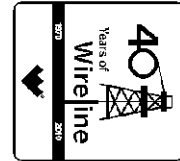




Weatherford

**COMPENSATED SONIC
WITH INTEGRATED TRANSIT TIME**

COMPANY RED OAK ENERGY, INC.
WELL PRAIRIE WIND #1-35
FIELD WILDCAT
PROVINCE/COUNTY WALLACE
COUNTRY/STATE U.S.A. / KANSAS
LOCATION 1658' FSL & 420' FWL
NE SW NW SW



SEC 35	TWP 14S	RGE 41W	Other Services MPD/MDN MML	MAI/MFE	Elevations: KB 3791.00 DF 3789.00 GL 3778.00
API Number	15-199-20391		Permit Number		
Permanent Datum G.L., Elevation 3778 feet					
Log Measured From KB					
Drilling Measured From K.B.					
Date	08-DEC-2011				

Run Number	ONE	
Depth Driller	5201.00	feet
Depth Logger	5202.00	feet
First Reading	5189.00	feet
Last Reading	392.00	feet
Casing Driller	393.00	feet
Casing Logger	392.00	feet
Bit Size	7.875	inches
Hole Fluid Type	CHEMICAL	
Density / Viscosity	9.40 lb/USg	56.00 CP
PH / Fluid Loss	10.00	8.00 ml/30Min
Sample Source	FLOWLINE	
Rm @ Measured Temp	0.76 @ 91.0	ohm-m
Rmf @ Measured Temp	0.61 @ 91.0	ohm-m
Rmc @ Measured Temp	0.91 @ 91.0	ohm-m
Source Rmf / Rmc	CALC	CALC
Rm @ BHT	0.57 @ 122.0	ohm-m
Time Since Circulation	4 HOURS	
Max Recorded Temp	122.00	deg F
Equipment Name	COMPACT	
Equipment / Base	13025	LIB
Recorded By	L. SCOTT	
Witnessed By	KEVIN DAVIS	
S.O.# / JOB#	3531213	SEAN DEENIHAN LB11-310

BOREHOLE RECORD

Last Edited: 08-DEC-2011 21:56

Bit Size inches	Depth From feet	Depth To feet
7.875	392.00	5202.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	392.00	24.00

REMARKS

Tools Used: MPD, MCG, MDN, MFE, MAI, MML, MSS
Hardware: MPD: 8 inch profile plate used. MAI, MSS and MFE: 0.5 Inch standoffs used. MDN: Dual Bowspring used.
2.71 G/CC Limestone density matrix used to calculate porosity.
Sonic porosity calculated using a Limestone scale (47.5 usec/ft.).
Borehole rugosity, tight pulls, and washouts will affect data quality.
All intervals logged and scaled per customer's request.
Annular volume with 5.5 inch production casing = 194 cu. ft.
Total hole volume= 1854 cu. ft.
Service order #3531213
Rig: Murfin #25
Engineer(s): L. Scott
Operator(s): 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

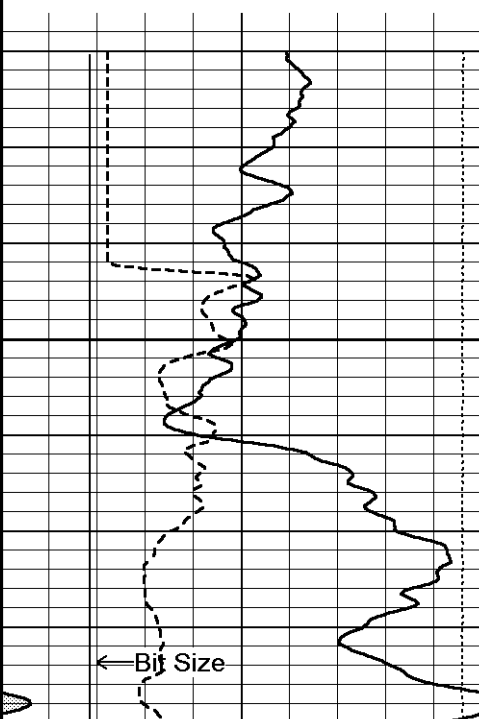
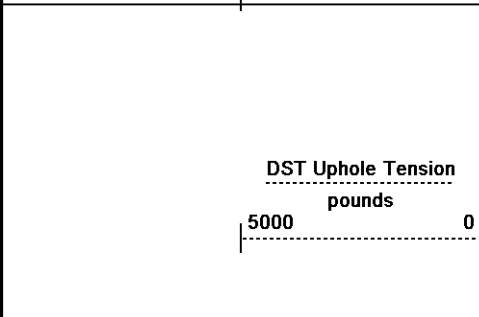
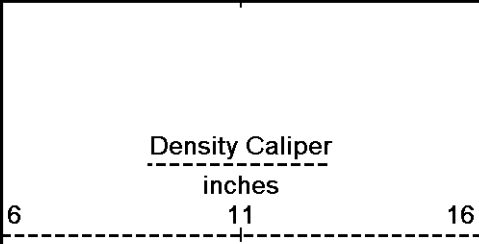
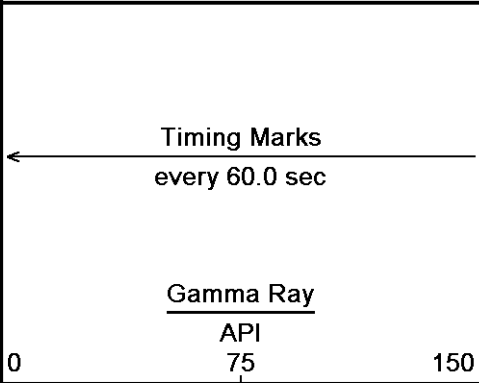
Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 08-DEC-2011 23:18

Filename: C:\Minimus 11.03.4044\Data\Red Oak Prairie Wind 1-35\Red Oak Praire Wind 1-35_002.dta

Recorded on 08-DEC-2011 20:36

System Versions: Logged with 11.03.4044 Plotted with 11.03.4044



Depth in Feet

Borehole Temp in deg F

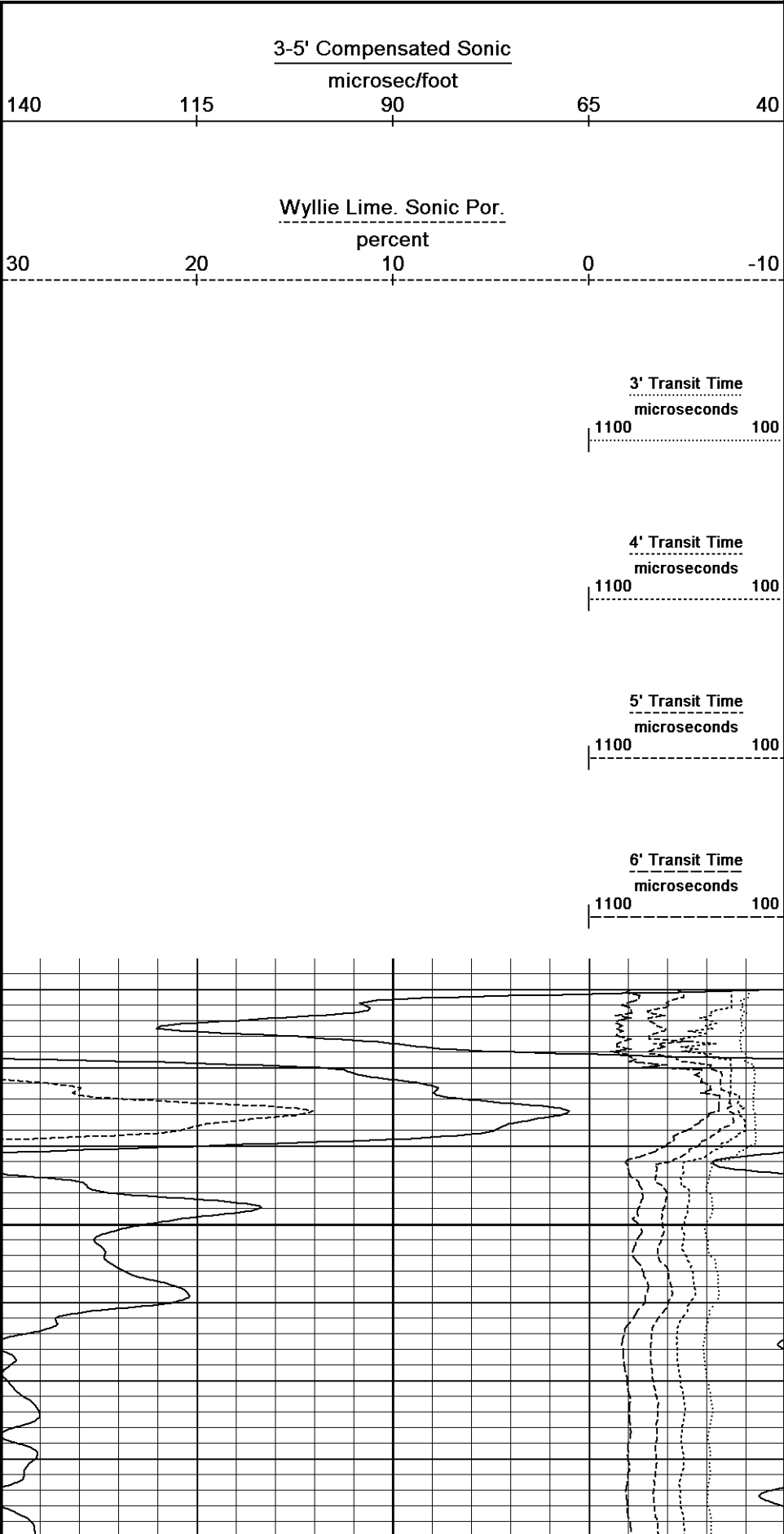
Replay Scale 1:240

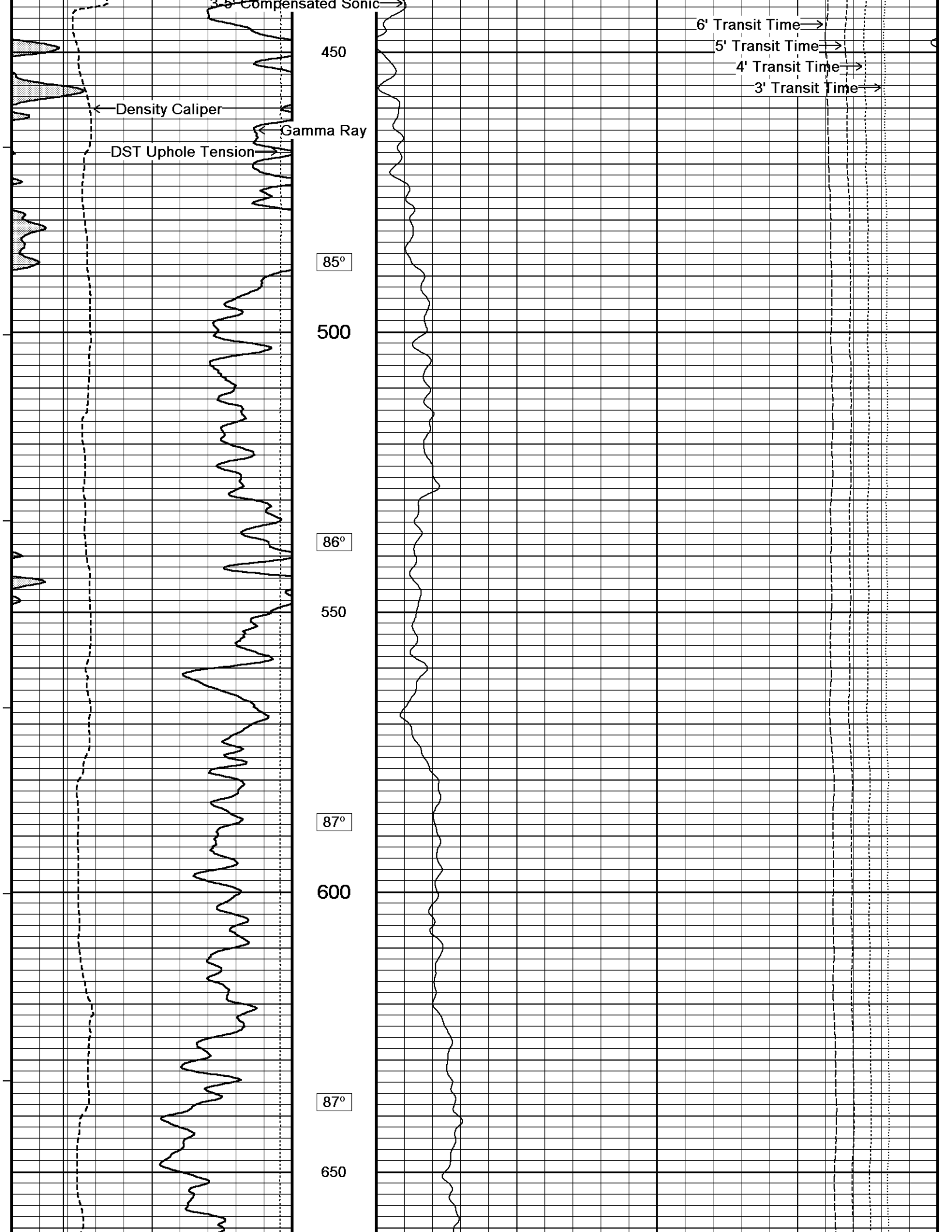
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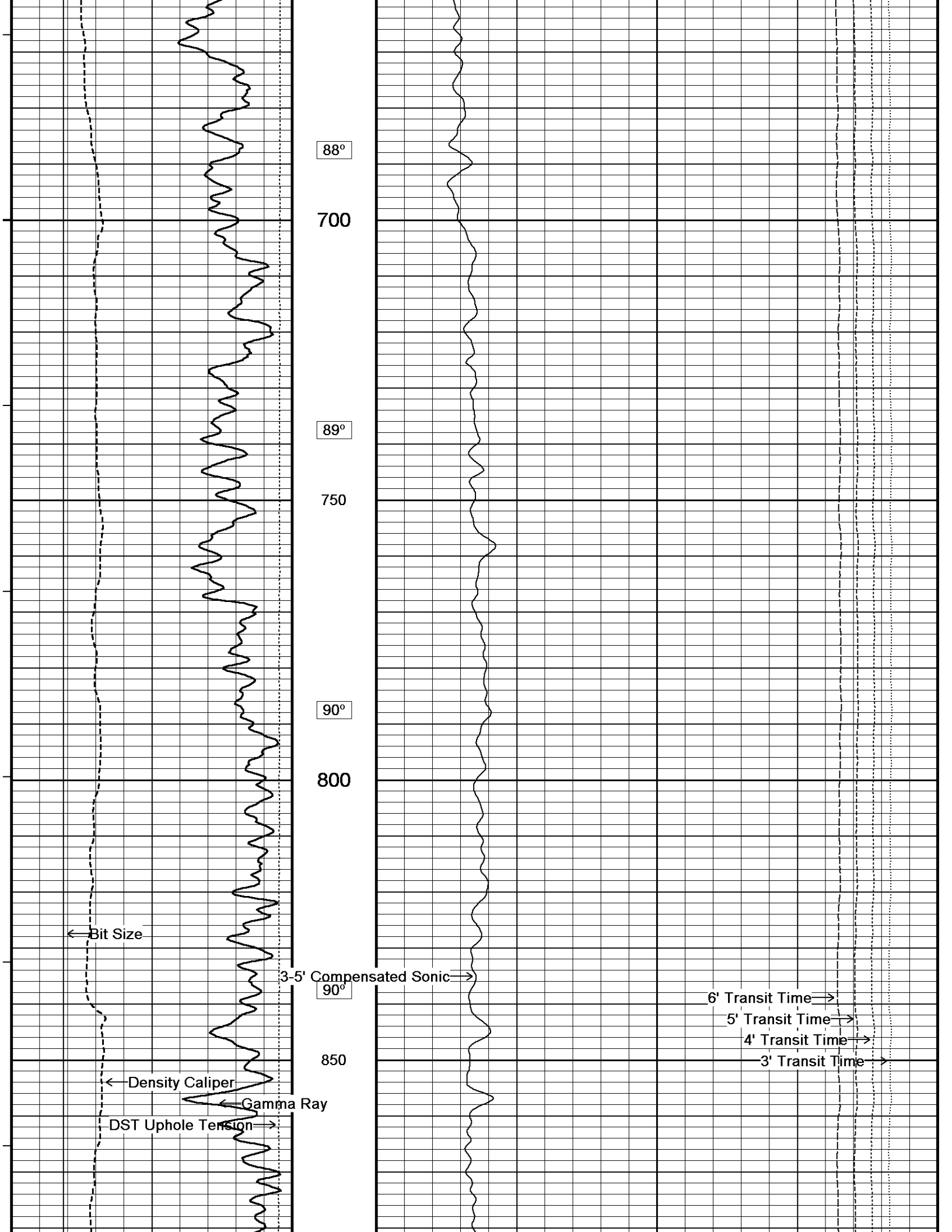
Casing Shoe

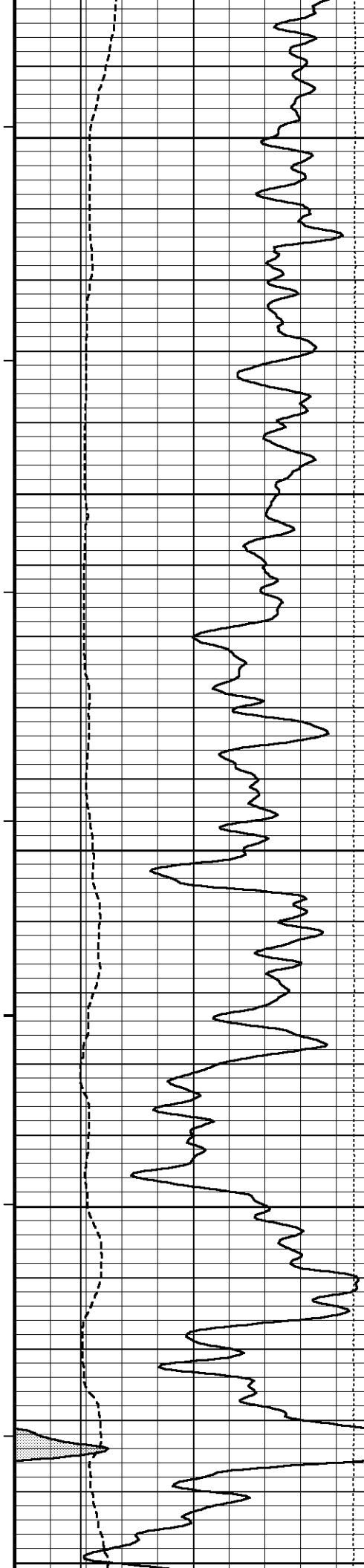
400

84°









91°

900

92°

950

92°

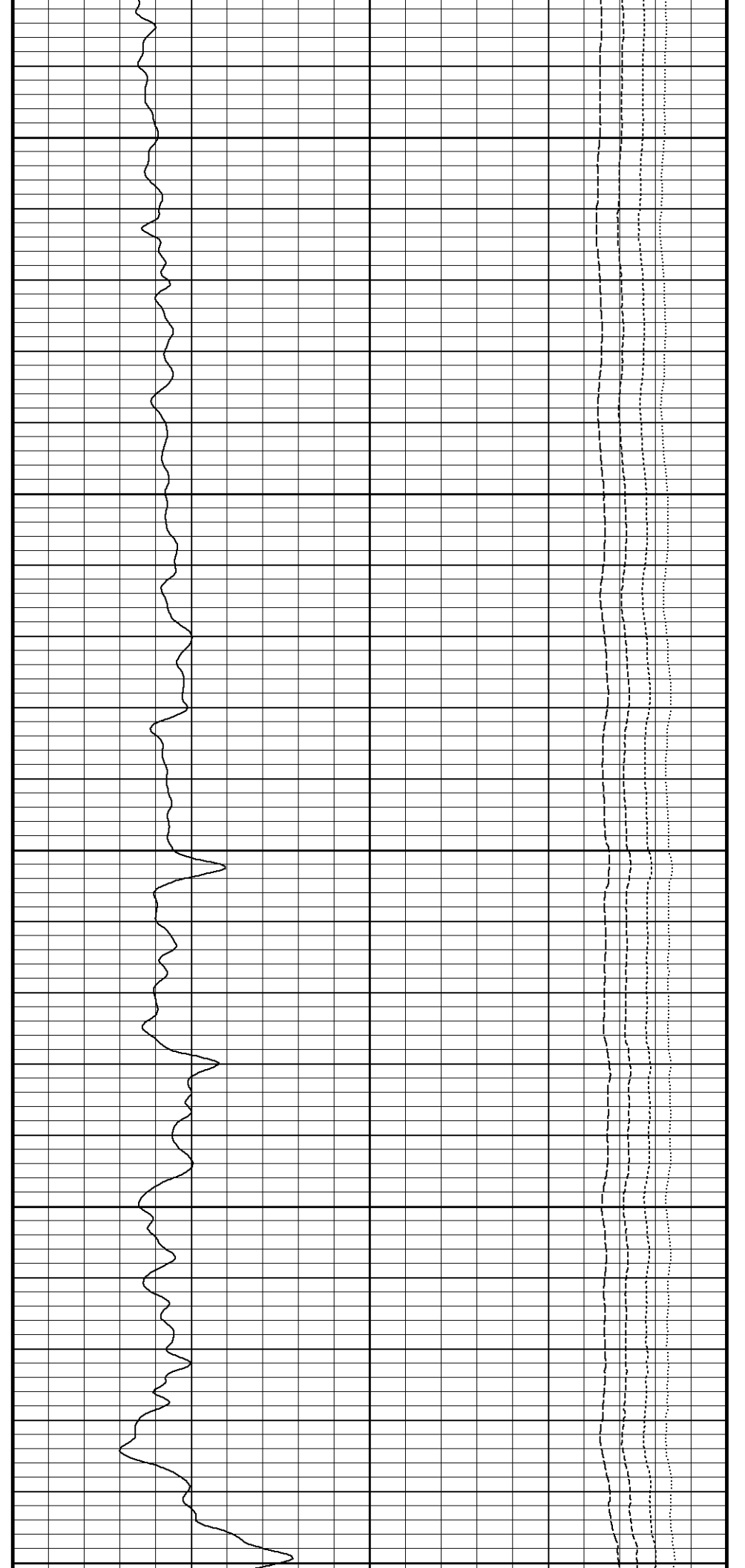
1000

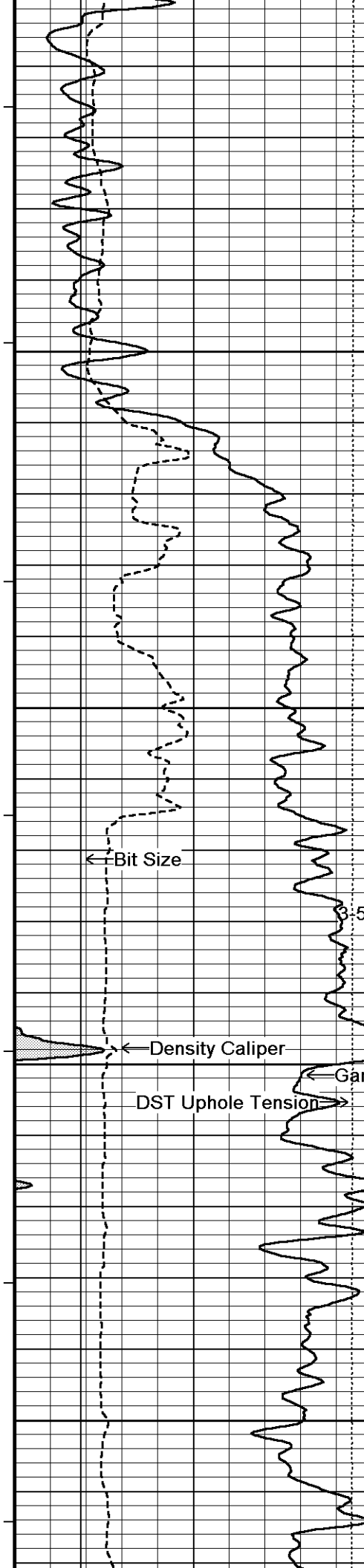
93°

1050

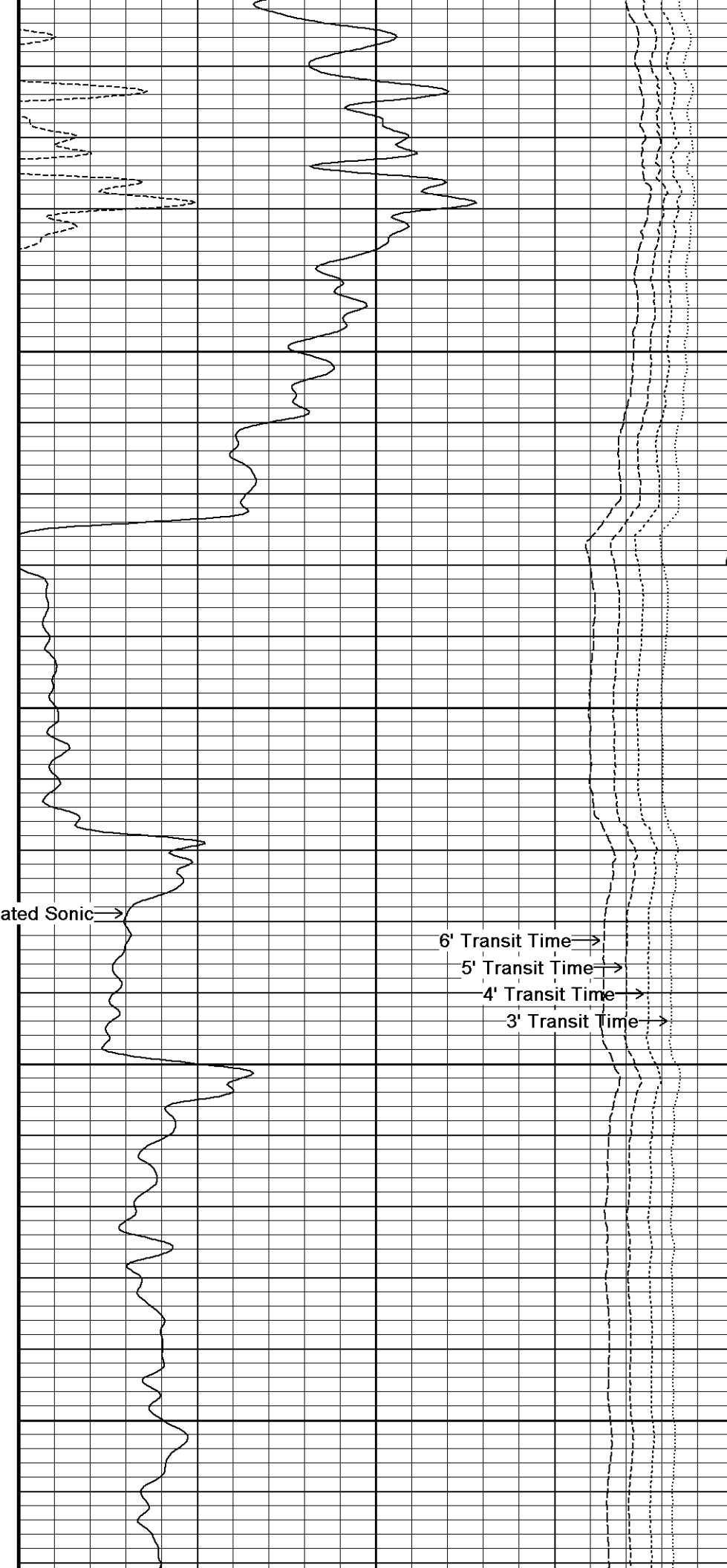
93°

1100





1130
93°
1150
94°
1200
95°
1250
95°
1300



← Bit Size

← 5' Compensated Sonic →

6' Transit Time →

5' Transit Time →

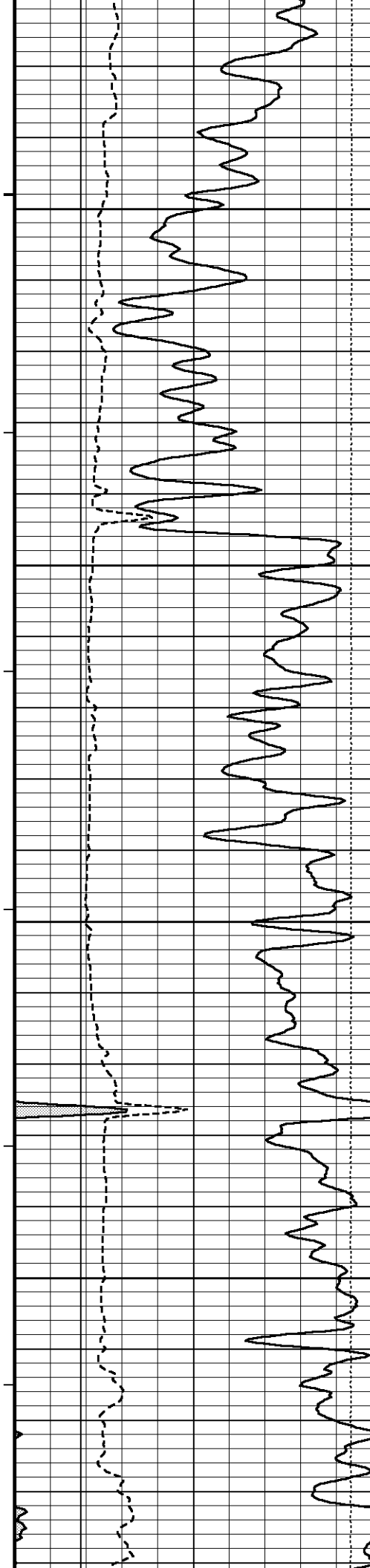
4' Transit Time →

3' Transit Time →

← Density Caliper

← Gamma Ray

DST Uphole Tension →



95°

1350

96°

1400

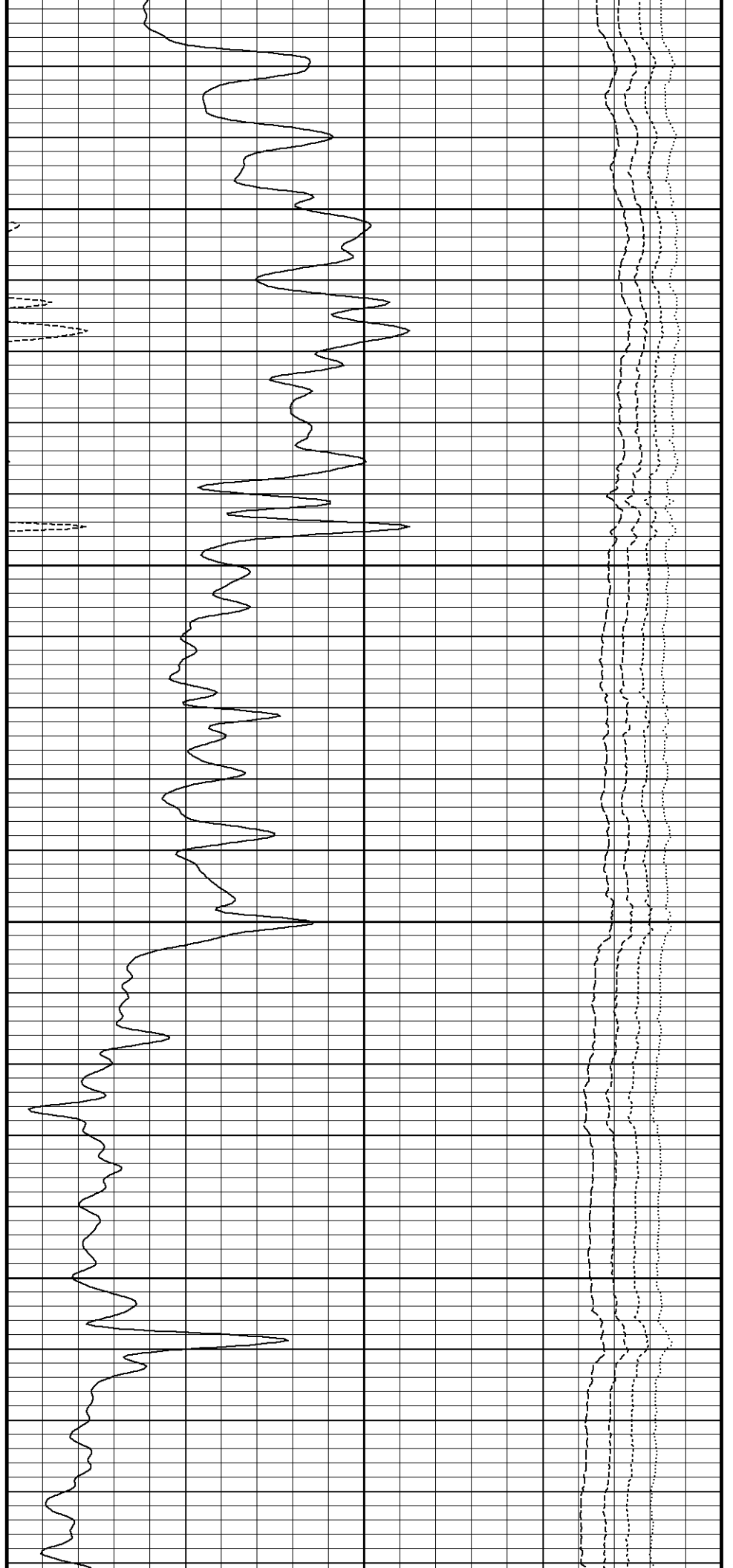
96°

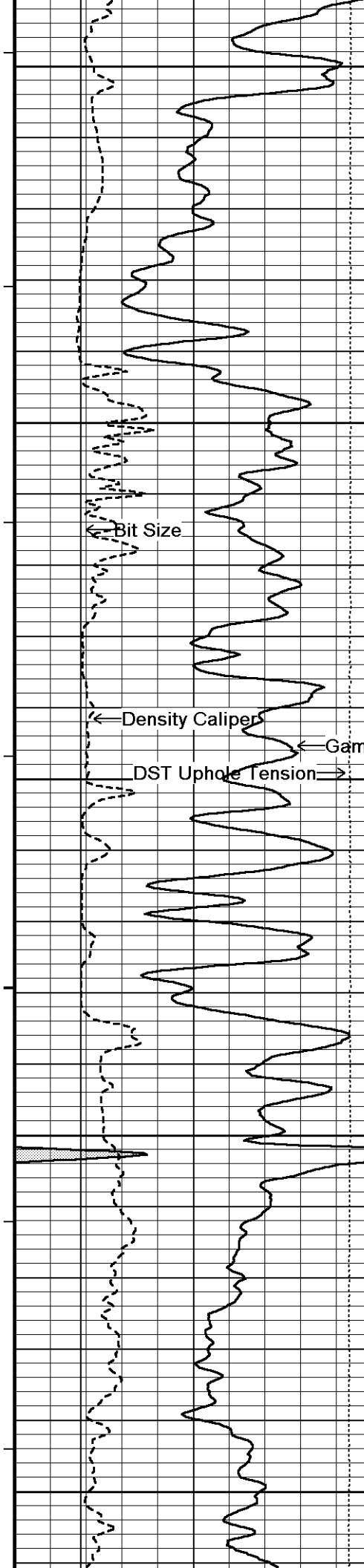
1450

97°

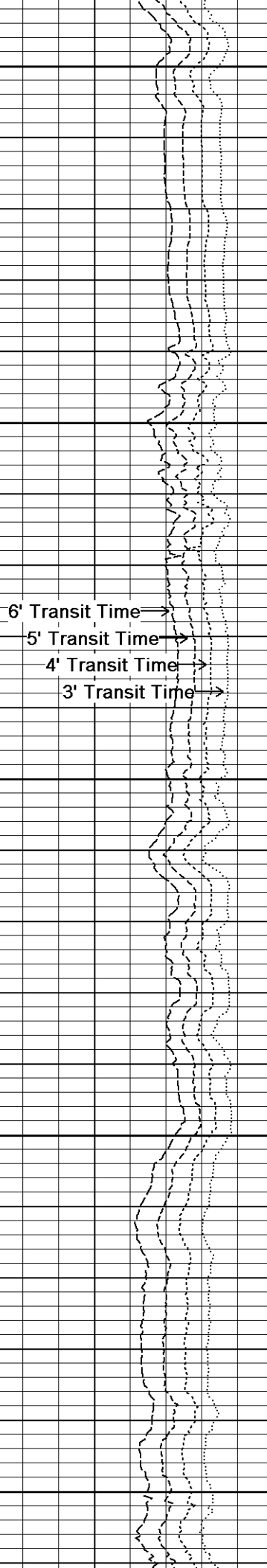
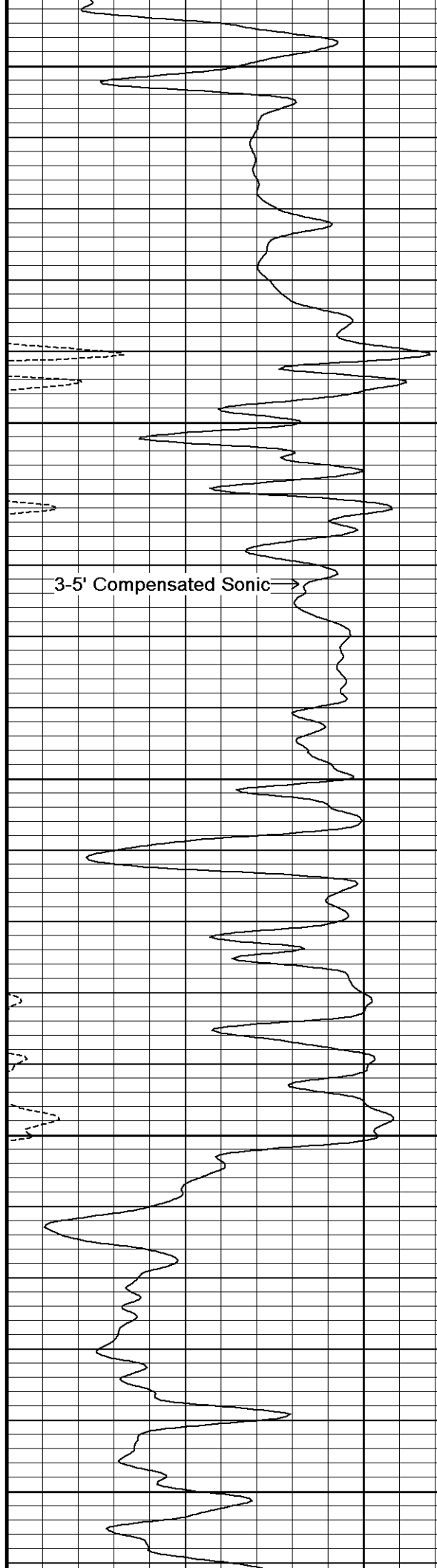
1500

97°

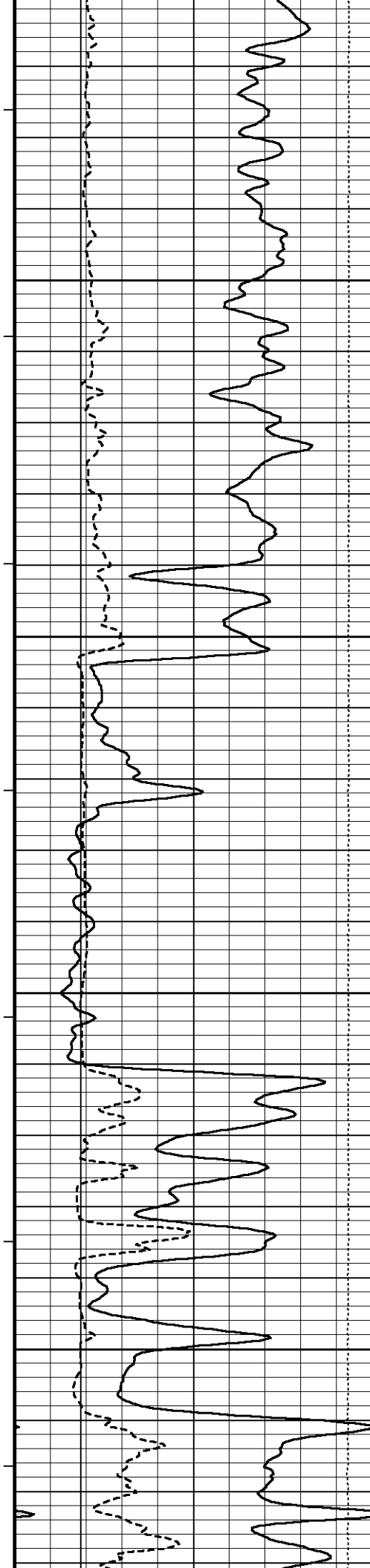




1550
97°
1600
98°
1650
98°
1700
99°
1750



3-5' Compensated Sonic →
6' Transit Time →
5' Transit Time →
4' Transit Time →
3' Transit Time →



99°

1800

100°

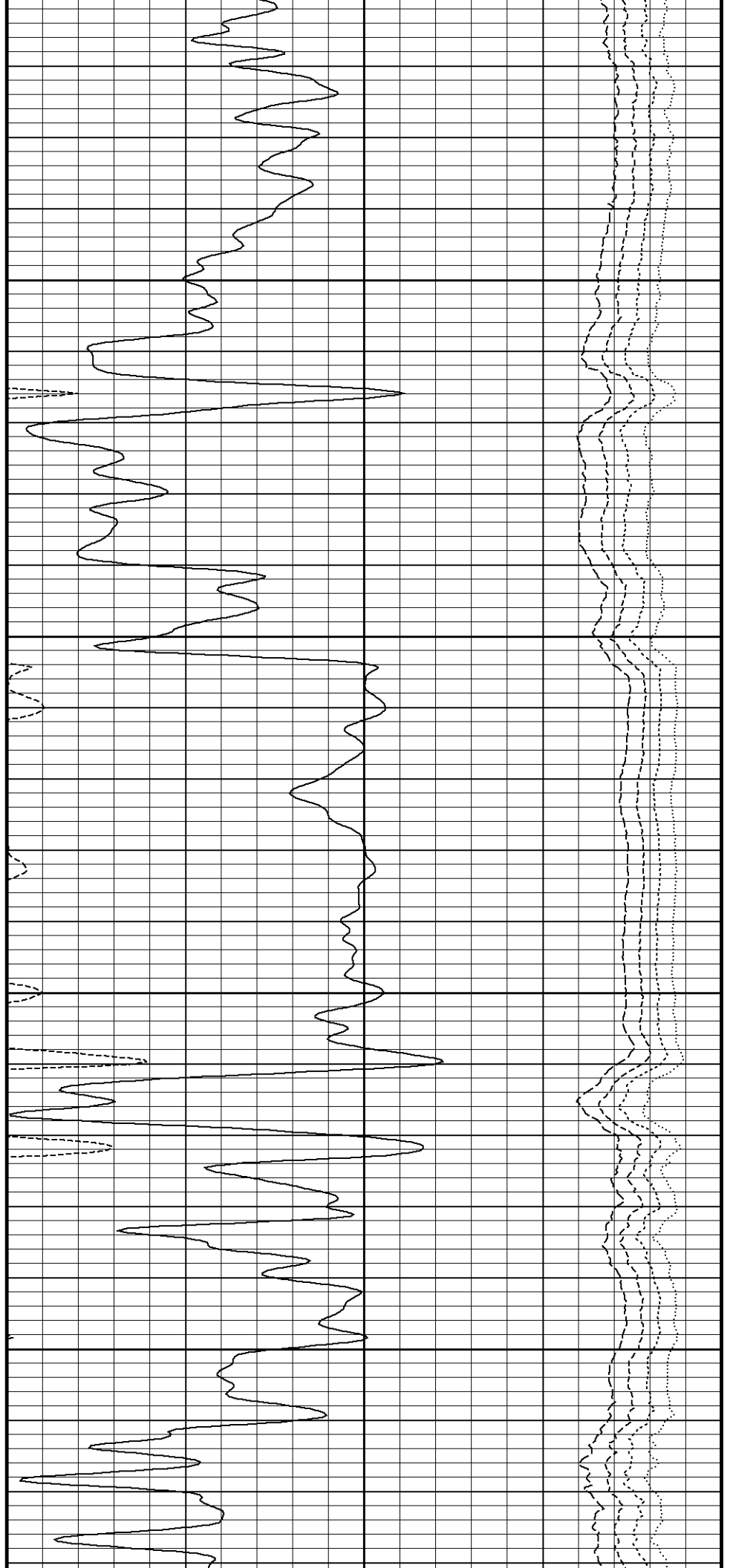
1850

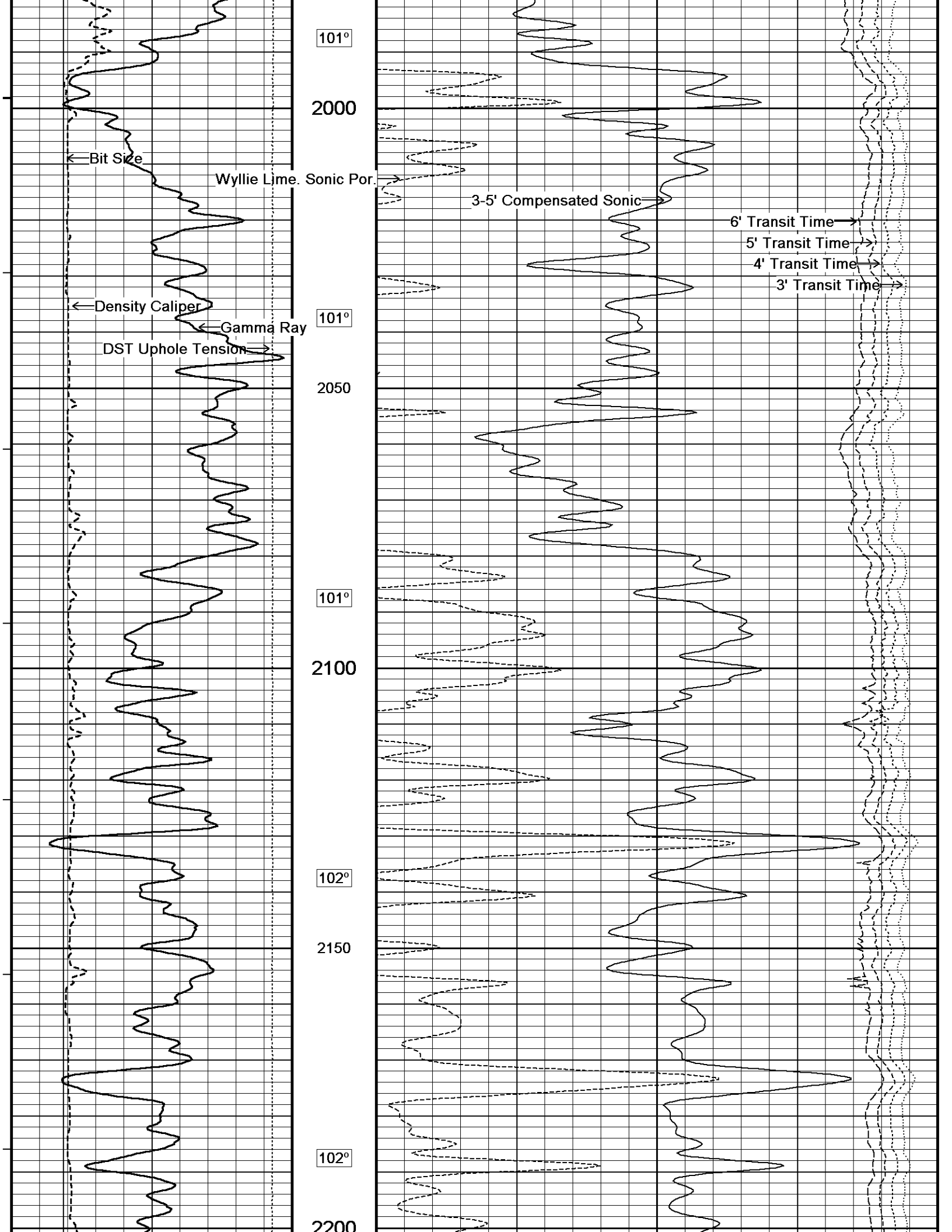
100°

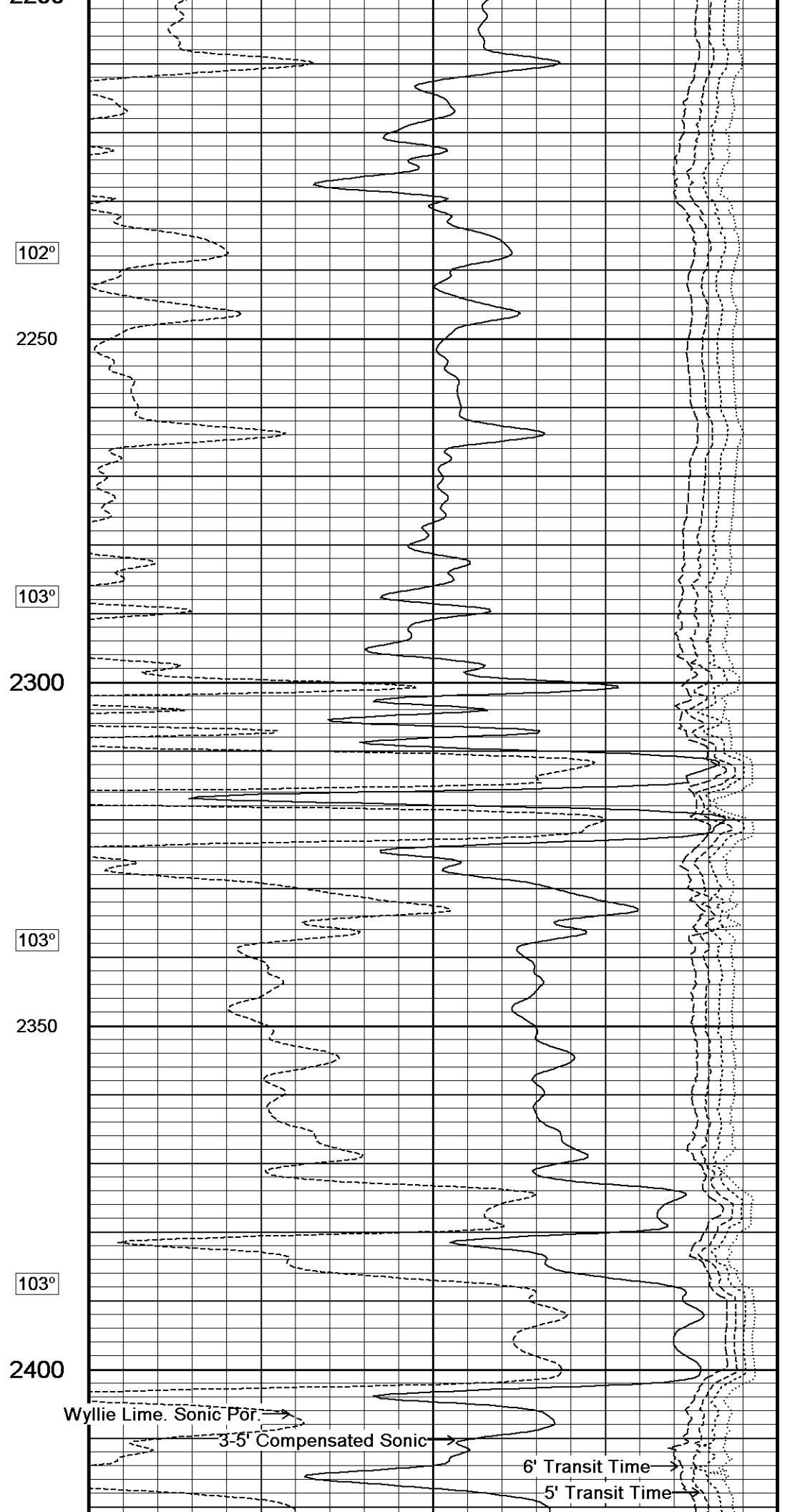
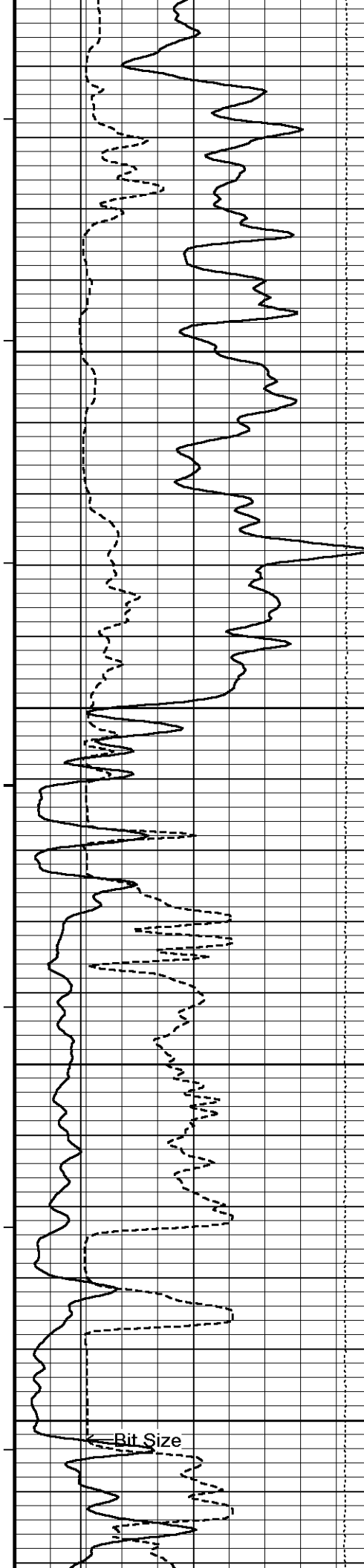
1900

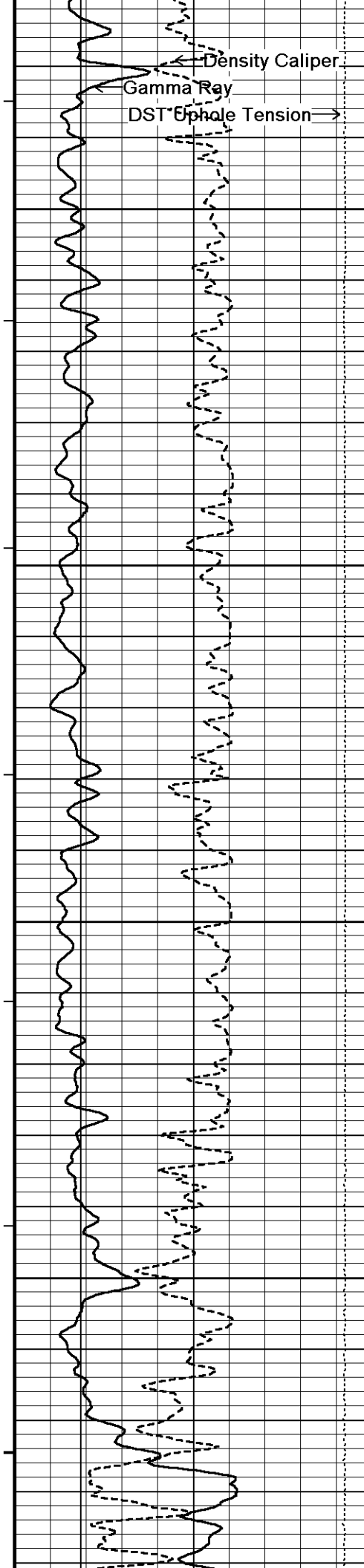
100°

1950

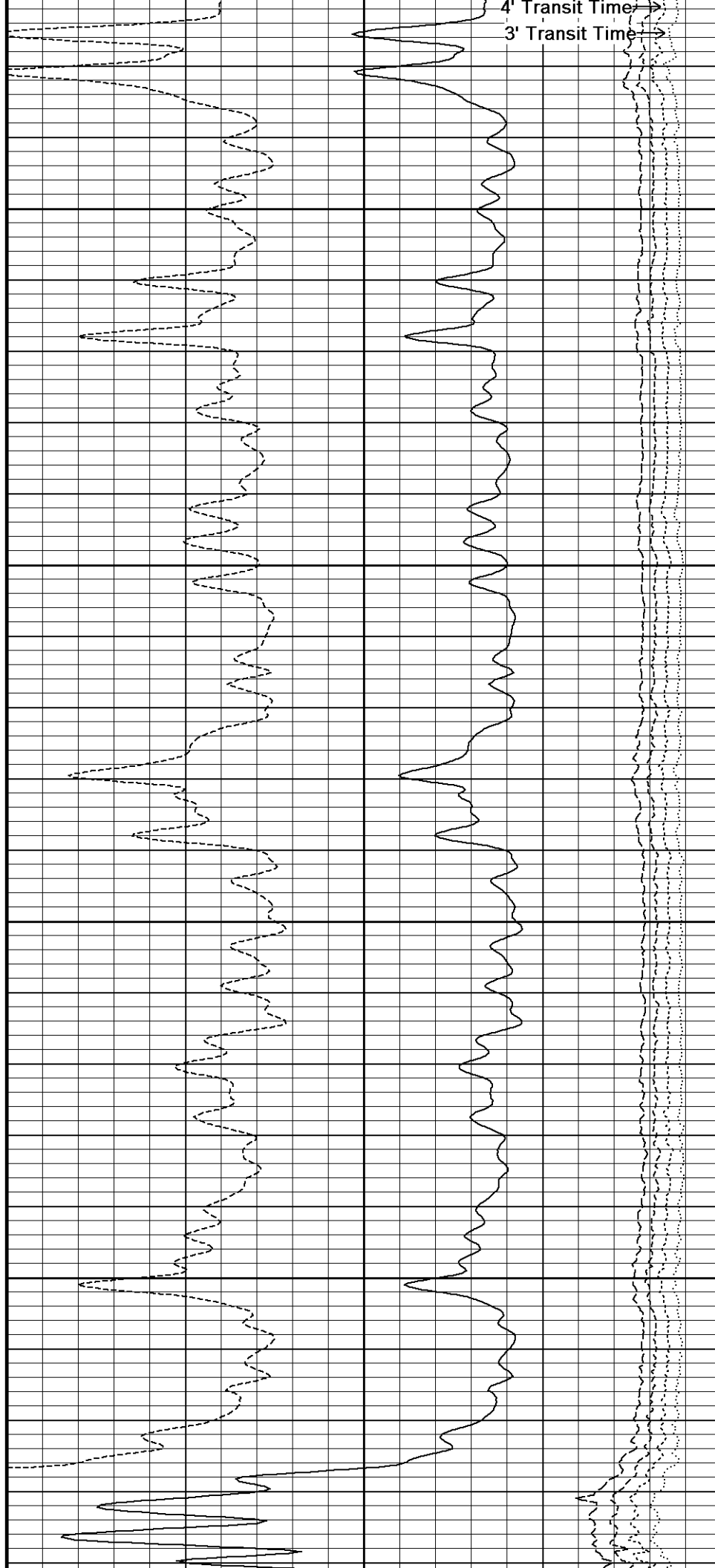




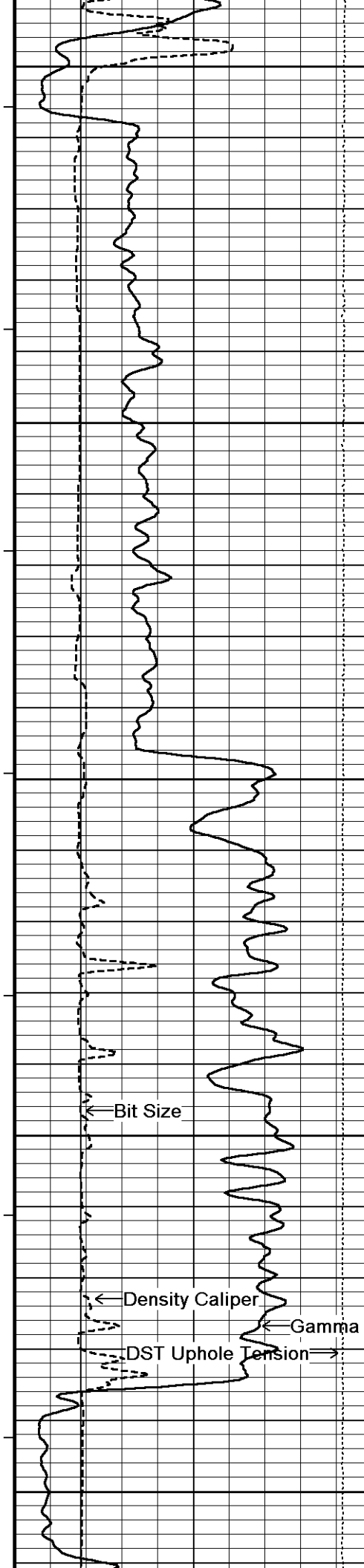




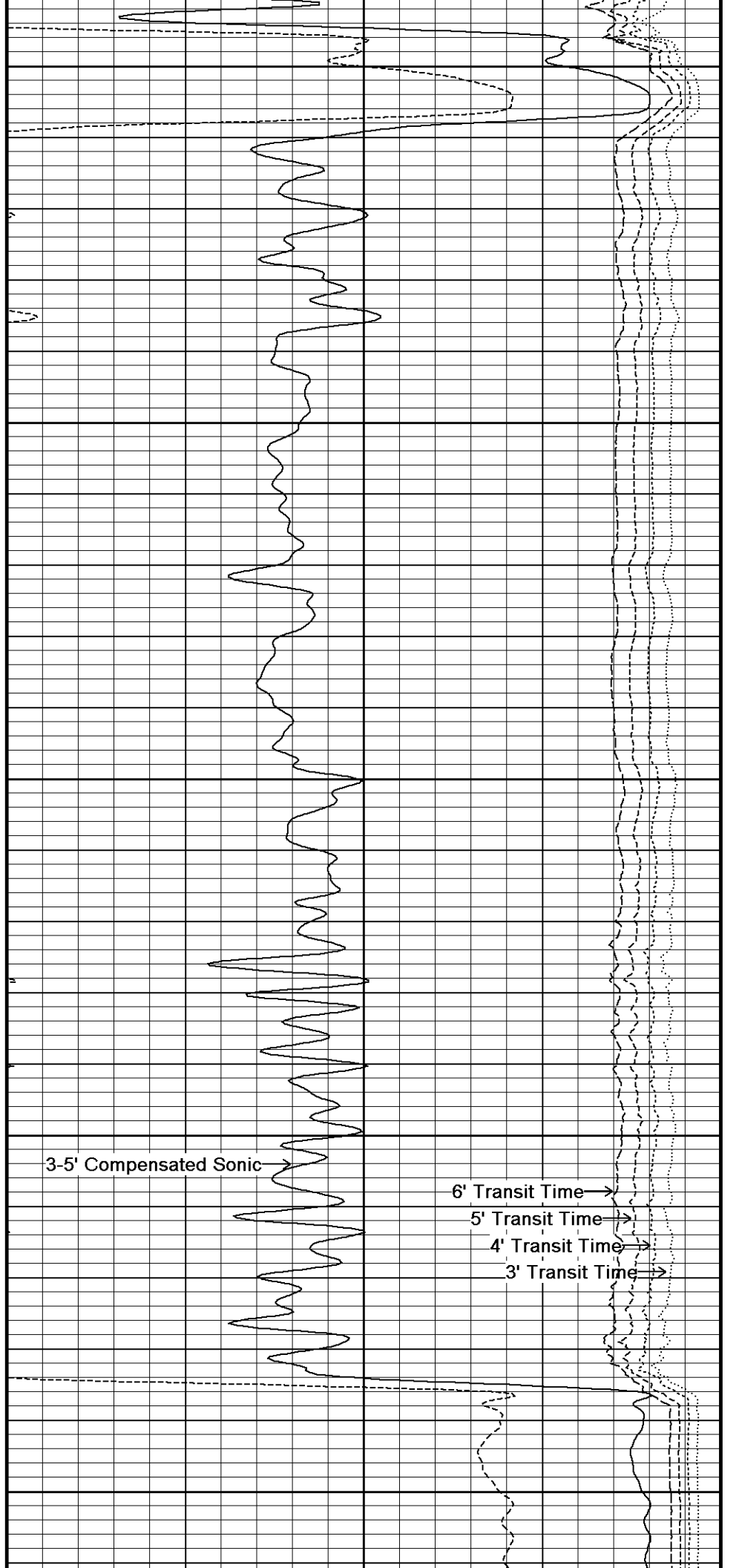
104°
2450
104°
2500
104°
2550
104°
2600
104°



4' Transit Time →
3' Transit Time →



2650
105°
2700
105°
2750
105°
2800
106°
2850



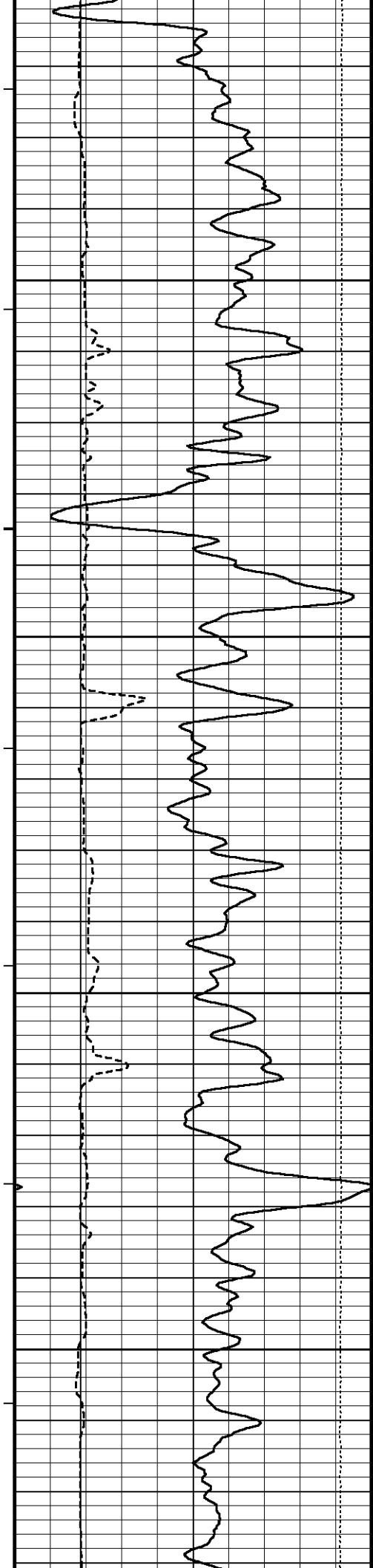
3-5' Compensated Sonic →

6' Transit Time →

5' Transit Time →

4' Transit Time →

3' Transit Time →



106°

2900

106°

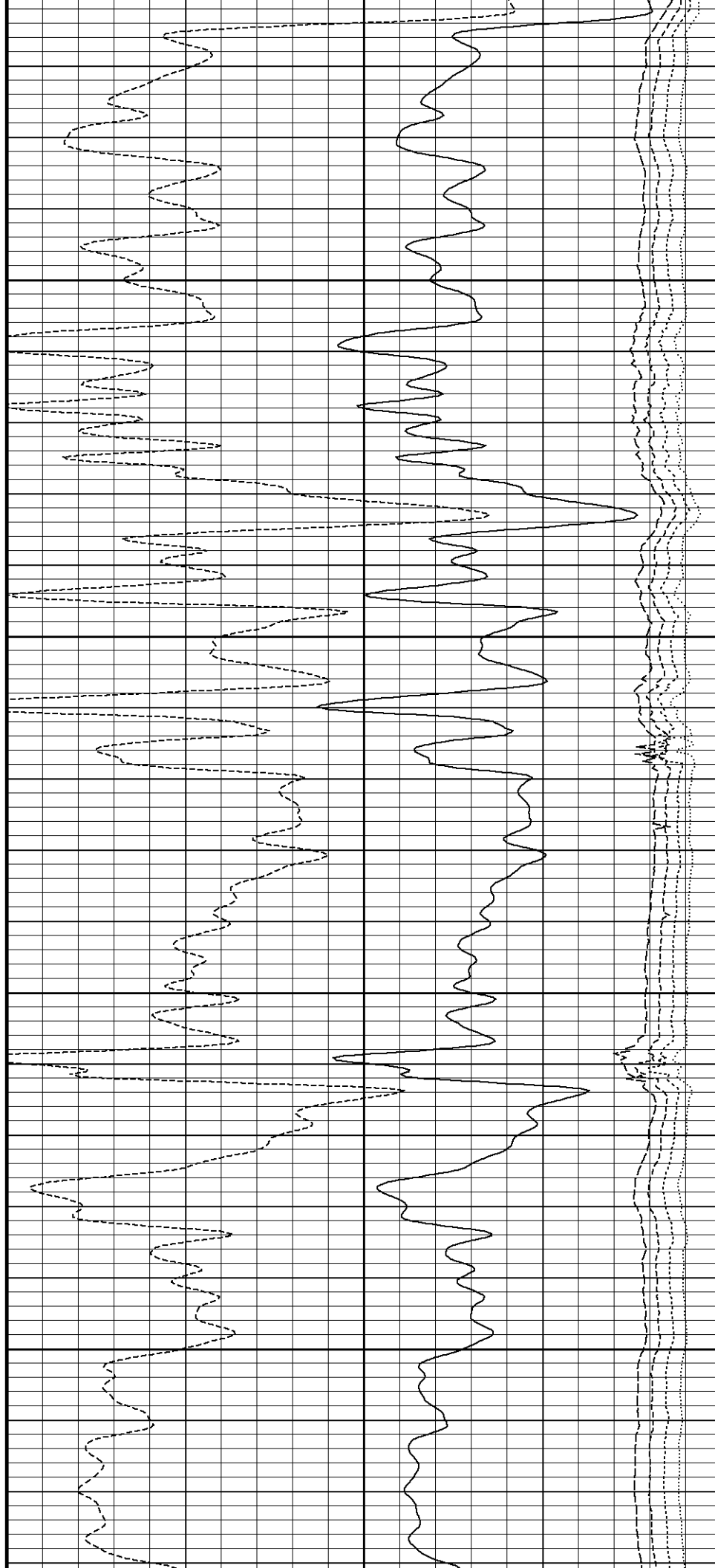
2950

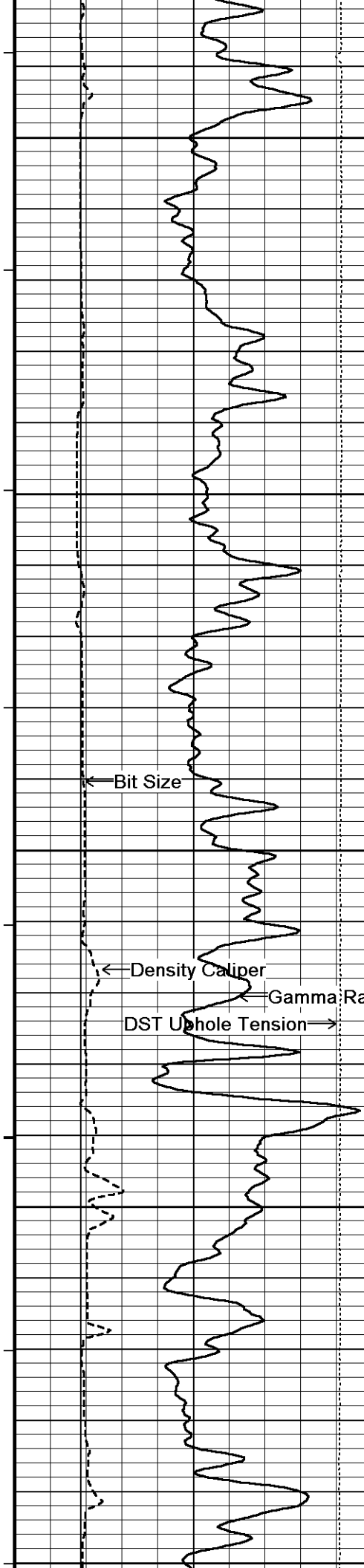
106°

3000

107°

3050





107°

3100

108°

3150

108°

3200

108°

3250

108°

3300

Wyllie Lime. Sonic Por. →

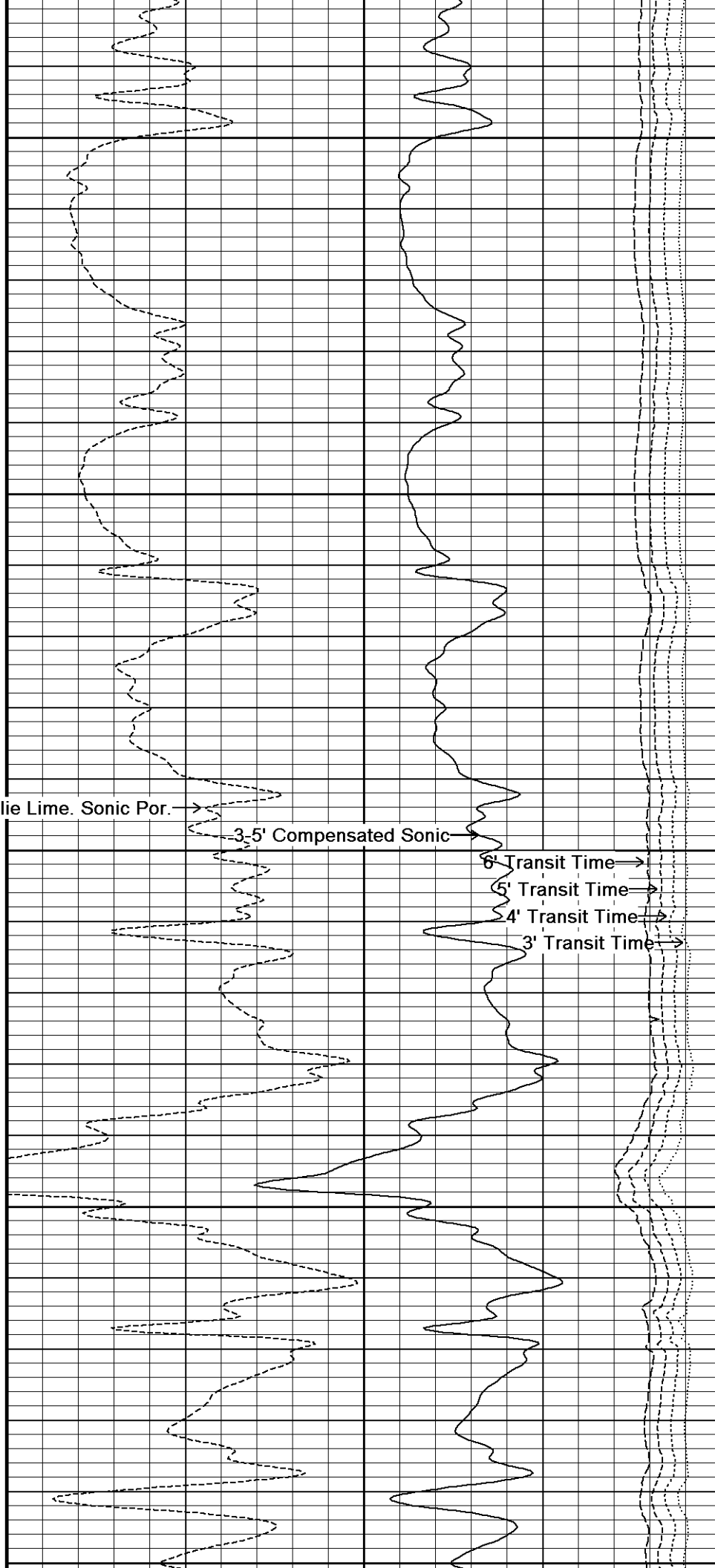
3-5' Compensated Sonic →

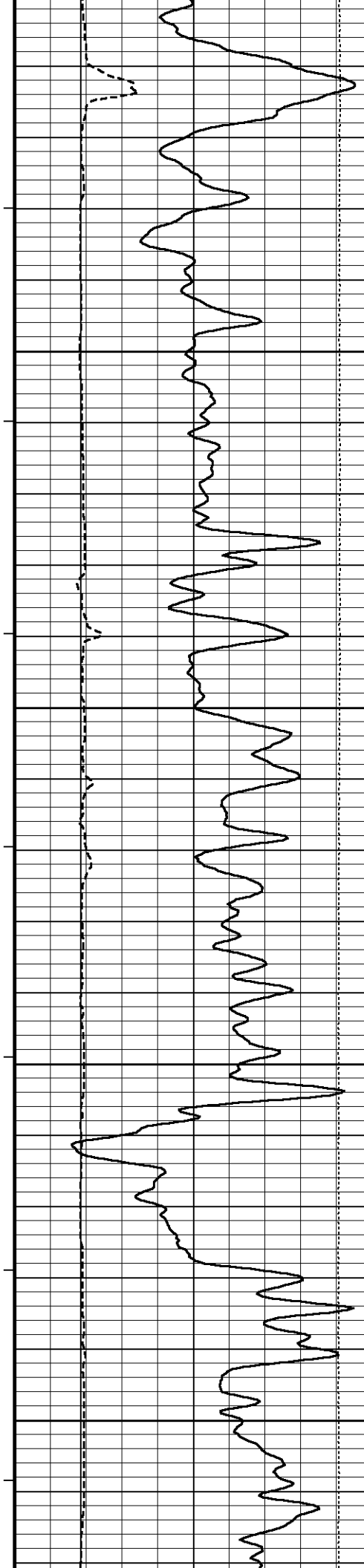
6' Transit Time →

5' Transit Time →

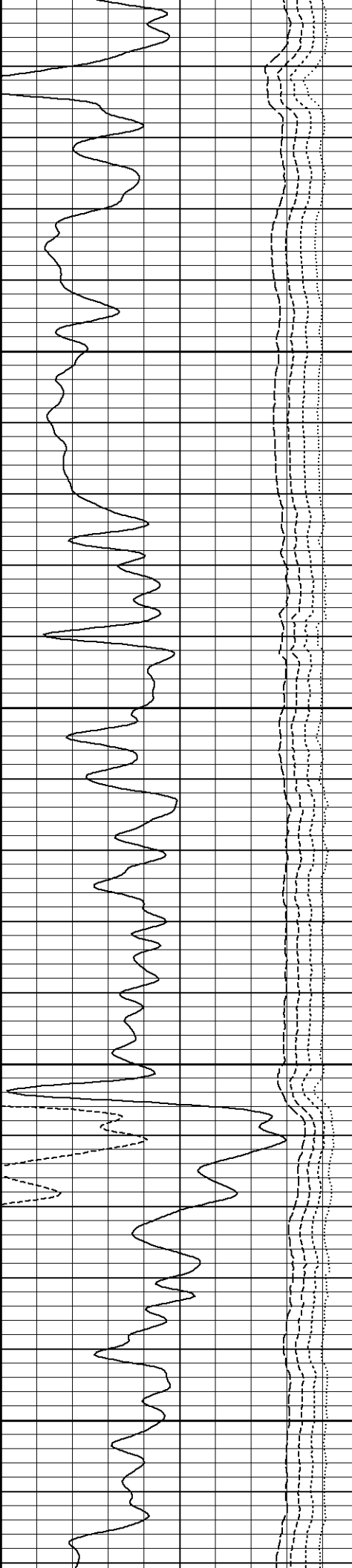
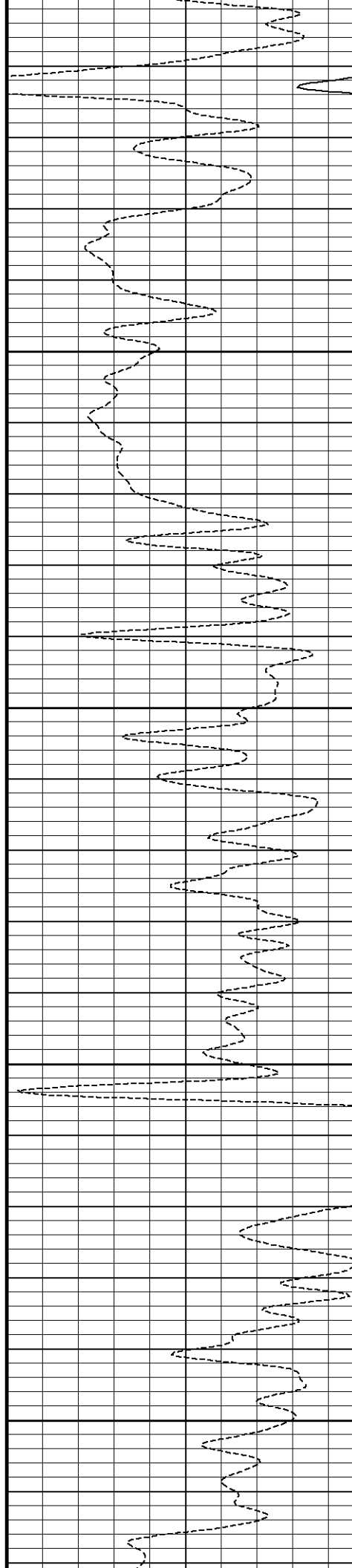
4' Transit Time →

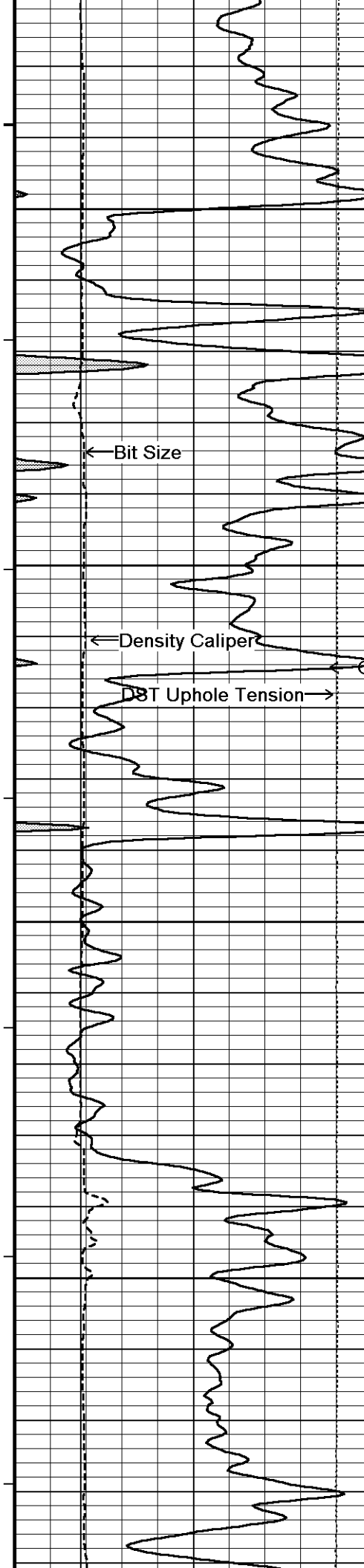
3' Transit Time →



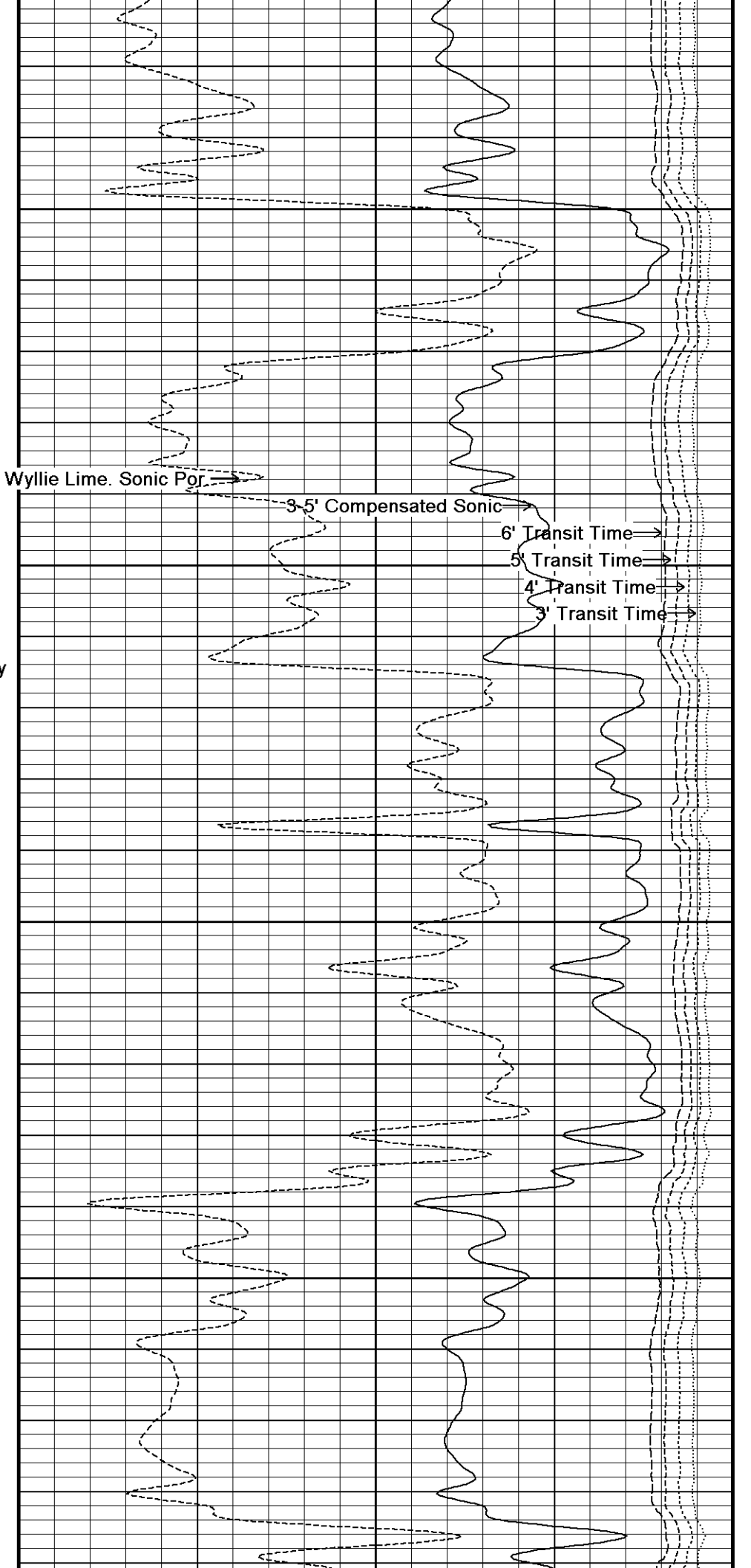


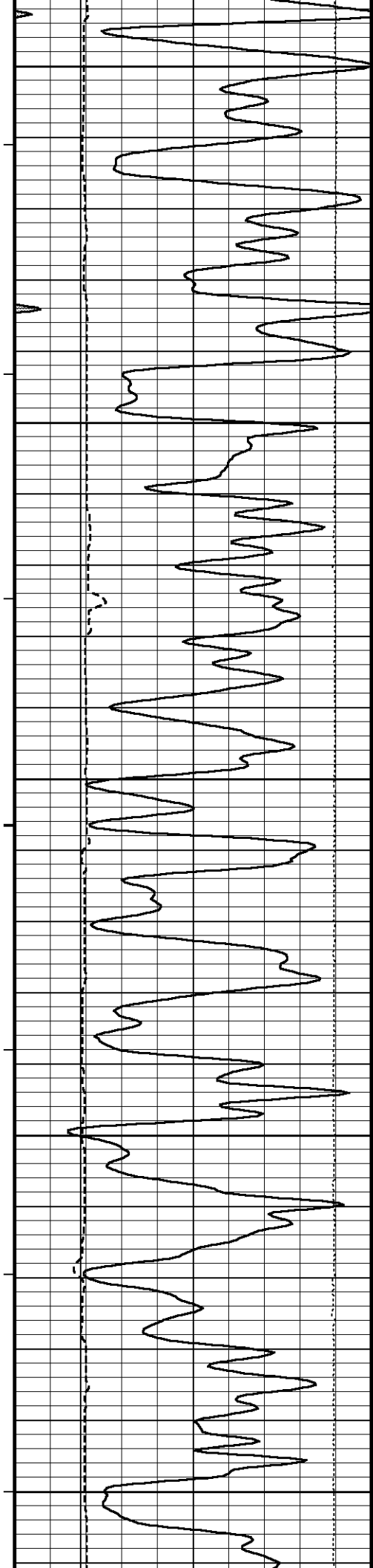
3300
108°
3350
109°
3400
109°
3450
109°
3500





110°
3550
110°
3600
110°
3650
110°
3700
110°





3750

111°

3800

111°

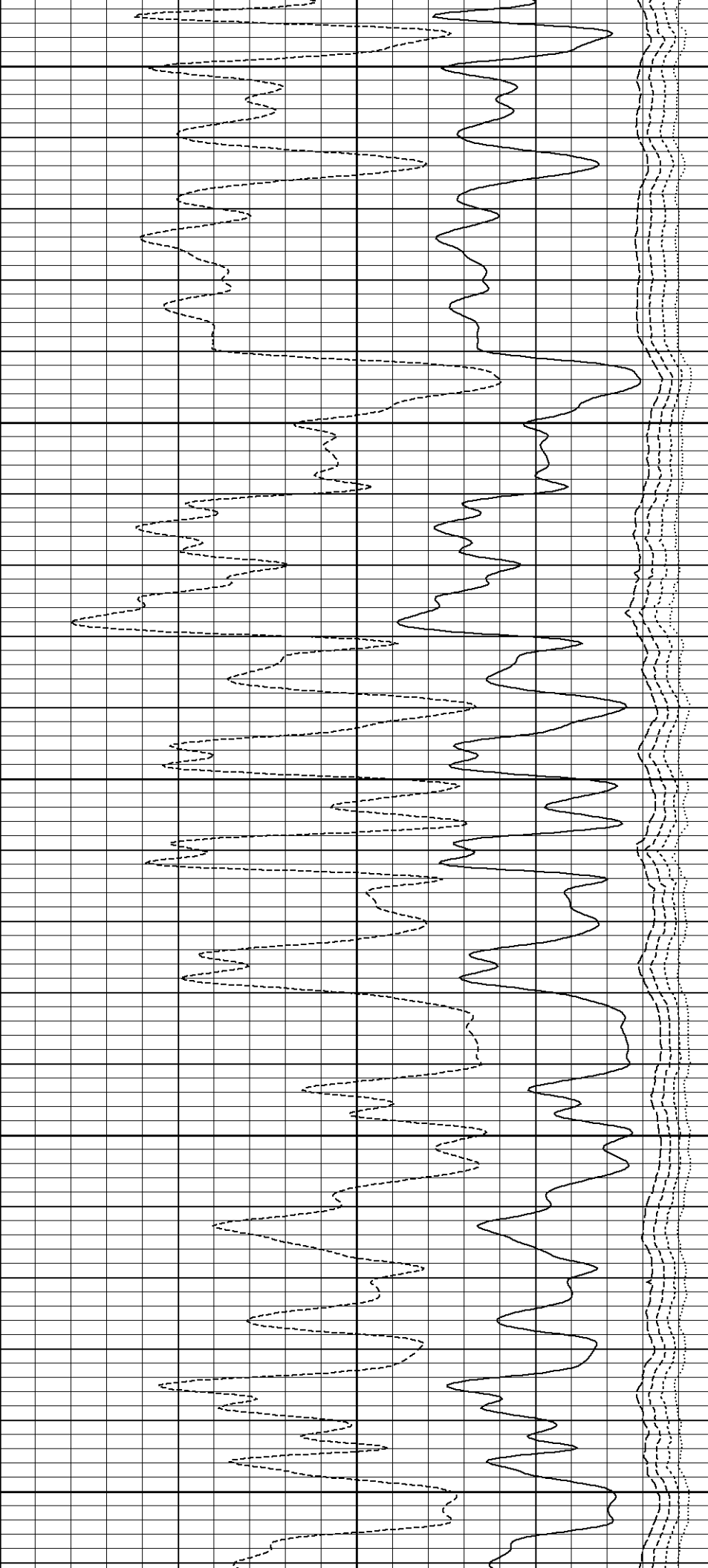
3850

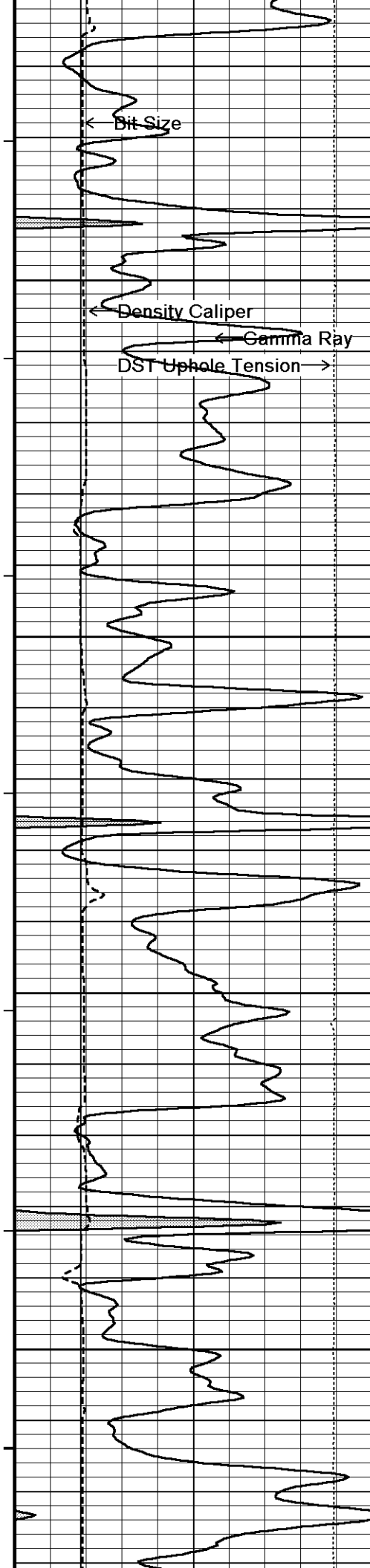
112°

3900

112°

3950





112°

4000

113°

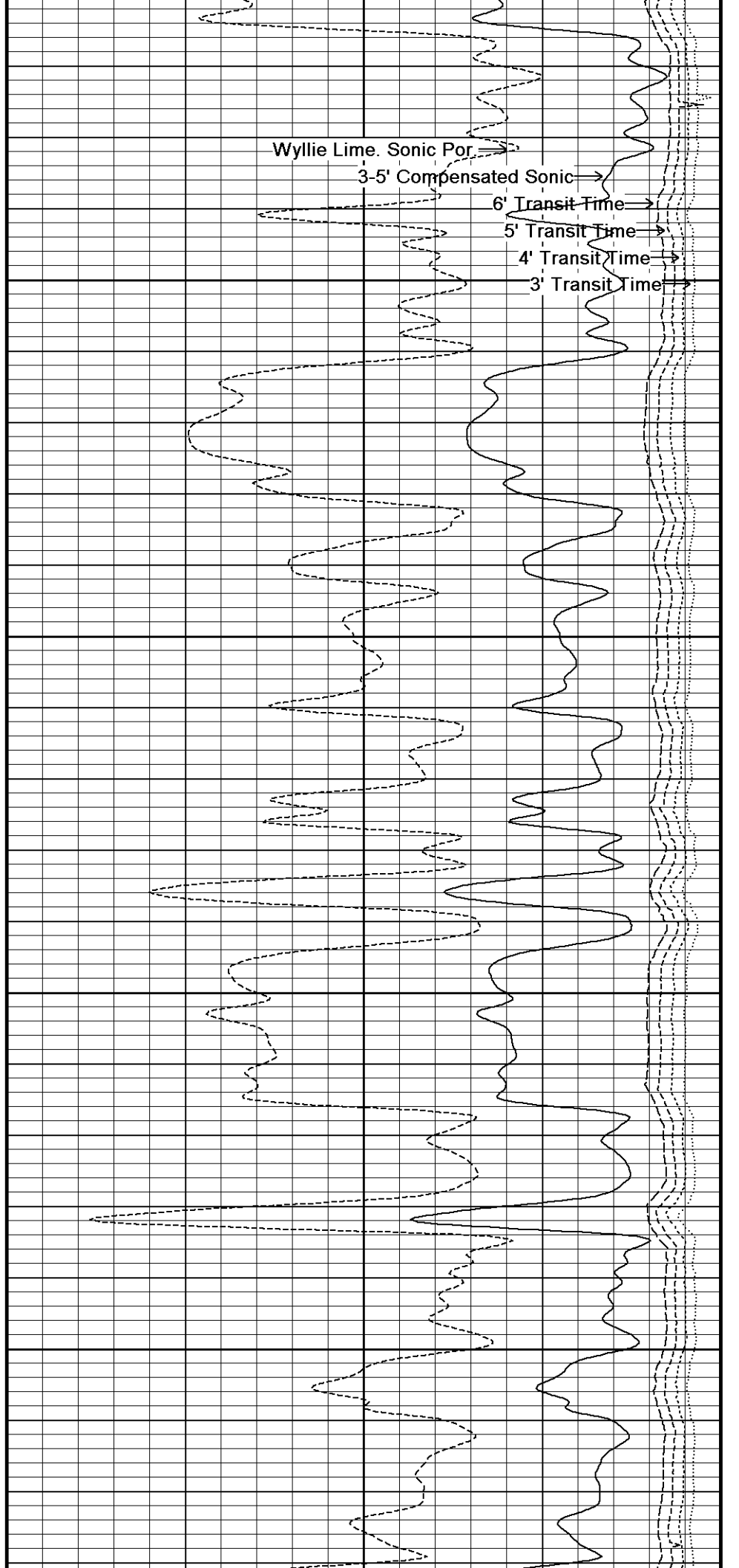
4050

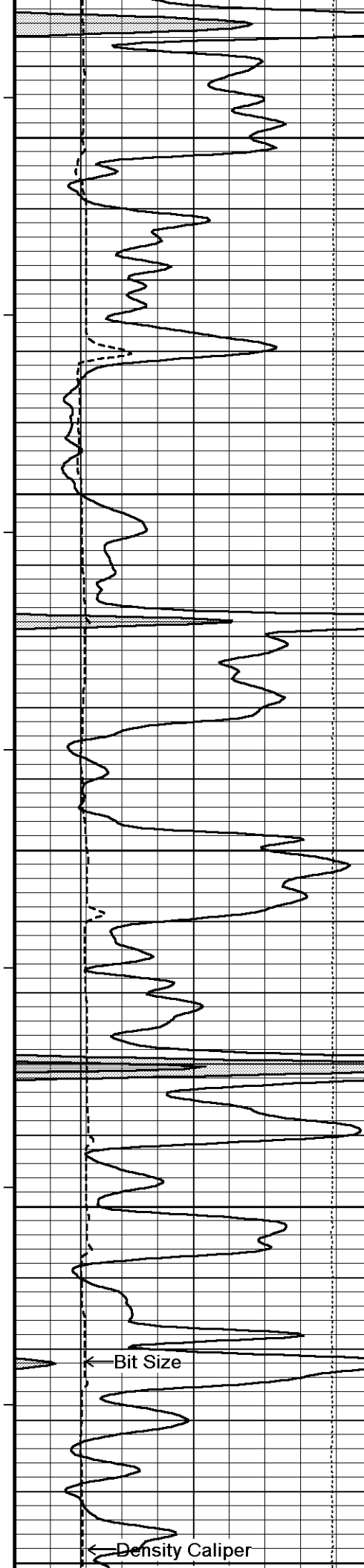
113°

4100

114°

4150





114°

4200

114°

4250

114°

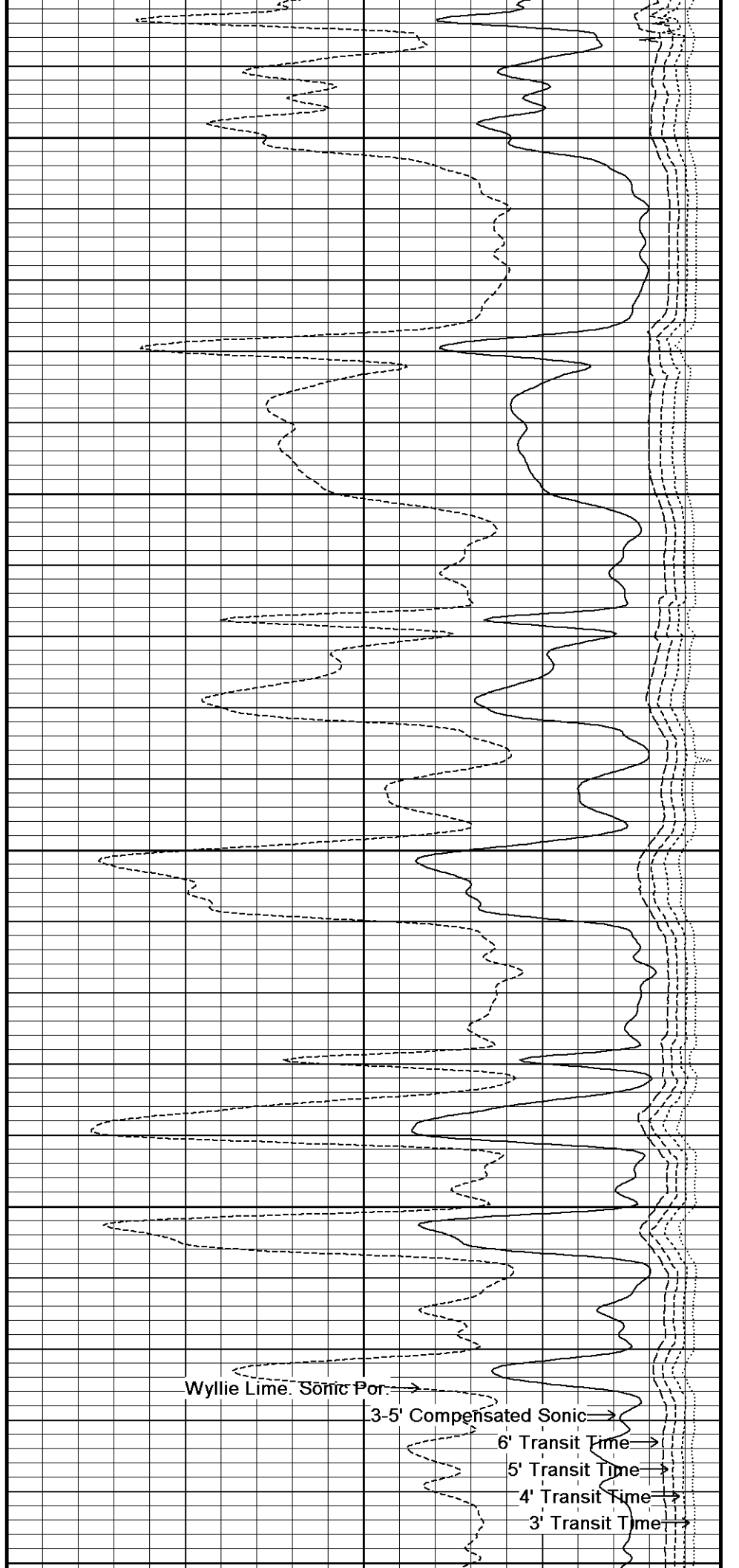
4300

115°

4350

115°

4400



Wyllie Lime. Sonic Por. →

3-5' Compensated Sonic →

6' Transit Time →

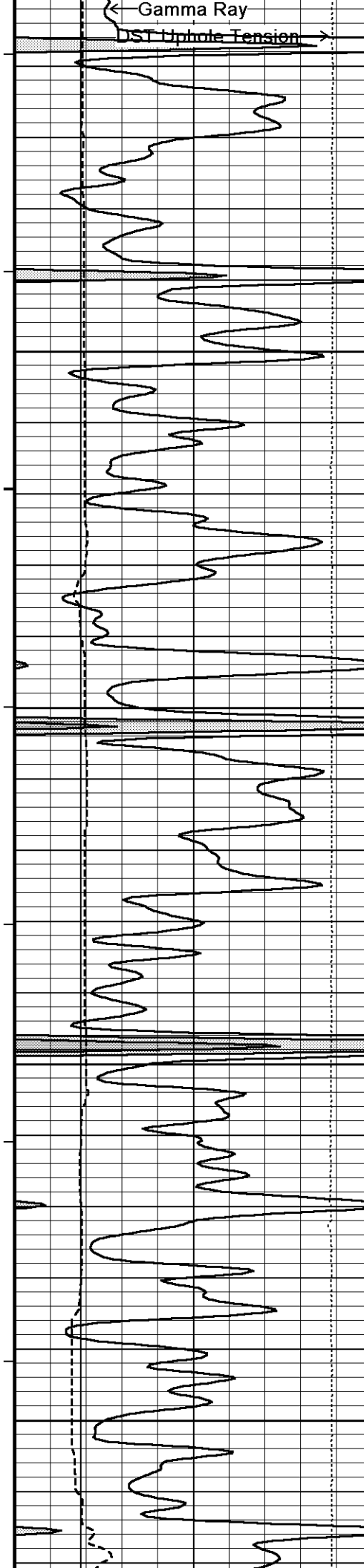
5' Transit Time →

4' Transit Time →

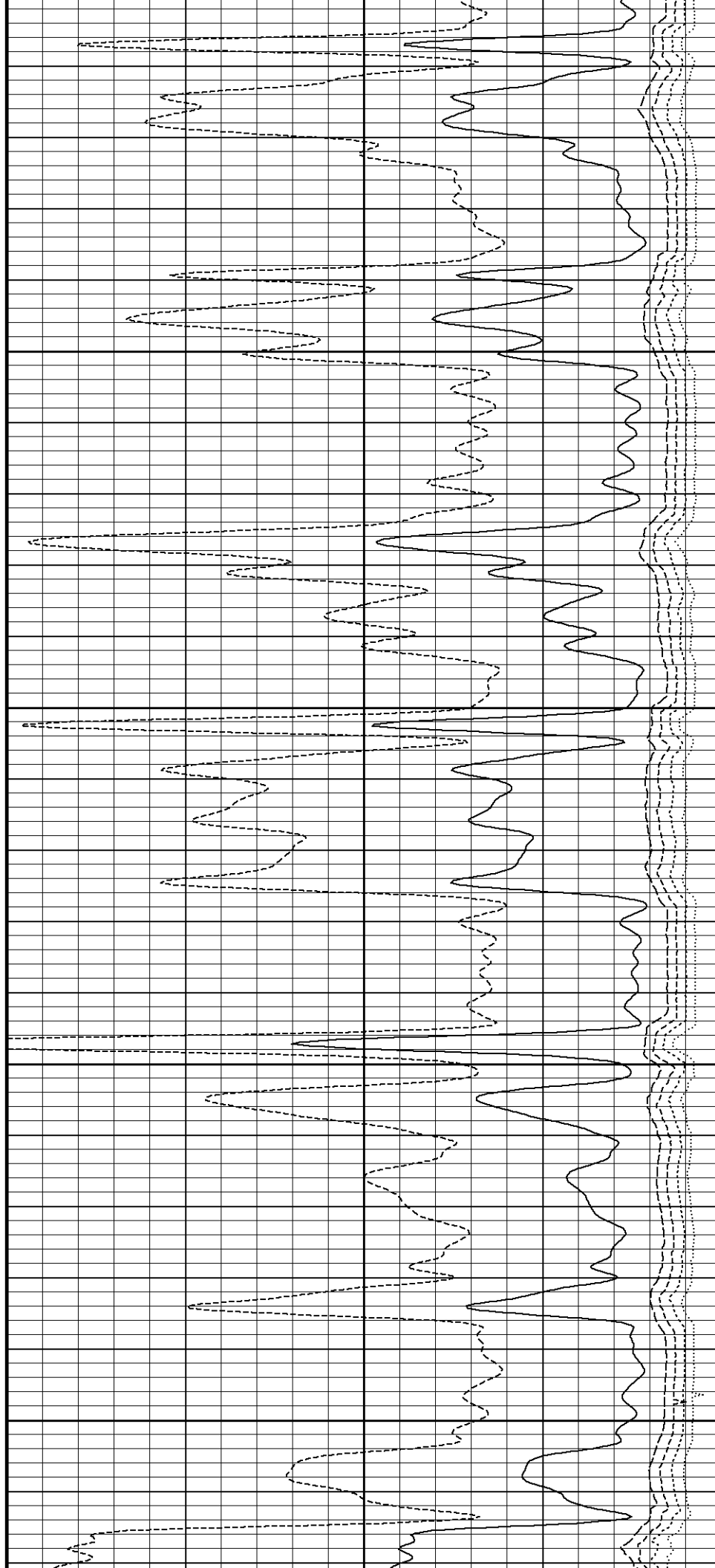
3' Transit Time →

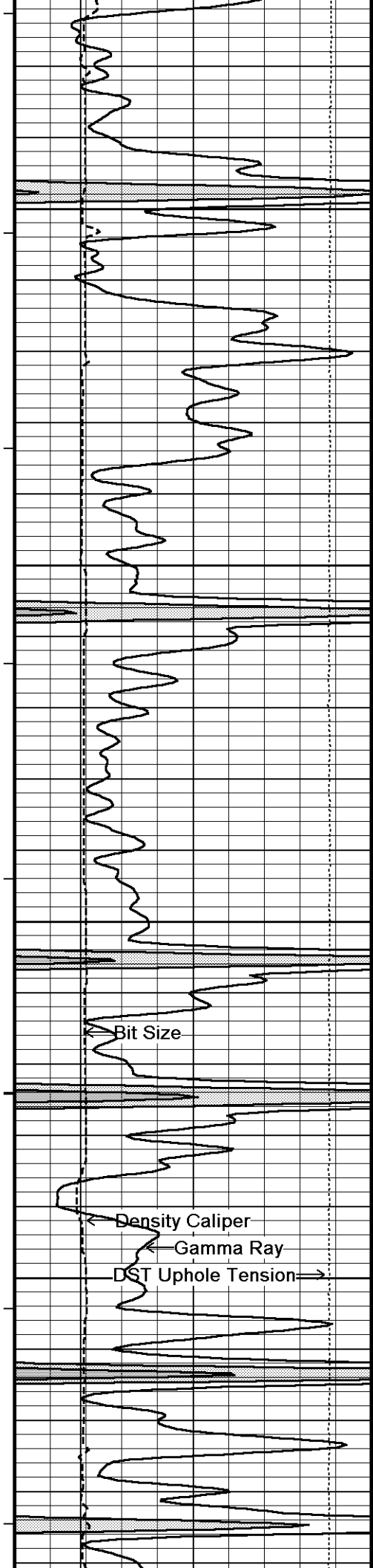
← Bit Size

← Density Caliper



1150
116°
4450
116°
4500
116°
4550
115°
4600





116°

4650

116°

4700

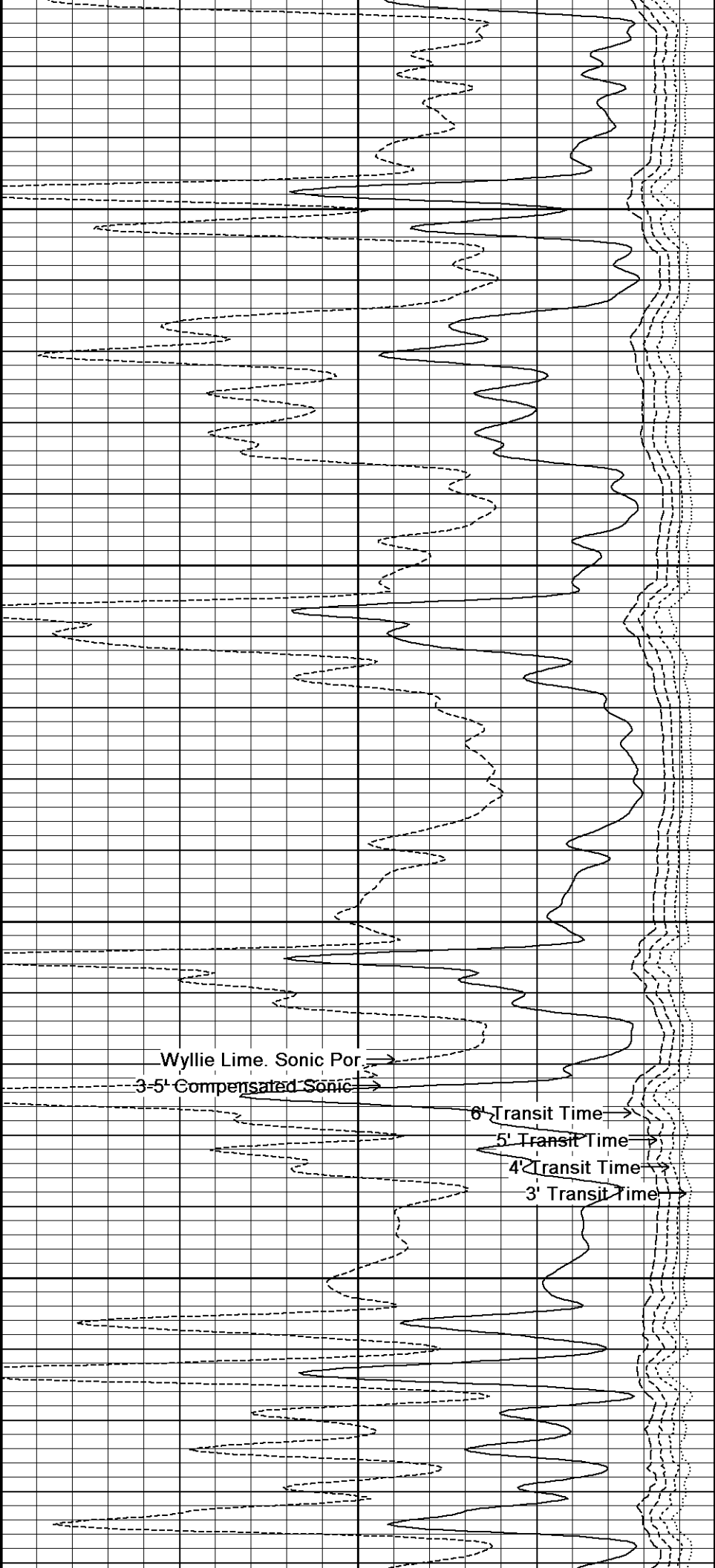
116°

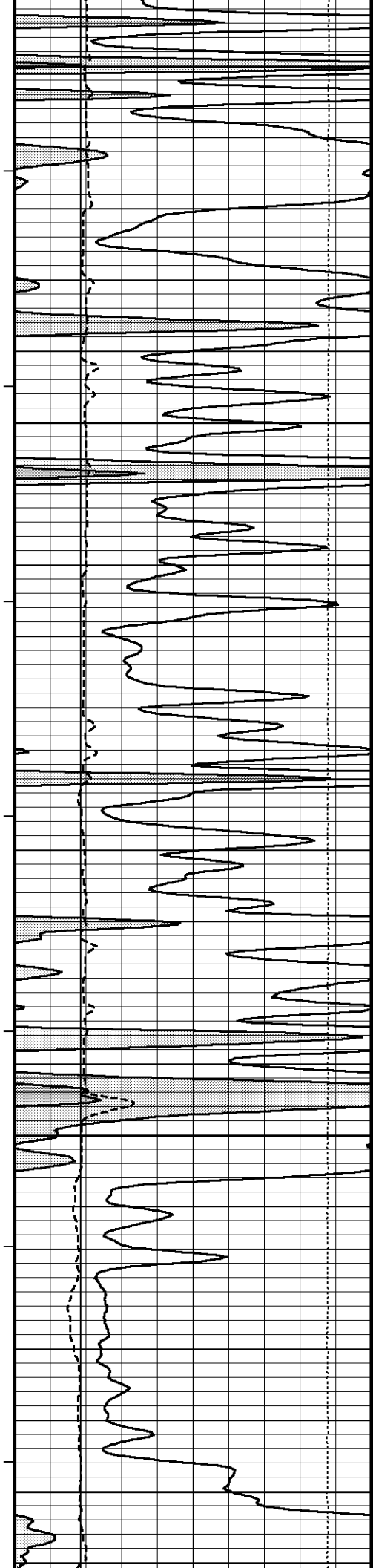
4750

117°

4800

117°





4850

119°

4900

119°

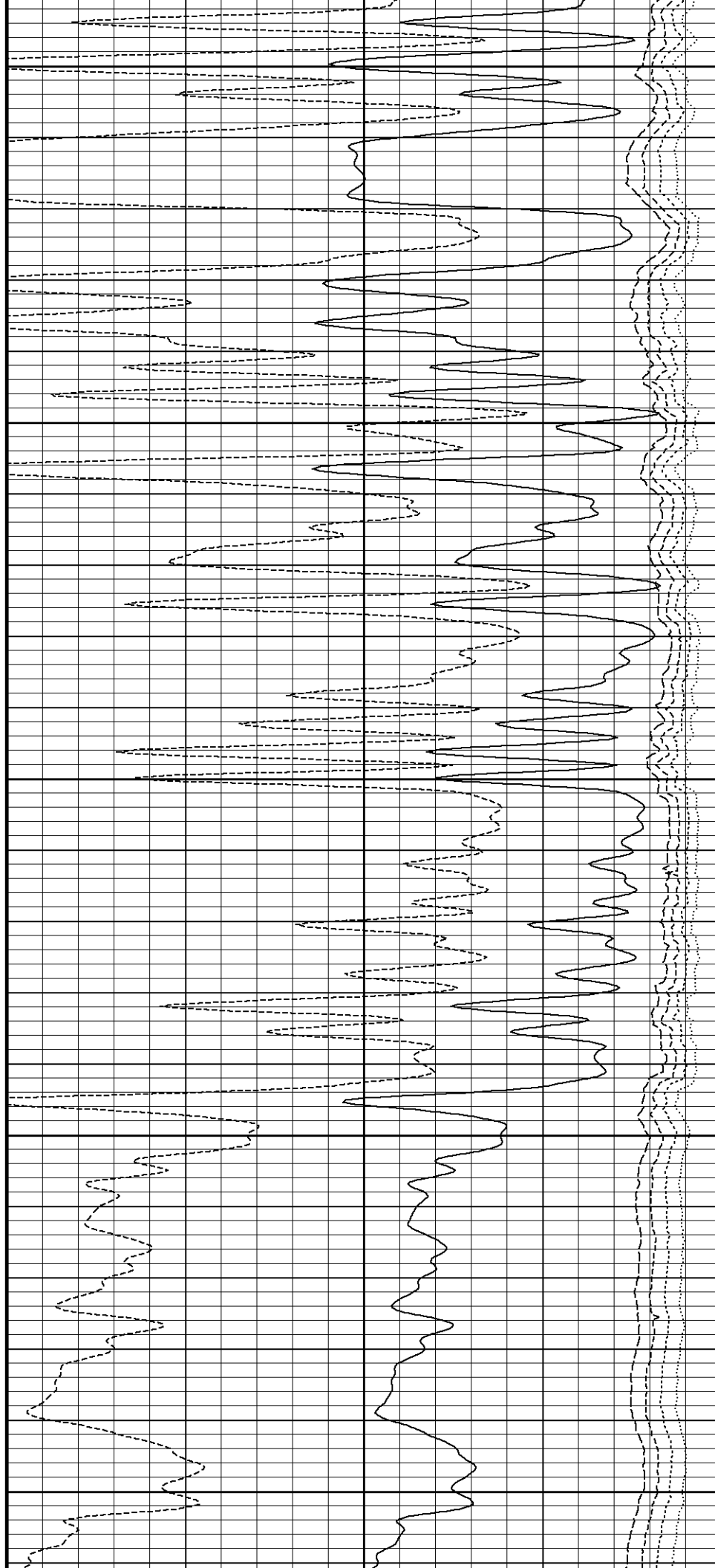
4950

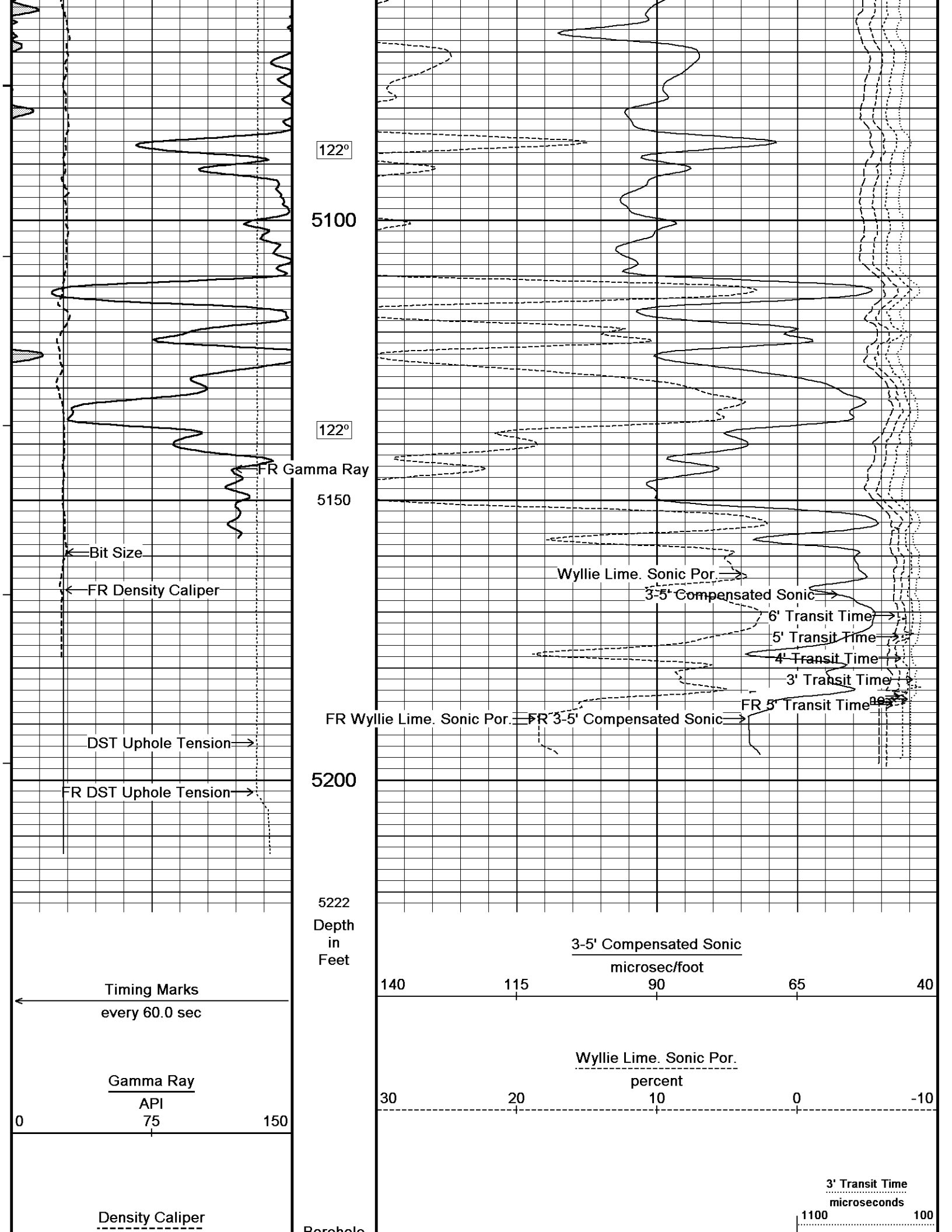
121°

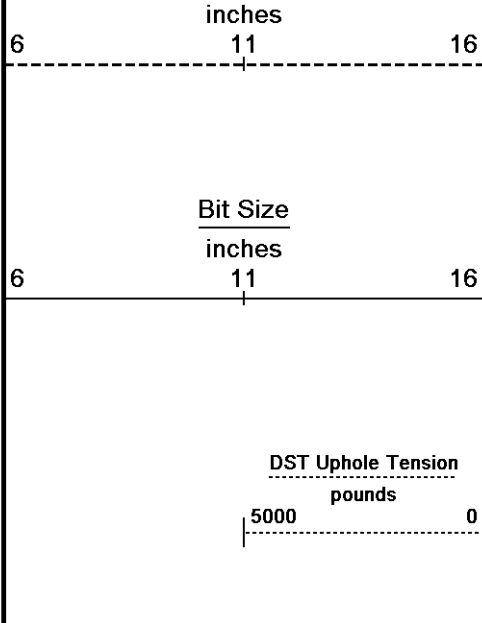
5000

122°

5050

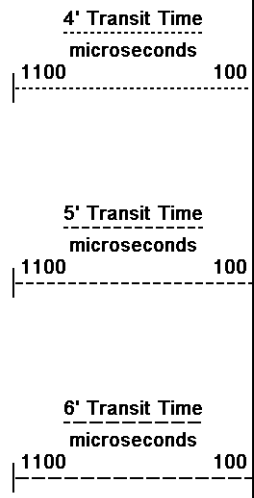






Borehole
Temp in
deg F

Replay
Scale
1:240

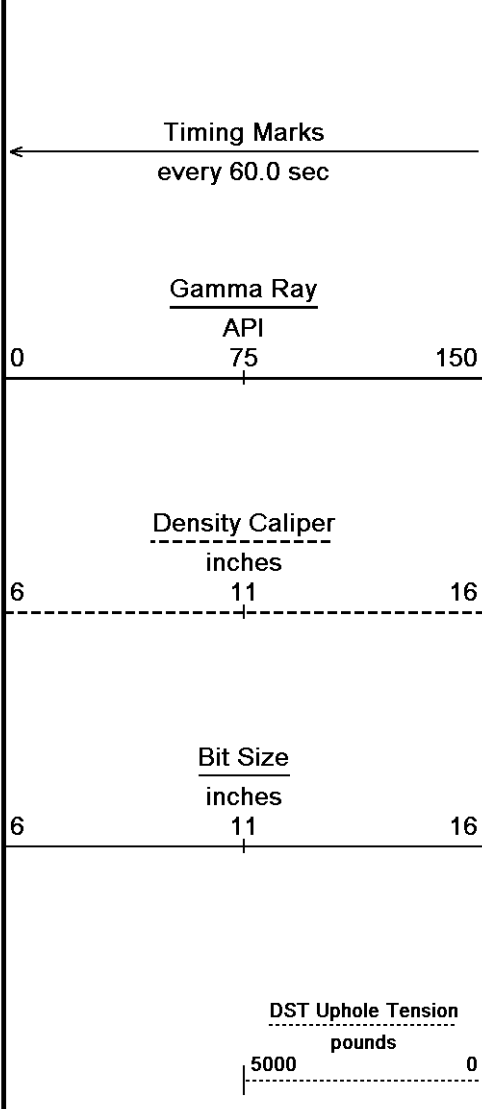


Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 08-DEC-2011 23:18
 Filename: C:\Minimus 11.03.4044\Data\Red Oak Prairie Wind 1-35\Red Oak Praire Wind 1-35_002.dta Recorded on 08-DEC-2011 20:36
 System Versions: Logged with 11.03.4044 Plotted with 11.03.4044

↑ 5 INCH MAIN ↑

↓ REPEAT SECTION ↓

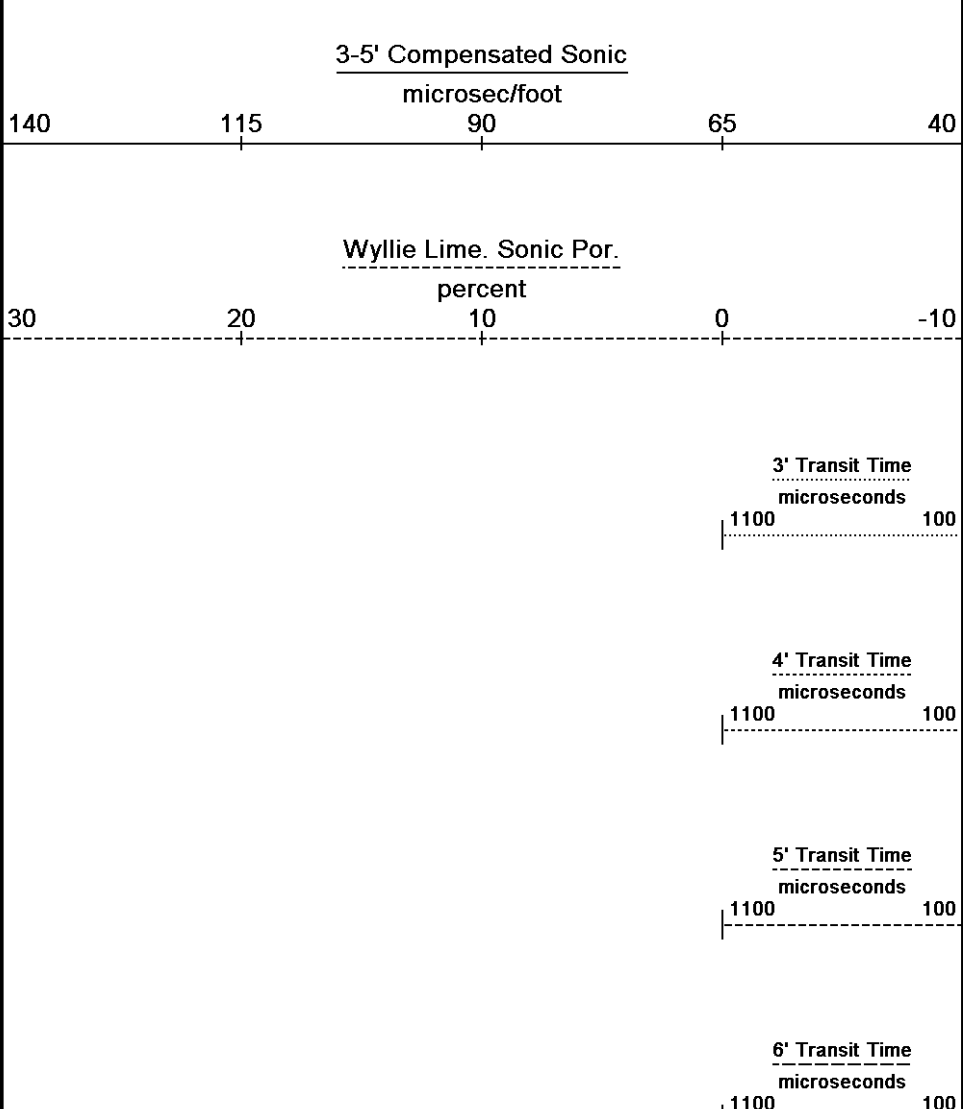
Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 08-DEC-2011 23:18
 Filename: C:\Minimus 11.03.4044\Data\Red Oak Prairie Wind 1-35\Red Oak Praire Wind 1-35_001.dta Recorded on 08-DEC-2011 20:19
 System Versions: Logged with 11.03.4044 Plotted with 11.03.4044

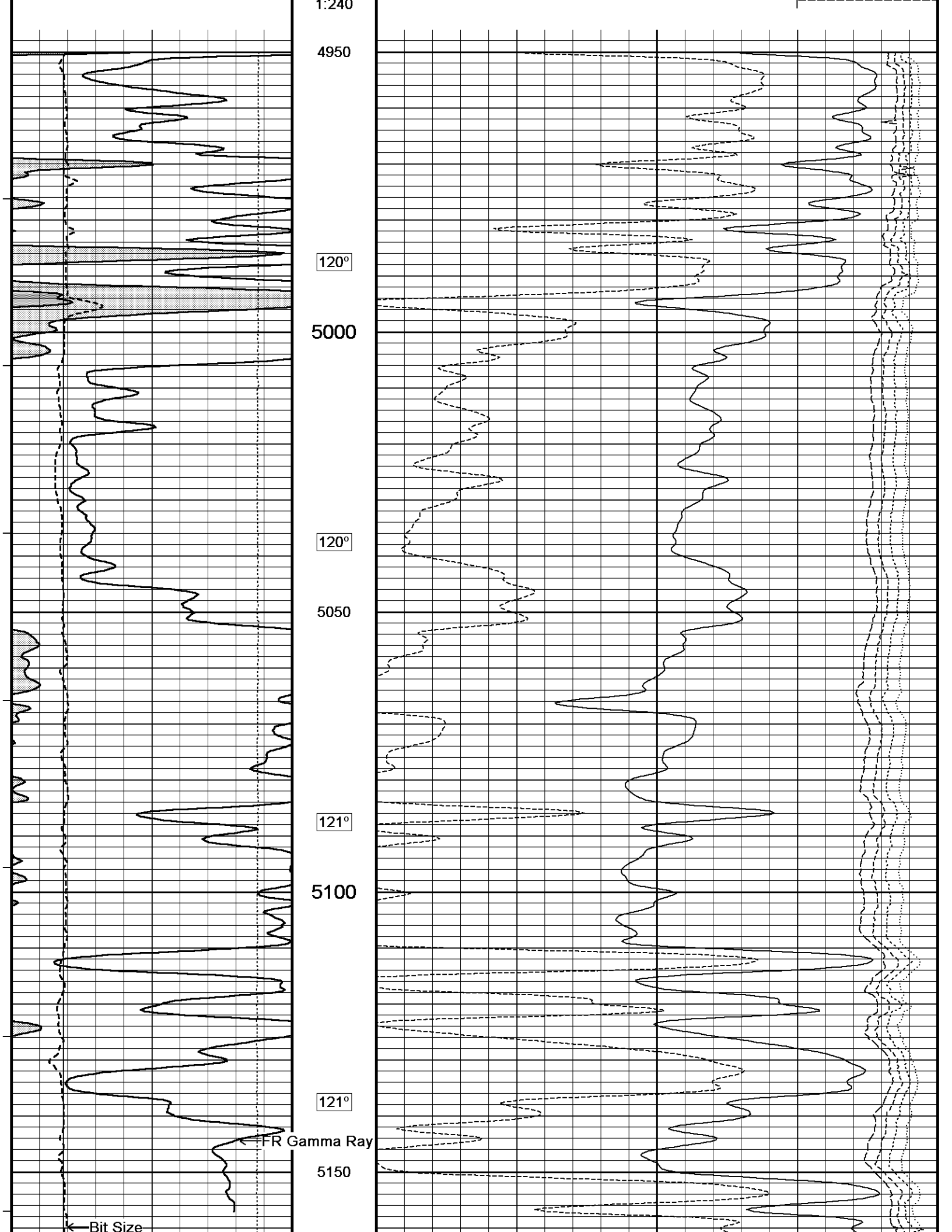


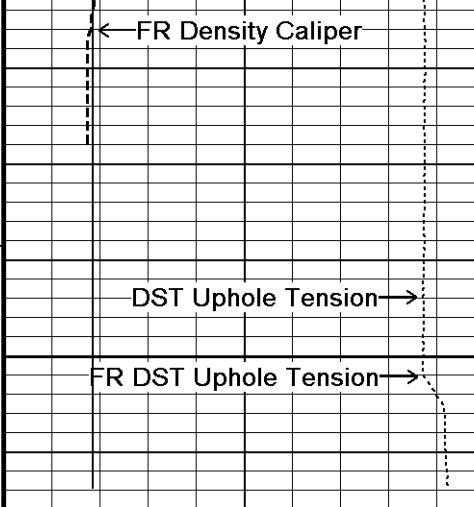
Depth
in
Feet

Borehole
Temp in
deg F

Replay
Scale
1:240

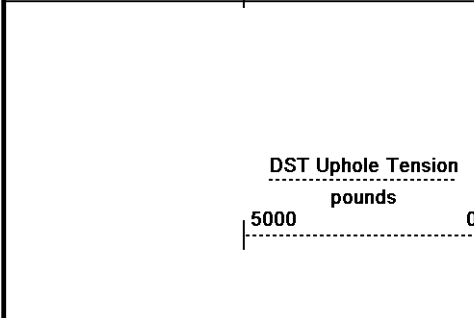
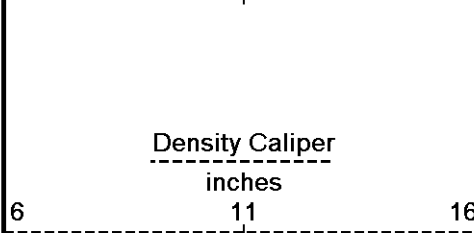
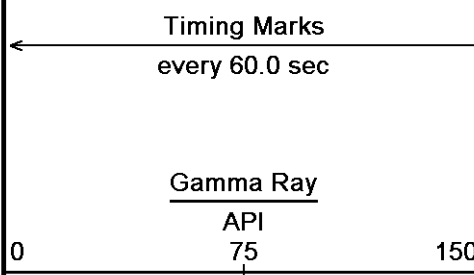






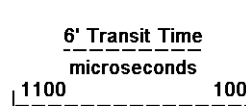
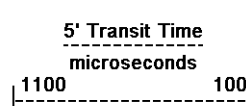
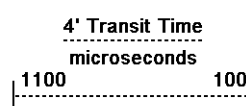
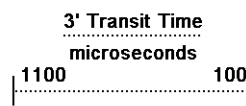
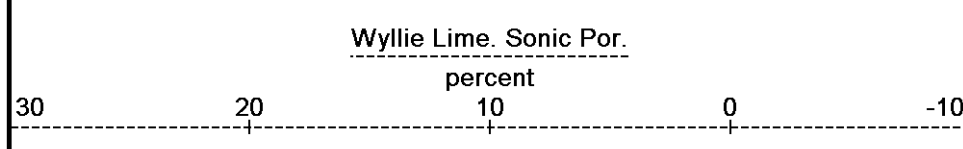
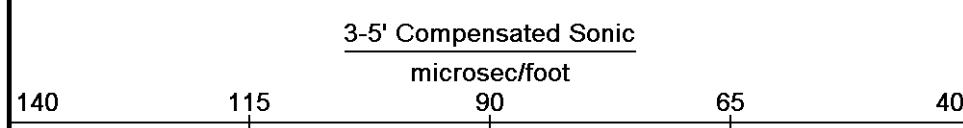
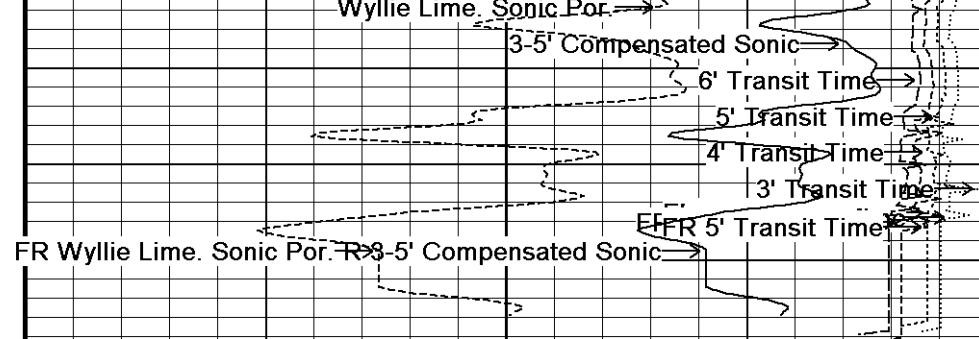
5200

5222
Depth
in
Feet



Borehole
Temp in
deg F

Replay
Scale
1:240



Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 08-DEC-2011 23:18
 Filename: C:\Minimus 11.03.4044\Data\Red Oak Prairie Wind 1-35\Red Oak Praire Wind 1-35_001.dta
 Recorded on 08-DEC-2011 20:19
 System Versions: Logged with 11.03.4044 Plotted with 11.03.4044

↑ REPEAT SECTION ↑

BEFORE SURVEY CALIBRATION
 C:\Minimus 11.03.4044\Data\Red Oak Prairie Wind 1-35\Red Oak Praire Wind 1-35.dta

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

General Constants All 000

Last Edited on 08-DEC-2011,15:57

General Parameters

Mud Resistivity	0.760	ohm-metres
Mud Resistivity Temperature	91.000	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	1.000
RWA Constant M	2.000

Down-hole Tension Calibration SMS 0

Field Calibration on 10-SEP-2011 04:32

Reading No	Measured	Calibrated (lbs)
1	-2243.52	0.00
2	-2203.03	480.60

High Resolution Temperature Calibration MCG-C 139

Field Calibration on 02-AUG-2011,17:13

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

High Resolution Temperature Constants MCG-C 139

Last Edited on

Pre-filter Length	11
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SP Calibration MCG-C 139

Field Calibration on 29-AUG-2011 09:25

	Measured	Calibrated (mV)
Reference 1	103.7	100.0
Reference 2	-96.7	-100.0

Gamma Calibration MCG-C 139

Field Calibration on 08-DEC-2011 09:30

	Measured	Calibrated (API)
Background	78	53
Calibrator (Gross)	1145	778
Calibrator (Net)	1067	725

Gamma Constants MCG-C 139

Last Edited on 08-DEC-2011,15:06

Gamma Calibrator Number	grc38	
Mud Density	1.13	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm

Micro Normal and Micro Inverse Calibration MML-A 16

Base Calibration on 15-NOV-2011 08:45
Field Check on 08-DEC-2011 09:13

Base Calibration

Channel	Measured		Calibrated (ohm-m)	
	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	12.1	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	12.8	12.8

Micro Normal and Micro Inverse Constants MML-A 16

Last Edited on 08-DEC-2011,09:12

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 16

Base Calibration on 15-NOV-2011 08:38

Field Calibration on 08-DEC-2011 09:23

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	14184	5.98
2	17582	7.97
3	20836	9.86
4	24886	11.92
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
6.05	5.98

Neutron Calibration MDN-A.B 66

Base Calibration on 17-OCT-2011 14:32

Field Check on 08-DEC-2011 09:34

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
Ratio	3086	97	3714	110
	31.796		33.764	

Field Calibrator at Base

	Calibrated (cps)
Ratio	1659 2358
	0.704

Field Check

	Calibrated (cps)
Ratio	1650 2359
	0.699

Neutron Constants MDN-A.B 66

Last Edited on 08-DEC-2011,09:30

Neutron Source Id	P58125B	
Neutron Jig Number	5824NE	
Epithermal Neutron	No	
Caliper Source for Processing	Density Caliper	
Stand-off	0.00	inches
Mud Density	1.00	gm/cc
Limestone Sigma	7.10	cu
Sandstone Sigma	4.26	cu
Dolomite Sigma	4.70	cu
Formation Pressure Source	None	
Formation Pressure	N/A	kpsi
Temperature Source	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-C.A 353

Base Calibration on 07-DEC-2011 13:35

Field Check on 08-DEC-2011 09:12

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	964.8	126.8

Base Check	280.9
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Field Check	280.9
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FE Constants MFE-C.A 353

Last Edited on 08-DEC-2011,15:57

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 08-DEC-2011,15:57

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

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

High Resolution Temperature Calibration MAI-A.A 167

Field Calibration on 28-OCT-2011,10:01

	Measured	Calibrated(Deg F)
Lower	1.00	33.80
Upper	11.88	51.38

High Resolution Temperature Constants MAI-A.A 167

Last Edited on

Pre-filter Length 11

Induction Calibration MAI-A.A 167

Base Calibration on 11-MAR-2011,09:58
Field Check on 08-DEC-2011 09:10

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	12.9	3839.1
2	0.0	0.0	29.5	3476.8
3	0.0	0.0	29.1	3052.7
4	0.0	0.0	19.7	2081.3
Deep	0.0	0.0	18.5	2048.5
Medium	0.0	0.0	42.2	3990.9
Shallow	0.0	0.0	43.0	5054.2

Array Temperature 0.0 71.1 Deg F

Induction Constants MAI-A.A 167

Last Edited on 08-DEC-2011,15:58

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 35

Base Calibration on 15-NOV-2011 10:23
Field Calibration on 08-DEC-2011 09:15

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	20351	3.99
2	30291	5.98
3	40582	7.97
4	50158	9.86
5	60743	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
5.94	5.98

Photo Density Calibration MPD-B 35

Base Calibration on 15-NOV-2011 10:46
Field Check on 08-DEC-2011 09:21

Density Calibration

Base Calibration

	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	57280	27020	59556	30836
Reference 2	23374	2567	24941	2541

Field Check at Base

1159.9 1374.4

Field Check

1156.3 1371.1

PE Calibration

Base Calibration

	WS	Measured		Calibrated
		WH	Ratio	Ratio
Background	207	1024		
Reference 1	21400	57084	0.378	0.371
Reference 2	6184	23227	0.269	0.272

Field Check at Base

206.8 1023.7

Field Check

207.4 1020.3

Density Constants MPD-B 35

Last Edited on 08-DEC-2011,15:05

Density Source Id	p50557b	
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	1.13	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\Red Oak Prairie Wind 1-35\Red Oak Praire Wind 1-35.dta

Compact Commins Gamma
MCG-C 139 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 Neutron
MDN-A.B 66 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper
MPD-B 35 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

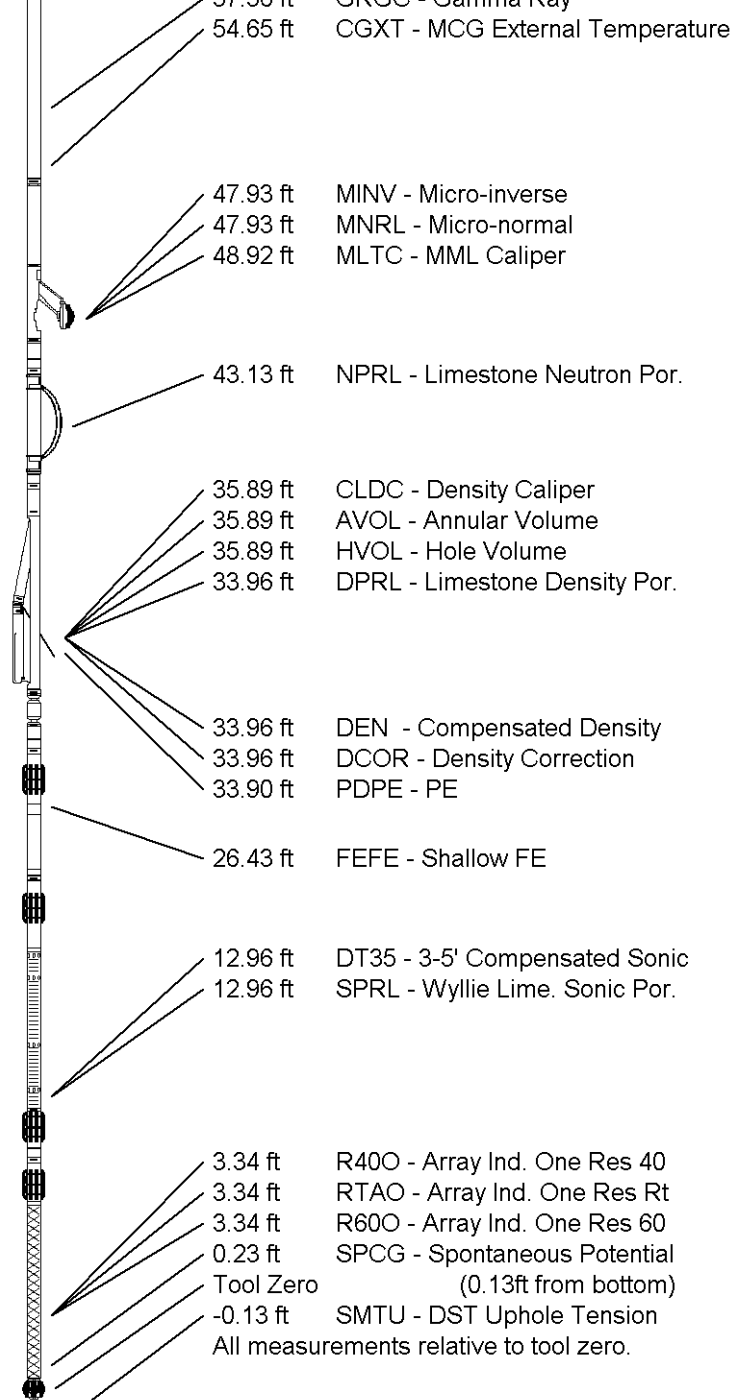
SKJ-D.A Compact Knuckle Joint
SKJ-D.A 36 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

Compact Focussed Electric
MFE-C.A 353 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 Induction
MAI-A.A 167 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 62.84 ft Weight: 480.6 lb



COMPANY RED OAK ENERGY, INC.
WELL PRAIRIE WIND #1-35
FIELD WILDCAT
PROVINCE/COUNTY WALLACE
COUNTRY/STATE U.S.A. / KANSAS

Elevation Kelly Bushing	3791.00	feet	First Reading	5189.00	feet
Elevation Drill Floor	3789.00	feet	Depth Driller	5201.00	feet
Elevation Ground Level	3778.00	feet	Depth Logger	5202.00	feet



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