



COMPENSATED SONIC
*** TVD ***

COMPANY	NAVEX RESOURCES LLC		
WELL	PFAFFLY #1-12		
FIELD	NORTH CHEYENNE PROJECT/ PFAFFLY PROSPECT		
COUNTY	KIT CARSON		
STATE	COLORADO		
LOCATION	1602' FSL & 1269' FWL		
SEC 12	TWP 11S	RGE 46W	Other Services
Latitude	39.1037632	PHOTO-DENSITY	
Longitude	-102.5167609	MICRO LOG	
API Number	05-063-06363	NEUTRON ARRAY INDUCTION	
Permanent Datum	GL, Elevation 4466.9 feet		
Log Measured From	KB, 12.10 feet above Permanent Datum		
Drilling Measured From	KB		
Date	26-MAY-2023	Elevations:	feet
Run Number	ONE	KB	4479.00
Service Order	T1-230526WFT	DF	4479.00
Depth Driller	6076.00	GL	4466.90
Depth Logger	6082.00		
First Reading	6068.00		
Last Reading	648.00		
Casing Driller	651.00		
Casing Logger	648.00		
Bit Size	7.875		
Hole Fluid Type	WBM		
Density / Viscosity	9.10 lb/USg	63.00 sec/qt	
PH / Fluid Loss	10.00	8.00 ml/30Min	
Sample Source	FLOWLINE		
Rm @ Measured Temp	0.71 @ 86.0	ohm-m	
Rmf @ Measured Temp	0.61 @ 86.0	ohm-m	
Rmc @ Measured Temp	1.01 @ 86.0	ohm-m	
Source Rmf / Rmc	CALC	CALC	
Rm @ BHT	0.36 @154.0	ohm-m	
Time Since Circulation	8 HRS		
Max Recorded Temp	154.00	deg F	
Equipment / Base	10001	OKC	
Recorded By	B. GRAHMANN		
Witnessed By	CRAIG ADAMS		
Rig Name	DUKE #9		

In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will give the Company the benefit of the Contractor's best judgment based on its experience and will perform all such Work in a good and workmanlike manner. Any interpretation of test or other data, and any recommendation or reservoir description based upon such interpretations, are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional engineers and analysts may differ. ACCORDINGLY ANY INTERPRETATION OR RECOMMENDATION RESULTING FROM THE SERVICES WILL BE AT THE SOLE RISK OF THE COMPANY, AND THE CONTRACTOR CANNOT AND DOES NOT WARRANT THE ACCURACY, CORRECTNESS OR COMPLETENESS OF ANY SUCH INTERPRETATION OR RECOMMENDATION, WHICH INTERPRETATIONS AND RECOMMENDATIONS SHOULD NOT, THEREFORE, UNDER ANY CIRCUMSTANCES BE RELIED UPON AS THE SOLE OR MAIN BASIS FOR ANY DRILLING, COMPLETION, WELL TREATMENT, PRODUCTION OR FINANCIAL DECISION, OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING ACTIVITY, DRILLING RIG OR ITS CREW OR ANY OTHER INDIVIDUAL. THE COMPANY HAS FULL RESPONSIBILITY FOR ALL DECISIONS CONCERNING THE SERVICES.

Powered by Weatherford tools, acquisition systems, and software

BOREHOLE RECORD			Last Edited: 26-MAY-2023 11:08	
Bit Size inches	Depth From feet	Depth To feet		
12.250	0.00	651.00		
7.875	651.00	6076.00		
CASING RECORD				
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	651.00	36.00

REMARKS

WWLS VERSION 21.11

- TOOLSTRING:

RUN 1 : MAI, MSS, MFE, SKJ, MVC, MPD, MDN, MMR, MCG, SHA, MTA, CBHC

- HARDWARE USED:

MAI: 1" STANDOFF
 MFE: 1" STANDOFF
 MSS: 1" STANDOFFS
 MDN: DUAL ECCENTERED BOWSPRING

- 2.71 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY.

- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO SURFACE CASING

- CREW

J. WILLIS, D. STEELE

5 INCH MAIN PASS TVD

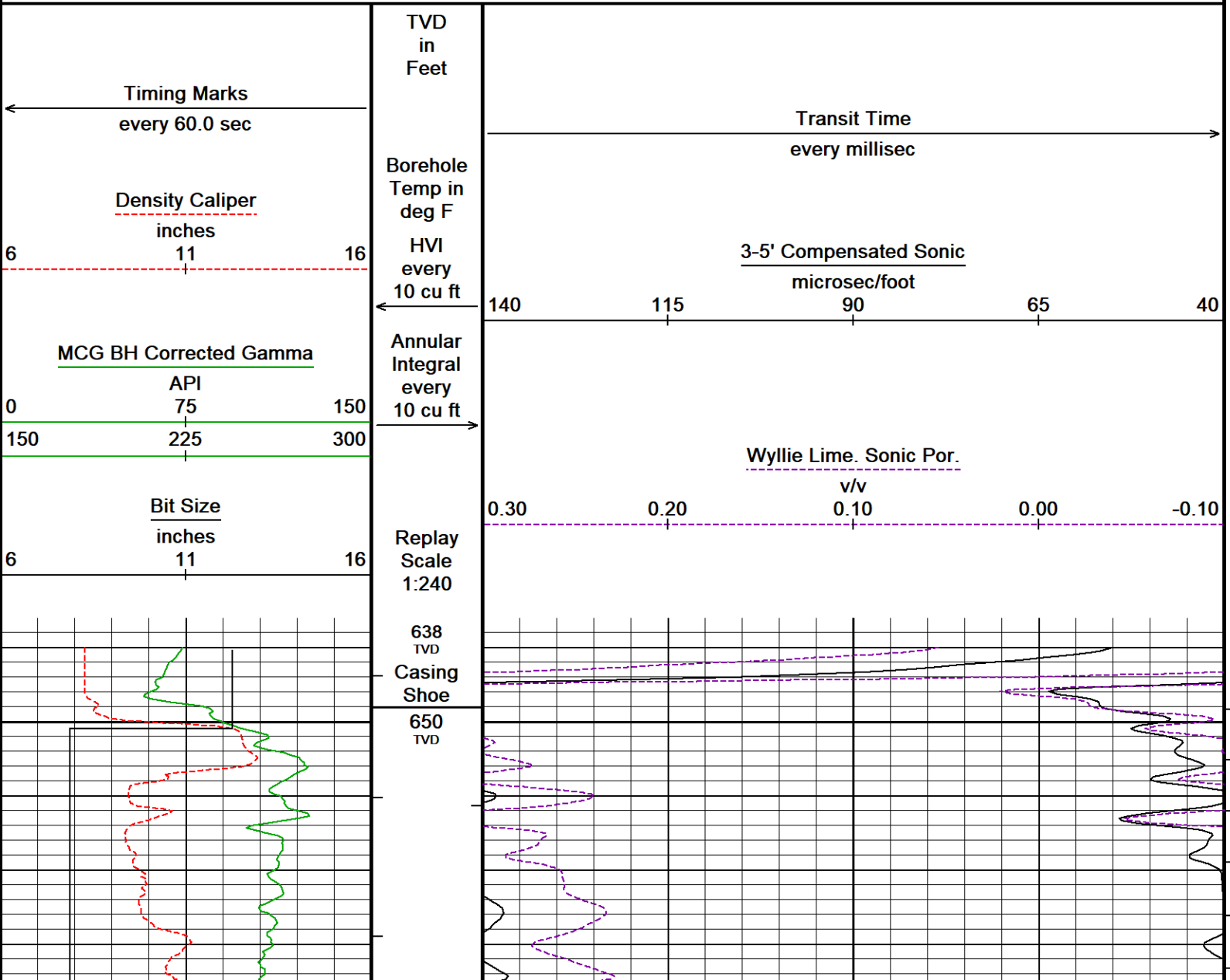
Depth Based Data - Maximum Sampling Increment 10.0cm

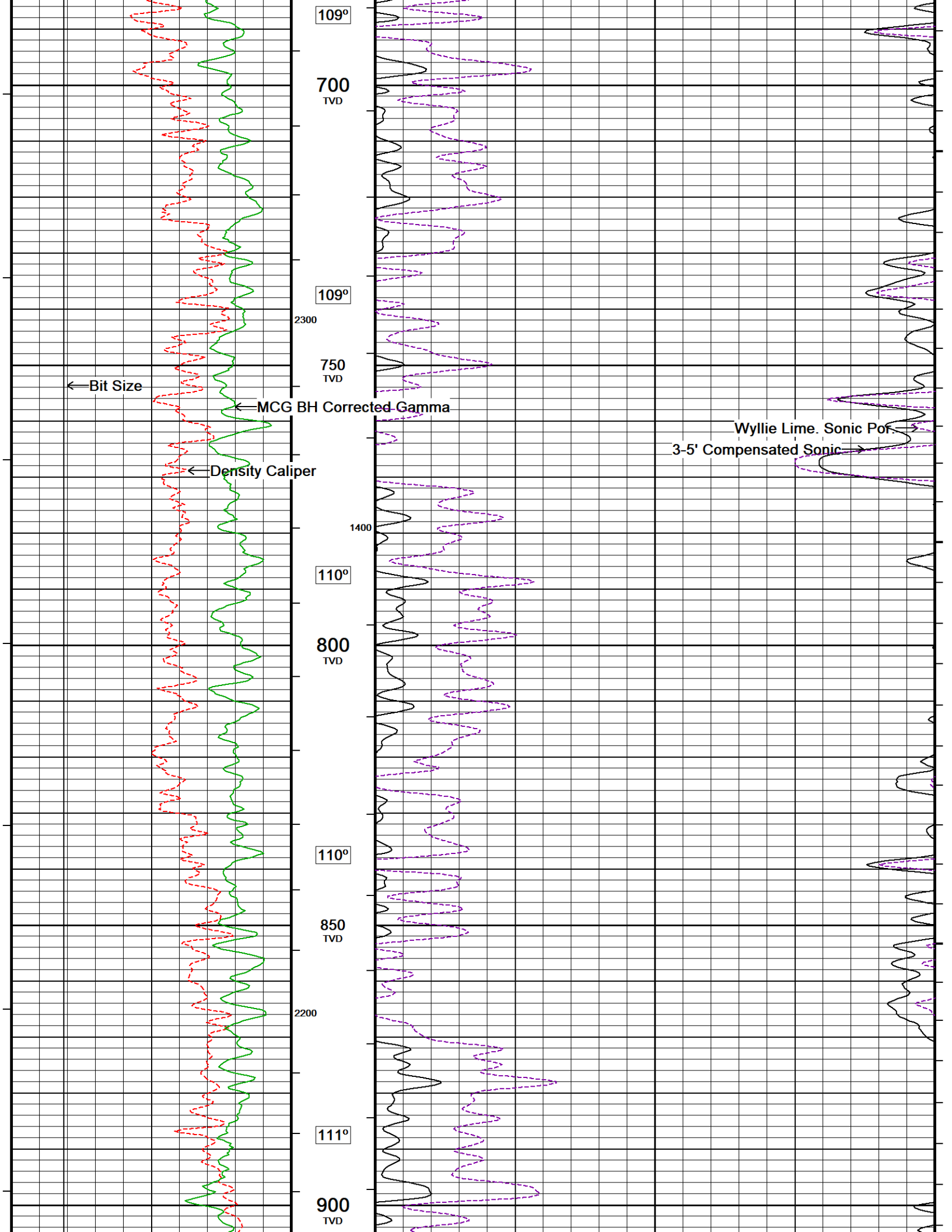
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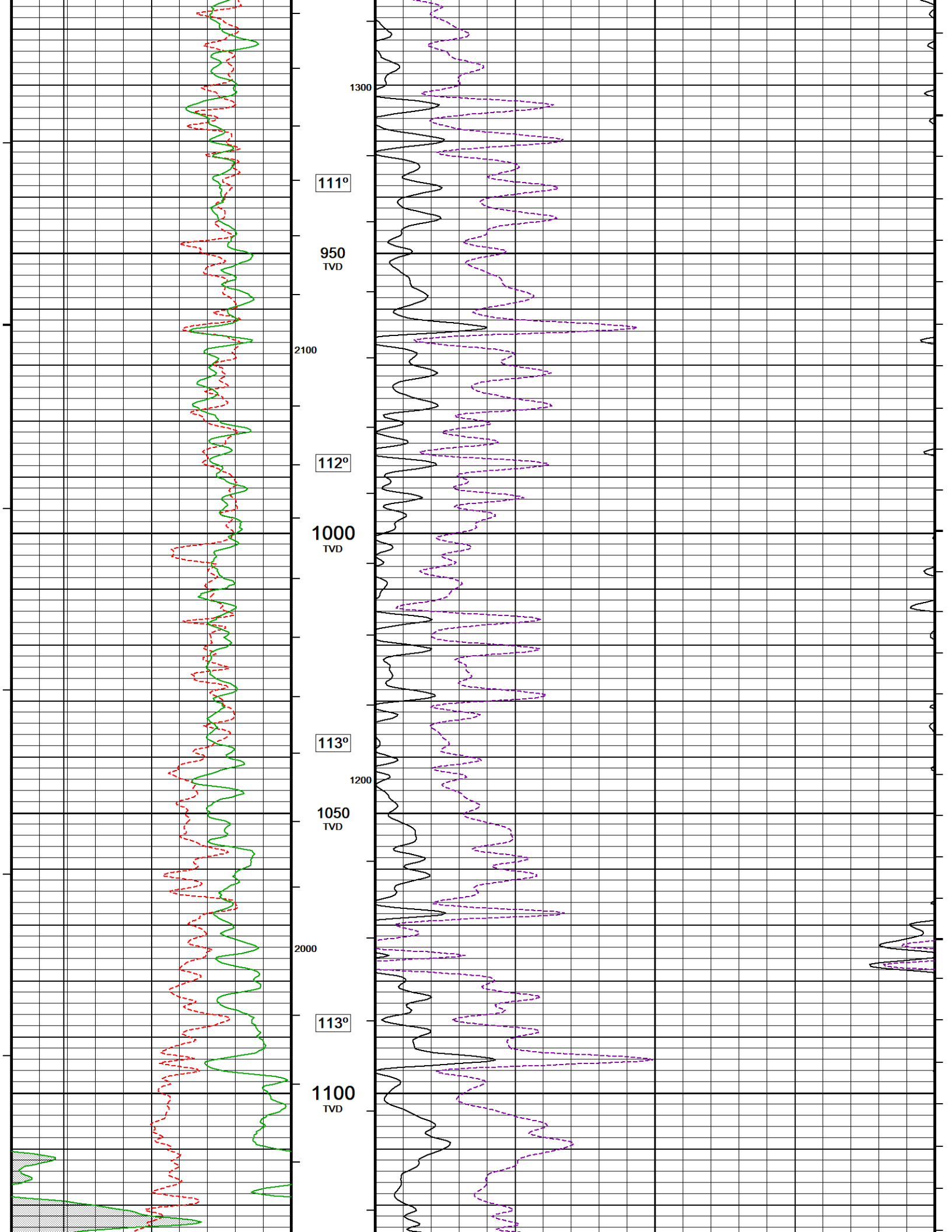
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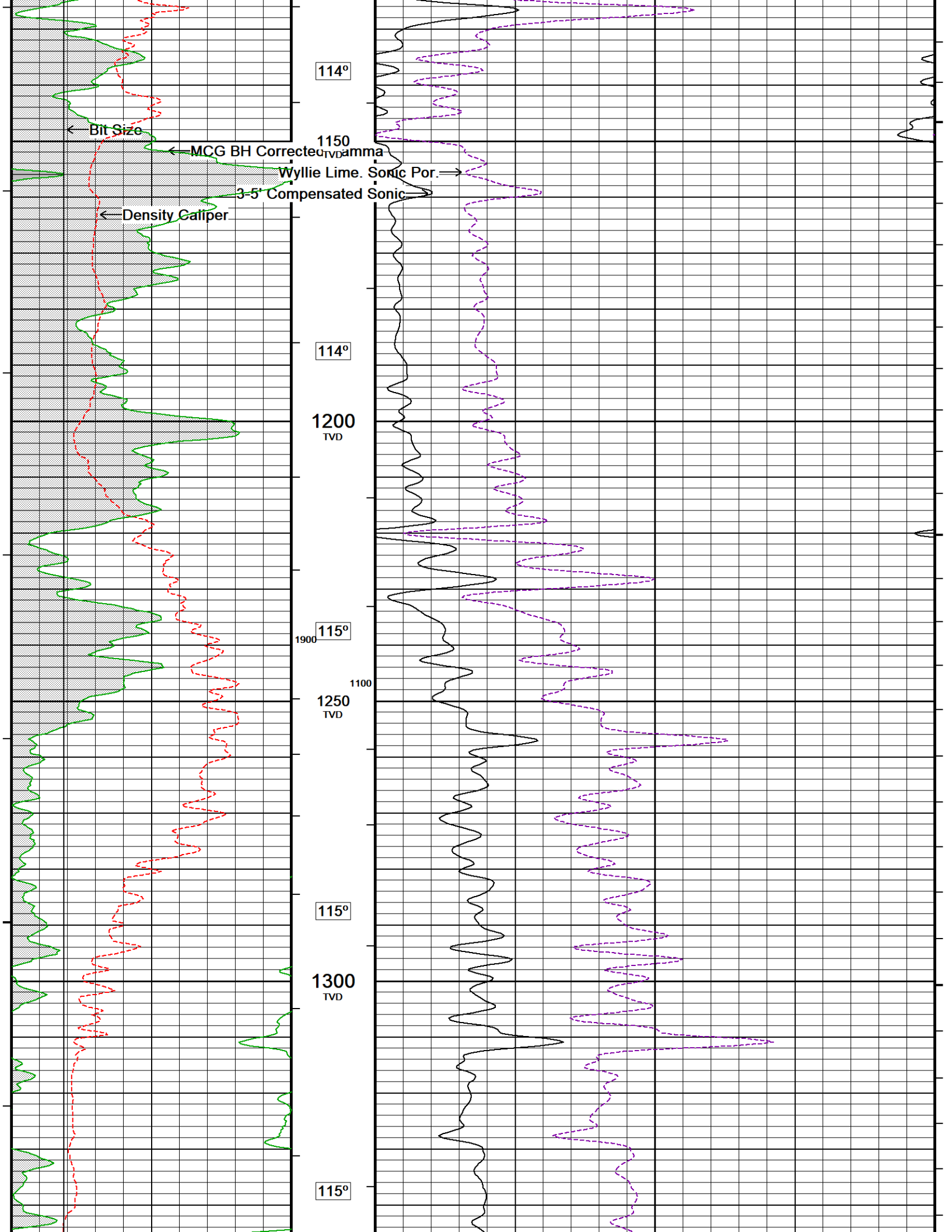
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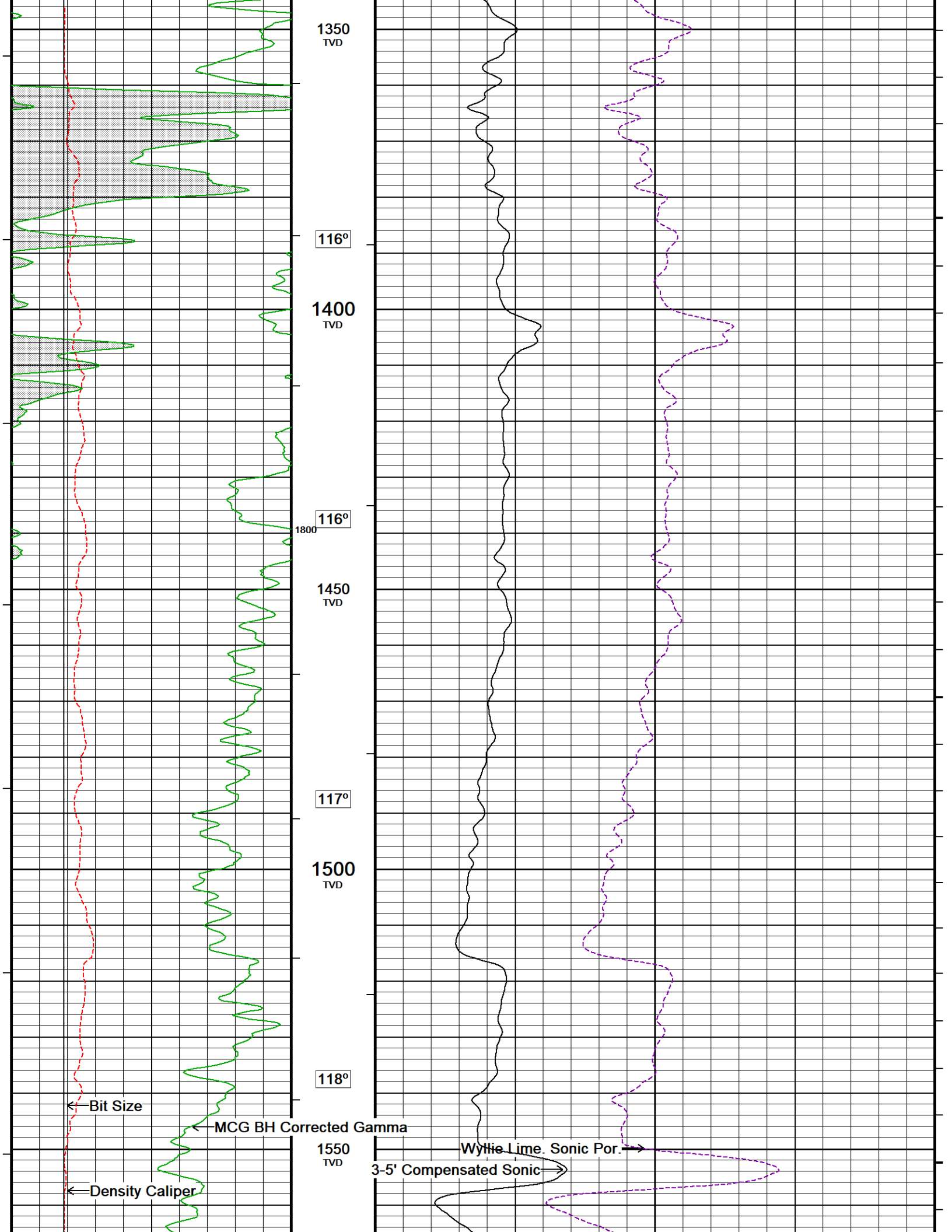
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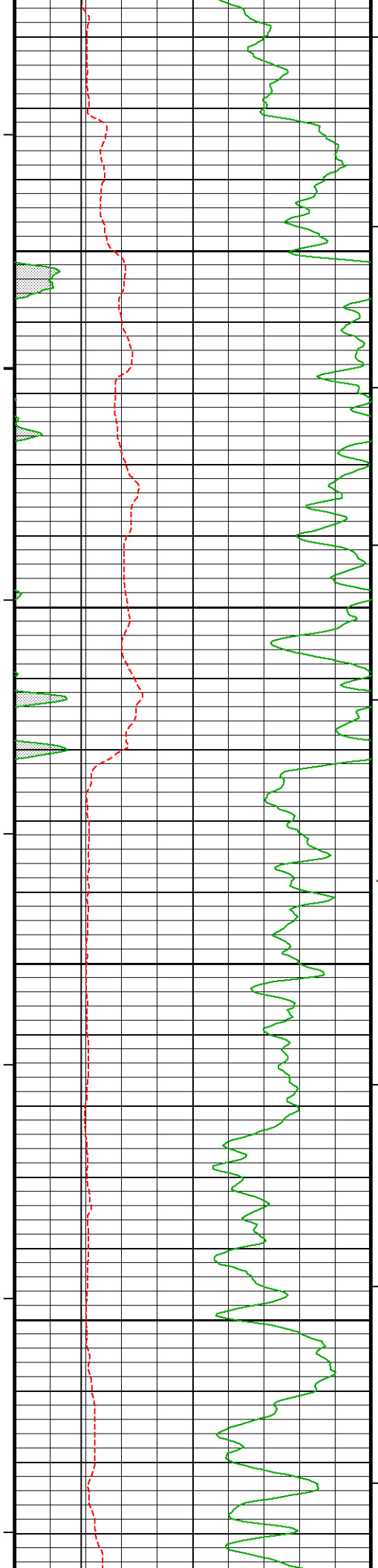












118°

1600
TVD

1000

118°

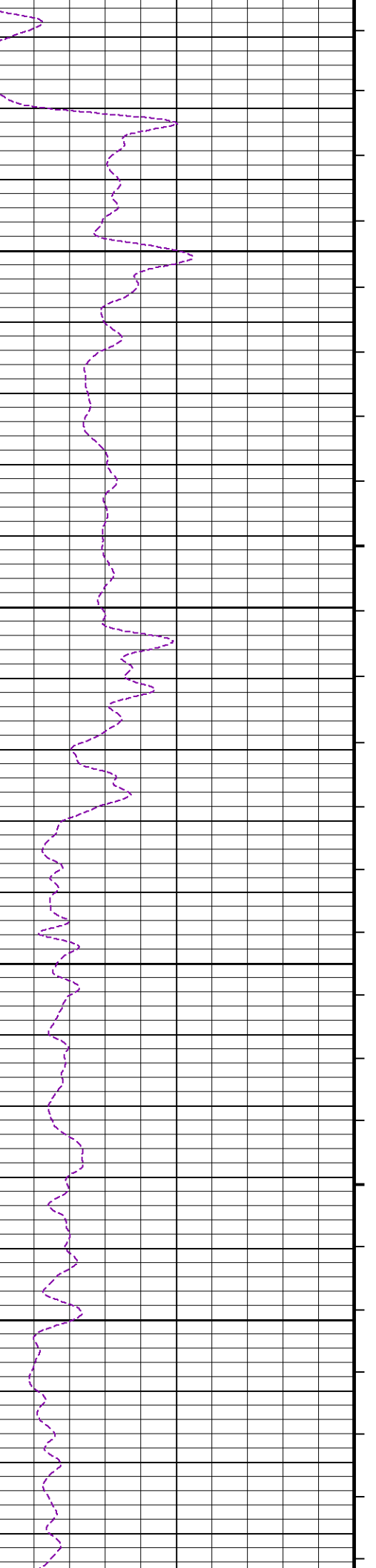
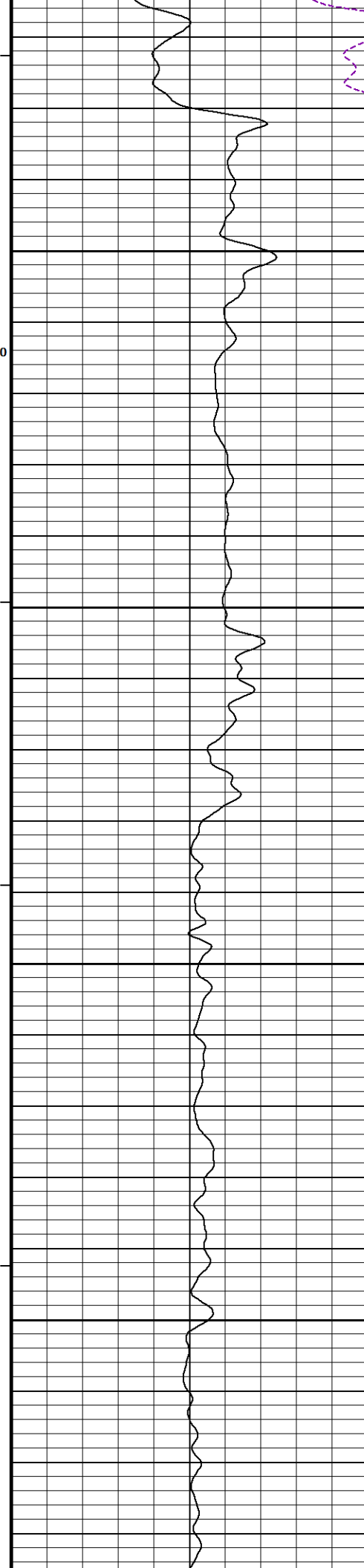
1650
TVD

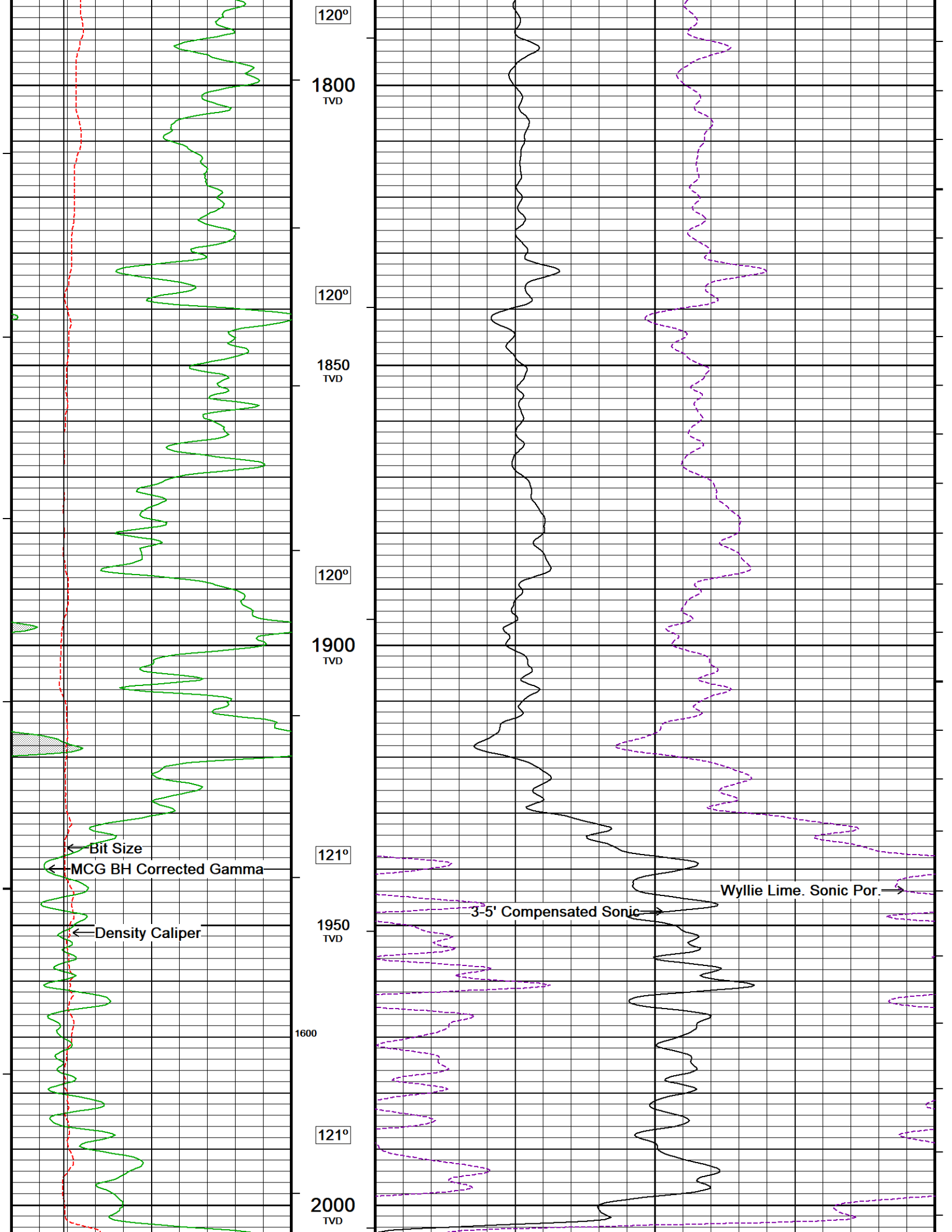
1700
119°

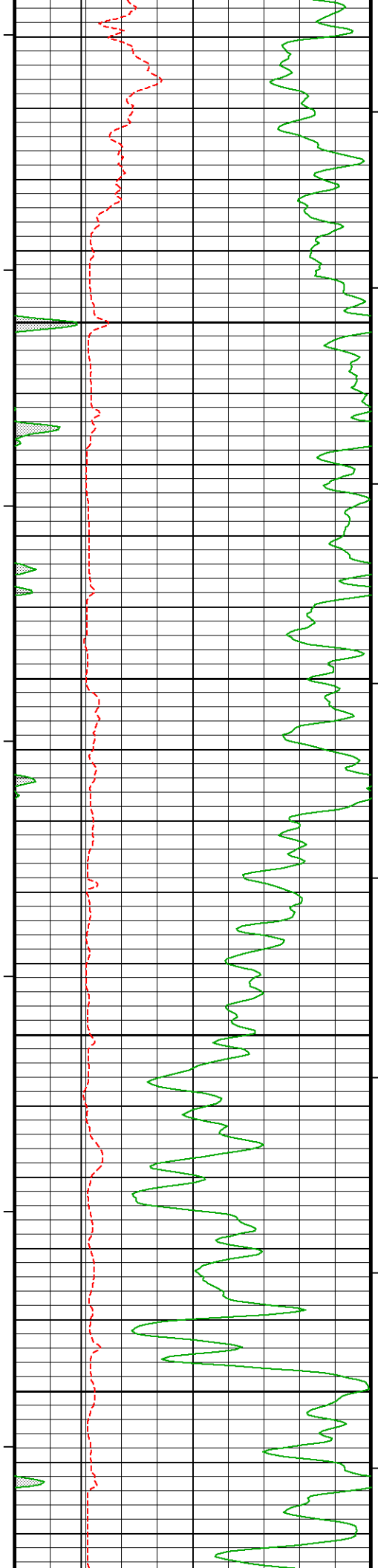
1700
TVD

119°

1750
TVD







122°

2050
TVD

123°

2100
TVD

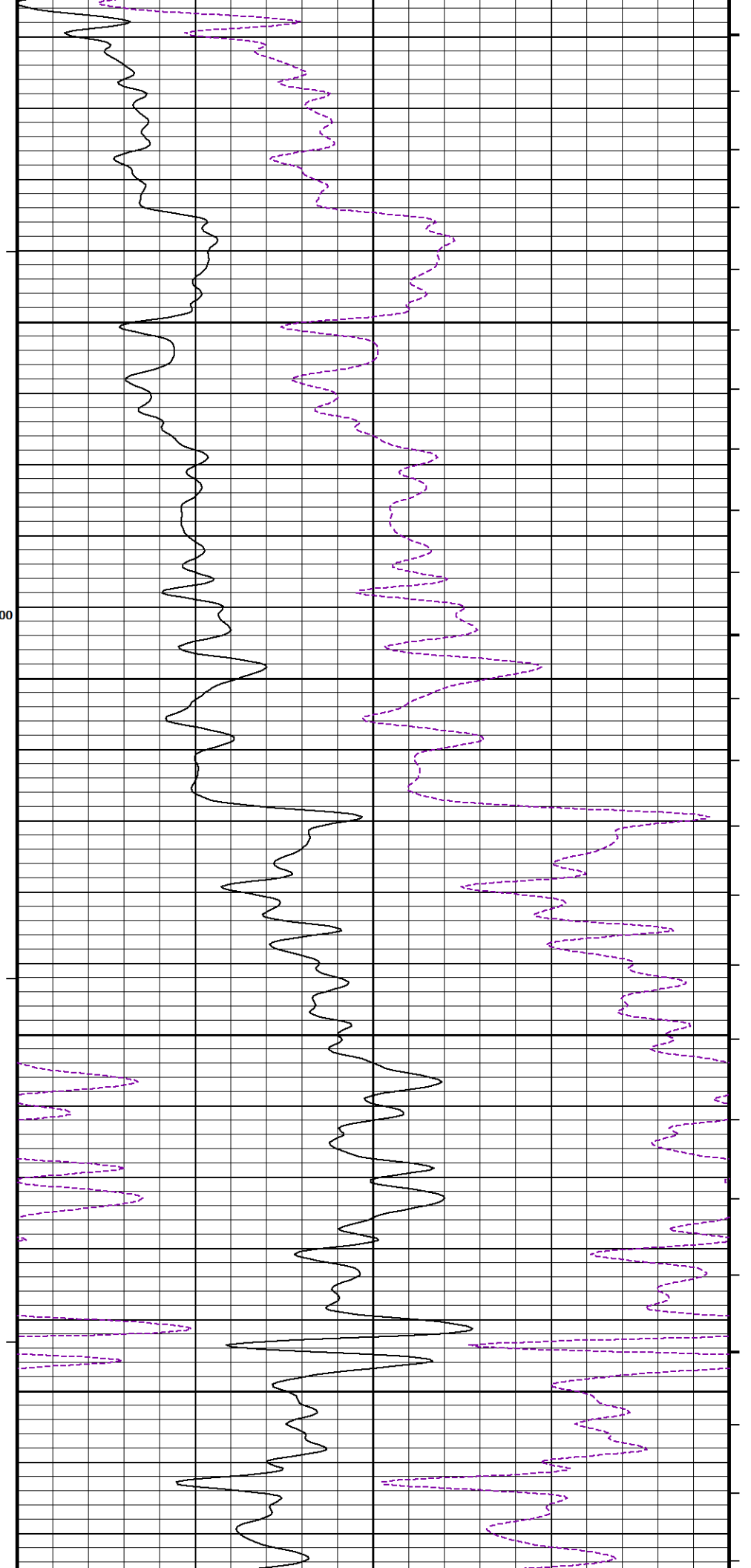
123°

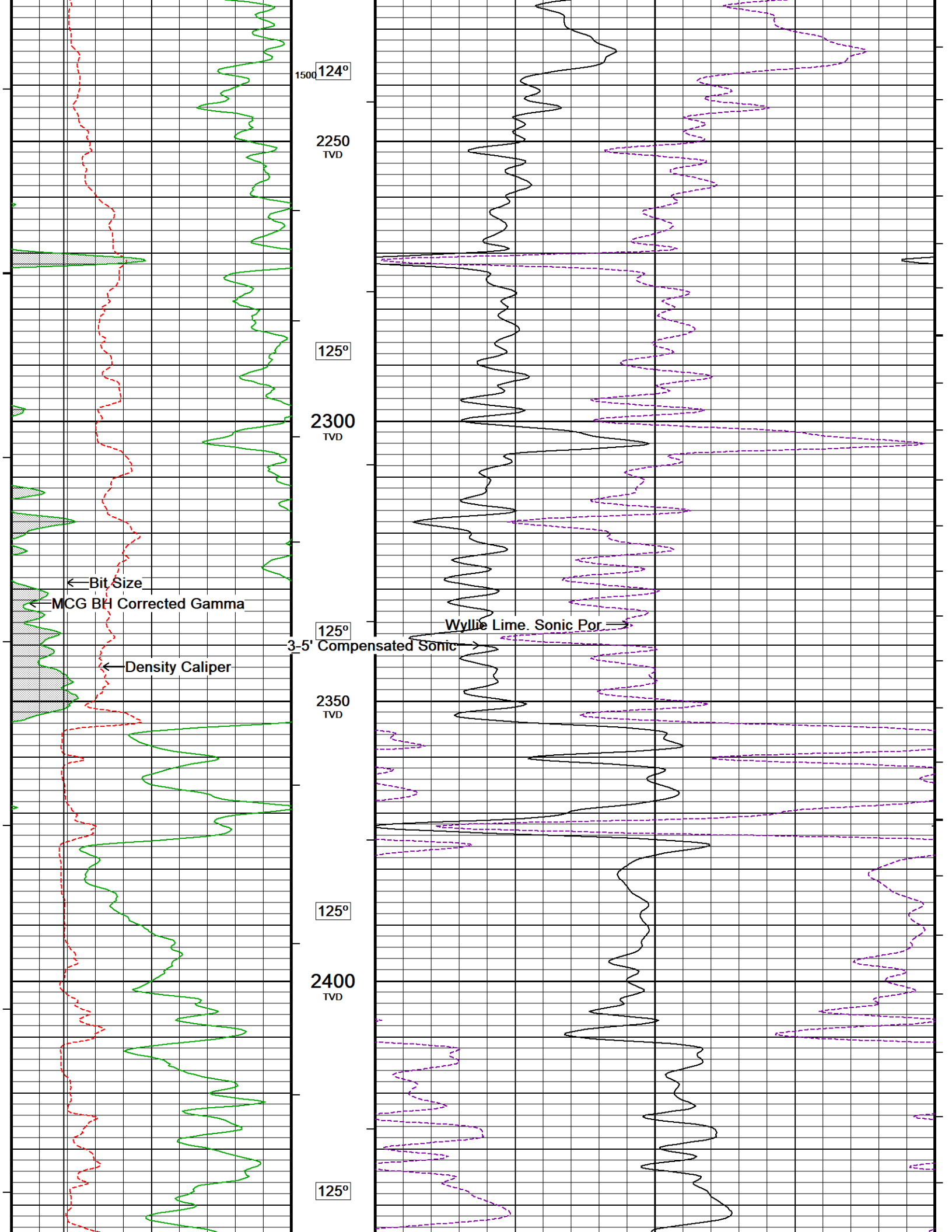
2150
TVD

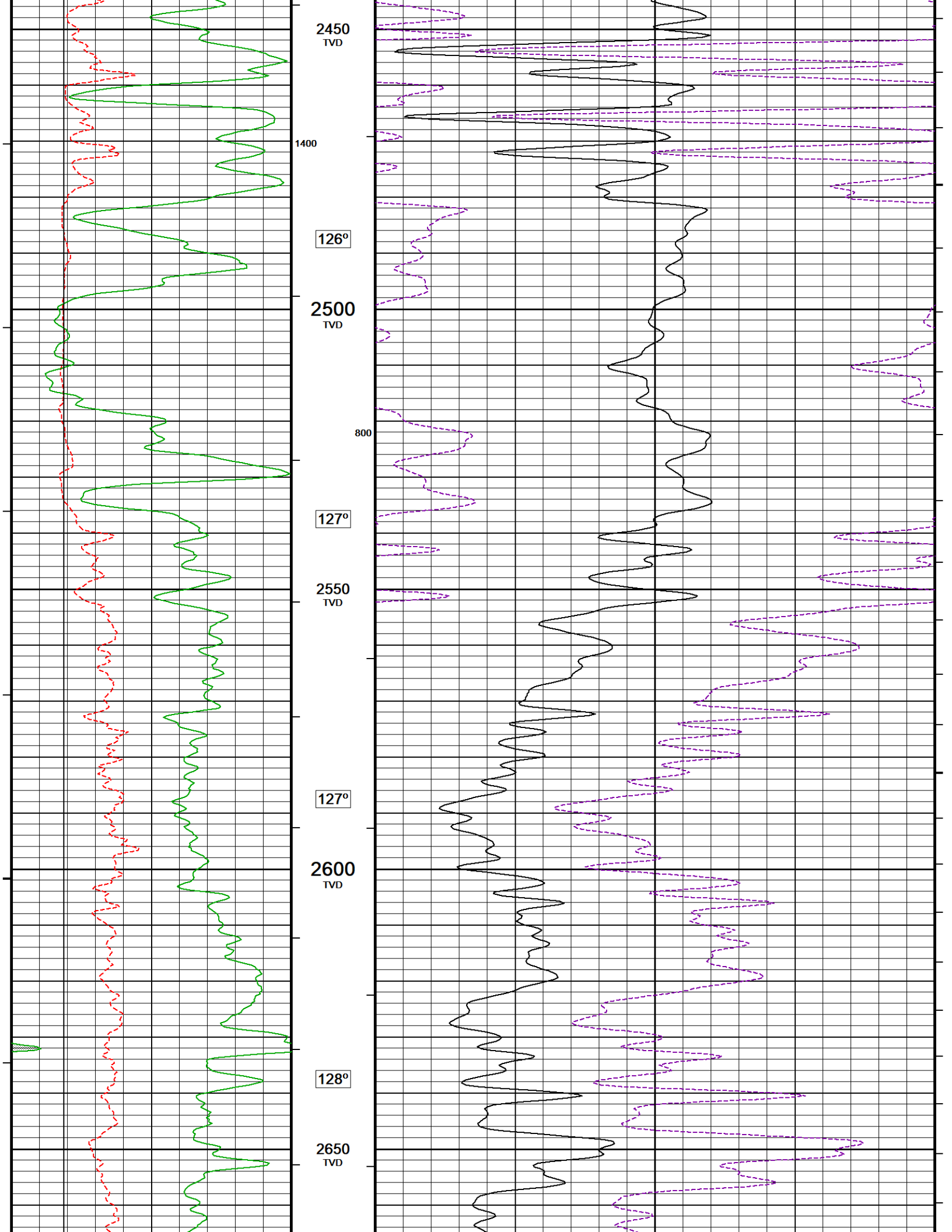
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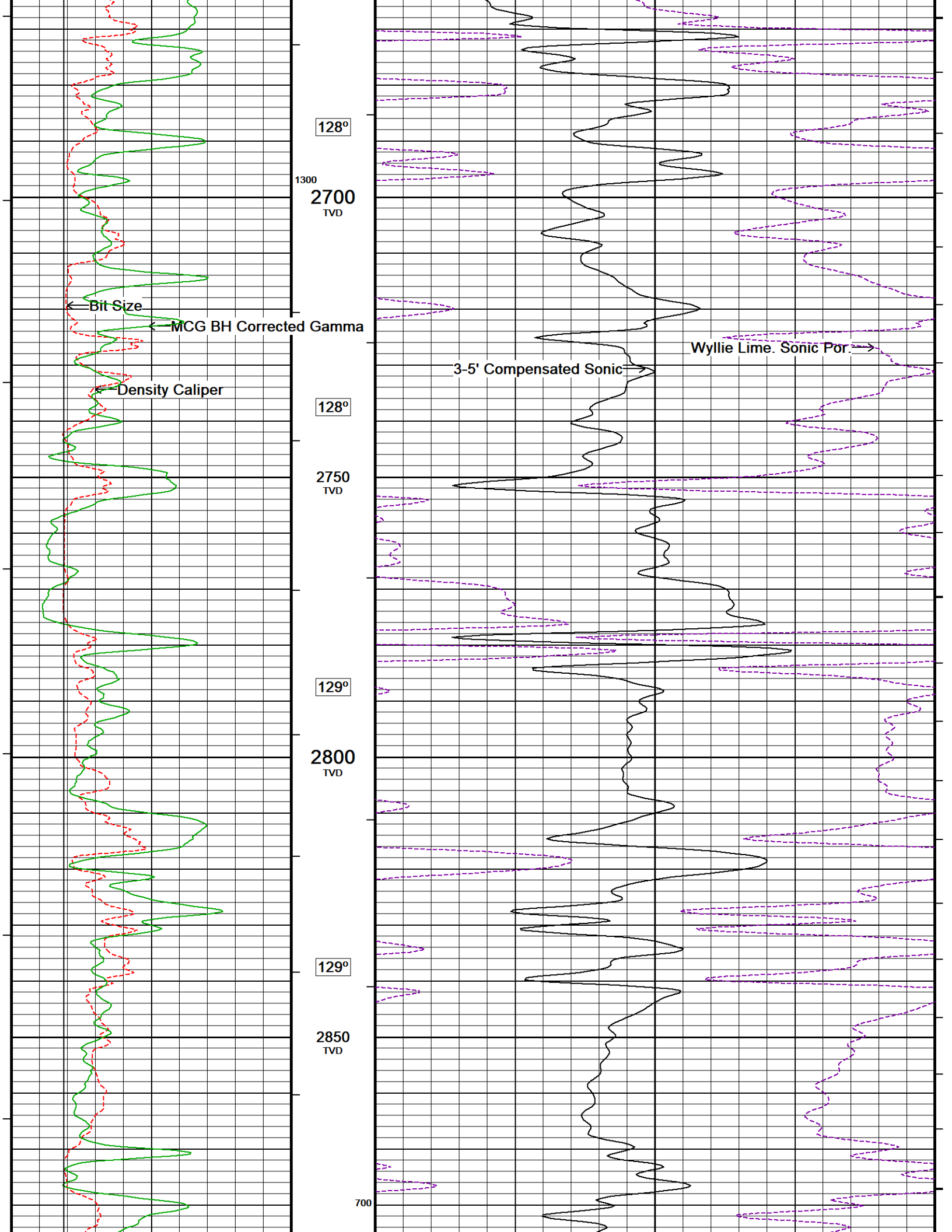
2200
TVD

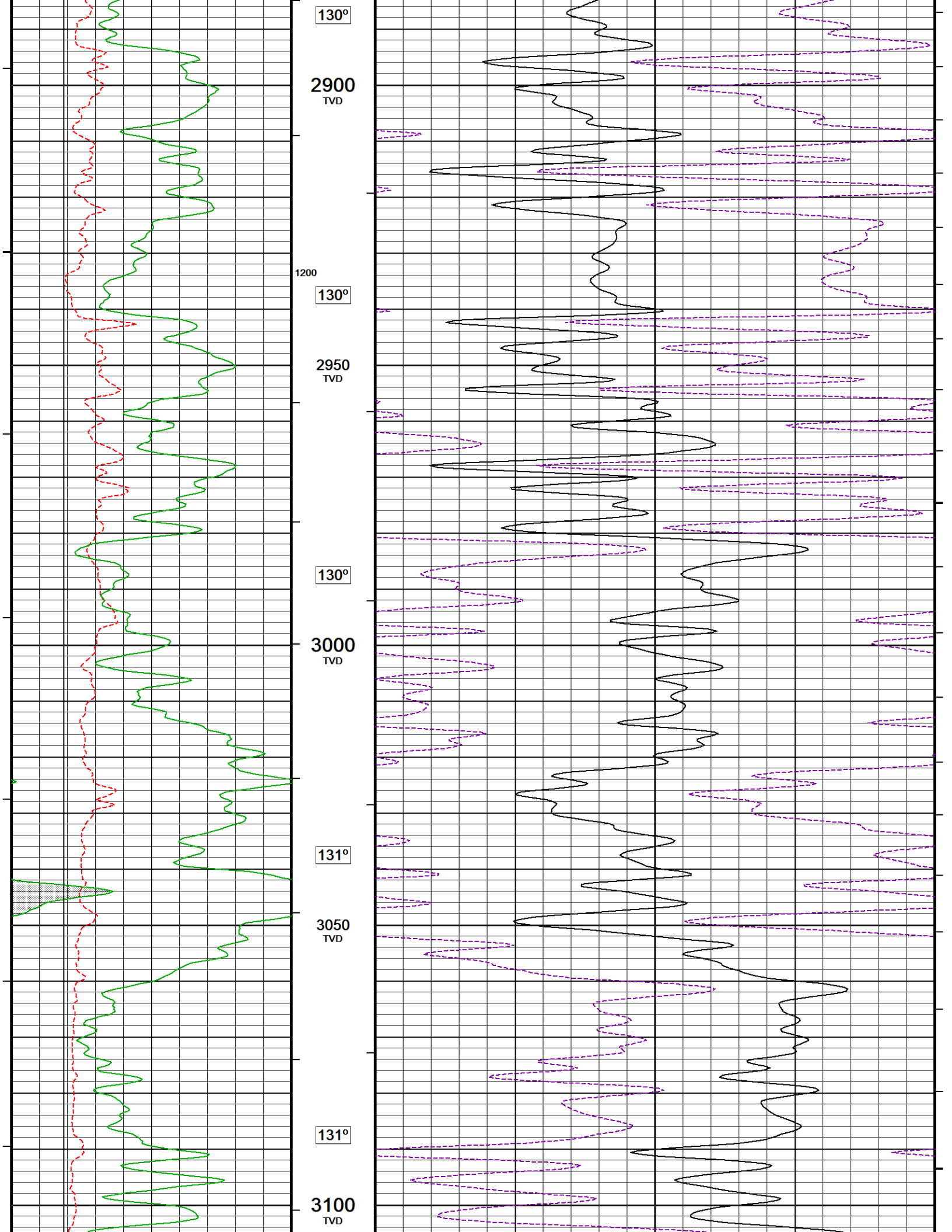
900

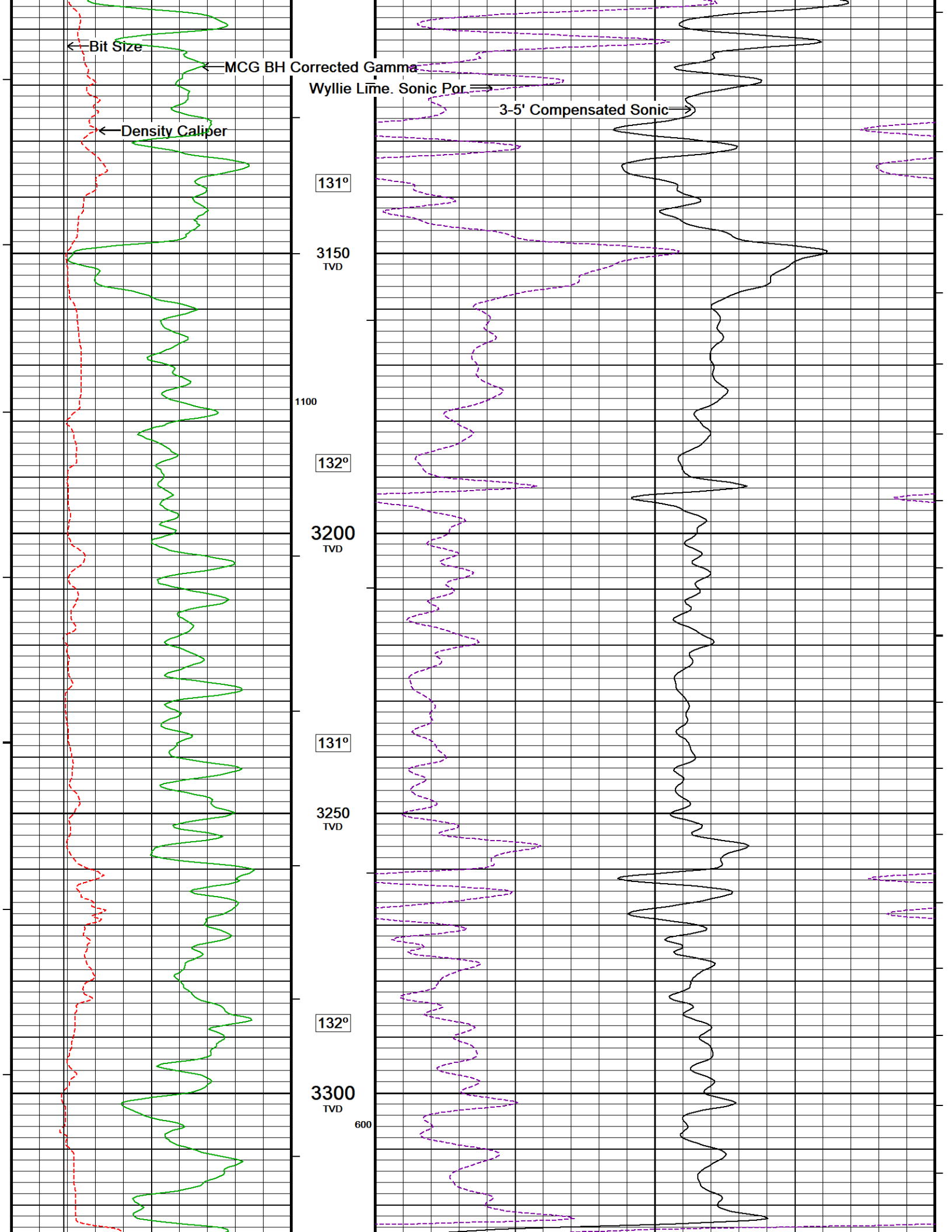


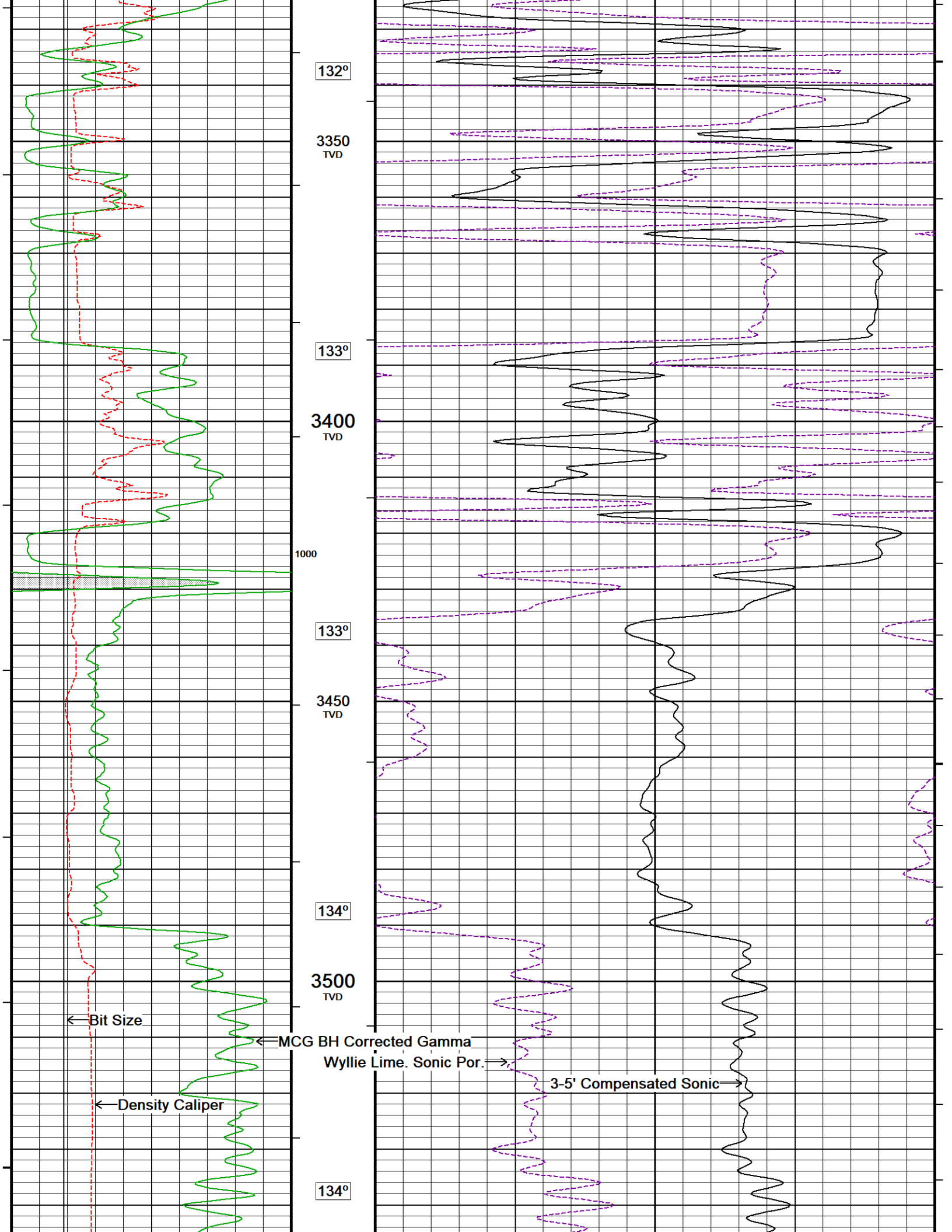


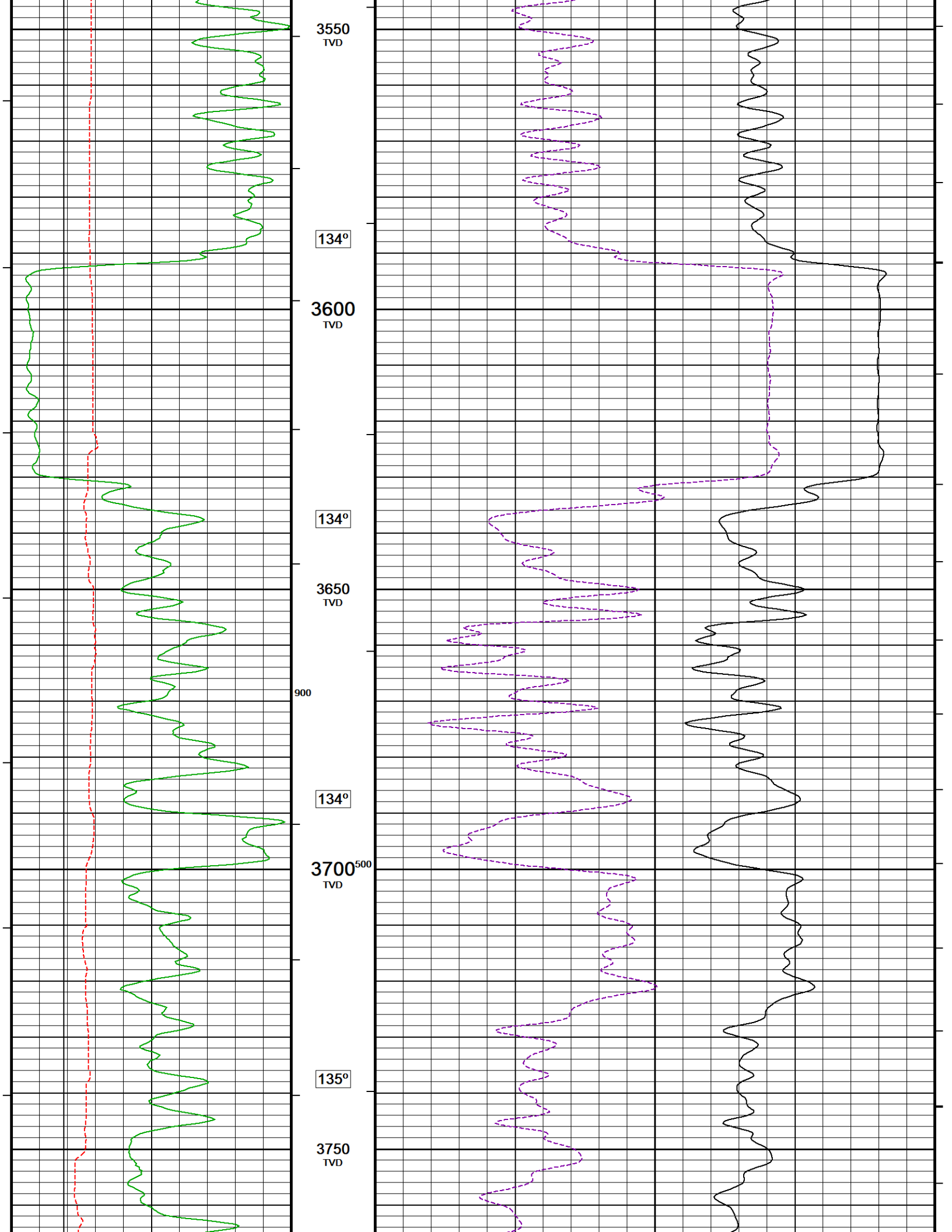


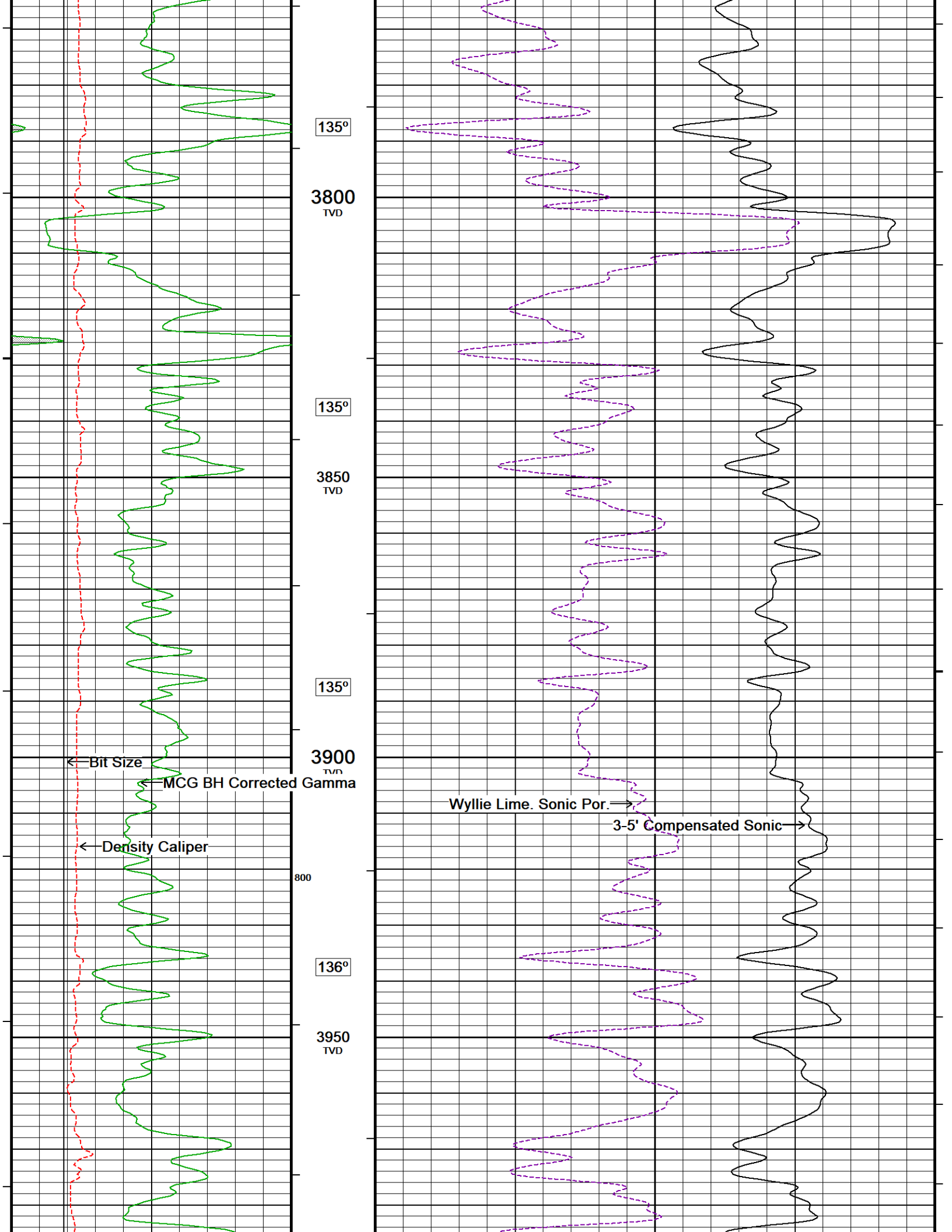












135°

3800
TVD

135°

3850
TVD

135°

3900
TVD

← Bit Size

← MCG BH Corrected Gamma

← Density Caliper

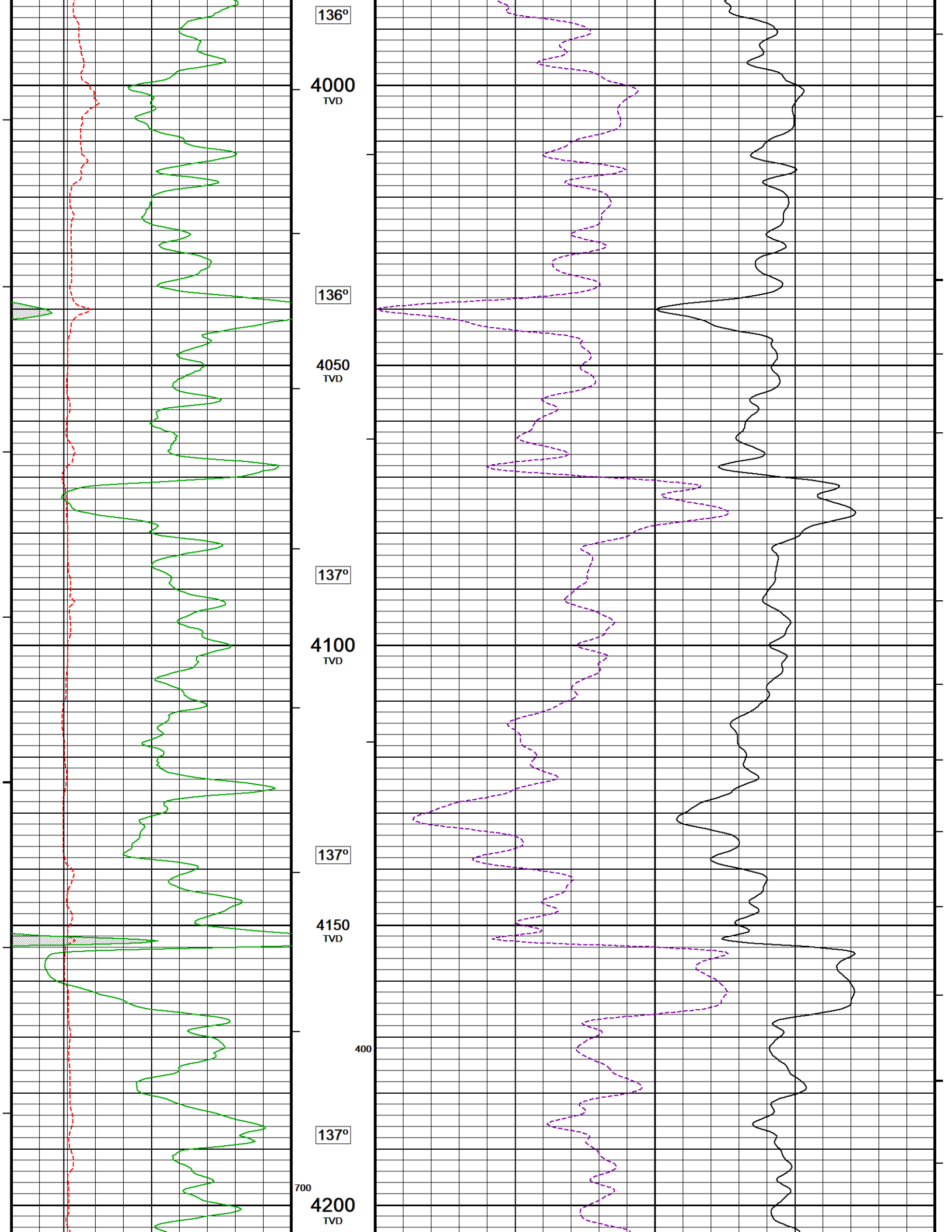
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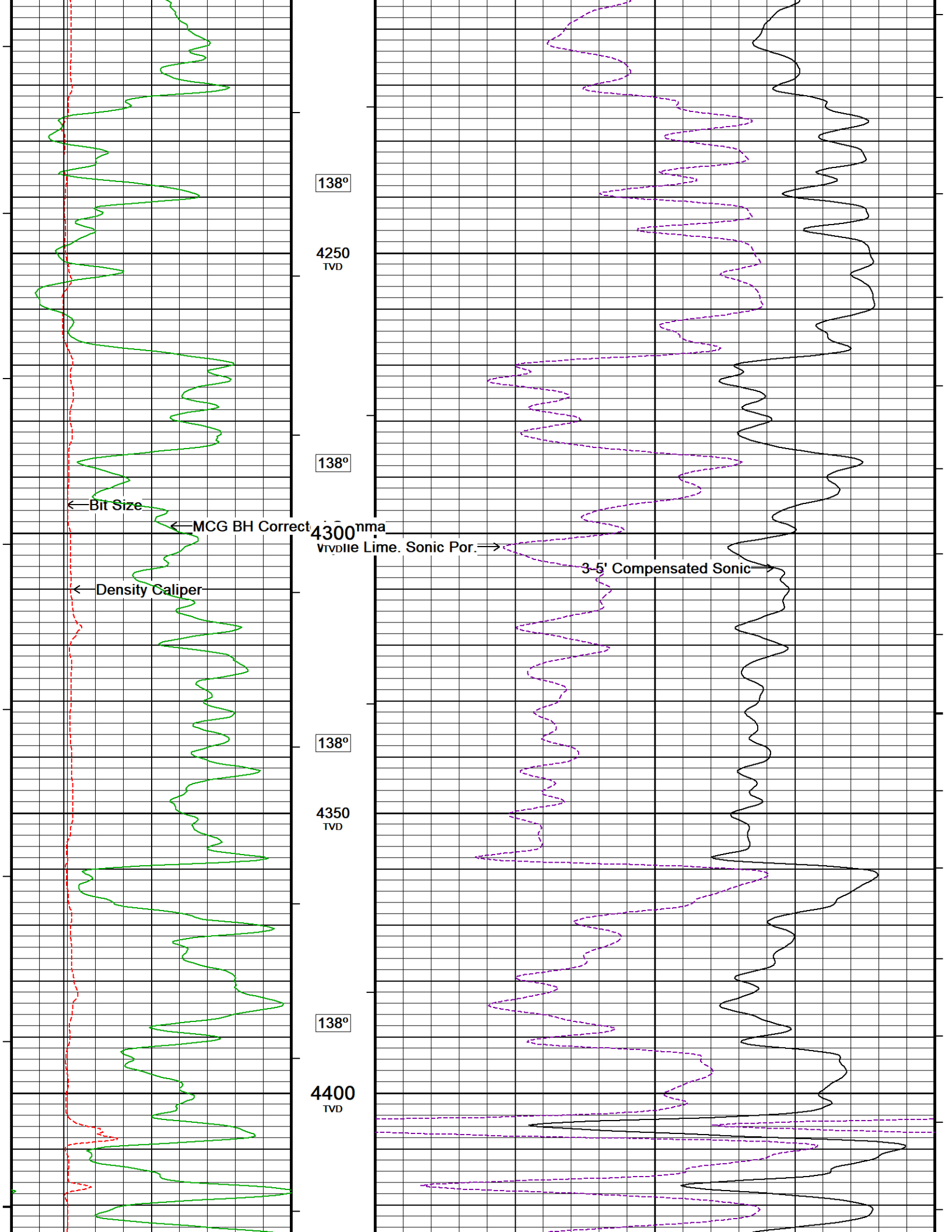
136°

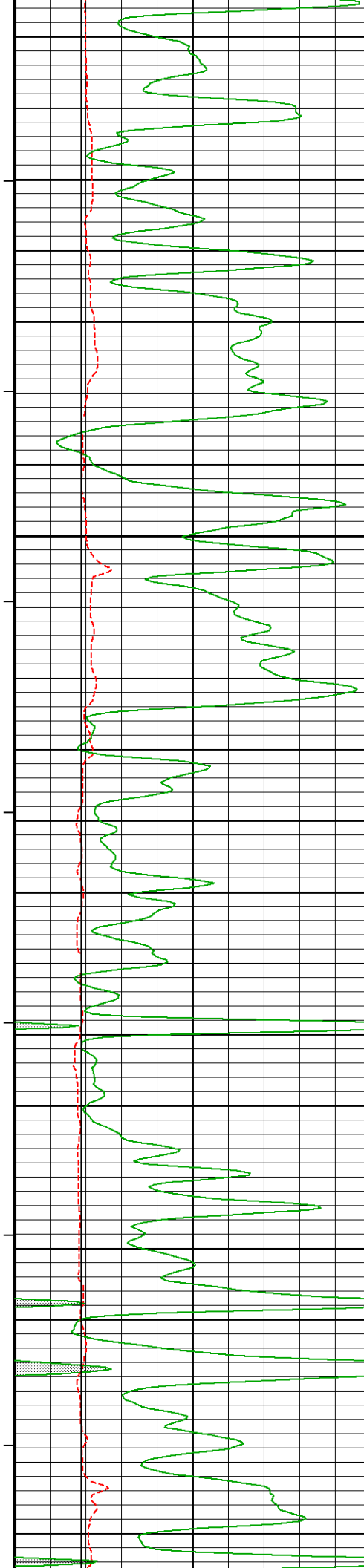
3950
TVD

Wyllie Lime. Sonic Por. →

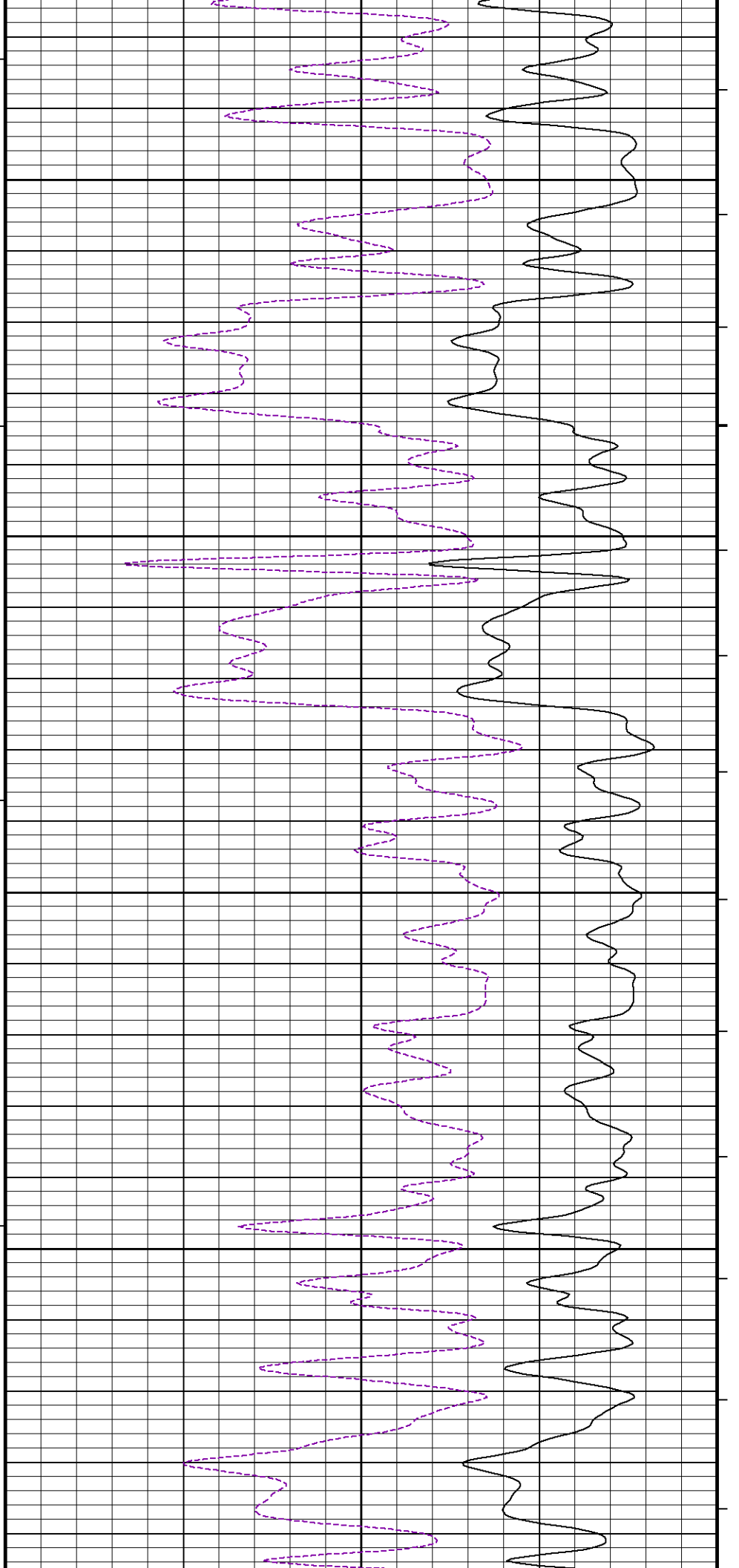
3-5' Compensated Sonic →

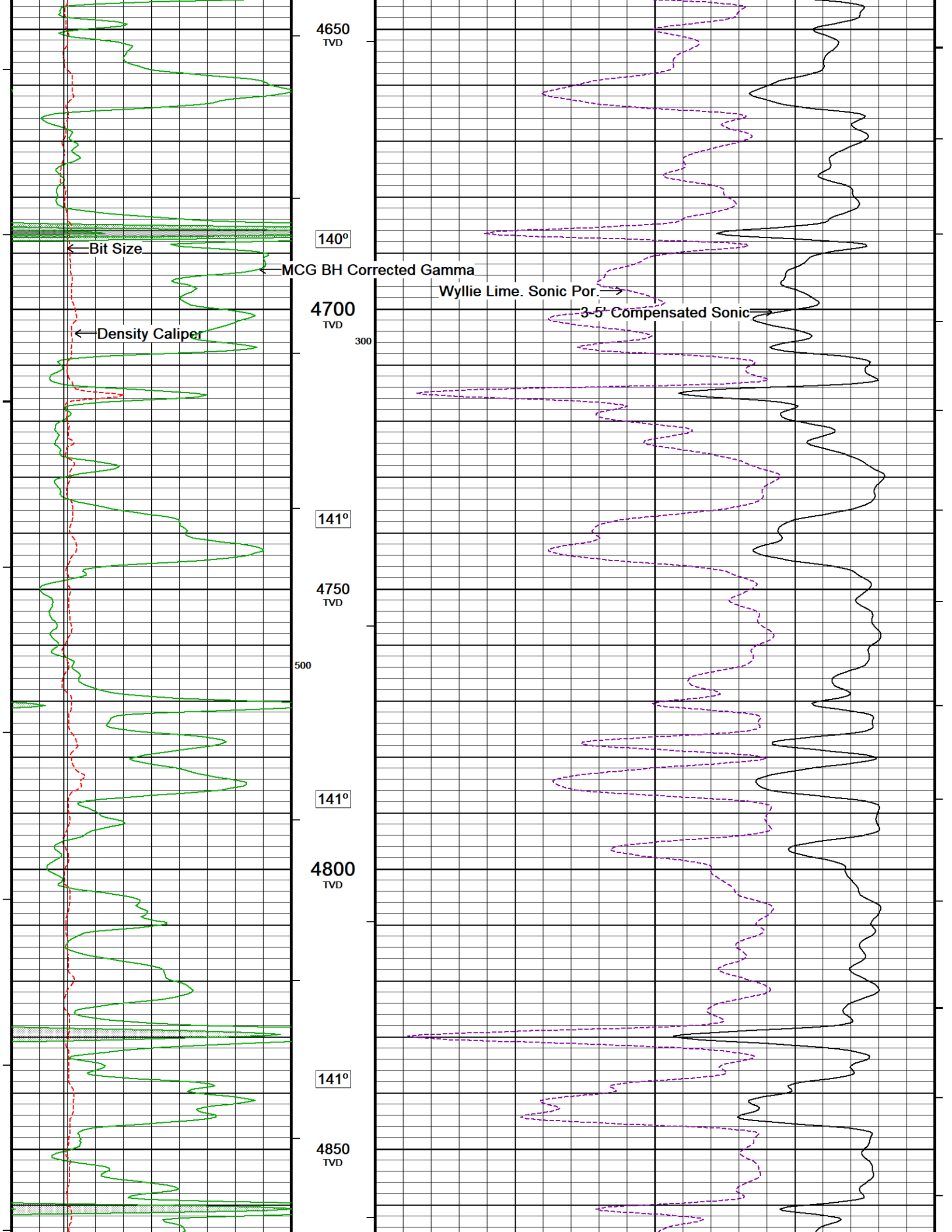


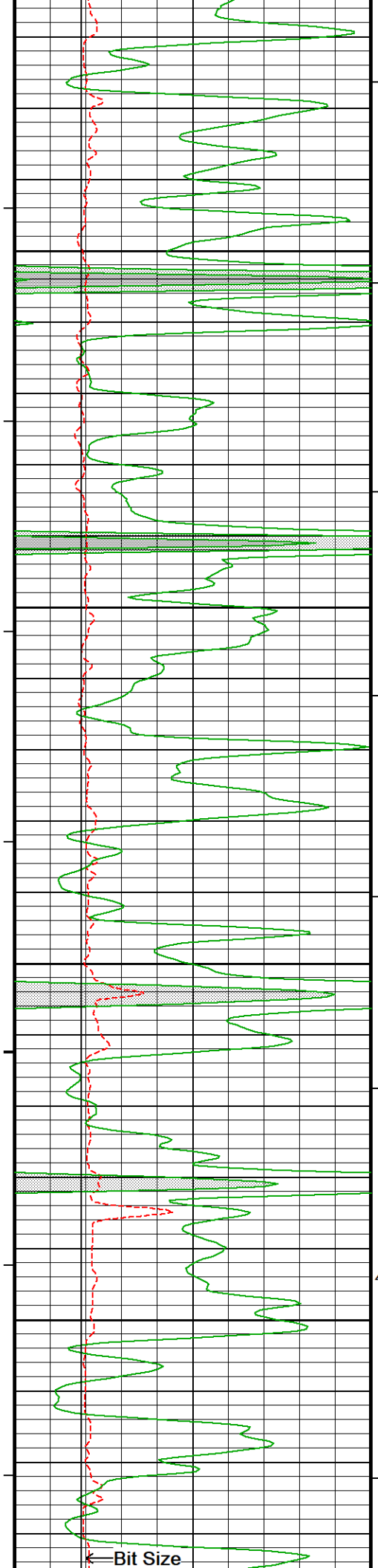




139°
4450
TVD
600
139°
4500
TVD
139°
4550
TVD
140°
4600
TVD
140°







142°

4900
TVD

142°

4950
TVD

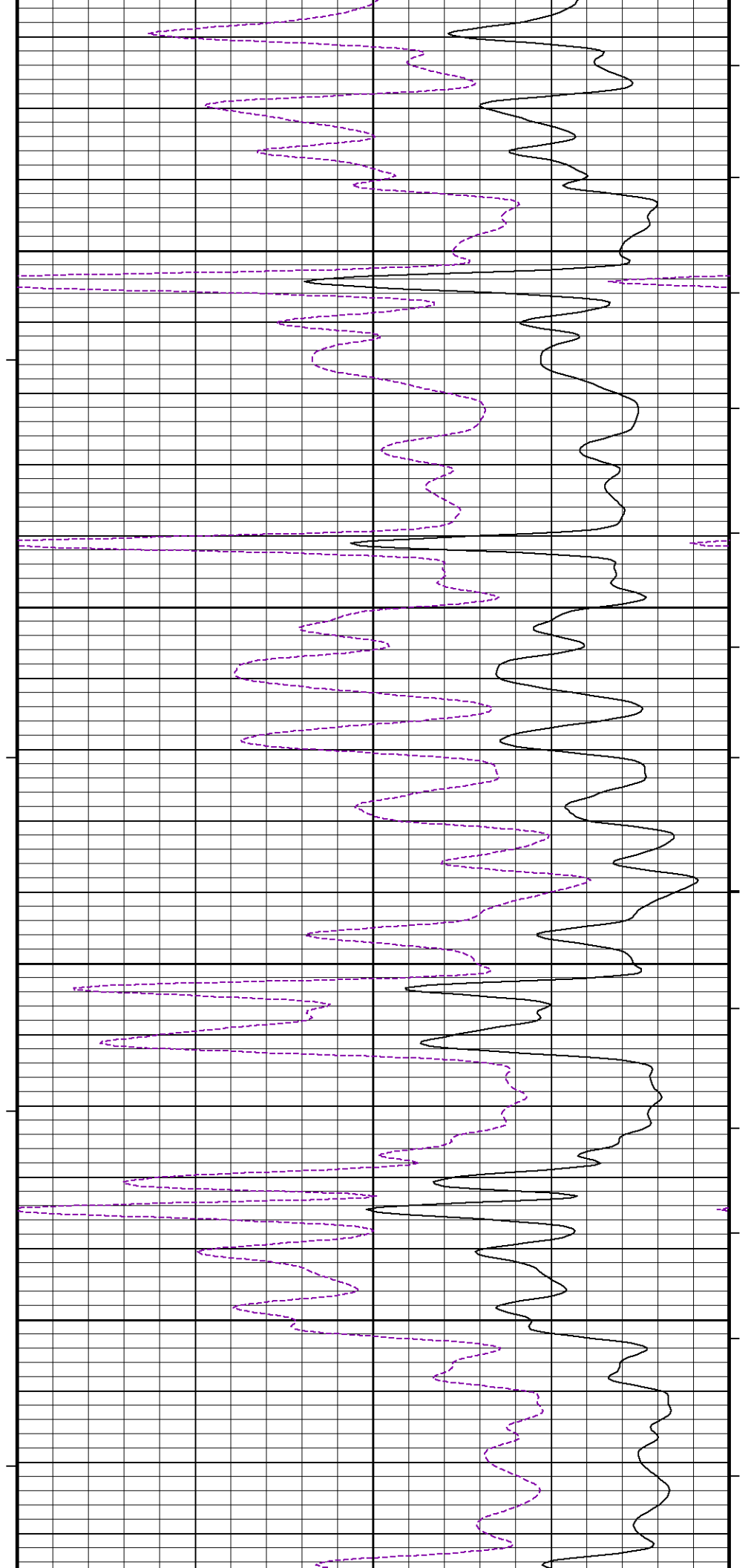
142°

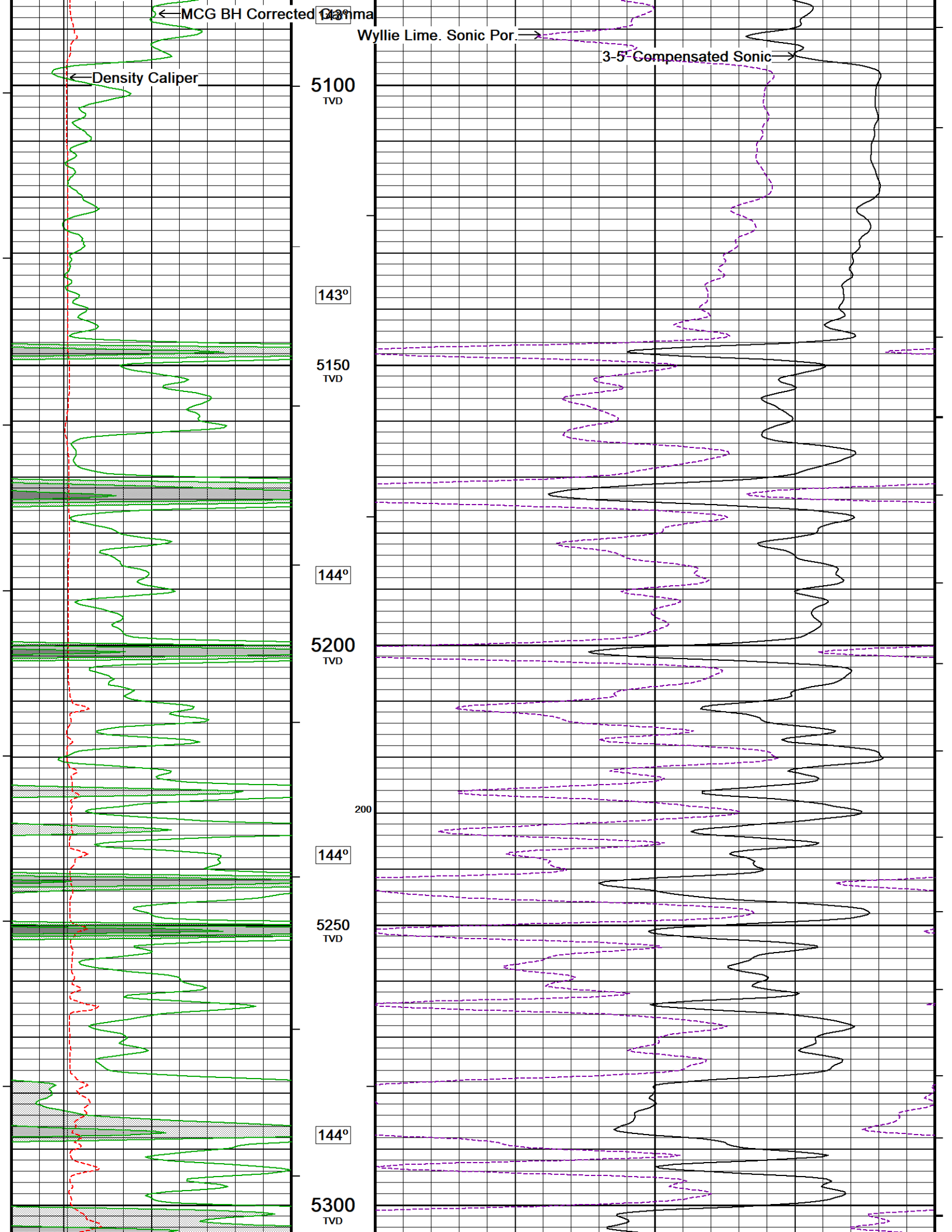
5000
TVD

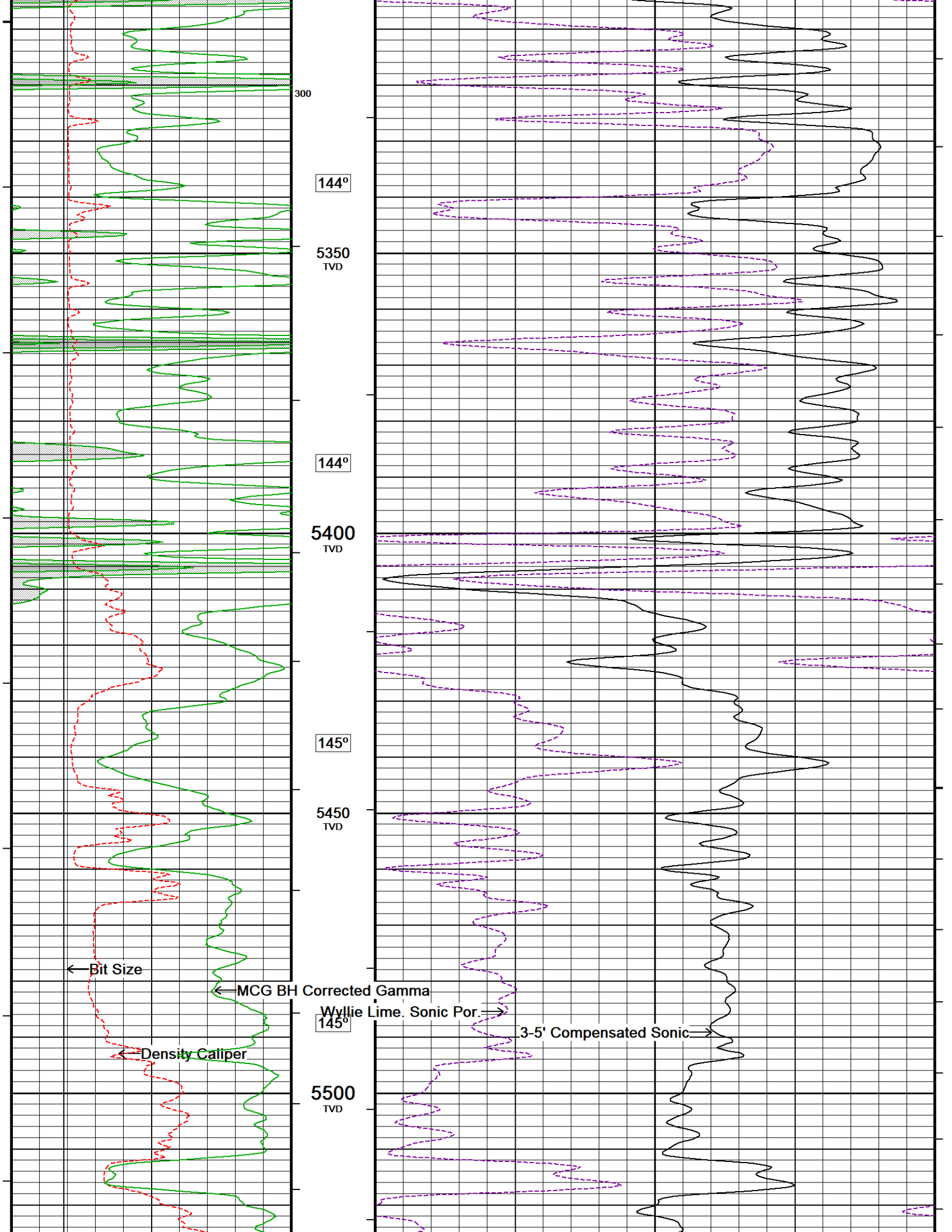
143°

400
5050
TVD

← Bit Size







300

144°

5350
TVD

144°

5400
TVD

145°

5450
TVD

145°

5500
TVD

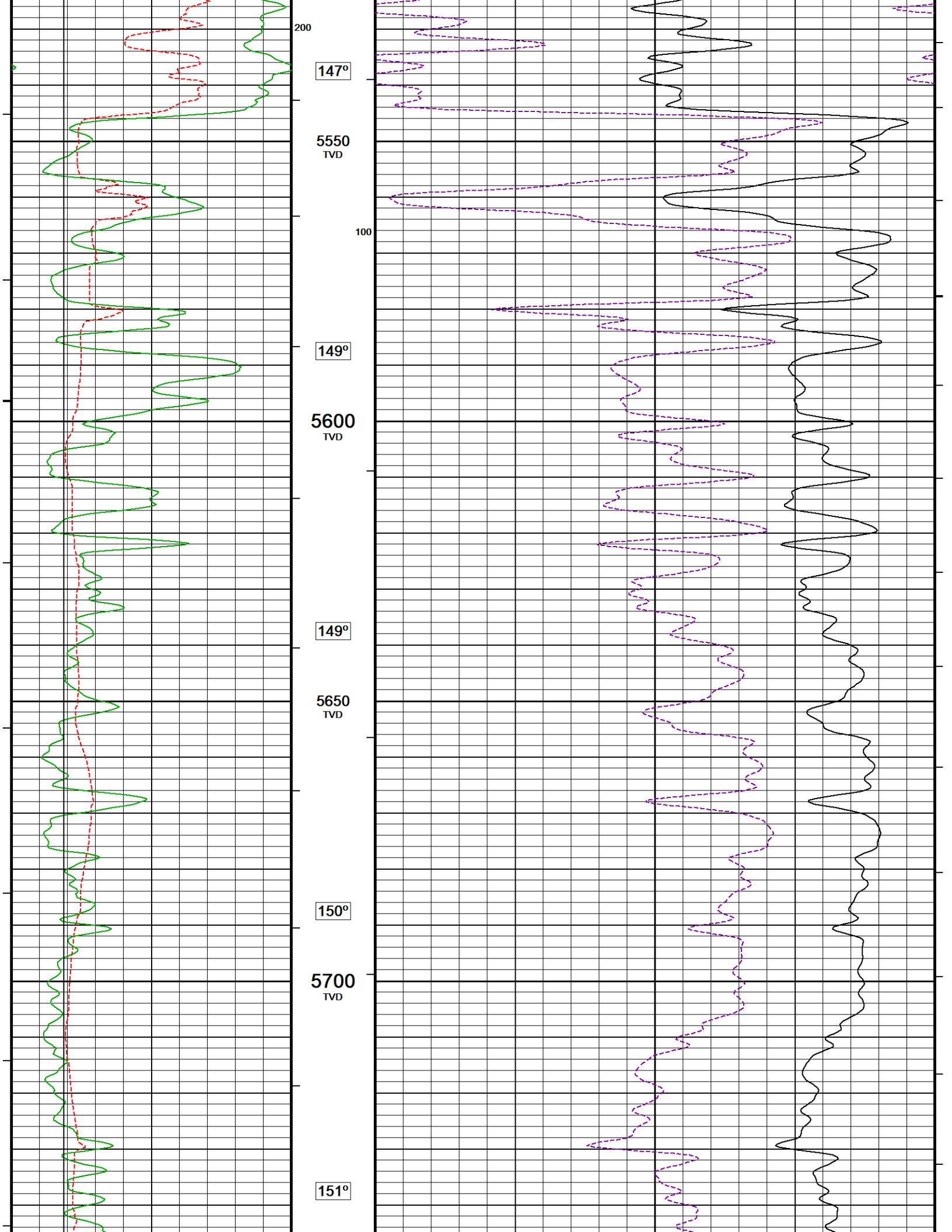
← Bit Size

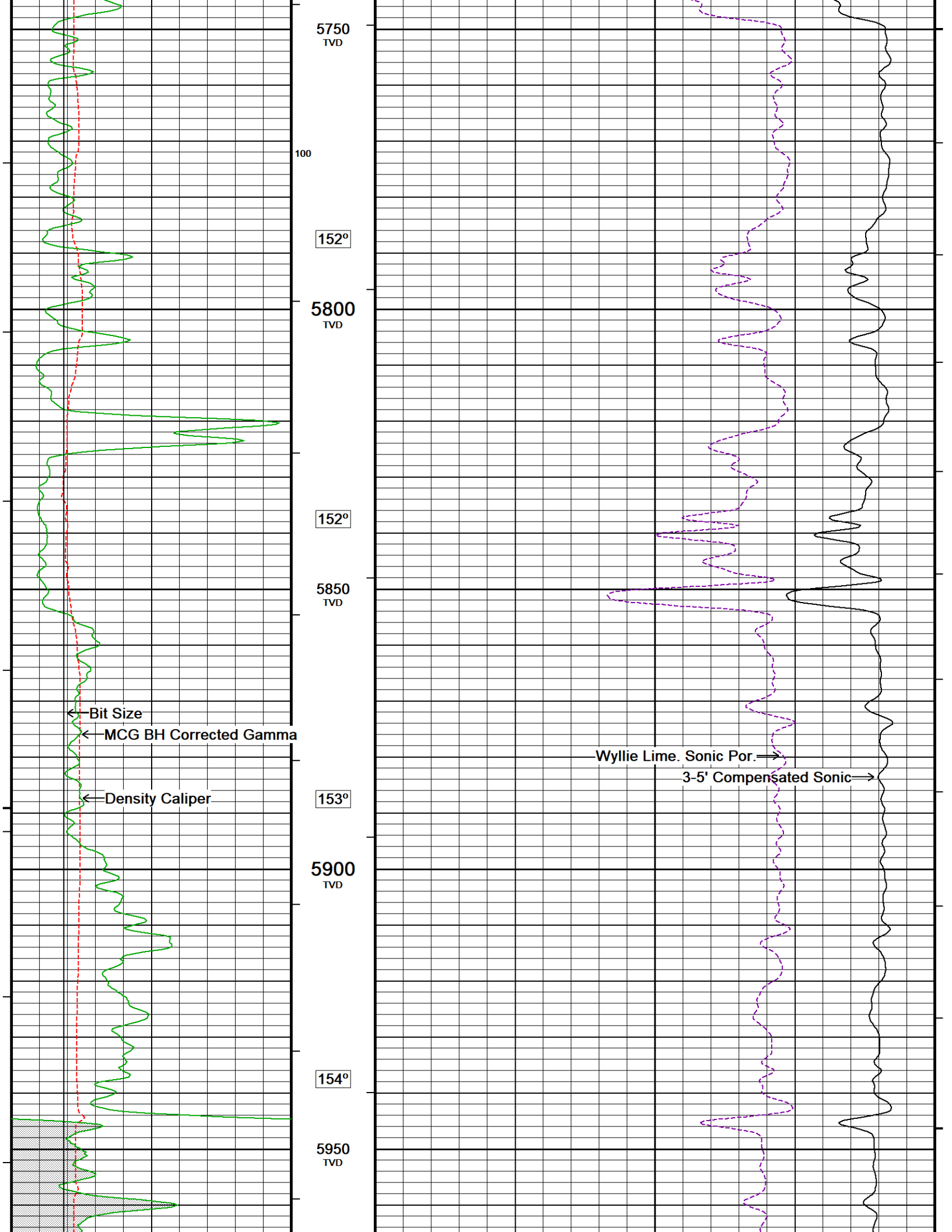
← MCG BH Corrected Gamma

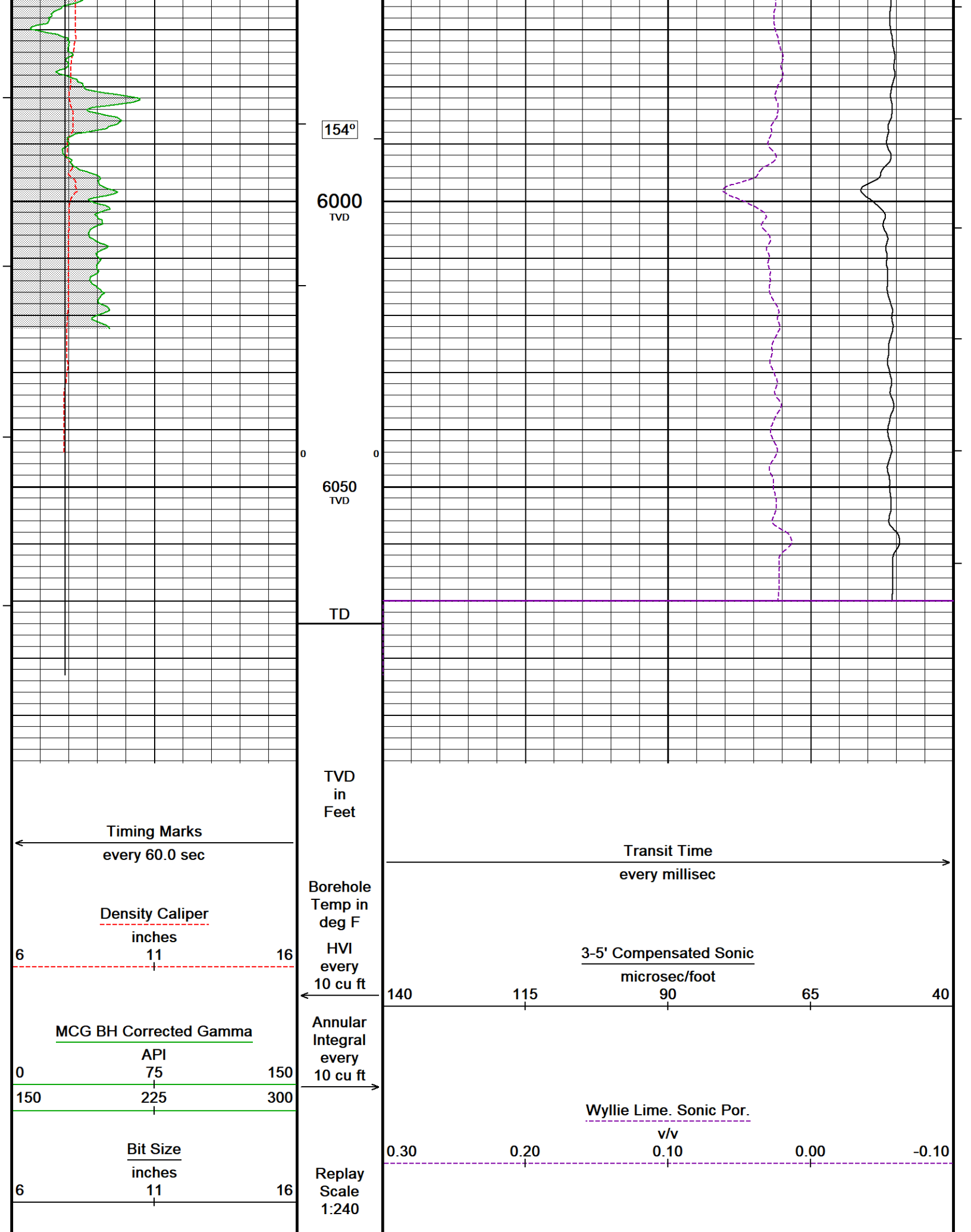
Wyllie Lime. Sonic Por. →

← Density Caliper

3-5' Compensated Sonic →



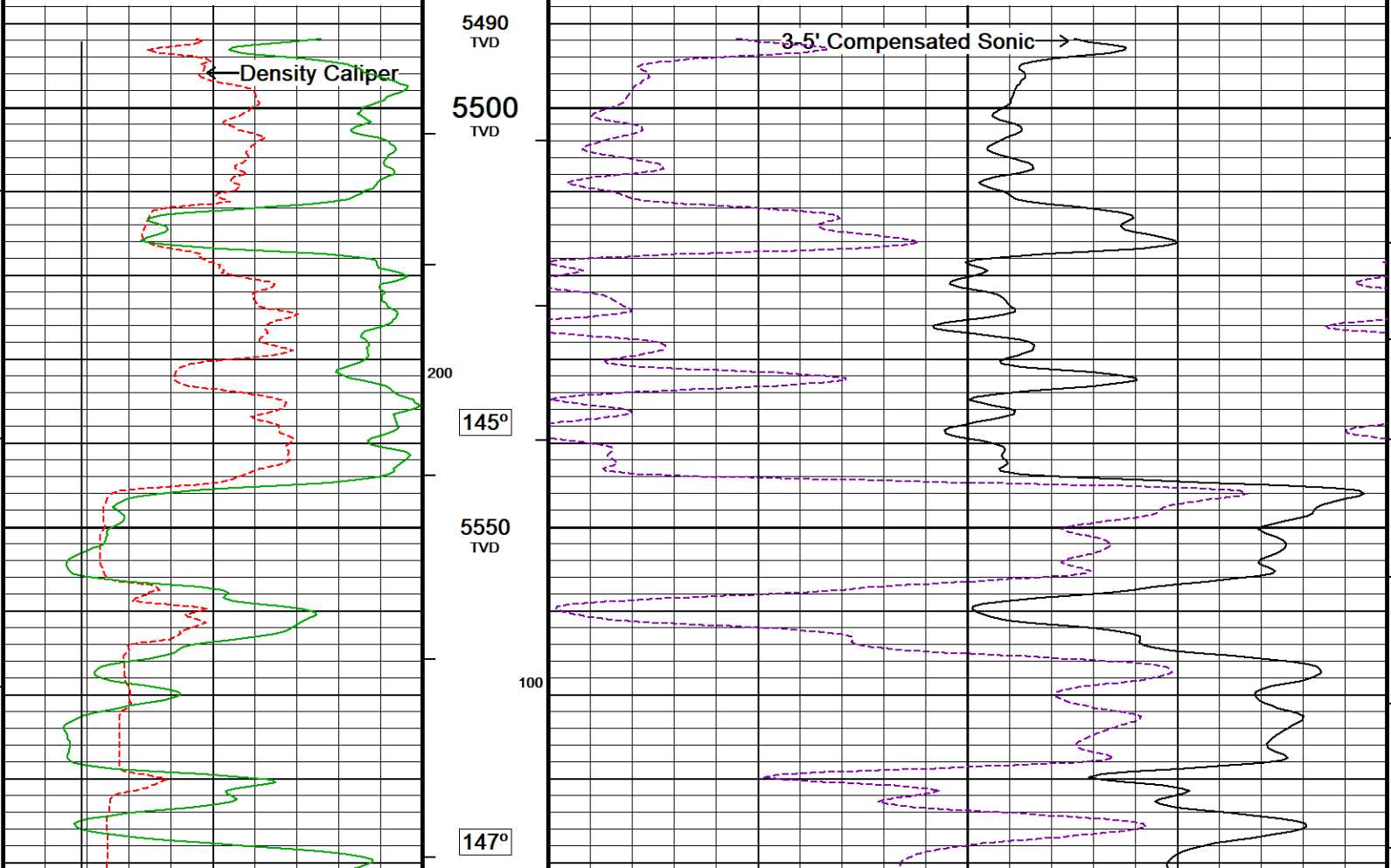
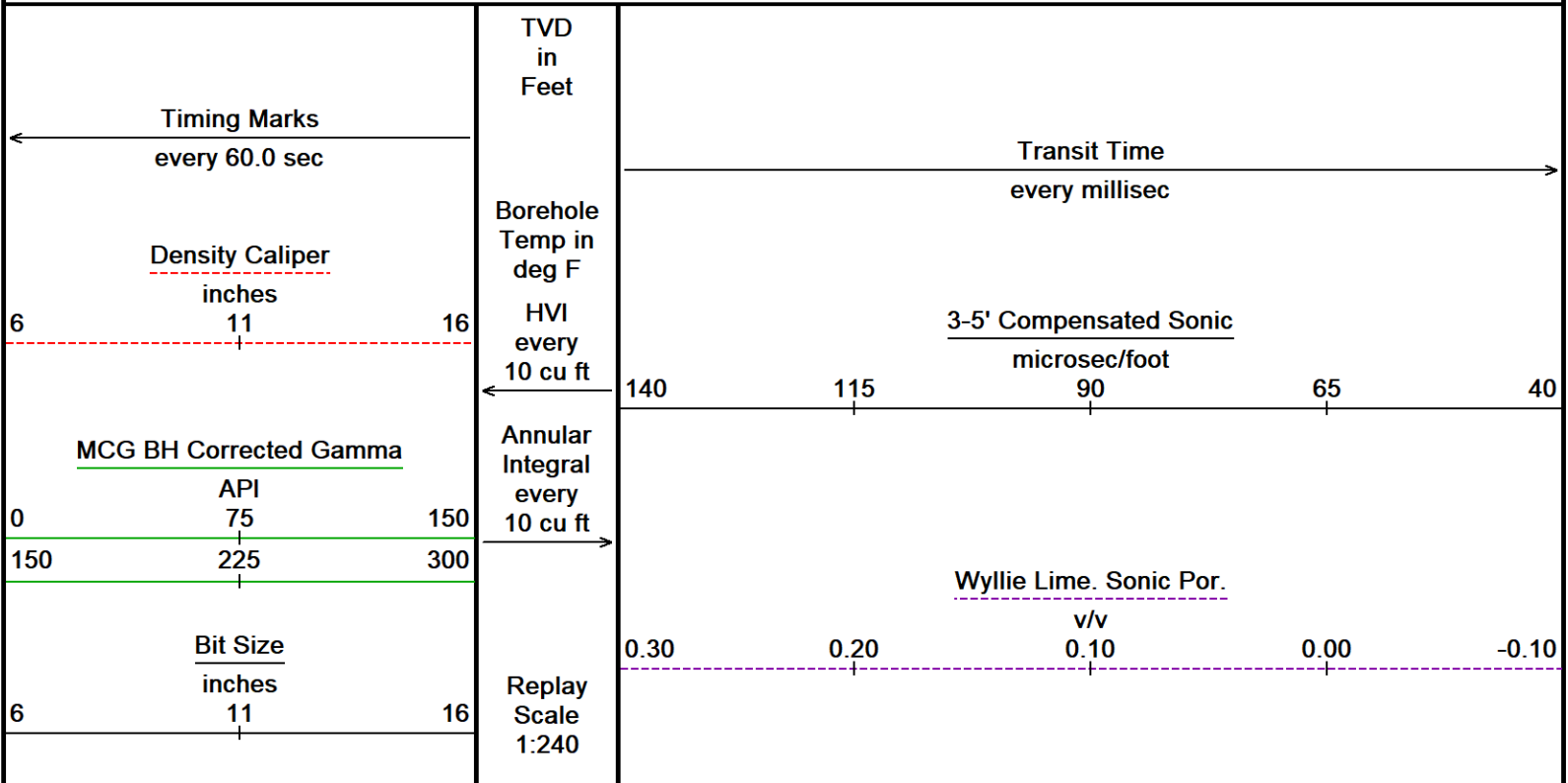


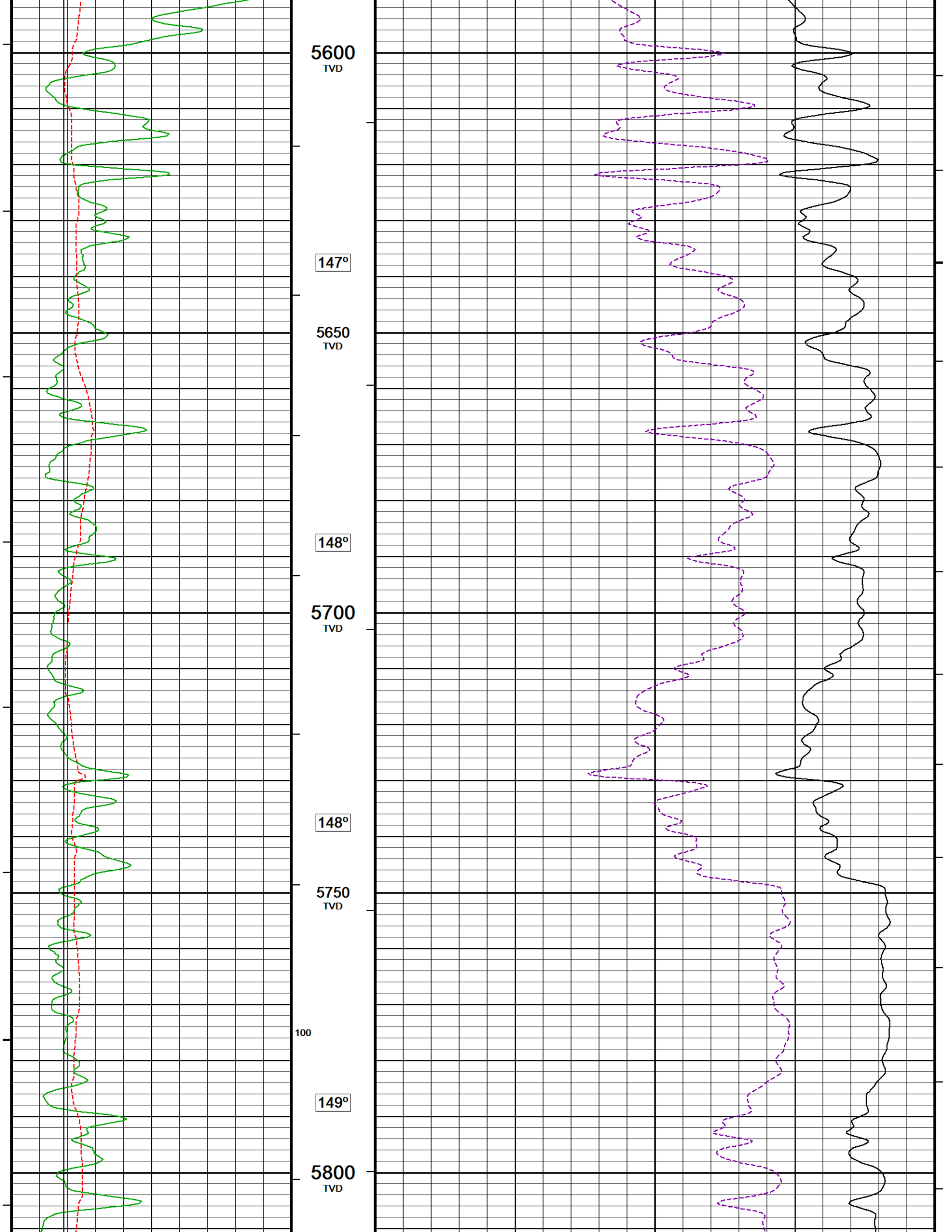


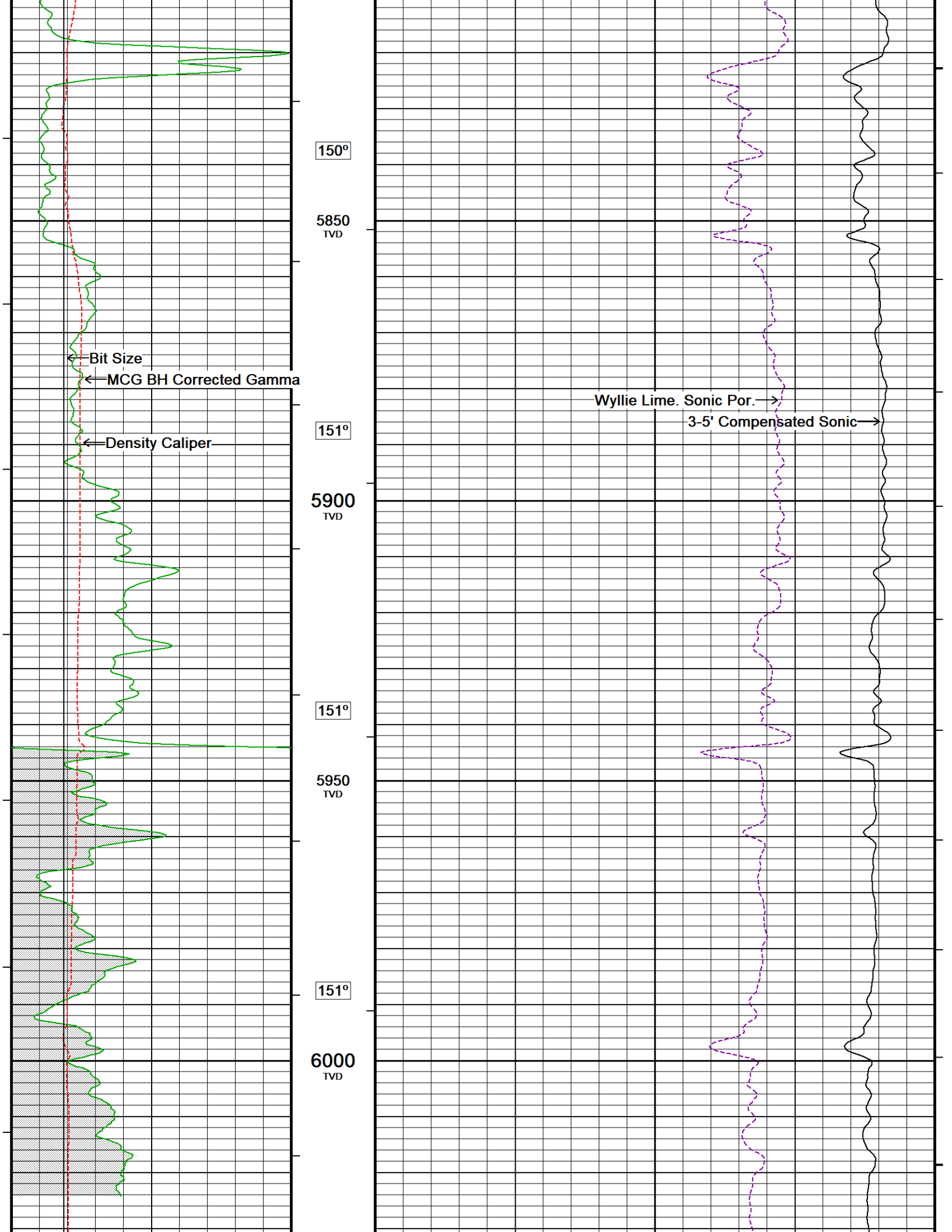
5 INCH MAIN PASS TVD

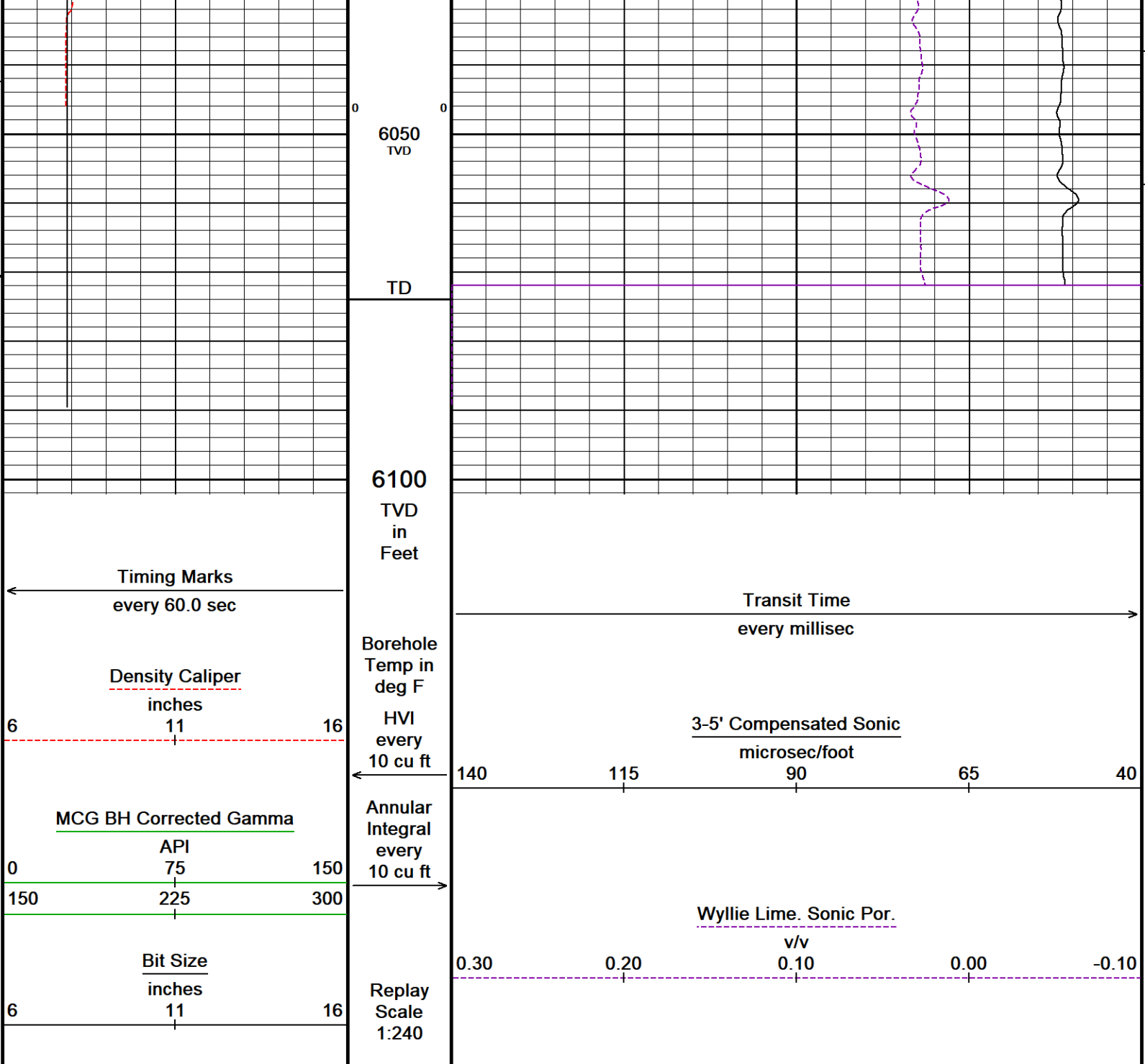
5 INCH REPEAT PASS TVD

Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 01-JUN-2023 17:26
 Filename: C:\Users\grahm\AppData\Local\Temp\Weatherford PreView6\0\Repeat_Reprocessed.dta Recorded on 26-MAY-2023 12:08
 System Versions: Logged with 20.11.3980 Processed with 22.15.1312 Plotted with 22.15.1312









Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 01-JUN-2023 17:26

Filename: C:\Users\grahm\AppData\Local\Temp\Weatherford PreView6\0\Repeat_Reprocessed.dta

Recorded on 26-MAY-2023 12:08

System Versions: Logged with 20.11.3980 Processed with 22.15.1312 Plotted with 22.15.1312

↑ 5 INCH REPEAT PASS TVD ↑

BEFORE SURVEY CALIBRATION

C:\Users\grahm\AppData\Local\Temp\Weatherford PreView6\0\MainPass.dta

General Constants All 000

Last Edited on 26-MAY-2023,12:35

General Parameters

Mud Resistivity	0.750	ohm-metres
Mud Resistivity Temperature	86.000	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 1 Density Caliper N/A
 Annular Volume Diameter 5.500 inches
 Caliper for Differential Caliper Density Caliper

Rwa Parameters
 Porosity used Limestone Density Por.
 Resistivity used Array Ind. One Res Rt
 RWA Constant A 1.000
 RWA Constant M 2.000
 SW/APOR Tool Source 0.000

Down-hole Tension Calibration SMS 0

Field Calibration on 25-APR-2023 19:13

Reading No	Measured	Calibrated (lbs)
1	15436.25	0.00
2	16961.69	516.00

High Resolution Temperature Constants MCG-E.A 551

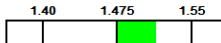
Pre-filter Length 11

Gamma Calibration MCG-E.A 551

Field Calibration on 20-APR-2023 13:00

	Measured	Calibrated (API)
Background	52	35
Calibrator (Gross)	860	568
Calibrator (Net)	807	533

Gamma Calibration Tolerances MCG-E.A 551

Ratio 1.515  Counts/API

Gamma Constants MCG-E.A 551

Last Edited on 26-MAY-2023,12:36

Gamma Calibrator Number MCG 111
 GRC-M Calibrator Jig in Use? NO
 Inactive Background Jig in Use? NO
 Mud Density 1.09 gm/cc
 Caliper Source for Processing Density Caliper
 Tool Position Eccentred
 Potassium Equivalence Chloride
 K Mud Concentration 0.00 %

Micro-Resistivity Caliper Constants MMR-C.A 257

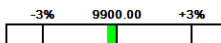
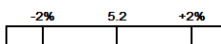
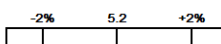
Sonde Configuration Resistivity Mode

Micro Laterolog Calibration MMR-C.A 257

Base Calibration on 31-MAY-2021 11:30
 Field Check on 31-MAY-2021 11:32

	Resistor 1 (ohm)	Resistor 2 (ohm)
Base Calibration	0.0	10000.0
	Measured	
	Ref 1	Ref 2
	0.0	9858.5
	Calibrated (ohm-m)	
	Ref 1	Ref 2
	0.0	128.0
	Base Check (ohm-m)	Field Check (ohm-m)
	5.2	5.2

Micro Laterolog Calibration Tolerances MMR-C.A 257

Ref 2 9858.5  ohm
 Base Check 5.2  ohm-m
 Field Check 5.2  ohm-m

Micro Laterolog Constants MMR-C.A 257

Last Edited on 14-OCT-2020,10:32

Pad Type 6 in Solid Nylon B23059
 Standoff Offset 0.5000 inches
 Micro Laterolog K Factor 0.0128

Micro Laterolog Rm K Factor N/A

Mudcake Thickness Correction Constants

Mud Cake Source	Differential Caliper	
Mud Cake Thickness	N/A	inches
Mud Cake Thickness Caliper	MMR Caliper	
Mud Cake Resistivity	0.0470	ohm-m
Mud Cake Resistivity Temp.	72.00	Deg F
Mud Cake Resistivity Source	Temperature Corr	
Temp. for Rmc Corr.	MCG External Temperature	

Caliper Calibration MMR-C.A 257

Base Calibration on 01-MAY-2023 11:12
Field Calibration on 01-MAY-2023 11:13

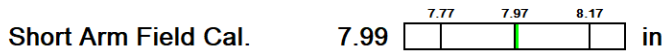
Base Calibration

Reading No	Measured	Calibrator Size (in)
1	13341	5.96
2	16469	7.97
3	19652	9.86
4	23513	11.88
5	0	0.00
6	N/A	N/A

Field Calibration

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

Caliper Calibration Tolerances MMR-C.A 257

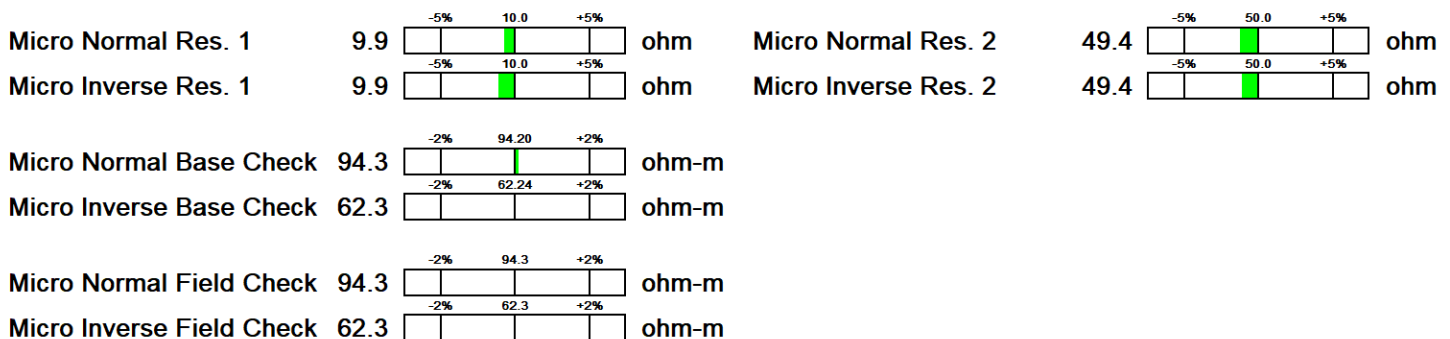


Micro Normal and Micro Inverse Calibration MMR-C.A 257

Base Calibration on 01-MAY-2023 11:02
Field Check on 01-MAY-2023 11:04

	Resistor 1 (ohm)	Resistor 2 (ohm)
	10.0	50.0
Base Calibration		
	Measured	Calibrated (ohm-m)
Micro Normal	9.9 49.4	5.1100 25.5500
Micro Inverse	9.9 49.4	3.3800 16.9000
Channel		
	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	94.3	94.3
Micro Inverse	62.3	62.3

Micro Normal & Micro Inverse Calibration Tolerance MMR-C.A 257



Micro Normal and Micro Inverse Constants MMR-C.A 257

Last Edited on 09-FEB-2023,09:37

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-C.A 399

Base Calibration on 19-APR-2023 11:09
Field Check on 19-APR-2023 11:27

Base Calibration

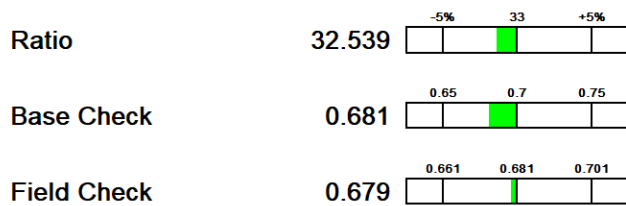
	Measured		Calibrated (cps)	
	Near	Far	Near	Far
Ratio	3110	96	3714	110
	32.539		33.764	

Field Calibrator at Base

Calibrated (cps)

Field Calibrator at Base	Calibrated (cps)	2014	2960
Ratio			0.681
Field Check	Calibrated (cps)	2016	2970
Ratio			0.679

Neutron Calibration Tolerances MDN-C.A 399



Neutron Constants MDN-C.A 399

Last Edited on 26-MAY-2023,12:36

Neutron Source Id	N-1054	
Neutron Jig Number	NJ5239	
Air Hole Processing	Modified Ratio	
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	None	
Temperature	N/A	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	

Caliper Calibration MVC-A.A 146

Base Calibration on 02-MAR-2023 08:28
Field Calibration on 02-MAR-2023 08:31

Base Calibration	Reading No	Measured	Calibrator Size (in)
	1	10494	4.01
	2	17351	5.96
	3	24456	7.97
	4	31239	9.86
	5	38707	11.88
	6	N/A	N/A

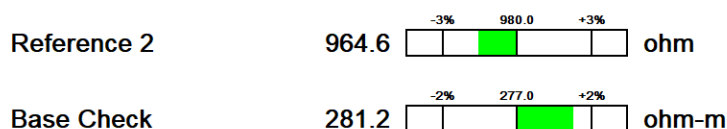
Field Calibration	Measured Caliper (in)	Actual Caliper (in)
	8.00	7.97

FE Calibration MFE-C.A 399

Base Calibration on 20-APR-2023 09:32
Field Check on 20-APR-2023 09:38

	Resistor 1 (ohm)	Resistor 2 (ohm)
Base Calibration	0.0	1000.0
	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	964.6	126.8
Base Check		281.2
Field Check		281.2

FE Calibration Tolerances MFE-C.A 399



Field Check

281.2

-2%

281.2

+2%

ohm-m

FE Constants MFE-C.A 399

Last Edited on 26-MAY-2023,12:37

Running Mode No Sleeve
MFE K Factor 0.1268

Borehole Correction Constants

Sonde Position 1.0 inches
Hole Size Source Density Caliper
Hole Size Constant Value N/A inches
Rm Source Global Value: Temperature Corrected
Temp. for Rm Corr. MCG External Temperature

Sonic Constants MSS-C.K 374

Maximum Boundary Contrast 70.00 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
Correction for Sonde Skew Applied
Cycle Stretch Algorithm Applied
MN3FT 0.00 micro-sec
MX3FT 1500.00 micro-sec
Hunt-Raymer Constant 83.12 micro-sec/ft

Sonde Mode Compensated
Hole Type Open Hole

Sonde Parameters

	Measured	Calibrated
Offset		0.0000
Free Pipe	0.0000	

Peak Amplitude Source

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)	Depth (m)	
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	0.00	
0.00	0.00	0.00	0.00	

Full Waveform Parameters

Use 3' Waveform to derive TR No
Use 4' Waveform to derive TR No
Use 5' Waveform to derive TR No
Use 6' Waveform to derive TR No
3' Waveform Discriminator Level 0.30 mV
4' Waveform Discriminator Level 0.30 mV
5' Waveform Discriminator Level 0.15 mV
6' Waveform Discriminator Level 0.15 mV

Waveform Discriminator Filter Not Applied
Semblance Window Width 150.00 micro-sec
Semblance Processing Enabled Yes
Tracking Boxes Enabled In Processing Yes

Induction Calibration MAI-C.A 490

Factory Loop Calibration 17-DEC-2012,20:04

Field Check on 10-MAY-2022 15:43

Factory Loop Calibration

High Conductivity Reference Resistor 3.3 ohm
 Low Conductivity Reference Resistor 333.3 ohm

Array	Measured Signal (unitless)		Reference Conductivity (mmho/m)		Calibration	
	Low	High	Low	High	Gain	Offset
1 (near)	15.2	455.2	9.3	966.2	0.000	0.0
2	5.9	373.9	7.6	821.4	0.000	0.0
3	3.7	251.6	5.2	566.0	0.000	0.0
4 (far)	1.8	128.7	2.6	279.2	0.000	0.0
Array Temperature	75.6		Deg F			

Tool Checks 10-MAY-2022 15:40

Array	Factory Reference (mmho/m)		Before Survey (mmho/m)		Deg F
	Low	High	Low	High	
1 (near)	-2.2	2114.9	-2.2	2114.9	
2	14.0	1921.9	13.9	1922.0	
3	14.0	1678.9	14.0	1679.0	
4 (far)	10.3	1145.1	10.3	1145.2	
Array Temperature	89.0		89.2		Deg F

Tool Zero Corrections

Array	Low	High	mmho/m
1 (near)	0.0	0.0	mmho/m
2	0.0	0.0	mmho/m
3	0.0	0.0	mmho/m
4 (far)	0.0	0.0	mmho/m

Induction Check Tolerances MAI-C.A 490

Array	Value	Tolerance	Array	Value	Tolerance
Low Array 1	-2.2	-3.7 to -0.7	High Array 1	2114.9	-0.5% to +0.5%
Low Array 2	13.9	12.5 to 15.5	High Array 2	1922.0	-0.5% to +0.5%
Low Array 3	14.0	12.5 to 15.5	High Array 3	1679.0	-0.5% to +0.5%
Low Array 4	10.3	8.8 to 11.8	High Array 4	1145.2	-0.5% to +0.5%

Induction Constants MAI-C.A 490

Last Edited on 26-MAY-2023,12:37

Induction Model	RtAP	
Borehole Correction Constants	No	
Tool Centred	No	
Hole Size Source	Density Caliper	
Hole Size Constant Value	N/A	inches
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
Rm Source	Global Value: Temperature Corrected	
Temp. for Rm Corr.	MCG External Temperature	
Borehole Correction Method	Default	
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

Symmetrised Receiver Gains

Receiver 1	1.00
Receiver 2	1.00
Receiver 3	1.00
Receiver 4	1.00

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-C.A 490

Field Calibration on 17-DEC-2012,07:08

	Measured	Calibrated(Deg C)
Lower	10.00	10.00
Upper	100.00	100.00

High Resolution Temperature Constants MAI-C.A 490

Last Edited on 17-DEC-2012,20:09

Pre-filter Length	11
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Photo Density Calibration MPD-C.J 438

Base Calibration on 06-APR-2023 14:01

Field Check on 06-APR-2023 14:07

Density Calibration

Base Calibration

	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Background	973	1140		
Reference 1	44856	20382	59814	31141
Reference 2	18117	2083	24963	2524

Field Check at Base

972.8 1140.5

Field Check

974.0 1140.0

PE Calibration

Base Calibration

	WS	Measured		Calibrated Ratio
		WH	Ratio	
Background	183	877		
Reference 1	20347	44708	0.460	0.368
Reference 2	5757	18012	0.325	0.273

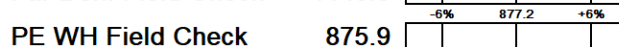
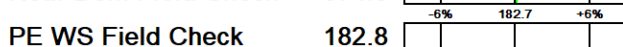
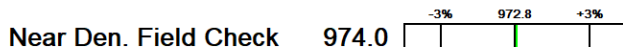
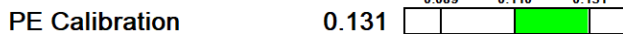
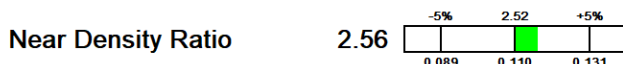
Field Check at Base

182.7 877.2

Field Check

182.8 875.9

Photo Density Calibration Tolerances MPD-C.J 438



Density Constants MPD-C.J 438

Last Edited on 26-MAY-2023,12:37

Density Source Id	H79956B
Nylon Calibrator Number	DNCE 687
Aluminium Calibrator Number	DACD 526
Density Shoe Profile	8 inch
Caliner Source for Processing	Density Caliner

Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.09	gm/cc
Mud Density Type	Non-Barite	
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	
Precision Enhanced Density Processing	Applied	
Density Detector Type	Compensated Density	

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	0.00

Caliper Calibration MPD-C.J 438

Base Calibration on 06-APR-2023 14:51
Field Calibration on 06-APR-2023 14:52

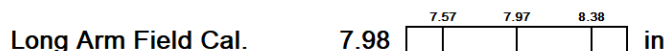
Base Calibration

Reading No	Measured	Calibrator Size (in)
1	15285	4.01
2	23599	5.96
3	32288	7.97
4	40480	9.86
5	49552	11.88
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.98	7.97

Caliper Calibration Tolerances MPD-C.J 438



DOWNHOLE EQUIPMENT

C:\Users\grahm\AppData\Local\Temp\Weatherford PreView6\0\MainPass.dta

Cablehead, 11 pin
CBH-CC 348 LG: 2.40 ft WT: 24.3 lb OD: 2.244 in

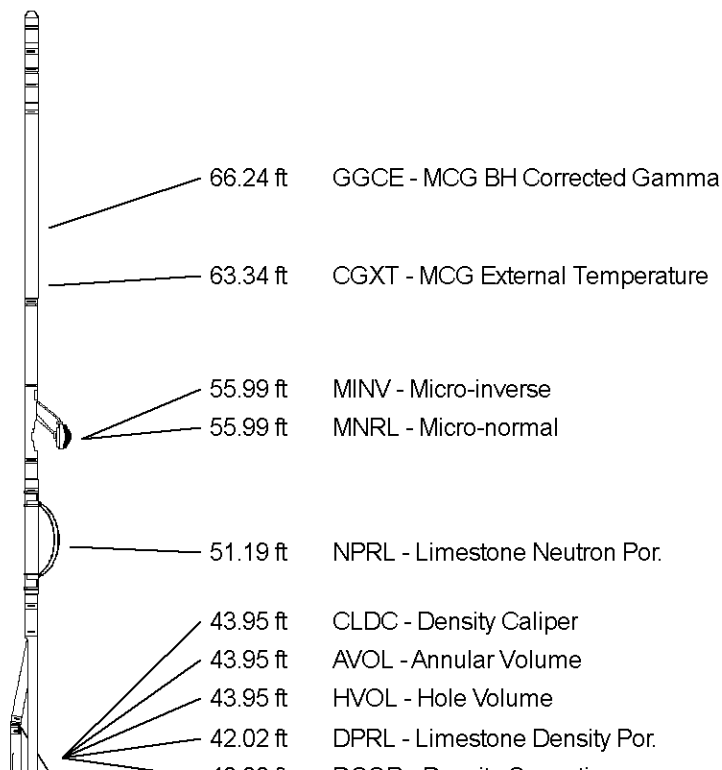
11C-11B Compact Tool Adaptor
MTA-K.A 189 LG: 1.53 ft WT: 13.2 lb OD: 2.240 in

Compact Comms Gamma
MCG-E.A 551 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in

Compact Micro-Resistivity
MMR-C.A 257 LG: 8.59 ft WT: 81.6 lb OD: 4.882 in

Compact Neutron
MDN-C.A 399 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

Compact Density/Caliper
MPD-C.J 438 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in



Compact Vee Arm Caliper
MVC-A.A 146 LG: 8.06 ft WT: 61.7 lb OD: 2.244 in

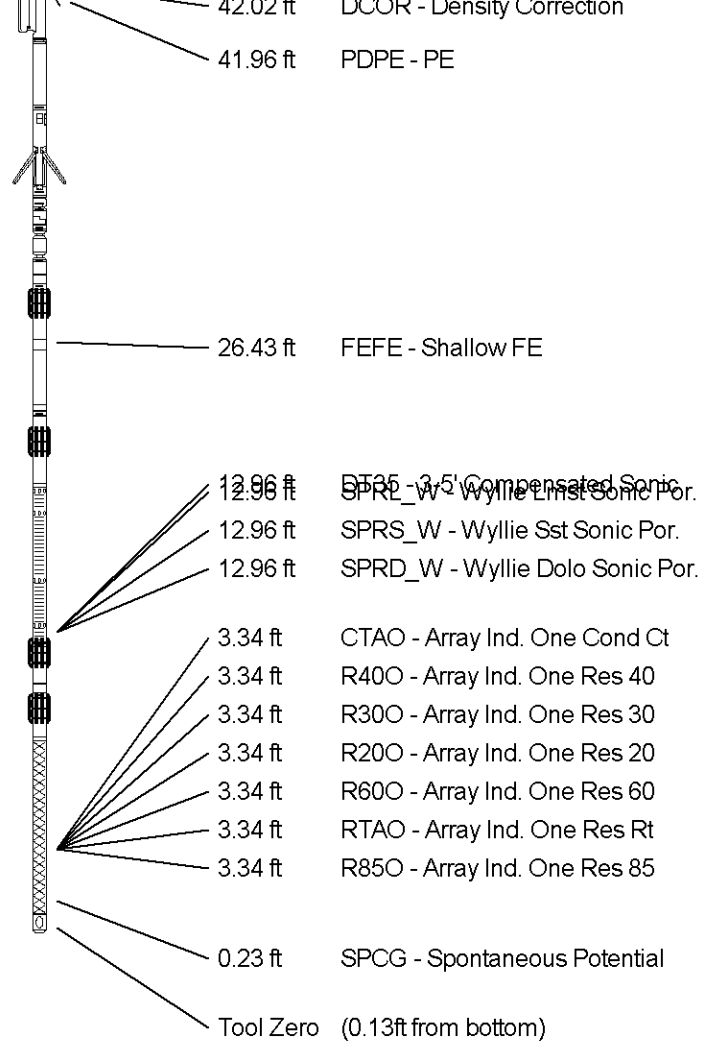
Compact Knuckle Joint
SKJ-E.B 694 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

Compact Focussed Electric
MFE-C.A 399 LG: 6.05 ft WT: 48.5 lb OD: 2.244 in

Compact Sonic
MSS-C.K 374 LG: 12.52 ft WT: 72.8 lb OD: 2.244 in

Compact Induction
MAI-C.A 490 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in

Total Length: 75.45 ft Weight: 579.8 lb



All measurements relative to tool zero.

COMPANY	NAVEX RESOURCES LLC
WELL	PFAFFLY #1-12
FIELD	NORTH CHEYENNE PROJECT/ PFAFFLY PROSPECT
PROVINCE/COUNTY	KIT CARSON
COUNTRY/STATE	COLORADO

Elevation Kelly Bushing	4479.00	feet	Last Reading	648.00	feet
Elevation Drill Floor	4479.00	feet	First Reading	6068.00	feet
Elevation Ground Level	4466.90	feet	Depth Driller	6076.00	feet
			Depth Logger	6082.00	feet



COMPENSATED SONIC
*** TVD ***