



PRECISION
ENERGY SERVICES

DUAL LATEROLOG - MICRO

COMPENSATED SONIC

1:500

COMPANY

LAKES OIL NL

WELL

LOY YANG 2

FIELD

EXPLORATION

PROVINCE/COUNTY

VICTORIA

COUNTRY/STATE

AUSTRALIA

LOCATION

38° 15' 13" S, 146° 33' 31" E

FINAL PRINT

LSD

SEC

TWP

RGE

Other Services

PHOTO DENSITY

COMPENSATED NEUTRON

ACOUSTIC SCANNER

API Number

Permit Number PEP 166

Elevation metres

COMPENSATED NEUTRON

ACOUSTIC SCANNER

Elevations:
KB 107.65 metres
DF 104.00 metres

Permanent Datum

Log Measured From R.T@ 107.65 above Permanent Datum

Drilling Measured From R.T

Date 17-MAR-2006

Run Number 2

Depth Driller 1443.00 metres

Depth Logger 1442.08 metres

First Reading 1440.90 metres

Last Reading 0.00 metres

Casing Driller 215.00 metres

Casing Logger 216.00 metres

Bit Size 6.13 inches

Hole Fluid Type KCL POLYMER

Density / Viscosity 1.04 g/cc

PH / Fluid Loss

Sample Source FLOWLINE

Rm @ Measured Temp 0.762 @ 25.0 ohm-m

Rmf @ Measured Temp 0.711 @ 25.0 ohm-m

Rmc @ Measured Temp 0.813 @ 25.0 ohm-m

Source Rmf / Rmc PIT PRESS

Rm @ BHT 0.363 @ 75.0 ohm-m

Time Since Circulation 7HRS

Max Recorded Temp 75.00 deg C

Equipment Name OILFIELD

Equipment / Base 8 SALE

Recorded By TIM HANSEN

Witnessed By TIM O'BRIEN, BEN EDWARDS

Circ. Stop 17:18/16-MAR

BOREHOLE RECORD

Bit Size inches	Depth From metres	Depth To metres
8.500	0.00	215.00
6.125	215.00	1441.00

CASING RECORD

Type	Size inches	Depth From metres	Shoe Depth metres	Weight pounds/ft
SURFACE	9.625	0.00	25.00	36.00
BUTTRESS	7.000	25.00	215.00	26.00

REMARKS

- 1) SOFTWARE ISSUE: JUN 17, 2004.
- 2) LAKES OIL APPROVED SCALES AND INTERVALS LOGGED.
- 3) RUN ONE: HFS, MRS, DLE, DLP, ATS, WPS, SBT RAN IN COMBINATION.
RUN TWO: HFS, PDS, CNS RAN IN COMBINATION
RUN THREE: AST, BGN RAN IN COMBINATION
- 4) HARDWARE: MRS: ONE 0.5" INCH STANDOFF
ATS: THREE 0.5" INCH STANDOFF
WPS: ONE 0.5" INCH STANDOFF
CNS: ONE SINGLE BOWSPRING
AST: ONE CENTRALISER BASKET
BGN: ONE CENTRALISER BASKET
- 5) SERVICE ORDER: 2800
- 6) RIG: HUNT ENERGY 2
- 7) TOTAL HOLE VOLUME FROM TD TO SURFACE CASING = 27.9 CU.M.
- 8) TOTAL ANNULAR VOLUME WITH 4.5 INCH CASING = 14.2 CU.M
- 9) SONIC CASING SIGNAL AT 151.6 M.
- 10)MAX DEVIATION UNKNOWN: OVER 10DEGREES.
- 11)DRILLING FLUID VISCOSITY AND PH LEVELS NOT SUPPLIED.

PRINTS: 2 FIELD, 2 FINAL



MAINLOG 1:500



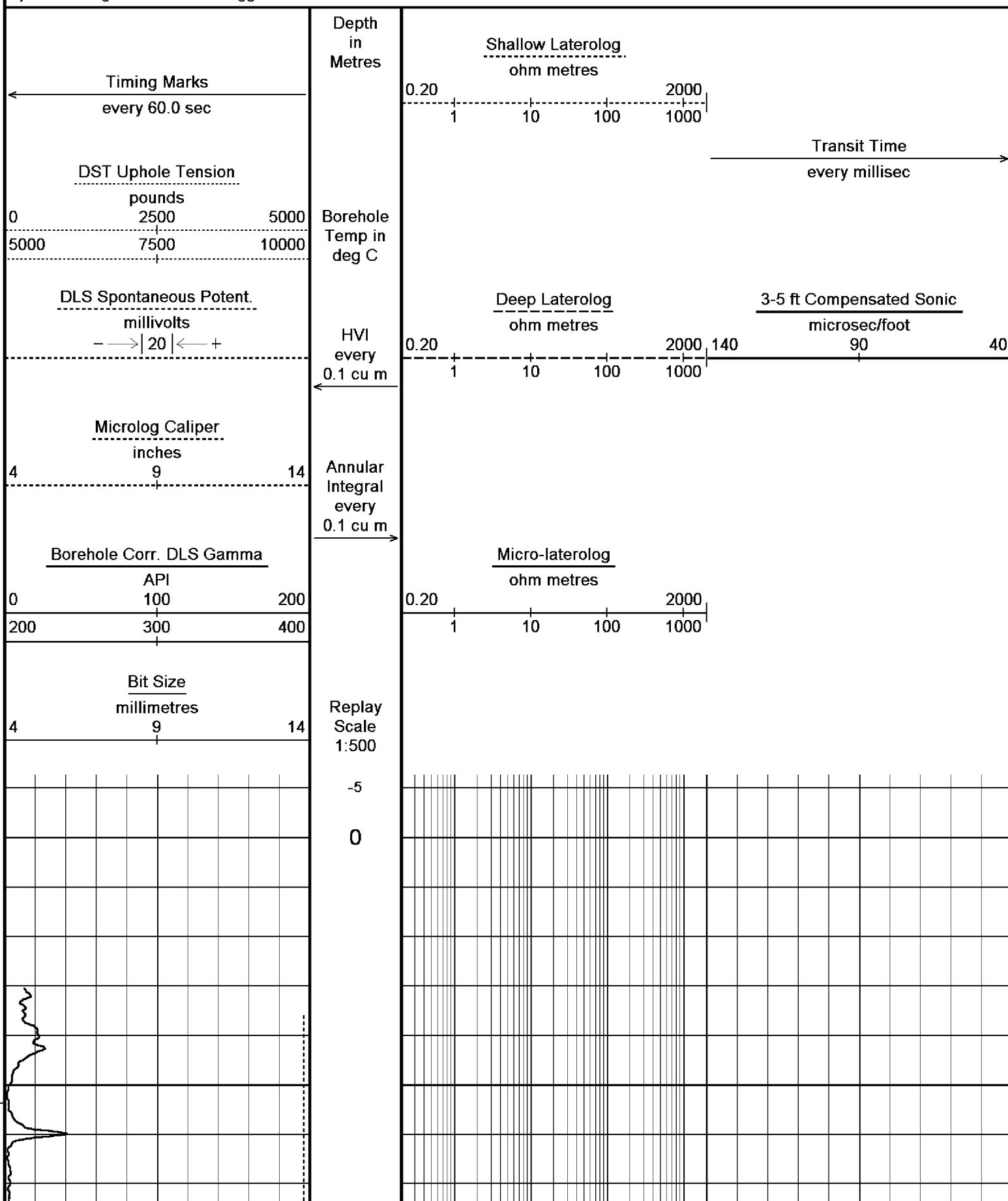
Depth Based Data - Maximum Sampling Increment 10.0cm

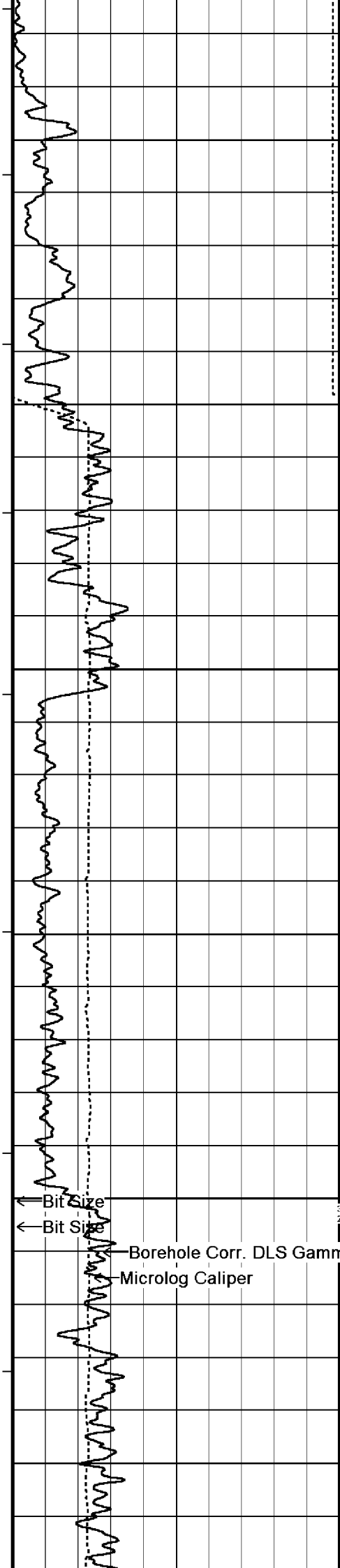
Plotted on 30-MAR-2006 10:21

Filename: W:\LakesOil\LakesOil_LoyYang2_DLS_ATS.dta

Recorded on 17-MAR-2006 00:58

System Configuration Dates: Logged : Processed 17-JUN-2004: Plotted 17-JUN-2004:

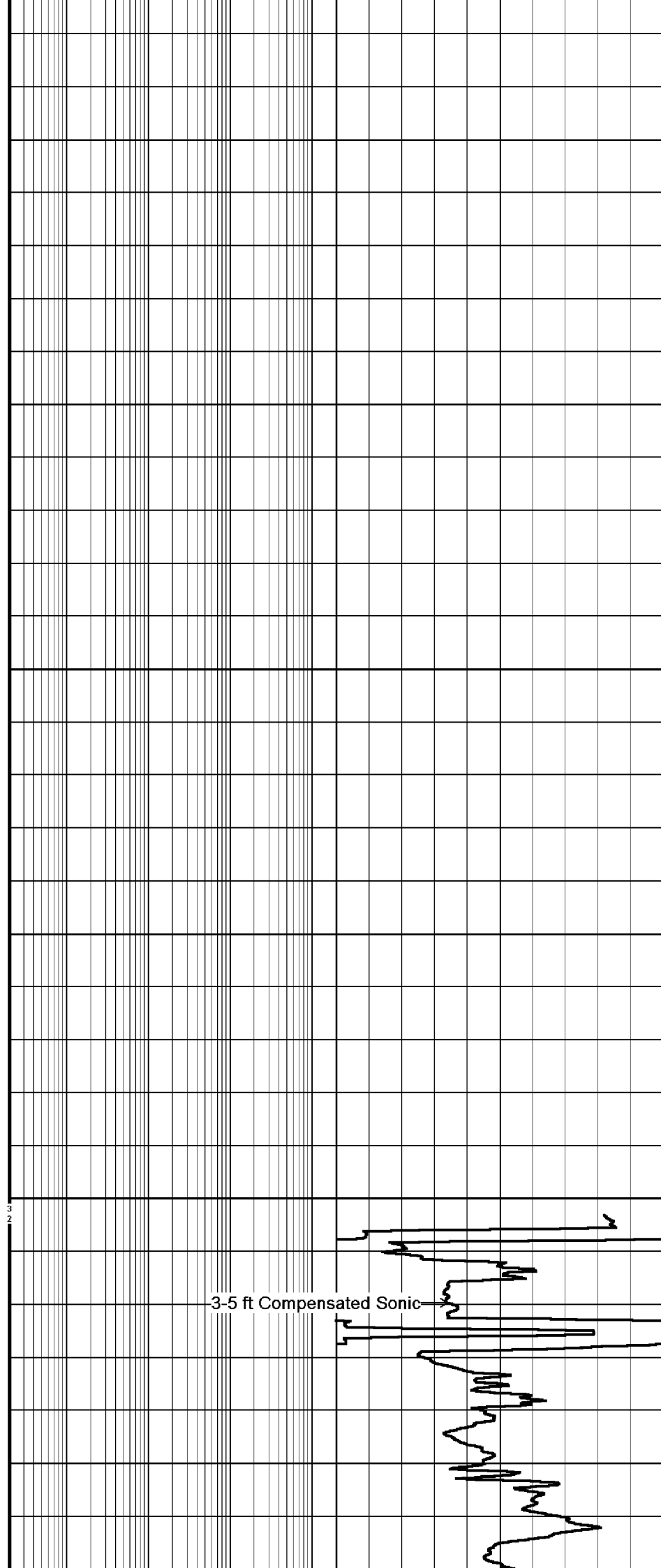


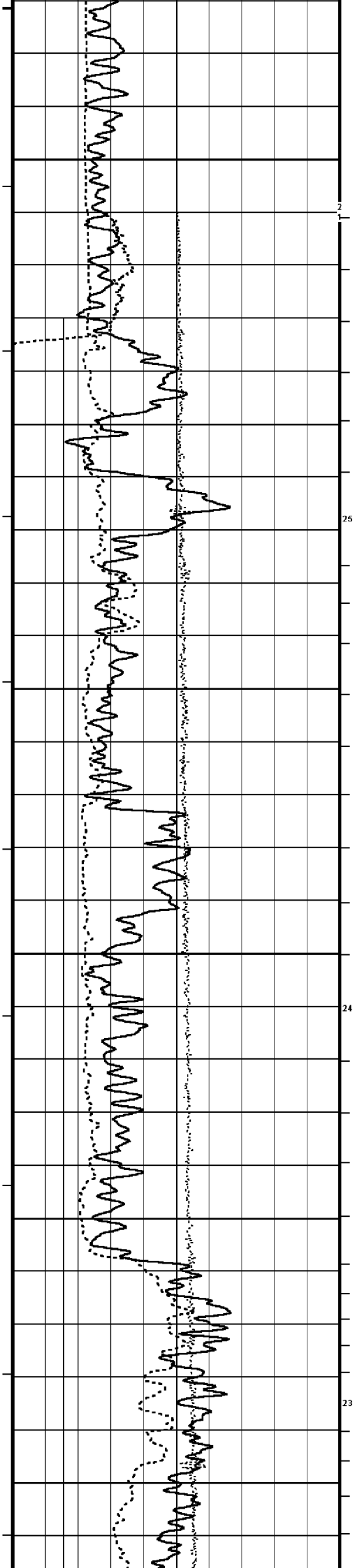


50

100

150





200

42°

43°

250

43°

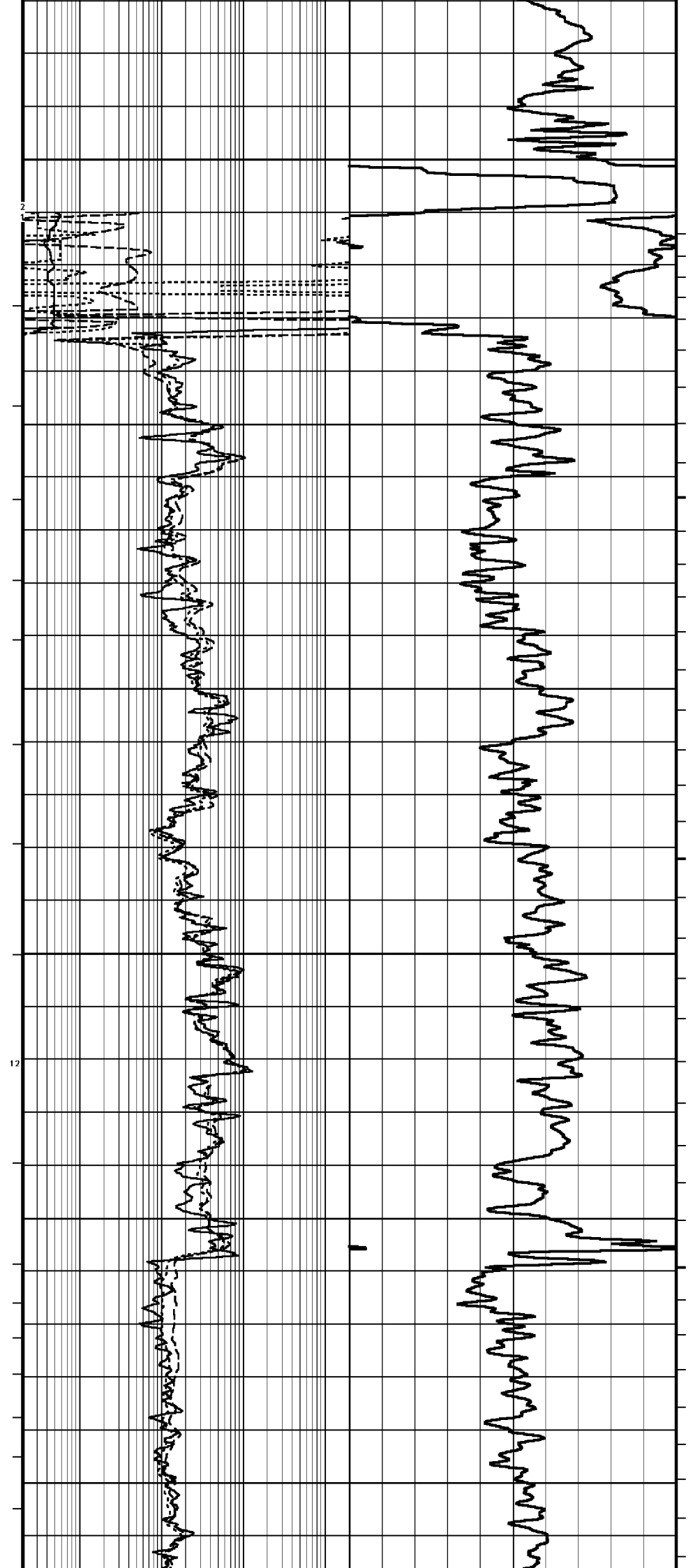
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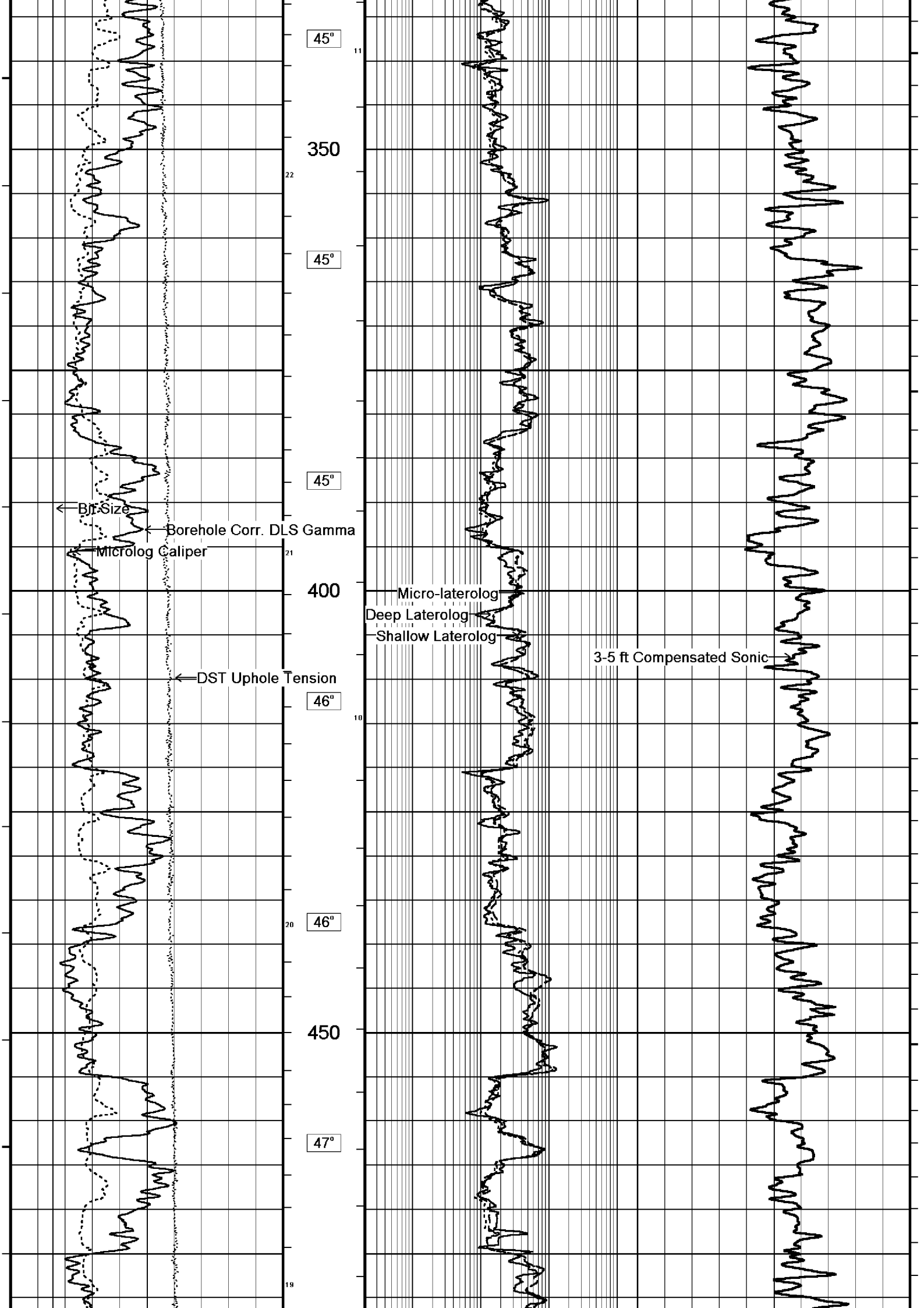
44°

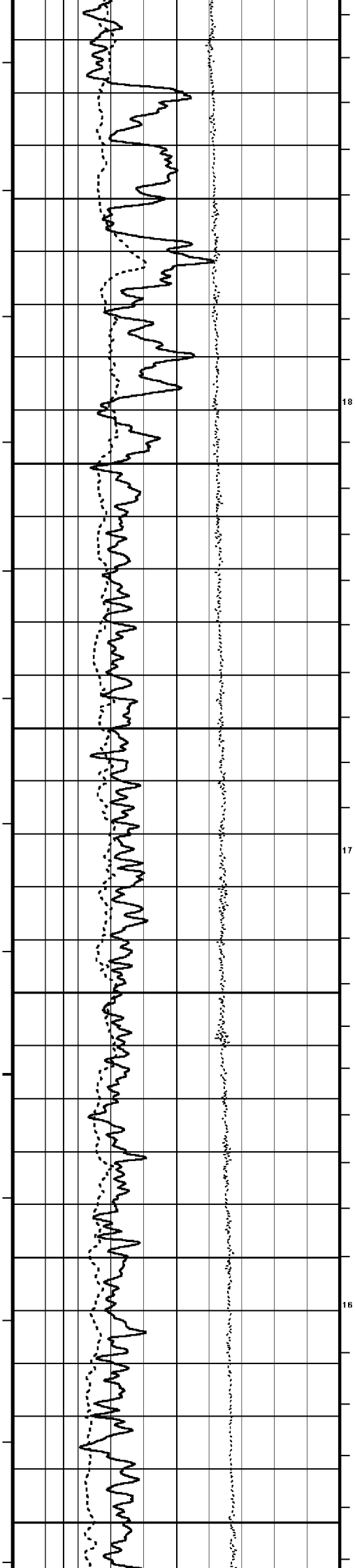
300

44°

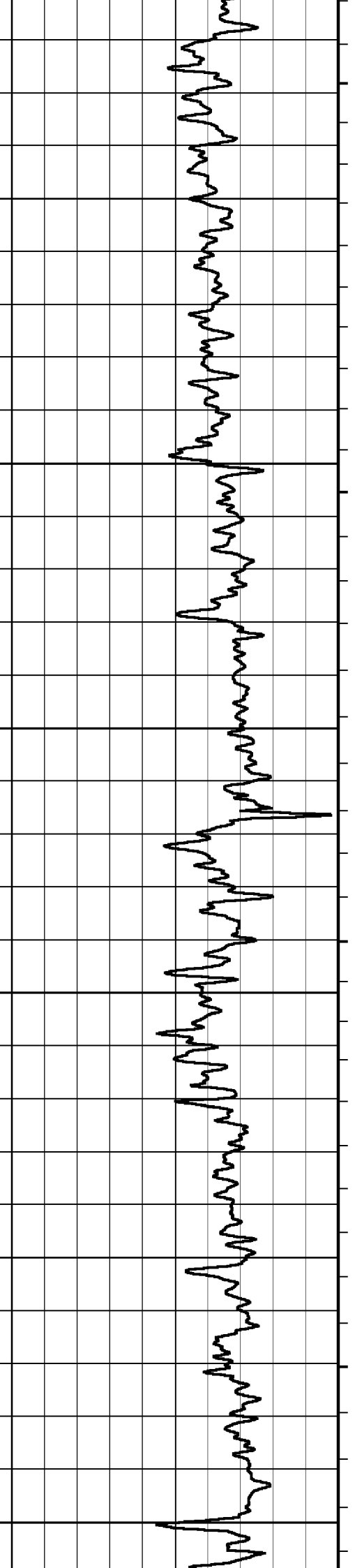
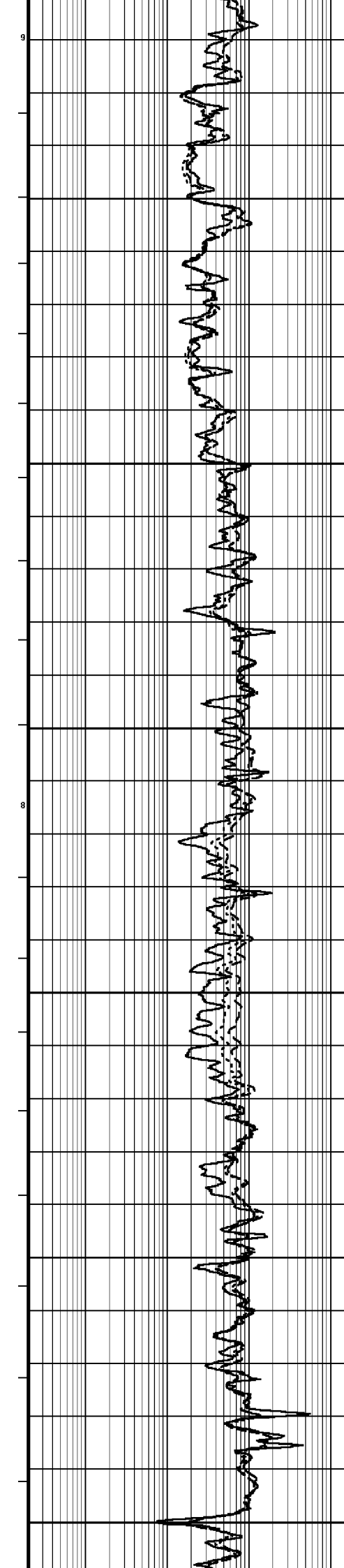
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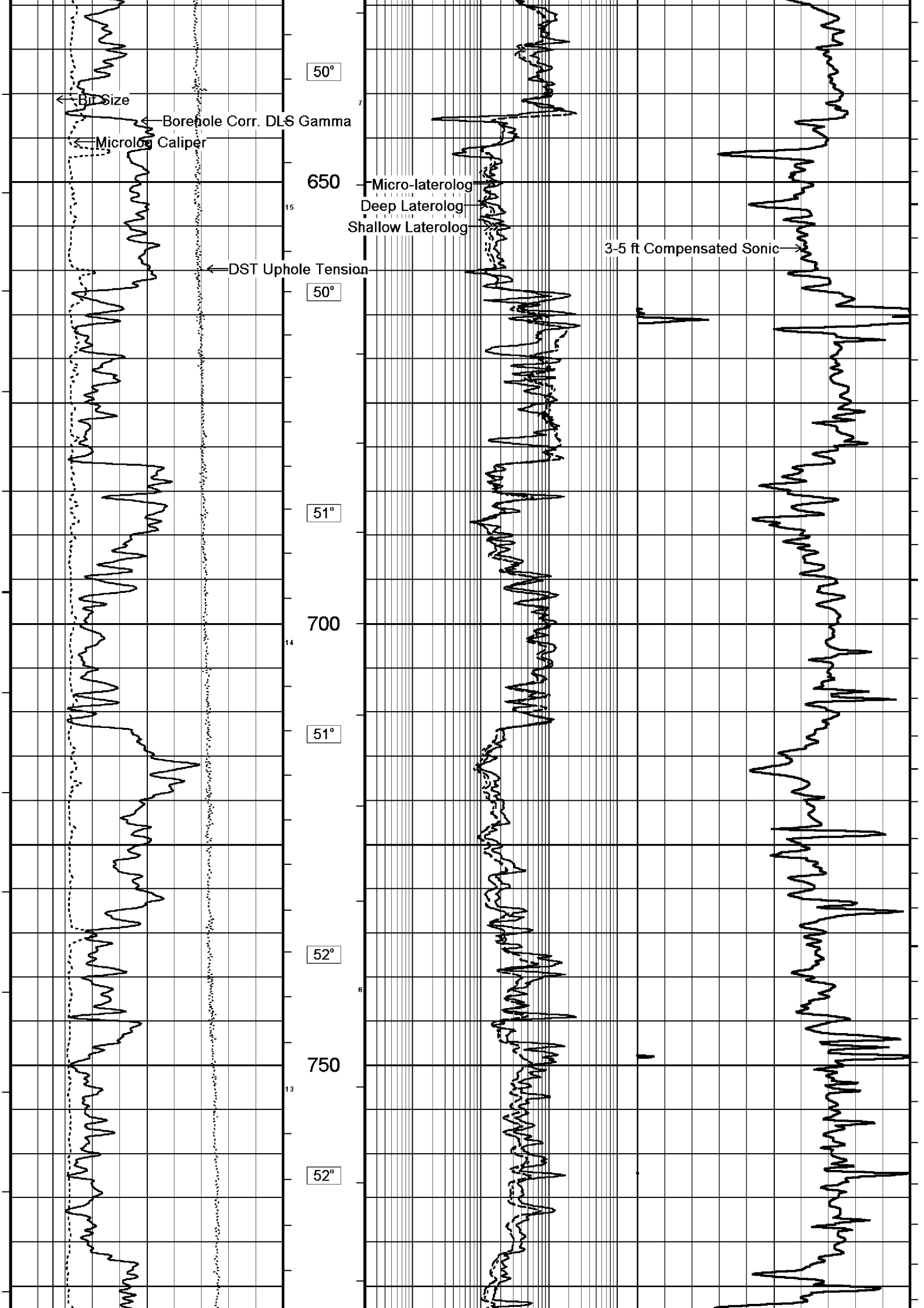


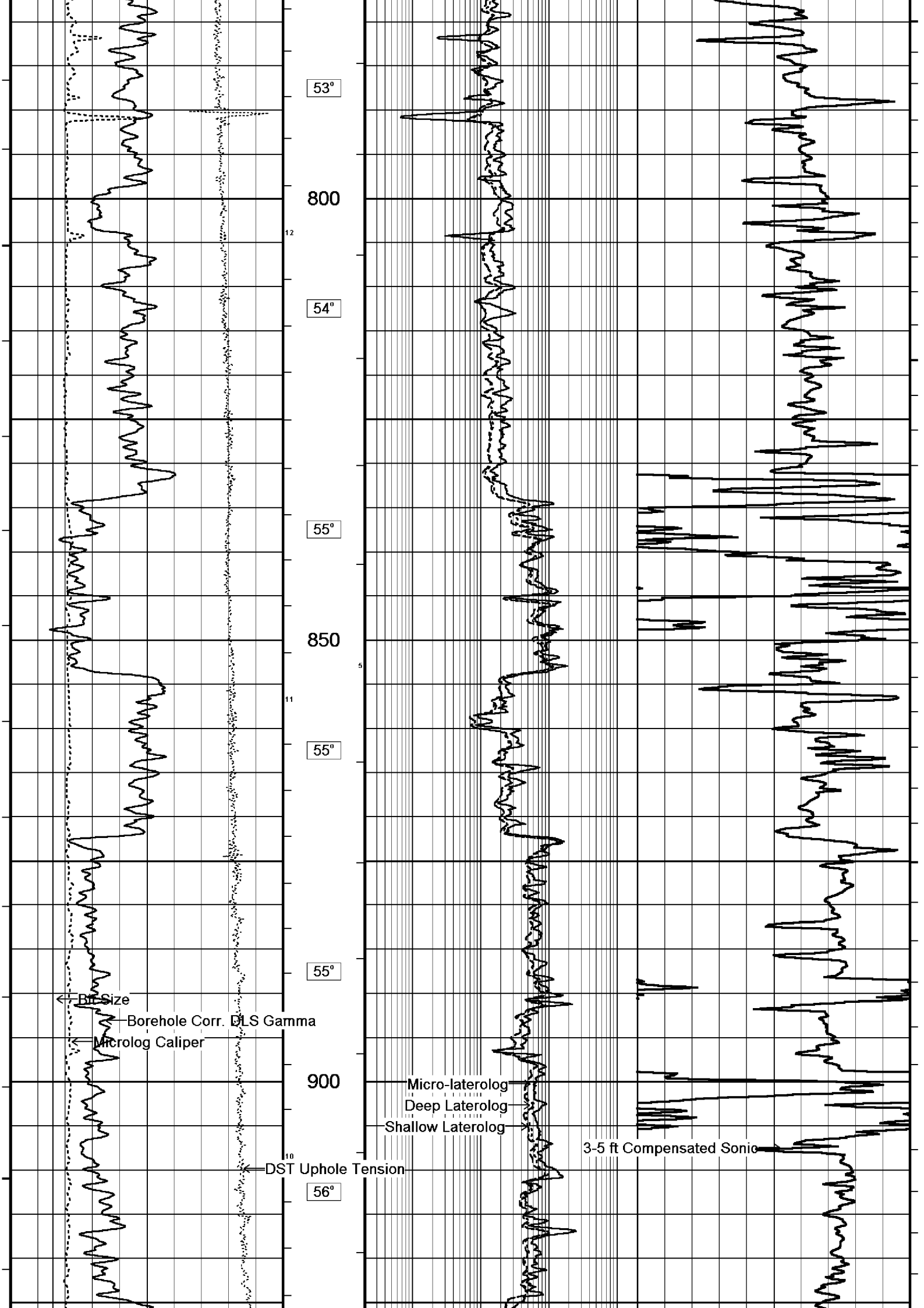


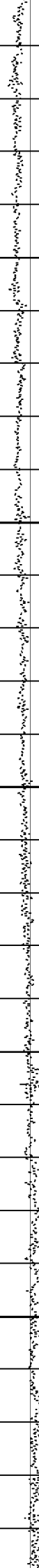
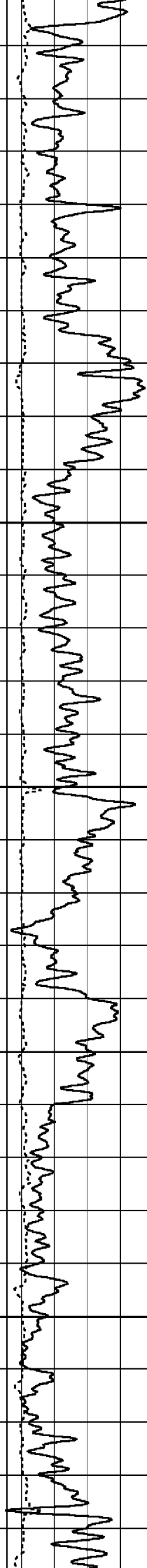


48° 500 48° 550 49° 600 49°









56"

950

57"

57"

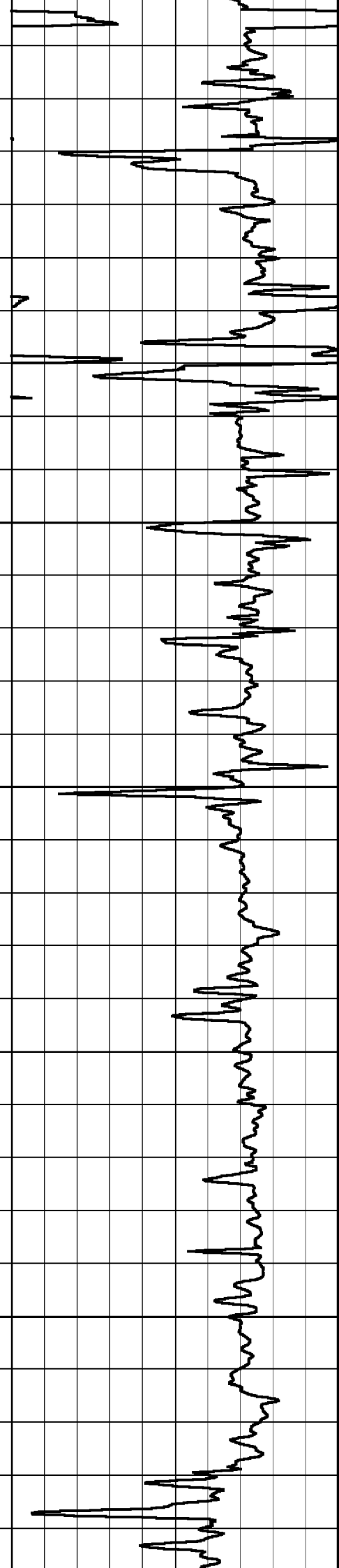
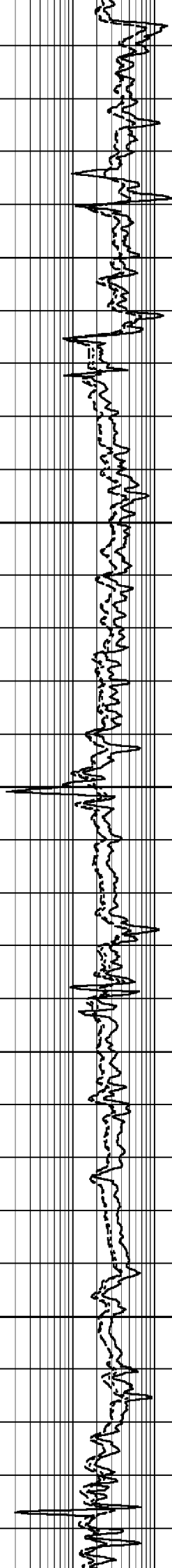
1000

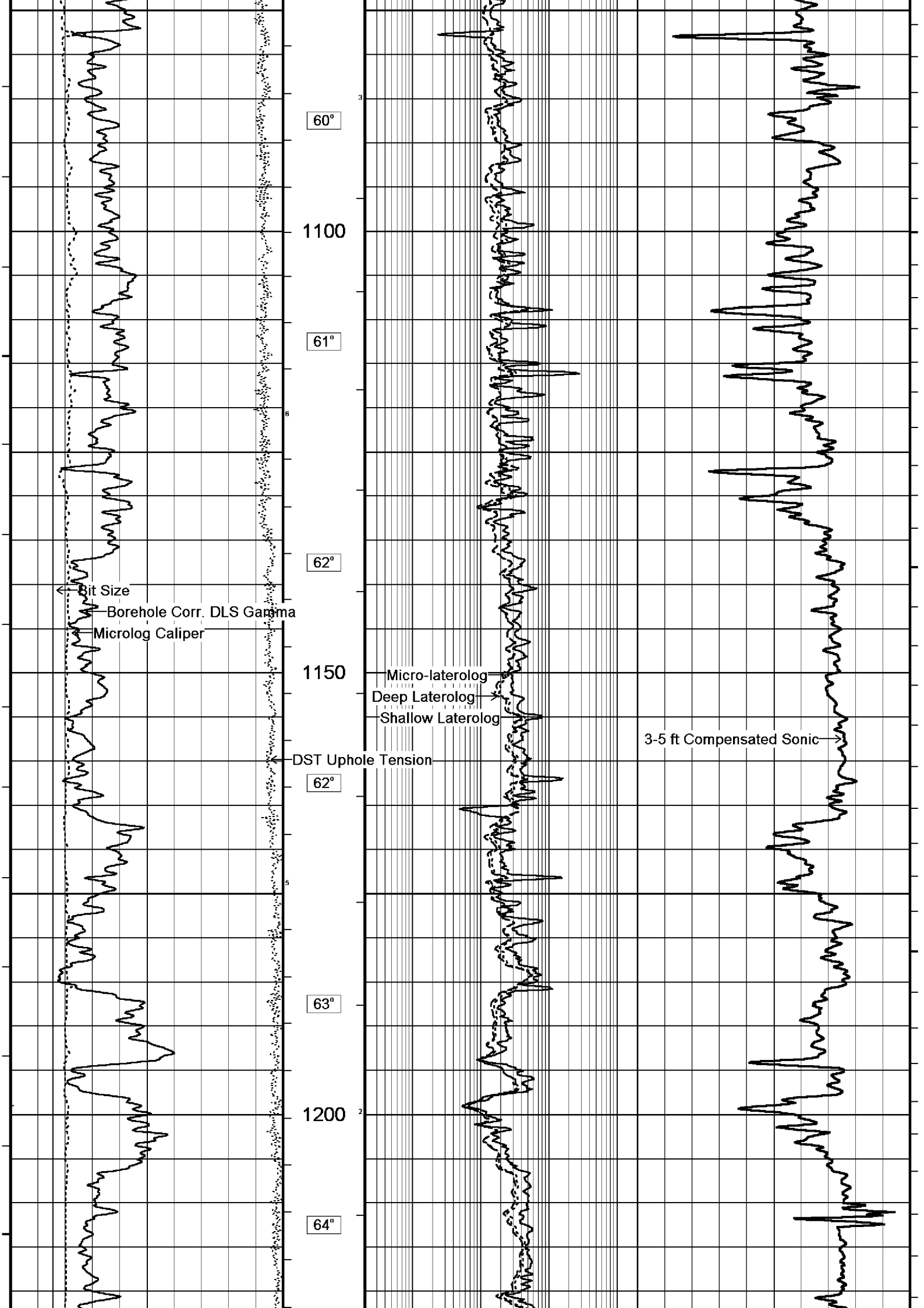
58"

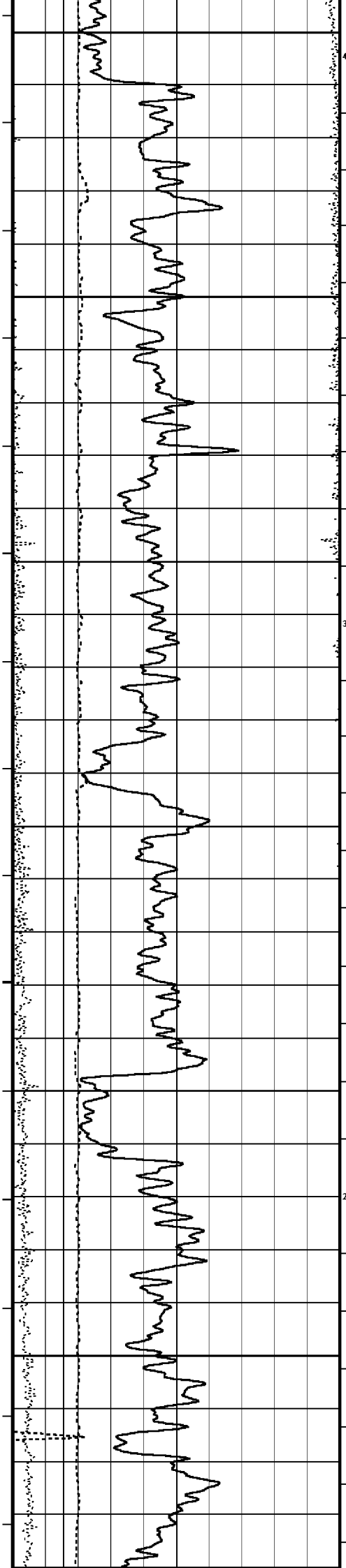
59"

1050

59"







68°

1350

67°

67°

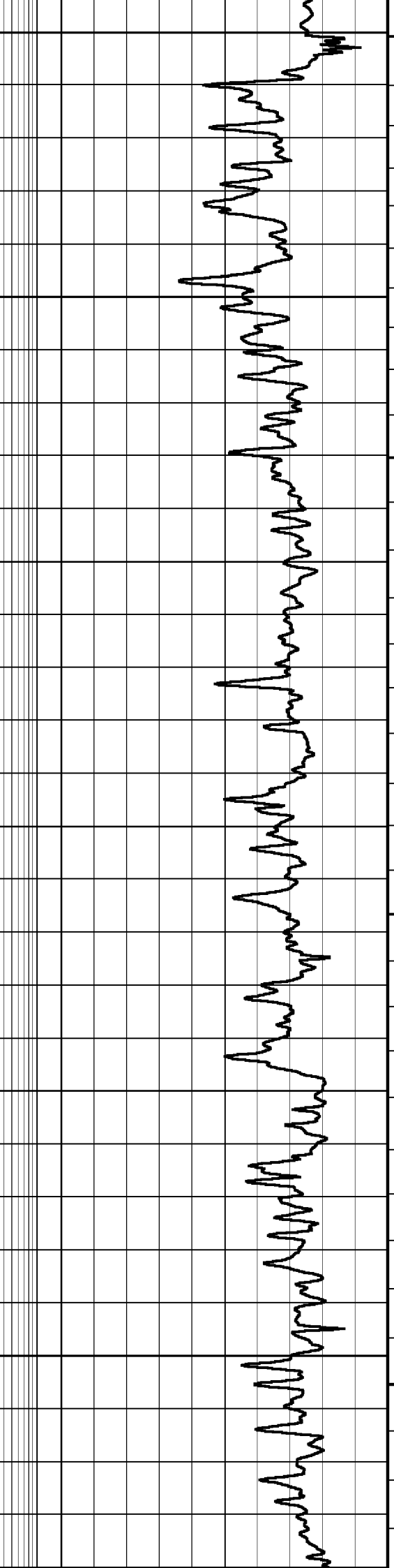
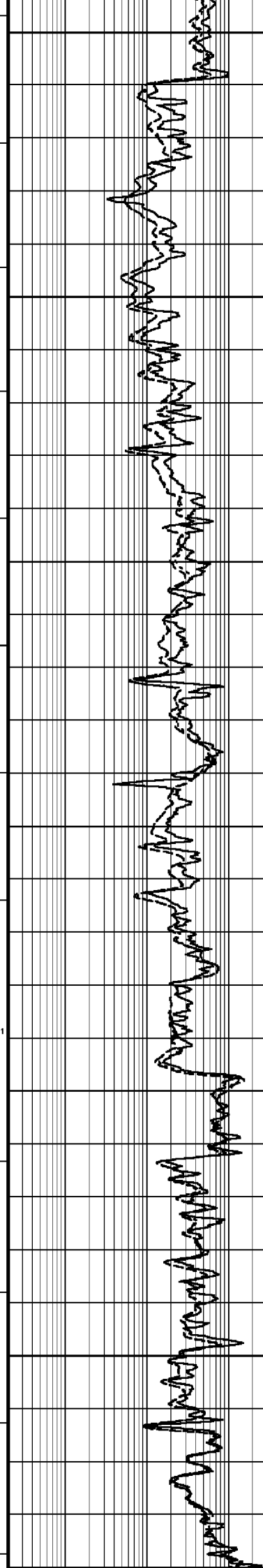
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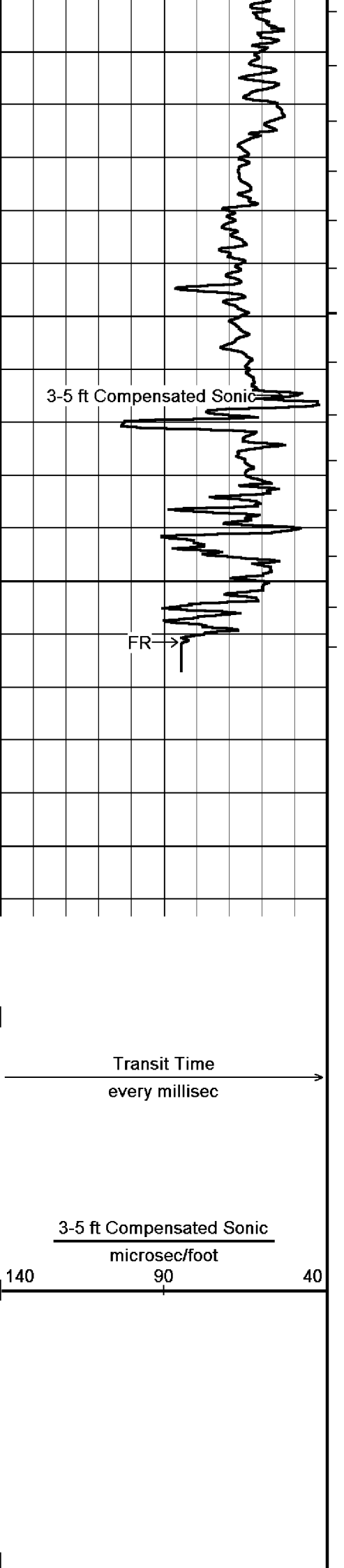
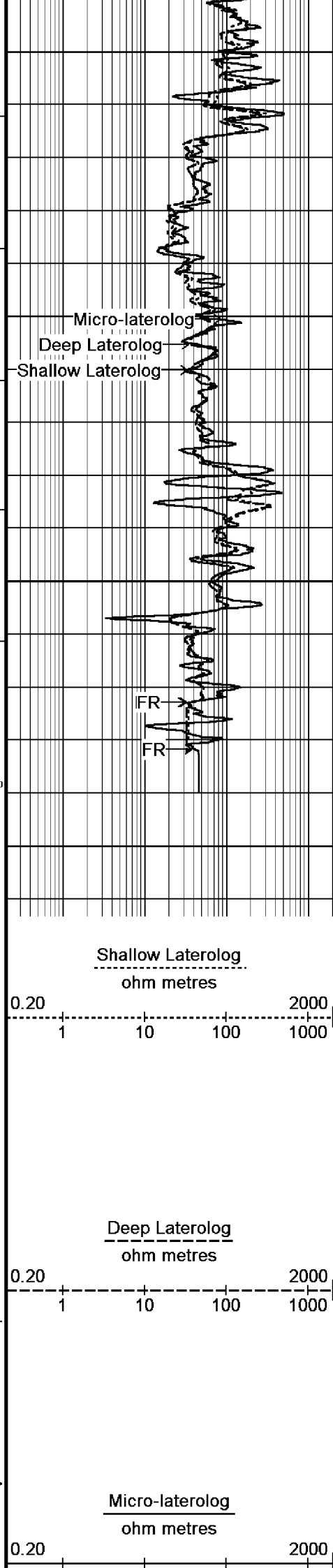
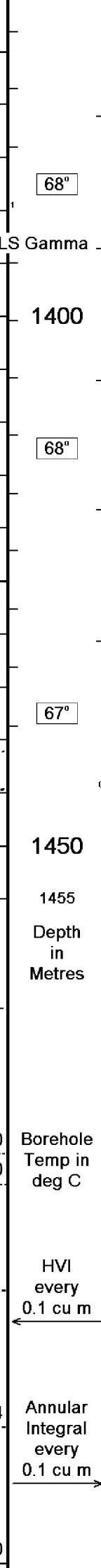
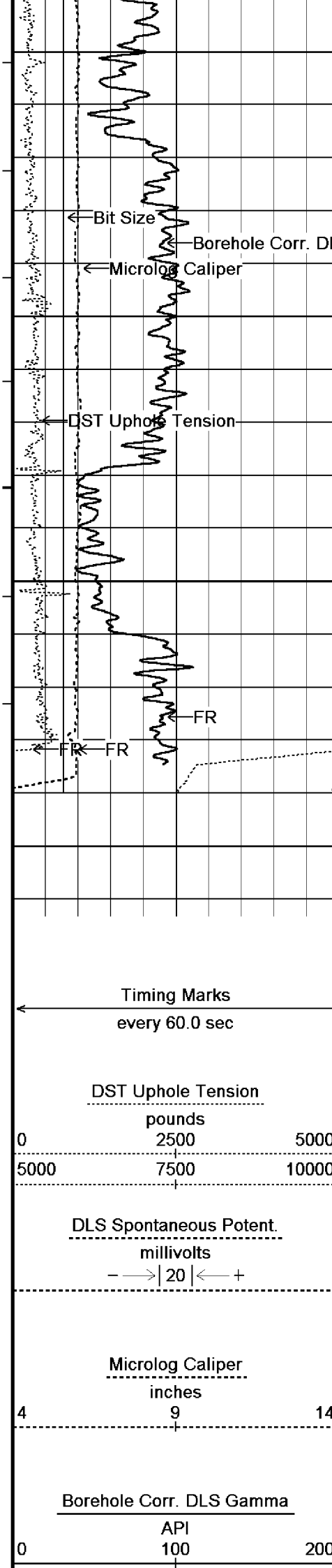
66°

65°

1250

64°





Timing Marks
every 60.0 sec

DST Uphole Tension
pounds
0 2500 5000
5000 7500 10000

DLS Spontaneous Potent.
millivolts
- -> | 20 | <- +

Microlog Caliper
inches
4 9 14

Borehole Corr. DLS Gamma
API
0 100 200

0.20 2000
1 10 100 1000

0.20 2000 140
1 10 100 1000 90 40

0.20 2000

200	300	400	Replay Scale 1:500	1	10	100	1000'
<div>Bit Size</div> <div>millimetres</div>							
4	9	14					

Depth Based Data - Maximum Sampling Increment 10.0cm
 Filename: W:\LakesOil\LakesOil_LoyYang2_DLS_ATS.dta
 System Configuration Dates: Logged : Processed 17-JUN-2004: Plotted 17-JUN-2004:

Plotted on 30-MAR-2006 10:21
 Recorded on 17-MAR-2006 00:58

↑

MAINLOG 1:500

↑

BEFORE SURVEY CALIBRATION			
W:\LakesOil\LakesOil_LoyYang2_DLS_ATS.dta			
General Constants All 000			
General Parameters			
Mud Resistivity	0.762	ohm-metres	
Mud Resistivity Temperature	25.000	degrees C	
Water Level	0.000	metres	
Density/Neutron Processing	Wet Hole		
Hole/Annular Volume and Differential Caliper Parameters			
HVOL Caliper 1	Microlog Caliper		
HVOL Caliper 2	Microlog Caliper		
Annular Volume Diameter	4.500	inches	
Caliper for Differential Caliper	Microlog Caliper		
Rwa Parameters			
Porosity used	Limestone Sonic Porosity		
Resistivity used	Deep Laterolog		
RWA Constant A	0.610		
RWA Constant M	2.150		
Long Spaced Sonic Constants ATS 042			
Sonde Mode	Compensated		
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	0		
Correction for Sonde Skew	Applied		
Initial Discriminator Level 1	1.00	volts	
Initial Discriminator Level 2	1.00	volts	
Initial Discriminator Level 3	1.00	volts	
Initial Discriminator Level 4	1.00	volts	
Transmitter 1 Switch	Normal		
Transmitter 2 Switch	Normal		
Received Signal Polarity	Normal		
MN3FT	N/A	micro-sec	
MX3FT	N/A	micro-sec	
Waveform Parameters			
Standoff	N/A	N/A	
Window Width	N/A		
Time Factor	N/A		
Significance Level	N/A		
S Velocity Despiker	N/A	N/A	
P Velocity Despiker	N/A	N/A	
Interval Pair 1	N/A		
Interval Pair 2	N/A		
Auto Range	N/A		
Waveform Gain Applied	N/A		
Invert W3TN	N/A		
Waveform 1 for Attenuation	N/A		
Waveform 2 for Attenuation	N/A		
CBL Waveform Parameters			

CDE Waveform Parameters		
Peak Channel	N/A	
Peak Window Position	N/A	
Peak Window Start	N/A	micro-sec
Peak Window Width	N/A	micro-sec
Peak Gain Factor	N/A	
Waveform	N/A	
Waveform Gain Factor	N/A	
Transmitters Enabled	N/A	

SP Calibration DLP 003			Field Calibration on 17-NOV-2005 09:49
	Measured	Calibrated (mV)	
Reference 1	104.6	100.5	
Reference 2	-103.7	-100.6	

SP Constants DLP 003	
Interference Rejection	50 Hz

Gamma Calibration DLE 003			Field Calibration on 7-DEC-2005 13:13
	Measured	Calibrated (API)	
Background	42	38	
Calibrator (Gross)	955	862	
Calibrator (Net)	913	824	

Gamma Constants DLE 003		
Gamma Calibrator Number	30	
Mud Density	1.04	gm/cc
Caliper Source for Processing	Microlog Caliper	
Tool Position	Centred	
Concentration of KCl	0.00	kppm

Laterolog Calibration DLE 003			Base Calibration on 11-MAR-2006 17:57	Field Check on 15-MAR-2006 10:39
Base Calibration				
		Measured	Calibrated (ohm-m)	
Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Shallow	0.0	1008.2	0.0	1430.0
Deep	0.0	1008.4	0.0	820.0
Groningen	0.0	120.8	0.0	820.0
Channel	Base Check (ohm-m)		Field Check (ohm-m)	
Shallow	113.0		0.0	
Deep	64.8		0.0	
Groningen	546.2		0.0	

Laterolog Constants DLE 003		
Squasher Start	40000	ohm-m
Shallow Laterolog K Factor	1.4300	
Deep Laterolog K Factor	0.8200	
Groningen Laterolog K Factor	0.8200	
Voltage Reference	Armour	
Deep Drive	On	
Interference Rejection	50 Hz	

Micro Normal and Micro Inverse Calibration MRS 032			Base Calibration on 17-NOV-2005 10:59	Field Check on 7-DEC-2005 14:30
Base Calibration				
		Measured	Calibrated (ohm-m)	
Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	9.7	49.4	6.1	30.6
Micro Inverse	10.0	49.9	3.4	16.9
Channel	Base Check (ohm-m)		Field Check (ohm-m)	
Micro Normal	62.0		62.0	
Micro Inverse	33.8		33.8	

Micro Normal and Micro Inverse Constants MRS 032		
Micro Normal K Factor	0.6130	
Micro Inverse K Factor	0.3380	
Standoff Offset	N/A	inches

Caliper Calibration MRS 032			Base Calibration on 17-NOV-2005 11:18	Field Calibration on 16-MAR-2006 23:17
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Base Calibration

Reading No

Measured

Calibrator Size (in)

1

107520

8.01

2

139520

10.01

3

168960

11.82

4

212736

14.01

5

0

0.00

6

N/A

N/A

Field Calibration

Measured Caliper (in)

8.39

Actual Caliper (in)

6.28

Micro Laterolog Calibration MRS 032

Base Calibration on 11-MAR-2006 18:19

Field Check on 15-MAR-2006 10:42

Base Calibration

Measured		Calibrated (ohm-m)	
Ref 1	Ref 2	Ref 1	Ref 2
898.2	8778.8	23.0	230.0

Base Check (ohm-m)	Field Check (ohm-m)
12.5	0.0

Micro Laterolog Constants MRS 032

Micro Laterolog K Factor

0.0230

Standoff Offset

N/A

inches

DOWNHOLE EQUIPMENT

W:\LakesOil\LakesOil_LoyYang2_DLS_ATS.dta

Stiff Bridle B

SBT 4 Length: 3.38 m

Weight: 163.1 lb

Sonic Processing Sub

WPS 12 Length: 2.63 m

Weight: 92.6 lb

Acoustic Transducer Sub

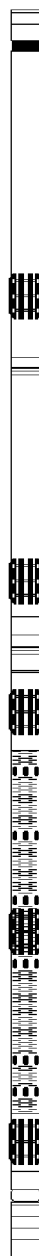
ATS 42 Length: 5.24 m

Weight: 154.3 lb

Laterolog Processing Sub

DLP 3 Length: 2.52 m

Weight: 169.8 lb



19.94 m

SPL - DLS Spontaneous Potent.

10.06 m

SPRL - Limestone Sonic Porosity

10.06 m

DTC1 - 3-5 ft Compensated Sonic

10.06 m

R4T1 - Sonic R4T1

10.06 m

R4T2 - Sonic R4T2

10.06 m

R3T1 - Sonic R3T1

10.06 m

R3T2 - Sonic R3T2

10.06 m

R2T1 - Sonic R2T1

10.06 m

R2T2 - Sonic R2T2

10.06 m

R1T1 - Sonic R1T1

10.06 m

R1T2 - Sonic R1T2

6.51 m

TEXTL - DLS Borehole Temperature

Laterolog Electrode Sub
DLE 3 Length: 4.29 m

Weight: 160.9 lb

Micro Resistivity Sub
MRS 32 Length: 2.86 m

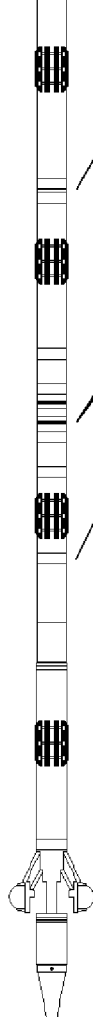
Weight: 108.0 lb

Hole Finder (37-way tools)
HFS 3 Length: 0.54 m

Weight: 11.0 lb

Total Length: 21.46 m

Weight: 859.8 lb



4.41 m
4.41 m
3.04 m

DLL - Deep Laterolog
SLL - Shallow Laterolog
GLLE - Borehole Corr. DLS Gamma

0.00 m
0.00 m
0.00 m
0.00 m
Tool Zero

MLL - Micro-laterolog
CADF - Microlog Caliper
AVOL - Annular Volume
HVOL - Hole Volume
(1.18m from bottom)

All measurements relative to tool zero.

COMPANY LAKES OIL NL
WELL LOY YANG 2
FIELD EXPLORATION
PROVINCE/COUNTY VICTORIA
COUNTRY/STATE AUSTRALIA

Elevation Kelly Bushing	107.65	metres	First Reading	1440.90	metres
Elevation Drill Floor		metres	Depth Driller	1443.00	metres
Elevation Ground Level	104.00	metres	Depth Logger	1442.08	metres



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COMPENSATED SONIC
1:500