



Weatherford

SONIC LOG
MSS-MCG
SCALE 5":100

COMPANY	SAVIA PERU S.A			
WELL	LOG-26XD			
FIELD	LOBITOS			
PROVINCE/COUNTY	PIURA			
COUNTRY/STATE	PERU			
LOCATION	N: 9 508 662.12m E: 459 045.17m			
Permanent Datum SEA LVL, Elevation 50 feet Log Measured From KB Drilling Measured From KB.	Other Services		MPD	
	MDL MDN		CMI	
Date	05-JAN-2013	07-JAN-2013	Elevations: KB 50.00 DF 50.00 GL -335.00	
Run Number	ONE	TWO		
Service Order	796	796		
Depth Driller	9800.00	9800.00	feet	
Depth Logger	6942.00	9600.00	feet	
First Reading	7700.00	7700.00	feet	
Last Reading	5850.00	5850.00	feet	
Casing Driller	5898.00	5898.00	feet	
Casing Logger	5886.75	5886.75	feet	
Bit Size	8.500	8.500	inches	
Hole Fluid Type	WATER BASED		WATER BASED	
Density / Viscosity	1.41 g/cc	19.00 CP	1.41 g/cc	24.00 CP
PH / Fluid Loss	9.40	4.80 CC/30Min	9.30	4.60 CC/30Min
Sample Source	ACTIVE PIT		ACTIVE PIT	
Rm @ Measured Temp	1.40 @ 76.0	ohm-m	1.45 @ 78.0	ohm-m
Rmf @ Measured Temp	0.95 @ 78.0	ohm-m	0.95 @ 78.0	ohm-m
Rmc @ Measured Temp	3.0 @ 78.0	ohm-m	2.60 @ 80.0	ohm-m
Source Rmf / Rmc	PRESS		PRESS	
Rm @ BHT	0.88 @123.0	ohm-m	0.80 @136.0	ohm-m
Time Since Circulation	10:00 05JAN		23:00 08JAN	
Max Recorded Temp	123.00	deg F	136.00	deg F
Equipment / Base	16064	TAL	16064	TAL
Recorded By	YANINA MENDEZ		YANINA MENDEZ	
Witnessed By	CESAR MORALES		CESAR MORALES	

REMARKS

- Objective: to obtain accurate open hole Gamma Ray , SP, Caliper 8 arms, Resistivity (Dual Laterolog), Sonic log in the 8.5" section.
- This is the First Log done in this well. RULS 206.31ft ;
- All WFT logging depth control applied.
- Casing Shoe was found at 5886.75 ft MD.
- Maximum recorded temperature measured by Gamma Ray sensor: 136°F.
- Mud resistivity measurements: Rm= 1.4 @ 76 °F, Rmf= 0.95 @ 78 °F, Rmc= 3.00 @ 78 °F.
- Mud resistivity measurements at BHT: Rm= 0.799 @ 136°F, Rmf = 0.554@ 136°F, Rmc= 1.75 @ 136°F.
- Well sketch as per driller depth.
- Main section from TD to 8500ft and from 7900ft to 3540 ft MD as per client requirements .
- No Repeat Section due to bridged.
- Hole volume= 1085ft^3
- Annular volume= 750ft^3 for a 5.5" casing.
- Average:
X caliper: 10.706"
Y caliper: 9.396"
X caliper: 9.92"
Y caliper: 9.058"
- The scales and shading of the curves are as per client requirements.
- Enviromental corrections.
- Gamma Ray: Mud density, Caliper.
- Laterolog: Standoff, caliper, mud resistivity.
- Maximun deviation 34.50deg @ 4525 ft and maximun dogleg severity 5.55deg @ 410.00ft
- Neutron and GR logged to 3550ft as per client request.
- Toolstring bridged @ 7164ft. Try to pass the point for two hours. Then with client assurance we proceed to log from there to 3550ft.
- At secpnd attempt the toostring bridged again @ 7715ft. The cliente decided to log this part and removed the sonic at surface (MSS) to decreased the lenght of the toolstring, and move the SKJ to another position, removed the hole finder which was damaged after two bridgeds. The tool was ran again and after several attempts to reach TD, the maximun depth achieved was 7899ft. After these attemots to reach TD the client decided to run TDL.
- The data from the bottom part, obtain by TDL-CWS is on depth with the mule shoe (8500ft).

21. The data obtain with the TDL-CWS will be send to double check to try to get a better data quality

Crew at your service:

Y. Mendez / J. Jimenez / P. Marcelo / G. Chavez / E. Cruz / E. Roldan / J. Guerrero

BOREHOLE RECORD

Last Edited: 05-JAN-2013 14:44

Bit Size inches	Depth From feet	Depth To feet
17.000	0.00	1898.00
12.250	1898.00	5898.00
8.500	5898.00	9800.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
surf	13.375	0.00	1898.00	54.50
interm	9.625	0.00	5898.00	43.50

WELL DIAGRAM

13.38 in Casing: 0.00 ft

9.63 in Casing: 0.00 ft

17.00 in Bit size: 0.00 - 1898.00 ft

13.38 in Casing shoe: 1898.00 ft

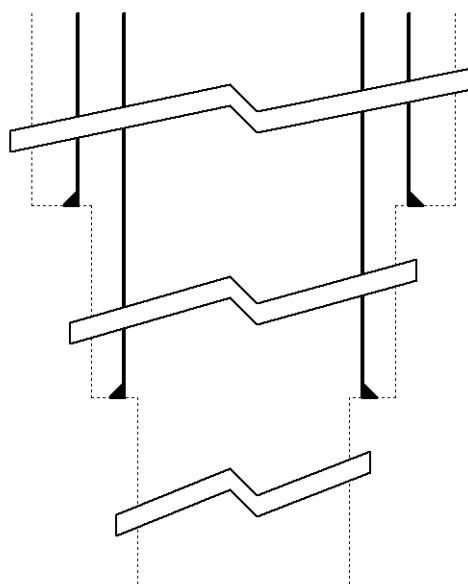
12.25 in Bit size: 1898.00 - 5898.00 ft

9.63 in Casing shoe: 5898.00 ft

8.50 in Bit size: 5898.00 - 9800.00 ft

Total bit depth: 9800.00 ft

Temperature: 123.00 Degrees F



DOWNHOLE EQUIPMENT

I:\LO6_26XD\Final\repro5.dta

CBH-C, Cablehead, 11 pin

CBH-CC 124 LG: 2.40 ft WT: 24.3 lb OD: 2.24 in

SHA-J.A Compact Swivel Head Adaptor

SHA-J.A 229 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

Compact Stiff Bridle Electrode Sub.

MBE-C.B 260 LG: 12.33 ft WT: 77.2 lb OD: 2.28 in

Compact Stiff Bridle Electrode Sub.

MBE-C.B 261 LG: 12.33 ft WT: 77.2 lb OD: 2.28 in



90.31 ft SPDL - Spontaneous Potential

SKJ-D.A Compact Knuckle Joint
SKJ-D.A 171 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

Compact Comms Gamma
MCG-D.A 261 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

MIS-D.B Compact Inline Bowspring sub
MIS-D.B 755 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

Compact Neutron
MDN-C.A 442 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper
MPD-C.A 238 LG: 9.59 ft WT: 90.4 lb OD: 2.24 in

SKJ-E.B Compact Knuckle Joint
SKJ-E.B 507 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

Compact Upper Guard Sub.
MUG-A 47 LG: 8.98 ft WT: 68.3 lb OD: 2.24 in

MIS-E.B Compact Inline Standoff sub
MIS-E.B 633 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

Compact Laterolog Electrode Sub.
MLE-D.A 227 LG: 12.34 ft WT: 92.6 lb OD: 2.24 in

MIS-E.A Compact Inline Standoff sub
MIS-E.A 150 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

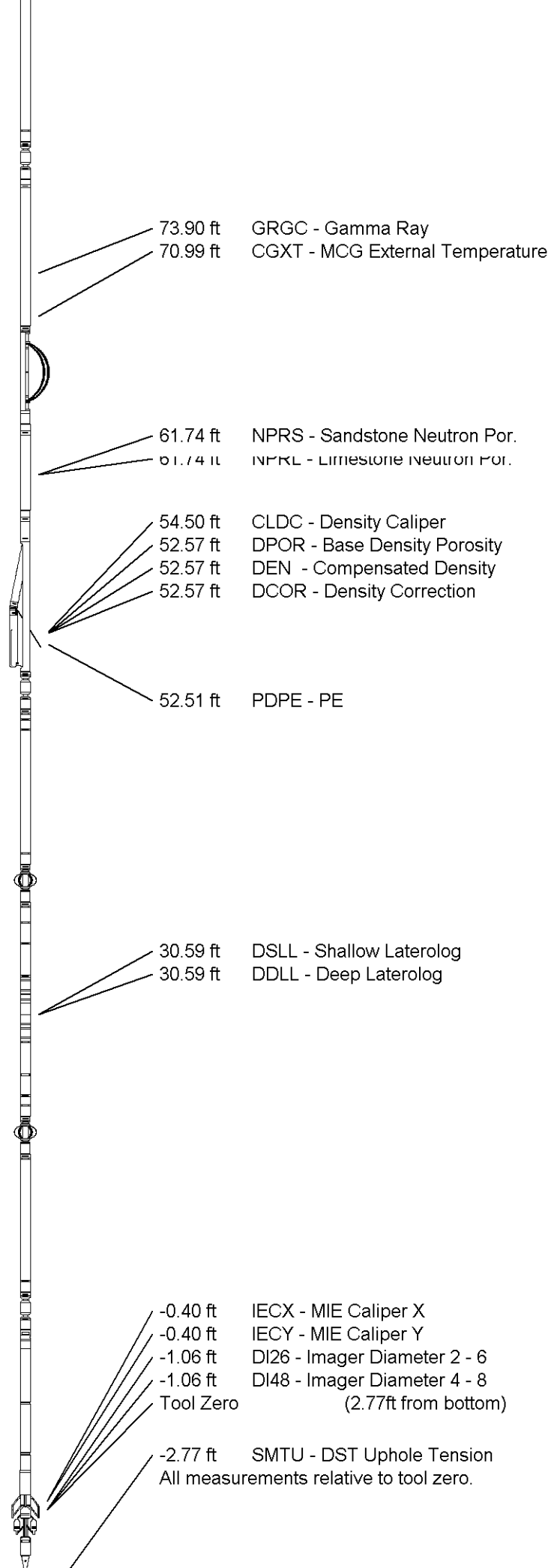
Compact Lower Guard Sub.
MLG-B.A 139 LG: 8.00 ft WT: 55.1 lb OD: 2.24 in

SKJ-E.B Compact Knuckle Joint
SKJ-E.B 547 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

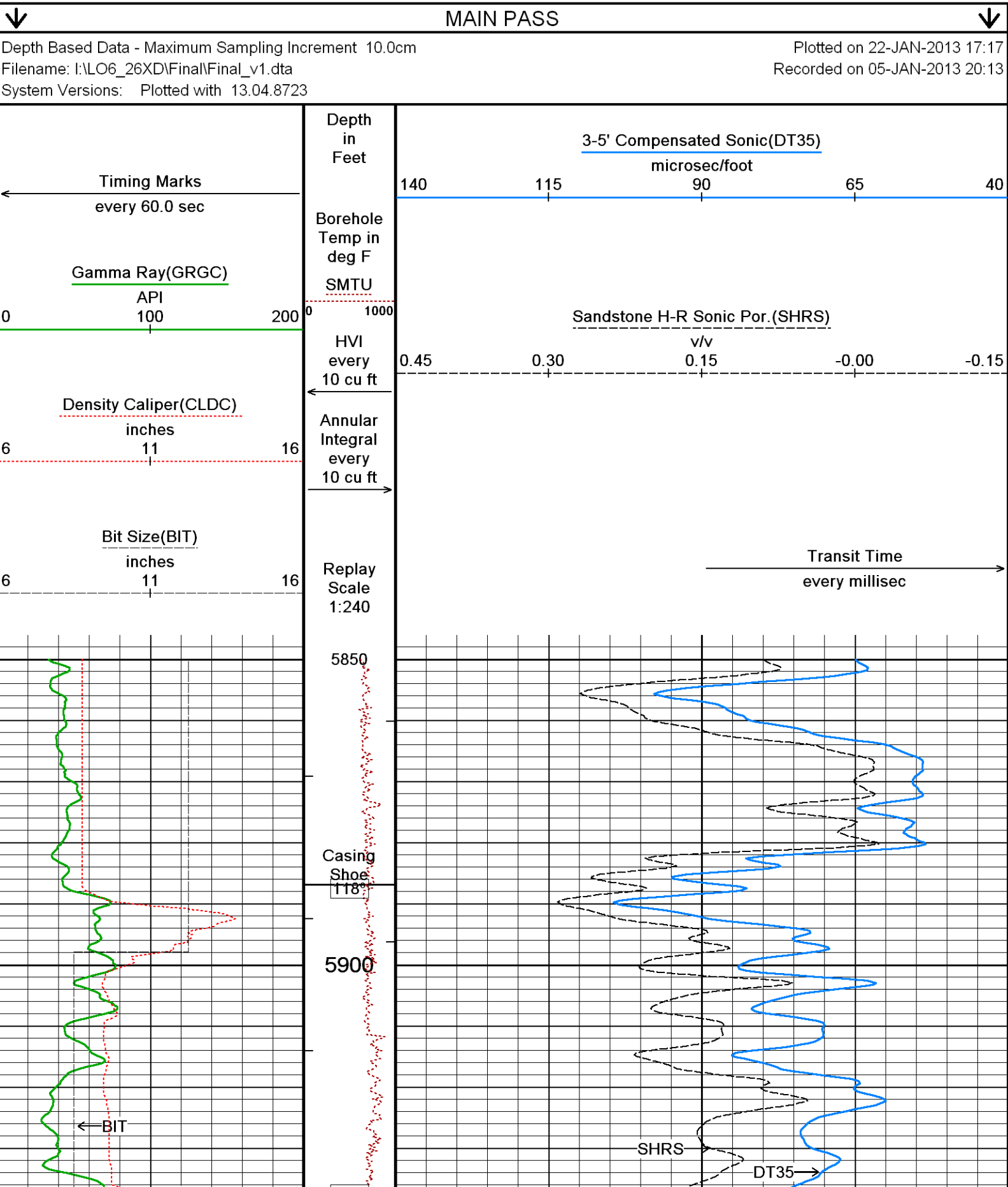
Compact MMI Electrode Section
MIE-A.A 171 LG: 13.96 ft WT: 99.2 lb OD: 2.40 in

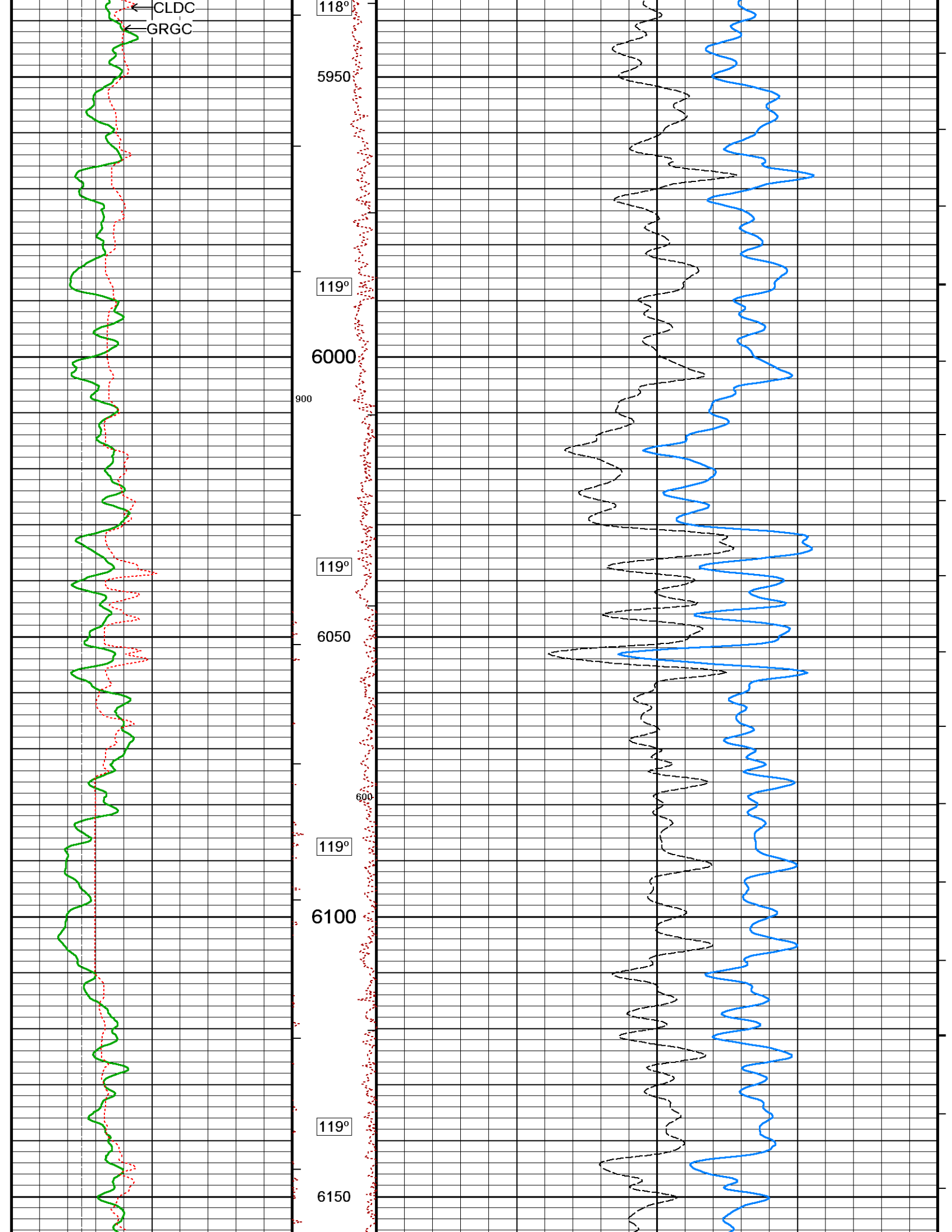
Compact Hole Finder
HFS 1 LG: 0.92 ft WT: 2.2 lb OD: 2.24 in

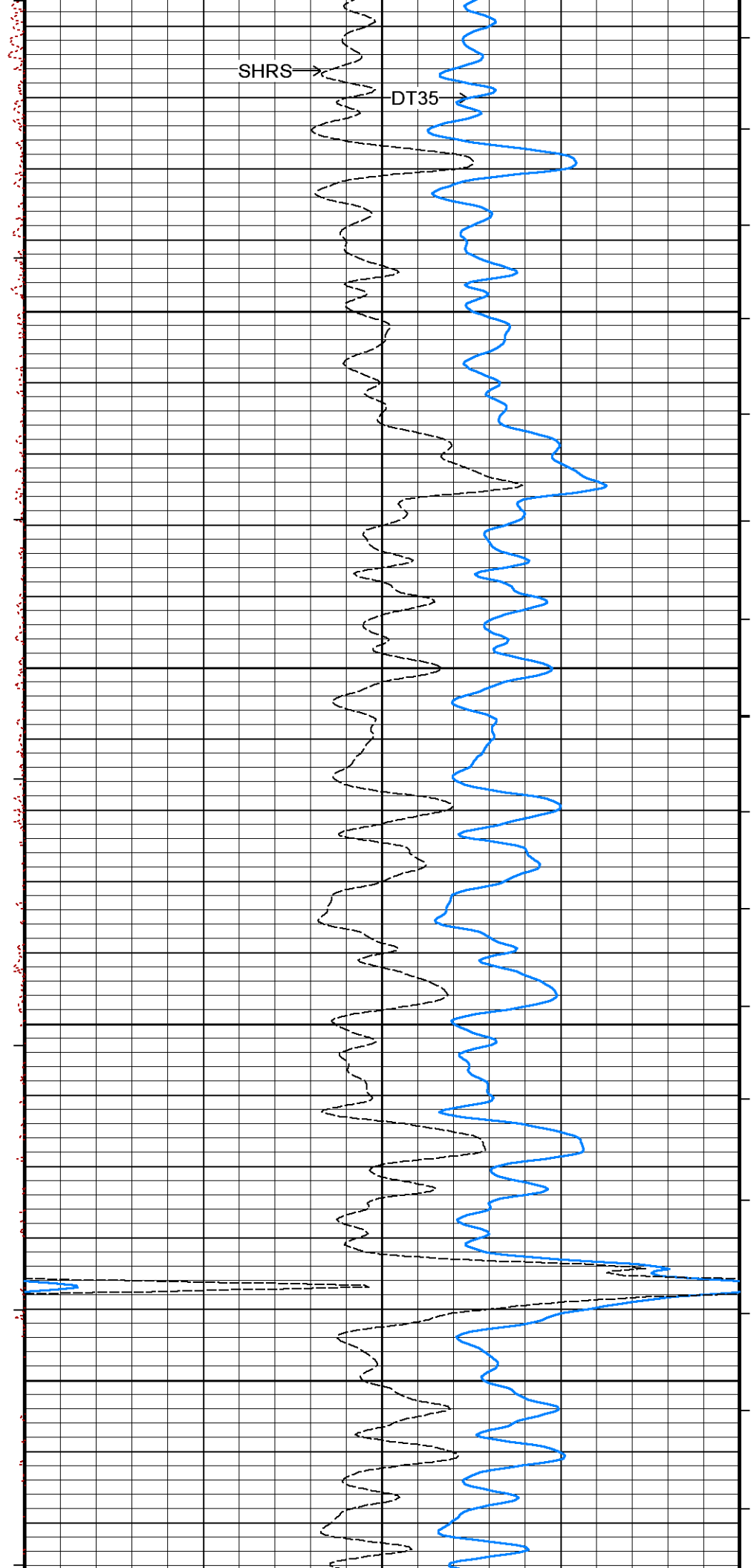
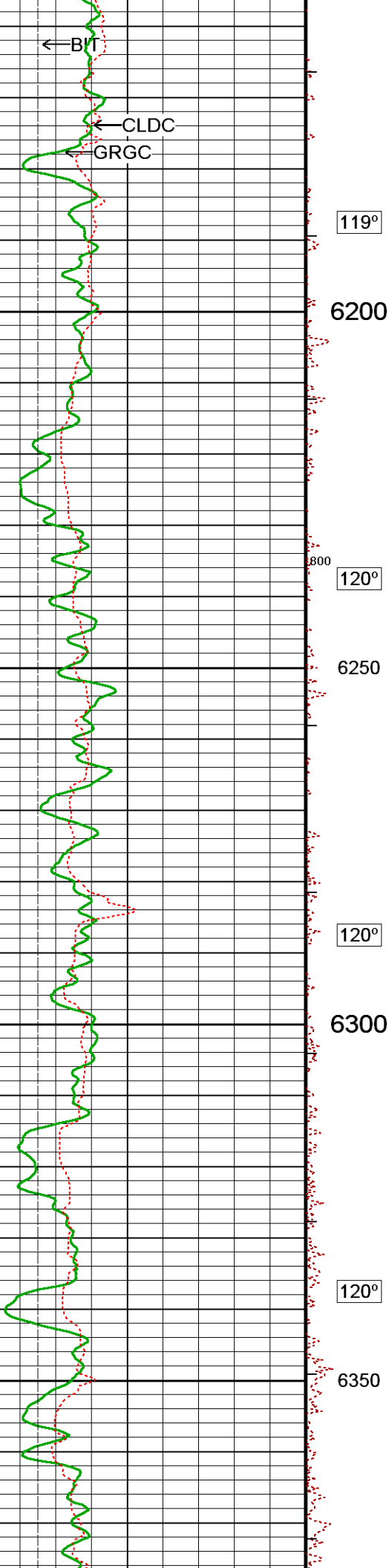
Total Length: 113.35 ft Weight: 859.8 lb

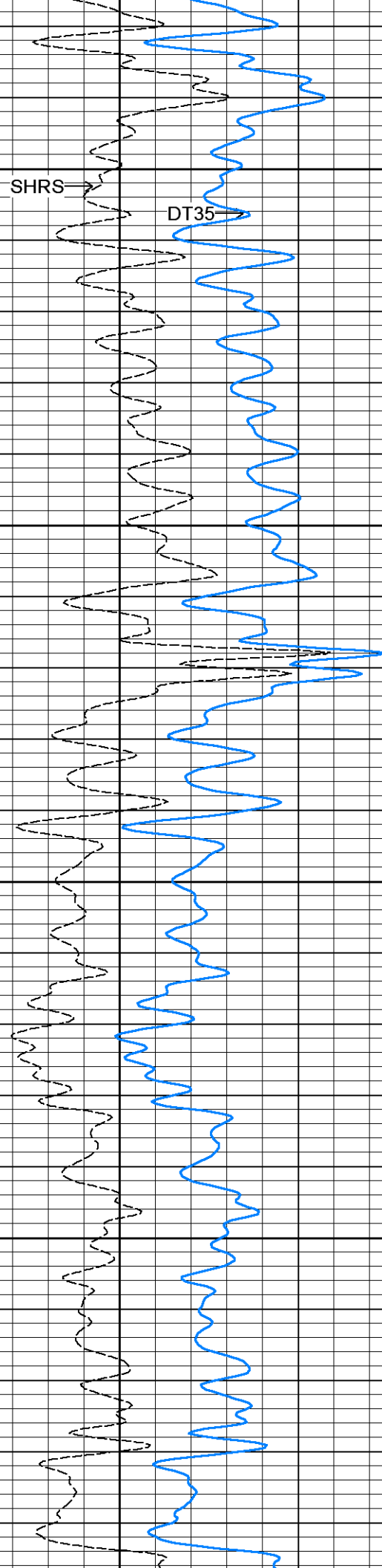
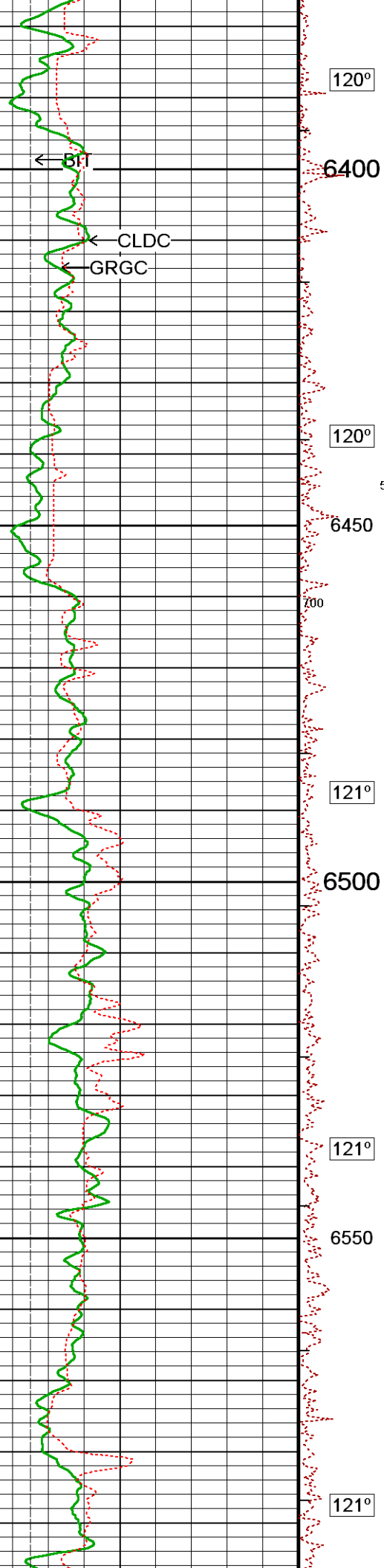


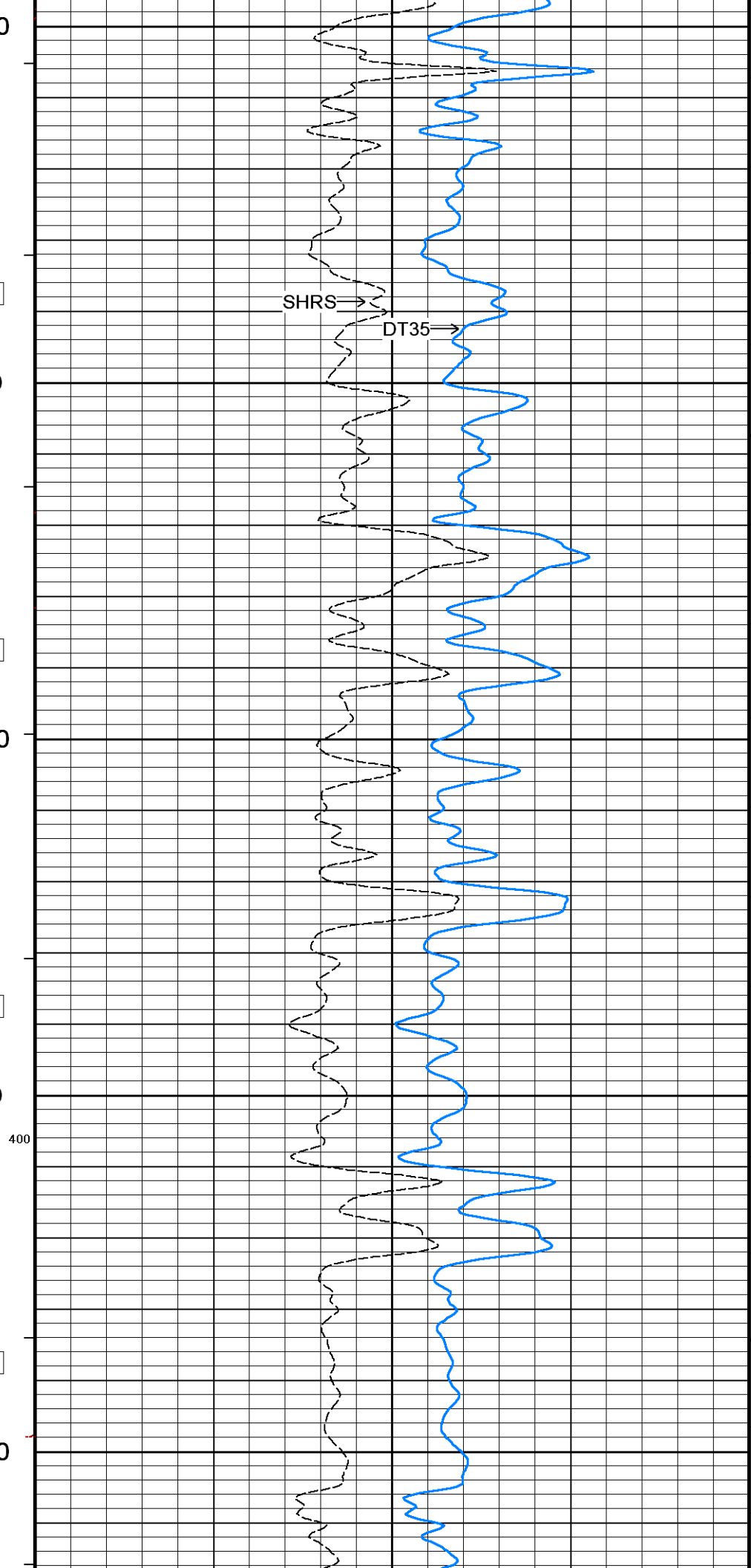
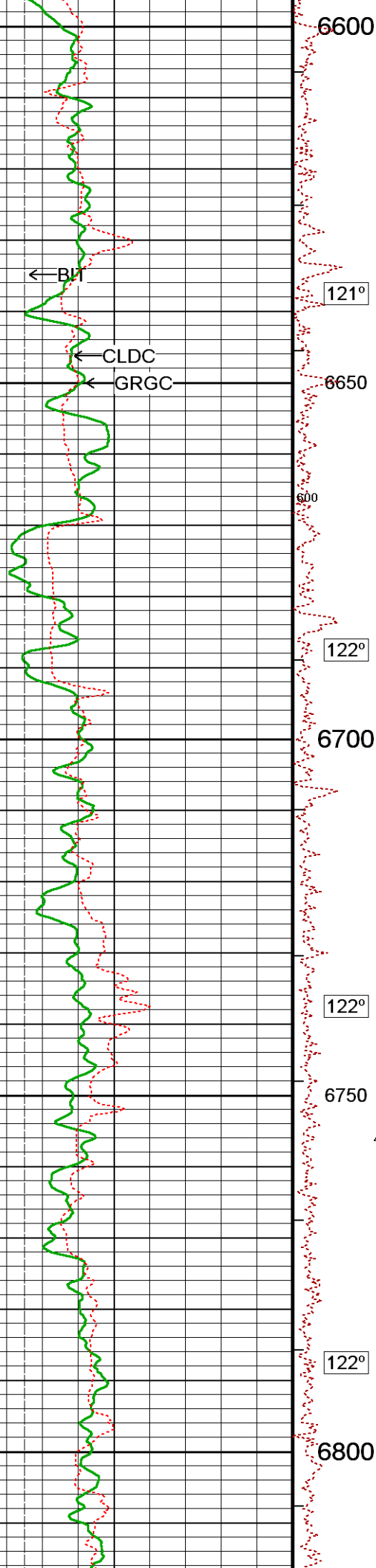
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs,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

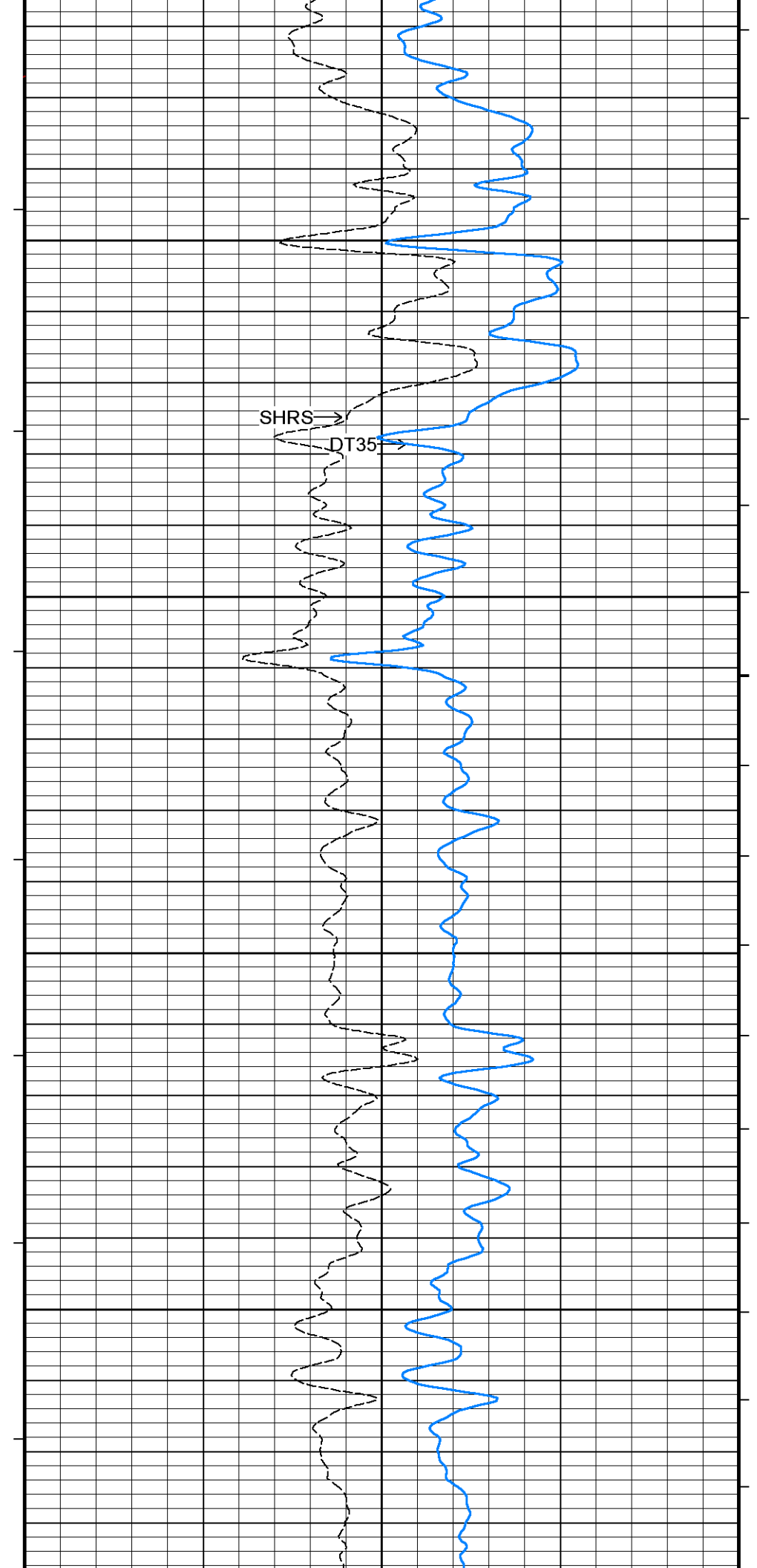
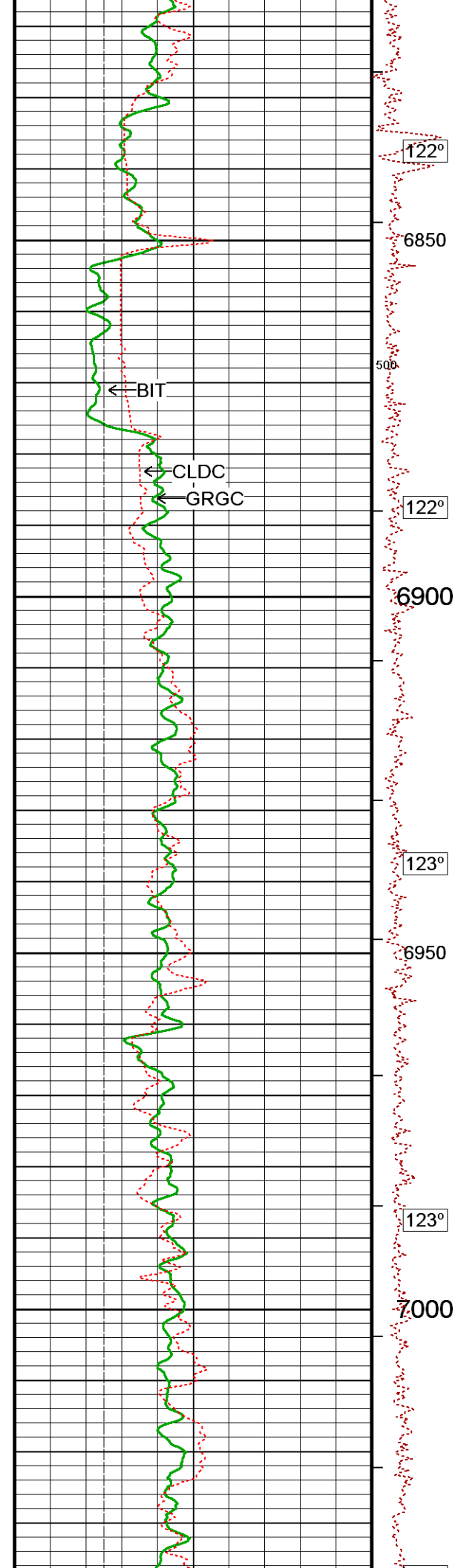


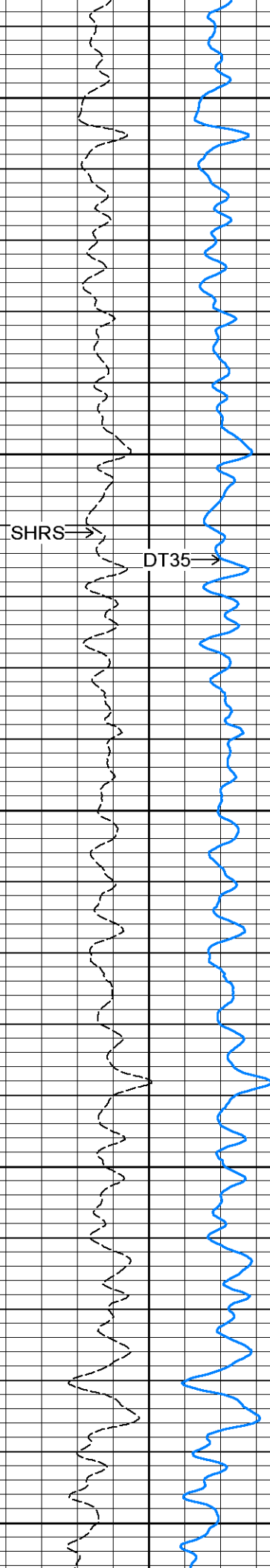
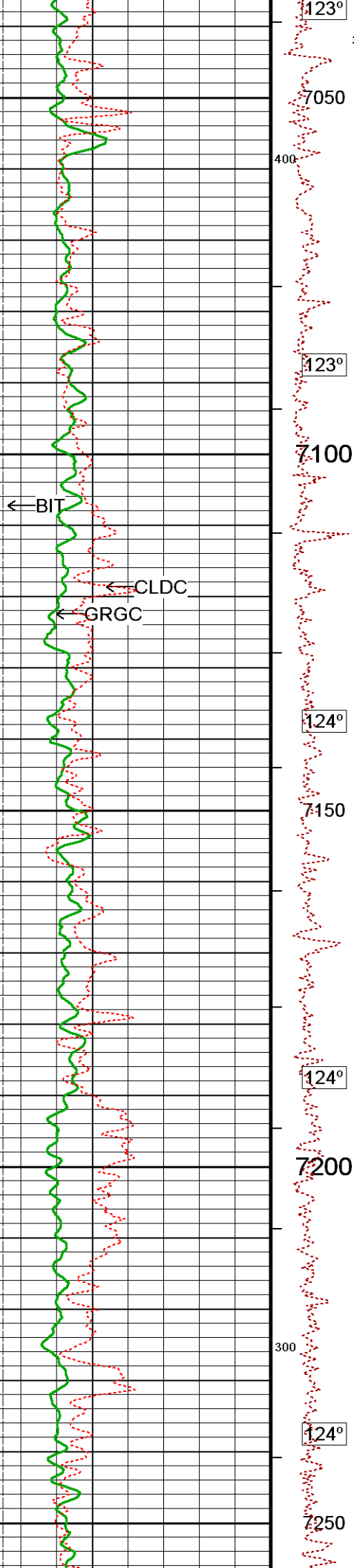


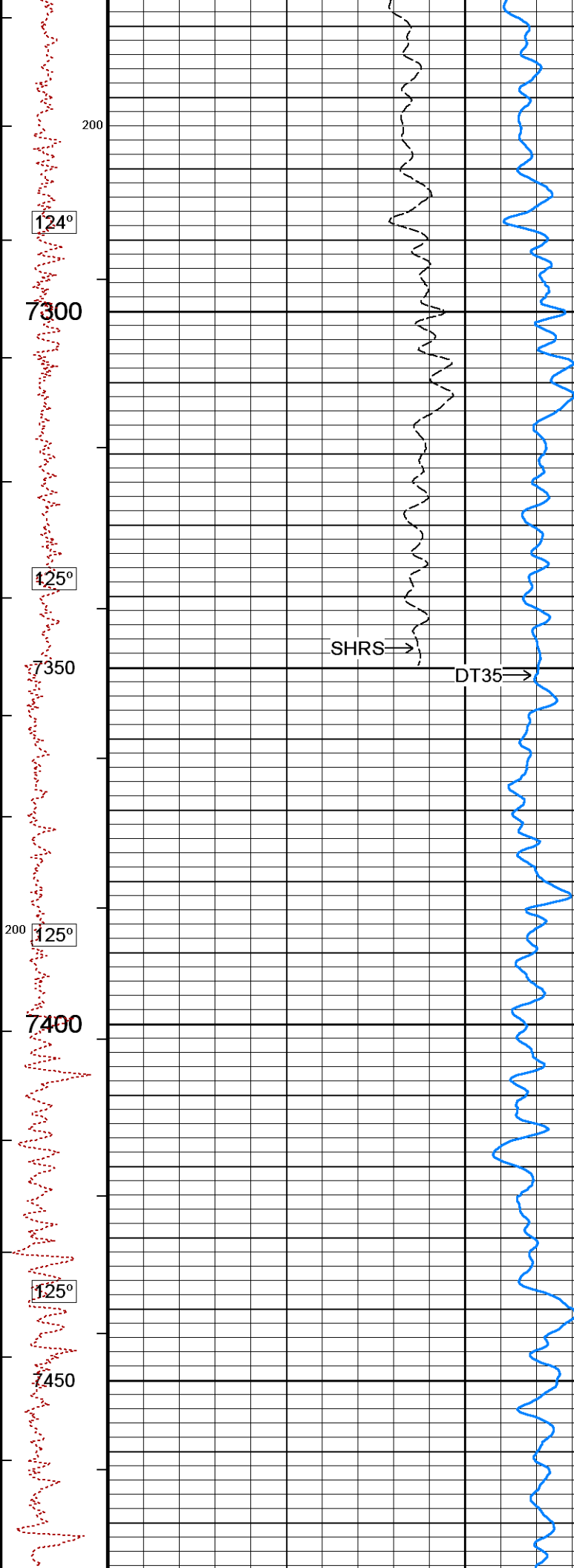
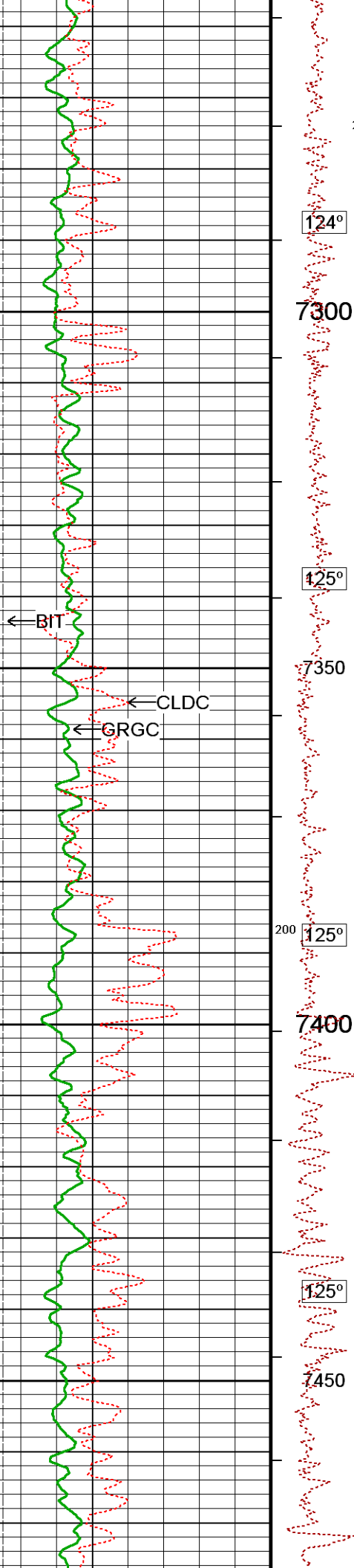


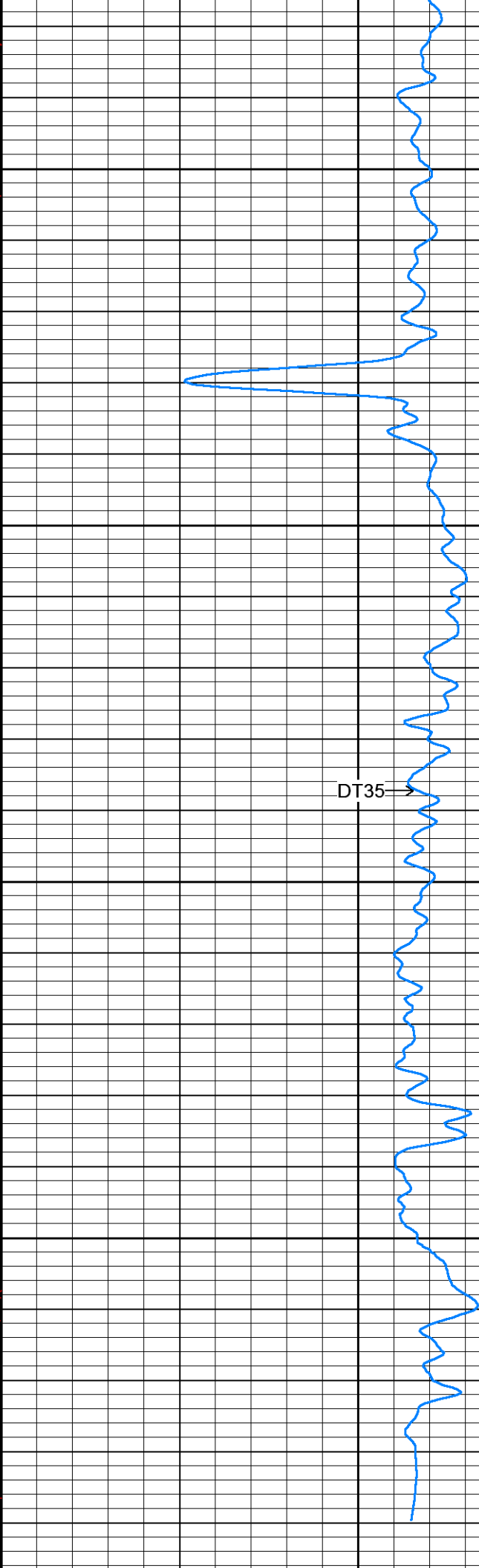
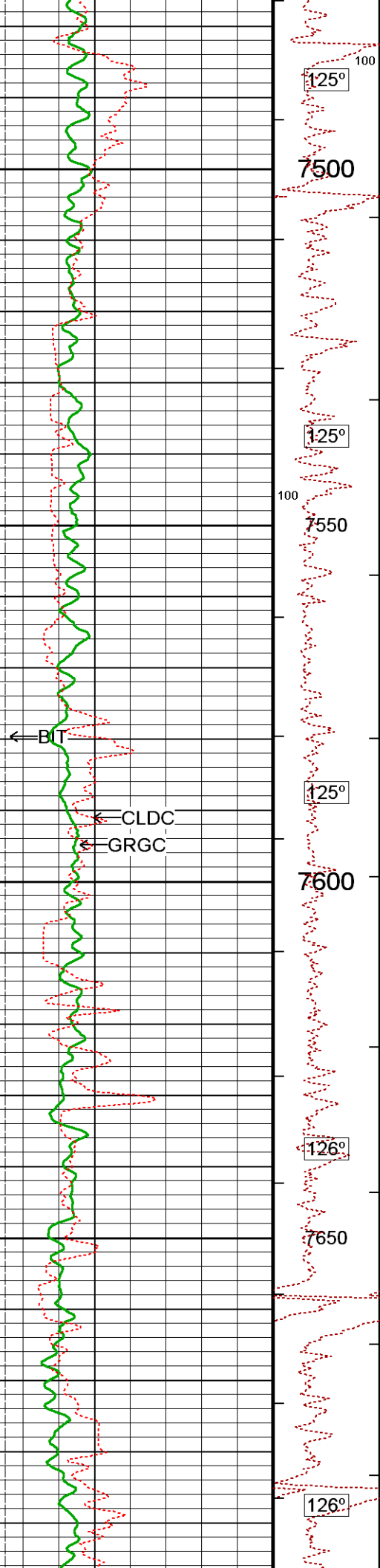


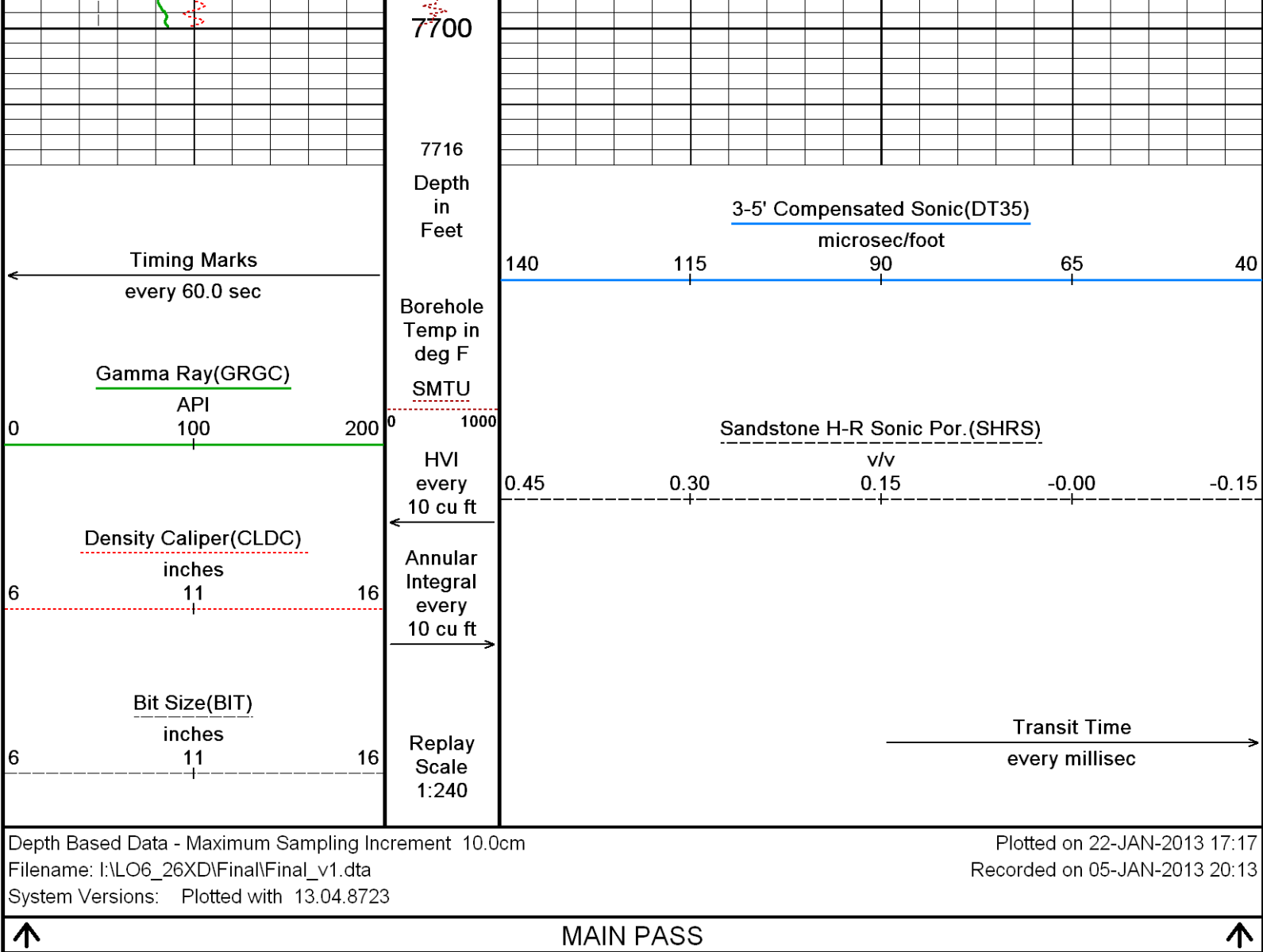












BEFORE SURVEY CALIBRATION			I:\LO6_26XD\Final\Check_07Jan13.dta
General Constants All 000			Last Edited on 07-JAN-2013,14:19
General Parameters			
Mud Resistivity	1.400	ohm-metres	
Mud Resistivity Temperature	76.000	degrees F	
Water Level	0.000	feet	
Borehole Fluid Processing	Wet Hole		
Hole/Annular Volume and Differential Caliper Parameters			
HVOL Method	XY Caliper		
HVOL Caliper 1	MIE Caliper X		
HVOL Caliper 2	MIE Caliper Y		
Annular Volume Diameter	5.500	inches	
Caliper for Differential Caliper	MIE Caliper X		
Rwa Parameters			
Porosity used	Wyllie Lime. Sonic Por.		
Resistivity used	Deep Laterolog		
RWA Constant A	0.610		
RWA Constant M	2.150		

High Resolution Temperature Calibration MCG-D.A 261			Field Calibration on 07-JAN-2013,14:04
	Measured	Calibrated(Deg F)	
Lower	-10.00	-10.00	
Upper	10.00	10.00	

High Resolution Temperature Constants MCG-D.A 261			Last Edited on		
Pre-filter Length		11			
Gamma Calibration MCG-D.A 261			Field Calibration on 07-JAN-2013 14:00		
	Measured	Calibrated (API)			
Background	24	16			
Calibrator (Gross)	882	584			
Calibrator (Net)	859	568			
Gamma Constants MCG-D.A 261			Last Edited on 05-JAN-2013,16:25		
Gamma Calibrator Number	148				
Mud Density	1.41	gm/cc			
Caliper Source for Processing	Density Caliper				
Tool Position	Eccentred				
Concentration of KCl	0.00	kppm			
Sonic Constants MSS-C.B 229			Last Edited on 07-JAN-2013,12:53		
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
Navigation Constants MIE-A.A 171			Last Edited on 05-JAN-2013,17:03
Magnetic Declination		0.41	degrees East
Magnetometer Parameters MIE-A.A 171			
Date Of Last Magnetometer Calibration		01-JAN-1998	
	X Magnetometer	Y Magnetometer	Z Magnetometer
Slope	-1.000000	-1.002020	-0.997990
Offset	0.007277	-0.017050	0.006204
Magnetometer Constants MIE-A.A 171			Last Edited on
Magnetometer Calibrator Number		000	
Accelerometer Parameters MIE-A.A 171			
Date Of Last Accelerometer Calibration		01-JAN-1998	
	X Accelerometer	Y Accelerometer	Z Accelerometer
Slope	-1.102550	-1.109070	-1.101850
Offset	-0.000016	0.010013	0.004867
Accelerometer Constants MIE-A.A 171			Last Edited on 06-JAN-2009,08:08
Accelerometer Calibrator Number		000	
Accelerometer Temperature Characterisation			
X Accelerometer			
Serial Number	575		
Calibration Date	02-May-2008		
	B0	B1	B2 B3
Bias(g)	0.00000e+000	1.60823e-005	-6.81994e-010 1.67133e-010
	SF0	SF1	SF2 SF3
Scale Factor(mA/g)	3.00000e+000	2.51987e-004	4.17046e-007 6.03291e-010
Y Accelerometer			
Serial Number	599		
Calibration Date	09-May-2008		
	B0	B1	B2 B3
Bias(g)	0.00000e+000	1.35839e-005	8.99996e-011 -2.28896e-011
	SF0	SF1	SF2 SF3
Scale Factor(mA/g)	3.00000e+000	2.66881e-004	3.48610e-007 5.78636e-010
Z Accelerometer			
Serial Number	553		
Calibration Date	03-Mar-2008		
	B0	B1	B2 B3
Bias(g)	0.00000e+000	8.17361e-007	-1.32308e-009 2.20339e-011
	SF0	SF1	SF2 SF3
Scale Factor(mA/g)	3.00000e+000	2.75754e-004	3.23050e-007 1.10721e-009
Caliper Calibration MIE-A.A 171			Base Calibration on 02-JAN-2013 17:02 Field Calibration on 07-JAN-2013 14:40
Base Calibration			
Reading No	Pads 1-5 Meas.	Pads 3-7 Meas.	Calibrator Size (in)
1	25797	25858	5.97
2	31343	31658	7.96
3	35597	35696	9.85
4	40888	40726	11.92
5	0	0	0.00
Reading No	Pad 2 Meas.	Pad 4 Meas.	Pad 6 Meas. Pad 8 Meas. Calibrator Size (in)
1	24046	24483	24417 24187 5.96
2	33219	33062	33265 32965 7.99
3	41468	41061	41092 40989 9.86
4	51330	51028	50959 50641 11.93

5	0	0	0	0	0.00
Field Calibration					
Measured		Measured		Actual	
Pads 1-5 Caliper(in)		Pads 3-7 Caliper(in)		Caliper(in)	
8.10		8.84		8.76	
Measured		Measured		Measured	
Pad 2 Caliper(in)		Pad 4 Caliper(in)		Pad 6 Caliper(in)	
3.81		3.46		3.91	
				Actual	
				Caliper(in)	
				8.76	

Caliper Constants MIE-A.A 171			Last Edited on 26-SEP-2011,09:23		
Caliper Difference for BRKT		0.120	inches		

Imager Pad Check MIE-A.A 171				Field Check on	
Pad 1	Pad Not Tested	Pad 5	Pad Not Tested		
Pad 2	Pad Not Tested	Pad 6	Pad Not Tested		
Pad 3	Pad Not Tested	Pad 7	Pad Not Tested		
Pad 4	Pad Not Tested	Pad 8	Pad Not Tested		

Compact Micro Imager Constants MIE-A.A 171			Last Edited on 05-JAN-2013,14:15		
Sonde Configuration		Caliper Mode			
Arm-Pad Kit		KIA-BA (19 in)			
Arm-Pad Kit Serial Number					
Centre Pad 1 Rotational Offset		0.00	degrees		
Image/Borehole Ovality Reference		Azimuth of Pad 1			
Non Active Buttons		N/A			
Search Angle		N/A	degrees		
Correlation Interval		N/A	feet		
Correlation Step		N/A	feet		
Current Offset		N/A	mAmp		
Squasher Start		N/A	mAmp		
Image Processing		N/A			

Caliper Calibration MPD-C.A 238			Base Calibration on 27-DEC-2012 13:01		
			Field Calibration on 07-JAN-2013 14:35		
Base Calibration					
Reading No		Measured	Calibrator Size (in)		
1		17729	3.98		
2		25552	5.96		
3		34192	7.99		
4		42256	9.86		
5		51487	11.93		
6		N/A	N/A		
Field Calibration					
		Measured Caliper (in)	Actual Caliper (in)		
		8.69	8.76		

COMPANY		SAVIA PERU S.A			
WELL		LO6-26XD			
FIELD		LOBITOS			
PROVINCE/COUNTY		PIURA			
COUNTRY/STATE		PERU			
Elevation Kelly Bushing	50.00	feet	First Reading	7700.00	feet
Elevation Drill Floor	50.00	feet	Depth Driller	9800.00	feet
Elevation Ground Level	-335.00	feet	Depth Logger	6942.00	feet




SONIC LOG

MSS-MCG

SCALE 5":100

