



Weatherford

**COMPENSATED SONIC
WITH INTEGRATED TRANSIT TIME**

COMPANY				K3 OIL & GAS OPERATING COMPANY			
WELL				SORENSEN #4-3			
FIELD				WILDCAT			
PROVINCE/COUNTY				LINCOLN			
COUNTRY/STATE				U.S.A. / COLORADO			
LOCATION				650' FNL & 650' FWL			
SEC 3	TWP 16S	RGE 55W	Other Services		MDN/MPD		
Latitude			MAI/MFE				
Longitude			MML				
API Number	05-073-06727						
Permanent Datum GL, Elevation 5030 feet							
Log Measured From KB, 18.00 feet above Permanent Datum							
Drilling Measured From KB						Elevations: KB 5048.00 DF 5046.00 GL 5030.00	
Date	08-NOV-2017						
Run Number	ONE						
Service Order	4558-197333139						
Depth Driller	7550.00					feet	
Depth Logger	7550.00					feet	
First Reading	7537.00					feet	
Last Reading	496.00					feet	
Casing Driller	496.00					feet	
Casing Logger	496.00					feet	
Bit Size	7.875					inches	
Hole Fluid Type	CHEMICAL						
Density / Viscosity	9.40 lb/USg		83.00 CP				
PH / Fluid Loss	10.00		7.20 ml/30Min				
Sample Source	FLOWLINE						
Rm @ Measured Temp	1.76 @ 75.0					ohm-m	
Rmf @ Measured Temp	1.41 @ 75.0					ohm-m	
Rmc @ Measured Temp	2.11 @ 75.0					ohm-m	
Source Rmf / Rmc	CALC		CALC				
Rm @ BHT	0.74 @178.0					ohm-m	
Time Since Circulation	5 HOURS						
Max Recorded Temp	178.00		deg F				
Equipment / Base	13096		LIB				
Recorded By	ADAM SILL						
Witnessed By	RANDY SAY					JOHN MARVIN	
Witnessed By	SUSAN RAINBOLT						

BOREHOLE RECORD					Last Edited: 08-NOV-2017 09:44
Bit Size inches		Depth From feet		Depth To feet	
7.875		496.00		7550.00	
CASING RECORD					
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft	
SURFACE	13.375	0.00	496.00	48.00	

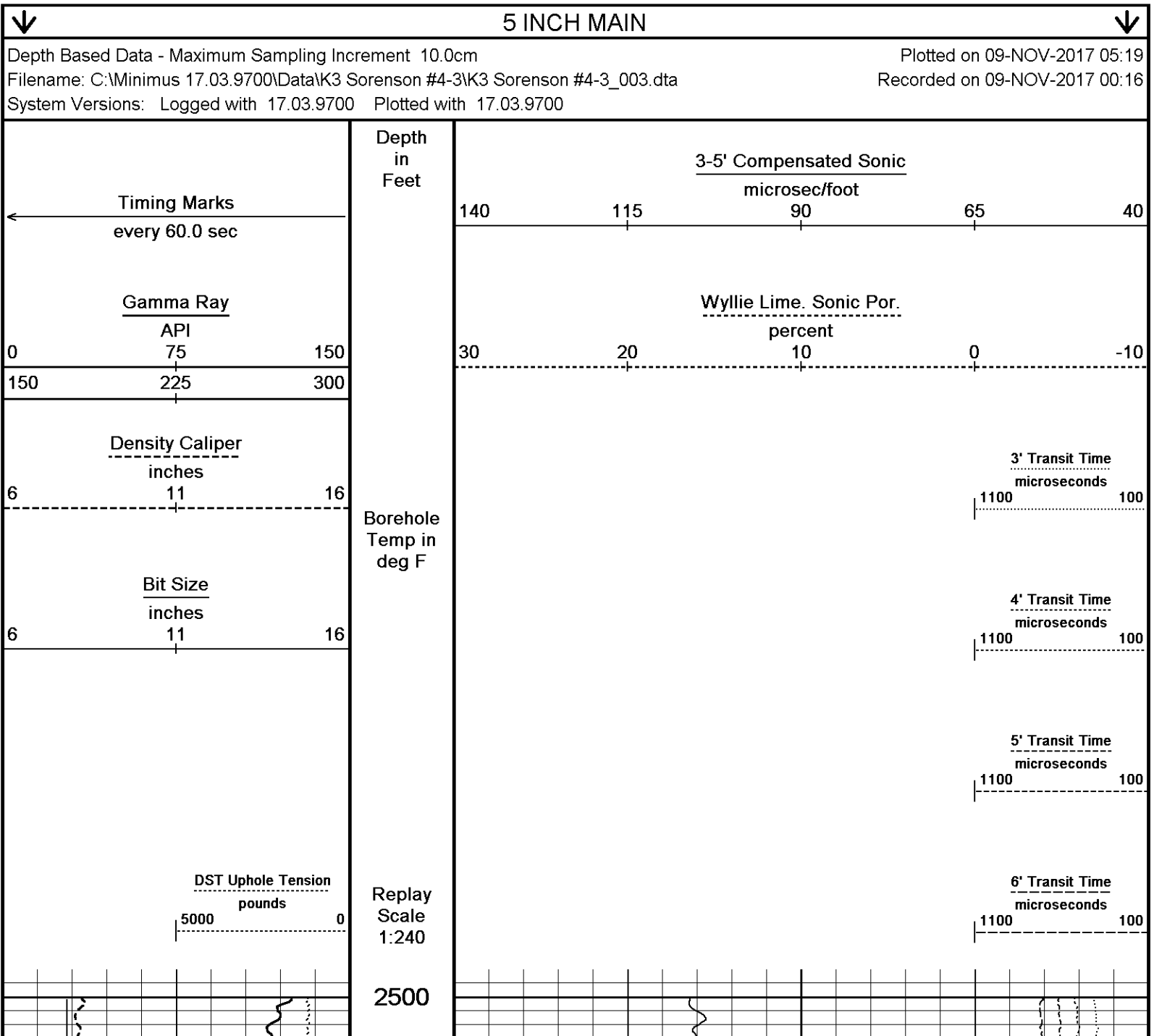
REMARKS
- SOFTWARE ISSUE: WLS 17.03.9700.
- RUN ONE: MCG, MML, MDN, MPD, MFE, MSS, MAI RUN IN COMBINATION. - HARDWARE: DUAL BOWSPRING USED ON MDN. 0.5 INCH STANDOFF USED ON MFE. TWO 0.5 INCH STANDOFFS USED ON MSS. 0.5 INCH STANDOFF USED ON MAI.
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY.
- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL AFFECT DATA QUALITY.
- ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.
- TOTAL HOLE VOLUME FROM TD TO SURFACE CASING: 2712 CU.FT.
- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO 2500 FEET: 914 CU.FT.

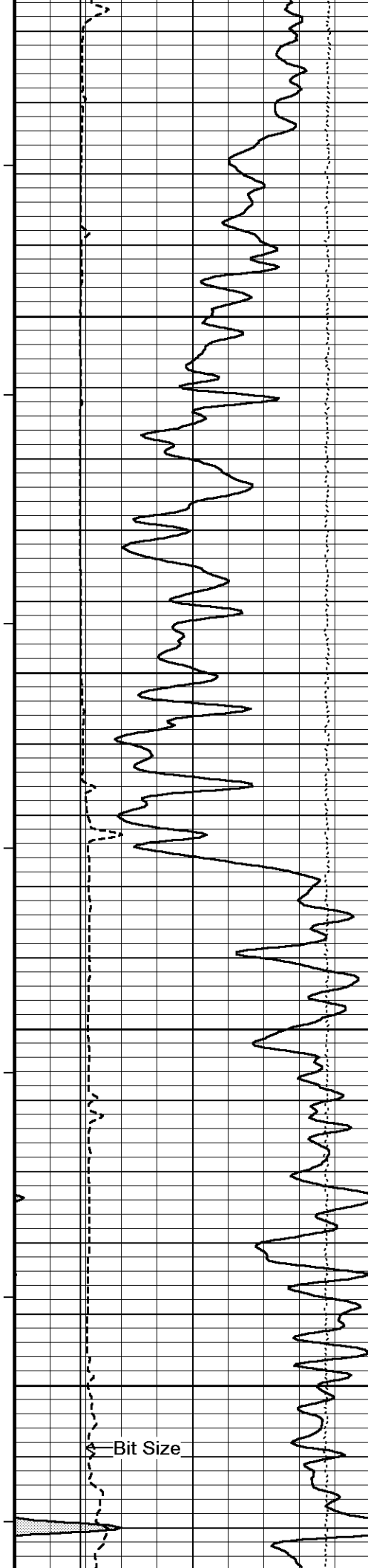
- RIG: WW DRILLING #20.

- ENGINEER: A. SILL.

- OPERATOR: B. TOVAR, J. HOLCOMB.

In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will give the Company the benefit of the Contractor's best judgment based on its experience and will perform all such Work in a good and workmanlike manner. Any interpretation of test or other data, and any recommendation or reservoir description based upon such interpretations, are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional engineers and analysts may differ. ACCORDINGLY ANY INTERPRETATION OR RECOMMENDATION RESULTING FROM THE SERVICES WILL BE AT THE SOLE RISK OF THE COMPANY, AND THE CONTRACTOR CANNOT AND DOES NOT WARRANT THE ACCURACY, CORRECTNESS OR COMPLETENESS OF ANY SUCH INTERPRETATION OR RECOMMENDATION, WHICH INTERPRETATIONS AND RECOMMENDATIONS SHOULD NOT, THEREFORE, UNDER ANY CIRCUMSTANCES BE RELIED UPON AS THE SOLE OR MAIN BASIS FOR ANY DRILLING, COMPLETION, WELL TREATMENT, PRODUCTION OR FINANCIAL DECISION, OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING ACTIVITY, DRILLING RIG OR ITS CREW OR ANY OTHER INDIVIDUAL. THE COMPANY HAS FULL RESPONSIBILITY FOR ALL DECISIONS CONCERNING THE SERVICES.





123°

2550

124°

2600

125°

2650

125°

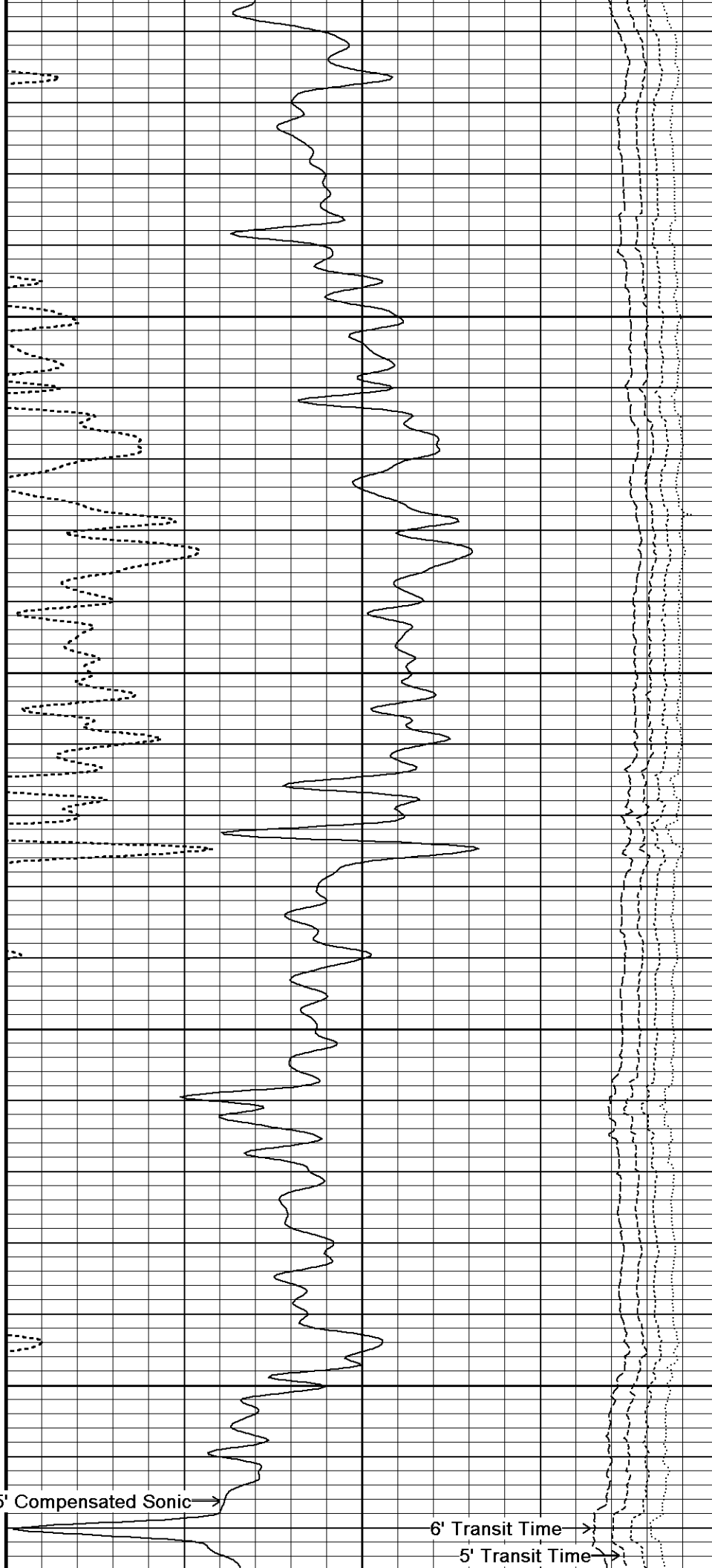
2700

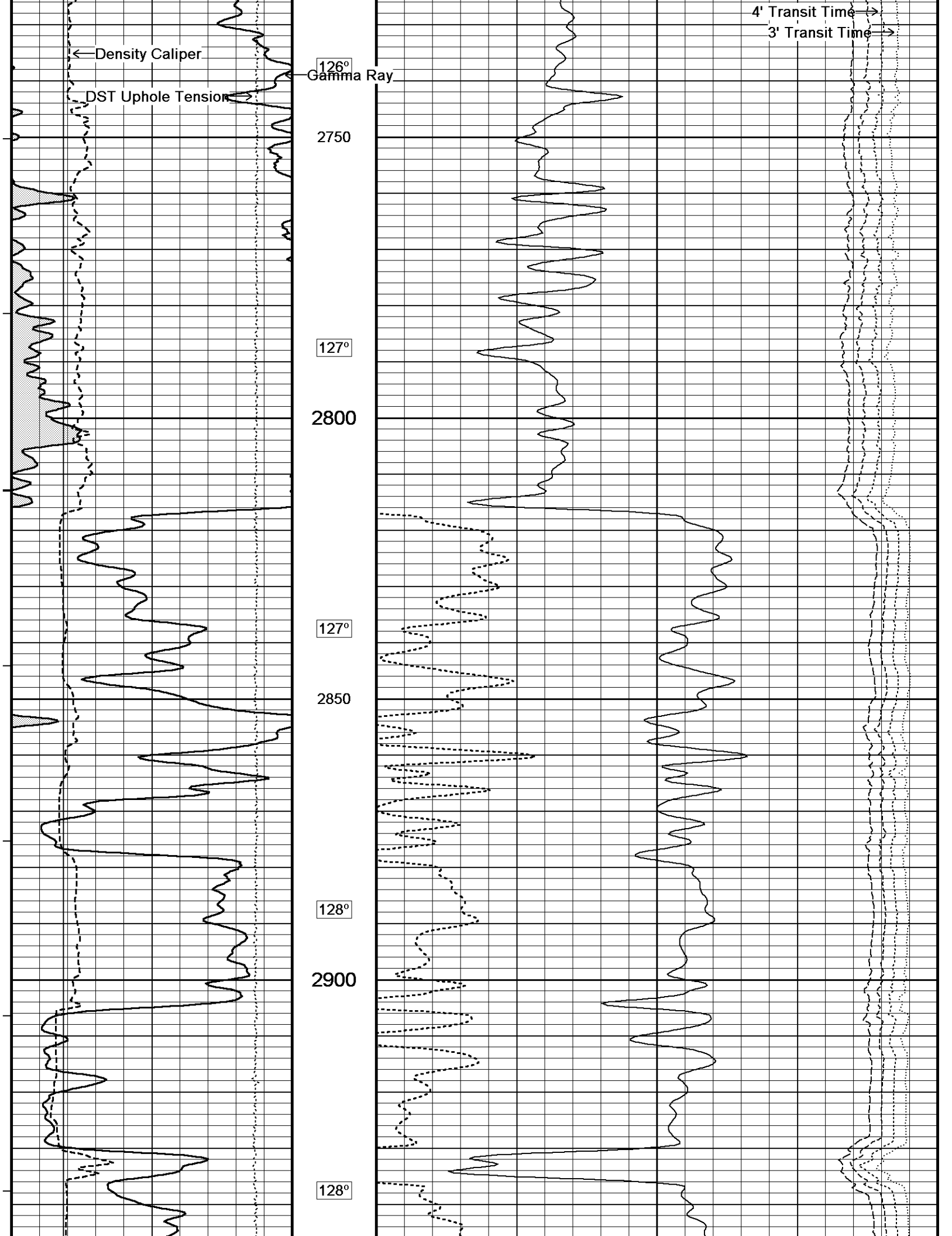
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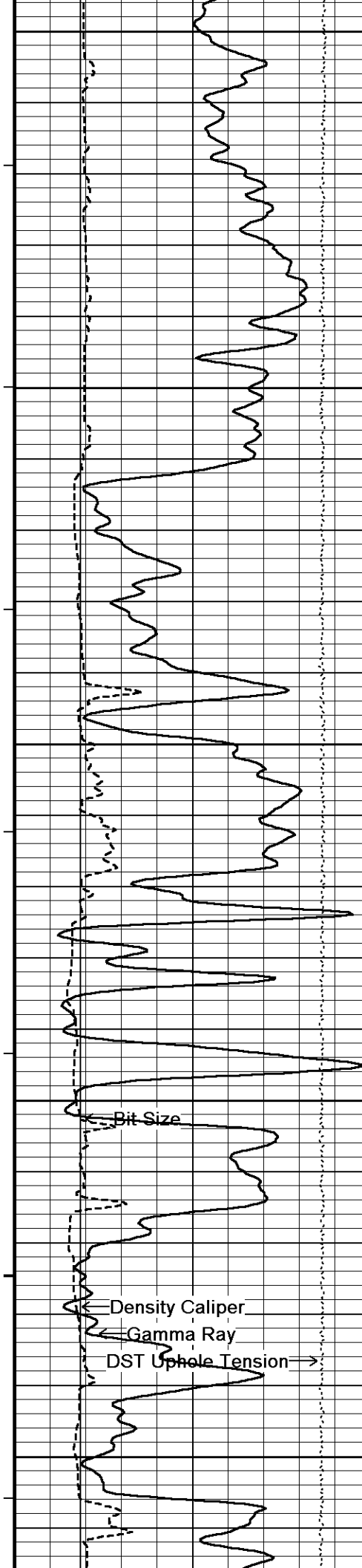
3-5' Compensated Sonic

6' Transit Time

5' Transit Time







2950

129°

3000

129°

3050

130°

3100

Bit Size

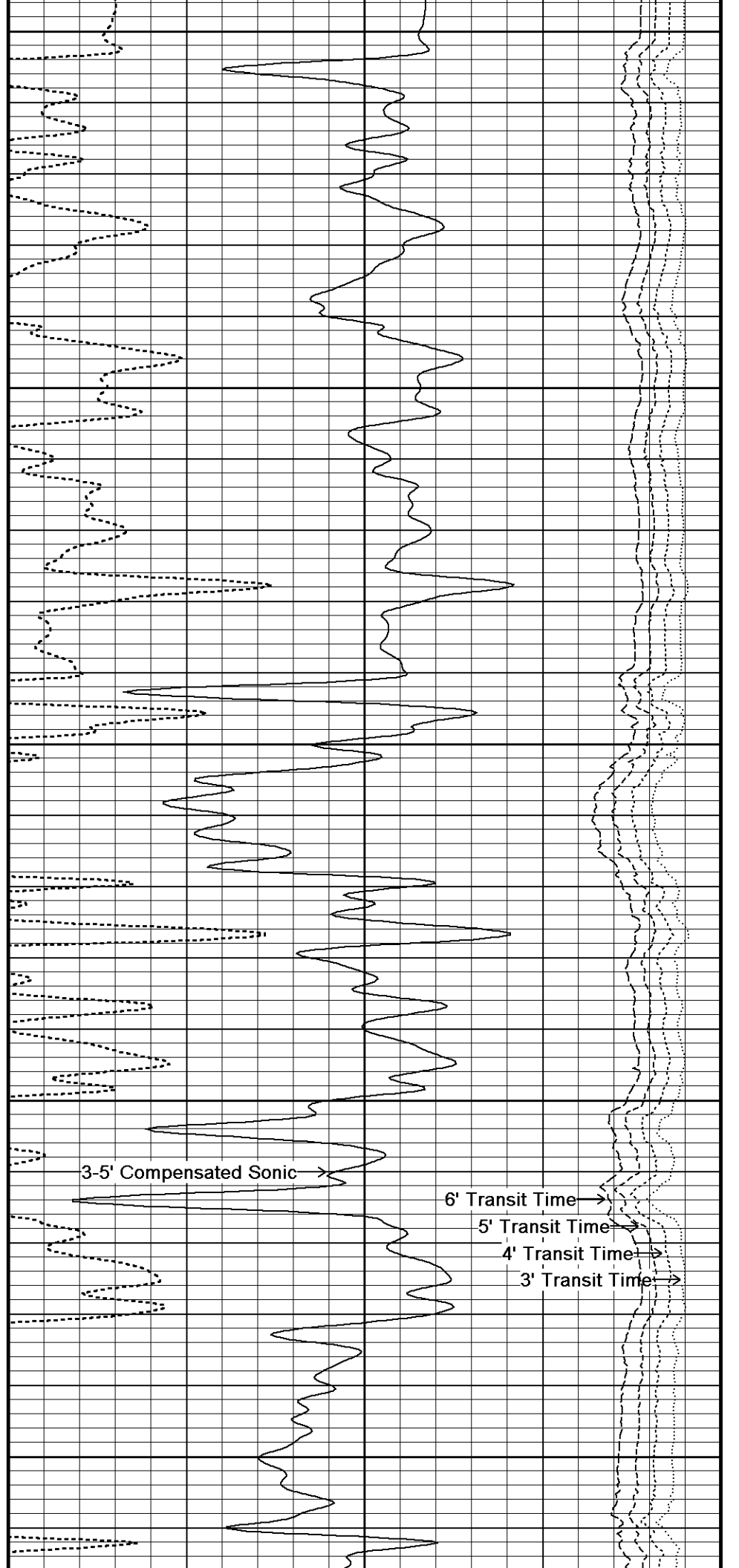
Density Caliper

Gamma Ray

DST Up-hole Tension

130°

3150



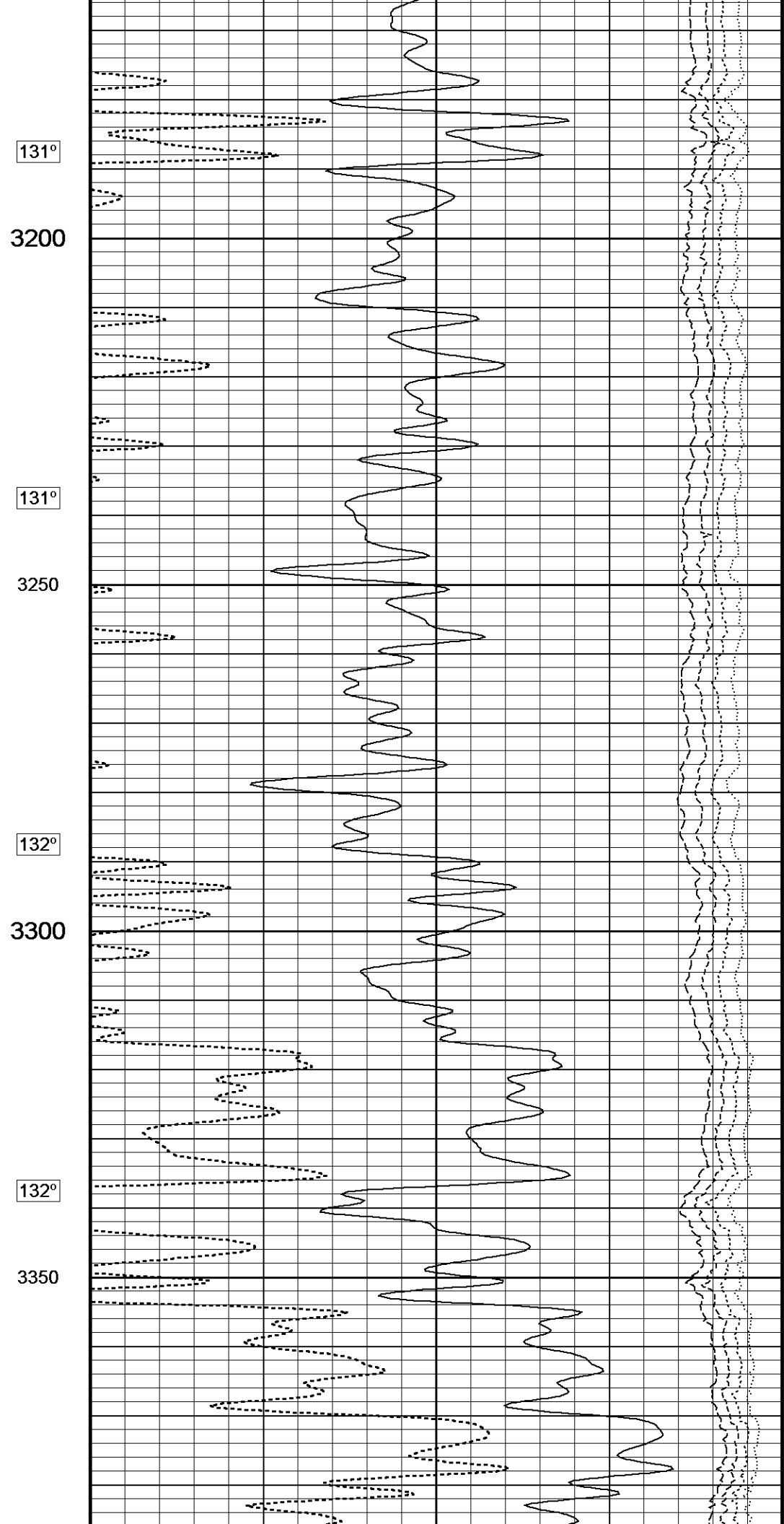
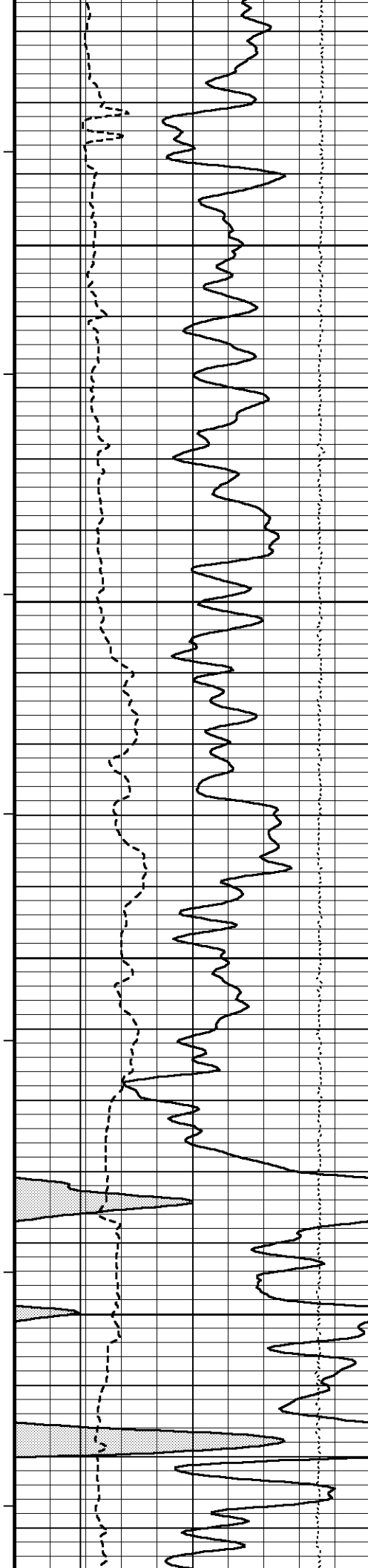
3-5' Compensated Sonic

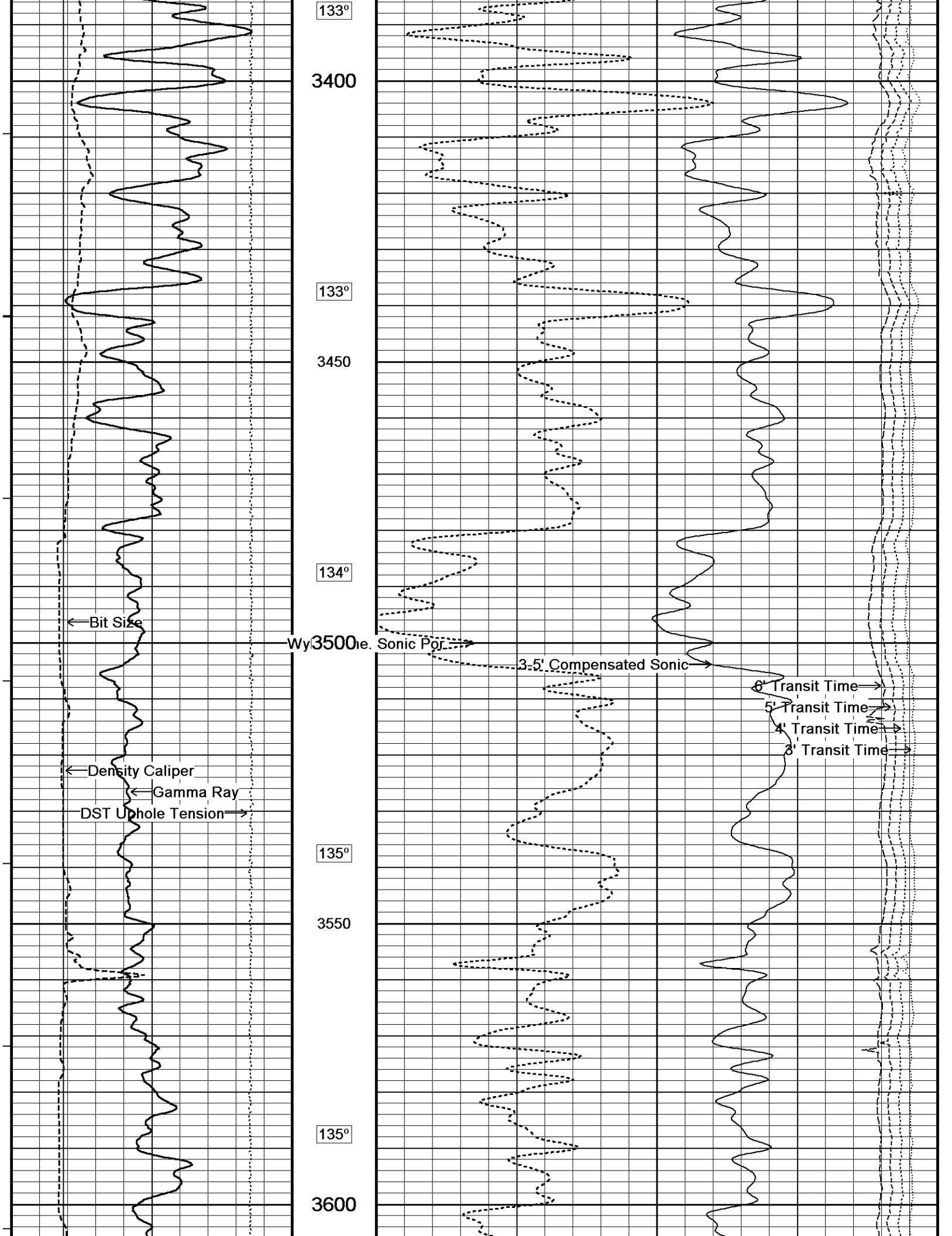
6' Transit Time

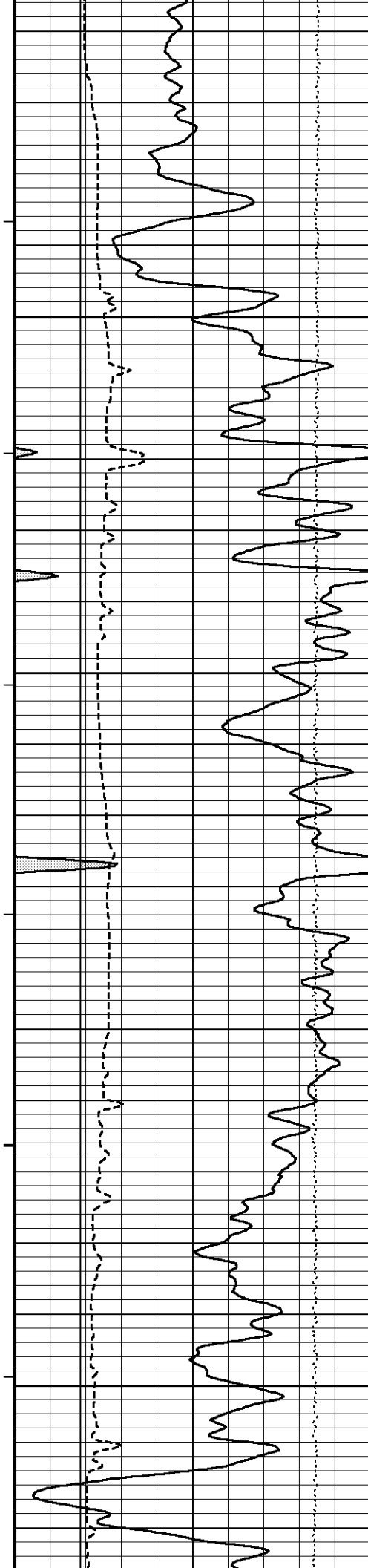
5' Transit Time

4' Transit Time

3' Transit Time







135°

3650

136°

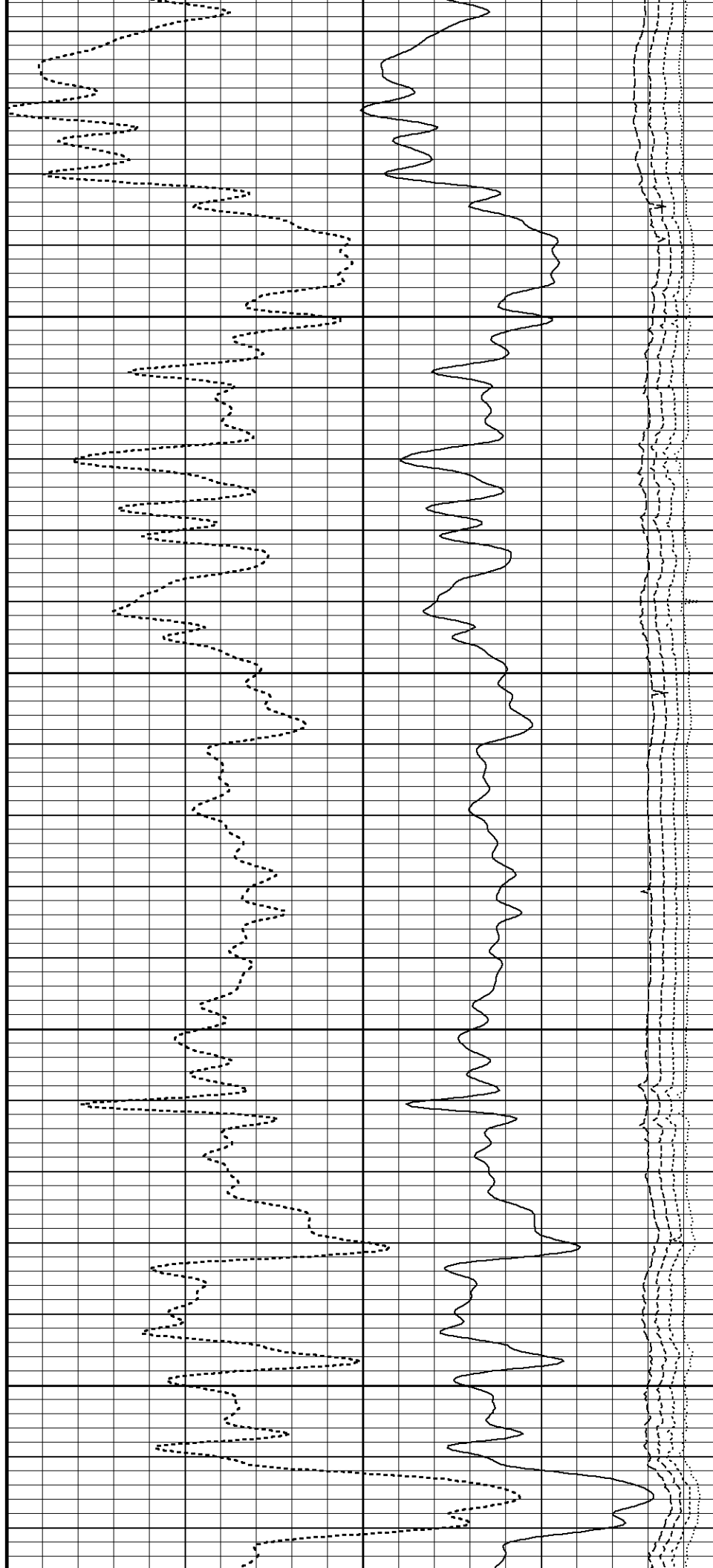
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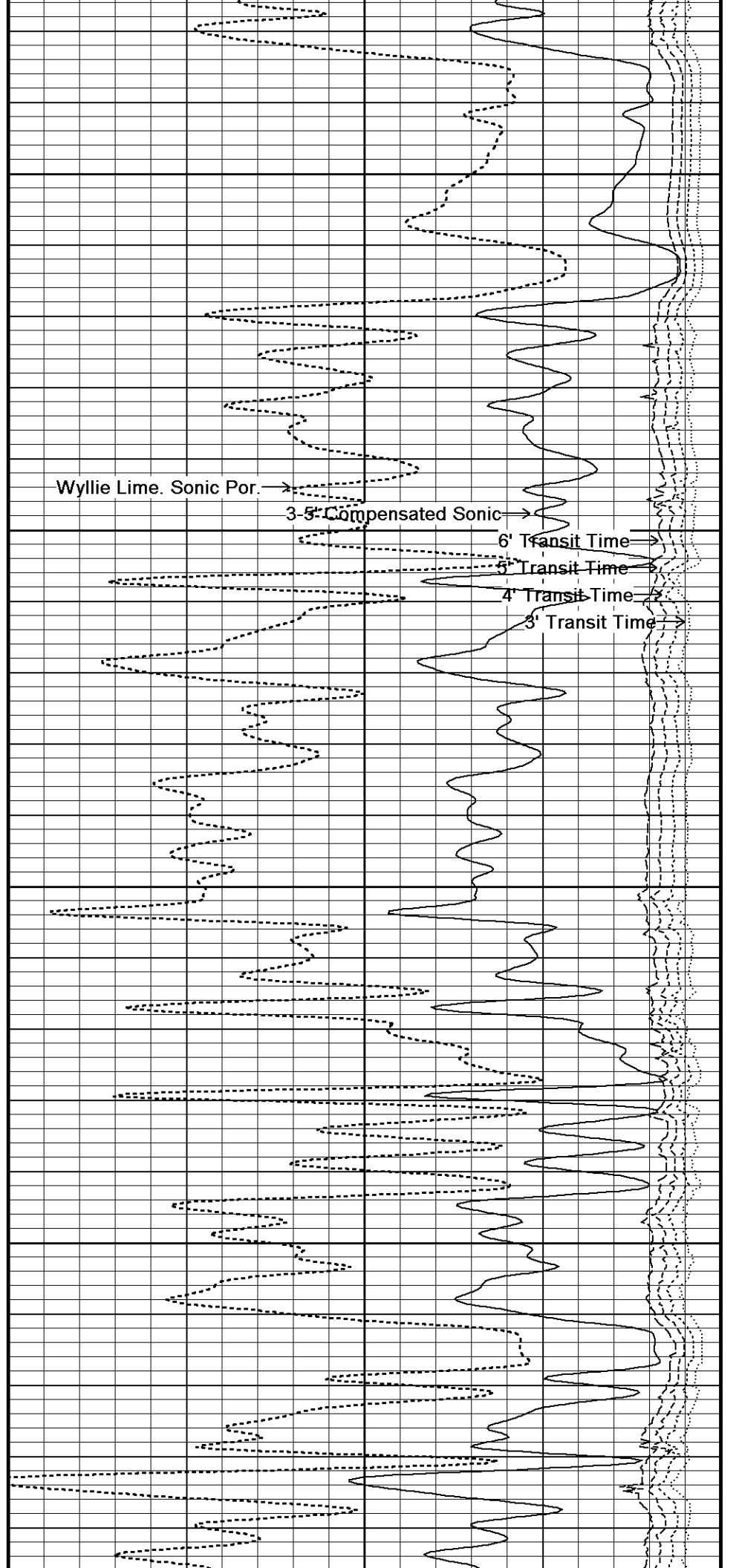
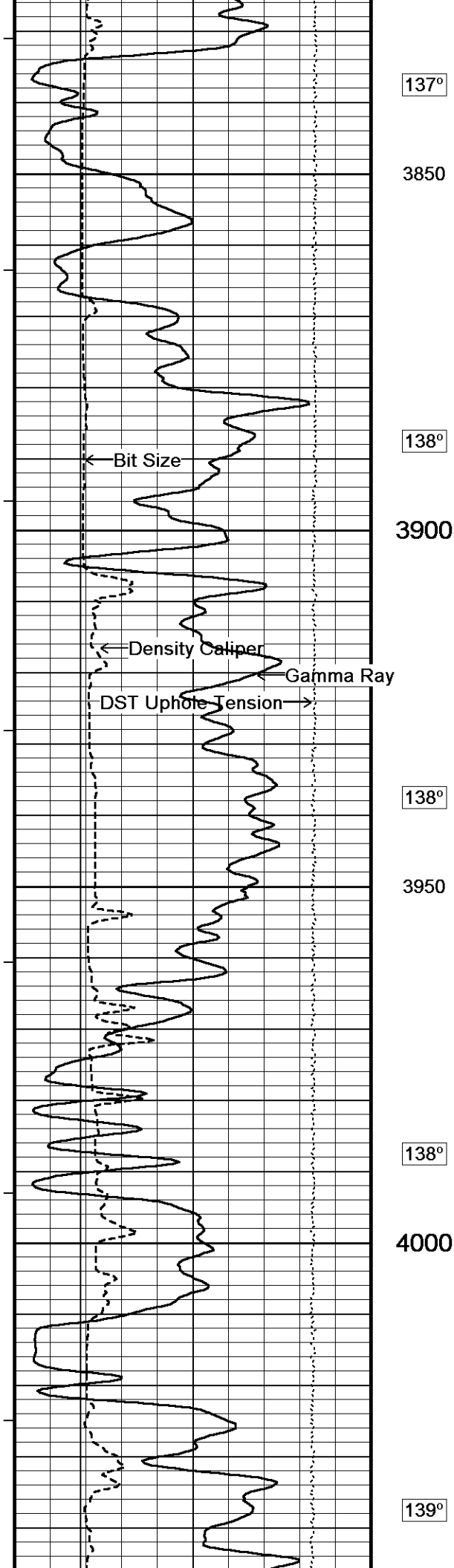
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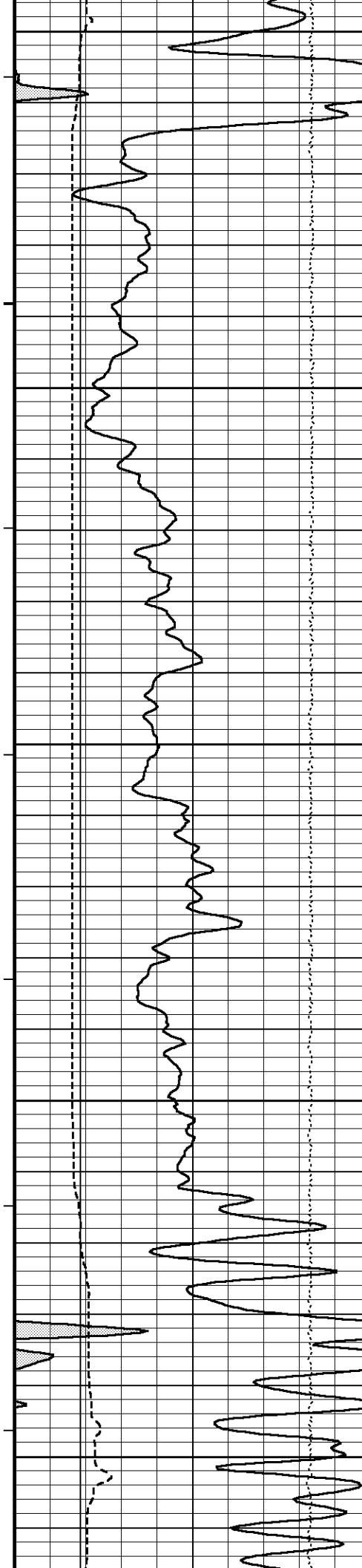
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137°

3800







4050

139°

4100

139°

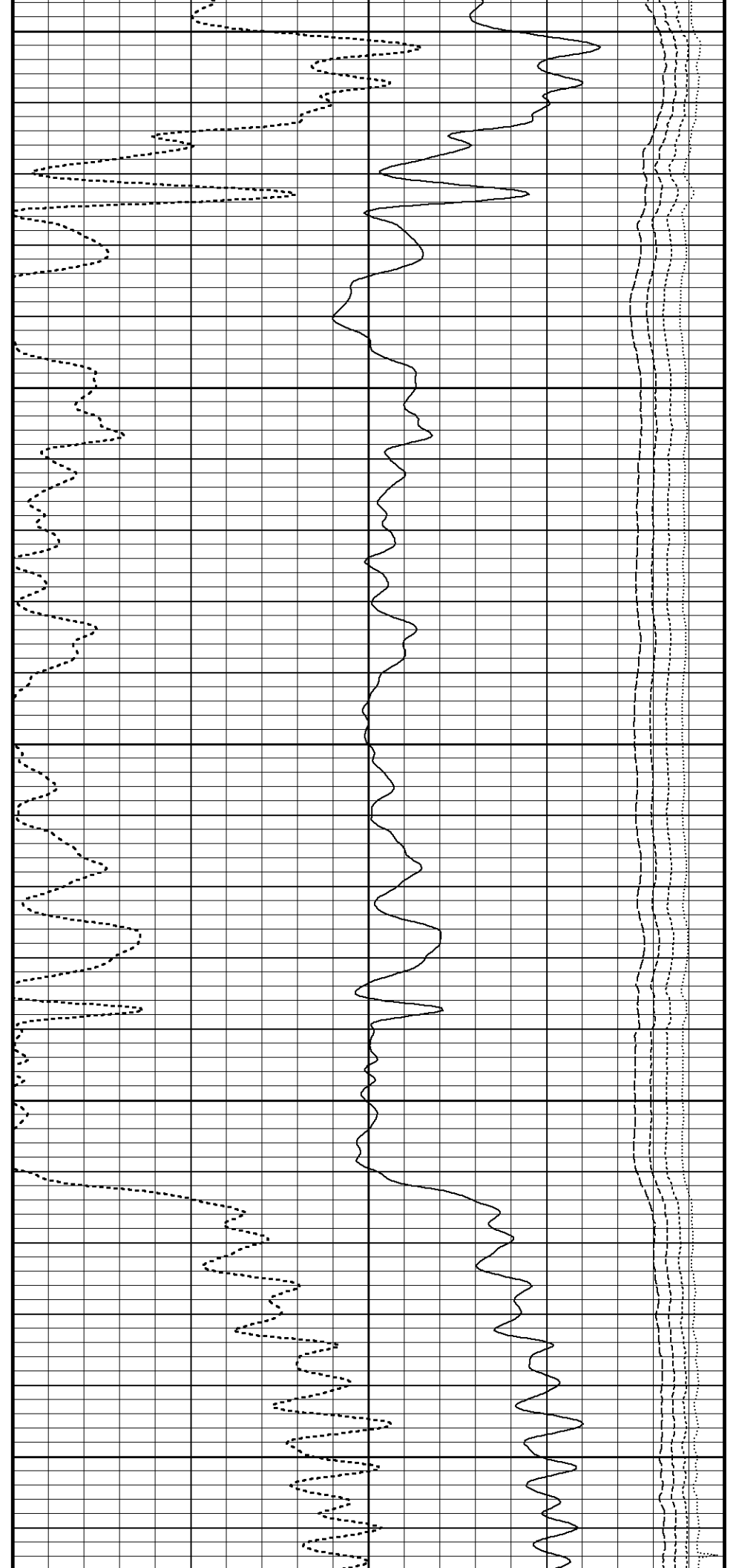
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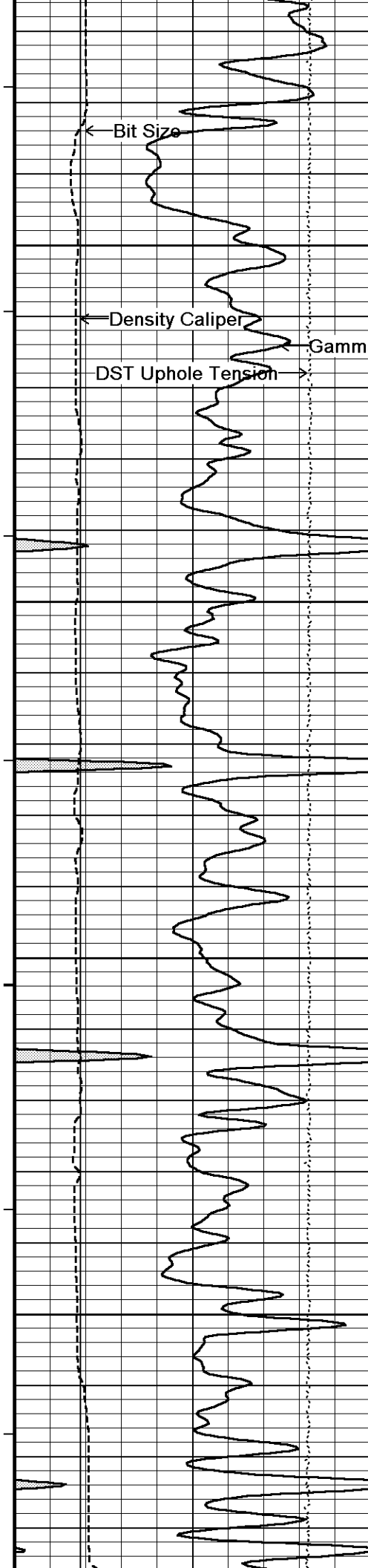
140°

4200

140°

4250





141°

4300

141°

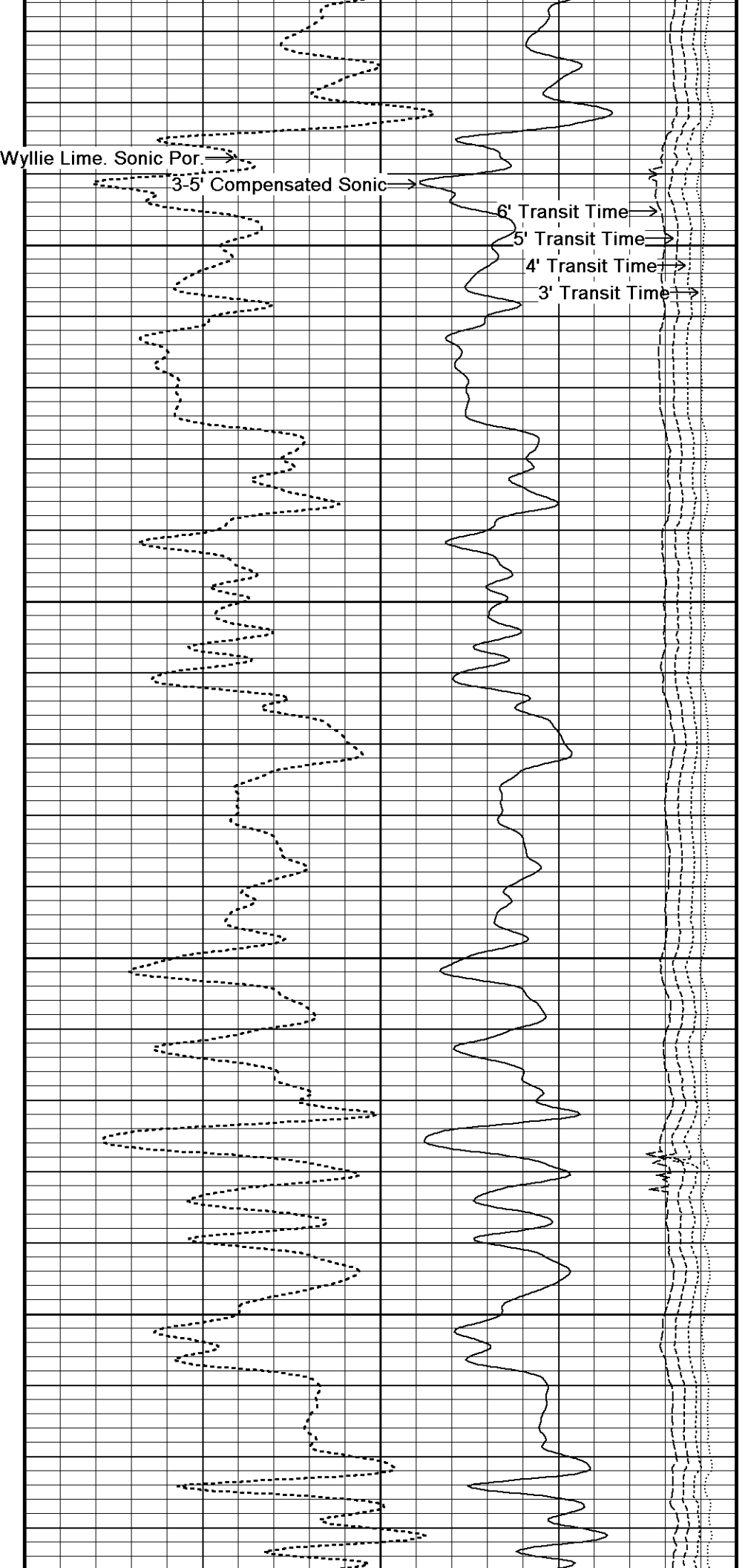
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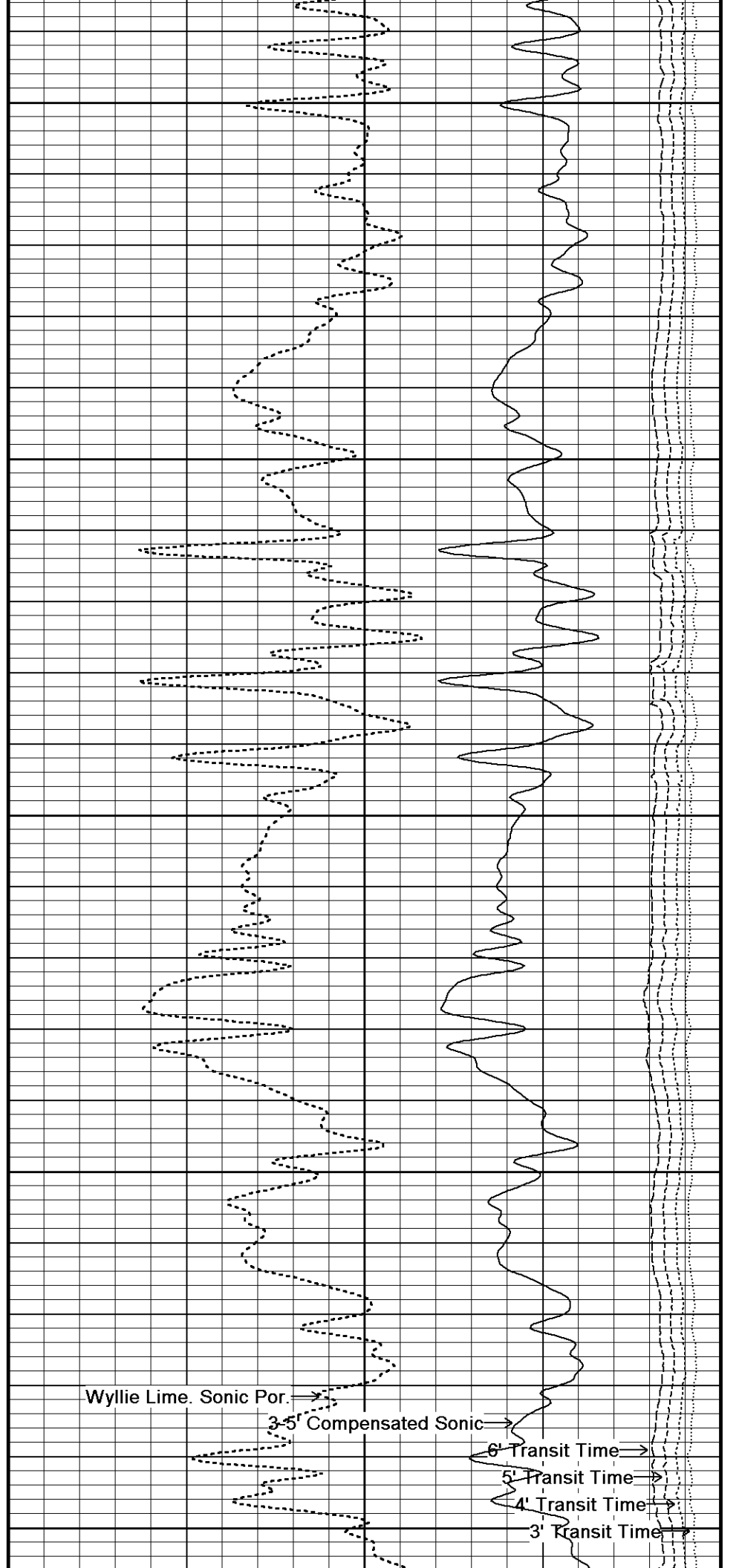
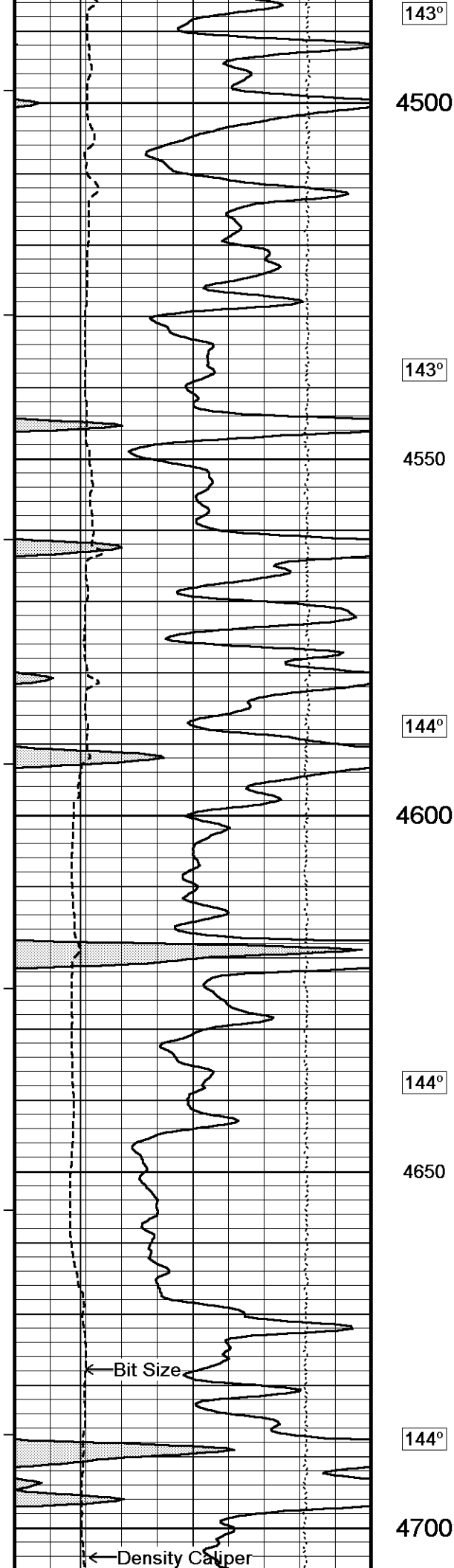
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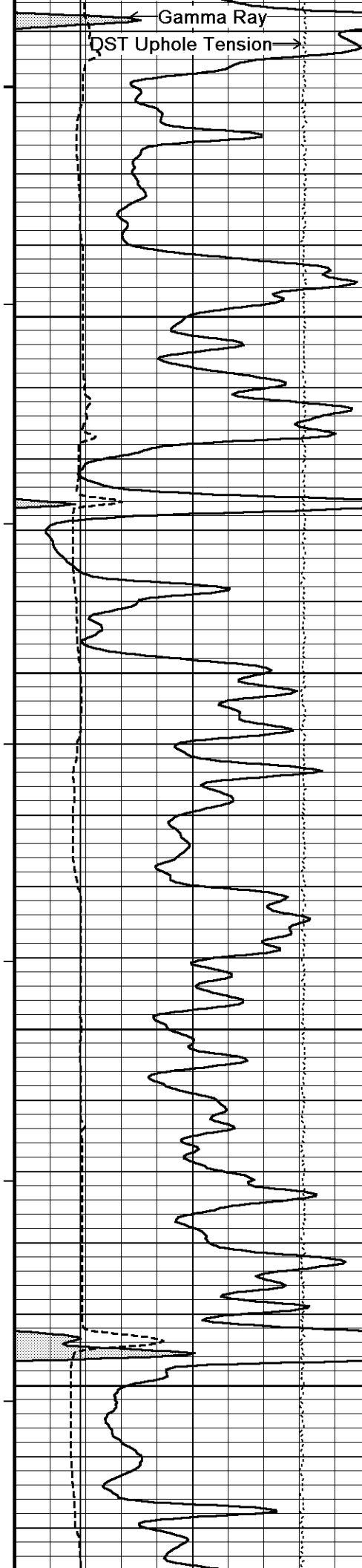
4400

142°

4450







145°

4750

145°

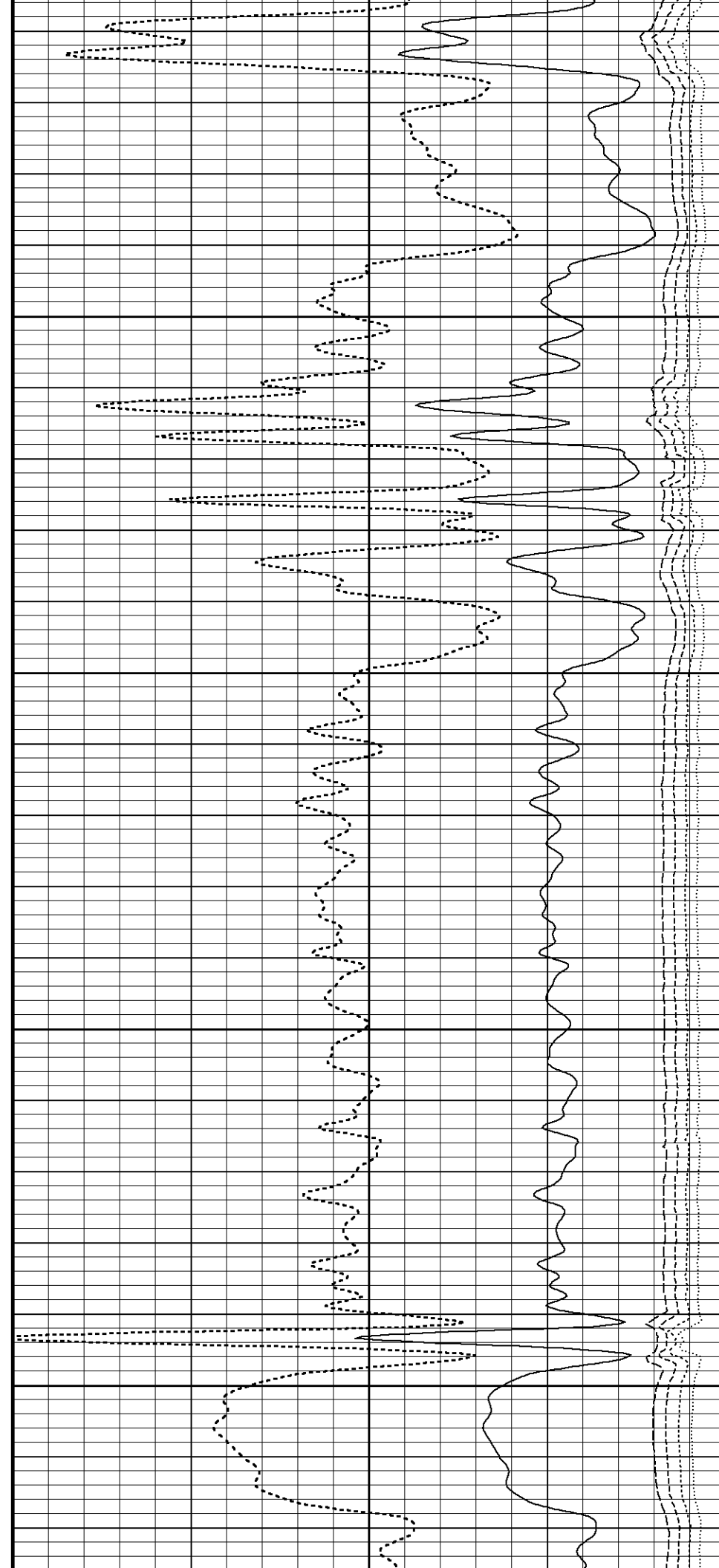
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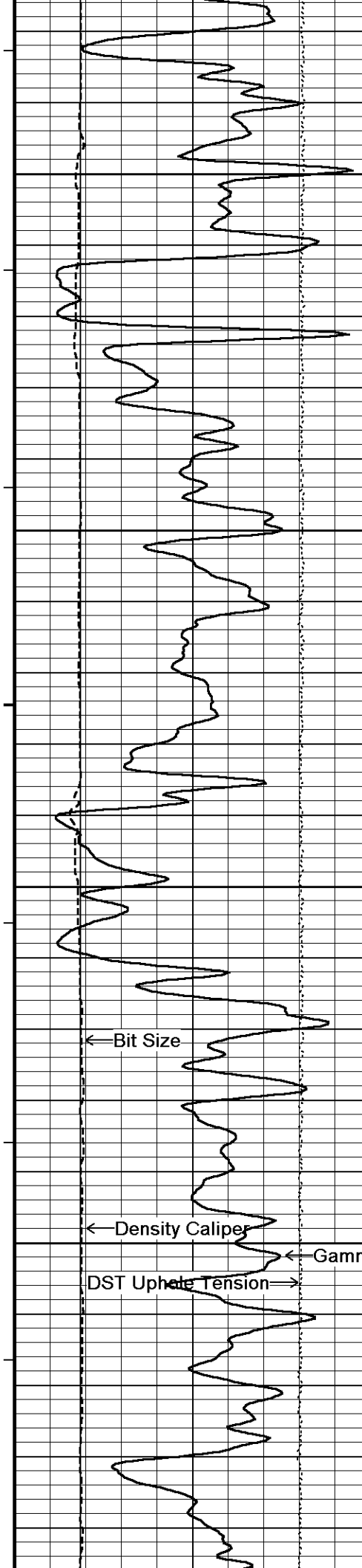
146°

4850

146°

4900





146°

4950

147°

5000

147°

5050

148°

5100

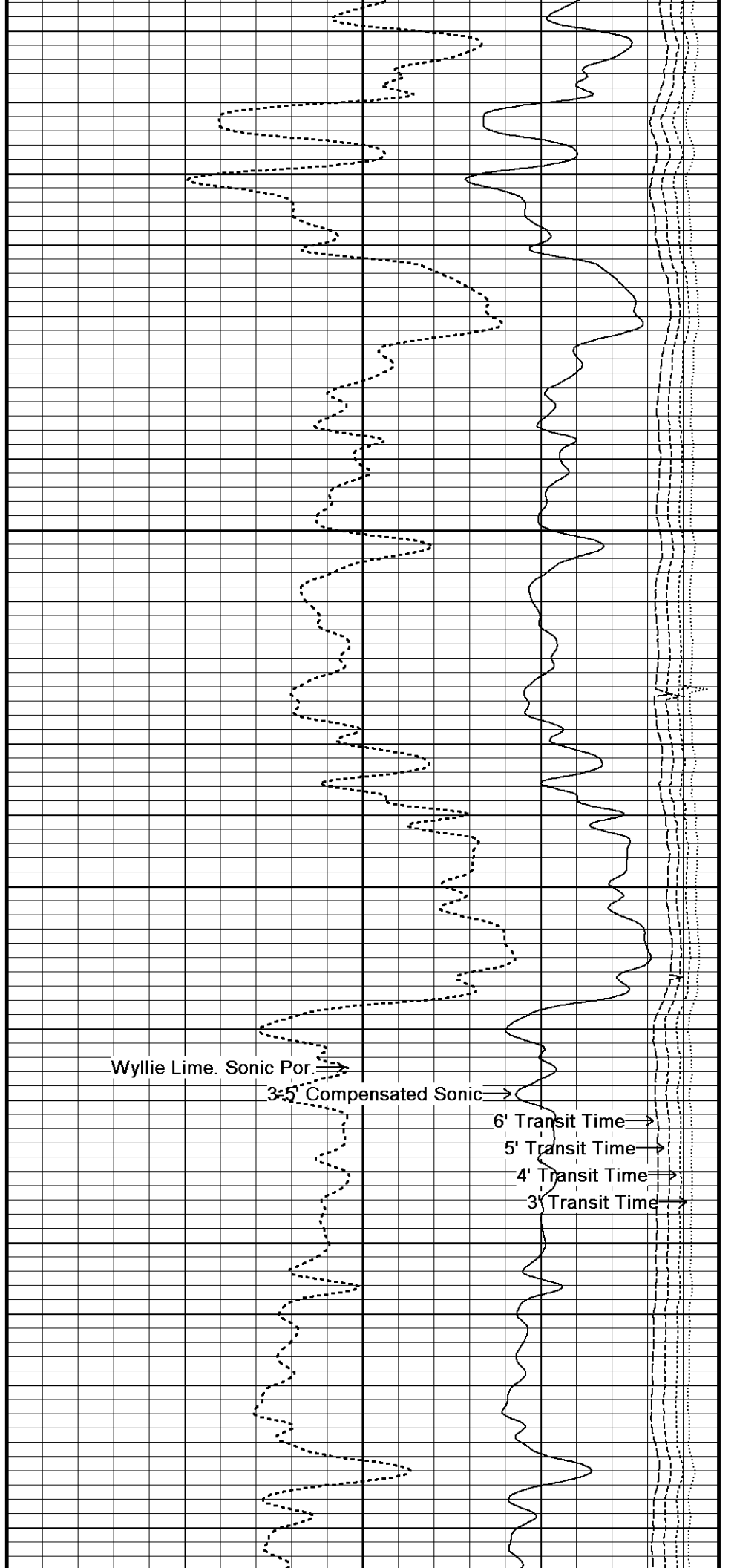
148°

← Bit Size

← Density Caliper

DST Up-hole Tension →

← Gamma Ray



Wyllie Lime. Sonic Por. →

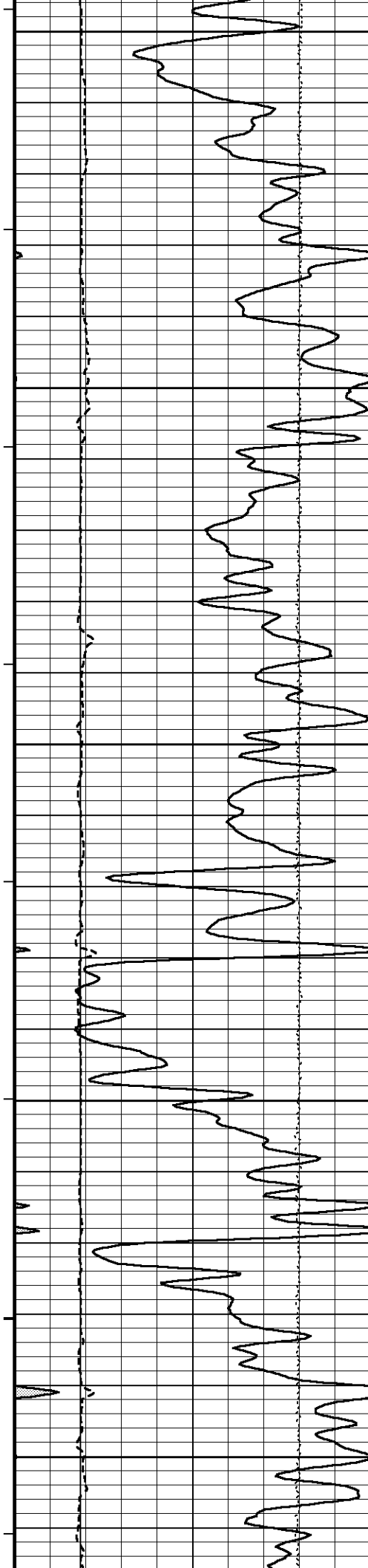
3' 5' Compensated Sonic →

6' Transit Time →

5' Transit Time →

4' Transit Time →

3' Transit Time →



5150

148°

5200

149°

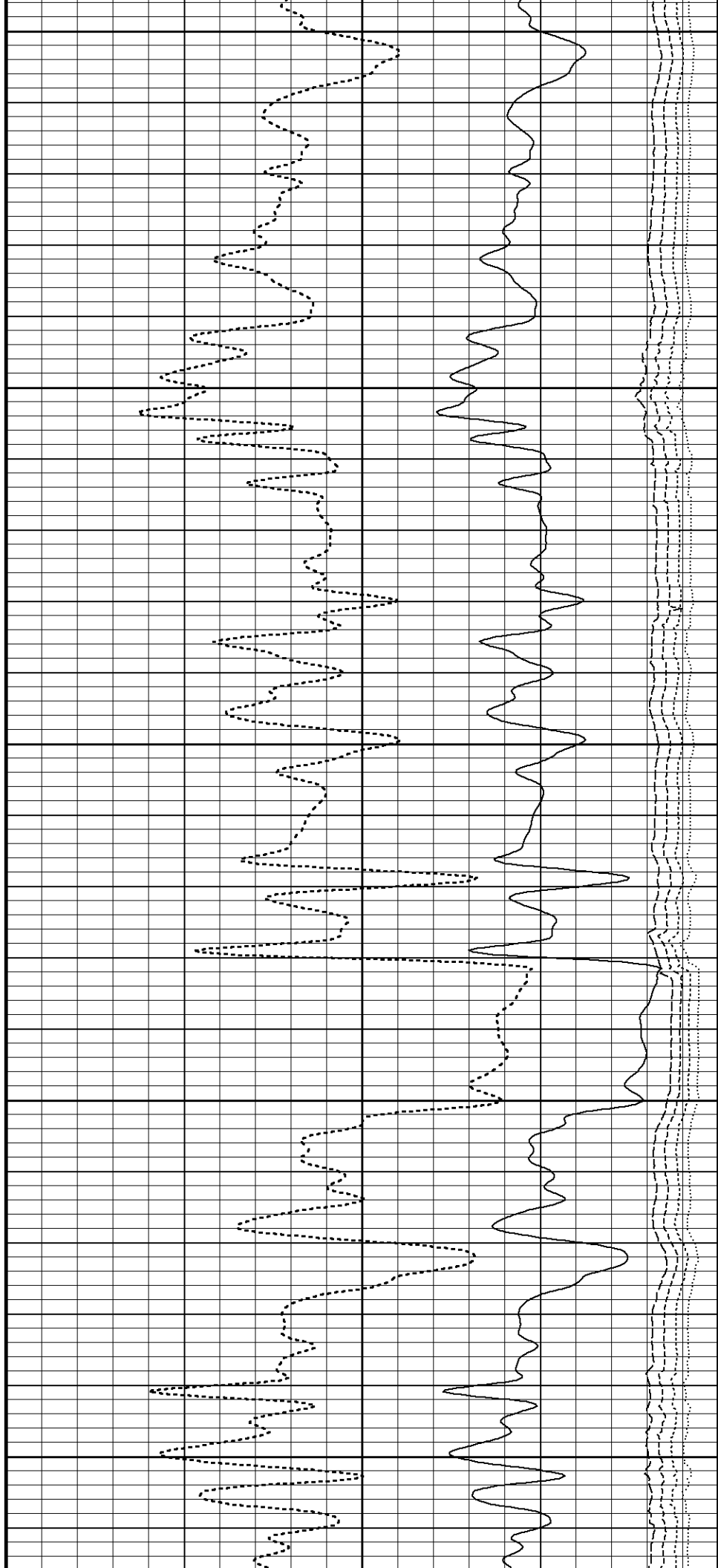
5250

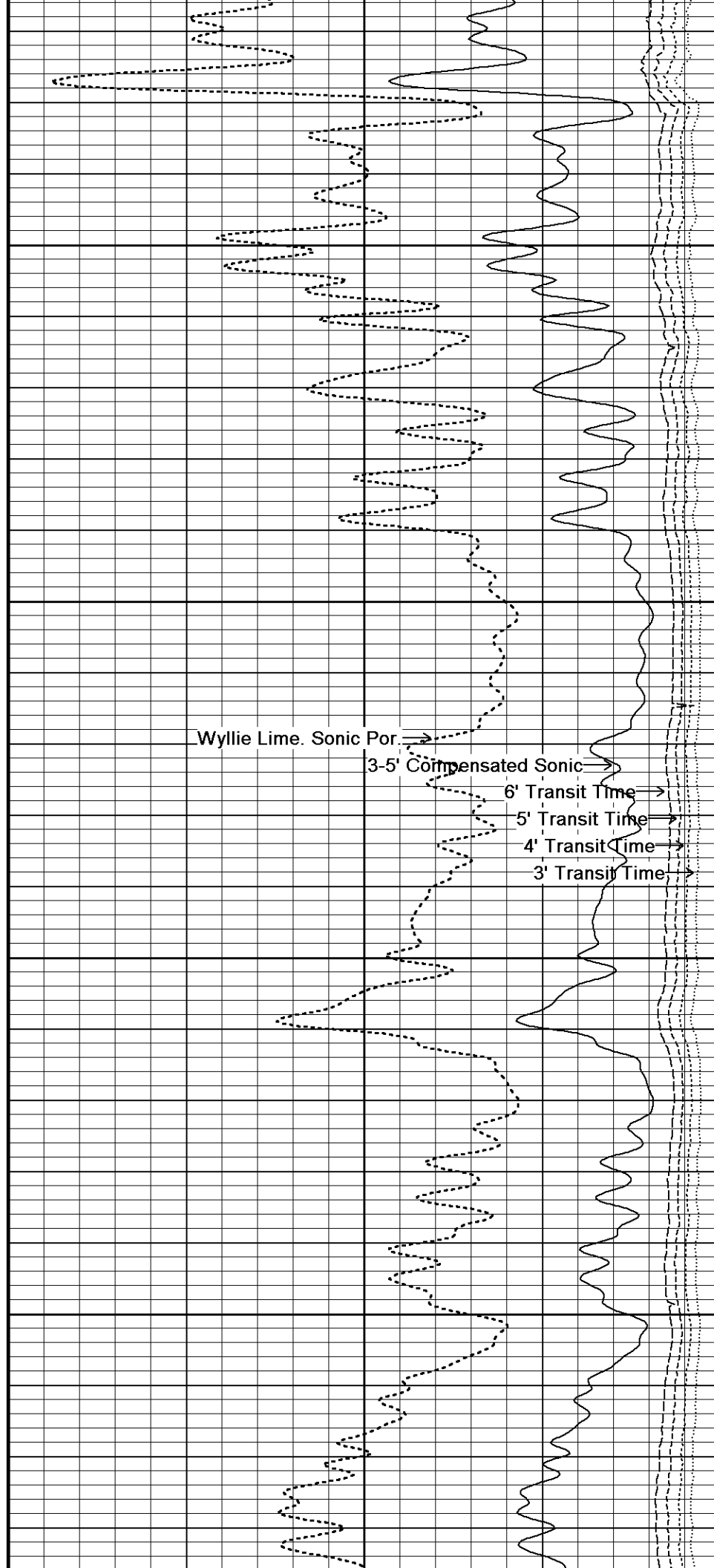
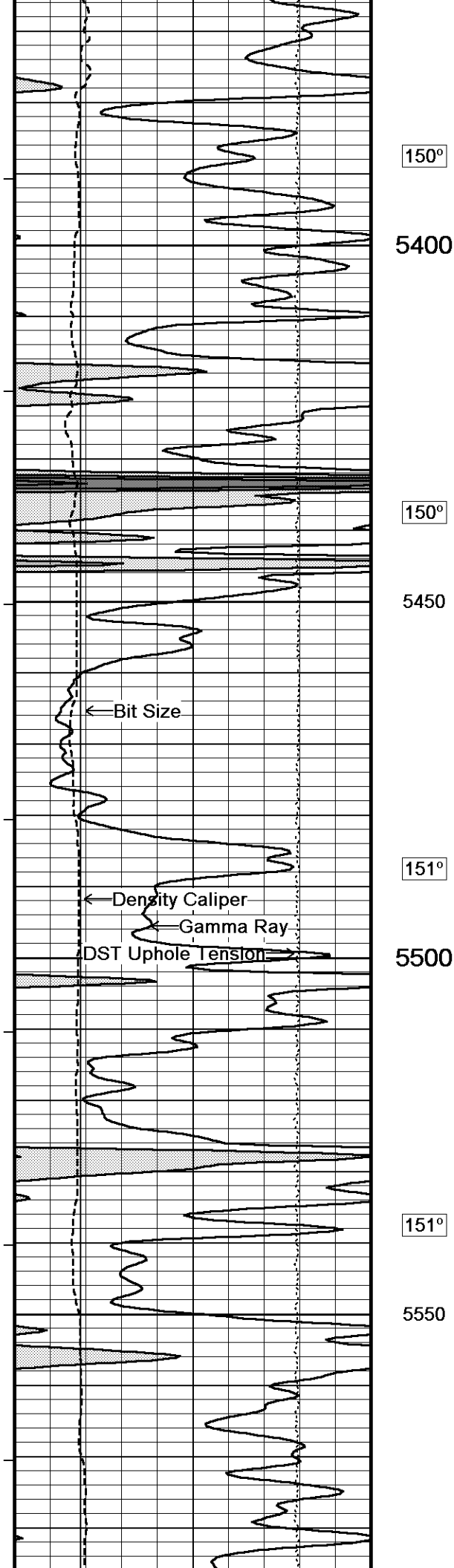
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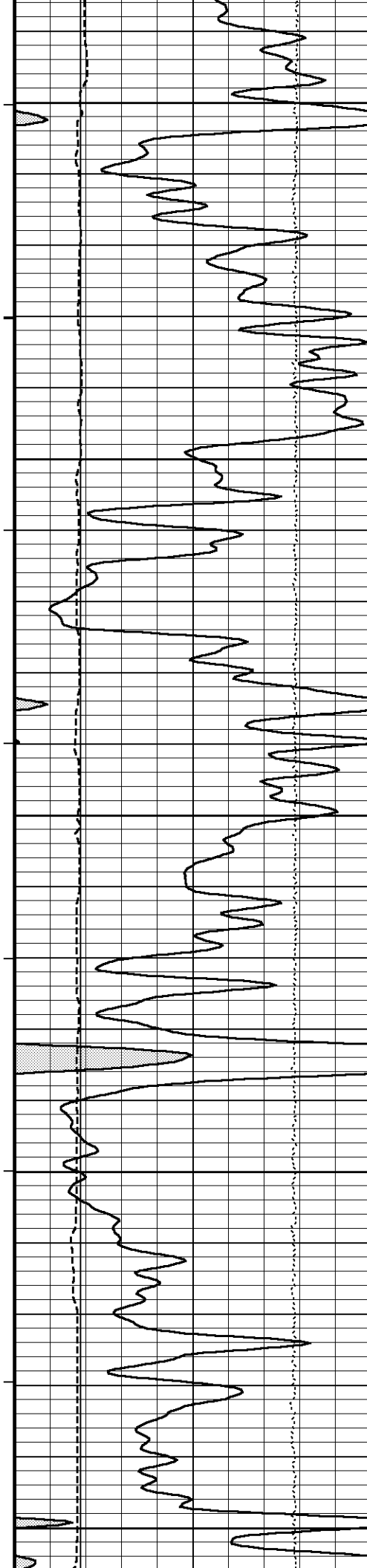
5300

149°

5350







152°

5600

152°

5650

153°

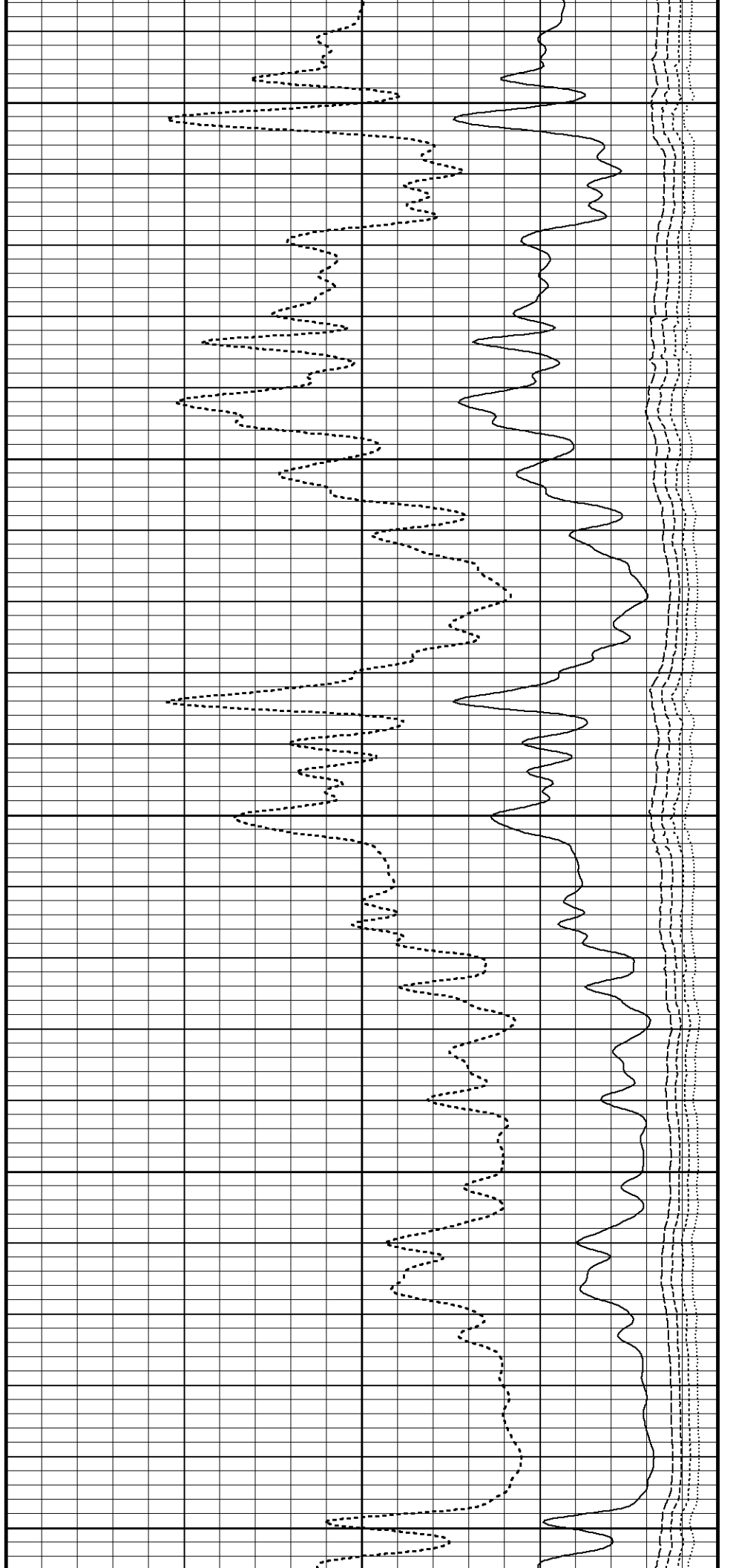
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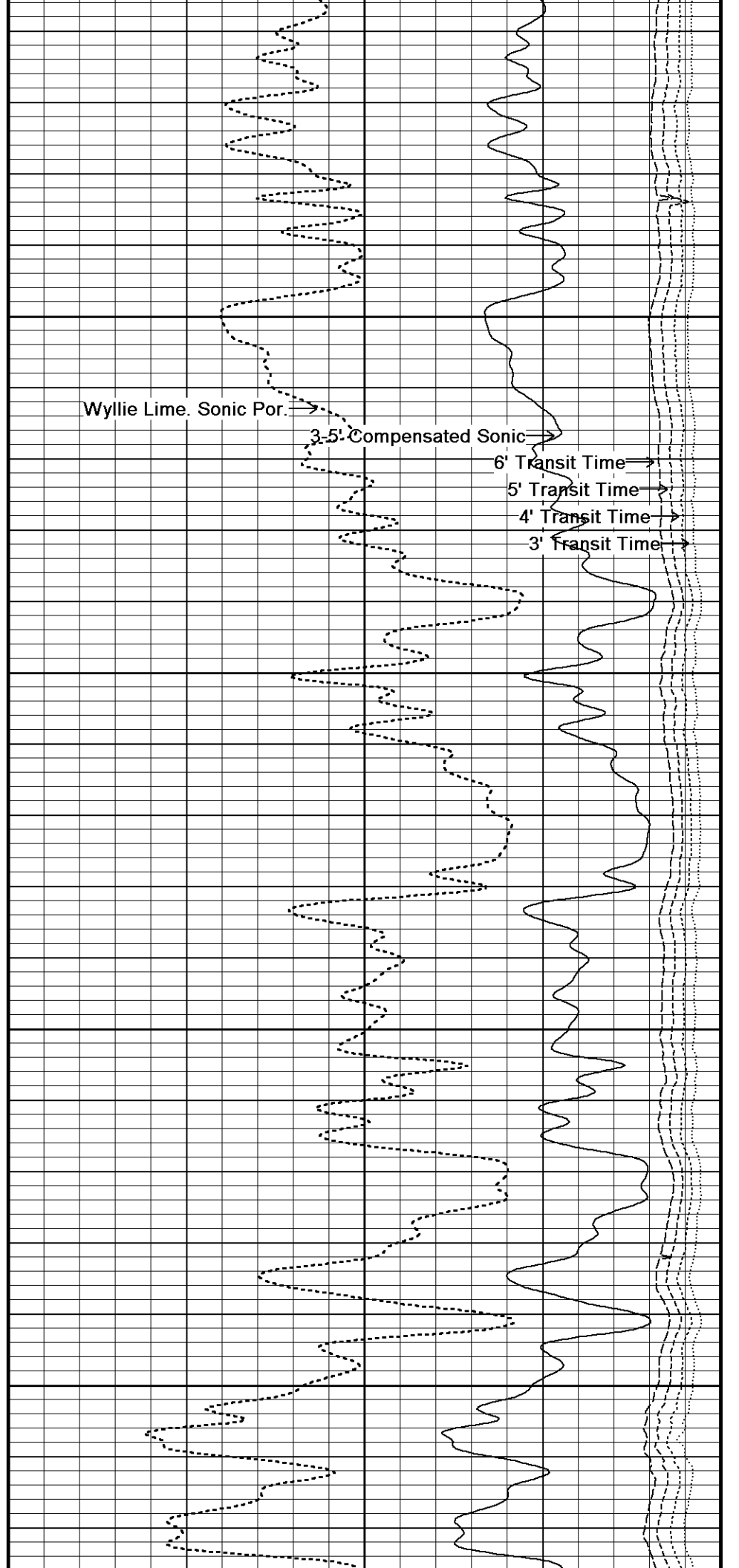
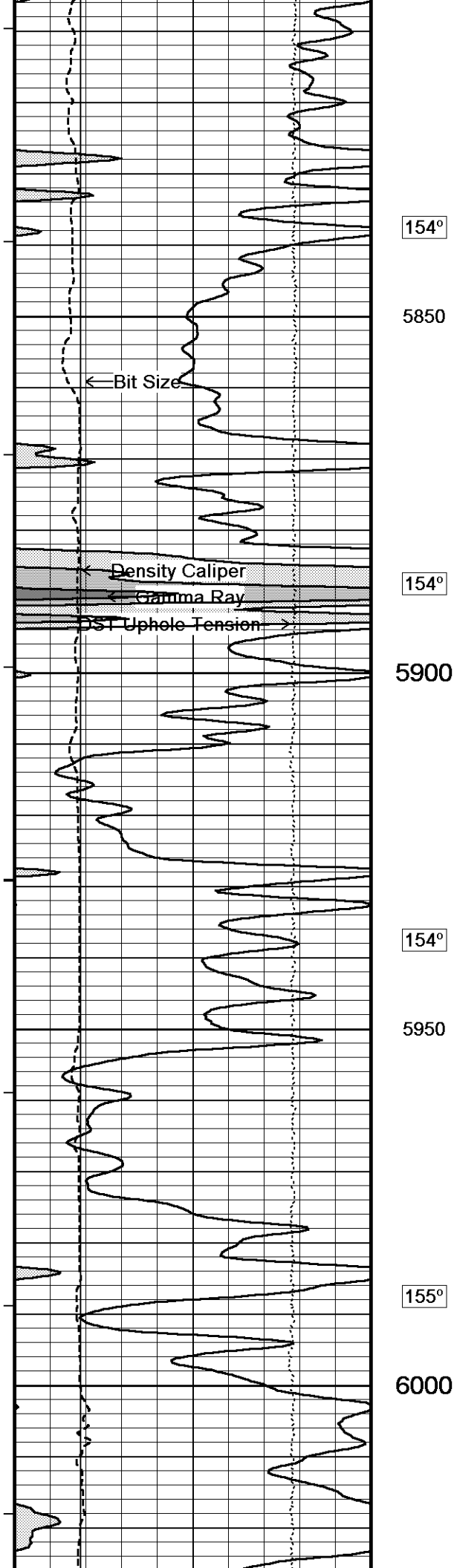
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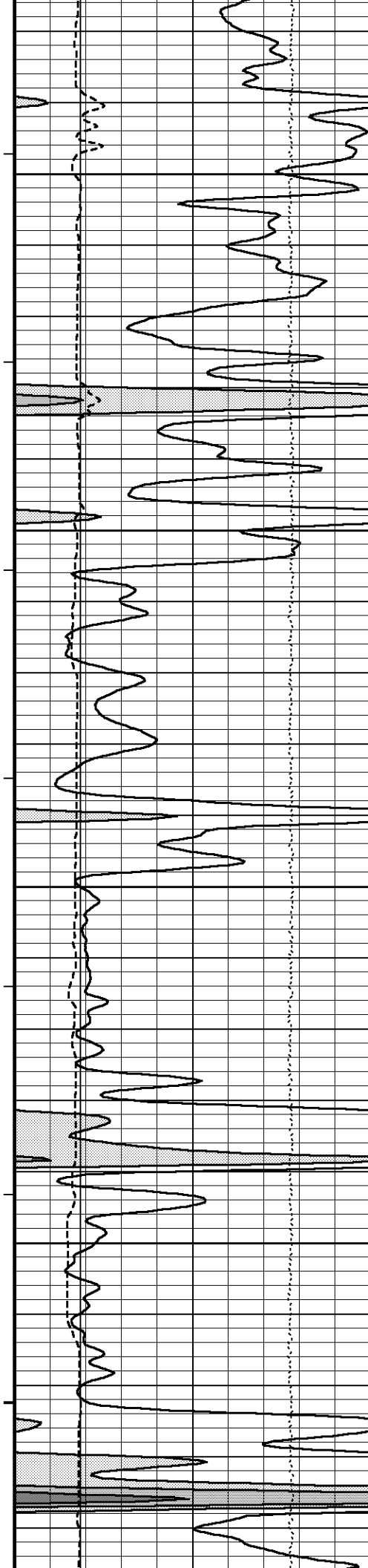
5750

154°

5800







155°

6050

156°

6100

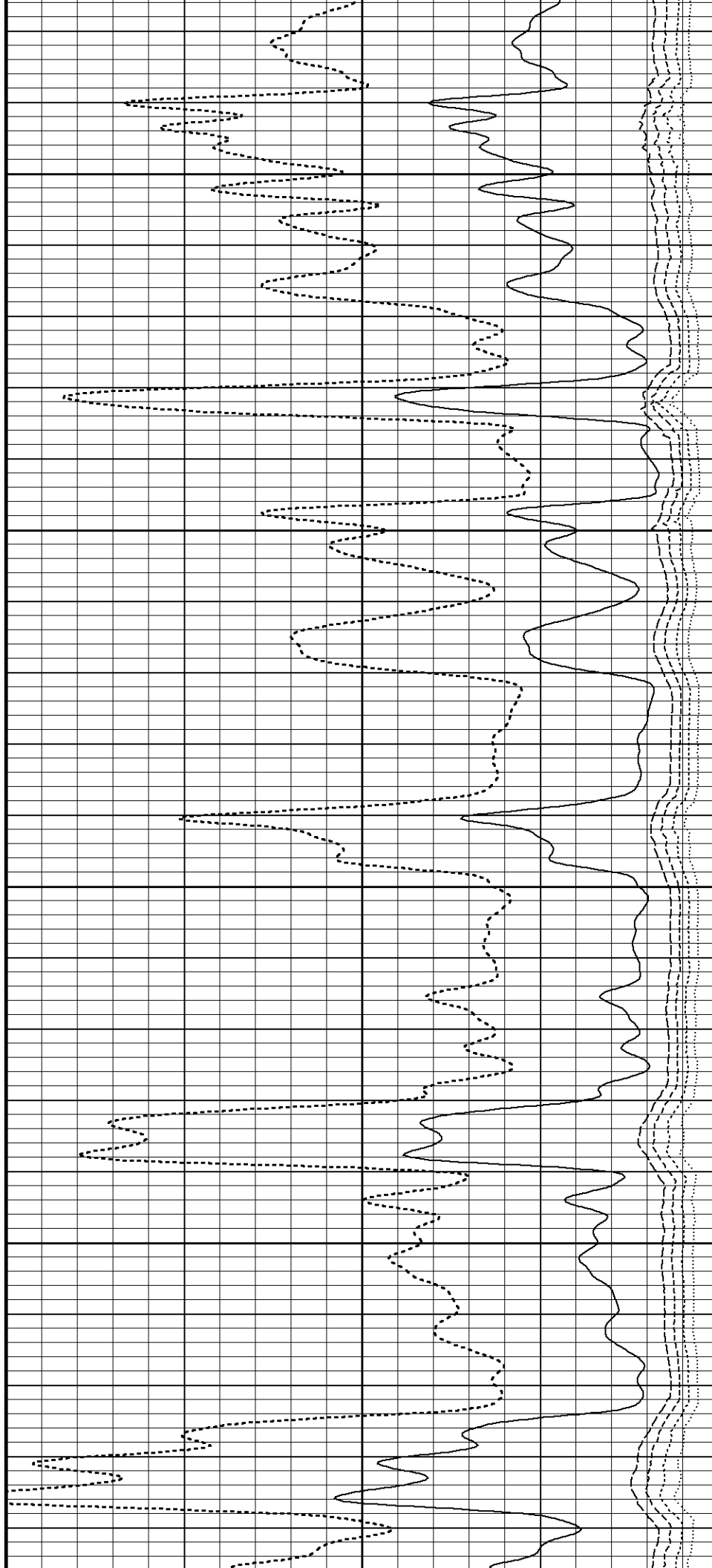
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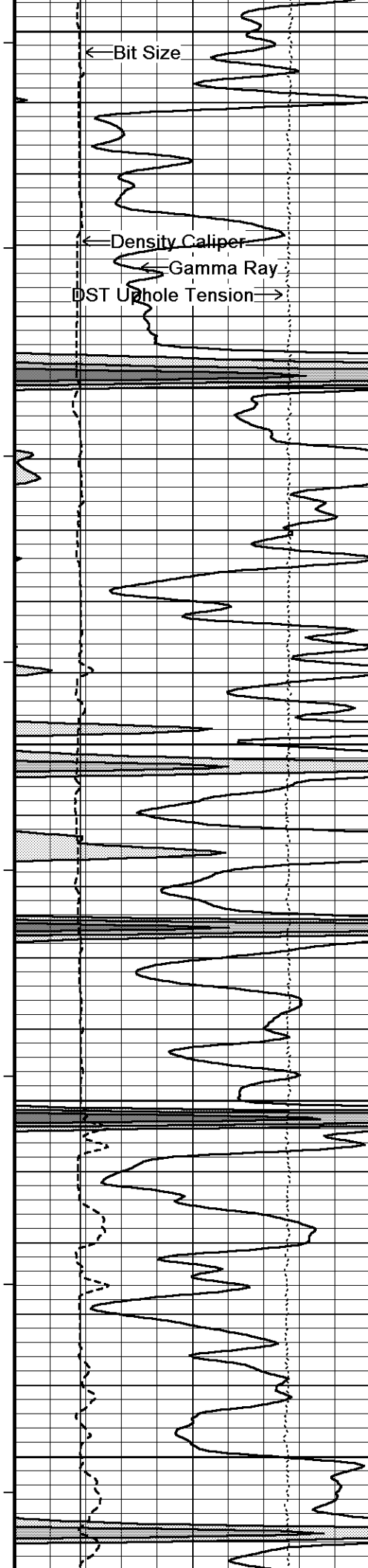
6150

157°

6200

158°





6250

158°

6300

159°

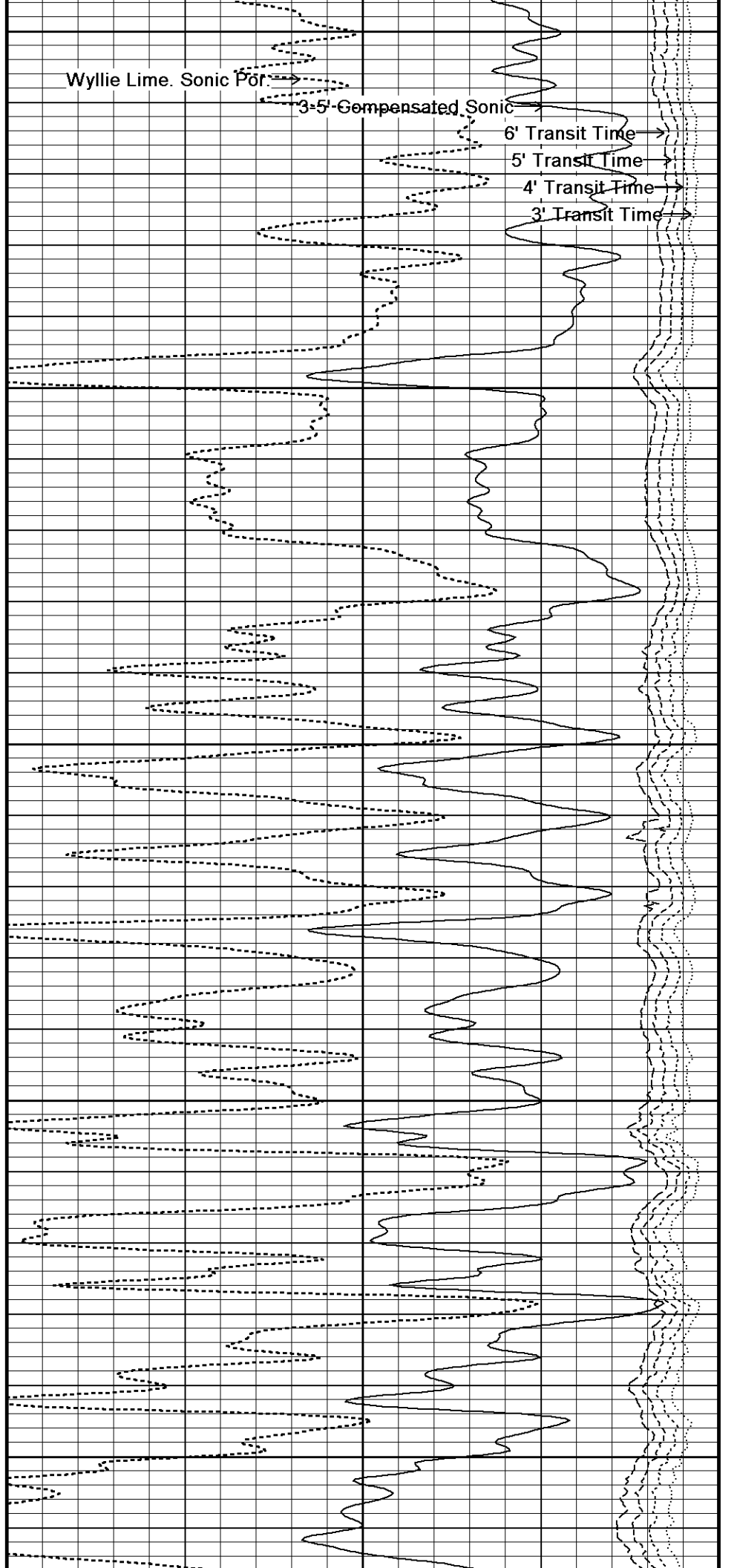
6350

159°

6400

159°

6450





160°

6500

161°

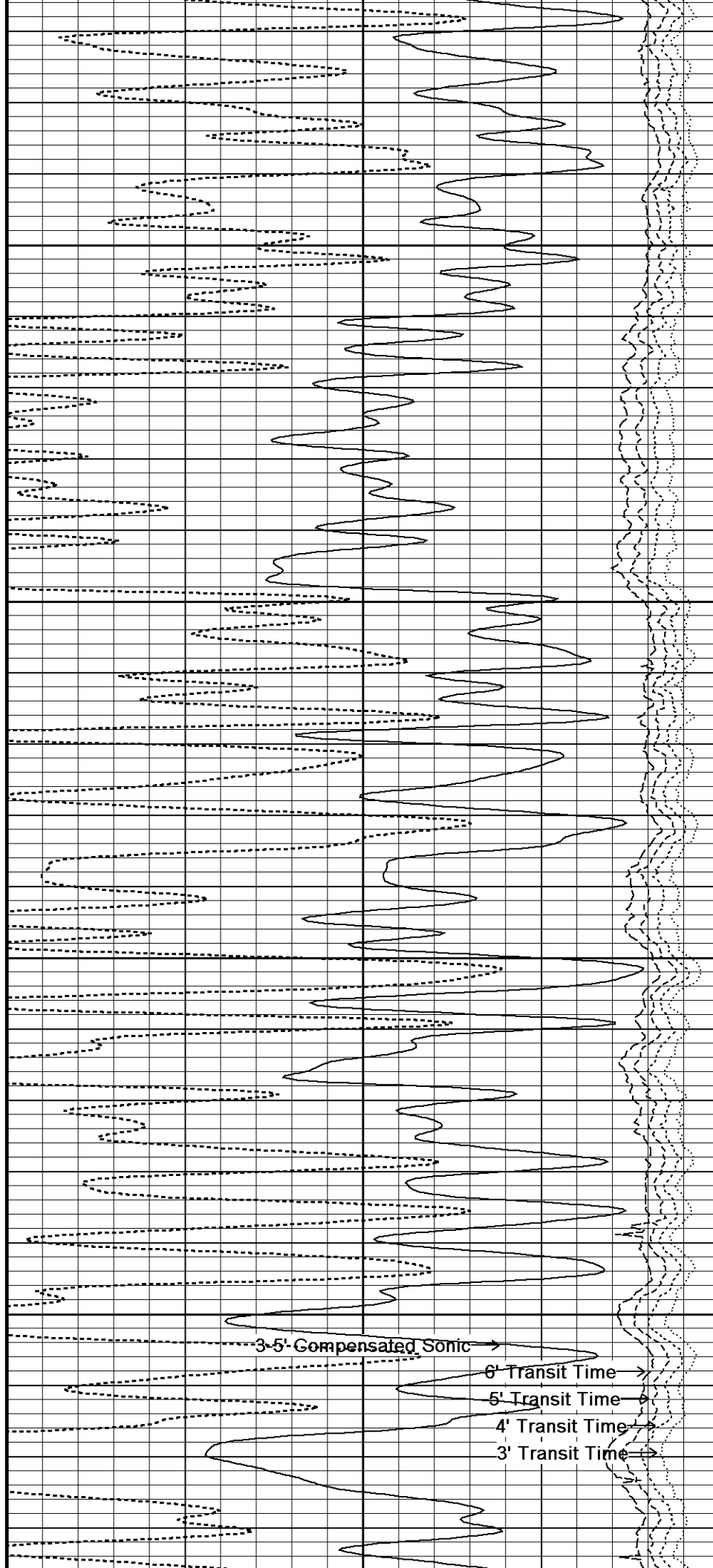
6550

161°

6600

161°

6650



3-5' Compensated Sonic

6' Transit Time

5' Transit Time

4' Transit Time

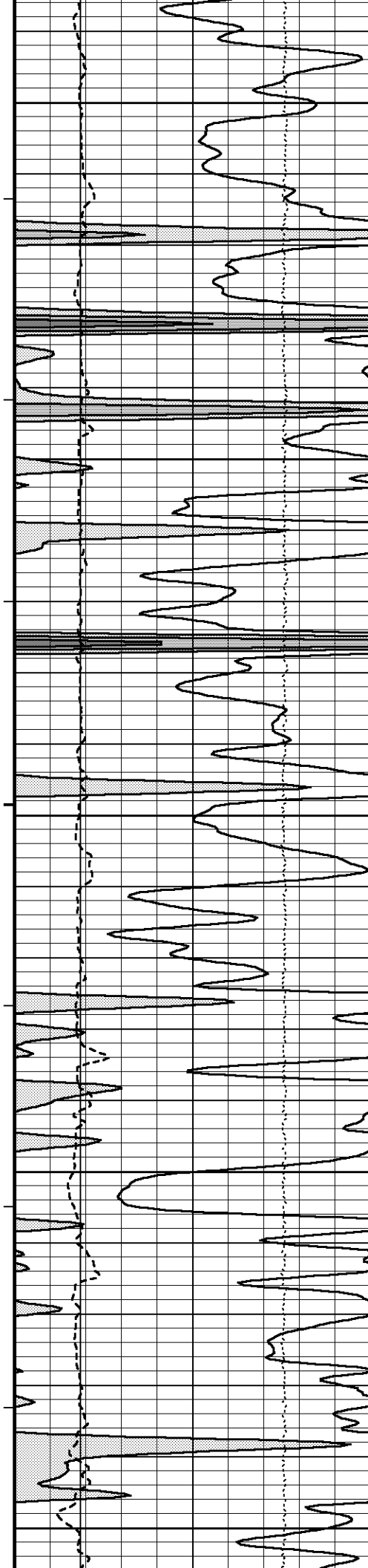
3' Transit Time

Bit Size

Density Caliper

Gamma Ray

DST Uphole Tension



162°

6700

162°

6750

164°

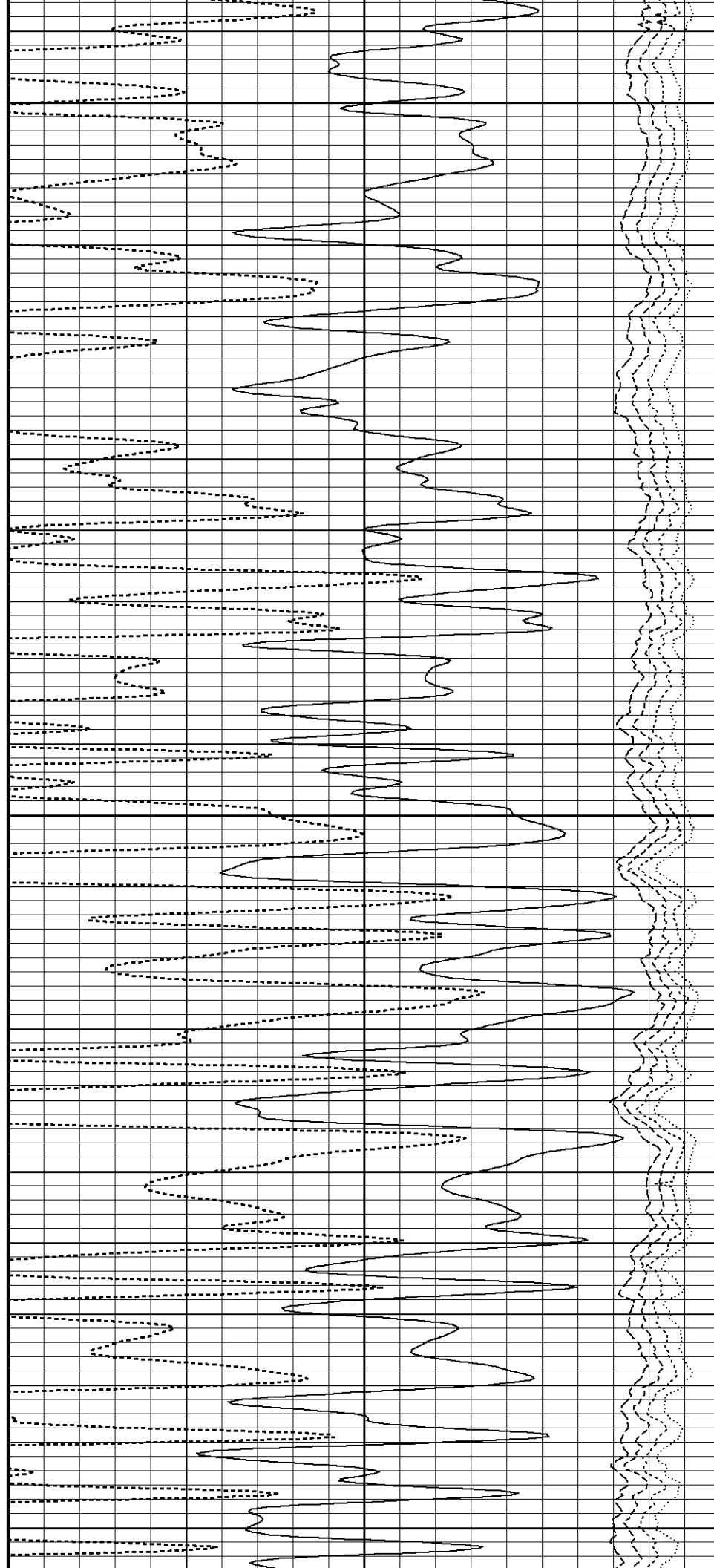
6800

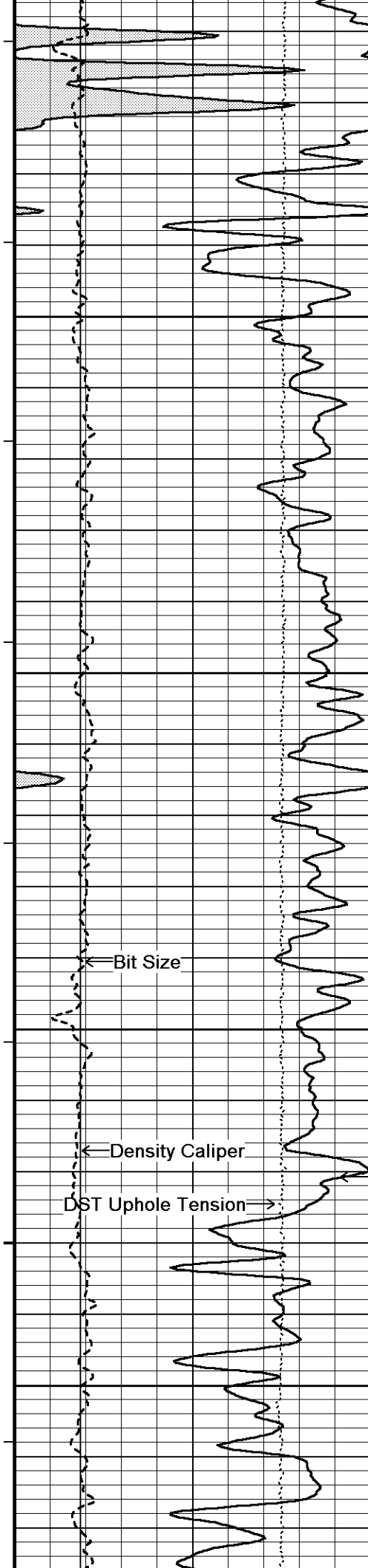
166°

6850

167°

6900





168°

6950

168°

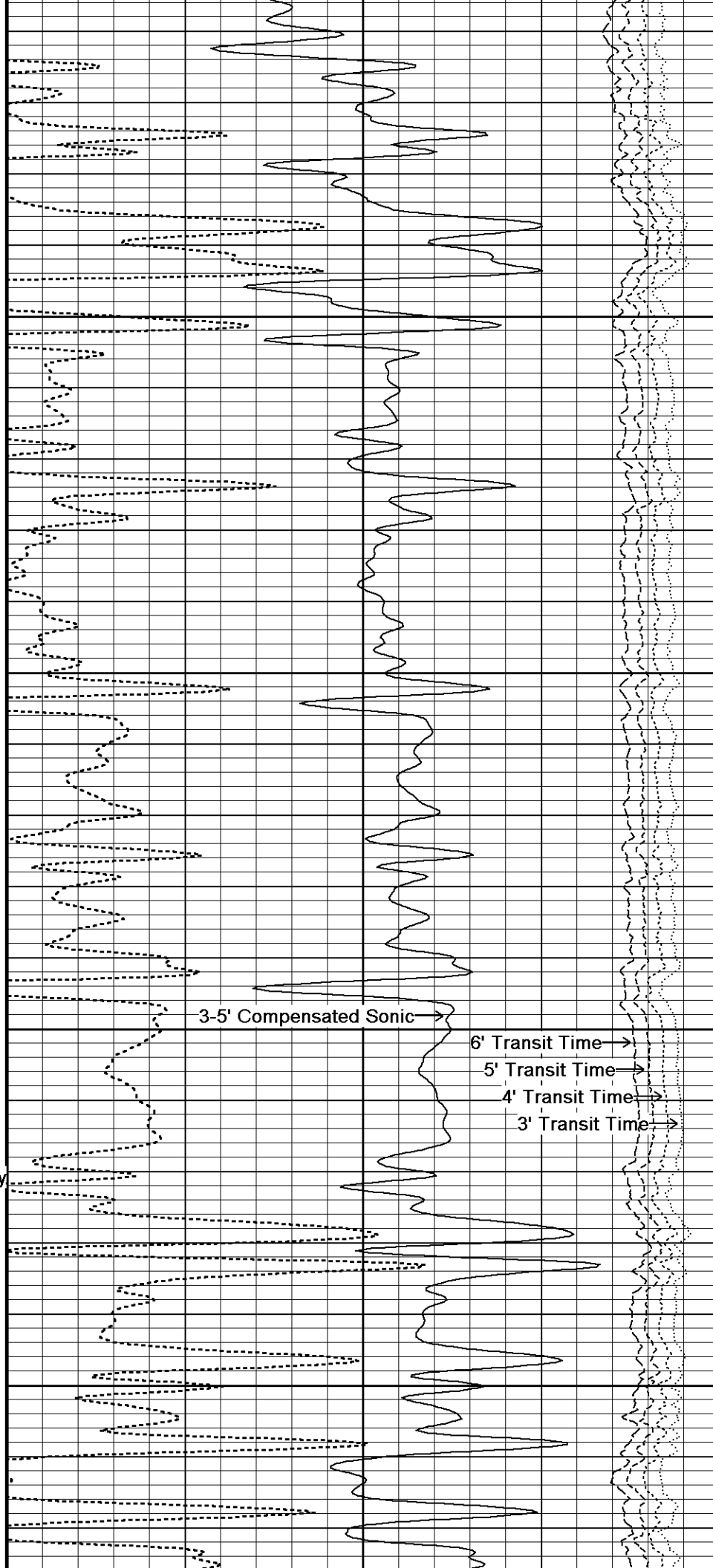
7000

169°

7050

168°

7100



3-5' Compensated Sonic

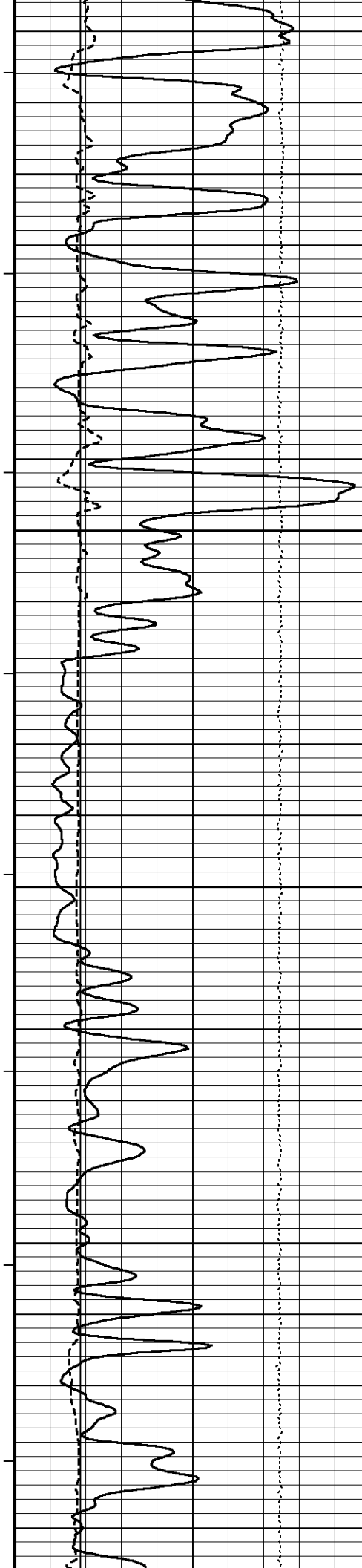
6' Transit Time

5' Transit Time

4' Transit Time

3' Transit Time

Gamma Ray



168°

7150

171°

7200

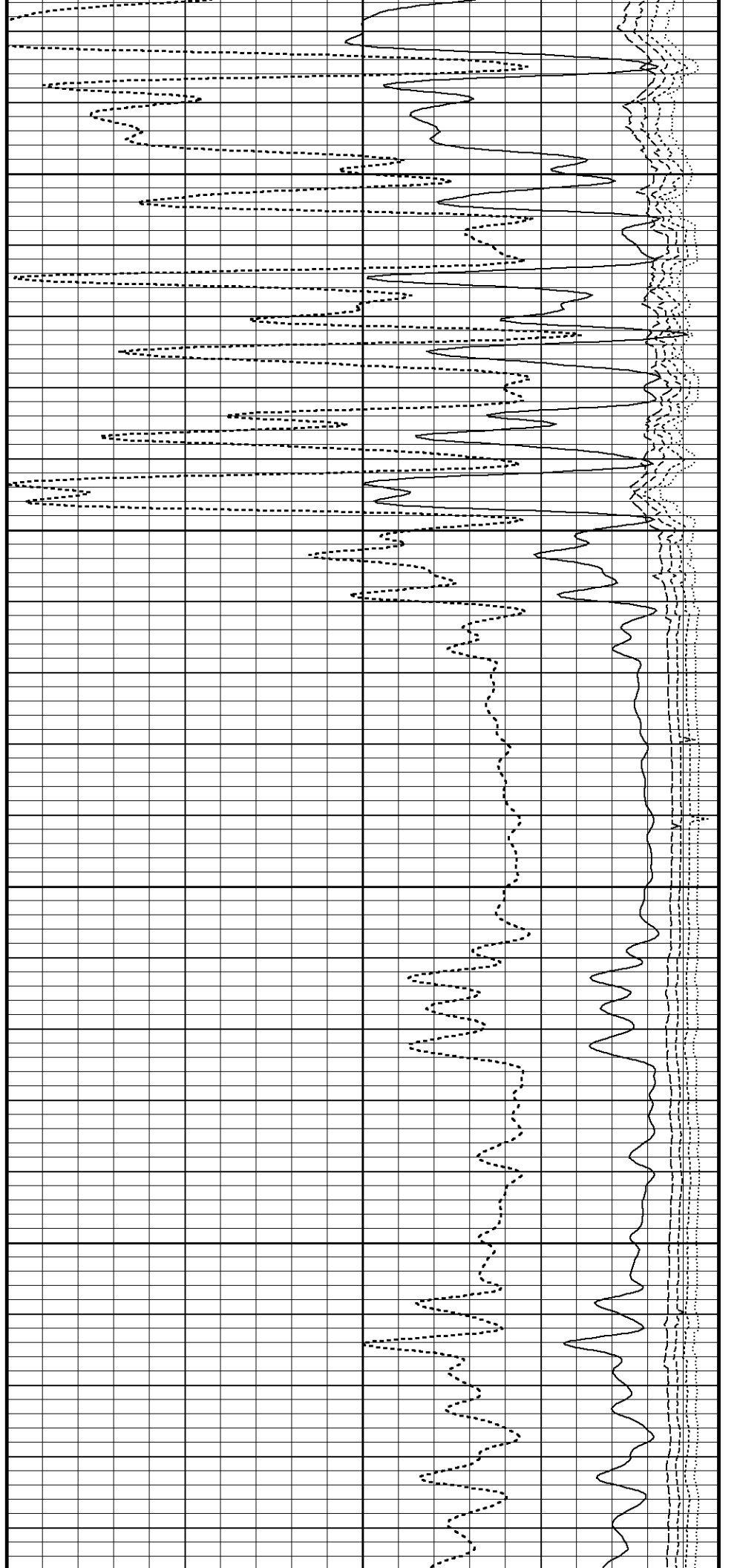
173°

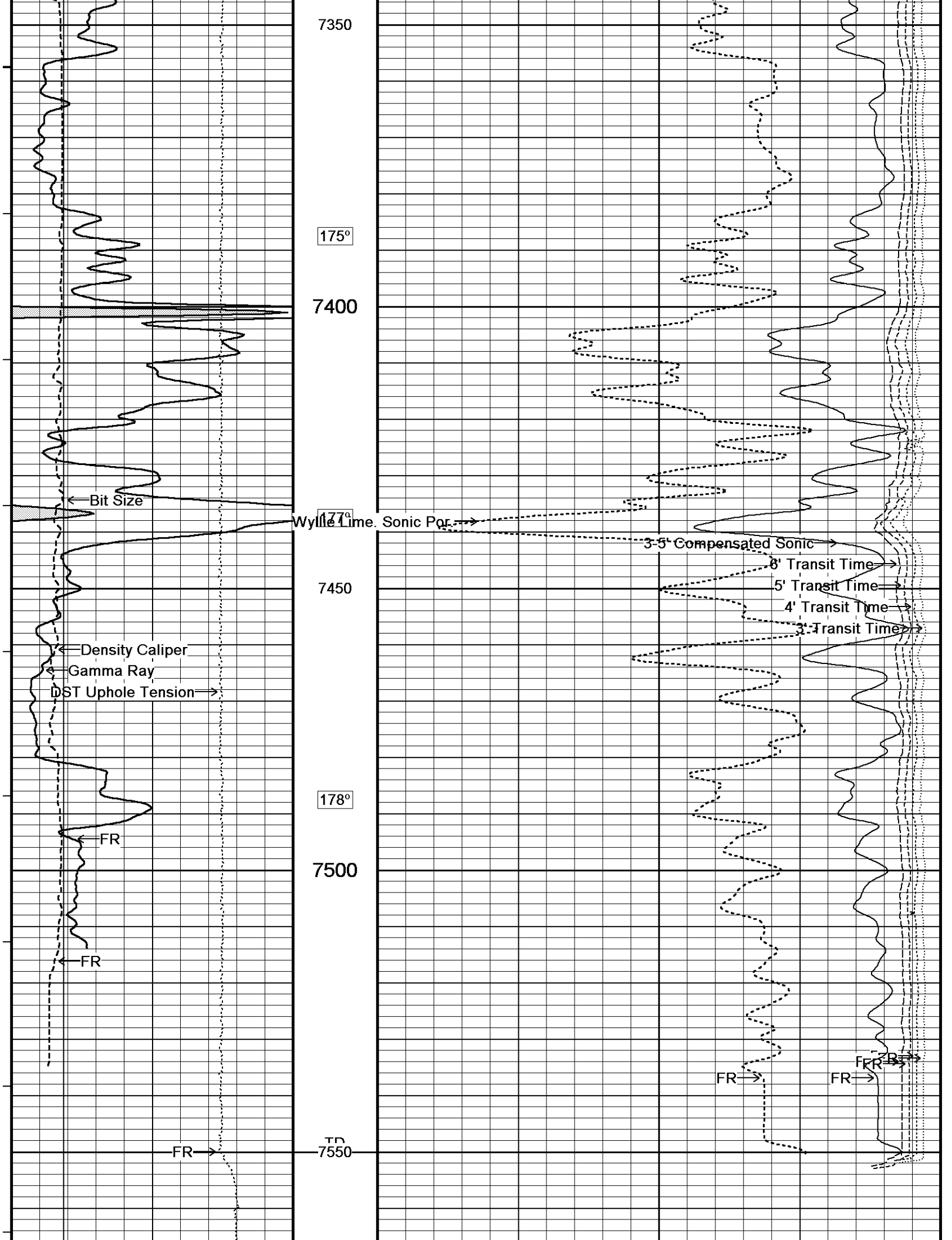
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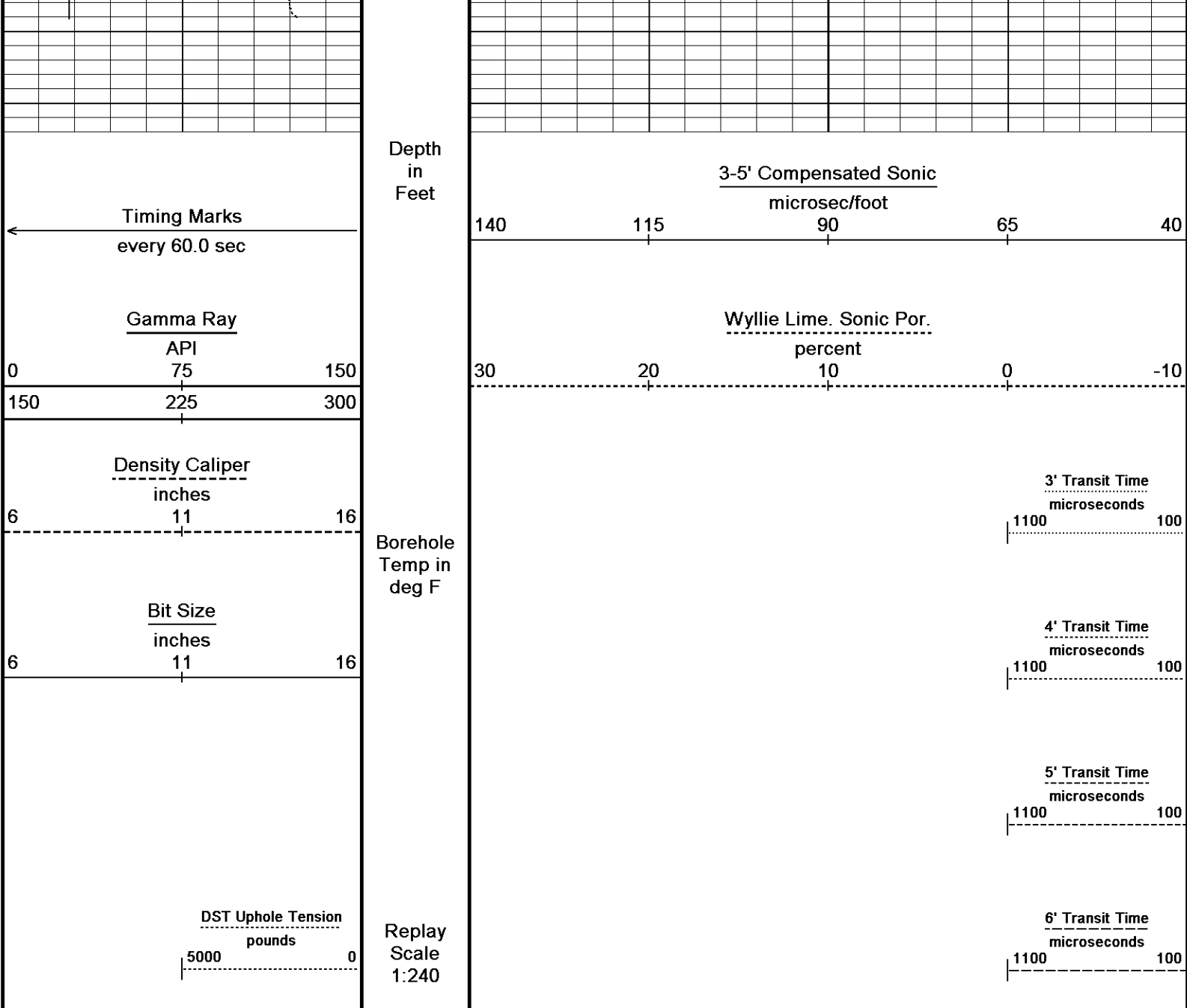
174°

7300

174°







Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 09-NOV-2017 05:19

Filename: C:\Minimus 17.03.9700\Data\K3 Sorenson #4-3\K3 Sorenson #4-3_003.dta

Recorded on 09-NOV-2017 00:16

System Versions: Logged with 17.03.9700 Plotted with 17.03.9700

↑

5 INCH MAIN

↑

↓

REPEAT SECTION

↓

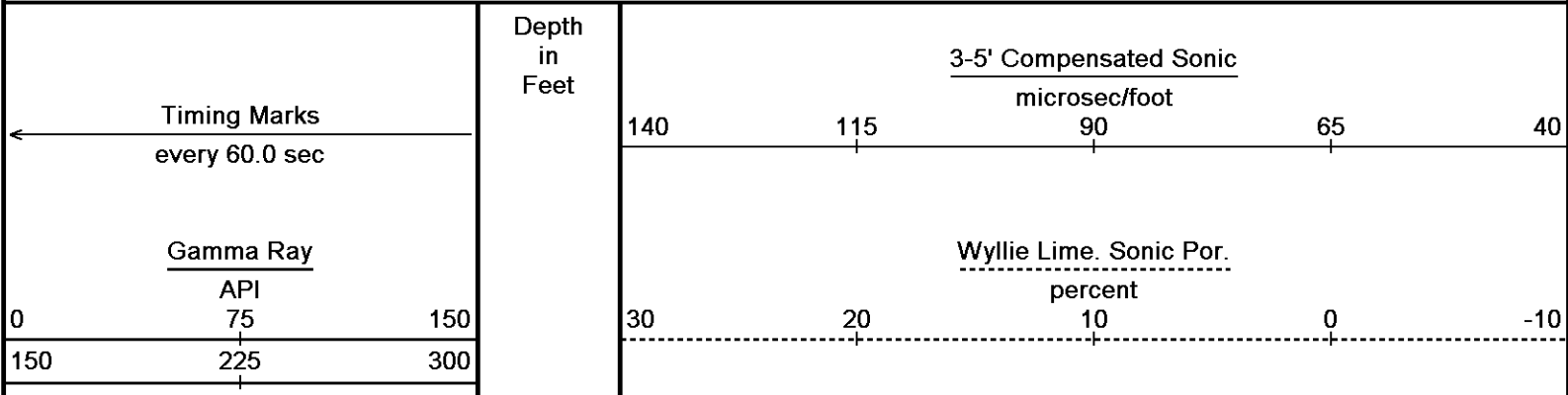
Depth Based Data - Maximum Sampling Increment 10.0cm

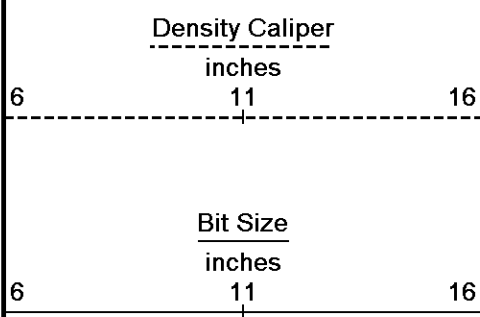
Plotted on 09-NOV-2017 05:19

Filename: C:\Minimus 17.03.9700\Data\K3 Sorenson #4-3\K3 Sorenson #4-3_002.dta

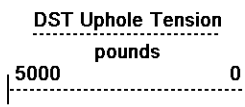
Recorded on 08-NOV-2017 23:42

System Versions: Logged with 17.03.9700 Plotted with 17.03.9700

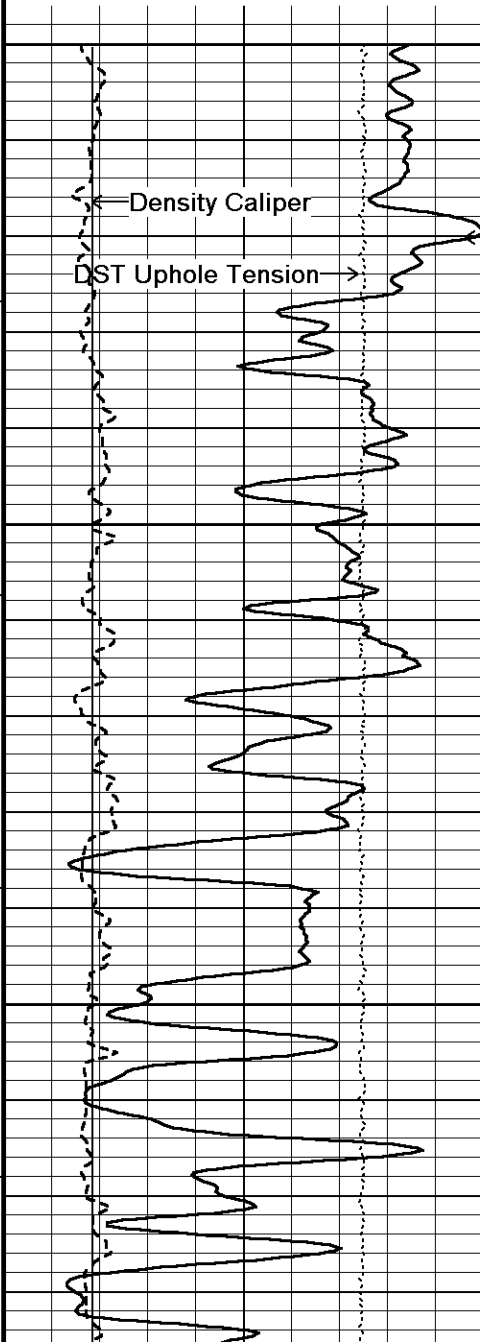
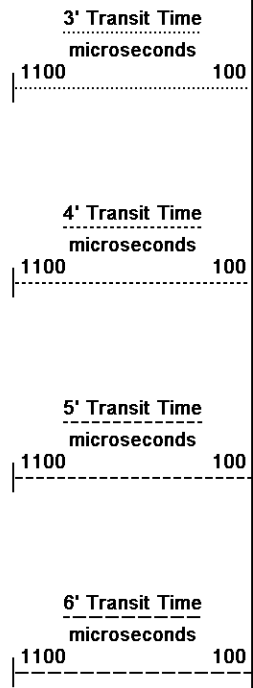




Borehole
Temp in
deg F



Replay
Scale
1:240



7050

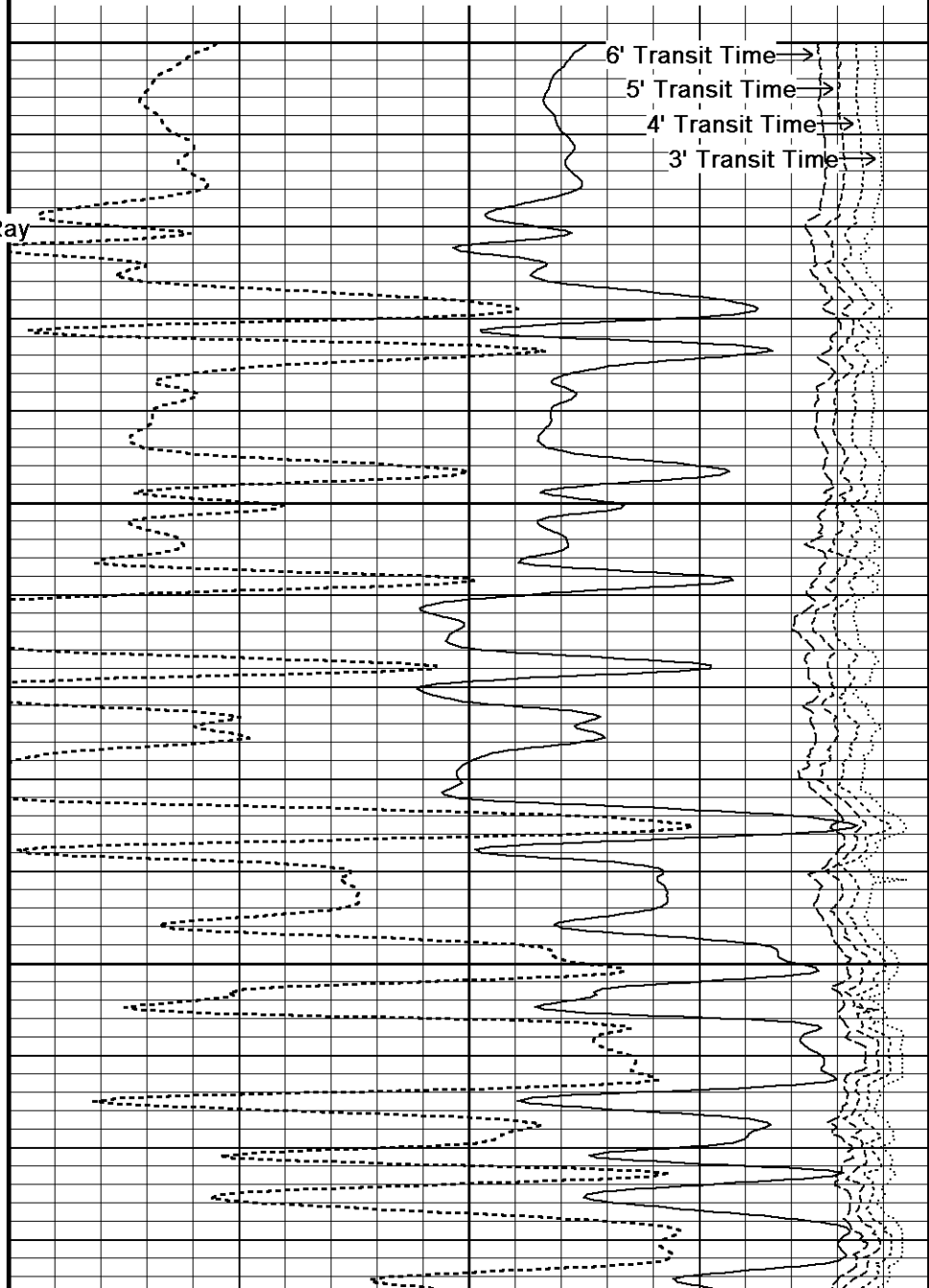
Gamma Ray

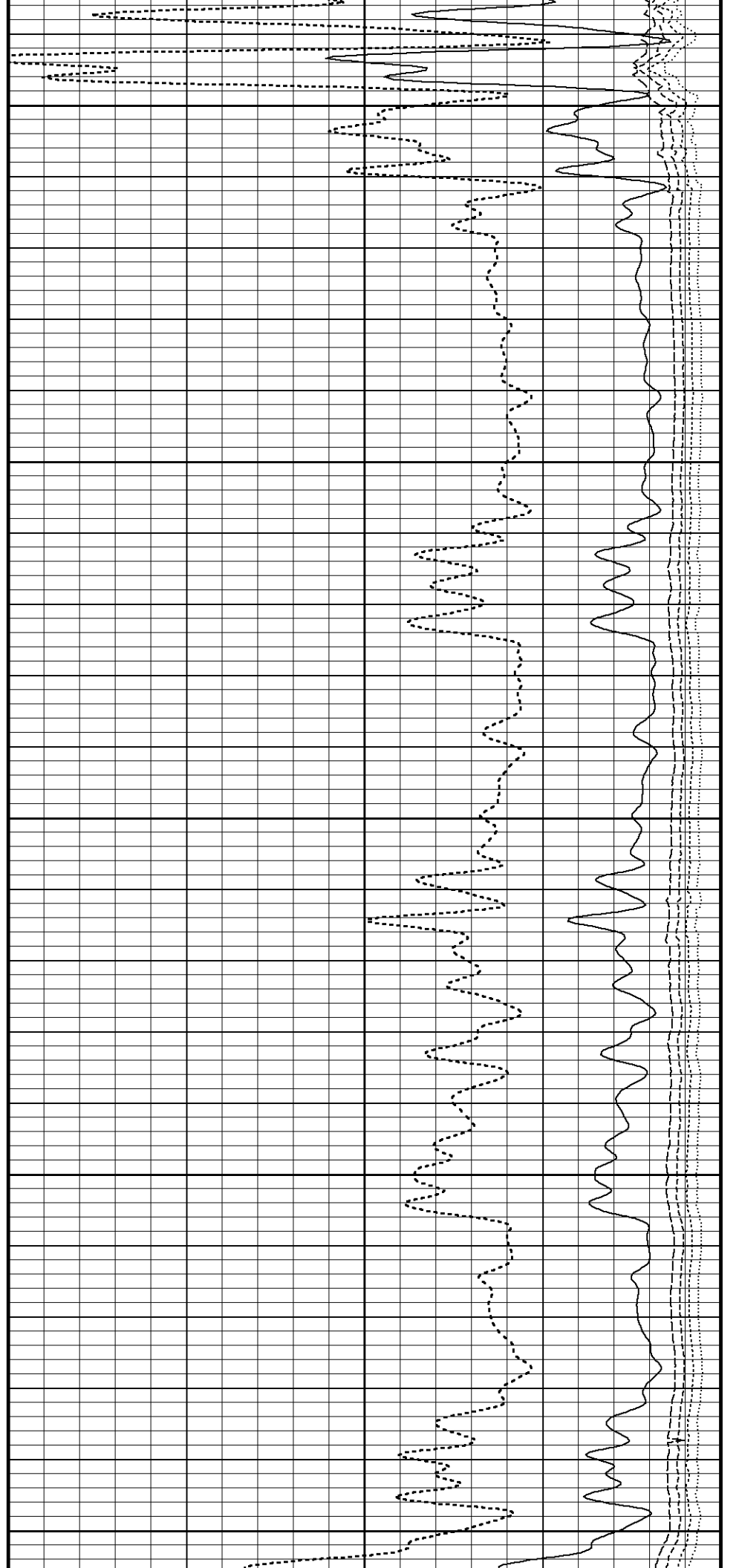
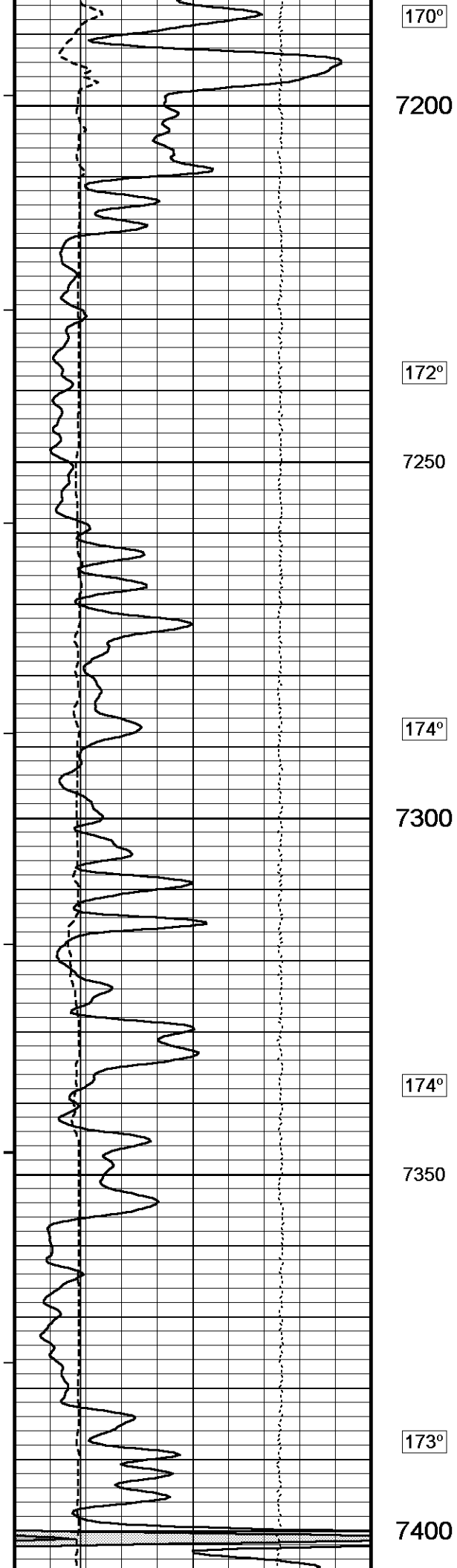
166°

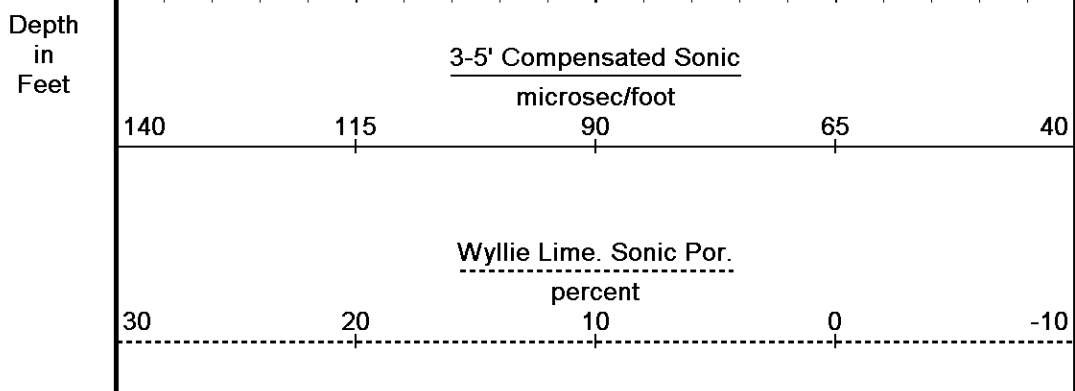
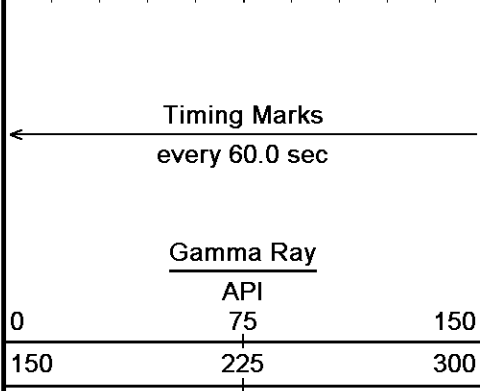
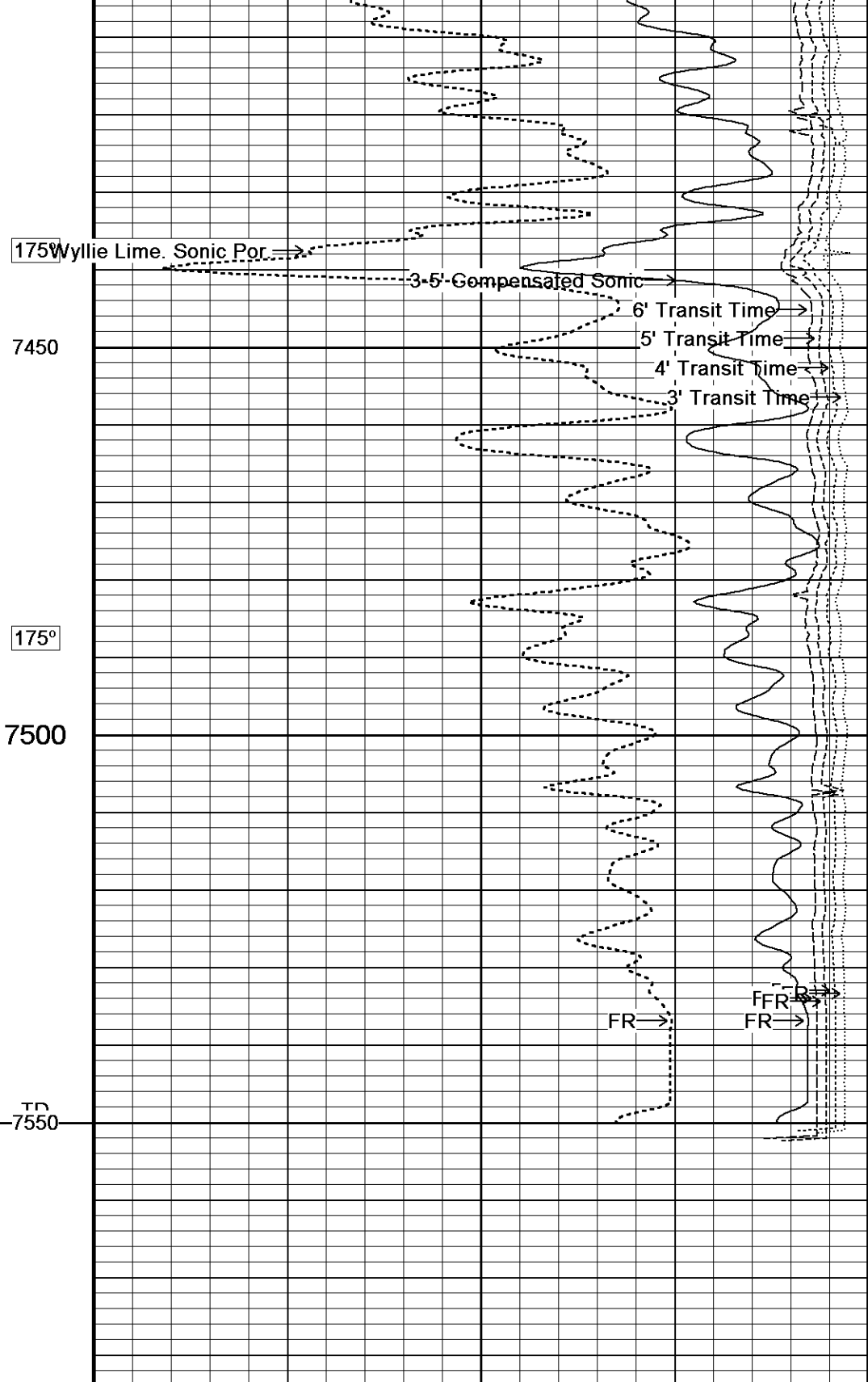
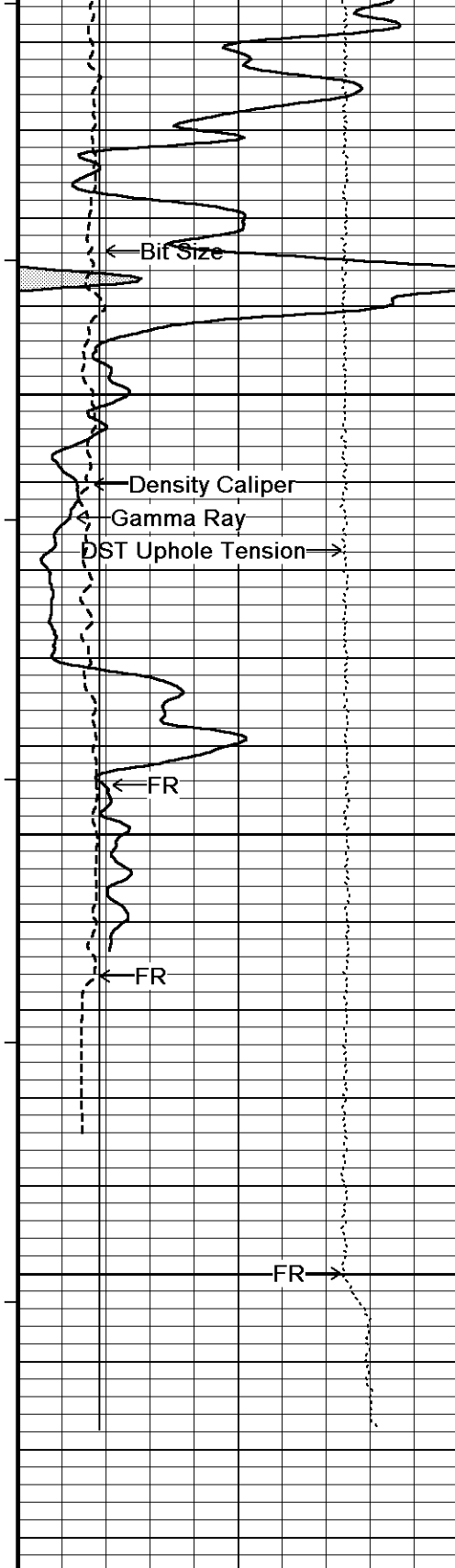
7100

167°

7150







<p style="text-align: center;"><u>Density Caliper</u> inches</p> <div style="display: flex; justify-content: space-between; width: 100%;"> 6 11 16 </div> <hr style="border-top: 1px dashed black;"/> <p style="text-align: center;"><u>Bit Size</u> inches</p> <div style="display: flex; justify-content: space-between; width: 100%;"> 6 11 16 </div> <hr style="border-top: 1px solid black;"/> <div style="margin-top: 100px;"> <p style="text-align: center;"><u>DST Uphole Tension</u> pounds</p> <div style="display: flex; justify-content: space-between; width: 100%;"> 5000 0 </div> </div>	Borehole Temp in deg F	<div style="display: flex; justify-content: space-between; width: 100%;"> <div style="width: 45%;"> <p style="text-align: center;"><u>3' Transit Time</u> microseconds</p> <div style="display: flex; justify-content: space-between; width: 100%;"> 1100 100 </div> </div> <div style="width: 45%;"> <p style="text-align: center;"><u>4' Transit Time</u> microseconds</p> <div style="display: flex; justify-content: space-between; width: 100%;"> 1100 100 </div> </div> </div> <div style="display: flex; justify-content: space-between; width: 100%; margin-top: 100px;"> <div style="width: 45%;"> <p style="text-align: center;"><u>5' Transit Time</u> microseconds</p> <div style="display: flex; justify-content: space-between; width: 100%;"> 1100 100 </div> </div> <div style="width: 45%;"> <p style="text-align: center;"><u>6' Transit Time</u> microseconds</p> <div style="display: flex; justify-content: space-between; width: 100%;"> 1100 100 </div> </div> </div>
Replay Scale 1:240		

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 09-NOV-2017 05:19

Filename: C:\Minimus 17.03.9700\Data\K3 Sorenson #4-3\K3 Sorenson #4-3_002.dta
Recorded on 08-NOV-2017 23:42

System Versions: Logged with 17.03.9700
Plotted with 17.03.9700

↑
REPEAT SECTION
↑

BEFORE SURVEY CALIBRATION																																																					
C:\Minimus 17.03.9700\Data\K3 Sorenson #4-3\K3 Sorenson #4-3_002.dta																																																					
General Constants All 000		Last Edited on 08-NOV-2017,09:45																																																			
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Gamma Calibration Tolerances MCG-C 84

Ratio	1.449	1.40	1.475	1.55	Counts/API
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Gamma Constants MCG-C 84

Last Edited on 08-NOV-2017,07:35

Gamma Calibrator Number	MCGGRCC141	
GRC-M Calibrator Jig in Use?	NO	
Inactive Background Jig in Use?	NO	
Mud Density	1.13	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Potassium Equivalence	Chloride	
K Mud Concentration	0.00	%

SP Calibration MCG-C 84

Field Calibration on 27-OCT-2017,07:20

	Measured	Calibrated (mV)
Reference 1	104.4	100.1
Reference 2	-95.8	-100.1

High Resolution Temperature Calibration MCG-C 84

Field Calibration on 27-OCT-2017,07:21

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	212.00	212.00

High Resolution Temperature Constants MCG-C 84

Last Edited on 30-AUG-2017,13:52

Pre-filter Length 11

Micro Normal and Micro Inverse Calibration MML-A 7

Base Calibration on 23-OCT-2017 14:05

Field Check on 03-NOV-2017 15:31

	Resistor 1 (ohm)	Resistor 2 (ohm)
	10.0	50.0
Base Calibration		
	Measured	Calibrated (ohm-m)
Micro Normal	10.1 50.4	5.1 25.6
Micro Inverse	10.0 50.1	3.4 16.9
Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	76.7	76.7
Micro Inverse	51.0	51.0

Micro Normal & Micro Inverse Calibration Tolerance MML-A 7

Micro Normal Res. 1	10.1		ohm	Micro Normal Res. 2	50.4		ohm
Micro Inverse Res. 1	10.0		ohm	Micro Inverse Res. 2	50.1		ohm
Micro Normal Base Check	76.7		ohm-m				
Micro Inverse Base Check	51.0		ohm-m				
Micro Normal Field Check	76.7		ohm-m				
Micro Inverse Field Check	51.0		ohm-m				

Micro Normal and Micro Inverse Constants MML-A 7

Last Edited on 08-NOV-2017,07:35

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 7

Base Calibration on 23-OCT-2017 13:59

Field Calibration on 03-NOV-2017 15:29

Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	14085	5.98
2	17580	7.97
3	20846	9.86
4	24750	11.92
5	0	0.00

6

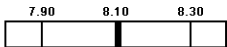
N/A

N/A

Field Calibration

Measured Caliper (in)
8.11Actual Caliper (in)
8.10

Caliper Calibration Tolerances MML-A 7

Short Arm Field Cal. 8.11  in

Neutron Calibration MDN-A.B 114

Base Calibration on 25-OCT-2017 16:20
Field Check on 05-NOV-2017 09:48

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
Ratio	3039	94	3714	110
	32.458		33.764	


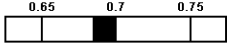
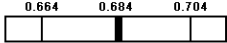
Field Calibrator at Base

	Calibrated (cps)
Ratio	2150 3142
	0.684

Field Check

	Calibrated (cps)
Ratio	2141 3120
	0.686

Neutron Calibration Tolerances MDN-A.B 114

Ratio 32.458 Base Check 0.684 Field Check 0.686 

Neutron Constants MDN-A.B 114

Last Edited on 08-NOV-2017,07:35

Neutron Source Id	P0204NN	
Neutron Jig Number	NJ5736	
Air Hole Processing	Modified Ratio	
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
Salinity Correction	Not Applied	
Formation Fluid Salinity Source	None	
Formation Fluid Salinity	N/A	kppm
Barite Mud Correction	Not Applied	

FE Calibration MFE-B.J 352

Base Calibration on 23-OCT-2017 13:20
Field Check on 06-NOV-2017 11:50

	Resistor 1 (ohm)	Resistor 2 (ohm)
Base Calibration	0.0	1000.0
	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	963.8	126.8
Base Check		281.3
Field Check		281.2

FE Calibration Tolerances MFE-B.J 352

-3% 980.0 +3%

Reference 2	963.8	<div><div></div><div></div><div></div><div></div><div></div></div>	ohm
Base Check	281.3	<div><div>-2%</div><div>277.0</div><div>+2%</div></div>	ohm-m
Field Check	281.2	<div><div>-2%</div><div>281.3</div><div>+2%</div></div>	ohm-m

FE Constants MFE-B.J 352

Last Edited on 08-NOV-2017,07:34

Running Mode	No Sleeve
MFE K Factor	0.1268
Borehole Correction Constants	
Sonde Position	0.5 inches
Hole Size Source	Density Caliper
Hole Size Constant Value	N/A inches
Rm Source	Global Value: Temperature Corrected
Temp. for Rm Corr.	MCG External Temperature

Sonic Constants MSS-A.A 55

Last Edited on 08-NOV-2017,07:34

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

Waveform Discriminator Filter	N/A
Semblance Window Width	N/A micro-sec
Sonic Position	N/A

High Resolution Temperature Calibration MAI-A.A 111

Field Calibration on 01-OCT-2017,14:58

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	212.00	212.00

High Resolution Temperature Constants MAI-A.A 111

Last Edited on 26-JUN-2014,15:06

Pre-filter Length 11

Induction Calibration MAI-A.A 111

Factory Loop Calibration 03-NOV-2017 04:57

Field Check on 05-NOV-2017 09:34

Factory Loop Calibration

Low Conductivity Reference Resistor 3.3 ohm
 High Conductivity Reference Resistor 333.3 ohm

Array	Measured Signal (unitless)		Reference Conductivity (mmho/m)		Calibration	
	Low	High	Low	High	Gain	Offset
1 (near)	17.6	473.6	9.3	966.2	0.0	0.0
2	6.4	385.9	7.6	821.4	0.0	0.0
3	3.2	264.0	5.2	566.0	0.0	0.0
4 (far)	2.1	135.5	2.6	279.2	0.0	0.0
Array Temperature	23.0		Deg F			

Tool Checks

Array	Factory Reference (mmho/m)		Before Survey (mmho/m)		
	Low	High	Low	High	
1 (near)	10.7	3840.6	10.6	3840.6	
2	28.8	3498.9	28.7	3499.1	
3	28.2	2996.4	28.1	2996.7	
4 (far)	18.5	2041.3	18.5	2041.9	
Array Temperature	65.6		63.9		Deg F

Induction Check Tolerances MAI-A.A 111

Low Array 1	10.6	<div><div>9.2 10.7 12.2</div></div>	mmho/m High Array 1	3840.6	<div><div>3839.1 3840.6 3842.1</div></div>	mmho/m
Low Array 2	28.7	<div><div>27.3 28.8 30.3</div></div>	mmho/m High Array 2	3499.1	<div><div>3497.4 3498.9 3500.4</div></div>	mmho/m
Low Array 3	28.1	<div><div>26.7 28.2 29.7</div></div>	mmho/m High Array 3	2996.7	<div><div>2994.9 2996.4 2997.9</div></div>	mmho/m
Low Array 4	18.5	<div><div>17.0 18.5 20.0</div></div>	mmho/m High Array 4	2041.9	<div><div>2039.8 2041.3 2042.8</div></div>	mmho/m

Induction Constants MAI-A.A 111

Last Edited on 08-NOV-2017,07:34

Induction Model RtAP-WBM

Borehole Correction Constants

Tool Centred No
 Hole Size Source Density Caliper
 Hole Size Constant Value N/A inches
 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
 Rm Source Global Value: Temperature Corrected
 Temp. for Rm Corr. MCG External Temperature
 Borehole Correction Method Default

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
Symmetrised Receiver Gains		
Receiver 1	1.00	
Receiver 2	1.00	
Receiver 3	1.00	
Receiver 4	1.00	
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	

Photo Density Calibration MPD-C.A 216

Base Calibration on 23-OCT-2017 14:37

Field Check on 06-NOV-2017 11:49

Density Calibration		Measured		Calibrated (sdu)	
Base Calibration		Near	Far	Near	Far
Background		1025	1218		
Reference 1		51146	24580	59556	30836
Reference 2		20383	2310	24941	2541

Field Check at Base

1024.7 1217.9

Field Check

1021.0 1211.5

PE Calibration

Base Calibration		Measured		Calibrated
	WS	WH	Ratio	Ratio
Background	187	916		
Reference 1	21227	50978	0.420	0.371
Reference 2	5863	20269	0.293	0.272

Field Check at Base

187.1 916.4

Field Check

185.7 907.5

Photo Density Calibration Tolerances MPD-C.A 216

Near Density Ratio	2.59	<div><div></div><div></div><div></div><div></div><div></div></div>
PE Calibration	0.118	<div><div></div><div></div><div></div><div></div><div></div></div>

Far Density Ratio	21.38	<div><div></div><div></div><div></div><div></div><div></div></div>
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Near Den. Field Check	1021.0	<div><div></div><div></div><div></div><div></div><div></div></div>
PE WS Field Check	185.7	<div><div></div><div></div><div></div><div></div><div></div></div>

Far Den. Field Check	1211.5	<div><div></div><div></div><div></div><div></div><div></div></div>
PE WH Field Check	907.5	<div><div></div><div></div><div></div><div></div><div></div></div>

Density Constants MPD-C.A 216

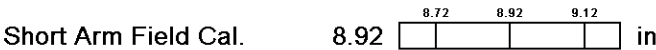
Last Edited on 08-NOV-2017,07:35

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 Type		

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	
Precision Enhanced Density Processing	Not Applied	
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	

Caliper Calibration MPD-C.A 216			Base Calibration on 23-OCT-2017 14:16
			Field Calibration on 06-NOV-2017 12:00
Base Calibration			
Reading No	Measured	Calibrator Size (in)	
1	16832	3.99	
2	27040	5.98	
3	37135	7.97	
4	46864	9.86	
5	58032	11.92	
6	N/A	N/A	
Field Calibration			
	Measured Caliper (in)	Actual Caliper (in)	
	8.92	8.92	

Caliper Calibration Tolerances MPD-C.A 216



DOWNHOLE EQUIPMENT

C:\Minimus 17.03.9700\Data\K3 Sorenson #4-3\K3 Sorenson #4-3_002.dta

Cablehead, 11 pin
CBH-C 0 LG: 2.40 ft WT: 24.3 lb OD: 2.244 in

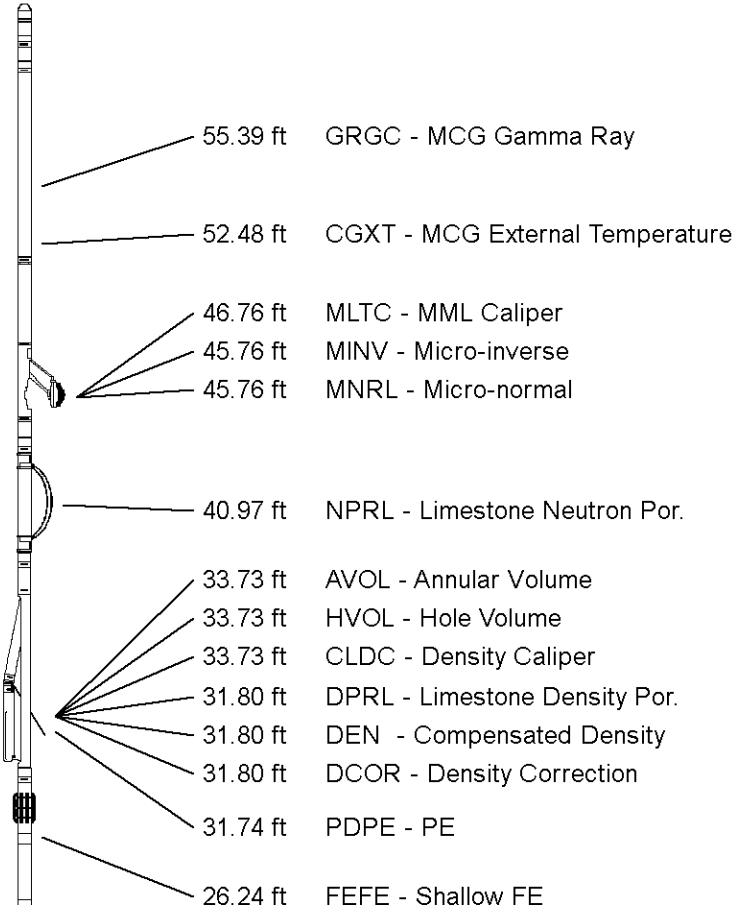
Compact Comms Gamma
MCG-C 84 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in

Compact Micro-log
MML-A 7 LG: 7.97 ft WT: 81.6 lb OD: 2.244 in

Compact Neutron
MDN-A.B 114 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

Compact Density/Caliper
MPD-C.A 216 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in

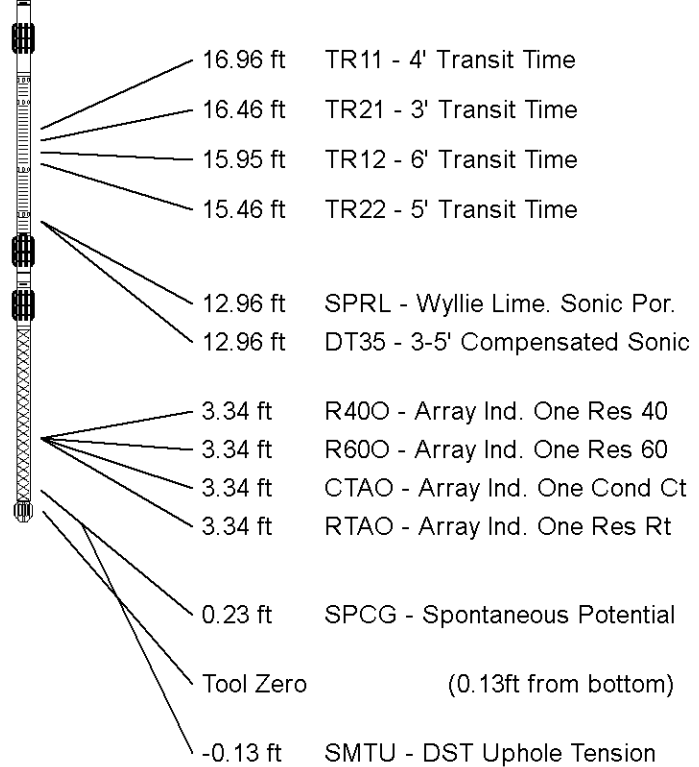
Compact Focussed Electric
MFE-B.J 352 LG: 6.05 ft WT: 48.5 lb OD: 2.244 in



Compact Sonic
MSS-A.A 55 LG: 12.52 ft WT: 72.8 lb OD: 2.244 in

Compact Induction
MAI-A.A 111 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in

Total Length: 63.07 ft Weight: 480.6 lb



All measurements relative to tool zero.

COMPANY	K3 OIL & GAS OPERATING COMPANY
WELL	SORENSEN #4-3
FIELD	WILDCAT
PROVINCE/COUNTY	LINCOLN
COUNTRY/STATE	U.S.A. / COLORADO

Elevation Kelly Bushing	5048	feet	First Reading	7537.00	feet
Elevation Drill Floor	5046	feet	Depth Driller	7550.00	feet
Elevation Ground Level	5030	feet	Depth Logger	7550.00	feet



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