



Weatherford

DETAIL SECTION

COMPANY **SUNFLOWER ENERGY, LLC.**
WELL **ZIMMERMAN UNIT #1-8**
FIELD **WILDCAT**
PROVINCE/COUNTY **FORD**
COUNTRY/STATE **USA/KANSAS**
LOCATION **1078' FSL & 2542' FEL**
NW NW SW SE

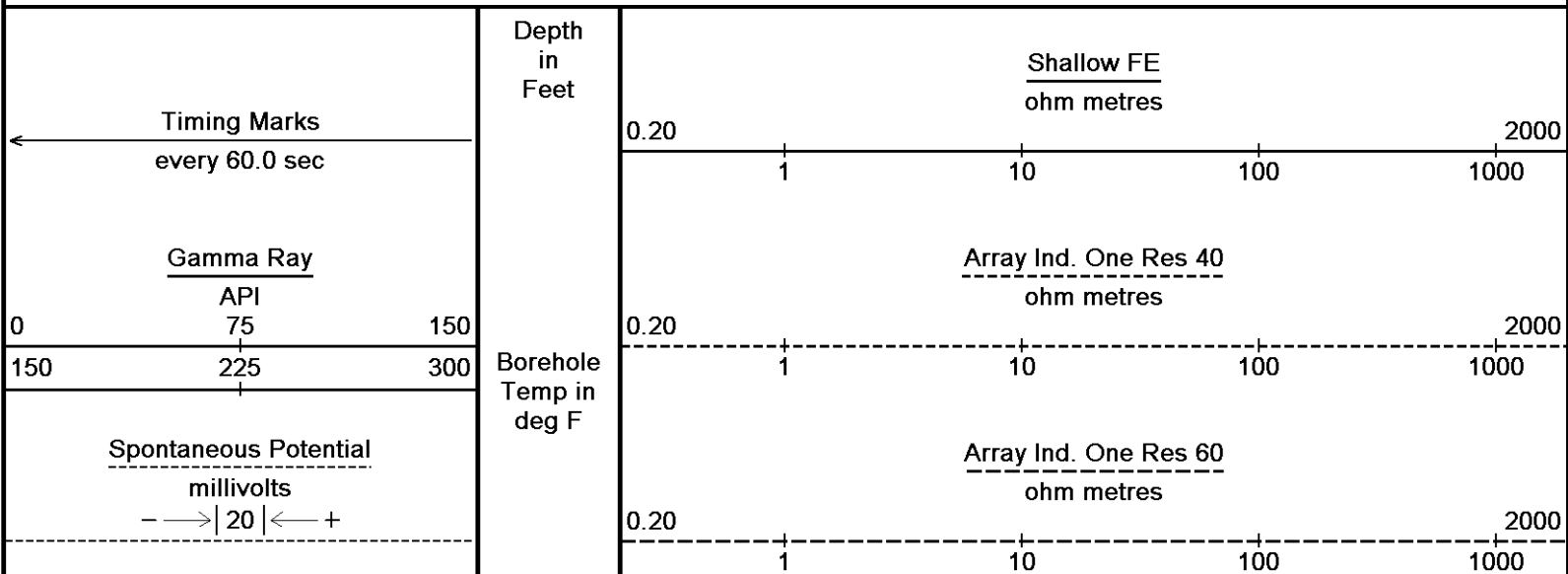
SEC	TWP	RGE	Other Services
8	27S	25W	
API Number		15-057-20869	
Permit Number			
Permanent Datum GL, Elevation 2592 feet			
Log Measured From KB			
Drilling Measured From KB			
Date	04-FEB-2013		

Elevations:	feet
KB	2601.00
DF	2600.00
GL	2592.00

Run Number	1
Service Order	3537857
Depth Driller	5280.00 feet
Depth Logger	5278.00 feet
First Reading	5275.00 feet
Last Reading	4200.00 feet
Casing Driller	1683.00 feet
Casing Logger	1684.00 inches
Bit Size	7.875
Hole Fluid Type	CHEMICAL
Density / Viscosity	1.12 g/c3 49.00 type in
PH / Fluid Loss	11.00 11.00
Sample Source	FLOWLINE
Rm @ Measured Temp	0.93 @ 81.0 ohm-m
Rmf @ Measured Temp	0.74 @ 81.0 ohm-m
Rmc @ Measured Temp	1.12 @ 81.0 ohm-m
Source Rmf / Rmc	CALC CALC
Rm @ BHT	0.70 @109.0 ohm-m
Time Since Circulation	4 HRS
Max Recorded Temp	109.00 deg F
Equipment / Base	13057 LIB
Recorded By	L. SCOTT
Witnessed By	WES HANSEN

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.

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 04-FEB-2013 17:31
Filename: C:\Minimus 13.04.8492\Data\Sunflower_Zimm...\Sunflower_Zimmerman Unit #1-8_Detail.dta
Recorded on 04-FEB-2013 17:24
System Versions: Logged with 13.04.8492 Plotted with 13.04.8492

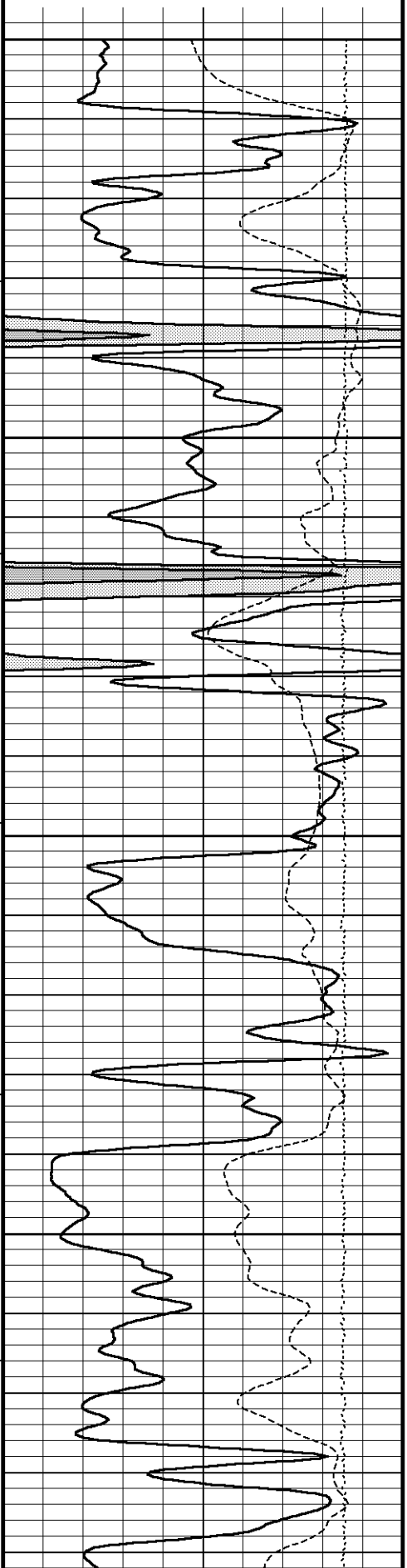


DST Uphole Tension
pounds
5000 0

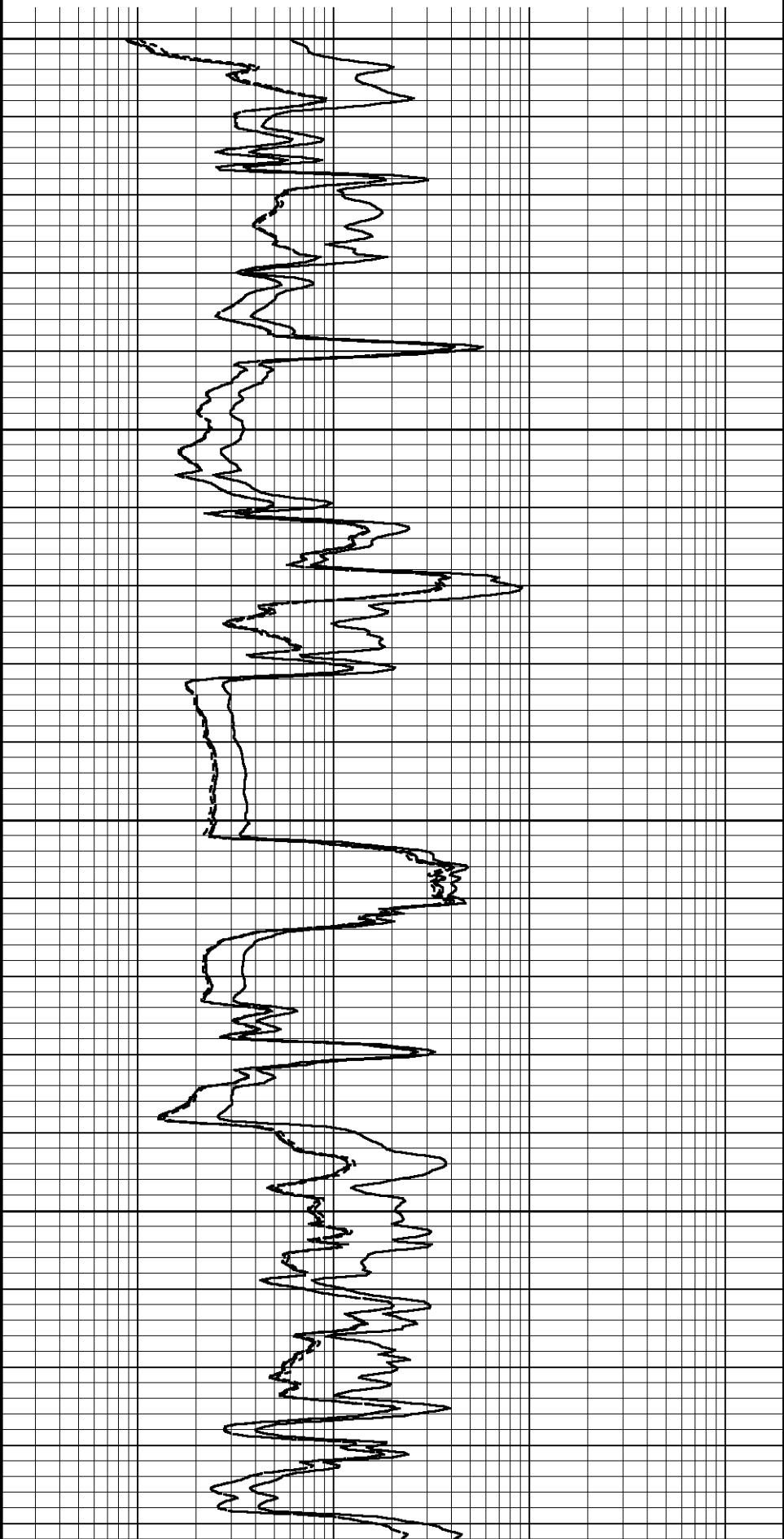
Replay
Scale
1:240

Array Ind. One Res Rt
ohm metres

0.20 1 10 100 1000 2000



4200
105°
4250
105°
4300
105°
4350
106°



4400

Array Ind. One Res Rt

Array Ind. One Res 60

Array Ind. One Res 40

Shallow FE

← Spontaneous Potential

← Gamma Ray

DST Uphole Tension →

106°

4450

106°

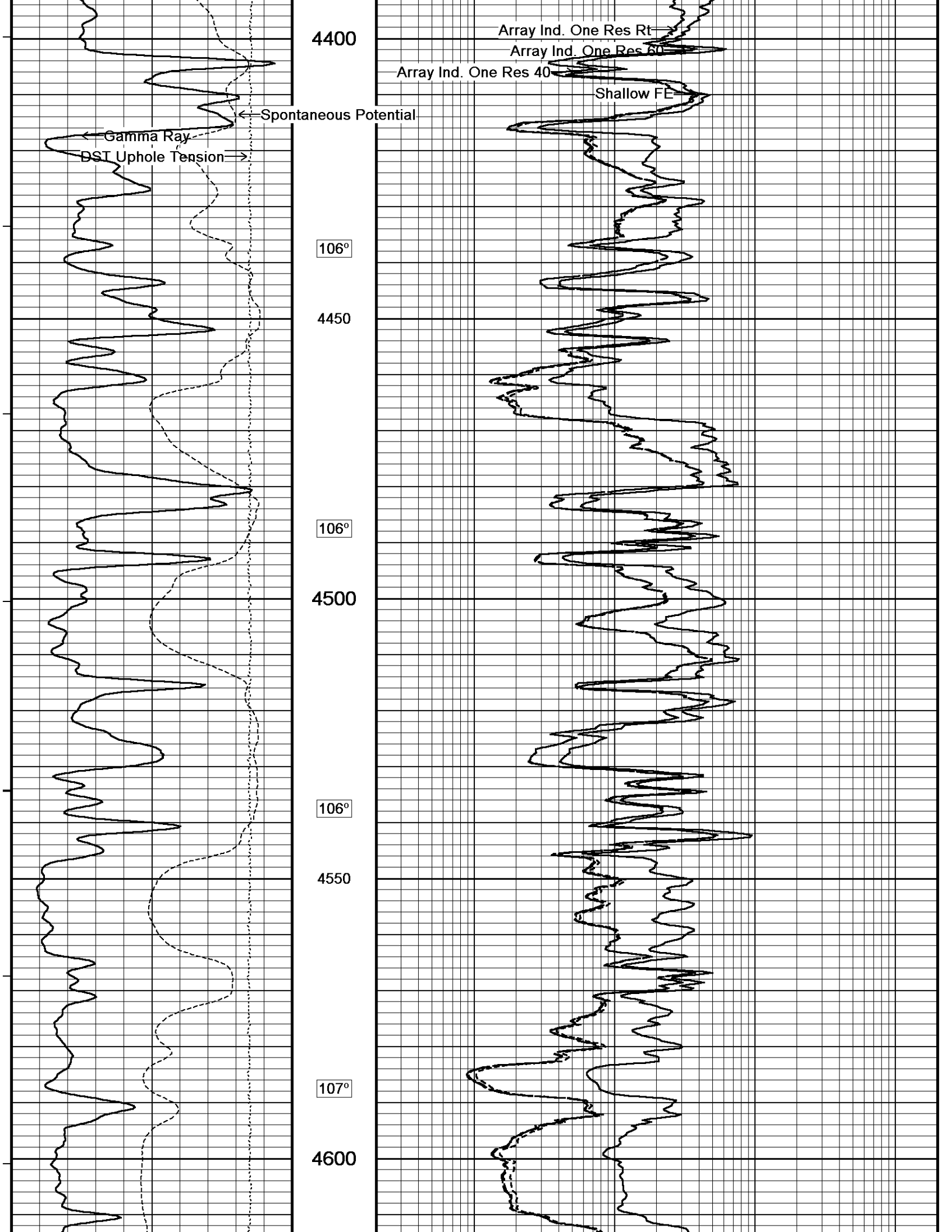
4500

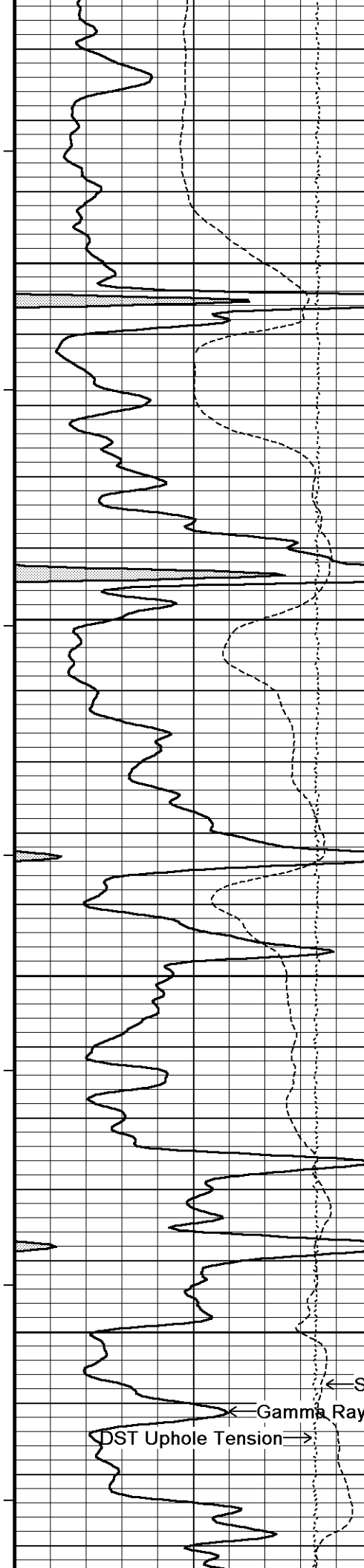
106°

4550

107°

4600





107°

4650

107°

4700

107°

4750

107°

4800

Array Ind. One Res Rt →

Array Ind. One Res 60 →

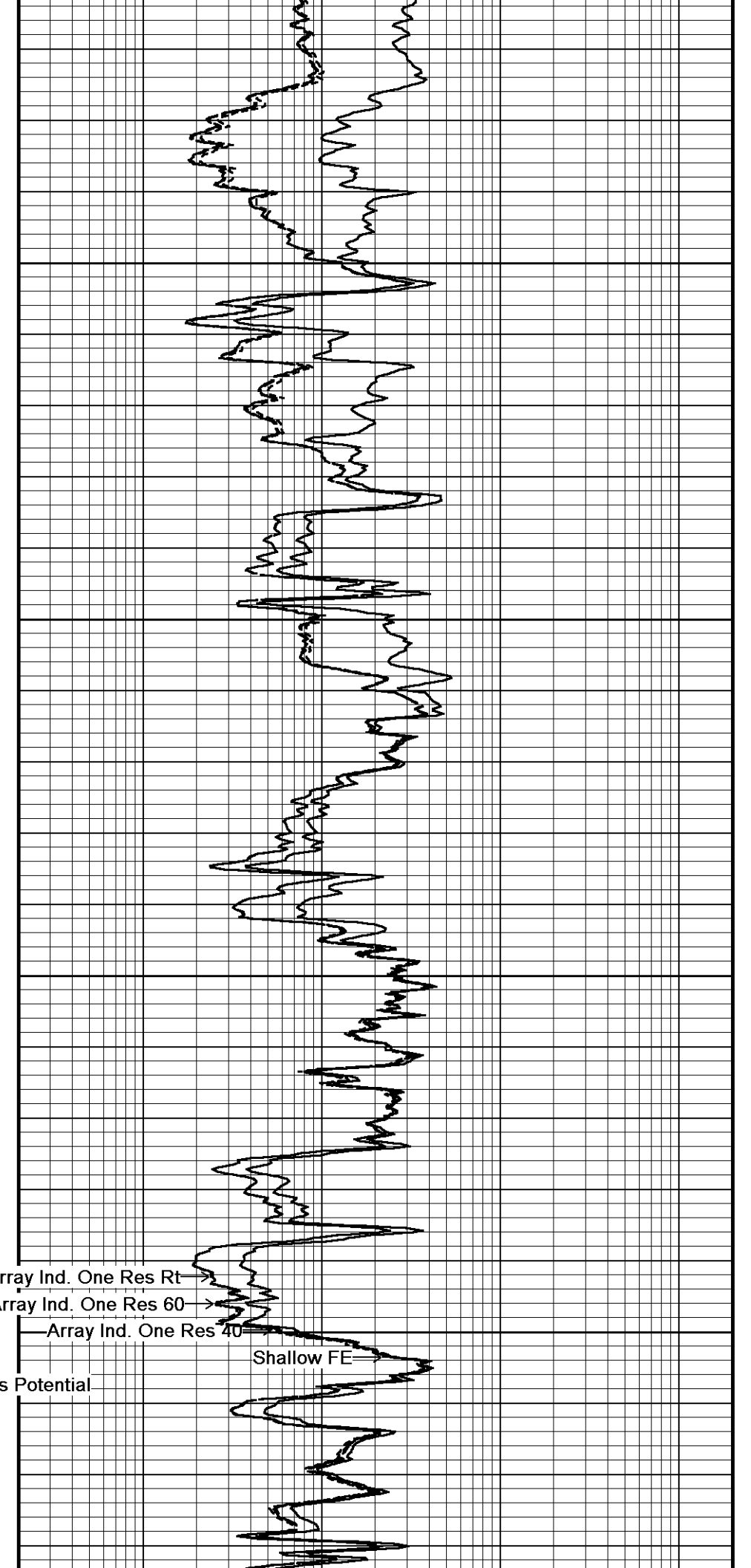
Array Ind. One Res 40 →

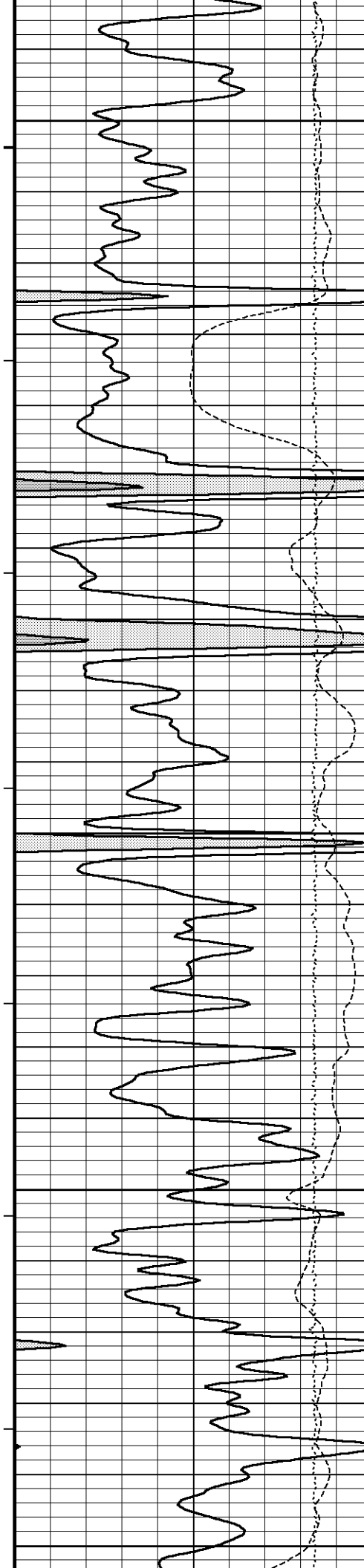
Shallow FE →

← Spontaneous Potential

← Gamma Ray

→ DST Uphole Tension





108°

4850

109°

4900

109°

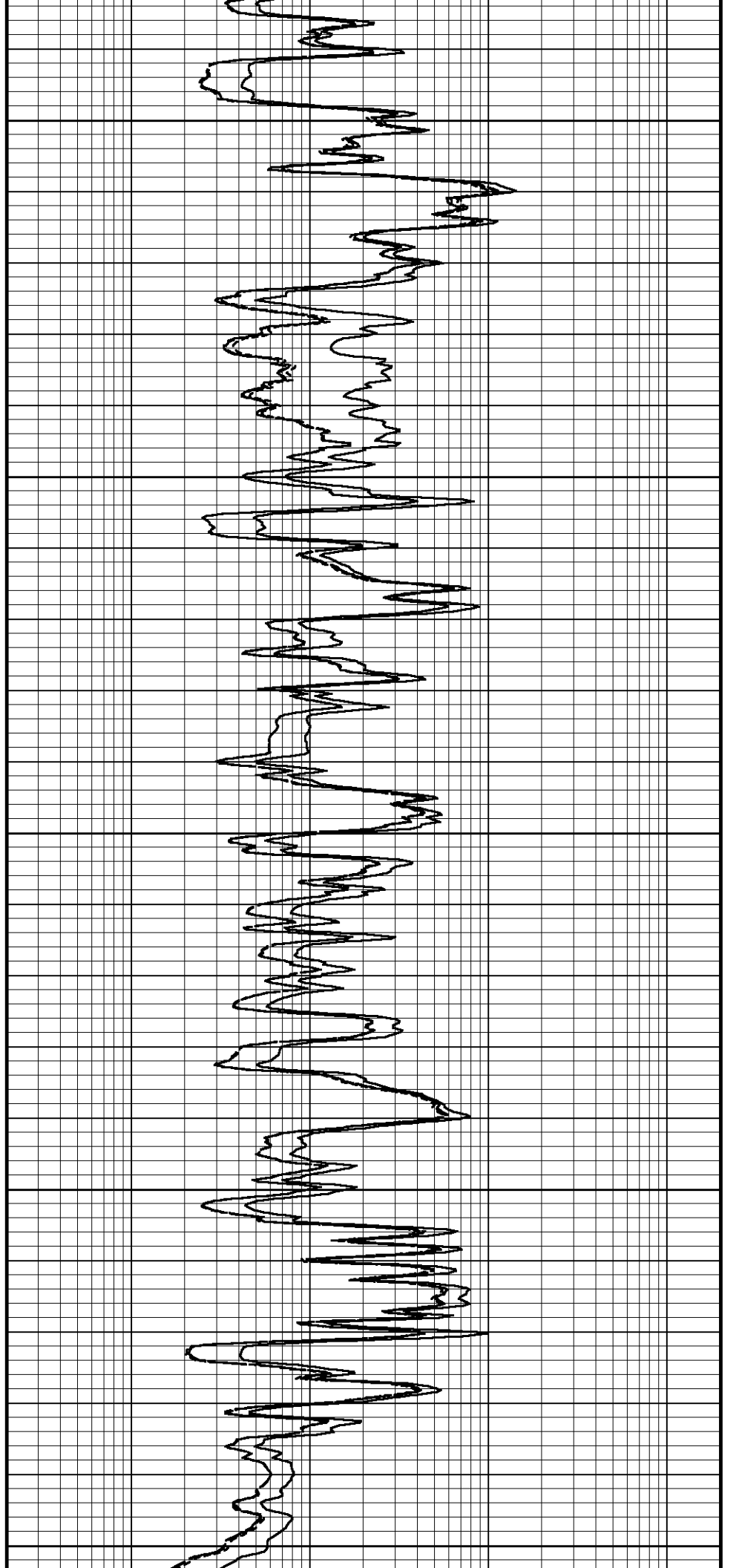
4950

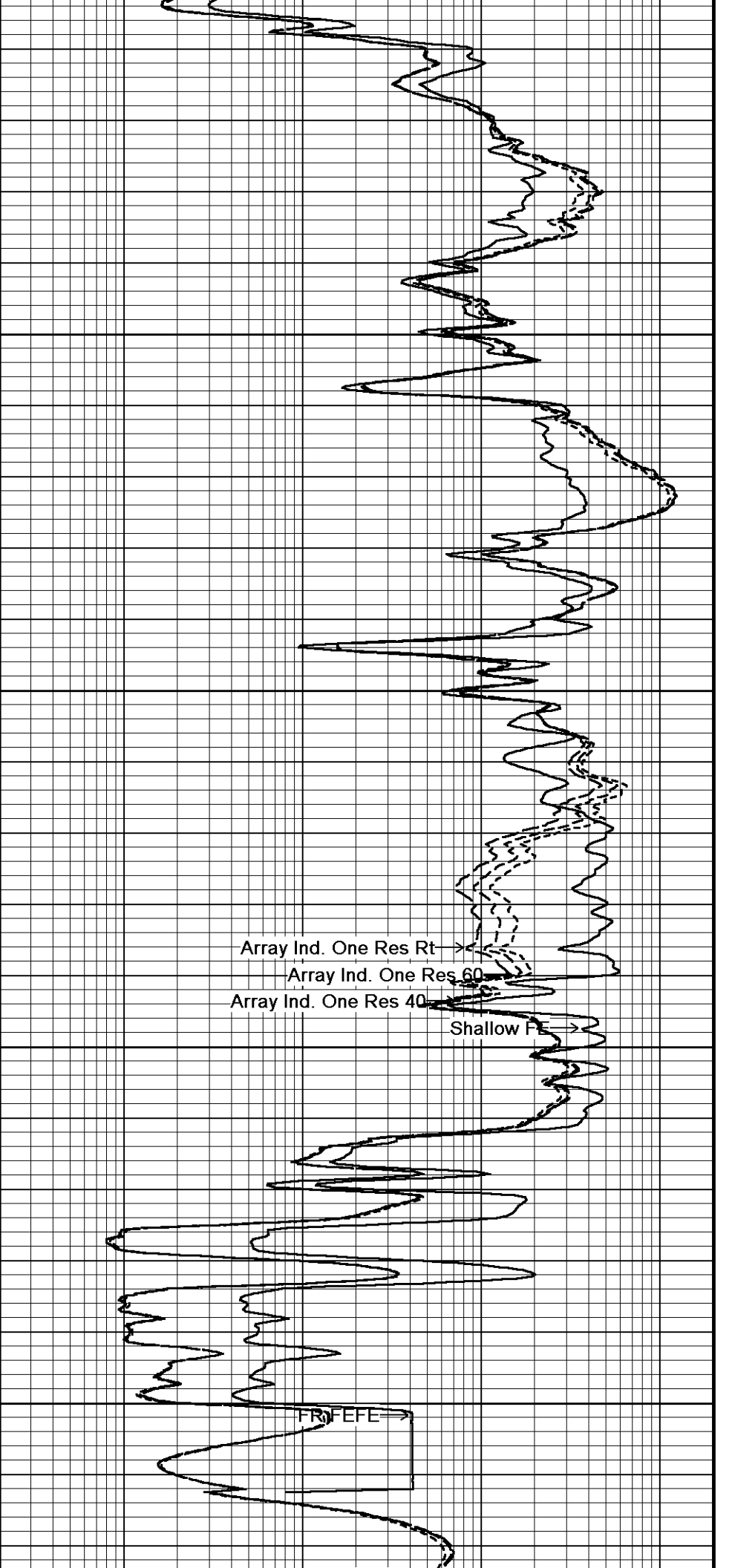
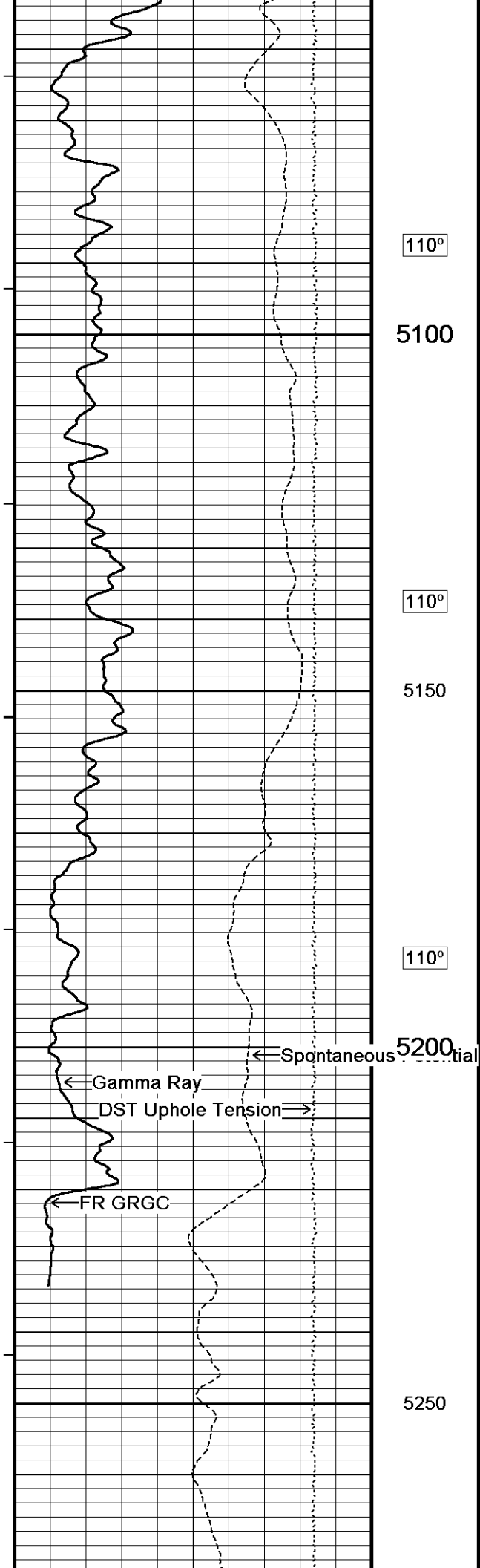
109°

5000

110°

5050





FR SMTUSPEG

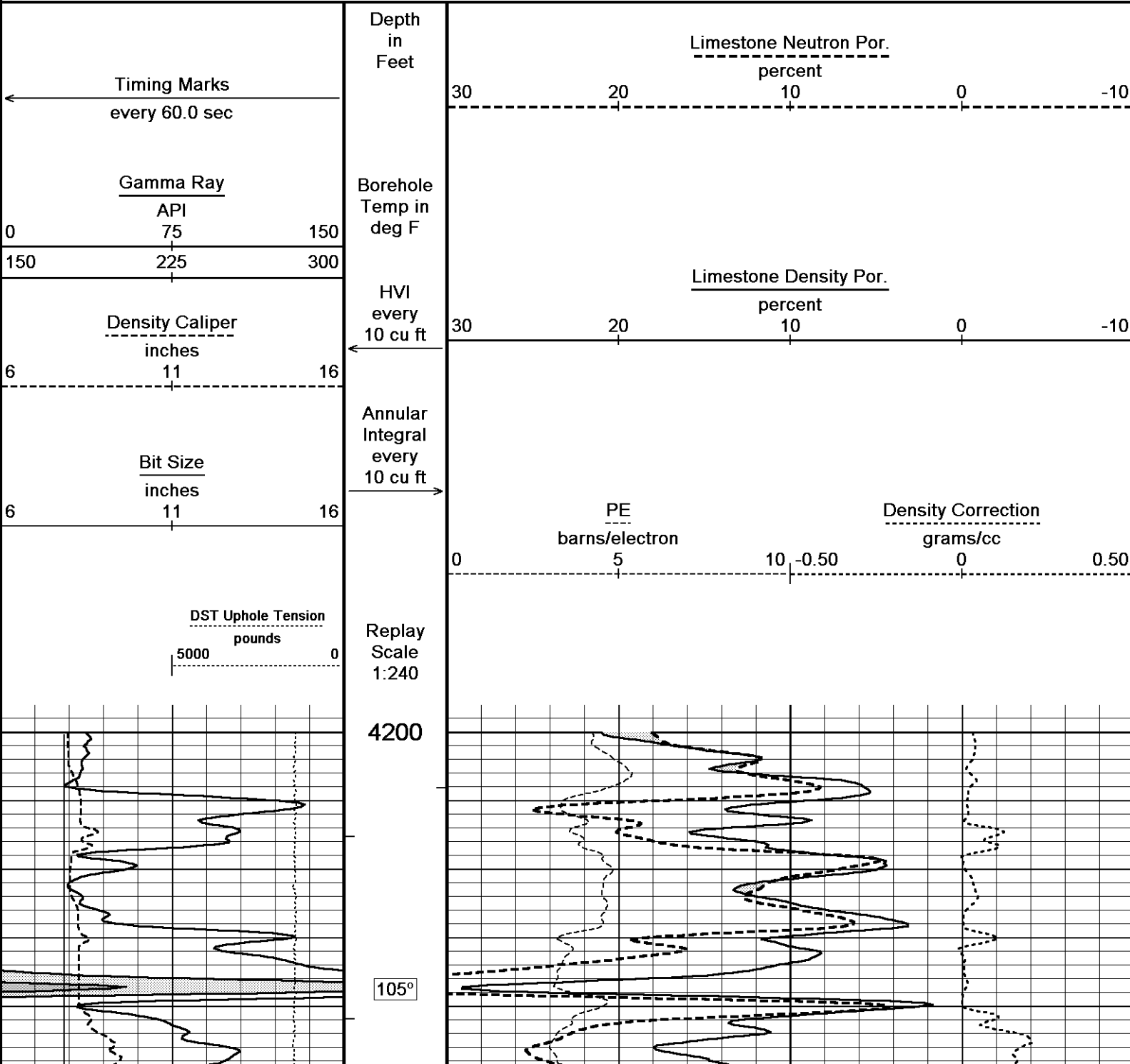
FR RTAO

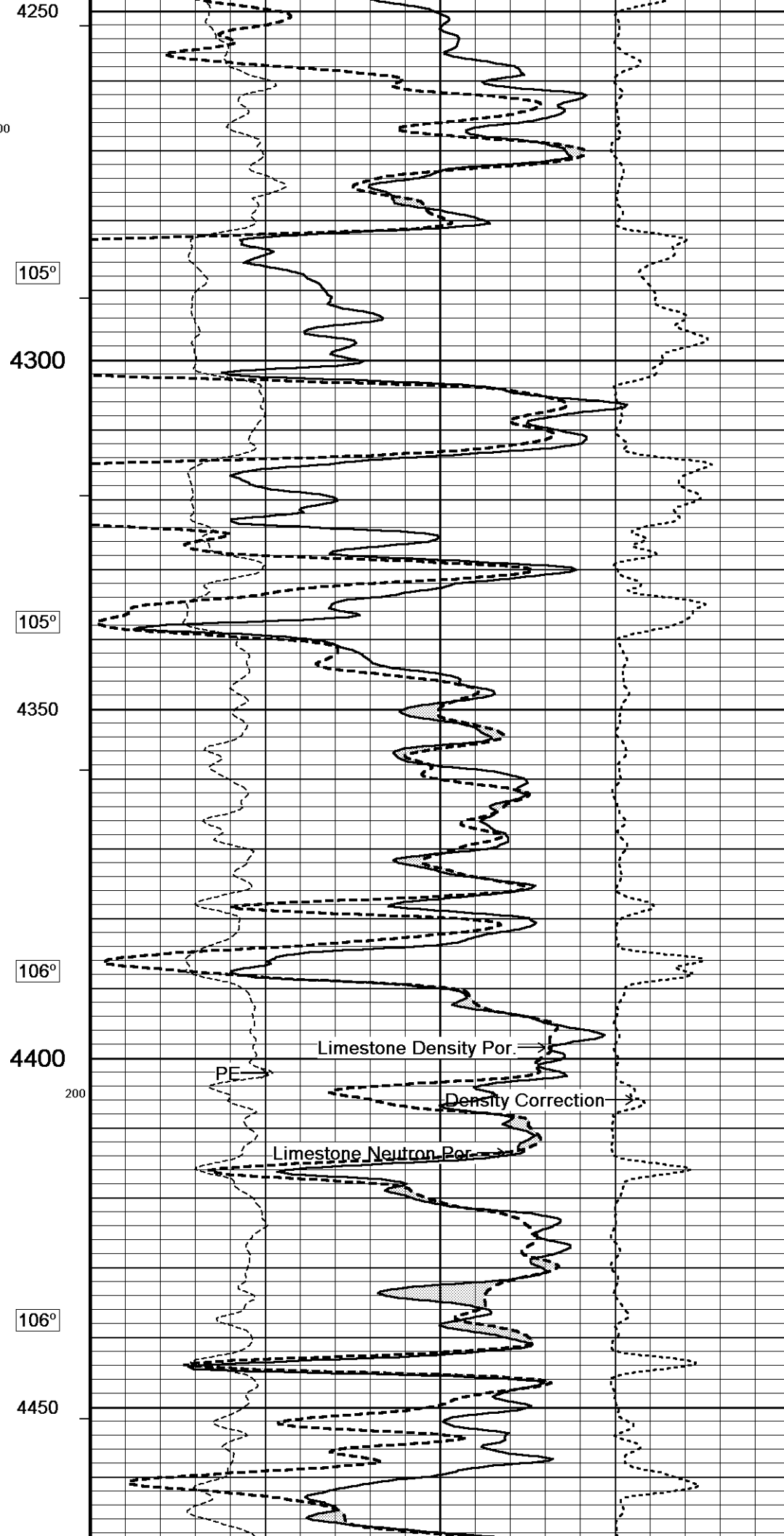
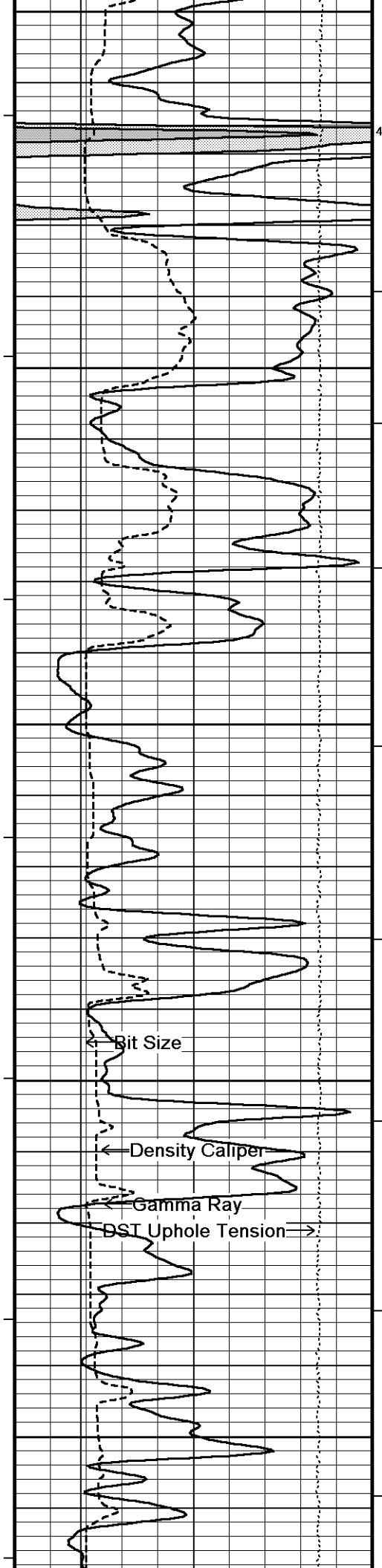
5300

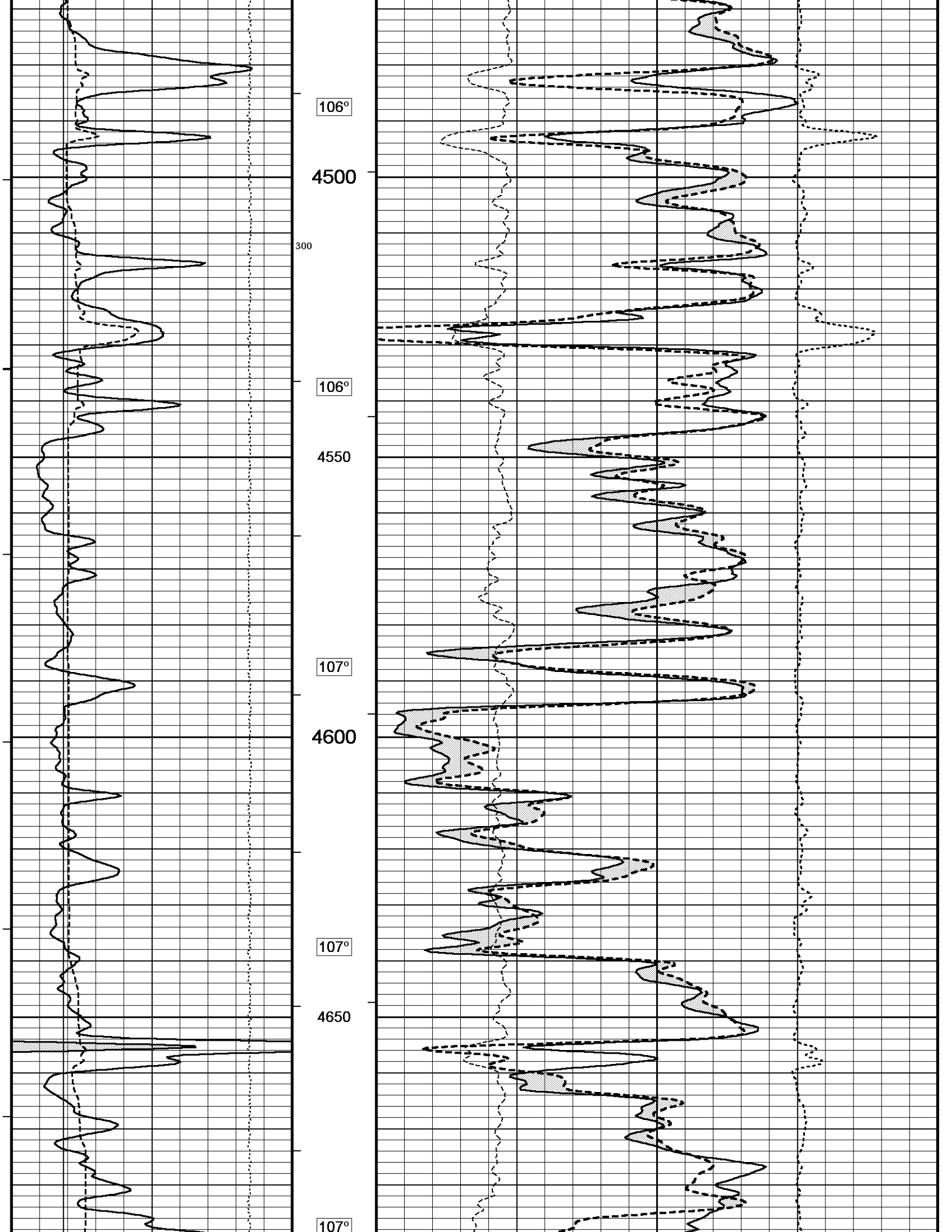
Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 04-FEB-2013 17:31
 Filename: C:\Minimus 13.04.8492\Data\Sunflower_Zimm...\Sunflower_Zimmerman Unit #1-8_Detail.dta Recorded on 04-FEB-2013 17:24
 System Versions: Logged with 13.04.8492 Plotted with 13.04.8492

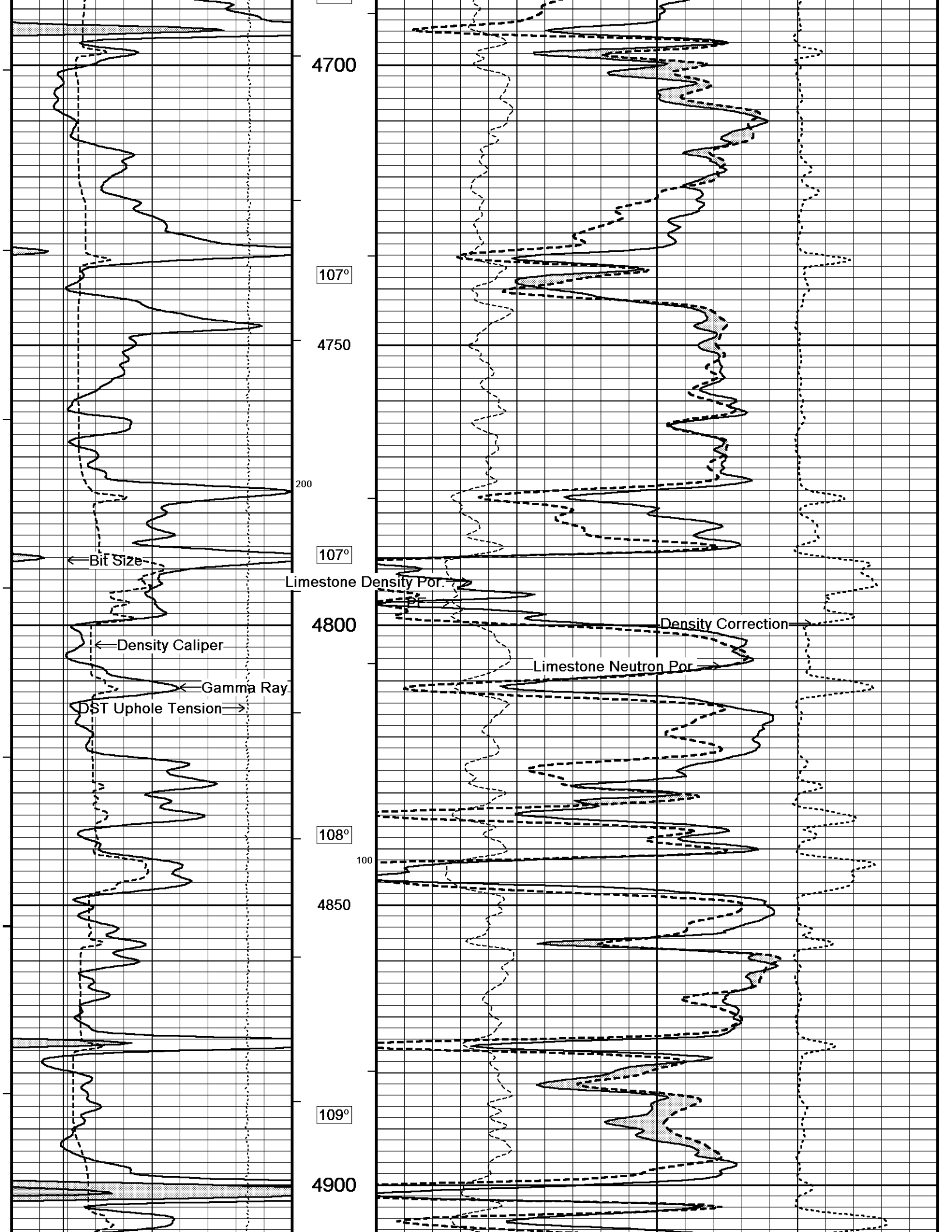


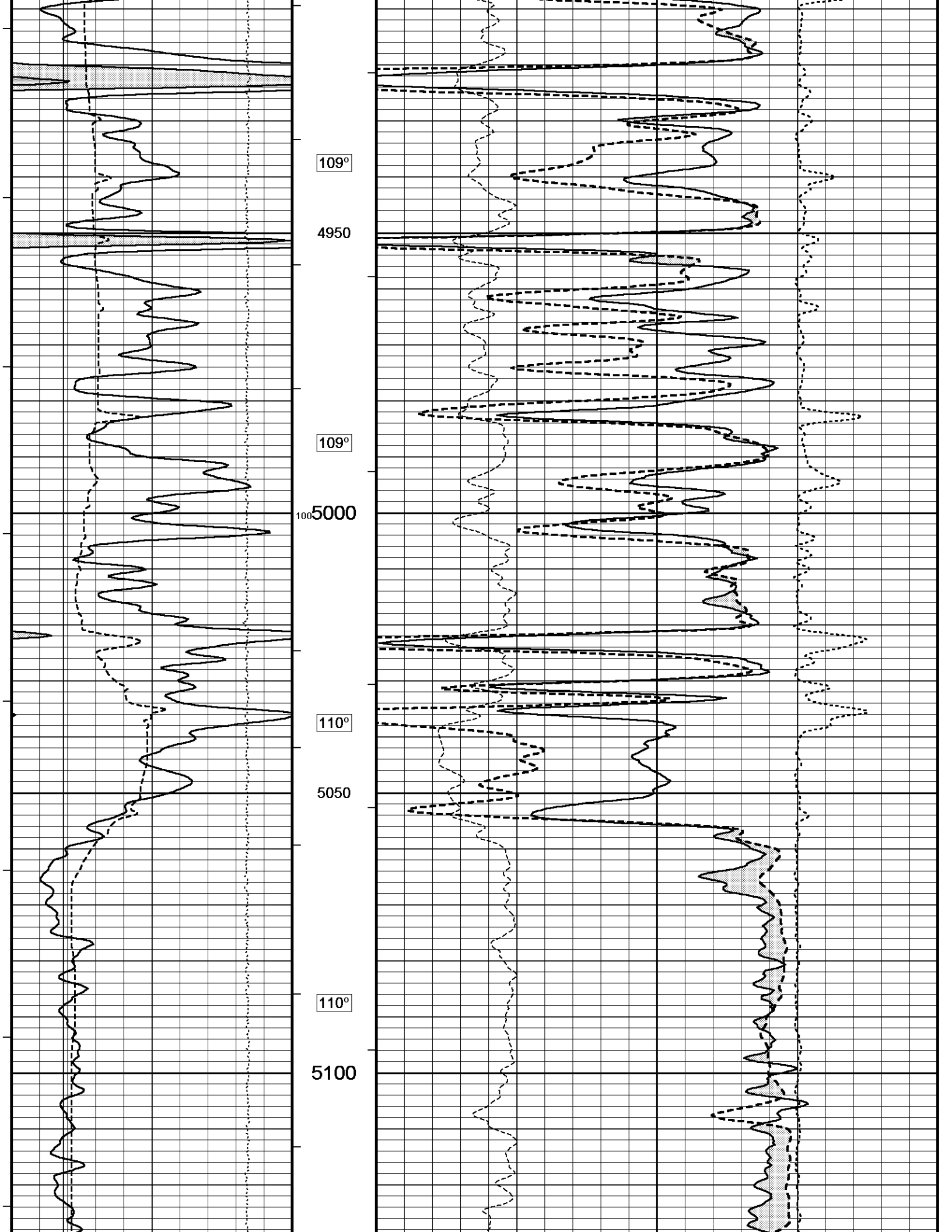
Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 04-FEB-2013 17:31
 Filename: C:\Minimus 13.04.8492\Data\Sunflower_Zimm...\Sunflower_Zimmerman Unit #1-8_Detail.dta Recorded on 04-FEB-2013 17:24
 System Versions: Logged with 13.04.8492 Plotted with 13.04.8492

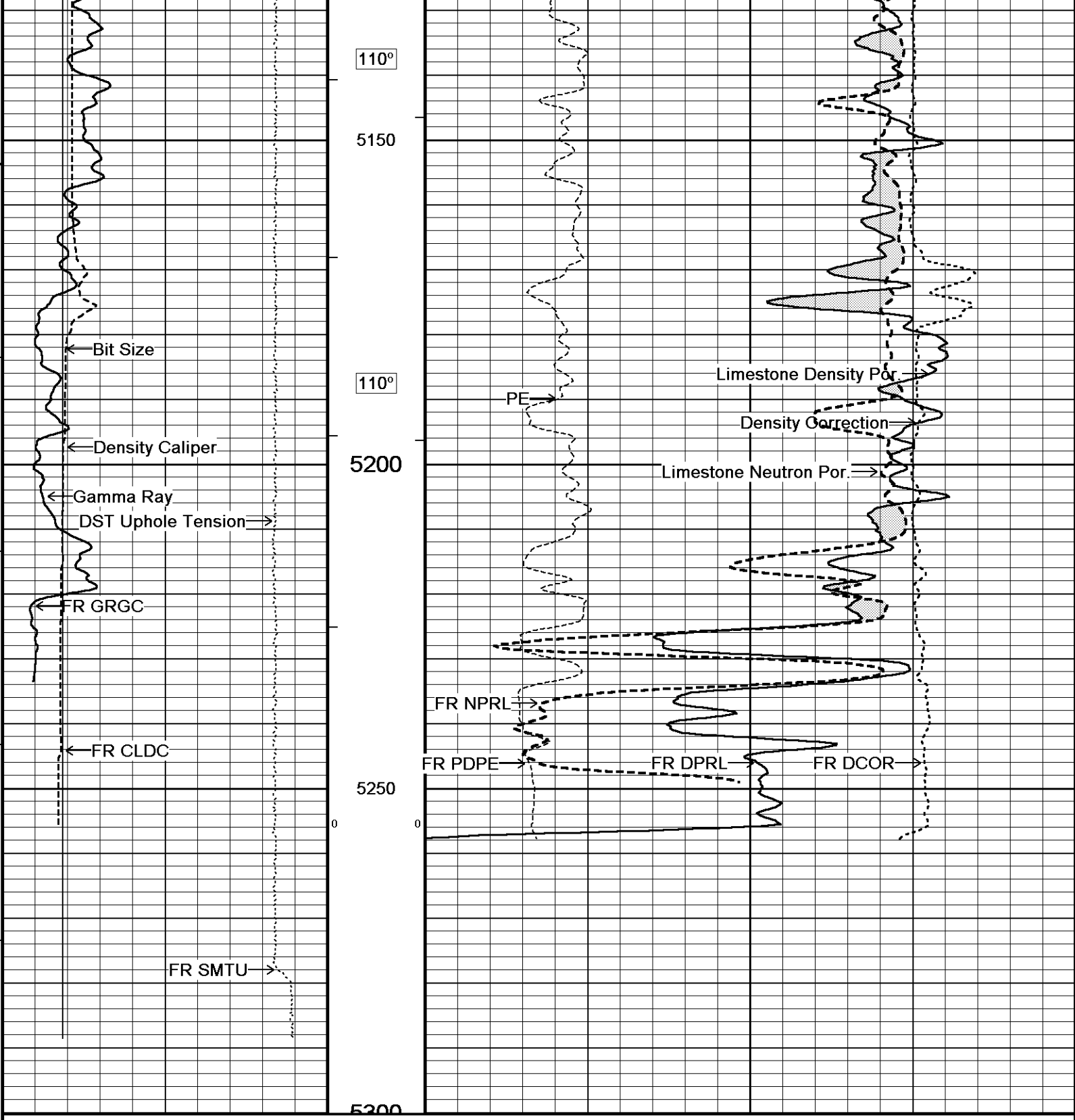












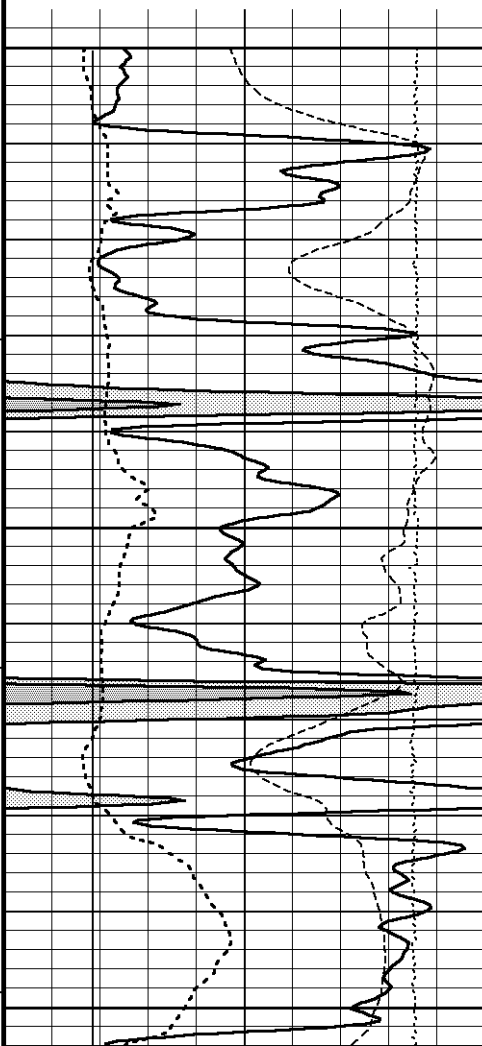
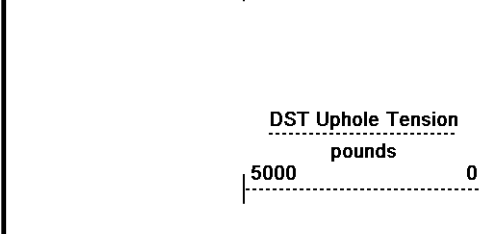
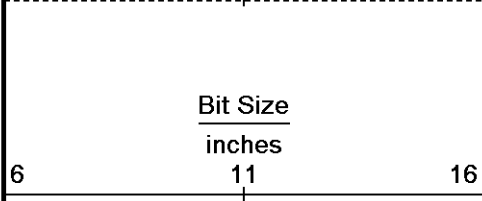
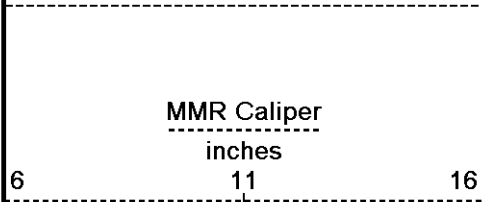
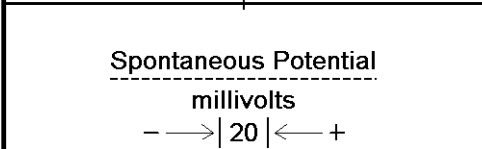
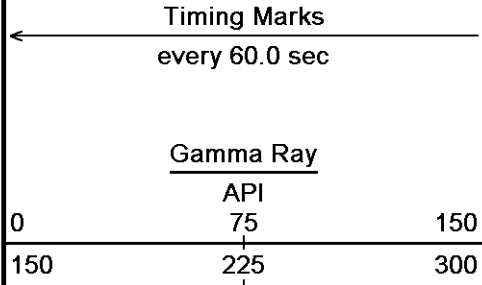
Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 04-FEB-2013 17:31
 Filename: C:\Minimus 13.04.8492\Data\Sunflower_Zimm...\Sunflower_Zimmerman Unit #1-8_Detail.dta
 Recorded on 04-FEB-2013 17:24
 System Versions: Logged with 13.04.8492 Plotted with 13.04.8492



Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 04-FEB-2013 17:31
 Filename: C:\Minimus 13.04.8492\Data\Sunflower_Zimm...\Sunflower_Zimmerman Unit #1-8_Detail.dta
 Recorded on 04-FEB-2013 17:24
 System Versions: Logged with 13.04.8492 Plotted with 13.04.8492

Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 04-FEB-2013 17:31
 Filename: C:\Minimus 13.04.8492\Data\Sunflower_Zimm...\Sunflower_Zimmerman Unit #1-8_Detail.dta
 Recorded on 04-FEB-2013 17:24
 System Versions: Logged with 13.04.8492 Plotted with 13.04.8492

	Depth in Feet	MMR MicroLog Normal ohm metres
--	---------------------	-----------------------------------



Borehole
Temp in
deg F

Replay
Scale
1:240

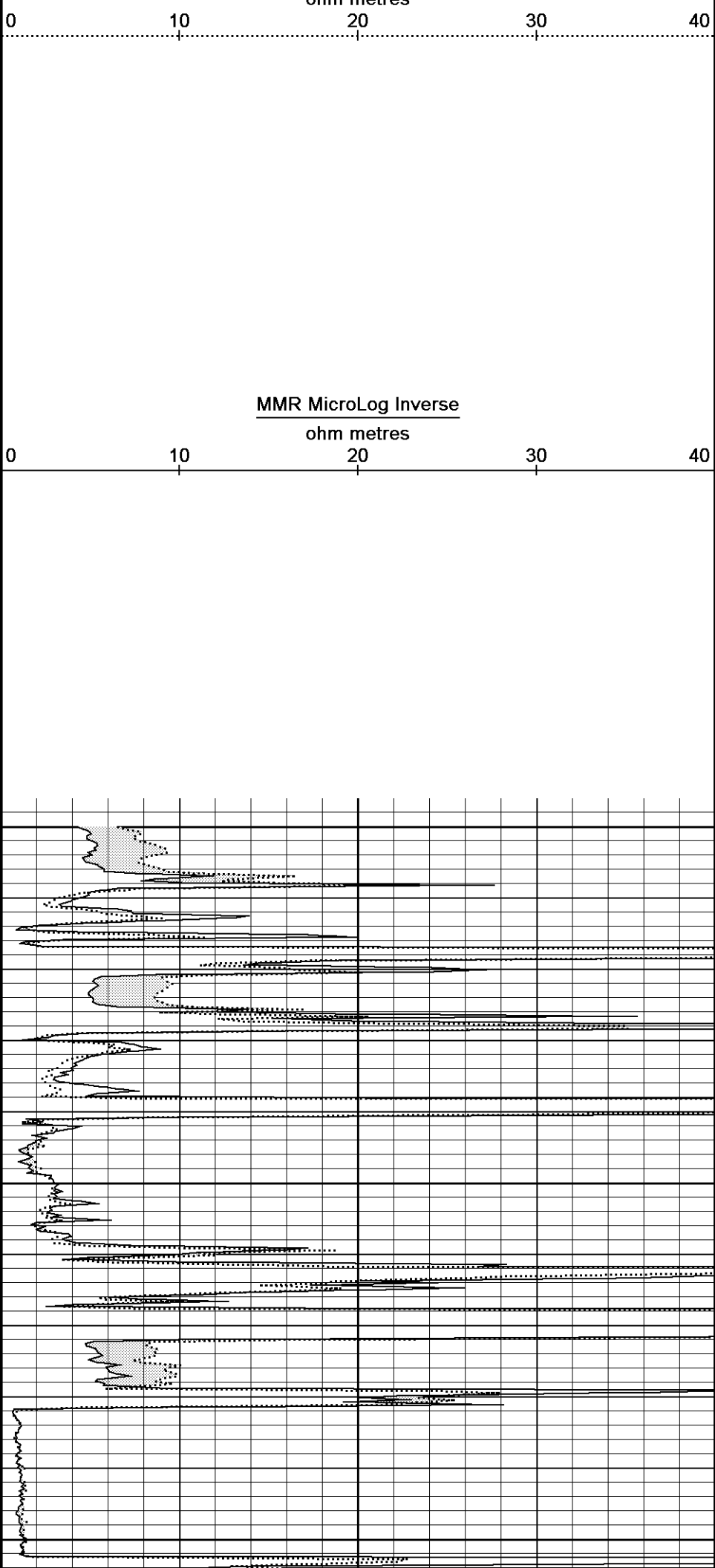
4200

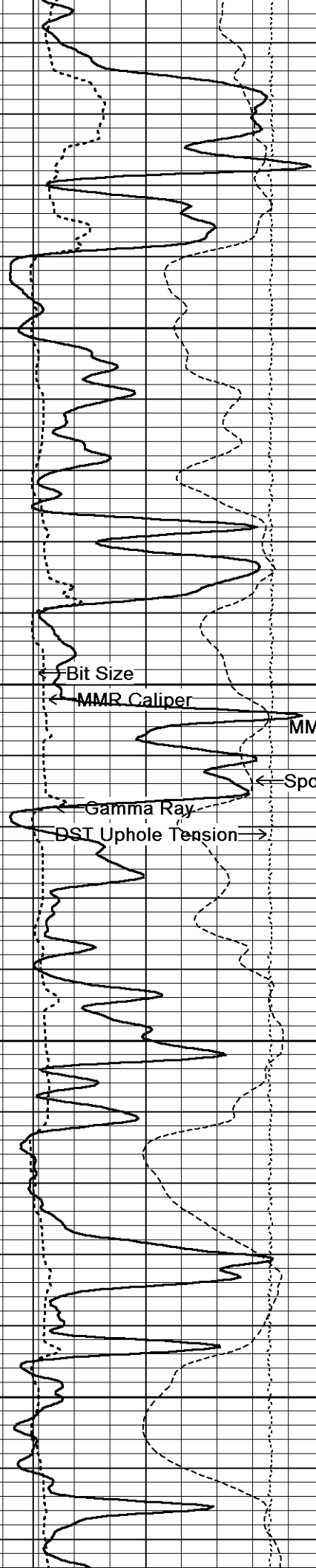
105°

4250

105°

4300





105°

4350

106°

4400

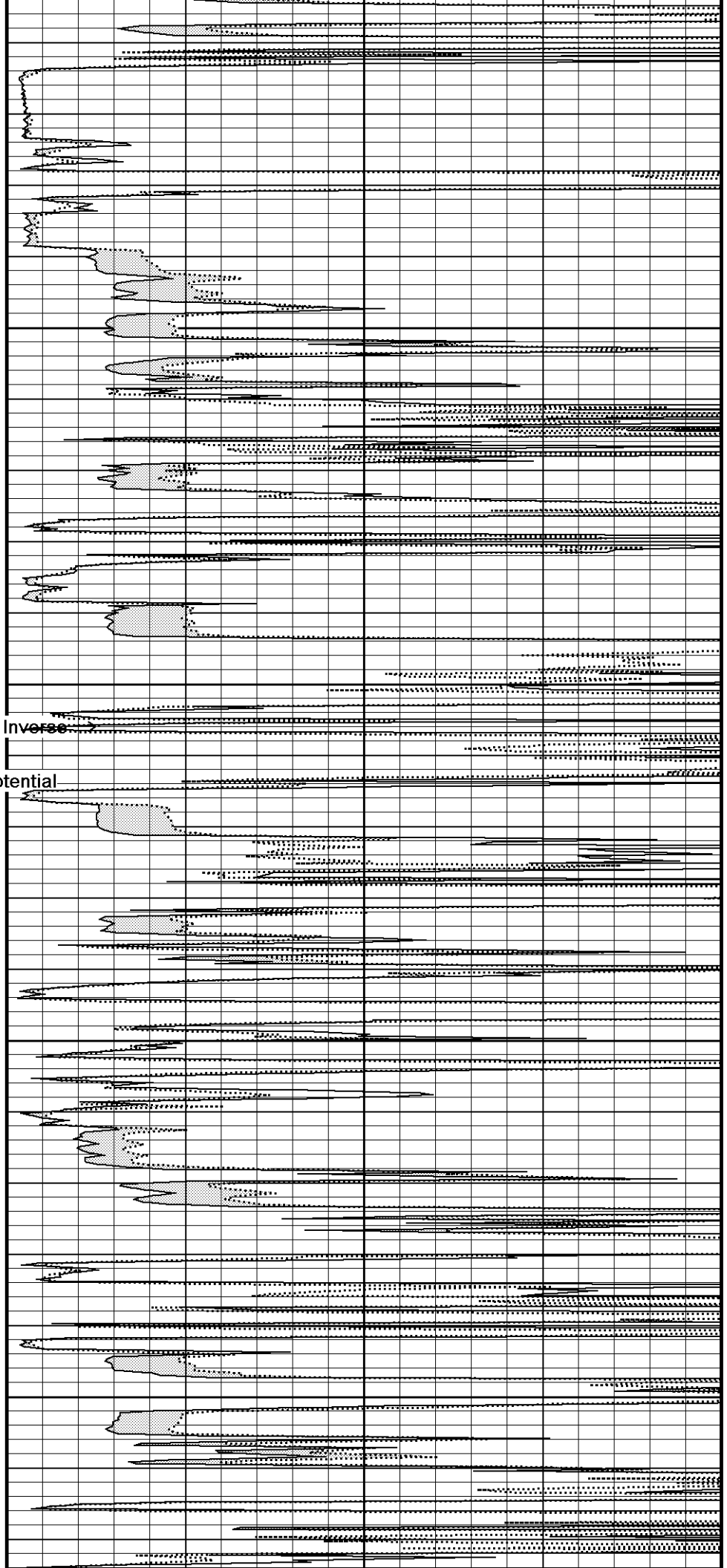
106°

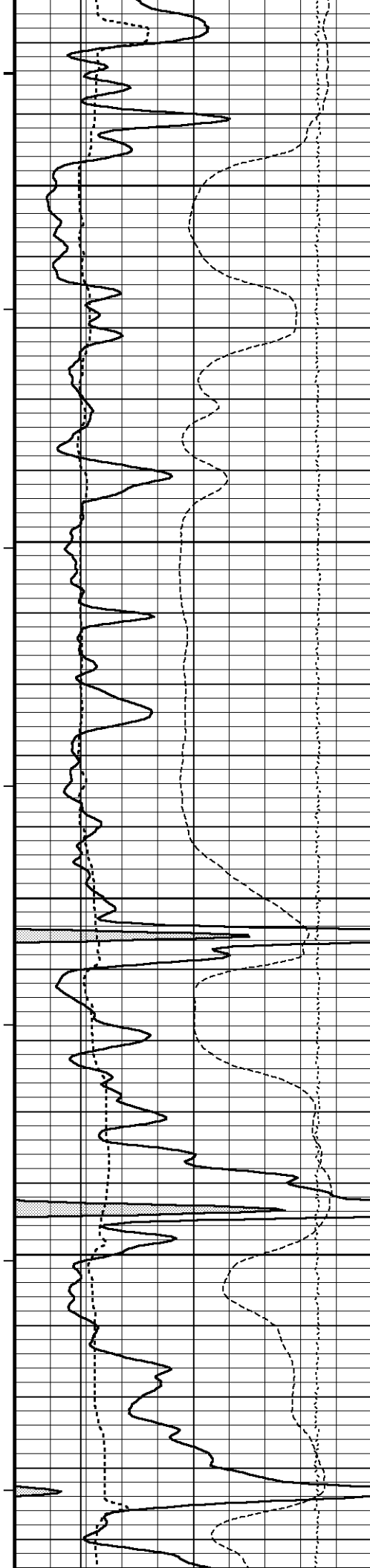
4450

106°

4500

MMR MicroLog Inverse
Spontaneous Potential





106°

4550

107°

4600

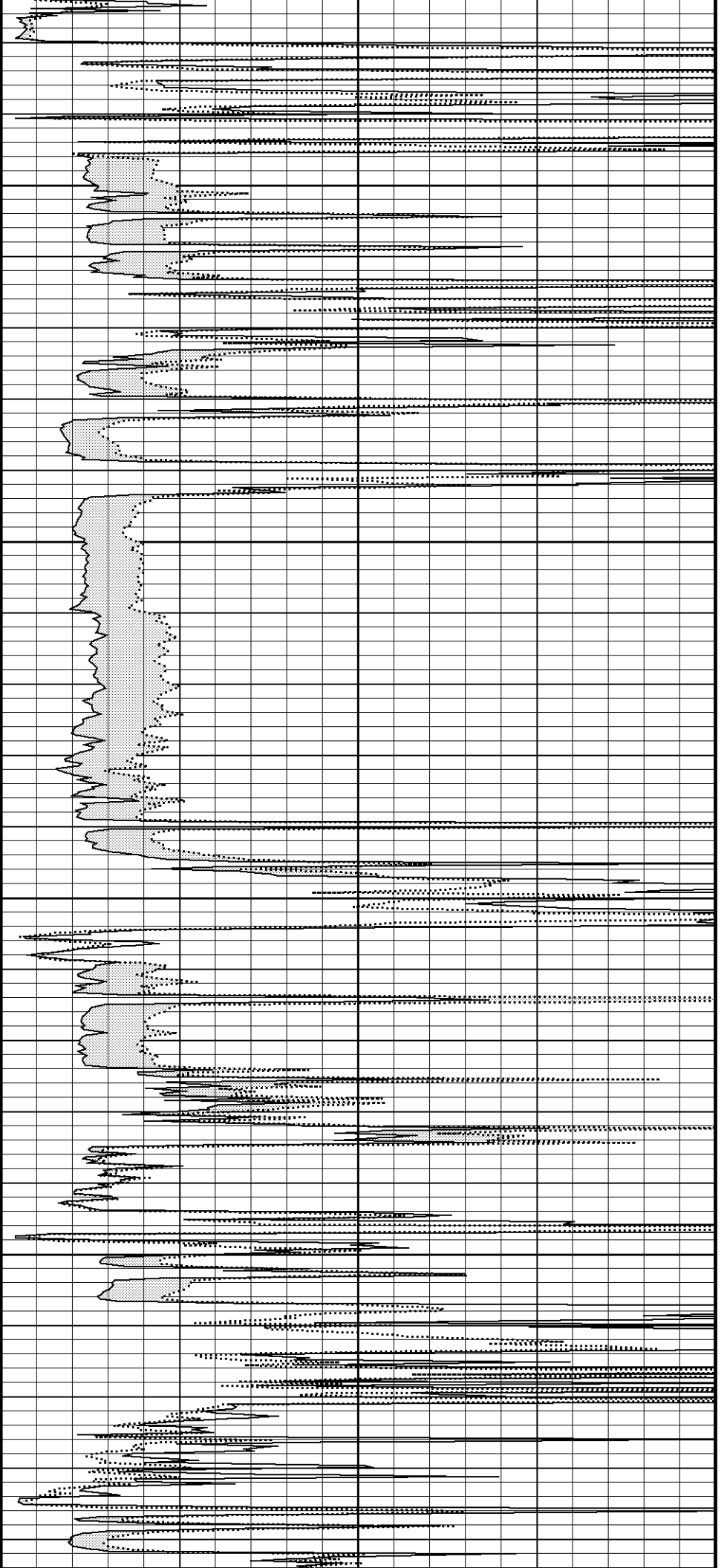
107°

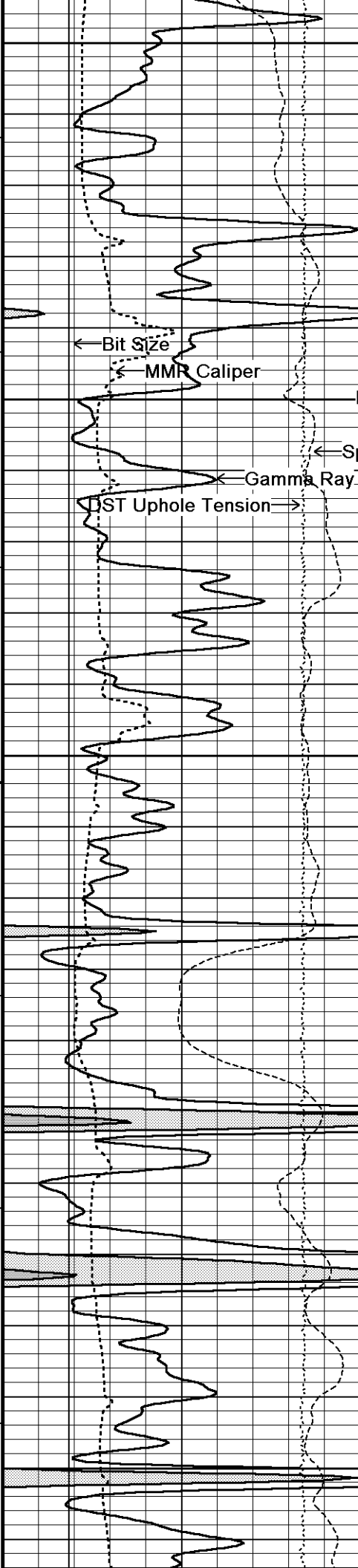
4650

107°

4700

107°





4750

107°

MM4800 Log Inverse

MMR MicroLog Normal

108°

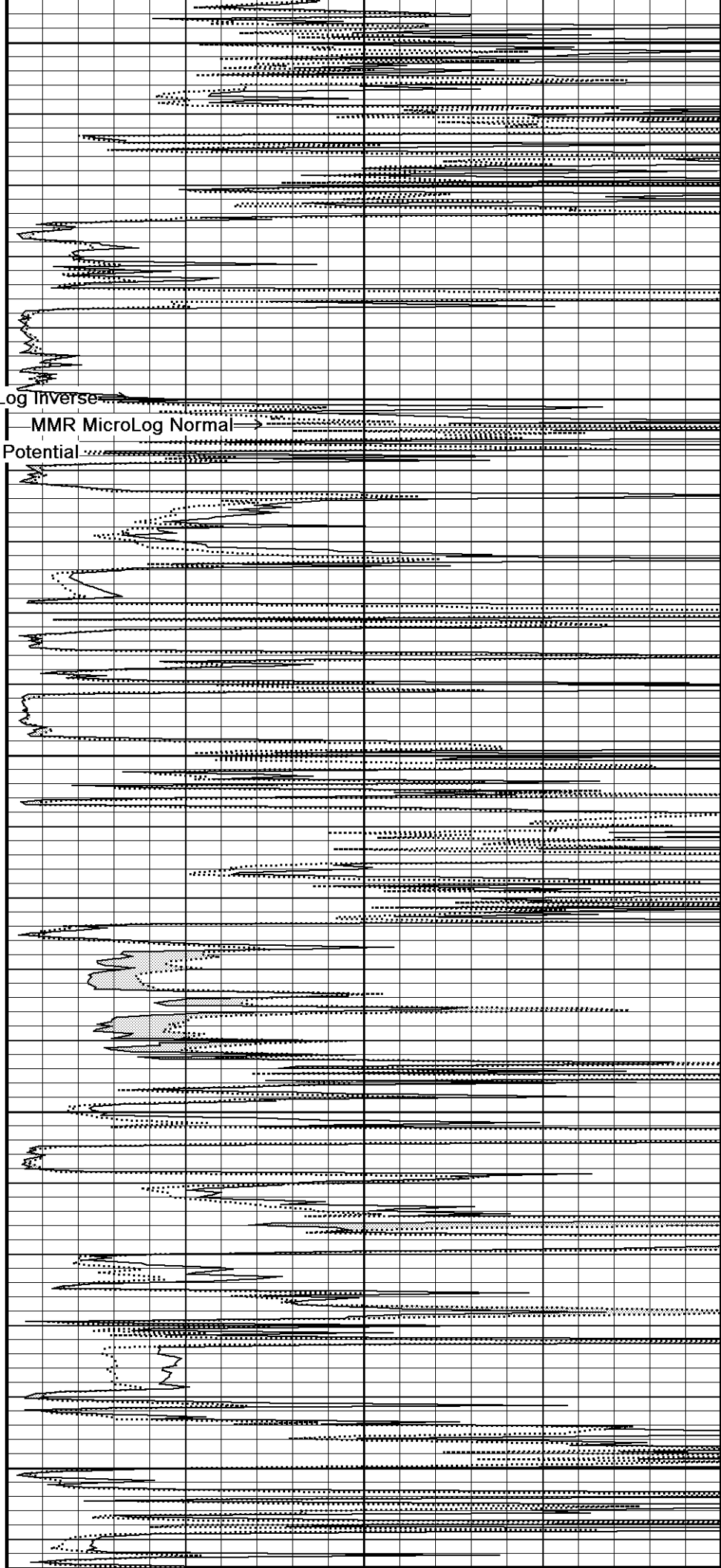
4850

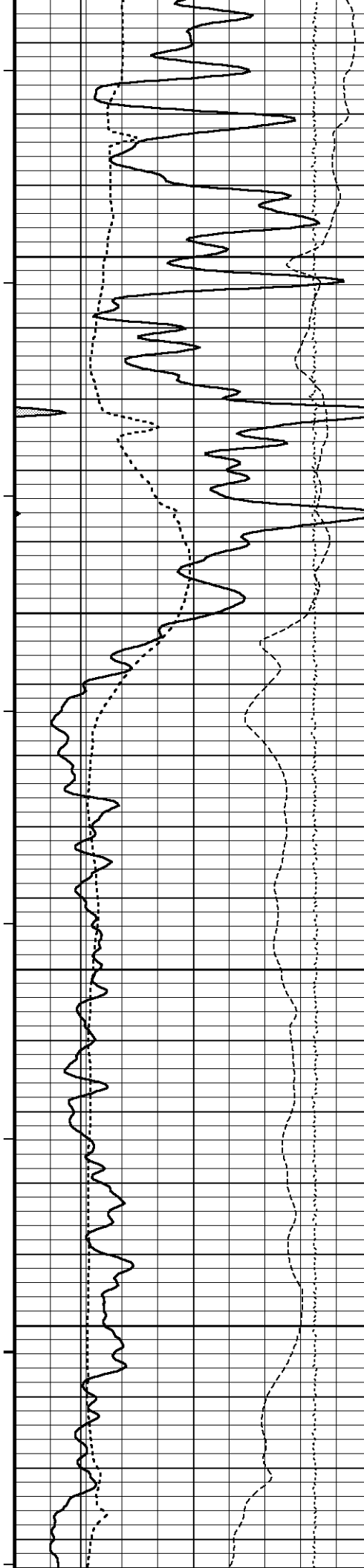
109°

4900

109°

4950





109°

5000

110°

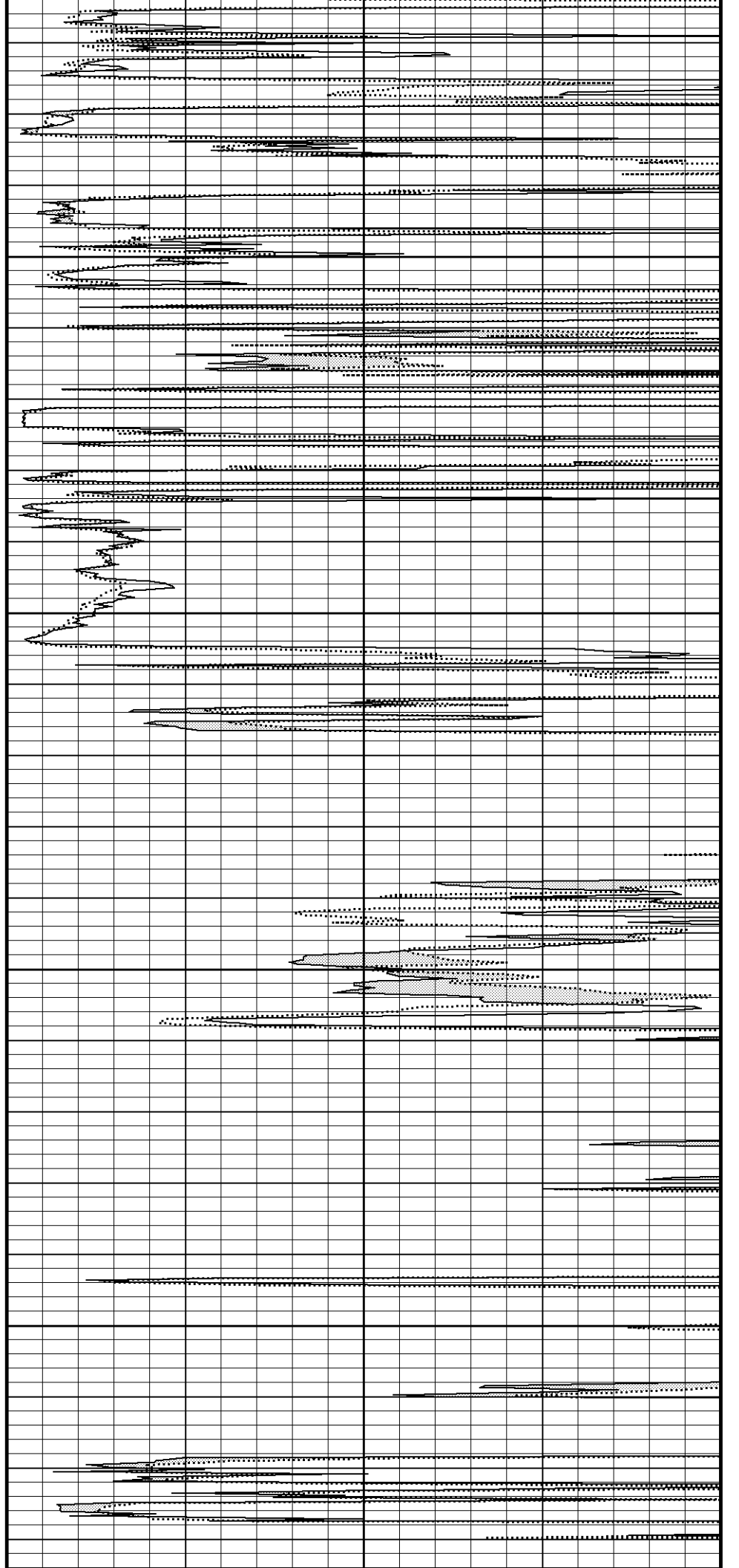
5050

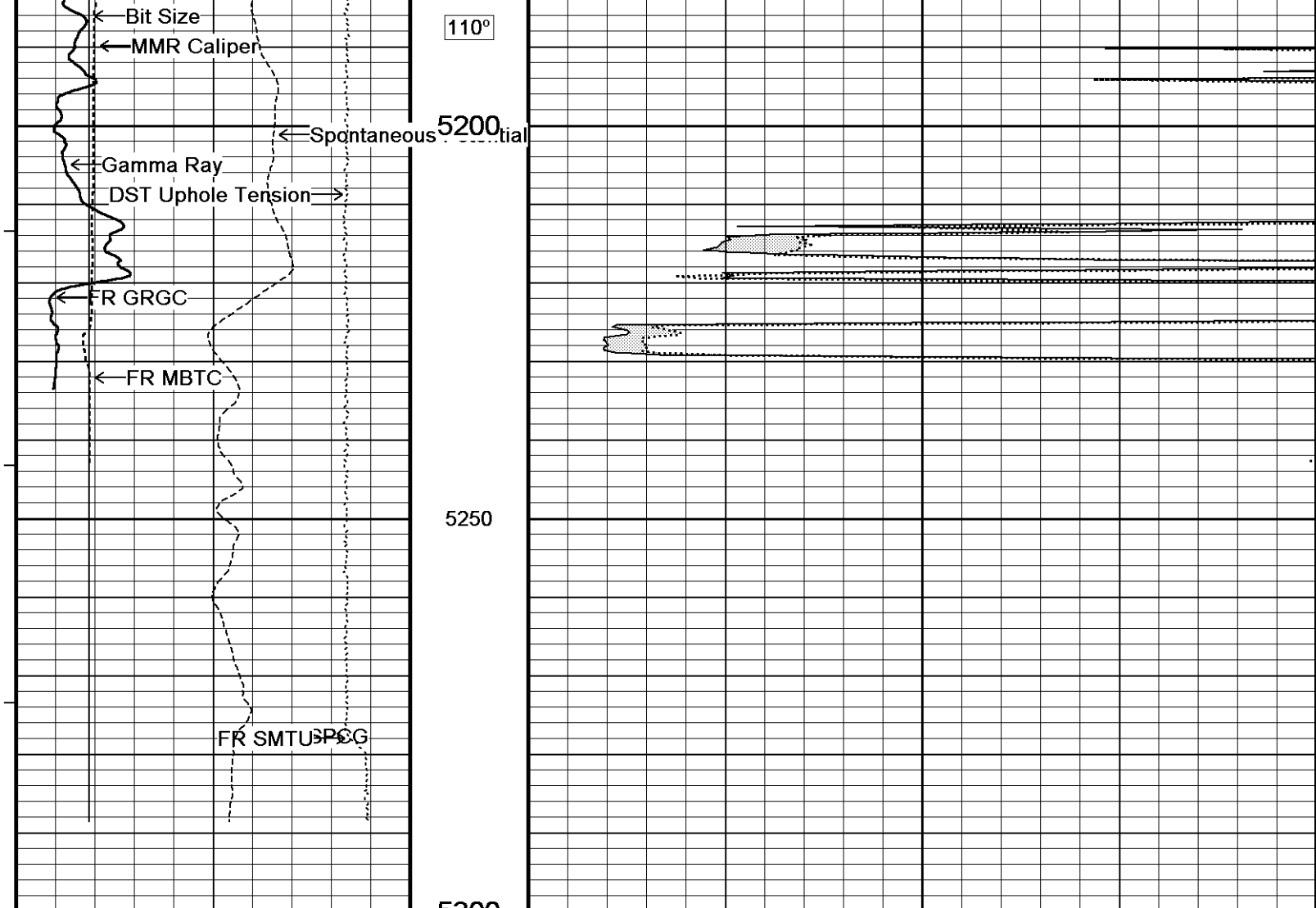
110°

5100

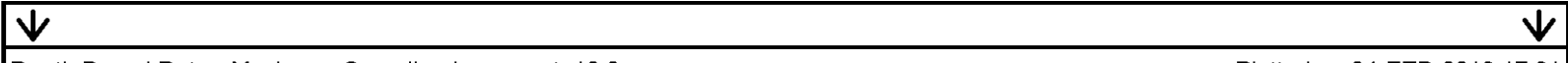
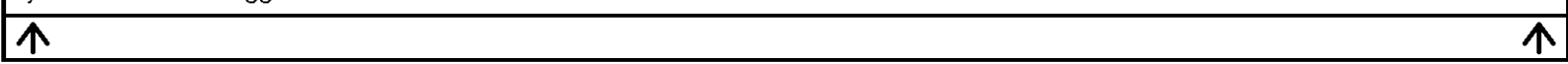
110°

5150





Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 04-FEB-2013 17:31
 Filename: C:\Minimus 13.04.8492\Data\Sunflower_Zimm...\Sunflower_Zimmerman Unit #1-8_Detail.dta
 Recorded on 04-FEB-2013 17:24
 System Versions: Logged with 13.04.8492 Plotted with 13.04.8492



Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 04-FEB-2013 17:31
 Filename: C:\Minimus 13.04.8492\Data\Sunflower_Zimm...\Sunflower_Zimmerman Unit #1-8_Detail.dta
 Recorded on 04-FEB-2013 17:24
 System Versions: Logged with 13.04.8492 Plotted with 13.04.8492

		Depth in Feet	3-5' Compensated Sonic microsec/foot	
Timing Marks every 60.0 sec			140	40
Gamma Ray API			115	65
0	75	150	90	90
150	225	300	65	40
Density Caliper inches			Wyllie Lime. Sonic Por. percent	
6	11	16	30	-10
Borehole Temp in deg F			3' Transit Time microseconds	
			1100 100	

Bit Size
inches
6 11 16

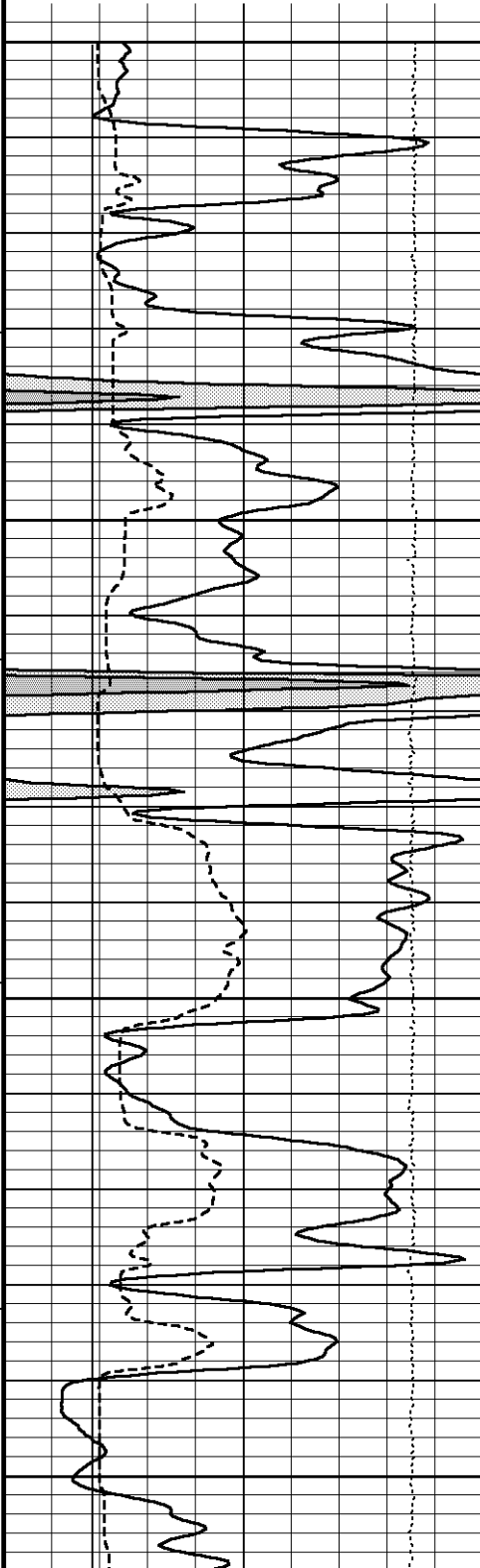
DST Uphole Tension
pounds
5000 0

Replay
Scale
1:240

4' Transit Time
microseconds
1100 100

5' Transit Time
microseconds
1100 100

6' Transit Time
microseconds
1100 100



4200

105°

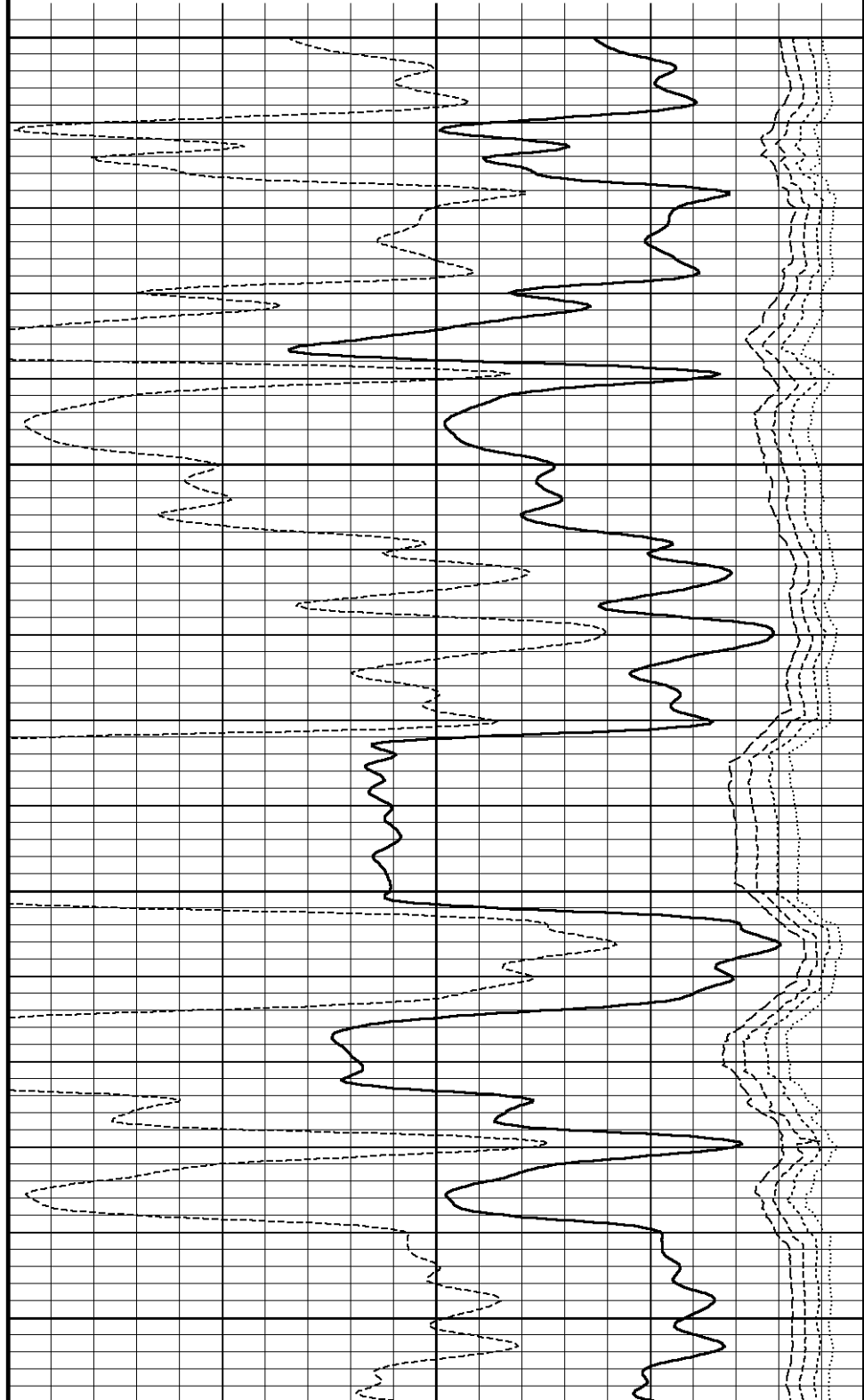
4250

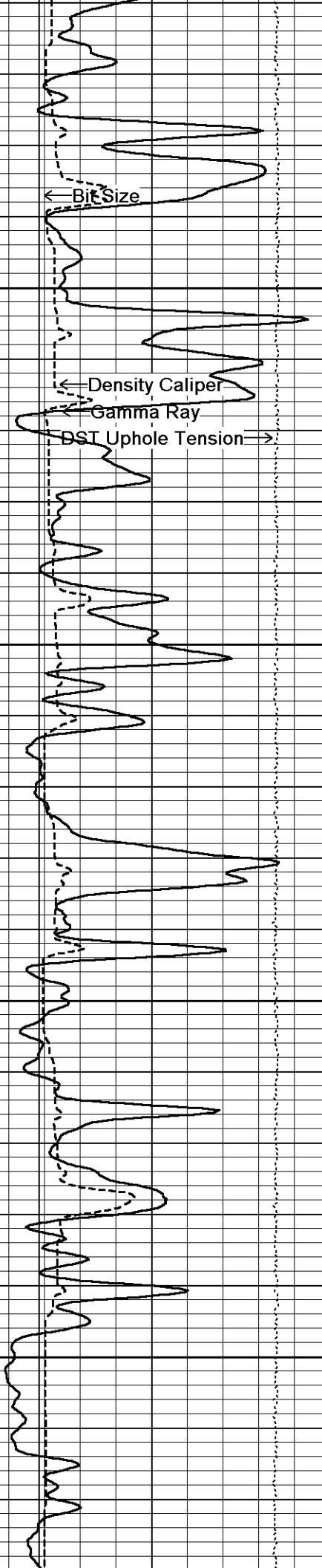
105°

4300

105°

4350





106°

4400

106°

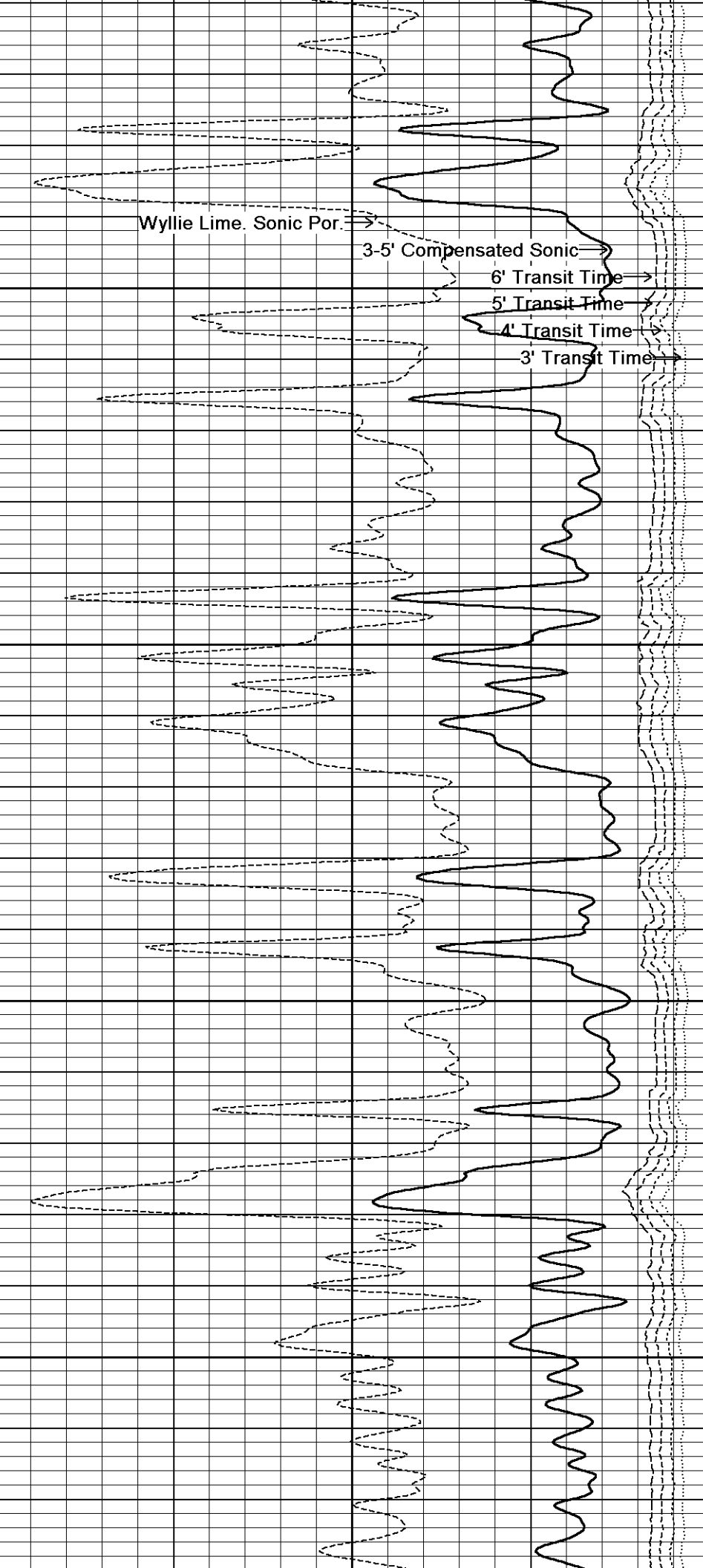
4450

106°

4500

106°

4550



Wyllie Lime. Sonic Por.

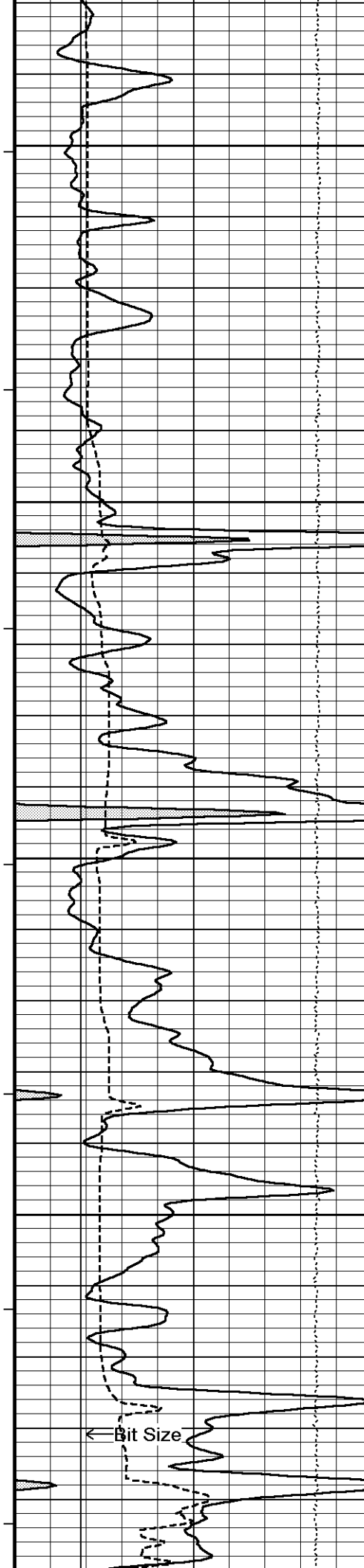
3-5' Compensated Sonic

6' Transit Time

5' Transit Time

4' Transit Time

3' Transit Time



107°

4600

107°

4650

107°

4700

107°

4750

107°

4800

← Bit Size

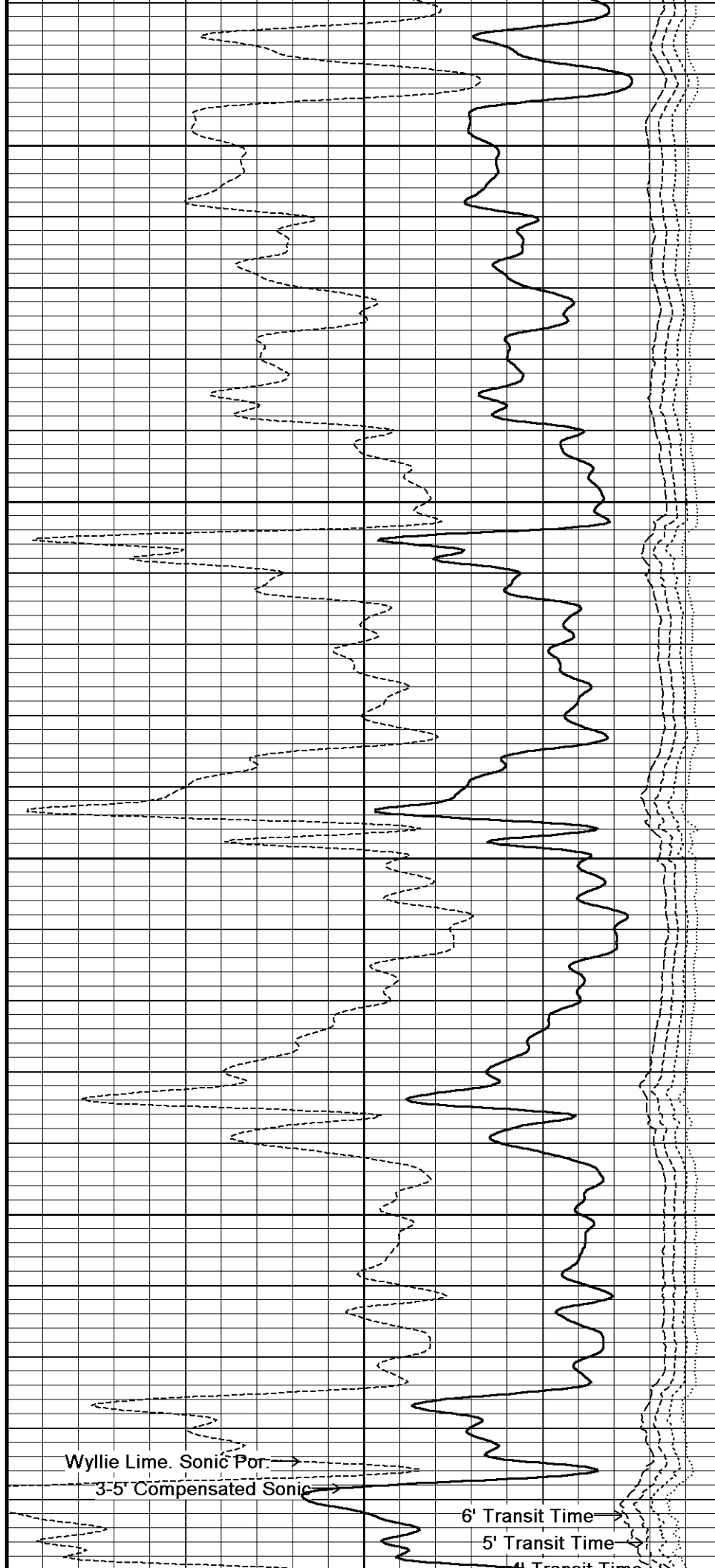
Wyllie Lime. Sonic Por. →

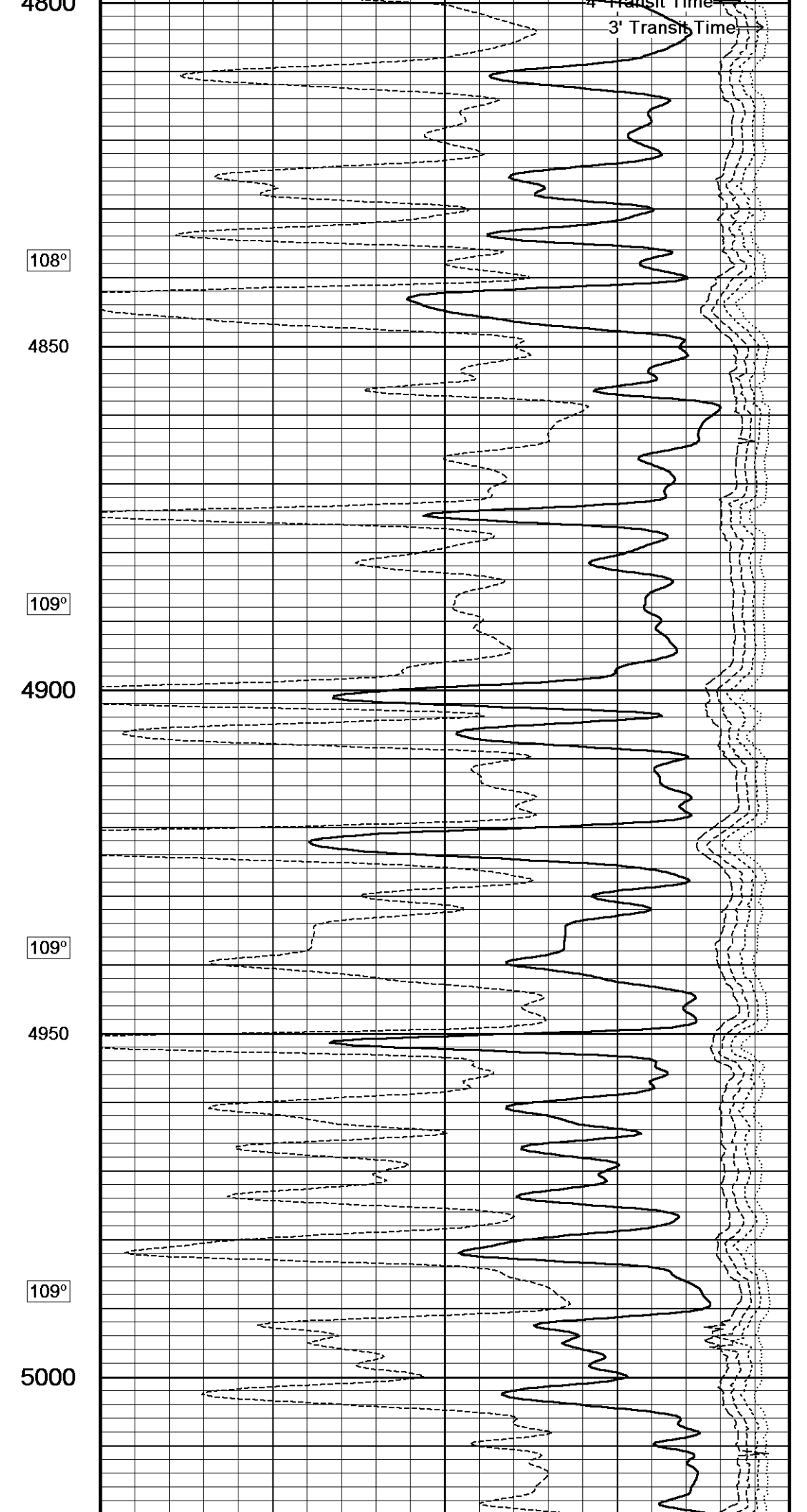
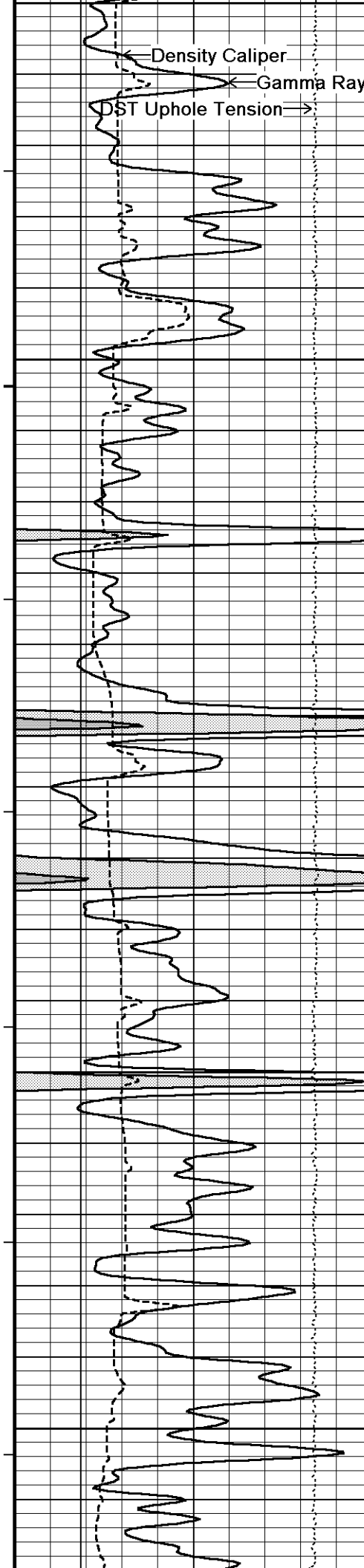
3-5' Compensated Sonic →

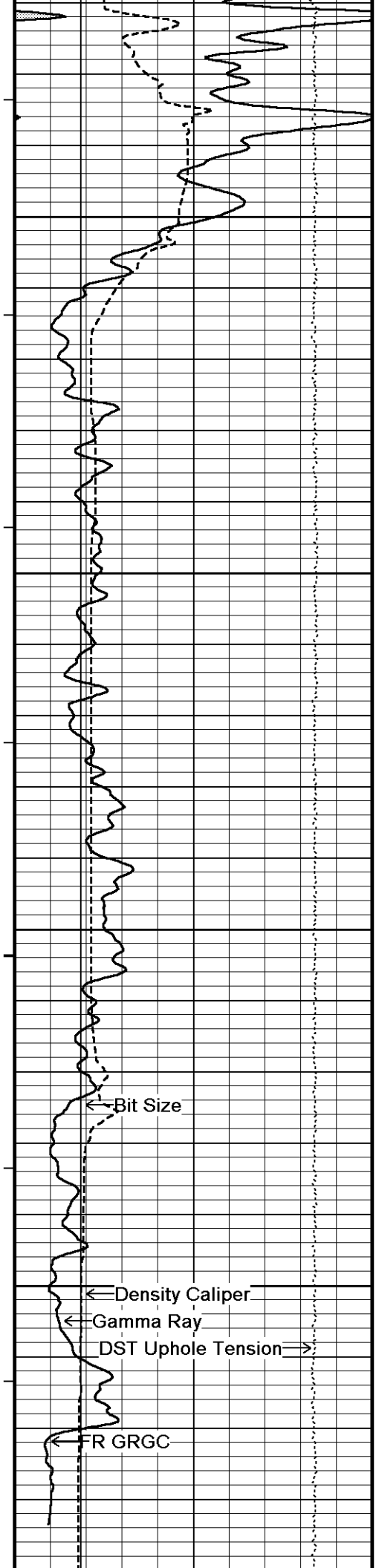
6' Transit Time →

5' Transit Time →

4' Transit Time →







110°

5050

110°

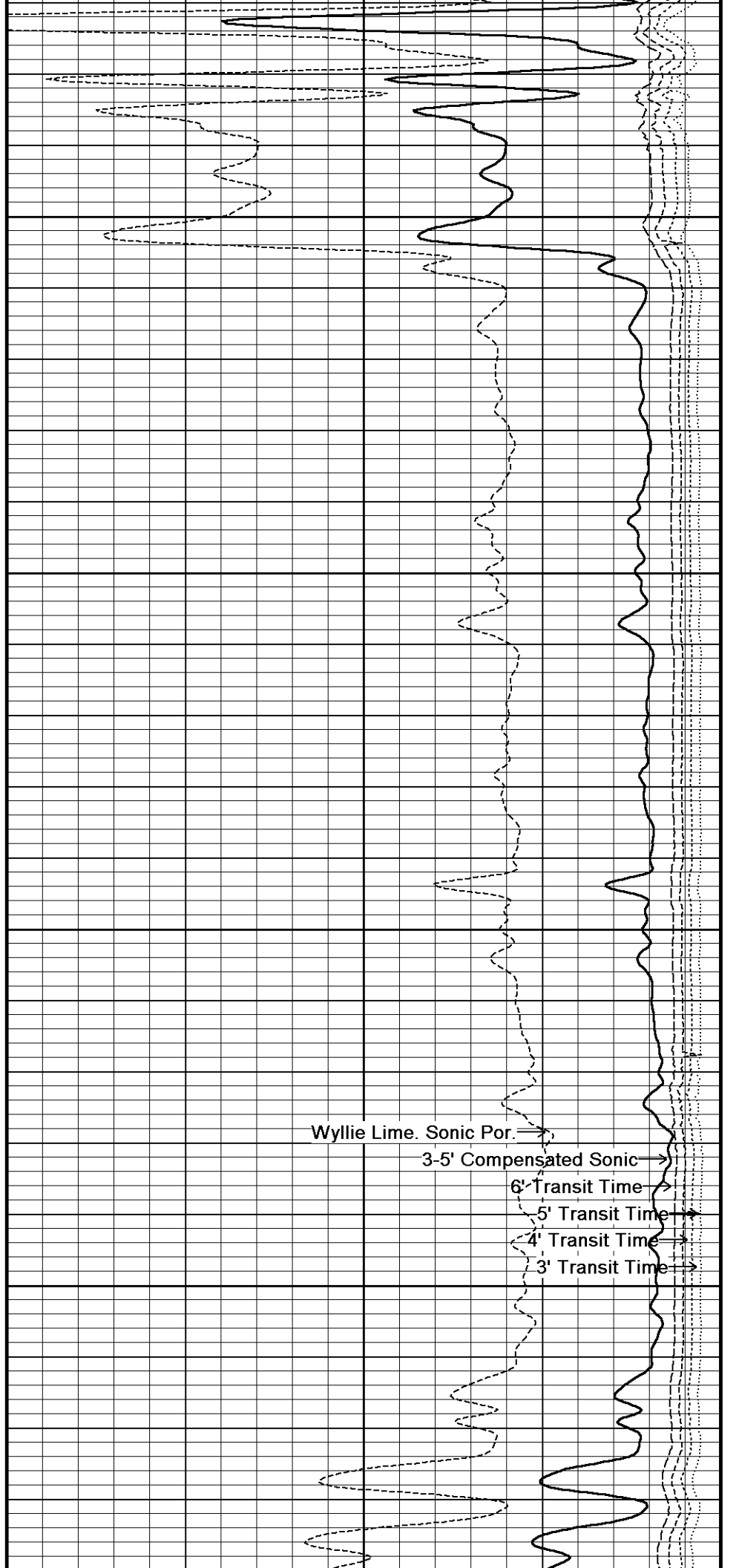
5100

110°

5150

110°

5200



Wyllie Lime. Sonic Por. →

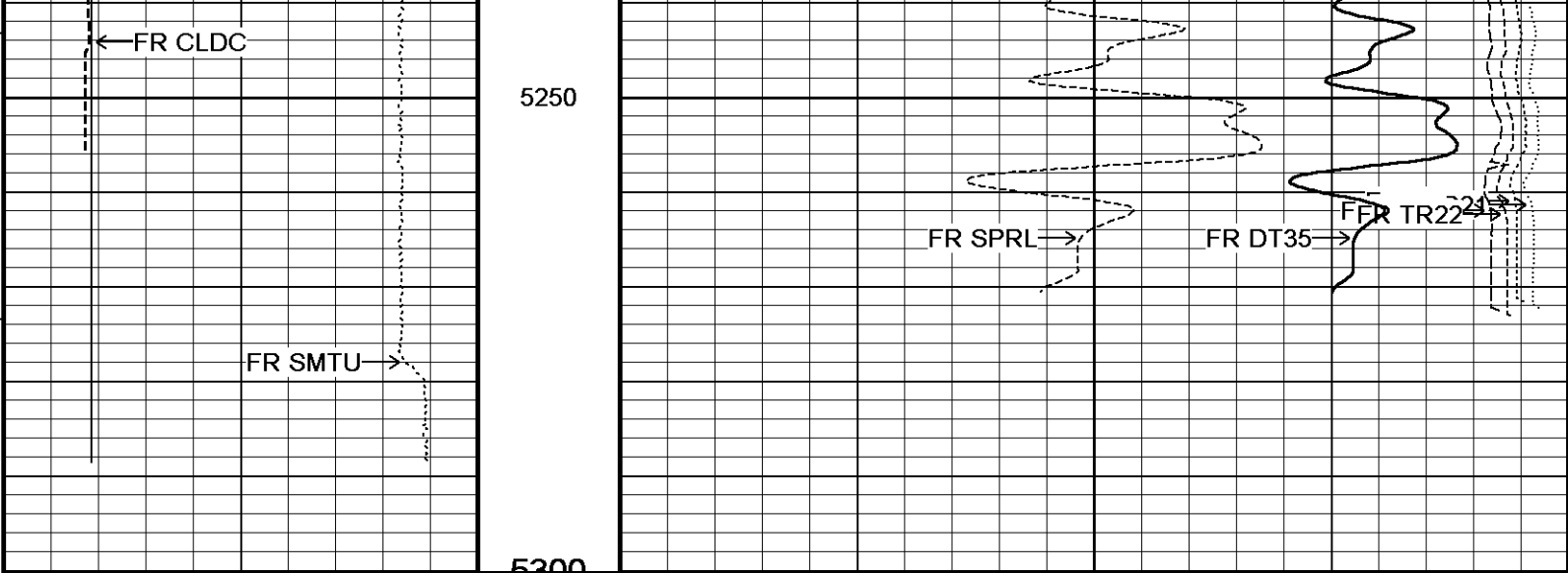
3-5' Compensated Sonic →

6' Transit Time →

5' Transit Time →

4' Transit Time →

3' Transit Time →



Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 04-FEB-2013 17:31
 Filename: C:\Minimus 13.04.8492\Data\Sunflower_Zimm...\Sunflower_Zimmerman Unit #1-8_Detail.dta
 Recorded on 04-FEB-2013 17:24
 System Versions: Logged with 13.04.8492 Plotted with 13.04.8492

