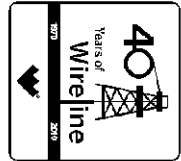




Weatherford[®]

**COMPENSATED SONIC
WITH INTEGRATED TRANSIT TIME**

COMPANY **SHAKESPEARE OIL CO., INC.**
 WELL **CARSON #1-25**
 FIELD **WILDCAT**
 PROVINCE/COUNTY **SCOTT**
 COUNTRY/STATE **U.S.A. / KANSAS**
 LOCATION **1540' FNL & 1130' FWL**



SEC **25** TWP **16S** RGE **34W** Other Services
 API Number **15-171-20883** MPD/MDN
 Permit Number **MML** MAI/MFE

Permanent Datum GL, Elevation 3104 feet
 Log Measured From KB
 Drilling Measured From KB

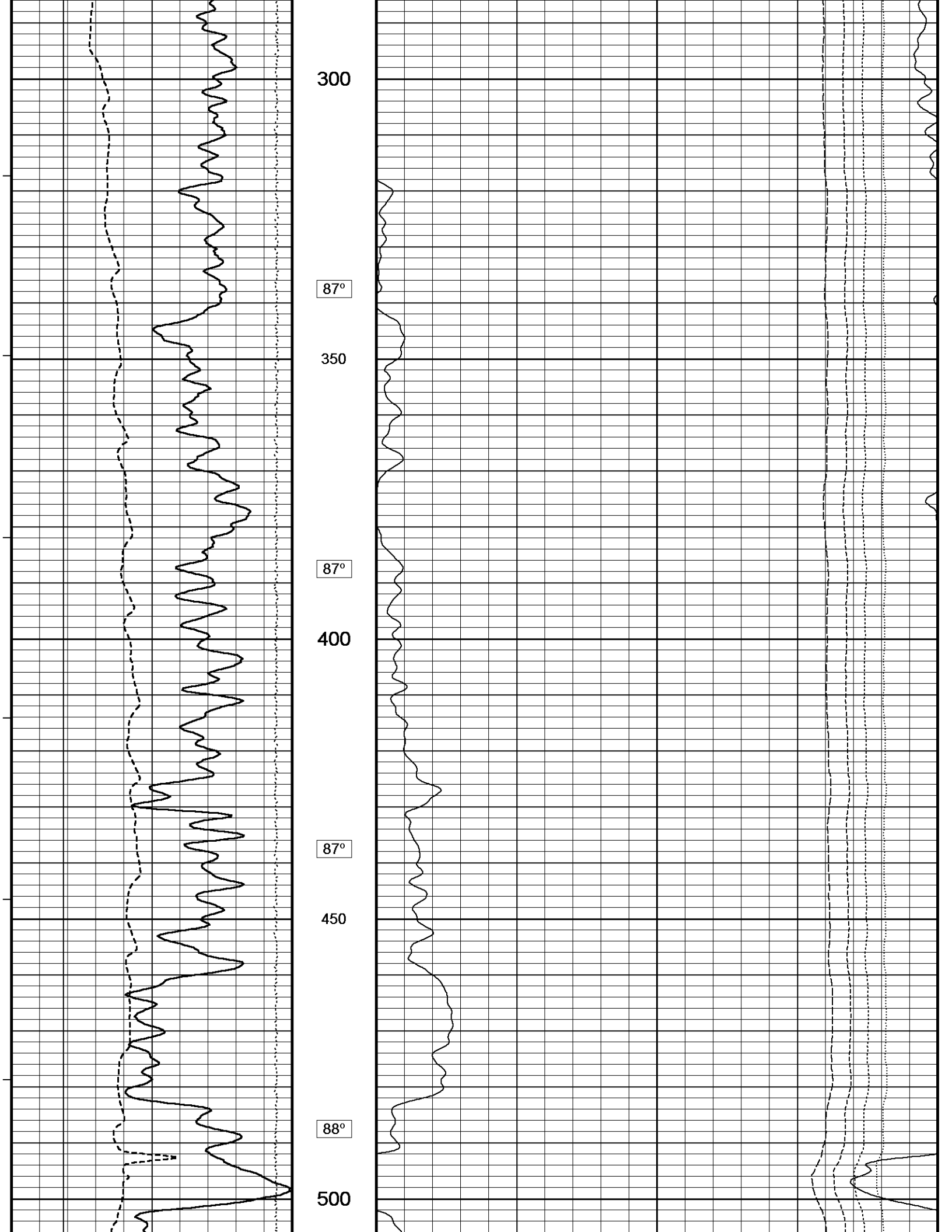
Elevations: feet
 KB 3114.00
 DF 3112.00
 GL 3104.00

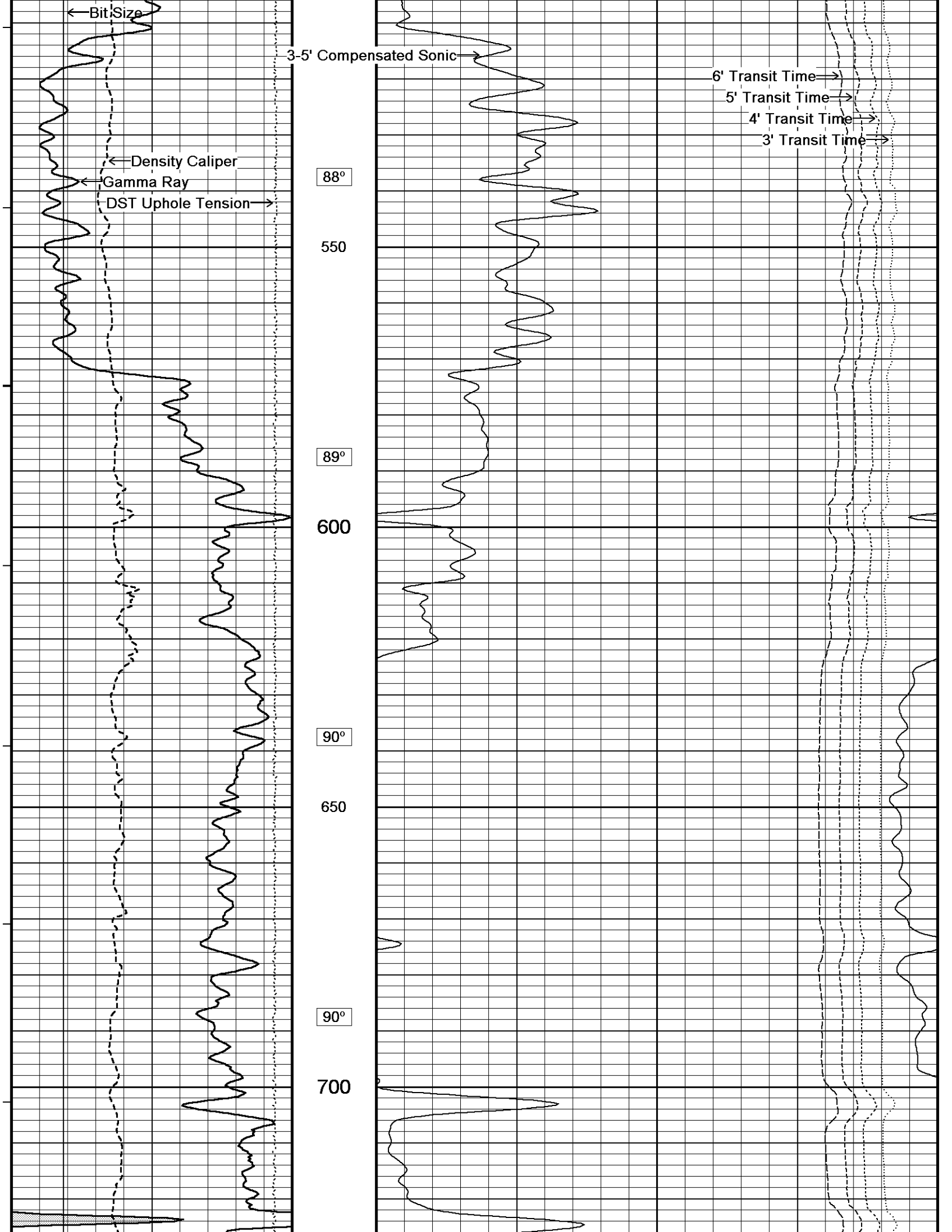
Date	05-JUN-2012
Run Number	ONE
Depth Driller	4880.00 feet
Depth Logger	4882.00 feet
First Reading	4869.00 feet
Last Reading	265.00 feet
Casing Driller	264.00 feet
Casing Logger	265.00 feet
Bit Size	7.875 inches
Hole Fluid Type	CHEMICAL
Density / Viscosity	9.30 lb/USg 62.00 CP
PH / Fluid Loss	9.50 10.40 ml/30Min
Sample Source	FLOWLINE
Rm @ Measured Temp	0.46 @ 85.0 ohm-m
Rmf @ Measured Temp	0.37 @ 85.0 ohm-m
Rmc @ Measured Temp	0.55 @ 85.0 ohm-m
Source Rmf / Rmc	CALC CALC
Rm @ BHT	0.35 @ 113.0 ohm-m
Time Since Circulation	5 HOURS
Max Recorded Temp	113.00 deg F
Equipment Name	COMPACT
Equipment / Base	13057 LIB
Recorded By	ADAM SILL
Witnessed By	TIM PRIEST
S.O. # / JOB #	3534585 LB12-140

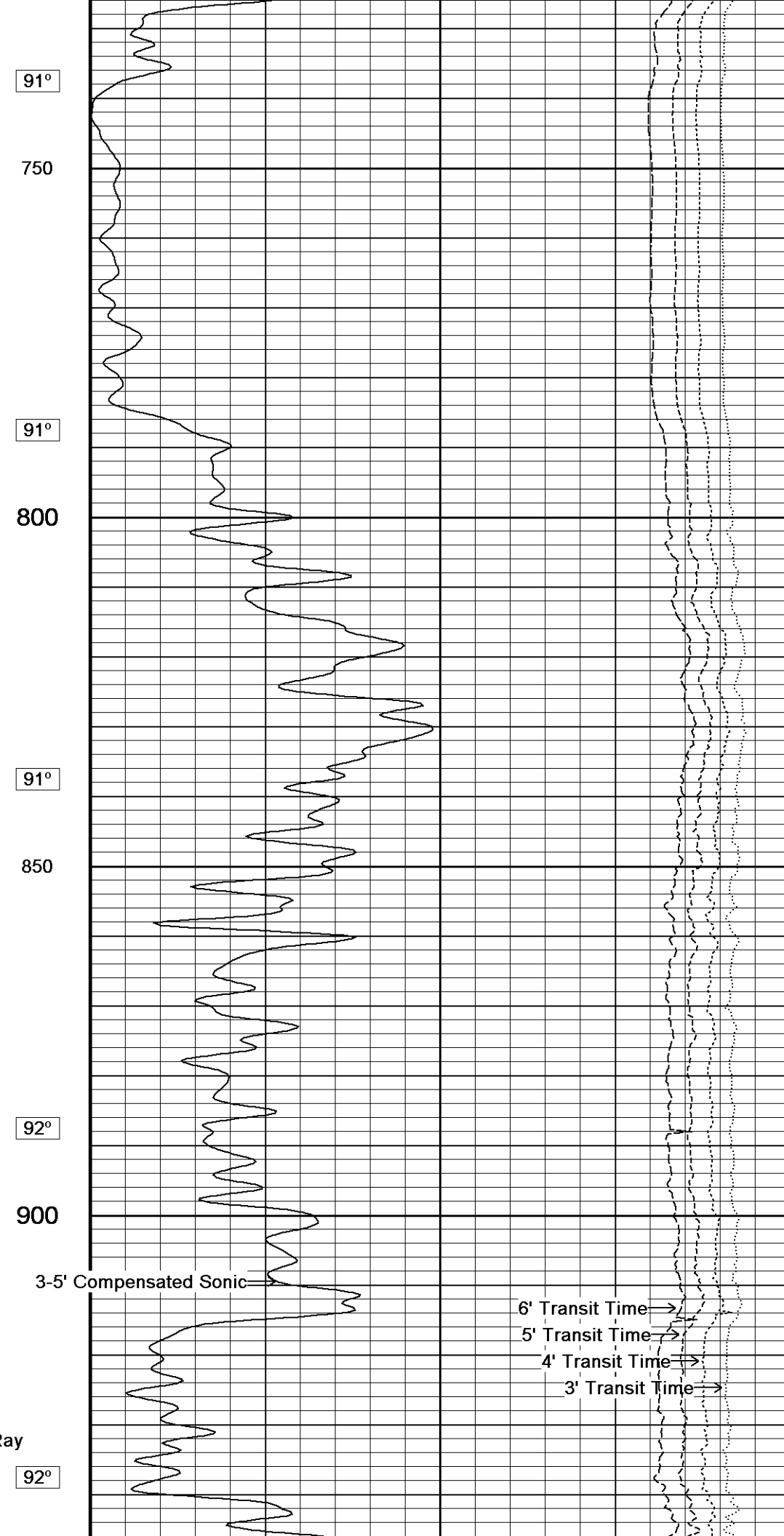
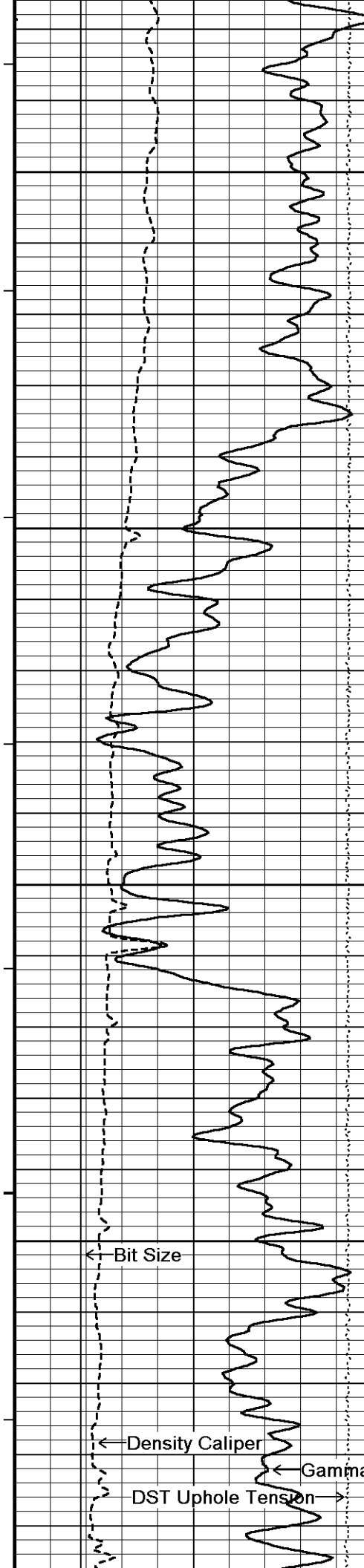
BOREHOLE RECORD			Last Edited: 05-JUN-2012 06:15	
Bit Size inches	Depth From feet	Depth To feet		
7.875	264.00	4880.00		
CASING RECORD				
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	264.00	24.00

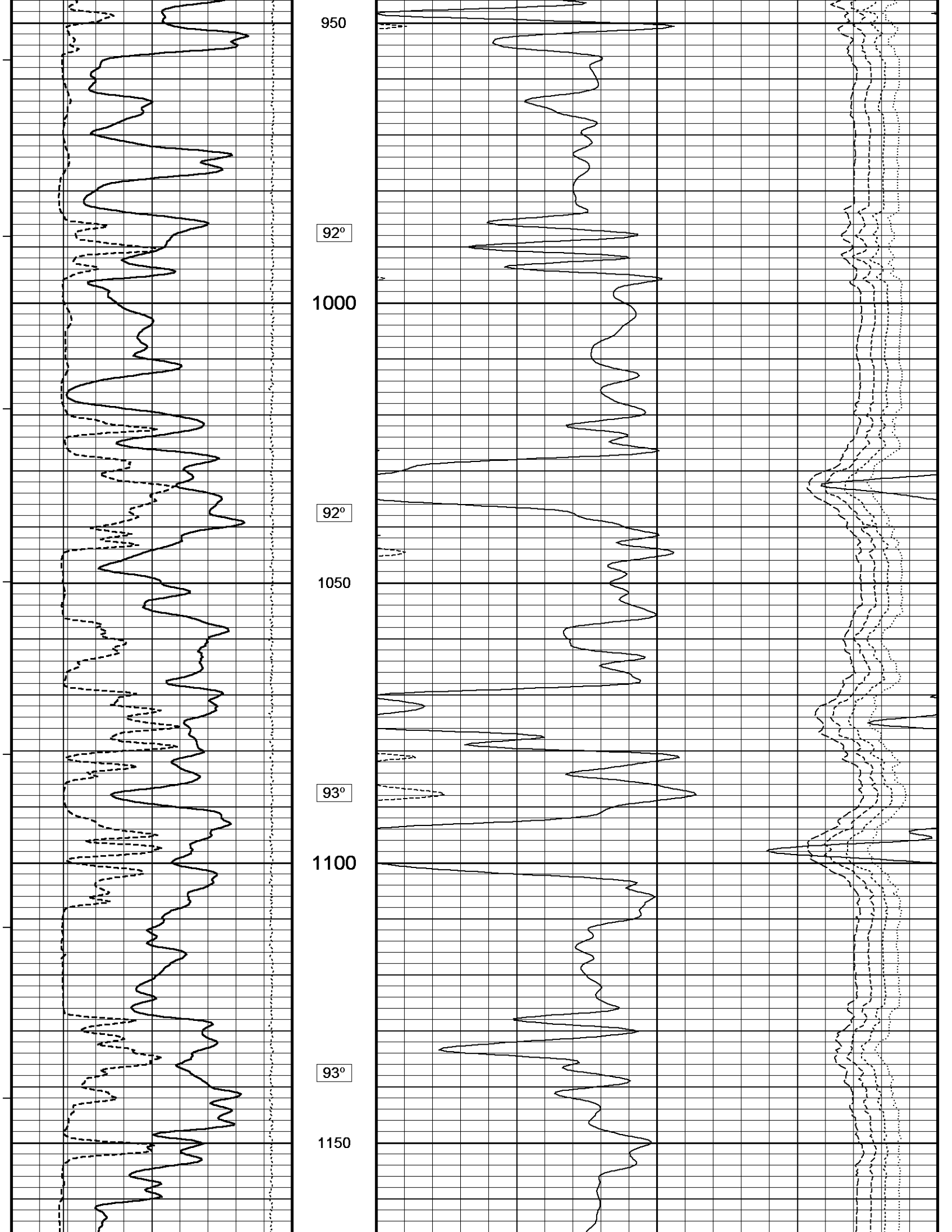
REMARKS

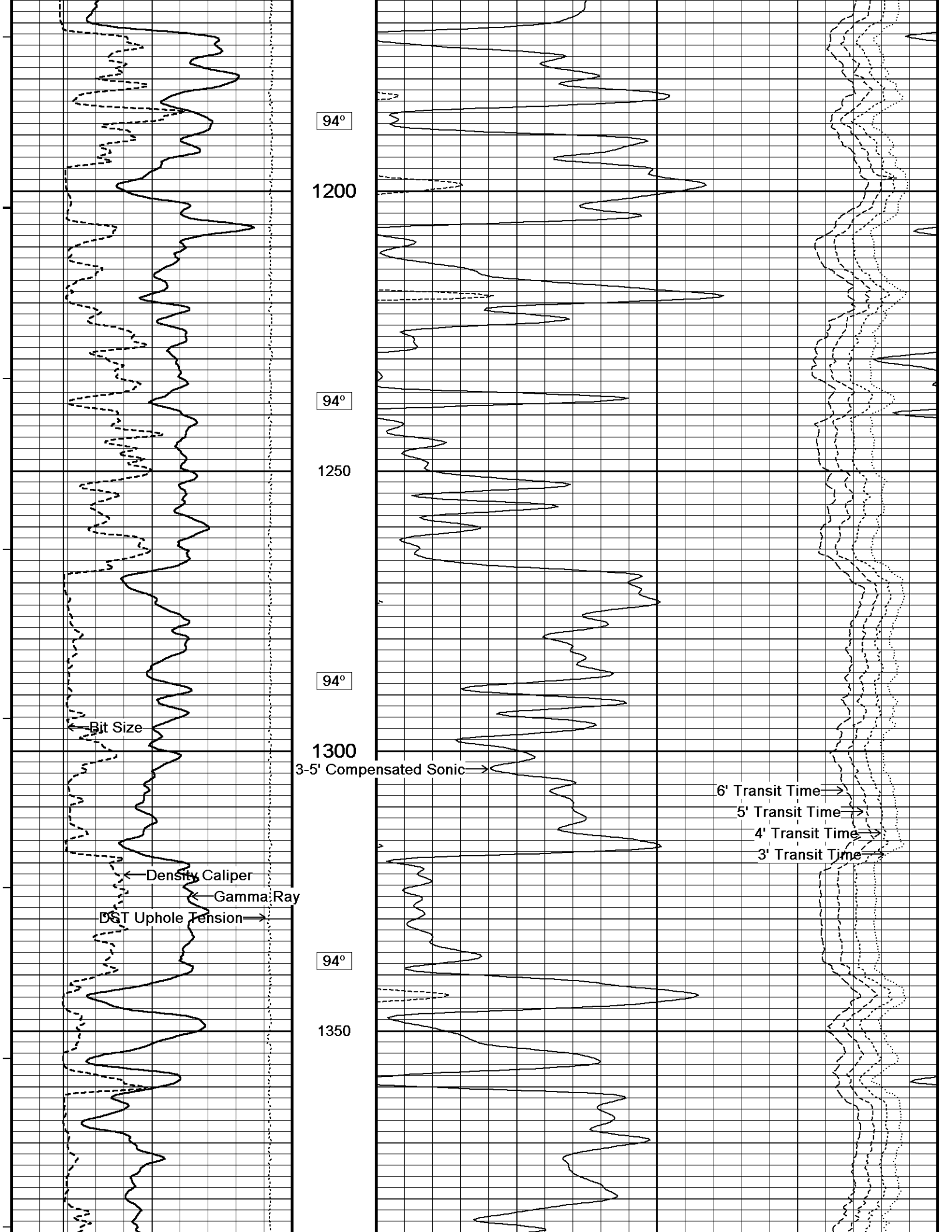
- SOFTWARE ISSUE: WLS 11.03.4044.
- MCG, MML, MDN, MPD, MFE, MSS, MAI RAN IN COMBINATION.
 - HARDWARE: DUAL BOWSPRING USED ON MDN.
 - 0.5 INCH STANDOFF USED ON MAI.
 - TWO 0.5 INCH STANDOFFS USED ON MSS.
 - 0.5 INCH STANDOFF USED ON MFE.
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY.
- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL AFFECT DATA QUALITY.
- ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.
- TOTAL HOLE VOLUME: 445 CU.FT.
- ANNULAR HOLE VOLUME WITH 5.5 INCH CASING: 255 CU. FT.











94°

1200

94°

1250

94°

1300

3-5' Compensated Sonic →

6' Transit Time →

5' Transit Time →

4' Transit Time →

3' Transit Time →

← Bit Size

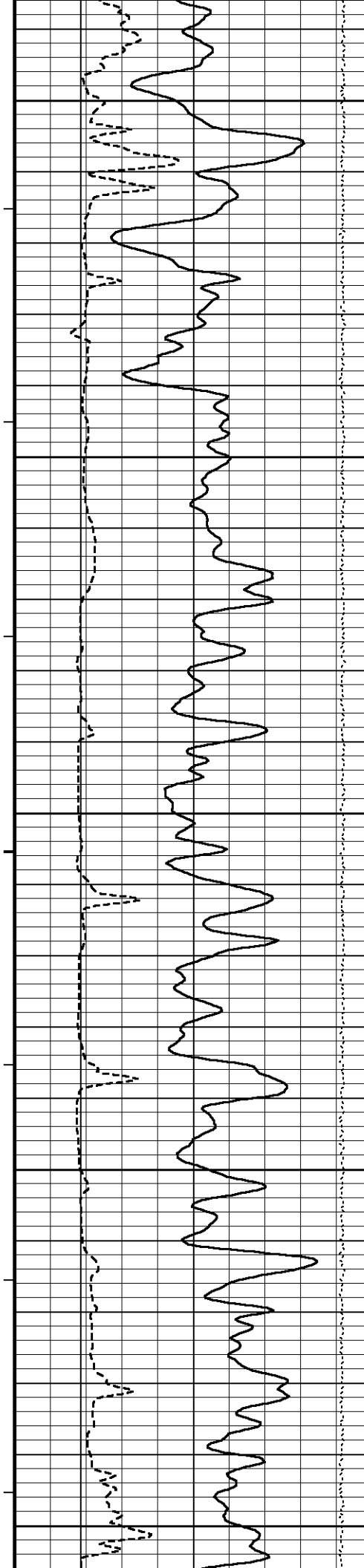
← Density Caliper

← Gamma Ray

DST Uphole Tension →

94°

1350



95°

1400

95°

1450

95°

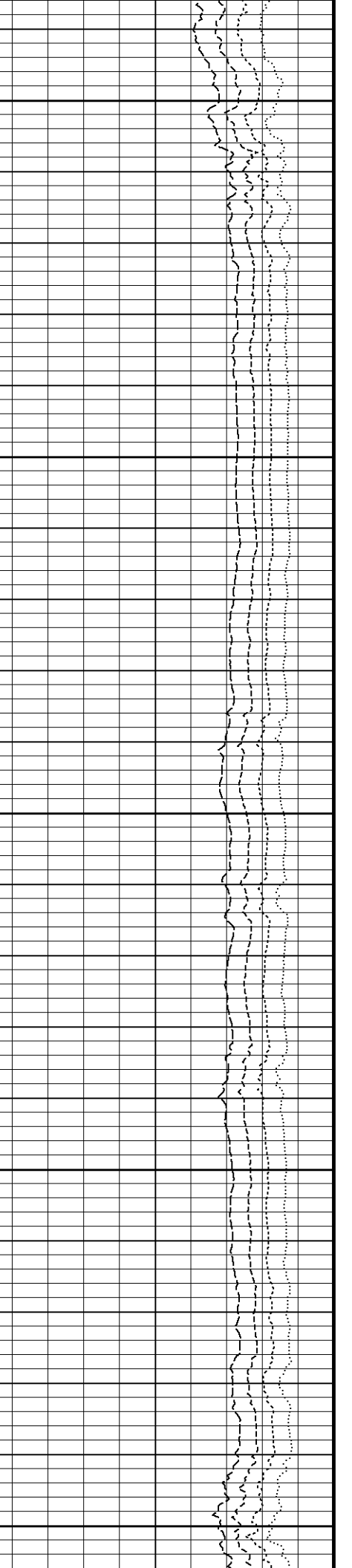
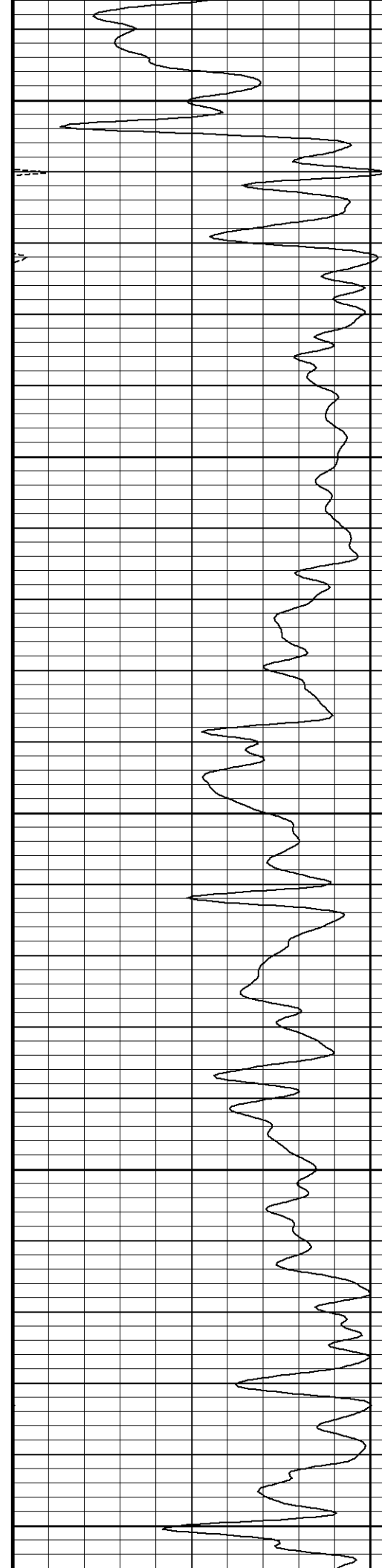
1500

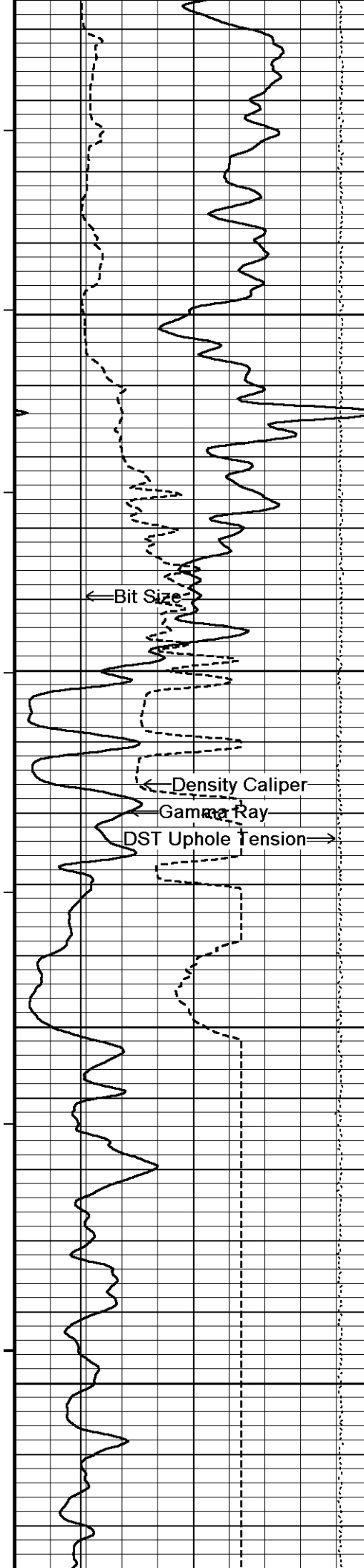
96°

1550

96°

1600





96°

1650

97°

3-5' Compensated Sonic

1700

6' Transit Time

5' Transit Time

4' Transit Time

3' Transit Time

Density Caliper

Gamma Ray

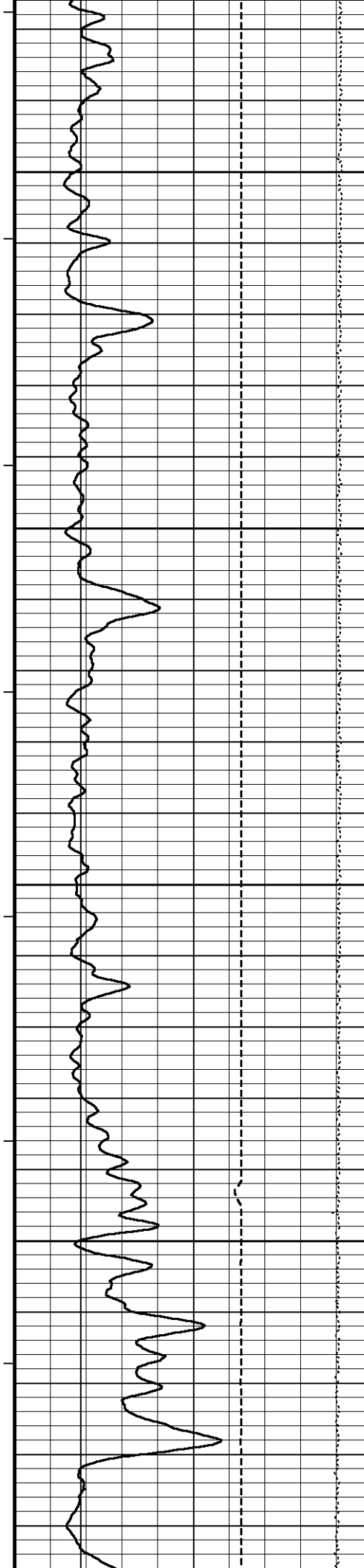
DST Uphole Tension

97°

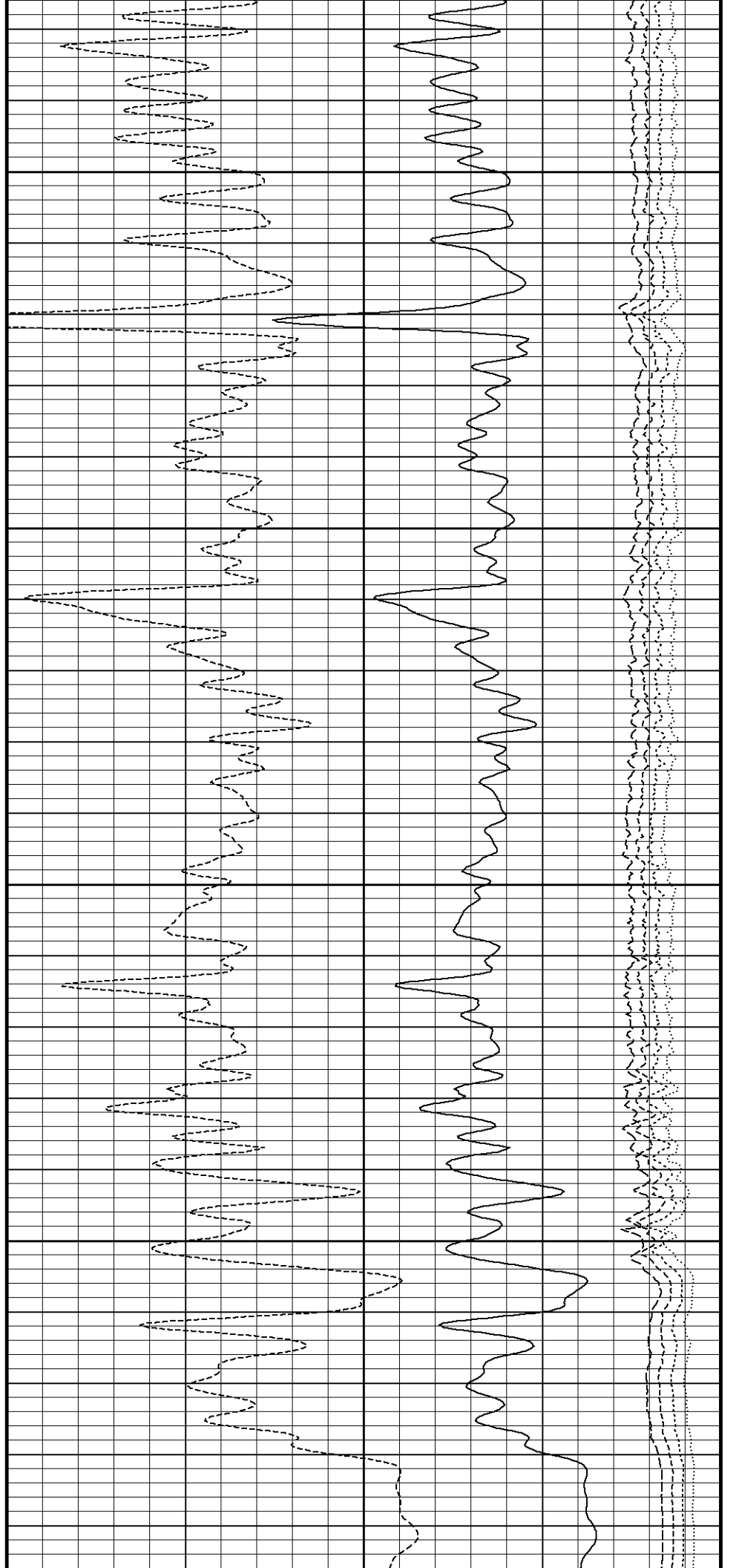
1750

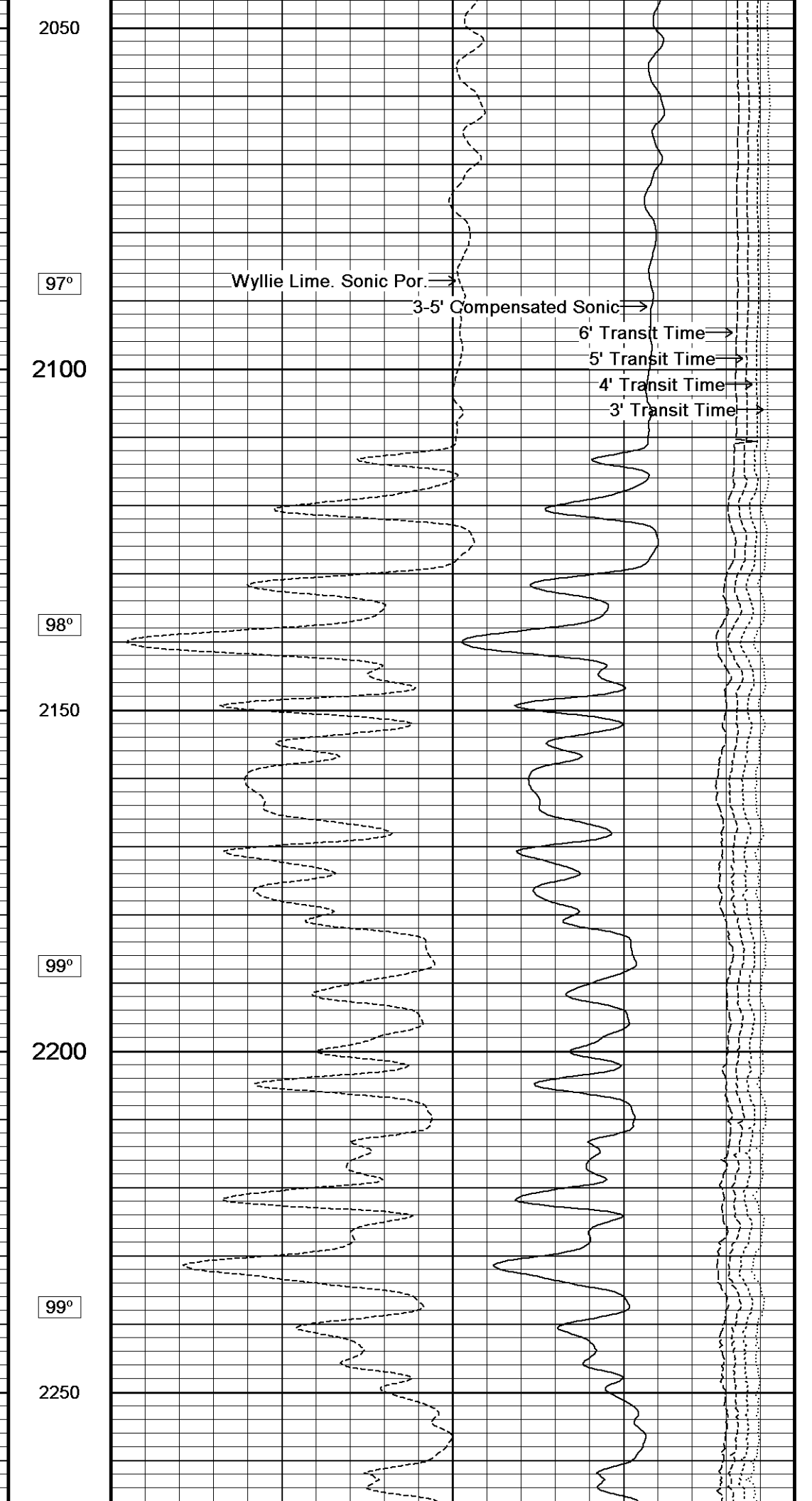
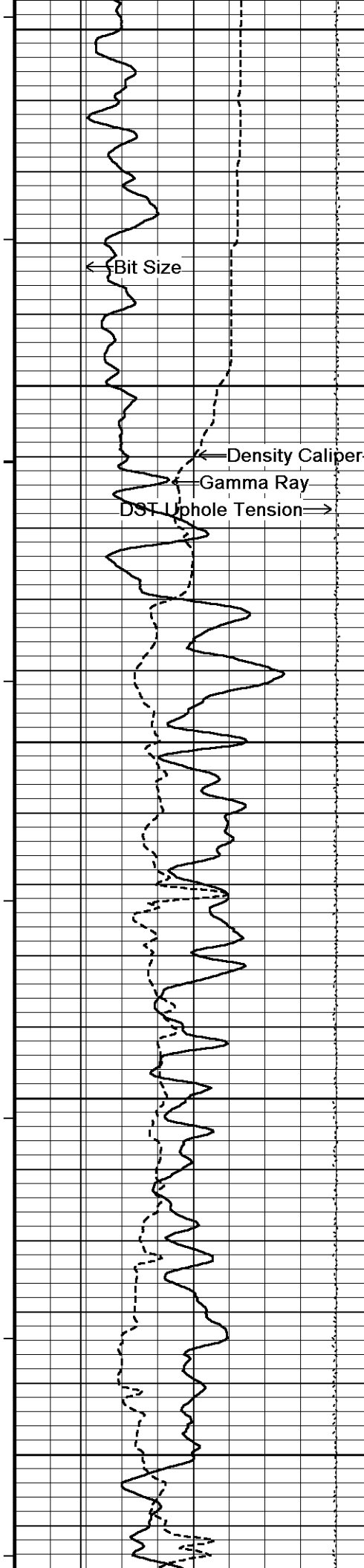
97°

1800



97°
1850
96°
1900
96°
1950
96°
2000
97°





2050

97°

2100

98°

2150

99°

2200

99°

2250

Bit Size

Density Caliper

Gamma Ray

DST Uphole Tension

Wellie Lime, Sonic Por.

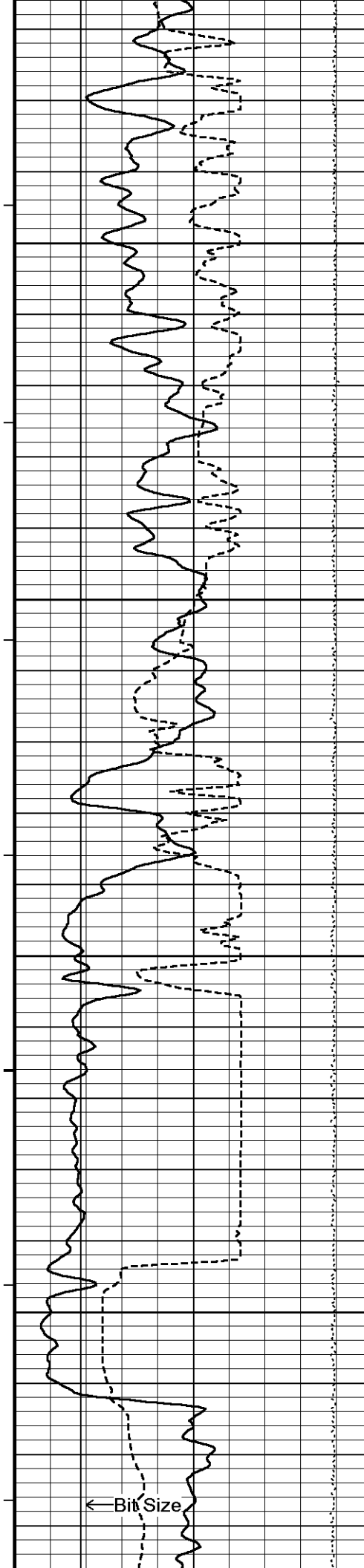
3-5' Compensated Sonic

6' Transit Time

5' Transit Time

4' Transit Time

3' Transit Time



99°

2300

99°

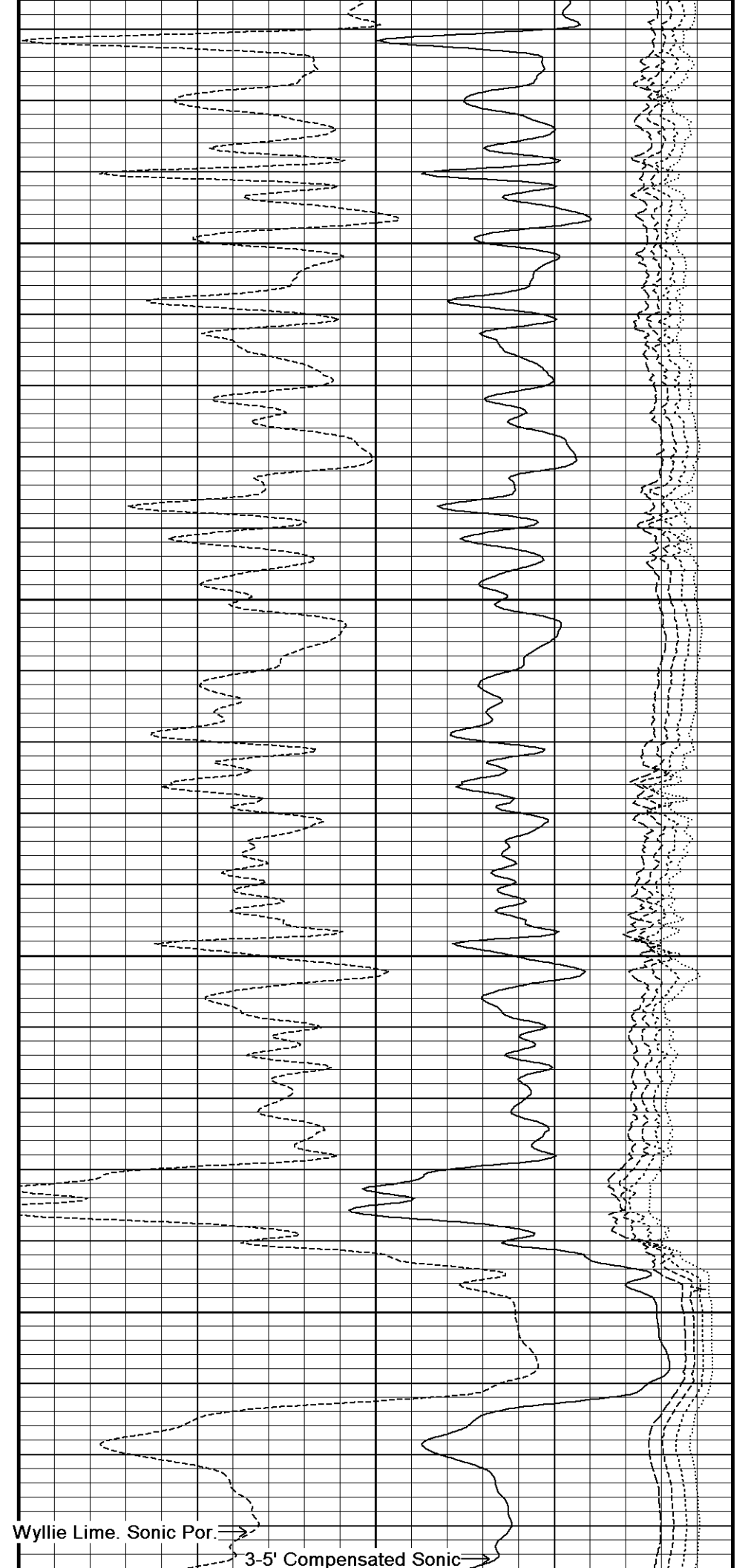
2350

99°

2400

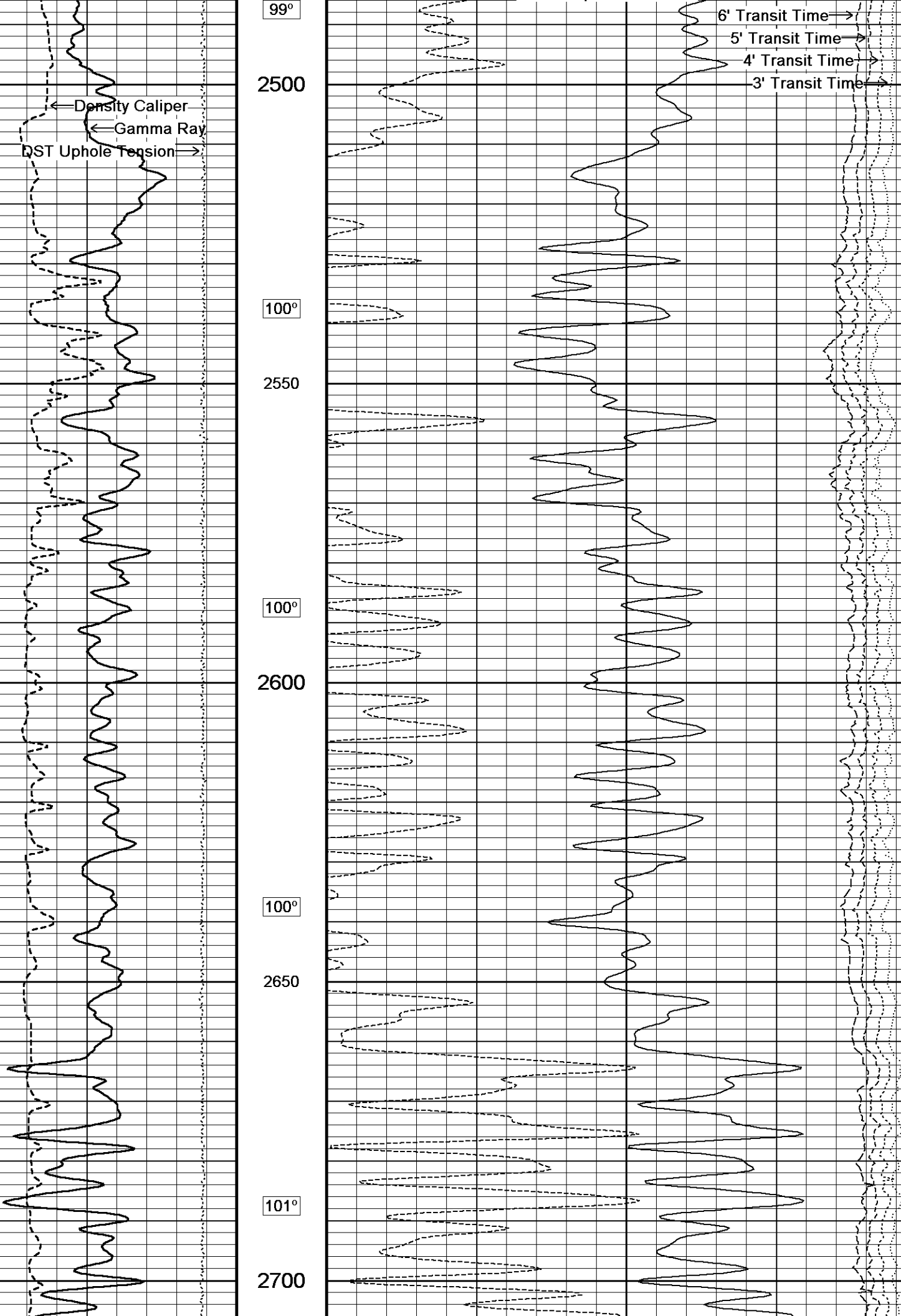
99°

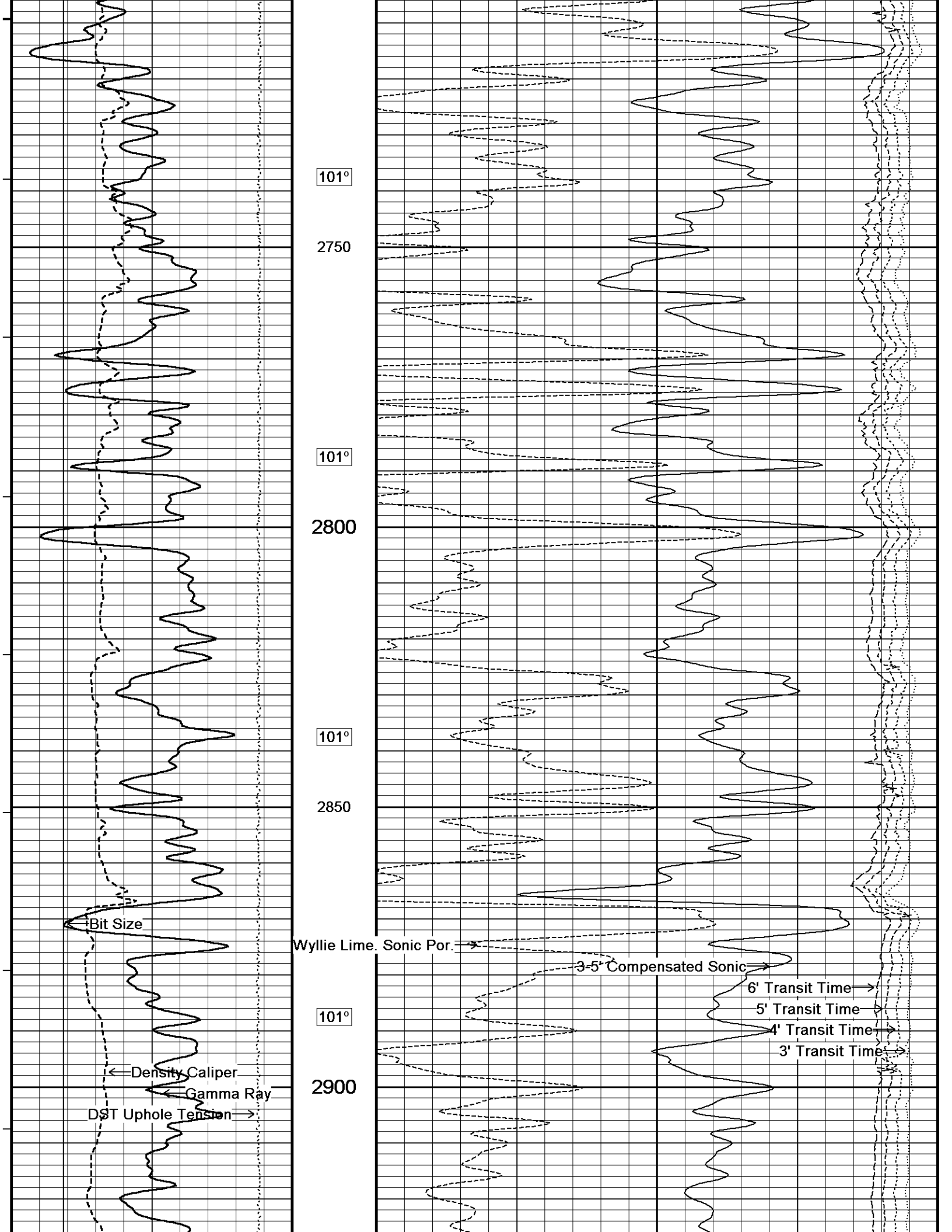
2450

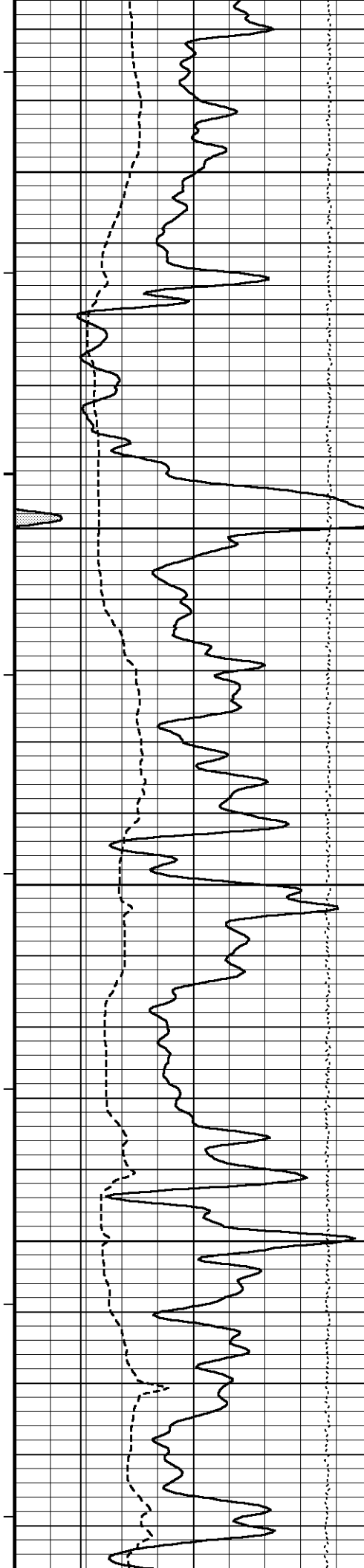


Wyllie Lime. Sonic Por. →

3-5' Compensated Sonic →







102°

2950

102°

3000

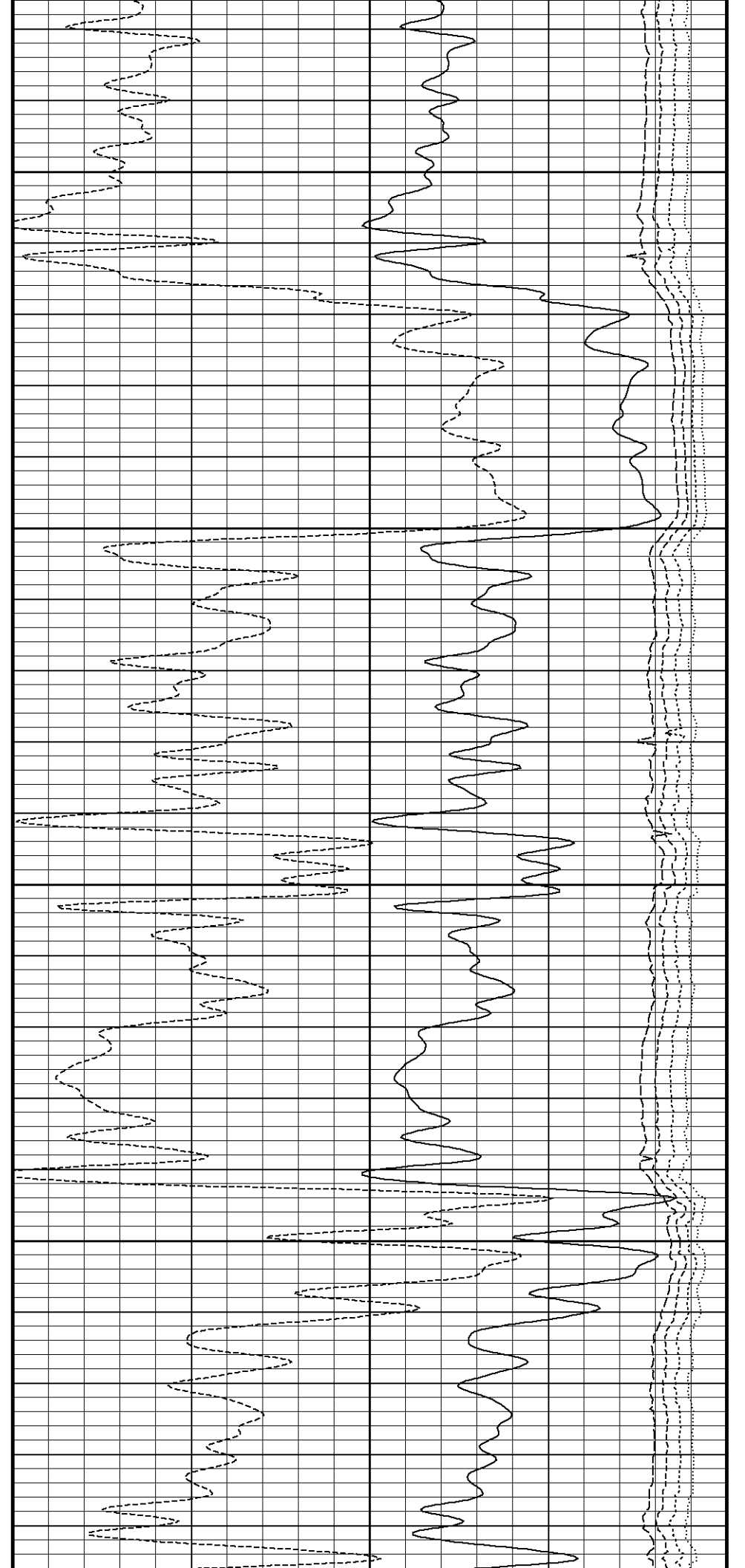
102°

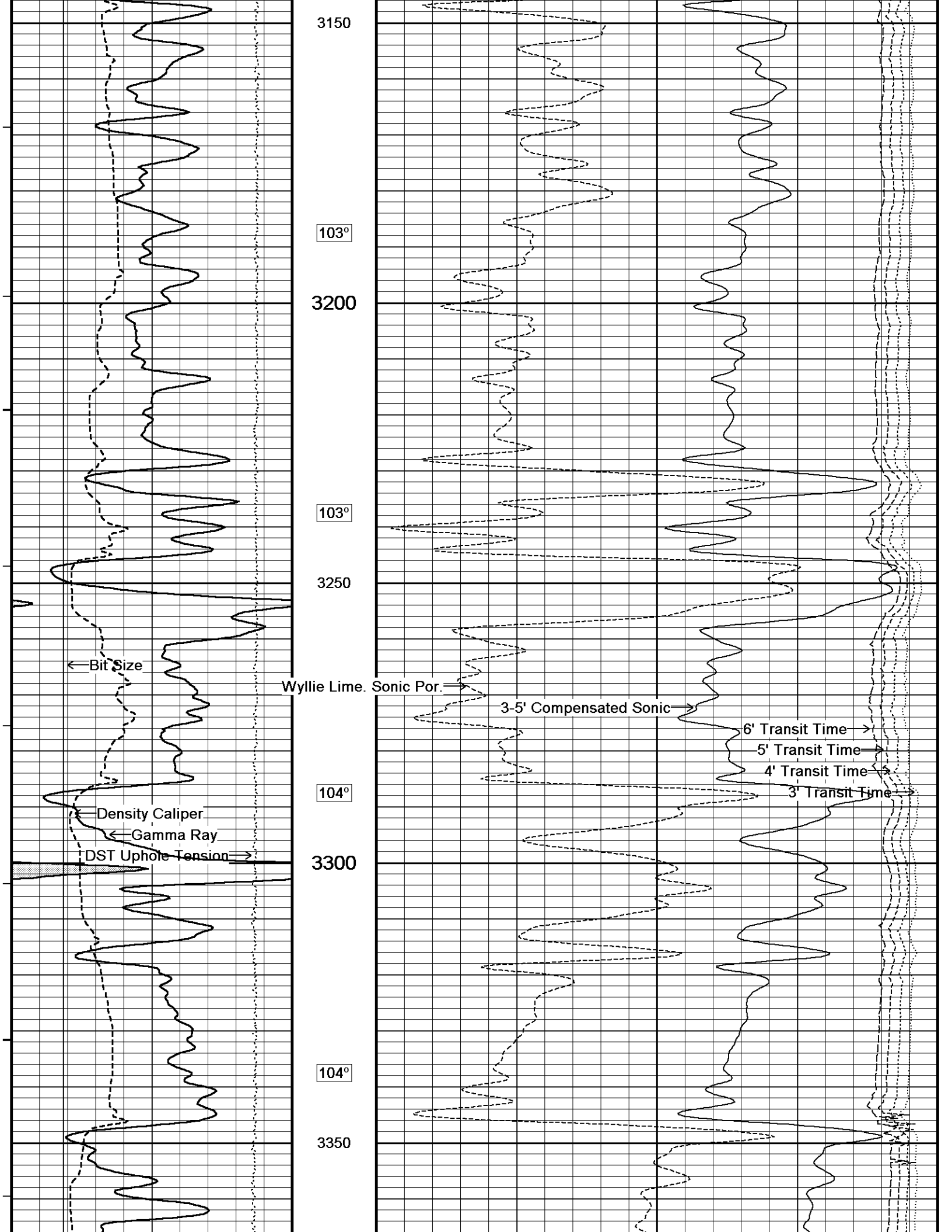
3050

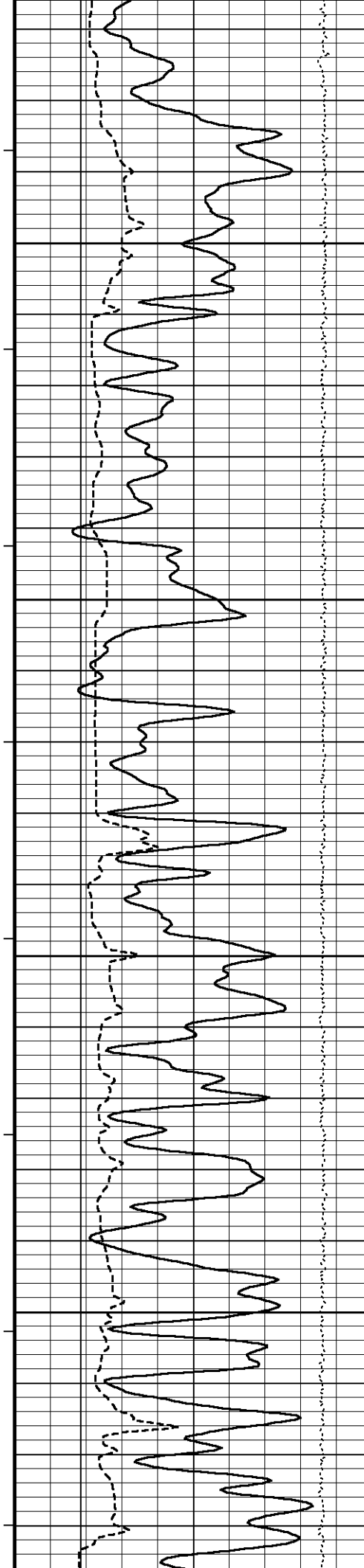
103°

3100

103°







104°

3400

105°

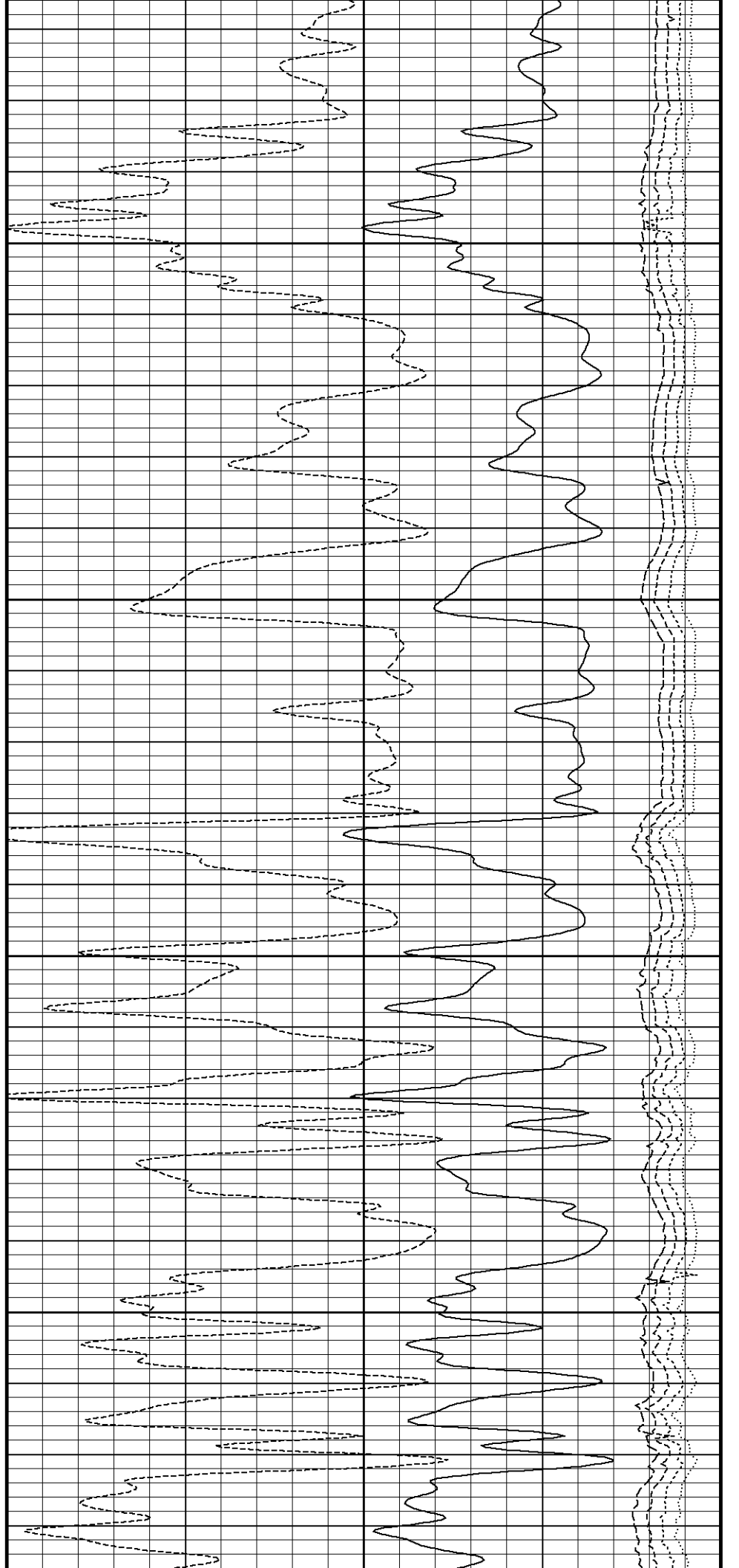
3450

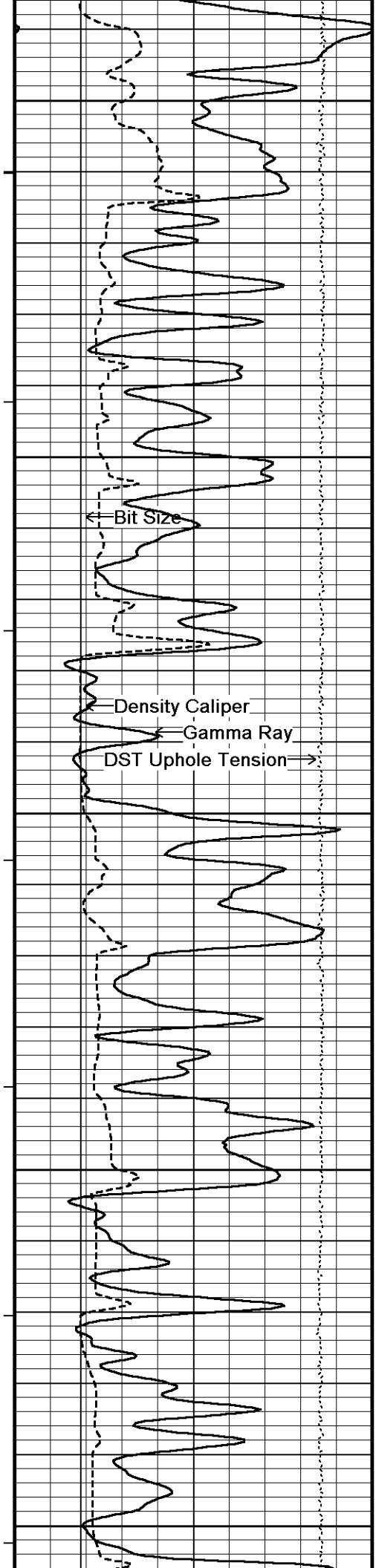
105°

3500

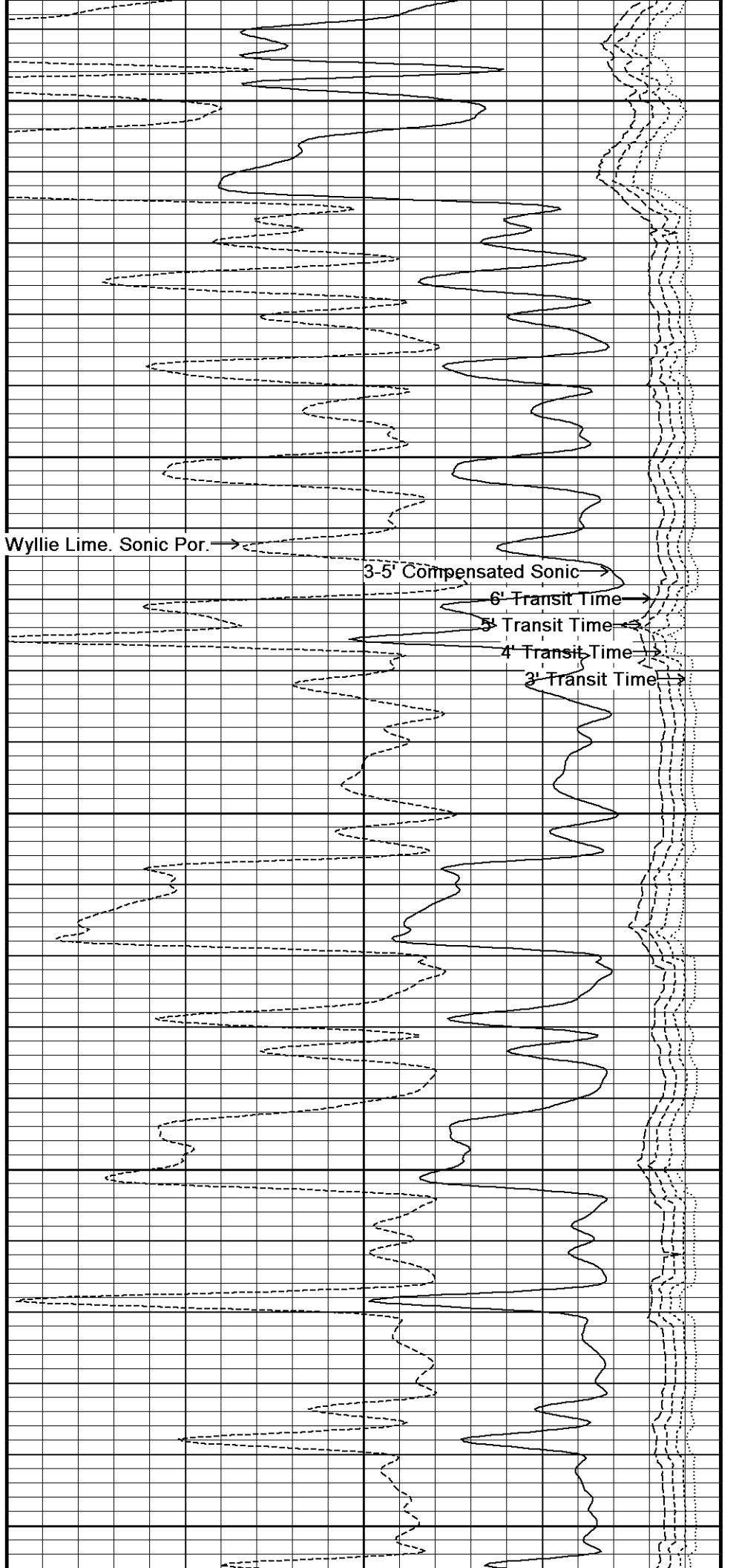
105°

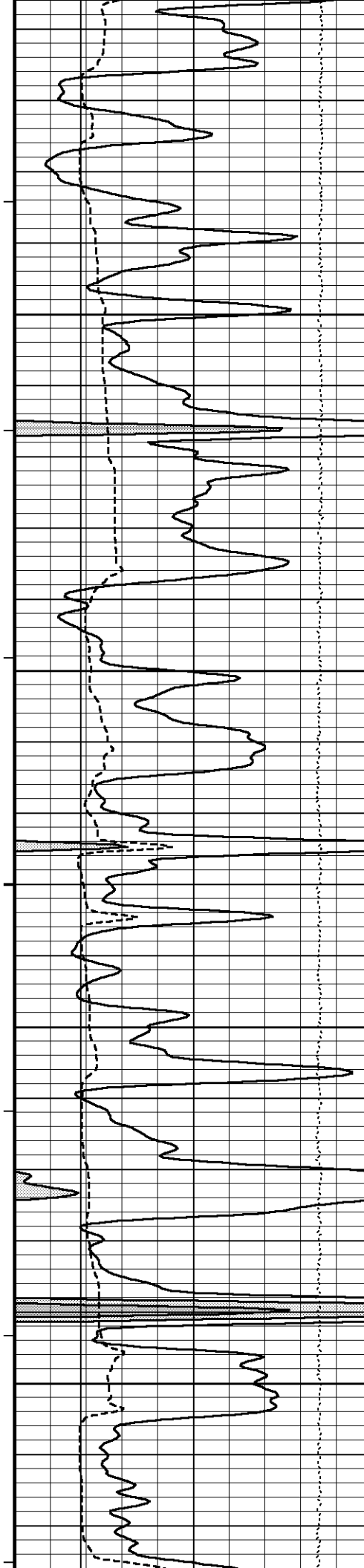
3550





105°
3600
106°
3650
106°
3700
106°
3750
107°
3800





107°

3850

107°

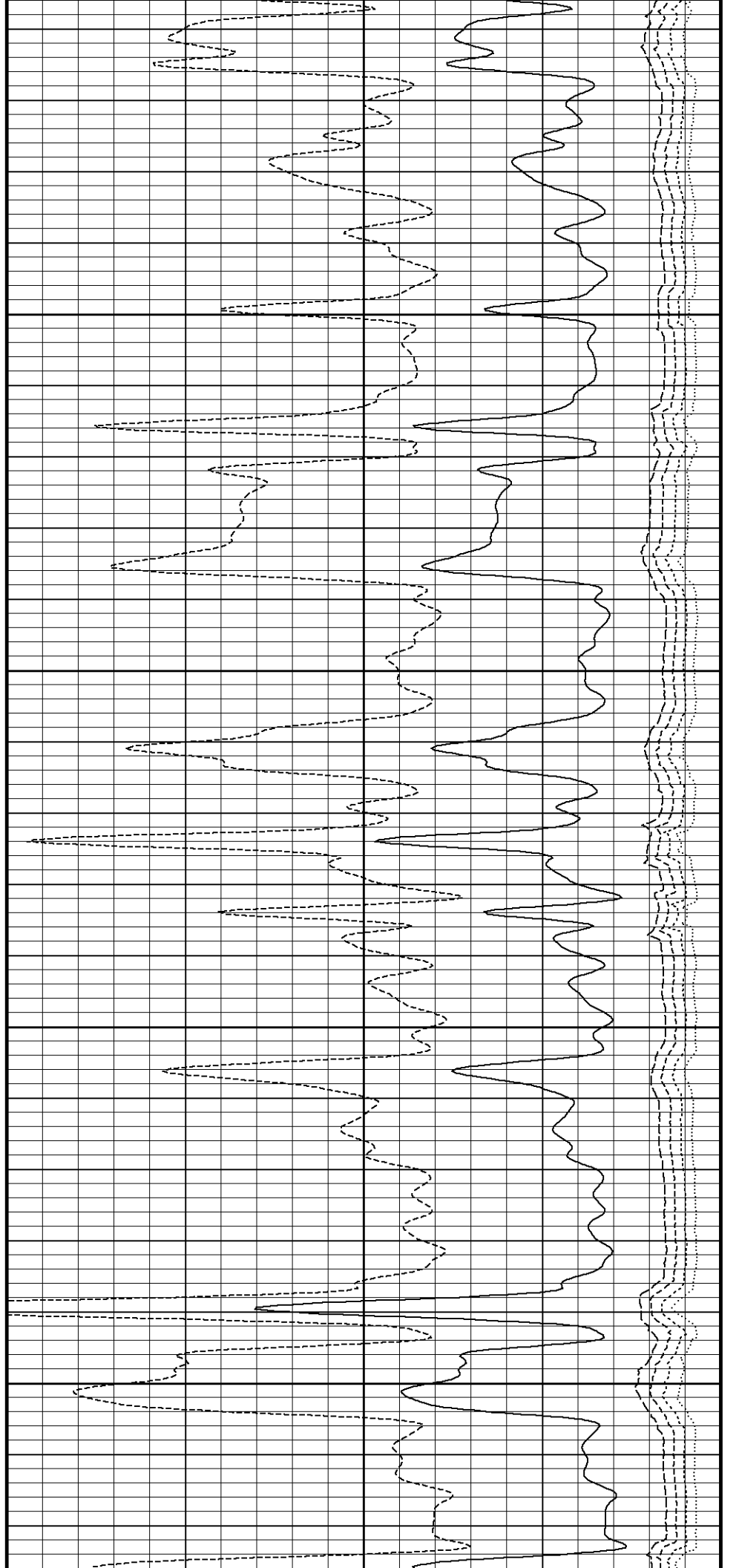
3900

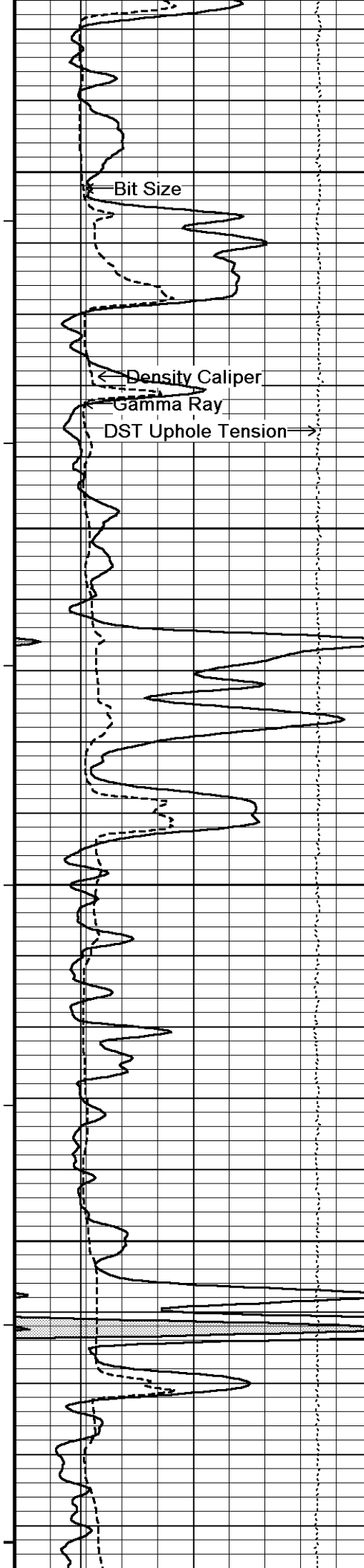
107°

3950

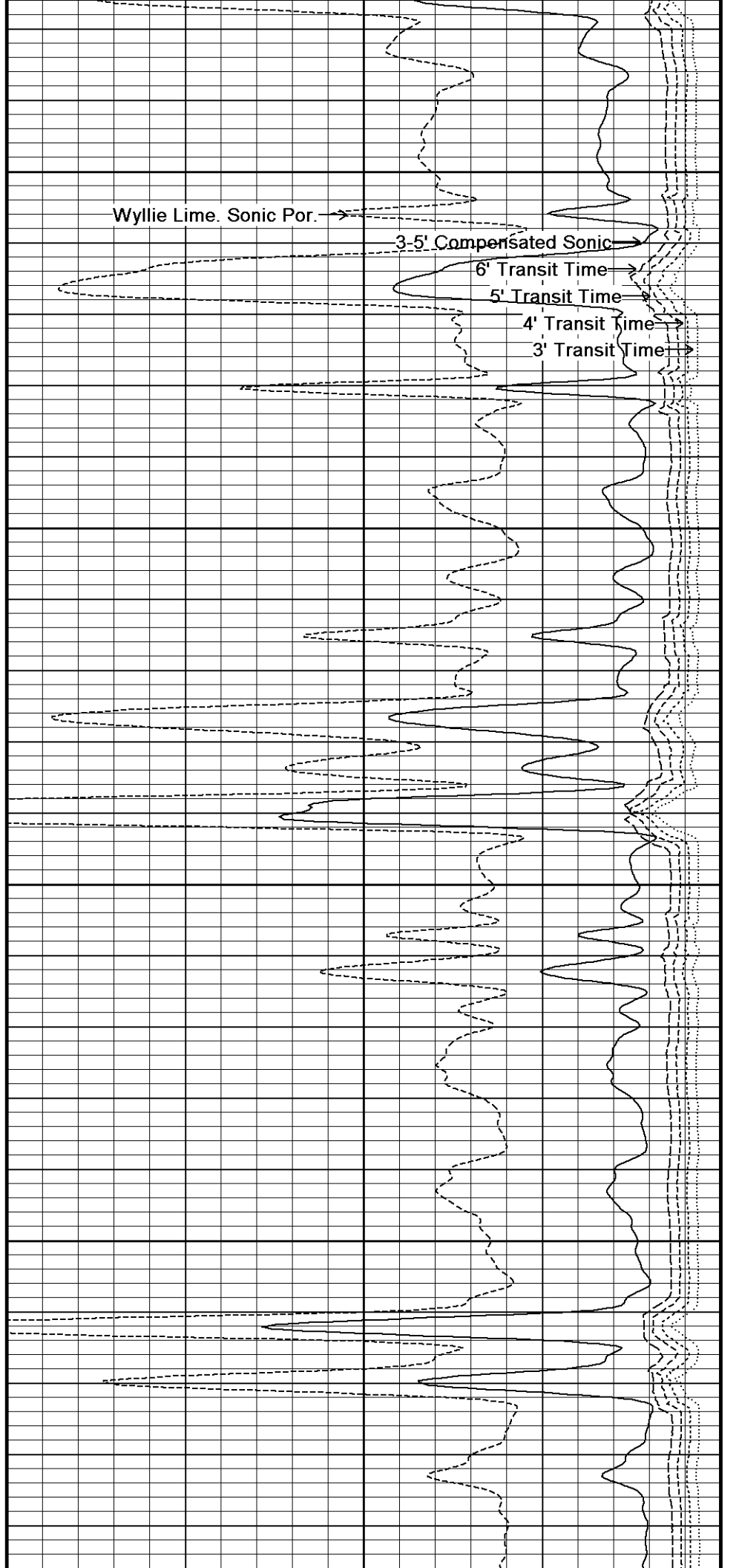
108°

4000

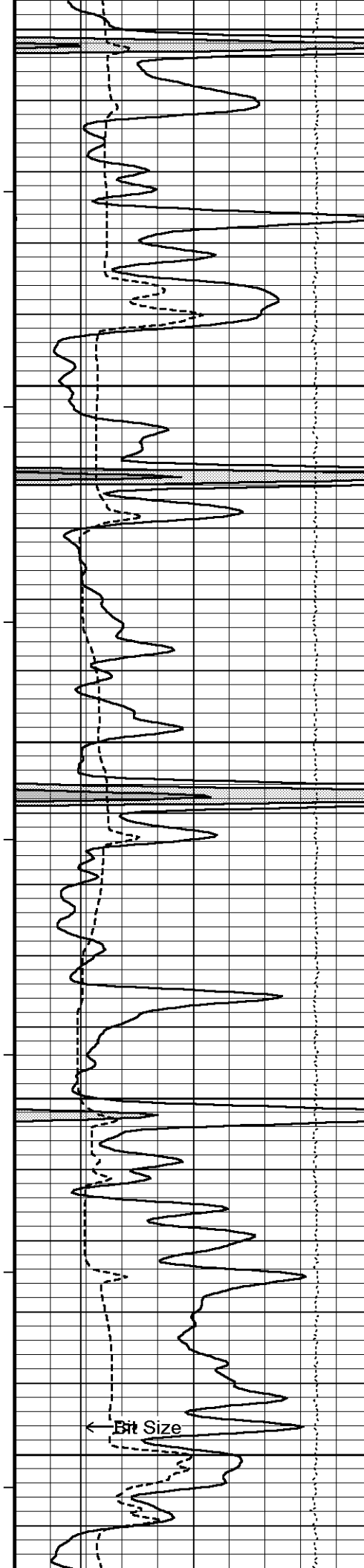




108°
4050
108°
4100
109°
4150
109°
4200
109°



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



4250

109°

4300

110°

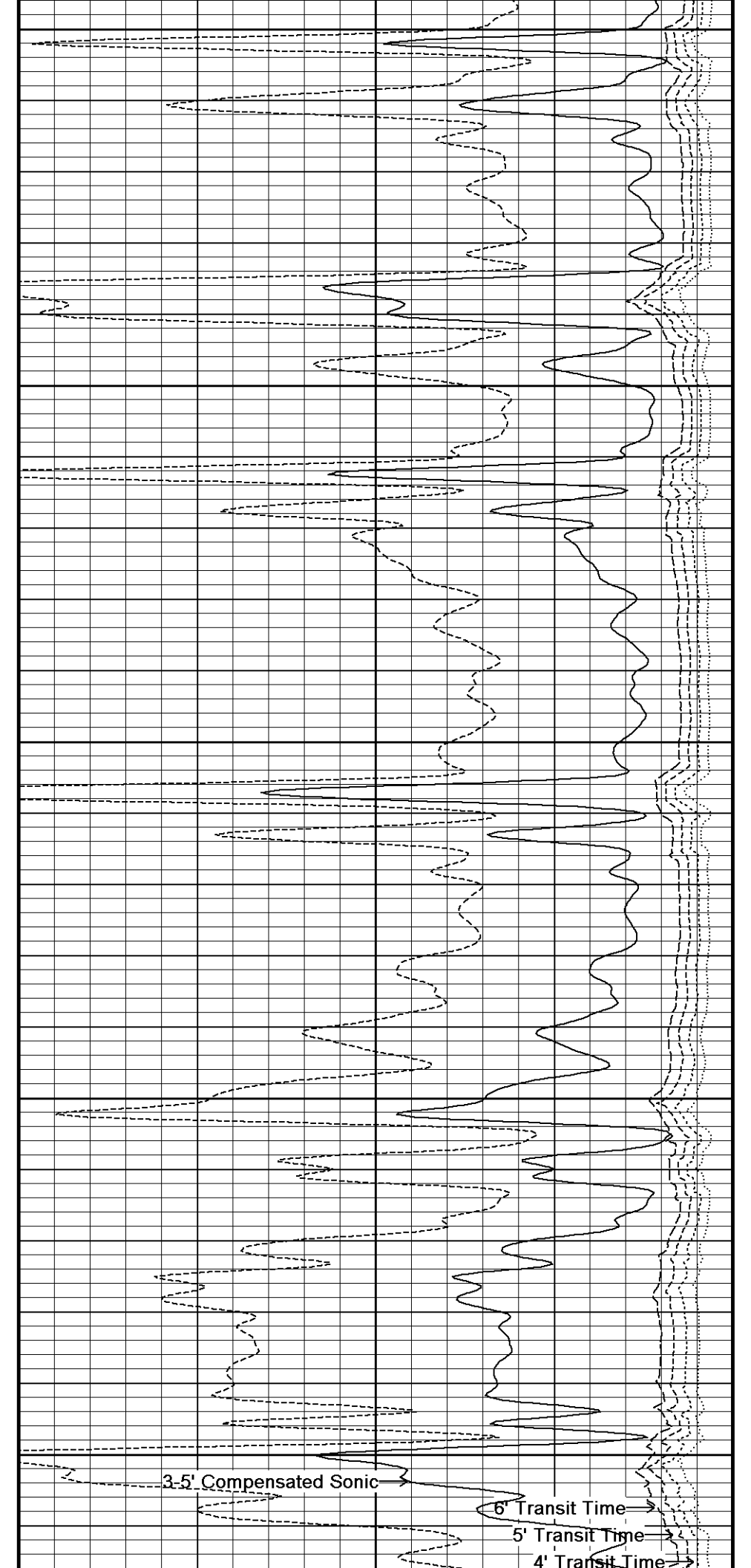
4350

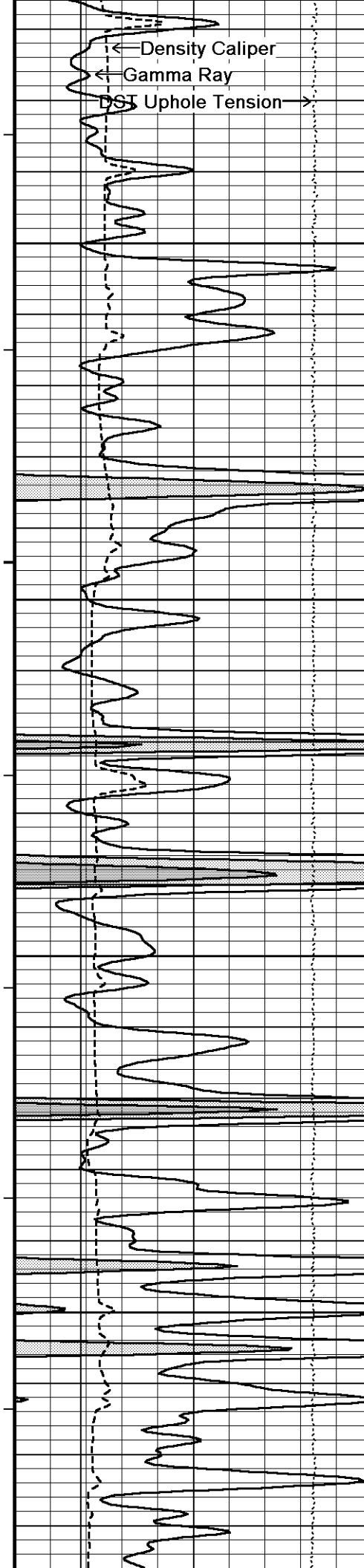
110°

4400

110°

4450





111°

4500

112°

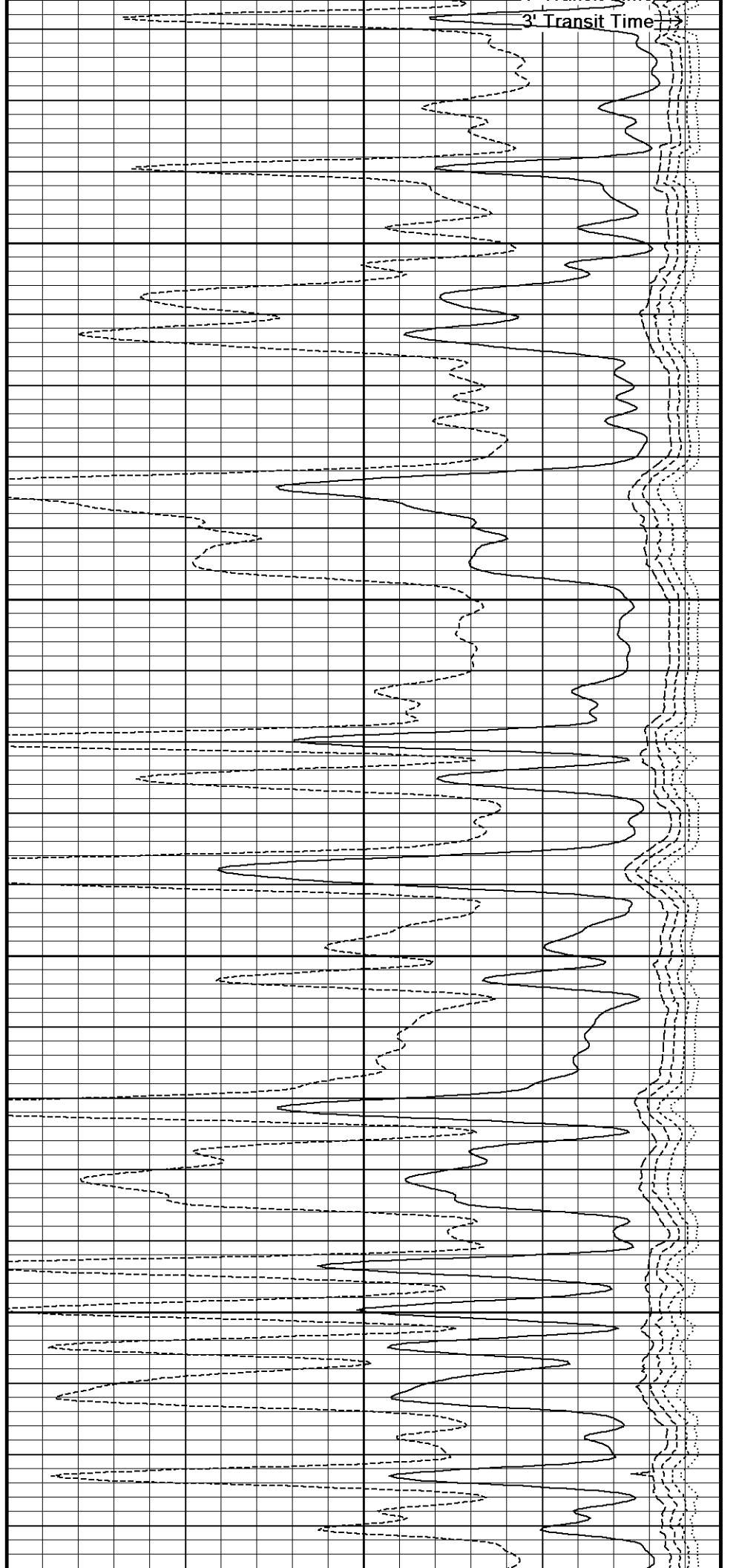
4550

112°

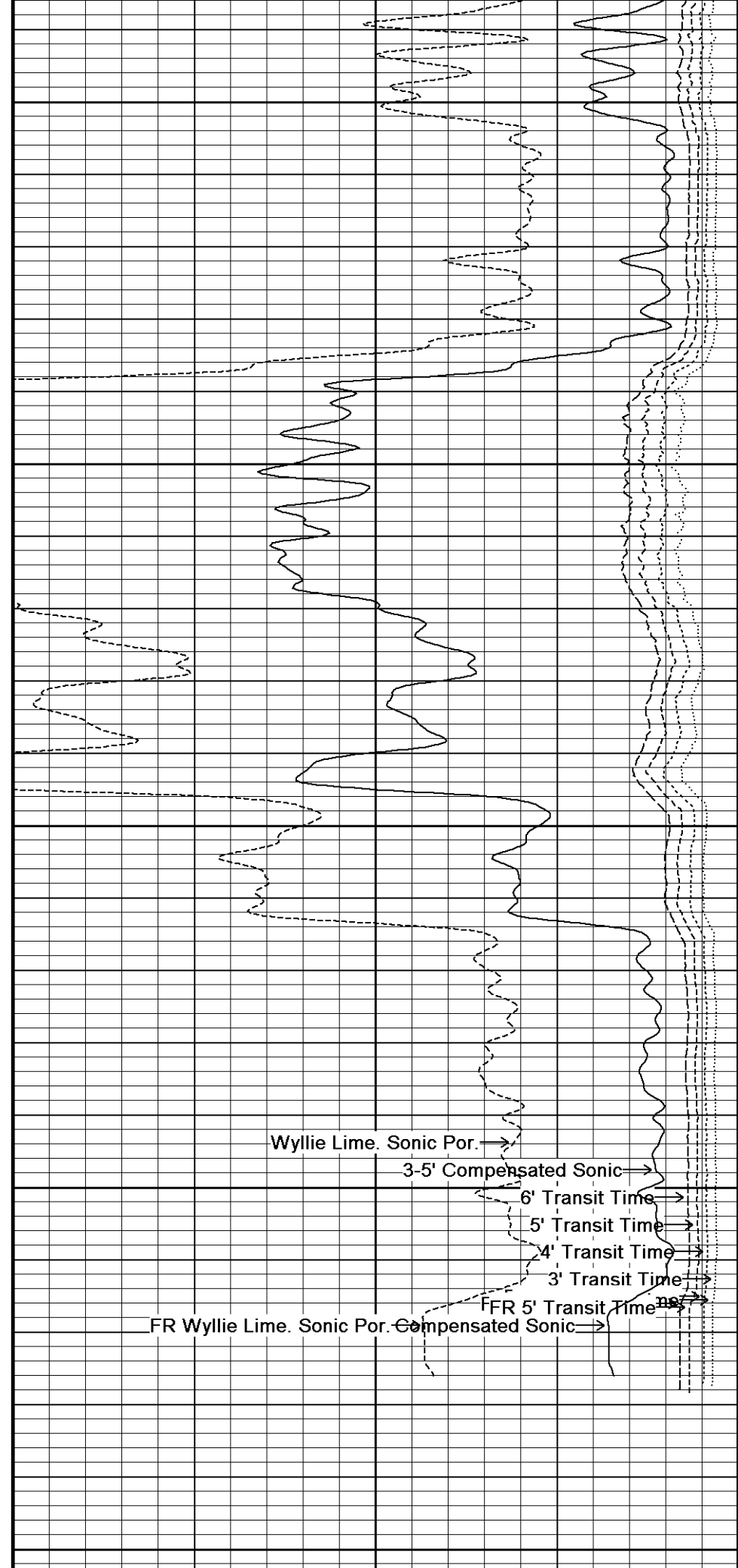
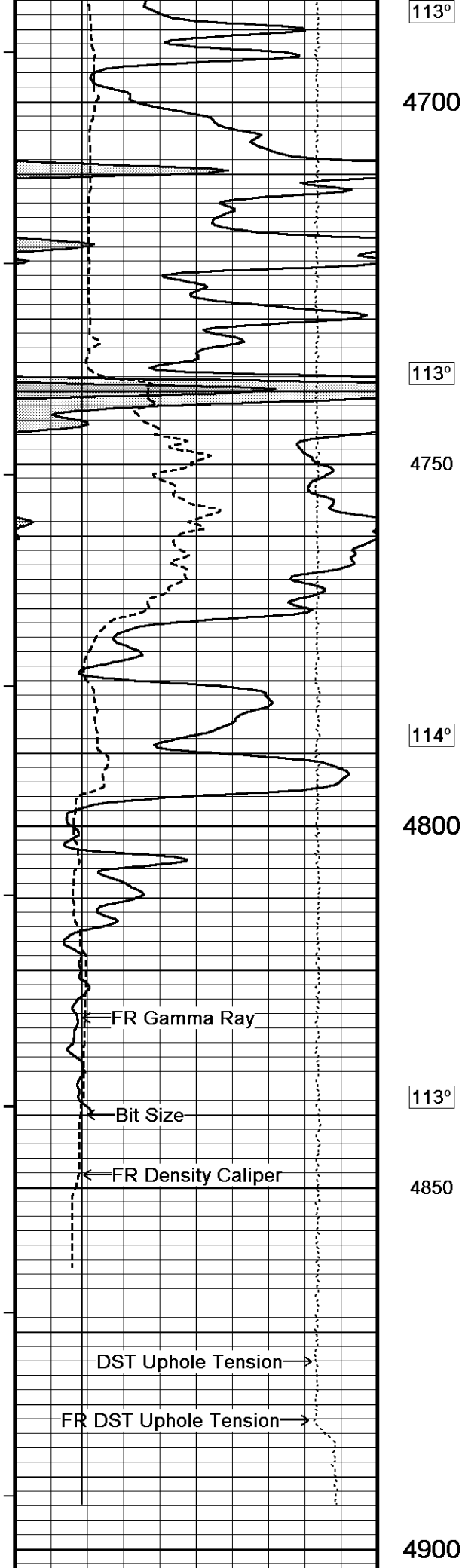
4600

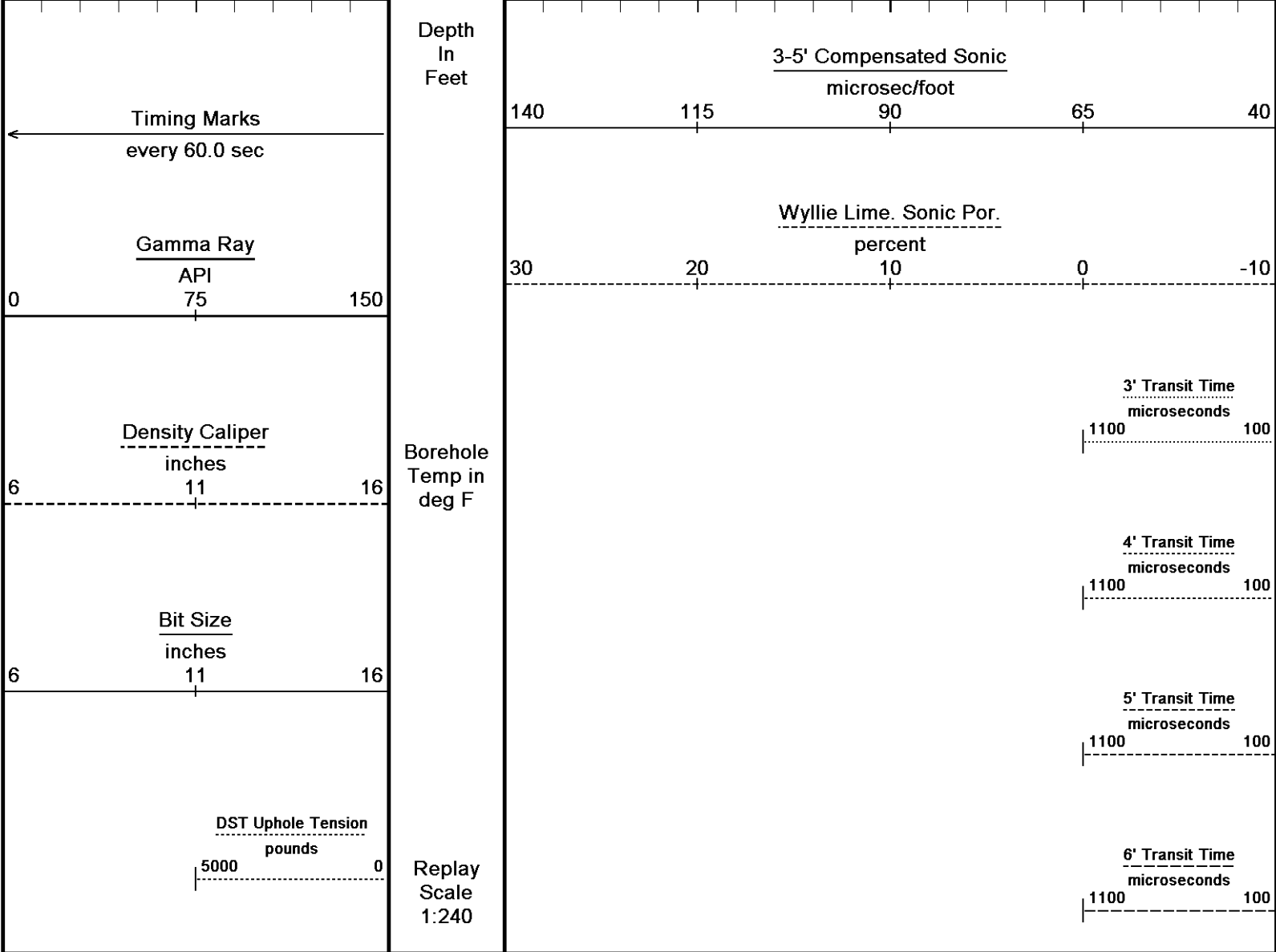
112°

4650



3' Transit Time



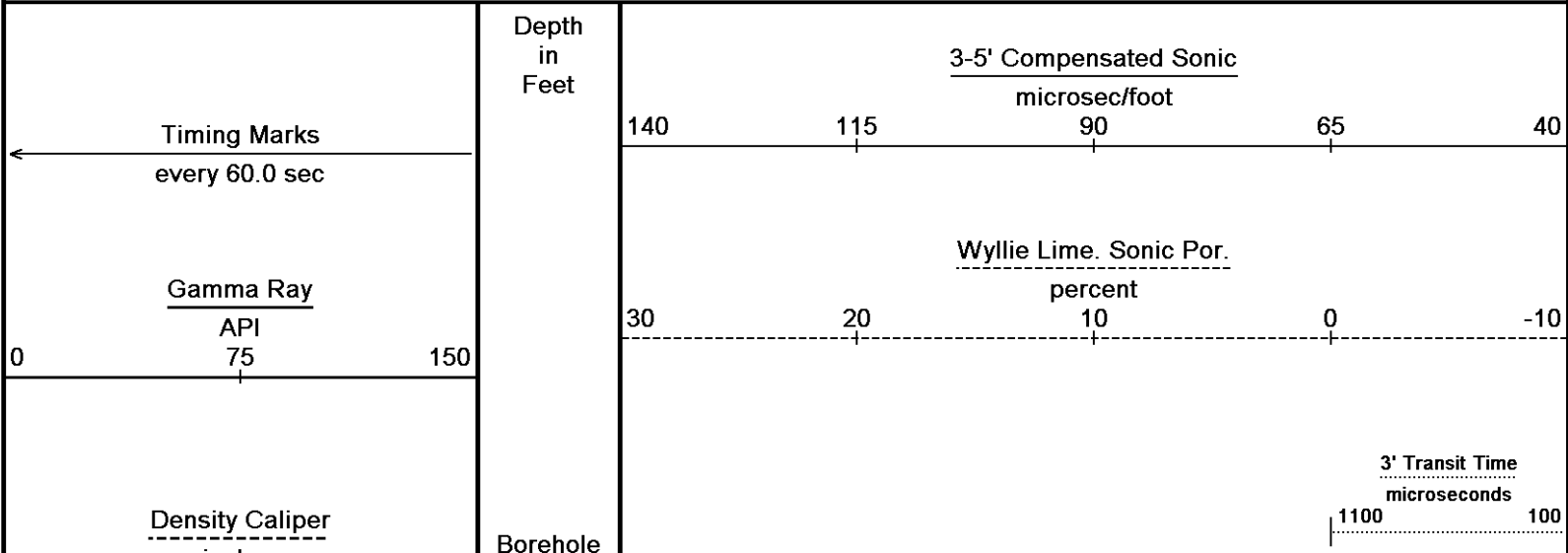


Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 05-JUN-2012 11:25
 Filename: C:\Minimus 11.03.4044\Data\Shakespeare Carson #1-25\Shakespeare Carson #1-25_002.dta Recorded on 05-JUN-2012 08:07
 System Versions: Logged with 11.03.4044 Plotted with 11.03.4044

↑ 5 INCH MAIN PASS ↑

↓ 5 INCH REPEAT PASS ↓

Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 05-JUN-2012 11:25
 Filename: C:\Minimus 11.03.4044\Data\Shakespeare Carson #1-25\Shakespeare Carson #1-25_001.dta Recorded on 05-JUN-2012 07:45
 System Versions: Logged with 11.03.4044 Plotted with 11.03.4044



6 11 16
inches

6 11 16
Bit Size
inches

5000 0
DST Uphole Tension
pounds

Temp in
deg F

Replay
Scale
1:240

4' Transit Time
microseconds

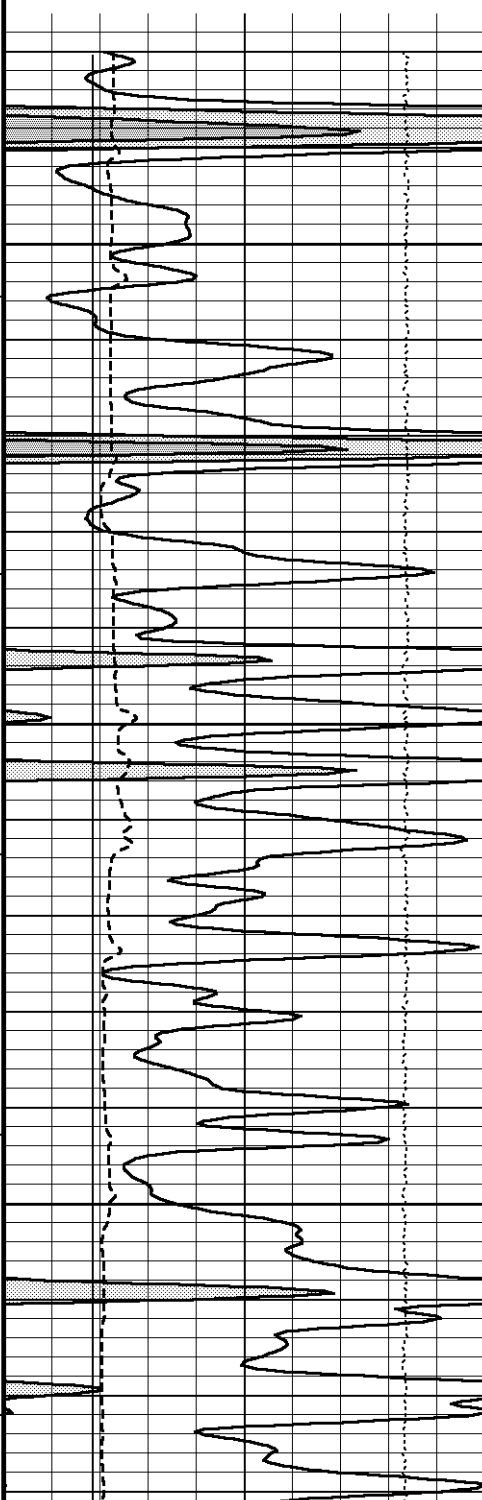
1100 100

5' Transit Time
microseconds

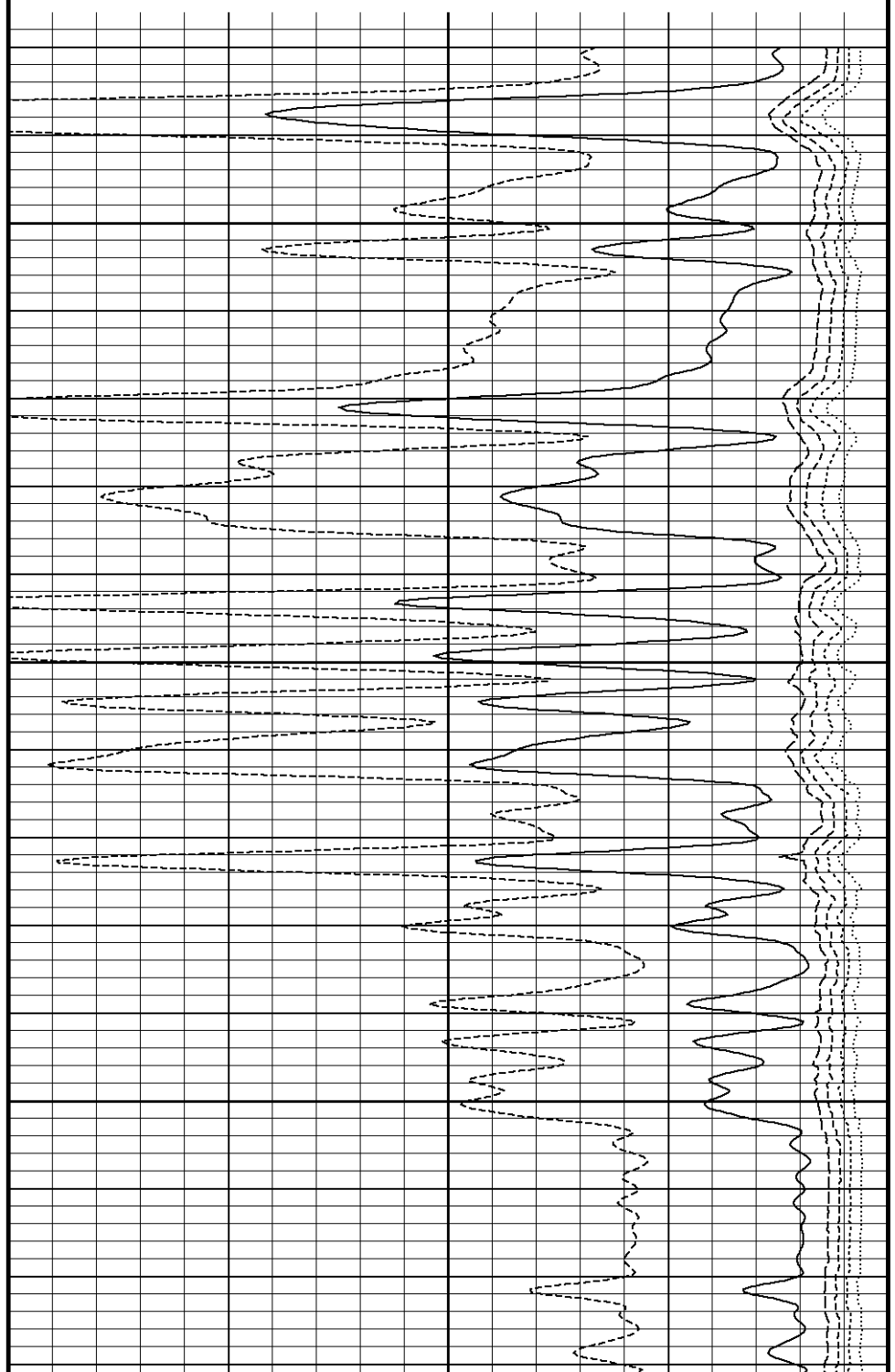
1100 100

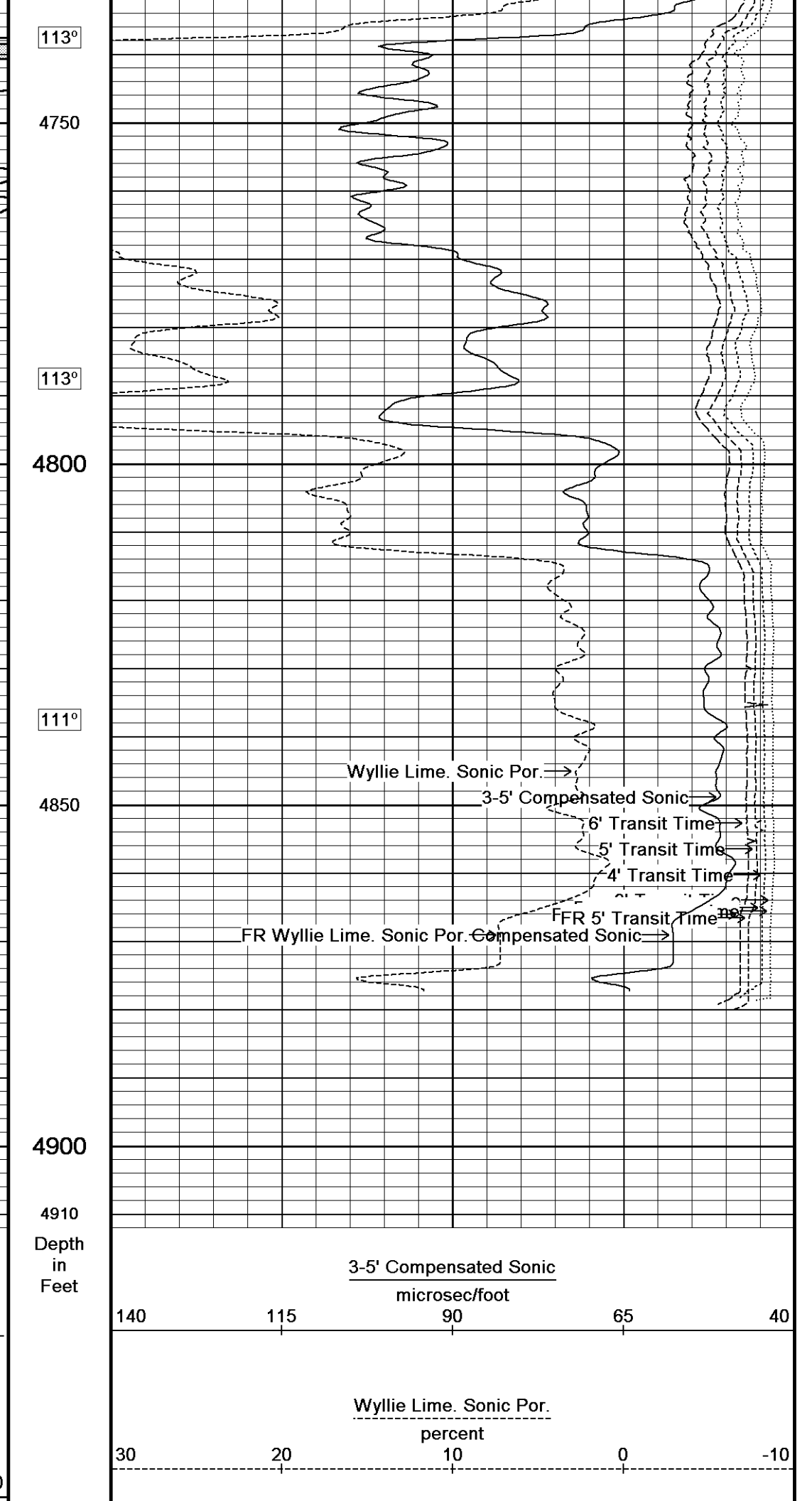
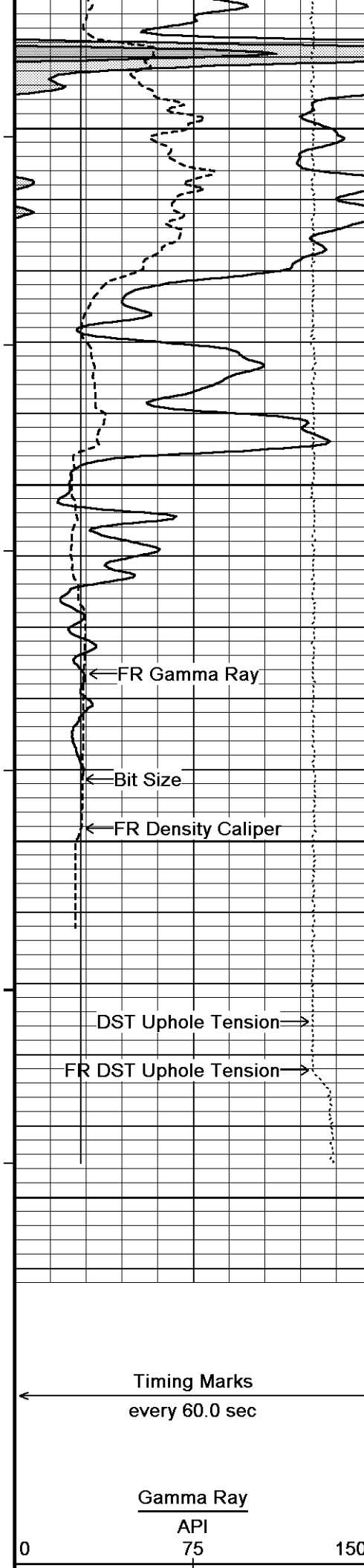
6' Transit Time
microseconds

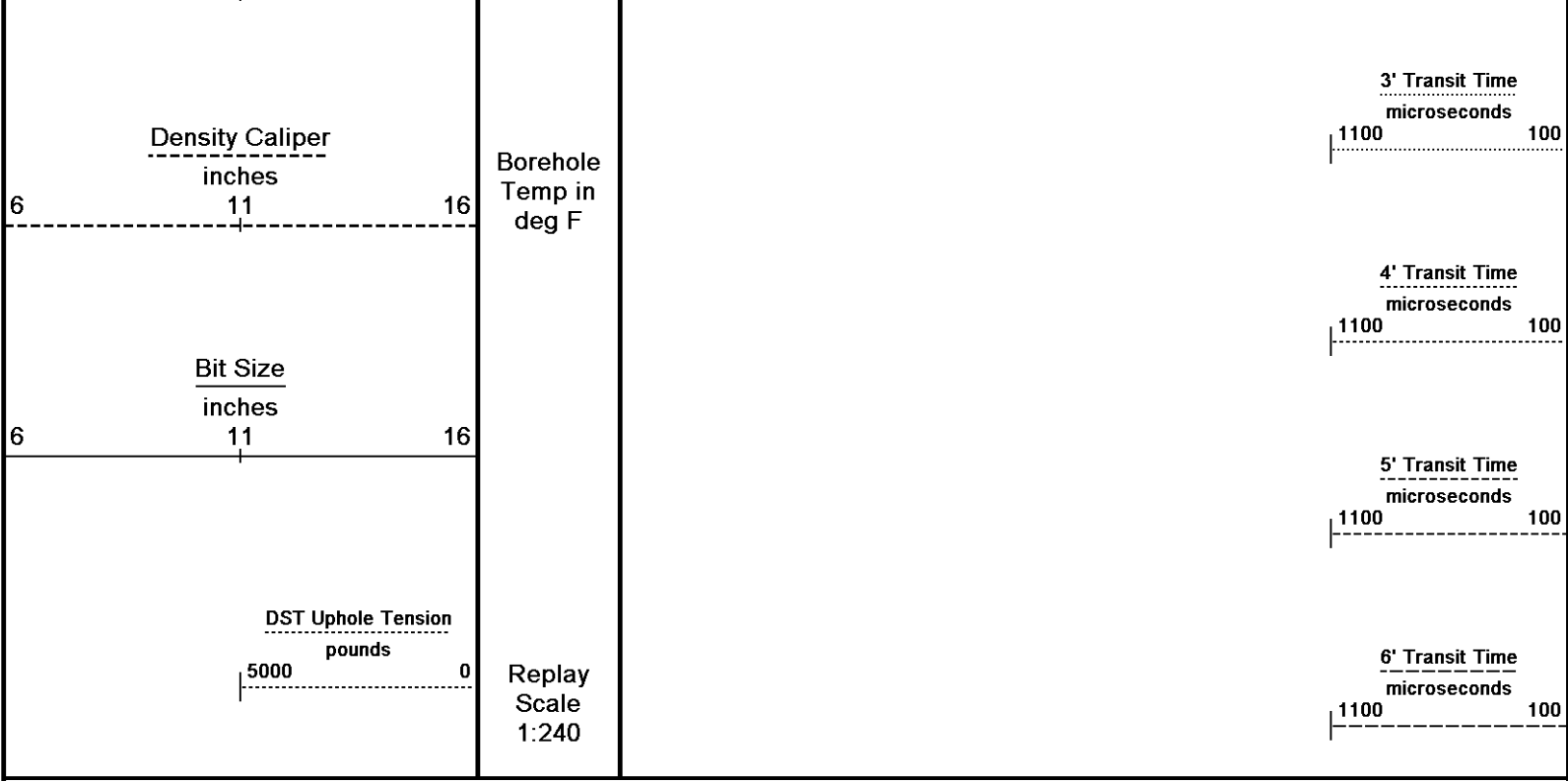
1100 100



4578
4600
112°
4650
112°
4700







Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 05-JUN-2012 11:25
 Filename: C:\Minimus 11.03.4044\Data\Shakespeare Carson #1-25\Shakespeare Carson #1-25_001.dta
 Recorded on 05-JUN-2012 07:45
 System Versions: Logged with 11.03.4044 Plotted with 11.03.4044

↑ 5 INCH REPEAT PASS ↑

BEFORE SURVEY CALIBRATION
 C:\Minimus 11.03.4044\Data\Shakespeare Carson #1-25\Shakespeare Carson #1-25_001.dta

General Constants All 000 Last Edited on 05-JUN-2012,07:09

General Parameters		
Mud Resistivity	0.460	ohm-metres
Mud Resistivity Temperature	85.000	degrees F
Water Level	0.000	feet
Density/Neutron Processing	Wet Hole	
Hole/Annular Volume and Differential Caliper Parameters		
HVOL Method	Single Caliper	
HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	N/A	
Annular Volume Diameter	5.500	inches
Caliper for Differential Caliper	Density Caliper	
Rwa Parameters		
Porosity used	Base Density Porosity	
Resistivity used	Array Ind. Four Res Rt	
RWA Constant A	0.610	
RWA Constant M	2.150	

Gamma Calibration MCG-C 84 Field Calibration on 31-MAY-2012 09:46

	Measured	Calibrated (API)
Background	66	44
Calibrator (Gross)	1148	769
Calibrator (Net)	1082	725

Gamma Constants MCG-C 84 Last Edited on 05-JUN-2012,06:12

Gamma Calibrator Number	GR38	
Mud Density	1.12	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	knpm

SP Calibration MCG-C 84

Field Calibration on 28-MAY-2012,07:31

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

High Resolution Temperature Calibration MCG-C 84

Field Calibration on 28-MAY-2012,07:32

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

High Resolution Temperature Constants MCG-C 84

Last Edited on

Pre-filter Length 11

Caliper Calibration MML-A 16

Base Calibration on 23-MAY-2012 11:59
Field Calibration on 31-MAY-2012 09:39

Base Calibration	Measured	Calibrator Size (in)
Reading No		
1	14501	5.98
2	17771	7.97
3	21107	9.86
4	24905	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 16

Base Calibration on 23-MAY-2012 12:04
Field Check on 31-MAY-2012 09:40

Base Calibration		Measured		Calibrated (ohm-m)	
Channel		Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal		12.2	60.2	5.0	25.0
Micro Inverse		15.6	78.3	5.0	25.0

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	62.9	62.9
Micro Inverse	48.2	48.2

Micro Normal and Micro Inverse Constants MML-A 16

Last Edited on 05-JUN-2012,06:12

Pad Type 8-12 in Soft Rubber Inflatable 006-9011-159
 Micro Normal K Factor 1.0000
 Micro Inverse K Factor 1.0000
 Standoff Offset N/A inches

Neutron Calibration MDN-A.B 65

Base Calibration on 23-MAY-2012 14:31
Field Check on 31-MAY-2012 09:51

Base Calibration		Measured		Calibrated (cps)	
	Near	Far	Near	Far	
Ratio	3164	98	3714	110	
	32.187		33.764		

Field Calibrator at Base		Calibrated (cps)	
Ratio		1615	2315
		0.697	

Field Check		Calibrated (cps)	
Ratio		1630	2345
		0.695	

Neutron Constants MDN-A.B 65

Last Edited on 05-JUN-2012,06:12

Neutron Source Id PN-521
 Neutron Jig Number 5824NE
 Epithermal Neutron No
 Caliper Source for Processing Density Caliper

Stand-off	0.00	inches
Mud Density	1.00	gm/cc
Limestone Sigma	7.10	cu
Sandstone Sigma	4.26	cu
Dolomite Sigma	4.70	cu
Formation Pressure Source	Constant Value	
Formation Pressure	0.00	kpsi
Temperature Source	Constant Value	
Temperature	68.00	degrees F
Mud Salinity	0.00	kppm
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 23-MAY-2012 09:37

Field Check on 31-MAY-2012 09:30

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	951.5	126.8
Base Check		281.5
Field Check		281.6

FE Constants MFE-A.A 55

Last Edited on 05-JUN-2012,06:11

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

Sonic Constants MSS-C.K 330

Last Edited on 05-JUN-2012,06:11

Maximum Boundary Contrast	100.00	micro-sec/ft
Fluid Transit Time	189.00	micro-sec/ft
Limestone Transit Time	47.50	micro-sec/ft
Sandstone Transit Time	55.50	micro-sec/ft
Dolomite Transit Time	43.50	micro-sec/ft
Sonic used for Porosities	3-5' Compensated Sonic	
Correction for Sonde Skew	Applied	
Cycle Stretch Algorithm	Applied	
MN3FT	N/A	micro-sec
MX3FT	N/A	micro-sec
Hunt-Raymer Constant	83.13	micro-sec/ft

Sonde Mode	Compensated
Hole Type	Open Hole

Sonde Parameters

	Measured	Calibrated
Offset	N/A	0.0000
Free Pipe	N/A	N/A
Peak Amplitude Source		N/A

Waveform	Start Time (micro-sec)	Width (micro-sec)	Pre Gain	Start Gain	Discriminator (mV)
3'	N/A	N/A	N/A	N/A	N/A
4'	N/A	N/A	N/A	N/A	N/A
5'	N/A	N/A	N/A	N/A	N/A
6'	N/A	N/A	N/A	N/A	N/A

Processed Fixed Gate Parameters

Waveform Used For Processing	N/A			
Start Time (micro-sec)	End Time (micro-sec)	Discriminator (mV)	N/A	
N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A

N/A

N/A

N/A

N/A

Full Waveform Parameters

Use 3' Waveform to derive TR	N/A	
Use 4' Waveform to derive TR	N/A	
Use 5' Waveform to derive TR	N/A	
Use 6' Waveform to derive TR	N/A	
3' Waveform Discriminator Level	N/A	mV
4' Waveform Discriminator Level	N/A	mV
5' Waveform Discriminator Level	N/A	mV
6' Waveform Discriminator Level	N/A	mV
3' Waveform Filter	N/A	
4' Waveform Filter	N/A	
5' Waveform Filter	N/A	
6' Waveform Filter	N/A	
Semblance Level	N/A	
Semblance Window Width	N/A	micro-sec
Sonic 1 Despiker	N/A	N/A
Sonic 2 Despiker	N/A	N/A

Induction Calibration MAI-A.A 45

Base Calibration on 12-JAN-2012,13:34
Field Check on 31-MAY-2012 09:29

Base Calibration

Test Loop Calibration

Channel	Measured		Calibrated (mmho/m)	
	Low	High	Low	High
1	14.4	472.6	9.3	966.2
2	5.7	374.0	7.6	821.4
3	3.4	261.2	5.2	566.0
4	2.5	133.9	2.6	279.2

Array Temperature 79.4 Deg F

Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	0.0	0.0	18.3	3851.3
2	0.0	0.0	31.6	3629.3
3	0.0	0.0	28.5	3049.3
4	0.0	0.0	18.2	2079.0
Deep	0.0	0.0	16.0	1911.0
Medium	0.0	0.0	42.4	4060.5
Shallow	0.0	0.0	49.4	5483.1

Array Temperature 0.0 70.7 Deg F

Induction Constants MAI-A.A 45

Last Edited on 05-JUN-2012,06:11

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	

High Resolution Temperature Calibration MAI-A.A 45

Field Calibration on 12-JAN-2012,13:36

	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 12-JAN-2012,11:13

Pre-filter Length	11
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Caliper Calibration MPD-B 59

Base Calibration on 16-MAY-2012 14:32
Field Calibration on 31-MAY-2012 09:33

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	19200	3.99
2	29152	5.98
3	39216	7.97
4	48949	9.86
5	60064	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
5.93	5.98

Photo Density Calibration MPD-B 59

Base Calibration on 16-MAY-2012 14:49
Field Check on 31-MAY-2012 09:38

Density Calibration

Base Calibration		Measured	Calibrated (sdu)		
		Near	Far	Near	Far
Reference 1	49293	24802	59556	30836	
Reference 2	20819	2436	24941	2541	

Field Check at Base

1213.5	1290.5
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Field Check

1206.1	1292.9
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PE Calibration

Base Calibration		Measured	Calibrated	
	WS	WH	Ratio	Ratio
Background	220	1092		
Reference 1	18022	49118	0.371	0.371
Reference 2	5449	20689	0.267	0.272

Field Check at Base

220.3	1091.9
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Field Check

221.9	1084.8
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Density Constants MPD-B 59

Last Edited on 05-JUN-2012,06:11

Density Source Id	254
Nylon Calibrator Number	DNCE695
Aluminium Calibrator Number	DACD698
Density Shee Profile	8 inch

Density Caliper	0.00	gm/cc
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.12	gm/cc
Mud Density Z/A Multiplier	1.11	
Mud Filtrate Density	1.00	gm/cc
Dry Hole Mud Filtrate Density	1.00	gm/cc
DNCT	0.00	gm/cc
CRCT	0.00	gm/cc
Density Z/A Correction	Hybrid	

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

DOWNHOLE EQUIPMENT

C:\Minimus 11.03.4044\Data\Shakespeare Carson #1-25\Shakespeare Carson #1-25_001.dta

Compact Comms Gamma
MCG-C 84 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Comms Gamma
MCG-C 84 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Micro-log
MML-A 16 LG: 7.97 ft WT: 81.6 lb OD: 2.24 in

Compact Micro-log
MML-A 16 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 Neutron
MDN-A.B 65 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

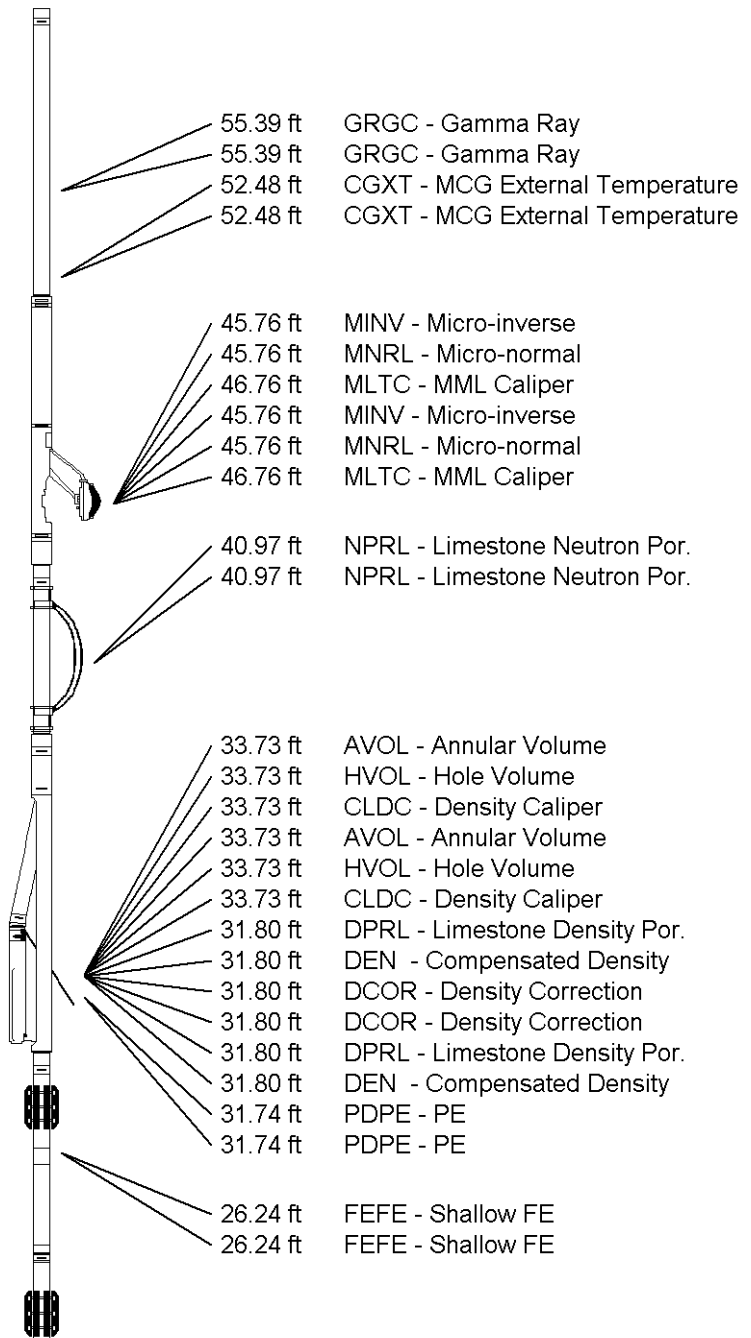
Compact Density/Caliper
MPD-B 59 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

Compact Density/Caliper
MPD-B 59 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

Compact Focused Electric
MFE-A.A 55 LG: 6.05 ft WT: 48.5 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 Sonic
MSS-C.K 330 LG: 12.52 ft WT: 72.8 lb OD: 2.24 in



Compact Sonic
MSS-C.K 330 LG: 12.52 ft WT: 72.8 lb OD: 2.24 in

Compact Induction
MAI-A.A 45 LG: 10.81 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: 60.68 ft Weight: 456.4 lb

Total Length: 60.68 ft Weight: 456.4 lb



12.96 ft SPRL - Wyllie Lime. Sonic Por.
12.96 ft DT35 - 3-5' Compensated Sonic
12.96 ft SPRL - Wyllie Lime. Sonic Por.
12.96 ft DT35 - 3-5' Compensated Sonic

3.34 ft R400 - Array Ind. One Res 40
3.34 ft R400 - Array Ind. One Res 40
3.34 ft R600 - Array Ind. One Res 60
3.34 ft RTAO - Array Ind. One Res Rt
3.34 ft R600 - Array Ind. One Res 60
3.34 ft RTAO - Array Ind. One Res Rt
0.23 ft SPCG - Spontaneous Potential
0.23 ft SPCG - Spontaneous Potential
Tool Zero (0.13ft from bottom)
Tool Zero (0.13ft from bottom)
-0.13 ft SMTU - DST Uphole Tension
-0.13 ft SMTU - DST Uphole Tension
All measurements relative to tool zero.
All measurements relative to tool zero.

COMPANY	SHAKESPEARE OIL CO., INC.		
WELL	CARSON #1-25		
FIELD	WILDCAT		
PROVINCE/COUNTY	SCOTT		
COUNTRY/STATE	U.S.A. / KANSAS		

Elevation Kelly Bushing	3114.00	feet	First Reading	4869.00	feet
Elevation Drill Floor	3112.00	feet	Depth Driller	4880.00	feet
Elevation Ground Level	3104.00	feet	Depth Logger	4882.00	feet



**COMPENSATED SONIC
WITH INTEGRATED TRANSIT TIME**

