



COMPENSATED SONIC

COMPANY **PARAMOUNT RESOURCES LTD.**
WELL **PARA ET AL CAMERON L-29**
FIELD **CAMERON HILLS**
PROVINCE/COUNTY **NORTHWEST TERRITORIES**
COUNTRY/STATE **CANADA**
LOCATION **300L296010117300** **FIELD PRINT**

LSD SEC TWP RGE Other Services PHOTO DENSITY
ARRAY INDUCTION DUAL SPACED NEUTRON

API Number 2041 MICROLOG

Permanent Datum GROUND LEVEL, Elevation 754.1 metres
Log Measured From 5.4 M above Permanent Datum
Drilling Measured From KB Elevations: KB 759.50
DF 754.10
GL

Date 05-FEB-2006

Run Number 1

Depth Driller 1515.50 metres

Depth Logger 1516.70 metres

First Reading 1512.20 metre

Last Reading 436.00 metre

Casing Driller 435.50 metres

Casing Logger 436.00 metres

Bit Size 200.00 mm

Hole Fluid Type GEL CHEM

Density / Viscosity 1135.0 kg/M3 80.00 CP

PH / Fluid Loss 10.50 10.00 ml/30Min

Sample Source FLOWLINE

Rm @ Measured Temp 0.92 @ 25.0 ohm-m

Rmf @ Measured Temp 0.69 @ 25.0 ohm-m

Rmc @ Measured Temp 1.12 @ 25.0 ohm-m

Source Rmf / Rmc PRESS FILTER

Rm @ BHT 0.60 @ 49.0 ohm-m

Time Since Circulation 7.0 HRS

Max Recorded Temp 49.00 deg C

Equipment Name COMPACT

Equipment / Base QUINT GPR

Recorded By M. BONNELL

Witnessed By B. POWELL

CIRC. STOP TIME FEB-05 21:00

Last Edited: 5-FEB-2007 23:19

BOREHOLE RECORD

Bit Size millimetres	Depth From metres	Depth To metres
311.000	0.00	435.50
200.000	435.50	1515.50

CASING RECORD

Type	Size millimetres	Depth From metres	Shoe Depth metres	Weight Kg/metre
SURFACE	219.100	0.00	435.50	35.72

REMARKS

- 1) SOFTWARE ISSUE: WLS 7.01.0195.
- 2) CUSTOMER SCALES AND LOGGED INTERVALS USED
- 3) TOOLS RUN: MAI, MSS, MPD, MDN, MML, ISC, MGS, MTC, MFE, MCG RUN IN COMBINATION
- 4) HARDWARE: MAI: TWO 25.4 MM STANDOFFS
MSS: THREE 25.4 MM STANDOFFS
MDN: DUAL BOWSPRING AND INTERSONDE CRANK
MTC: SIX LEAF CENTRALIZER
- 5) SERVICE ORDER #: 30073223 SAP #: 4146696 # FIELD PRINTS = 1
- 6) RIG: PD 220

7) SONIC FREE PIPE: FOUND FROM 382-386M

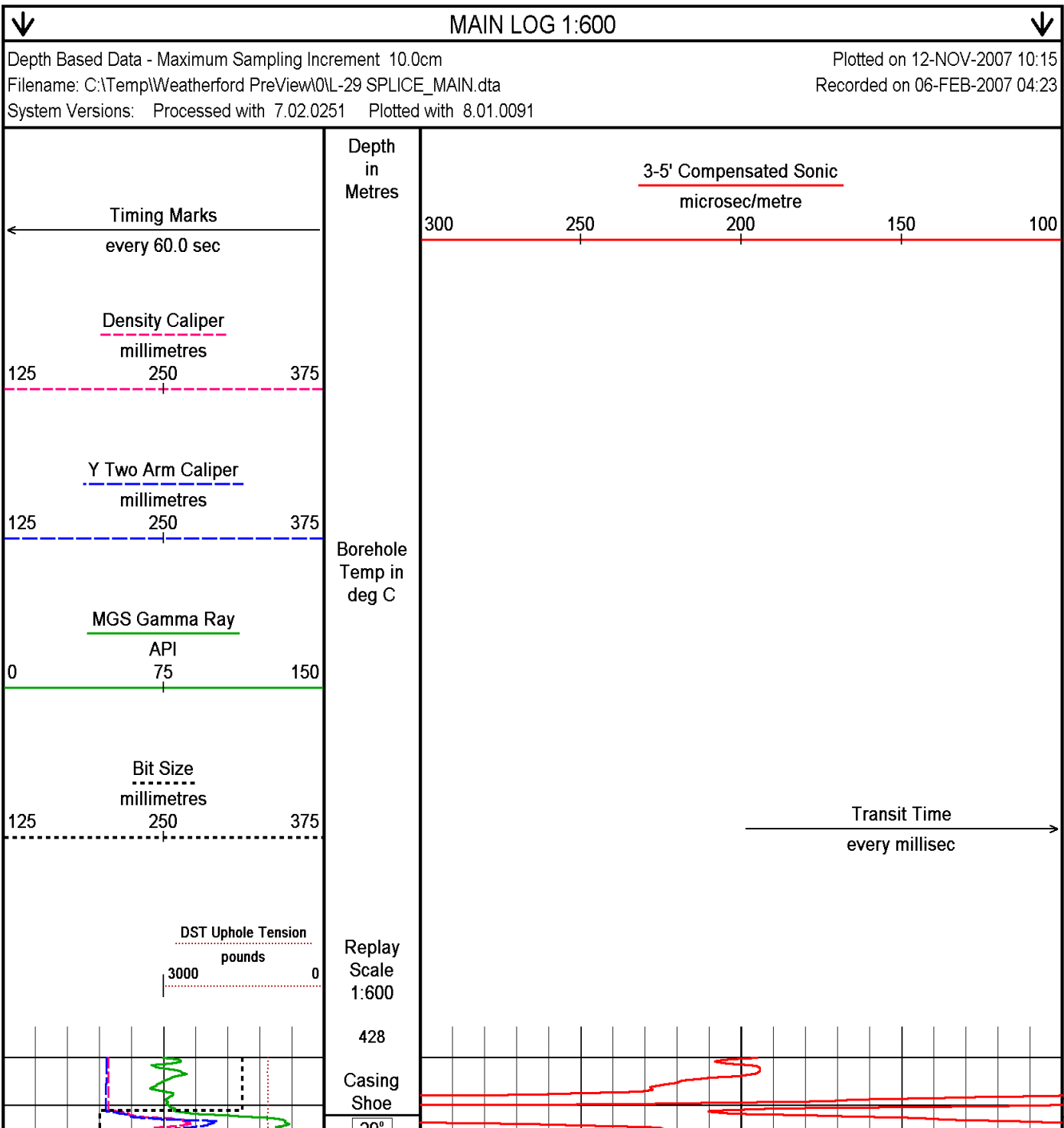
8) HOLE AND CEMENT VOLUMES FROM TD-SURFACE CASING CALCULATED USING DENSITY AND 2-ARM CALIPERS :

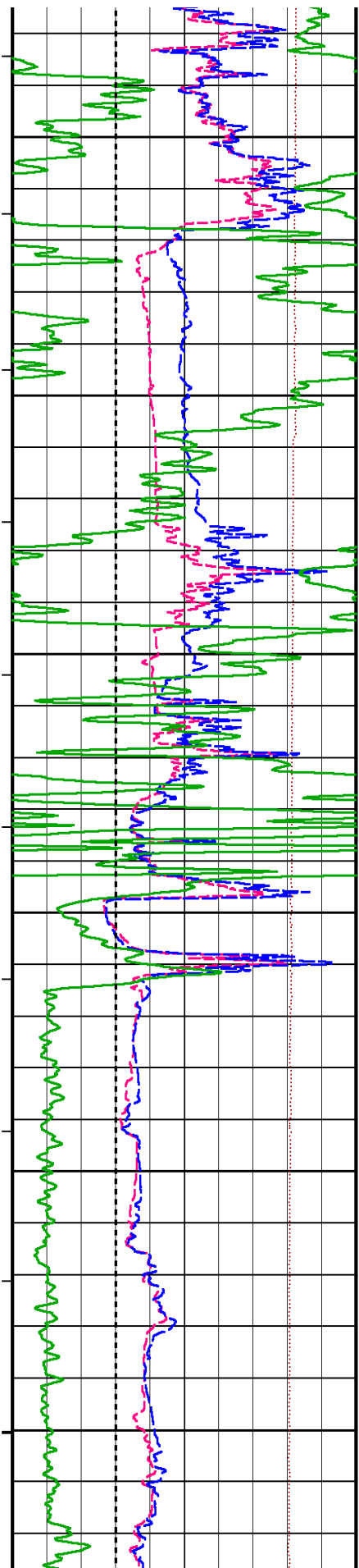
HOLE VOLUME = 41.0 CU.M.

ANNULAR VOLUME USING 139.7 MM PRODUCTION CASING = 24.6 CU.M

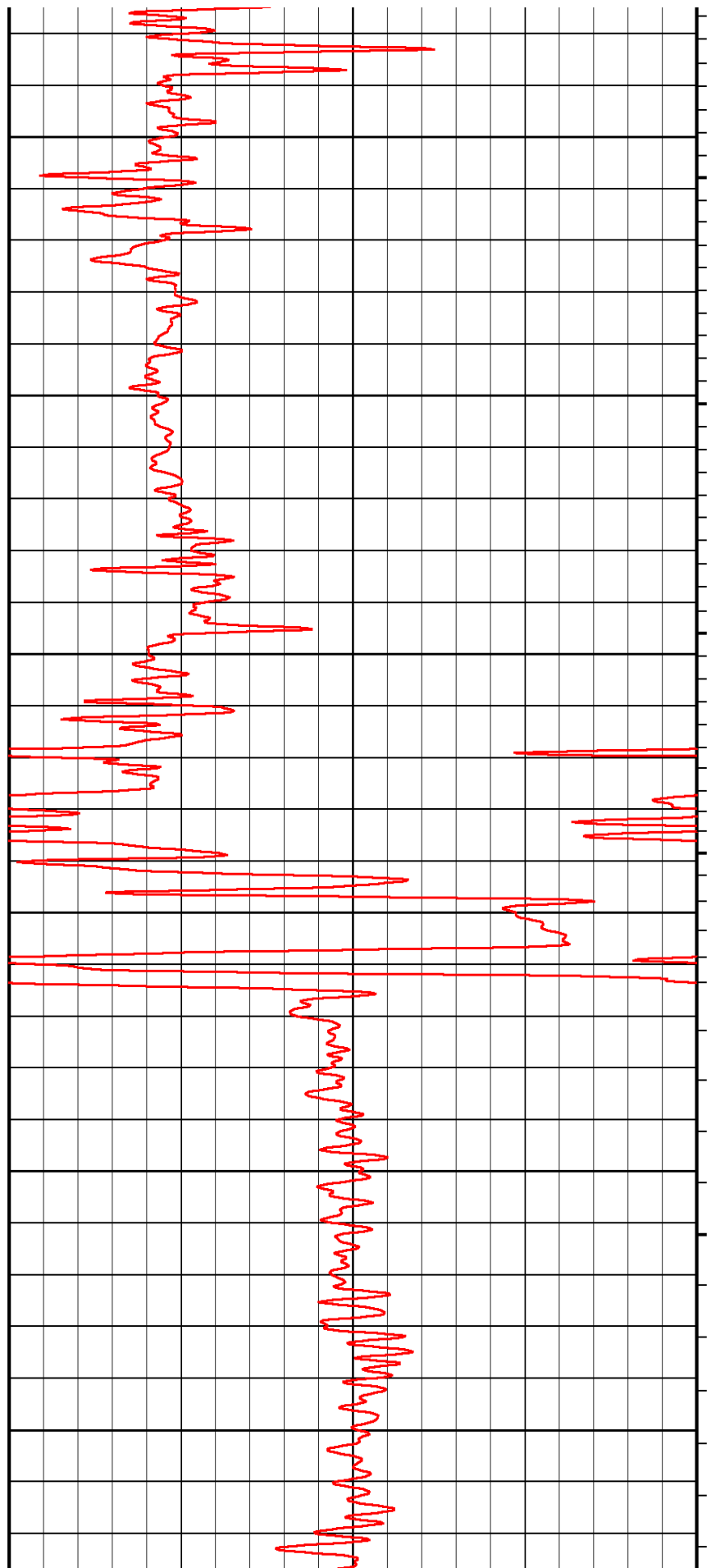
9) SALTY INDUCTION MODEL PRESENTED OFF BOTTOM.

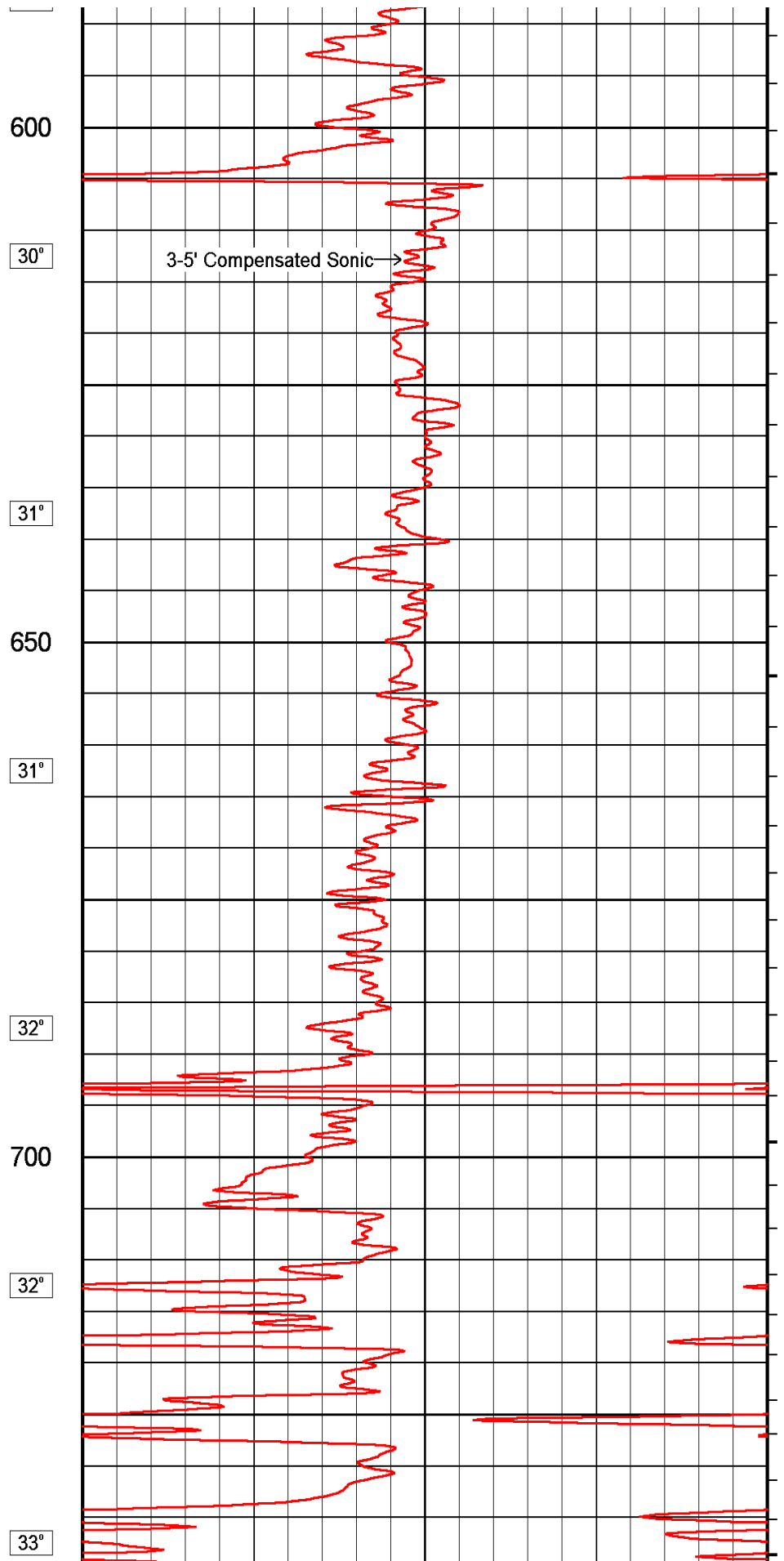
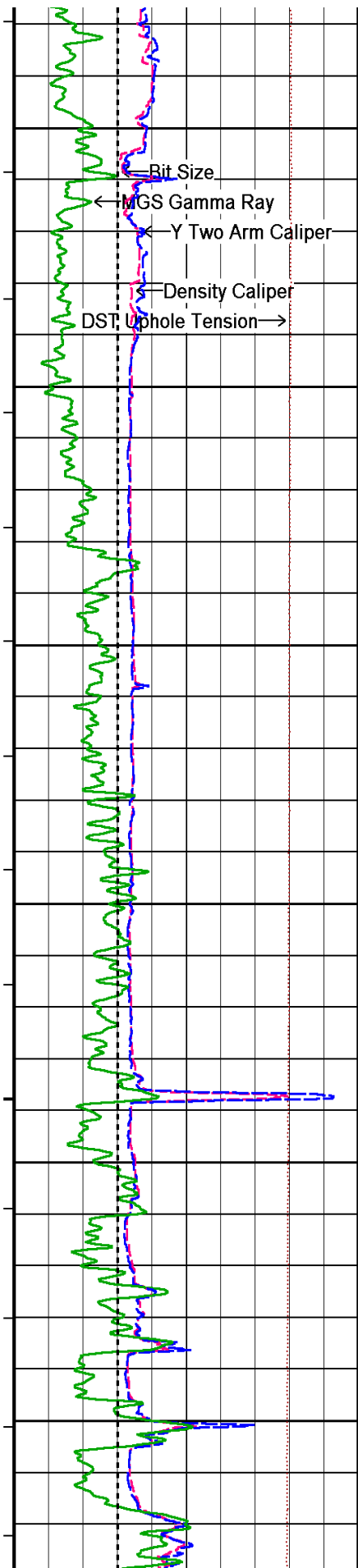
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, 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.

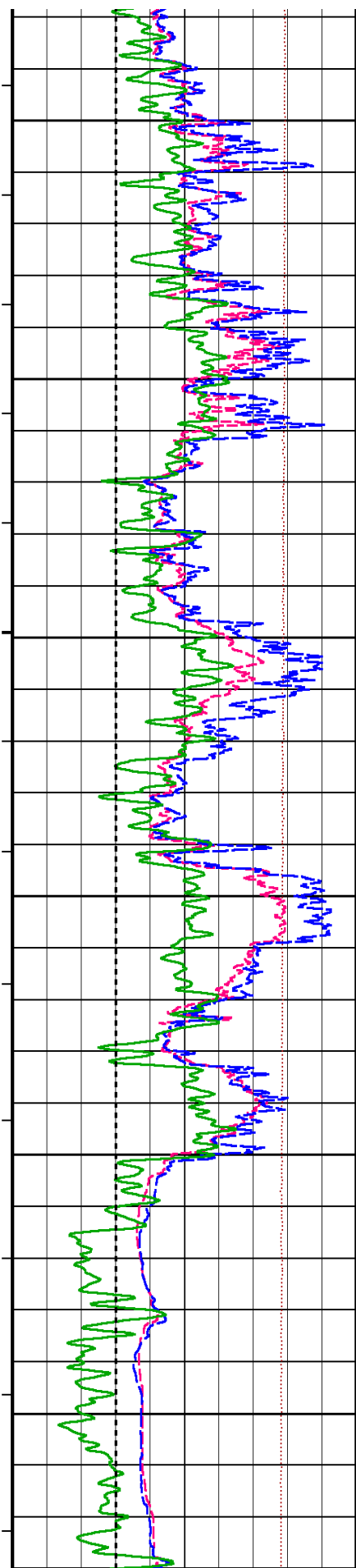




29° 450 30° 500 30° 30° 550 30° 30°







750

33°

34°

800

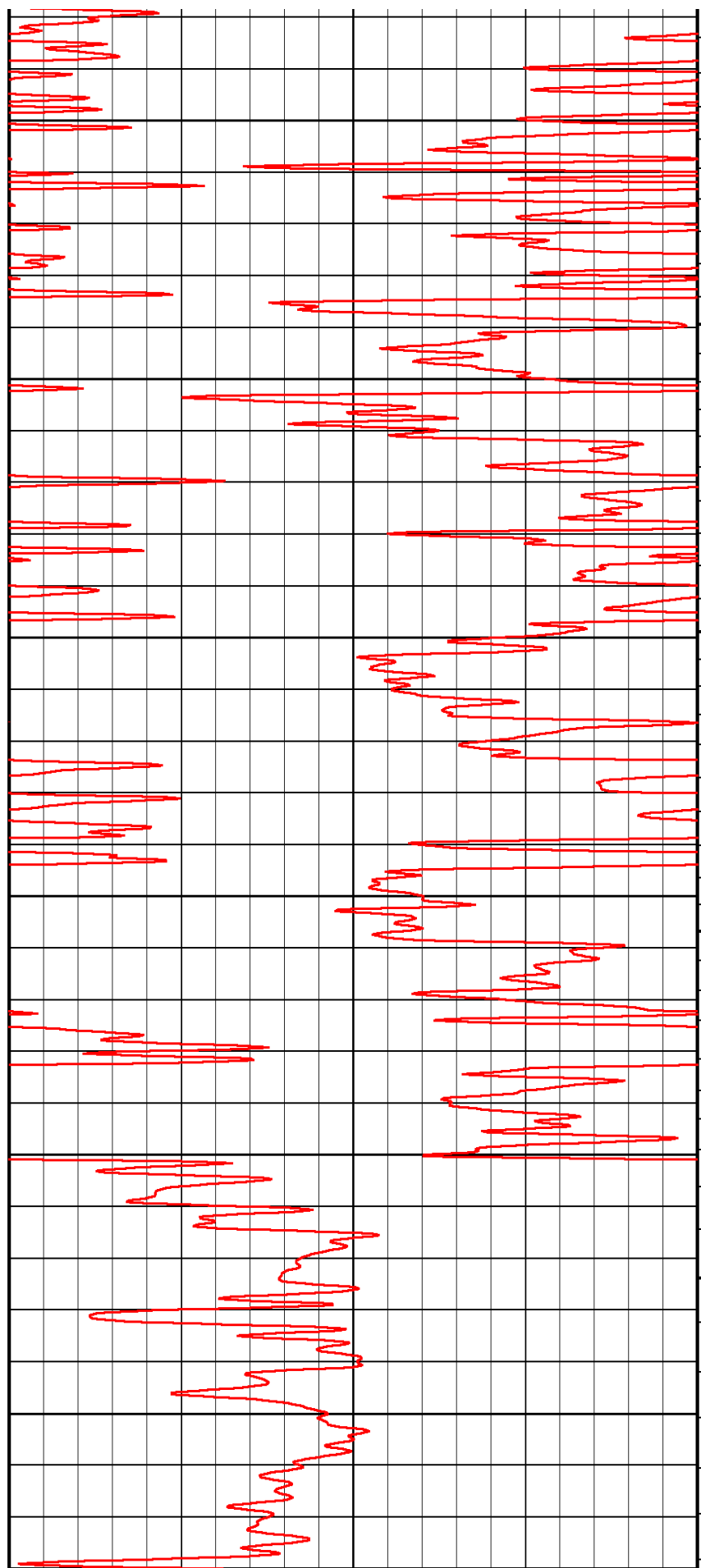
35°

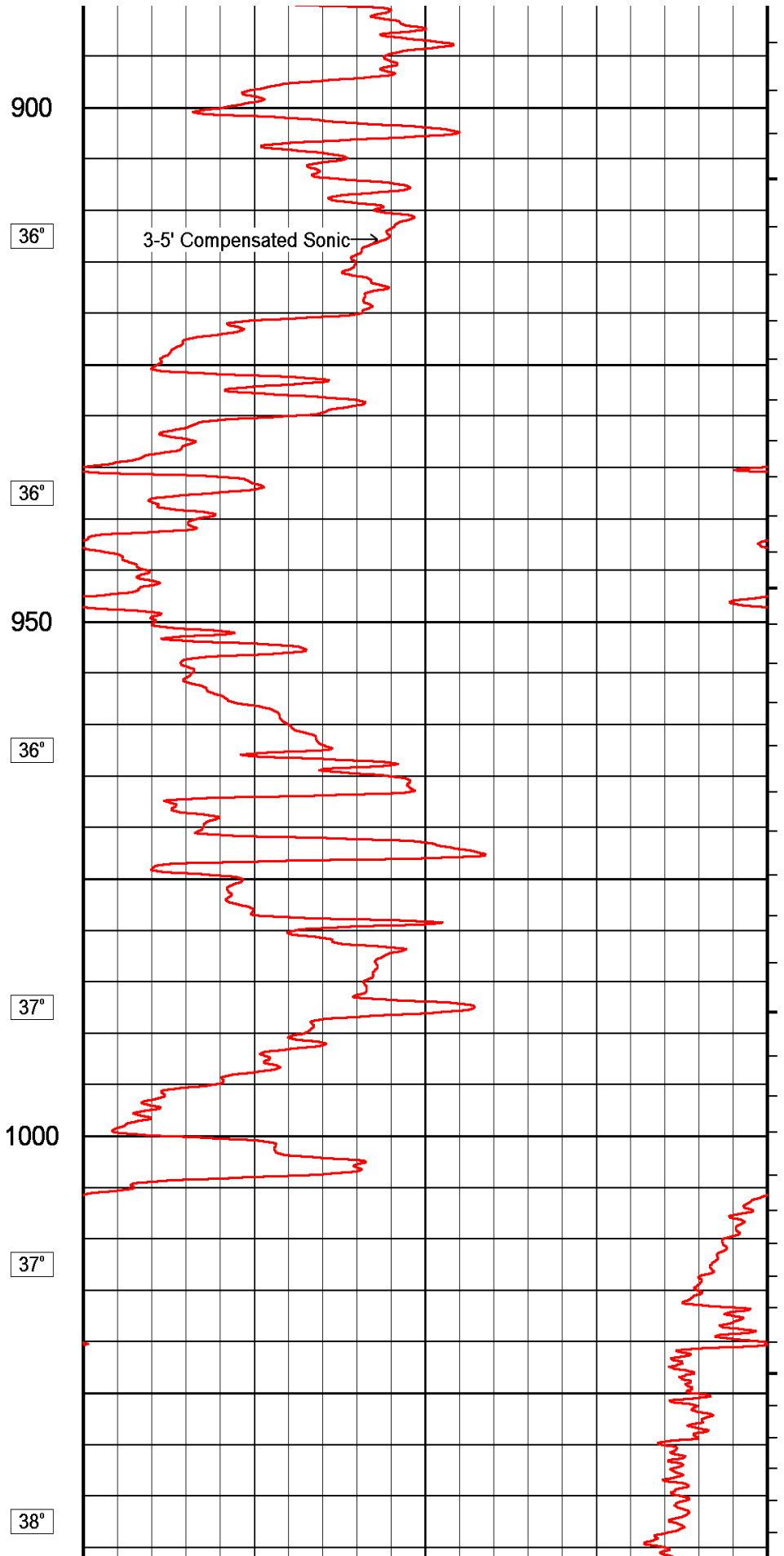
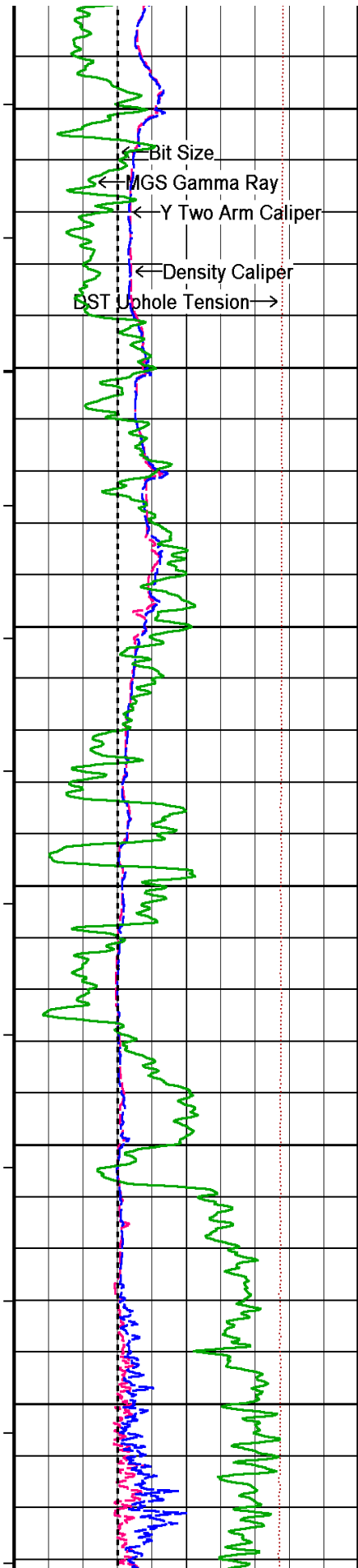
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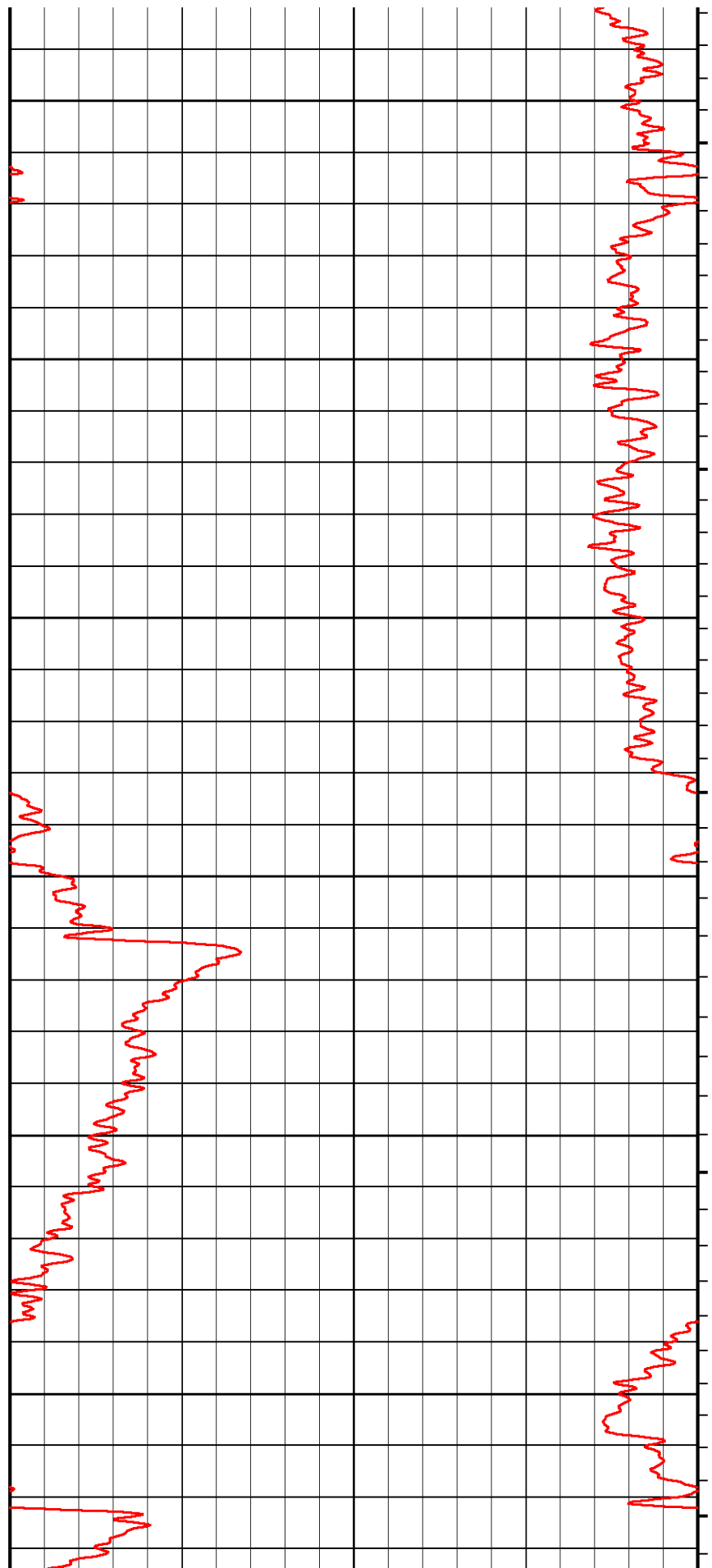
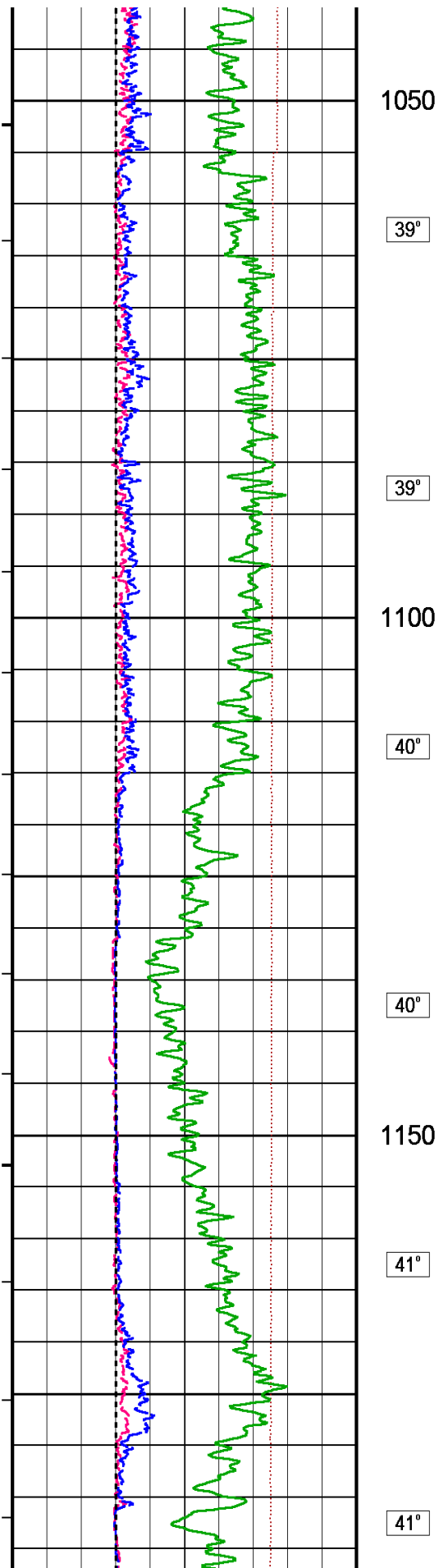
850

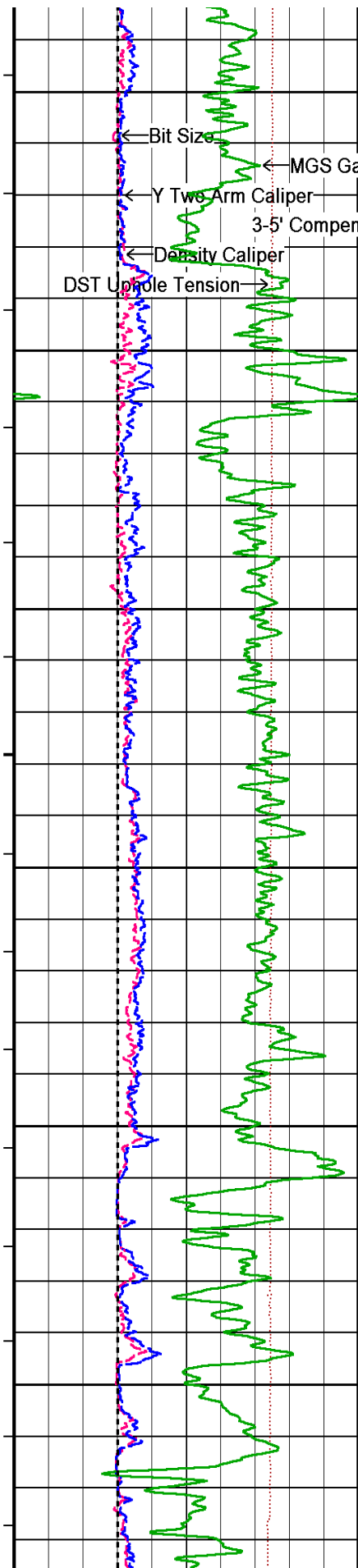
35°

35°









1200

← Bit Size
← Y Two Arm Caliper
← Density Caliper
DST Up-hole Tension →
← MGS Gamma Ray
← 3-5' Compensated Sonic

43°

1250

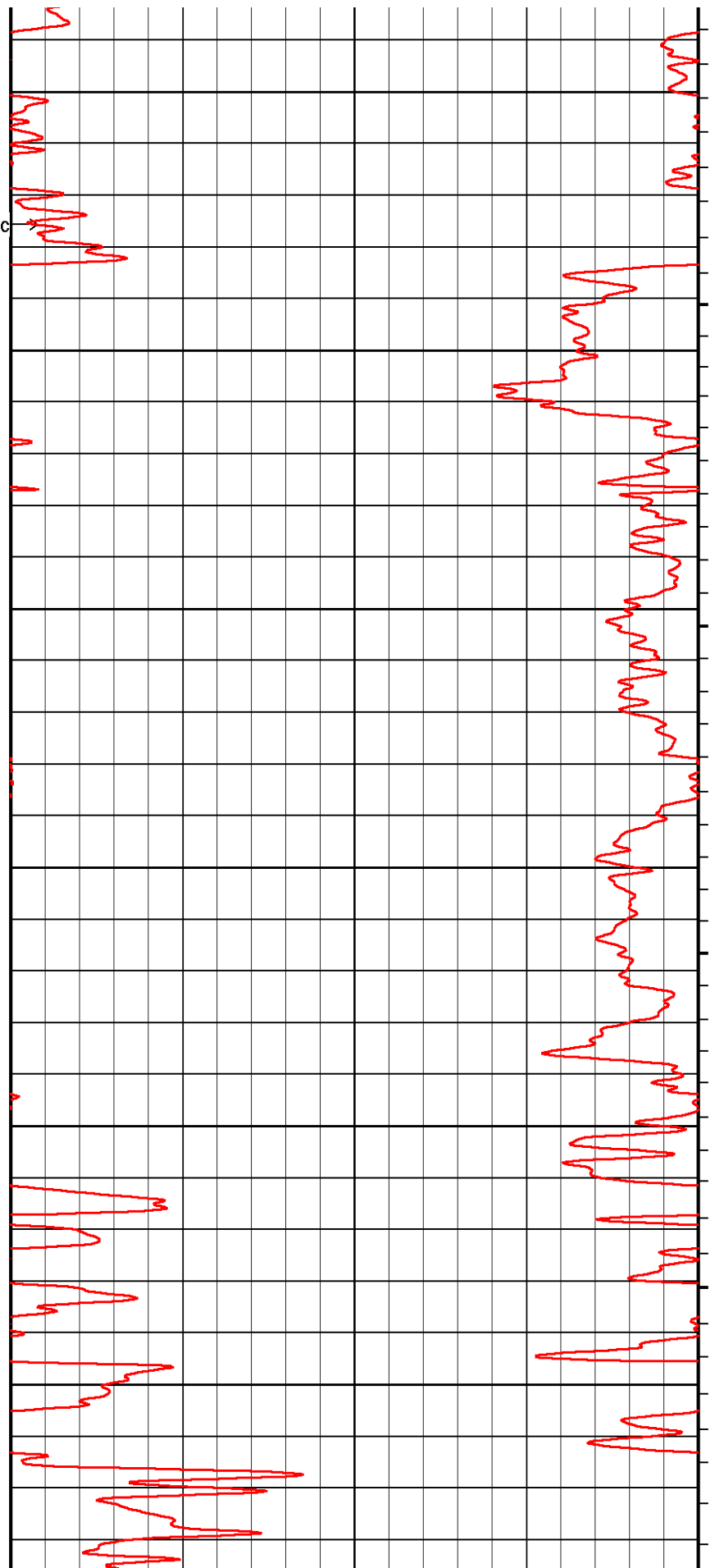
44°

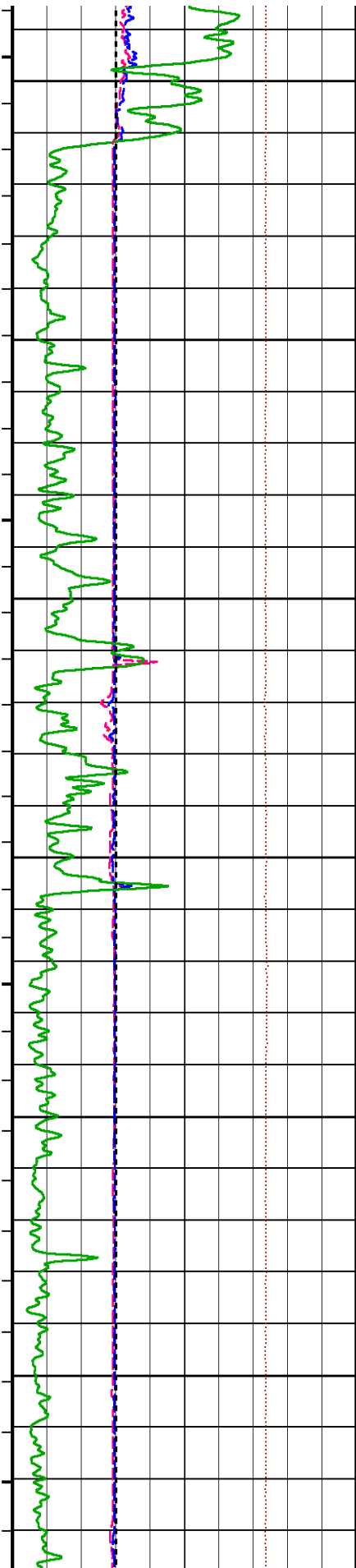
45°

1300

45°

45°





1350

46°

47°

1400

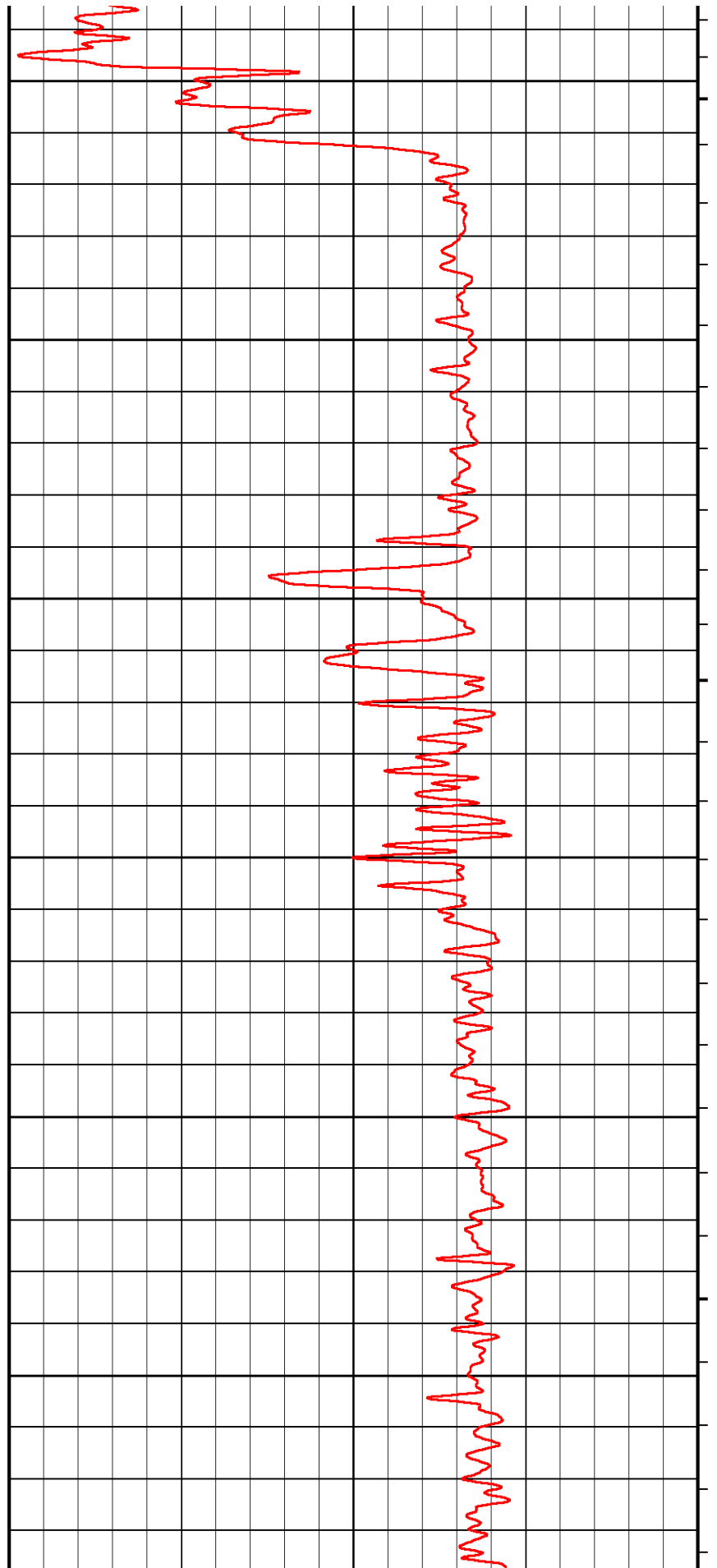
48°

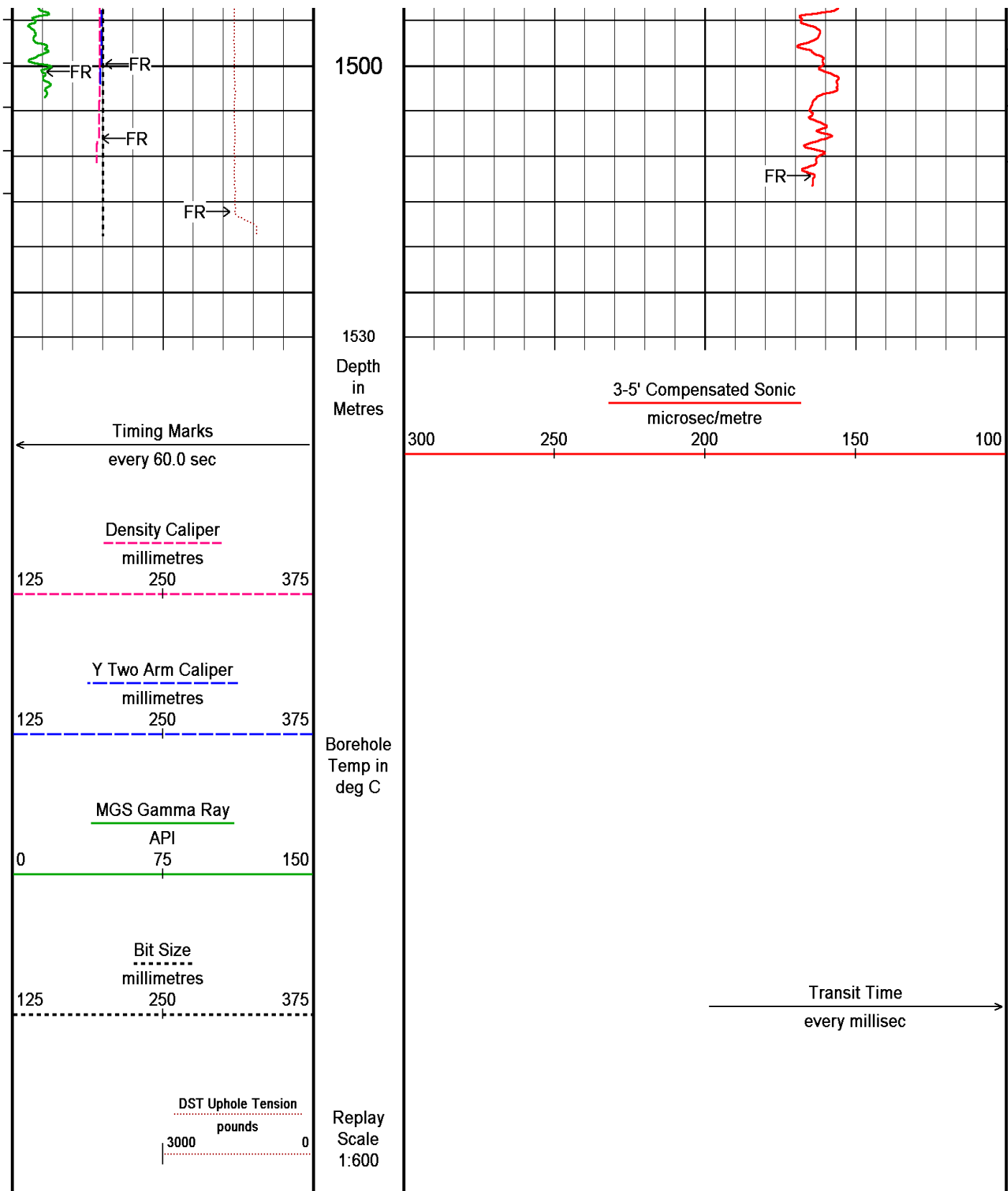
48°

1450

49°

49°





Depth Based Data - Maximum Sampling Increment 10.0cm

Filename: C:\Temp\Weatherford PreView\0\L-29 SPLICE_MAIN.dta

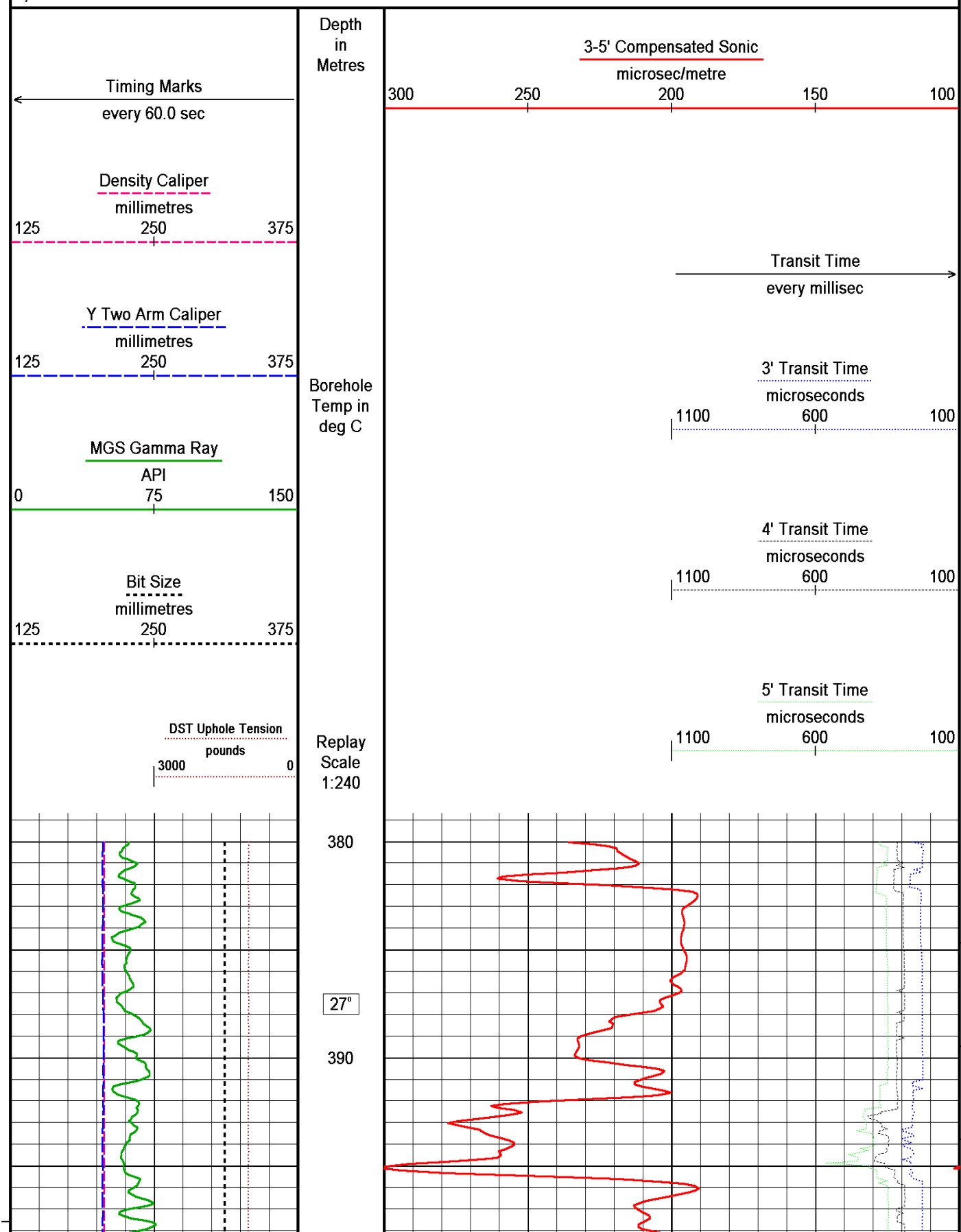
System Versions: Processed with 7.02.0251 Plotted with 8.01.0091

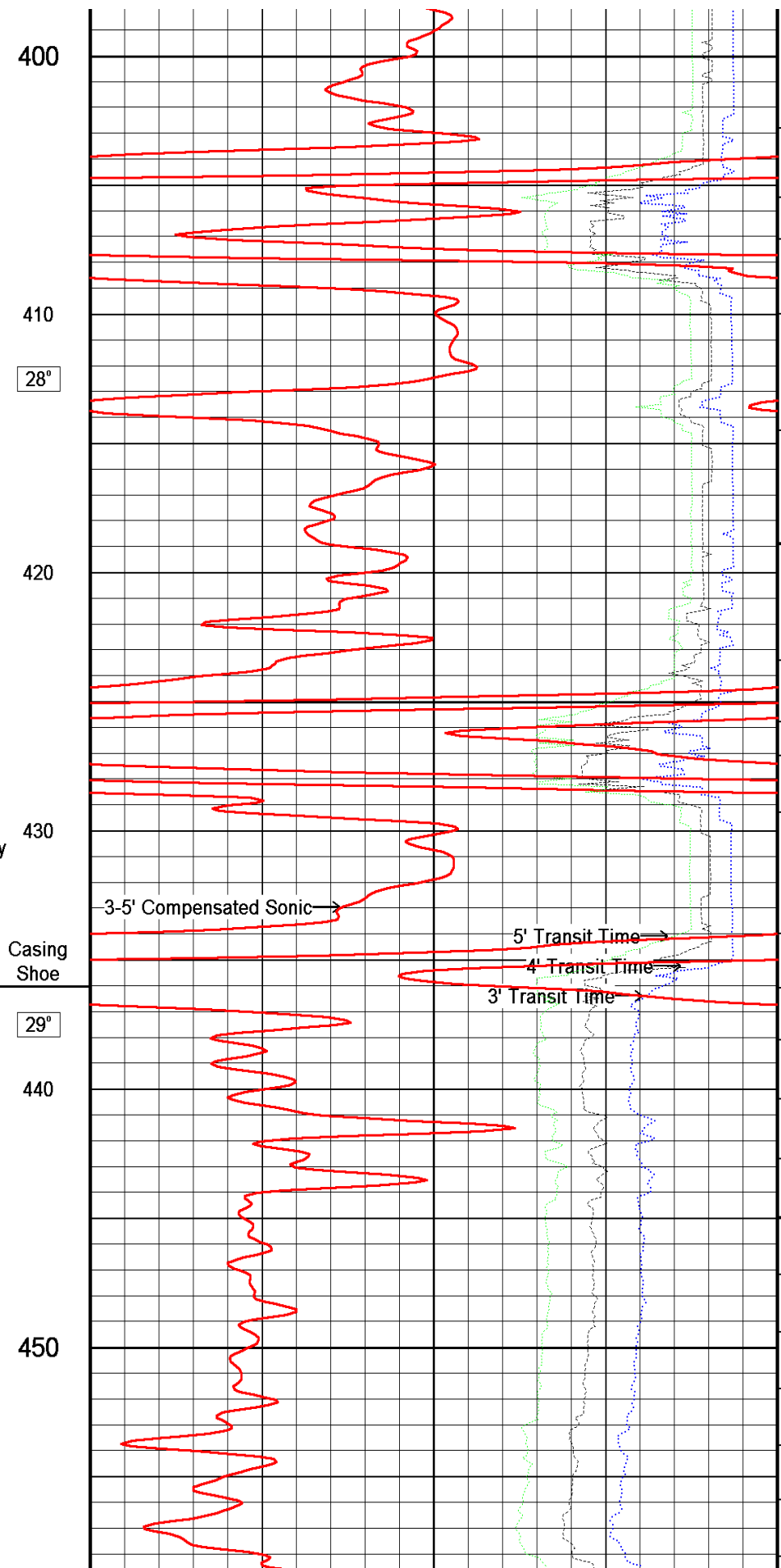
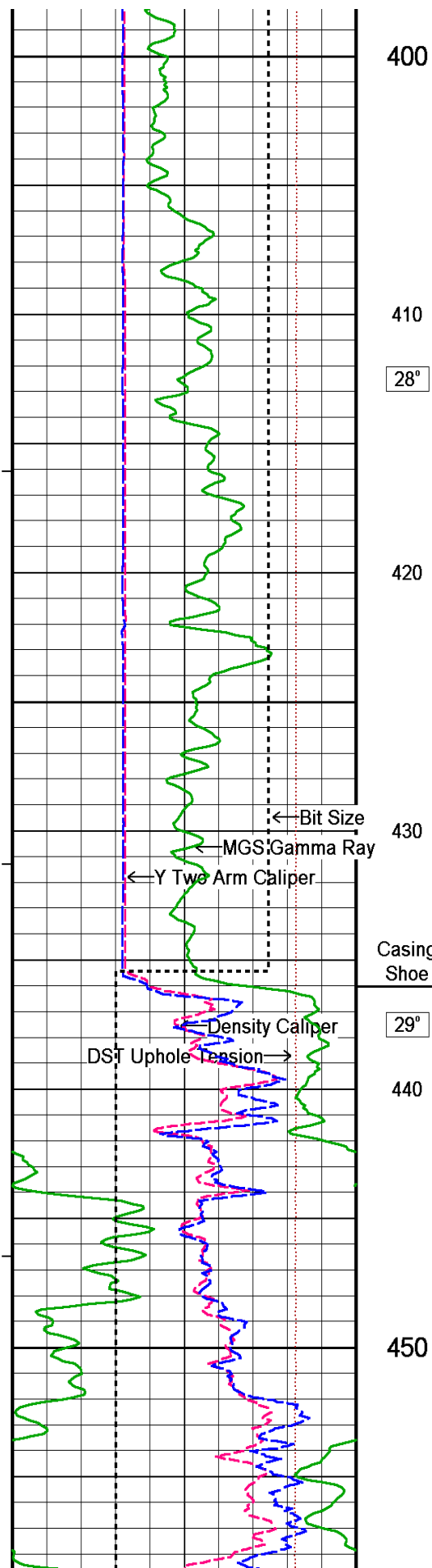
Plotted on 12-NOV-2007 10:15

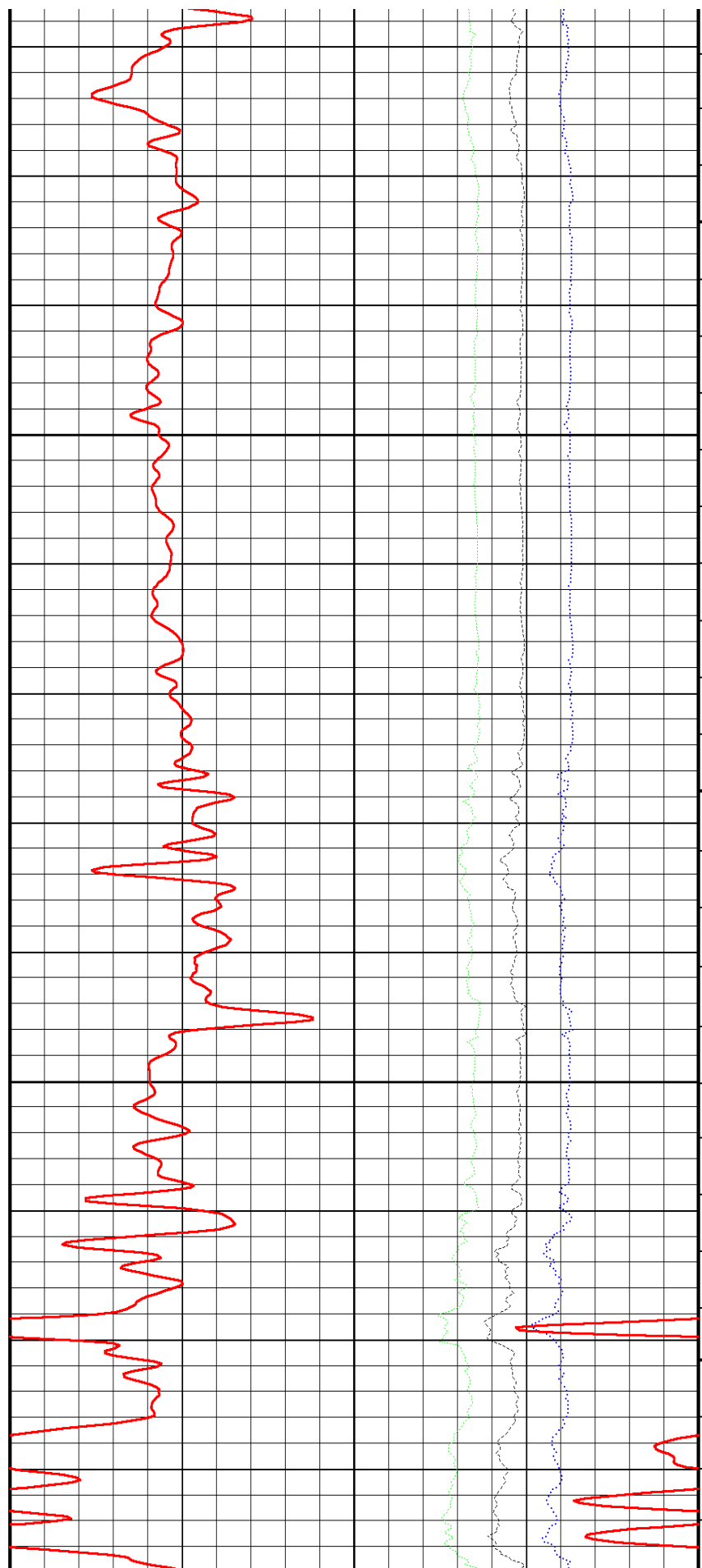
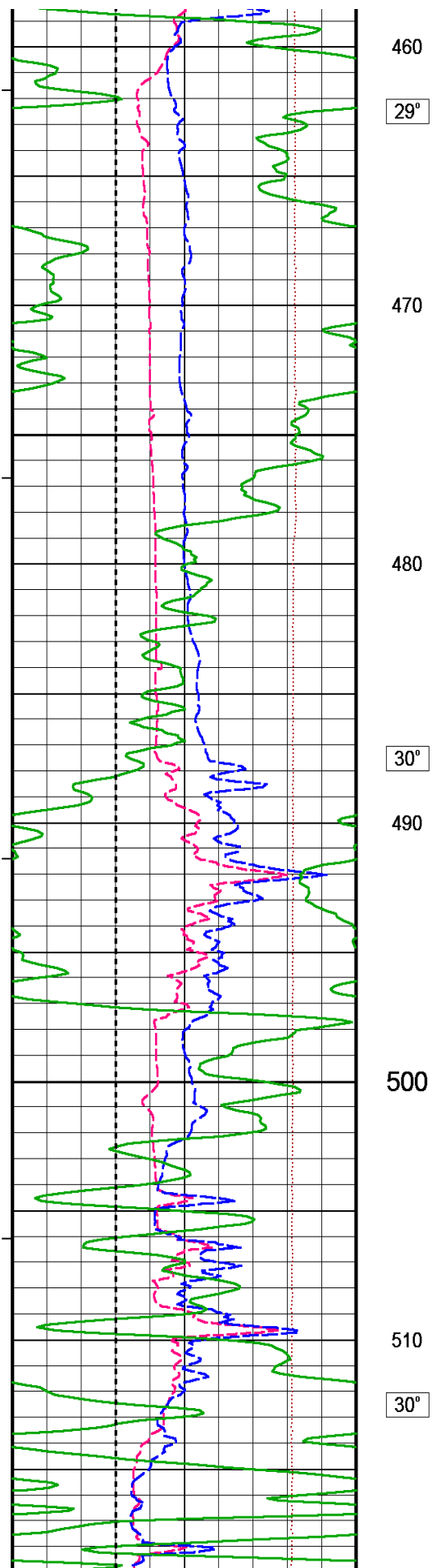
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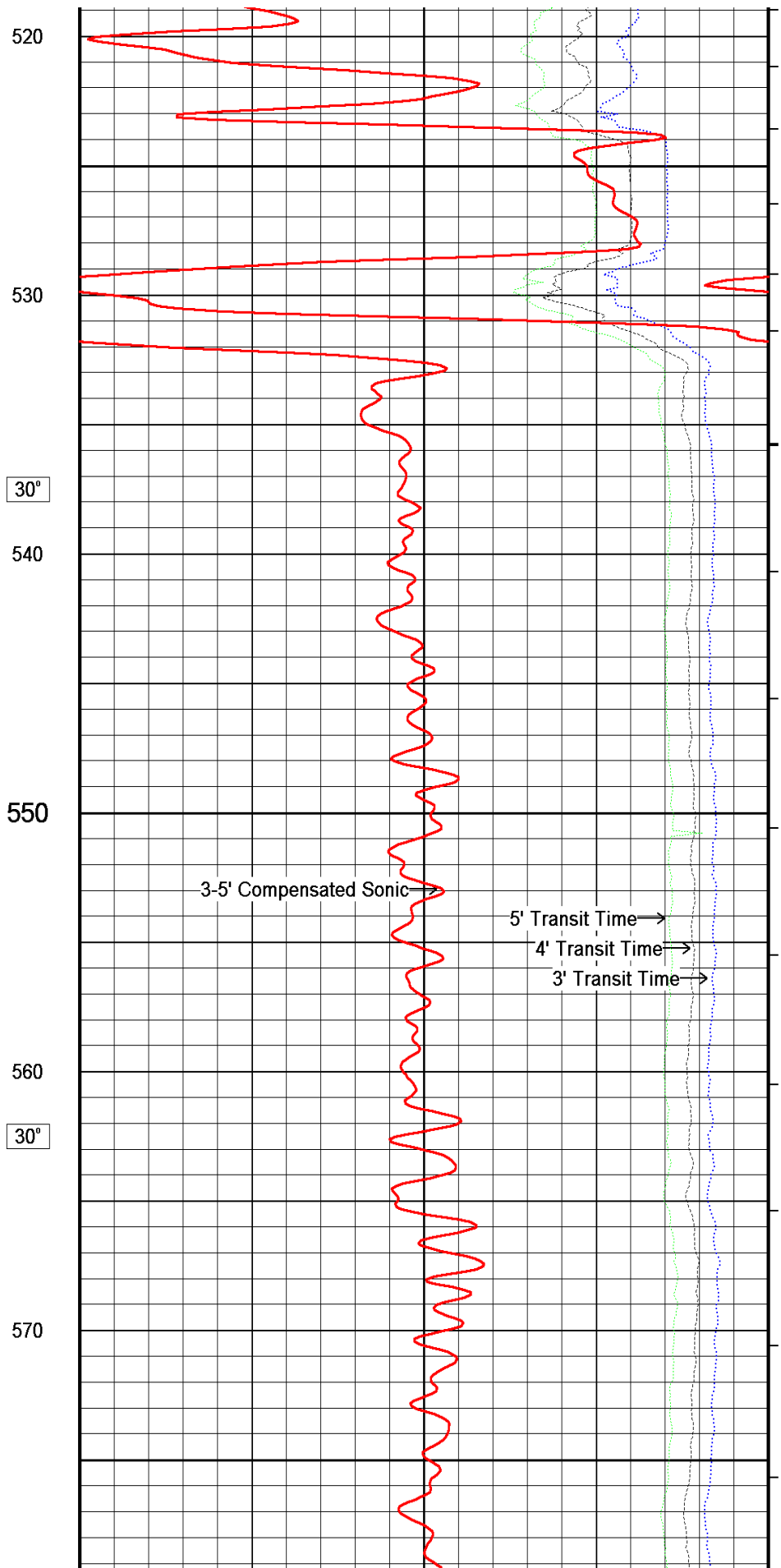
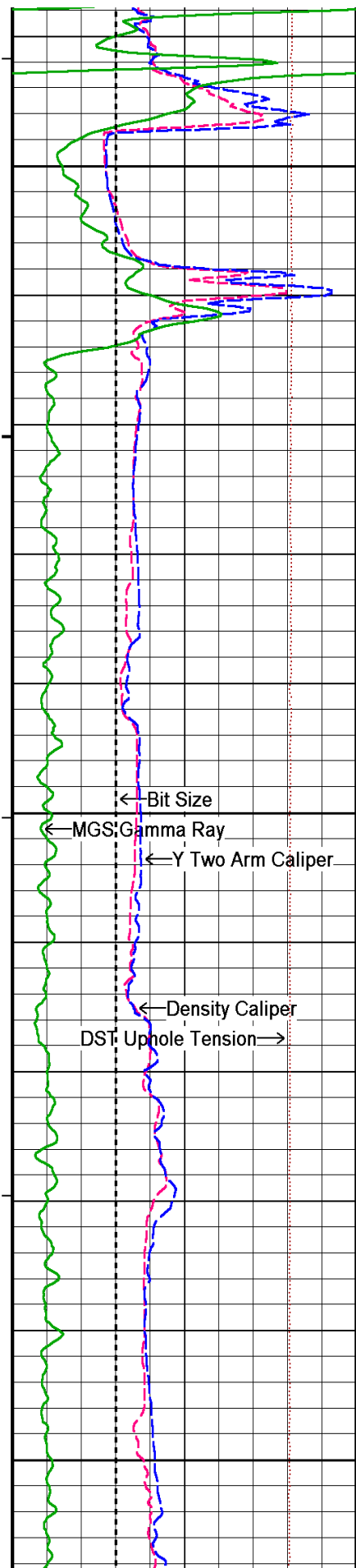
↑ MAIN LOG 1:600 ↑

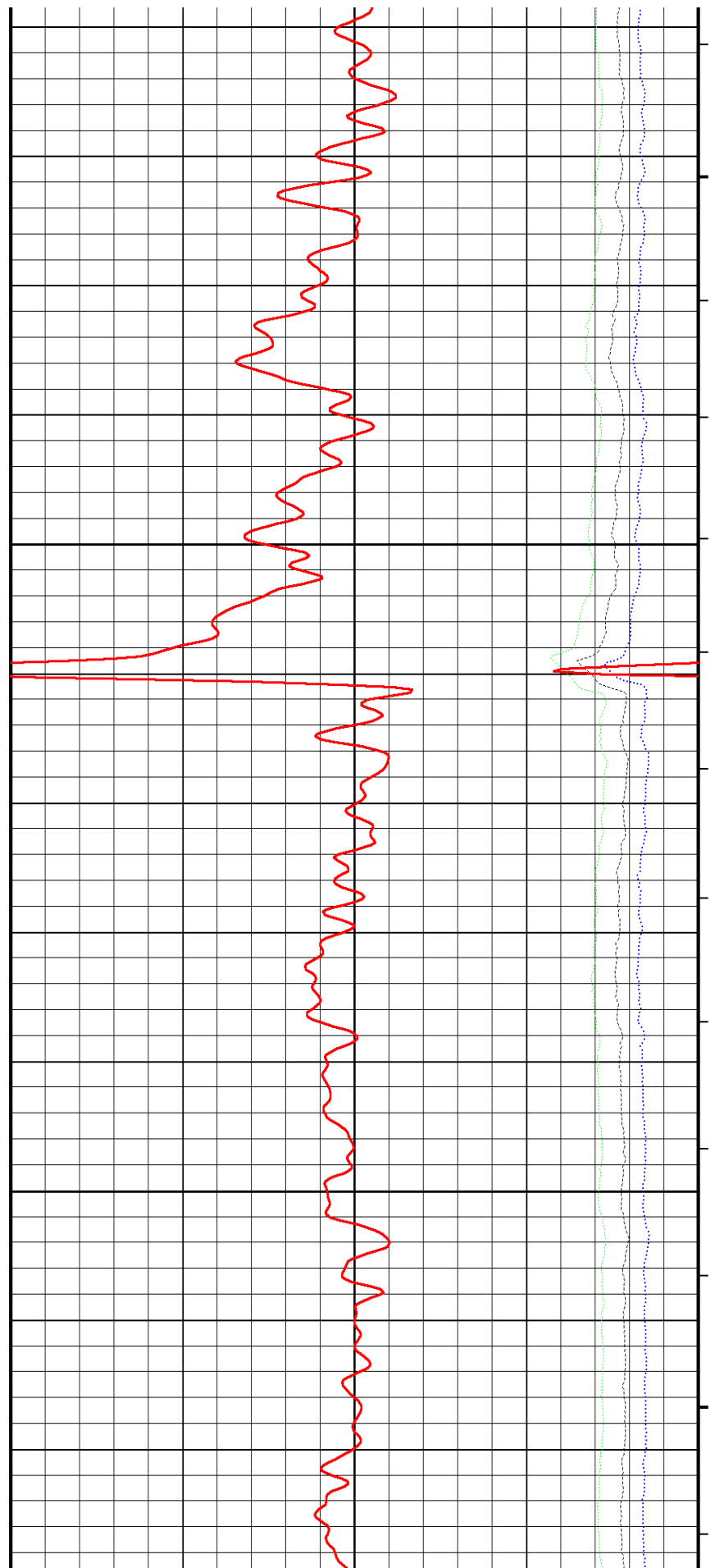
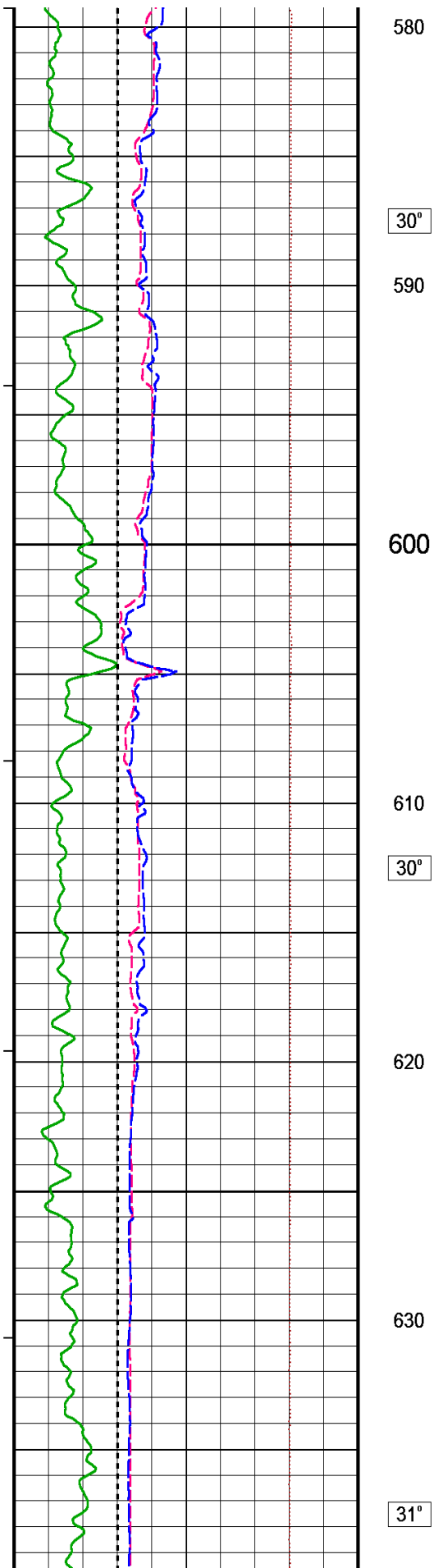
↓ MAIN LOG 1:240 ↓

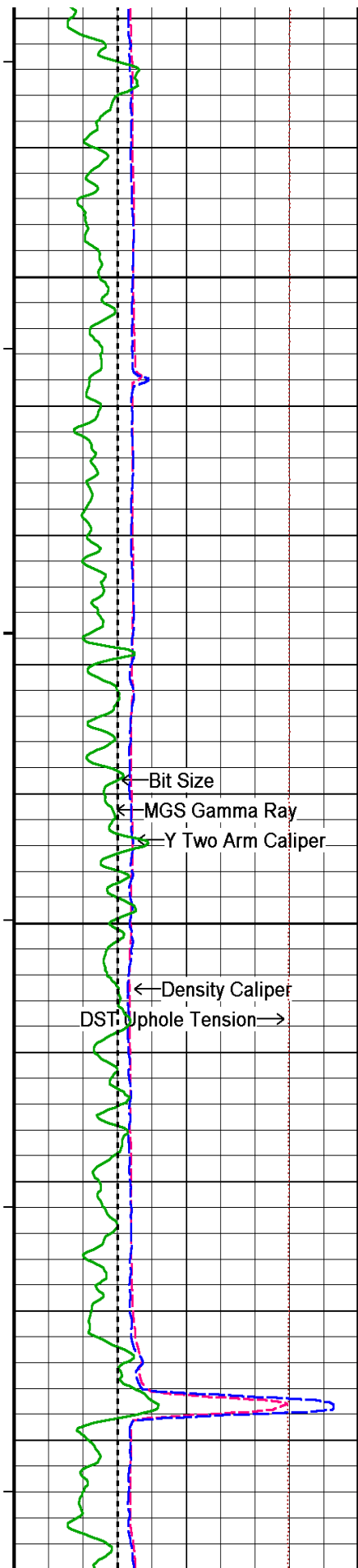












640

650

660

31°

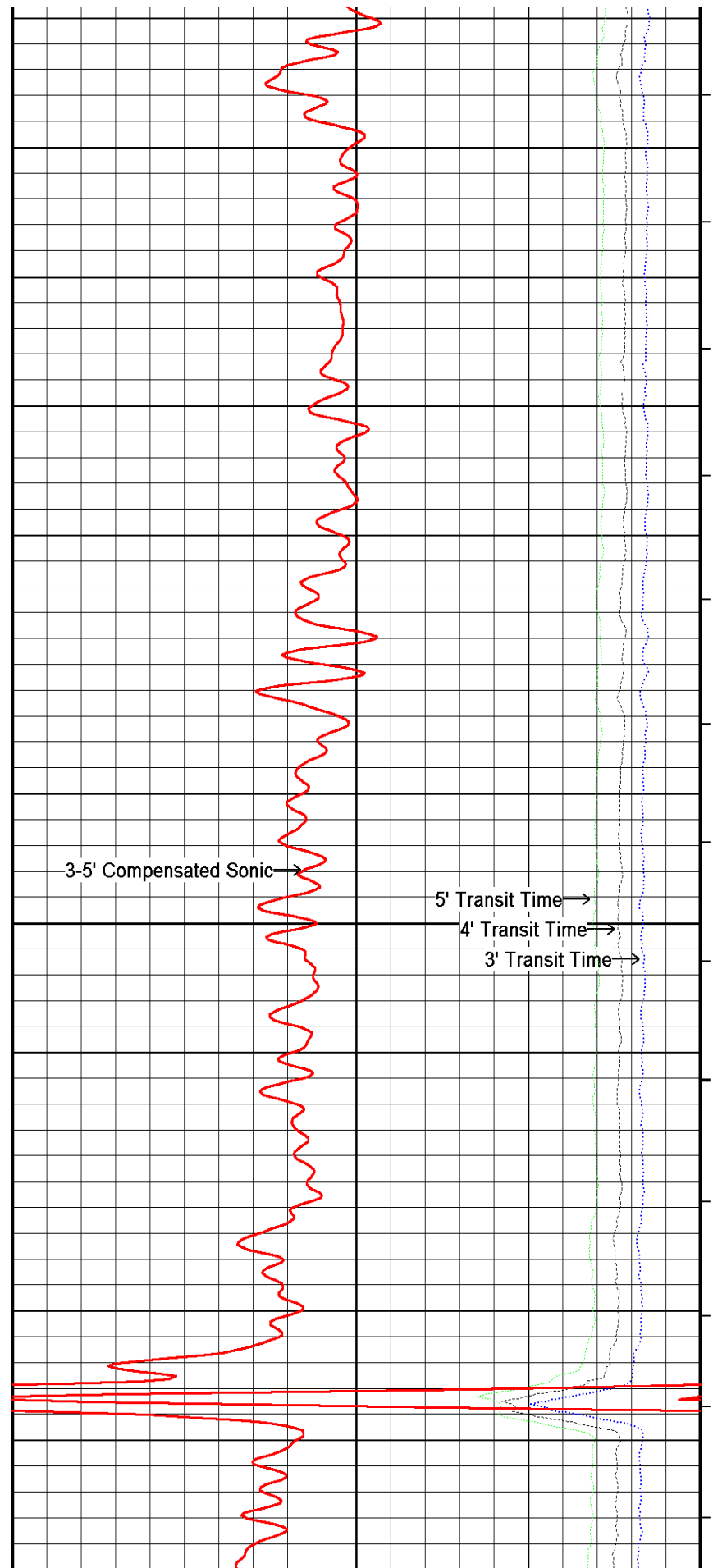
670

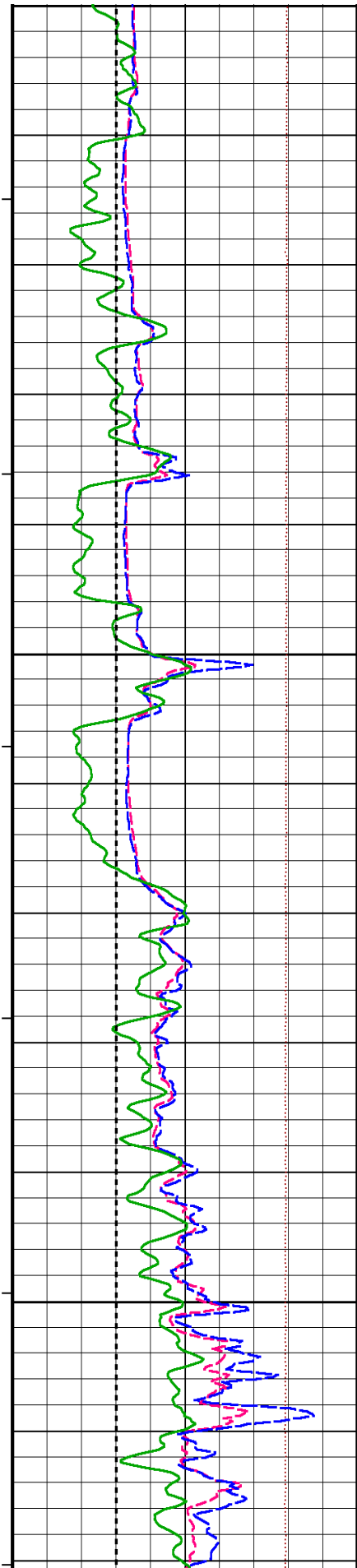
680

32°

690

700





700

710

32°

720

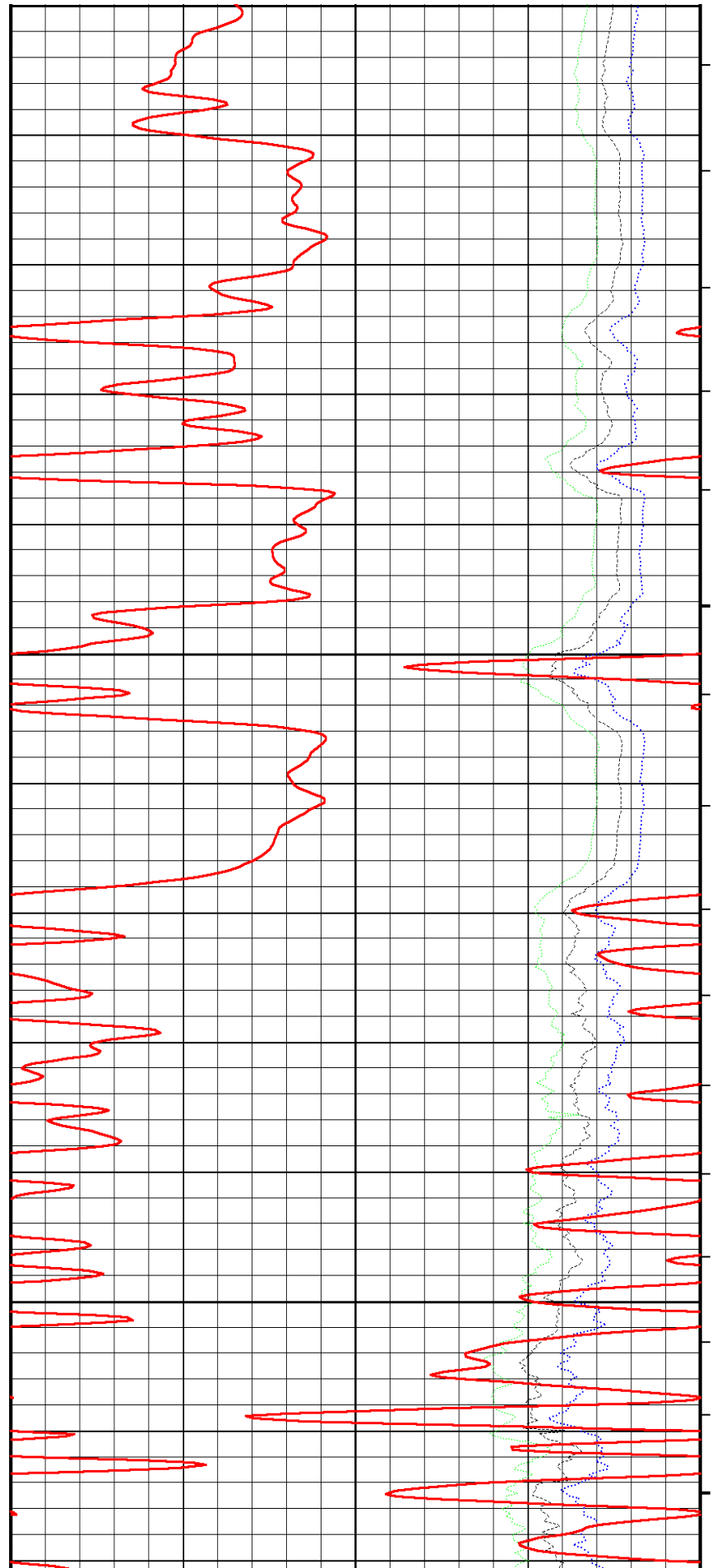
730

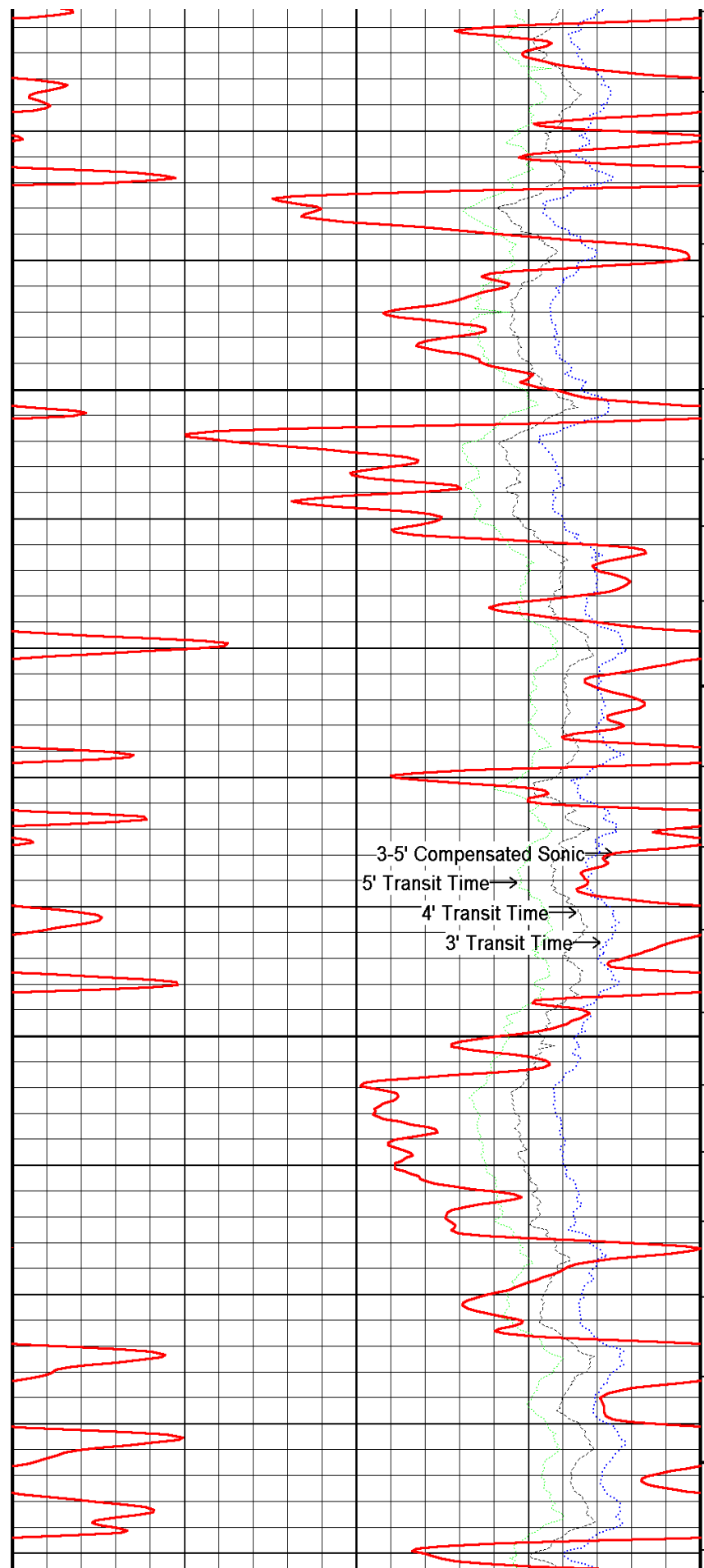
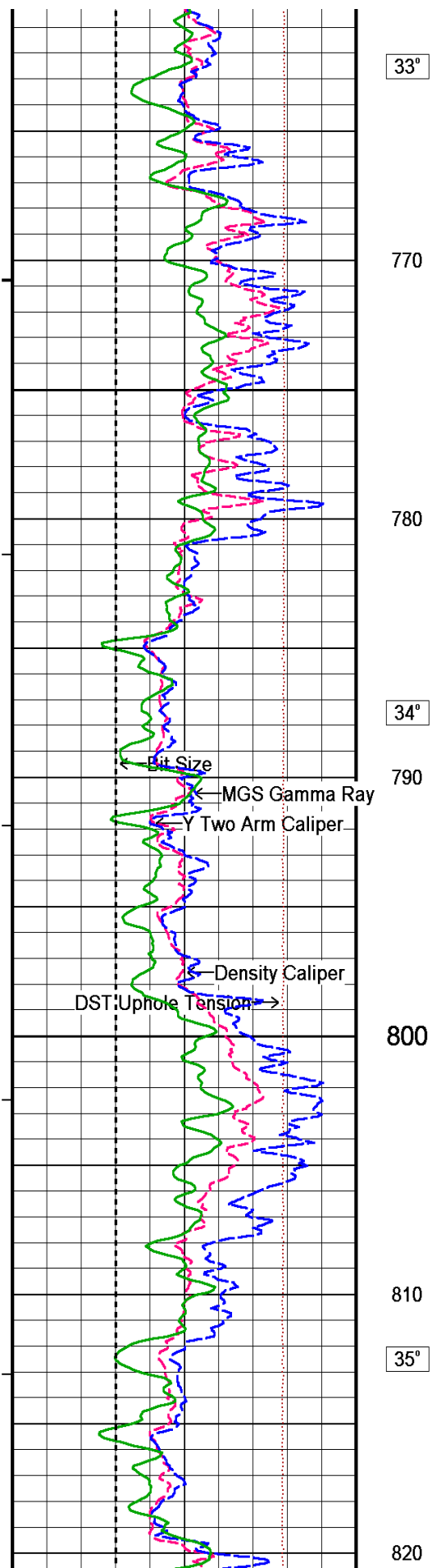
33°

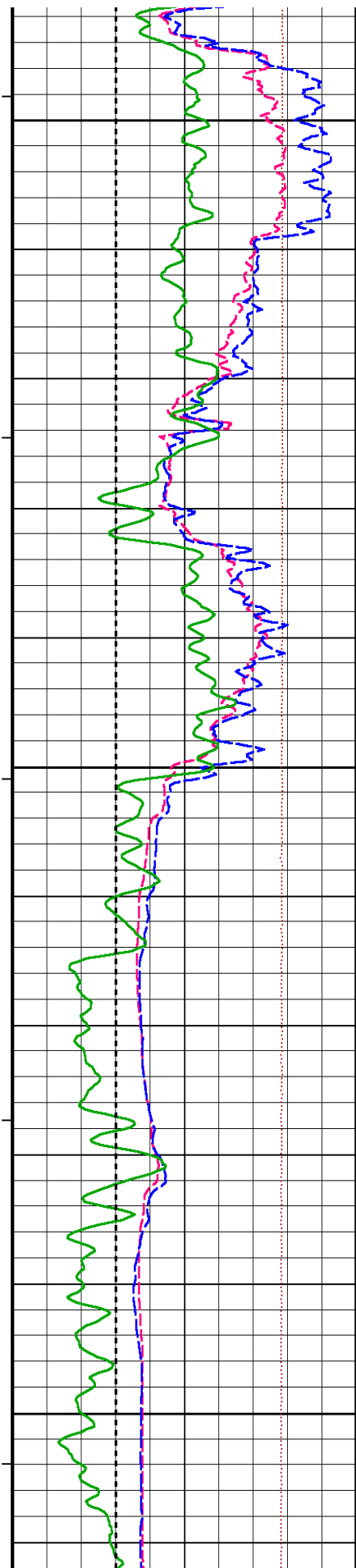
740

750

760







830

35°

840

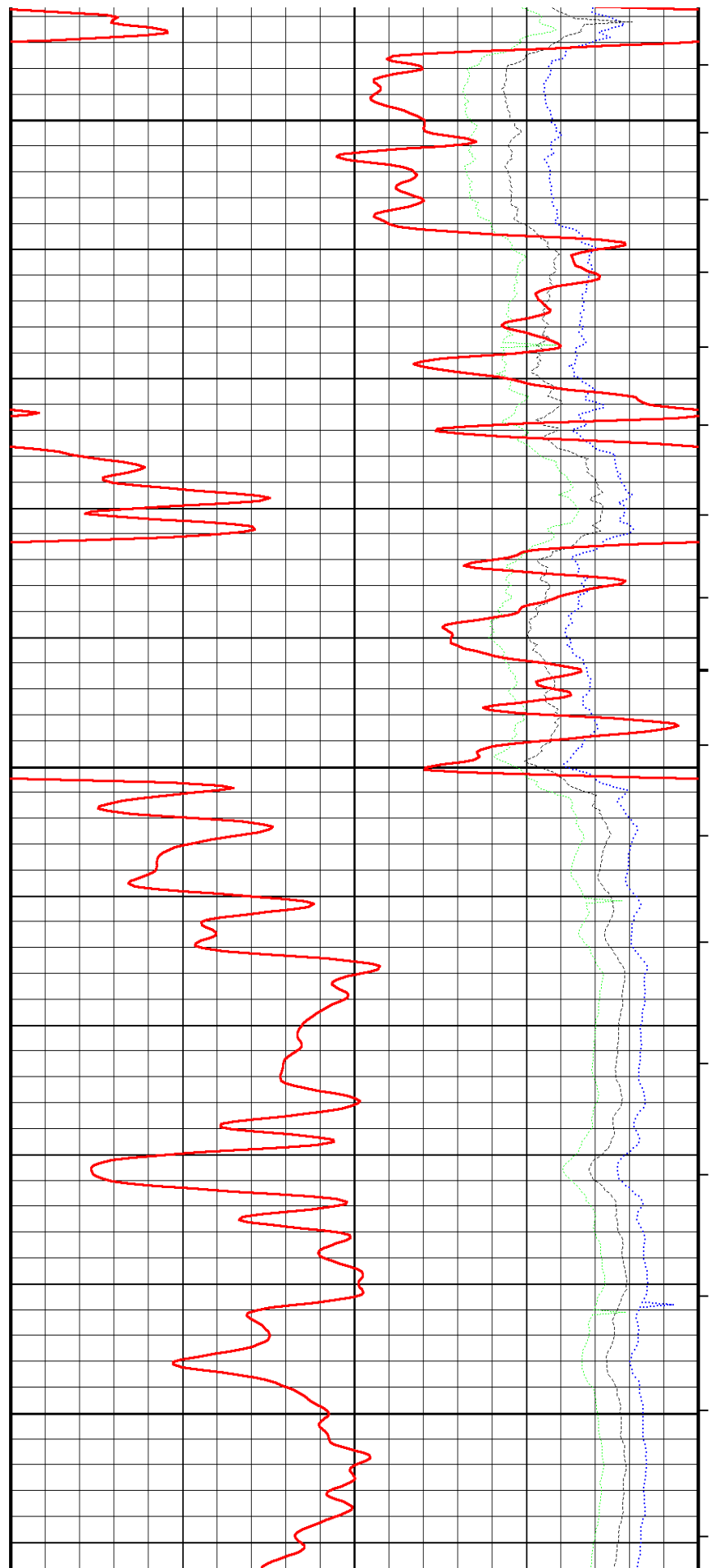
850

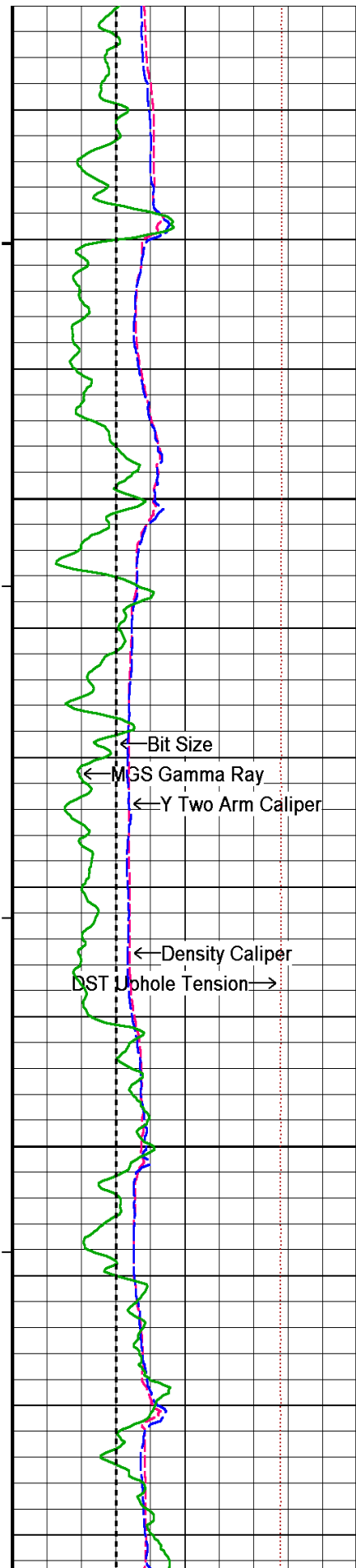
860

35°

870

880





35°

890

900

910

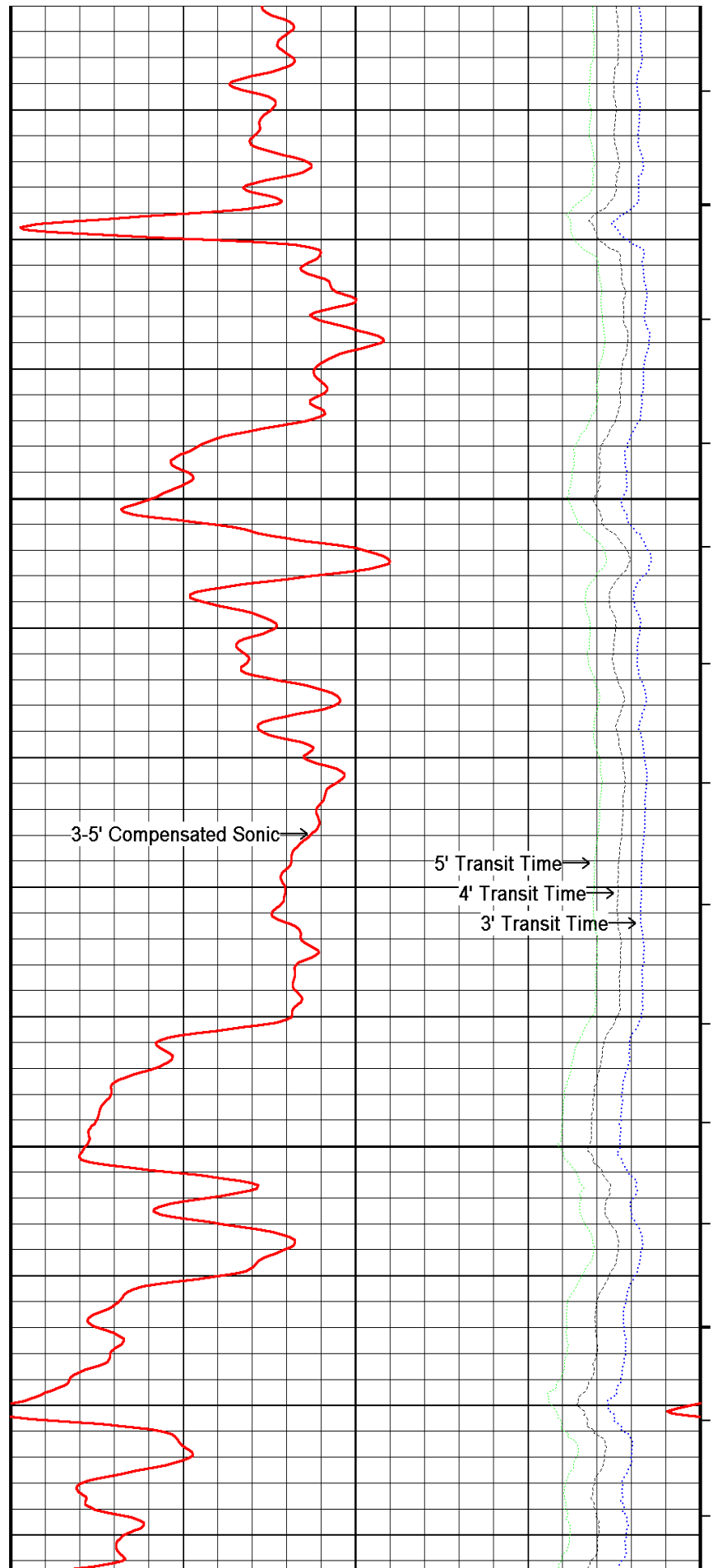
36°

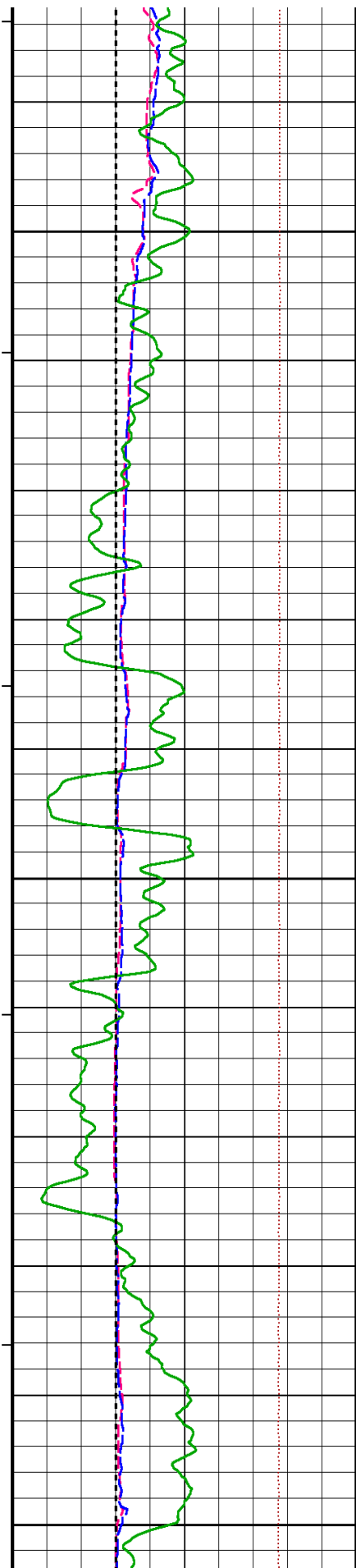
920

930

36°

940





950

960

36°

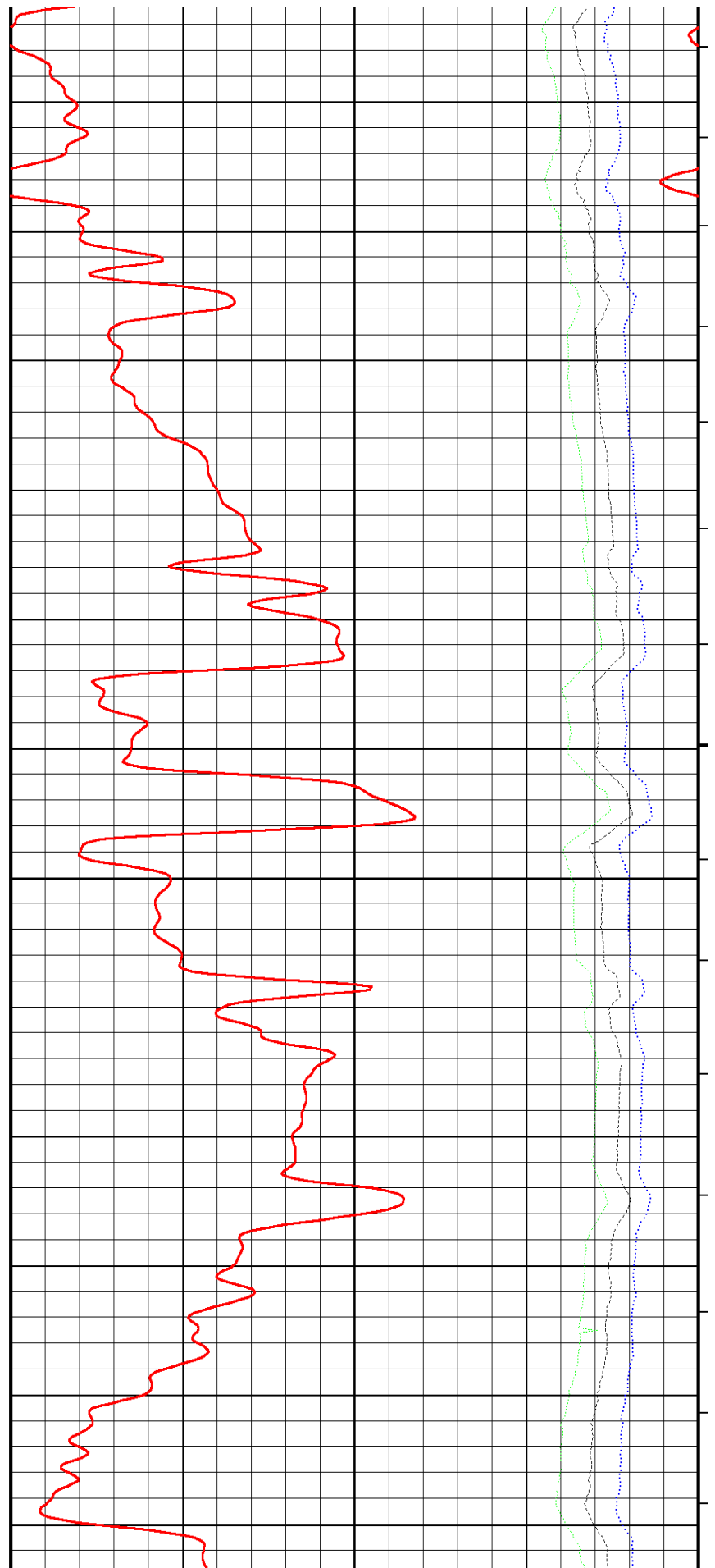
970

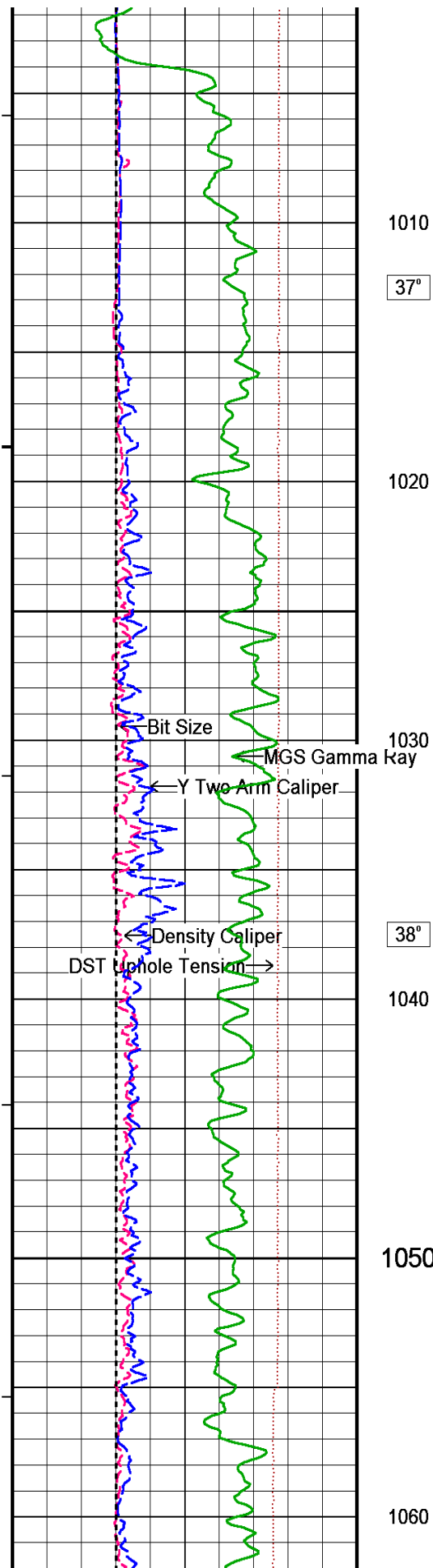
980

37°

990

1000





1010

37°

1020

1030

MGS Gamma Ray

Bit Size

Y Two Arm Caliper

Density Caliper

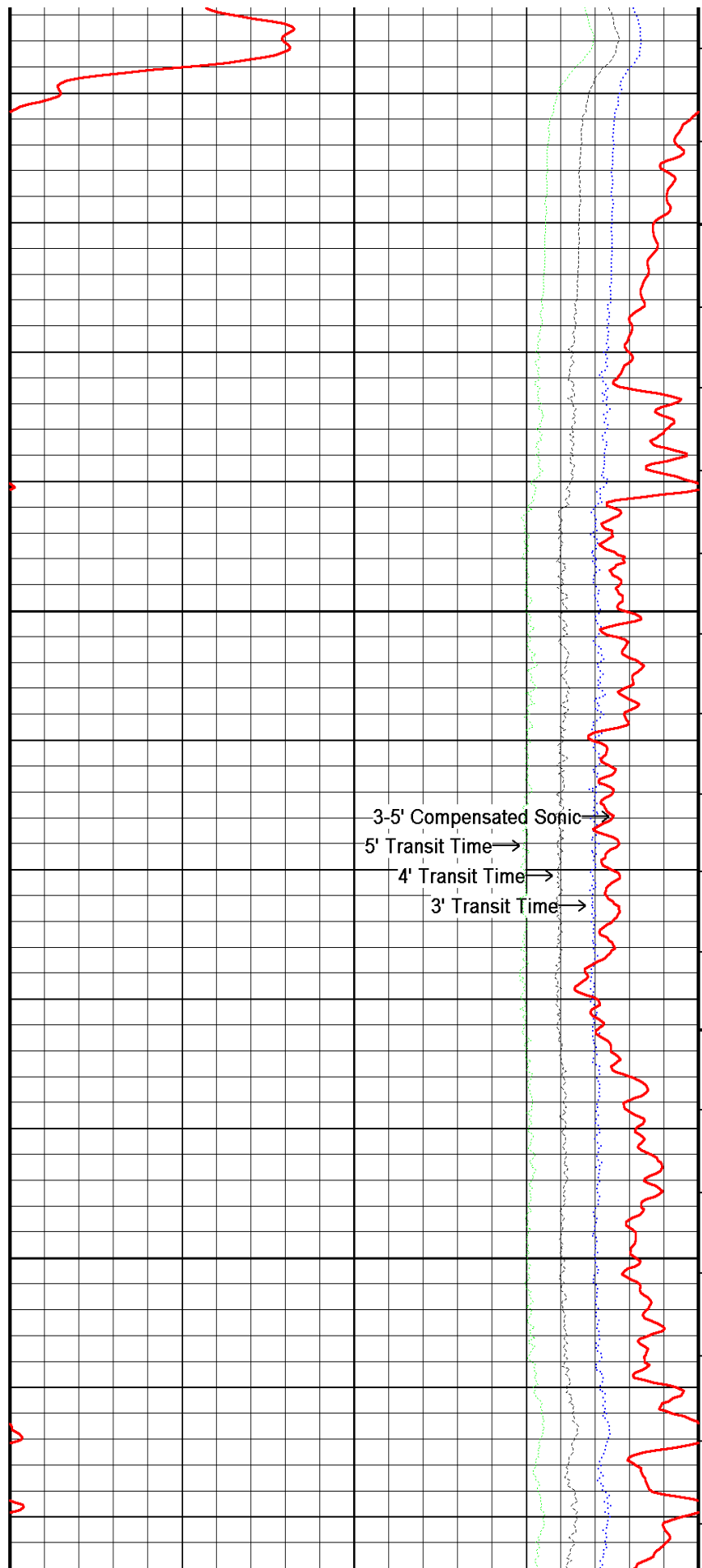
DST Up-hole Tension

38°

1040

1050

1060

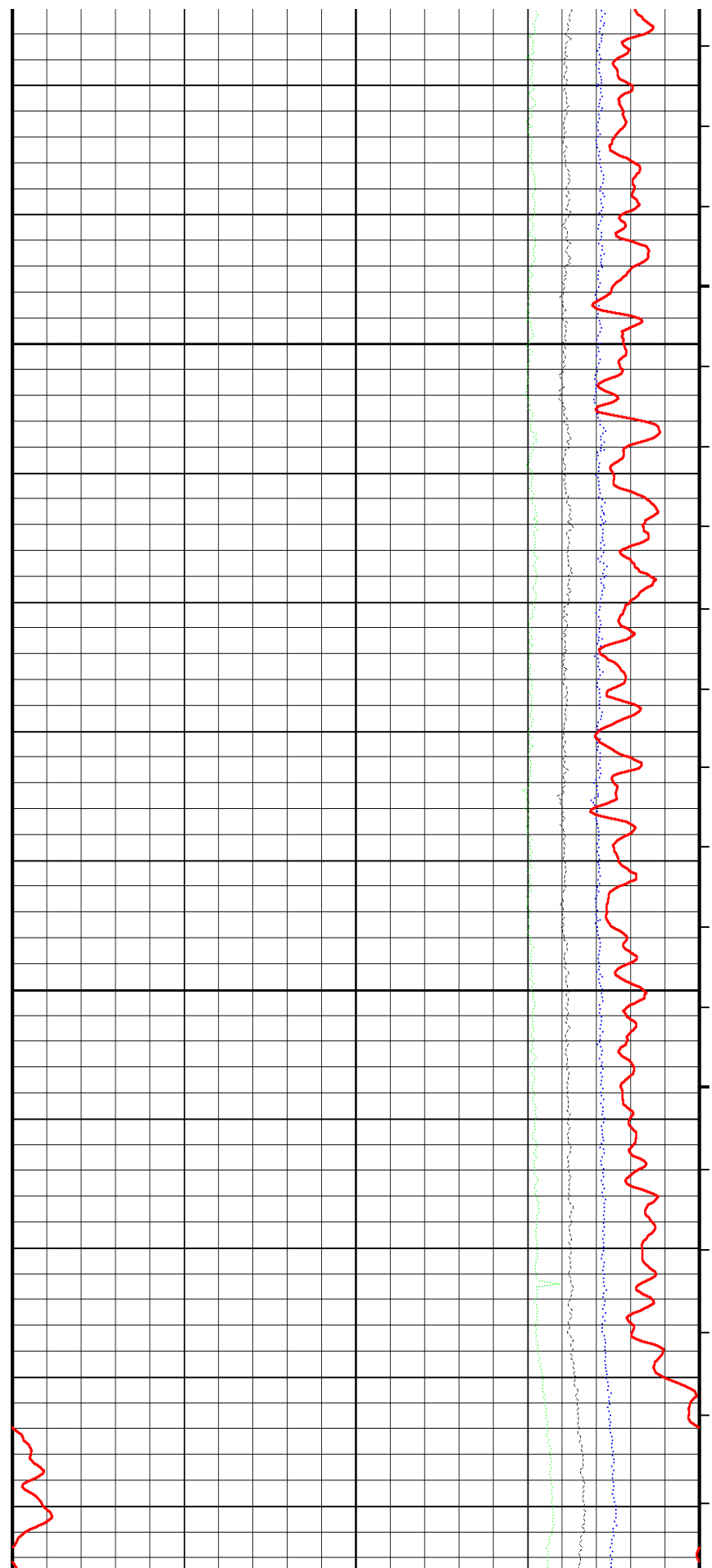
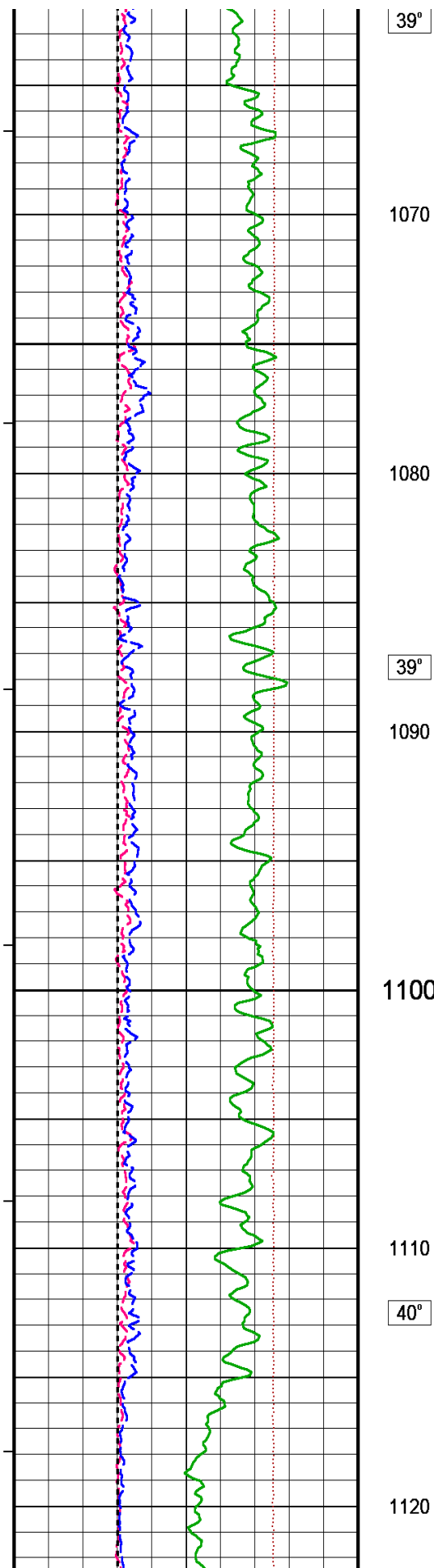


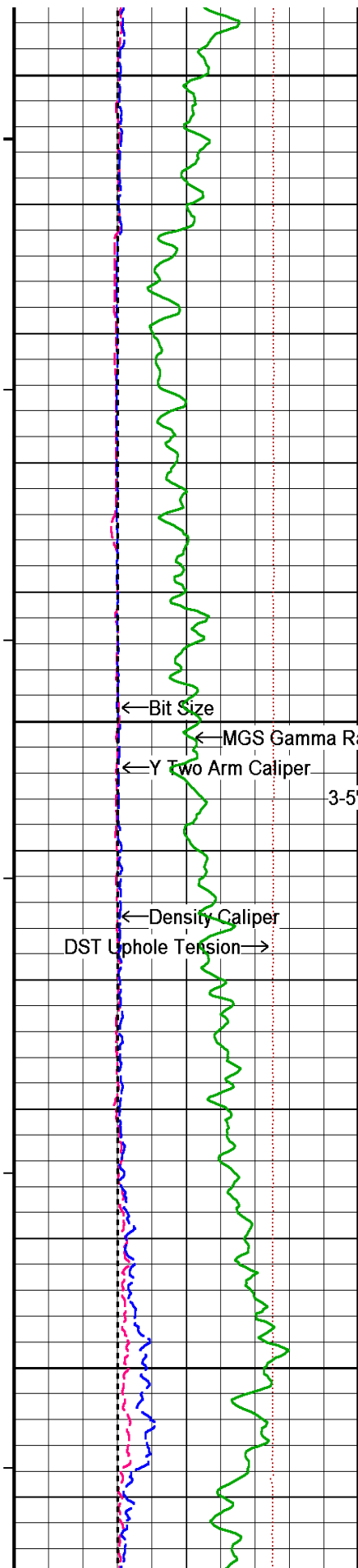
3-5' Compensated Sonic

5' Transit Time

4' Transit Time

3' Transit Time





1130

40°

1140

1150

1160

41°

1170

1180

← Bit Size

← MGS Gamma Ray

← Y Two Arm Caliper

← Density Caliper

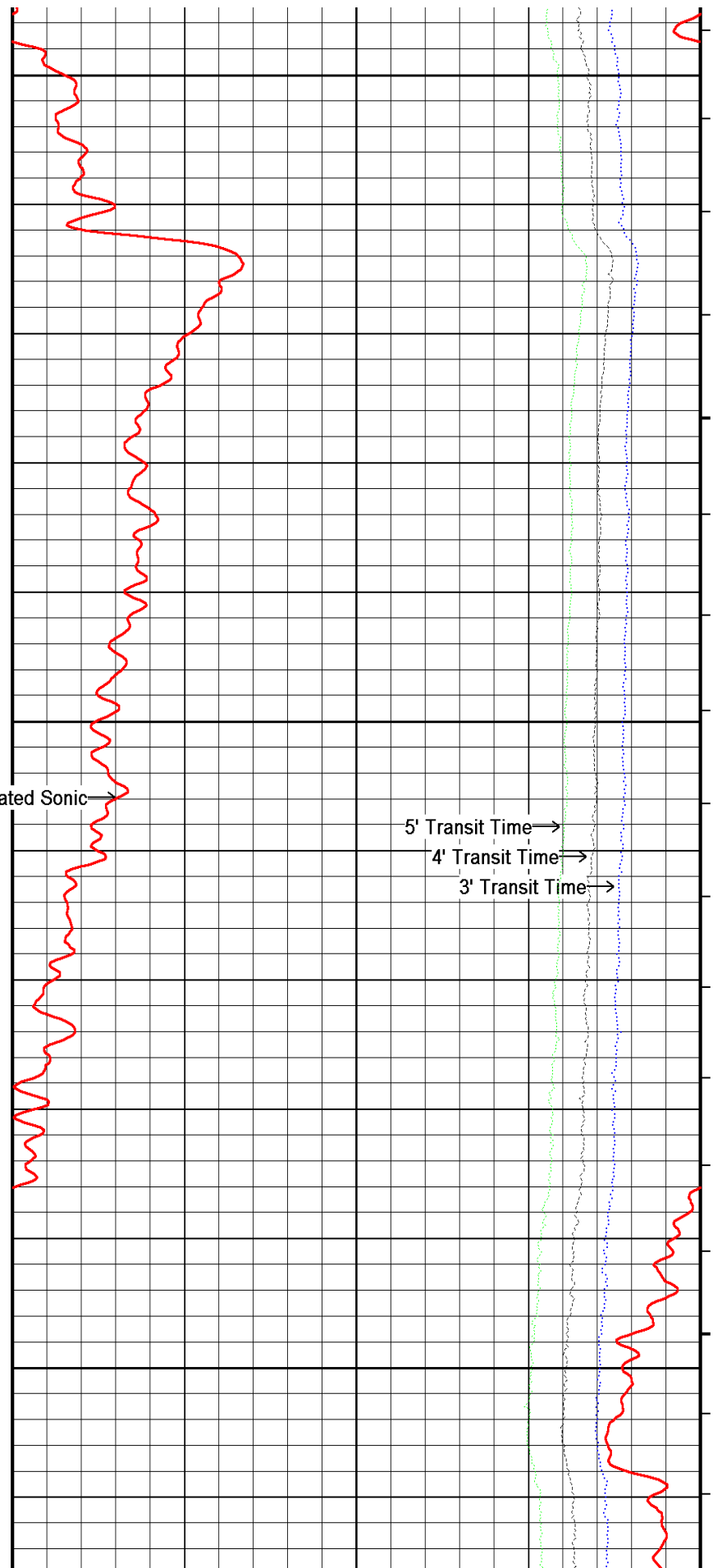
DST Uphole Tension →

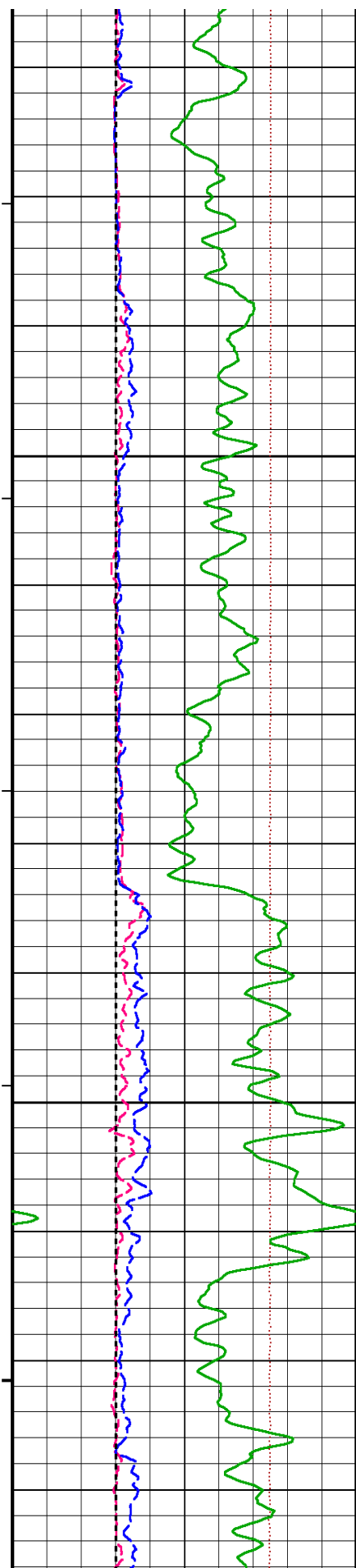
3-5' Compensated Sonic →

5' Transit Time →

4' Transit Time →

3' Transit Time →





41°

1190

1200

1210

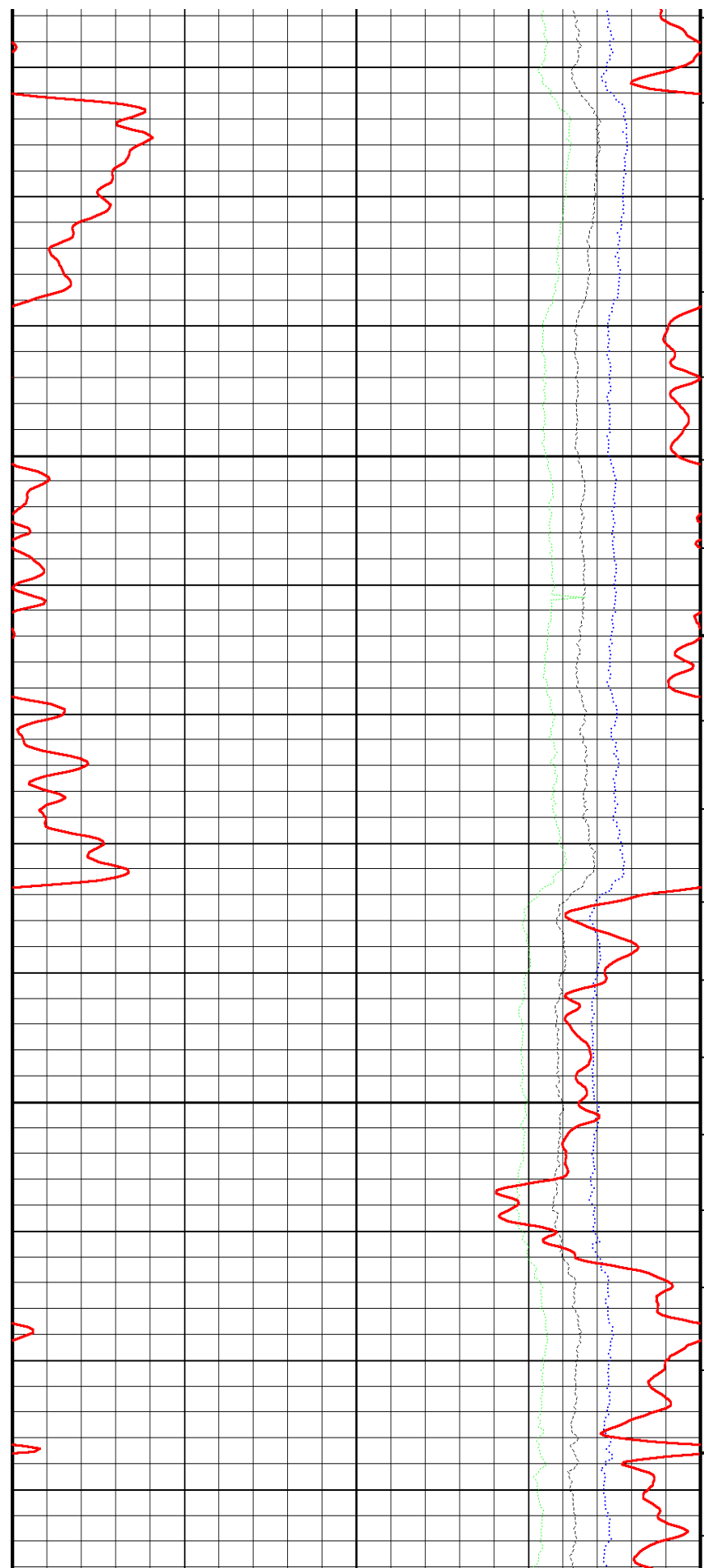
42°

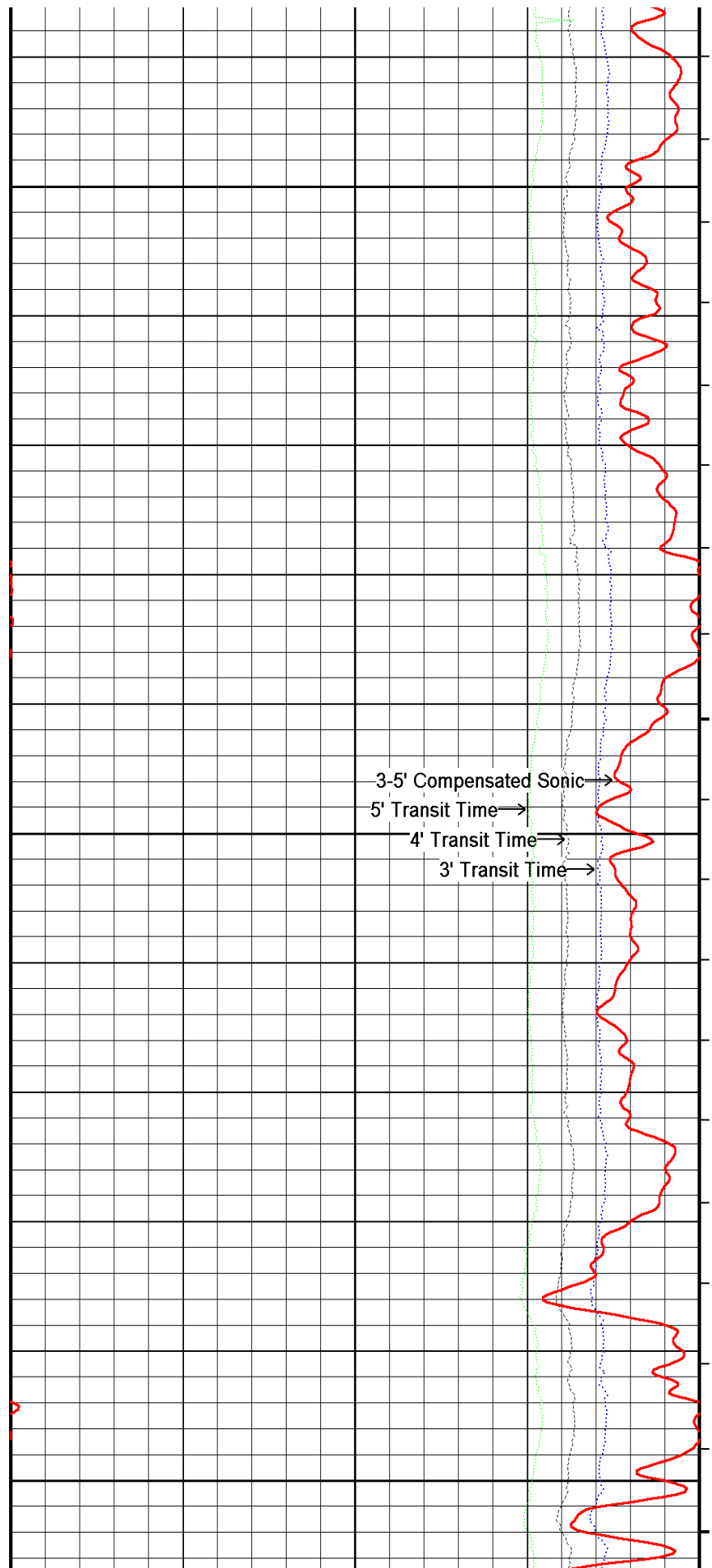
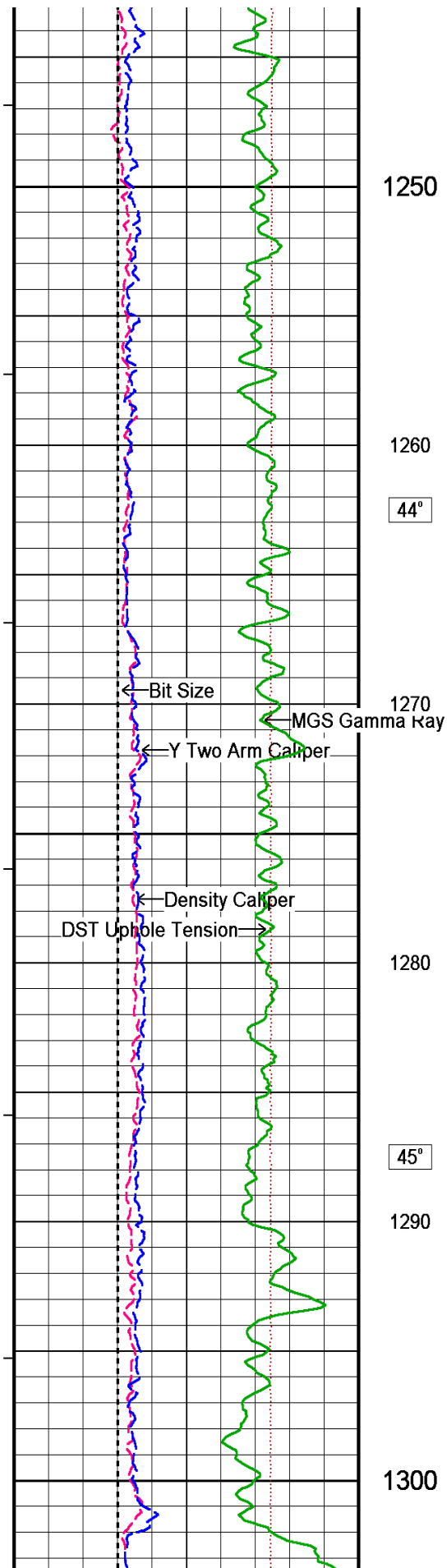
1220

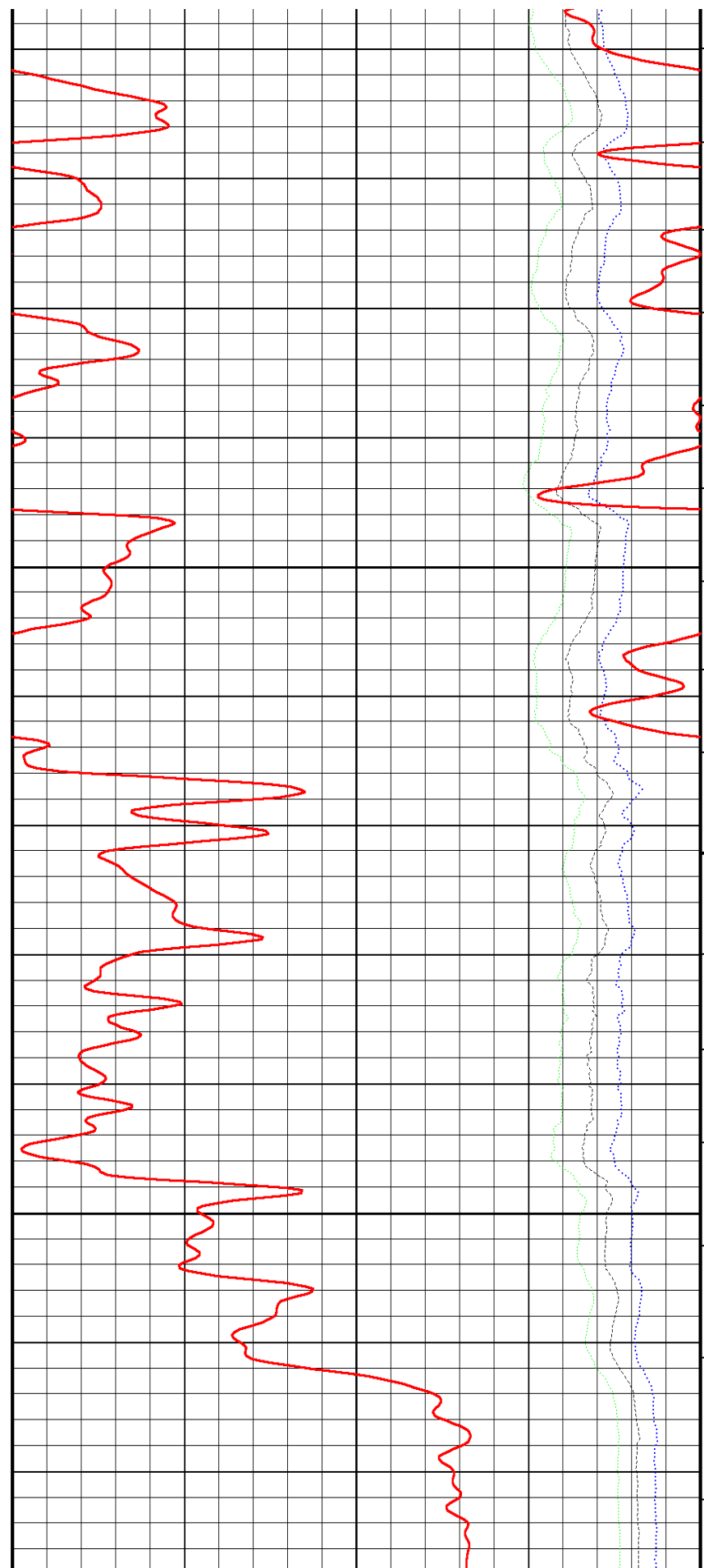
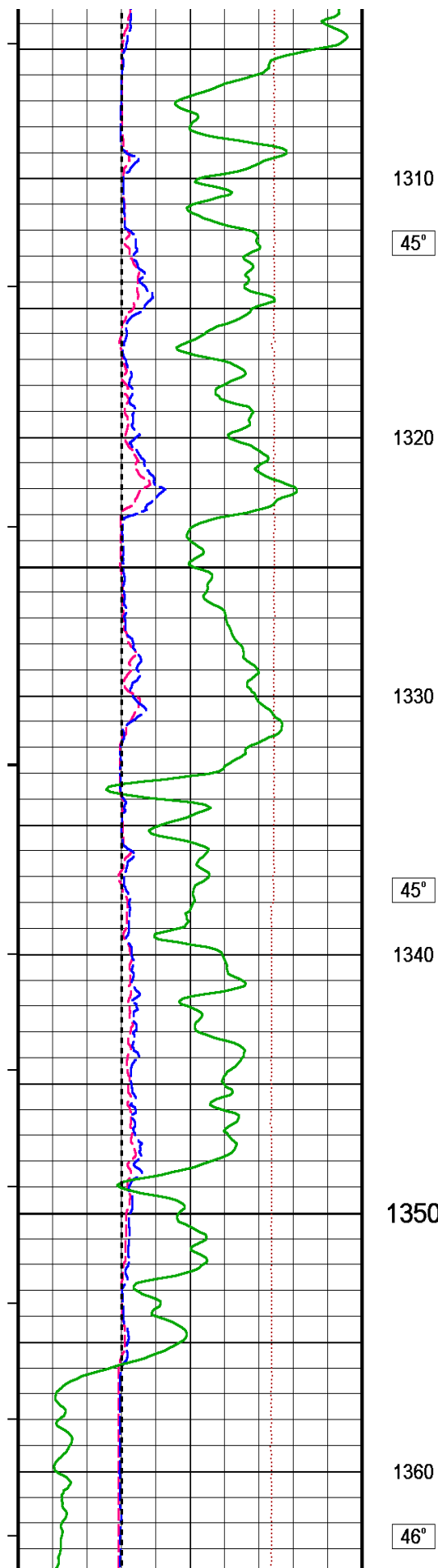
1230

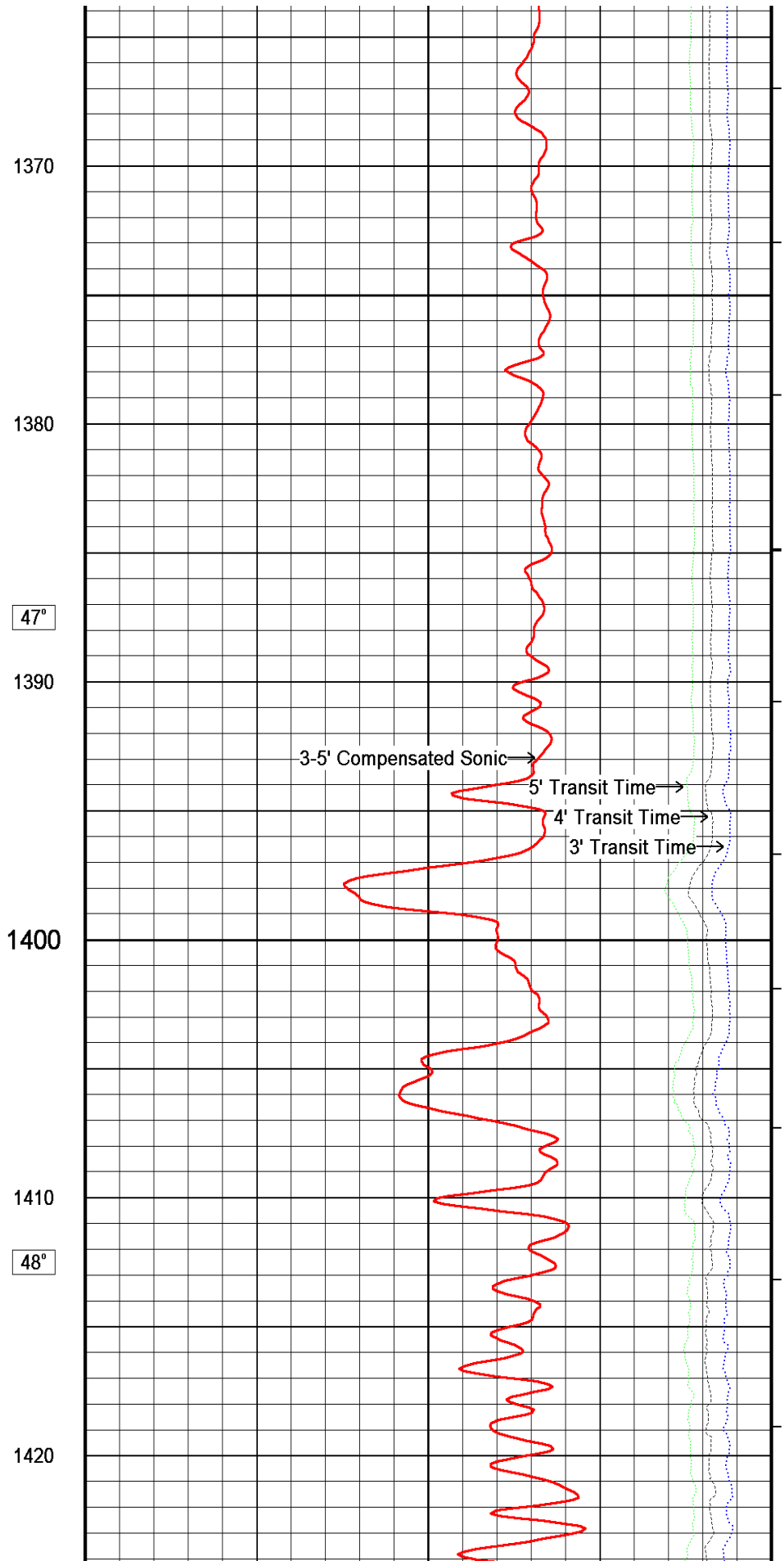
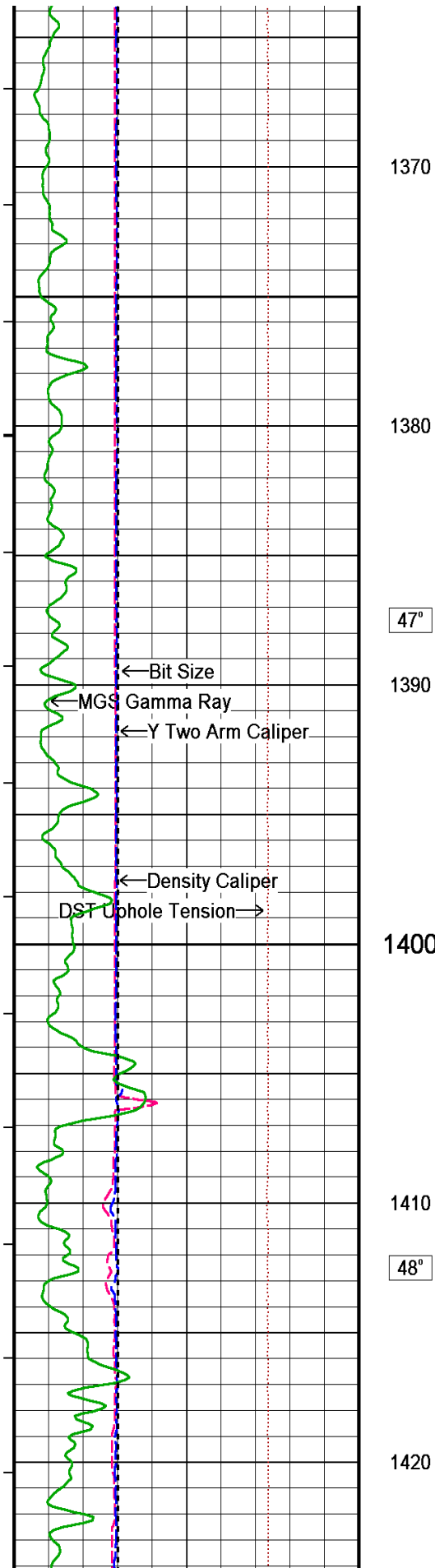
43°

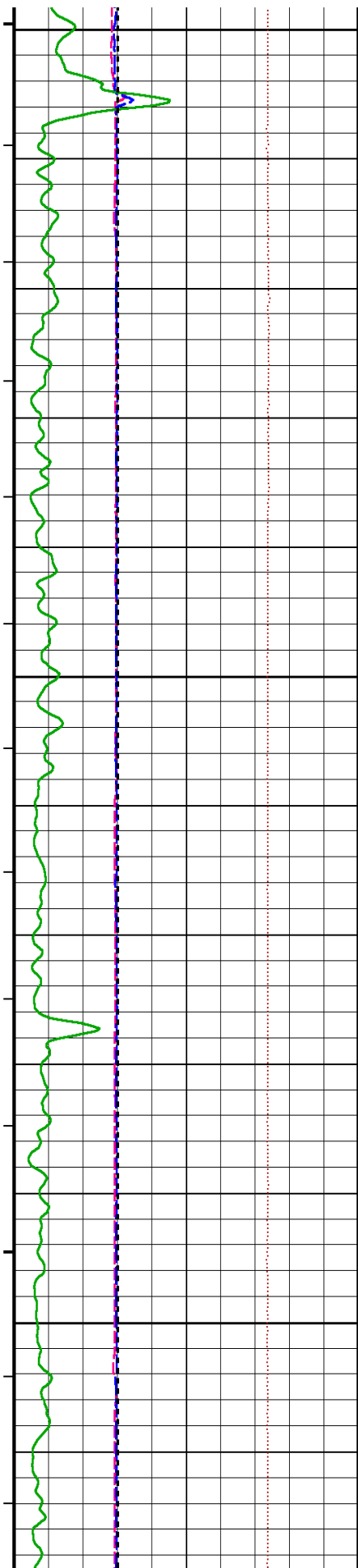
1240











1430

48°

1440

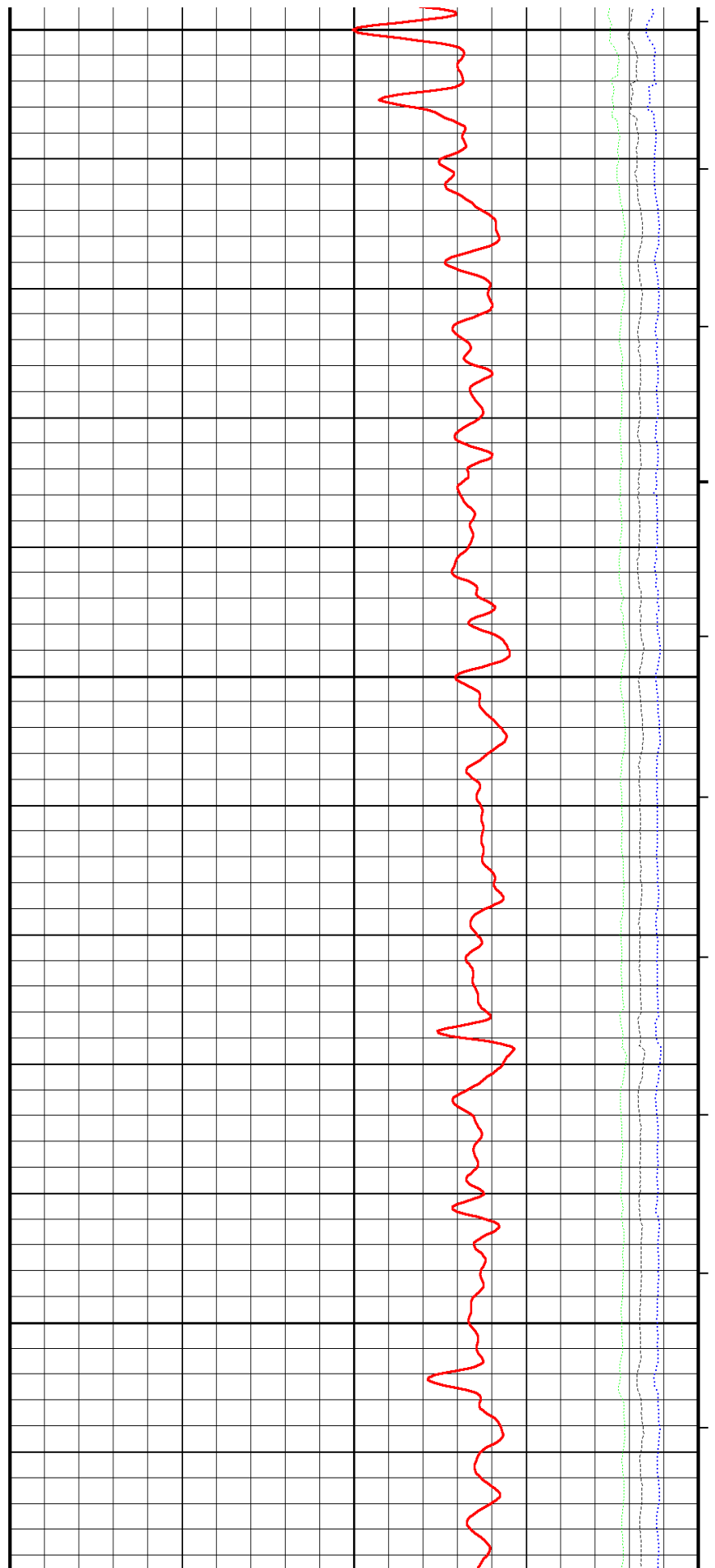
1450

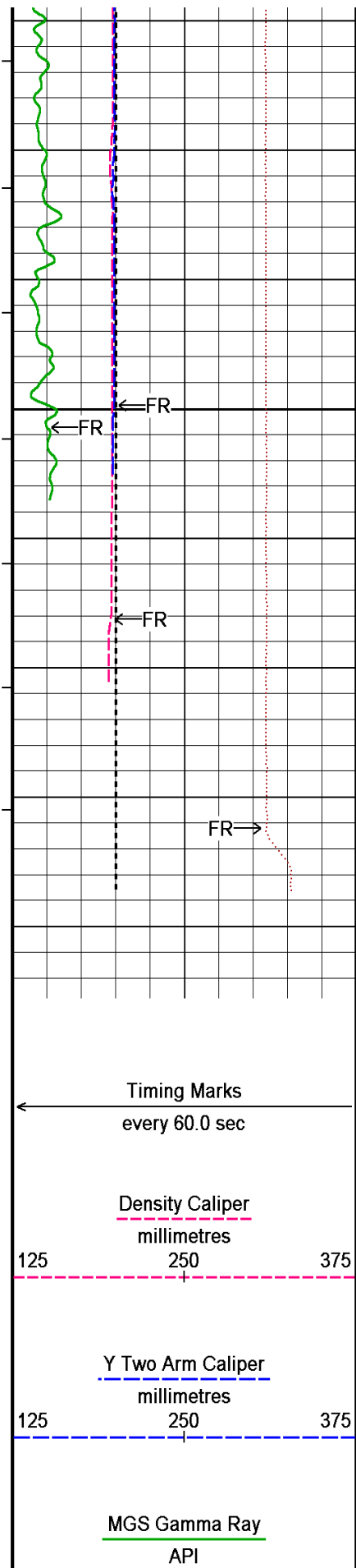
1460

49°

1470

1480





49°

1490

1500

1510

1520

Depth in Metres

Timing Marks every 60.0 sec

Density Caliper millimetres

125 250 375

Y Two Arm Caliper millimetres

125 250 375

MGS Gamma Ray API

Borehole Temp in deg C

FR

FR

3-5' Compensated Sonic

microsec/metre

300

250

200

150

100

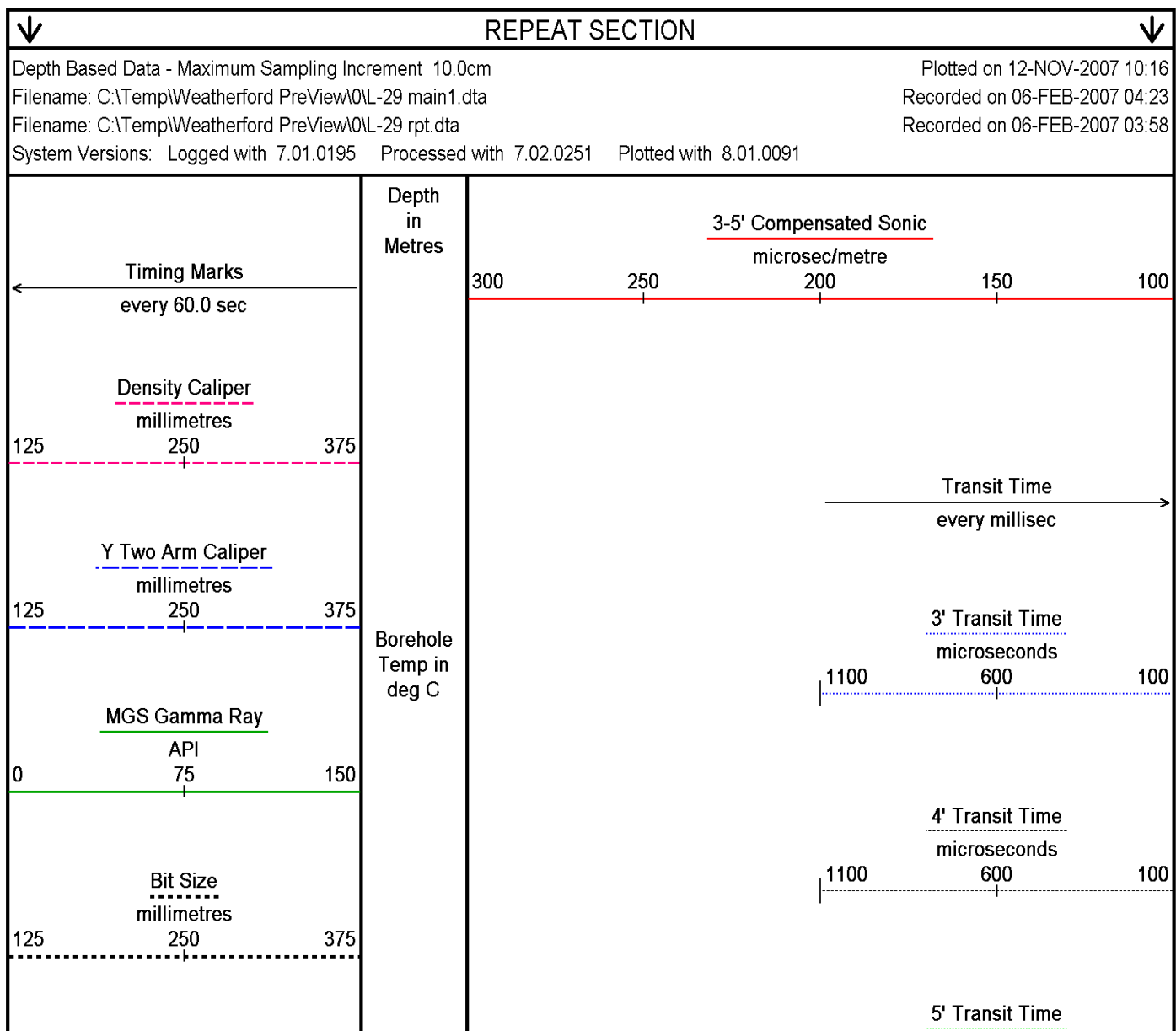
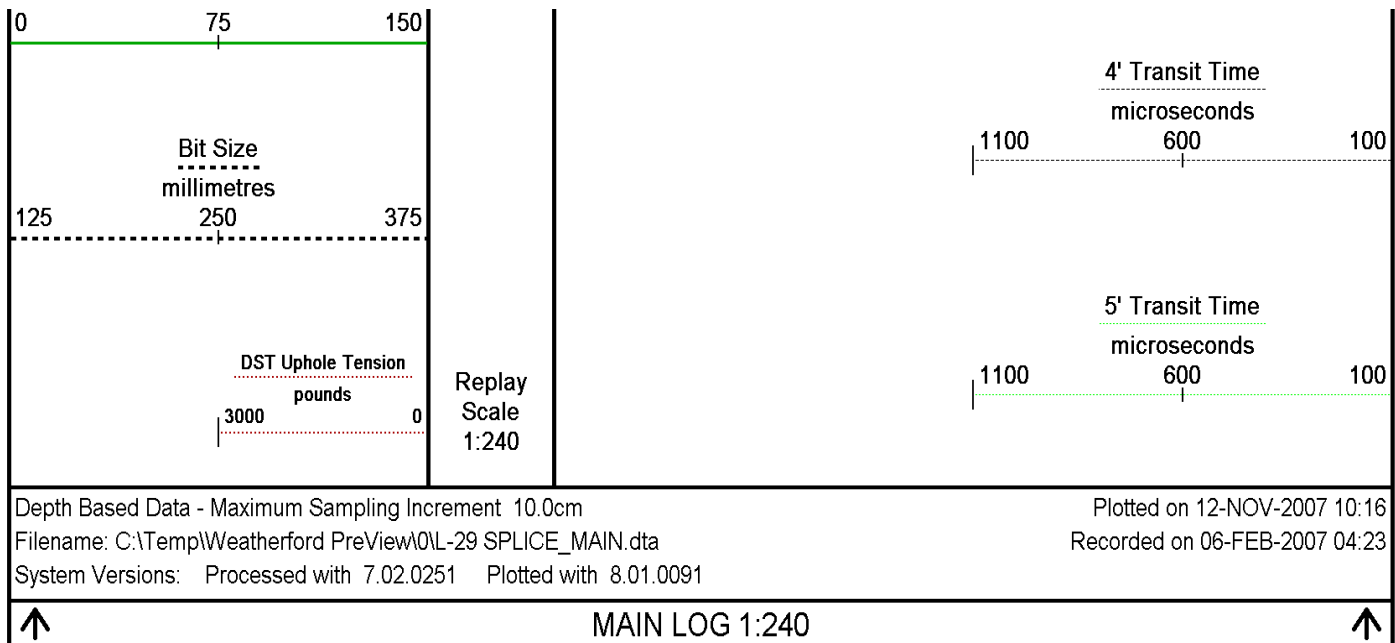
Transit Time every millisecc

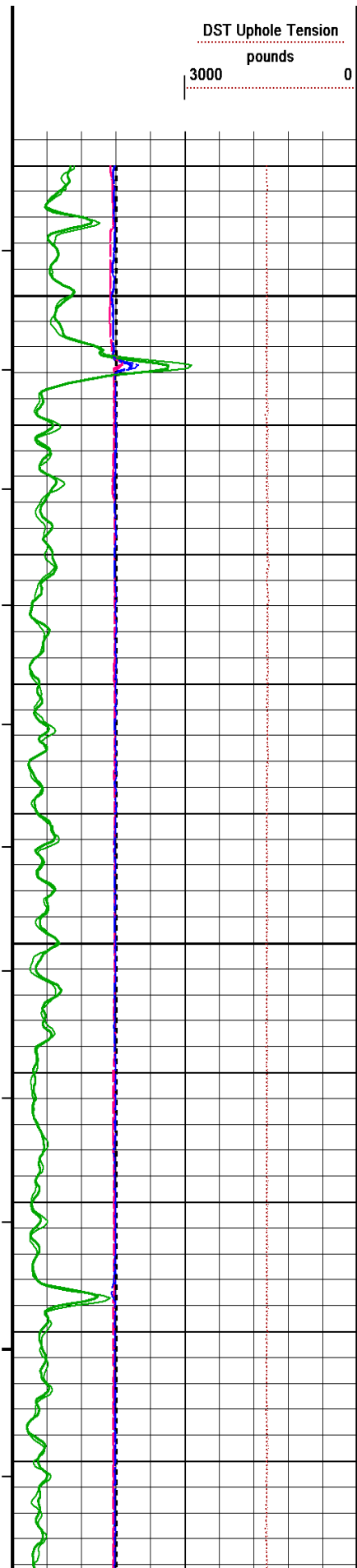
3' Transit Time microseconds

1100

600

100





Replay
Scale
1:240

1420

1430

48°

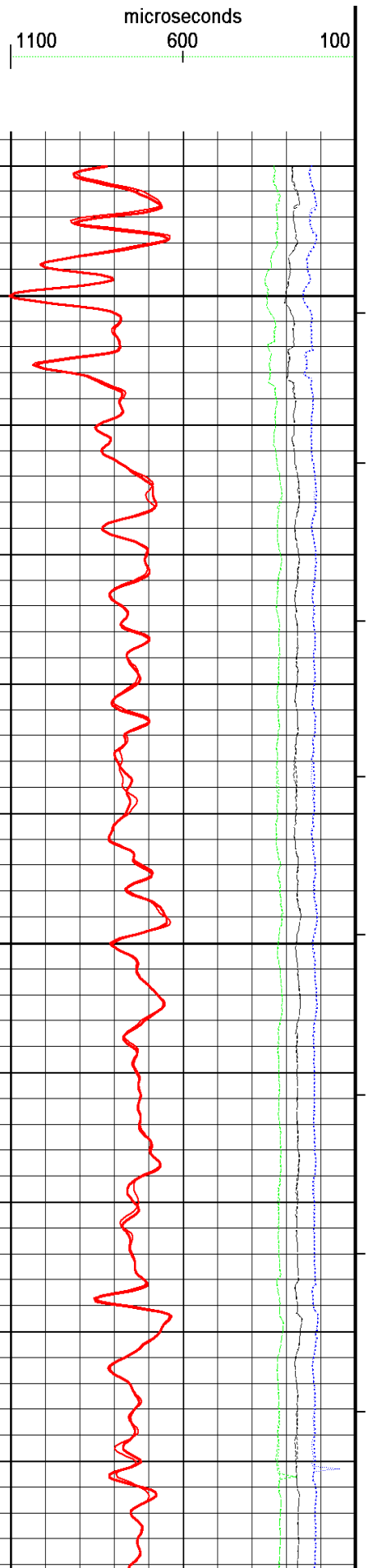
1440

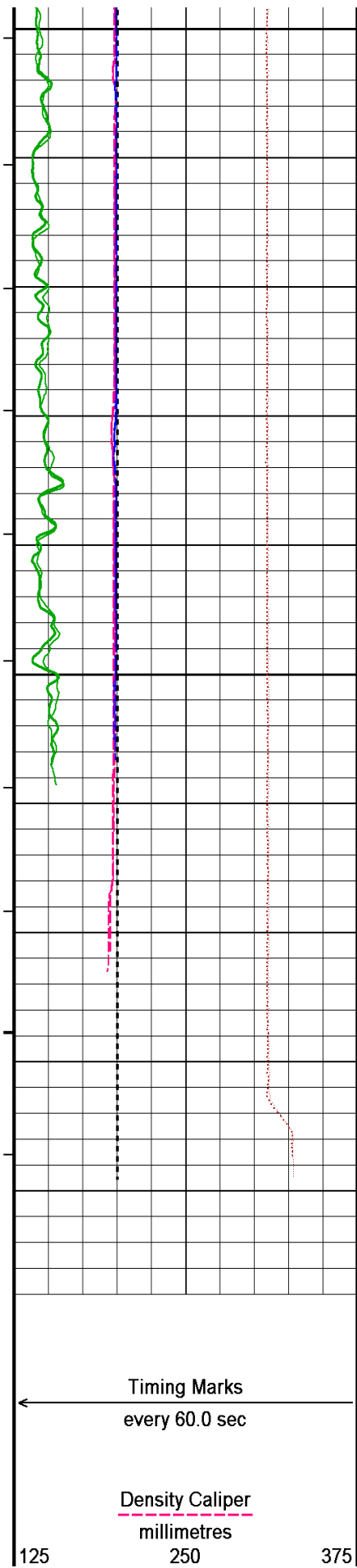
1450

1460

49°

1470





1480

49°

1490

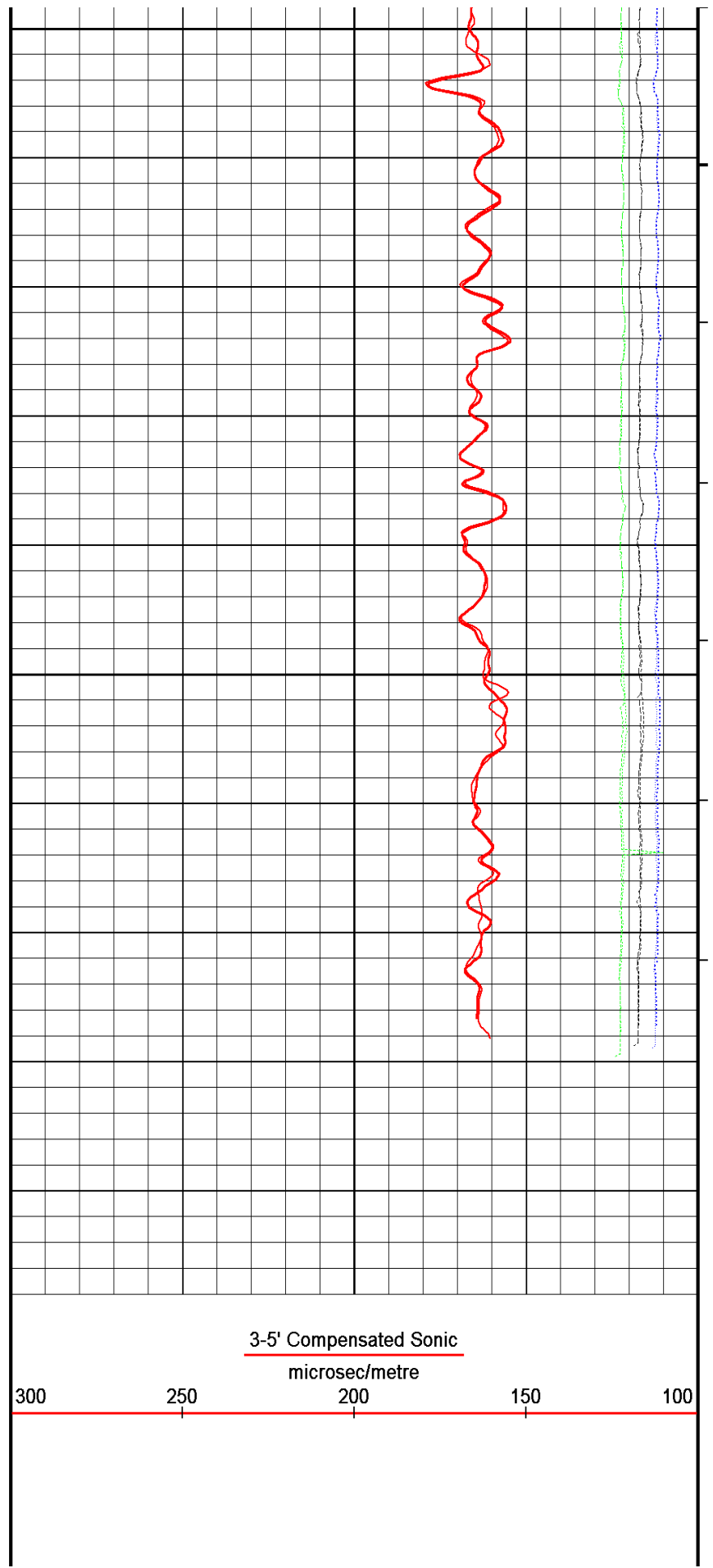
1500

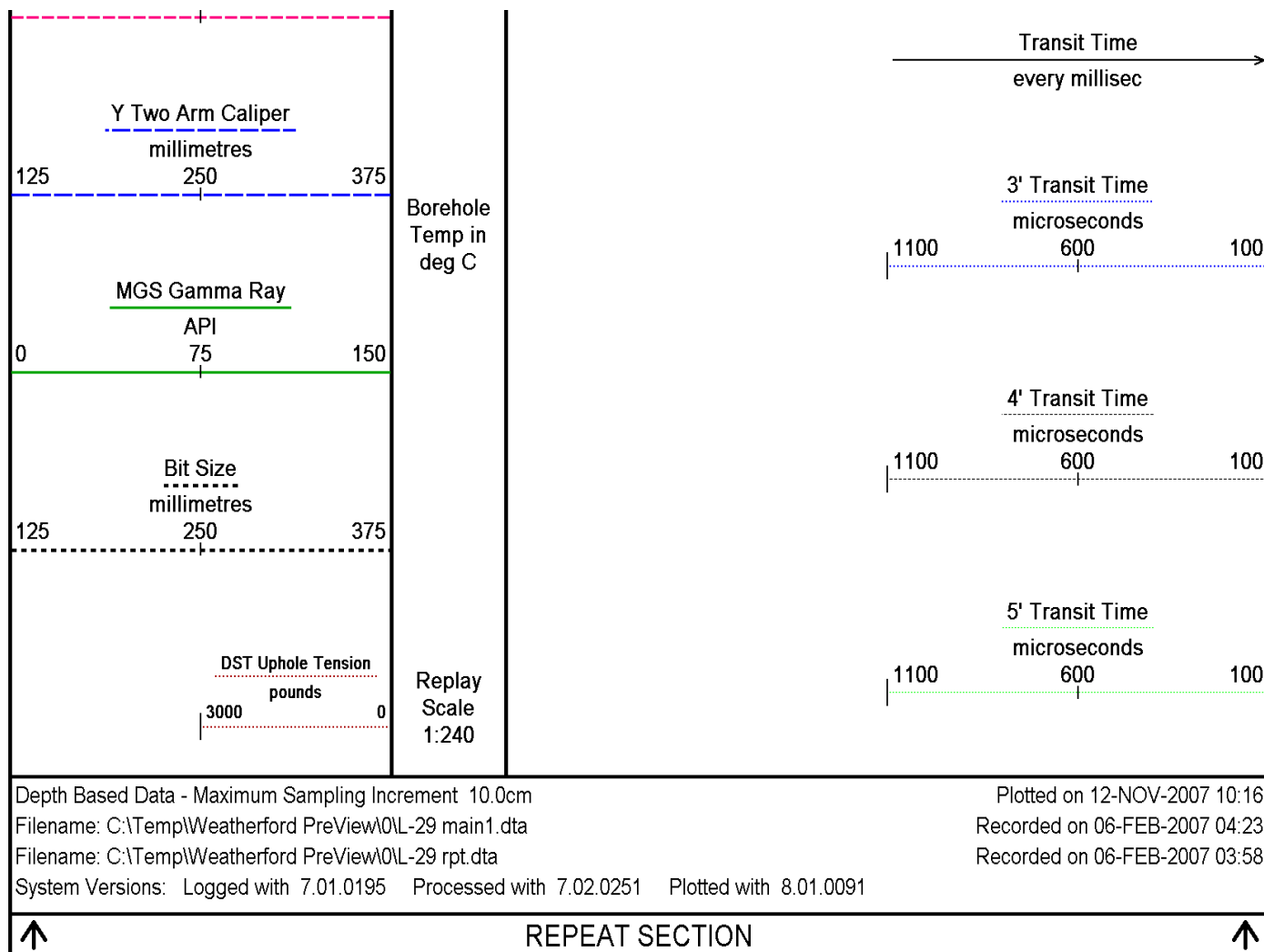
1510

1520

1523

Depth
in
Metres





BEFORE SURVEY CALIBRATION			C:\Temp\Weatherford PreView\0\L-29 rpt.dta
General Constants All 000		Last Edited on 6-FEB-2007,03:32	
General Parameters			
Mud Resistivity	0.690	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	Density Caliper		
HVOL Caliper 2	Y Two Arm Caliper		
Annular Volume Diameter	139.700	mm	
Caliper for Differential Caliper	Density Caliper		
Rwa Parameters			
Porosity used	Base Density Porosity		
Resistivity used	Deep Induction		
RWA Constant A	0.610		
RWA Constant M	2.150		
Gamma Calibration MCG 159		Field Calibration on 5-FEB-2007,23:16	
	Measured	Calibrated (API)	

Background	50	34	
Calibrator (Gross)	1224	828	
Calibrator (Net)	1174	794	
Gamma Constants MCG 159			Last Edited on 6-FEB-2007,02:31
Gamma Calibrator Number	GRCC075		
Mud Density	1135.00	kg/m3	
Caliper Source for Processing	Density Caliper		
Tool Position	Centred		
Concentration of KCl	0.00	kppm	
SP Calibration MCG 159			Field Calibration on 25-JAN-2007 17:35
	Measured	Calibrated (mV)	
Reference 1	99.9	99.5	
Reference 2	-99.3	-99.5	
High Resolution Temperature Calibration MCG 159			Field Calibration on 28-NOV-2006,15:40
	Measured	Calibrated(Deg C)	
Lower	10.00	10.00	
Upper	50.00	50.00	
High Resolution Temperature Constants MCG 159			Last Edited on 28-NOV-2006,15:40
Pre-filter Length	11		
FE Calibration MFE 017			Base Calibration on 25-JAN-2007 17:46 Field Check on 1-FEB-2007 08:10
Base Calibration			
	Measured	Calibrated (ohm-m)	
Reference 1	0.0	0.0	
Reference 2	971.0	126.8	
Base Check		279.5	
Field Check		280.6	
FE Constants MFE 017			Last Edited on 29-JAN-2007,21:47
Caliper Source for FE correction	Density Caliper		
Rm Source for FE correction	Temperature Corr		
Temp. for Rm Corr.	MCG External Temperature		
Stand-off	Centred	millimetres	
Caliper Calibration MTC 006			Base Calibration on 25-JAN-2007,18:14 Field Calibration on 6-FEB-2007,03:31
Base Calibration			
Reading No	Measured	Calibrator Size (mm)	
1	14734	110.00	
2	17539	162.00	
3	20248	212.00	
4	22990	262.00	
5	25897	311.00	
6	N/A	N/A	
Field Calibration			
	Measured Caliper (mm)	Actual Caliper (mm)	
	208.40	205.70	
Gamma Calibration MGS 010			Field Calibration on 5-FEB-2007,23:15
	Measured	Calibrated (API)	
Background	48	31	
Calibrator (Gross)	1256	825	
Calibrator (Net)	1208	794	

Gamma Constants MGS 010				Last Edited on 6-FEB-2007,02:31	
Gamma Calibrator Number	grcc075				
Mud Density	1135.00	kg/m3			
Caliper Source for Processing	Density Caliper				
Tool Position	Centred				
Concentration of KCl	0.00	kppm			
SP Calibration MGS 010				Field Calibration on 8-NOV-2006,19:47	
	Measured	Calibrated (mV)			
Reference 1	0.0	0.0			
Reference 2	10.0	10.0			
High Resolution Temperature Calibration MGS 010				Field Calibration on 28-NOV-2006,15:40	
	Measured	Calibrated(Deg C)			
Lower	10.00	10.00			
Upper	50.00	50.00			
High Resolution Temperature Constants MGS 010					
Pre-filter Length	11				
Micro Normal and Micro Inverse Calibration MML 015				Base Calibration on 25-JAN-2007,17:08 Field Check on 31-JAN-2007 18:48	
Base Calibration					
		Measured	Calibrated (ohm-m)		
Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2	
Micro Normal	9.9	48.5	5.1	25.6	
Micro Inverse	9.9	48.7	3.4	16.9	
Channel	Base Check (ohm-m)		Field Check (ohm-m)		
Micro Normal	79.8		0.0		
Micro Inverse	52.6		0.0		
Micro Normal and Micro Inverse Constants MML 015				Last Edited on 5-FEB-2007,23:14	
Micro Normal K Factor	0.5110				
Micro Inverse K Factor	0.3380				
Standoff Offset	N/A		millimetres		
Caliper Calibration MML 015				Base Calibration on 25-JAN-2007,18:15 Field Calibration on 6-FEB-2007,03:32	
Base Calibration					
Reading No	Measured		Calibrator Size (mm)		
1	13860		162.00		
2	17089		212.00		
3	20617		262.00		
4	24375		311.00		
5	27976		355.00		
6	N/A		N/A		
Field Calibration					
	Measured Caliper (mm)		Actual Caliper (mm)		
	211.00		205.70		
Neutron Calibration MDN 144				Base Calibration on 25-JAN-2007 18:05 Field Check on 5-FEB-2007 23:56	
Base Calibration					
		Measured	Calibrated (cps)		
	Near	Far	Near	Far	
	2967	93	3714	110	
Ratio	31.886		33.764		
Field Calibrator at Base					
			Calibrated (cps)		

Ratio	2065	2999	0.689
Field Check	2075	3068	
Ratio			0.676
Neutron Constants MDN 144			Last Edited on 18-JAN-2007,02:18
Neutron Source Id	16145b		
Neutron Jig Number			
Epithermal Neutron	No		
Caliper Source for Processing	Density Caliper		
Stand-off	0.00	mm	
Mud Density	1000.00	kg/m3	
Limestone Sigma	7.10	cu	
Sandstone Sigma	4.26	cu	
Dolomite Sigma	4.70	cu	
Formation Pressure Source	Constant Value		
Formation Pressure	0.00	kPa	
Temperature Source	MCG External Temperature		
Temperature	20.00	degrees C	
Mud Salinity	0.00	kppm	
Formation Fluid Salinity Source	Constant Value		
Formation Fluid Salinity	0.00	kppm	
Barite Mud Correction	Not Applied		
Photo Density Calibration MPD 036			Base Calibration on 23-JAN-2007 04:10 Field Check on 5-FEB-2007 23:46
Density Calibration			
Base Calibration	Measured	Calibrated (sdu)	
	Near	Far	Near Far
Reference 1	52802	28585	60352 31615
Reference 2	21780	2767	25043 2540
Field Check at Base	1184.8	1494.9	
Field Check	1184.7	1500.0	
PE Calibration			
Base Calibration	Measured	Calibrated	
	WS WH Ratio	Ratio	
Background	213 1052		
Reference 1	22151 52610	0.425	0.400
Reference 2	5909 21638	0.277	0.272
Field Check at Base	213.1 1051.7		
Field Check	211.7 1051.4		
Density Constants MPD 036			Last Edited on 6-FEB-2007,02:32
Density Source Id	2834GW		
Nylon Calibrator Number	608		
Aluminium/Fe Calibrator Number	608		
Density Shoe Profile	4 inch		
Caliper Source for Processing	Density Caliper		
PE Correction to Density	Not Applied		
Mud Density	1135.00	kg/m3	
Mud Density Z/A Correction	1.11		

Mud Filtrate Density	1000.00	kg/m3
Dry Hole Mud Filtrate Density	1000.00	kg/m3
DNCT	0.00	kg/m3
CRCT	0.00	kg/m3
Density Z/A Correction	0	
Matrix Density (kg/m3)	Depth (m)	
2710.00	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	
Caliper Calibration MPD 036		
Base Calibration		Base Calibration on 23-JAN-2007 04:20
		Field Calibration on 6-FEB-2007,03:32
Reading No	Measured	Calibrator Size (mm)
1	18576	110.00
2	28032	162.00
3	37841	212.00
4	48080	262.00
5	57920	311.00
6	N/A	N/A
Field Calibration		
	Measured Caliper (mm)	Actual Caliper (mm)
	206.00	205.70
Sonic Constants MSS 060		
Last Edited on 6-FEB-2007,03:32		
Maximum Boundary Contrast	328.08	micro-sec/m
Fluid Transit Time	620.08	micro-sec/m
Limestone Transit Time	155.84	micro-sec/m
Sandstone Transit Time	182.09	micro-sec/m
Dolomite Transit Time	142.72	micro-sec/m
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	0.00	0
Fixed Gate Parameters		
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
Down Hole Fixed Gate Parameters		
Gate Start	N/A	micro-sec
Gate Width	N/A	micro-sec
Initial Discriminator Level	0.0000	mVolts
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

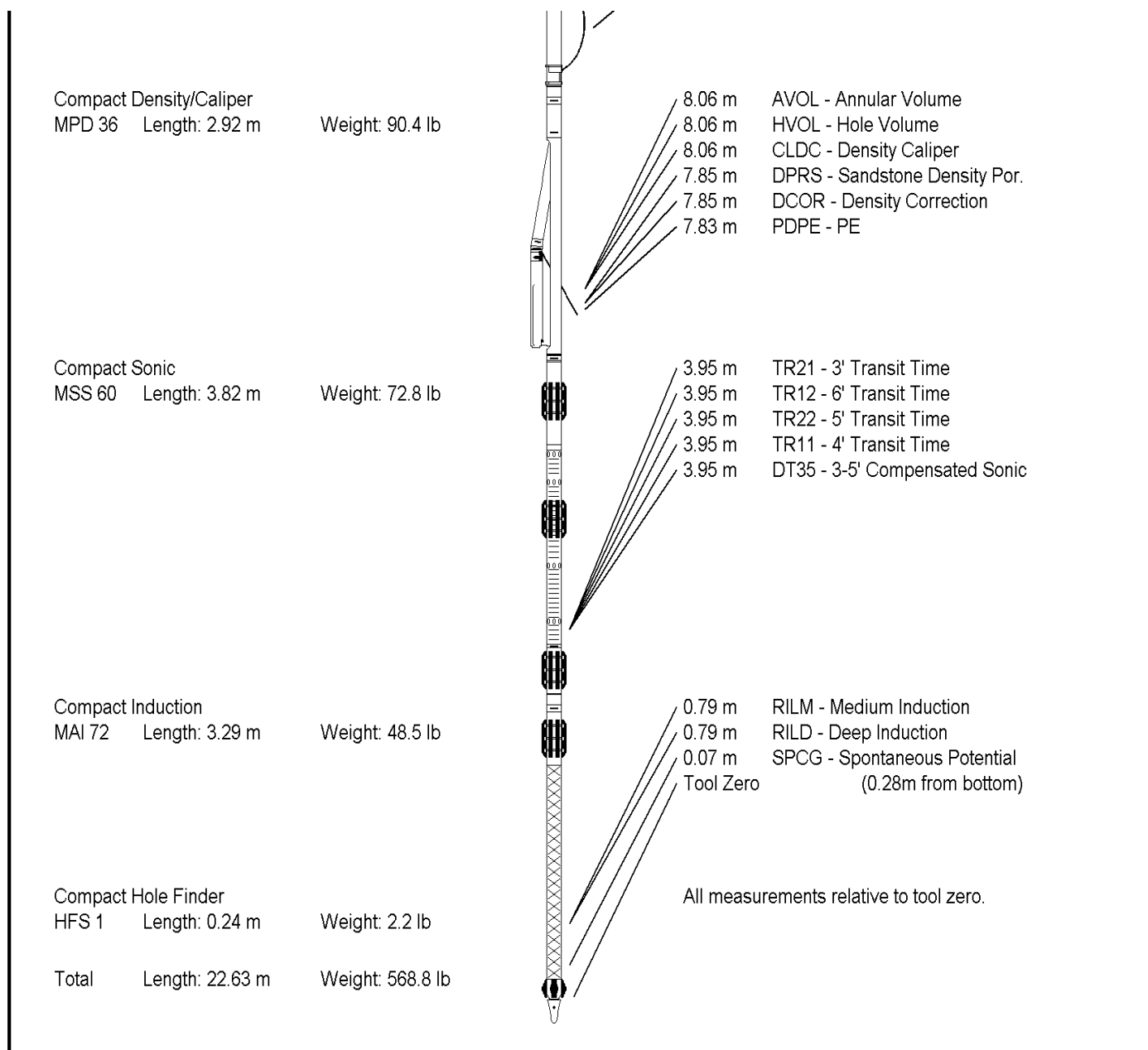
4' Waveform Discriminator Level	N/A	mv
5' Waveform Discriminator Level	N/A	mV
6' Waveform Discriminator Level	N/A	mV
3' Waveform Filter	N/A	
4' Waveform Filter	N/A	
5' Waveform Filter	N/A	
6' Waveform Filter	N/A	
Semblance Level	N/A	
Semblance Window Width	N/A	micro-sec
Sonic 1 Despiker	N/A	N/A
Sonic 2 Despiker	N/A	N/A

Induction Calibration MAI 072				Base Calibration on 25-JAN-2007,18:16	
				Field Check on 6-FEB-2007 03:36	
Base Calibration					
Test Loop Calibration		Measured		Calibrated (mmho/m)	
Channel	Low	High	Low	High	
1	13.9	459.6	9.3	966.2	
2	5.3	373.2	7.6	821.4	
3	2.9	254.1	5.2	566.0	
4	1.3	130.4	2.6	279.2	
Array Temperature		18.5	Deg C		
Channel		Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High	
1	18.0	3925.2	21.4	3925.8	
2	31.0	3598.6	33.0	3598.2	
3	29.0	3101.3	30.5	3101.0	
4	20.3	2105.9	21.3	2105.5	
Deep	18.4	2019.9	19.5	2019.8	
Medium	40.9	4089.6	42.7	4089.1	
Shallow	45.6	5324.4	48.5	5323.6	
Array Temperature		18.5	32.0	Deg C	

Induction Constants MAI 072				Last Edited on 6-FEB-2007,03:33	
Induction Model		VECTAR			
Caliper for Borehole Corr.		Density Caliper			
Hole Size for Borehole Correction		N/A	millimetres		
Stand-off		25.40	millimetres		
Number of Fins on Stand-off		5.0000			
Stand-off Fin Width		25.4000	millimetres		
Borehole Corr. Rm Source		Temperature Corr			
Temp. for Rm Corr.		MCG External Temperature			
Squasher Start		0.0020	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
High Resolution Temperature Calibration MAI 072		
	Measured	Calibrated(Deg C)
Lower	1.00	1.00
Upper	10.00	10.00
High Resolution Temperature Constants MAI 072		
Pre-filter Length	11	

DOWNHOLE EQUIPMENT			C:\Temp\Weatherford PreView\0\L-29 rpt.dta	
Compact Gamma MCG 159 Length: 2.65 m Weight: 63.9 lb		20.78 m 19.90 m	GRGC - Gamma Ray CGXT - MCG External Temperature	
Compact Focussed Electric MFE 17 Length: 1.84 m Weight: 48.5 lb		18.79 m	FEFE - Shallow FE	
Compact Two Arm Caliper MTC 6 Length: 2.17 m Weight: 61.7 lb		16.33 m	CLYC - Y Two Arm Caliper	
Compact Short Gamma MGS 10 Length: 1.04 m Weight: 24.3 lb		15.46 m	GRGM - MGS Gamma Ray	
Compact InterSonde Crank ISC 159 Length: 0.70 m Weight: 24.3 lb				
Compact Micro-log MML 15 Length: 2.43 m Weight: 81.6 lb		12.10 m 12.10 m 12.10 m	MINV - Micro-inverse MNRL - Micro-normal MLTC - MML Caliper	
Compact Neutron MDN 144 Length: 1.53 m Weight: 50.7 lb		10.64 m	NPRS - Sandstone Neutron Por.	



COMPANY		PARAMOUNT RESOURCES LTD.			
WELL		PARA ET AL CAMERON L-29			
FIELD		CAMERON HILLS			
PROVINCE/COUNTY		NORTHWEST TERRITORIES			
COUNTRY/STATE		CANADA			
Elevation Kelly Bushing	759.50	metres	First Reading	1515.40	metre
Elevation Drill Floor		metres	Depth Driller	1515.50	metres
Elevation Ground Level	754.10	metres	Depth Logger	1516.70	metres


Weatherford®

ARRAY INDUCTION

