Weatherford®

ARRAY INDUCTION SHALLOW FOCUSSED ELECTRIC LOG

COMPANY	GRAND MESA OPERATING COMPANY
WELL	E & E # 1-34
FIELD	WILDCAT
PROVINCE/COUNTY	LOGAN
COUNTRY/STATE	U.S.A. / KANSAS
LOCATION	351' FSL & 739' FEL NE SW SE SE

SEC	TWP	RGE	Other Services
34	13S	32W	MPD/MDN MML

API Number 15-109-21027
Permit Number

Permanent Datum G.L., Elevation 2874 feet
Log Measured From KB
Drilling Measured From K.B. @ 5 FEET

Elevations:	feet
KB	2879.00
DF	2877.00
GL	2874.00

Date	12-AUG-2011			
Run Number	ONE			
Depth Driller	4650.00	feet		
Depth Logger	4651.00	feet		
First Reading	4648.00	feet		
Last Reading	219.00	feet		
Casing Driller	222.00	feet		
Casing Logger	219.00	feet		
Bit Size	7.875	inches		
Hole Fluid Type	CHEMICAL			
Density / Viscosity	9.10 lb/USg	56.00 CP		
PH / Fluid Loss	10.50	8.00 ml/30Min		
Sample Source	FLOWLINE			
Rm @ Measured Temp	1.05 @ 97.0	ohm-m		
Rmf @ Measured Temp	0.84 @ 97.0	ohm-m		
Rmc @ Measured Temp	1.26 @ 97.0	ohm-m		
Source Rmf / Rmc	CALC	CALC		
Rm @ BHT	0.86 @119.0	ohm-m		
Time Since Circulation	4 HOURS			
Max Recorded Temp	119.00	deg F		
Equipment Name	COMPACT			
Equipment / Base	13025	LIB		
Recorded By	A. GIAMBALVO		W. STAMBAUGH	
Witnessed By	KENT MATSON			
S.O. / JOB #	3529203		LB11-196	

BOREHOLE RECORD

Last Edited: 12-AUG-2011 17:59

Bit Size inches	Depth From feet	Depth To feet
7.875	219.00	4651.00

CASING RECORD

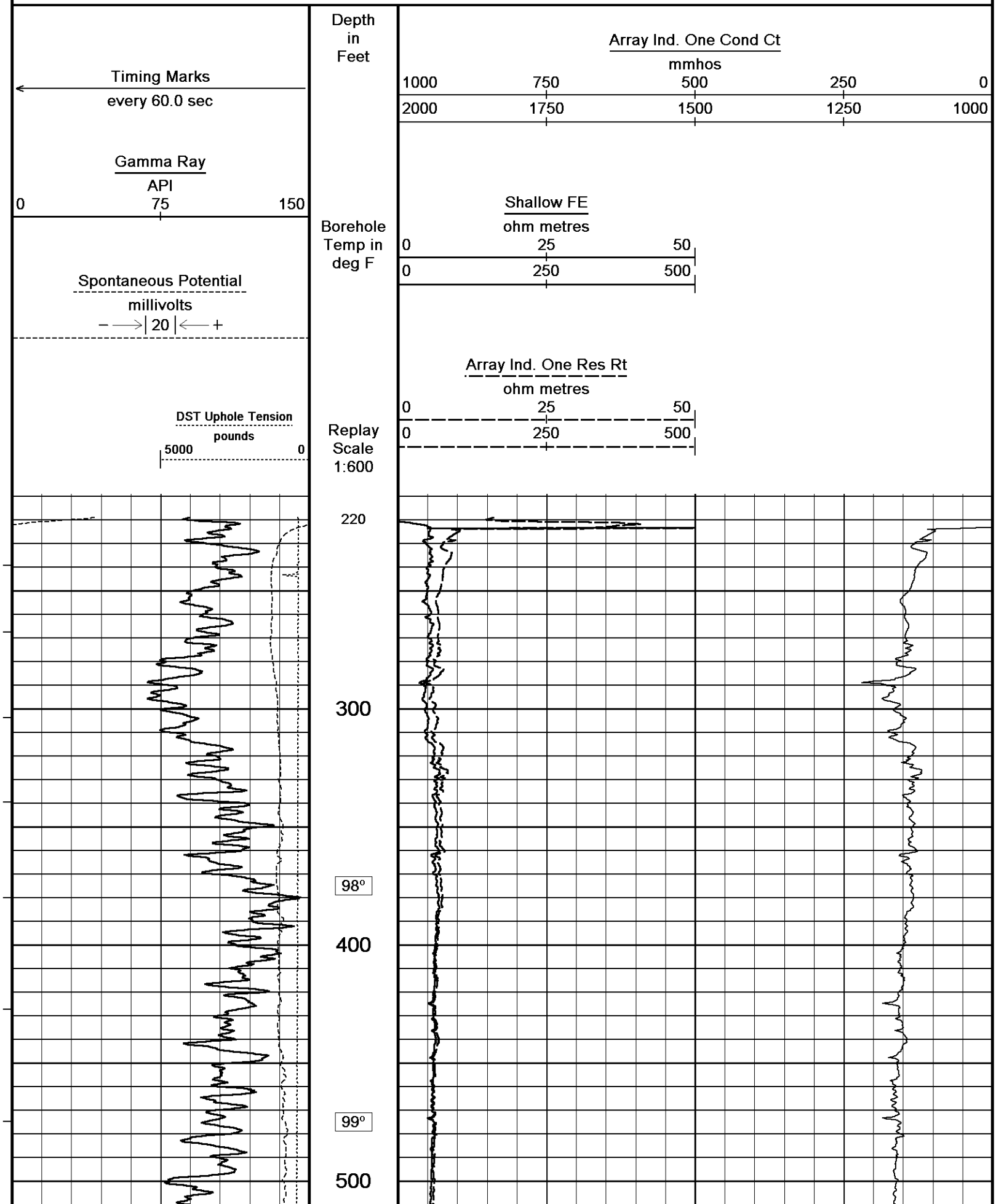
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	219.00	24.00

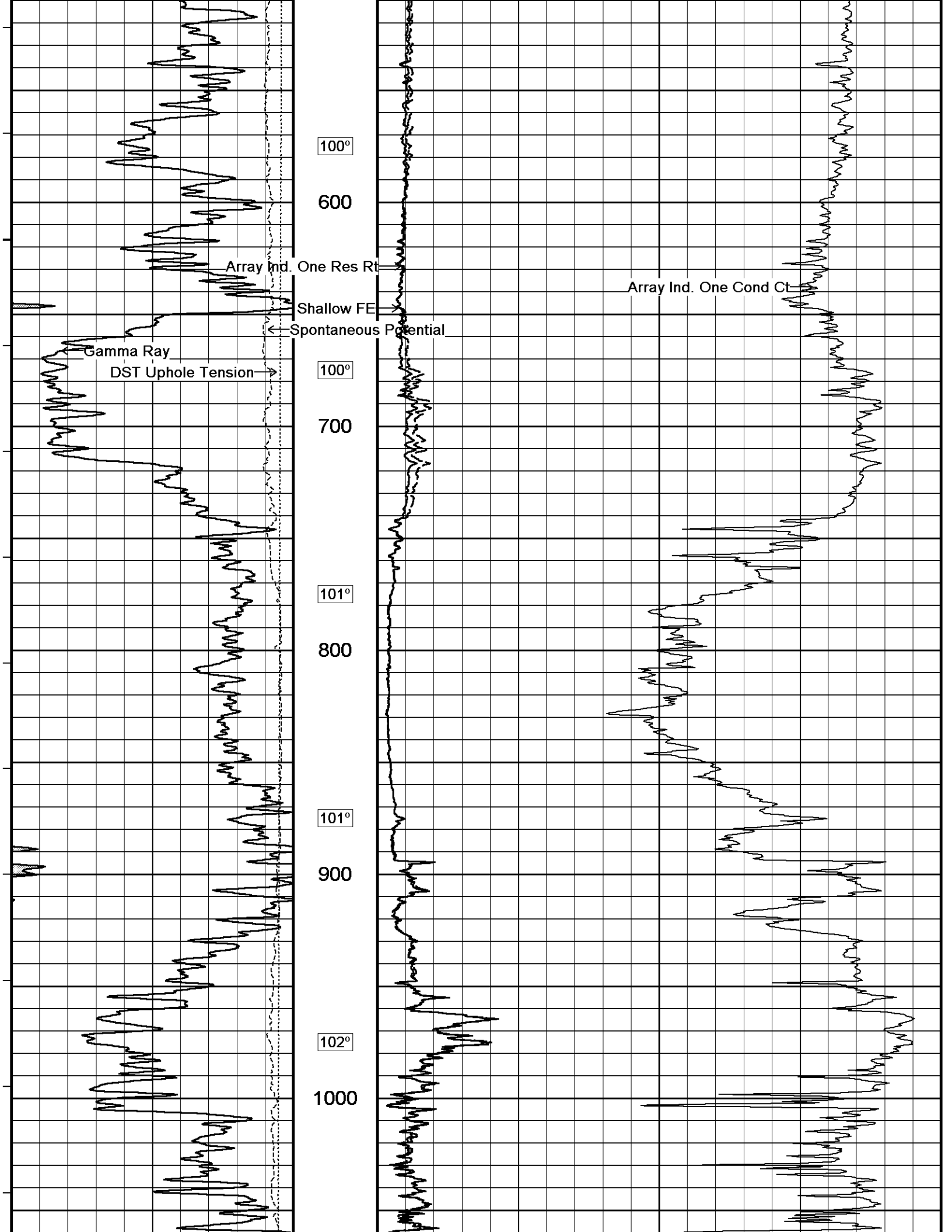
REMARKS

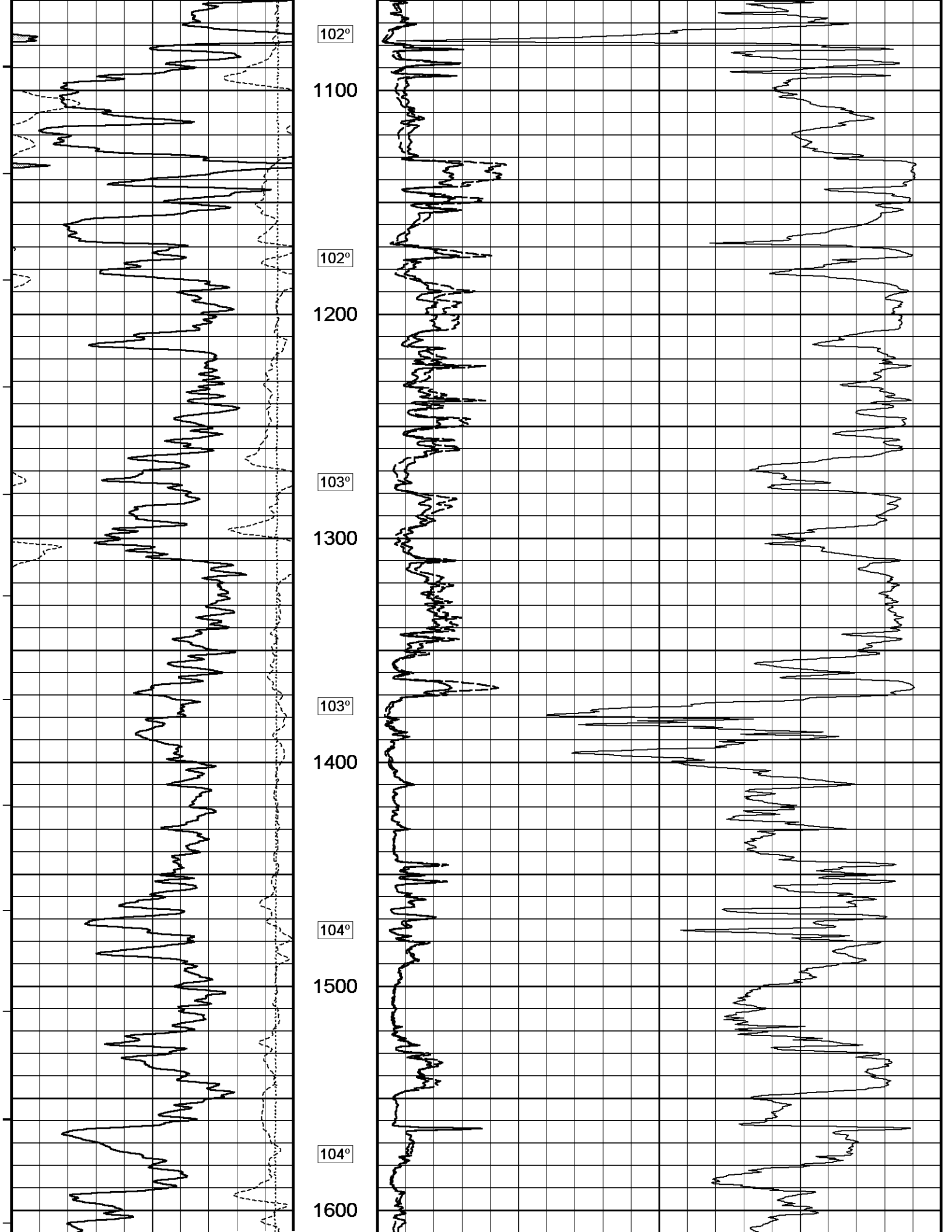
Tools Used: MPD, MCG, MDN, MML, MFE, MAI.
Hardware: MPD: 8 inch profile plate used. MDN: Dual Bowspring used.
2.71 G/CC Limestone density matrix used to calculate porosity.
Borehole rugosity, tight pulls, and washouts will affect data quality.
All intervals logged and scaled per customer's request.
Annular volume with 5.5 inch production casing = 192 cu. ft.
Service order #3529203
Rig: Murtin # 24
Engineer: A. Giambalvo, W. Stambaugh
Operator(s): K. Rinehart

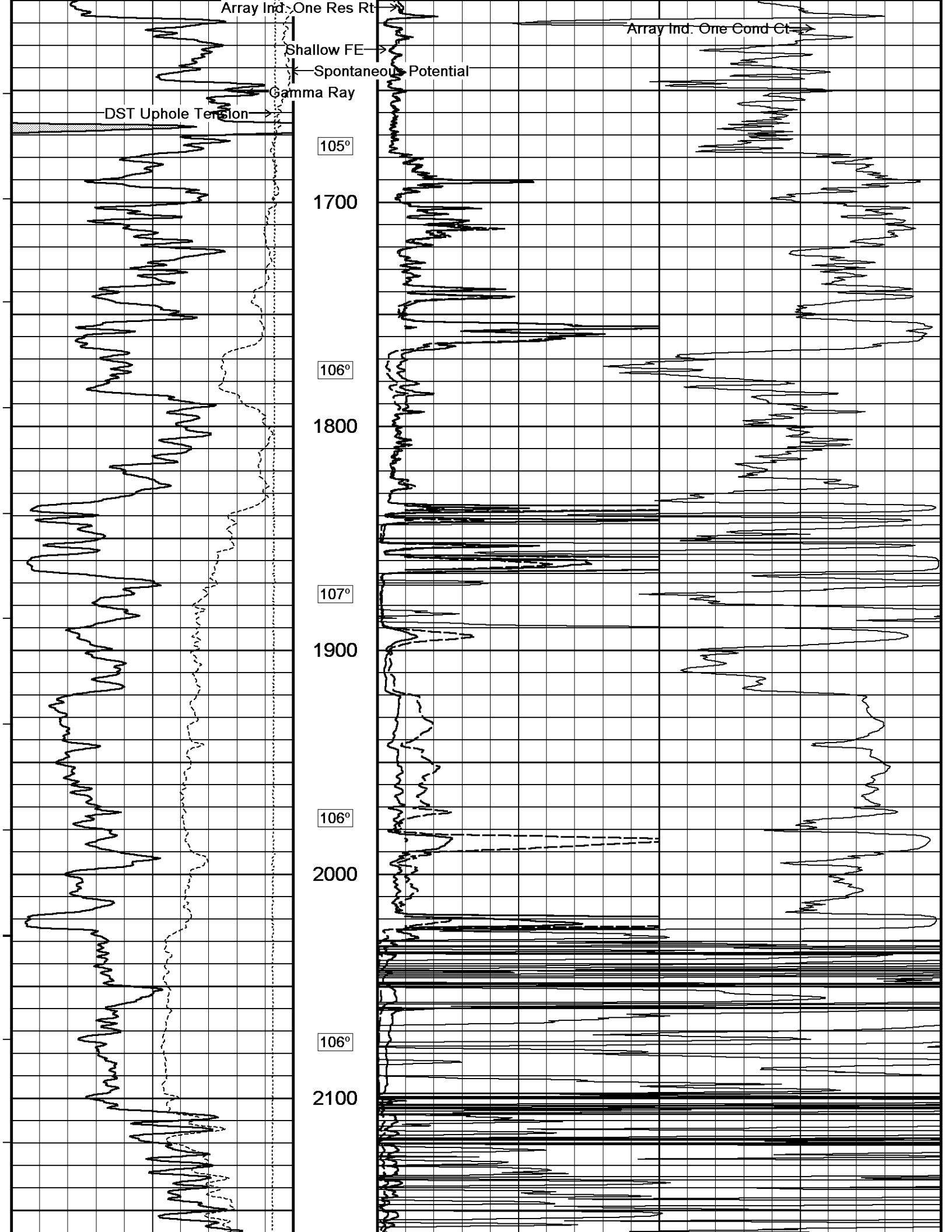
2 INCH MAIN

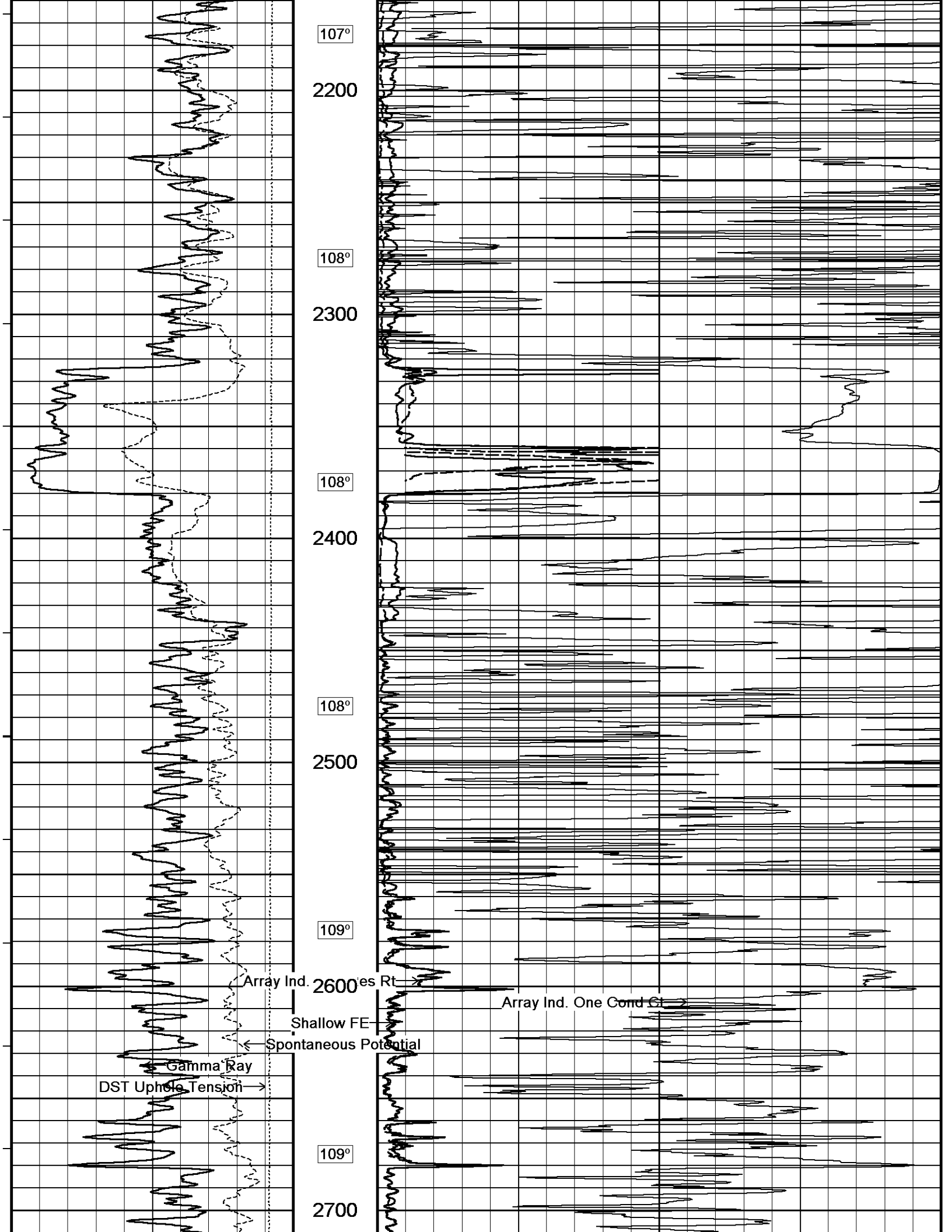
Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 31-AUG-2011 09:37
Filename: C:\DOCUME~1\sysadmin\LOCALS~1\Temp\Weatherfor...\Grand Mesa E & E # 1-34_003.dta
Recorded on 12-AUG-2011 18:06
System Versions: Logged with 11.03.4044 Plotted with 12.01.3513

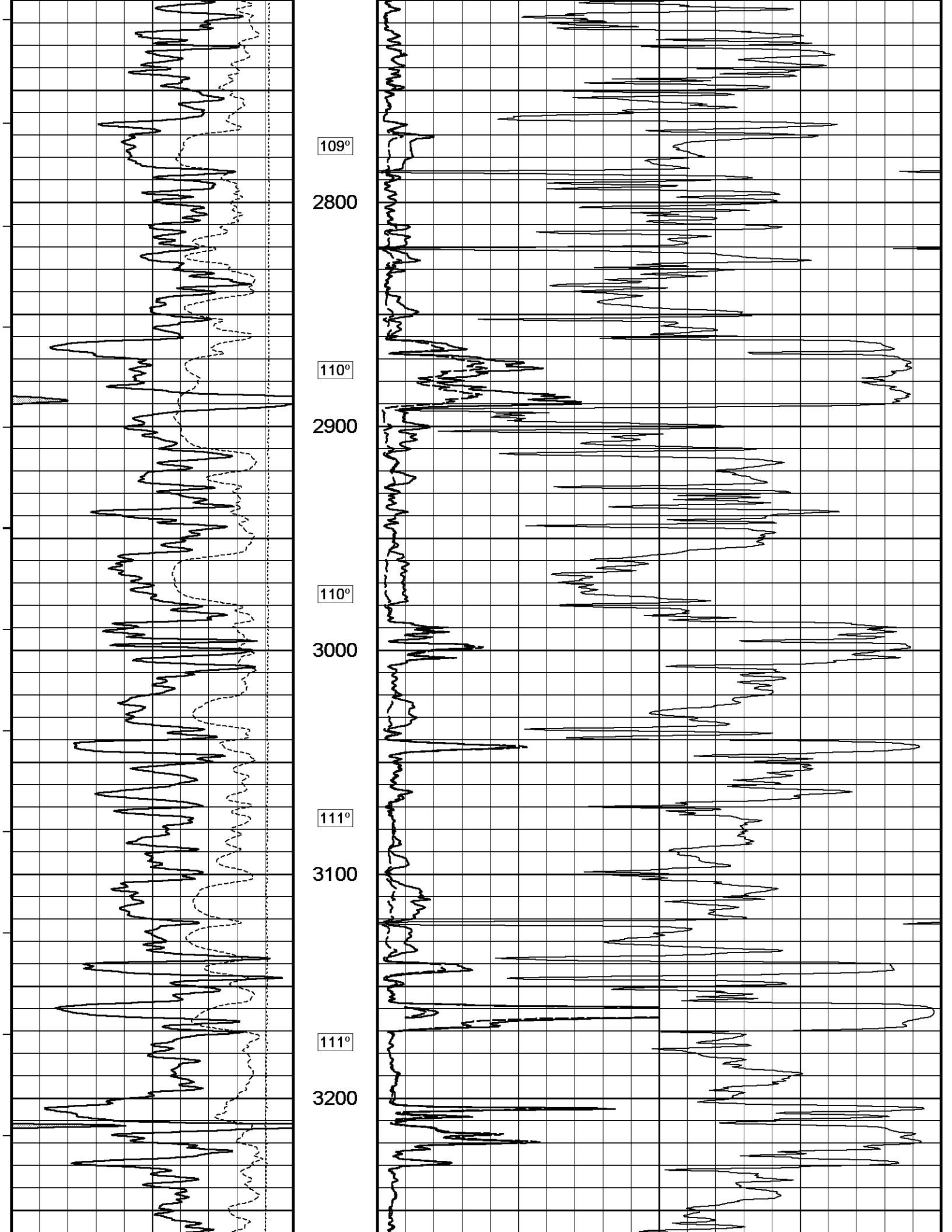



100°
600
Array Ind. One Res Rt
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
100°
700
101°
800
101°
900
102°
1000
Array Ind. One Cond Ct


102°
1100
102°
1200
103°
1300
103°
1400
104°
1500
104°
1600


Array Ind. One Res Rt
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
Array Ind. One Cond Ct
105°
1700
106°
1800
107°
1900
106°
2000
106°
2100


107°
2200
108°
2300
108°
2400
108°
2500
109°
Array Ind.
es Rt
2600
Array Ind. One Cond Cl
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
109°
2700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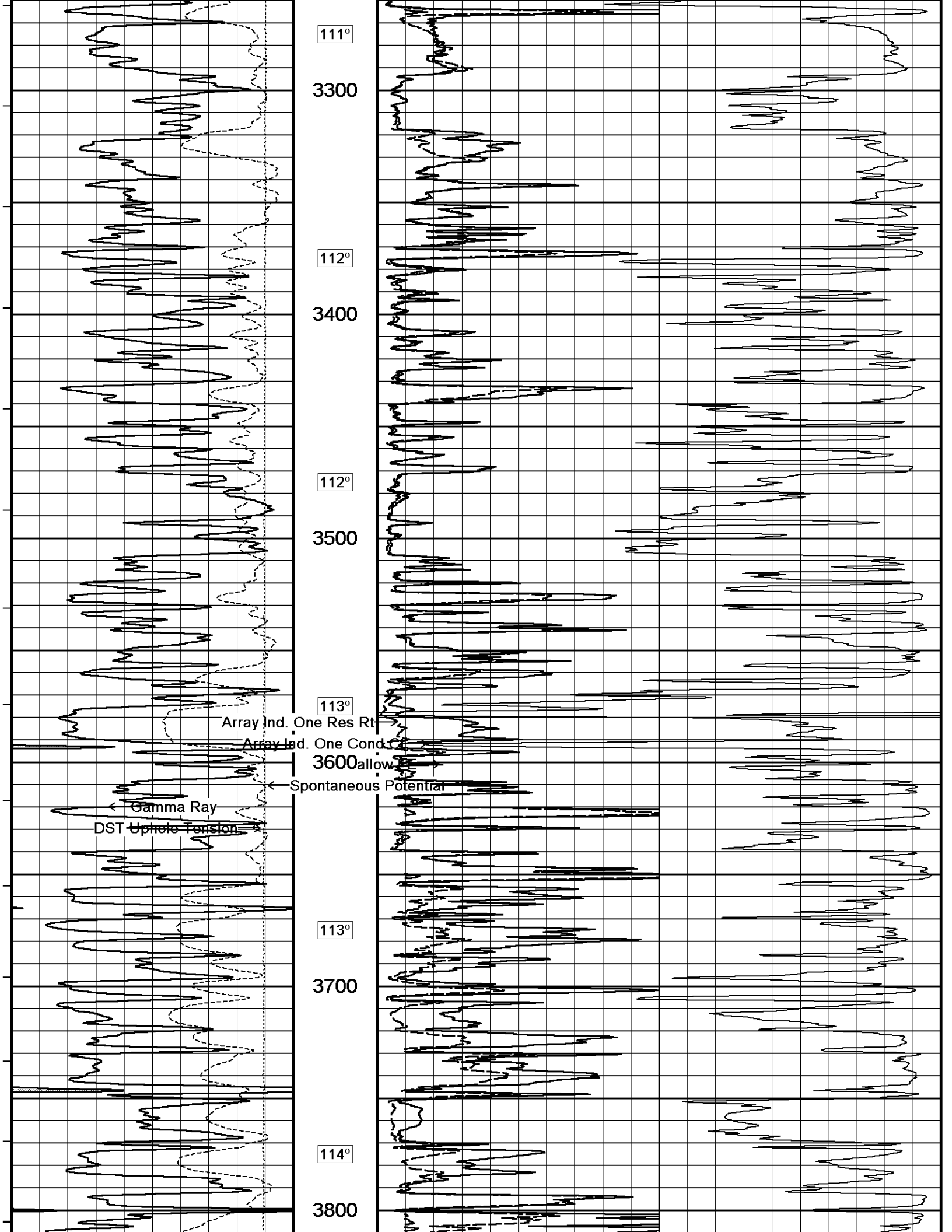
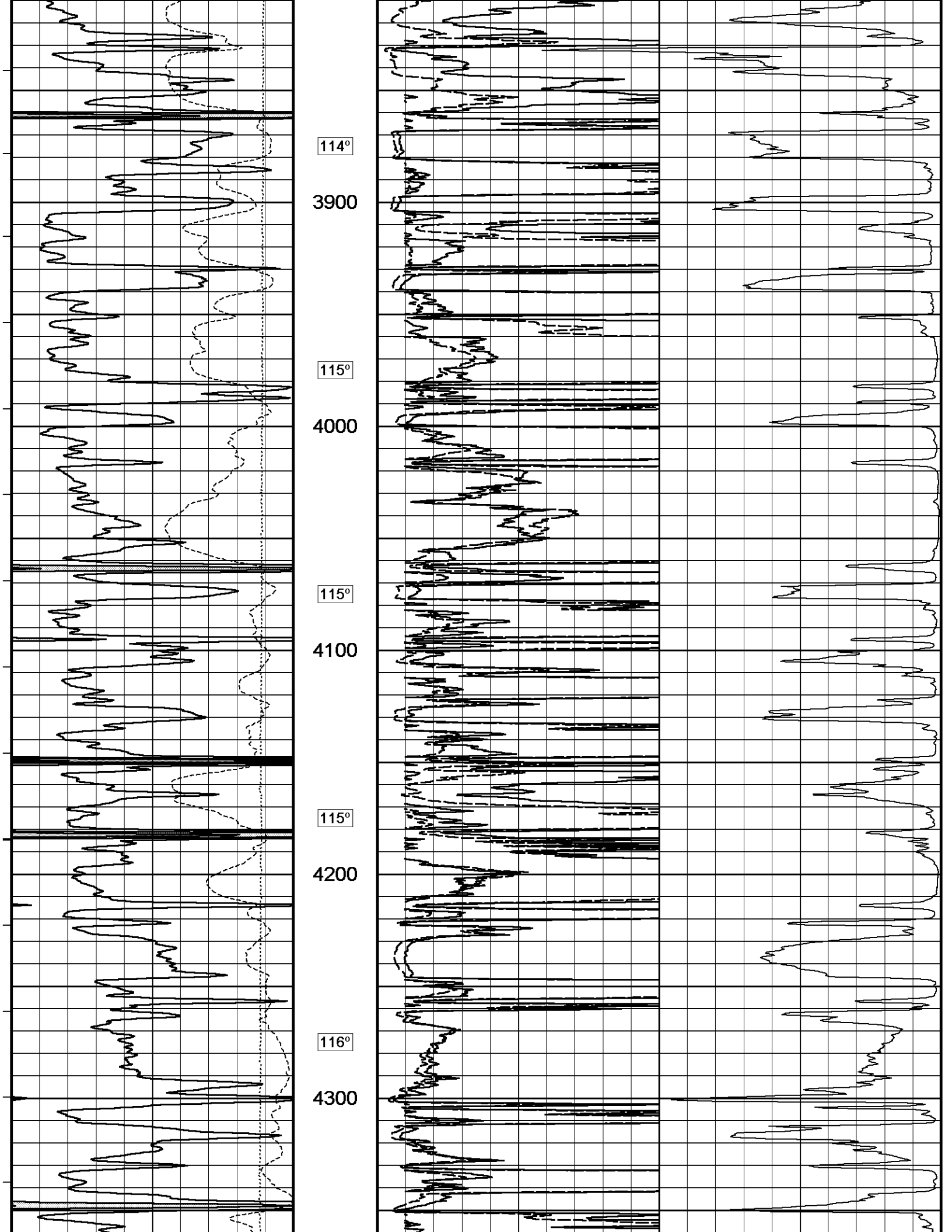
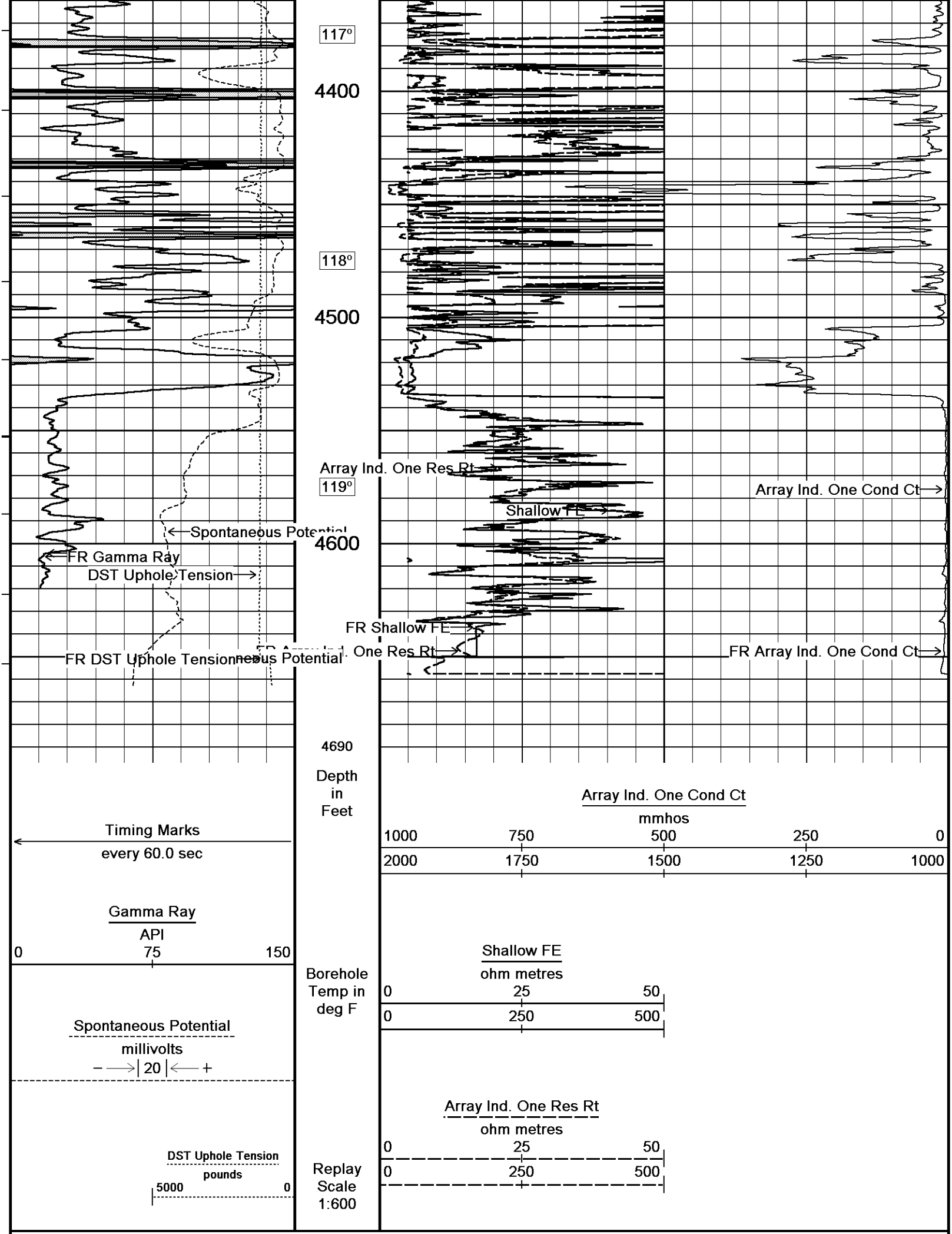
2800
110°
2900
110°
3000
111°
3100
111°
3200


111°
3300
112°
3400
112°
3500
113°
Array Ind. One Res Rt
Array Ind. One Cond Ct
3600
allow
Spontaneous Potential
Gamma Ray
DST ~~Uphole~~ Tension
113°
3700
114°
3800


114°
3900
115°
4000
115°
4100
115°
4200
116°
4300



Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 31-AUG-2011 09:37

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 31-AUG-2011 09:37
Filename: C:\DOCUME~1\sysadmin\LOCALS~1\Temp\Weatherfor...\Grand Mesa E & E # 1-34_003.dta — Recorded on 12-AUG-2011 18:06
System Versions: Logged with 11.03.4044 Plotted with 12.01.3513

2 INCH MAIN

5 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 31-AUG-2011 09:37
Filename: C:\DOCUME~1\sysadmin\LOCALS~1\Temp\Weatherfor...\Grand Mesa E & E # 1-34_003.dta — Recorded on 12-AUG-2011 18:06
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

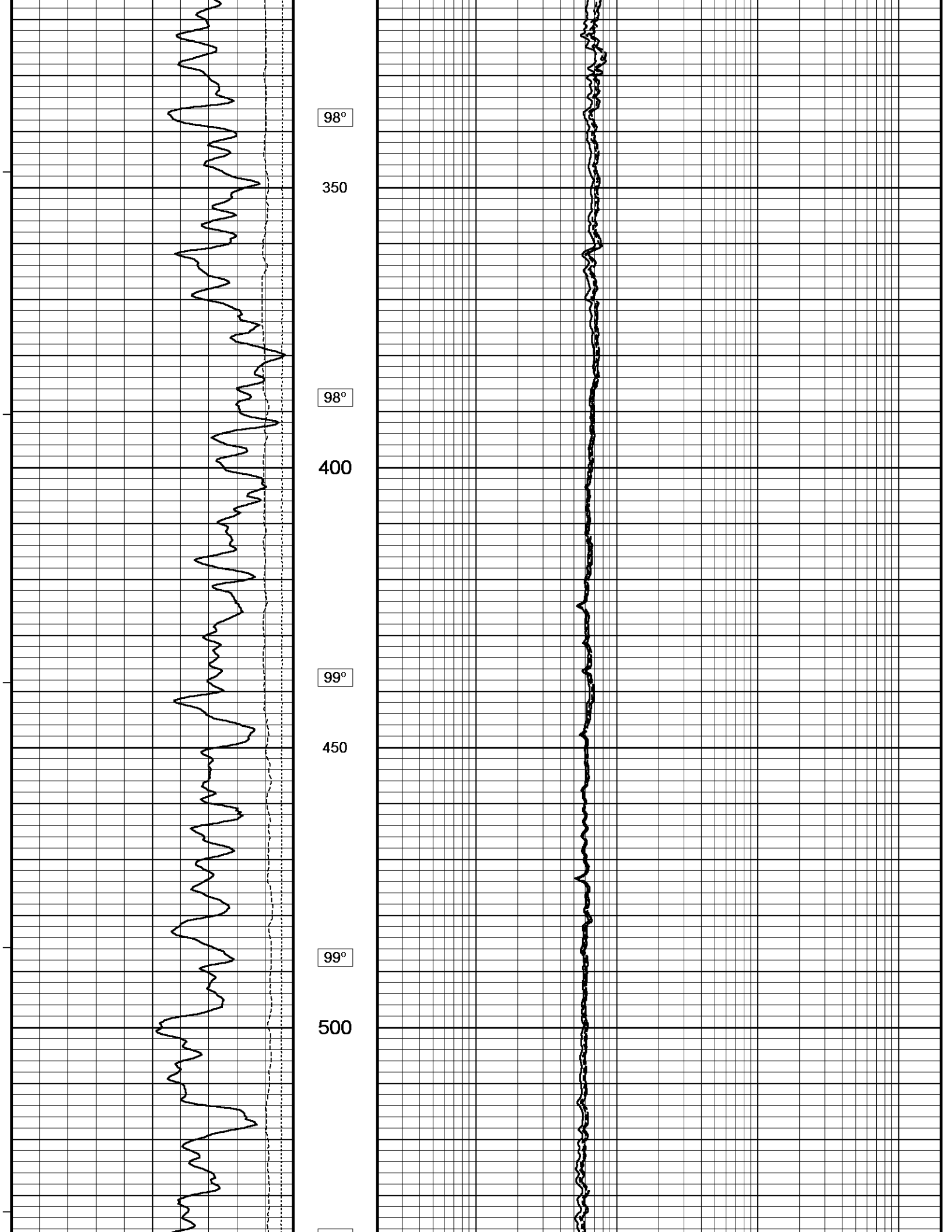
218

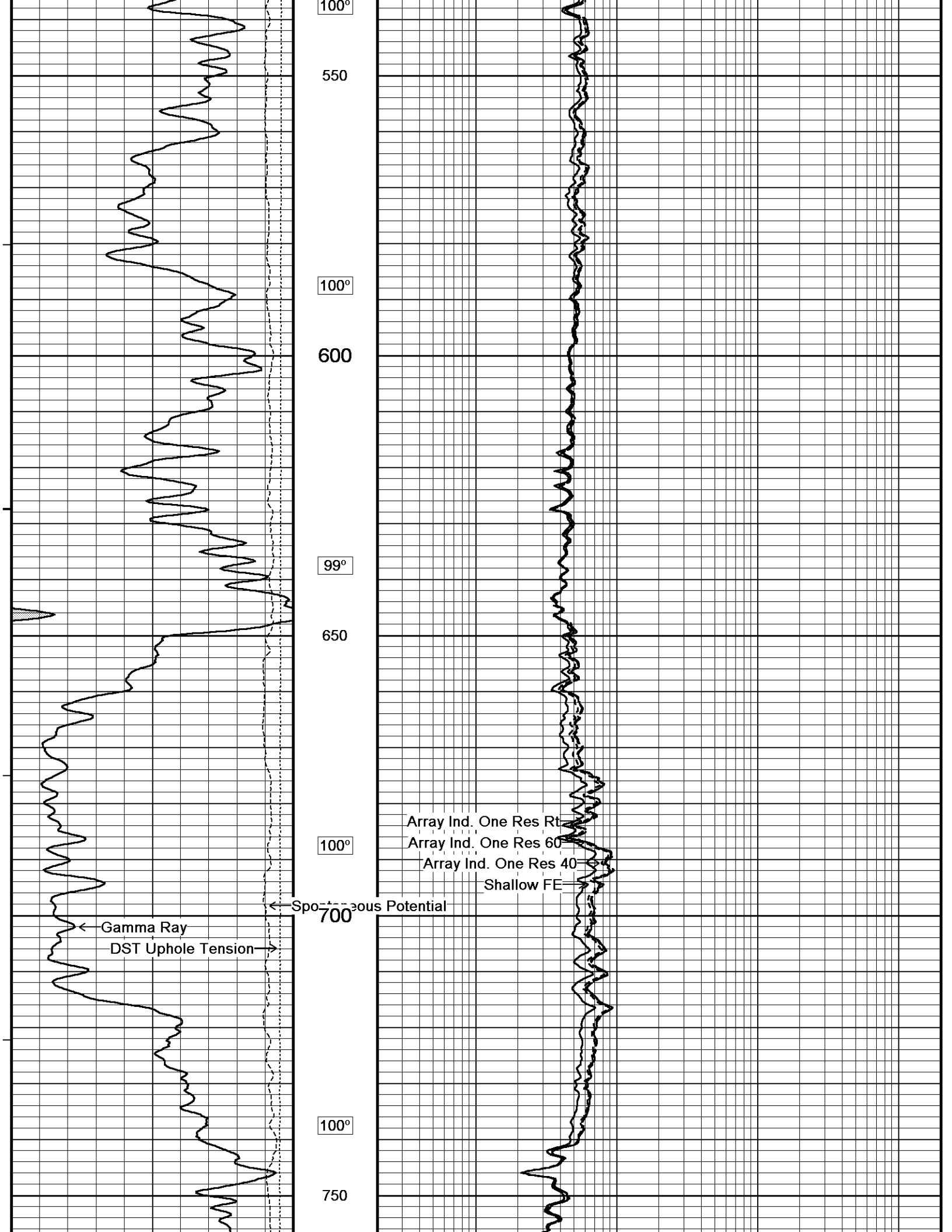
250

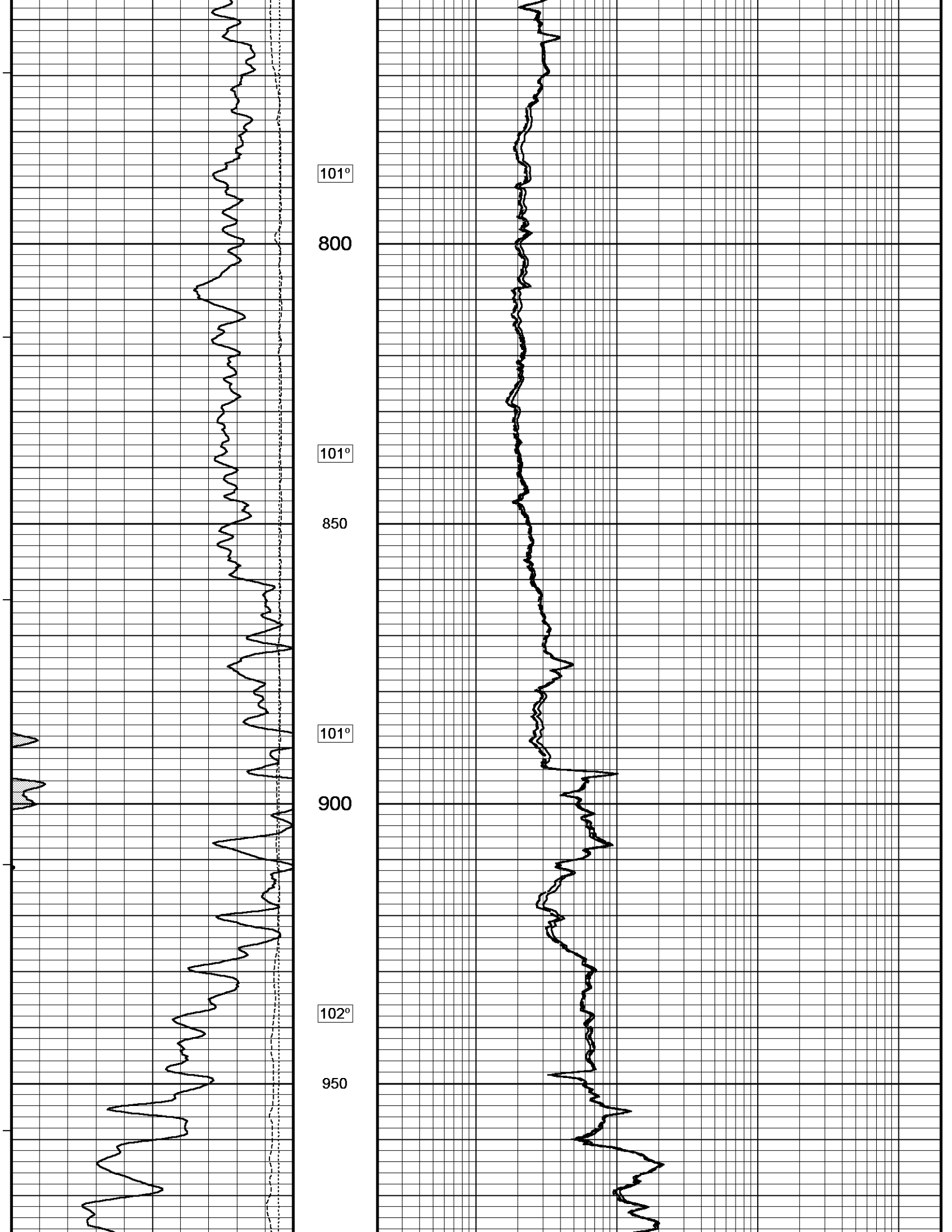
98°

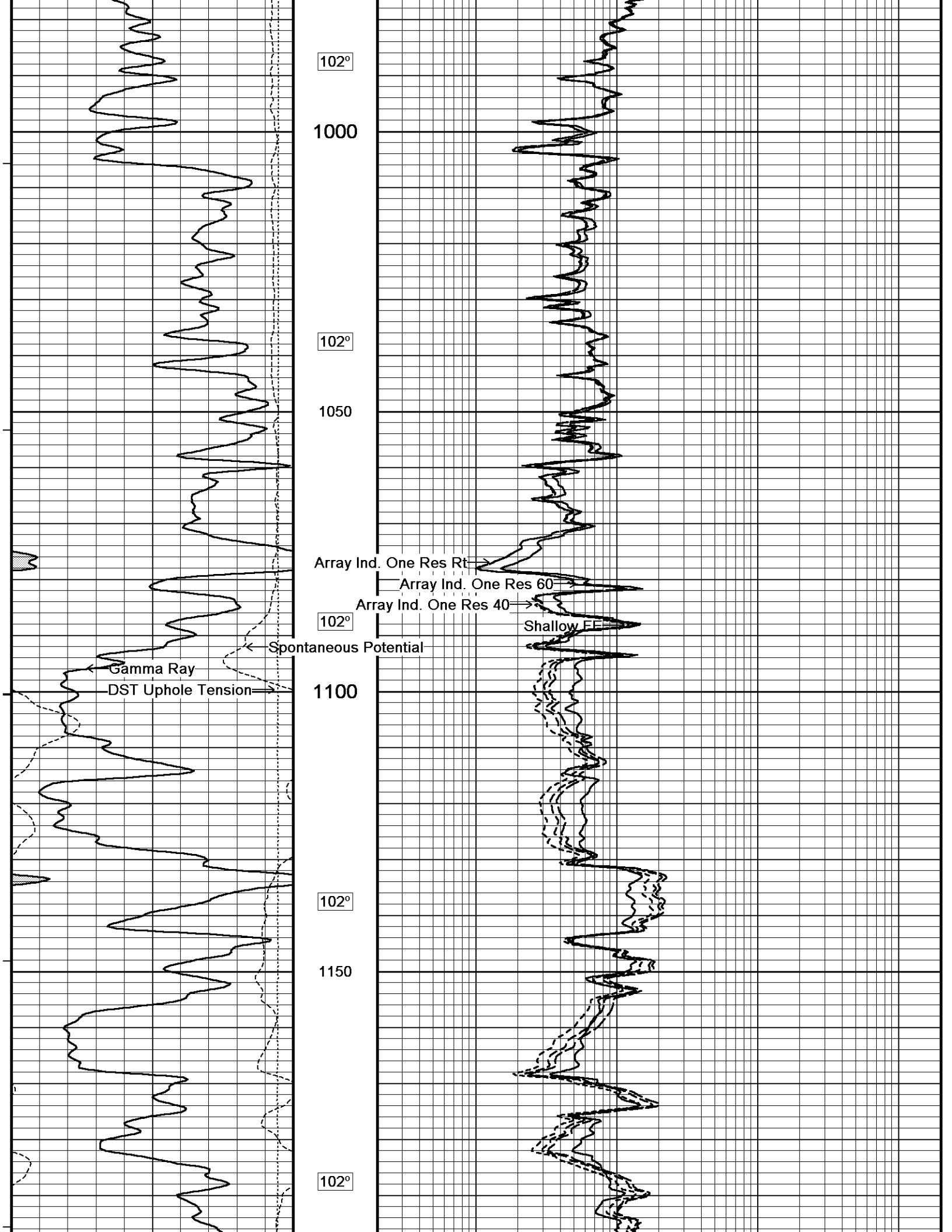
300

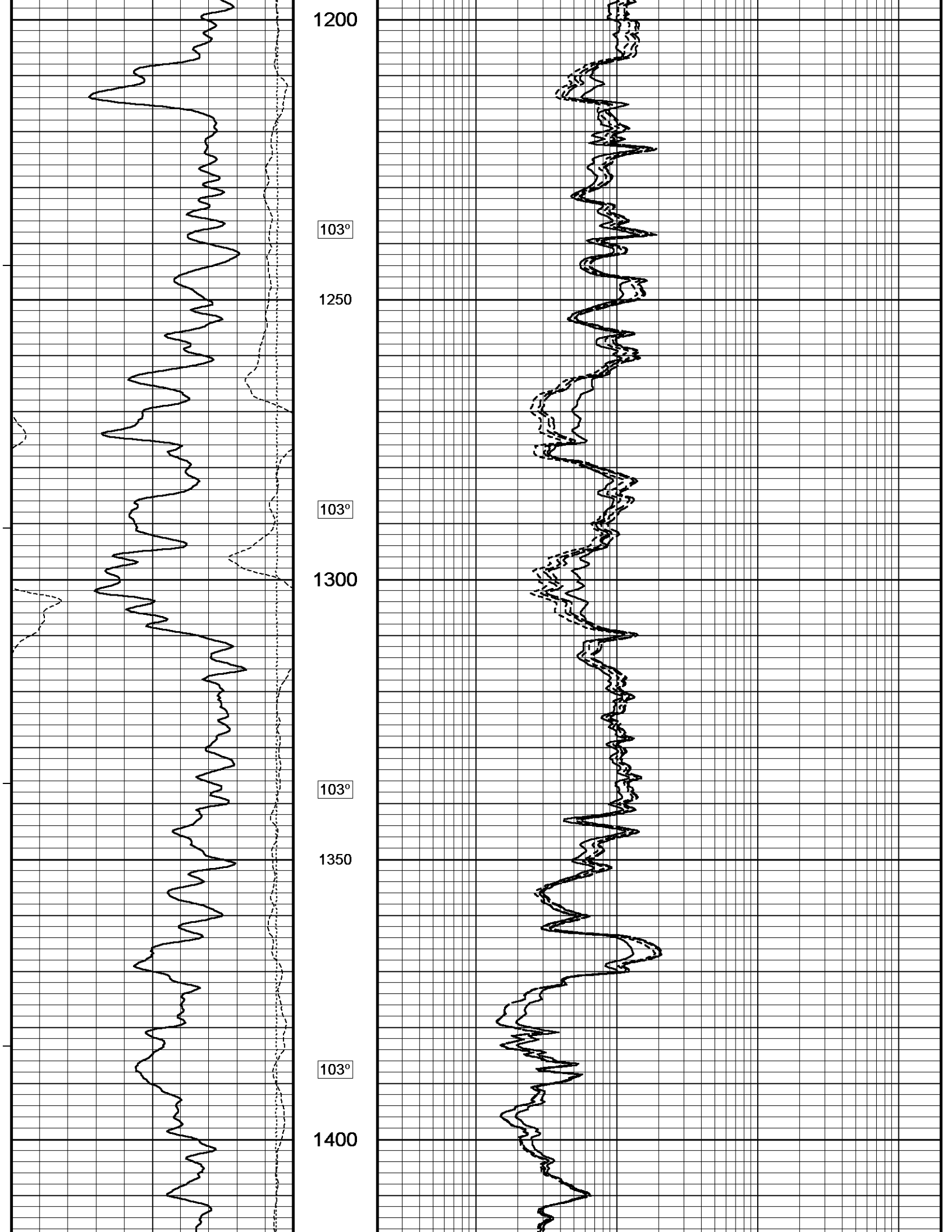
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension

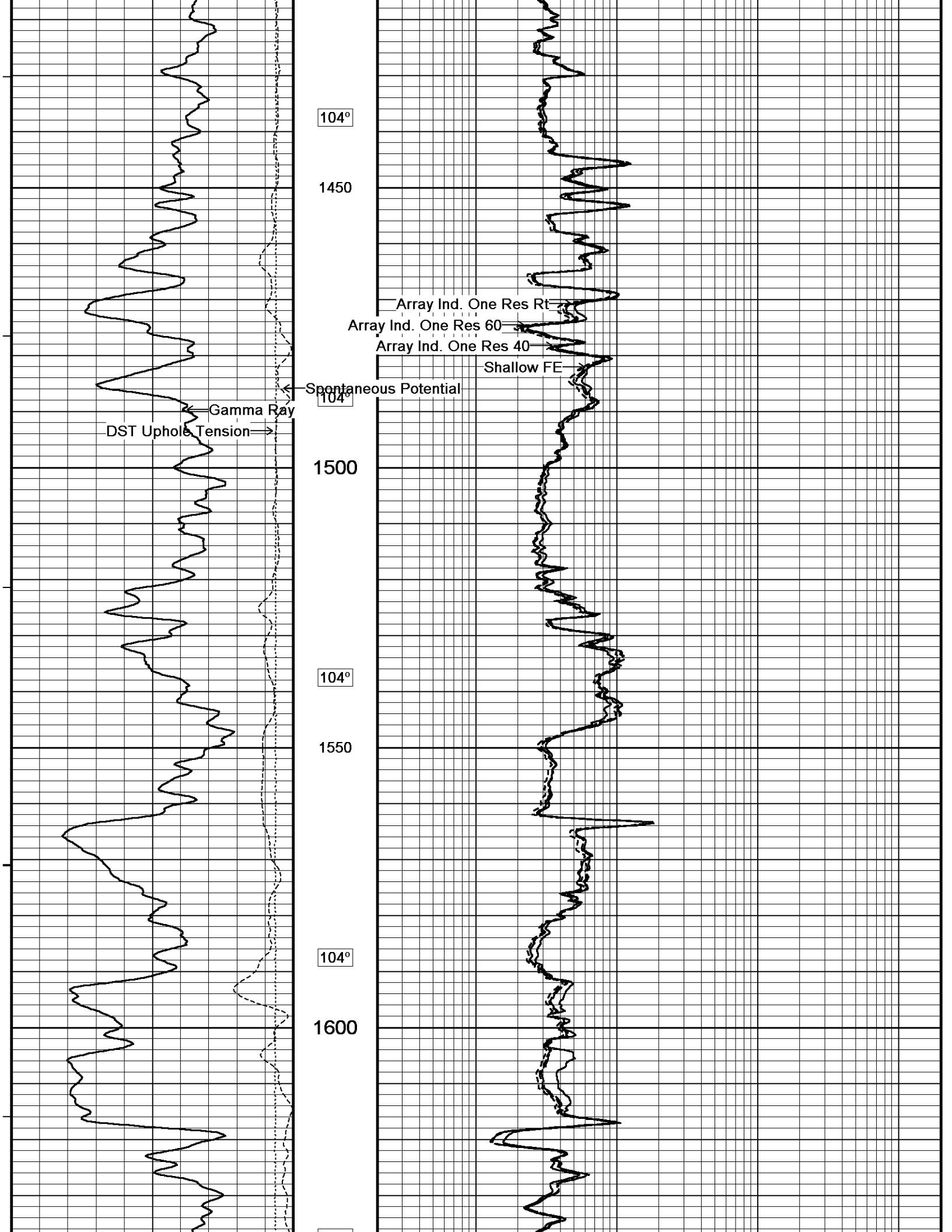

98°
350
98°
400
99°
450
99°
500

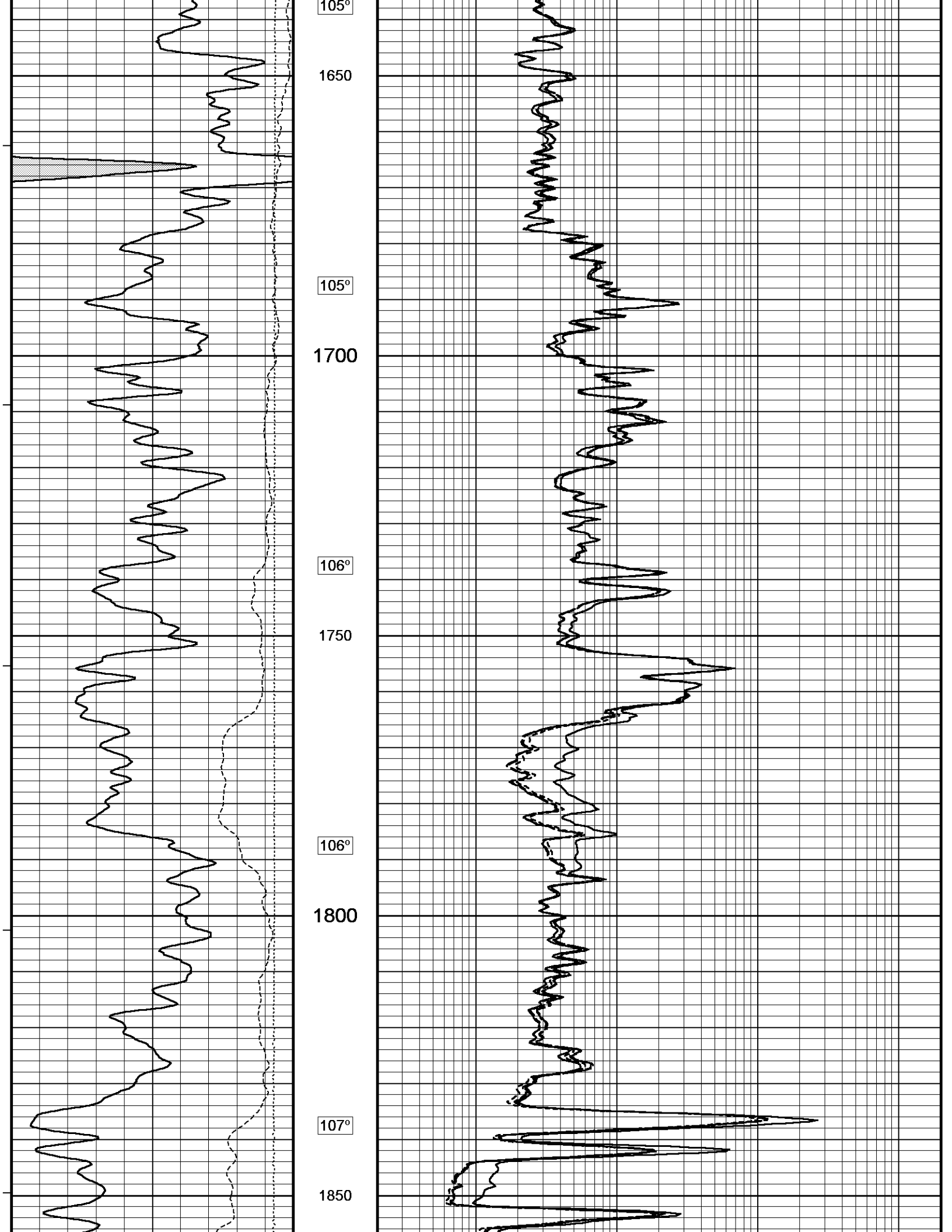

100°
550
100°
600
99°
650
100°
700
100°
750
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension

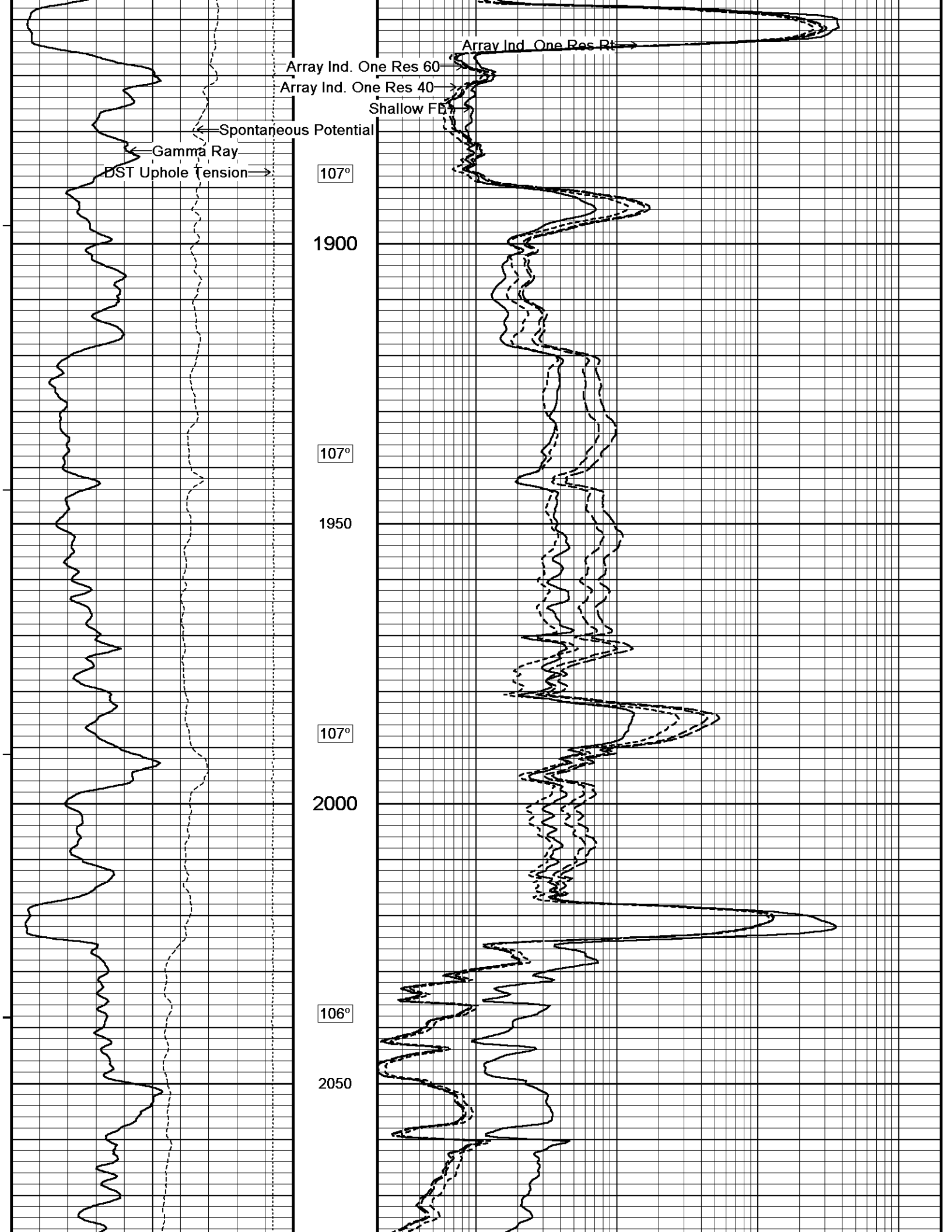

101°
800
101°
850
101°
900
102°
950

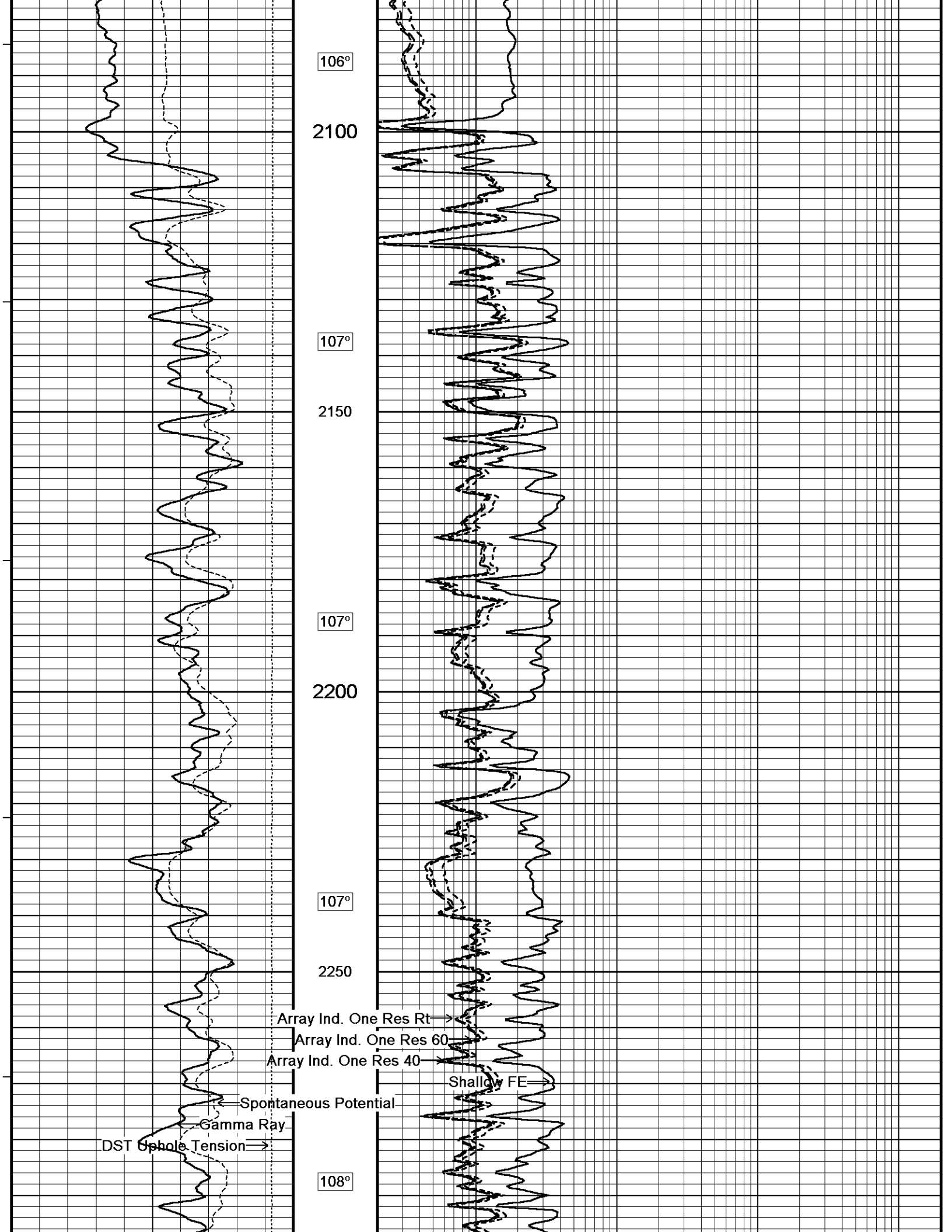

102°
1000
102°
1050
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
102°
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
1100
102°
1150
102°

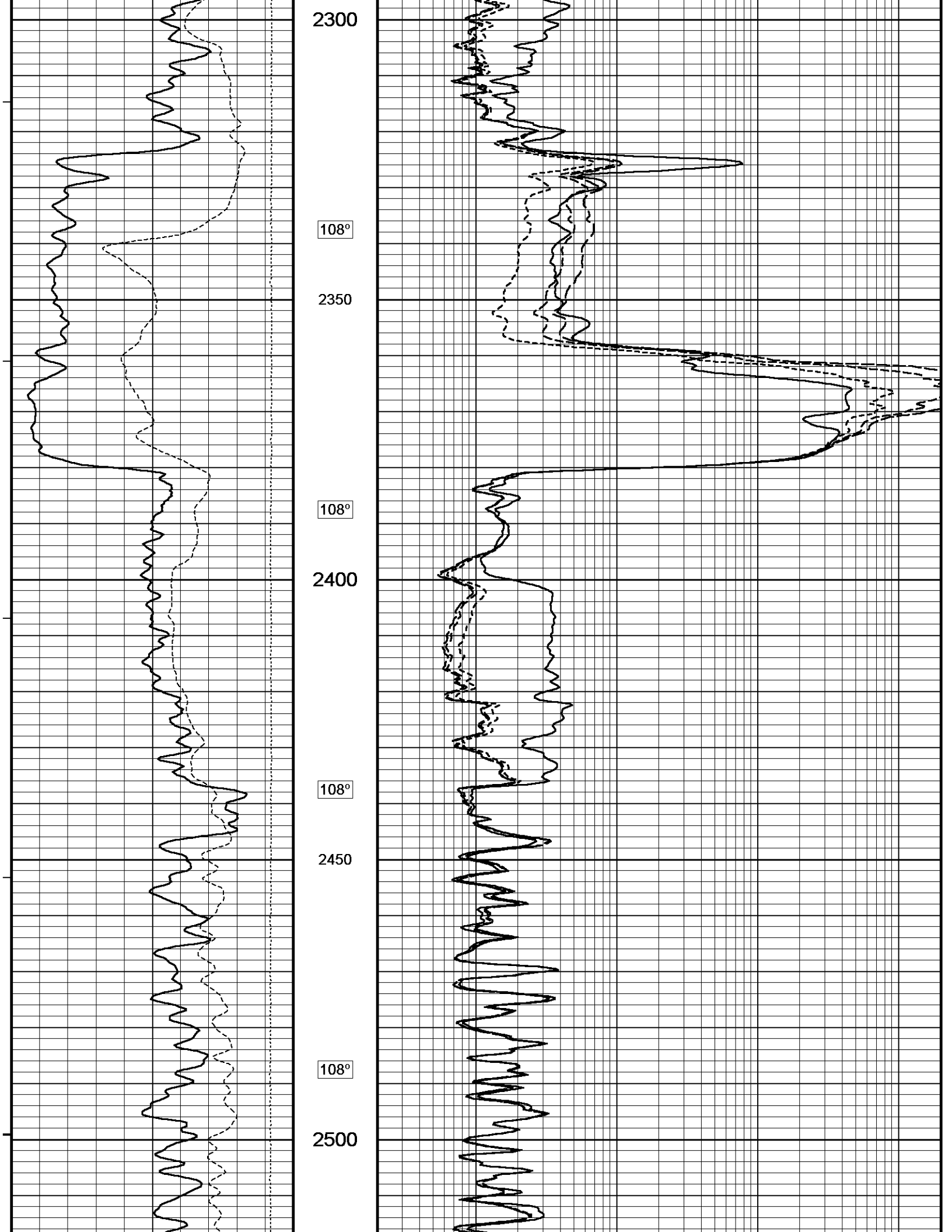

1200
103°
1250
103°
1300
103°
1350
103°
1400

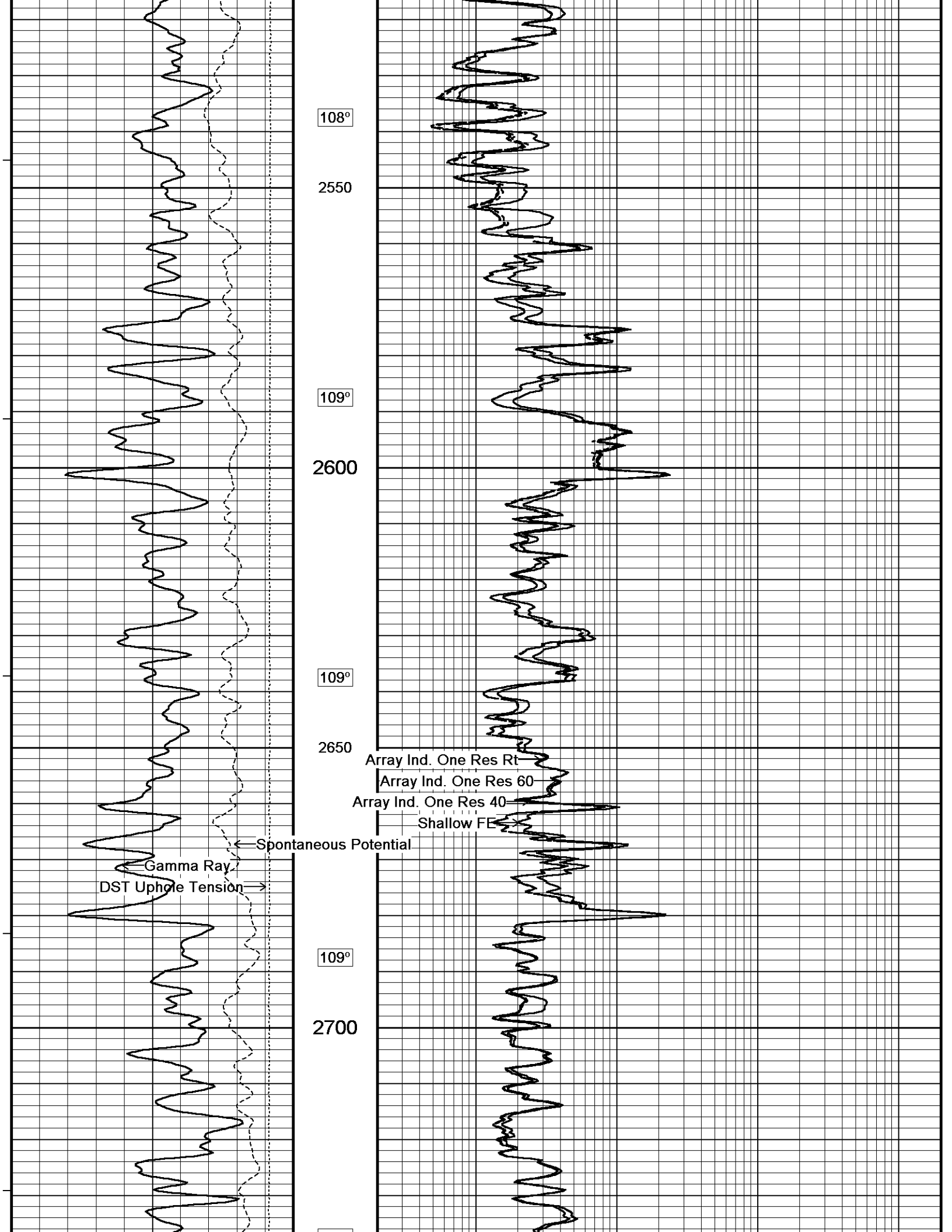

104°
1450
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
104°
Gamma Ray
DST Uphole Tension
1500
104°
1550
104°
1600

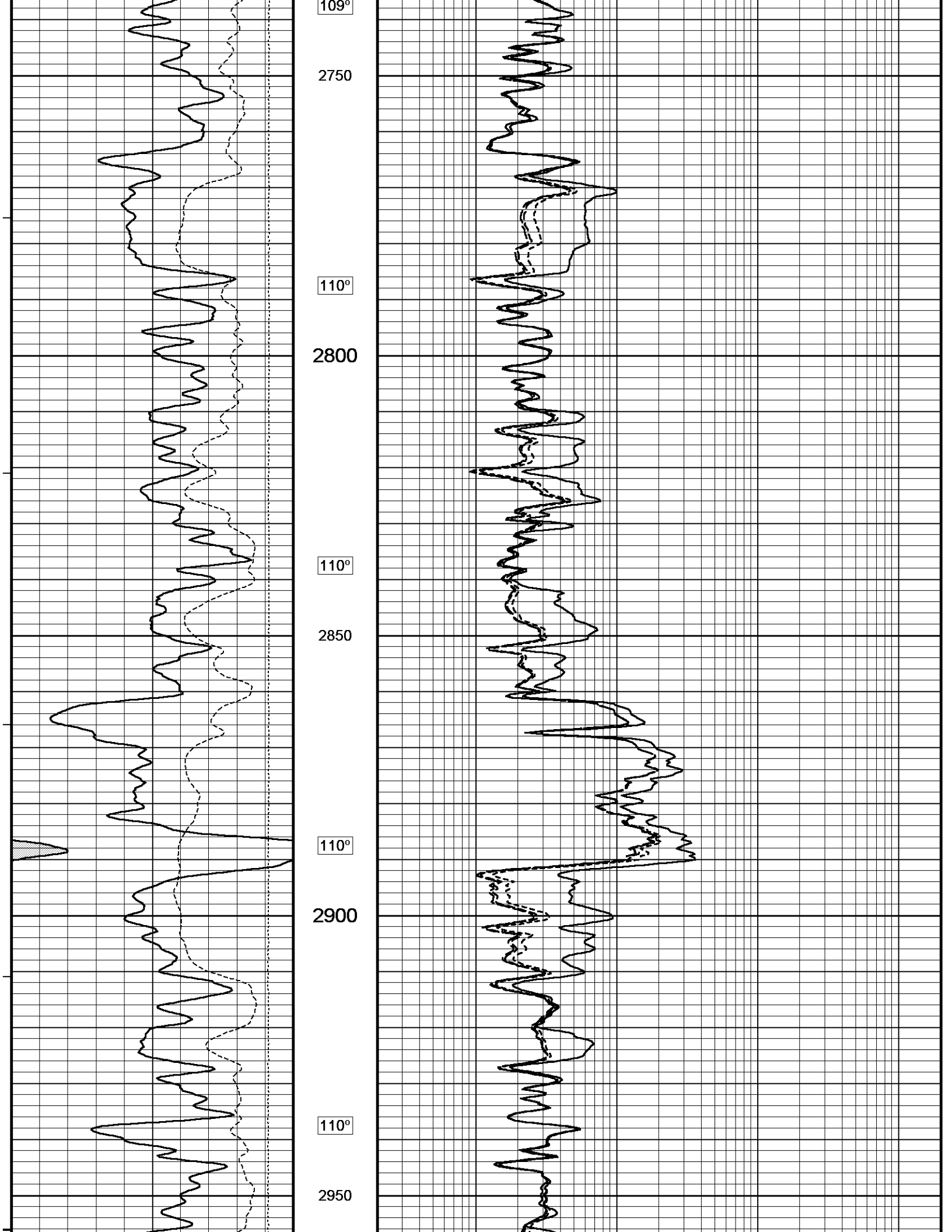

105°
1650
105°
1700
106°
1750
106°
1800
107°
1850

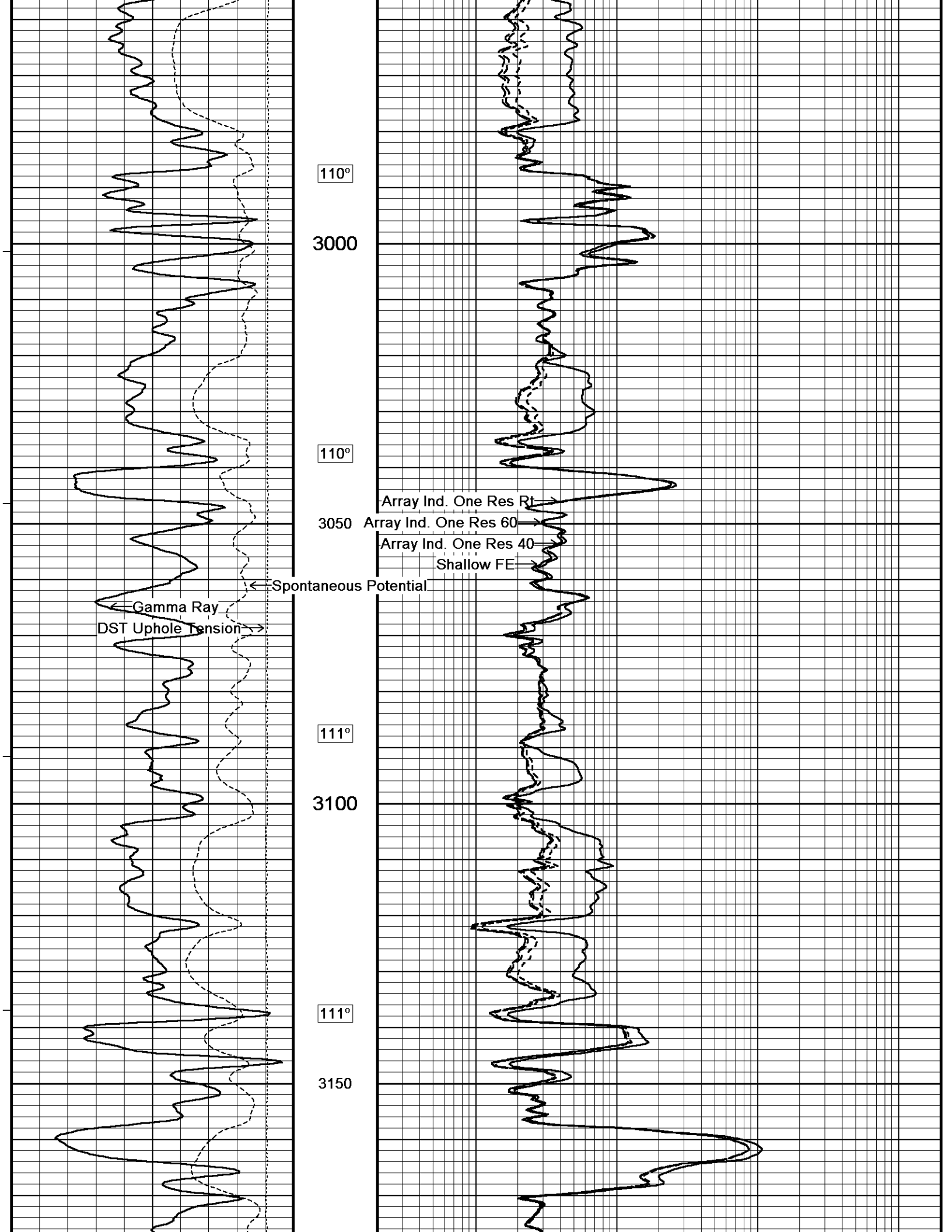

Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
107°
1900
107°
1950
107°
2000
106°
2050

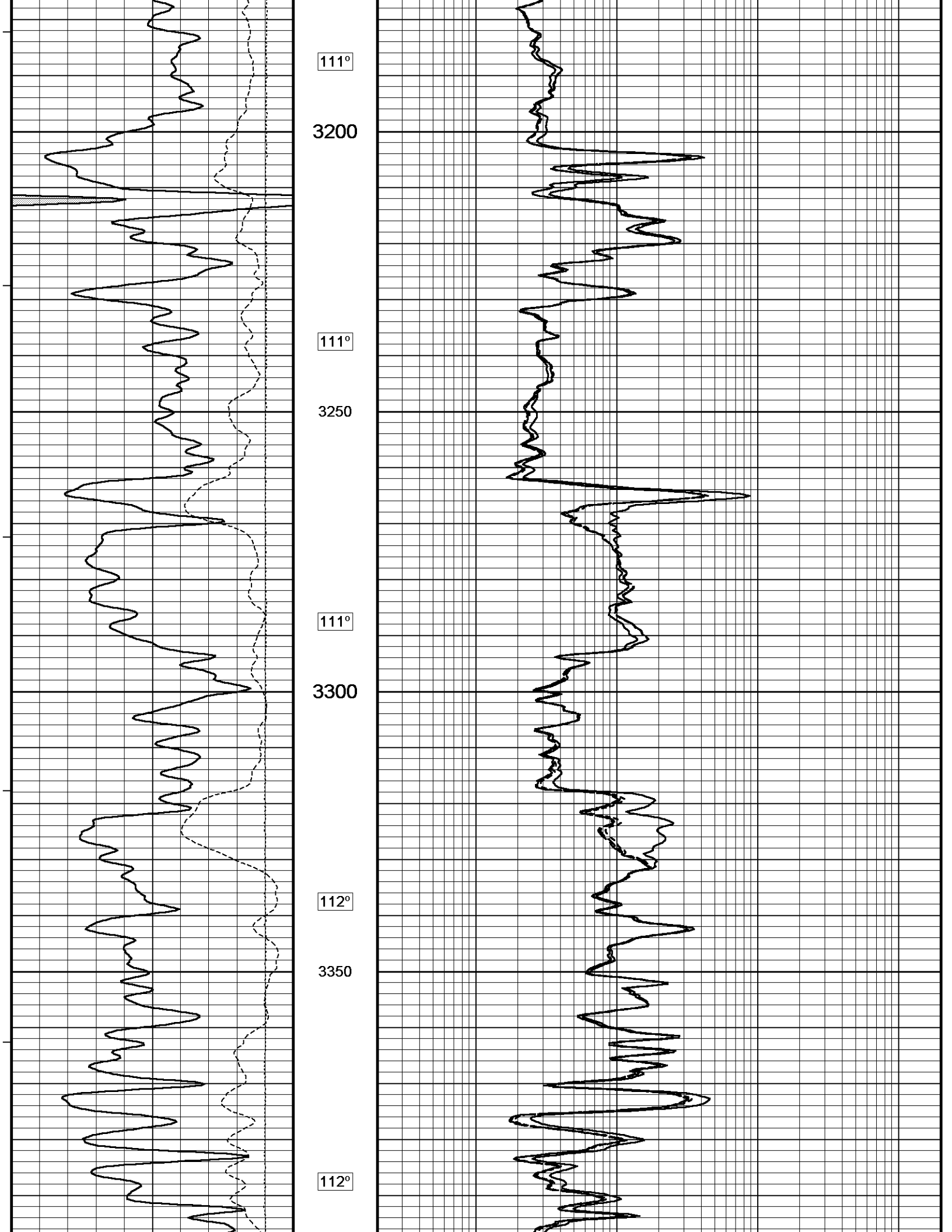

106°
2100
107°
2150
107°
2200
107°
2250
108°
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension

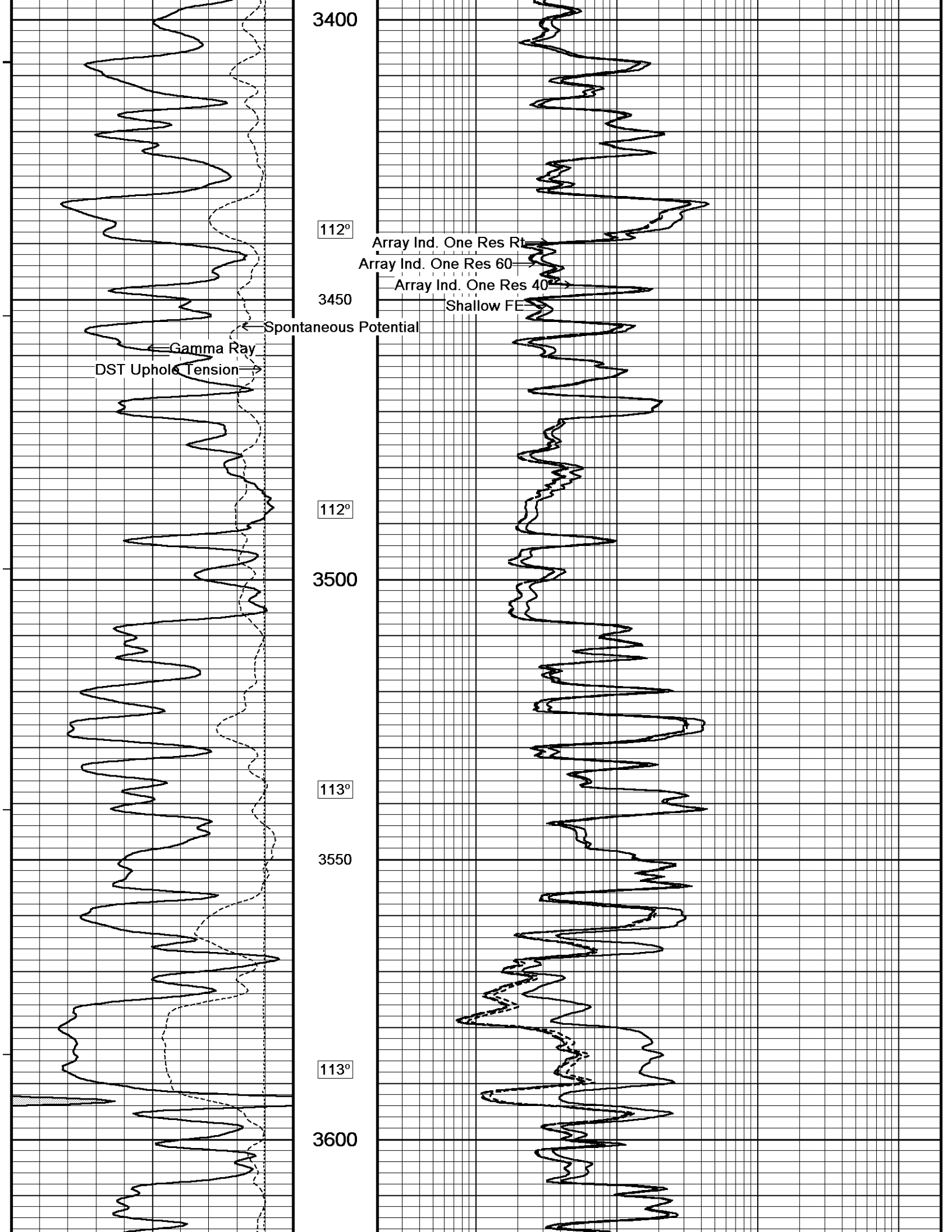

2300
108°
2350
108°
2400
108°
2450
108°
2500

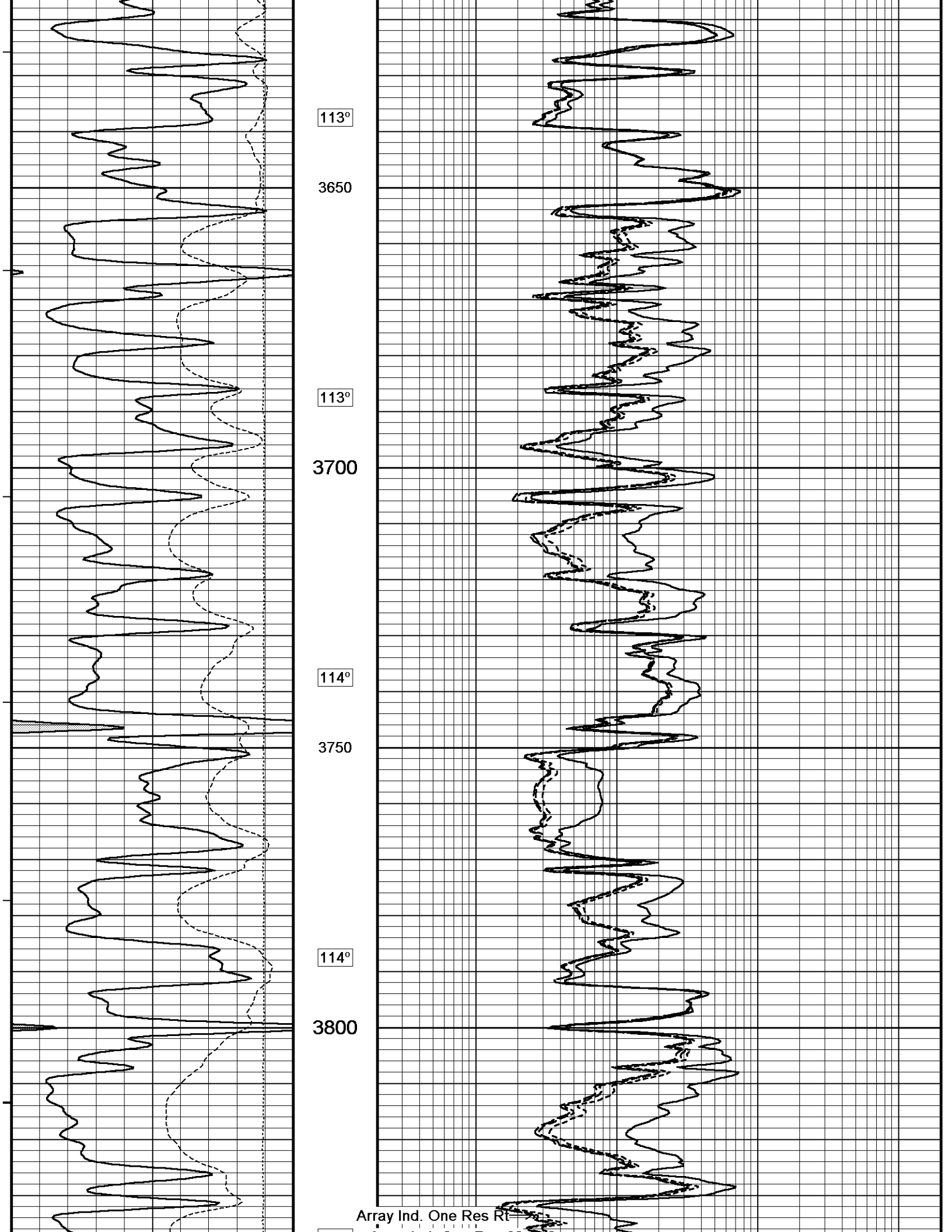

108°
2550
109°
2600
109°
2650
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
109°
2700

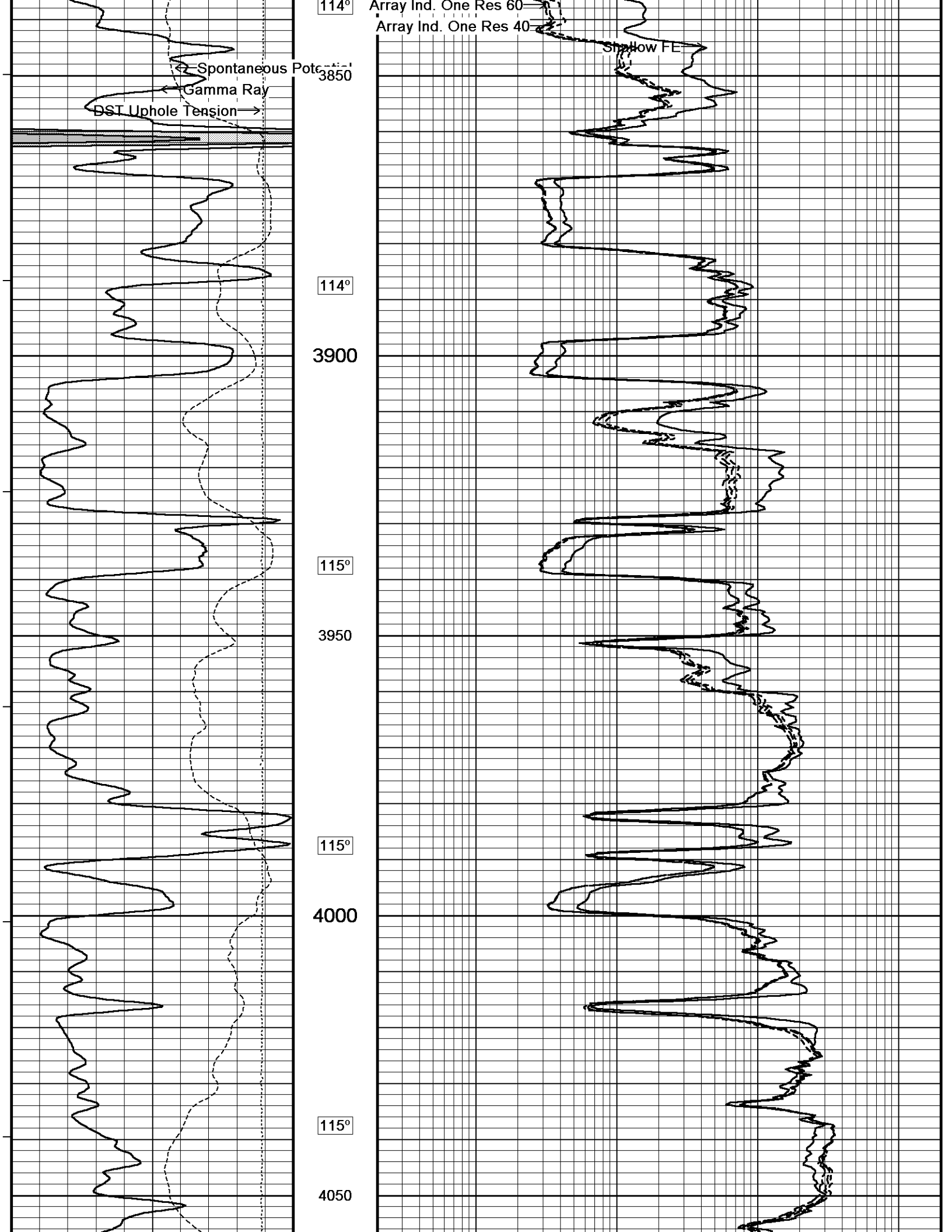

109°
2750
110°
2800
110°
2850
110°
2900
110°
2950

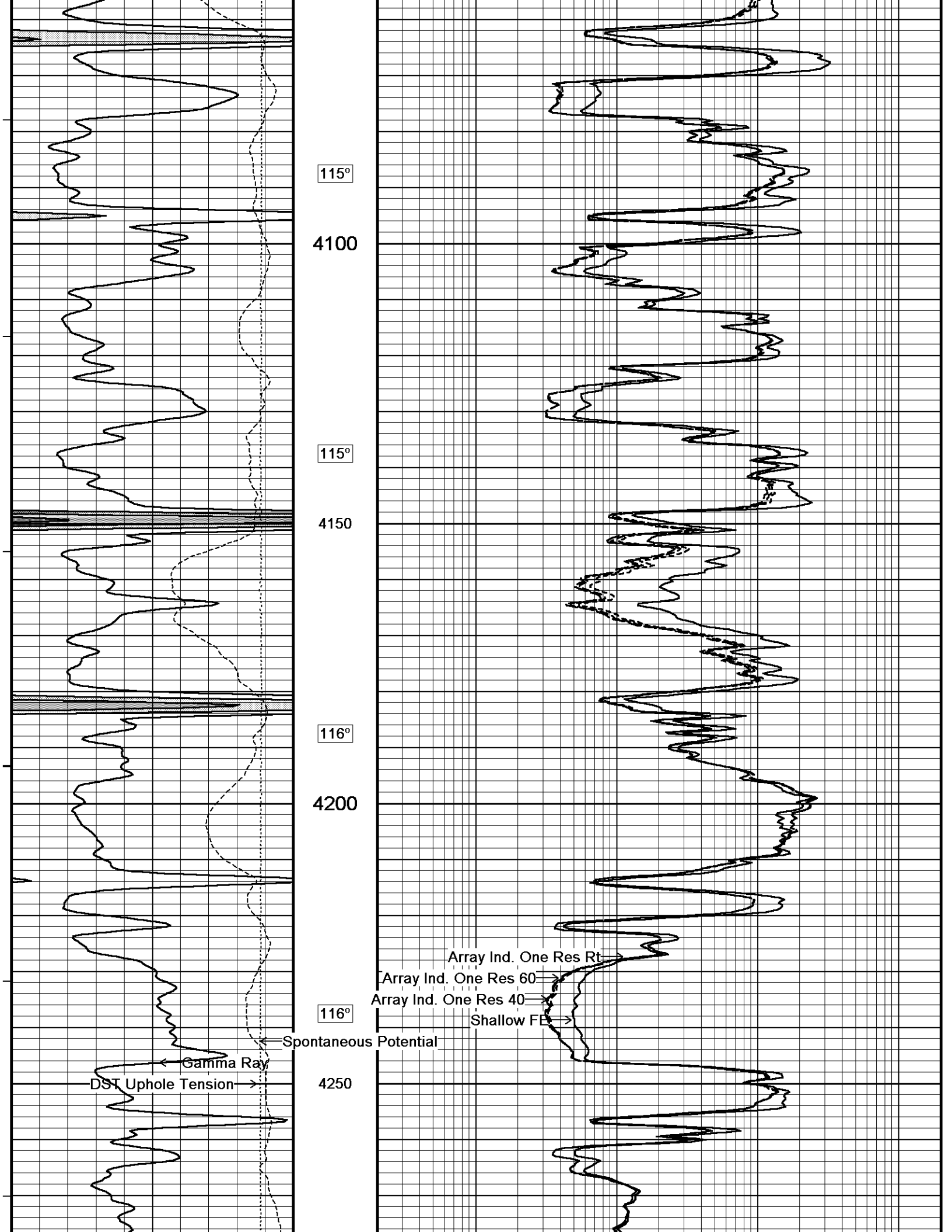

110°
3000
110°
Array Ind. One Res Rt
3050
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
111°
3100
111°
3150

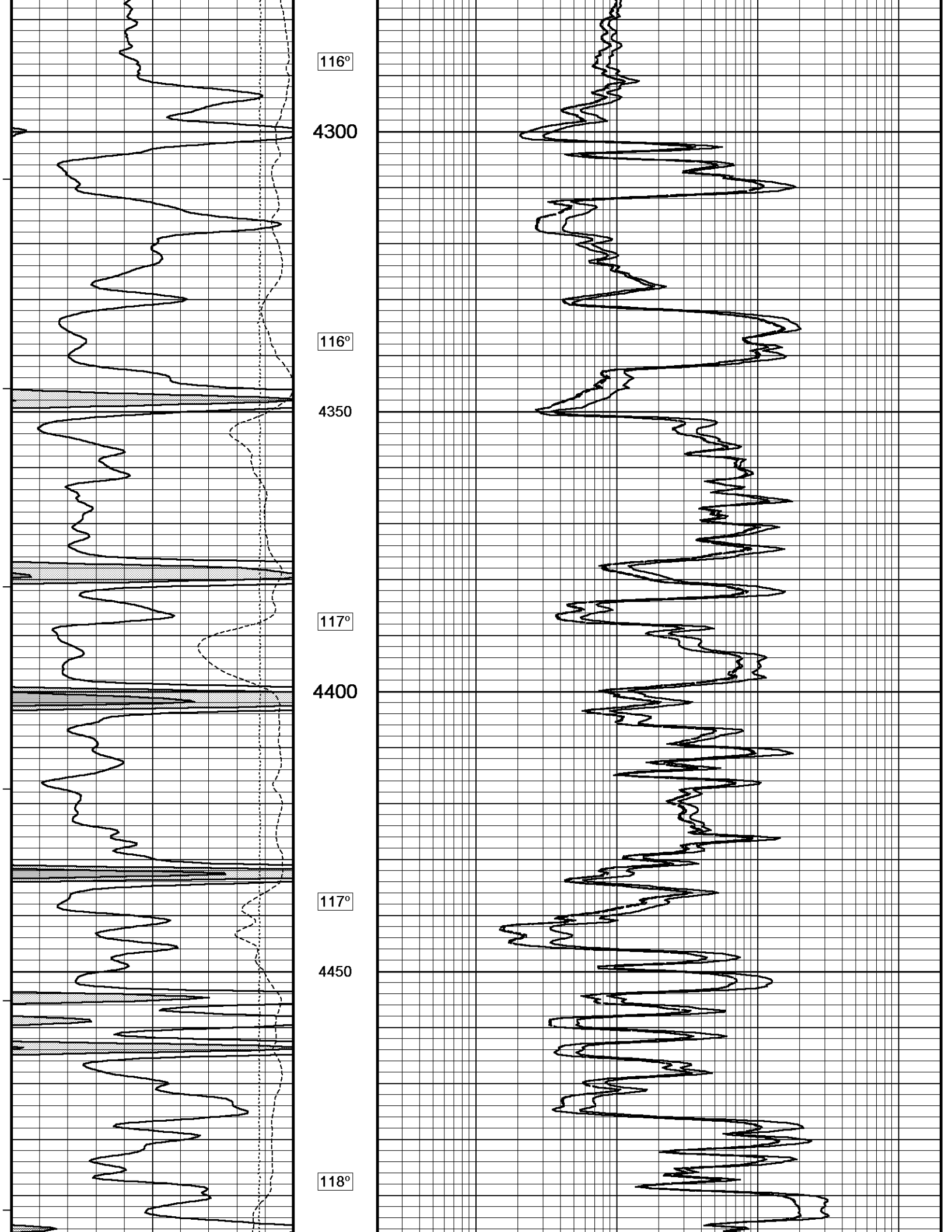

111°
3200
111°
3250
111°
3300
112°
3350
112°

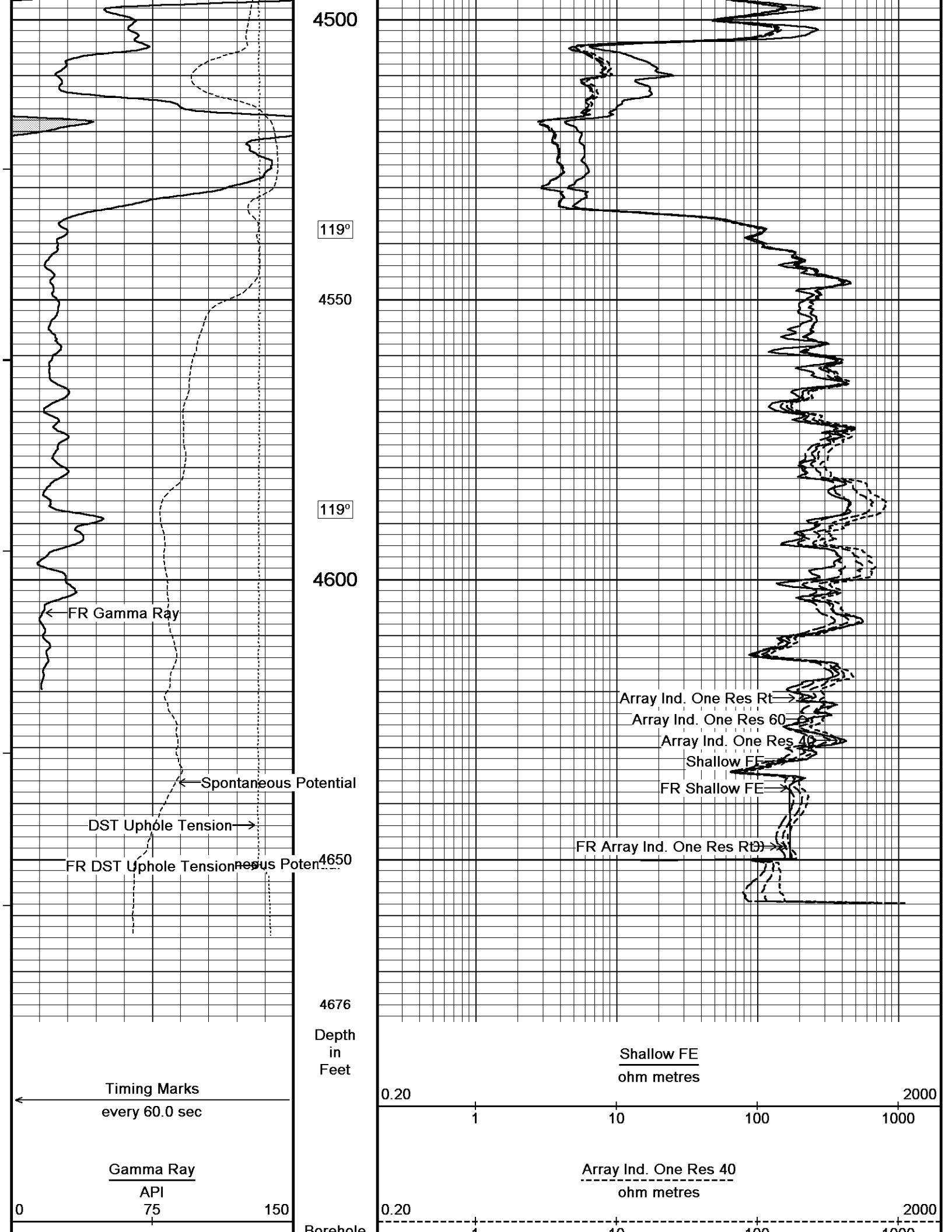

3400
112°
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
3450
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
112°
3500
113°
3550
113°
3600


113°
3650
113°
3700
114°
3750
114°
3800
Array Ind. One Res Rt


114°
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
3850
114°
3900
115°
3950
115°
4000
115°
4050


115°
4100
115°
4150
116°
4200
116°
4250
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension


116°
4300
116°
4350
117°
4400
117°
4450
118°


4500
119°
4550
119°
4600
FR Gamma Ray
Spontaneous Potential
DST Uphole Tension
FR DST Uphole Tension
4650
4676
Depth
in
Feet
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
FR Shallow FE
FR Array Ind. One Res Rt
Timing Marks
every 60.0 sec
Gamma Ray
API
0
75
150
Shallow FE
ohm metres
0.20
1
10
100
1000
2000
Array Ind. One Res 40
ohm metres
0.20
2000

Borehole 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

Replay Scale 1:240

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

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 31-AUG-2011 09:37
Filename: C:\DOCUME~1\sysadmin\LOCALS~1\Temp\Weatherfor...\Grand Mesa E & E # 1-34_003.dta — Recorded on 12-AUG-2011 18:06
System Versions: Logged with 11.03.4044 Plotted with 12.01.3513

5 INCH MAIN

REPEAT SECTION

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 31-AUG-2011 09:37
Filename: C:\DOCUME~1\sysadmin\LOCALS~1\Temp\Weatherfor...\Grand Mesa E & E # 1-34_002.dta — Recorded on 12-AUG-2011 17:41
System Versions: Logged with 11.03.4044 Plotted with 12.01.3513

Depth in Feet

Timing Marks
every 60.0 sec

Shallow FE
ohm metres
0.20 2000
1 10 100 1000

Gamma Ray
API
0 75 150

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

Borehole 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

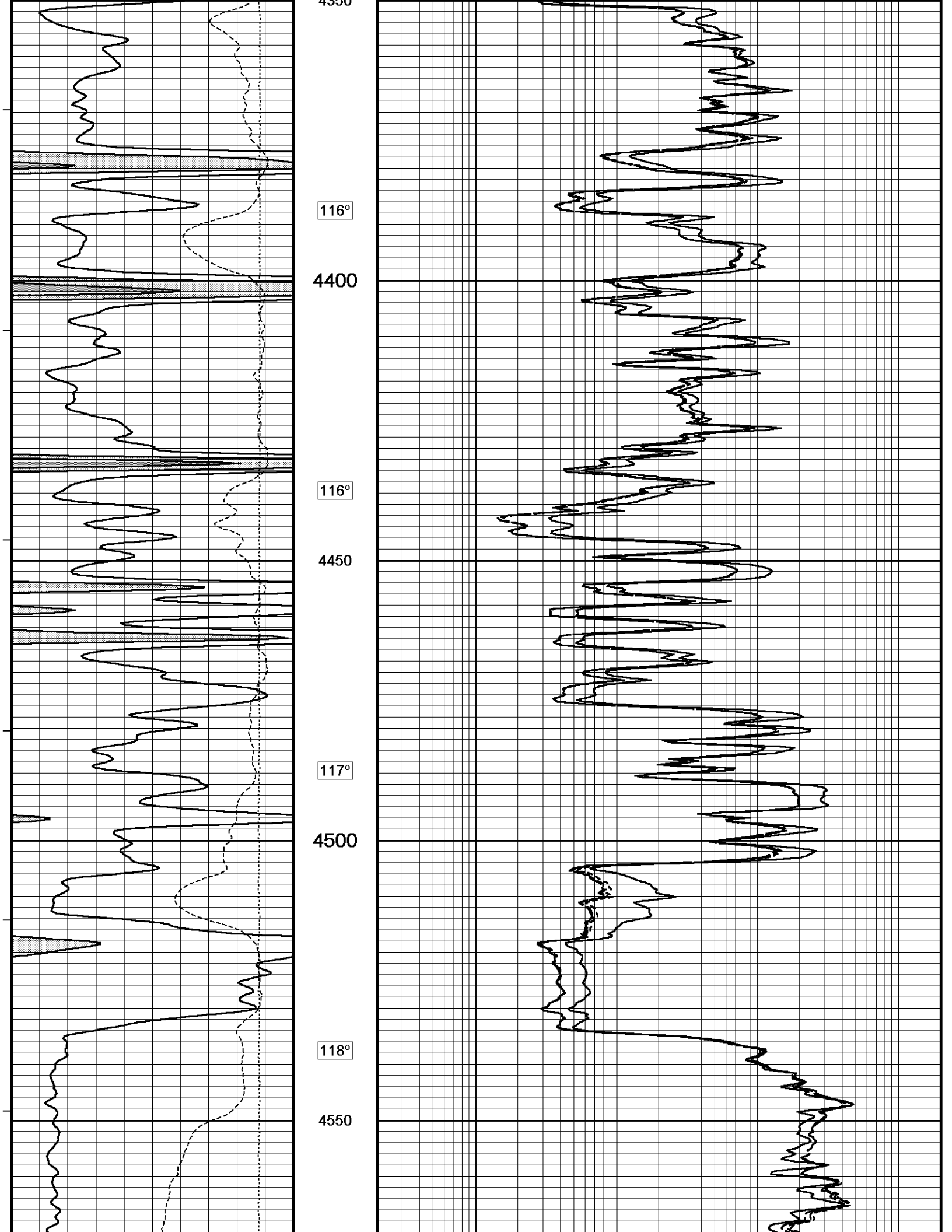
Replay Scale 1:240

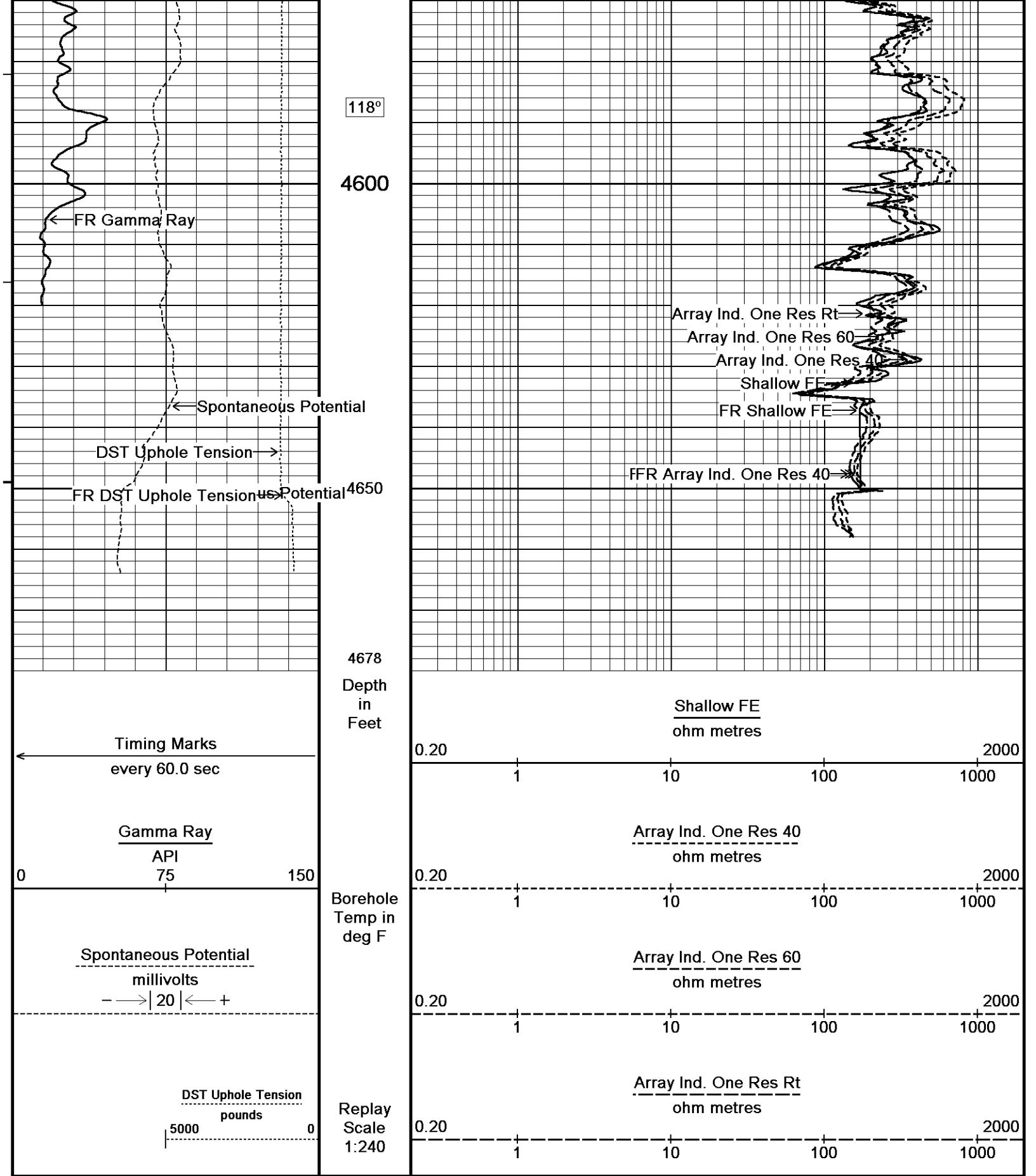
Array Ind. One Res Rt
ohm metres
0.20 2000
1 10 100 1000

4300

116°

4350


4350
116°
4400
116°
4450
117°
4500
118°
4550



Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 31-AUG-2011 09:37
Filename: C:\DOCUME~1\sysadmin\LOCALS~1\Temp\Weatherfor...\Grand Mesa E & E # 1-34_002.dta
Recorded on 12-AUG-2011 17:41
System Versions: Logged with 11.03.4044 Plotted with 12.01.3513

REPEAT SECTION

BEFORE SURVEY CALIBRATION

General Constants All 000

Last Edited on 12-AUG-2011 17:06

General Parameters		
Mud Resistivity	1.050	ohm-metres
Mud Resistivity Temperature	97.000	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	5.500	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 All 000

Field Calibration on 30-JUN-2010 01:00

Reading No	Measured	Calibrated (lbs)
1	14112.01	10.00
2	15164.79	427.00

Down-hole Tension Calibration SMS 0

Field Calibration on 30-JUN-2010 01:00

Reading No	Measured	Calibrated (lbs)
1	14112.01	10.00
2	15164.79	427.00

High Resolution Temperature Calibration MCG-C 139

Field Calibration on 02-AUG-2011 18:13

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

High Resolution Temperature Constants MCG-C 139

Last Edited on

Pre-filter Length	11

SP Calibration MCG-C 139

Field Calibration on 02-AUG-2011 18:12

	Measured	Calibrated (mV)
Reference 1	103.5	100.0
Reference 2	-96.9	-100.0

Gamma Calibration MCG-C 139

Field Calibration on 11-AUG-2011 16:09

	Measured	Calibrated (API)
Background	73	50
Calibrator (Gross)	1130	775
Calibrator (Net)	1057	725

Gamma Constants MCG-C 139

Last Edited on 12-AUG-2011 17:03

Gamma Calibrator Number	grc38	
Mud Density	1.10	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm

Micro Normal and Micro Inverse Calibration MML-A 16

Base Calibration on 02-AUG-2011 16:55
Field Check on 11-AUG-2011 15:49

Base Calibration

	Measured		Calibrated (ohm-m)	
Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	12.2	60.2	2.6	12.8
Micro Inverse	15.6	78.4	1.7	8.4

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	32.1	32.1
Micro Inverse	16.3	16.3

Micro Normal and Micro Inverse Constants MML-A 16

Last Edited on 12-AUG-2011 17:04

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 16

Base Calibration on 02-AUG-2011 17:07
Field Calibration on 11-AUG-2011 15:48

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	14087	5.98
2	17465	7.97
3	20778	9.86
4	24732	11.92
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
6.05	5.98

Neutron Calibration MDN-A.B 66

Base Calibration on 02-AUG-2011 19:16
Field Check on 11-AUG-2011 16:02

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3250	102	3714	110
Ratio	31.962		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	1591	2269
Ratio	0.701	

Field Check

	Calibrated (cps)	
	1571	2283
Ratio	0.688	

Neutron Constants MDN-A.B 66

Last Edited on 12-AUG-2011 17:05

Neutron Source Id	P58125B	
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
Formation Fluid Salinity Source	Constant Value	
Formation Fluid Salinity	0.00	kppm
Barite Mud Correction	Not Applied	

FE Calibration MFE-A.A 52

Base Calibration on 02-AUG-2011 16:38
Field Check on 11-AUG-2011 15:47

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	964.4	126.8
Base Check		280.0
Field Check		280.1

FE Constants MFE-A.A 52

Last Edited on 12-AUG-2011 17:05

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 167

Field Calibration on 02-AUG-2011 18:25

	Measured	Calibrated(Deg F)
Lower	1.00	33.80
Upper	11.00	51.80

High Resolution Temperature Constants MAI-A.A 167

Last Edited on

Pre-filter Length	11	

Induction Calibration MAI-A.A 167

Base Calibration on 11-MAR-2011 09:58
Field Check on 11-AUG-2011 15:45

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	0.0	0.0	13.8	3837.3	
2	0.0	0.0	29.7	3474.6	
3	0.0	0.0	29.1	3050.7	
4	0.0	0.0	19.7	2079.9	
Deep	0.0	0.0	18.6	2047.2	
Medium	0.0	0.0	42.2	3988.3	
Shallow	0.0	0.0	43.2	5051.1	
Array Temperature	0.0		85.4		Deg F

Induction Constants MAI-A.A 167

Last Edited on 12-AUG-2011 17:05

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	

Caliper Calibration MPD-B 35

Base Calibration on 02-AUG-2011 17:17
Field Calibration on 11-AUG-2011 15:51

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	19303	3.99
2	29535	5.98
3	39888	7.97
4	49472	9.86
5	60384	11.92
6	N/A	N/A

Field Calibration

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

Photo Density Calibration MPD-B 35

Base Calibration on 02-AUG-2011 18:00
Field Check on 11-AUG-2011 15:56

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	56174	27139	59556	30836
Reference 2	22984	2574	24941	2541

Field Check at Base

1165.2	1387.5

Field Check

1163.6	1388.5

PE Calibration

Base Calibration	Measured			Calibrated
	WS	WH	Ratio	Ratio
Background	207	1028		
Reference 1	20811	55977	0.375	0.371
Reference 2	6055	22836	0.268	0.272

Field Check at Base

207.3	1028.3

Field Check

208.9	1028.0

Density Constants MPD-B 35

Last Edited on 12-AUG-2011 17:05

Density Source Id	p50557b	
Nylon Calibrator Number	dnce695	
Aluminium Calibrator Number	dacd698	
Density Shoe Profile	8 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.10	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

DOWNHOLE EQUIPMENT

C:\DOCUME~1\sysadmin\LOCALS~1\Temp\Weatherford PreView\0\Grand Mesa E & E # 1-34_003.dta

Compact Comms Gamma
MCG-C 139 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Comms Gamma
MCG-C 139 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Micro-log
MML-A 16 LG: 7.97 ft WT: 81.6 lb OD: 2.24 in

Compact Micro-log
MML-A 16 LG: 7.97 ft WT: 81.6 lb OD: 2.24 in

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

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

Compact Density/Caliper
MPD-B 35 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

Compact Density/Caliper
MPD-B 35 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

SKJ-D.A Compact Knuckle Joint
SKJ-D.A 36 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

SKJ-D.A Compact Knuckle Joint
SKJ-D.A 36 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

Compact Focussed Electric
MFE-A.A 52 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

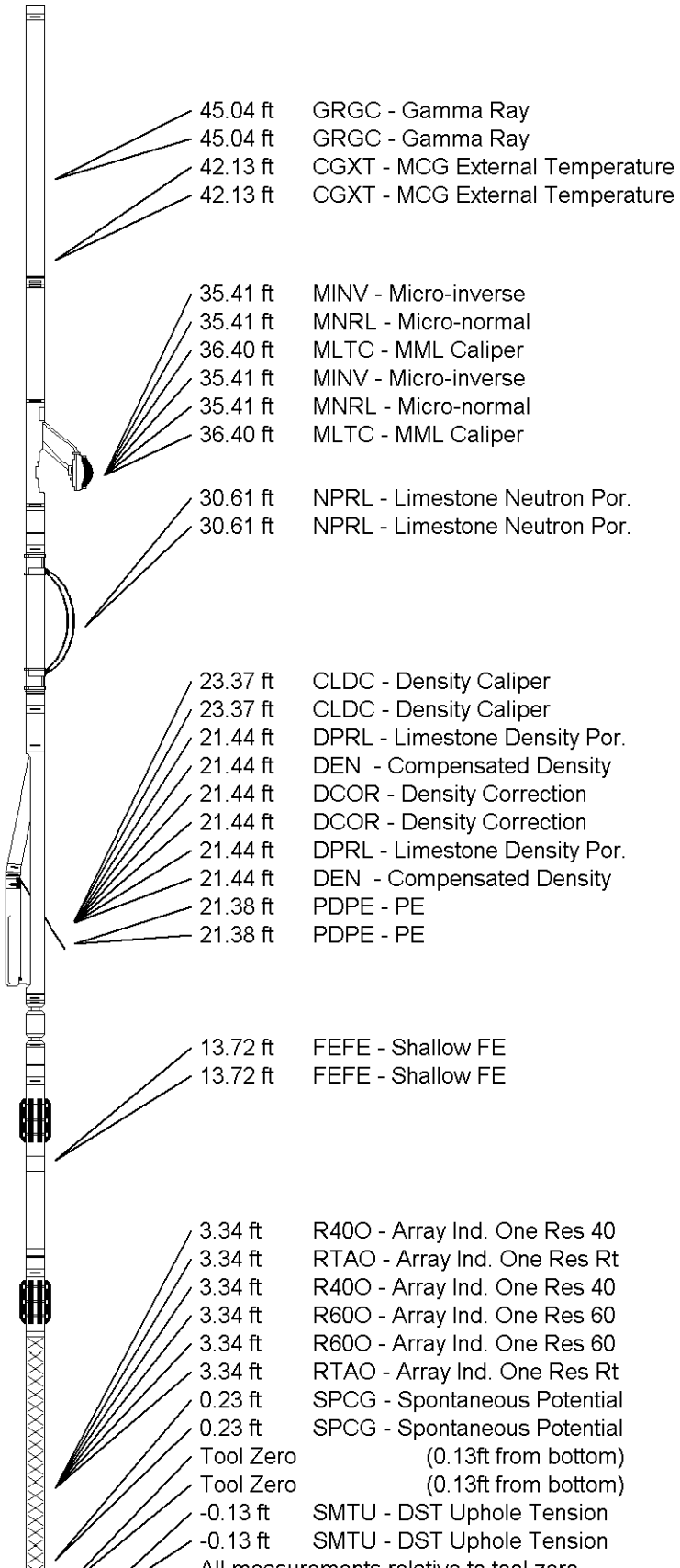
Compact Focussed Electric
MFE-A.A 52 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

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

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

Total Length: 50.32 ft Weight: 407.9 lb

Total Length: 50.32 ft Weight: 407.9 lb



All measurements relative to tool zero.

COMPANY	GRAND MESA OPERATING COMPANY
WELL	E & E # 1-34
FIELD	WILDCAT
PROVINCE/COUNTY	LOGAN
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	2879.00	feet	First Reading	4648.00	feet
Elevation Drill Floor	2877.00	feet	Depth Driller	4650.00	feet
Elevation Ground Level	2874.00	feet	Depth Logger	4651.00	feet

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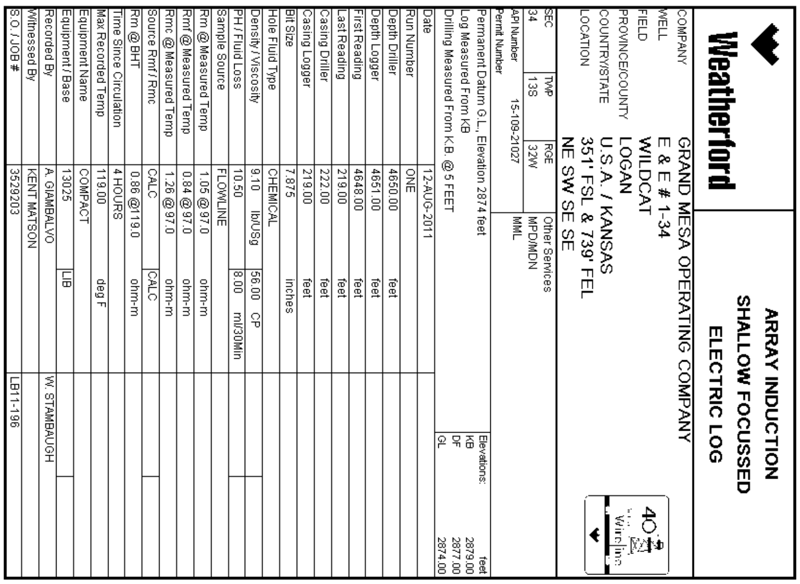
ELECTRIC LOG

40 Years of Wireline 1970 2010



1 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 31-AUG-2011 09:37
Filename: C:\DOCUME~1\sysadmin\LOCALS~1\Temp\Weatherford Pr...\Grand Mesa E & E # 1-34_003.dta — Recorded on 12-AUG-2011 18:06
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

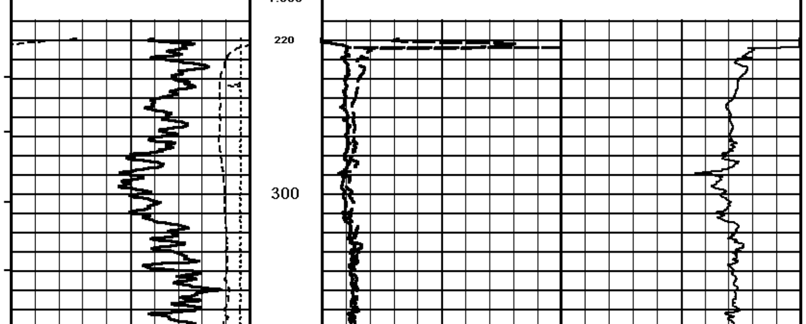
Borehole Temp in deg F

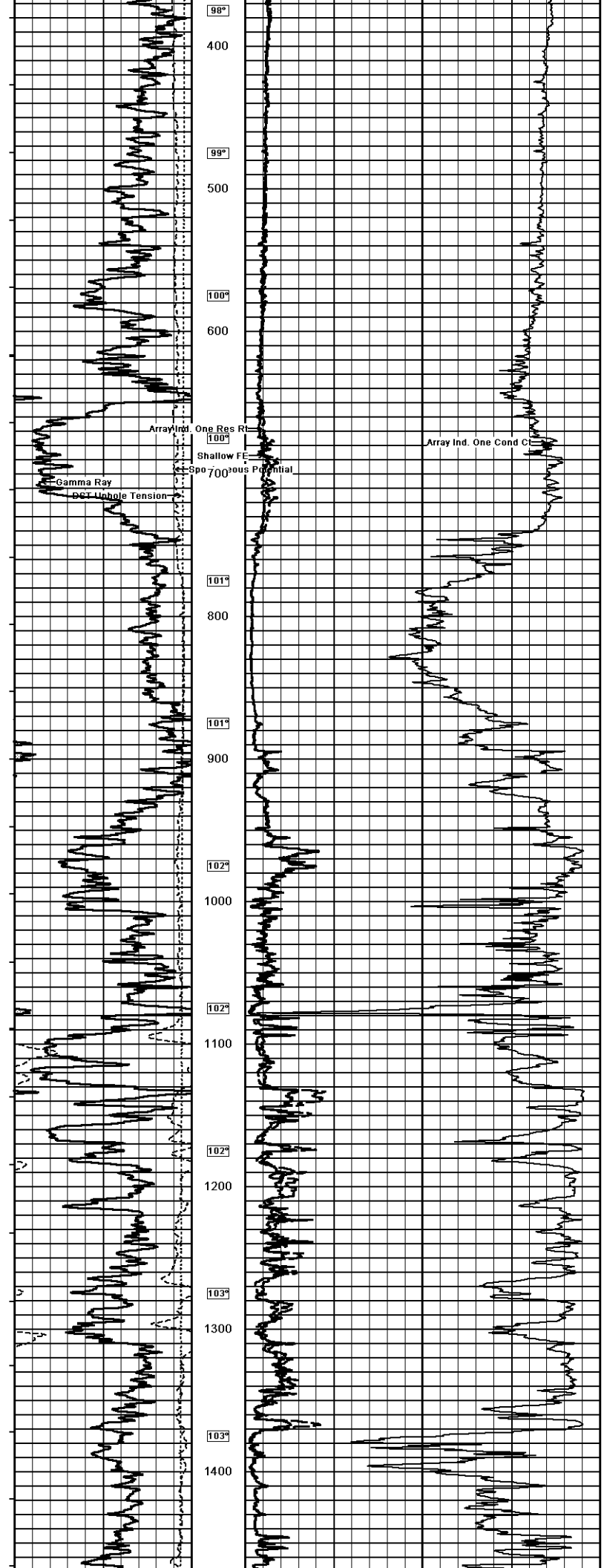
Replay Scale 1:600

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




98°
400
99°
500
100°
600
Array Ind. One Res Rt
100°
Shallow FE
Spo eous Potential
700
Gamma Ray
DGT Uphole Tension
Array Ind. One Cond Ct
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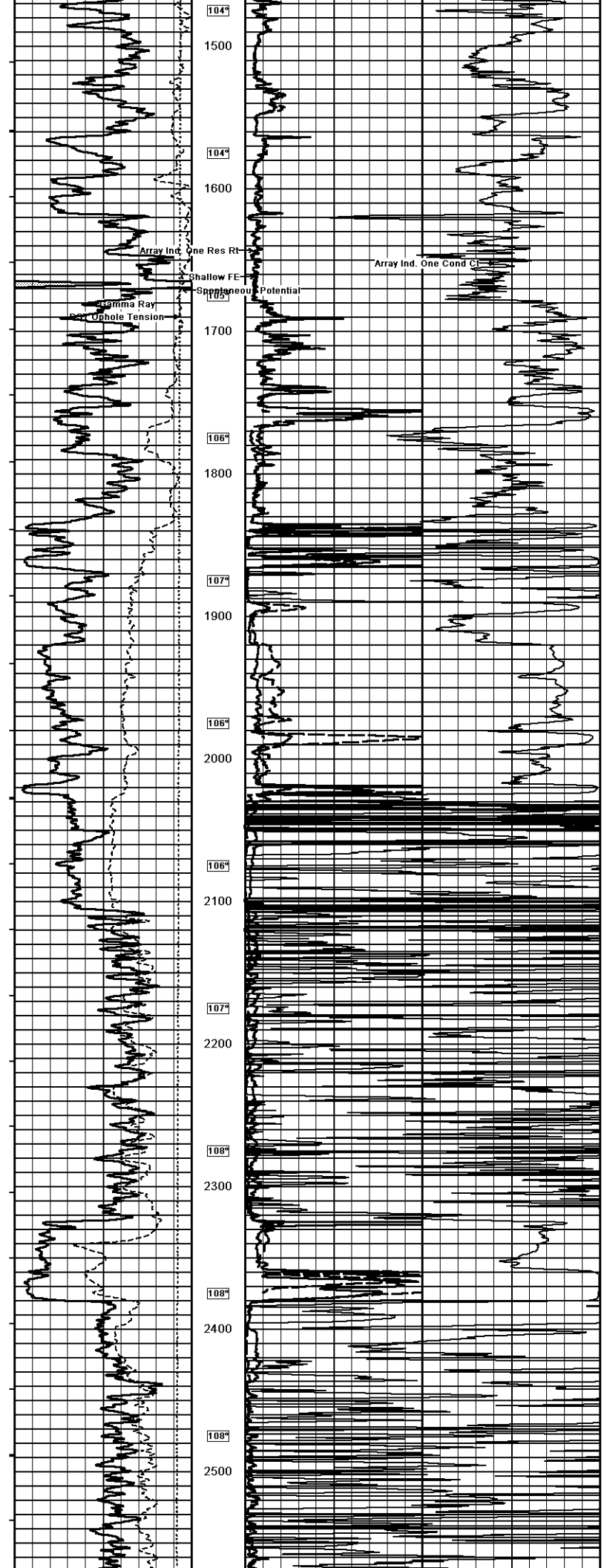
800
101°
900
102°
1000
102°
1100
102°
1200
103°
1300
103°
1400


104°
1500
104°
1600
Array Ind. One Res Rt
Array Ind. One Cond Ct
Shallow FE
Spontaneous Potential
105°
Gamma Ray
Cal. Uphole Tension
1700
106°
1800
107°
1900
106°
2000
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2100
107°
2200
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2300
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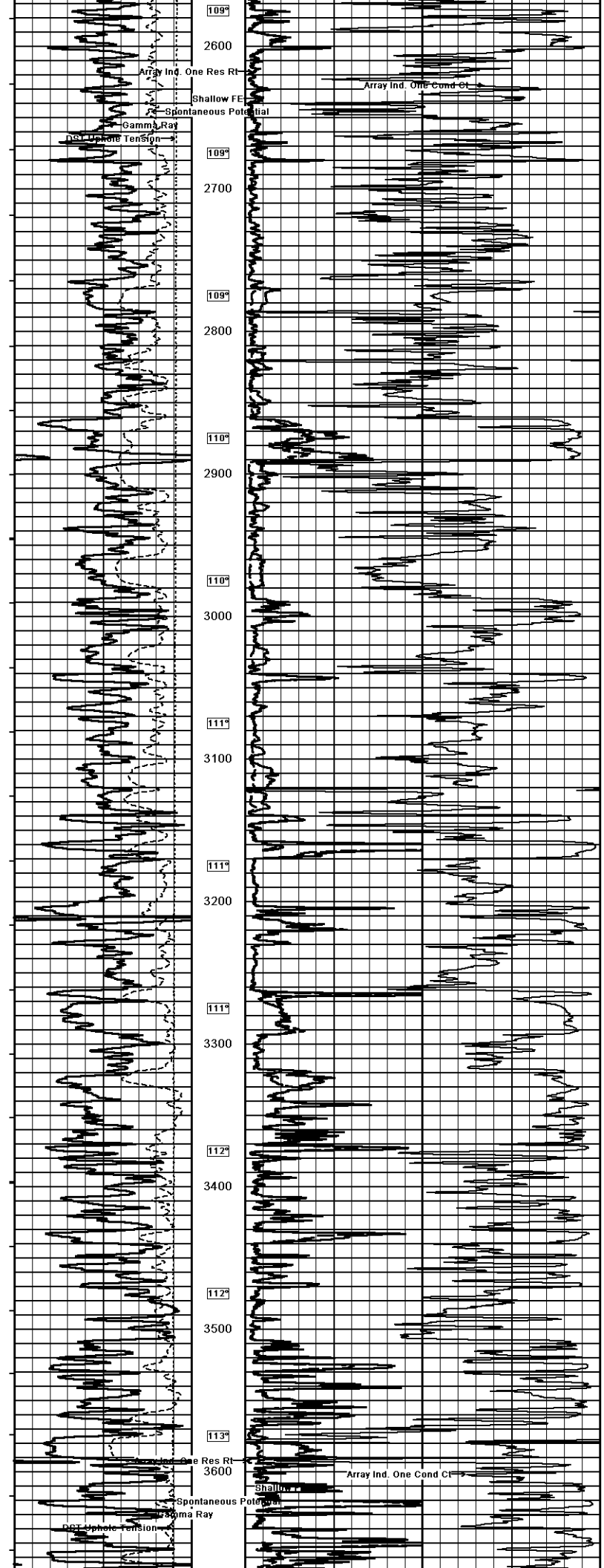
2400
108°
2500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Array Ind. One Res Rt
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
Array Ind. One Cond Ct
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109°
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110°
2900
110°
3000
111°
3100
111°
3200
111°
3300
112°
3400
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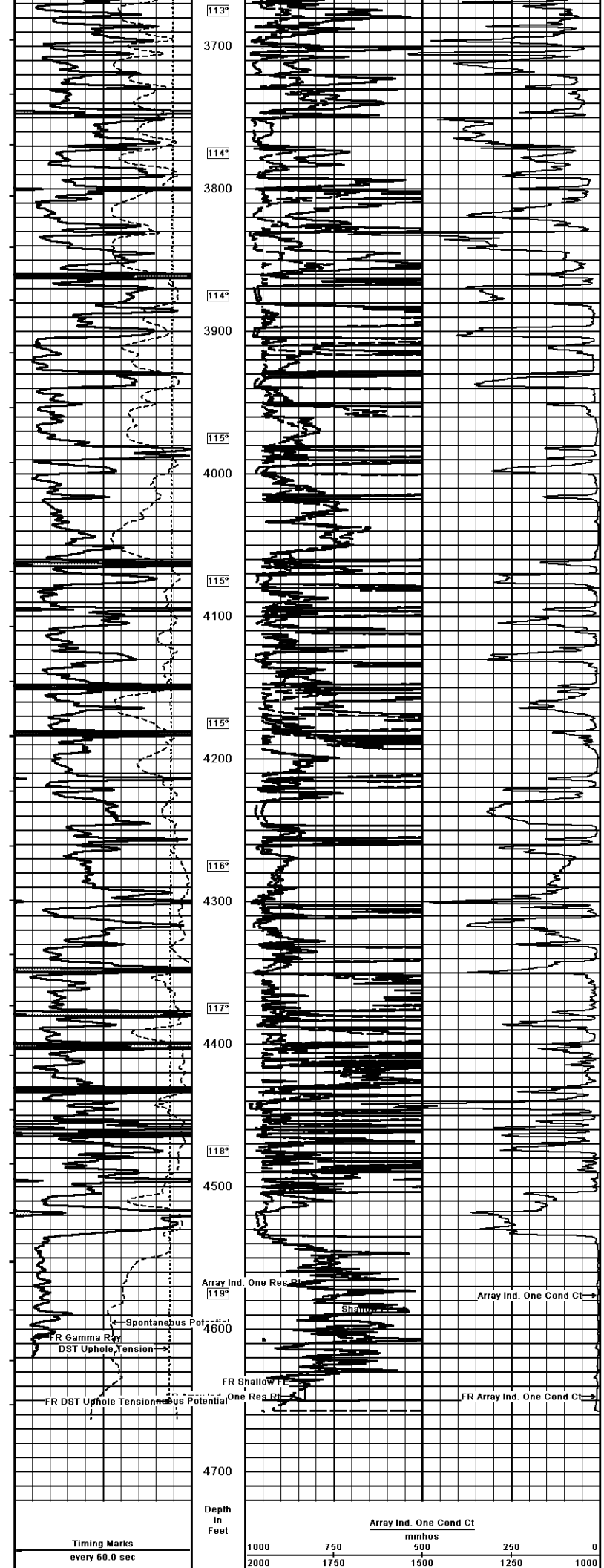
3500
113°
3600
Array Ind. One Res Rt
Array Ind. One Cond Ct
Shallow
Spontaneous Potential
Gamma Ray
DST Uphole Tension


113°
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114°
3800
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3900
115°
4000
115°
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115°
4200
116°
4300
117°
4400
118°
4500
119°
4600
4700
Array Ind. One Res RI
Array Ind. One Cond Ct
Shallow
Spontaneous Potential
FR Gamma Ray
DST Uphole Tension
FR Shallow FE
One Res RI
FR DST Uphole Tension
Spontaneous Potential
FR Array Ind. One Cond Ct
Timing Marks
every 60.0 sec
Depth
in
Feet
Array Ind. One Cond Ct
mmhos
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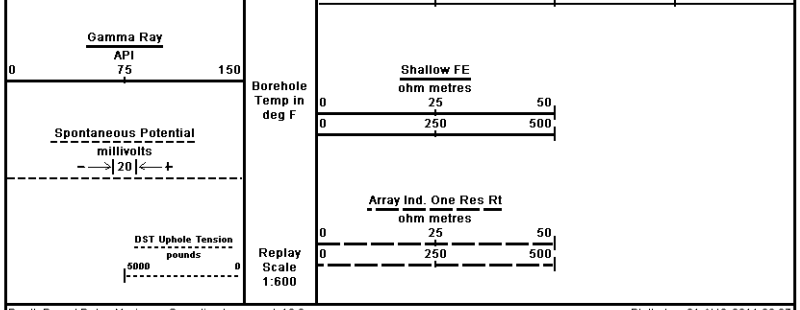
750
500
250
0
2000
1750
1500
1250
1000



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 31-AUG-2011 09:37

Filename: C:\DOCUME~1\sysadmin\LOCALS~1\Temp\Weatherford Pr...\Grand Mesa E & E # 1-34_003.dta — Recorded on 12-AUG-2011 18:06

System Versions: Logged with 11.03.4044 Plotted with 12.01.3513

1 INCH MAIN

COMPANY	GRAND MESA OPERATING COMPANY
WELL	E & E # 1-34
FIELD	WILDCAT
PROVINCE/COUNTY	LOGAN
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	2879.00	feet	First Reading	4648.00	feet
Elevation Drill Floor	2877.00	feet	Depth Driller	4650.00	feet
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