



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: _____



1066385

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 |
|---|---|

| 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 |
|-----------------------------------|-----------|---------|-------------|---------------|---------|

| | | |
|--|---|---|
| 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> _____ <i>(Submit ACO-4)</i> | PRODUCTION INTERVAL: _____ _____ |
|--|---|---|



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

Well Name: M & M Exploration, Inc. Z-Bar 20-14
Location: Sec. 20-T34S-R14W Barber Co., KS
License Number: 15-007-23702 Region: Aetna
Spud Date: 7/25/2011 Drilling Completed: 8/03/2011
Surface Coordinates: 910'FSL & 1480'FWL, SW/4

Bottom Hole As Above
Coordinates:
Ground Elevation (ft): 1,538' K.B. Elevation (ft): 1,550'
Logged Interval (ft): 3,750' To: 4,950' Total Depth (ft): 4,950'
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: Mr Mike Austin
4257 Main Street, Suite 230
Westminster, CO 80031

GEOLOGIST

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

Comments

Southwind Rig 70 Samples

ROCK TYPES

| | | | | | | | |
|--|-------|--|-------|--|-------|--|---------|
| | Anhy | | Congl | | Mrlst | | Ss |
| | Bent | | Dol | | Salt | | Till |
| | Brec | | Gyp | | Shale | | sdy sh |
| | Cht | | Igne | | Shcol | | calc sh |
| | Clyst | | Lmst | | Shgy | | shale |
| | Coal | | Meta | | Sltst | | carb sh |

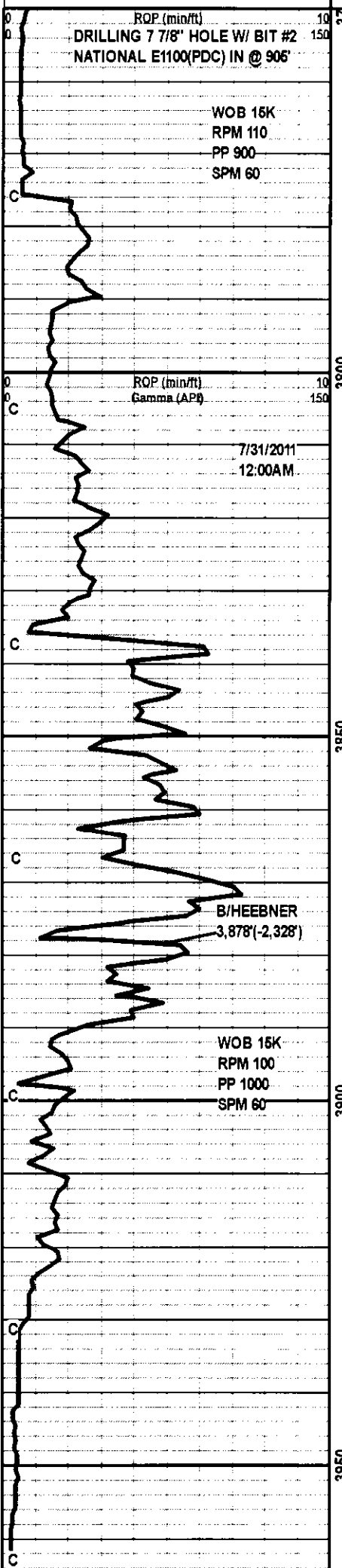
ACCESSORIES

| | | | | | | | |
|----------------|----------|---------------|---------|-----------------|----------|----------------|----------|
| MINERAL | | Minxl | | Crin | | Gyp | |
| | Anhy | | Nodule | | Echin | | Ls |
| | Arggrn | | Phos | | Fish | | Mrst |
| | Arg | | Pyr | | Foram | | Sltstrg |
| | Bent | | Salt | | Fossil | | Ssstrg |
| | Bit | | Sandy | | Gastro | | |
| | Brecfrag | | Silt | | Oolite | TEXTURE | |
| | Calc | | Sil | | Ostra | | Boundst |
| | Carb | | Sulphur | | Pelec | | Chalky |
| | Chtdk | | Tuff | | Pellet | | Cryxln |
| | Chtlt | | | | Pisolite | | Earthy |
| | Dol | FOSSIL | | | Plant | | Finexln |
| | Feldspar | | Algae | | Strom | | Grainst |
| | Ferrpel | | Amph | | | | Lithogr |
| | Ferr | | Belm | STRINGER | | | Microxln |
| | Glau | | Bioclst | | Anhy | | Mudst |
| | Gyp | | Brach | | Arg | | Packst |
| | Hvymin | | Bryozoa | | Bent | | Wackest |
| | Kaol | | Cephal | | Coal | | |
| | Marl | | Coral | | Dol | | |

OTHER SYMBOLS

| | | | | | | | |
|----------------------|----------|-----------------|----------|------------------|------------------|---------------|----------|
| POROSITY TYPE | | Earthy | | Angular | INTERVALS | | Core |
| | Fenest | | Well | OIL SHOWS | | Dst | |
| | Fracture | | Moderate | | | | |
| | Inter | | Poor | | | | |
| | Moldic | ROUNDING | | | | | |
| | Organic | | Rounded | | | | |
| | Pinpoint | | Subrnd | | | | |
| | Vuggy | | Subang | | | | |
| | | | | | | EVENTS | |
| | | | | | | | Rft |
| | | | | | | | Sidewall |

| | | | | | | |
|---------------|-------|-------|-------------|-------------------------|------------|-------|
| Curve Track 1 | | Depth | % Lithology | Geological Descriptions | TG, C1-C5 | |
| ROP (min/ft) | _____ | | | | TG (units) | _____ |
| Gamma (API) | ----- | | | | C1 (units) | _____ |
| | | | | | C2 (units) | _____ |
| | | | | | C3 (units) | _____ |
| | | | | | C4 (units) | _____ |
| | | | | | C5 (units) | _____ |



BEGAN ONE MAN MUDLOGGING @
 3,760' ON 7/30/2011 @ 2:48PM

DEVIATION @ 3,810' = 25°

SH: LT GY-GY-DK GY-GRN, V/FN-FN
 TEXT, GRTY, VISFT-SFT, SNDY,
 GLAU'C, FISS, FR PYR THROUT

SH: AAB

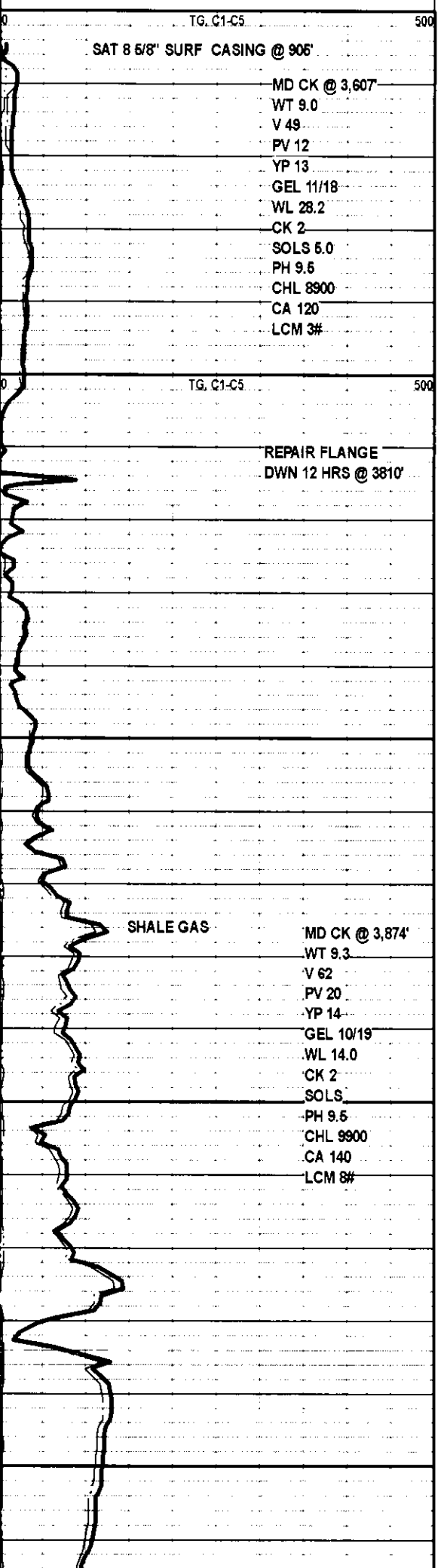
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 SFT-FM, LMY I.P., FISS, PYR'C, MICA

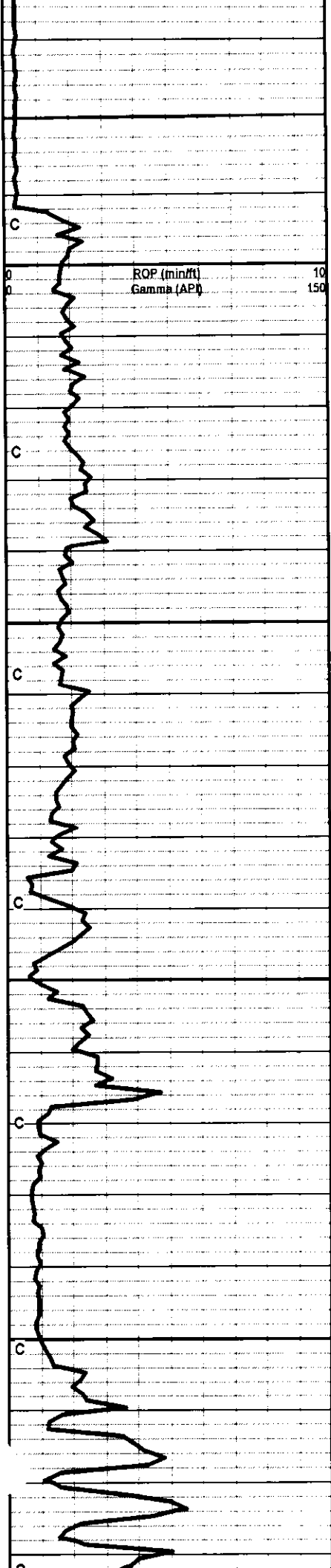
SH: GY-DK GY-BRN-BLK, V/FN TEXT,
 MICA, SLI LMY, CALC, CARB

LS: WHT-OFF WT-TN-GY, V/FN
 MICRO-XLN, SM P.PPOR, SLI SHLY,
 FOSS, ARG, BRT WHTSH YEL FLU,
 NO VIS STN, CUT, OR ODOR

SH: LT GY-GY-DK GY, FN TEXT, GRTY,
 SNDY I.P., V/PYR'C, FISS, MICA

SS: WT-OFF WT-LT GY-TN, FN-MD
 GRN, SUBRND-RND, V/FRI, UNIF,
 CONS, SIL CEM, TRNS, V/GD XLN
 POR., SLI SHLY, MICA, SM GLAU'C
 SPKS, NO VIS FLU, STN, CUT, OR

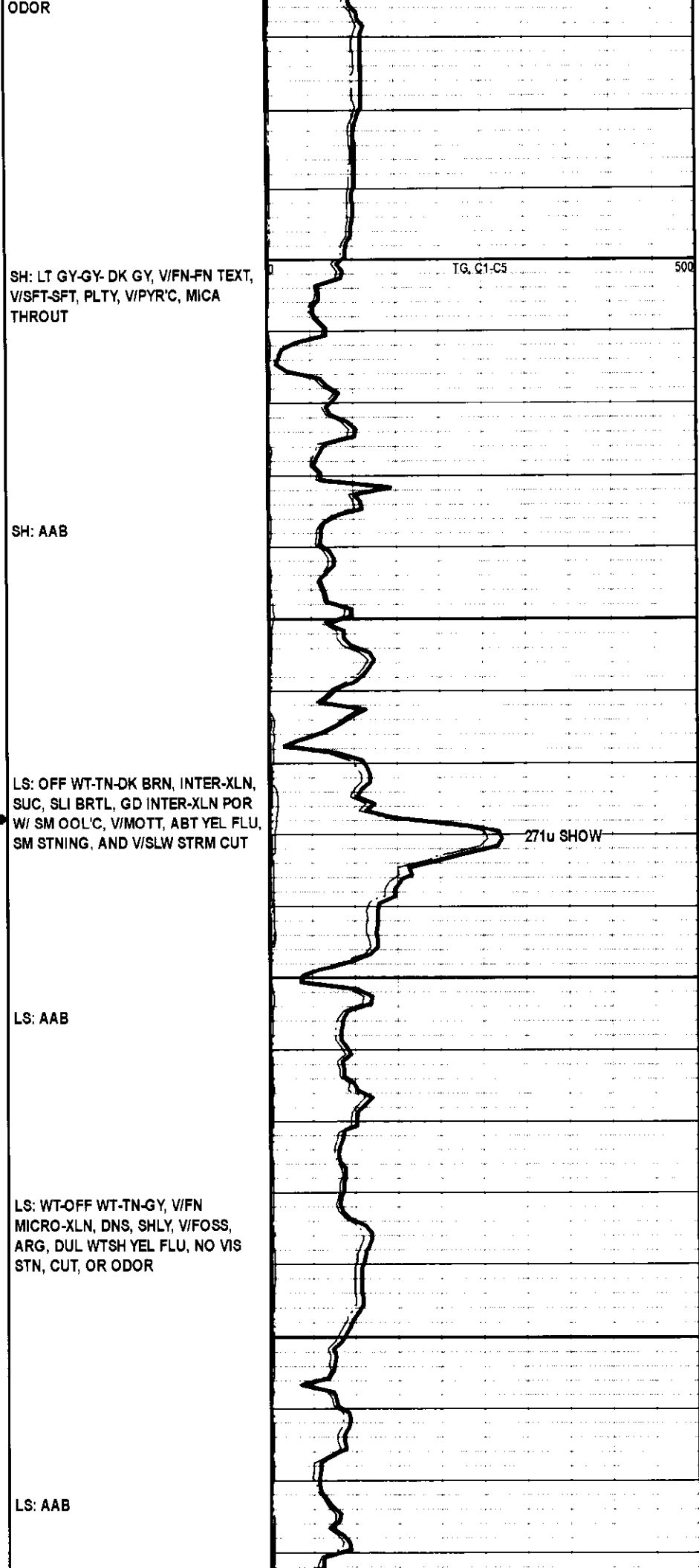
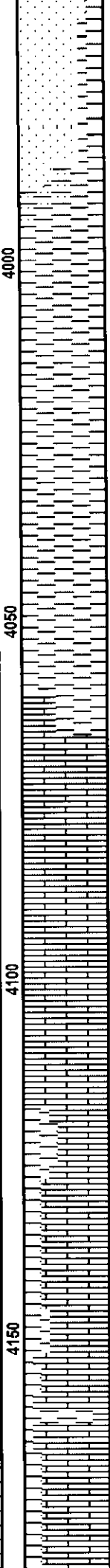




ROP (min/ft)
Gamma (API)

10
150

4000
4050
4100
4150



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

TG. C1-C5

500

SH: AAB

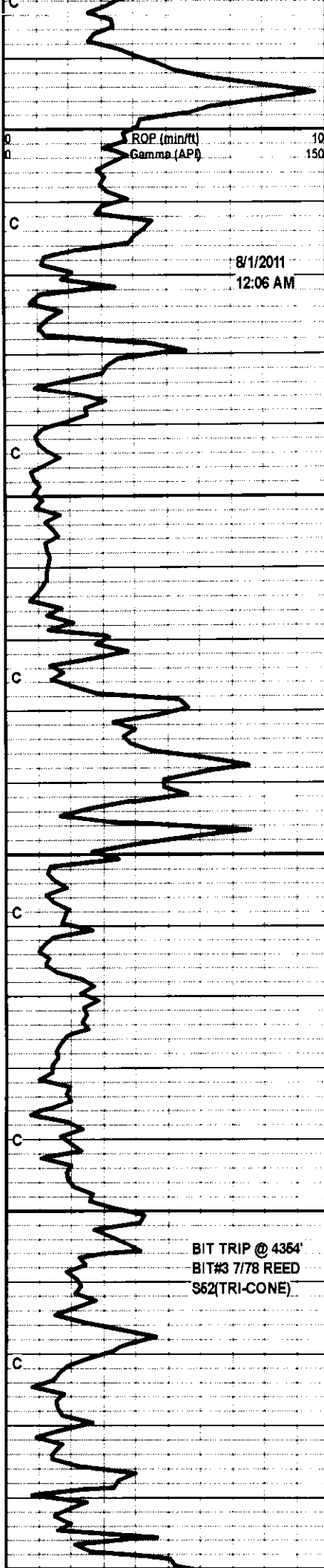
LS: OFF WT-TN-DK BRN, INTER-XLN,
SUC, SLI BRTL, GD INTER-XLN POR
W/ SM OOL'C, V/MOTT, ABT YEL FLU,
SM STNING, AND V/SLW STRM CUT

271u SHOW

LS: AAB

LS: WT-OFF WT-TN-GY, V/FN
MICRO-XLN, DNS, SHLY, V/FOSS,
ARG, DUL WTSH YEL FLU, NO VIS
STN, CUT, OR ODOR

LS: AAB



ROP (min/ft)
Gamma (API)

8/1/2011
12:06 AM

BIT TRIP @ 4364'
BIT#3 7/78 REED
S62(TRI-CONE)

4200
4250
4300
4350
4400

LS: OFF WT-TN-BRN, MICRO-XLN, SLI
SUC, SLI DNS, SM P.PPOR, ARG,
CALC THROUT, FOSS, SM YEL FLU,
NO VIS STN, CUT, OR ODOR

LS: AAB

LS: WT-OFF WT-TN, V/FN
MICRO-XLN, HD DNS, TR P.PPOR,
ARG, V/FOSS, CALC I.P., NO VIS
FLU, STN, OR ODOR

DEVIATION @ 4301'=1°

LS: OFF WT-TN-BRN, MICRO-XLN W/
SM INTER-XLN, GD P.PPOR, ARG, SM
DUL YEL FLU, NO VIS STN, CUT, OR
ODOR

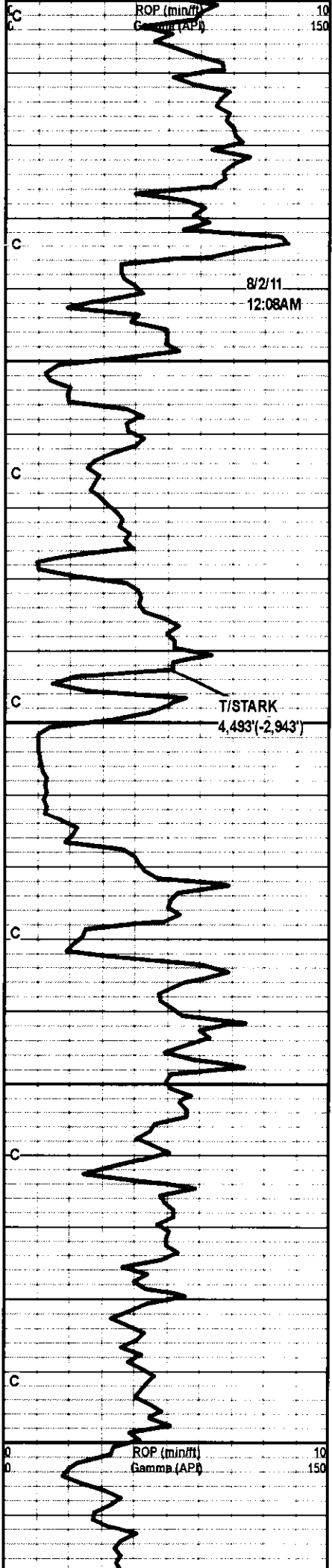
DEVIATION @ 4364'=.76°

LS: OFF WT-TN-BRN, MICRO-XLN, SLI
DNS, SM GD P.PPOR, SLI ARG, SLI
FOSS, DUL WHTSH YEL FLU, NO VIS
STN, CUT, OR ODOR

TG, G1-C5

SUCTION HOSE
CAME OFF
AGITATOR LOST
60' OF GAS
READINGS

MD CK @ 4,364'
WT 9.2
V 53
PV 17
YP 13
GEL 8/15
WL 11.6
CK 2
SOLS 5.7
PH 9.6
CHL 8800
CA 120
LCM 6#



LS: TN-BRN-DK BRN, V/FN
MICRO-XLN, DNS, TR P.PPOR,
V/ARG, CALC, SLI SHLY, ABT YEL
FLU, NO VIS STN, CUT, OR ODOR

LS: AAB W/ ABT SH: LT GY-GY-DK
GY, MD FM-HD, V/LMY, MICA, SLI
PYR'C

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

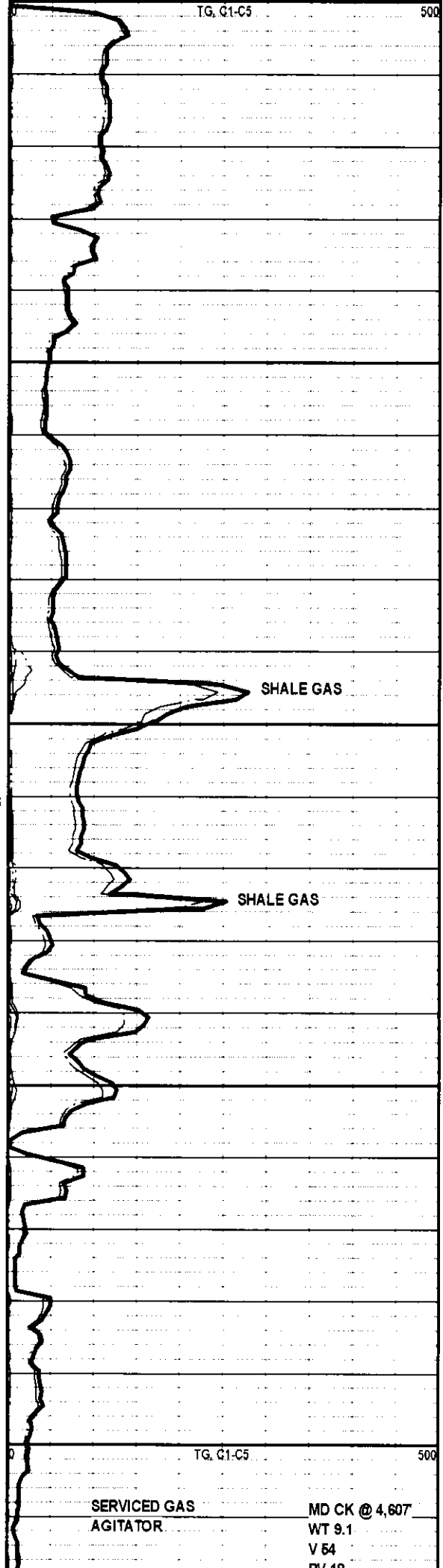
SH: GY-DK GY-BRN-BLK, V/FN WXY
TEXT, MD SFT-FM, V/FISS, PYR'C,
MICA, CALC, CARB

LS: TN-BRN-DK BRN, V/FN
MICRO-XLN, SLI SUC, SM P.PPOR,
SLI SHLY, ARG, DUL YEL FLU, NO VIS
STN, CUT, OR ODOR

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

LS: OFF WT-TN-GY-BRN, V/FN
MICRO-XLN, HD DNS, SHLY I.P., ARG,
CALC, FOSS, SM BRT YEL FLU, NO
VIS STN, CUT, OR ODOR

LS: AAB W/ ABT SH-LT
GY-GY-GRN-DK GY, V/FN TEXT, HD,
LMY I.P., GLAU'C, SLI PYR'C, FISS,
PLTY



SERVICED GAS
AGITATOR

MD CK @ 4,607
WT 9.1
V 54
PV 18

GEL 7/13
WL 8.5
CK 2
SOLS 5.5
PH 10
CHL 8800
CA 90
LCM 6#

LS AND SH: AAB

LS: WT-OFF WT-TN, MICRO-XLN, SLI
FRI, GD P.PPOR, SLI ARG, TR FOSS,
SM YEL FLU, NO VIS STN, CUT, OR
ODOR

LS: AAB

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

CHT: TN-GY-BRN, MICRO-XLN, HD,
SLI DNS, GD P.PPOR, SLI FRAC,
ARG, SLI SHLY, W/THRED, ABT YEL
FLU, DK STNING, AND GD STRM CUT

DOLO: OFF WT-TN- BRN, INTER-XLN,
V/ SUC, EXC INTER-XLN POR, CHTY
I.P., V/MOTT, ABT YEL FLU, DK BRN
STNING, EXC STRM CUT, AND GOOD
ODOR

DOLO: TN-LT GRN-BRN-DK BRN,
INTER-XLN, FRI, V/SUC, EXC
INTER-XLN POR W/ SM P.PPOR,
GLAU'C, CHTY, W/SM WT-OPA FRSH
CHT, ABT DULL YEL FLU, BRN
STNING, V/GD STRMING CUT AND
STRONG ODOR

DOLO: LT GY-GY-GRN-BRN, V/FN
MICRO-XLN, MD FM, TR P.PPOR,
SHLY, I.P., PYR'C SPKS, GLAU'C NO
VIS FLU, STN, CUT, OR ODOR

WOB 42
RPM 75
PP 960
SPM 60

T/CHEROKEE
4,693'(-3,143')

T/MISSISSIPPIAN
4,719'(-3,169')

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

SHALE GAS

264u SHOW

326u SHOW

340u SHOW

441u SHOW

574u SHOW

TG. C1-C5

500

4650

4700

4750

4800

C

C

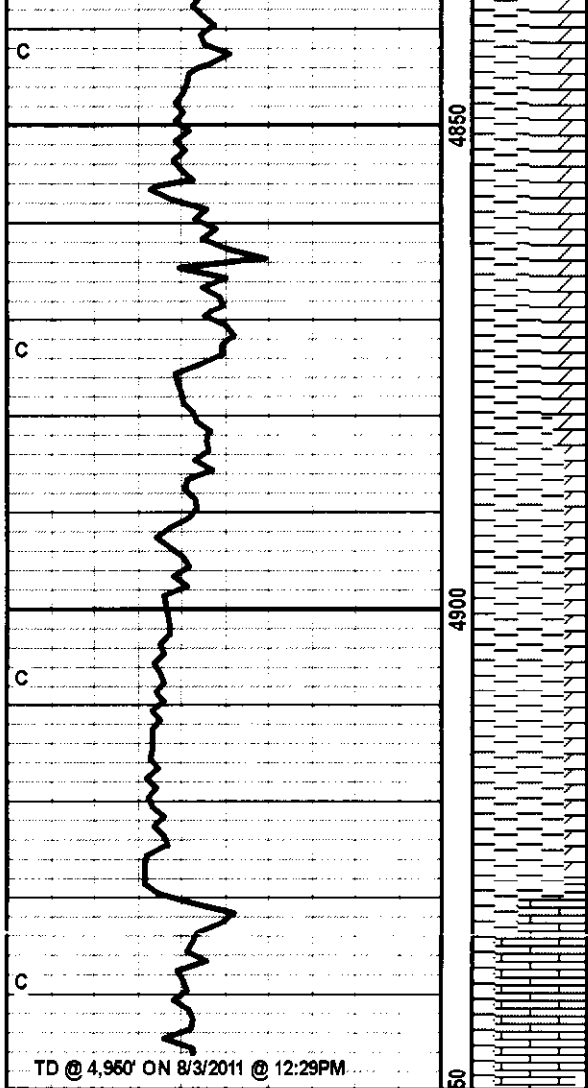
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C

C

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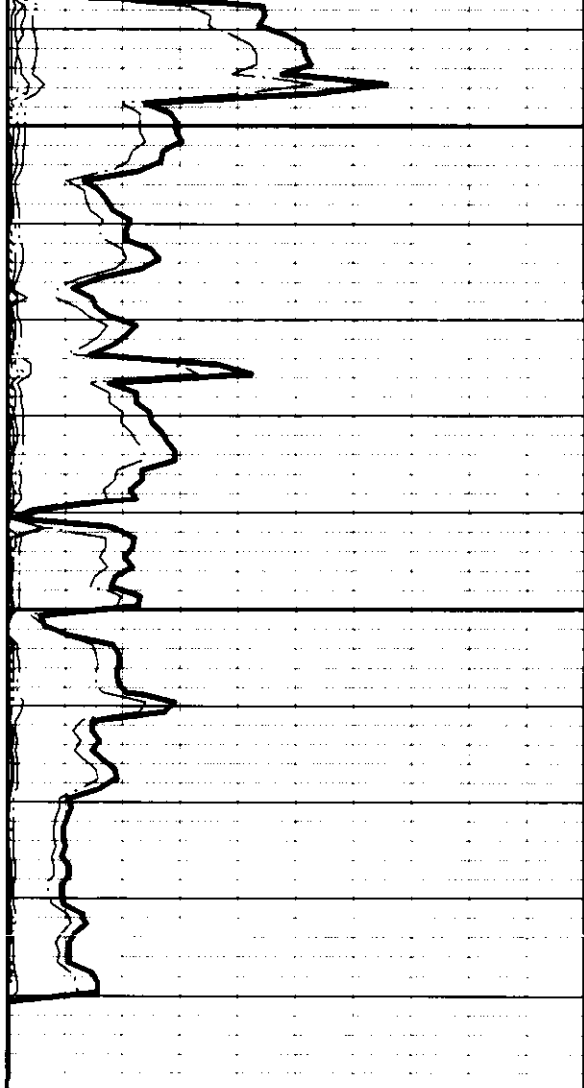


DOLO: AAB

SH: LT GY-GY-GRN, FN TEXT, MD
SFT-FM, SLI DOLO'C, GLAU'C, PYR
I.B., MICA, SLI FISS

SH: AAB

SHT TRP TO 4340', CIRC 1 3/4, DROP
SURVEY, TOH FOR ELOGS



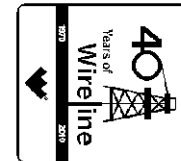
TD @ 4,960' ON 8/3/2011 @ 12:29PM



Weatherford[®]

**ARRAY INDUCTION
SHALLOW FOCUSED
ELECTRIC LOG**

COMPANY **M & M EXPLORATION, INC.**
 WELL **Z-BAR # 20-14**
 FIELD **AETNA GAS AREA**
 PROVINCE/COUNTY **BARBER**
 COUNTRY/STATE **U.S.A. / KANSAS**
 LOCATION **910' FSL & 1480' FWL, SW/4**



SEC **20** TWP **34S** RGE **14W** Other Services
 API Number **15-007-23702** MDN/MPD
 Permit Number **MML**

Permanent Datum G.L., Elevation 1538 feet
 Log Measured From **KB** Elevations: **KB 1550.00**
 Drilling Measured From **K.B. @ 12 FEET** **DF 1548.00**
GL 1538.00

| | |
|------------------------|----------------------|
| Date | 03-AUG-2011 |
| Run Number | ONE |
| Depth Driller | 4950.00 feet |
| Depth Logger | 4946.00 feet |
| First Reading | 4943.00 feet |
| Last Reading | 905.00 feet |
| Casing Driller | 905.00 feet |
| Casing Logger | 905.00 feet |
| Bit Size | 7.875 inches |
| Hole Fluid Type | CHEMICAL |
| Density / Viscosity | 9.20 lb/USg 50.00 CP |
| PH / Fluid Loss | 10.00 7.90 ml/30Min |
| Sample Source | FLOWLINE |
| Rm @ Measured Temp | 0.43 @ 78.0 ohm-m |
| Rmf @ Measured Temp | 0.34 @ 78.0 ohm-m |
| Rmc @ Measured Temp | 0.52 @ 78.0 ohm-m |
| Source Rmf / Rmc | CALC CALC |
| Rm @ BHT | 0.28 @ 123.0 ohm-m |
| Time Since Circulation | 5 HOURS |
| Max Recorded Temp | 123.00 deg F |
| Equipment Name | COMPACT |
| Equipment / Base | 13057 LIB |
| Recorded By | A. GIAMBALVO |
| Witnessed By | BETH BROCK |
| SO / JOB # | 353114 |

| BOREHOLE RECORD | | | Last Edited: 04-AUG-2011 09:31 |
|---------------------|--------------------|--------------------|--------------------------------|
| Bit Size inches | Depth From feet | Depth To feet | |
| 7.875 | 905.00 | 4946.00 | |
| CASING RECORD | | | |
| Type | Size inches | Depth From feet | Shoe Depth feet |
| SURFACE | 8.625 | 0.00 | 905.00 |
| Weight pounds/ft | | | |
| | | | 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 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.
 MML caliper closed during repeat section from 4692 to 4702.
 MPD caliper closed during repeat section from 4702 to 4713.
 Annular volume with 4.5 inch production casing from TD to 3800 = 260 cu. ft.
 Service order #353114
 Rig: Southwind Drilling #70
 Engineer: A. Giambalvo, W. Stambaugh
 Operator(s): B. Reeves, N. Adame

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.

2 INCH MAIN PASS

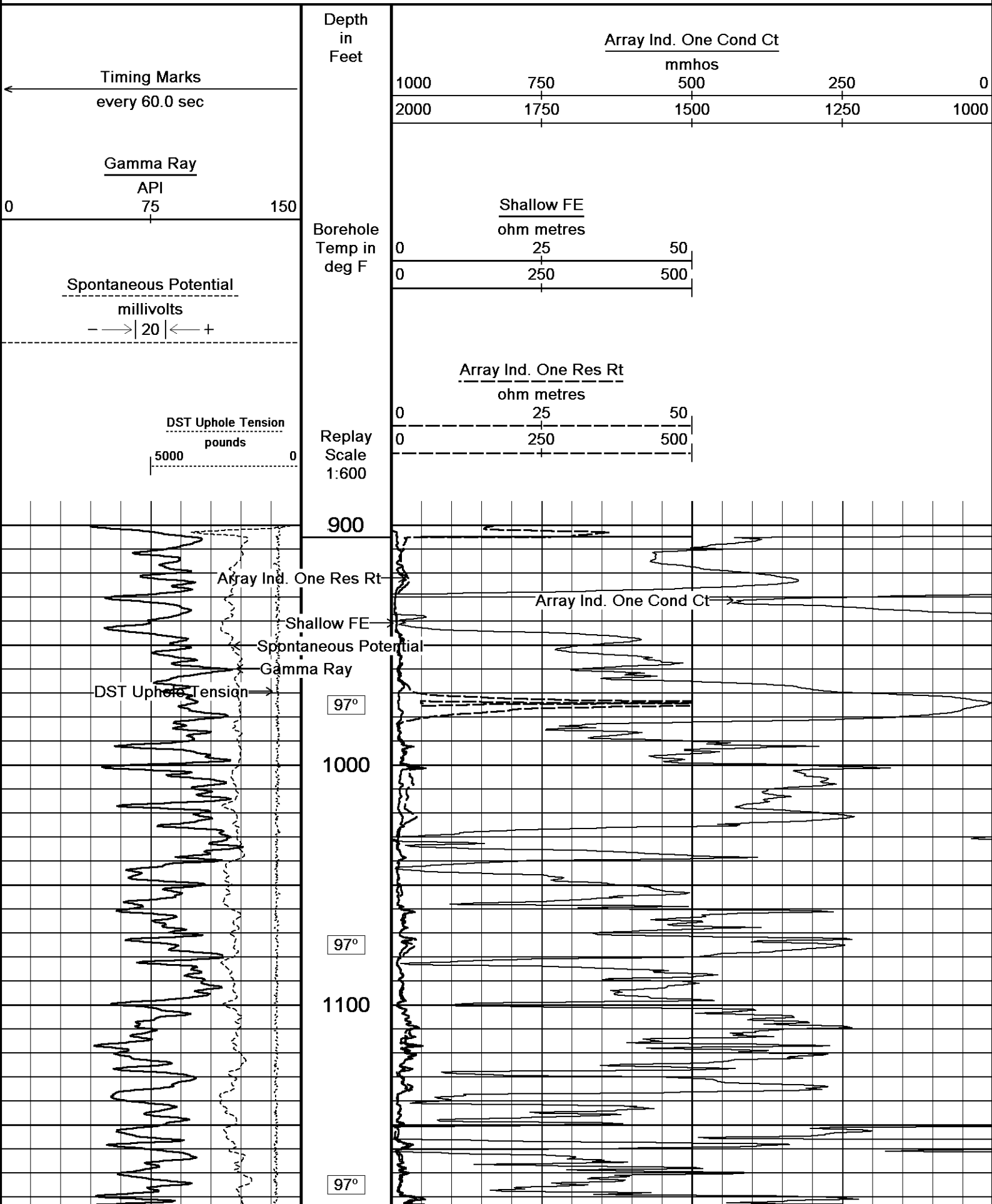
Depth Based Data - Maximum Sampling Increment 10.0cm

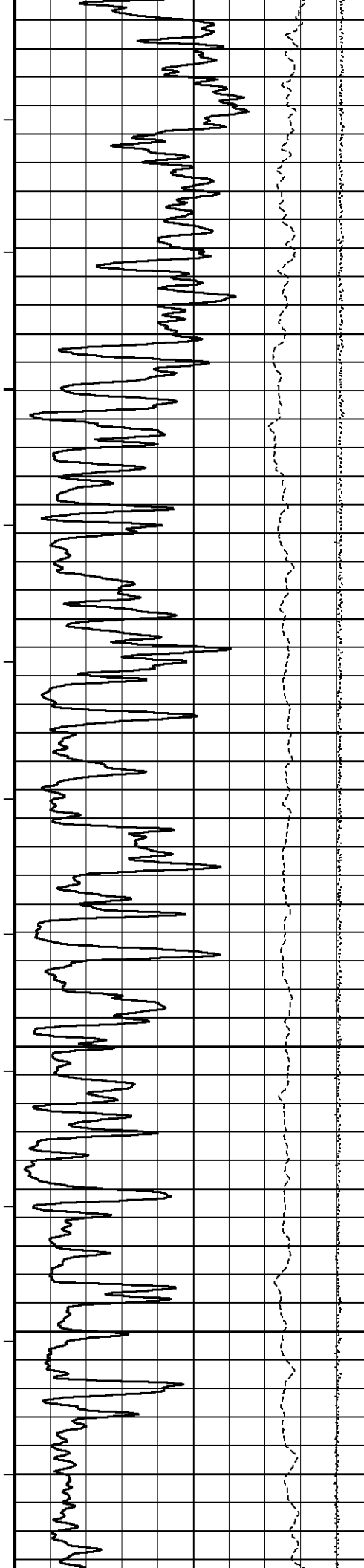
Plotted on 04-AUG-2011 11:05

Filename: C:\Minimus 11.02.3186\Data\M&M Z-Bar #20-14\M&M Z-Bar #20-14_003.dta

Recorded on 04-AUG-2011 09:20

System Versions: Logged with 11.03.4044 Plotted with 11.03.4044





1200

97°

1300

98°

1400

98°

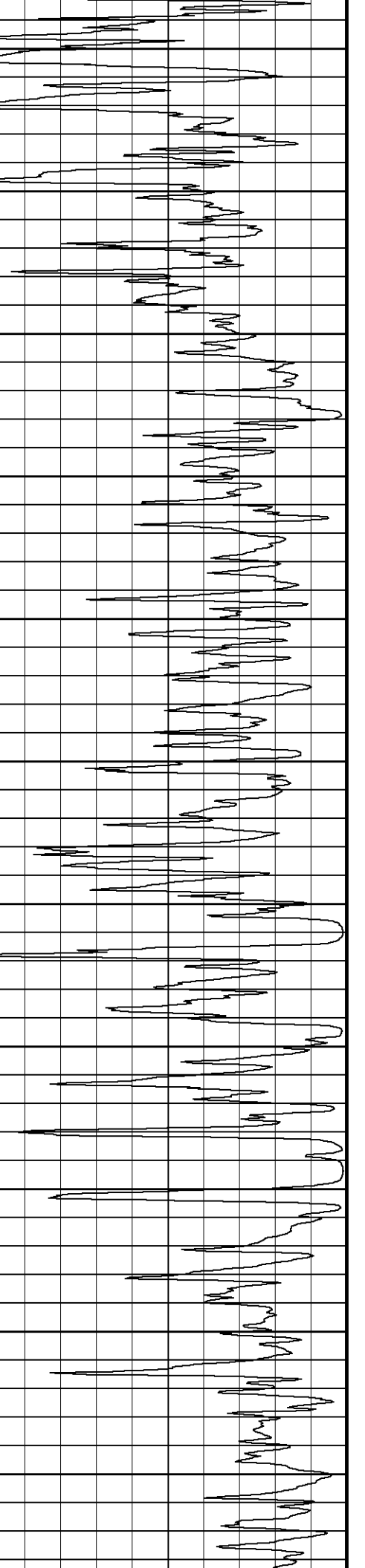
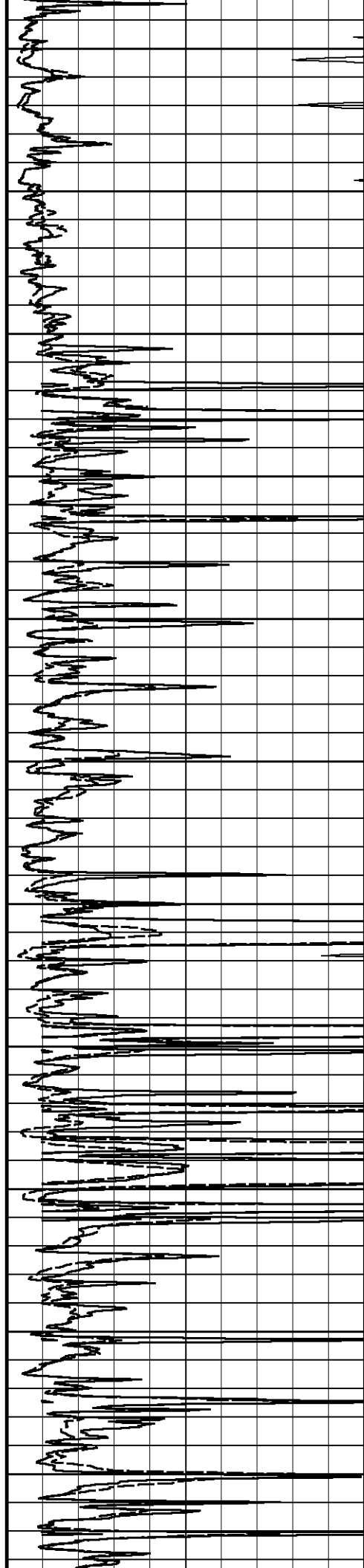
1500

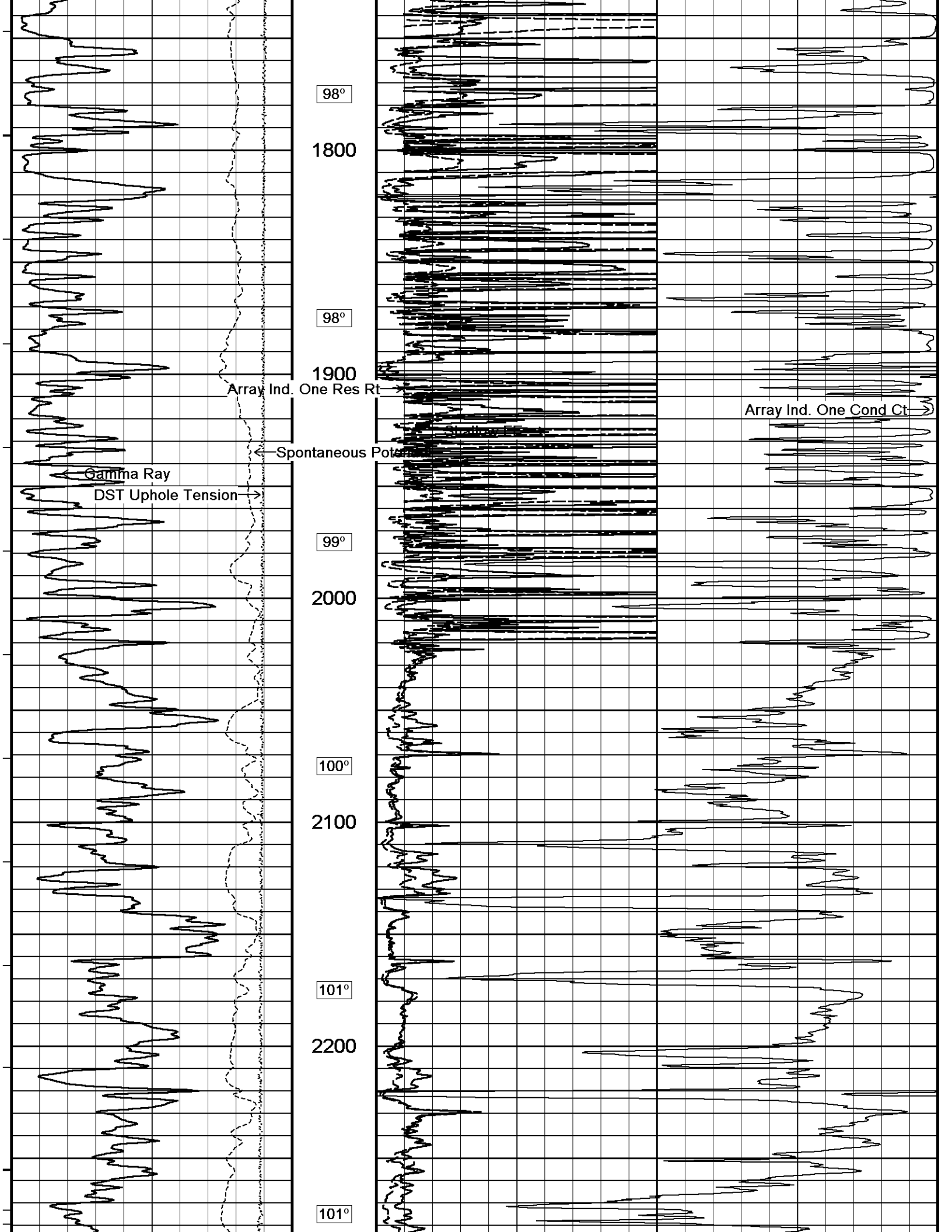
98°

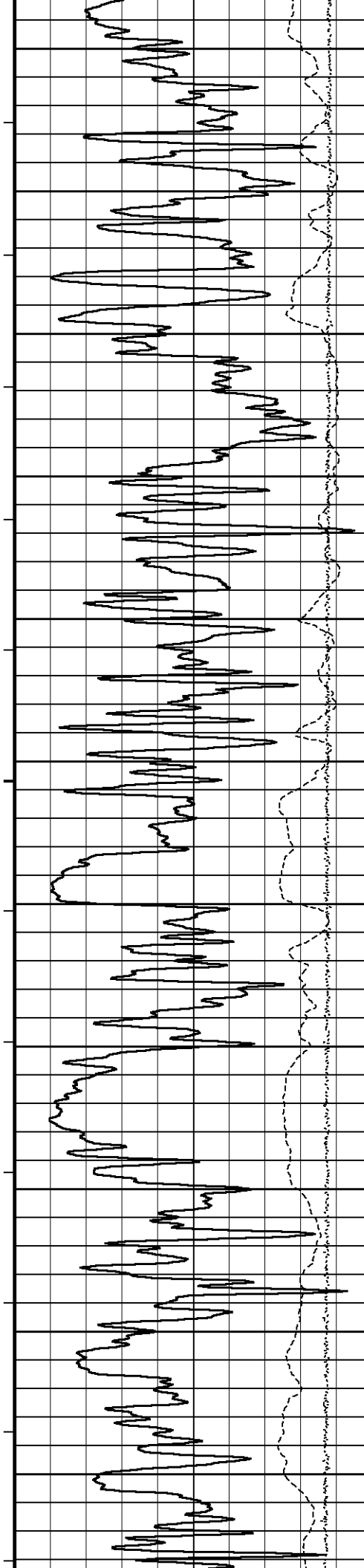
1600

98°

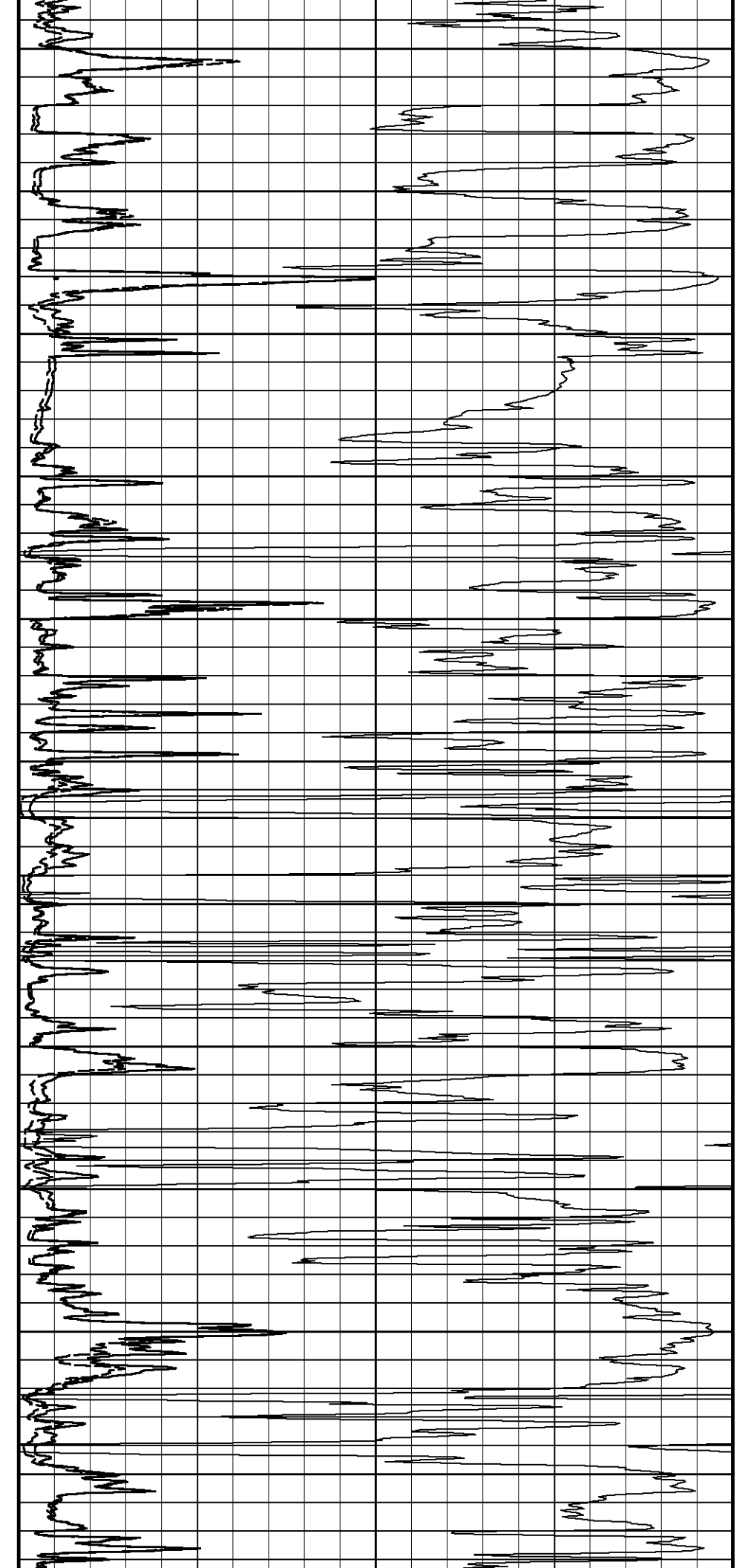
1700

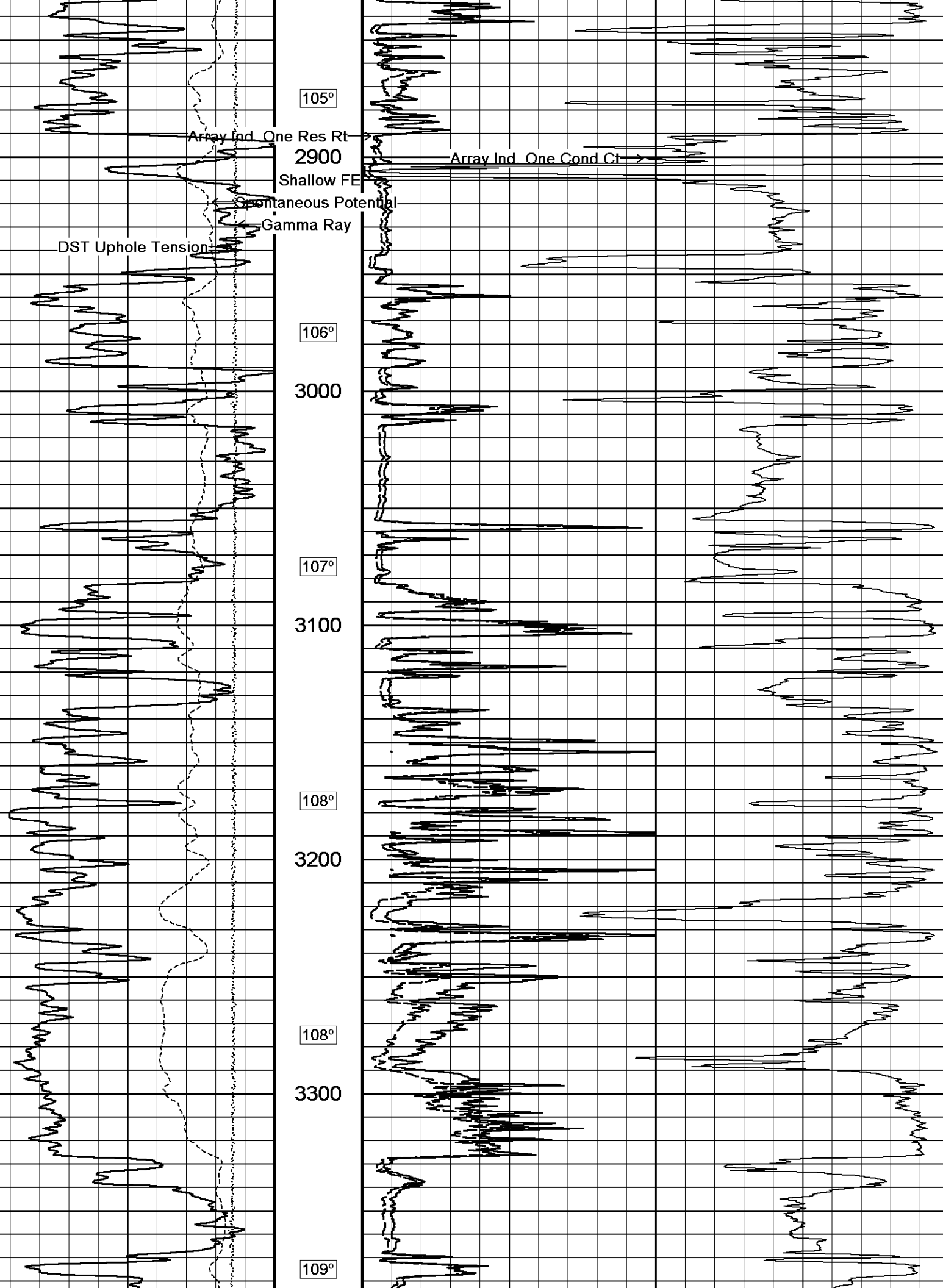


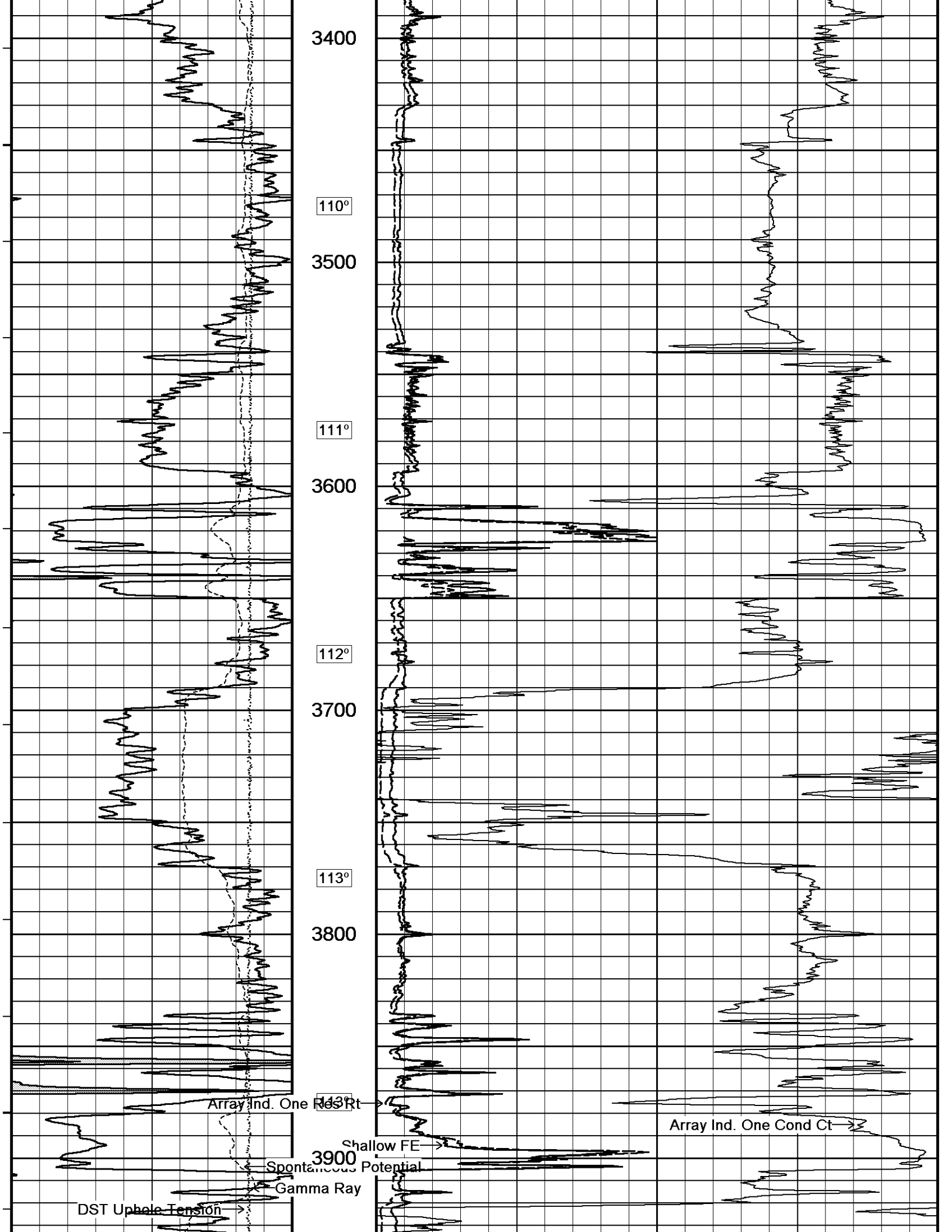


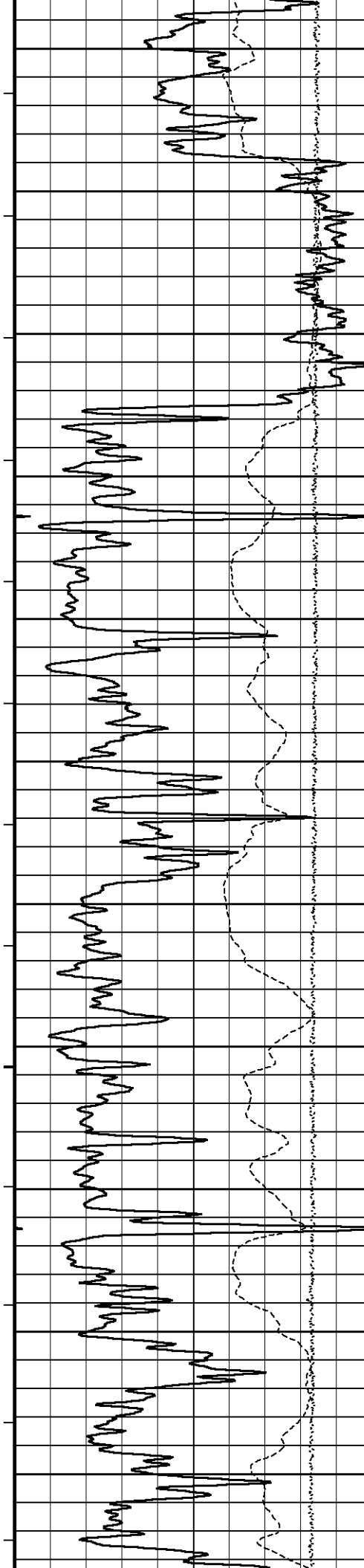


2300
102°
2400
103°
2500
103°
2600
103°
2700
104°
2800









114°

4000

114°

4100

115°

4200

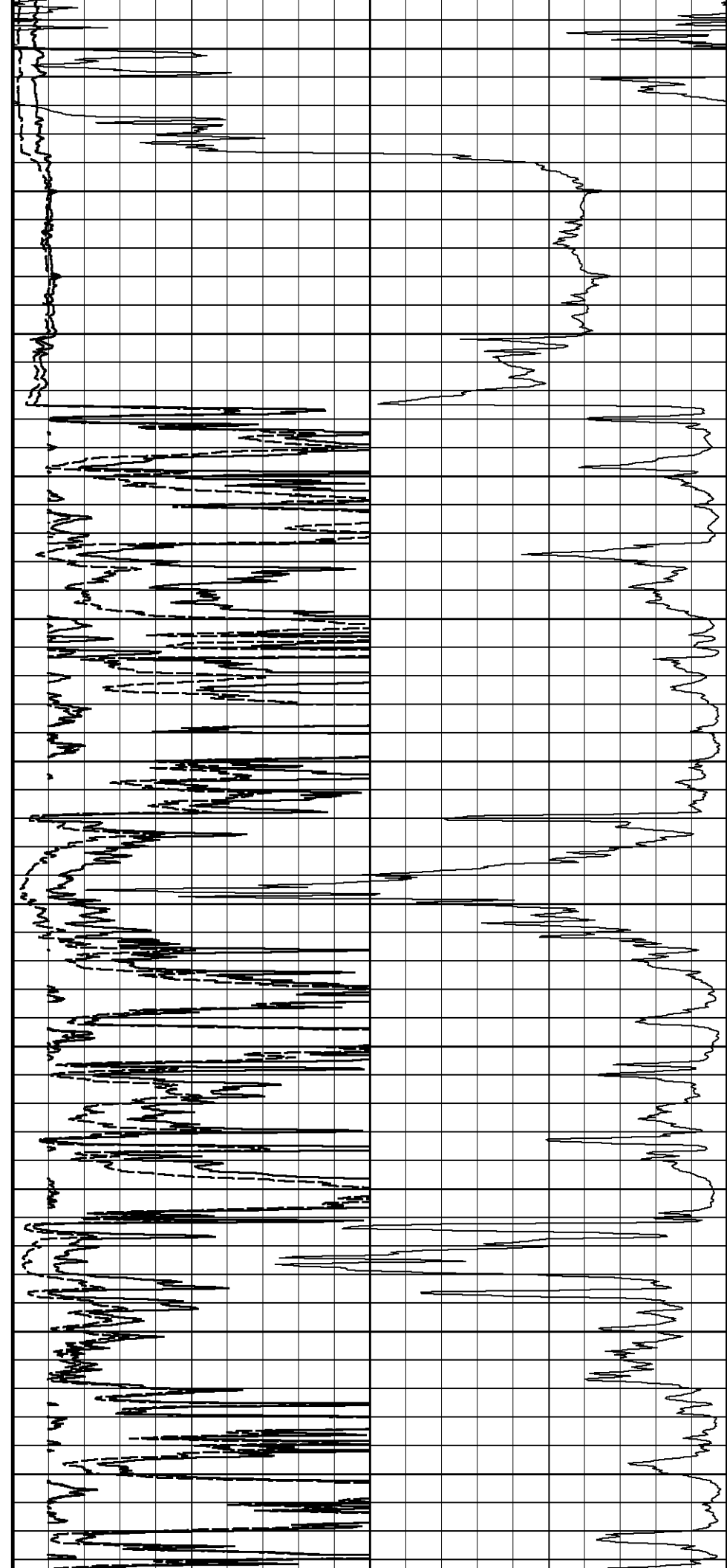
116°

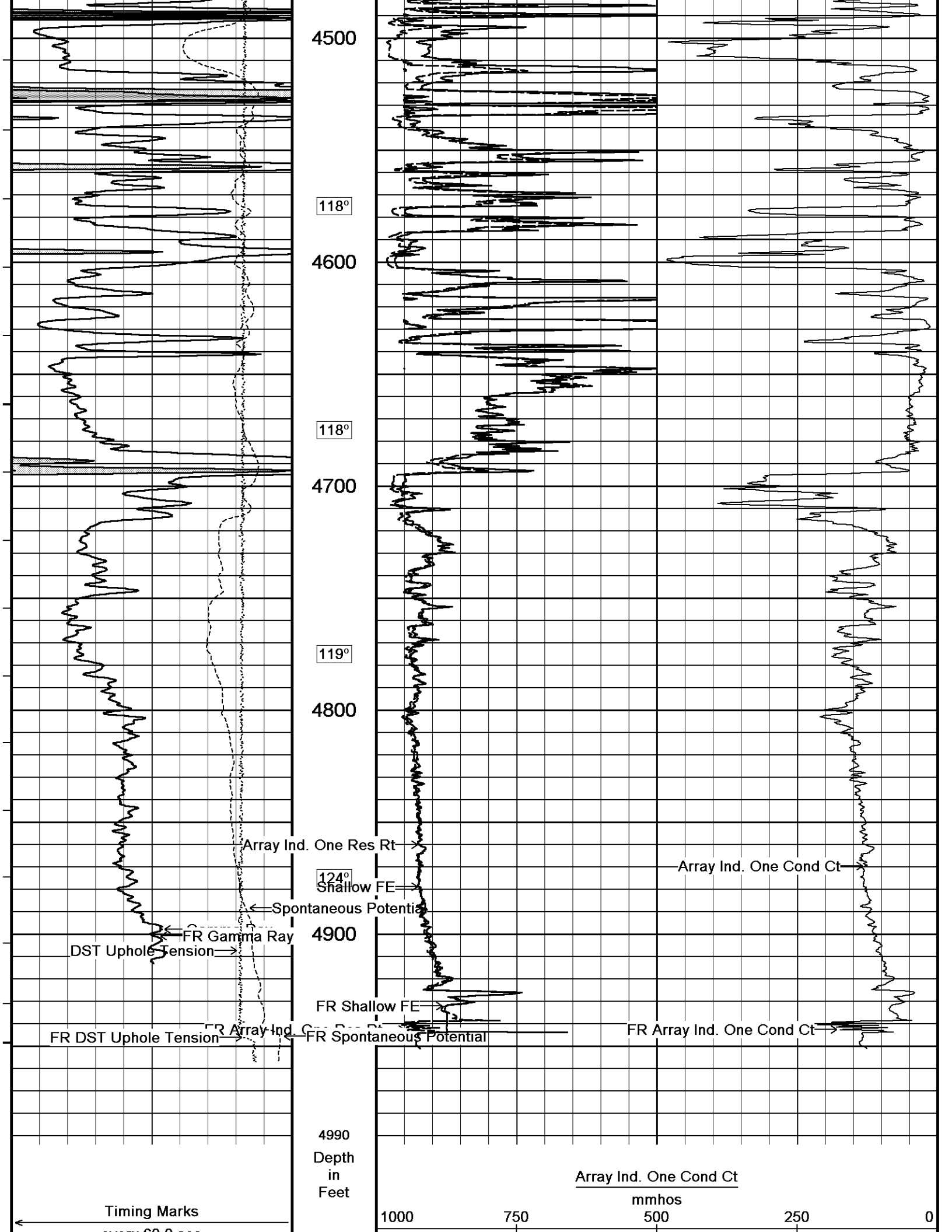
4300

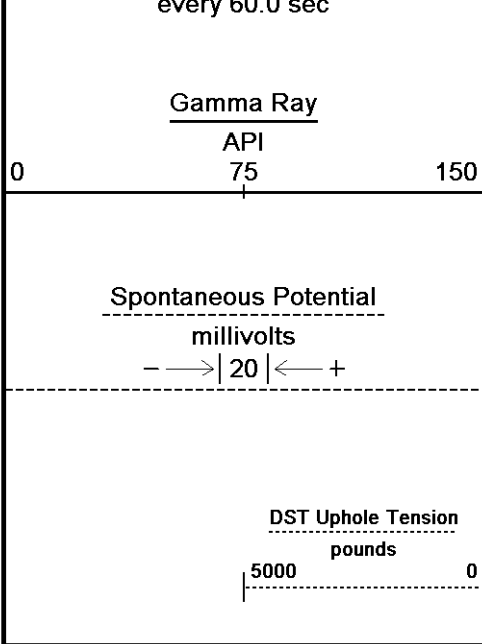
116°

4400

117°

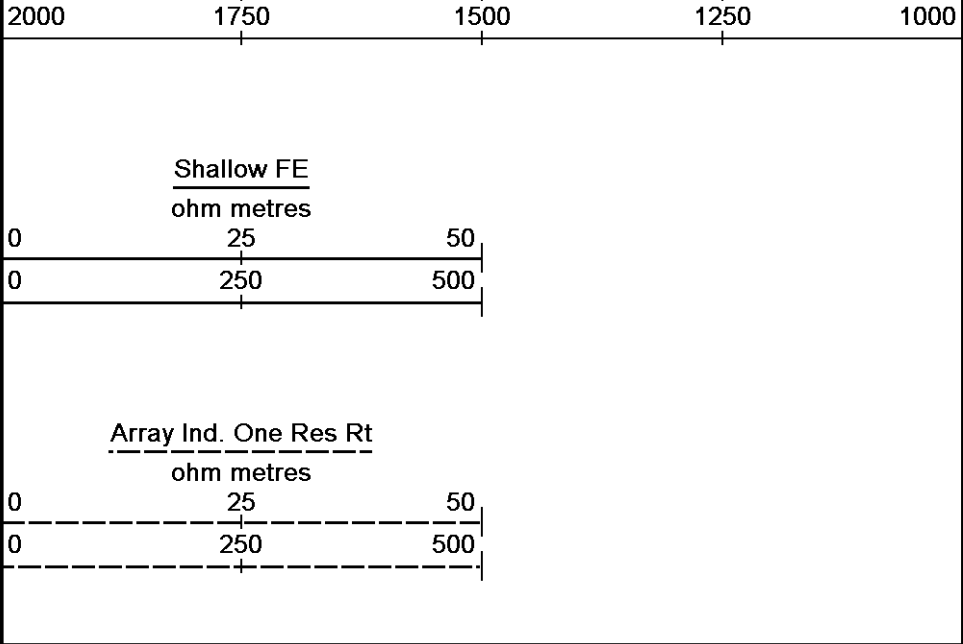






Borehole Temp in deg F

Replay Scale 1:600

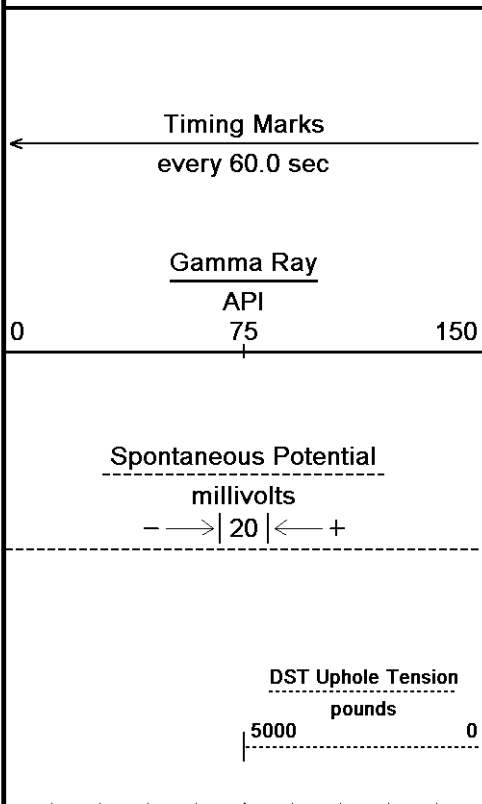


Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 04-AUG-2011 11:05
 Filename: C:\Minimus 11.02.3186\Data\M&M Z-Bar #20-14\M&M Z-Bar #20-14_003.dta
 Recorded on 04-AUG-2011 09:20
 System Versions: Logged with 11.03.4044 Plotted with 11.03.4044

↑ 2 INCH MAIN PASS ↑

↓ 5 INCH MAIN PASS ↓

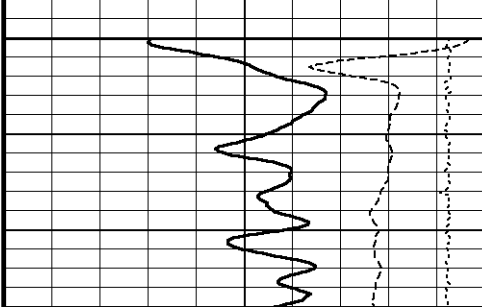
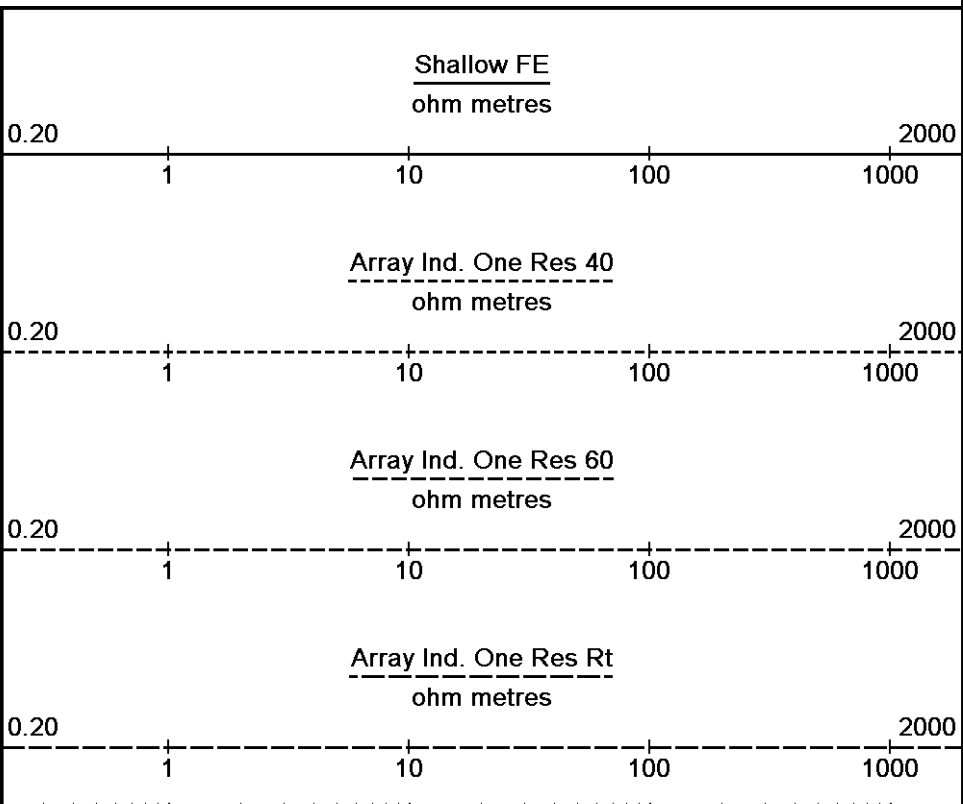
Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 04-AUG-2011 11:05
 Filename: C:\Minimus 11.02.3186\Data\M&M Z-Bar #20-14\M&M Z-Bar #20-14_003.dta
 Recorded on 04-AUG-2011 09:20
 System Versions: Logged with 11.03.4044 Plotted with 11.03.4044



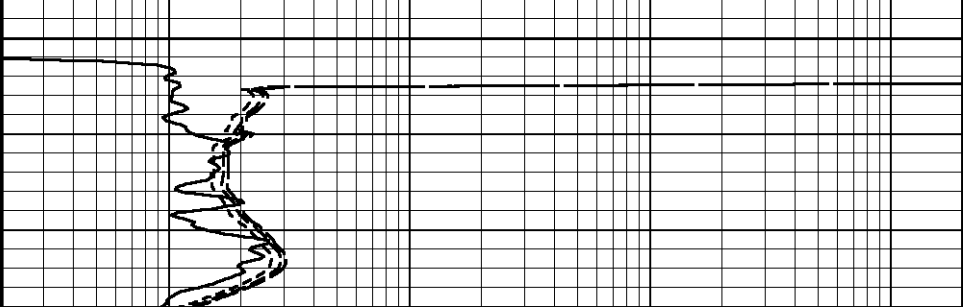
Depth in Feet

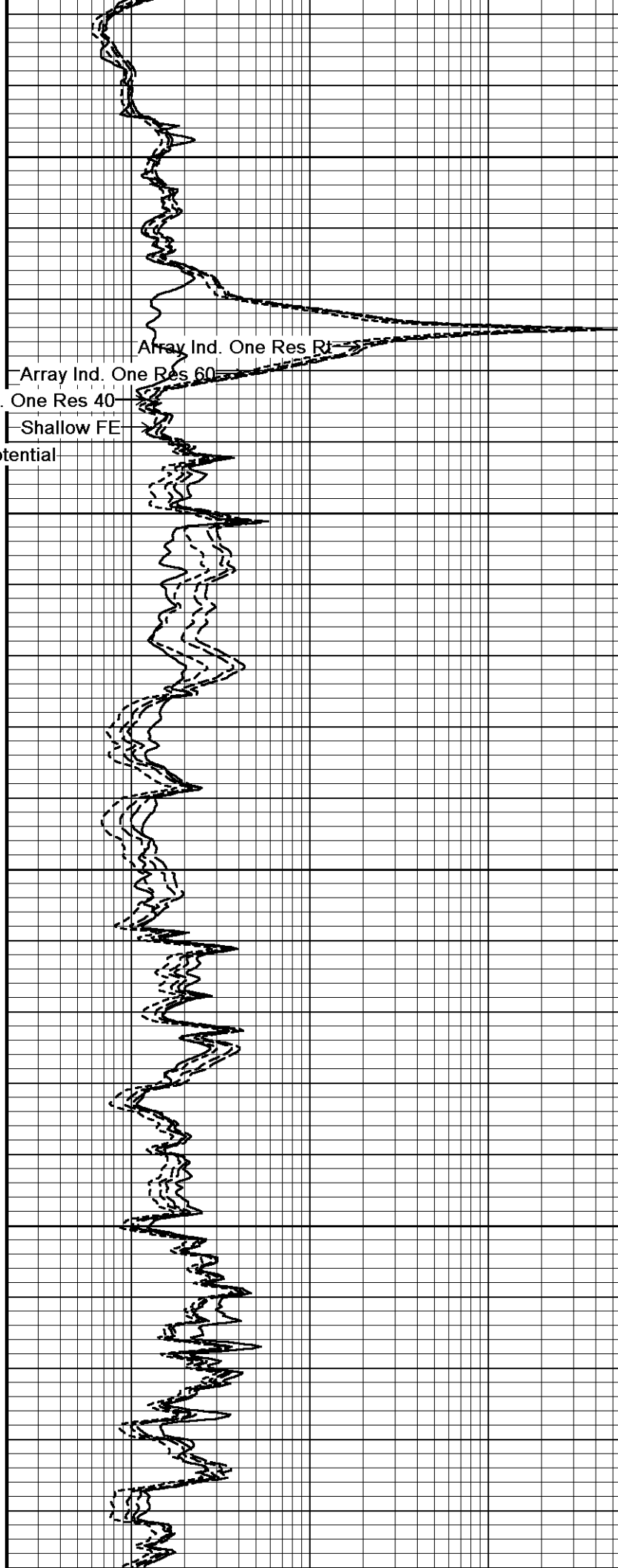
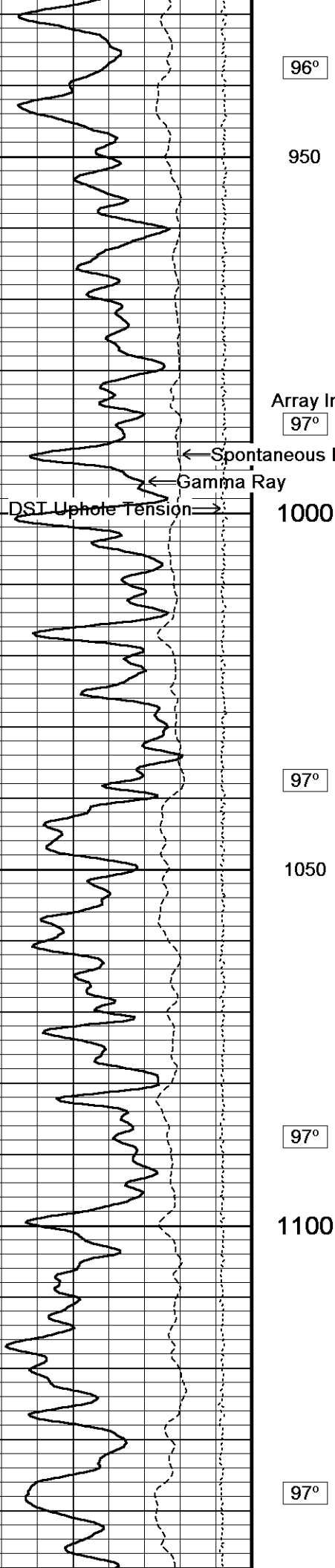
Borehole Temp in deg F

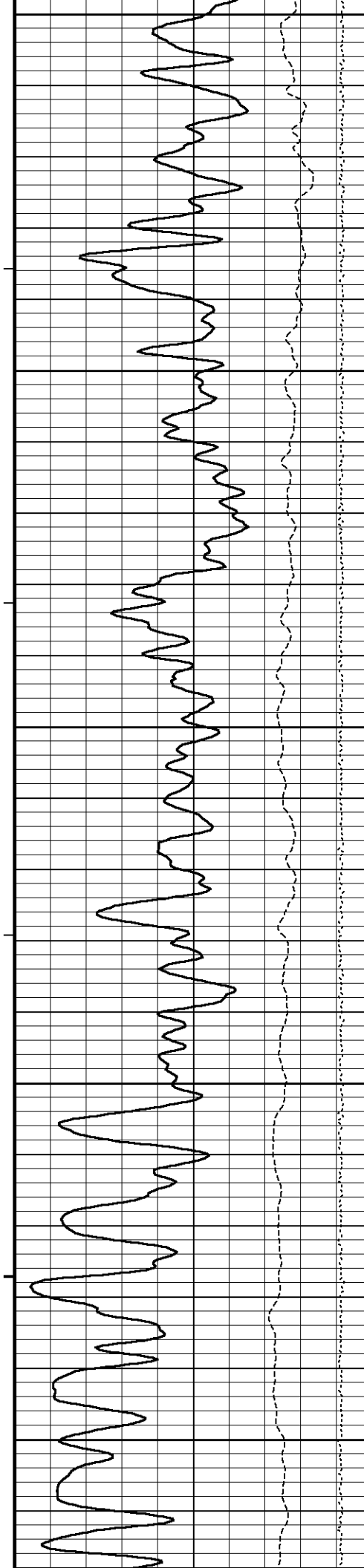
Replay Scale 1:240



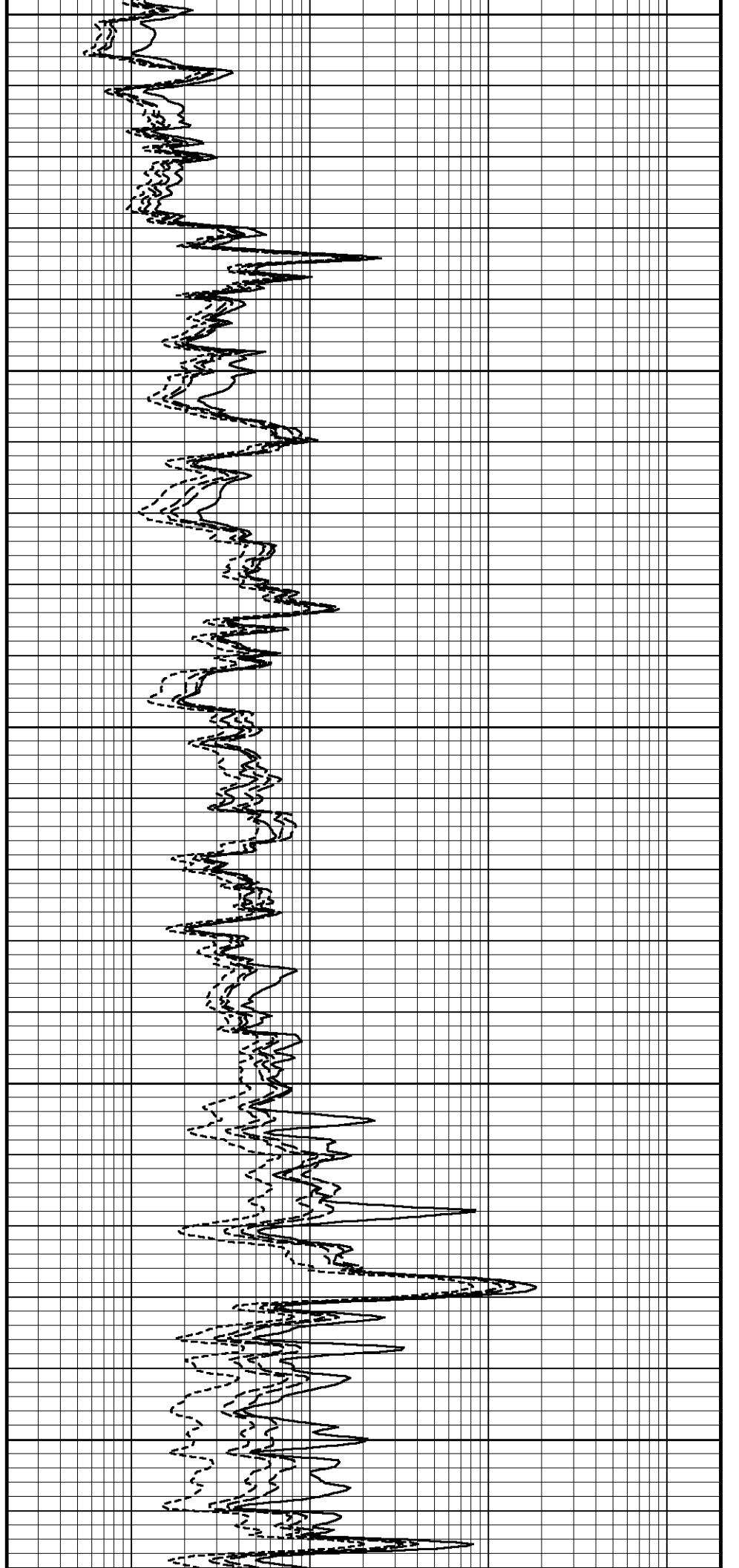
c900g Shoe

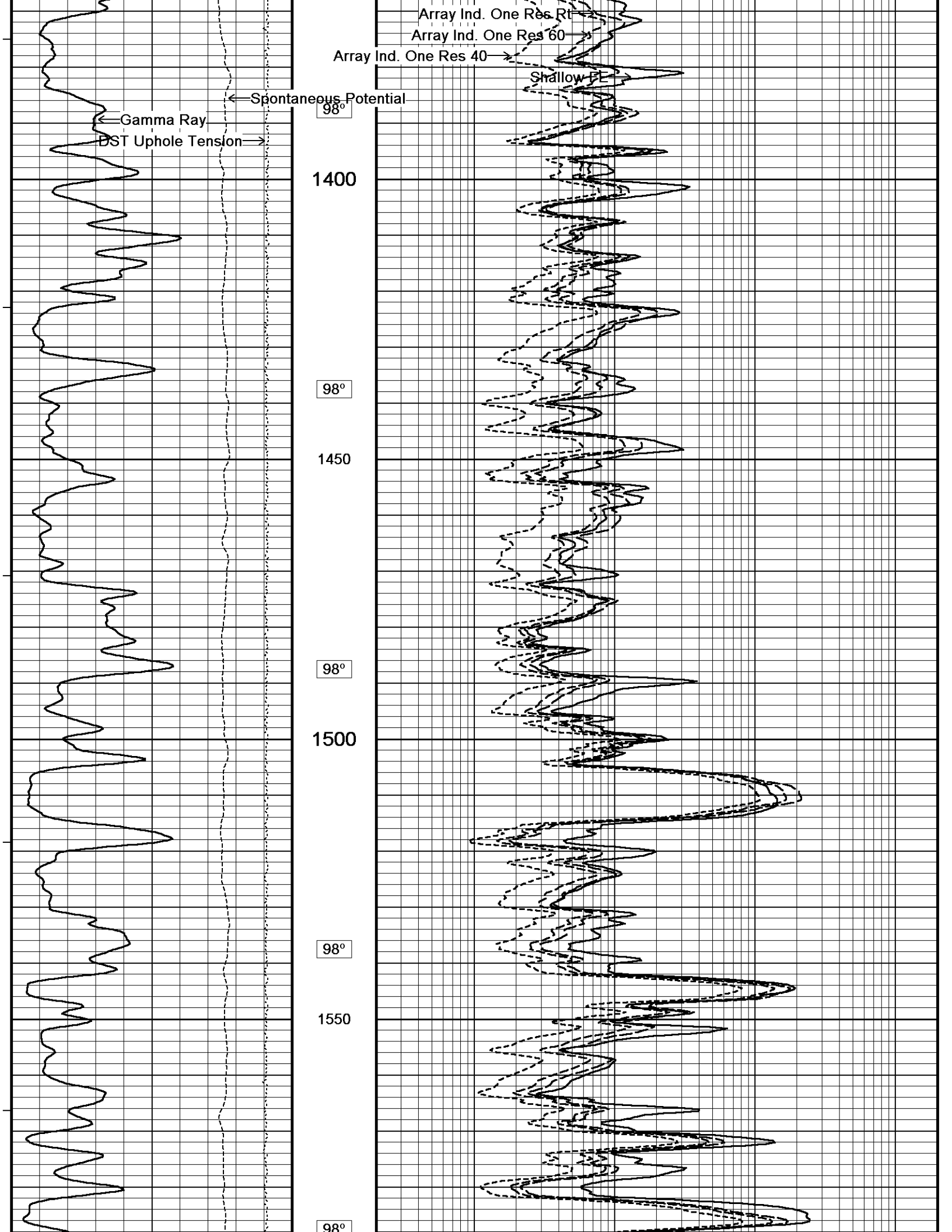


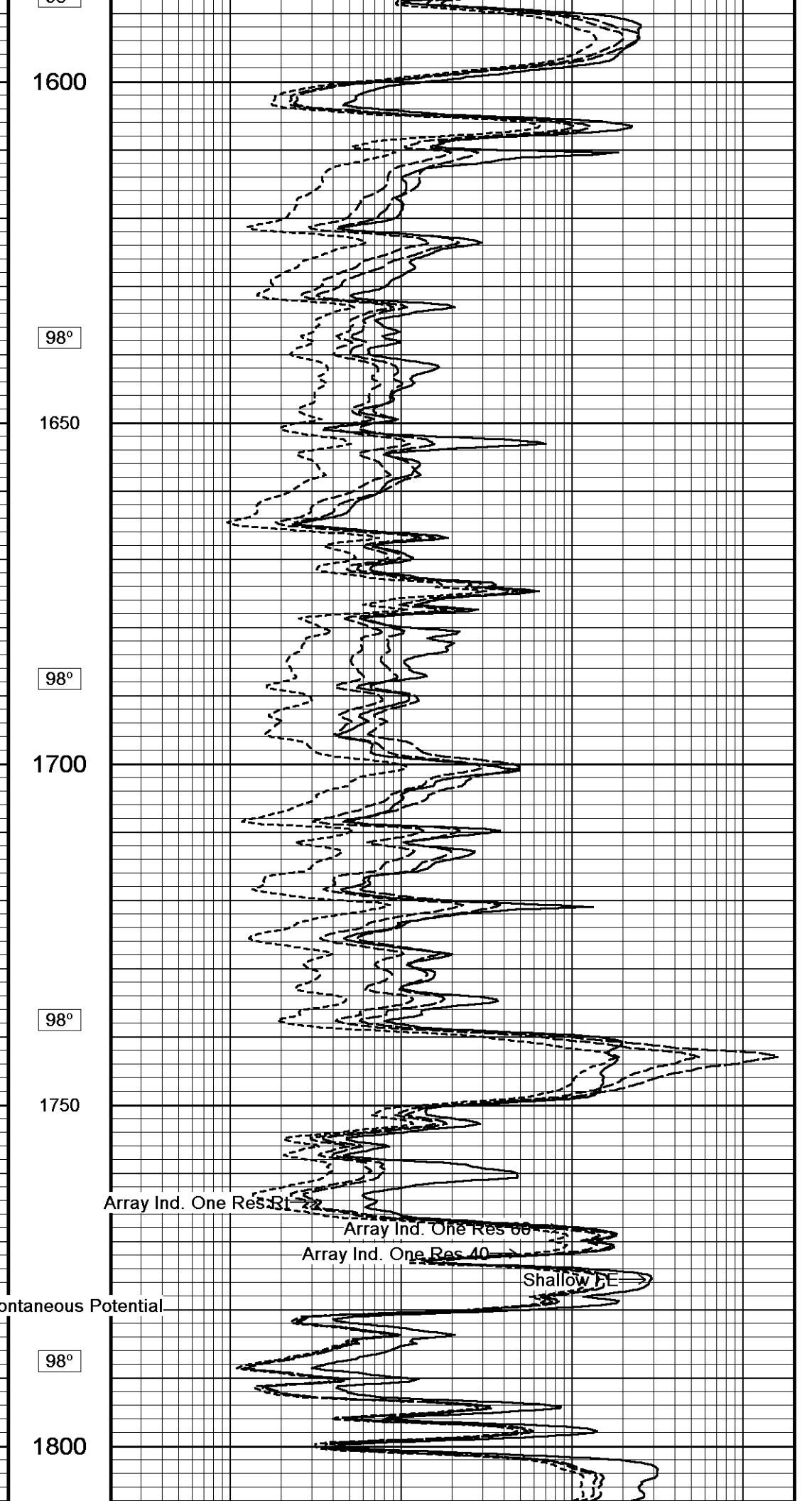
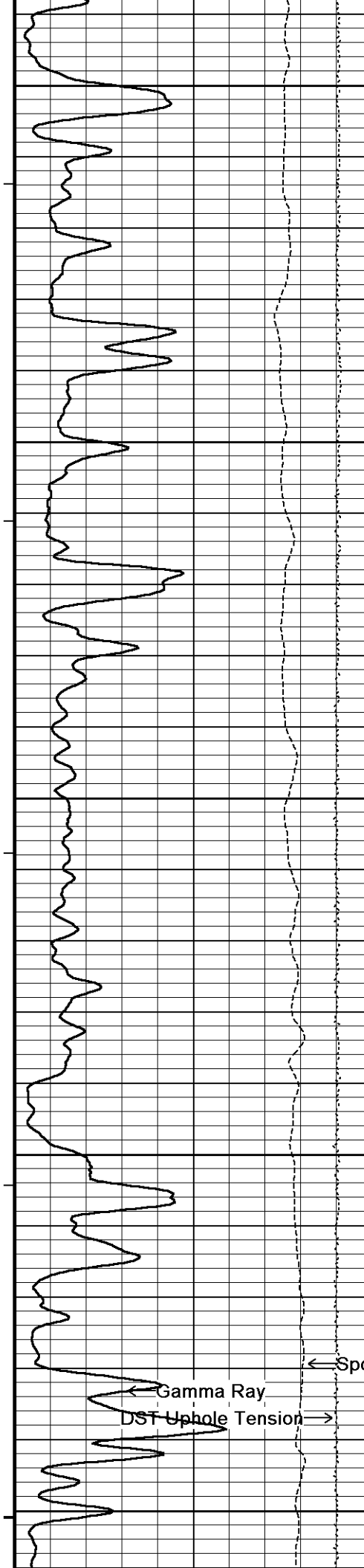




1150
97°
1200
97°
1250
97°
1300
98°
1350



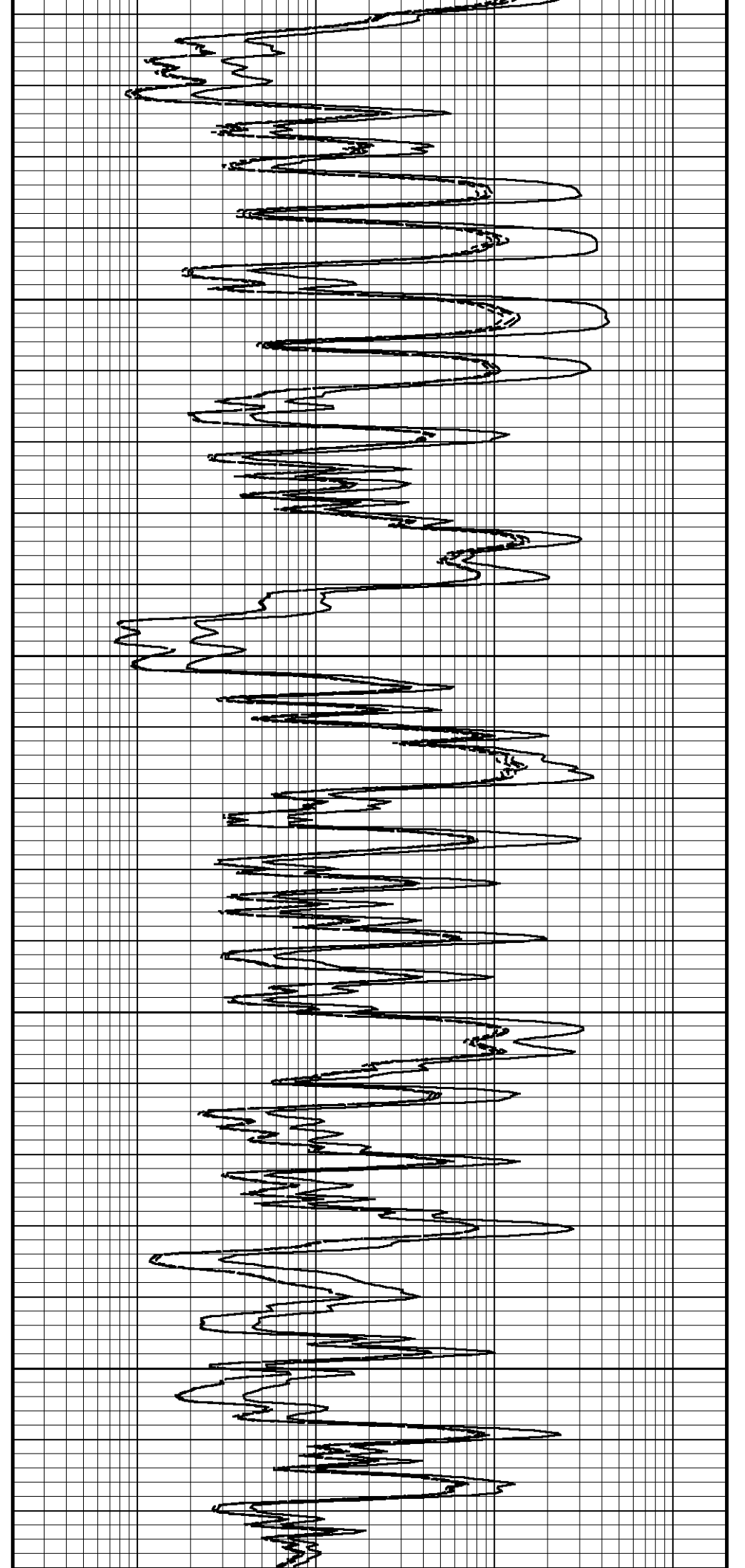
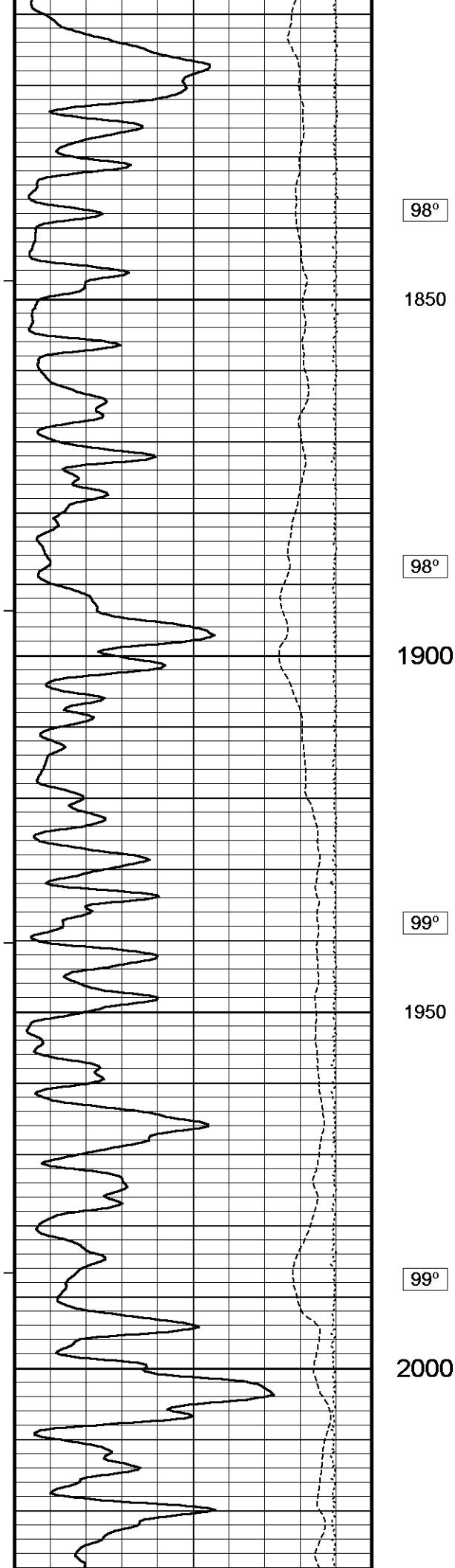




← Gamma Ray
DST Uphole Tension →

← Spontaneous Potential

Array Ind. One Res 31
Array Ind. One Res 66
Array Ind. One Res 40
Shallow DF



99°

2050

100°

2100

100°

2150

Array Ind. One Res Rt

Array Ind. One Res 60

Array Ind. One Res 40

Shallow FF

← Spontaneous Potential

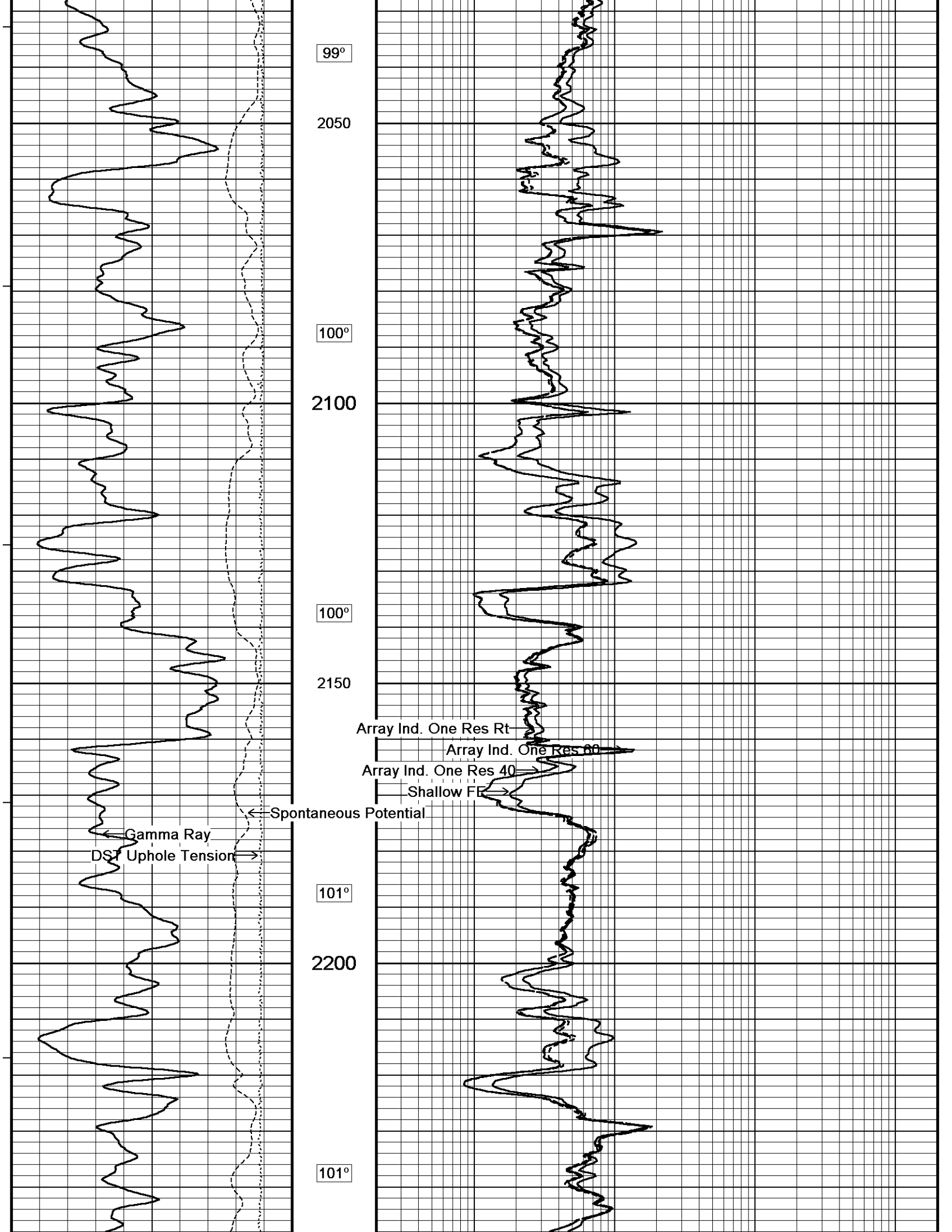
Gamma Ray

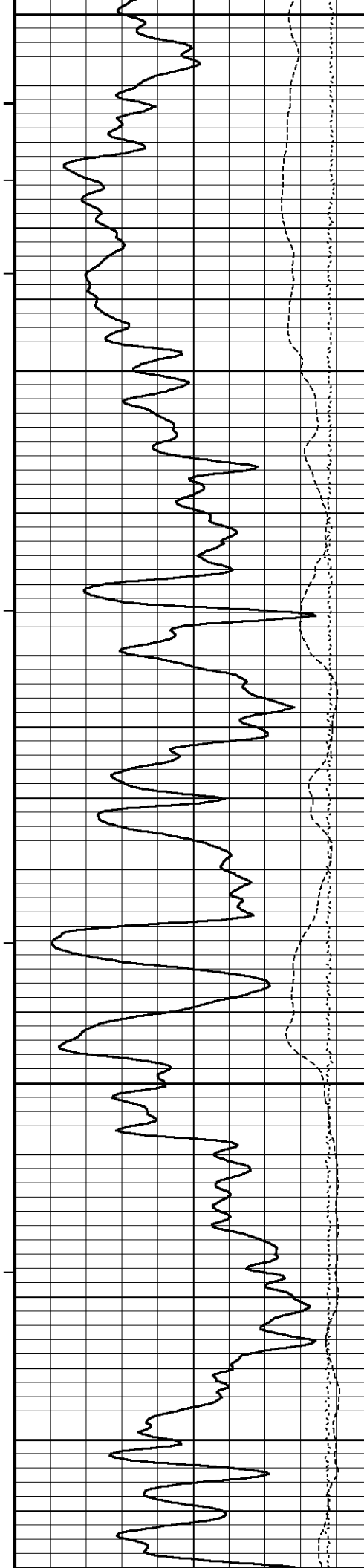
DST Uphole Tension →

101°

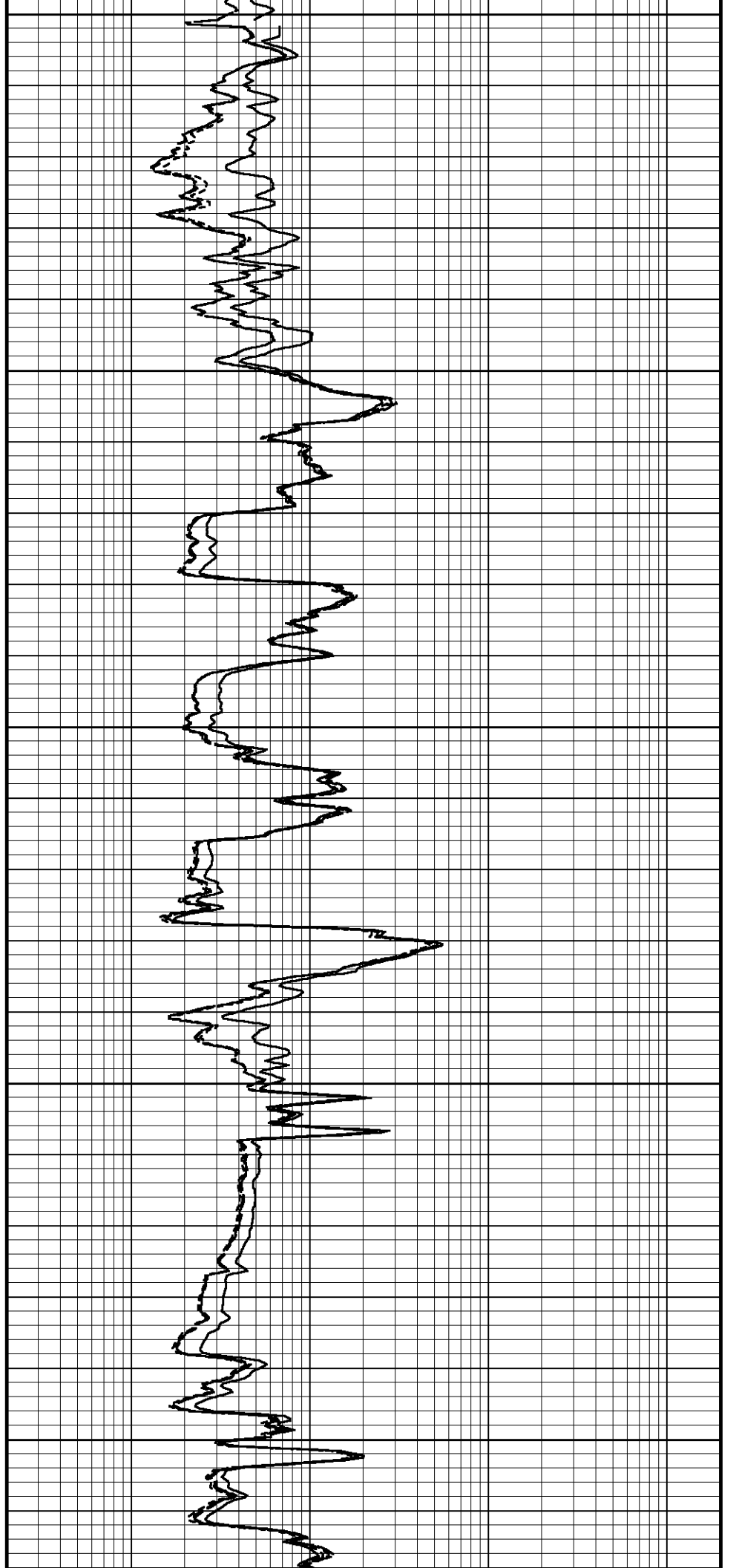
2200

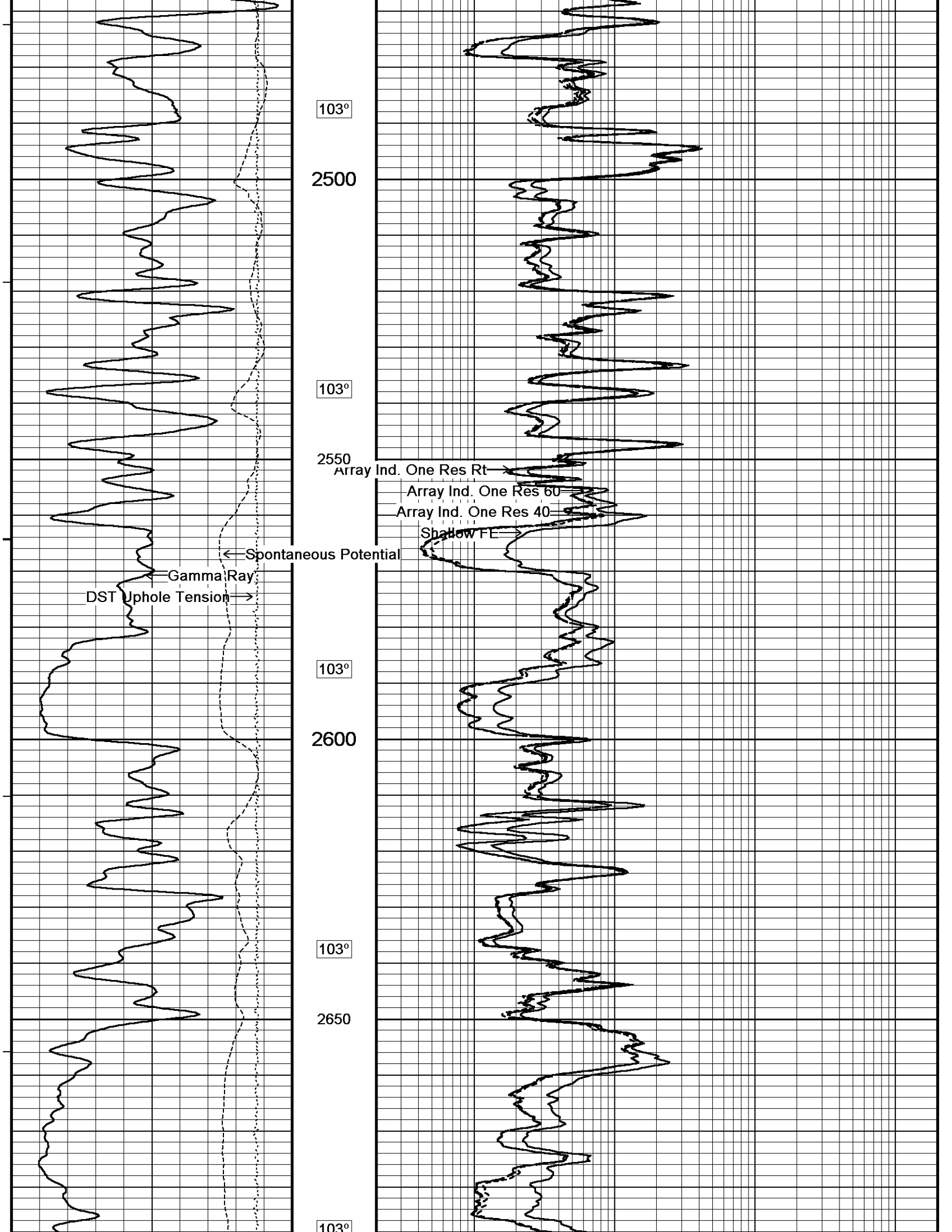
101°

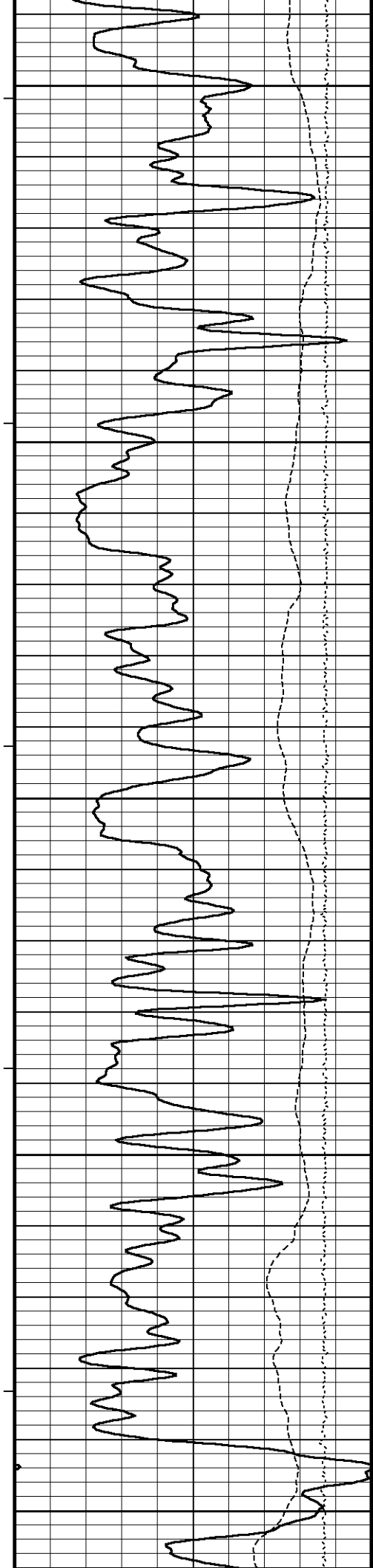




2250
101°
2300
102°
2350
102°
2400
103°
2450







105°

2700

104°

2750

104°

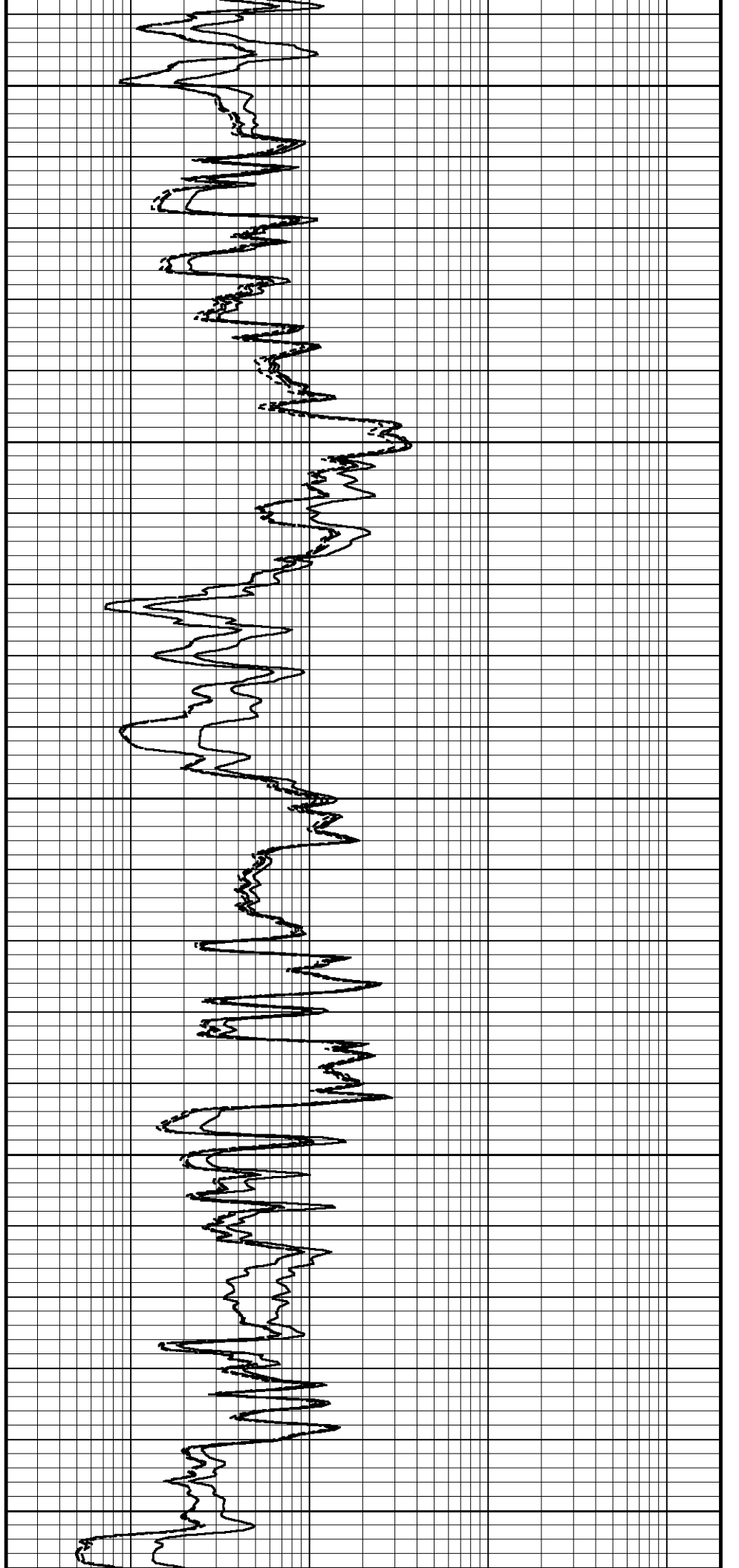
2800

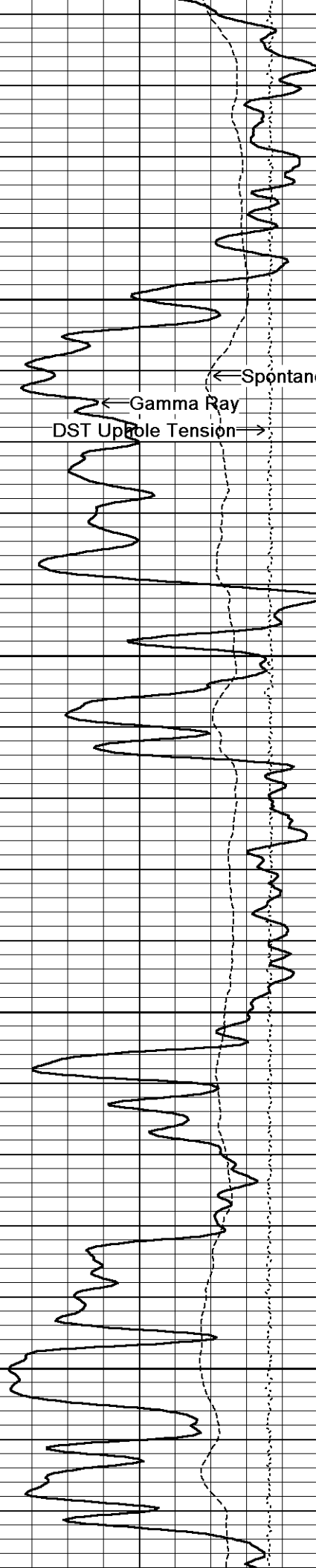
105°

2850

105°

2900





106°

Array Ind. One Res Rt
2950 Array Ind. One Res 60
Array Ind. One Res 40

Shallow FL

106°

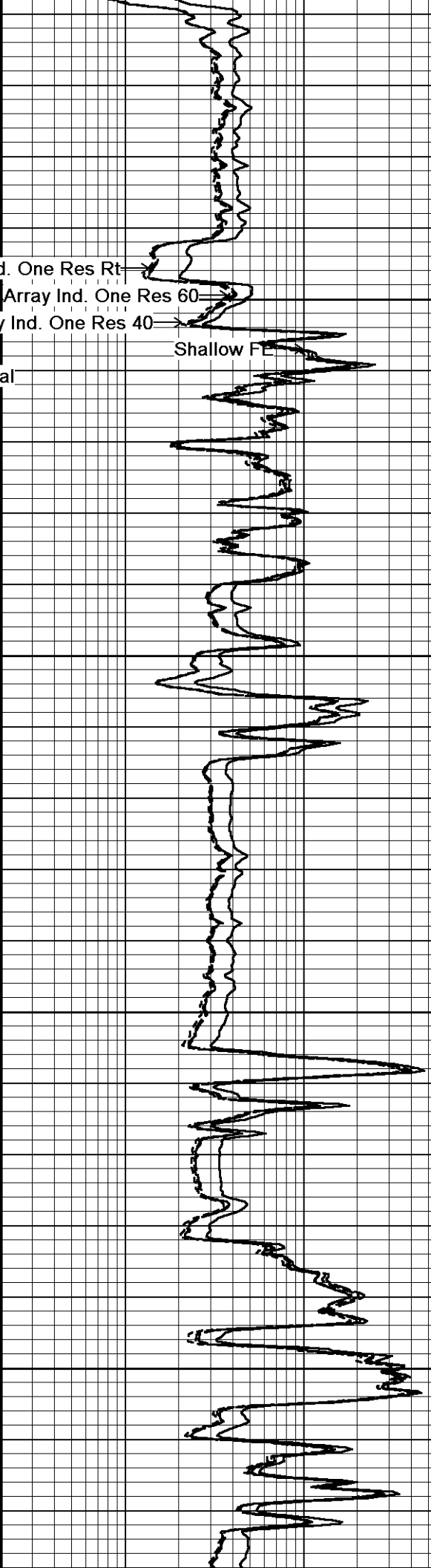
3000

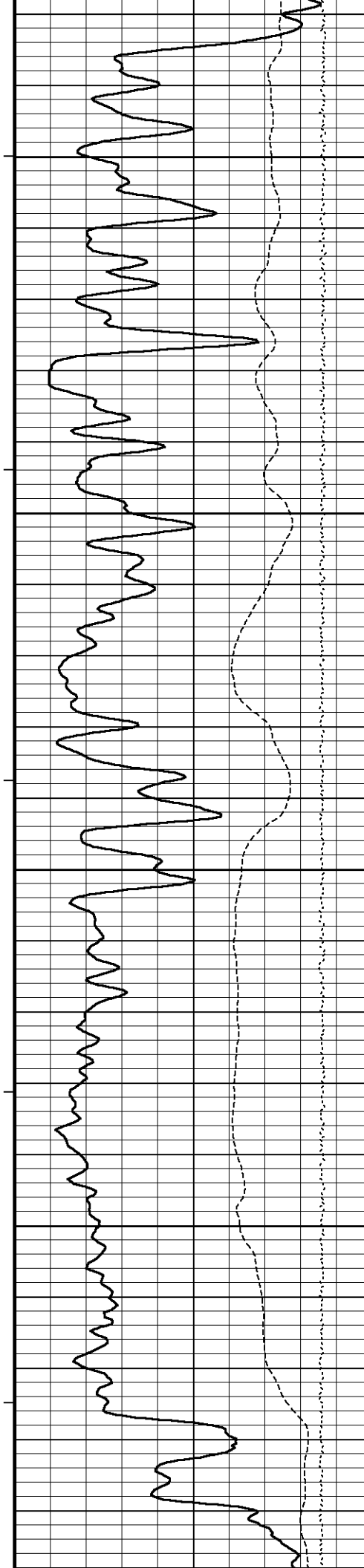
107°

3050

107°

3100





107°

3150

108°

3200

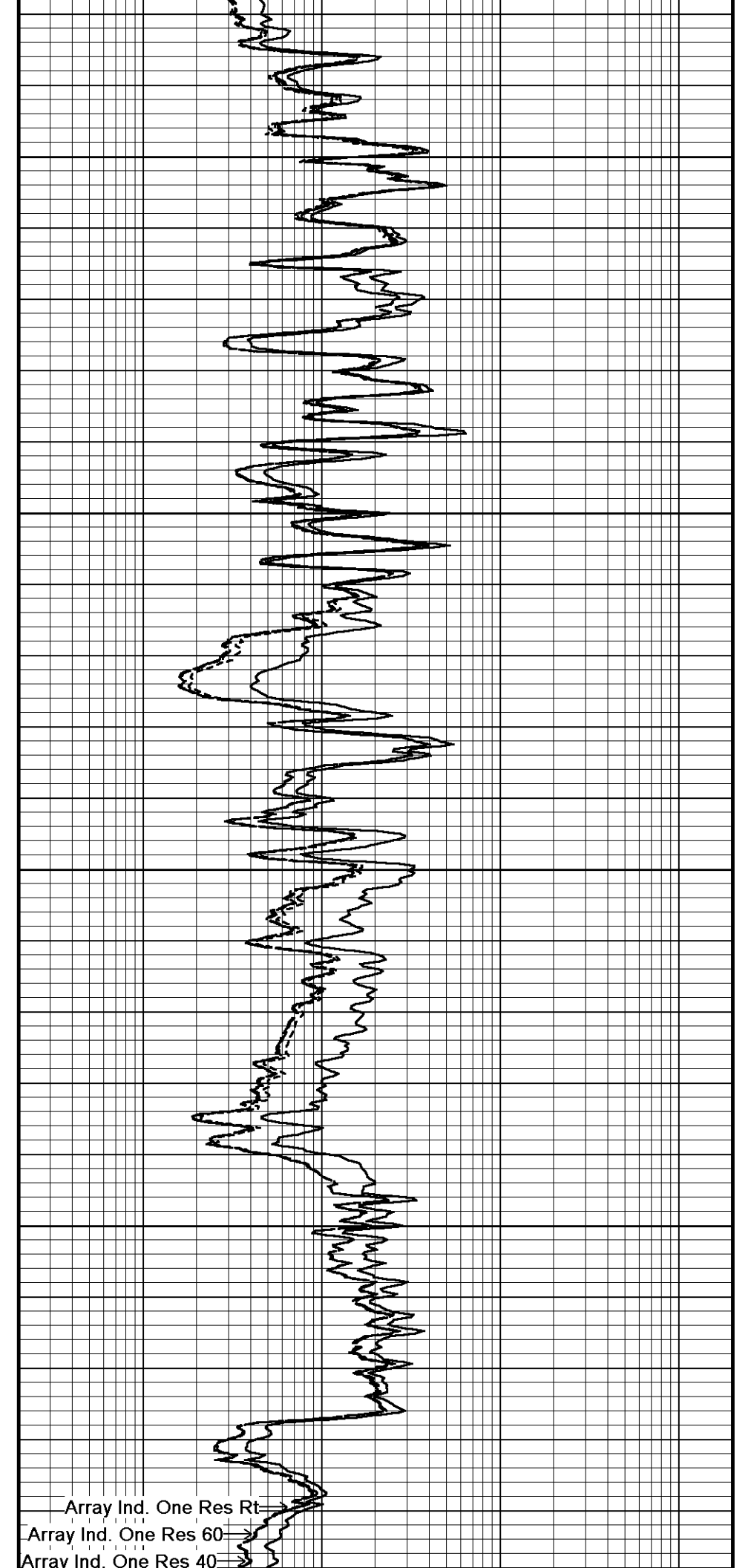
108°

3250

109°

3300

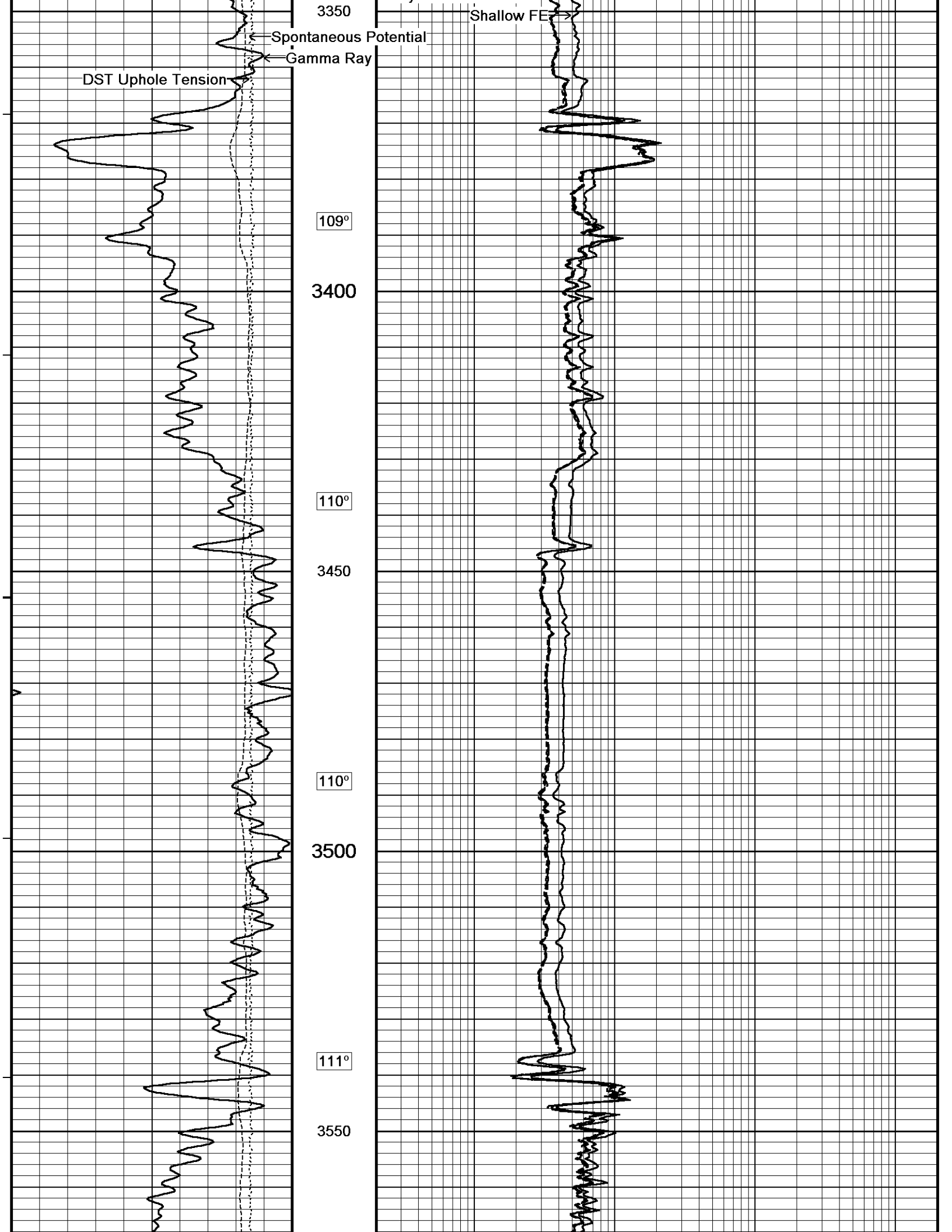
109°

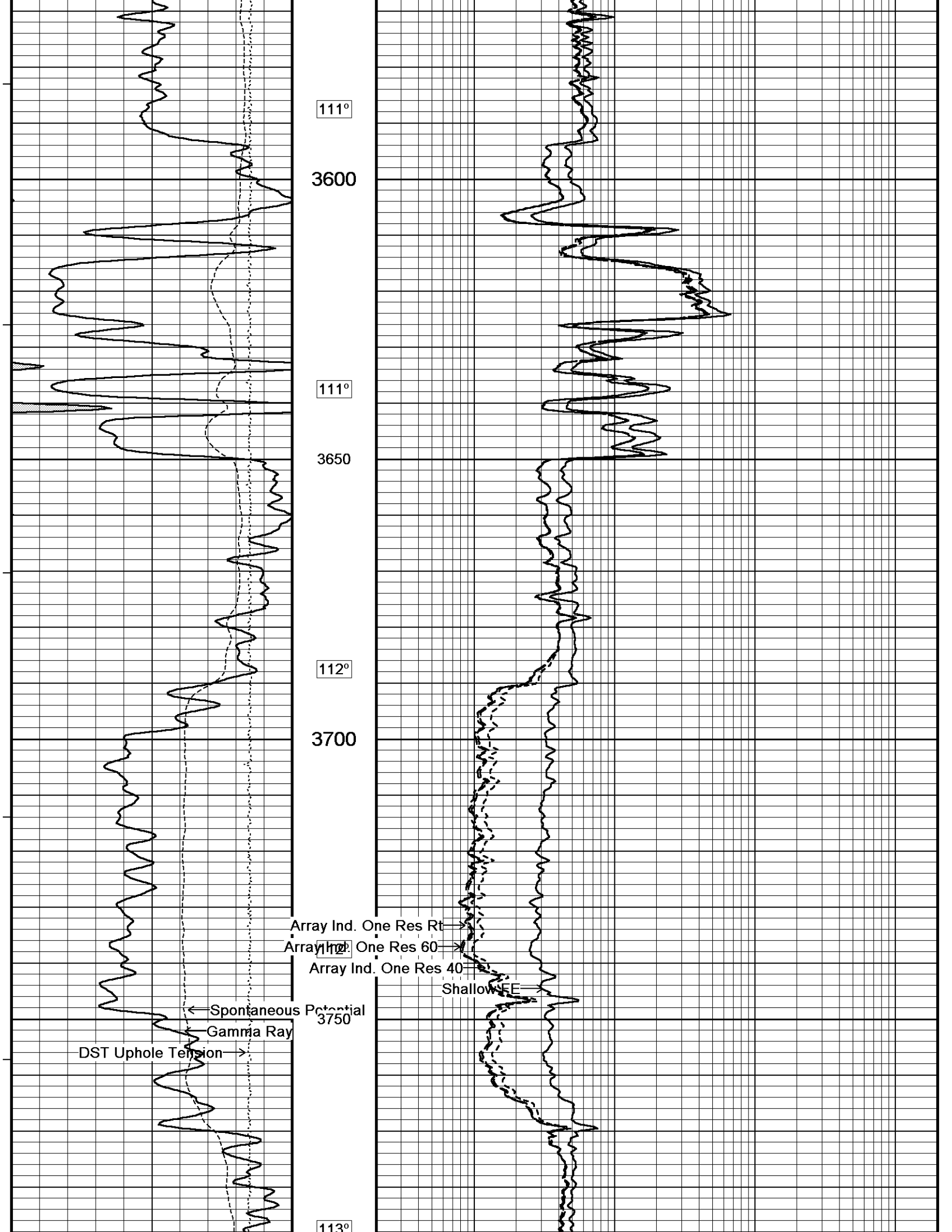


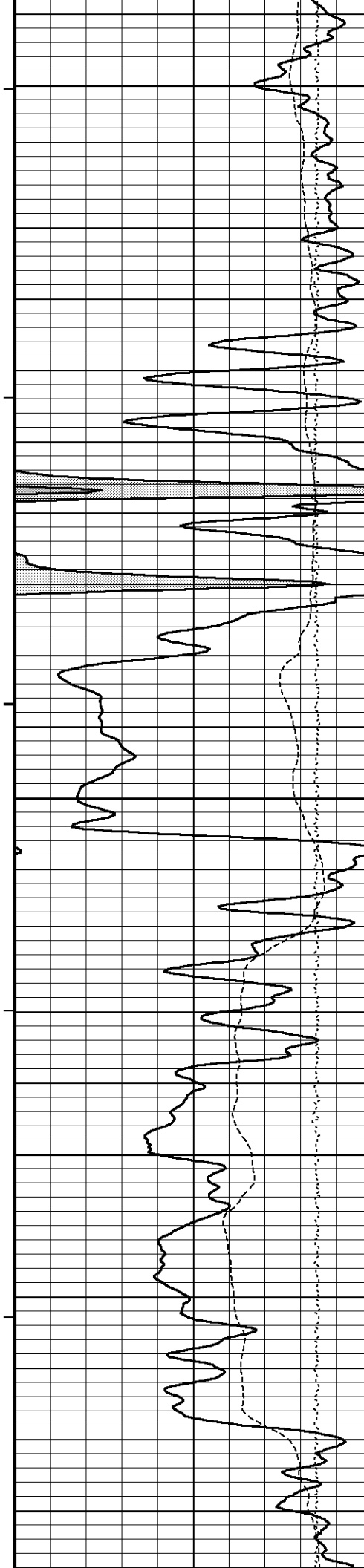
Array Ind. One Res Rt →

Array Ind. One Res 60 →

Array Ind. One Res 40 →







113°

3800

113°

3850

113°

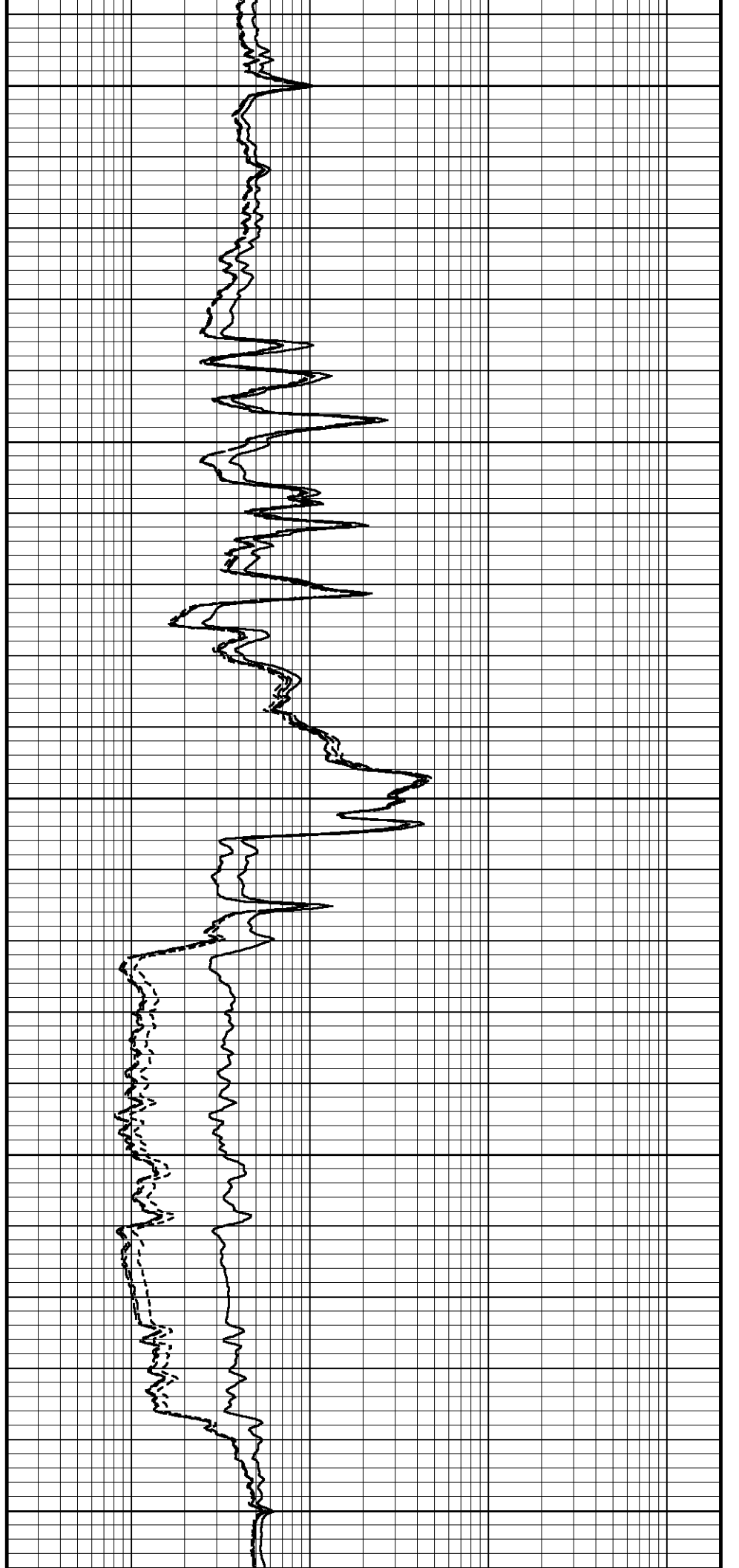
3900

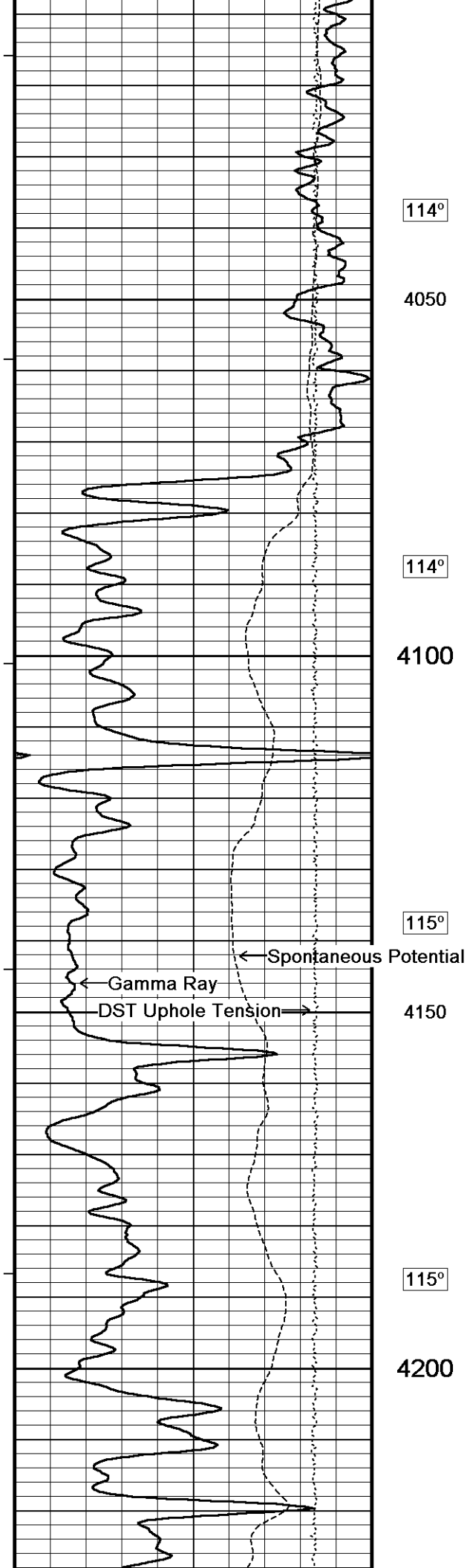
114°

3950

114°

4000





114°

4050

114°

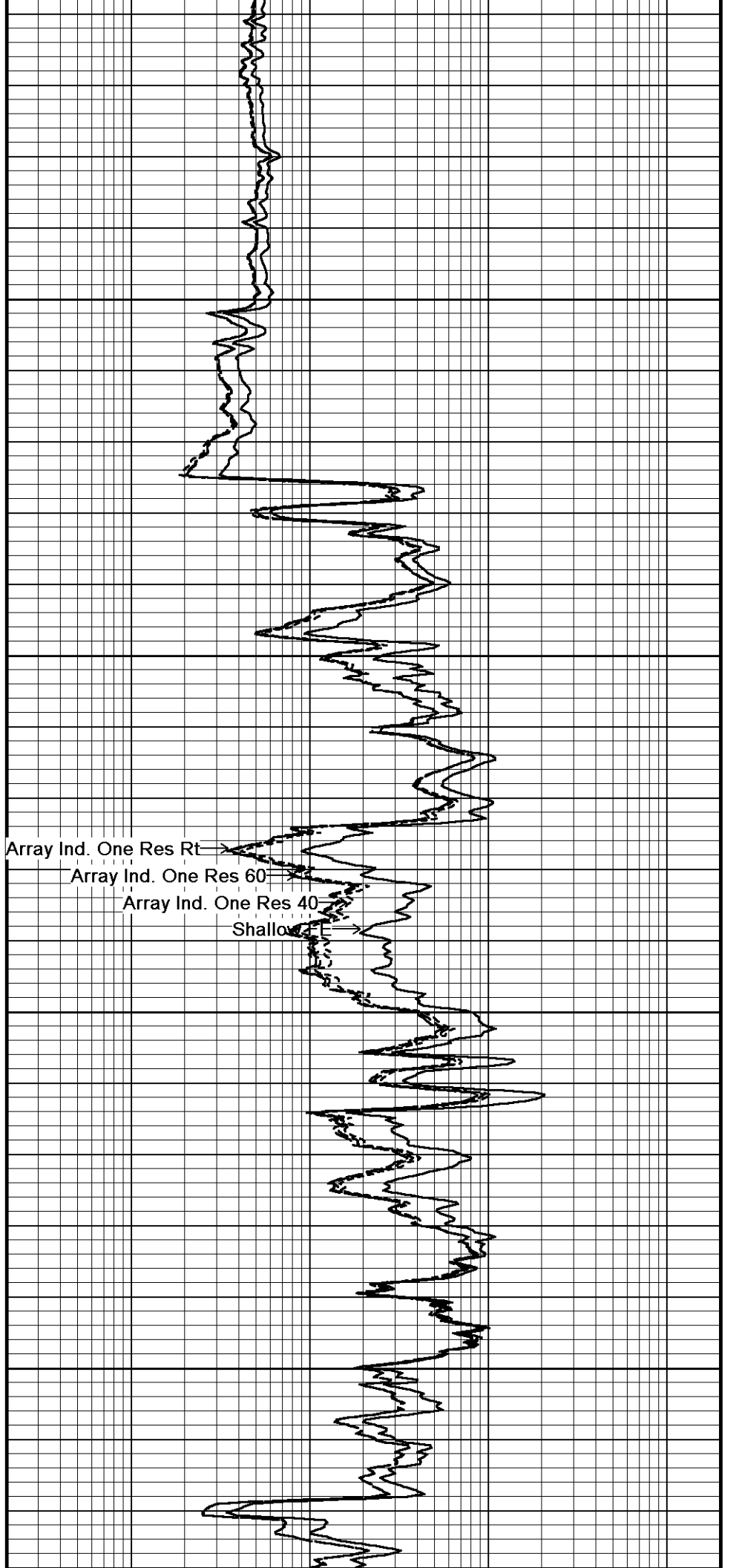
4100

115°

4150

115°

4200

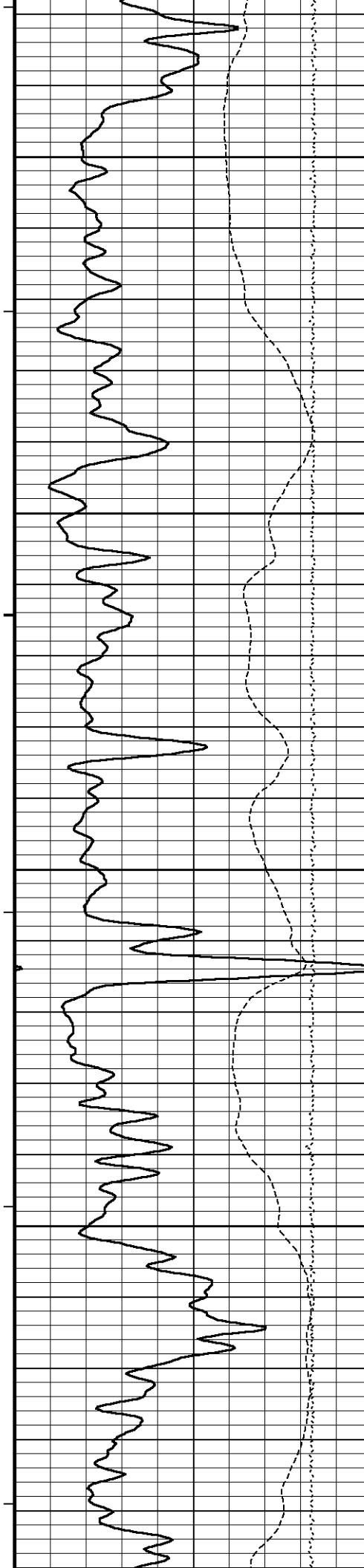


Array Ind. One Res Rt

Array Ind. One Res 60

Array Ind. One Res 40

Shallow TE



115°

4250

116°

4300

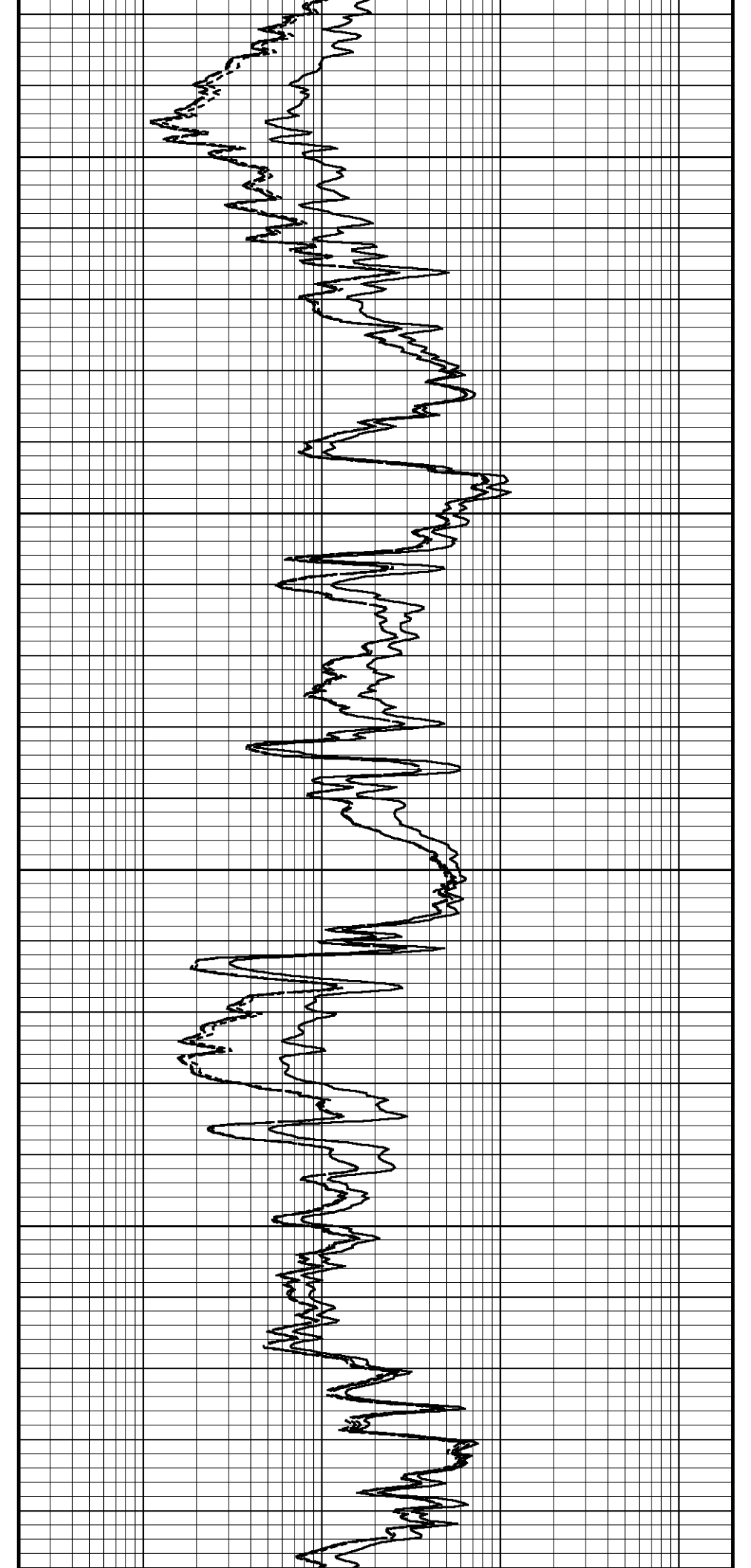
116°

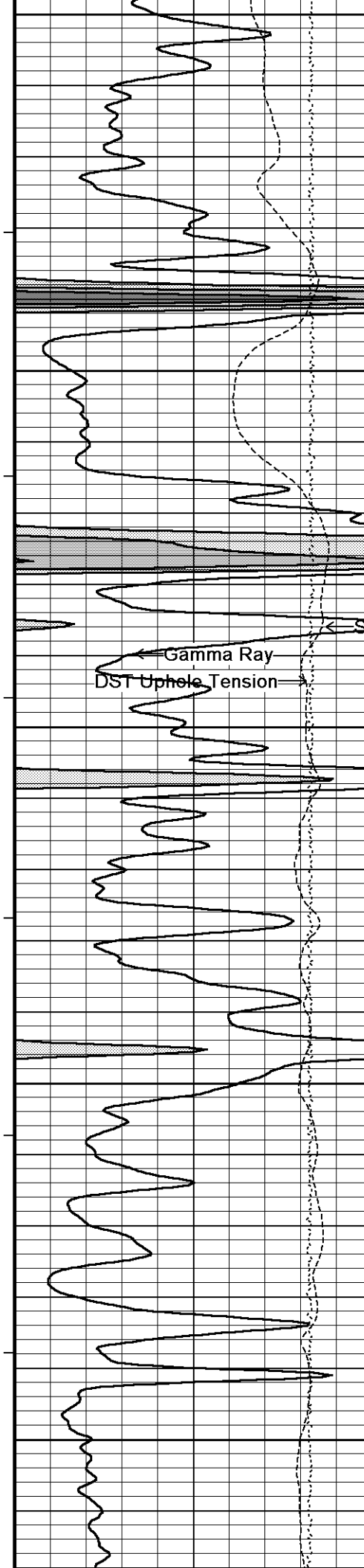
4350

116°

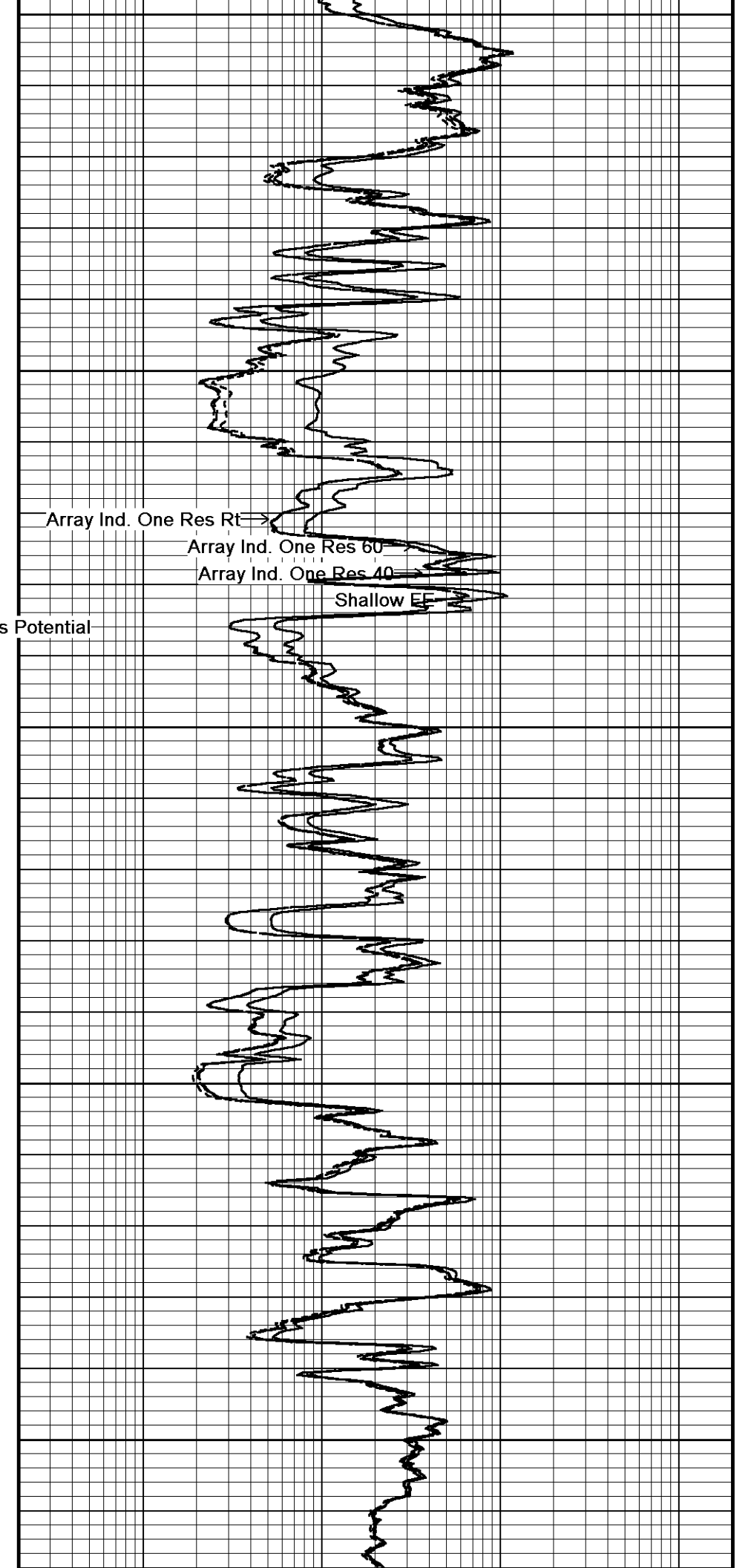
4400

117°





4450
117°
4500
117°
4550
118°
4600
118°
4650



Array Ind. One Res RT
Array Ind. One Res 60
Array Ind. One Res 40
Shallow EF



118°

4700

119°

4750

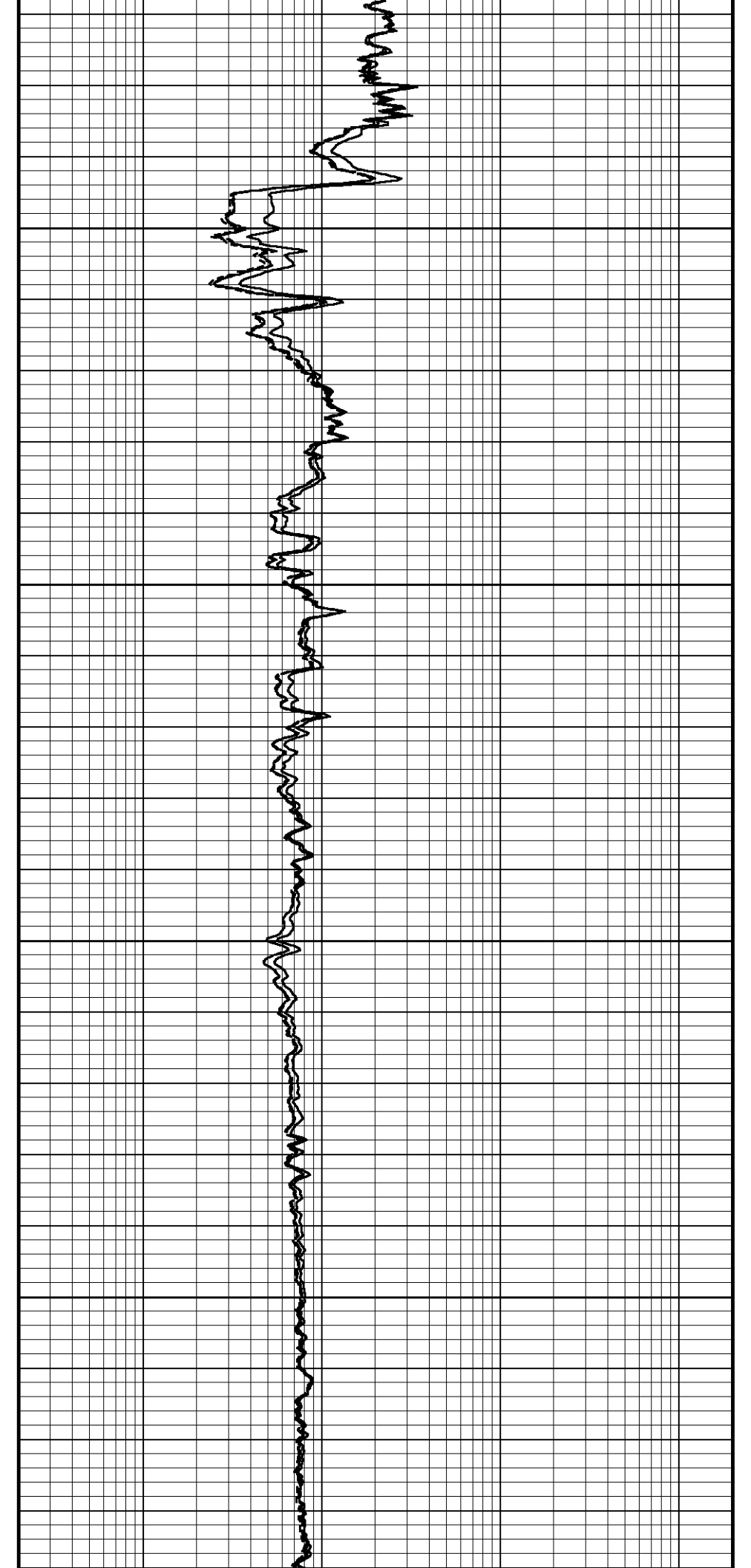
119°

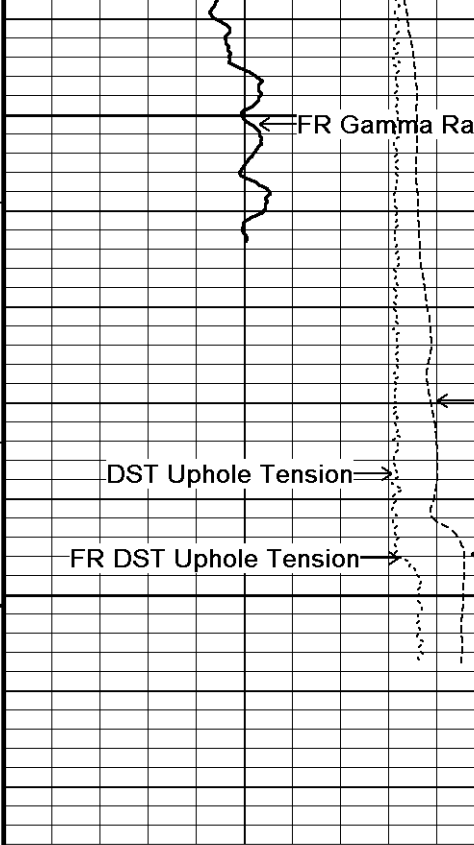
4800

121°

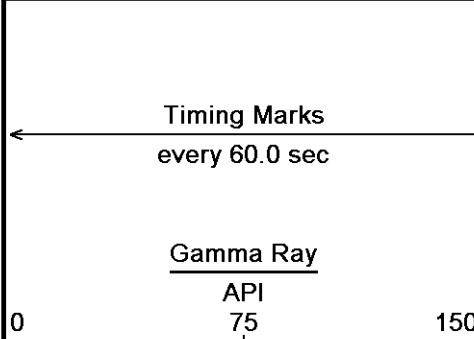
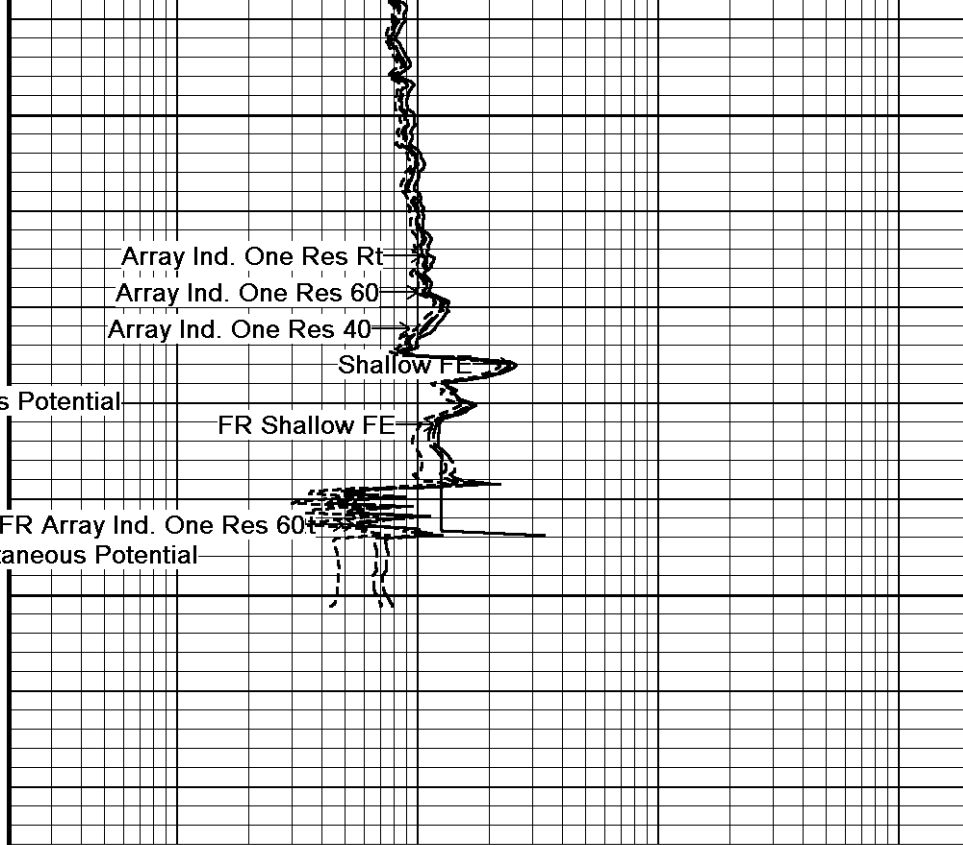
4850

123°

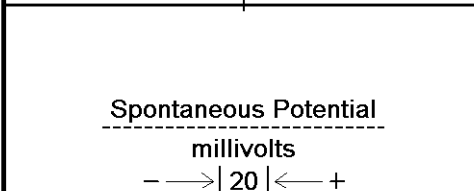
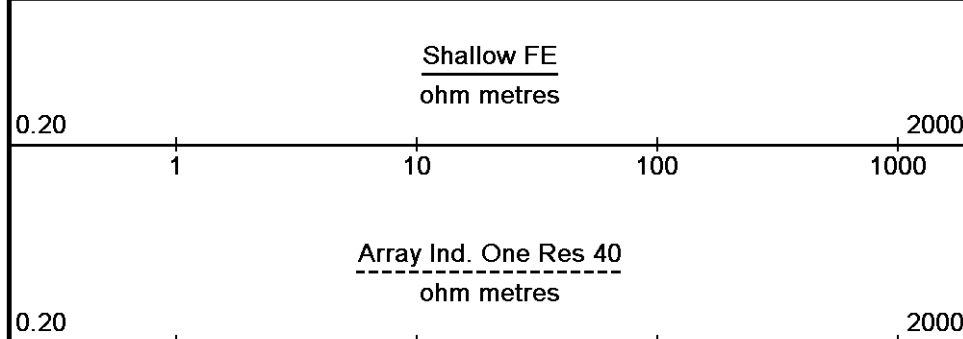




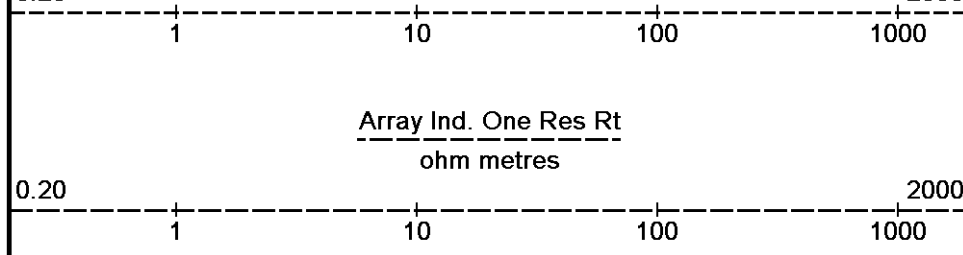
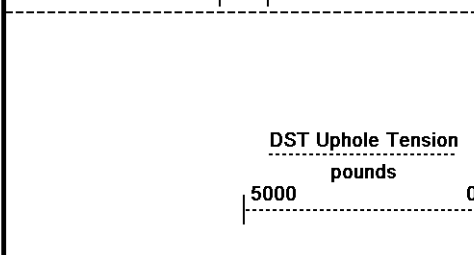
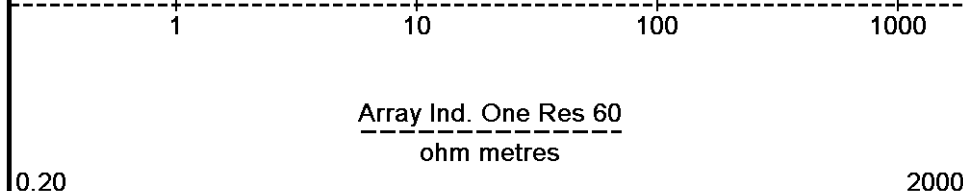
4900
4950
4974
Depth in Feet



Borehole Temp in deg F



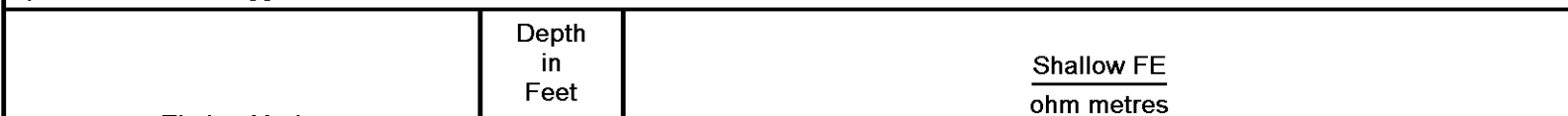
Replay Scale 1:240



Depth Based Data - Maximum Sampling Increment 10.0cm
 Filename: C:\Minimus 11.02.3186\Data\M&M Z-Bar #20-14\M&M Z-Bar #20-14_003.dta
 System Versions: Logged with 11.03.4044 Plotted with 11.03.4044
 Plotted on 04-AUG-2011 11:05
 Recorded on 04-AUG-2011 09:20

5 INCH MAIN PASS

Depth Based Data - Maximum Sampling Increment 10.0cm
 Filename: C:\Minimus 11.02.3186\Data\M&M Z-Bar #20-14\M&M Z-Bar #20-14_002.dta
 System Versions: Logged with 11.03.4044 Plotted with 11.03.4044
 Plotted on 04-AUG-2011 11:05
 Recorded on 04-AUG-2011 08:54



Timing Marks
every 60.0 sec

Gamma Ray
API
75

0 150

Borehole Temp in deg F

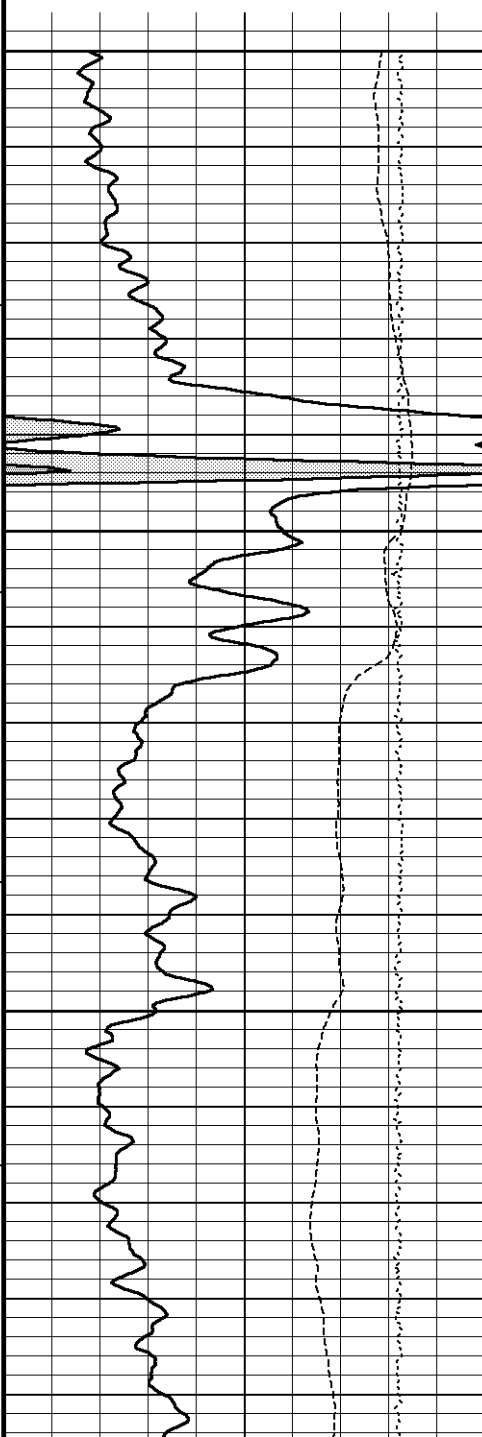
Spontaneous Potential
millivolts

--> | 20 | <--+

DST Uphole Tension
pounds

5000 0

Replay Scale
1:240



Borehole Temp in deg F

Replay Scale
1:240

4650

117°

4700

117°

4750

118°

0.20 1 10 100 1000 2000

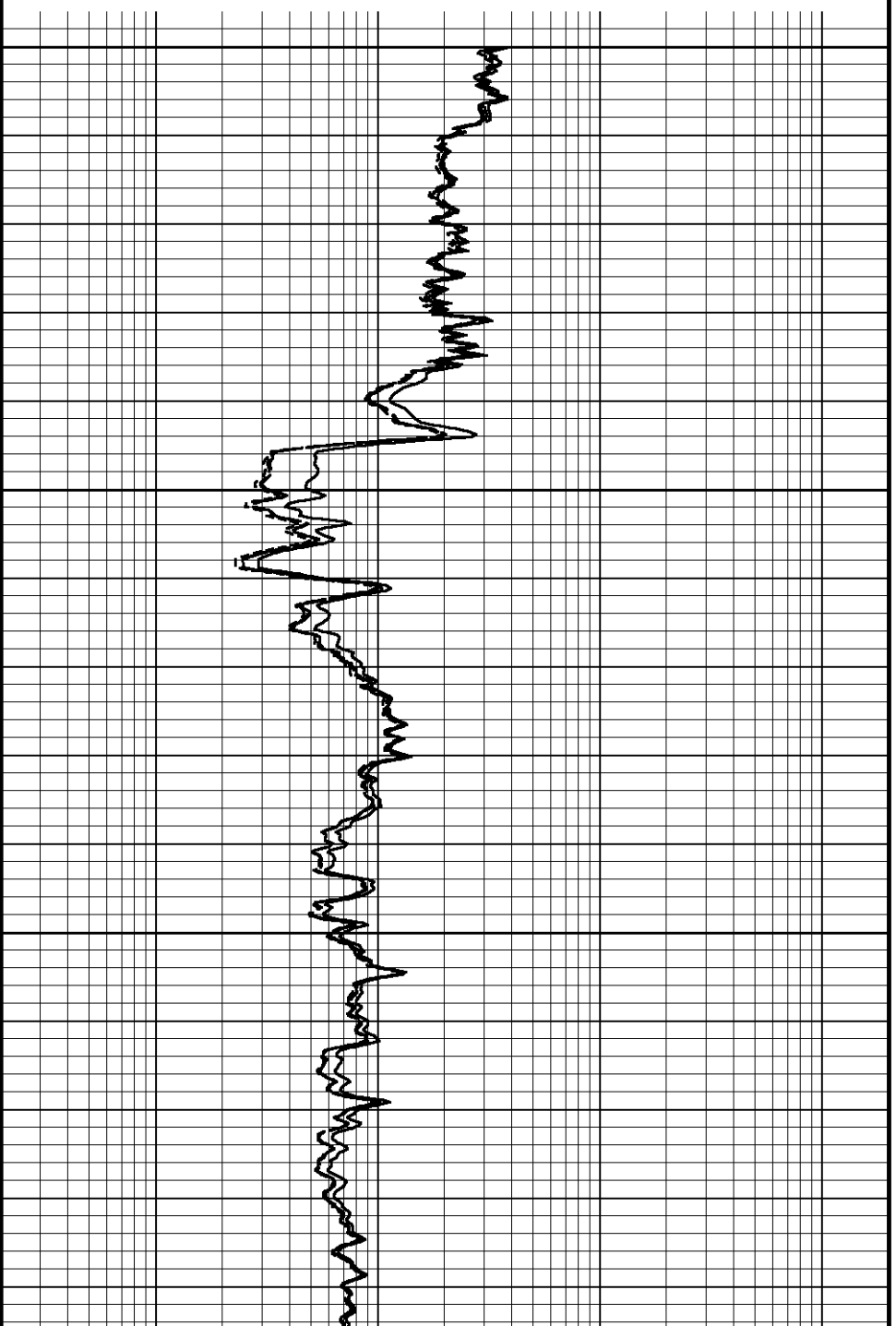
Array Ind. One Res 40
ohm metres

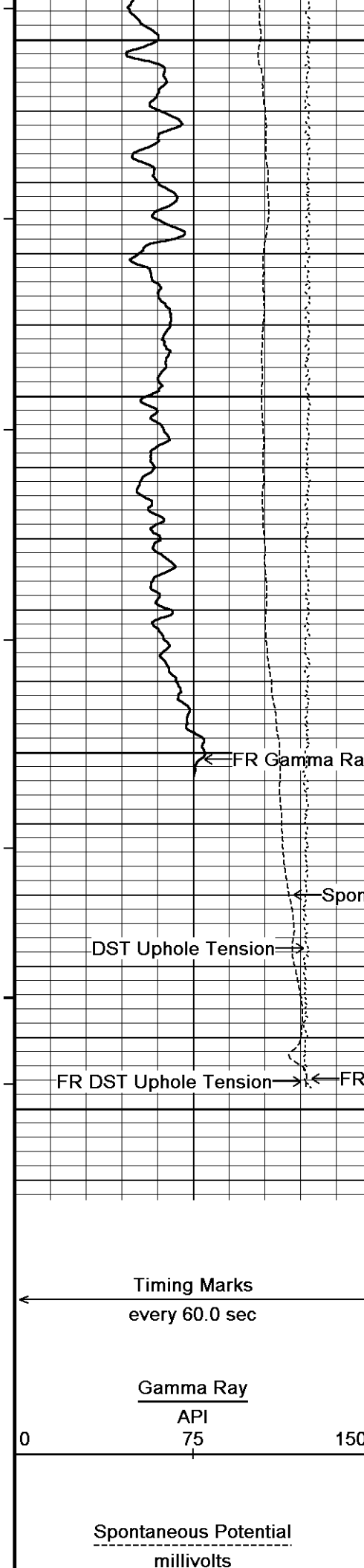
0.20 1 10 100 1000 2000

Array Ind. One Res 60
ohm metres

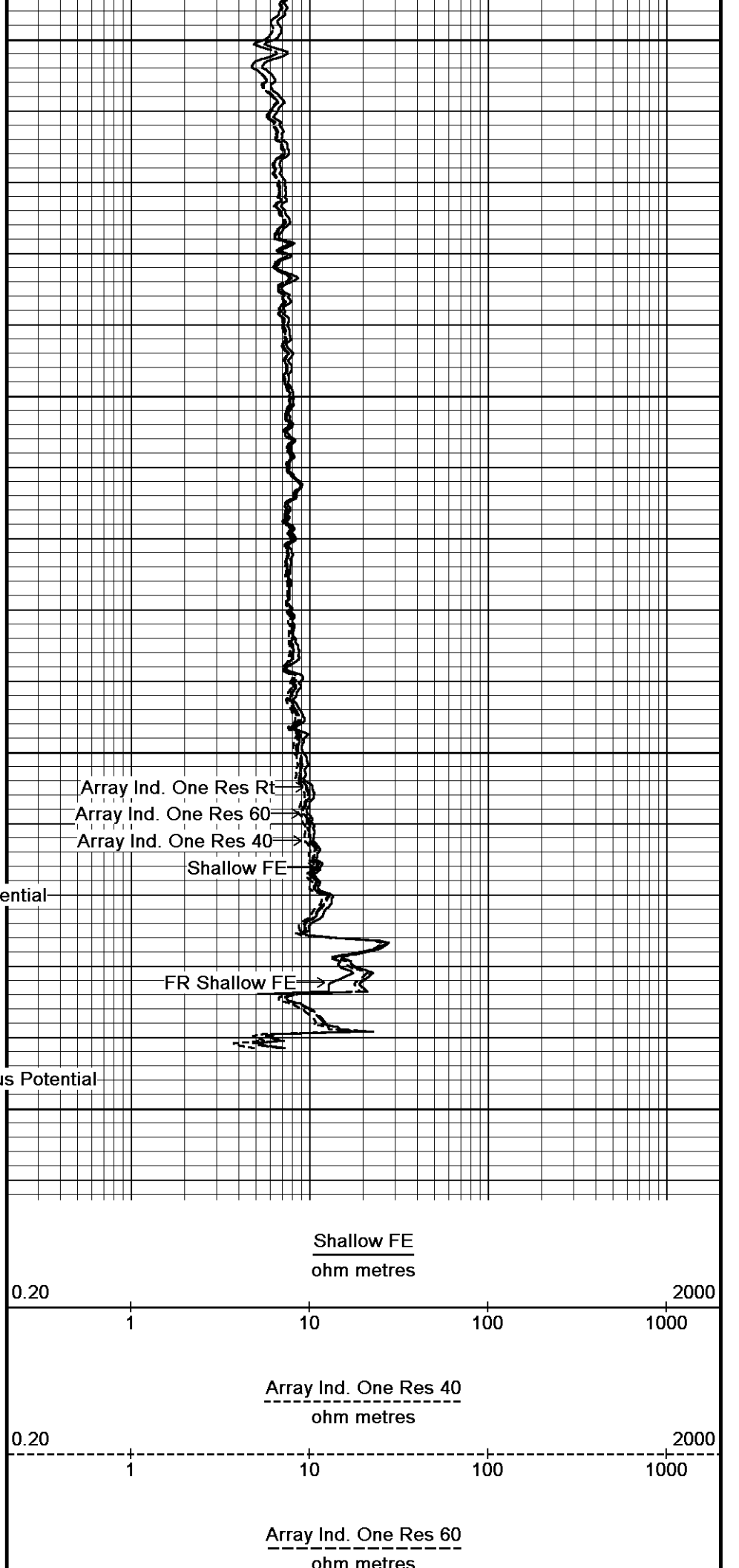
0.20 1 10 100 1000 2000

Array Ind. One Res Rt
ohm metres



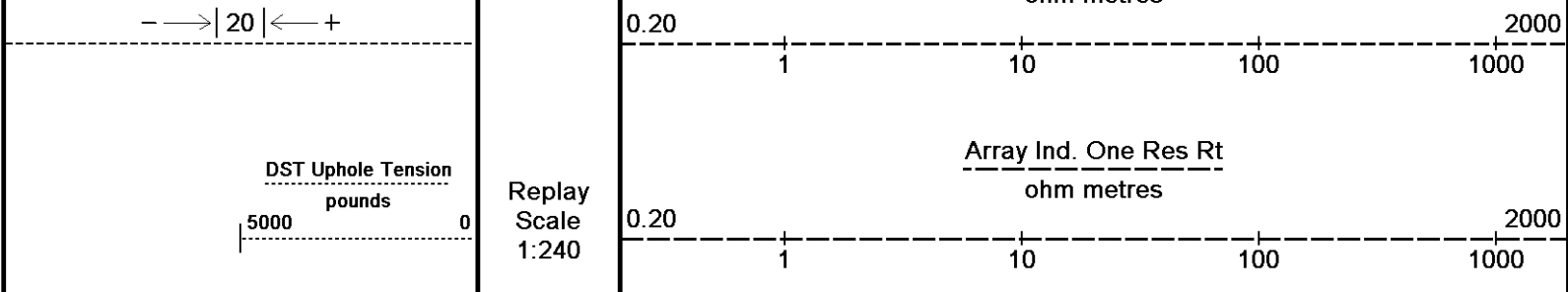


4800
 120°
 4850
 123°
 4900
 4950
 4960
 Depth in Feet
 Borehole Temp in deg F



Timing Marks every 60.0 sec
 Gamma Ray
 API
 0 75 150
 Spontaneous Potential
 millivolts

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



Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 04-AUG-2011 11:05
 Filename: C:\Minimus 11.02.3186\Data\M&M Z-Bar #20-14\M&M Z-Bar #20-14_002.dta Recorded on 04-AUG-2011 08:54
 System Versions: Logged with 11.03.4044 Plotted with 11.03.4044

↑ **5 INCH REPEAT PASS** ↑

BEFORE SURVEY CALIBRATION
 C:\Minimus 11.02.3186\Data\M&M Z-Bar #20-14\M&M Z-Bar #20-14_003.dta

General Constants All 000 Last Edited on 03-AUG-2011,22:47

| | | |
|--|-----------------------|------------|
| General Parameters | | |
| Mud Resistivity | 0.430 | ohm-metres |
| Mud Resistivity Temperature | 78.000 | 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 All 000 Field Calibration on 30-JUN-2010

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

Gamma Calibration MCG-B 34 Field Calibration on 02-AUG-2011 15:04

| | Measured | Calibrated (API) |
|--------------------|----------|------------------|
| Background | 75 | 52 |
| Calibrator (Gross) | 1127 | 777 |
| Calibrator (Net) | 1052 | 725 |

Gamma Constants MCG-B 34 Last Edited on 03-AUG-2011,22:32

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

SP Calibration MCG-B 34 Field Calibration on 03-AUG-2011,09:32

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

High Resolution Temperature Calibration MCG-B 34 Field Calibration on 03-AUG-2011,22:33

| | Measured | Calibrated(Deg F) |
|-------|----------|-------------------|
| Lower | 50.00 | 50.00 |

High Resolution Temperature Constants MCG-B 34

Last Edited on

Pre-filter Length 11

Micro Normal and Micro Inverse Calibration MML-A 4

Base Calibration on 03-AUG-2011 09:42

Field Check on 03-AUG-2011 09:46

Base Calibration

| Channel | Measured | | Calibrated (ohm-m) | |
|---------------|------------|------------|--------------------|------------|
| | Resistor 1 | Resistor 2 | Resistor 1 | Resistor 2 |
| Micro Normal | 12.2 | 60.2 | 2.6 | 12.8 |
| Micro Inverse | 15.7 | 78.4 | 1.7 | 8.4 |

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

Micro Normal and Micro Inverse Constants MML-A 4

Last Edited on 03-AUG-2011,09:33

| | | | |
|------------------------|---|--------|--|
| 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 03-AUG-2011 09:53

Field Calibration on 03-AUG-2011 09:56

Base Calibration

| Reading No | Measured | Calibrator Size (in) |
|------------|----------|----------------------|
| 1 | 15121 | 5.98 |
| 2 | 18479 | 7.97 |
| 3 | 21774 | 9.86 |
| 4 | 25719 | 11.92 |
| 5 | 0 | 0.00 |
| 6 | N/A | N/A |

Field Calibration

| Measured Caliper (in) | Actual Caliper (in) |
|-----------------------|---------------------|
| 6.02 | 5.98 |

Neutron Calibration MDN-A.B 65

Base Calibration on 02-AUG-2011 18:50

Field Check on 02-AUG-2011 19:10

Base Calibration

| Ratio | Measured | | Calibrated (cps) | |
|-------|----------|-----|------------------|-----|
| | Near | Far | Near | Far |
| | 3295 | 104 | 3714 | 110 |
| | 31.664 | | 33.764 | |

Field Calibrator at Base

| Ratio | Calibrated (cps) |
|-------|------------------|
| | 1576 2237 |
| | 0.704 |

Field Check

| Ratio | Calibrated (cps) |
|-------|------------------|
| | 1574 2253 |
| | 0.699 |

Neutron Constants MDN-A.B 65

Last Edited on 03-AUG-2011,22:34

| | |
|---------------------------------|-----------------|
| Neutron Source Id | 757 |
| Neutron Jig Number | 5824NE |
| Epithermal Neutron | No |
| Caliper Source for Processing | Density Caliper |
| Stand-off | 0.50 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 |
| 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 03-AUG-2011 10:09
 Field Check on 03-AUG-2011 10:18

| Base Calibration | | Measured | Calibrated (ohm-m) |
|------------------|--|----------|--------------------|
| Reference 1 | | 0.0 | 0.0 |
| Reference 2 | | 952.6 | 126.8 |
| Base Check | | | 281.5 |
| Field Check | | | 281.5 |

FE Constants MFE-A.A 55

Last Edited on 03-AUG-2011,22:36

Running Mode No Sleeve
 MFE K Factor 0.1268
 Caliper Source for FE correction Density Caliper
 Caliper Value for FE correction N/A inches
 Rm Source for FE correction Temperature Corr
 Temp. for Rm Corr. MCG External Temperature
 Stand-off 0.5 inches

Induction Calibration MAI-A.A 45

Base Calibration on 03-AUG-2011,10:43
 Field Check on 03-AUG-2011 11:36

| Base Calibration | | Measured | | Calibrated (mmho/m) | |
|-----------------------|---------------------|----------|-------|----------------------|--------|
| Test Loop Calibration | | Low | High | Low | High |
| Channel | | | | | |
| 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) | | | Field Check (mmho/m) | |
| | | Low | High | Low | High |
| 1 | | 0.0 | 0.0 | 14.7 | 3859.8 |
| 2 | | 0.0 | 0.0 | 30.1 | 3498.2 |
| 3 | | 0.0 | 0.0 | 29.4 | 3069.4 |
| 4 | | 0.0 | 0.0 | 19.9 | 2085.0 |
| Deep | | 0.0 | 0.0 | 18.8 | 2051.5 |
| Medium | | 0.0 | 0.0 | 42.5 | 4021.4 |
| Shallow | | 0.0 | 0.0 | 43.8 | 5096.4 |
| Array Temperature | | 0.0 | | 100.9 | Deg F |

Induction Constants MAI-A.A 45

Last Edited on 03-AUG-2011,22:48

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 |

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

Apparent Porosity and Water Saturation Constants

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

High Resolution Temperature Calibration MAI-A.A 45

Field Calibration on 04-AUG-2011,07:54

| | | |
|-------|----------|-------------------|
| | 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 |
|-------------------|----|

Photo Density Calibration MPD-B 31

Base Calibration on 02-AUG-2011 16:24

Field Check on 02-AUG-2011 16:30

| | | | | |
|---------------------|-------|----------|------------------|-------|
| Density Calibration | | | | |
| Base Calibration | | Measured | Calibrated (sdu) | |
| | Near | Far | Near | Far |
| Reference 1 | 48081 | 24805 | 59556 | 30836 |
| Reference 2 | 19867 | 2025 | 24941 | 2541 |

| | | |
|---------------------|-------|-------|
| Field Check at Base | 707.3 | 871.8 |
|---------------------|-------|-------|

| | | |
|-------------|-------|-------|
| Field Check | 706.1 | 874.7 |
|-------------|-------|-------|

PE Calibration

| | | | | |
|------------------|-------|----------|-------|------------|
| Base Calibration | | Measured | | Calibrated |
| | WS | WH | Ratio | Ratio |
| Background | 131 | 626 | | |
| Reference 1 | 19081 | 47953 | 0.400 | 0.371 |
| Reference 2 | 5693 | 19772 | 0.291 | 0.272 |

| | | |
|---------------------|-------|-------|
| Field Check at Base | 131.3 | 626.1 |
|---------------------|-------|-------|

| | | |
|-------------|-------|-------|
| Field Check | 128.5 | 617.5 |
|-------------|-------|-------|

Density Constants MPD-B 31

Last Edited on 03-AUG-2011,22:35

| | | |
|-------------------------------|-----------------|-------|
| Density Source Id | 254 | |
| Nylon Calibrator Number | DNCE695 | |
| Aluminium Calibrator Number | DACD698 | |
| Density Shoe Profile | 8 inch | |
| Caliper Source for Processing | Density Caliper | |
| PE Correction to Density | Not Applied | |
| Mud Density | 1.10 | gm/cc |
| Mud Density Z/A Multiplier | 1.11 | |
| Mud Filtrate Density | 1.00 | gm/cc |
| Dry Hole Mud Filtrate Density | 1.00 | gm/cc |
| DNCT | 0.00 | gm/cc |
| CRCT | 0.00 | gm/cc |
| Density Z/A Correction | Hybrid | |

| | |
|------------------------|------------|
| Matrix Density (gm/cc) | Depth (ft) |
| 2.71 | |
| 0.00 | 0.00 |
| 0.00 | 0.00 |

| | |
|------|------|
| 0.00 | 0.00 |
| 0.00 | 0.00 |
| 0.00 | 0.00 |
| 0.00 | 0.00 |
| 0.00 | 0.00 |
| 0.00 | 0.00 |

Caliper Calibration MPD-B 31

Base Calibration on 02-AUG-2011 15:38
Field Calibration on 02-AUG-2011 15:48

| Base Calibration | | |
|------------------|----------|----------------------|
| Reading No | Measured | Calibrator Size (in) |
| 1 | 16208 | 3.99 |
| 2 | 24815 | 5.98 |
| 3 | 33539 | 7.97 |
| 4 | 41984 | 9.86 |
| 5 | 51072 | 11.92 |
| 6 | N/A | N/A |

| Field Calibration | | |
|-------------------|-----------------------|---------------------|
| | Measured Caliper (in) | Actual Caliper (in) |
| | 5.95 | 5.98 |

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 |

DOWNHOLE EQUIPMENT

C:\Minimus 11.02.3186\Data\M&M Z-Bar #20-14\M&M Z-Bar #20-14_003.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

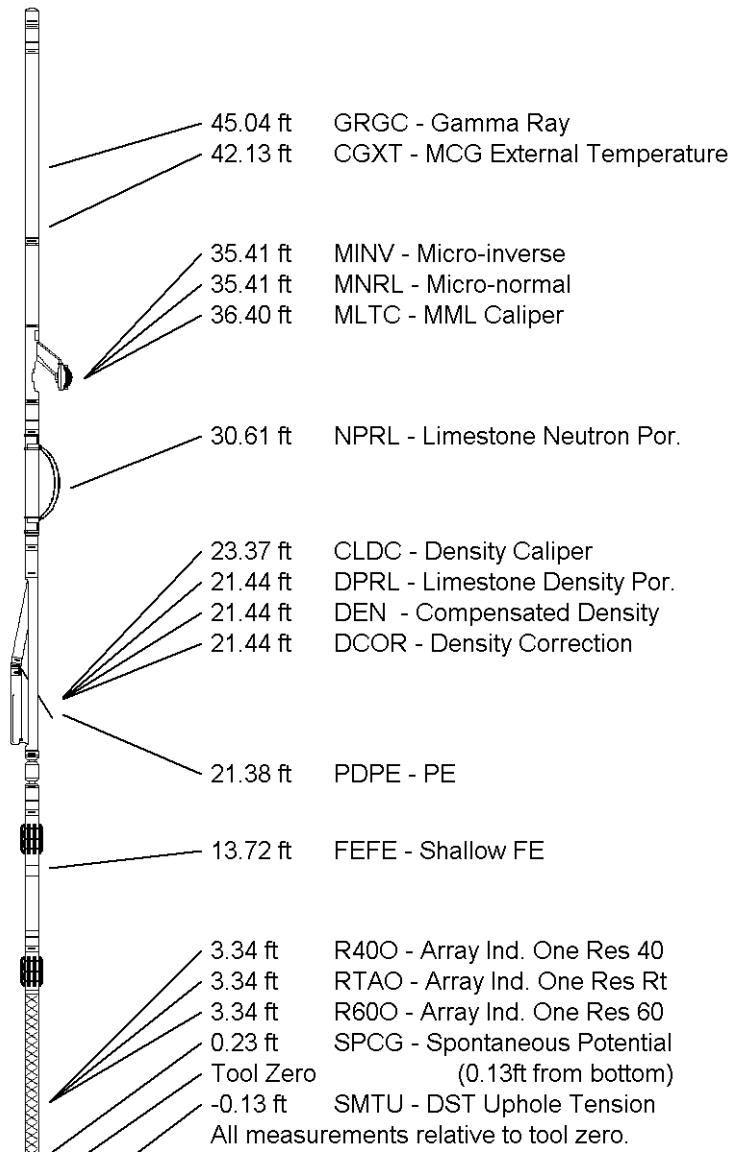
Compact Density/Caliper
MPD-B 31 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

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

Compact Focused 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

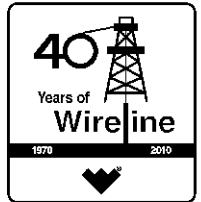


COMPANY M & M EXPLORATION, INC.
WELL Z-BAR # 20-14
FIELD AETNA GAS AREA
PROVINCE/COUNTY BARBER
COUNTRY/STATE U.S.A. / KANSAS

| | | | | | |
|-------------------------|---------|------|---------------|---------|------|
| Elevation Kelly Bushing | 1550.00 | feet | First Reading | 4943.00 | feet |
| Elevation Drill Floor | 1548.00 | feet | Depth Driller | 4950.00 | feet |
| Elevation Ground Level | 1538.00 | feet | Depth Logger | 4946.00 | feet |

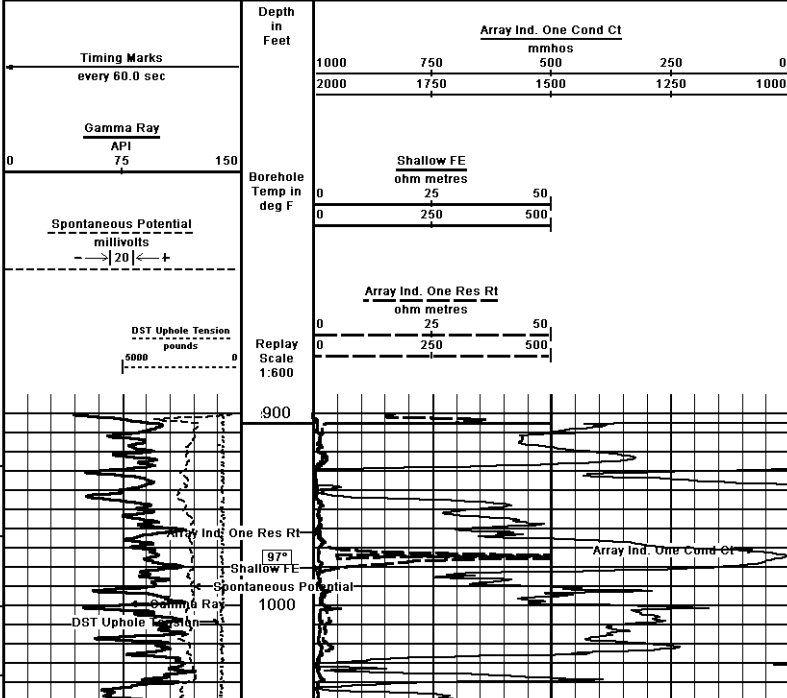


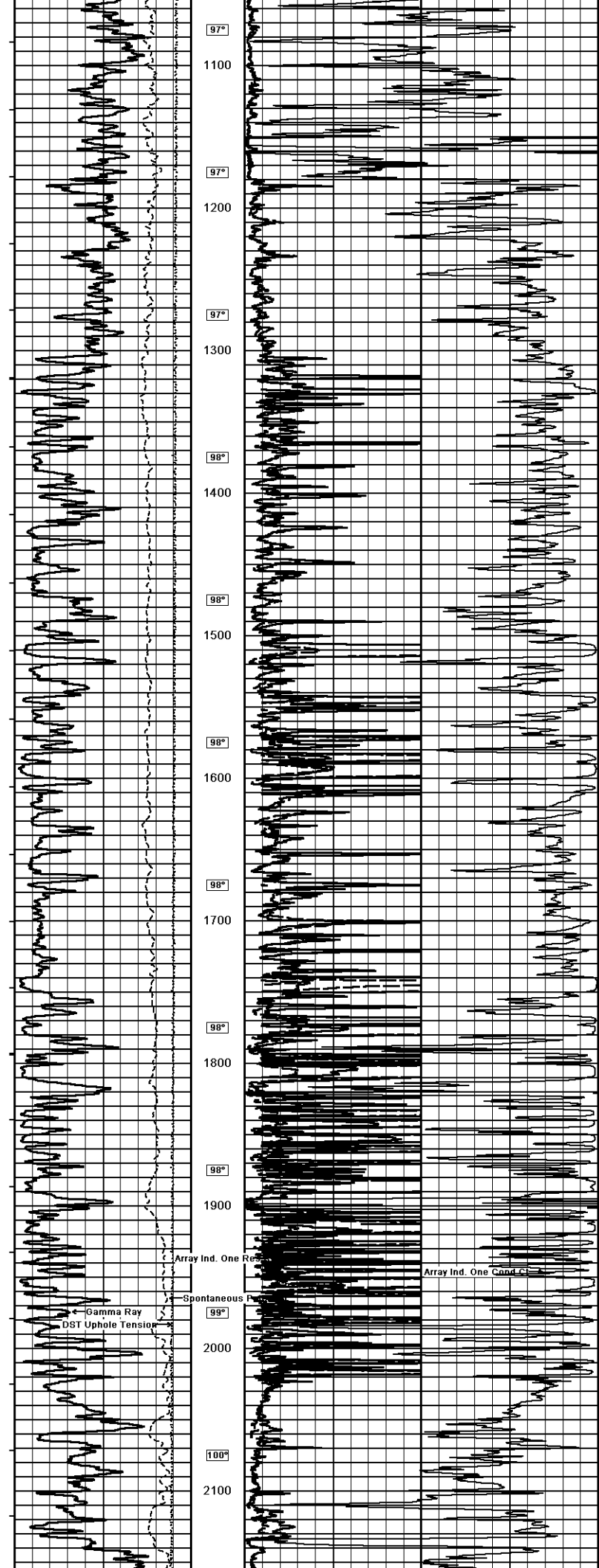
**ARRAY INDUCTION
 SHALLOW FOCUSED
 ELECTRIC LOG**

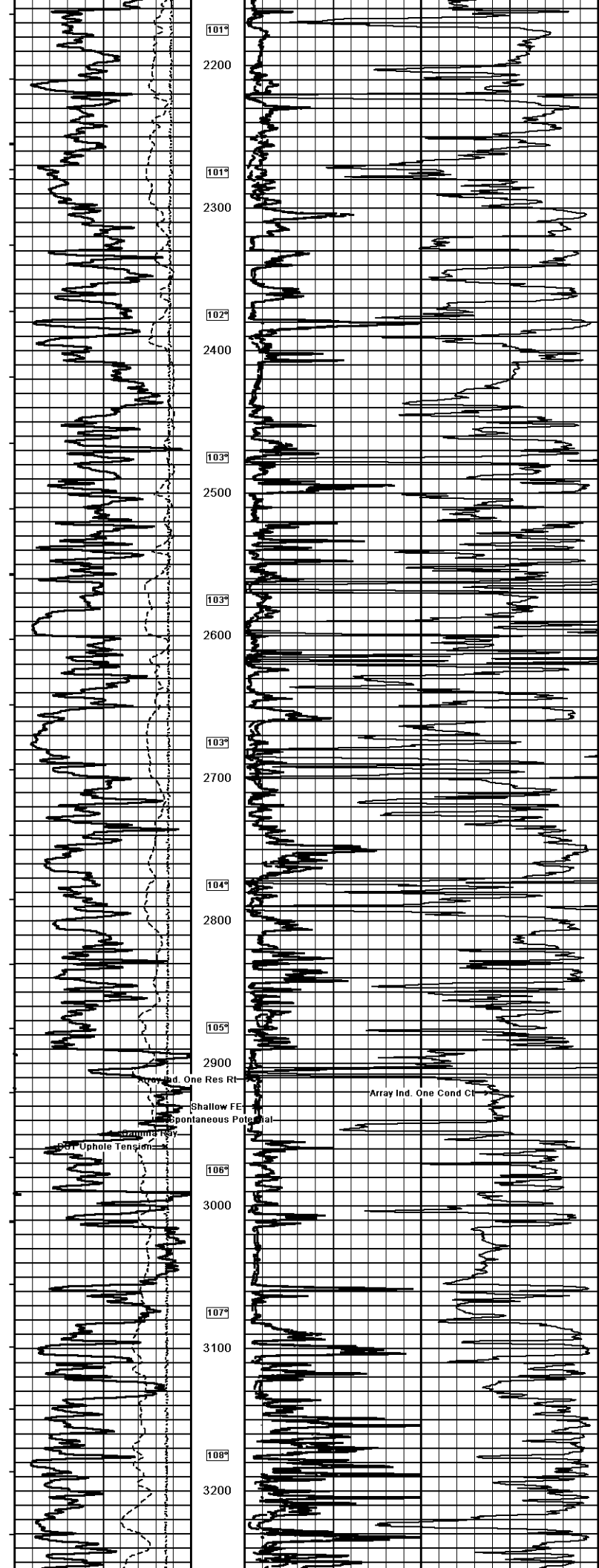


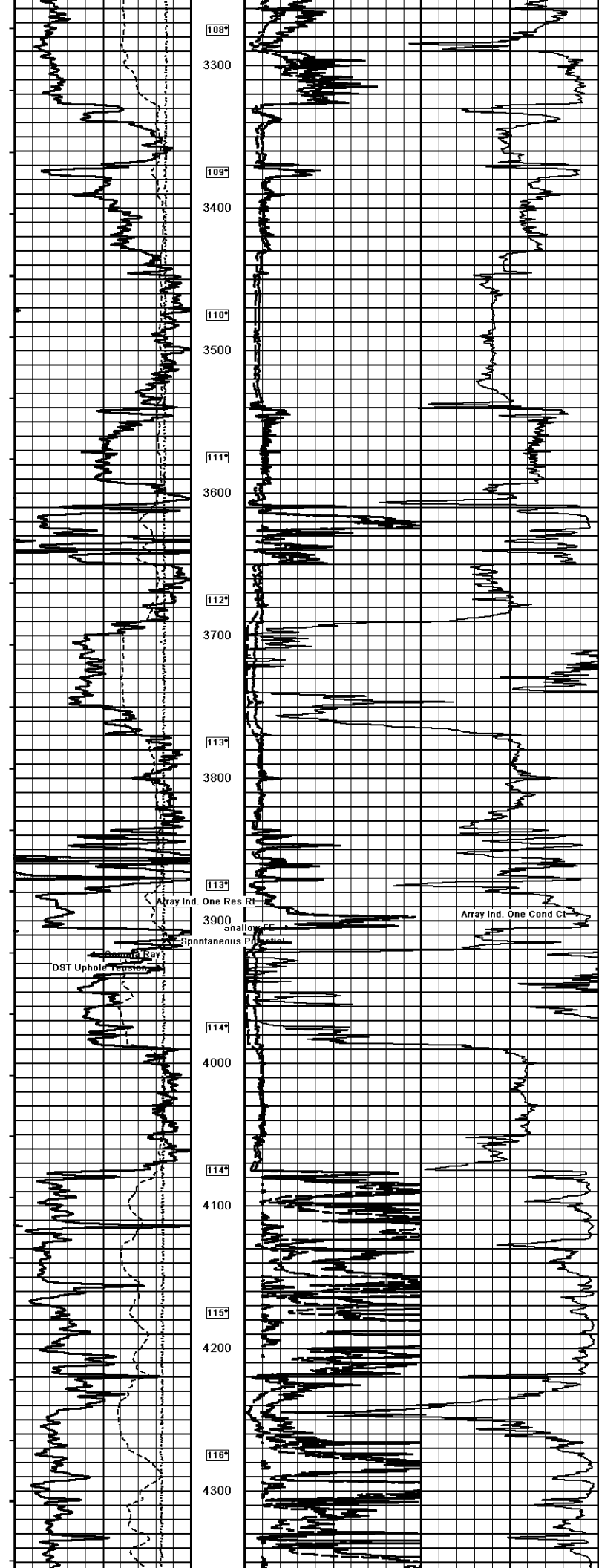
| | | | |
|---|----------------------------------|---|------------------------------------|
| Weatherford | | ARRAY INDUCTION SHALLOW FOCUSED ELECTRIC LOG | |
| COMPANY: M & M EXPLORATION, INC. WELL: Z-BAR # 20-14 FIELD: AETNA GAS AREA PROVINCE/COUNTY: BARBER COUNTRY/STATE: U.S.A. / KANSAS LOCATION: 910' FSL & 1480' F.W.L. SW/4 | | | |
| DATE: 03-AUG-2011 | TIME: 15:07:23:02 | LOG NUMBER: 1548.00 | LOG DATE: 1538.00 |
| PERMANENT DATUM G.L. ELEVATION: 1538.00 | LOG MEASURED FROM: KB @ 12 FEET | DATE MEASURED FROM: KB @ 12 FEET | |
| DEPTH DRILLER: ONE | DEPTH LOGGER: 4946.00 | FIRST READING: 4943.00 | LAST READING: 4943.00 |
| CASING DRILLER: 905.00 | CASING LOGGER: 905.00 | BIT SIZE: 7.875 | HOLE FLUID TYPE: CHEMICAL |
| DENSITY/VISCOSITY: 9.20 | PPH/FLUID LOSS: 10.00 | SAMPLE SOURCE: FLOWLINE | SPERM @ MEASURED TEMP: 0.43 @ 78.0 |
| RPM @ MEASURED TEMP: 0.34 @ 78.0 | RPM @ MEASURED TEMP: 0.52 @ 78.0 | SOURCE FMT/RMC: CALC | RIN @ MEASURED TEMP: 0.28 @ 23.0 |
| TIME SINCE CIRCULATION: 5 HOURS | MAX RECORDED TEMP: 173.00 | EQUIPMENT NAME: COMFACT | RECORDED BY: A. GAMBALVO |
| WITNESSED BY: BETH BROOK | RECORDED BY: VI. STAMBAUGH | LOG #: | LOG DATE: |

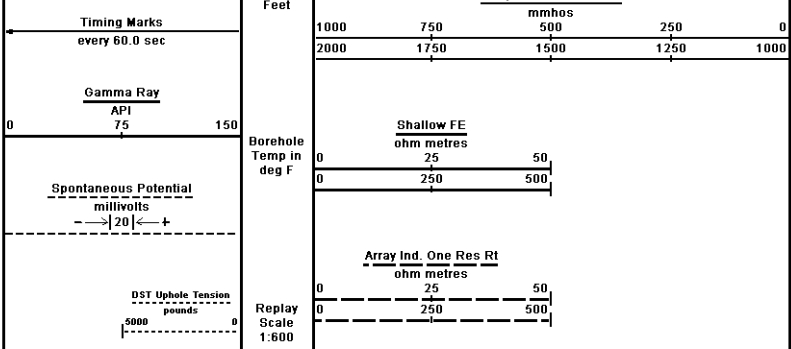
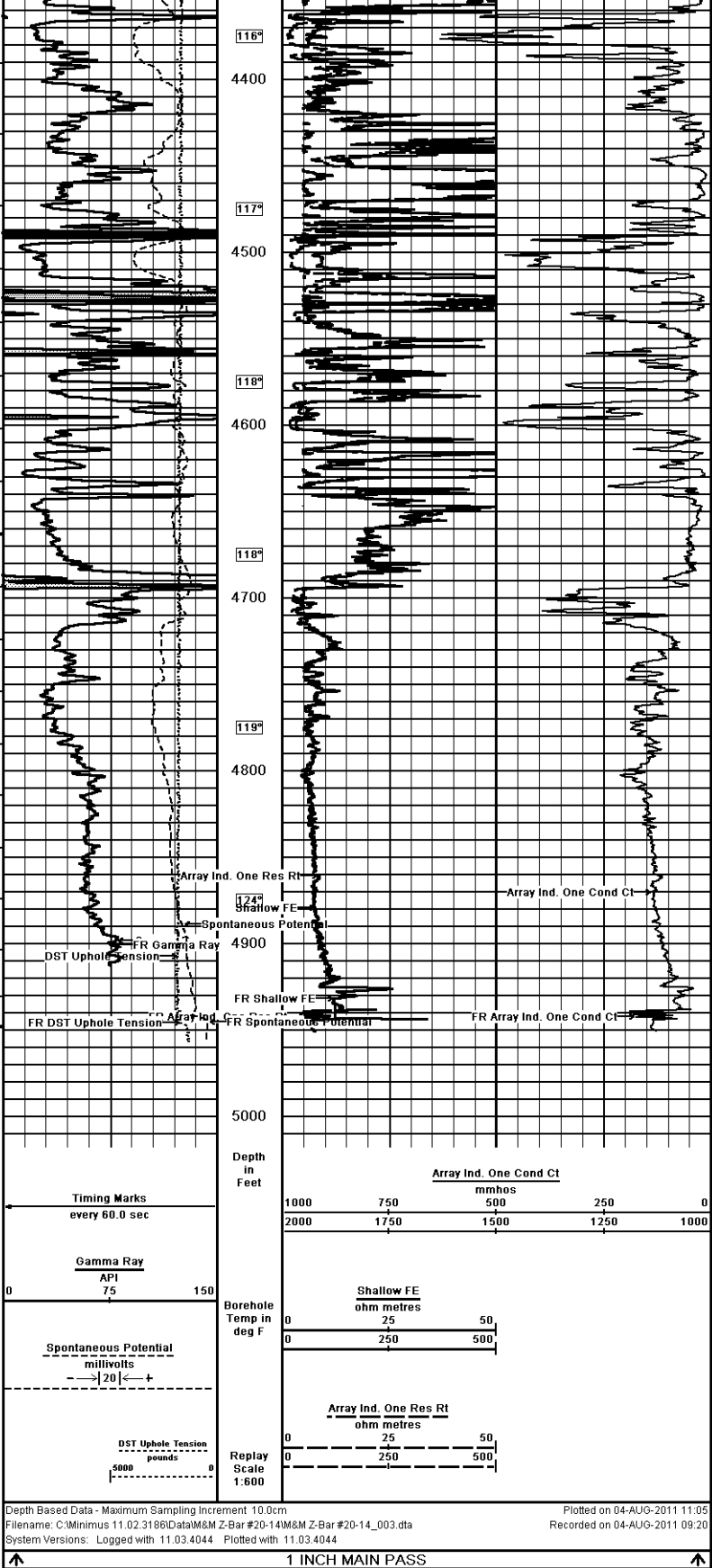
1 INCH MAIN PASS
 Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 04-AUG-2011 11:05
 Filename: C:\Minimus 11.02.3186\data\M&M Z-Bar #20-14\M&M Z-Bar #20-14_003.dta
 Recorded on 04-AUG-2011 09:20
 System Versions: Logged with 11.03.4044 Plotted with 11.03.4044













Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 04-AUG-2011 11:05
 Filename: C:\Minimus 11.02.3186\Data\M&M Z-Bar #20-14\M&M Z-Bar #20-14_003.dta
 Recorded on 04-AUG-2011 09:20
 System Versions: Logged with 11.03.4044 Plotted with 11.03.4044

| | |
|---|---|
| COMPANY M & M EXPLORATION, INC. WELL Z-BAR # 20-14 FIELD AETNA GAS AREA PROVINCE/COUNTY BARBER COUNTRY/STATE U.S.A. / KANSAS | |
| Elevation Kelly Bushing 1550.00 feet Elevation Drill Floor 1548.00 feet Elevation Ground Level 1538.00 feet | First Reading 4943.00 feet Depth Driller 4950.00 feet Depth Logger 4946.00 feet |


ARRAY INDUCTION
SHALLOW FOCUSED
ELECTRIC LOG

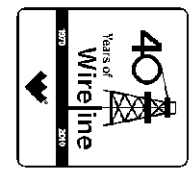




Weatherford

**COMPACT PHOTO DENSITY
COMPENSATED NEUTRON
MICRORESISTIVITY LOG**

COMPANY **M & M EXPLORATION, INC.**
WELL **Z-BAR # 20-14**
FIELD **AETNA GAS AREA**
PROVINCE/COUNTY **BARBER**
COUNTRY/STATE **U.S.A. / KANSAS**
LOCATION **910' FSL & 1480' FWL, SW/4**



SEC **20** TWP **34S** RGE **14W** Other Services
MA/IMFE
API Number **15-007-23702**
Permit Number

Permanent Datum G.L., Elevation 1538 feet
Log Measured From **KB** Elevations: **KB 1550.00**
Drilling Measured From **K.B. @ 12 FEET** **DF 1548.00**
GL 1538.00

| | |
|------------------------|----------------------|
| Date | 03-AUG-2011 |
| Run Number | ONE |
| Depth Driller | 4950.00 feet |
| Depth Logger | 4946.00 feet |
| First Reading | 4923.00 feet |
| Last Reading | 3.00 feet |
| Casing Driller | 905.00 feet |
| Casing Logger | 905.00 feet |
| Bit Size | 7.875 inches |
| Hole Fluid Type | CHEMICAL |
| Density / Viscosity | 9.20 lb/USg 50.00 CP |
| PH / Fluid Loss | 10.00 7.90 ml/30Min |
| Sample Source | FLOWLINE |
| Rm @ Measured Temp | 0.43 @ 78.0 ohm-m |
| Rmf @ Measured Temp | 0.34 @ 78.0 ohm-m |
| Rmc @ Measured Temp | 0.52 @ 78.0 ohm-m |
| Source Rmf / Rmc | CALC CALC |
| Rm @ BHT | 0.28 @ 123.0 ohm-m |
| Time Since Circulation | 5 HOURS |
| Max Recorded Temp | 123.00 deg F |
| Equipment Name | COMPACT |
| Equipment / Base | 13057 LIB |
| Recorded By | A. GIAMBALVO |
| Witnessed By | BETH BROCK |
| SO / JOB # | 353114 |

BOREHOLE RECORD Last Edited: 04-AUG-2011 09:31

| | | |
|--------------------|--------------------|------------------|
| Bit Size inches | Depth From feet | Depth To feet |
| 7.875 | 905.00 | 4946.00 |

CASING RECORD

| Type | Size inches | Depth From feet | Shoe Depth feet | Weight pounds/ft |
|---------|----------------|--------------------|--------------------|---------------------|
| SURFACE | 8.625 | 0.00 | 905.00 | 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 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.
MML caliper closed during repeat section from 4692 to 4702.
MPD caliper closed during repeat section from 4702 to 4713.
Annular volume with 4.5 inch production casing from TD to 3850 = cu. ft.
Service order #353114
Rig: Southwind Drilling #70
Engineer: A. Giambalvo, W. Stambaugh
Operator(s): B. Reeves, N. Adame

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.



5 INCH MAIN PASS



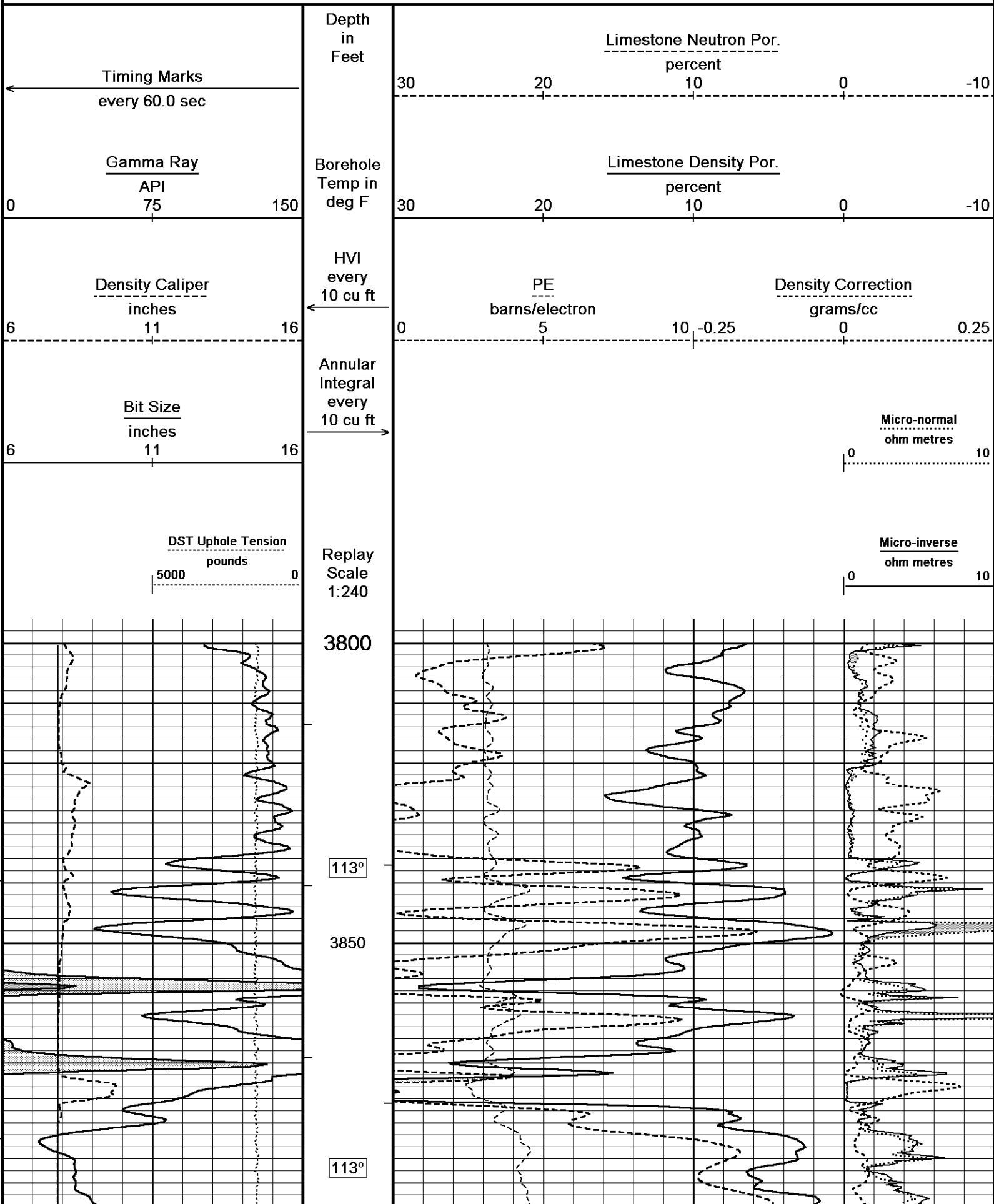
Depth Based Data - Maximum Sampling Increment 10.0cm

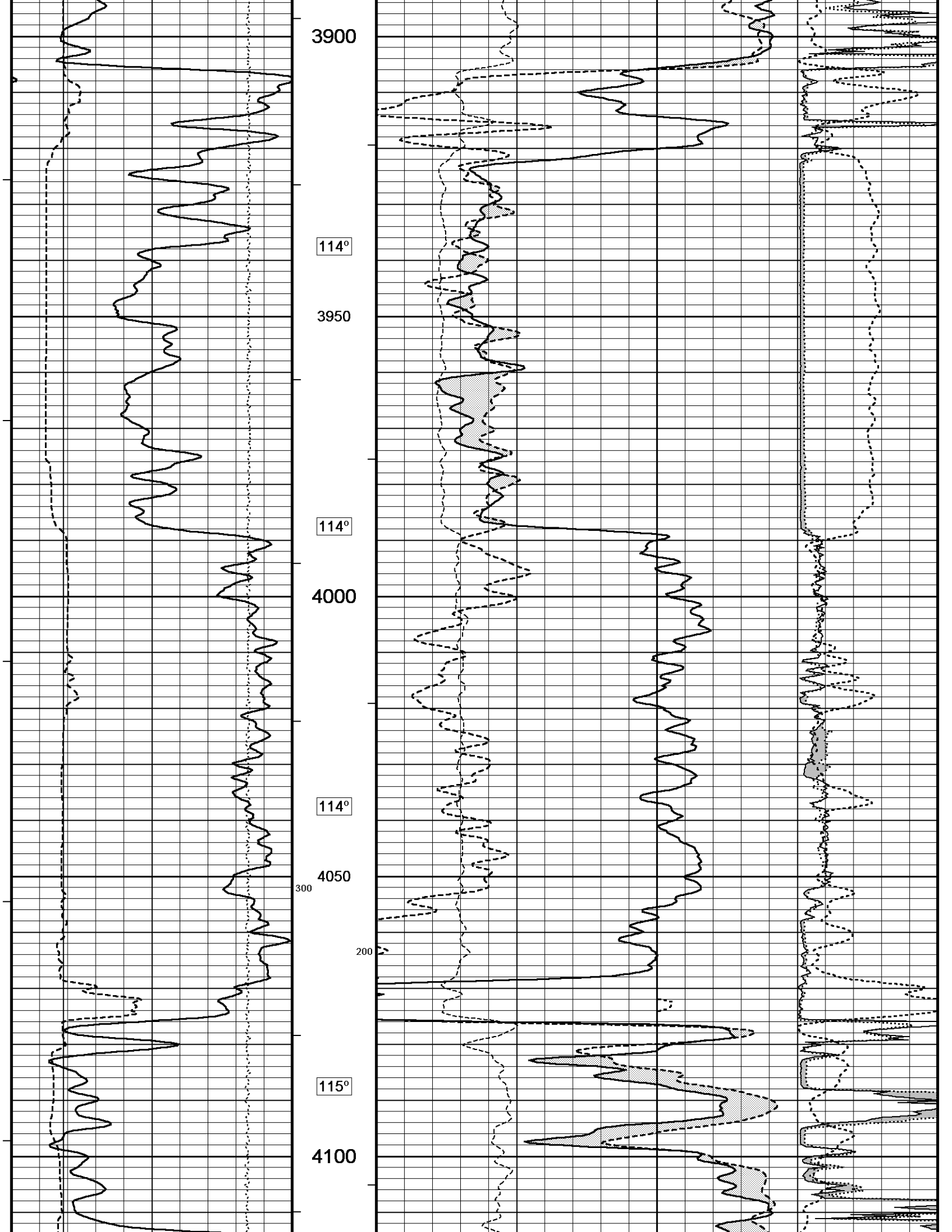
Plotted on 04-AUG-2011 10:12

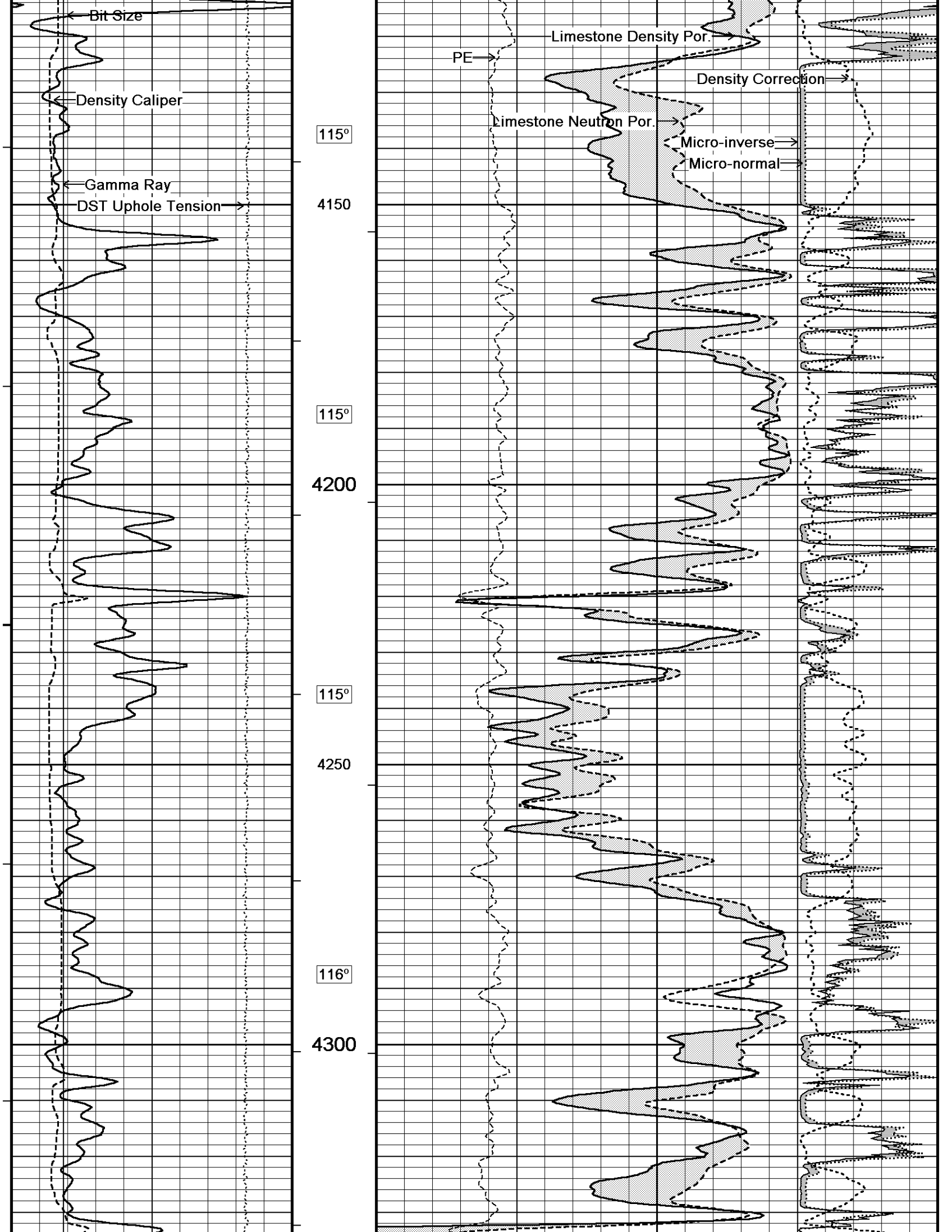
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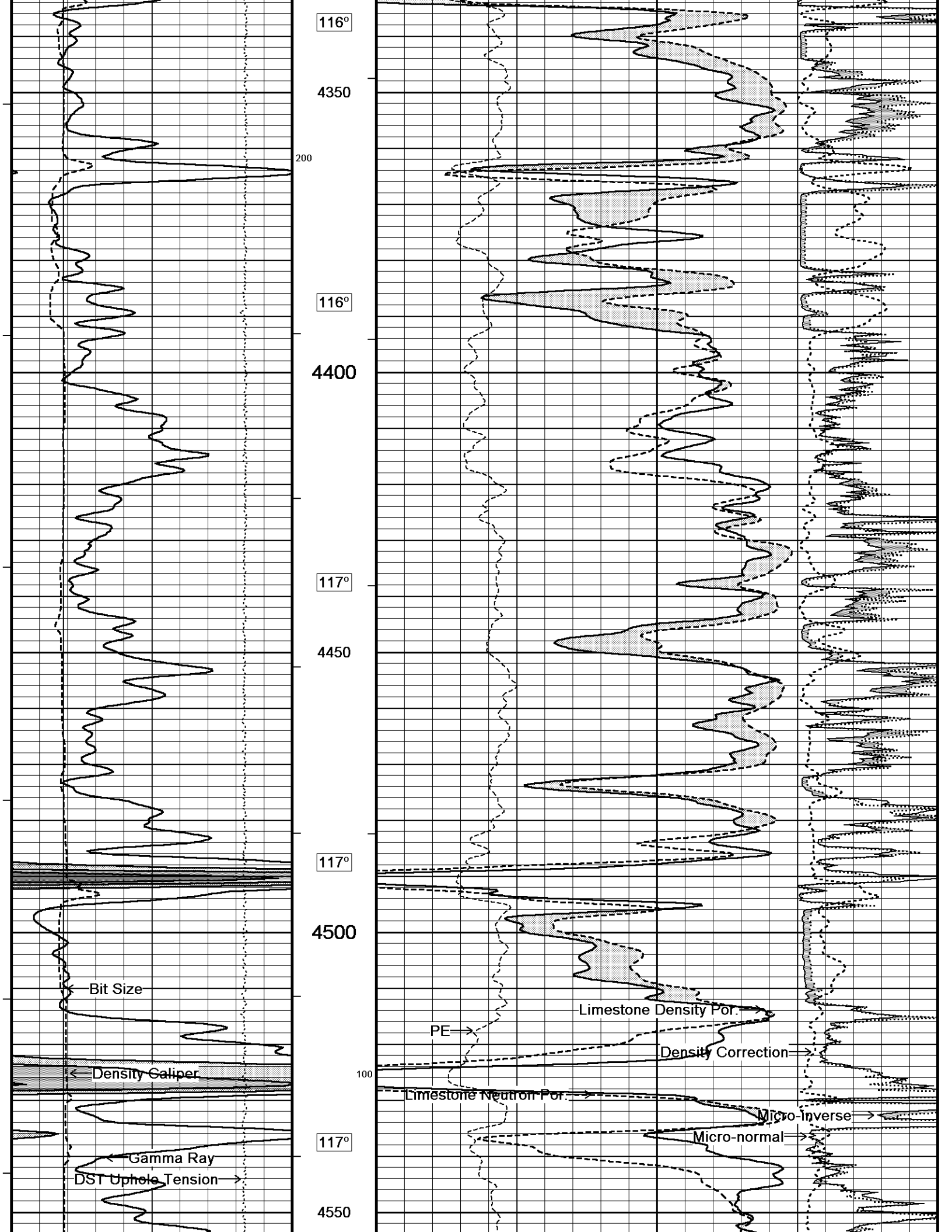
Recorded on 04-AUG-2011 09:57

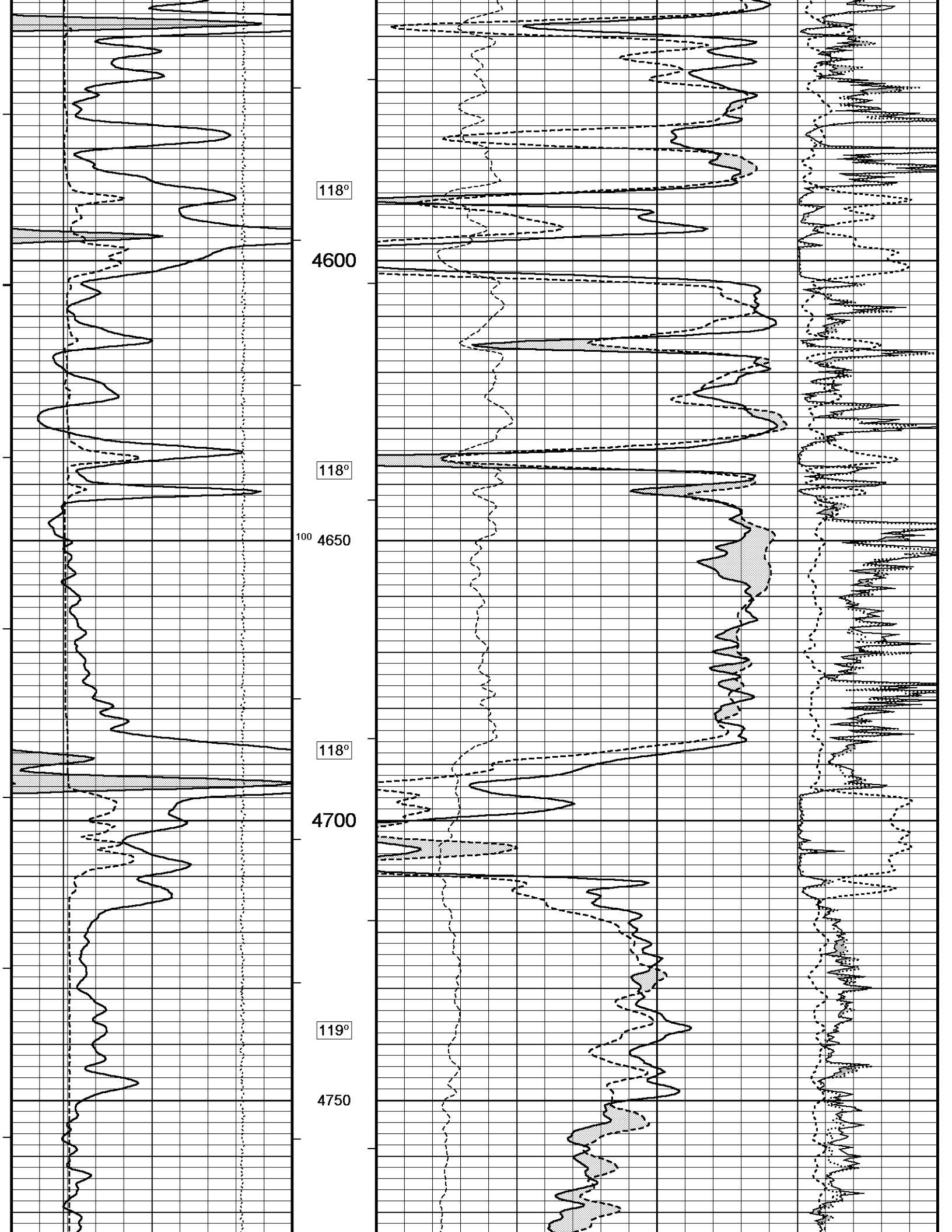
System Versions: Logged with 11.03.4044 Plotted with 11.03.4044

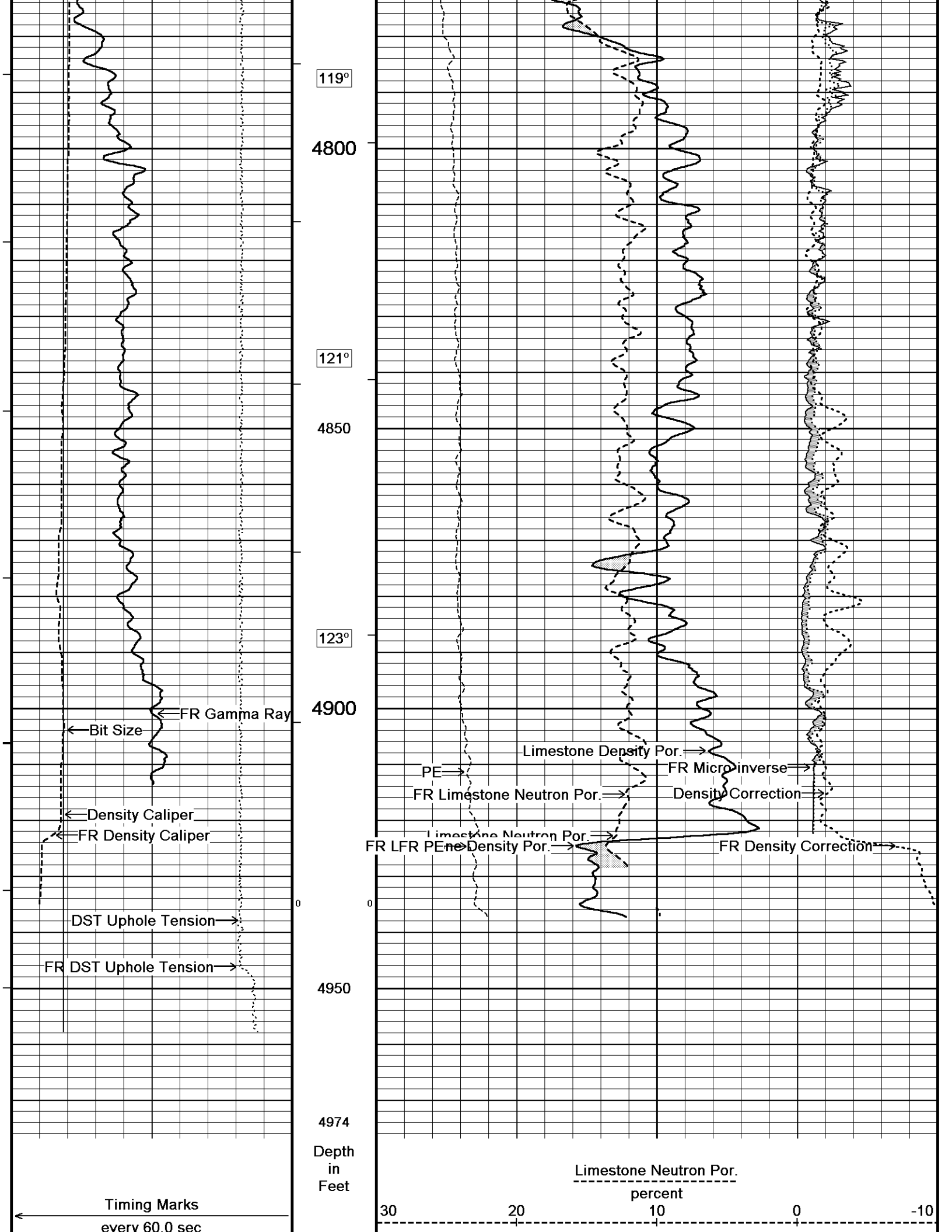


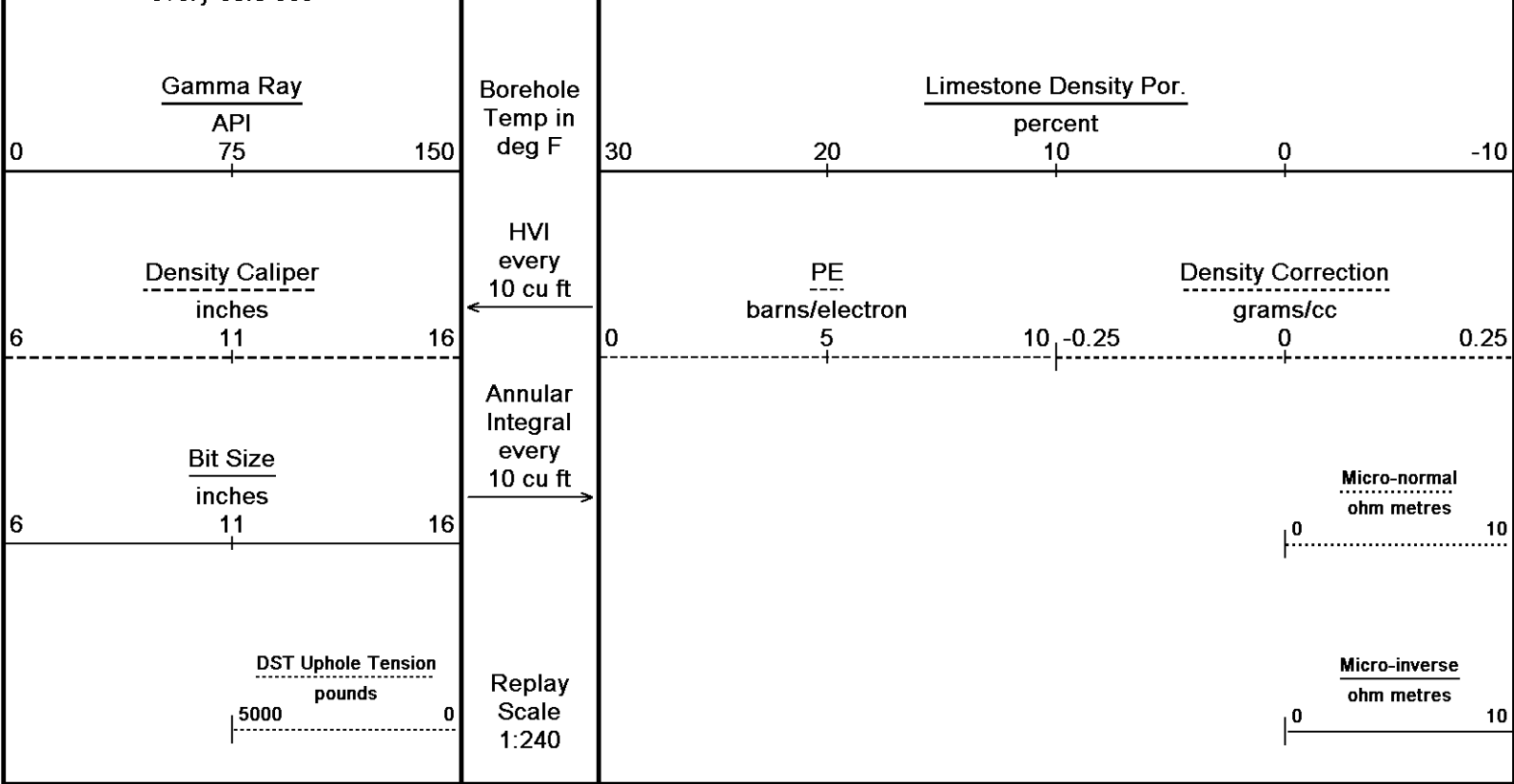




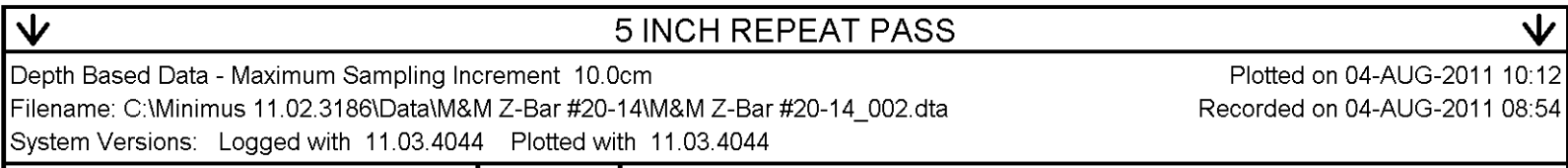




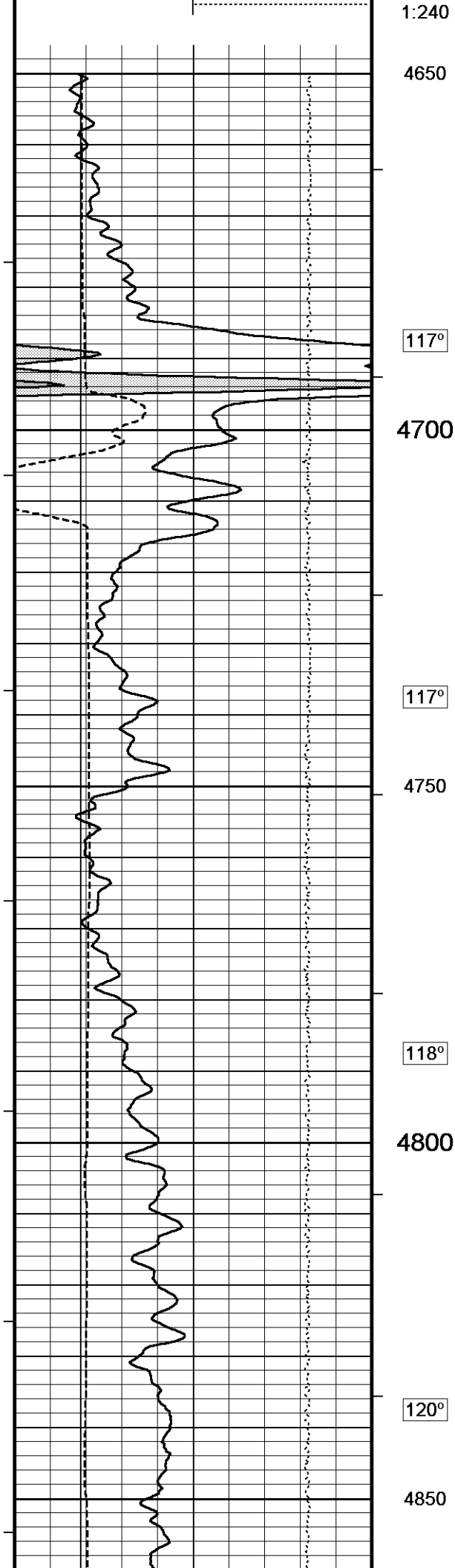




5 INCH MAIN PASS



5 INCH REPEAT PASS



1:240

4650

117°

4700

117°

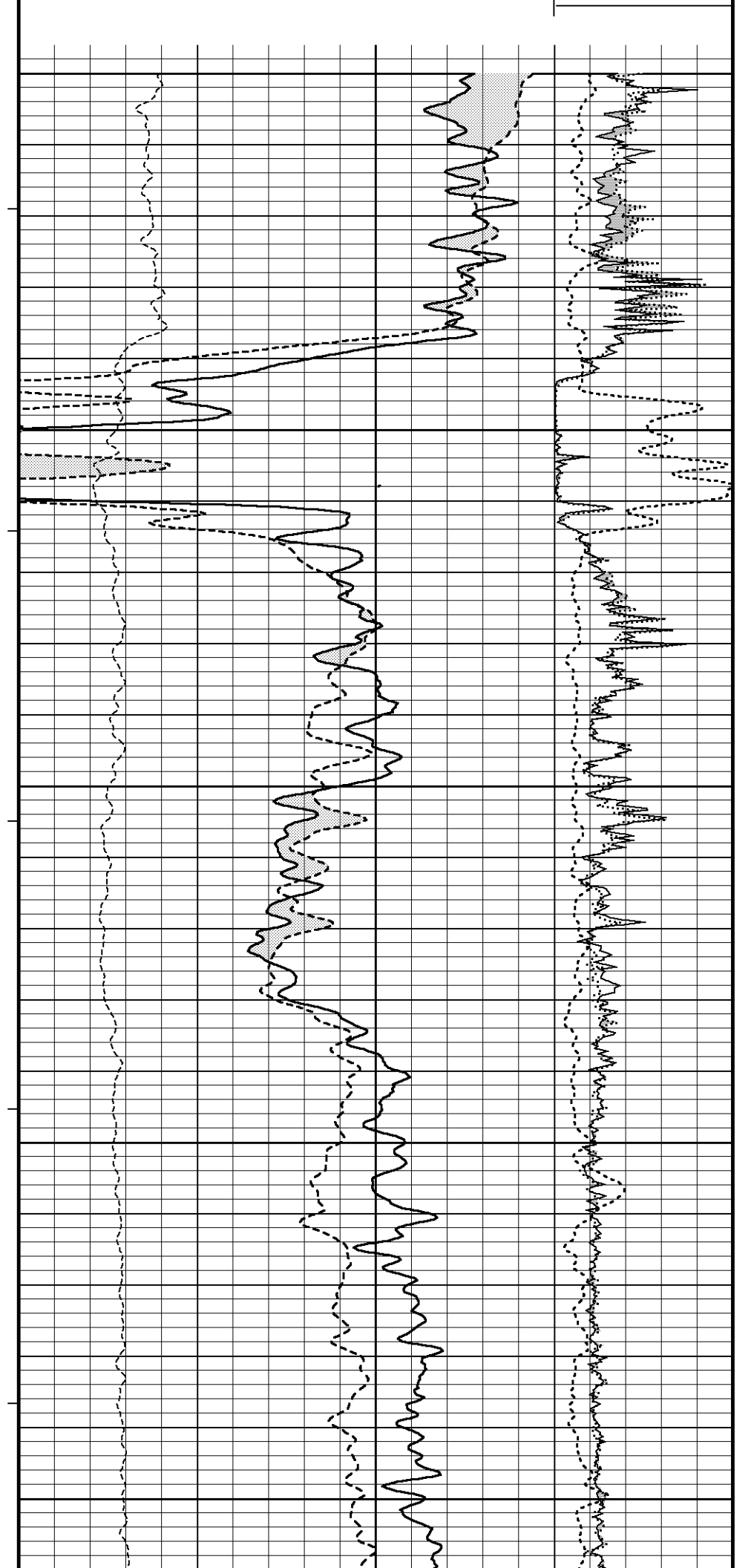
4750

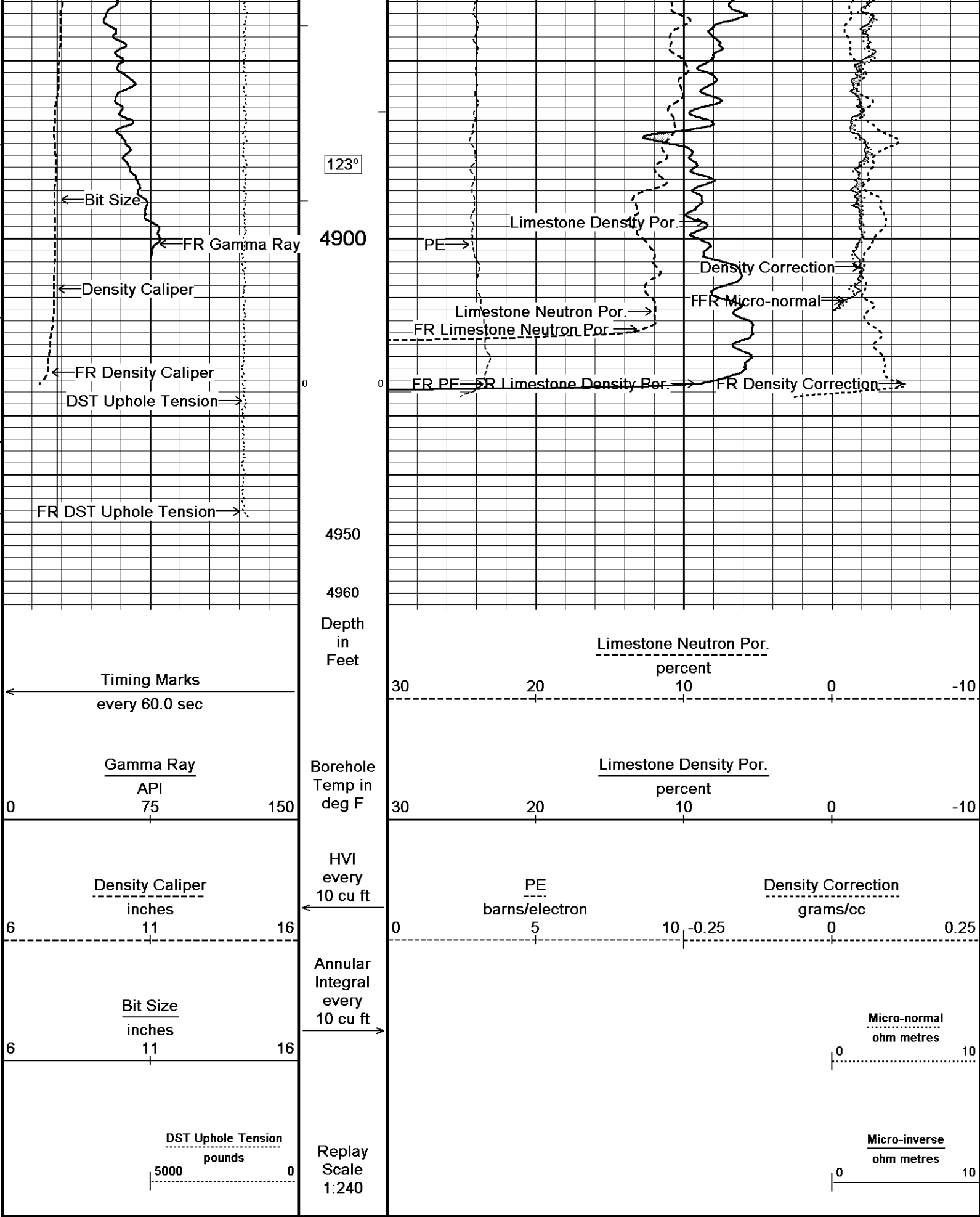
118°

4800

120°

4850





5 INCH REPEAT PASS

5 INCH MAIN PASS

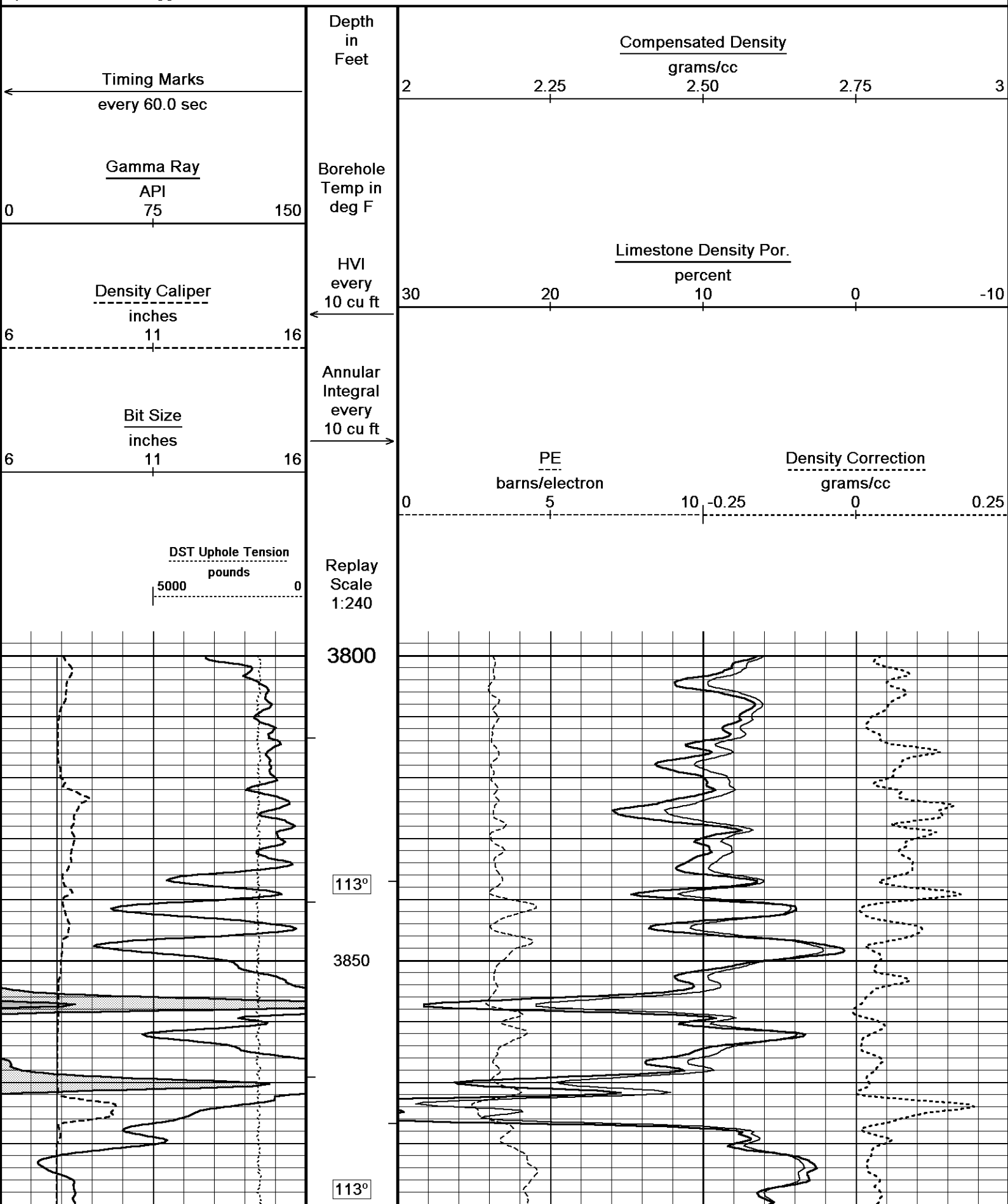
Depth Based Data - Maximum Sampling Increment 10.0cm

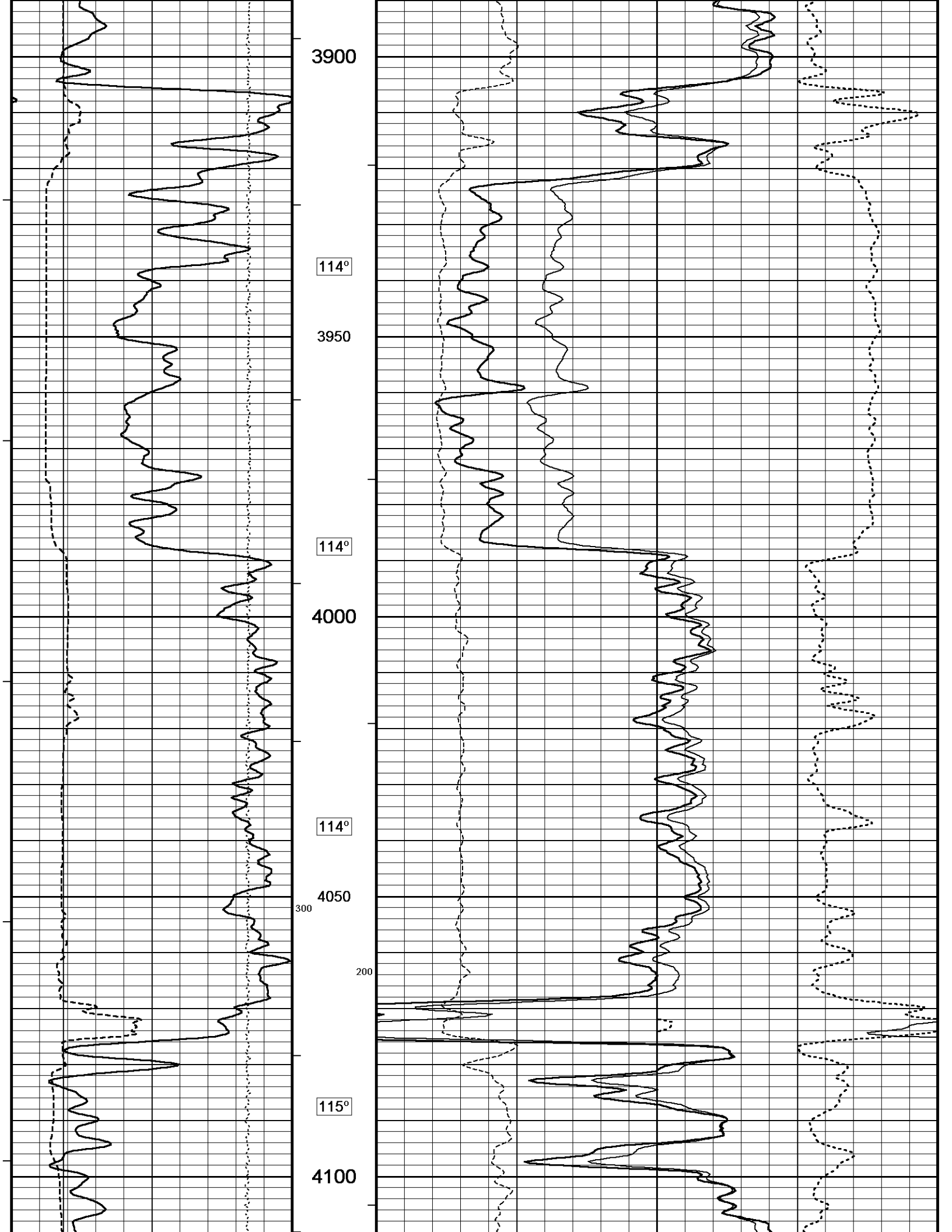
Plotted on 04-AUG-2011 10:12

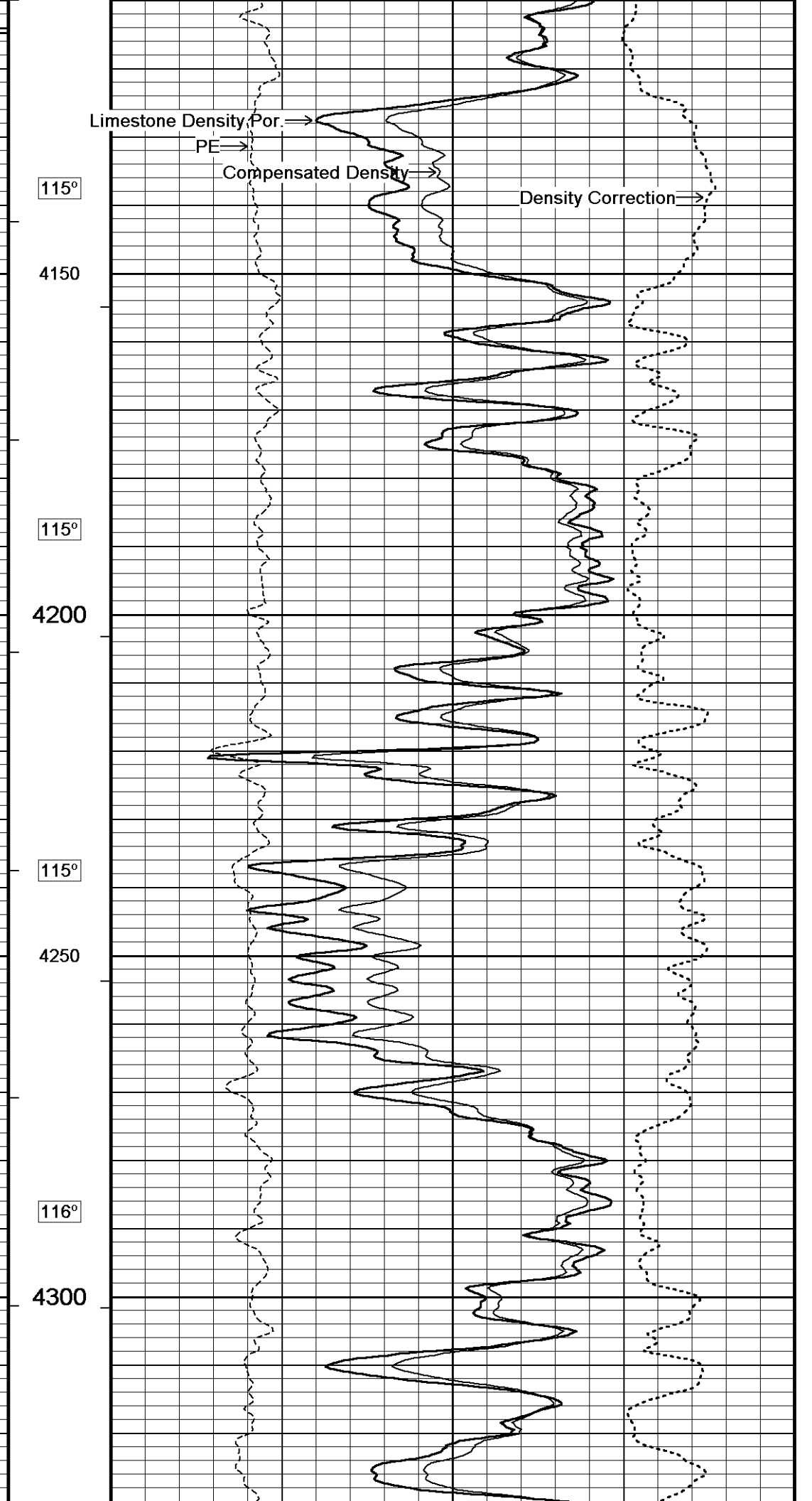
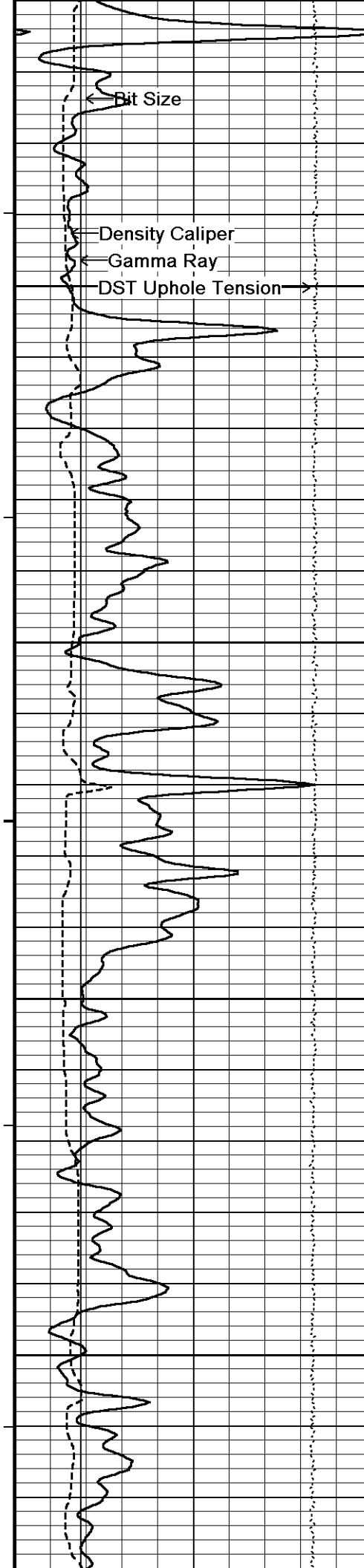
Filename: C:\Minimus 11.02.3186\Data\M&M Z-Bar #20-14\M&M Z-Bar #20-14_003 spooled section.dta

Recorded on 04-AUG-2011 09:57

System Versions: Logged with 11.03.4044 Plotted with 11.03.4044







115°

4150

115°

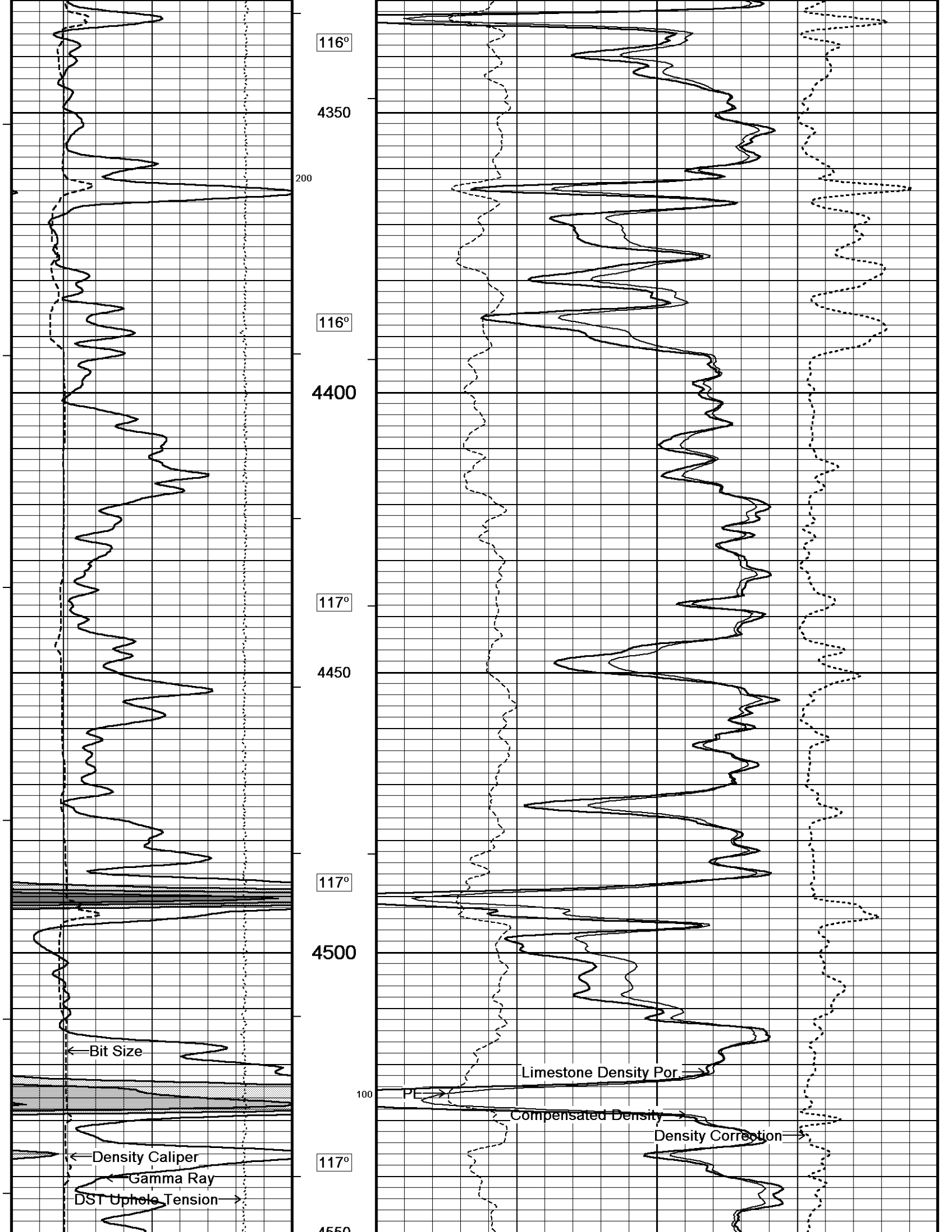
4200

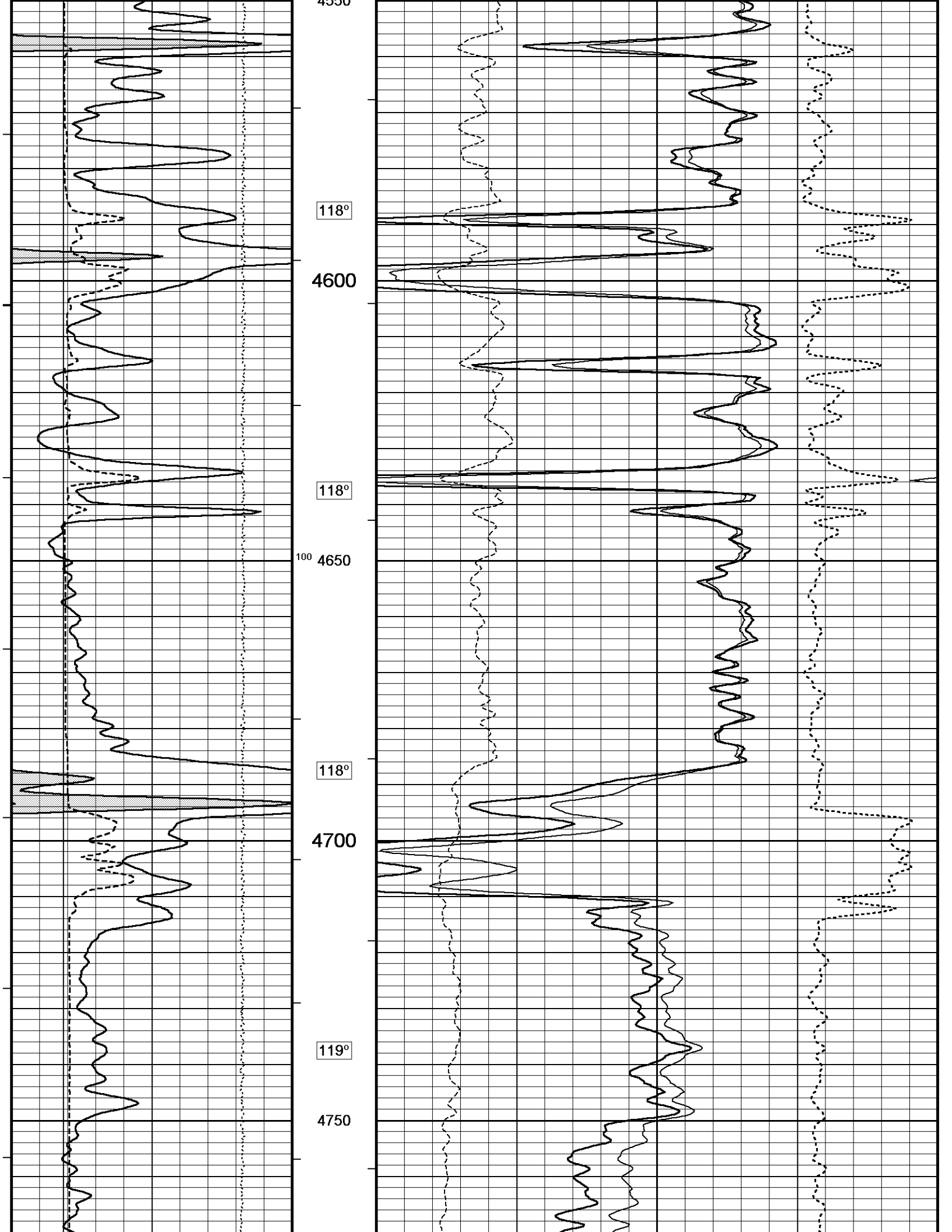
115°

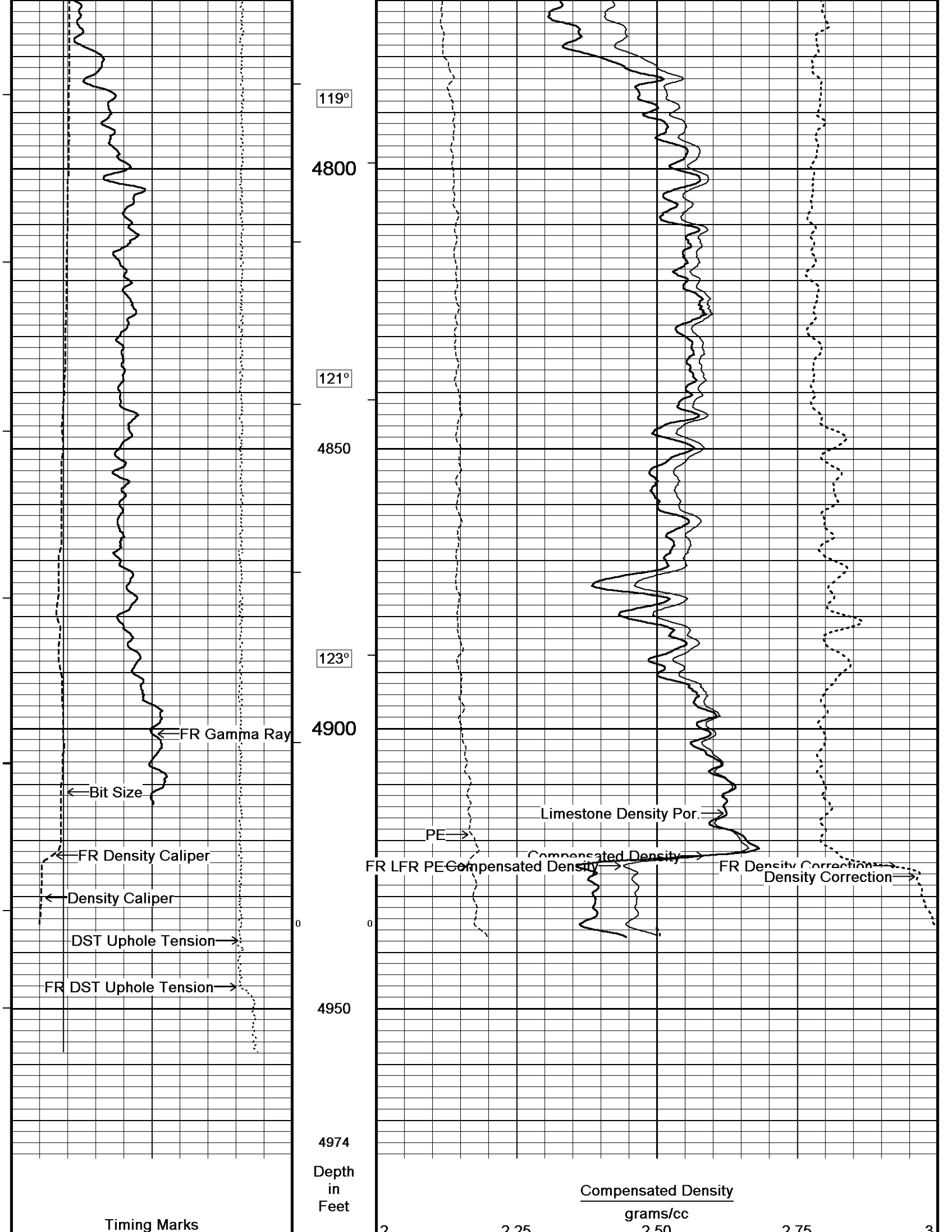
4250

116°

4300







119°

4800

121°

4850

123°

4900

4950

4974

Depth
in
Feet

Compensated Density
grams/cc

2 2.25 2.50 2.75 3

Timing Marks

FR Gamma Ray

Bit Size

FR Density Caliper

Density Caliper

DST Uphole Tension

FR DST Uphole Tension

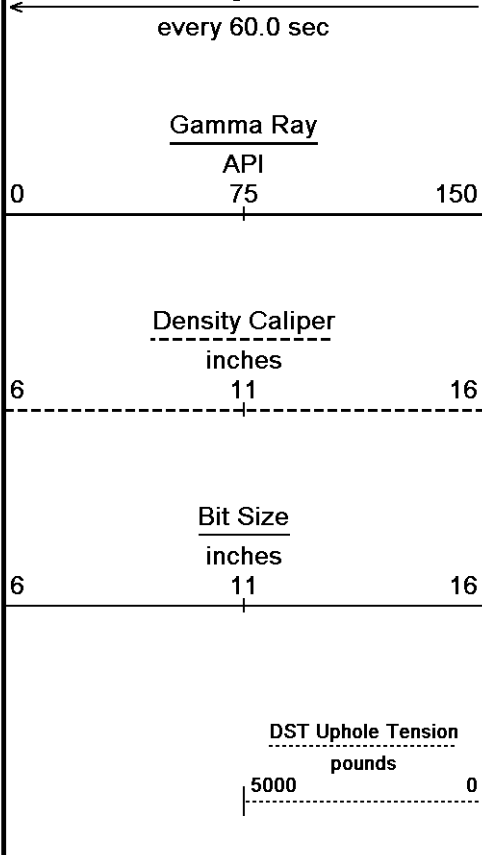
PE

Limestone Density Por.

FR LFR PE Compensated Density

Compensated Density

FR Density Correction
Density Correction

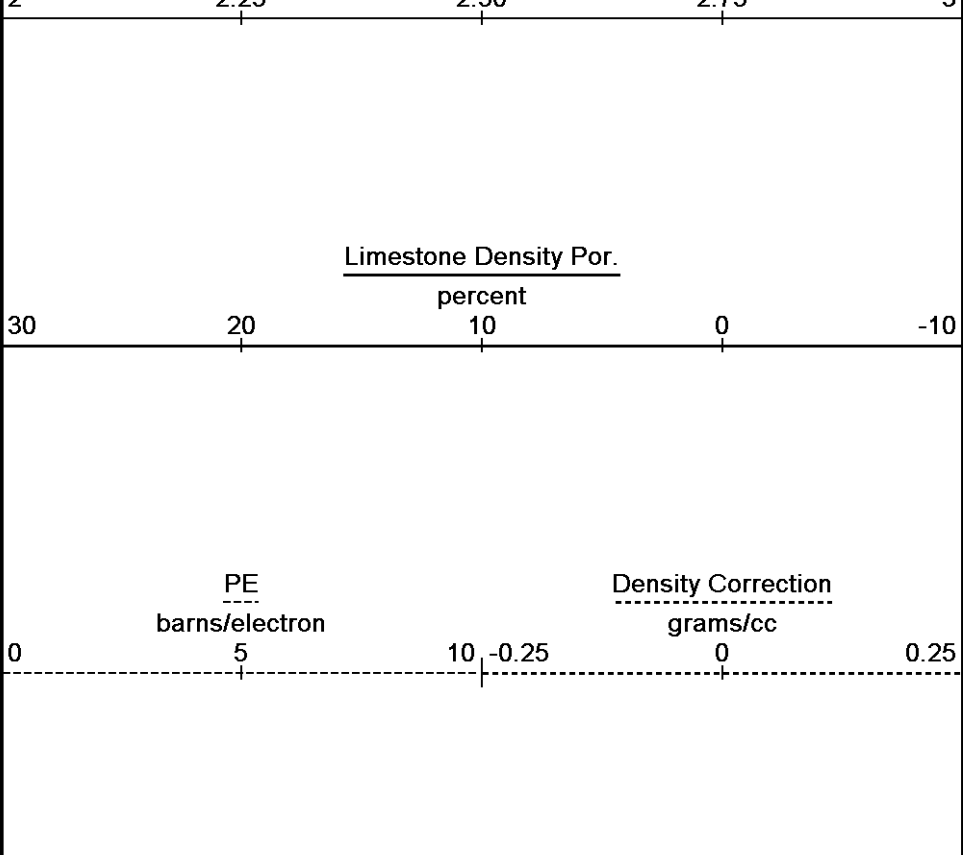


Borehole Temp in deg F

HVI every 10 cu ft

Annular Integral every 10 cu ft

Replay Scale 1:240

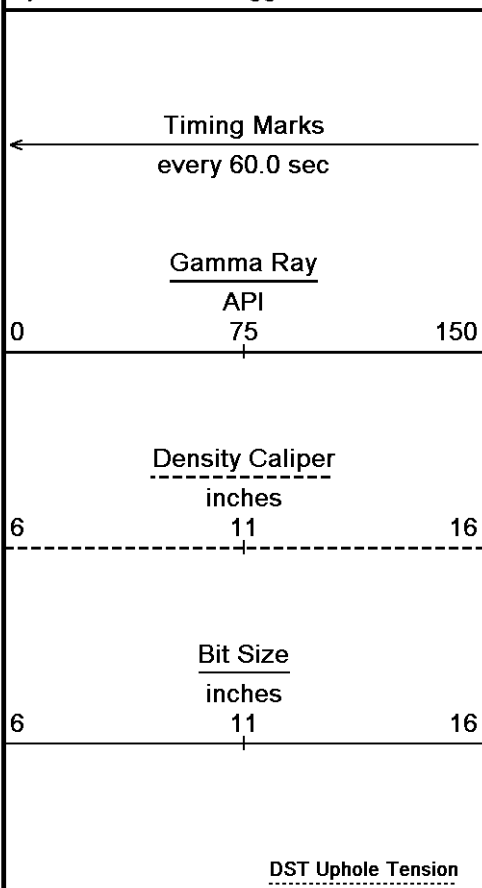


Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 04-AUG-2011 10:12
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 System Versions: Logged with 11.03.4044 Plotted with 11.03.4044

↑ 5 INCH MAIN PASS ↑

↓ 5 INCH REPEAT PASS ↓

Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 04-AUG-2011 10:12
 Filename: C:\Minimus 11.02.3186\Data\M&M Z-Bar #20-14\M&M Z-Bar #20-14_002.dta Recorded on 04-AUG-2011 08:54
 System Versions: Logged with 11.03.4044 Plotted with 11.03.4044



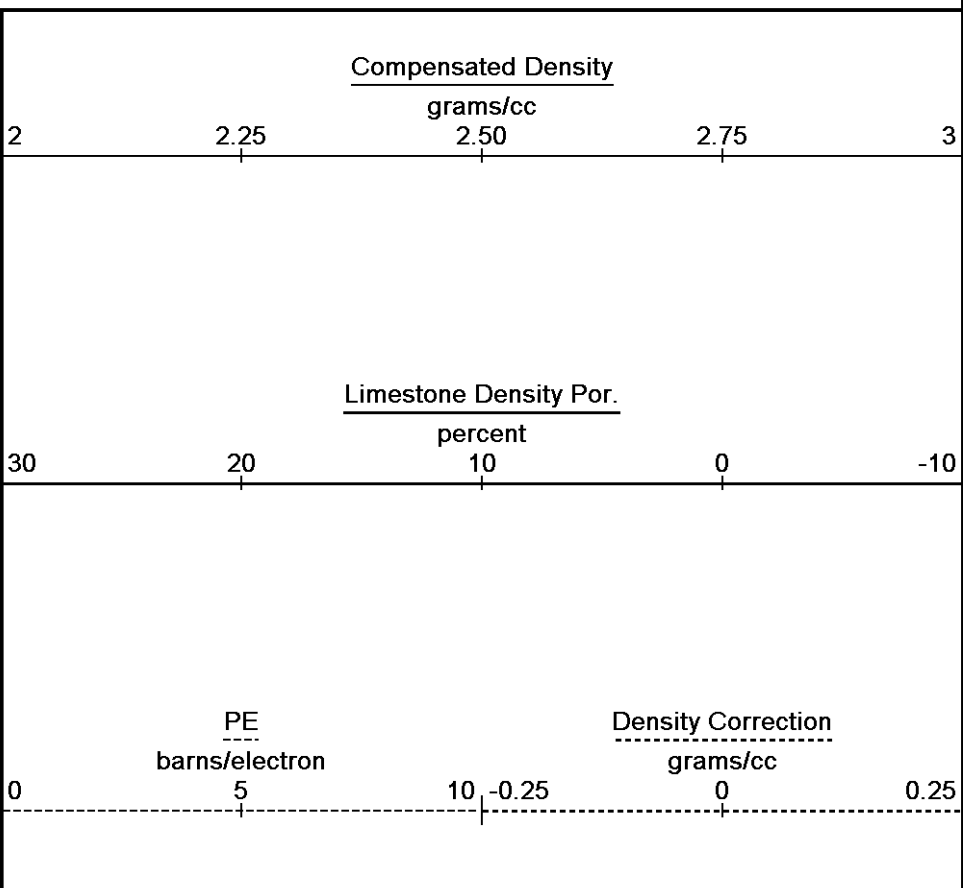
Depth in Feet

Borehole Temp in deg F

HVI every 10 cu ft

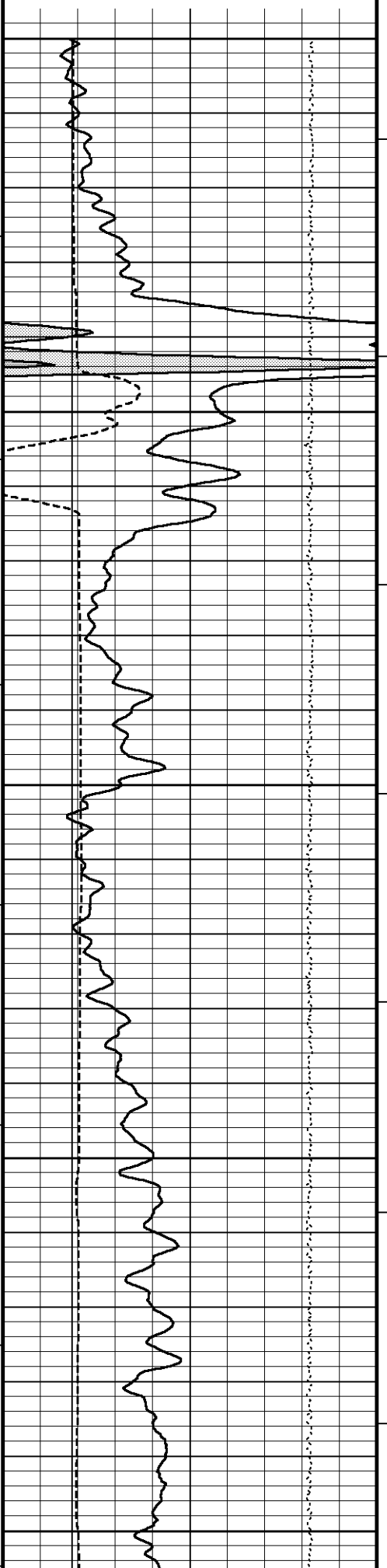
Annular Integral every 10 cu ft

Replay



5000 pounds 0

Scale 1:240



4650

117°

4700

117°

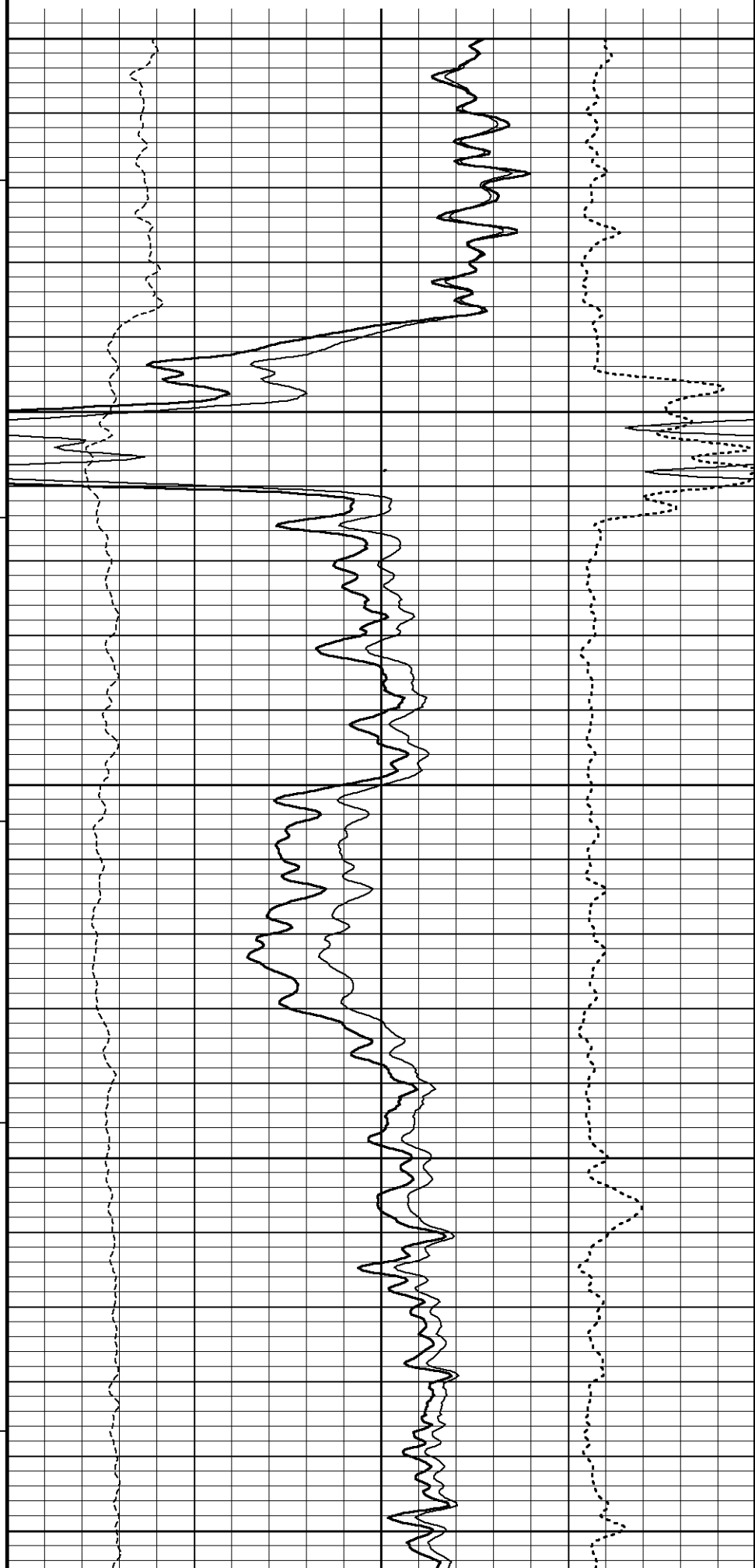
4750

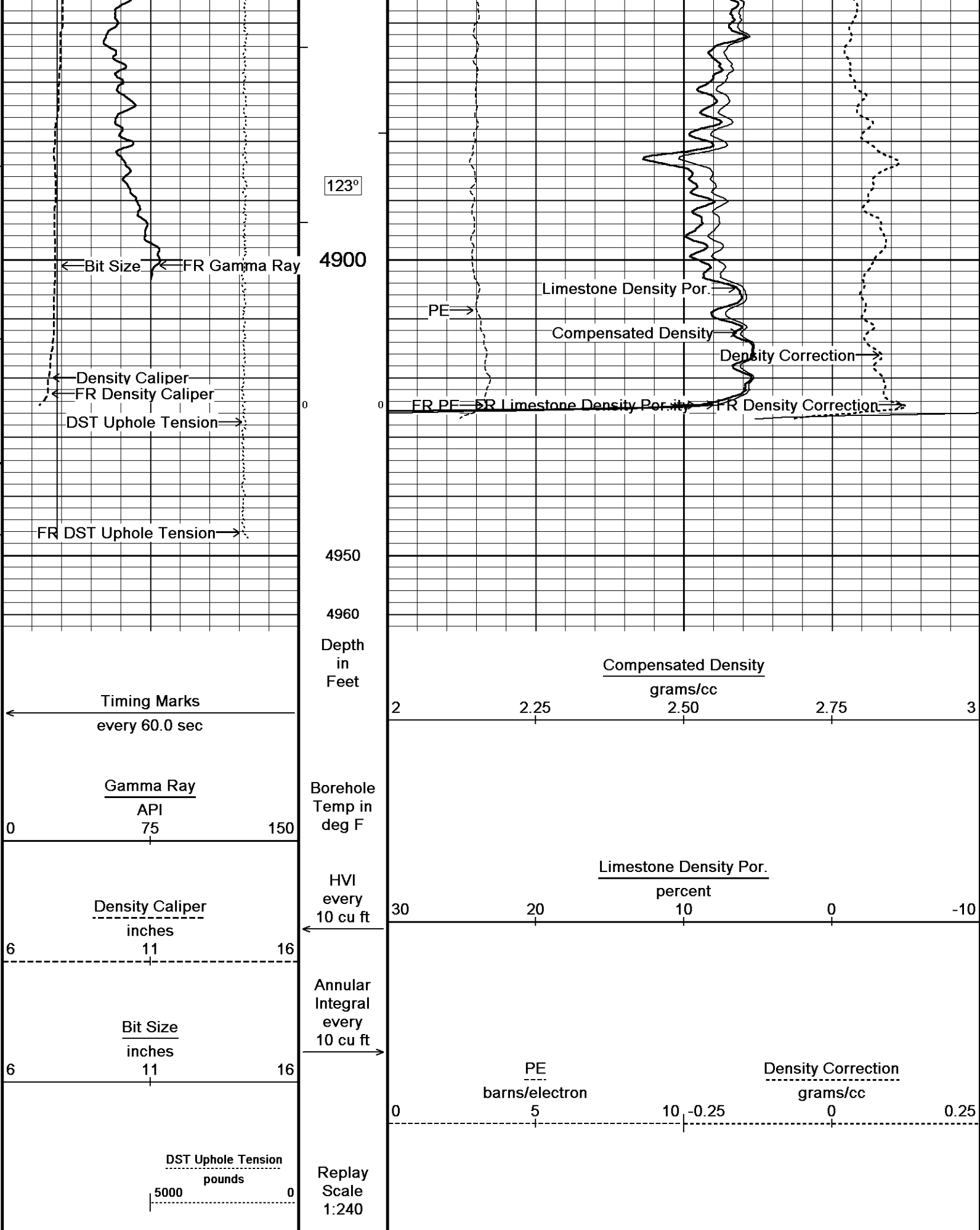
118°

4800

120°

4850







BEFORE SURVEY CALIBRATION

C:\Minimus 11.02.3186\Data\M&M Z-Bar #20-14\M&M Z-Bar #20-14_003 spooled section.dta

General Constants All 000 Last Edited on 03-AUG-2011,22:47

| | | | |
|---|-----------------------|------------|--|
| General Parameters | | | |
| Mud Resistivity | 0.430 | ohm-metres | |
| Mud Resistivity Temperature | 78.000 | 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 All 000 Field Calibration on 30-JUN-2010

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

Gamma Calibration MCG-B 34 Field Calibration on 02-AUG-2011 15:04

| | | | |
|--------------------|----------|------------------|--|
| | Measured | Calibrated (API) | |
| Background | 75 | 52 | |
| Calibrator (Gross) | 1127 | 777 | |
| Calibrator (Net) | 1052 | 725 | |

Gamma Constants MCG-B 34 Last Edited on 03-AUG-2011,22:32

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

SP Calibration MCG-B 34 Field Calibration on 03-AUG-2011,09:32

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

High Resolution Temperature Calibration MCG-B 34 Field Calibration on 03-AUG-2011,22:33

| | | | |
|-------|----------|-------------------|--|
| | 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 | | |
|-------------------|----|--|--|

Micro Normal and Micro Inverse Calibration MML-A 4 Base Calibration on 03-AUG-2011 09:42
Field Check on 03-AUG-2011 09:46

| | | | | | |
|------------------|--------------------|------------|---------------------|------------|--|
| Base Calibration | | | | | |
| | | Measured | Calibrated (ohm-m) | | |
| Channel | Resistor 1 | Resistor 2 | Resistor 1 | Resistor 2 | |
| Micro Normal | 12.2 | 60.2 | 2.6 | 12.8 | |
| Micro Inverse | 15.7 | 78.4 | 1.7 | 8.4 | |
| Channel | Base Check (ohm-m) | | Field Check (ohm-m) | | |

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

Micro Normal and Micro Inverse Constants MML-A 4

Last Edited on 03-AUG-2011,09:33

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 03-AUG-2011 09:53
 Field Calibration on 03-AUG-2011 09:56

| | | |
|-------------------|-----------------------|----------------------|
| Base Calibration | | |
| Reading No | Measured | Calibrator Size (in) |
| 1 | 15121 | 5.98 |
| 2 | 18479 | 7.97 |
| 3 | 21774 | 9.86 |
| 4 | 25719 | 11.92 |
| 5 | 0 | 0.00 |
| 6 | N/A | N/A |
| Field Calibration | | |
| | Measured Caliper (in) | Actual Caliper (in) |
| | 6.02 | 5.98 |

Neutron Calibration MDN-A.B 65

Base Calibration on 02-AUG-2011 18:50
 Field Check on 02-AUG-2011 19:10

| | | | | |
|--------------------------|----------|-----|------------------|------|
| Base Calibration | | | | |
| | Measured | | Calibrated (cps) | |
| | Near | Far | Near | Far |
| | 3295 | 104 | 3714 | 110 |
| Ratio | 31.664 | | 33.764 | |
| Field Calibrator at Base | | | | |
| | | | Calibrated (cps) | |
| | | | 1576 | 2237 |
| Ratio | | | 0.704 | |
| Field Check | | | | |
| | | | Calibrated (cps) | |
| | | | 1574 | 2253 |
| Ratio | | | 0.699 | |

Neutron Constants MDN-A.B 65

Last Edited on 03-AUG-2011,22:34

Neutron Source Id 757
 Neutron Jig Number 5824NE
 Epithermal Neutron No
 Caliper Source for Processing Density Caliper
 Stand-off 0.50 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
 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 03-AUG-2011 10:09
 Field Check on 03-AUG-2011 10:18

| | | |
|------------------|----------|--------------------|
| Base Calibration | | |
| | Measured | Calibrated (ohm-m) |
| Reference 1 | 0.0 | 0.0 |
| Reference 2 | 952.6 | 126.8 |
| Base Check | | 281.5 |
| Field Check | | 281.5 |

| | | |
|----------------------------------|--------------------------|--------|
| Running Mode | No Sleeve | |
| MFE K Factor | 0.1268 | |
| Caliper Source for FE correction | Density Caliper | |
| Caliper Value for FE correction | N/A | inches |
| Rm Source for FE correction | Temperature Corr | |
| Temp. for Rm Corr. | MCG External Temperature | |
| Stand-off | 0.5 | inches |

Induction Calibration MAI-A.A 45

Base Calibration on 03-AUG-2011,10:43

Field Check on 03-AUG-2011 11:36

Base Calibration

Test Loop Calibration

| Channel | Measured | | Calibrated (mmho/m) | |
|---------|----------|-------|---------------------|-------|
| | Low | High | Low | 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) | | Field Check (mmho/m) | |
|---------|---------------------|------|----------------------|--------|
| | Low | High | Low | High |
| 1 | 0.0 | 0.0 | 14.7 | 3859.8 |
| 2 | 0.0 | 0.0 | 30.1 | 3498.2 |
| 3 | 0.0 | 0.0 | 29.4 | 3069.4 |
| 4 | 0.0 | 0.0 | 19.9 | 2085.0 |
| Deep | 0.0 | 0.0 | 18.8 | 2051.5 |
| Medium | 0.0 | 0.0 | 42.5 | 4021.4 |
| Shallow | 0.0 | 0.0 | 43.8 | 5096.4 |

| | | | |
|-------------------|-----|-------|-------|
| Array Temperature | 0.0 | 100.9 | Deg F |
|-------------------|-----|-------|-------|

Induction Constants MAI-A.A 45

Last Edited on 03-AUG-2011,22:48

| | | |
|-----------------------------------|--------------------------|------------|
| 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 Dt | 0.00 | |

Source for Rt 0.00
Source for Rxo 0.00

High Resolution Temperature Calibration MAI-A.A 45

Field Calibration on 04-AUG-2011,07:54

| | 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

Photo Density Calibration MPD-B 31

Base Calibration on 02-AUG-2011 16:24

Field Check on 02-AUG-2011 16:30

| Density Calibration | Measured | | Calibrated (sdu) | |
|---------------------|----------|-------|------------------|-------|
| Base Calibration | Near | Far | Near | Far |
| Reference 1 | 48081 | 24805 | 59556 | 30836 |
| Reference 2 | 19867 | 2025 | 24941 | 2541 |

Field Check at Base
707.3 871.8

Field Check
706.1 874.7

| PE Calibration | Measured | | | Calibrated |
|------------------|----------|-------|-------|------------|
| Base Calibration | WS | WH | Ratio | Ratio |
| Background | 131 | 626 | | |
| Reference 1 | 19081 | 47953 | 0.400 | 0.371 |
| Reference 2 | 5693 | 19772 | 0.291 | 0.272 |

Field Check at Base
131.3 626.1

Field Check
128.5 617.5

Density Constants MPD-B 31

Last Edited on 03-AUG-2011,22:35

Density Source Id 254
Nylon Calibrator Number DNCE695
Aluminium Calibrator Number DACD698
Density Shoe Profile 8 inch
Caliper Source for Processing Density Caliper
PE Correction to Density Not Applied
Mud Density 1.10 gm/cc
Mud Density Z/A Multiplier 1.11
Mud Filtrate Density 1.00 gm/cc
Dry Hole Mud Filtrate Density 1.00 gm/cc
DNCT 0.00 gm/cc
CRCT 0.00 gm/cc
Density Z/A Correction Hybrid

| Matrix Density (gm/cc) | Depth (ft) |
|------------------------|------------|
| 2.71 | |
| 0.00 | 0.00 |
| 0.00 | 0.00 |
| 0.00 | 0.00 |
| 0.00 | 0.00 |
| 0.00 | 0.00 |
| 0.00 | 0.00 |
| 0.00 | 0.00 |
| 0.00 | 0.00 |

Caliper Calibration MPD-B 31

Base Calibration on 02-AUG-2011 15:38

Field Calibration on 02-AUG-2011 15:48

| Base Calibration | Measured | Calibrator Size (in) |
|------------------|----------|----------------------|
| Reading No | | |
| 1 | 16208 | 3.99 |
| 2 | 24815 | 5.98 |
| 3 | 33539 | 7.97 |

| | | |
|---|-------|-------|
| 4 | 41984 | 9.86 |
| 5 | 51072 | 11.92 |
| 6 | N/A | N/A |

Field Calibration

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

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 |

DOWNHOLE EQUIPMENT

C:\Minimus 11.02.3186\Data\M&M Z-Bar #20-14\M&M Z-Bar #20-14_003 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

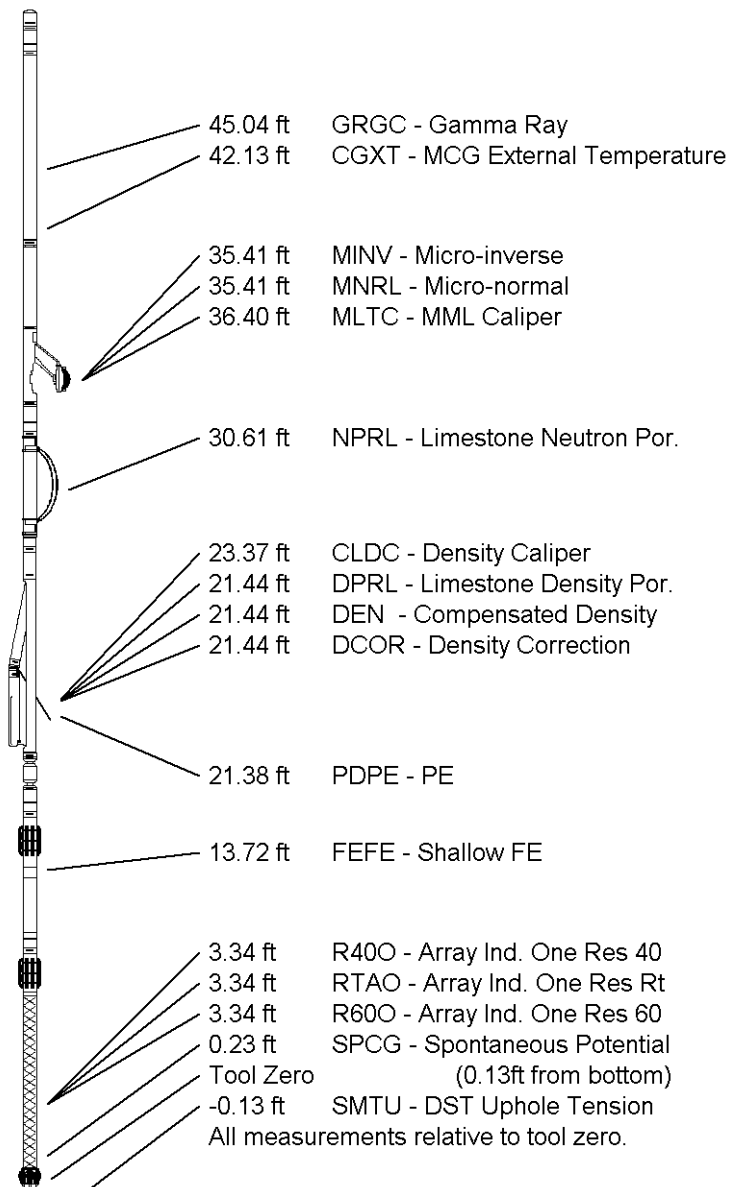
Compact Density/Caliper
MPD-B 31 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

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 # 20-14 |
| FIELD | AETNA GAS AREA |
| PROVINCE/COUNTY | BARBER |
| COUNTRY/STATE | U.S.A. / KANSAS |

| | | | | | |
|-------------------------|---------|------|---------------|---------|------|
| Elevation Kelly Bushing | 1550.00 | feet | First Reading | 4922.00 | feet |
|-------------------------|---------|------|---------------|---------|------|

Elevation Kelly Bushing 1530.00 feet
Elevation Drill Floor 1548.00 feet
Elevation Ground Level 1538.00 feet

First Reading 4923.00 feet
Depth Driller 4950.00 feet
Depth Logger 4946.00 feet



Weatherford[®]

COMPACT PHOTO DENSITY
COMPENSATED NEUTRON
MICRORESISTIVITY LOG



ALLIED CEMENTING CO., LLC. 042105

Federal Tax ID # 20-5975804

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

SERVICE POINT:
Medicine Lodge KS

| | | | | | | | |
|-------------------------|---------------------|---|------------------------|-----------------|-------------|-----------|------------|
| DATE <u>06-28-11</u> | SEC <u>26</u> | TWP. <u>38S</u> | RANGE <u>14W</u> | CALLED OUT | ON LOCATION | JOB START | JOB FINISH |
| LEASE <u>2 Bgs</u> | WELL # <u>20-14</u> | LOCATION <u>281. & Deerland Rd, 15Ks to Cottage Creek Rd, 4 1/2 E, 1/4 S, 3 miles on E 1/4 N into</u> | COUNTY <u>Franklin</u> | STATE <u>KS</u> | | | |
| OLD OR NEW (Circle one) | | | | | | | |

CONTRACTOR Big Buckets
 TYPE OF JOB Water Strain Conductor
 HOLE SIZE 30" T.D. 83
 CASING SIZE 20" DEPTH 83'
 TUBING SIZE DEPTH
 DRILL PIPE DEPTH
 TOOL DEPTH
 PRES. MAX 100* MINIMUM
 MEAS. LINE SHOE JOINT N/A
 CEMENT LEFT IN CSG. 15'
 PERFS.
 DISPLACEMENT 24 Bbls Fresh Water
 EQUIPMENT

OWNER M & M explo
 CEMENT
 AMOUNT ORDERED 160 5x65:35:67 gel +
30cc + 1/4" Floreal
 COMMON @
 POZMIX @
 GEL @
 CHLORIDE 6.5x @ 5820 349.20
 ASC @
A/W 160 5x @ 15.00 2400.00
Floreal 40" @ 270 108.00
 HANDLING 177 @ 2.25 398.25
 MILEAGE 177/40/-11 @ 4.45 778.80
 TOTAL 4034.25

PUMP TRUCK CEMENTER D Felix
 # 360-26 HELPER C. Baldwin
 BULK TRUCK
 # 421-252 DRIVER E. Piper
 BULK TRUCK
 # DRIVER

REMARKS:
Conductor at 83', establish core, mix
160 5x lite weight cement, washup truck
& disp. w/ 24 Bbls Fresh H₂O, shut in
Cement Bid Case.

SERVICE
 DEPTH OF JOB 83'
 PUMP TRUCK CHARGE 1125.00
 EXTRA FOOTAGE @
 MILEAGE 80 @ 7.00 560.00
 MANIFOLD N/A @
Light Vehicle 80 @ 4.00 320.00
 TOTAL 2005.00

CHARGE TO: M & M explo.
 STREET
 CITY STATE ZIP

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.

PRINTED NAME Alan VanDil
 SIGNATURE [Signature]

PLUG & FLOAT EQUIPMENT
~~NONE~~
 TOTAL
 SALES TAX (If Any)
 TOTAL CHARGES 6039.25
 DISCOUNT IF PAID IN 30 DAYS

ALLIED CEMENTING CO., LLC. 040236

Federal Tax I.D.# 20-5975804

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

SERVICE POINT:

Medicine House Ks
7-27 7-27

| | | | | | | | |
|--------------------------------|---------------------|---|------------------|---------------------------|----------------------------|--------------------------|---------------------------|
| DATE <u>7-26-2011</u> | SEC. <u>20</u> | TWP. <u>34S</u> | RANGE <u>14W</u> | CALLED OUT <u>6:00 pm</u> | ON LOCATION <u>9:00 pm</u> | JOB START <u>1:30 am</u> | JOB FINISH <u>2:30 am</u> |
| LEASE <u>2-Bar</u> | WELL # <u>20-14</u> | LOCATION <u>160 & Deerback Rd, South to Cottage Creek Rd, West to Telephone pole, S&E</u> | | | COUNTY <u>Barber</u> | STATE <u>Ks</u> | |
| OLD OR <u>NEW</u> (Circle one) | | | | | | | |

CONTRACTOR Southwind 70
TYPE OF JOB Surface
HOLE SIZE 12 1/4 T.D. 905'
CASING SIZE 8 5/8 DEPTH 905'
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT 40'
CEMENT LEFT IN CSG.
PERFS.
DISPLACEMENT 55 1/2 bbls of fresh water

OWNER M&M Exploration
CEMENT
AMOUNT ORDERED 2.50 sy 6.5' 35.69 gal
3% cc + 1/4 # floccant, 1.50 sy class A
3% cc + 2% gal
COMMON 150 @ 16.25 2437.50
POZMIX @
GEL 3 @ 21.25 63.75
CHLORIDE 14 @ 58.20 814.80
ASC 250 @ 15.00 3750.-

EQUIPMENT
PUMP TRUCK CEMENTER Derin F.
471-302 HELPER Ron G.
BULK TRUCK
471-252 DRIVER Dustin E.
BULK TRUCK
DRIVER

63 Floccal @ 2.70 170.10
@
@
@
@
@
@
@
HANDLING 434 @ 2.25 976.50
MILEAGE 40/434/11 1909.60
TOTAL 10,122.25

REMARKS:
Pipe on bottom & break circulation
Pump 3 bbls water shaft, mix 250 sy
of large cement, mix 150 sy of #1
cement, shut down, Release pipe, start
displacement, slow rate to 3 bpm &
4.5 bbls, bump pipe & 55 1/2 bbls 300
800 psi, float did hold, cement
did circulate

SERVICE
DEPTH OF JOB 905
PUMP TRUCK CHARGE 1125.-
EXTRA FOOTAGE @
MILEAGE 80 @ 7.00 560.-
MANIFOLD @
Hose & 1/2 @ 200.00 200.-
light vehicle @ 4.00 320.-
TOTAL 2205.00

CHARGE TO: M&M Exploration
STREET _____
CITY _____ STATE _____ ZIP _____

PLUG & FLOAT EQUIPMENT
8 5/8
1- Rubber Plug @ 112.- 112.-
1- AFL Insert @ 382.- 382.-
1- Basket @ 478.- 478.-
@
@
TOTAL 972.-

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) _____
TOTAL CHARGES 13299.25
DISCOUNT 20% IF PAID IN 30 DAYS
Net 10639.40

PRINTED NAME X Wesley Pfaff
SIGNATURE X Wesley Pfaff
Thank you!!!



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

FIELD SERVICE TICKET
1718 03450 A

DATE _____ TICKET NO. _____

| DATE OF JOB <u>08-05-11</u> DISTRICT <u>Pratt K</u> | | 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 <u>171-172 Exploration</u> | | LEASE <u>Z-BAR</u> | | WELL NO. <u>20-14</u> | | | | | | |
| ADDRESS | | COUNTY <u>BARBER</u> | | STATE <u>KS</u> | | | | | | |
| CITY STATE | | SERVICE CREW <u>Sullivan, Moberg, Hunter</u> | | | | | | | | |
| AUTHORIZED BY | | JOB TYPE: <u>CDW 4 1/2 hrs</u> | | | | | | | | |
| EQUIPMENT# | HRS | EQUIPMENT# | HRS | EQUIPMENT# | HRS | TRUCK CALLED | DATE | AM | PM | TIME |
| <u>33708-20920</u> | <u>35</u> | | | | | | <u>08-04-11</u> | | | <u>5:00</u> |
| <u>19831-19862</u> | <u>35</u> | | | | | | | | | <u>12:00</u> |
| <u>37900</u> | | | | | | | | | | <u>9:20</u> |
| | | | | | | | | | | <u>9:50</u> |
| | | | | | | | | | | <u>10:30</u> |
| | | | | | | MILES FROM STATION TO WELL | | | | <u>65</u> |

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: Ann V...
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

| ITEM/PRICE REF. NO. | MATERIAL, EQUIPMENT AND SERVICES USED | UNIT | QUANTITY | UNIT PRICE | \$ AMOUNT |
|---------------------|---------------------------------------|------|----------|------------|-----------|
| CP 105 | AA-2 cement | sk | 300 | | 5,100.00 |
| PC 102 | cellulose | lb | 75 | | 277.50 |
| CC 111 | Sulf | lb | 1601 | | 815.50 |
| CC 113 | gypsum | lb | 1410 | | 1,057.50 |
| CC 129 | FLA-322 | lb | 226 | | 1,695.00 |
| CC 201 | gypsumite | lb | 1800 | | 1,206.00 |
| CF 606 | Intd. down Plug | SA | 1 | | 370.00 |
| CF 1250 | Intd. float shoe | SA | 1 | | 330.00 |
| CF 1650 | Turbid. 200 | SA | 8 | | 680.00 |
| CF 1900 | Wadset | SA | 1 | | 540.00 |
| C 204 | clay max | gal | 4 | | 140.00 |
| E 100 | padding outside | mi | 65 | | 276.25 |
| E 101 | Hecy pad outside | mi | 130 | | 910.00 |
| E 113 | Bulk Pad | TMI | 917 | | 1,466.40 |
| CE 205 | Depth done 4001-5000 | SA | 1 | | 2,520.00 |
| CE 240 | Blending mixing | sk | 300 | | 920.00 |
| CE 504 | play container Rental | SA | 1 | | 250.00 |
| S 003 | Screens Separators | SA | 1 | | 175.00 |

SUB TOTAL

| CHEMICAL / ACID DATA: | | | |
|-----------------------|--|--|--|
| | | | |
| | | | |
| | | | |

| | |
|---------------------|------------|
| SERVICE & EQUIPMENT | %TAX ON \$ |
| MATERIALS | %TAX ON \$ |

TOTAL

14,401.03

| | |
|--|--|
| SERVICE REPRESENTATIVE <u>Robert Johnson</u> | THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: <u>Ann V...</u> (WELL OWNER OPERATOR CONTRACTOR OR AGENT) |
| FIELD SERVICE ORDER NO. | |

These services are performed by BESS, Inc. on behalf of the undersigned, overriding any royalty interest in the well, tools or hardware.



energy services, L.P.

TREATMENT REPORT

Customer: *M & M Exploration* Lease No.: _____ Date: _____
 Lease: *Z BAR* Well #: *20-14* 09 05 -11
 Field Order #: *3430* Station: *PRA H K* Casing: *4 1/2* Depth: _____ County: *BARBER* State: *KS*
 Type Job: *CNW 4 1/2 longstrip* Formation: _____ Legal Description: *20-34-14*

| PIPE DATA | | PERFORATING DATA | | FLUID USED | | TREATMENT RESUME | | |
|-----------------------------|--------------|------------------|----|------------|------------|------------------|-------|------------------|
| Casing Size | Tubing Size | Shots/Ft | | Acid | | RATE | PRESS | ISIP |
| <i>4 1/2</i> | | | | Pre Pad | Max | | | 5 Min. |
| Depth <i>4898</i> | Depth | From | To | Pad | Min | | | 10 Min. |
| Volume <i>75</i> | Volume | From | To | Frac | Avg | | | 15 Min. |
| Max Press <i>3,000</i> | Max Press | From | To | | HHP Used | | | Annulus Pressure |
| Well Connection <i>P.C.</i> | Annulus Vol. | From | To | Flush | Gas Volume | | | Total Load |
| Plug Depth <i>4820</i> | Packer Depth | From | To | | | | | |

Customer Representative: _____ Station Manager: *DAVE SCOTT* Treater: *Robert Sullivan*

| | | | | | | | | | |
|---------------|---------------|---------------|--------------|----------------|--------------|--|--|--|--|
| Service Units | <i>37900</i> | <i>33708</i> | <i>20520</i> | <i>19831</i> | <i>19862</i> | | | | |
| Driver Names | <i>Robert</i> | <i>Nelson</i> | | <i>Harstel</i> | | | | | |

| Time | Casing Pressure | Tubing Pressure | Bbls. Pumped | Rate | Service Log |
|-----------------|-----------------|-----------------|--------------|------------|---|
| <i>12:00 AM</i> | | | | | <i>on for soft, mostly</i> |
| | | | | | <i>run str 4 1/2 csg.</i> |
| | | | | | <i>casing set 4898' 52' at bottom</i> |
| | | | | | <i>csg set @ 4899'</i> |
| <i>8:20</i> | | | | | <i>csg on bottom</i> |
| <i>8:30</i> | | | | | <i>hook up to circ.</i> |
| <i>9:20</i> | <i>300</i> | | <i>7</i> | <i>4</i> | <i>mix Saveroper cont 25 st 41-2 cont</i> |
| | | | <i>62</i> | <i>5.5</i> | <i>mix Tail cont 225 st 41-2 cont</i> |
| | | | | | <i>cont mixed wash, pump, L.D.s</i> |
| | | | | | <i>Release Plug</i> |
| | | | | <i>6</i> | <i>at depth w/ 2% KCl 4" 1/2</i> |
| | <i>750</i> | | <i>37</i> | | <i>lift Pk.</i> |
| <i>1</i> | <i>1000</i> | | <i>65</i> | <i>4</i> | <i>Slow Rate</i> |
| <i>9:50</i> | <i>1,800</i> | | <i>75</i> | | <i>plug down</i> |
| | | | <i>7</i> | | <i>plug R.H. w/ 20 st</i> |
| | | | <i>5</i> | | <i>plug W.H. w/ 20 st</i> |
| | | | | | <i>SOB complete</i> |
| | | | | | <i>Thank you</i> |

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

November 10, 2011

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

Re: ACO1
API 15-007-23702-00-00
Z BAR 20-14
SW/4 Sec.20-34S-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