WIRELINE LOGGING SOLUTIONS

COMPENSATED SONIC

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	NEUTRON
Longitude	-102.5167609	MICRO LOG	ARRAY INDUCTION
API Number	05-063-06363		

Permanent Datum GL, Elevation 4466.9 feet
Log Measured From KB, 12.10 feet above Permanent Datum
Drilling Measured From KB

Elevations:	feet
KB	4479.00
DF	4479.00
GL	4466.90

Date	26-MAY-2023			
Run Number	ONE			
Service Order	T1-230526WFT			
Depth Driller	6076.00	feet		
Depth Logger	6082.00	feet		
First Reading	6068.00	feet		
Last Reading	648.00	feet		
Casing Driller	651.00	feet		
Casing Logger	648.00	feet		
Bit Size	7.875	inches		
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			

Last Edited: 26-MAY-2023 11:08

BOREHOLE RECORD

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

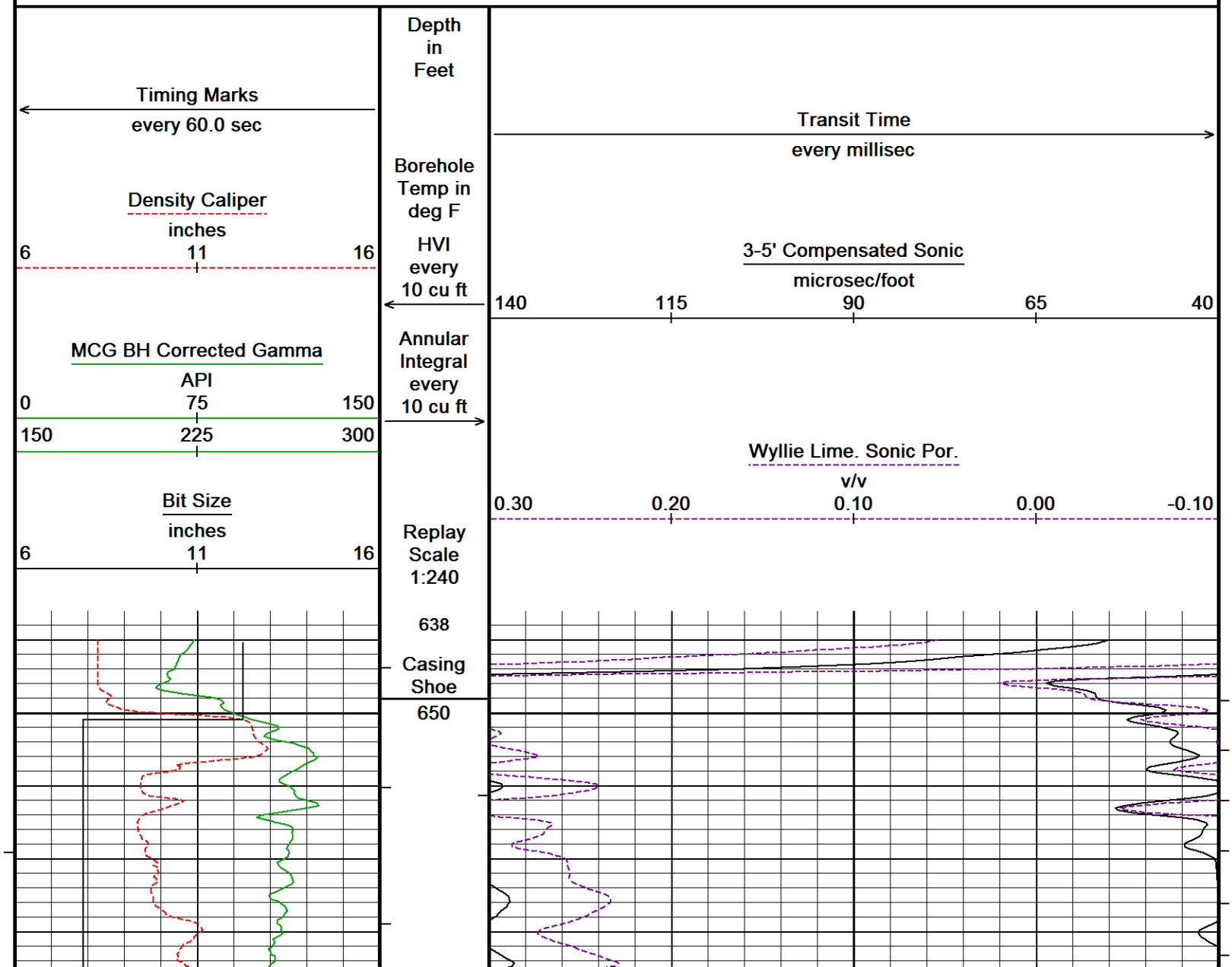
In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will 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.

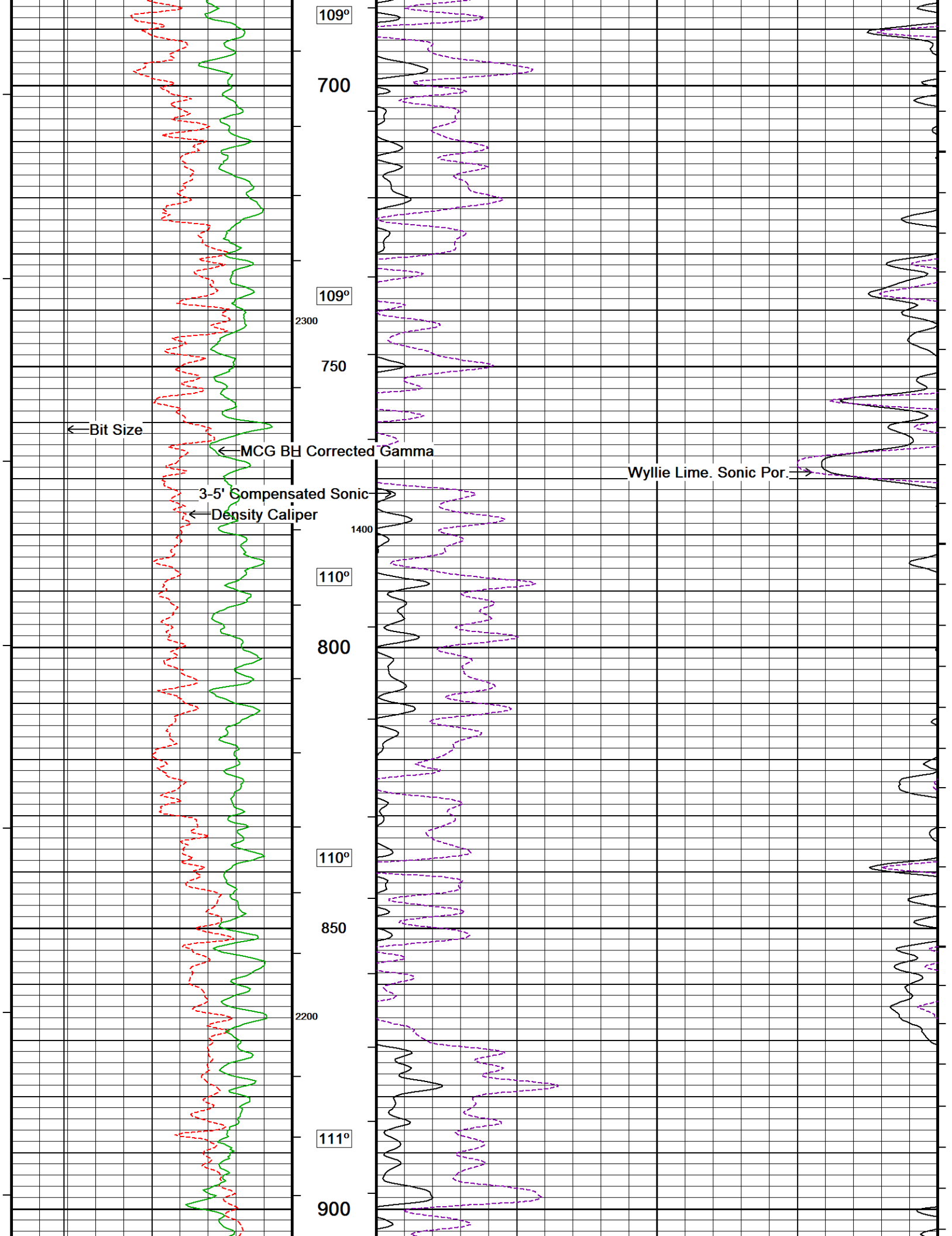
Powered by Weatherford tools, acquisition systems, and software

5 INCH MAIN PASS

Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:_LOGS\Trek Resources\Pfaffly #1-12\MainPass.dta
System Versions: Logged with 21.11.3172 Plotted with 21.11.3172

Plotted on 26-MAY-2023 17:25
Recorded on 26-MAY-2023 13:17

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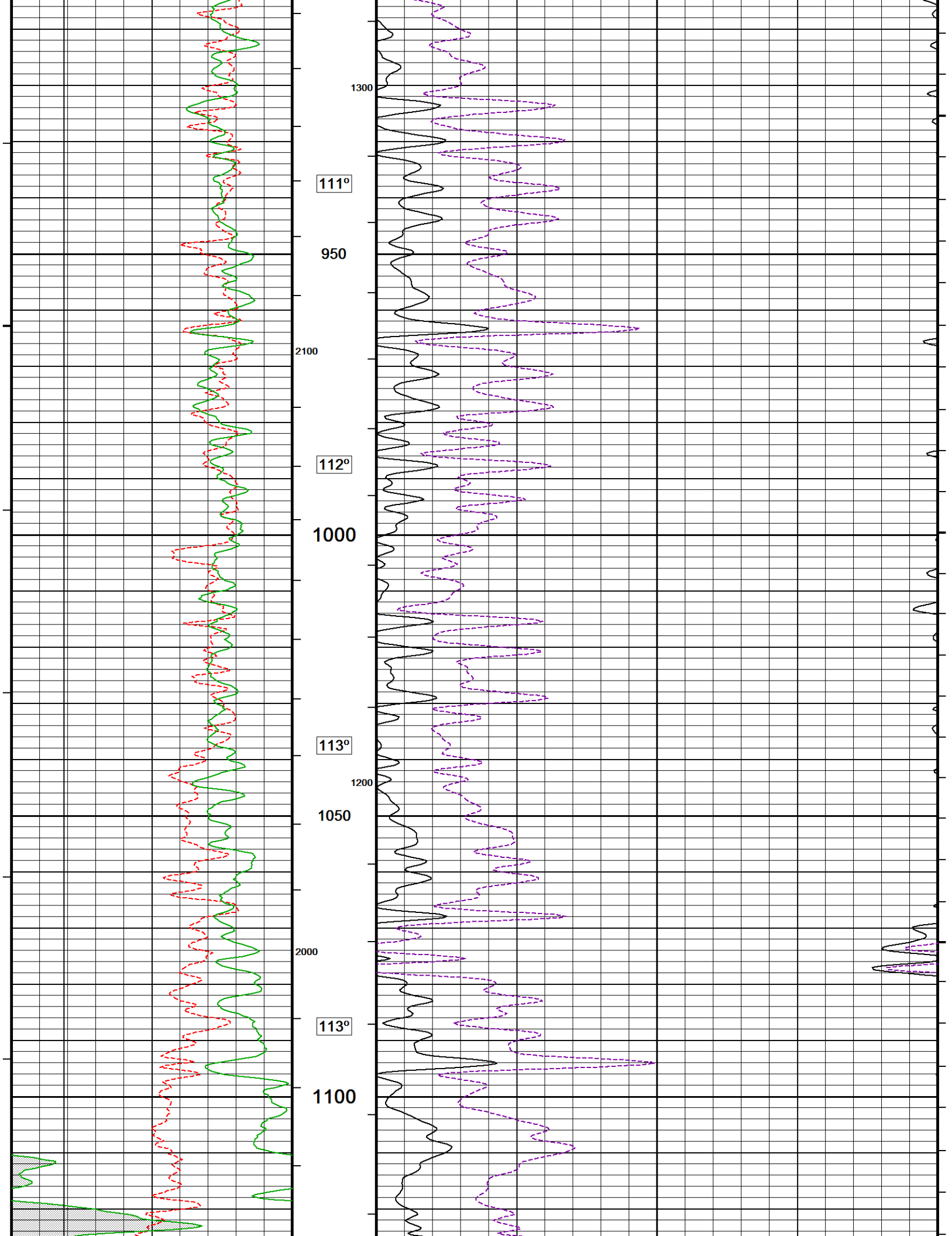
700
109°
2300
750
Bit Size
MCG BH Corrected Gamma
Wyllie Lime. Sonic Por.
3-5' Compensated Sonic
Density Caliper
1400
110°
800
110°
850
2200
111°
900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950
2100
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113º
1200
1050
2000
113º
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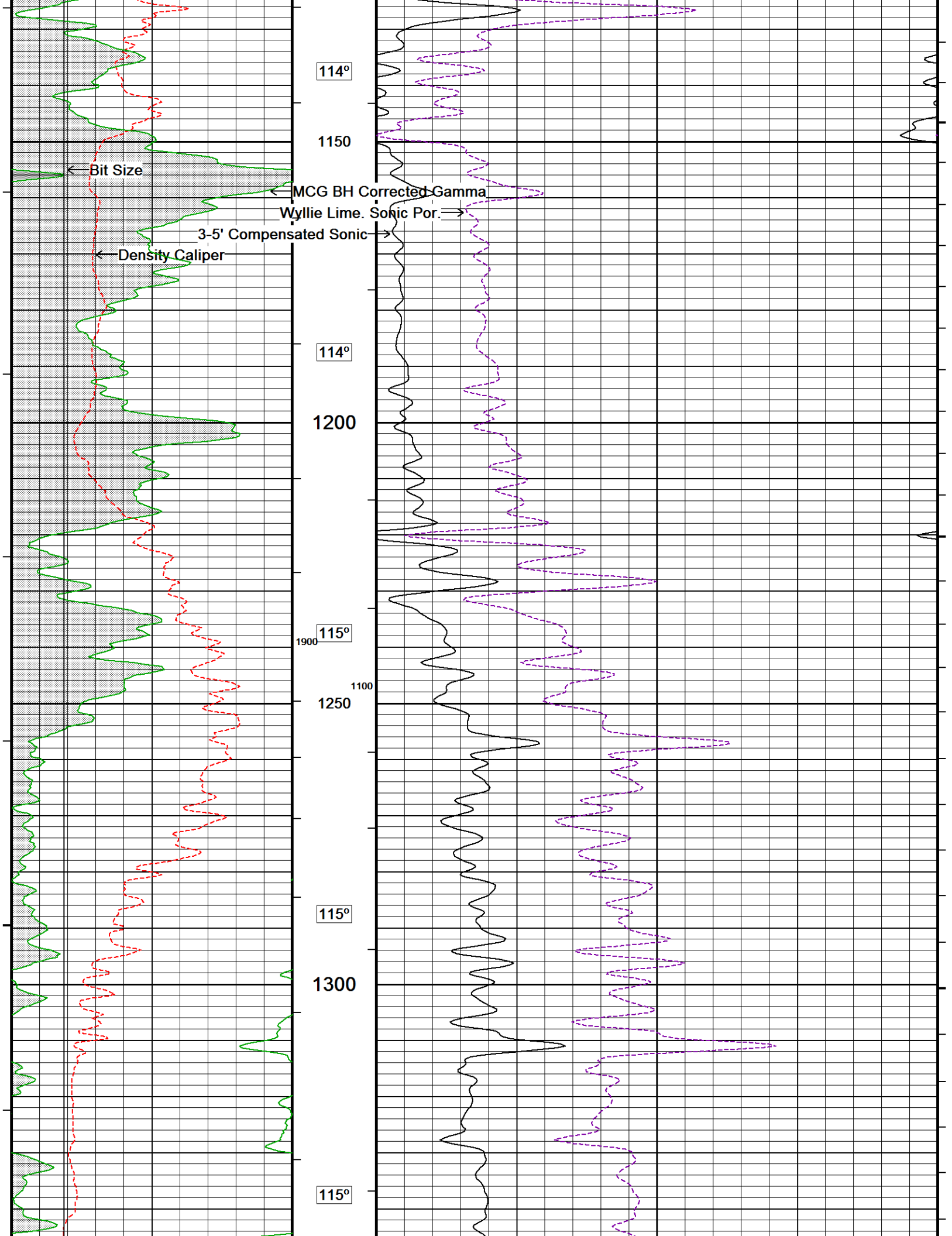
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3-5' Compensated Sonic
Density Caliper
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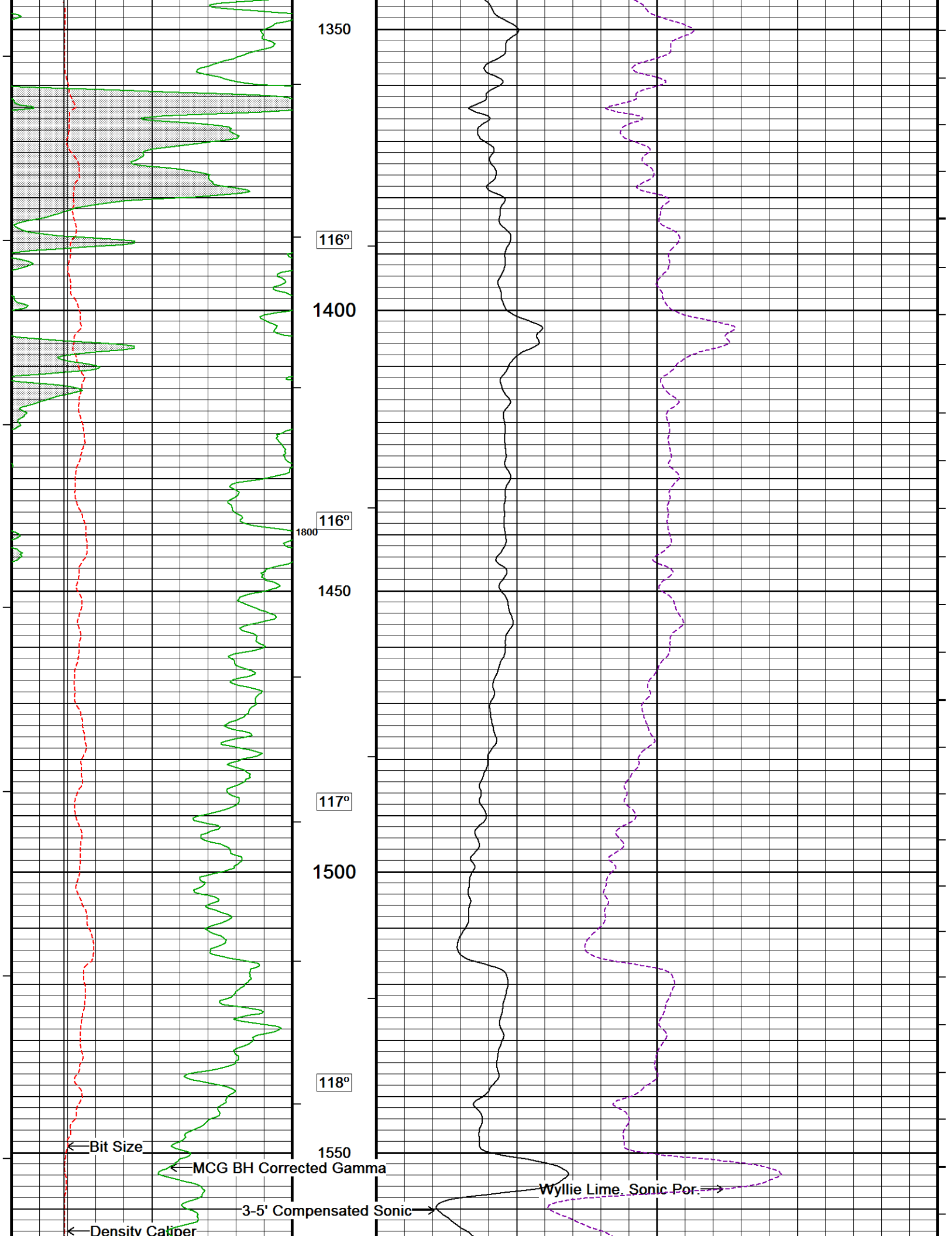
1200
115º
1900
1100
1250
115º
1300
115º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1400
116°
1800
1450
117°
1500
118°
1550
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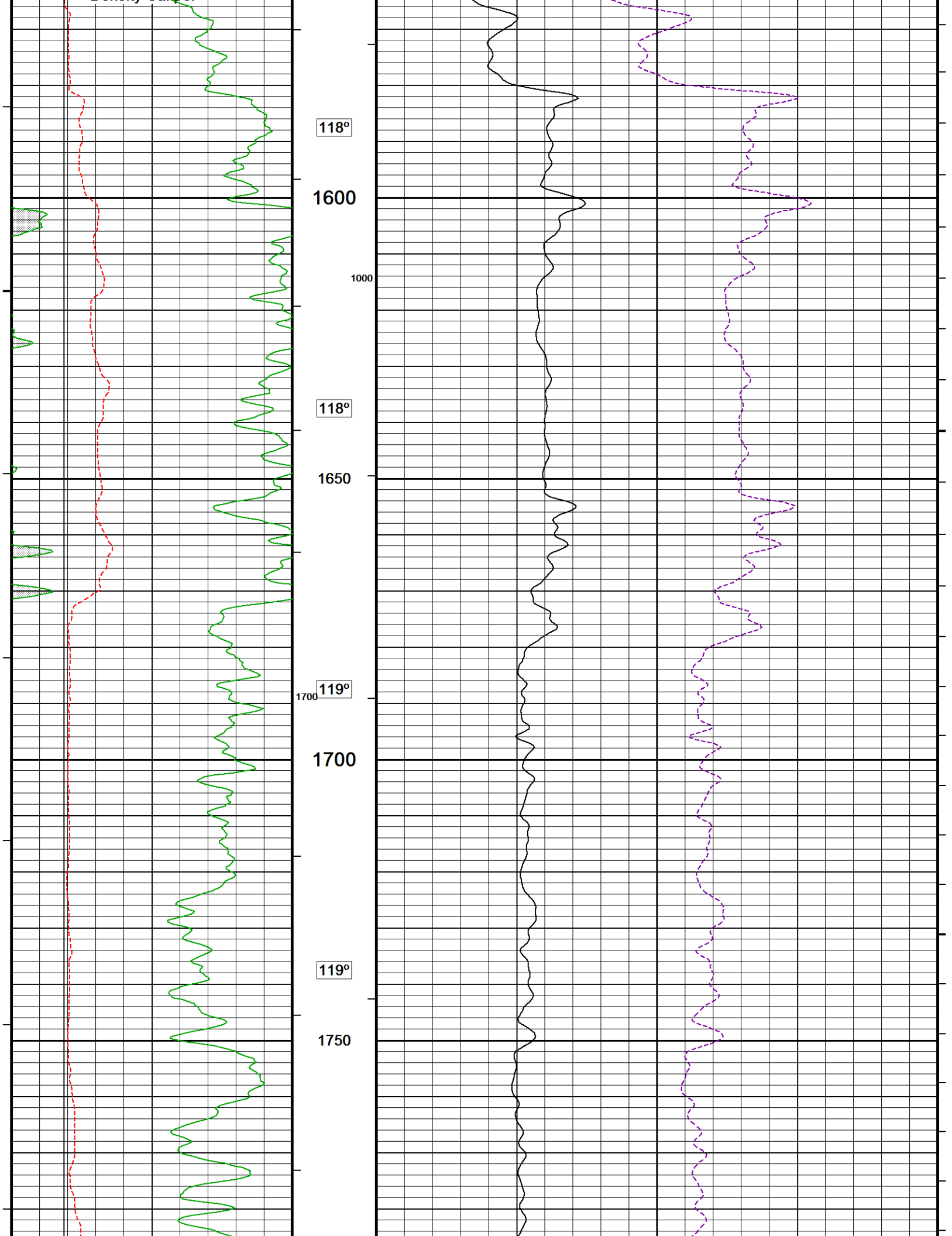
MCG BH Corrected Gamma
Density Caliper
3-5' Compensated Sonic
Wyllie Lime. Sonic Por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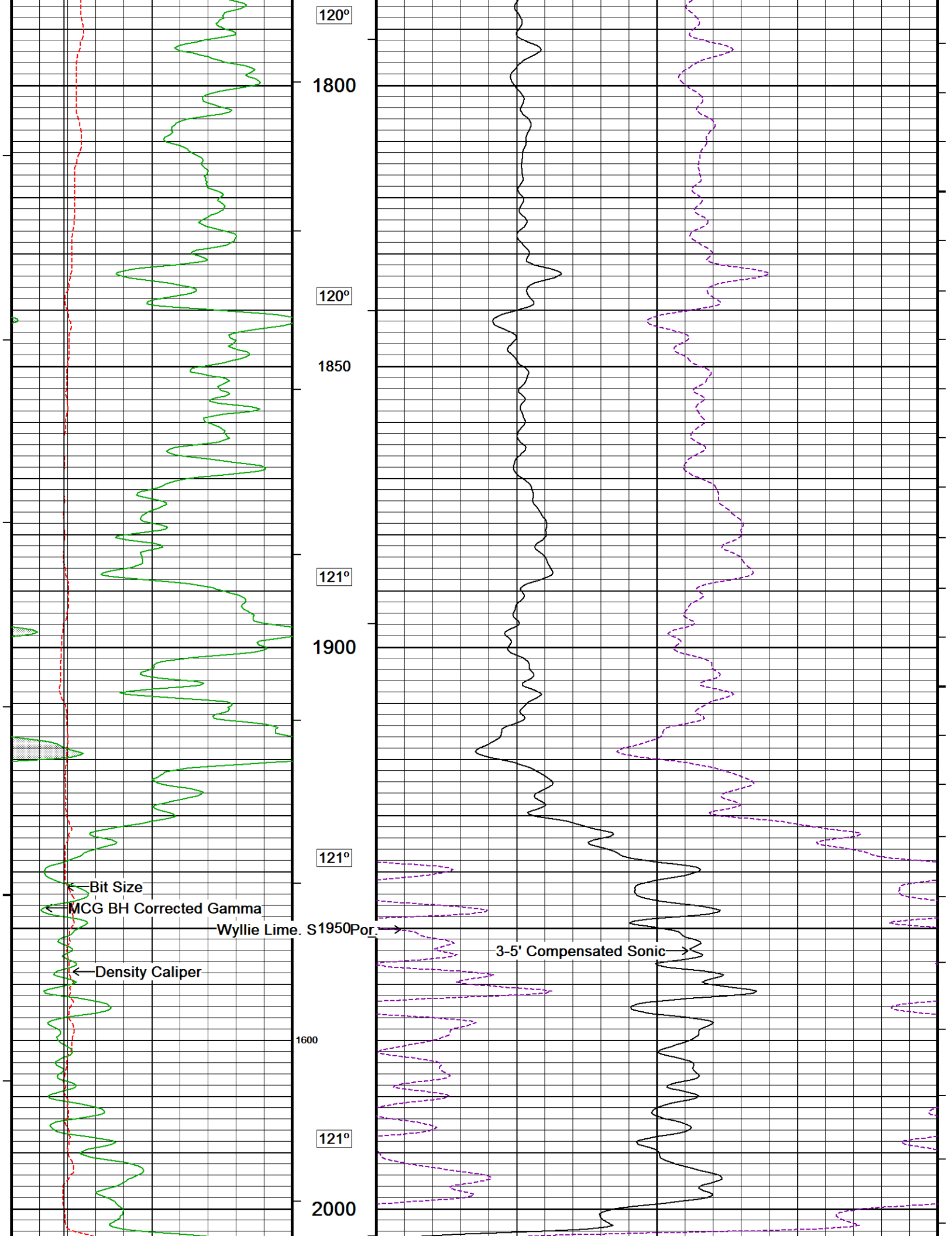
1000
118º
1650
119º
1700
1700
119º
1750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1800
120º
1850
121º
1900
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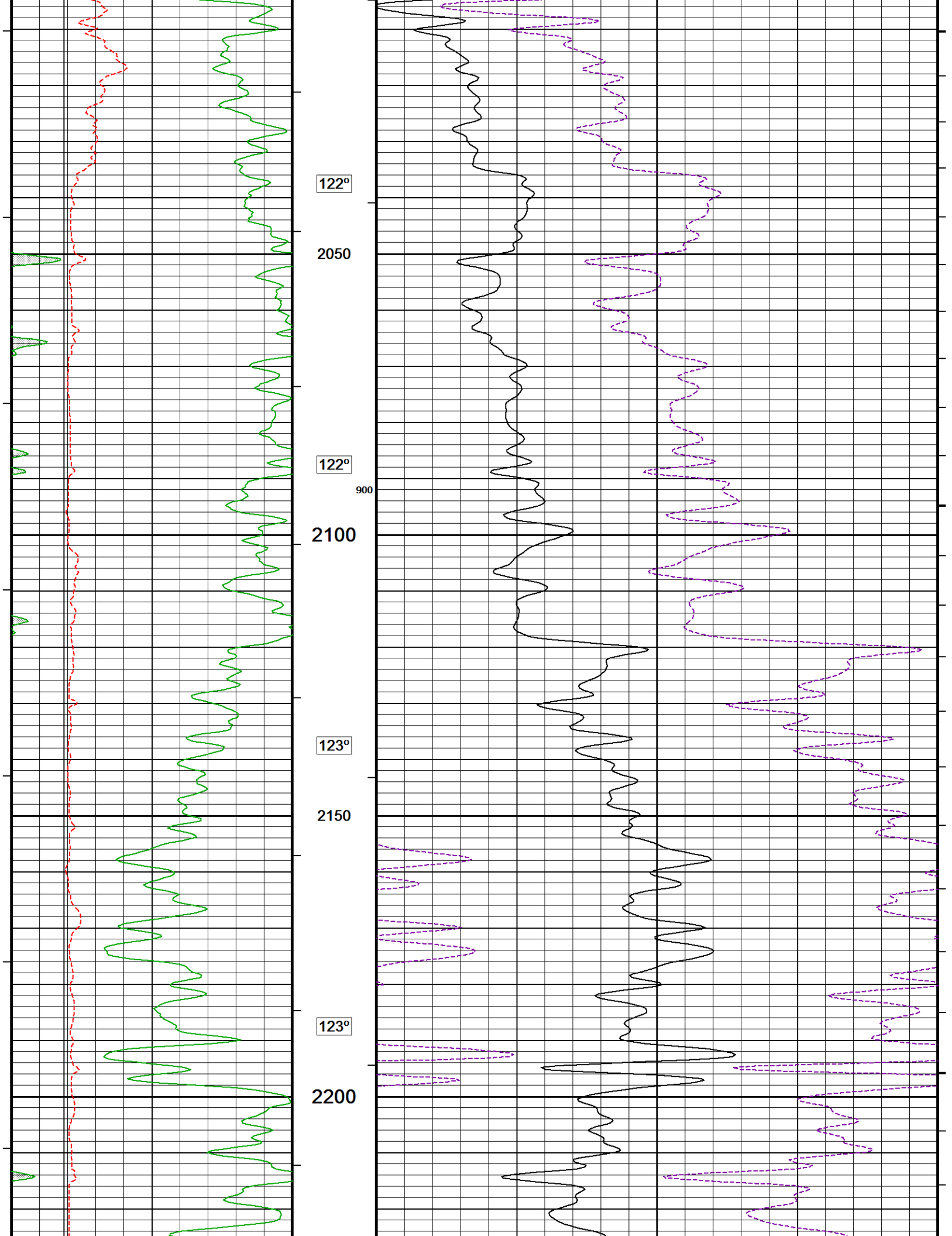
3-5' Compensated Sonic
Density Caliper
1600
121º
2000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900
2100
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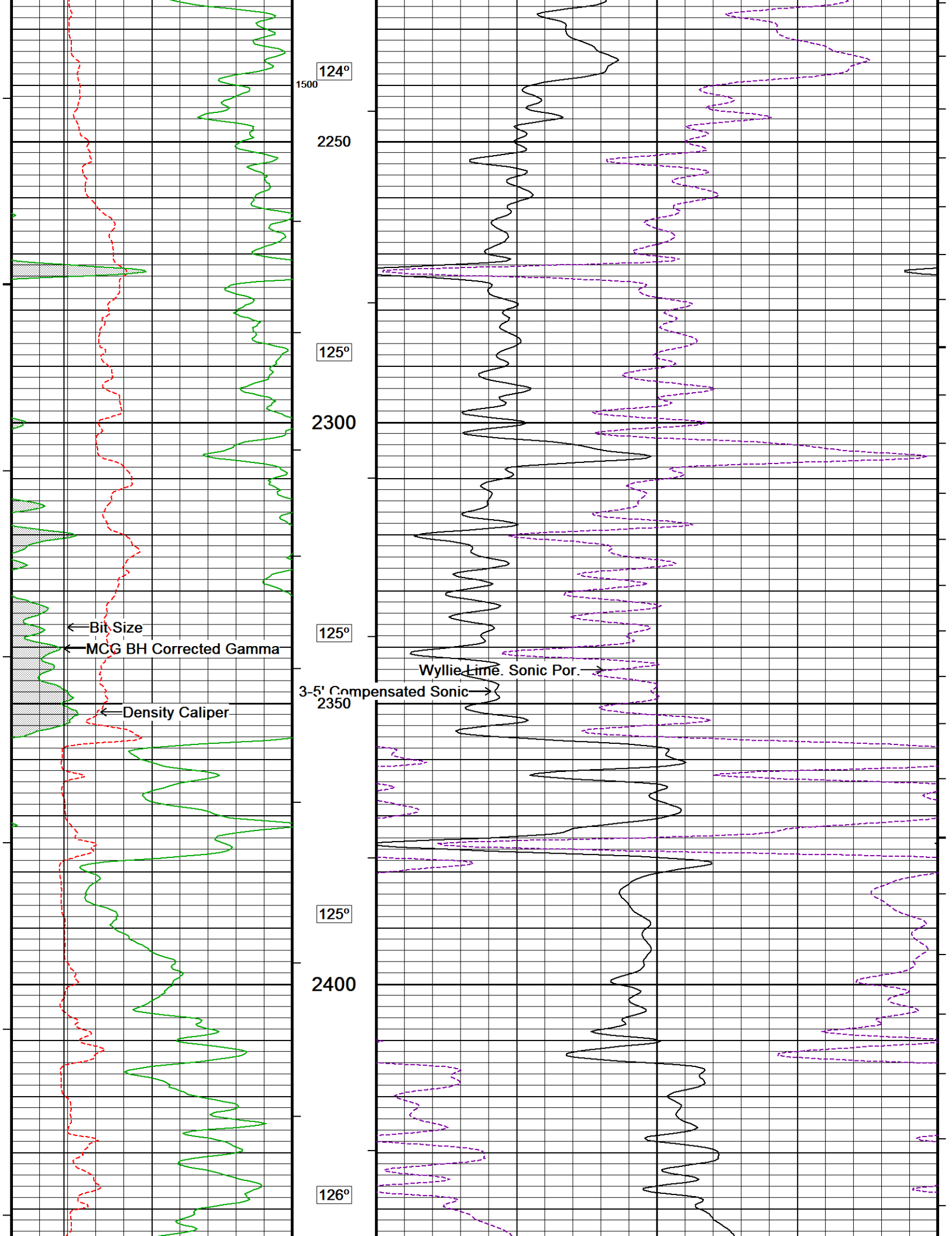
2150
123º
2200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1500
2250
125º
2300
125º
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3-5' Compensated Sonic
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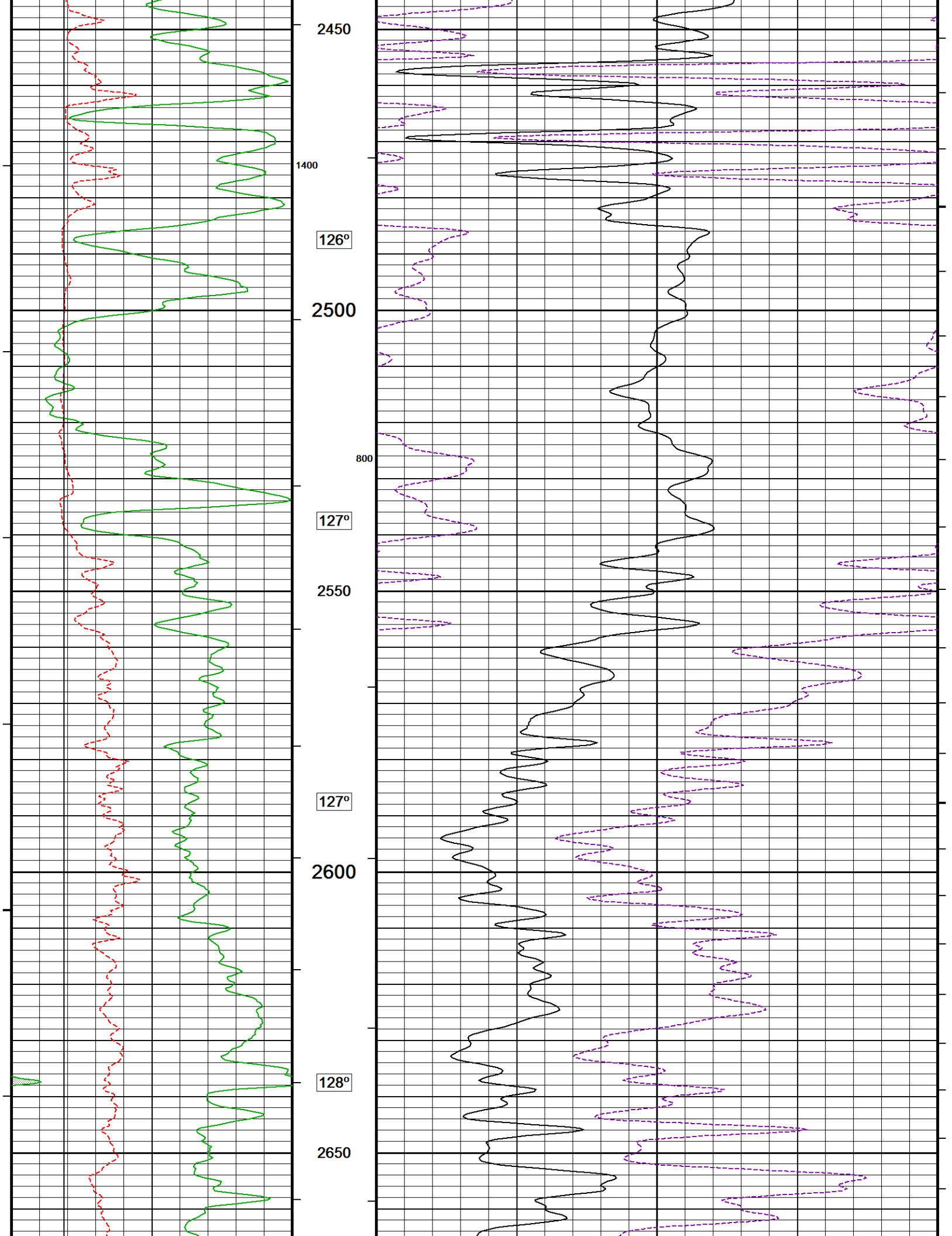
Density Caliper
125º
2400
126º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2500
800
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128°
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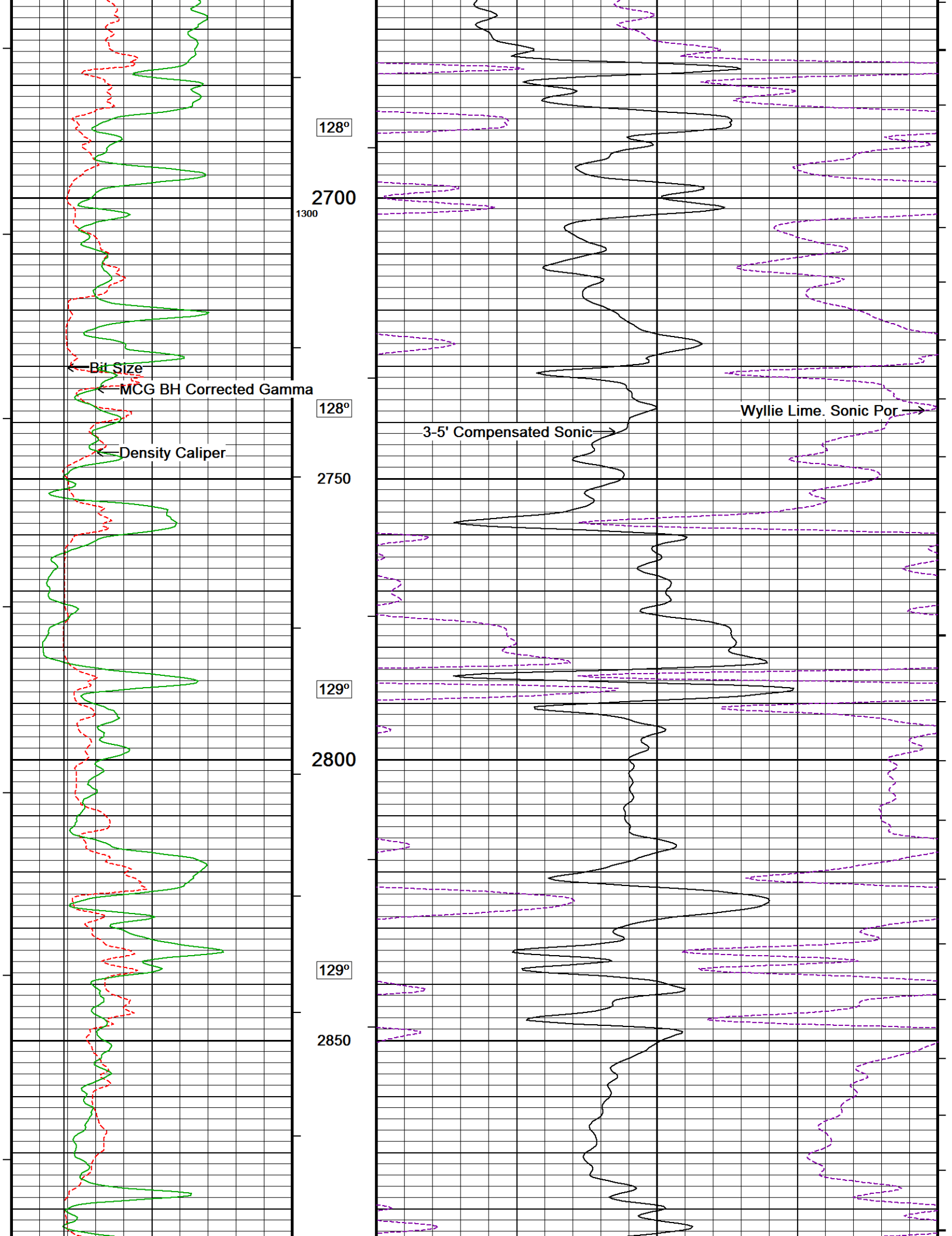
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2700
1300
Bit Size
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128°
Wyllie Lime. Sonic Por
3-5' Compensated Sonic
Density Caliper
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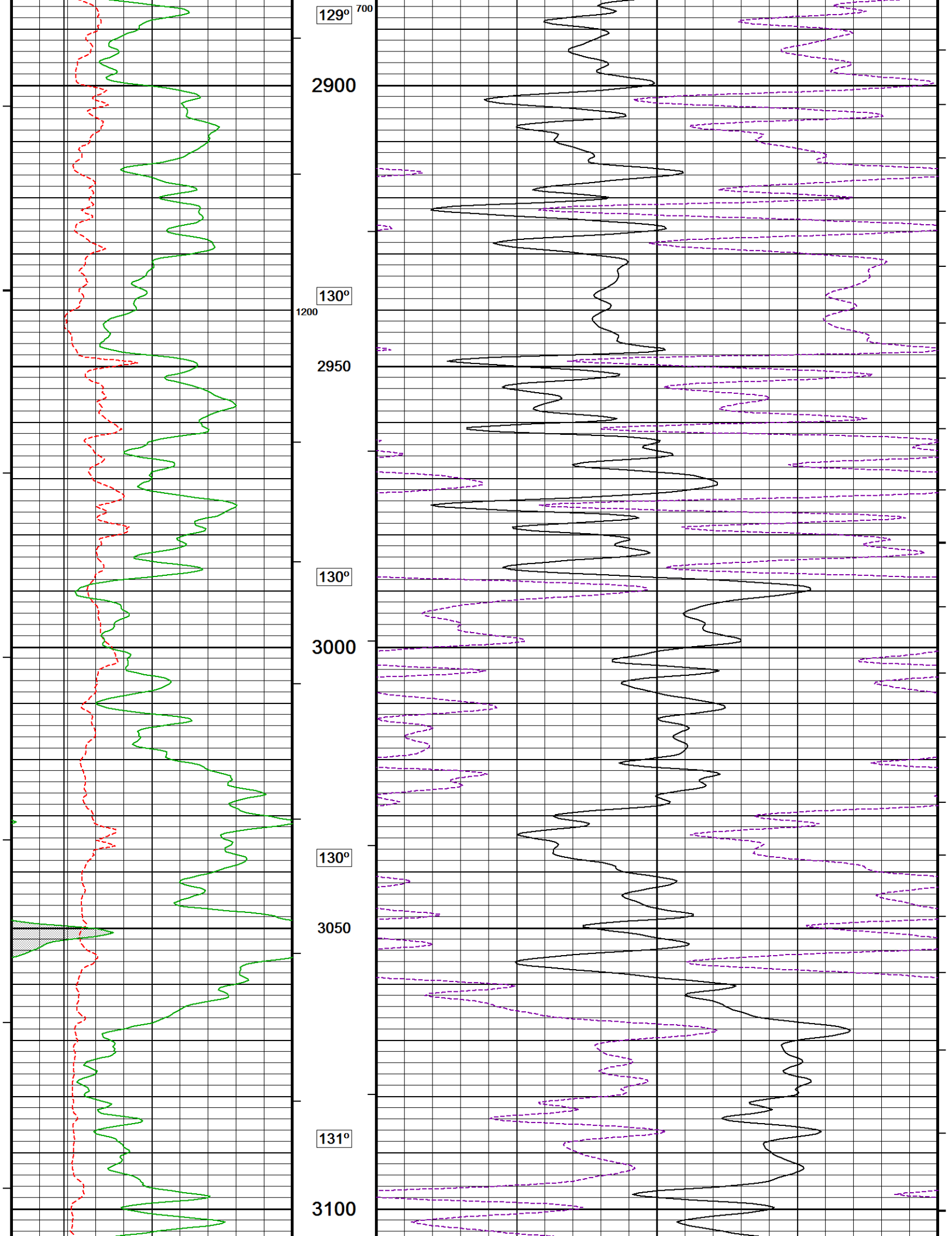
2800
129°
2850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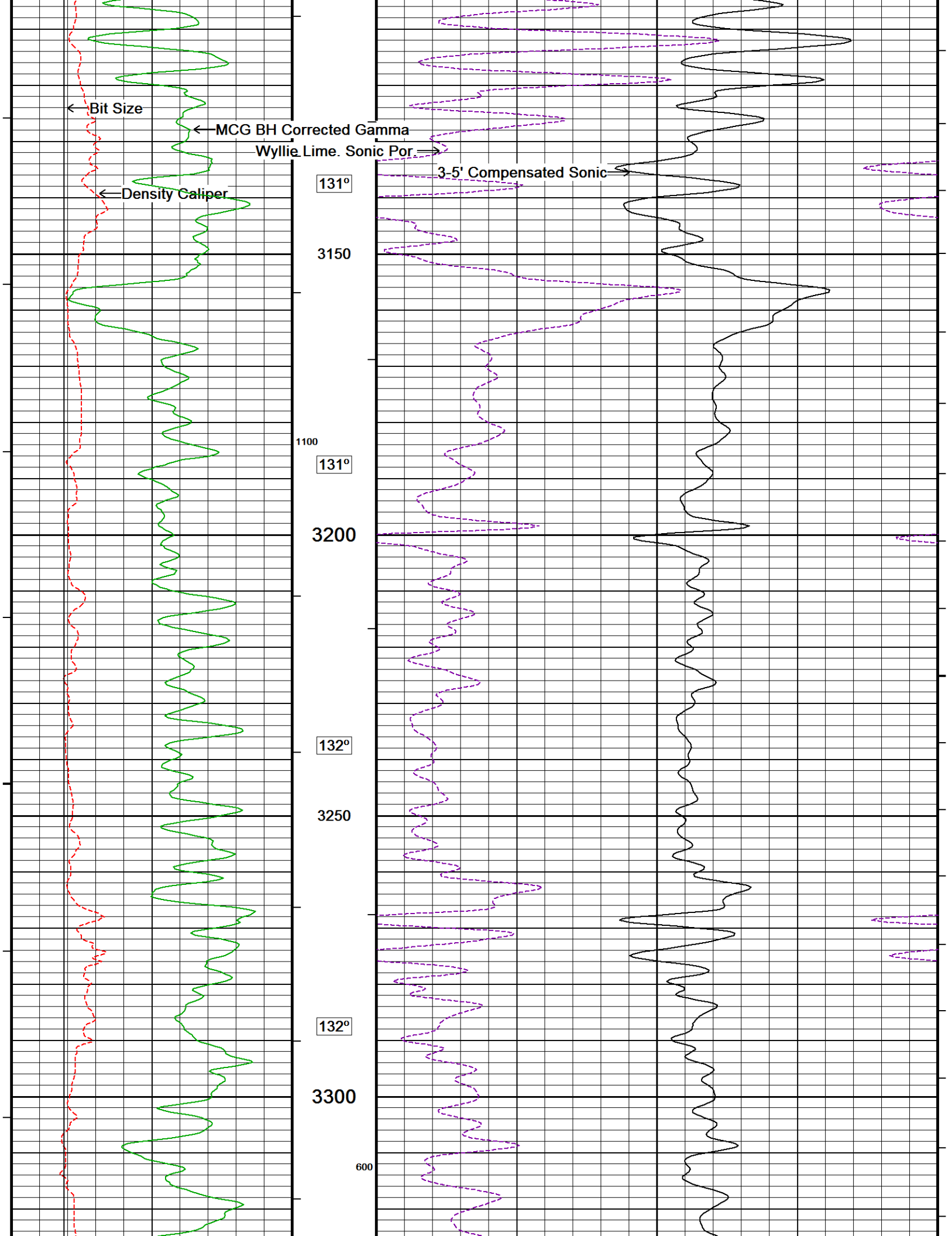
130º
1200
2950
130º
3000
130º
3050
131º
3100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Wyllie Lime. Sonic Por.
3-5' Compensated Sonic
Density Caliper
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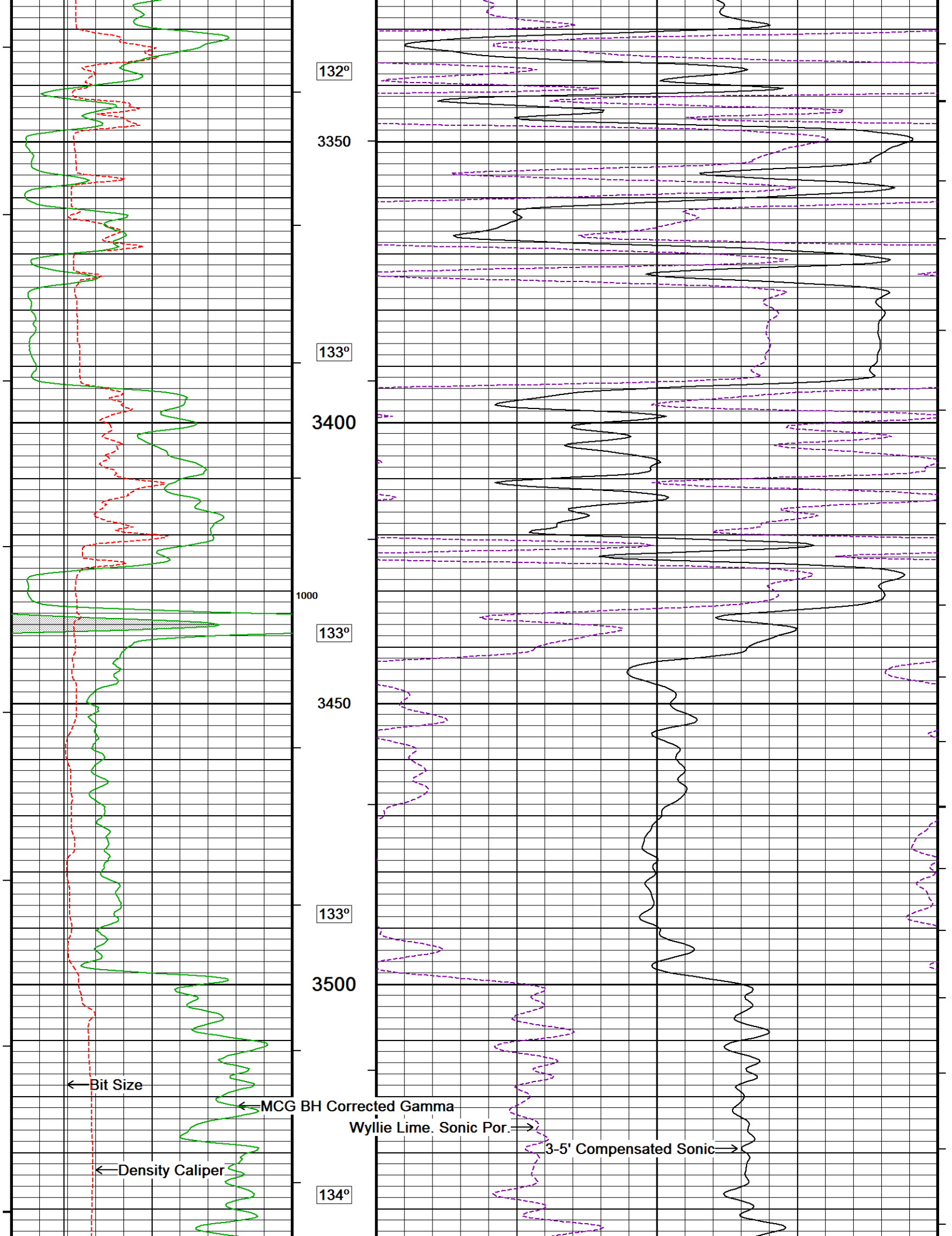
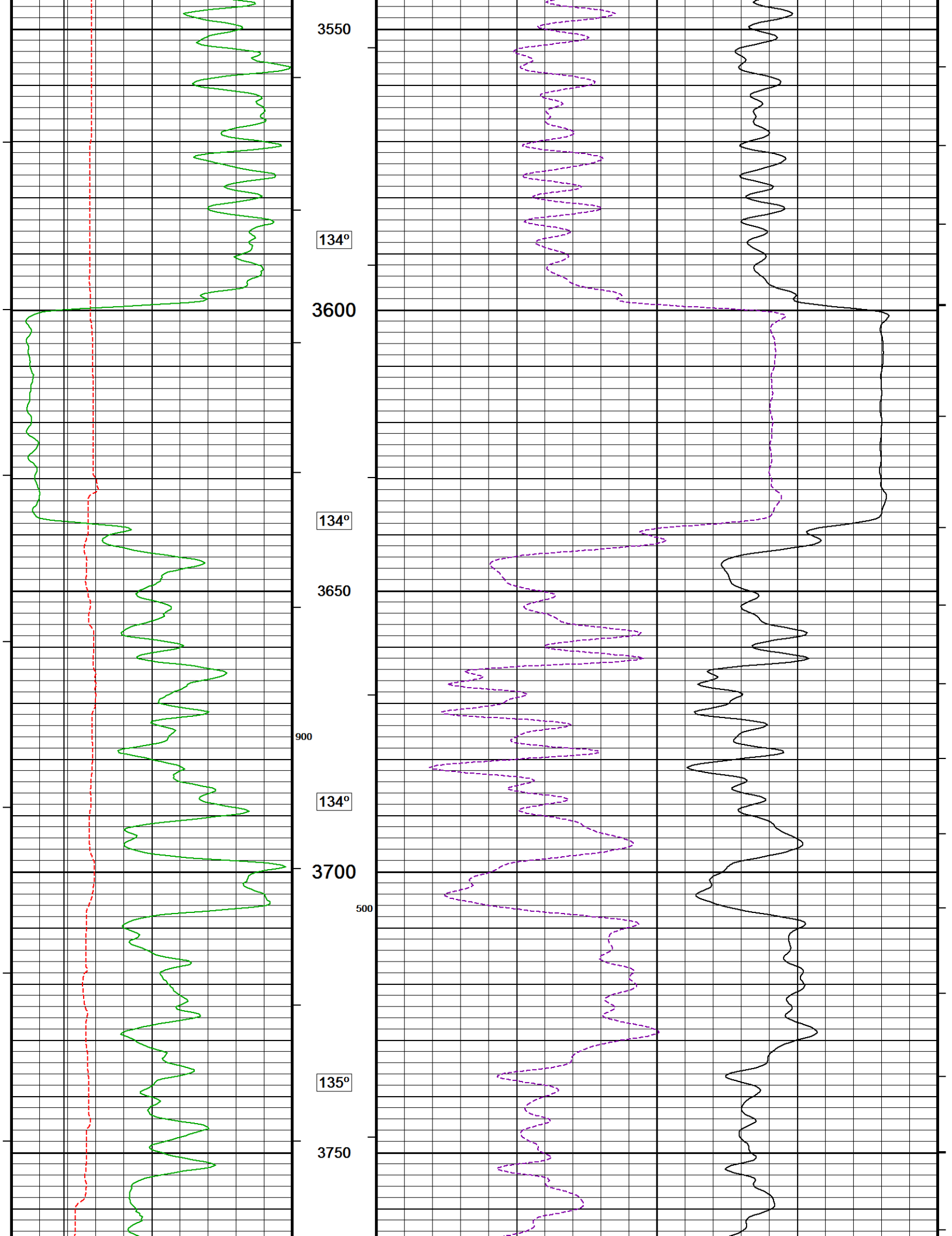
132°
3300
600


132°
3350
133°
3400
1000
133°
3450
133°
3500
134°
Bit Size
MCG BH Corrected Gamma
Wyllie Lime. Sonic Por.
3-5' Compensated Sonic
Density Caliper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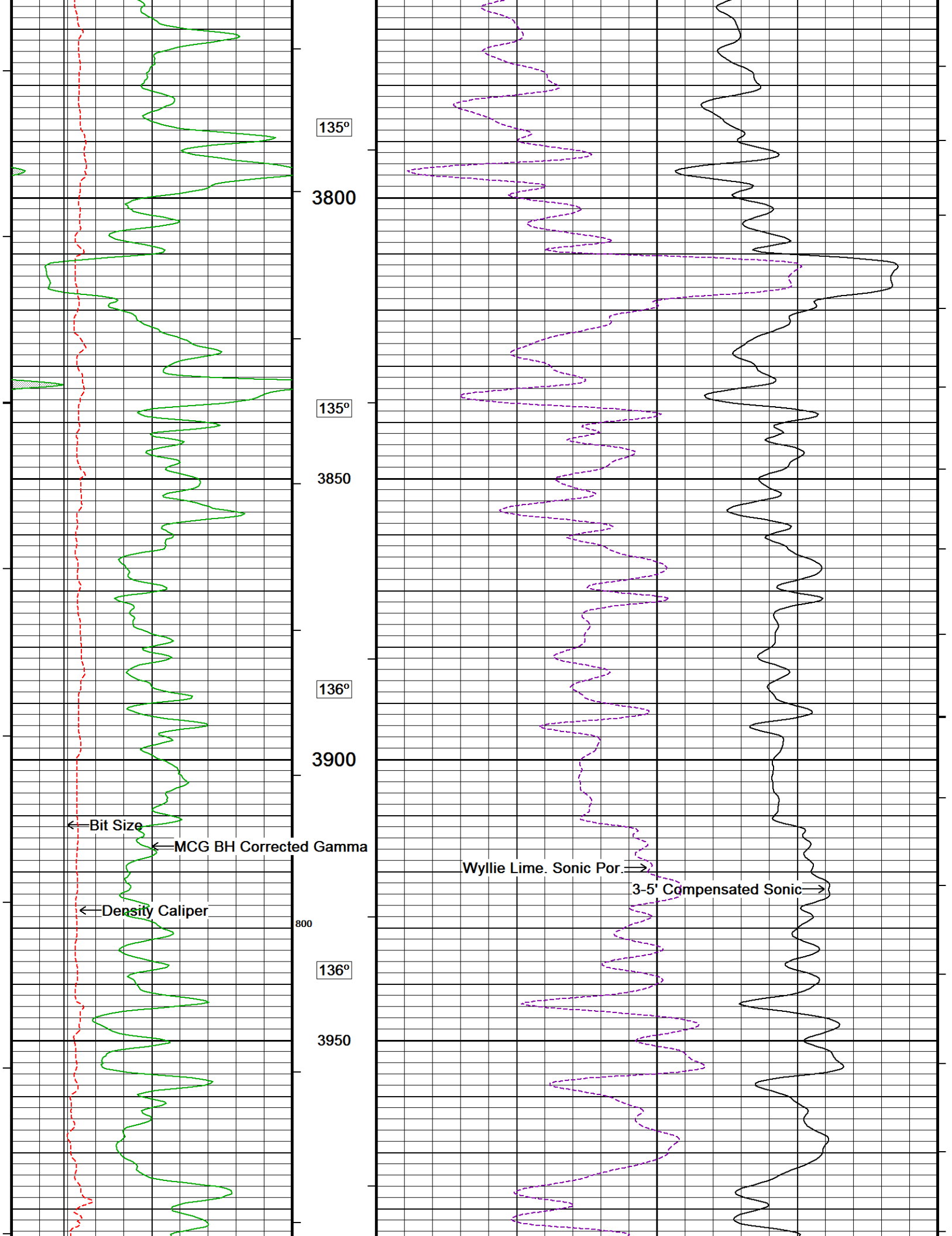
3600
134°
3650
900
134°
3700
500
135°
3750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3800
135°
3850
136°
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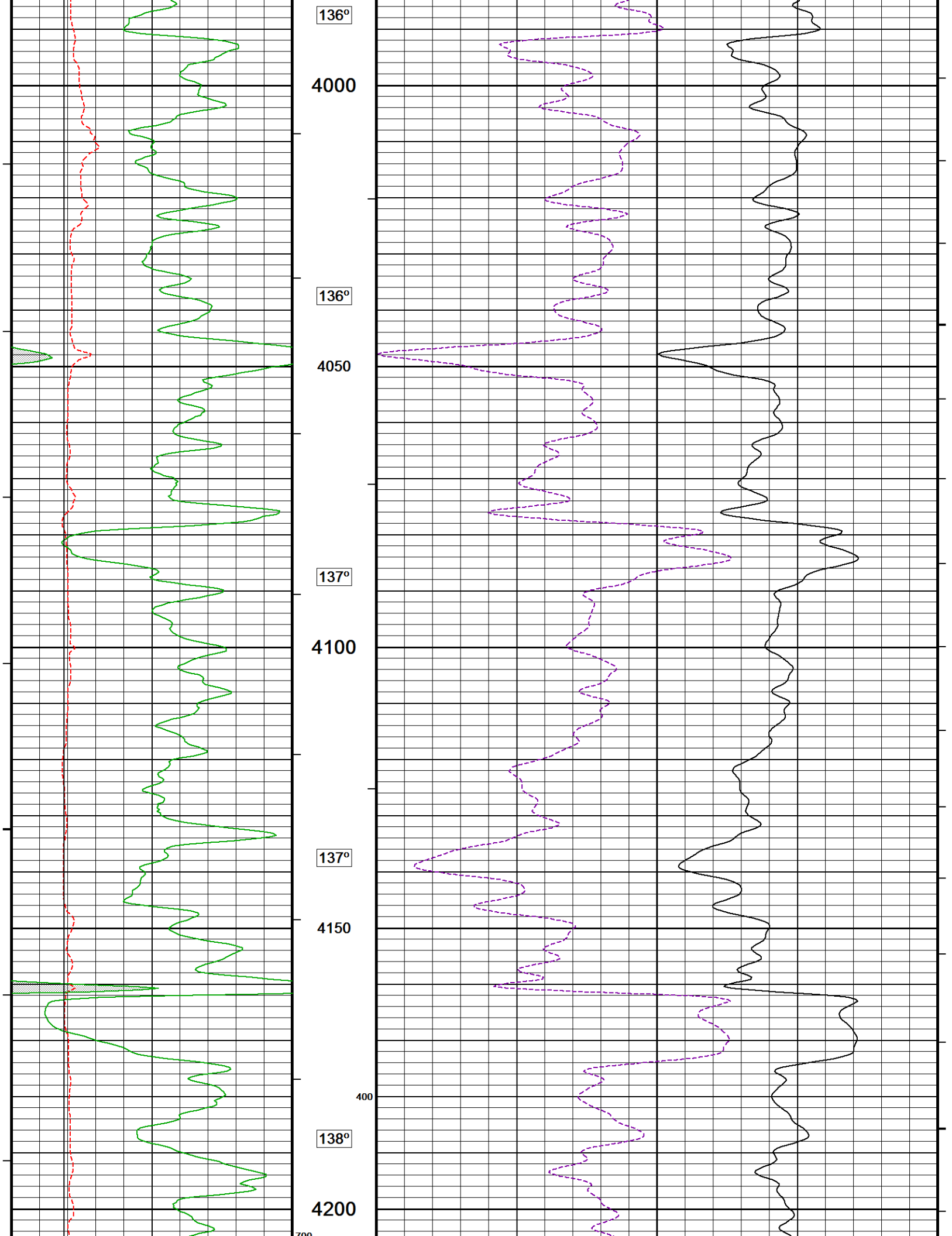
Bit Size
MCG BH Corrected Gamma
Wyllie Lime. Sonic Por.
3-5' Compensated Sonic
Density Caliper
800
136°
3950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136º
4050
137º
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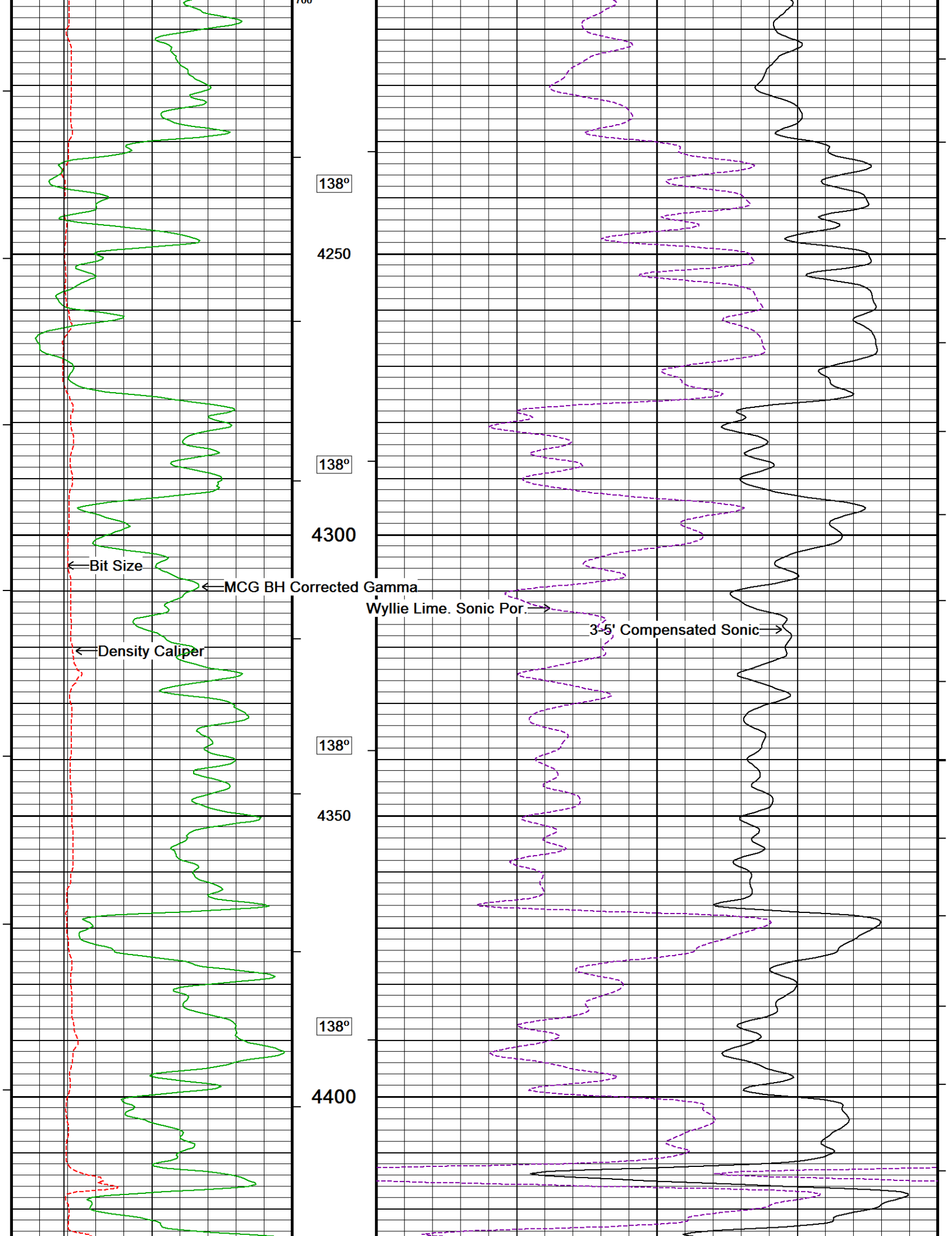
137º
4150
400
138º
4200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3-5' Compensated Sonic
Density Caliper
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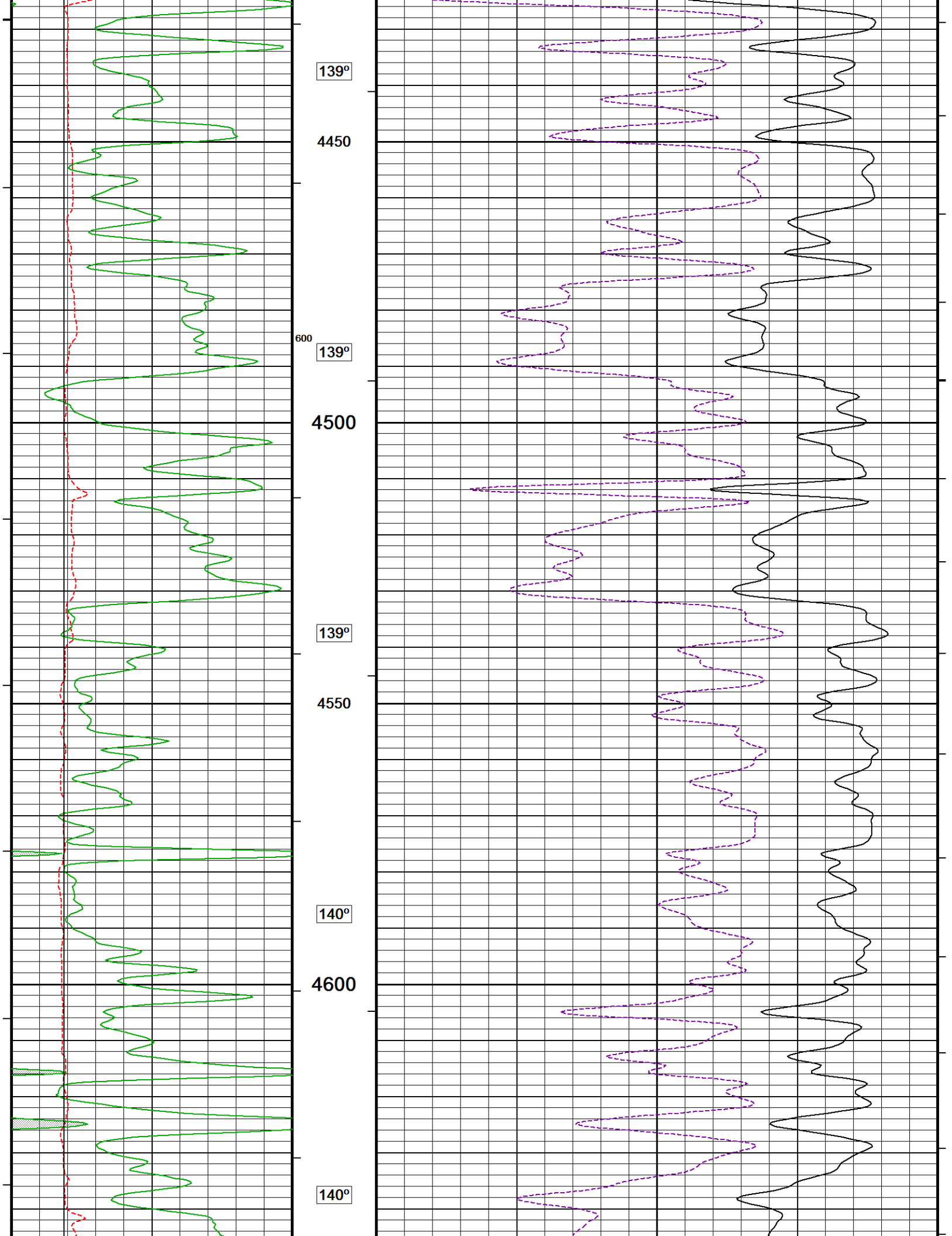
4350
138º
4400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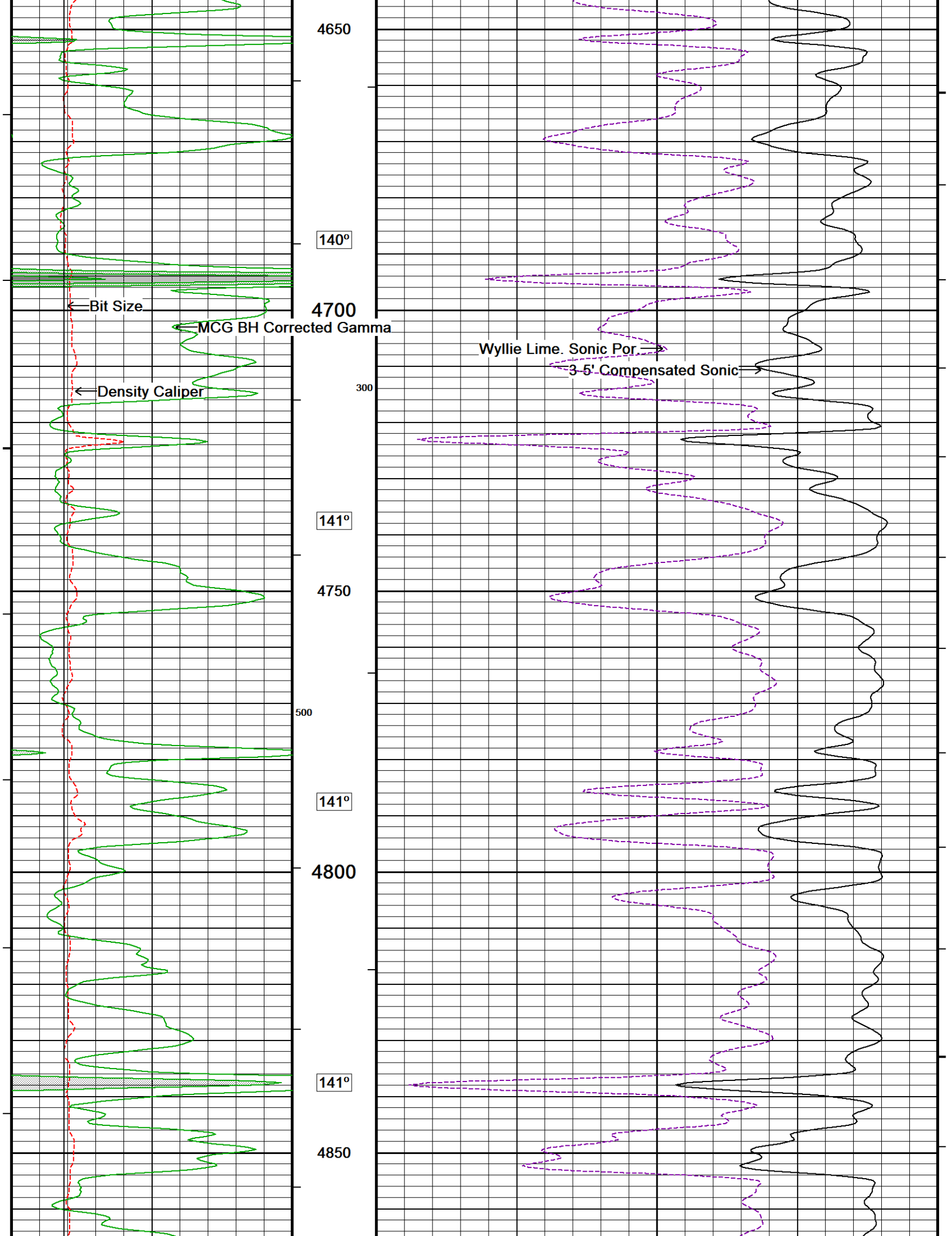
600
139º
4500
139º
4550
140º
4600
140º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140°
Bit Size
4700
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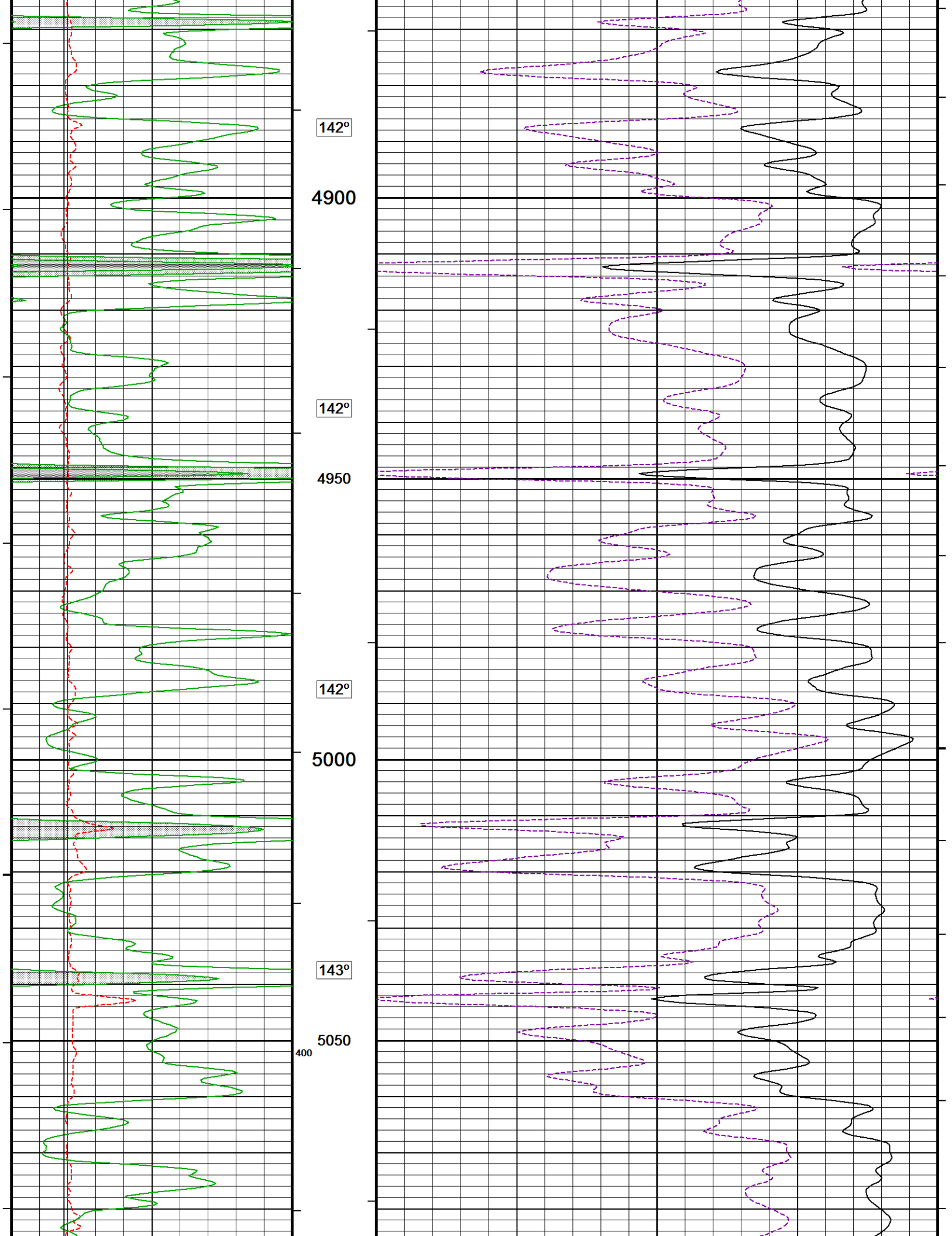
Wyllie Lime. Sonic Por
3-5' Compensated Sonic
300
Density Caliper
141°
4750
500
141°
4800
141°
4850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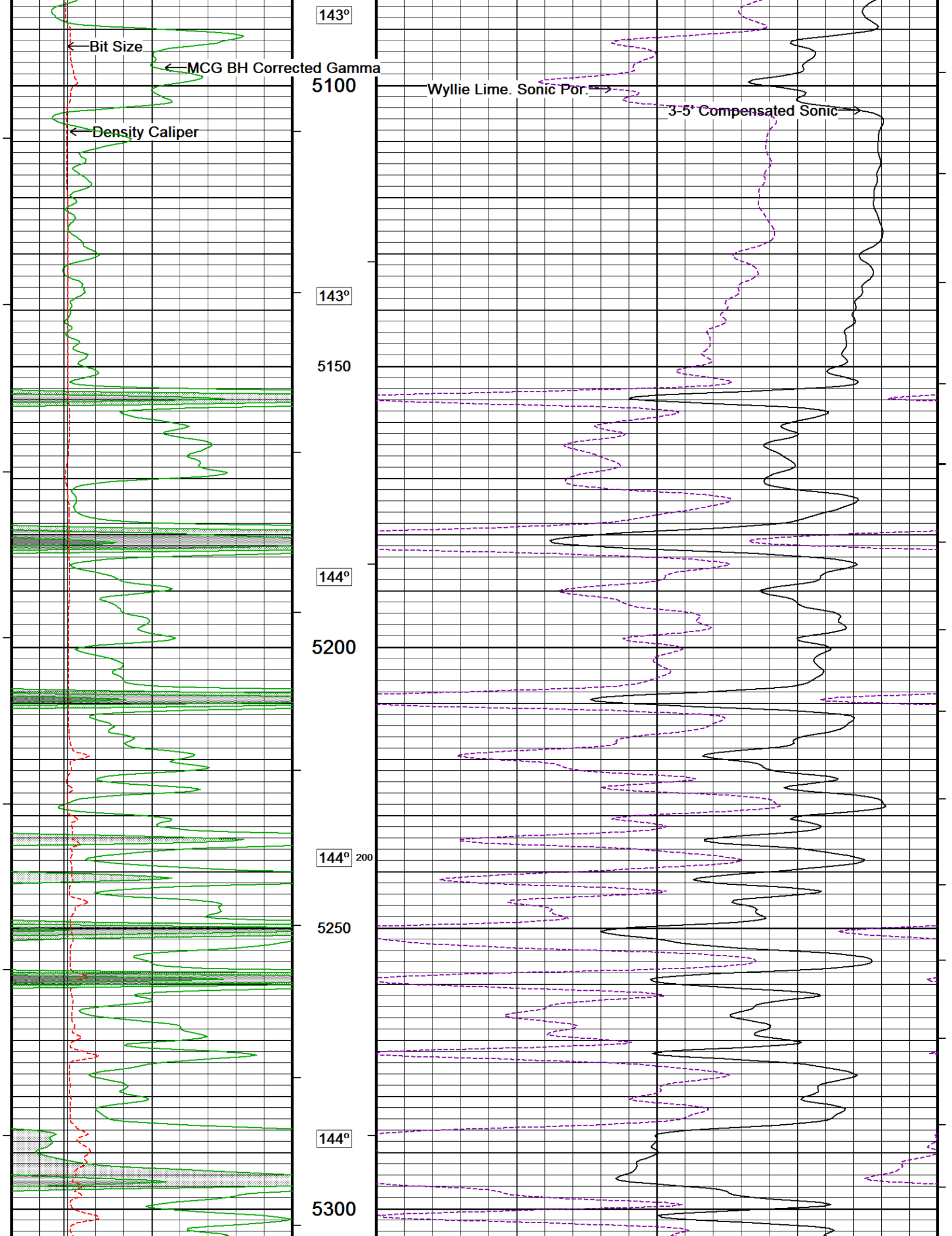
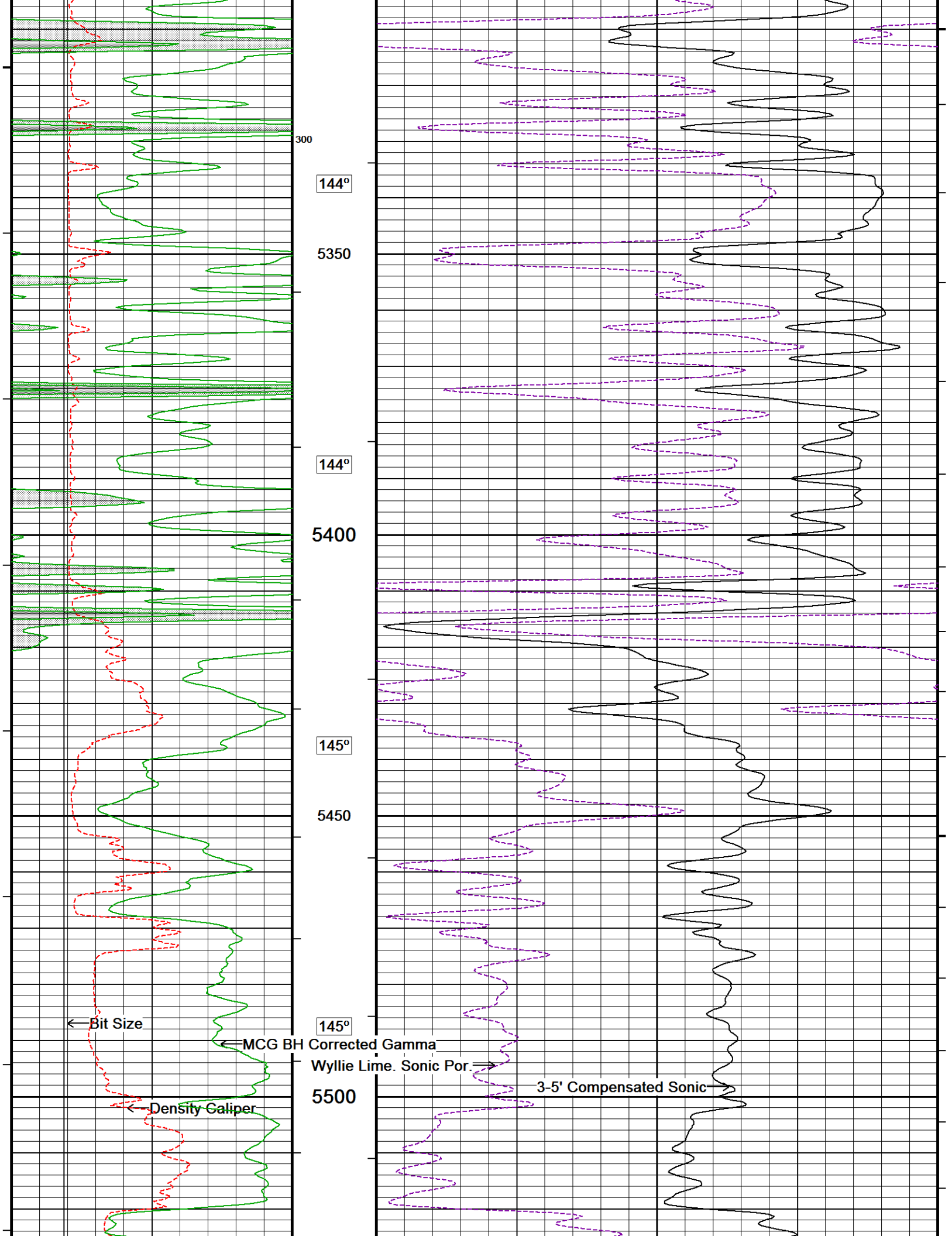
142°
4950
142°
5000
143°
5050
400


143°
Bit Size
MCG BH Corrected Gamma
5100
Wyllie Lime. Sonic Por.
3-5' Compensated Sonic
Density Caliper
143°
5150
144°
5200
144°
200
5250
144°
5300


300
144°
5350
144°
5400
145°
5450
145°
5500
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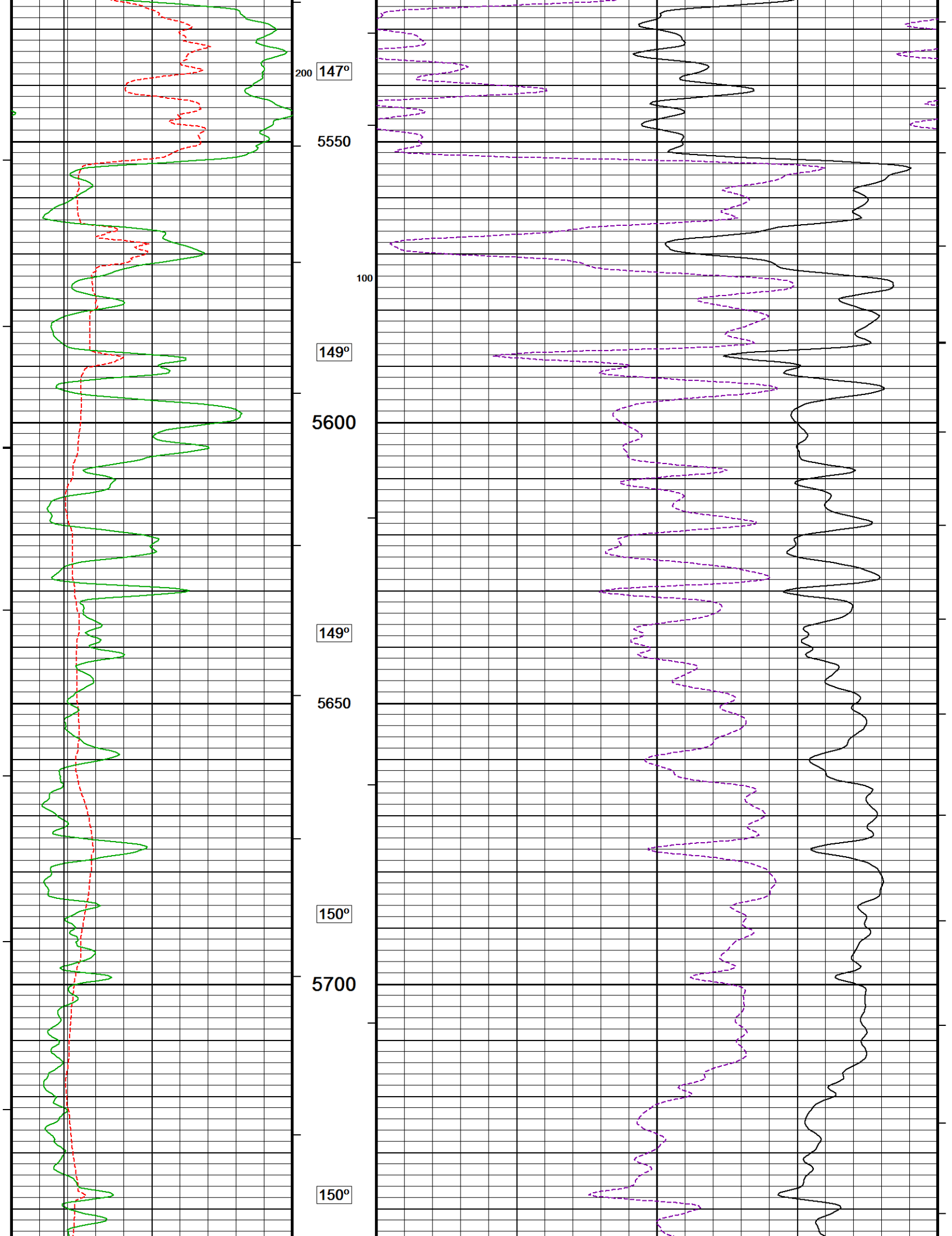
3-5' Compensated Sonic
Density Caliper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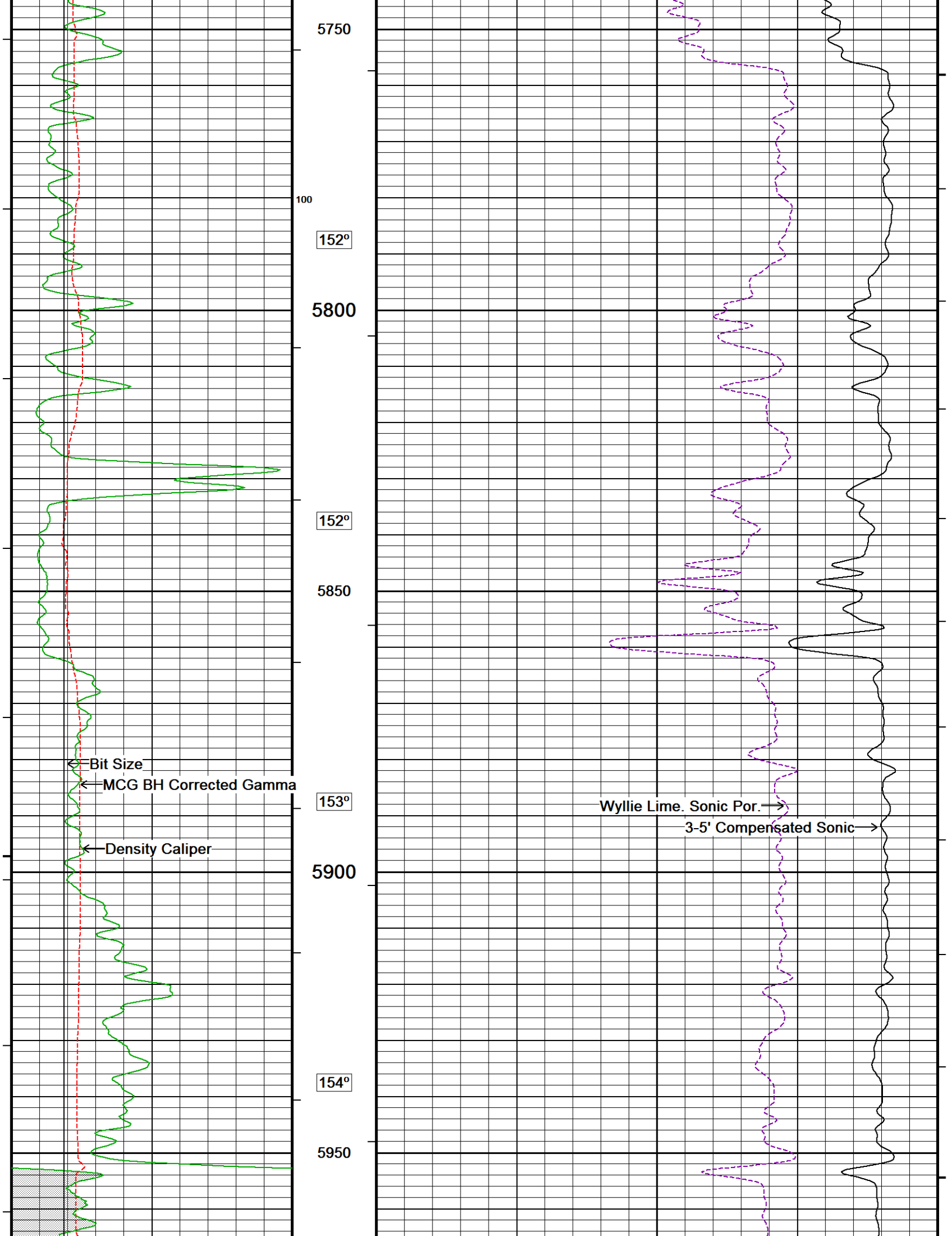
5550
100
149º
5600
149º
5650
150º
5700
150º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100
152°
5800
152°
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Bit Size
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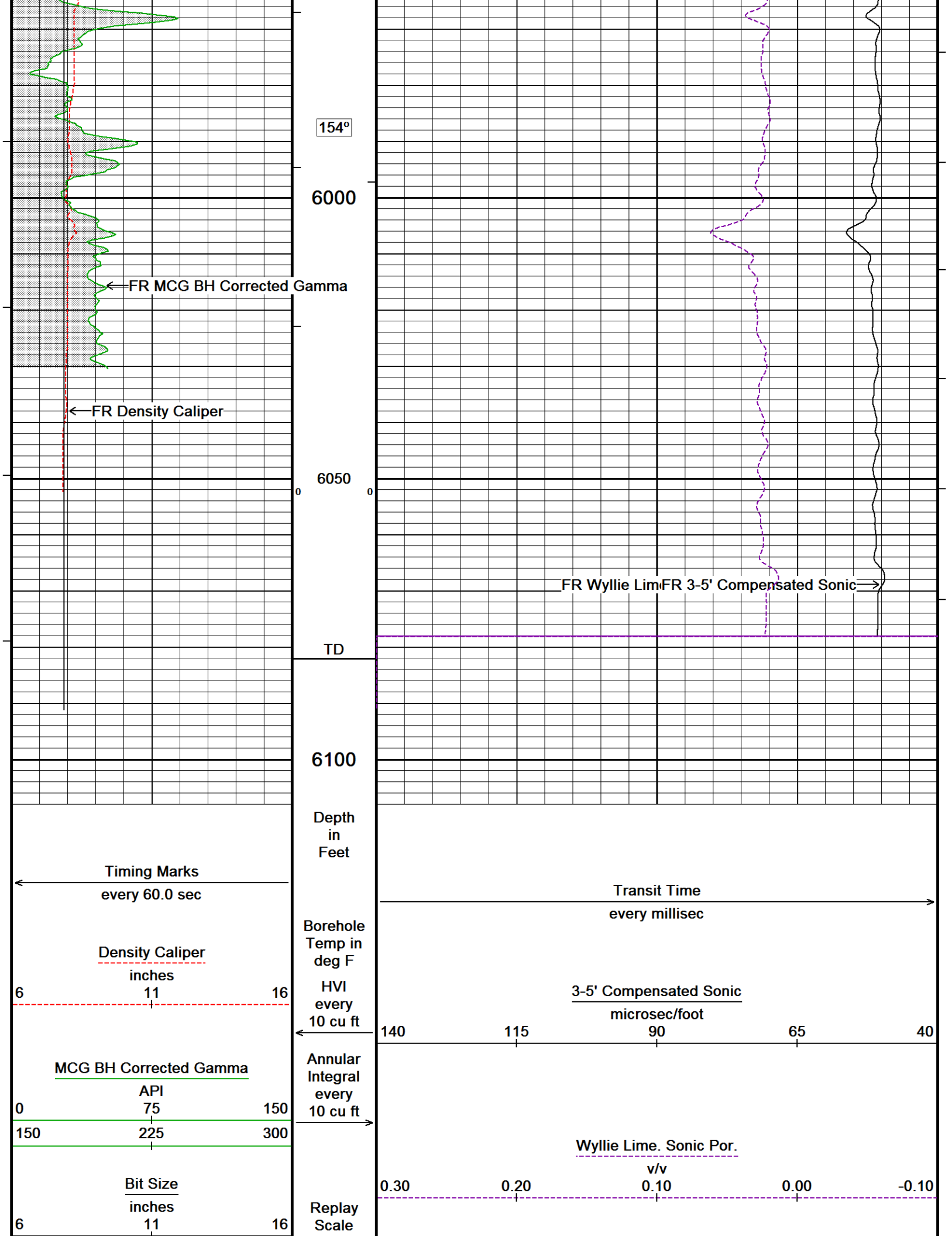
153°
Density Caliper
5900
154°
5950
Wyllie Lime. Sonic Por.
3-5' Compensated Sonic


154°
6000
FR MCG BH Corrected Gamma
FR Density Caliper
6050
0
0
FR Wyllie Lim
FR 3-5' Compensated Sonic
TD
6100
Depth in Feet
Timing Marks
every 60.0 sec
Transit Time
every millisec
Borehole Temp in deg F
Density Caliper
inches
6
11
16
HVI every 10 cu ft
3-5' Compensated Sonic
microsec/foot
140
115
90
65
40
MCG BH Corrected Gamma
API
0
75
150
150
225
300
Annular Integral every 10 cu ft
Wyllie Lime. Sonic Por.
v/v
0.30
0.20
0.10
0.00
-0.10
Bit Size
inches
6
11
16
Replay Scale

1:240

Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:_LOGS\Trek Resources\Pfaffly #1-12\MainPass.dta
System Versions: Logged with 21.11.3172 Plotted with 21.11.3172

Plotted on 26-MAY-2023 17:25
Recorded on 26-MAY-2023 13:17

5 INCH MAIN PASS

5 INCH REPEAT PASS

Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:_LOGS\Trek Resources\Pfaffly #1-12\Repeat_Reprocessed.dta
System Versions: Logged with 20.11.3980 Processed with 21.11.3172 Plotted with 21.11.3172

Plotted on 26-MAY-2023 17:25
Recorded on 26-MAY-2023 12:08

Depth in Feet

Timing Marks
every 60.0 sec

Transit Time
every millisec

Borehole Temp in deg F

Density Caliper
inches
6 11 16

HVI every 10 cu ft

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

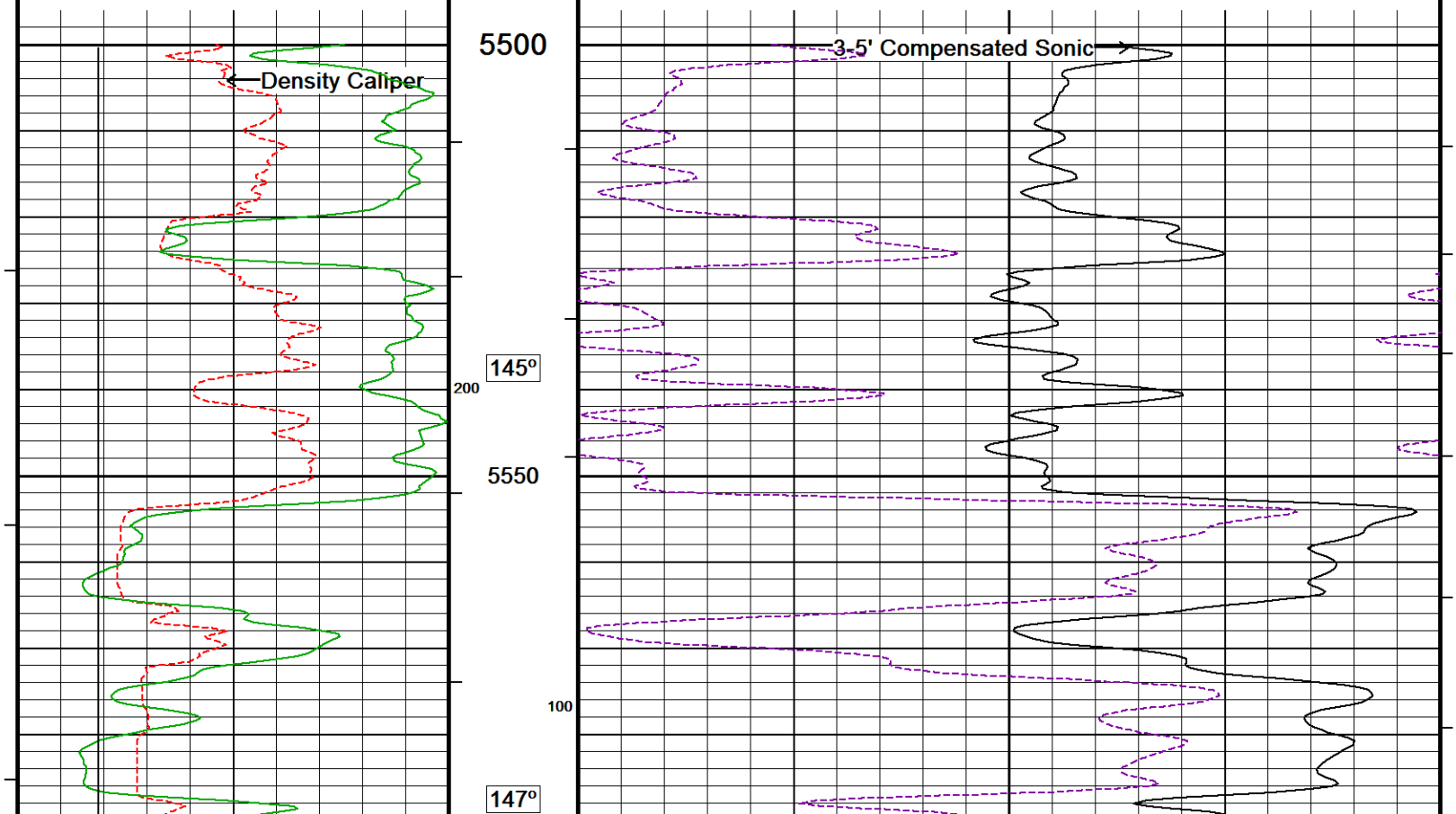
MCG BH Corrected Gamma
API
0 75 150
150 225 300

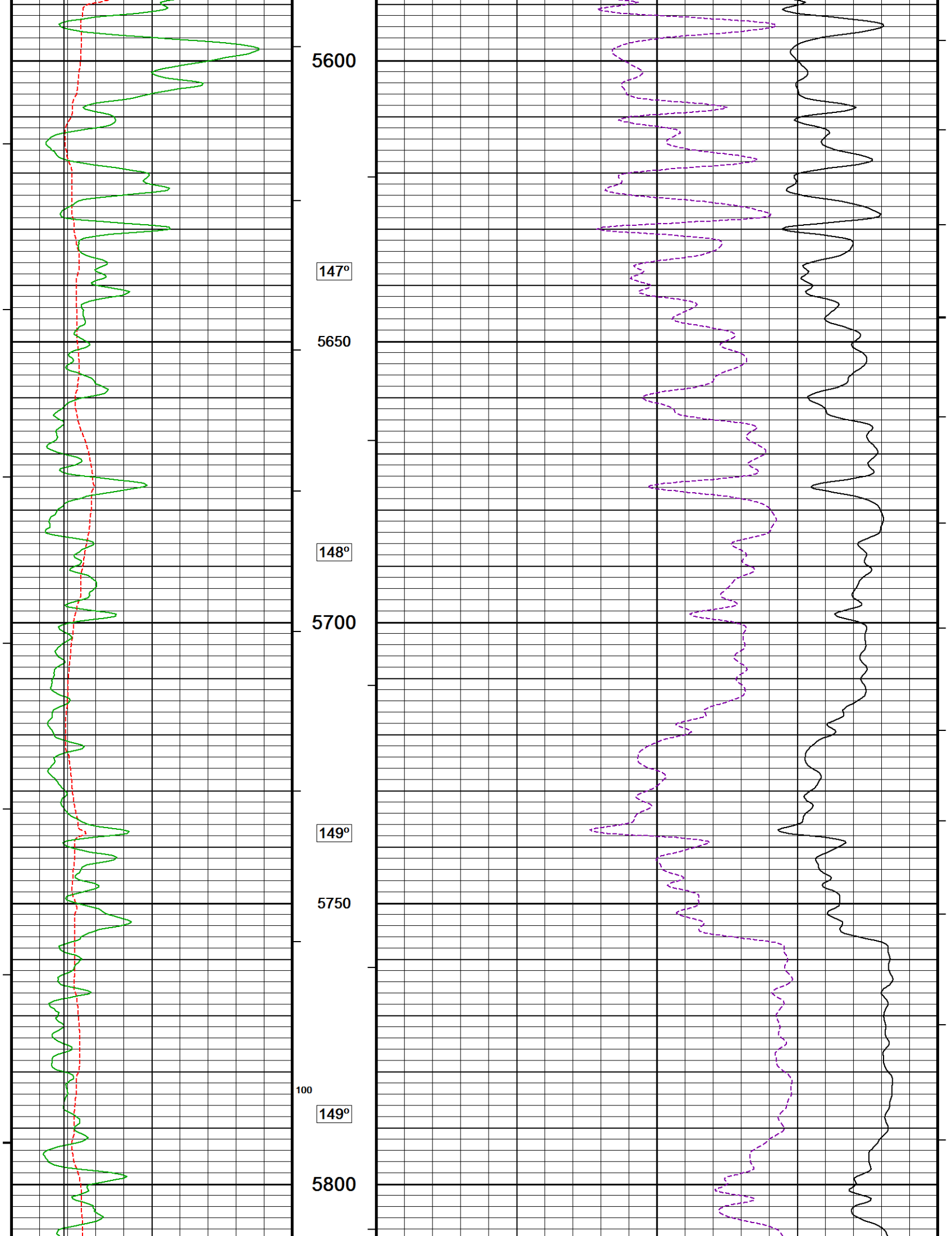
Annular Integral every 10 cu ft

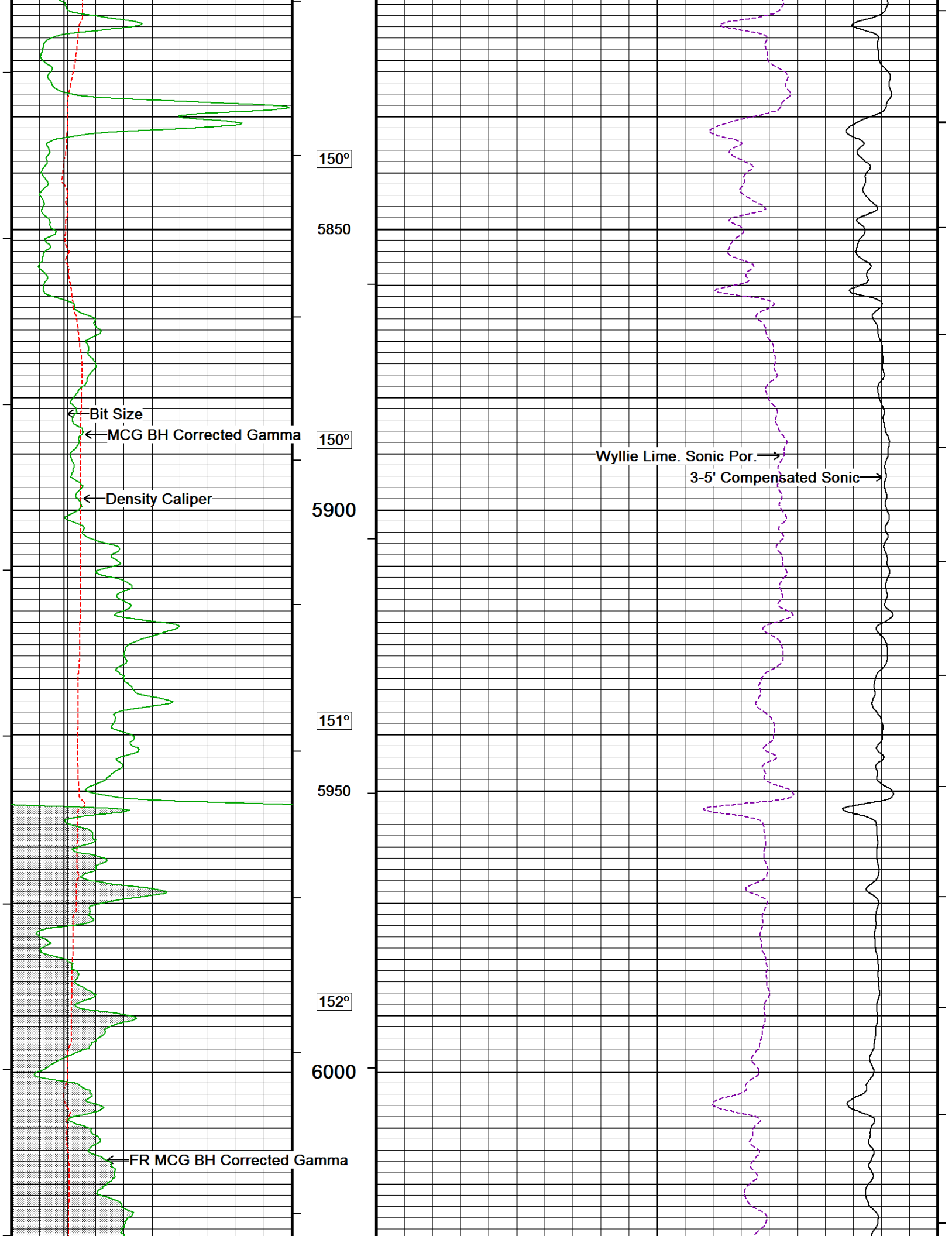
Wyllie Lime. Sonic Por.
v/v
0.30 0.20 0.10 0.00 -0.10

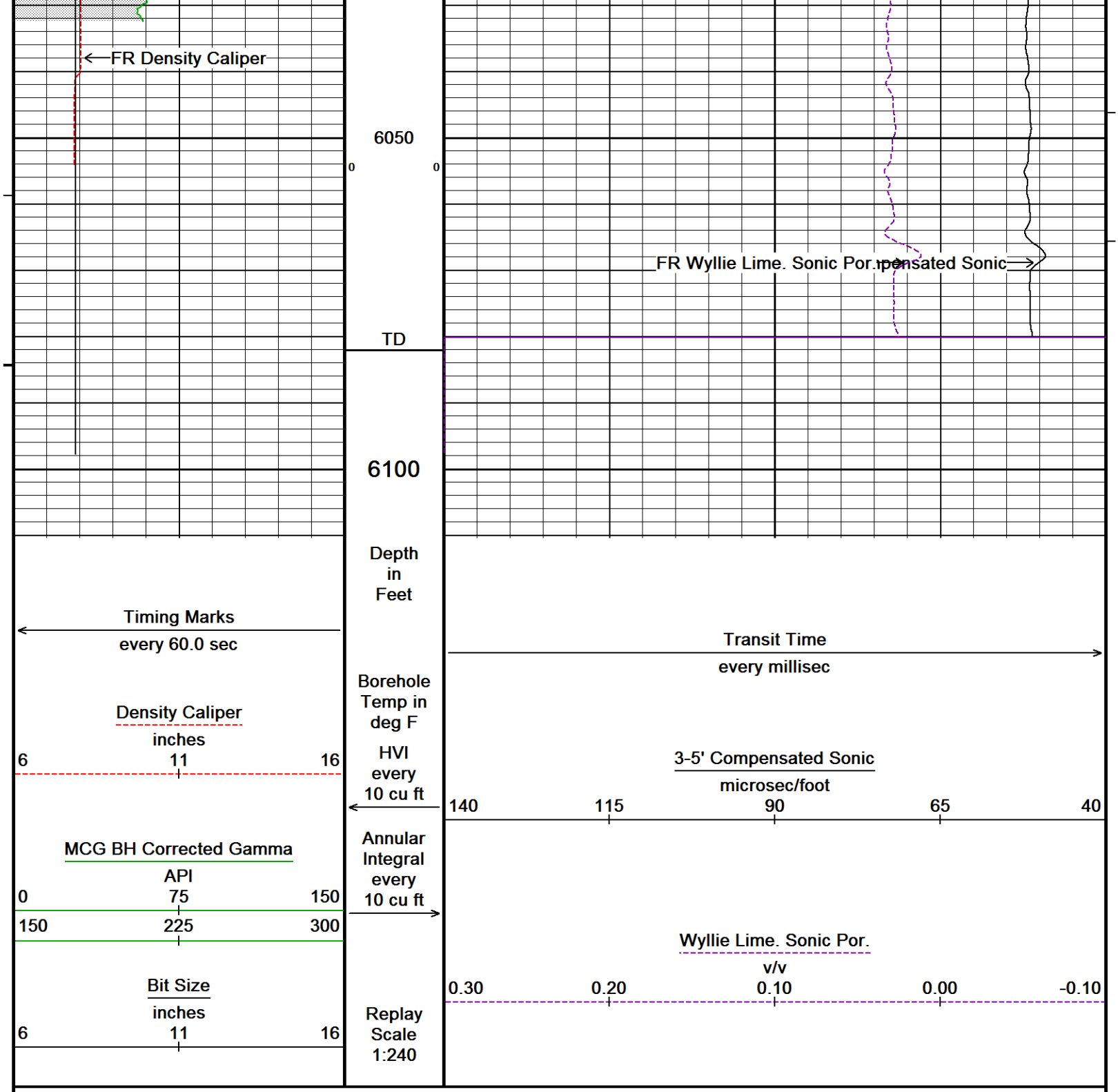
Bit Size
inches
6 11 16

Replay Scale 1:240




5600
147º
5650
148º
5700
149º
5750
100
149º
5800


150º
5850
Bit Size
MCG BH Corrected Gamma
150º
Wyllie Lime. Sonic Por.
3-5' Compensated Sonic
Density Caliper
5900
151º
5950
152º
6000
FR MCG BH Corrected Gamma



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 26-MAY-2023 17:25

Filename: C:_LOGS\Trek Resources\Pfaffly #1-12\Repeat_Reprocessed.dta — Recorded on 26-MAY-2023 12:08

System Versions: Logged with 20.11.3980 Processed with 21.11.3172 Plotted with 21.11.3172

5 INCH REPEAT PASS

BEFORE SURVEY CALIBRATION

C:_LOGS\Trek Resources\Pfaffly #1-12\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 2	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	1.40 / 1.475 / 1.55	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)
0.0	10000.0

Base Calibration

Measured		Calibrated (ohm-m)	
Ref 1	Ref 2	Ref 1	Ref 2
0.0	9858.5	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	-3% / 9900.00 / +3%	ohm
Base Check	5.2	-2% / 5.2 / +2%	ohm-m
Field Check	5.2	-2% / 5.2 / +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

Short Arm Field Cal. 7.99 (7.77 – 7.97 – 8.17) in

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 Res. 1 9.9 (-5% 10.0 +5%) ohm
Micro Normal Res. 2 49.4 (-5% 50.0 +5%) ohm
Micro Inverse Res. 1 9.9 (-5% 10.0 +5%) ohm
Micro Inverse Res. 2 49.4 (-5% 50.0 +5%) ohm

Micro Normal Base Check 94.3 (-2% 94.20 +2%) ohm-m
Micro Inverse Base Check 62.3 (-2% 62.24 +2%) ohm-m

Micro Normal Field Check 94.3 (-2% 94.3 +2%) ohm-m
Micro Inverse Field Check 62.3 (-2% 62.3 +2%) ohm-m

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
	2110	96	2714	110

	3110	96	3714	110
Ratio	32.539		33.764	

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

Ratio	32.539	-5%	33	+5%
Base Check	0.681	0.65	0.7	0.75
Field Check	0.679	0.661	0.681	0.701

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)
0.0	1000.0

Base Calibration

	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

Reference 2	964.6	-3%	980.0	+3%	ohm

Base Check	281.2	-2% 277.0 +2%	ohm-m
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	83.13	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	

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

	Measured Signal (unitless)		Reference Conductivity (mmho/m)		Calibration	
Array	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

	Factory Reference (mmho/m)		Before Survey (mmho/m)		
Array	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		
1 (near)	0.0	mmho/m
2	0.0	mmho/m
3	0.0	mmho/m
4 (far)	0.0	mmho/m

Induction Check Tolerances MAI-C.A 490

Low Array 1	-2.2	-3.7 / -2.2 / -0.7	mmho/m	High Array 1	2114.9	-0.5% / 2114.9 / +0.5%	mmho/m
Low Array 2	13.9	12.5 / 14.0 / 15.5	mmho/m	High Array 2	1922.0	-0.5% / 1921.9 / +0.5%	mmho/m
Low Array 3	14.0	12.5 / 14.0 / 15.5	mmho/m	High Array 3	1679.0	-0.5% / 1678.9 / +0.5%	mmho/m
Low Array 4	10.3	8.8 / 10.3 / 11.8	mmho/m	High Array 4	1145.2	-0.5% / 1145.1 / +0.5%	mmho/m

Induction Constants MAI-C.A 490

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

Induction Model	RtAP	
Borehole Correction Constants		
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

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 Near	Measured Far	Calibrated (sdu) Near	Calibrated (sdu) 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	WH	Ratio	Calibrated 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

Near Density Ratio	2.56	-5% 2.52 +5%	Far Density Ratio	20.41	-5% 21.00 +5%
PE Calibration	0.131	0.089 0.110 0.131			
Near Den. Field Check	974.0	-3% 972.8 +3%	Far Den. Field Check	1140.0	-3% 1140.5 +3%
PE WS Field Check	182.8	-6% 182.7 +6%	PE WH Field Check	875.9	-6% 877.2 +6%

Density Constants MPD-C.J 438

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

Density Source Id	H79956B
Nylon Calibrator Number	DNCE 687

Nylon Calibrator Number	DNCL 687	
Aluminium Calibrator Number	DACD 526	
Density Shoe Profile	8 inch	
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	

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

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

Long Arm Field Cal. 7.98 [7.57 | 7.97 | 8.38] in

DOWNHOLE EQUIPMENT

C:_LOGS\Trek Resources\Pfaffly #1-12\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

66.24 ft GGCE - MCG BH Corrected Gamma
63.34 ft CGXT - MCG External Temperature
55.99 ft MINV - Micro-inverse
55.99 ft MNRL - Micro-normal
51.19 ft NPRL - Limestone Neutron Por.
43.95 ft CLDC - Density Caliper
43.95 ft AVOL - Annular Volume
43.95 ft HVOL - Hole Volume

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

42.02 ft	DPRL - Limestone Density Por.
42.02 ft	DCOR - Density Correction
41.96 ft	PDPE - PE
34.54 ft	VCAD - Vee Arm Caliper A
26.43 ft	FEFE - Shallow FE
16.96 ft	TR11 - 4' Transit Time
16.46 ft	TR21 - 3' Transit Time
15.95 ft	TR12 - 6' Transit Time
15.46 ft	TR22 - 5' Transit Time
12.96 ft	SPRL_W - Wyllie Lmst Sonic Por.
12.96 ft	DT35 - 3-5' Compensated Sonic
3.34 ft	R40O - Array Ind. One Res 40
3.34 ft	R30O - Array Ind. One Res 30
3.34 ft	R20O - Array Ind. One Res 20
3.34 ft	R60O - Array Ind. One Res 60
3.34 ft	RTAO - Array Ind. One Res Rt
3.34 ft	R85O - Array Ind. One Res 85
0.23 ft	SPCG - Spontaneous Potential
Tool Zero	(0.13ft from bottom)

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

WIRELINE LOGGING SOLUTIONS

COMPENSATED SONIC