HALLIBURTON

BOREHOLE COMPENSATED SONIC ARRAY

COMPANY	MERIT ENERGY COMPANY, LLC
WELL	CELONA No. 1-12
FIELD/BLOCK	ST LOUIS
COUNTY	FINNEY
STATE	KS

MERIT ENERGY COMPANY, LLC
CELONA No. 1-12
ST LOUIS
FINNEY
KS
COMPANY
WELL
FIELD/BLOCK
COUNTY
STATE

API No. 15055225510100

Location 267' FWL & 458' FNL
SW NW NW NW

Sect. 12 Twp. 25S Rge. 32W

Other Services:
GTET
DSNT-SDLT
BSAT
ACRT

Permanent Datum	GL	Elev. 2830.0 ft	Elev.: K.B. 2842.0 ft
Log measured from	KB	12.0 ft above perm. Datum	D.F. 2841.0 ft
Drilling measured from	KB		G.L. 2830.0 ft

Date		26-Sep-22					
Run No.		ONE					
Depth - Driller		5173.0 ft					
Depth - Logger		5167.0 ft					
Bottom - Logged Interval		5140.0 ft					
Top - Logged Interval		1798.0 ft					
Casing - Driller		8.625 in	@ 1798.0 ft	@		@	
Casing - Logger		1798.0 ft					
Bit Size		7.875 in		@		@	
Type Fluid in Hole		Water Based Mud					
Density	Viscosity	9.2 ppg	50.00 s/qt				
PH	Fluid Loss	11.00 pH	5.6 cptm				
Source of Sample		MUDPIT					
Rm @ Meas. Temperature		1.11 ohmm	@ 78.00 degF	@		@	
Rmf @ Meas. Temperature		0.80 ohmm	@ 78.00 degF	@		@	
Rmc @ Meas. Temperature		1.28 ohmm	@ 78.00 degF	@		@	
Source Rmf	Rmc	CALC	CALC				
Rm @ BHT		0.70 ohmm	@ 128.0 degF	@		@	
Time Since Circulation		05:34 hr					
Time on Bottom		26-Sep-22 20:07					
Max. Rec. Temperature		128.00 degF	@ 5165.0 ft	@		@	
Equipment	Location	12128583	ALVARADO, T				
Recorded By		K. BJERGA					
Witnessed By		K. ROBINSON					

Fold here

Sales Order Number: 908128151 API No.: 15055225510100 PGM Version: WL INSITE R6.7 (Build 8)

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE

	Sample No.					
Date						
Depth-Driller						
Type Fluid in Hole						
Density	Viscosity					
Ph	Fluid Loss					
Source of Sample						
Rm @ Meas. Temp		@	@	@	@	@
Rmf @ Meas. Temp.		@	@	@	@	@
Rmc @ Meas. Temp.		@	@	@	@	@
Source Rmf	Rmc					
Rm @ BHT		@	@	@	@	@
Rmf @ BHT		@	@	@	@	@
Rmc @ BHT		@	@	@	@	@

RESISTIVITY SCALE CHANGES

Type Log	Depth	Scale Up Hole	Scale Down Hole

RESISTIVITY EQUIPMENT DATA

Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.	ONE	Run No.		Run No.	
Serial No.	11405267	Serial No.	10747681	Serial No.		Serial No.	
Model No.	GTET	Model No.	BSAT	Model No.		Model No.	
Diameter	3.625"	No. of Cent.	2	Diameter		Diameter	
Detector Model No.	GTET	Spacing	0.5	Log Type		Log Type	
Type	SCINT			Source Type		Source Type	
Length	8"	LSA [Y/N]	Y	Serial No.		Serial No.	
Distance to Source	10'	FWDA [Y/N]	Y	Strength		Strength	

LOGGING DATA

GENERAL			GAMMA		ACOUSTIC			DENSITY			NEUTRON		
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix
No.	From	To	ft/min	L	R	L	R		L	R		L	R	
ONE	5167'	1798'	REC	0gapi	150gapi	0.3decP	0.0decP	47.6 uspf						

DIRECTIONAL INFORMATION

Maximum Deviation	@	KOP	@

Remarks: FIRST LOG ON WELL, POSITIVE DEPTH CONTROL APPLIED

SCALES AND PRESENTATIONS AS PER CLIENT REQUEST

TOOLS RAN IN COMBINATION AS PER TOOLSTRING DIAGRAM

ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING

CREW: C. HERRERA, B. EZEKWU

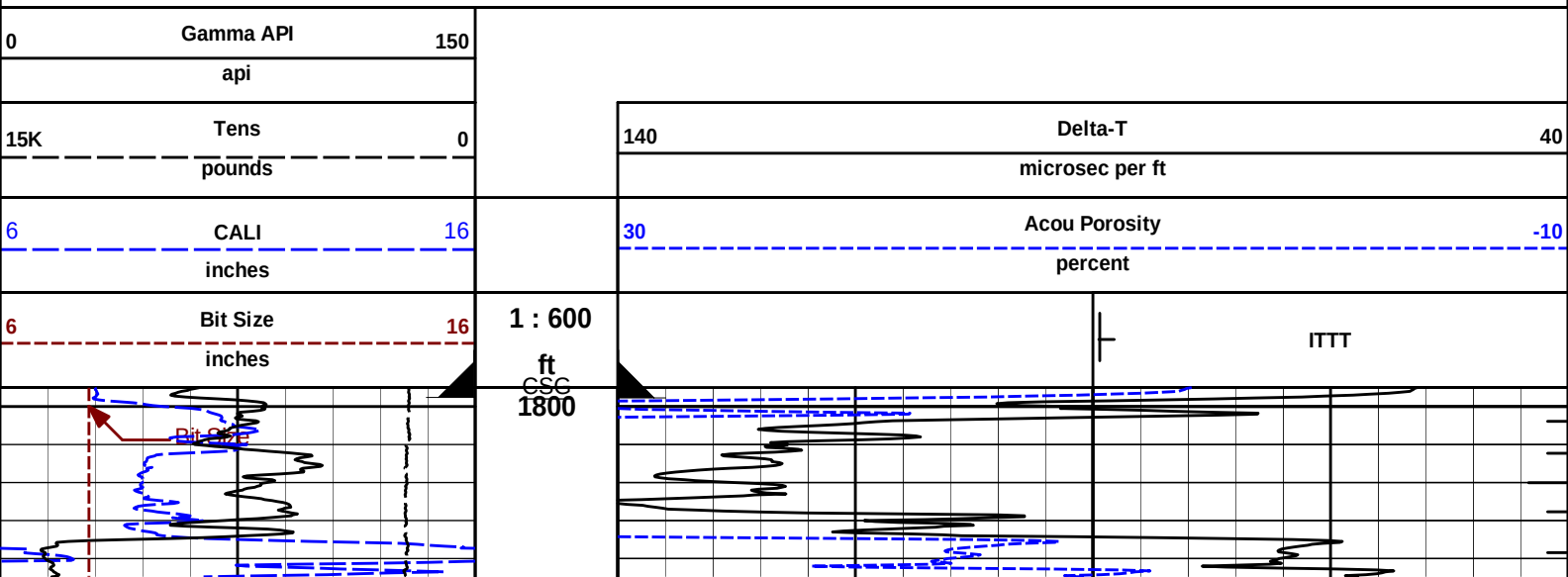
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES

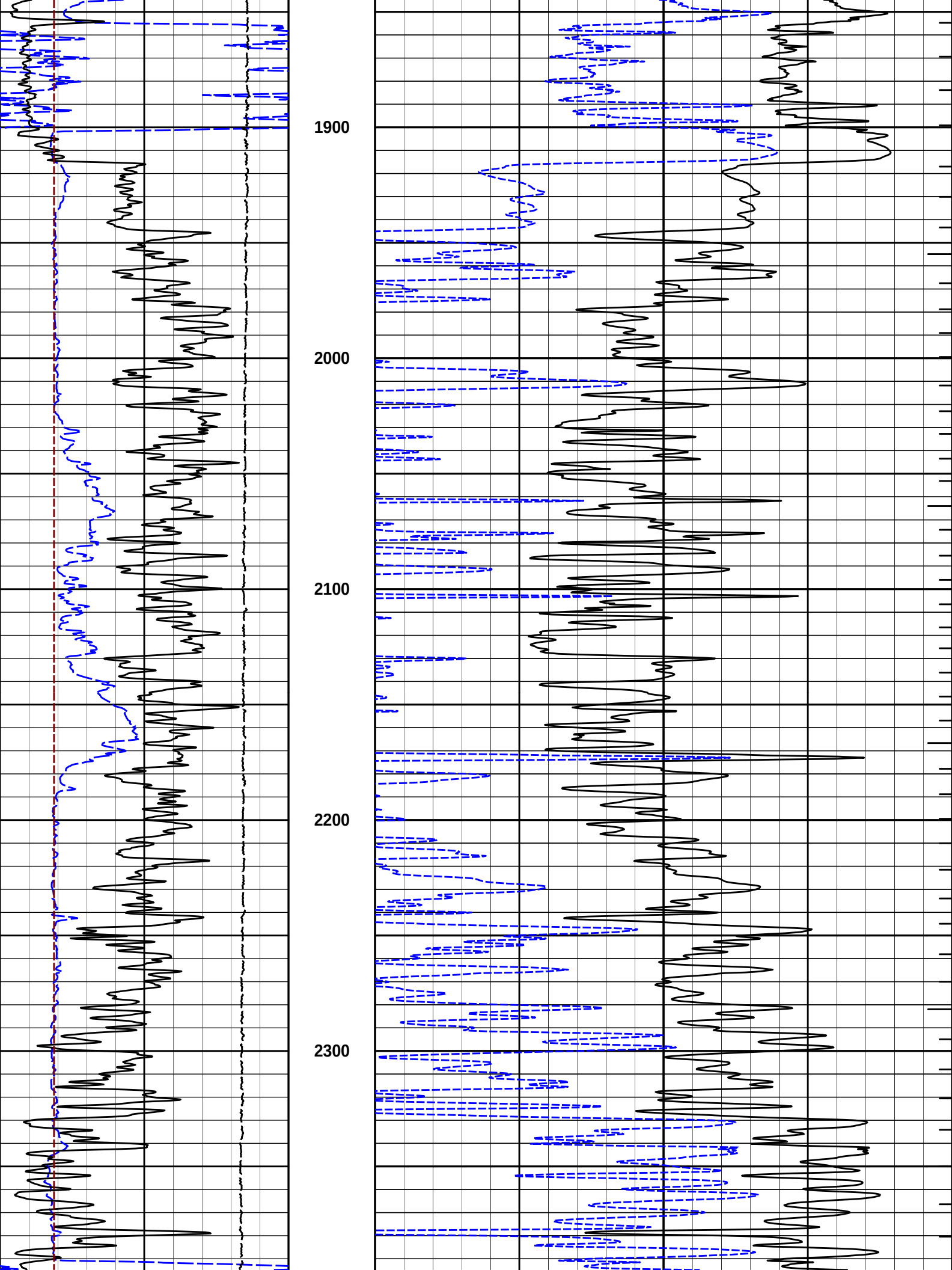
HALLIBURTON

Plot Time: 26-Sep-22 22:04:21
Plot Range: 1795 ft to 5170.75 ft
Data: 09_26_MERIT\Well Based\DAQ-MAIN
Plot File: \\SONIC\BSAT_2inch

2 INCH MAIN LOG

2" MAIN LOG SECTION

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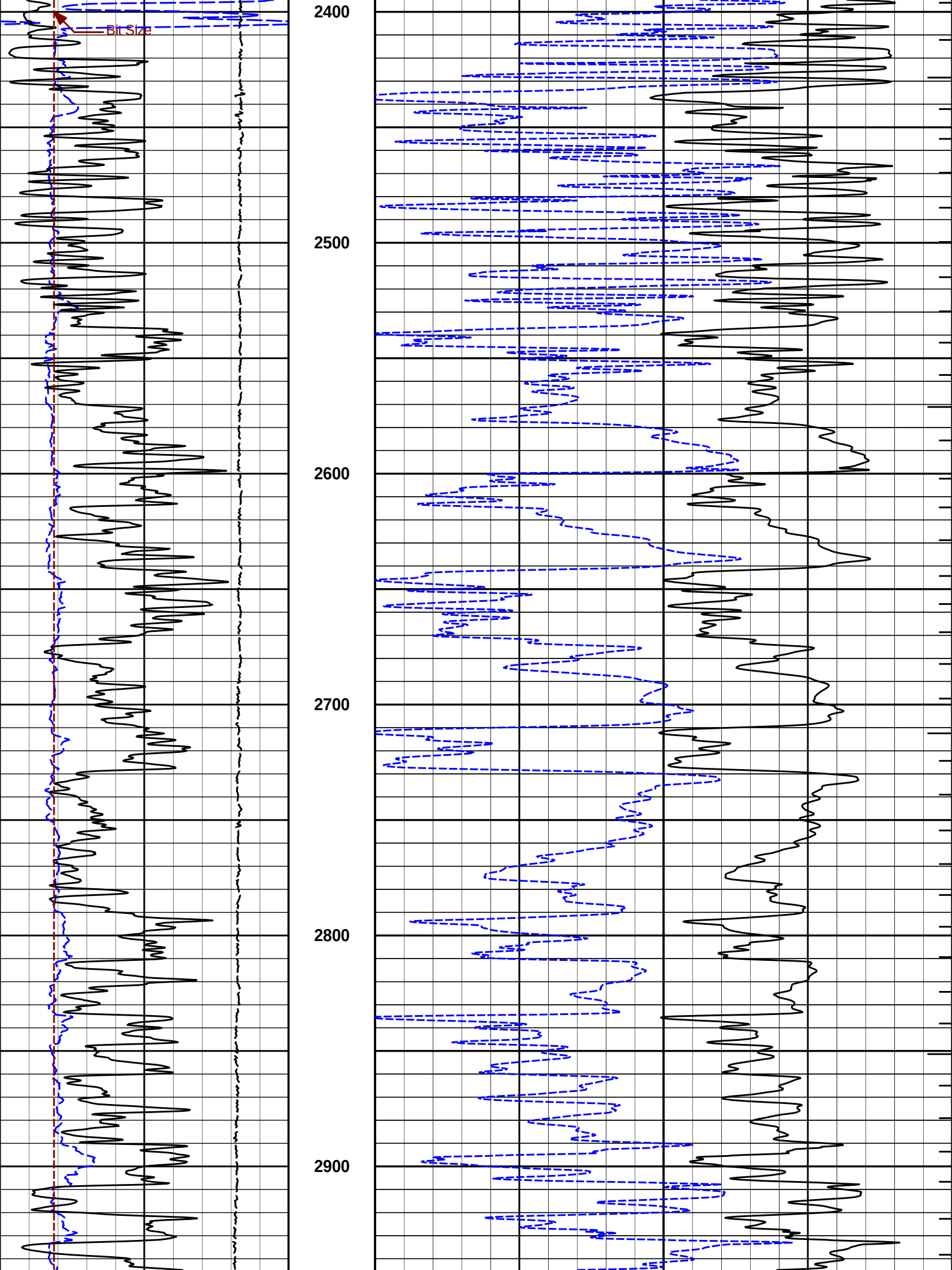
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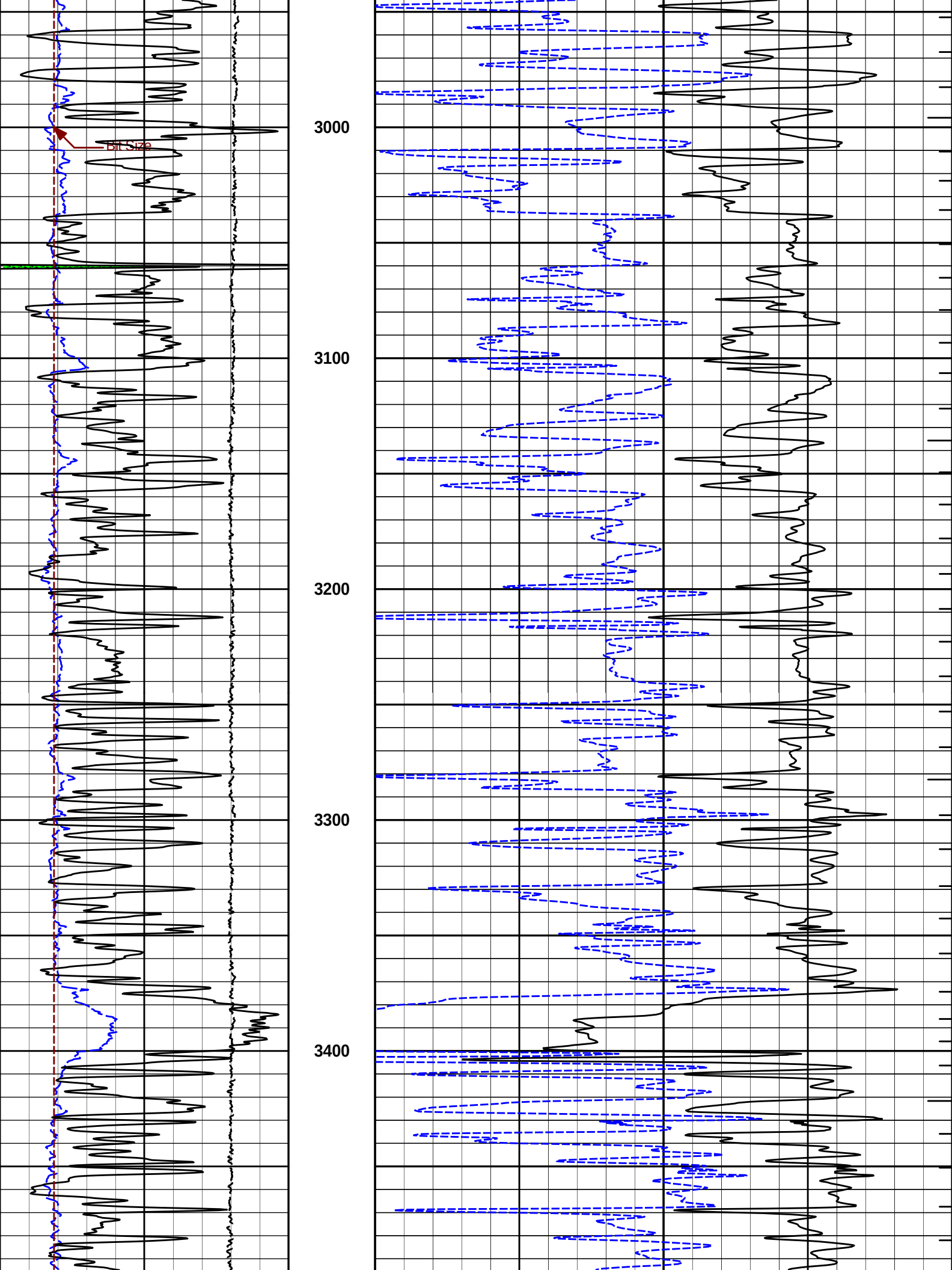
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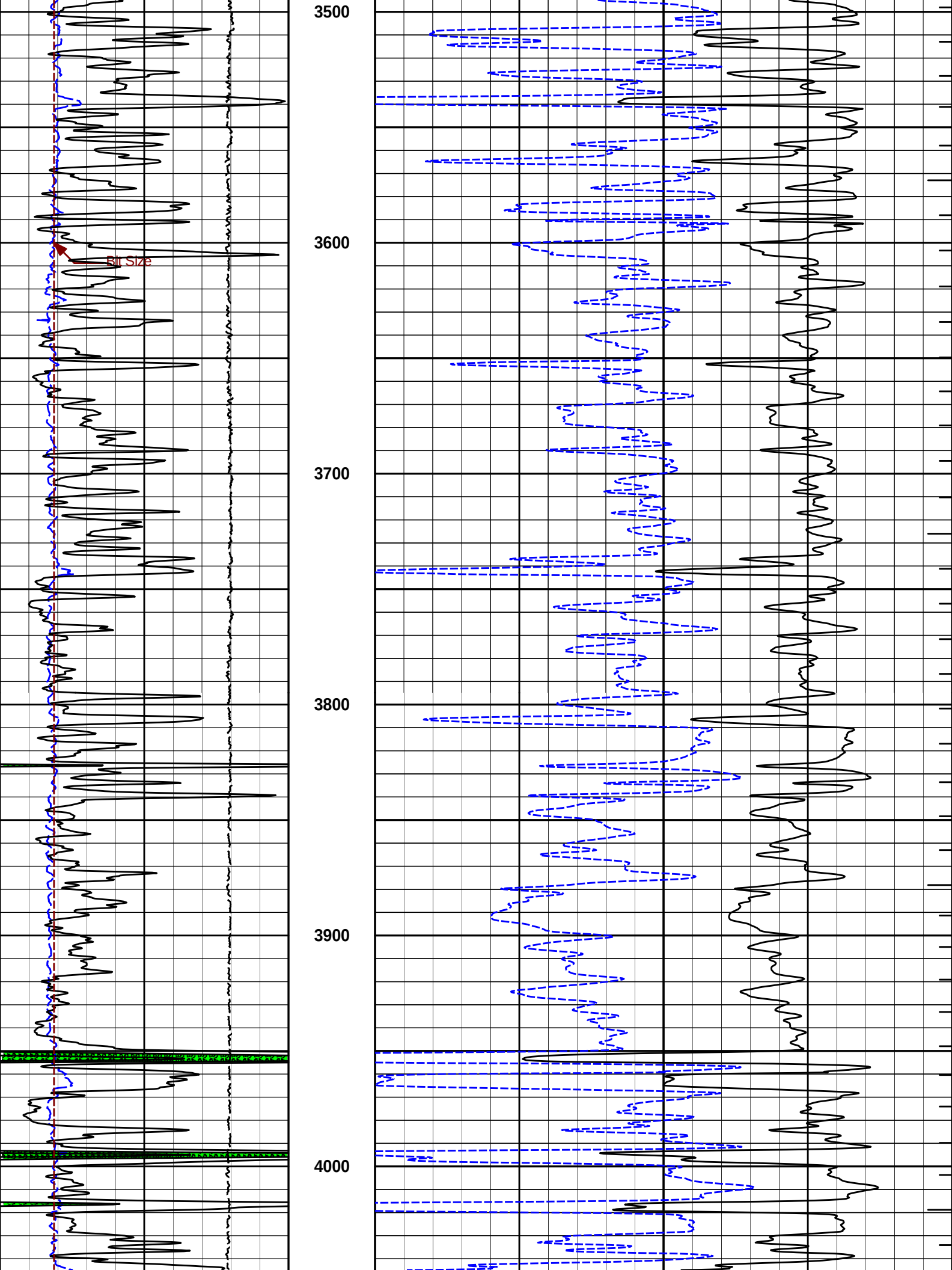
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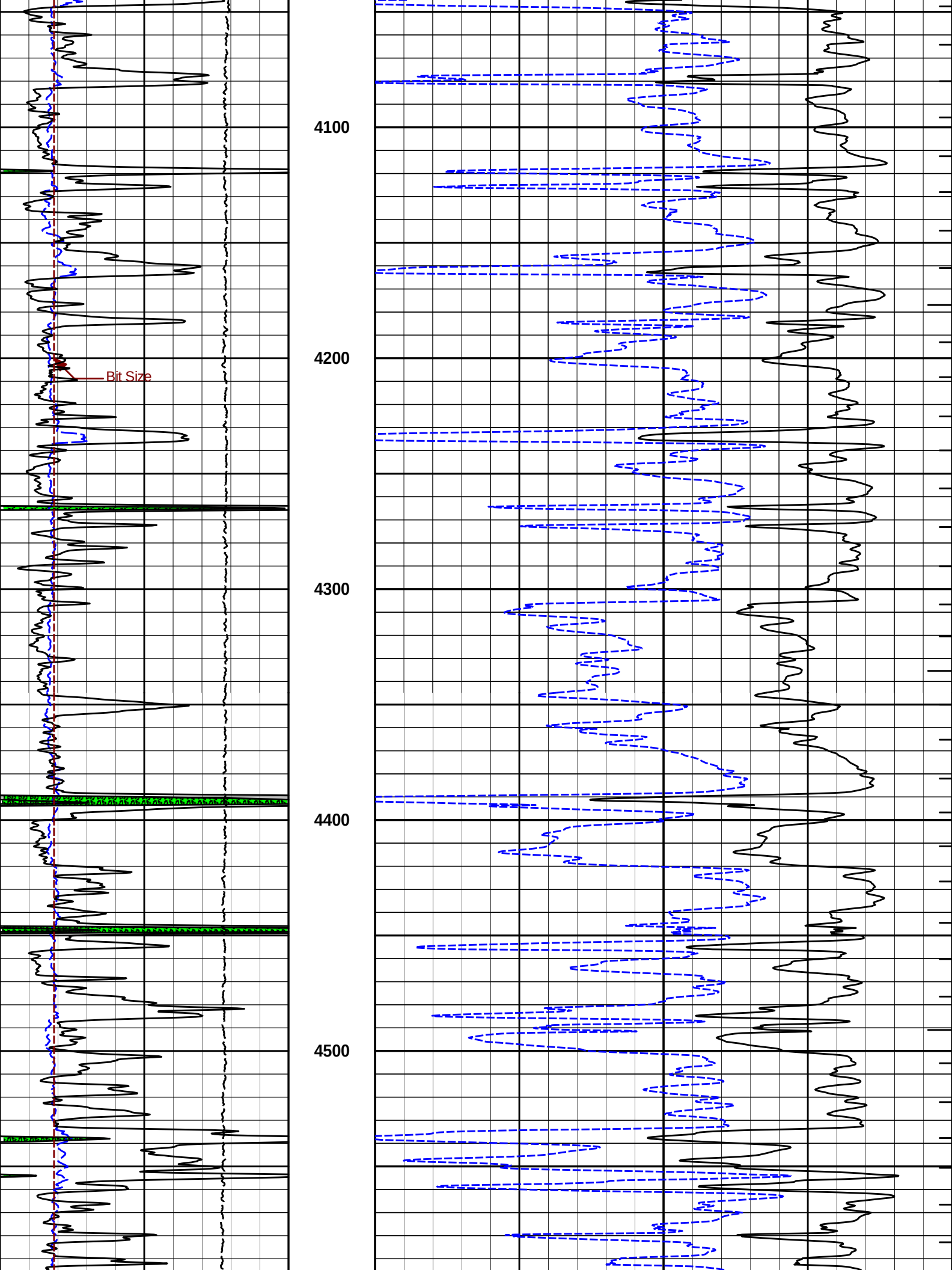
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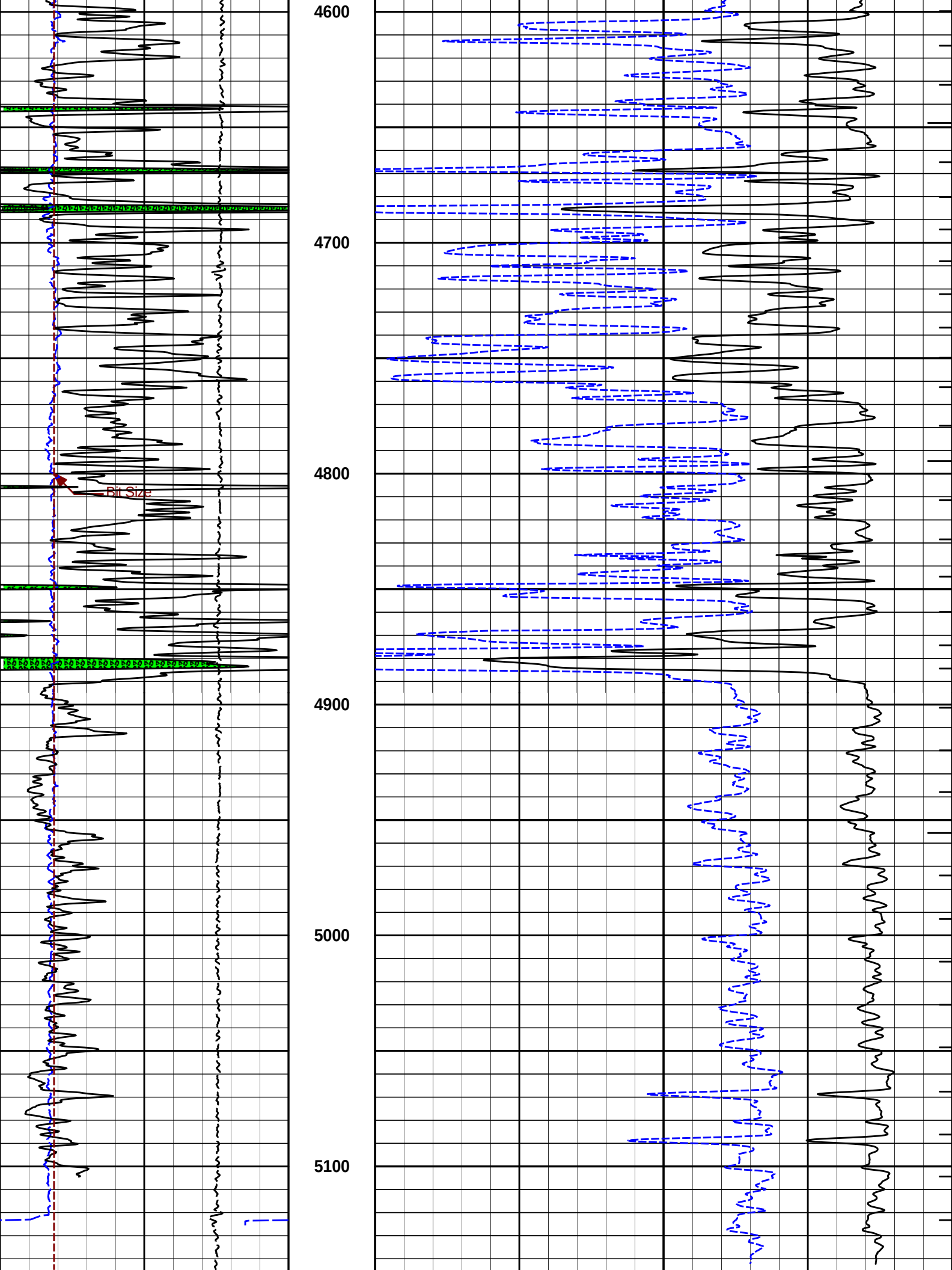
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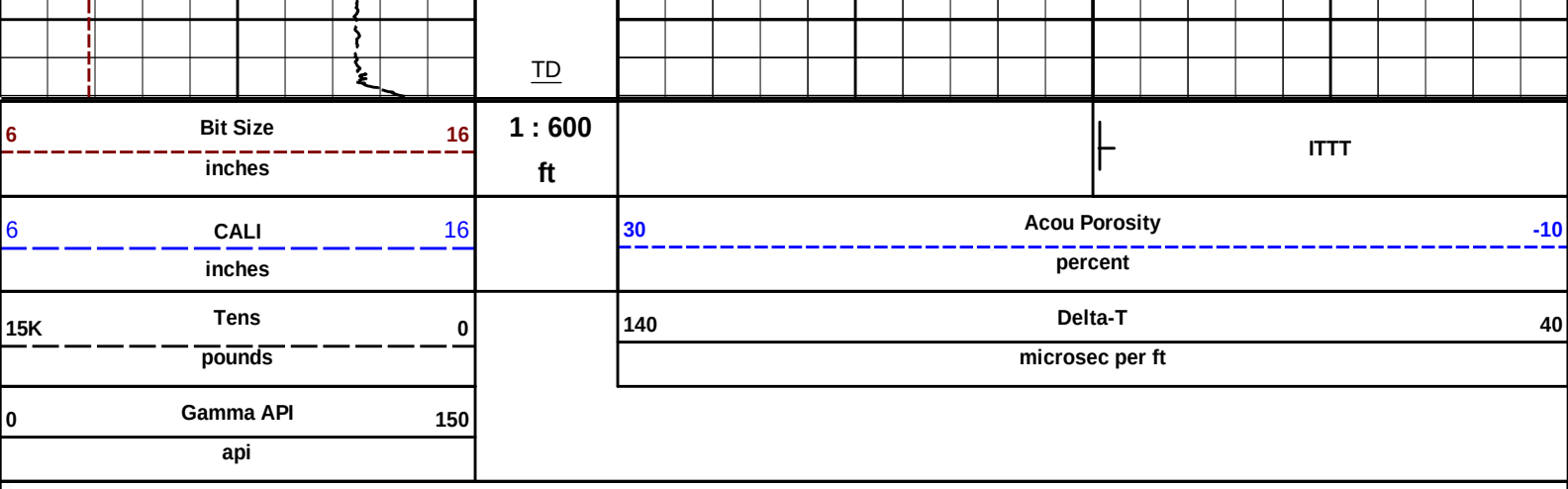


HALLIBURTON

Plot Time: 26-Sep-22 22:04:24
Plot Range: 1795 ft to 5170.75 ft
Data: 09_26_MERIT\Well Based\DAQ-MAIN\
Plot File: \\SONIC\BSAT_2inch

2 INCH MAIN LOG

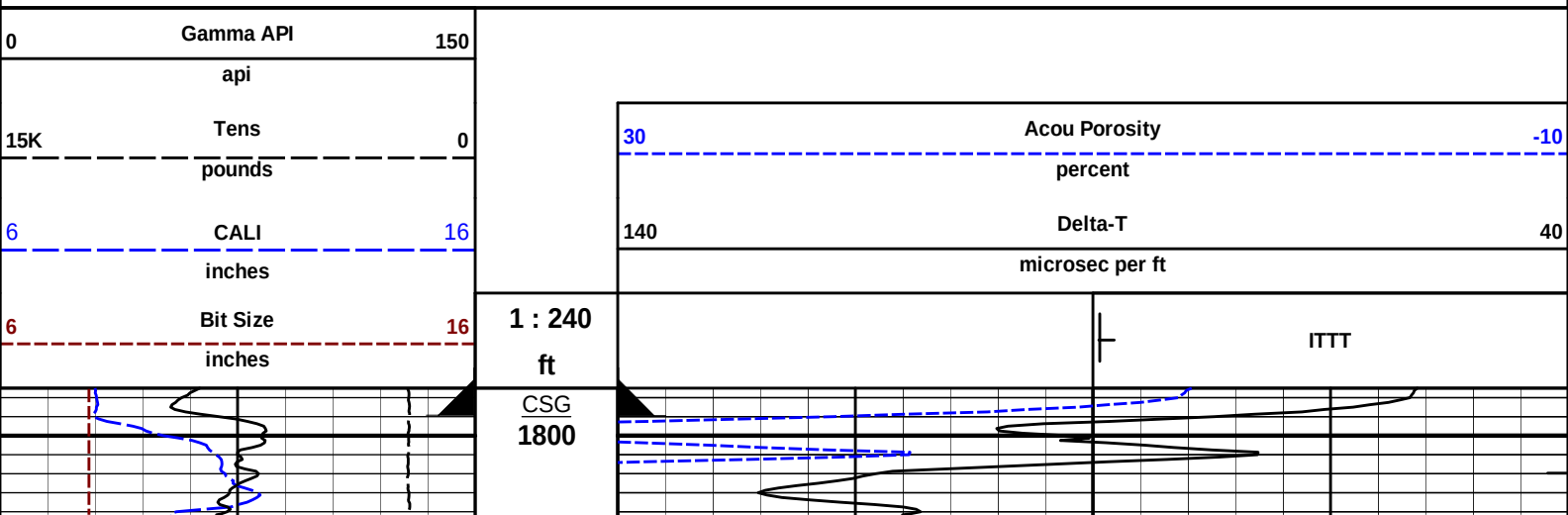
2" MAIN LOG SECTION

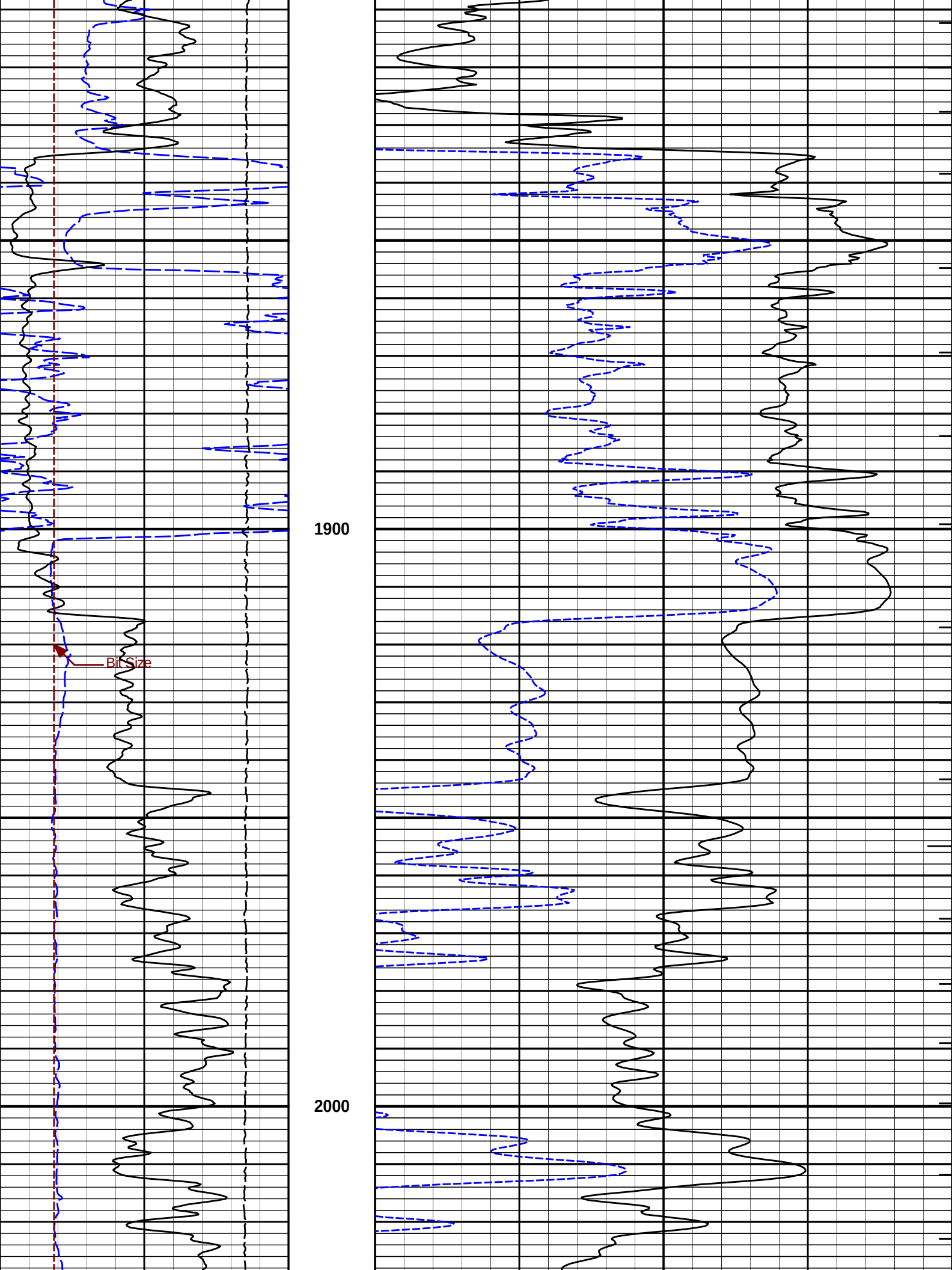
HALLIBURTON

Plot Time: 26-Sep-22 22:04:24
Plot Range: 1795 ft to 5170.75 ft
Data: 09_26_MERIT\Well Based\DAQ-MAIN\
Plot File: \\SONIC\BSAT_5inch

5 INCH MAIN LOG

MAIN LOG SECTION

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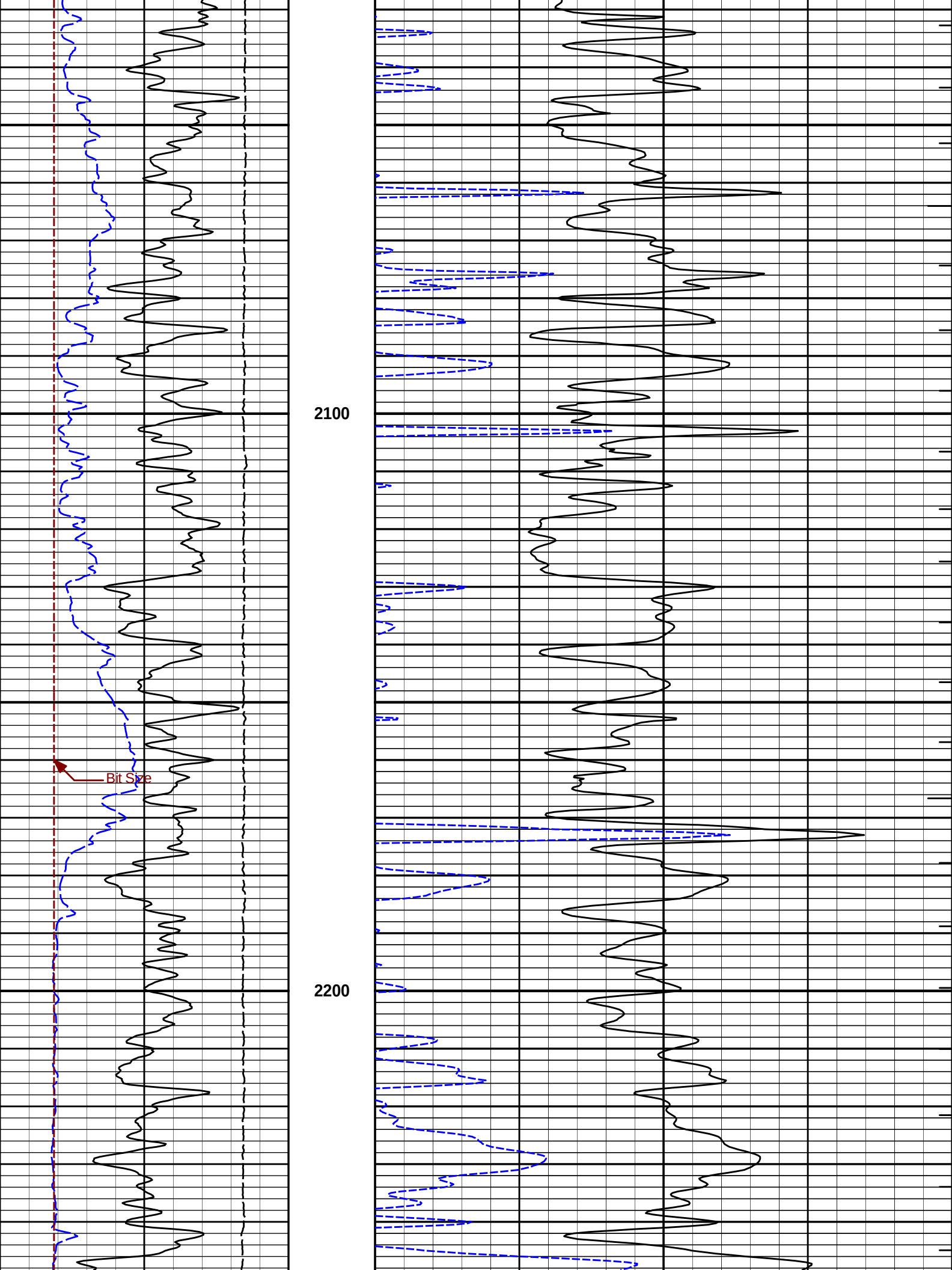
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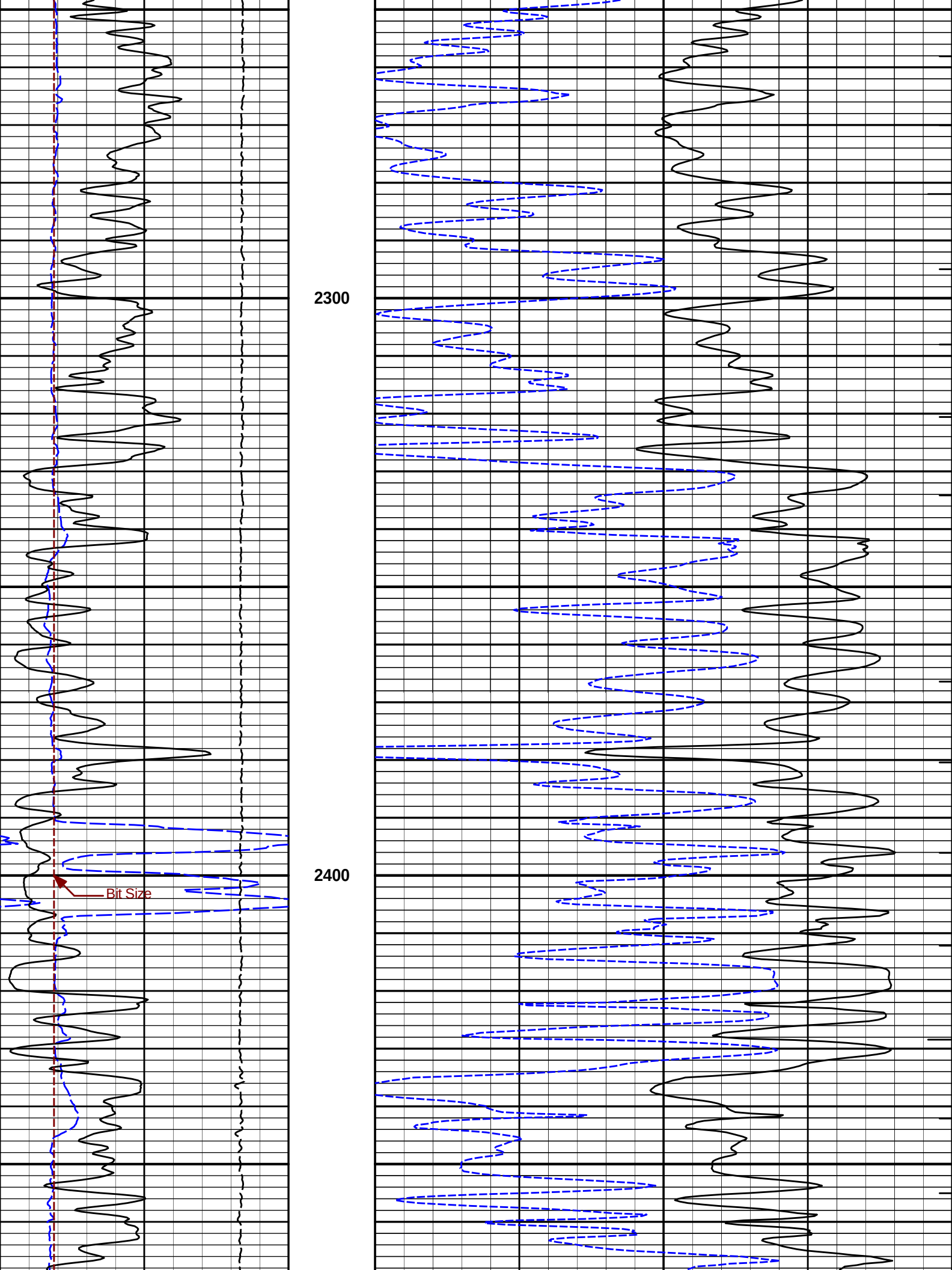
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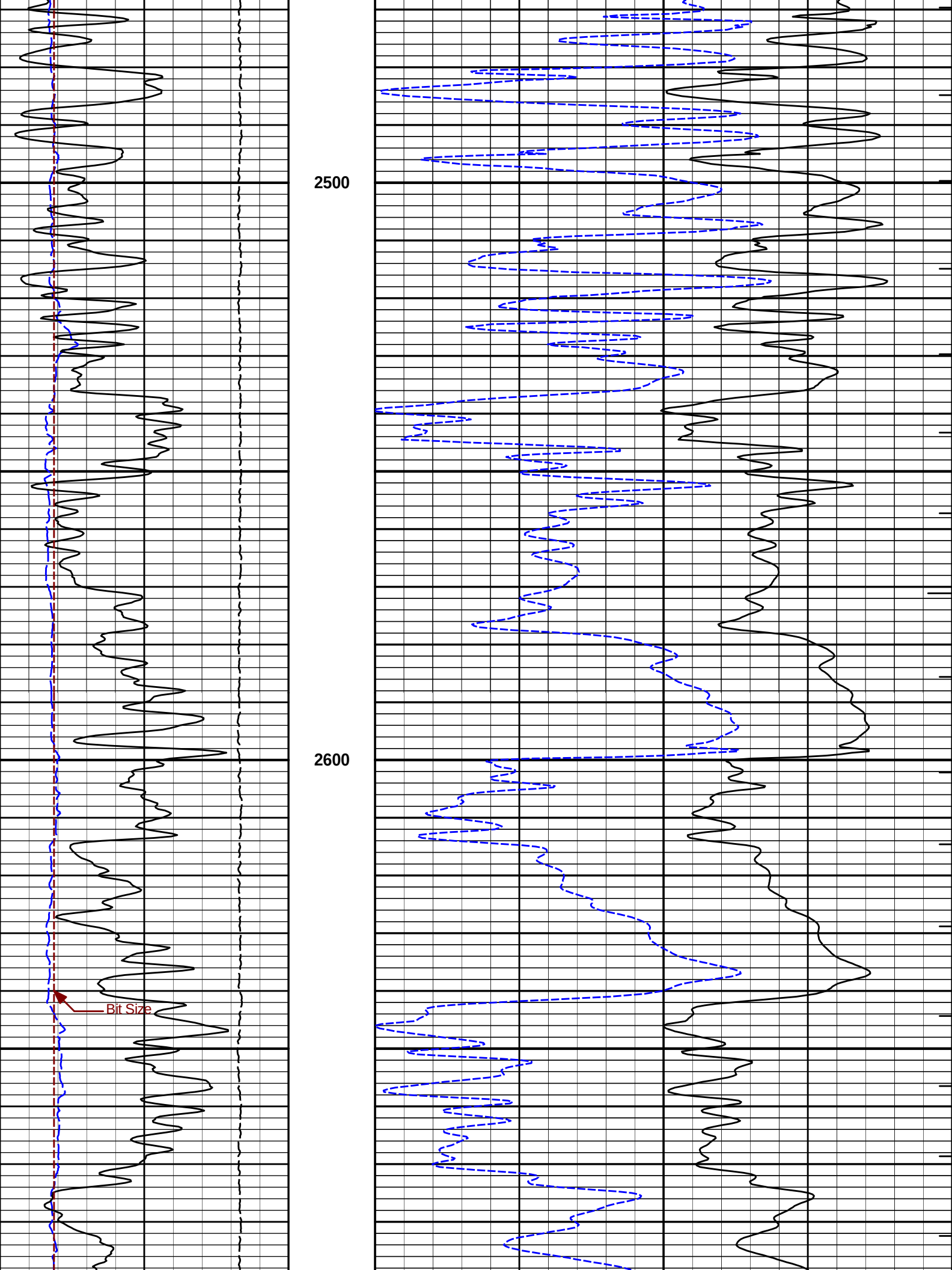
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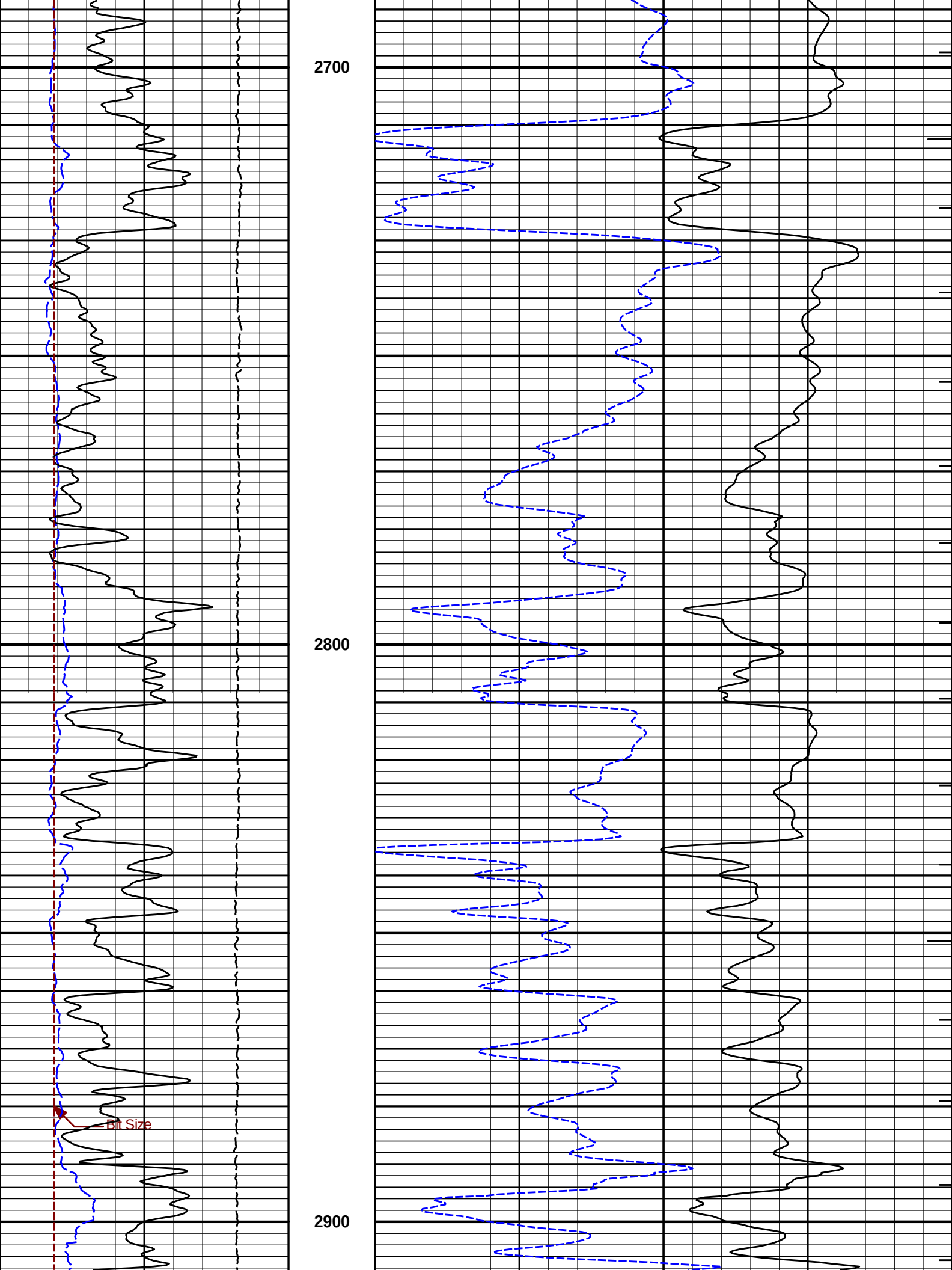
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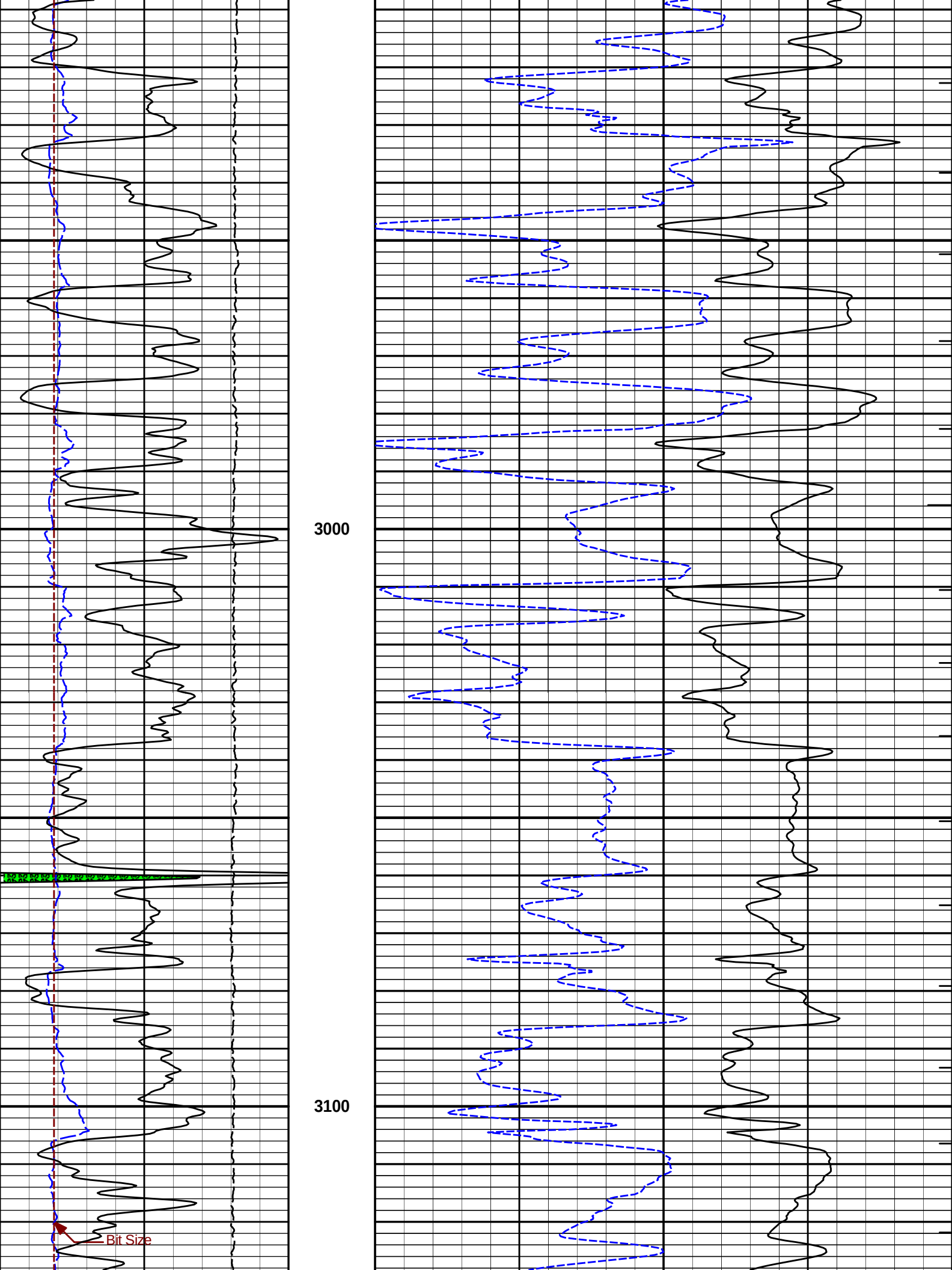
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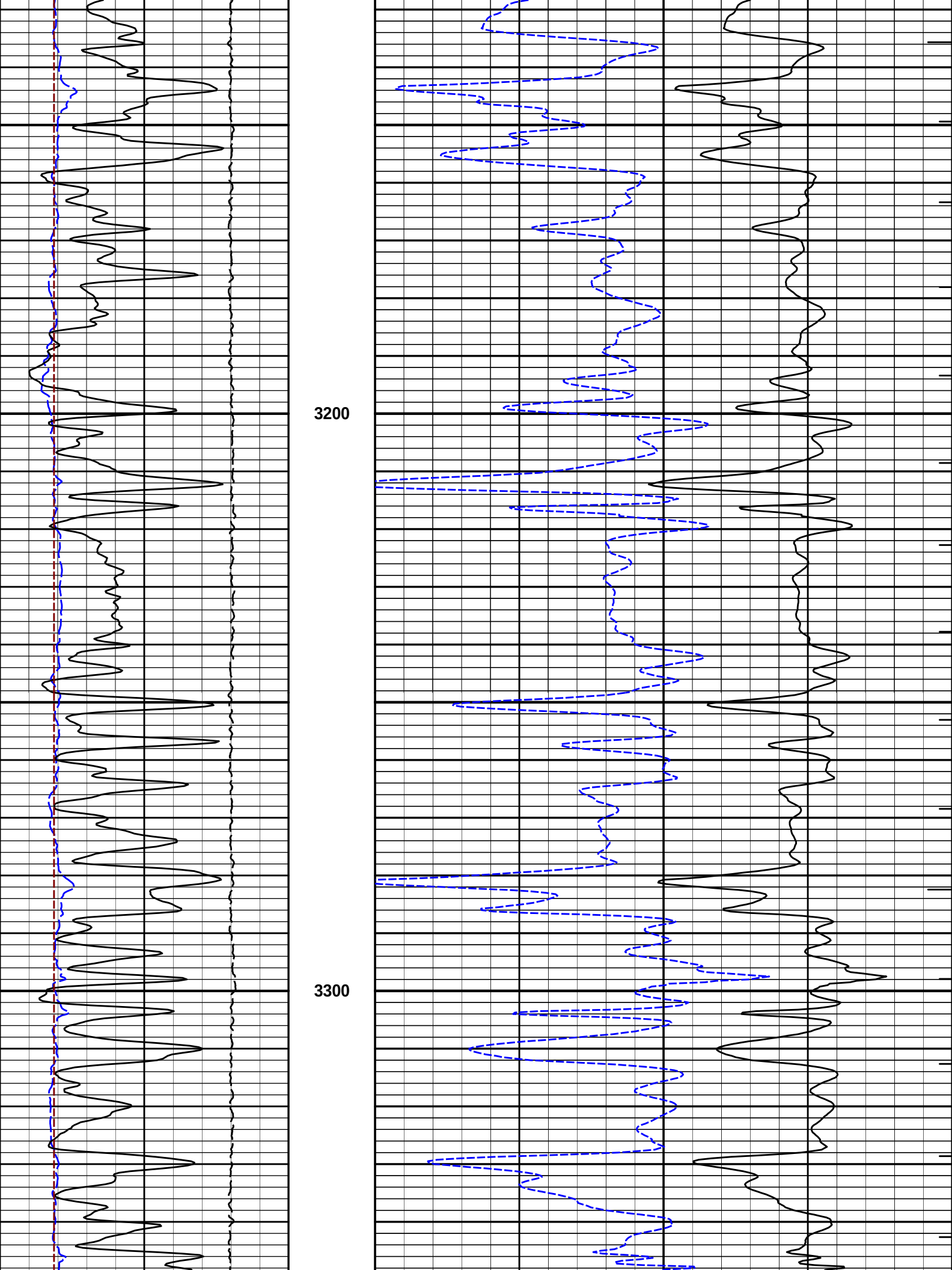
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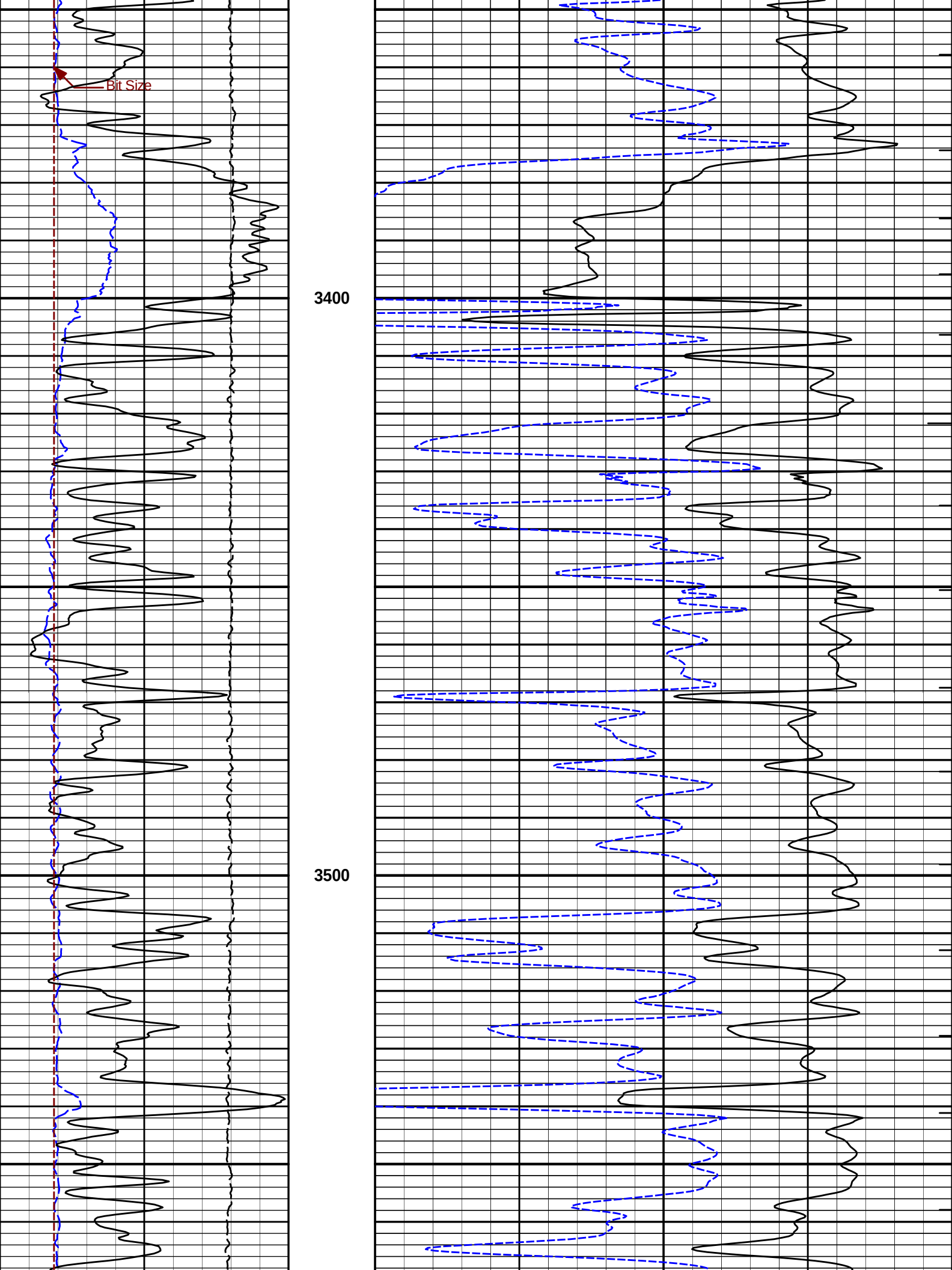
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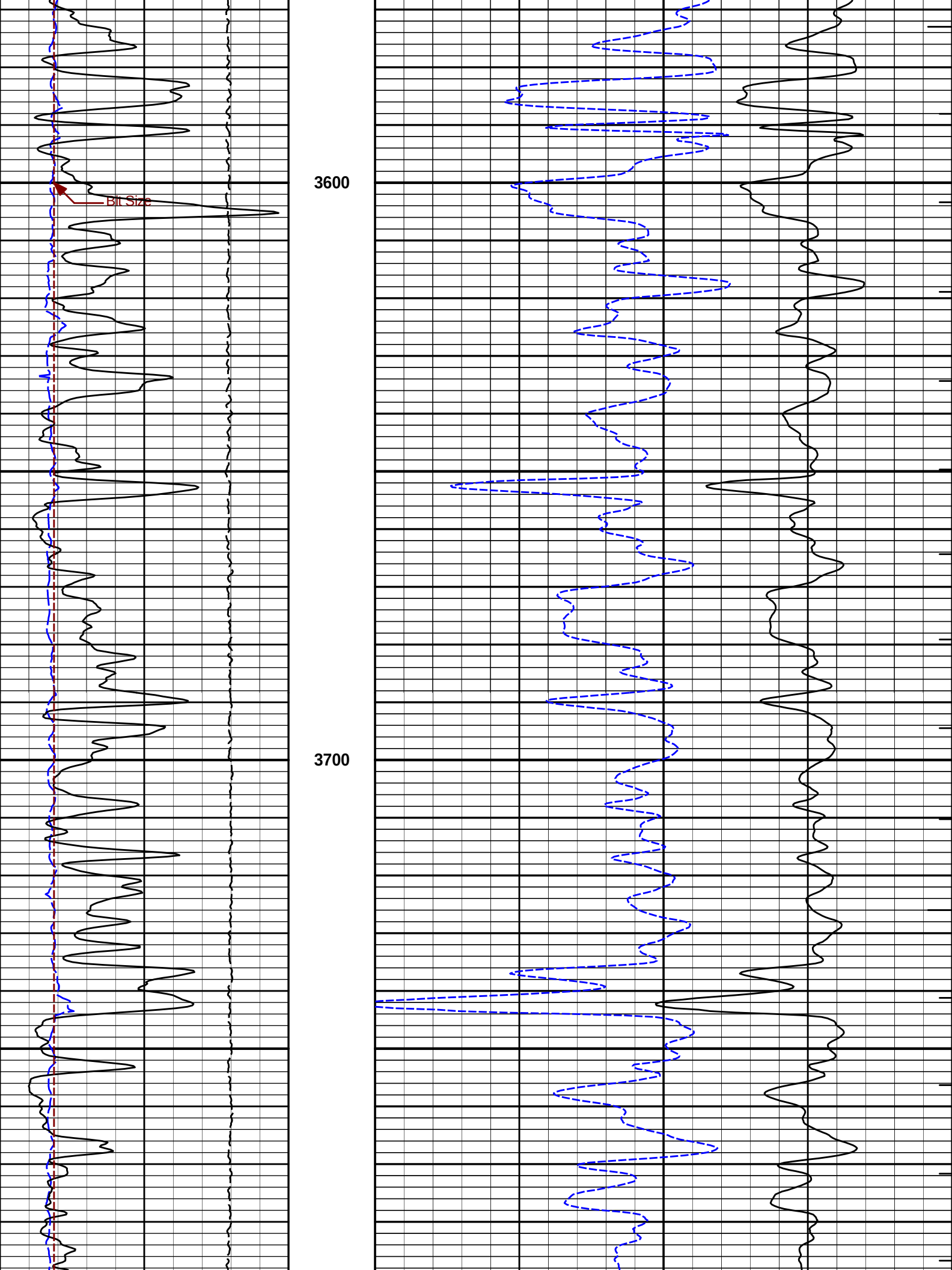
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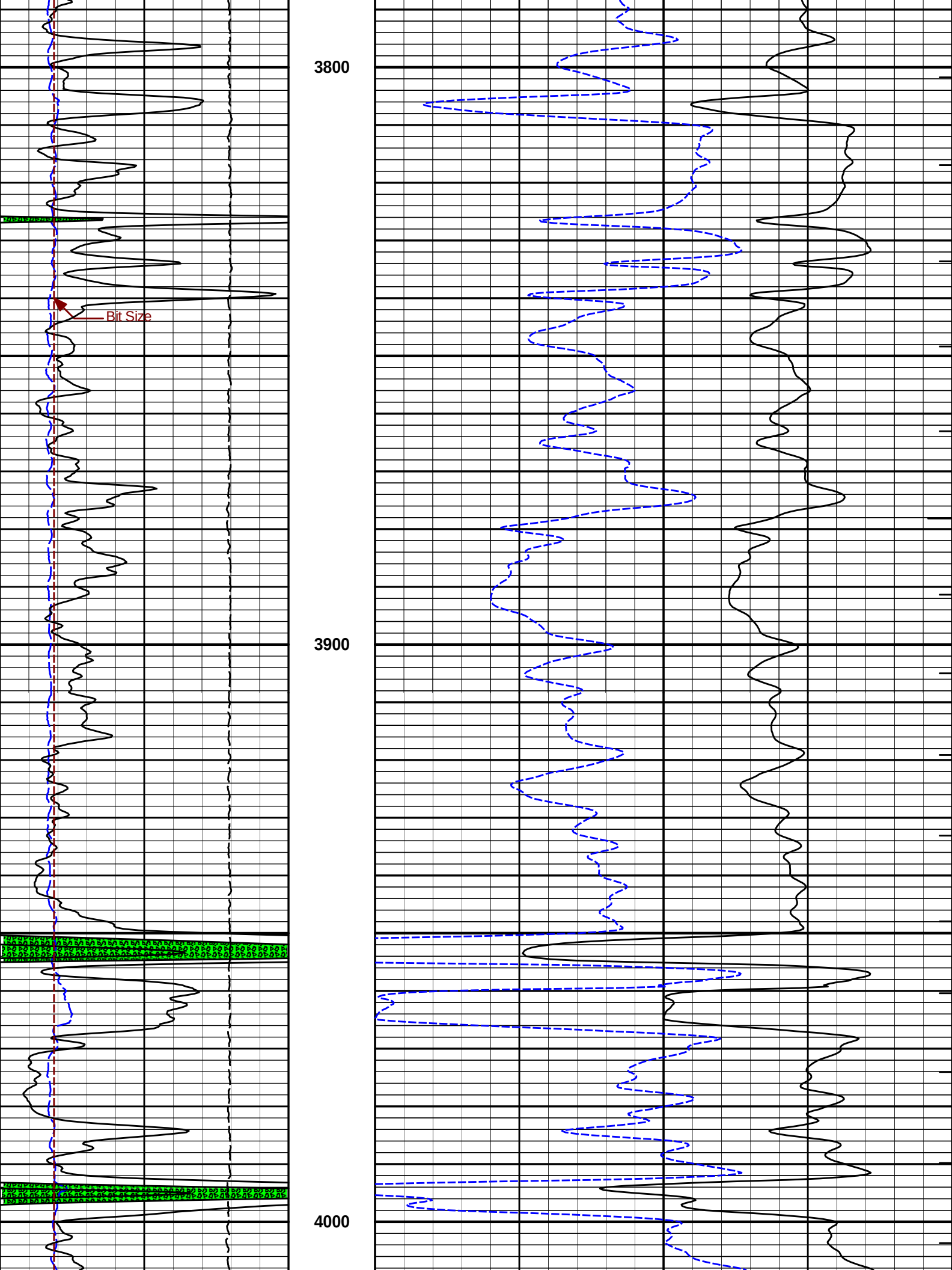
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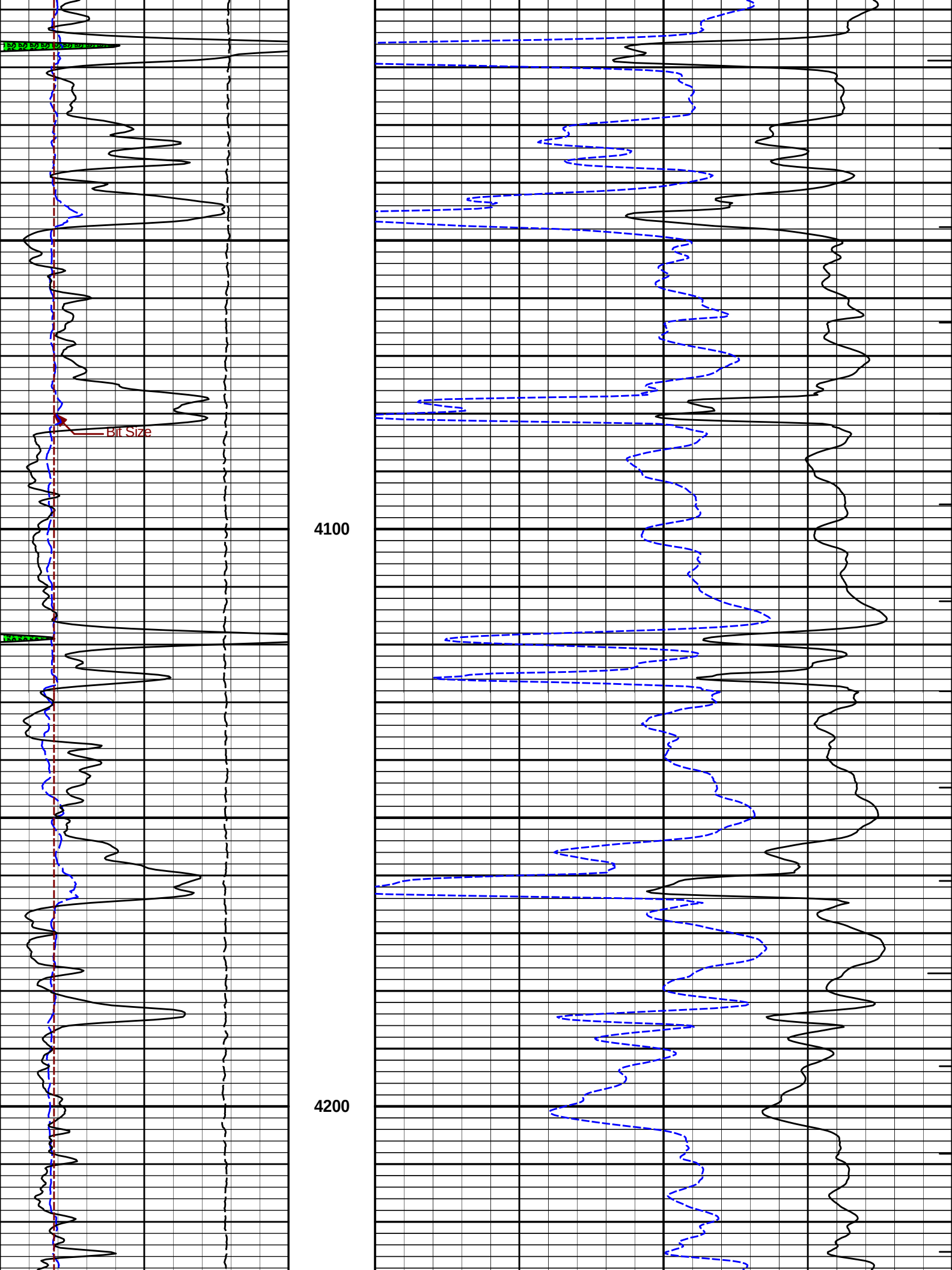
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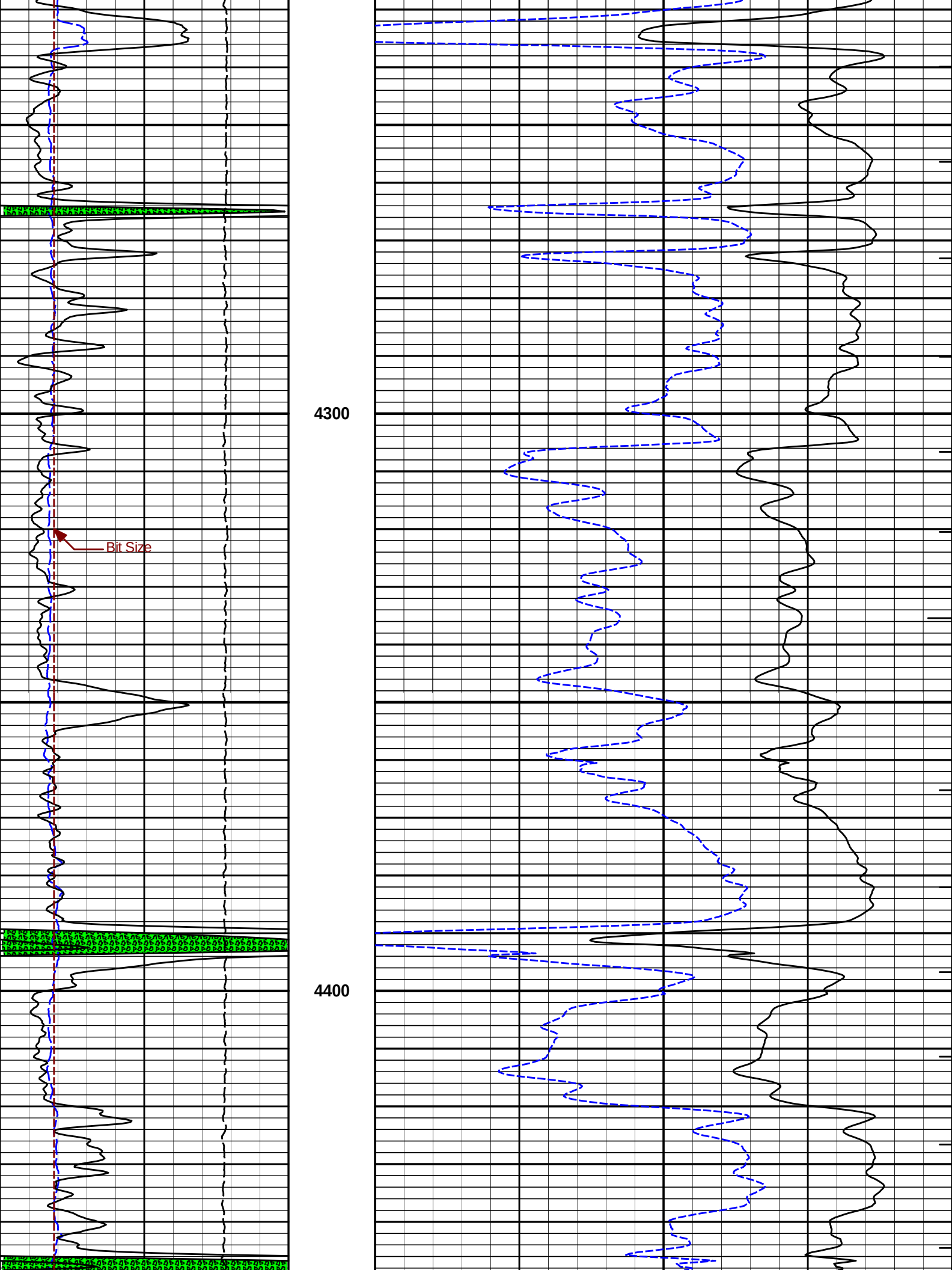
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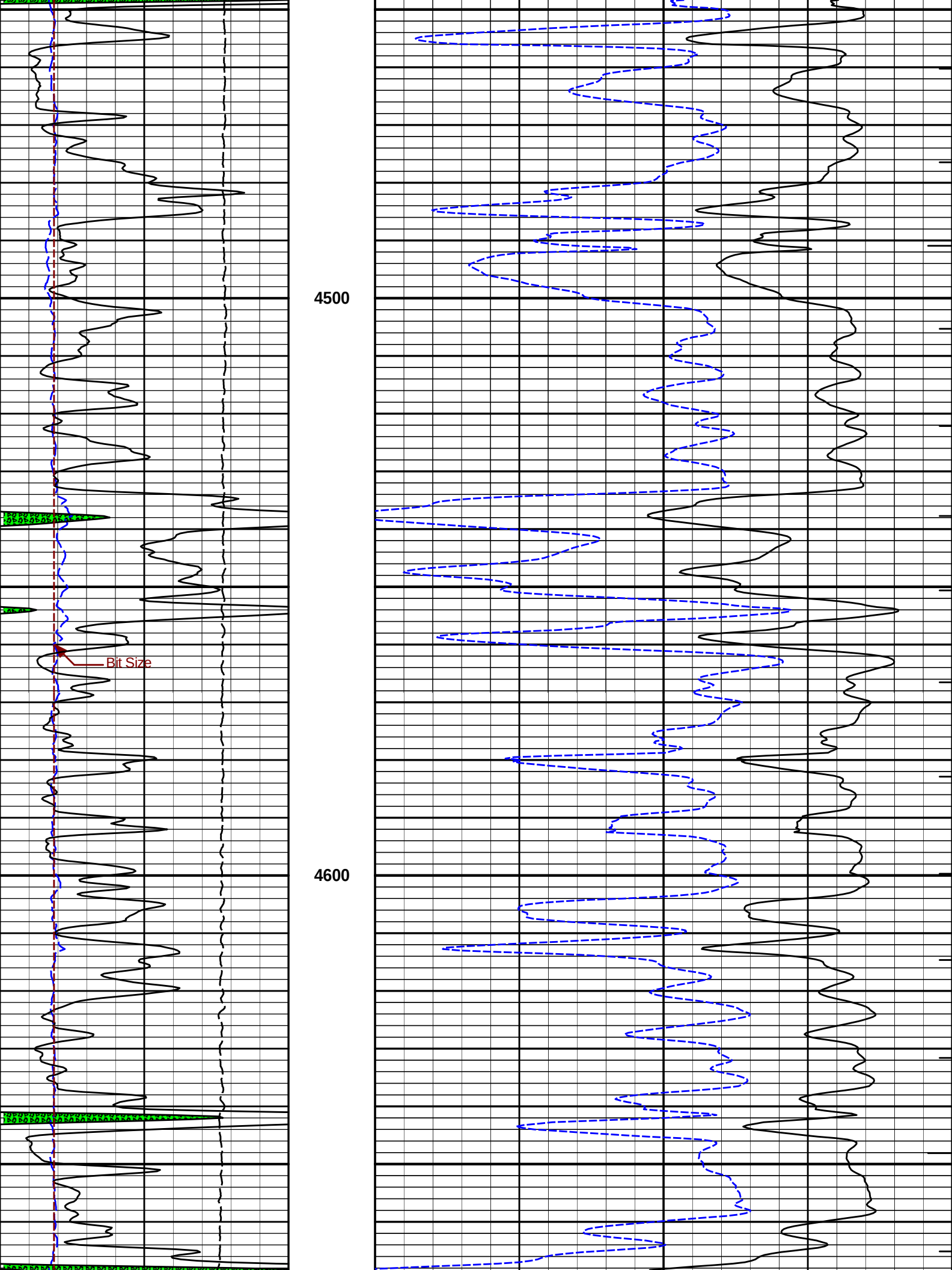
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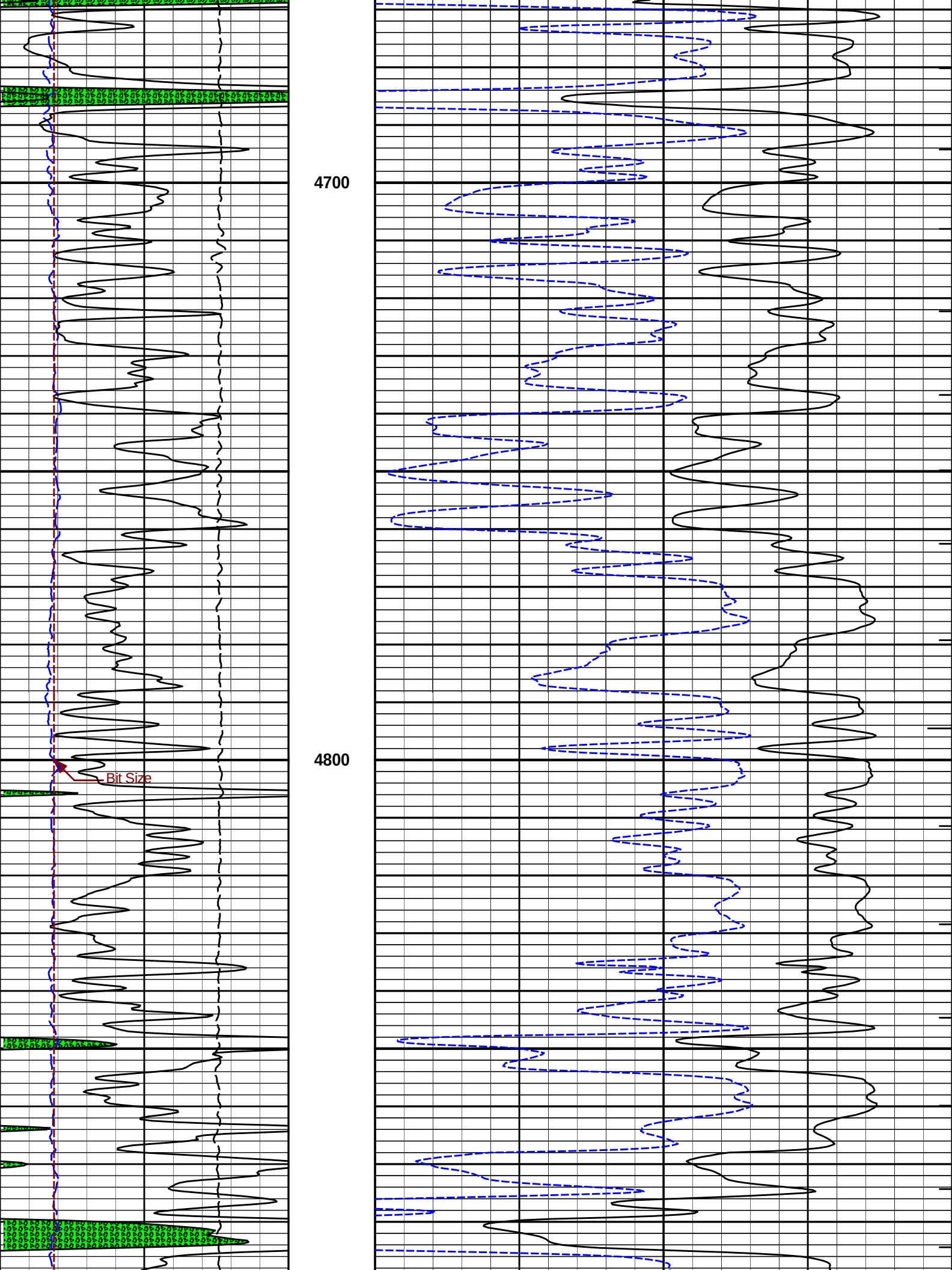
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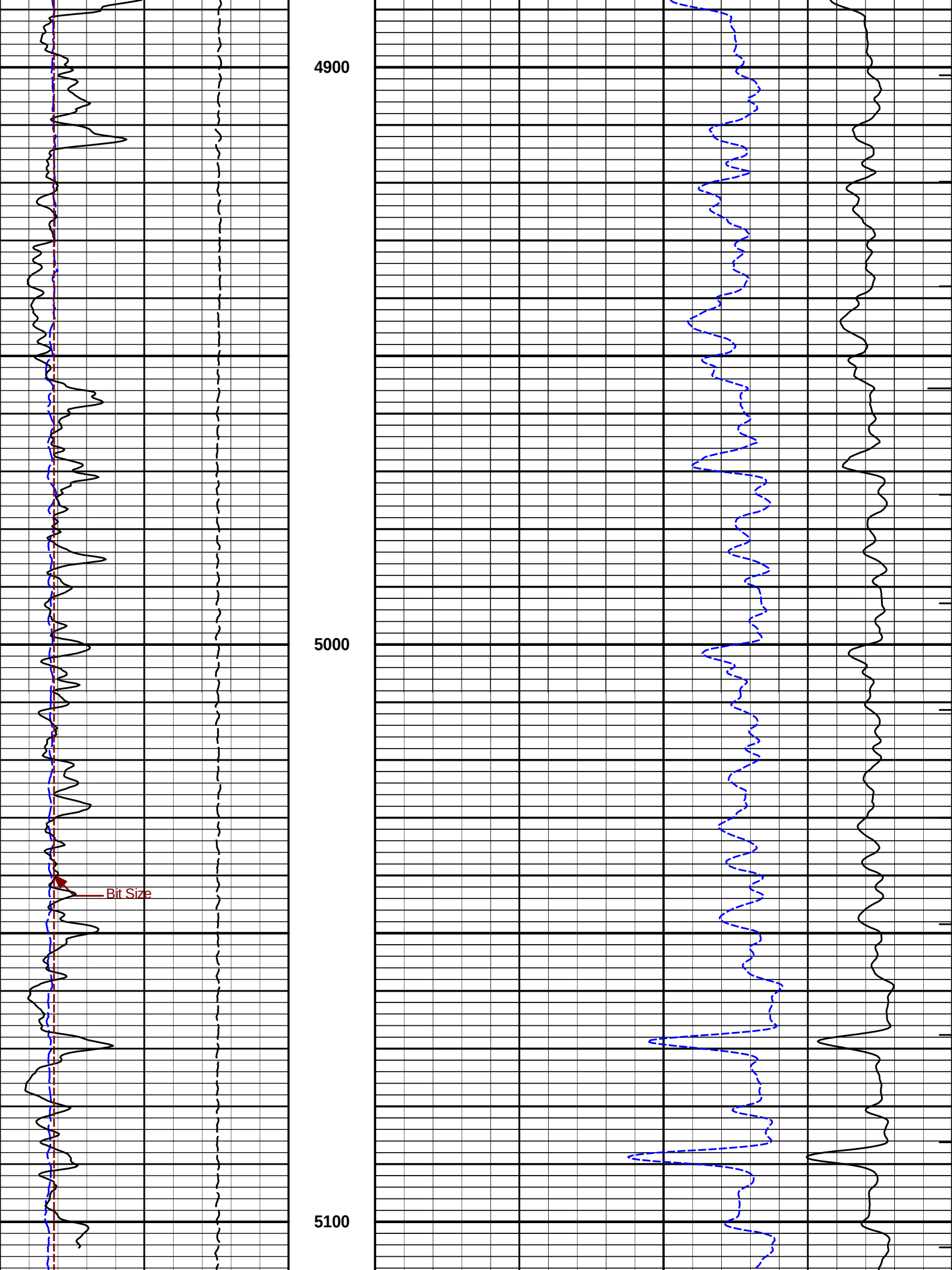
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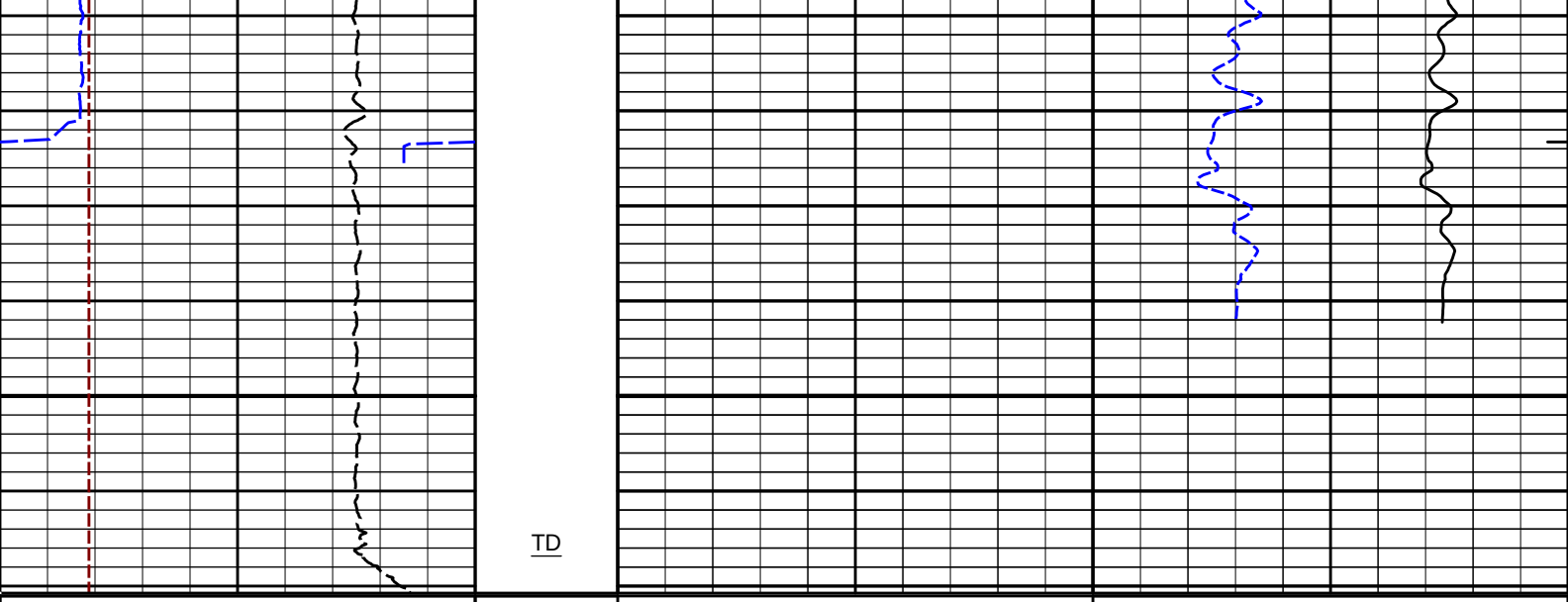


6 Bit Size 16 inches	1 : 240 ft	ITTT
6 CALI 16 inches		140 Delta-T 40 microsec per ft
15K Tens 0 pounds		30 Acou Porosity -10 percent
0 Gamma API 150 api		

HALLIBURTON

Plot Time: 26-Sep-22 22:04:27
Plot Range: 1795 ft to 5170.75 ft
Data: 09_26_MERIT\Well Based\DAQ-MAIN\
Plot File: \\SONIC\BSAT_5inch

5 INCH MAIN LOG

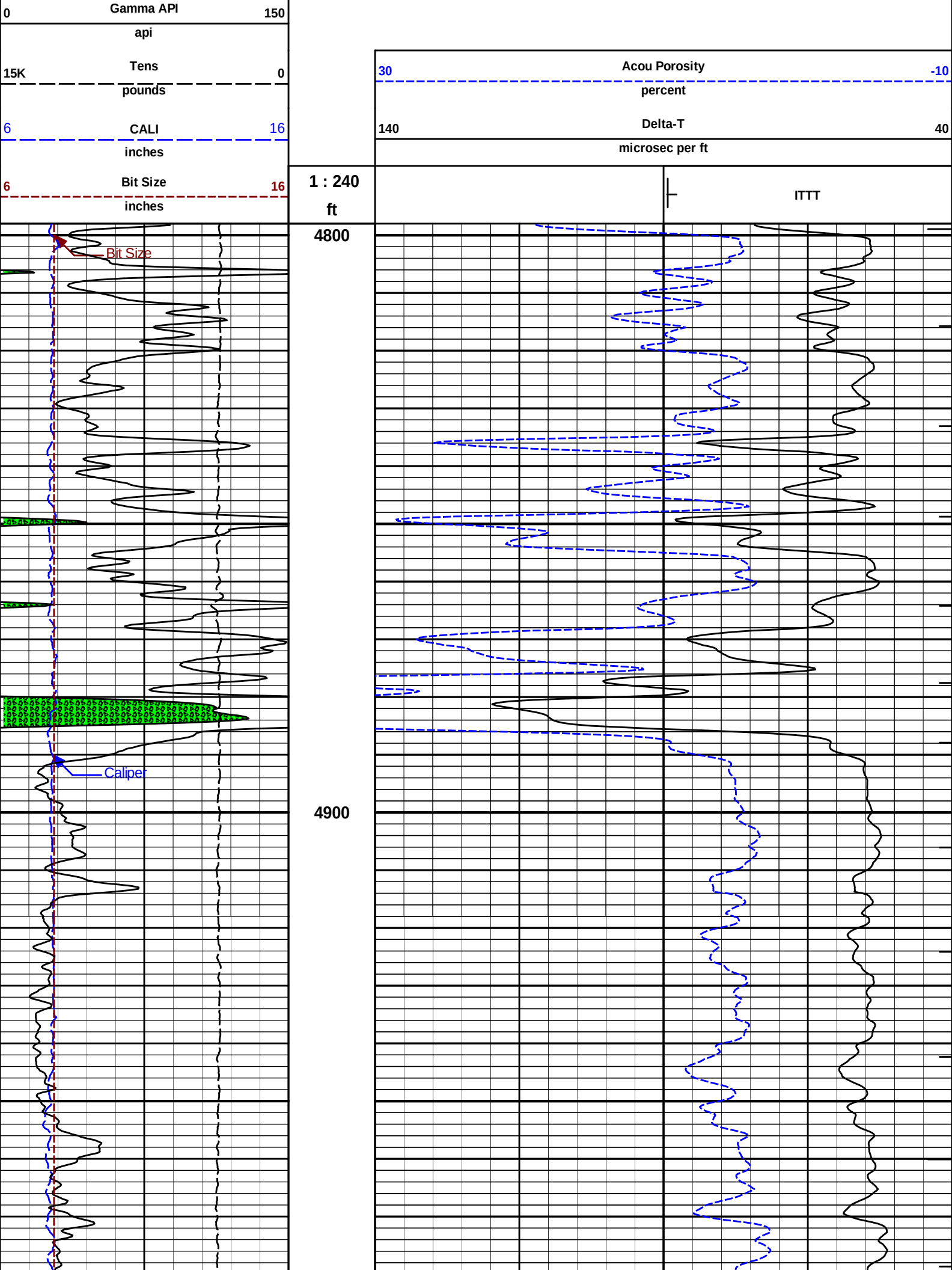
MAIN LOG SECTION

HALLIBURTON

Plot Time: 26-Sep-22 22:04:28
Plot Range: 4798 ft to 5175.5 ft
Data: 09_26_MERIT\Well Based\DAQ-0001-003\
Plot File: \\SONIC\BSAT_5inch RPT

REPEAT SECTION

REPEAT SECTION


Gamma API
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api
Tens
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pounds
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6
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inches
Bit Size
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inches
1 : 240
ft
Acou Porosity
30
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percent
Delta-T
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microsec per ft
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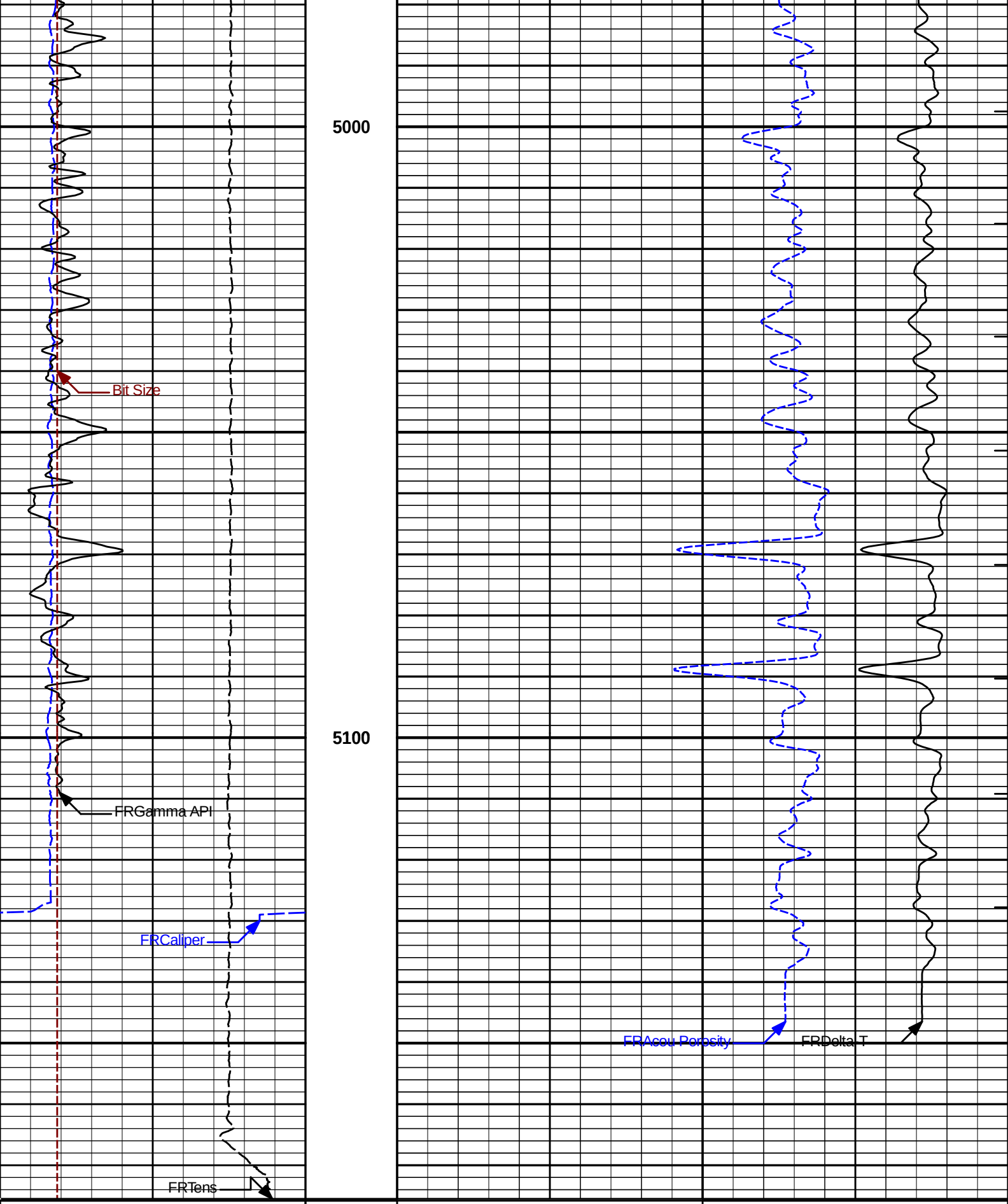
Bit Size
Caliper



6 Bit Size 16 inches	1 : 240 ft		ITTT
6 CALI 16 inches		140 Delta-T 40 microsec per ft	
Tens		30 Acou Porosity	10

15K 0
pounds

0 Gamma API 150
api

30 -10
percent

HALLIBURTON

Plot Time: 26-Sep-22 22:04:29
Plot Range: 4798 ft to 5175.5 ft
Data: 09_26_MERIT\Well Based\DAQ-0001-003\
Plot File: \\SONIC\BSAT_5inch RPT

REPEAT SECTION

REPEAT SECTION

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	**GTET - 11405267**	**Reference Calibration Date:**	**05-Aug-21 10:53:16**
Engineer:	**MOHAMED ABUELGASIM**	**Calibration Date:**	**17-Jun-22 16:53:35**
Software Version:	**WL INSITE R6.4.5 (Build 6)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB-768
Calibrator API Reference:203.00 api
Equivalent Calibrator API Reference:206.6 api

Measurement	Measured	Calibrated	Units
Background	19.1	17.9	api
Background + Calibrator	238.9	224.5	api
Calibrator	219.9	206.6	api

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	**DSNT - 11019641**	**Reference Calibration Date:**	**19-Aug-22 17:45:26**
Engineer:	**J. Cabanzo**	**Calibration Date:**	**19-Aug-22 18:08:05**
Software Version:	**WL INSITE R6.6.7 (Build 8)**	**Calibration Version:**	**1**

Logging Source S/N: 96395B
Tank Serial Number: 10585331
Reference value assigned to Tank: 54.090
Snow Block S/N: 2
Calibration Tank Water Temperature: 86 degF
Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS

Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.95915	0.96288	0.900 - 1.100

WATER TANK SUMMARY (Horizontal Water Tank)

Measurement	Current Reading (Previous Coef.)	Calibrated (New Coef.)	Change	Control Limit On Change

Porosity (decp):	0.2233	0.2244	0.0012	+/- 0.0020
Calibrated Ratio:	10.1421	10.1815	0.039	+/- 0.050

VERIFIER		
Measurement	**Value**	**Control Limit**
Snow-Block Porosity (decp):	0.0589	0.02000 - 0.09000

PASS/FAIL SUMMARY	
Background Check:	Passed
Gain-Range Check:	Passed
Snow-Block Check:	Passed

DUAL SPACED NEUTRON FIELD CALIBRATION

Tool Name: DSNT - 11019641 **Reference Calibration Date:** 19-Aug-22 18:08:05

Engineer: J. Cabanzo **Calibration Date:** 19-Aug-22 18:09:36

Software Version: WL INSITE R6.6.7 (Build 8) **Calibration Version:** 1

Logging Source S/N: 96395B

Snow Block S/N: 2

NEUTRON FIELD-CHECK SUMMARY				
	Shop	**Field**	**Difference**	**Control Limit On Change**
Snow-Block Porosity (decp):	0.0589	0.0712	0.0122	+/- 0.0150

PASS/FAIL SUMMARY	
Block Change Check:	Passed
Snow Block Stat Check:	Passed
Temperature Check:	Passed

DENSITY CALIPER SHOP CALIBRATION

Tool Name: SDLT - 10695352 **Reference Calibration Date:** 19-Aug-22 15:31:53

Engineer: J. Cabanzo **Calibration Date:** 19-Aug-22 15:37:09

Software Version: WL INSITE R6.6.7 (Build 8) **Calibration Version:** 1

Host Tool Name: DSNT - 11019641

CALIBRATION COEFFICIENTS			
Measurement	**Previous Value**	**New Value**	**Control Limit On New Value**
Pad Offset	-2934.34	-3021.58	-7000.00 - -1000.00
Pad Gain	0.0003900	0.0003927	0.0002000 - 0.0006000
Arm Offset	-3023.74	-2984.46	-5000.00 - 3000.00
Arm Gain	0.0005200	0.0005114	0.000300 - 0.000700
Arm Power	-0.000005411	-0.000004687	-0.000010000 - 0.000010000

The ring diameter is computed from: DIAMETER = PAD EXTENSION + ARM EXTENSION + TOOL DIAMETER

Tool Diameter: 4.50 in

CALIBRATION RINGS				
Measurement	**Current Reading (Previous Coeff.)**	**Calibrated (New Coeff.)**	**Change**	**Control Limit On New Value**
PAD EXTENSION:				
Small Ring (in)	2.02	2.00	-0.02	+/- 0.20
Medium Ring (in)	3.76	3.75	-0.01	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.54	6.50	-0.04	+/- 0.20
Medium Ring (in)	8.30	8.25	-0.05	+/- 0.20

Large Ring (in)	15.00	15.00	0.00	+/- 0.20

PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed
Ring-Measurement Check:	Passed

PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed

SDLT CALIPER FIELD CALIBRATION

Tool Name: SDLT - 10695352 **Reference Calibration Date:** 19-Aug-22 15:37:09

Engineer: J. Cabanzo **Calibration Date:** 19-Aug-22 15:38:25

Software Version: WL INSITE R6.6.7 (Build 8) **Calibration Version:** 1

MEASURED CALIPER VALUES

Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.76	0.01	+/- 0.10
Ring Diameter	8.25	8.24	-0.01	+/- 0.15

PASS/FAIL SUMMARY	
Pad Extension Check:	Passed
Diameter Check:	Passed

MICRO LOG SHOP CALIBRATION

Tool Name: Microlog Pad - 10695352 **Reference Calibration Date:** 19-Aug-22 15:26:27

Engineer: M. GALLION **Calibration Date:** 18-Sep-22 11:56:50

Software Version: WL INSITE R6.6.5 (Build 5) **Calibration Version:** 1

Host Tool Name: DSNT - 11019641

CALIBRATION COEFFICIENT SUMMARY

Measurement	Micro Log Normal		Micro Log Lateral		
	Measured	Calibrated	Measured	Calibrated	Units
Tool Zero	-0.07	-0.05	-0.01	0.01	ohmm
Calibration Point #1	0.00	0.02	-0.00	0.02	ohmm
Calibration Point #2	20.00	20.00	20.00	20.00	ohmm
Internal Reference	19.93	19.93	19.99	20.00	ohmm

Measurement	Micro Log Normal Tool Value	Micro Log Lateral Tool Value	Units
Tool Zero	-0.11	0.29	V
Calibration Point #1	18.75	2.31	V
Calibration Point #2	5342.97	6961.14	V
Internal Reference	5325.50	6960.16	V

MICRO LOG FIELD CHECK

Tool Name: Microlog Pad - 10695352 **Reference Calibration Date:** 18-Sep-22 11:56:50

Engineer: M. GALLION **Calibration Date:** 18-Sep-22 11:57:39

Software Version: WL INSITE R6.6.5 (Build 5) **Calibration Version:** 1

Measurement	Micro Log Normal		Micro Log Lateral		
	Shop	Field	Shop	Field	Units
Tool Zero	-0.05	-0.05	0.01	0.01	ohmm
Internal Reference	19.93	19.94	20.00	20.00	ohmm

Summary

Signal	Shop	Field	Difference	Tolerence
Microlog Normal	19.93	19.94	-0.01	+/- 0.80
Microlog Lateral	20.00	20.00	0.00	+/- 0.80

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name: SDLT Pad - 10865883 **Reference Calibration Date:** 18-Aug-22 15:18:35

Engineer: J. Cabanzo **Calibration Date:** 18-Aug-22 15:40:41

Software Version: WL INSITE R6.6.7 (Build 8) **Calibration Version:** 1

Logging Source S/N: 5406GW

Aluminum Block S/N: 10585329 Density: 2.595g/cc Pe: 3.270

Magnesium Block S/N: 10585330 Density: 1.679g/cc Pe: 2.580

DENSITY CALIBRATION SUMMARY

Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0268	1.0413	0.90 - 1.10
Near Dens Gain	1.0028	1.0178	0.90 - 1.10
Near Peak Gain	1.0111	1.0223	0.90 - 1.10
Near Lith Gain	0.9937	1.0032	0.90 - 1.10
Far Bar Gain	1.0130	1.0125	0.90 - 1.10
Far Dens Gain	1.0018	1.0019	0.90 - 1.10
Far Peak Gain	0.9966	0.9966	0.90 - 1.10
Far Lith Gain	0.9721	0.9764	0.90 - 1.10
Near Bar Offset	0.0440	-0.0871	NONE
Near Dens Offset	0.2346	0.1031	NONE
Near Peak Offset	0.1484	0.0544	NONE
Near Lith Offset	0.2572	0.1772	NONE
Far Bar Offset	0.0901	0.0959	NONE
Far Dens Offset	0.1963	0.1949	NONE
Far Peak Offset	0.2260	0.2243	NONE
Far Lith Offset	0.3754	0.3427	NONE
Near Bar Background	926.68	925.11	700 - 1450
Near Dens Background	305.57	305.68	230 - 480
Near Peak Background	132.20	132.48	100 - 210
Near Lith Background	164.41	164.83	125 - 260
Far Bar Background	582.80	586.26	450 - 900
Far Dens Background	228.90	229.53	175 - 345
Far Peak Background	90.63	91.49	70 - 140
Far Lith Background	94.02	94.43	75 - 145

CALIBRATION BLOCK SUMMARY

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.678	1.678	0.000	+/- 0.015
Pe	2.546	2.552	0.006	+/- 0.150
ALUMINUM				
Density (g/cc)	2.596	2.595	-0.001	+/- 0.01500
Pe	3.221	3.228	0.007	+/- 0.150

TOOL SUMMARY

Measurement	Near Detector	Far Detector

	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0014	+/- 0.0110	0.0003	+/- 0.0140
Magnesium Block	-0.0006	+/- 0.0110	-0.0014	+/- 0.0140
Aluminum Block	-0.0004	+/- 0.0110	-0.0004	+/- 0.0140
Resolution	8.83	6.00 - 11.50	8.98	6.00 - 11.50
Internal Verifier(B+D+P+L)	1528	1200 - 2700	1002	800 - 1700

PASS/FAIL SUMMARY	
Background Quality Check:	Passed
Background Range Check:	Passed
Background Resolution Check:	Passed
Background Verification Check:	Passed
Magnesium Quality Check:	Passed
Aluminum Quality Check:	Passed
Gains Check:	Passed
Changes in Calibration Blocks:	Passed

SPECTRAL DENSITY FIELD CHECK

Tool Name: SDLT Pad - 10865883 **Reference Calibration Date:** 18-Aug-22 15:40:41

Engineer: M. GALLION **Calibration Date:** 17-Sep-22 19:26:40

Software Version: WL INSITE R6.6.5 (Build 5) **Calibration Version:** 1

Pad Temperature: 96.0 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1528.096	1528.486	0.390	15.742
Far (B+D+P+L) cps	1001.708	996.589	-5.119	16.936
Near Resolution	8.83	8.77	-0.060	0.50
Far Resolution	8.98	8.90	-0.080	1.00

PASS/FAIL SUMMARY	
Bkg Quality Check:	Passed
Bkg Resolution Check:	Passed
Bkg Verification Check:	Passed

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name: ACRt Sonde - 10933411 **Reference Calibration Date:** 10-Mar-22 11:52:39

Engineer: MOHAMED ABUELGASIM **Calibration Date:** 17-Jun-22 12:35:28

Software Version: WL INSITE R6.6.7 (Build 8) **Calibration Version:** 1

Host Tool Name: ACRt Instrument - 10967817

TYPICAL GAIN RANGE									
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.0093	1.05	0.95	1.0097	1.05	0.95	1.0029	1.05
A2 (50")	0.95	1.0129	1.05	0.95	1.0137	1.05	0.95	1.0066	1.05
A3 (29")	0.95	1.0093	1.05	0.95	1.0074	1.05	0.95	1.0011	1.05
A4 (17")	0.95	1.0092	1.05	0.95	1.0064	1.05	0.95	1.0040	1.05
A5 (10")	N/A	N/A	N/A	0.95	0.9991	1.05	0.95	0.9969	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9833	1.05	0.95	0.9814	1.05

SONDE OFFSET

SONDE OFFSET

Subarray	R12KHz	R36KHz	R72KHz
	(mmho/m)	(mmho/m)	(mmho/m)
A1 (80")	-0.514	-4.153	-5.096
A2 (50")	-1.142	-3.528	-4.869
A3 (29")	-10.576	-3.717	-3.307
A4 (17")	-100.911	-32.858	-26.318
A5 (10")	N/A	-93.684	-45.343
A6 (6")	N/A	345.620	160.599

TRANSMITTER CURRENT GAIN

Signal	Lower	R	Upper
12K	0.6	0.94	1.3
36K	1.0	1.85	2.0
72K	1.0	1.18	2.0

R-MUD VERIFICATION

Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
Mud Cell	0.95	1.00	1.05

PASS/FAIL SUMMARY

GAIN RANGE CHK	PASS
SONDE OFFSET CHK	PASS

TOOL OK TO LOG

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11405267						
Gamma Ray Calibrator	206.6	----------	----------	0.0	+/- 9.00	api
DSNT-11019641						
Snow-Block Porosity	0.0589	0.0712	----------	-0.0123	+/- 0.0150	decp
SDLT-10695352						
Pad Extension	3.75	3.76	----------	-0.01	+/-0.10	in
Ring Diameter	8.25	8.24	----------	0.01	+/-0.15	in
Microlog Pad-10695352						
MicroLog Normal	19.93	19.94	----------	-0.01	+/-0.80	ohmm
MicroLog Lateral	20.00	20.00	----------	0.00	+/-0.80	ohmm
SDLT Pad-10865883						
Near(B+D+P+L)	1528.096	1528.486	----------	-0.390	+/-15.742	cps
Far(B+D+P+L)	1001.708	996.589	----------	5.119	+/-16.936	cps
ACRt Sonde-10933411						
Mud Cell	1.00	----------	----------	0	----------	ohm-m

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HALLIBURTON

PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	7.875	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	9.200	ppg

SHARED	MDWT	Borehole Fluid Weight	9.200	ppg
SHARED	WAGT	Weighting Agent	Barite	
SHARED	BSAL	Borehole salinity	0.00	ppm
SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
SHARED	RMUD	Mud Resistivity	1.000	ohmm
SHARED	TRM	Temperature of Mud	75.0	degF
SHARED	CSD	Logging Interval is Cased?	No	
SHARED	ICOD	AHV Casing OD	5.500	in
SHARED	CSTR	Compressive Strength	1000.00	psia
SHARED	ST	Surface Temperature	75.0	degF
SHARED	TD	Total Well Depth	5173.00	ft
SHARED	BHT	Bottom Hole Temperature	200.0	degF
SHARED	SVTM	Navigation and Survey Master Tool	NONE	
SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
SHARED	TEMM	CBM Temperature Master Tool	GTET	
SHARED	MSAL	Water-base mud filtrate salinity	0.00	ppm
Rwa / CrossPlot	XPOK	Process Crossplot?	Yes	
Rwa / CrossPlot	FCHO	Select Source of F	Automatic	
Rwa / CrossPlot	AFAC	Archie A factor	0.6200	
Rwa / CrossPlot	MFAC	Archie M factor	2.1500	
Rwa / CrossPlot	RMFR	Rmf Reference	0.10	ohmm
Rwa / CrossPlot	TMFR	Rmf Ref Temp	75.00	degF
Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm
Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
Rwa / CrossPlot	BHSM	Borehole Size Source Tool	SDLT	
Rwa / CrossPlot	ROIN	Input for RO Calculation	Rwa	
GTET	ACOK	Do ACCZ Calculations?	Yes	
GTET	GROK	Process Gamma Ray?	Yes	
GTET	GEOK	Process Gamma Ray EVR?	No	
GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
GTET	BHSM	Borehole Size Source Tool	SDLT	
DSNT	DNOK	Process DSN?	Yes	
DSNT	DEOK	Process DSN EVR?	No	
DSNT	NLIT	Neutron Lithology	Limestone	
DSNT	DNSO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.250	in
DSNT	DNTT	Temperature Correction Type	None	
DSNT	DPRS	DSN Pressure Correction Type	None	
DSNT	SHCO	View More Correction Options	No	
DSNT	UTVD	Use TVD for Gradient Corrections?	No	
DSNT	LHWT	Logging Horizontal Water Tank?	No	
DSNT	UCLA	Classic Neutron Parameter utilized?	No	
DSNT	BHSM	Borehole Size Source Tool	SDLT	
SDLT	CLOK	Process Caliper Outputs?	Yes	
Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
SDLT Pad	DNOK	Process Density?	Yes	
SDLT Pad	DNOK	Process Density EVR?	No	
SDLT Pad	CB	Logging Calibration Blocks?	No	
SDLT Pad	SPVT	SDLT Pad Temperature Valid?	Yes	
SDLT Pad	DTWN	Disable temperature warning	No	
SDLT Pad	DMA	Formation Density Matrix	2.710	g/cc

SDLT Pad	DMA	Formation Density Matrix	2.710	g/cc
SDLT Pad	DFL	Formation Density Fluid	1.000	g/cc
SDLT Pad	BHSM	Borehole Size Source Tool	SDLT	
BSAT	MBOK	Compute BCAS Results?	Yes	
BSAT	FLLO	Frequency Filter Low Pass Value?	5000	Hz
BSAT	FLHI	Frequency Filter High Pass Value?	27000	Hz
BSAT	DTFL	Delta -T Pore Fluid	189.00	uspf
BSAT	DTMT	Delta -T Matrix Type	Limestone 47.6	
BSAT	DTSH	Delta -T Shale	100.00	uspf
BSAT	SPEQ	Acoustic Porosity Equation	Wylie	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
ACRt Sonde	TPOS	Tool Position	Centered	
ACRt Sonde	RMOP	Rmud Source	Mud Cell	
ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt Sonde	RMAX	Maximum Resistivity for MAP	200.00	ohmm
ACRt Sonde	THQY	Threshold Quality	0.50	
ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm
ACRt Sonde	BHSM	Borehole Size Source Tool	SDLT	
ACRt Sonde	MBFL	Apply Corkscrew Effect?	No	

BOTTOM

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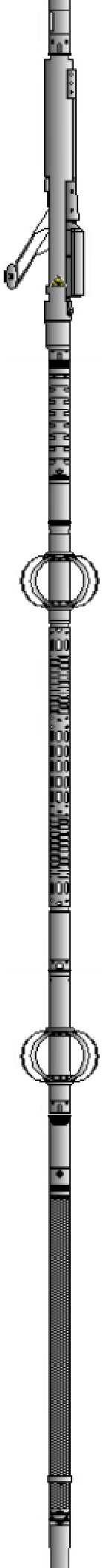
TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
						78.05 ft
		Ø 2.310 in		Fishing Neck @ 77.17 ft		
RWCH-12027540 135.00 lbs		Ø 3.625 in			6.25 ft	
				Load Cell @ 74.36 ft		
	Weak Point 12000 lbs- 00000012 0.01 lbs	Ø 0.010 in*		BH Temperature @ 73.80 ft		
						71.80 ft
				Z-Accelerometer @ 71.35 ft		
GTET-11405267 165.00 lbs		Ø 3.625 in			8.52 ft	
				GammaRay @ 65.74 ft		
						63.28 ft
	DSN Decentralizer- 11019643 6.60 lbs	Ø 5.000 in*				
DSNT-11019641 174.00 lbs		Ø 3.625 in			9.69 ft	
				DSN Far @ 56.34 ft		
				DSN Near @ 55.59 ft		



SDLT Pad-10865883
65.00 lbs

SDLT-10695352
360.00 lbs

Microlog Pad-10695352
8.00 lbs

RAM-Cs137-10020004
1.00 lbs

Ø 4.500 in

Ø 4.500 in*

Ø 4.750 in*

Ø 0.800 in*

Microlog @ 45.78 ft

SDL Caliper @ 45.59 ft

SDL @ 45.58 ft

53.59 ft

10.81 ft

42.78 ft

Flex Joint-10883966
140.00 lbs

Ø 3.625 in

5.67 ft

37.11 ft

Centralizer 25-00000001
8.00 lbs

Ø 4.000 in*

BSAT-10747681
300.00 lbs

Ø 3.625 in

Receiver Array @ 28.59 ft

Sonic Receivers @ 28.59 ft

15.77 ft

21.33 ft

ACRt Instrument-10967817
50.00 lbs

Centralizer 25-00000002
8.00 lbs

Ø 3.625 in

Ø 4.000 in*

5.03 ft

16.30 ft

Mud Resistivity @ 14.94 ft

ACRt @ 10.96 ft

ACRt Sonde-10933411
200.00 lbs

Ø 3.625 in

14.22 ft

SP Ring-10933411
0.00 lbs

Ø 3.625 in*

SP @ 3.36 ft

2.08 ft

Hole Finder-11111111
50.00 lbs

Ø 2.800 in

Ø 3.625 in

2.08 ft

0.00 ft

Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)		Accumulated Length (ft)	Max.Log. Speed (fpm)
RWCH	Releasable Wireline Cable Head	12027540	135.00	6.25		71.80	300.00
WP12K	Weak Point 12000 lbs	00000012	0.01	0.01	*	72.60	300.00
GTET	Gamma Telemetry Tool	11405267	165.00	8.52		63.28	60.00
DSNT	Dual Spaced Neutron	11019641	174.00	9.69		53.59	60.00
DCNT	DSN Decentralizer	11019643	6.60	5.13	*	56.92	300.00
SDLT	Spectral Density Tool	10695352	360.00	10.81		42.78	60.00
SDLP	Density Insite Pad	10865883	65.00	2.55	*	44.99	60.00
Cs137	Logging Source, SDLT-I, 1.78 Ci - Cs137	10020004	1.00	0.80	*	45.22	300.00
MICP	Microlog Pad	10695352	8.00	1.00	*	45.28	60.00
FLEX	Flex Joint	10883966	140.00	5.67		37.11	300.00
BSAT	Borehole Sonic Array Tool	10747681	300.00	15.77		21.33	60.00
OBCEN	Centralizer - 25 in. Overbody	00000001	8.00	2.08	*	33.99	300.00
ACRt	Array Compensated True Resistivity Instrument Section	10967817	50.00	5.03		16.30	120.00
OBCEN	Centralizer - 25 in. Overbody	00000002	8.00	2.08	*	17.29	300.00
ACRt	Array Compensated True Resistivity Sonde Section	10933411	200.00	14.22		2.08	120.00
SP	SP Ring	10933411	0.00	0.25	*	3.36	300.00
HFND	Hole Finder	11111111	50.00	2.08		0.00	300.00
Total			**1,670.61**	**78.05**			

* Not included in Total Length and Length Accumulation.

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COMPANY	**MERIT ENERGY COMPANY, LLC**
WELL	**CELONA No. 1-12**
FIELD	**ST LOUIS**
COUNTY	**FINNEY** STATE **KS**

HALLIBURTON

BOREHOLE COMPENSATED SONIC ARRAY