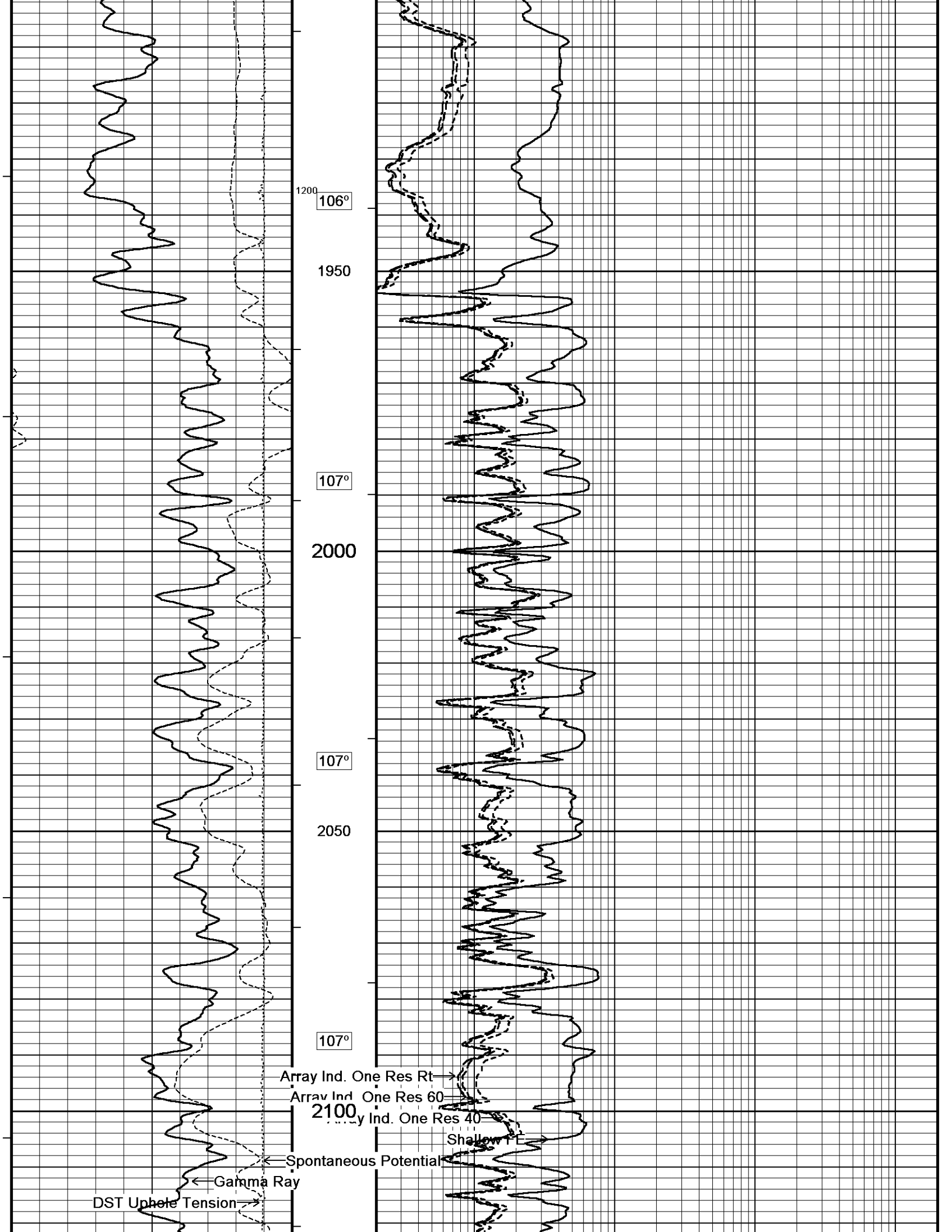
1500
900
1400
104°
1550
104°
1600
105°
1650


106°
1700
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
1300
107°
1750
106°
1800
800
106°
1850
106°
1900


1200
106°
1950
107°
2000
107°
2050
107°
2100
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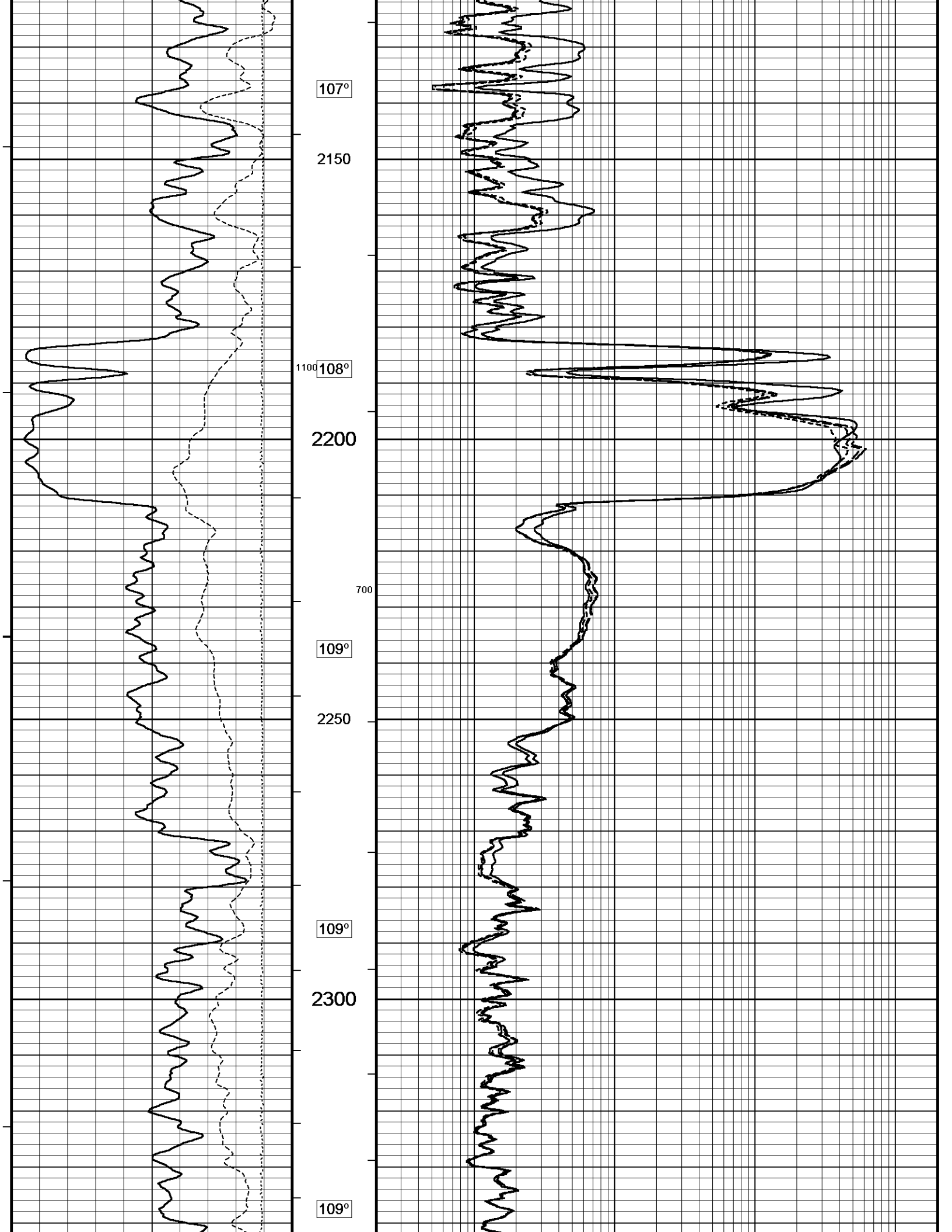
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FL
Spontaneous Potential
Gamma Ray
DST Uphole Tension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1100
108°
2200
700
109°
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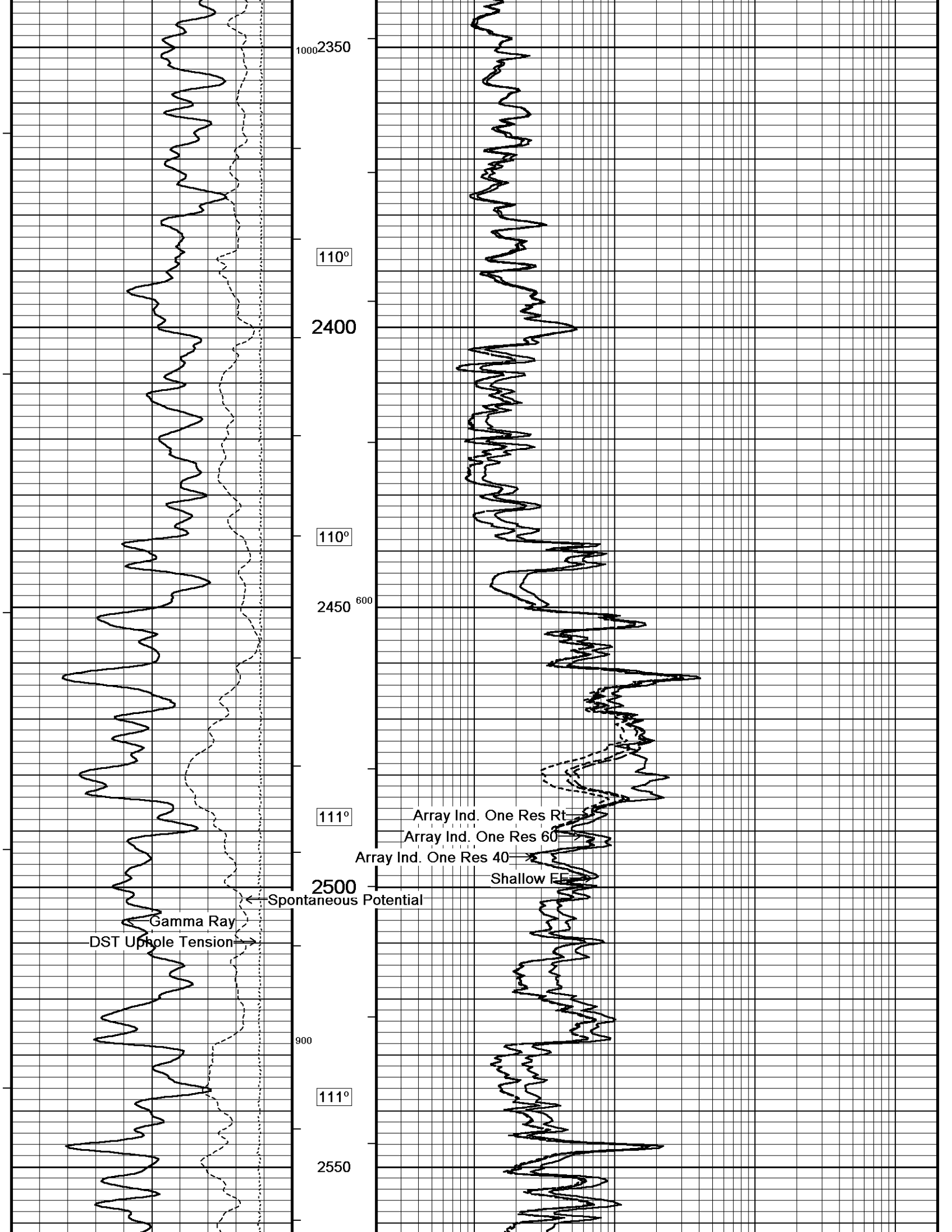
109°
2300
109°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2350
110°
2400
110°
2450
600
111°
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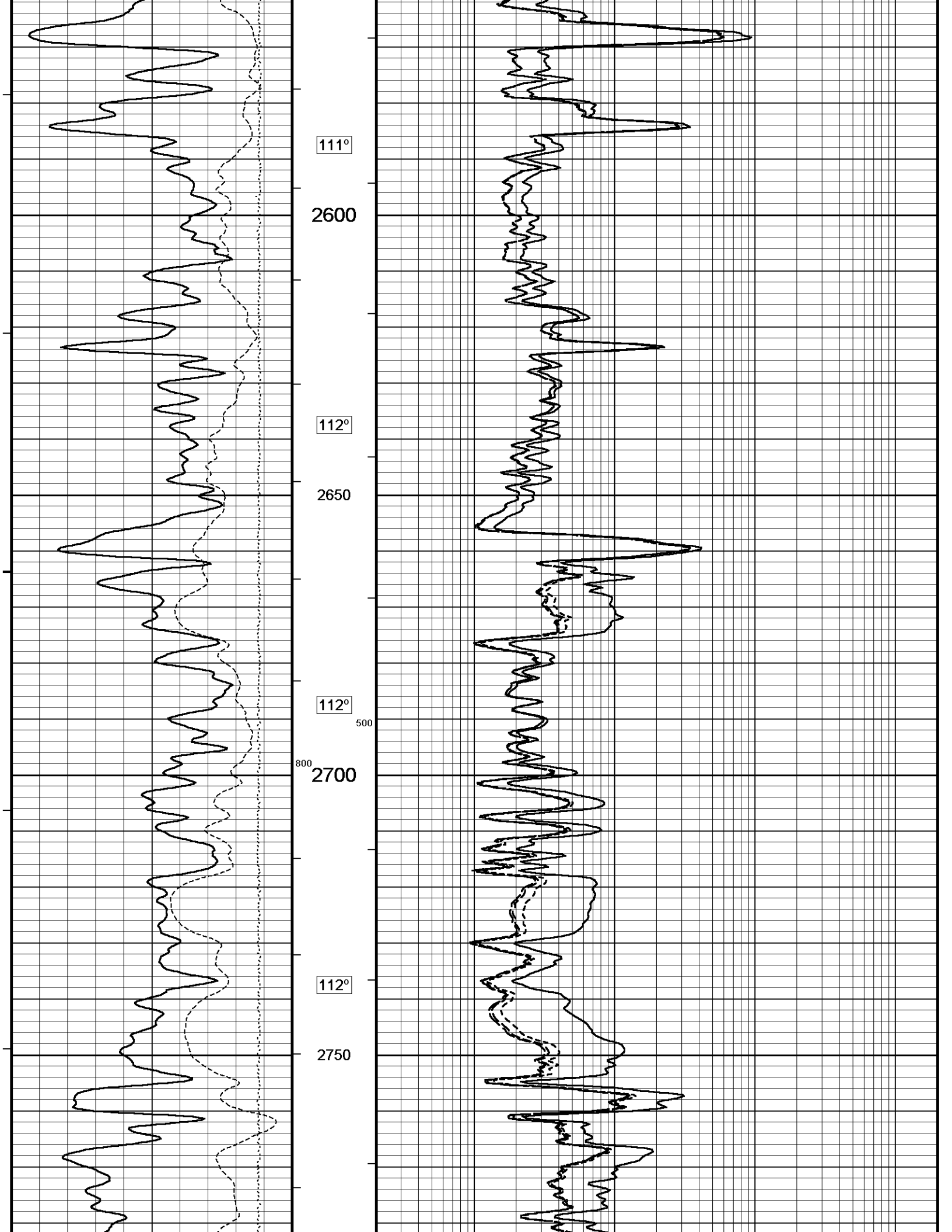
Array Ind. One Res 40
Shallow FE
2500
Spontaneous Potential
Gamma Ray
DST Uphole Tension
900
111°
2550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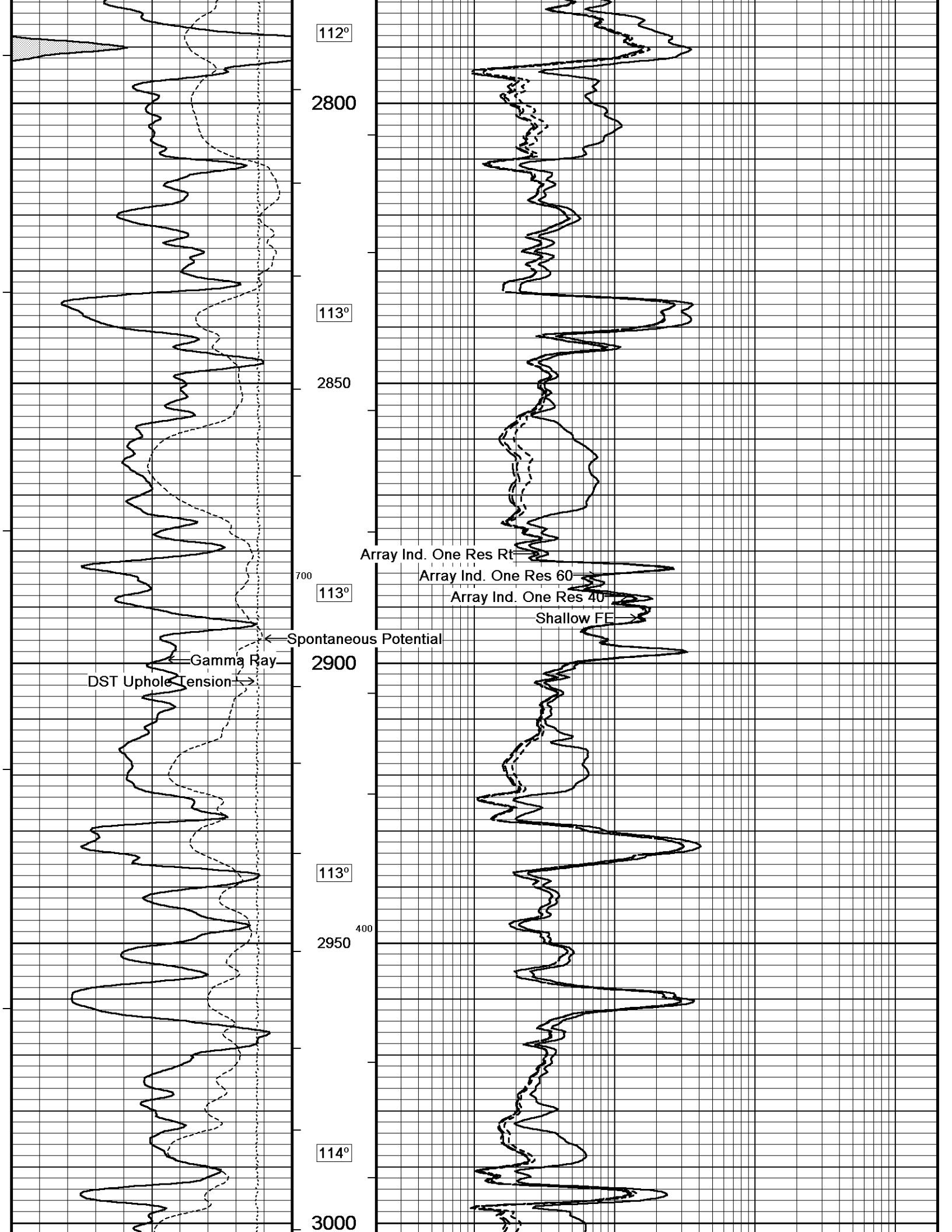
112°
2650
112°
500
800
2700
112°
2750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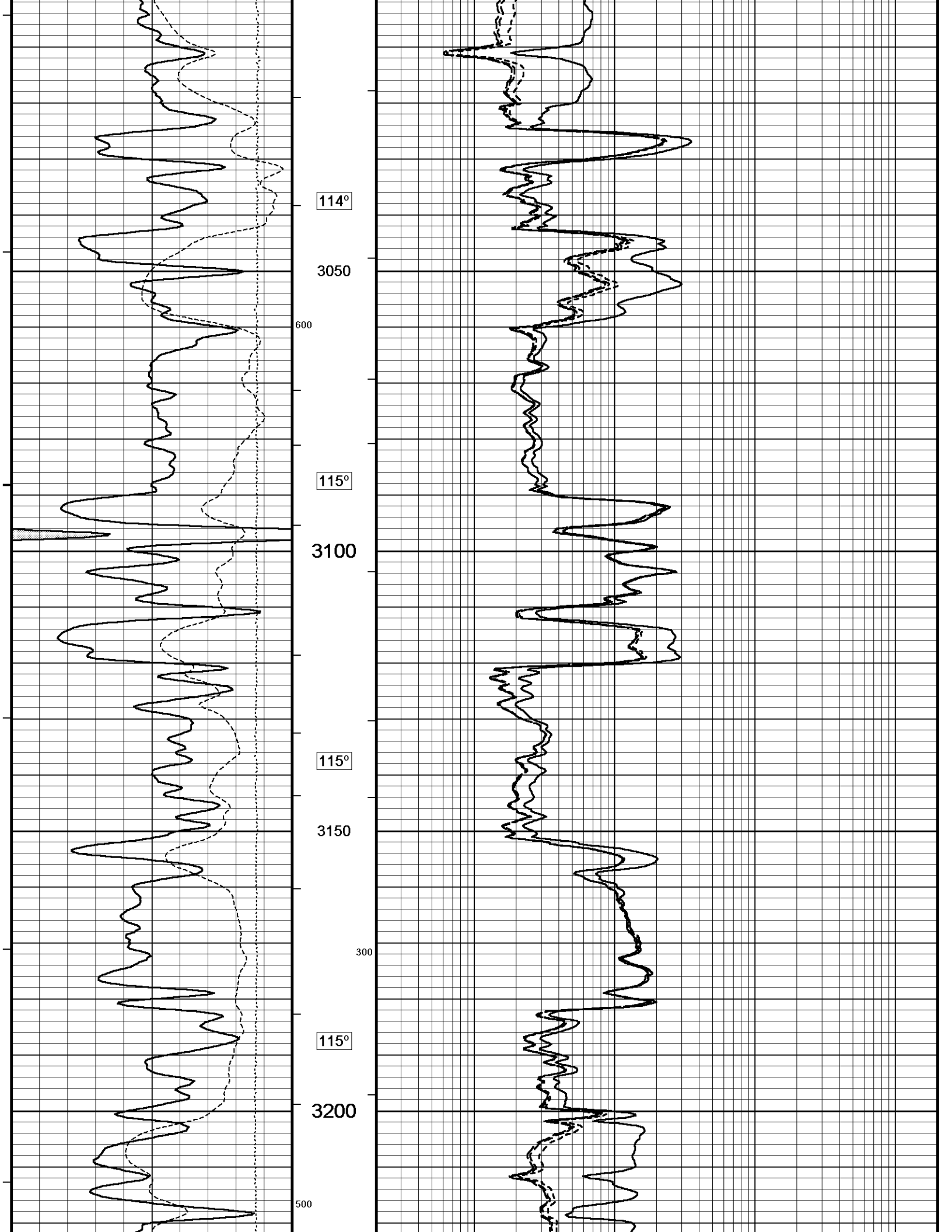
2800
113°
2850
Array Ind. One Res Rt
700
Array Ind. One Res 60
113°
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
2900
DST Uphole Tension
113°
400
2950
114°
3000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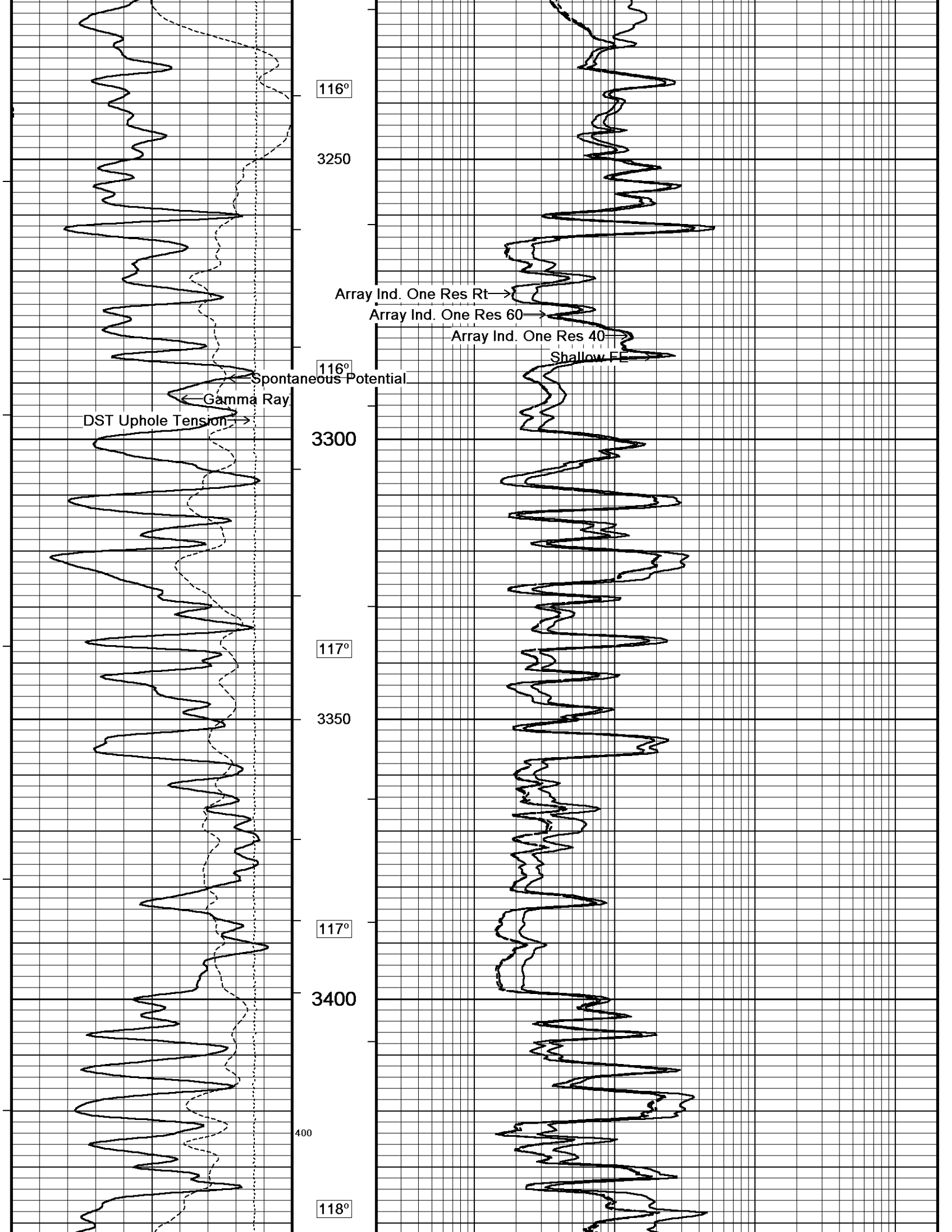
600
115°
3100
115°
3150
300
115°
3200
500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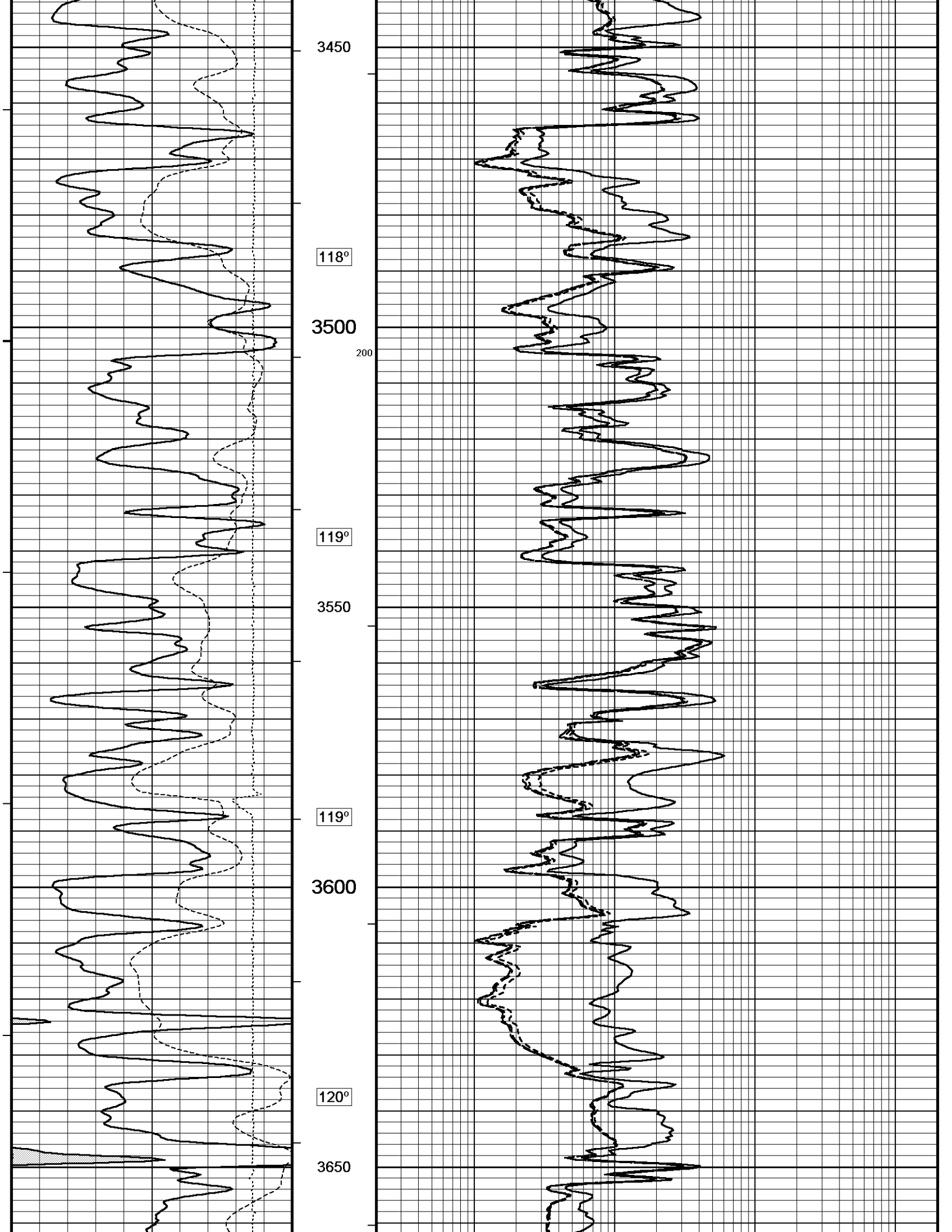
116°
Spontaneous Potential
Gamma Ray
DST Uphole Tension
3300
117°
3350
117°
3400
400
118°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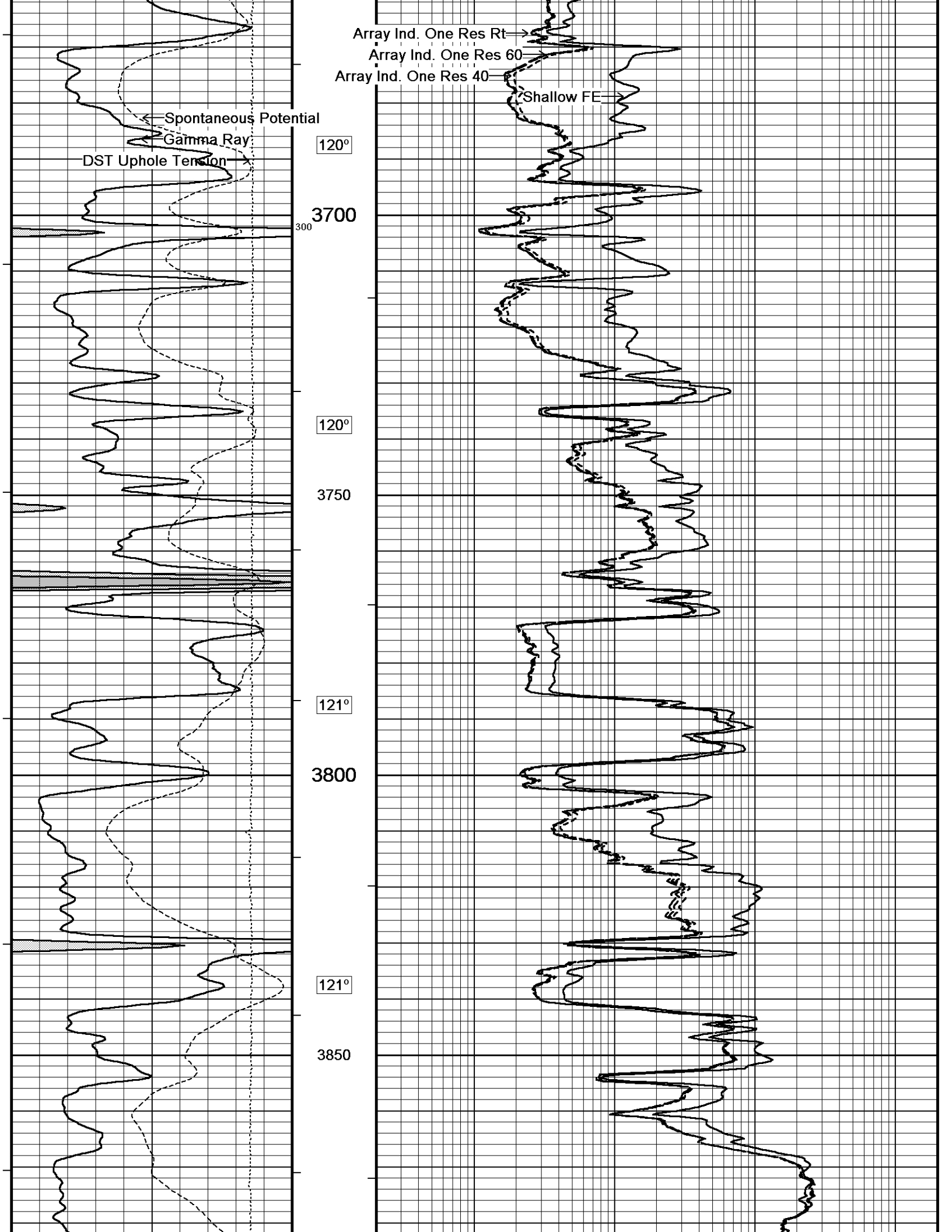
200
119°
3550
119°
3600
120°
3650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Spontaneous Potential
Gamma Ray
DST Uphole Tension
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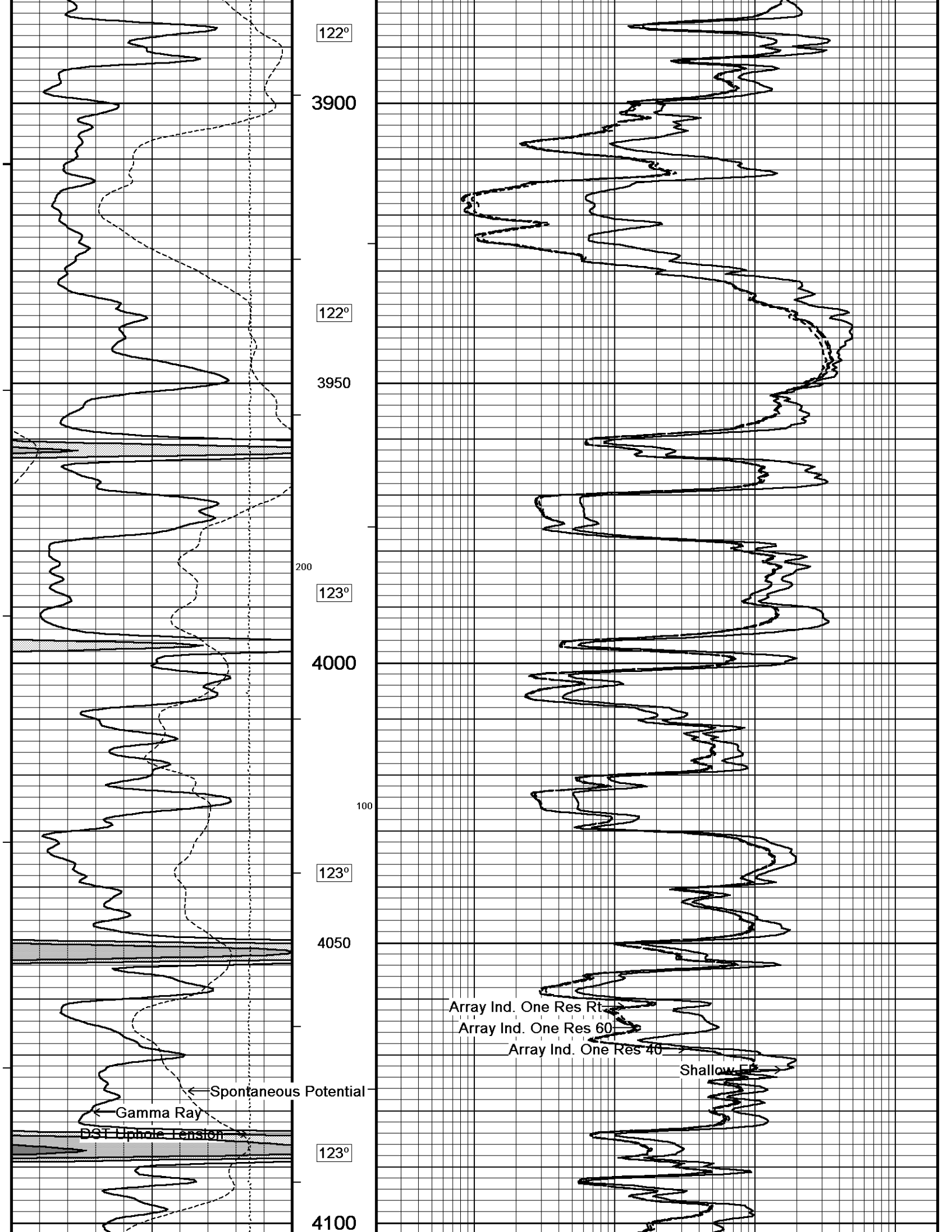
3700
120°
3750
121°
3800
121°
3850


122°
3900
122°
3950
200
123°
4000
100
123°
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Shallow Ft
Spontaneous Potential
Gamma Ray
DST Uphole Tension
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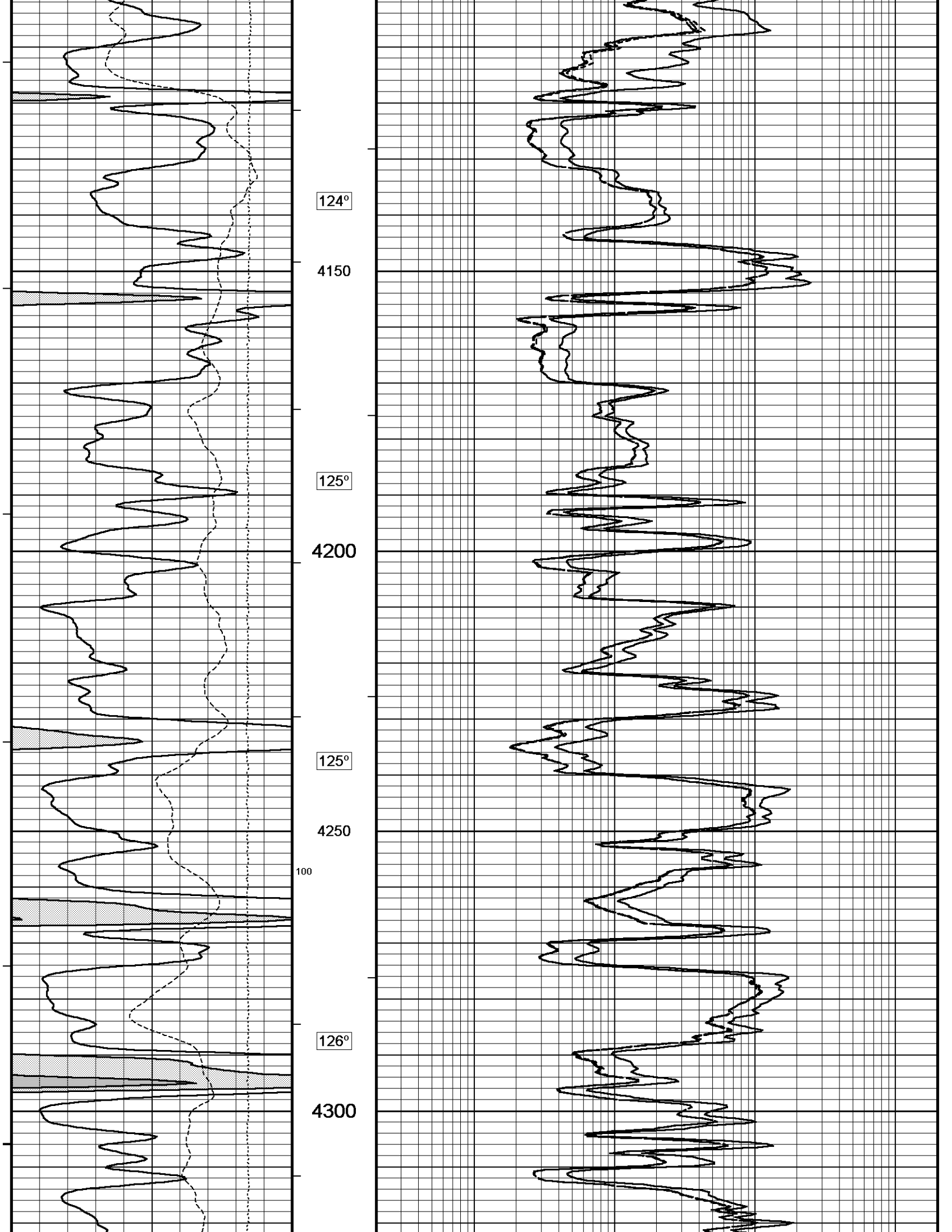
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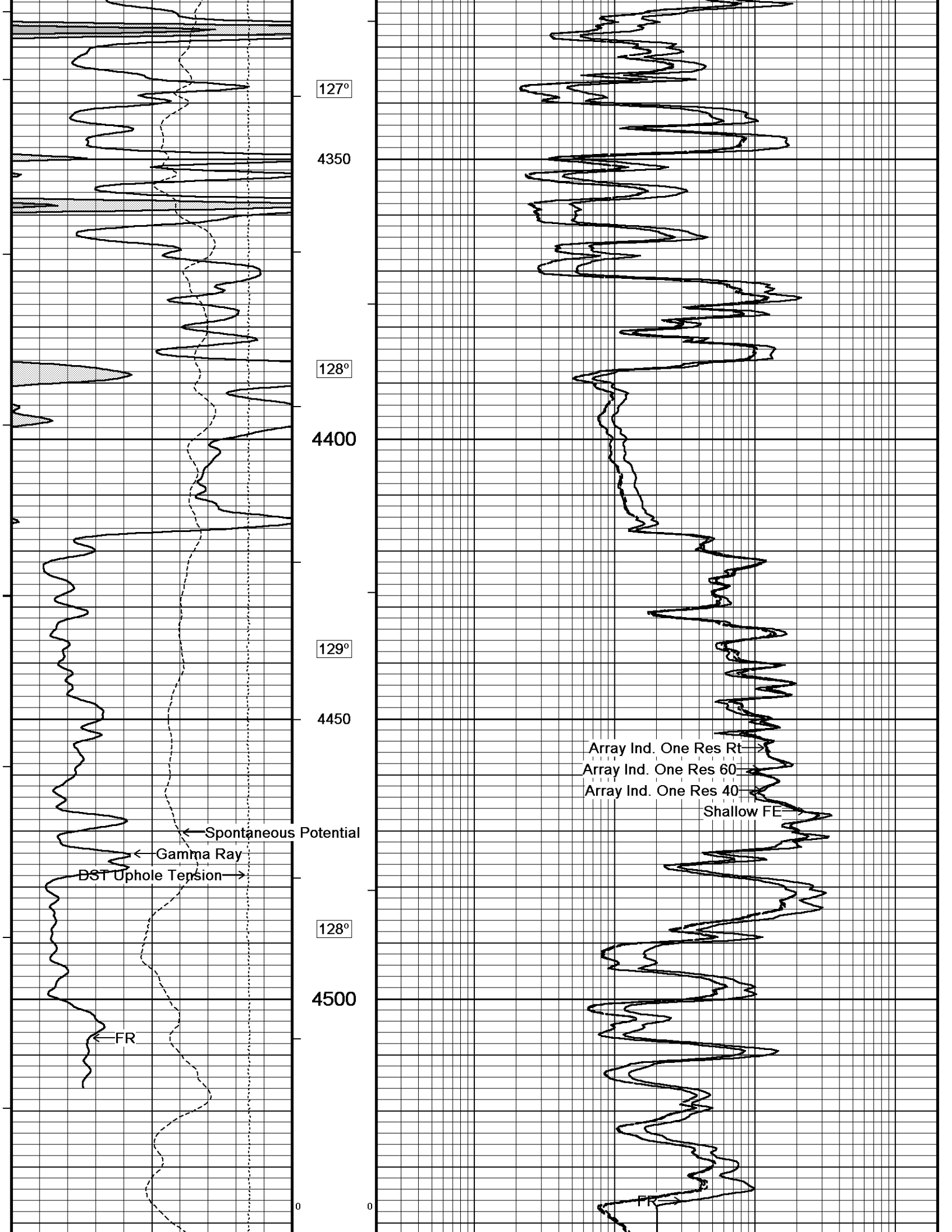
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128°
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129°
4450
128°
4500
Spontaneous Potential
Gamma Ray
DST Uphole Tension
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Array Ind. One Res Rt
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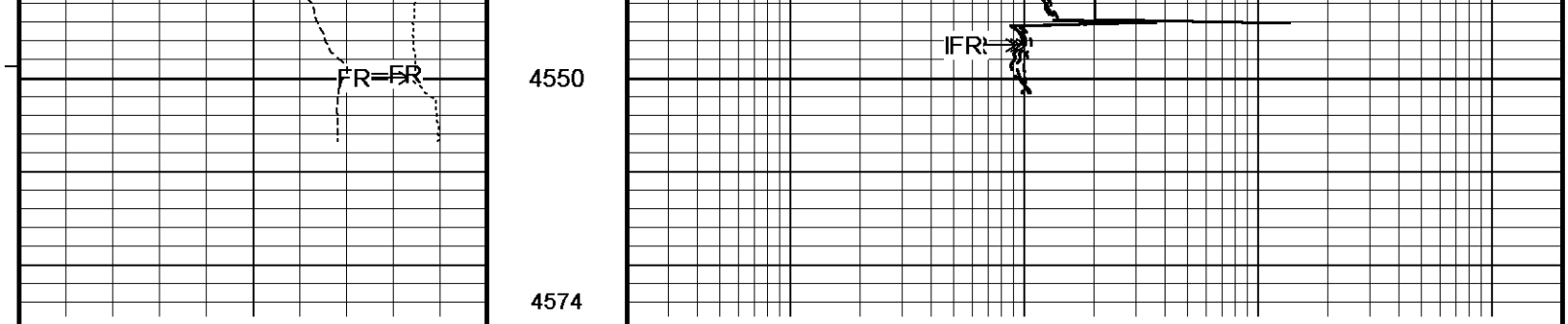
Array Ind. One Res 40
Shallow FE
FR
0
0



Depth In Feet

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150
150 225 300

Spontaneous Potential
millivolts
− → | 20 | ← +

DST Uphole Tension
pounds
5000 0

Borehole Temp in deg F

HVI every 10 cu ft

Annular Integral every 10 cu ft

Replay Scale 1:240

Shallow FE
ohm metres
0.20 1 10 100 2000

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

Array Ind. One Res 60
ohm metres
0.20 1 10 100 2000

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

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 21-AUG-2013 11:34
Filename: C:\Minimus 13.05.9583\Log\OBrien Resources llc...\OBrien Resources llc Swarts 5-1_002.dta — Recorded on 21-AUG-2013 08:19
System Versions: Logged with 13.05.9583 Plotted with 13.05.9583

5 INCH MAIN

REPEAT SECTION

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 21-AUG-2013 11:34
Filename: C:\Minimus 13.05.9583\Log\OBrien Resources llc...\OBrien Resources llc Swarts 5-1_001.dta — Recorded on 21-AUG-2013 08:04
System Versions: Logged with 13.05.9583 Plotted with 13.05.9583

Depth in Feet

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150
150 225 300

Spontaneous Potential
millivolts
− → | 20 | ← +

Borehole Temp in deg F

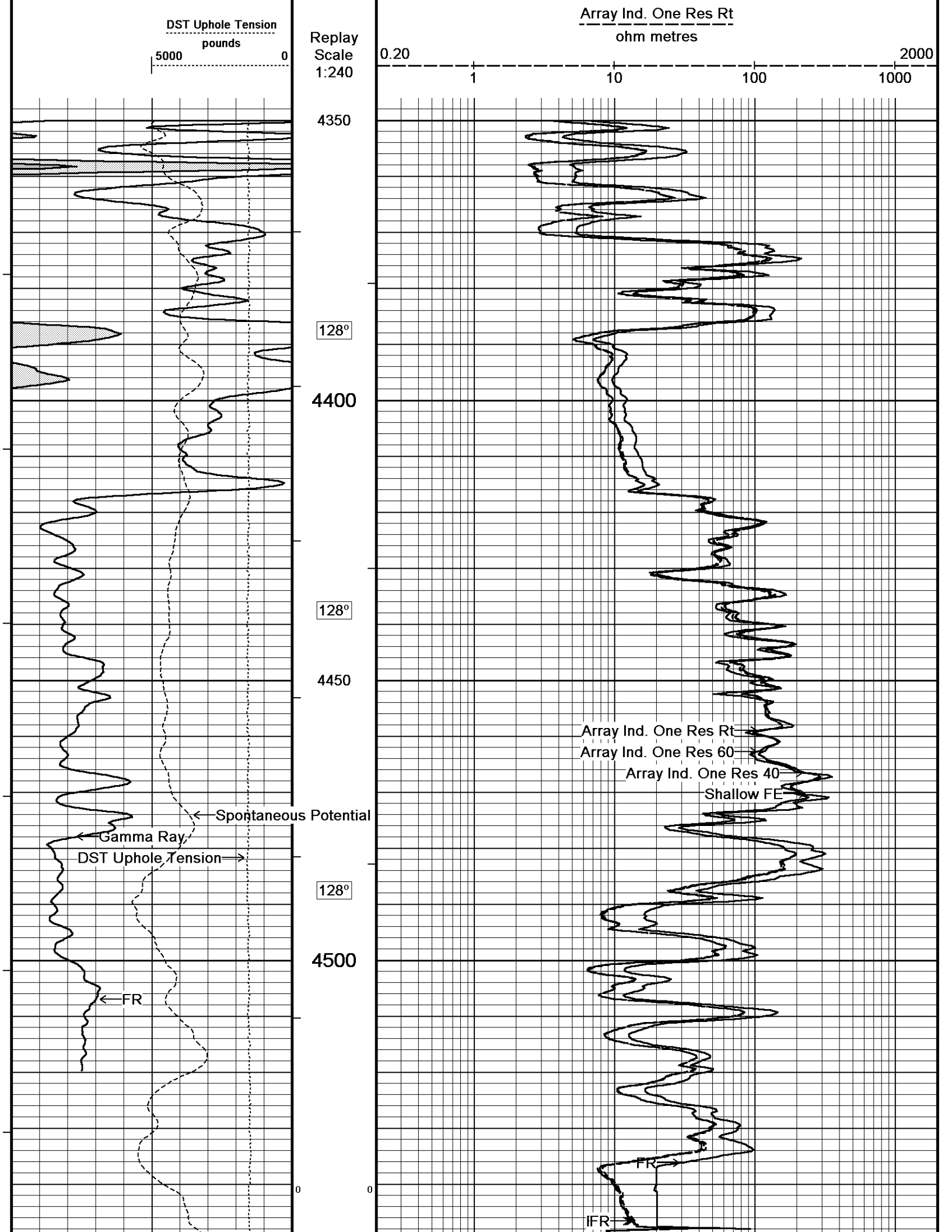
HVI every 10 cu ft

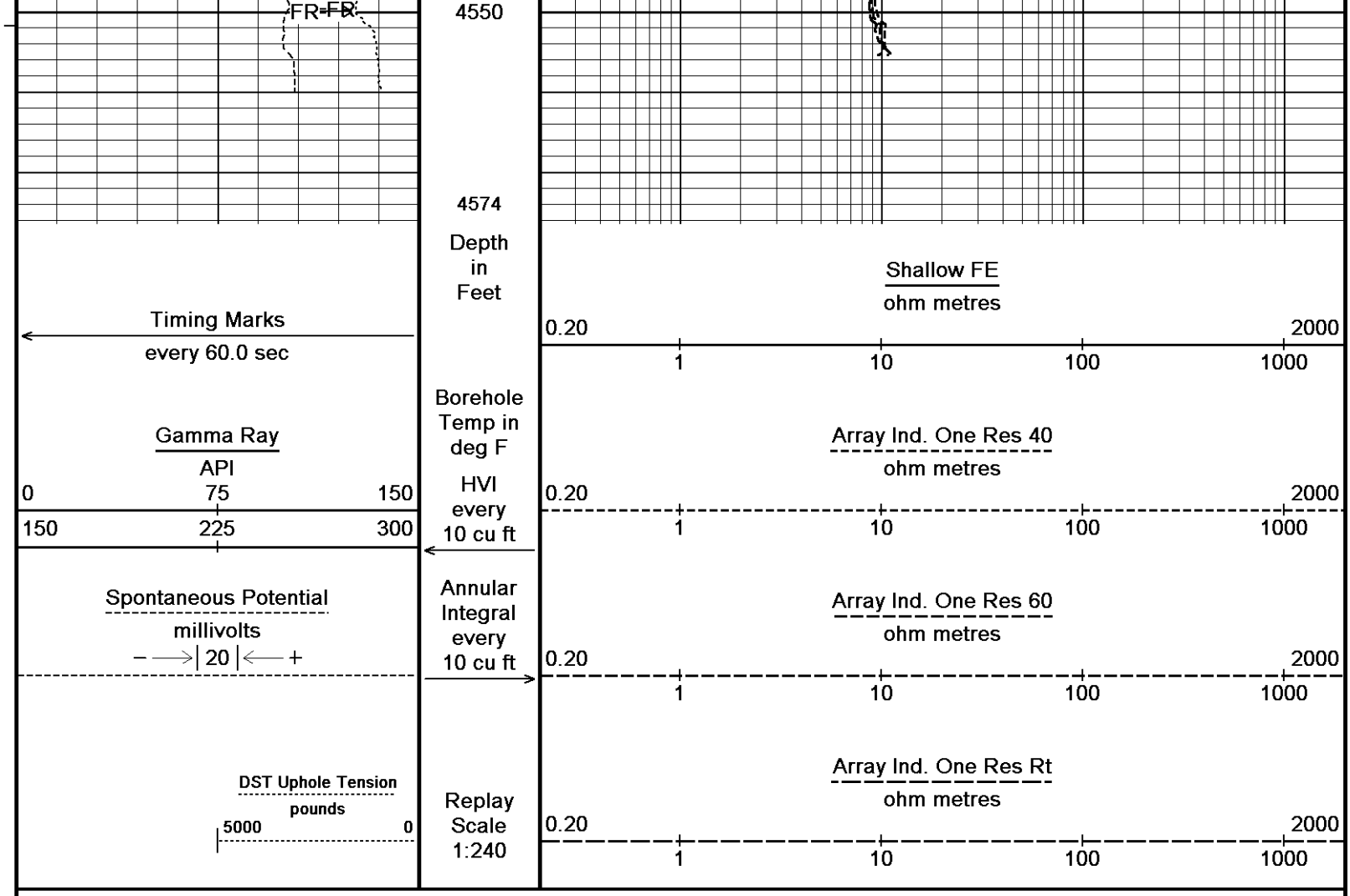
Annular Integral every 10 cu ft

Shallow FE
ohm metres
0.20 1 10 100 2000

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

Array Ind. One Res 60
ohm metres
0.20 1 10 100 2000


DST Uphole Tension
pounds
5000
0
Replay
Scale
1:240
Array Ind. One Res Rt
ohm metres
0.20
2000
1
10
100
1000
4350
128°
4400
128°
4450
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
128°
4500
FR
FR
IFR
0
0



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 21-AUG-2013 11:34

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System Versions: Logged with 13.05.9583 Plotted with 13.05.9583

REPEAT SECTION

BEFORE SURVEY CALIBRATION

C:\Minimus 13.05.9583\Log\OBrien Resources llc Swarts 5-1\OBrien Resources llc Swarts 5-1_002.dta

General Constants All 000

Last Edited on 21-AUG-2013,07:49

General Parameters		
Mud Resistivity	1.840	ohm-metres
Mud Resistivity Temperature	75.000	degrees F
Water Level	0.000	feet
Borehole Fluid Processing	Wet Hole	
Hole/Annular Volume and Differential Caliper Parameters		
HVOL Method	Single Caliper	
HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	N/A	
Annular Volume Diameter	5.500	inches
Caliper for Differential Caliper	Density Caliper	
Rwa Parameters		
Porosity used	Base Density Porosity	
Resistivity used	Array Ind. Six Res Rt	
RWA Constant A	1.000	
RWA Constant M	2.000	
SW/APOR Tool Source	0.000	

Down-hole Tension Calibration SMS 0

Field Calibration on 21-AUG-2013 07:05

Reading No	Measured	Calibrated (lbs)

1	13625.27	0.00
2	14100.61	399.00

Gamma Calibration MCG-D.K 469

Field Calibration on 20-AUG-2013 09:30

	Measured	Calibrated (API)
Background	71	48
Calibrator (Gross)	1141	773
Calibrator (Net)	1070	725

Gamma Constants MCG-D.K 469

Last Edited on 21-AUG-2013,07:50

Gamma Calibrator Number	GRC38	
Mud Density	1.09	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 18-AUG-2013,02:35

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	100.00	100.00

High Resolution Temperature Constants MCG-D.K 469

Last Edited on 18-AUG-2013,02:35

Pre-filter Length	11

SP Calibration MCG-D.K 469

Field Calibration on 18-AUG-2013,02:35

	Measured	Calibrated (mV)
Reference 1	105.8	100.0
Reference 2	-94.3	-100.0

Caliper Calibration MML-A 3

Base Calibration on 15-AUG-2013 08:50
Field Calibration on 20-AUG-2013 09:51

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	14887	5.98
2	18120	7.97
3	21042	9.86
4	25322	11.92
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
5.97	5.98

Micro Normal and Micro Inverse Calibration MML-A 3

Base Calibration on 15-AUG-2013 09:16
Field Check on 20-AUG-2013 09:19

Base Calibration

	Measured		Calibrated (ohm-m)	
Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	12.3	60.3	5.0	25.0
Micro Inverse	15.7	78.4	5.0	25.0

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	62.9	62.9
Micro Inverse	48.2	48.2

Micro Normal and Micro Inverse Constants MML-A 3

Last Edited on 20-AUG-2013,09:17

Pad Type	8-12 in Soft Rubber Inflatable 006-9011-159		
Micro Normal K Factor		1.0000	
Micro Inverse K Factor		1.0000	
Standoff Offset		N/A	inches

Neutron Calibration MDN-A.B 66

Base Calibration on 31-JUL-2013 10:25
Field Check on 20-AUG-2013 09:35

Base Calibration

	Measured	Calibrated (cps)

	Near	Far	Near	Far
	3180	99	3714	110
Ratio	32.180		33.764	

Field Calibrator at Base	Calibrated (cps)	
	1617	2323
Ratio	0.696	

Field Check	Calibrated (cps)	
	1624	2337
Ratio	0.694	

Neutron Constants MDN-A.B 66

Last Edited on 20-AUG-2013,09:30

Neutron Source Id	P0204NN	
Neutron Jig Number	5824NE	
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
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 353

Base Calibration on 15-AUG-2013 09:33
Field Check on 20-AUG-2013 09:12

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	964.1	126.8
Base Check		280.9
Field Check		281.0

FE Constants MFE-B.J 353

Last Edited on 20-AUG-2013,09:11

Running Mode	No Sleeve	
MFE K Factor	0.1268	
Caliper Source for FE correction	Density Caliper	
Caliper Value for FE correction	N/A	inches
Rm Source for FE correction	Temperature Corr	
Temp. for Rm Corr.	MCG External Temperature	
Stand-off	0.5	inches

Induction Calibration MAI-A.A 167

Base Calibration on 19-APR-2013,13:41
Field Check on 20-AUG-2013 09:11

Base Calibration

Test Loop Calibration

Channel	Measured Low	Measured High	Calibrated (mmho/m) Low	Calibrated (mmho/m) High
1	17.3	474.2	9.3	966.2
2	6.3	388.4	7.6	821.4
3	3.3	259.4	5.2	566.0
4	1.9	133.0	2.6	279.2

Array Temperature 76.8 Deg F

Channel	Base Check (mmho/m) Low	Base Check (mmho/m) High	Field Check (mmho/m) Low	Field Check (mmho/m) High
1			13.2	3838.4
2			29.6	3476.1
3			29.2	3052.2
4			19.8	2081.0

Deep	18.6	2048.3	
Medium	42.3	3990.2	
Shallow	43.0	5053.0	
Array Temperature		76.3	Deg F

Induction Constants MAI-A.A 167

Last Edited on 20-AUG-2013,09:09

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	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	

High Resolution Temperature Calibration MAI-A.A 167

Field Calibration on 18-AUG-2013,02:21

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

High Resolution Temperature Constants MAI-A.A 167

Last Edited on 18-AUG-2013,02:21

Pre-filter Length	11

Caliper Calibration MPD-B 64

Base Calibration on 15-AUG-2013 14:54
Field Calibration on 20-AUG-2013 09:48

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	16560	3.99
2	24992	5.98
3	32880	7.97
4	41184	9.86
5	50688	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
5.79	5.98

Photo Density Calibration MPD-B 64

Base Calibration on 15-AUG-2013 14:37
Field Check on 20-AUG-2013 09:16

Density Calibration

Base Calibration	Measured Near	Measured Far	Calibrated (sdu) Near	Calibrated (sdu) Far
Reference 1	60206	33560	59556	30836
Reference 2	25378	2915	24941	2541
Field Check at Base	1155.1	1345.7		
Field Check	1158.0	1349.3		

PE Calibration

Base Calibration	WS	Measured WH	Measured Ratio	Calibrated Ratio
Background	211	1029		
Reference 1	22957	60005	0.386	0.371
Reference 2	6904	25238	0.276	0.272
Field Check at Base	211.2	1028.9		
Field Check	209.8	1032.0		

Density Constants MPD-B 64

Last Edited on 21-AUG-2013,07:49

Density Source Id	18235B	
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 (m)
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

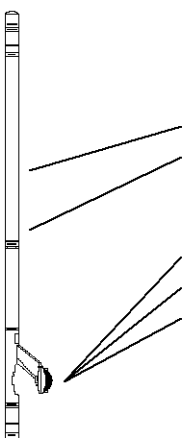
DOWNHOLE EQUIPMENT

C:\Minimus 13.05.9583\Log\OBrien Resources llc Swarts 5-1\OBrien Resources llc Swarts 5-1_002.dta

3/8" Triple Cone Cable Head (MCB C A)
MCB-C.A 5 LG: 1.58 ft WT: 15.4 lb OD: 2.24 in

Compact Comms Gamma
MCG-D.K 469 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Micro-log
MML-A 3 LG: 7.97 ft WT: 81.6 lb OD: 2.24 in



42.87 ft GRGC - Gamma Ray
39.96 ft CGXT - MCG External Temperature
33.24 ft MINV - Micro-inverse
33.24 ft MNRL - Micro-normal
34.24 ft MLTC - MML Caliper

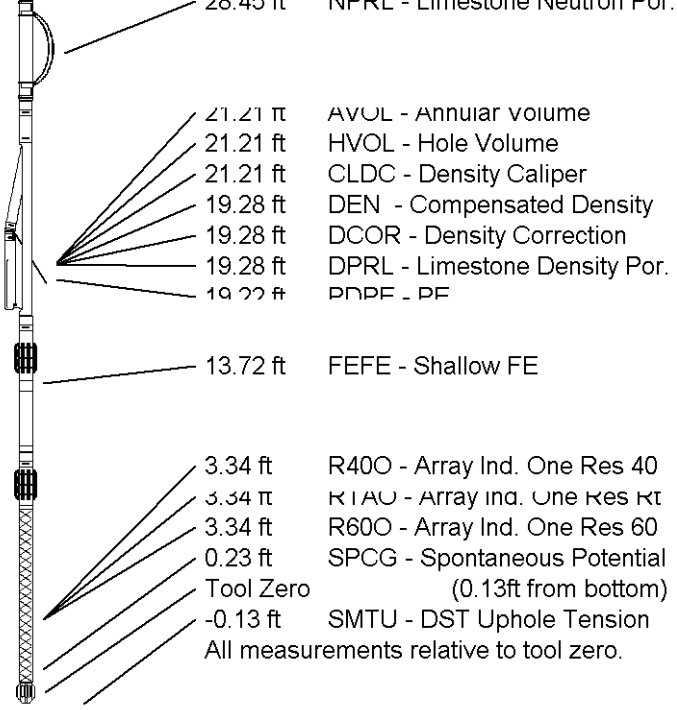
Compact Neutron
MDN-A.B 66 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

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

Compact Focussed Electric
MFE-B.J 353 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Induction
MAI-A.A 167 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 49.73 ft Weight: 399.0 lb



COMPANY	O'BRIEN RESOURCES, LLC.
WELL	SWART 5 #1
FIELD	WILDCAT
PROVINCE/COUNTY	GOVE
COUNTRY/STATE	UNITED STATES / KANSAS

Elevation Kelly Bushing	2714.00	feet	First Reading	4547.00	feet
Elevation Drill Floor	2712.00	feet	Depth Driller	4550.00	feet
Elevation Ground Level	2704.00	feet	Depth Logger	4550.00	feet

Weatherford®

ARRAY INDUCTION
SHALLOW FOCUSED
ELECTRIC LOG

Weatherford

COMPANY O'BRIEN RESOURCES, LLC.
WELL SWART 5 #1
FIELD WILDCAT
PROVINCE/COUNTY GOVE
COUNTRY/STATE UNITED STATES / KANSAS
LOCATION 2292' FNL & 87' FEL
SEC 5 TWP 14S RGE 3W
API Number 15-063-22118
Permit Number
Other Services MPD/MDN MINL
Permanent Datum G.L. Elevation 2704 feet
Log Measured From KB
Drilling Measured From K.B. @ 10 FEET
Elevations: KB 2714.00 DF 2712.00 GL 2704.00 feet

ARRAY INDUCTION
SHALLOW FOCUSED
ELECTRIC LOG

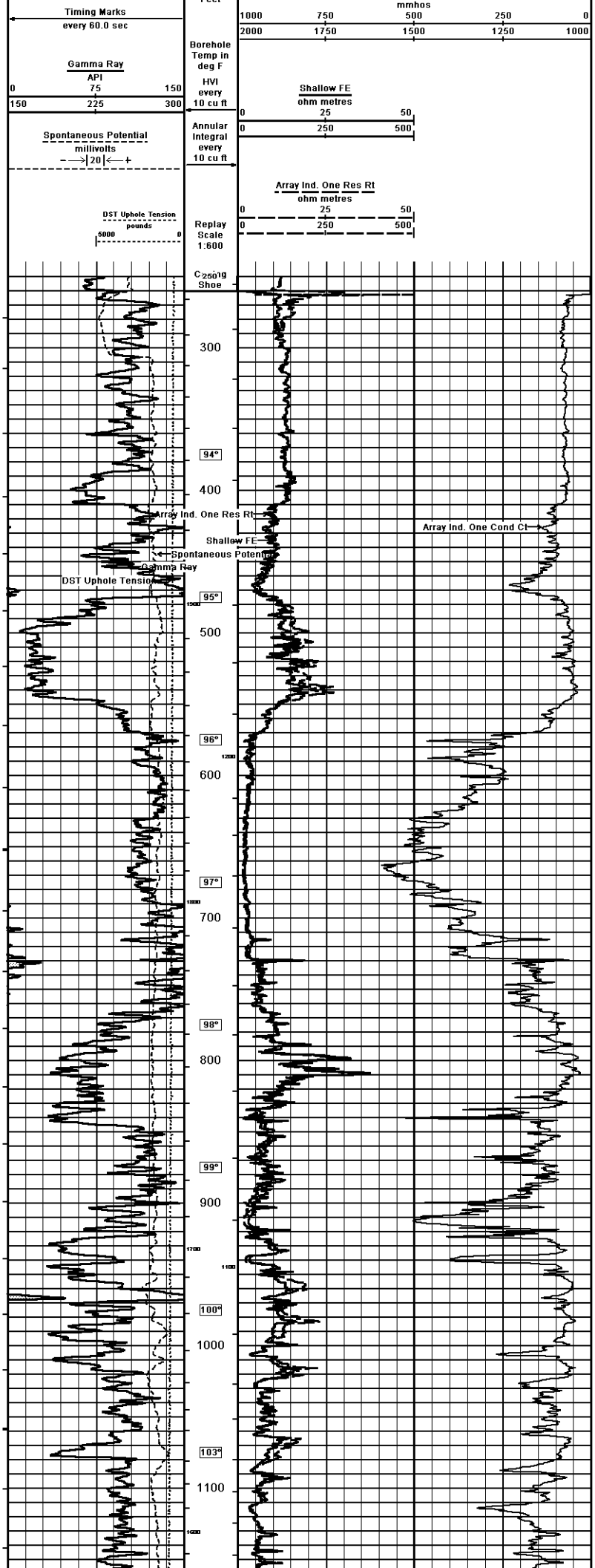
Date	21-AUG-2013								
Run Number	ONE								
Service Order	3541071								
Depth Driller	4550.00	feet							
Depth Logger	4550.00	feet							
First Reading	4547.00	feet							
Last Reading	3550.00	feet							
Casing Driller	260.00	feet							
Casing Logger	260.00	feet							
Bit Size	7.880	inches							
Hole Fluid Type	CHEMICAL								
Density / Viscosity	9.15	lb/USg	45.00	CP					
PH / Fluid Loss	10.50		8.00	ml/30Min					
Sample Source	MUDPIT								
Rm @ Measured Temp	1.84 @ 75.0	ohm-m							
Rmf @ Measured Temp	1.47 @ 75.0	ohm-m							
Rmc @ Measured Temp	2.21 @ 75.0	ohm-m							
Source Rmf / Rmc	CALC		CALC						
Rm @ BHT	1.08 @ 28.0	ohm-m							
Time Since Circulation	5 HOURS								
Max Recorded Temp	128.00	deg F							
Equipment / Base	13096		LIB						
Recorded By	W. STAMBAUGH								
Witnessed By	SEAN DEERNHAN								
JOB#	LB13-229								

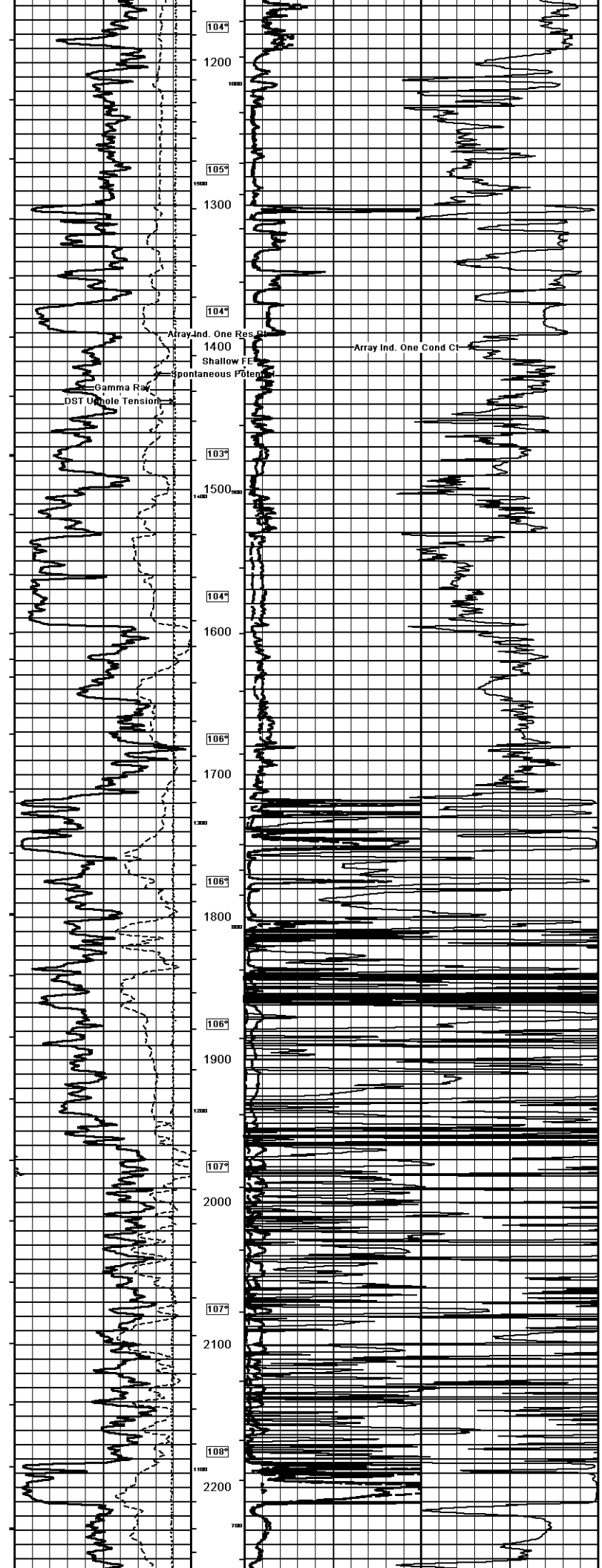
1 INCH MAIN

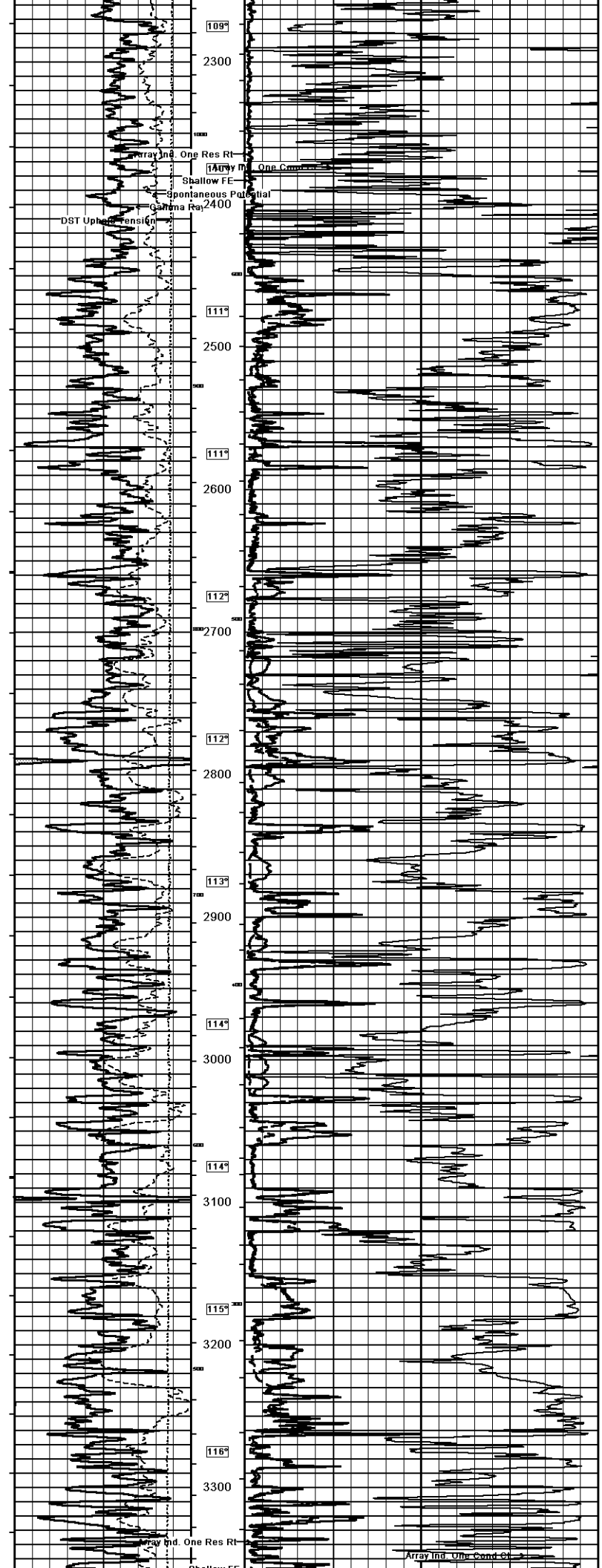
Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 21-AUG-2013 11:34
Filename: C:\Minimus 13.05.9583\Log\OBrien Resources llc S...\OBrien Resources llc Swarts 5-1_002.dta
Recorded on 21-AUG-2013 08:19
System Versions: Logged with 13.05.9583 Plotted with 13.05.9583

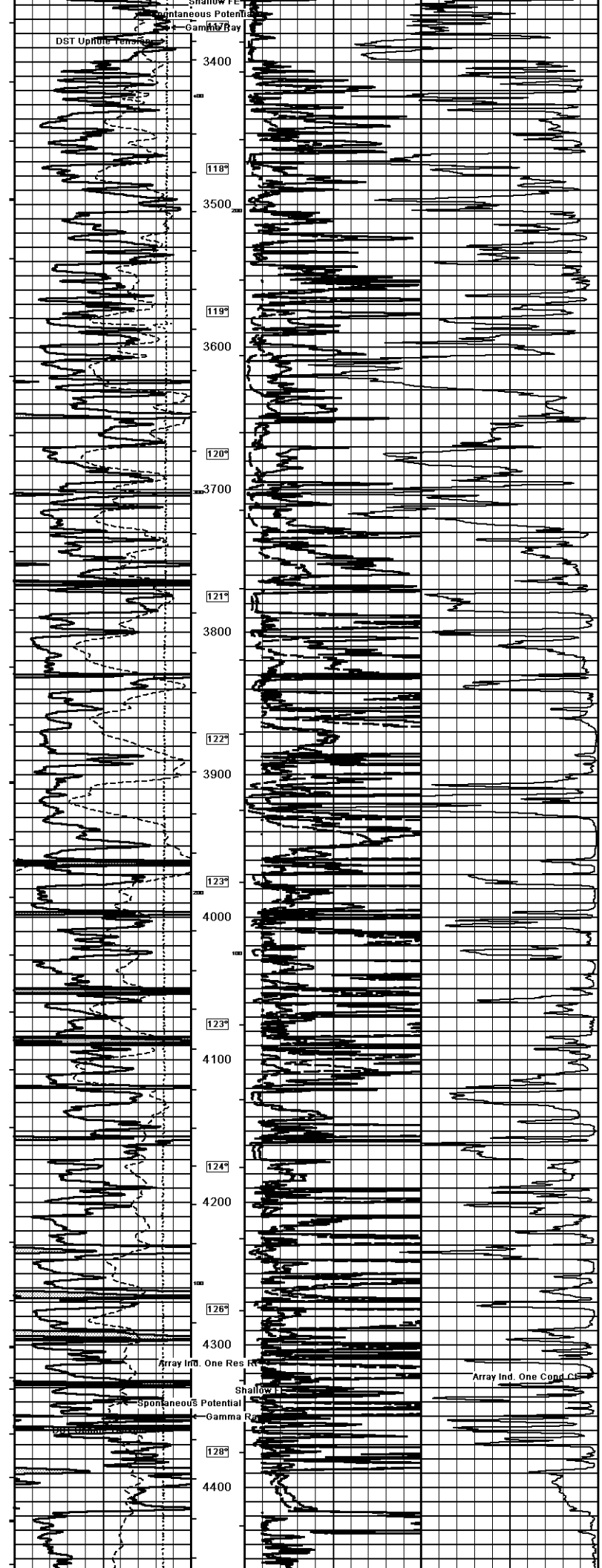
Depth In Feet

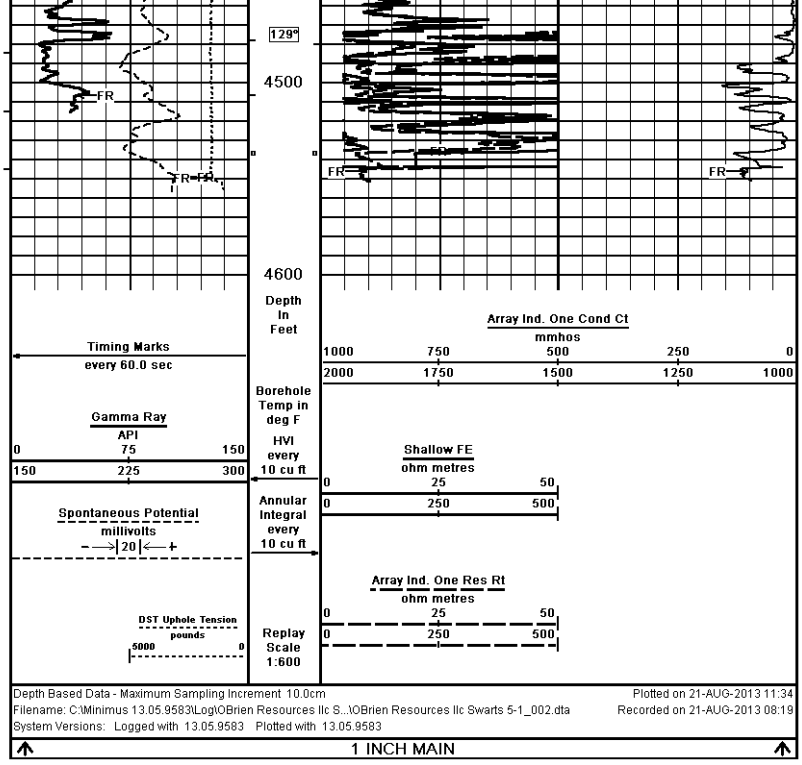
Array Ind. One Cond Ct


Timing Marks
every 60.0 sec
Gamma Ray
API
0
75
150
150
225
300
Spontaneous Potential
millivolts
20
DST Uphole Tension
pounds
5000
0
Feet
mmhos
1000
750
500
250
0
2000
1750
1500
1250
1000
Borehole Temp in deg F
HVI every 10 cu ft
Shallow FE
ohm metres
0
25
50
0
250
500
Annular Integral every 10 cu ft
Array Ind. One Res Rt
ohm metres
0
25
50
0
250
500
Replay Scale 1:600
C250 1g Shoe
300
94°
400
Array Ind. One Res Rt
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
95°
500
96°
600
Array Ind. One Cond Ct
97°
700
98°
800
99°
900
100°
1000
103°
1100


104"
1200
105"
1300
104"
Array Ind. One Res Rt
1400
Shallow FE
Spontaneous Potent
Gamma Ray
DST Uphole Tension
Array Ind. One Cond Ct
103"
1500
104"
1600
106"
1700
106"
1800
106"
1900
107"
2000
107"
2100
108"
2200


109"
2300
Array Ind. One Res Rt
Array Ind. One Cond Ct
Shallow FE
Spontaneous Potential
Gamma Ray
2400
DST Uphole Tension
111"
2500
111"
2600
112"
2700
112"
2800
113"
2900
114"
3000
114"
3100
115"
3200
116"
3300
Array Ind. One Res Rt
Array Ind. One Cond Ct


Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
3400
118"
3500
119"
3600
120"
3700
121"
3800
122"
3900
123"
4000
123"
4100
124"
4200
126"
4300
Array Ind. One Res R
Shallow F
Spontaneous Potential
Gamma Ra
Array Ind. One Cond Ci
128"
4400



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 21-AUG-2013 11:34

Filename: C:\Minimus 13.05.9583\Log\OBrien Resources llc S...\OBrien Resources llc Swarts 5-1_002.dta — Recorded on 21-AUG-2013 08:19

System Versions: Logged with 13.05.9583 Plotted with 13.05.9583

1 INCH MAIN

COMPANY	O'BRIEN RESOURCES, LLC.
WELL	SWART 5 #1
FIELD	WILDCAT
PROVINCE/COUNTY	GOVE
COUNTRY/STATE	UNITED STATES / KANSAS

Elevation Kelly Bushing	2714.00	feet	First Reading	4547.00	feet
Elevation Drill Floor	2712.00	feet	Depth Driller	4550.00	feet
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Weatherford

ARRAY INDUCTION
SHALLOW FOCUSED
ELECTRIC LOG