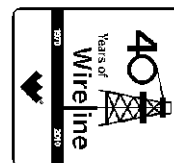




Weatherford

**COMPENSATED SONIC
W/ INTERGRATED TRANSIT TIME**

COMPANY **BEREXCO LLC**
WELL **BARKER #1-23**
FIELD **IVANHOE EXTENSION**
PROVINCE/COUNTY **FINNEY**
COUNTRY/STATE **U.S.A. / KANSAS**
LOCATION **1703' FSL & 1453' FEL**
NE SE NW SE



SEC	TWP	RGE	Other Services	Elevations:
23	26S	34W	MA/ME MDN/MPD	KB DF GL
API Number	15-055-22104	MML		2974.00 2972.00 2962.00
Permit Number				
Permanent Datum G.L., Elevation 2962 feet				
Log Measured From K.B. @ 12 FEET above Permanent Datum				
Drilling Measured From K.B.				
Date	16-JUN-2011			
Run Number	TWO			
Depth Driller	5330.00	feet		
Depth Logger	5332.00	feet		
First Reading	5328.00	feet		
Last Reading	1773.00	feet		
Casing Driller	1776.00	feet		
Casing Logger	1773.00	feet		
Bit Size	7.875	inches		
Hole Fluid Type	CHEMICAL			
Density / Viscosity	9.10 lb/USg	52.00 CP		
PH / Fluid Loss	11.00	8.80 ml/30Min		
Sample Source	FLOWLINE			
Rm @ Measured Temp	0.70 @ 88.0	ohm-m		
Rmf @ Measured Temp	0.56 @ 88.0	ohm-m		
Rmc @ Measured Temp	0.84 @ 88.0	ohm-m		
Source Rmf / Rmc	CALC	CALC		
Rm @ BHT	0.52 @ 121.0	ohm-m		
Time Since Circulation	4 HOURS			
Max Recorded Temp	122.00	deg F		
Equipment Name	COMPACT			
Equipment / Base	13057	LIB		
Recorded By	A. GIAMBALVO			
Witnessed By	EDWIN H. GRIEVES			
S.O. / JOB #	3529164			LB11-134

BOREHOLE RECORD

Last Edited: 16-JUN-2011 15:17

Bit Size inches	Depth From feet	Depth To feet
7.875	1773.00	5332.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	1773.00	24.00

REMARKS

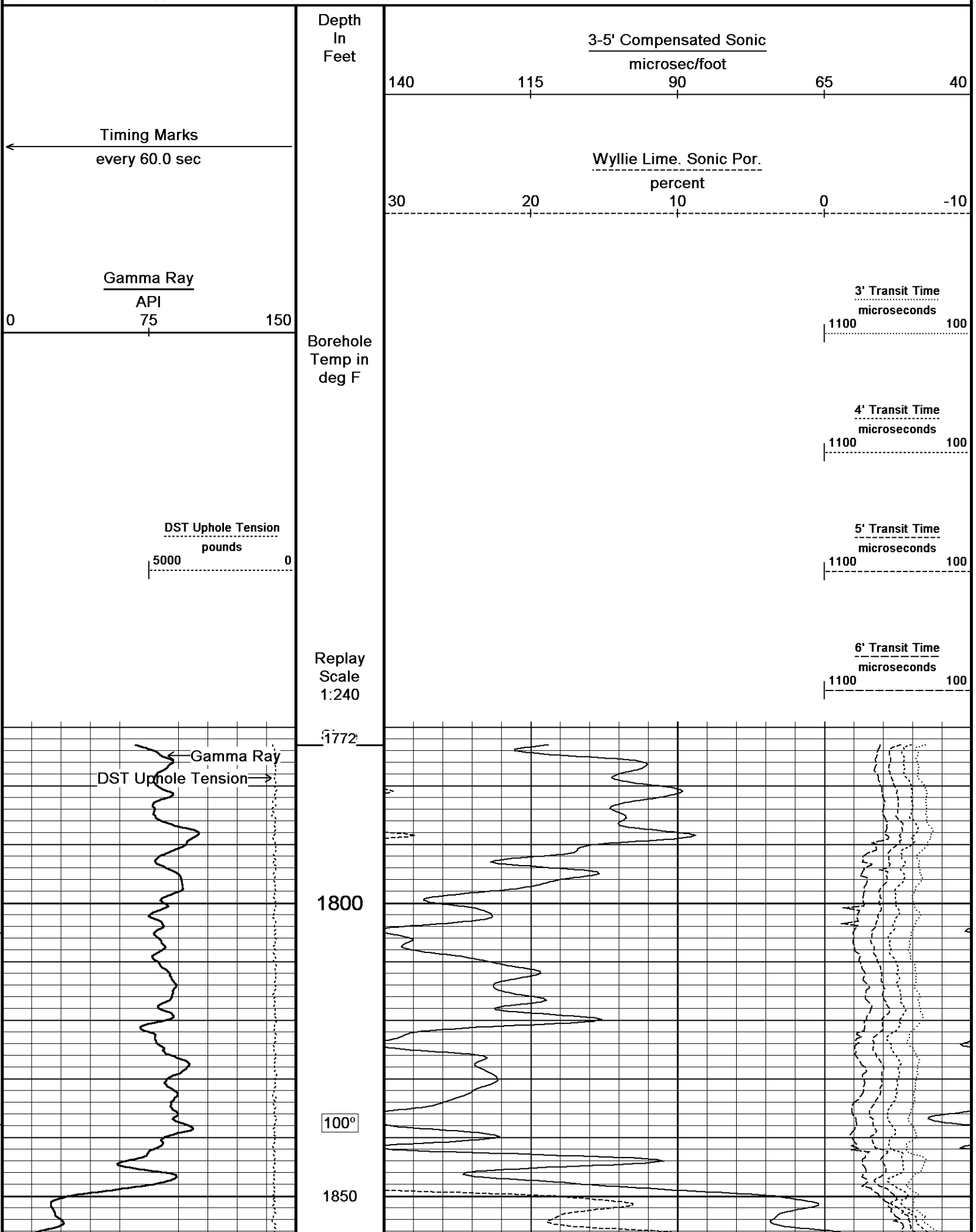
Tools Ran: MCG, MSS.
Hardware Used: MSS 0.5 inch standoffs used.
Hole rugosity can effect sonic via road noise.
All intervals logged and scaled per customer's request.
Service order #3529164
Rig: Beredco Rig #2
Engineer: A. Giambalvo
Operator(s): N. Adame, M. Stegman

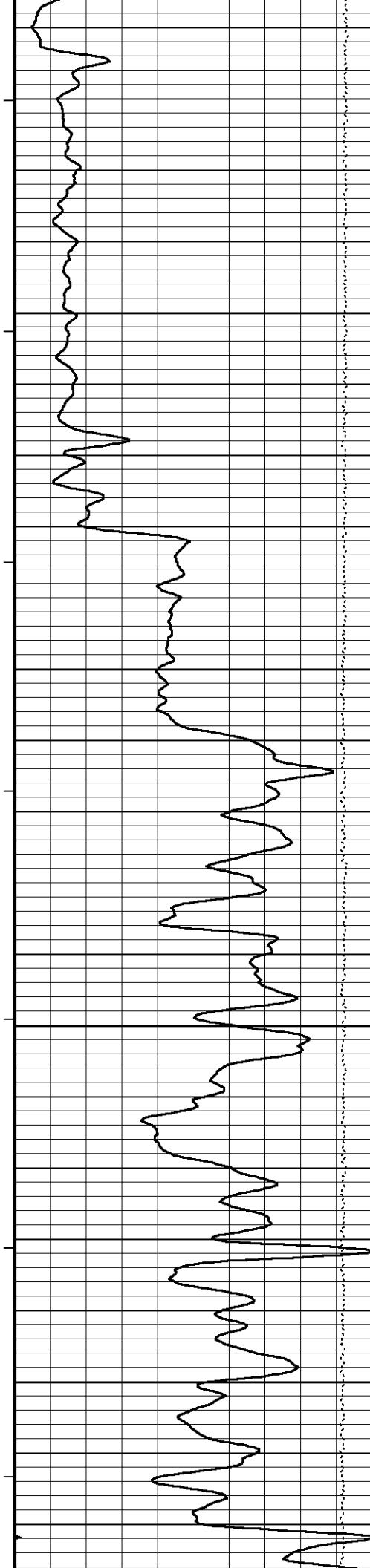
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs,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







99°

1900

99°

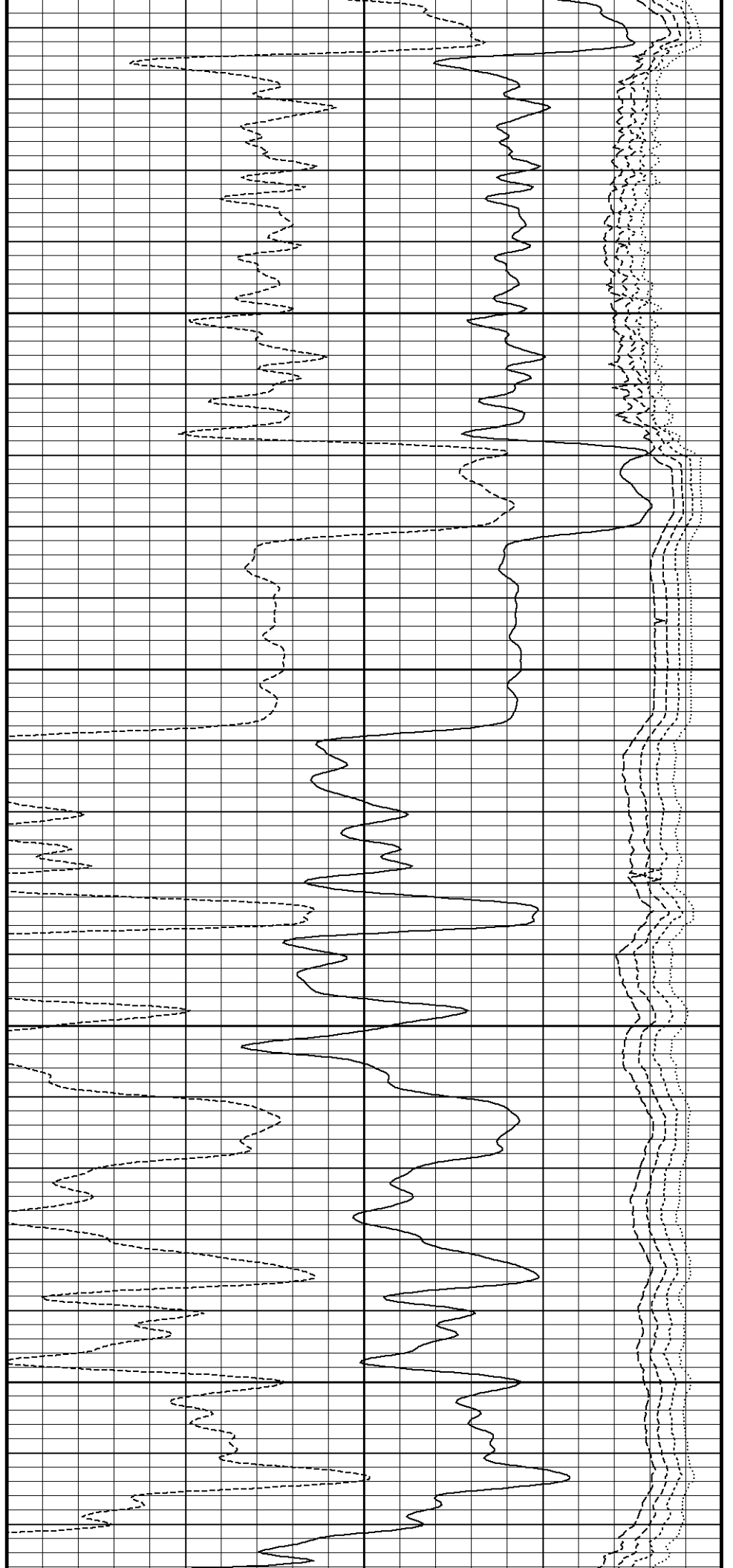
1950

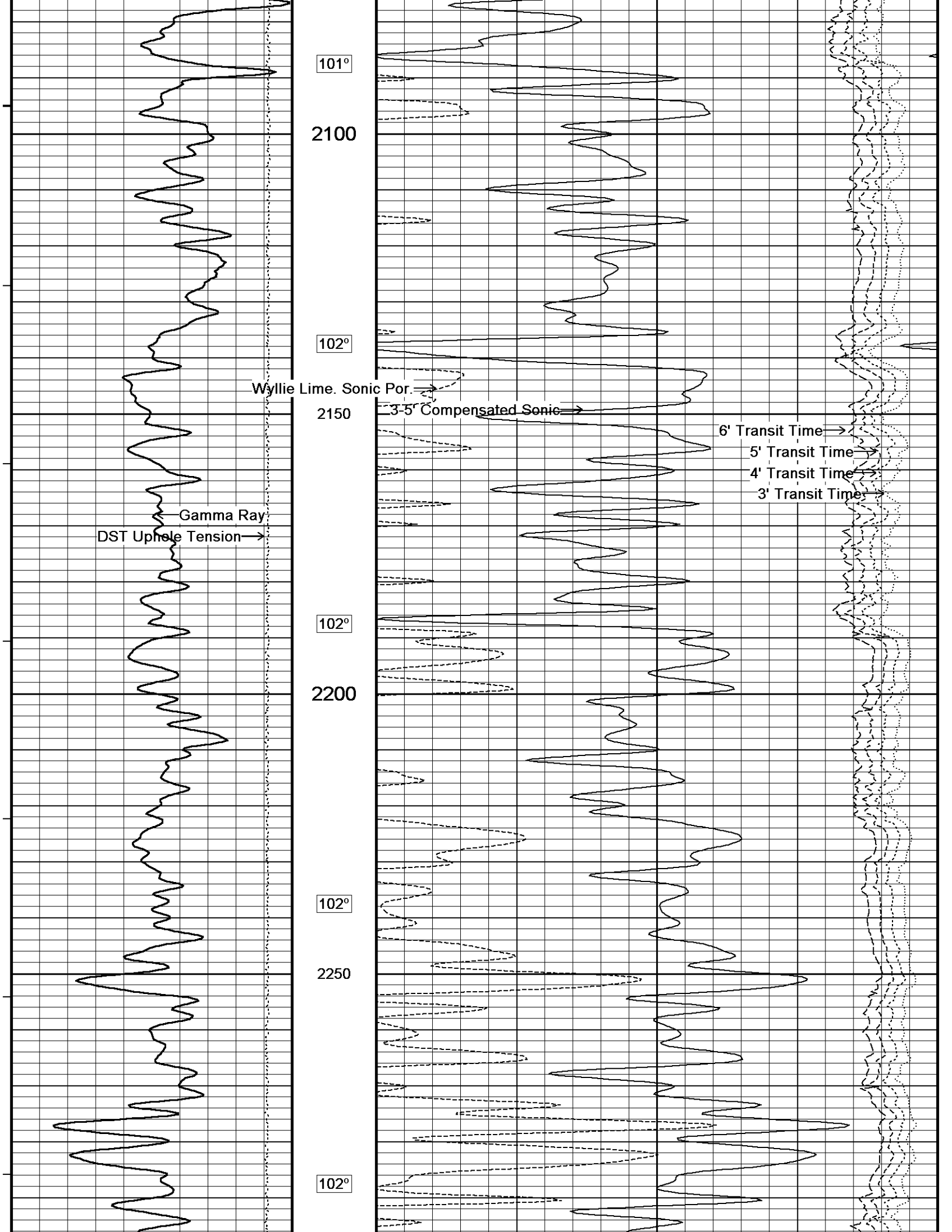
100°

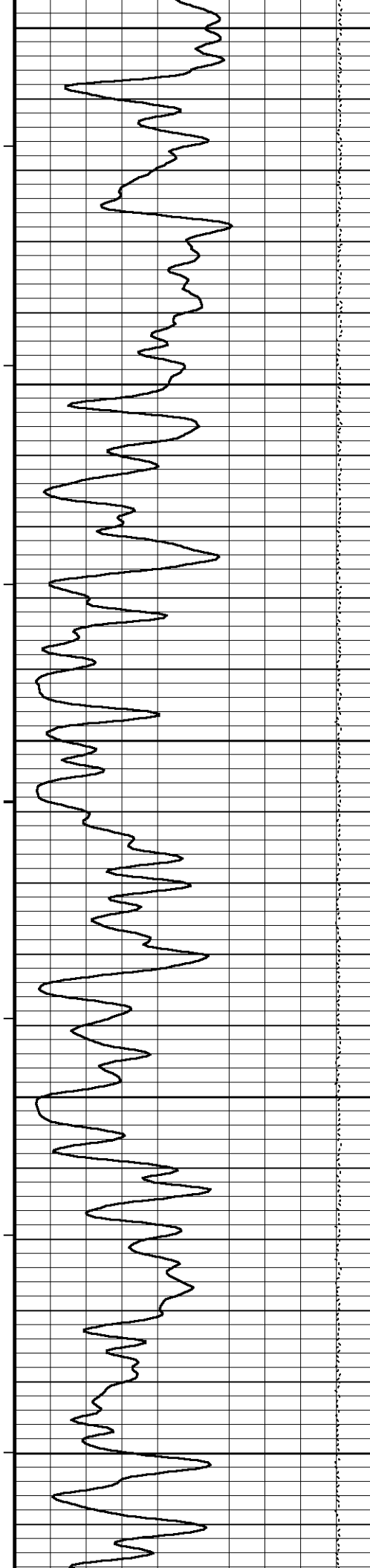
2000

101°

2050







2300

102°

2350

102°

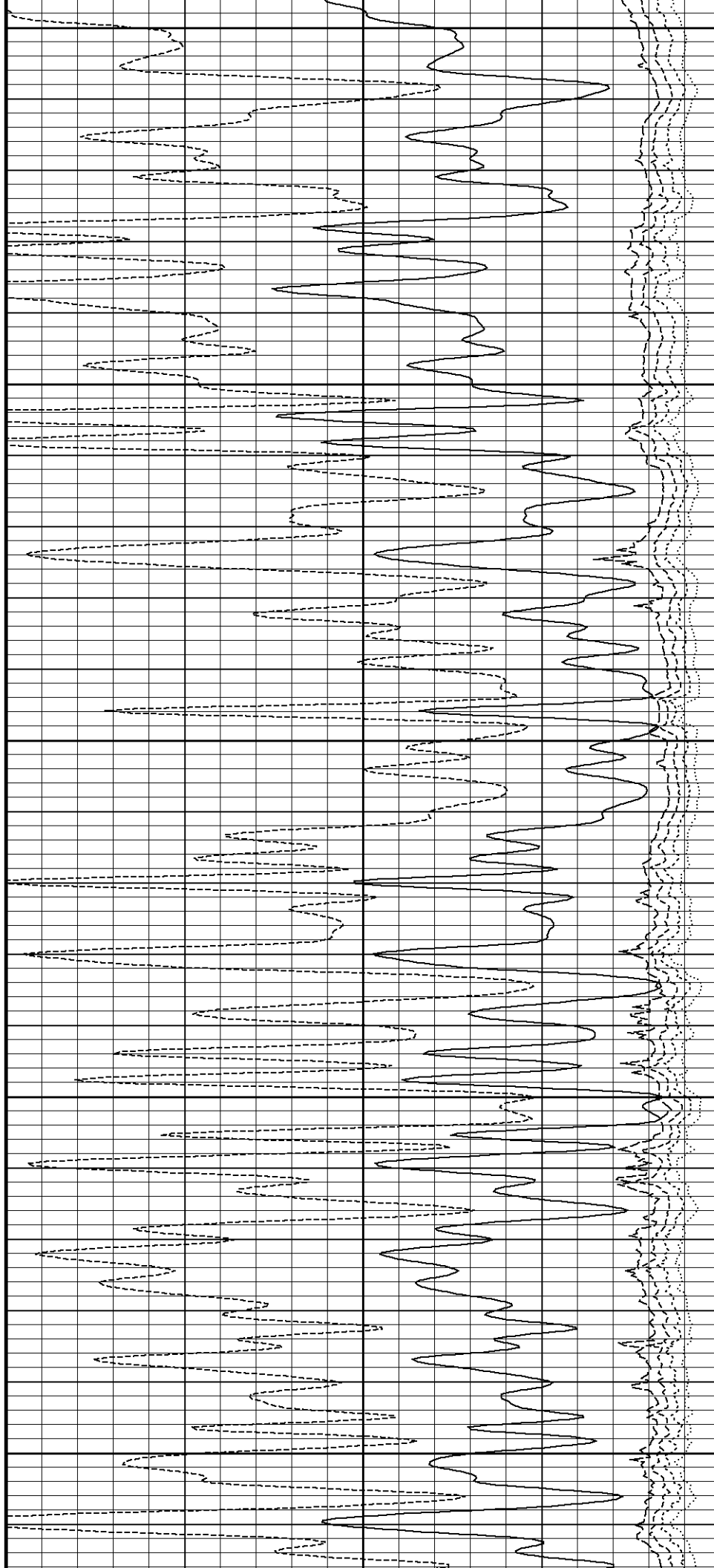
2400

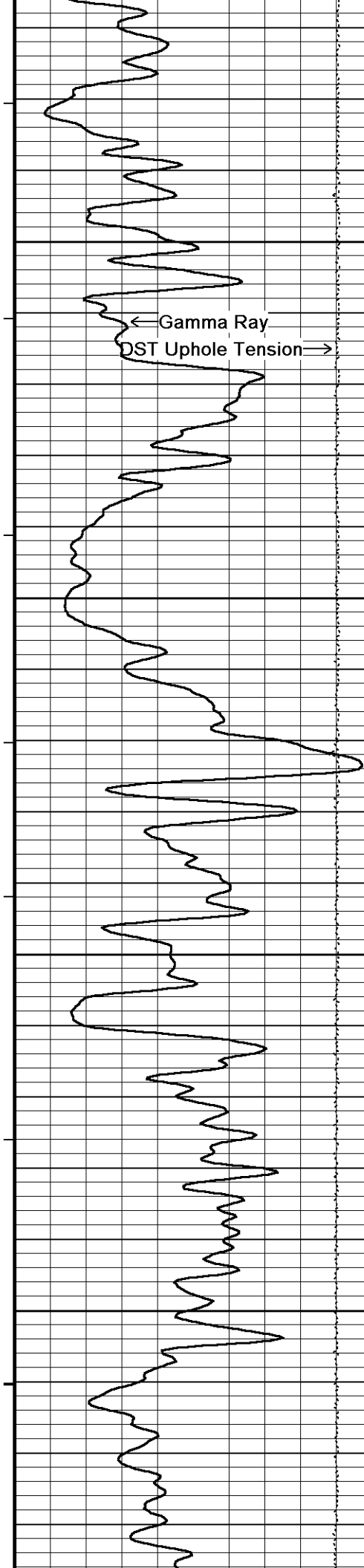
103°

2450

103°

2500





103°

2550

104°

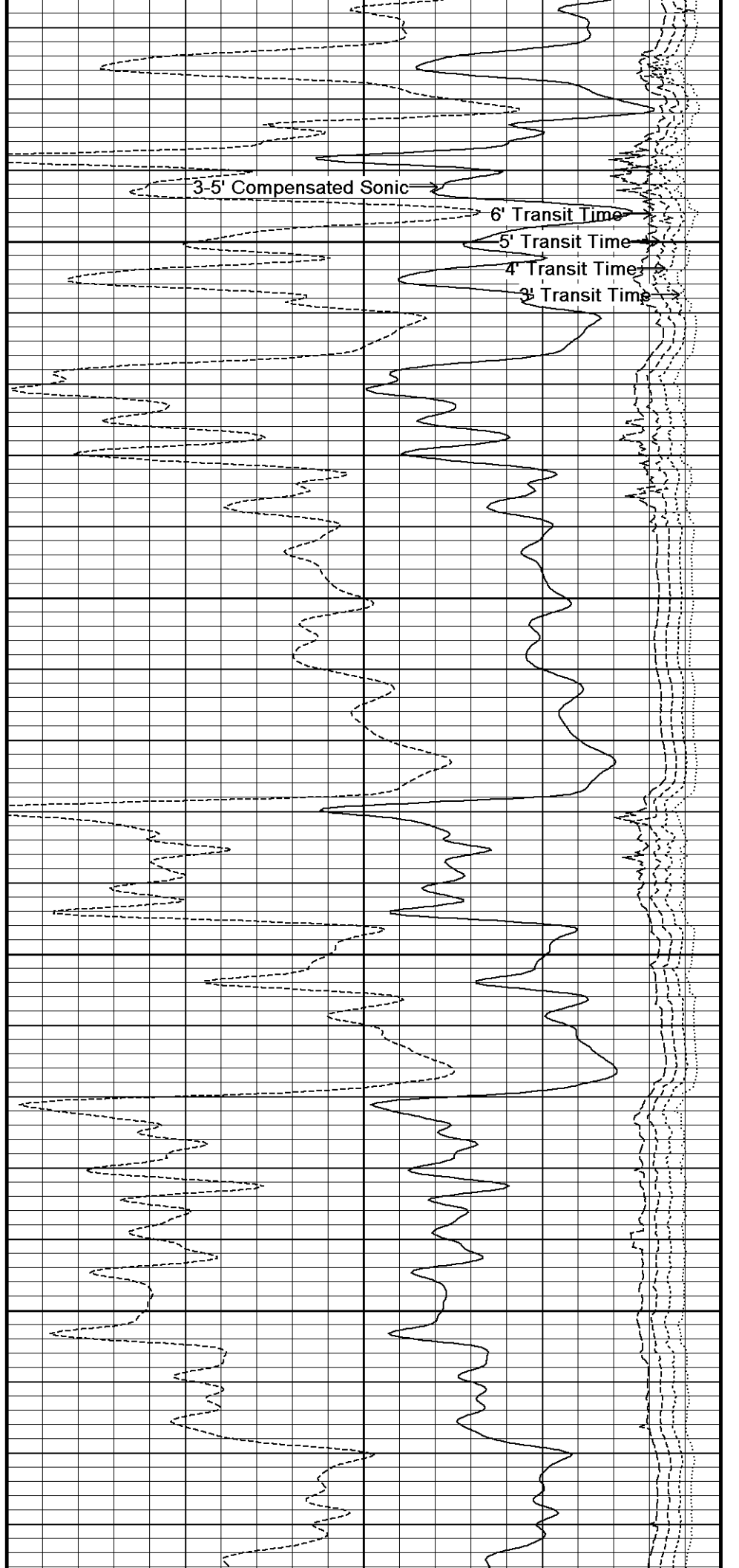
2600

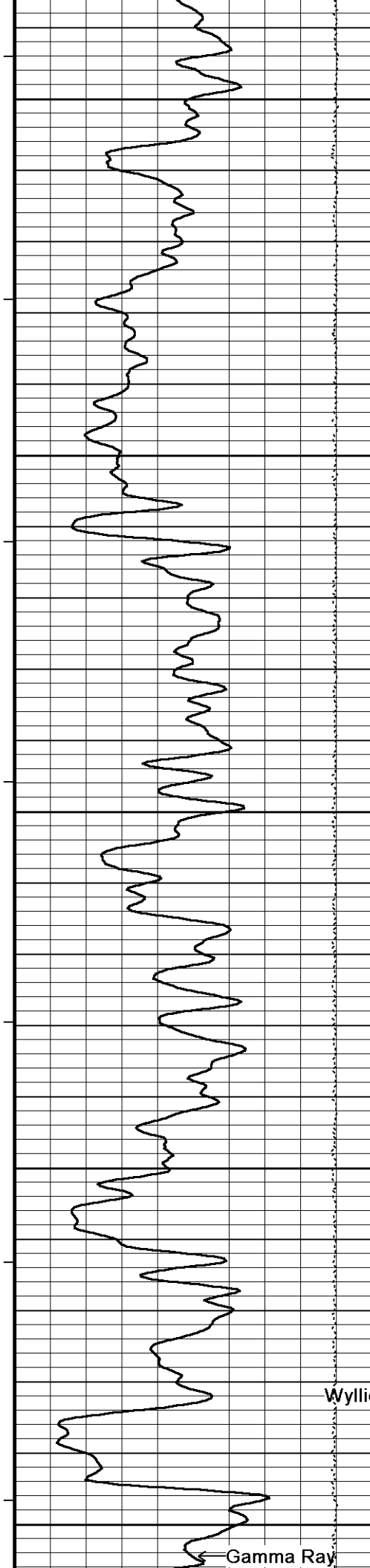
104°

2650

104°

2700





105°

2750

105°

2800

106°

2850

106°

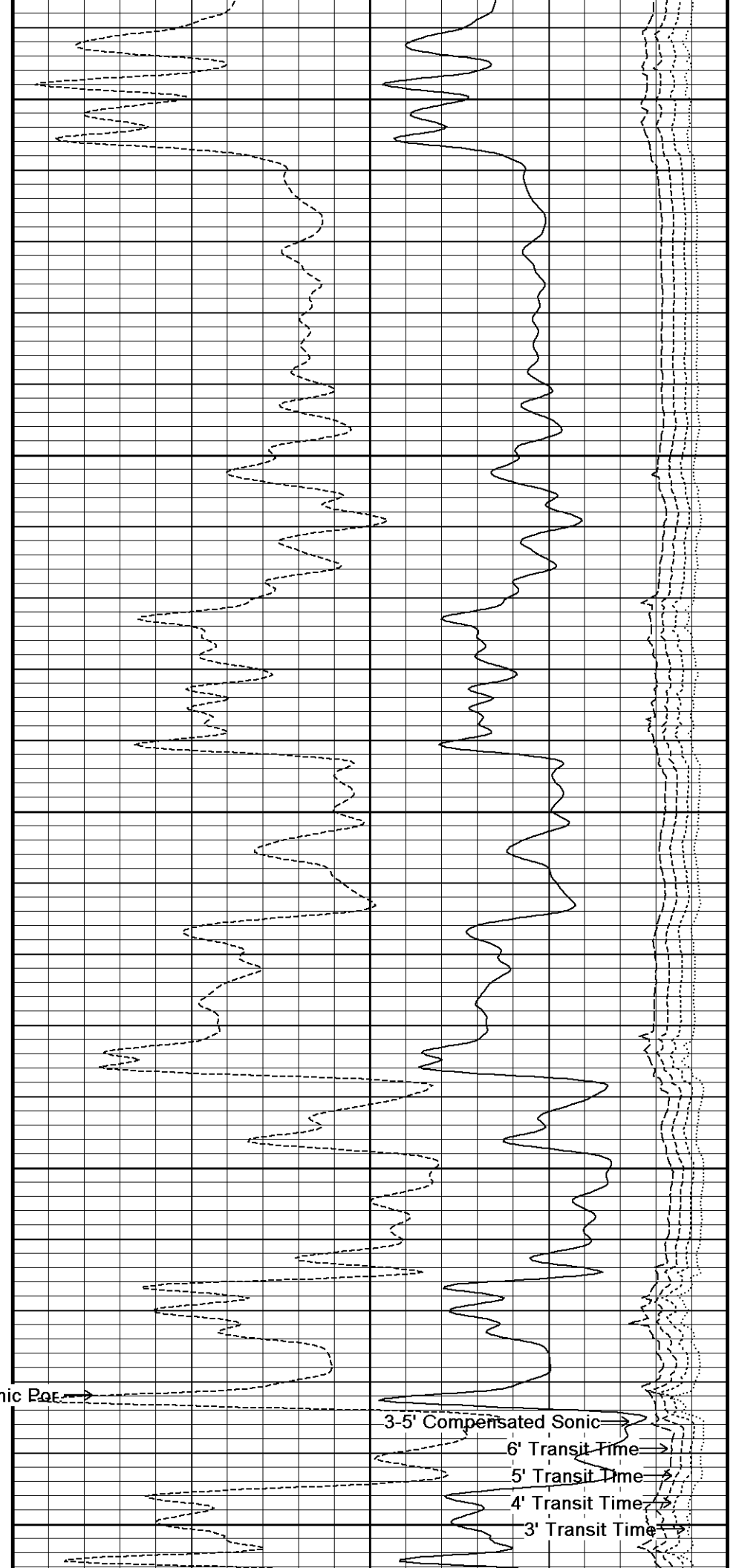
2900

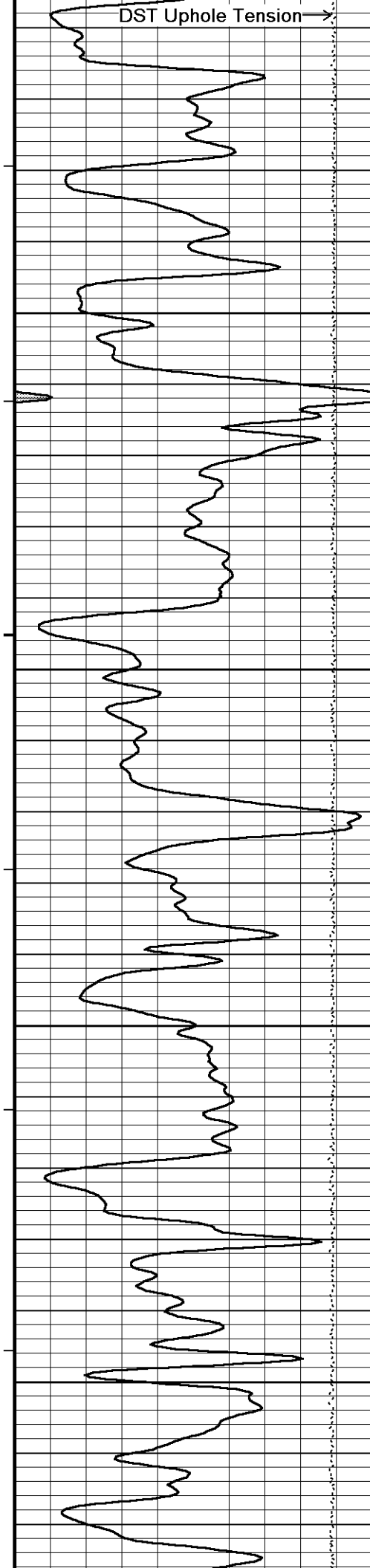
Wyllie Lime. Sonic Por. →

106°

2950

← Gamma Ray





107°

3000

107°

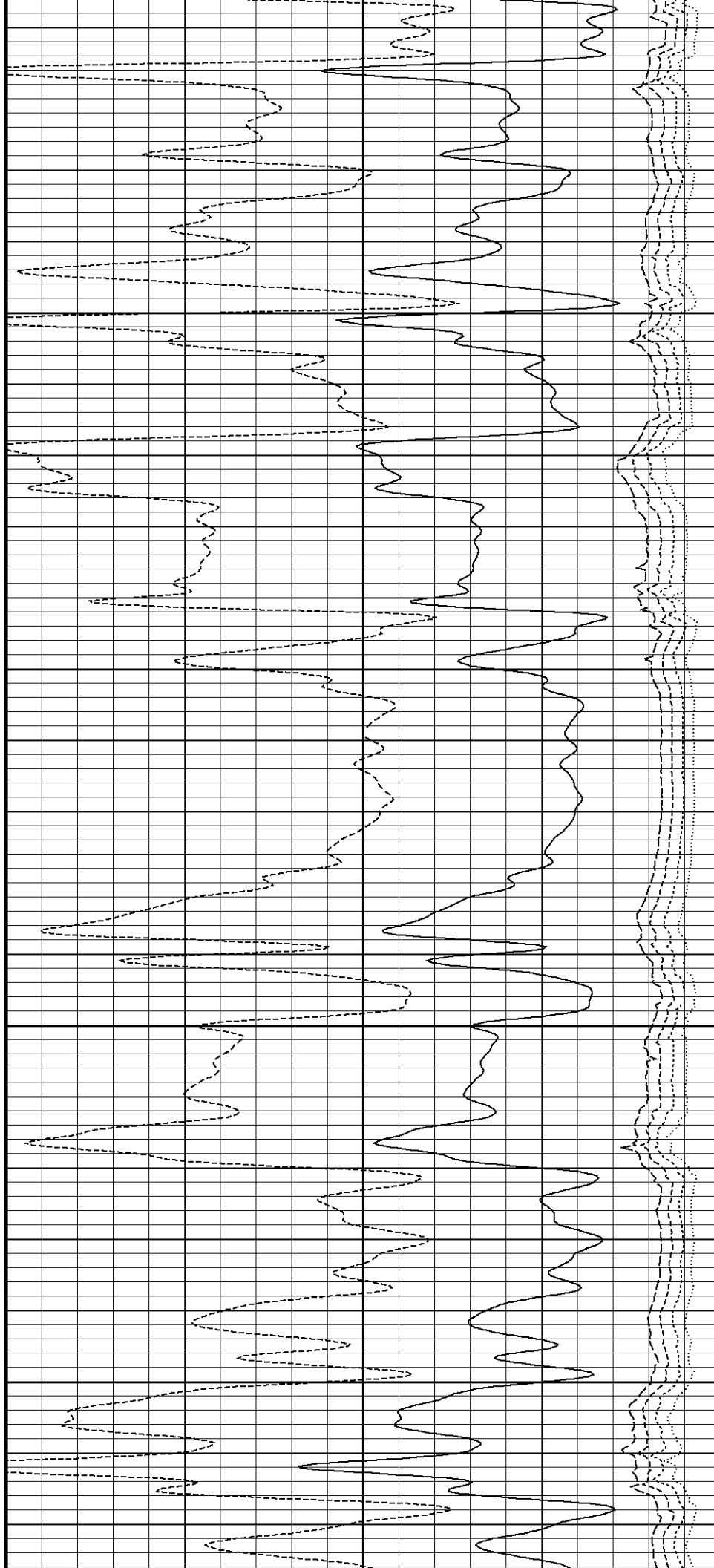
3050

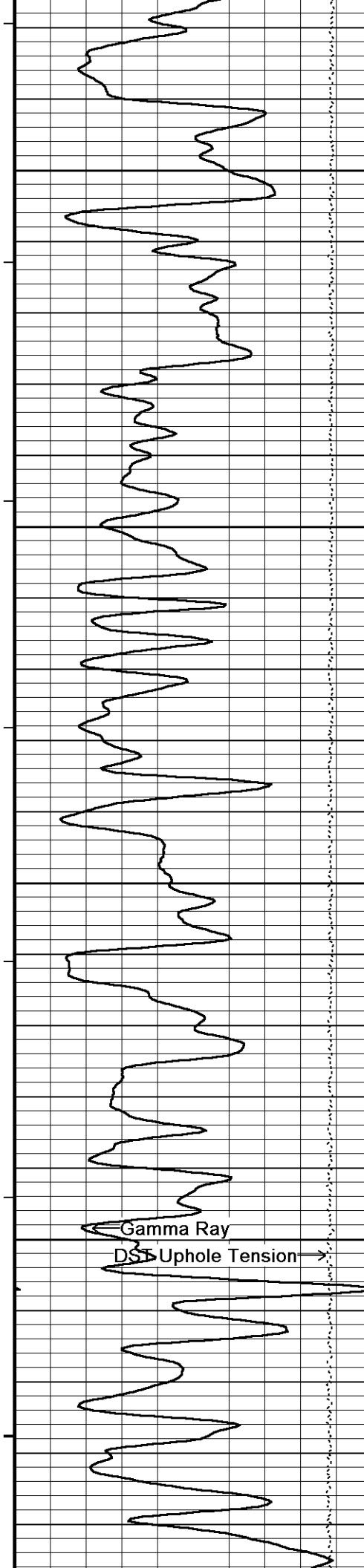
107°

3100

108°

3150





108°

3200

108°

3250

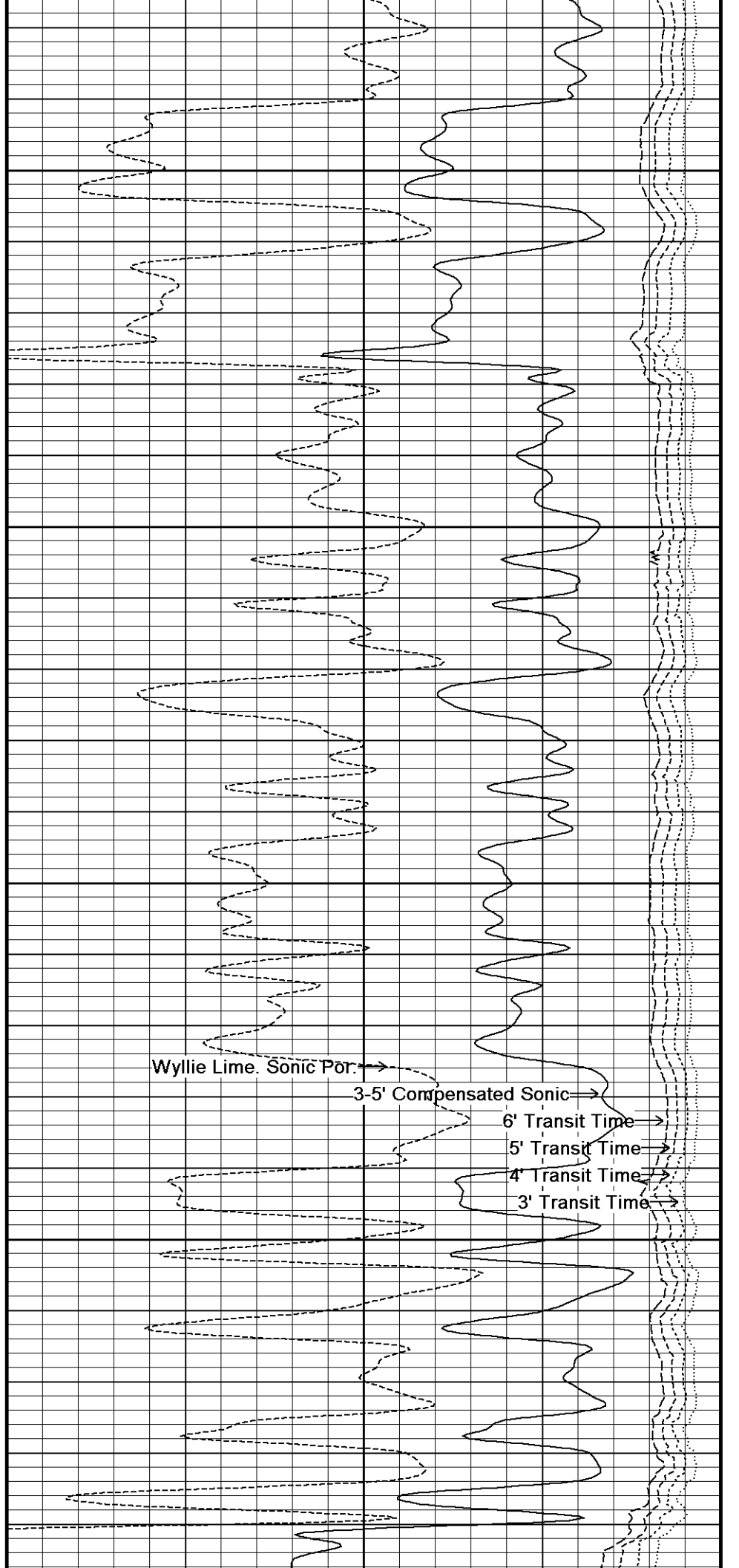
108°

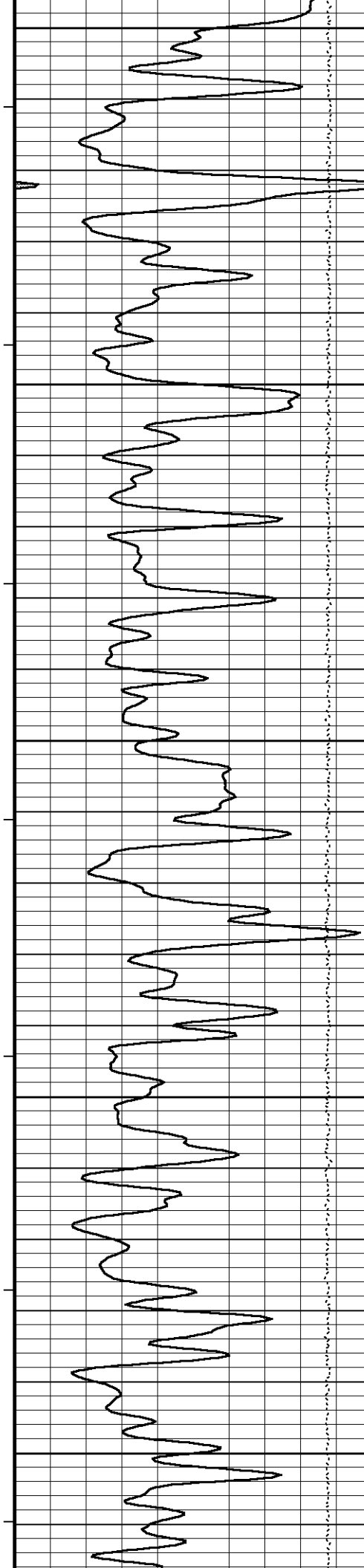
3300

109°

3350

109°





3400

109°

3450

110°

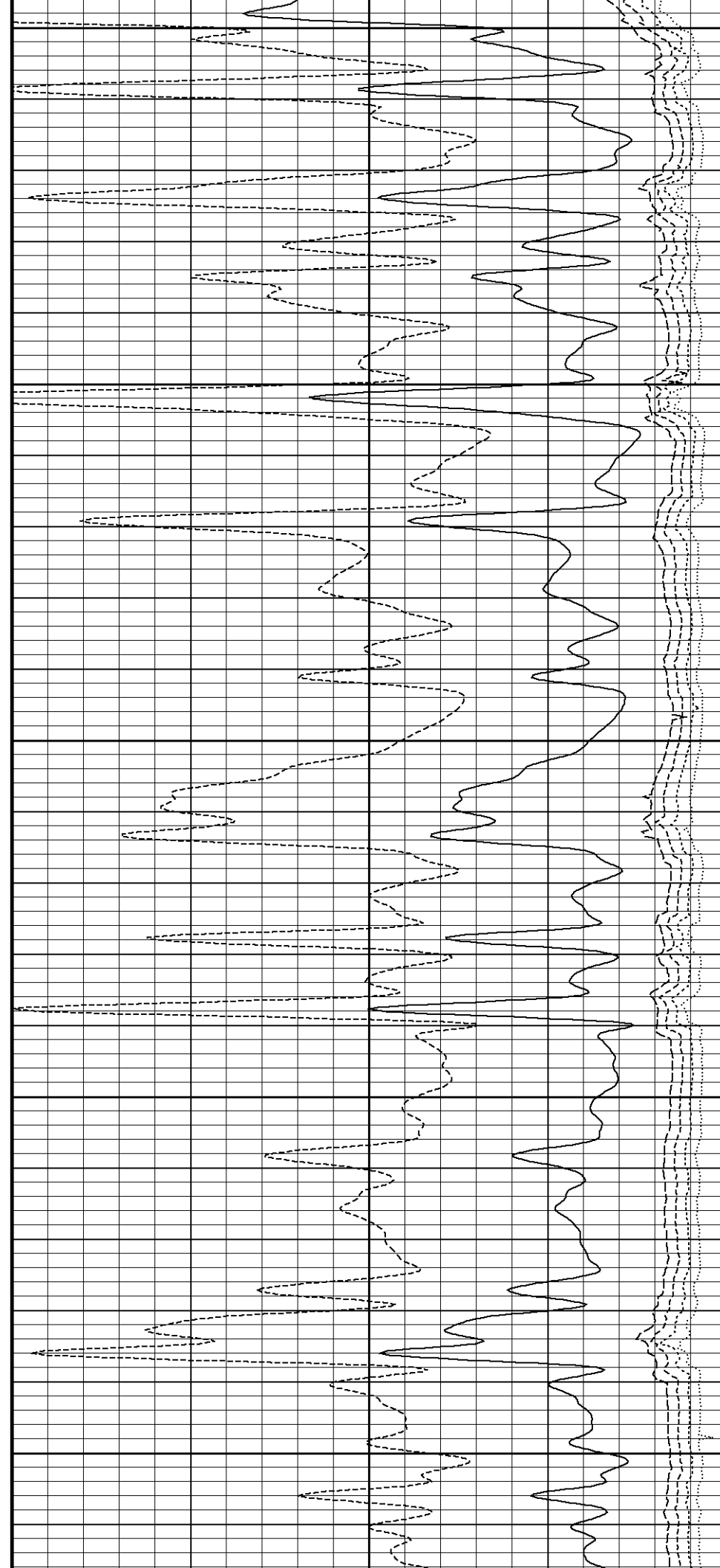
3500

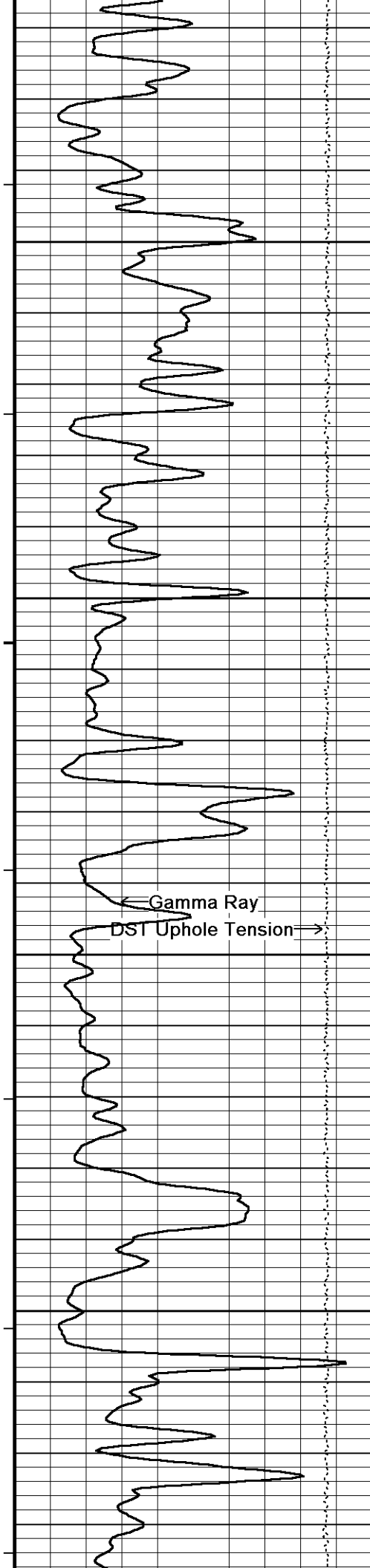
110°

3550

110°

3600





111°

3650

111°

3700

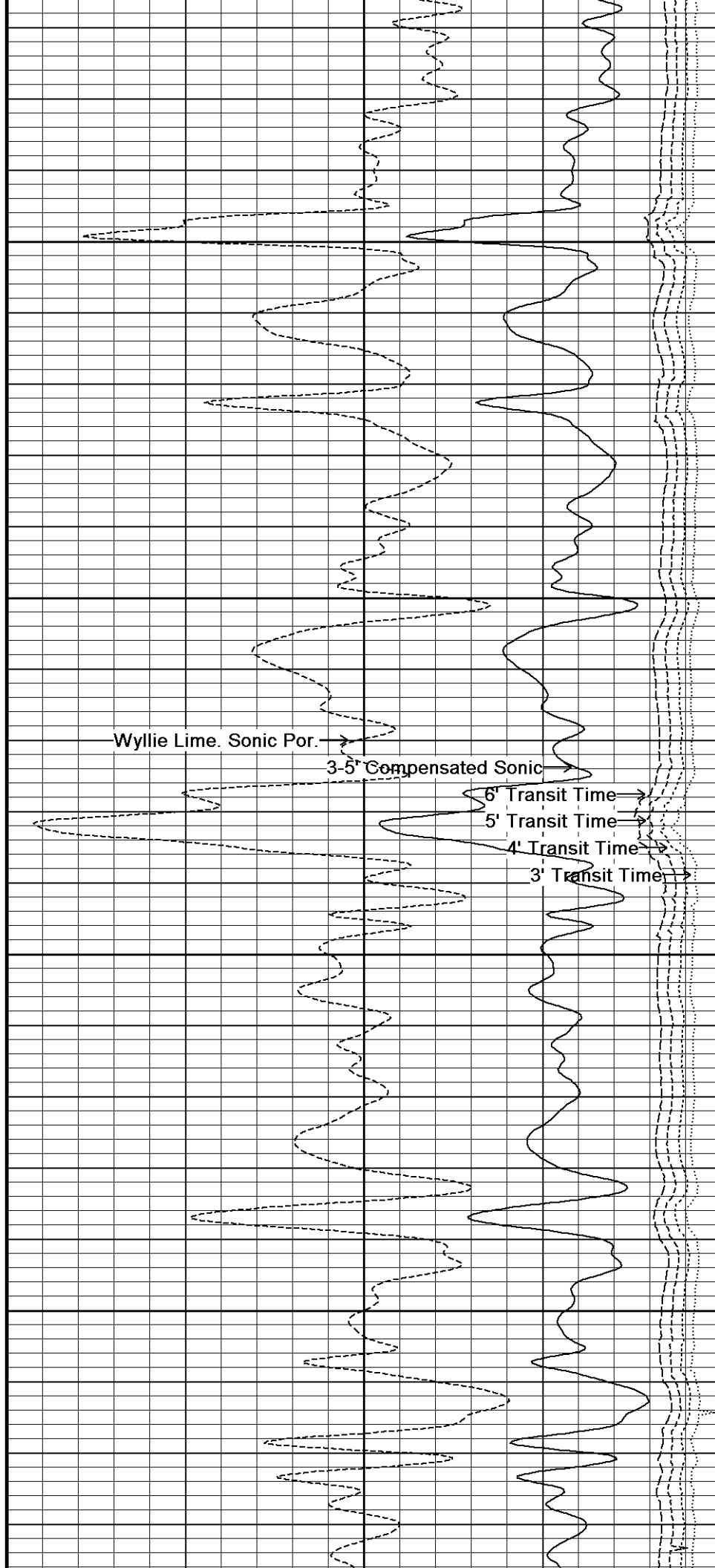
111°

3750

112°

3800

← Gamma Ray
DST Uphole Tension →



Wyllie Lime. Sonic Por. →

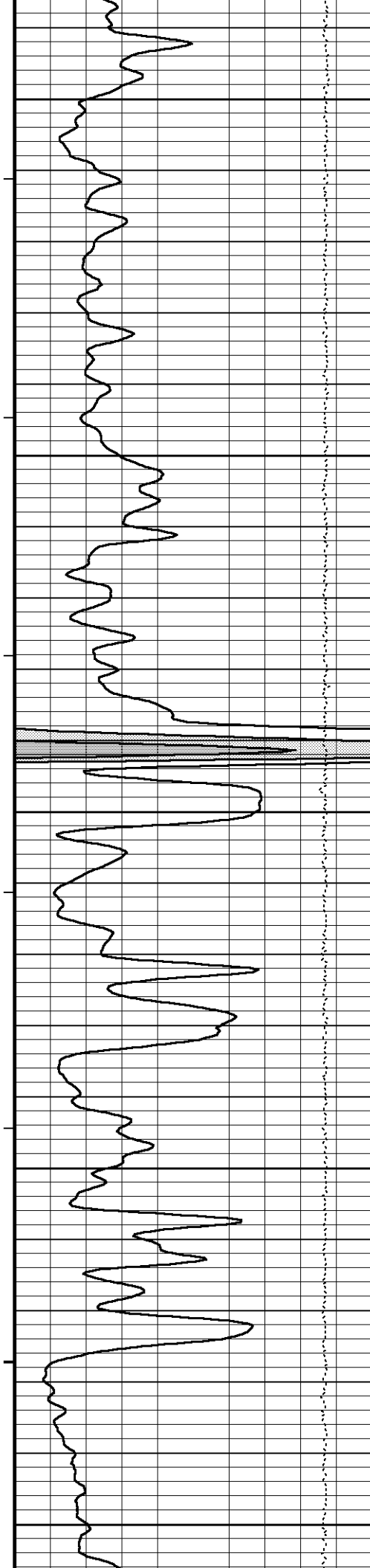
3-5" Compensated Sonic →

6' Transit Time →

5' Transit Time →

4' Transit Time →

3' Transit Time →



112°

3850

112°

3900

113°

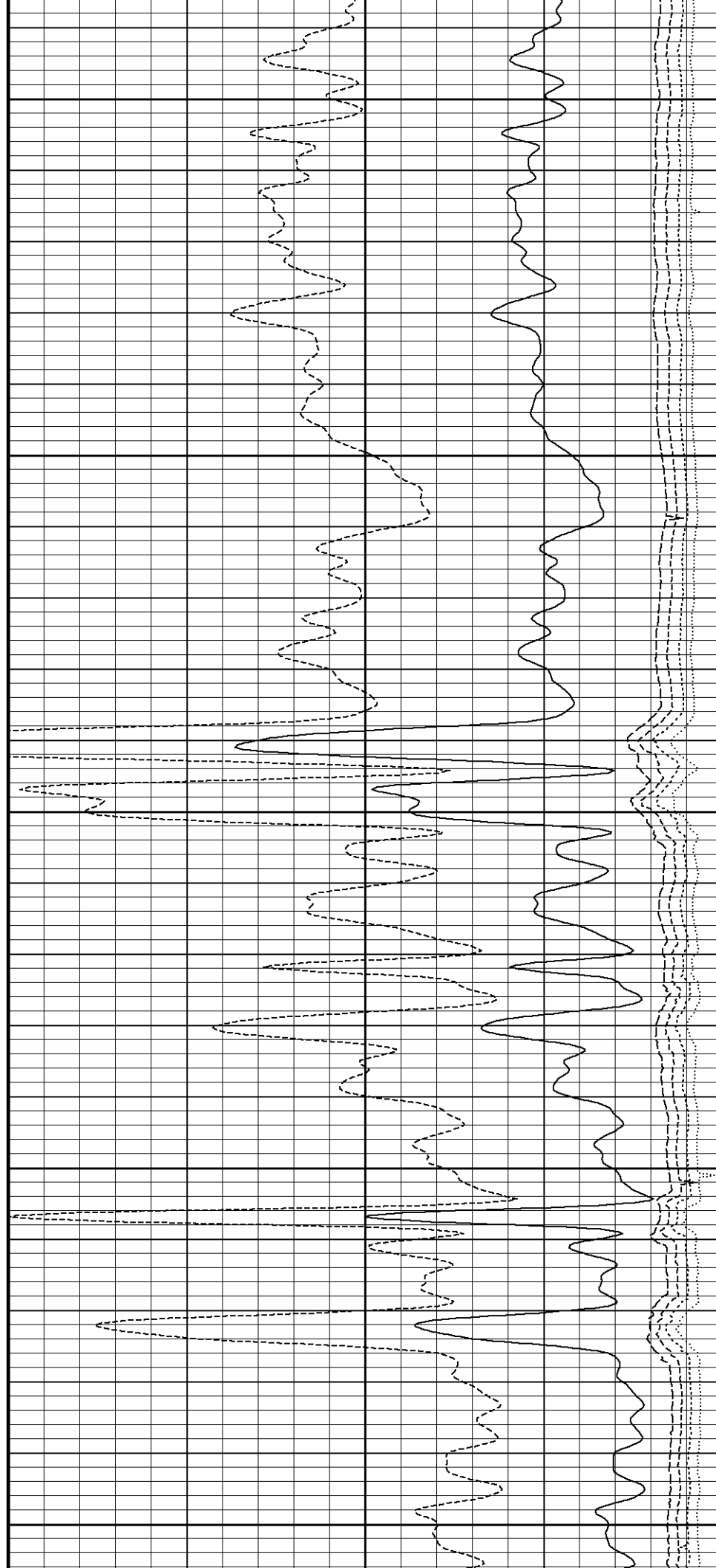
3950

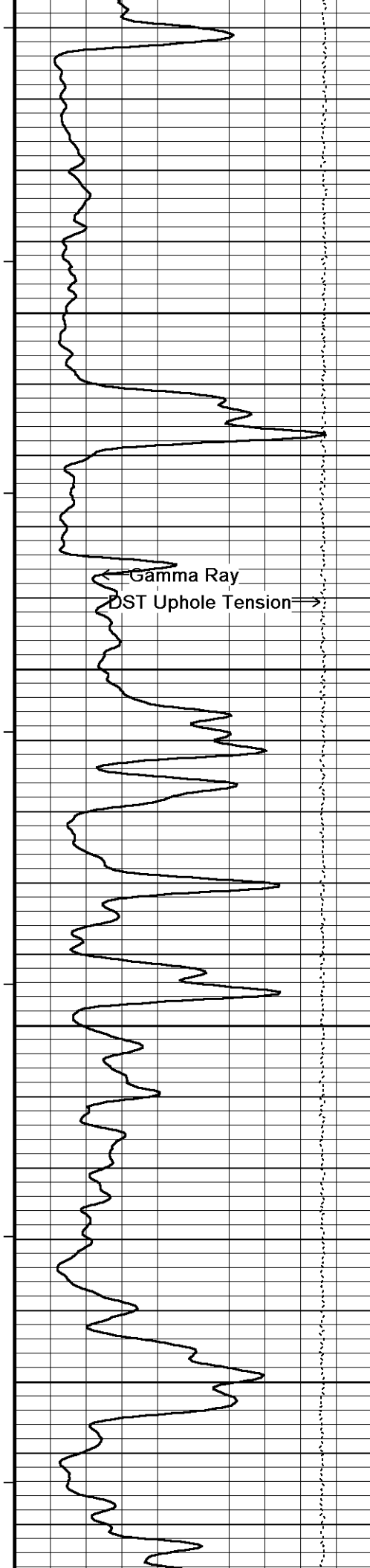
113°

4000

113°

4050





114°

4100

114°

4150

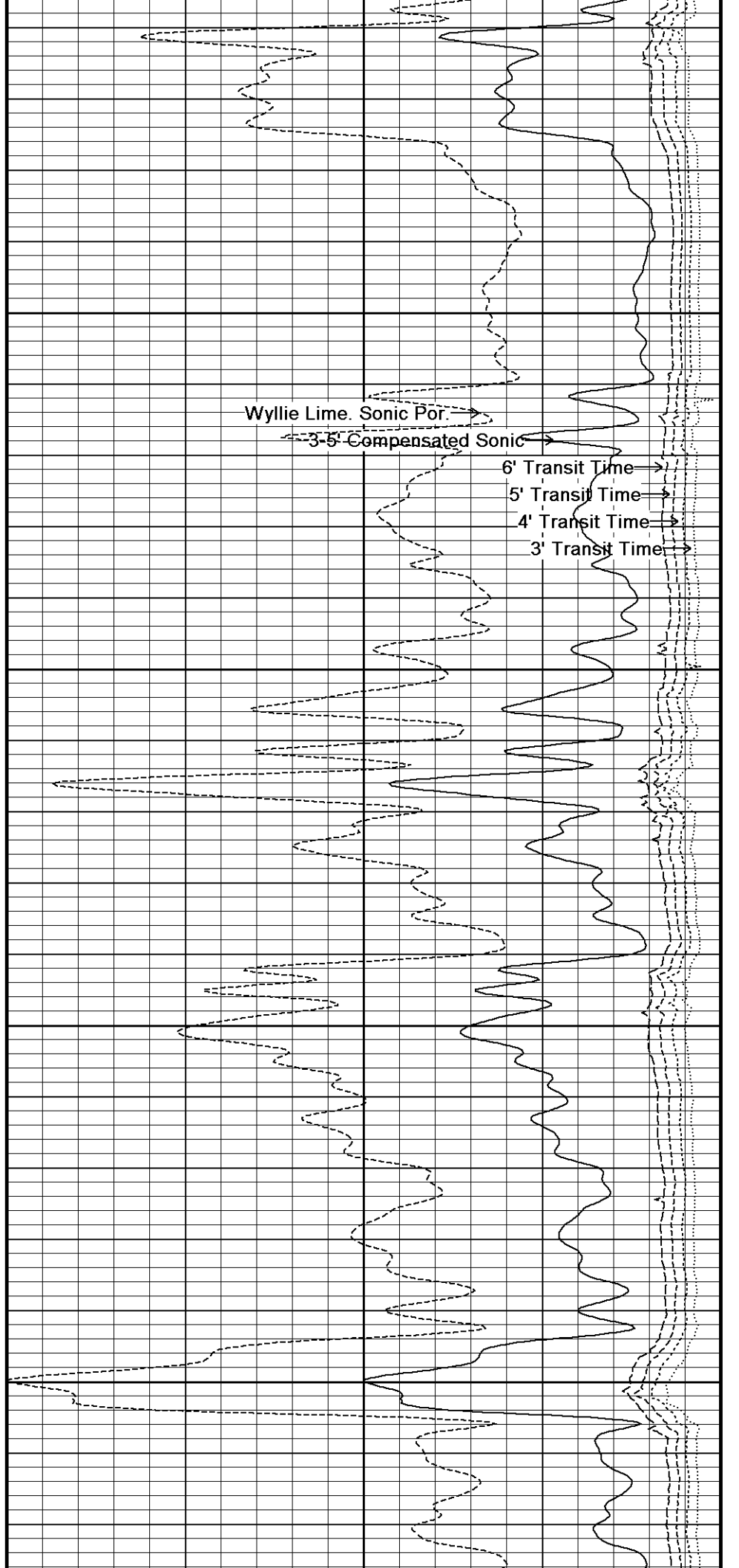
114°

4200

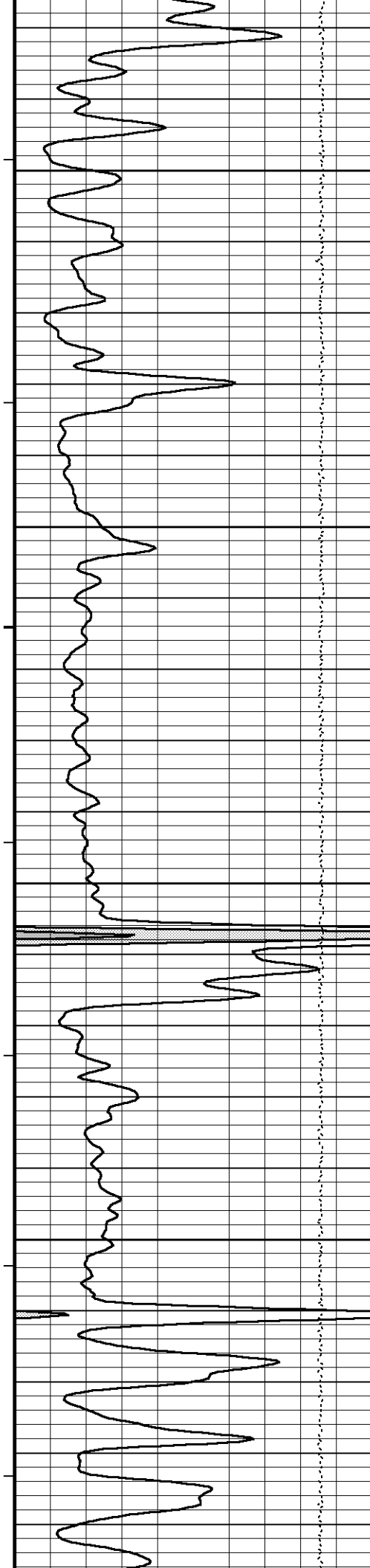
115°

4250

Gamma Ray
DST Uphole Tension



Wyllie Lime. Sonic Por.
3-5 Compensated Sonic
6' Transit Time
5' Transit Time
4' Transit Time
3' Transit Time



115°

4300

115°

4350

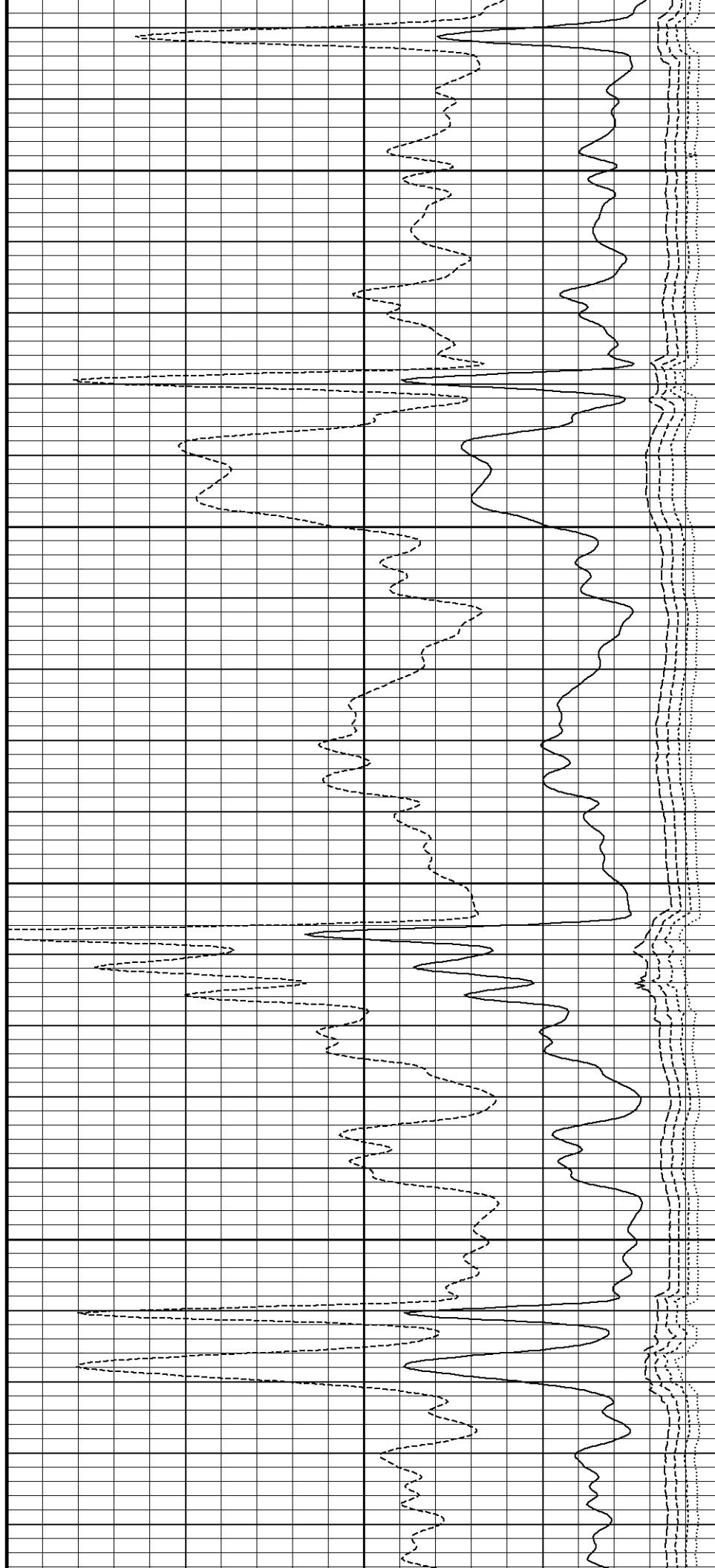
116°

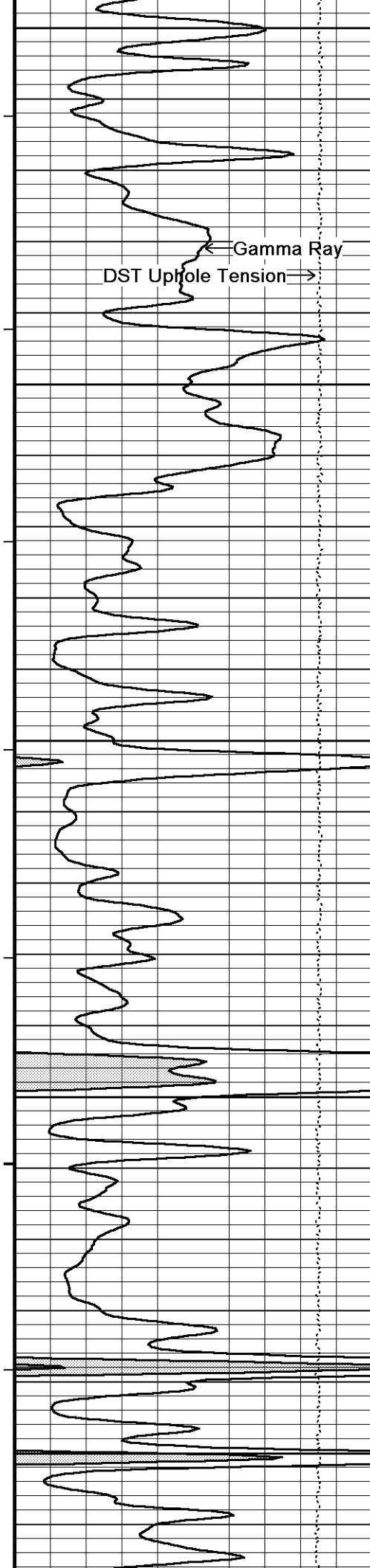
4400

116°

4450

117°





4500

117°

4550

117°

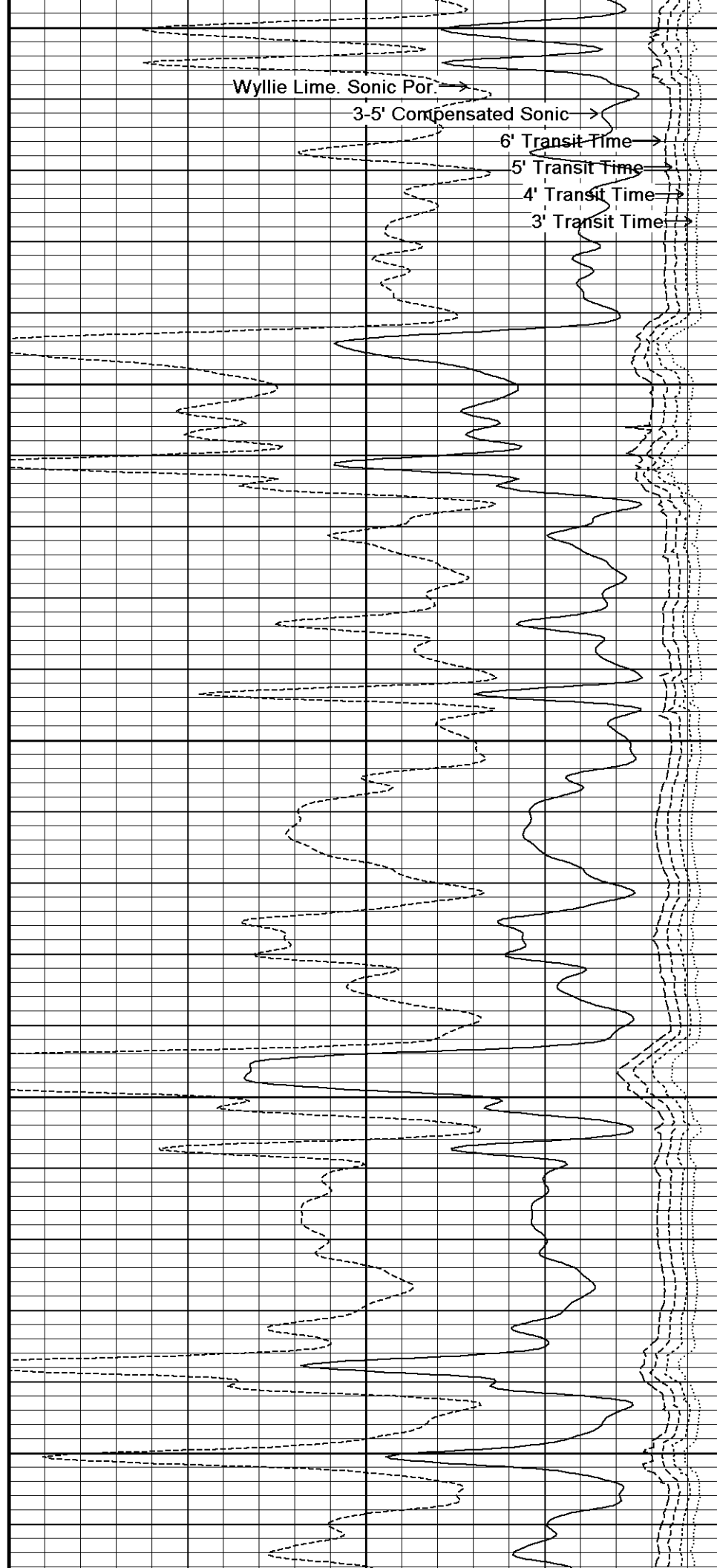
4600

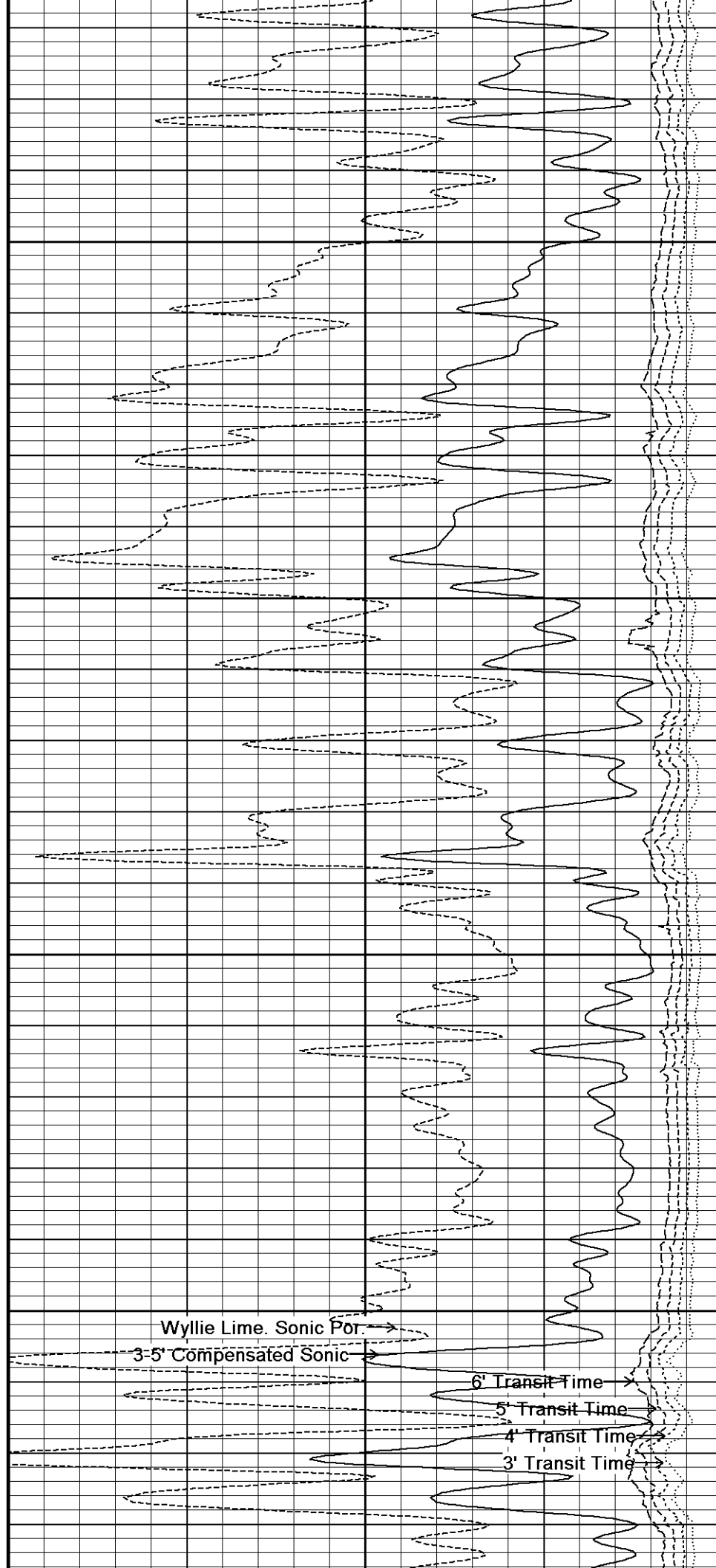
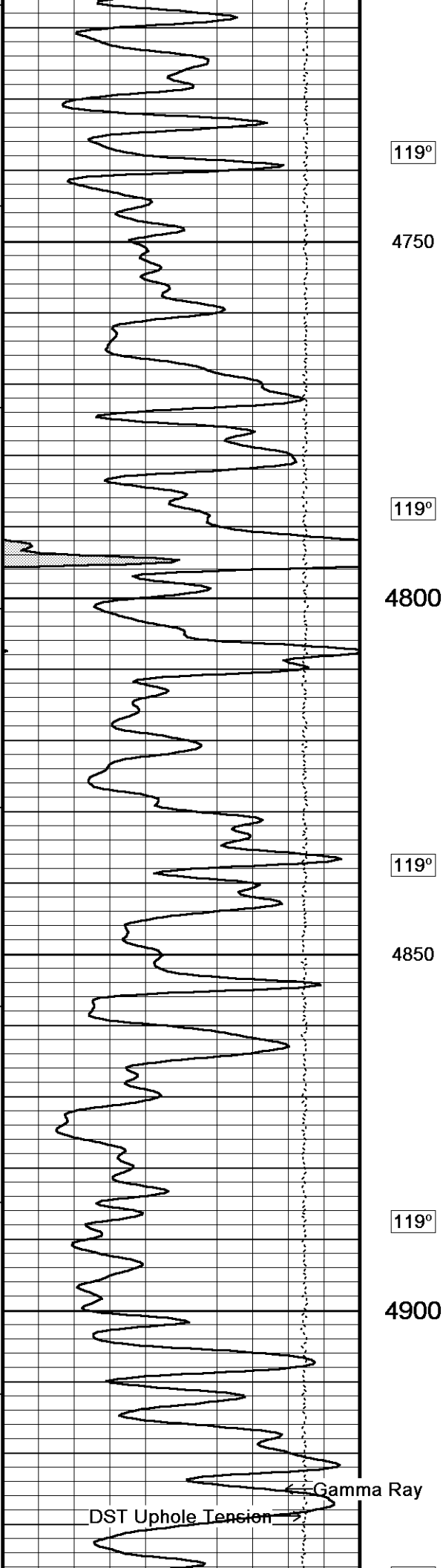
118°

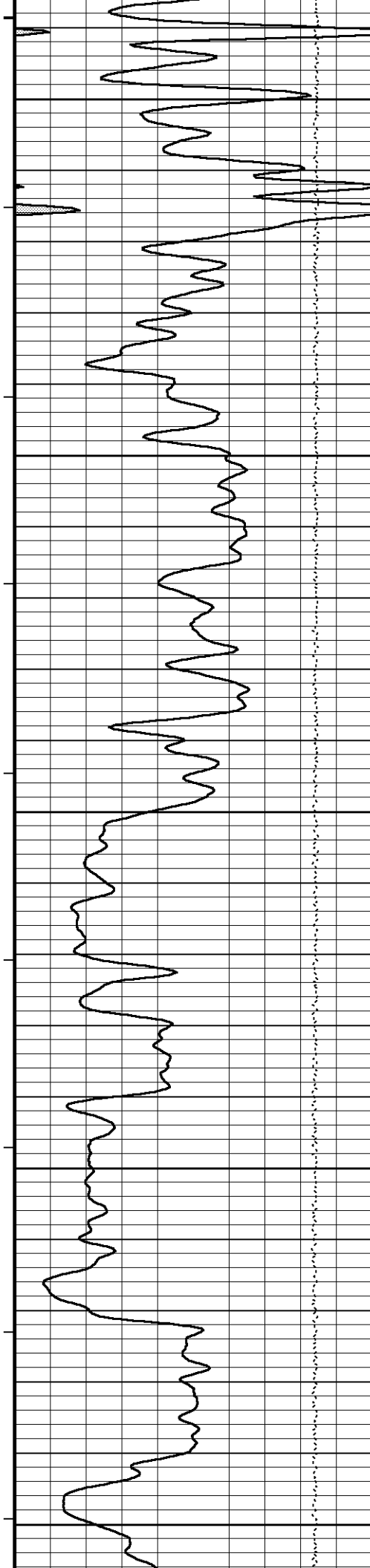
4650

118°

4700







119°

4950

120°

5000

122°

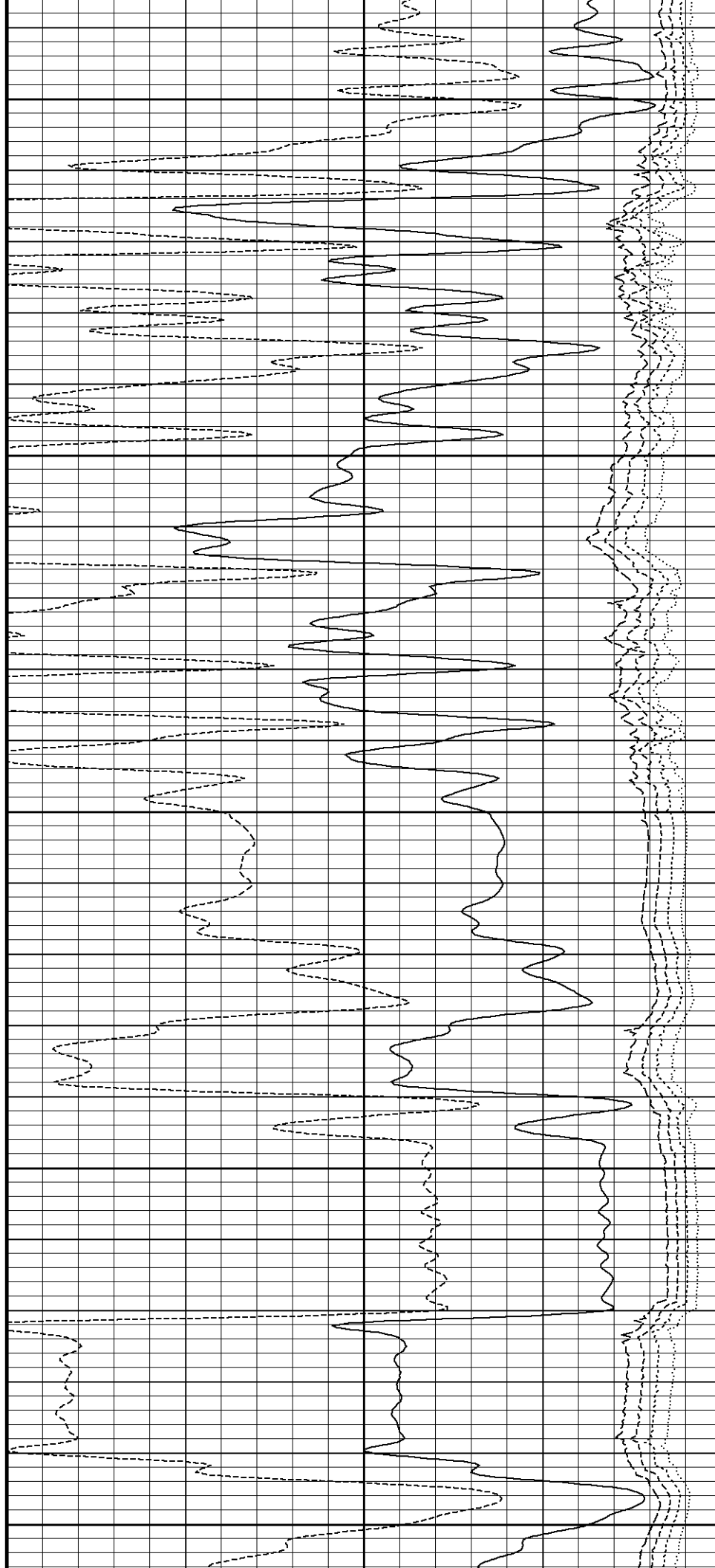
5050

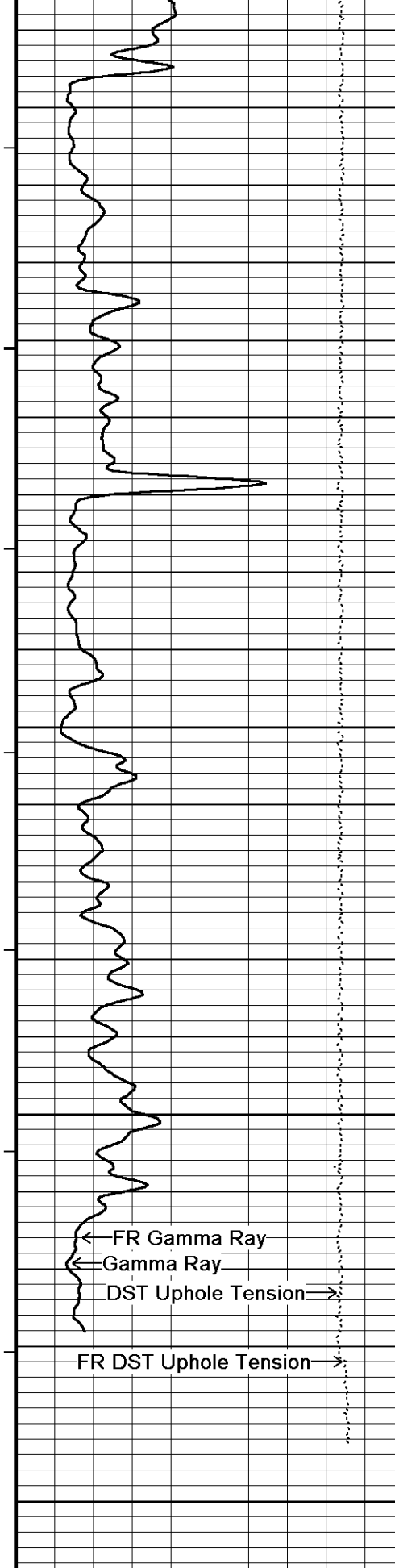
122°

5100

123°

5150





124°

5200

125°

5250

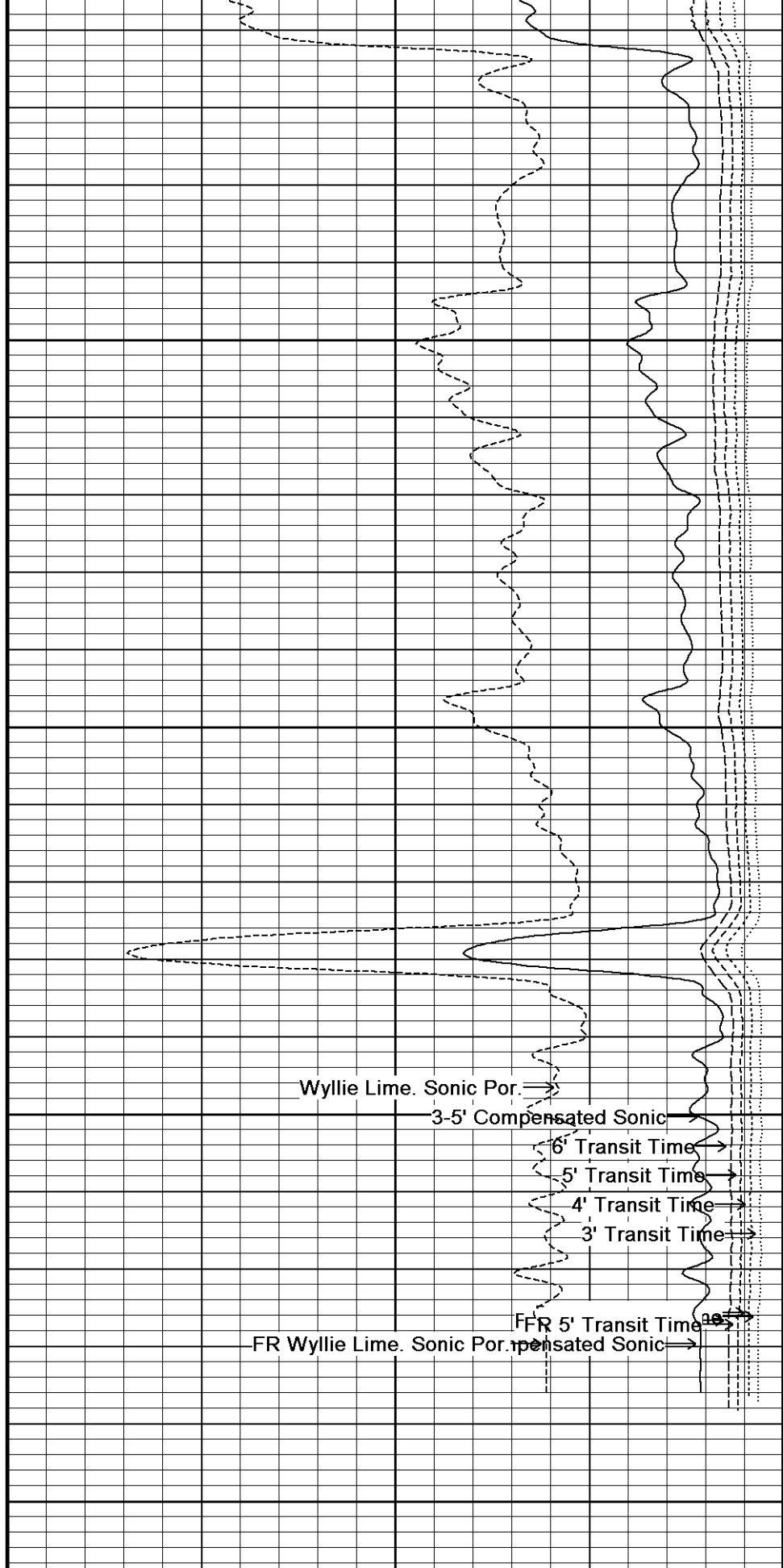
126°

5300

5350

Depth
In
Feet

← FR Gamma Ray
← Gamma Ray
DST Uphole Tension →
FR DST Uphole Tension →

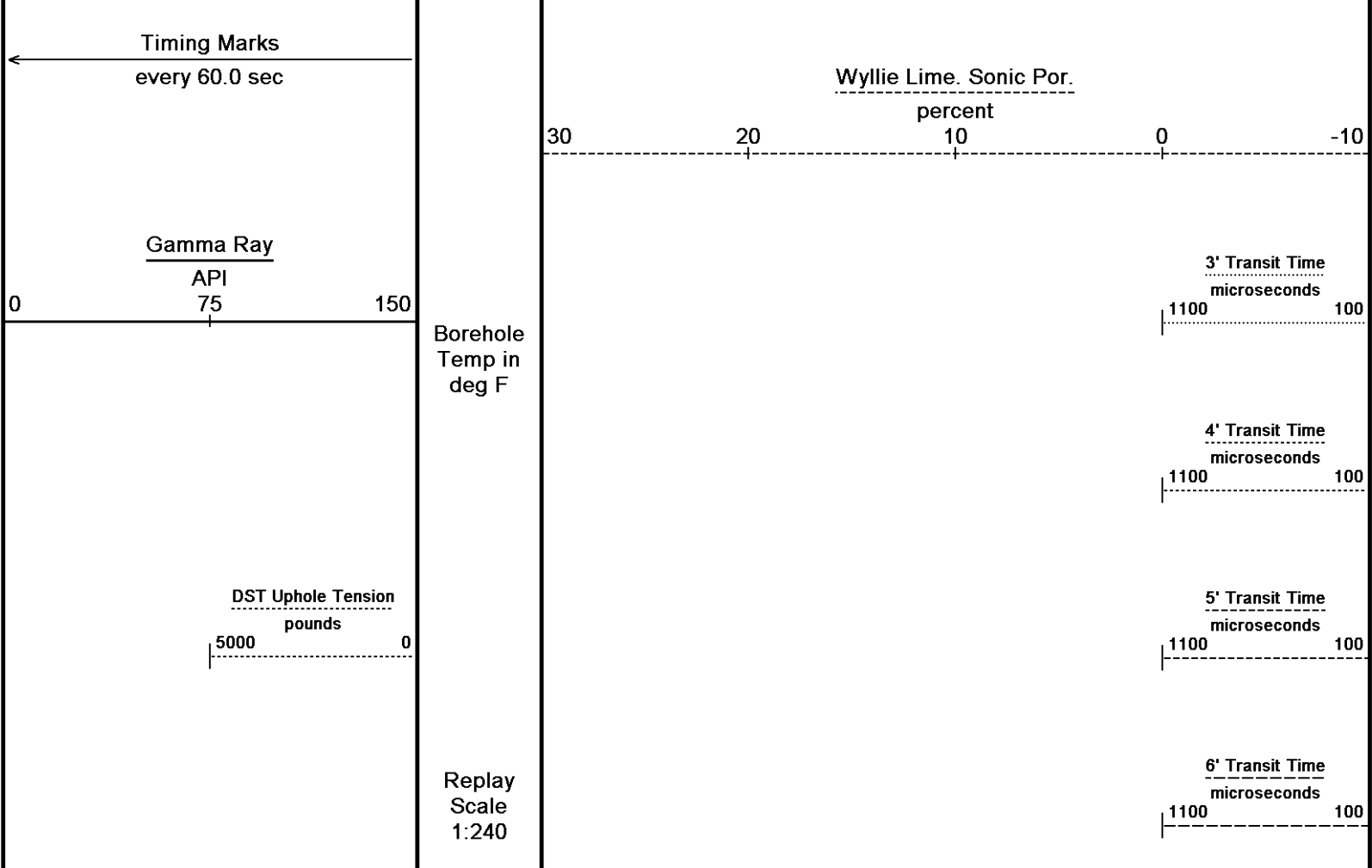


Wyllie Lime. Sonic Por. →
3-5' Compensated Sonic →
6' Transit Time →
5' Transit Time →
4' Transit Time →
3' Transit Time →

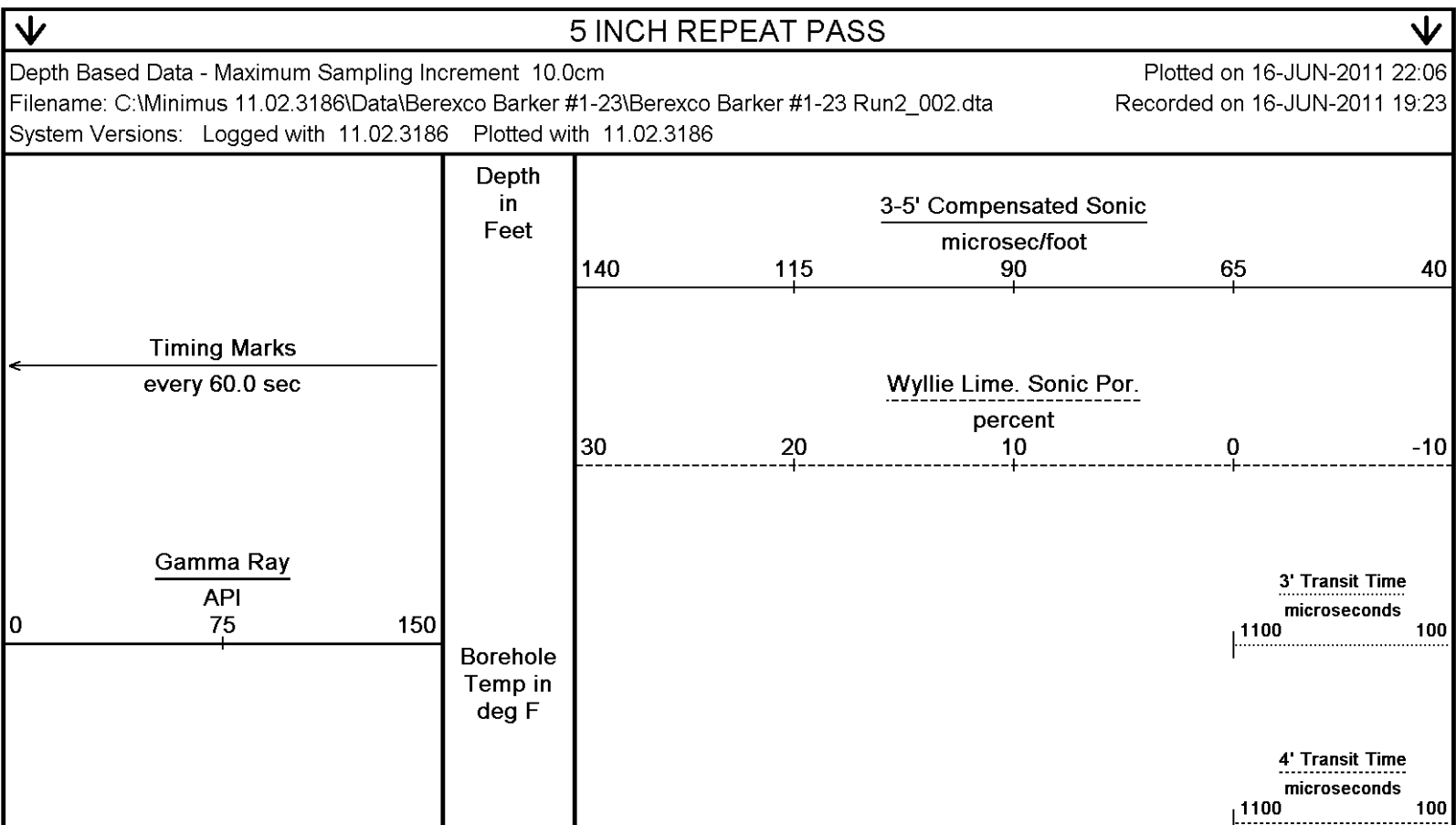
FR 5' Transit Time →
FR 3-5' Compensated Sonic →

3-5' Compensated Sonic
microsec/foot

140 115 90 65 40



Depth Based Data - Maximum Sampling Increment 10.0cm		Plotted on 16-JUN-2011 22:06
Filename: C:\Minimus 11.02.3186\Data\Berexco Barker #1-23\Berexco Barker #1-23 Run2_003.dta		Recorded on 16-JUN-2011 19:56
System Versions: Logged with 11.02.3186 Plotted with 11.02.3186		
↑ 5 INCH MAIN PASS ↑		

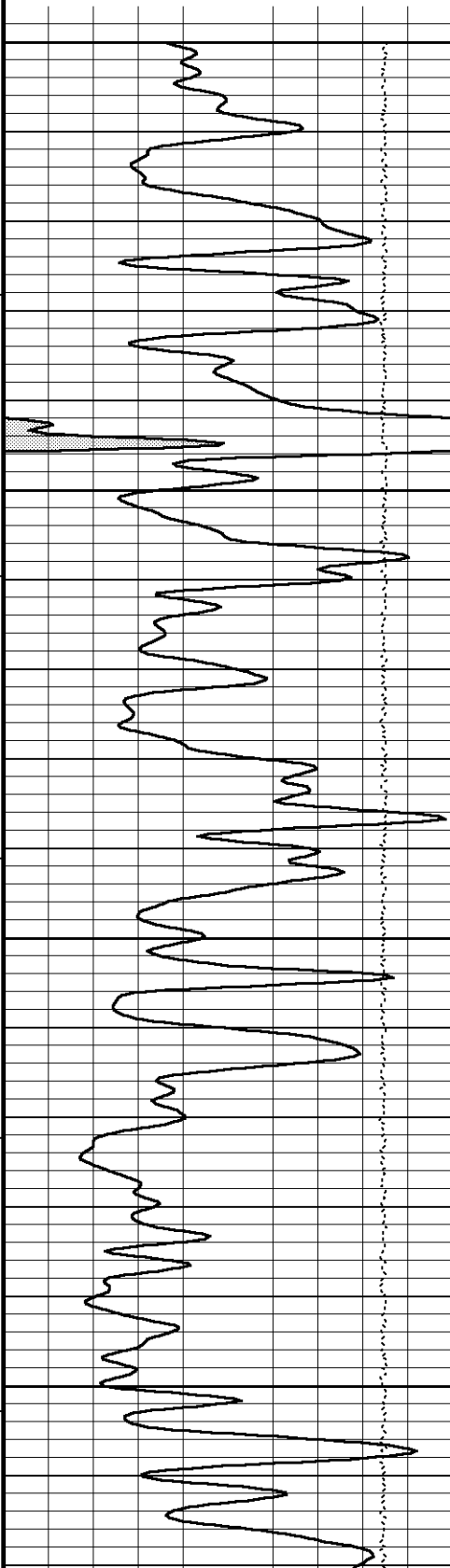


DST Uphole Tension
pounds
5000 0

5' Transit Time
microseconds
1100 100

Replay
Scale
1:240

6' Transit Time
microseconds
1100 100



4750

118°

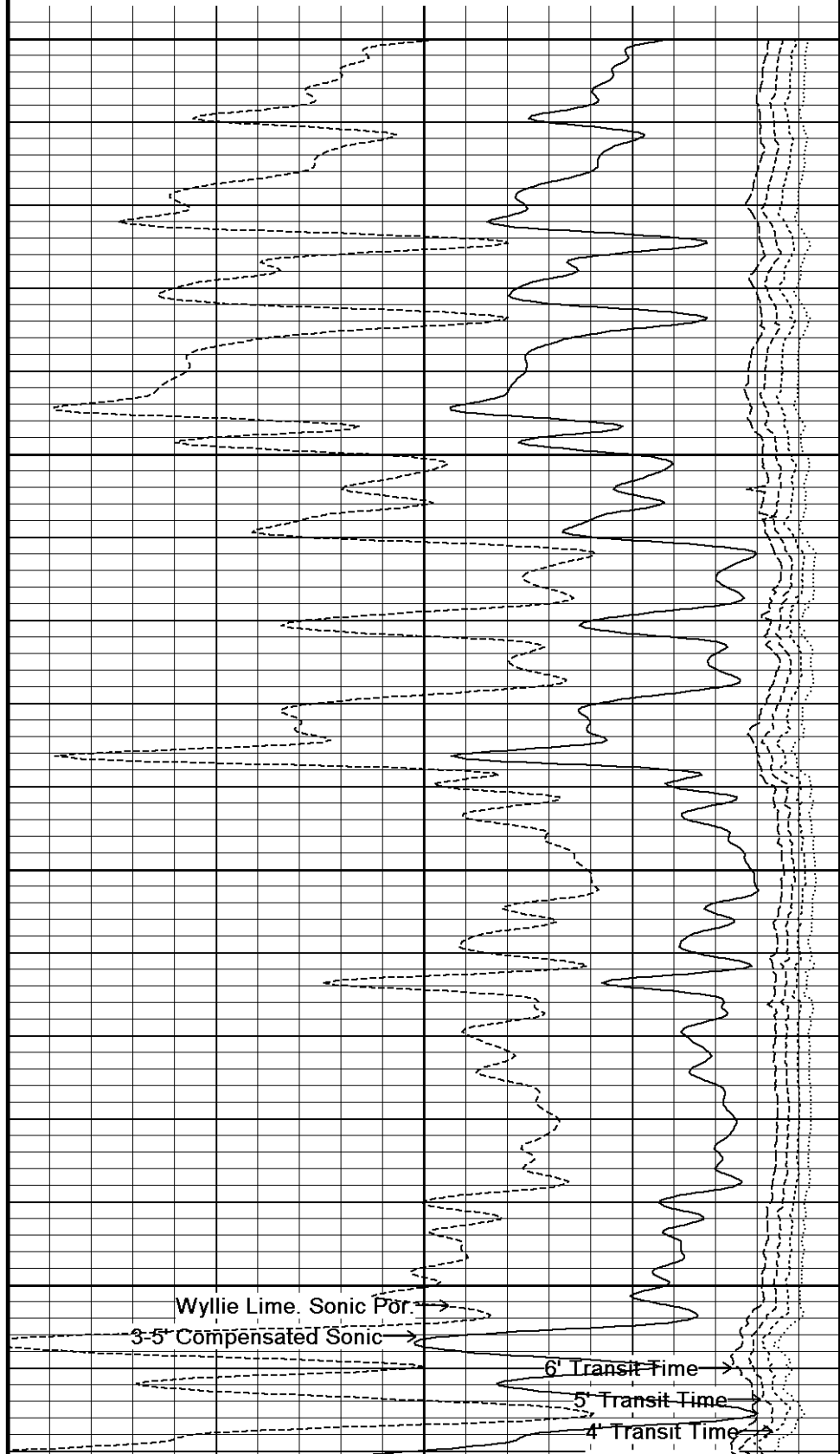
4800

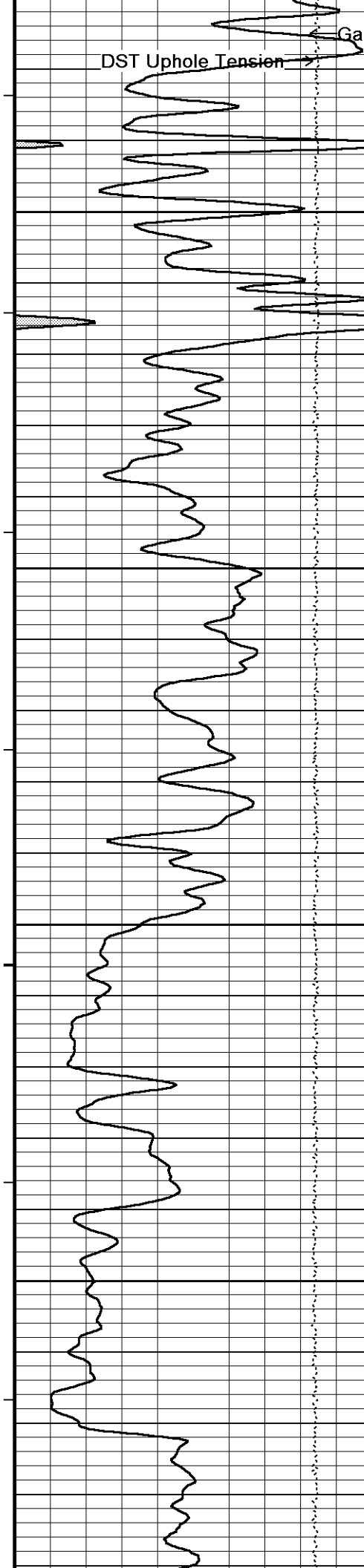
119°

4850

119°

4900





119°

4950

119°

5000

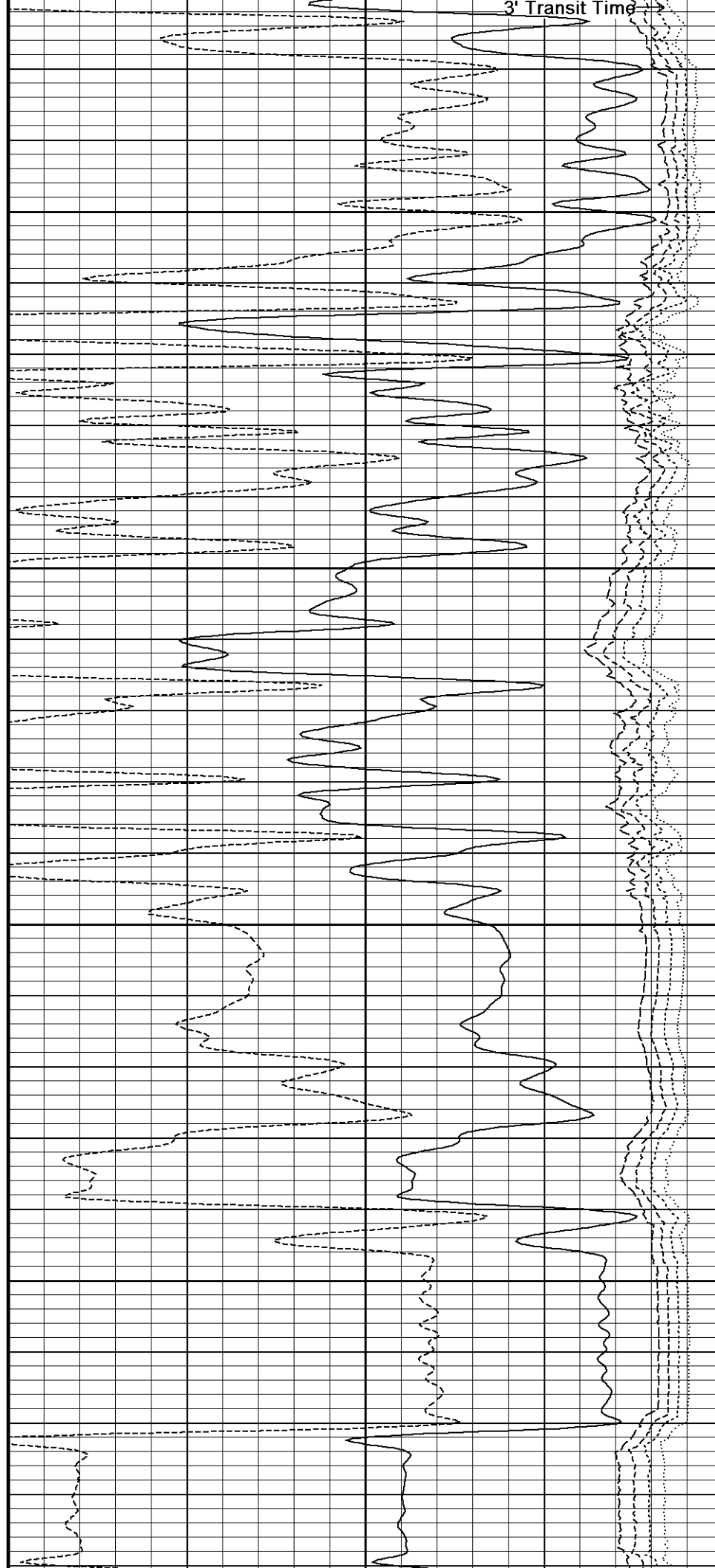
121°

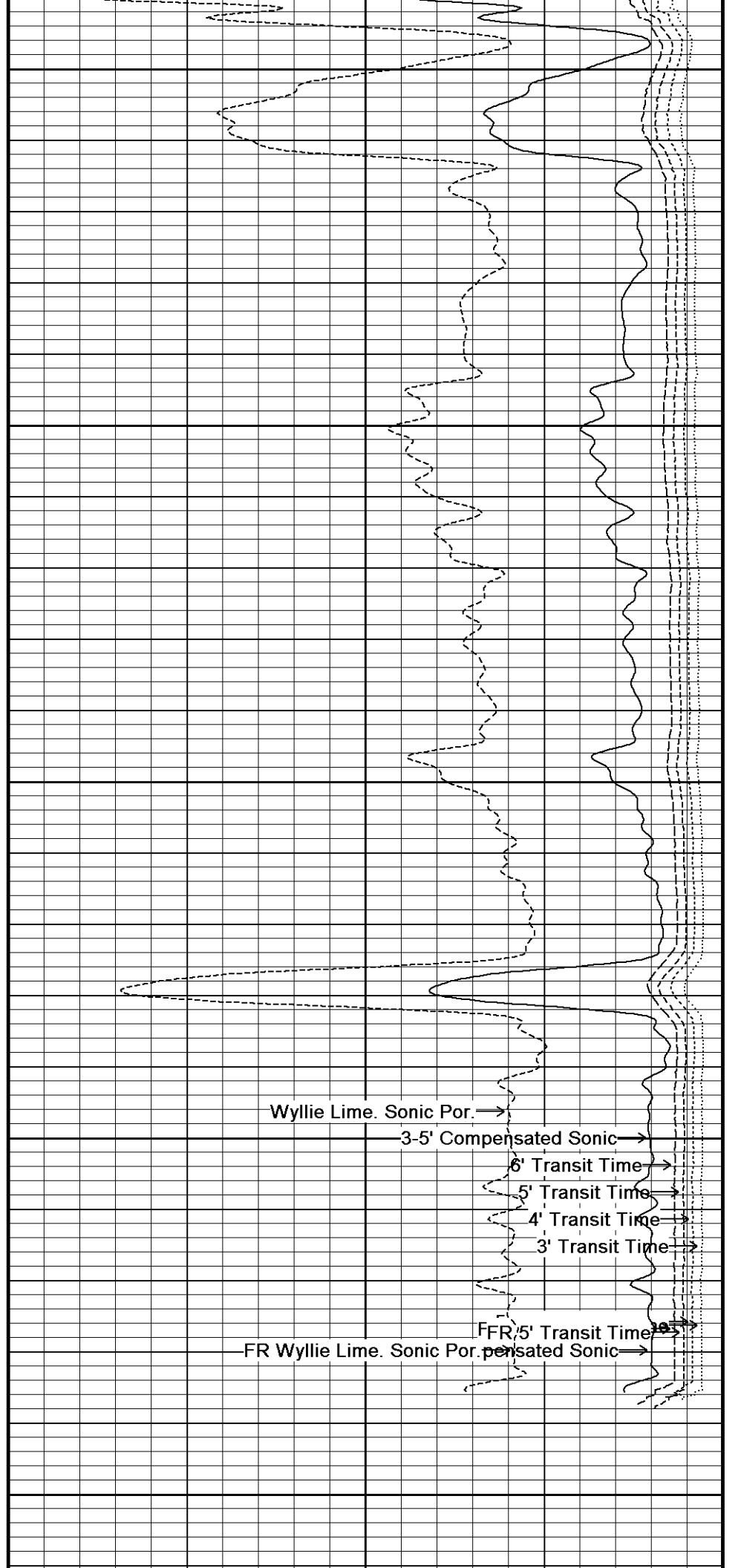
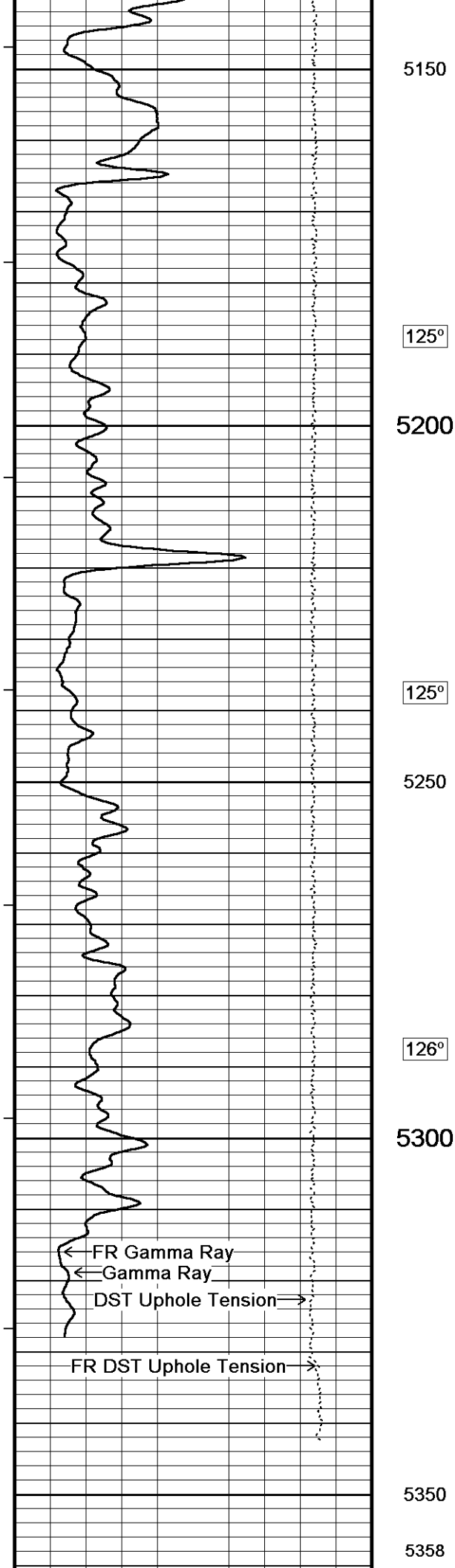
5050

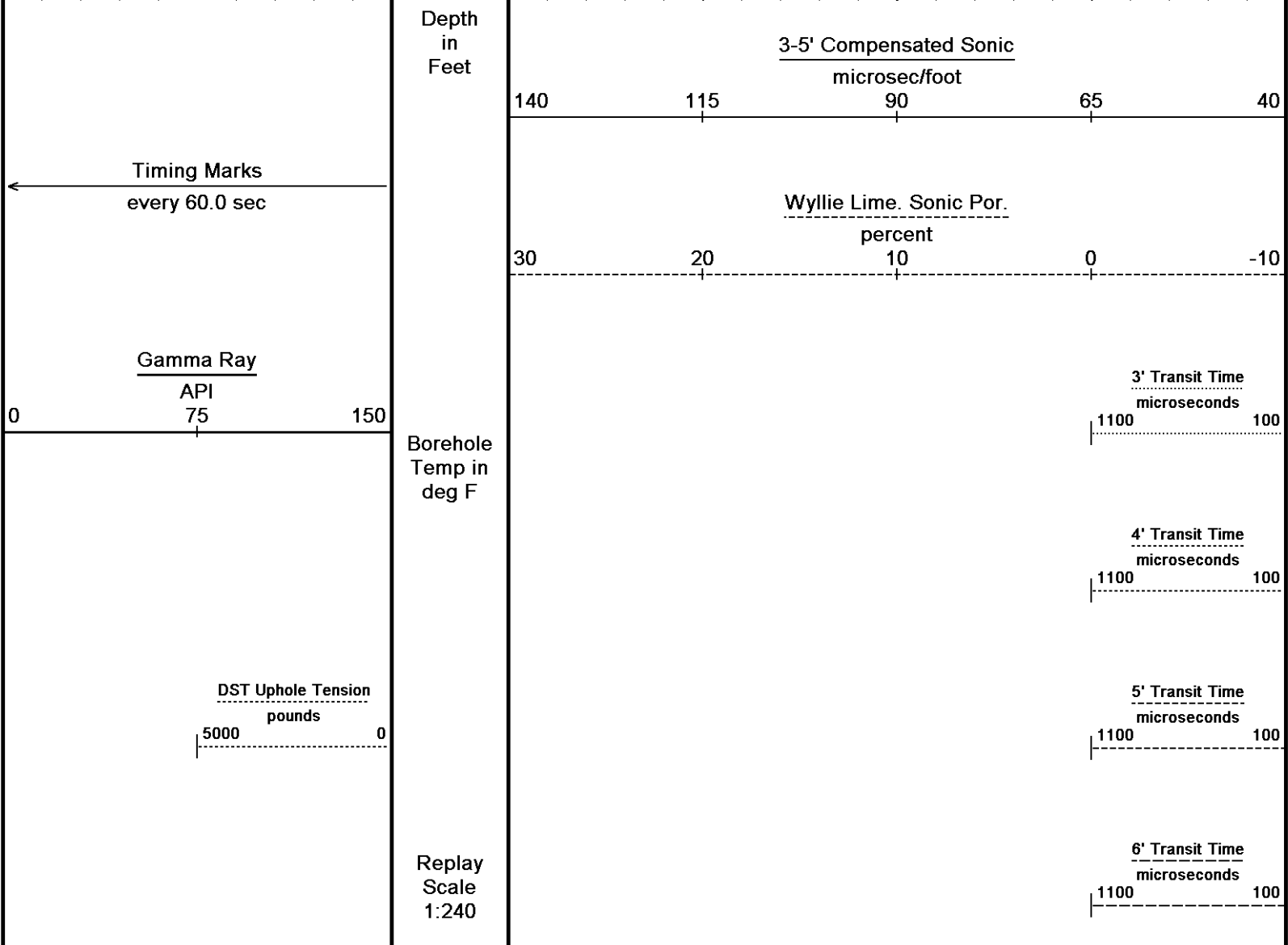
122°

5100

123°







Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 16-JUN-2011 22:06

Filename: C:\Minimus 11.02.3186\Data\Berexco Barker #1-23\Berexco Barker #1-23 Run2_002.dta

Recorded on 16-JUN-2011 19:23

System Versions: Logged with 11.02.3186 Plotted with 11.02.3186

↑ 5 INCH REPEAT PASS ↑

BEFORE SURVEY CALIBRATION		
C:\Minimus 11.02.3186\Data\Berexco Barker #1-23\Berexco Barker #1-23.dta		
General Constants All 000		Last Edited on 16-JUN-2011,11:54
General Parameters		
Mud Resistivity	0.700	ohm-metres
Mud Resistivity Temperature	88.000	degrees F
Water Level	0.000	feet
Density/Neutron Processing	Wet Hole	
Hole/Annular Volume and Differential Caliper Parameters		
HVOL Method	Single Caliper	
HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	N/A	
Annular Volume Diameter	5.500	inches
Caliper for Differential Caliper	Density Caliper	
Rwa Parameters		
Porosity used	Base Density Porosity	
Resistivity used	Array Ind. One Res Rt	
RWA Constant A	0.610	
RWA Constant M	2.150	

Down-hole Tension Calibration SMS 0

Field Calibration on 05-JUN-2011 04:37

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

SP Calibration MCG-B 34

Field Calibration on 20-APR-2011 14:53

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

Gamma Calibration MCG-B 34

Field Calibration on 15-JUN-2011 08:26

	Measured	Calibrated (API)
Background	57	39
Calibrator (Gross)	1112	764
Calibrator (Net)	1055	725

Gamma Constants MCG-B 34

Last Edited on 16-JUN-2011,11:52

Gamma Calibrator Number	grc38	
Mud Density	1.09	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm

High Resolution Temperature Calibration MCG-B 34

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

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

High Resolution Temperature Constants MCG-B 34

Last Edited on

Pre-filter Length	11
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Caliper Calibration MML-A 4

Base Calibration on 16-MAY-2011 09:38

Field Calibration on 15-JUN-2011 08:44

Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	14953	5.98
2	18280	7.97
3	21656	9.86
4	25588	11.92
5	0	0.00
6	N/A	N/A
Field Calibration		
	Measured Caliper (in)	Actual Caliper (in)
	6.01	5.98

Micro Normal and Micro Inverse Calibration MML-A 4

Base Calibration on 16-MAY-2011 09:23

Field Check on 15-JUN-2011 08:27

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

Micro Normal and Micro Inverse Constants MML-A 4

Last Edited on 09-JUN-2011,00:53

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

Neutron Calibration MDN-A.B 65

Base Calibration on 16-MAY-2011 11:23

Field Check on 15-JUN-2011 08:59

Base Calibration	
	Measured
	Calibrated (cps)

	Measured	Calibrated (cps)
	Near 3166	Near 3714
	Far 99	Far 110
Ratio	31.935	33.764
Field Calibrator at Base		Calibrated (cps)
		1629 2336
Ratio		0.697
Field Check		Calibrated (cps)
		1612 2335
Ratio		0.690

Neutron Constants MDN-A.B 65		Last Edited on 16-JUN-2011,11:54	
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	None		
Formation Pressure	N/A	kpsi	
Temperature Source	MCG External Temperature		
Temperature	N/A	degrees F	
Mud Salinity	0.00	kppm	
Formation Fluid Salinity Source	Constant Value		
Formation Fluid Salinity	0.00	kppm	
Barite Mud Correction	Not Applied		

FE Calibration MFE-A.A 55		Base Calibration on 16-MAY-2011 09:05 Field Check on 15-JUN-2011 09:01	
Base Calibration			
	Measured	Calibrated (ohm-m)	
Reference 1	0.0	0.0	
Reference 2	952.6	126.8	
Base Check		281.7	
Field Check		281.5	

FE Constants MFE-A.A 55		Last Edited on 15-JUN-2011,18:34	
Running Mode	No Sleeve		
MFE K Factor	0.1268		
Caliper Source for FE correction	Density Caliper		
Caliper Value for FE correction	N/A	inches	
Rm Source for FE correction	Temperature Corr		
Temp. for Rm Corr.	MCG External Temperature		
Stand-off	0.5	inches	

High Resolution Temperature Calibration MAI-A.A 45		Field Calibration on 13-AUG-2010,13:31	
	Measured	Calibrated(Deg F)	
Lower	50.00	50.00	
Upper	100.00	100.00	

High Resolution Temperature Constants MAI-A.A 45		Last Edited on	
Pre-filter Length	11		

Induction Calibration MAI-A.A 45		Base Calibration on 13-AUG-2010,13:32 Field Check on 15-JUN-2011 09:03	
Base Calibration			
Test Loop Calibration	Measured	Calibrated (mmho/m)	
Channel	Low High	Low High	
1	14.5 473.5	9.3 966.2	
2	5.2 373.4	7.6 821.4	
3	2.8 260.6	5.2 566.0	
4	1.6 132.2	2.6 279.2	

Array Temperature	86.2	Deg F
Channel	Base Check (mmho/m)	Field Check (mmho/m)
	Low High	Low High
1	0.0 0.0	19.2 3846.0
2	0.0 0.0	33.1 3632.5
3	0.0 0.0	30.1 3051.2
4	0.0 0.0	20.5 2094.4
Deep	0.0 0.0	18.0 1921.1
Medium	0.0 0.0	43.4 4052.1
Shallow	0.0 0.0	50.2 5476.8
Array Temperature	0.0	75.9 Deg F

Induction Constants MAI-A.A 45

Last Edited on 16-JUN-2011,11:53

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

Borehole Normalisation

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

Calibration Site Corrections

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

Apparent Porosity and Water Saturation Constants

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

Caliper Calibration MPD-B 65

Base Calibration on 16-MAY-2011 09:53
Field Calibration on 15-JUN-2011 08:41

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	13344	3.99
2	21952	5.98
3	30560	7.97
4	38880	9.86
5	48095	11.92
6	N/A	N/A

Field Calibration

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

Photo Density Calibration MPD-B 65

Base Calibration on 16-MAY-2011 10:48
Field Check on 15-JUN-2011 08:34

Density Calibration		Measured		Calibrated (sdu)	
Base Calibration		Near	Far	Near	Far
Reference 1		51543	24465	59556	30836
Reference 2		20910	2298	24941	2541
Field Check at Base					
		1247.1	1201.6		
Field Check					
		1249.3	1196.7		

PE Calibration		Measured		Calibrated
Base Calibration		WS	WH	Ratio
Background		227	1108	
Reference 1		19826	51340	0.390
Reference 2		5731	20764	0.280
Field Check at Base				
		226.6	1107.8	
Field Check				
		227.3	1112.5	

Density Constants MPD-B 65

Last Edited on 16-JUN-2011,11:53

Density Source Id	254	
Nylon Calibrator Number	DNCE695	
Aluminium Calibrator Number	DACD698	
Density Shoe Profile	8 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.09	gm/cc
Mud Density Z/A Multiplier	1.11	
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	

DOWNHOLE EQUIPMENT

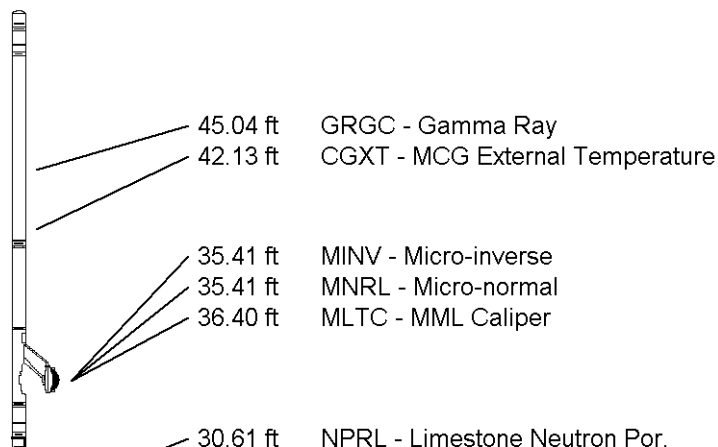
C:\Minimus 11.02.3186\Data\Berexco Barker #1-23\Berexco Barker #1-23.dta

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

Compact Comms Gamma
MCG-B 34 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

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

Compact Neutron



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

Compact Density/Caliper

MPD-B 65 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

SKJ-D.A Compact Knuckle Joint

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

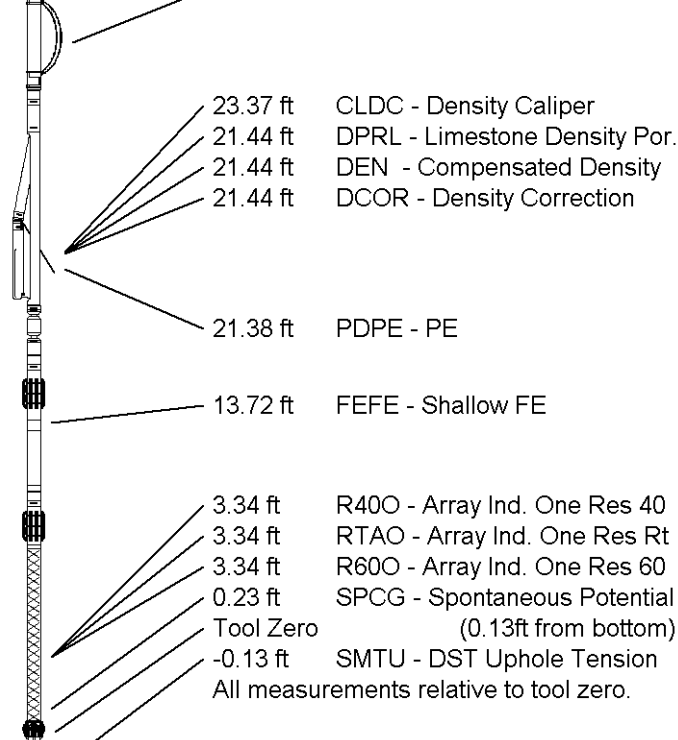
Compact Focused Electric

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 BEREXCO LLC
WELL BARKER #1-23
FIELD IVANHOE EXTENSION
PROVINCE/COUNTY FINNEY
COUNTRY/STATE U.S.A. / KANSAS

Elevation Kelly Bushing	2974.00	feet	First Reading	5328.00	feet
Elevation Drill Floor	2972.00	feet	Depth Driller	5330.00	feet
Elevation Ground Level	2962.00	feet	Depth Logger	5332.00	feet



Weatherford®

COMPENSATED SONIC
W/ INTEGRATED TRANSIT TIME

