HALLIBURTON

ARRAY COMPENSATED TRUE RESISTIVITY LOG

COMPANY **OXY USA**

WELL **DRUSSEL E-1**

FIELD/BLOCK **HUGOTON GAS AREA**

COUNTY **FINNEY** STATE **KANSAS**

COMPANY OXY USA
WELL DRUSSEL E-1
FIELD/BLOCK HUGOTON GAS AREA
COUNTY FINNEY
STATE KANSAS

API No. 15055222130000

Location 690' FSL 1300' FWL
LAT: 37.831511° N LONG: 100.890960° W
X 1307808.42 Y 433034.0

Sect. 36 Twp. 25S Rge. 33W

Other Services:
DSNT/SDLT
MICRO
BSAT

Permanent Datum	GL	Elev. 2896.0 ft	Elev.: K.B. 2907.0 ft
Log measured from	KB	, 11.0 ft above perm. Datum	D.F. 2907.0 ft
Drilling measured from	KB		G.L. 2896.0 ft

Date		06-May-13					
Run No.		ONE					
Depth - Driller		5361.00 ft					
Depth - Logger		5365.0 ft					
Bottom - Logged Interval		5355.0 ft					
Top - Logged Interval		1944.0 ft					
Casing - Driller		8.625 in	@ 1944.0 ft	@		@	
Casing - Logger		1944.0 ft					
Bit Size		7.875 in		@		@	
Type Fluid in Hole		WATER BASED					
Density	Viscosity	8.6 ppg	50.00 s/qt				
PH	Fluid Loss	10.30 pH	10.4 cptm				
Source of Sample		FLOWLINE					
Rm @ Meas. Temperature		1.800 ohmm	@ 75.00 degF	@		@	
Rmf @ Meas. Temperature		1.50 ohmm	@ 75.00 degF	@		@	
Rmc @ Meas. Temperature		2.100 ohmm	@ 75.00 degF	@		@	
Source Rmf	Rmc	MEASURED	MEASURED				
Rm @ BHT		1.04 ohmm	@ 135.0 degF	@		@	
Time Since Circulation		8.0 hr					
Time on Bottom		06-May-13 01:57					
Max. Rec. Temperature		135.0 degF	@ 5365.0 ft	@		@	
Equipment	Location	10782954	LIBERAL				
Recorded By		THOMAS HYDE					
Witnessed By		A. SERNA		T. HEDRICK			

Fold here

Service Ticket No.: 900370204 API Serial No.: 15055222130000 PGM Version: WL INSITE R3.8.4 (Build 5)

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	ACRT	N/A	1.5" S.O.	N/A
		I776			
		S10929775			

EQUIPMENT DATA

	GAMMA	ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.		Run No.		Run No.	
Serial No.	10811258	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	5365	1944	REC	0	150									

DIRECTIONAL INFORMATION

Maximum Deviation @	KOP @

Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING

CHLORIDES REPORTED AT 600 MG/L

LCM REPORTED AT 2 PPB

TODAY'S CREW V. JAIME J, ALRIGHT

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES LIBERAL, KANSAS 620-624-8123

HALLIBURTON

Plot Time: 06-May-13 10:53:54
Plot Range: 1920 ft to 5368.33 ft
Data: {ActiveWell}\Well Based\DAQ Current
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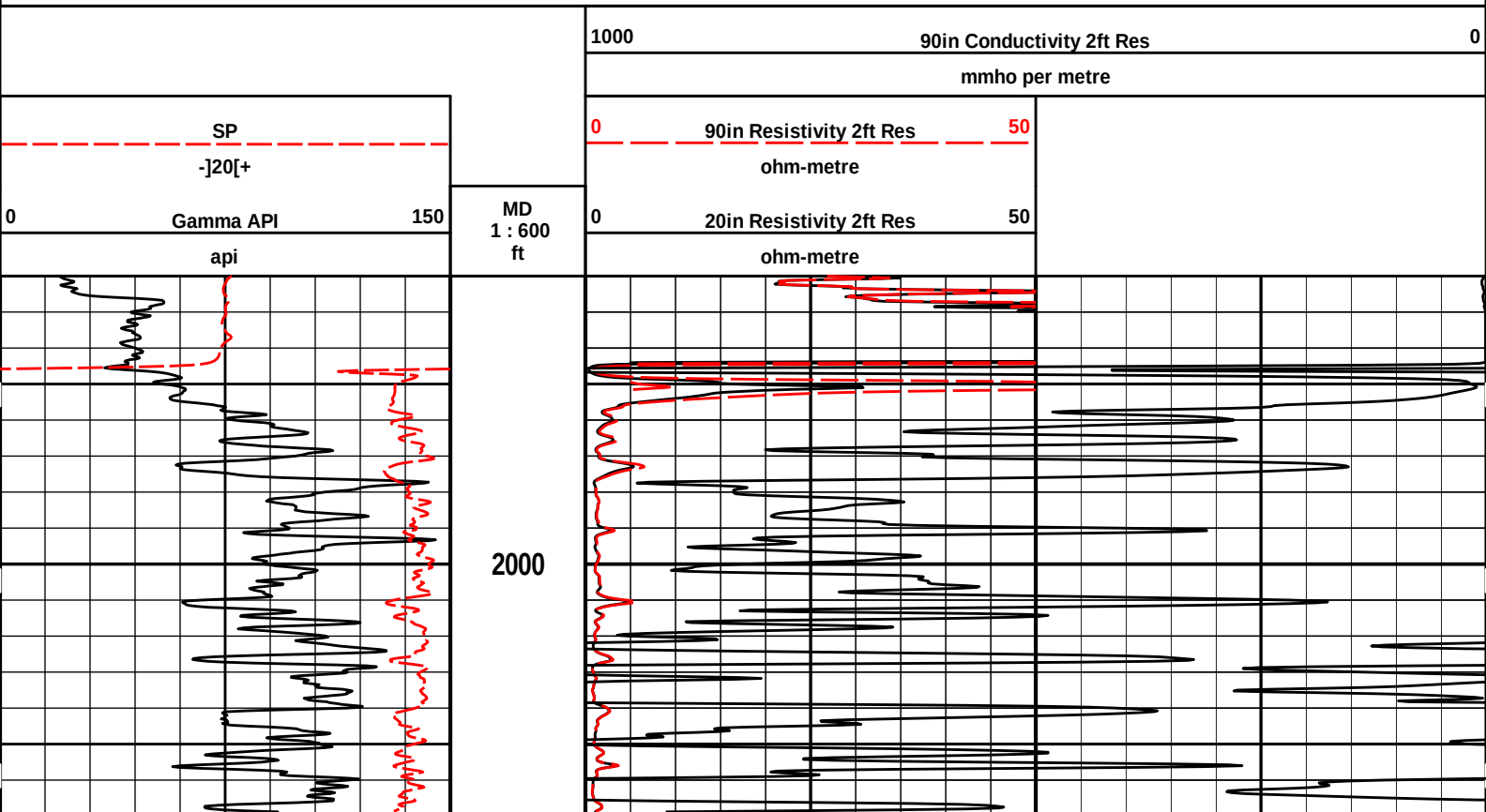
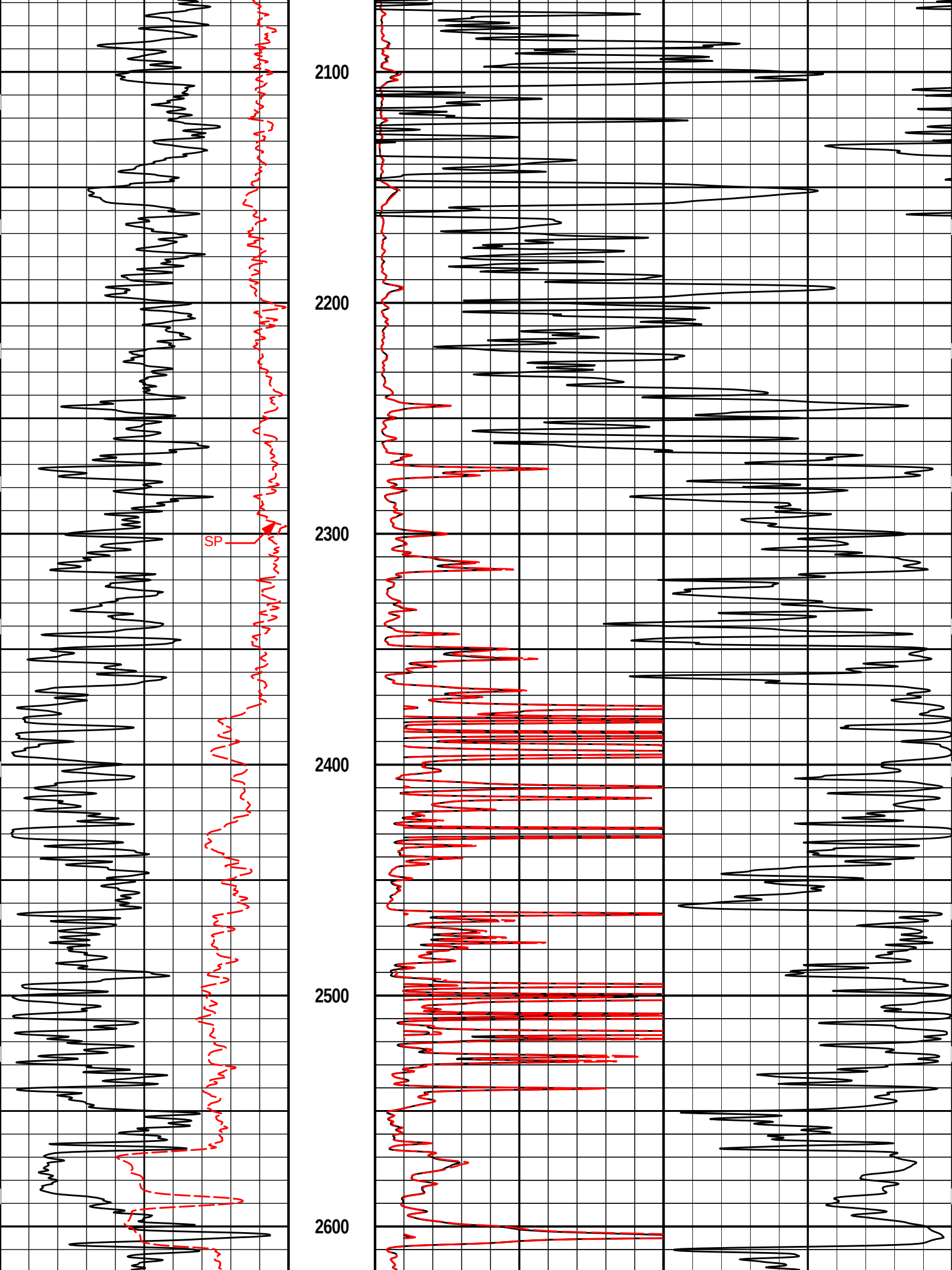
2 INCH MAIN LOG

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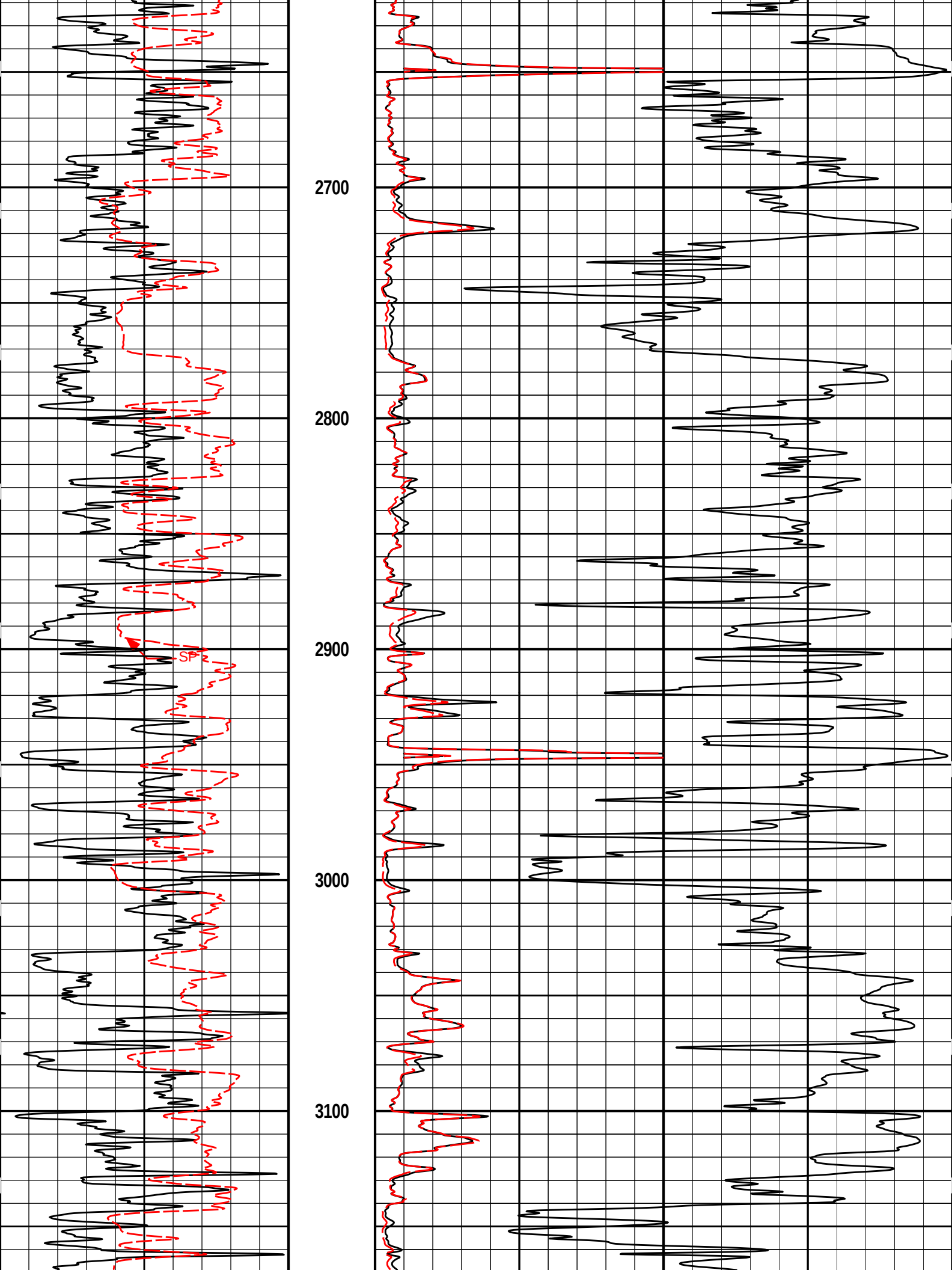
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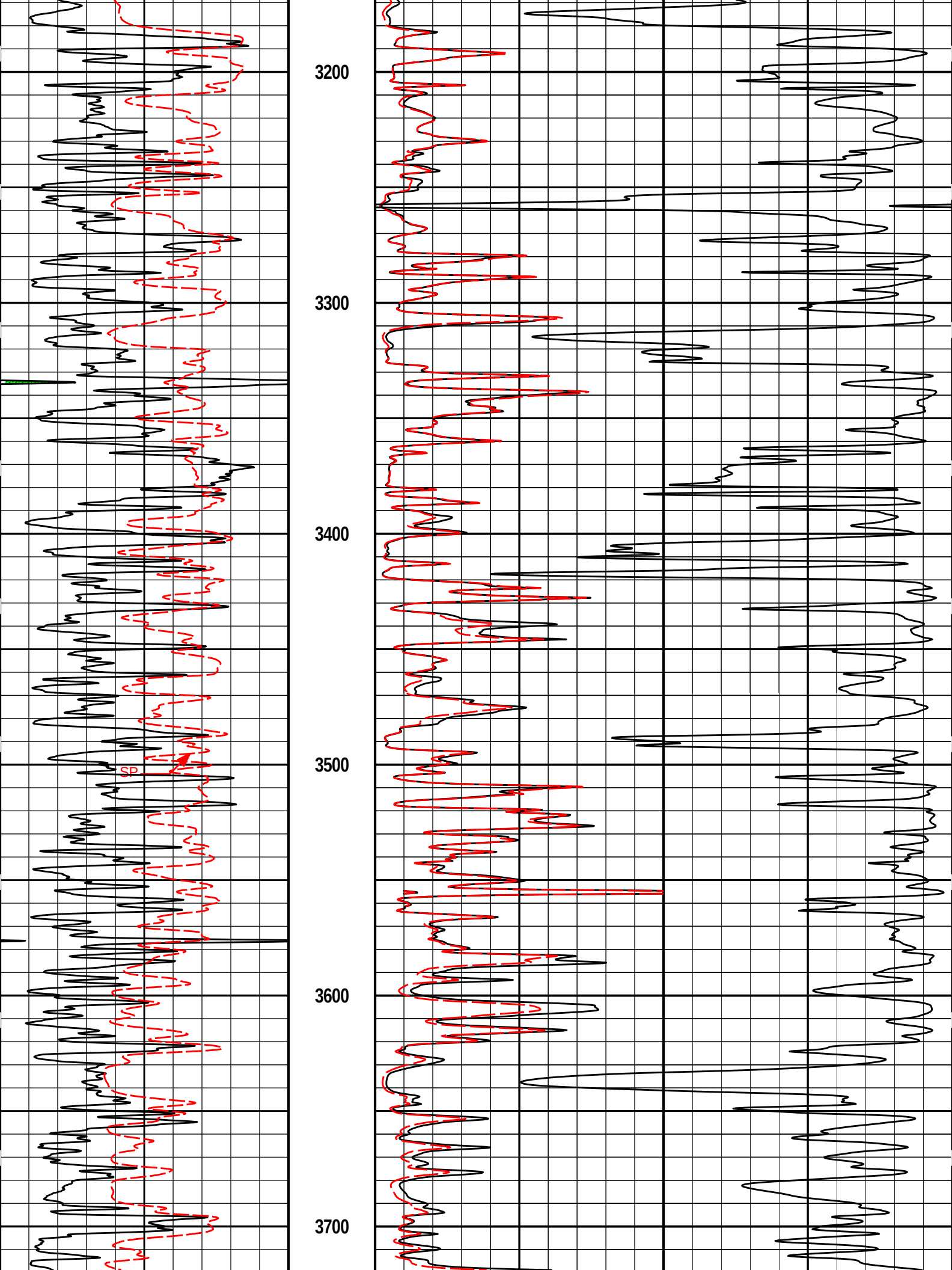
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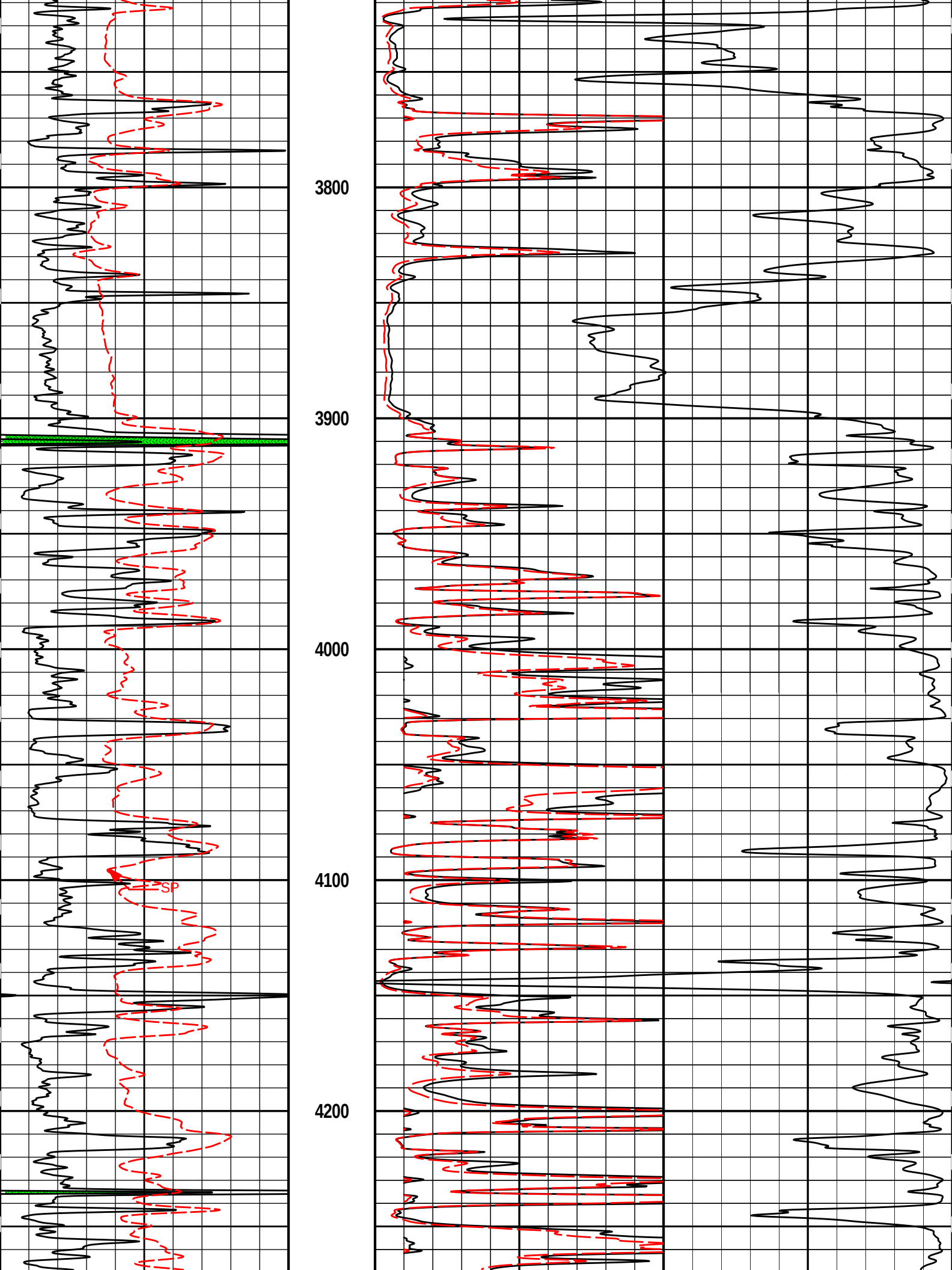
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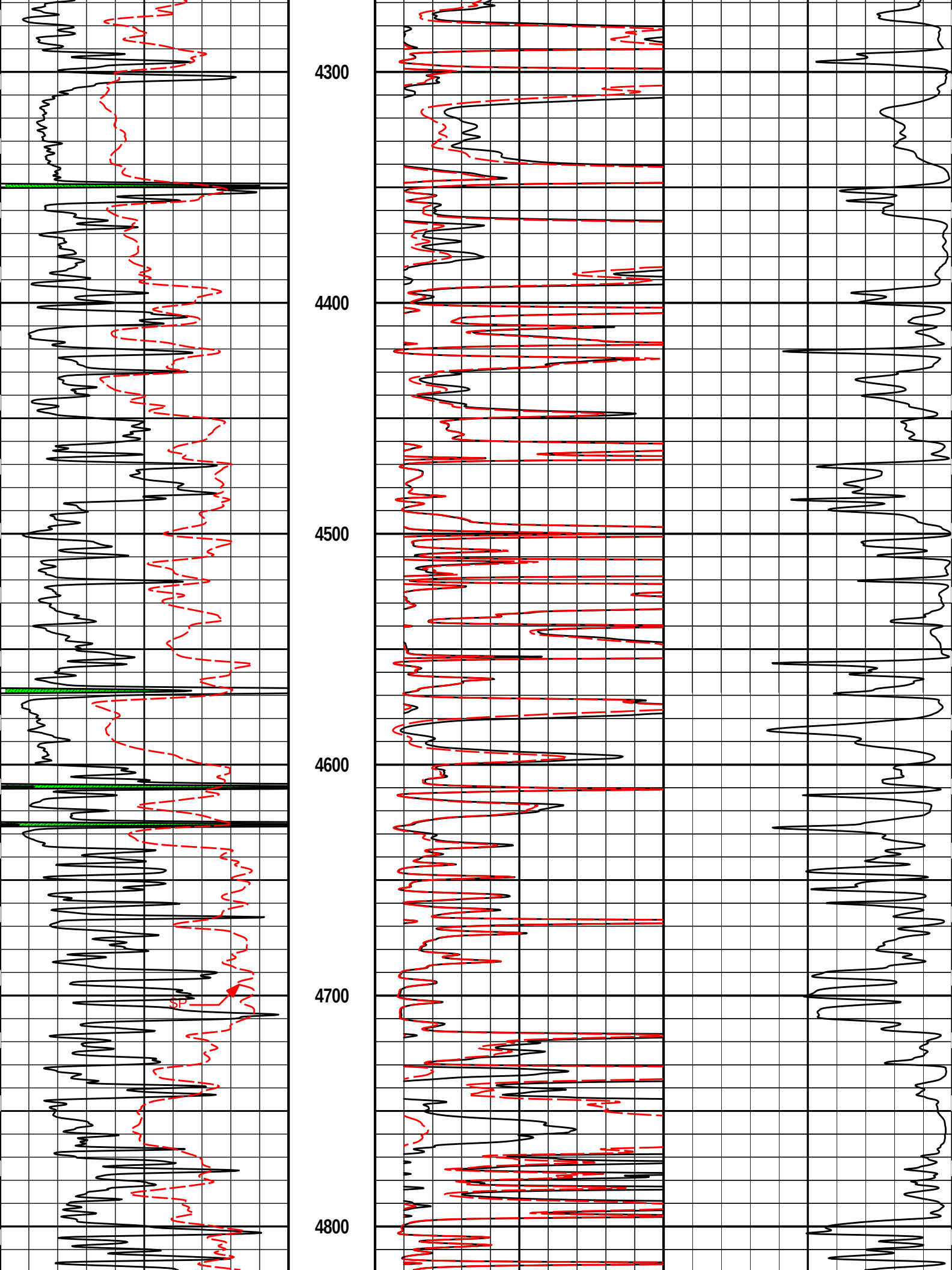
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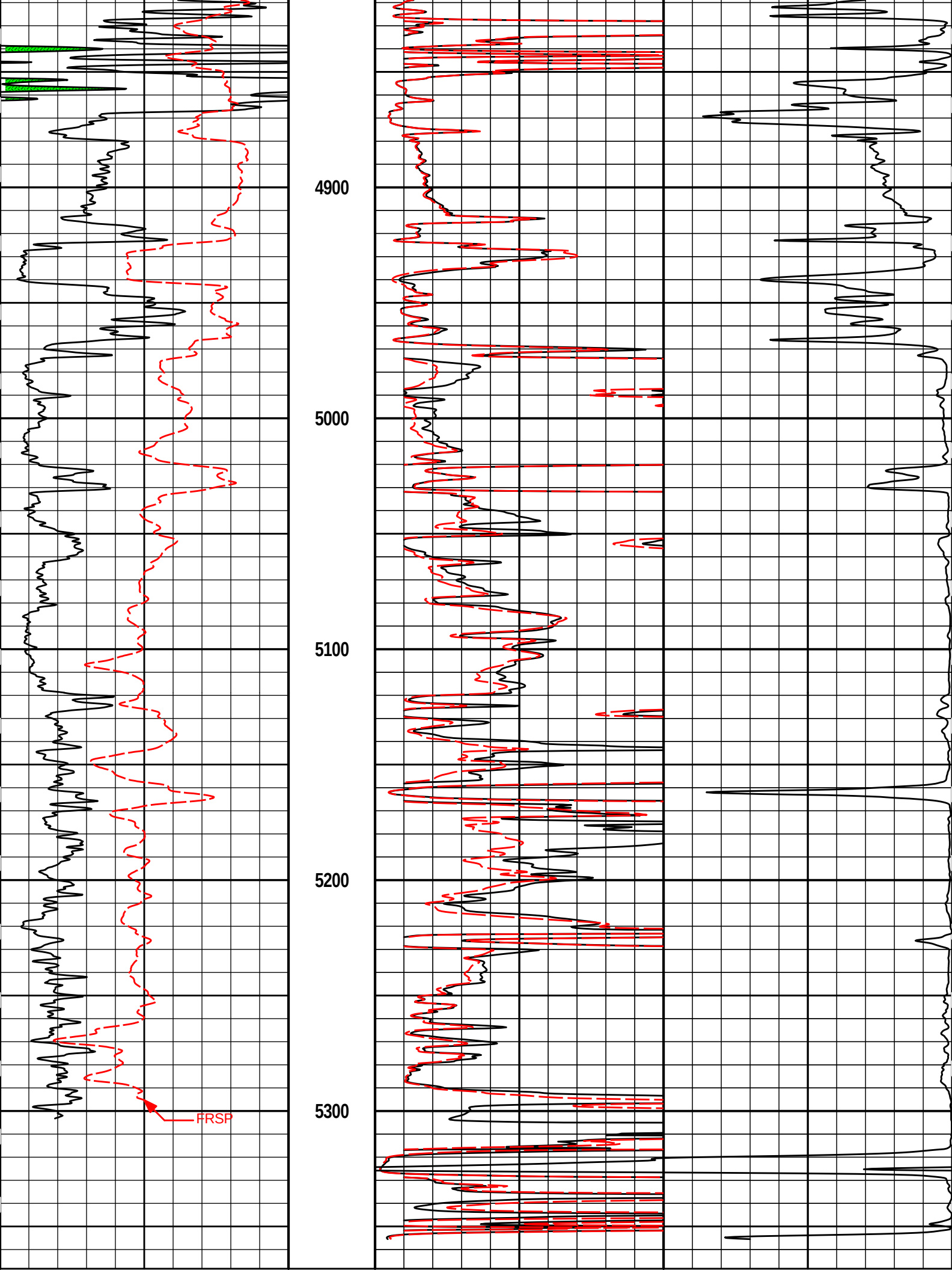
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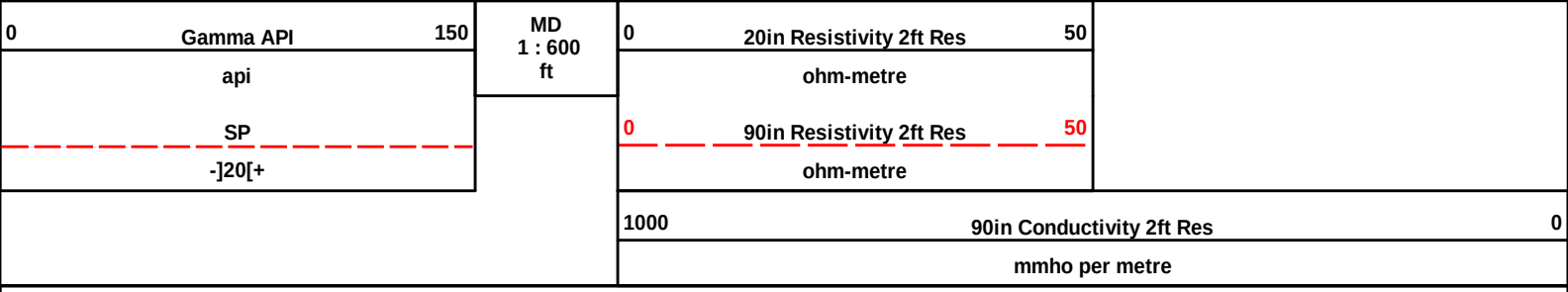

HALLIBURTON

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Plot File: \\-LOCAL-\DRUSSEL_E1\0001 SP-GTET-DSN-SDL-ACRT-CH\ACRT\ACRT_2_lib

2 INCH MAIN LOG

HALLIBURTON

Plot Time: 06-May-13 10:54:26
Plot Range: 1920 ft to 5368.33 ft
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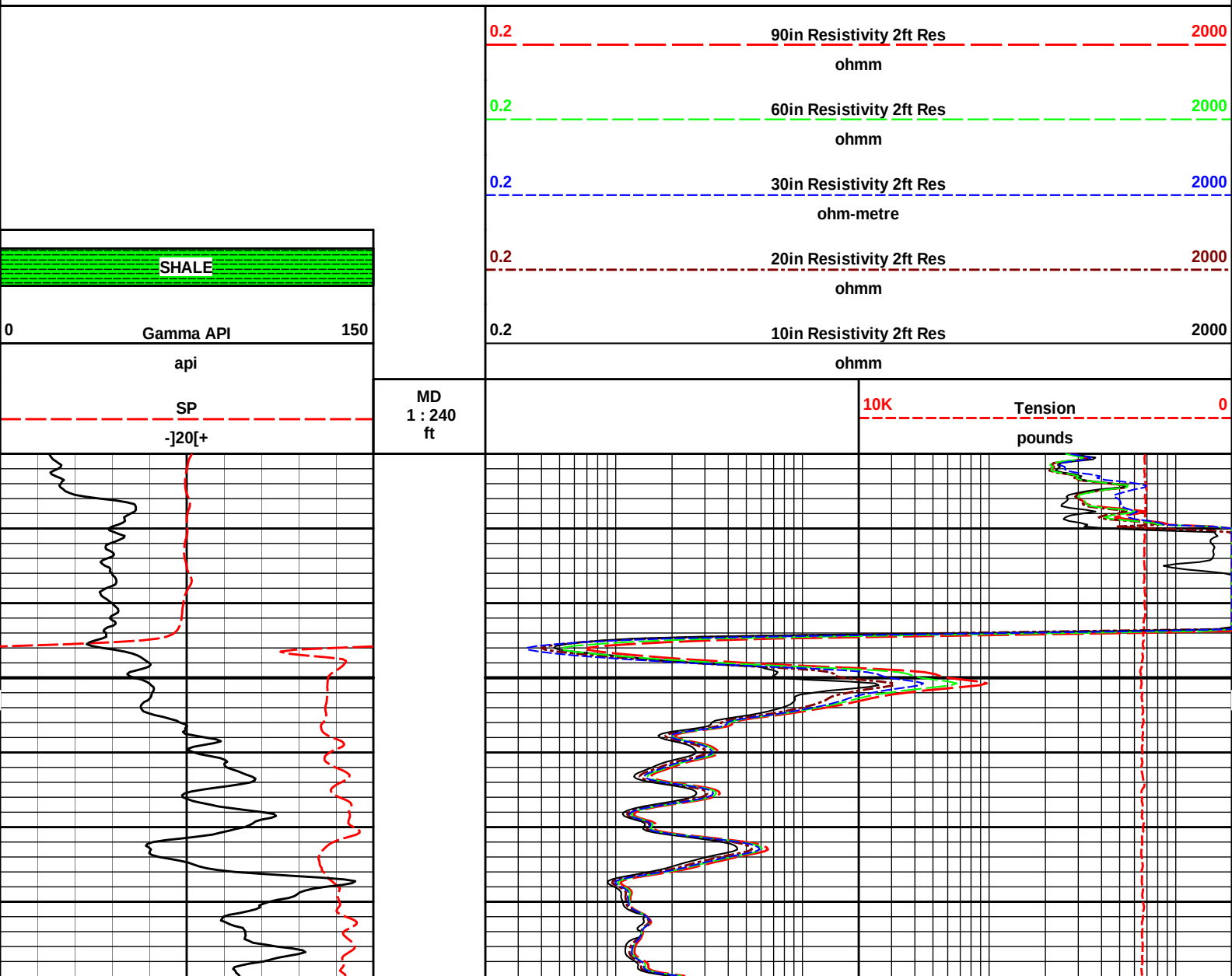
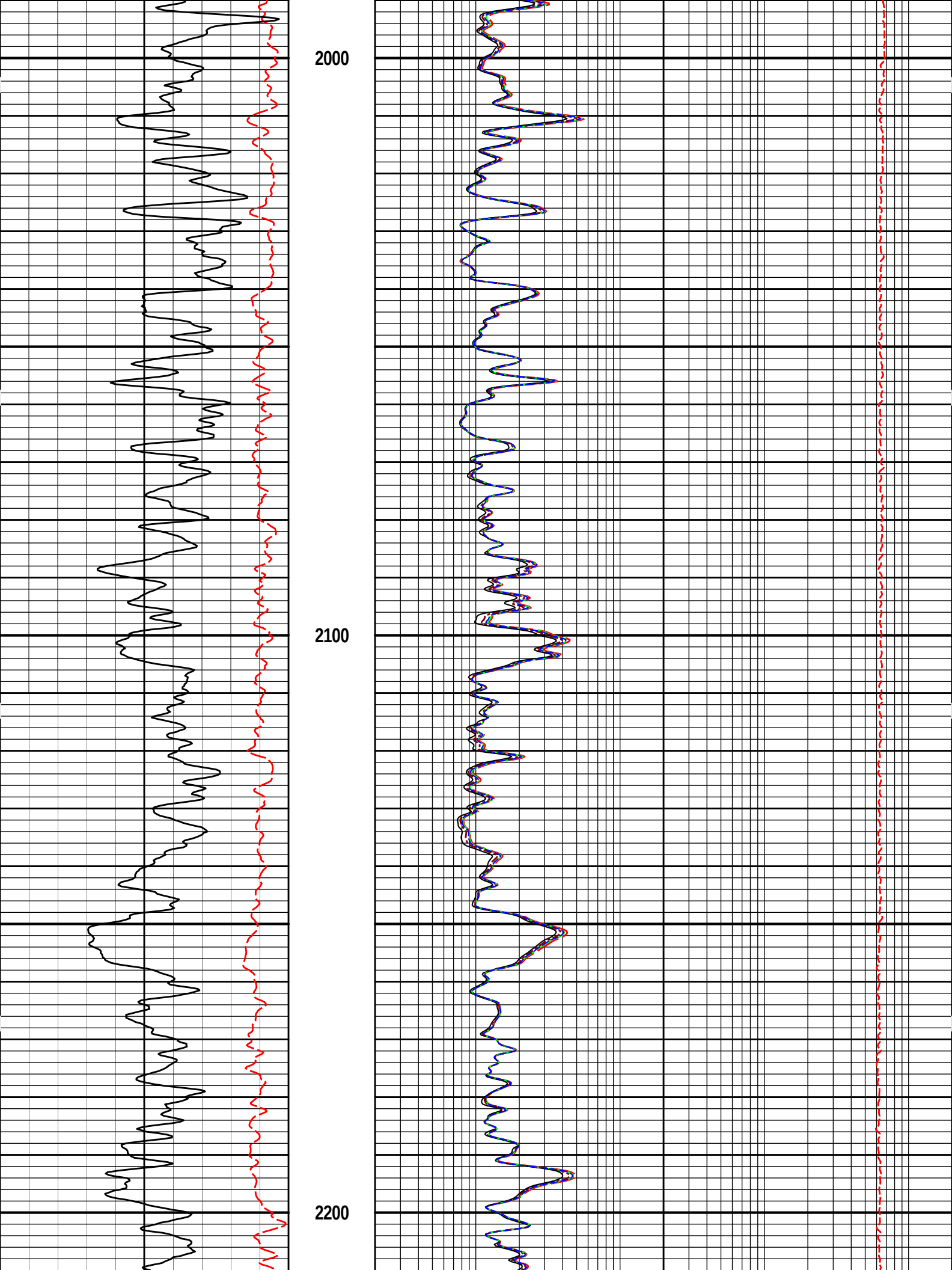
5 INCH MAIN LOG

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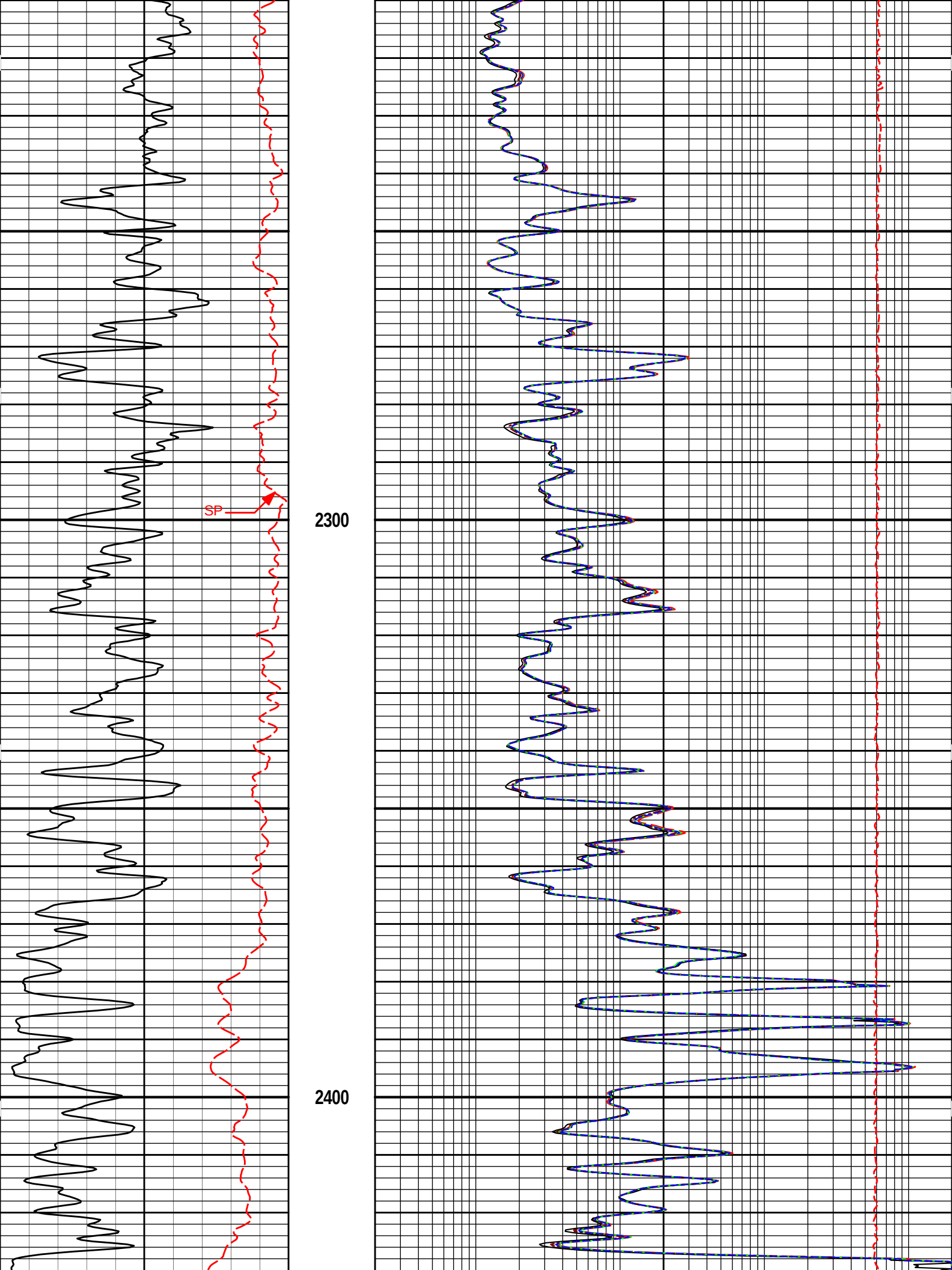
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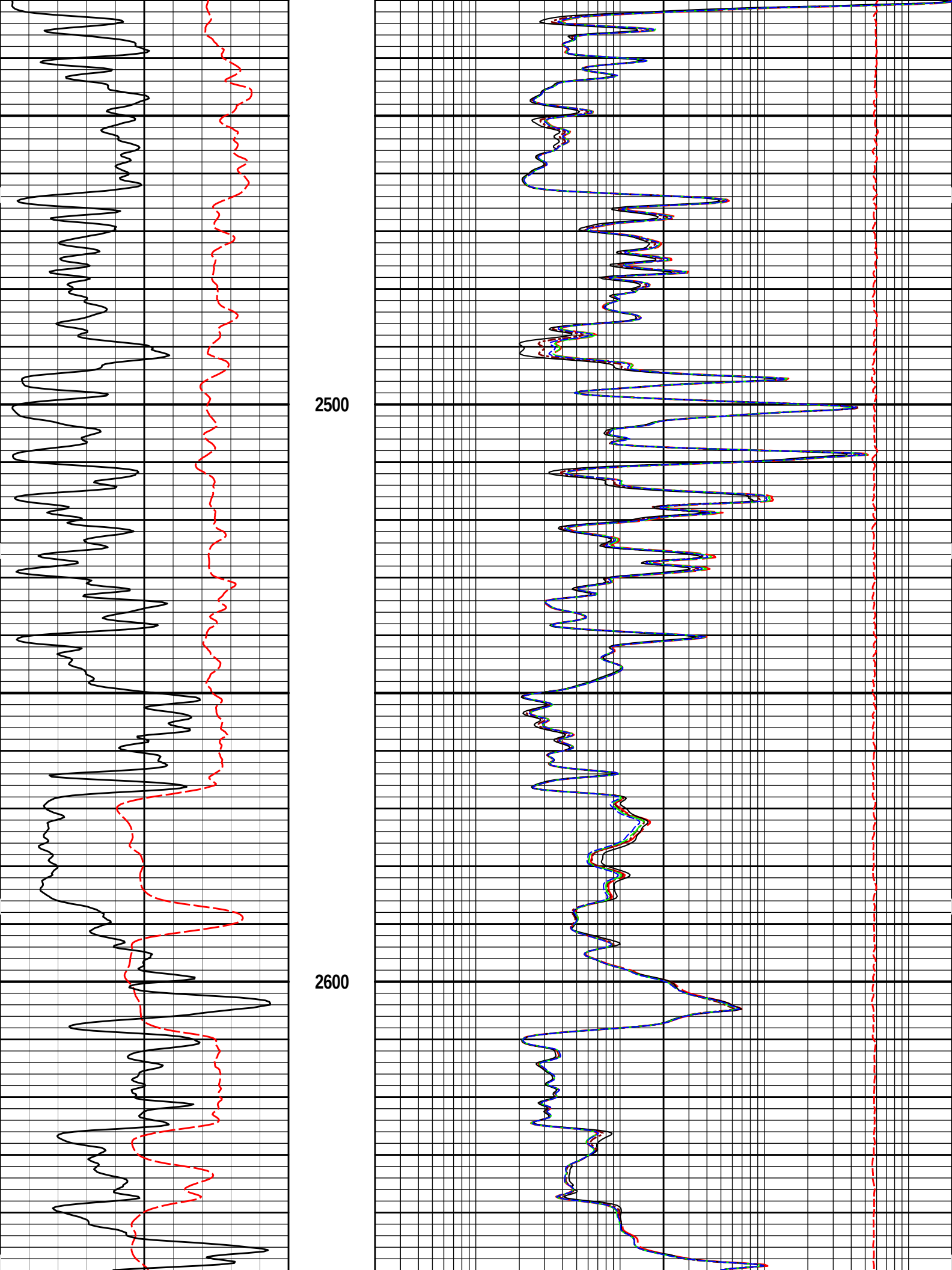
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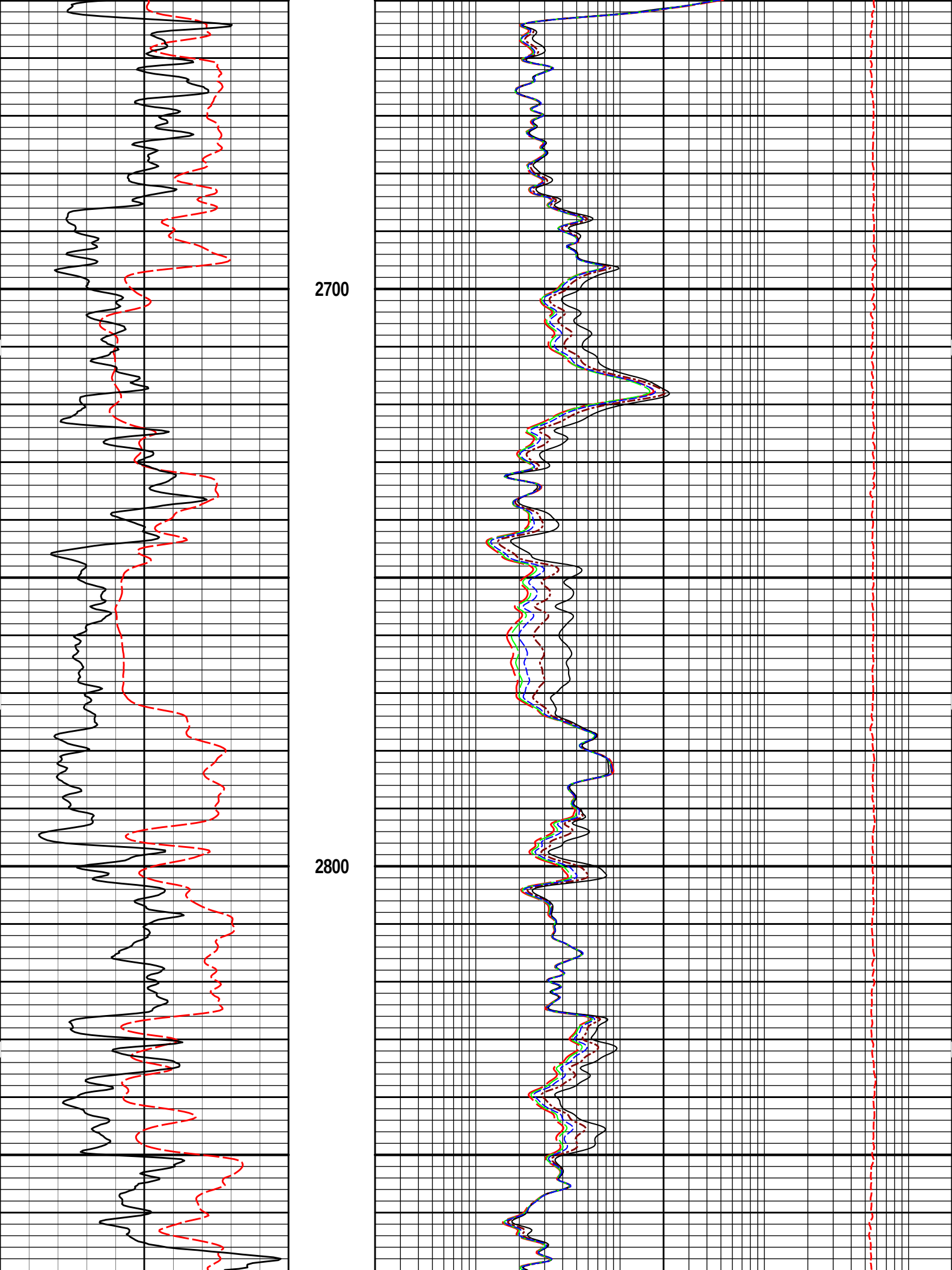
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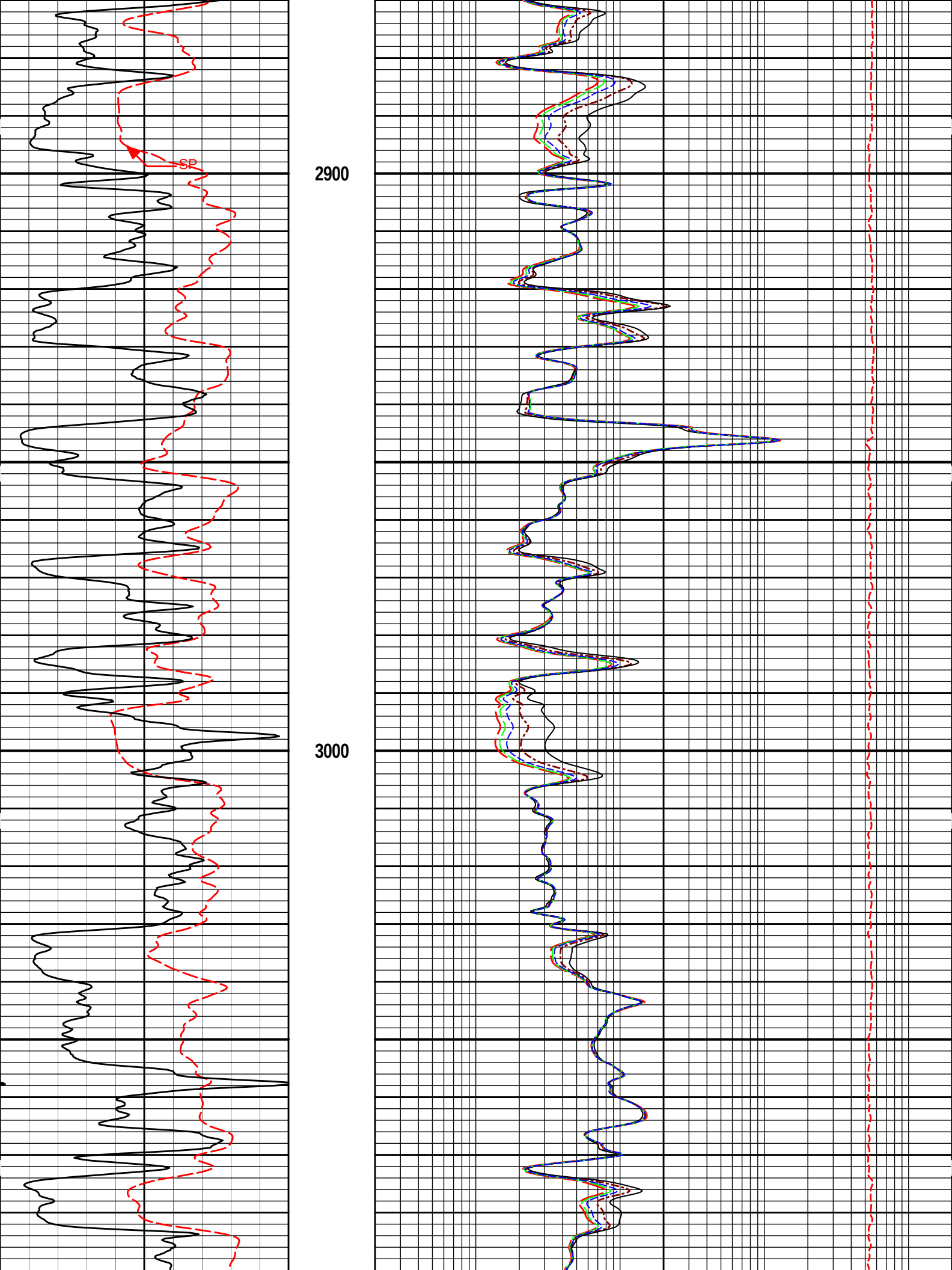
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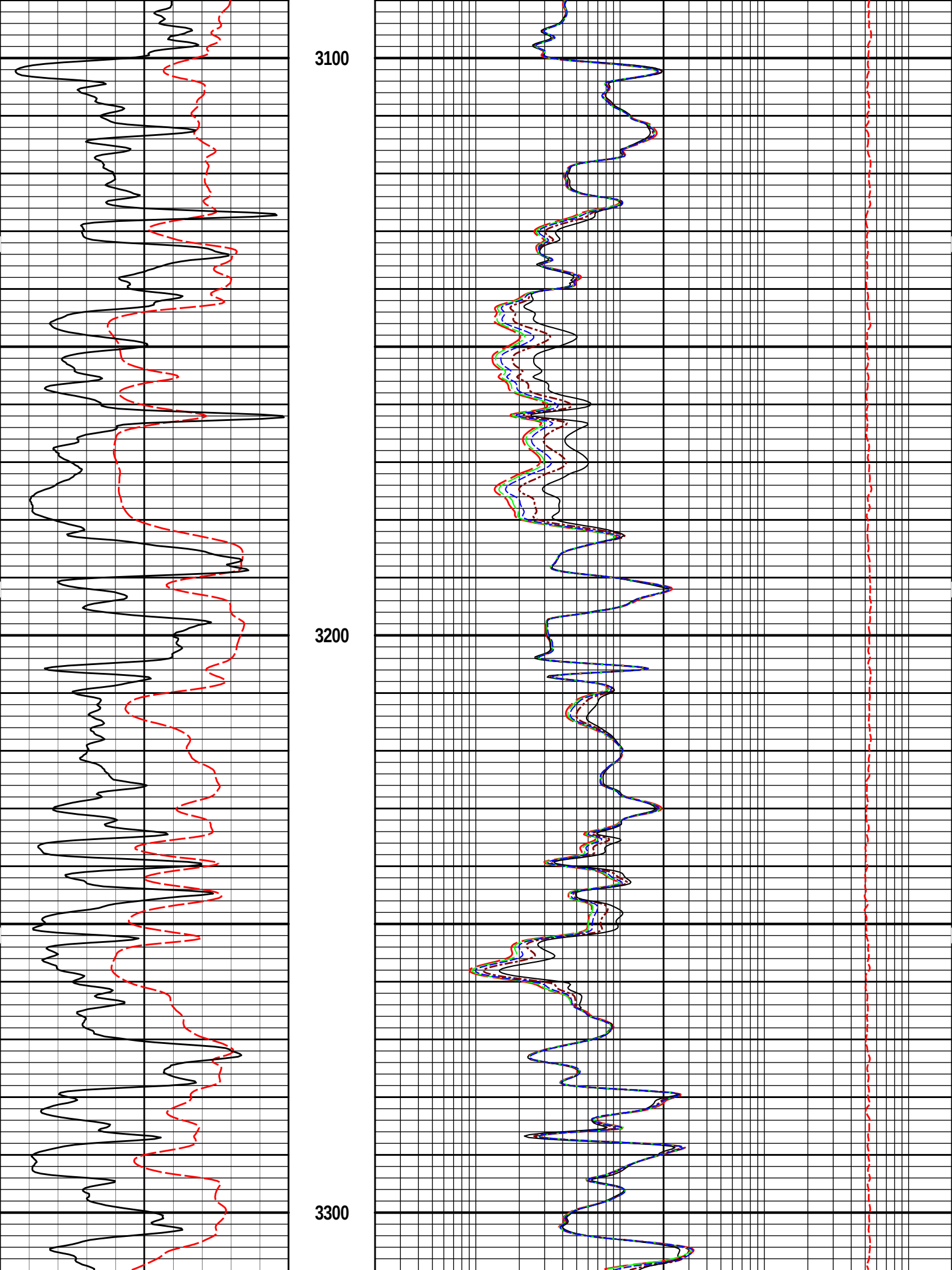
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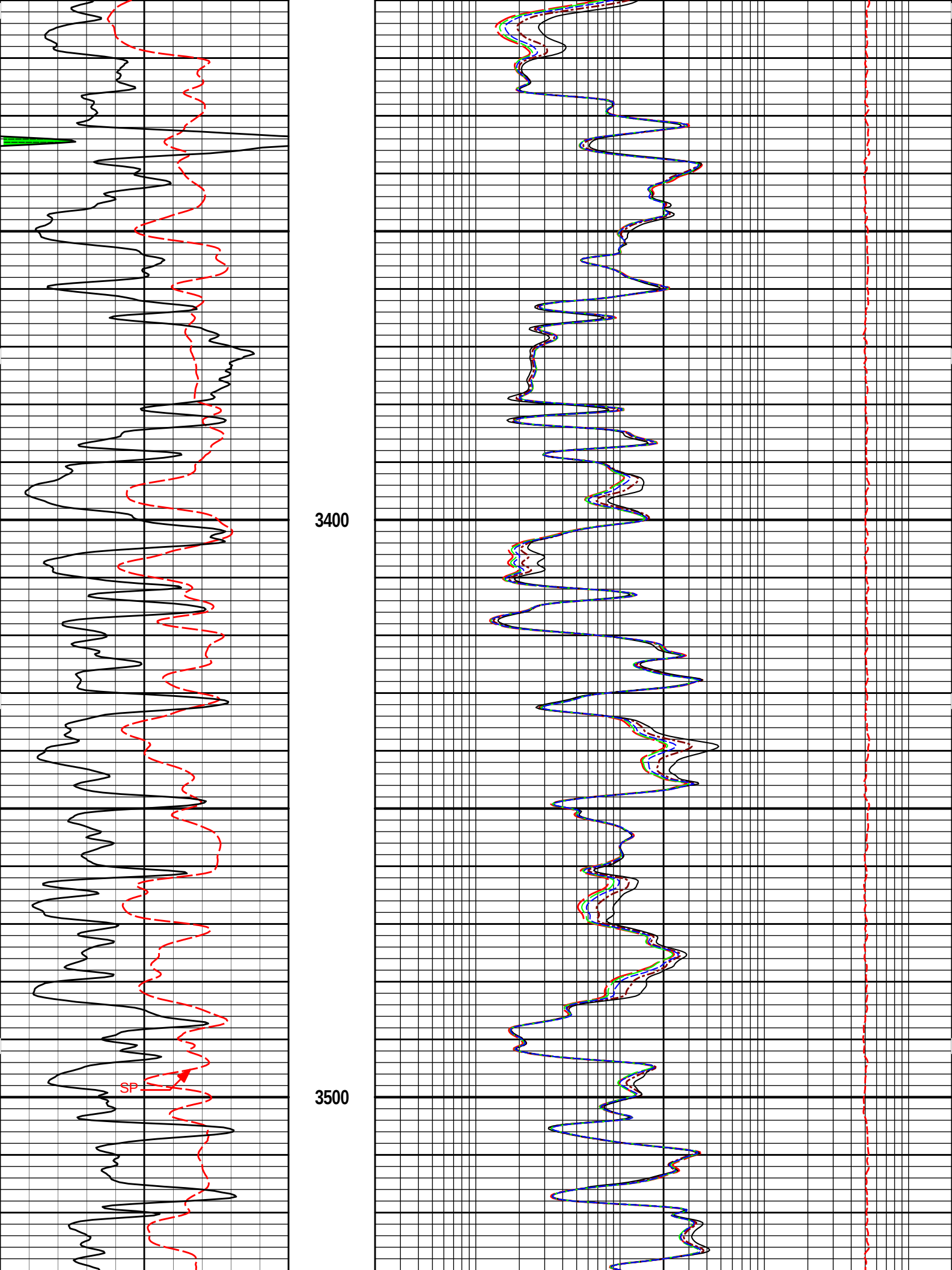
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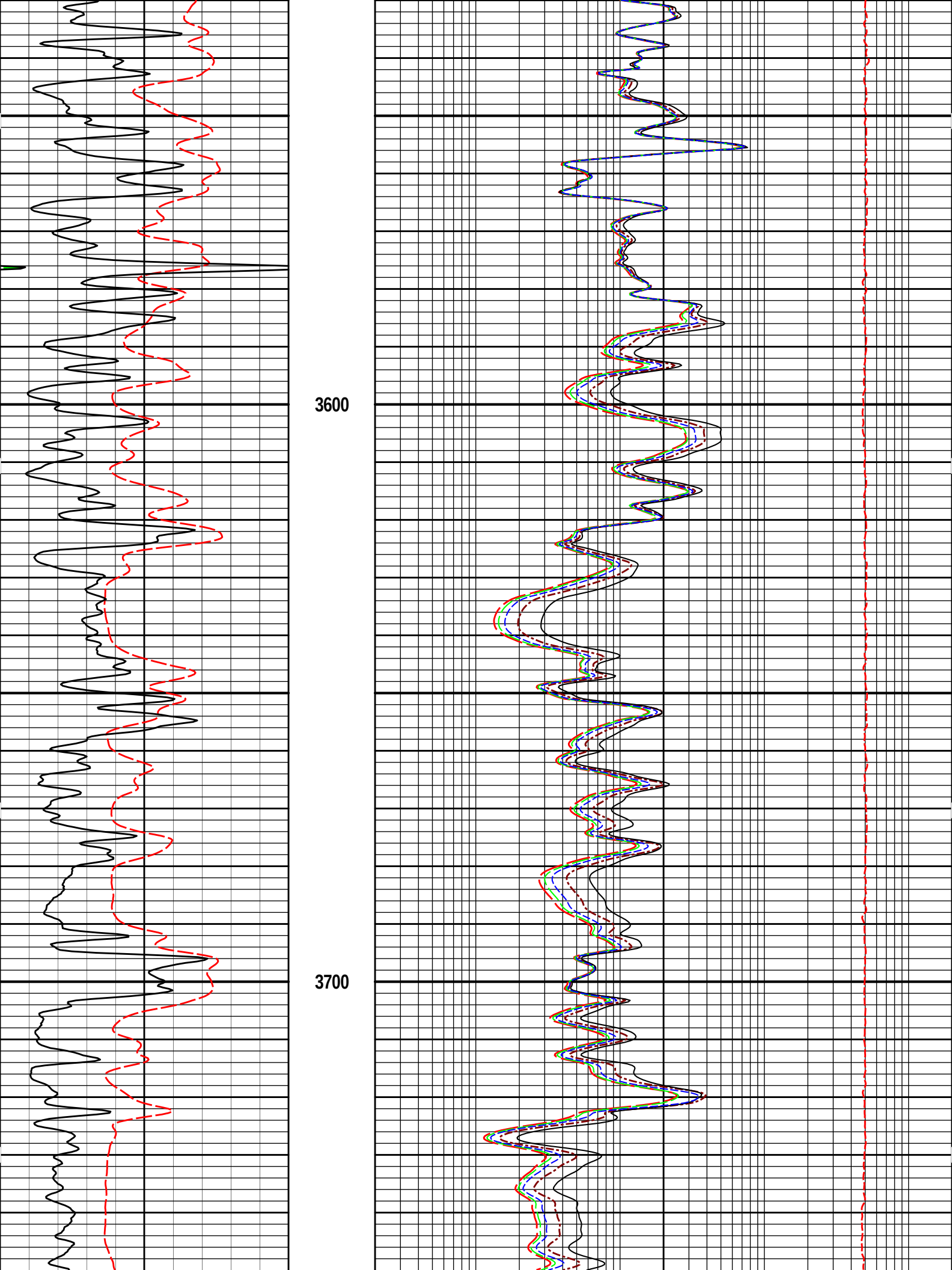
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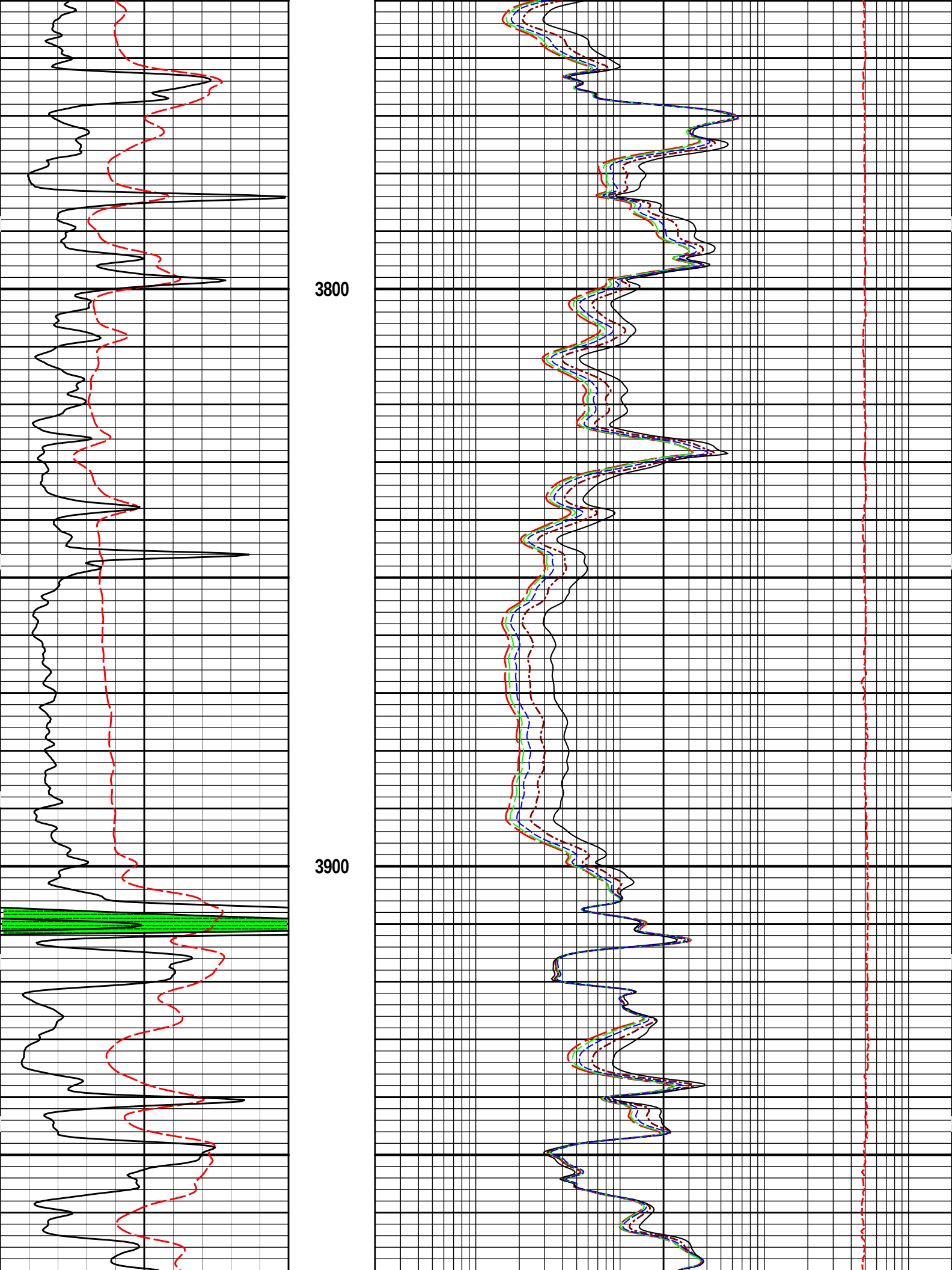
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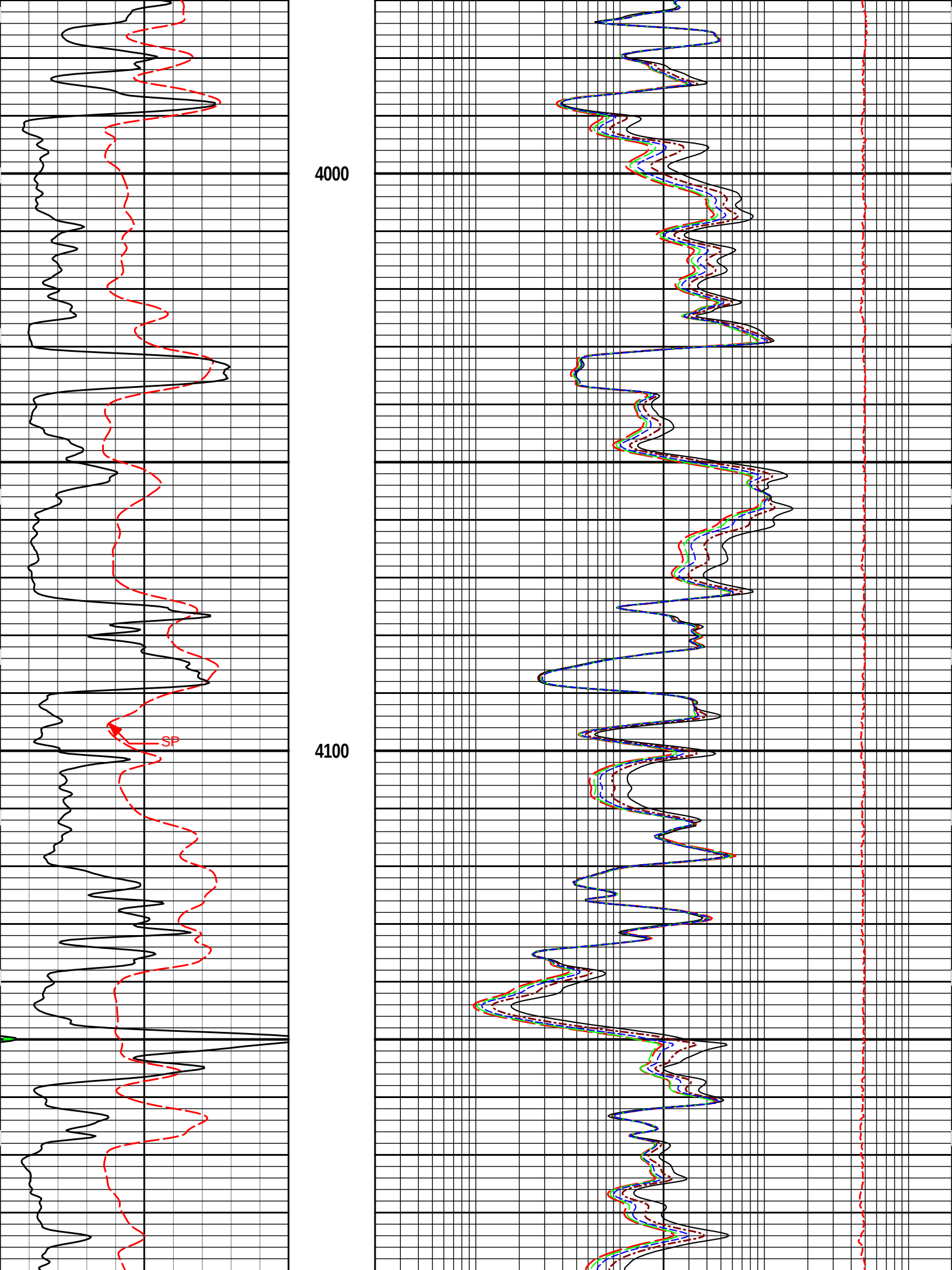
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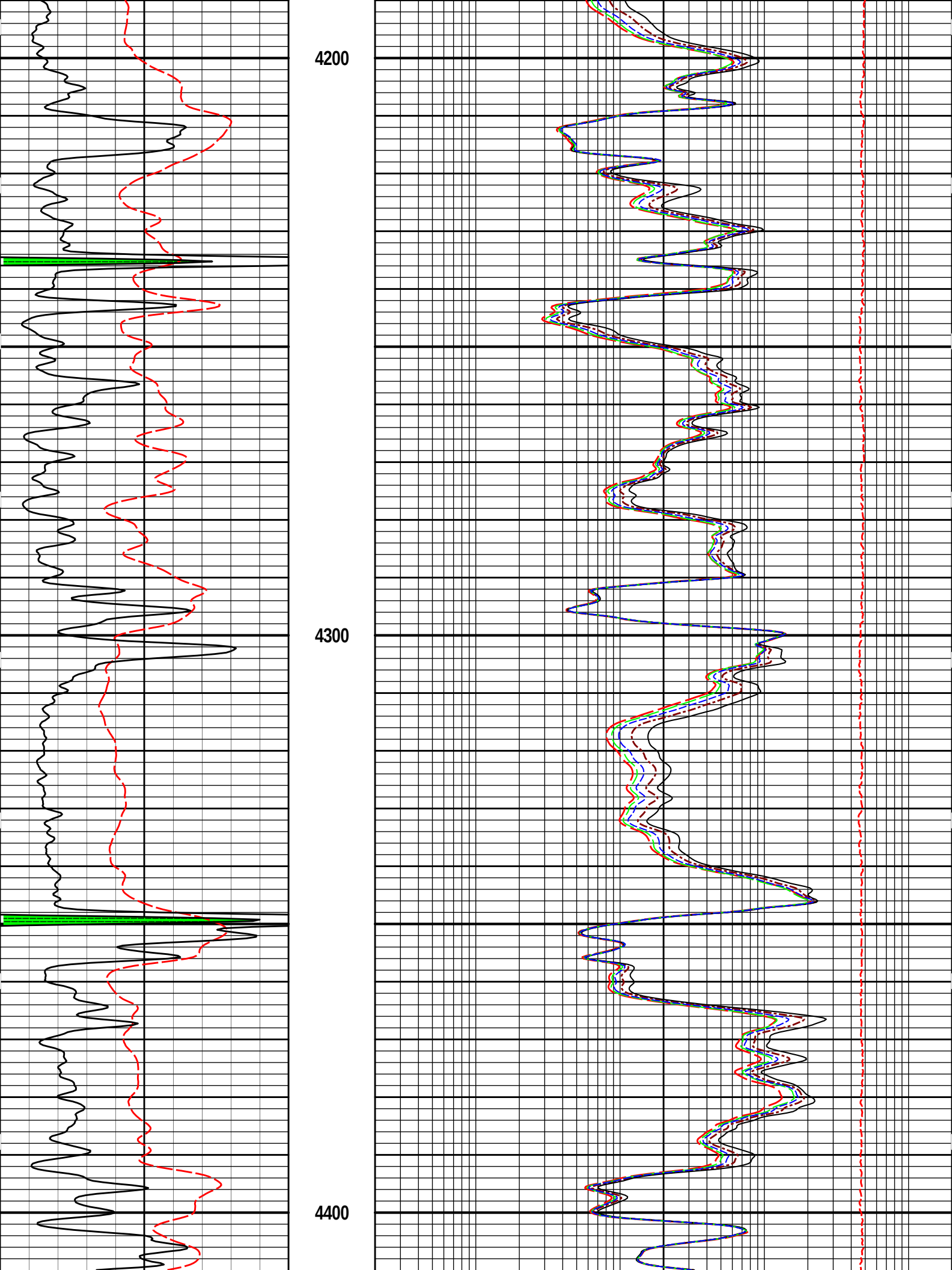
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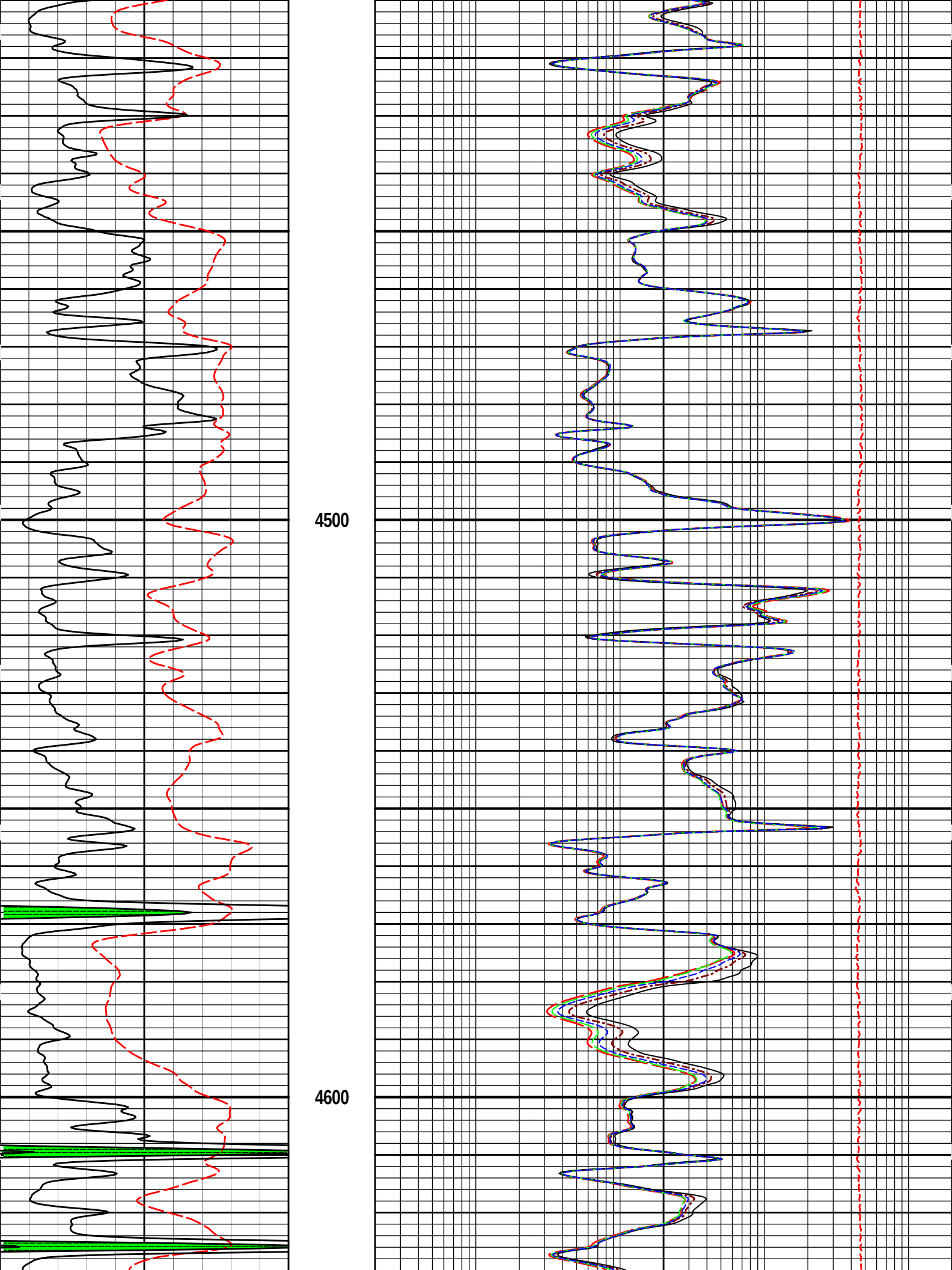
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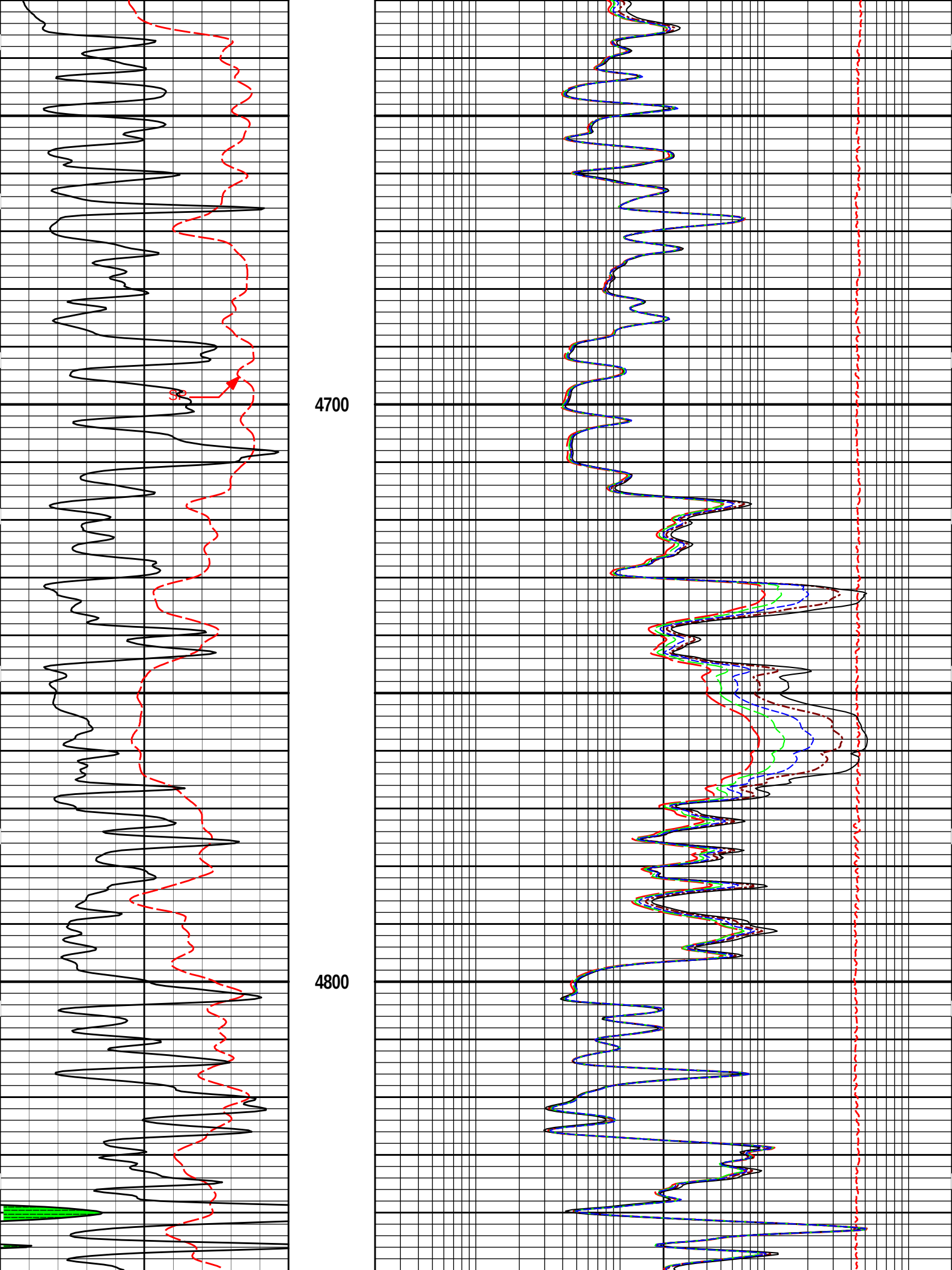
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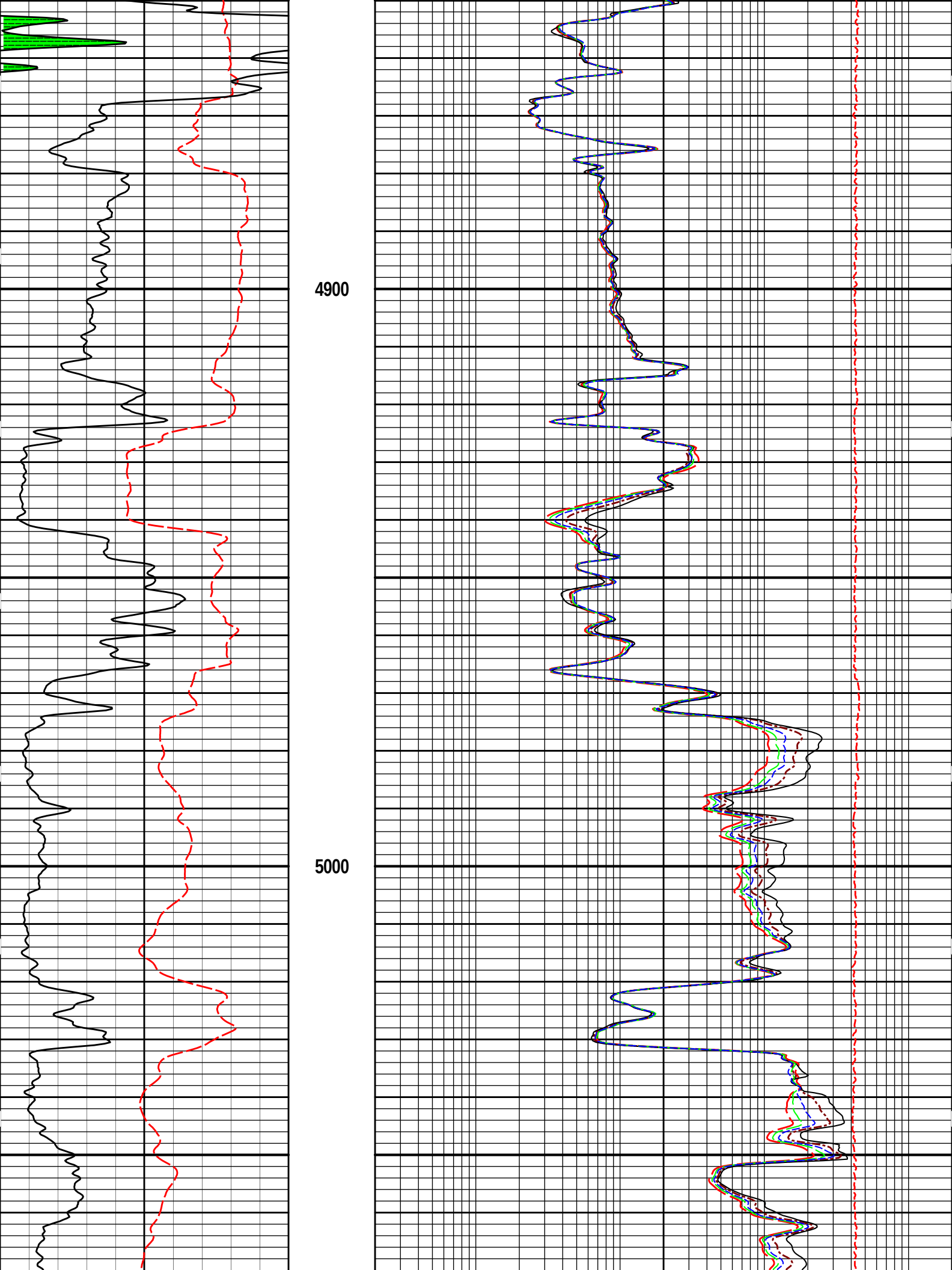
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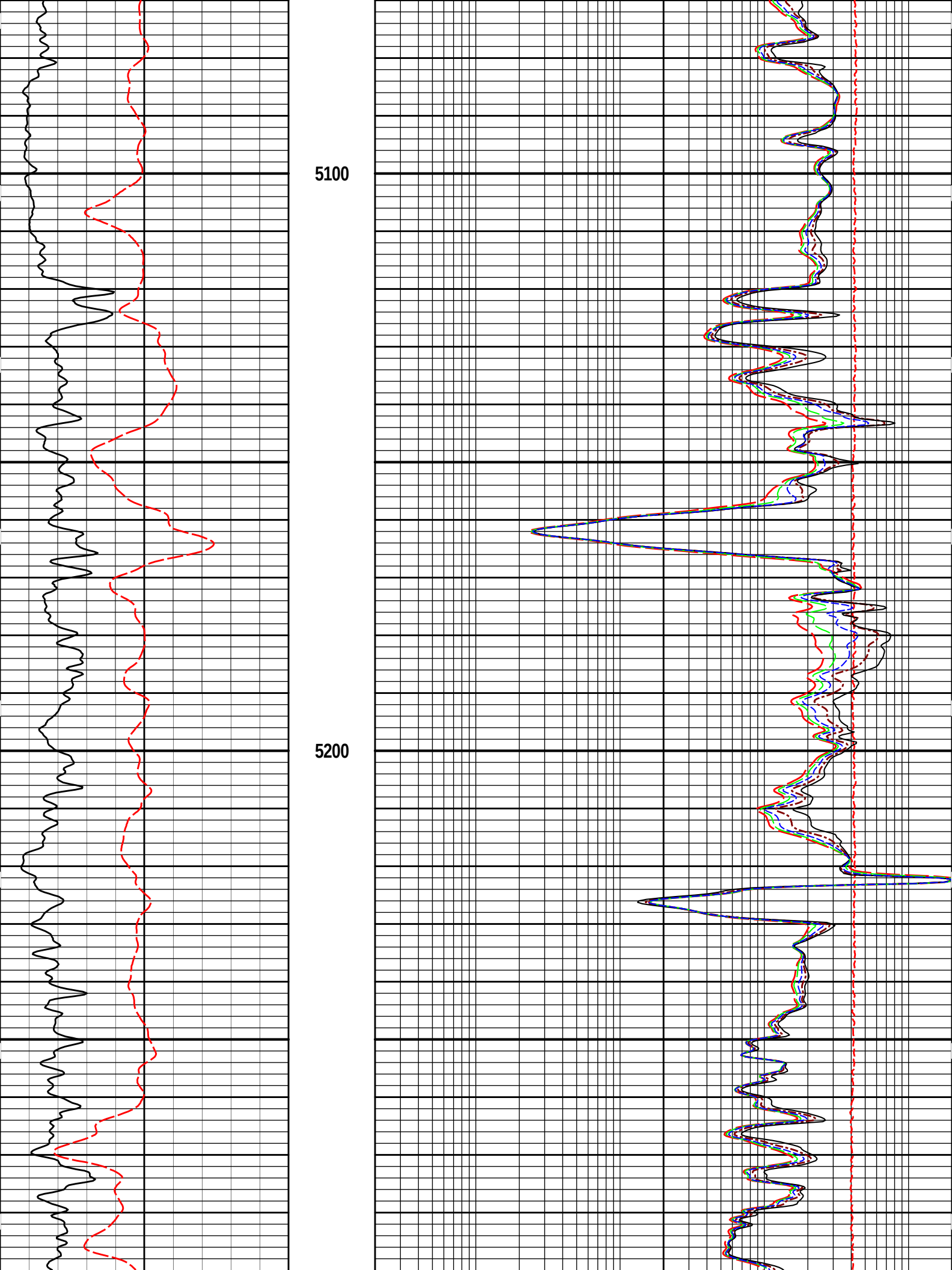
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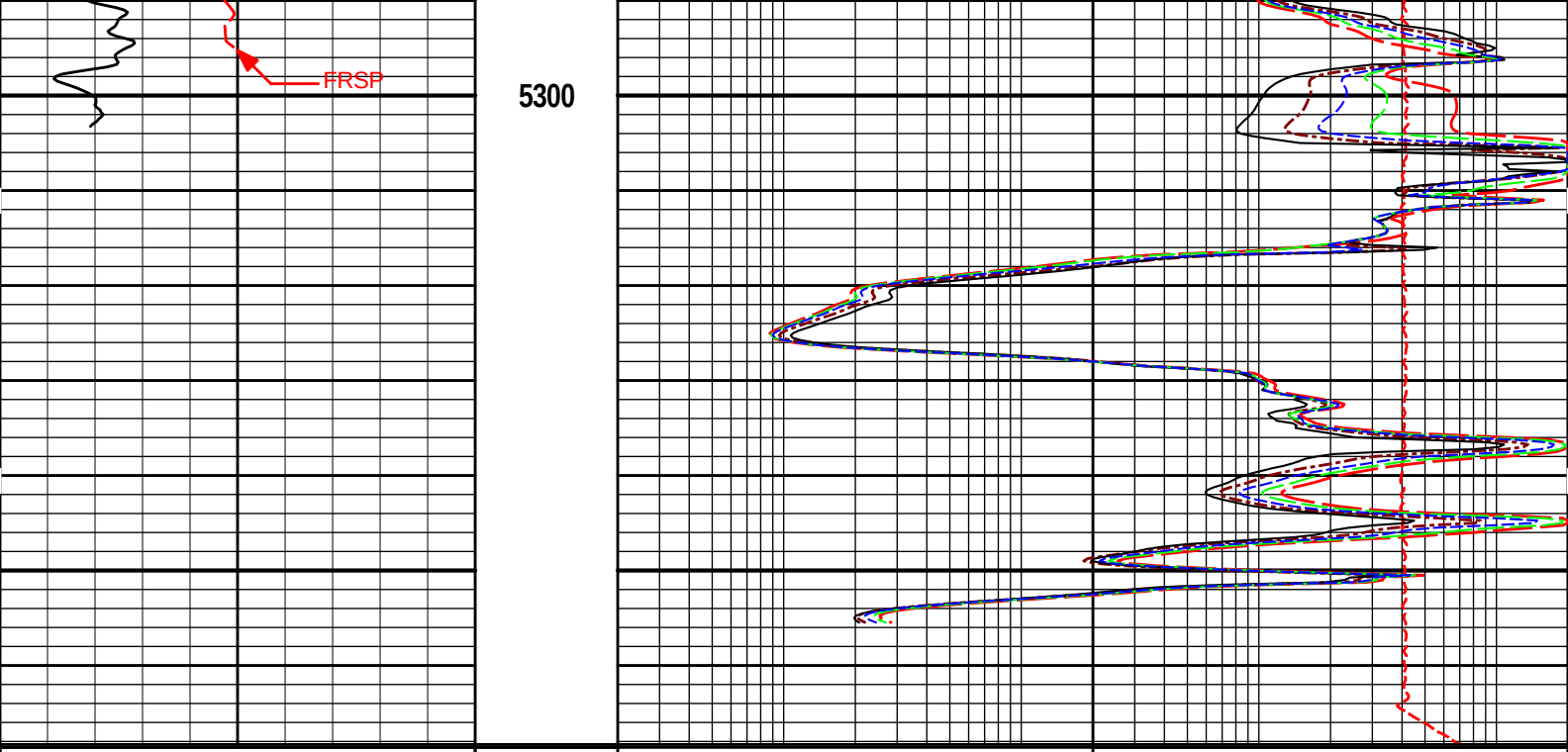


SP
-]20[+
0 Gamma API 150
api
SHALE

MD
1 : 240
ft

10K Tension 0
pounds

0.2 10in Resistivity 2ft Res 2000
ohmm

0.2 20in Resistivity 2ft Res 2000
ohmm

0.2 30in Resistivity 2ft Res 2000
ohm-metre

0.2 60in Resistivity 2ft Res 2000
ohmm

0.2 90in Resistivity 2ft Res 2000
ohmm

HALLIBURTON

Plot Time: 06-May-13 10:55:00
Plot Range: 1920 ft to 5368.33 ft
Data: {ActiveWell}\Well Based\DAQ Current\
Plot File: \\-LOCAL-\DRUSSEL_E1\0001 SP-GTET-DSN-SDL-ACRT-CH\ACRT\ACRT_5_main_lib

5 INCH MAIN LOG

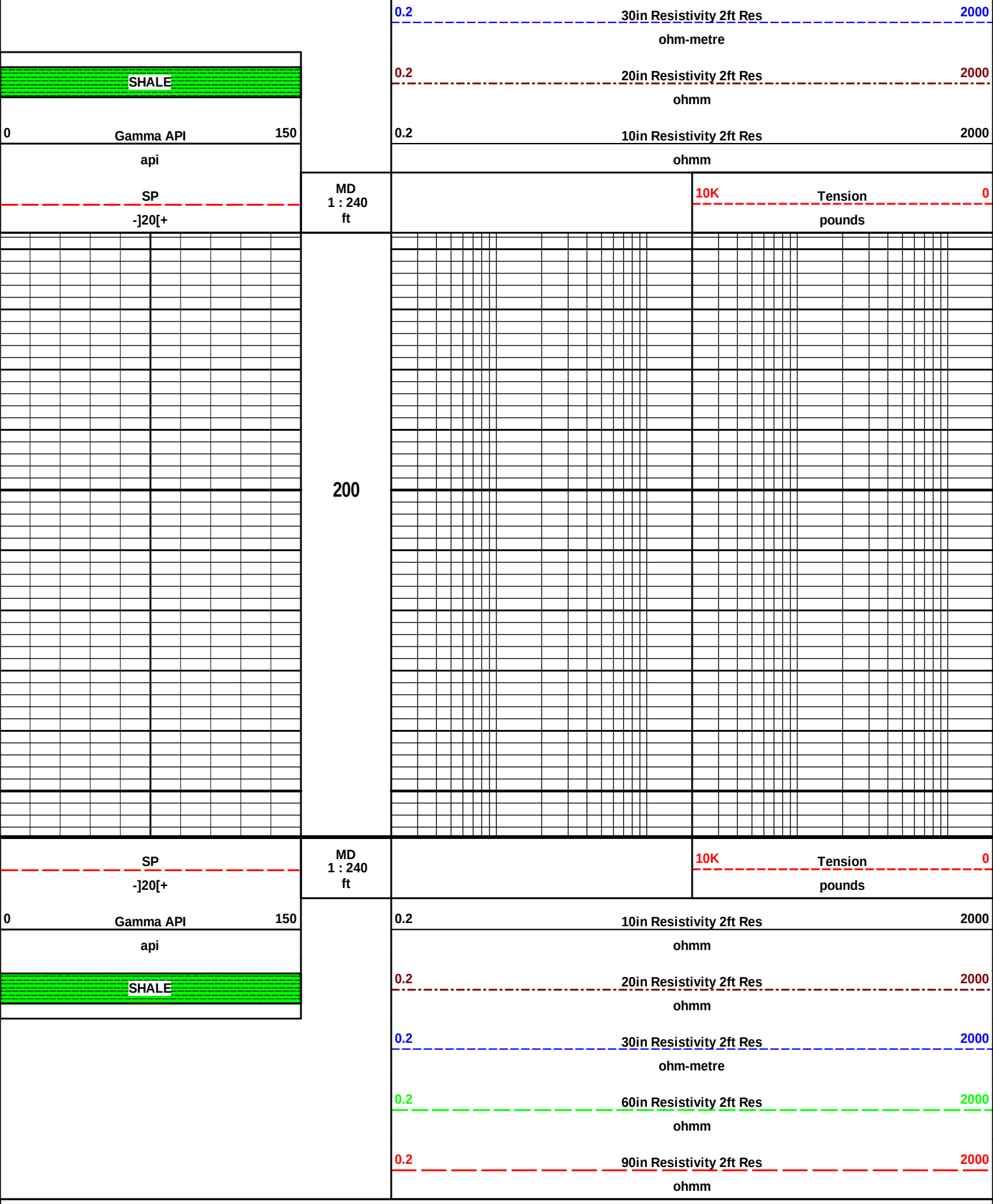
HALLIBURTON

Plot Time: 06-May-13 10:55:00
Plot Range: 157.25 ft to 257.5 ft
Data: {ActiveWell}\Well Based\DAQ Current\
Plot File: \\-LOCAL-\DRUSSEL_E1\0001 SP-GTET-DSN-SDL-ACRT-CH\ACRT\ACRT_5_repeat_lib

REPEAT SECTION

0.2 90in Resistivity 2ft Res 2000
ohmm

0.2 60in Resistivity 2ft Res 2000
ohmm



HALLIBURTON

Plot Time: 06-May-13 10:55:04
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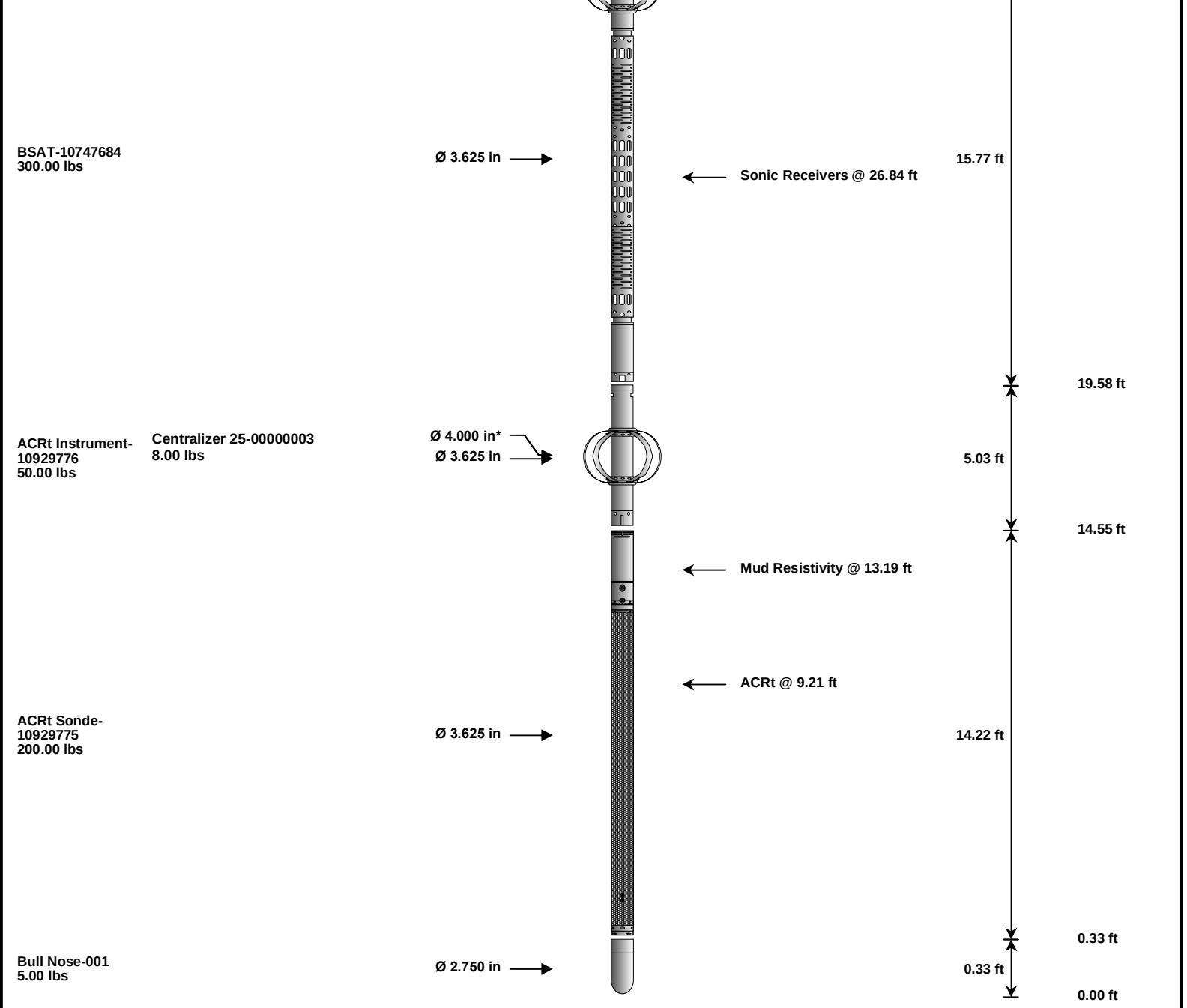
REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Sensors @ Delays	Length	Accumulated Length
					77.77 ft
CH_HOS-954 37.50 lbs		Ø 2.750 in	Temperature @ 76.74 ft	3.03 ft	
					74.74 ft
XOHD-00000001 20.00 lbs		Ø 2.750 in Ø 3.625 in		0.95 ft	
					73.79 ft
SP Sub-12345678 60.00 lbs		Ø 3.625 in	SP @ 72.01 ft	3.74 ft	
					70.05 ft
GTET-10811258 165.00 lbs		Ø 3.625 in		8.52 ft	
			GammaRay @ 63.99 ft		
					61.53 ft
DSNT-10735145 174.00 lbs	DSN Decentralizer-10755066 6.60 lbs	Ø 5.000 in* Ø 3.625 in		9.69 ft	
			DSN Far @ 54.59 ft DSN Near @ 53.84 ft		
					51.84 ft
SDLT-10673803 360.00 lbs	SDLT Pad-10673790 65.00 lbs	Ø 4.500 in		10.81 ft	
	Microlog Pad-10673803 8.00 lbs	Ø 4.750 in* Ø 4.750 in*	Microlog @ 44.03 ft SDL Caliper @ 43.84 ft SDL @ 43.83 ft		
					41.03 ft
IQ Flex-954 140.00 lbs		Ø 3.625 in		5.67 ft	
					35.36 ft
	Centralizer 25-00000001 8.00 lbs	Ø 4.000 in*			



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)		Accumulated Length (ft)	Max.Log. Speed (fpm)
CH_HOS	Hostile Cable Head with Load Cell	954	37.50	3.03		74.74	300.00
XOHD	Hostile to Dits Cross Over	00000001	20.00	0.95		73.79	300.00
SP	SP Sub	12345678	60.00	3.74		70.05	300.00
GTET	Gamma Telemetry Tool	10811258	165.00	8.52		61.53	60.00
DSNT	Dual Spaced Neutron	10735145	174.00	9.69		51.84	60.00
DCNT	DSN Decentralizer	10755066	6.60	5.13	*	55.17	300.00
SDLT	Spectral Density Tool	10673803	360.00	10.81		41.03	60.00
MICP	Microlog Pad	10673803	8.00	1.00	*	43.53	60.00
SDLP	Density Insite Pad	10673790	65.00	2.55	*	43.24	60.00
IQF	IQ Flex tool	954	140.00	5.67		35.36	300.00
BSAT	Borehole Sonic Array Tool	10747684	300.00	15.77		19.58	60.00
OBCEN	Centralizer - 25 in. Overbody	00000001	8.00	2.08	*	32.40	300.00
ACRt	Array Compensated True Resistivity Instrument Section	10929776	50.00	5.03		14.55	300.00
OBCEN	Centralizer - 25 in. Overbody	00000003	8.00	2.08	*	16.04	300.00
ACRt	Array Compensated True Resistivity Sonde Section	10929775	200.00	14.22		0.33	300.00
BLNS	Bull Nose	001	5.00	0.33		0.00	300.00
Total			**1,607.10**	**77.77**			

* Not included in Total Length and Length Accumulation.

Data: DRUSSEL_E1\0001 SP-GTET-DSN-SDL-ACRT-CH\IDLE **Date: 06-May-13 01:59:55**

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	**GTET - 10811258**	**Reference Calibration Date:**	**15-Apr-13 13:29:21**
Engineer:	**S. INGERSOLL**	**Calibration Date:**	**28-Apr-13 06:43:47**
Software Version:	**WL INSITE R3.8.4 (Build 5)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB-185
Calibrator API Reference:228.00 api
Equivalent Calibrator API Reference:232.0 api

Measurement	Measured	Calibrated	Units
Background	21.8	21.9	api
Background + Calibrator	252.7	253.9	api
Calibrator	230.9	232.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	**GTET - 10811258**	**Reference Calibration Date:**	**28-Apr-13 06:43:47**
Engineer:	**THOMAS HYDE**	**Calibration Date:**	**06-May-13 01:47:31**
Software Version:	**WL INSITE R3.8.4 (Build 5)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB-185
Calibrator API Reference:228.00 api
Equivalent Calibrator API Reference:232.0 api

Field Verification	Shop	Field	Units
Background	21.9	21.3	api
Background + Calibrator	253.9	254.4	api
Calibrator	232.0	233.1	api

Shop	Field	Difference	Tolerance
232.0	233.1	-1.1	+/- 9.00

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name:	**ACRt Sonde - 10929775**	**Reference Calibration Date:**	**07-Mar-13 15:26:52**
Engineer:	**S. INGERSOLL**	**Calibration Date:**	**04-May-13 10:38:01**
Software Version:	**WL INSITE R3.8.4 (Build 5)**	**Calibration Version:**	**1**
Host Tool Name:	**ACRt Instrument - 10929776**		

TYPICAL GAIN RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.03	1.05	0.95	1.03	1.05	0.95	1.02	1.05
A2 (50")	0.95	1.02	1.05	0.95	1.03	1.05	0.95	1.02	1.05
A3 (29")	0.95	1.00	1.05	0.95	1.01	1.05	0.95	1.00	1.05
A4 (17")	0.95	1.01	1.05	0.95	1.01	1.05	0.95	1.01	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.00	1.05	0.95	1.00	1.05
A6 (6")	N/A	N/A	N/A	0.95	1.01	1.05	0.95	1.01	1.05

TYPICAL SONDE OFFSET RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper

A1 (80")	-5	-2.11	2	-6	-4.70	-2	-8	-4.78	-2
A2 (50")	-7	-3.07	0	-7	-4.40	0	-7	-4.53	0
A3 (29")	-27	-15.03	-9	-9	-4.72	-3	-7	-2.87	-1
A4 (17")	-180	-103.09	-60	-45	-32.31	-15	-39	-25.18	-13
A5 (10")	N/A	N/A	N/A	-150	-118.23	-50	-80	-54.78	-10
A6 (6")	N/A	N/A	N/A	175	280.66	525	90	139.71	270

TRANSMITTER CURRENT GAIN

Signal	Lower	R	Upper
12K	0.6	0.85	1.3
36K	1.0	1.18	2.0
72K	1.0	1.46	2.0

R-MUD VERIFICATION

Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
Mud Cell	0.95	0.99	1.05

PASS/FAIL SUMMARY

GAIN RANGE CHK	PASS
SONDE OFFSET RANGE CHK	PASS
Tx CURRENT GAIN	PASS
Rmud VERIFICATION	PASS

TOOL OK TO LOG

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-10811258						
Gamma Ray Calibrator	232.0	233.1	----------	-1.1	+/- 9.00	api
ACRt Sonde-10929775						
Mud Cell	0.99	----------	----------	0.00	----------	ohm-m

Data: DRUSSEL_E1\0001 SP-GTET-DSN-SDL-ACRT-CH\IDLE **Date: 06-May-13 07:56:42**

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	8.600	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	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	5361.00	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	Temperature Master Tool	NONE	
SHARED	BHSM	Borehole Size 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	
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	
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	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
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	
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

BOTTOM

HALLIBURTON

INPUTS, DELAYS AND FILTERS TABLE

Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
	Depth Panel			
TENS	Tension	0.00	NO	
	CH_HOS			
DHTN	DownholeTension	0.00	BLK	0.000
	SP Sub			
PLTC	Plot Control Mask	72.01	NO	
SP	Spontaneous Potential	72.01	BLK	1.250
SPR	Raw Spontaneous Potential	72.01	NO	
SPO	Spontaneous Potential Offset	72.01	NO	
	GTET			
TPUL	Tension Pull	63.99	NO	
GR	Natural Gamma Ray API	63.99	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	63.99	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	63.99	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
	DSNT			
TPUL	Tension Pull	53.74	NO	
RNDS	Near Detector Telemetry Counts	53.84	BLK	1.417
RFDS	Far Detector Telemetry Counts	54.59	TRI	0.583
DNTT	DSN Tool Temperature	53.84	NO	
DSNS	DSN Tool Status	53.74	NO	
ERND	Near Detector Telemetry Counts EVR	53.84	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	54.59	BLK	0.000
ENTM	DSN Tool Temperature EVR	53.84	NO	
	SDLT			
TPUL	Tension Pull	43.84	NO	
PCAL	Pad Caliper	43.84	TRI	0.250
ACAL	Arm Caliper	43.84	TRI	0.250
	BSAT			
TPUL	Tension Pull	26.84	NO	
STAT	Status	26.84	NO	
DLYT	Delay Time	26.84	NO	
SI	Sample Interval	26.84	NO	
TXRX	Raw Telemetry 10 Receivers	26.84	NO	
FRMC	Tool Frame Count	26.84	NO	
GMOD	Gain processing mode	19.58	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 Current Raw 12K X Receiver	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	

	SDLT Pad			
TPUL	Tension Pull	43.83	NO	
NAB	Near Above	43.66	BLK	0.920
NHI	Near Cesium High	43.66	BLK	0.920
NLO	Near Cesium Low	43.66	BLK	0.920

NVA	Near Valley	43.66	BLK	0.920
NBA	Near Barite	43.66	BLK	0.920
NDE	Near Density	43.66	BLK	0.920
NPK	Near Peak	43.66	BLK	0.920
NLI	Near Lithology	43.66	BLK	0.920
NBAU	Near Barite Unfiltered	43.66	BLK	0.250
NLIU	Near Lithology Unfiltered	43.66	BLK	0.250
FAB	Far Above	44.01	BLK	0.250
FHI	Far Cesium High	44.01	BLK	0.250
FLO	Far Cesium Low	44.01	BLK	0.250
FVA	Far Valley	44.01	BLK	0.250
FBA	Far Barite	44.01	BLK	0.250
FDE	Far Density	44.01	BLK	0.250
FPK	Far Peak	44.01	BLK	0.250
FLI	Far Lithology	44.01	BLK	0.250
PTMP	Pad Temperature	43.84	BLK	0.920
NHV	Near Detector High Voltage	43.24	NO	
FHV	Far Detector High Voltage	43.24	NO	
ITMP	Instrument Temperature	43.24	NO	
DDHV	Detector High Voltage	43.24	NO	
	Microlog Pad			
TPUL	Tension Pull	44.03	NO	
MINV	Microlog Lateral	44.03	BLK	0.750
MNOR	Microlog Normal	44.03	BLK	0.750

Data: DRUSSEL_E1\0001 SP-GTET-DSN-SDL-ACRT-CH\IDLE **Date: 06-May-13 08:20:34**

COMPANY	**OXY USA**		
WELL	**DRUSSEL E-1**		
FIELD	**HUGOTON GAS AREA**		
COUNTY	**FINNEY**	STATE	**KANSAS**

HALLIBURTON

ARRAY COMPENSATED TRUE RESISTIVITY LOG

HALLIBURTON

Plot Time: 06-May-13 10:55:06
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Data: {ActiveWell}\Well Based\DAQ Current
Plot File: \\-LOCAL-\DRUSSEL_E1\...\ACRT_1_lib

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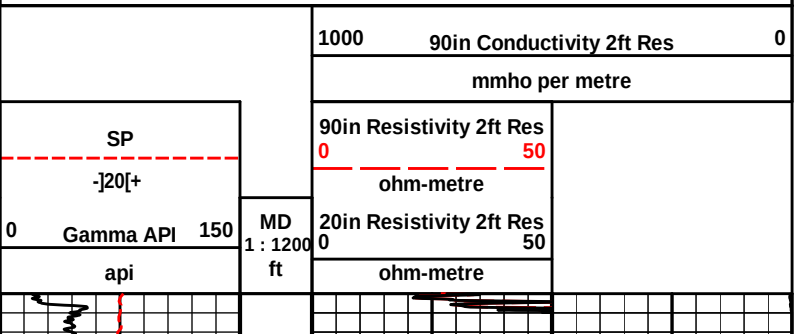

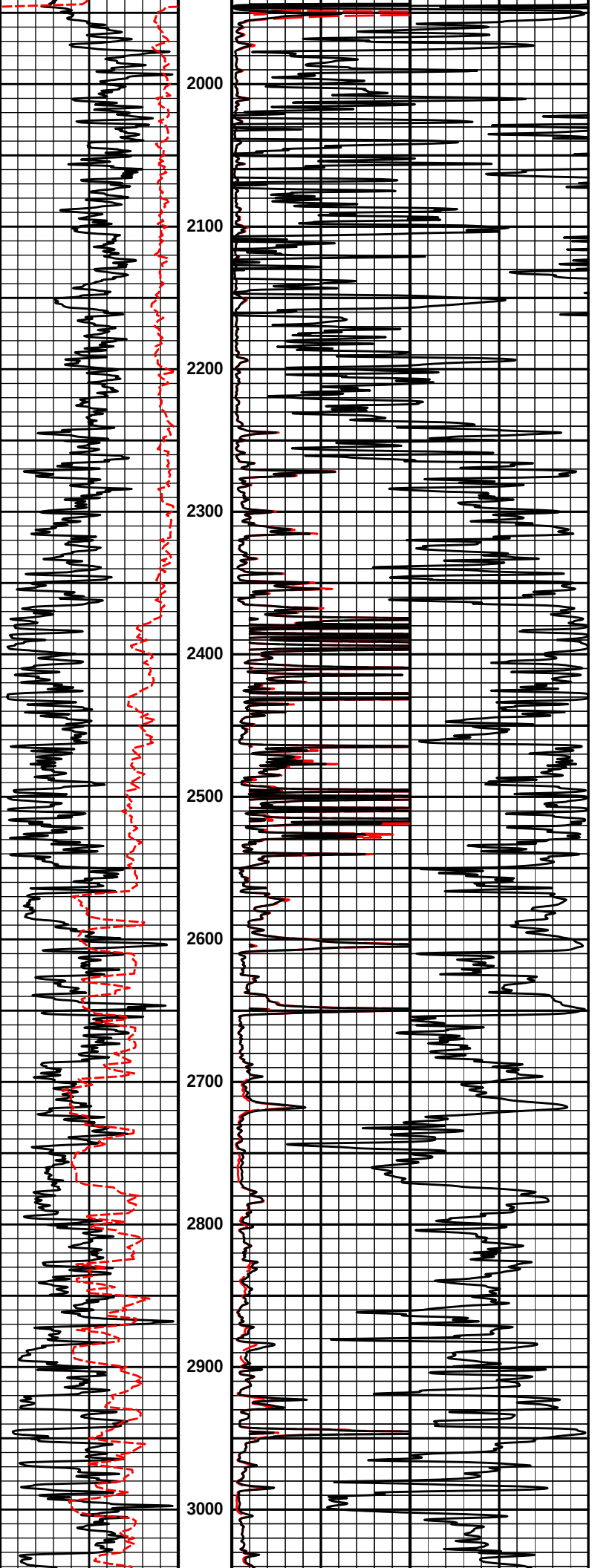
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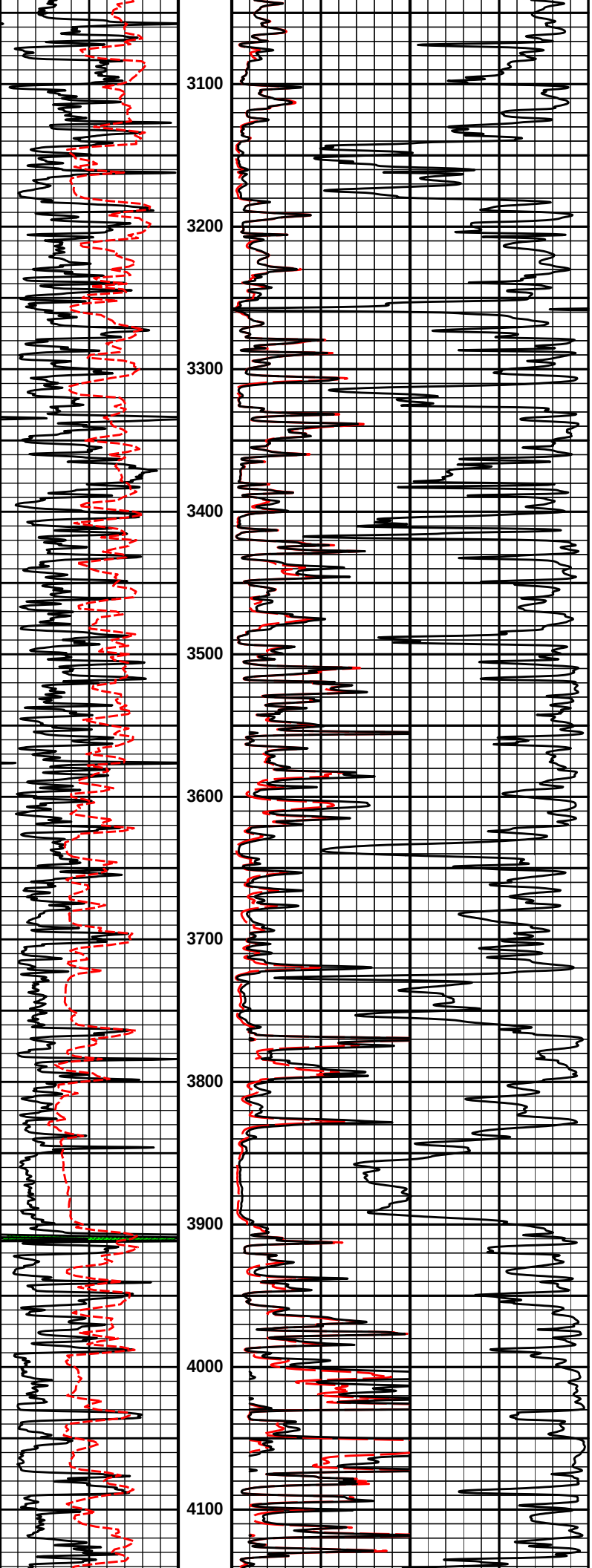
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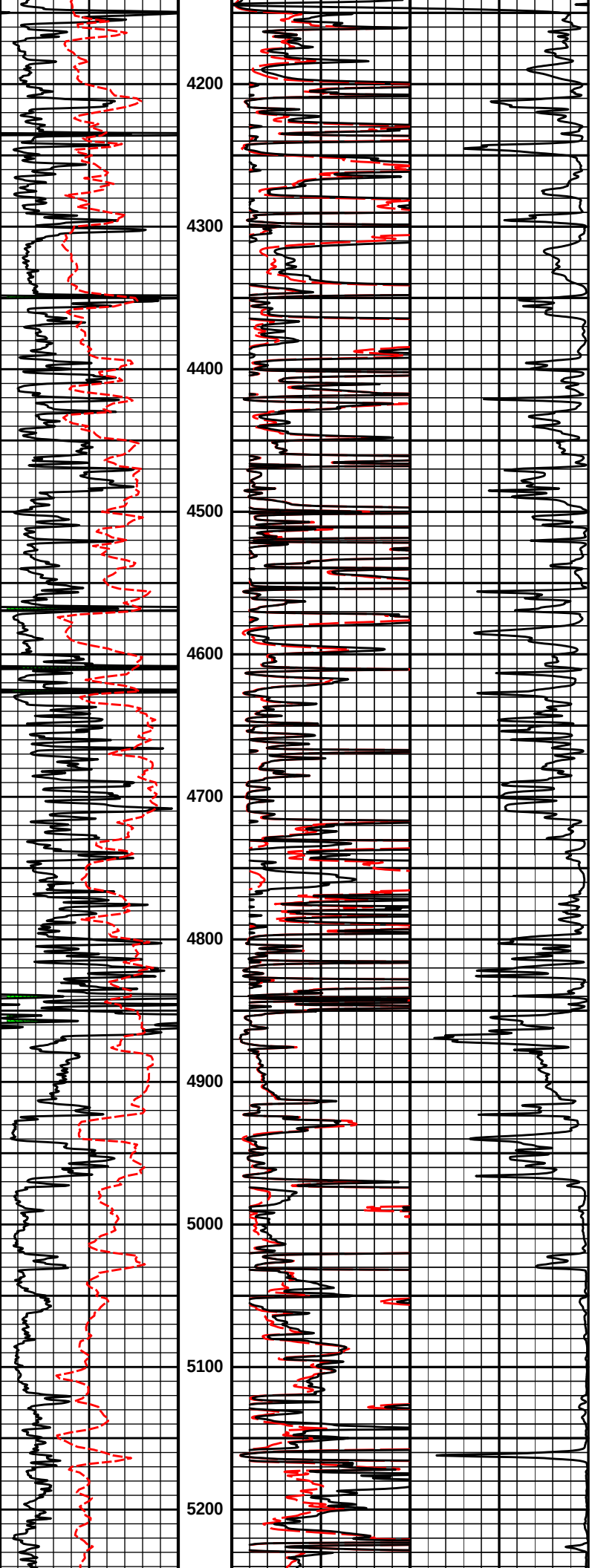
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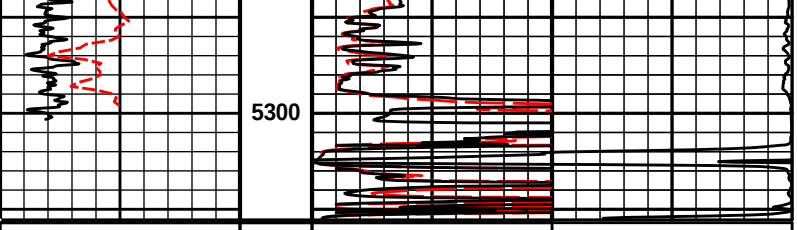

0 Gamma API 150	MD 1 : 1200 ft	20in Resistivity 2ft Res 0 50
api		ohm-metre
SP		90in Resistivity 2ft Res 0 50
-]20[+		ohm-metre
		1000 90in Conductivity 2ft Res 0
		mmho per metre

HALLIBURTON

Plot Time: 06-May-13 10:55:11
Plot Range: 1920 ft to 5355.5 ft
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1 INCH MAIN LOG