



COMPENSATED SONIC LOG

COMPANY				PATARA OIL & GAS LLC			
WELL				ANDY'S MESA FEDERAL #76			
FIELD				ANDY'S MESA			
PROVINCE/COUNTY				SAN MIGUEL			
COUNTRY/STATE				U.S.A. / COLORADO			
LOCATION				SHL: 1467' FSL & 528' FEL BHL: 1791' FSL & 895' FEL			
SEC	TWP	RGE	Other Services		Elevations:		
20	44N	16W	MPD/MDN		KB	6434.00	
API Number	05-113-06251		MAI/MFE		DF	6433.00	
Permit Number			SGS		GL	6417.00	
Permanent Datum G.L., Elevation 6417 feet							
Log Measured From K.B. @ 17 FEET above Permanent Datum							
Drilling Measured From K.B.							
Date	20-AUG-2010						
Run Number	ONE						
Depth Driller	7118.00				feet		
Depth Logger	7104.00				feet		
First Reading	7088.00				feet		
Last Reading	2571.00				feet		
Casing Driller	2575.00				feet		
Casing Logger	2571.00				feet		
Bit Size	8.750				inches		
Hole Fluid Type	WATER BASED						
Density / Viscosity	9.00 lb/USg		47.00 CP				
PH / Fluid Loss	7.50		6.50 ml/30Min				
Sample Source	FLOW LINE						
Rm @ Measured Temp	1.24 @ 97.2				ohm-m		
Rmf @ Measured Temp	0.99 @ 97.2				ohm-m		
Rmc @ Measured Temp	1.50 @ 97.2				ohm-m		
Source Rmf / Rmc	CALC	CALC					
Rm @ BHT	0.94 @121.0		ohm-m				
Time Since Circulation	6 HOURS						
Max Recorded Temp	121.00				deg F		
Equipment Name	COMPACT						
Equipment / Base	13173		GD JCT				
Recorded By	R. BROWN				M. GOODMAN		
Witnessed By	L. GIRNDT						

BOREHOLE RECORD			Last Edited: 19-AUG-2010 14:01	
Bit Size inches	Depth From feet		Depth To feet	
8.750	2571.00		7118.00	
CASING RECORD				
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	9.625	0.00	2571.00	36.00

REMARKS
TOOLS: SHA, MCG, SGS, MDN, MPD, MSS, SKJ, MFE, AND MAI RAN IN COMBINATION
HARDWARE: MPD: (1) 8 INCH PROFILE PLATE MAI: (1) 0.5 INCH STANDOFF MDN: (1) DUAL BOWSPRING MSS: (2) 0.5 ONCH STANDOFF
2.71 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY.
ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.
TIGHT PULLS, BOREHOLE SIZE, AND RUGOSITY WILL AFFECT REPEATABILITY AND DATA QUALITY.
RUN 1: BRIDGED ENCOUNTERED AT APPROXIMATELY 5577 FEET. LOGS WERE THEN PULLED FROM THIS DEPTH UP TO ATTEMPT ANOTHER LOGGING RUN ONCE RIG PERFORMED WIPER TRIP.
RUN 2: LOGS WENT TO BOTTOM.
RUN 3: FORMATION TESTER.

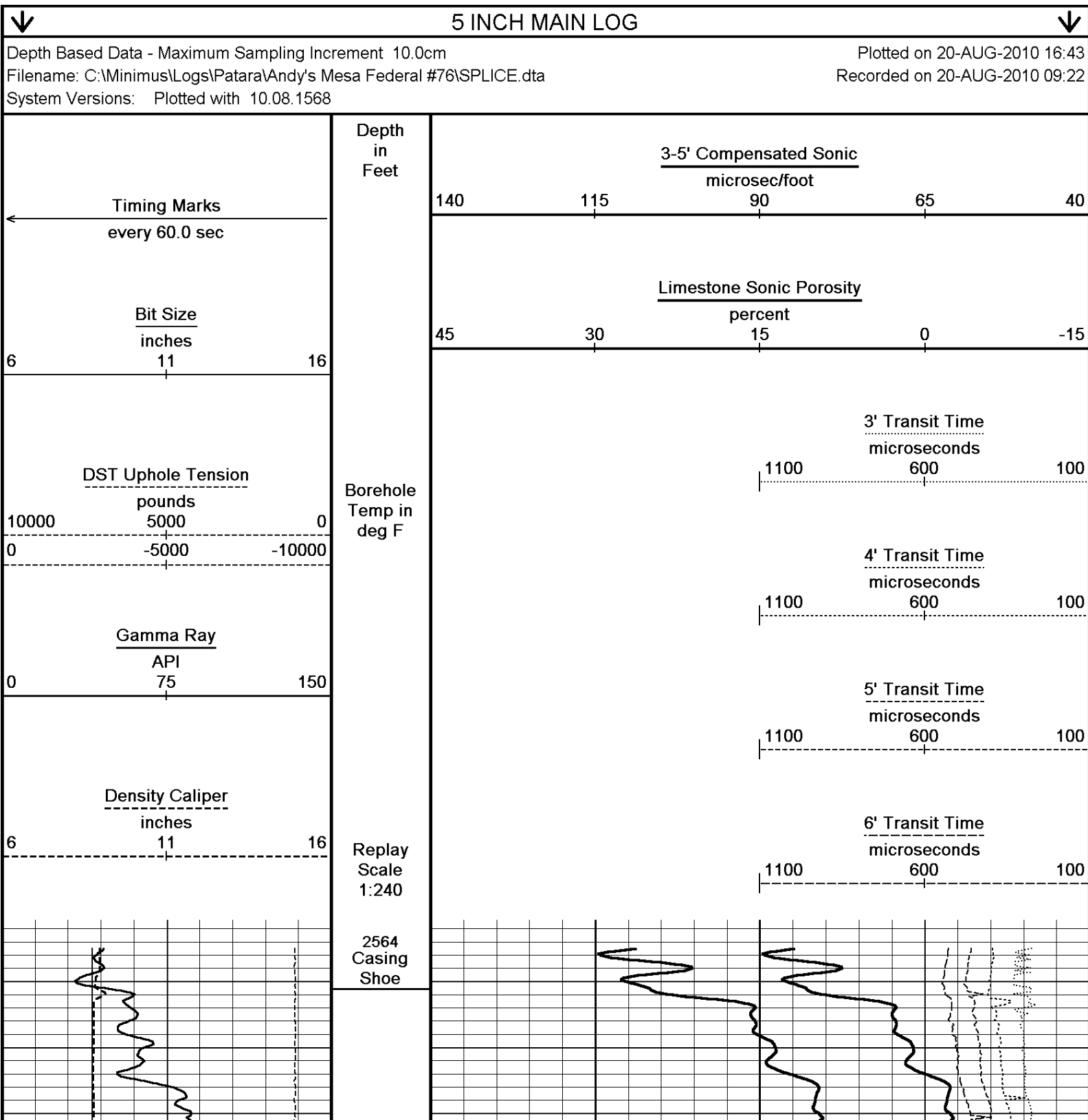
TOTAL HOLE VOLUME FROM T.D. TO SURFACE CASING = 2074 CU.FT.

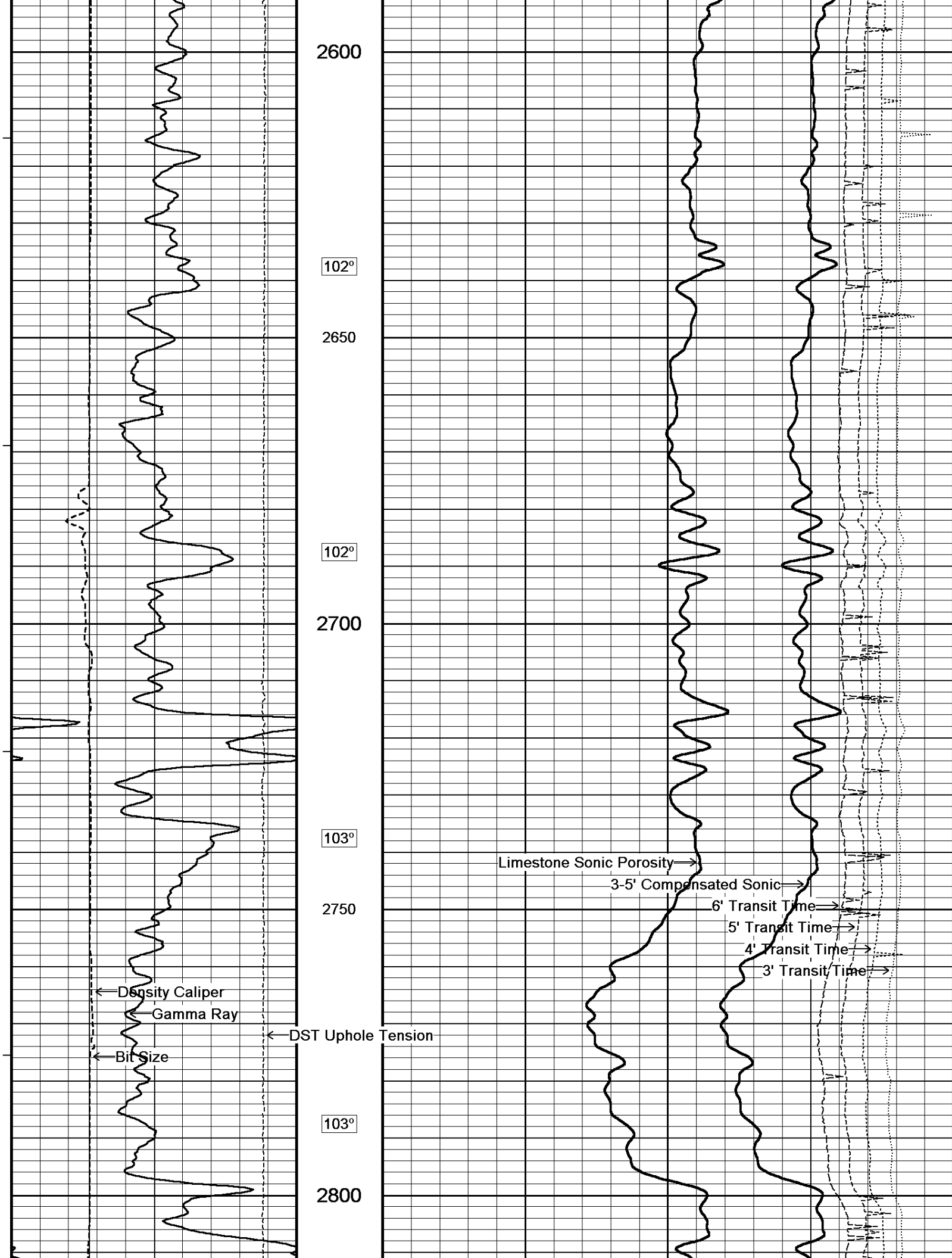
ANNULAR VOLUME WITH 5.5 INCH PRODUCTION CASING FROM T.D. TO SURFACE CASING = 1375 CU.FT.

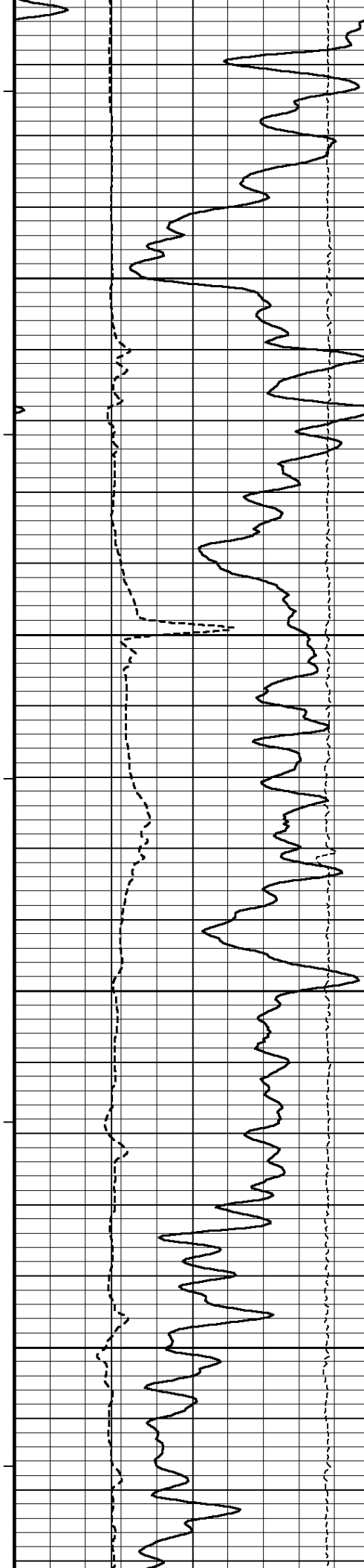
SERVICE ORDER: #3526101

RIG: LW # 1

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.







104°

2850

104°

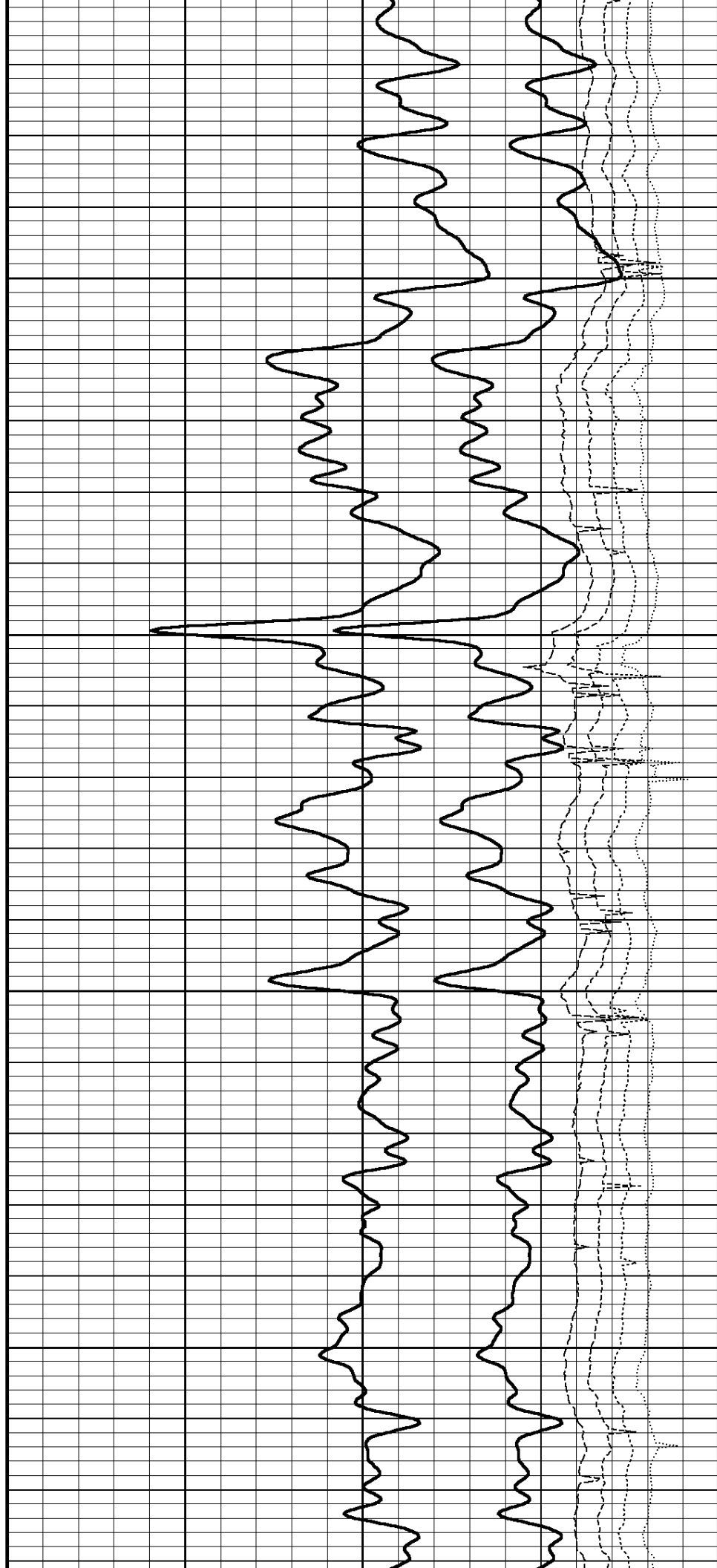
2900

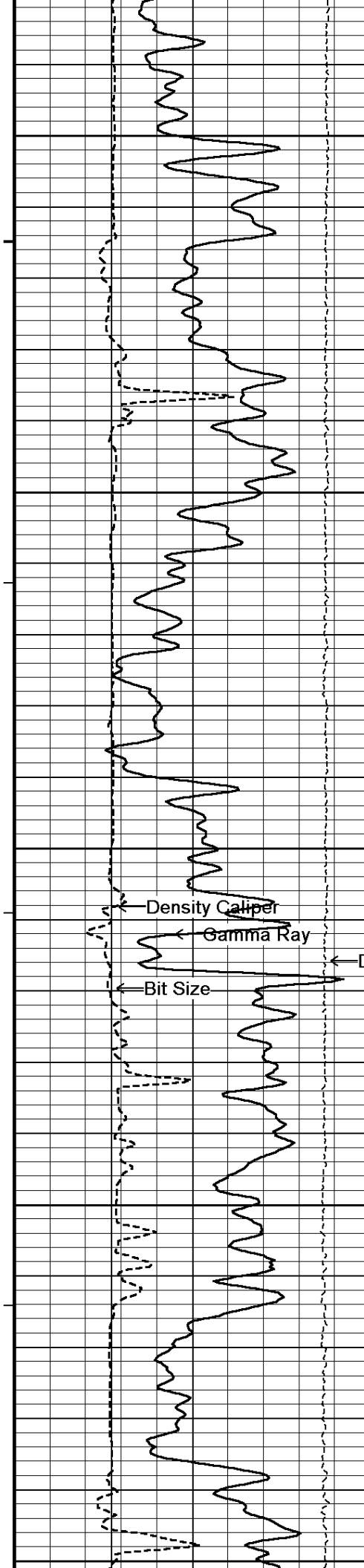
105°

2950

105°

3000





105°

3050

106°

3100

106°

3150

Density Caliper

Gamma Ray

Bit Size

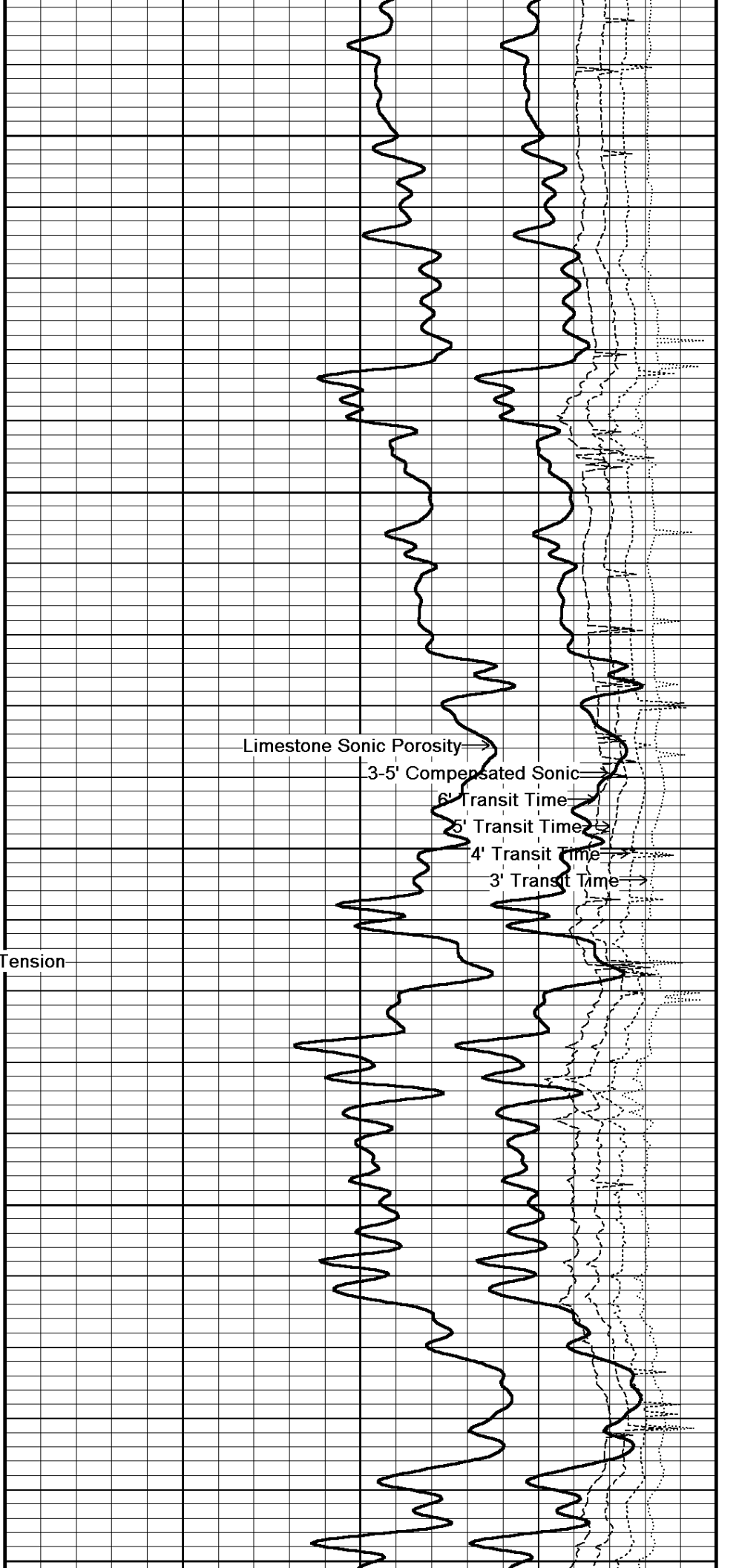
DST Uphole Tension

107°

3200

107°

3250



Limestone Sonic Porosity

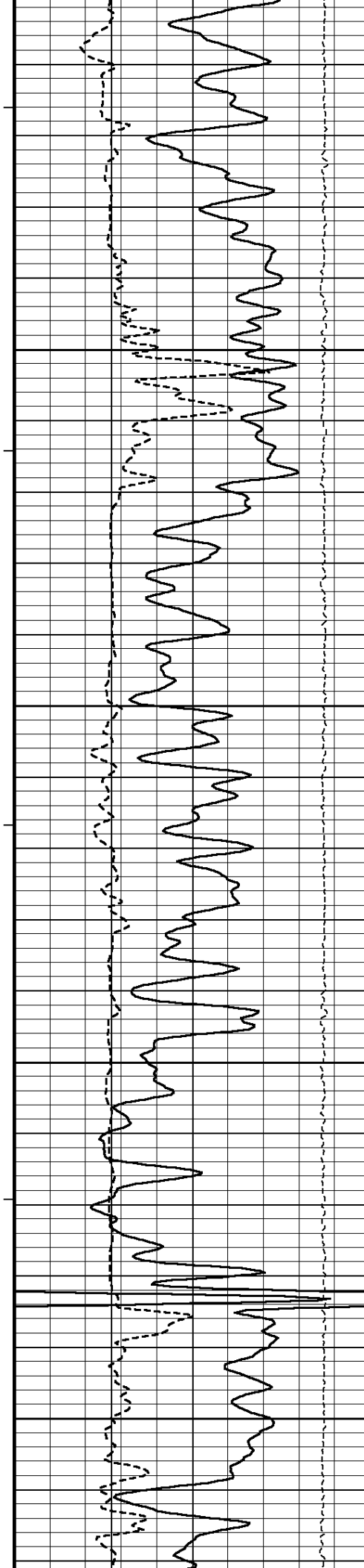
3-5' Compensated Sonic

6' Transit Time

5' Transit Time

4' Transit Time

3' Transit Time



107°

3300

107°

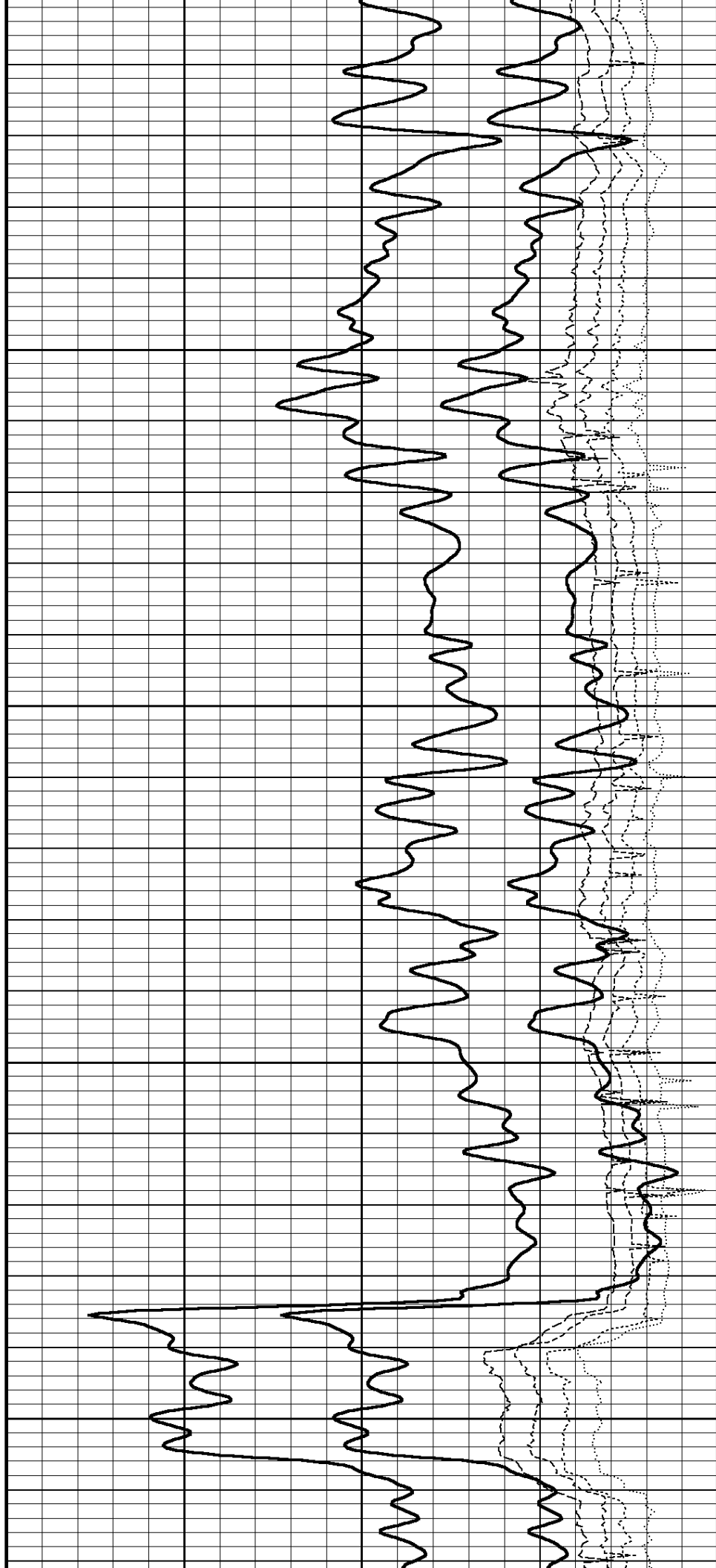
3350

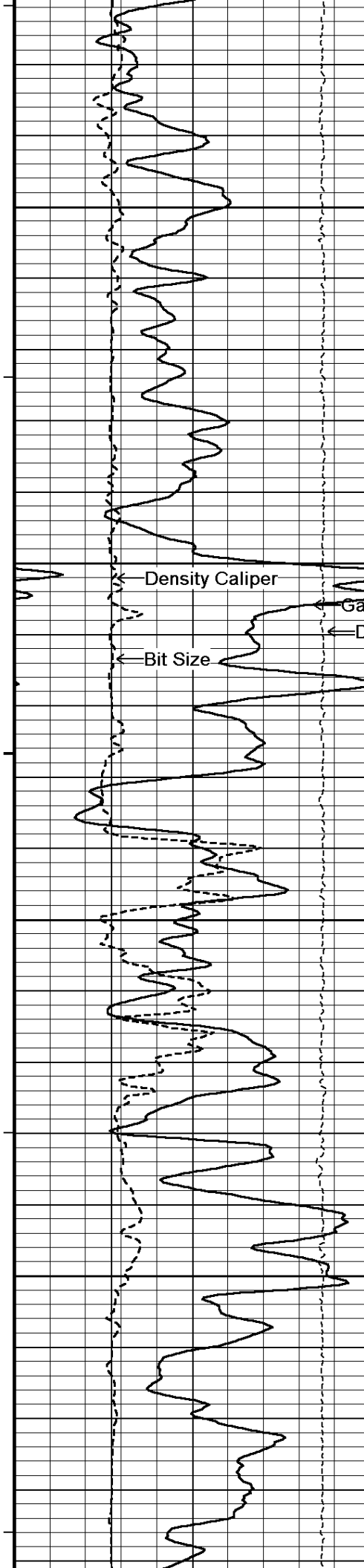
108°

3400

108°

3450





108°

3500

109°

3550

109°

3600

109°

3650

110°

Density Caliper

Gamma Ray

DST Uphole Tension

Bit Size

Limestone Sonic Porosity

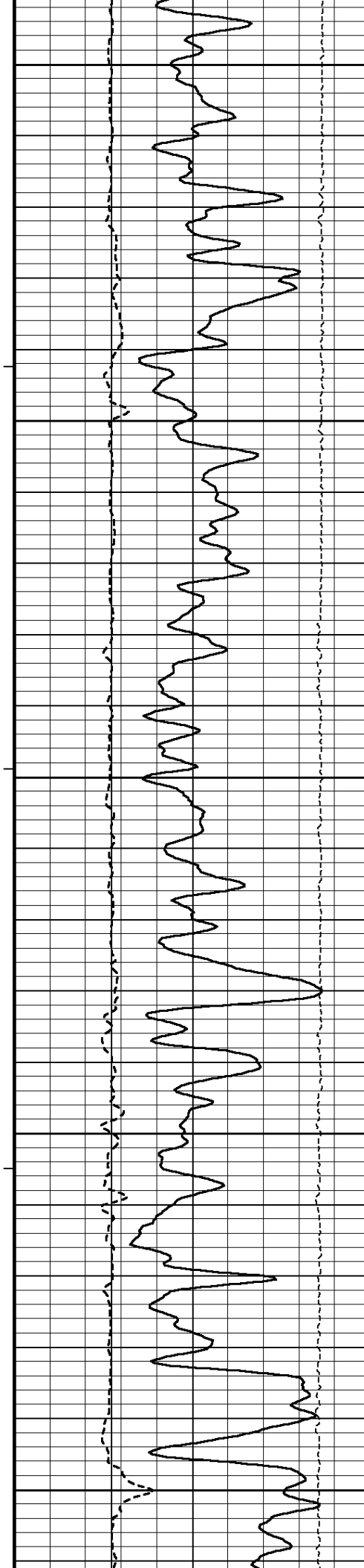
3-5' Compensated Sonic

6' Transit Time

5' Transit Time

4' Transit Time

2' Transit Time



3700

110°

3750

110°

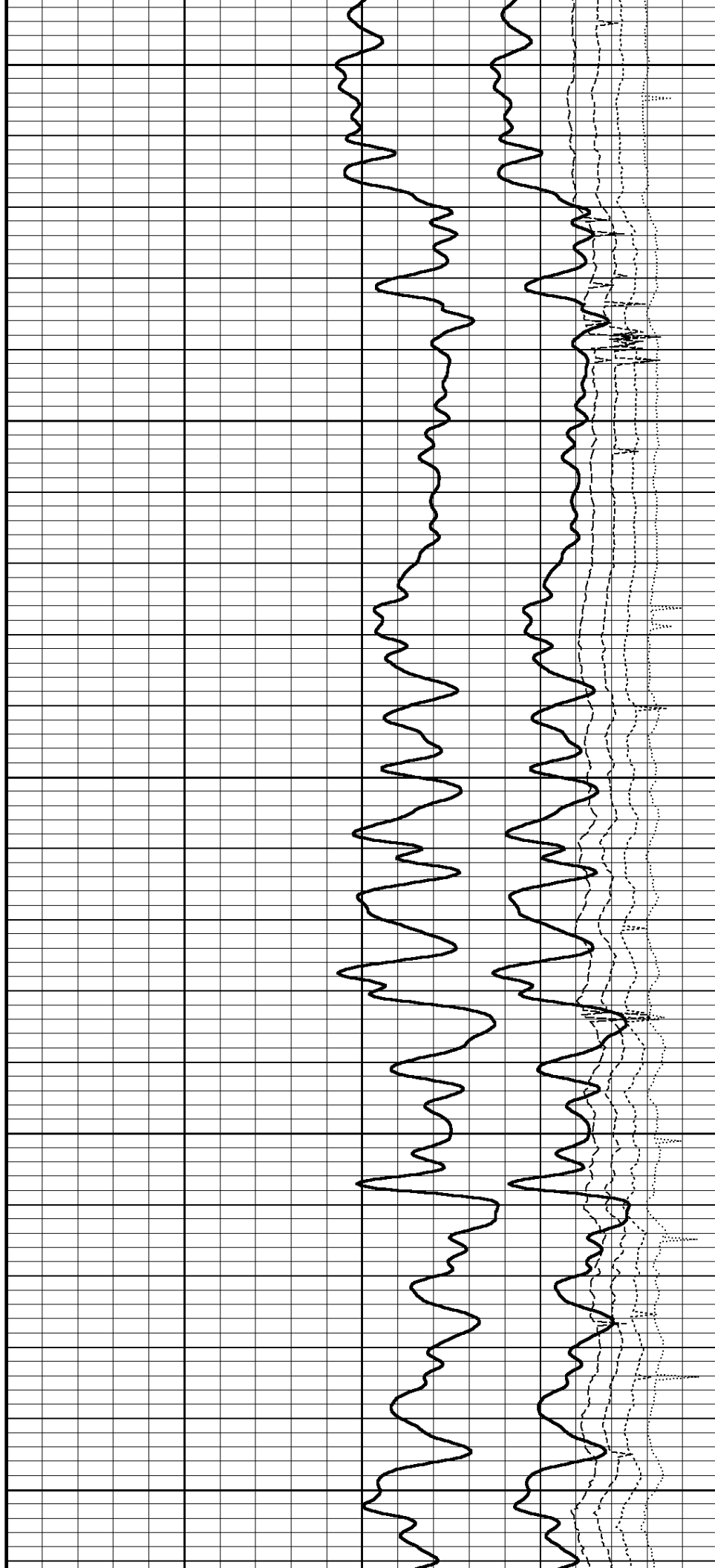
3800

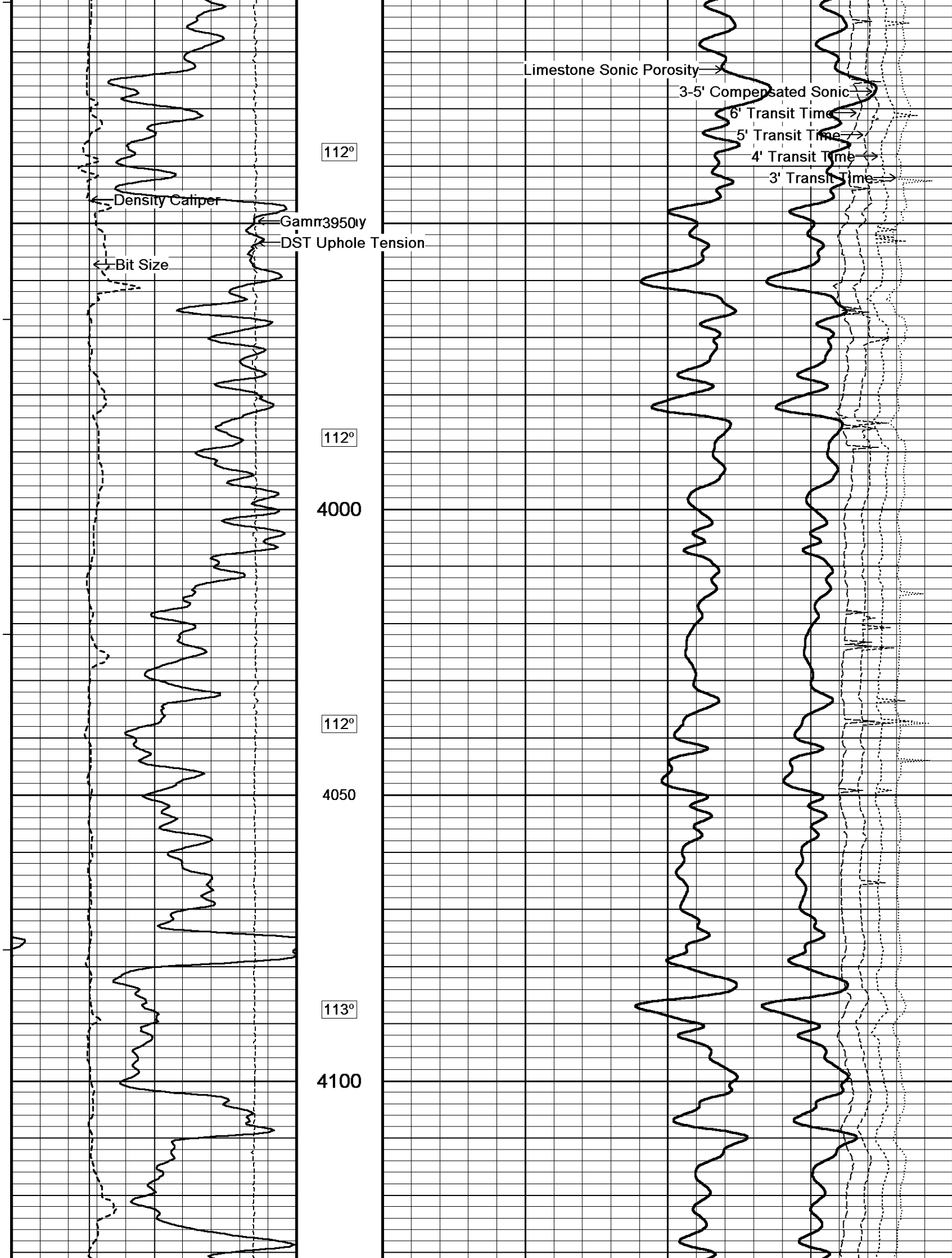
111°

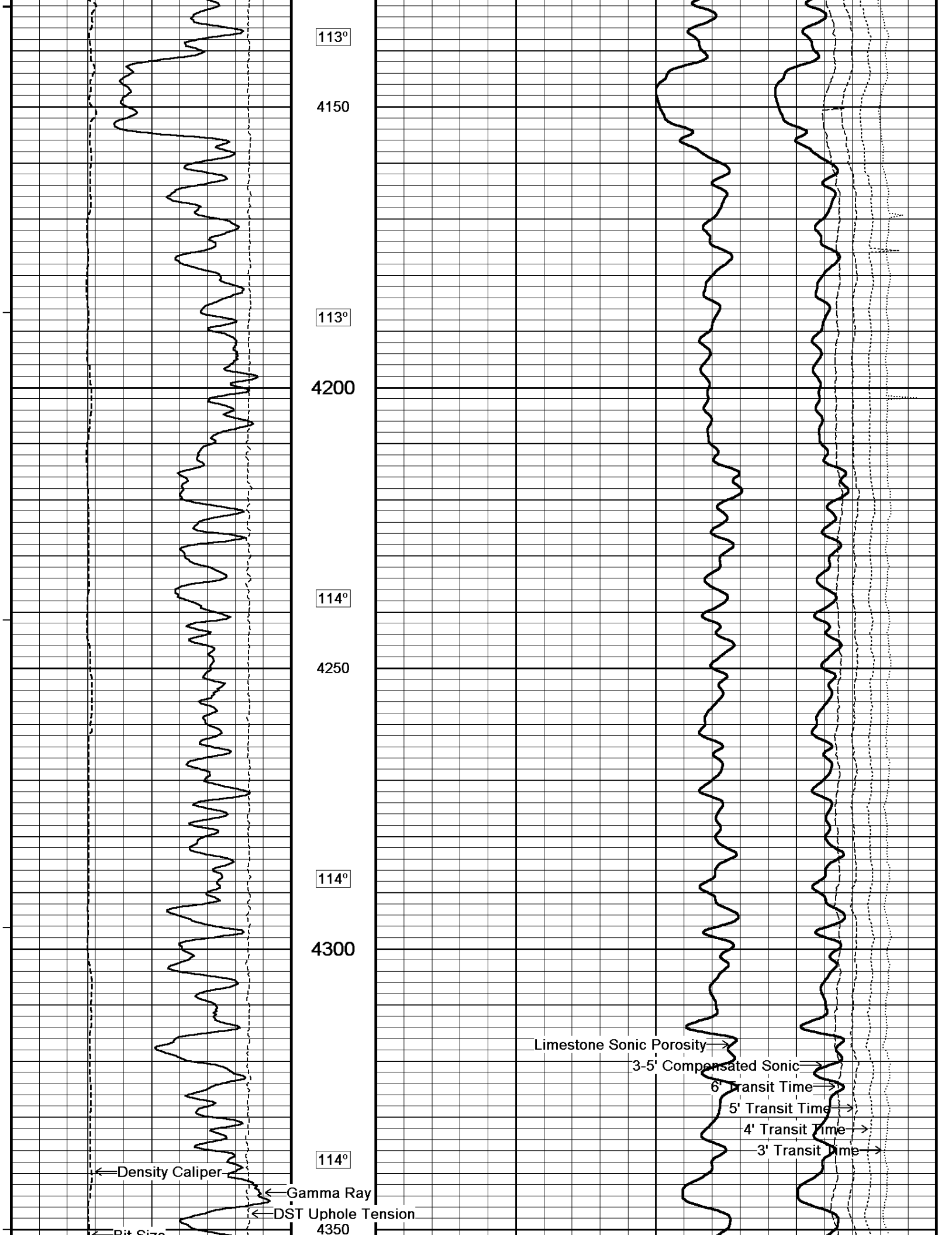
3850

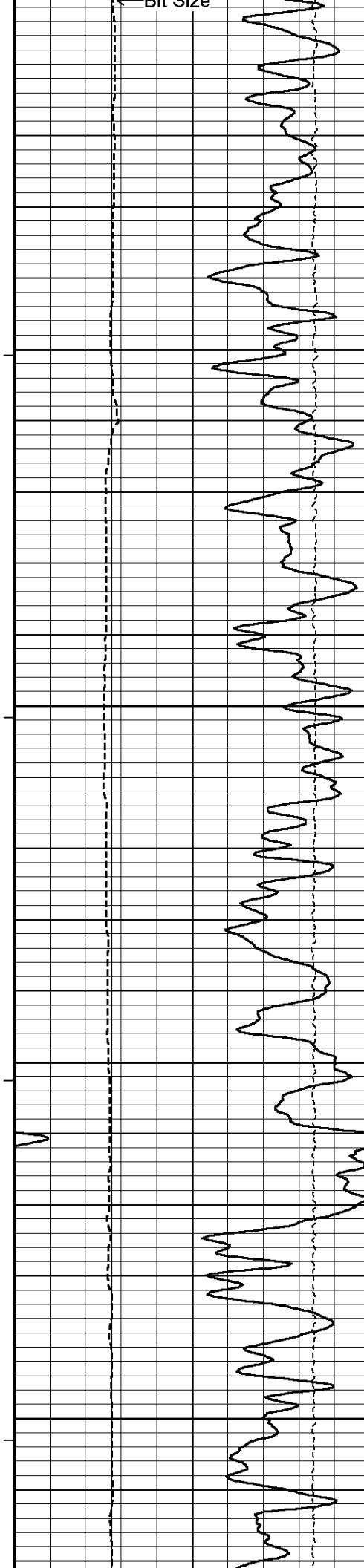
111°

3900









115°

4400

115°

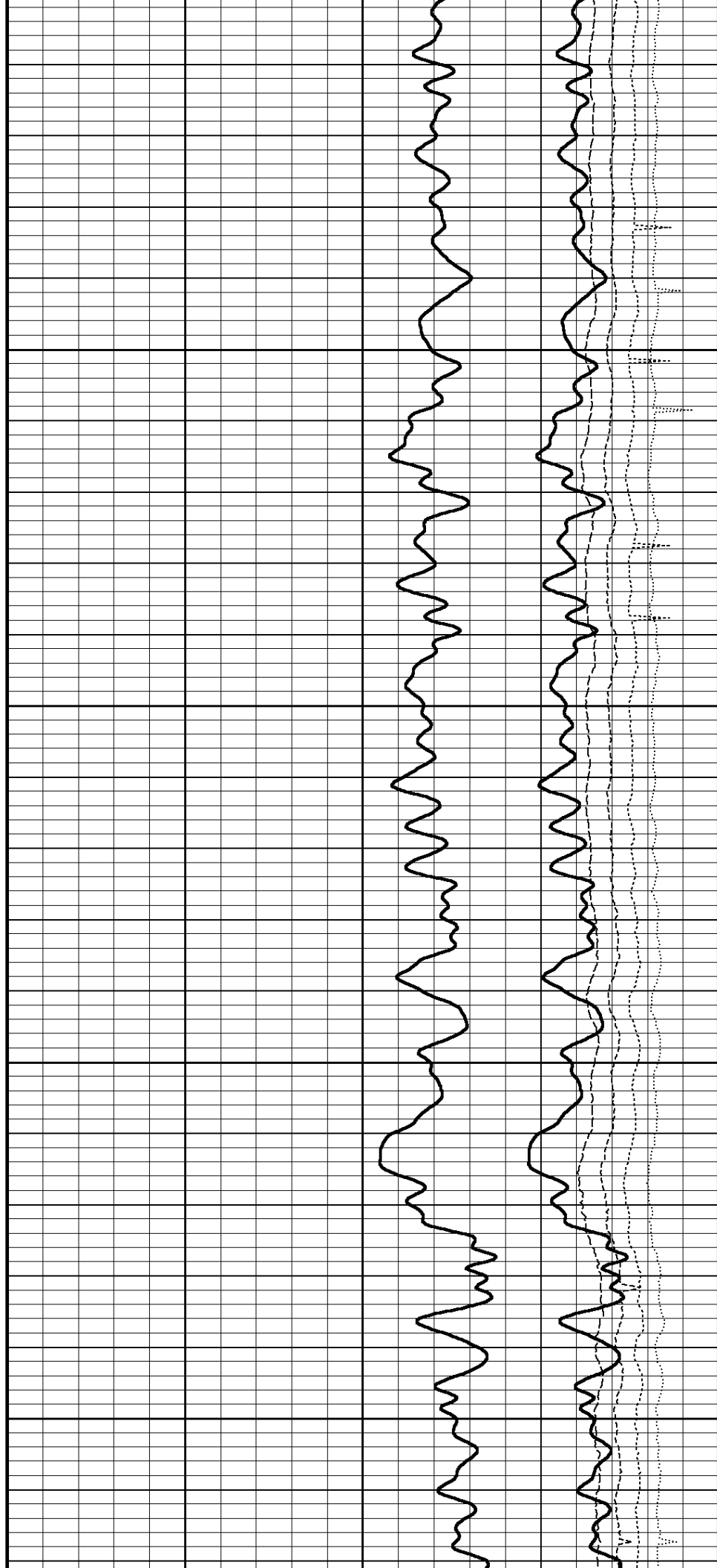
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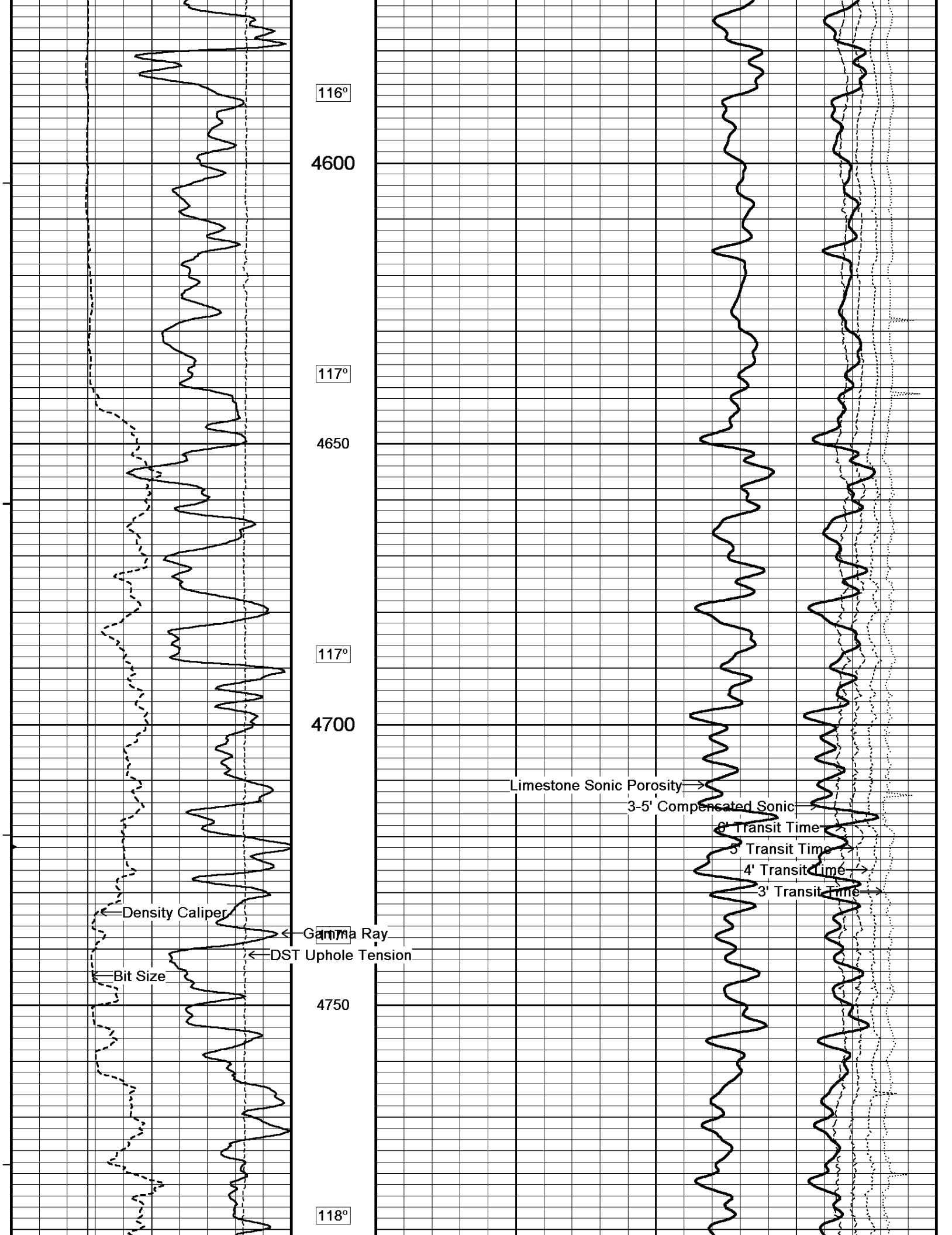
116°

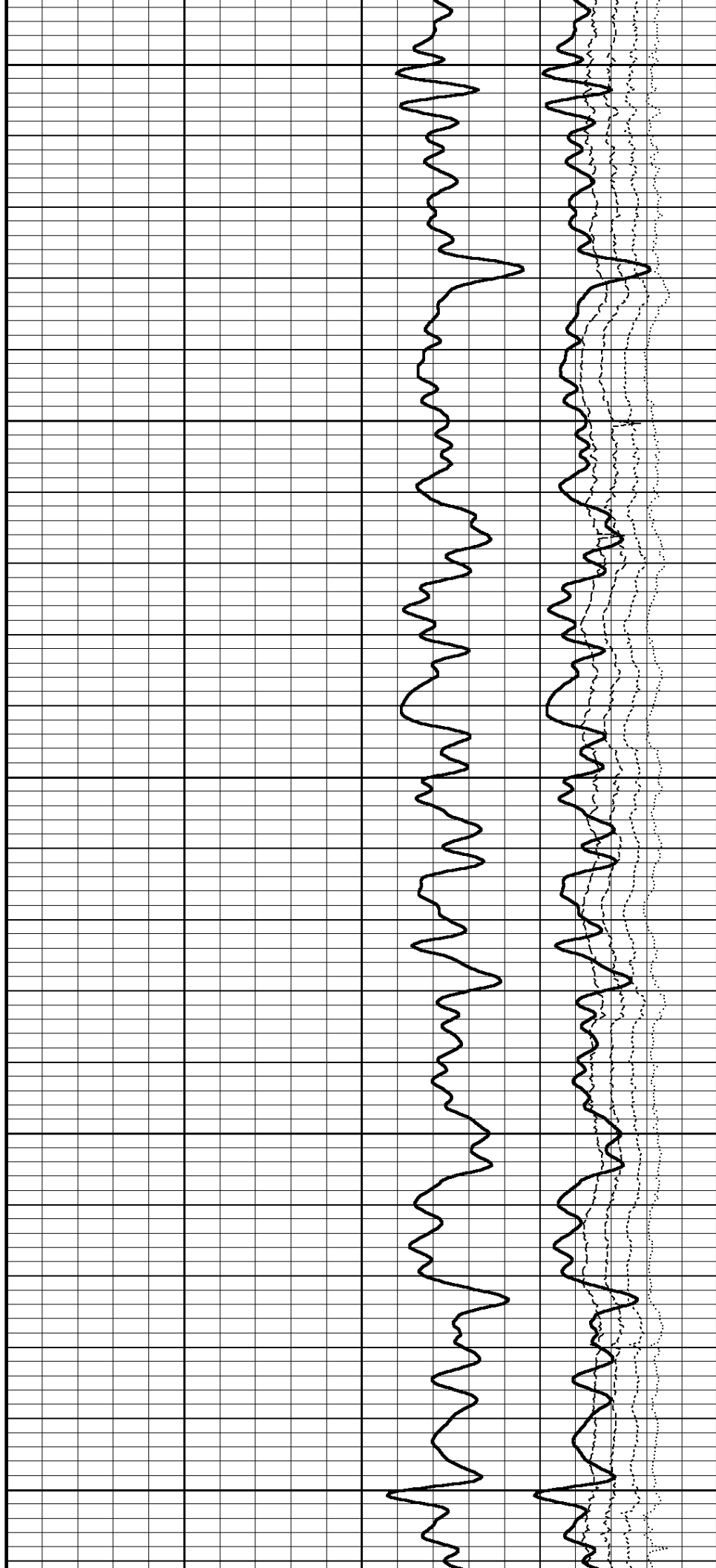
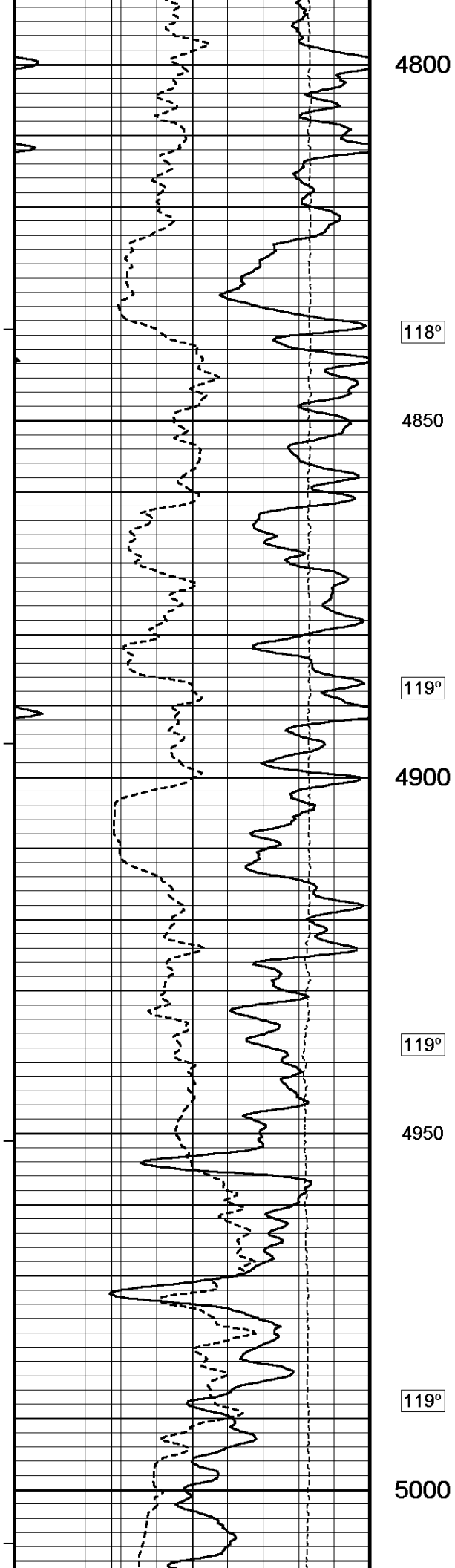
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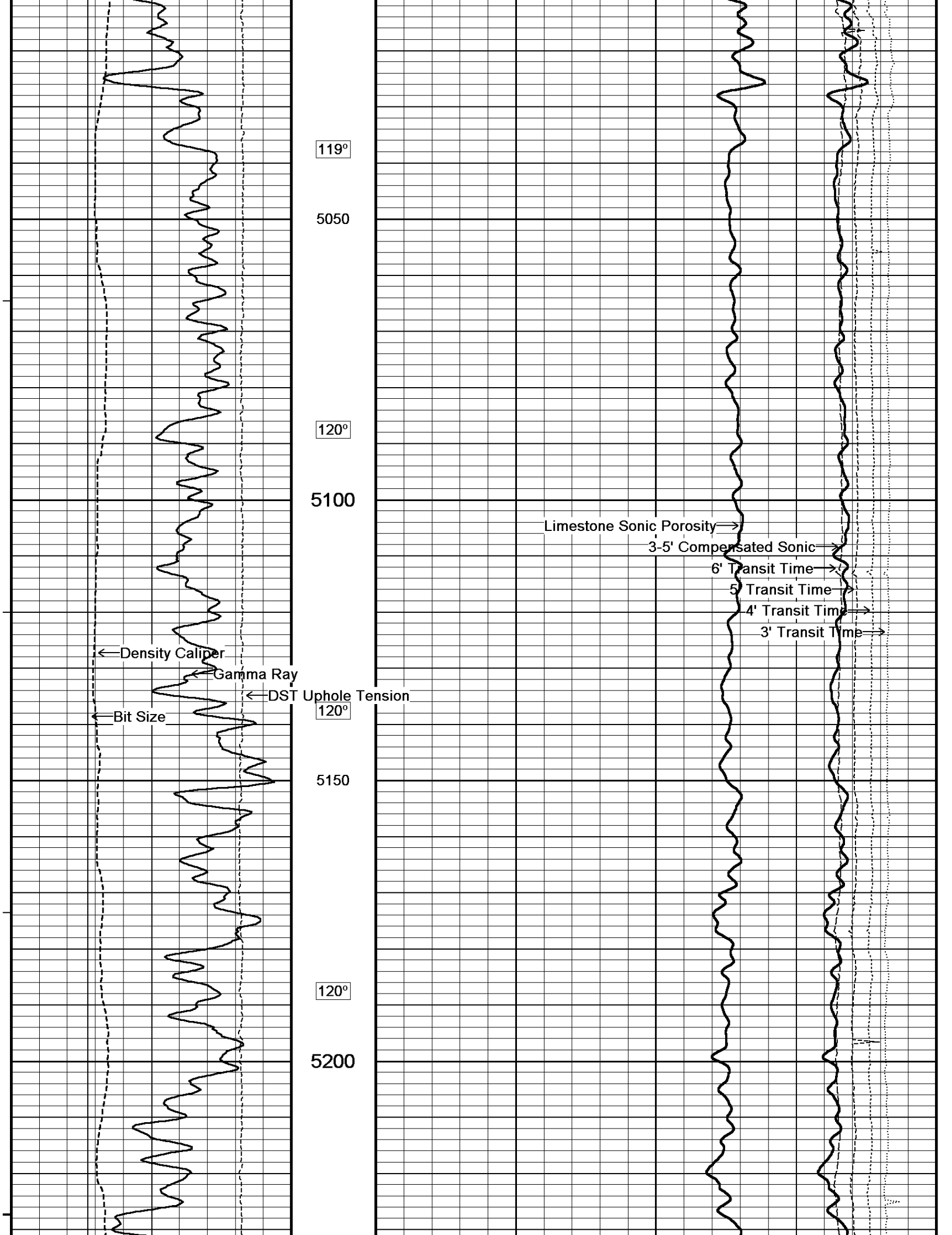
116°

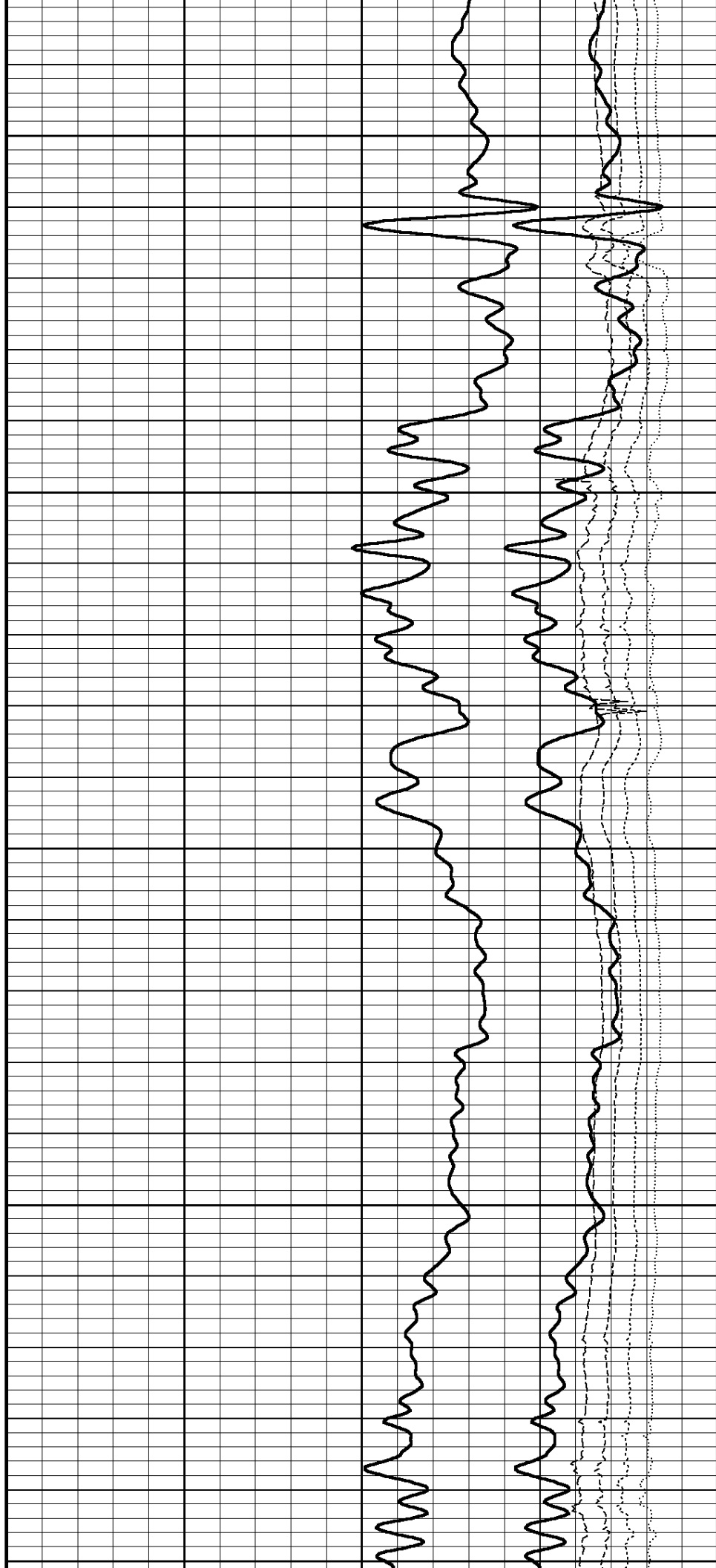
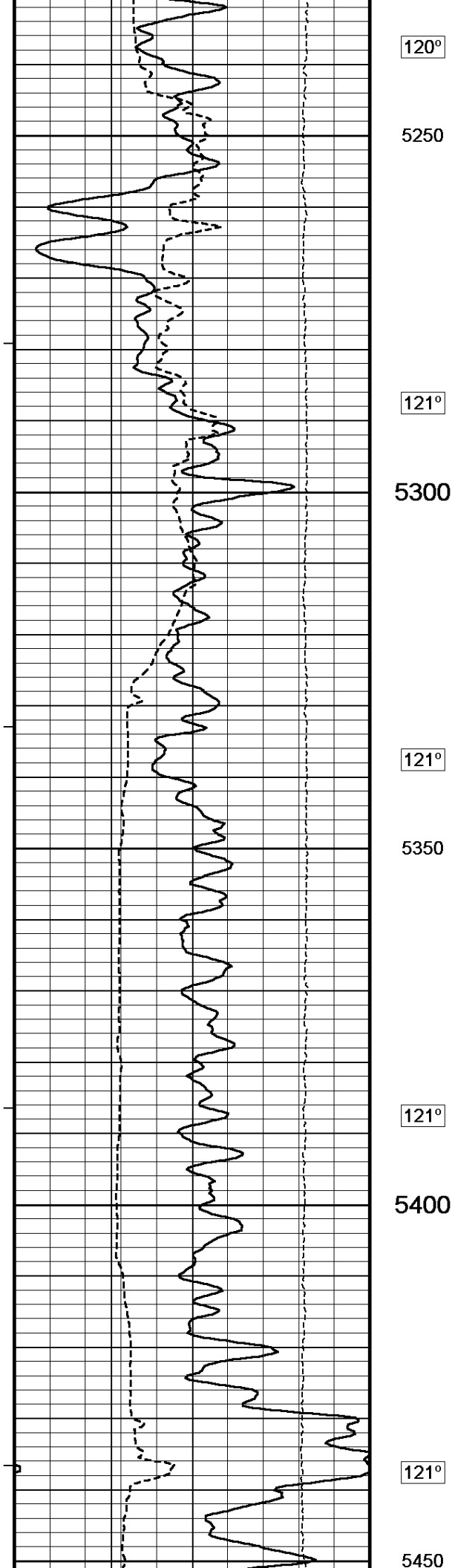
4550

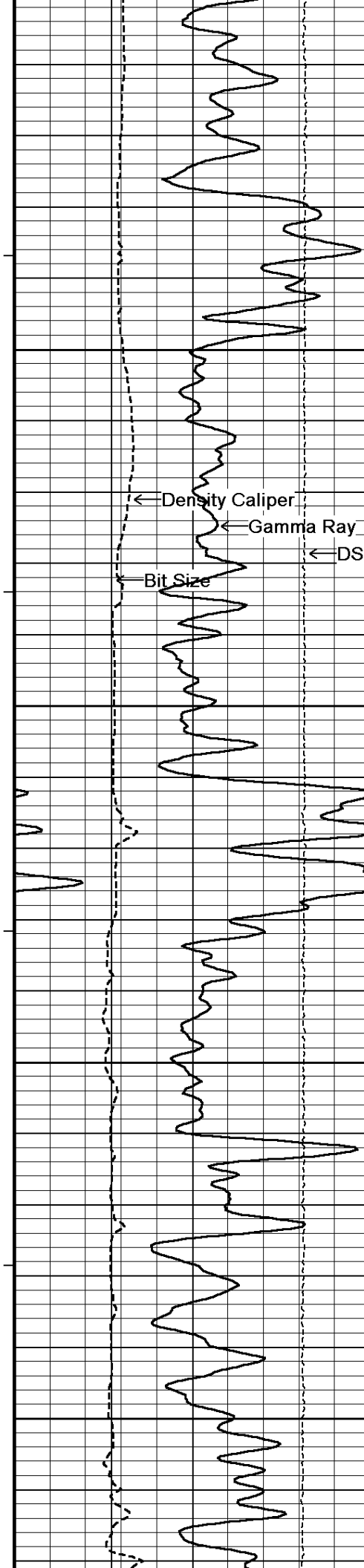












120°

5500

← Density Caliper

← Gamma Ray

← Bit Size

← DST Uphole Tension

120°

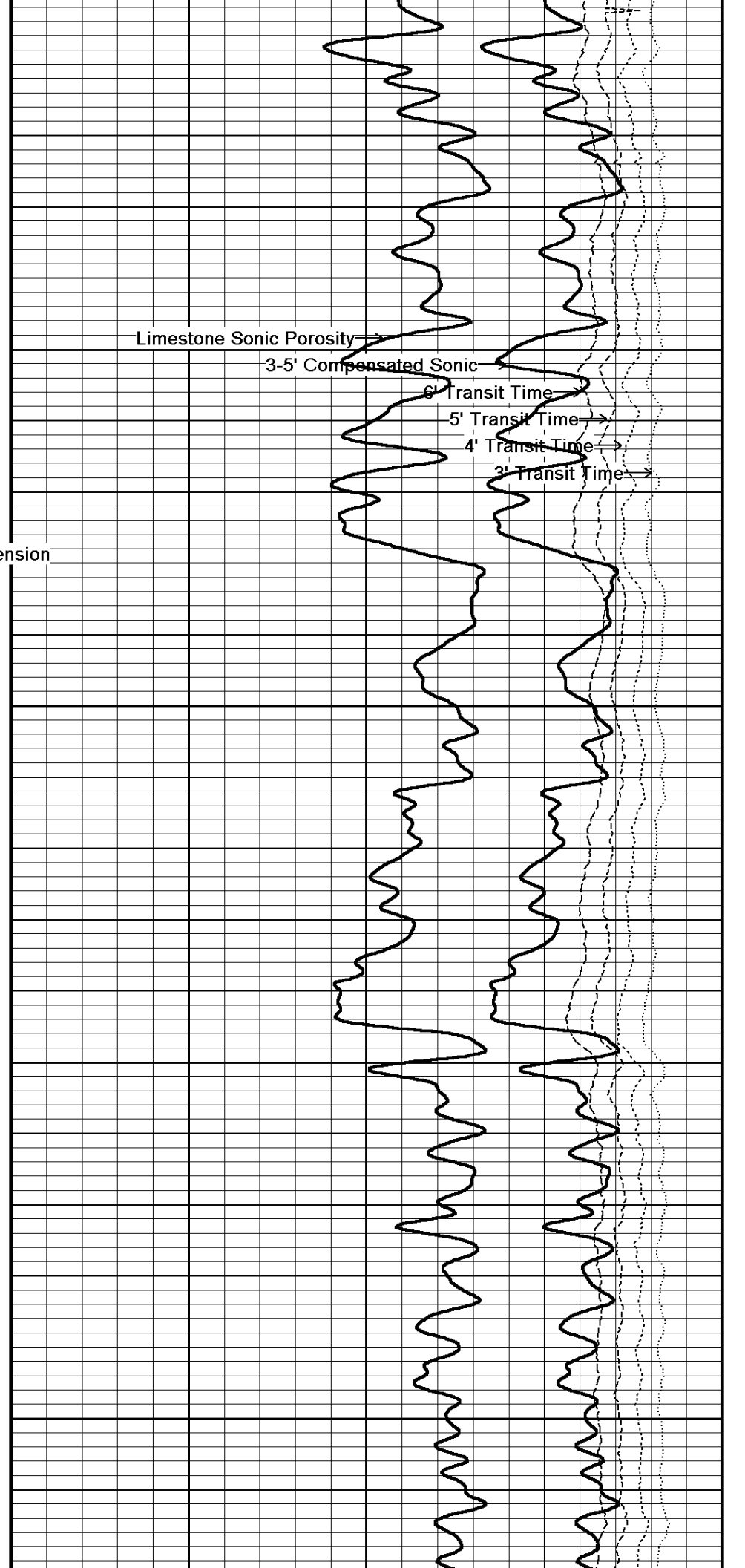
5550

120°

5600

121°

5650



→ Limestone Sonic Porosity

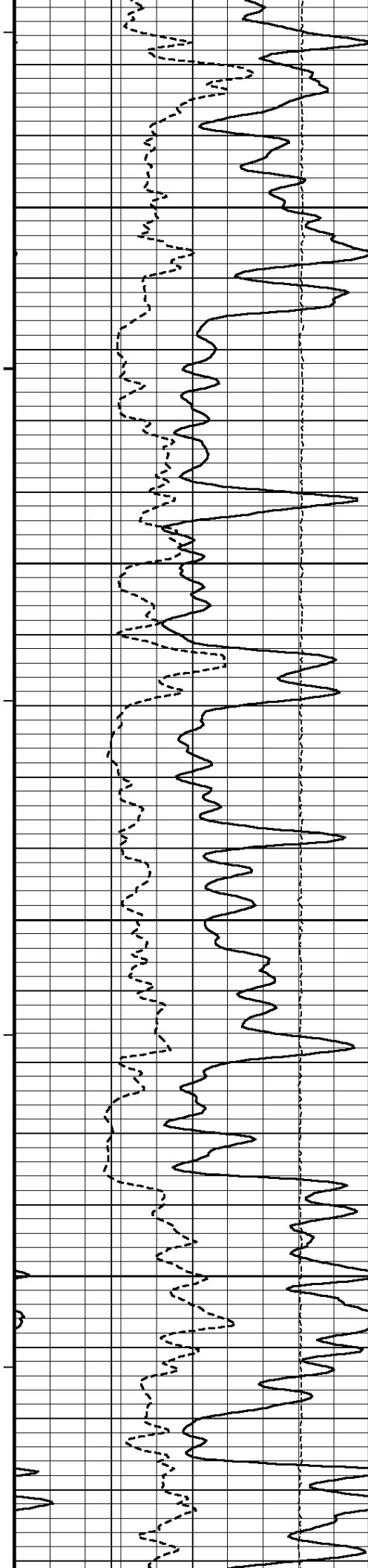
→ 3-5' Compensated Sonic

→ 6' Transit Time

→ 5' Transit Time

→ 4' Transit Time

→ 3' Transit Time



121°

5700

122°

5750

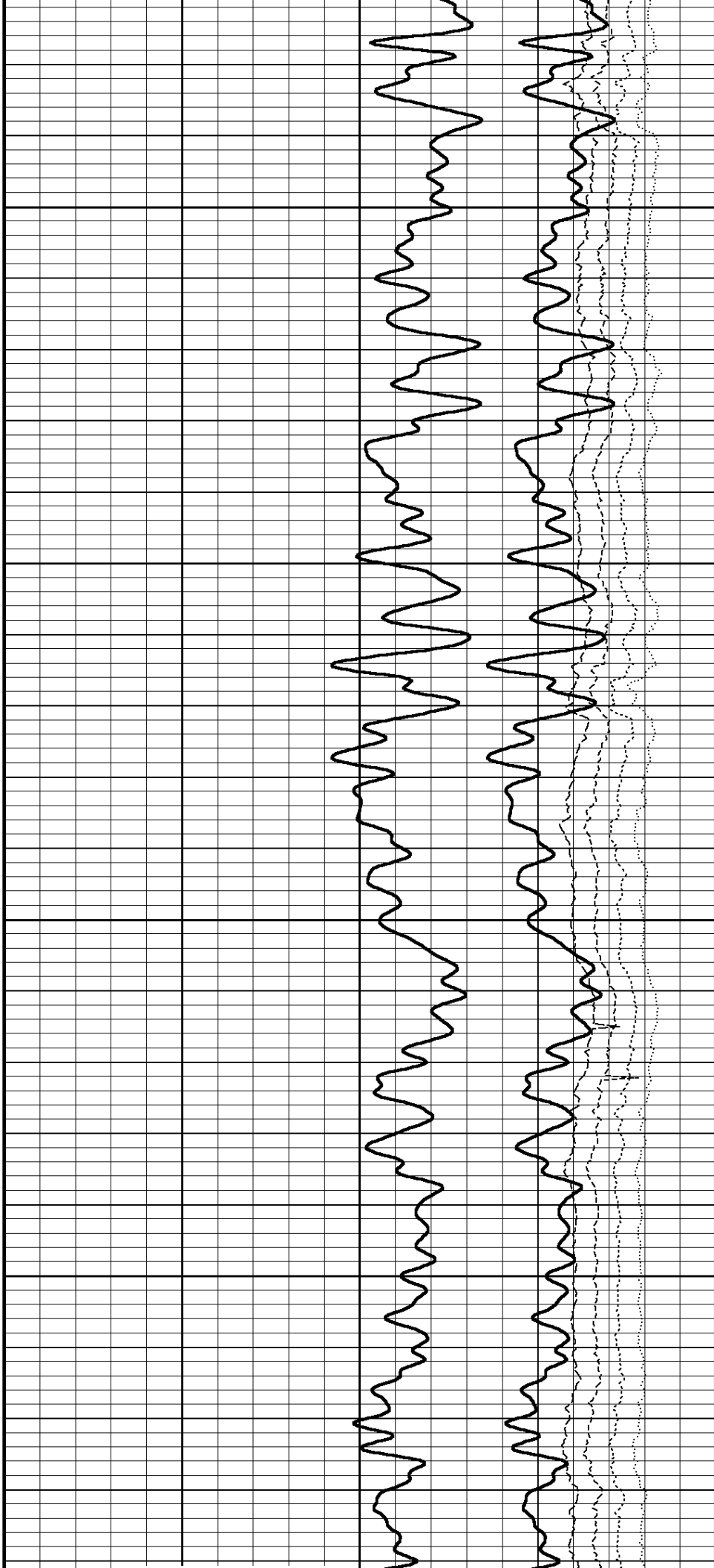
122°

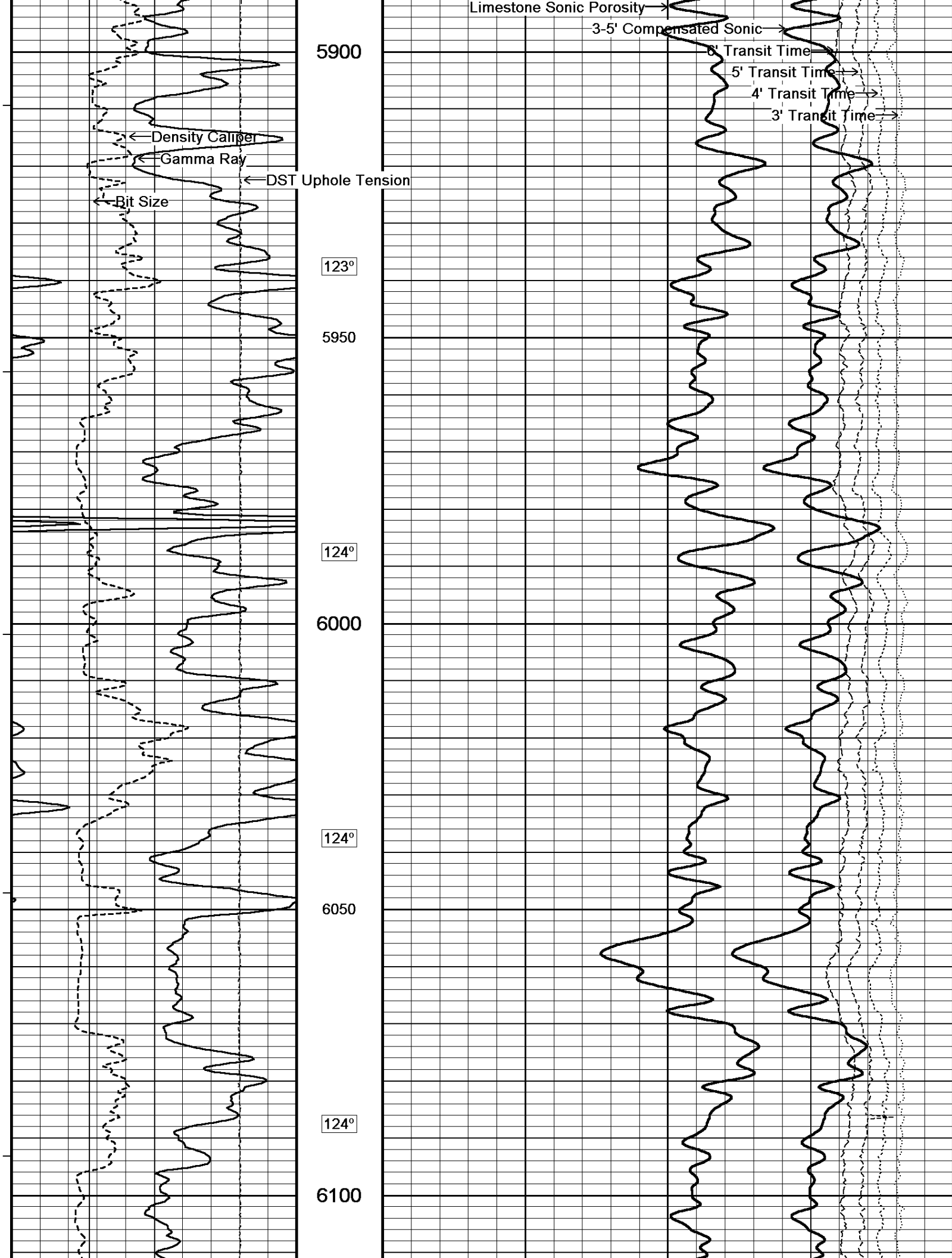
5800

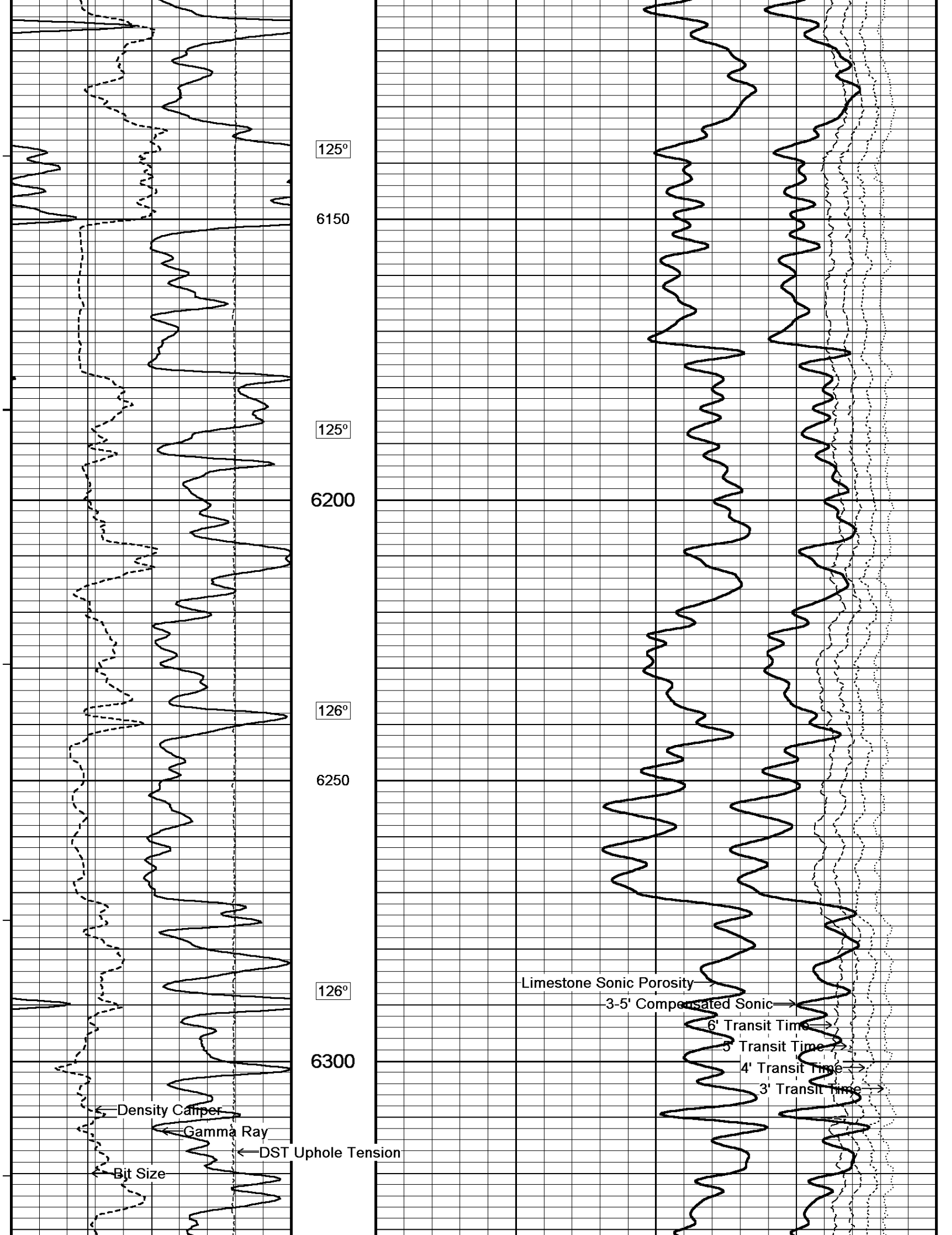
122°

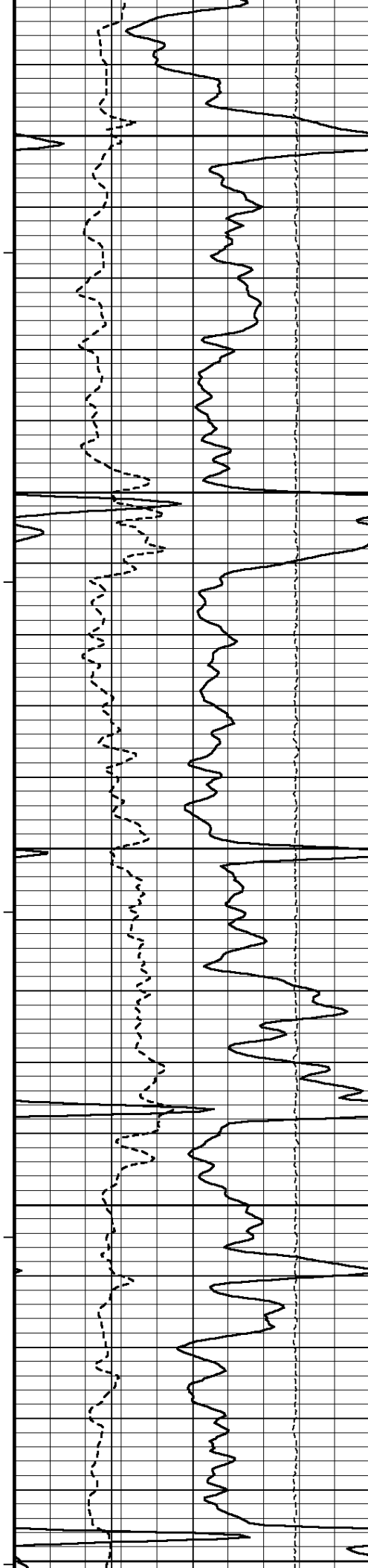
5850

123°









126°

6350

127°

6400

127°

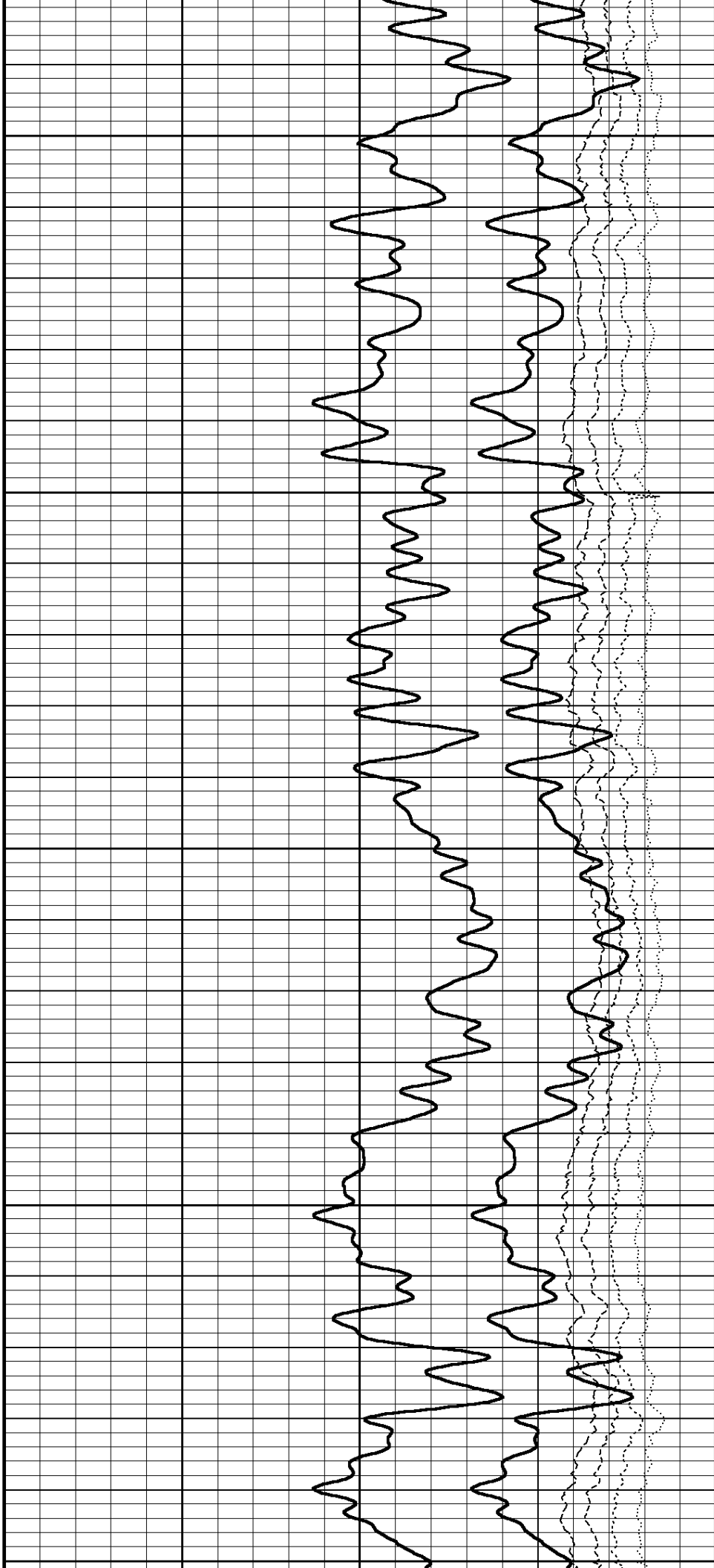
6450

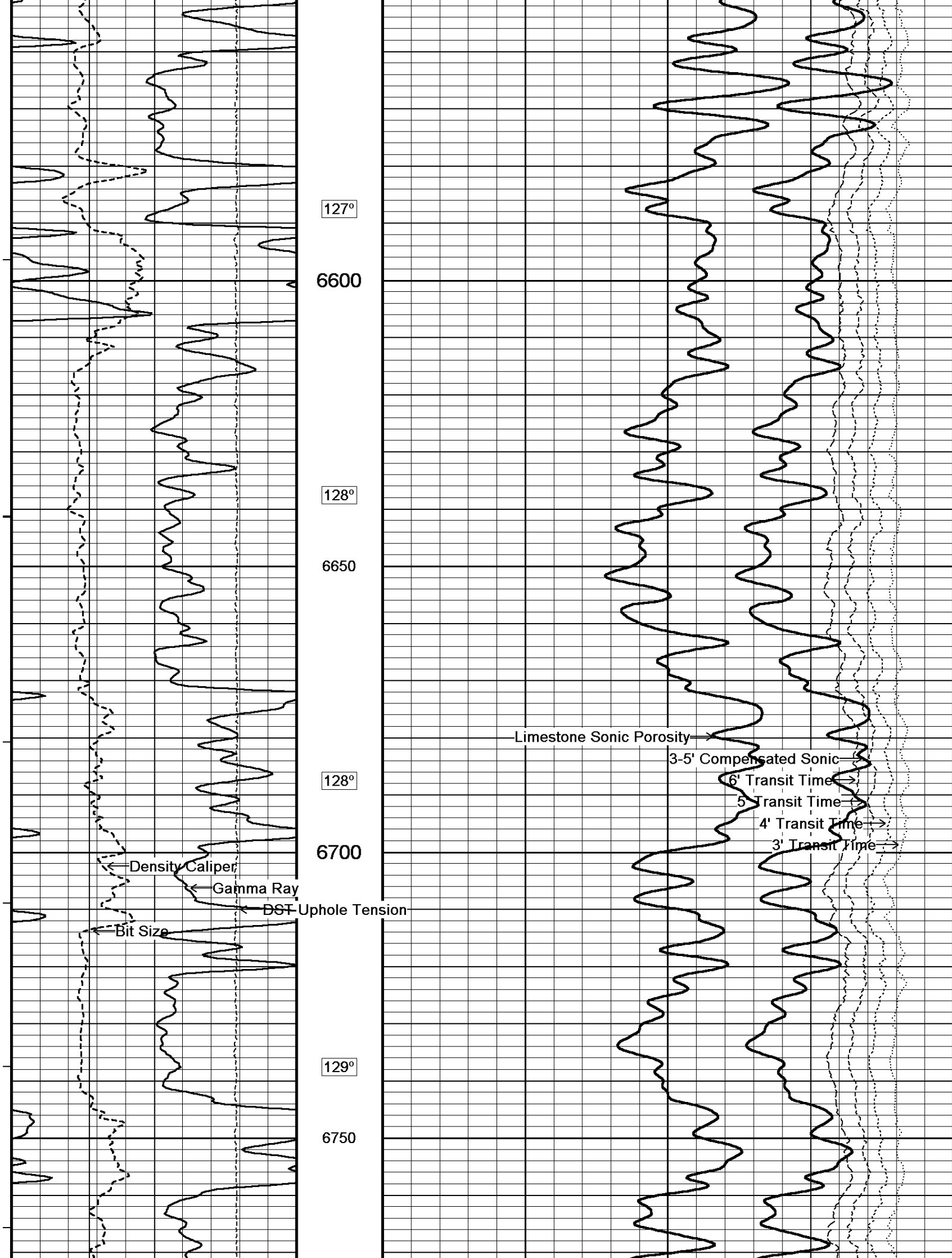
127°

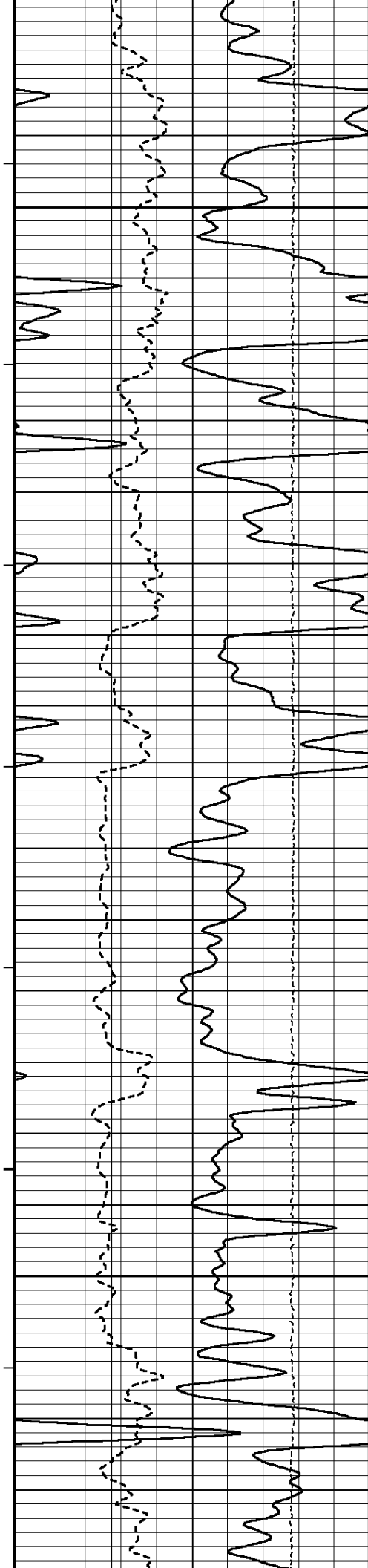
6500

127°

6550







129°

6800

129°

6850

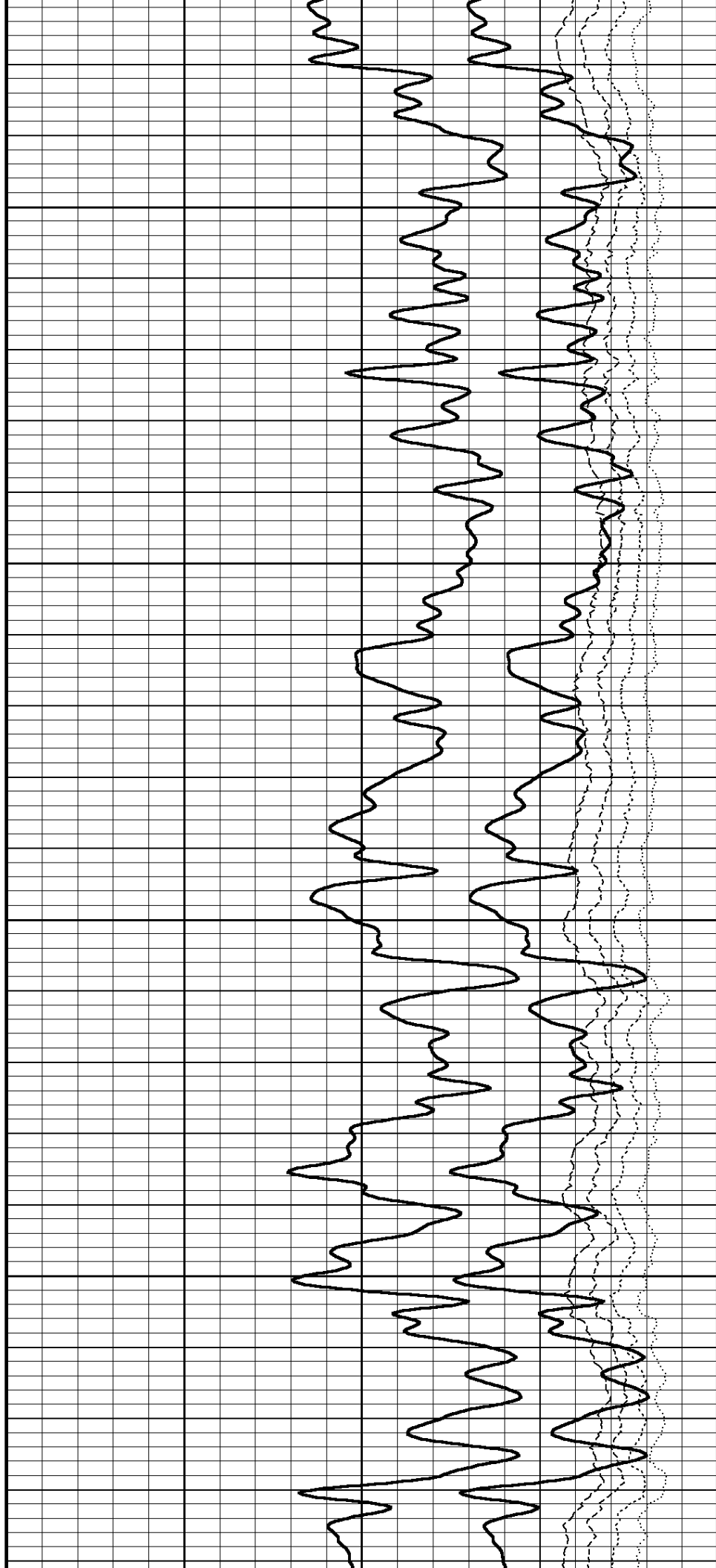
130°

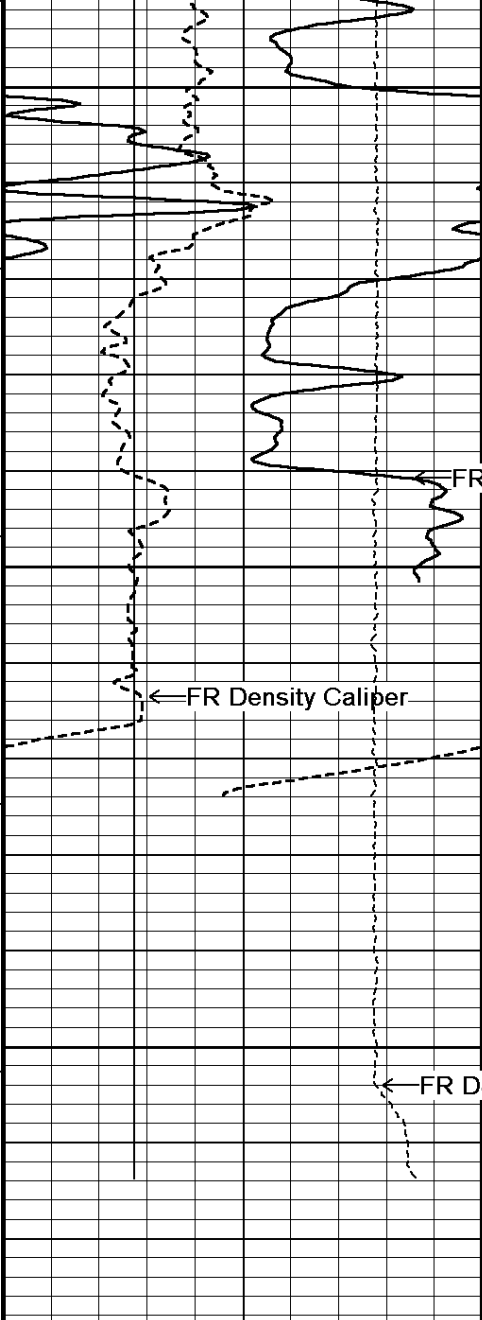
6900

129°

6950

130°





7000

129°

FR Gamma Ray

7050

FR Density Caliper

7100

FR DST Uphole Tension

7126

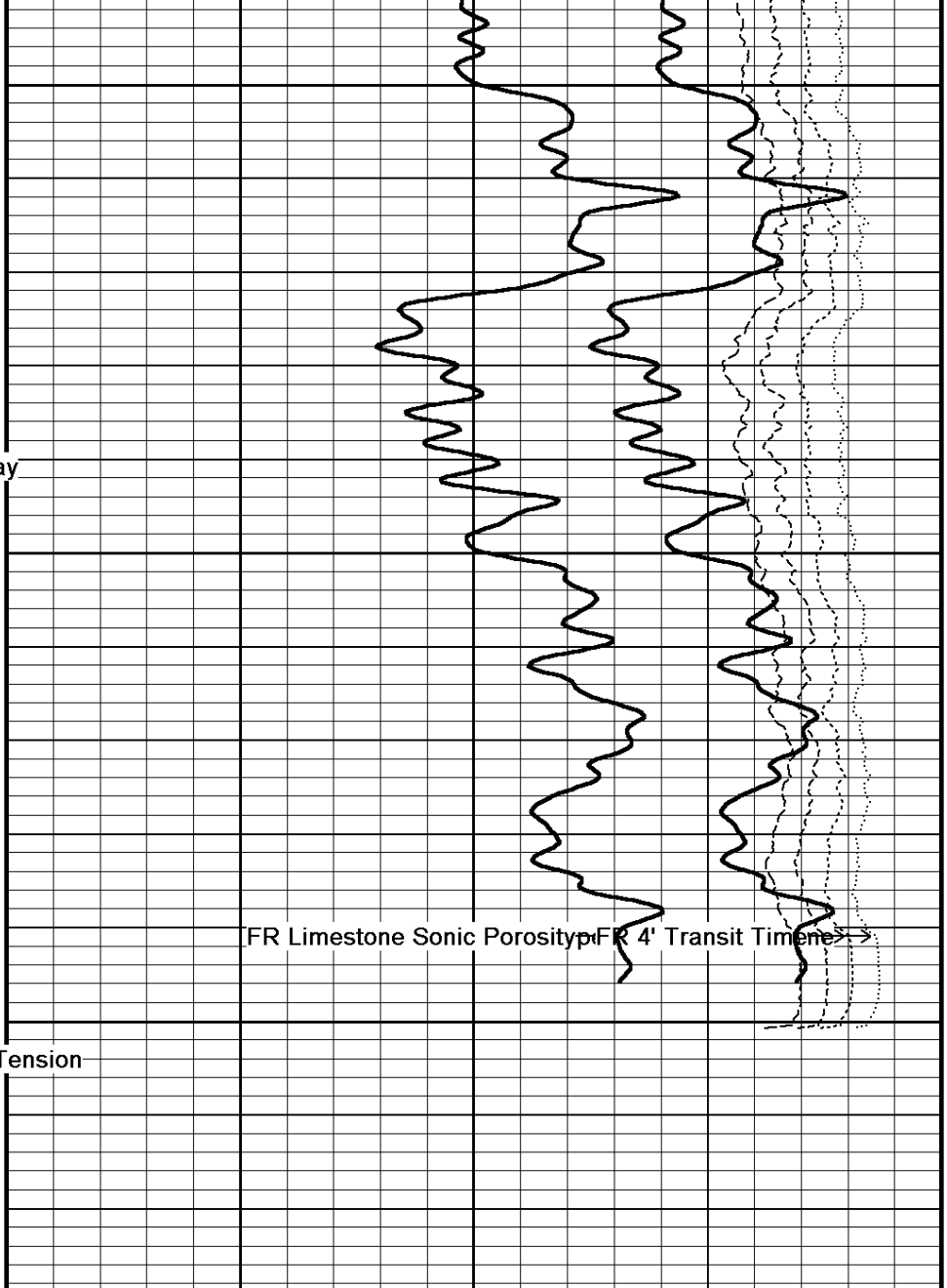
Depth
in
Feet

Timing Marks
every 60.0 sec

Bit Size
inches
6 11 16

DST Uphole Tension
pounds
10000 5000 0
0 -5000 -10000

Gamma Ray



FR Limestone Sonic Porosity

FR 4' Transit Time

3-5' Compensated Sonic
microsec/foot

Limestone Sonic Porosity
percent

3' Transit Time
microseconds

4' Transit Time
microseconds

140 115 90 65 40

45 30 15 0 -15

1100 600 100

1100 600 100

Borehole
Temp in
deg F

Gamma Constants MCG 247

Last Edited on 13-AUG-2010,12:52

Gamma Calibrator Number	GRCG-072	
Mud Density	1.00	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm

Neutron Calibration MDN 143

Base Calibration on 04-JUN-2010 16:46

Field Check on 19-AUG-2010,08:20

Base Calibration				
	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3016	94	3714	110
Ratio		32.095		33.764
Field Calibrator at Base			Calibrated (cps)	
			1428	2141
Ratio				0.667
Field Check			Calibrated (cps)	
			1382	2007
Ratio				0.689

Neutron Constants MDN 143

Last Edited on 19-AUG-2010,08:20

Neutron Source Id	734	
Neutron Jig Number	5922	
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	7.00	cu
Dolomite Sigma	4.70	cu
Formation Pressure Source	None	
Formation Pressure	N/A	kpsi
Temperature Source	Constant Value	
Temperature	20.00	degrees F
Mud Salinity	0.00	kppm
Formation Fluid Salinity Source	None	
Formation Fluid Salinity	N/A	kppm
Barite Mud Correction	Not Applied	

FE Calibration MFE 178

Base Calibration on 15-JUL-2010 10:54

Field Check on 19-AUG-2010 10:35

Base Calibration		
	Measured	Calibrated (ohm-m)
Reference 1	10.1	1.3
Reference 2	968.4	126.8
Base Check		281.0
Field Check		281.2

FE Constants MFE 178

Last Edited on 19-AUG-2010,08:21

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 096

Last Edited on 19-AUG-2010,08:21

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

Dolomite Transit Time	3-5' Compensated Sonic	45.50	micro-sec/ft
Sonic used for Porosities	Applied		
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)
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
Sonic 2 Despiker	N/A

High Resolution Temperature Calibration MAI 213

Field Calibration on 19-AUG-2010,08:21

	Measured	Calibrated(Deg F)
Lower	10.00	50.00
Upper	100.00	100.00

High Resolution Temperature Constants MAI 213

Last Edited on 29-JUL-2010,03:41

Pre-filter Length	11
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Induction Calibration MAI 213

Base Calibration on 01-JUL-2010,22:36
Field Check on 19-AUG-2010 10:37

Base Calibration					
Test Loop Calibration		Measured		Calibrated (mmho/m)	
Channel	Low	High	Low	High	
1	16.8	462.4	9.3	966.2	
2	6.2	381.7	7.6	821.4	
3	3.6	254.8	5.2	566.0	
4	2.3	132.3	2.6	279.2	

Array Temperature

73.6

Deg F

Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	0.0	0.0	14.8	3935.5
2	0.0	0.0	30.6	3539.3
3	0.0	0.0	29.2	3113.7
4	0.0	0.0	19.2	2096.5
Deep	0.0	0.0	17.6	2078.2
Medium	0.0	0.0	42.9	4087.5
Shallow	0.0	0.0	45.9	5158.2

Array Temperature

0.0

77.5

Deg F

Induction Constants MAI 213

Last Edited on 19-AUG-2010,08:21

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	6.0000		
Stand-off Fin Angle	60.00	degrees	
Stand-off Fin Width	0.5000	inches	
Borehole Corr. Rm Source	Constant Value		
Temp. for Rm Corr.	N/A		
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 296

Base Calibration on 16-JUL-2010 10:35

Field Calibration on 19-AUG-2010,08:20

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	17267	4.00
2	25312	5.96
3	33397	7.98
4	41456	9.86
5	50656	11.88
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.98	7.98

Photo Density Calibration MPD 296

Base Calibration on 16-JUL-2010 10:20

Field Check on 19-AUG-2010 10:34

Density Calibration		Measured		Calibrated (sdu)	
Base Calibration		Near	Far	Near	Far
Reference 1		45248	17783	53115	19186
Reference 2		21507	2662	25020	2536
Field Check at Base					
		1173.6	1410.4		
Field Check					
		1165.8	1403.9		

PE Calibration					
Base Calibration		Measured			Calibrated
	WS	WH	Ratio		Ratio
Background	214	1029			
Reference 1	12501	45063	0.279		0.320
Reference 2	5235	21356	0.247		0.272
Field Check at Base					
	214.0	1029.1			
Field Check					
	211.7	1026.4			

Density Constants MPD 296

Last Edited on 19-AUG-2010,08:18

Density Source Id	238
Nylon Calibrator Number	507
Aluminium Calibrator Number	507
Density Shoe Profile	8 inch
Caliper Source for Processing	Density Caliper
PE Correction to Density	Not Applied
Mud Density	1.08 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

Spectral Gamma Calibration SGS 010

Base Calibration on 16-JUN-2010 10:33

Field Calibration on 19-AUG-2010,08:19

Base Calibration					
Potassium Calibrator					
	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	102.2	37.2	4.2	2.2	4.4
Calibrator (Gross)	228.2	123.3	29.1	2.1	4.1
Calibrator (Net)	125.9	86.1	25.0	-0.1	-0.3
Concentrations					
	K %	U ppm	Th ppm		
	4.4	-0.7	3.0		
Uranium Calibrator					
	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	102.2	37.2	4.2	2.2	4.4
Calibrator (Gross)	489.9	179.2	16.2	11.7	7.2
Calibrator (Net)	387.7	142.0	12.0	9.6	2.8
Concentrations					
	K %	U ppm	Th ppm		
	1.0	10.7	2.8		

Thorium Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	102.2	37.2	4.2	2.2	4.4
Calibrator (Gross)	419.4	159.8	12.4	7.6	19.3
Calibrator (Net)	317.1	122.6	8.2	5.5	14.9

	K %	U ppm	Th ppm
Concentrations	0.6	-2.3	31.5

Mixture Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	102.2	37.2	4.2	2.2	4.4
Calibrator (Gross)	907.0	376.8	49.4	16.2	21.6
Calibrator (Net)	804.8	339.6	45.2	14.0	17.3

Field Calibration

Gamma Ray

	Measured	Calibrated (API)
Background	160	29
Calibrator (Gross)	1381	254
Calibrator (Net)	1221	225

Mixture Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	102.2	37.2	4.2	2.2	4.4
Calibrator (Gross)	907.0	376.8	49.4	16.2	21.6
Calibrator (Net)	804.8	339.6	45.2	14.0	17.3

Spectral Gamma Constants SGS 010

Last Edited on 06-AUG-2010,05:07

Mud Density	1.00	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm

DOWNHOLE EQUIPMENT

C:\Minimus\Logs\Patara\Andy's Mesa Federal #76\SETUP.dta

SHA-J.A Compact Swivel Head Adaptor
SHA 214 Length: 2.30 ft Weight: 22.0 lb

Compact Gamma
MCG 247 Length: 8.70 ft Weight: 63.9 lb

Spectral Gamma Ray Sub
SGS 10 Length: 7.78 ft Weight: 105.8 lb

Compact Neutron
MDN 143 Length: 5.04 ft Weight: 50.7 lb

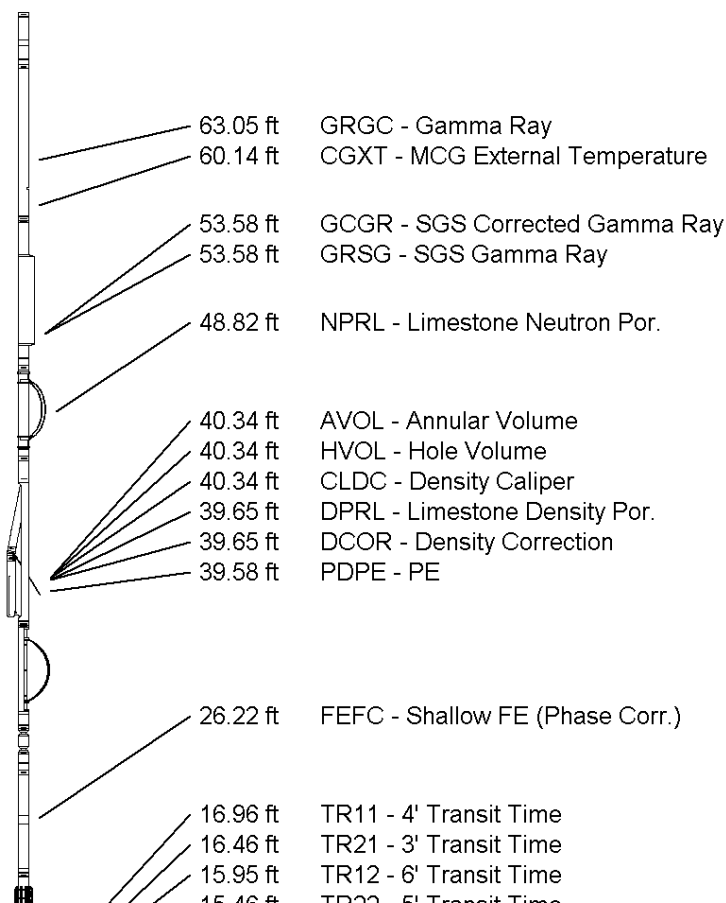
Compact Density/Caliper
MPD 296 Length: 9.59 ft Weight: 90.4 lb

MIS-D.A Compact Inline Bowspring sub
MIS 442 Length: 5.70 ft Weight: 33.1 lb

SKJ-D.A Compact Knuckle Joint
SKJ 172 Length: 2.17 ft Weight: 24.3 lb

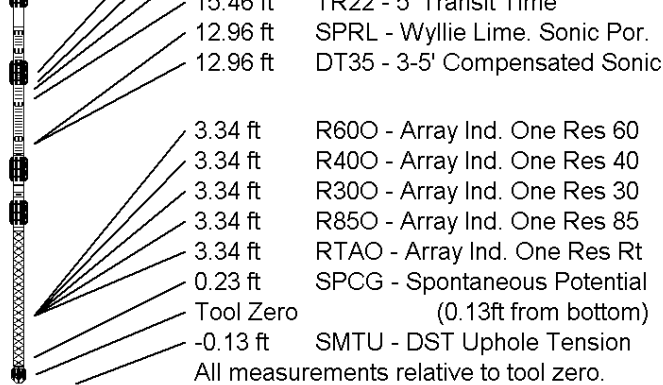
Compact Focussed Electric
MFE 178 Length: 6.03 ft Weight: 48.5 lb

Compact Sonic
MSS 96 Length: 12.52 ft Weight: 72.8 lb



Compact Induction
 MAI 213 Length: 10.81 ft Weight: 48.5 lb

Total Length: 70.63 ft Weight: 560.0 lb



COMPANY PATARA OIL & GAS LLC
 WELL ANDY'S MESA FEDERAL #76
 FIELD ANDY'S MESA
 PROVINCE/COUNTY SAN MIGUEL
 COUNTRY/STATE U.S.A. / COLORADO

Elevation Kelly Bushing	6434.00	feet	First Reading	7088.00	feet
Elevation Drill Floor	6433.00	feet	Depth Driller	7118.00	feet
Elevation Ground Level	6417.00	feet	Depth Logger	7104.00	feet



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