



WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Conv. to GSW
- Plug Back: _____ Plug Back Total Depth _____
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date Date Reached TD Completion Date or Recompletion Date

API No. 15 - _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite: _____

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Letter of Confidentiality Received
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____



1065282

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Submitted Electronically <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i> List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
_____ Perforate _____ Protect Casing _____ Plug Back TD _____ Plug Off Zone				

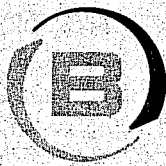
Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

Date of First, Resumed Production, SWD or ENHR. _____ Producing Method: Flowing Pumping Gas Lift Other *(Explain)* _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
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DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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BASICSM
ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61
P.O. Box 8613
Pratt, Kansas 67124
Phone 620-672-1201

FIELD SERVICE TICKET
1718 04613 A

DATE _____ TICKET NO. _____

DATE OF JOB: 7-8-2011 DISTRICT: PRATT, KS.		NEW WELL <input checked="" type="checkbox"/> OLD WELL <input type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> WDW <input type="checkbox"/> CUSTOMER ORDER NO.:							
CUSTOMER: M & M EXPLORATION		LEASE: 2 BAR WELL NO. 7-1							
ADDRESS:		COUNTY: BARBER STATE: KS.							
CITY: STATE:		SERVICE CREW: LESLEY, MITCHELL, MCKASKEY							
AUTHORIZED BY:		JOB TYPE: PNW - 4 1/2" L.S.							
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AMP	TIME
19870	1.5						7-7-11	PM	6:30
19889-19842	1.5					ARRIVED AT JOB		PM	11:45
19826-19860	1.5					START OPERATION	7-8-11	AM	4:00
						FINISH OPERATION		AM	5:30
						RELEASED		AM	6:30
						MILES FROM STATION TO WELL			6.5

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: [Signature]
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
CP 105	AA2 CEMENT	SK	275		4675
CC 102	CELL-FLAKE	lb	69		
CC 111	SALT	lb	1498		
CC 113	GYP-SUM	lb	1395		
CC 129	F/A-322	lb	208		
CC 201	GILSONITE	lb	1650		
CF 1006	LATCH DOWN PLUG & BAFFLE, 4 1/2"	EA	1		
CF 1250	AUTO-FILL FLOAT SHAPE, 4 1/2"	EA	1		
CF 1650	TURBOLIZER, 4 1/2"	EA	8		
CF 1900	BASKET, 4 1/2"	EA	1		
C 704	CLAYMAX, KCL SUBSTITUTE	Gal	4		
E 100	PICKUP MILE AGE	MI	6.5		
E 101	HEAVY EQUIPMENT MILEAGE	MI	130		
E 113	BULK DELIVERY CHARGE	TM	892		
CE 205	DEPTH CHARGE, 4000' - 5000'	HRS	1-4		
CE 240	BLENDING SERVICE CHARGE	SK	275		
CE 504	PLUG CONTAINER CHARGE	JOB	1		
S 603	SERVICE SUPERVISOR	EA	1		

SUB TOTAL 13,415.5

CHEMICAL / ACID DATA:			

SERVICE & EQUIPMENT	%TAX ON \$	
MATERIALS	%TAX ON \$	
TOTAL		

SERVICE REPRESENTATIVE: <u>[Signature]</u>	THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: <u>[Signature]</u>
FIELD SERVICE ORDER NO. _____	(WELL OWNER OPERATOR CONTRACTOR OR AGENT)

ALLIED CEMENTING CO., L.L.C. 040735

Federal Tax I.D.# 20-5975804

SERVICE POINT

Mell L. Bickel

REMIT TO: P.O. BOX 31
RUSSELL, KANSAS 67665

DATE	SEC	TWHP	RANGE	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
6-29-11	9	345	14W			7:20 AM	1:50 PM
LEASE # 2808	WELL # 9-14	LOCATION	Apple Hill, KS via Lovell Rd			COUNTY Barber	STATE KS
OLD OR NEW (Circle one)			2 SW 8 Section 25, T23S, R14W, No. 1				

CONTRACTOR Sutherland Colby OWNER MMP Exploration

TYPE OF JOB Sidewall

HOLE SIZE 12 1/4 TD 920' CEMENT AMOUNT ORDERED 265 SA 68-35

CASING SIZE 6 5/8 DEPTH 700' 3 1/2 SA 14 # 100 SA

TUBING SIZE _____ DEPTH _____

DRILL PIPE _____ DEPTH _____

TOOL _____ DEPTH _____

PRES. MAX 7020 MINIMUM _____

MEAS LINE _____ SHOE JOINT 40'

CEMENT LEFT IN CSG. 40'

PERFS _____

DISPLACEMENT 54 1/2 BLS/KS 0

EQUIPMENT _____

PUMP TRUCK CEMENTER Rob H. Johnson

471302 HELPER Ron S. Hey

BULK TRUCK _____

BULK TRUCK # _____ DRIVER Eddie Kowalski

BULK TRUCK # _____ DRIVER _____

BULK TRUCK # _____ DRIVER _____

BULK TRUCK # _____ DRIVER _____

BULK TRUCK # _____ DRIVER _____

BULK TRUCK # _____ DRIVER _____

BULK TRUCK # _____ DRIVER _____

BULK TRUCK # _____ DRIVER _____

BULK TRUCK # _____ DRIVER _____

BULK TRUCK # _____ DRIVER _____

REMARKS:

Ask cementer to AS pump ball through pump 300' to 400' and 265 SA and cement in 150 SA. Followed Sutherland company dipper. 54 1/2 BLS/KS. Pumping 300 SA to 650 PSI pressure. Will be using 150 SA dipper. Pump to be used. Slurry cement. 150 SA.

HANDLING _____ MILEAGE _____ TOTAL _____

SERVICE

DEPTH OF JOB 900'

PUMP TRUCK CHARGE _____

EXTRA FOOTAGE _____

MILEAGE _____

MANIPOLD _____

TOTAL _____

TOTAL _____

TOTAL _____

TOTAL _____

TOTAL _____

TOTAL _____

TOTAL _____

TOTAL _____

TOTAL _____

PLUG & FLOAT EQUIPMENT

1. Rubber plug @ _____

1. 1 1/2" plug @ _____

1. Cement @ _____

TOTAL _____

SALES TAX (if Any) _____

TOTAL CHARGES _____

DISCOUNT _____ IF PAID IN 30 DAYS

To Allied Cementing Co. LLC

You are hereby requested to rent cementing equipment and furnish cement and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME _____

SIGNATURE _____

ALLIED CEMENTING CO., LLC.

Federal Tax I.D. # 20-5975804

040161

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT:

Med Valsgards

DATE <u>5-14-11</u>	SEG <u>9</u>	TWP <u>34S</u>	RANGE <u>14E</u>	CALLED OUT	ON LOCATION	JOB START <u>2:00pm</u>	JOB FINISH <u>2:30pm</u>
LEASE <u>Z-Box</u>	WELL # <u>9-14</u>	LOCATION				COUNTY <u>Baker</u>	STATE <u>KS</u>
OLD OR <u>NEW</u> (Circle one)							

CONTRACTOR

OWNER M4M Exploration

TYPE OF JOB Cementing
 HOLE SIZE 32 T.D. 90'
 CASING SIZE 20" DEPTH 90'
 TUBING SIZE DEPTH
 DRILL PIPE DEPTH
 TOOL DEPTH
 PRES. MAX 50psi MINIMUM
 MEAS. LINE SHOE JOINT
 CEMENT LEFT IN CSG. 20'
 PERFS.
 DISPLACEMENT 24 1/2 bbls H₂O
 EQUIPMENT

CEMENT
 AMOUNT ORDERED 1605X 65:35:53
+ 3 bags + 1/4# Flo Seal

COMMON	@	
POZMIX	@	
GEL	@	
CHLORIDE	@	<u>65x @ 58.00</u>
ASC	@	<u>Light weight 1605x @ 15.00</u>
<u>Flo Seal</u>	@	<u>40 # @ 2.70</u>
	@	<u>108.00</u>

PUMP TRUCK CEMENTER Proffitt/Innes
#471/265 HELPER Sasson/Thompson
 BULK TRUCK DRIVER DeSfor
 # 84
 BULK TRUCK DRIVER

REMARKS:

Grd strc m DR 1605x cement disp 24 1/2 bbls H₂O
Shows cement disp circulate

SERVICE

CHARGE TO: M4M Exploration
 STREET
 CITY STATE ZIP

DEPTH OF JOB <u>90'</u>	
PUMP TRUCK CHARGE	<u>1125.00</u>
EXTRA FOOTAGE	
MILEAGE	<u>60 @ 7.00 = 420.00</u>
MANFOLD	<u>N/A @ N/A = 0</u>
<u>Light vehicle</u>	<u>60 @ 4.00 = 240.00</u>
	@
	@
TOTAL	<u>1785.00</u>

PLUG & FLOAT EQUIPMENT

<u>None</u>	@	
	@	
	@	
	@	
	@	
	@	
	@	
TOTAL		

To Allied Cementing Co., LLC.
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any) _____

PRINTED NAME

Proffitt

TOTAL CHARGES 1785.00

SIGNATURE

Proffitt

~~_____~~

IF PAID IN 30 DAYS

Customer AT & M EXPLORATION	Lease No.	Date 7-8-2011	
Lease Z BAR	Well # 9-14	TDL	
Field Order # 211013	Station PRATT, KS.	Casing 4 1/2"	Depth 4110'
Type Job CNLD - 4 1/2" L.S.	Formation	County BARBER	State KS.
		Legal Description 9-34-14	

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size'	Tubing Size	Shots/Ft		Acid-	RATE	PRESS	ISIP	
4 1/2"			PRATT-	25SK SCAVENGER			5 Min.	
Depth 4110'	Depth	From	To	Pre Pad @	Max		10 Min.	
Volume 76.00	Volume	From	To	Pad 20SK AA2	Min		15 Min.	
Max Press 1500	Max Press	From	To	Frac @ 1.54 CFT ³	Avg		Annulus Pressure	
Well Connection 1 1/2"	Annulus Vol.	From	To		HHP Used		Total Load	
Plug Depth 4110'	Packer Depth	From	To	Flush 75.5 2% KCL	Gas Volume			

Customer Representative A. VRATIL	Station Manager D. SCOTT	Treater K. LESLEY
Service Units 19870 19889 19892 19826 19860		
Driver Names LESLEY, MITCHELL - MCKASKEY		

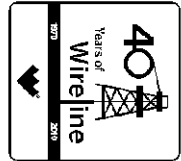
Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
11:45 PM					ON LOCATION - SAFETY MEETING
12:15 AM					RUN 4 1/2" X 11.6" CSG. - JTS.
					TURBO-LIZER - 1, 2, 4, 5, 7, 11, 14, 17
					BASKET - 7
3:50 AM					CSG. ON BOTTOM
4:00 AM					HOOK UP TO CSG / BREAK CIRC. W/ PK
4:15 AM	300		5	6	H2O AHEAD
5:00 AM	400		6	6	MIX 25SKS SCAVENGER @ 12.5 PPG
5:01 AM	200		55	6	MIX 20SKS AA2 @ 14.8 PPG
5:10 AM					SHUT DOWN / CLEAR TAMP LINE
5:18 AM					DROP PLUG -
5:19 AM	0		0	7	START DISPLACEMENT
5:21 AM	150		657	6	LIFT PRESSURE
5:30 AM	100		70	5	SLOW RATE
5:32 AM	1500		75.5	4	PLUG DOWN - HELD
					CIRCULATION THRU VID
			6.4		PLUG RH. N.H.
					JOB COMPLETE,
					THANKS -
					KEVEN LESLEY



Weatherford[®]

**ARRAY INDUCTION
SHALLOW FOCUSED
ELECTRIC LOG**

COMPANY **M & M EXPLORATION, INC.**
 WELL **Z-BAR #9-14**
 FIELD **AETNA GAS AREA**
 PROVINCE/COUNTY **BARBER**
 COUNTRY/STATE **U.S.A. / KANSAS**
 LOCATION **660' FSL & 1980' FWL**



SEC **TWP** **RGE** Other Services
9 **34S** **14W** **MDN/MPD**
 API Number **15-007-23700** **MML**
 Permit Number
 Permanent Datum G.L., Elevation 1549 feet
 Log Measured From K.B. @ 12 FEET above Permanent Datum
 Drilling Measured From K.B.

Elevations: feet
 KB 1561.00
 DF 1559.00
 GL 1549.00

Date	07-JUL-2011
Run Number	ONE
Depth Driller	4900.00 feet
Depth Logger	4897.00 feet
First Reading	4894.00 feet
Last Reading	896.00 feet
Casing Driller	900.00 feet
Casing Logger	896.00 feet
Bit Size	7.875 inches
Hole Fluid Type	CHEMICAL
Density / Viscosity	9.00 lb/USg 55.00 CP
PH / Fluid Loss	9.00 10.40 ml/30Min
Sample Source	FLOWLINE
Rm @ Measured Temp	0.56 @ 92.0 ohm-m
Rmf @ Measured Temp	0.45 @ 92.0 ohm-m
Rmc @ Measured Temp	0.67 @ 92.0 ohm-m
Source Rmf / Rmc	CALC CALC
Rm @ BHT	0.43 @ 121.0 ohm-m
Time Since Circulation	4 HOURS
Max Recorded Temp	121.00 deg F
Equipment Name	COMPACT
Equipment / Base	13057 LIB
Recorded By	R. HOFFMAN
Witnessed By	BETH BROOK
S.O. # / JOB #	3531102 LB11-156

BOREHOLE RECORD Last Edited: 07-JUL-2011 11:39

Bit Size inches	Depth From feet	Depth To feet
7.875	896.00	4897.00

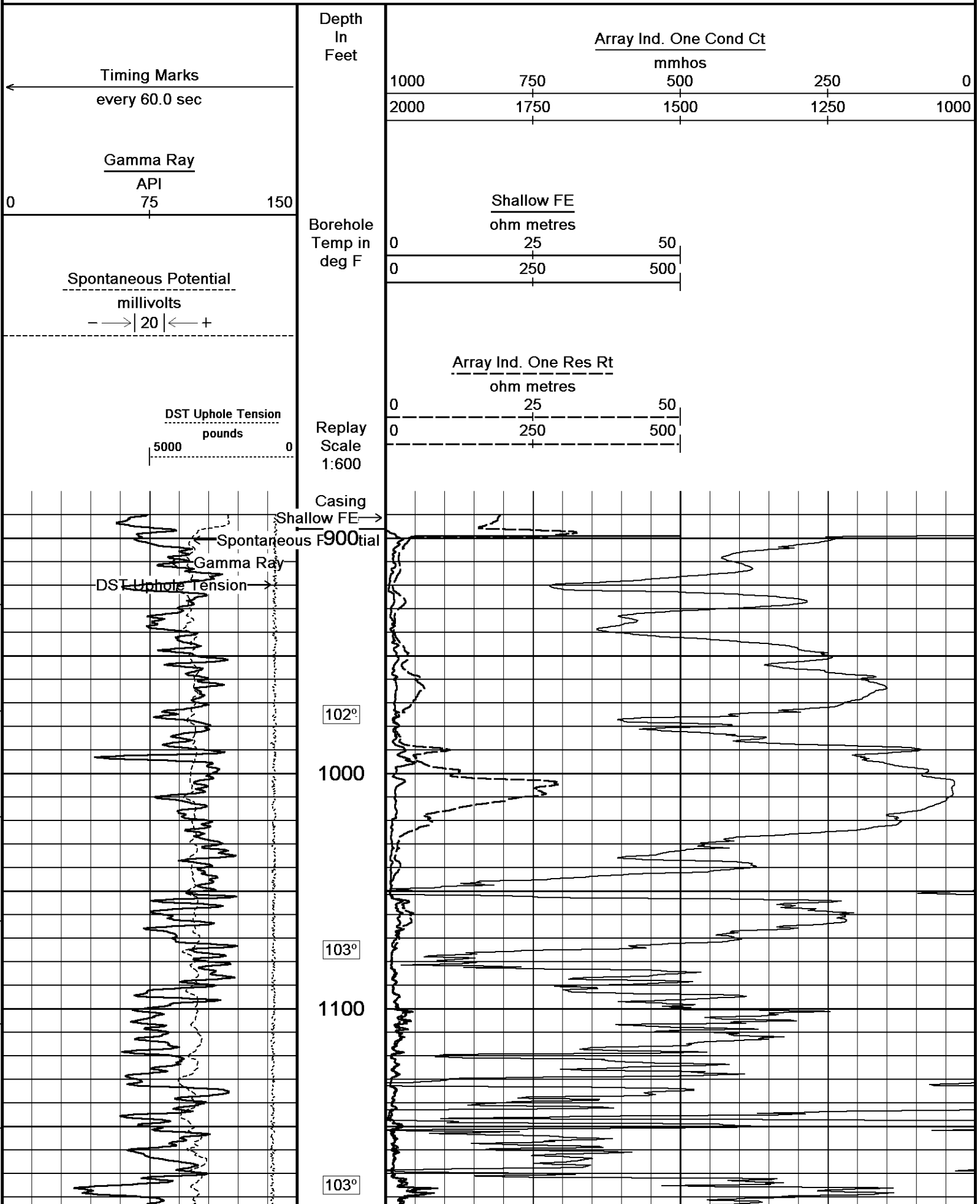
CASING RECORD

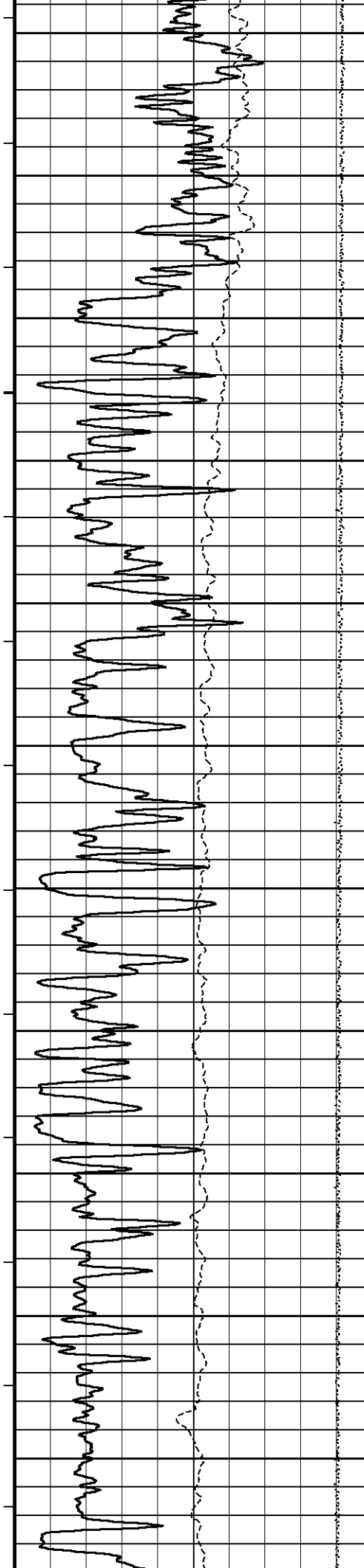
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	896.00	24.00

REMARKS

Tools Ran: MCG, MML, MDN, MPD, SKJ, 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.
 Annular volume with 4.5 inch production casing=258 cu. ft.
 Service order #3531102
 Rig: Southwind Rig #70
 Engineer: R. Hoffman
 Operator(s): B. Reeves

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.





1200

104°

1300

105°

1400

105°

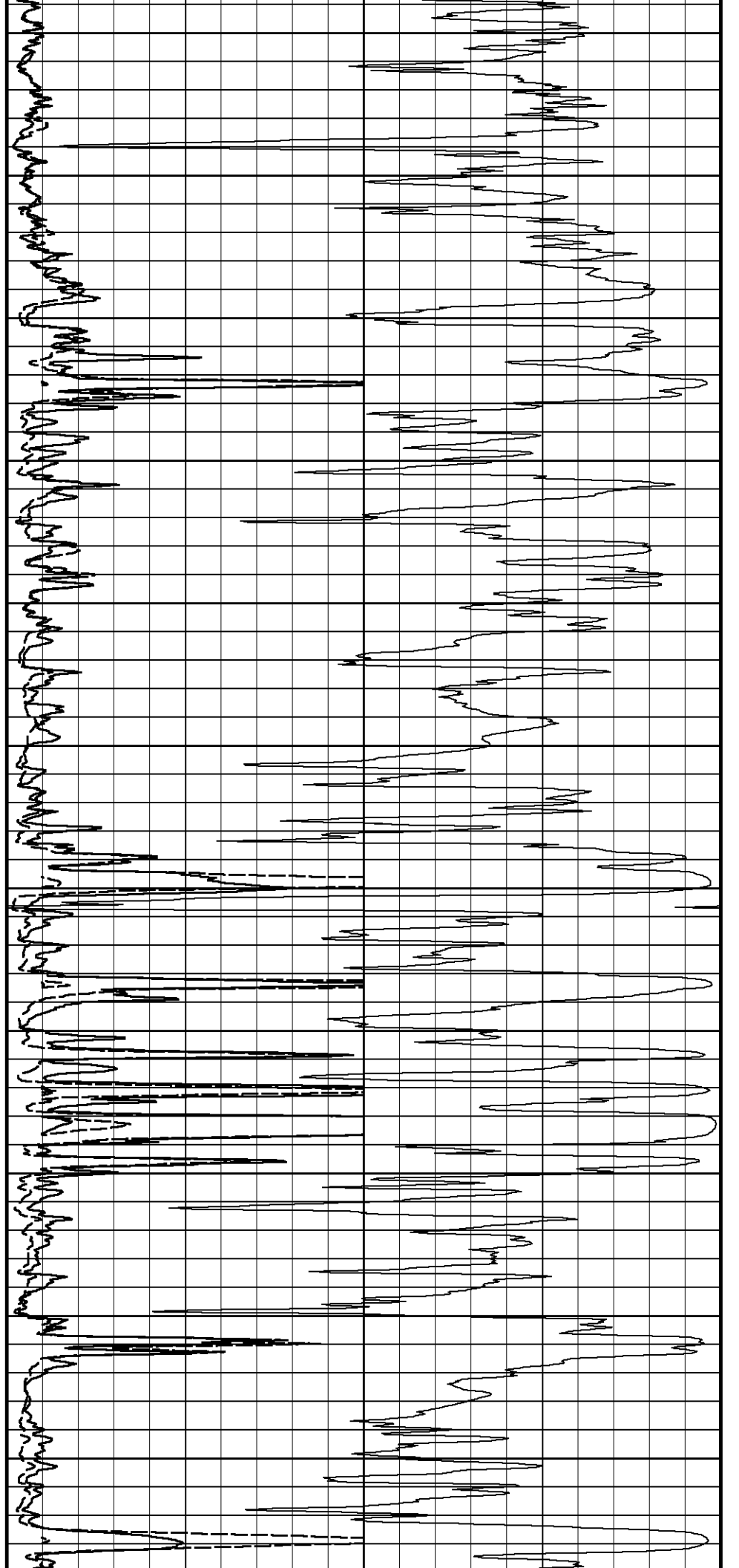
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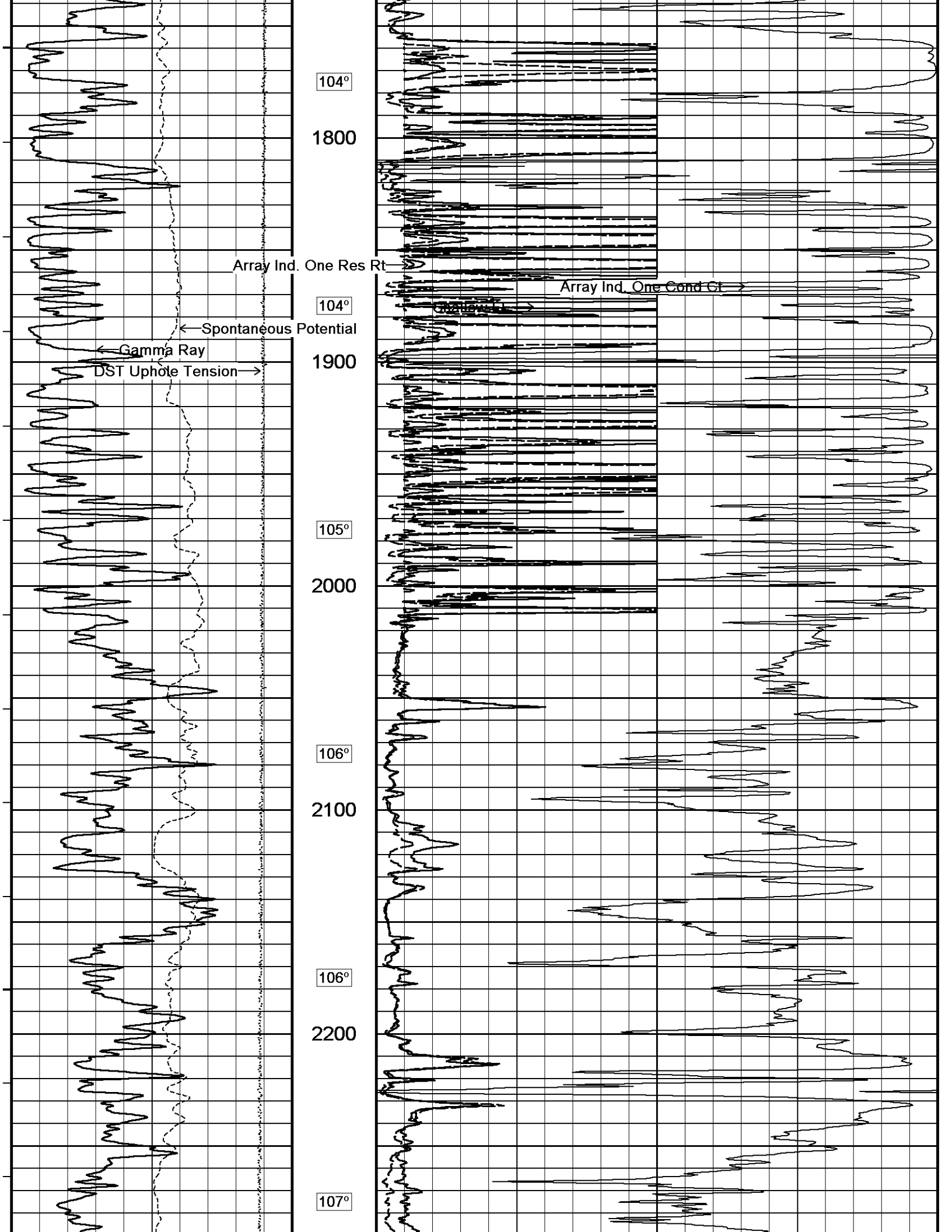
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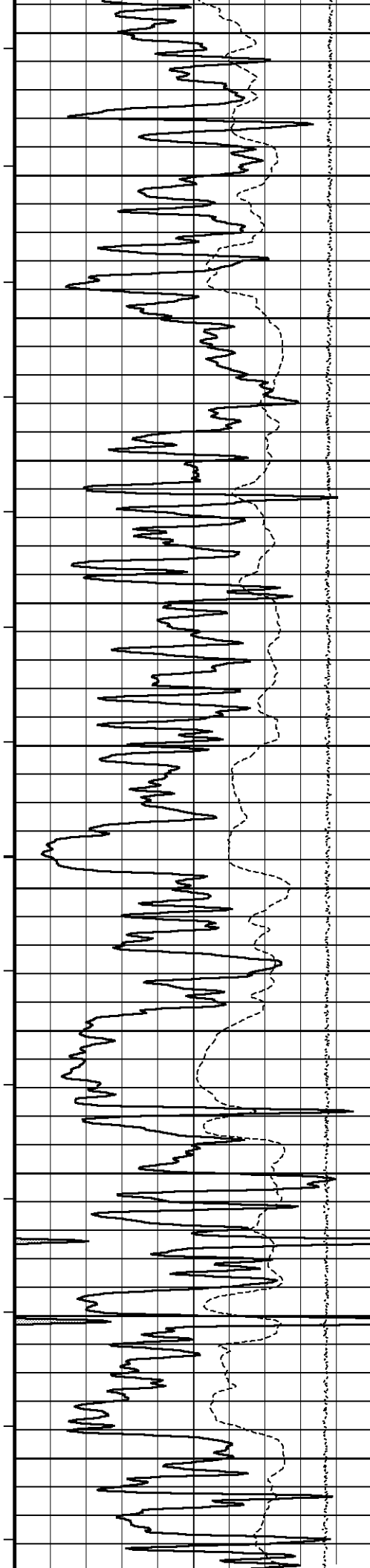
1600

106°

1700







2300

108°

2400

107°

2500

108°

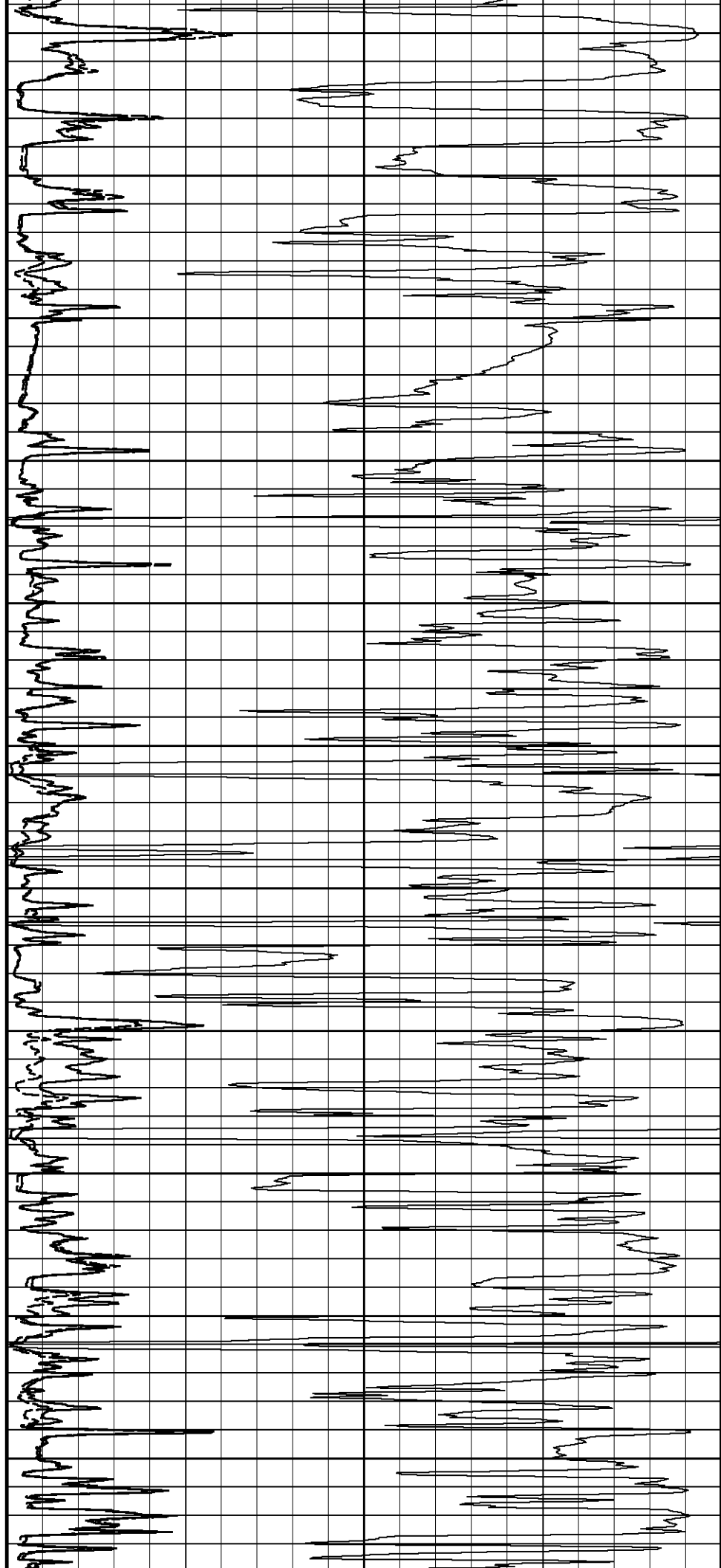
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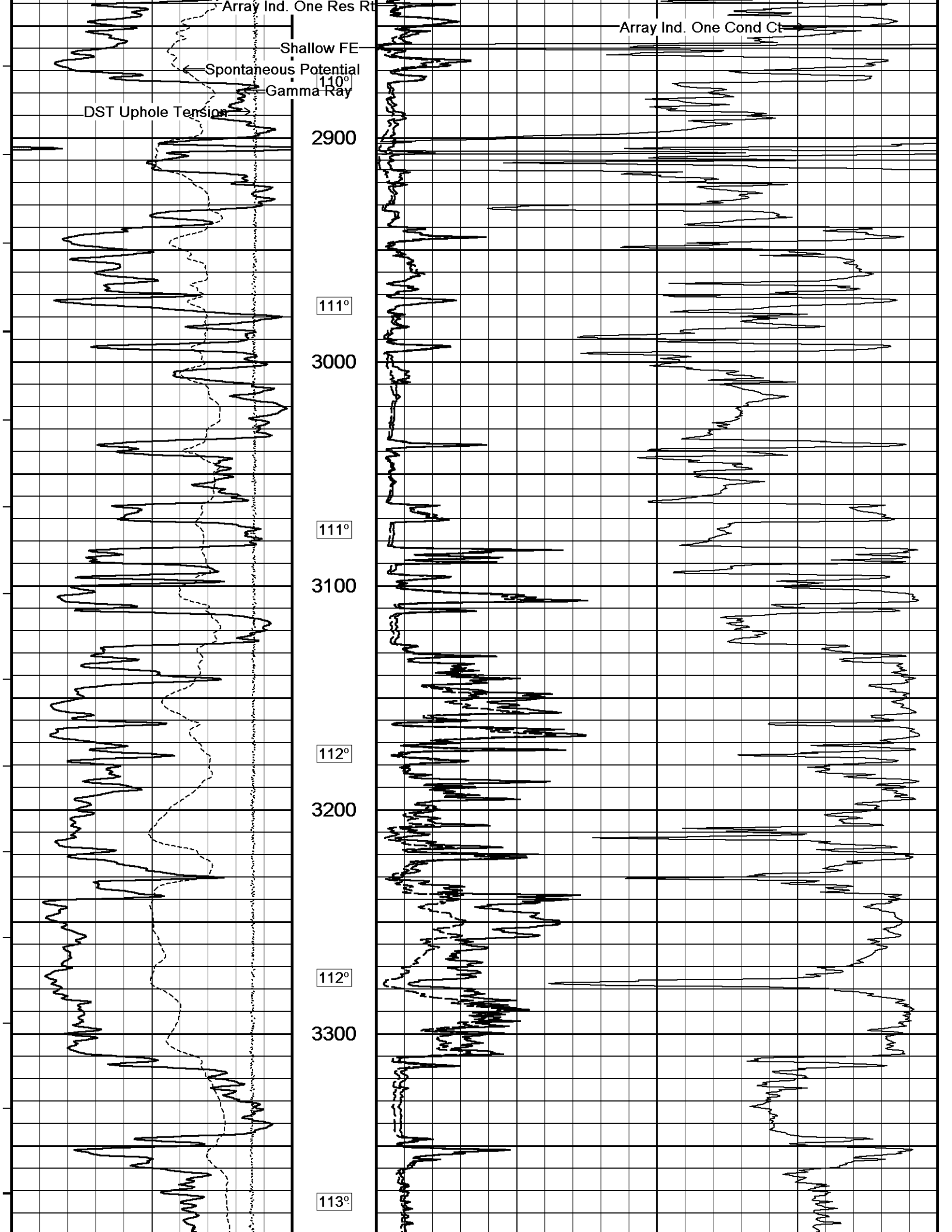
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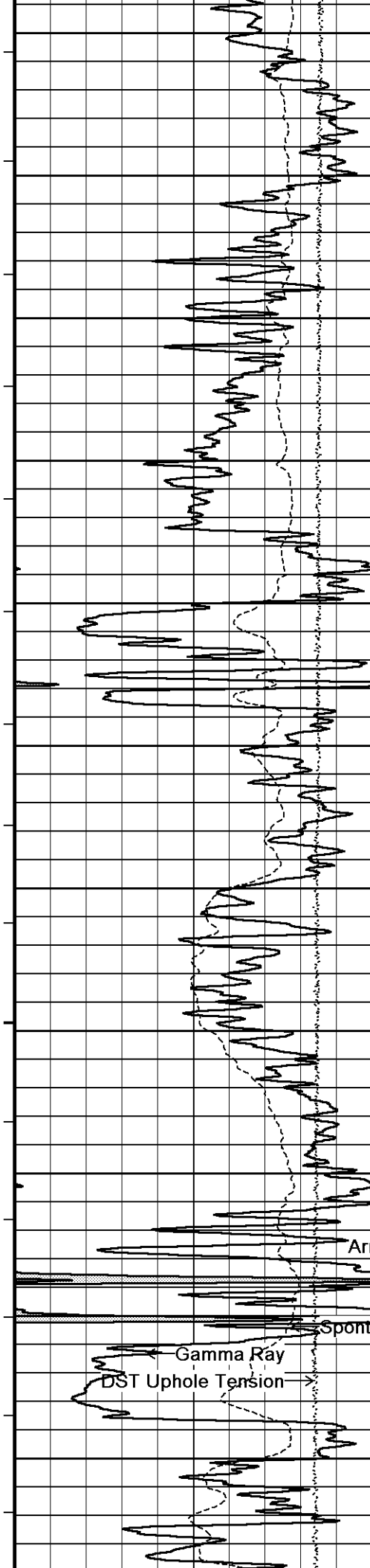
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109°

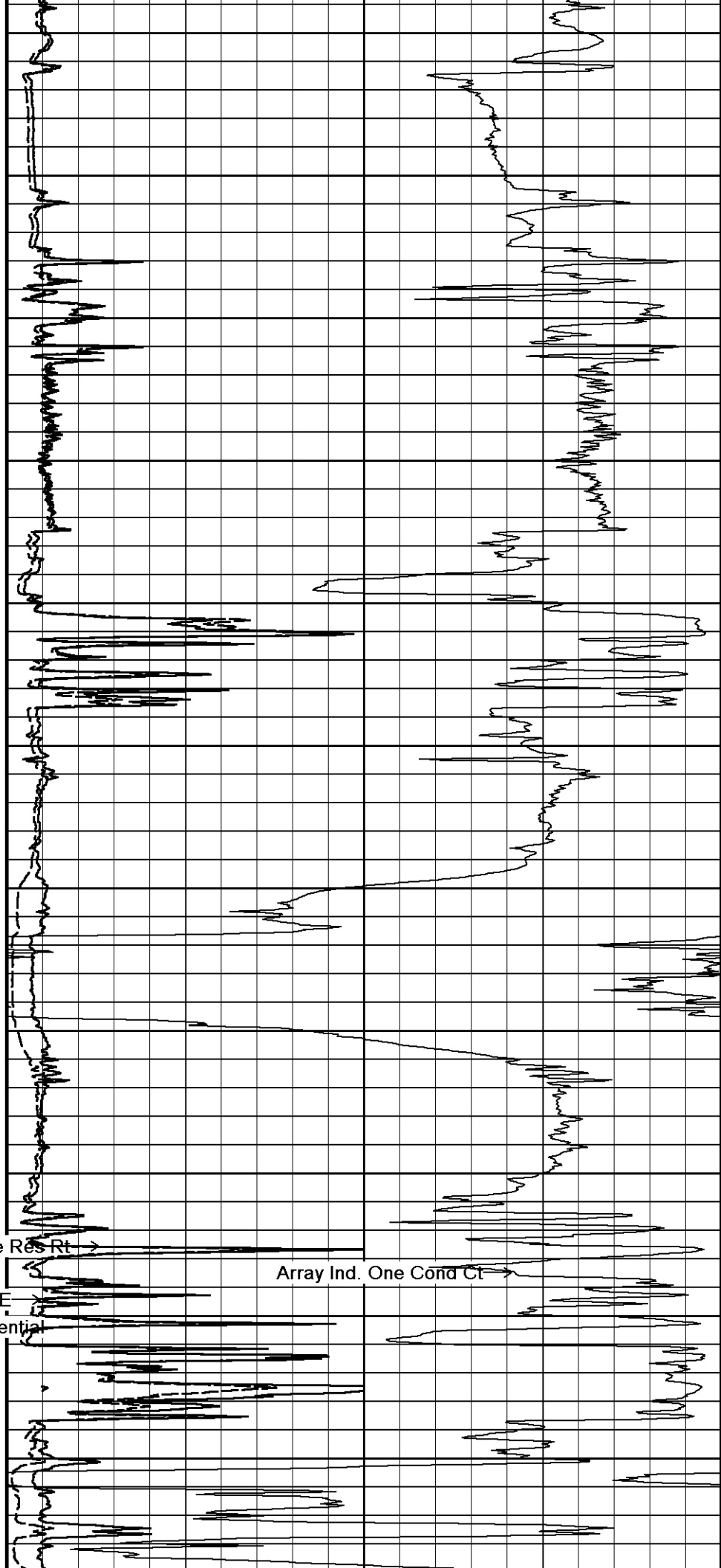
2800







3400
114°
3500
114°
3600
115°
3700
116°
3800
116°
3900



Array Ind. One Res Rt →

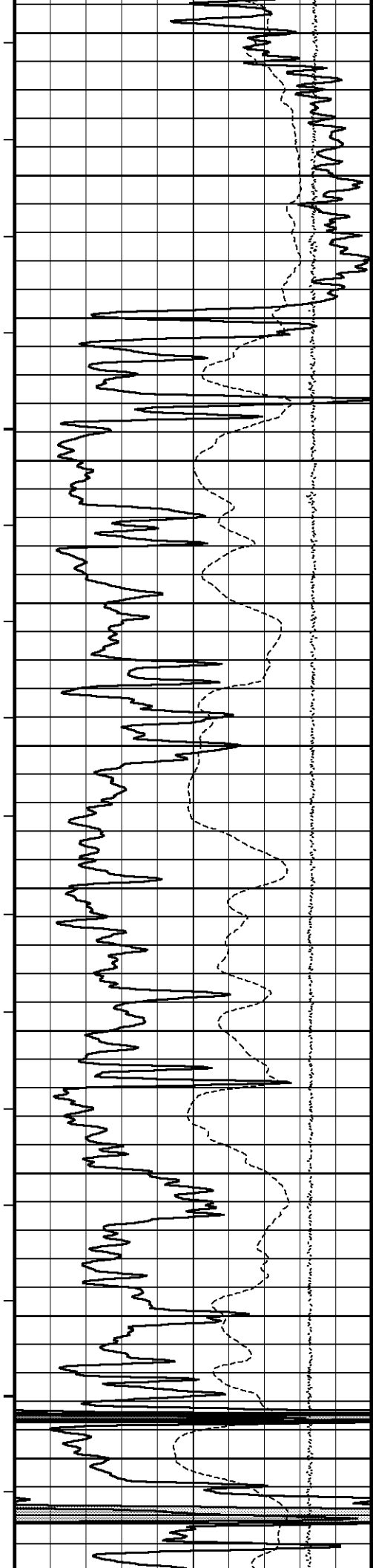
Array Ind. One Cond Ct →

Shallow FE →

Spontaneous Potential →

Gamma Ray →

DST Uphole Tension →



117°

4000

118°

4100

118°

4200

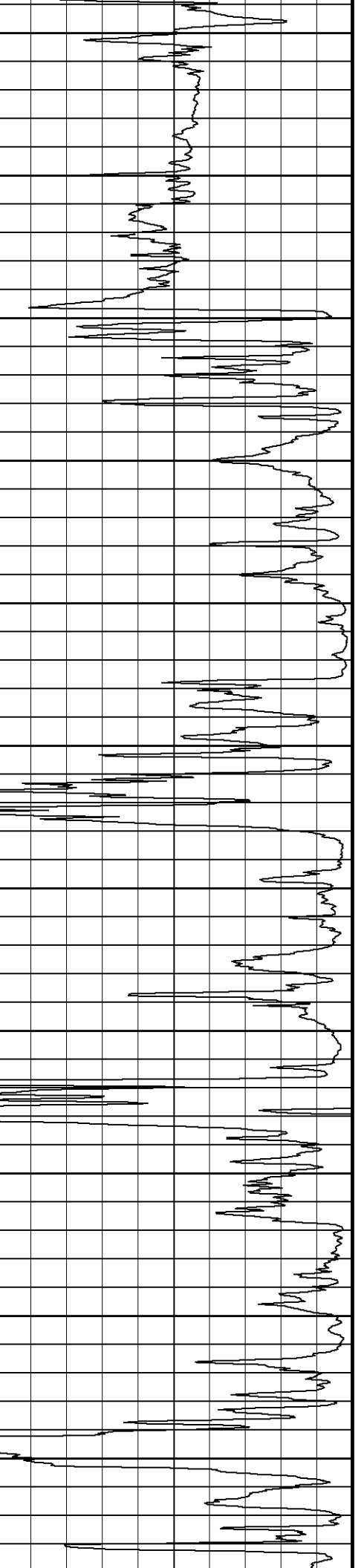
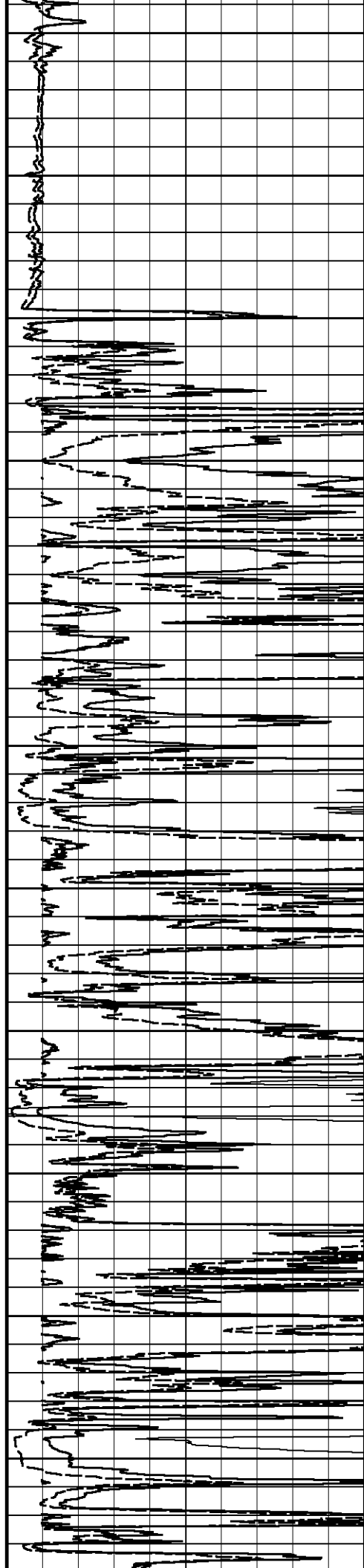
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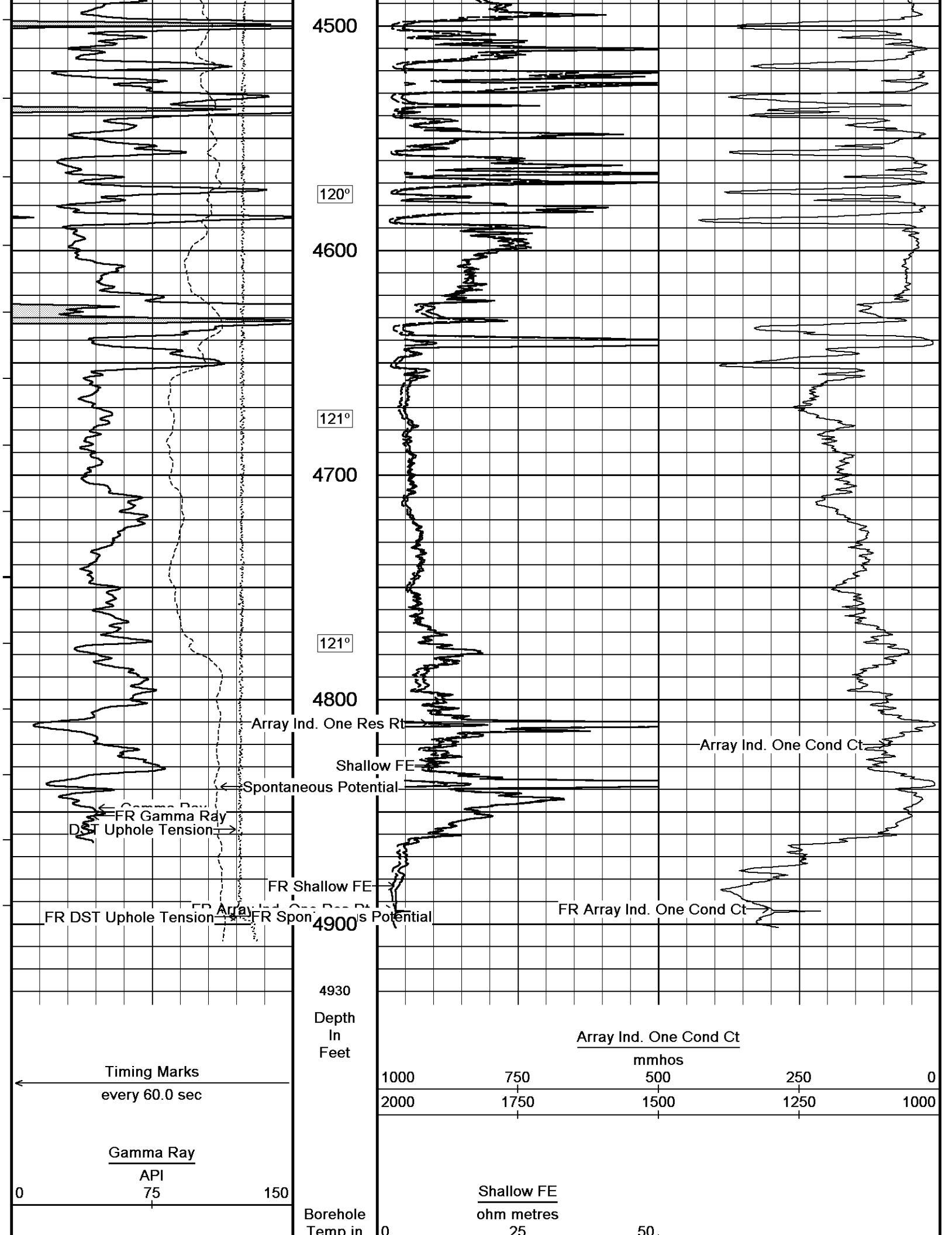
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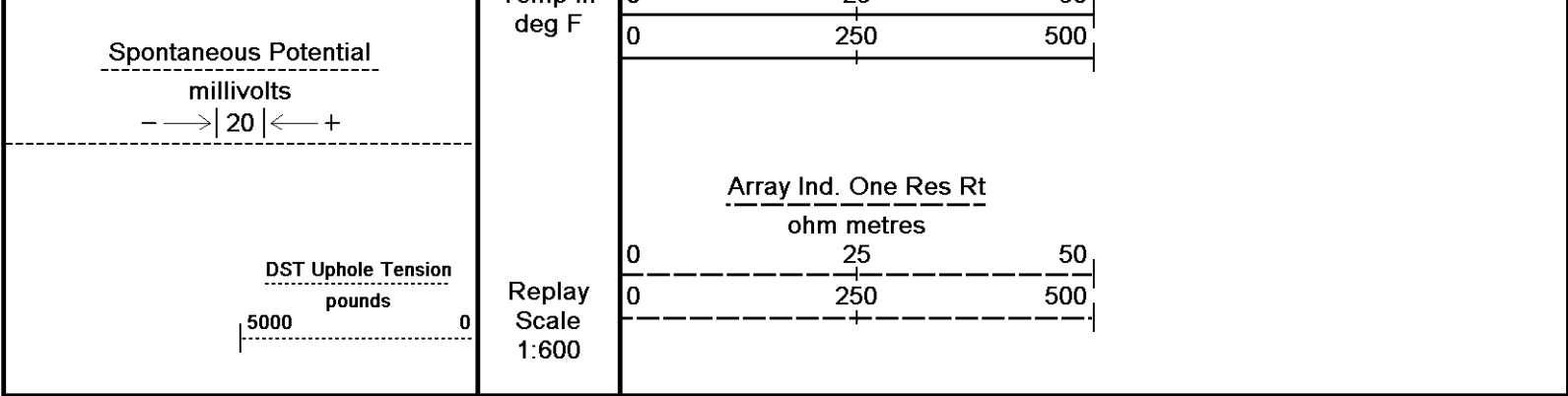
119°

4400

120°





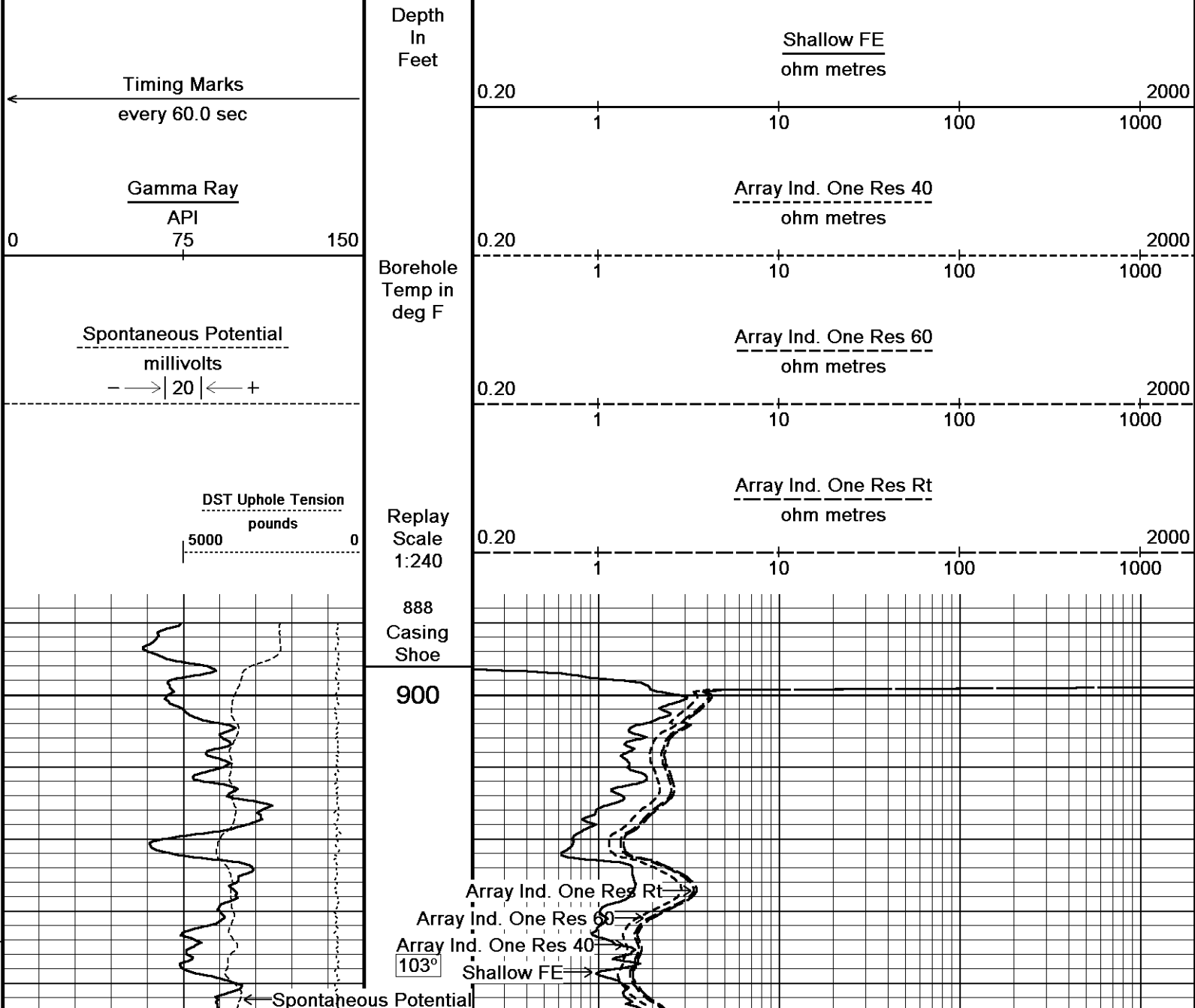


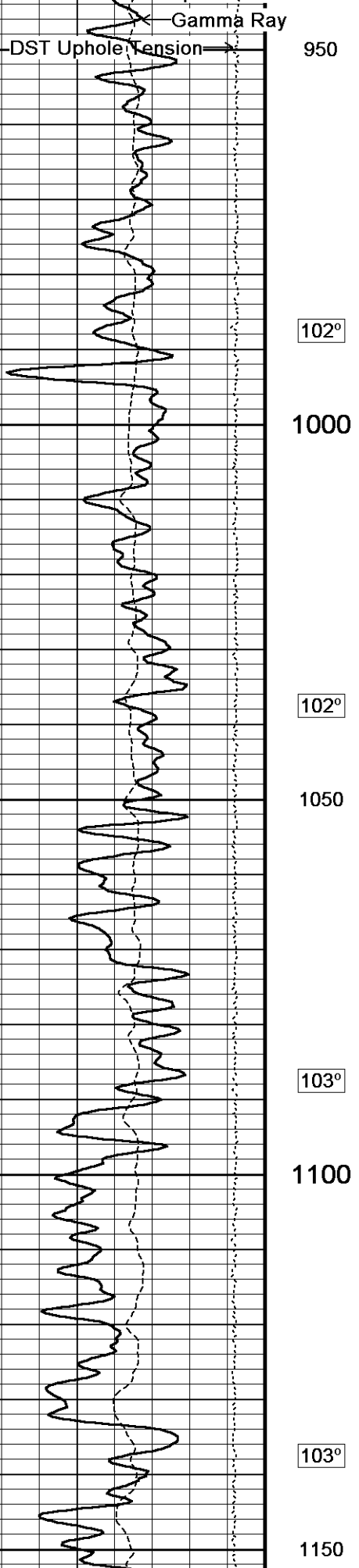
Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 07-JUL-2011 11:48
 Filename: C:\Minimus 11.02.3186\Data\M&M Z-Bar #9-14\M&M Z-Bar #9-14_002.dta Recorded on 07-JUL-2011 09:49
 System Versions: Logged with 11.02.3186 Plotted with 11.02.3186

↑ **2 INCH MAIN PASS** ↑

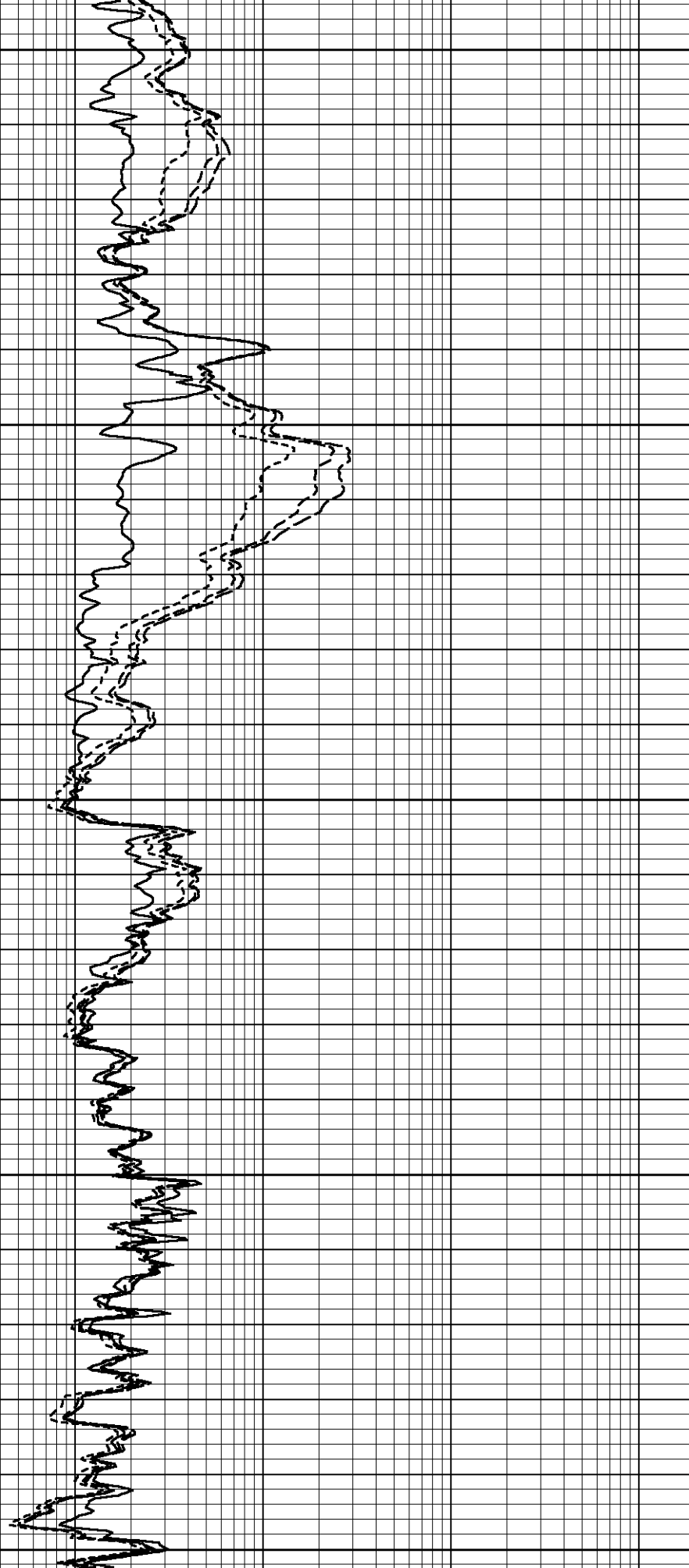
↓ **5 INCH MAIN PASS** ↓

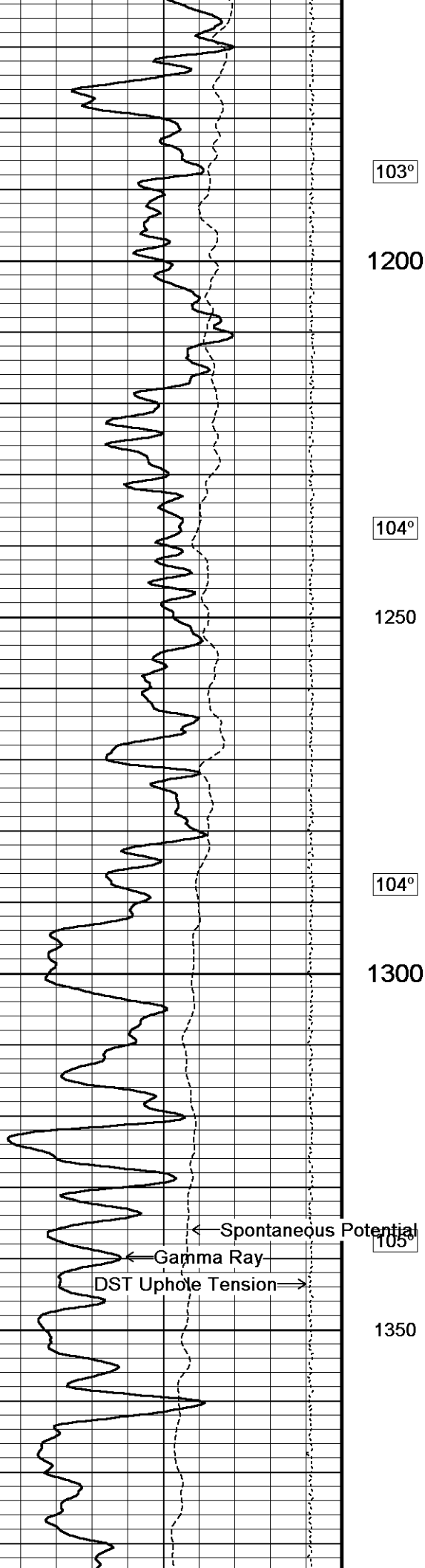
Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 07-JUL-2011 11:48
 Filename: C:\Minimus 11.02.3186\Data\M&M Z-Bar #9-14\M&M Z-Bar #9-14_002.dta Recorded on 07-JUL-2011 09:49
 System Versions: Logged with 11.02.3186 Plotted with 11.02.3186





950
102°
1000
102°
1050
103°
1100
103°
1150





103°

1200

104°

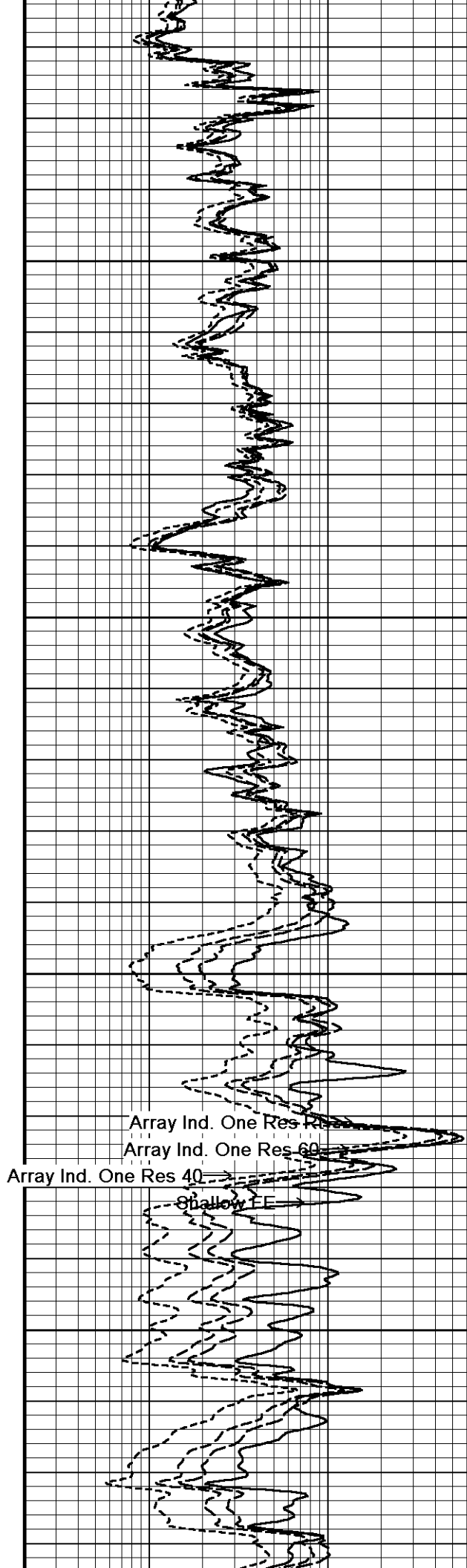
1250

104°

1300

105°

1350



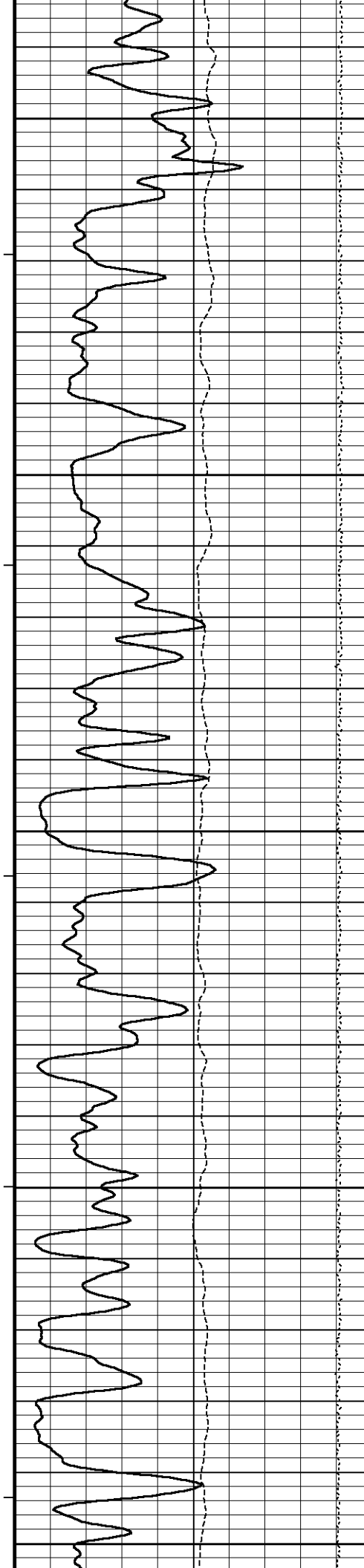
Array Ind. One Res 40

Array Ind. One Res 60

Array Ind. One Res 40

Shallow FE

← Spontaneous Potential
← Gamma Ray
DST Uphole Tension →



105°

1400

105°

1450

105°

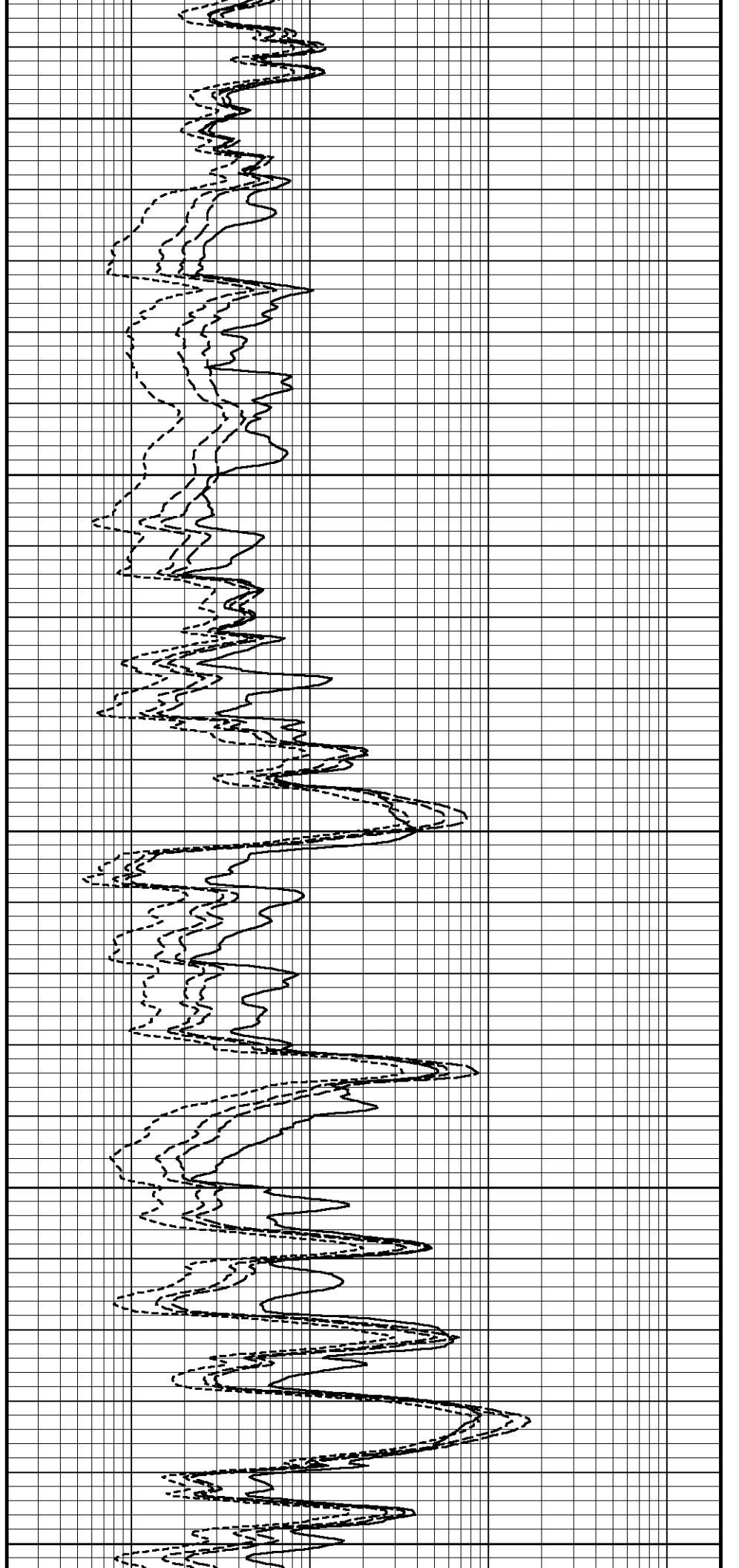
1500

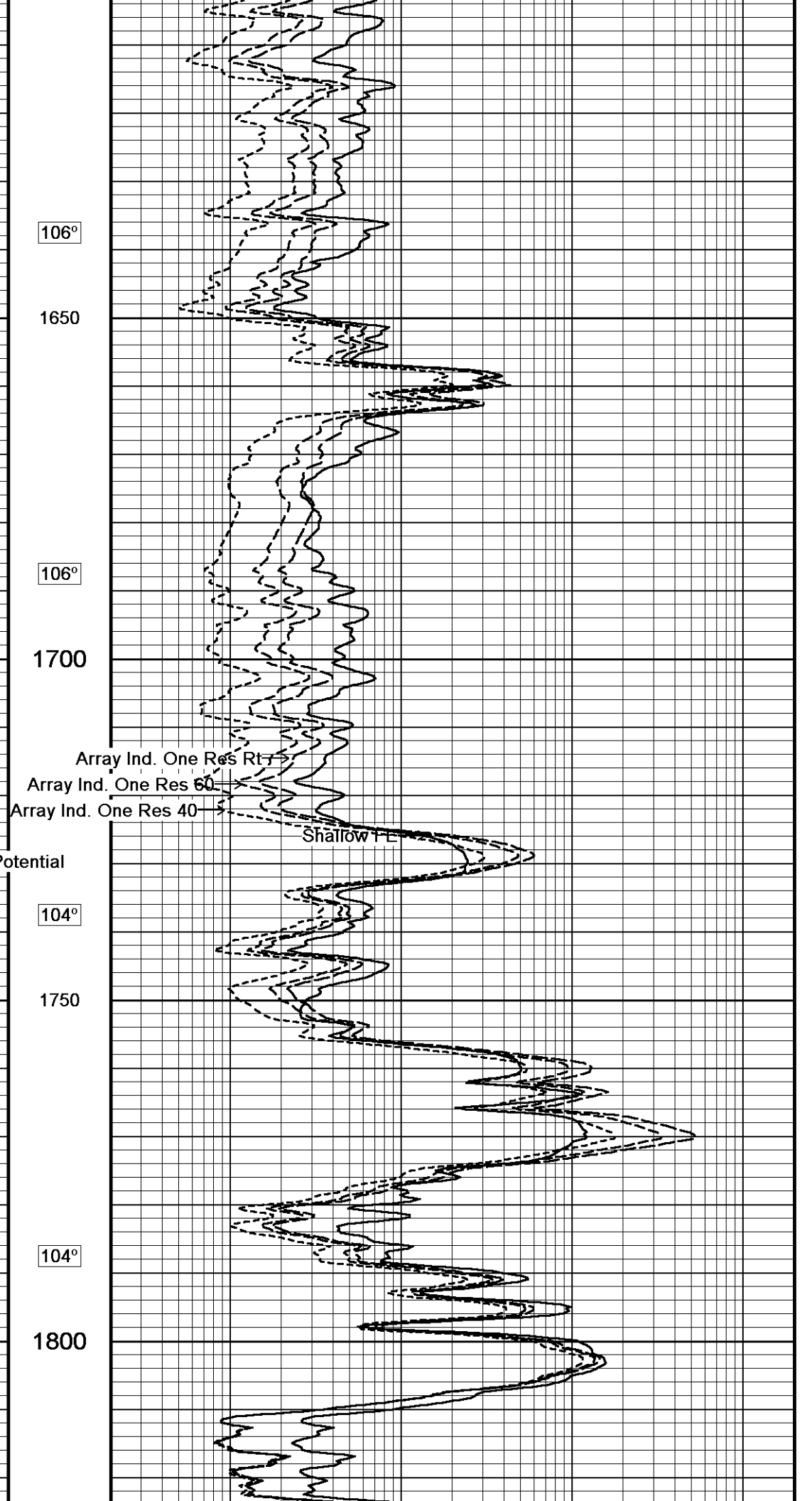
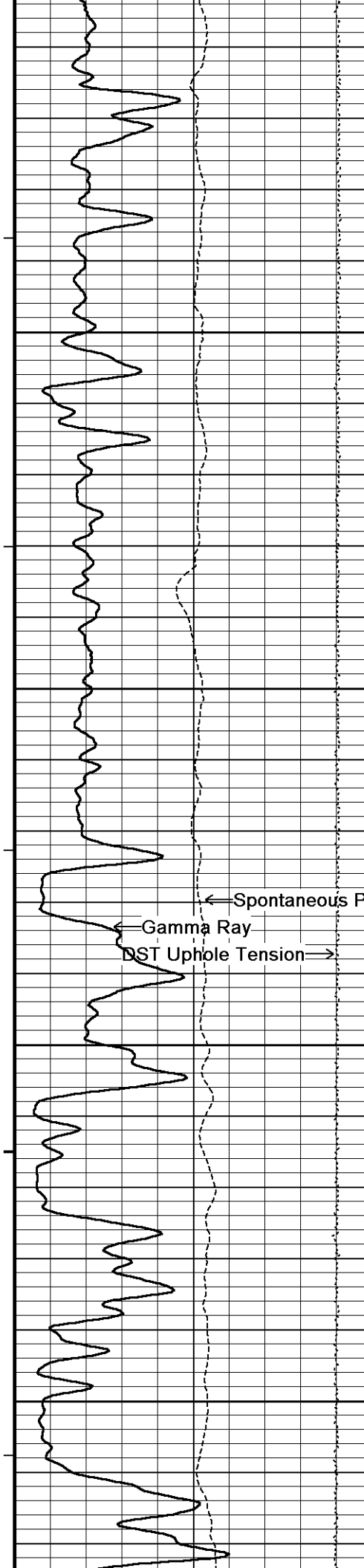
105°

1550

106°

1600





106°

1650

106°

1700

Array Ind. One Res Rt

Array Ind. One Res 60

Array Ind. One Res 40

Shallow F.E.

← Spontaneous Potential

← Gamma Ray

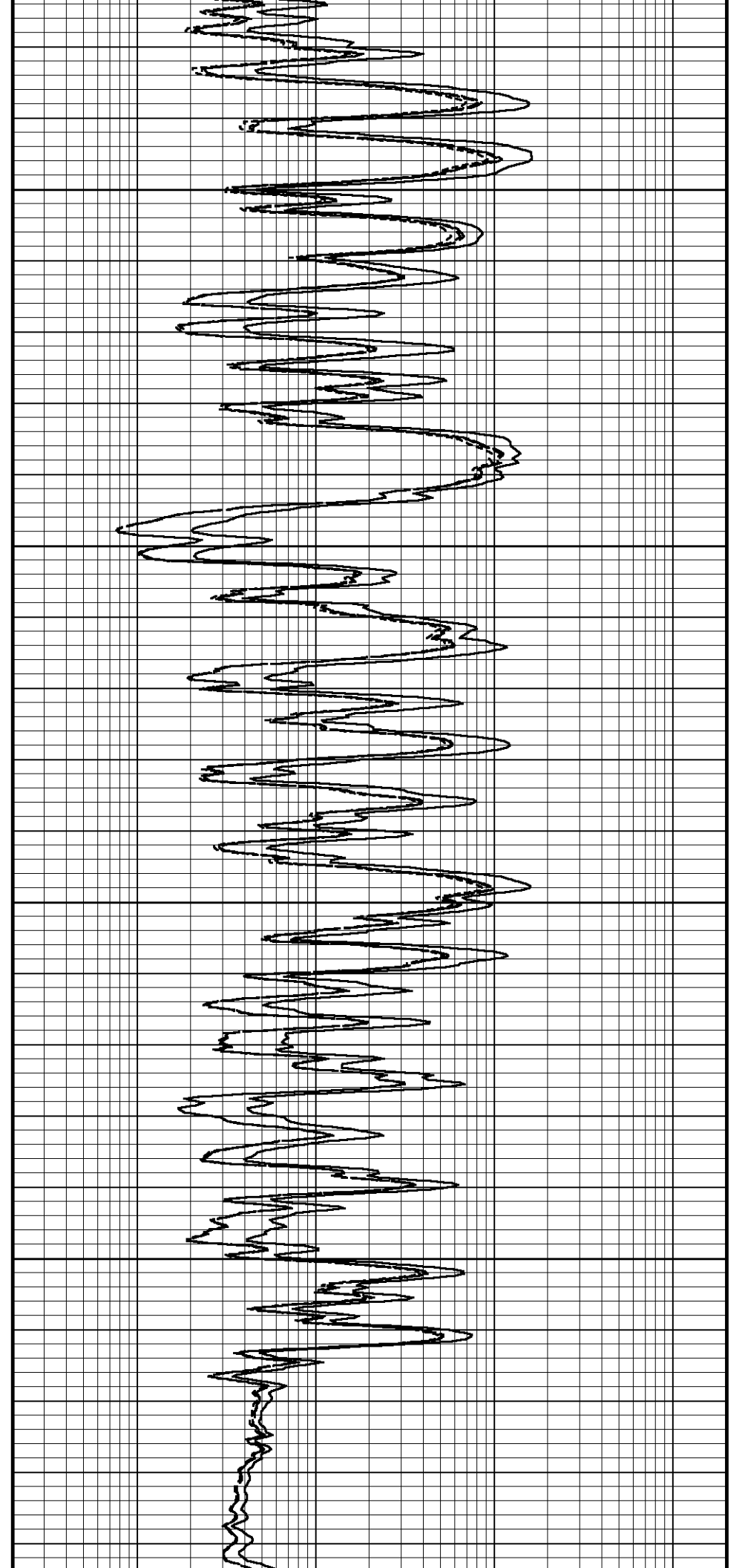
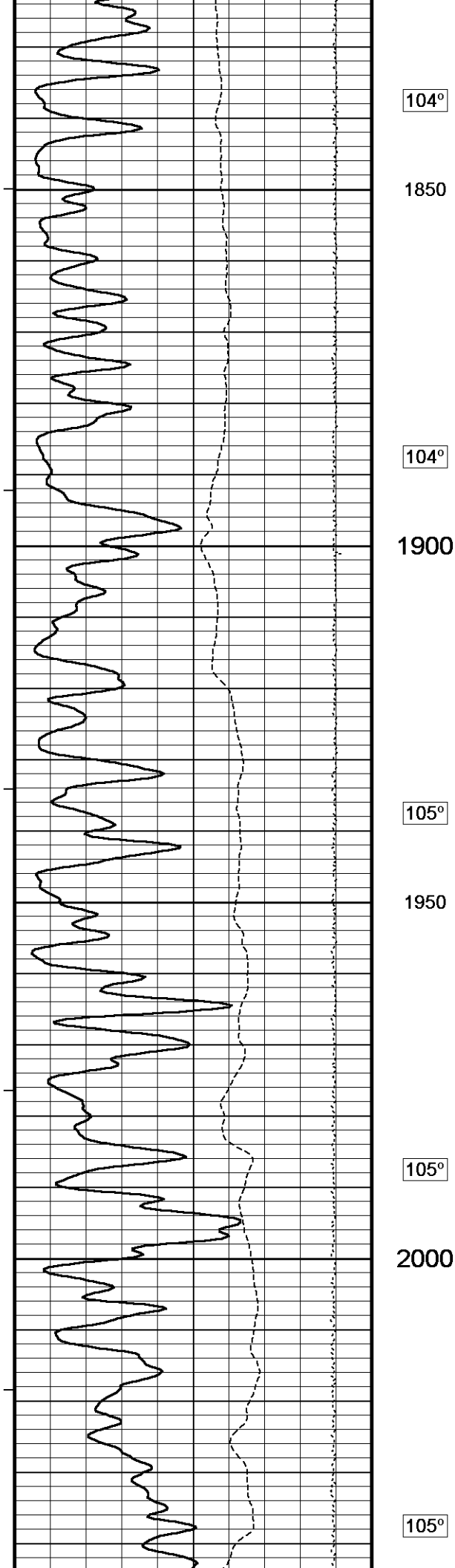
DST Uphole Tension →

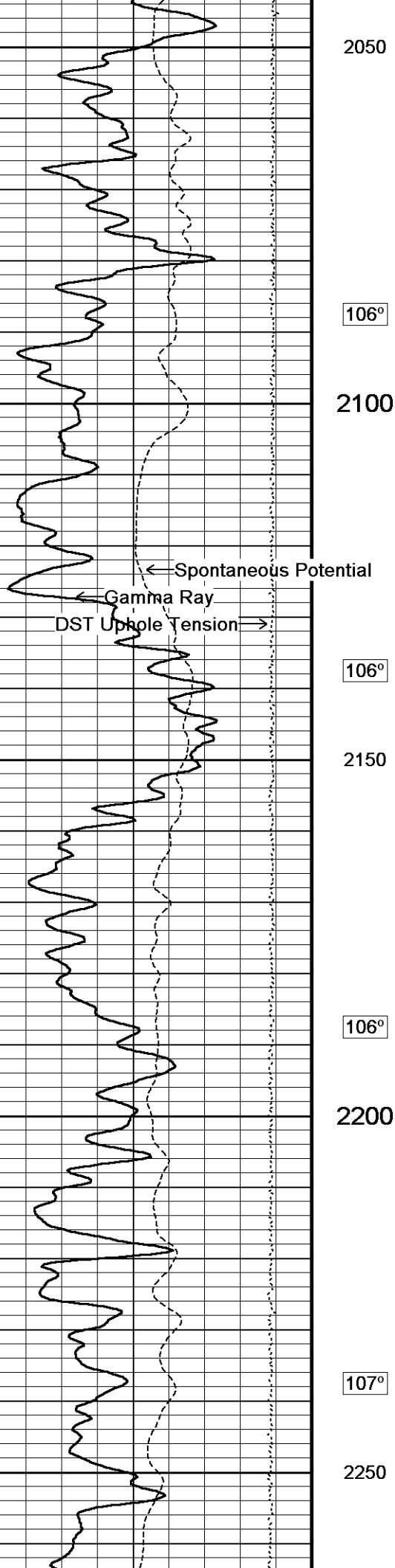
104°

1750

104°

1800





2050

106°

2100

106°

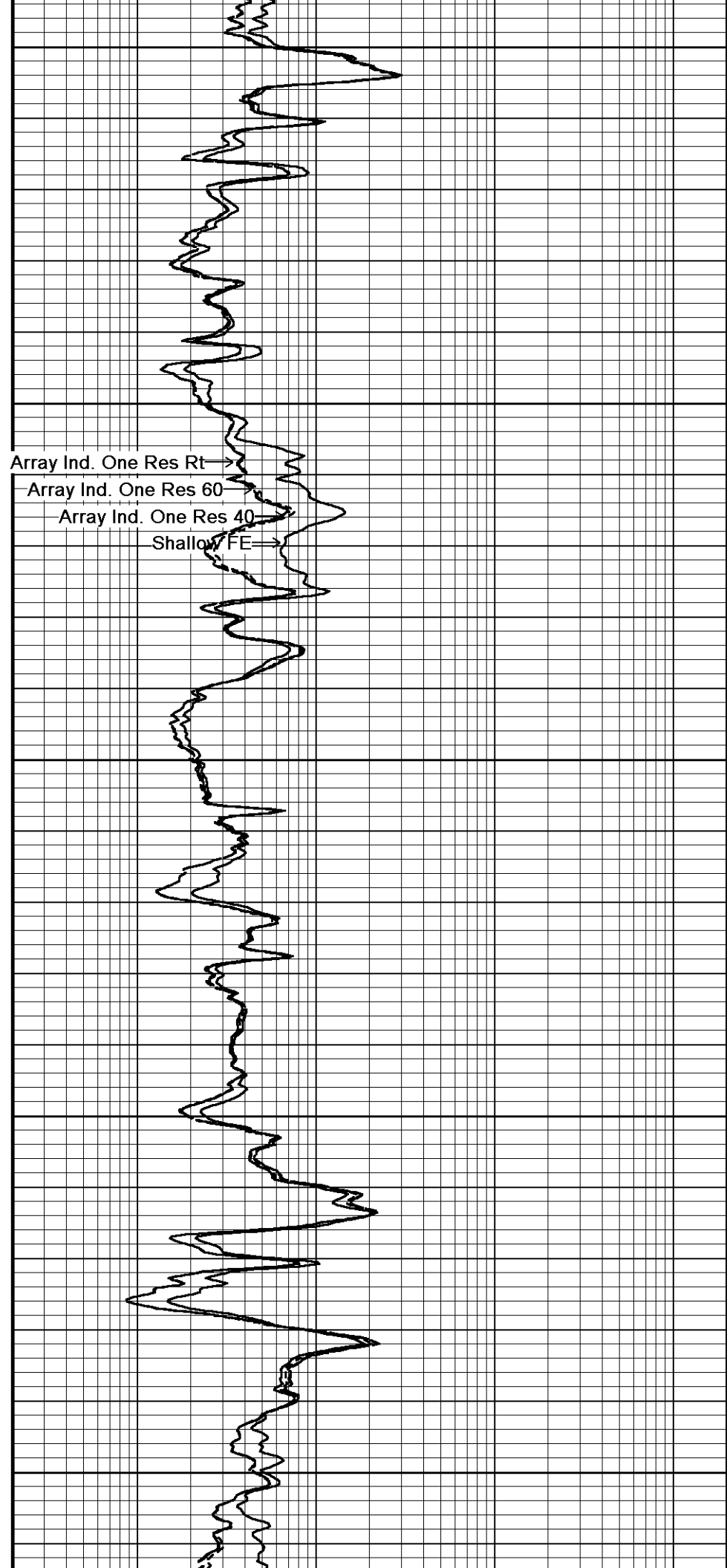
2150

106°

2200

107°

2250

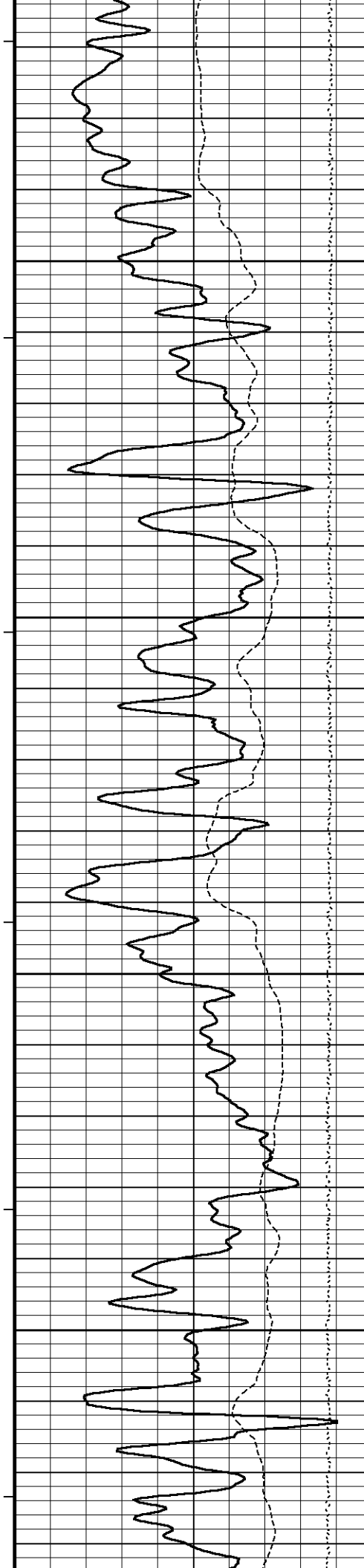


Array Ind. One Res Rt →

Array Ind. One Res 60 →

Array Ind. One Res 40 →

Shallow FE →



107°

2300

107°

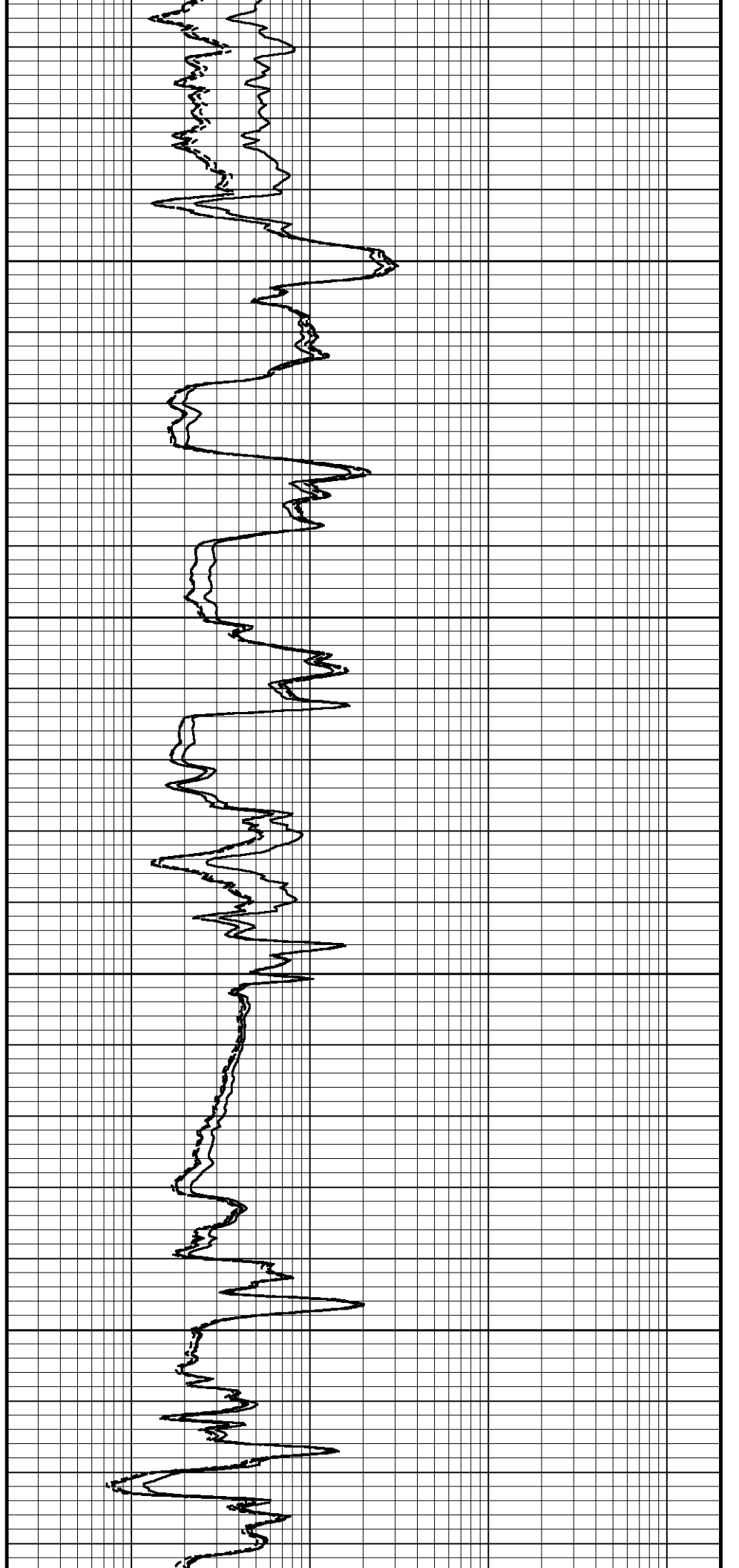
2350

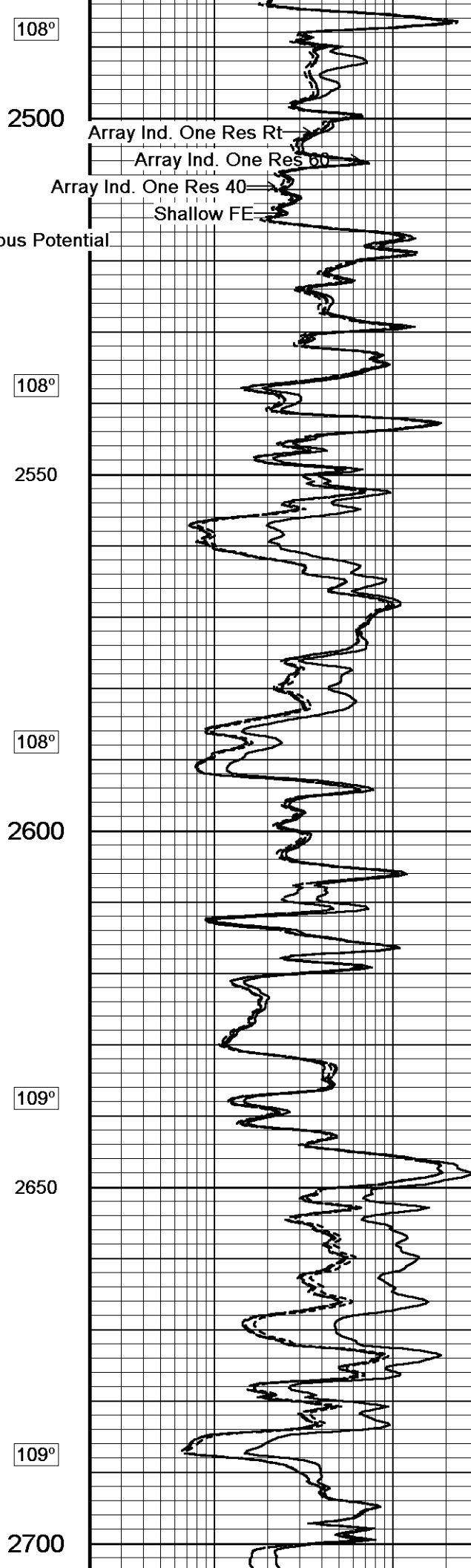
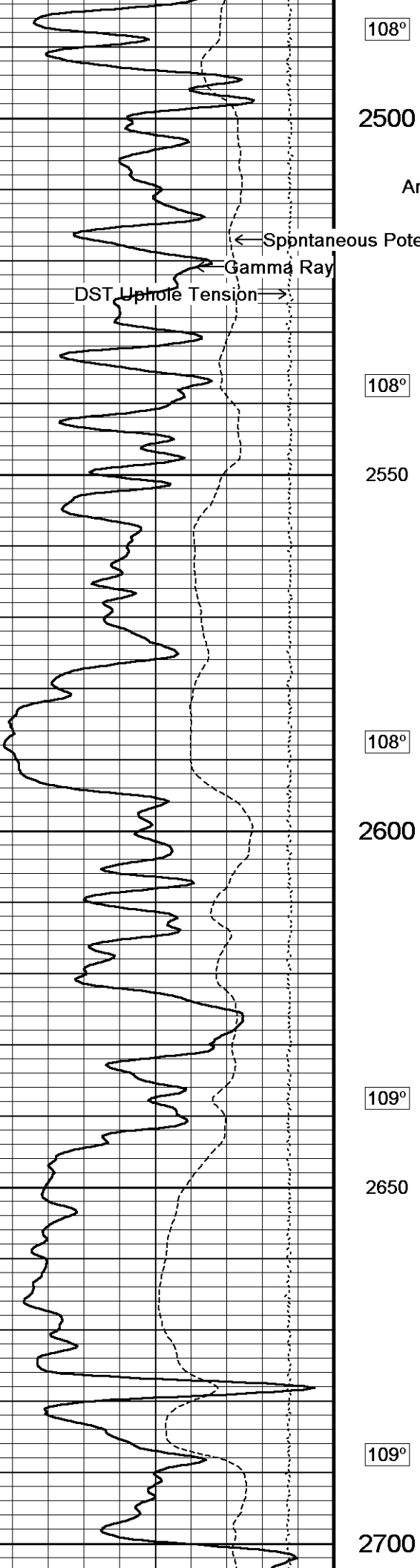
108°

2400

108°

2450





108°

2500

Array Ind. One Res Rt

Array Ind. One Res 60

Array Ind. One Res 40

Shallow FE

← Spontaneous Potential

← Gamma Ray

DST Uphole Tension →

108°

2550

108°

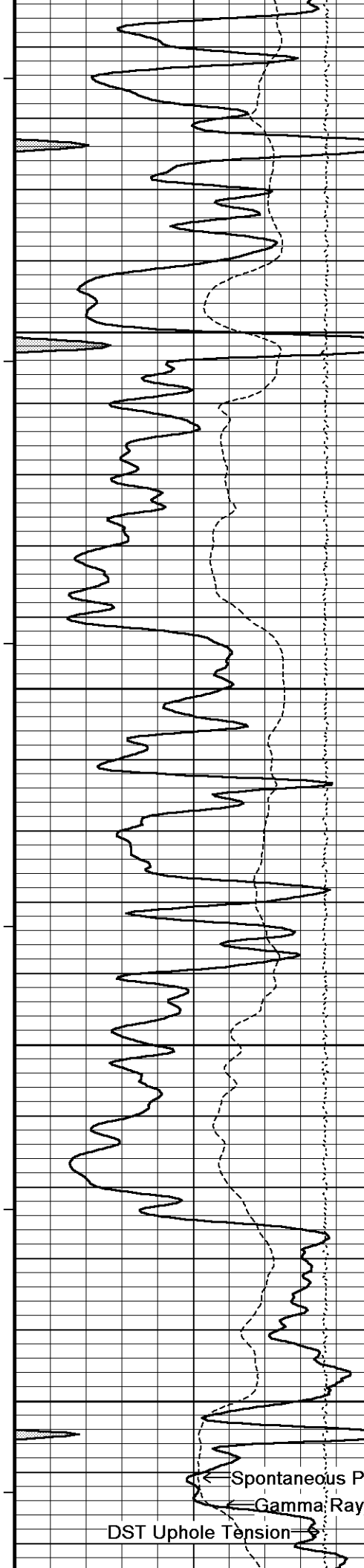
2600

109°

2650

109°

2700



109°

2750

110°

2800

110°

2850

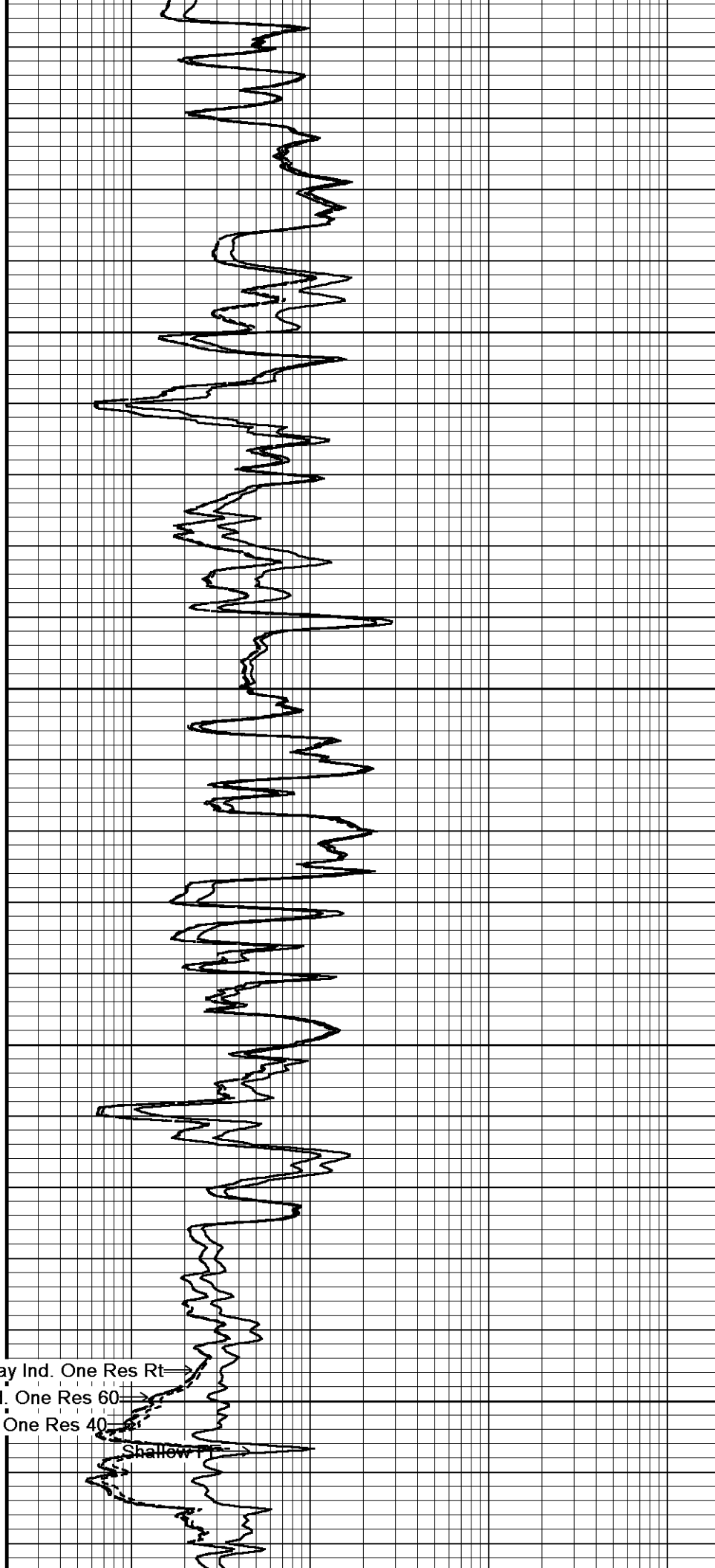
110°

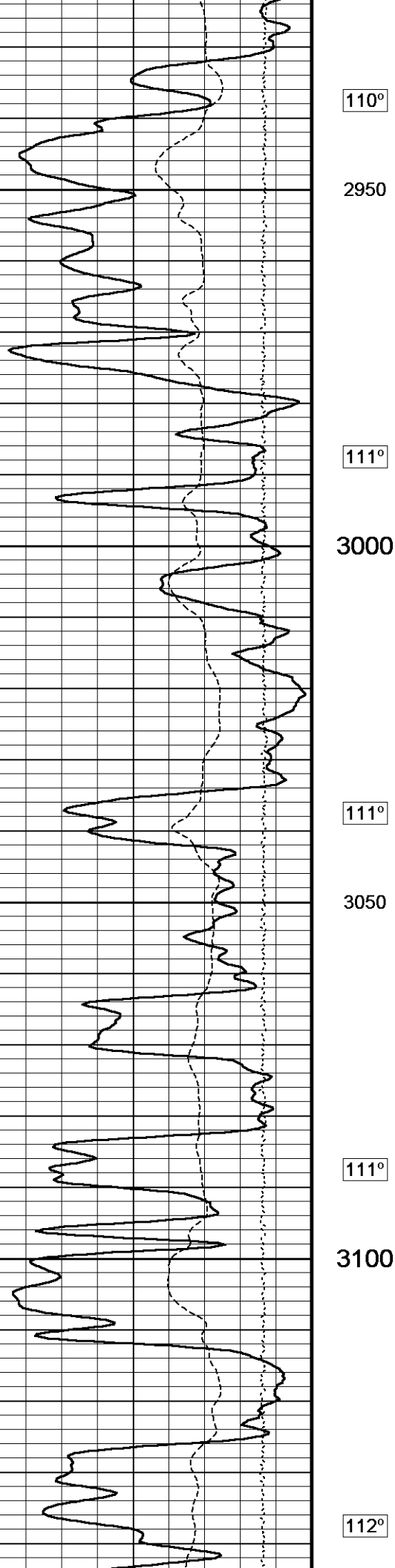
Array Ind. One Res Rt
2900nd. One Res 60
Array Ind. One Res 40

Spontaneous Potential
Gamma Ray

DST Uphole Tension

Shallow





110°

2950

111°

3000

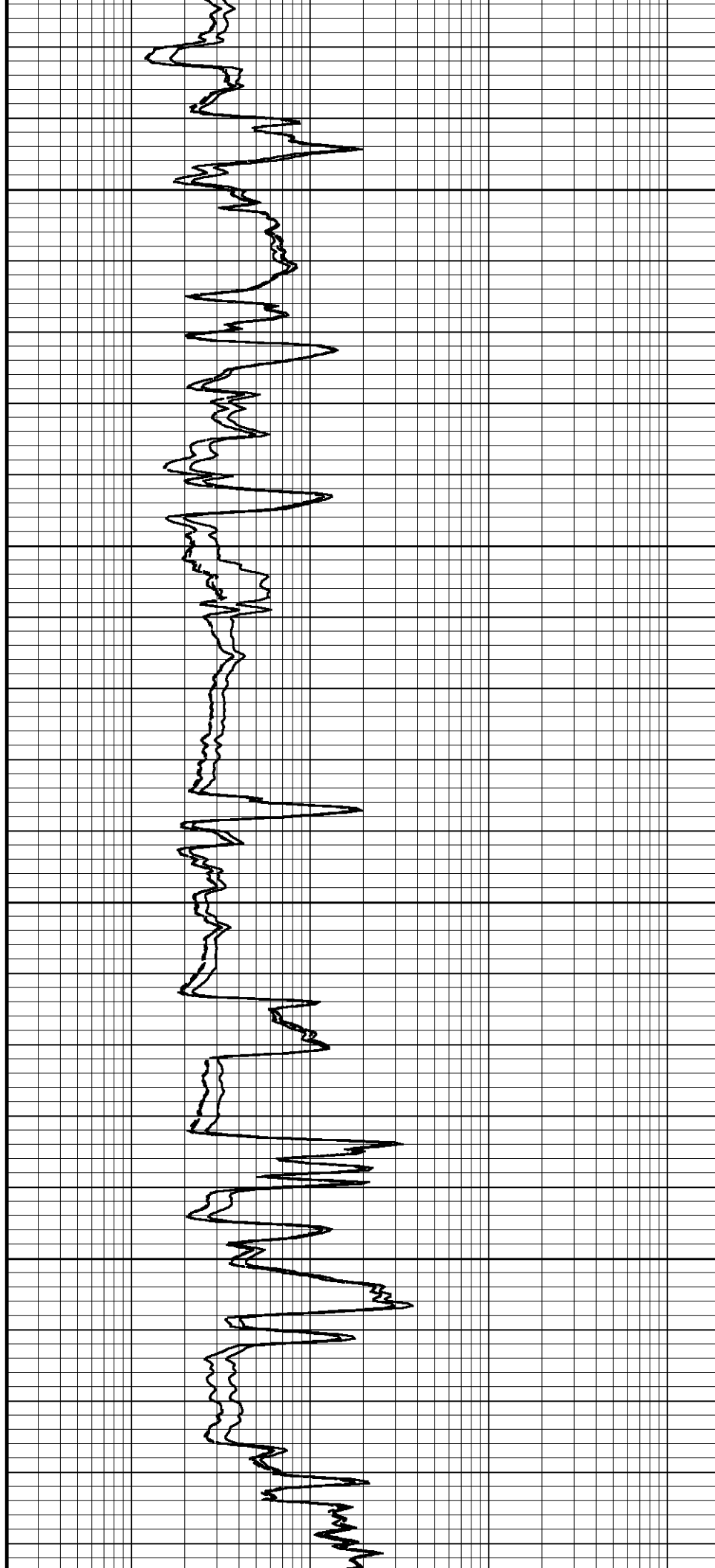
111°

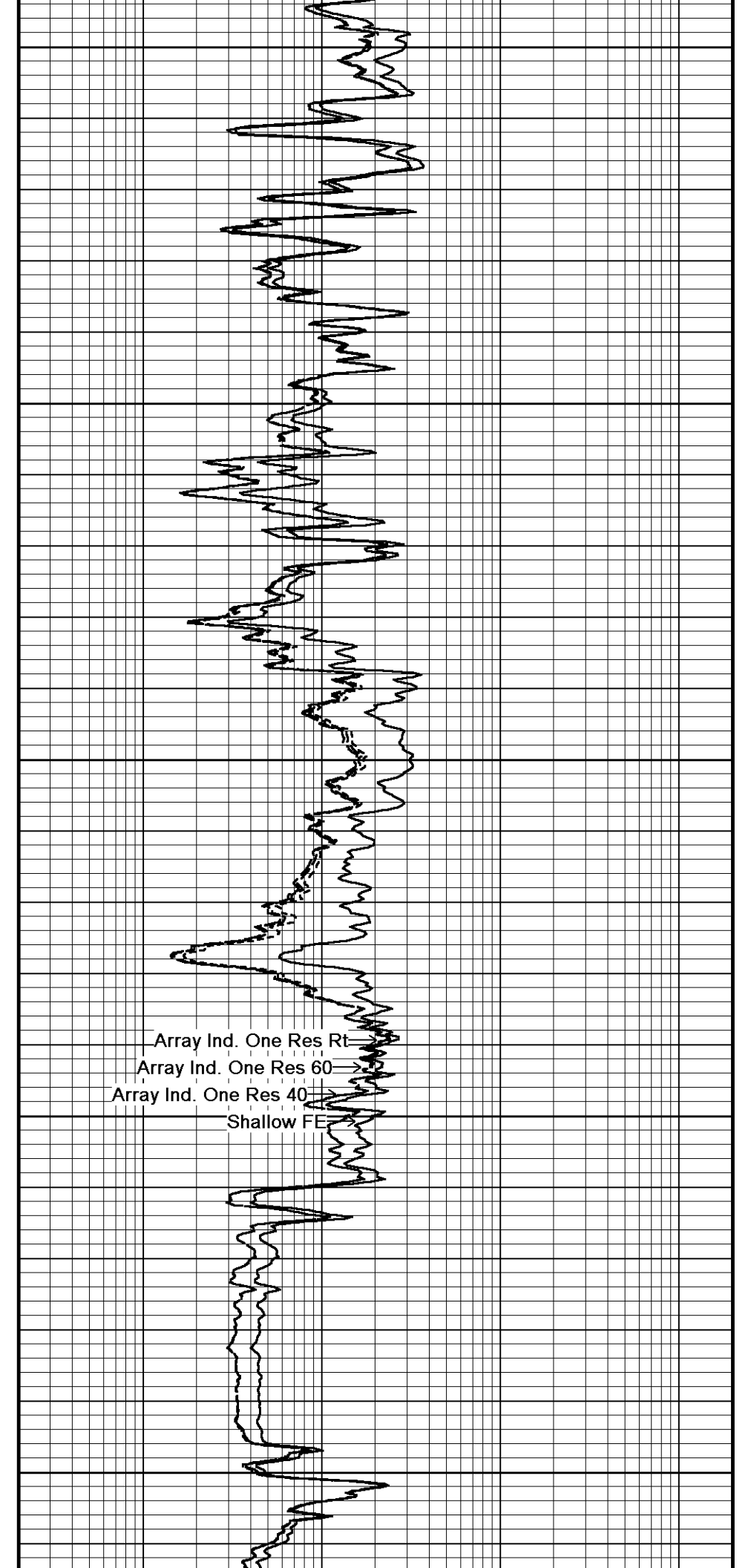
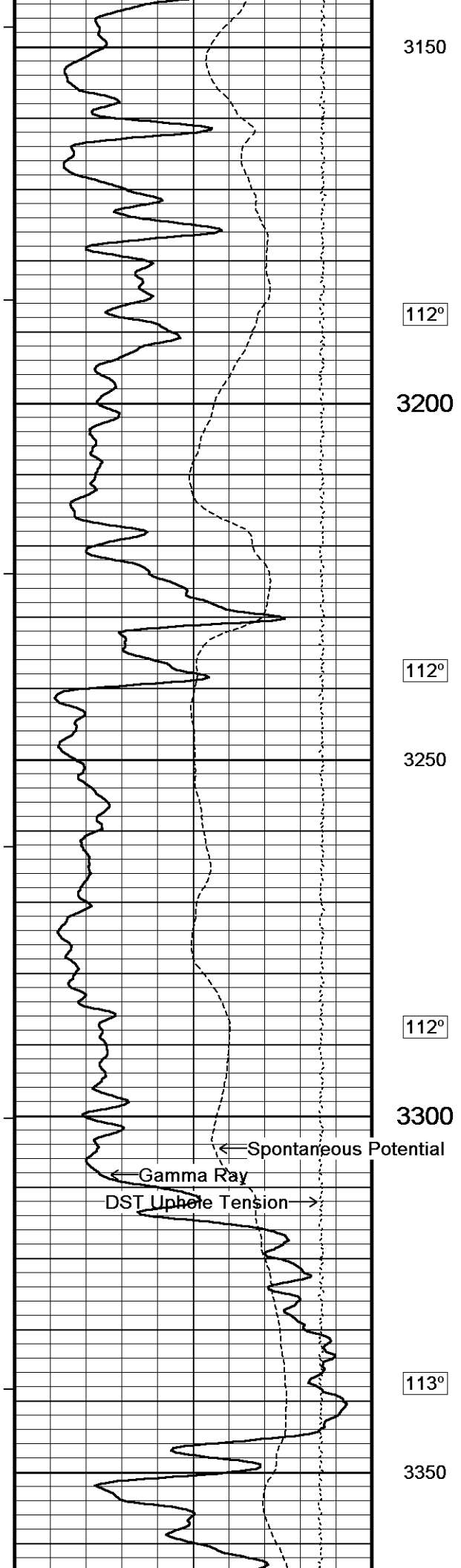
3050

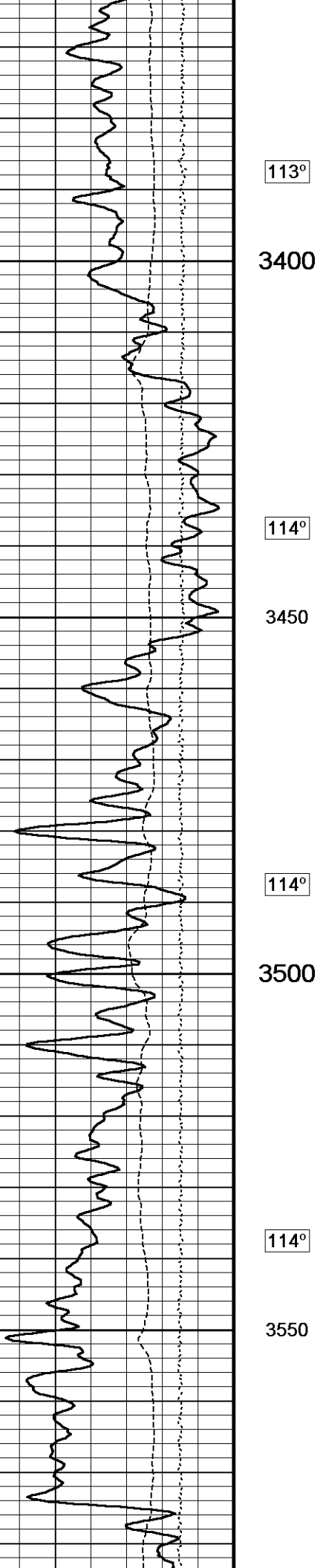
111°

3100

112°







113°

3400

114°

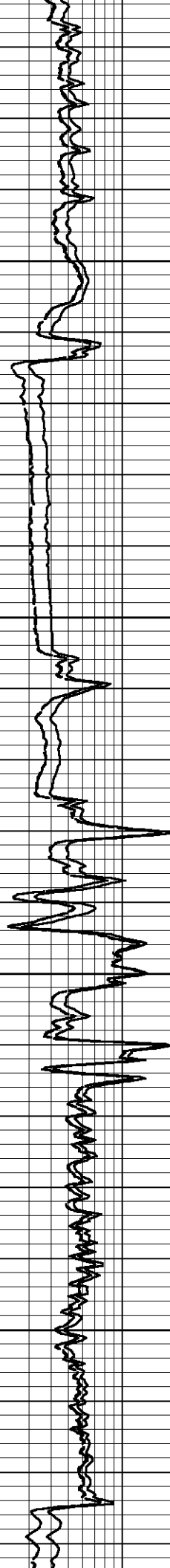
3450

114°

3500

114°

3550



113°

3400

114°

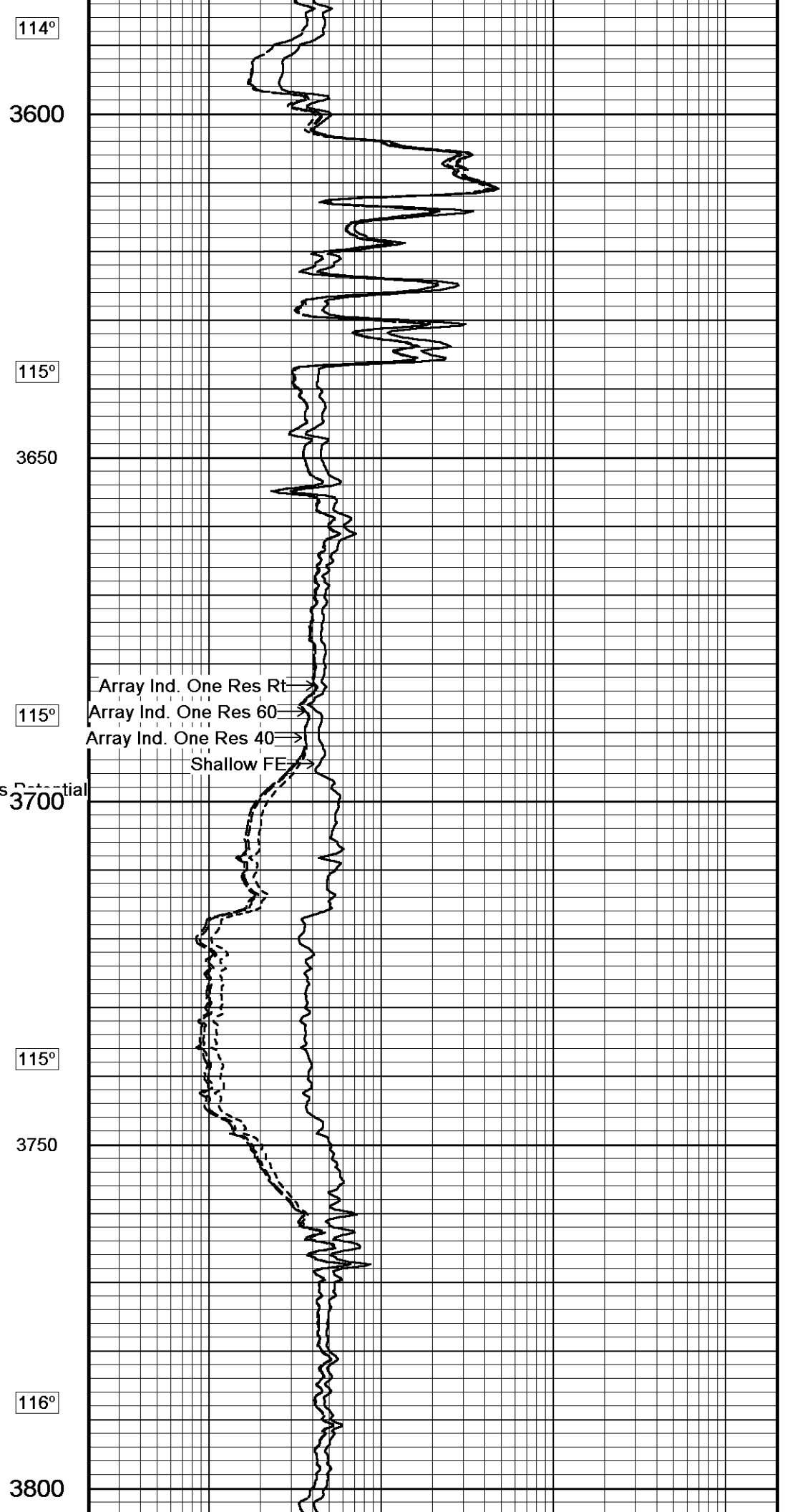
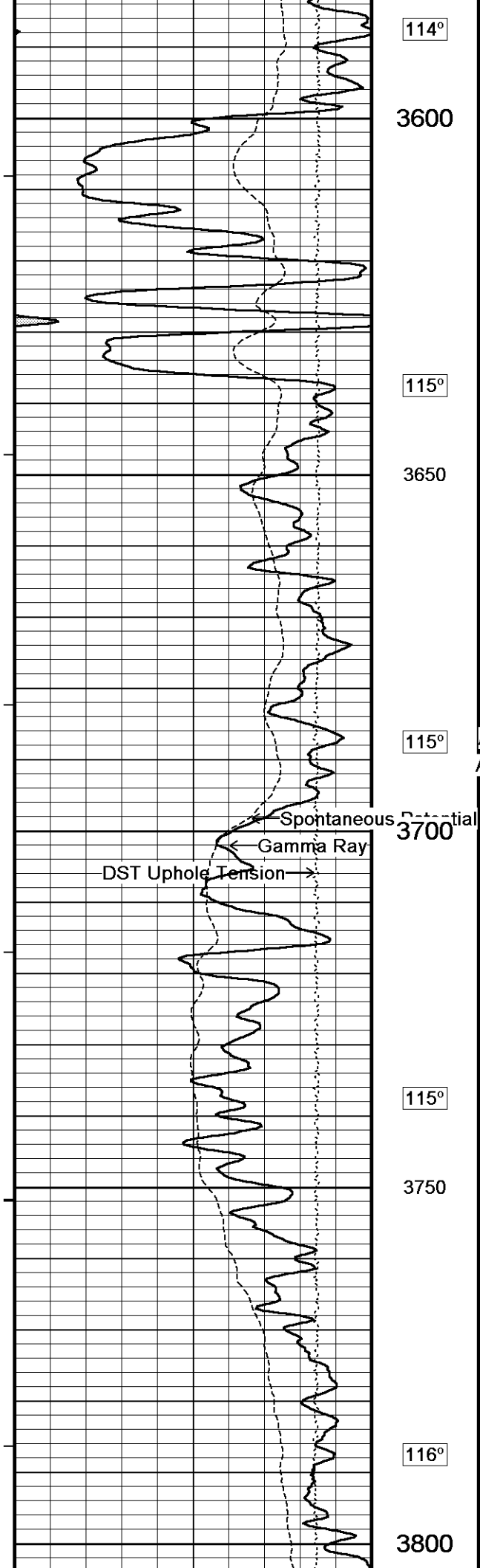
3450

114°

3500

114°

3550



114°

3600

115°

3650

115°

Spontaneous Potential

3700

115°

3750

116°

3800

Array Ind. One Res Rt

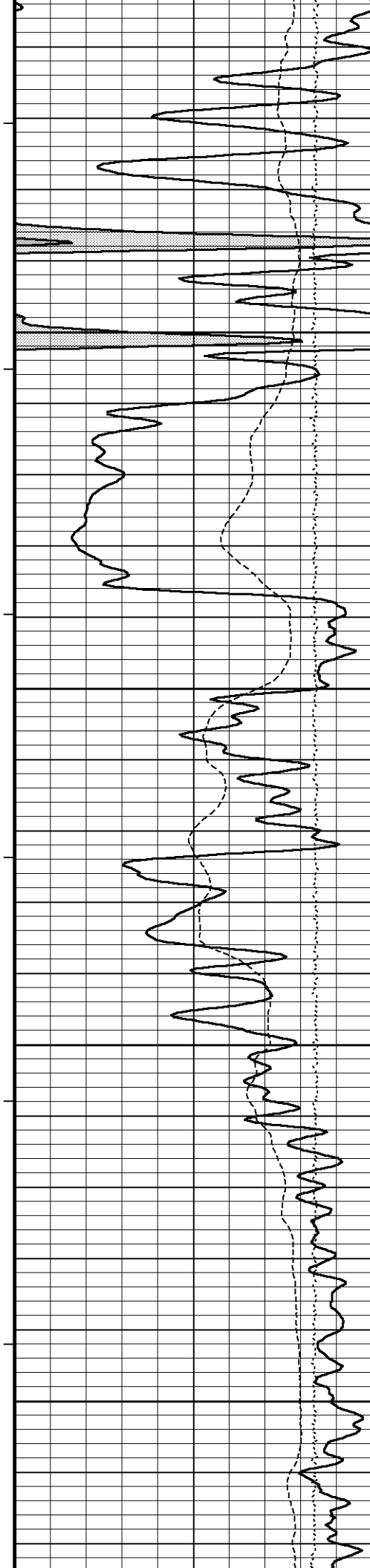
Array Ind. One Res 60

Array Ind. One Res 40

Shallow FE

DST Uphole Tension

Gamma Ray



116°

3850

116°

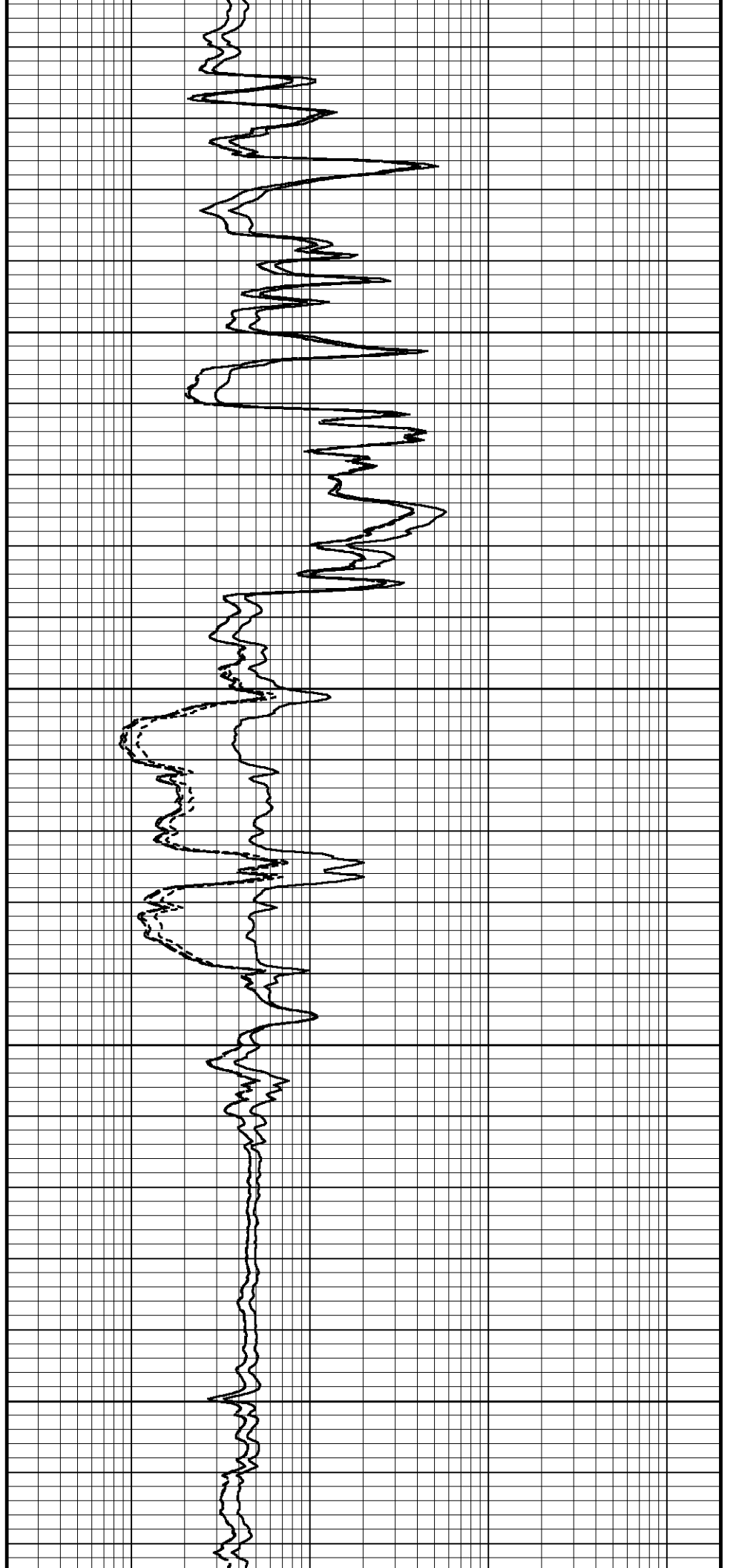
3900

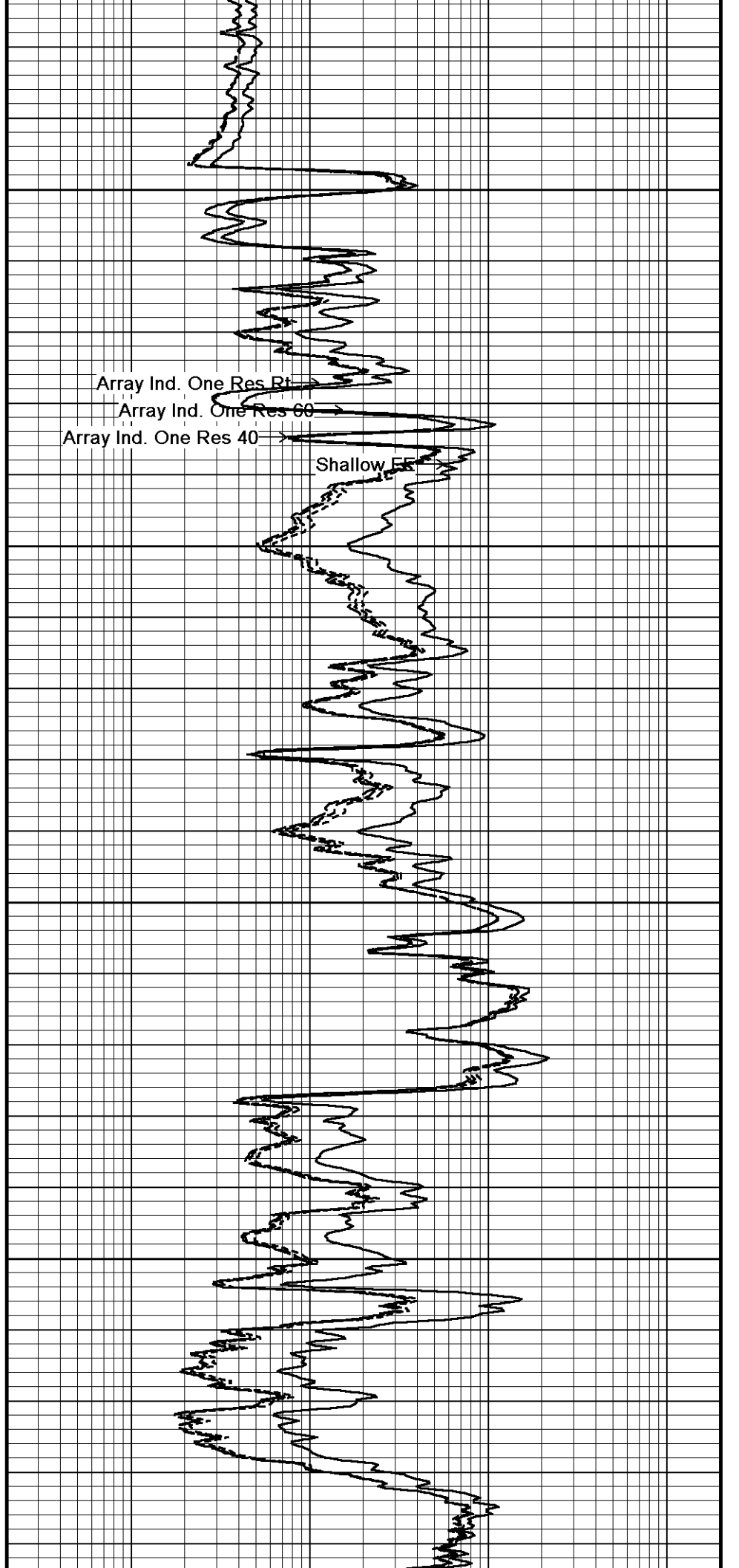
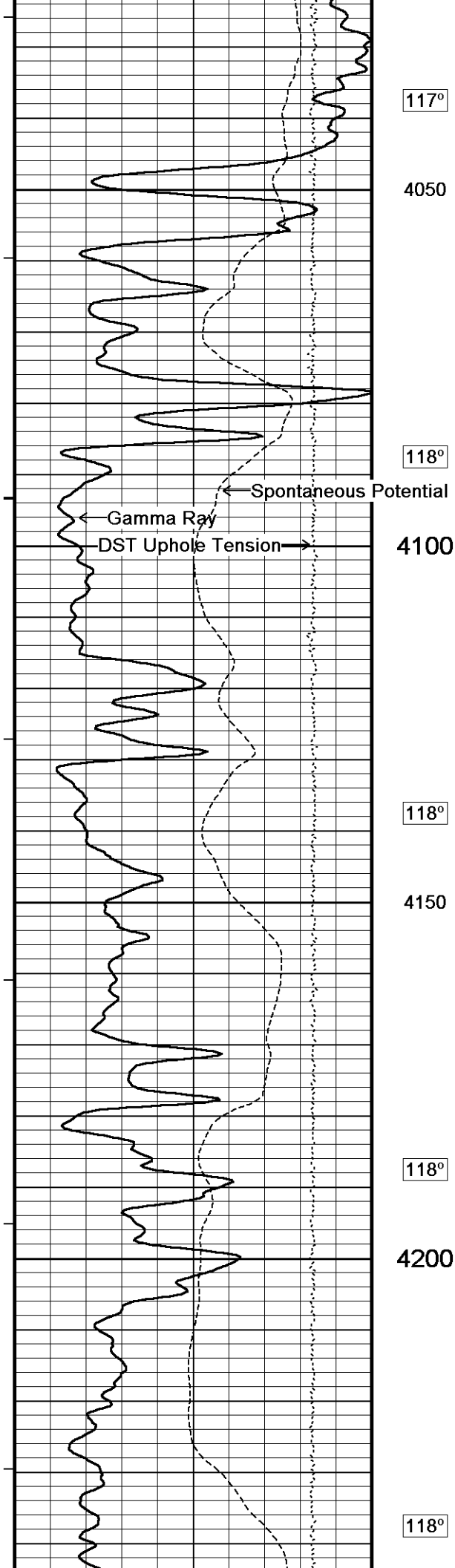
117°

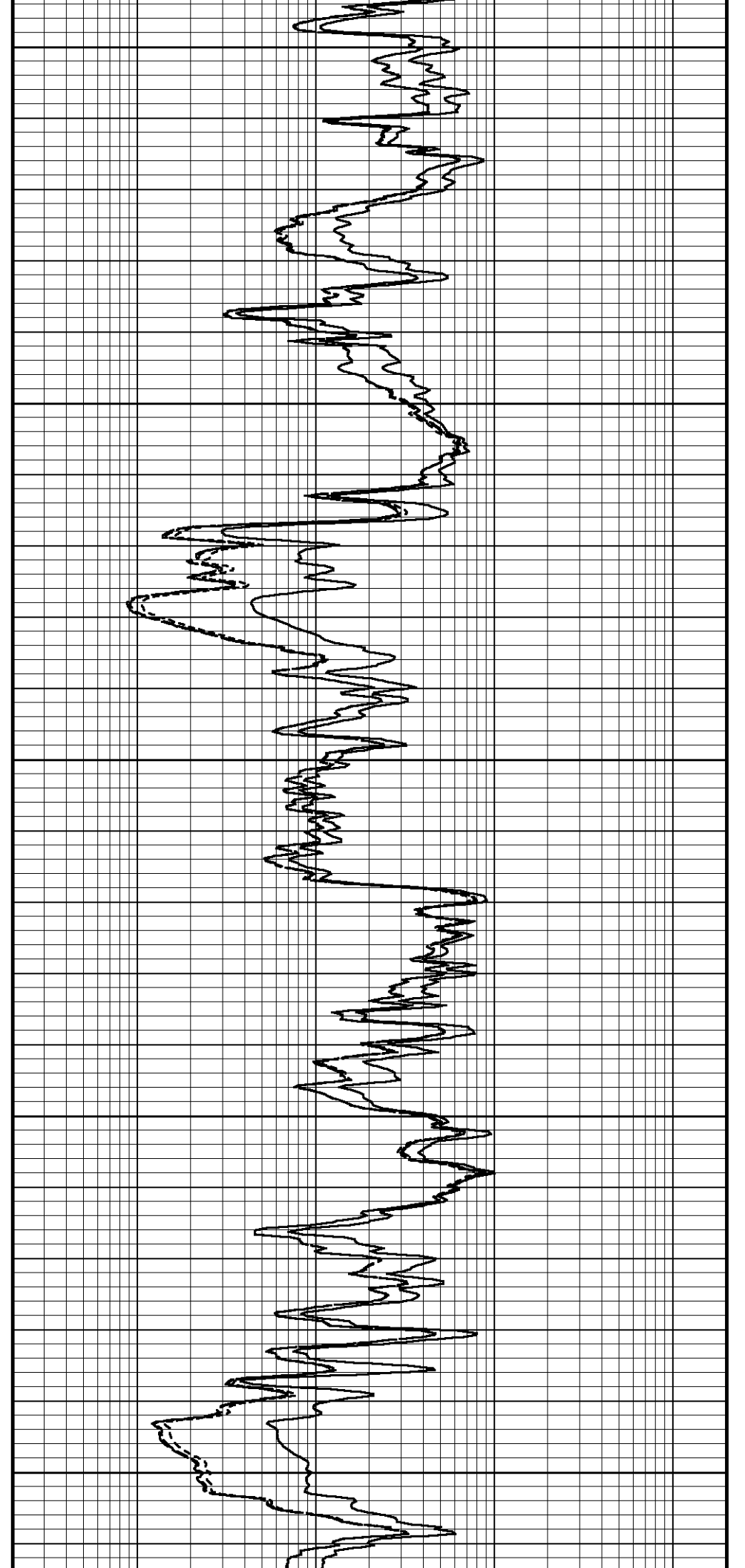
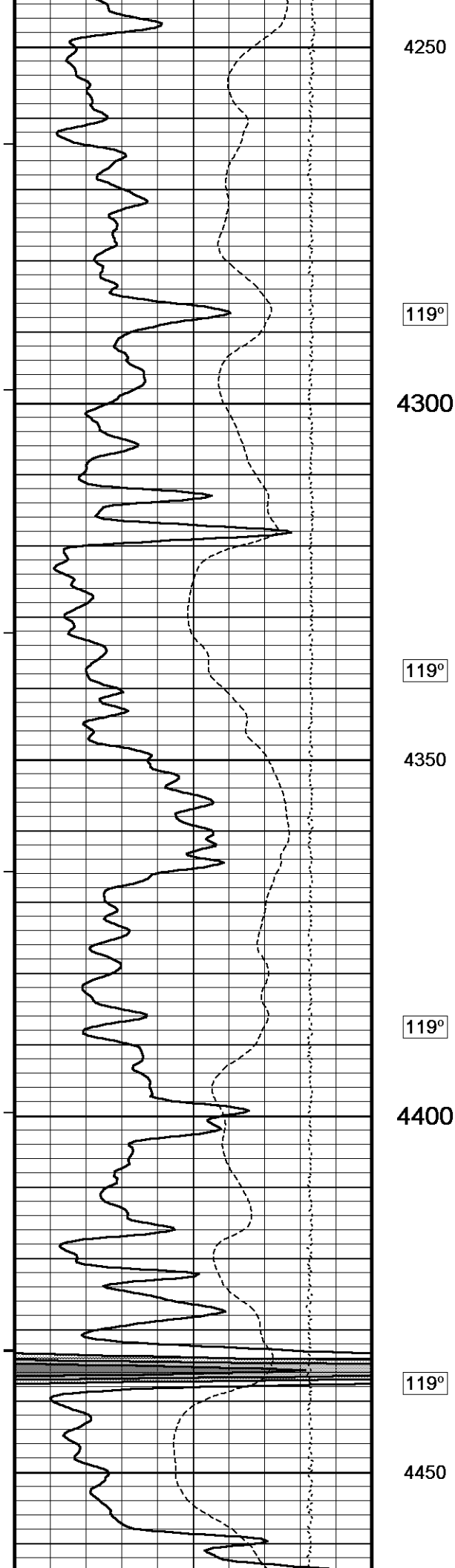
3950

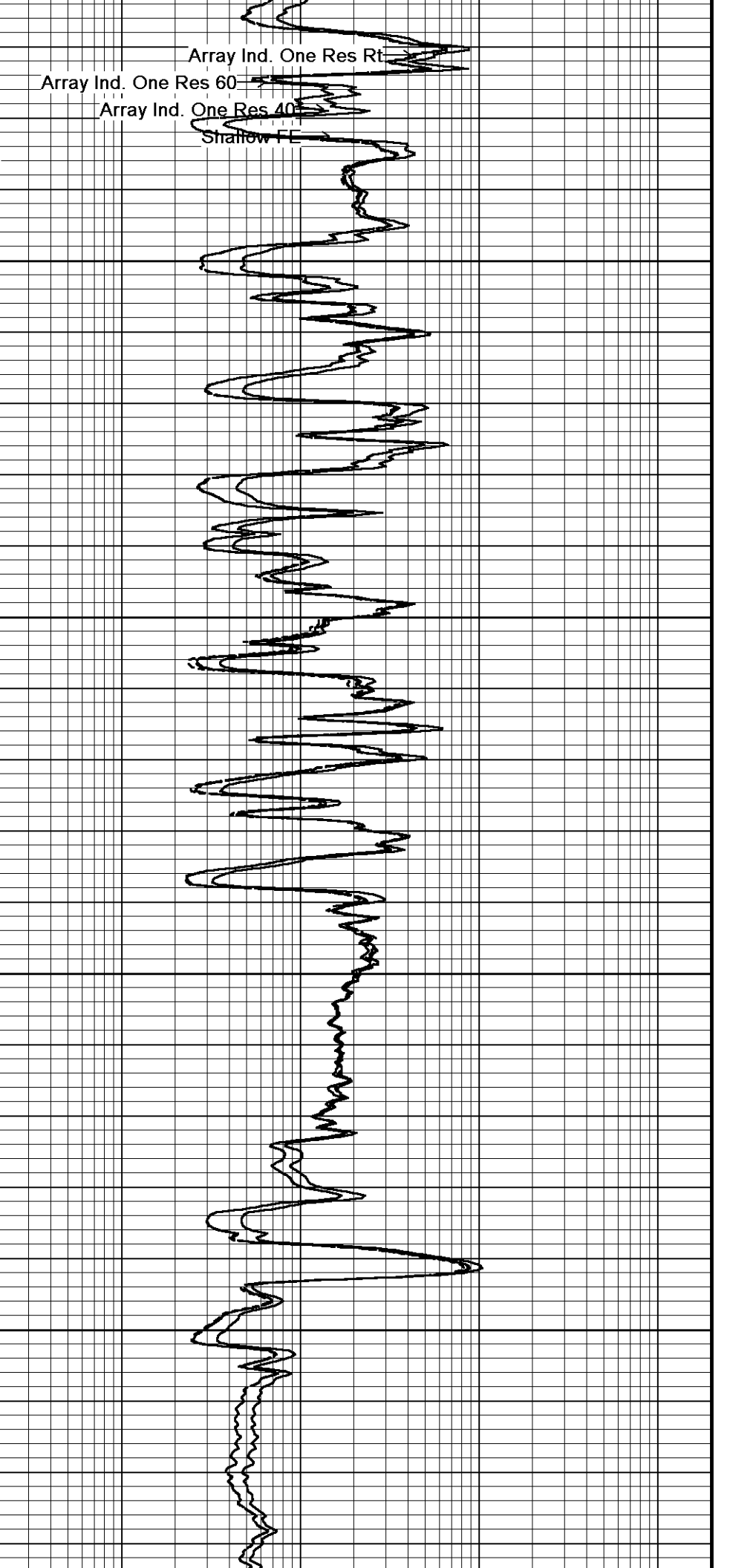
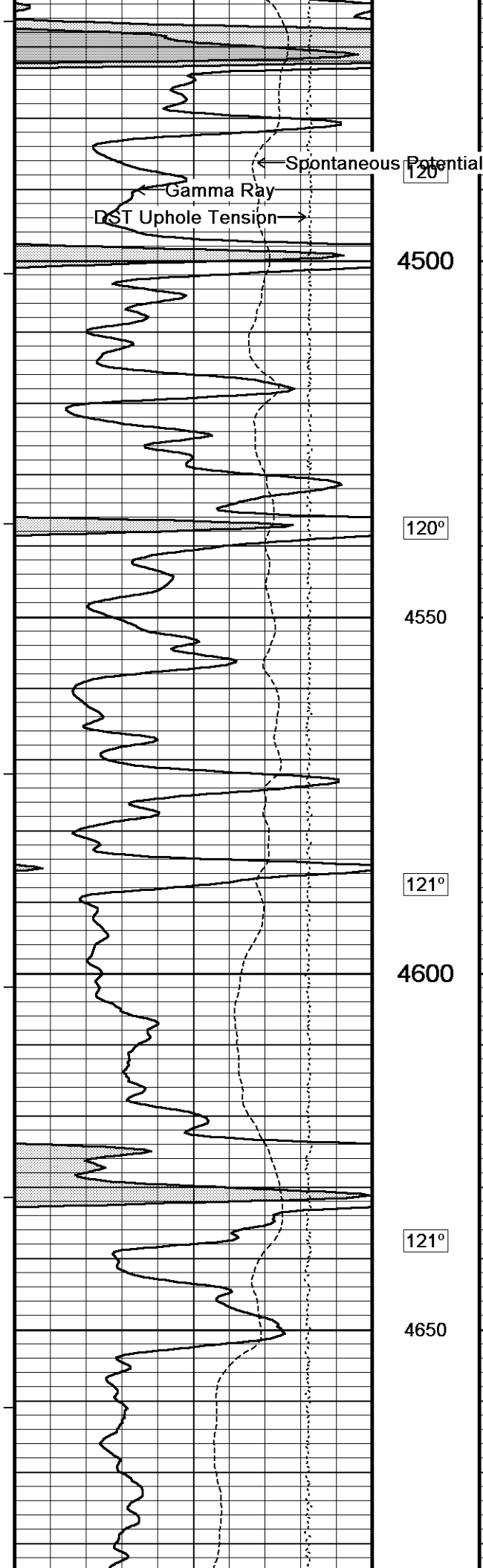
117°

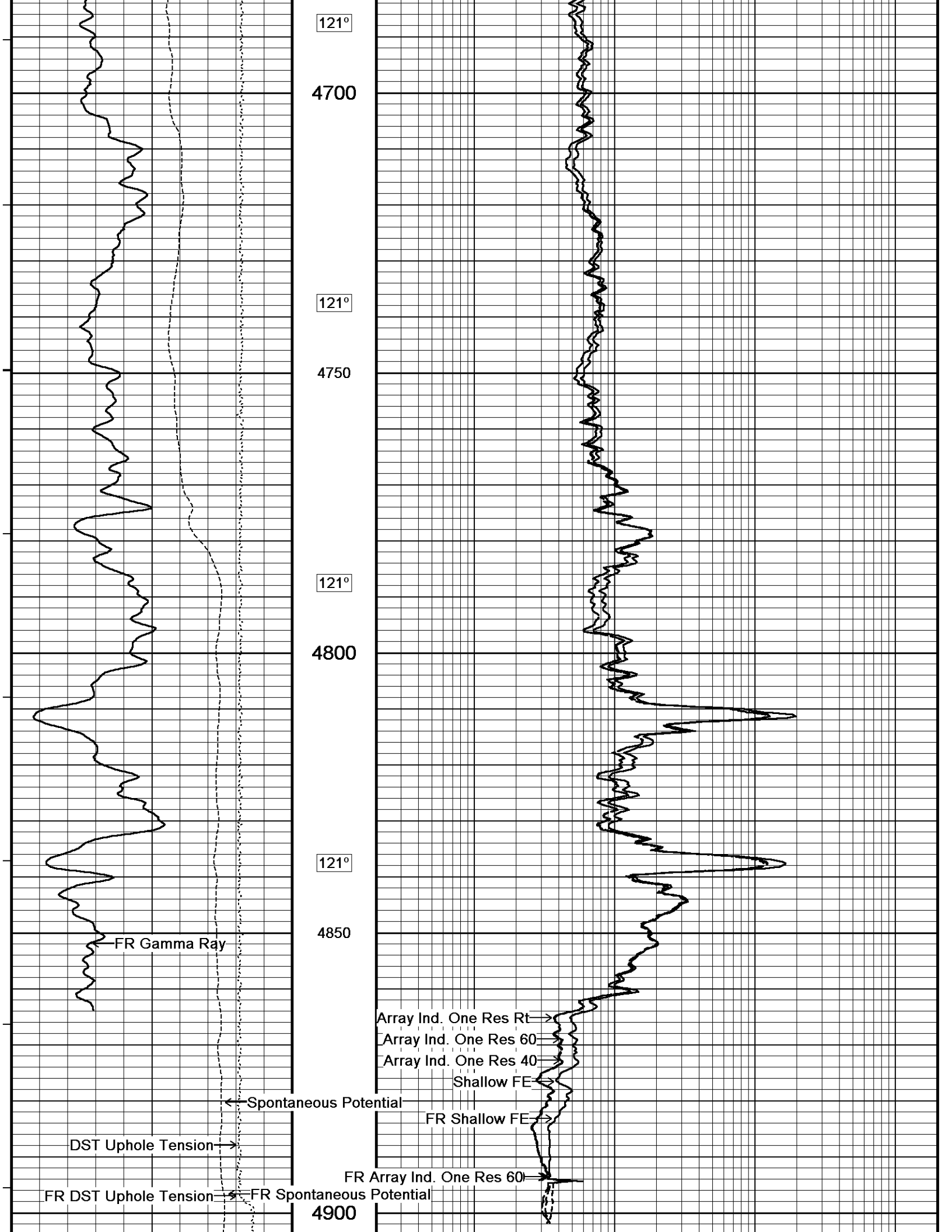
4000

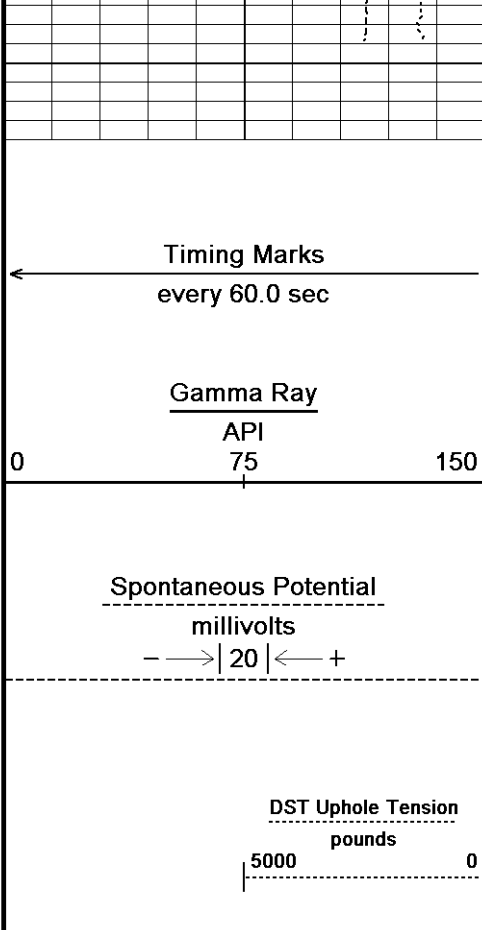








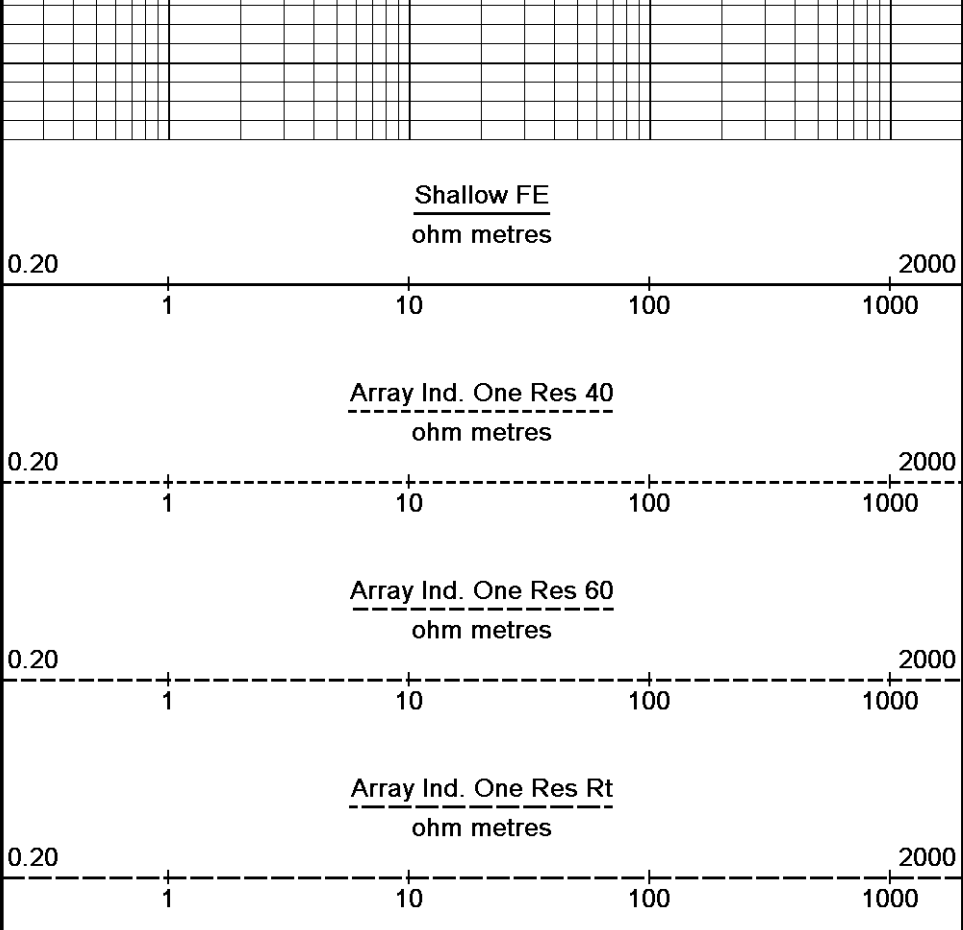




4916
Depth
In
Feet

Borehole
Temp in
deg F

Replay
Scale
1:240

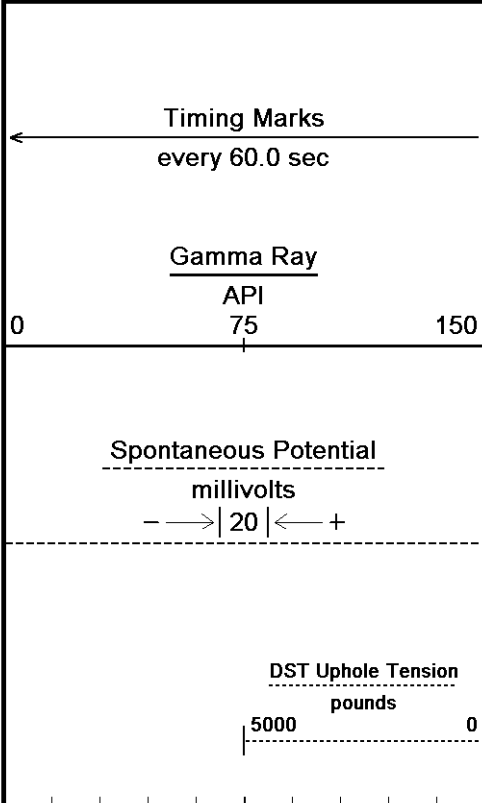


Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 07-JUL-2011 11:48
 Filename: C:\Minimus 11.02.3186\Data\M&M Z-Bar #9-14\M&M Z-Bar #9-14_002.dta
 Recorded on 07-JUL-2011 09:49
 System Versions: Logged with 11.02.3186 Plotted with 11.02.3186

↑ 5 INCH MAIN PASS ↑

↓ 5 INCH REPEAT PASS ↓

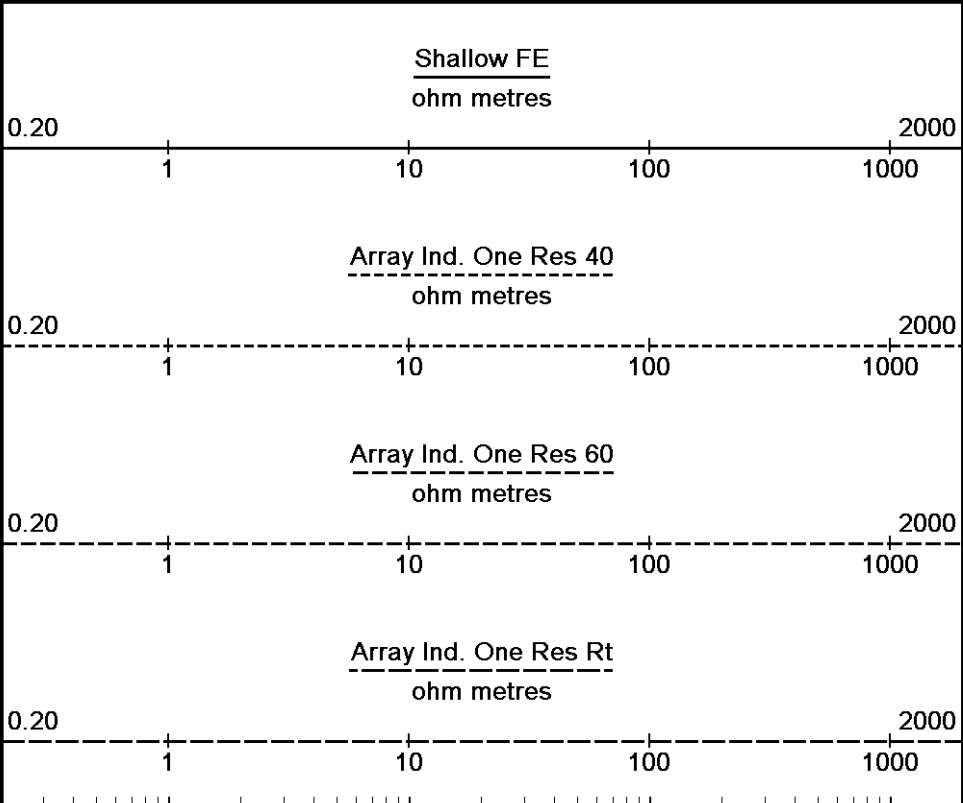
Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 07-JUL-2011 11:48
 Filename: C:\Minimus 11.02.3186\Data\M&M Z-Bar #9-14\M&M Z-Bar #9-14_001.dta
 Recorded on 07-JUL-2011 09:29
 System Versions: Logged with 11.02.3186 Plotted with 11.02.3186

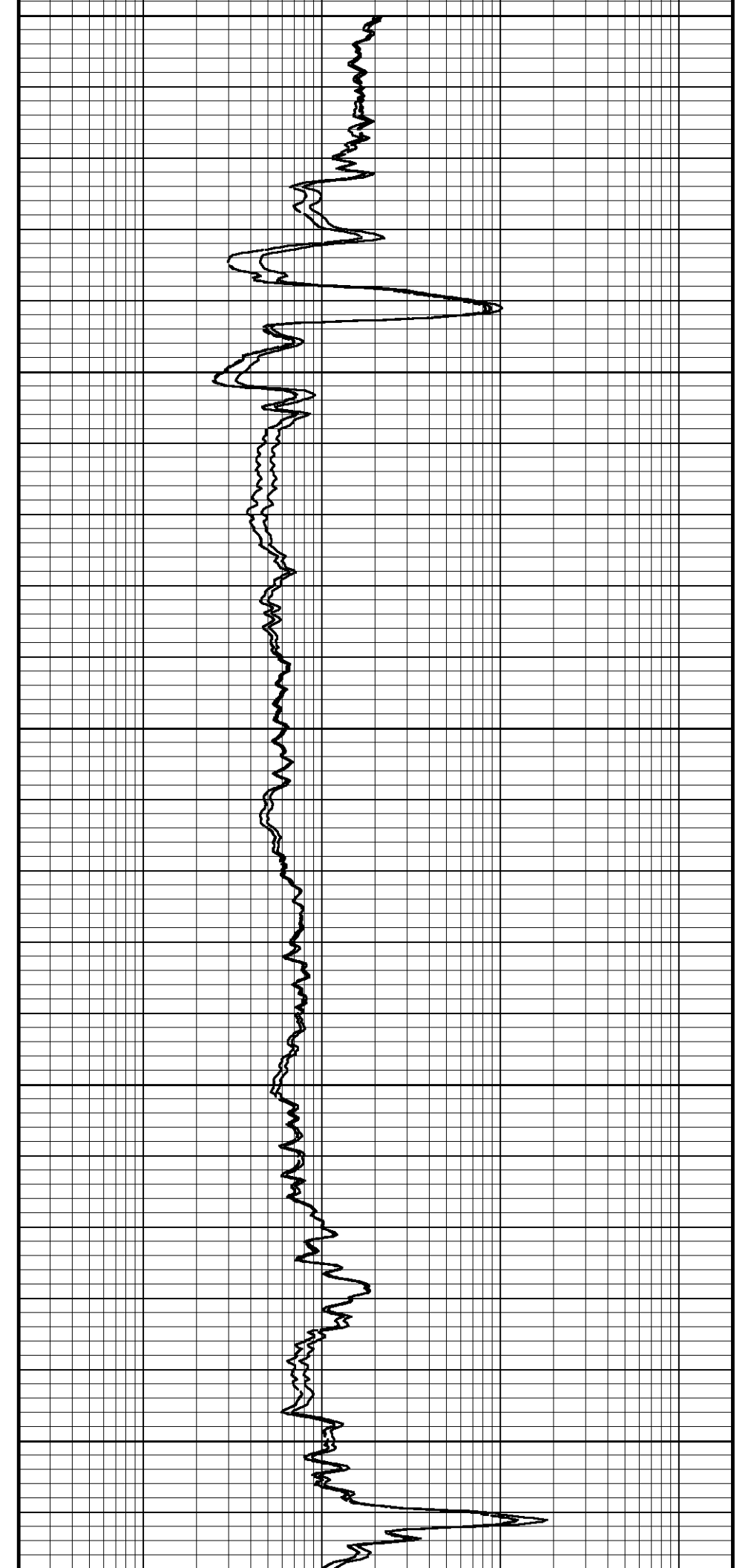
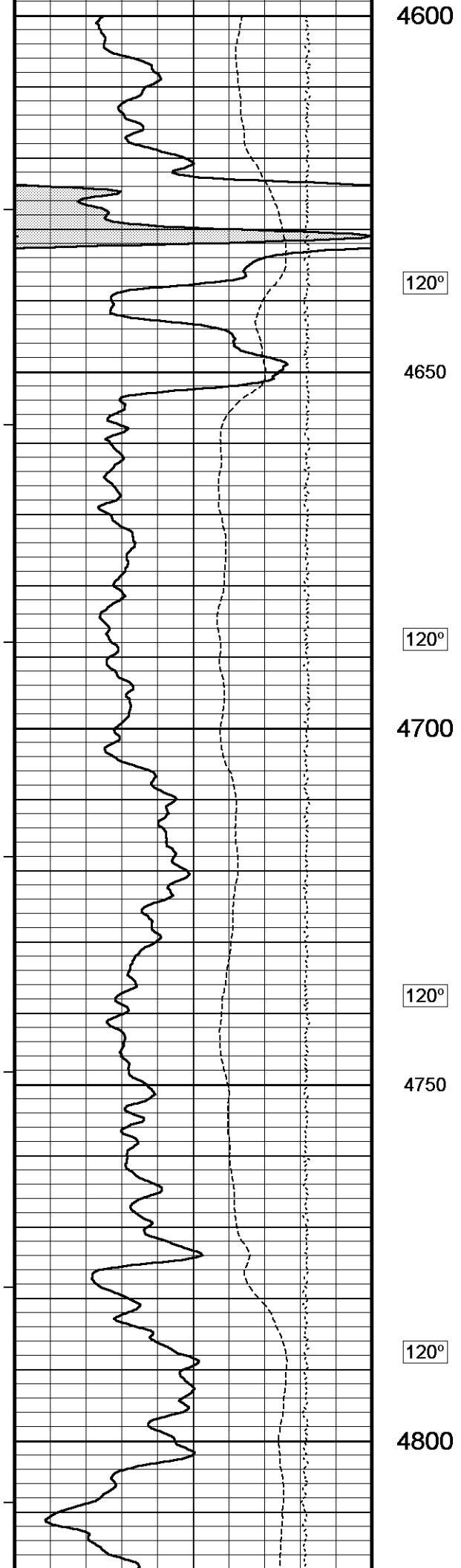


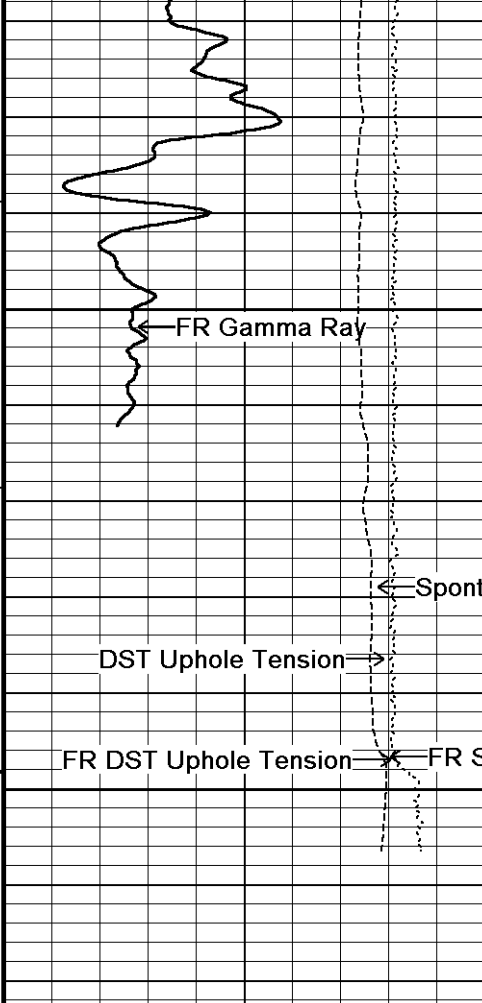
Depth
in
Feet

Borehole
Temp in
deg F

Replay
Scale
1:240







120°

4850

4900

4920
Depth
in
Feet

Borehole
Temp in
deg F

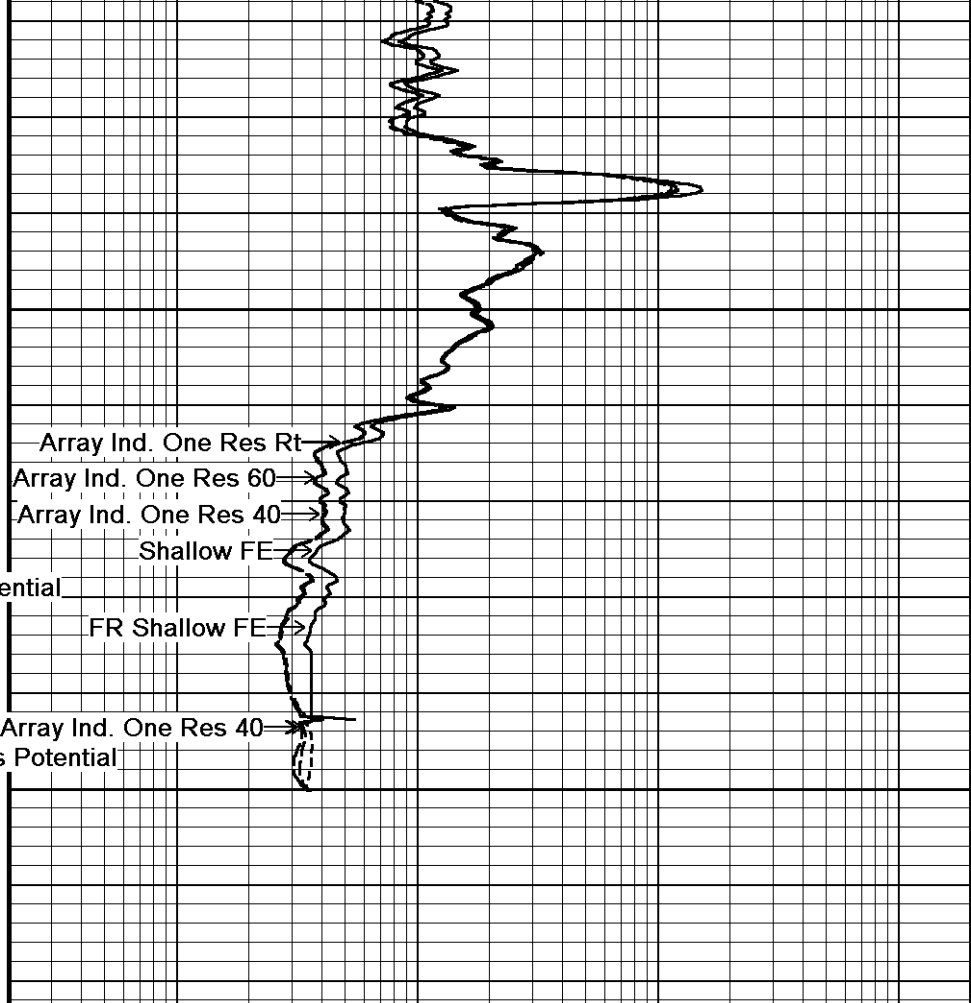
Replay
Scale
1:240

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150

Spontaneous Potential
millivolts
- -> | 20 | <- +

DST Uphole Tension
pounds
5000 0



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

Depth Based Data - Maximum Sampling Increment 10.0cm
 Filename: C:\Minimus 11.02.3186\Data\M&M Z-Bar #9-14\M&M Z-Bar #9-14_001.dta
 System Versions: Logged with 11.02.3186 Plotted with 11.02.3186
 Plotted on 07-JUL-2011 11:48
 Recorded on 07-JUL-2011 09:29

5 INCH REPEAT PASS

BEFORE SURVEY CALIBRATION
 C:\Minimus 11.02.3186\Data\M&M Z-Bar #9-14\M&M Z-Bar #9-14_002.dta

General Parameters

Mud Resistivity	0.560	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	4.500	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 05-JUN-2011 04:37

Reading No	Measured	Calibrated (lbs)
1	13499.89	0.00
2	14983.70	496.00

High Resolution Temperature Calibration MCG-B 34

Field Calibration on 05-MAR-2011,23:56

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

High Resolution Temperature Constants MCG-B 34

Last Edited on

Pre-filter Length	11
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SP Calibration MCG-B 34

Field Calibration on 20-APR-2011 14:53

	Measured	Calibrated (mV)
Reference 1	106.7	100.0
Reference 2	-95.0	-100.0

Gamma Calibration MCG-B 34

Field Calibration on 07-JUL-2011 02:24

	Measured	Calibrated (API)
Background	66	45
Calibrator (Gross)	1116	770
Calibrator (Net)	1050	725

Gamma Constants MCG-B 34

Last Edited on 07-JUL-2011,06:30

Gamma Calibrator Number	grc38	
Mud Density	1.08	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 4

Base Calibration on 16-MAY-2011 09:23

Field Check on 07-JUL-2011 02:10

Base Calibration

Channel	Measured		Calibrated (ohm-m)	
	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	12.1	60.1	2.6	12.8
Micro Inverse	15.6	78.3	1.7	8.4

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	32.2	32.2
Micro Inverse	16.3	16.3

Micro Normal and Micro Inverse Constants MML-A 4

Last Edited on 07-JUL-2011,06:31

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 4

Base Calibration on 16-MAY-2011 09:38
Field Calibration on 07-JUL-2011 02:11

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	14953	5.98
2	18280	7.97
3	21656	9.86
4	25588	11.92
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
6.04	5.98

Neutron Calibration MDN-A.B 65

Base Calibration on 02-JUL-2011 23:27
Field Check on 07-JUL-2011 02:18

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
Ratio	3269	103	3714	110
	31.795		33.764	

Field Calibrator at Base

	Calibrated (cps)
Ratio	1562 2227
	0.701

Field Check

	Calibrated (cps)
Ratio	1579 2250
	0.702

Neutron Constants MDN-A.B 65

Last Edited on 07-JUL-2011,06:30

Neutron Source Id	757	
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	MCG External Temperature	
Temperature	N/A	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 55

Base Calibration on 21-JUN-2011 10:19
Field Check on 07-JUL-2011 02:02

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	953.6	126.8

Base Check 281.3

Field Check 281.3

FE Constants MFE-A.A 55

Last Edited on 07-JUL-2011,06:31

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 13-AUG-2010,13:31

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

High Resolution Temperature Constants MAI-A.A 45

Last Edited on

Pre-filter Length 11

Induction Calibration MAI-A.A 45

Base Calibration on 13-AUG-2010,13:32
 Field Check on 07-JUL-2011 02:00

Base Calibration

Test Loop Calibration

Channel	Measured		Calibrated (mmho/m)	
	Low	High	Low	High
1	14.5	473.5	9.3	966.2
2	5.2	373.4	7.6	821.4
3	2.8	260.6	5.2	566.0
4	1.6	132.2	2.6	279.2

Array Temperature 86.2 Deg F

Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	0.0	0.0	19.7	3845.9
2	0.0	0.0	33.0	3631.9
3	0.0	0.0	30.0	3050.5
4	0.0	0.0	20.4	2094.0
Deep	0.0	0.0	18.0	1920.7
Medium	0.0	0.0	43.2	4051.1
Shallow	0.0	0.0	50.2	5475.8

Array Temperature 0.0 88.4 Deg F

Induction Constants MAI-A.A 45

Last Edited on 07-JUL-2011,01:50

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 Appor 100.00 percent

DOWNHOLE EQUIPMENT

C:\Minimus 11.02.3186\Data\M&M Z-Bar #9-14\M&M Z-Bar #9-14_002.dta

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

Compact Comms Gamma
MCG-B 34 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

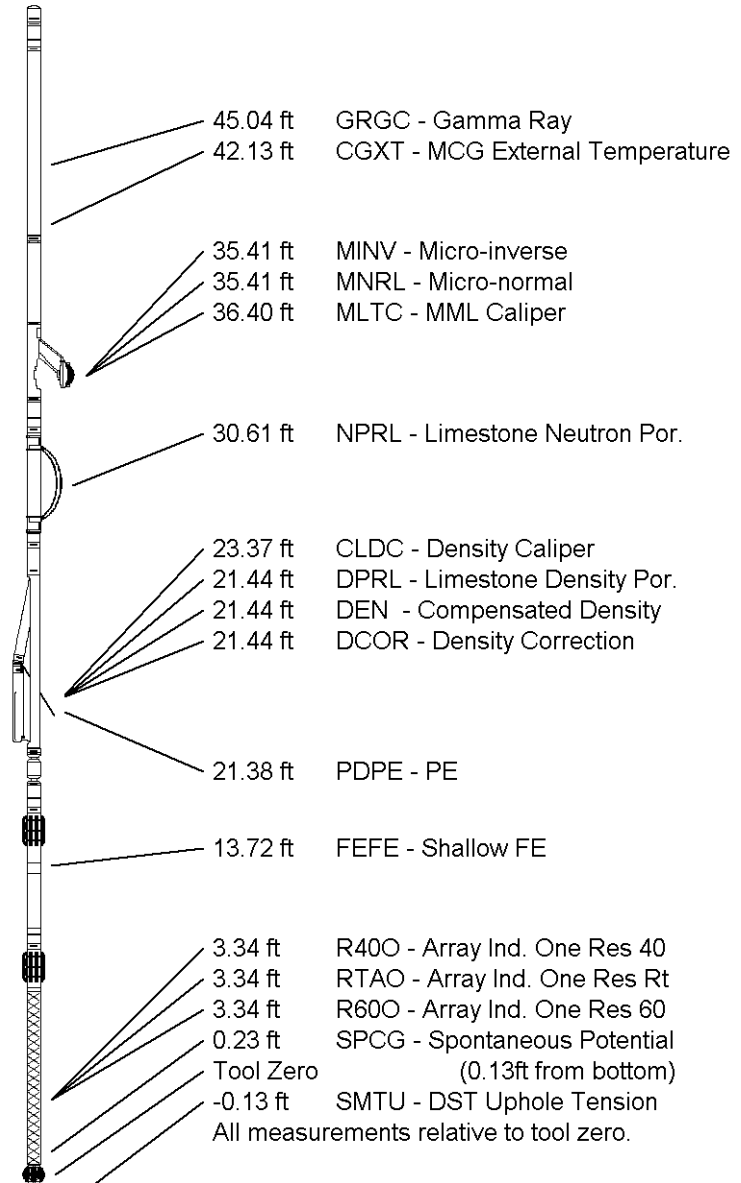
Compact Density/Caliper
MPD-B 65 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

SKJ-D.A Compact Knuckle Joint
SKJ-D.A 37 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

Compact Focussed Electric
MFE-A.A 55 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: 51.90 ft Weight: 423.3 lb



COMPANY M & M EXPLORATION, INC.
WELL Z-BAR #9-14
FIELD AETNA GAS AREA
PROVINCE/COUNTY BARBER
COUNTRY/STATE U.S.A. / KANSAS

Elevation Kelly Bushing	1561.00	feet	First Reading	4894.00	feet
Elevation Drill Floor	1559.00	feet	Depth Driller	4900.00	feet
Elevation Ground Level	1549.00	feet	Depth Logger	4897.00	feet

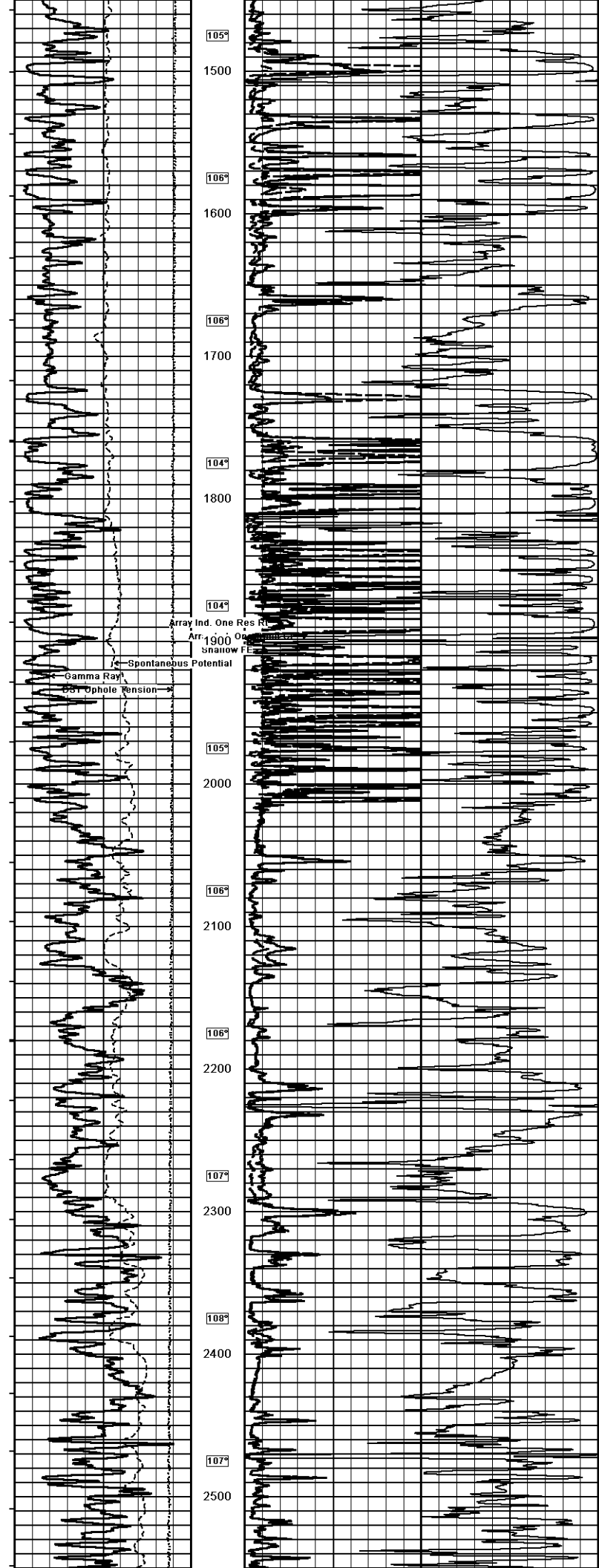


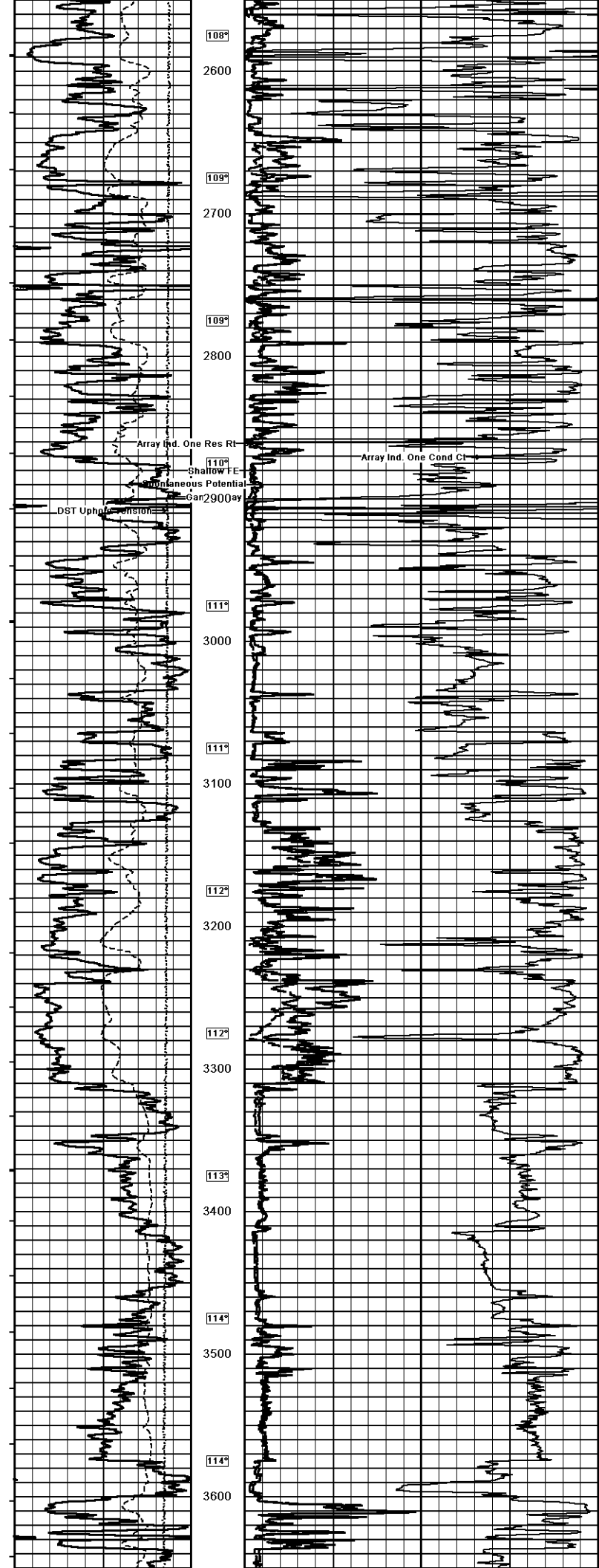
Weatherford[®]

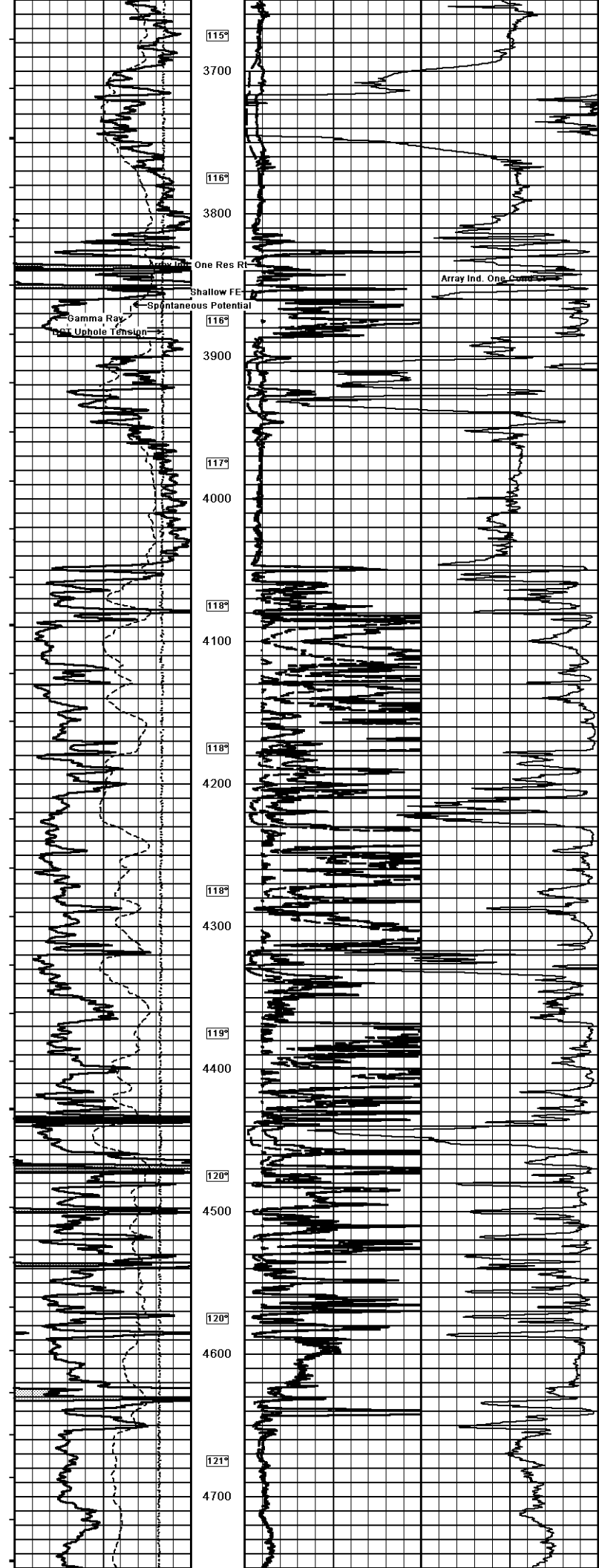
**ARRAY INDUCTION
SHALLOW FOCUSED
ELECTRIC LOG**

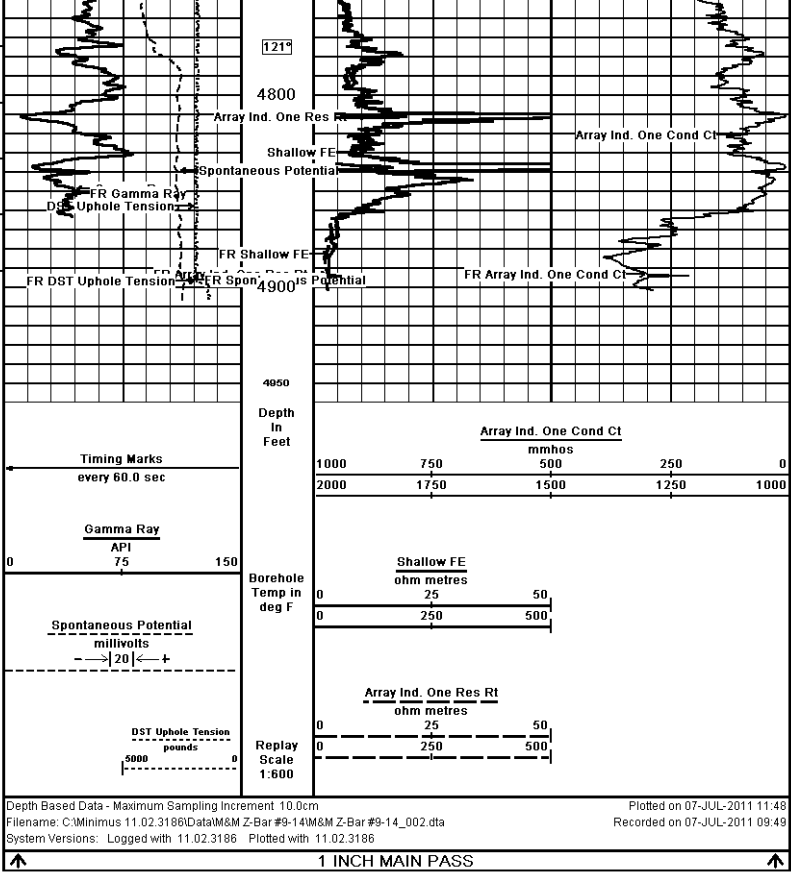


W	COMPANY	FIELD	WELL	DEPTH	DATE	LOG	TIME	USER	APP
	M & M EXPLORATION, INC.	AETNA GAS AREA	Z-BAR #9-14						









Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 07-JUL-2011 11:48
 Filename: C:\Minimus 11.02.3186\Data\M&M Z-Bar #9-14\M&M Z-Bar #9-14_002.dta
 Recorded on 07-JUL-2011 09:49
 System Versions: Logged with 11.02.3186 Plotted with 11.02.3186

1 INCH MAIN PASS

COMPANY	M & M EXPLORATION, INC.				
WELL	Z-BAR #9-14				
FIELD	AETNA GAS AREA				
PROVINCE/COUNTY	BARBER				
COUNTRY/STATE	U.S.A. / KANSAS				
Elevation Kelly Bushing	1561.00	feet	First Reading	4894.00	feet
Elevation Drill Floor	1559.00	feet	Depth Driller	4900.00	feet
Elevation Ground Level	1549.00	feet	Depth Logger	4897.00	feet

Weatherford

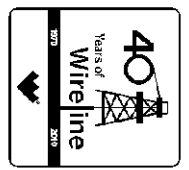
ARRAY INDUCTION
 SHALLOW FOCUSED
 ELECTRIC LOG



Weatherford

**COMPACT PHOTO DENSITY
COMPENSATED NEUTRON
MICRORESISTIVITY LOG**

COMPANY **M & M EXPLORATION, INC.**
WELL **Z-BAR #9-14**
FIELD **AETNA GAS AREA**
PROVINCE/COUNTY **BARBER**
COUNTRY/STATE **U.S.A. / KANSAS**
LOCATION **660' FSL & 1980' FWL**



SEC **TWP** **RGE** Other Services
9 **34S** **14W** **MA/IMFE**
API Number **15-007-23700**
Permit Number

Permanent Datum G.L., Elevation 1549 feet
Log Measured From K.B. @ 12 FEET above Permanent Datum
Drilling Measured From K.B.

Elevations: feet
KB 1561.00
DF 1559.00
GL 1549.00

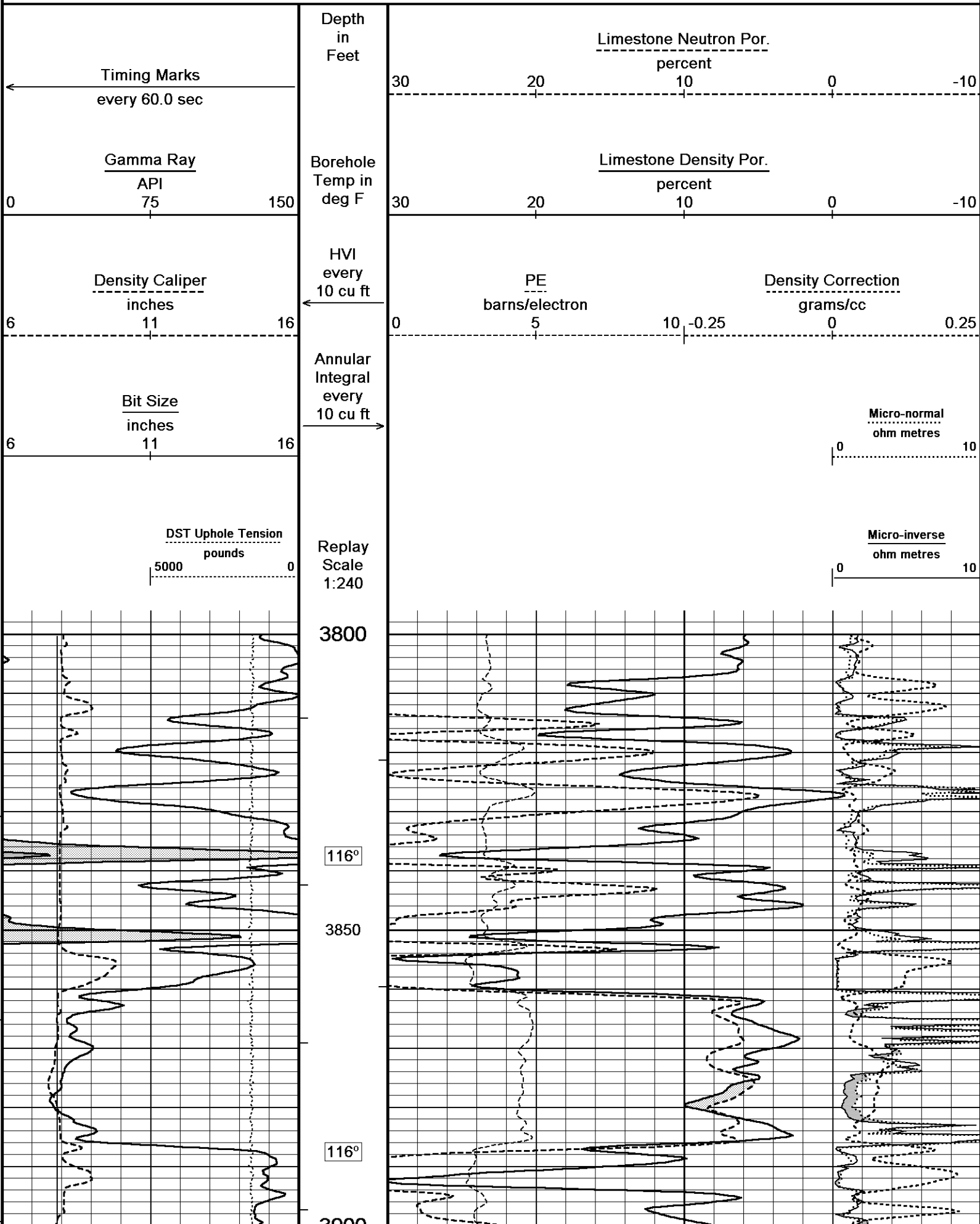
Date	07-JUL-2011
Run Number	ONE
Depth Driller	4900.00 feet
Depth Logger	4897.00 feet
First Reading	4876.00 feet
Last Reading	3800.00 feet
Casing Driller	900.00 feet
Casing Logger	896.00 feet
Bit Size	7.875 inches
Hole Fluid Type	CHEMICAL
Density / Viscosity	9.00 lb/USg 55.00 CP
PH / Fluid Loss	9.00 10.40 ml/30Min
Sample Source	FLOWLINE
Rm @ Measured Temp	0.56 @ 92.0 ohm-m
Rmf @ Measured Temp	0.45 @ 92.0 ohm-m
Rmc @ Measured Temp	0.67 @ 92.0 ohm-m
Source Rmf / Rmc	CALC CALC
Rm @ BHT	0.43 @ 12.0 ohm-m
Time Since Circulation	4 HOURS
Max Recorded Temp	121.00 deg F
Equipment Name	COMPACT
Equipment / Base	13057 LIB
Recorded By	R. HOFFMAN
Witnessed By	BETH BROCK
S.O. # / JOB #	3531102 LB11-156

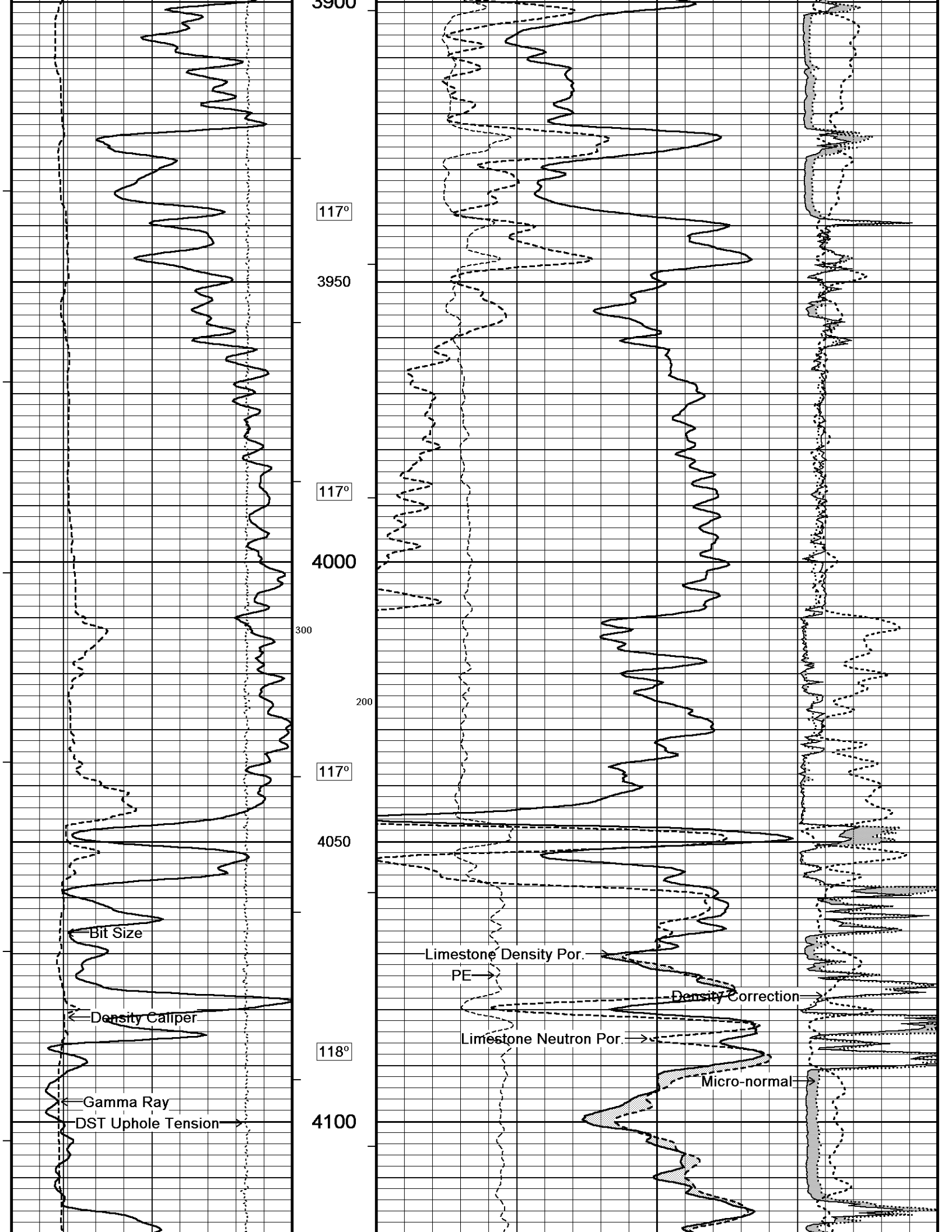
BOREHOLE RECORD			Last Edited: 07-JUL-2011 11:03	
Bit Size inches	Depth From feet	Depth To feet		
7.875	896.00	4897.00		
CASING RECORD				
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	896.00	24.00

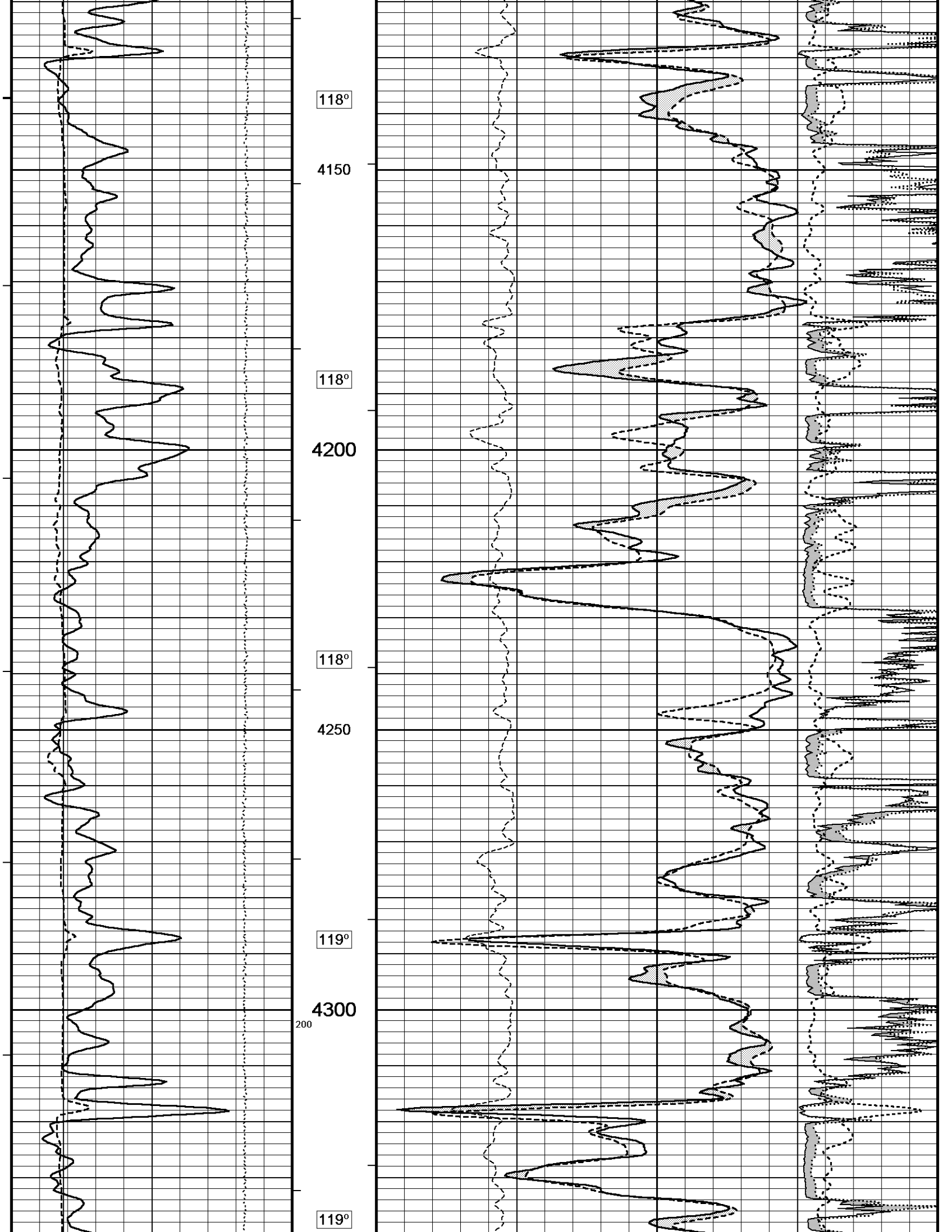
REMARKS

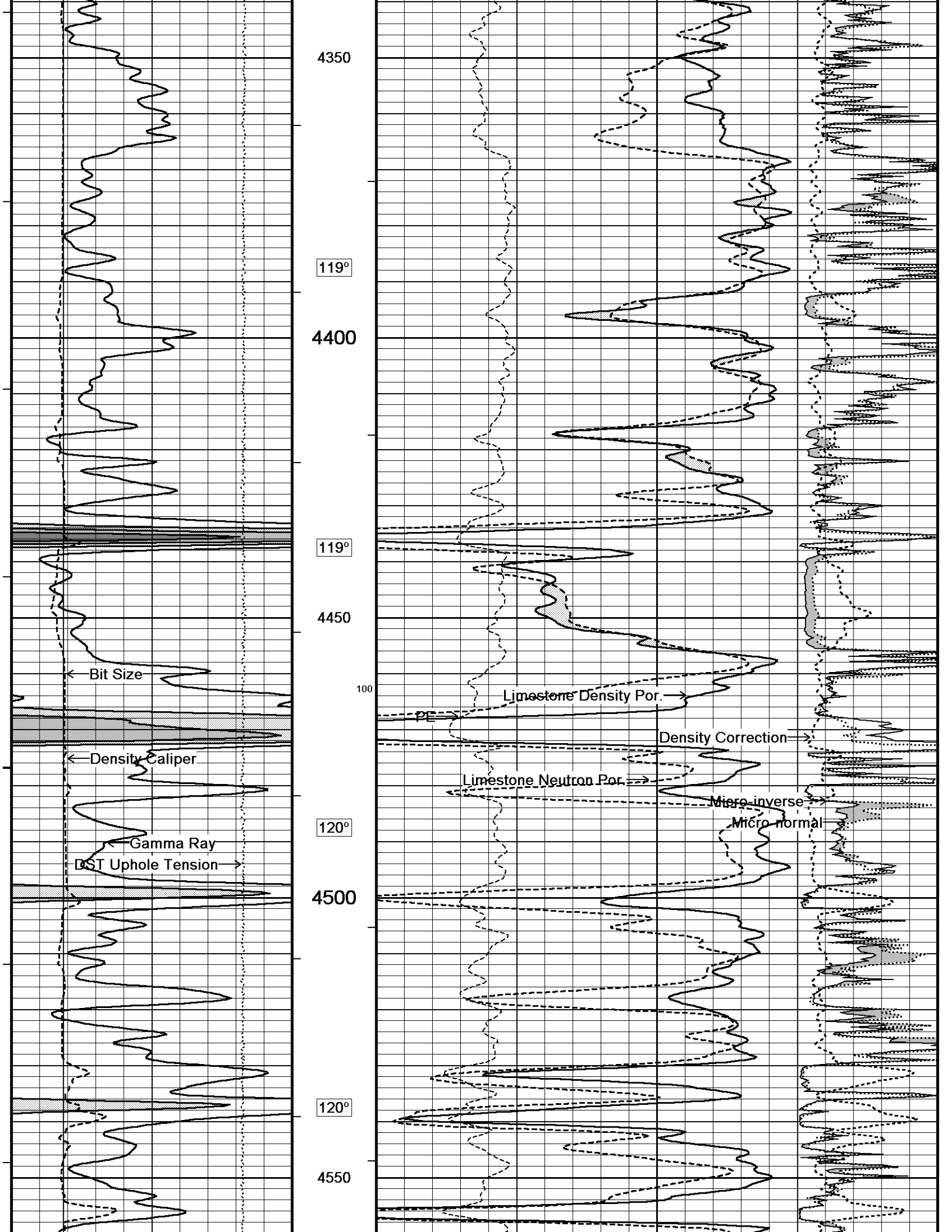
Tools Ran: MCG, MML, MDN, MPD, SKJ, MFE, MAI.
 Hardware Used: MDN Dual Eccentralizer used. MPD 8 inch profile plate used. MFE MSS and MAI 0.5 inch standoffs used.
 2.71 g/cc Limestone Density Matrix used to calculate porosity.
 All intervals logged and scaled per customer's request.
 Annular volume with 4.5 inch production casing= 258 cu. ft.
 Service order #3531102
 Rig: Southwind Rig #70
 Engineer: R. Hoffman
 Operator(s): B. Reeves

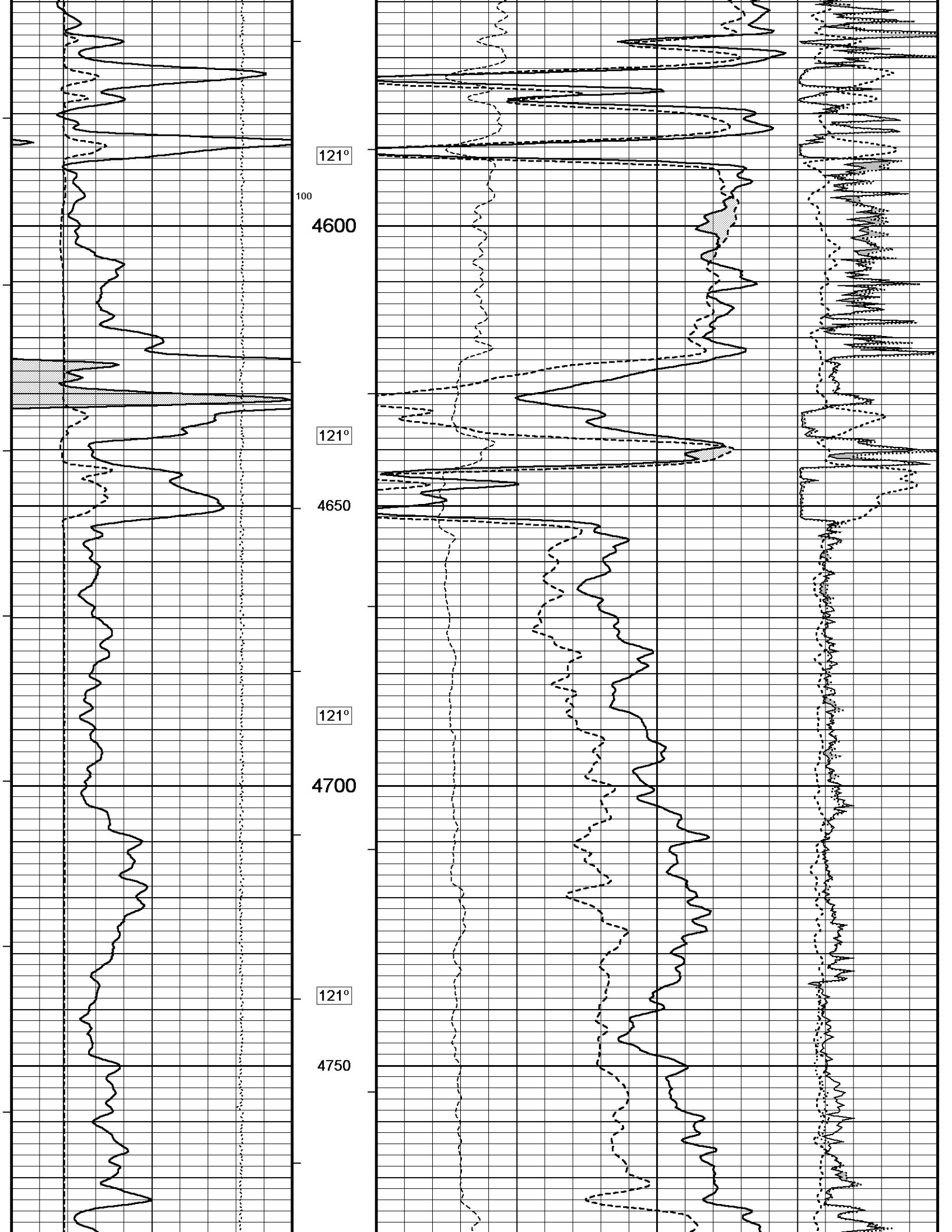
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, 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.

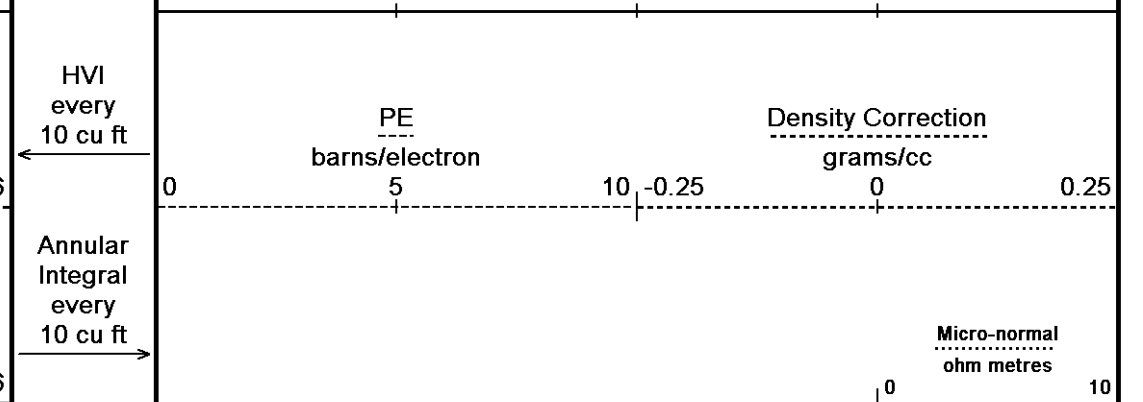
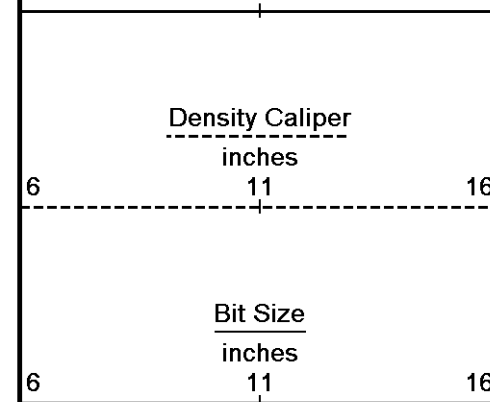
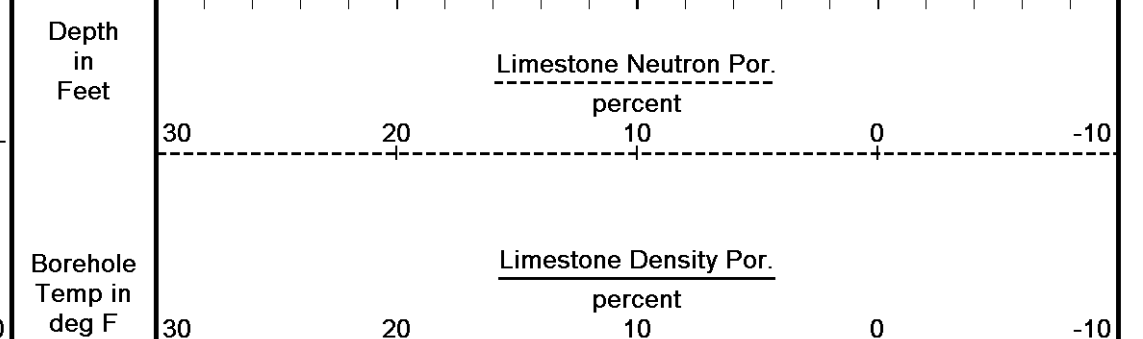
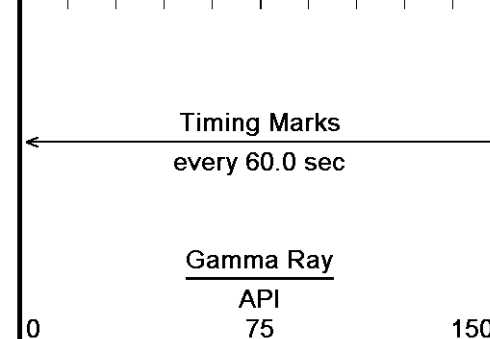
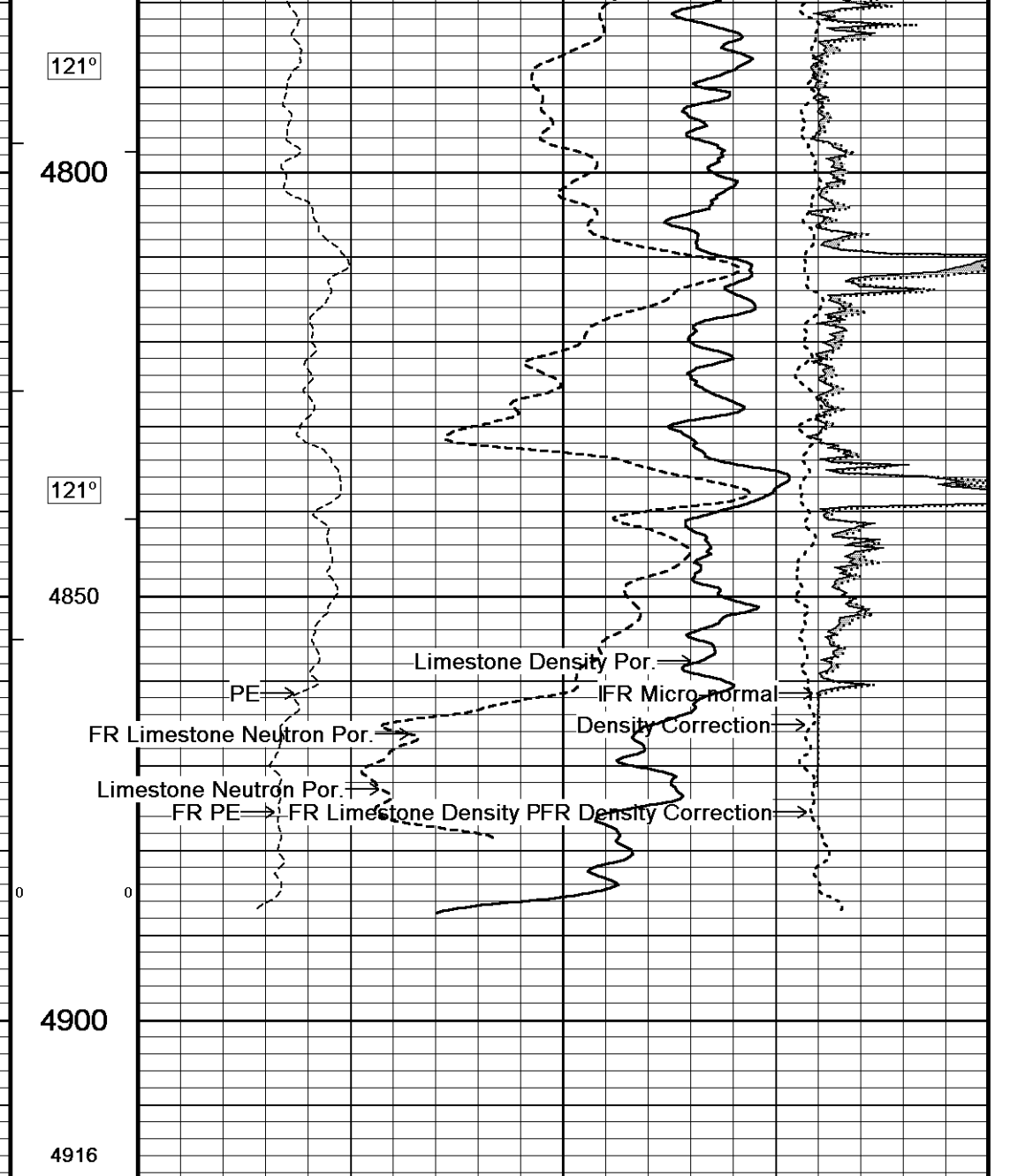
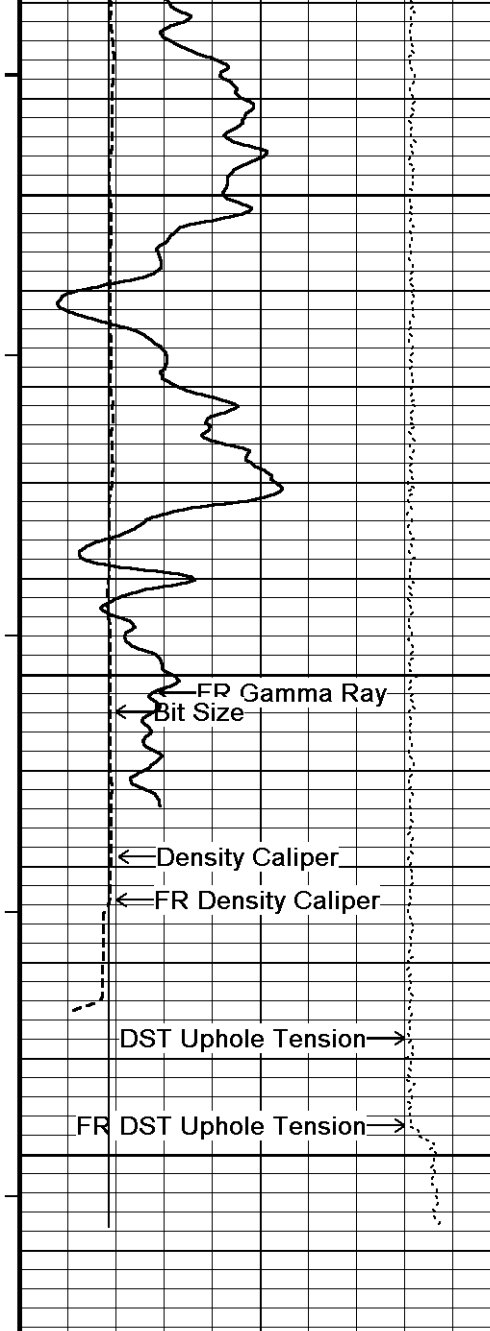


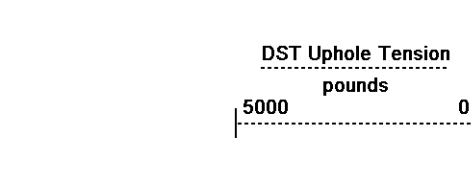




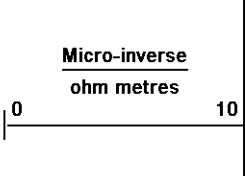








Replay
Scale
1:240

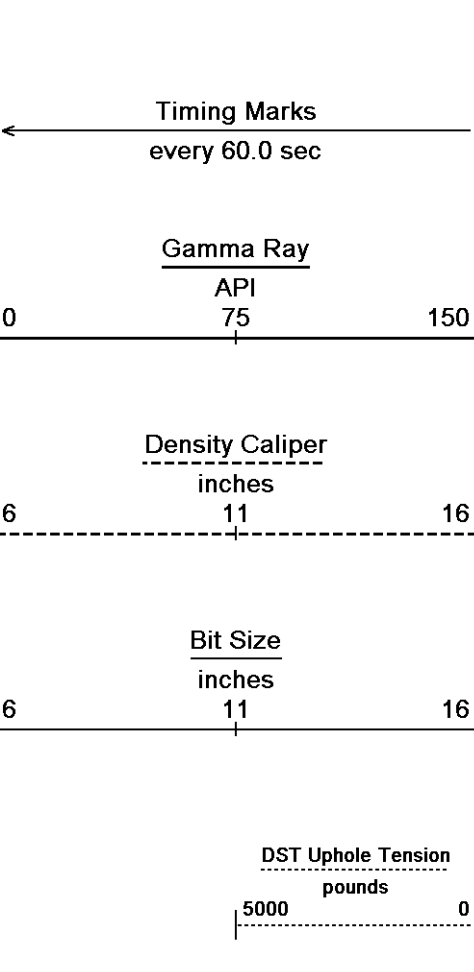


Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 07-JUL-2011 11:49
 Filename: C:\Minimus 11.02.3186\Data\M&M Z-Bar #9-14\M&M Z-Bar #9-14_002 spooled section.dta
 Recorded on 07-JUL-2011 10:42
 System Versions: Logged with 11.02.3186 Plotted with 11.02.3186

5 INCH MAIN PASS

5 INCH REPEAT PASS

Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 07-JUL-2011 11:49
 Filename: C:\Minimus 11.02.3186\Data\M&M Z-Bar #9-14\Copy of M&M Z-Bar #9-14_001.dta
 Recorded on 07-JUL-2011 09:29
 System Versions: Logged with 11.02.3186 Plotted with 11.02.3186



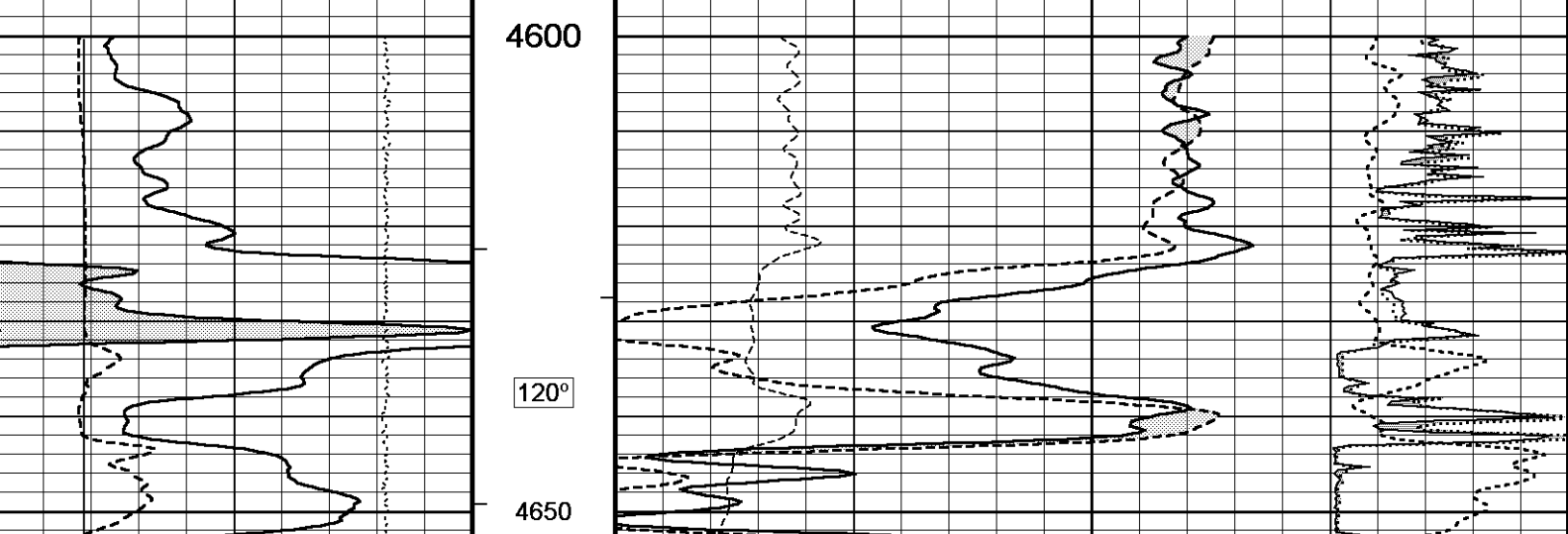
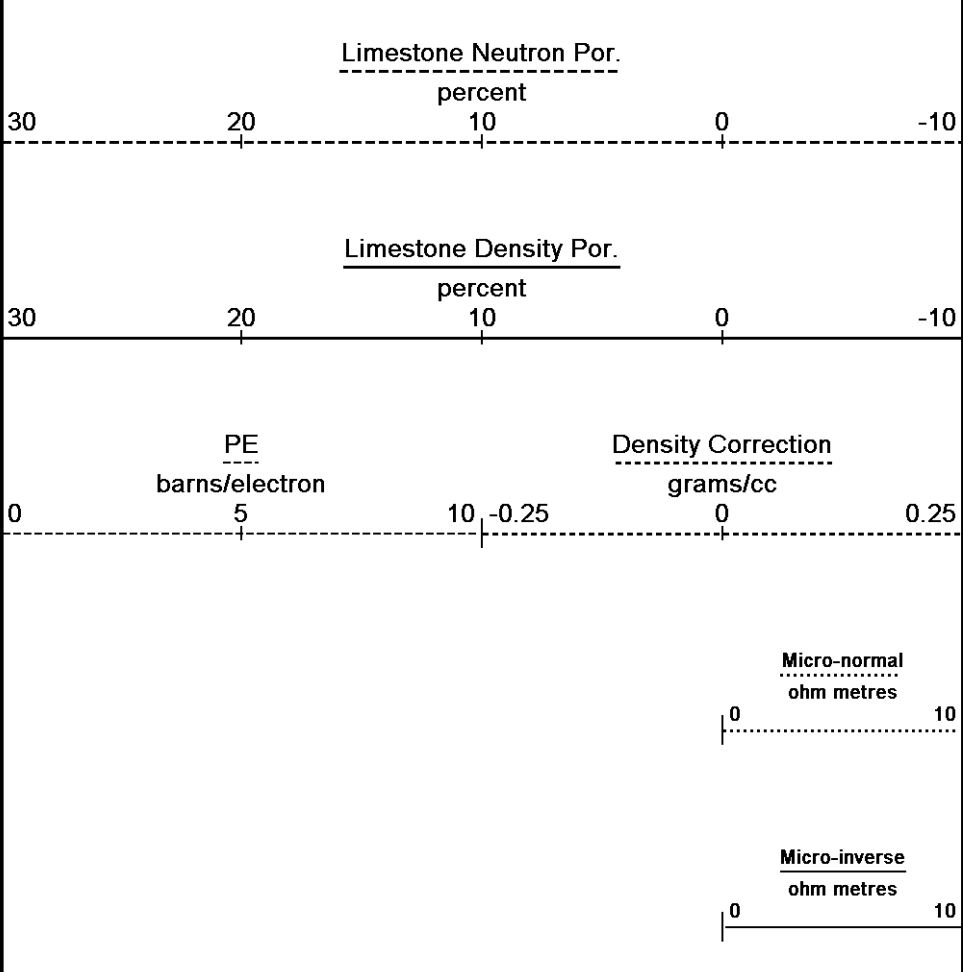
Depth
in
Feet

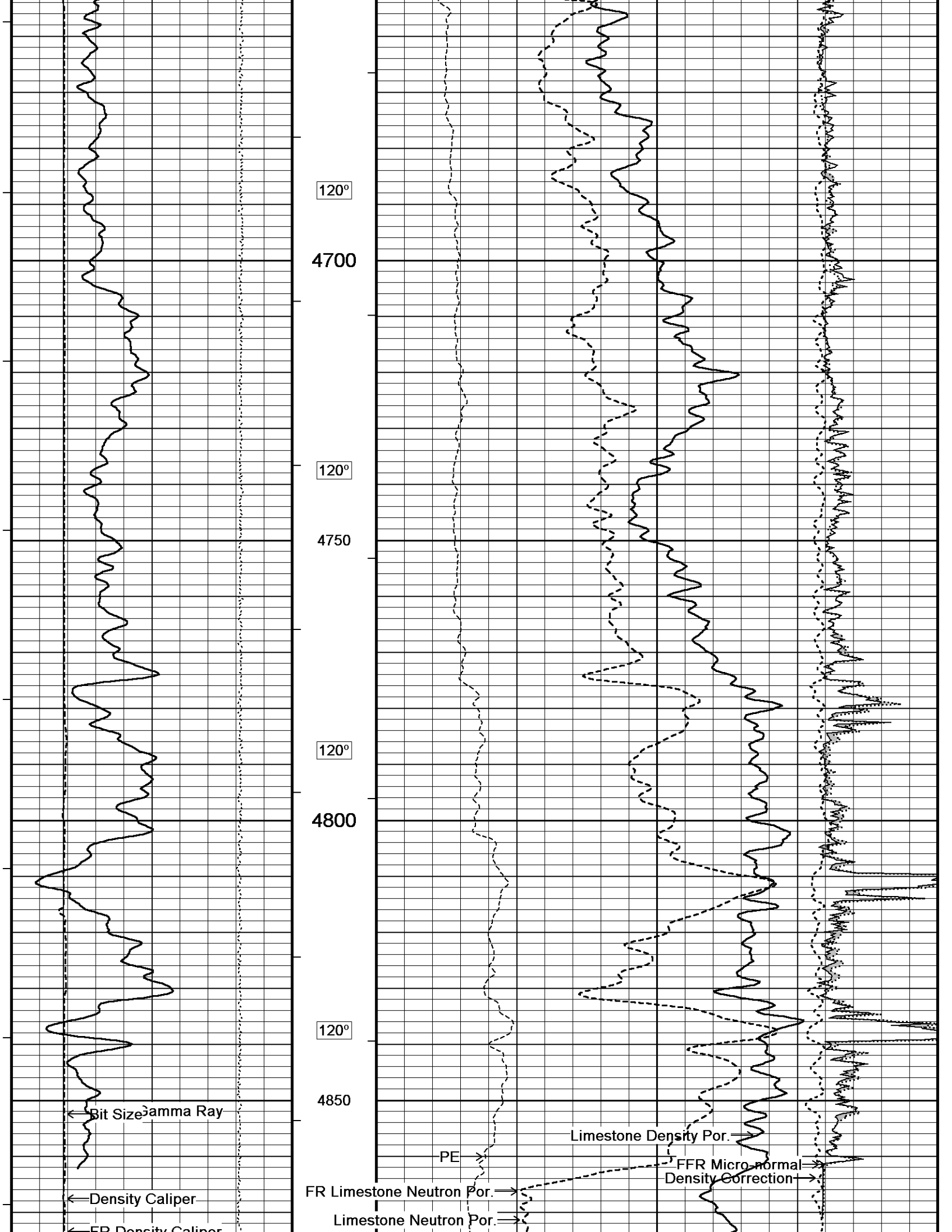
Borehole
Temp in
deg F

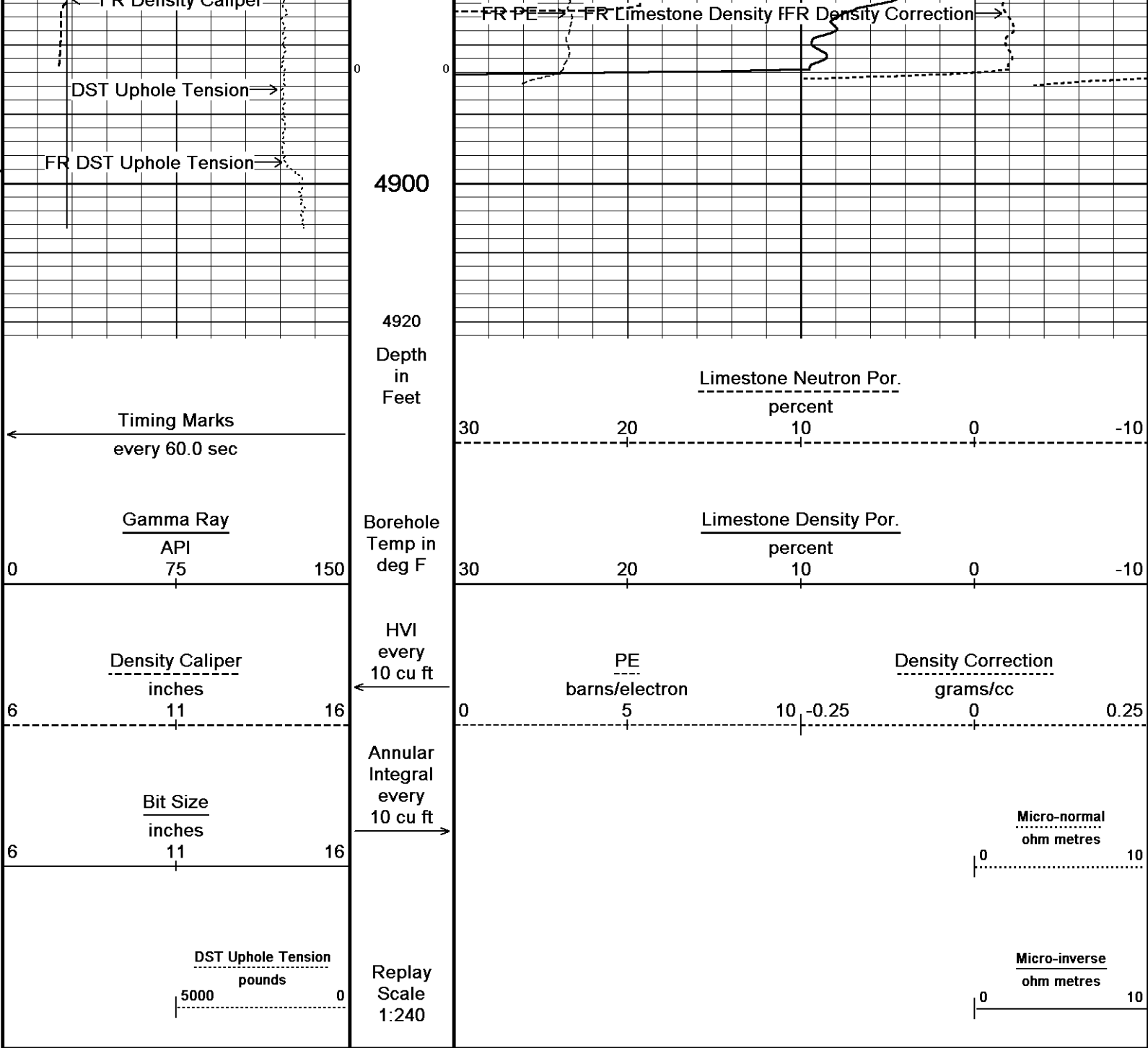
HVI
every
10 cu ft

Annular
Integral
every
10 cu ft

Replay
Scale
1:240





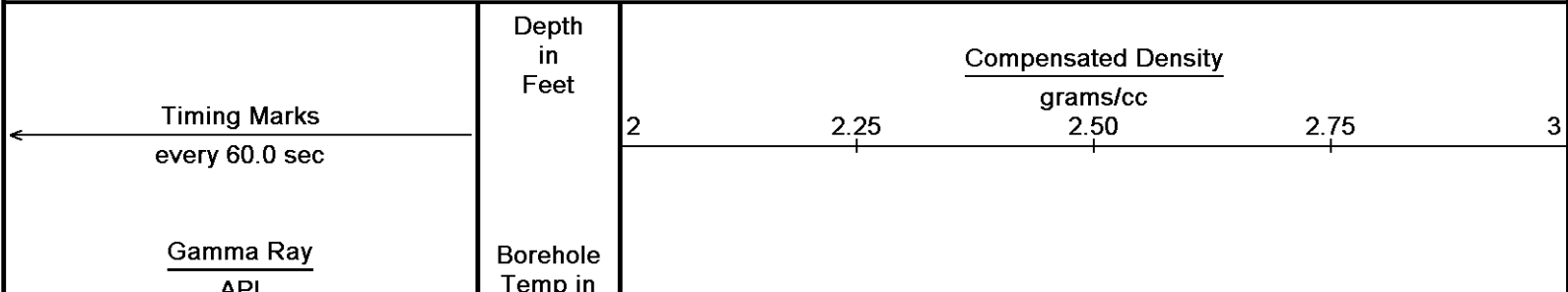


Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 07-JUL-2011 11:49
 Filename: C:\Minimus 11.02.3186\Data\M&M Z-Bar #9-14\Copy of M&M Z-Bar #9-14_001.dta
 Recorded on 07-JUL-2011 09:29
 System Versions: Logged with 11.02.3186 Plotted with 11.02.3186

↑ 5 INCH REPEAT PASS ↑

↓ 5 INCH MAIN PASS ↓

Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 07-JUL-2011 11:49
 Filename: C:\Minimus 11.02.3186\Data\M&M Z-Bar #9-14\M&M Z-Bar #9-14_002 spooled section.dta
 Recorded on 07-JUL-2011 10:42
 System Versions: Logged with 11.02.3186 Plotted with 11.02.3186



0 75 150

deg F

Density Caliper
inches
6 11 16

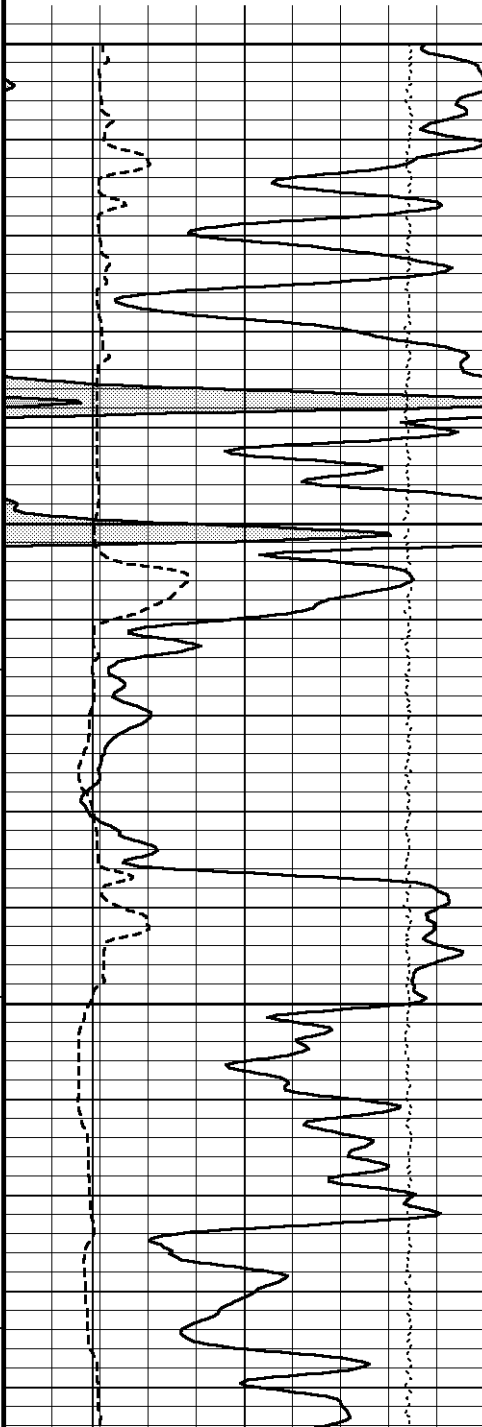
HVI
every
10 cu ft

Bit Size
inches
6 11 16

Annular
Integral
every
10 cu ft

DST Uphole Tension
pounds
5000 0

Replay
Scale
1:240

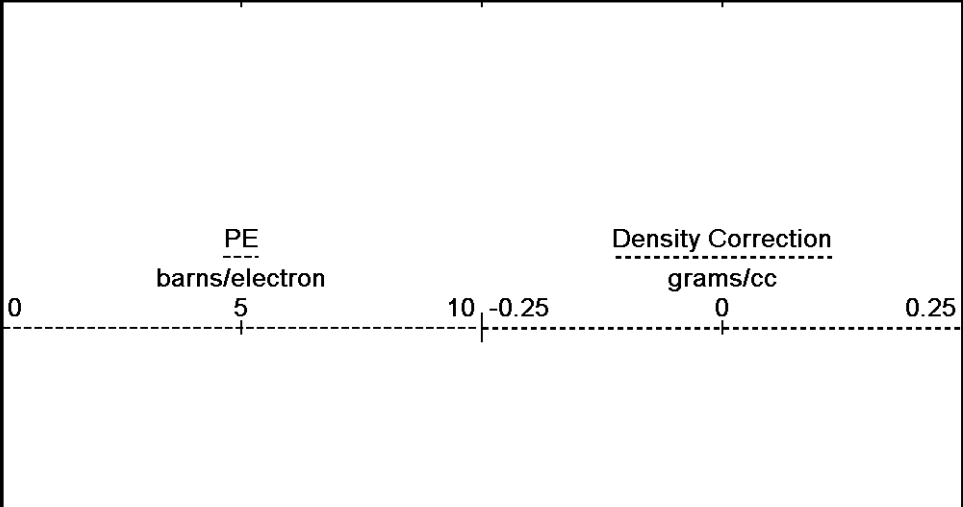


3800
116°
3850
116°
3900
117°

Limestone Density Por.

percent

30 20 10 0 -10



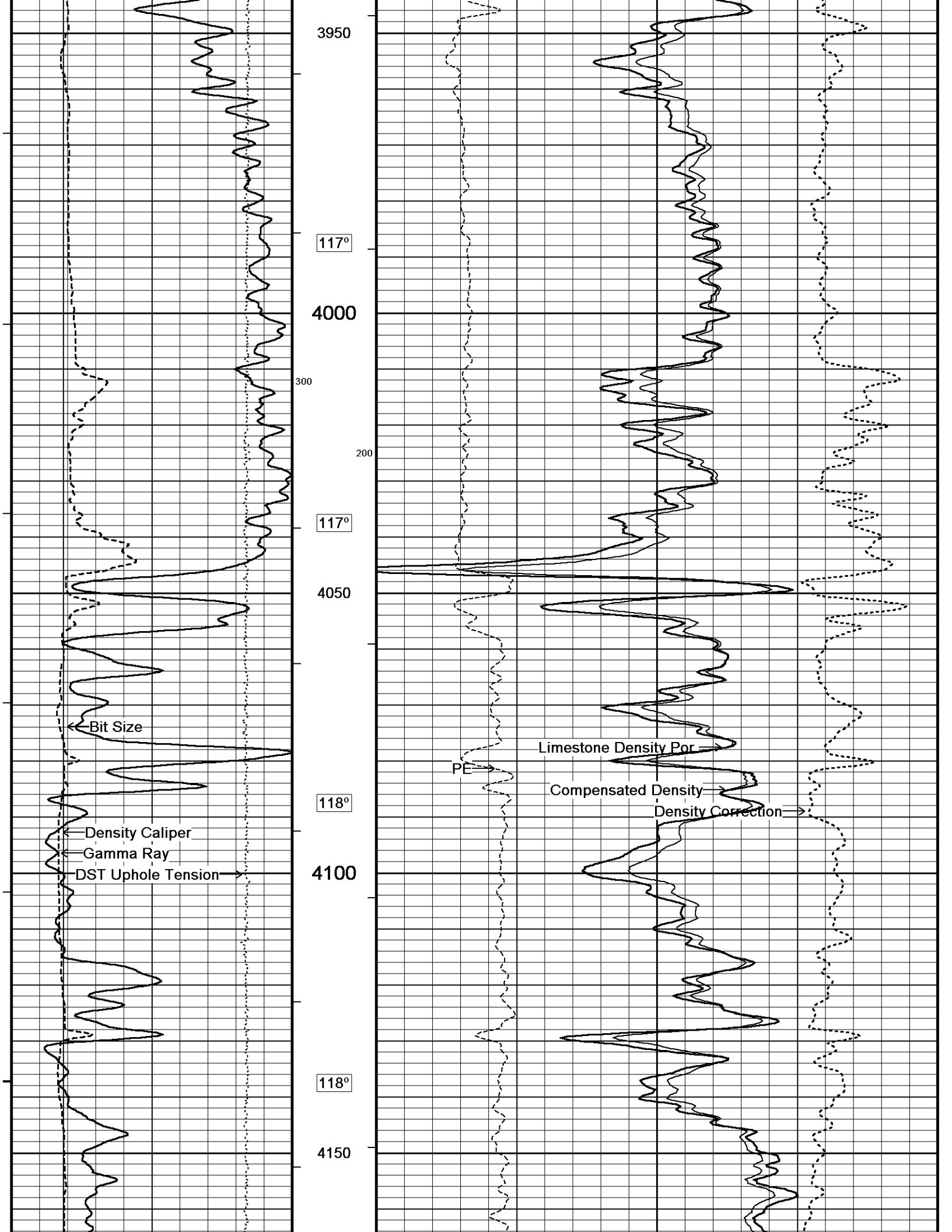
PE

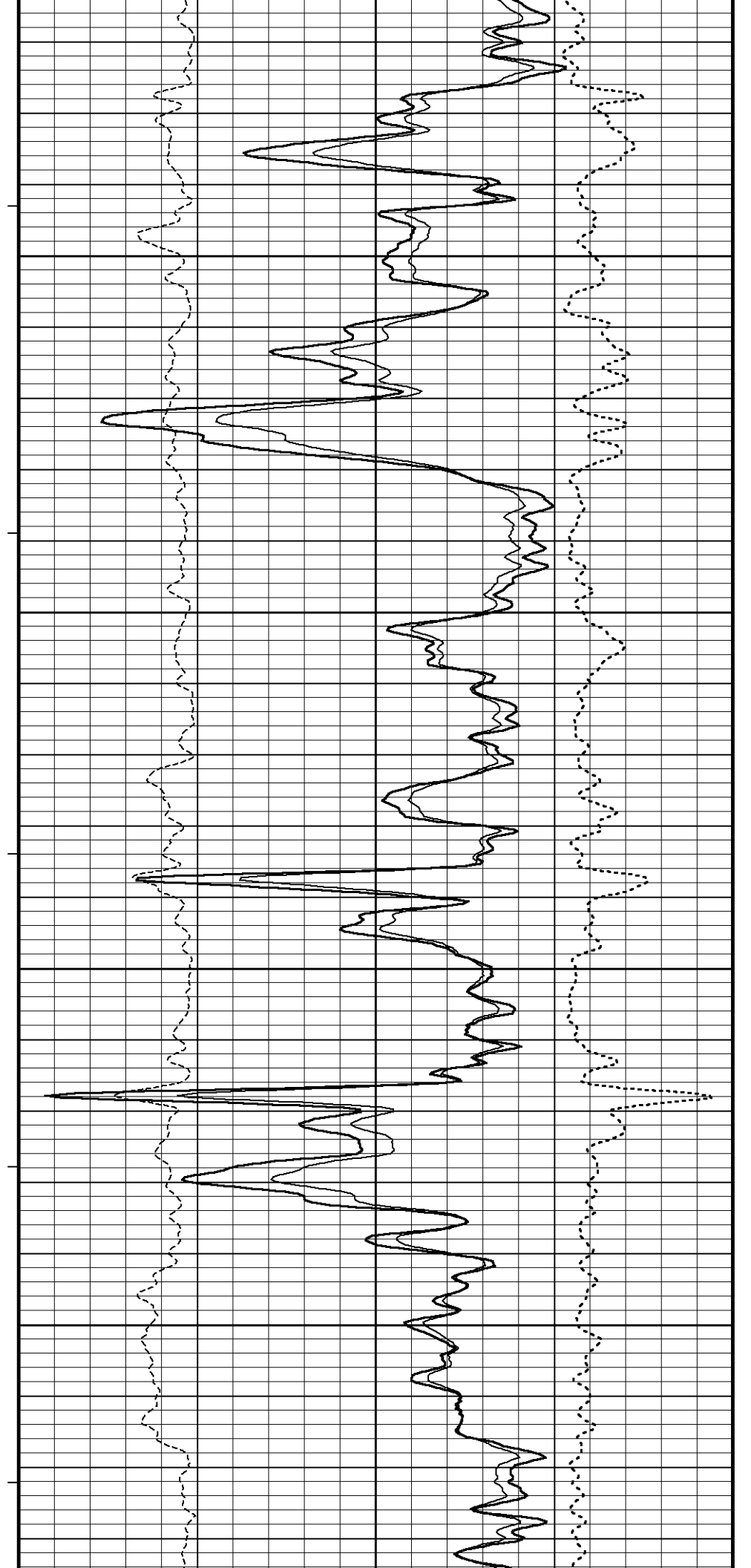
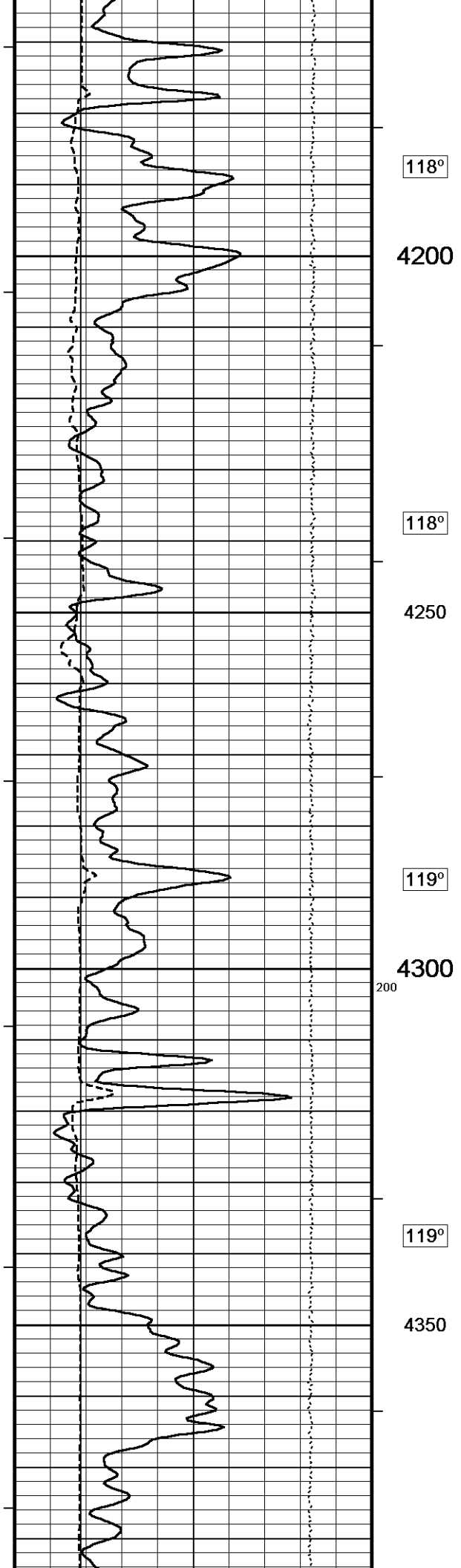
barns/electron

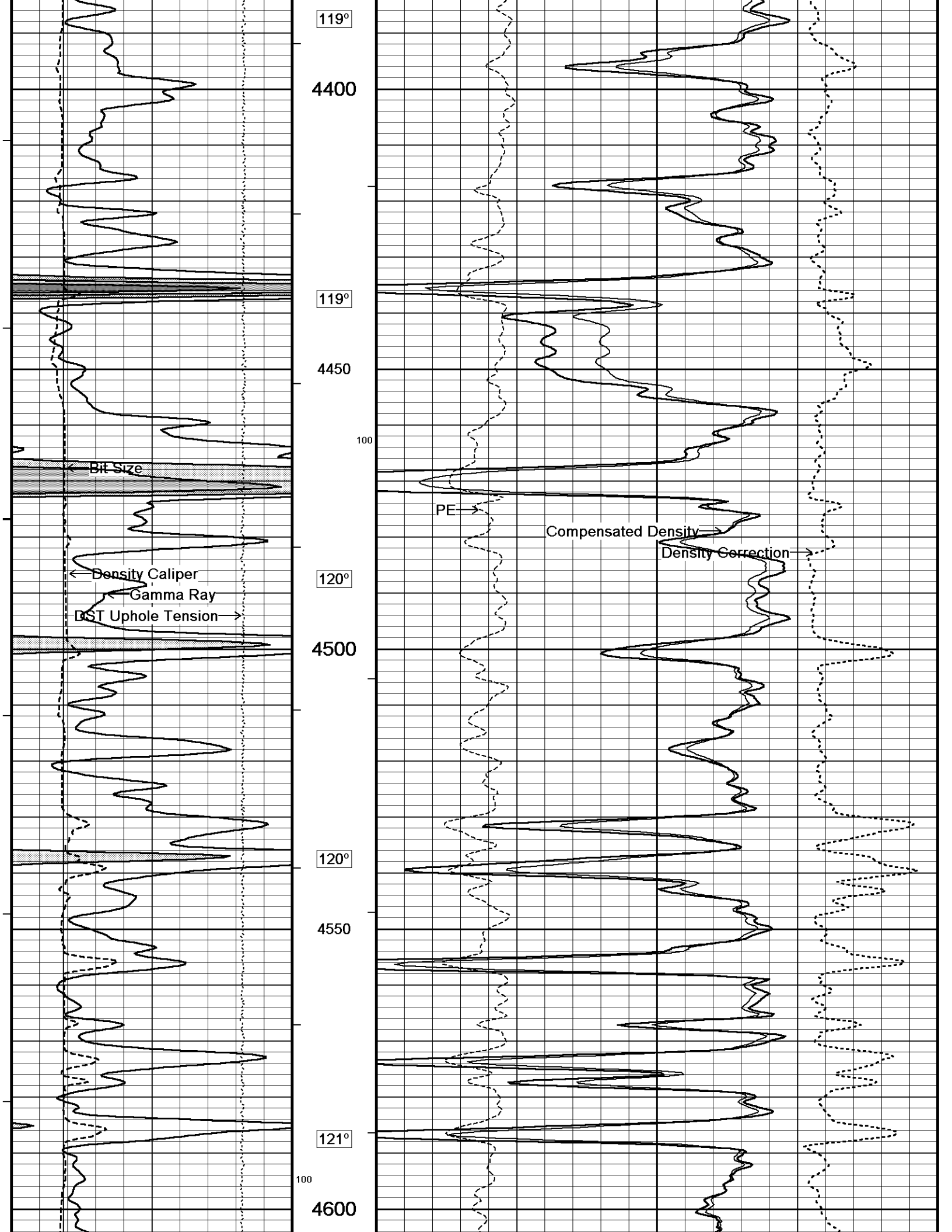
Density Correction

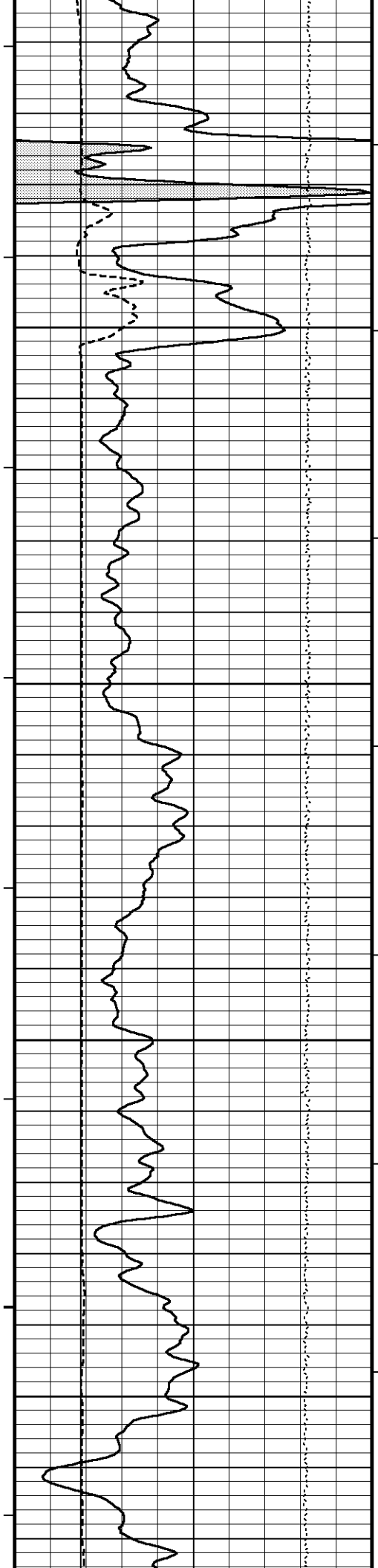
grams/cc

0 5 10 -0.25 0 0.25









121°

4650

121°

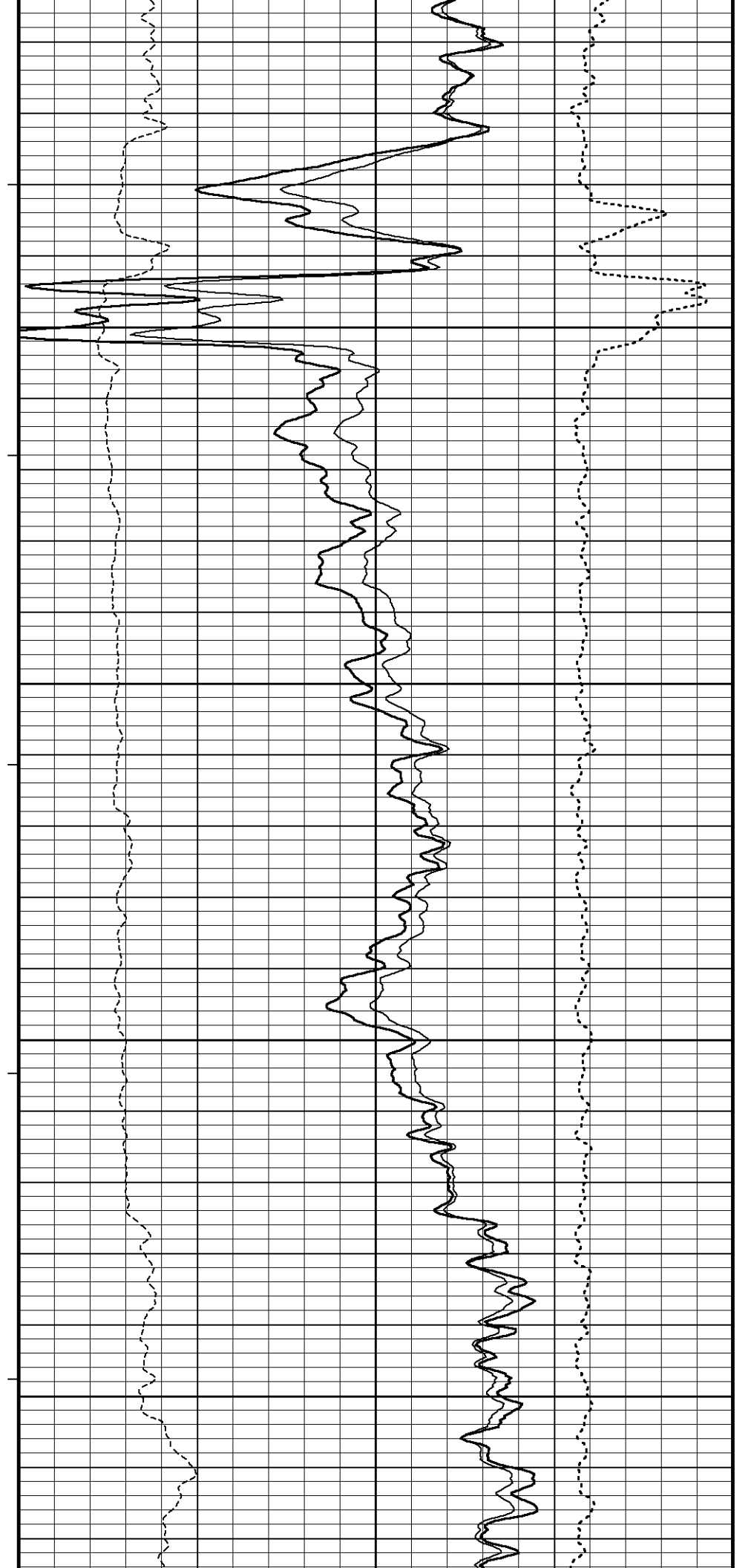
4700

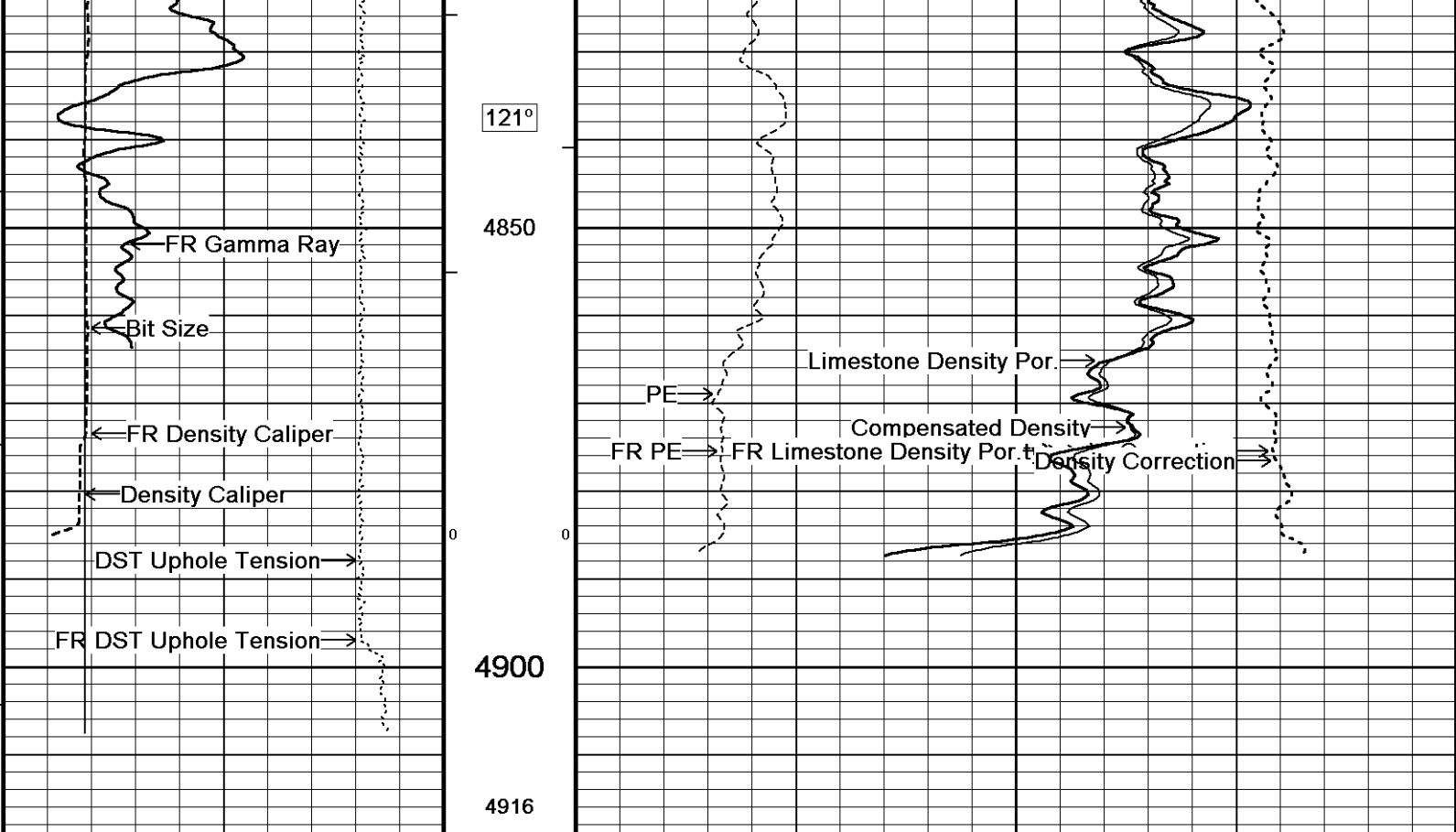
121°

4750

121°

4800





Timing Marks every 60.0 sec

Gamma Ray API

0 75 150

Density Caliper inches

6 11 16

Bit Size inches

6 11 16

DST Uphole Tension pounds

5000 0

Borehole Temp in deg F

HVI every 10 cu ft

Annular Integral every 10 cu ft

Replay Scale 1:240

Compensated Density grams/cc

2 2.25 2.50 2.75 3

Limestone Density Por. percent

30 20 10 0 -10

PE barns/electron

Density Correction grams/cc

0 5 10 -0.25 0 0.25

5 INCH REPEAT PASS

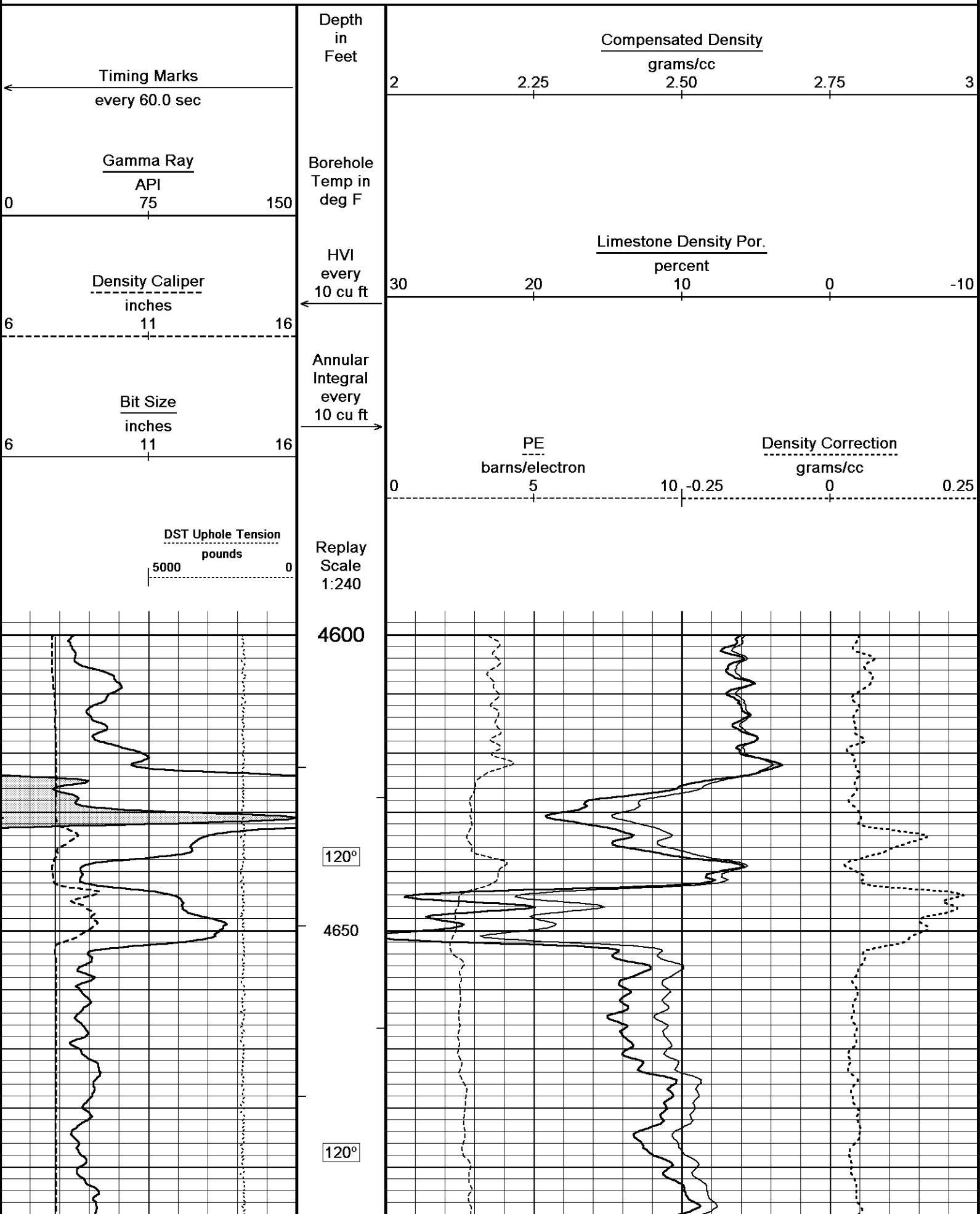
Depth Based Data - Maximum Sampling Increment 10.0cm

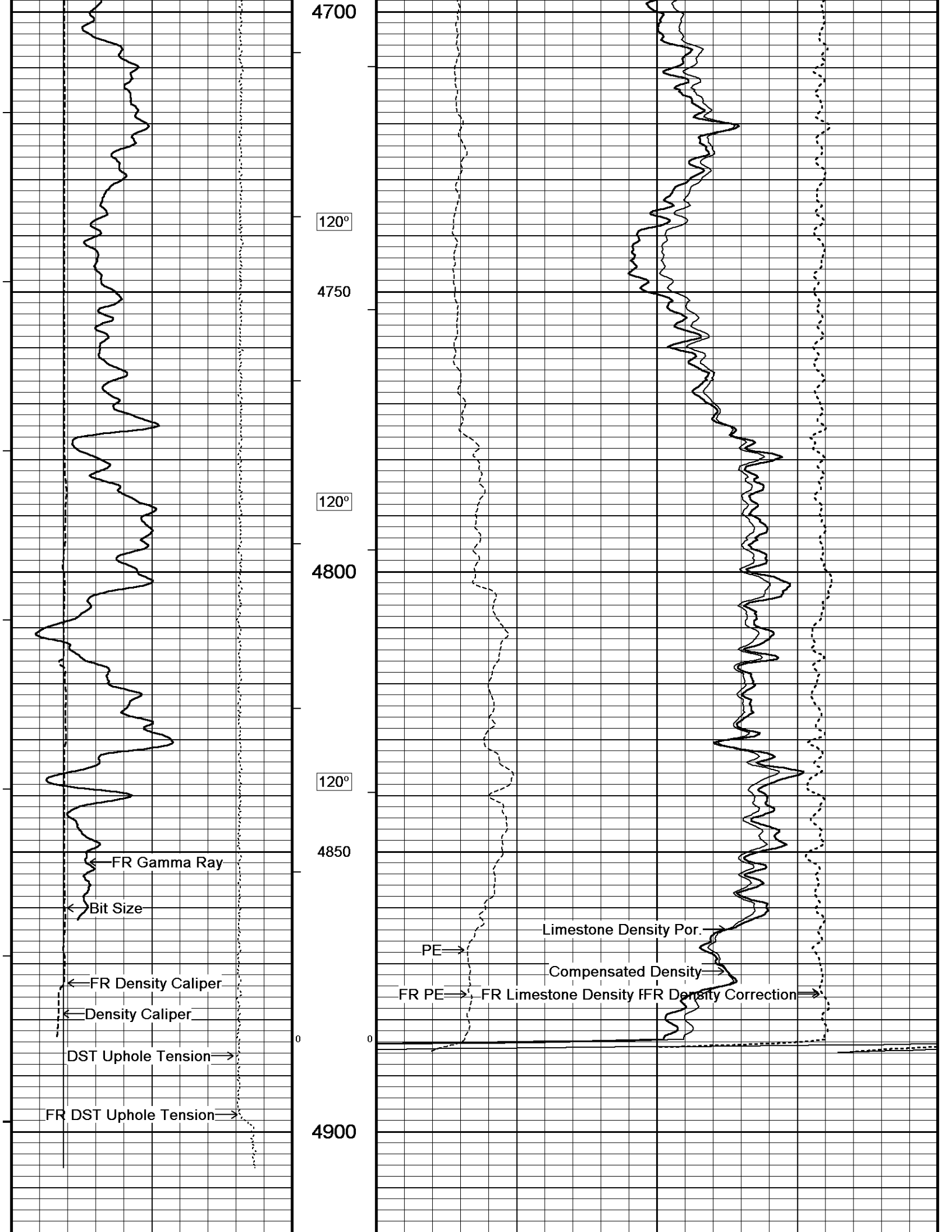
Plotted on 07-JUL-2011 11:49

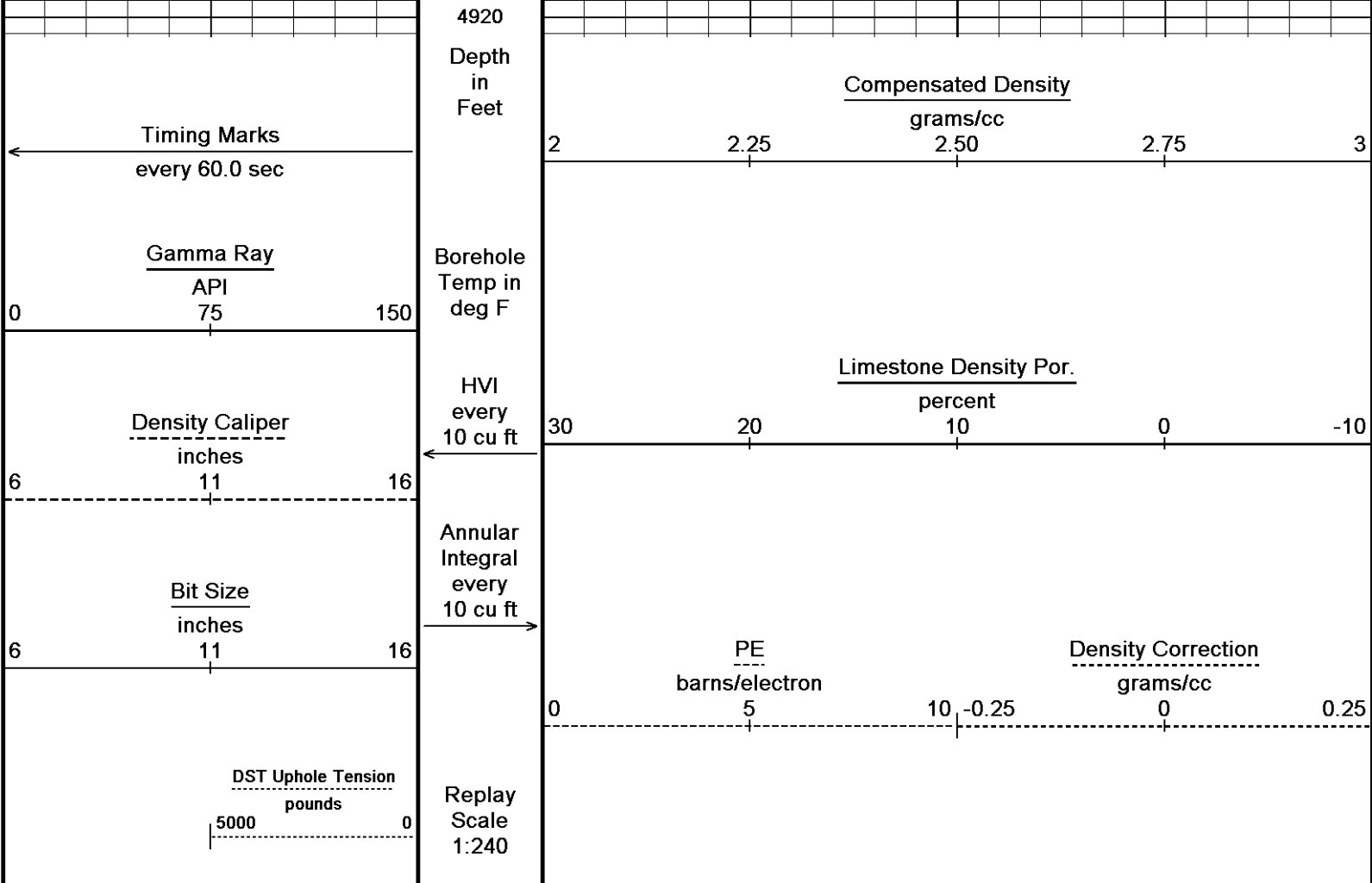
Filename: C:\Minimus 11.02.3186\Data\M&M Z-Bar #9-14\COPY of M&M Z-Bar #9-14_001.dta

Recorded on 07-JUL-2011 09:29

System Versions: Logged with 11.02.3186 Plotted with 11.02.3186







Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 07-JUL-2011 11:49
 Filename: C:\Minimus 11.02.3186\Data\M&M Z-Bar #9-14\COPY of M&M Z-Bar #9-14_001.dta
 Recorded on 07-JUL-2011 09:29
 System Versions: Logged with 11.02.3186 Plotted with 11.02.3186

5 INCH REPEAT PASS

BEFORE SURVEY CALIBRATION
 C:\Minimus 11.02.3186\Data\M&M Z-Bar #9-14\M&M Z-Bar #9-14_002 spooled section.dta

General Constants All 000 Last Edited on 07-JUL-2011,07:39

General Parameters

Mud Resistivity	0.560	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	4.500	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 05-JUN-2011 04:37

Reading No	Measured	Calibrated (lbs)
1	13499.89	0.00
2	14983.70	496.00

High Resolution Temperature Calibration MCG-B 34

Field Calibration on 05-MAR-2011,23:56

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

High Resolution Temperature Constants MCG-B 34

Last Edited on

Pre-filter Length	11
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SP Calibration MCG-B 34

Field Calibration on 20-APR-2011 14:53

	Measured	Calibrated (mV)
Reference 1	106.7	100.0
Reference 2	-95.0	-100.0

Gamma Calibration MCG-B 34

Field Calibration on 07-JUL-2011 02:24

	Measured	Calibrated (API)
Background	66	45
Calibrator (Gross)	1116	770
Calibrator (Net)	1050	725

Gamma Constants MCG-B 34

Last Edited on 07-JUL-2011,06:30

Gamma Calibrator Number	grc38	
Mud Density	1.08	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 4

Base Calibration on 16-MAY-2011 09:23
Field Check on 07-JUL-2011 02:10

Base Calibration		Measured		Calibrated (ohm-m)	
Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2	
Micro Normal	12.1	60.1	2.6	12.8	
Micro Inverse	15.6	78.3	1.7	8.4	
Channel	Base Check (ohm-m)		Field Check (ohm-m)		
Micro Normal	32.2		32.2		
Micro Inverse	16.3		16.3		

Micro Normal and Micro Inverse Constants MML-A 4

Last Edited on 07-JUL-2011,06:31

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 4

Base Calibration on 16-MAY-2011 09:38
Field Calibration on 07-JUL-2011 02:11

Base Calibration		Measured	Calibrator Size (in)
Reading No			
1		14953	5.98
2		18280	7.97
3		21656	9.86
4		25588	11.92
5		0	0.00
6		N/A	N/A
Field Calibration		Measured Caliper (in)	Actual Caliper (in)
		6.04	5.98

Neutron Calibration MDN-A.B 65

Base Calibration on 02-JUL-2011 23:27
Field Check on 07-JUL-2011 02:18

Base Calibration		Measured		Calibrated (cps)	
	Near	Far	Near	Far	
	3269	103	3714	110	
Ratio	31.795		33.764		

Field Calibrator at Base	1562	Calibrated (cps)	2227
Ratio			0.701
Field Check	1579	Calibrated (cps)	2250
Ratio			0.702

Neutron Constants MDN-A.B 65

Last Edited on 07-JUL-2011,06:30

Neutron Source Id	757		
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	MCG External Temperature		
Temperature	N/A	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 55

Base Calibration on 21-JUN-2011 10:19
Field Check on 07-JUL-2011 02:02

Base Calibration			
	Measured	Calibrated (ohm-m)	
Reference 1	0.0	0.0	
Reference 2	953.6	126.8	
Base Check		281.3	
Field Check		281.3	

FE Constants MFE-A.A 55

Last Edited on 07-JUL-2011,06:31

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 13-AUG-2010,13:31

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

High Resolution Temperature Constants MAI-A.A 45

Last Edited on

Pre-filter Length	11
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Induction Calibration MAI-A.A 45

Base Calibration on 13-AUG-2010,13:32
Field Check on 07-JUL-2011 02:00

Base Calibration				
Test Loop Calibration		Measured	Calibrated (mmho/m)	
Channel	Low	High	Low	High
1	14.5	473.5	9.3	966.2
2	5.2	373.4	7.6	821.4
3	2.8	260.6	5.2	566.0
4	1.6	132.2	2.6	279.2
Array Temperature		86.2	Deg F	
Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	0.0	0.0	19.7	3845.9

1	0.0	0.0	19.7	3843.9
2	0.0	0.0	33.0	3631.9
3	0.0	0.0	30.0	3050.5
4	0.0	0.0	20.4	2094.0
Deep	0.0	0.0	18.0	1920.7
Medium	0.0	0.0	43.2	4051.1
Shallow	0.0	0.0	50.2	5475.8
Array Temperature		0.0	88.4	Deg F

Induction Constants MAI-A.A 45

Last Edited on 07-JUL-2011,01:50

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 65

Base Calibration on 01-JUL-2011 18:46

Field Calibration on 07-JUL-2011 02:03

Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	13710	3.99
2	22224	5.98
3	30784	7.97
4	39184	9.86
5	48352	11.92
6	N/A	N/A
Field Calibration		
	Measured Caliper (in)	Actual Caliper (in)
	5.97	5.98

Photo Density Calibration MPD-B 65

Base Calibration on 02-JUL-2011 22:55

Field Check on 07-JUL-2011 02:09

Density Calibration				
Base Calibration				
	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	50829	24574	59556	30836
Reference 2	20710	2286	24941	2541

Field Check at Base

1245.3 1199.3

Field Check

1245.0 1197.7

PE Calibration

Base Calibration

	WS	Measured WH	Ratio	Calibrated Ratio
Background	226	1107		
Reference 1	19076	50633	0.381	0.371
Reference 2	5565	20564	0.274	0.272

Field Check at Base

225.7 1107.0

Field Check

226.6 1109.6

Density Constants MPD-B 65

Last Edited on 07-JUL-2011,06:31

Density Source Id	254	
Nylon Calibrator Number	695	
Aluminium Calibrator Number	698	
Density Shoe Profile	8 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.08	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	
0.00	0.00	

DOWNHOLE EQUIPMENT

C:\Minimus 11.02.3186\Data\M&M Z-Bar #9-14\M&M Z-Bar #9-14_002 spooled section.dta

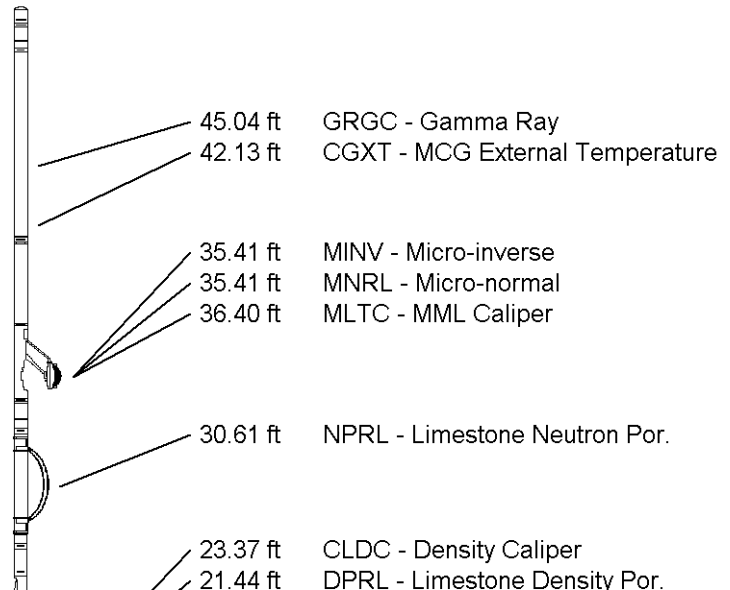
3/8" Triple Cone Cable Head (MCB C A)
MCB-C.A 5 LG: 1.58 ft WT: 15.4 lb OD: 2.24 in

Compact Comms Gamma
MCG-B 34 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 65 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

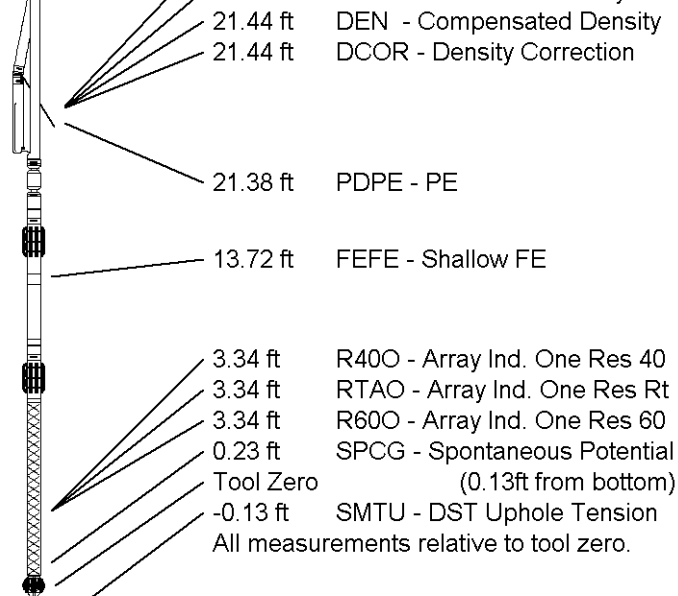


SKJ-D.A Compact Knuckle Joint
 SKJ-D.A 37 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

Compact Focussed Electric
 MFE-A.A 55 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: 51.90 ft Weight: 423.3 lb

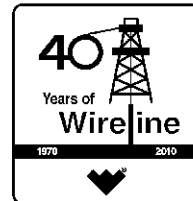


COMPANY	M & M EXPLORATION, INC.
WELL	Z-BAR #9-14
FIELD	AETNA GAS AREA
PROVINCE/COUNTY	BARBER
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	1561.00	feet	First Reading	4876.00	feet
Elevation Drill Floor	1559.00	feet	Depth Driller	4900.00	feet
Elevation Ground Level	1549.00	feet	Depth Logger	4897.00	feet



COMPACT PHOTO DENSITY
 COMPENSATED NEUTRON
 MICRORESISTIVITY LOG



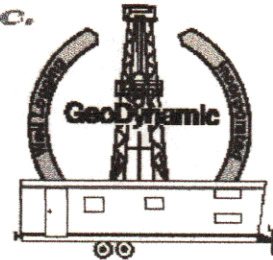
GeoDynamic

Well Logging, Inc.



Rt. #1, Box 185
May, Ok. 73851

(580) 689-2272
(580) 921-5258



Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name: M & M Exploration, Inc. Z-Bar 9-14
Location: Sec. 9-T34S-R14W Barber County, KS
License Number: 15-007-23700 Region: Aetna NE
Spud Date: 6/28/11 Drilling Completed: 7/07/11
Surface Coordinates: 660'FSL & 1980' FWL, SW/4

Bottom Hole Coordinates: As Above

Ground Elevation (ft): 1549' K.B. Elevation (ft): 1561'
Logged Interval (ft): 3,750' To: 4,900' Total Depth (ft): 4,900'
Formation: Pennsylvanian & Mississippian
Type of Drilling Fluid: Chemical Mud

Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: M & M Exploration, Inc.
Address: Attn: Mike Austin
4257 Main Street, Suite 230
Westminster, CO 80031

GEOLOGIST

Name: Mike Pollok
Company: MAP Exploration, Inc.
Address: P. O. Box 106
Purcell, Ok 73080

Comments

Southwind Rig #70
Mudlogging Unit #13
Mudlogger: Beth Brock

ROCK TYPES

	Anhy		Congl		Mrlst		Ss
	Bent		Dol		Salt		Till
	Brec		Gyp		Shale		sdy sh
	Cht		Igne		Shcol		calc sh
	Clyst		Lmst		Shgy		shale

ACCESSORIES

MINERAL

▨ Anhy
 ▨ Arggrn
 ▨ Arg
 ▨ Bent
 ▨ Bit
 ⊕ Breclrag
 ▨ Calc
 ▨ Carb
 ▨ Chtdk
 ▨ Chltt
 ▨ Dol
 ⊕ Feldspar
 ⊕ Ferrpel
 ▨ Ferr
 ▨ Glau
 ▨ Gyp
 ▨ Hvymin
 ▨ Kaol
 ▨ Marl

⊛ Minxl
 ⊛ Nodule
 ⊛ Phos
 ⊛ Pyr
 ⊛ Salt
 ▨ Sandy
 ▨ Silt
 ▨ Sil
 ▨ Sulphur
 ▨ Tuff

FOSSIL

⊛ Algae
 ⊛ Amph
 ⊛ Belm
 ⊛ Bioclst
 ⊛ Brach
 ⊛ Bryozoa
 ⊛ Cephal
 ⊛ Coral

⊛ Crin
 ⊛ Echin
 ⊛ Fish
 ⊛ Foram
 ⊛ Fossil
 ⊛ Gastro
 ⊛ Oolite
 ⊛ Ostra
 ▨ Pelec
 ▨ Pellet
 ⊛ Pisolite
 ⊛ Plant
 ⊛ Strom

STRINGER

▨ Anhy
 ▨ Arg
 ▨ Bent
 ▨ Coal
 ▨ Dol

▨ Gyp
 ▨ Ls
 ▨ Mrst
 ▨ Slststrg
 ▨ Ssstrg

TEXTURE

⊛ Boundst
 ⊛ Chalky
 ⊛ Cryxln
 ⊛ Earthy
 ⊛ Finexln
 ⊛ Grainst
 ⊛ Lithogr
 ⊛ Microxln
 ⊛ Mudst
 ⊛ Packst
 ⊛ Wackest

OTHER SYMBOLS

POROSITY TYPE

⊛ Earthy
 ⊛ Fenest
 ⊛ Fracture
 ⊛ Inter
 ⊛ Moldic
 ⊛ Organic
 ⊛ Pinpoint
 ⊛ Vuggy

SORTING

⊛ Well
 ⊛ Moderate
 ⊛ Poor

ROUNDING

⊛ Rounded
 ⊛ Subrnd
 ⊛ Subang

⊛ Angular

OIL SHOWS

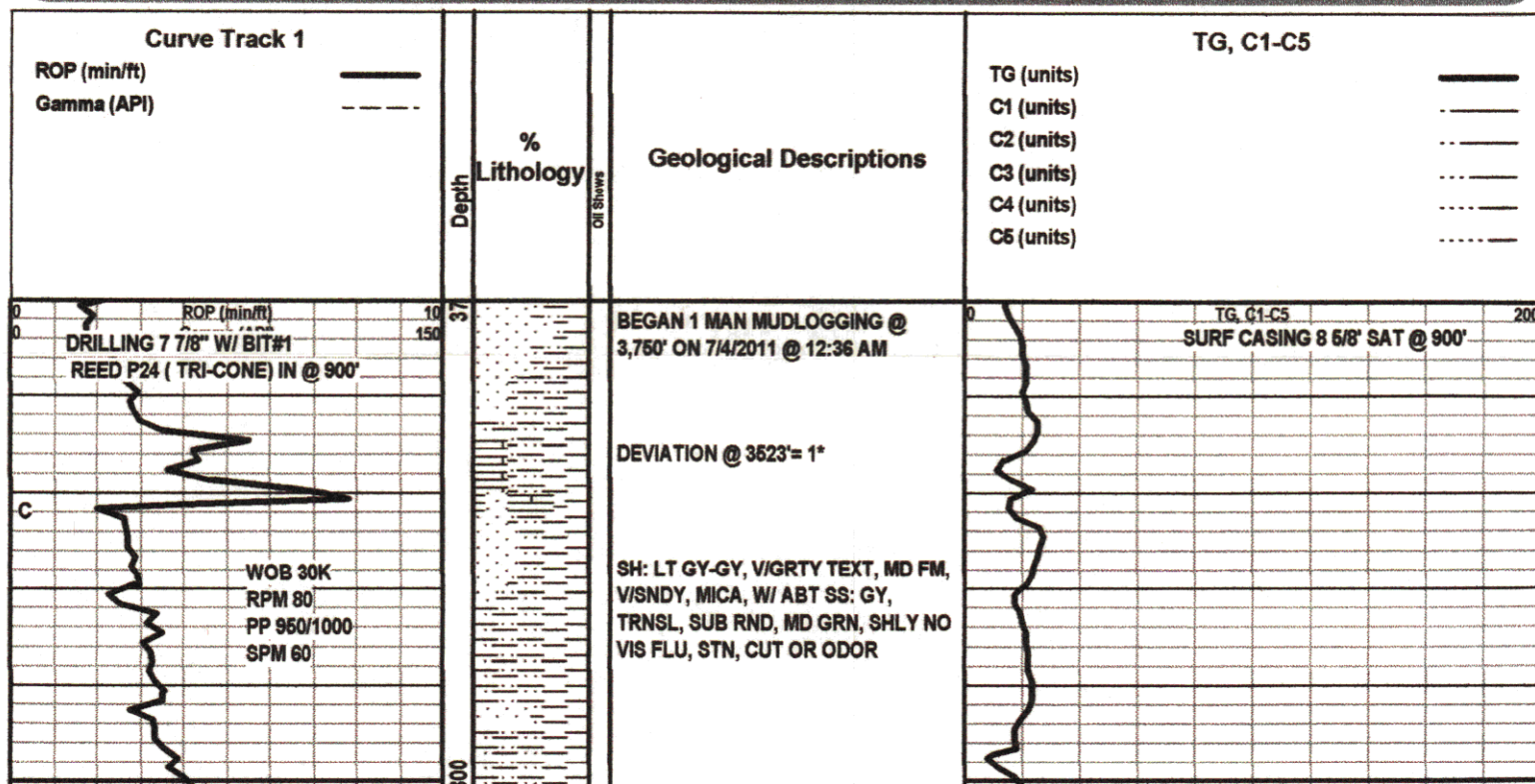
⊛ Even
 ⊛ Spotted
 ⊛ Ques
 ⊛ Dead

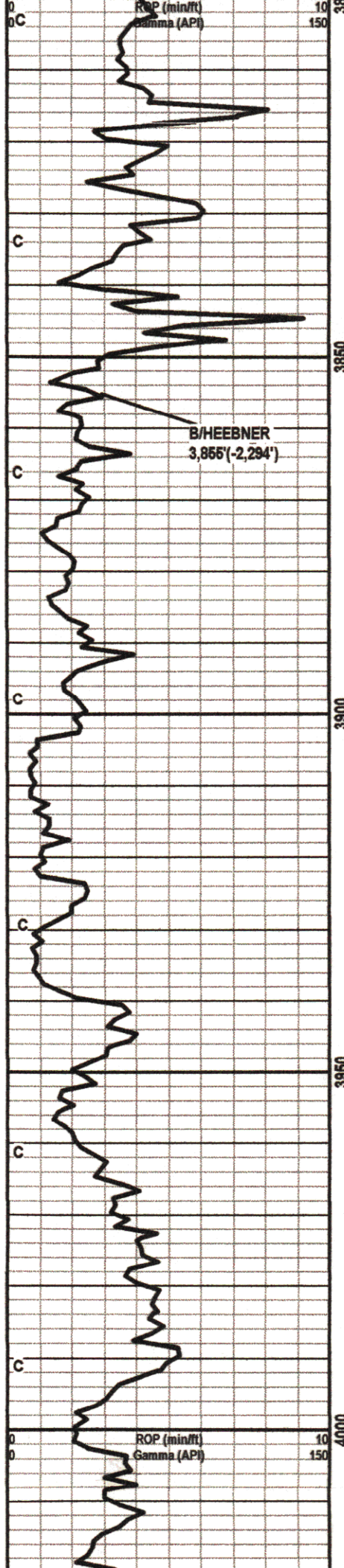
INTERVALS

⊛ Core
 ⊛ Dst

EVENTS

▨ Rft
 ▨ Sidewall





SH: AAB W/ SM LS: TN-BRN-DK BRN,
DNS, HD, V/FOSS, SM BRT YEL FLU,
NO VIS STN, CUT, OR ODOR

SH: GY-DK GY-BLK, V/FN TEXT,
WXY, MD FM-HD, CALC, MICA, PYR'C

SHALE GAS

SH:AAB

SHALE GAS

B/HIEBNER
3,855'(-2,294')

LS: WT-OFF WT-TN-BRN, V/FN
MICRO-XLN, DNS, TR P.P.POR, CALC,
SLI FOSS, SLI ARG, SM BRT WHTSH
YEL FLU, NO VIS STN, CUT OR ODOR

SS: LT GY-GY, FG-MG, SUB
RND-SUB ANG, CLR, TRNS, CONS,
MICA, KAOL I.B., SIL, NO VIS FLU,
STN, CUT, OR ODOR

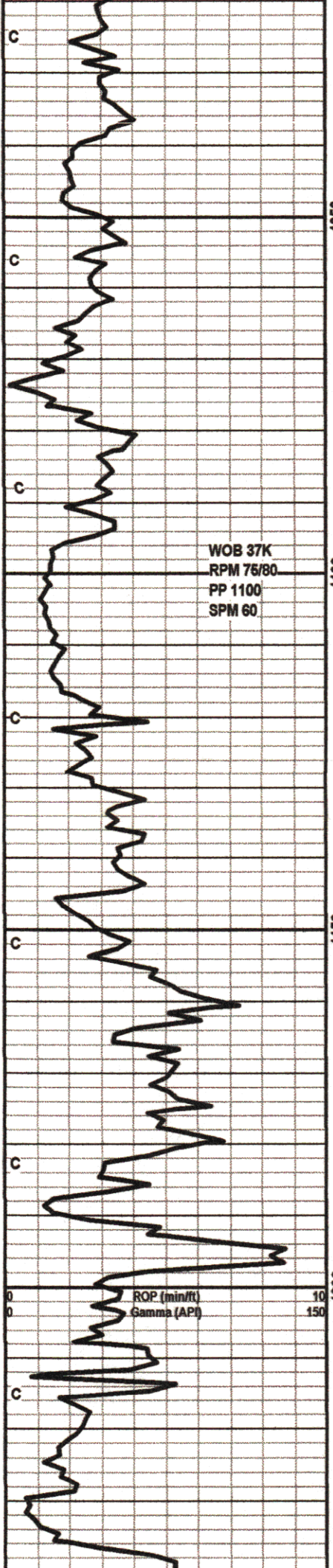
MUD CK @ 3,919'
WT 9.1
V 46
PV 15
YP 13
GEL 8/16
WL 15.9
CK 2
SOLS 5.1
PH 10
CHL 10000
CA 260
LCM 4

SH: LT GY- GY-DK GY, FN TEXT, SLI
GRTY, V/SNDYSNDY, MD FM, V/MICA,
SLI FISS,

SH: GY- DK GY, V/FN TEXT,
V/SFT-SFT, MICA, PLTY, FISS, PYR'C,
FR PYR

TG, C1-C5

200



SH: AAB

LS: OFF WT-TN-GY, V/FN MICRO-XLN,
HD, DNS, TR P.P.POR, CALC, FOSS,
SHLY, SLI FOSS, SM DUL YEL FLU,
NO VIS STN, CUT, OR ODOR

WOB 37K
RPM 75/80
PP 1100
SPM 60

LS: AAB

LS: OFF WT-TN-BRN, MICRO-XLN, SM
P.P.POR, VIARG, FOSS, FR CALC
THRUOUT, SLI DNS, DUL YEL FLU,
NO VIS STN, CUT, OR ODOR

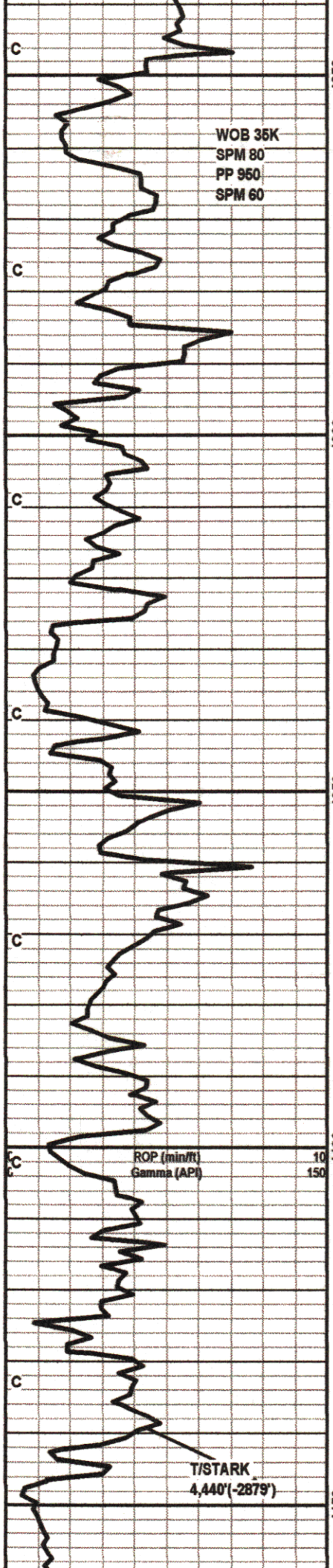
7/5/11
12:06AM

LS: AAB

TG, C1-C5

LS: TN-BRN-DK BRN, MICRO-XLN, SLI
BRTL, GD P.P.POR, SLI OOL'C VIARG,
GD DUL YEL FLU, NO VIS STN, CUT,
OR ODOR

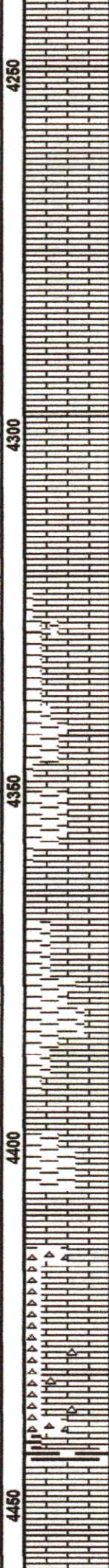
200



WOB 35K
 SPM 80
 PP 950
 SPM 60

ROP (min/ft) 10
 Gamma (API) 150

T/STARK
 4,440' (-2879')



LS: OFF WT-GY-TN-BRN, MICRO-XLN,
 SLI DNS, SM P.P.POR, SLI SHLY, ARG,
 SLI FOSS, TR CALC, ABT DUL BRNSH
 YEL FLU, NO VIS STN, CUT, OR ODOR

LS: AAB

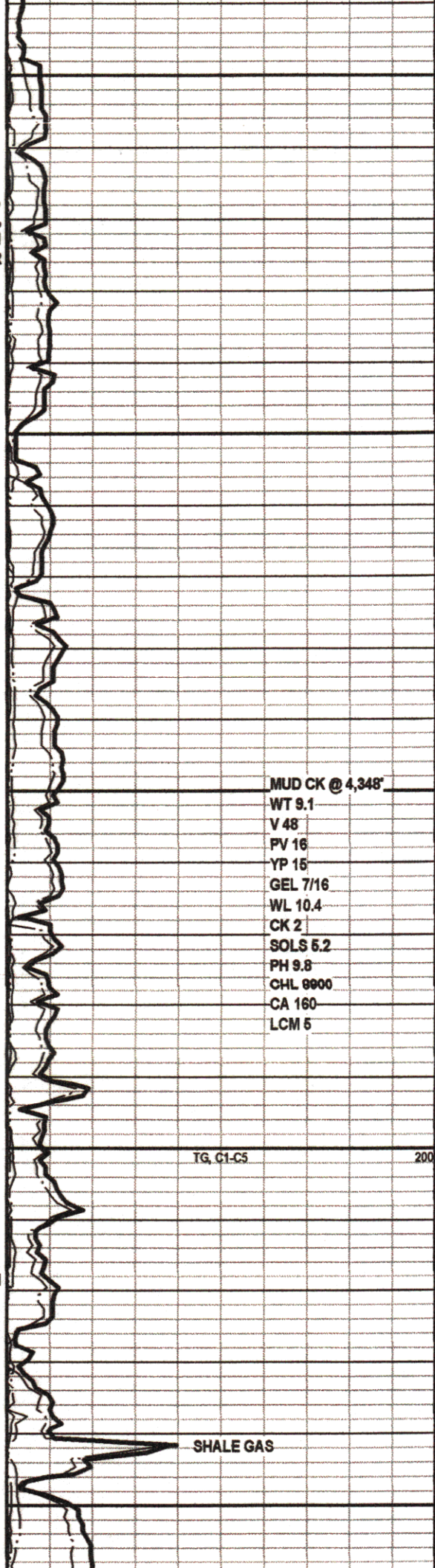
LS: TN-BRN-GY, V/FN MICRO-XLN,
 DNS, SHLY I.P., FR CALC THROUT,
 SLI ARG, SM BRNISH YEL FLU, NO
 VIS STN, CUT, OR ODOR

LS: AAB W/ SM SH: GY- DK GY, F/VN
 TEXT, MD FM, MICA, FR PYR, SLI
 CALC

LS: TN-BRN-DK BRN, MICRO-XLN, SLI
 SUC, GD P.P.POR, V/ARG, SLI CHTY,
 W/ ABT WT-GY-OPA FRSH CHT, ABT
 YEL FLU, NO VIS STN, CUT OR ODOR

SH: DK GY-BRN-BLK, V/FN TEXT,
 WXY, MD FM-HD, PLTY, PYR'C, CALC,
 CARB

LS: OFF WT-TN-BRN-DK BRN,
 MICRO-XLN, SLI SUC, SM GD
 P.P.POR, SLI OOL'C, ARG, SM GSY

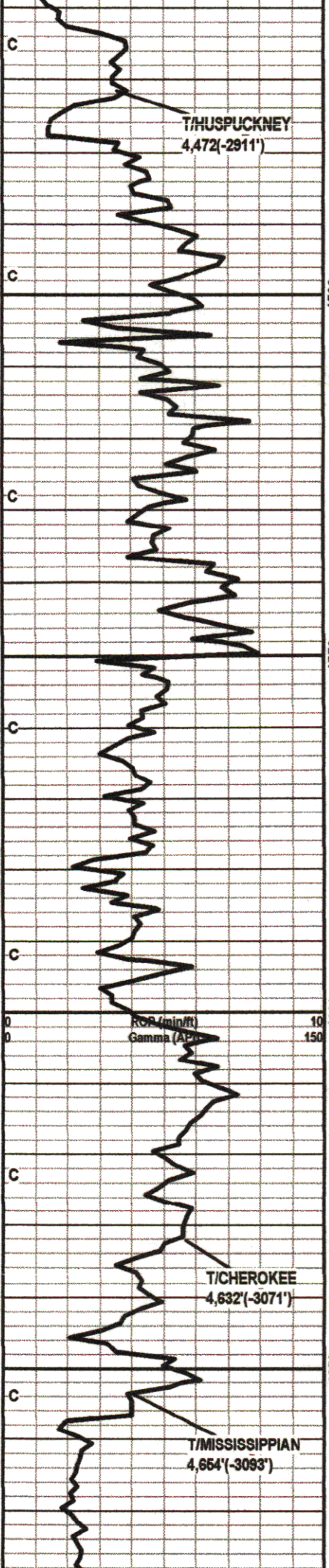


MUD CK @ 4,348'

WT 9.1
 V 48
 PV 16
 YP 15
 GEL 7/16
 WL 10.4
 CK 2
 SOLS 5.2
 PH 9.8
 CHL 0900
 CA 160
 LCM 5

TG, C1-C5 200

SHALE GAS



T/HUSPUCKNEY
4,472(-2911')

T/CHEROKEE
4,632(-3071')

T/MISSISSIPPIAN
4,654(-3093')

4500
4550
4600
4650

BUB, DUL YEL FLU, NO VIS STN, CUT, OR ODOR

SH: DK GY-BRN-BLK, V/FN TEXT, WXY, CARB

SH: AAB W/ABT LS: TN-BRN-GY, V/FN MICRO-LXN, HD DNS, ARG, SHLY, FOSS, SM DUL YEL FLU, NO VIS STN, CUT, OR ODOR

SH: LT GY- GY-GRN-DK GY, VFN-FN TEXT, SFT-MD FM, PLTY, FISS, LMY, GLAU'C, PYR'C, FR PYR

LS: TN-BRN-GY, V/FN MICRO-XLN, HD DNS, ARG, SLI SHLY, FOSS, SM BRT YEL FLU, NO VIS STN, CUT, OR ODOR

LS: AAB W/ ABT SH: GY-GRN, FN TEXT, V/SFT-SFT, FISS, V/GLAU'C, PYR'C, MICA

LS: OFF WT-TN- GY-BRN, V/FN MICRO-LXN, DNS, SLI SHLY, ARG, TR OF BRT YEL FLU, NO VIS STN, CUT, OR ODOR

SH: DK GY-BRN-BLK, V/FN WXY TEXT, MD FM, V/PLTY, PYR'C, MICA, CALC, V/CARB

SS: TN-BRN-BLK, FN-MD GRN, SUBRND-RND, UNI, EXC XLN POR, SM GLAU'C SPKS, CONS, CALC, BRT YEL FLU, DK STNING, GD STRM CUT, AND SM ODOR

DOLO: OFF WT-TN-DK BRN, INTER-XLN, V/SUC, SLI FRI, LMY, SLI CHTY, EXC INTER-XLN POR, ARG, MOTT, EXC DUL YEL FLU, GD STNING, EXC STRMING CUT, AND STRNG ODOR

SHALE GAS

7/6/11
12:04 AM

MD CK @ 4,673'

WT 9.3

V 55

PV 18

YP 16

GEL 8/17

WL 10.4

CK 2

SOLS 6.3

PH 9.0

CHL 6900

CA 180

LCM 7

TG, C1-C5

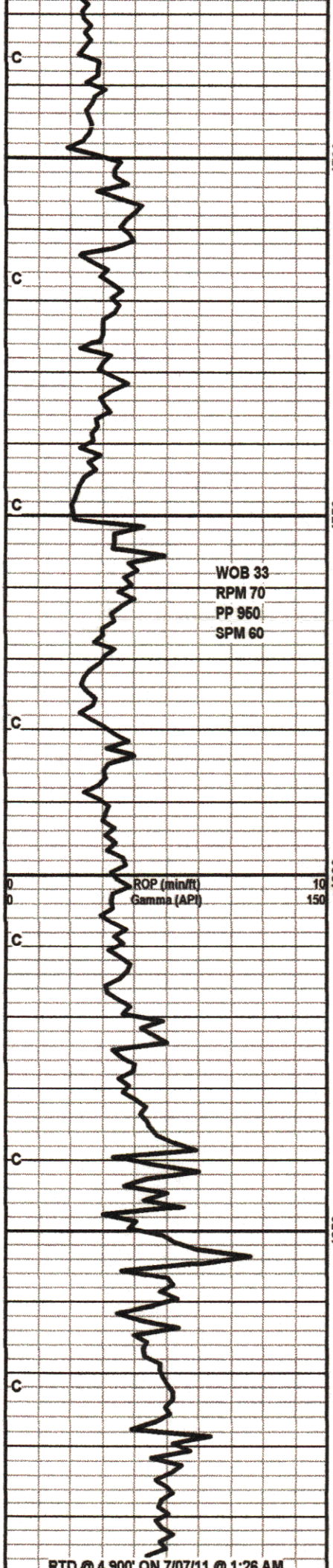
200

SHALE GAS

138u SHOW

158u SHOW

162u SHOW



DOLO: AAB W/ ABT
 CHT: WHT-TN-OPA, FRSH AND
 TRIP'LC, GD YEL FLU, BRN STNING,
 GD STRMING CUT, AND V/STRNG
 ODOR

DOLO: TN-GRN-BRN, V/FN
 MICRO-XLN, HD, V/ GD P.P.POR,
 V/GALU'C, DUL YEL FLU, SLI ODOR,
 NO VIS STN OR CUT

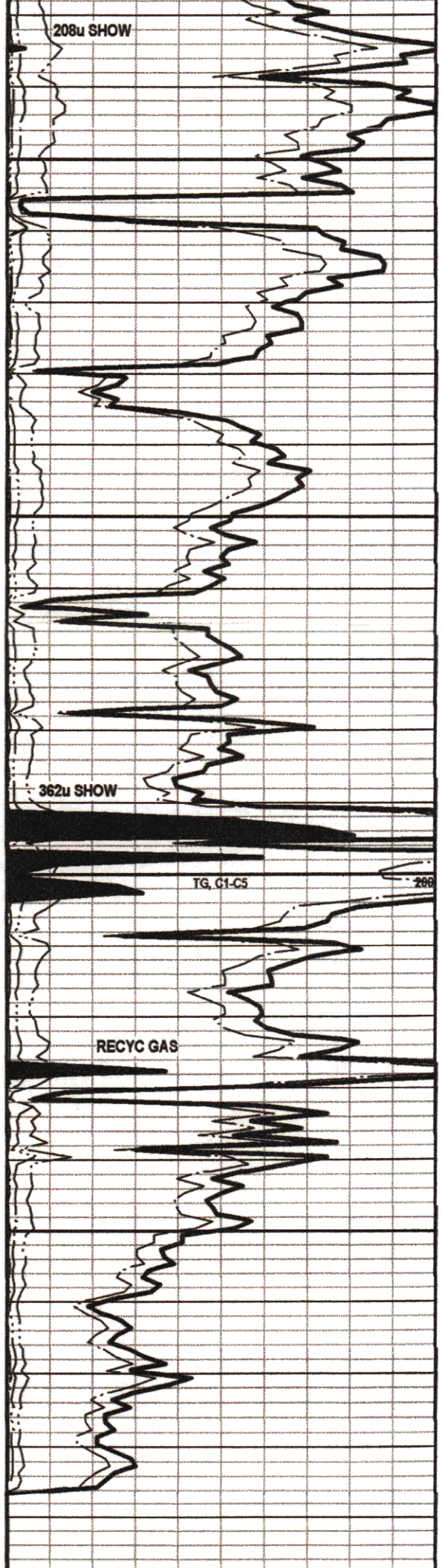
WOB 33
 RPM 70
 PP 950
 SPM 60

DOLO: LT GY-GY-DK GY, V/FN
 MICRO-XLN, DNS, HD, V/SHLY, NO
 VIS FLU, STN, CUT, OR ODOR

DOLO: OFF WT-TN-BRN-DK BRN,
 MICRO-XLN W/ SM INTER-XLN, HD,
 SUC, GD P.P.POR AND INTER-XLN,
 LMY I.P., SM DUL YEL FLU, NO VIS
 STN, GD STRMING CUT, NO ODOR

LS: OFF WT-TN-GRN, V/FN
 MICRO-XLN, HD DNS, TR P.P.POR,
 GLAU'C, SLI DOLO, SLY, SLI ARG,
 FR CALC, SM WHTISH YEL FLU, NO
 VIS STN, CUT, OR ODOR

LS: AAB





Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802



Phone: 316-337-6200
Fax: 316-337-6211
<http://kcc.ks.gov/>

Mark Sievers, Chairman
Ward Loyd, Commissioner
Thomas E. Wright, Commissioner

Sam Brownback, Governor

October 14, 2011

Mike Austin
M & M Exploration, Inc.
4257 MAIN ST., #230
WESTMINSTER, CO 80031

Re: ACO1
API 15-007-23700-00-00
Z BAR 9-14
SW/4 Sec.09-34S-14W
Barber County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
Mike Austin