Weatherford®

ARRAY INDUCTION SHALLOW FOCUSED ELECTRIC LOG

COMPANY	SHAKESPEARE OIL COMPANY, INC.
WELL	CAMPBELL #2-17
FIELD	WILDCAT
PROVINCE/COUNTY	LOGAN
COUNTRY/STATE	U.S.A. / KANSAS
LOCATION	1180' FSL & 1010' FEL NW NW SE SE

SEC	TWP	RGE	Other Services
17	13S	32W	MPD/MDN MML

API Number 15-109-21097
Permit Number

Permanent Datum G.L., Elevation 3027 feet
Log Measured From KB
Drilling Measured From K.B.

Elevations:	feet
KB	3037.00
DF	3036.00
GL	3027.00

Date	10-SEP-2012		
Run Number	ONE		
Depth Driller	4700.00	feet	
Depth Logger	4700.00	feet	
First Reading	4697.00	feet	
Last Reading	254.00	feet	
Casing Driller	254.00	feet	
Casing Logger	254.00	feet	
Bit Size	7.875	inches	
Hole Fluid Type	CHEMICAL		
Density / Viscosity	9.10 lb/USg	47.00 CP	
PH / Fluid Loss	11.00	9.60 ml/30Min	
Sample Source	FLOWLINE		
Rm @ Measured Temp	0.78 @ 97.0	ohm-m	
Rmf @ Measured Temp	0.62 @ 97.0	ohm-m	
Rmc @ Measured Temp	0.94 @ 97.0	ohm-m	
Source Rmf / Rmc	CALC	CALC	
Rm @ BHT	0.64 @118.0	ohm-m	
Time Since Circulation	3 HOURS		
Max Recorded Temp	118.00	deg F	
Equipment Name	COMPACT		
Equipment / Base	13057	LIB	
Recorded By	L. SCOTT		
Witnessed By	STEVE DAVIS		
S.O. / JOB#	3537842		LB12-247

BOREHOLE RECORD

Last Edited: 10-SEP-2012 08:52

Bit Size inches	Depth From feet	Depth To feet
7.875	254.00	4700.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	254.00	24.00

REMARKS

Tools Ran: MCG, MML, MDN, MPD, MFE, MAI.
Hardware Used: MDN Dual Eccentralizer used. MPD 8 inch profile plate used. MFE, MSS and MAI 0.5 inch standoffs used.
2.71 g/cc Limestone Density Matrix used to calculate porosity.
All intervals logged and scaled per customer's request.
Tight pulls, washouts and borehole rugosity will affect data quality.
Annular volume with 5.5 inch production casing= 175 cu. ft.
Total hole volume from TD to Surface casing= 1800 cu. ft.
Service order: #3537842
Rig: Val #7
Engineer: L. Scott
Operator(s): J. LaPoint, M. Stegman

2 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 10-SEP-2012 14:51
Filename: C:\Minimus 13.02.6600\Data\Shakespeare Campbel...\Shakespeare Campbell #2-17_002.dta
Recorded on 10-SEP-2012 12:12
System Versions: Logged with 13.02.6600 Plotted with 13.02.6600

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

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

Array Ind. One Res Rt
ohm metres
0 25 50

240 Casing Shoe

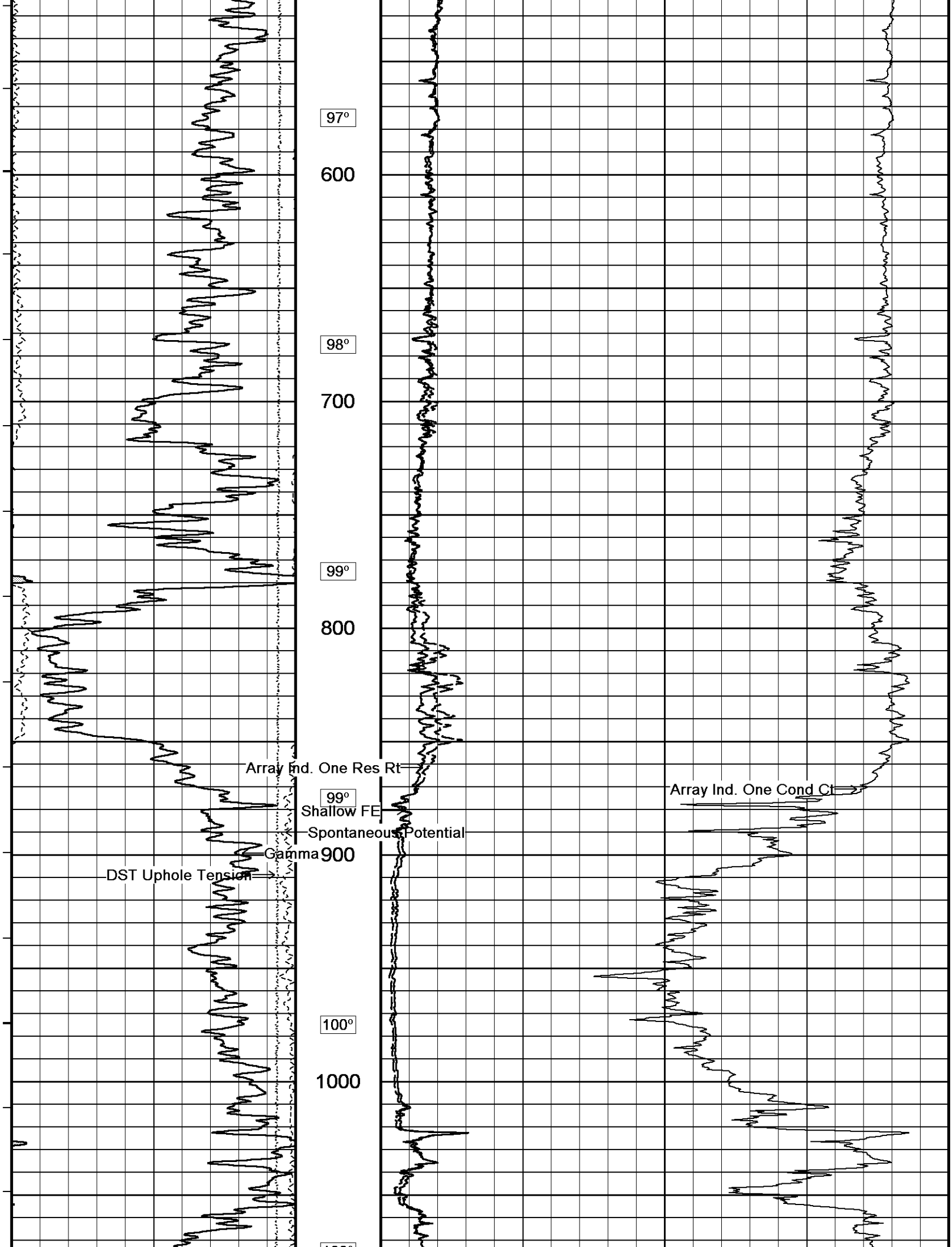
300

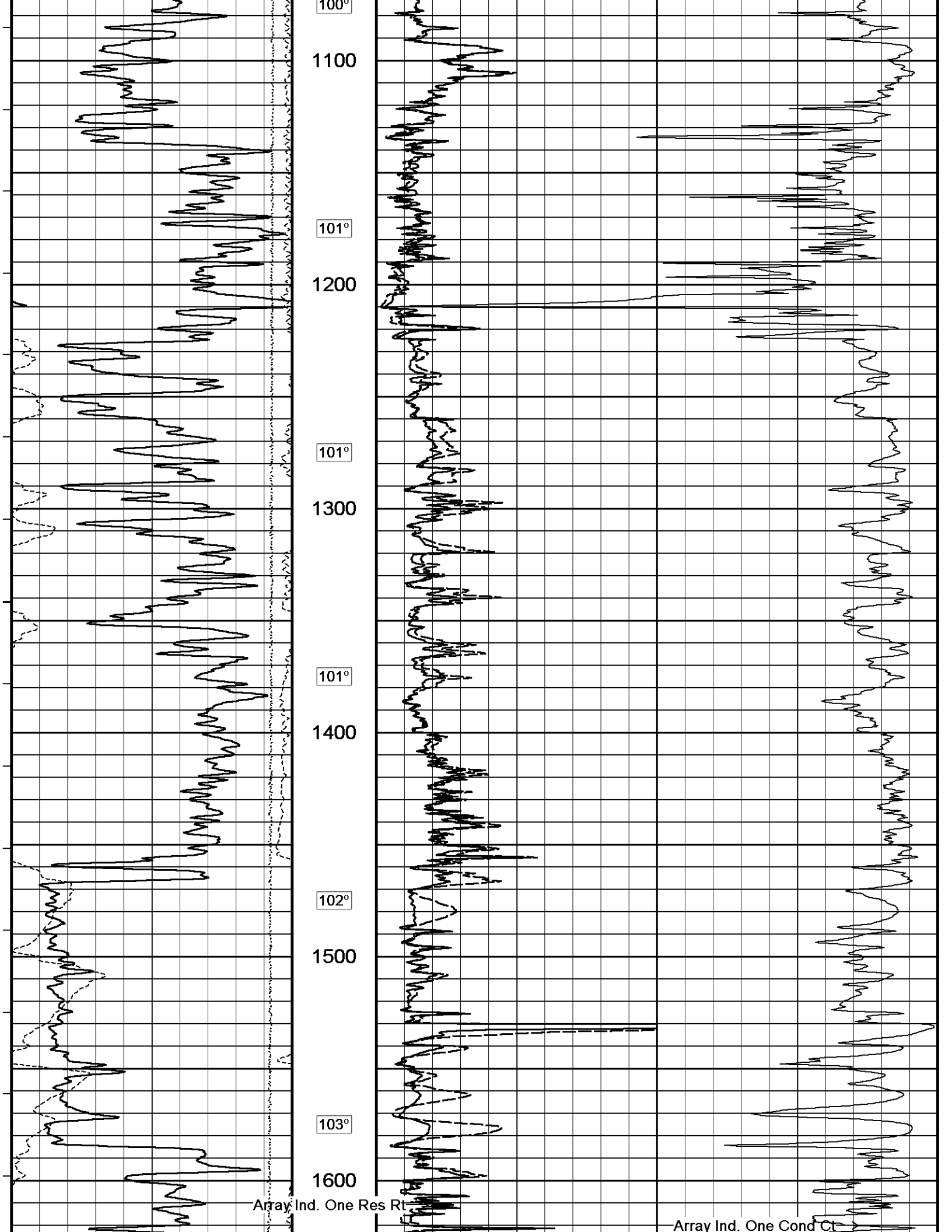
96°

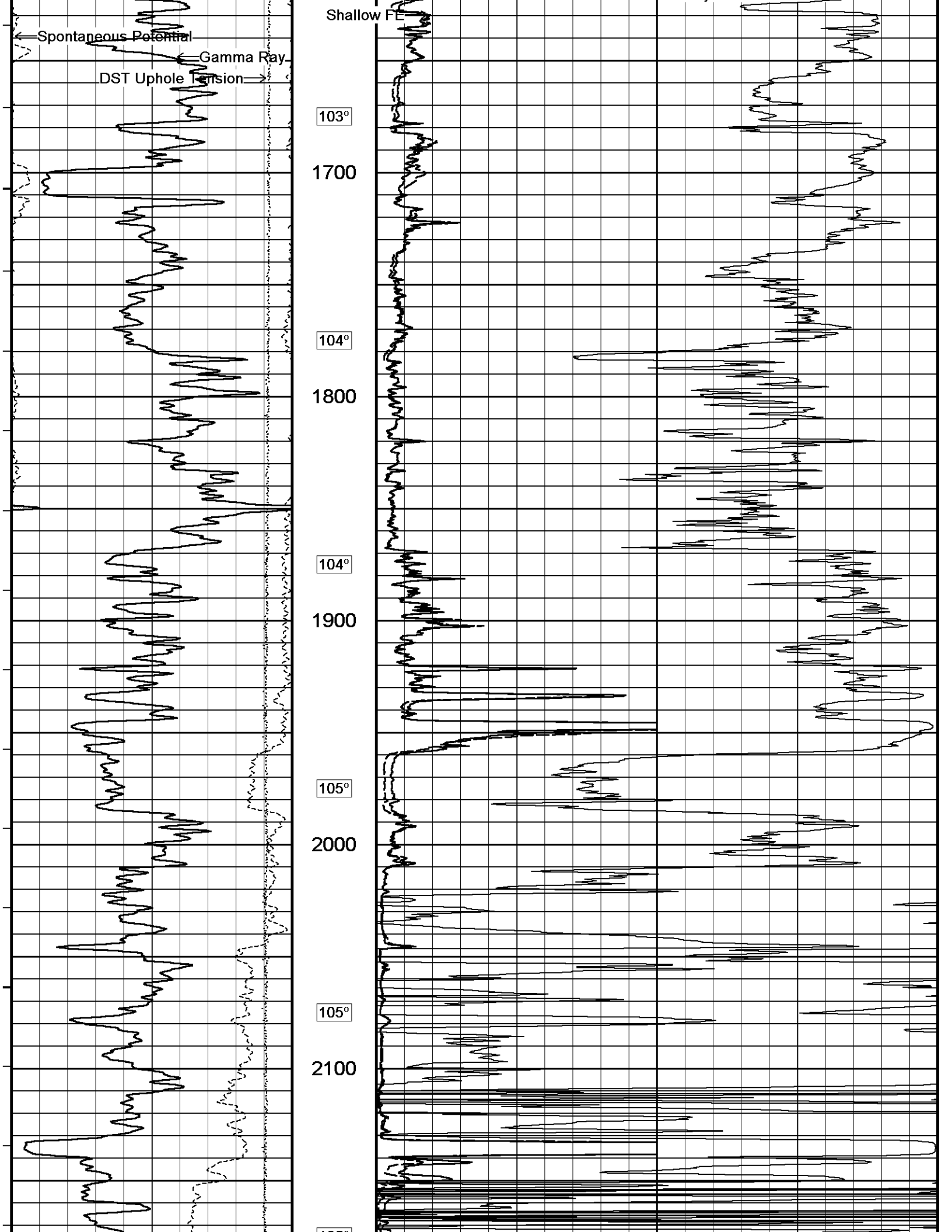
400

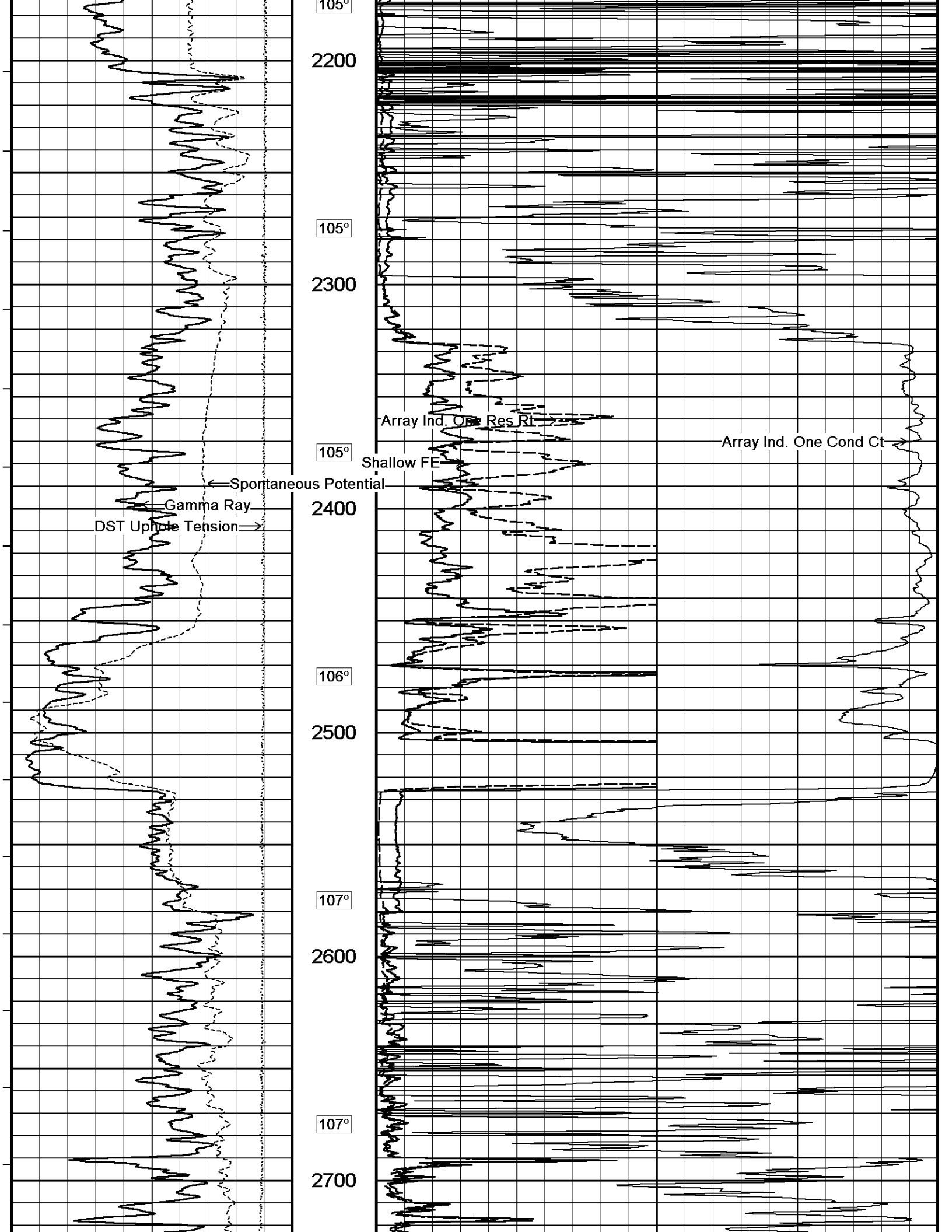
97°

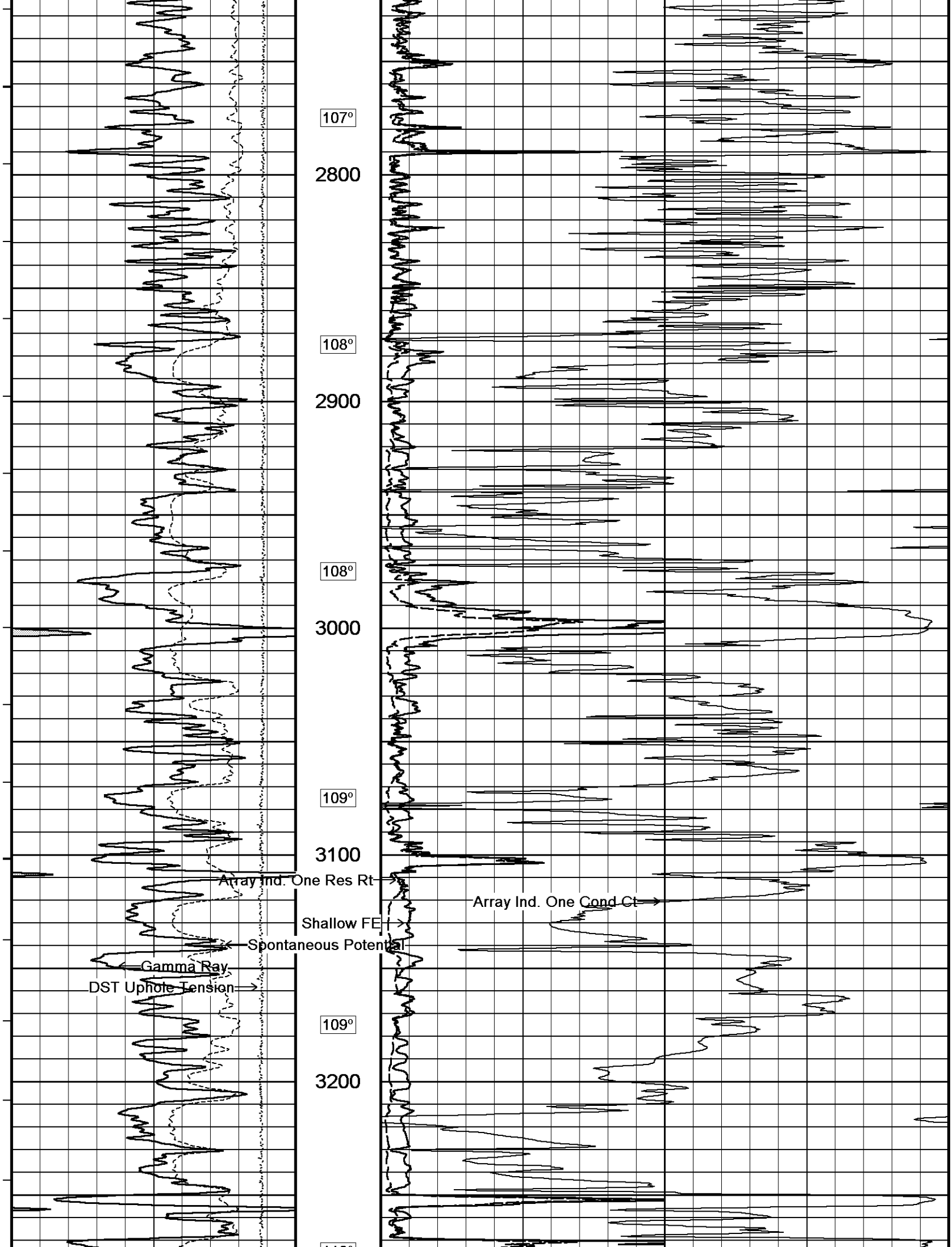
500

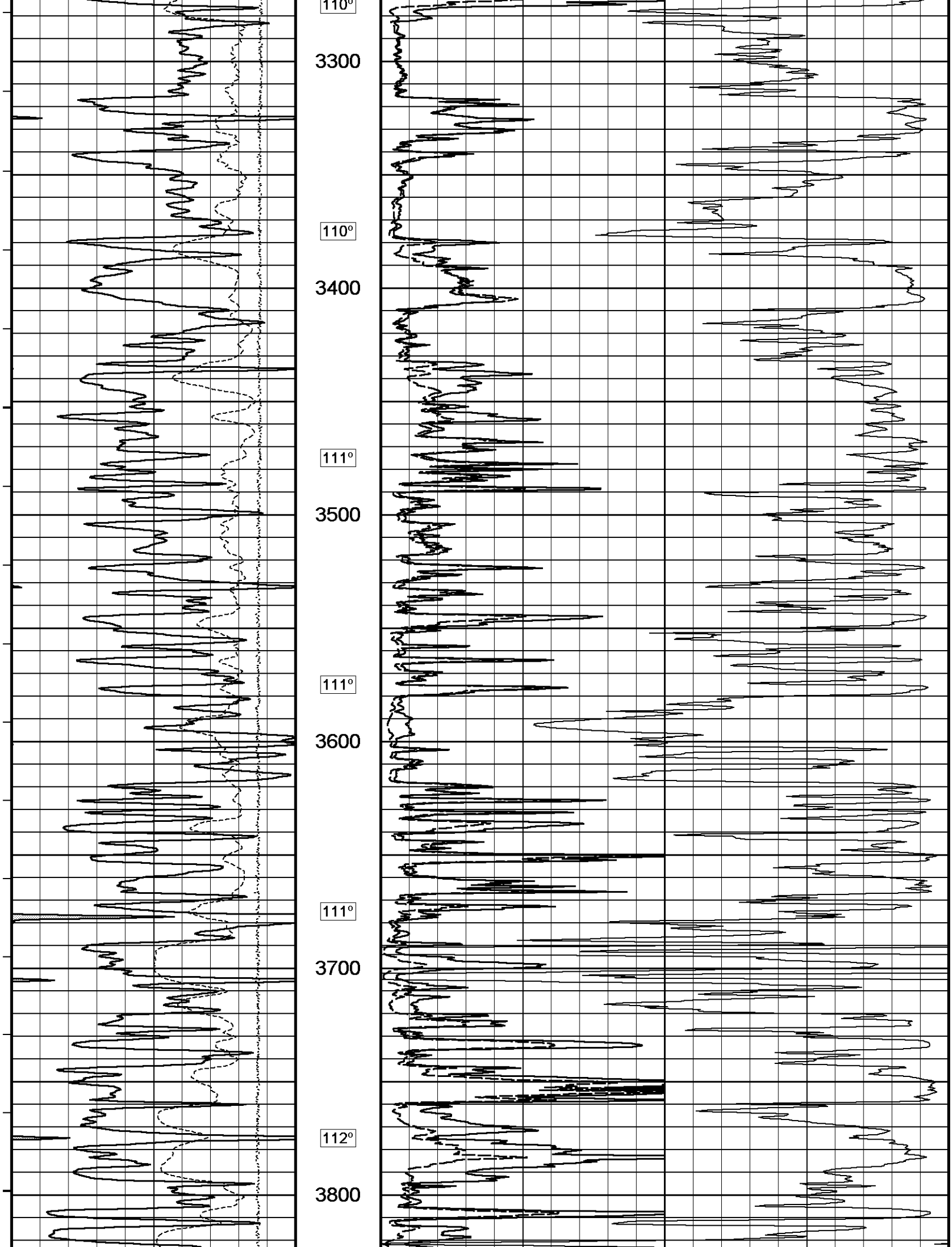

97°
600
98°
700
99°
800
Array Ind. One Res Rt
99°
Shallow FE
Spontaneous Potential
Gamma
900
DST Uphole Tension
100°
1000
Array Ind. One Cond Ct

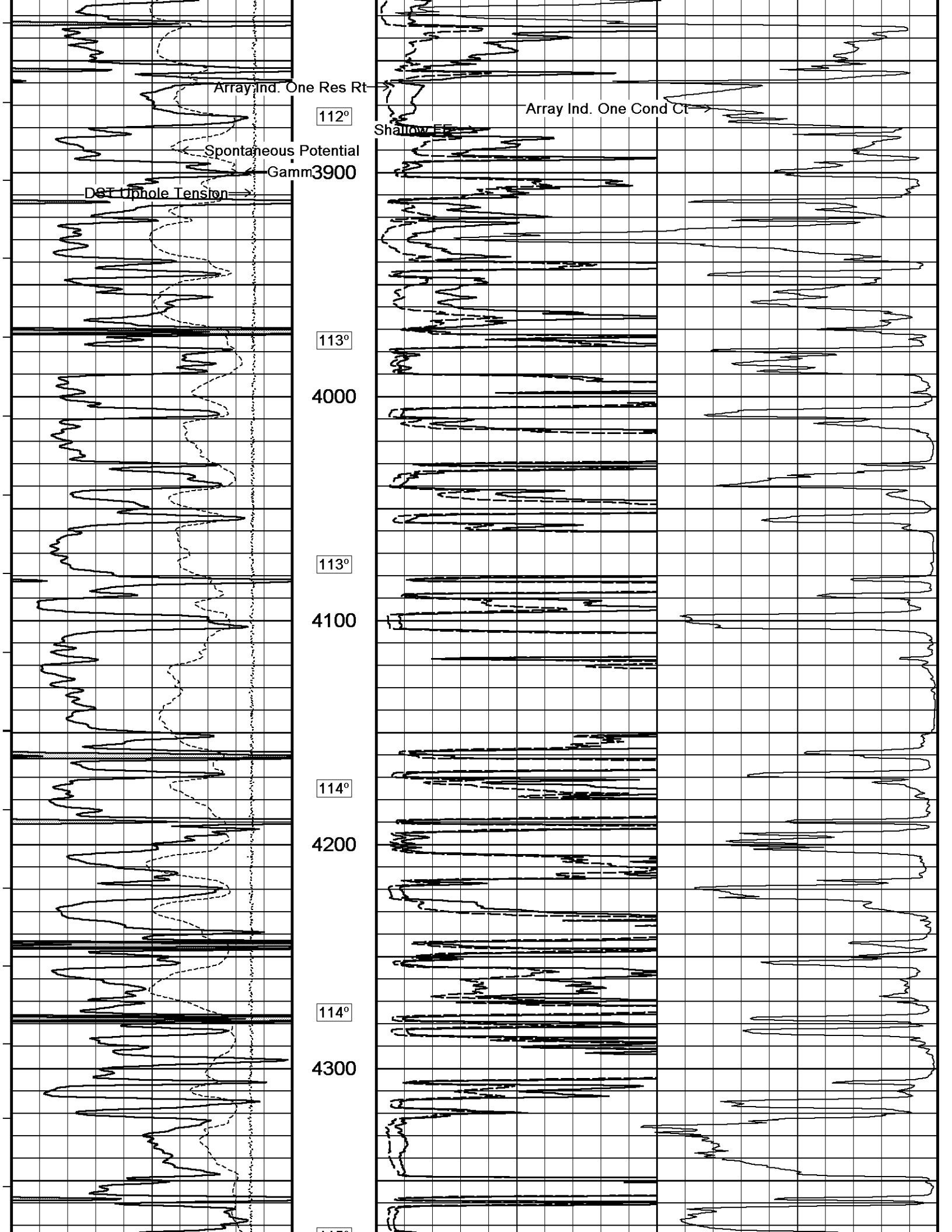

100°
1100
101°
1200
101°
1300
101°
1400
102°
1500
103°
1600
Array Ind. One Res Rt
Array Ind. One Cond Ct

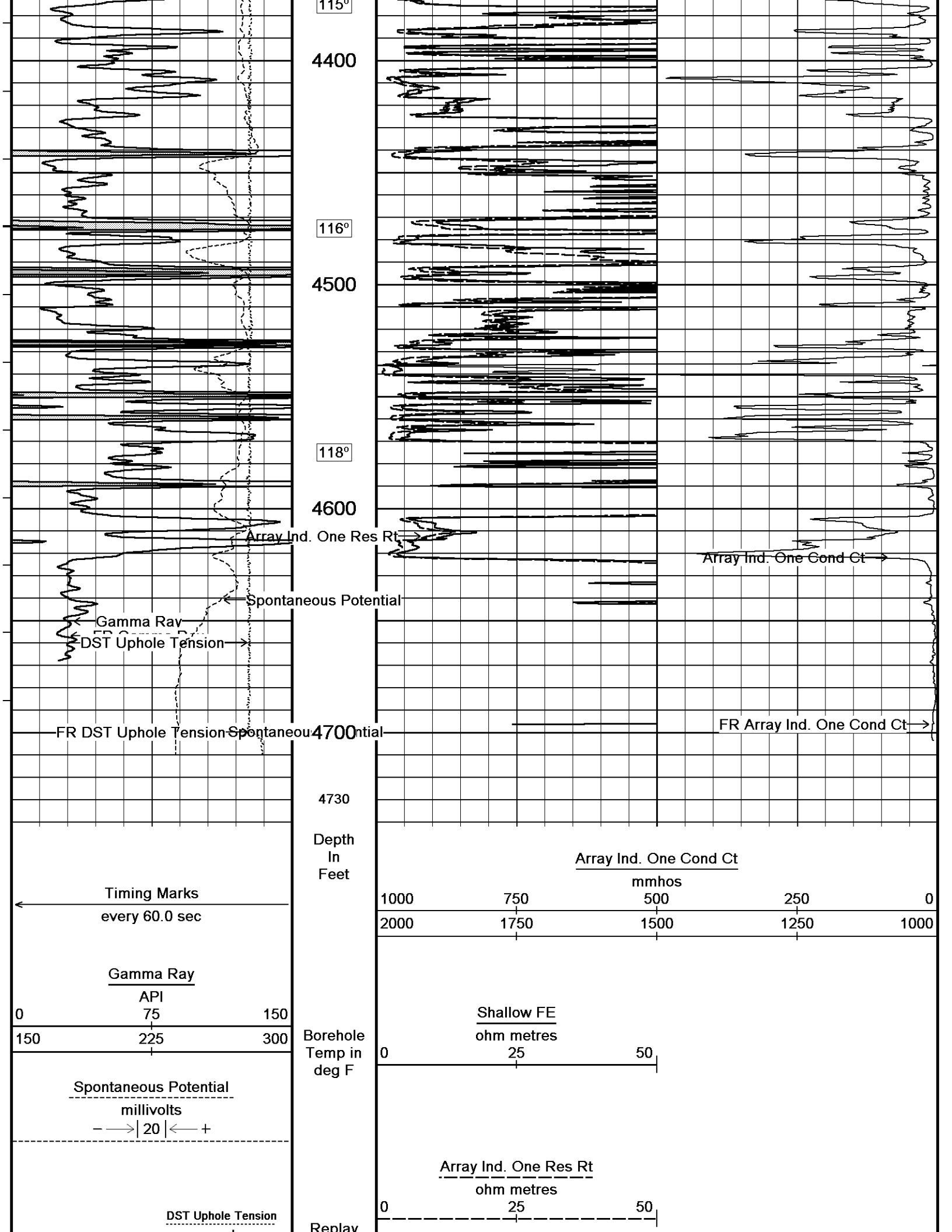

Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
103°
1700
104°
1800
104°
1900
105°
2000
105°
2100


105°
2200
105°
2300
105°
2400
106°
2500
107°
2600
107°
2700
Array Ind. One Res Rt
Array Ind. One Cond Ct
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension


107°
2800
108°
2900
108°
3000
109°
3100
Array Ind. One Res Rt
Array Ind. One Cond Ct
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
109°
3200


110°
3300
110°
3400
111°
3500
111°
3600
111°
3700
112°
3800


Array Ind. One Res Rt
Array Ind. One Cond Ct
Shallow Ft
Spontaneous Potential
Gamm
DST Uphole Tension
112°
3900
113°
4000
113°
4100
114°
4200
114°
4300


115°
4400
116°
4500
118°
4600
Array Ind. One Res Rt
Array Ind. One Cond Ct
Spontaneous Potential
Gamma Ray
DST Uphole Tension
FR DST Uphole Tension
Spontaneou
4700
ntial
FR Array Ind. One Cond Ct
4730
Depth
In
Feet
Timing Marks
every 60.0 sec
Array Ind. One Cond Ct
mmhos
1000 750 500 250 0
2000 1750 1500 1250 1000
Gamma Ray
API
0 75 150
150 225 300
Shallow FE
ohm metres
0 25 50
Borehole
Temp in
deg F
Spontaneous Potential
millivolts
− 20 +
Array Ind. One Res Rt
ohm metres
0 25 50
DST Uphole Tension
Replay

DST Uphole Tension
pounds
5000 0

Replay
Scale
1:600

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 10-SEP-2012 14:51
Filename: C:\Minimus 13.02.6600\Data\Shakespeare Campbel...\Shakespeare Campbell #2-17_002.dta
Recorded on 10-SEP-2012 12:12
System Versions: Logged with 13.02.6600 Plotted with 13.02.6600

2 INCH MAIN

5 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 10-SEP-2012 14:51
Filename: C:\Minimus 13.02.6600\Data\Shakespeare Campbel...\Shakespeare Campbell #2-17_002.dta
Recorded on 10-SEP-2012 12:12
System Versions: Logged with 13.02.6600 Plotted with 13.02.6600

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150
150 225 300

Spontaneous Potential
millivolts
− → | 20 | ← +

Density Caliper
inches
6 11 16

DST Uphole Tension
pounds
5000 0

Depth
in
Feet

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 1000 2000

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

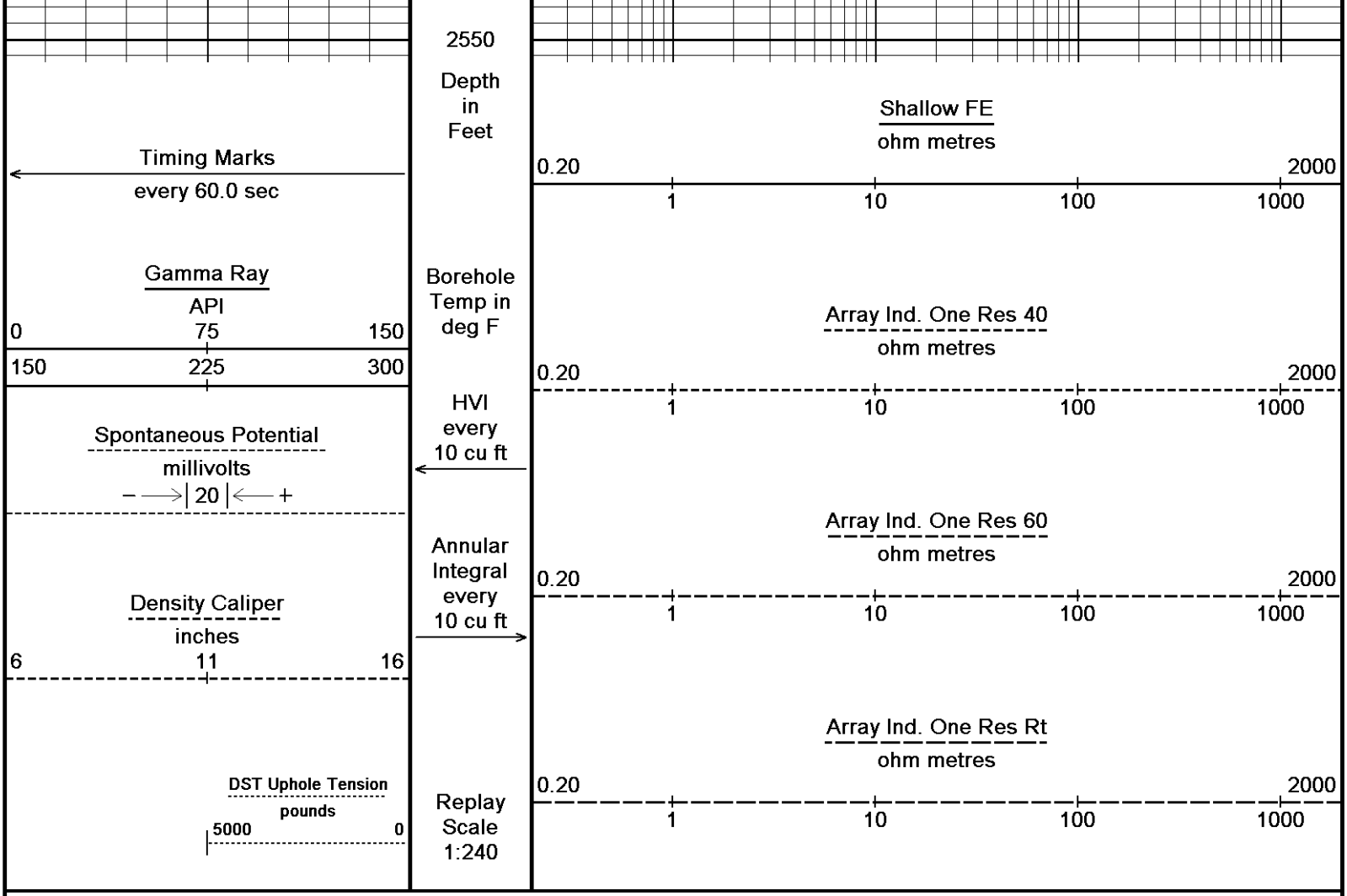
Array Ind. One Res 60
ohm metres
0.20 1 10 100 1000 2000

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

2478

2500

106°

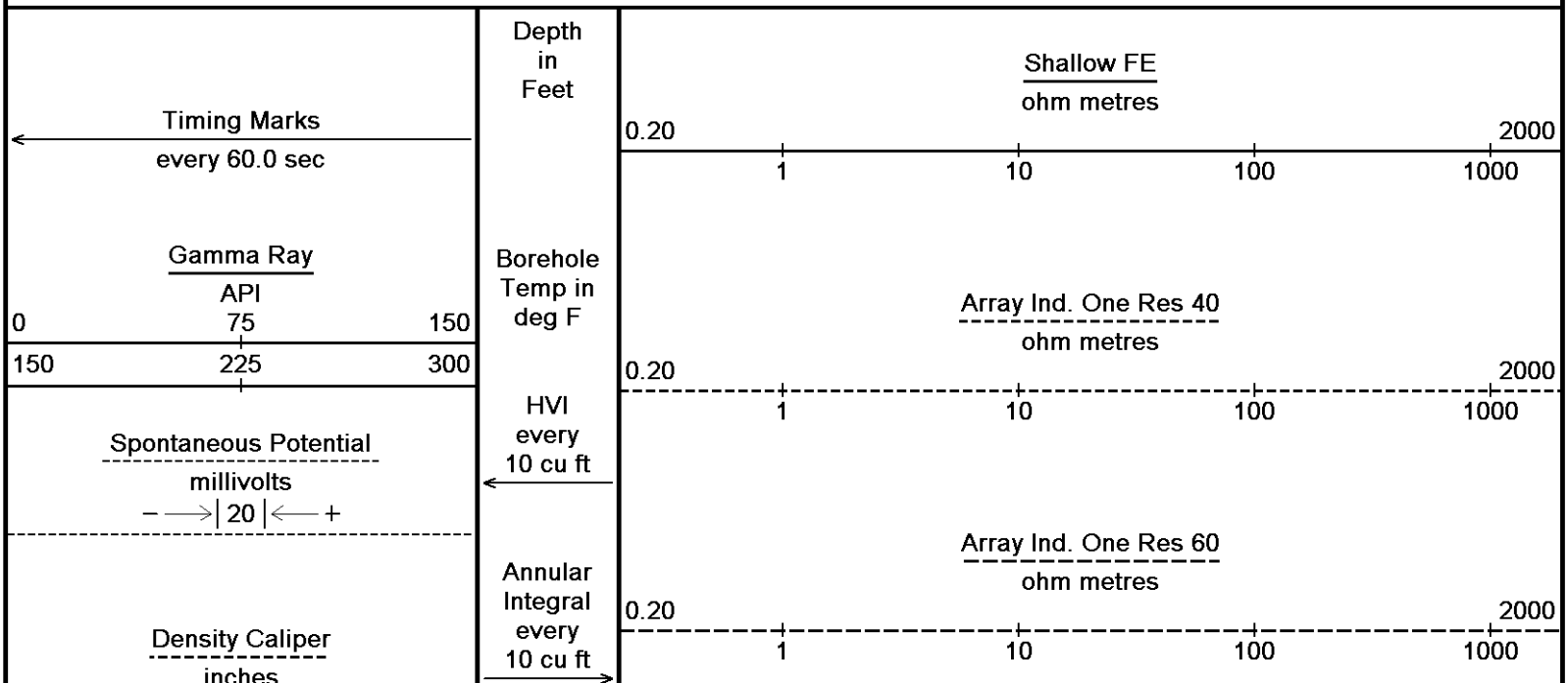


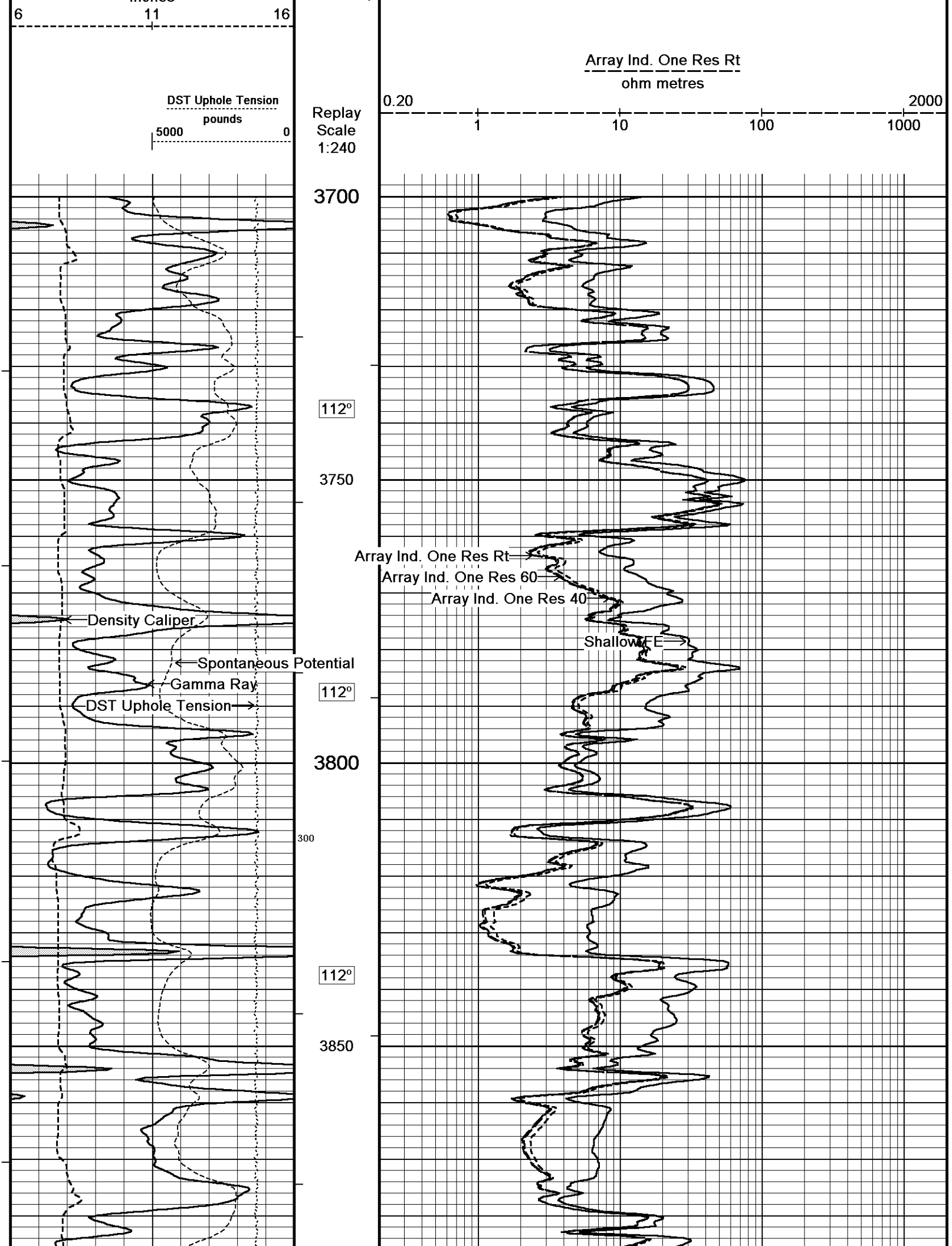
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 10-SEP-2012 14:51
Filename: C:\Minimus 13.02.6600\Data\Shakespeare Campbel...\Shakespeare Campbell #2-17_002.dta — Recorded on 10-SEP-2012 12:12
System Versions: Logged with 13.02.6600 Plotted with 13.02.6600

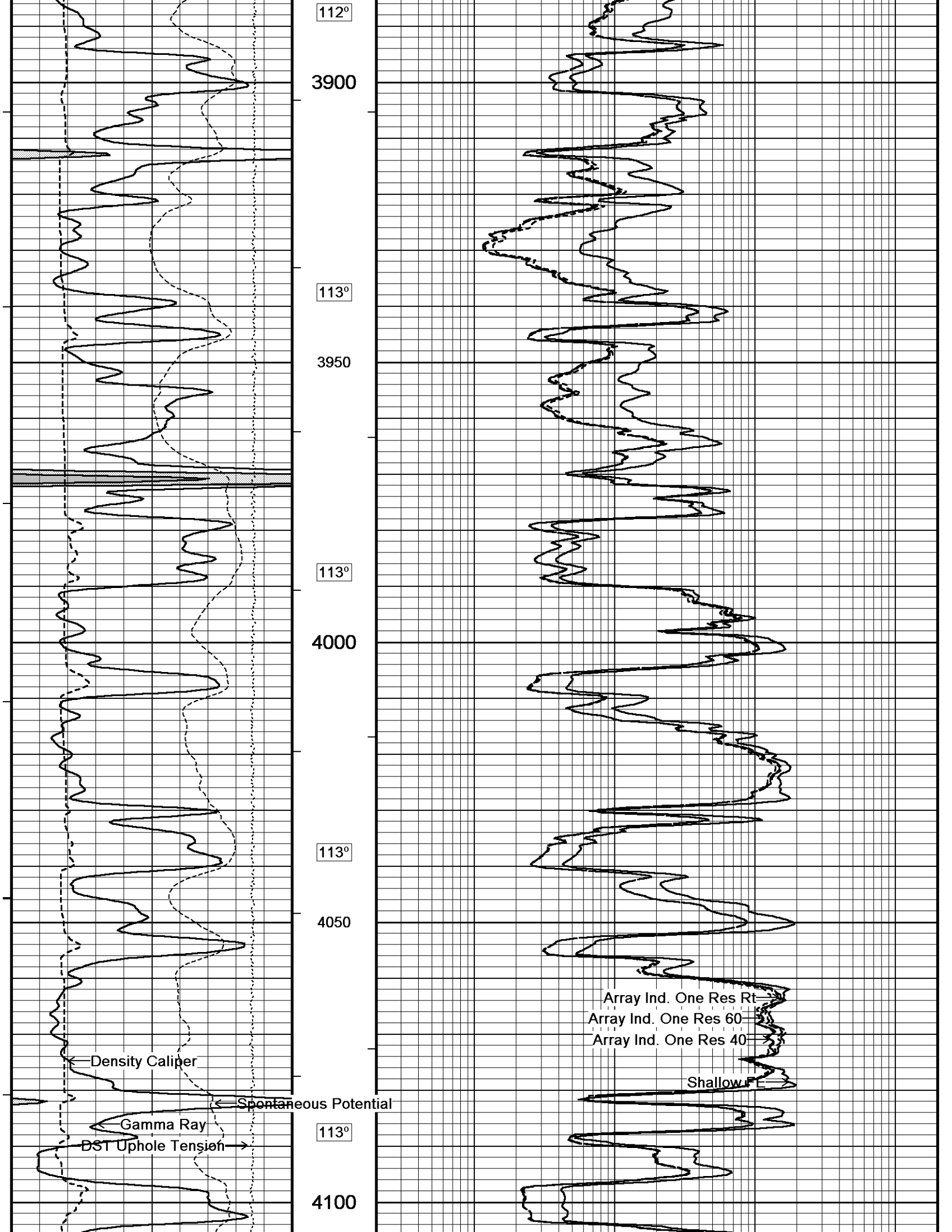
5 INCH MAIN

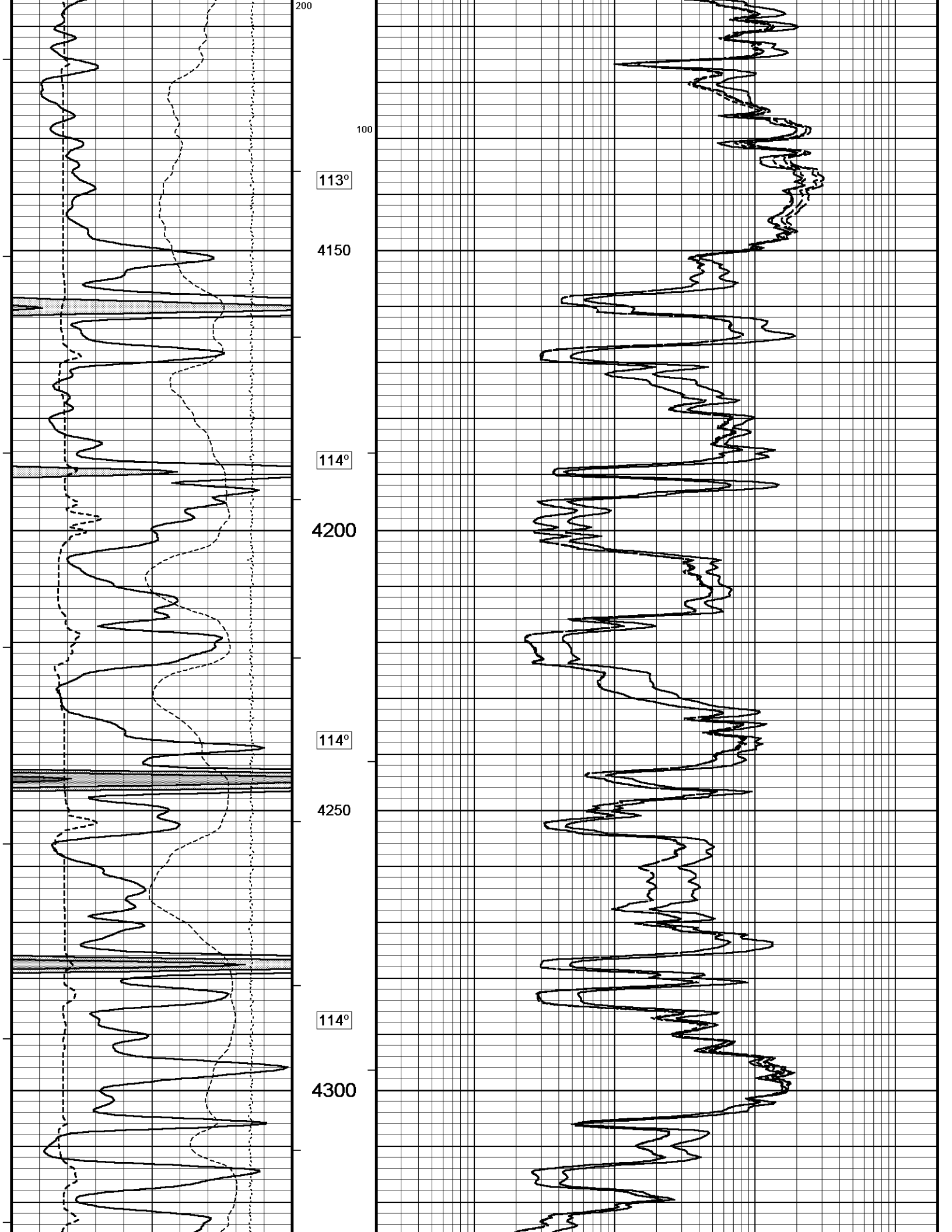
5 INCH MAIN

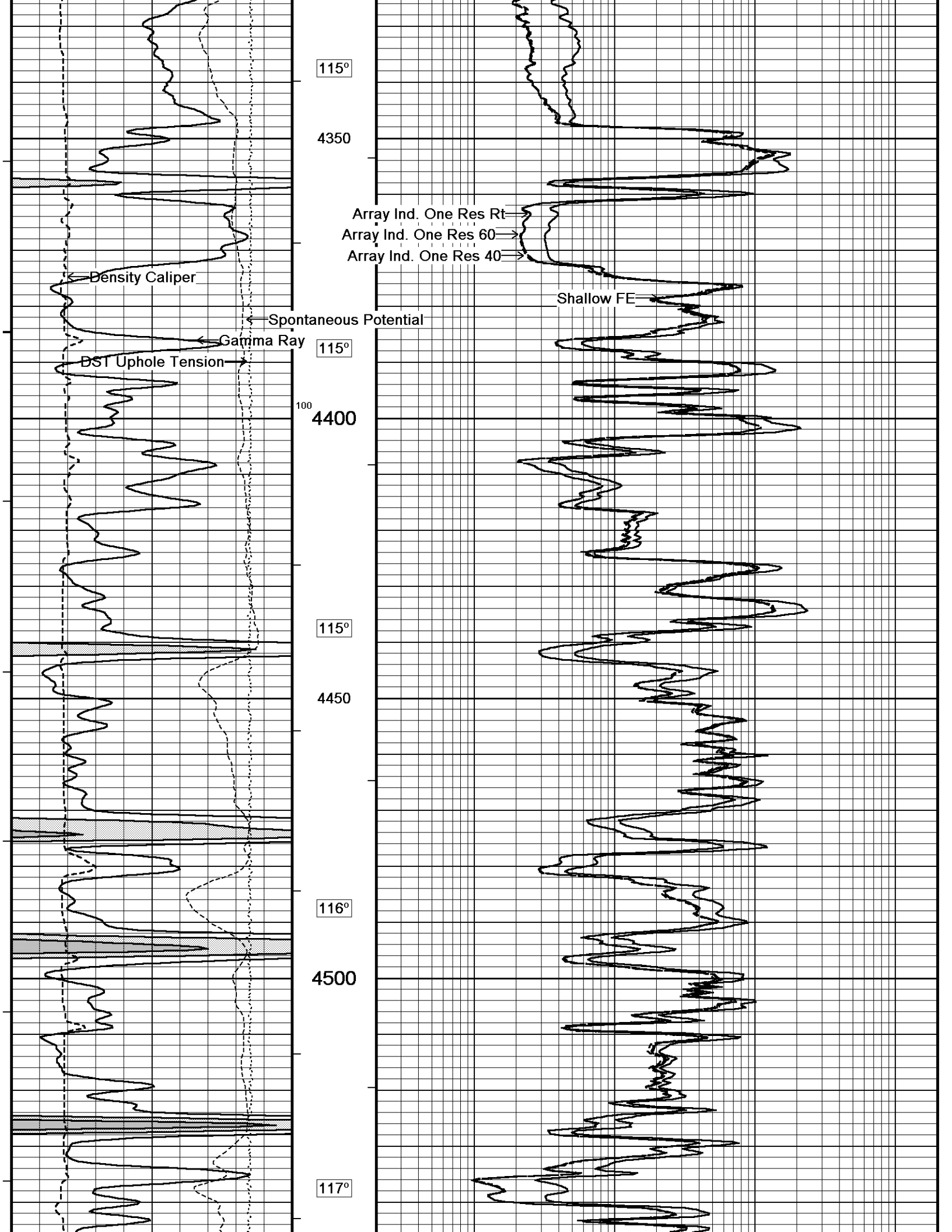
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 10-SEP-2012 14:51
Filename: C:\Minimus 13.02.6600\Data\Shakespeare Campbel...\Shakespeare Campbell #2-17_002.dta — Recorded on 10-SEP-2012 12:12
System Versions: Logged with 13.02.6600 Plotted with 13.02.6600

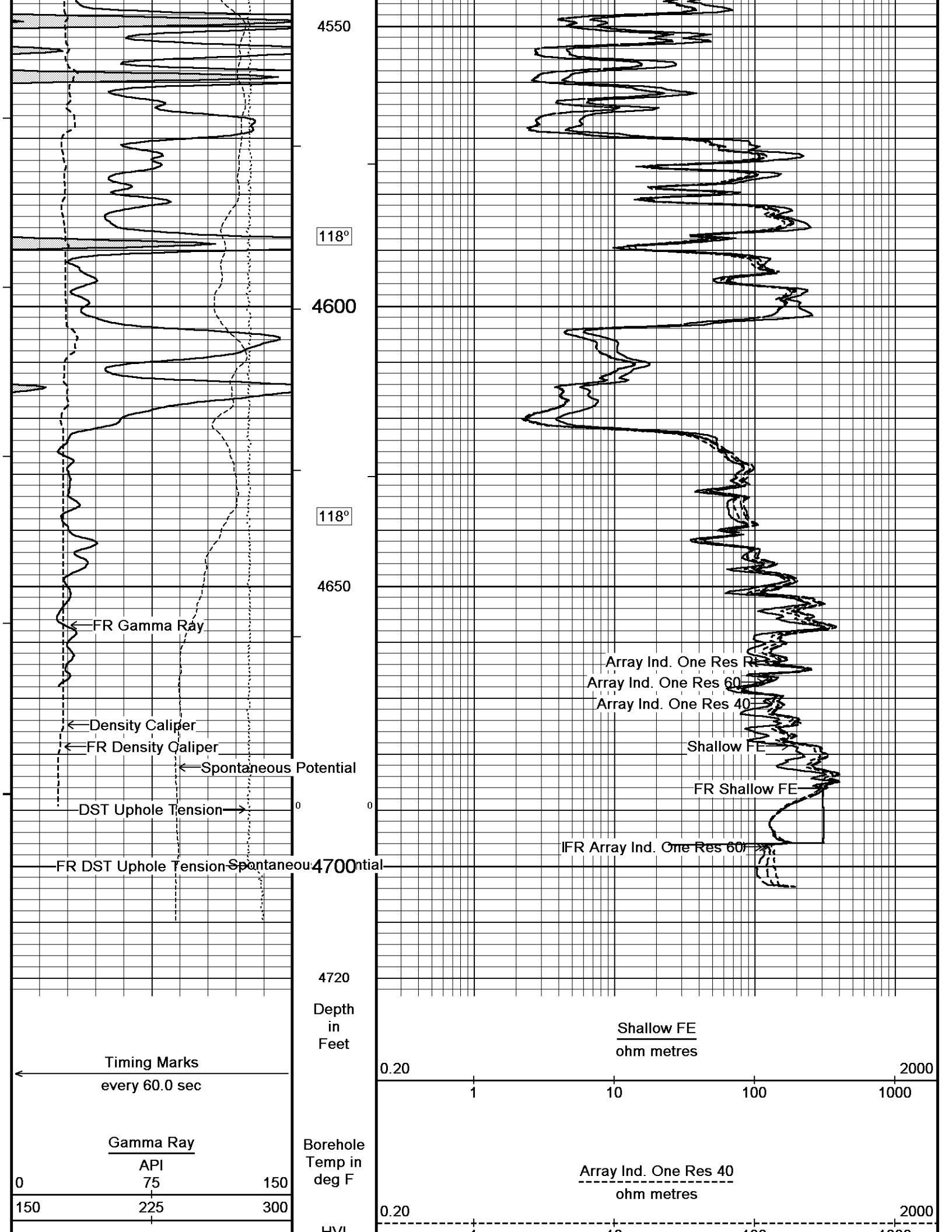


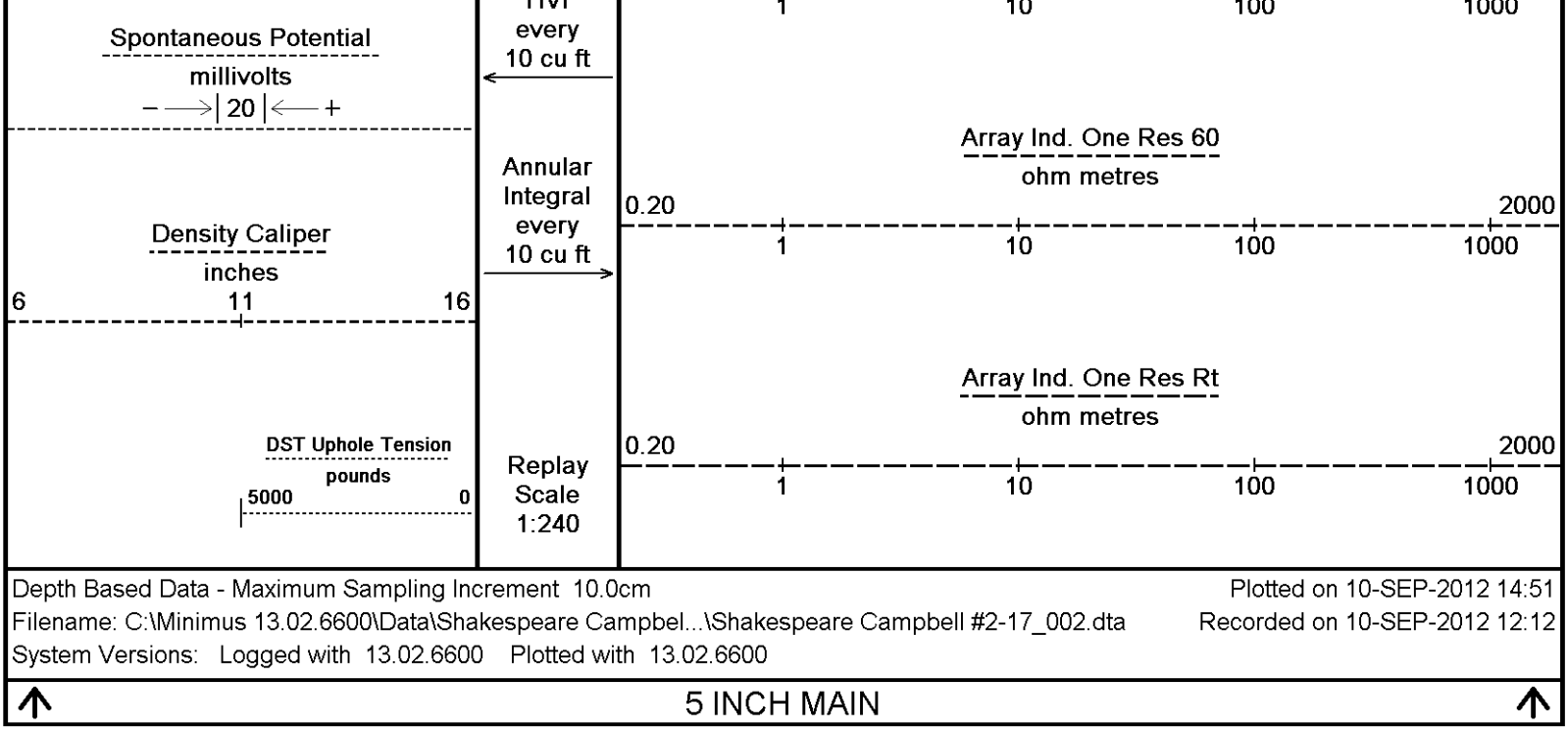

6
11
16
inches
DST Uphole Tension
pounds
5000
0
Replay
Scale
1:240
Array Ind. One Res Rt
ohm metres
0.20
2000
1
10
100
1000
3700
112°
3750
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Density Caliper
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
112°
3800
300
112°
3850


112°
3900
113°
3950
113°
4000
113°
4050
113°
4100
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 FE


200
100
113°
4150
114°
4200
114°
4250
114°
4300


115°
4350
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Density Caliper
Shallow FE
Spontaneous Potential
Gamma Ray
115°
DST Uphole Tension
100
4400
115°
4450
116°
4500
117°


4550
118°
4600
118°
4650
4700
4720
FR Gamma Ray
Density Caliper
FR Density Caliper
Spontaneous Potential
DST Uphole Tension
FR DST Uphole Tension
Spontaneous Potential
Array Ind. One Res R
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
FR Shallow FE
IFR Array Ind. One Res 60
0
0
Depth in Feet
Timing Marks
every 60.0 sec
Gamma Ray
API
0
75
150
150
225
300
Borehole Temp in deg F
Shallow FE
ohm metres
0.20
2000
1
10
100
1000
Array Ind. One Res 40
ohm metres
0.20
2000

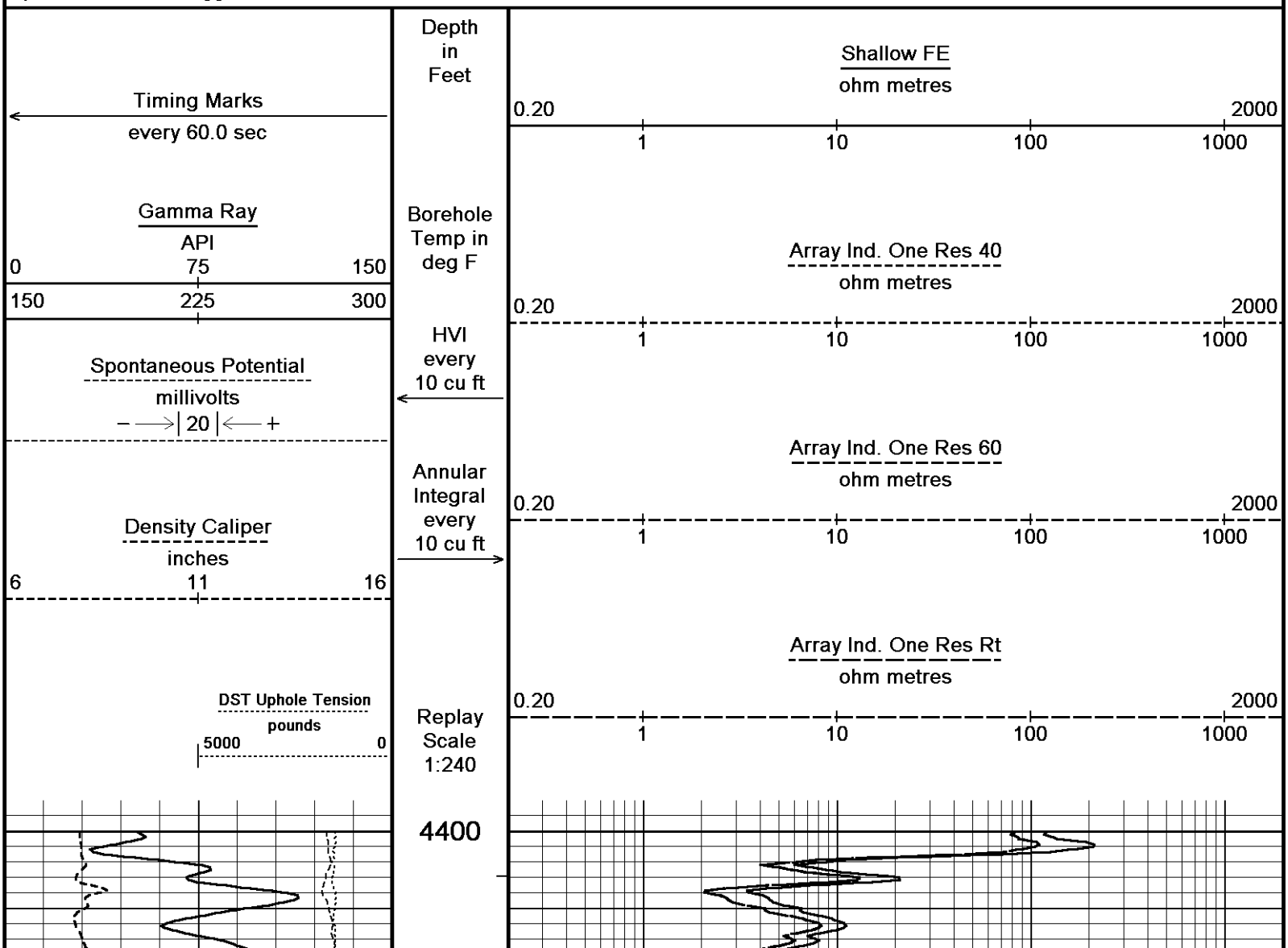


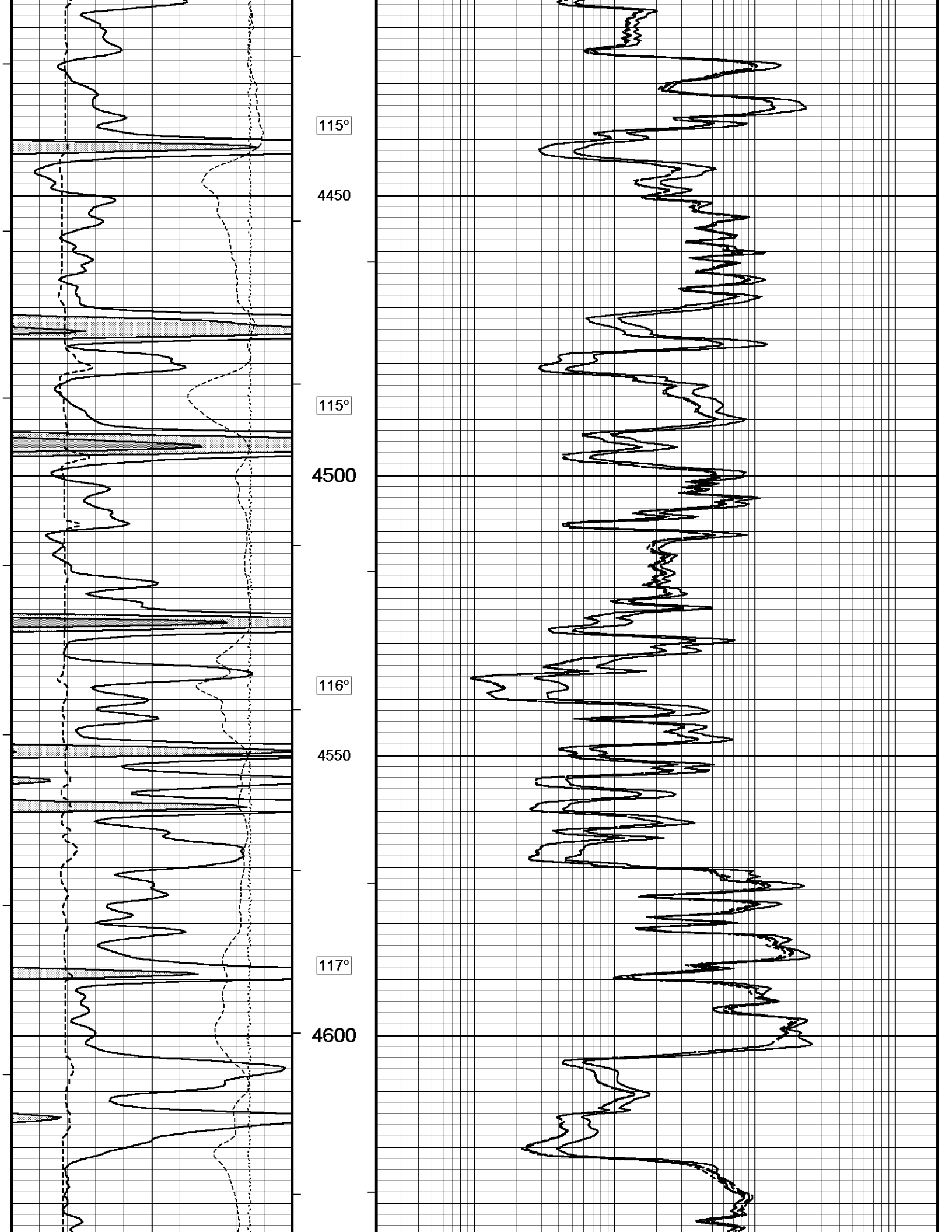
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 10-SEP-2012 14:51
Filename: C:\Minimus 13.02.6600\Data\Shakespeare Campbel...\Shakespeare Campbell #2-17_002.dta — Recorded on 10-SEP-2012 12:12
System Versions: Logged with 13.02.6600 Plotted with 13.02.6600

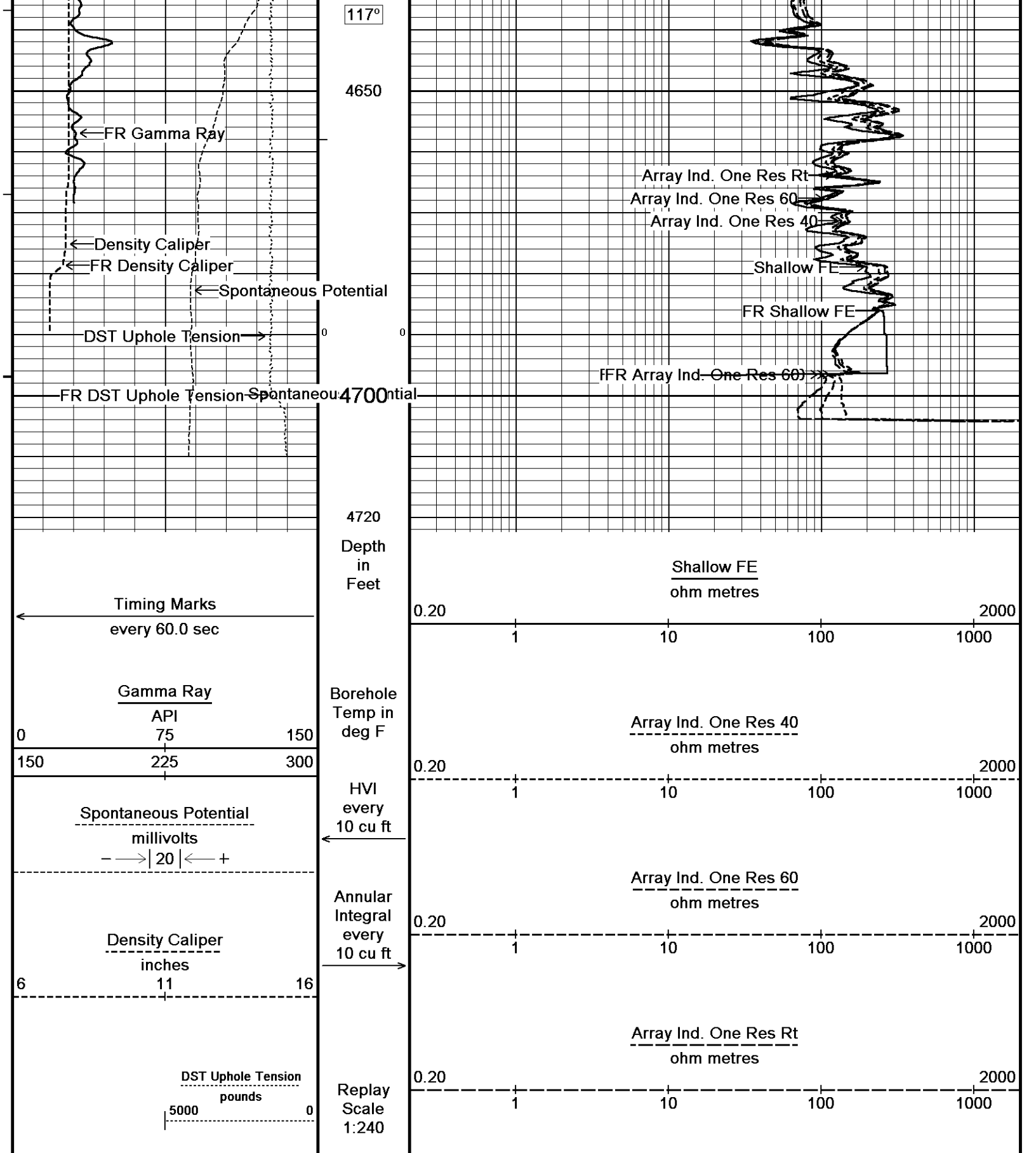
5 INCH MAIN

REPEAT SECTION

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 10-SEP-2012 14:51
Filename: C:\Minimus 13.02.6600\Data\Shakespeare Campbel...\Shakespeare Campbell #2-17_001.dta — Recorded on 10-SEP-2012 11:51
System Versions: Logged with 13.02.6600 Plotted with 13.02.6600




115°
4450
115°
4500
116°
4550
117°
4600



Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 10-SEP-2012 14:51
Filename: C:\Minimus 13.02.6600\Data\Shakespeare Campbel...\Shakespeare Campbell #2-17_001.dta
Recorded on 10-SEP-2012 11:51
System Versions: Logged with 13.02.6600 Plotted with 13.02.6600

REPEAT SECTION

BEFORE SURVEY CALIBRATION

C:\Minimus 13.02.6600\Data\Shakespeare Campbell #2-17\Shakespeare Campbell #2-17_001.dta

General Constants All 000

Last Edited on 10-SEP-2012,09:04

General Parameters

Mud Resistivity	0.780	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 SMS 0

Field Calibration on 02-SEP-2012 08:42

Reading No	Measured	Calibrated (lbs)
1	15850.66	0.00
2	16330.28	400.00

Gamma Calibration MCG-C 208

Field Calibration on 09-SEP-2012 11:32

	Measured	Calibrated (API)
Background	71	49
Calibrator (Gross)	1113	774
Calibrator (Net)	1042	725

Gamma Constants MCG-C 208

Last Edited on 10-SEP-2012,09:04

Gamma Calibrator Number	GR38	
Mud Density	1.09	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm

SP Calibration MCG-C 208

Field Calibration on 03-AUG-2012 22:37

	Measured	Calibrated (mV)
Reference 1	100.2	101.0
Reference 2	-101.3	-101.0

High Resolution Temperature Calibration MCG-C 208

Field Calibration on 03-AUG-2012,16:18

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

High Resolution Temperature Constants MCG-C 208

Last Edited on

Pre-filter Length	11

Caliper Calibration MML-A 4

Base Calibration on 27-AUG-2012 09:13
Field Calibration on 09-SEP-2012 11:18

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	15511	5.98
2	18793	7.97
3	22115	9.86
4	26057	11.92
5	0	0.00
6	N/A	N/A

Field Calibration

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

Micro Normal and Micro Inverse Calibration MML-A 4

Base Calibration on 27-AUG-2012 09:21
Field Check on 09-SEP-2012 11:16

Base Calibration

Channel	Measured Resistor 1	Measured Resistor 2	Calibrated (ohm-m) Resistor 1	Calibrated (ohm-m) Resistor 2
Micro Normal	12.2	60.2	5.0	25.0
Micro Inverse	15.7	78.5	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 4

Last Edited on 10-SEP-2012,09:01

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 65

Base Calibration on 28-AUG-2012 10:35
Field Check on 09-SEP-2012 11:37

Base Calibration

	Measured Near	Measured Far	Calibrated (cps) Near	Calibrated (cps) Far
	3134	97	3714	110
Ratio	32.240		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	1654	2401
Ratio	0.689	

Field Check

	Calibrated (cps)	
	1646	2391
Ratio	0.688	

Neutron Constants MDN-A.B 65

Last Edited on 09-SEP-2012,15:38

Neutron Source Id	PN-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	Constant Value	
Formation Pressure	0.00	kpsi
Temperature Source	Constant Value	
Temperature	68.00	degrees F
Mud Salinity	0.00	kppm
Salinity Correction	Not Applied	
Formation Fluid Salinity Source	Constant Value	
Formation Fluid Salinity	0.00	kppm
Barite Mud Correction	Not Applied	

FE Calibration MFE-B.J 352

Base Calibration on 27-AUG-2012 14:50
Field Check on 09-SEP-2012 11:08

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	963.9	126.8
Base Check		281.2
Field Check		281.5

FE Constants MFE-B.J 352

Last Edited on 10-SEP-2012,08:58

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 45

Base Calibration on 26-JUL-2012,09:22
Field Check on 09-SEP-2012 11:07

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		78.4	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	19.5	3851.5	
2	0.0	0.0	32.1	3629.5	
3	0.0	0.0	28.9	3049.6	
4	0.0	0.0	18.5	2079.4	
Deep	0.0	0.0	16.3	1911.5	
Medium	0.0	0.0	42.8	4060.8	
Shallow	0.0	0.0	50.2	5483.0	
Array Temperature		0.0		72.1	Deg F

Induction Constants MAI-A.A 45

Last Edited on 10-SEP-2012,08:58

Induction Model	RtAP-WBM	
Caliper for Borehole Corr.	Density Caliper	
Hole Size for Borehole Correction	N/A	inches
Tool Centred	No	
Stand-off Type	Fins	
Stand-off	0.50	inches
Number of Fins on Stand-off	8.0000	
Stand-off Fin Angle	45.00	degrees
Stand-off Fin Width	0.5000	inches
Borehole Corr. Rm Source	Temperature Corr	
Temp. for Rm Corr.	MCG External Temperature	
Squasher Start	0.0020	mhos/metre
Squasher Offset	N/A	mhos/metre

Borehole Normalisation

DRM1	0.0000	DRC1	0.0000
DRM2	0.0000	DRC2	0.0000
MRM1	0.0000	MRC1	0.0000
MRM2	0.0000	MRC2	0.0000
SRM1	0.0000	SRC1	0.0000
SRM2	0.0000	SRC2	0.0000

Calibration Site Corrections

Channel 1	0.00	mmhos/metre
Channel 2	0.00	mmhos/metre
Channel 3	0.00	mmhos/metre
Channel 4	0.00	mmhos/metre

Apparent Porosity and Water Saturation Constants

Archie Constant (A)	1.00	
Cementation Exponent (M)	2.00	
Saturation Exponent (N)	2.00	
Saturation of Water for Apor	100.00	percent
Resistivity of Water for Apor and Sw	0.05	ohm-m
Resistivity of Mud Filtrate for Sw	0.00	ohm-m
Source for Rt	0.00	
Source for Rxo	0.00	

High Resolution Temperature Calibration MAI-A.A 45

Field Calibration on 26-JUL-2012,09:09

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

Pre-filter Length	11

Caliper Calibration MPD-B 31

Base Calibration on 28-AUG-2012 11:03
Field Calibration on 09-SEP-2012 11:14

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	18576	3.99
2	27056	5.98
3	35613	7.97
4	44032	9.86
5	53360	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
5.99	5.98

Photo Density Calibration MPD-B 31

Base Calibration on 28-AUG-2012 11:22
Field Check on 09-SEP-2012 11:12

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	46103	23728	59556	30836
Reference 2	19270	1960	24941	2541

Field Check at Base

688.3	844.7

Field Check

693.4	850.3

PE Calibration

Base Calibration	Measured			Calibrated
	WS	WH	Ratio	Ratio
Background	127	604		
Reference 1	18457	45978	0.404	0.371
Reference 2	5504	19174	0.290	0.272

Field Check at Base

127.0	604.2

Field Check

126.3	607.6

Density Constants MPD-B 31

Last Edited on 10-SEP-2012,08:59

Density Source Id	254	
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	1.13	
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
0.00

DOWNHOLE EQUIPMENT

C:\Minimus 13.02.6600\Data\Shakespeare Campbell #2-17\Shakespeare Campbell #2-17_001.dta

Compact Comms Gamma
MCG-C 208 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Micro-log
MML-A 4 LG: 7.97 ft WT: 81.6 lb OD: 2.24 in

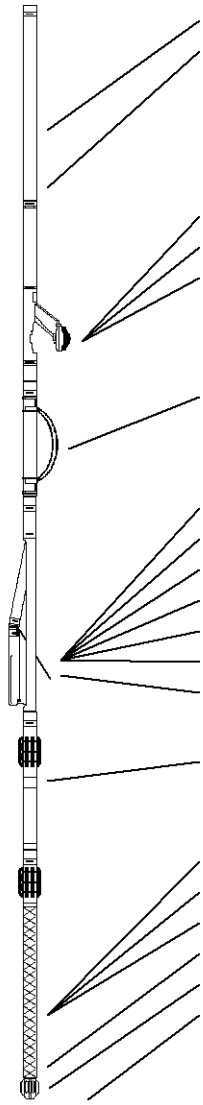
Compact Neutron
MDN-A.B 65 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

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: 48.16 ft Weight: 383.6 lb



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
28.45 ft	NPRL - Limestone Neutron Por.
21.21 ft	AVOL - Annular Volume
21.21 ft	HVOL - Hole Volume
21.21 ft	CLDC - Density Caliper
19.28 ft	DEN - Compensated Density
19.28 ft	DCOR - Density Correction
19.28 ft	DPRL - Limestone Density Por.
19.22 ft	PDPE - PE
13.72 ft	FEFE - Shallow FE
3.34 ft	R40O - Array Ind. One Res 40
3.34 ft	RTAO - Array Ind. One Res Rt
3.34 ft	R60O - Array Ind. One Res 60
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	SHAKESPEARE OIL COMPANY, INC.
WELL	CAMPBELL #2-17
FIELD	WILDCAT
PROVINCE/COUNTY	LOGAN
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	3037.00	feet	First Reading	4697.00	feet
Elevation Drill Floor	3036.00	feet	Depth Driller	4700.00	feet
Elevation Ground Level	3027.00	feet	Depth Logger	4700.00	feet

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	SHAKESPEARE OIL COMPANY, INC.
	CAMPBELL #2-17
	WILDCAT
COUNTY	LOGAN
STATE	U.S.A. / KANSAS
	1180' FSL & 1010' FEL
	NW NW SE SE
API	15-109-21097
RGE	32W
Other Services	MPD/MDN, MML

Datum G.L., Elevation 3027 feet; Measured From KB

Elevations: KB 3037.00 feet; DF 3036.00; GL 3027.00

Date	10-SEP-2012	
Run	ONE	
	4700.00	feet
	4700.00	feet
	4697.00	feet
	254.00	feet
	254.00	feet
Bit Size	7.875	inches
Type Fluid	CHEMICAL	
Density / Viscosity	9.10 lb/USg	47.00 CP
pH / Fluid Loss	11.00	9.60 ml/30Min
Source	FLOWLINE	
Rm @ Measured Temp	0.78 @ 97.0	ohm-m
Rmf @ Measured Temp	0.62 @ 97.0	ohm-m
Rmc @ Measured Temp	0.94 @ 97.0	ohm-m
Source Rmf / Rmc	CALC	CALC
Rm @ BHT	0.64 @ 118.0	ohm-m
Time Since Circulation	3 HOURS	
Max. Rec. Temp	118.00	deg F
Equip. / Location	COMPACT	
	13057	LIB
Recorded By	L. SCOTT	
Witnessed By	STEVE DAVIS	
	3537842	LB12-247

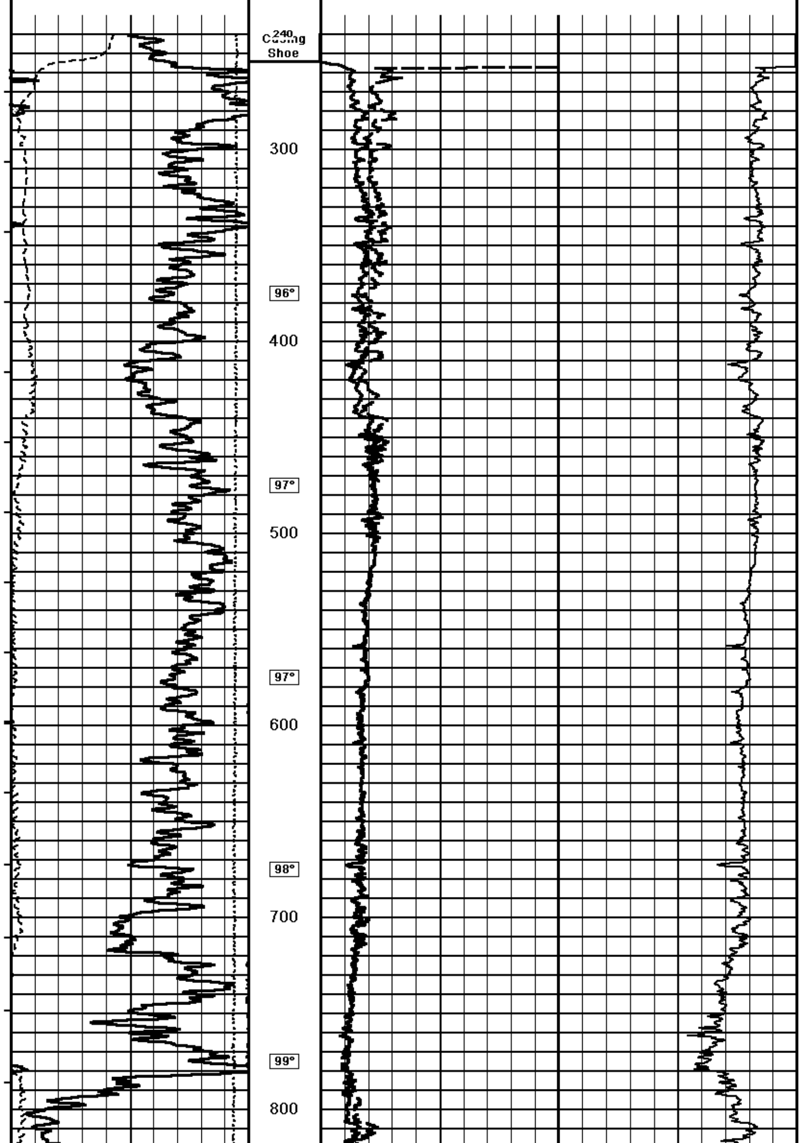
1 INCH MAIN

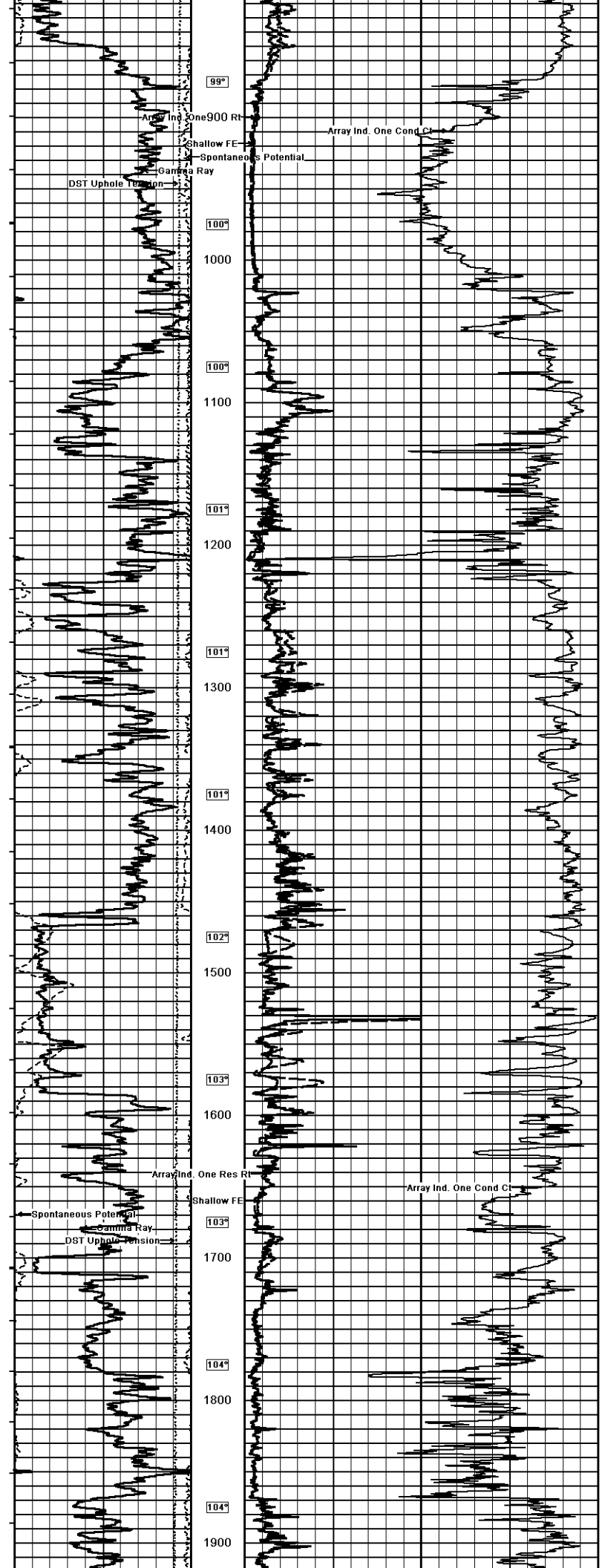
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 10-SEP-2012 14:51

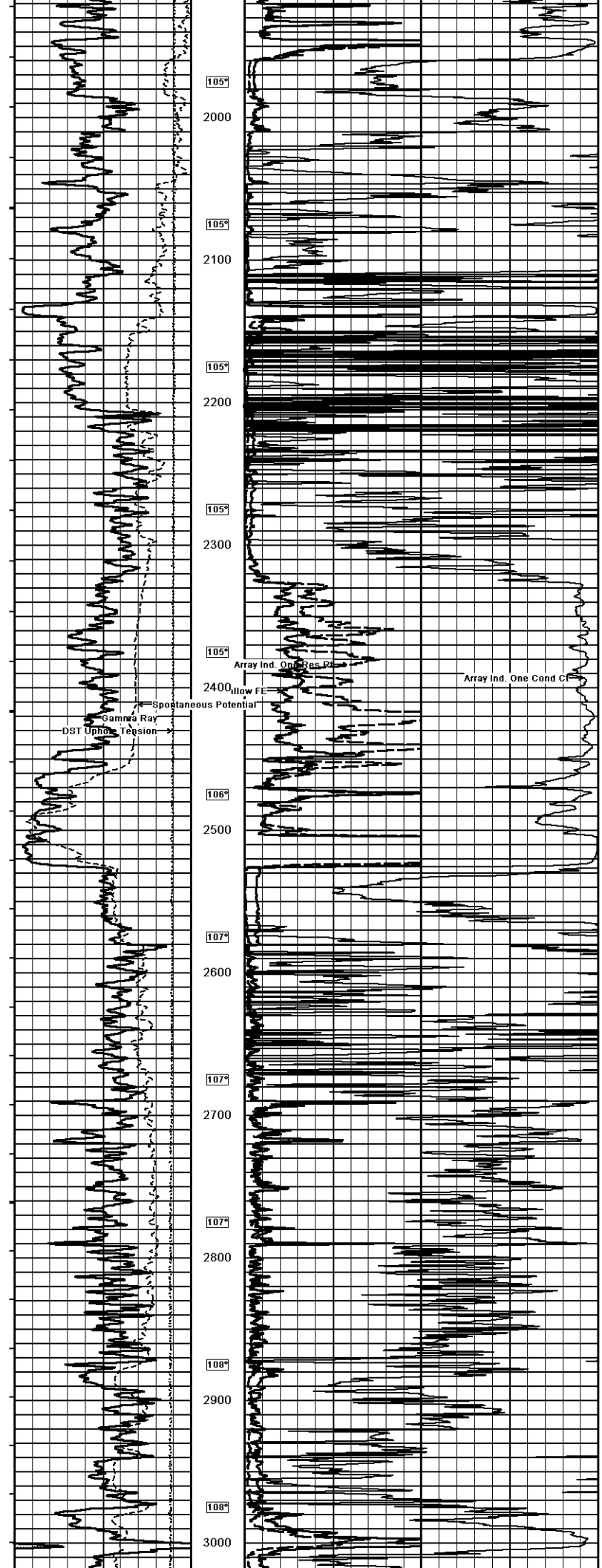
Filename: C:\Minimus 13.02.6600\Data\Shakespeare Campbell #...\Shakespeare Campbell #2-17_002.dta — Recorded on 10-SEP-2012 12:12

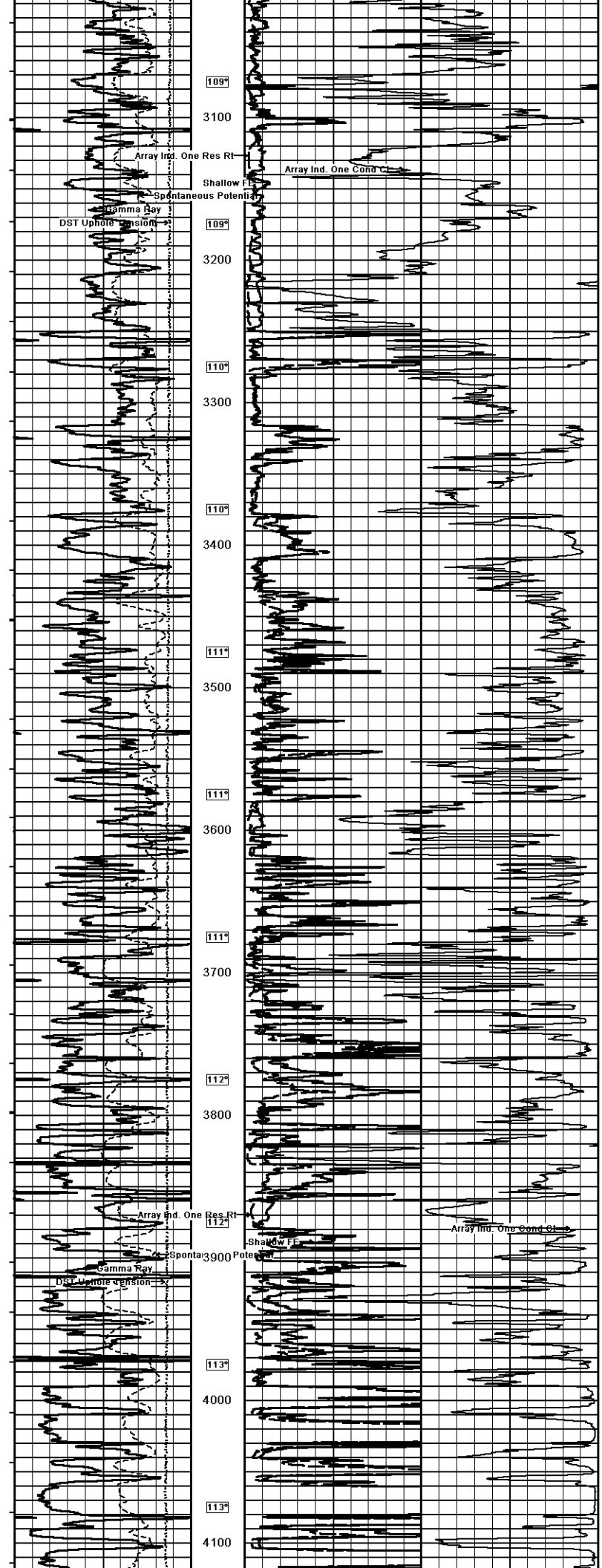
System Versions: Logged with 13.02.6600 Plotted with 13.02.6600

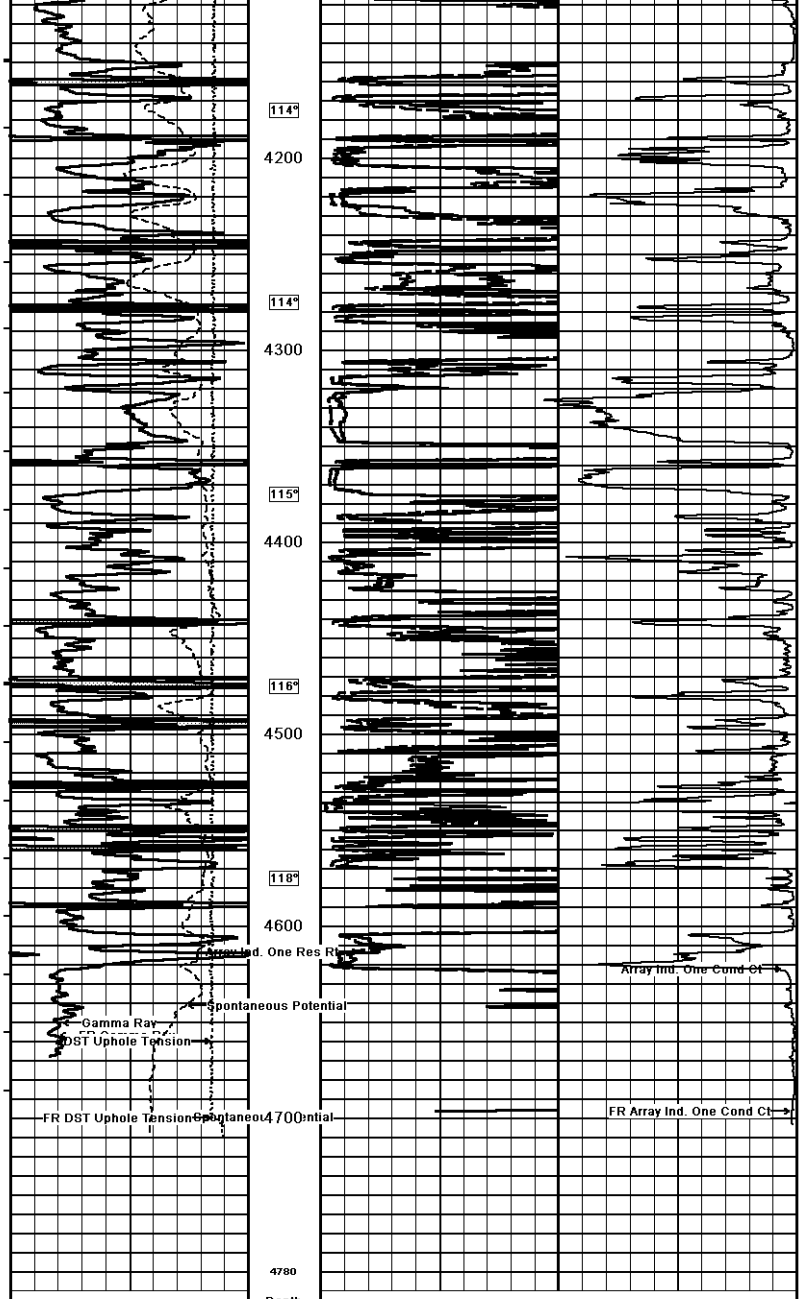
Timing Marks, every 60.0 sec	Depth In Feet	Array Ind. One Cond Ct, mmhos: 1000 750 500 250 0 / 2000 1750 1500 1250 1000
Gamma Ray, API: 0 75 150 / 150 225 300	Borehole Temp in deg F	Shallow FE, ohm metres: 0 25 50
Spontaneous Potential, millivolts, − → 20 ← +		
DST Uphole Tension, pounds: 5000 0	Replay Scale 1:600	Array Ind. One Res Rt, ohm metres: 0 25 50




99°
Array Ind. One 900 Rt
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
Array Ind. One Cond Ct
100°
1000
100°
1100
101°
1200
101°
1300
101°
1400
102°
1500
103°
1600
Array Ind. One Res Rt
Shallow FE
Array Ind. One Cond Ct
Spontaneous Potential
103°
Gamma Ray
DST Uphole Tension
1700
104°
1800
104°
1900


105°
2000
105°
2100
105°
2200
105°
2300
105°
2400
106°
2500
107°
2600
107°
2700
107°
2800
108°
2900
108°
3000
Array Ind. One Res Rt
Array Ind. One Cond Ct
Illow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension


109°
3100
Array Ind. One Res Rt
Array Ind. One Cond Ct
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
109°
3200
110°
3300
110°
3400
111°
3500
111°
3600
111°
3700
112°
3800
Array Ind. One Res Rt
112°
Array Ind. One Cond Ct
Shallow FE
Spontaneous Potential
3900
Gamma Ray
DST Uphole Tension
113°
4000
113°
4100



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