

**Weatherford****COMPENSATED SONIC****WITH INTEGRATED TRANSIT TIME**

COMPANY

REDLAND RESOURCES

WELL

DAVID # 25-15

FIELD

WILDCAT

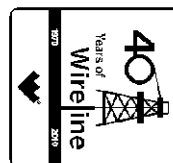
PROVINCE/COUNTY

HODGEMAN

COUNTRY/STATE

KANSAS / U.S.A.

LOCATION

353' FSL & 2561' FEL SE/4

SEC

TWP
25
23SRGE
25WOther Services
MPD/MDN
MAI/MFE
MML

API Number

15-083-21729

Permit Number

Permanent Datum G.L., Elevation 2497 feet

Log Measured From KB

Drilling Measured From K.B. @2509

Date

12-DEC-2011

Elevations:
KB 2509.00
DF 2507.00
GL 2497.00

Run Number

ONE

Depth Driller

4920.00 feet

Depth Logger

4921.00 feet

First Reading

4908.00 feet

Last Reading

219.00 feet

Casing Driller

217.00 feet

Casing Logger

219.00 feet

Bit Size

7.875 inches

Hole Fluid Type

CHEMICAL

Density / Viscosity

9.10 lb/USg 59.00 CP
10.00 7.20 ml/30Min

PH / Fluid Loss

FLOWLINE

Sample Source

1.68 @ 52.0 ohm-m

Rm @ Measured Temp

1.34 @ 52.0 ohm-m

Rmc @ Measured Temp

2.02 @ 52.0 ohm-m

Source Rmf / Rmc

CALC CALC

Rm @ BHT

0.88 @103.0 ohm-m

Time Since Circulation

5 HOURS

Max Recorded Temp

103.00 deg F

Equipment Name

COMPACT

Equipment / Base

1396 LIB

Recorded By

F. MARTINS

Witnessed By

C. THOMAS

S.O. / JOB #

3534681

LB11-313

BOREHOLE RECORD

Last Edited: 12-DEC-2011 17:27

Bit Size
inches

7.875

Depth From
feet

219.00

Depth To
feet

4921.00

CASING RECORD

Type

SURFACE

Size
inches

8.625

Depth From
feet

0.00

Shoe Depth
feet

219.00

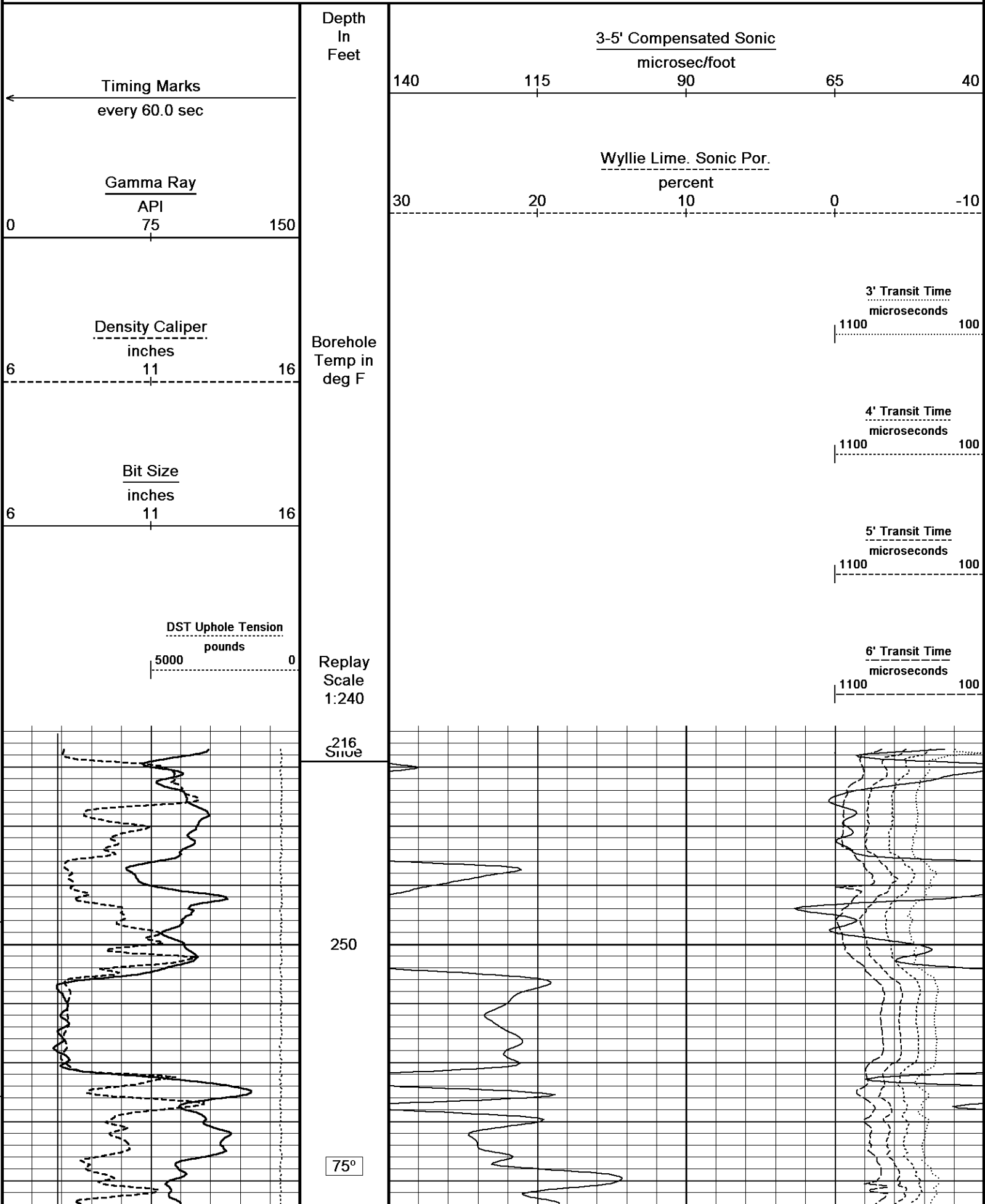
Weight
pounds/ft

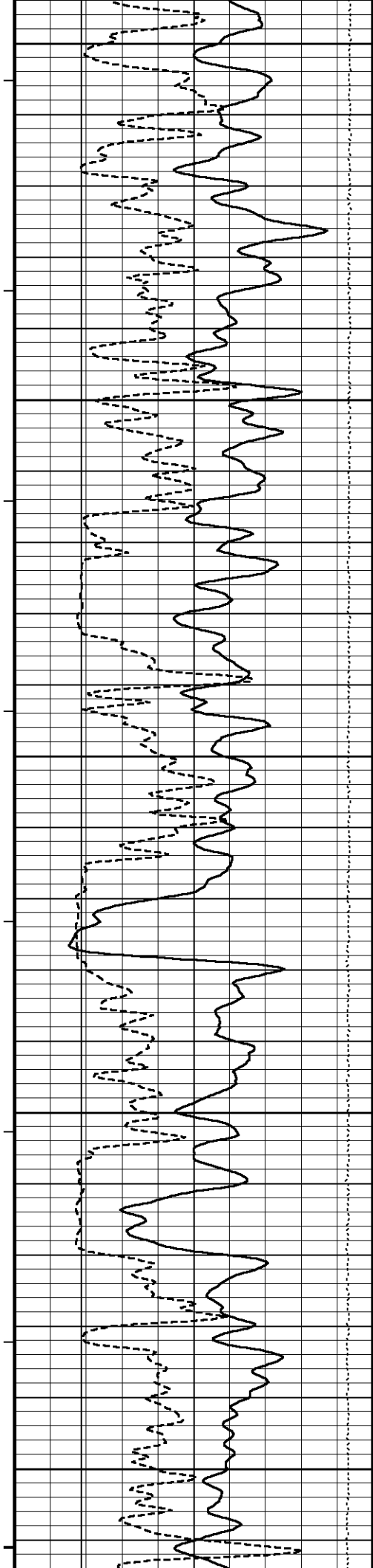
24.00

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.
Borehole rugosity, tight pulls, and washouts will affect data quality.
All intervals logged and scaled per customer's request.
Annular volume with 4.5 inch production casing = 223 cu. ft
Service order # 3534681
Rig: Duke # 9
Engineer: F. Martins, A. Giambalvo
Operator(s): 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.





300

76°

350

77°

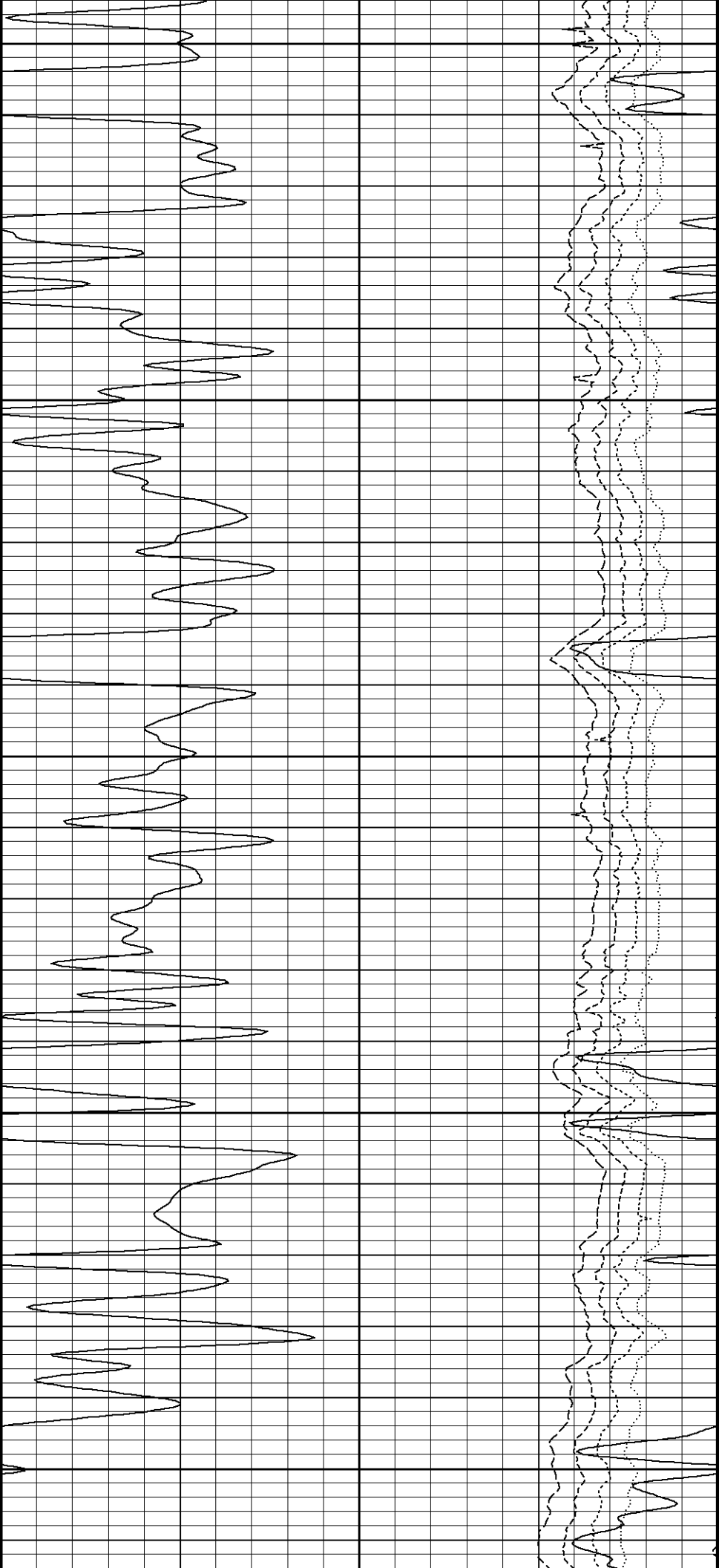
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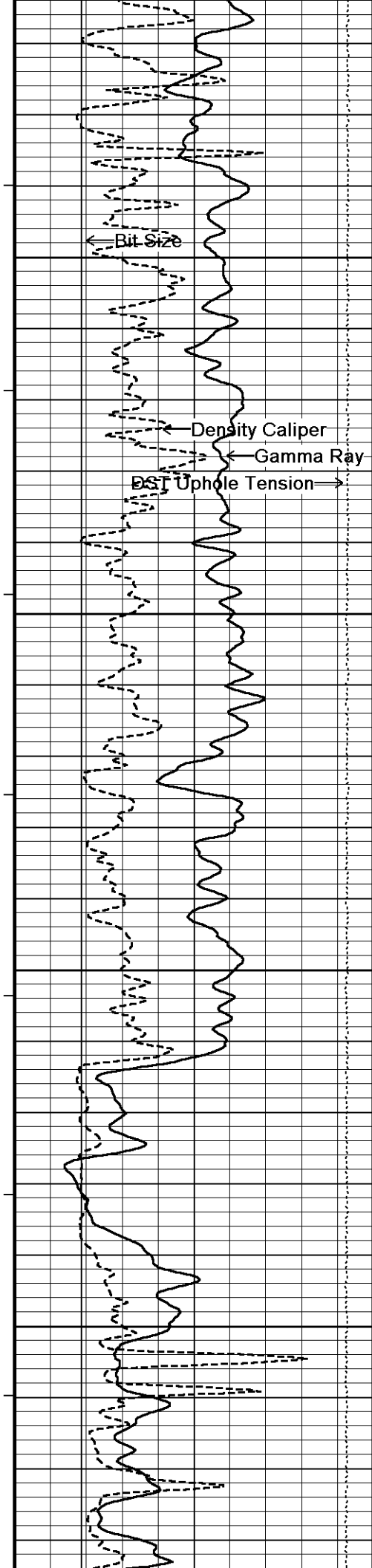
77°

450

78°

500





78°

550

78°

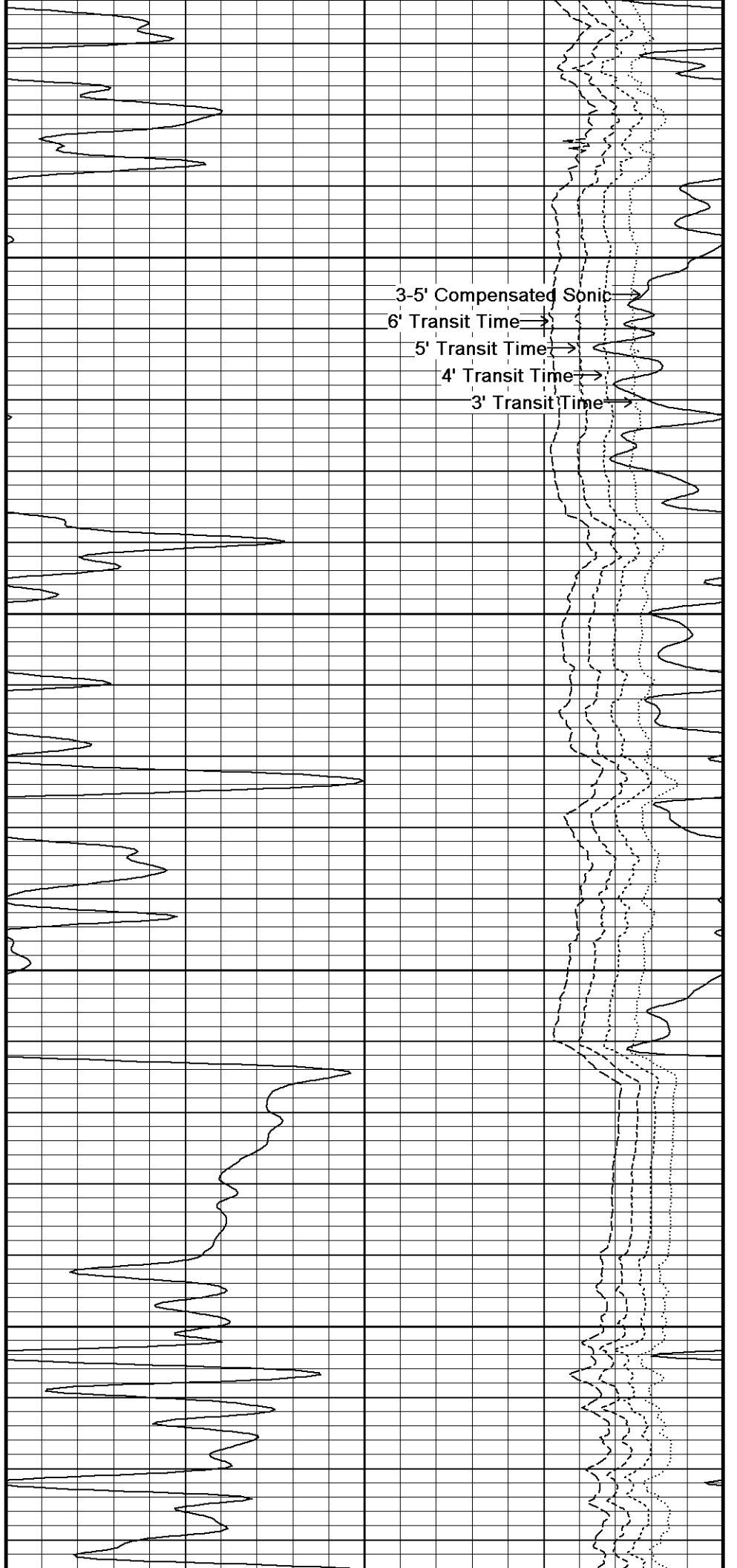
600

78°

650

79°

700



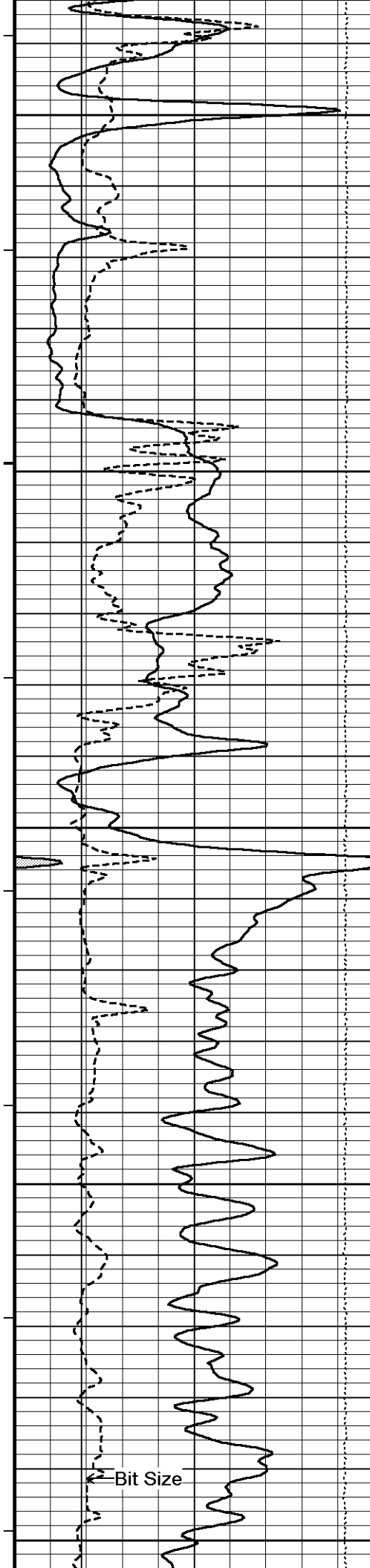
3-5' Compensated Sonic

6' Transit Time

5' Transit Time

4' Transit Time

3' Transit Time



79°

750

80°

800

80°

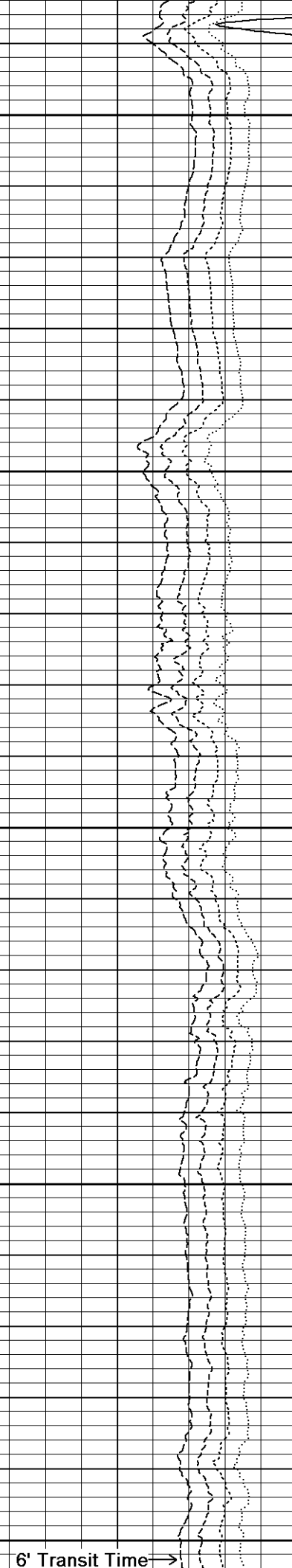
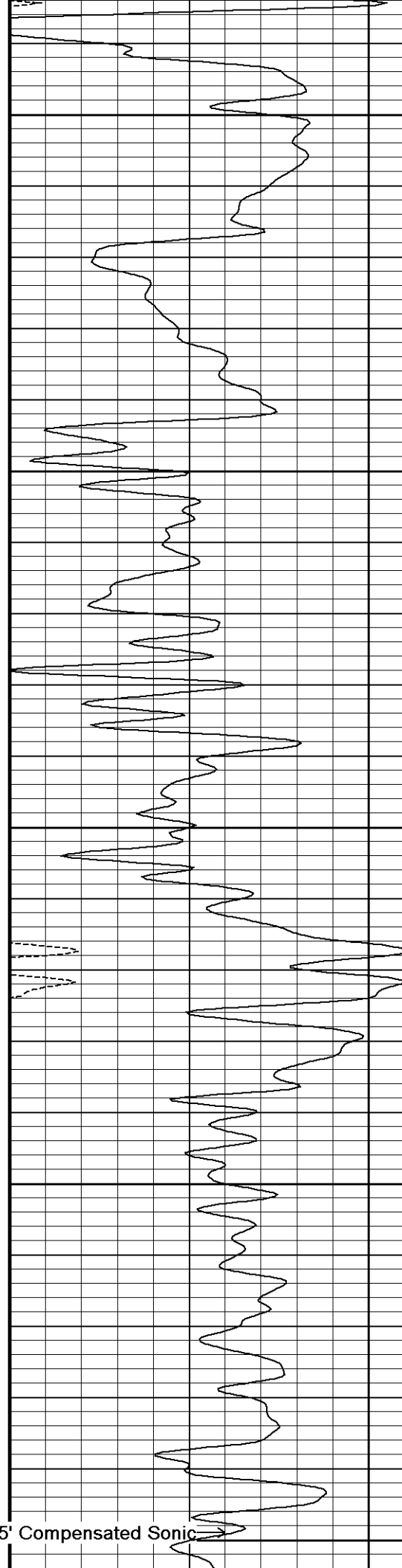
850

79°

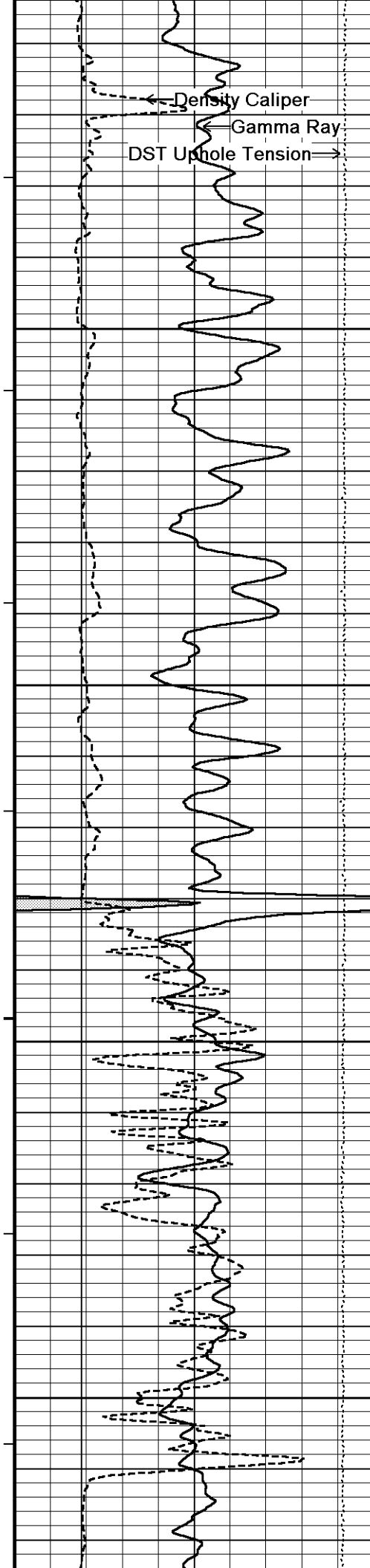
900

80°

950 3-5' Compensated Sonic



6' Transit Time →



80°

1000

80°

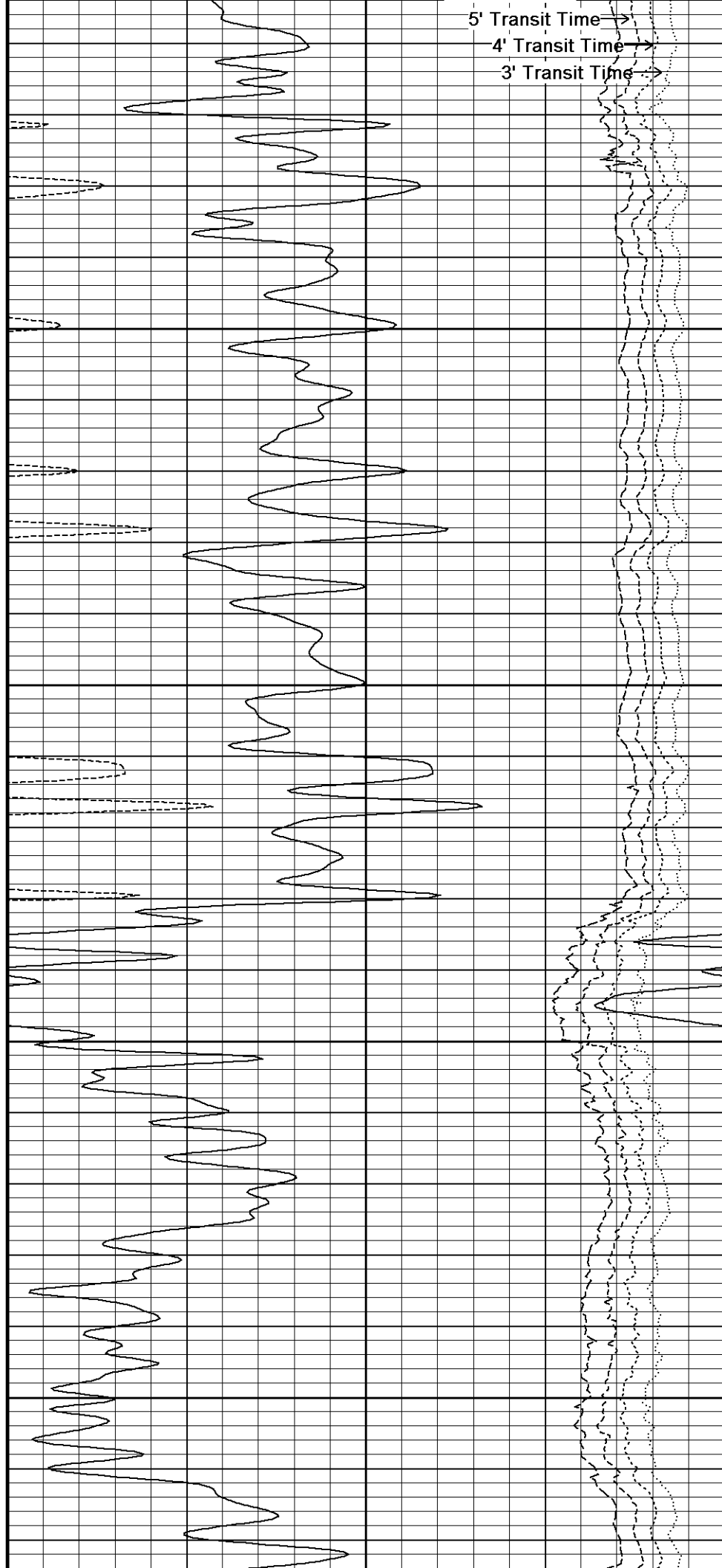
1050

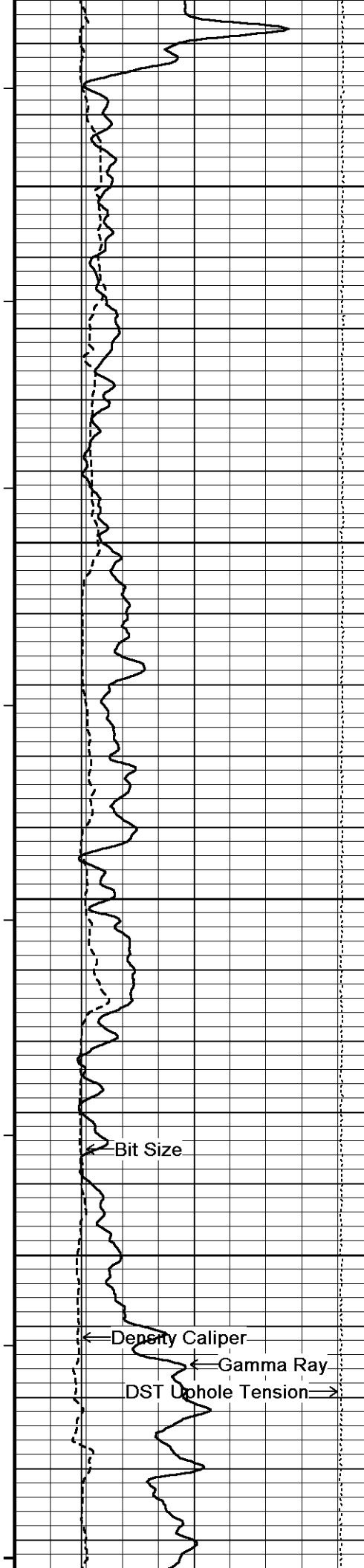
81°

1100

81°

1150





80°

1200

81°

1250

81°

1300

82°

1350

82°

← Bit Size

← Density Caliper

← Gamma Ray

DST Uphole Tension →

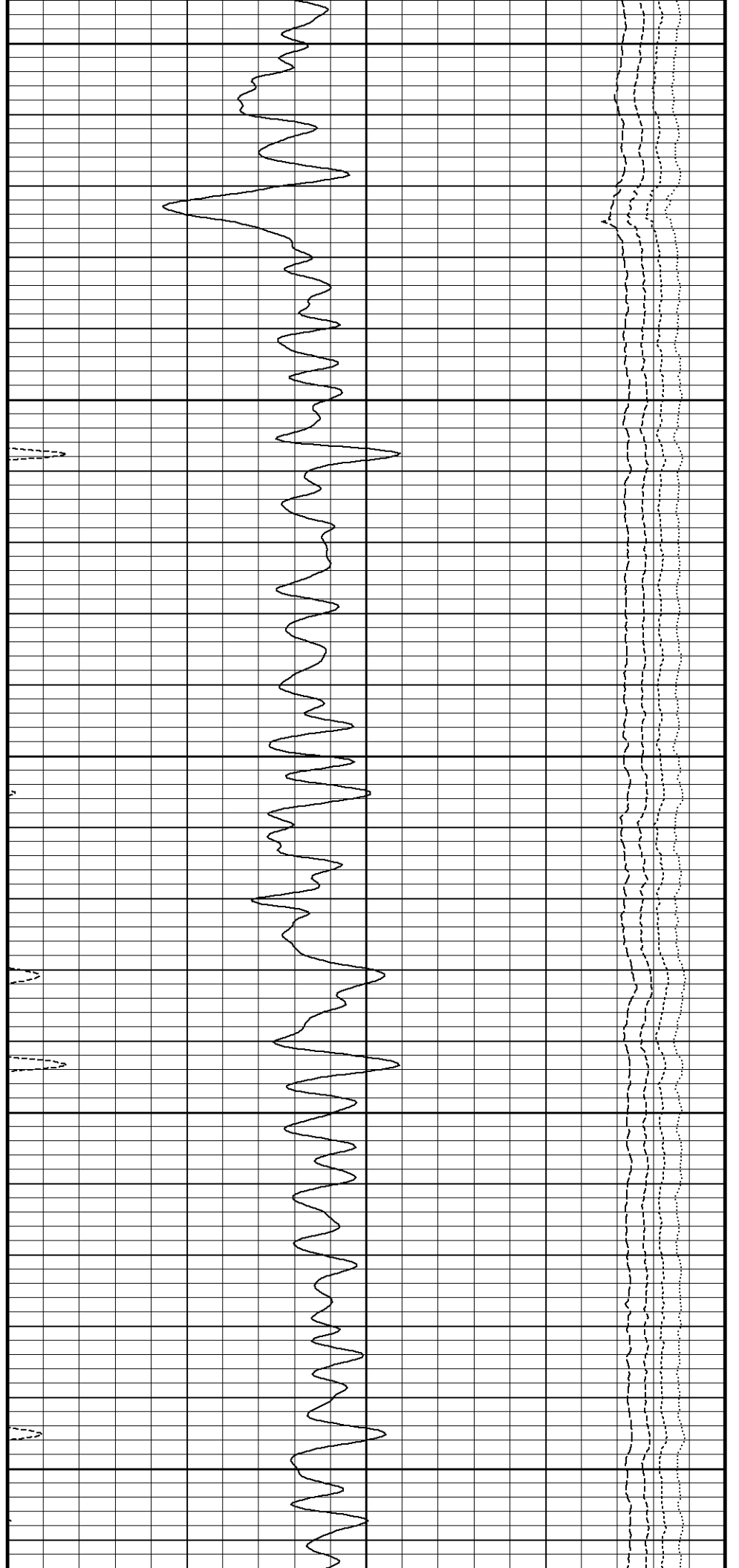
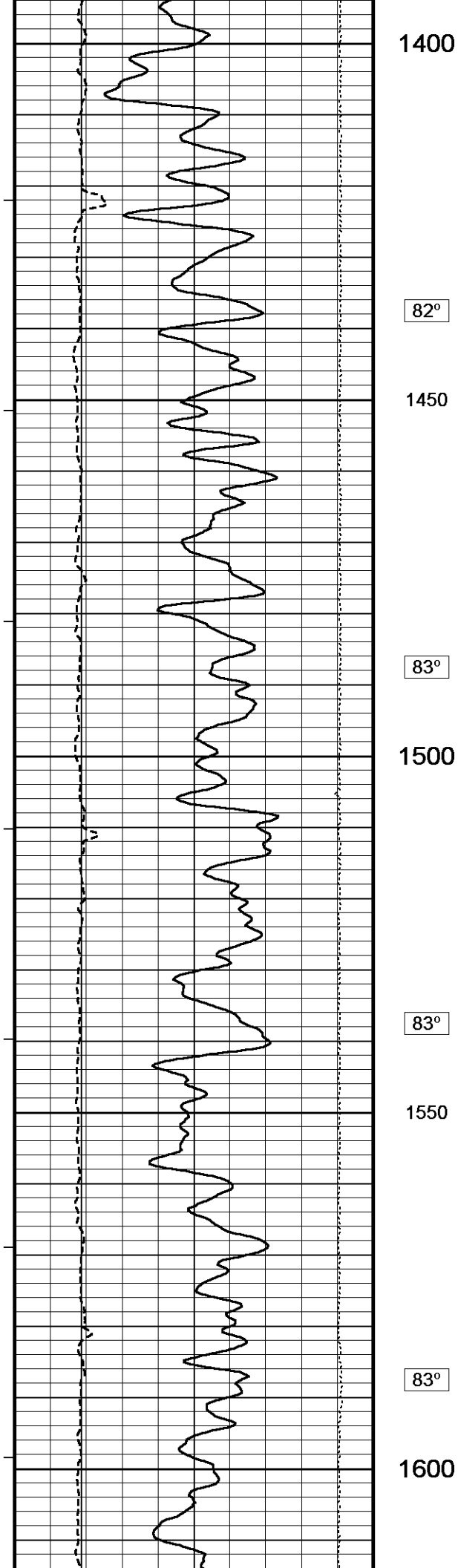
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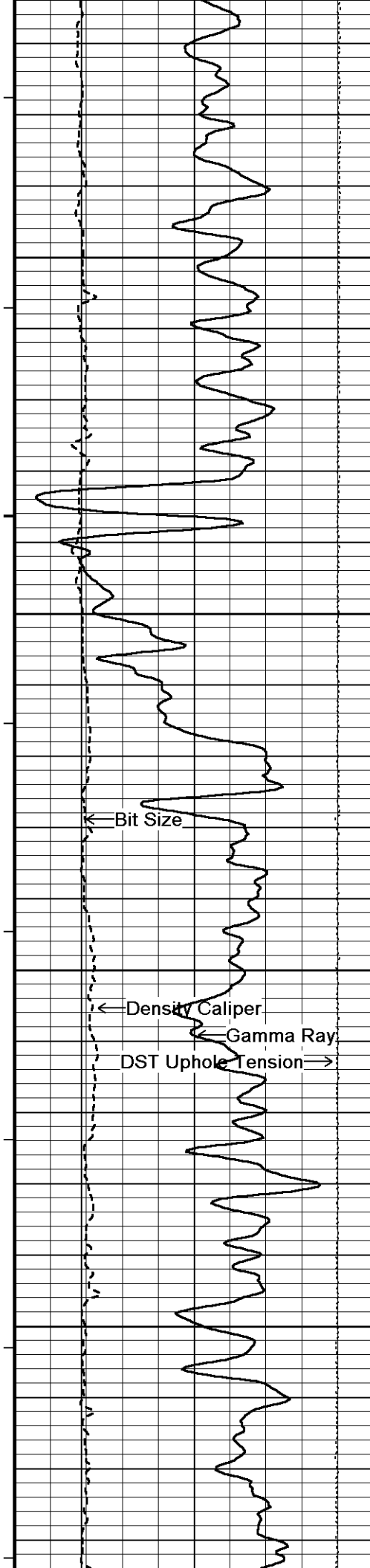
6' Transit Time →

5' Transit Time →

4' Transit Time →

3' Transit Time →





83°

1650

84°

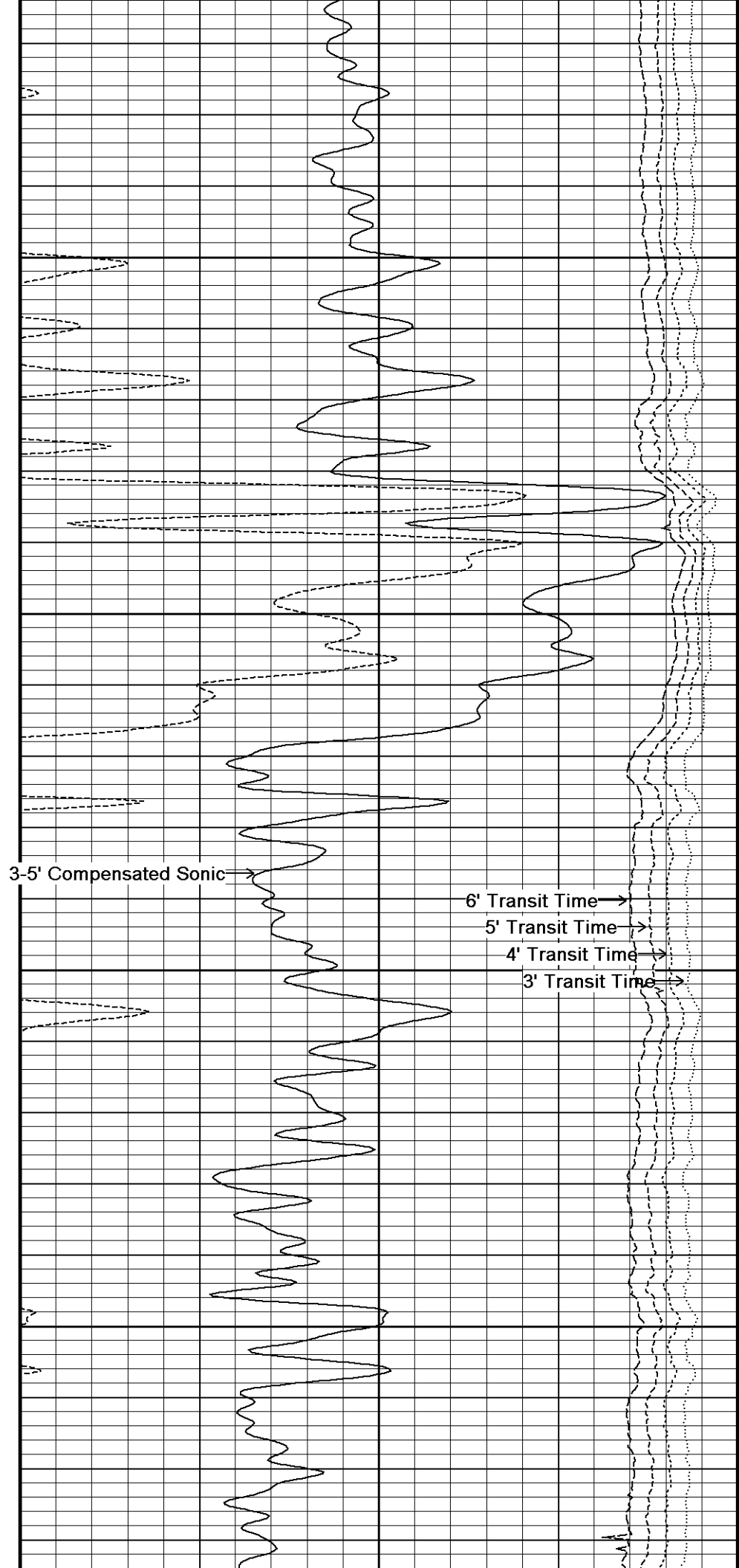
1700

84°

1750

84°

1800



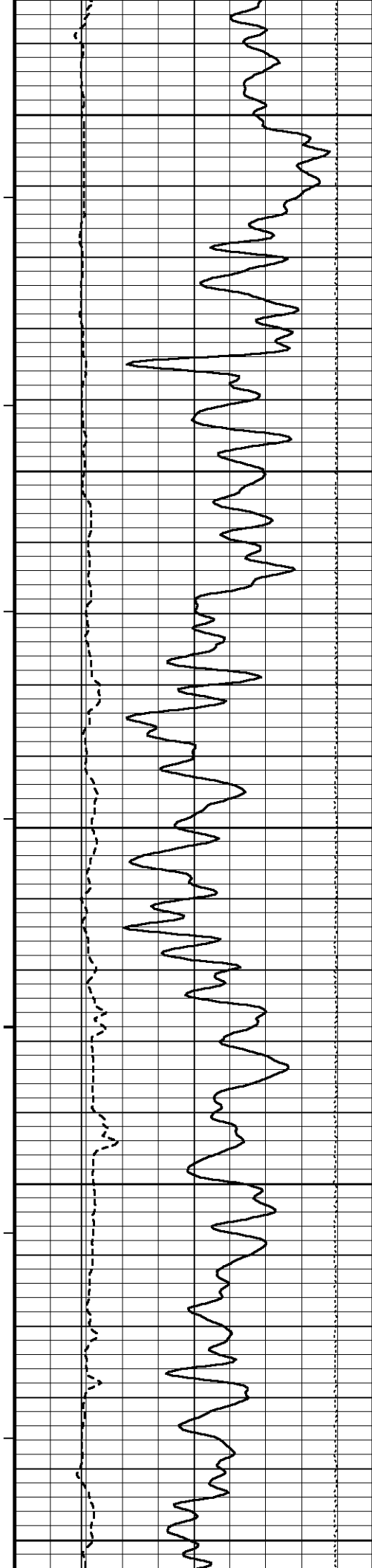
3-5' Compensated Sonic

6' Transit Time

5' Transit Time

4' Transit Time

3' Transit Time



85°

1850

85°

1900

85°

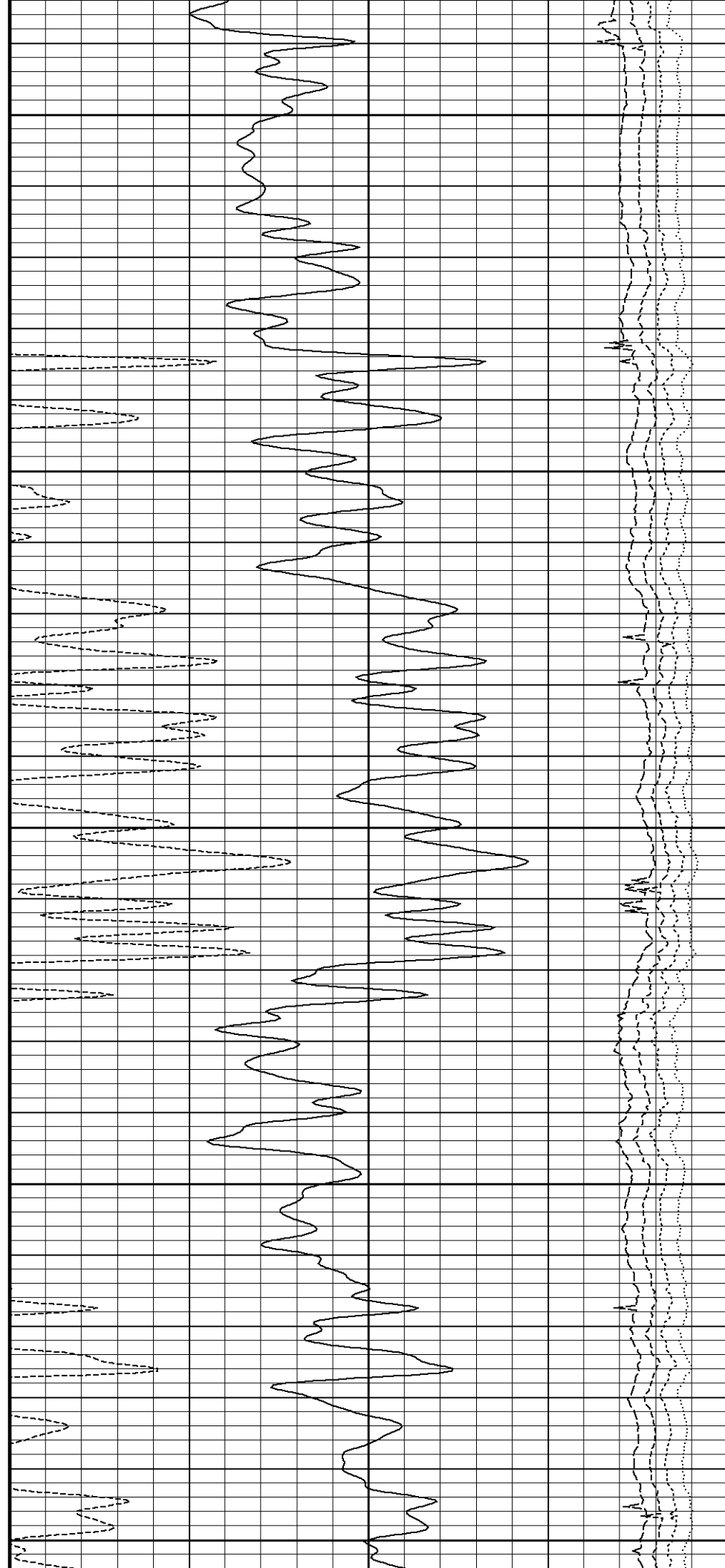
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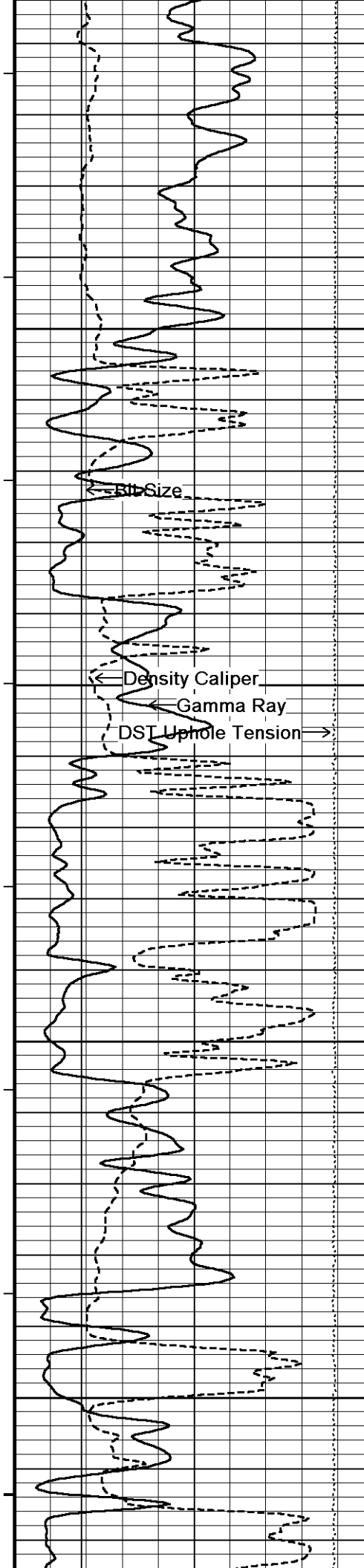
86°

2000

86°

2050





86°

2100

86°

2150

87°

2200

87°

2250

Wyllie Lime. Sonic Por. →

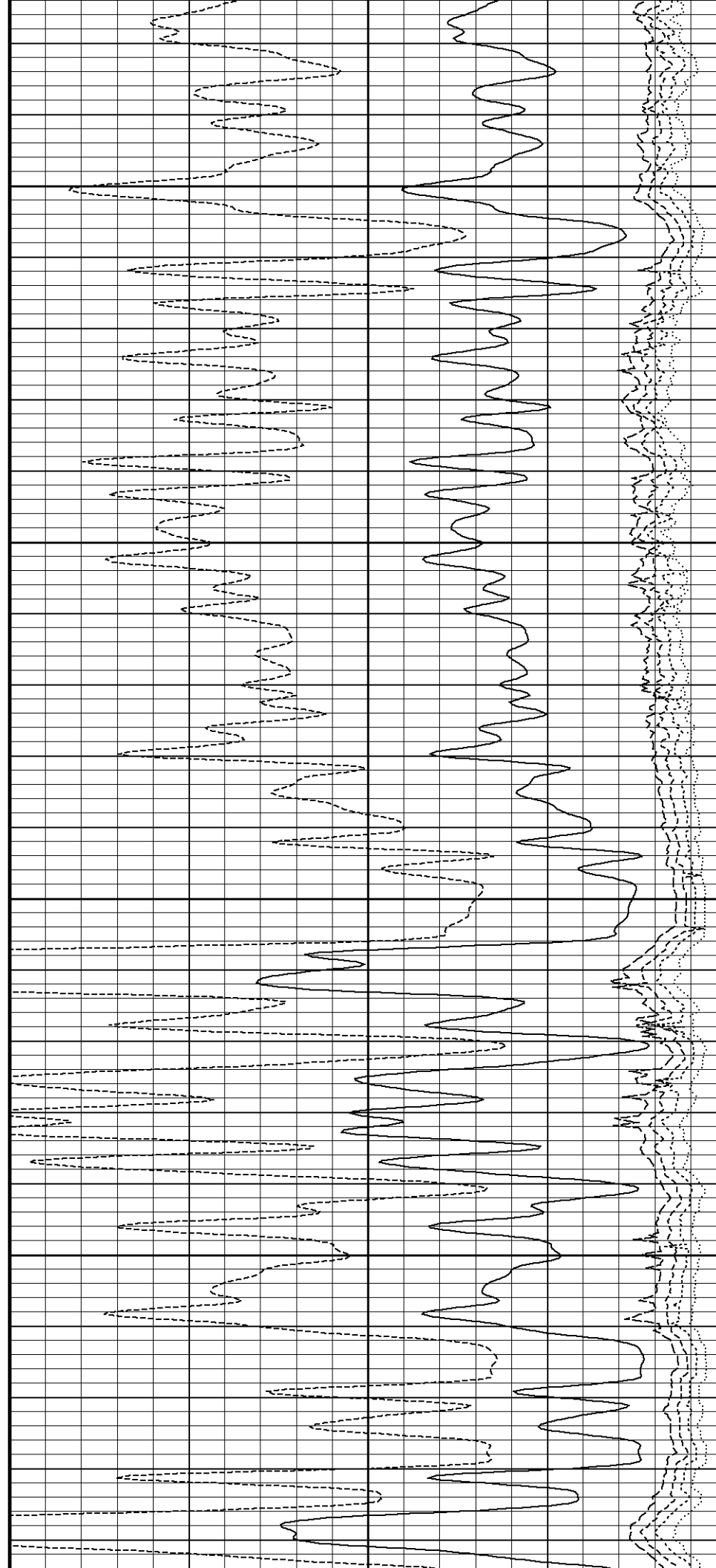
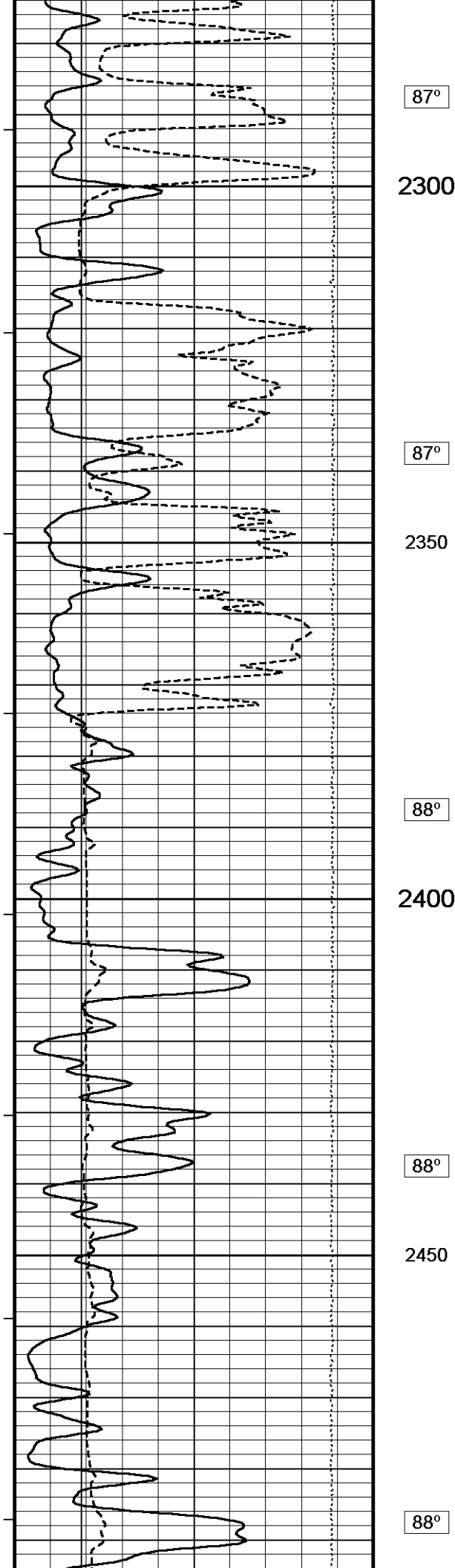
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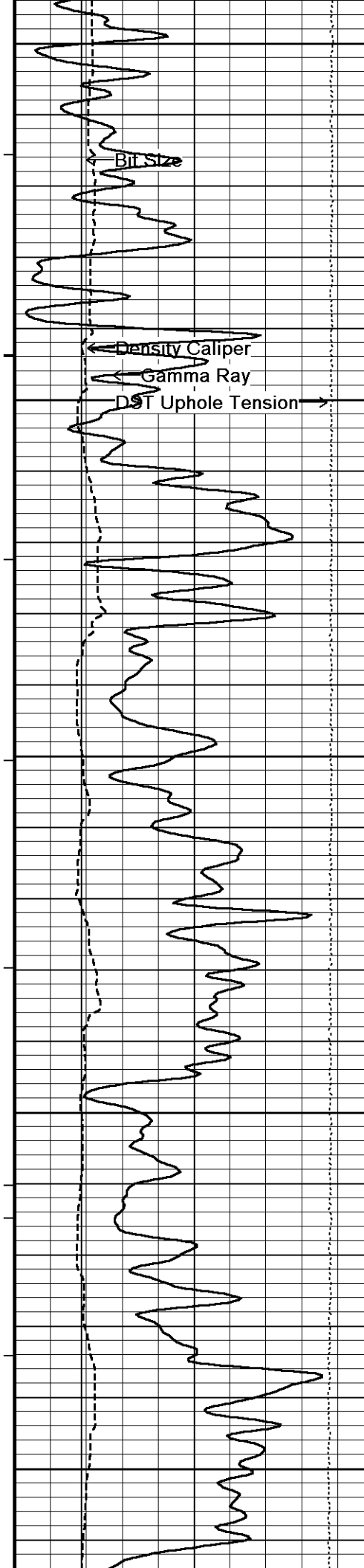
6' Transit Time →

5' Transit Time →

4' Transit Time →

3' Transit Time →





2500

88°

2550

89°

2600

89°

2650

89°

2700

Wyllie Lime. Sonic Por. →

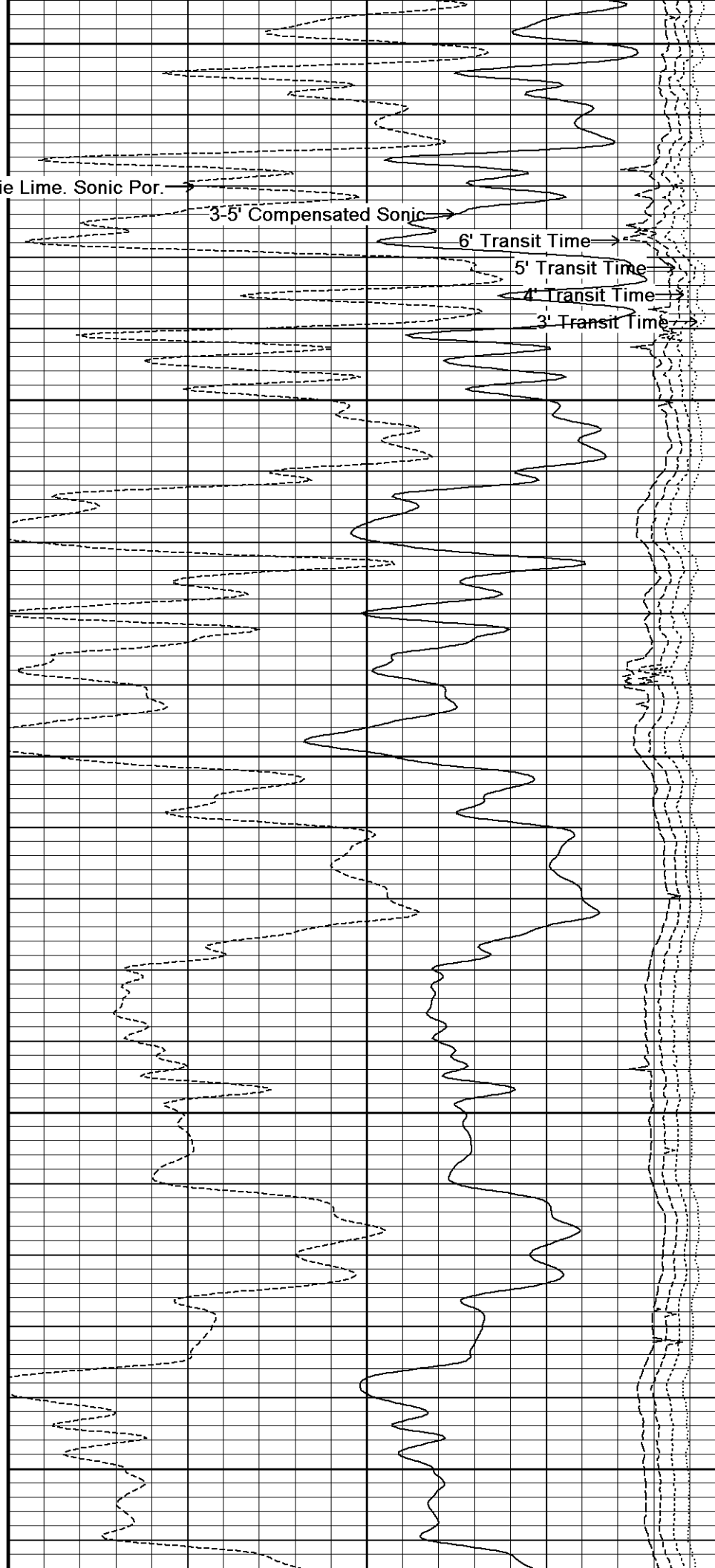
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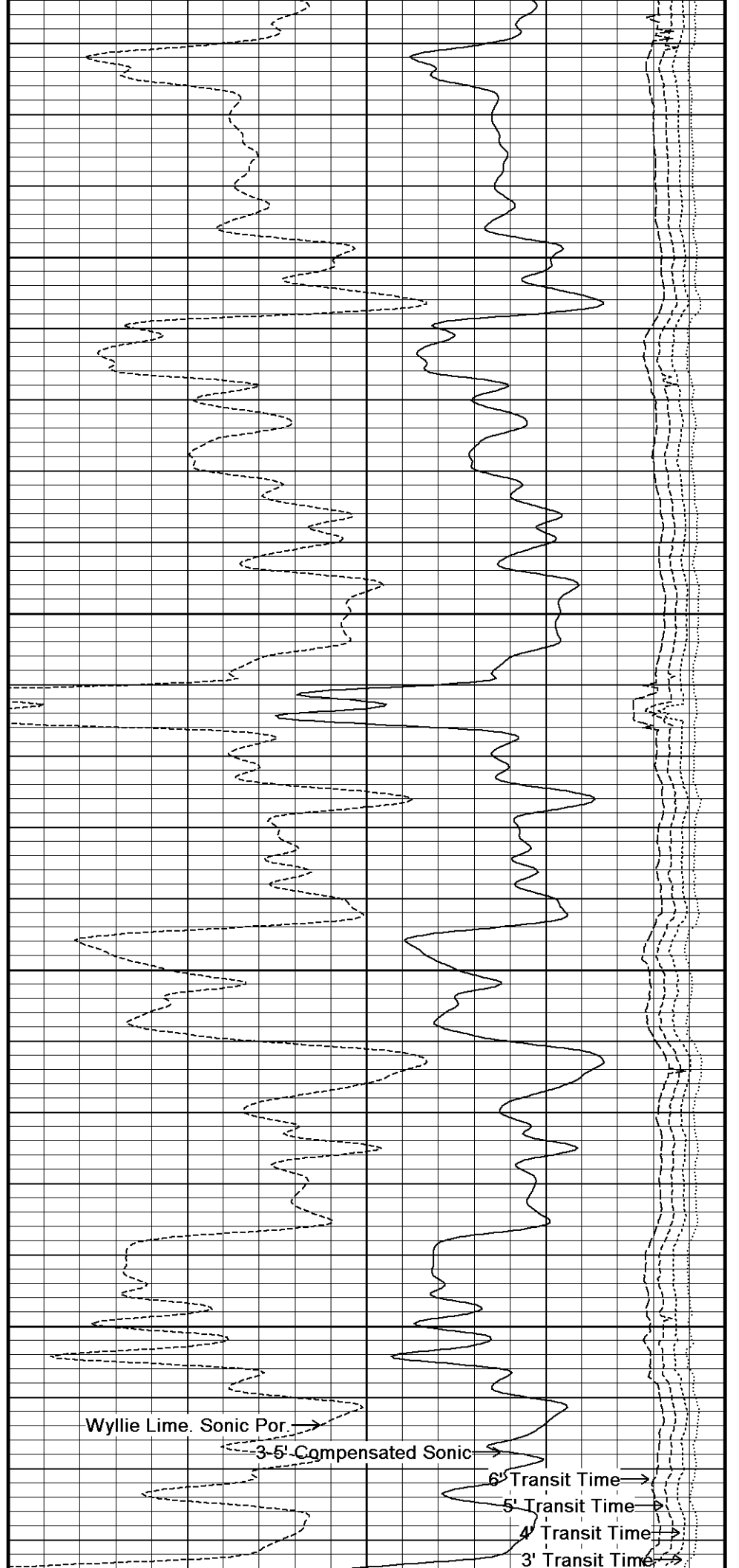
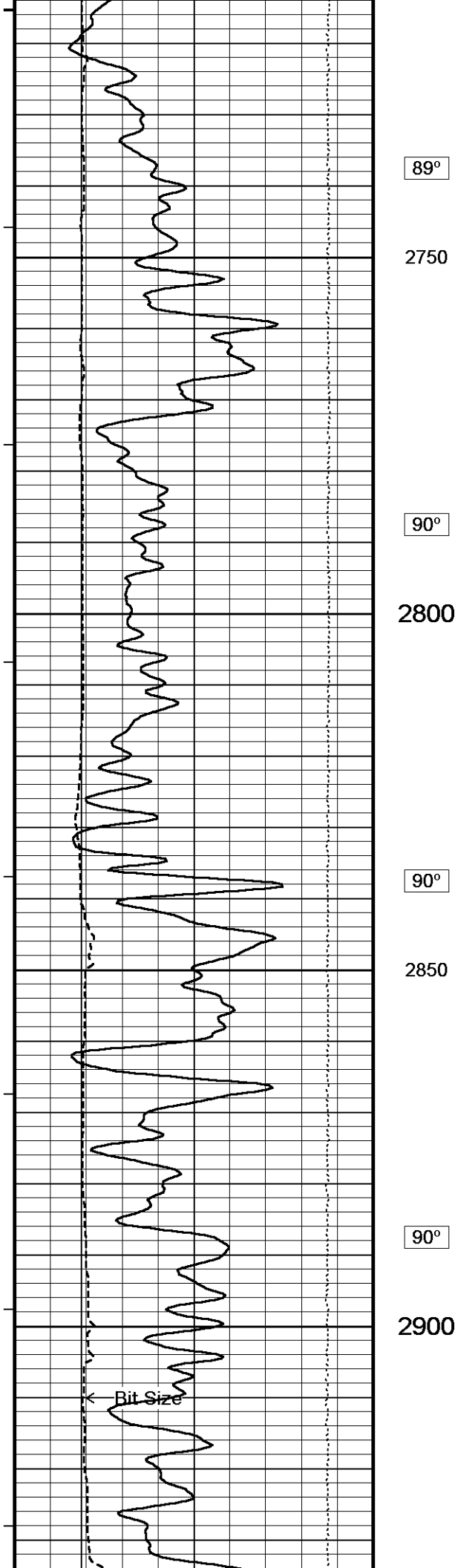
6' Transit Time →

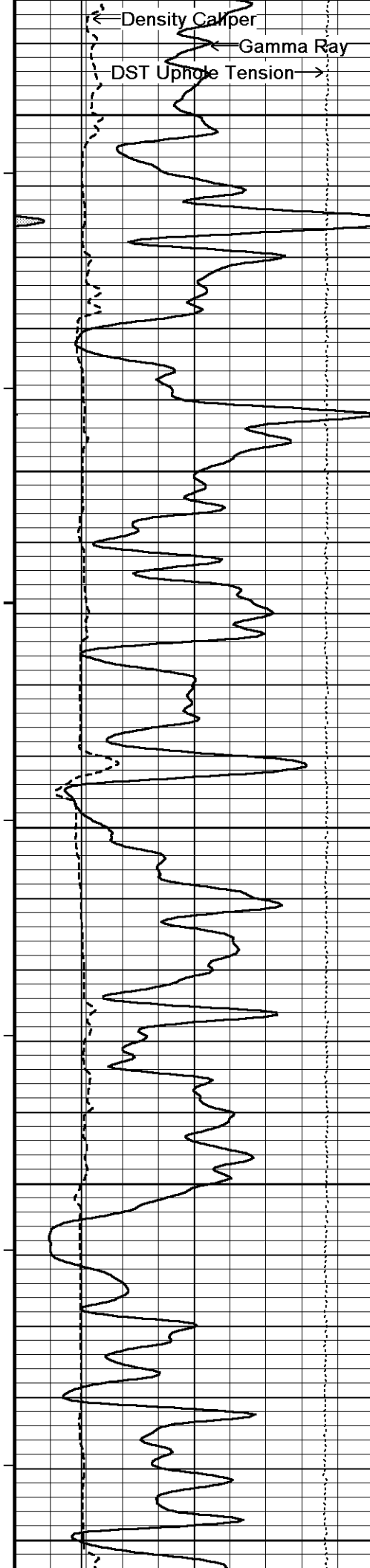
5' Transit Time →

4' Transit Time →

3' Transit Time →







90°

2950

91°

3000

91°

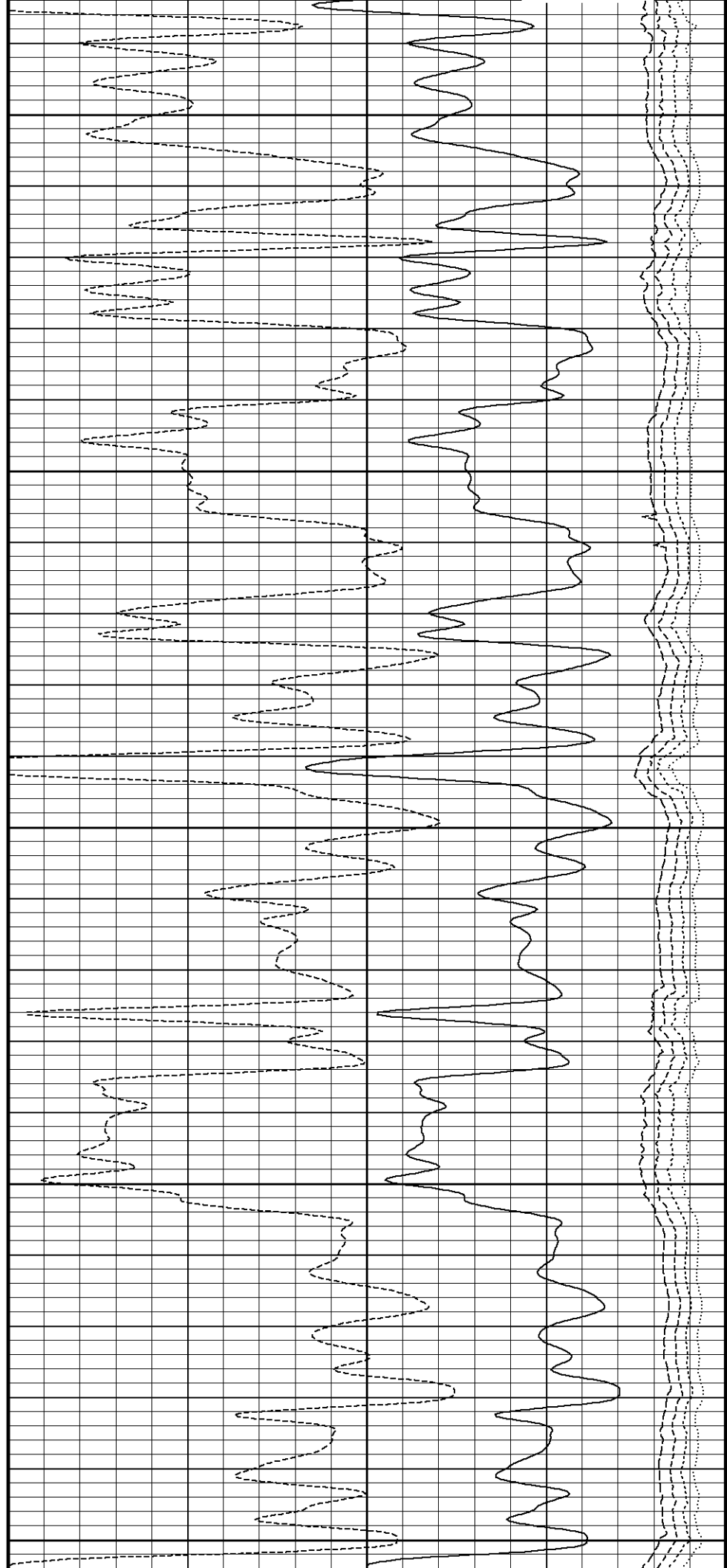
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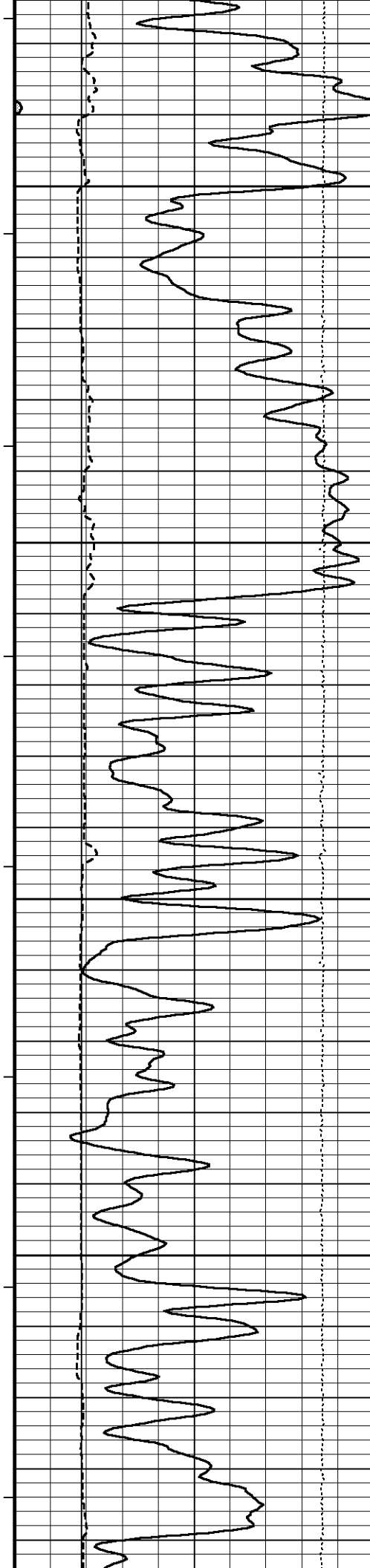
91°

3100

92°

3150





93°

3400

94°

3450

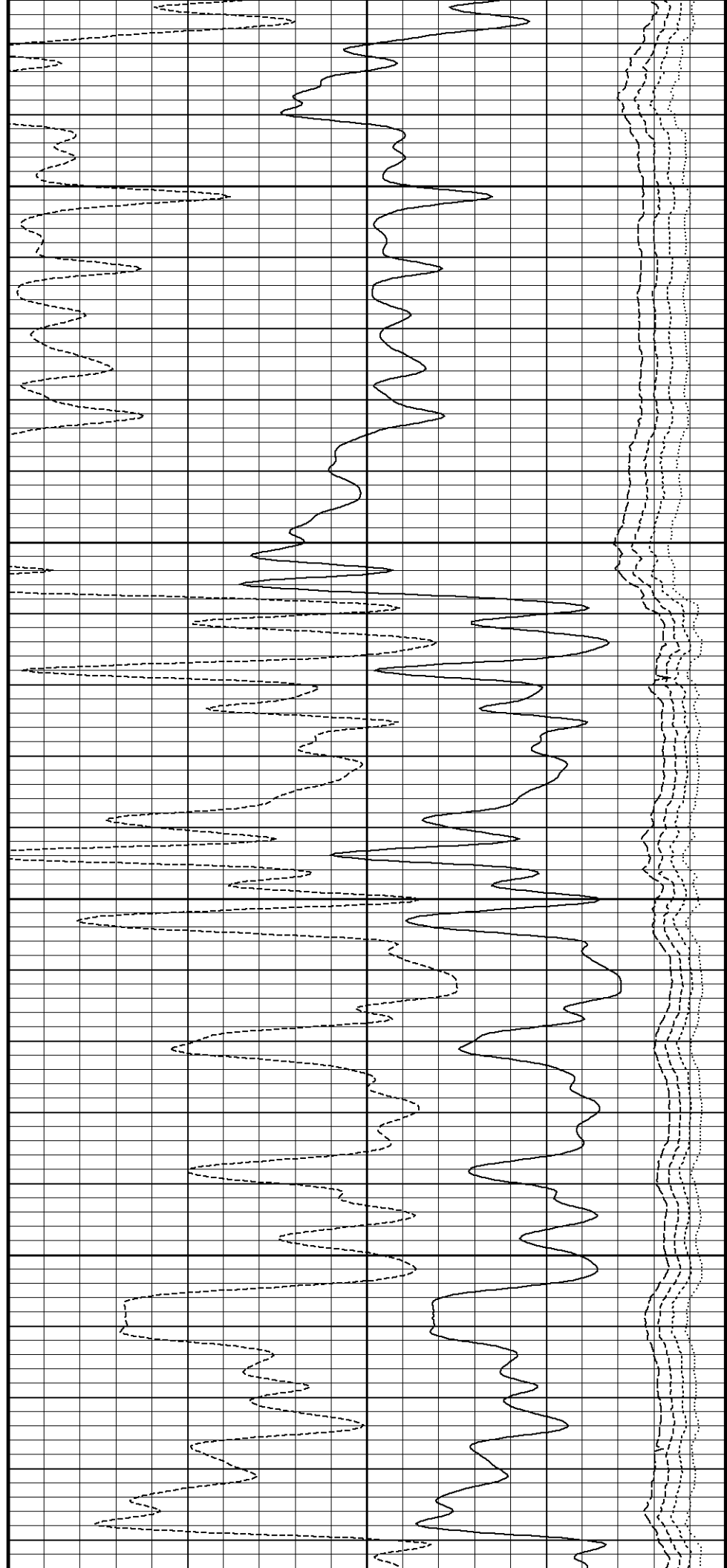
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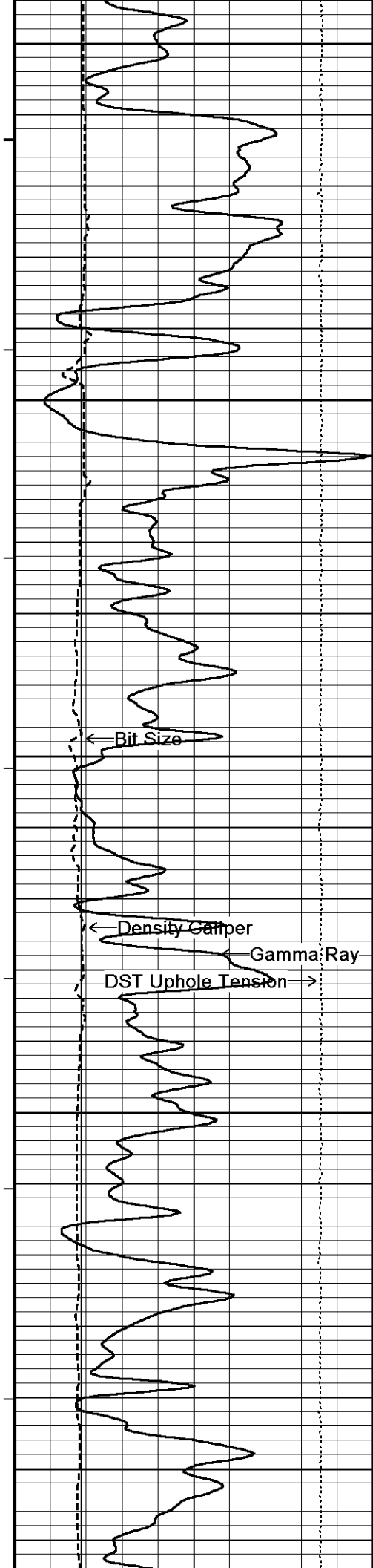
3500

94°

3550

94°





3600

95°

3650

95°

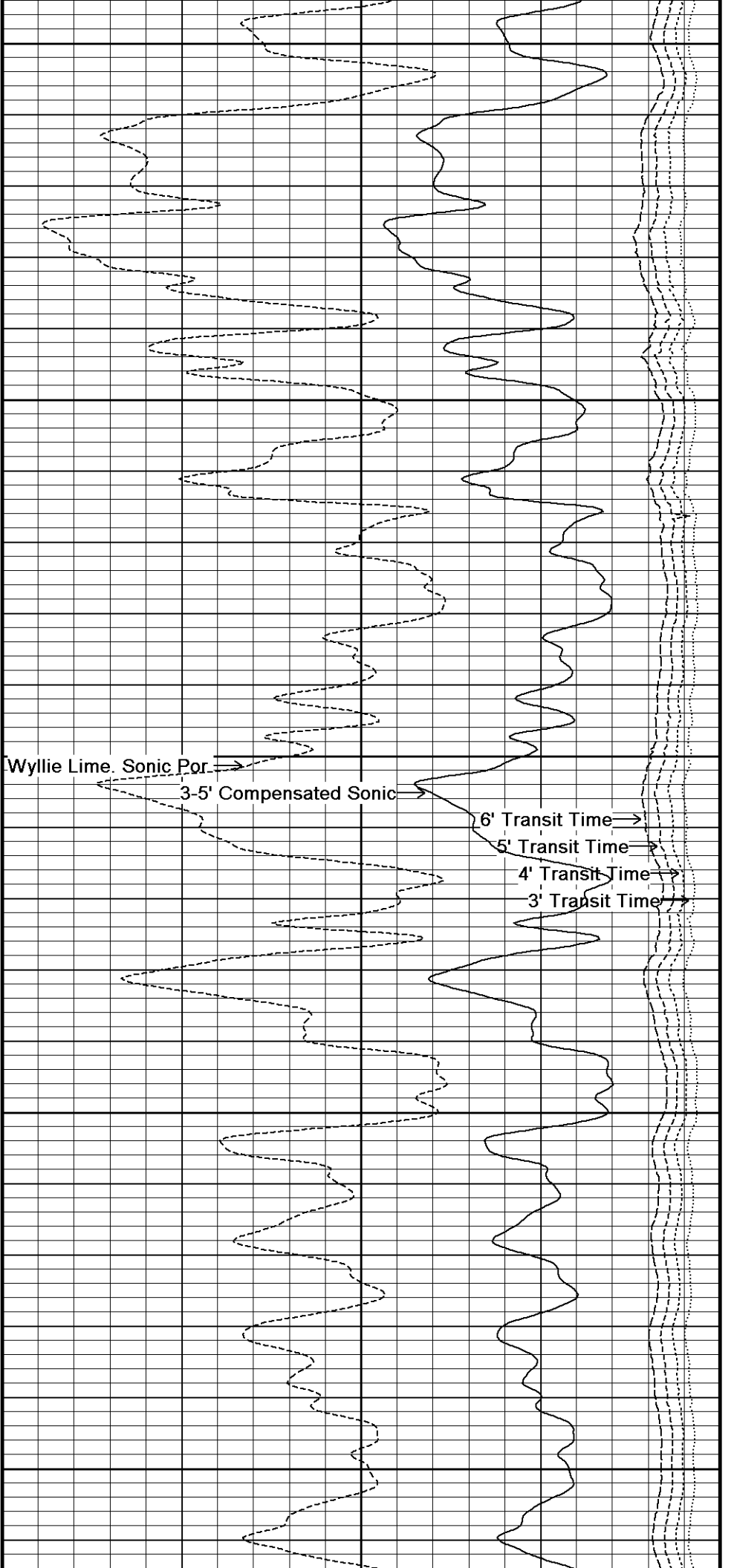
3700

95°

3750

96°

3800



Wyllie Lime. Sonic Por.

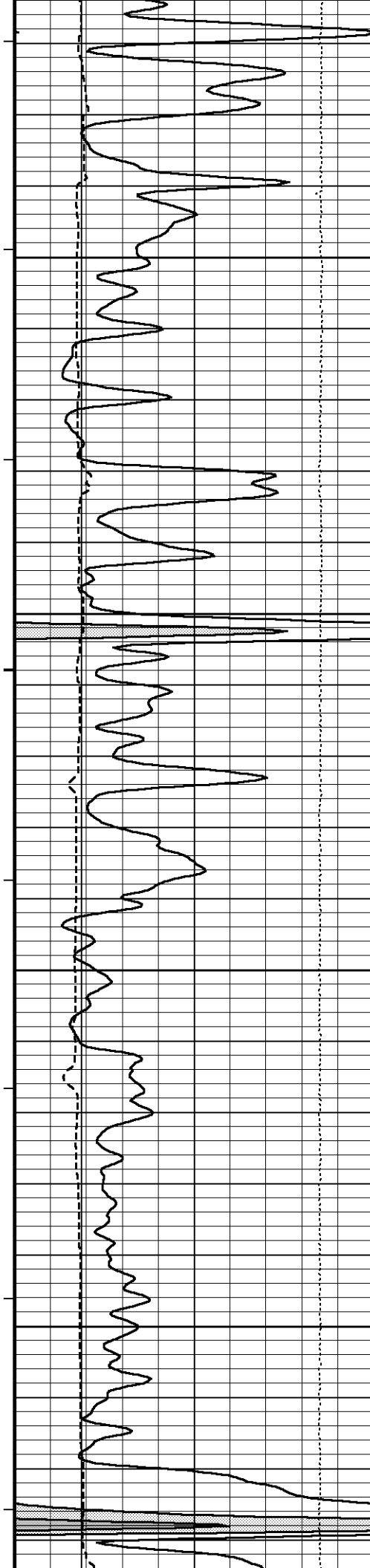
3-5' Compensated Sonic

6' Transit Time

5' Transit Time

4' Transit Time

3' Transit Time



96°

3850

96°

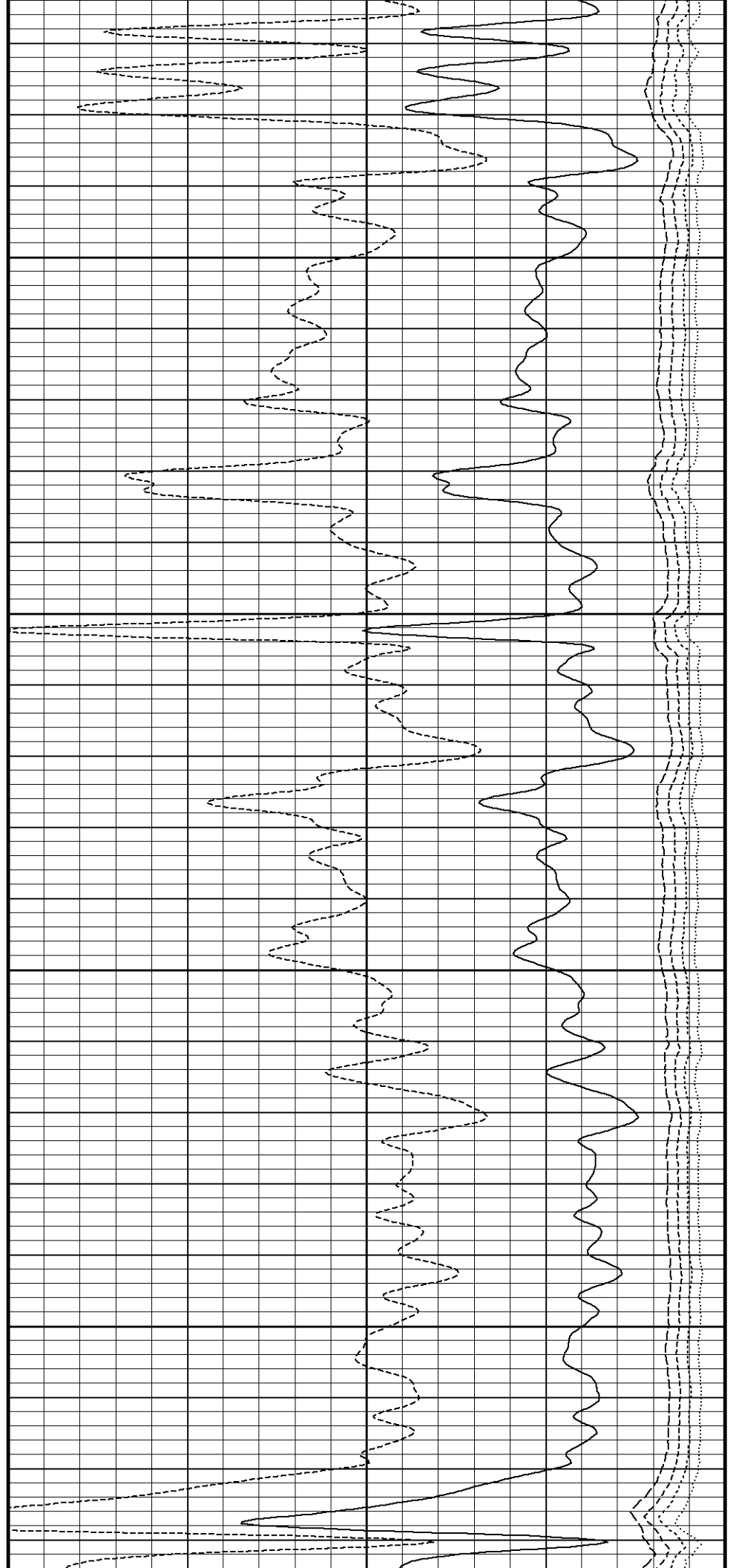
3900

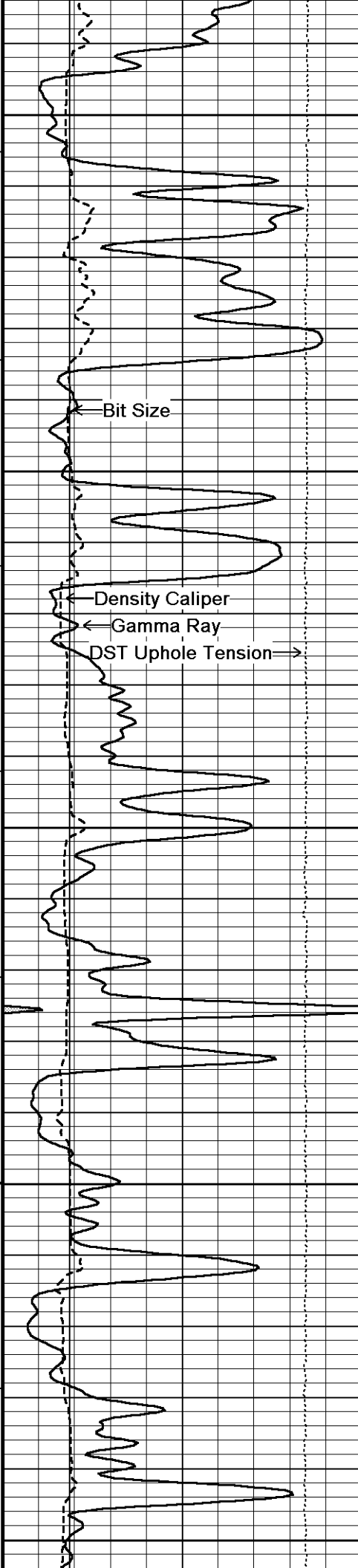
96°

3950

96°

4000





97°

4050

97°

4100

97°

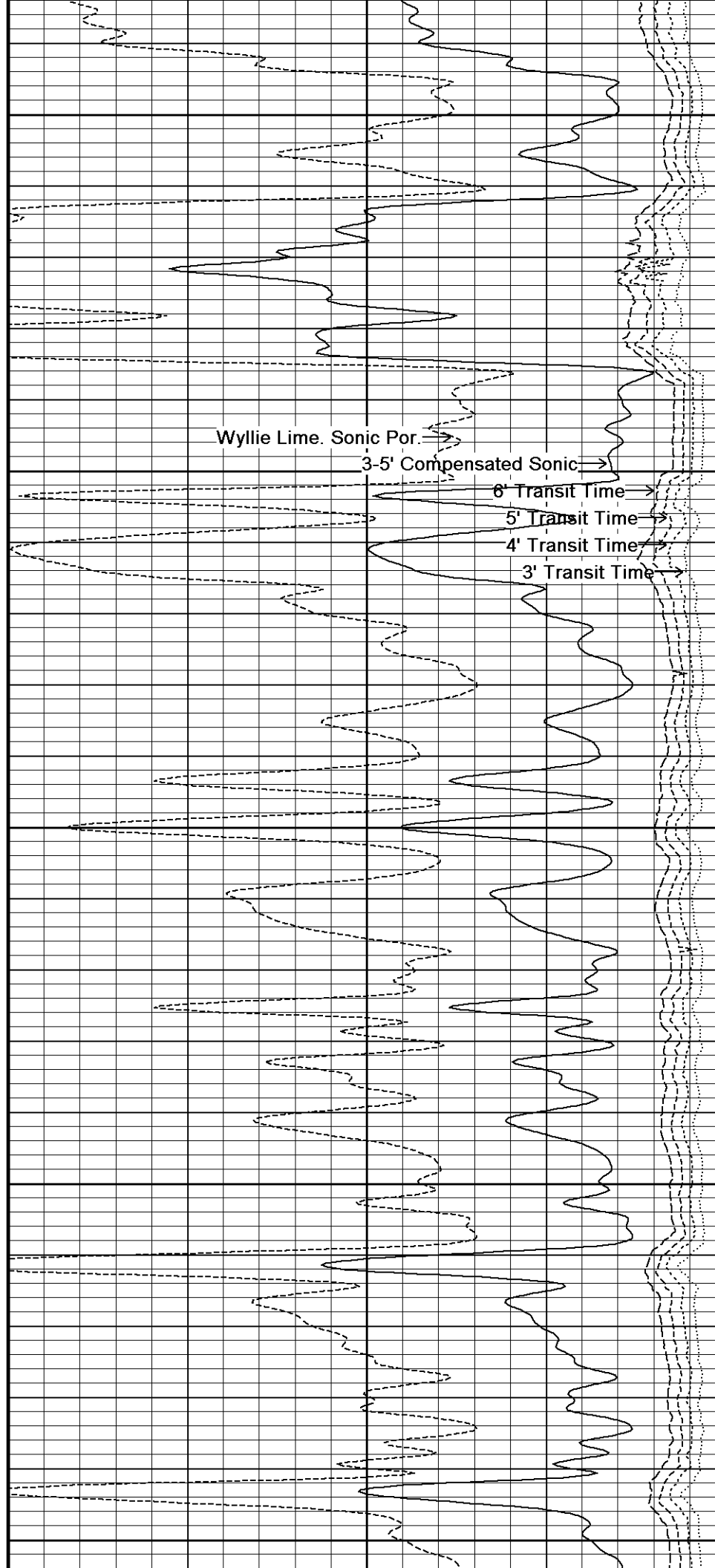
4150

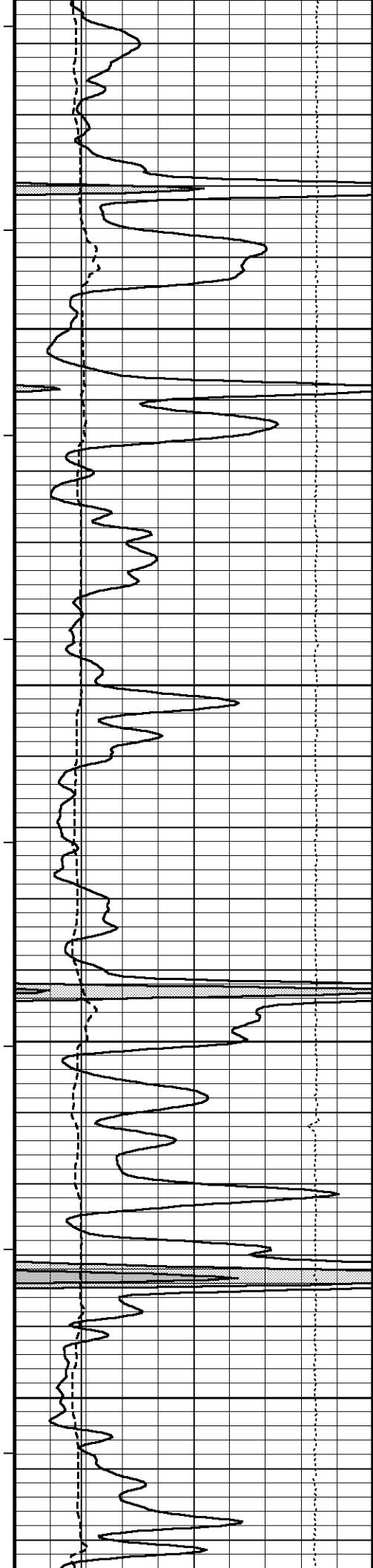
97°

4200

96°

4250





97°

4300

97°

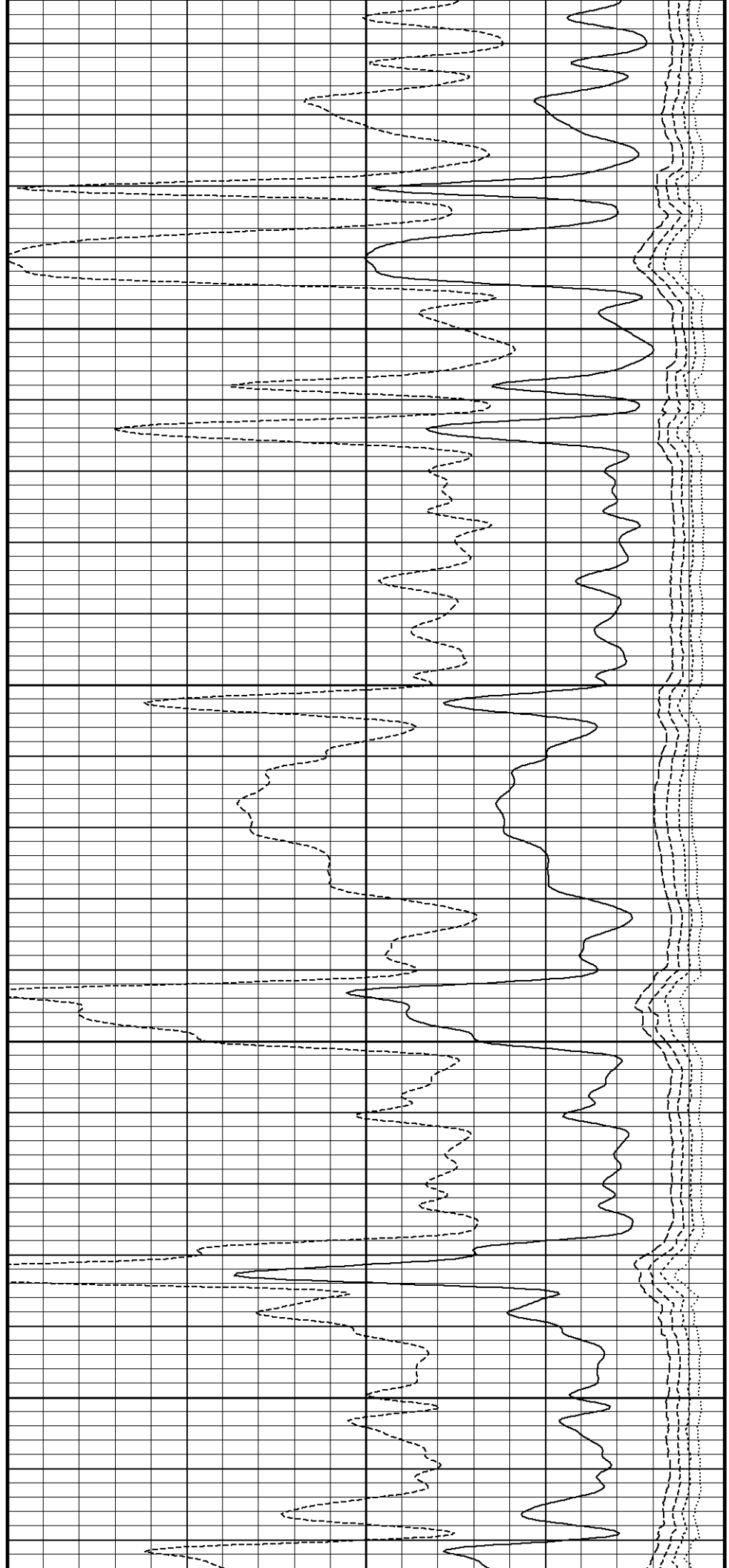
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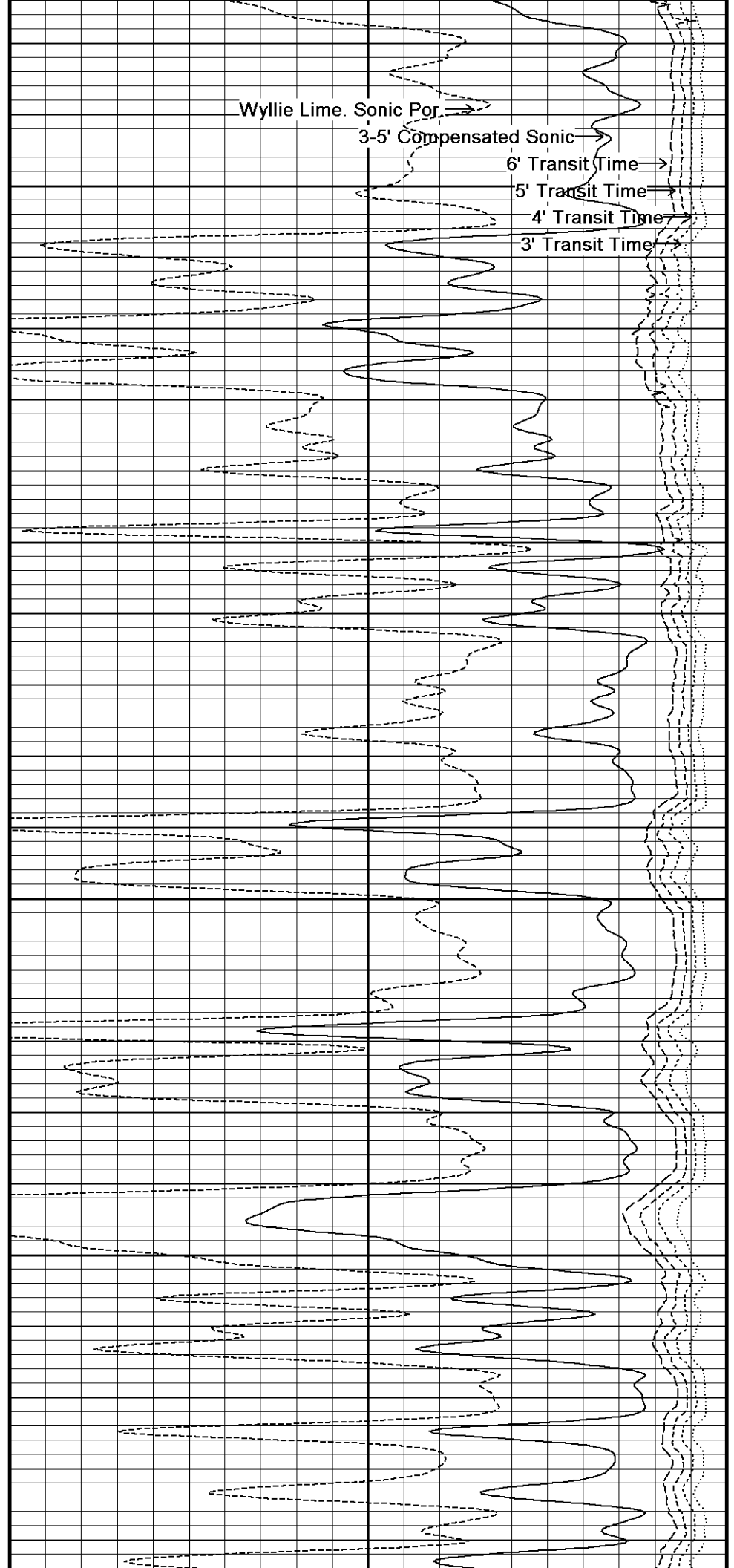
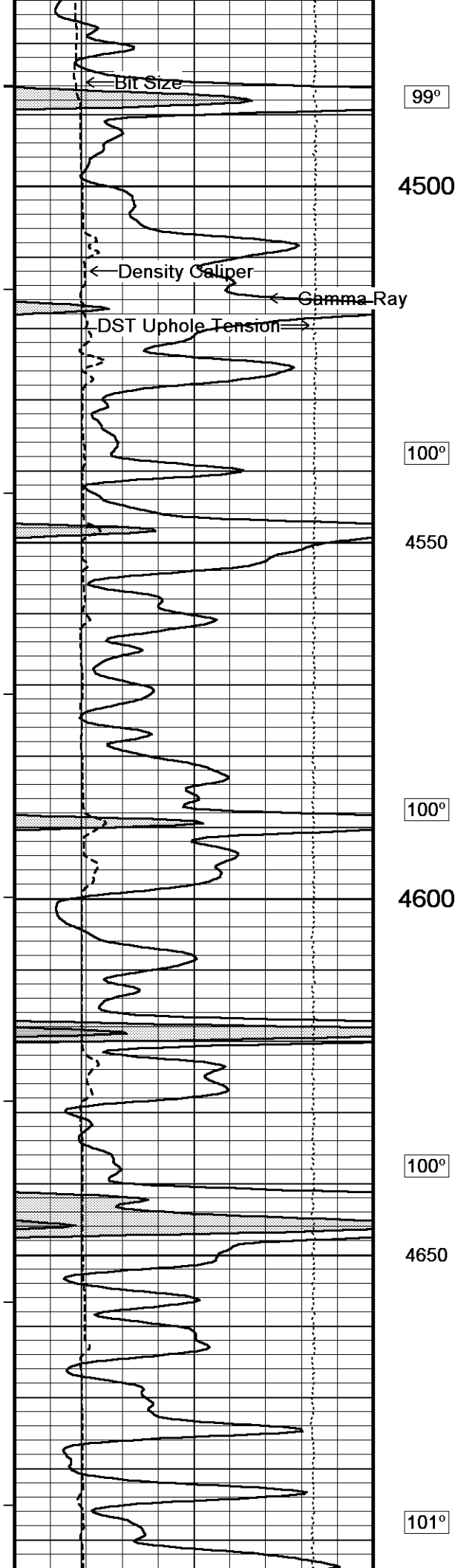
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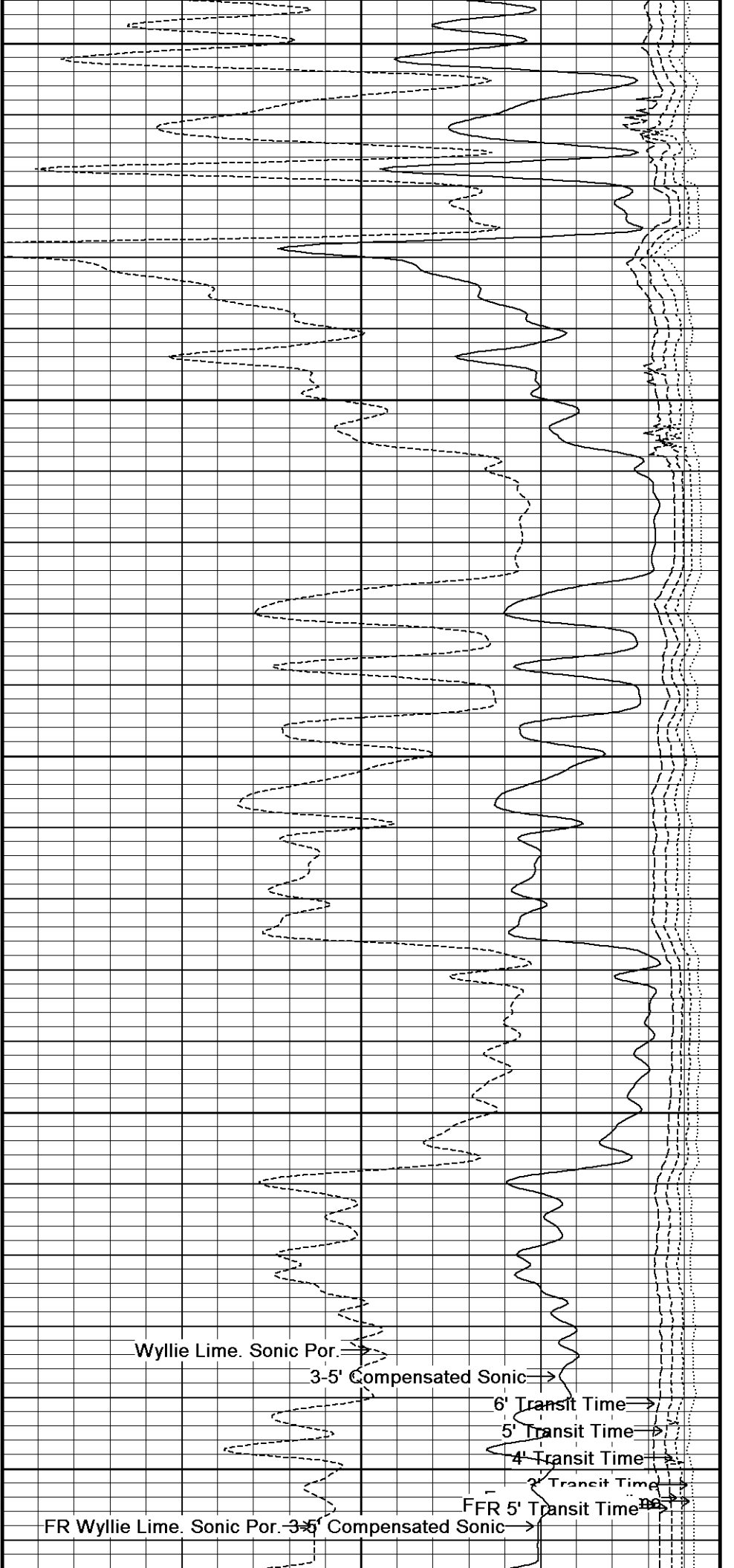
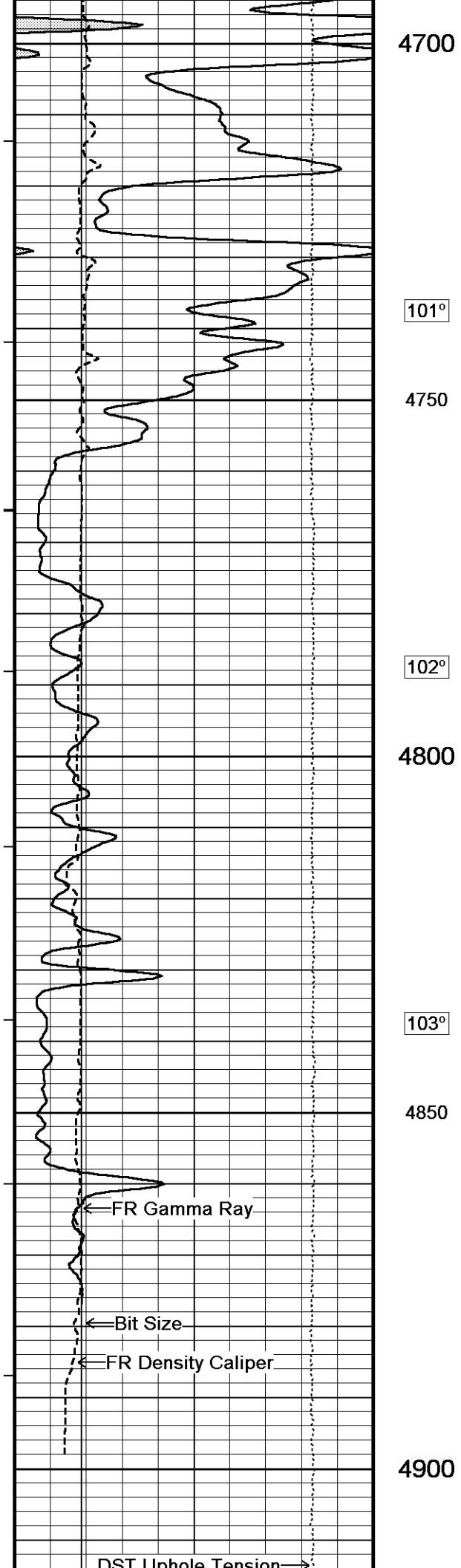
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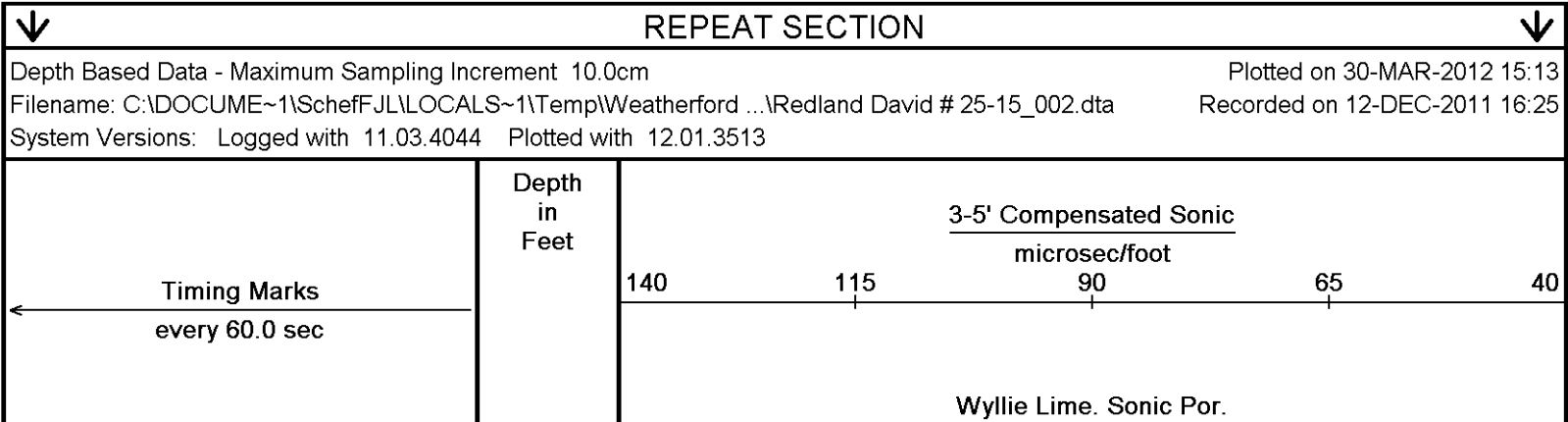
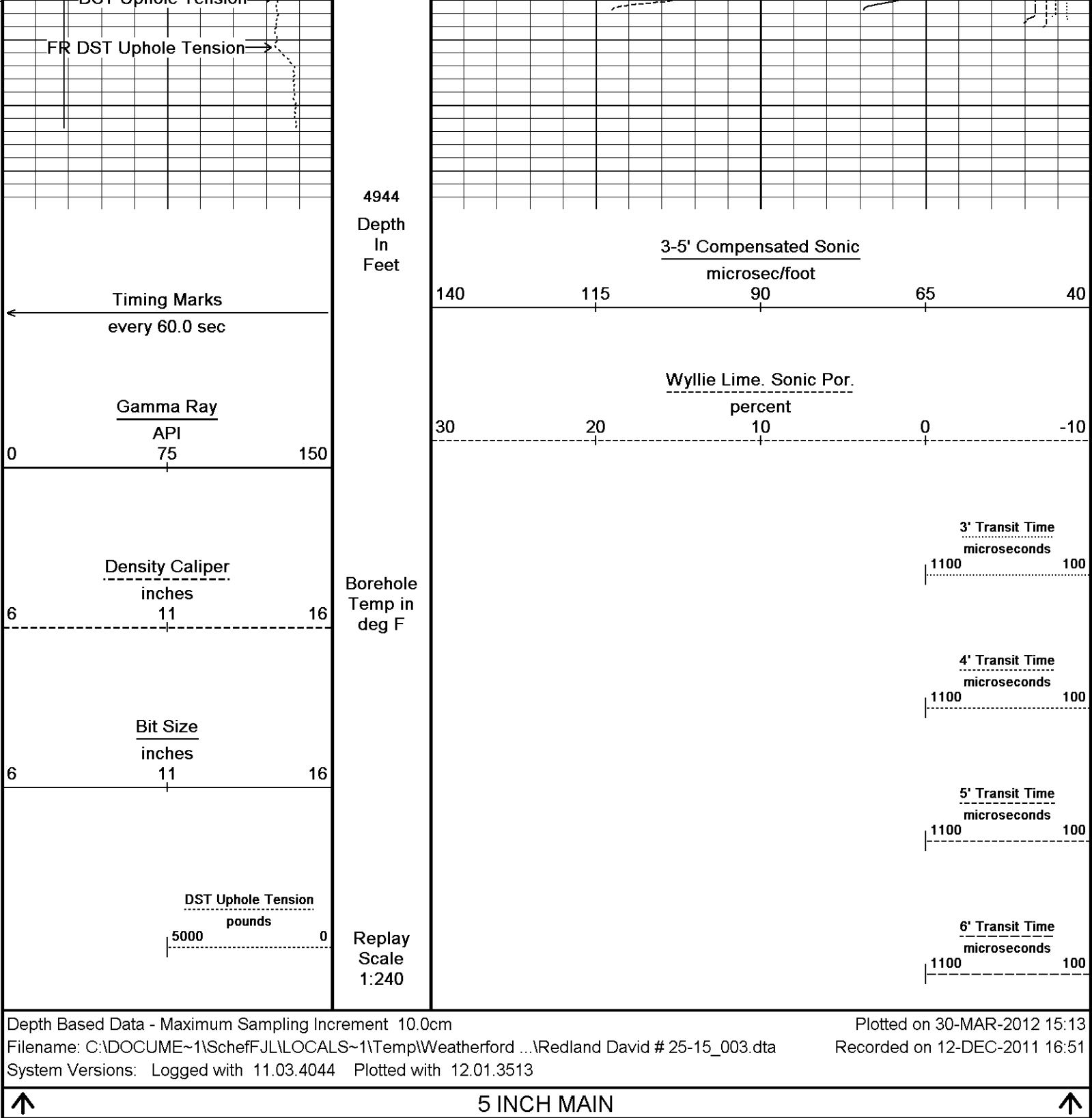
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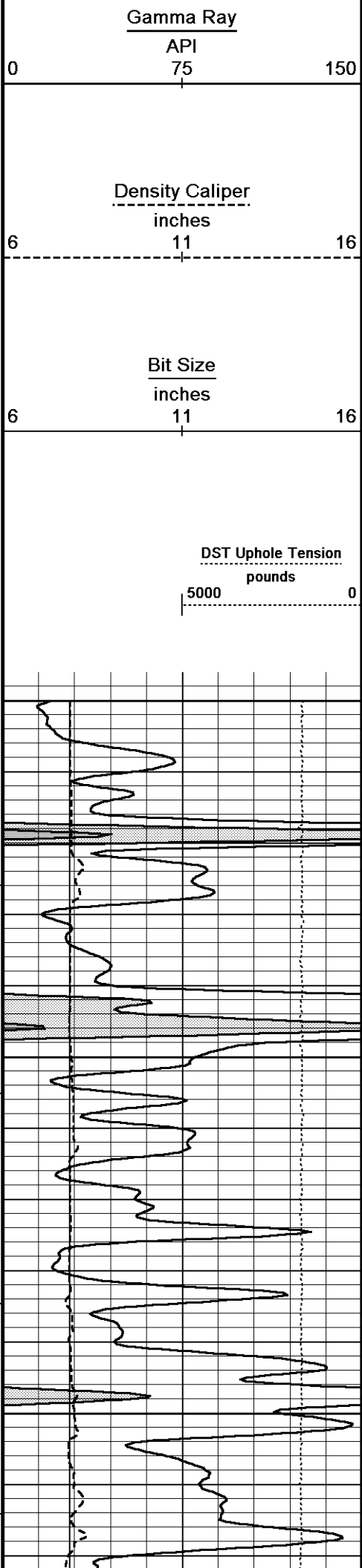
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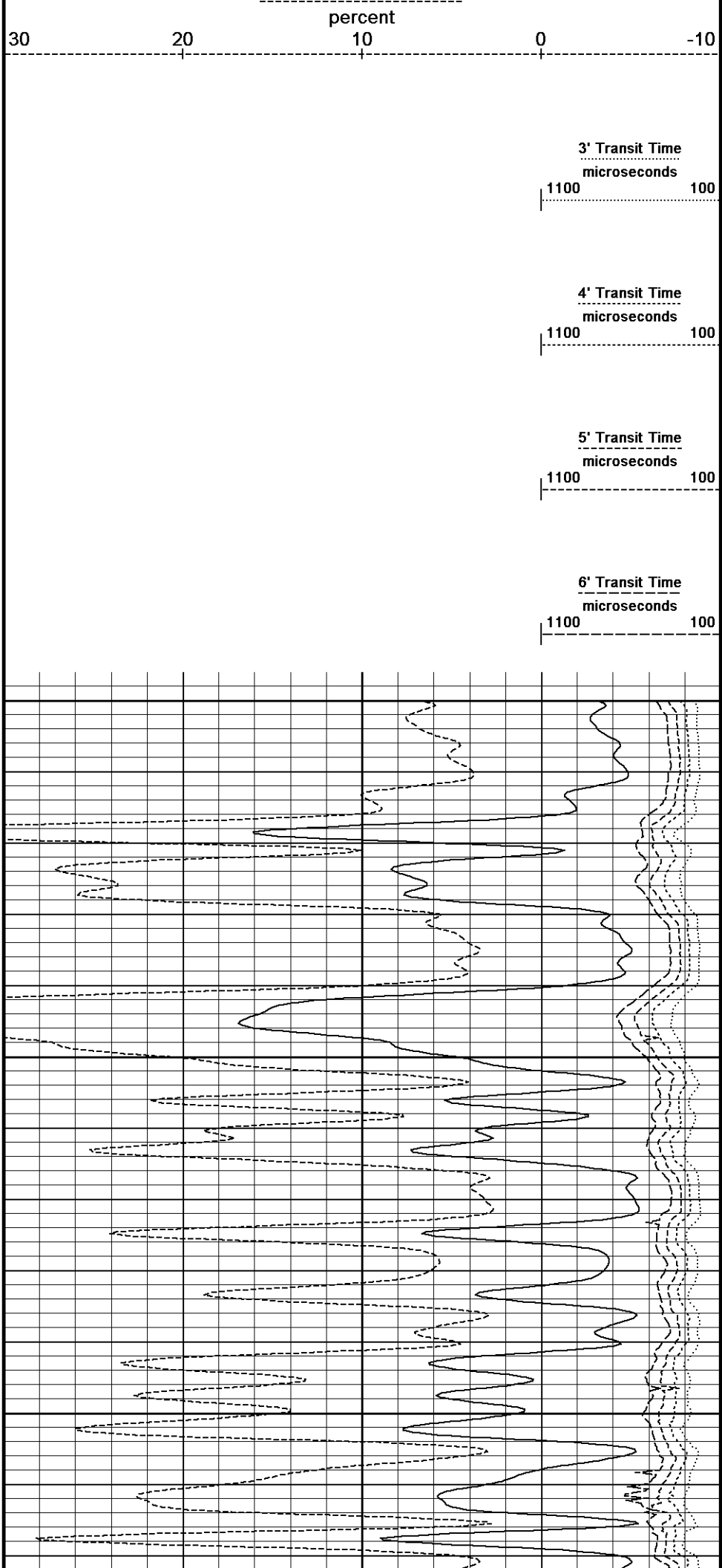


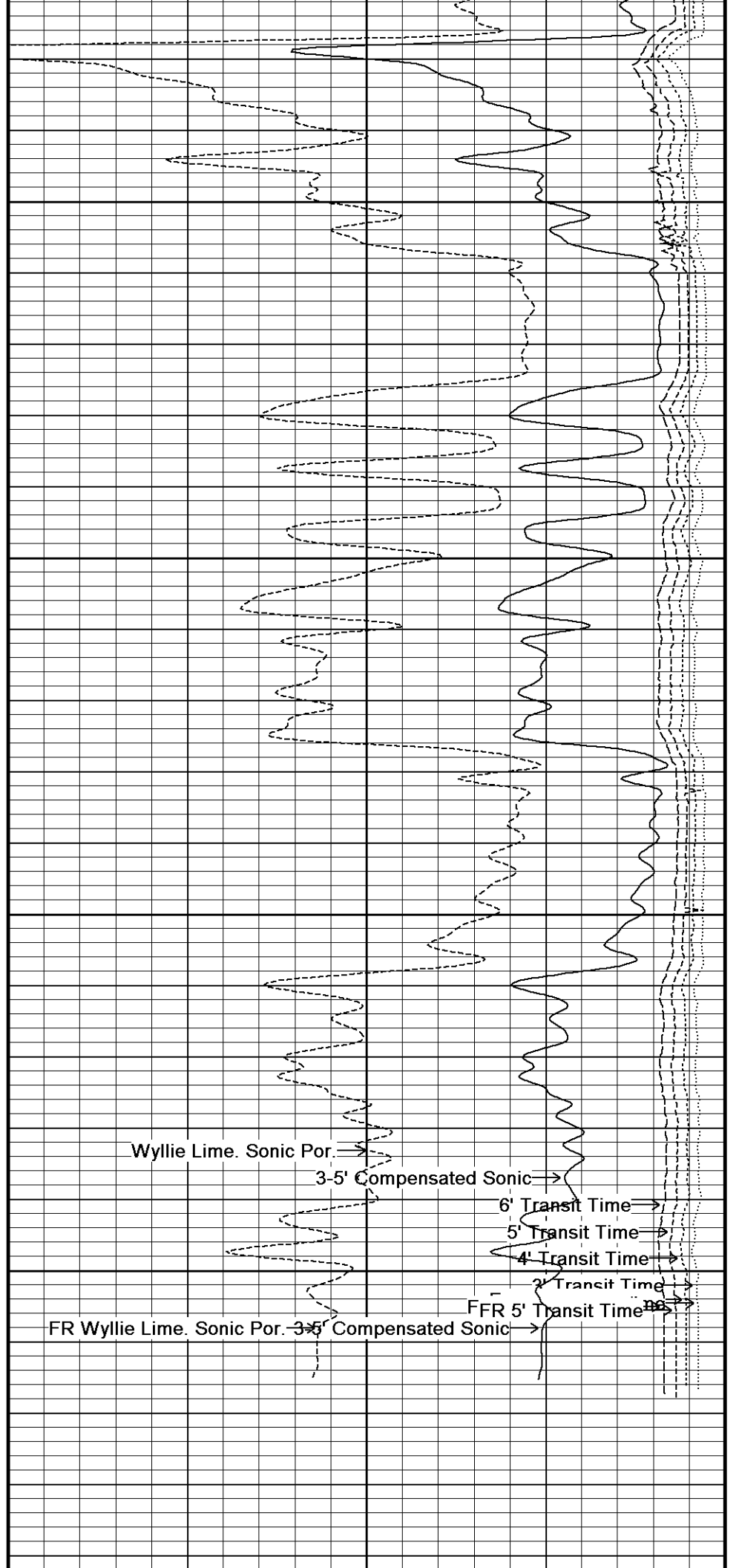
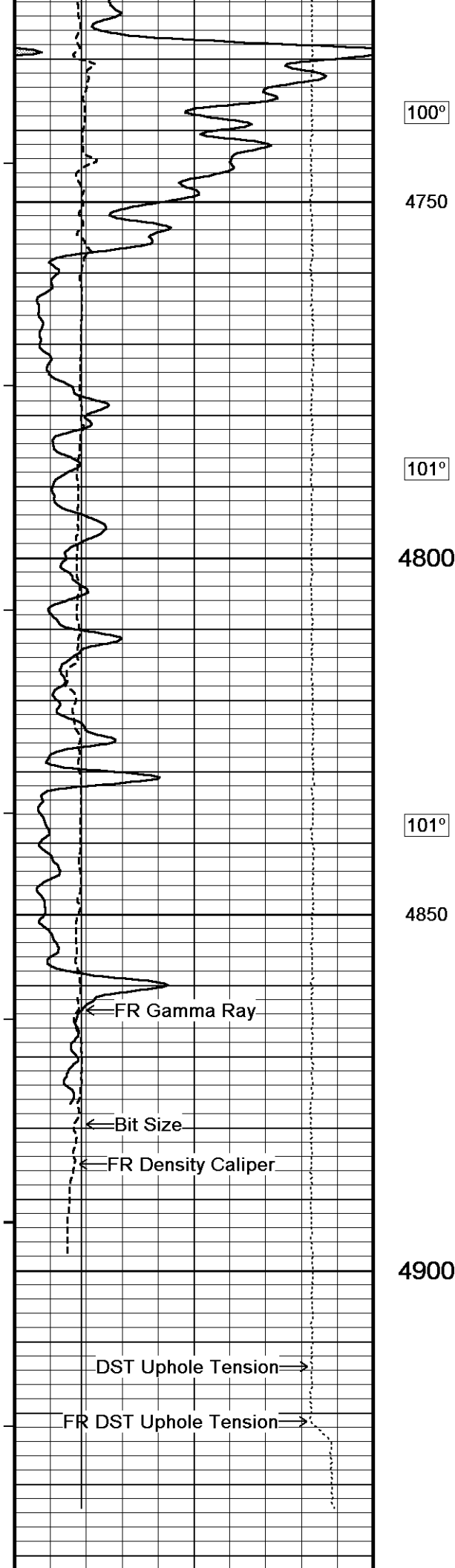


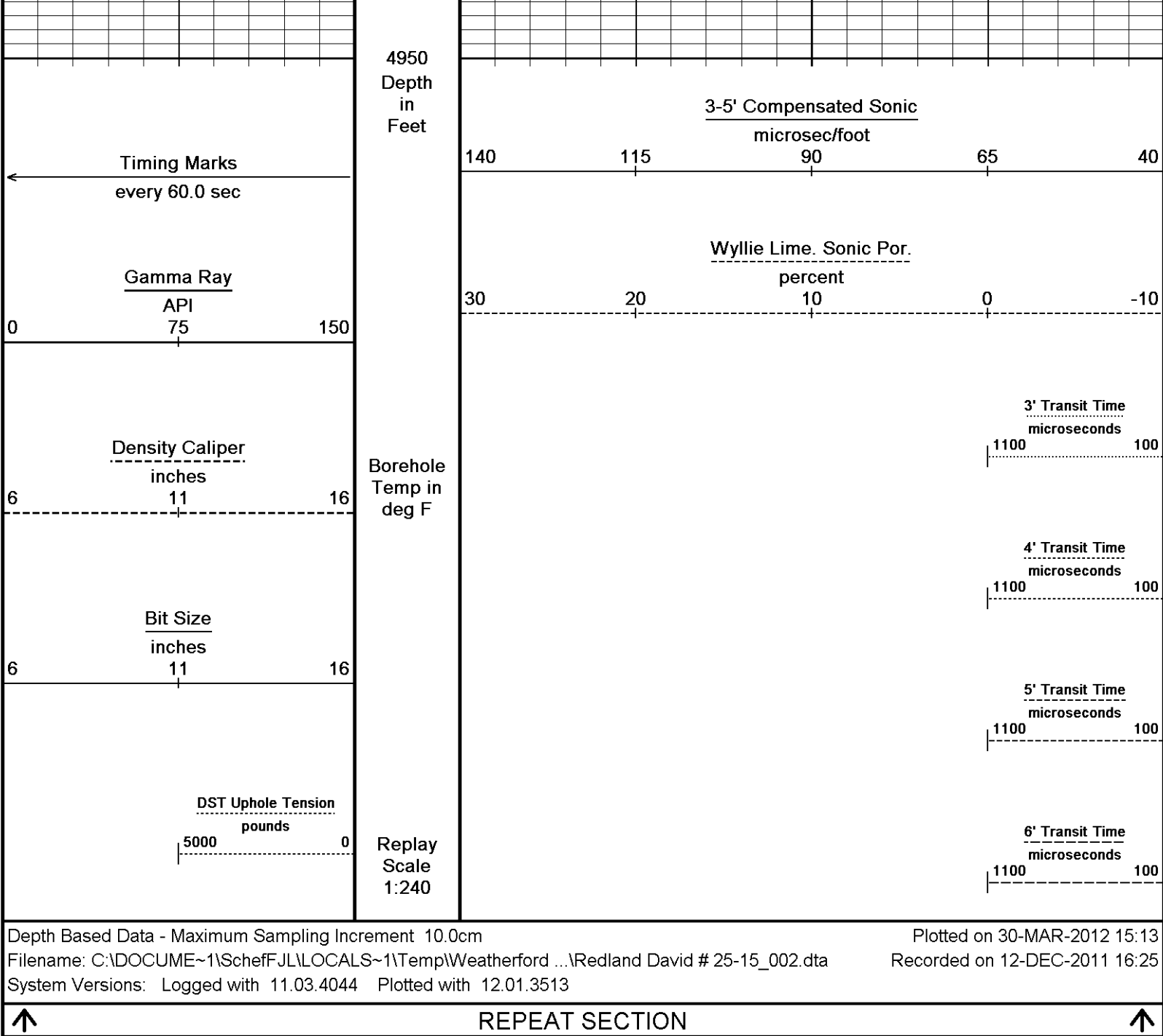


Borehole
Temp in
deg F

Replay
Scale
1:240







BEFORE SURVEY CALIBRATION			
C:\DOCUME~1\ScheffJL\LOCALS~1\Temp\Weatherford PreView\0\Redland David # 25-15_003.dta			
General Constants All 000			Last Edited on 12-DEC-2011 15:11
General Parameters			
Mud Resistivity	1.680	ohm-metres	
Mud Resistivity Temperature	52.000	degrees F	
Water Level	0.000	feet	
Density/Neutron Processing	Wet Hole		
Hole/Annular Volume and Differential Caliper Parameters			
HVOL Method	Single Caliper		
HVOL Caliper 1	Density Caliper		
HVOL Caliper 2	N/A		
Annular Volume Diameter	4.500	inches	
Caliper for Differential Caliper	Density Caliper		
Rwa Parameters			
Porosity used	Base Density Porosity		
Resistivity used	Array Ind. Six Res Rt		

RWA Constant A		0.610			
RWA Constant M		2.150			
High Resolution Temperature Calibration MCG-C 84			Field Calibration on 24-JUN-2010 14:02		
	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				
Gamma Calibration MCG-C 84			Field Calibration on 12-DEC-2011 11:15		
	Measured	Calibrated (API)			
Background	56	37			
Calibrator (Gross)	741	493			
Calibrator (Net)	685	456			
Gamma Constants MCG-C 84			Last Edited on 12-DEC-2011 15:11		
Gamma Calibrator Number	grc141				
Mud Density	1.09	gm/cc			
Caliper Source for Processing	Density Caliper				
Tool Position	Eccentred				
Concentration of KCl	0.00	kppm			
Sonic Constants MSS-A.A 126			Last Edited on 18-SEP-2011 16:11		
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				
Correction for Sonde Skew	Applied				
Cycle Stretch Algorithm	Applied				
MN3FT	0.00	micro-sec			
MX3FT	1500.00	micro-sec			
Hunt-Raymer Constant	83.13	micro-sec/ft			
Sonde Mode	Compensated				
Hole Type	Open Hole				
Sonde Parameters					
	Measured	Calibrated			
Offset	0.0000	0.0000			
Free Pipe	0.0000	0.0000			
Peak Amplitude Source	0				
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)	Depth (ft)		
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	0.00	0.00	0.00		
Full Waveform Parameters					
Use 3' Waveform to derive TR	No				
Use 4' Waveform to derive TR	No				
Use 5' Waveform to derive TR	No				
Use 6' Waveform to derive TR	No				

3' Waveform Discriminator Level	0.30	mV
4' Waveform Discriminator Level	0.30	mV
5' Waveform Discriminator Level	0.15	mV
6' Waveform Discriminator Level	0.15	mV
3' Waveform Filter	0	
4' Waveform Filter	0	
5' Waveform Filter	0	
6' Waveform Filter	0	
Semblance Level	0.50	
Semblance Window Width	120.00	micro-sec
Sonic 1 Despiker	100.00	micro-sec/ft
Sonic 2 Despiker	100.00	micro-sec/ft

Caliper Calibration MPD-B 65

Base Calibration on 28-NOV-2011 10:07

Field Calibration on 12-DEC-2011 11:04

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	13805	3.99
2	22448	5.98
3	31025	7.97
4	39247	9.86
5	48400	11.92
6	N/A	N/A

Field Calibration

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

DOWNHOLE EQUIPMENT

C:\DOCUME~1\SchefJL\LOCALS~1\Temp\Weatherford PreView\0\Redland David # 25-15_003.dta

MCB-A.A 11B Tension Cablehead
MCB-A.A 161 LG: 2.40 ft WT: 19.8 lb OD: 2.24 in

MCB-A.A 11B Tension Cablehead
MCB-A.A 161 LG: 2.40 ft WT: 19.8 lb OD: 2.24 in

SHA-F Compact Swivel Head Adaptor
SHA-F 88 LG: 2.74 ft WT: 26.5 lb OD: 2.24 in

SHA-F Compact Swivel Head Adaptor
SHA-F 88 LG: 2.74 ft WT: 26.5 lb OD: 2.24 in

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

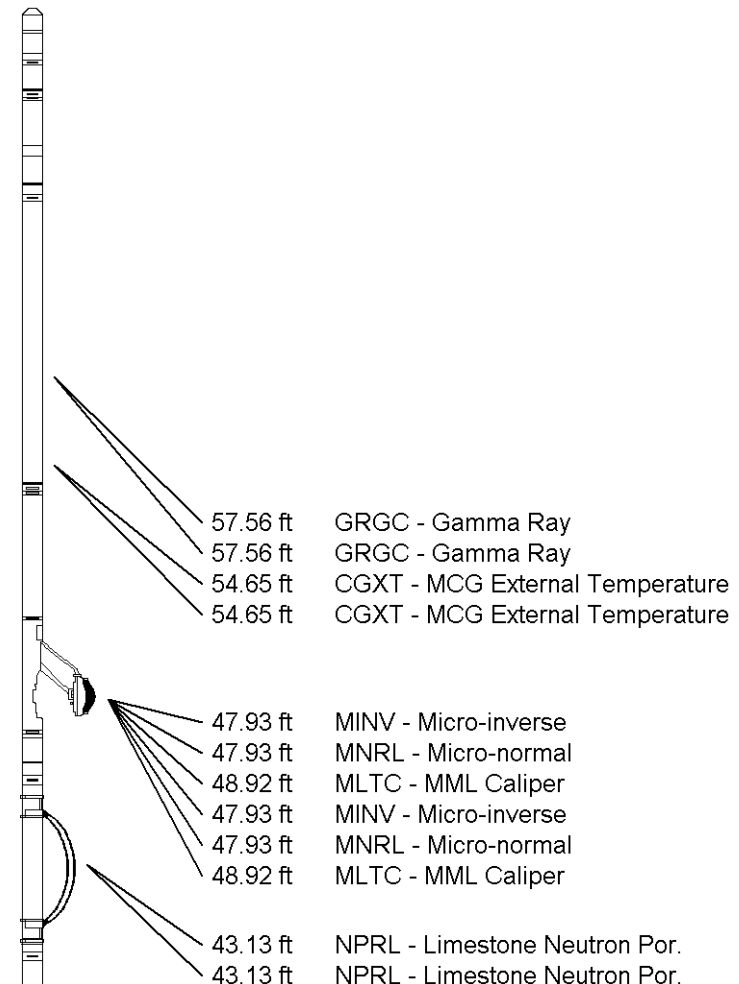
Compact Micro-log
MML-A 9 LG: 7.97 ft WT: 81.6 lb OD: 2.24 in

Compact Micro-log
MML-A 9 LG: 7.97 ft WT: 81.6 lb OD: 2.24 in

Compact Neutron
MDN-A.B 39 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Neutron
MDN-A.B 39 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



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 91 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

SKJ-D.A Compact Knuckle Joint
SKJ-D.A 91 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

Compact Focussed Electric
MFE-A.A 67 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Focussed Electric
MFE-A.A 67 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Sonic
MSS-A.A 126 LG: 12.52 ft WT: 72.8 lb OD: 2.24 in

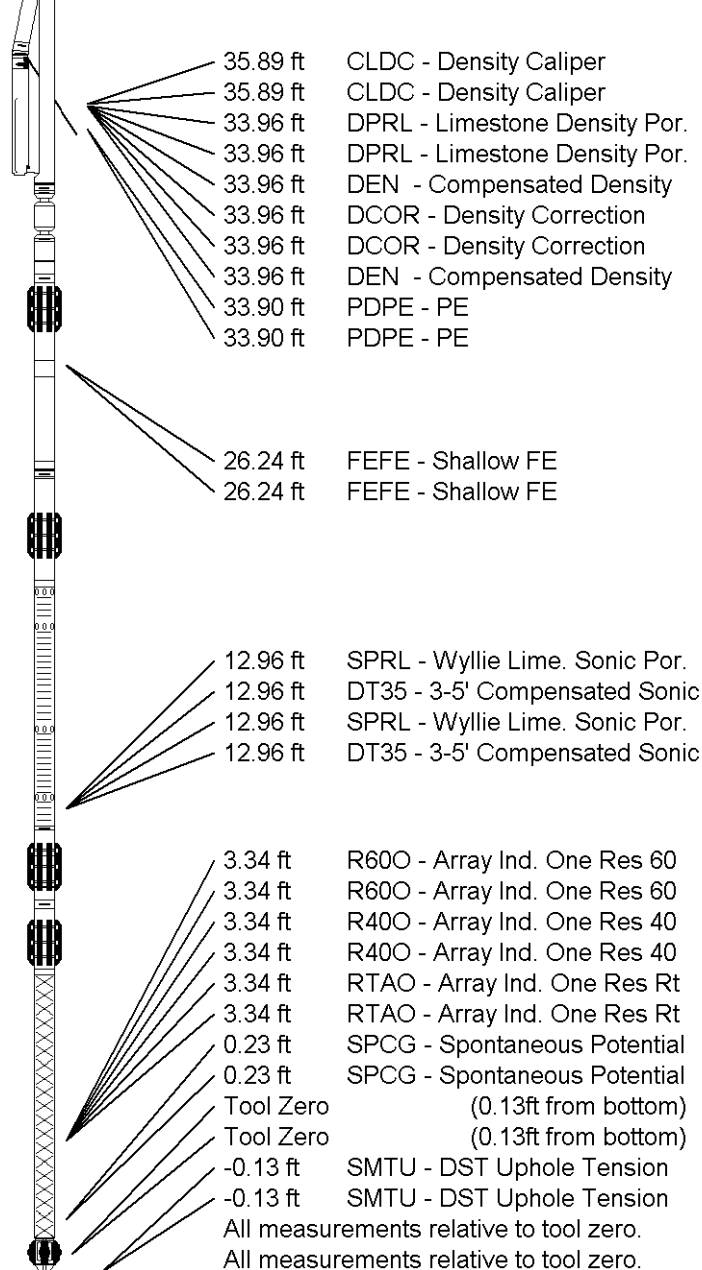
Compact Sonic
MSS-A.A 126 LG: 12.52 ft WT: 72.8 lb OD: 2.24 in

Compact Induction
MAI-A.A 188 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Compact Induction
MAI-A.A 188 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 67.98 ft Weight: 526.9 lb

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COMPANY REDLAND RESOURCES
WELL DAVID # 25-15
FIELD WILDCAT
PROVINCE/COUNTY HODGEMAN
COUNTRY/STATE KANSAS / U.S.A.

Elevation Kelly Bushing	2509.00	feet	First Reading	4908.00	feet
Elevation Drill Floor	2507.00	feet	Depth Driller	4920.00	feet
Elevation Ground Level	2497.00	feet	Depth Logger	4921.00	feet



Weatherford®

COMPENSATED SONIC
WITH INTEGRATED TRANSIT TIME

