Weatherford

COMPOSITE LOG

COMPANY	O'BRIEN RESOURCES, LLC
WELL	BOOMHOWER 36 #3
FIELD	BOOMHOWER
PROVINCE/COUNTY	LANE
COUNTRY/STATE	U.S.A. / KANSAS
LOCATION	1309' FSL & 2300' FEL NE NW SW SE

SEC	TWP	RGE	Other Services
36	17S	29W	

API Number 15-101-22464
Permit Number

Permanent Datum G.L, Elevation 2774 feet
Log Measured From KB
Drilling Measured From K.B. @ 10 FEET

Elevations:	feet
KB	2784.00
DF	2782.00
GL	2774.00

Date	25-OCT-2013			
Run Number	ONE			
Service Order	3539911			
Depth Driller	4685.00	feet		
Depth Logger	4683.00	feet		
First Reading	4664.00	feet		
Last Reading	3300.00	feet		
Casing Driller	275.00	feet		
Casing Logger	276.00	feet		
Bit Size	7.875	inches		
Hole Fluid Type	CHEMICAL			
Density / Viscosity	9.30 lb/USg		44.00 CP	
PH / Fluid Loss	11.00		5.60 ml/30Min	
Sample Source	FLOWLINE			
Rm @ Measured Temp	1.02 @ 78.0	ohm-m		
Rmf @ Measured Temp	0.82 @ 78.0	ohm-m		
Rmc @ Measured Temp	1.22 @ 78.0	ohm-m		
Source Rmf / Rmc	CALC		CALC	
Rm @ BHT	0.69 @115.0	ohm-m		
Time Since Circulation	3 HOURS			
Max Recorded Temp	115.00	deg F		
Equipment / Base	13057		LIB	
Recorded By	ROB HOFFMAN			
Witnessed By	KURT TALBOTT			
JOB #	LB13-305			

BOREHOLE RECORD

Last Edited: 25-OCT-2013 06:19

Bit Size inches	Depth From feet	Depth To feet
7.875	275.00	4685.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	275.00	24.00

REMARKS

- SOFTWARE ISSUE: 13.05.9583
- MCG, MML, MDN, MPD, MFE, MAI RAN IN COMBINATION
- HARDWARE: DUAL BOWSPRING USED ON MDN
  0.5 INCH STANDOFF USED ON MFE_MAI
- 2.71 G/CC LIMESTONE DENSTIY MATRIX USED TO CALCULATE POROSITY
- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL EFFECT DATA QUALITY
- ALL INTERVALS LOGGED AND SCALED PER CUSTOMRES REQUEST
- TOTAL HOLE VOLUME FROM TD TO SURFACE CASING: 1732 CU.FT.
- ANNULAR HOLE VOLUME WITH 4.5 INCH PRODUCTION CASING FROM TD TO 3300 FEET: 339 CU.FT.
- RIG: VAL DRILLING RIG #2

RIG: VAL DRILLING RIG #2

- ENGINEER: ROB HOFFMAN, JOHN LAPOINT

- OPERATOR: CARLOS RAMIREZ

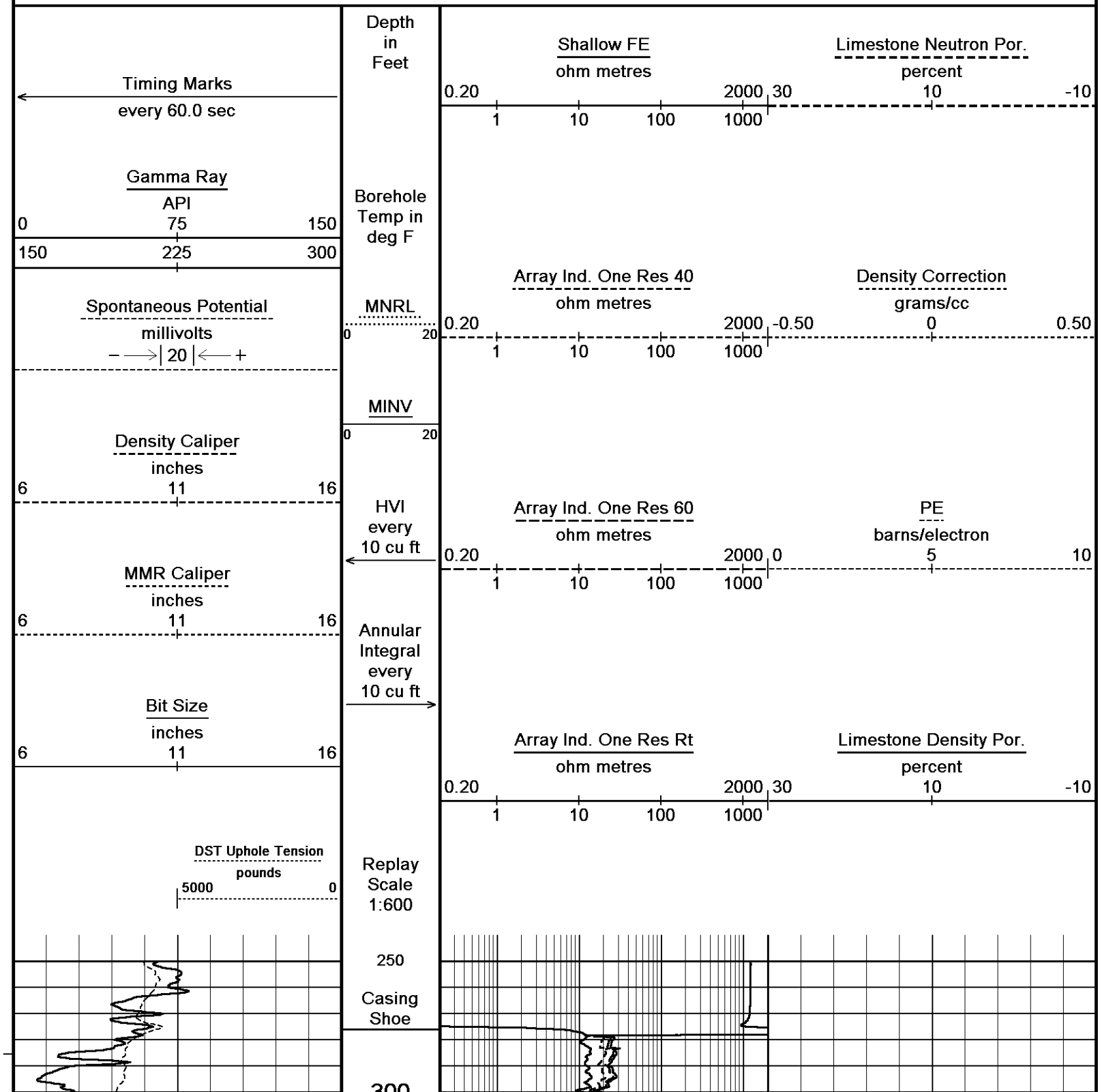
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs,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

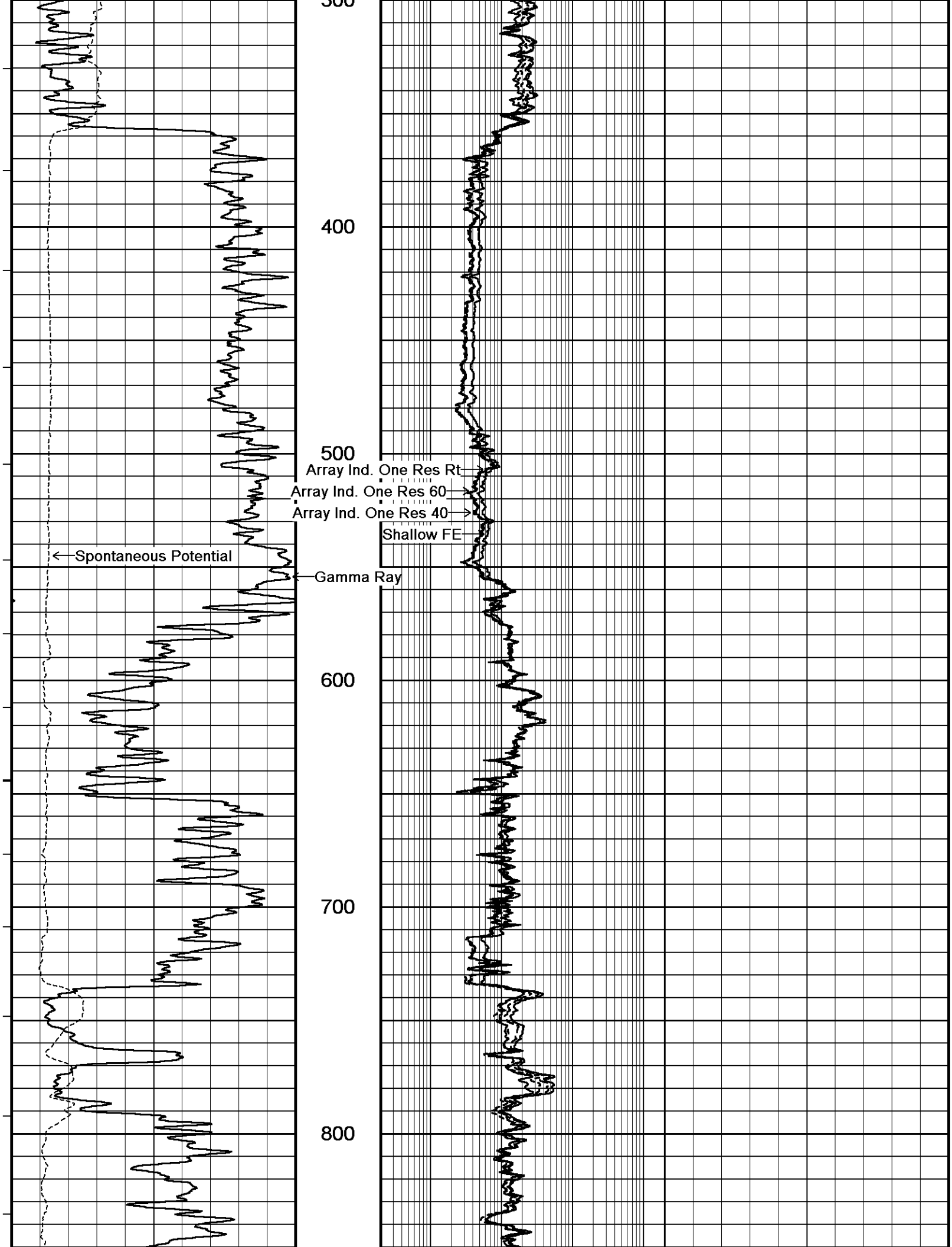
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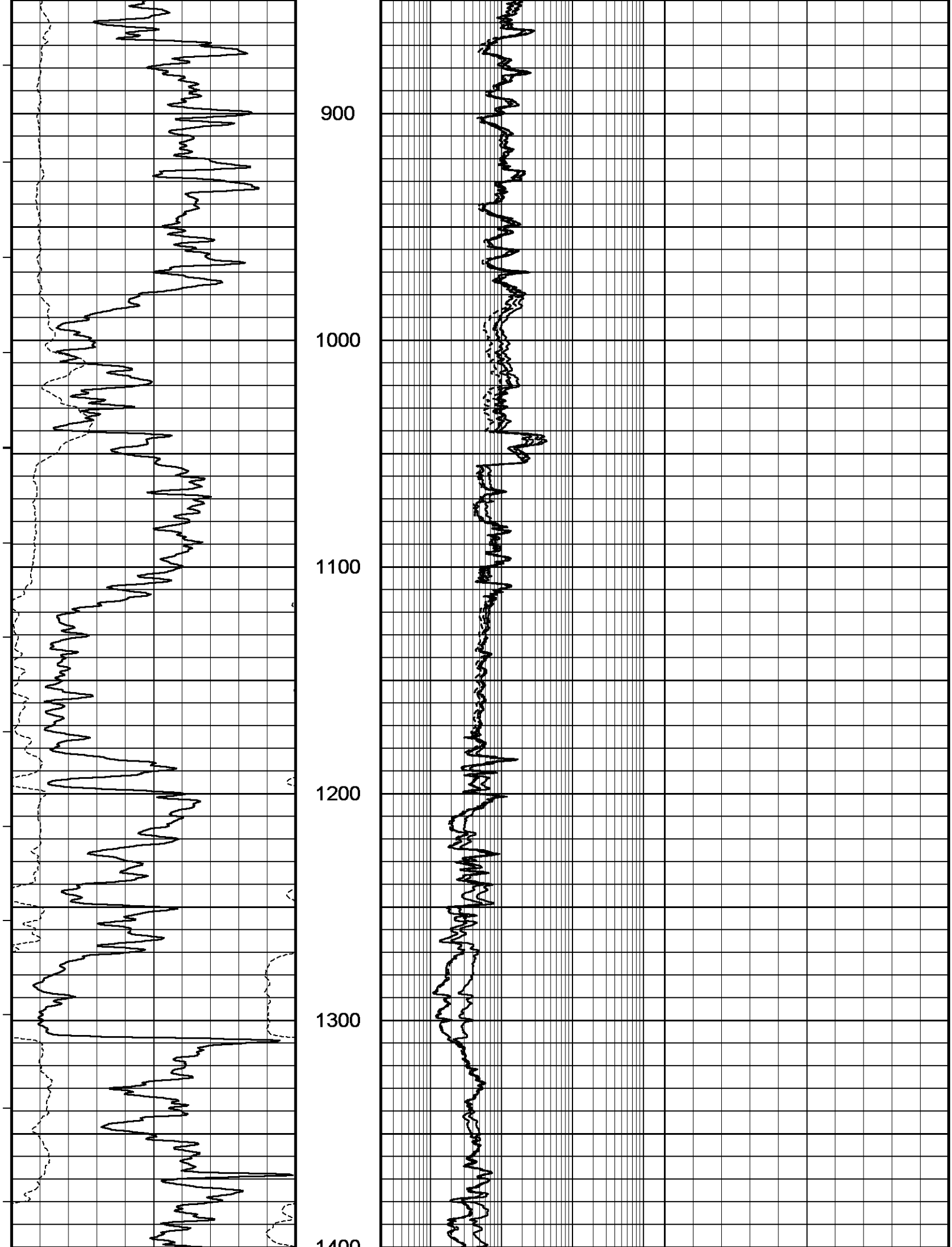
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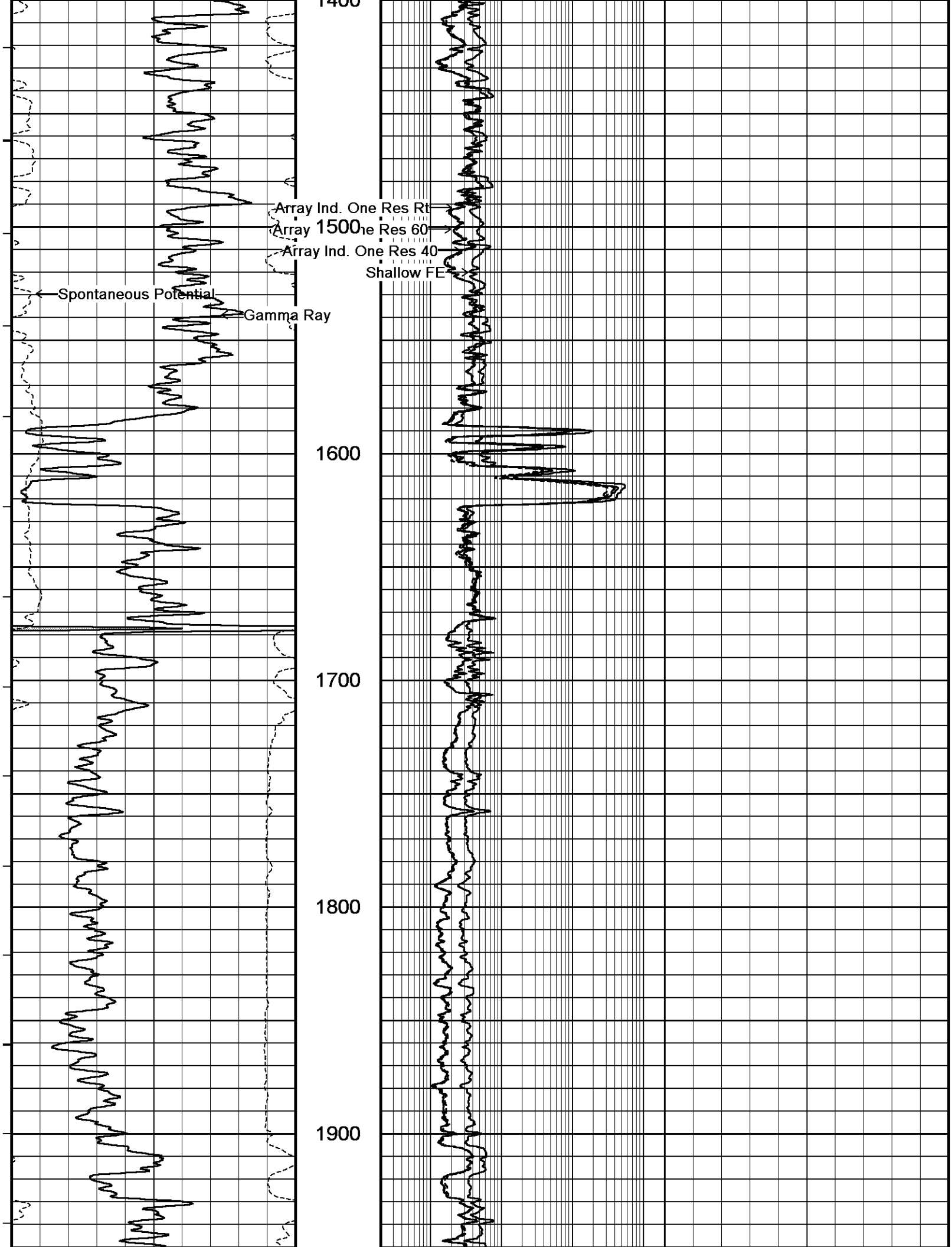
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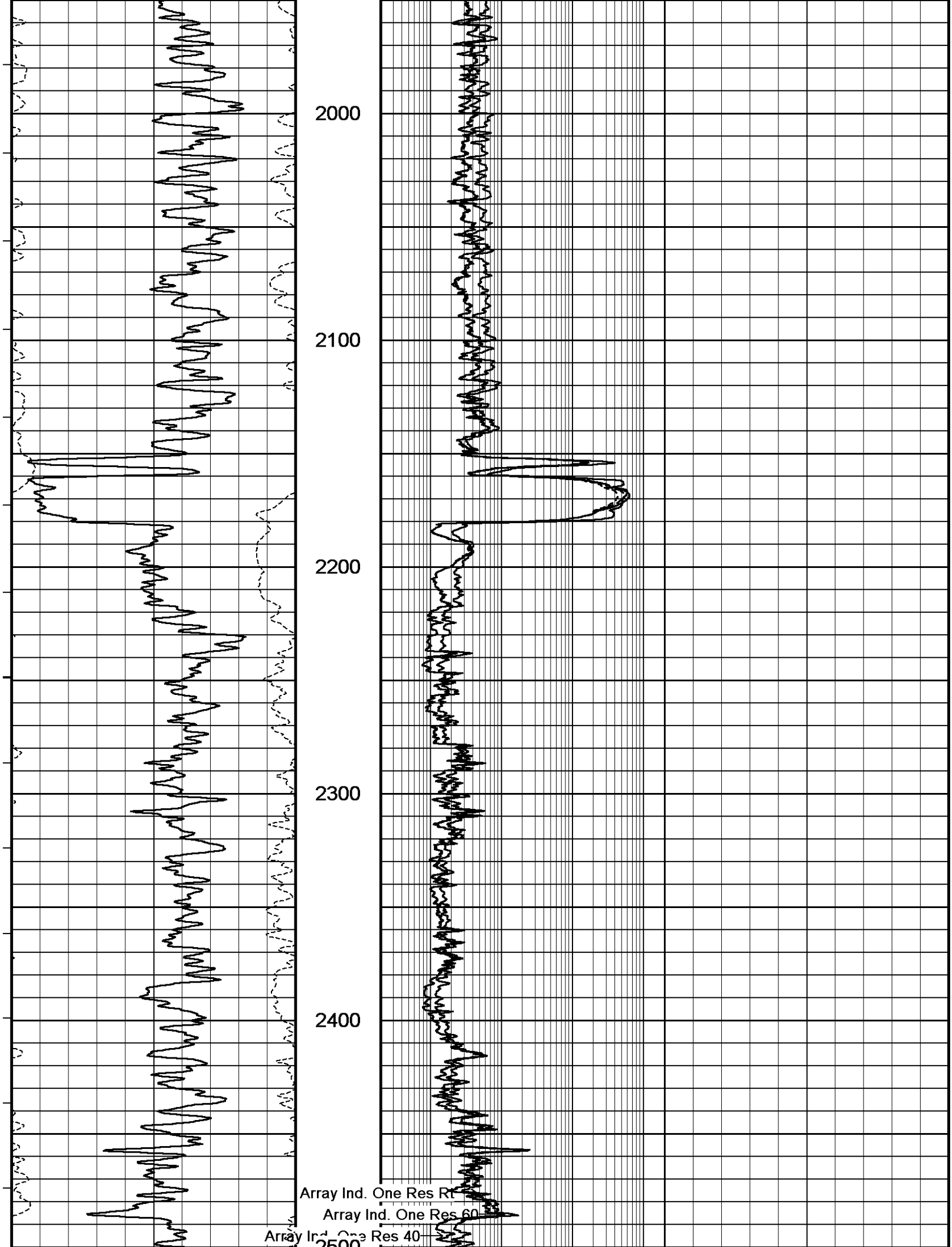
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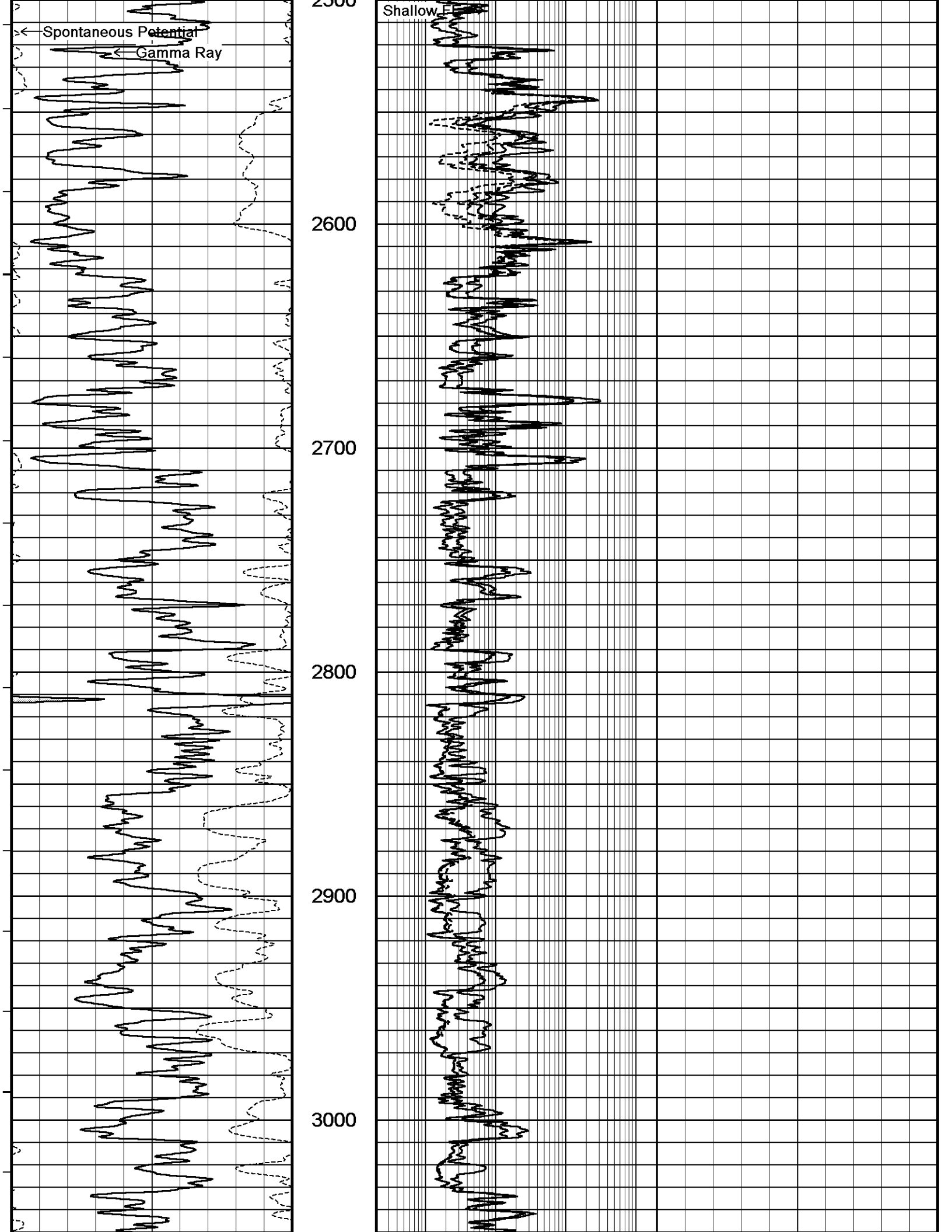


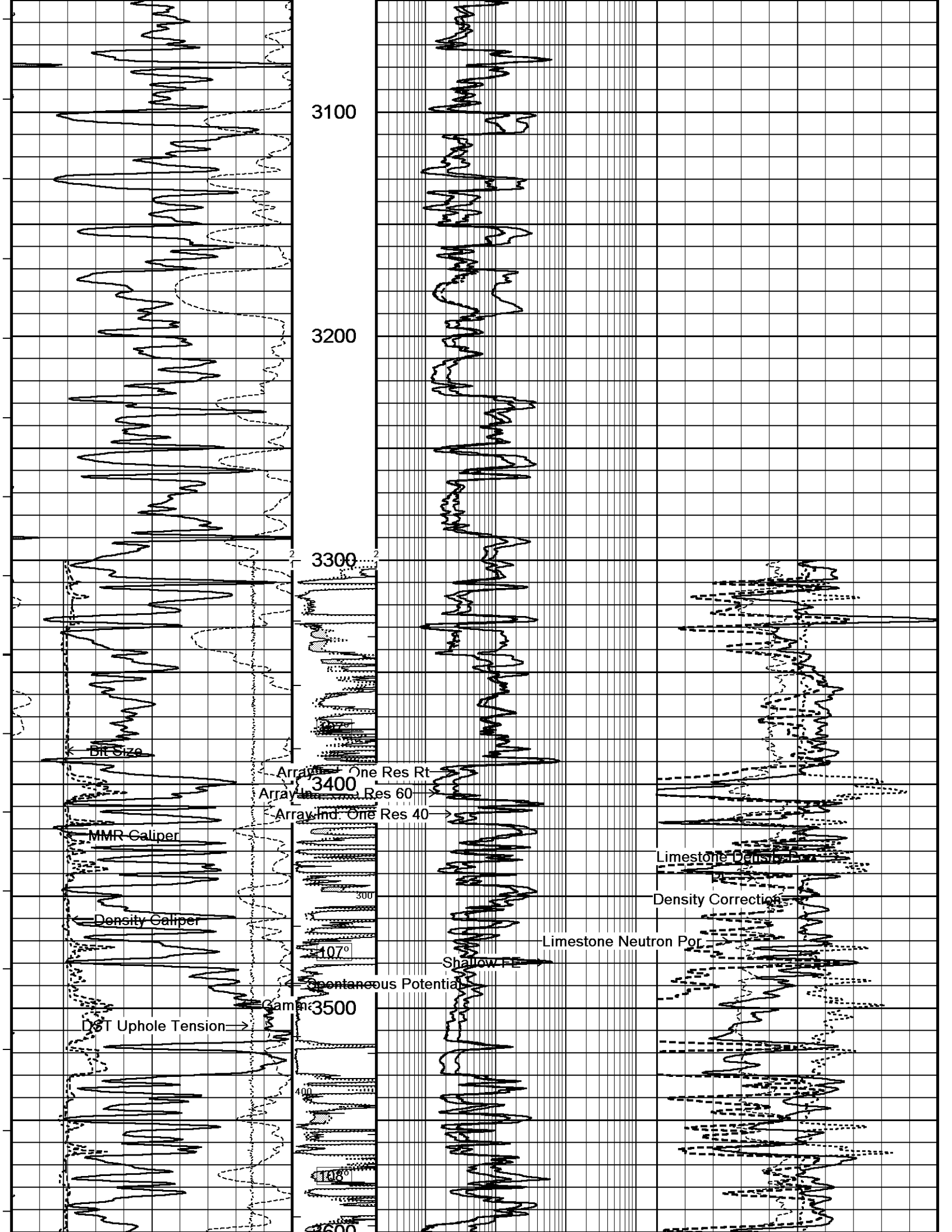

300
400
500
600
700
800
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Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray

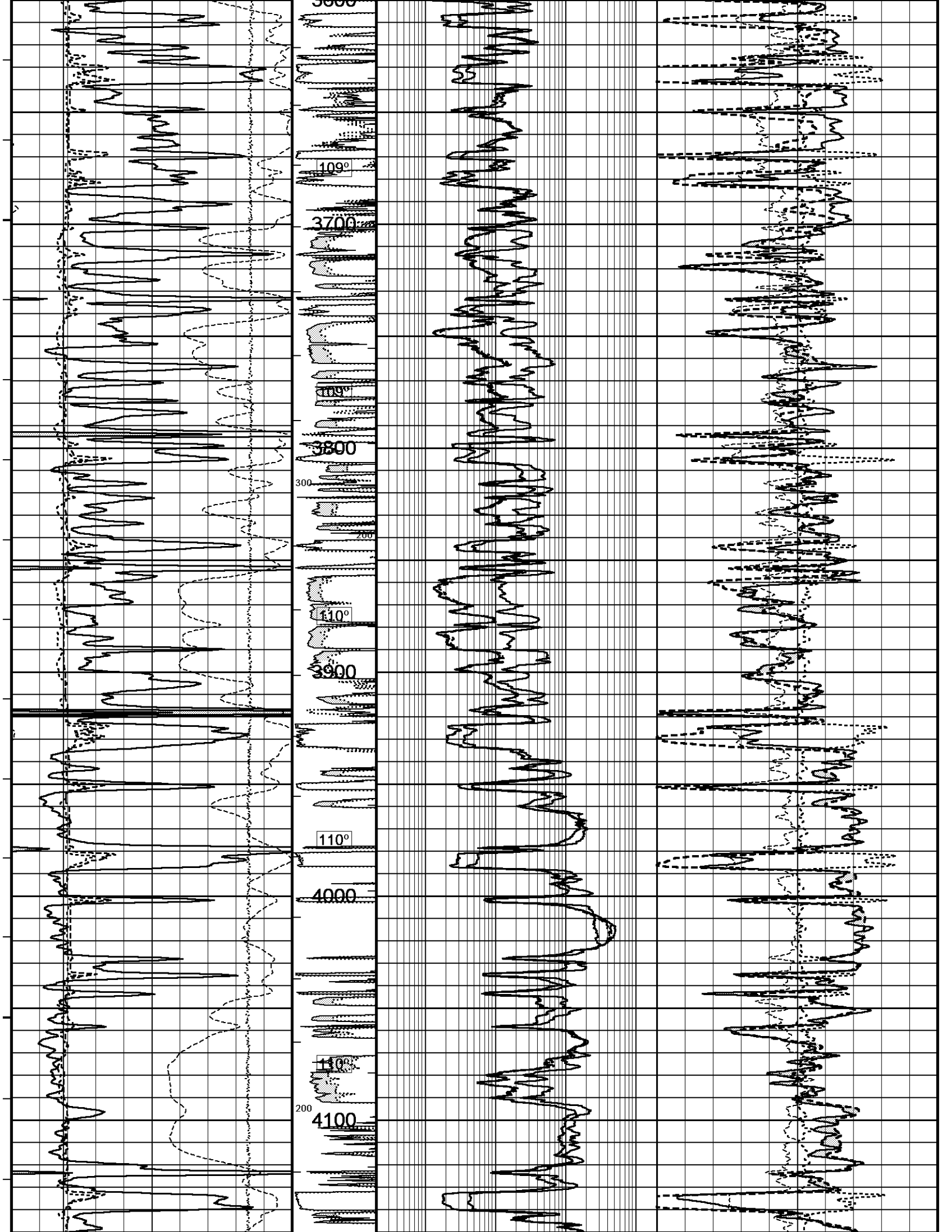

900
1000
1100
1200
1300
1400

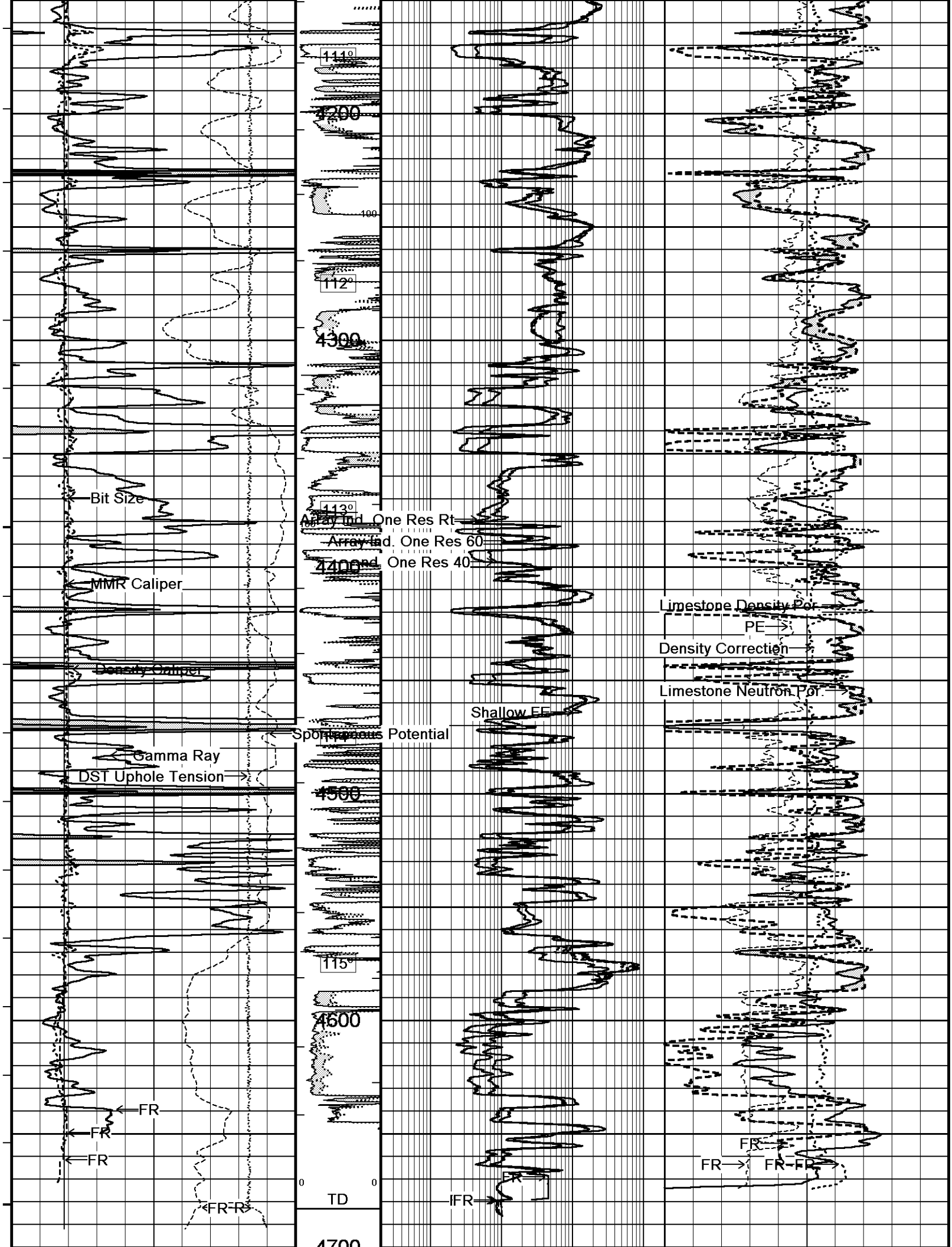

1400
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Array 1500 ne Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
1600
1700
1800
1900

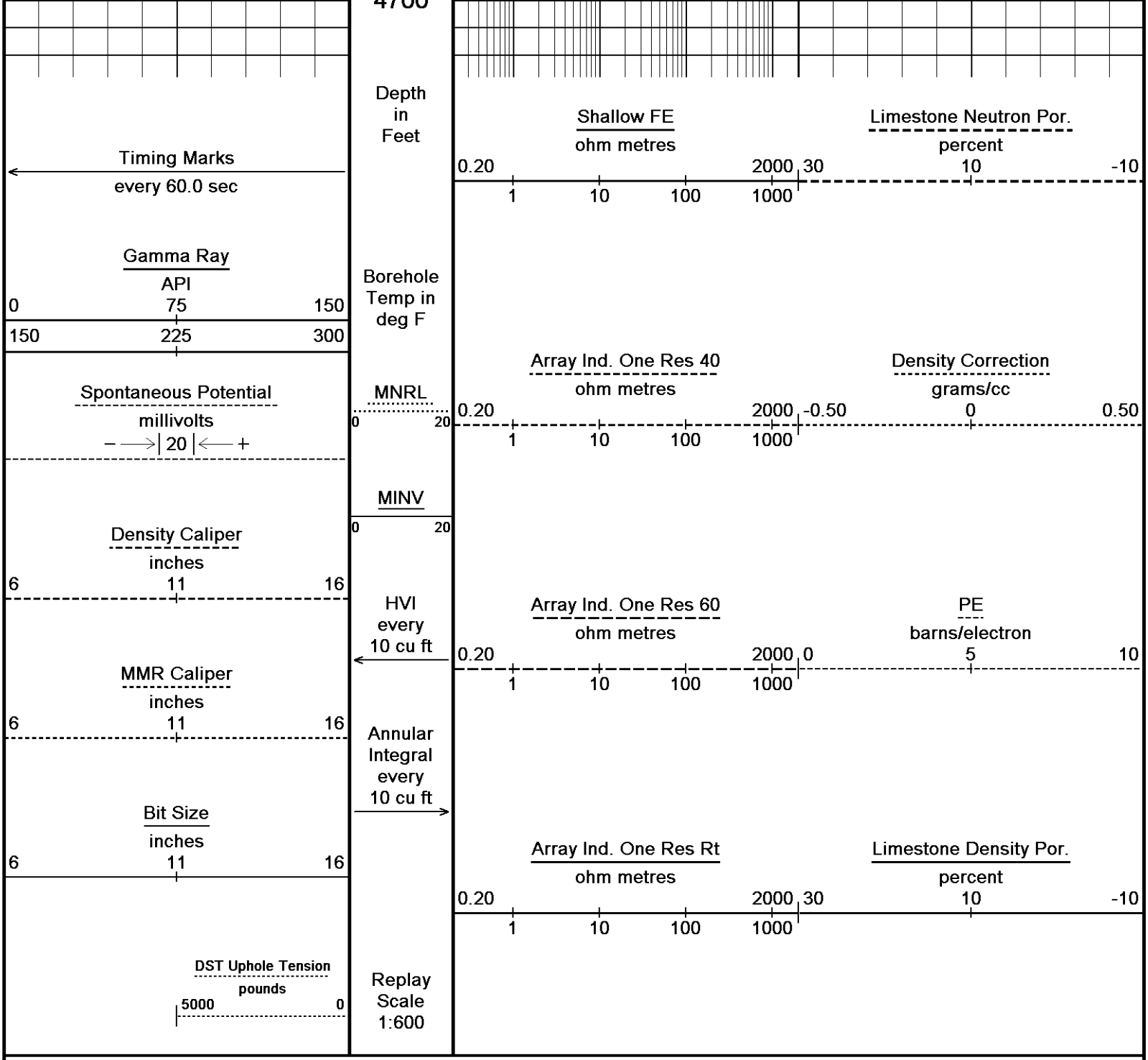

2000
2100
2200
2300
2400
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
2500


Spontaneous Potential
Gamma Ray
Shallow
2500
2600
2700
2800
2900
3000


3100
3200
3300
3400
3500
3600
Bit Size
MMR Caliper
Density Caliper
DST Uphole Tension
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma
Limestone Density Por
Density Correction
Limestone Neutron Por
107°
108°


109°
3700
109°
3800
300
200
110°
3900
110°
4000
110°
200
4100


111°
4200
100
112°
4300
113°
4400
115°
4500
4600
4700
Bit Size
MMR Caliper
Density Caliper
Gamma Ray
DST Uphole Tension
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Spontaneous Potential
Shallow FE
Limestone Density Por.
PE
Density Correction
Limestone Neutron Por.
FR
FR
FR
FR-R
FR
FR
FR
FR
FR-FR
IFR
TD
0
0

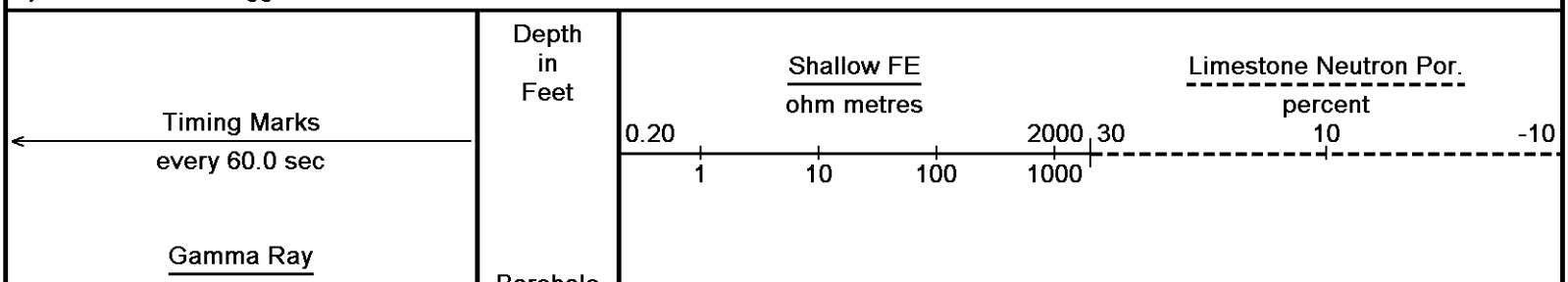


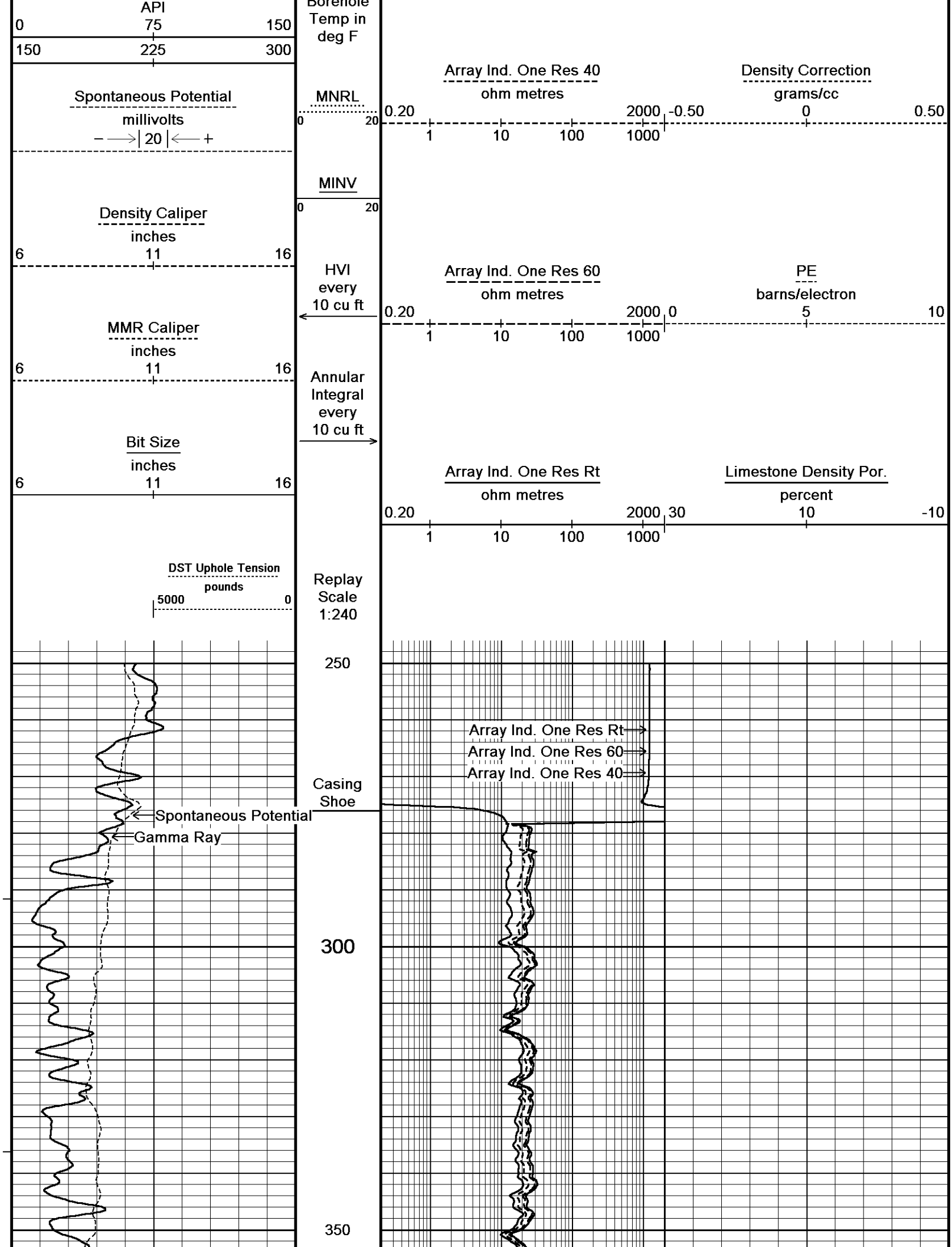
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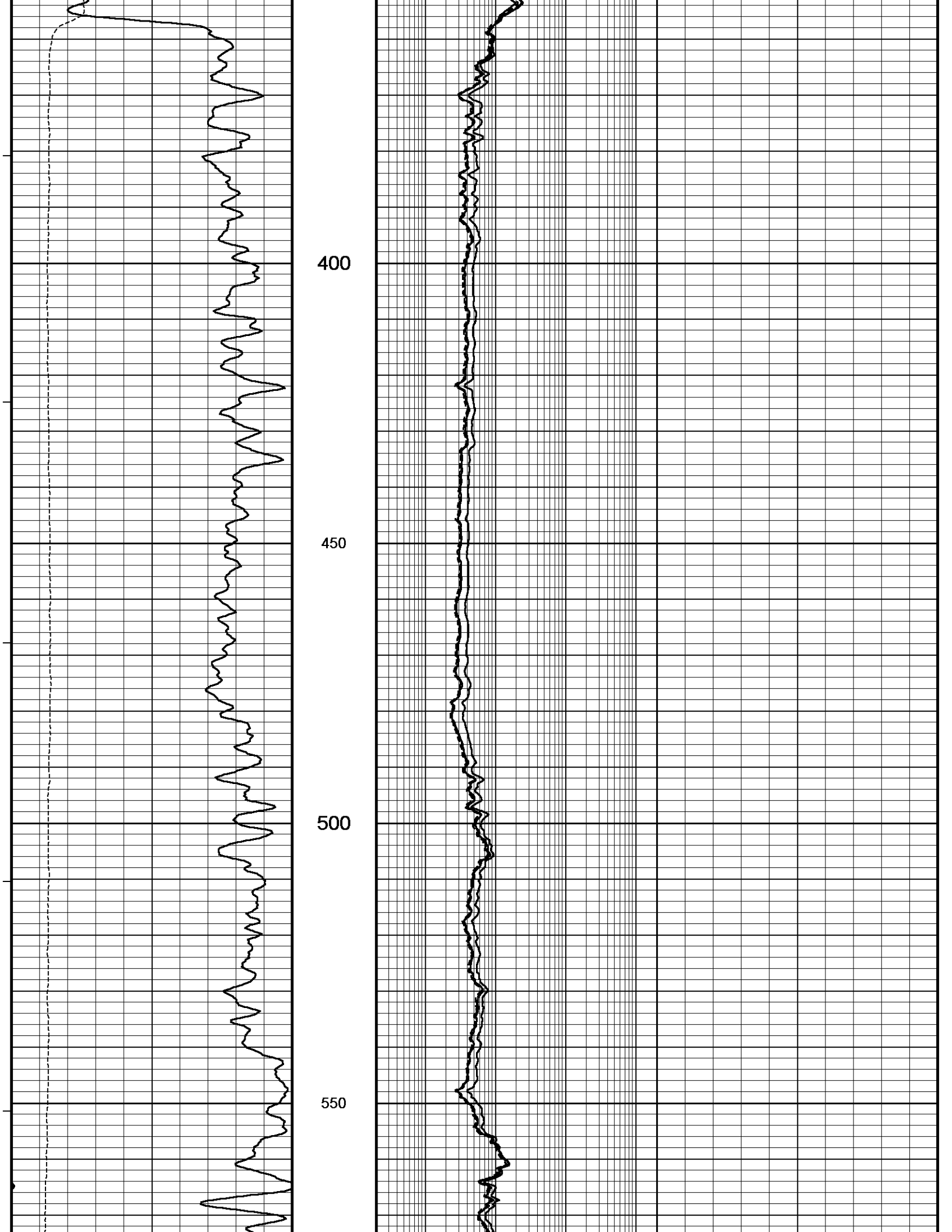
2 INCH MAIN

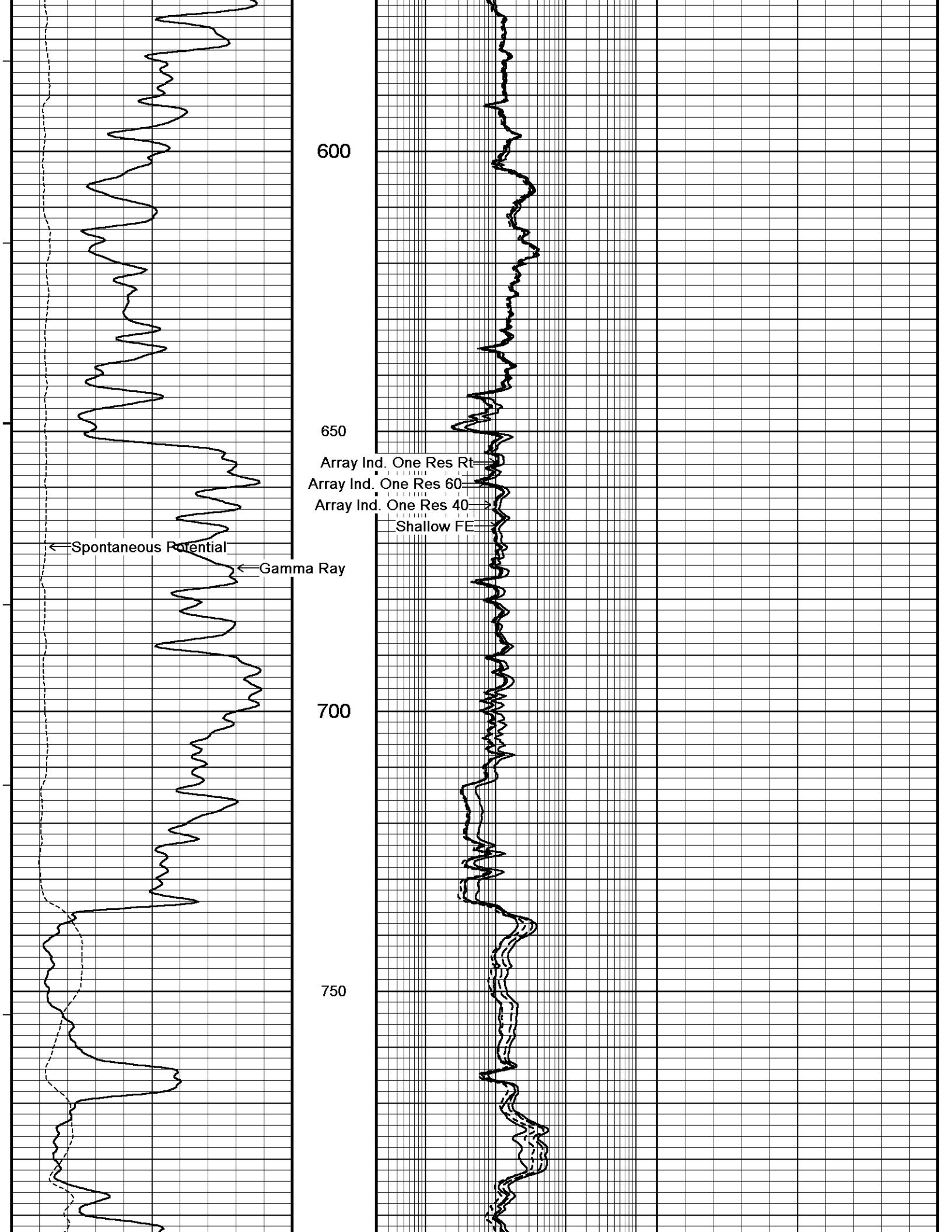
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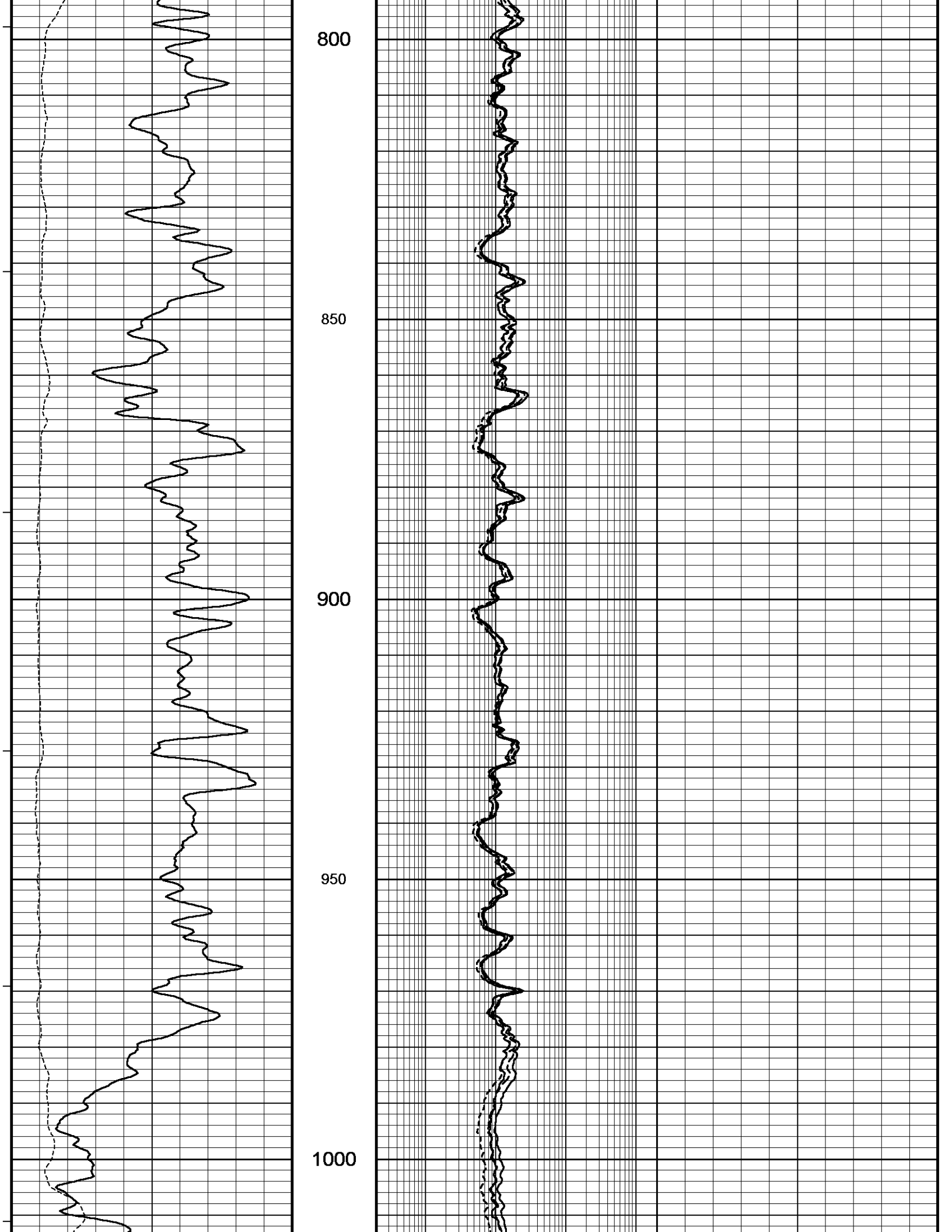
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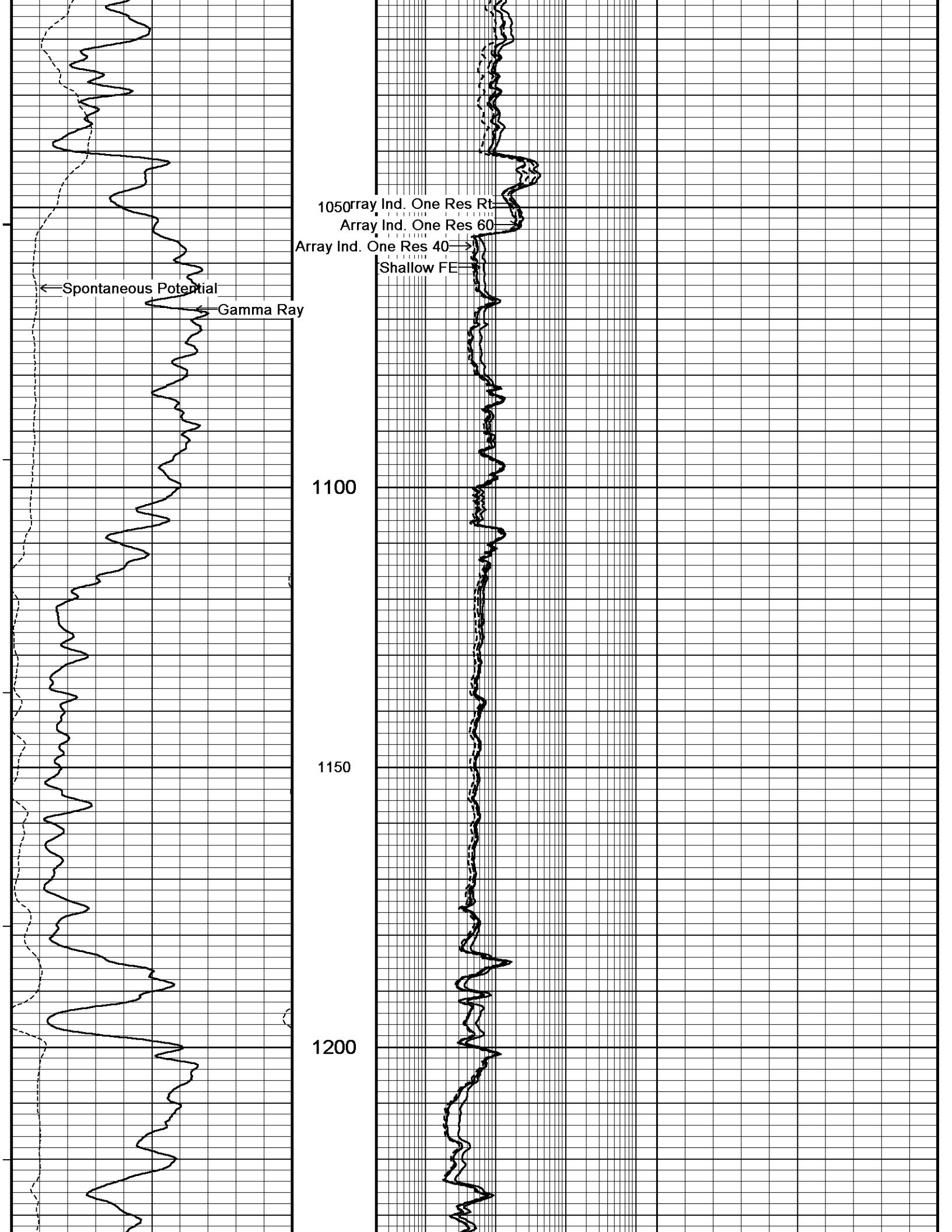


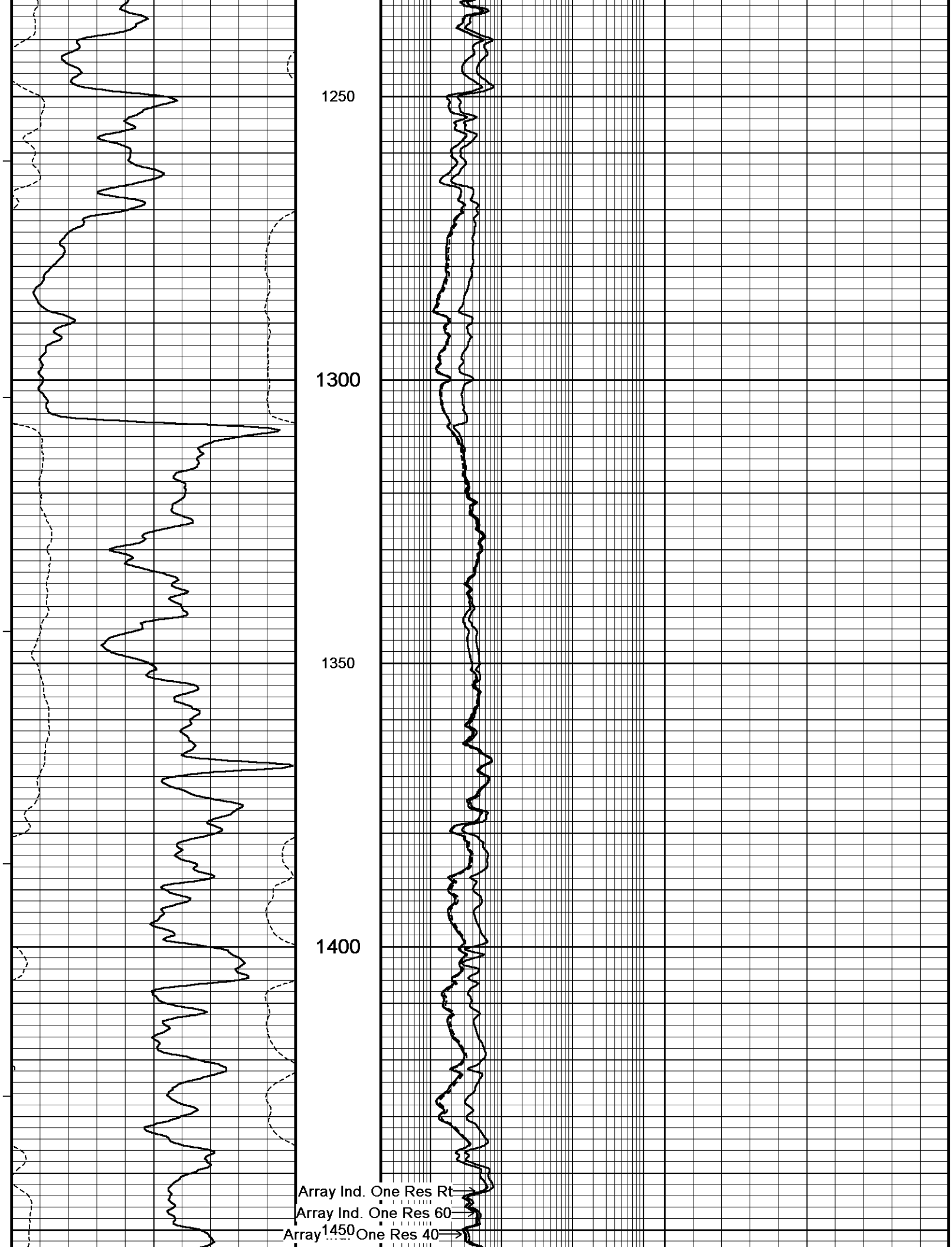

API
0
75
150
150
225
300
Spontaneous Potential
millivolts
20
Density Caliper
inches
6
11
16
MMR Caliper
inches
6
11
16
Bit Size
inches
6
11
16
DST Uphole Tension
pounds
5000
0
Borehole Temp in deg F
MNRL
0
20
MINV
0
20
HVI every 10 cu ft
Annular Integral every 10 cu ft
Replay Scale 1:240
Array Ind. One Res 40
ohm metres
0.20
2000
1
10
100
1000
Density Correction
grams/cc
-0.50
0
0.50
Array Ind. One Res 60
ohm metres
0.20
2000
1
10
100
1000
PE
barns/electron
0
5
10
Array Ind. One Res Rt
ohm metres
0.20
2000
1
10
100
1000
Limestone Density Por.
percent
30
10
-10
250
300
350
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Casing Shoe
Spontaneous Potential
Gamma Ray

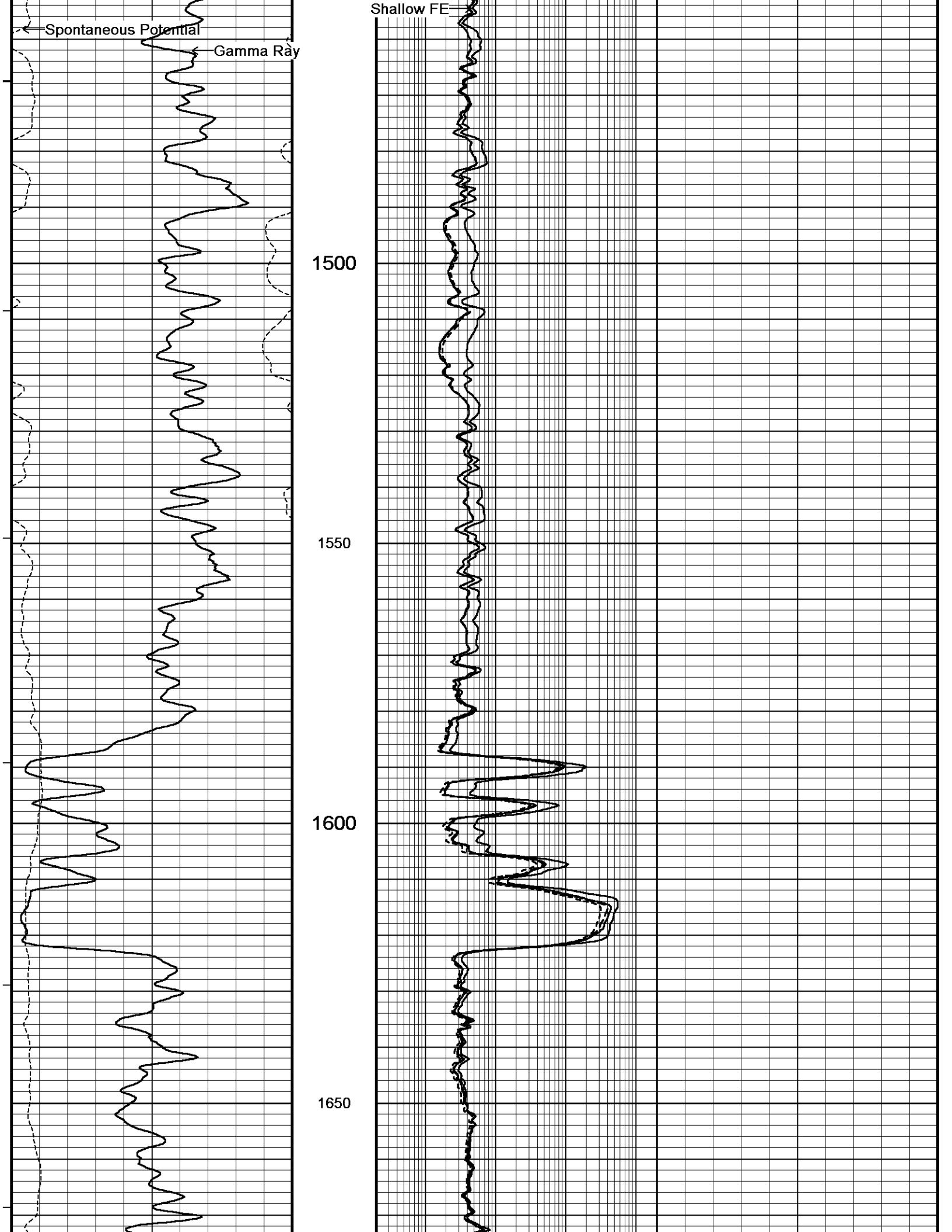

400
450
500
550

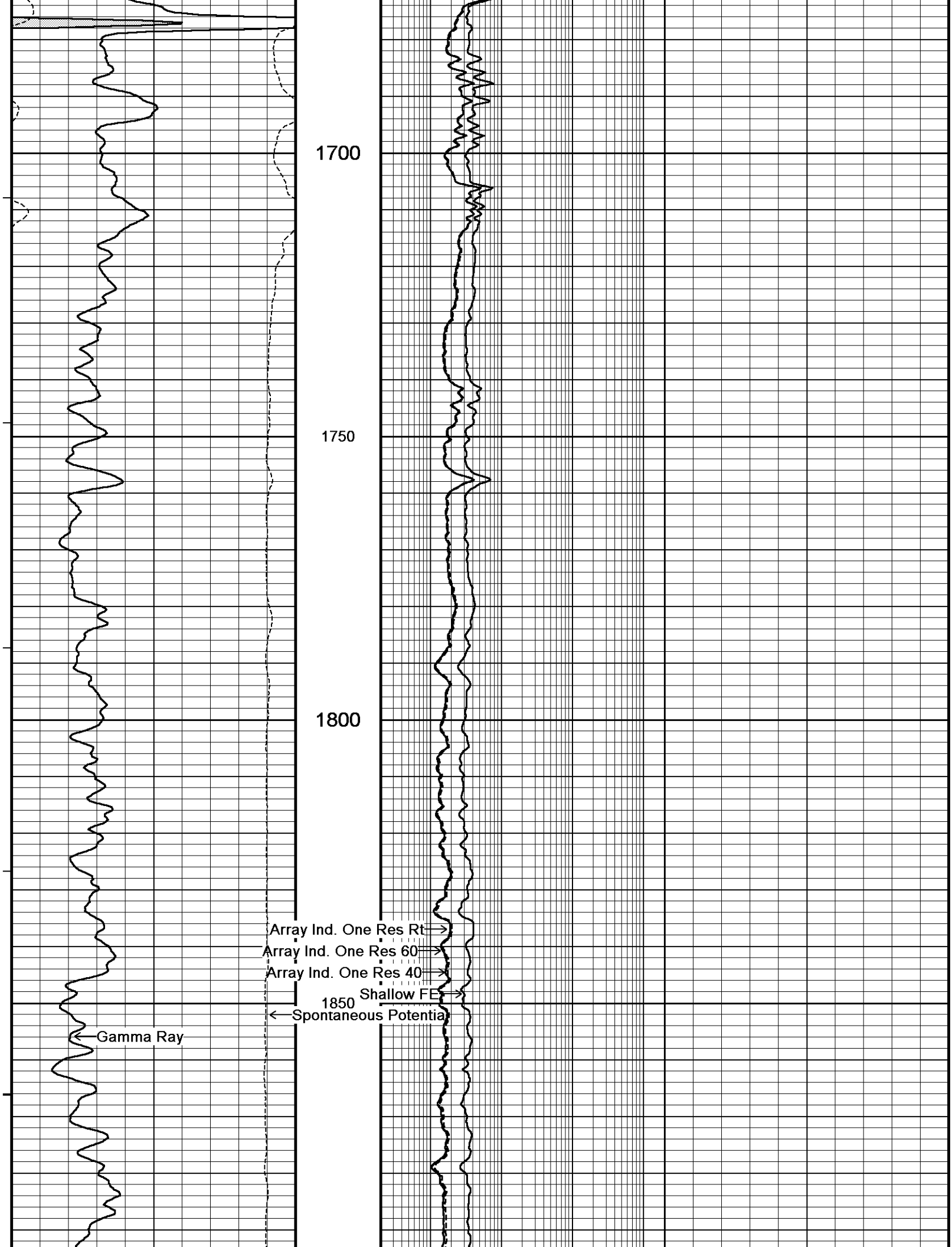

600
650
700
750
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray

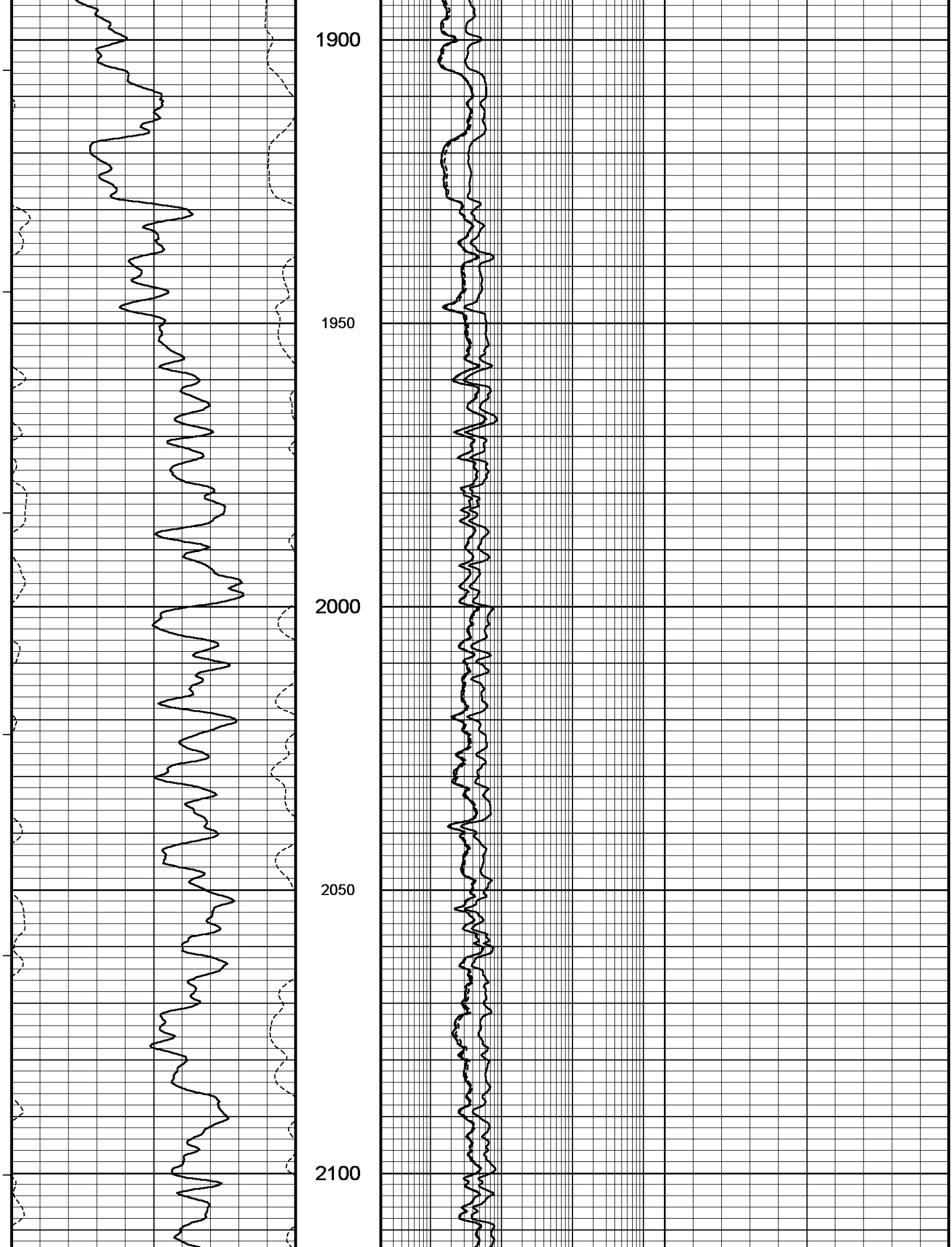

800
850
900
950
1000

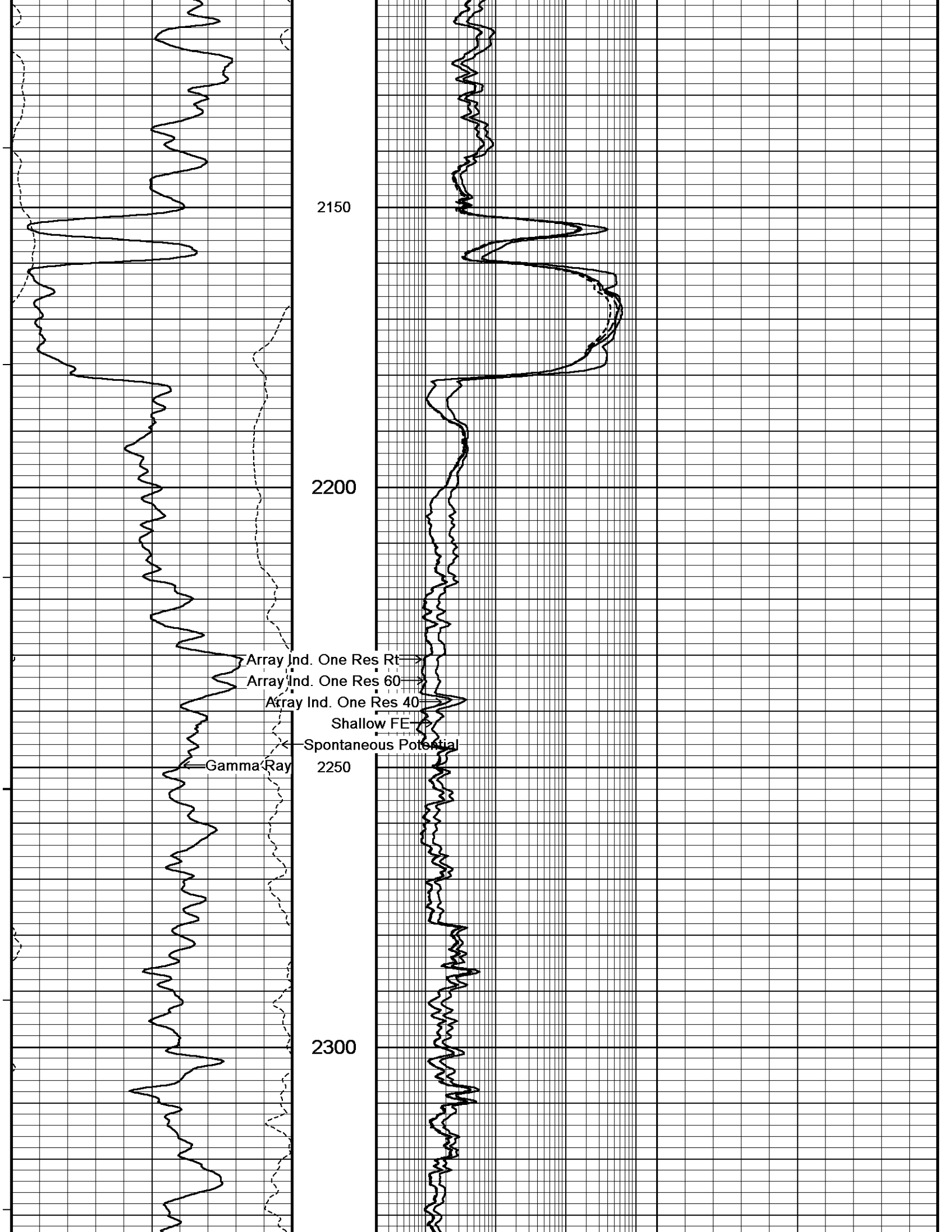

1050
rray Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
1100
1150
1200

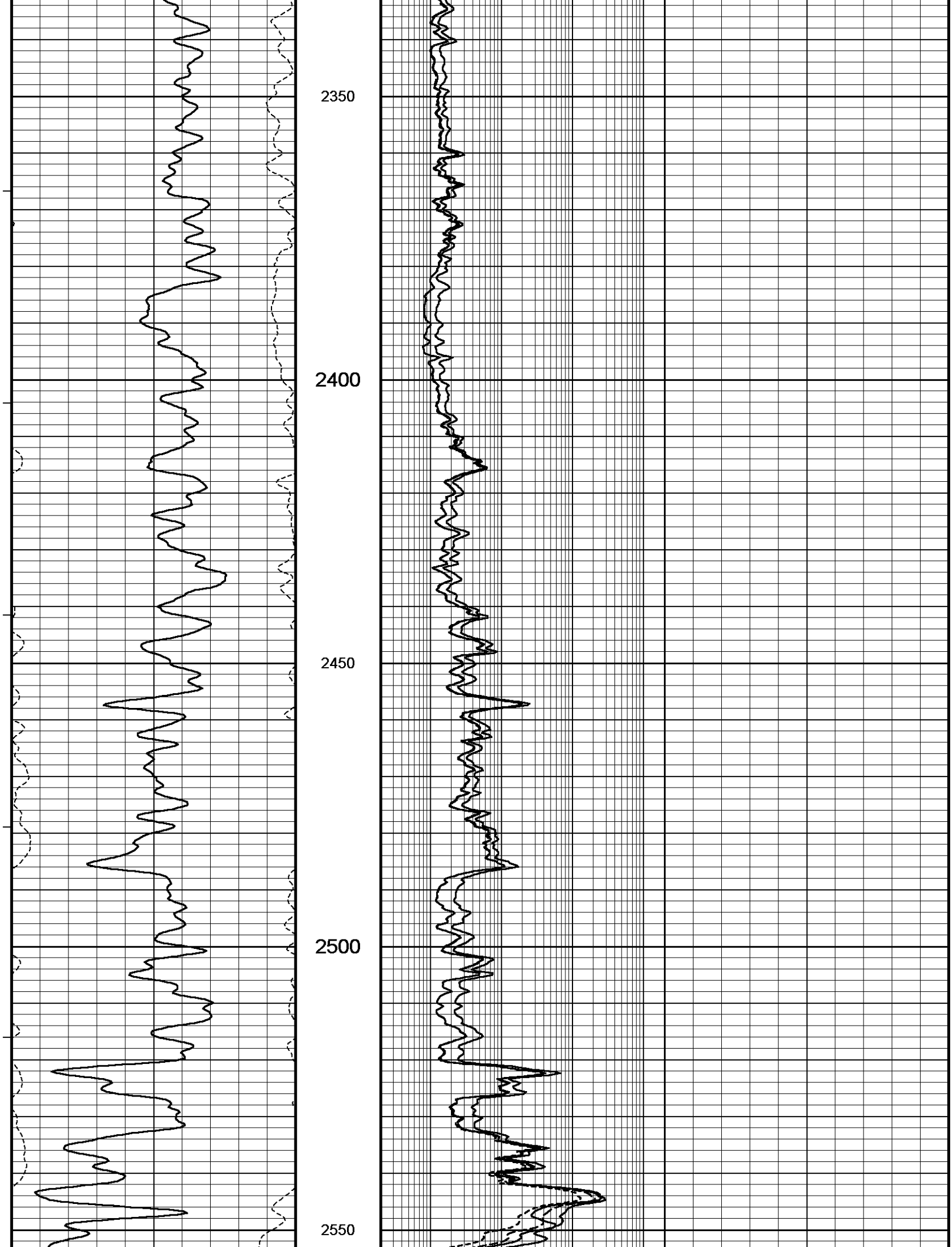

1250
1300
1350
1400
1450
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40

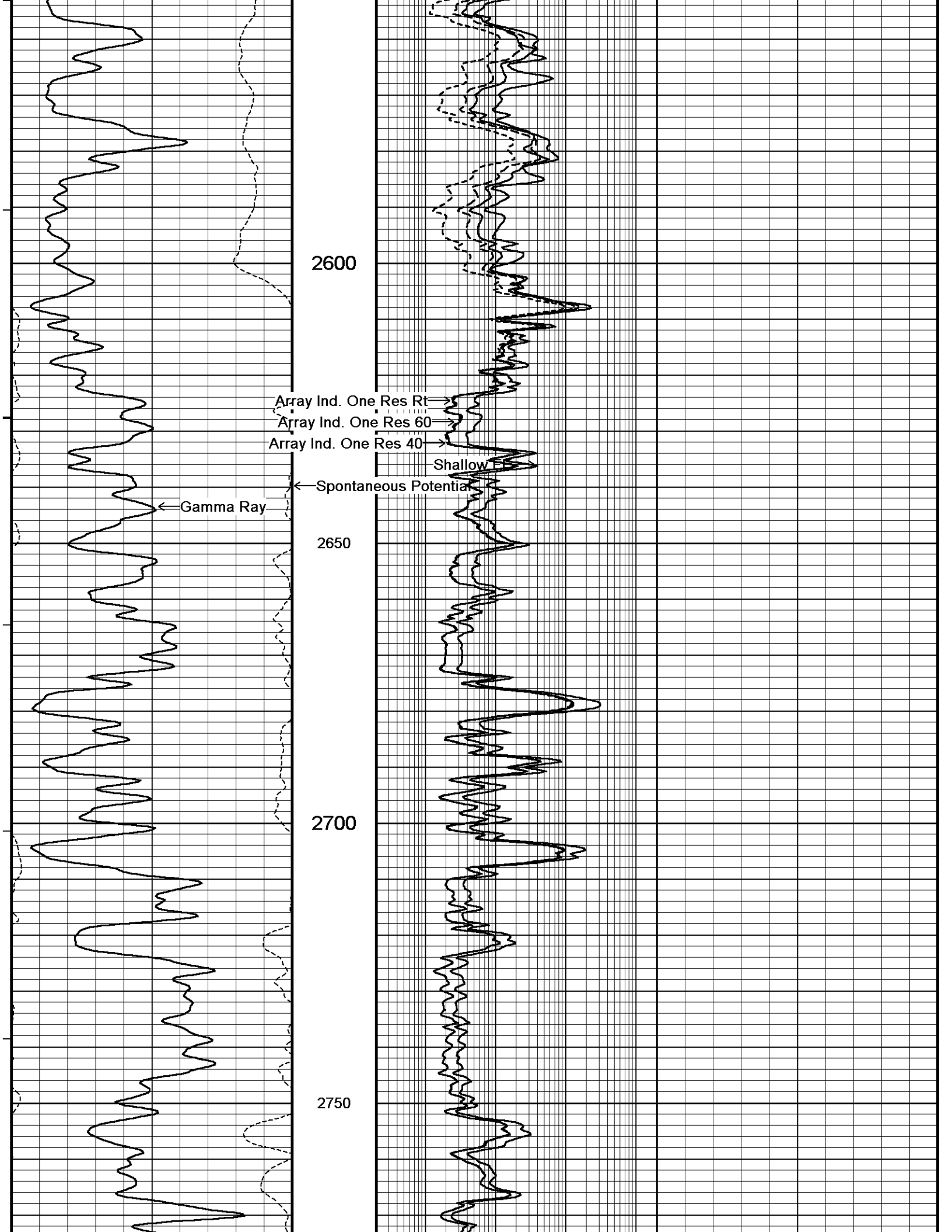

Spontaneous Potential
Gamma Ray
Shallow FE
1500
1550
1600
1650

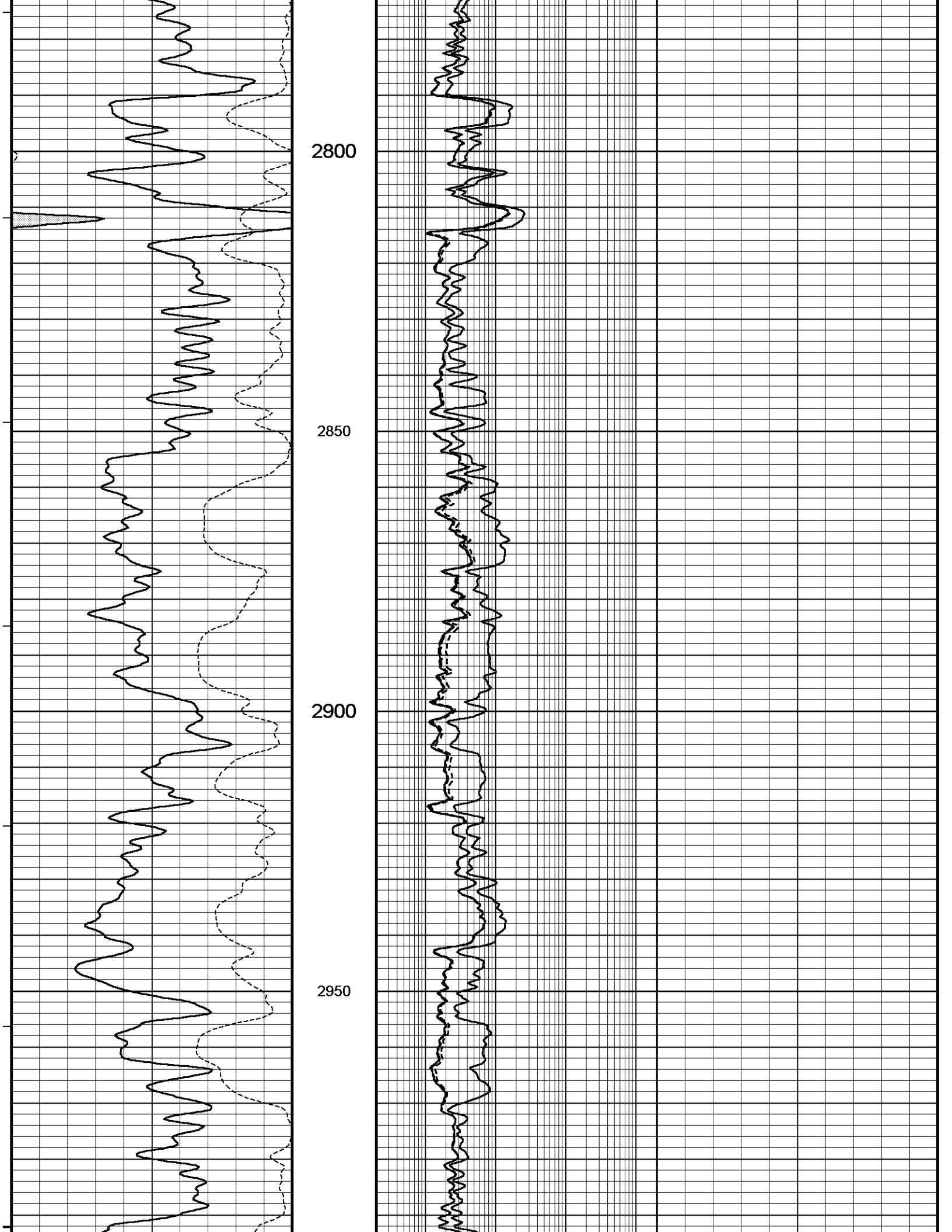

1700
1750
1800
1850
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray

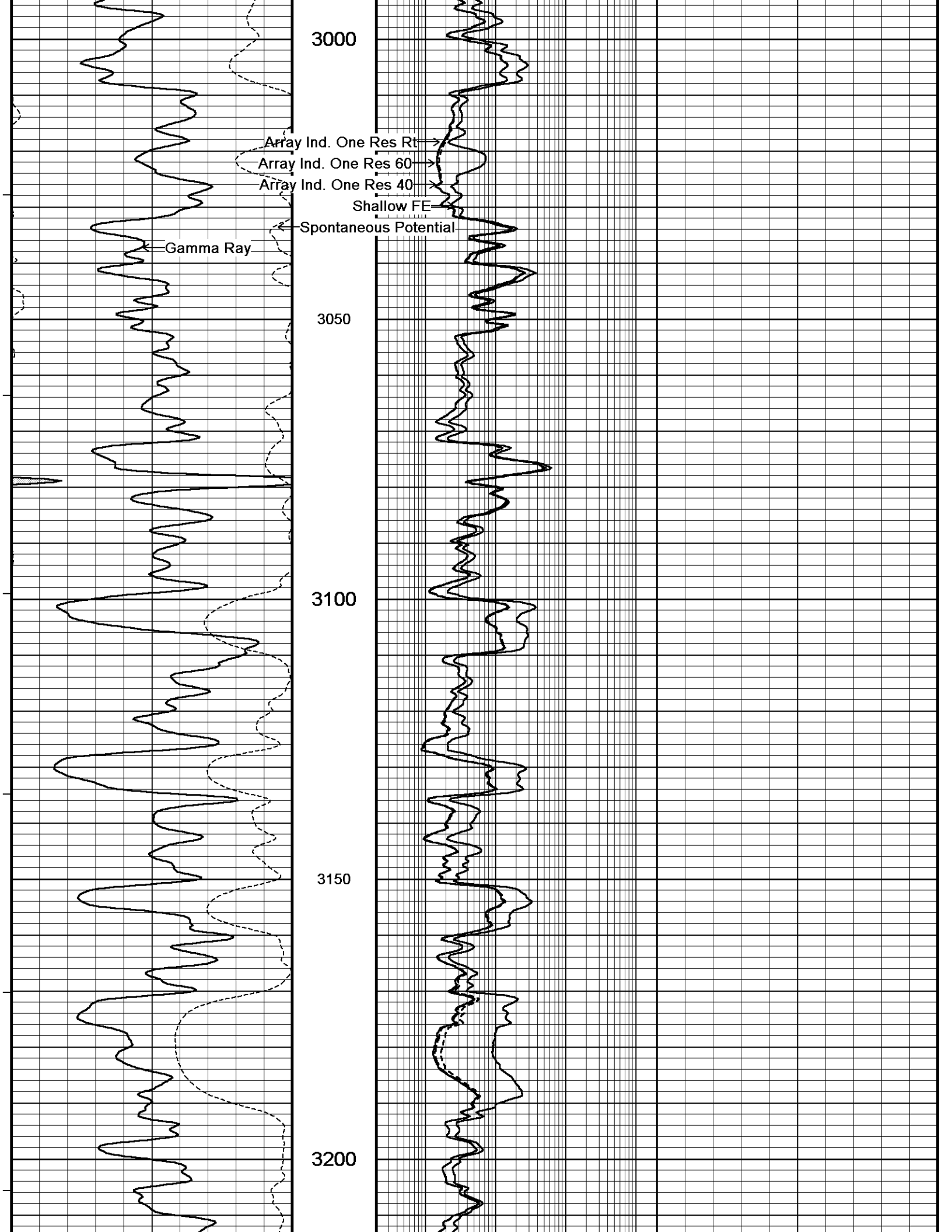

1900
1950
2000
2050
2100

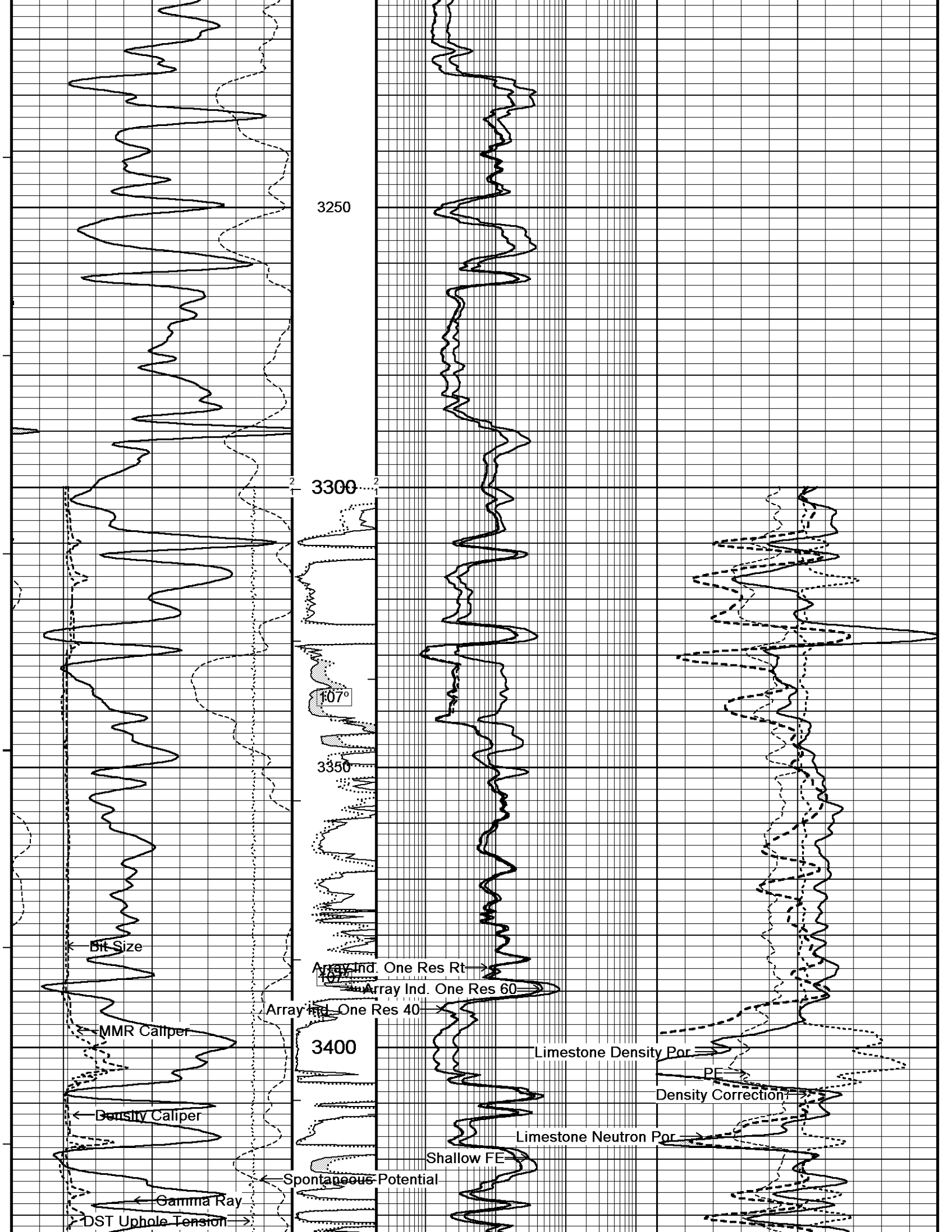

2150
2200
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
2250
2300

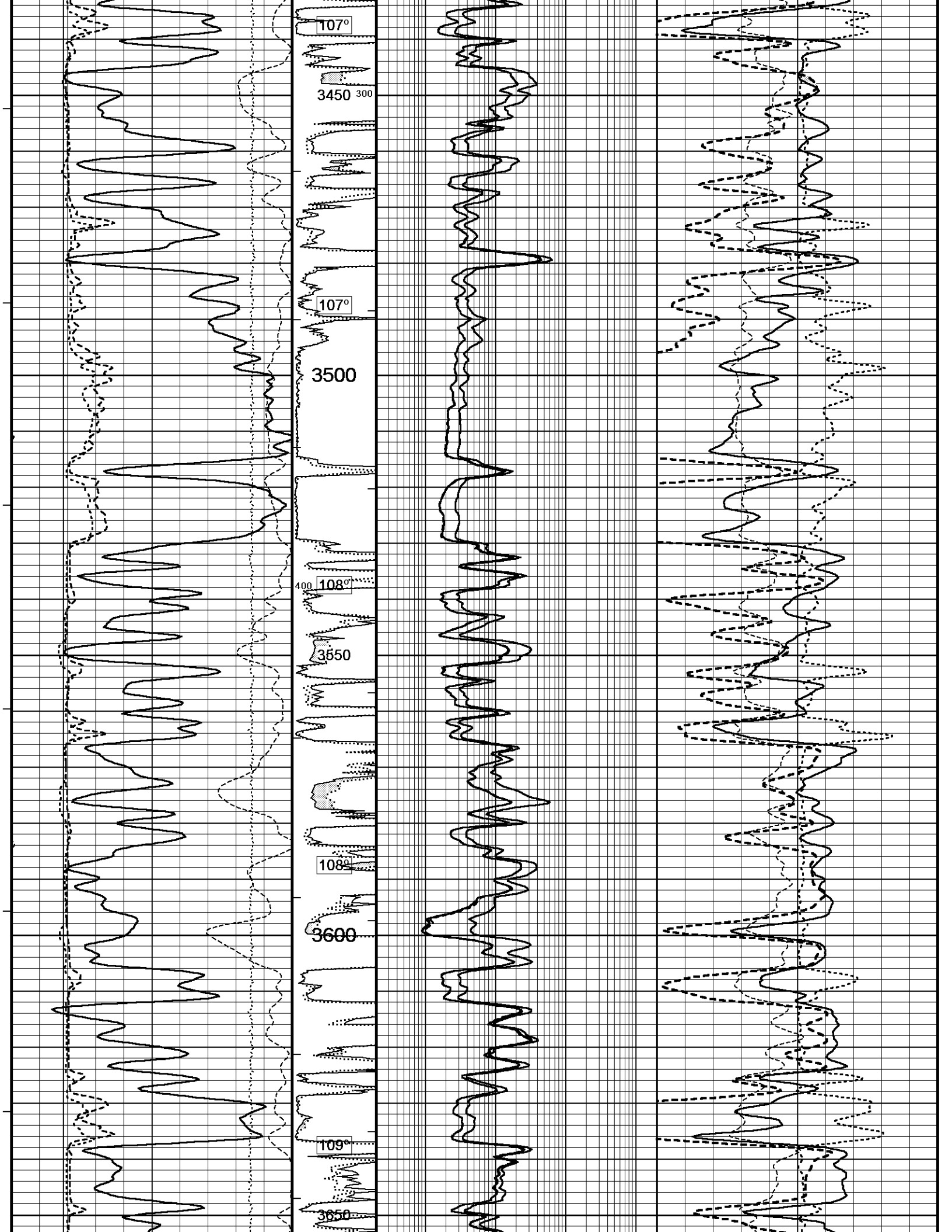

2350
2400
2450
2500
2550

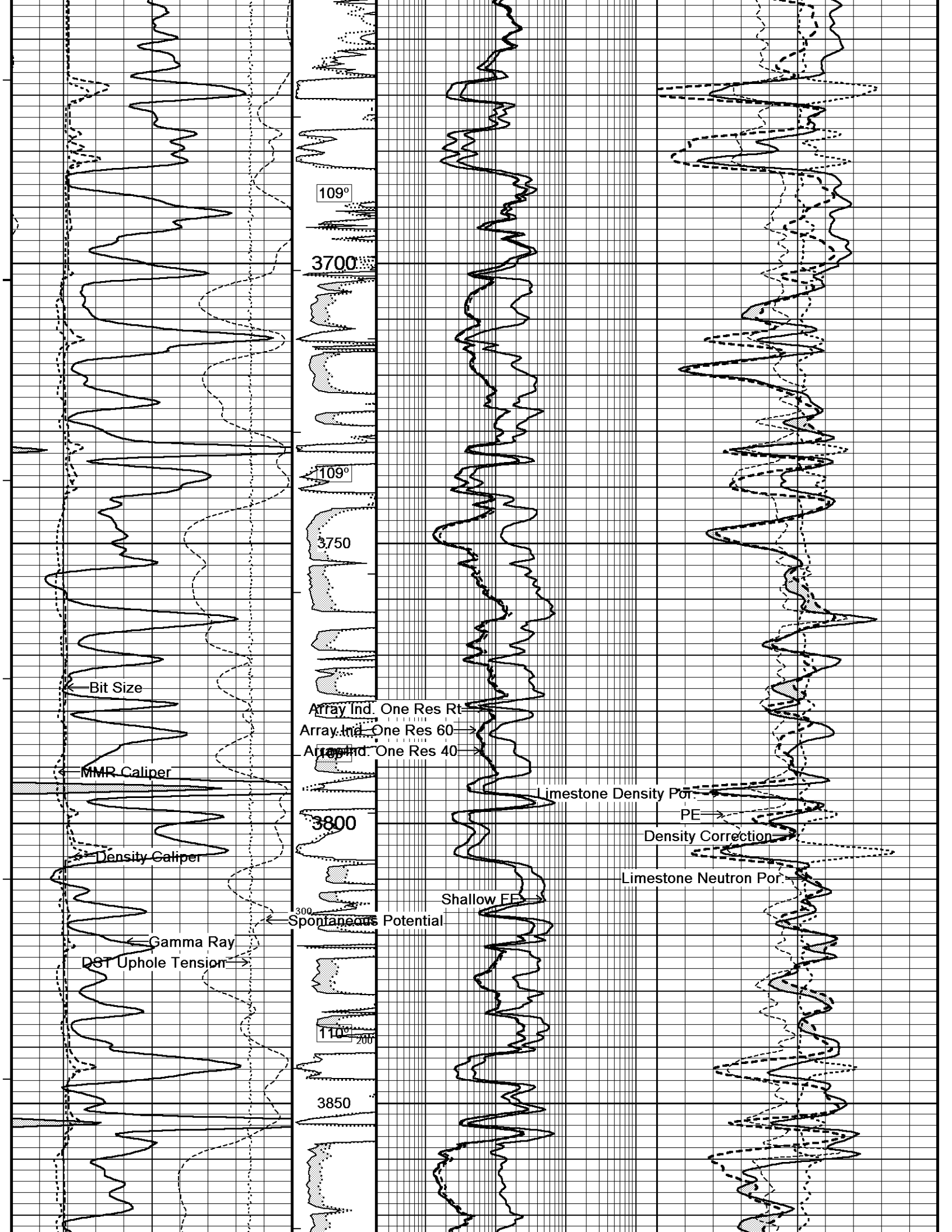

2600
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Array Ind. One Res 60
Array Ind. One Res 40
Shallow
Spontaneous Potential
Gamma Ray
2650
2700
2750

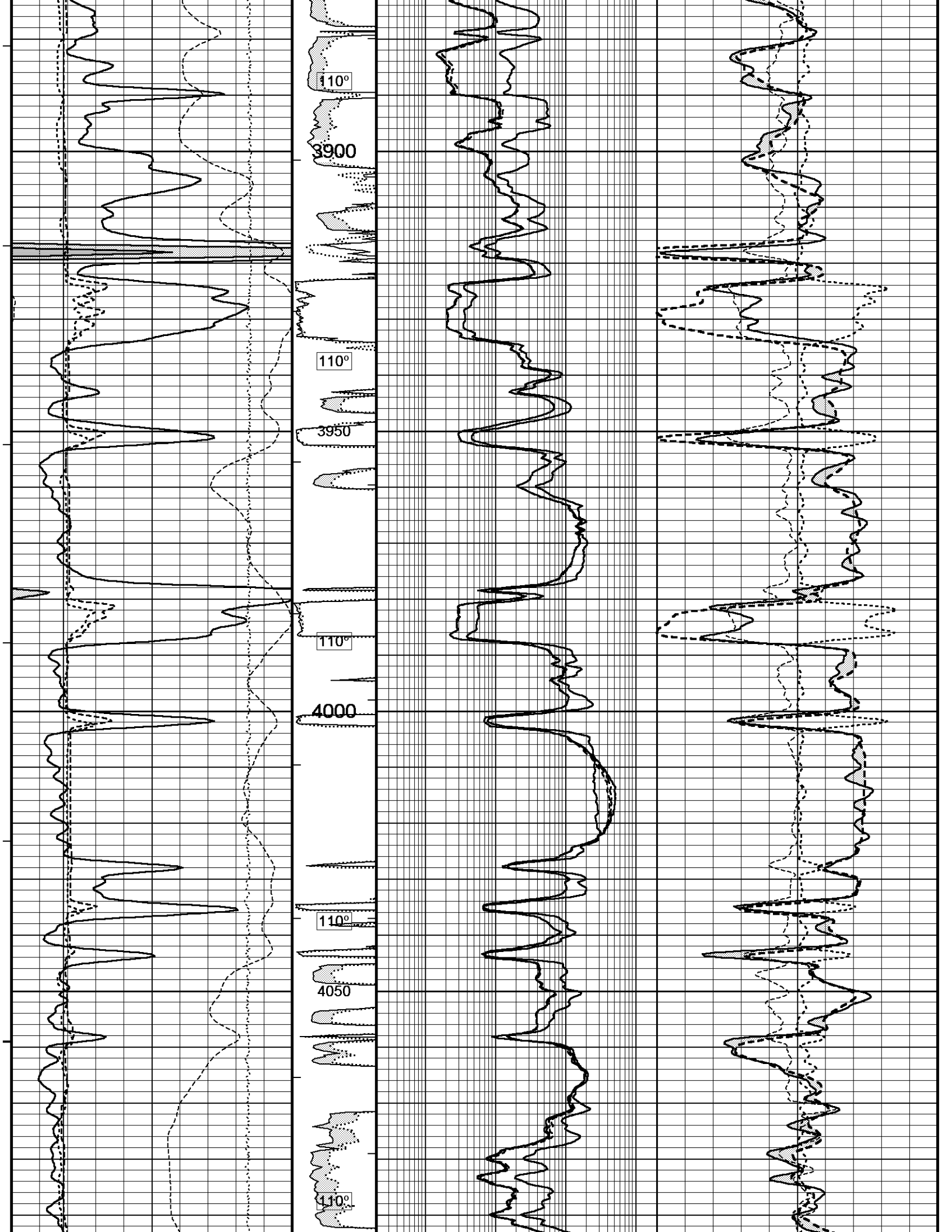

2800
2850
2900
2950

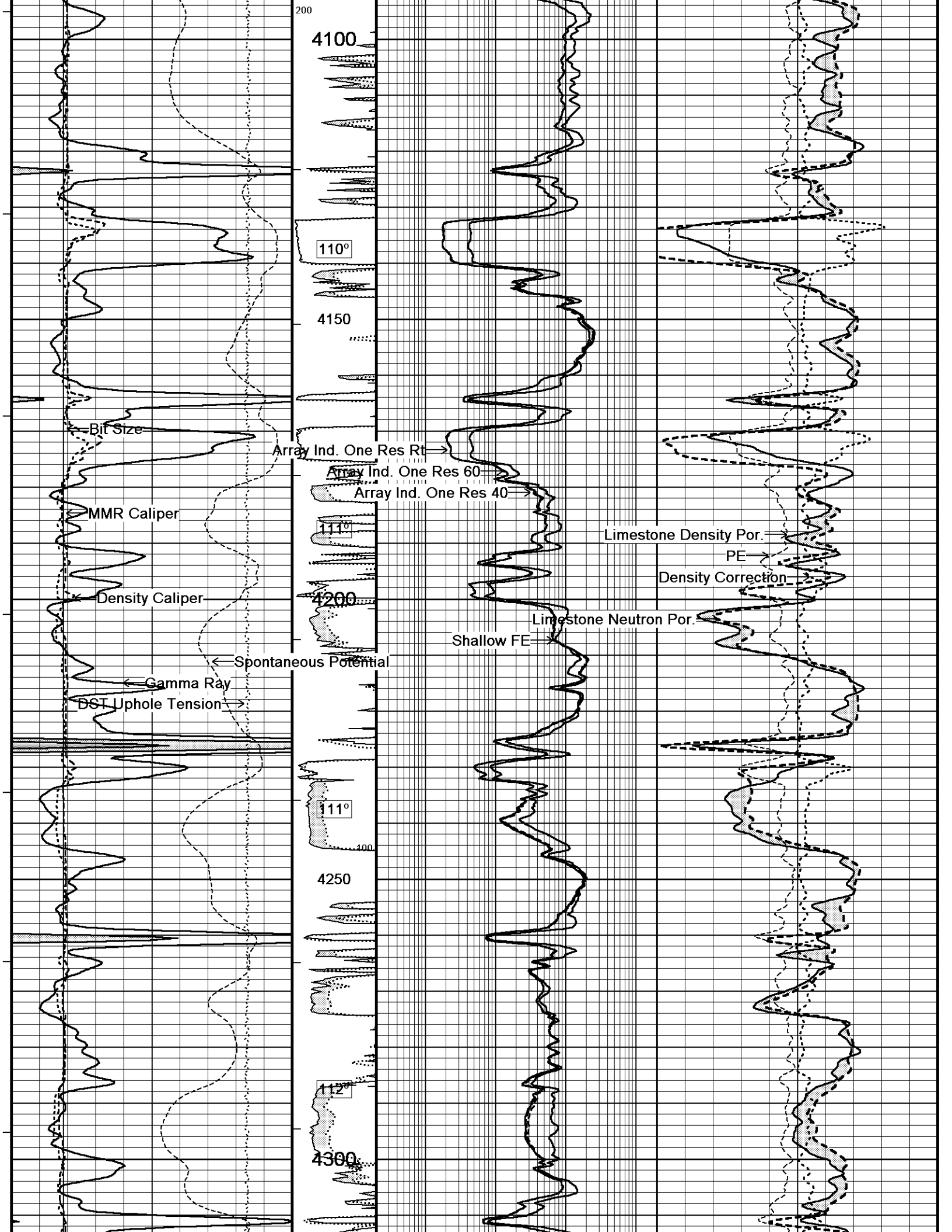

3000
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
3050
3100
3150
3200

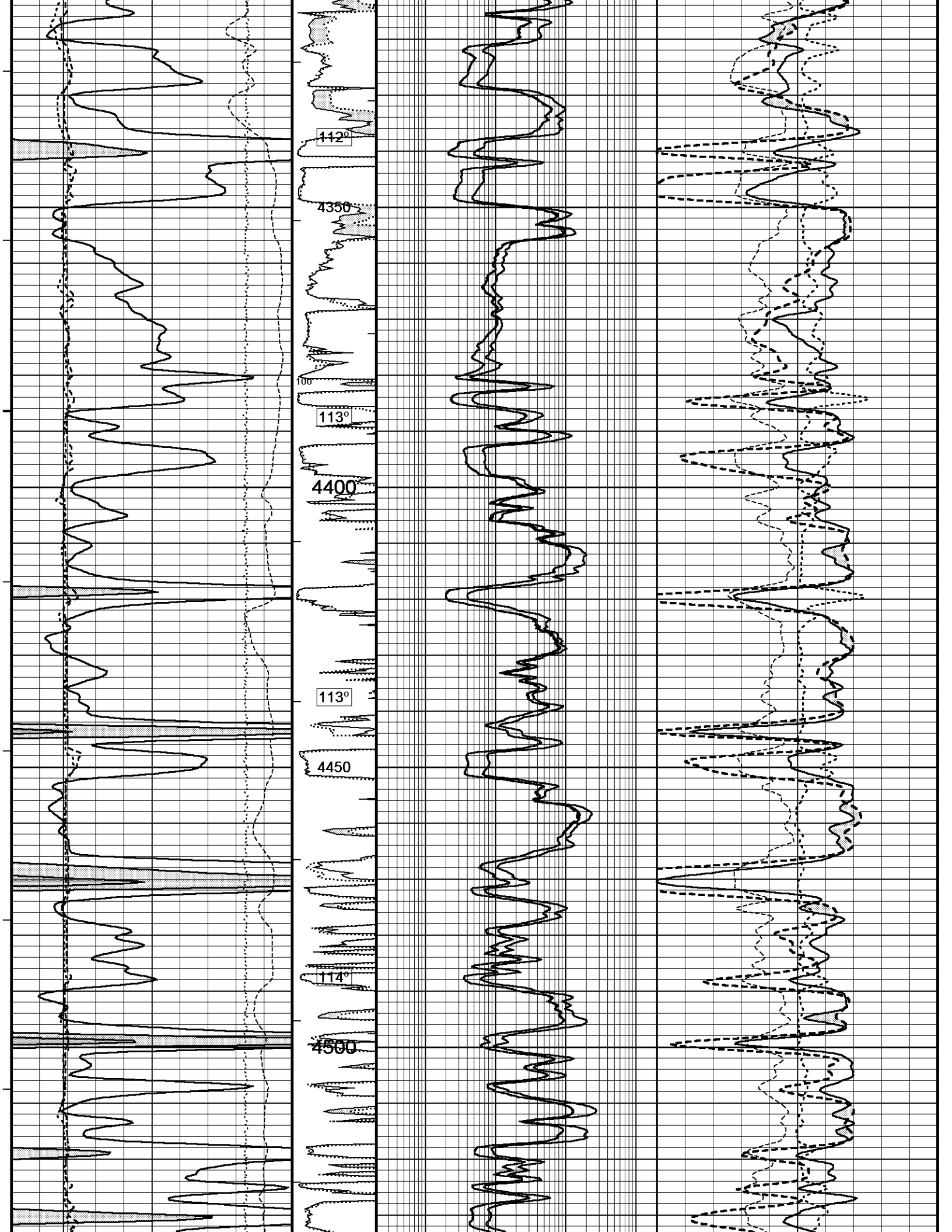

3250
3300
3350
3400
107°
107°
Bit Size
MMR Caliper
Density Caliper
Gamma Ray
DST Uphole Tension
Spontaneous Potential
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Limestone Density Por
PE
Density Correction
Limestone Neutron Por

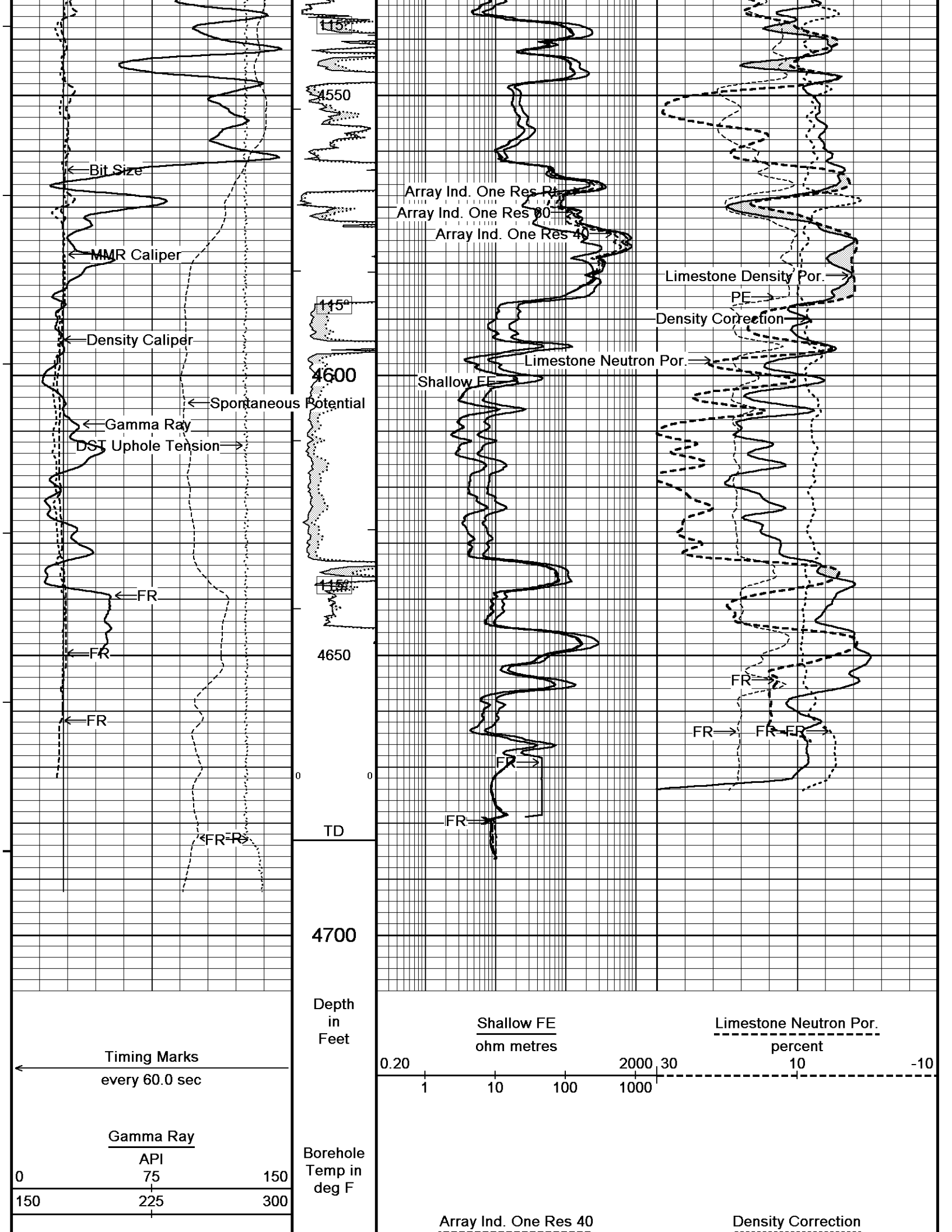

107°
3450
300
107°
3500
400
108°
3550
108°
3600
109°
3650

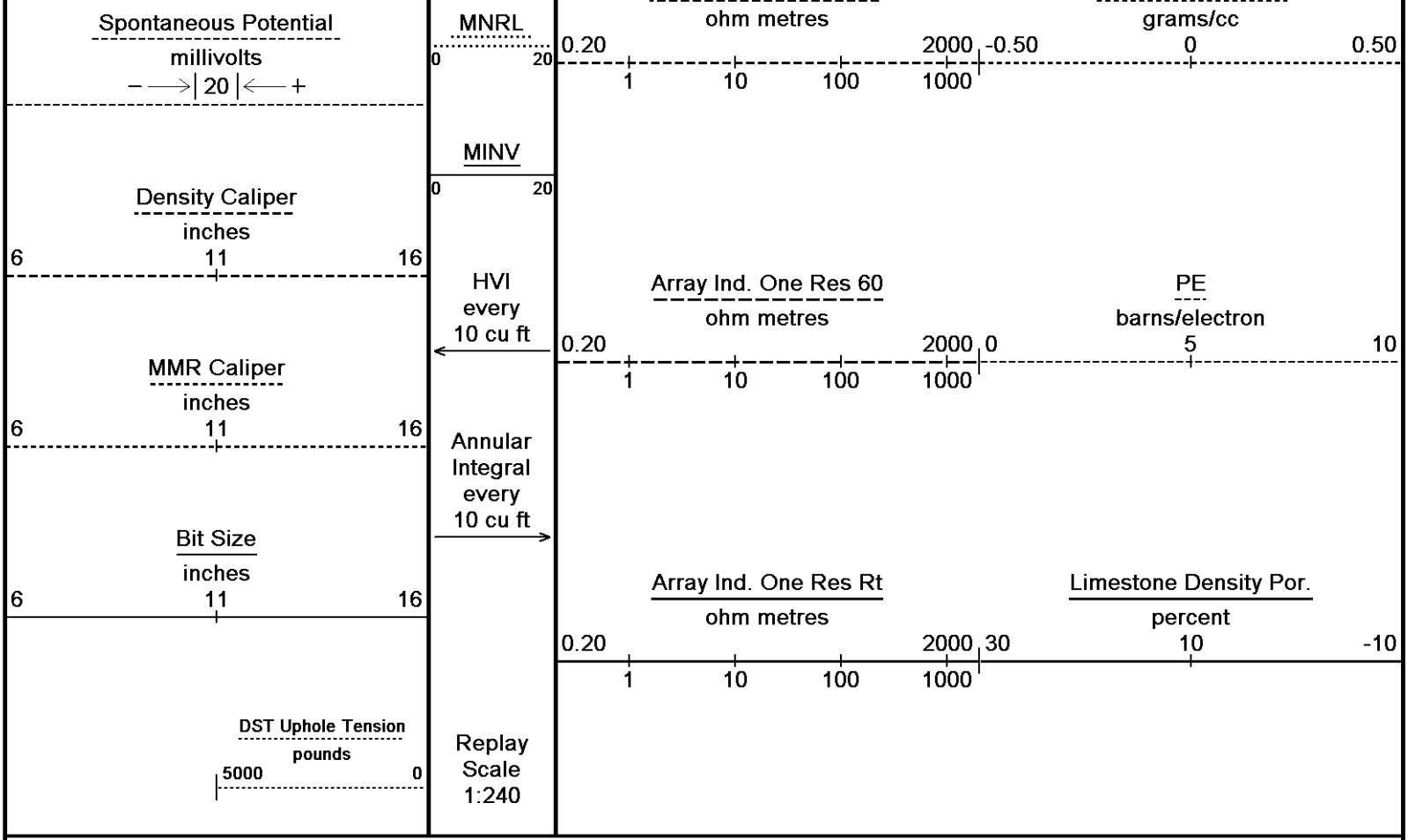

109°
3700
109°
3750
Bit Size
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
MMR Caliper
Limestone Density Por
PE
3800
Density Correction
Density Caliper
Limestone Neutron Por.
Shallow FE
300
Spontaneous Potential
Gamma Ray
DST Uphole Tension
110°
200
3850


110°
3900
110°
3950
110°
4000
110°
4050
110°


200
4100
110°
4150
Bit Size
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
MMR Caliper
111°
Limestone Density Por.
PE
Density Correction
Density Caliper
4200
Limestone Neutron Por.
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
111°
100
4250
112°
4300


112°
4350
100
113°
4400
113°
4450
114°
4500


115°
4550
Bit Size
MMR Caliper
115°
Density Caliper
4600
Spontaneous Potential
Gamma Ray
DST Uphole Tension
115°
4650
FR
FR
FR
FR-Rs
TD
4700
Array Ind. One Res Rt
Array Ind. One Res 80
Array Ind. One Res 40
Shallow FE
FR
FR
Limestone Density Por.
PE
Density Correction
Limestone Neutron Por.
FR
FR
FR
FR
Timing Marks
every 60.0 sec
Depth
in
Feet
Shallow FE
ohm metres
0.20
2000
1
10
100
1000
Limestone Neutron Por.
percent
30
10
-10
Gamma Ray
API
0
75
150
150
225
300
Borehole
Temp in
deg F
Array Ind. One Res 40
Density Correction

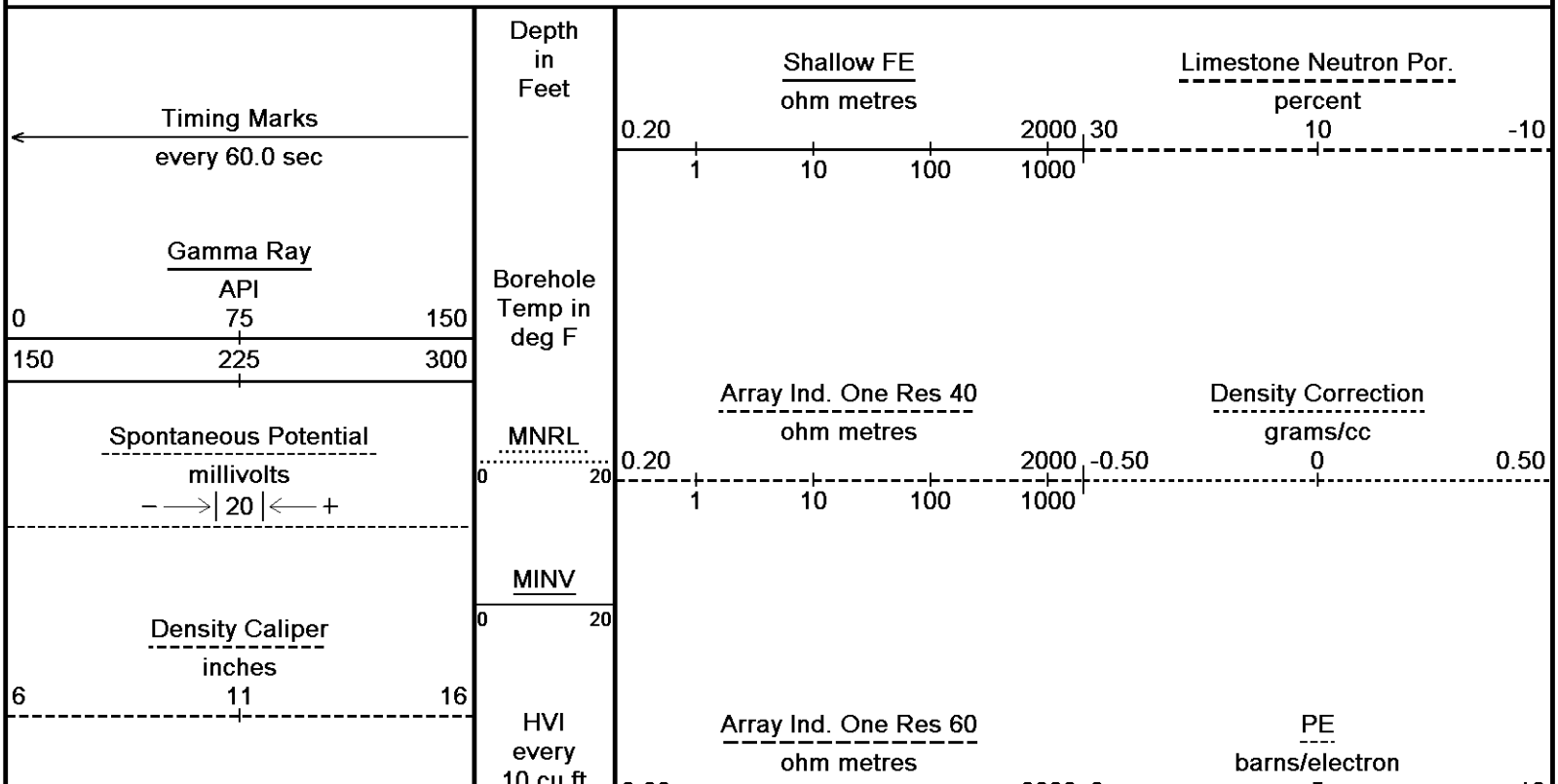


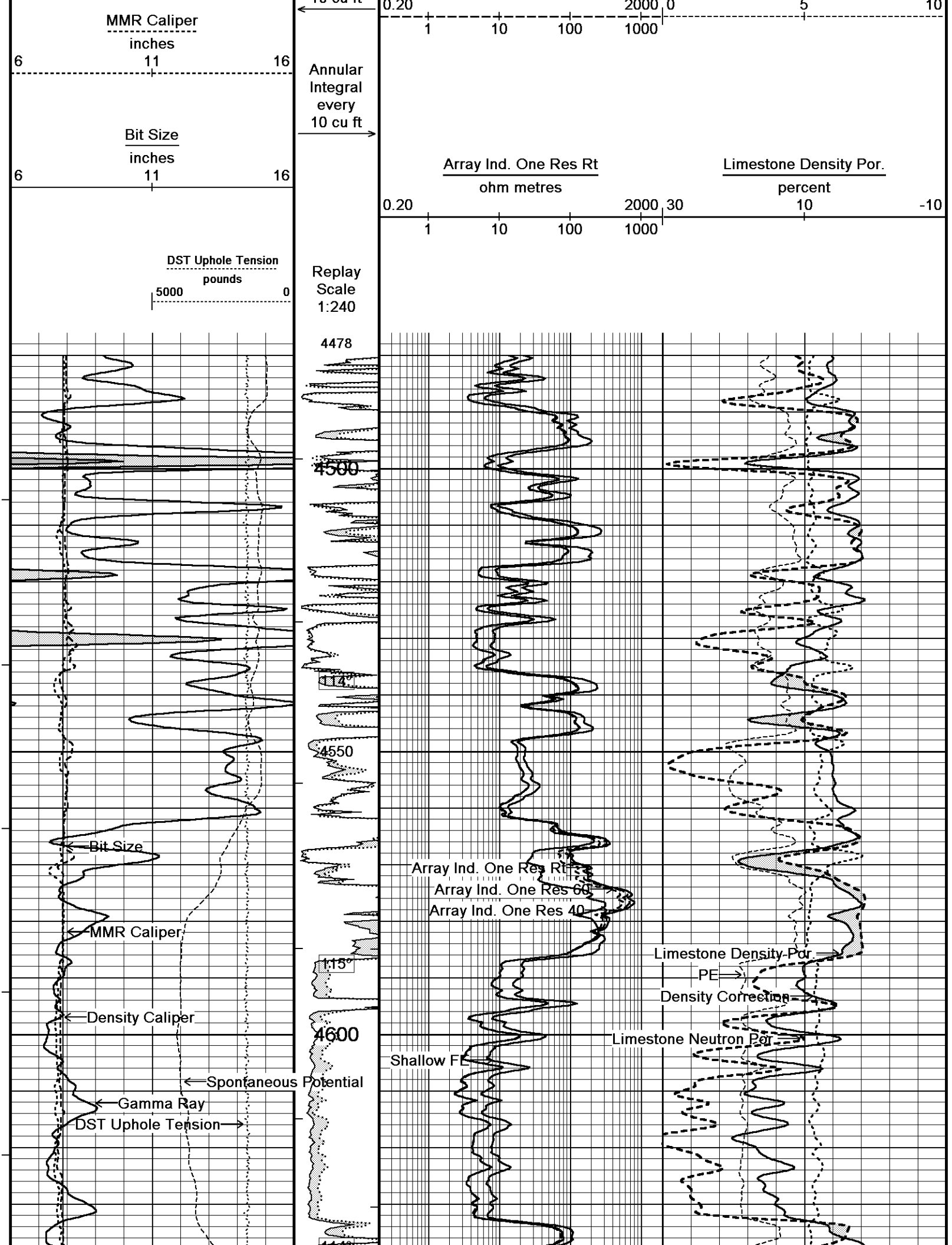
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 25-OCT-2013 14:52
Filename: C:\Minimus 13.05.9583\Logs\O'Brien Resou...\O'Brien Resources Boomhower 36 #3_002.dta — Recorded on 25-OCT-2013 08:06
System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.05.9583

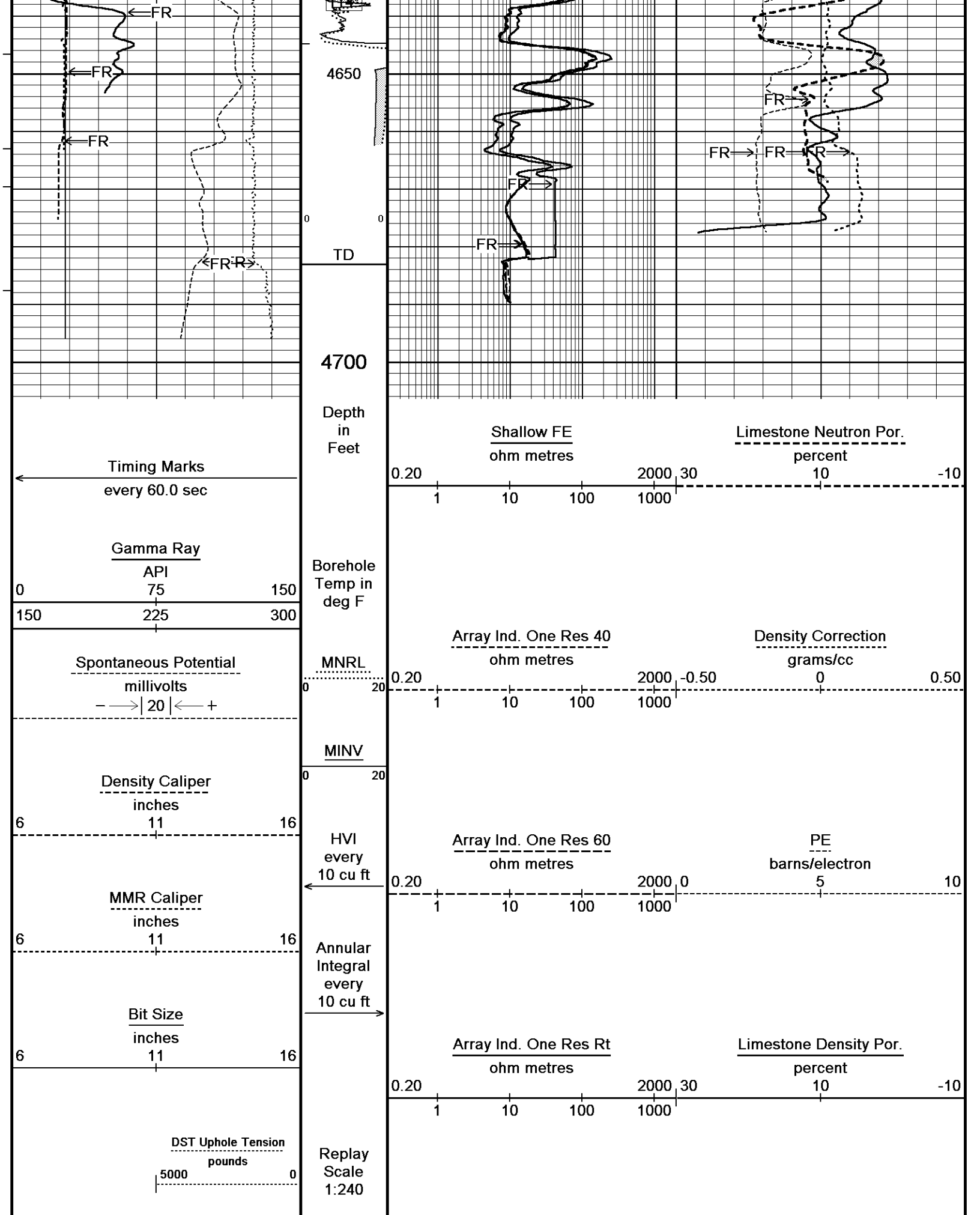
5 INCH MAIN

REPEAT SECTION

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 25-OCT-2013 14:52
Filename: C:\Minimus 13.05.9583\Logs\O'Brien Resou...\O'Brien Resources Boomhower 36 #3_001.dta — Recorded on 25-OCT-2013 07:48
System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.05.9583




MMR Caliper
inches
6
11
16
Bit Size
inches
6
11
16
DST Uphole Tension
pounds
5000
0
Annular Integral every 10 cu ft
Replay Scale 1:240
0.20
2000
1
10
100
1000
Array Ind. One Res Rt
ohm metres
0.20
2000
1
10
100
1000
0
5
10
Limestone Density Por.
percent
30
10
-10
4478
4500
4550
4600
114°
115°
Bit Size
MMR Caliper
Density Caliper
Spontaneous Potential
Gamma Ray
DST Uphole Tension
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow Fl
Limestone Density Por.
PE
Density Correction
Limestone Neutron Por.



Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 25-OCT-2013 14:52
Filename: C:\Minimus 13.05.9583\Logs\O'Brien Resou...\O'Brien Resources Boomhower 36 #3_001.dta
Recorded on 25-OCT-2013 07:48
System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.05.9583

System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.05.9583

REPEAT SECTION

BEFORE SURVEY CALIBRATION

C:\Minimus 13.05.9583\Logs\O'Brien Resources Boomhower 36 #3\O'Brien Resources Boomhower 36 #3_001.dta

General Constants All 000

Last Edited on 25-OCT-2013,06:23

General Parameters		
Mud Resistivity	1.020	ohm-metres
Mud Resistivity Temperature	78.000	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	4.500	inches
Caliper for Differential Caliper	Density Caliper	
Rwa Parameters		
Porosity used	Crossplot Porosity	
Resistivity used	Array Ind. One Res Rt	
RWA Constant A	1.000	
RWA Constant M	2.000	
SW/APOR Tool Source	0.000	

Down-hole Tension Calibration SMS 0

Field Calibration on 25-OCT-2013 07:11

Reading No	Measured	Calibrated (lbs)
1	15594.83	0.00
2	17435.90	399.00

SP Calibration MCG-D.K 442

Field Calibration on 20-OCT-2013 18:26

	Measured	Calibrated (mV)
Reference 1	101.8	100.9
Reference 2	-99.5	-100.5

High Resolution Temperature Calibration MCG-D.K 442

Field Calibration on 20-OCT-2013,18:27

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

High Resolution Temperature Constants MCG-D.K 442

Last Edited on 20-OCT-2013,18:27

Pre-filter Length	11

Gamma Calibration MCG-D.K 442

Field Calibration on 23-OCT-2013 01:26

	Measured	Calibrated (API)
Background	74	50
Calibrator (Gross)	1157	775
Calibrator (Net)	1083	725

Gamma Constants MCG-D.K 442

Last Edited on 25-OCT-2013,06:23

Gamma Calibrator Number	GRC38	
Mud Density	1.12	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl		kppm
K Mud Type	Chloride	
K Mud Concentration	0.00	%

Micro Laterolog Calibration MMR-A 11

Base Calibration on 31-DEC-1999 00:00
Field Check on 31-DEC-1999 00:00

Base Calibration

	Measured		Calibrated (ohm-m)	
	Ref 1	Ref 2	Ref 1	Ref 2

0.0	0.0	0.0	0.0

Base Check (ohm-m)	Field Check (ohm-m)
0.0	0.0

Micro Laterolog Constants MMR-A 11

Last Edited on

Pad Type	6 in Solid Nylon B23059	
Micro Laterolog K Factor	0.0128	
Standoff Offset	0.0000	inches

Mudcake Thickness Correction Constants

Mud Cake Source	Constant Value	
Mud Cake Thickness	0.4000	inches
Mud Cake Thickness Caliper		
Mud Cake Resistivity	0.1500	ohm-m
Mud Cake Resistivity Temp.	68.00	Deg F
Mud Cake Resistivity Source	Constant Value	
Temp. Source Rmc Correc.	MCG External Temperature	

Caliper Calibration MMR-A 11

Base Calibration on 01-OCT-2013 09:07
Field Calibration on 23-OCT-2013 14:30

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	14311	5.98
2	17410	7.97
3	20706	9.86
4	24667	11.92
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.99	7.97

Micro Normal and Micro Inverse Calibration MMR-A 11

Base Calibration on 11-OCT-2013 11:00
Field Check on 23-OCT-2013 14:26

Base Calibration

	Measured		Calibrated (ohm-m)	
Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	12.1	59.0	5.0	25.0
Micro Inverse	15.5	76.7	5.0	25.0

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	77.5	77.5
Micro Inverse	59.4	59.4

Micro Normal and Micro Inverse Constants MMR-A 11

Last Edited on 18-APR-2013,13:52

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		0.0000	inches

Neutron Calibration MDN-A.B 65

Base Calibration on 11-OCT-2013 14:23
Field Check on 23-OCT-2013 01:30

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3088	96	3714	110
Ratio	32.181		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	1674	2387
Ratio	0.701	

Field Check

	Calibrated (cps)	
	1677	2401
Ratio	0.680	

Neutron Constants MDN-A.B 65

Last Edited on 25-OCT-2013,06:23

Neutron Source Id	PN 521	

Neutron Source Id	TN-521	
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 352

Base Calibration on 11-OCT-2013 11:23
Field Check on 23-OCT-2013 14:29

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	965.0	126.8
Base Check		281.1
Field Check		281.1

FE Constants MFE-B.J 352

Last Edited on 24-OCT-2013,04:27

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 45

Field Calibration on 20-OCT-2013,18:08

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

High Resolution Temperature Constants MAI-A.A 45

Last Edited on 24-OCT-2013,04:26

Pre-filter Length	11

Induction Calibration MAI-A.A 45

Base Calibration on 21-MAY-2013,16:47
Field Check on 23-OCT-2013 14:25

Base Calibration

Test Loop Calibration

Channel	Measured Low	Measured High	Calibrated (mmho/m) Low	Calibrated (mmho/m) High
1	14.4	472.6	9.3	966.2
2	5.7	374.0	7.6	821.4
3	3.4	261.2	5.2	566.0
4	2.5	133.9	2.6	279.2

Array Temperature 0.0 Deg F

Channel	Base Check (mmho/m) Low	Base Check (mmho/m) High	Field Check (mmho/m) Low	Field Check (mmho/m) High
1			18.9	3851.4
2			31.8	3629.2
3			28.6	3049.3
4			18.3	2079.2
Deep			16.1	1911.2
Medium			42.5	4060.4
Shallow			49.7	5482.8

Array Temperature 69.9 Deg F

Induction Constants MAI-A.A 45

Last Edited on 24-OCT-2013,04:26

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	

Photo Density Calibration MPD-B 31

Base Calibration on 11-OCT-2013 13:32
Field Check on 23-OCT-2013 01:18

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	44679	22866	59556	30836
Reference 2	18345	1888	24941	2541

Field Check at Base

669.8	824.9

Field Check

667.4	826.5

PE Calibration

Base Calibration	Measured			Calibrated
	WS	WH	Ratio	Ratio
Background	125	594		
Reference 1	18704	44569	0.422	0.371
Reference 2	5436	18261	0.301	0.272

Field Check at Base

124.9	594.3

Field Check

124.0	593.3

Density Constants MPD-B 31

Last Edited on 25-OCT-2013,06:22

Density Source Id	254
Nylon Calibrator Number	DNCF695

Nylon Calibrator Number	DNCL695	
Aluminium Calibrator Number	DACD698	
Density Shoe Profile	8 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.12	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

Caliper Calibration MPD-B 31

Base Calibration on 11-OCT-2013 13:50
Field Calibration on 23-OCT-2013 01:14

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	18160	3.99
2	27038	5.98
3	35584	7.97
4	43976	9.86
5	53328	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.94	7.97

DOWNHOLE EQUIPMENT

C:\Minimus 13.05.9583\Logs\O'Brien Resources Boomhower 36 #3\O'Brien Resources Boomhower 36 #3_001.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

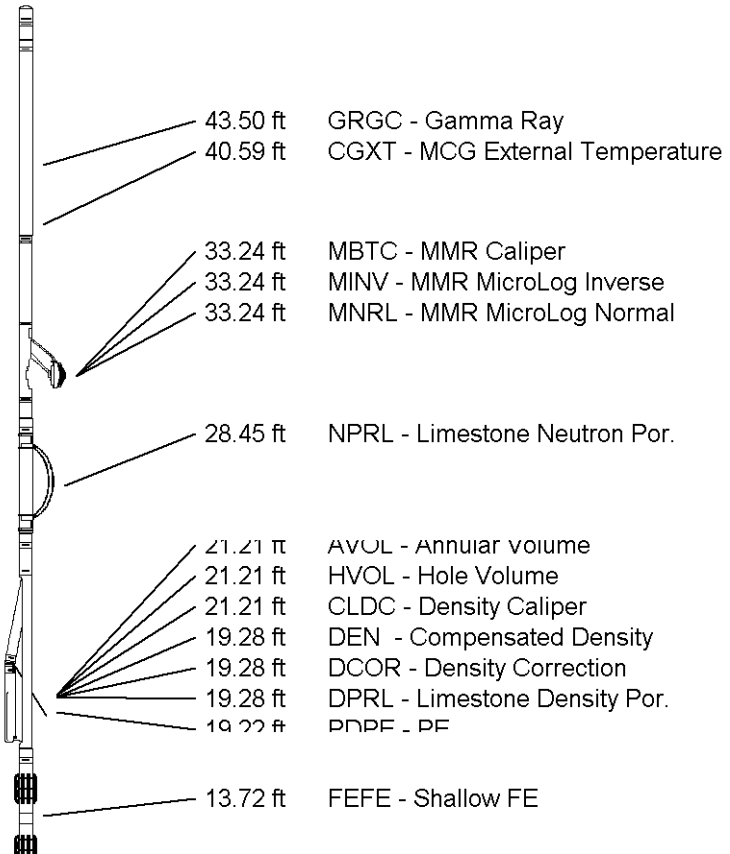
Compact Comms Gamma
MCG-D.K 442 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Micro-Resistivity
MMR-A 11 LG: 8.59 ft WT: 81.6 lb OD: 4.88 in

Compact Neutron
MDN-A.B 65 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

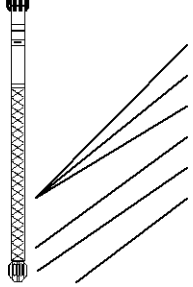
Compact Density/Caliper
MPD-B 31 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

Compact Focussed Electric
MFE-B.J 352 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in



Compact Induction
MAI-A.A 45 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 50.36 ft Weight: 399.0 lb



3.34 ft	R40O - Array Ind. One Res 40
3.34 ft	R60O - Array Ind. One Res 60
0.23 ft	SPCG - Spontaneous Potential
Tool Zero	(0.13ft from bottom)
-0.13 ft	SMTU - DST Uphole Tension

All measurements relative to tool zero.

COMPANY	O'BRIEN RESOURCES, LLC
WELL	BOOMHOWER 36 #3
FIELD	BOOMHOWER
PROVINCE/COUNTY	LANE
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	2784.00	feet	First Reading		feet
Elevation Drill Floor	2782.00	feet	Depth Driller	4685.00	feet
Elevation Ground Level	2774.00	feet	Depth Logger	4683.00	feet

Weatherford®

COMPOSITE LOG

Weatherford

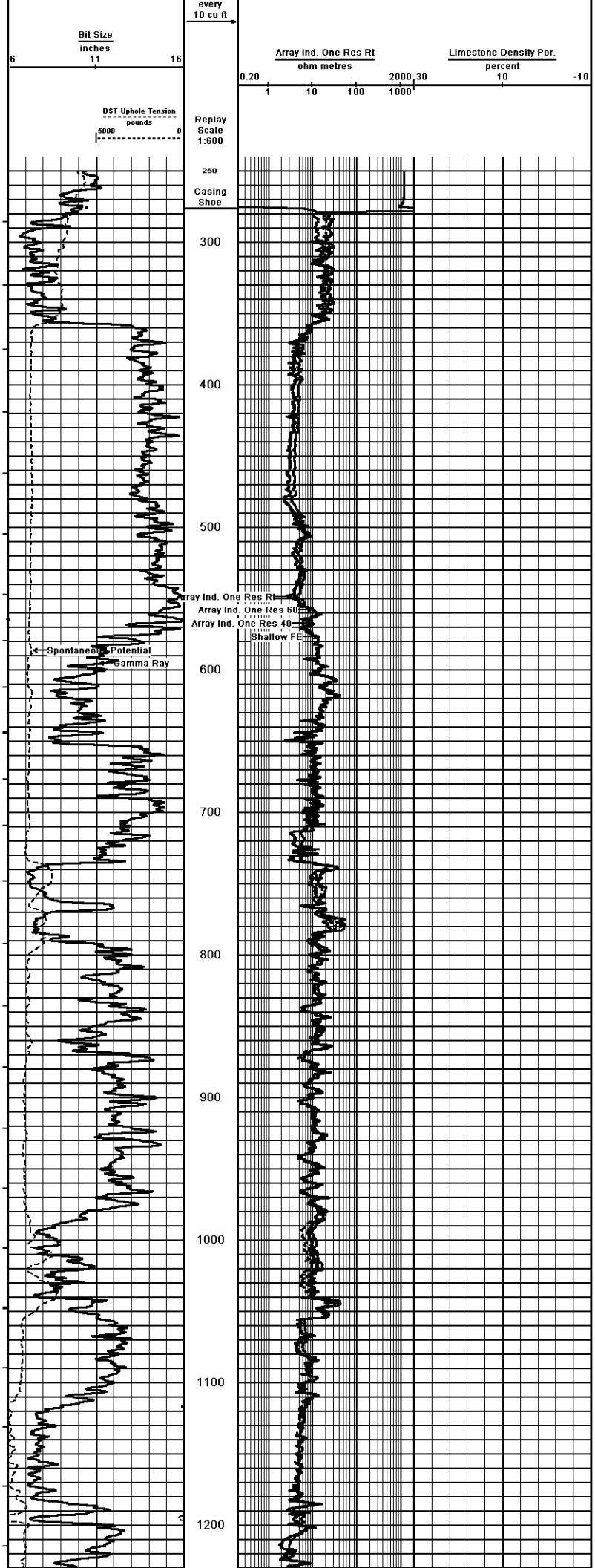
COMPOSITE LOG

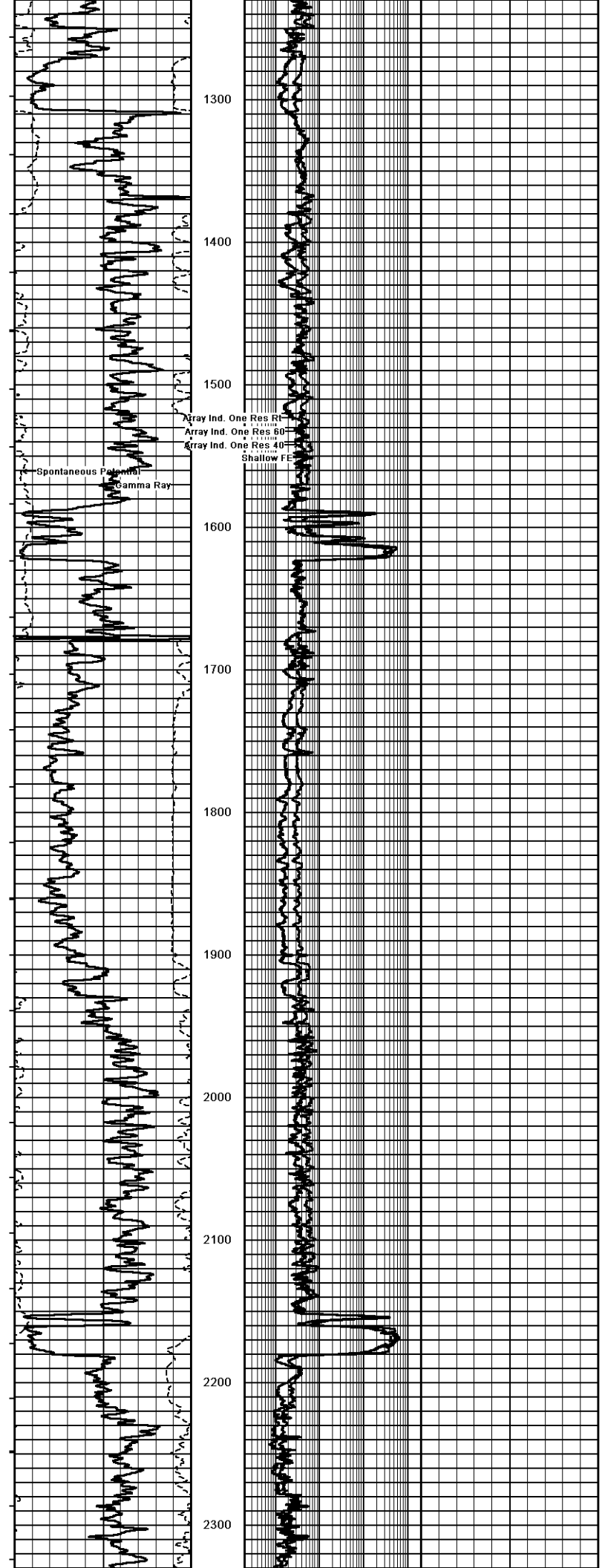
COMPANY O'BRIEN RESOURCES, LLC
WELL BOOMHOWER 36 #3
FIELD BOOMHOWER
PROVINCE/COUNTY LANE
COUNTRY/STATE U.S.A. / KANSAS
LOCATION 1309' FSL & 2300' FEL NE NW SW SE

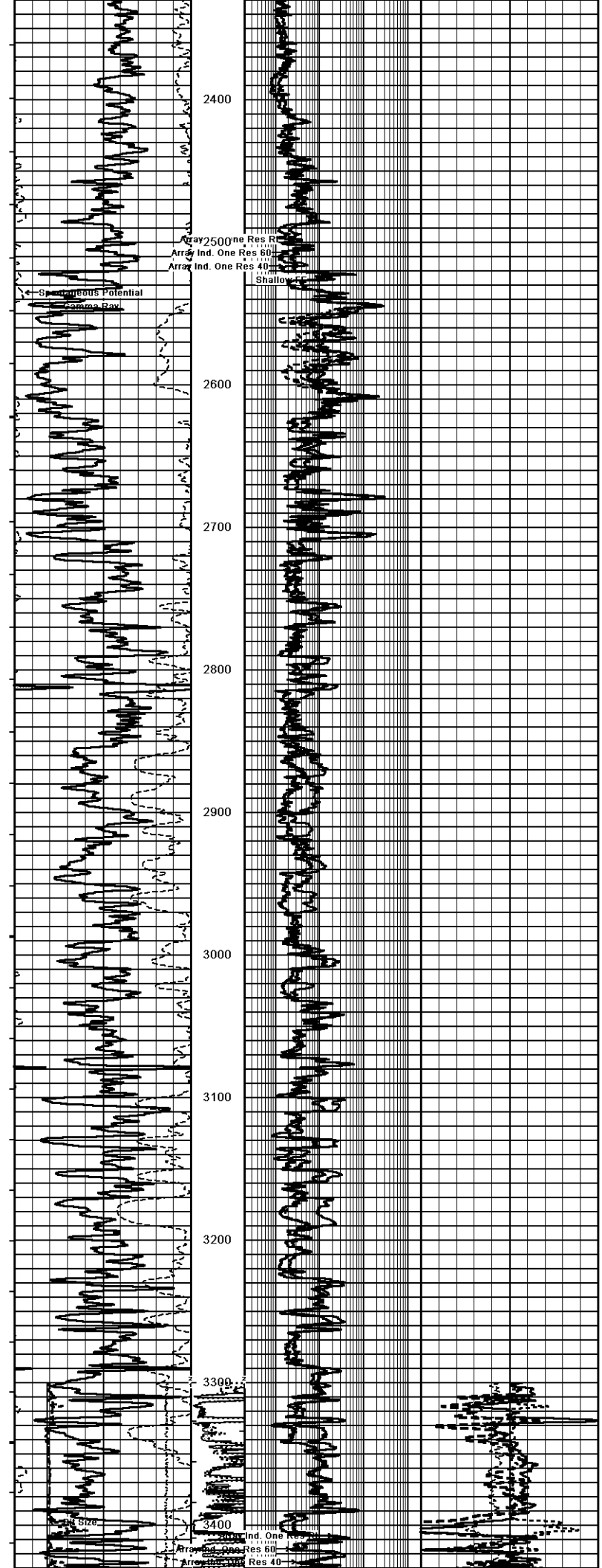
SEC 36 | TWP 17S | RGE 29W
API Number 15-101-22464
Permanent Datum G.L. Elevation: 2774 feet
Log Measured From KB 10 FEET
Drilling Measured From KB @ 10 FEET
Other Services

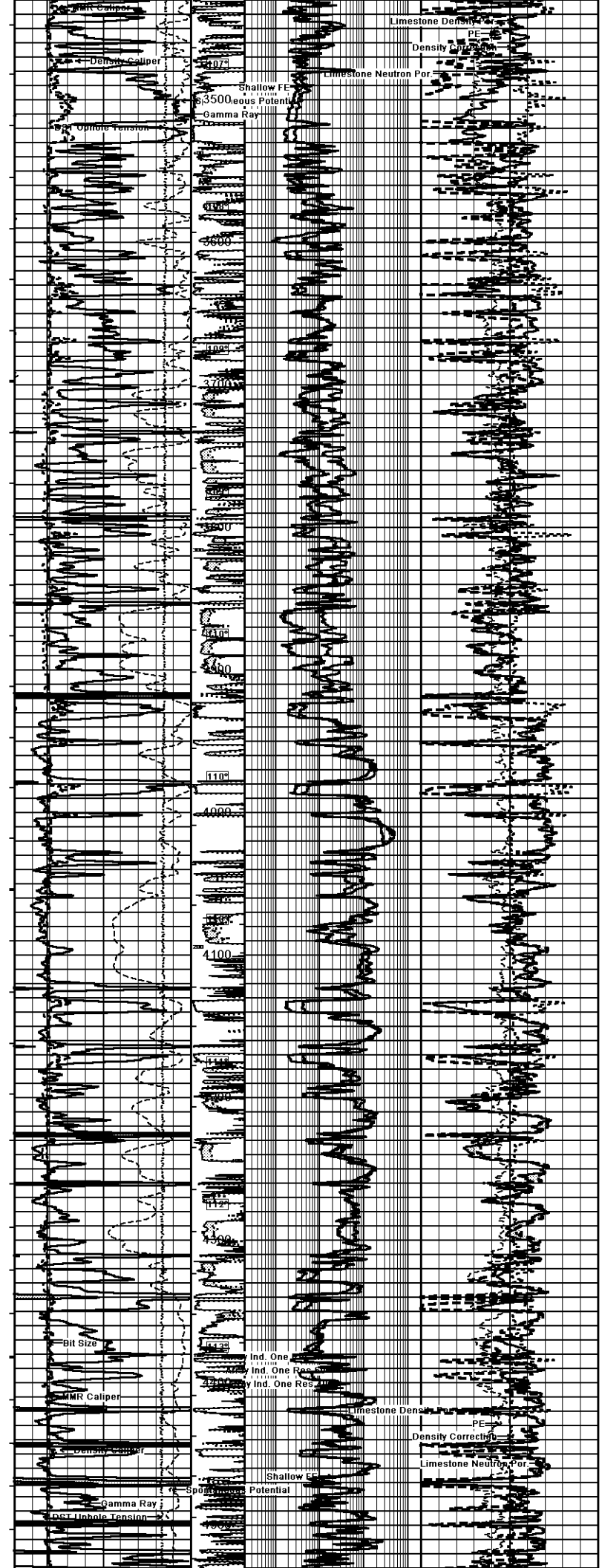
Elevations: feet
KB 2784.00
DF 2782.00
GL 2774.00

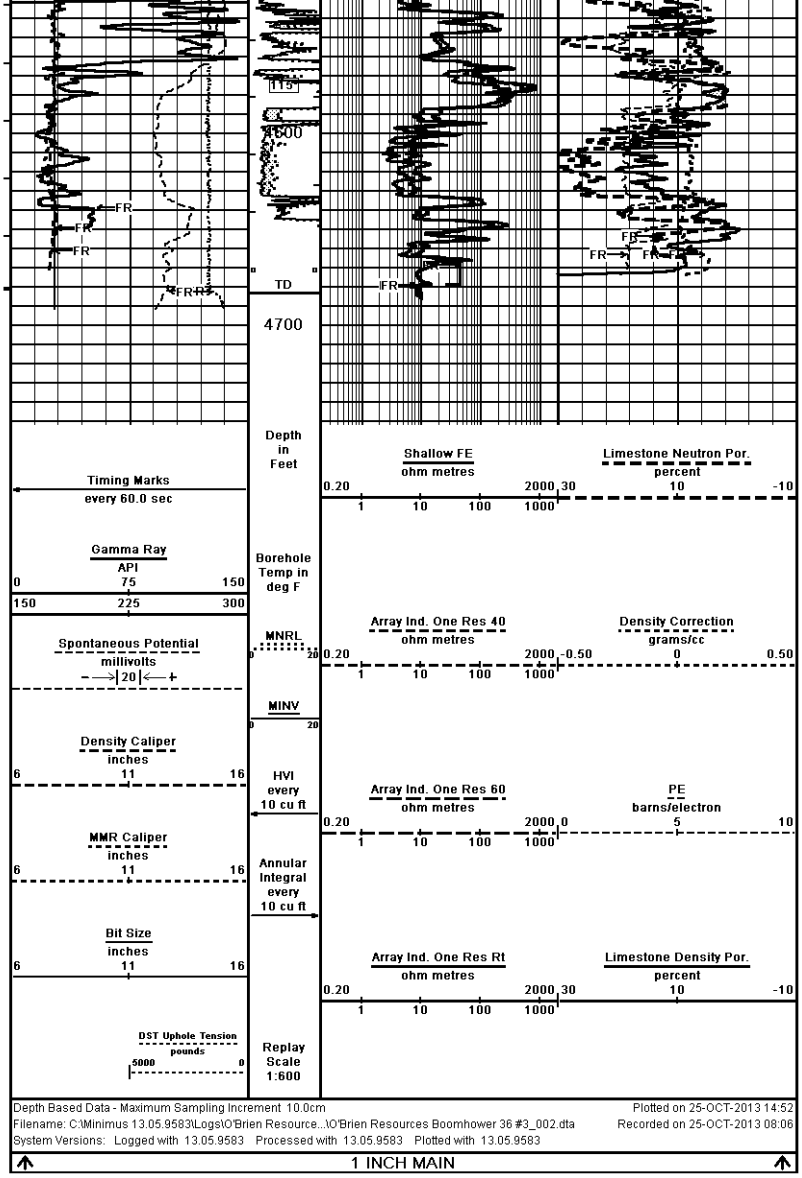
| | | | | |


every
10 cu ft
Bit Size
inches
6
11
16
DST Uphole Tension
pounds
5000
0
Array Ind. One Res Rt
ohm metres
0.20
1
10
100
2000
1000
30
Limestone Density Por.
percent
10
-10
Replay
Scale
1:600
250
Casing
Shoe
300
400
500
600
700
800
900
1000
1100
1200
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray


1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
Array Ind. One Res RT
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray


2400
2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
Array Ind. One Res 60
Array Ind. One Res 40
Shallow
Spontaneous Potential
Gamma Ray
Bit Size


Density Caliper
Shallow FE
Gamma Ray
Limestone Neutron Por.
3500
3600
4000
4100
Bit Size
MMR Caliper
Density Caliper
Shallow FE
Gamma Ray
Limestone Neutron Por.



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 25-OCT-2013 14:52

Filename: C:\Minimus 13.05.9583\Logs\O'Brien Resource...\O'Brien Resources Boomhower 36 #3_002.dta — Recorded on 25-OCT-2013 08:06

System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.05.9583

1 INCH MAIN

COMPANY	O'BRIEN RESOURCES, LLC
WELL	BOOMHOWER 36 #3
FIELD	BOOMHOWER
PROVINCE/COUNTY	LANE
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	2784.00	feet	First Reading		feet
Elevation Drill Floor	2782.00	feet	Depth Driller	4685.00	feet
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Weatherford

COMPOSITE LOG