Weatherford®

ARRAY INDUCTION SHALLOW FOCUSED ELECTRIC LOG

COMPANY	GRAND MESA OPERATING COMPANY
WELL	Q-R #1-17
FIELD	Q-B
PROVINCE/COUNTY	GOVE
COUNTRY/STATE	U.S.A. / KANSAS
LOCATION	2598' FNL & 2087' FEL SE SW SW NE

SEC	TWP	RGE	Other Services
17	11S	26W	MPD/MDN MML

API Number 15-063-22048
Permit Number

Permanent Datum G.L., Elevation 2647 feet
Log Measured From KB
Drilling Measured From K.B.

Elevations:	feet
KB	2652.00
DF	2651.00
GL	2647.00

Date	17-OCT-2012			
Run Number	ONE			
Depth Driller	4669.00	feet		
Depth Logger	4669.00	feet		
First Reading	4666.00	feet		
Last Reading	263.00	feet		
Casing Driller	262.00	feet		
Casing Logger	263.00	feet		
Bit Size	7.875	inches		
Hole Fluid Type	CHEMICAL			
Density / Viscosity	9.30 lb/USg		68.00 CP	
PH / Fluid Loss	10.50		7.80 ml/30Min	
Sample Source	FLOWLINE			
Rm @ Measured Temp	0.98 @ 92.0	ohm-m		
Rmf @ Measured Temp	0.82 @ 92.0	ohm-m		
Rmc @ Measured Temp	1.22 @ 92.0	ohm-m		
Source Rmf / Rmc	CALC		CALC	
Rm @ BHT	0.79 @115.0	ohm-m		
Time Since Circulation	4 HOURS			
Max Recorded Temp	115.00	deg F		
Equipment Name	COMPACT			
Equipment / Base	13096		LIB	
Recorded By	L. SCOTT			
Witnessed By	BOB SCHREIBER			
S.O. / JOB#	3537893		LB12-278	

BOREHOLE RECORD

Last Edited: 17-OCT-2012 12:08

Bit Size inches	Depth From feet	Depth To feet
7.875	263.00	4669.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	263.00	24.00

REMARKS

Tools Ran: MCG, MML, MDN, MPD, MFE, MAI RAN IN COMBINATION.
2.71 G/CC Limestone Density porosity 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= 1928 cubic feet
Annular hole volume with 5.5 Inch casing from TD to 3600ft.= 213 cubic feet
Service order: 3537893
Rig: Murfin #8
Engineer: L. Scott
Operator(s): J. LaPoint, N. Adame

2 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 17-OCT-2012 12:59
Filename: C:\Minimus 13.02.6600\Data\Grand ...\Grand Mesa Operating Company Q-R #1-17_002.dta
Recorded on 17-OCT-2012 10:45
System Versions: Logged with 13.02.6600 Plotted with 13.02.6600

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

C 250 ig Shoe

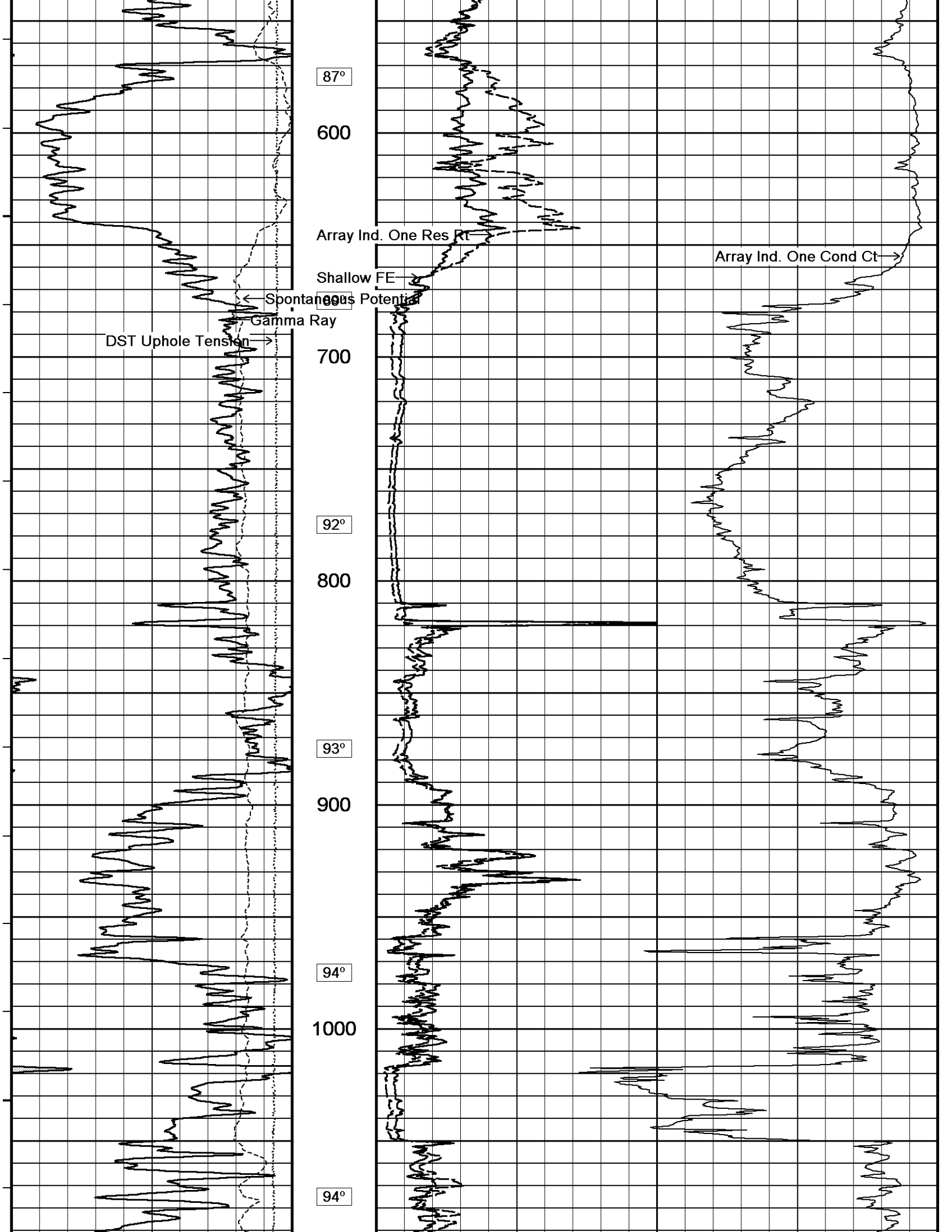
300

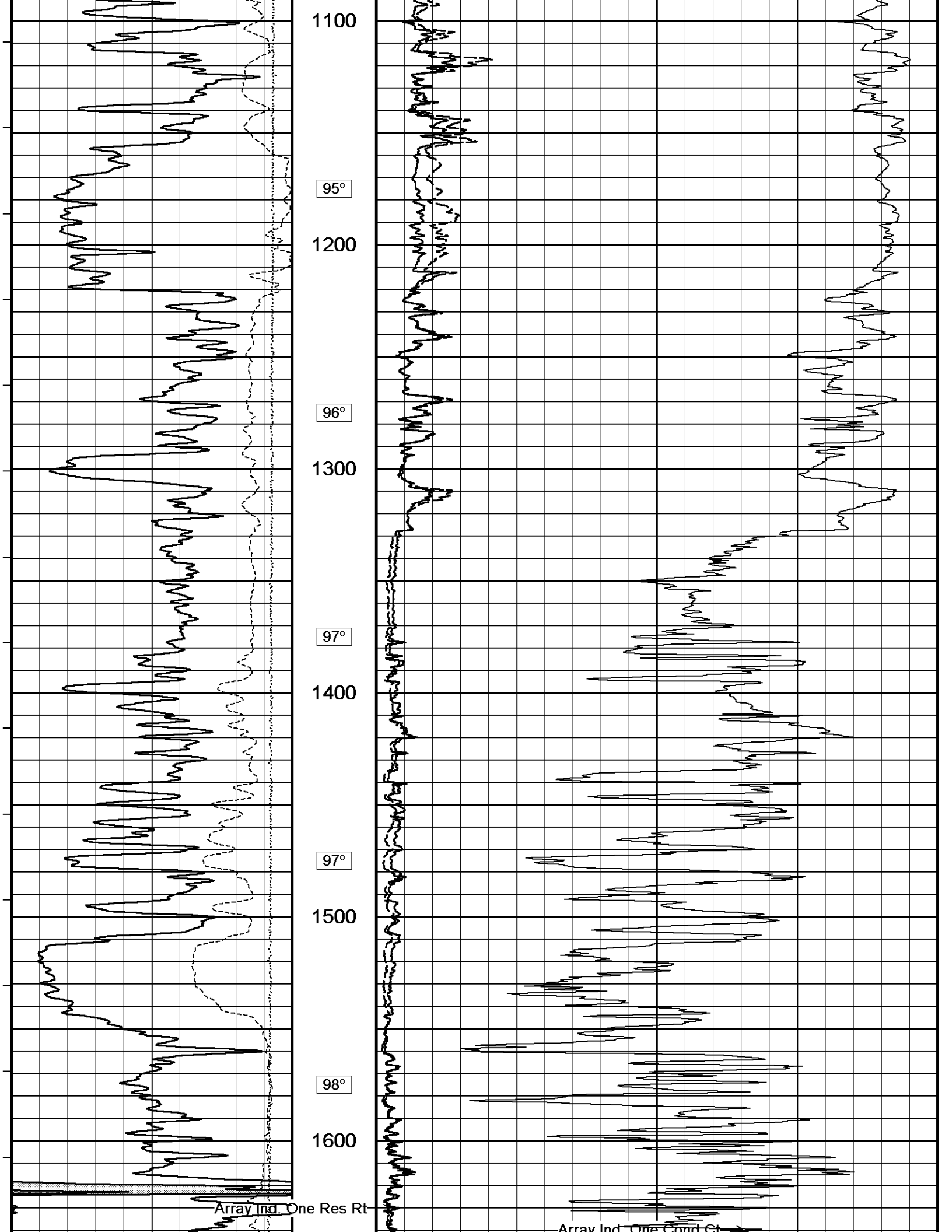
89°

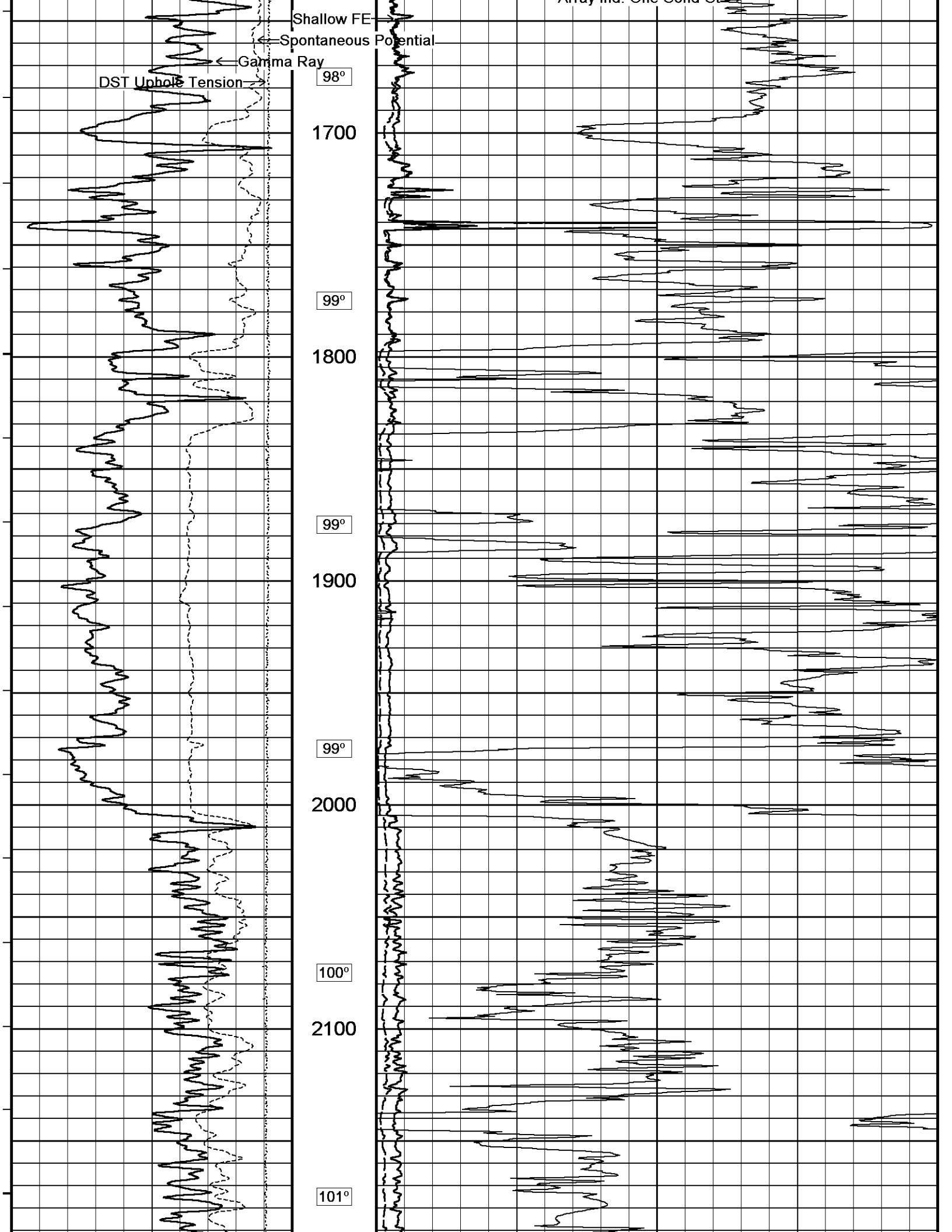
400

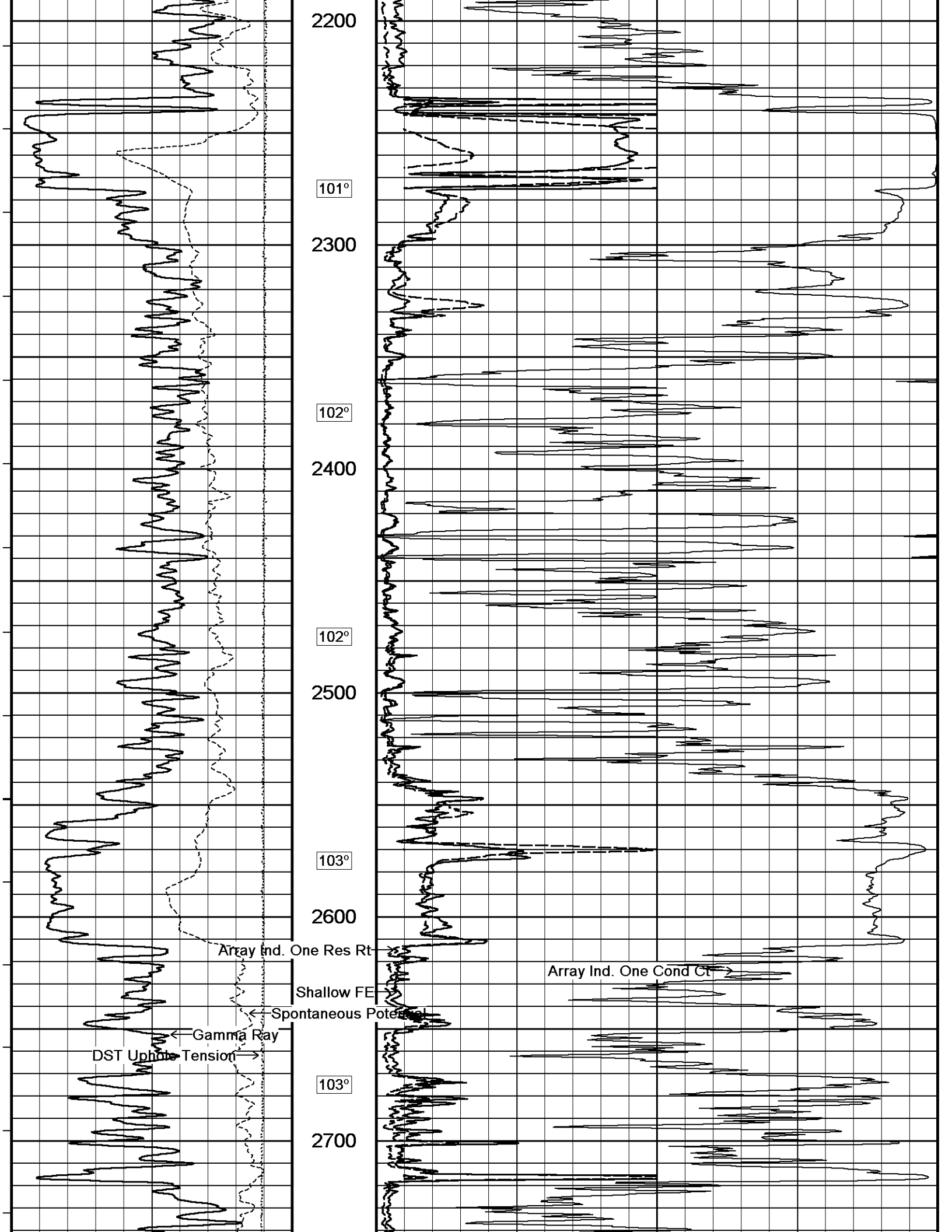
88°

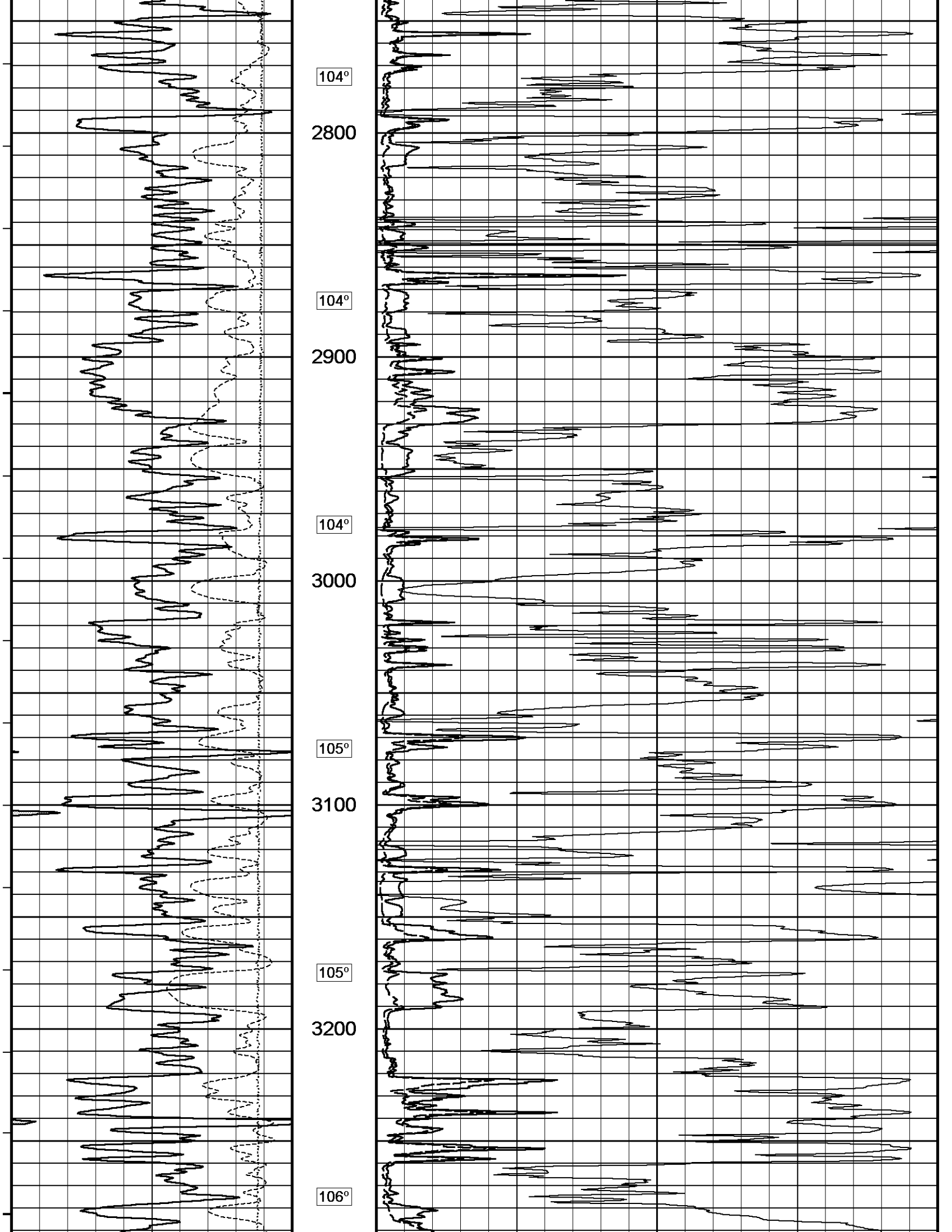
500

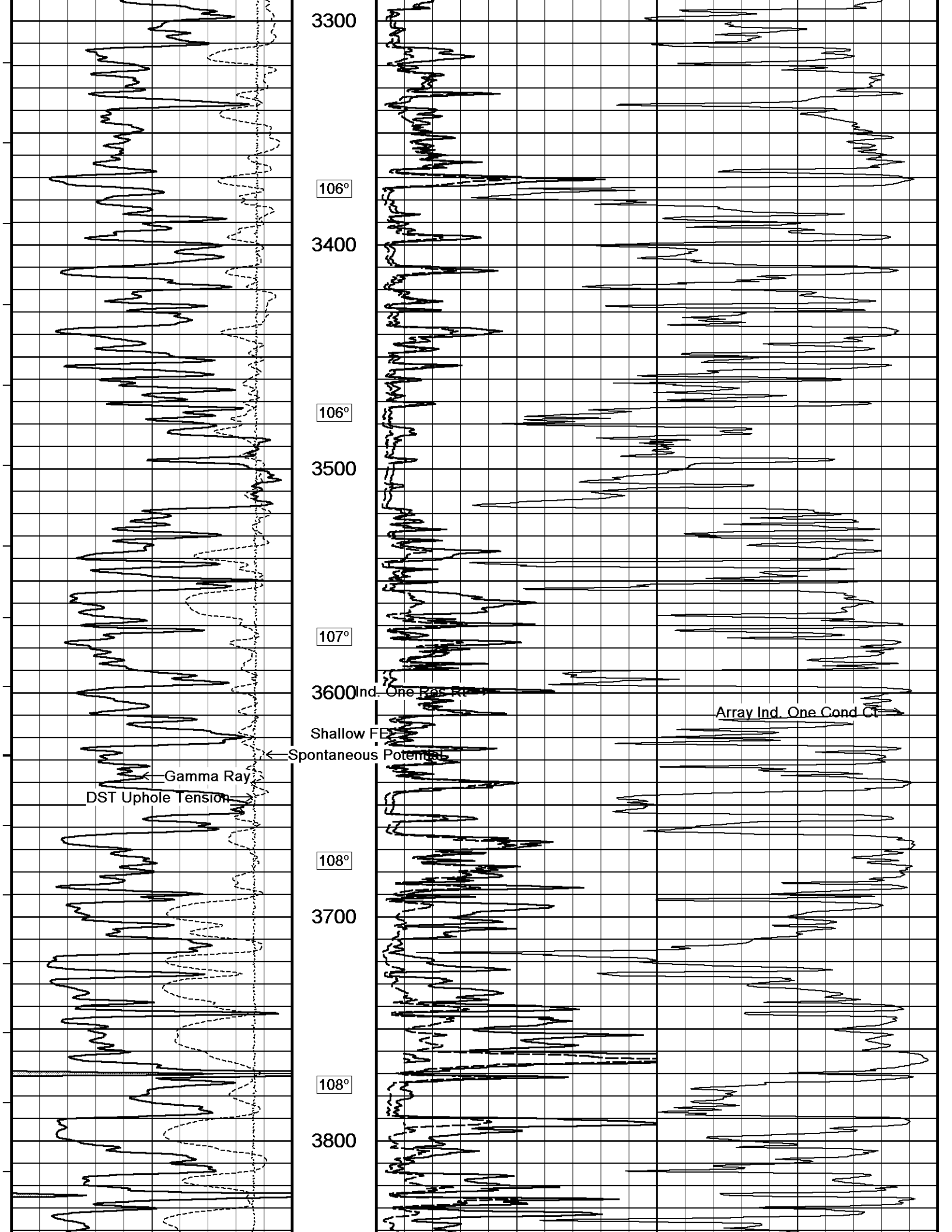

87°
600
Array Ind. One Res Rt
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
700
92°
800
93°
900
94°
1000
94°
Array Ind. One Cond Ct

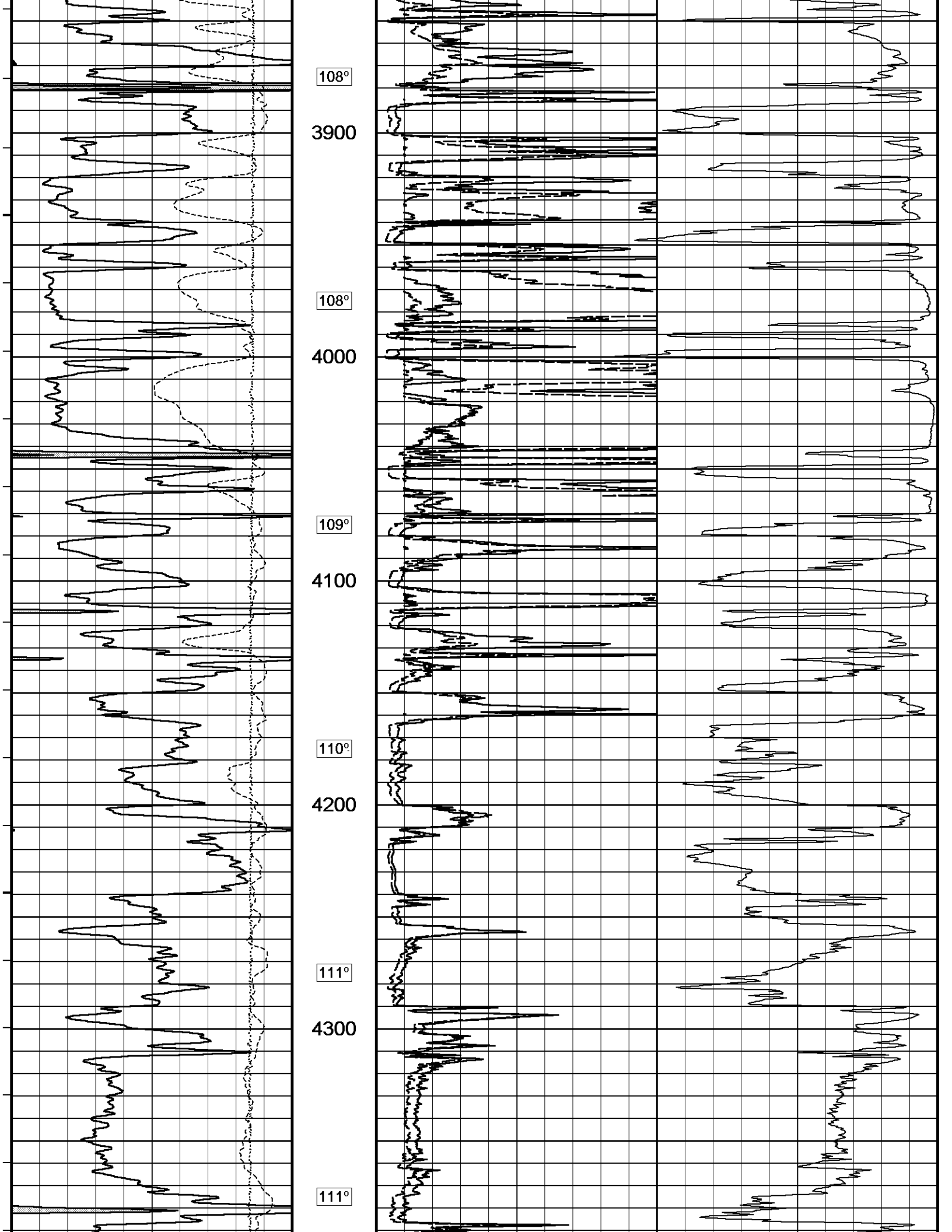

1100
95°
1200
96°
1300
97°
1400
97°
1500
98°
1600
Array Ind. One Res Rt
Array Ind. One Cond Ct

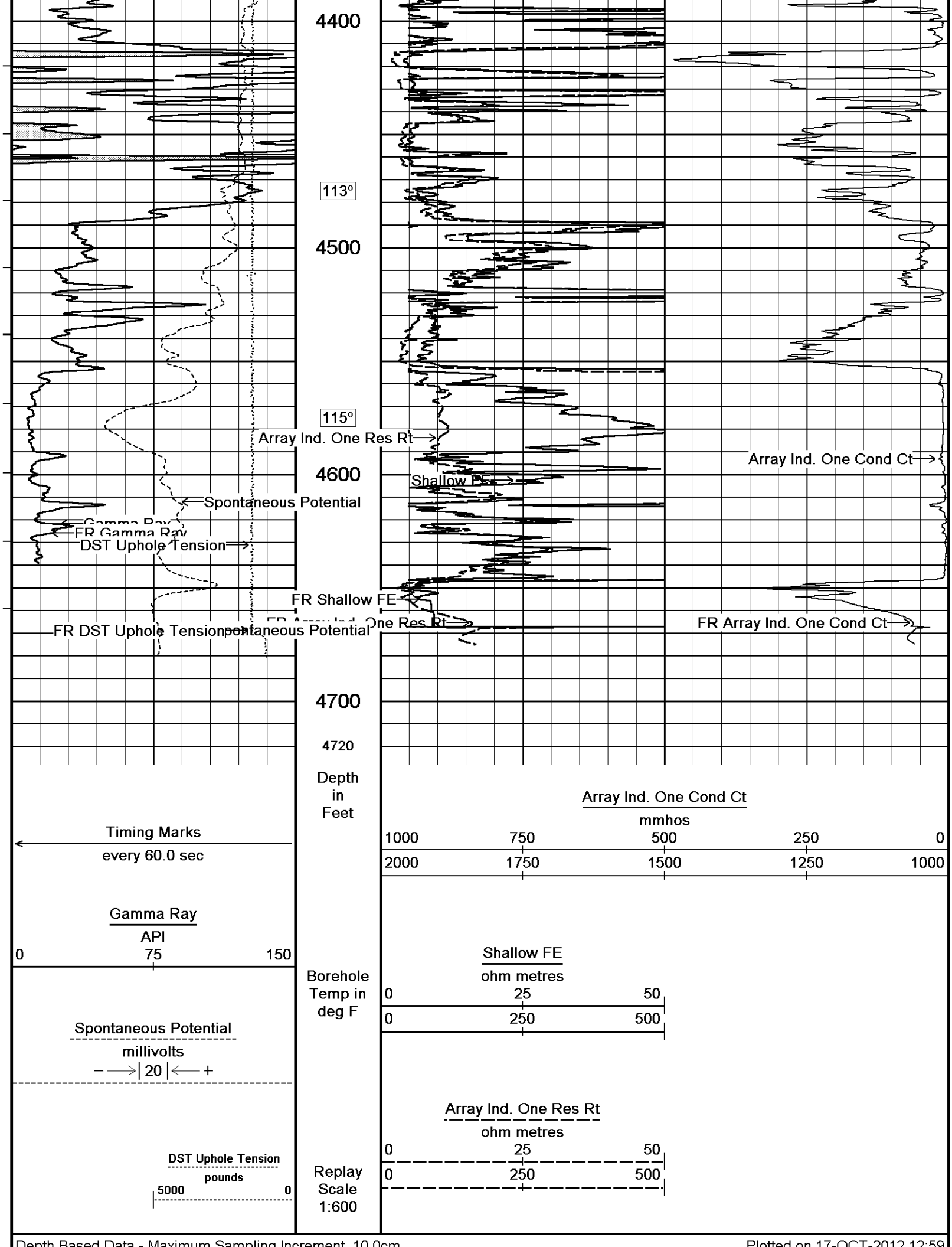

Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
98°
1700
99°
1800
99°
1900
99°
2000
100°
2100
101°


2200
101°
2300
102°
2400
102°
2500
103°
2600
Array Ind. One Res Rt
Array Ind. One Cond Ct
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
103°
2700


104°
2800
104°
2900
104°
3000
105°
3100
105°
3200
106°


3300
106°
3400
106°
3500
107°
3600
Ind. One Rec Rt
Array Ind. One Cond Ct
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
108°
3700
108°
3800


108°
3900
108°
4000
109°
4100
110°
4200
111°
4300
111°



Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 17-OCT-2012 12:59

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 17-OCT-2012 12:59
Filename: C:\Minimus 13.02.6600\Data\Grand ...\Grand Mesa Operating Company Q-R #1-17_002.dta — Recorded on 17-OCT-2012 10:45
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 17-OCT-2012 12:59
Filename: C:\Minimus 13.02.6600\Data\Grand ...\Grand Mesa Operating Company Q-R #1-17_002.dta — Recorded on 17-OCT-2012 10:45
System Versions: Logged with 13.02.6600 Plotted with 13.02.6600

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

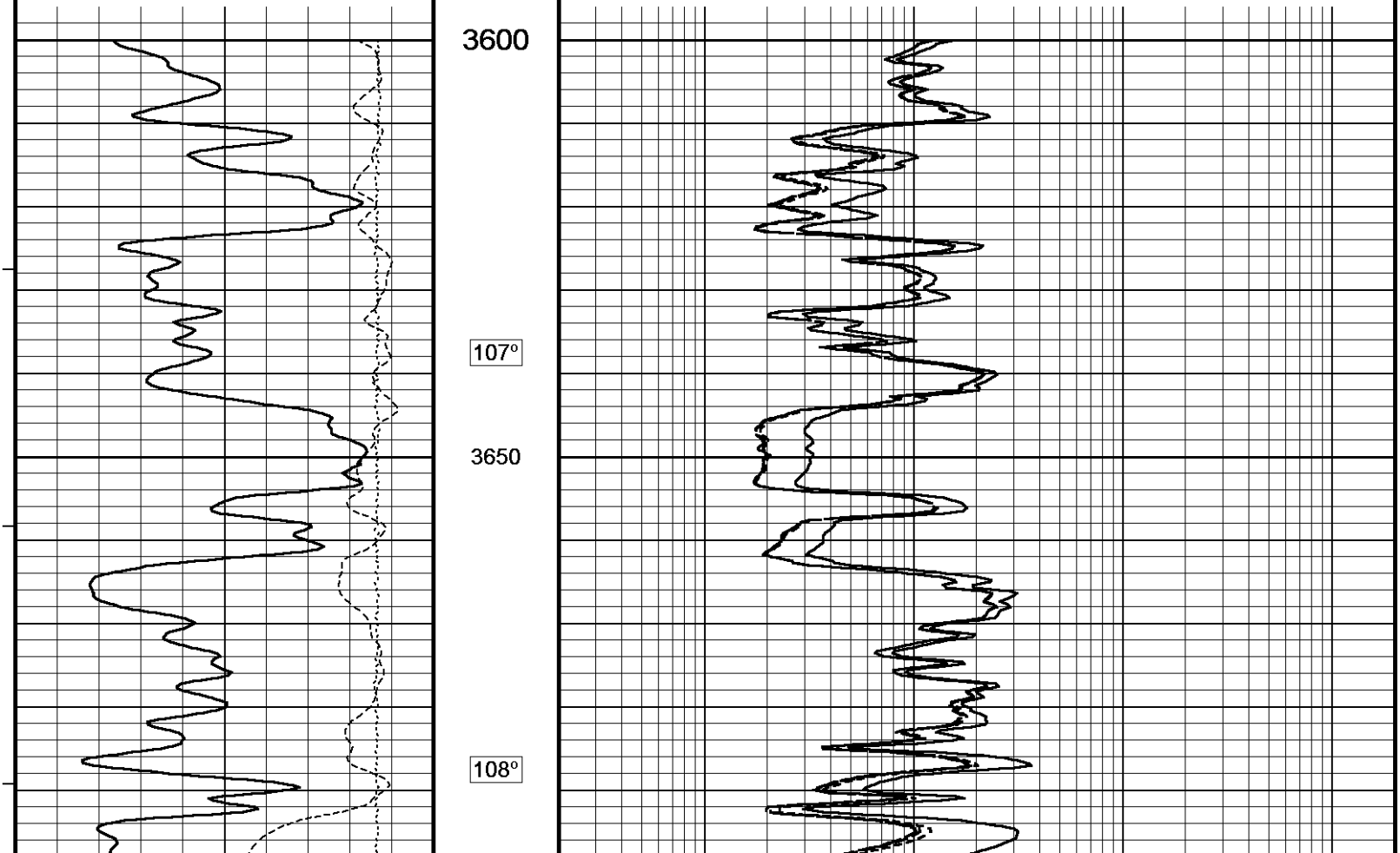
Replay Scale 1:240

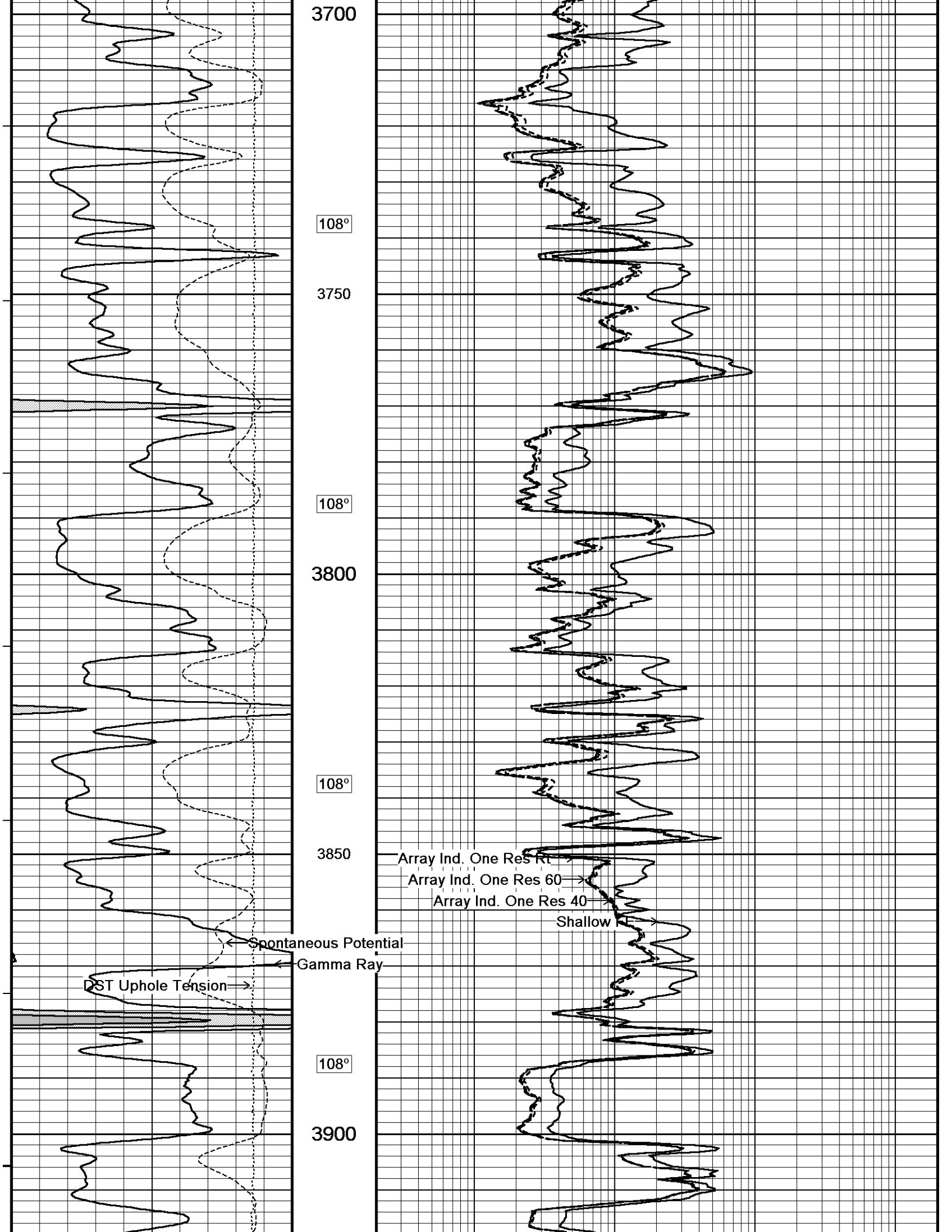
Shallow FE
ohm metres
0.20 1 10 100 1000 2000

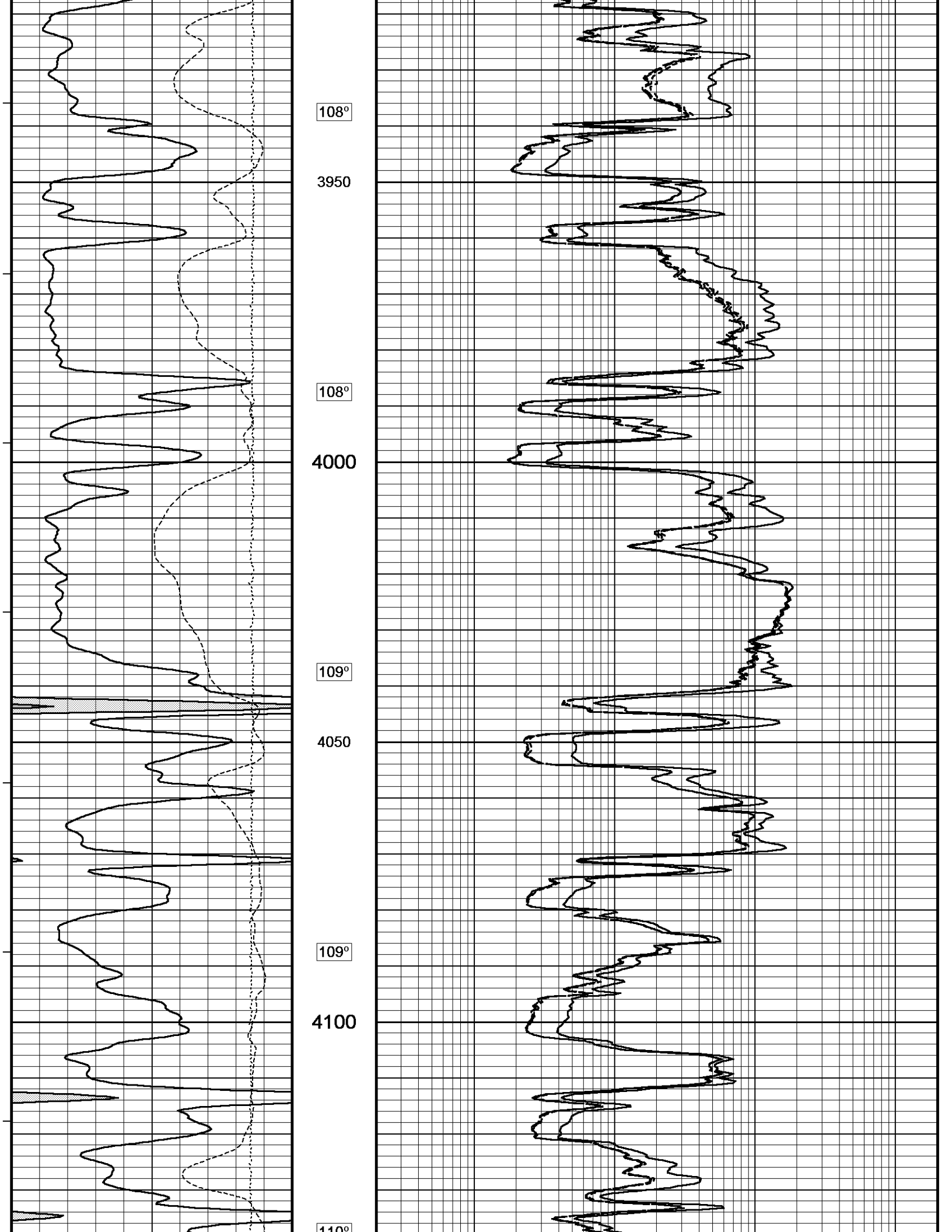
Array Ind. One Res 40
ohm metres
0.20 1 10 100 1000 2000

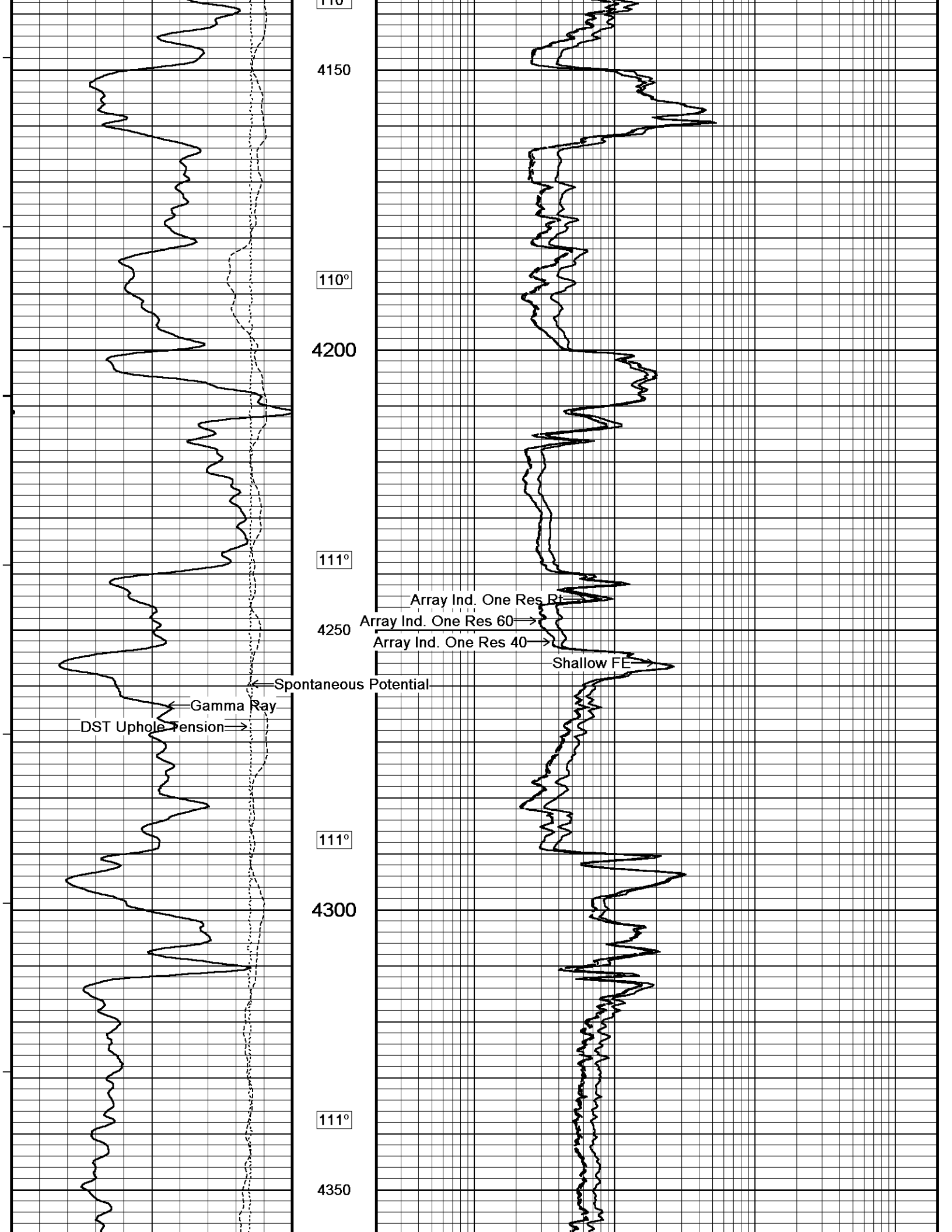
Array Ind. One Res 60
ohm metres
0.20 1 10 100 1000 2000

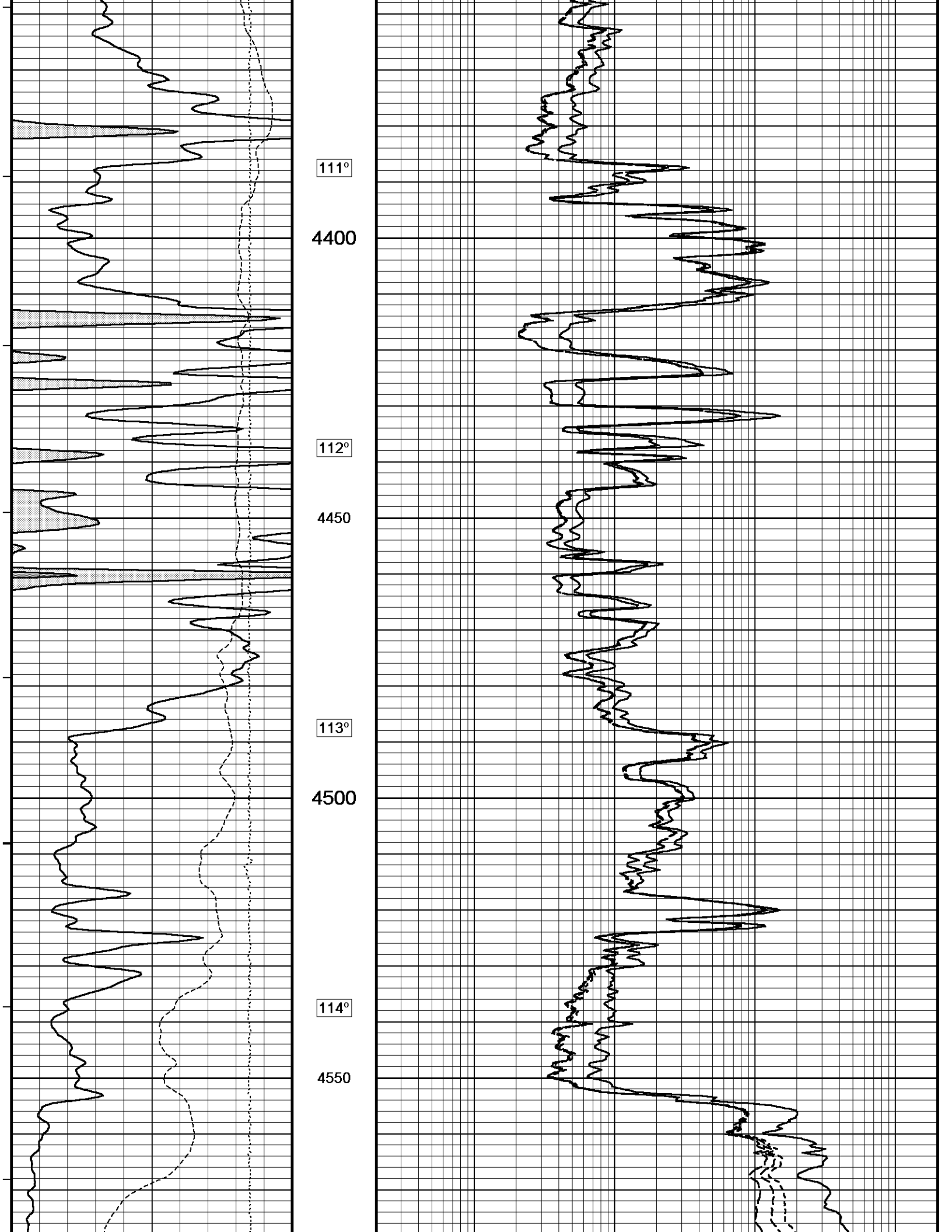
Array Ind. One Res Rt
ohm metres
0.20 1 10 100 1000 2000

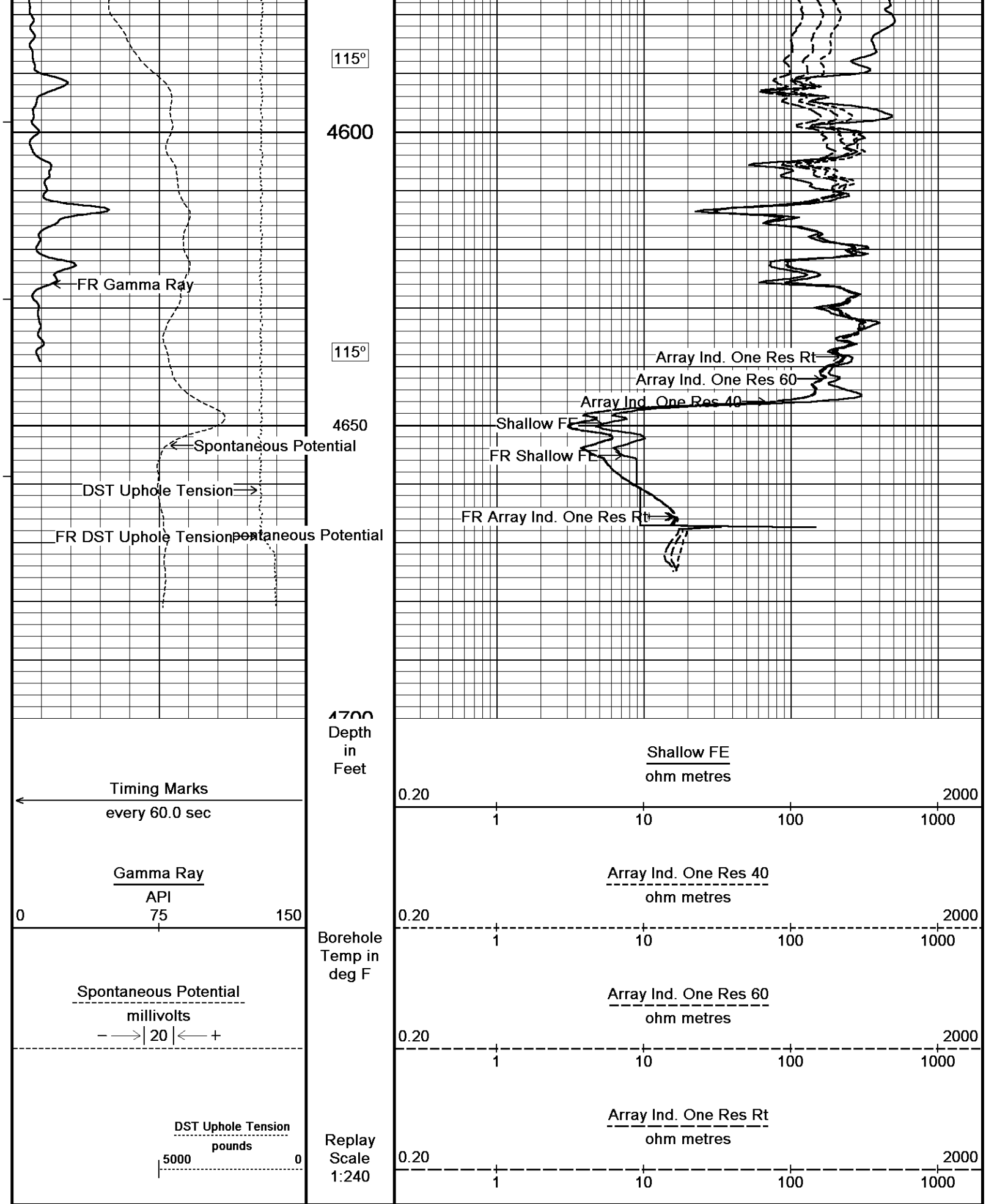



3700
108°
3750
108°
3800
108°
3850
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow R
Spontaneous Potential
Gamma Ray
DST Uphole Tension
108°
3900


108°
3950
108°
4000
109°
4050
109°
4100
110°


4150
110°
4200
111°
Array Ind. One Res Rt
Array Ind. One Res 60
4250
Array Ind. One Res 40
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
111°
4300
111°
4350


111°
4400
112°
4450
113°
4500
114°
4550



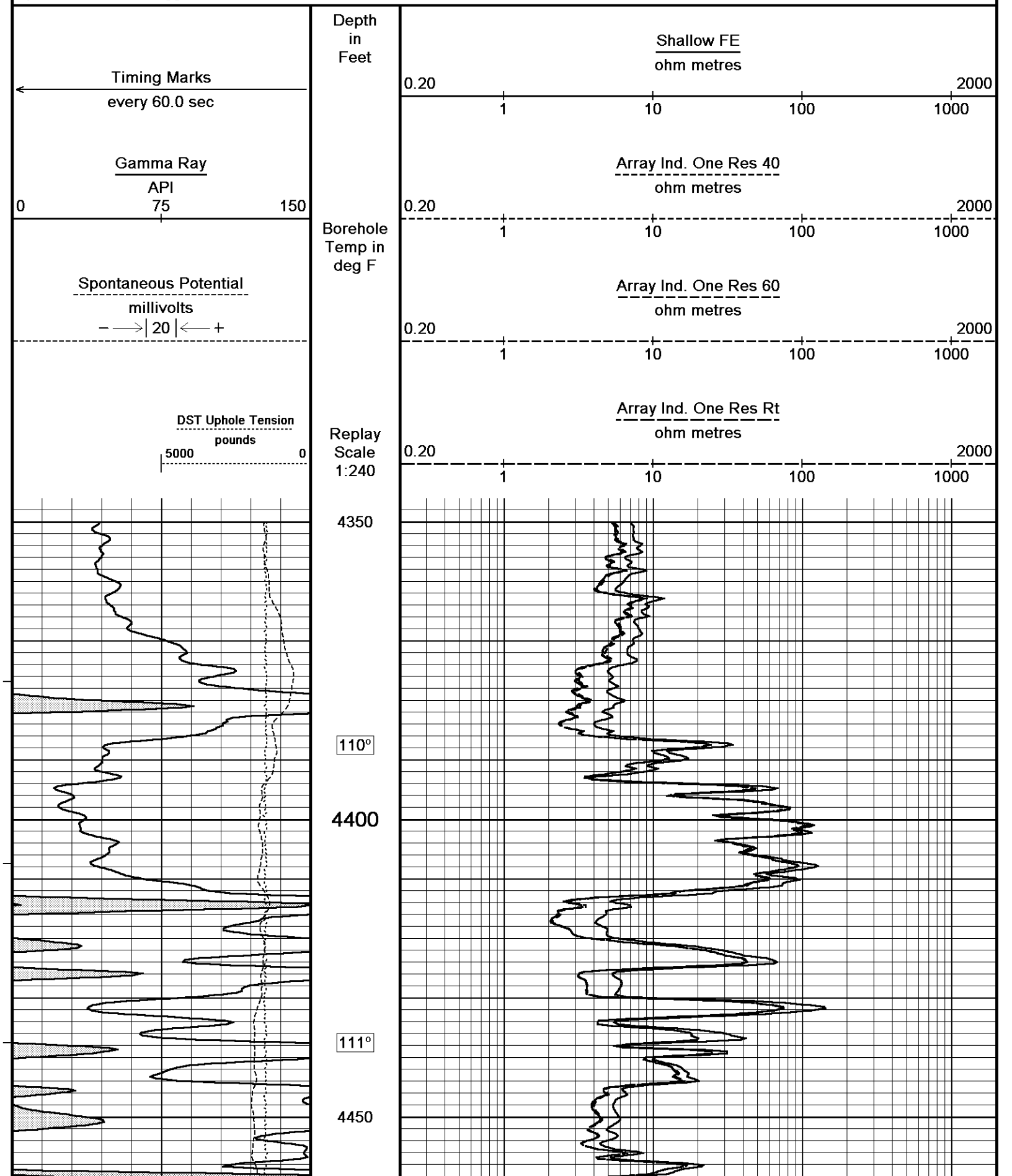
Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 17-OCT-2012 12:59
Filename: C:\Minimus 13.02.6600\Data\Grand ...\Grand Mesa Operating Company Q-R #1-17_002.dta
Recorded on 17-OCT-2012 10:45
System Versions: Logged with 13.02.6600 Plotted with 13.02.6600

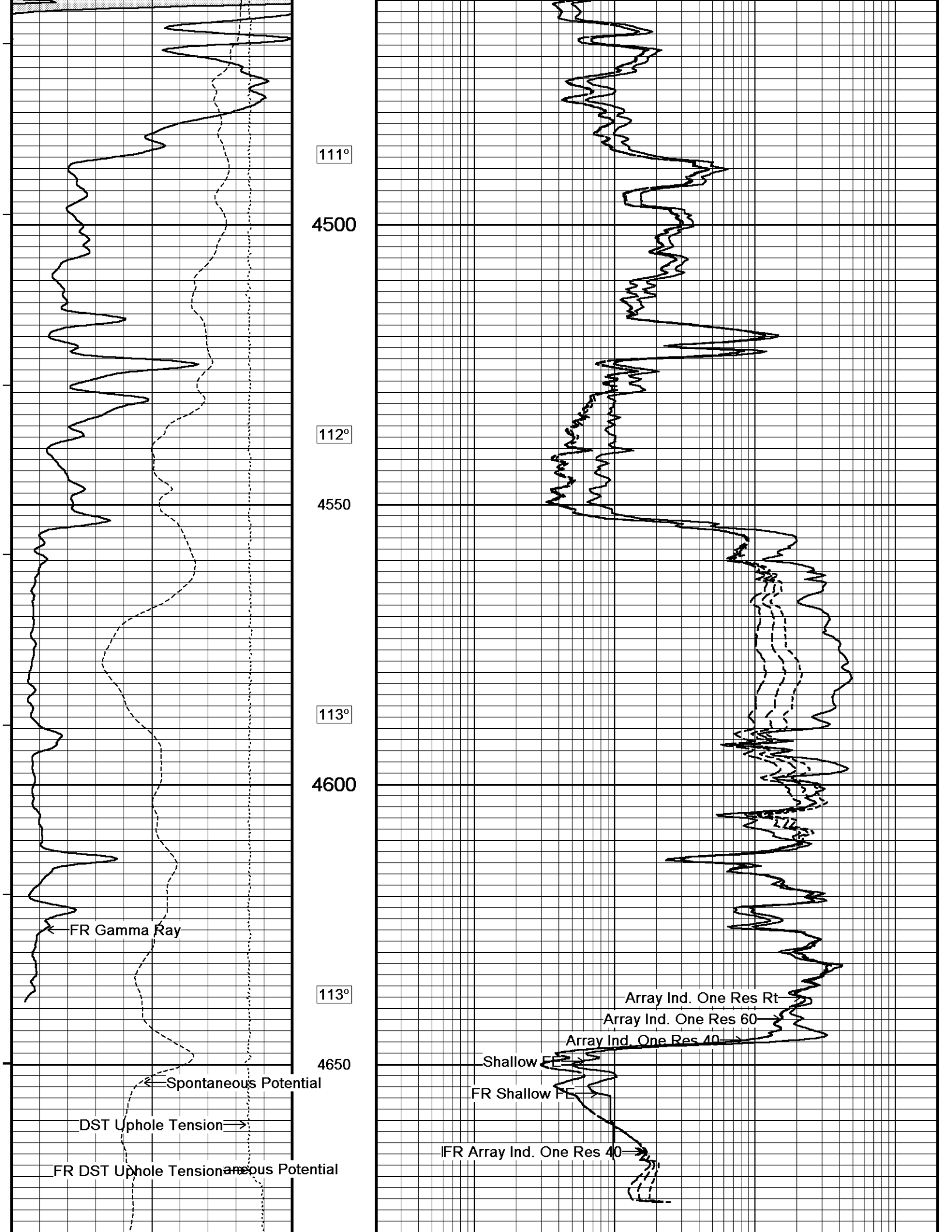
5 INCH MAIN

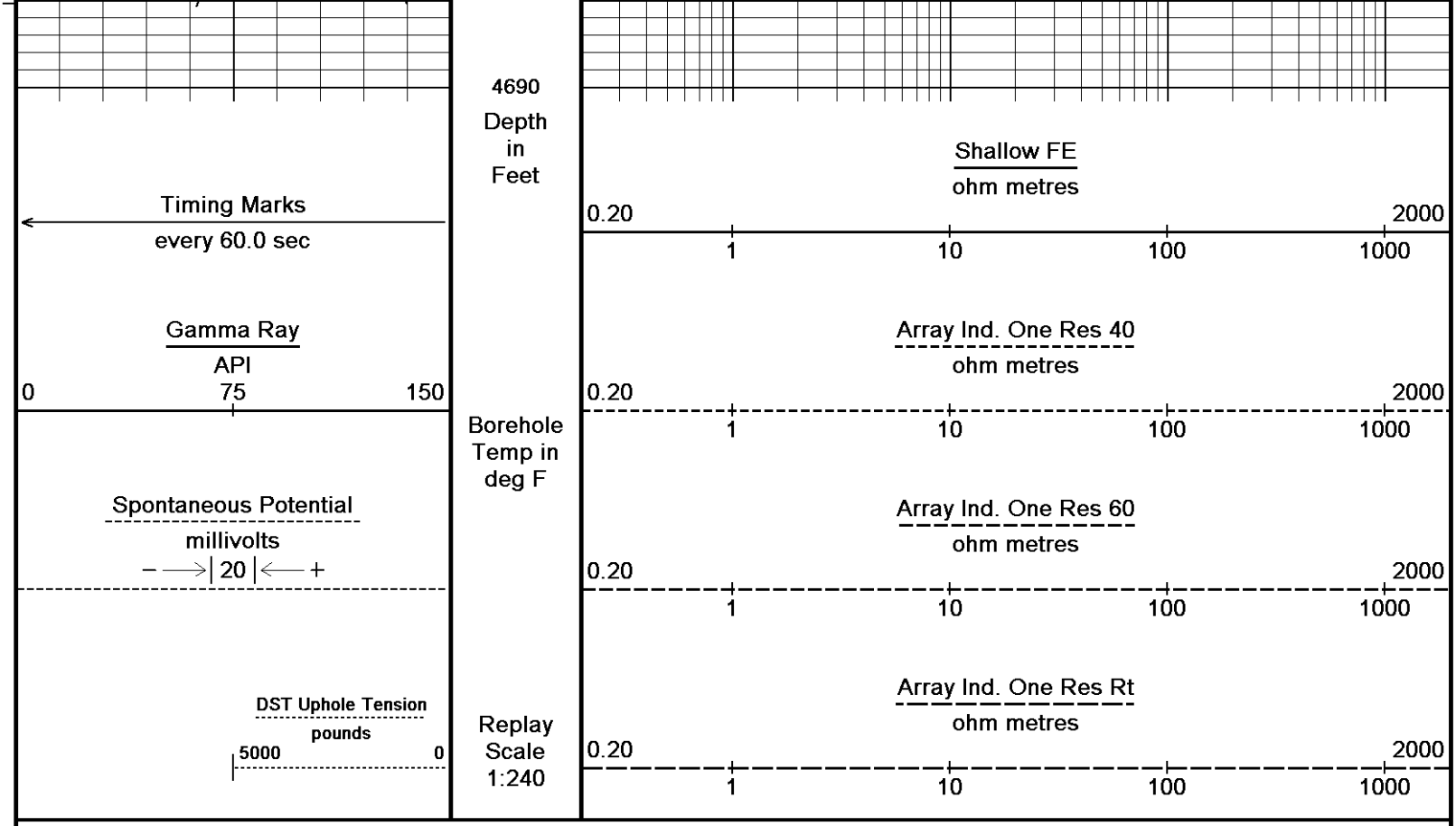
5 INCH MAIN

REPEAT SECTION

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 17-OCT-2012 12:59
Filename: C:\Minimus 13.02.6600\Data\Grand ...\Grand Mesa Operating Company Q-R #1-17_001.dta
Recorded on 17-OCT-2012 10:20
System Versions: Logged with 13.02.6600 Plotted with 13.02.6600




111°
4500
112°
4550
113°
4600
113°
4650
FR Gamma Ray
Spontaneous Potential
DST Uphole Tension
FR DST Uphole Tension
Array Ind. One Res Rt
Array Ind. One Res 60
Array Ind. One Res 40
Shallow FE
FR Shallow FE
IFR Array Ind. One Res 40



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 17-OCT-2012 12:59

Filename: C:\Minimus 13.02.6600\Data\Grand ...\Grand Mesa Operating Company Q-R #1-17_001.dta — Recorded on 17-OCT-2012 10:20

System Versions: Logged with 13.02.6600 Plotted with 13.02.6600

REPEAT SECTION

BEFORE SURVEY CALIBRATION

C:\Minimus 13.02.6600\Data\Grand Mesa Operating Q-R #17\Grand Mesa Operating Company Q-R #1-17_001.dta

General Constants All 000

Last Edited on 17-OCT-2012,08:05

General Parameters		
Mud Resistivity	0.980	ohm-metres
Mud Resistivity Temperature	92.000	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. Four Res Rt	
RWA Constant A	0.610	
RWA Constant M	2.150	

Down-hole Tension Calibration SMS 0

Field Calibration on 10-SEP-2012 04:28

Reading No	Measured	Calibrated (lbs)
1	15456.86	0.00
2	16071.78	384.00

Gamma Calibration MCG-D.K 442

Field Calibration on 14-OCT-2012 02:07

	Measured	Calibrated (API)
Background	69	46

Background	69	46
Calibrator (Gross)	1152	771
Calibrator (Net)	1083	725

Gamma Constants MCG-D.K 442

Last Edited on 14-OCT-2012,08:31

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

SP Calibration MCG-D.K 442

Field Calibration on 17-JUL-2012 16:34

	Measured	Calibrated (mV)
Reference 1	100.2	100.0
Reference 2	-99.9	-100.0

High Resolution Temperature Calibration MCG-D.K 442

Field Calibration on 17-JUL-2012,16:35

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

High Resolution Temperature Constants MCG-D.K 442

Last Edited on

Pre-filter Length	11

Caliper Calibration MML-A 16

Base Calibration on 30-SEP-2012 19:38
Field Calibration on 14-OCT-2012 02:01

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	13888	5.98
2	16946	7.97
3	20169	9.86
4	23996	11.92
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
6.03	5.98

Micro Normal and Micro Inverse Calibration MML-A 16

Base Calibration on 30-SEP-2012 19:42
Field Check on 14-OCT-2012 02:02

Base Calibration

	Measured		Calibrated (ohm-m)	
Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	12.2	60.2	5.0	25.0
Micro Inverse	15.6	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 16

Last Edited on 17-OCT-2012,08:04

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 10-OCT-2012 14:12
Field Check on 14-OCT-2012 02:13

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3058	95	3714	110
Ratio	32.033		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	1673	2395
Ratio	0.698	

Field Check	Calibrated (cps)	
	1678	2400
Ratio	0.699	

Neutron Constants MDN-A.B 66

Last Edited on 17-OCT-2012,08:04

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	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 353

Base Calibration on 01-OCT-2012 09:16
Field Check on 14-OCT-2012 01:52

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	965.2	126.8
Base Check		280.7
Field Check		280.9

FE Constants MFE-B.J 353

Last Edited on 17-OCT-2012,08:03

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 17-JUL-2012,13:53

	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 17-JUL-2012,13:49

Pre-filter Length	11

Induction Calibration MAI-A.A 167

Base Calibration on 17-JUL-2012,13:55
Field Check on 14-OCT-2012 01:51

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	12.3	3841.0
2	0.0	0.0	29.3	3478.5
3	0.0	0.0	28.9	3054.3
4	0.0	0.0	19.7	2082.6

4	0.0	0.0	19.7	2082.6	
Deep	0.0	0.0	18.5	2049.7	
Medium	0.0	0.0	42.1	3992.9	
Shallow	0.0	0.0	42.5	5056.6	
Array Temperature		0.0		64.3	Deg F

Induction Constants MAI-A.A 167

Last Edited on 17-OCT-2012,08:03

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 64

Base Calibration on 10-OCT-2012 12:35
Field Calibration on 14-OCT-2012 01:53

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	12128	3.99
2	20753	5.98
3	29254	7.97
4	37705	9.86
5	46896	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
5.95	5.98

Photo Density Calibration MPD-B 64

Base Calibration on 10-OCT-2012 12:54
Field Check on 14-OCT-2012 02:00

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	58951	32645	59556	30836
Reference 2	24760	2893	24941	2541

Field Check at Base

	1181.6	1375.1

Field Check

1187.9 1371.9

PE Calibration

Base Calibration

	WS	Measured WH	Ratio	Calibrated Ratio
Background	215	1053		
Reference 1	22216	58751	0.381	0.371
Reference 2	6718	24623	0.276	0.272

Field Check at Base

215.0 1052.6

Field Check

215.0 1059.8

Density Constants MPD-B 64

Last Edited on 14-OCT-2012,08:30

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	1.12	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)
2.87	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

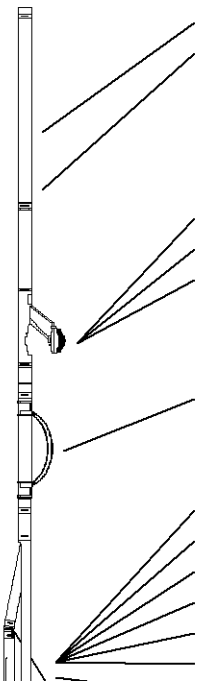
C:\Minimus 13.02.6600\Data\Grand Mesa Operating Q-R #17\Grand Mesa Operating Company Q-R #1-17_001.dta

Compact Comms Gamma
MCG-D.K 442 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

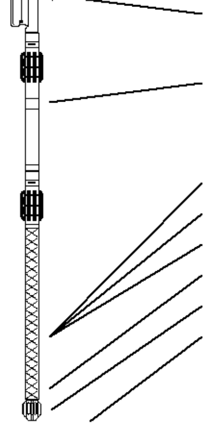
Compact Neutron
MDN-A.B 66 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

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



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
Compact Focussed Electric MFE-B.J 353 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in	13.72 ft	FEFE - Shallow FE
Compact Induction MAI-A.A 167 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in	3.34 ft	R40O - Array Ind. One Res 40
	3.34 ft	RTAO - Array Ind. One Res Rt
	3.34 ft	R60O - Array Ind. One Res 60
	0.23 ft	SPCG - Spontaneous Potential
Total Length: 48.16 ft Weight: 383.6 lb	Tool Zero	(0.13ft from bottom)
	-0.13 ft	SMTU - DST Uphole Tension



All measurements relative to tool zero.

COMPANY	GRAND MESA OPERATING COMPANY
WELL	Q-R #1-17
FIELD	Q-B
PROVINCE/COUNTY	GOVE
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	2652.00	feet	First Reading	4666.00	feet
Elevation Drill Floor	2651.00	feet	Depth Driller	4669.00	feet
Elevation Ground Level	2647.00	feet	Depth Logger	4669.00	feet

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SHALLOW FOCUSED
ELECTRIC LOG

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ELECTRIC LOG

COMPANY	GRAND MESA OPERATING COMPANY
WELL	Q-R #1-17
FIELD	Q-B
PROVINCE/COUNTY	GOVE
COUNTRY/STATE	U.S.A. / KANSAS
LOCATION	2598' FNL & 2087' FEL SE SW SW NE

SEC	TWP	RGE	Other Services
17	11S	26W	MPD/MDN MML

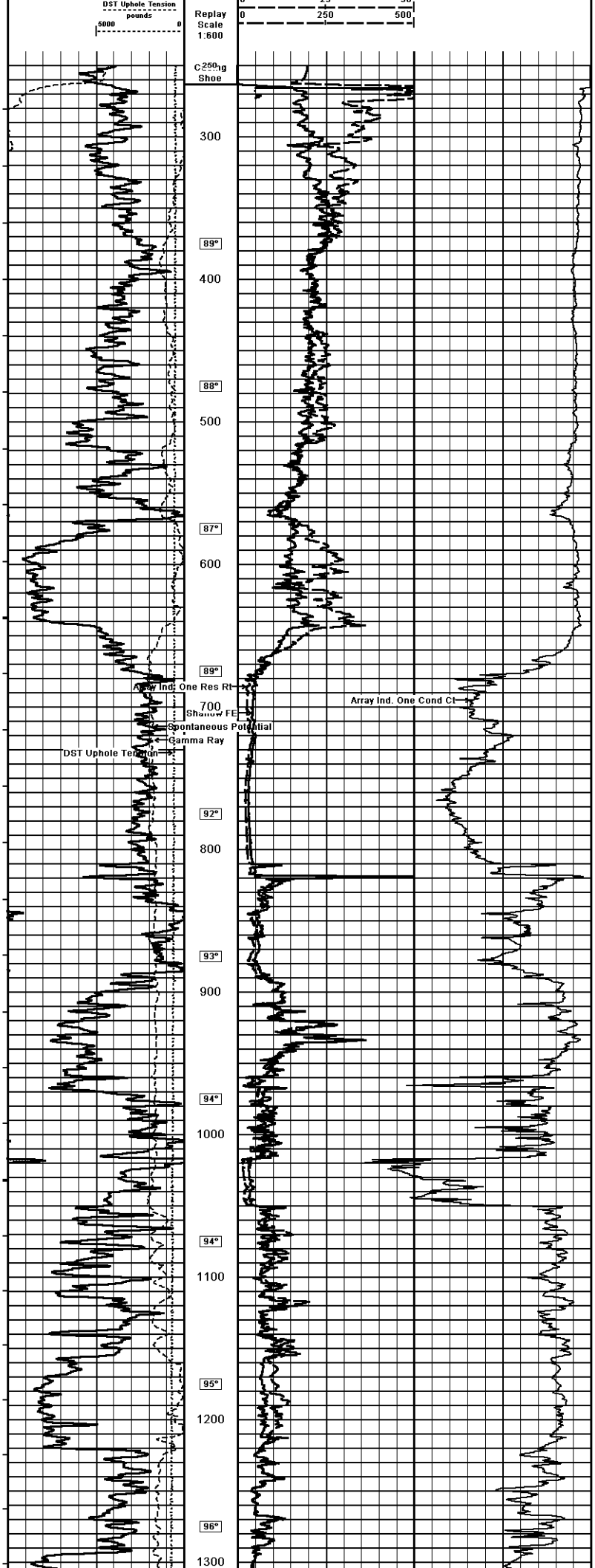
API Number 15-063-22048
Permit Number

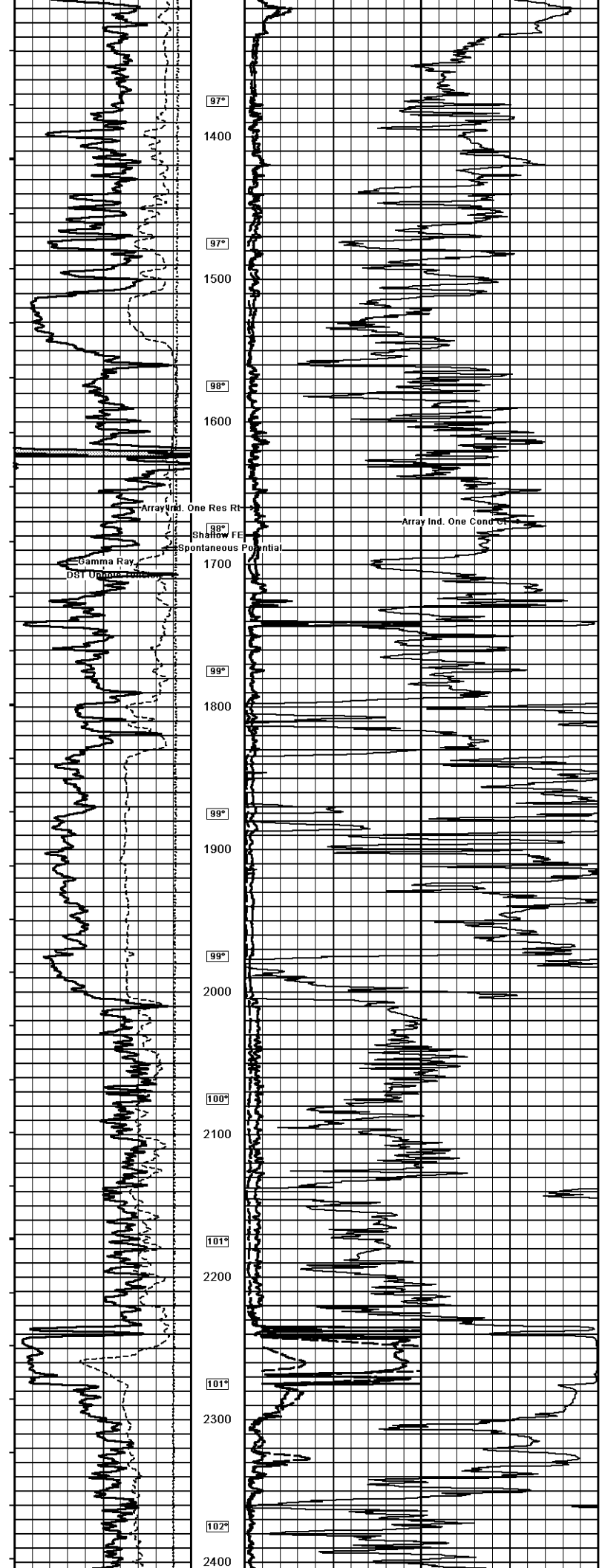
Permanent Datum G.L., Elevation 2647 feet		Elevations:	feet
Log Measured From KB		KB	2652.00
Drilling Measured From K.B.		DF	2651.00
		GL	2647.00
Date	17-OCT-2012		
Run Number	ONE		
Depth Driller	4669.00 feet		
Depth Logger	4669.00 feet		
First Reading	4666.00 feet		
Last Reading	263.00 feet		
Casing Driller	262.00 feet		
Casing Logger	263.00 feet		
Bit Size	7.875 inches		
Hole Fluid Type	CHEMICAL		
Density / Viscosity	9.30 lb/USg | 68.00 CP		
PH / Fluid Loss	10.50 | 7.80 ml/30Min		
Sample Source	FLOWLINE		
Rm @ Measured Temp	0.98 @ 92.0 ohm-m		
Rmf @ Measured Temp	0.82 @ 92.0 ohm-m		
Rmc @ Measured Temp	1.22 @ 92.0 ohm-m		
Source Rmf / Rmc	CALC | CALC		
Rm @ BHT	0.79 @115.0 ohm-m		
Time Since Circulation	4 HOURS		
Max Recorded Temp	115.00 deg F		
Equipment Name	COMPACT		
Equipment / Base	13096 | LIB		
Recorded By	L. SCOTT		
Witnessed By	BOB SCHREIBER		
S.O. / JOB#	3537893	LB12-278	

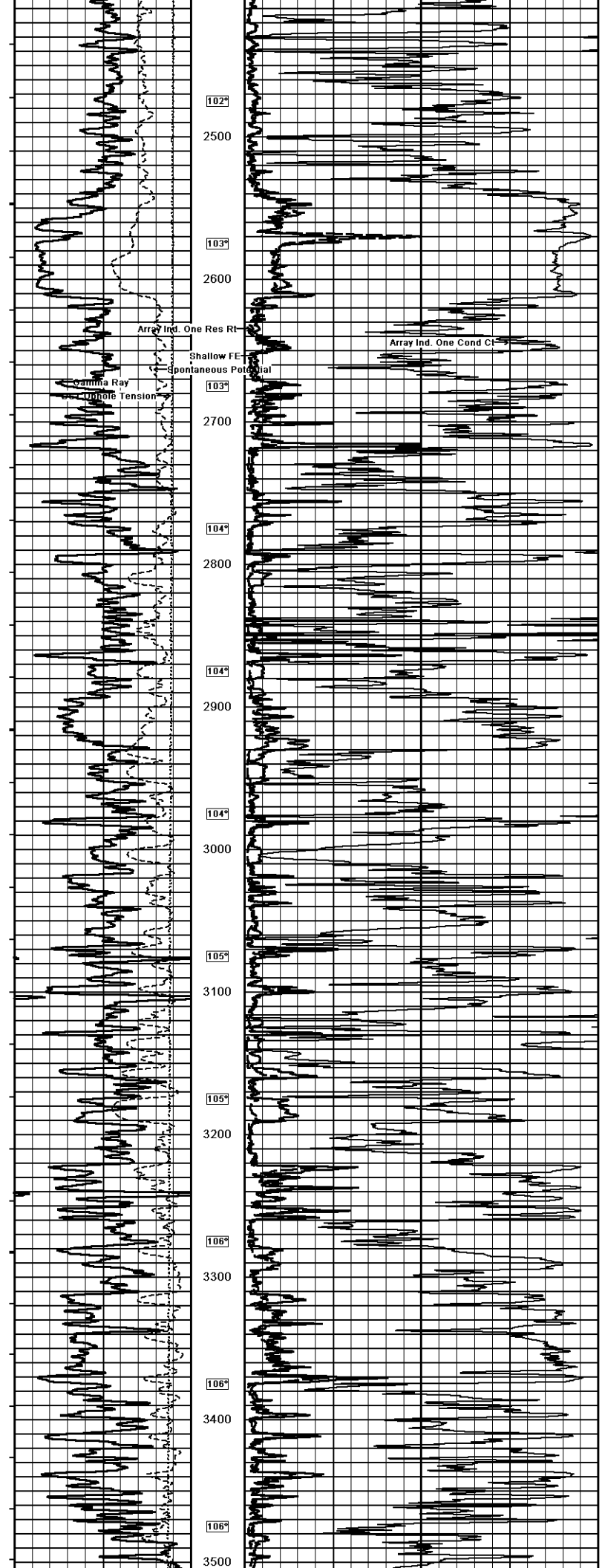
1 INCH MAIN

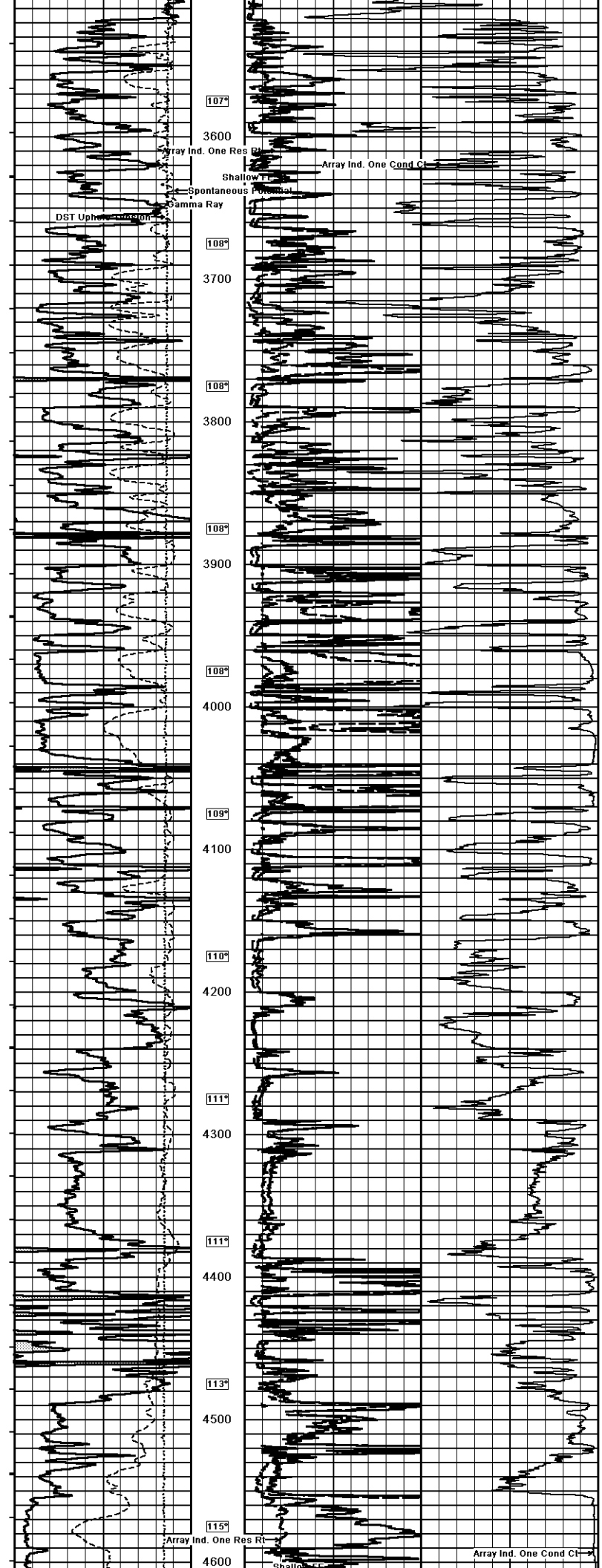
Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Minimus 13.02.6600\Data\Grand Mesa...\Grand Mesa Operating Company Q-R #1-17_002.dta
System Versions: Logged with 13.02.6600 Plotted with 13.02.6600
Plotted on 17-OCT-2012 12:59
Recorded on 17-OCT-2012 10:45

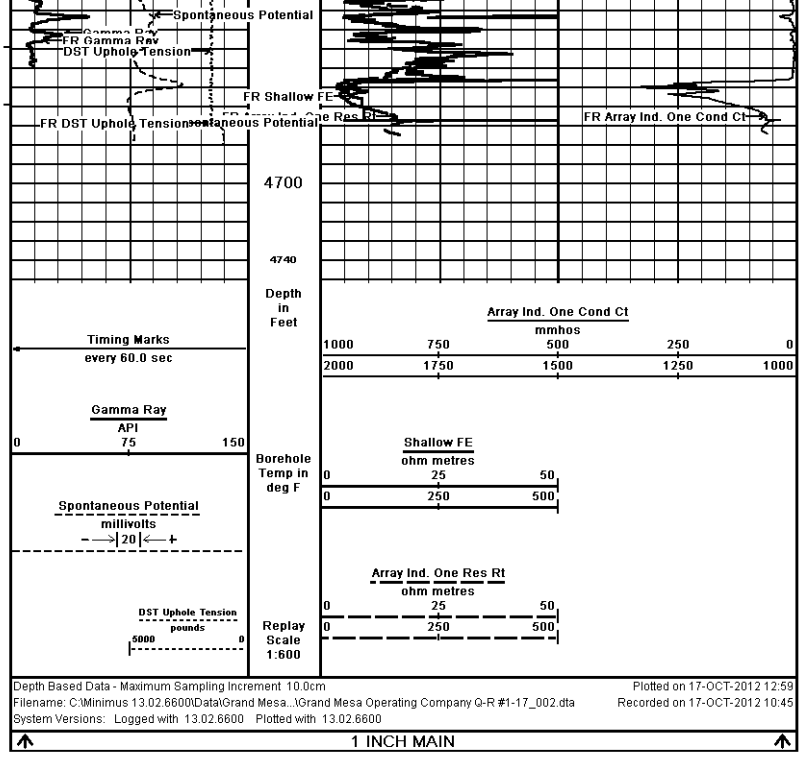
	Depth in Feet	
Timing Marks every 60.0 sec		Array Ind. One Cond Ct mmhos 1000 750 500 250 0 2000 1750 1500 1250 1000
Gamma Ray API 0 75 150	Borehole Temp in deg F	Shallow FE ohm metres 0 25 50 0 250 500
Spontaneous Potential millivolts − →|20|← +		Array Ind. One Res Rt ohm metres 0 25 50


DST Uphole Tension
pounds
5000
0
Replay
Scale
1:600
0
250
500
Casing
Shoe
300
89°
400
88°
500
87°
600
89°
Array Ind. One Res Rt
700
Shallow FE
Spontaneous Potential
Gamma Ray
DST Uphole Tension
Array Ind. One Cond Ct
92°
800
93°
900
94°
1000
94°
1100
95°
1200
96°
1300


97°
1400
97°
1500
98°
1600
Array Ind. One Res Rt
98°
Shallow FE
Spontaneous Potential
Gamma Ray
1700
Array Ind. One Cond Rt
99°
1800
99°
1900
99°
2000
100°
2100
101°
2200
101°
2300
102°
2400


102"
2500
103"
2600
Array Ind. One Res Rt
Array Ind. One Cond Ct
Shallow FE
Spontaneous Potential
Gamma Ray
103"
Borehole Tension
2700
104"
2800
104"
2900
104"
3000
105"
3100
105"
3200
106"
3300
106"
3400
106"
3500


107"
3600
Array Ind. One Res Rt
Array Ind. One Cond Ct
Shallow Ft
Spontaneous Potential
Gamma Ray
DST Uphole Tension
108"
3700
108"
3800
108"
3900
108"
4000
109"
4100
110"
4200
111"
4300
111"
4400
113"
4500
115"
Array Ind. One Res Rt
4600
Array Ind. One Cond Ct



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 17-OCT-2012 12:59

Filename: C:\Minimus 13.02.6600\Data\Grand Mesa...\Grand Mesa Operating Company Q-R #1-17_002.dta — Recorded on 17-OCT-2012 10:45

System Versions: Logged with 13.02.6600 Plotted with 13.02.6600

1 INCH MAIN

COMPANY	GRAND MESA OPERATING COMPANY
WELL	Q-R #1-17
FIELD	Q-B
PROVINCE/COUNTY	GOVE
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	2652.00	feet	First Reading	4666.00	feet
Elevation Drill Floor	2651.00	feet	Depth Driller	4669.00	feet
Elevation Ground Level	2647.00	feet	Depth Logger	4669.00	feet

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