HALLIBURTON

DUAL SPACED NEUTRON SPECTRAL DENSITY LOG

RAYDON EXPLORATION INC. | PARITY 1-34 | WILDCAT | SEWARD | KANSAS

COMPANY / WELL / FIELD/BLOCK / COUNTY / STATE

COMPANY **RAYDON EXPLORATION INC.**

WELL **PARITY 1-34**

FIELD/BLOCK **WILDCAT**

COUNTY **SEWARD** STATE **KANSAS**

API No. 15-175-22213-00-00

Location (SHL) 2183' FNL & 673' FWL

Sect. 34 Twp. 33S Rge. 31W

Other Services:
DSN / SDL
MICROLOG
BSAT
XRMI
ACRT

Permanent Datum	GL	Elev. 2730.0 ft	Elev.: K.B. 2739.0 ft
Log measured from	KB	, 9.0 ft above perm. Datum	D.F. 2738.0 ft
Drilling measured from	KB		G.L. 2730.0 ft

Date		13-Mar-14					
Run No.		ONE					
Depth - Driller		6250.00 ft					
Depth - Logger		6258.0 ft					
Bottom - Logged Interval		6188					
Top - Logged Interval		4200					
Casing - Driller		8.625 in @ 1602.0 ft		@		@	
Casing - Logger		1602.0 ft					
Bit Size		7.875 in		@		@	
Type Fluid in Hole		Water Based Mud					
Density	Viscosity	9.2 ppg	48.00 s/qt				
PH	Fluid Loss	10.00 pH	8.0 cptm				
Source of Sample		MUDPIT					
Rm @ Meas. Temperature		0.81000000000000005000 ohmm @ 71.00 degF		@		@	
Rmf @ Meas. Temperature		0.69 ohmm @ 71.00 degF		@		@	
Rmc @ Meas. Temperature		0.930 ohmm @ 71.00 degF		@		@	
Source Rmf	Rmc	CALCULATED	CALCULATED				
Rm @ BHT		0.44 ohmm @ 136.0 degF		@		@	
Time Since Circulation		7.3 hr					
Time on Bottom		13-Mar-14 06:51					
Max. Rec. Temperature		136.0 degF @ 6258.0 ft		@		@	
Equipment	Location	11072142	LIBERAL				
Recorded By		SHELDON INGERSOLL					
Witnessed By		E. GRIEVES					

Fold here

PGM Version: WL INSITE R4.2.0 (Build 2)

API Serial No.: 15-175-22213-00-00

Service Ticket No.: 901175581

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
@	ONE	ACRT	N/A	1.5" S.O.	
@		11038385			
@					
@					
@					
@					

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.	ONE	Run No.	ONE	Run No.	ONE
Serial No.	11048627	Serial No.	10747683	Serial No.	10848781	Serial No.	11019643
Model No.	GTET	Model No.	BSAT	Model No.	SDLT	Model No.	DSNT
Diameter	3.625"	No. of Cent.	2	Diameter	5.3"	Diameter	3.625"
Detector Model No.	T-102	Spacing	.5	Log Type	GAM-GAM	Log Type	NEU-NEU

Type	SCINT			Source Type	CS-137	Source Type	AM-241BE
Length	8"	LSA [Y/N]		Serial No.	5168GW	Serial No.	DSN-424
Distance to Source	N/A	FWDA [Y/N]		Strength	1.5 CI	Strength	15 CI

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	6258	1602	REC	0	150	30	-10	47.6 us/ft	30	-10	2.71 gm/cc	30	-10	LIME

DIRECTIONAL INFORMATION

Maximum Deviation	@	KOP	@

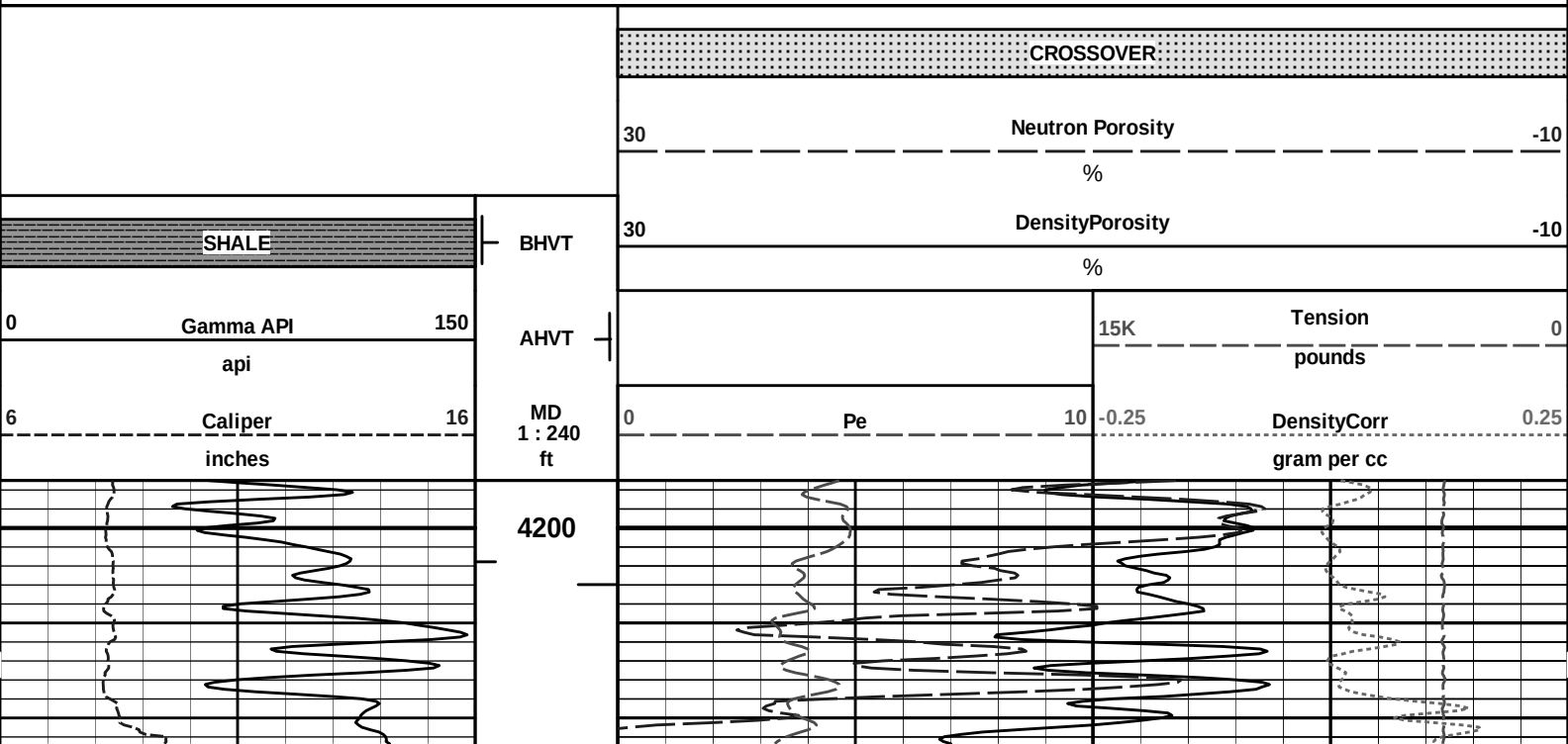
Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING.

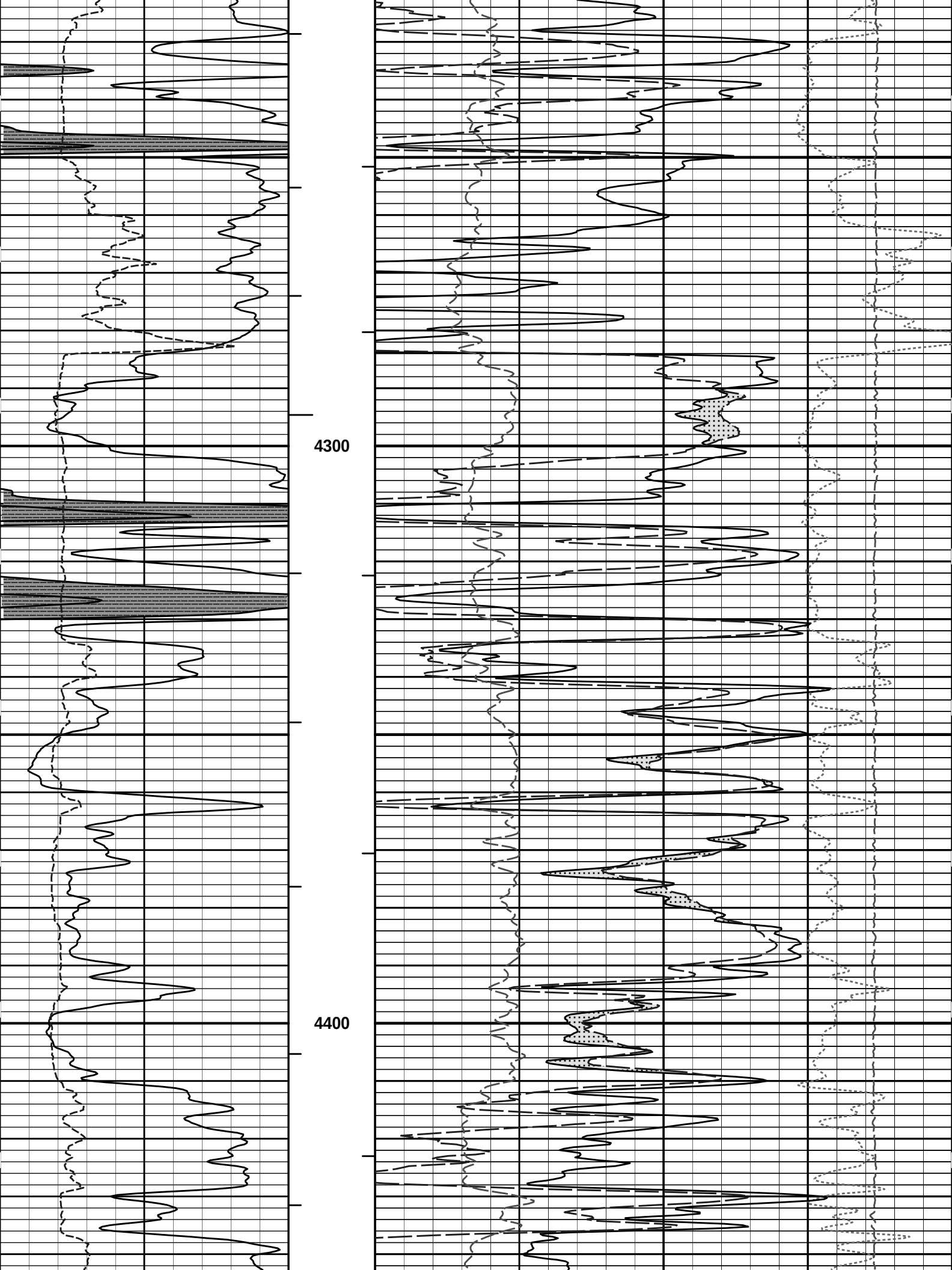
CHLORIDES REPORTED AT 3700 mg/L.

HALLIBURTON

Plot Time: 13-Mar-14 09:13:24
Plot Range: 4195 ft to 6261 ft
Data: PARITY 1-34\Well Based\R1 DETAIL
Plot File: \\POROSITY\Poro_IQ_5_MAIN_LIB

5 INCH MAIN LOG

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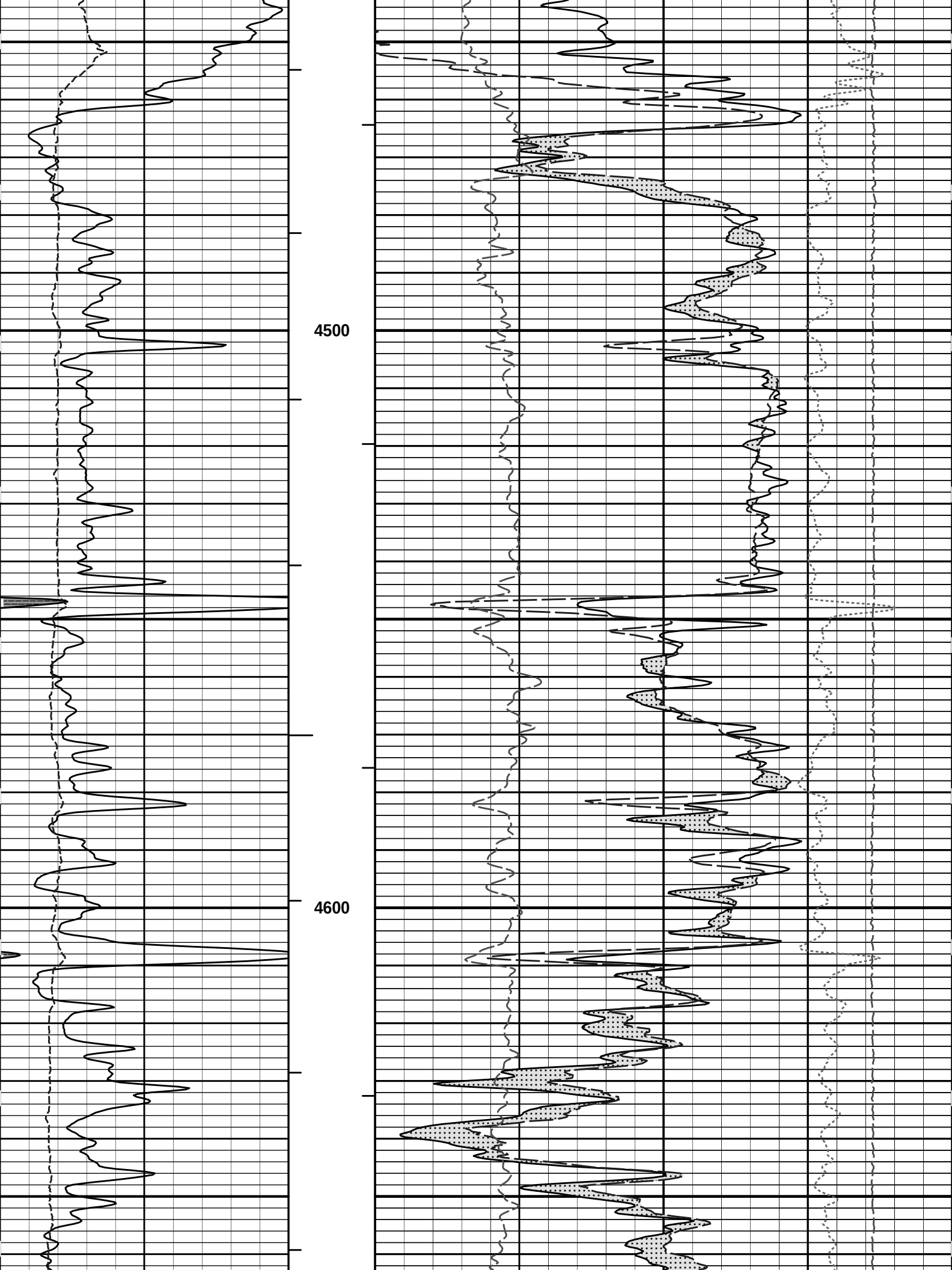
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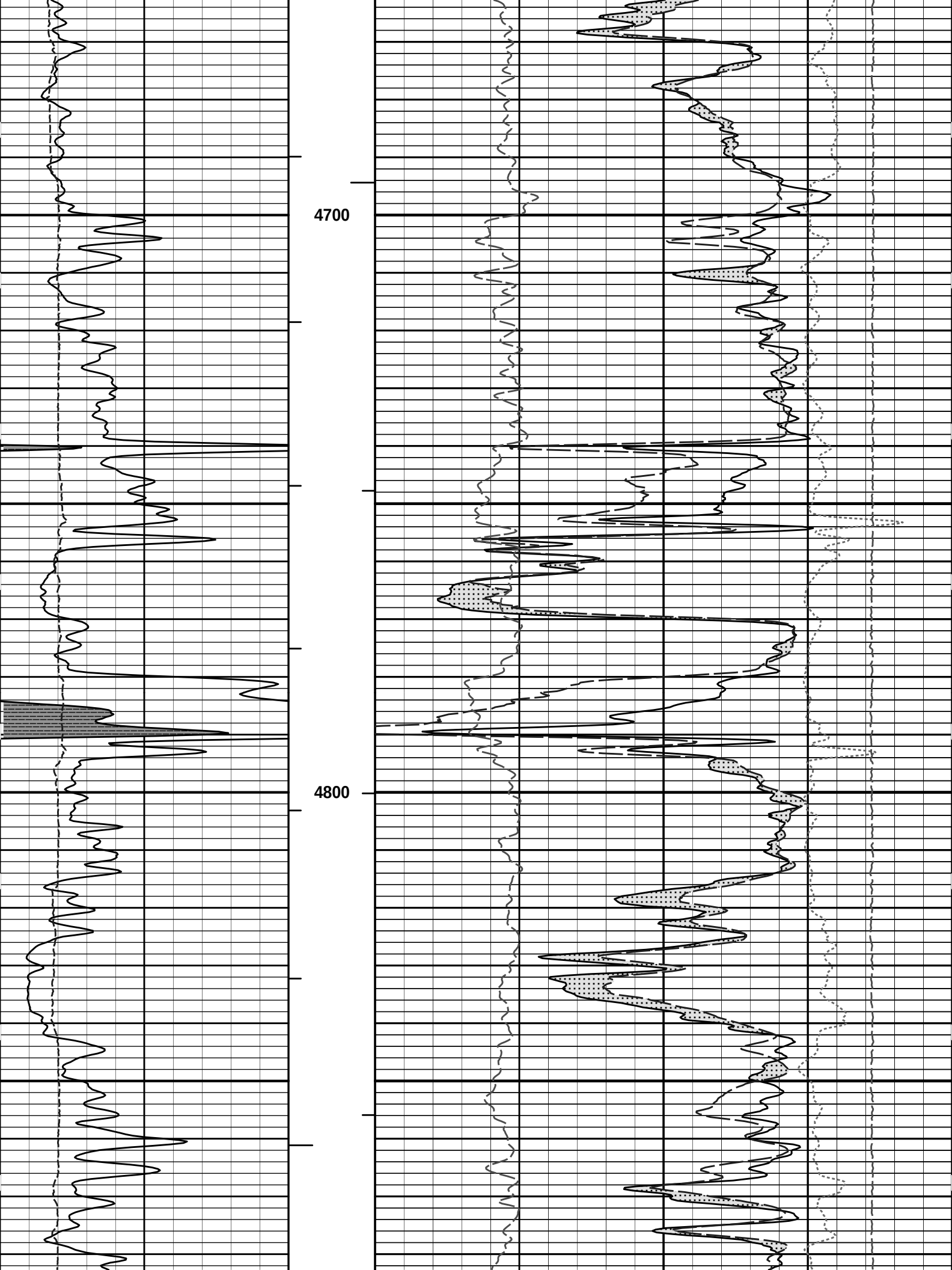
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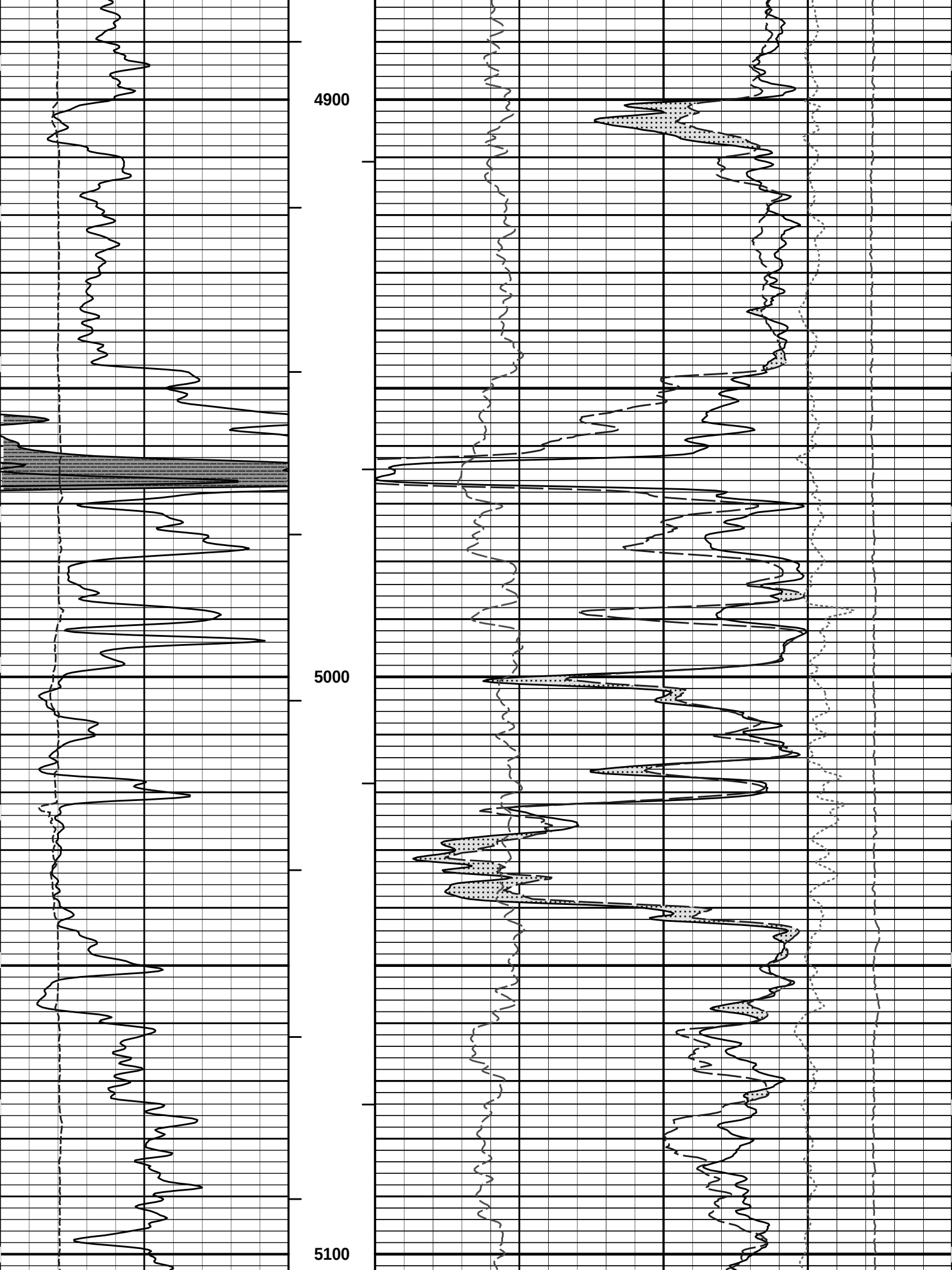
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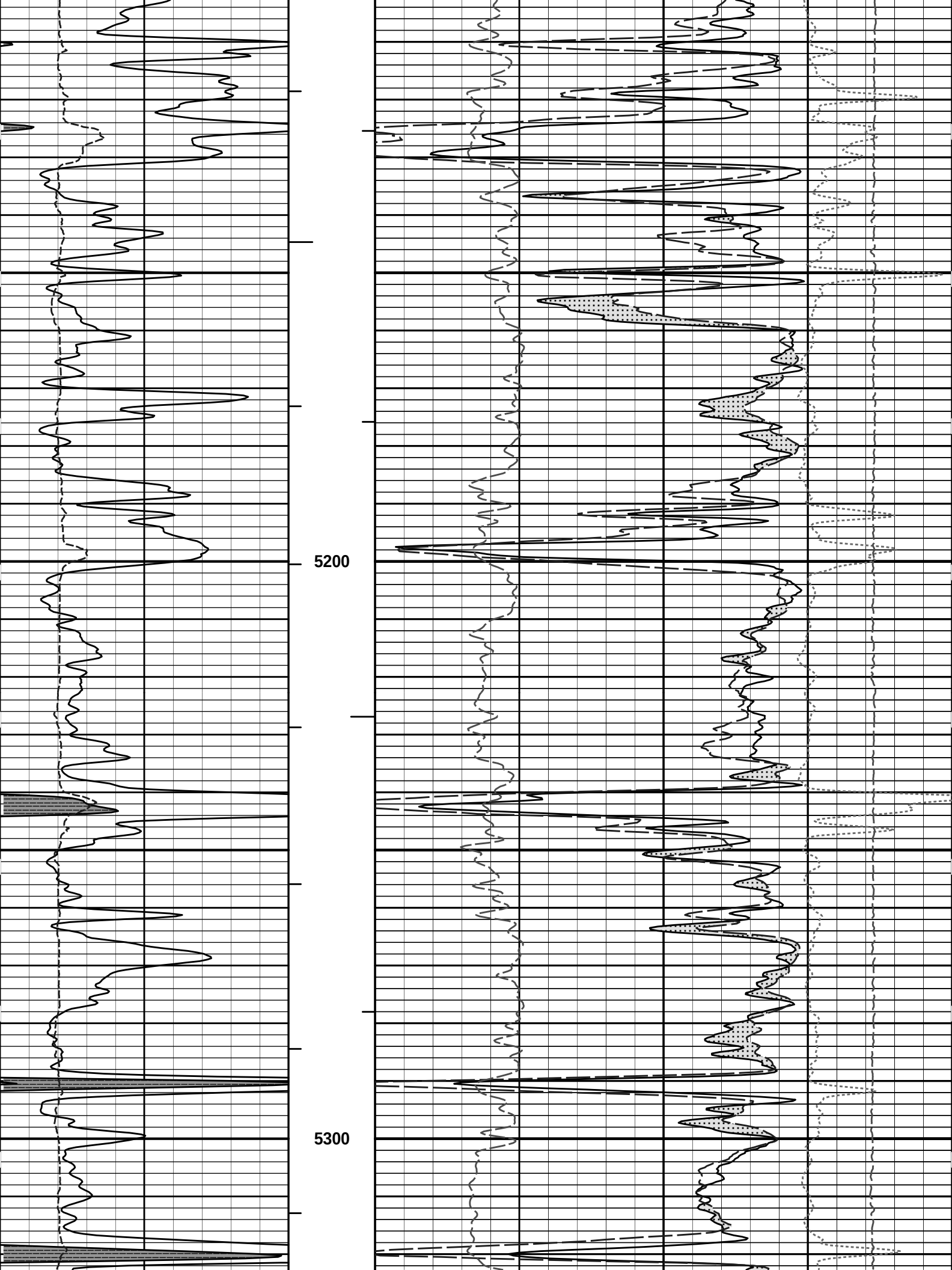
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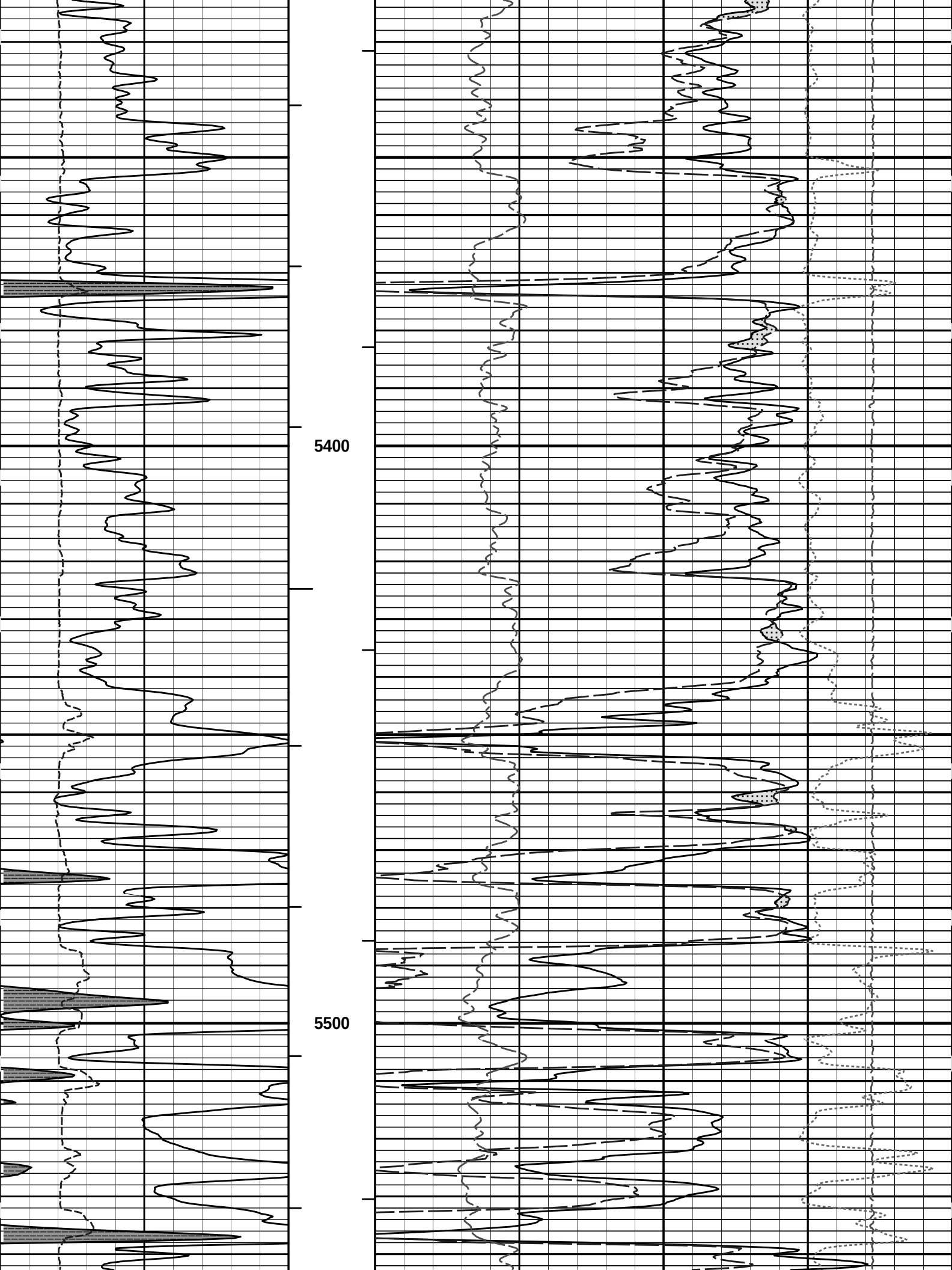
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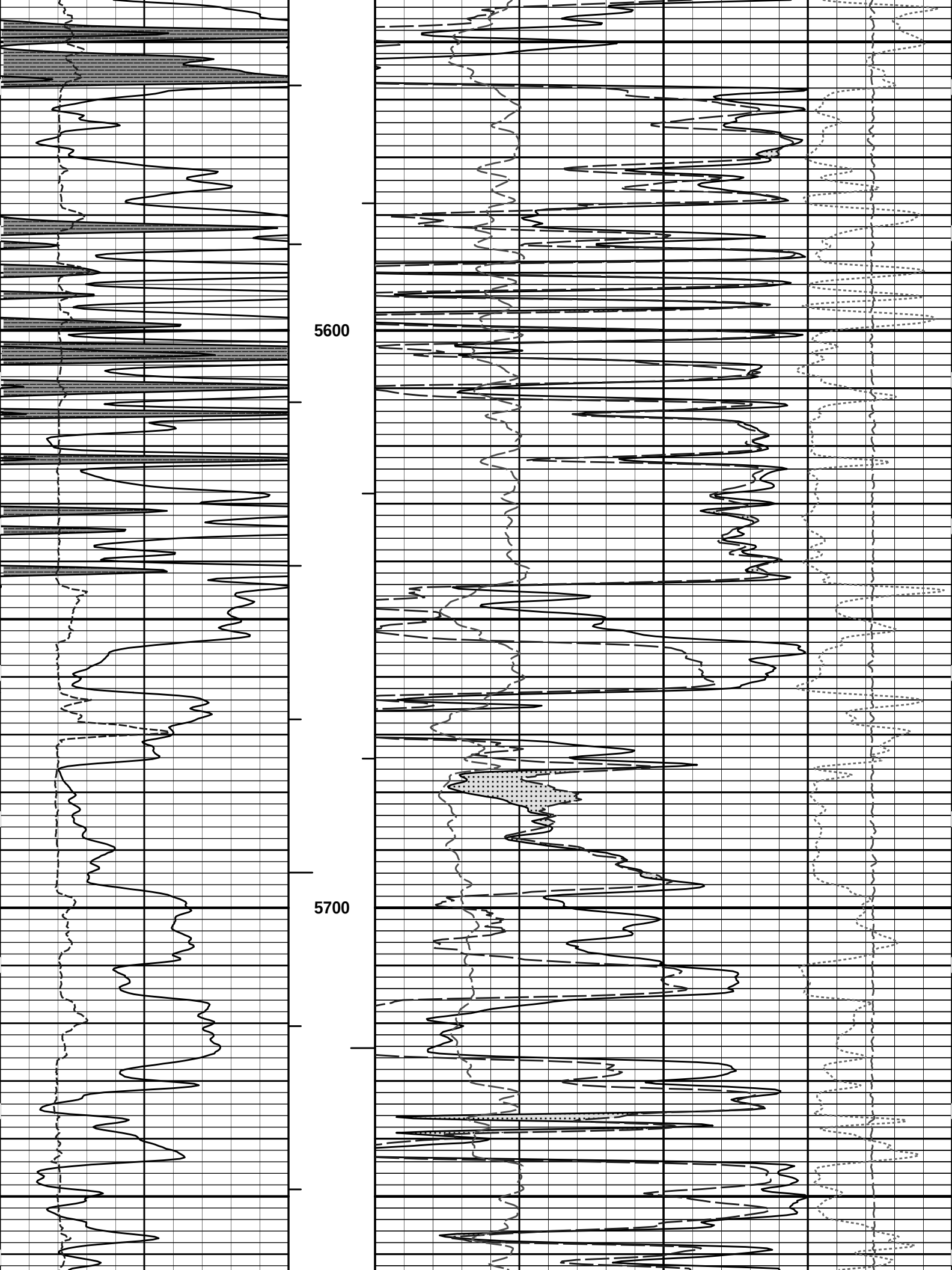
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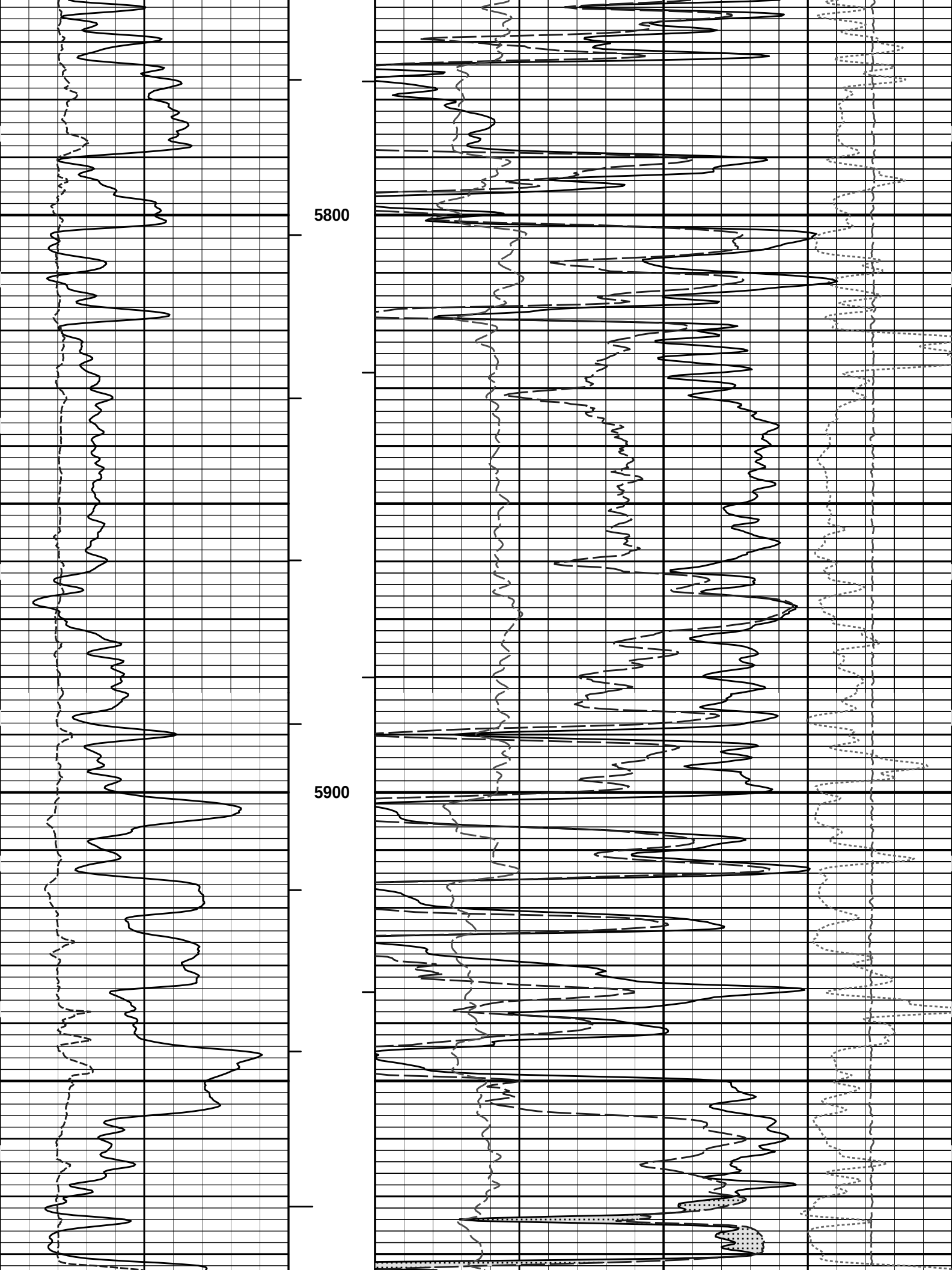
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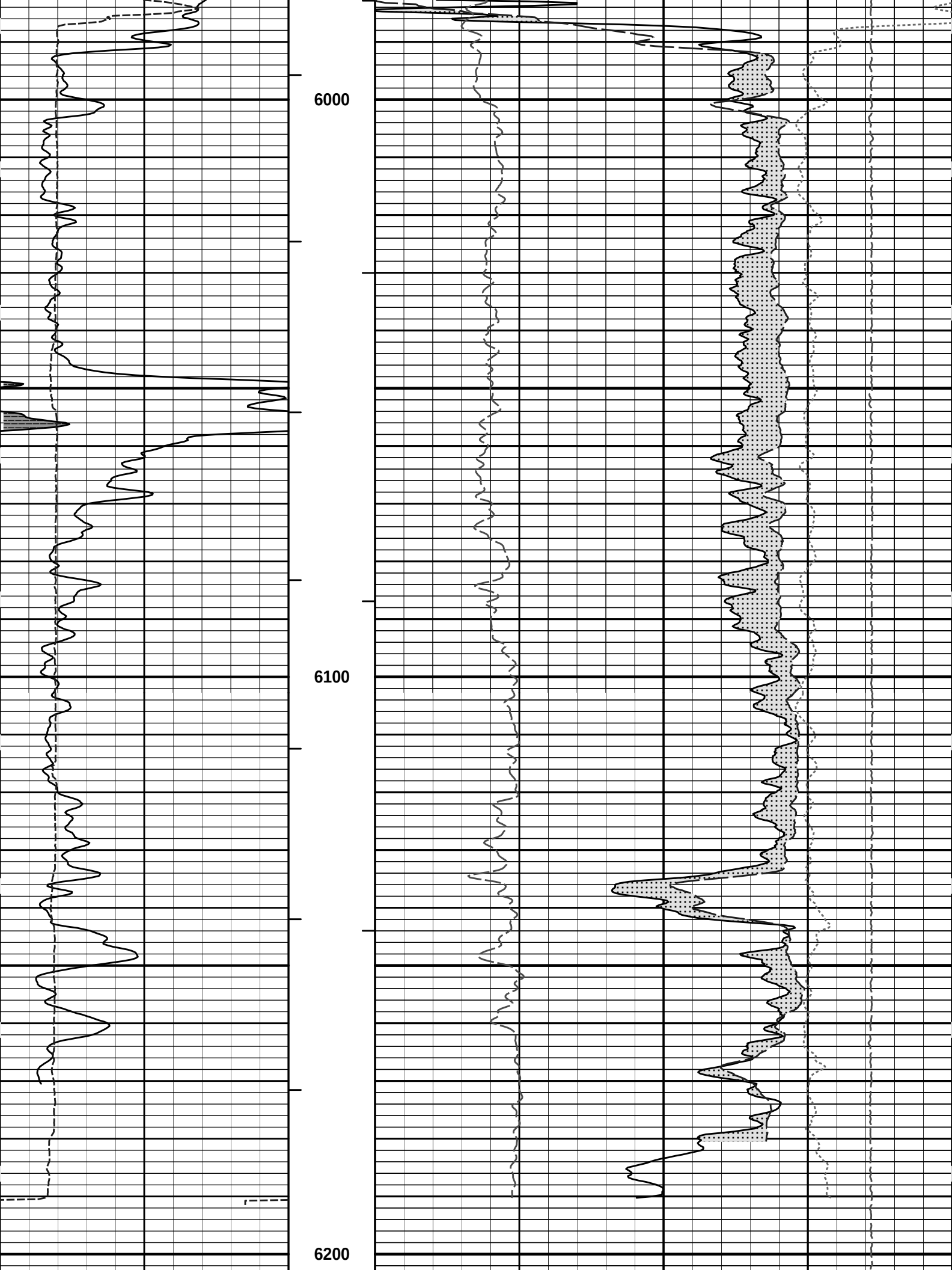
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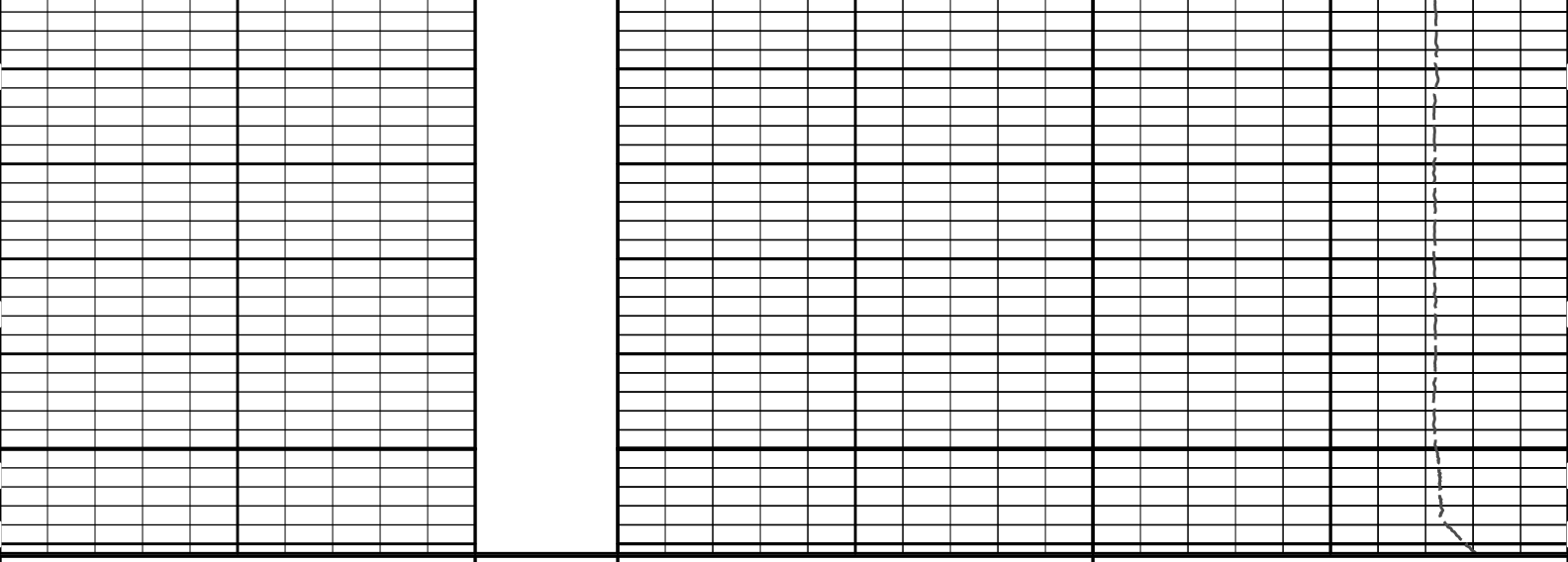


HALLIBURTON

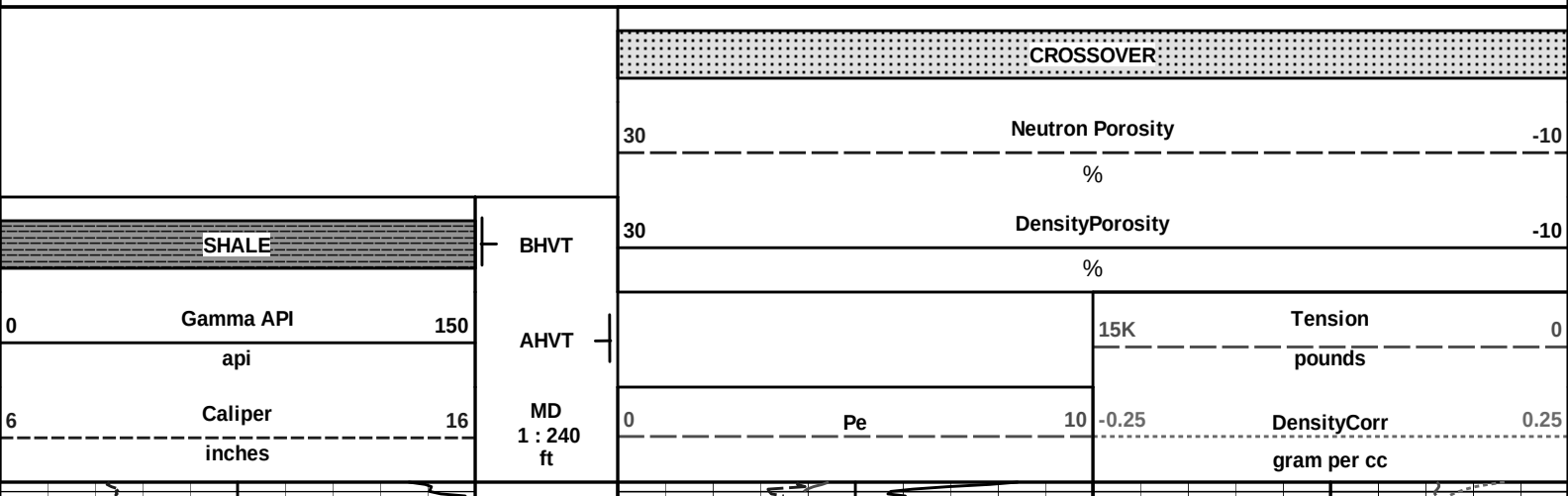
Plot Time: 13-Mar-14 09:13:26
Plot Range: 4195 ft to 6261 ft
Data: PARITY 1-34\Well Based\R1 DETAIL\
Plot File: \\POROSITY\Poro_IQ_5_MAIN_LIB

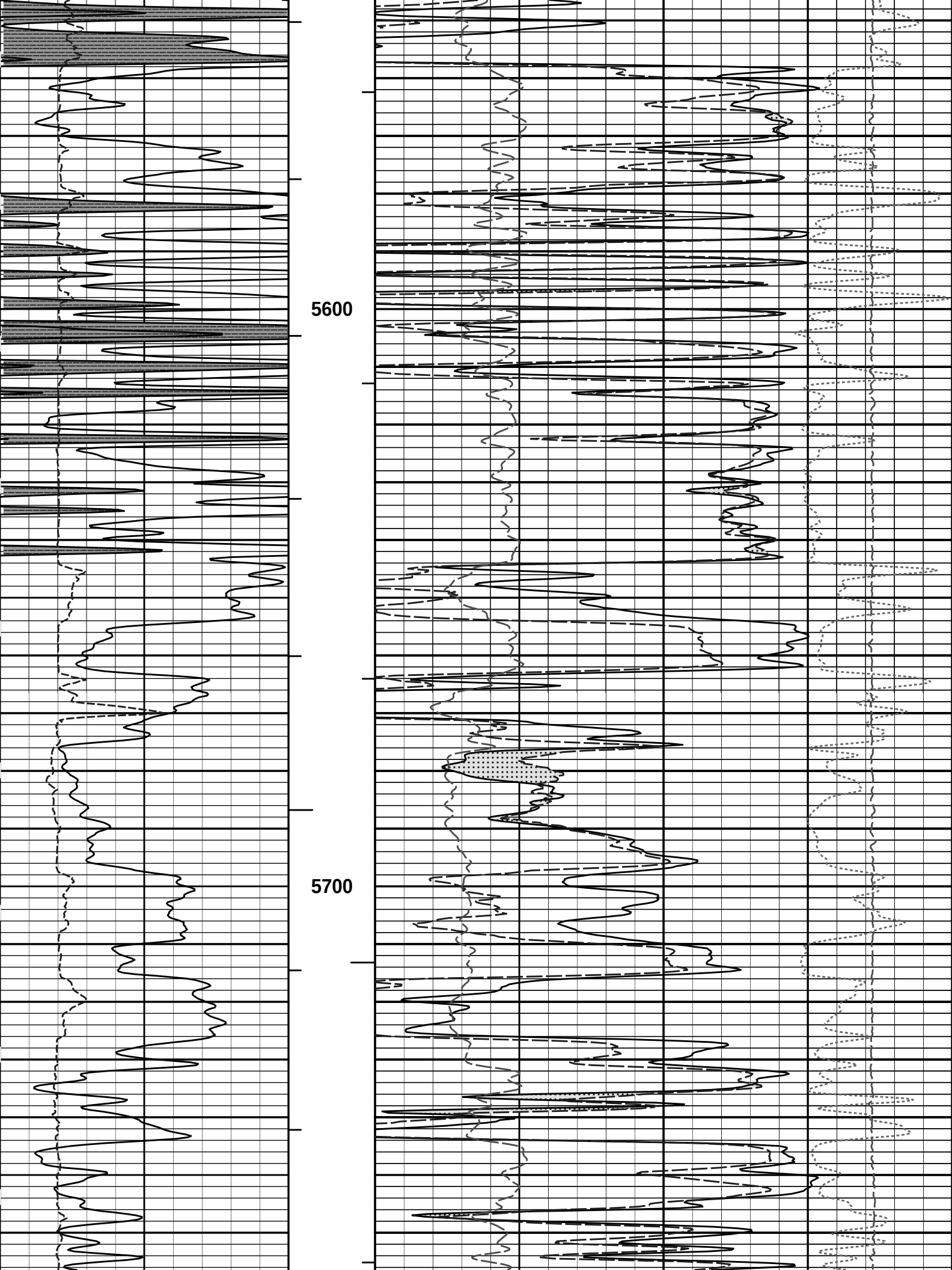
5 INCH MAIN LOG

HALLIBURTON

Plot Time: 13-Mar-14 09:13:26
Plot Range: 5545 ft to 6261 ft
Data: PARITY 1-34\Well Based\R1 REPEAT\
Plot File: \\POROSITY\Poro_IQ_5_REP_LIB

REPEAT SECTION

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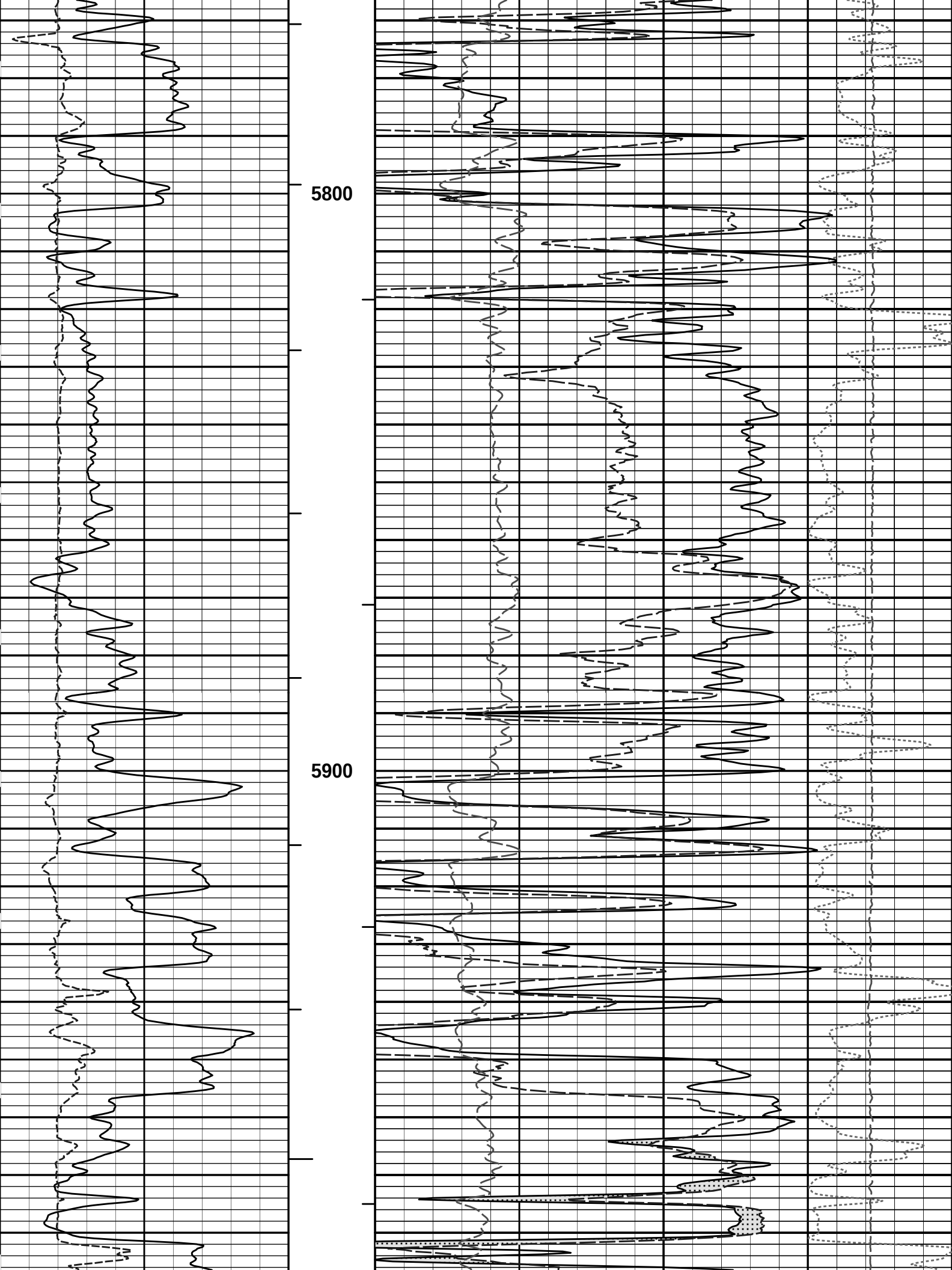
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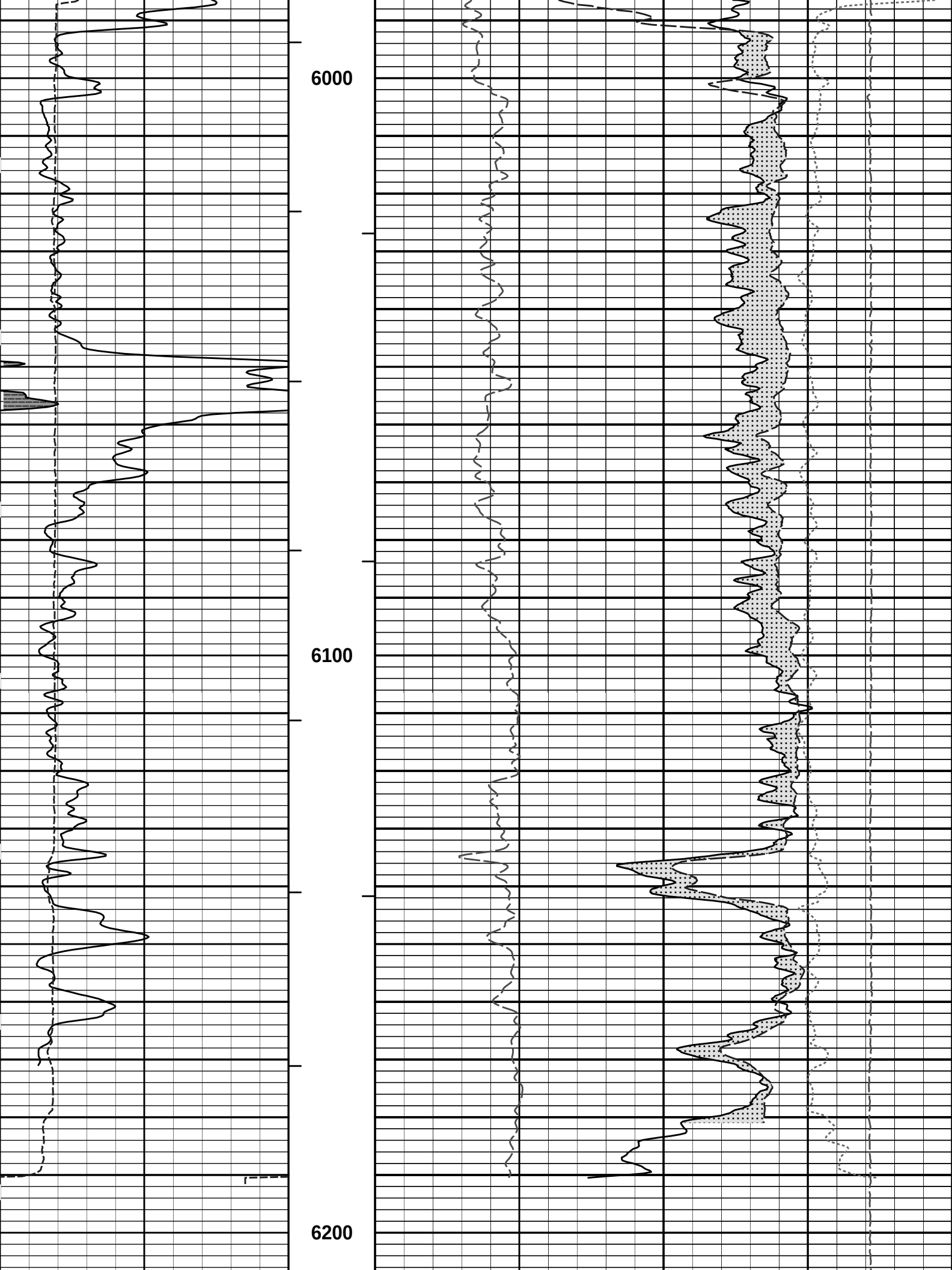
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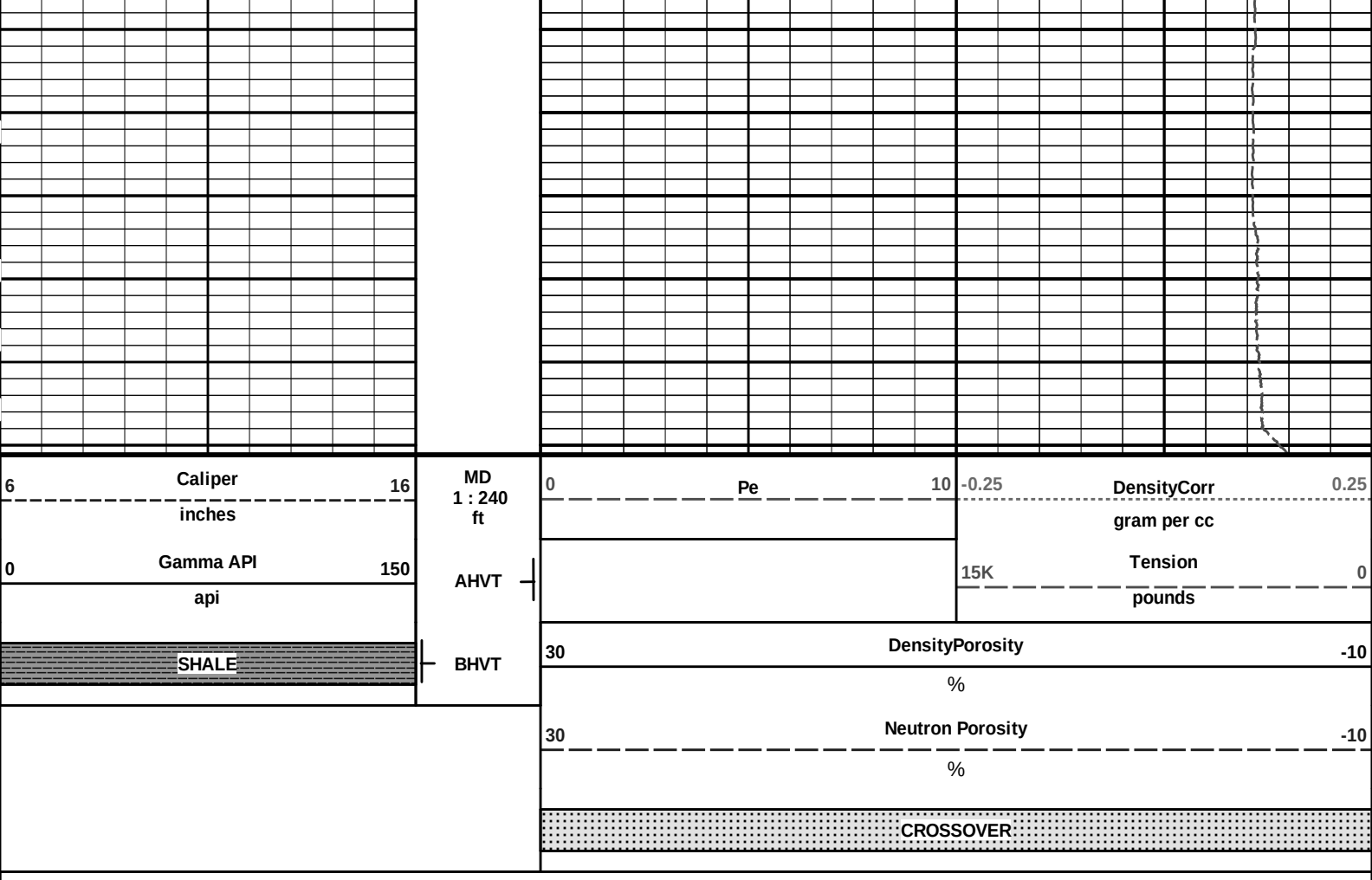

HALLIBURTON

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REPEAT SECTION

HALLIBURTON

Plot Time: 13-Mar-14 09:13:27
Plot Range: 4195 ft to 6261 ft
Data: PARITY 1-34\Well Based\R1 DETAIL\
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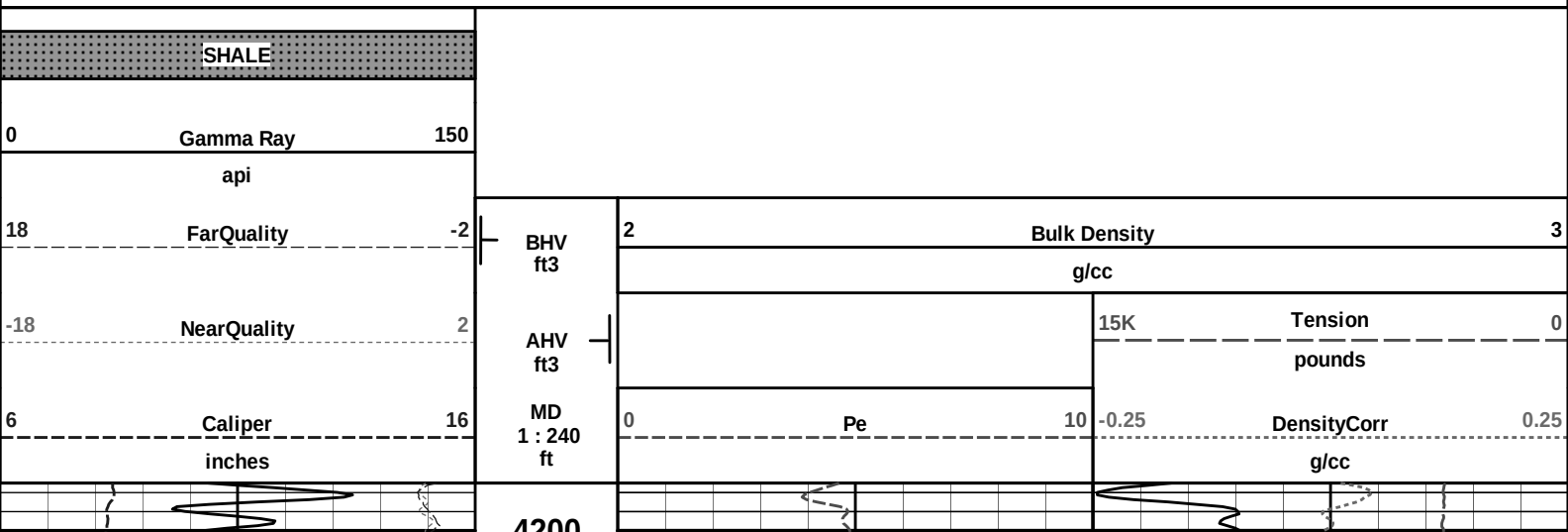
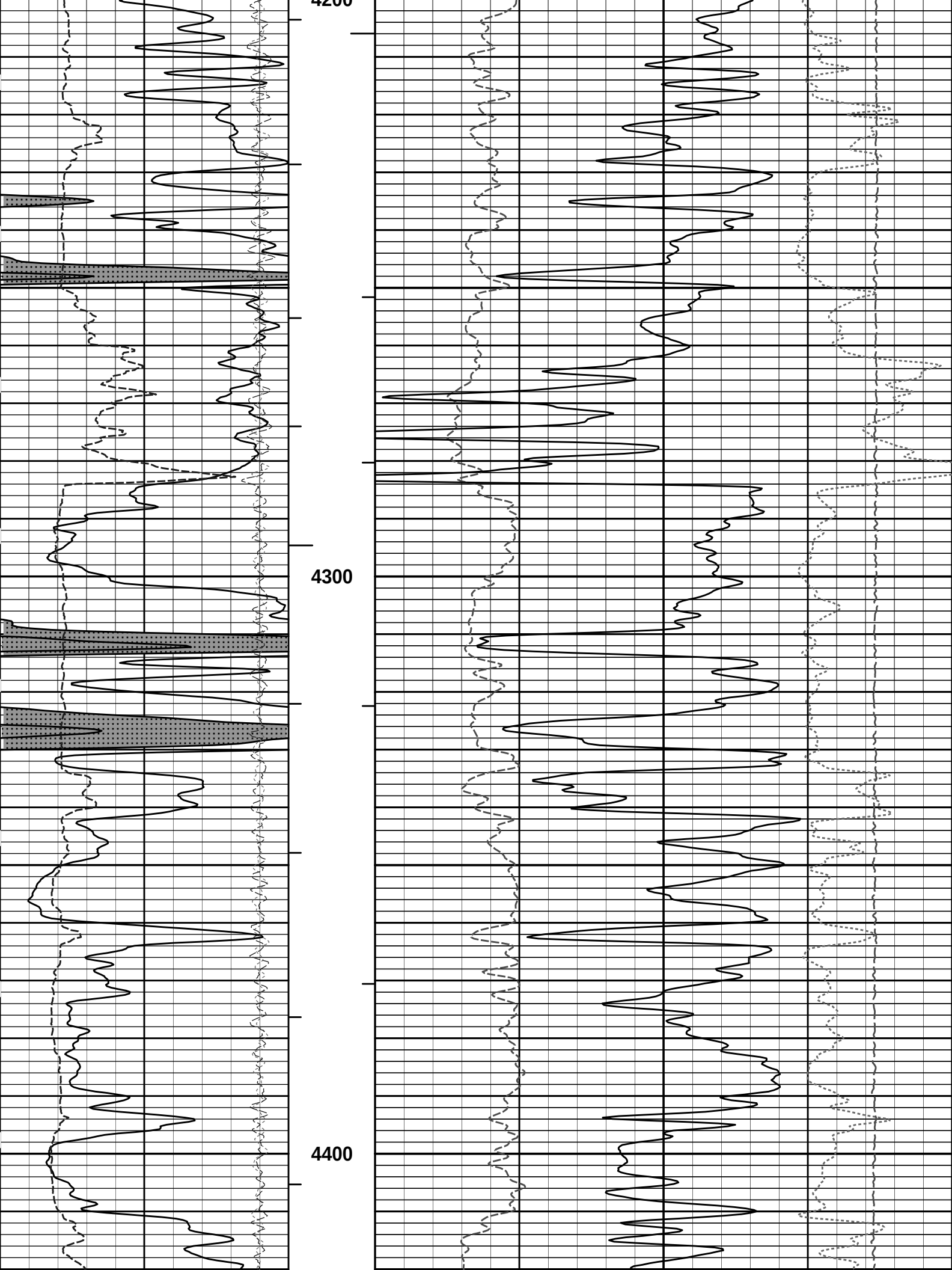
5 INCH MAIN LOG

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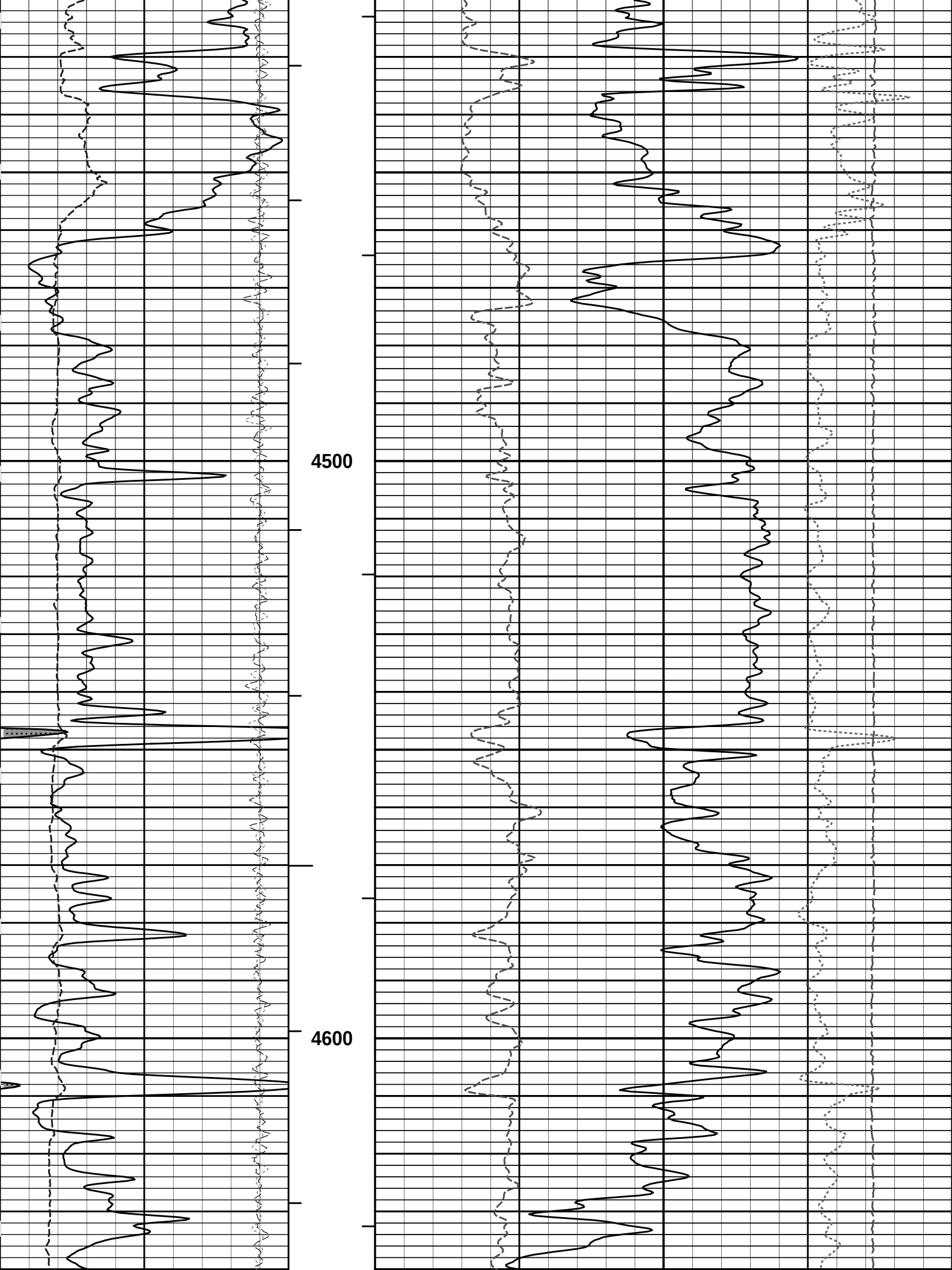
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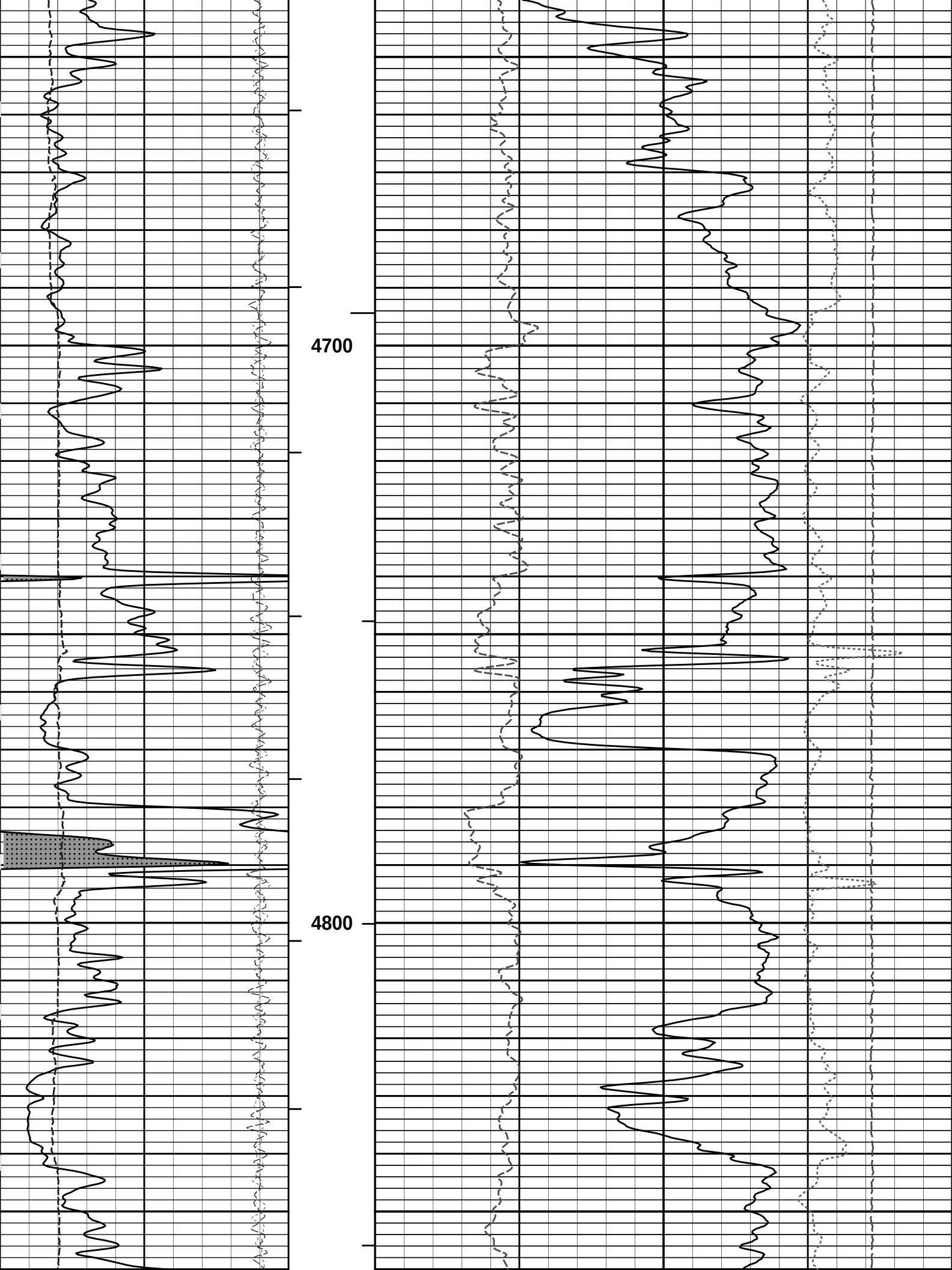
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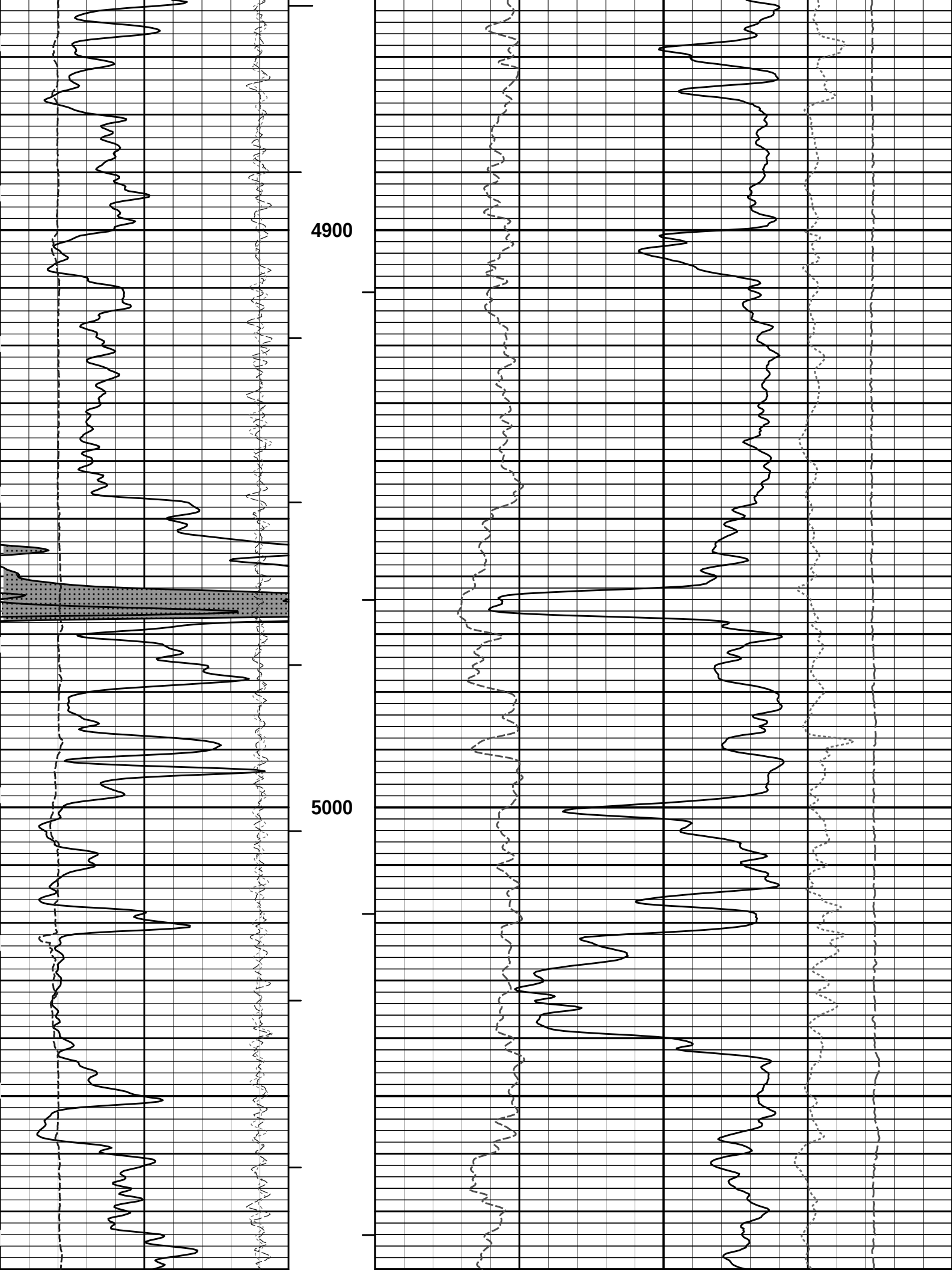
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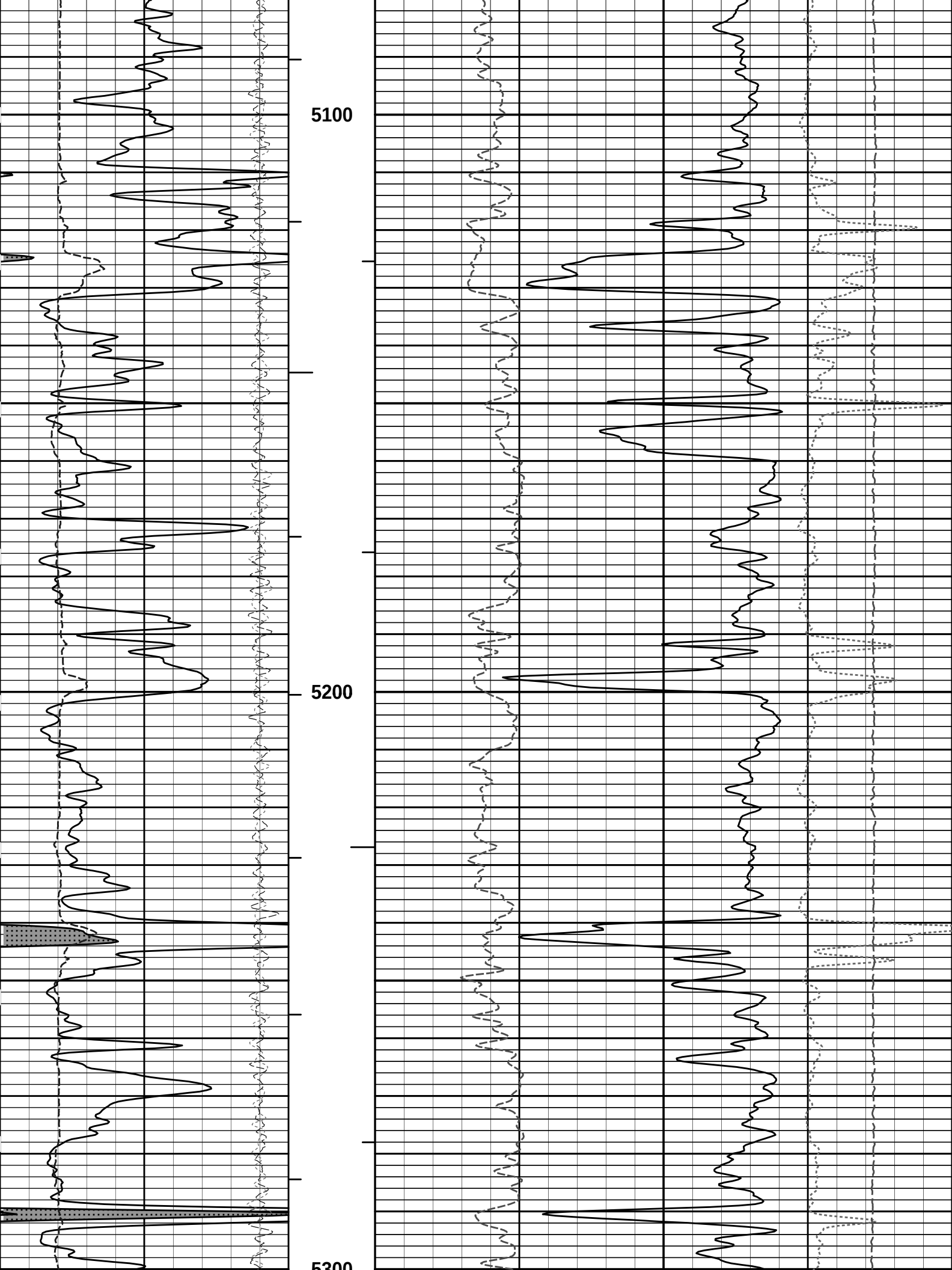
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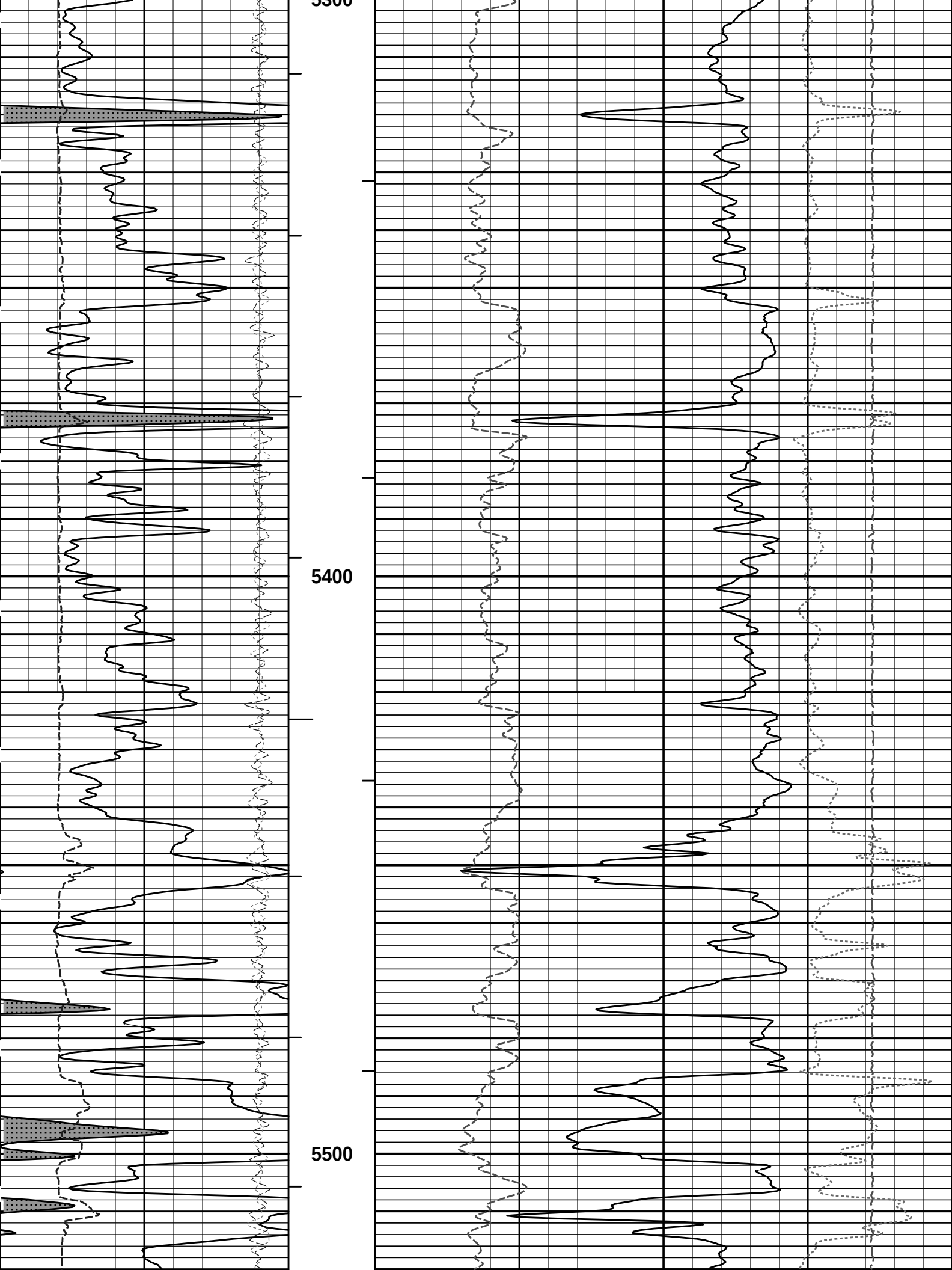
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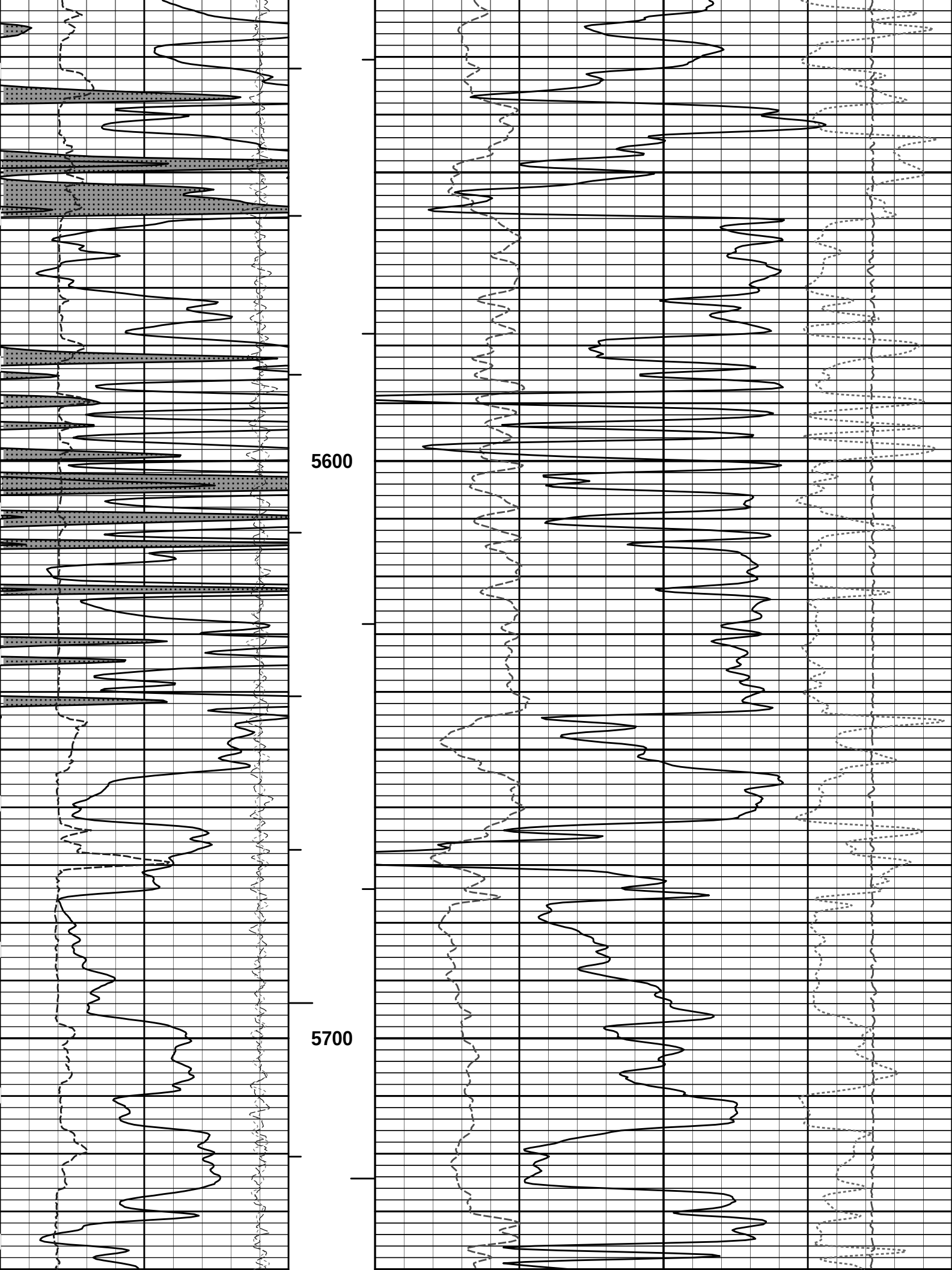
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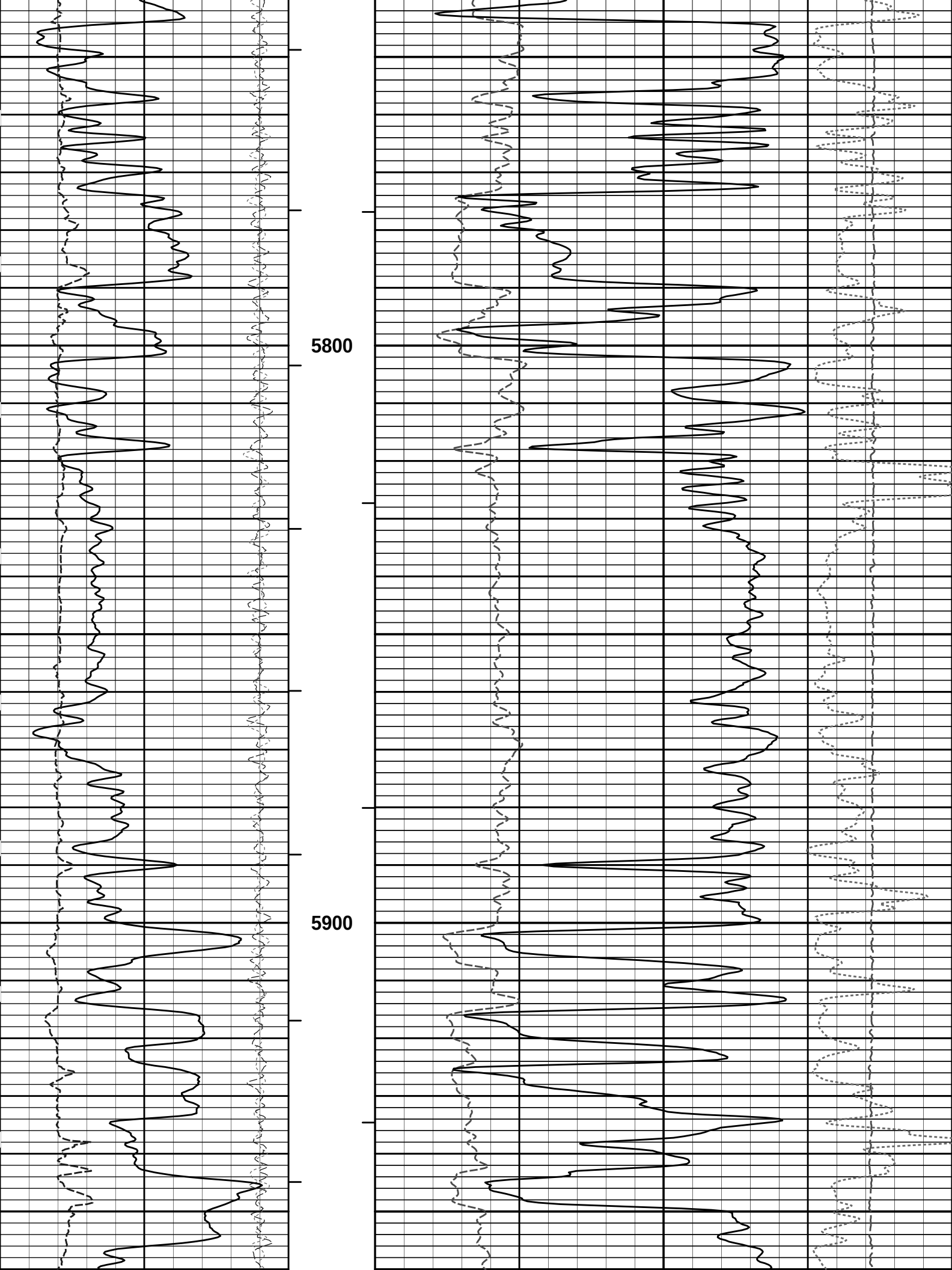
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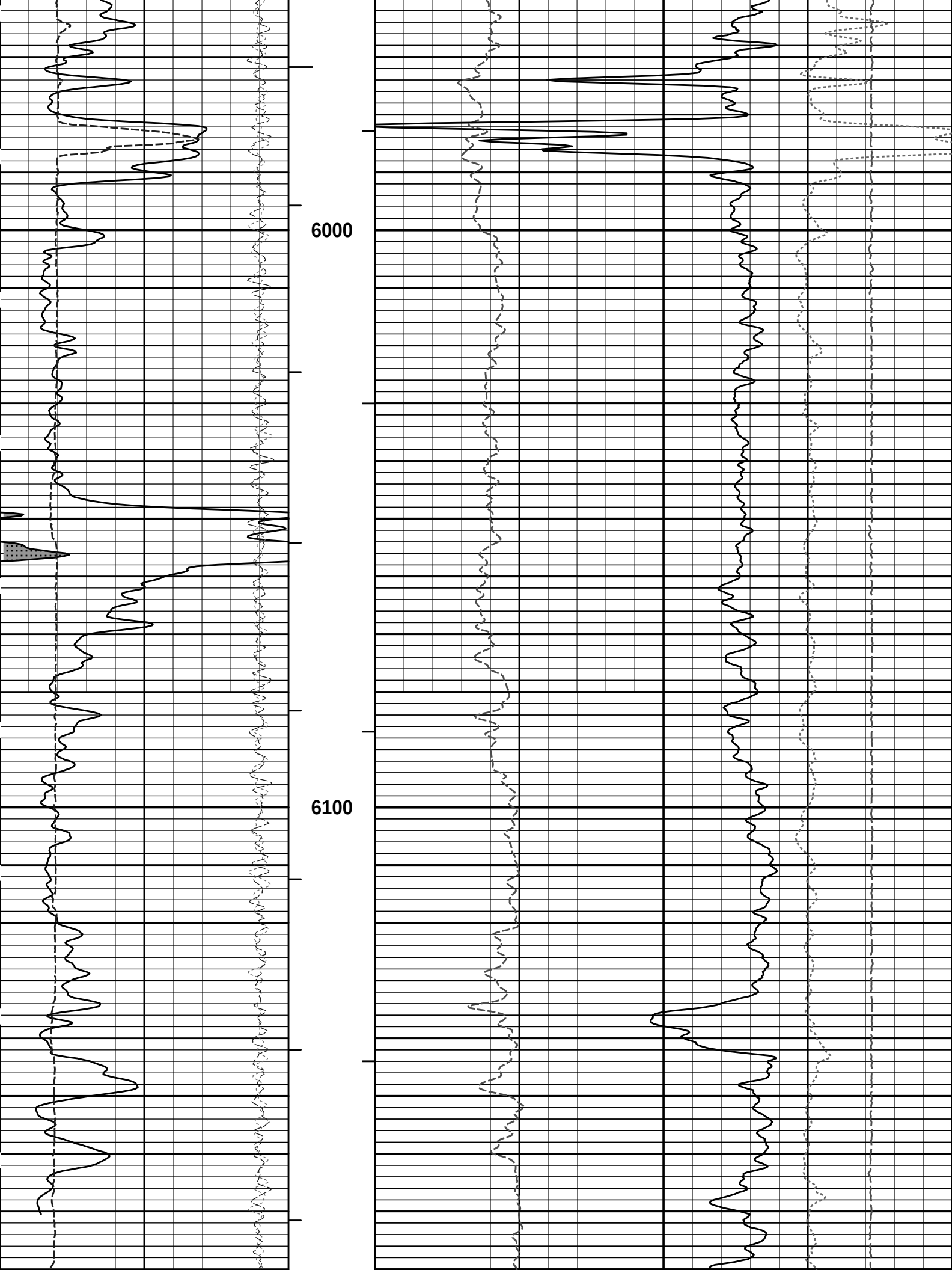
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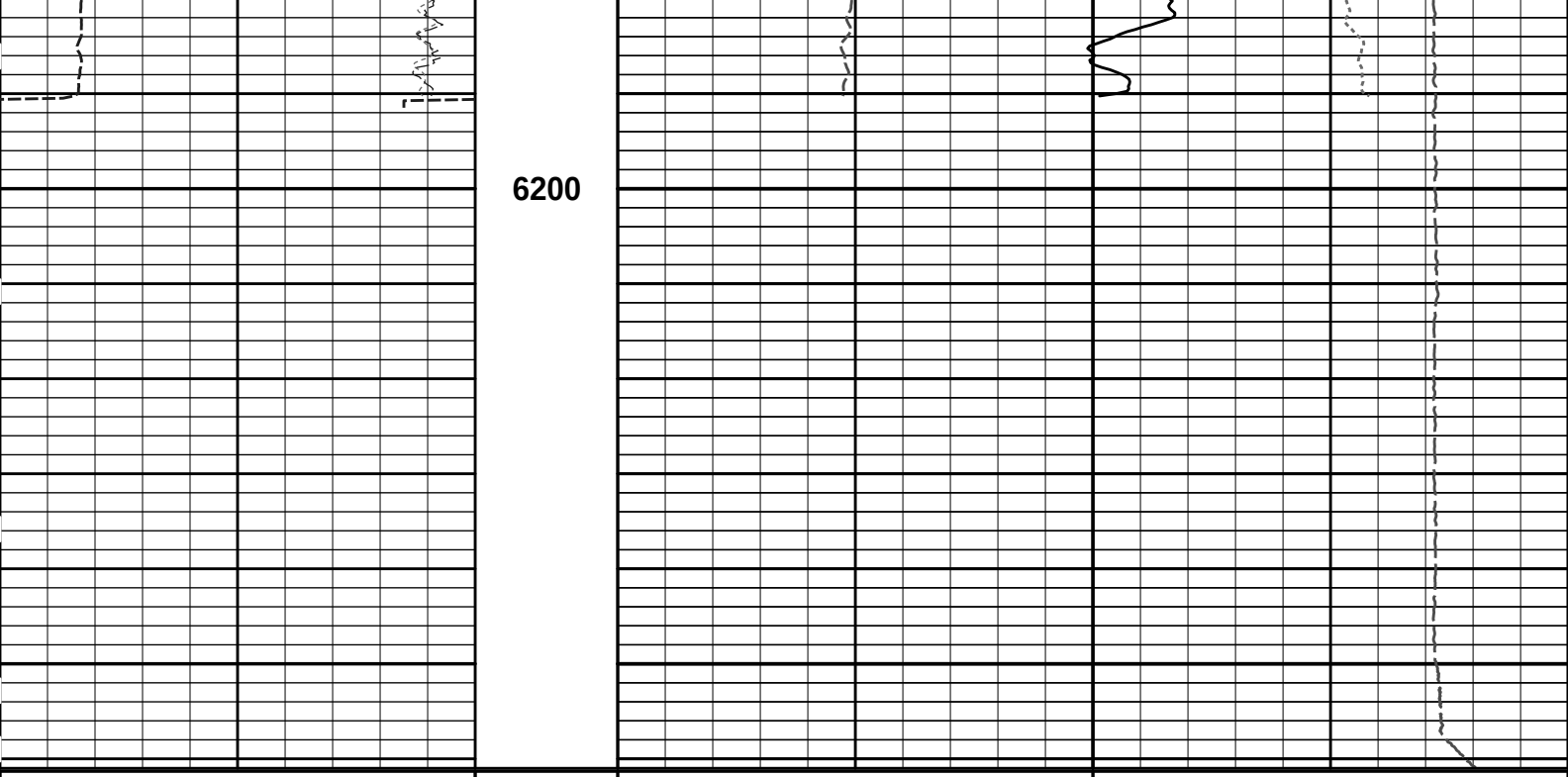


6 Caliper 16	MD 1 : 240 ft	0 Pe 10 / -0.25 DensityCorr 0.25
inches		g/cc
-18 NearQuality 2	AHV ft3	15K Tension 0
		pounds
18 FarQuality -2	BHV ft3	2 Bulk Density 3
		g/cc
0 Gamma Ray 150		
api		
SHALE		

HALLIBURTON

Plot Time: 13-Mar-14 09:13:29
Plot Range: 4195 ft to 6261 ft
Data: PARITY 1-34\Well Based\R1 DETAIL\
Plot File: \\-LOCAL-\PARITY 1-34\Well Based\POROSITY\BULKD_5_MAIN_LIB

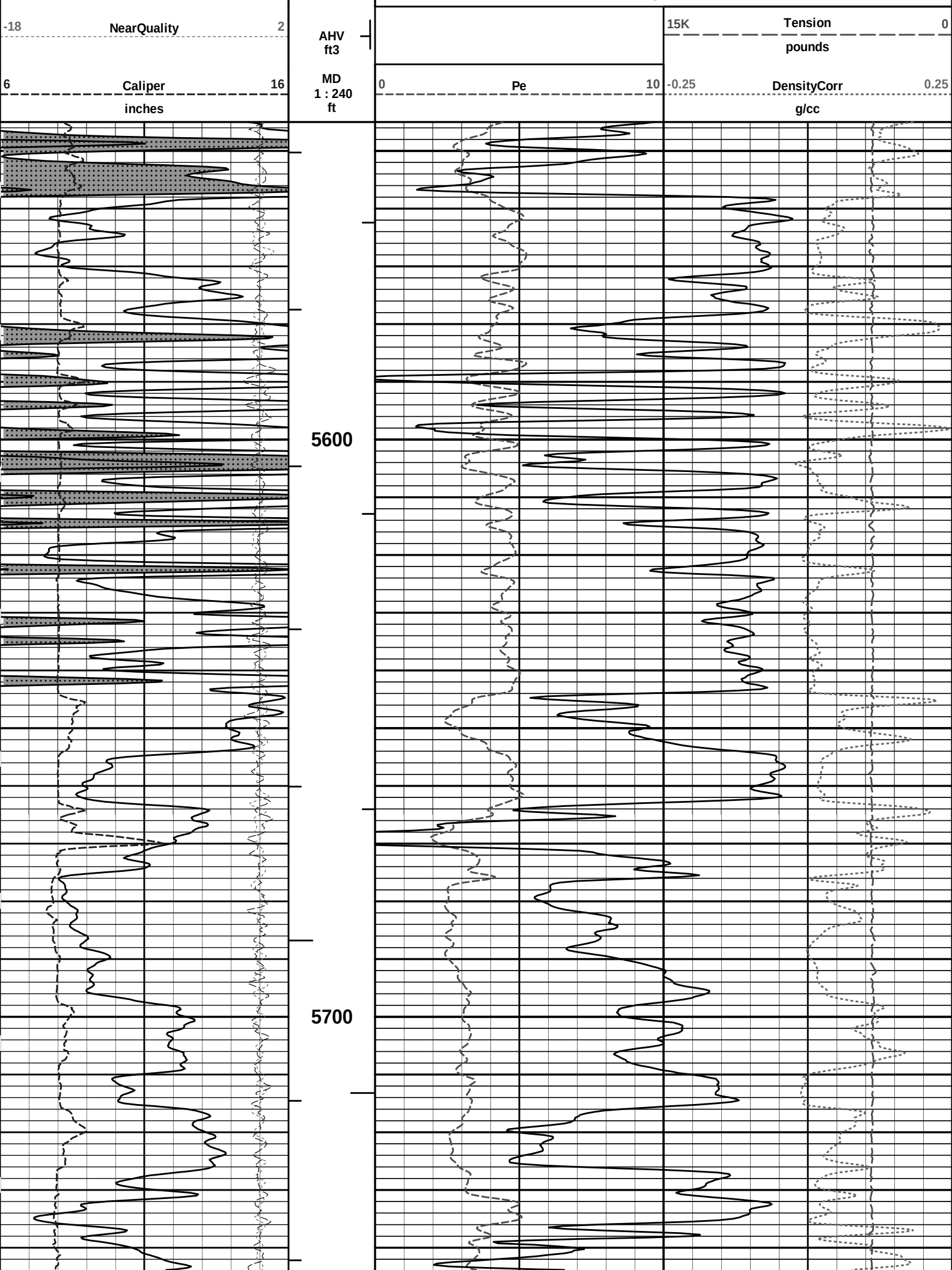
5 INCH MAIN LOG

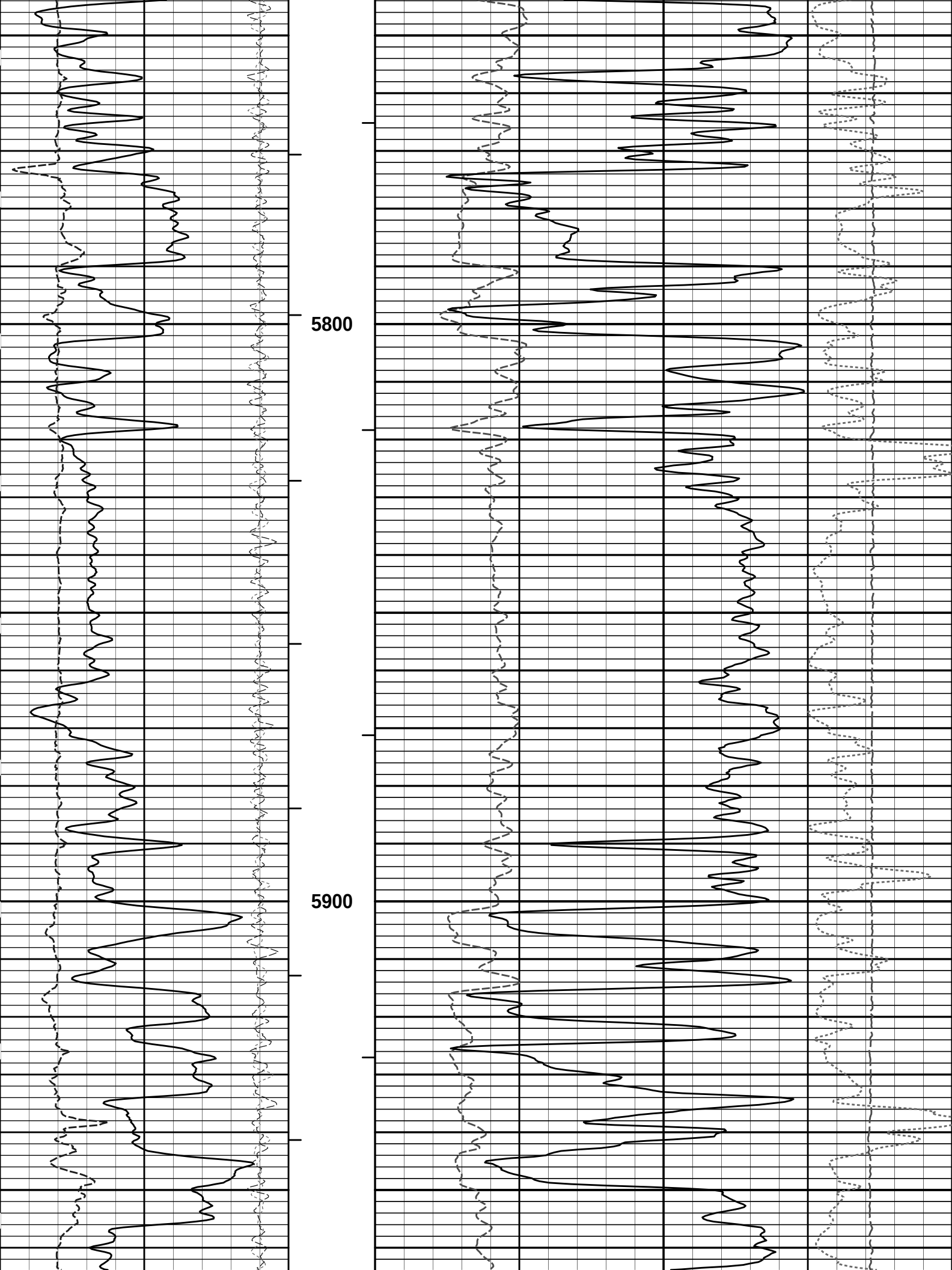
HALLIBURTON

Plot Time: 13-Mar-14 09:13:29
Plot Range: 5545 ft to 6261 ft
Data: PARITY 1-34\Well Based\R1 REPEAT\
Plot File: \\-LOCAL-\PARITY 1-34\Well Based\POROSITY\BULKD_5_REP_LIB

REPEAT SECTION

SHALE		
0 Gamma Ray 150		
api		
18 FarQuality -2	BHV ft3	2 Bulk Density 3
		g/cc


-18
NearQuality
2
AHV
ft3
15K
Tension
0
pounds
6
Caliper
16
inches
MD
1 : 240
ft
0
Pe
10
-0.25
DensityCorr
0.25
g/cc
5600
5700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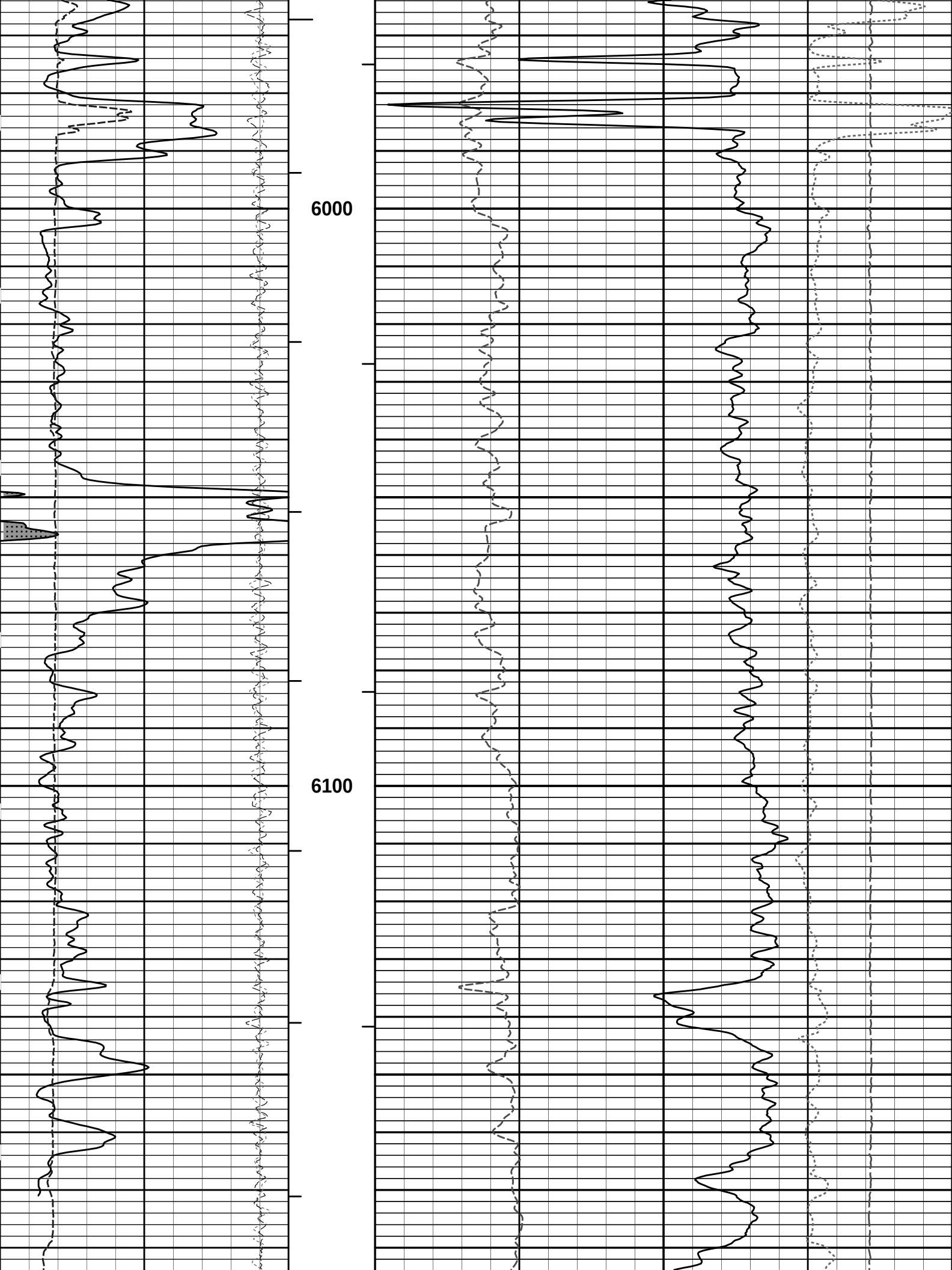
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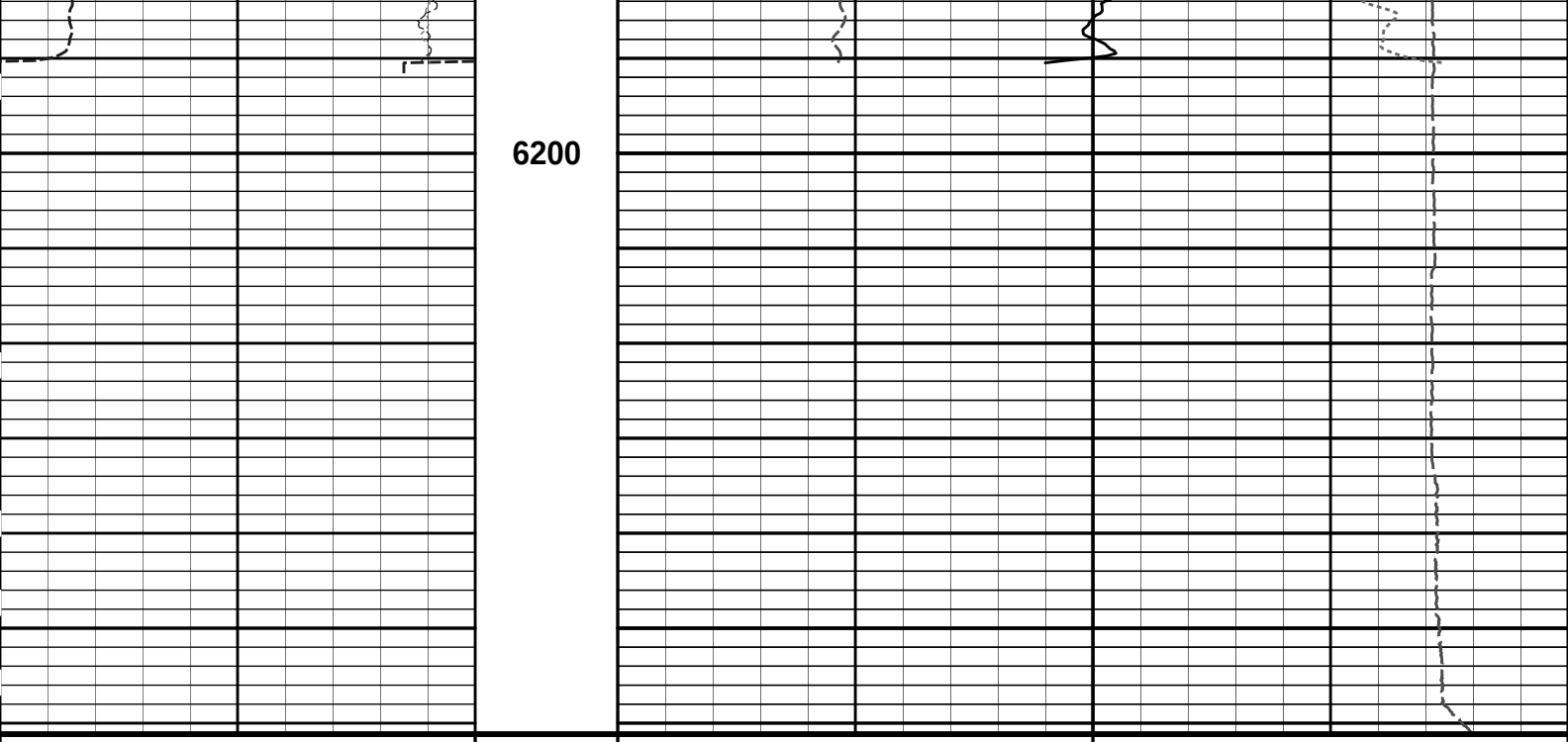


6 Caliper 16	MD 1 : 240 ft	0 Pe 10 / -0.25 DensityCorr 0.25
inches		g/cc
-18 NearQuality 2	AHV ft3	15K Tension 0
		pounds
18 FarQuality -2	BHV ft3	2 Bulk Density 3
		g/cc
0 Gamma Ray 150		
api		
SHALE		

HALLIBURTON

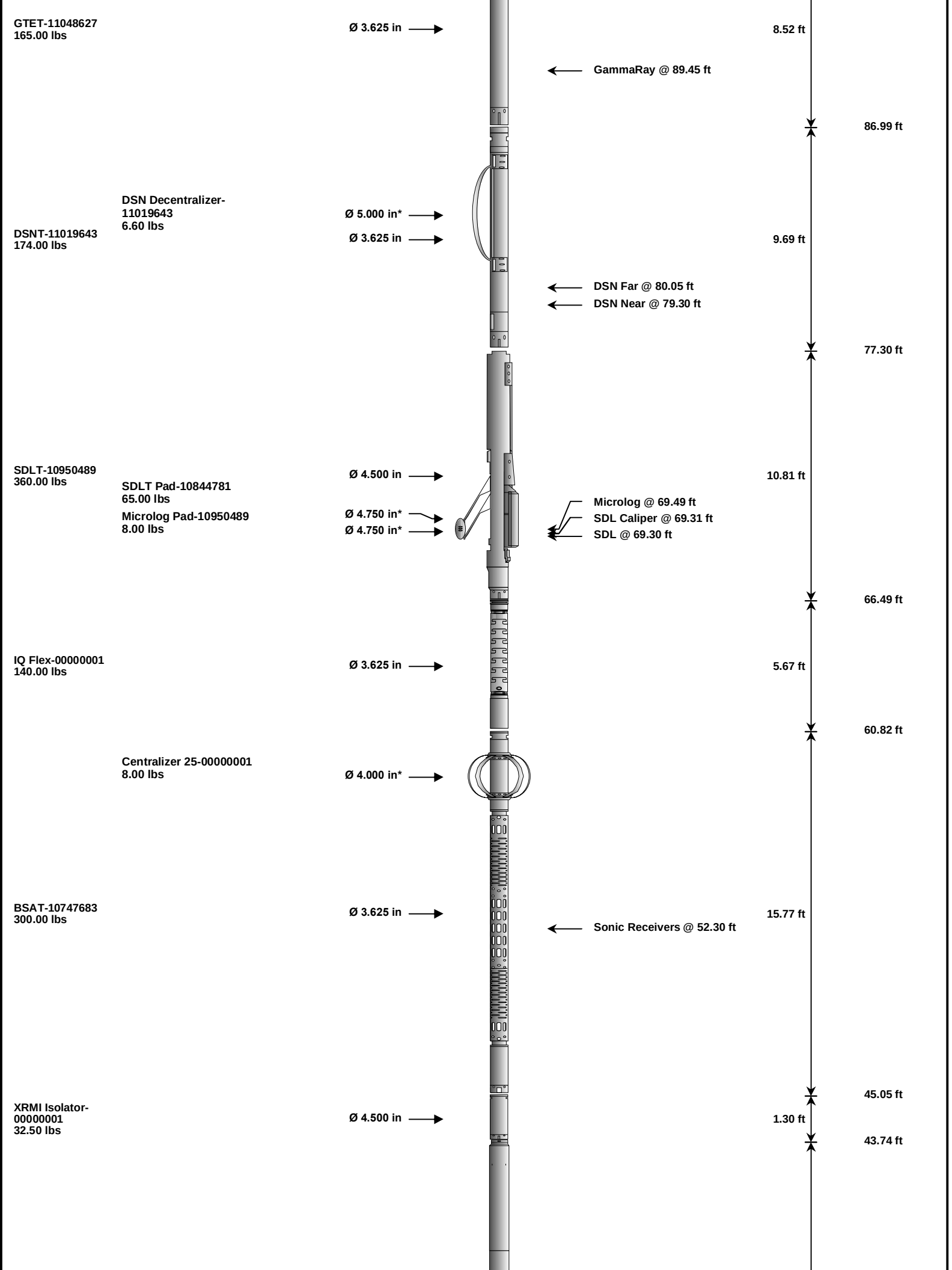
Plot Time: 13-Mar-14 09:13:30
Plot Range: 5545 ft to 6261 ft
Data: PARITY 1-34\Well Based\R1 REPEAT\
Plot File: \\-LOCAL-\PARITY 1-34\Well Based\POROSITY\BULKD_5_REP_LIB

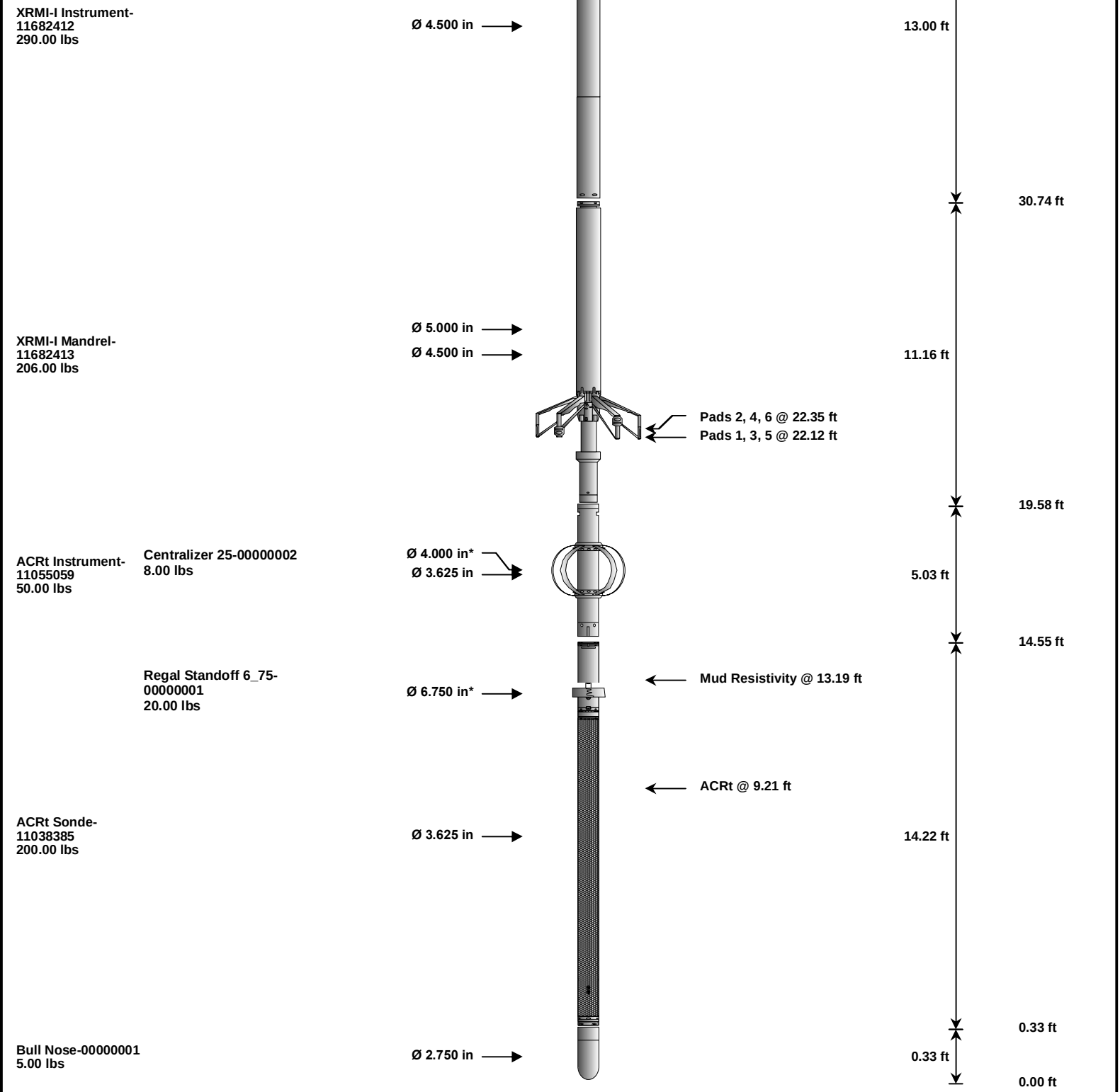
REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
Cable Head-12345678 30.00 lbs		Ø 3.625 in			1.92 ft	101.17 ft
						99.25 ft
SP Sub-12345678 60.00 lbs		Ø 3.625 in		SP @ 97.47 ft	3.74 ft	
						95.51 ft


GTET-11048627
165.00 lbs
Ø 3.625 in
8.52 ft
GammaRay @ 89.45 ft
86.99 ft
DSN Decentralizer-11019643
6.60 lbs
Ø 5.000 in*
DSNT-11019643
174.00 lbs
Ø 3.625 in
9.69 ft
DSN Far @ 80.05 ft
DSN Near @ 79.30 ft
77.30 ft
SDLT-10950489
360.00 lbs
Ø 4.500 in
10.81 ft
SDLT Pad-10844781
65.00 lbs
Microlog Pad-10950489
8.00 lbs
Ø 4.750 in*
Ø 4.750 in*
Microlog @ 69.49 ft
SDL Caliper @ 69.31 ft
SDL @ 69.30 ft
66.49 ft
IQ Flex-00000001
140.00 lbs
Ø 3.625 in
5.67 ft
60.82 ft
Centralizer 25-00000001
8.00 lbs
Ø 4.000 in*
BSAT-10747683
300.00 lbs
Ø 3.625 in
15.77 ft
Sonic Receivers @ 52.30 ft
45.05 ft
XRMI Isolator-00000001
32.50 lbs
Ø 4.500 in
1.30 ft
43.74 ft



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)		Accumulated Length (ft)	Max.Log. Speed (fpm)
CH	Standard OH Cable Head	12345678	30.00	1.92		99.25	300.00
SP	SP Sub	12345678	60.00	3.74		95.51	300.00
GTET	Gamma Telemetry Tool	11048627	165.00	8.52		86.99	60.00
DSNT	Dual Spaced Neutron	11019643	174.00	9.69		77.30	60.00
DCNT	DSN Decentralizer	11019643	6.60	5.13	*	80.63	300.00
SDLT	Spectral Density Tool	10950489	360.00	10.81		66.49	60.00
SDLP	Density Insite Pad	10844781	65.00	2.55	*	68.70	60.00
MICP	Microlog Pad	10950489	8.00	1.00	*	68.99	60.00
IQF	IQ Flex tool	00000001	140.00	5.67		60.82	300.00
BSAT	Borehole Sonic Array Tool	10747683	300.00	15.77		45.05	60.00
OBCEN	Centralizer - 25 in. Overbody	00000001	8.00	2.08	*	57.82	300.00
	Isolator for the XRMI tool	00000001	32.50	1.30		43.74	300.00
XRMI	XRMI Navigation - Insite	11682412	290.00	13.00		30.74	30.00
XRMI-I	XRMI Imager - Insite	11682413	206.00	11.16		19.58	30.00
ACRt	Array Compensated True Resistivity Instrument Section	11055059	50.00	5.03		14.55	120.00

OBCEN	Centralizer - 25 in. Overbody	00000002	8.00	2.08	*	16.12	300.00
ACRt	Array Compensated True Resistivity Sonde Section	11038385	200.00	14.22		0.33	120.00
RSOF	Regal Standoff 6.75in	00000001	20.00	0.52	*	12.42	300.00
BLNS	Bull Nose	00000001	5.00	0.33		0.00	300.00
Total			**2,128.10**	**101.17**			

* Not included in Total Length and Length Accumulation.

Data: PARITY 1-34\0002 GTET-DSN-SDL-FLEX-BSAT-XRMI-ACRT\003 13-Mar-14 06:51 Up @6261.3f **Date: 13-Mar-14 07:28:05**

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	WAGT	Weighting Agent	Natural	
	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	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	6250.00	ft
	SHARED	BHT	Bottom Hole Temperature	145.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	XRMI-I Instrument	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	XRMI-I Instrument	
	SHARED	TEMM	Temperature Master Tool	NONE	
	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	XRMI-I Mandrel	
	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 for Gamma Ray Tools.	Eccentered	
	GTET	BHSM	Borehole Size Source Tool	XRMI-I Mandrel	
	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	
DSNT	BHSM	Borehole Size Source Tool	XRMI-I Mandrel	
SDLT	CLOK	Process Caliper 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	DFL	Formation Density Fluid	1.000	g/cc
SDLT Pad	BHSM	Borehole Size Source Tool	SDLT	
Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
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 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	
XRMI-I Instrument	WRTI	Survey Writing Interval	30	ft
XRMI-I Instrument	SOPT	Smoothing Option	None	
XRMI-I Mandrel	DIMG	Process XRMI?	Yes	
XRMI-I Mandrel	ALMT	Image Alignment Method	AZIM	
XRMI-I Mandrel	AGN	Use Button Auto Gain?	Yes	
XRMI-I Mandrel	BCLR	Button Auto Gain Color	127	
XRMI-I Mandrel	BFIL	Button Auto Gain Filter	0.020	
XRMI-I Mandrel	BGAN	Button Gain Value	0.001	
XRMI-I Mandrel	BOFF	Button Offset	0	
XRMI-I Mandrel	DIPE	Process Dipmeter Calculations?	Yes	
XRMI-I Mandrel	BHCS	Process Borehole Corrections?	Yes	
XRMI-I Mandrel	BHSM	Borehole Size Source Tool	XRMI-I Mandrel	
XRMI-I Mandrel	CLOK	Process Caliper Outputs?	Yes	
XRMI-I Mandrel	CMAX	Caliper Maximum Limit	100.0	in
XRMI-I Mandrel	CMIN	Caliper Mimimum Limit	3.5	in
XRMI-I Mandrel	NAVS	Navigation Source Tool	XRMI-I Instrument	
XRMI-I Mandrel	BHVC	Radius type for borehole volume calcuations	Elliptical	
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	Free Hanging	
ACRt Sonde	RMOP	Rmud Source	Mud Cell	
ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt Sonde	RMIN	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	XRMI-I Mandrel	

BOTTOM

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	**GTET - 11048627**	**Reference Calibration Date:**	**16-Dec-13 10:43:48**
Engineer:	**THOMAS HYDE**	**Calibration Date:**	**06-Feb-14 08:33:07**
Software Version:	**WL INSITE R3.8.4 (Build 5)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB146

Calibrator API Reference:265.00 api

Equivalent Calibrator API Reference:269.6 api

Measurement	Measured	Calibrated	Units
Background	50.3	51.0	api
Background + Calibrator	316.2	320.7	api
Calibrator	265.9	269.6	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	**GTET - 11048627**	**Reference Calibration Date:**	**06-Feb-14 08:33:07**
Engineer:	**SHELDON INGERSOLL**	**Calibration Date:**	**12-Mar-14 17:59:42**
Software Version:	**WL INSITE R4.2.0 (Build 2)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB146

Calibrator API Reference:265.00 api

Equivalent Calibrator API Reference:269.6 api

Field Verification	Shop	Field	Units
Background	51.0	50.9	api
Background + Calibrator	320.7	320.2	api
Calibrator	269.6	269.3	api

Shop	Field	Difference	Tolerance
269.6	269.3	0.3	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	**DSNT - 11019643**	**Reference Calibration Date:**	**19-Feb-14 18:58:49**
Engineer:	**SHELDON INGERSOLL**	**Calibration Date:**	**19-Feb-14 19:13:33**
Software Version:	**WL INSITE R3.8.4 (Build 5)**	**Calibration Version:**	**1**

Logging Source S/N: 696

Tank Serial Number: LIBERAL_NEUTRON

Reference value assigned to Tank: 51.680

Snow Block S/N: 696

Calibration Tank Water Temperature: 68 degF

Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS

Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.952	0.954	0.900 - 1.100

WATER TANK SUMMARY (Horizontal Water Tank)

	Current Reading	Calibrated	Control Limit

Measurement	Current Reading (Previous Coef.)	Calibrated (New Coef.)	Change	Control Limit On Change
Porosity (decp):	0.2106	0.2110	0.0004	+/- 0.0020
Calibrated Ratio:	9.71	9.73	0.013	+/- 0.050

VERIFIER		
Measurement	**Value**	**Control Limit**
Snow-Block Porosity (decp):	0.0687	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 - 11019643**	**Reference Calibration Date:**	**19-Feb-14 19:13:33**
Engineer:	**SHELDON INGERSOLL**	**Calibration Date:**	**12-Mar-14 18:27:56**
Software Version:	**WL INSITE R4.2.0 (Build 2)**	**Calibration Version:**	**1**

Logging Source S/N: 696

Snow Block S/N: 696

NEUTRON FIELD-CHECK SUMMARY				
	Shop	**Field**	**Difference**	**Control Limit On Change**
Snow-Block Porosity (decp):	0.0687	0.0716	0.0028	+/- 0.0150

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

DENSITY CALIPER SHOP CALIBRATION

Tool Name:	**SDLT - 10950489**	**Reference Calibration Date:**	**12-Mar-14 18:14:50**
Engineer:	**SHELDON INGERSOLL**	**Calibration Date:**	**12-Mar-14 18:19:39**
Software Version:	**WL INSITE R4.2.0 (Build 2)**	**Calibration Version:**	**1**
Host Tool Name:	**DSNT - 11019643**		

CALIBRATION COEFFICIENTS			
Measurement	**Previous Value**	**New Value**	**Control Limit On New Value**
Pad Offset	-2556.15	-2597.21	-7000.00 - -1000.00
Pad Gain	0.0004213	0.0004250	0.000200 - 0.000600
Arm Offset	-294.03	-1108.00	-5000.00 - 3000.00
Arm Gain	0.0004826	0.0005701	0.000300 - 0.000700
Arm Power	-0.000003449	-0.000008460	-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)	2.00	2.00	0.00	+/- 0.20
Medium Ring (in)	3.73	3.75	0.02	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.58	6.50	-0.08	+/- 0.20

Medium Ring (in)	8.15	8.25	0.10	+/- 0.20
Large Ring (in)	15.05	15.00	-0.05	+/- 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 - 10950489 **Reference Calibration Date:** 12-Mar-14 18:19:39

Engineer: SHELDON INGERSOLL **Calibration Date:** 12-Mar-14 18:22:05

Software Version: WL INSITE R4.2.0 (Build 2) **Calibration Version:** 1

MEASURED CALIPER VALUES

Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.77	0.02	+/- 0.10
Ring Diameter	8.25	8.25	0.00	+/- 0.15

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

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name: SDLT Pad - 10844781 **Reference Calibration Date:** 10-Jan-14 10:59:42

Engineer: SHELDON INGERSOLL **Calibration Date:** 19-Feb-14 16:58:18

Software Version: WL INSITE R3.8.4 (Build 5) **Calibration Version:** 1

Logging Source S/N: 5168GW

Aluminum Block S/N: LIBERAL Density: 2.598g/cc Pe: 3.170

Magnesium Block S/N: LIBERAL Density: 1.684g/cc Pe: 2.598

DENSITY CALIBRATION SUMMARY

Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0056	1.0376	0.90 - 1.10
Near Dens Gain	1.0041	1.0266	0.90 - 1.10
Near Peak Gain	0.9928	1.0296	0.90 - 1.10
Near Lith Gain	0.9569	1.0081	0.90 - 1.10
Far Bar Gain	1.0128	1.0082	0.90 - 1.10
Far Dens Gain	1.0002	0.9990	0.90 - 1.10
Far Peak Gain	0.9941	0.9959	0.90 - 1.10
Far Lith Gain	0.9700	0.9731	0.90 - 1.10
Near Bar Offset	0.1618	-0.1310	NONE
Near Dens Offset	0.1586	-0.0368	NONE
Near Peak Offset	0.2484	-0.0519	NONE
Near Lith Offset	0.5371	0.1192	NONE
Far Bar Offset	0.0257	0.0627	NONE
Far Dens Offset	0.1239	0.1313	NONE
Far Peak Offset	0.1325	0.1101	NONE
Far Lith Offset	0.2753	0.2407	NONE
Near Bar Background	793.46	787.16	700 - 1450
Near Dens Background	257.81	258.09	230 - 480

Near Peak Background	111.90	112.39	100 - 210
Near Lith Background	139.80	140.27	125 - 260
Far Bar Background	513.43	513.16	450 - 900
Far Dens Background	202.49	201.94	175 - 345
Far Peak Background	80.96	80.35	70 - 140
Far Lith Background	84.12	83.13	75 - 145

CALIBRATION BLOCK SUMMARY

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.674	1.684	0.010	+/- 0.015
Pe	2.619	2.554	-0.065	+/- 0.150
ALUMINUM				
Density (g/cc)	2.596	2.598	0.002	+/- 0.01500
Pe	3.144	3.122	-0.022	+/- 0.150

TOOL SUMMARY

Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0025	+/- 0.0110	-0.0018	+/- 0.0140
Magnesium Block	-0.0012	+/- 0.0110	-0.0006	+/- 0.0140
Aluminum Block	-0.0018	+/- 0.0110	0.0003	+/- 0.0140
Resolution	9.52	6.00 - 11.50	8.99	6.00 - 11.50
Internal Verifier(B+D+P+L)	1298	1200 - 2700	879	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 - 10844781
Reference Calibration Date: 19-Feb-14 16:58:18
Engineer: SHELDON INGERSOLL
Calibration Date: 12-Mar-14 17:57:15
Software Version: WL INSITE R4.2.0 (Build 2)
Calibration Version: 1

Pad Temperature: 61.7 degF

DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1297.914	1297.110	-0.804	14.586
Far (B+D+P+L) cps	878.578	875.851	-2.727	16.178
Near Resolution	9.52	9.40	-0.120	0.50
Far Resolution	8.99	9.00	0.010	1.00

PASS/FAIL SUMMARY

Bkg Quality Check:	Passed
Bkg Resolution Check:	Passed
Bkg Verification Check:	Passed

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11048627						
Gamma Ray Calibrator	269.6	269.3	----------	0.3	+/- 9.00	api
DSNT-11019643						
Snow-Block Porosity	0.0687	0.0716	----------	-0.0029	+/- 0.0150	decp
SDLT-10950489						
Pad Extension	3.75	3.77	----------	-0.02	+/-0.10	in
Ring Diameter	8.25	8.25	----------	0.00	+/-0.15	in
SDLT Pad-10844781						
Near(B+D+P+L)	1297.914	1297.110	----------	0.804	+/-14.586	cps
Far(B+D+P+L)	878.578	875.851	----------	2.727	+/-16.178	cps

HALLIBURTON

INPUTS, DELAYS AND FILTERS TABLE

Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
Depth Panel				
TENS	Tension	0.00	NO	
Rwa / CrossPlot				
TPUL	Tension Pull	101.17	NO	
BS	Bit Size	101.17	NO	
HDIA	Measured Hole Diameter	0.00	NO	
SP Sub				
PLTC	Plot Control Mask	97.47	NO	
SP	Spontaneous Potential	97.47	BLK	1.250
SPR	Raw Spontaneous Potential	97.47	NO	
SPO	Spontaneous Potential Offset	97.47	NO	
GTET				
TPUL	Tension Pull	89.45	NO	
GR	Natural Gamma Ray API	89.45	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	89.45	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	89.45	W	1.416 , 0.750
HDIA	Measured Hole Diameter	0.00	NO	
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
DSNT				
TPUL	Tension Pull	79.20	NO	
RNDS	Near Detector Telemetry Counts	79.30	BLK	1.417
RFDS	Far Detector Telemetry Counts	80.05	TRI	0.583
DNTT	DSN Tool Temperature	79.30	NO	
DSNS	DSN Tool Status	79.20	NO	
ERND	Near Detector Telemetry Counts EVR	79.30	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	80.05	BLK	0.000
ENTM	DSN Tool Temperature EVR	79.30	NO	

HDIA	Measured Hole Diameter	0.00	NO	
	SDLT			
TPUL	Tension Pull	69.31	NO	
PCAL	Pad Caliper	69.31	TRI	0.250
ACAL	Arm Caliper	69.31	TRI	0.250
	BSAT			
TPUL	Tension Pull	52.30	NO	
STAT	Status	52.30	NO	
DLYT	Delay Time	52.30	NO	
SI	Sample Interval	52.30	NO	
TXRX	Raw Telemetry 10 Receivers	52.30	NO	
FRMC	Tool Frame Count	52.30	NO	
GMOD	Gain processing mode	45.05	NO	
	XRMI-I Mandrel			
TPUL	Tension Pull	22.35	NO	
PAD1	XRMI Pad 1 values	22.12	NO	
PAD2	XRMI Pad 2 values	22.12	NO	
PAD3	XRMI Pad 3 values	22.12	NO	
PAD4	XRMI Pad 4 values	22.12	NO	
PAD5	XRMI Pad 5 values	22.12	NO	
PAD6	XRMI Pad 6 values	22.12	NO	
OD1	EMI Odd Button Values Pad 1	22.12	NO	
OD2	EMI Odd Button Values Pad 2	22.35	NO	
OD3	EMI Odd Button Values Pad 3	22.12	NO	
OD4	EMI Odd Button Values Pad 4	22.35	NO	
OD5	EMI Odd Button Values Pad 5	22.12	NO	
OD6	EMI Odd Button Values Pad 6	22.35	NO	
EV1	EMI Even Button Values Pad 1	22.14	NO	
EV2	EMI Even Button Values Pad 2	22.32	NO	
EV3	EMI Even Button Values Pad 3	22.14	NO	
EV4	EMI Even Button Values Pad 4	22.32	NO	
EV5	EMI Even Button Values Pad 5	22.14	NO	
EV6	EMI Even Button Values Pad 6	22.32	NO	
ITMP	Instrument Temperature	19.58	NO	
EMIM	Tool Mode	19.58	NO	
HAZI	Hole Azimuth	21.87	NO	
HAZI	Hole Azimuth - Down Delay	22.37	NO	
ZACC	Accelerometer Z	22.12	NO	
RB	Relative Bearing	21.87	NO	
RBD	Relative Bearing Down	22.37	NO	
TPUL	Tension Pull	22.35	NO	
FIR1	Current Button R - Pad 1	22.12	NO	
FIR2	Current Button R - Pad 2	22.35	NO	
FIR3	Current Button R - Pad 3	22.12	NO	
FIR4	Current Button R - Pad 4	22.35	NO	
FIR5	Current Button R - Pad 5	22.12	NO	
FIR6	Current Button R - Pad 6	22.35	NO	
FIX1	Current Button X - Pad 1	22.12	NO	
FIX2	Current Button X - Pad 2	22.35	NO	
FIX3	Current Button X - Pad 3	22.12	NO	
FIX4	Current Button X - Pad 4	22.35	NO	
FIX5	Current Button X - Pad 5	22.12	NO	
FIX6	Current Button X - Pad 6	22.35	NO	

FIX6	Current Button X - Pad 6	22.35	NO	
SIR1	Current Slow Button R - Pad 1	22.12	BLK	3.000
SIR2	Current Slow Button R - Pad 2	22.35	BLK	3.000
SIR3	Current Slow Button R - Pad 3	22.12	BLK	3.000
SIR4	Current Slow Button R - Pad 4	22.35	BLK	3.000
SIR5	Current Slow Button R - Pad 5	22.12	BLK	3.000
SIR6	Current Slow Button R - Pad 6	22.35	BLK	3.000
SIX1	Current Slow Button X - Pad 1	22.12	BLK	3.000
SIX2	Current Slow Button X - Pad 2	22.35	BLK	3.000
SIX3	Current Slow Button X - Pad 3	22.12	BLK	3.000
SIX4	Current Slow Button X - Pad 4	22.35	BLK	3.000
SIX5	Current Slow Button X - Pad 5	22.12	BLK	3.000
SIX6	Current Slow Button X - Pad 6	22.35	BLK	3.000
EMMR	Phasor Voltage - Real Part	22.12	NO	
EMMX	Phasor Voltage - Imaginary Part	22.12	NO	
PADV	Pad Voltage	19.58	BLK	0.250
ITMP	Instrument Temperature	19.58	BLK	0.000
CON1	Conductivity Pad 1	22.12	BLK	3.000
CON2	Conductivity Pad 2	22.35	BLK	3.000
CON3	Conductivity Pad 3	22.12	BLK	3.000
CON4	Conductivity Pad 4	22.35	BLK	3.000
CON5	Conductivity Pad 5	22.12	BLK	3.000
CON6	Conductivity Pad 6	22.35	BLK	3.000
UIR2	Current Button R No Delay - Pad 2	22.12	NO	
UIR4	Current Button R No Delay - Pad 4	22.12	NO	
UIR6	Current Button R No Delay - Pad 6	22.12	NO	
UIX2	Current Button X No Delay - Pad 2	22.12	NO	
UIX4	Current Button X No Delay - Pad 4	22.12	NO	
UIX6	Current Button X No Delay - Pad 6	22.12	NO	
HDIA	Measured Hole Diameter	0.00	NO	
TPUL	Tension Pull	22.35	NO	
ARM1	Caliper 1 measurement	22.12	BLK	0.000
ARM2	Caliper 2 measurement	22.12	BLK	0.000
ARM3	Caliper 3 measurement	22.12	BLK	0.000
ARM4	Caliper 4 measurement	22.12	BLK	0.000
ARM5	Caliper 5 measurement	22.12	BLK	0.000
ARM6	Caliper 6 measurement	22.12	BLK	0.000
MOTV	Motor Voltage Monitor 1	22.12	BLK	0.000
PRES	Caliper percentage of total compression of the spring	19.58	BLK	0.000
HAZI	Hole Azimuth	22.12	NO	
RB	Relative Bearing	22.12	NO	
AZI1	PAD1 Azimuth	22.12	NO	
DEVI	Inclination	22.12	NO	

ACRt Sonde

TPUL	Tension Pull	2.73	NO	
F1R1	ACRT 12KHz - 80in R value	8.98	BLK	0.000
F1X1	ACRT 12KHz - 80in X value	8.98	BLK	0.000
F1R2	ACRT 12KHz - 50in R value	6.48	BLK	0.000
F1X2	ACRT 12KHz - 50in X value	6.48	BLK	0.000
F1R3	ACRT 12KHz - 29in R value	4.98	BLK	0.000
F1X3	ACRT 12KHz - 29in X value	4.98	BLK	0.000
F1R4	ACRT 12KHz - 17in R value	3.98	BLK	0.000
F1X4	ACRT 12KHz - 17in X value	3.98	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	3.48	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	3.48	BLK	0.000

F1R6	ACRT 12KHz - 6in R value	3.23	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	3.23	BLK	0.000
F2R1	ACRT 36KHz - 80in R value	8.98	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	8.98	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.48	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.48	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	4.98	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	4.98	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	3.98	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	3.98	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.48	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.48	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.23	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.23	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	8.98	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	8.98	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	6.48	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.48	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	4.98	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	4.98	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	3.98	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	3.98	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.48	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.48	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	3.23	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.23	BLK	0.000
RMUD	Mud Resistivity	12.52	BLK	0.000
F1RT	Transmitter Reference 12 KHz Real Signal	2.73	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	2.73	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	2.73	BLK	0.000
F2XT	Transmitter Reference 36 KHz Imaginary Signal	2.73	BLK	0.000
F3RT	Transmitter Reference 72 KHz Real Signal	2.73	BLK	0.000
F3XT	Transmitter Reference 72 KHz Imaginary Signal	2.73	BLK	0.000
TFPU	Upper Feedpipe Temperature Calculated	2.73	BLK	0.000
TFPL	Lower Feedpipe Temperature Calculated	2.73	BLK	0.000
ITMP	Instrument Temperature	2.73	BLK	0.000
TCVA	Temperature Correction Values Loop Off	2.73	NO	
TIDV	Instrument Temperature Derivative	2.73	NO	
TUDV	Upper Temperature Derivative	2.73	NO	
TLDV	Lower Temperature Derivative	2.73	NO	
TRBD	Receiver Board Temperature	2.73	NO	
HDIA	Measured Hole Diameter	0.00	NO	

SDLT Pad				
TPUL	Tension Pull	69.30	NO	
NAB	Near Above	69.12	BLK	0.920
NHI	Near Cesium High	69.12	BLK	0.920
NLO	Near Cesium Low	69.12	BLK	0.920
NVA	Near Valley	69.12	BLK	0.920
NBA	Near Barite	69.12	BLK	0.920
NDE	Near Density	69.12	BLK	0.920
NPK	Near Peak	69.12	BLK	0.920
NLI	Near Lithology	69.12	BLK	0.920
NBAU	Near Barite Unfiltered	69.12	BLK	0.250
NLIU	Near Lithology Unfiltered	69.12	BLK	0.250

FAB	Far Above	69.47	BLK	0.250
FHI	Far Cesium High	69.47	BLK	0.250
FLO	Far Cesium Low	69.47	BLK	0.250
FVA	Far Valley	69.47	BLK	0.250
FBA	Far Barite	69.47	BLK	0.250
FDE	Far Density	69.47	BLK	0.250
FPK	Far Peak	69.47	BLK	0.250
FLI	Far Lithology	69.47	BLK	0.250
PTMP	Pad Temperature	69.31	BLK	0.920
NHV	Near Detector High Voltage	68.70	NO	
FHV	Far Detector High Voltage	68.70	NO	
ITMP	Instrument Temperature	68.70	NO	
DDHV	Detector High Voltage	68.70	NO	
HDIA	Measured Hole Diameter	0.00	NO	

Microlog Pad

TPUL	Tension Pull	69.49	NO	
MINV	Microlog Lateral	69.49	BLK	0.750
MNOR	Microlog Normal	69.49	BLK	0.750

Data: PARITY 1-34\0002 CTET-DSN-SDL-FLEX-RSAT-XPML-ACRT\002 13-Mar-14 06:51 Up @6261.2f **Date: 13-Mar-14 08:10:20**

COMPANY	**RAYDON EXPLORATION INC.**		
WELL	**PARITY 1-34**		
FIELD	**WILDCAT**		
COUNTY	**SEWARD**	STATE	**KANSAS**

HALLIBURTON

DUAL SPACED NEUTRON SPECTRAL DENSITY LOG