HALLIBURTON

MICROLOG

COMPANY	OXY USA, INC
WELL	BERGER A-3
FIELD	PLEASANT PRAIRIE
COUNTY	HASKELL
STATE	KANSAS

COMPANY OXY USA, INC
WELL BERGER A-3
FIELD PLEASANT PRAIRIE
COUNTY HASKELL **STATE** KANSAS

API No. 15-081-21937
Location 1003' FSL & 1932' FWL

Other Services:
DSNT / SDLT
BSAT
ACRT

Sect. 22 Twp. 27S Rge. 34W

Permanent Datum	GROUND LEVEL	Elev. 3019.0 ft	Elev.: K.B. 3030.0 ft
Log measured from	KELLY BUSHING	11.0 ft above perm. Datum	D.F. 3029.0 ft
Drilling measured from	KELLY BUSHING		G.L. 3019.0 ft

Date	28-May-11		
Run No.	ONE		
Depth - Driller	5410.00 ft		
Depth - Logger	5396.0 ft		
Bottom - Logged Interval	5358.0 ft		
Top - Logged Interval	1853.0 ft		
Casing - Driller	8.625 in @ 1835.0 ft	@	@
Casing - Logger	1953.0 ft		
Bit Size	7.875 in		
Type Fluid in Hole	WATER BASED MUD		
Density / Viscosity	9.1 ppg / 52.00 s/qt		
PH / Fluid Loss	10.80 pH / 7.6 cptm		
Source of Sample	FLOWLINE		
Rm @ Meas. Temperature	1.000 ohmm @ 82.00 degF	@	@
Rmf @ Meas. Temperature	0.95 ohmm @ 68.00 degF	@	@
Rmc @ Meas. Temperature	1.190 ohmm @ 68.00 degF	@	@
Source Rmf / Rmc	MEASURED / MEASURED		
Rm @ BHT	0.70 ohmm @ 139.0 degF	@	@
Time Since Circulation	13.0 hr		
Time on Bottom	28-May-11 12:17		
Max. Rec. Temperature	139.0 degF @ 5396.0 ft	@	@
Equipment / Location	10546696 / LIBERAL		
Recorded By	C. HAVERKAMP		
Witnessed By	D. NEESE		

Fold here

Service Ticket No.: 8205394 API Serial No.: 15-081-21937 PGM Version: WL INSITE R3.2.0 (Build 7)

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE					
Date	Sample No.				
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
ONE	MICRO	RUBBER	ADJ.	N/A

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.		Run No.		Run No.	
Serial No.	11050378	Serial No.		Serial No.		Serial No.	
Model No.	GTET	Model No.		Model No.		Model No.	
Diameter	3.625"	No. of Cent.		Diameter		Diameter	
Detector Model No.	T-102	Spacing		Log Type		Log Type	
Type	SCINT			Source Type		Source Type	
Length	8"	LSA [Y/N]		Serial No.		Serial No.	
Distance to Source	10'	FWDA [Y/N]		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	5396'	1853'	REC	0	150									

DIRECTIONAL INFORMATION

Maximum Deviation @ KOP @

Remarks: SP-GTET-DSNT-SDLT-BSAT-ACRT RAN IN COMBINATION.

ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING.

CHLORIDES REPORTED AT 2000 MG/L. LCM REPORTED AT 2 LB/BBL.

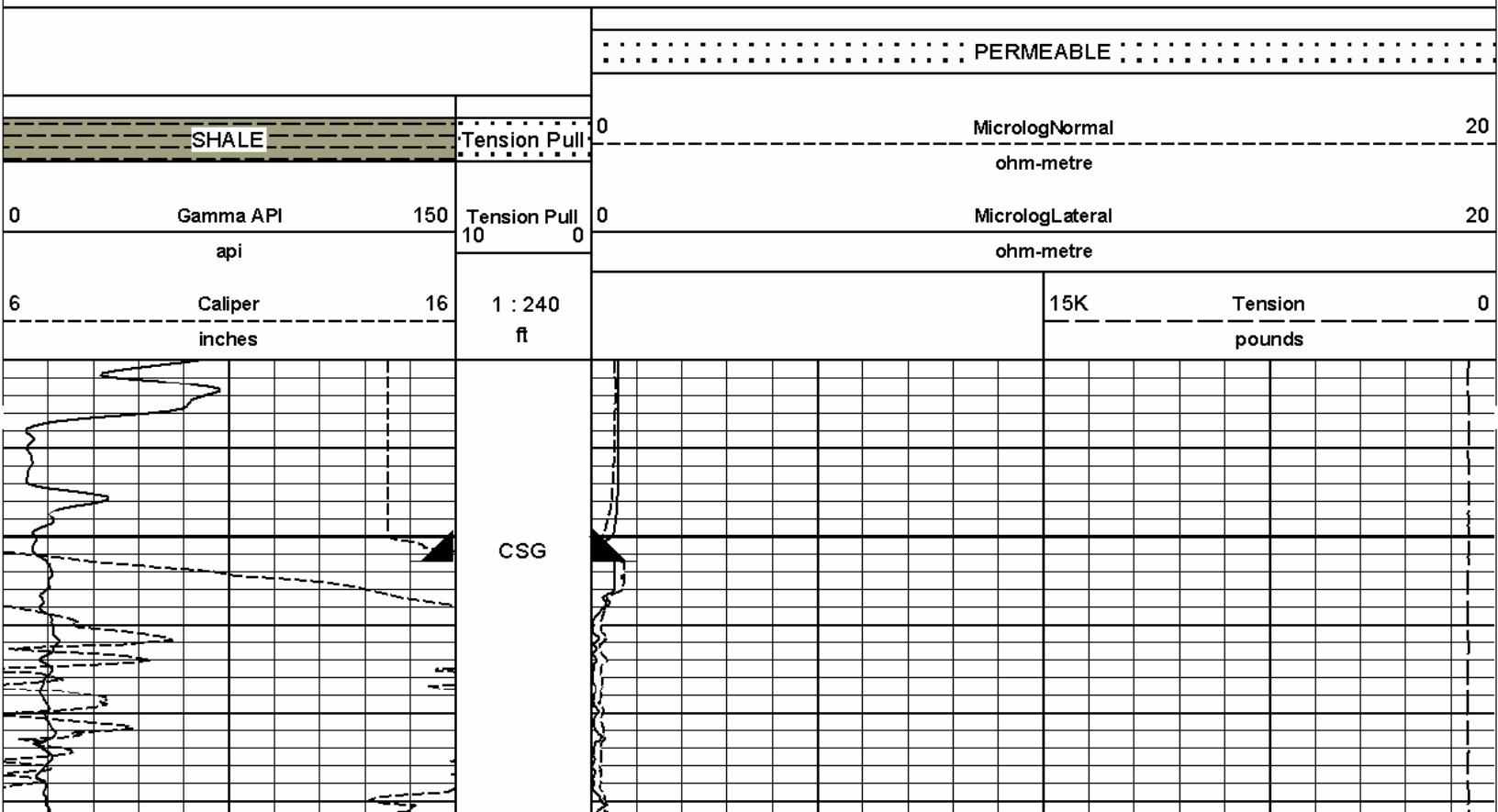
YOUR CREW: K. KELLY, R. SHANNON

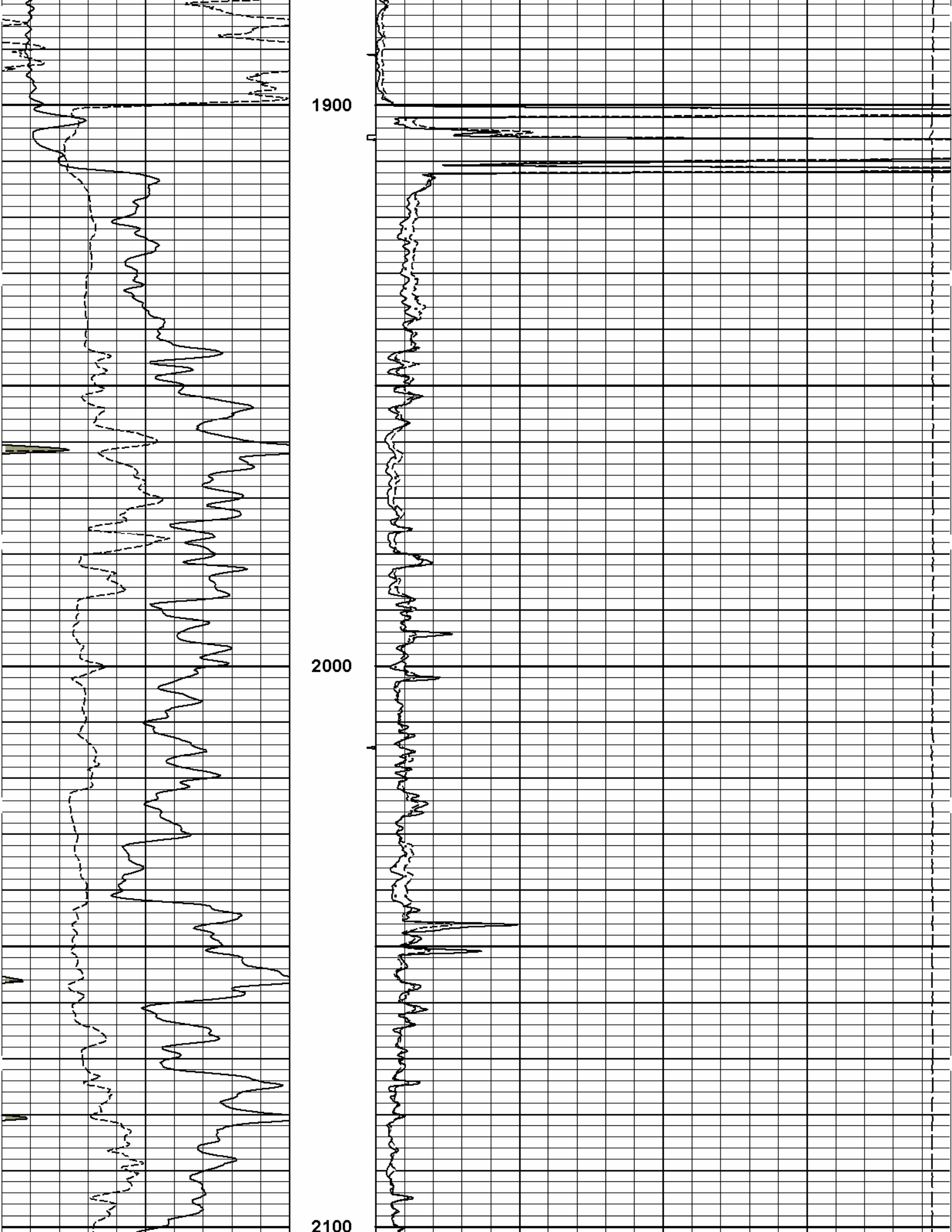
THANK YOU FOR USING HALLIBURTON ENERGY SERVICES. LIBERAL, KS 620-624-8123

HALLIBURTON

Plot Time: 28-May-11 14:06:51
Plot Range: 1830 ft to 5400 ft
Data: BERGER_A_3\Well Based\MAIN\
Plot File: \\-LOCAL-\BERGER_A_3\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\MICRO\Microlog_IQ_5_main_lib

5 INCH MAIN LOG

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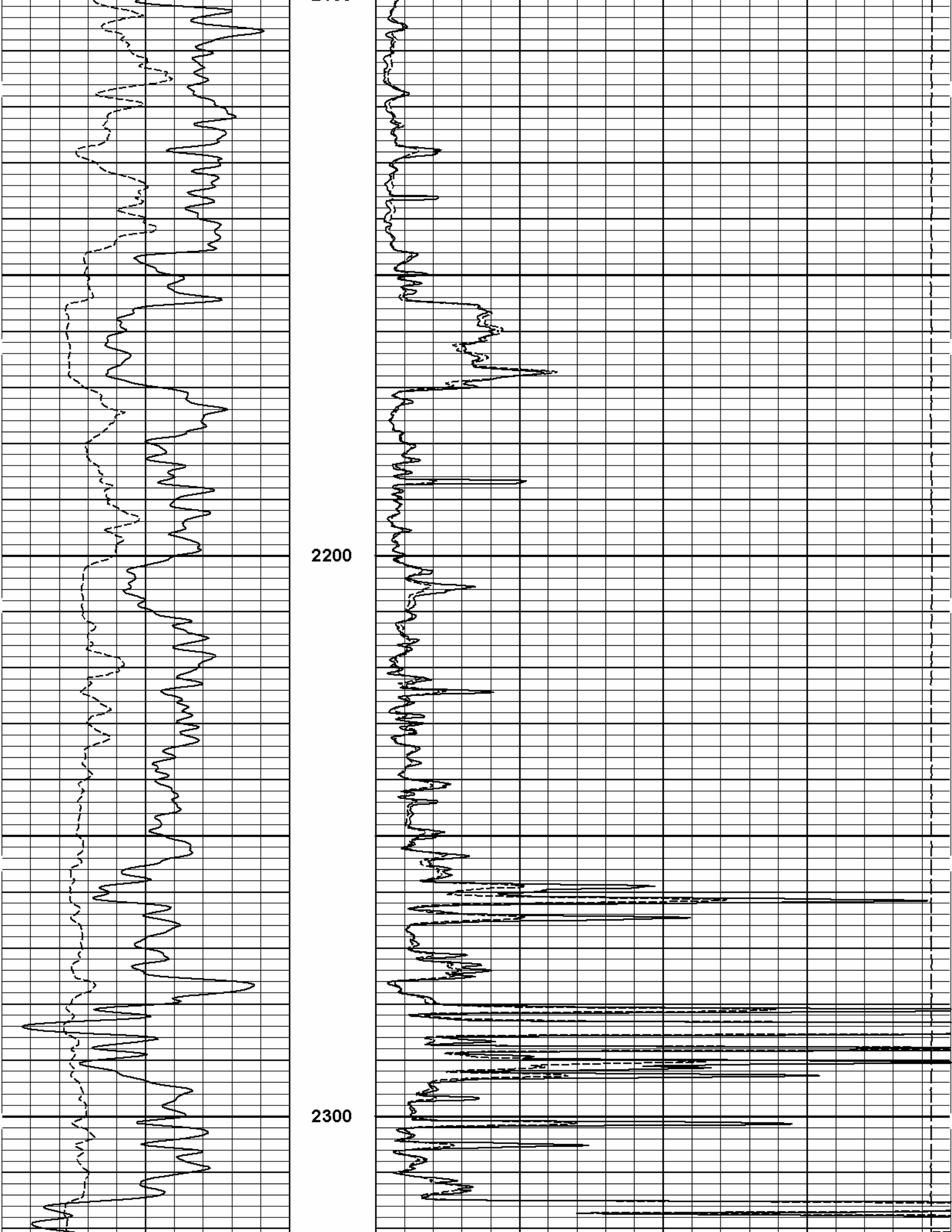
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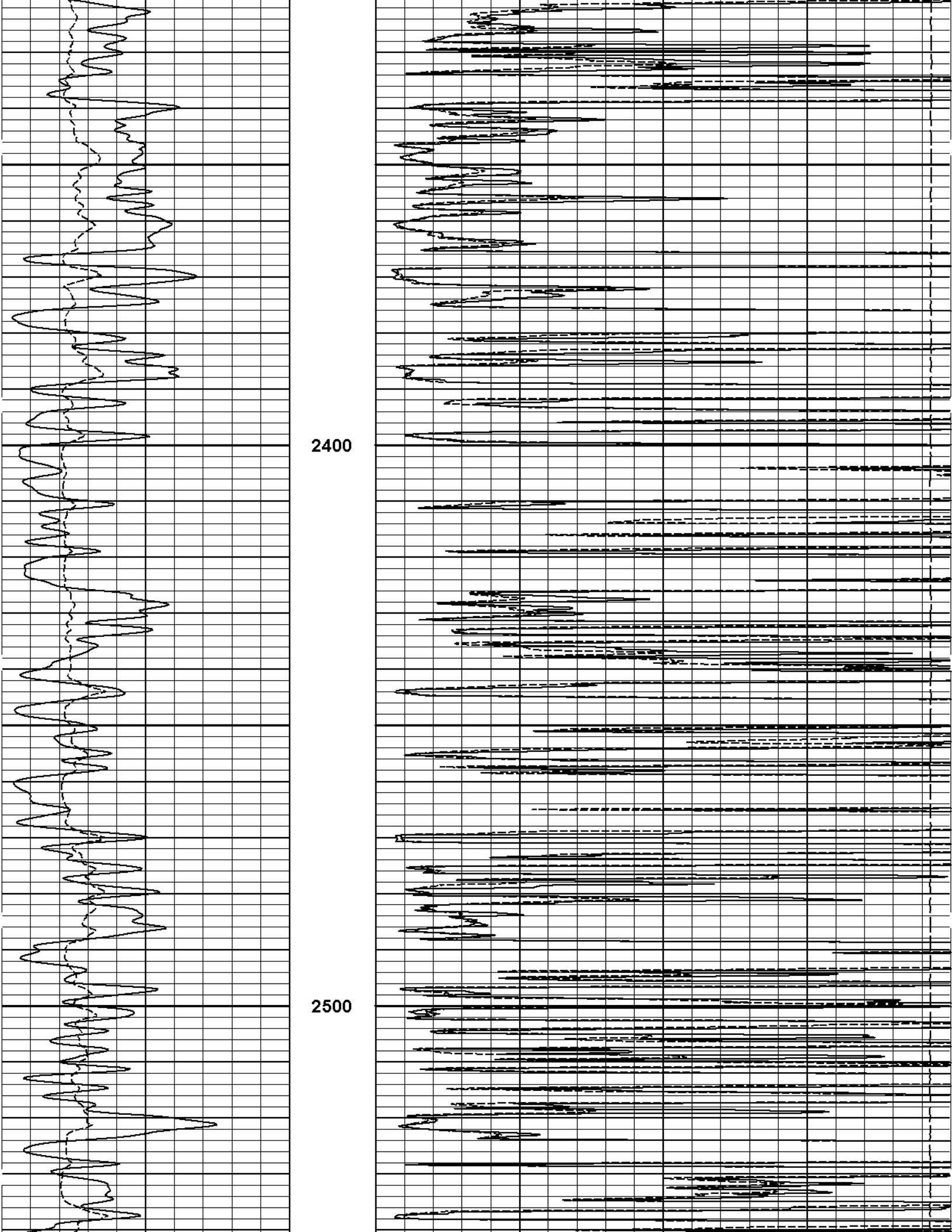
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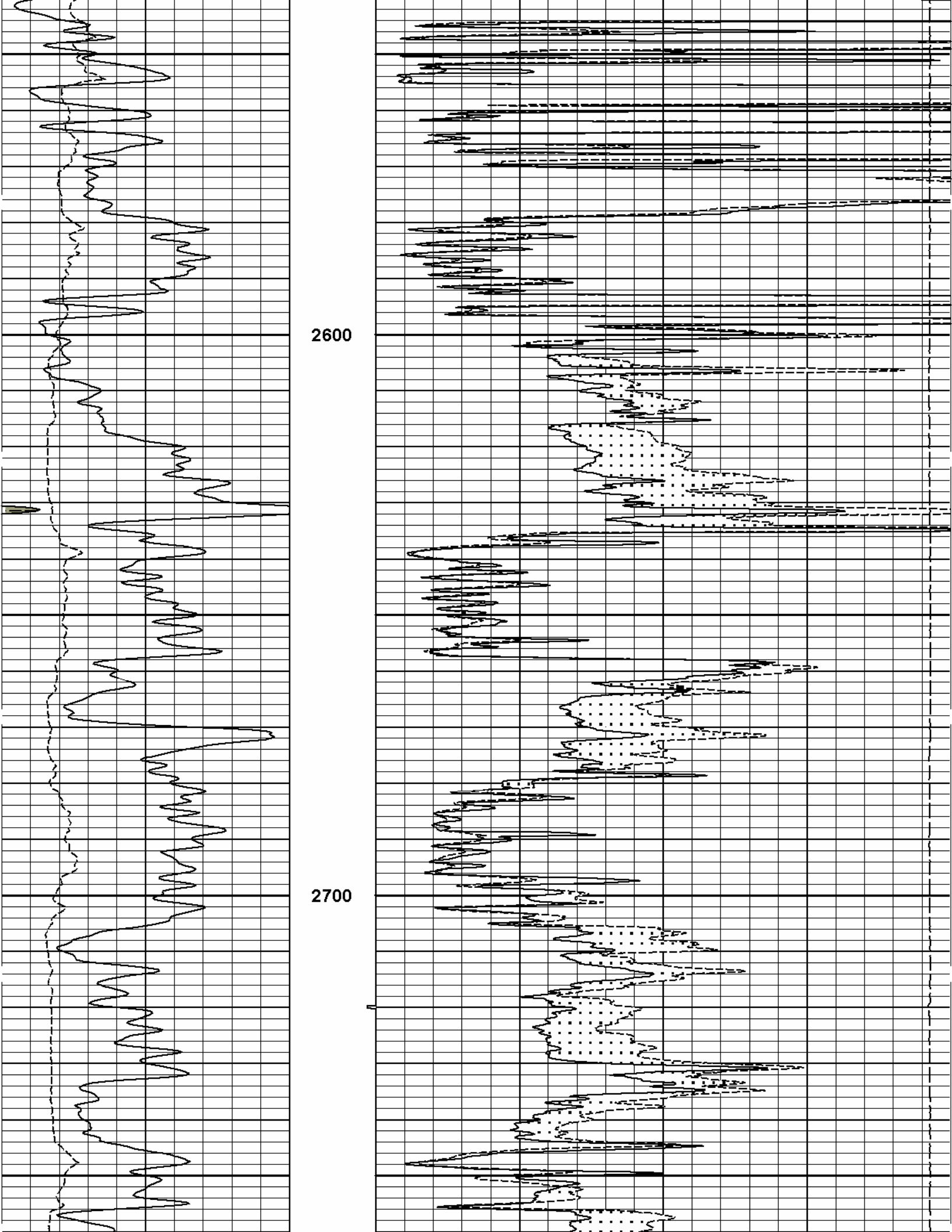
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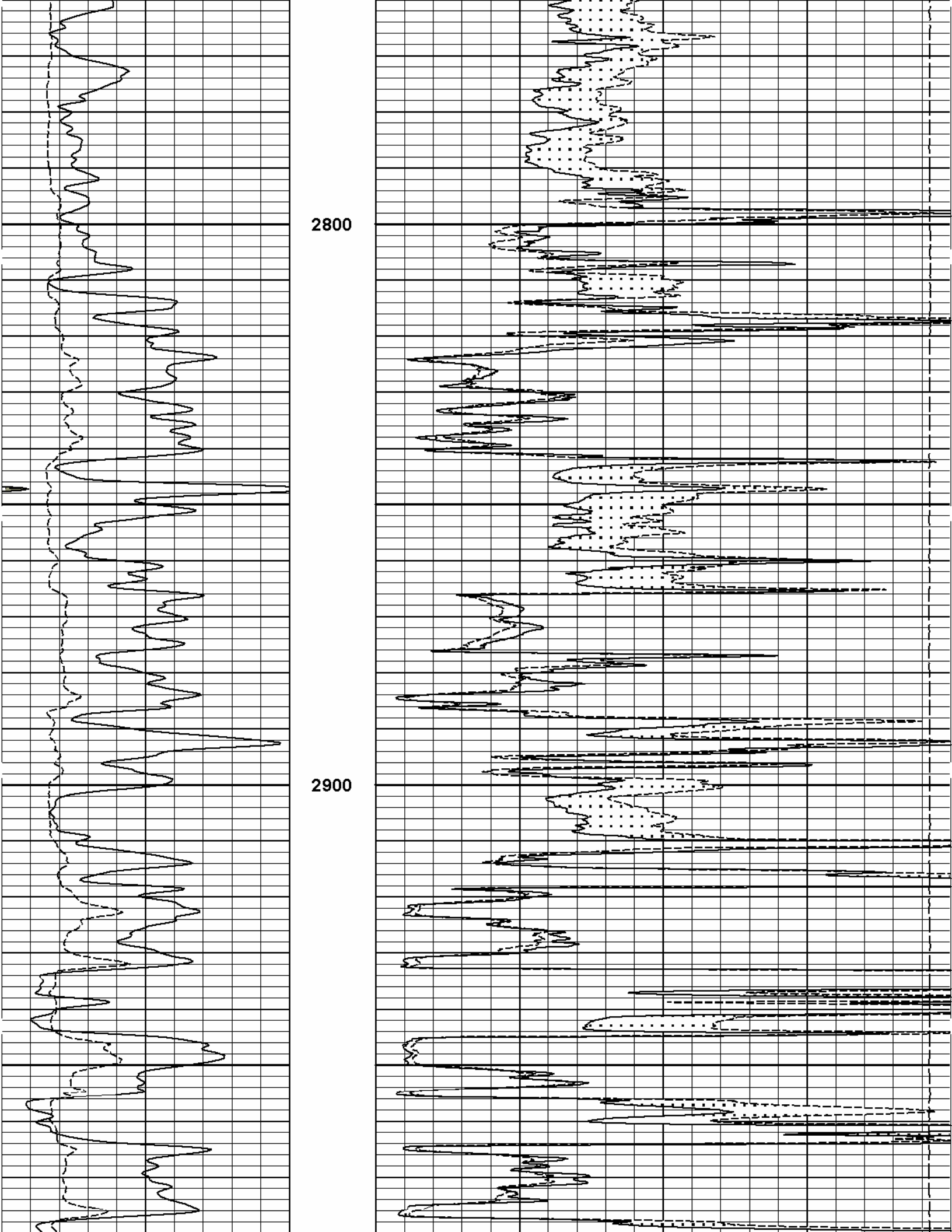
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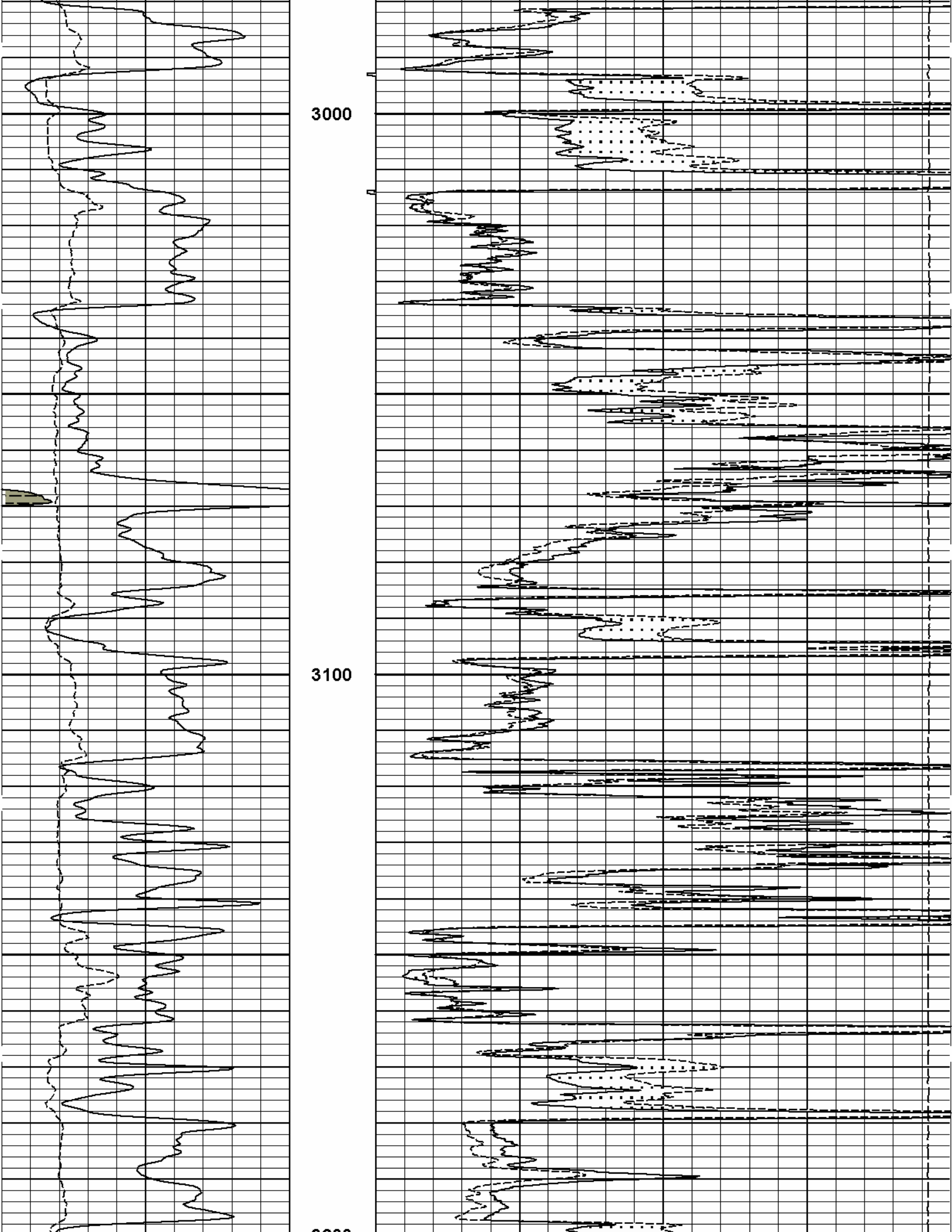
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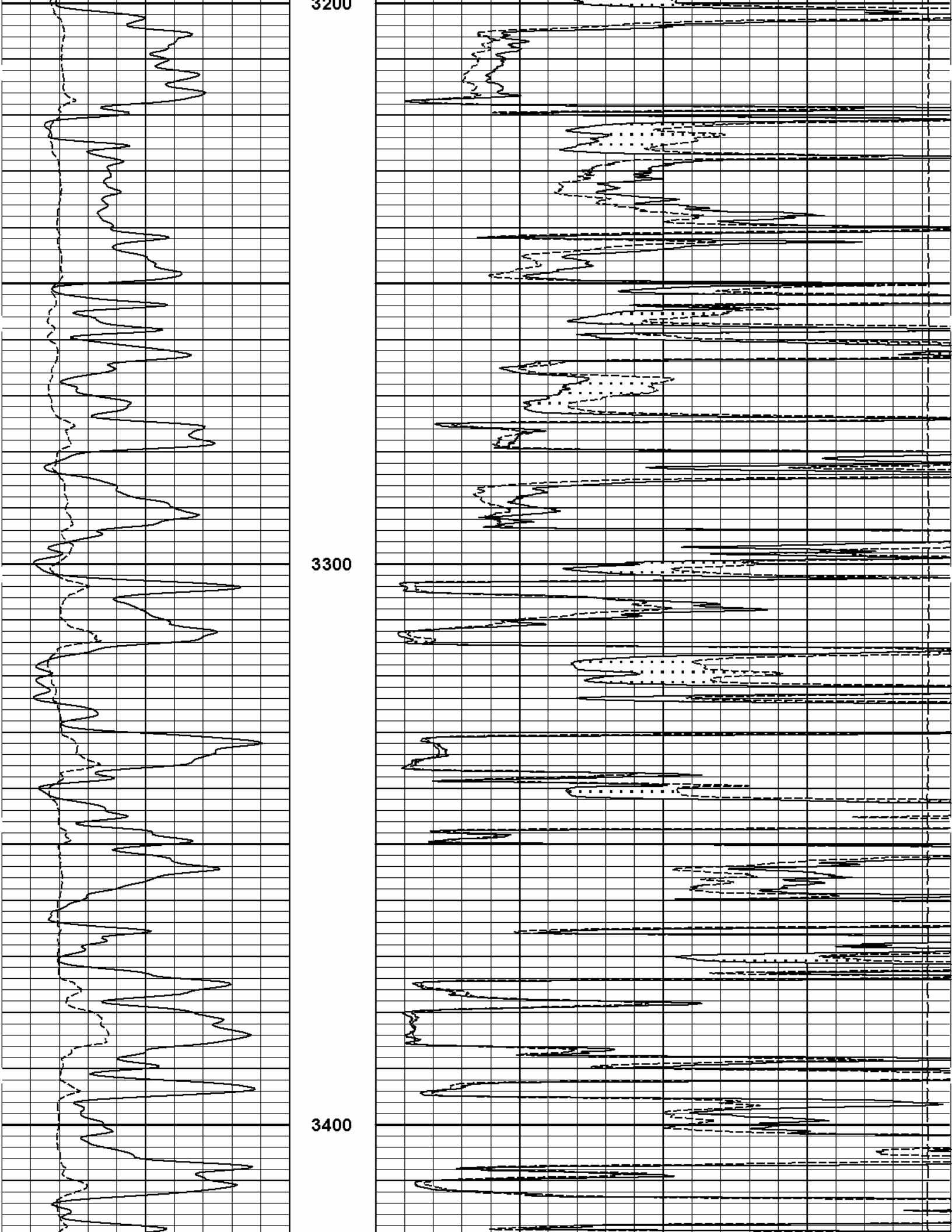
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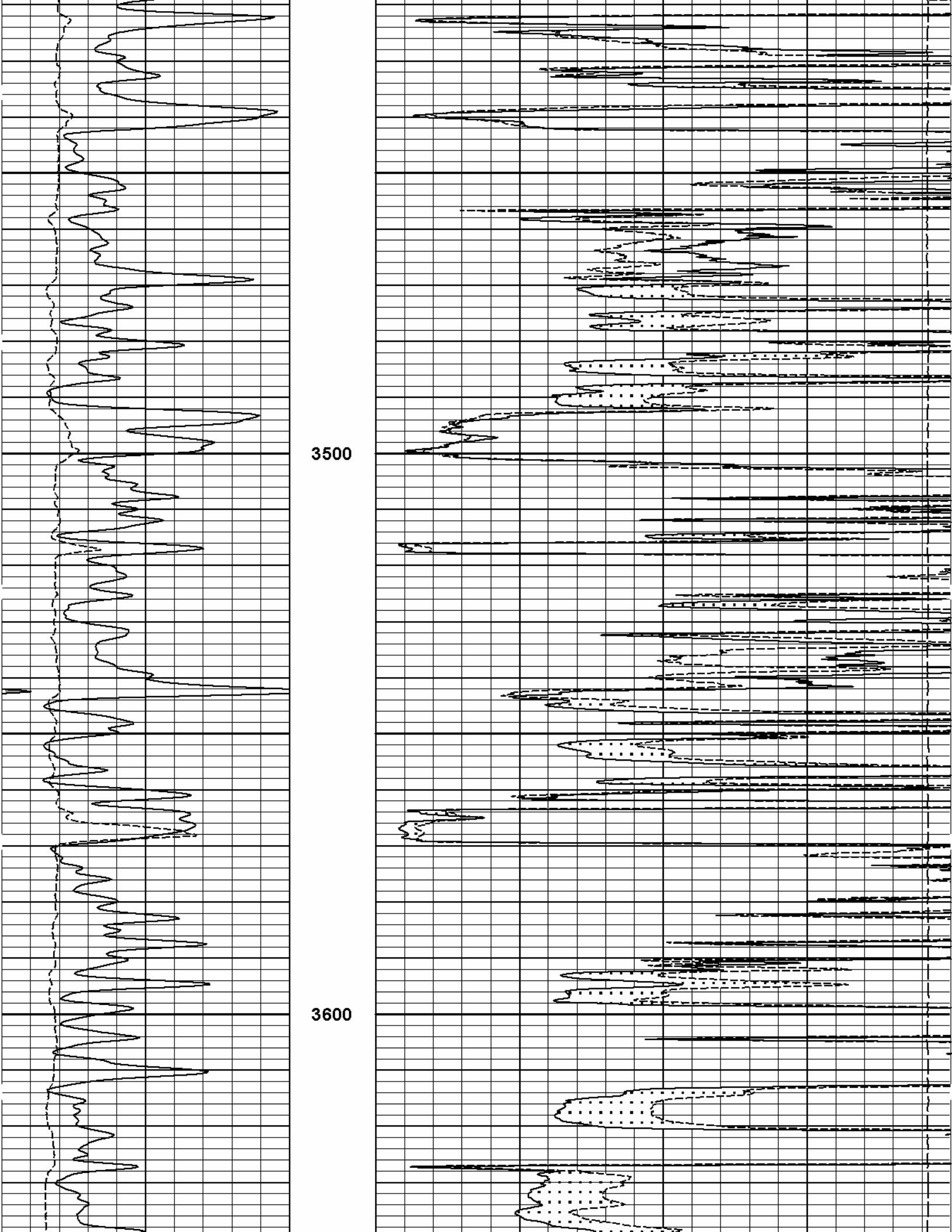
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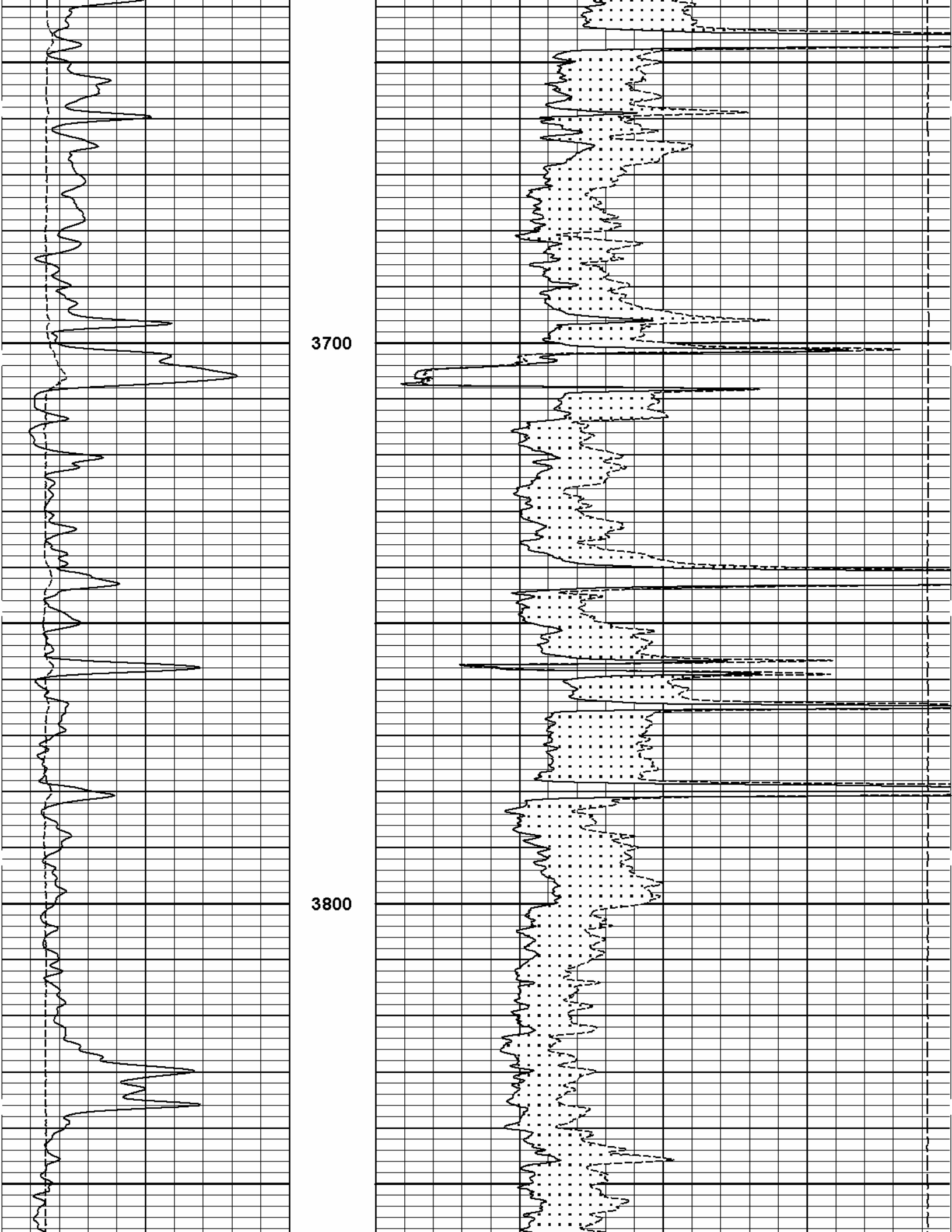
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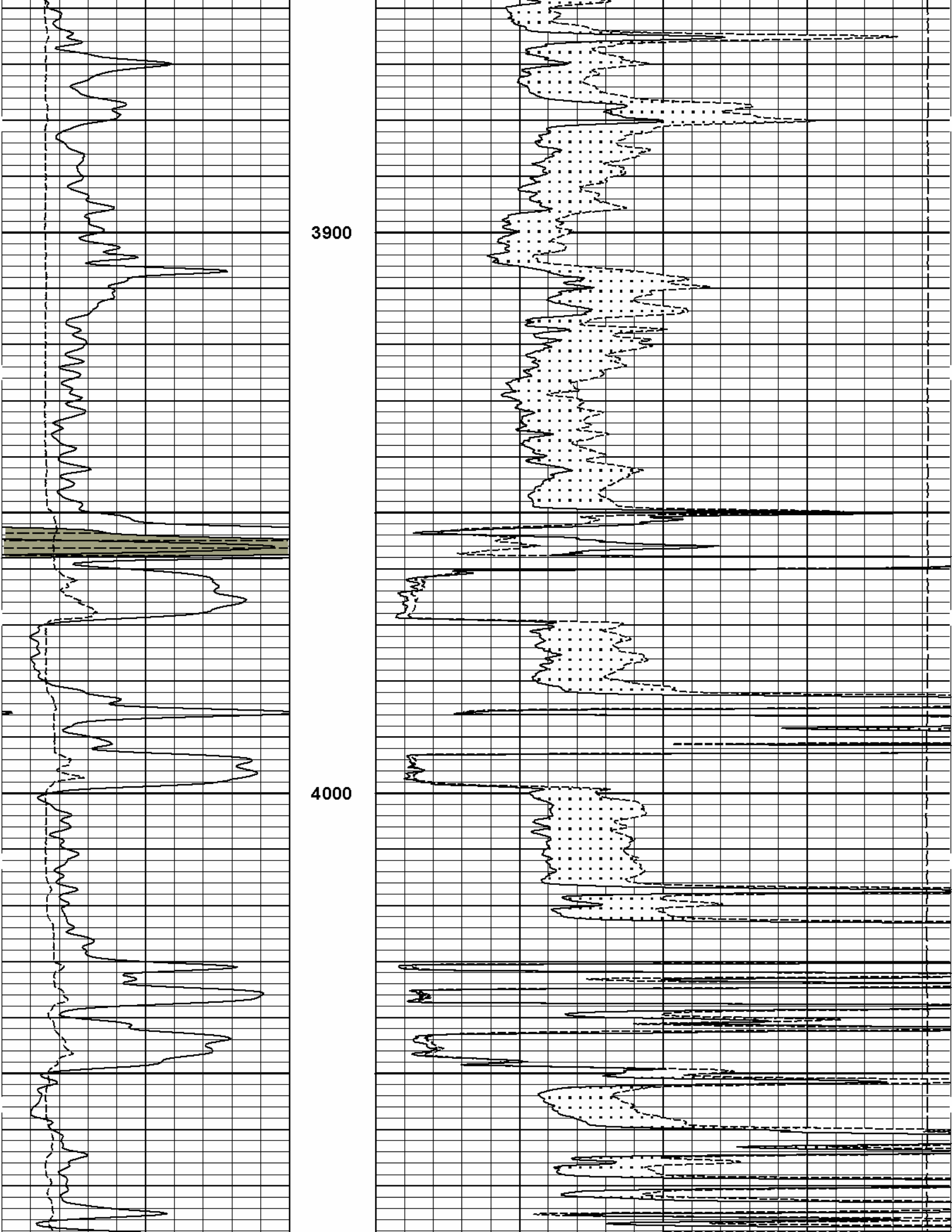
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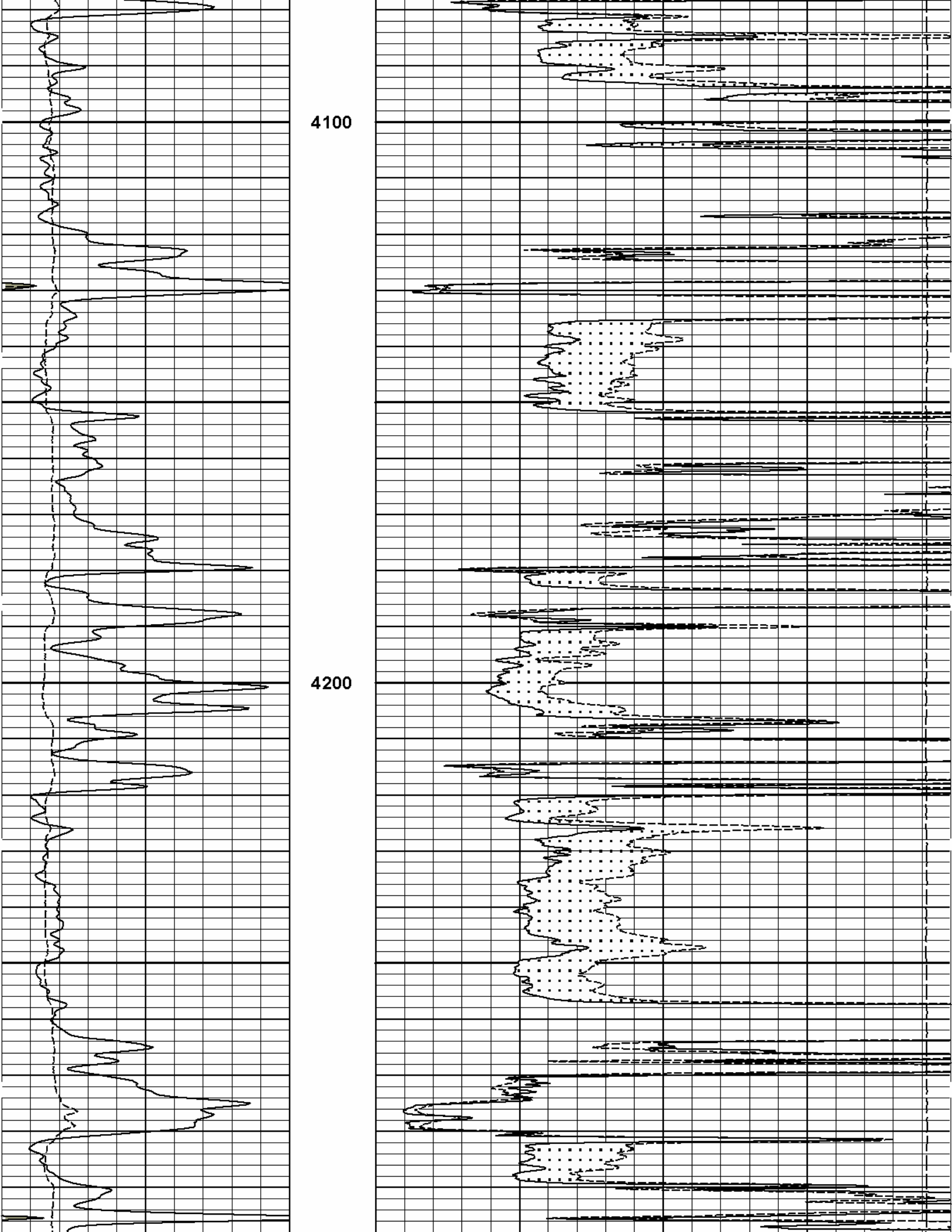
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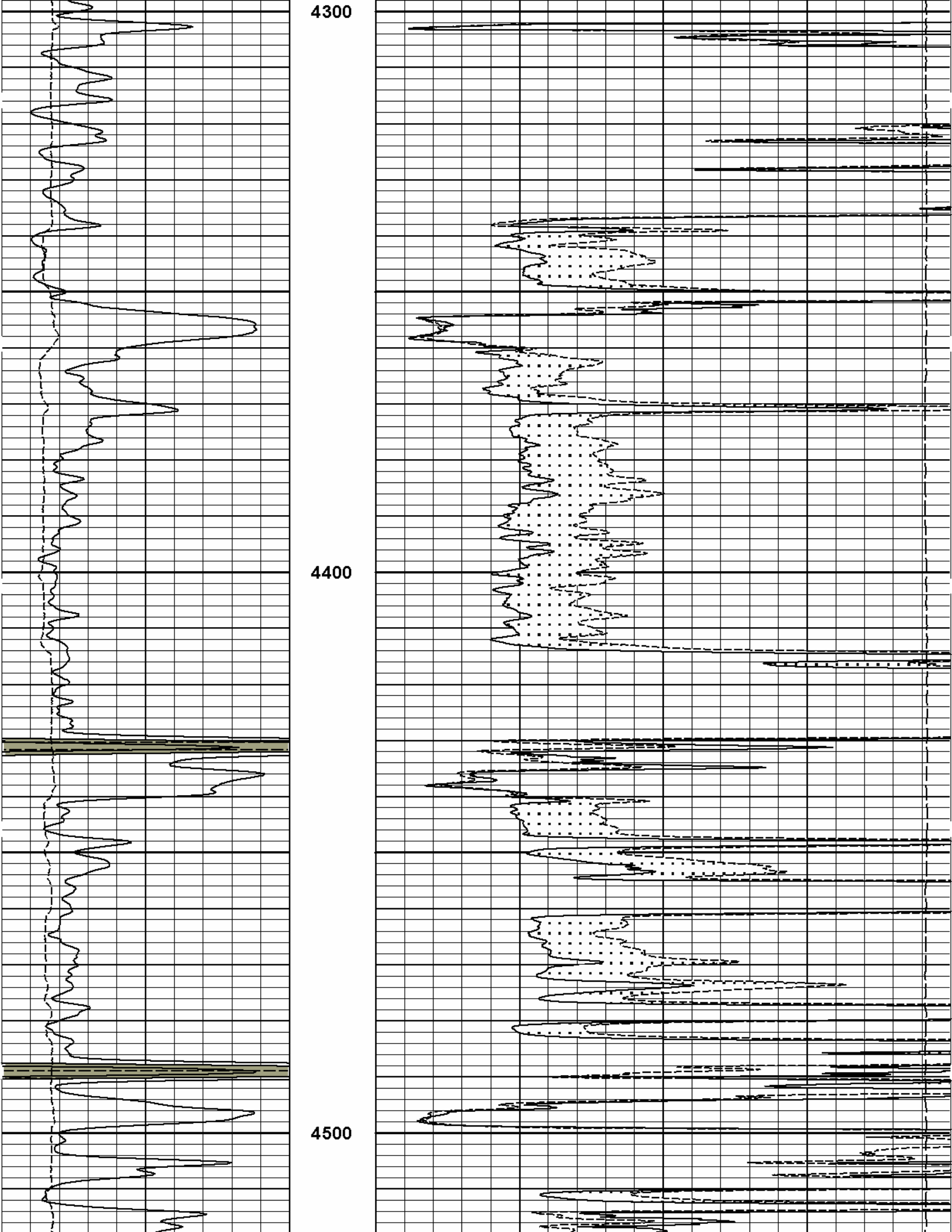
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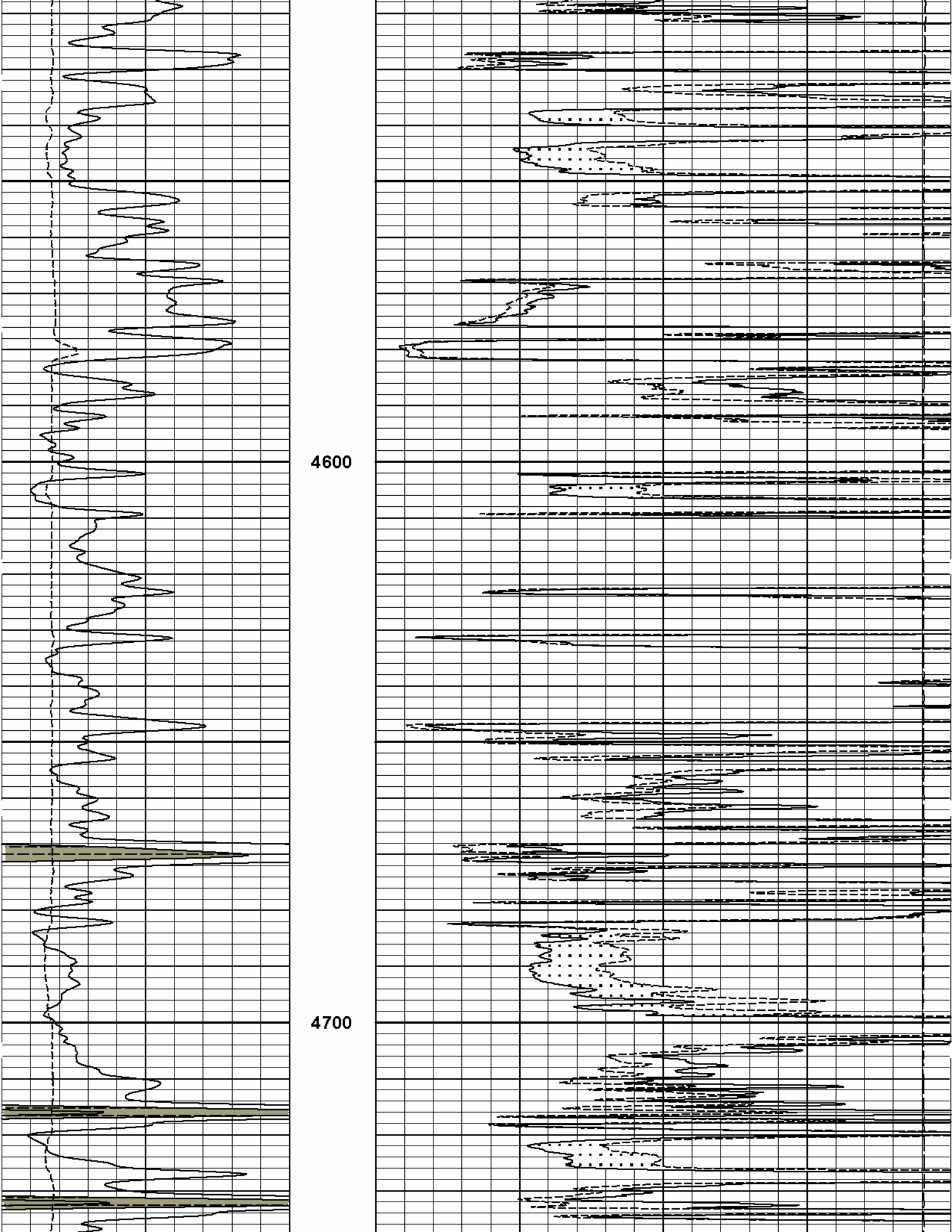
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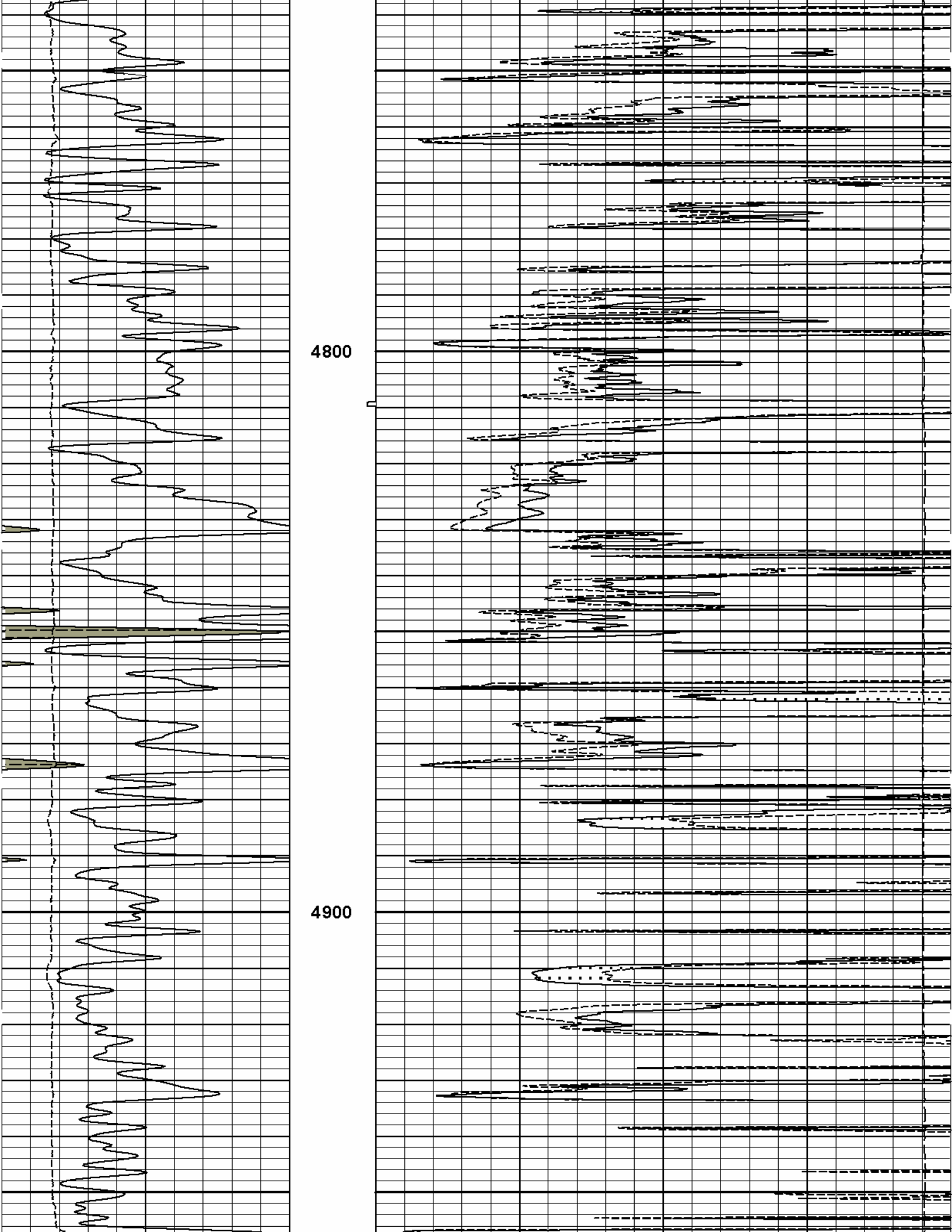
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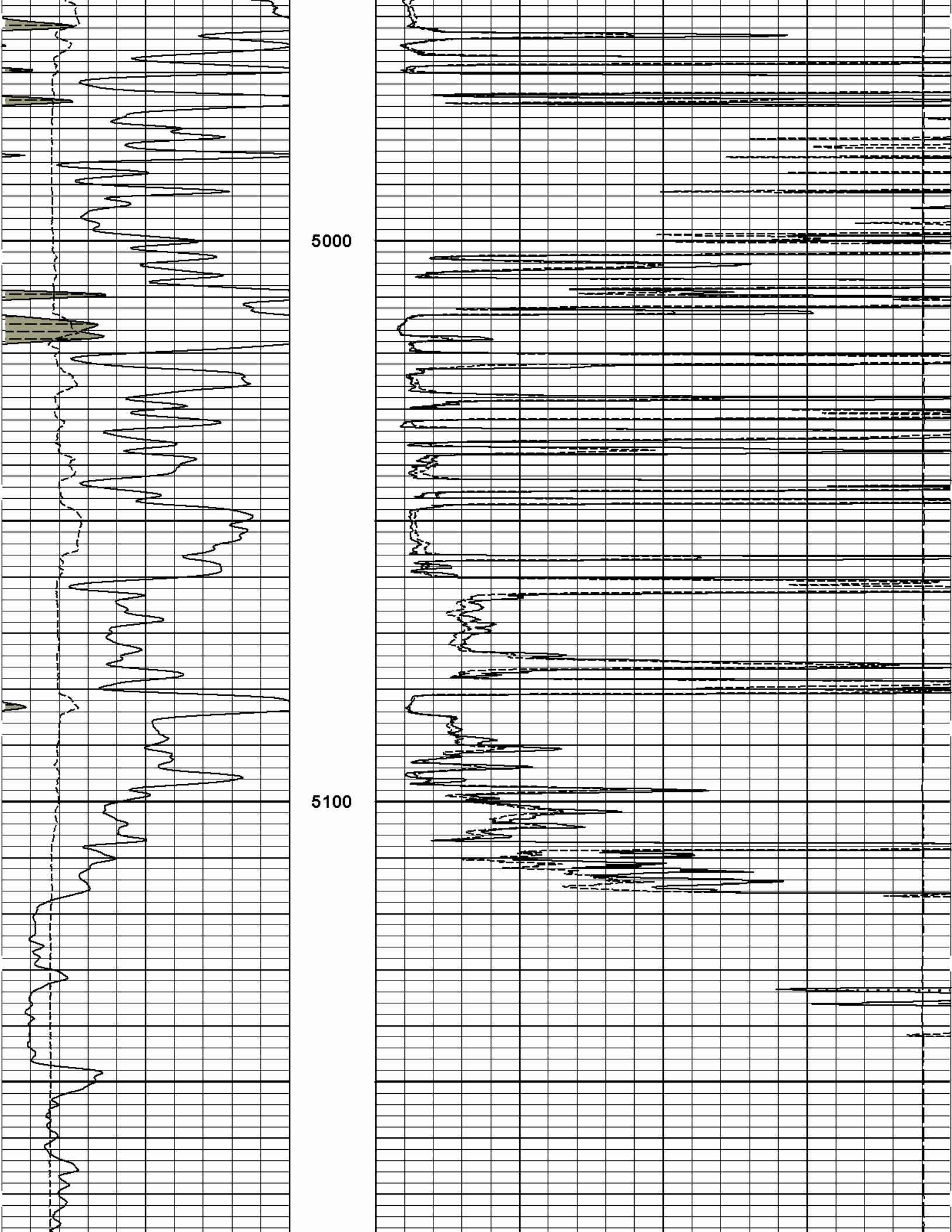
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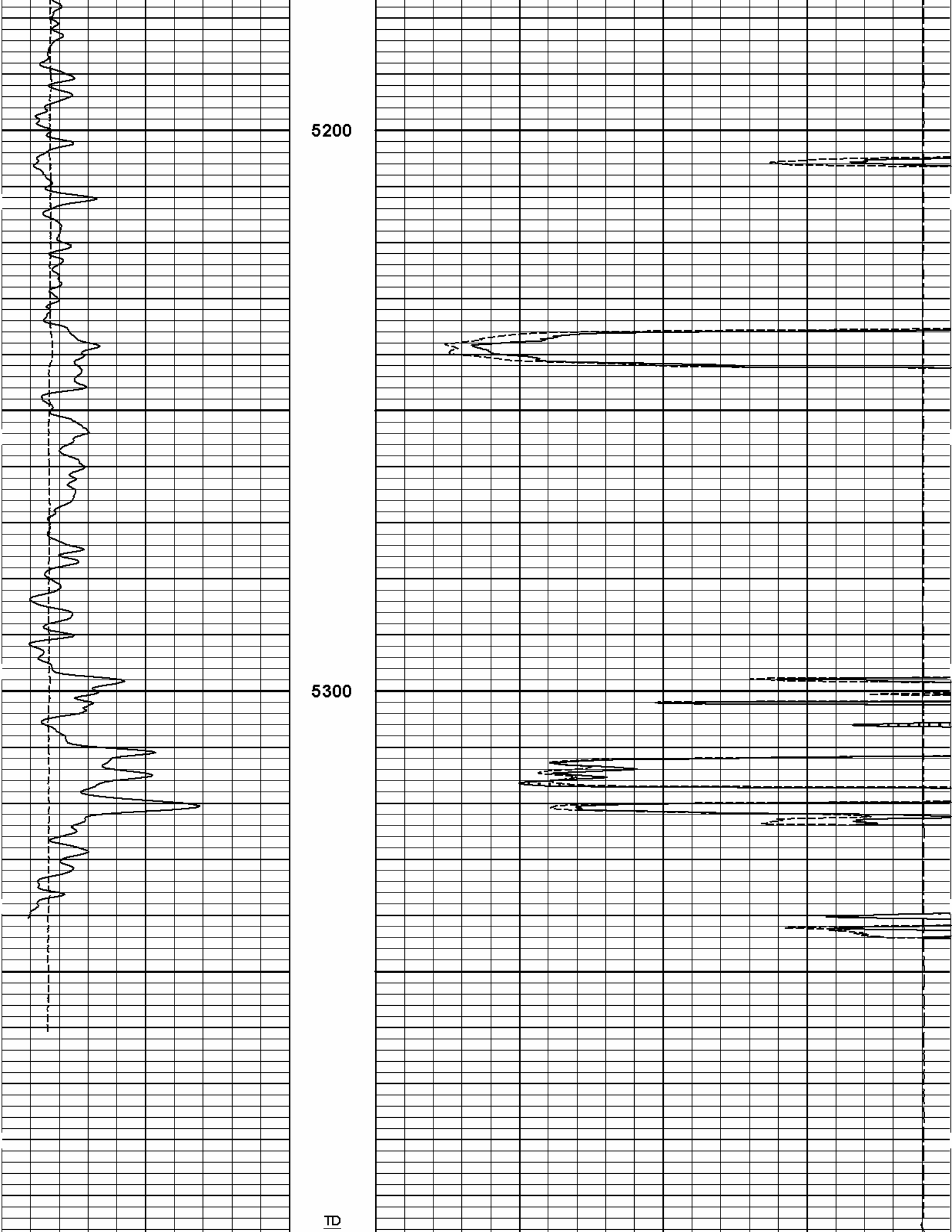
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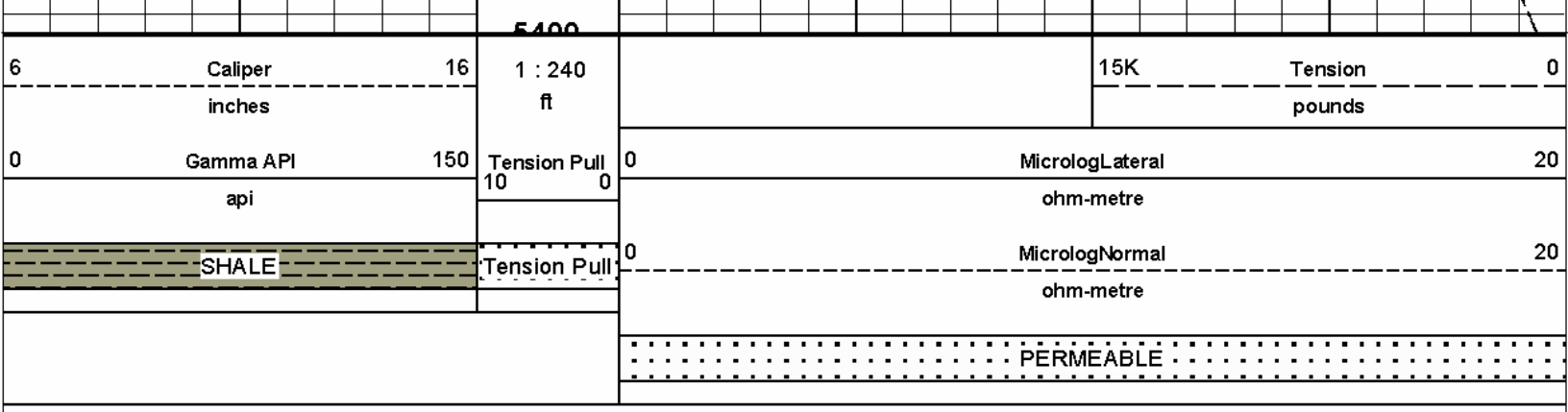

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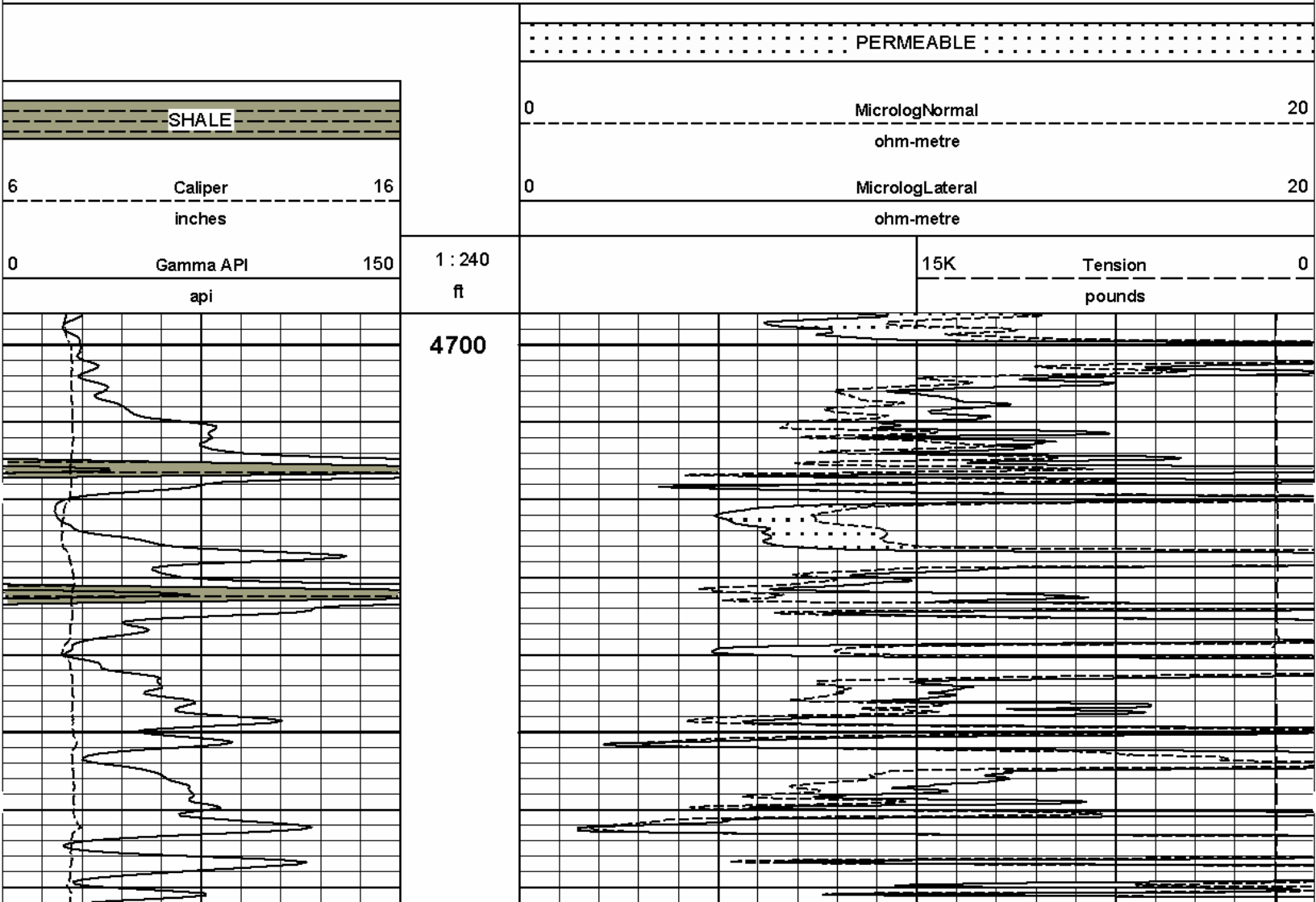
Plot Time: 28-May-11 14:07:16
Plot Range: 1830 ft to 5400 ft
Data: BERGER_A_3\Well Based\MAIN\
Plot File: \\-LOCAL-\BERGER_A_3\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\MICRO\Microlog_IQ_5_main_lib

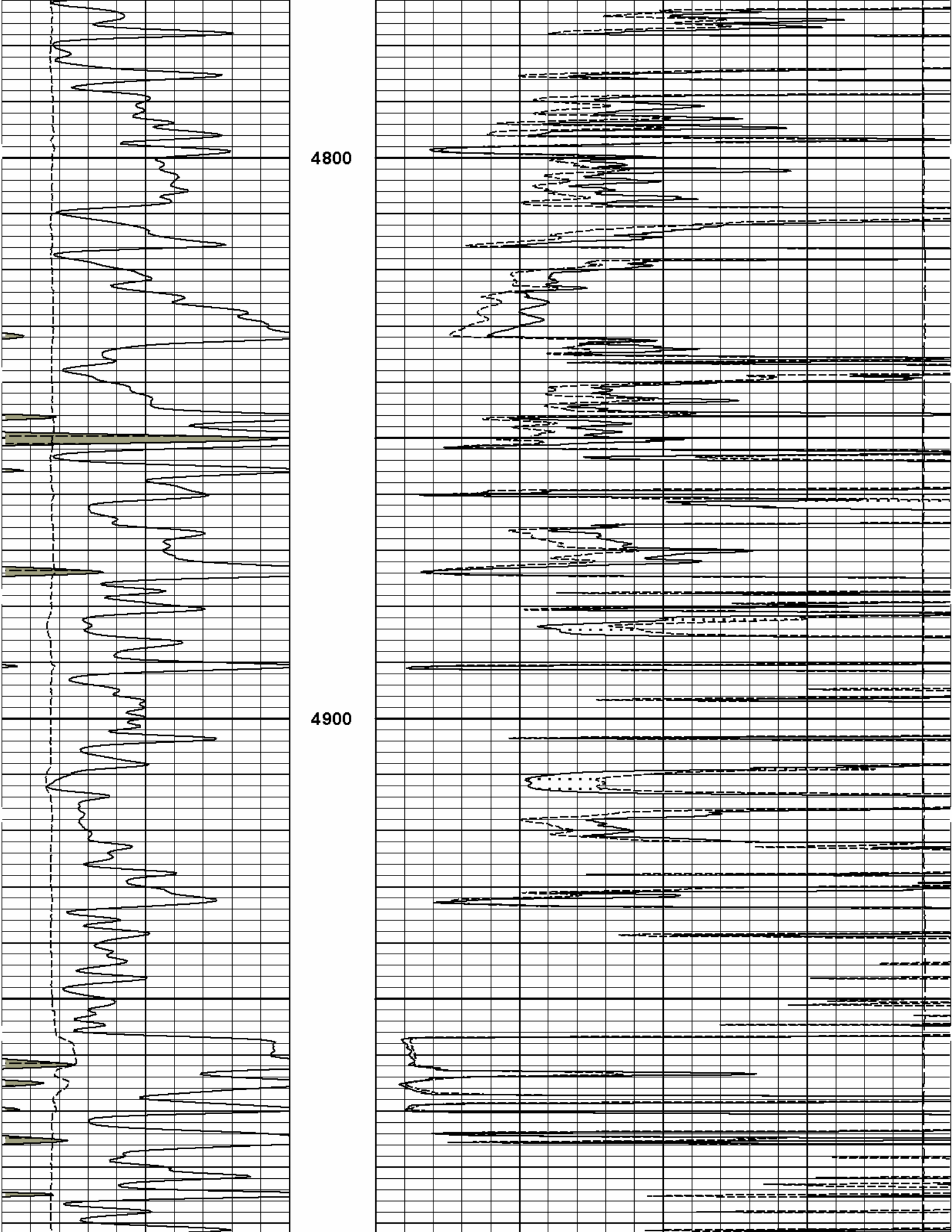
5 INCH MAIN LOG

HALLIBURTON

Plot Time: 28-May-11 14:07:17
Plot Range: 4696 ft to 5399.83 ft
Data: BERGER_A_3\Well Based\REPEAT\
Plot File: \\-LOCAL-\BERGER_A_3\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\MICRO\Microlog_IQ_5_rep_lib

REPEAT SECTION

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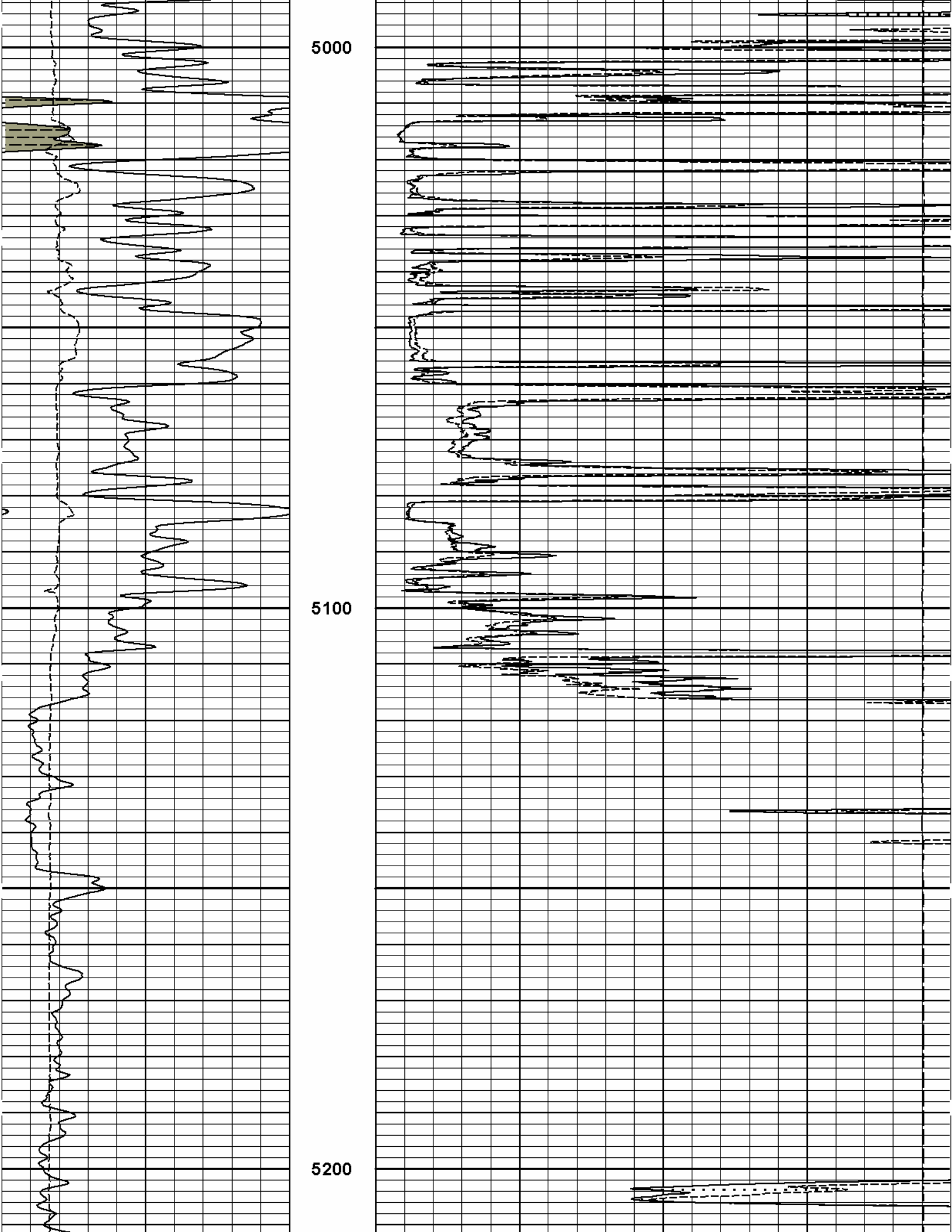
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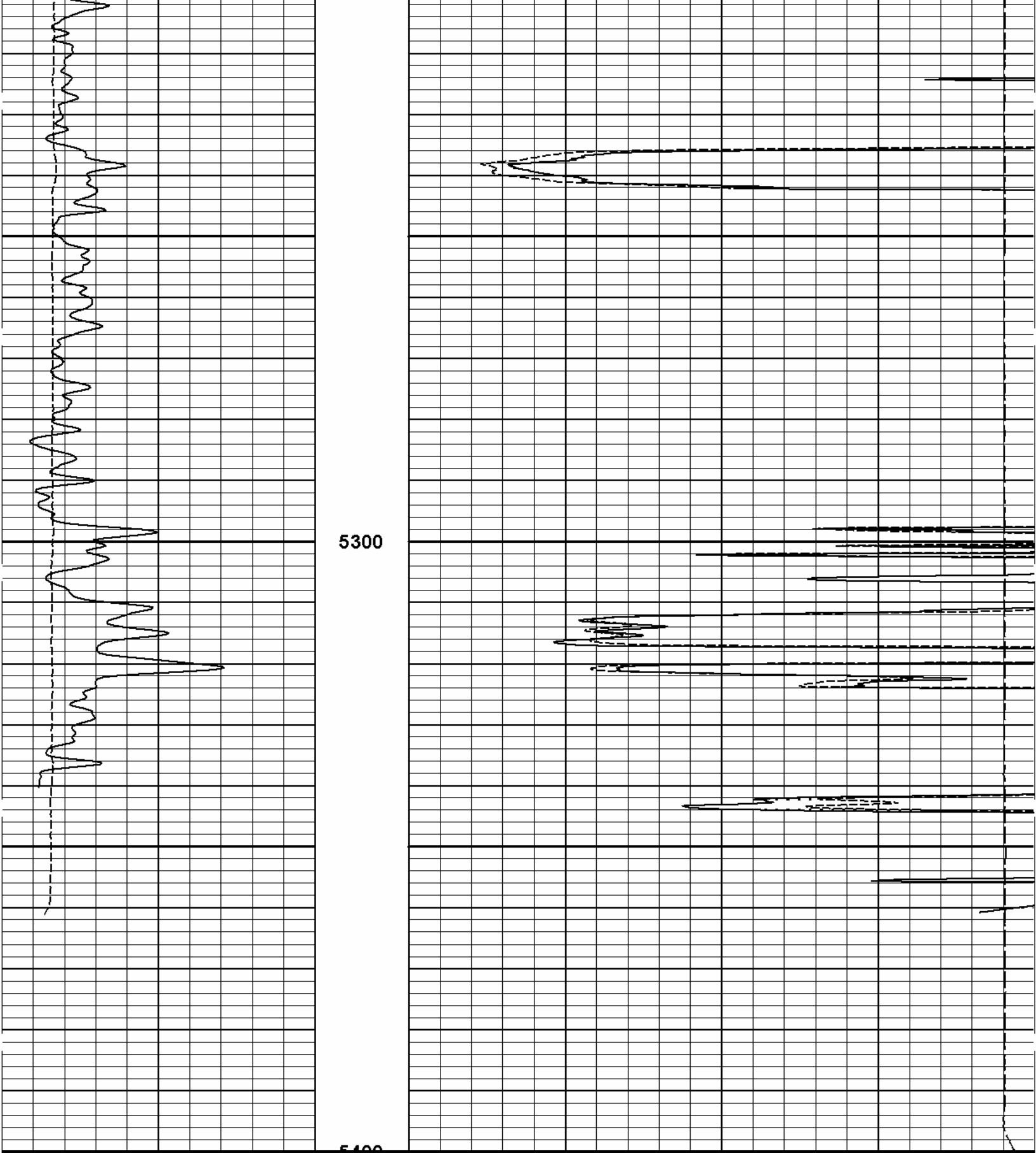


0 Gamma API 150	1 : 240	15K Tension 0
api	ft	pounds
6 Caliper 16		0 MicrologLateral 20
inches		ohm-metre
SHALE		0 MicrologNormal 20
		ohm-metre

PERMEABLE

HALLIBURTON

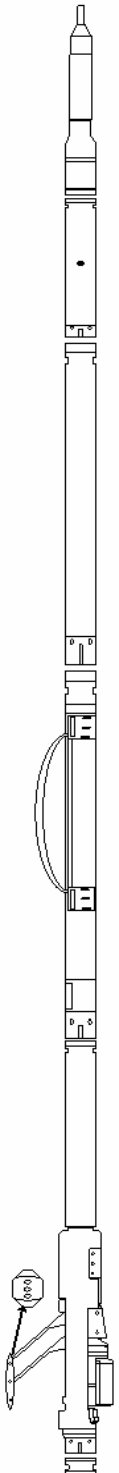
Plot Time: 28-May-11 14:07:21
Plot Range: 4696 ft to 5399.83 ft
Data: BERGER_A_3\Well Based\REPEAT\
Plot File: \\-LOCAL-\BERGER_A_3\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\MICRO\Microlog_IQ_5_rep_lib

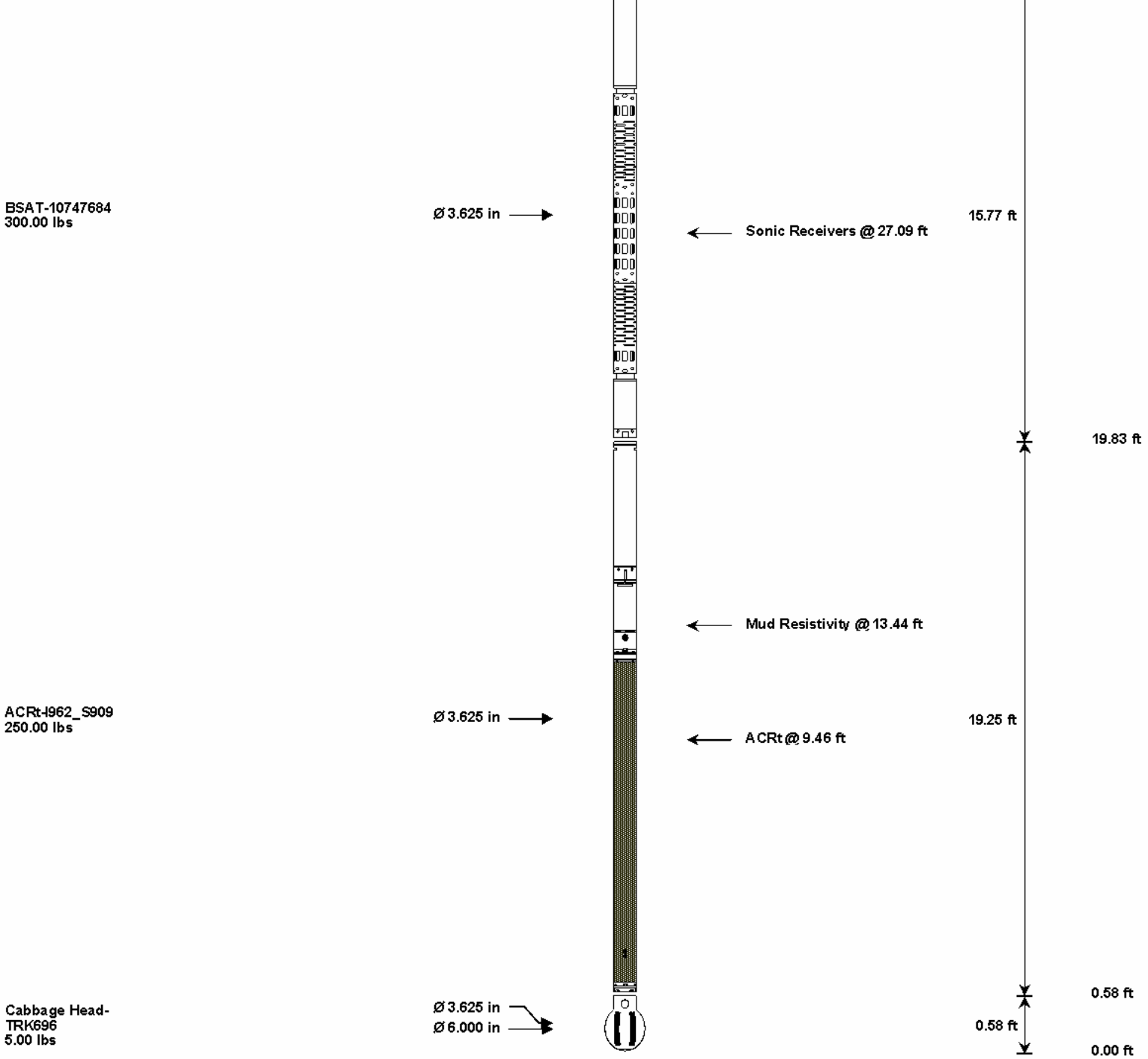
REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Sensors @ Delays	Length	Accumulated Length
					72.34 ft
CH_HOS-CH_696 37.50 lbs		Ø 2.750 in	Temperature @ 71.31 ft	3.03 ft	
		Ø 2.750 in			69.31 ft
XOHD-TRK696 20.00 lbs		Ø 3.625 in		0.95 ft	
					68.36 ft
SP Sub-PROT01 60.00 lbs		Ø 3.625 in	SP @ 66.59 ft	3.74 ft	
					64.63 ft
GTET-11050378 165.00 lbs		Ø 3.625 in		8.52 ft	
			GammaRay @ 58.56 ft		
					56.10 ft
	DSN Decentralizer-10755066 6.60 lbs	Ø 3.625 in*			
DSNT-11055304 174.00 lbs		Ø 3.625 in		9.69 ft	
			DSN Far @ 49.17 ft DSN Near @ 48.42 ft		
					46.42 ft
SDLT-I04_P84 360.00 lbs		Ø 4.500 in		10.81 ft	
		Ø 4.750 in	SDL Microlog @ 38.60 ft SDL Caliper @ 38.42 ft SDL @ 38.41 ft		
					35.60 ft





Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)		Accumulated Length (ft)	Max.Log. Speed (fpm)
CH_HOS	Hostile Cable Head with Load Cell	CH_696	37.50	3.03		69.31	300.00
XOHD	Hostile to Dits Cross Over	TRK696	20.00	0.95		68.36	300.00
SP	SP Sub	PROT01	60.00	3.74		64.63	300.00
GTET	Gamma Telemetry Tool	11050378	165.00	8.52		56.10	60.00
DSNT	Dual Spaced Neutron	11055304	174.00	9.69		46.42	60.00
DCNT	DSN Decentralizer	10755066	6.60	5.13	*	49.75	300.00
SDLT	Spectral Density Tool	I04_P84	360.00	10.81		35.60	60.00
BSAT	Borehole Sonic Array Tool	10747684	300.00	15.77		19.83	60.00
ACRt	Array Compensated True Resistivity	I962_S909	250.00	19.25		0.58	300.00
CBHD	Cabbage Head	TRK696	5.00	0.58		0.00	300.00
Total			**1,378.10**	**72.34**			

* Not included in Total Length and Length Accumulation.

Data: BERGER_A_3\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\IDLE **Date: 28-May-11 10:54:27**

HALLIBURTON

CALIBRATION REPORT

MICRO LOG SHOP CALIBRATION

Tool Name: SDLT - I04_P84 | **Reference Calibration Date:** 10-May-11 16:37:31

Engineer: C. HAVERKAMP | **Calibration Date:** 10-May-11 16:39:32

Software Version: WL INSITE R3.2.0 (Build 7) | **Calibration Version:** 1

CALIBRATION COEFFICIENT SUMMARY

Measurement	Micro Log Normal		Micro Log Lateral		
	Measured	Calibrated	Measured	Calibrated	Units
Tool Zero	-0.09	-0.09	-0.01	-0.08	ohmm
Calibration Point #1	-0.00	0.00	0.07	0.00	ohmm
Calibration Point #2	20.00	20.00	19.99	20.00	ohmm
Internal Reference	19.92	19.92	19.98	19.99	ohmm

Measurement	Micro Log Normal Tool Value	Micro Log Lateral Tool Value	Units
Tool Zero	0.72	-2.09	V
Calibration Point #1	24.47	24.32	V
Calibration Point #2	5394.26	7059.24	V
Internal Reference	5372.51	7056.02	V

MICRO LOG FIELD CHECK

Tool Name: SDLT - I04_P84 | **Reference Calibration Date:** 10-May-11 16:39:32

Engineer: C. PARKER | **Calibration Date:** 27-May-11 20:04:58

Software Version: WL INSITE R3.2.0 (Build 7) | **Calibration Version:** 1

Measurement	Micro Log Normal		Micro Log Lateral		
	Shop	Field	Shop	Field	Units
Tool Zero	-0.09	-0.09	-0.08	-0.06	ohmm
Internal Reference	19.92	19.85	19.99	19.91	ohmm

Summary

Signal	Shop	Field	Difference	Tolerence
Microlog Normal	19.92	19.85	0.07	+/- 0.80
Microlog Lateral	19.99	19.91	0.08	+/- 0.80

MICRO LOG POST CHECK

Tool Name: SDLT - I04_P84 | **Reference Calibration Date:** 27-May-11 20:04:58

Engineer: C. HAVERKAMP | **Calibration Date:** 28-May-11 13:42:17

Software Version: WL INSITE R3.2.0 (Build 7) | **Calibration Version:** 1

Measurement	Micro Log Normal		Micro Log Lateral		
	Field	Post	Field	Post	Units
Tool Zero	-0.09	-0.09	-0.06	-0.07	ohmm
Internal Reference	19.85	19.94	19.91	20.02	ohmm

Summary

Signal	Field	Post	Difference	Tolerence
Microlog Normal	19.85	19.94	0.09	+/- 0.80
Microlog Lateral	19.91	20.02	0.11	+/- 0.80

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
SDLT-I04_P84						
MicroLog Normal	19.92	19.85	19.94	-0.09	+/-0.80	ohmm
MicroLog Lateral	19.99	19.91	20.02	-0.11	+/-0.80	ohmm

Data: BERGER_A_3\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\IDLE Date: 28-May-11 14:01:08

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	9.100	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	2000.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	2.000	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	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	5410.00	ft
	SHARED	BHT	Bottom Hole Temperature	120.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	NONE	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
	SHARED	TEMM	Temperature Master Tool	NONE	
	SHARED	BHSM	Borehole Size Master Tool	NONE	
	GTET	GROK	Process Gamma Ray?	Yes	
	GTET	GRSO	Gamma Tool Standoff	0.000	in
	GTET	GEOK	Process Gamma Ray EVR?	No	
	GTET	TPOS	Tool Position	Centered	
	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	DNTP	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	
	SDLT	DNOK	Process Density?	Yes	
	SDLT	DNOK	Process Density EVR?	No	
	SDLT	CB	Logging Calibration Blocks?	No	
	SDLT	SPVT	SDLT Pad Temperature Valid?	Yes	
	SDLT	DTWN	Disable temperature warning	No	
	SDLT	DMA	Formation Density Matrix	2.710	g/cc
	SDLT	DFL	Formation Density Fluid	1.000	g/cc
	SDLT	CLOK	Process Caliper Outputs?	Yes	
	SDLT	MLOK	Process MicroLog Outputs?	Yes	

BSAT	MBOK	Compute BCAS Results?	Yes	
BSAT	FLLO	Frequency Filter Low Pass Value?	7000	Hz
BSAT	FLHI	Frequency Filter High Pass Value?	27000	Hz
BSAT	DTFL	Delta -T Fluid	189.00	uspf
BSAT	DTMT	Delta -T Matrix Type	User define	
BSAT	DTMA	Delta -T Matrix	47.60	uspf
BSAT	DTSH	Delta -T Shale	100.00	uspf
BSAT	SPEQ	Acoustic Porosity Equation	Wylie	
ACRt	RTOK	Process ACRt?	Yes	
ACRt	MNSO	Minimum Tool Standoff	1.50	in
ACRt	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
ACRt	TPOS	Tool Position	Free Hanging	
ACRt	RMOP	Rmud Source	Mud Cell	
ACRt	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt	RMIN	Maximum Resistivity for MAP	200.00	ohmm
ACRt	THQY	Threshold Quality	0.50	

BOTTOM

Data: BERGER_A_3\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\IDLE Date: 28-May-11 10:56:04

COMPANY	**OXY USA, INC**		
WELL	**BERGER A-3**		
FIELD	**PLEASANT PRAIRIE**		
COUNTY	**HASKELL**	STATE	**KANSAS**

HALLIBURTON

MICROLOG