Weatherford®

COMPENSATED SONIC WITH INTEGRATED TRANSIT TIME

COMPANY	SHAKESPEARE OIL CO., INC.
WELL	B4US #1-32
FIELD	WILDCAT
PROVINCE/COUNTY	SCOTT
COUNTRY/STATE	U.S.A. / KANSAS
LOCATION	335' FNL & 1440' FWL

SEC	TWP	RGE	Other Services
32	17S	33W	MPD/MDN MAI/MFE MML

Latitude
Longitude
API Number 15-171-21051

Permanent Datum GL, Elevation 3056 feet
Log Measured From KB
Drilling Measured From KB

Elevations:	feet
KB	3066.00
DF	3064.00
GL	3056.00

Date	10-MAY-2014		
Run Number	ONE		
Service Order	4558-86926003		
Depth Driller	4845.00	feet	
Depth Logger	4842.00	feet	
First Reading	4829.00	feet	
Last Reading	266.00	feet	
Casing Driller	270.00	feet	
Casing Logger	266.00	feet	
Bit Size	7.875	inches	
Hole Fluid Type	CHEMICAL		
Density / Viscosity	9.30 lb/USg	54.00 CP	
PH / Fluid Loss	10.50	8.00 ml/30Min	
Sample Source	FLOWLINE		
Rm @ Measured Temp	0.37 @ 93.0	ohm-m	
Rmf @ Measured Temp	0.30 @ 93.0	ohm-m	
Rmc @ Measured Temp	0.44 @ 93.0	ohm-m	
Source Rmf / Rmc	CALC	CALC	
Rm @ BHT	0.30 @115.0	ohm-m	
Time Since Circulation	4 HOURS		
Max Recorded Temp	115.00	deg F	
Equipment / Base	13244	LIB	
Recorded By	ADAM SILL		
Witnessed By	TIM PRIEST		
JOB #	LB14-140		

BOREHOLE RECORD

Last Edited: 10-MAY-2014 18:38

Bit Size inches	Depth From feet	Depth To feet
7.875	270.00	4845.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	270.00	24.00

REMARKS

- SOFTWARE ISSUE: WLS 13.08.2113.

- 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: 2321 CU.FT.

- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO 3800 FEET: 227 CU.FT.

- RIG: H-D DRILLING #2.

- ENGINEER: A. SILL.

- OPERATOR: J. LaPOINT.

5 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 11-MAY-2014 00:15

Filename: C:\Minimus 13.08.2113\Logs\Shakespeare B4US #1-32\Shakespeare B4US #1-32_002.dta — Recorded on 10-MAY-2014 21:00

System Versions: Logged with 13.08.2113 Plotted with 13.08.2113

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150
150 225 300

Density Caliper
inches
6 11 16

Bit Size
inches
6 11 16

DST Uphole Tension
pounds
5000 0

Depth in Feet

Borehole Temp in deg F

Replay Scale 1:240

254

Casing Shoe

3-5' Compensated Sonic
microsec/foot
140 115 90 65 40

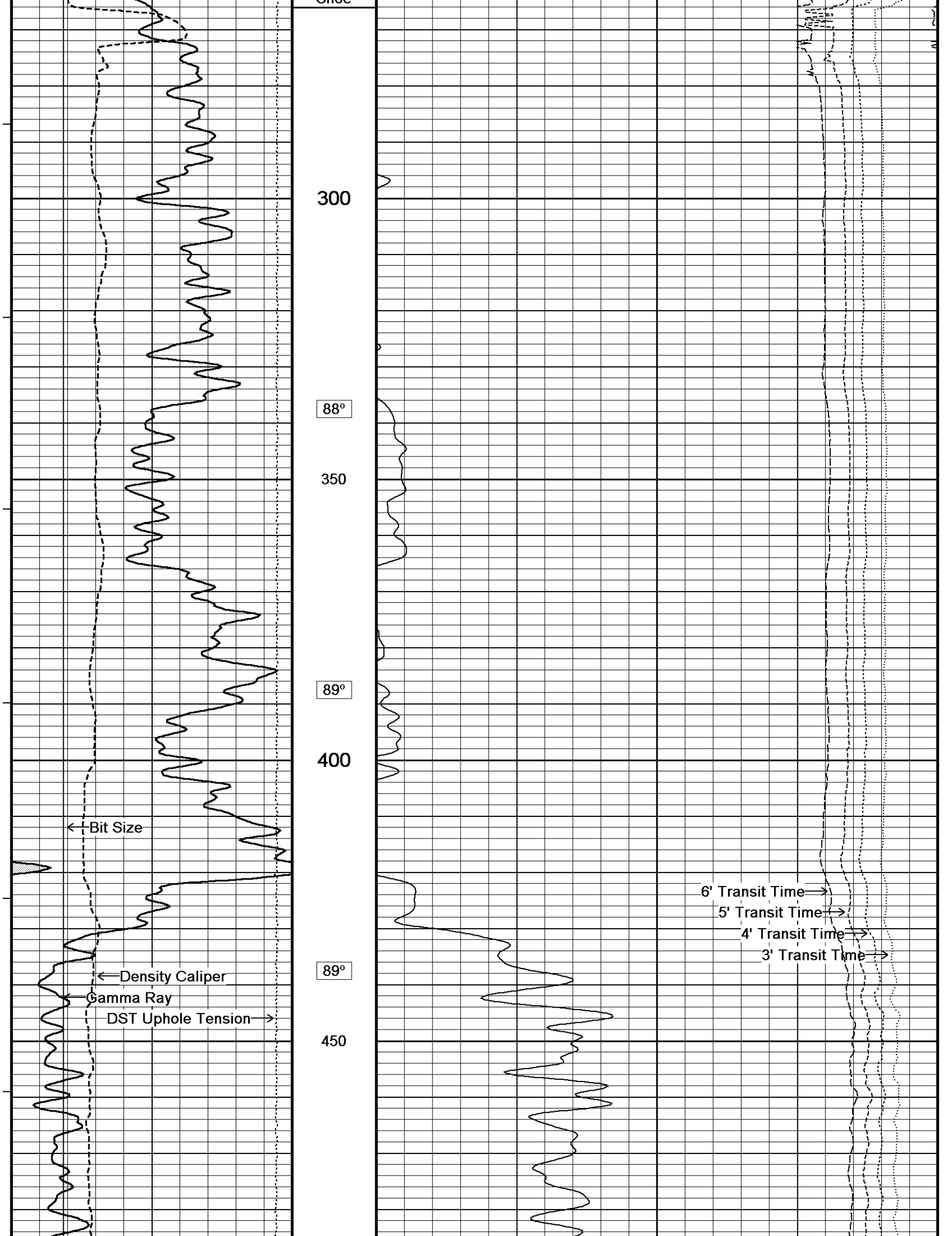
Wyllie Lime. Sonic Por.
percent
30 20 10 0 -10

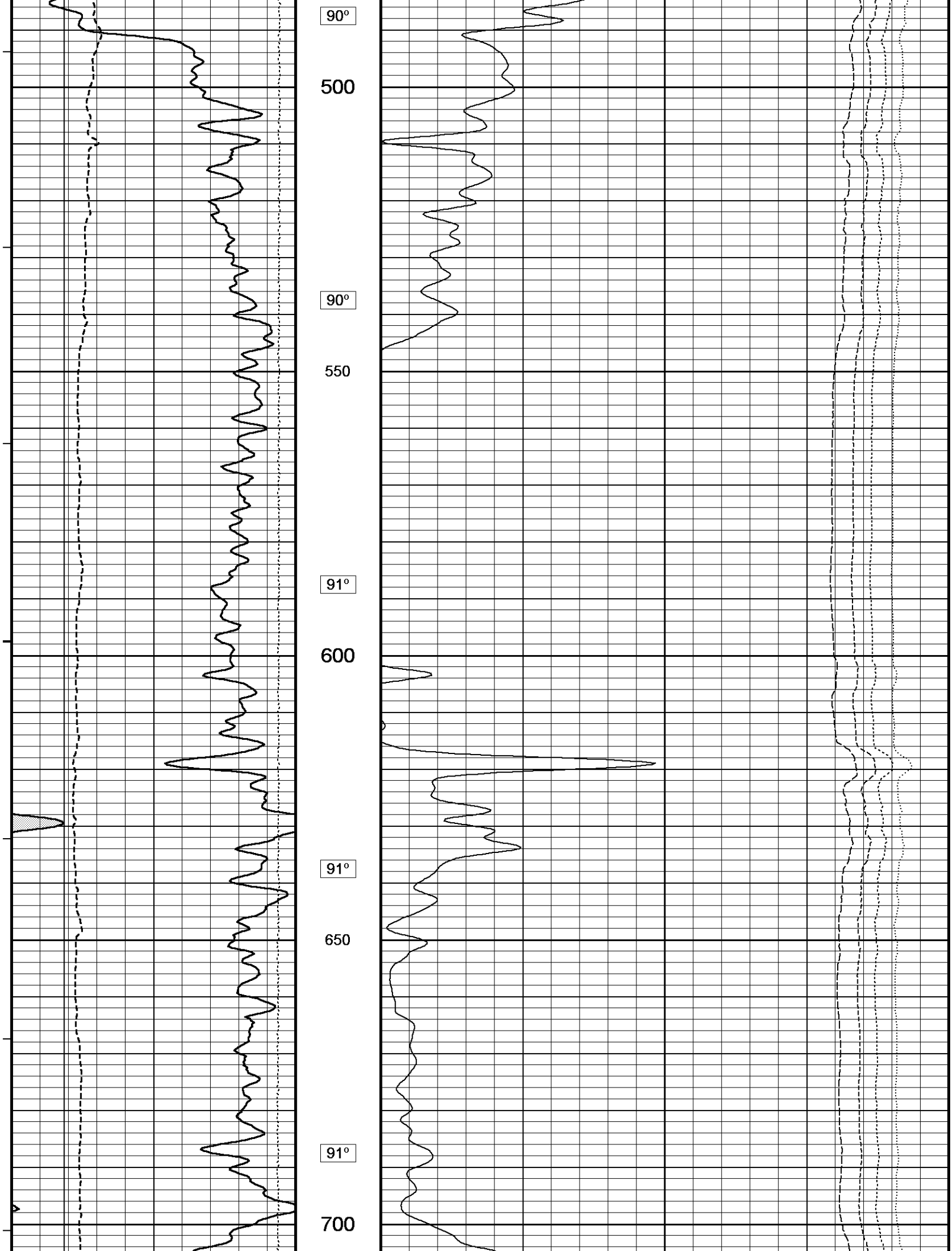
3' Transit Time
microseconds
1100 100

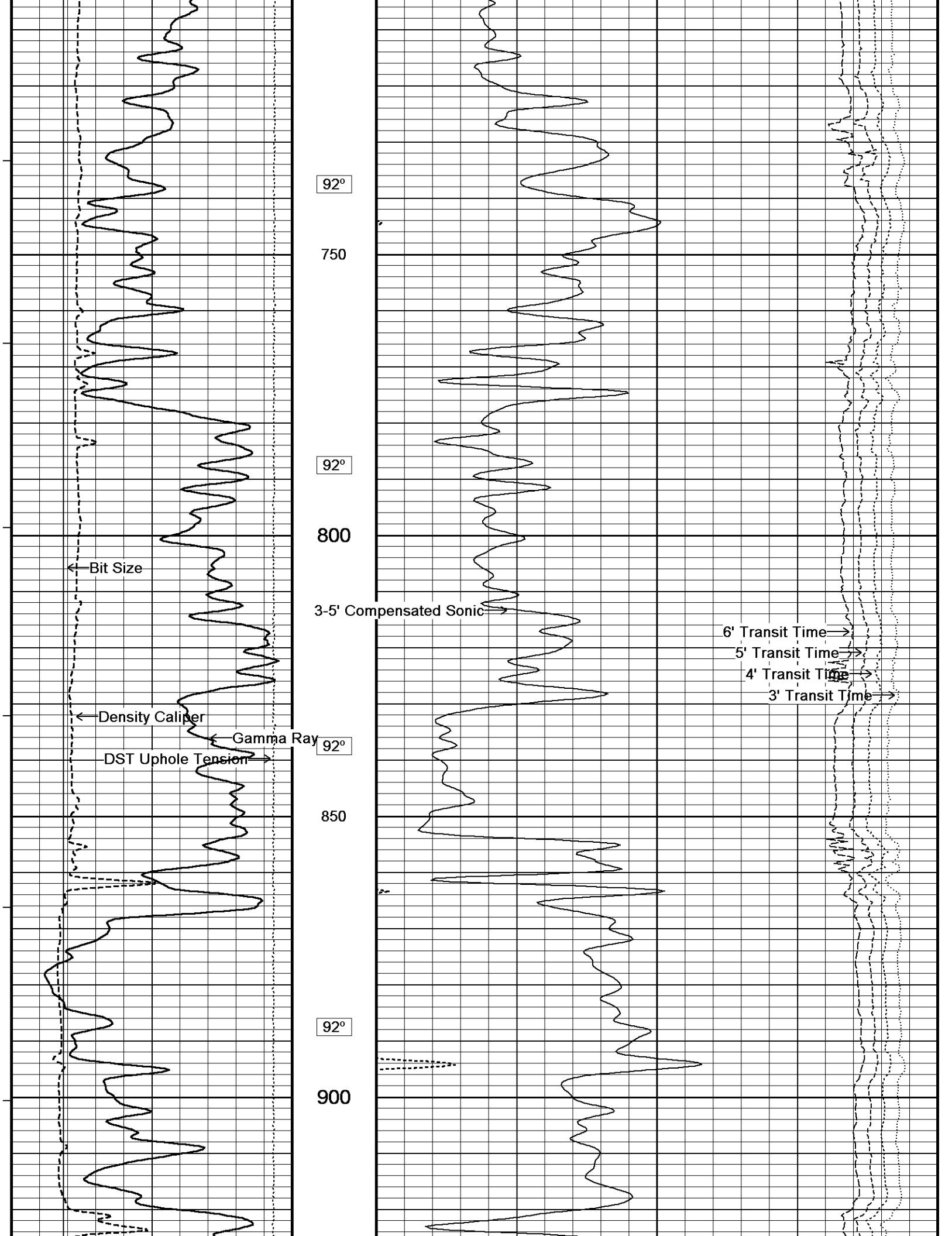
4' Transit Time
microseconds
1100 100

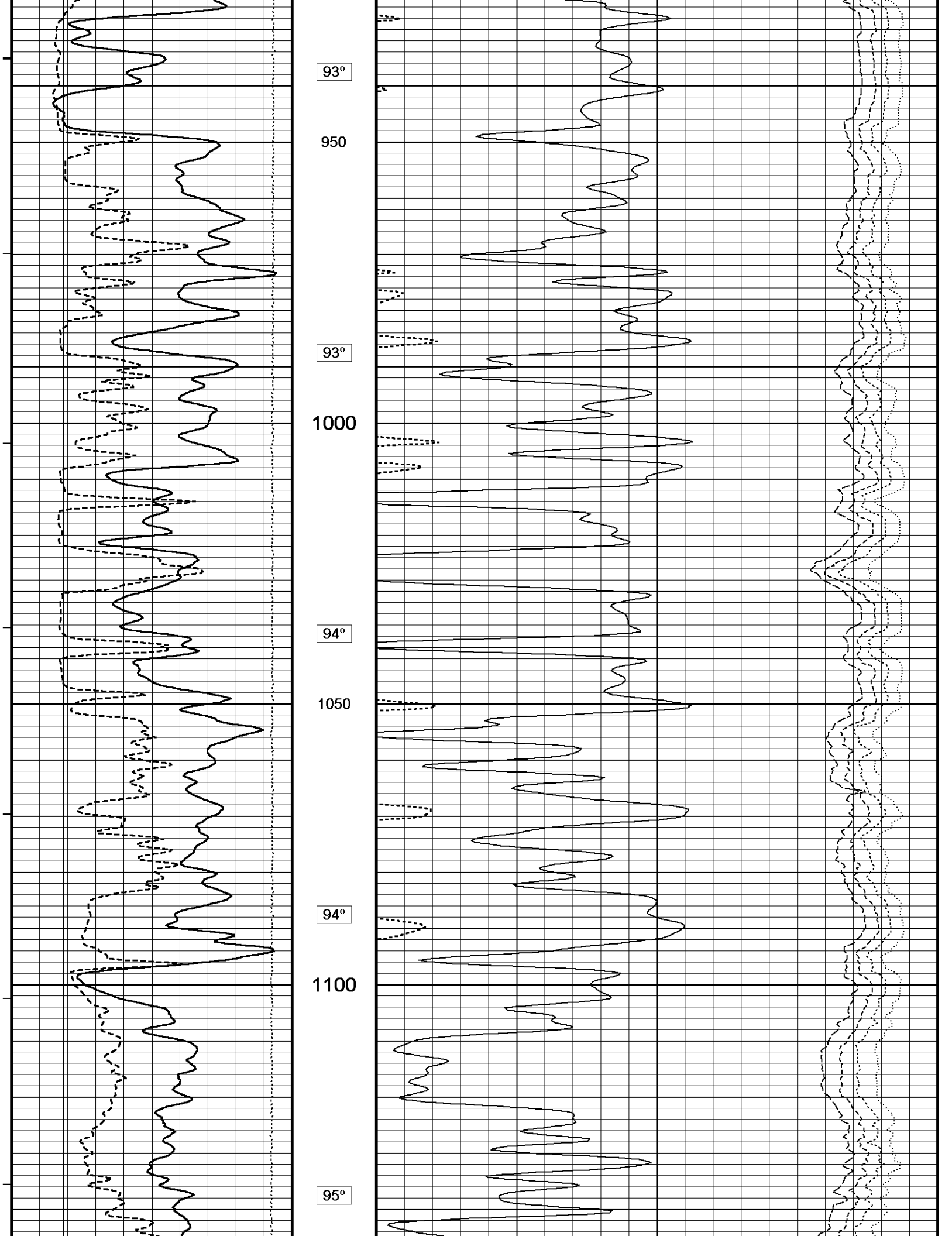
5' Transit Time
microseconds
1100 100

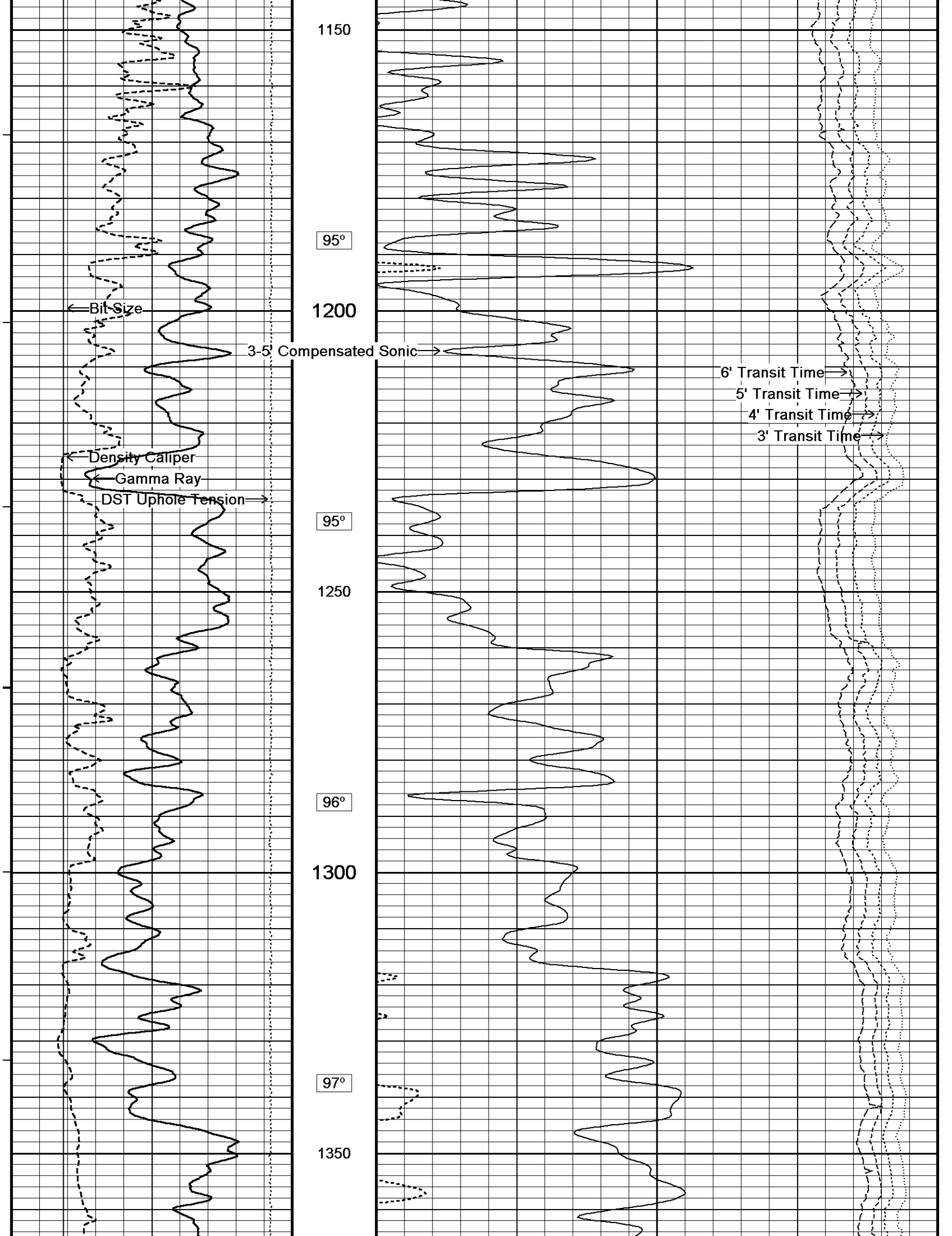
6' Transit Time
microseconds
1100 100

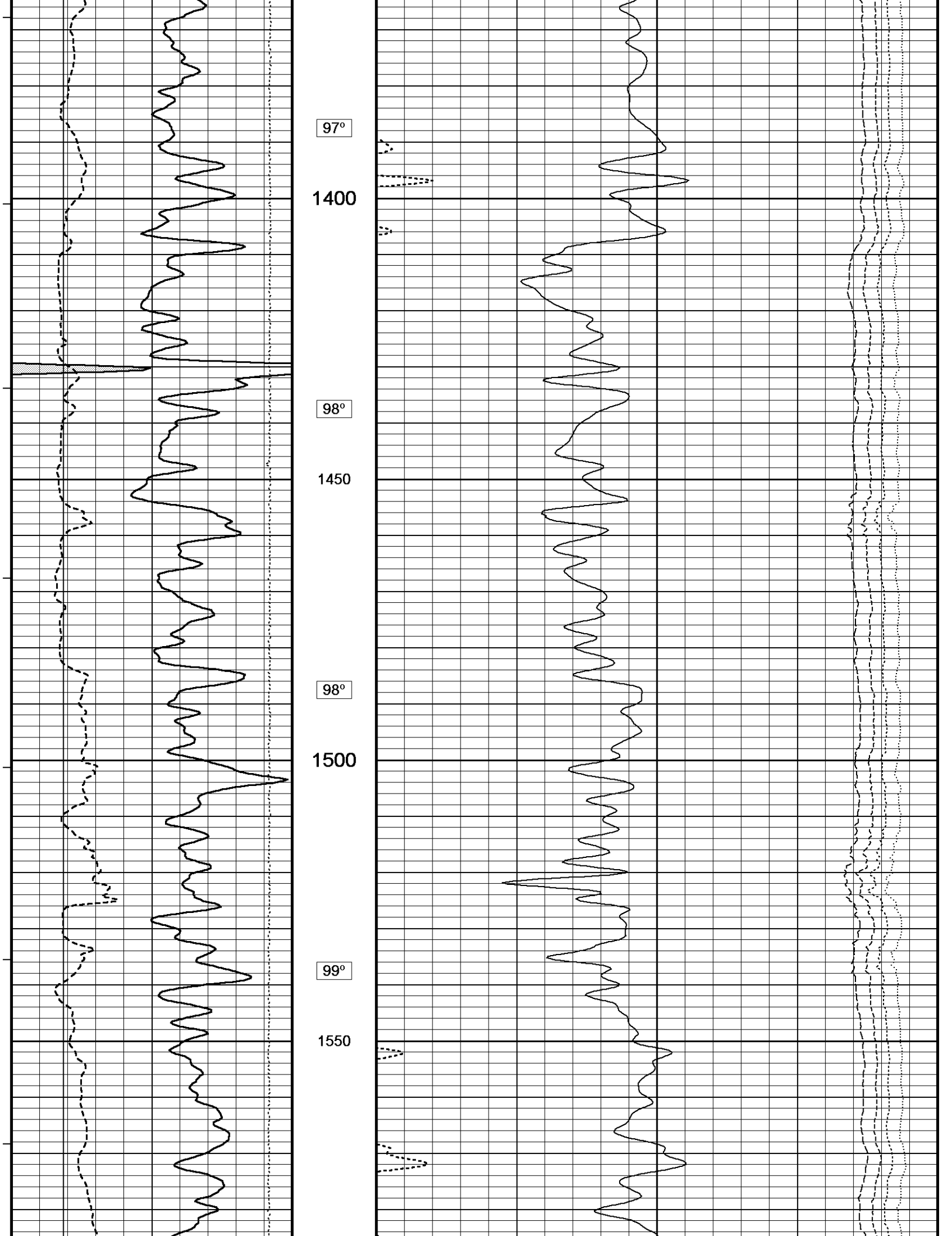

Shoe
300
88°
350
89°
400
Bit Size
89°
Density Caliper
Gamma Ray
DST Uphole Tension
450
6' Transit Time
5' Transit Time
4' Transit Time
3' Transit Time

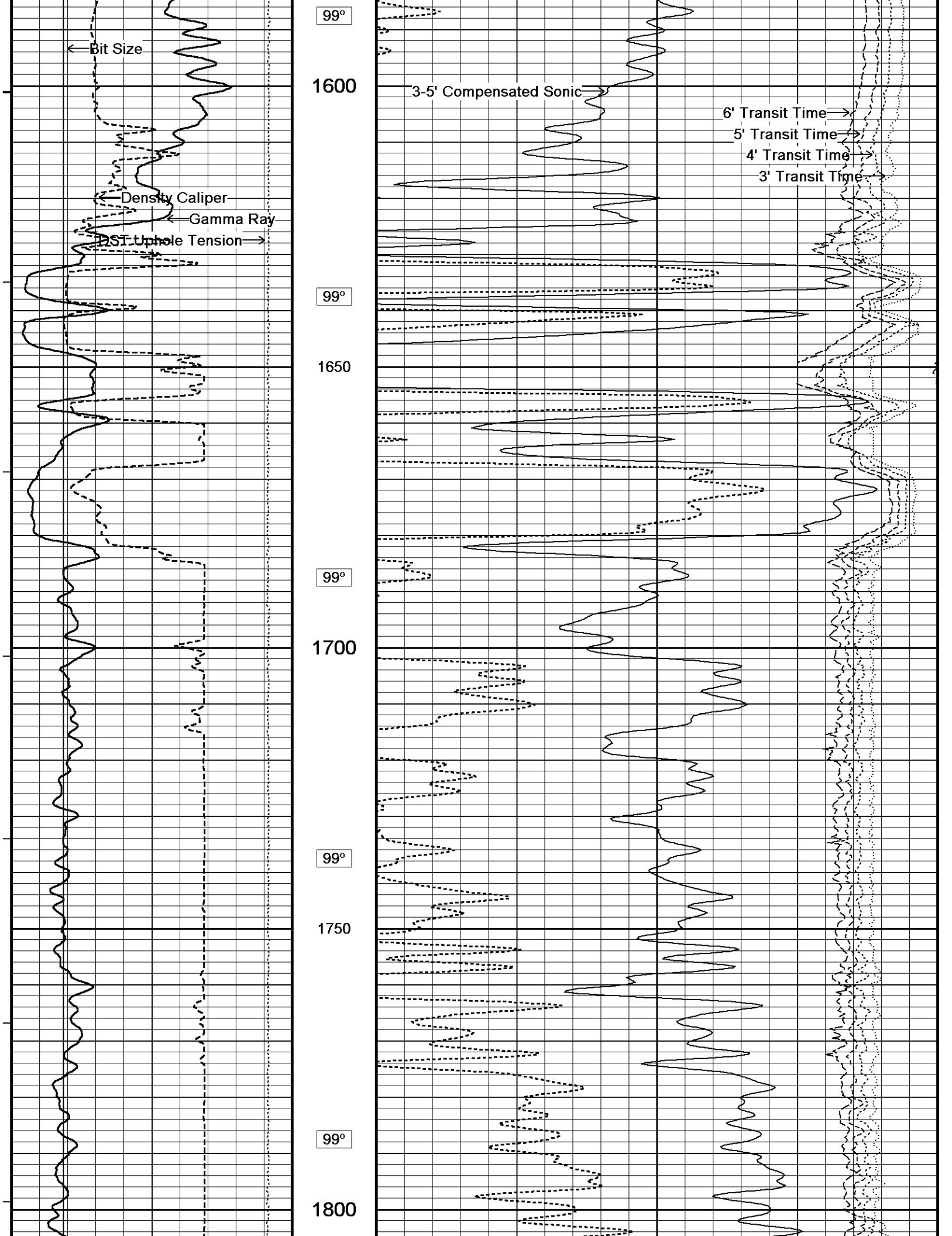

90°
500
90°
550
91°
600
91°
650
91°
700

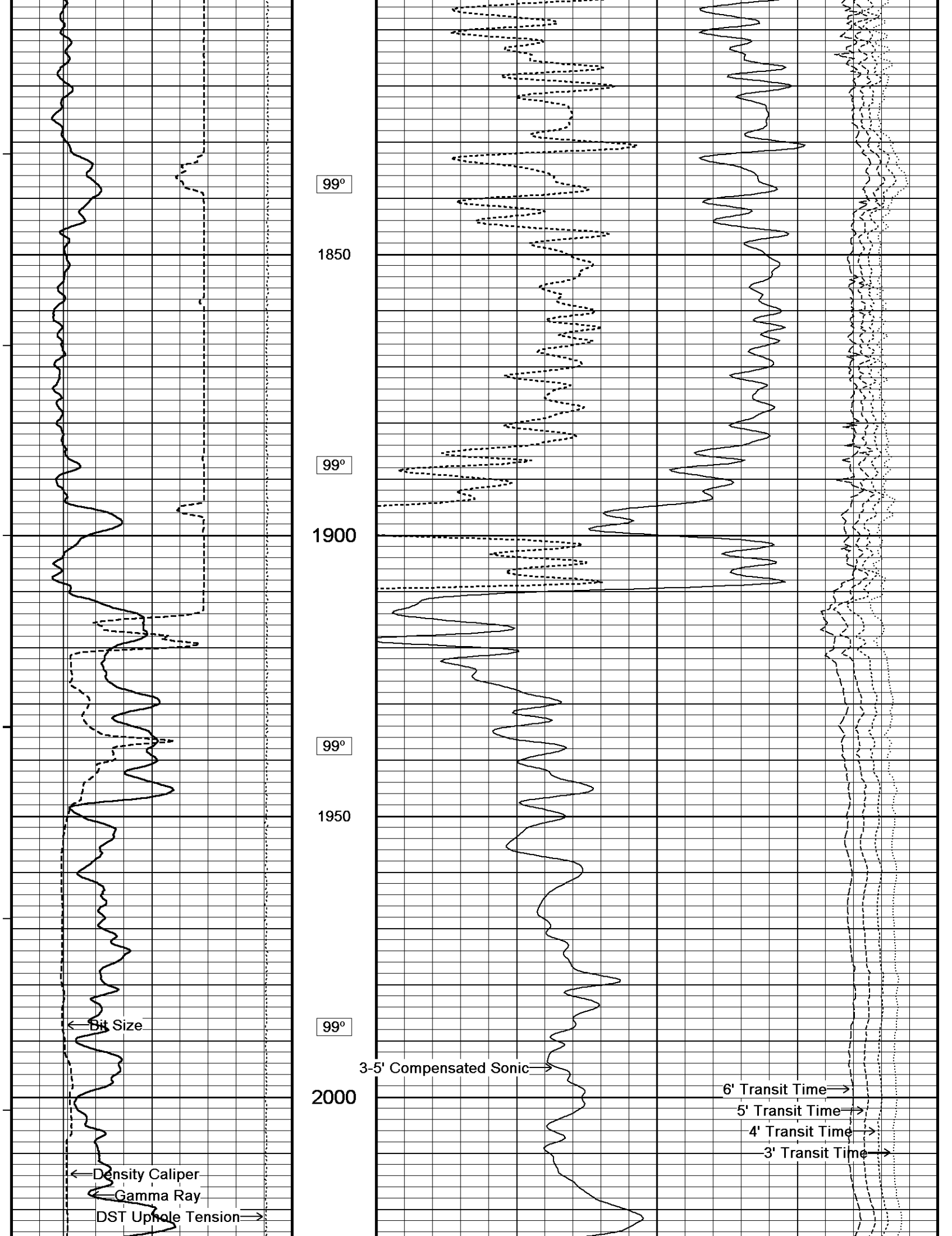

92°
750
92°
800
Bit Size
3-5' Compensated Sonic
6' Transit Time
5' Transit Time
4' Transit Time
3' Transit Time
Density Caliper
Gamma Ray
92°
DST Uphole Tension
850
92°
900

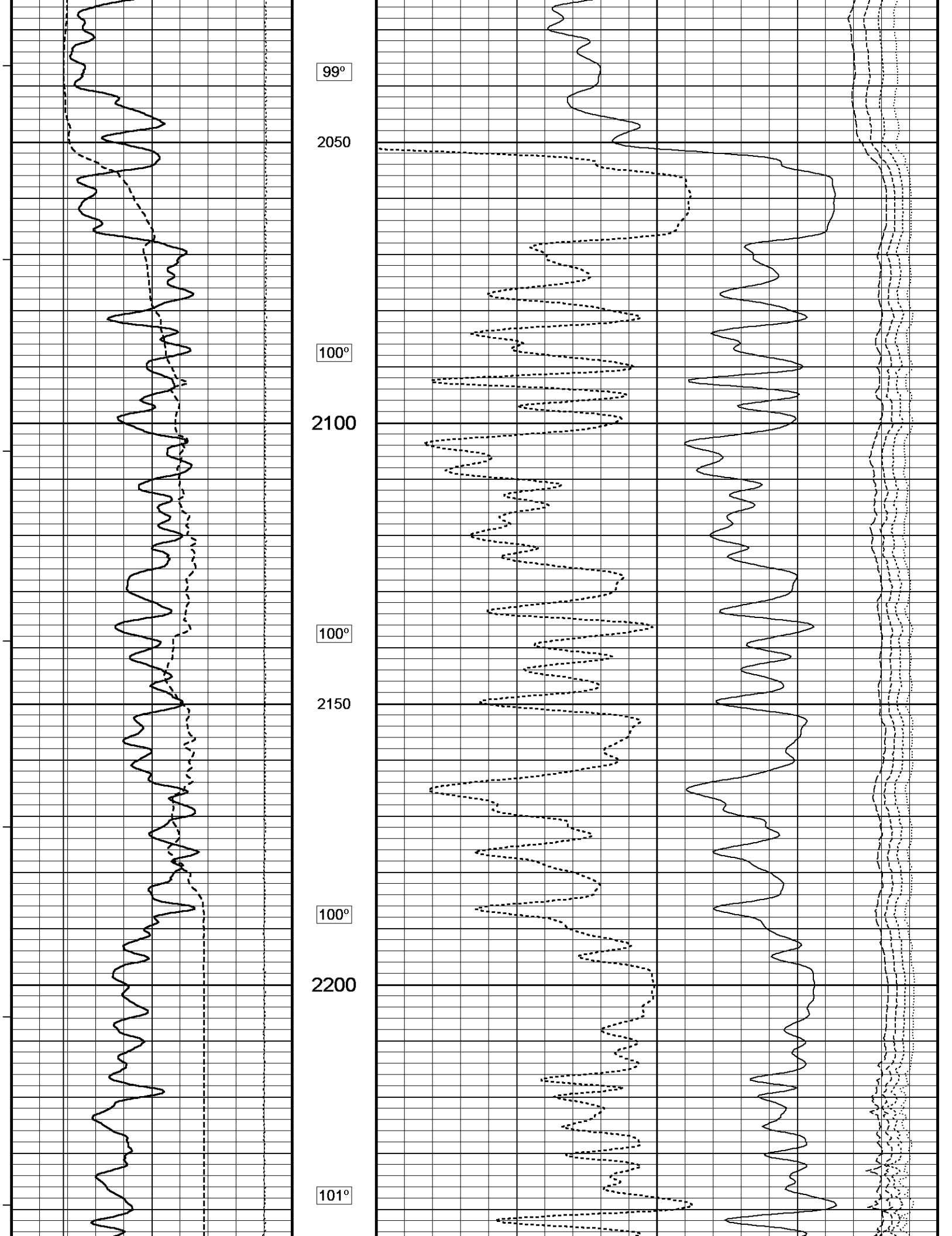

93°
950
93°
1000
94°
1050
94°
1100
95°

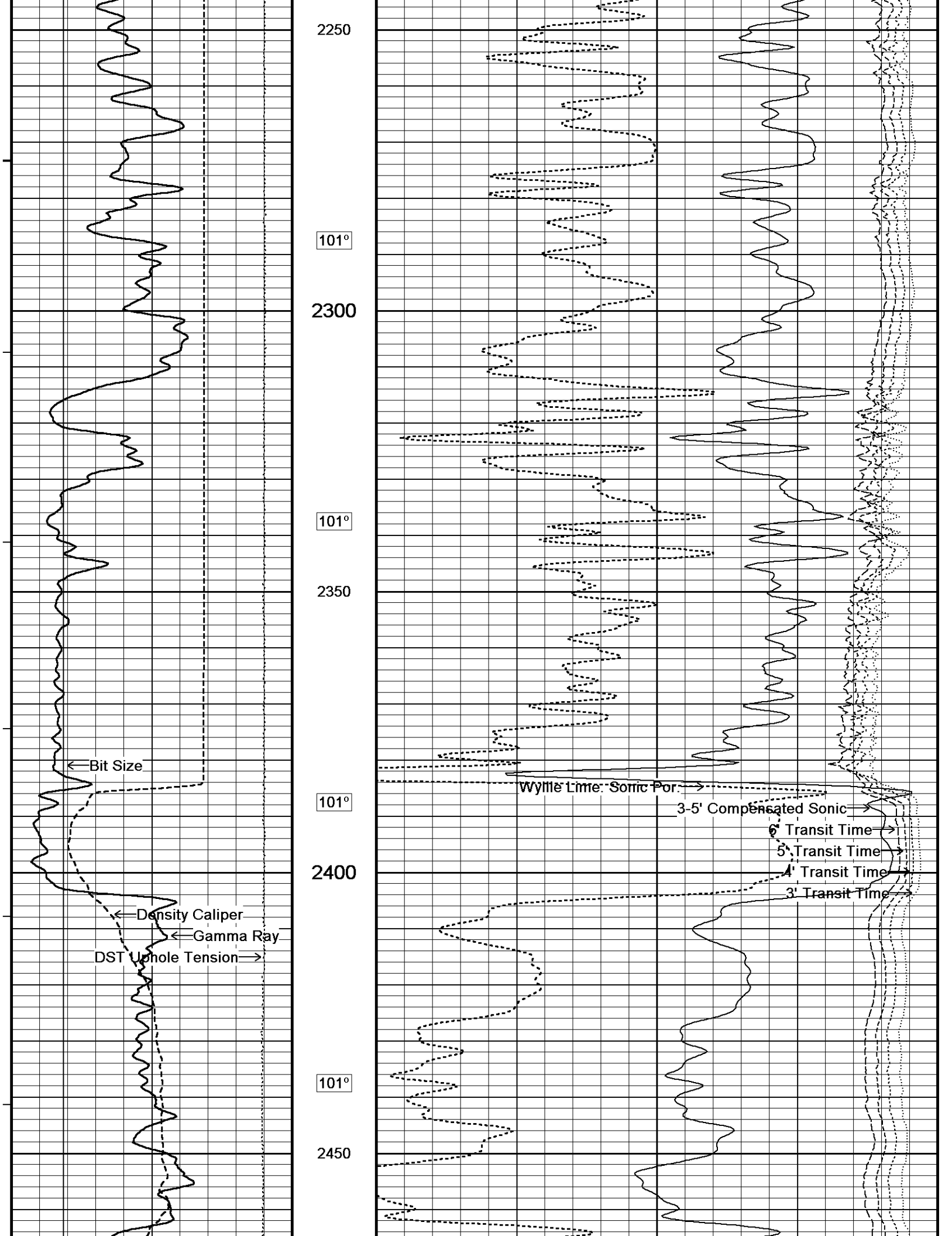

1150
95°
Bit Size
1200
3-5' Compensated Sonic
6' Transit Time
5' Transit Time
4' Transit Time
3' Transit Time
Density Caliper
Gamma Ray
DST Uphole Tension
95°
1250
96°
1300
97°
1350

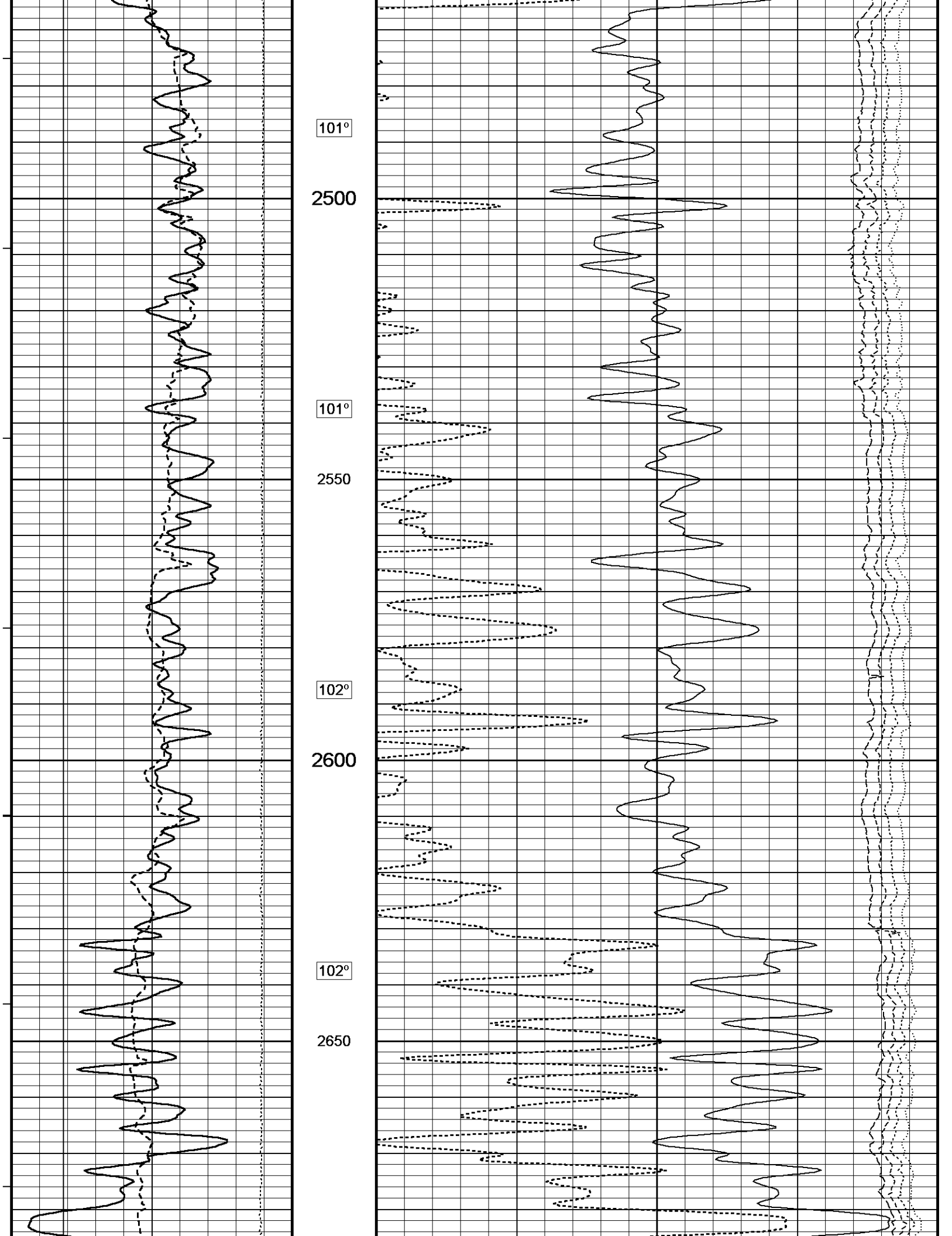

97°
1400
98°
1450
98°
1500
99°
1550

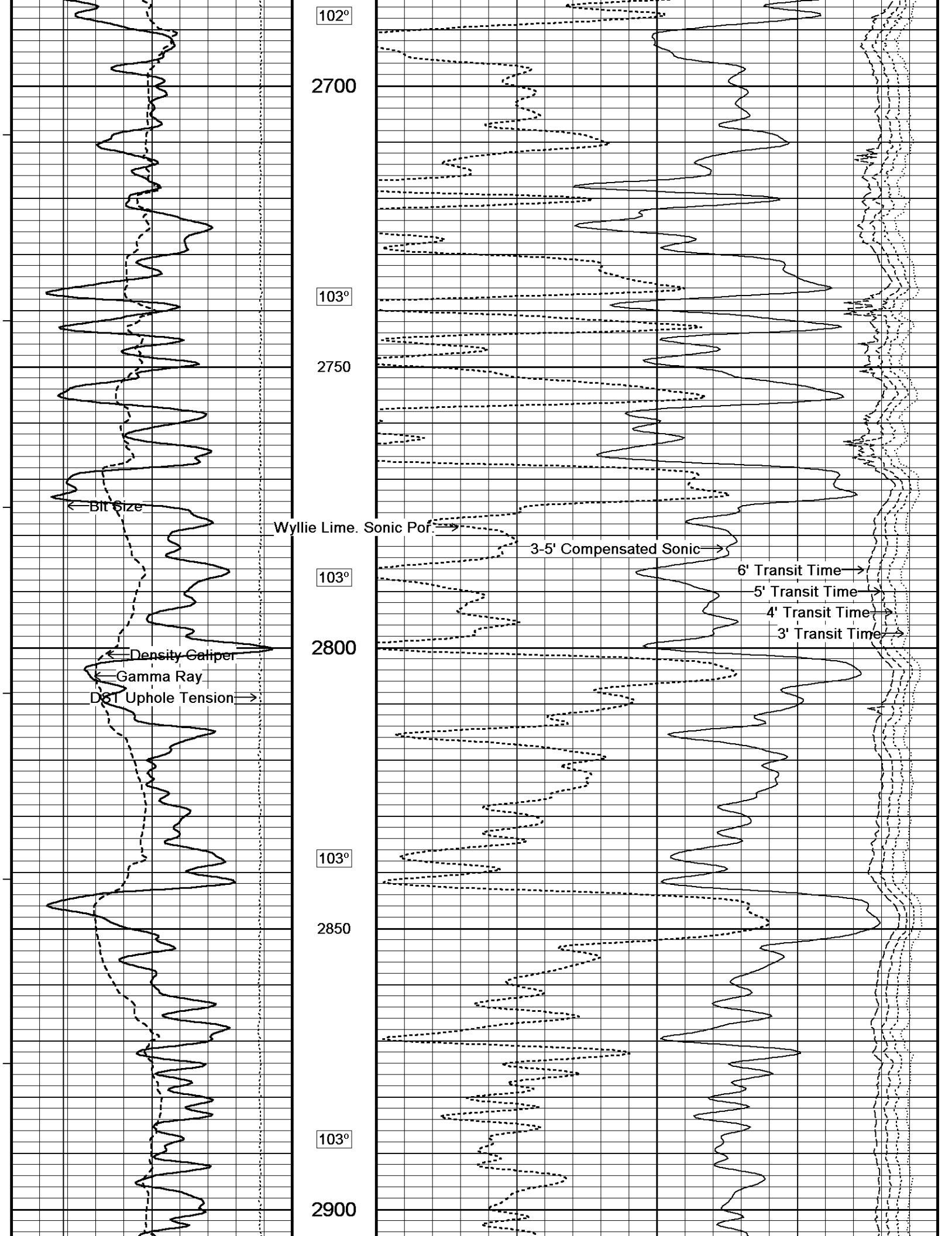

Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
99°
1600
99°
1650
99°
1700
99°
1750
99°
1800
3-5' Compensated Sonic
6' Transit Time
5' Transit Time
4' Transit Time
3' Transit Time

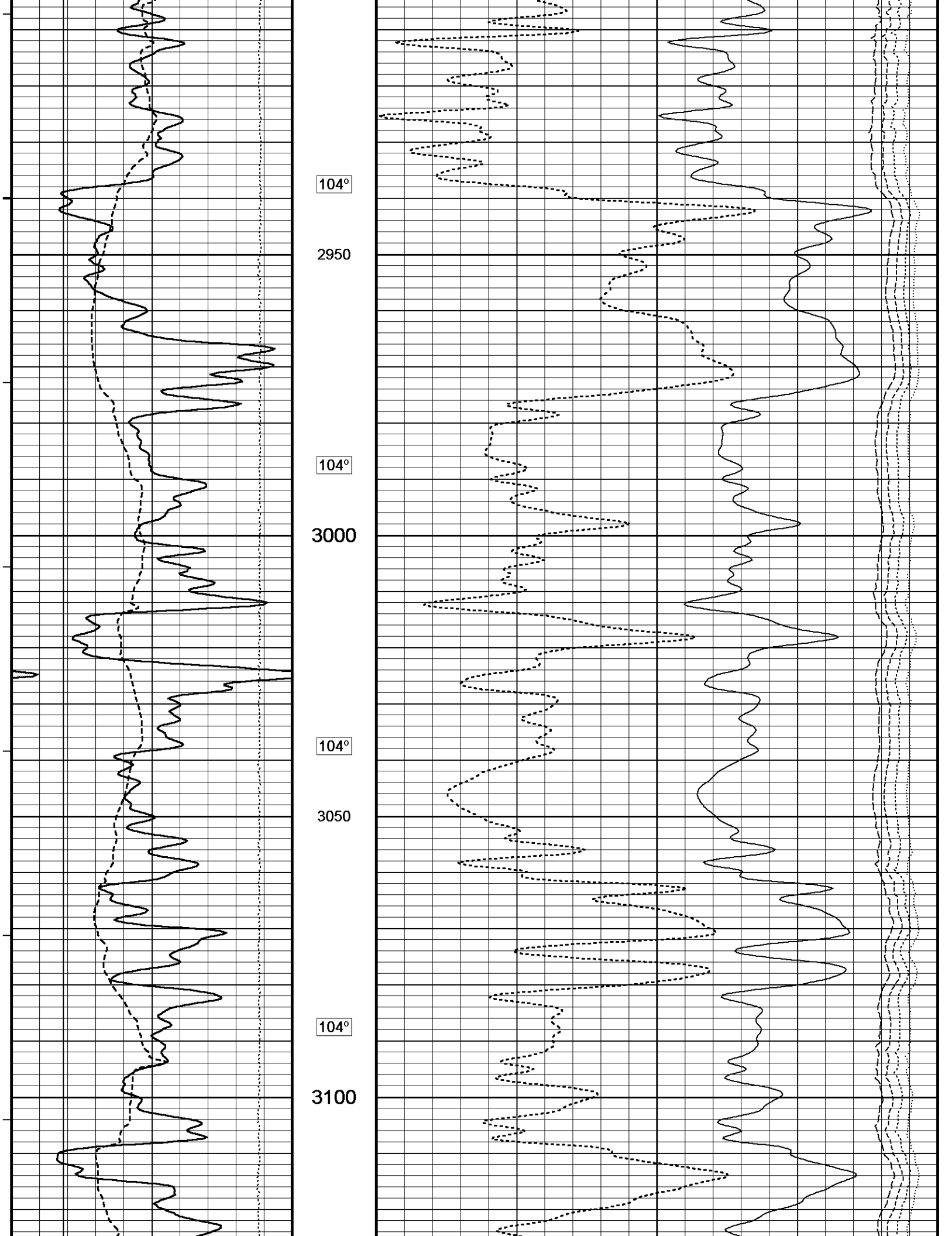

99°
1850
99°
1900
99°
1950
99°
2000
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
3-5' Compensated Sonic
6' Transit Time
5' Transit Time
4' Transit Time
3' Transit Time

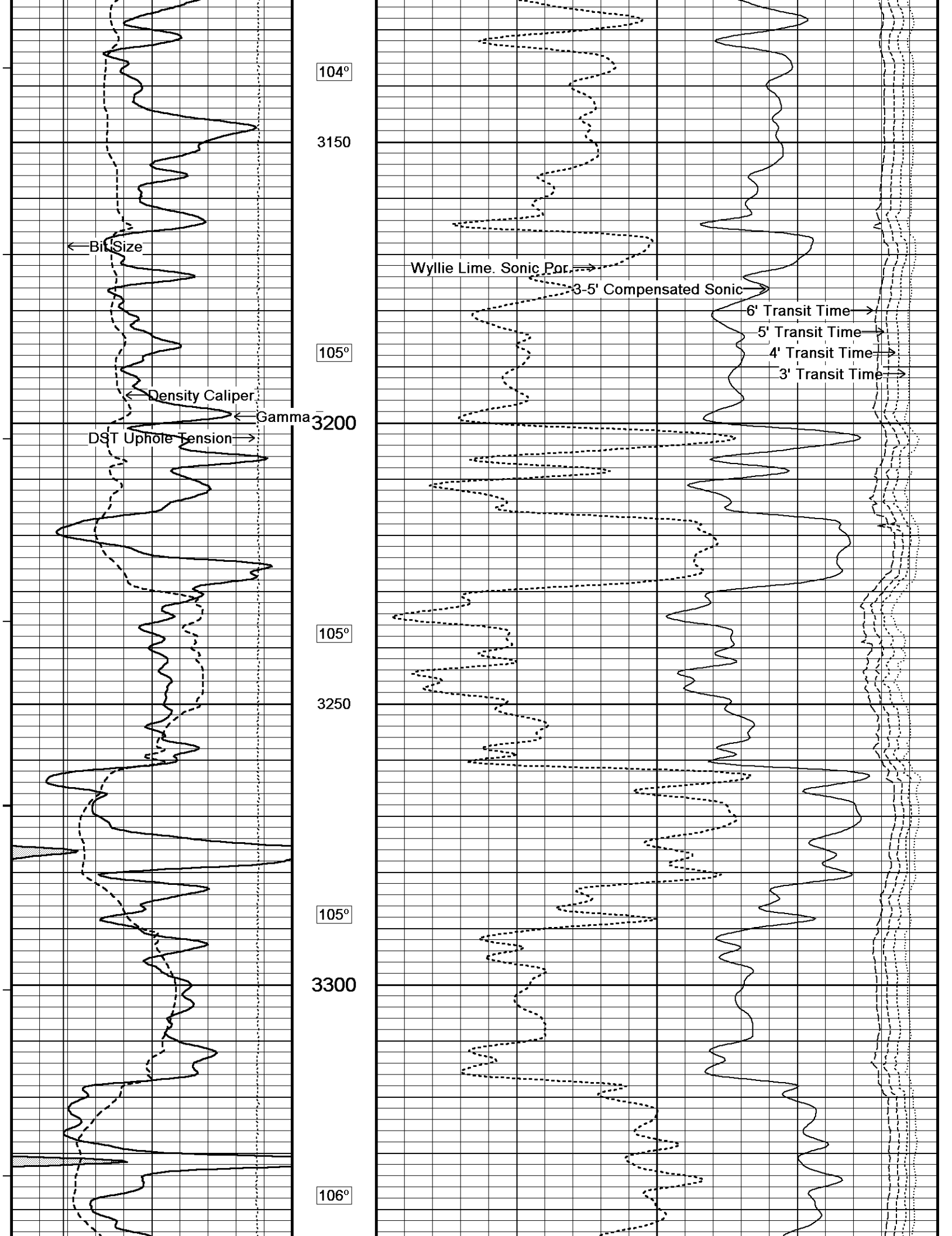

99°
2050
100°
2100
100°
2150
100°
2200
101°

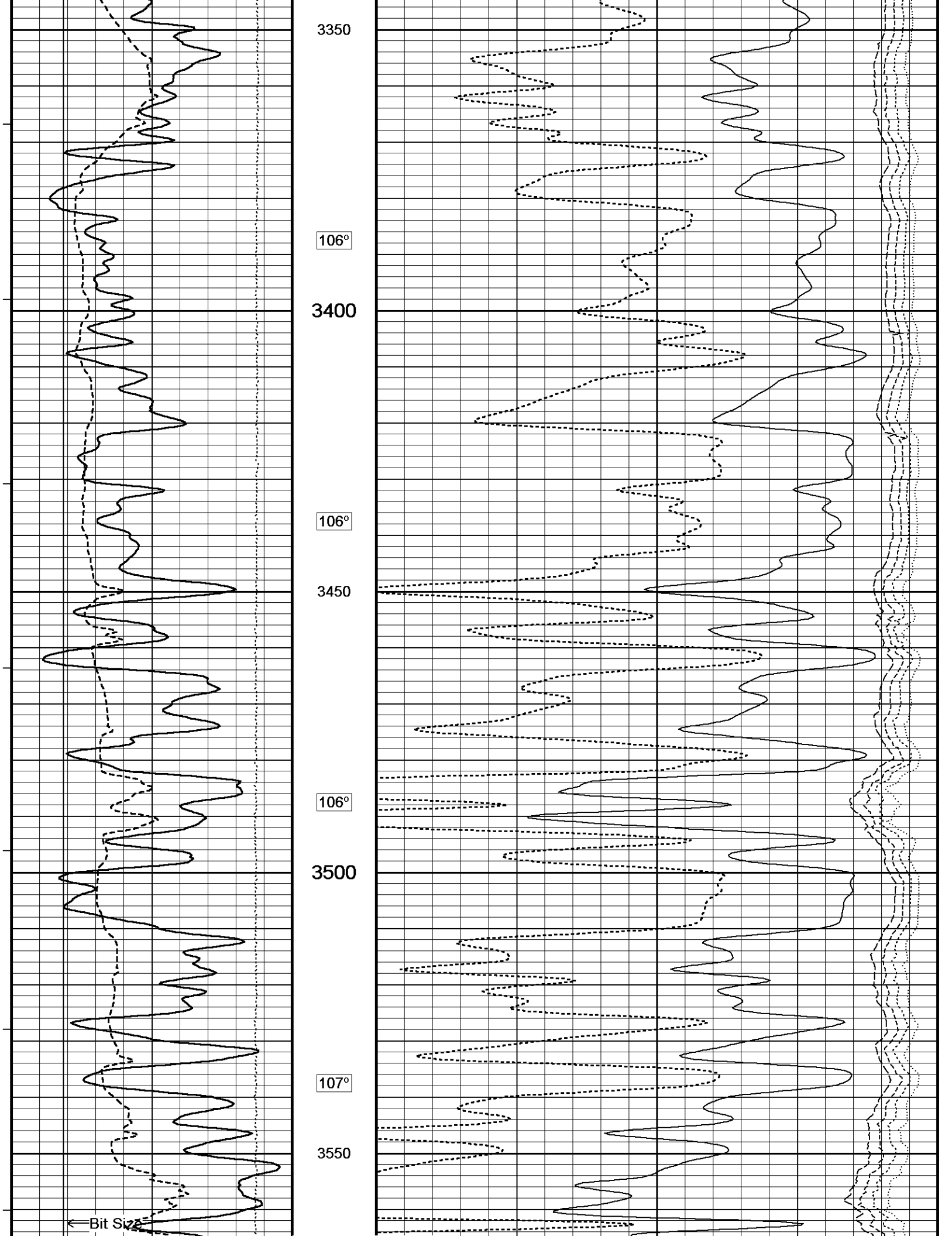

2250
101°
2300
101°
2350
101°
2400
101°
2450
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
Wyllie Lime. Sonic Por.
3-5' Compensated Sonic
6' Transit Time
5' Transit Time
4' Transit Time
3' Transit Time

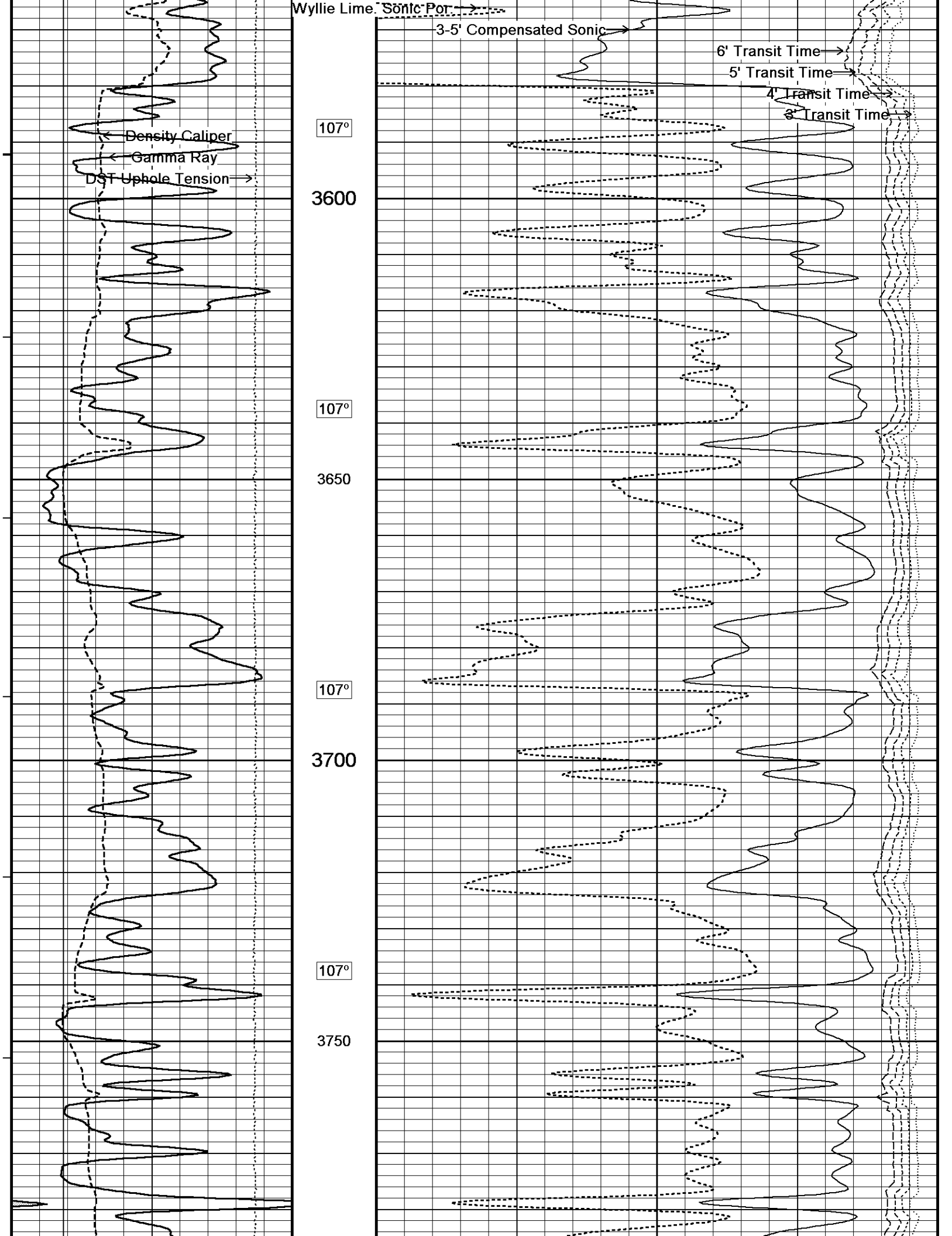

101°
2500
101°
2550
102°
2600
102°
2650

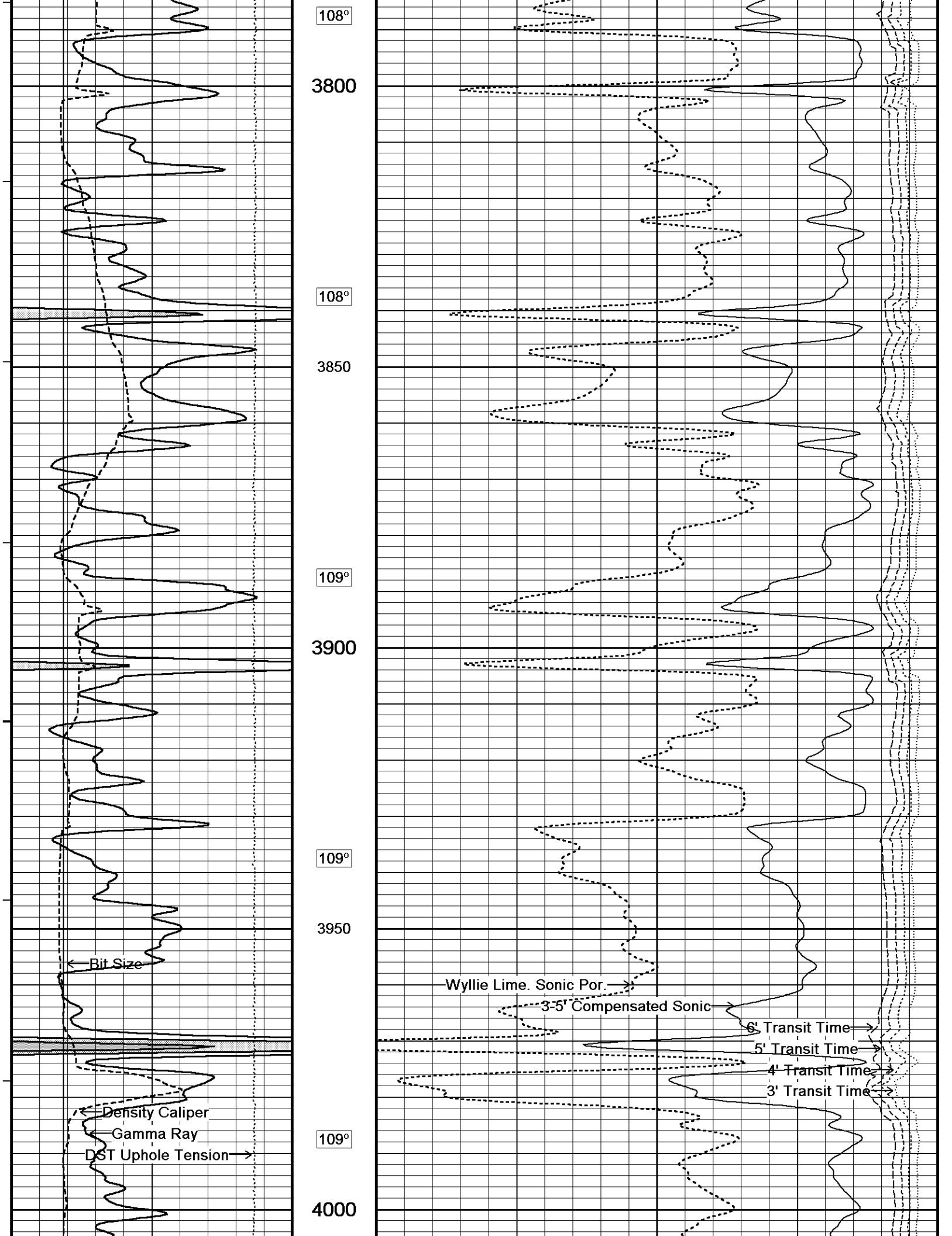

102°
2700
103°
2750
Bit Size
Wyllie Lime. Sonic Por.
3-5' Compensated Sonic
6' Transit Time
5' Transit Time
4' Transit Time
3' Transit Time
103°
2800
Density Caliper
Gamma Ray
DST Uphole Tension
103°
2850
103°
2900

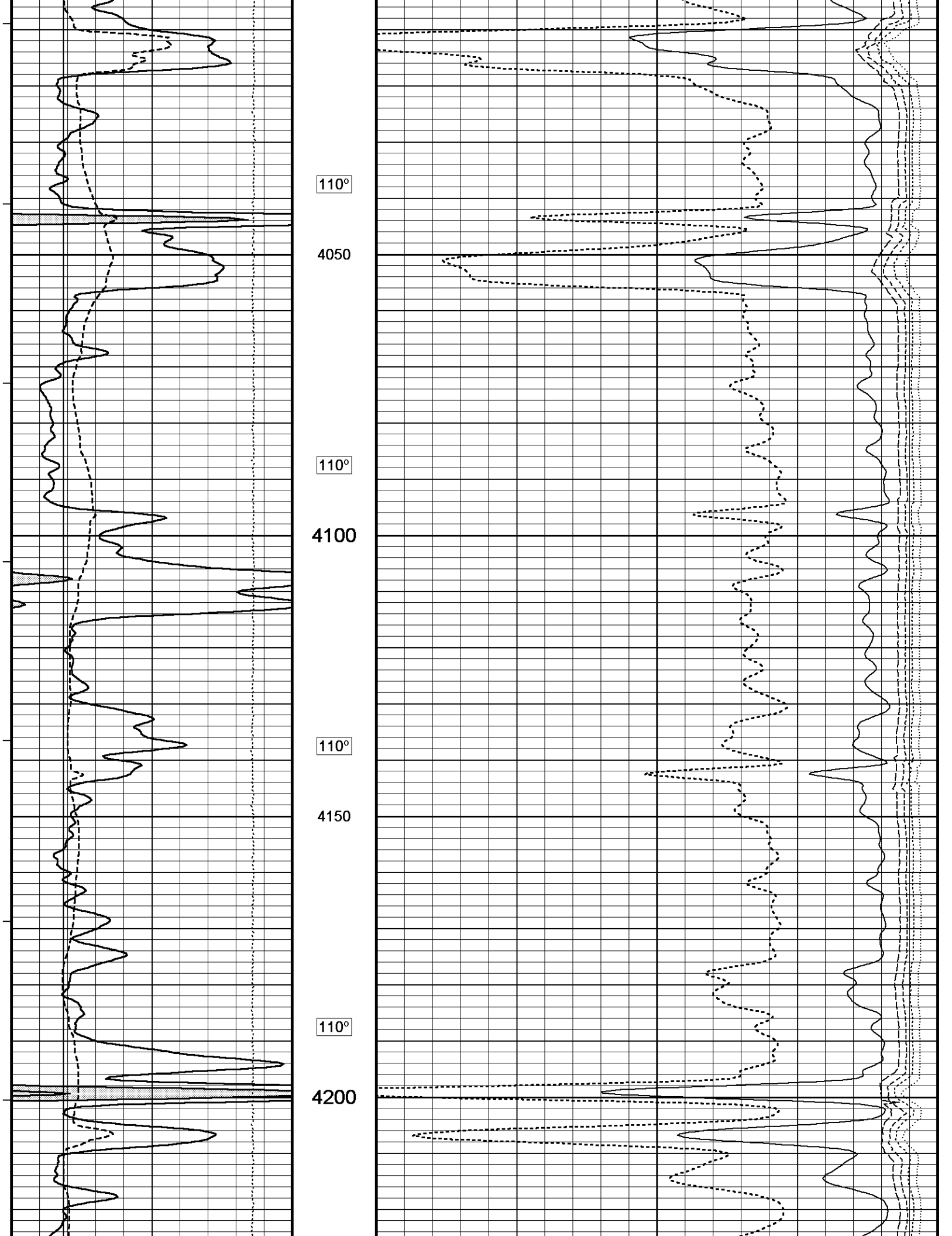

104°
2950
104°
3000
104°
3050
104°
3100

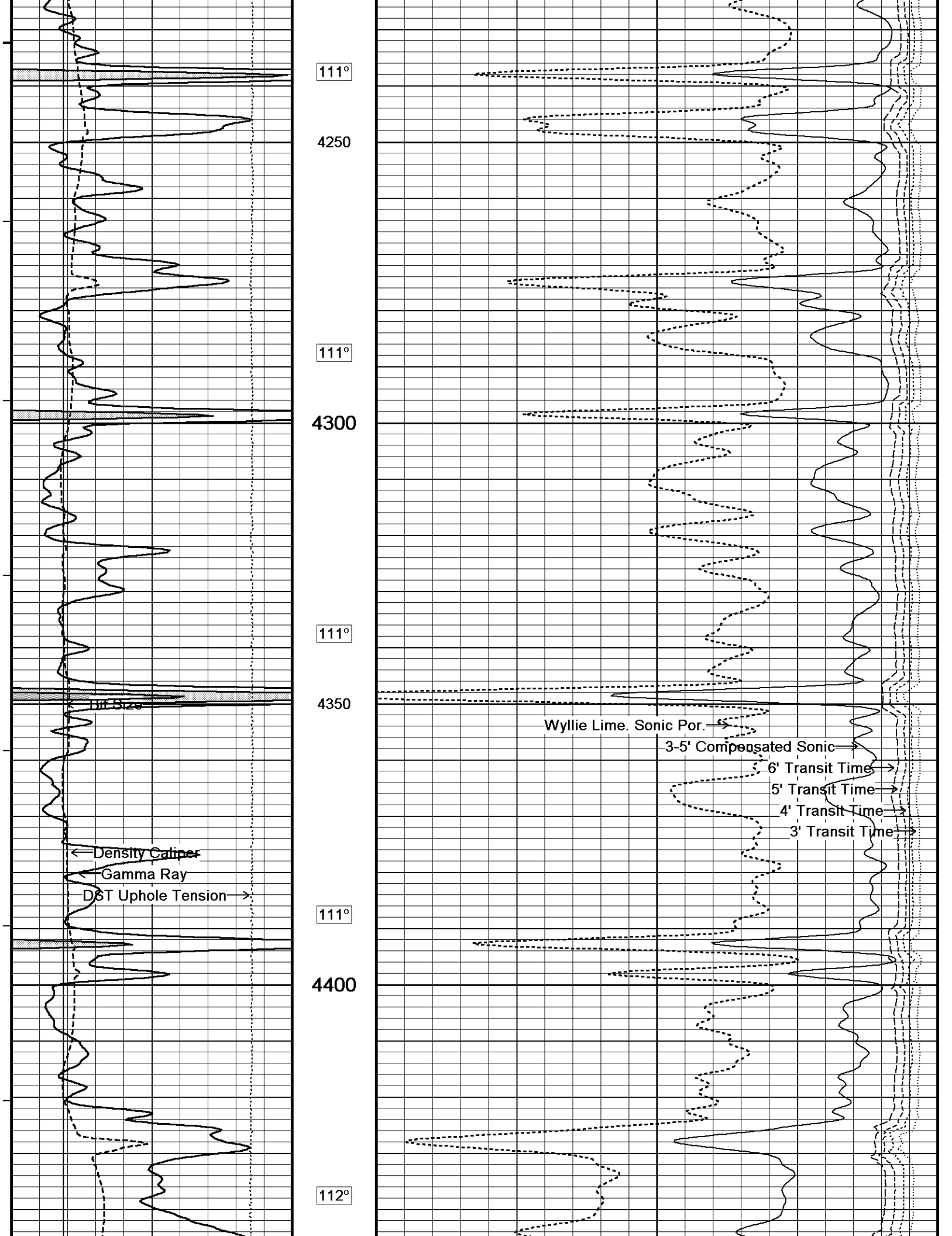

104°
3150
Bit Size
Wyllie Lime. Sonic Por.
3-5' Compensated Sonic
6' Transit Time
5' Transit Time
4' Transit Time
3' Transit Time
105°
Density Caliper
Gamma
3200
DST Uphole Tension
105°
3250
105°
3300
106°

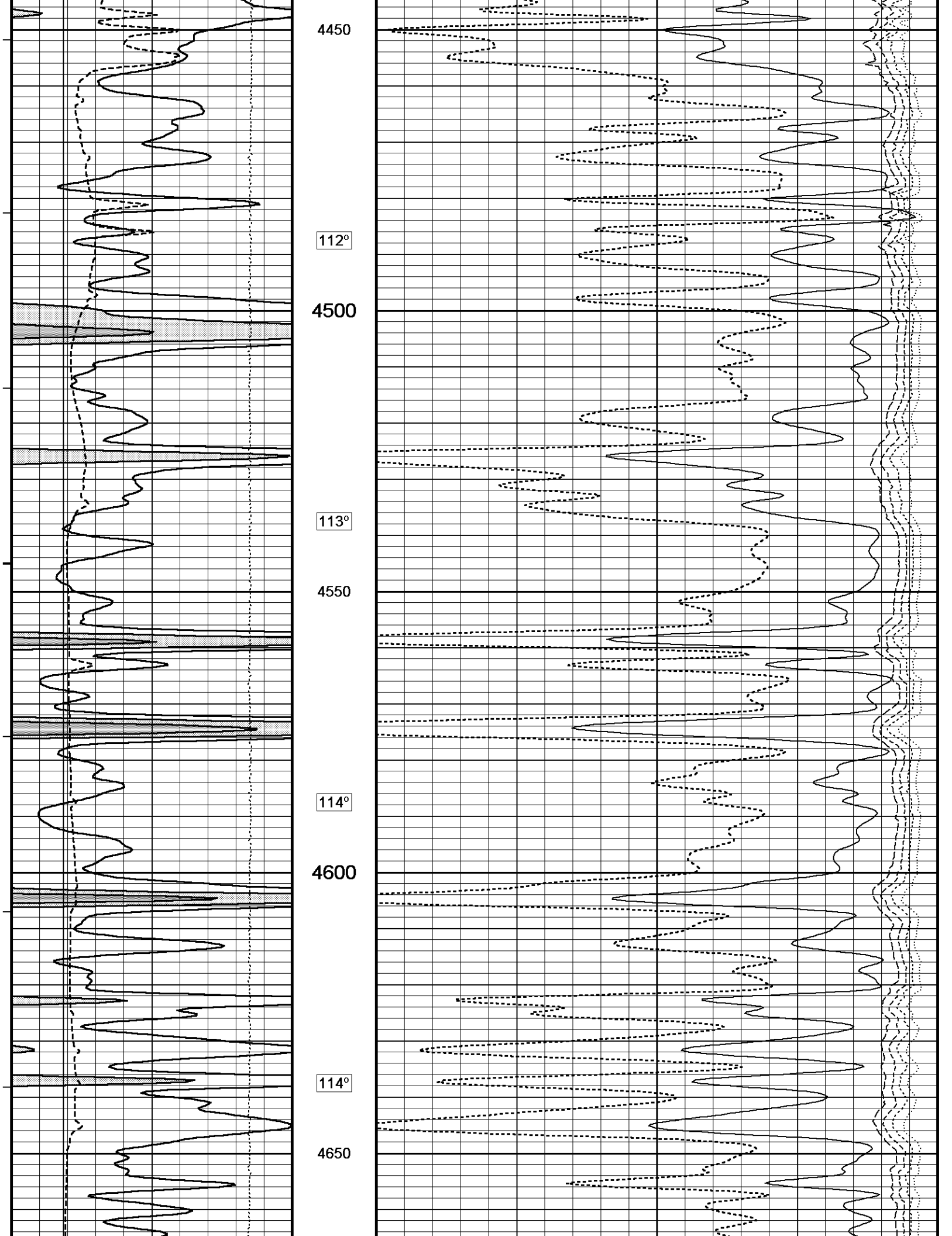

3350
106°
3400
106°
3450
106°
3500
107°
3550
←Bit Size

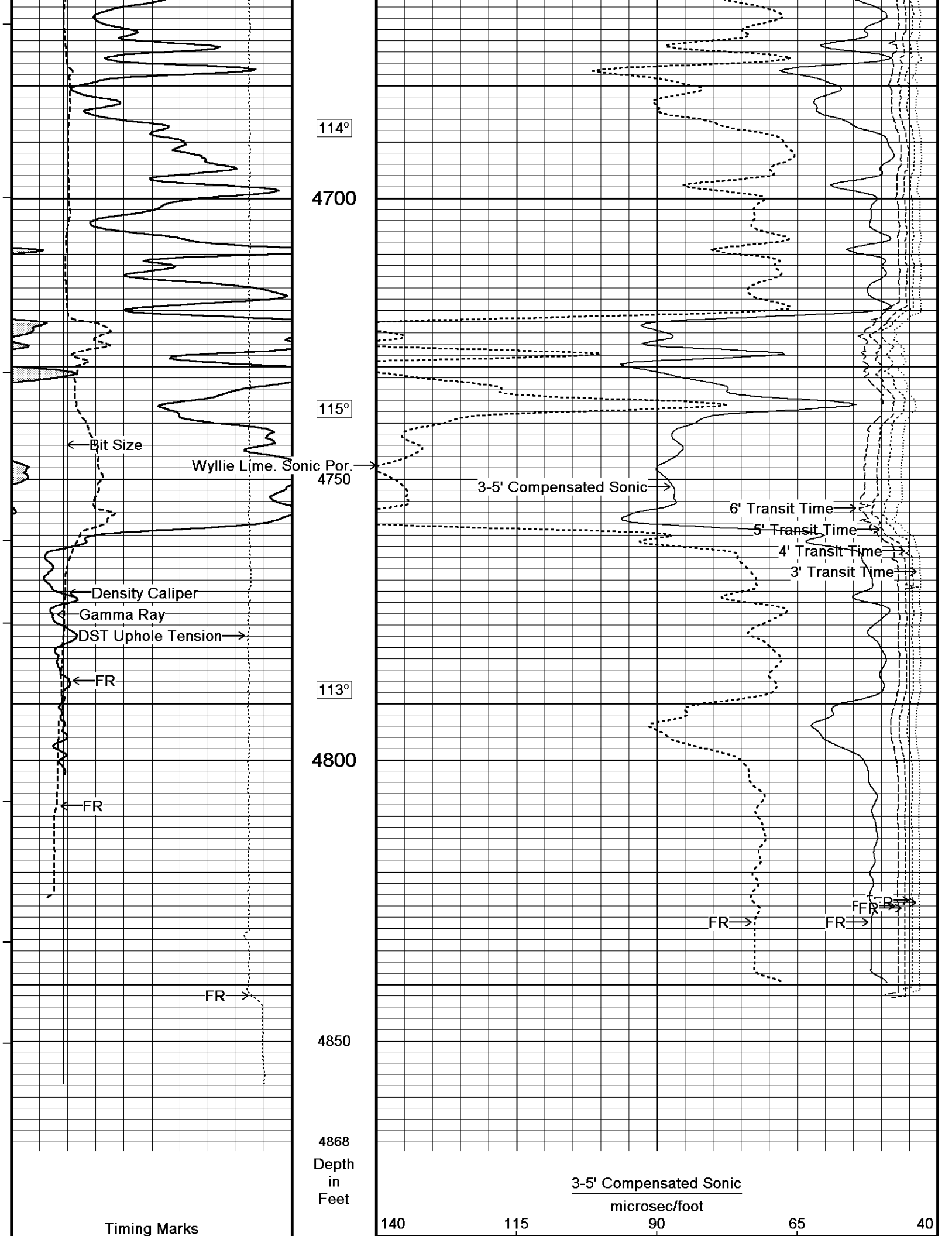

Wyllie Lime. Sonic Por.
3-5' Compensated Sonic
6' Transit Time
5' Transit Time
4' Transit Time
3' Transit Time
Density Caliper
Gamma Ray
DST Uphole Tension
107°
3600
107°
3650
107°
3700
107°
3750


108°
3800
108°
3850
109°
3900
109°
3950
109°
4000
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
Wyllie Lime. Sonic Por.
3-5' Compensated Sonic
6' Transit Time
5' Transit Time
4' Transit Time
3' Transit Time


110°
4050
110°
4100
110°
4150
110°
4200


111°
4250
111°
4300
111°
4350
Bit Size
Wyllie Lime. Sonic Por.
3-5' Compensated Sonic
6' Transit Time
5' Transit Time
4' Transit Time
3' Transit Time
Density Caliper
Gamma Ray
DST Uphole Tension
111°
4400
112°


4450
112°
4500
113°
4550
114°
4600
114°
4650


114°
4700
115°
Bit Size
Wyllie Lime. Sonic Por.
4750
3-5' Compensated Sonic
6' Transit Time
5' Transit Time
4' Transit Time
3' Transit Time
Density Caliper
Gamma Ray
DST Uphole Tension
FR
113°
4800
FR
FR
FR
FR
FR
4850
4868
Depth
in
Feet
Timing Marks
3-5' Compensated Sonic
microsec/foot
140
115
90
65
40

every 60.0 sec

Gamma Ray
API
0 75 150
150 225 300

Density Caliper
inches
6 11 16

Bit Size
inches
6 11 16

DST Uphole Tension
pounds
5000 0

Borehole Temp in deg F

Replay Scale 1:240

Wyllie Lime. Sonic Por.
percent
30 20 10 0 -10

3' Transit Time
microseconds
1100 100

4' Transit Time
microseconds
1100 100

5' Transit Time
microseconds
1100 100

6' Transit Time
microseconds
1100 100

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 11-MAY-2014 00:15
Filename: C:\Minimus 13.08.2113\Logs\Shakespeare B4US #1-32\Shakespeare B4US #1-32_002.dta
Recorded on 10-MAY-2014 21:00
System Versions: Logged with 13.08.2113 Plotted with 13.08.2113

5 INCH MAIN

REPEAT SECTION

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 11-MAY-2014 00:15
Filename: C:\Minimus 13.08.2113\Logs\Shakespeare B4US #1-32\Shakespeare B4US #1-32_001.dta
Recorded on 10-MAY-2014 20:32
System Versions: Logged with 13.08.2113 Plotted with 13.08.2113

Depth in Feet

Timing Marks
every 60.0 sec

3-5' Compensated Sonic
microsec/foot
140 115 90 65 40

Gamma Ray
API
0 75 150
150 225 300

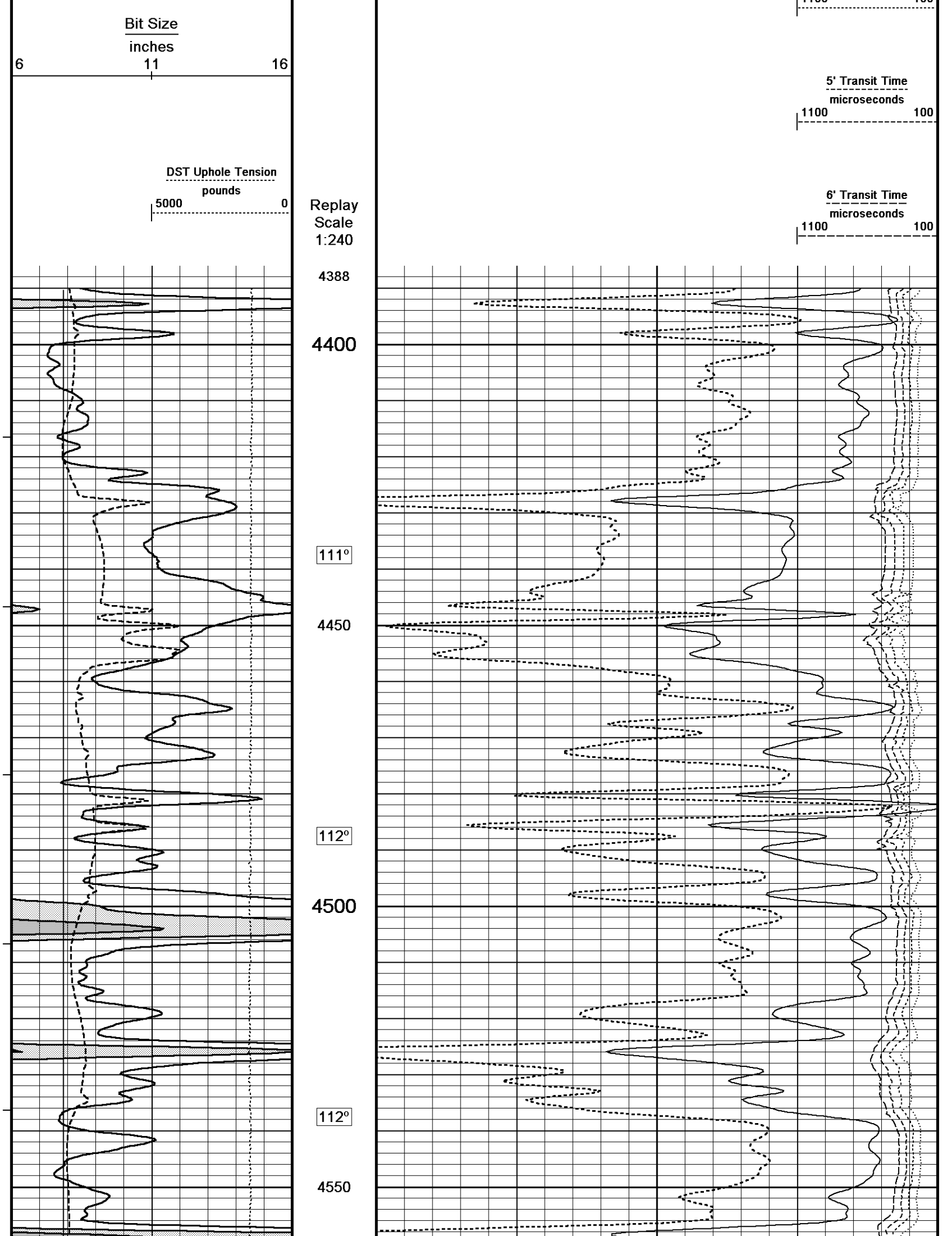
Density Caliper
inches
6 11 16

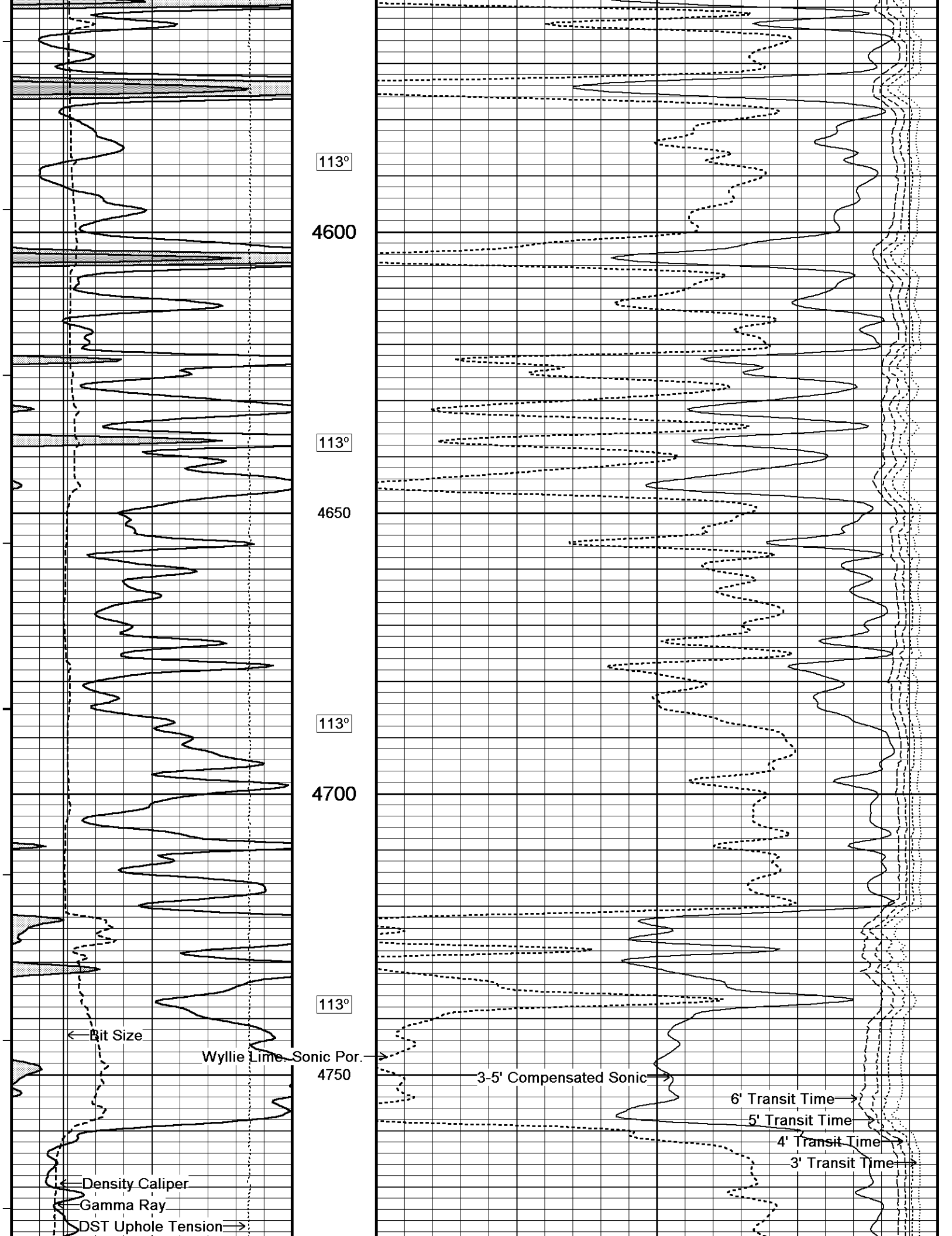
Borehole Temp in deg F

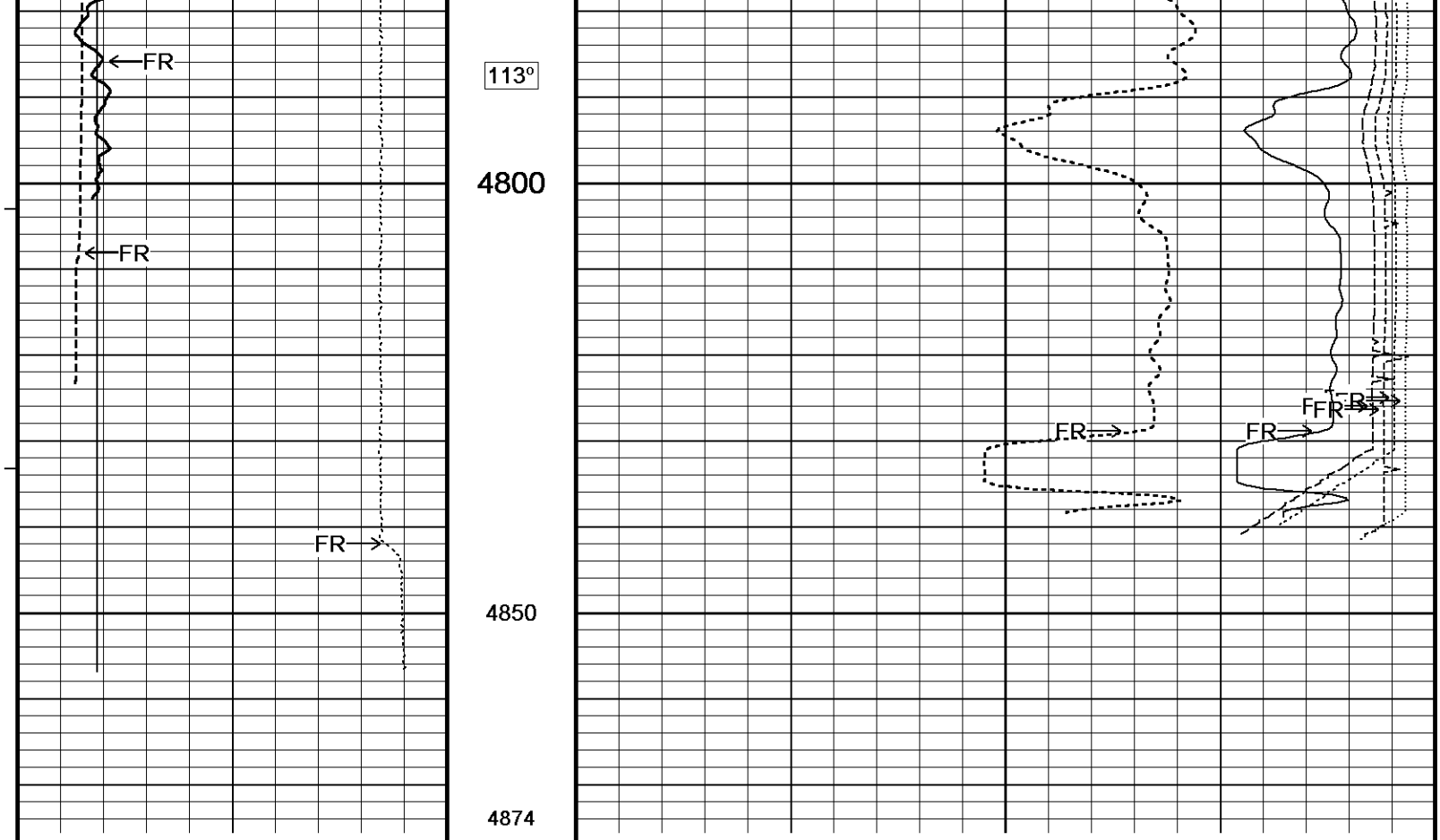
Wyllie Lime. Sonic Por.
percent
30 20 10 0 -10

3' Transit Time
microseconds
1100 100

4' Transit Time
microseconds
1100 100


Bit Size
inches
6
11
16
DST Uphole Tension
pounds
5000
0
Replay
Scale
1:240
5' Transit Time
microseconds
1100
100
6' Transit Time
microseconds
1100
100
4388
4400
111°
4450
112°
4500
112°
4550


113°
4600
113°
4650
113°
4700
113°
4750
Bit Size
Wyllie Lime. Sonic Por.
3-5' Compensated Sonic
6' Transit Time
5' Transit Time
4' Transit Time
3' Transit Time
Density Caliper
Gamma Ray
DST Uphole Tension



113°

4800

4850

4874

Depth in Feet

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150
150 225 300

Density Caliper
inches
6 11 16

Bit Size
inches
6 11 16

DST Uphole Tension
pounds
5000 0

Borehole Temp in deg F

Replay Scale 1:240

3-5' Compensated Sonic
microsec/foot
140 115 90 65 40

Wyllie Lime. Sonic Por.
percent
30 20 10 0 -10

3' Transit Time
microseconds
1100 100

4' Transit Time
microseconds
1100 100

5' Transit Time
microseconds
1100 100

6' Transit Time
microseconds
1100 100

REPEAT SECTION

BEFORE SURVEY CALIBRATION

C:\Minimus 13.08.2113\Logs\Shakespeare B4US #1-32\Shakespeare B4US #1-32_001.dta

General Constants All 000

Last Edited on 10-MAY-2014,20:10

General Parameters		
Mud Resistivity	0.370	ohm-metres
Mud Resistivity Temperature	93.000	degrees F
Water Level	0.000	feet
Borehole Fluid 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	MMR Caliper	
Rwa Parameters		
Porosity used	Base Density Porosity	
Resistivity used	Array Ind. One Res Rt	
RWA Constant A	0.610	
RWA Constant M	2.150	
SW/APOR Tool Source	0.000	

Down-hole Tension Calibration SMS 0

Field Calibration on 06-MAY-2014 23:40

Reading No	Measured	Calibrated (lbs)
1	15071.71	0.00
2	15879.48	481.00

Gamma Calibration MCG-C 208

Field Calibration on 10-MAY-2014 11:35

	Measured	Calibrated (API)
Background	69	48
Calibrator (Gross)	1124	773
Calibrator (Net)	1055	725

Gamma Constants MCG-C 208

Last Edited on 10-MAY-2014,18:40

Gamma Calibrator Number	GRC038	
Mud Density	1.12	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl		kppm
K Mud Type	Chloride	
K Mud Concentration	0.00	%

SP Calibration MCG-C 208

Field Calibration on 10-MAY-2014 11:38

	Measured	Calibrated (mV)
Reference 1	99.7	99.0
Reference 2	-97.7	-98.8

High Resolution Temperature Calibration MCG-C 208

Field Calibration on 23-JAN-2014,17:11

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

High Resolution Temperature Constants MCG-C 208

Last Edited on 23-JAN-2014,17:11

Pre-filter Length	11

Caliper Calibration MMR-C.A 248

Base Calibration on 10-MAY-2014 09:28
Field Calibration on 10-MAY-2014 09:30

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	13446	5.98
2	16585	7.97
3	19782	9.86
4	23693	11.92
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.99	7.97

Micro Normal and Micro Inverse Calibration MMR-C.A 248

Base Calibration on 10-MAY-2014 09:40
Field Check on 10-MAY-2014 09:43

Base Calibration

Channel	Measured Resistor 1	Measured Resistor 2	Calibrated (ohm-m) Resistor 1	Calibrated (ohm-m) Resistor 2
Micro Normal	10.1	49.8	5.1	25.6
Micro Inverse	9.9	49.5	3.4	16.9

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	93.6	93.6
Micro Inverse	62.2	62.2

Micro Normal and Micro Inverse Constants MMR-C.A 248

Last Edited on 23-JAN-2014,17:04

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	0.0000	inches

Neutron Calibration MDN-B.J 387

Base Calibration on 08-MAY-2014 14:03
Field Check on 08-MAY-2014 14:19

Base Calibration

	Measured Near	Measured Far	Calibrated (cps) Near	Calibrated (cps) Far
	2970	91	3714	110
Ratio	32.668		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	1688	2486
Ratio	0.679	

Field Check

	Calibrated (cps)	
	1694	2467
Ratio	0.687	

Neutron Constants MDN-B.J 387

Last Edited on 10-MAY-2014,18:40

Neutron Source Id	P58125B	
Neutron Jig Number	5824NE	
Epithermal Neutron		
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-A.A 55

Base Calibration on 10-MAY-2014 09:55
Field Check on 10-MAY-2014 10:04

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	952.2	126.8
Base Check		281.3
Field Check		281.3

FE Constants MFE-A.A 55

Last Edited on 10-MAY-2014,18:39

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-A.A 73

Last Edited on 10-MAY-2014,18:39

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	

Full Waveform Parameters

Use 3' Waveform to derive TR	N/A	
Use 4' Waveform to derive TR	N/A	
Use 5' Waveform to derive TR	N/A	
Use 6' Waveform to derive TR	N/A	
3' Waveform Discriminator Level	N/A	mV
4' Waveform Discriminator Level	N/A	mV
5' Waveform Discriminator Level	N/A	mV
6' Waveform Discriminator Level	N/A	mV
3' Waveform Filter	N/A	
4' Waveform Filter	N/A	
5' Waveform Filter	N/A	
6' Waveform Filter	N/A	

Semblance Level	N/A	
Semblance Window Width	N/A	micro-sec
Sonic 1 Despiker	N/A	N/A
Sonic 2 Despiker	N/A	N/A

Induction Calibration MAI-A.A 5

Base Calibration on 21-JAN-2014,09:50
Field Check on 09-MAY-2014 12:52

Base Calibration

Test Loop Calibration

Channel	Measured Low	Measured High	Calibrated (mmho/m) Low	Calibrated (mmho/m) High
1	16.3	470.8	9.3	966.2
2	5.6	376.1	7.6	821.4
3	2.6	266.1	5.2	566.0
4	1.6	130.0	2.6	279.2

Array Temperature 71.1 Deg F

Channel	Base Check (mmho/m) Low	Base Check (mmho/m) High	Field Check (mmho/m) Low	Field Check (mmho/m) High	
1	15.5	3863.1	15.5	3862.9	
2	31.9	3590.9	31.9	3590.8	
3	29.9	2971.4	29.9	2971.4	
4	20.8	2126.1	20.8	2126.1	
Deep	18.5	1912.1	18.5	1912.2	
Medium	43.1	3861.3	43.1	3861.2	
Shallow	47.4	5372.9	47.5	5372.7	
Array Temperature		78.9		79.0	Deg F

Induction Constants MAI-A.A 5

Last Edited on 10-MAY-2014,18:39

Induction Model	RtAP-WBM	
Caliper for Borehole Corr.	Density Caliper	
Hole Size for Borehole Correction	N/A	inches
Tool Centred	No	
Stand-off Type	Fins	
Stand-off	0.50	inches
Number of Fins on Stand-off	8.0000	
Stand-off Fin Angle	45.00	degrees
Stand-off Fin Width	0.5000	inches
Borehole Corr. Rm Source	Temperature Corr	
Temp. for Rm Corr.	MCG External Temperature	
Squasher Start	0.0020	mhos/metre
Squasher Offset	N/A	mhos/metre

Borehole Normalisation

DRM1	0.0000	DRC1	0.0000
DRM2	0.0000	DRC2	0.0000
MRM1	0.0000	MRC1	0.0000
MRM2	0.0000	MRC2	0.0000
SRM1	0.0000	SRC1	0.0000
SRM2	0.0000	SRC2	0.0000

Calibration Site Corrections

Channel 1	0.00	mmhos/metre
Channel 2	0.00	mmhos/metre
Channel 3	0.00	mmhos/metre
Channel 4	0.00	mmhos/metre

Apparent Porosity and Water Saturation Constants

Archie Constant (A)	1.00	
Cementation Exponent (M)	2.00	
Saturation Exponent (N)	2.00	
Saturation of Water for Apor	100.00	percent
Resistivity of Water for Apor and Sw	0.05	ohm-m
Resistivity of Mud Filtrate for Sw	0.00	ohm-m
Source for Rt	0.00	
Source for Rxo	0.00	

High Resolution Temperature Calibration MAI-A.A 5

Field Calibration on 21-JAN-2014,15:43

Measured Calibrated(Deg F)

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

High Resolution Temperature Constants MAI-A.A 5

Last Edited on 09-MAY-2014,12:22

Pre-filter Length	11

Caliper Calibration MPD-D.A 480

Base Calibration on 08-MAY-2014 14:36
Field Calibration on 08-MAY-2014 14:37

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	17491	3.99
2	27463	5.98
3	37484	7.97
4	47415	9.86
5	58518	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.96	7.97

Photo Density Calibration MPD-D.A 480

Base Calibration on 08-MAY-2014 14:53
Field Check on 08-MAY-2014 15:00

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Background	1275	1464		
Reference 1	55908	26147	59556	30836
Reference 2	22982	2651	24941	2541

Field Check at Base

1274.5	1464.0

Field Check

1277.3	1470.9

PE Calibration

Base Calibration	Measured			Calibrated
	WS	WH	Ratio	Ratio
Background	241	1140		
Reference 1	23265	55701	0.422	0.371
Reference 2	6806	22836	0.303	0.272

Field Check at Base

240.7	1139.6

Field Check

239.8	1141.3

Density Constants MPD-D.A 480

Last Edited on 10-MAY-2014,18:39

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	1.12	gm/cc
Mud Density Z/A Multiplier	1.11	
Mud Filtrate Density	1.00	gm/cc
Dry Hole Mud Filtrate Density	1.00	gm/cc
DNCT	0.00	gm/cc
CRCT	0.00	gm/cc
Density Z/A Correction	Hybrid	

Matrix density (gm/cc)	Depth (m)
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	

DOWNHOLE EQUIPMENT

C:\Minimus 13.08.2113\Logs\Shakespeare B4US #1-32\Shakespeare B4US #1-32_001.dta

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

Compact Comms Gamma
MCG-C 208 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in

Compact Micro-Resistivity
MMR-C.A 248 LG: 8.59 ft WT: 81.6 lb OD: 4.882 in

Compact Neutron
MDN-B.J 387 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

Compact Density/Caliper
MPD-D.A 480 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in

Compact Focussed Electric
MFE-A.A 55 LG: 6.05 ft WT: 48.5 lb OD: 2.244 in

Compact Sonic
MSS-A.A 73 LG: 12.52 ft WT: 72.8 lb OD: 2.244 in

Compact Induction
MAI-A.A 5 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in

Total Length: 63.70 ft Weight: 480.6 lb

56.02 ft	GRGC - Gamma Ray
53.11 ft	CGXT - MCG External Temperature
45.76 ft	MINV - MMR MicroLog Inverse
45.76 ft	MNRL - MMR MicroLog Normal
40.97 ft	NPRL - Limestone Neutron Por.
33.73 ft	CLDC - Density Caliper
33.73 ft	AVOL - Annular Volume
33.73 ft	HVOL - Hole Volume
31.80 ft	DPRL - Limestone Density Por.
31.80 ft	DEN - Compensated Density
31.80 ft	DCOR - Density Correction
31.74 ft	PDPE - PE
26.24 ft	FEFE - Shallow FE
12.96 ft	SPRL - Wyllie Lime. Sonic Por.
12.96 ft	DT35 - 3-5' Compensated Sonic
3.34 ft	R40O - Array Ind. One Res 40
3.34 ft	R60O - Array Ind. One Res 60
3.34 ft	RTAO - Array Ind. One Res Rt
0.23 ft	SPCG - Spontaneous Potential
Tool Zero	(0.13ft from bottom)
-0.13 ft	SMTU - DST Uphole Tension

All measurements relative to tool zero.

COMPANY	SHAKESPEARE OIL CO., INC.
WELL	B4US #1-32
FIELD	WILDCAT
PROVINCE/COUNTY	SCOTT
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	3066.00	feet	First Reading	4829.00	feet
Elevation Drill Floor	3064.00	feet	Depth Driller	4845.00	feet

Elevation Drill Floor	3064.00	feet	Depth Driller	4845.00	feet
Elevation Ground Level	3056.00	feet	Depth Logger	4842.00	feet

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COMPENSATED SONIC
WITH INTEGRATED TRANSIT TIME