

HALLIBURTON

ARRAY COMPENSATED TRUE RESISTIVITY LOG

COMPANY	OXY USA INC				
WELL	SMU #320				
FIELD	SMU				
COUNTY	FINNEY				
STATE	KANSAS				
COMPANY	OXY USA INC				
WELL	SMU #320				
FIELD	SMU				
COUNTY	FINNEY				
STATE	KANSAS				
API No.	22-23S-34W				
Location	1215' FSL & 2400' FWL				
Other Services:	BSAT MICROLOG SDLT, DSNT				
Sect.	22	Twp.	23S	Rge.	34W
Permanent Datum	GL	Elev.	2948.0 ft		
Log measured from	KB	Elev.	2958.0 ft		
Drilling measured from	KB	Elev.	2948.0 ft		

Date	02-Jul-12
Run No.	ONE
Depth - Driller	4920.00 ft
Depth - Logger	4904.0 ft
Bottom - Logged Interval	4894.0 ft
Top - Logged Interval	1809.0 ft
Casing - Driller	8.625 in @ 1811.0 ft
Casing - Logger	1809.0 ft @
Bit Size	7.875 in @
Type Fluid in Hole	WATER BASED MUD
Density	9.2 ppg 39.00 sg/qt
PH	8.60 pH 9.2 cp/m
Source of Sample	FLOW LINE
Rm @ Meas. Temperature	0.660 ohmm @ 75.00 degF @
Rmf @ Meas. Temperature	0.50 ohmm @ 75.00 degF @
Rmc @ Meas. Temperature	0.800 ohmm @ 75.00 degF @
Source Rmf	MEAS Rmc MEAS
Rm @ BHT	0.39 ohmm @ 130.0 degF @
Time Since Circulation	8.0 hr
Time on Bottom	02-Jul-12 23:04
Max. Rec. Temperature	130.0 degF @ 4904.0 ft @
Equipment	1054696 LIBERAL
Recorded By	J. BOLLOW
Witnessed By	C. WYLLIE

Fold here

Service Ticket No.: 9625518		API Serial No.: 22-23S-34W		PGM Version: WL INSITE R3.6.0 (Build 3)					
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE				RESISTIVITY SCALE CHANGES					
Date	Sample No.			Type Log	Depth	Scale Up Hole	Scale Down Hole		
Depth-Driller									
Type Fluid in Hole									
Density	Viscosity								
Ph	Fluid Loss								
Source of Sample				RESISTIVITY EQUIPMENT DATA					
Rm @ Meas. Temp	@	@		Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other	
Rmf @ Meas. Temp.	@	@		ONE	ACRT	N/A	1.5 S.O.	N/A	
Rmc @ Meas. Temp.	@	@			I962_S909				
Source Rmf	Rmc								
Rm @ BHT	@	@							
Rmf @ BHT	@	@							
Rmc @ BHT	@	@							
EQUIPMENT DATA									
GAMMA		ACOUSTIC		DENSITY		NEUTRON			
Run No.	ONE	Run No.		Run No.		Run No.			
Serial No.	11039640	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.	GTET	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 No.	GENERAL		Speed ft/min	GAMMA		ACOUSTIC		Matrix	DENSITY		Matrix	NEUTRON			
	Depth			L	R	L	R		Scale			L	R	Scale	
	From	To							L	R				L	R
ONE	4904	1809	REC	0	150										

DIRECTIONAL INFORMATION

Maximum Deviation @ KOP @

Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5-INCH CASING

CHLORIDES REPORTED AT 5700 MG/L

LCM REPORTED AT 3 LB/BBL

GTET-DSNT-SDLT-BSAT-ACRT RUN IN COMBINATION

TODAY'S CREW: P. COBLE & V. JAIME

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

HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

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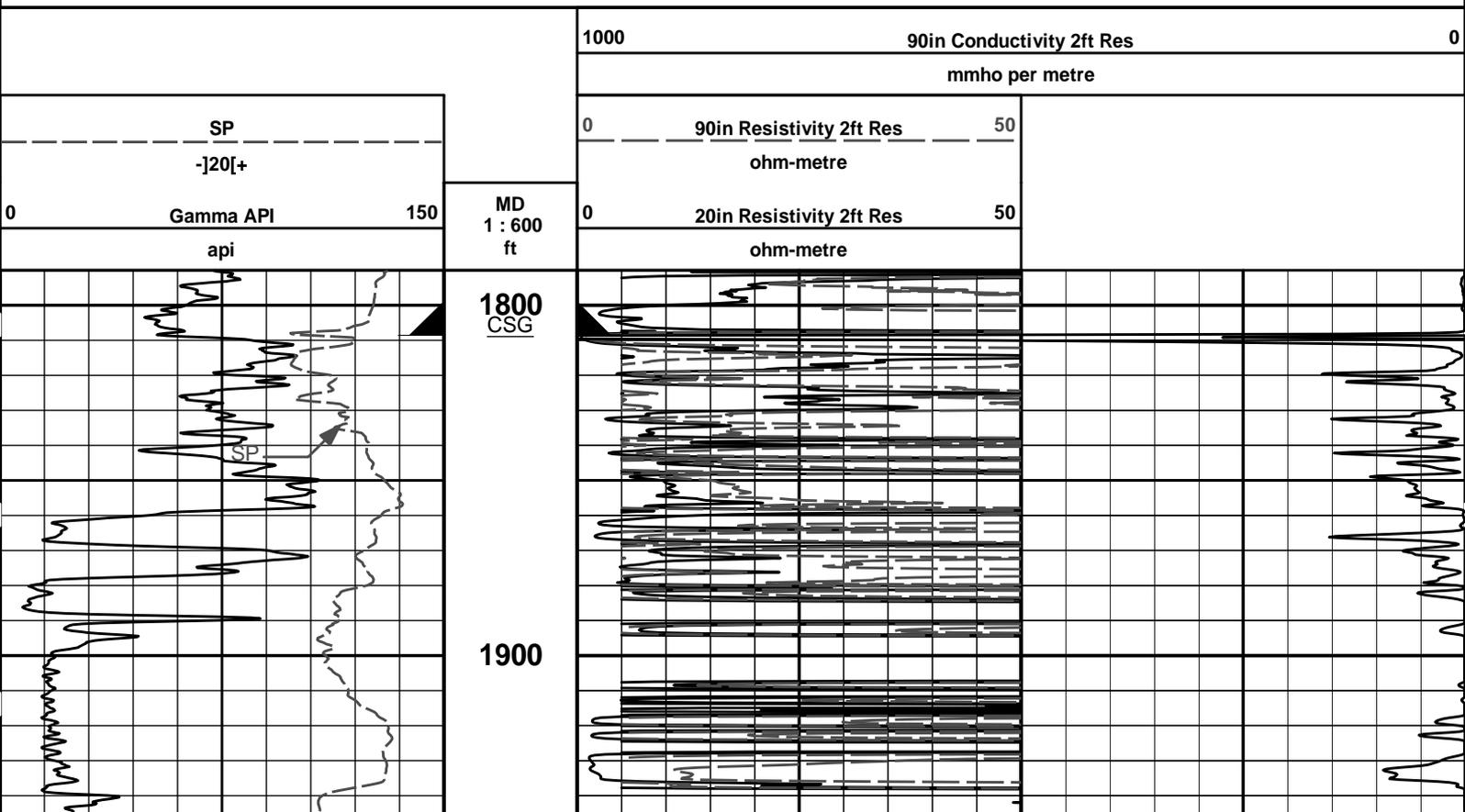
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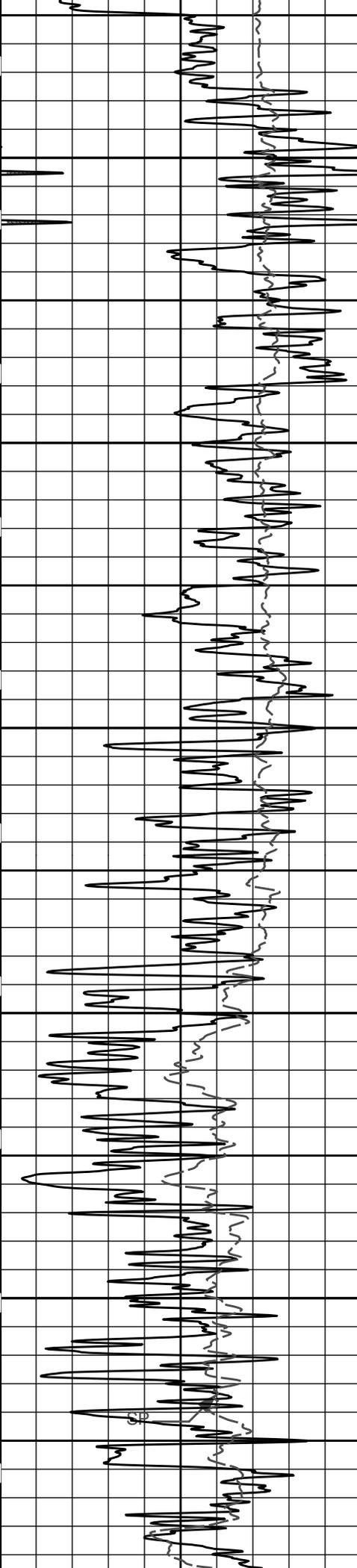
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Data: SMU_320\Well Based\CASING\

Plot File: \\-LOCAL-\\SMU_320\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CHIACRT\ACRT_2.lib

2 INCH MAIN LOG





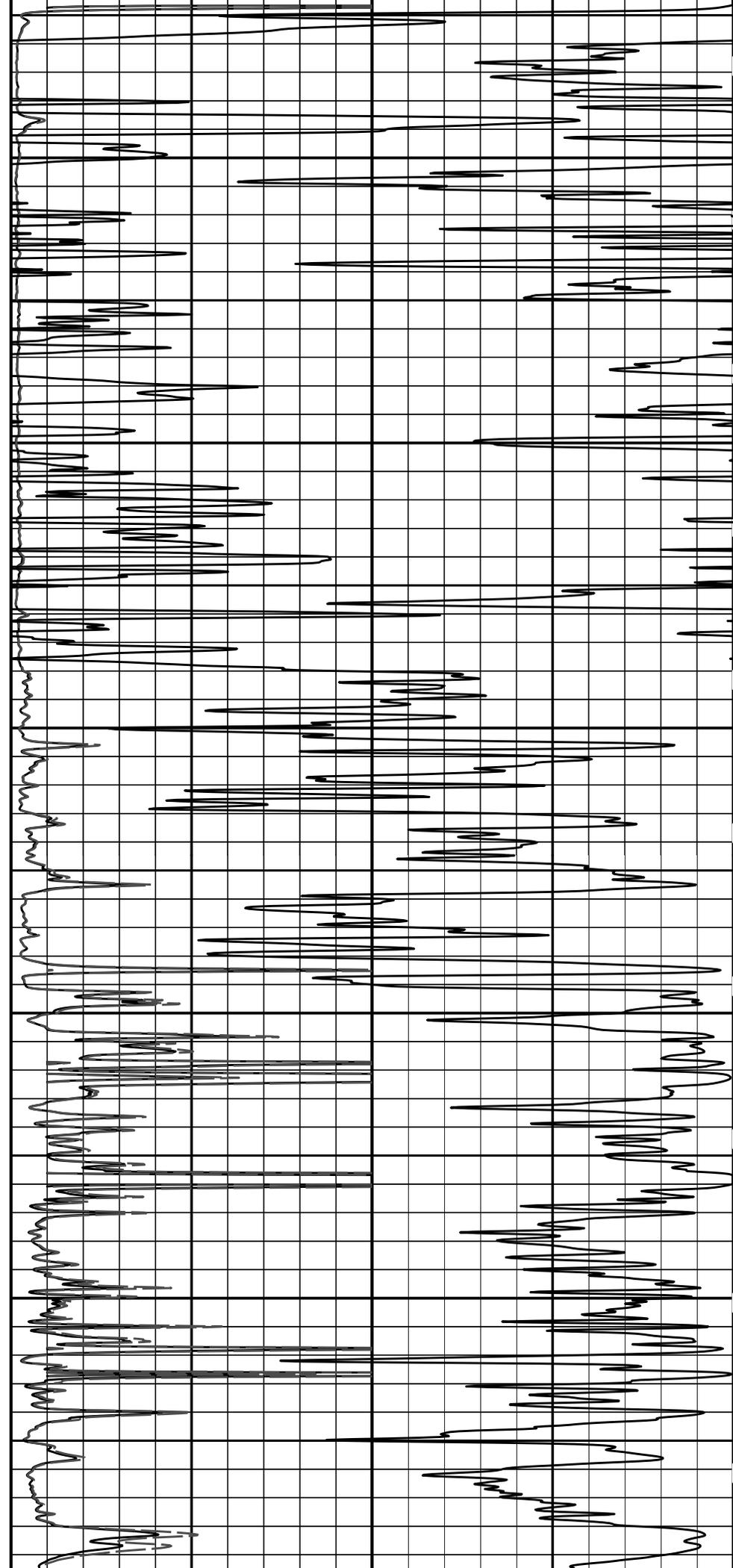
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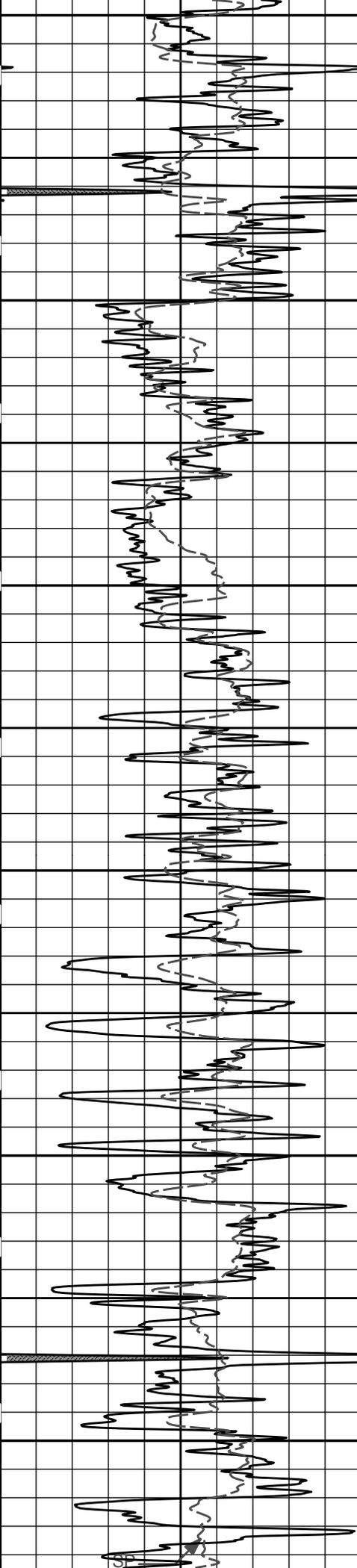
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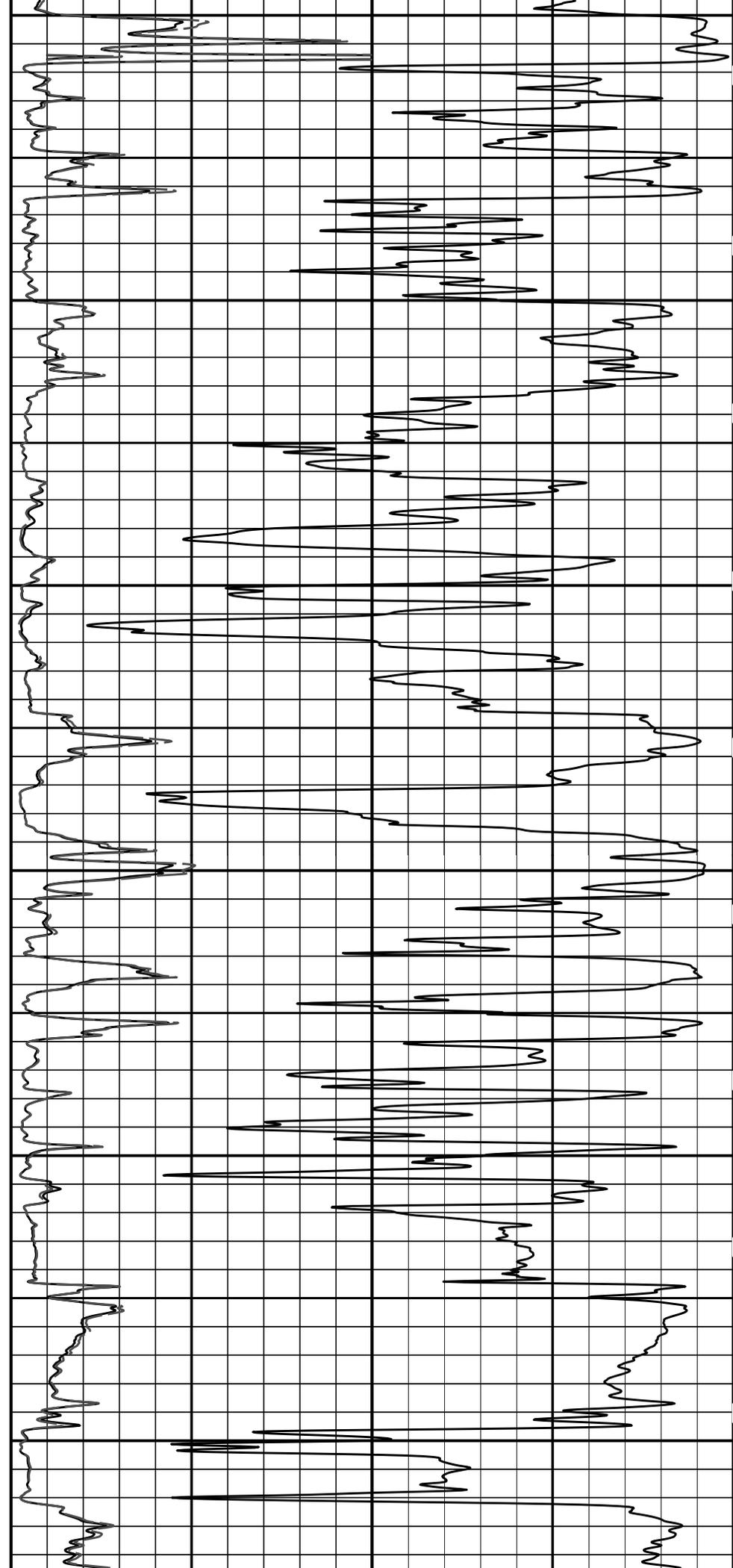
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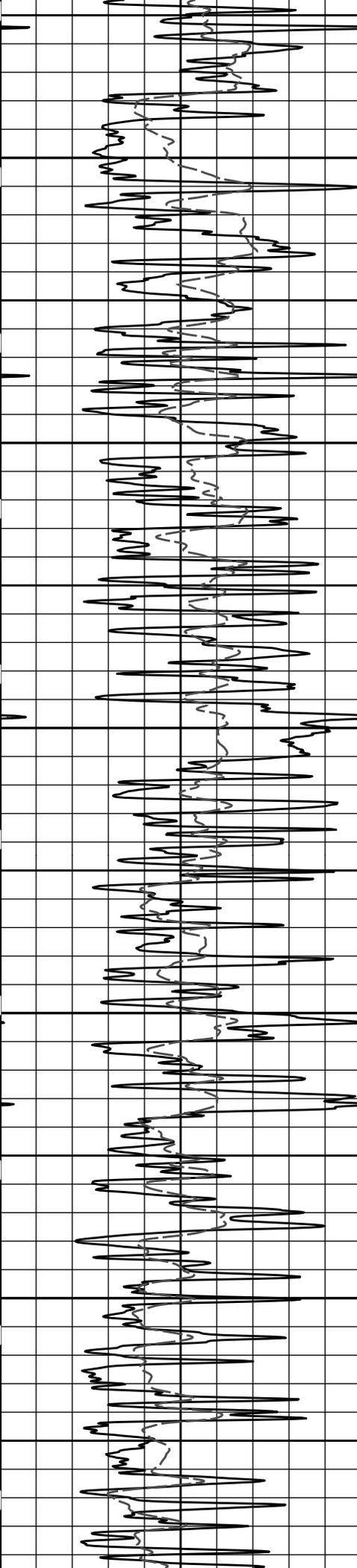
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2500
2600
2700
2800
2900
3000





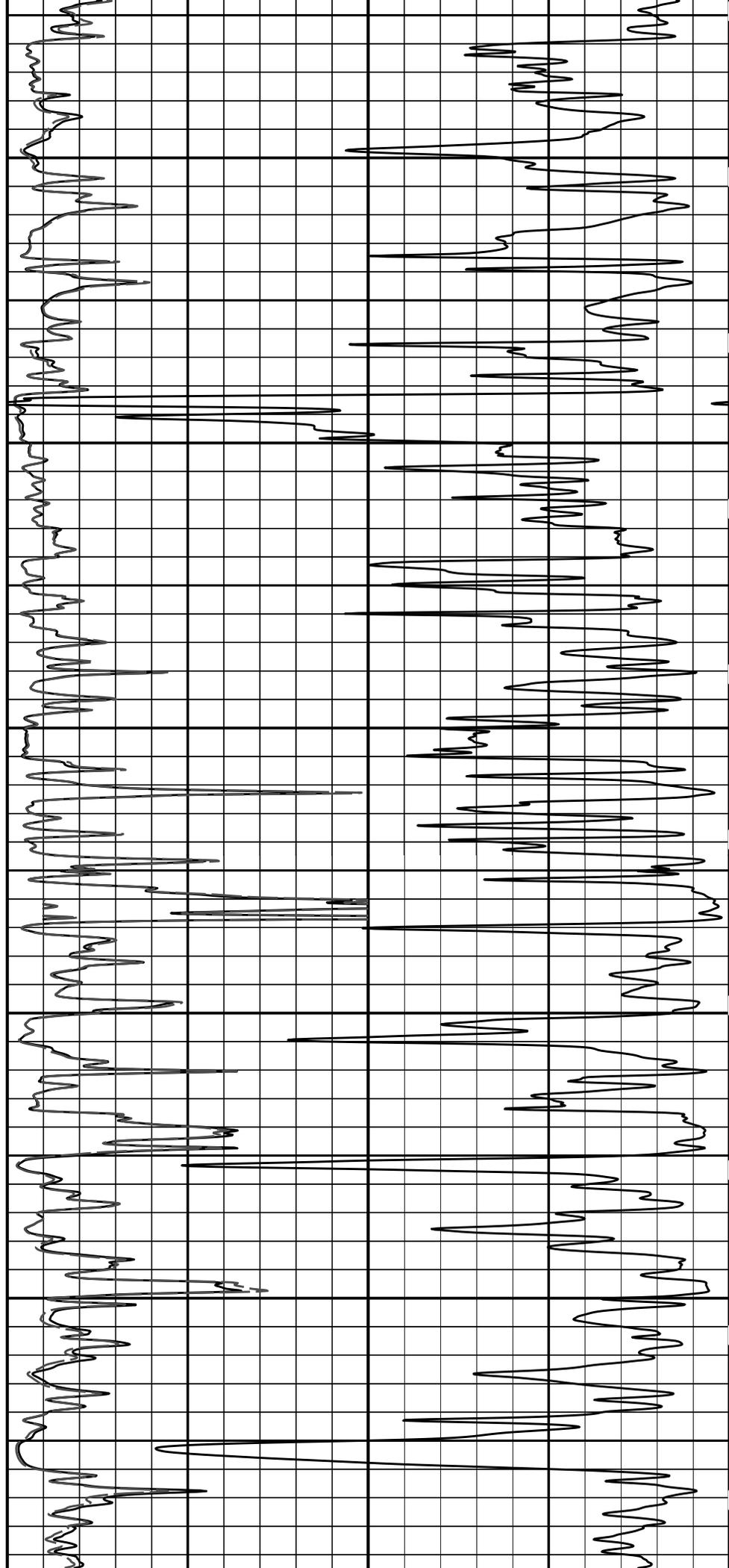
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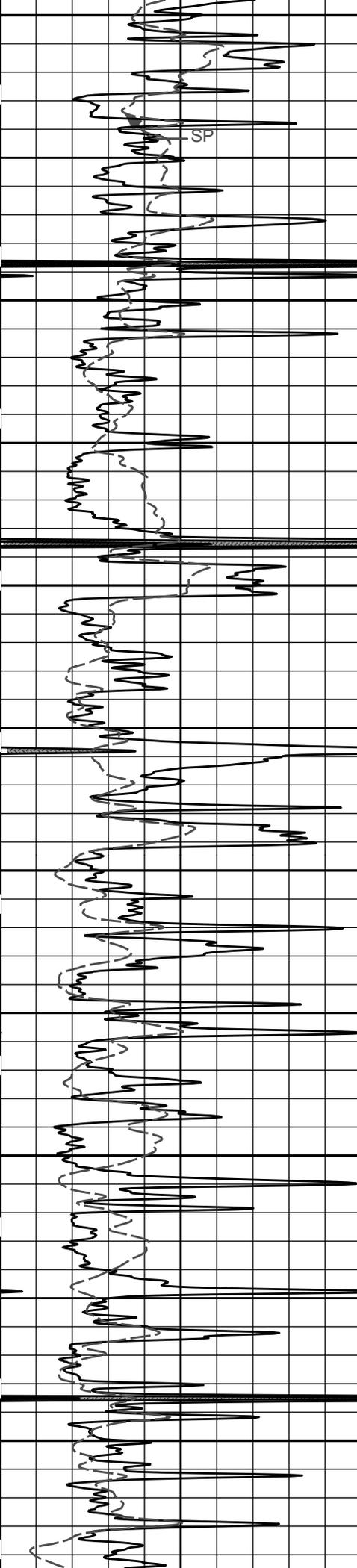
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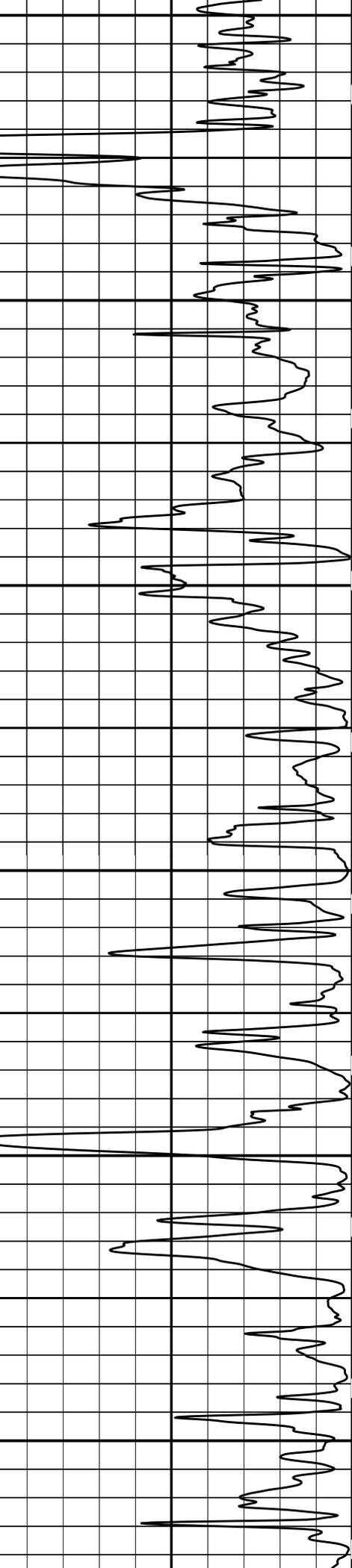
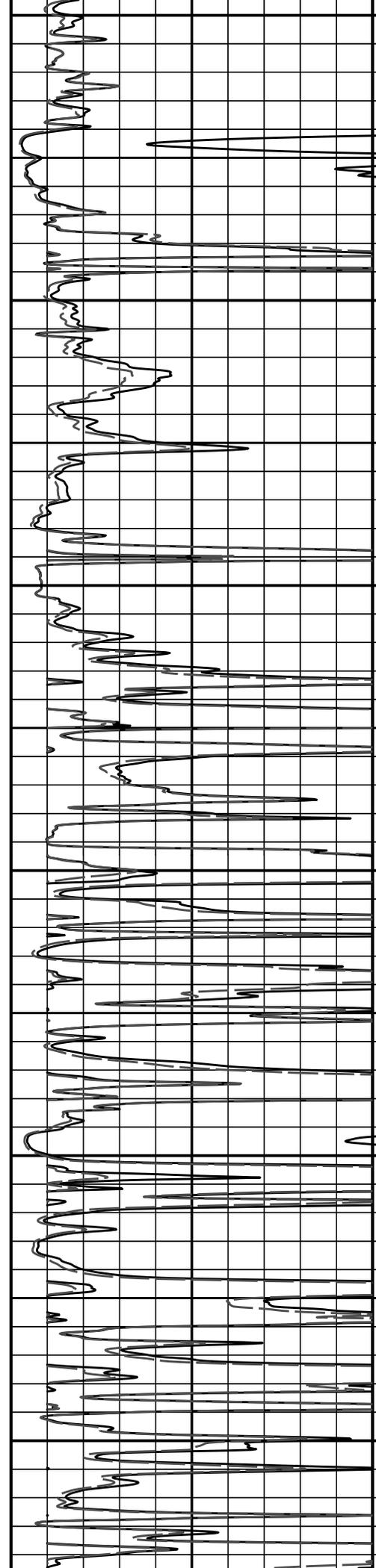
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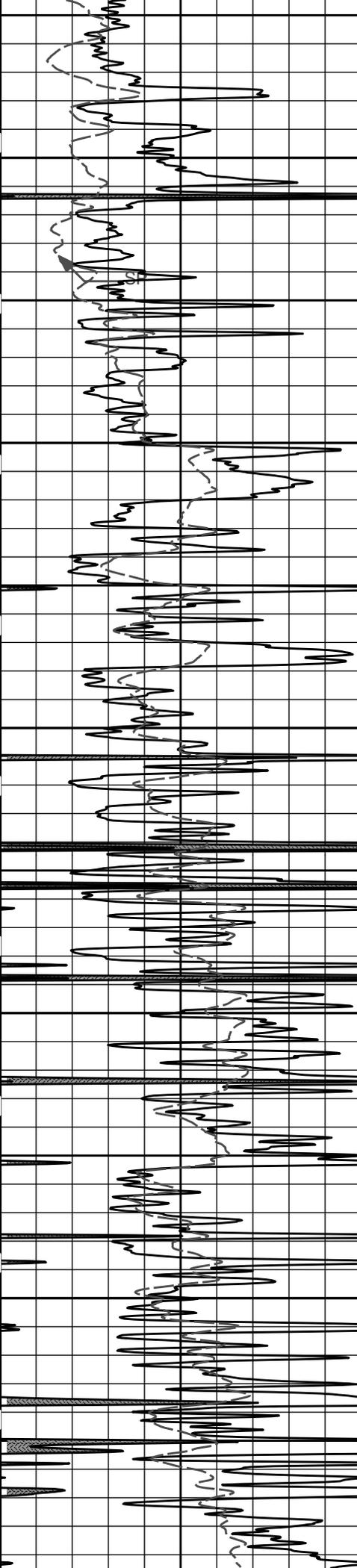
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4100





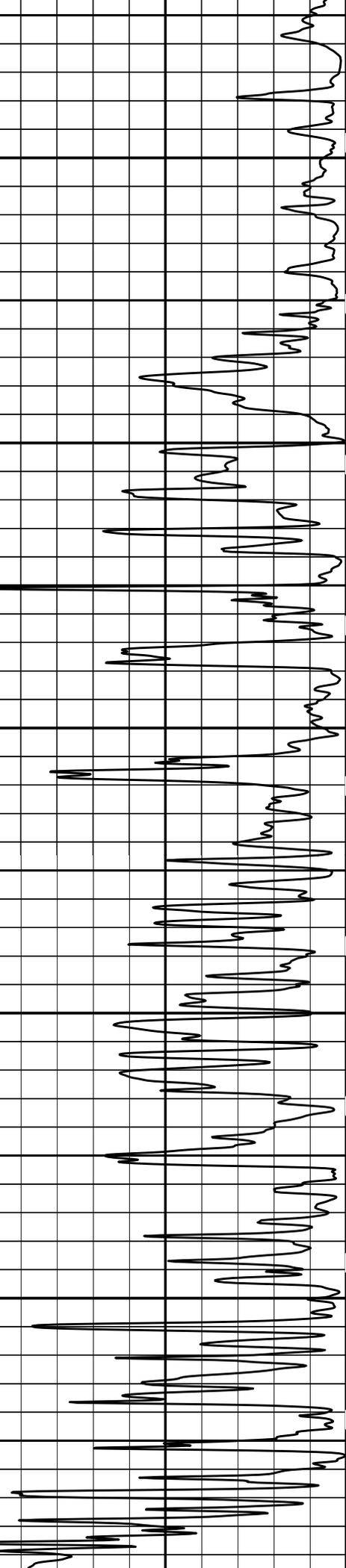
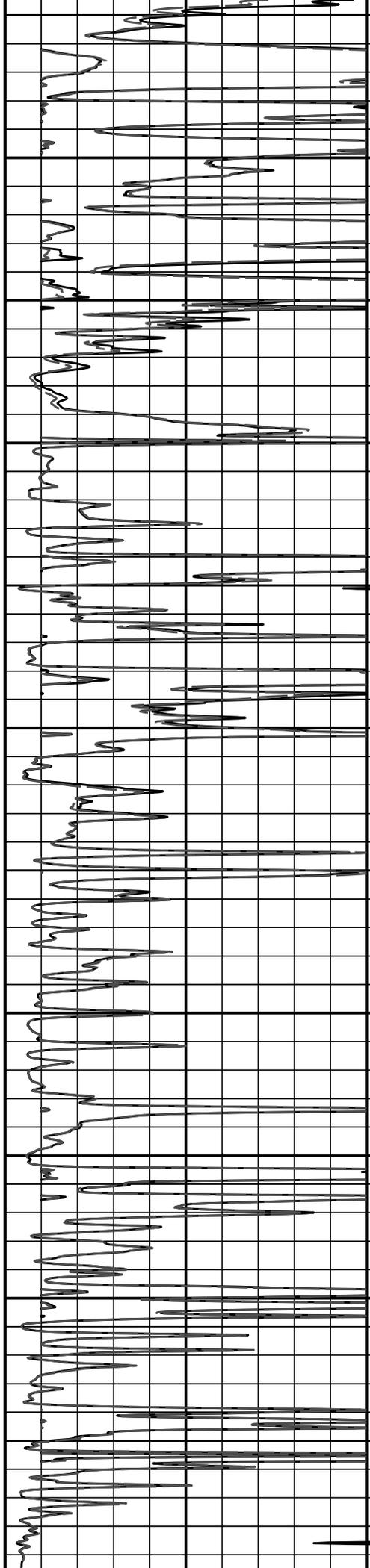
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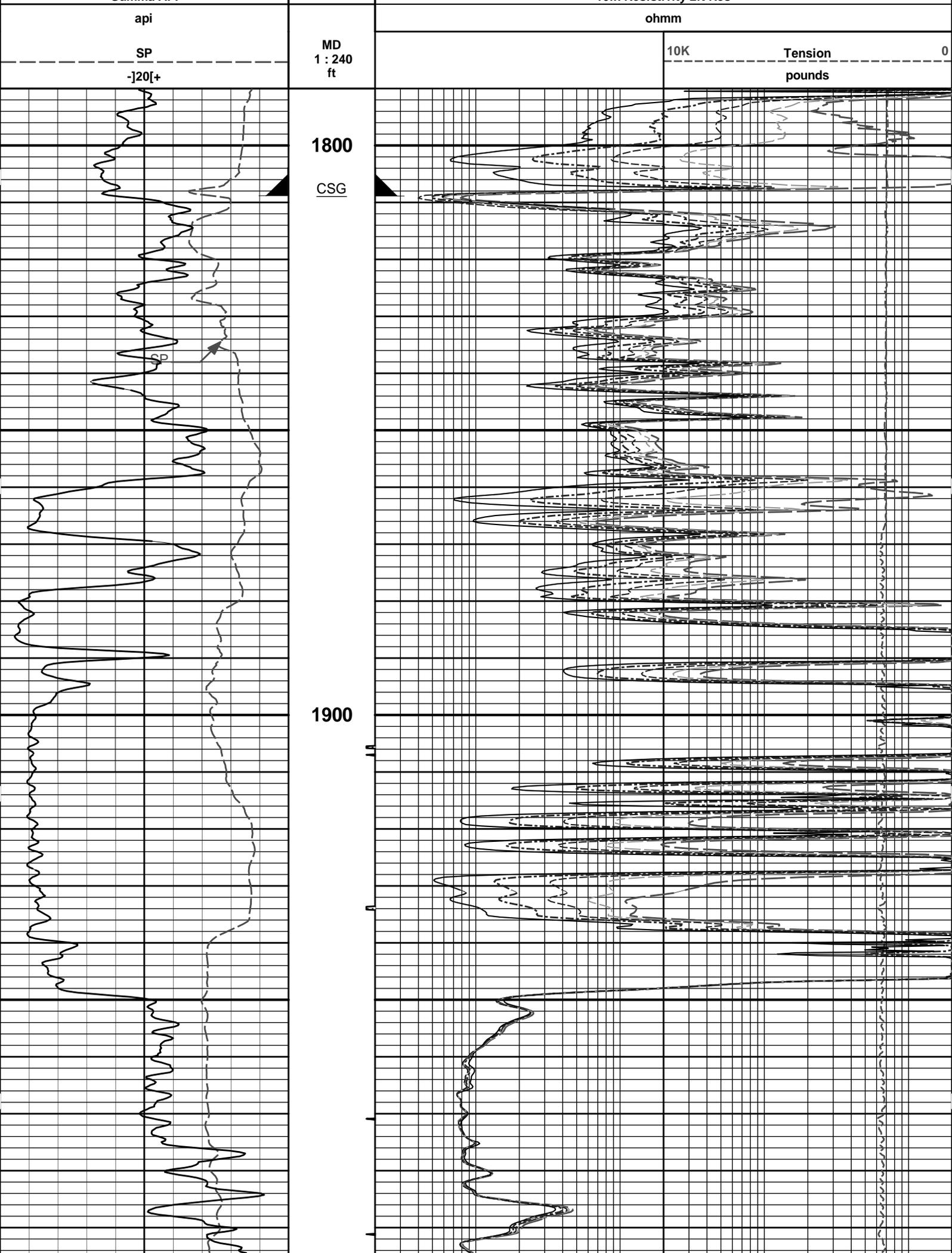
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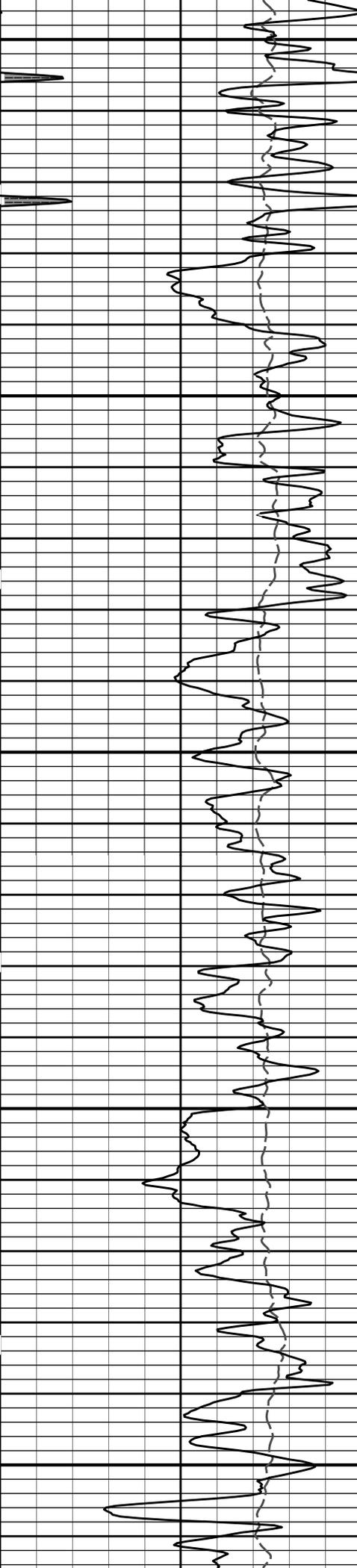
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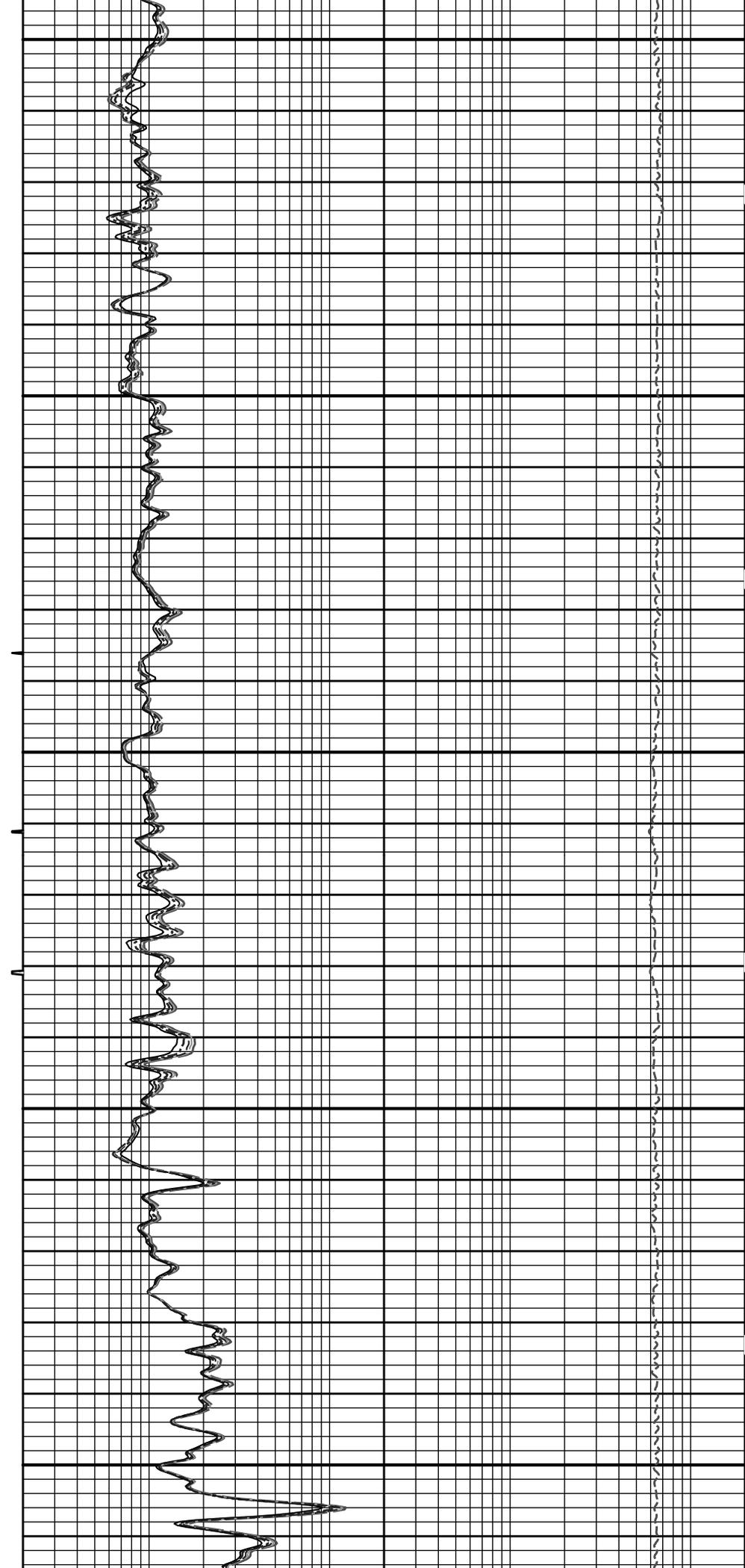


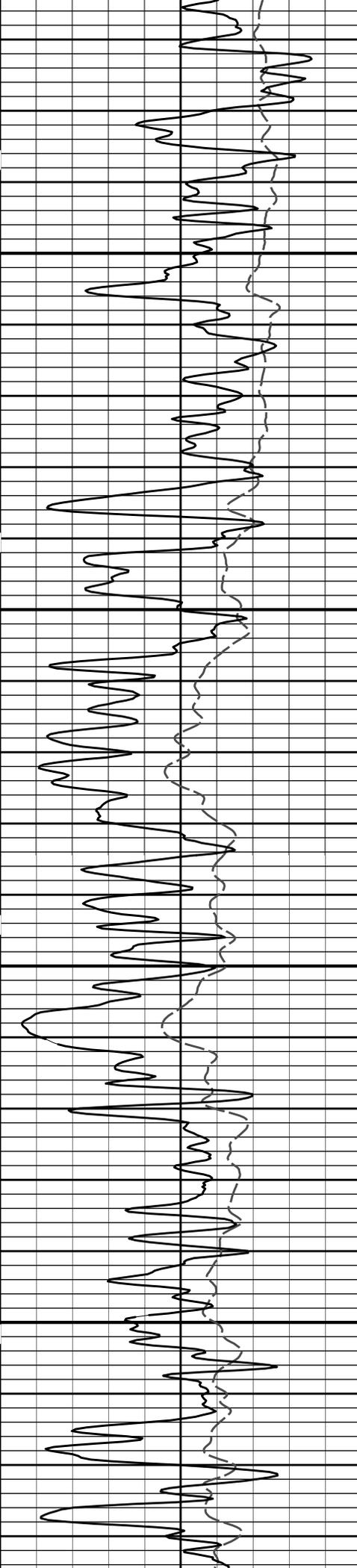


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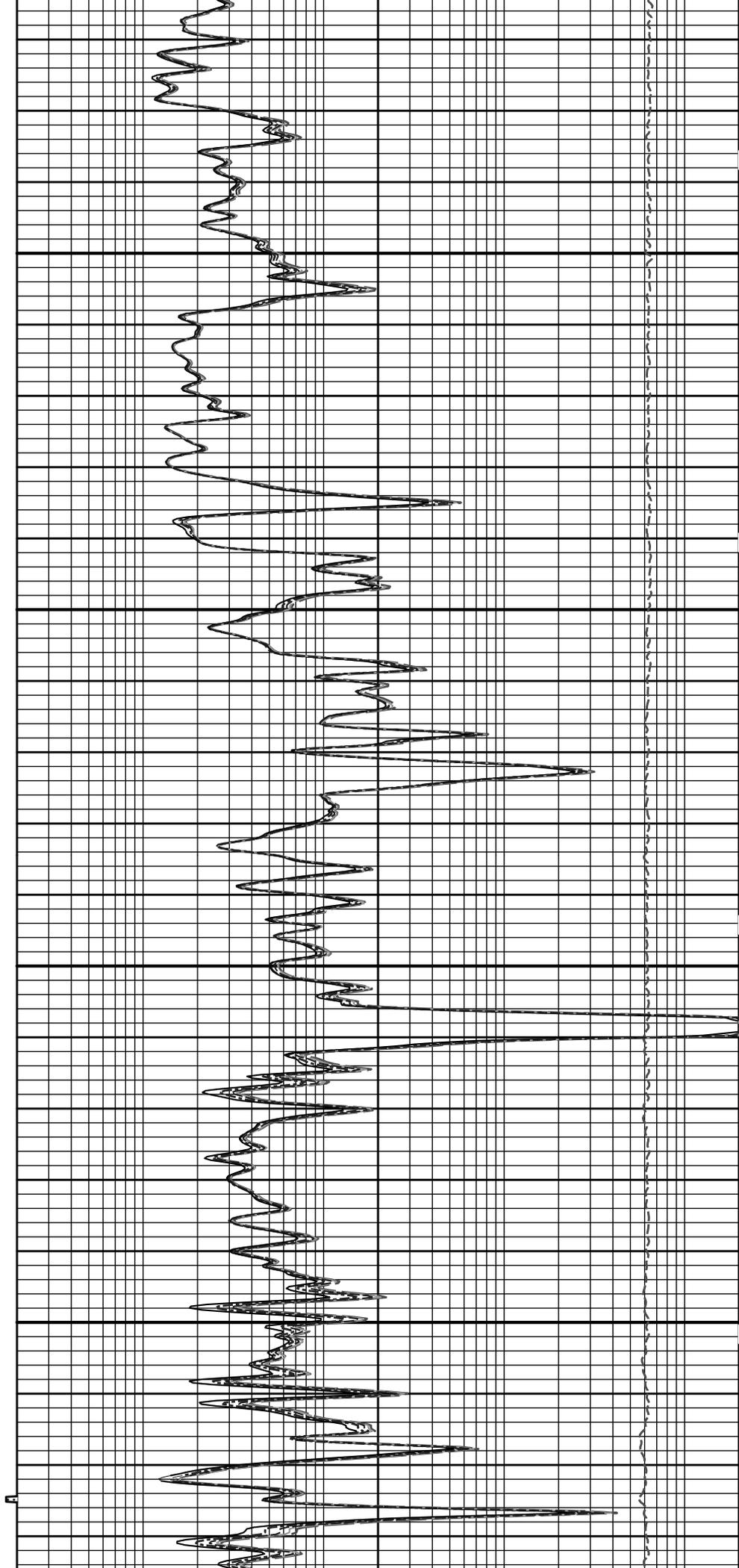
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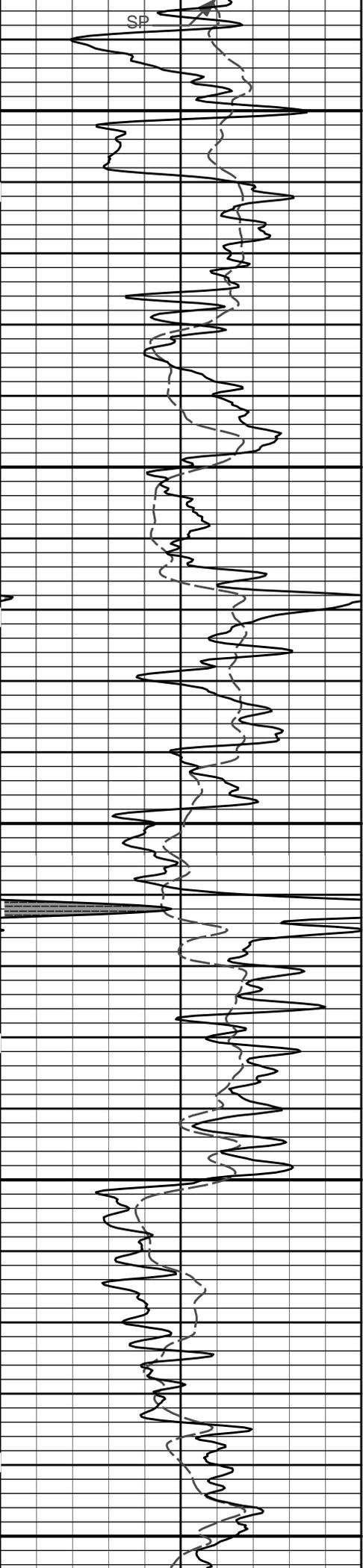




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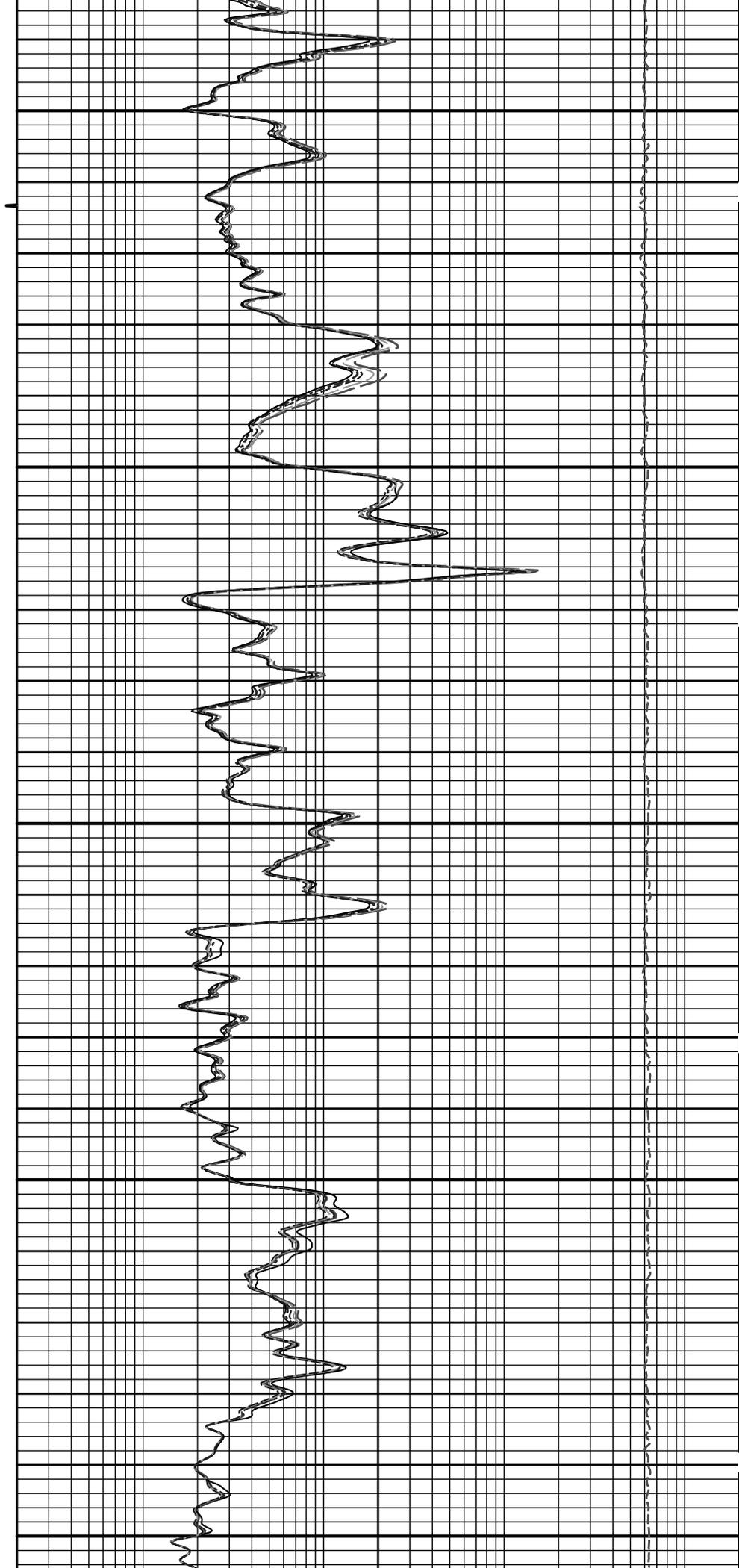
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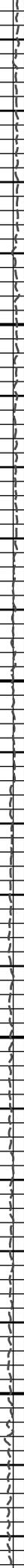
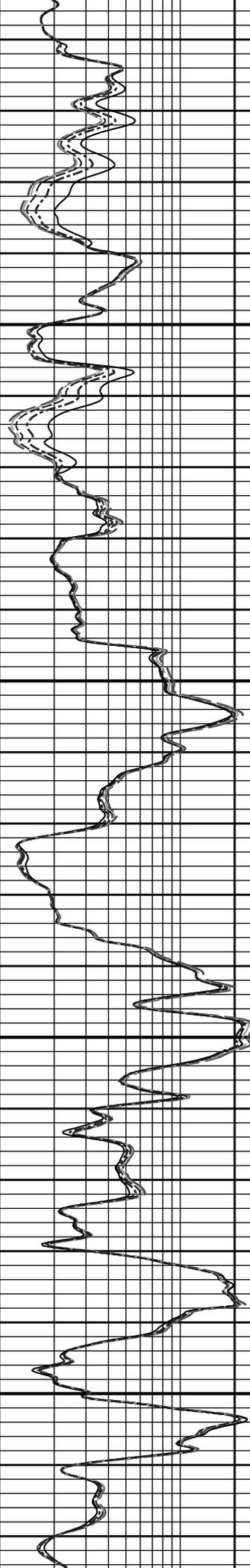
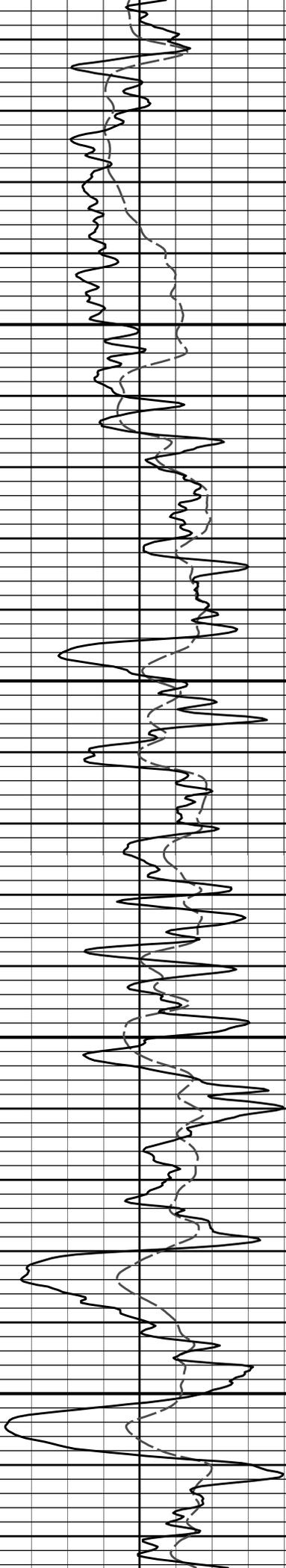
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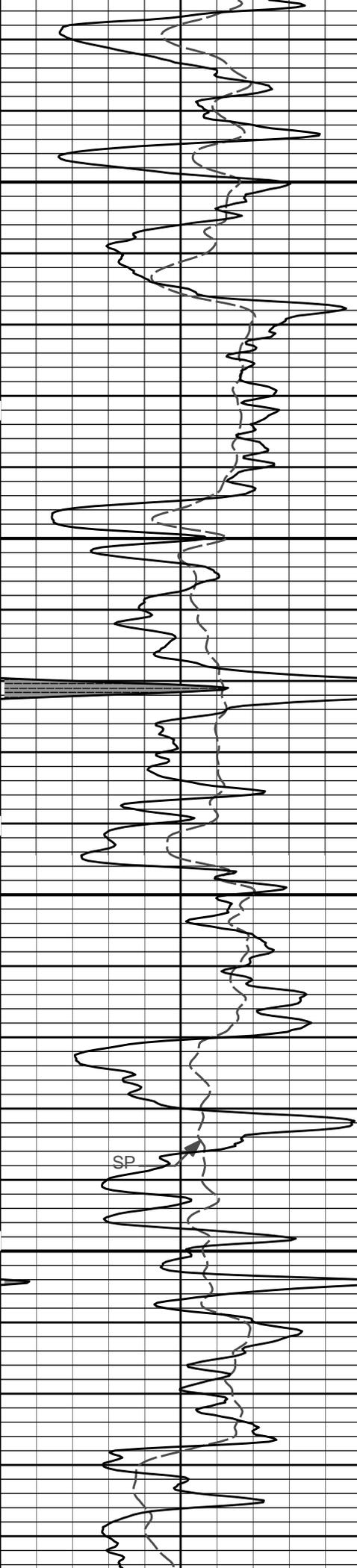
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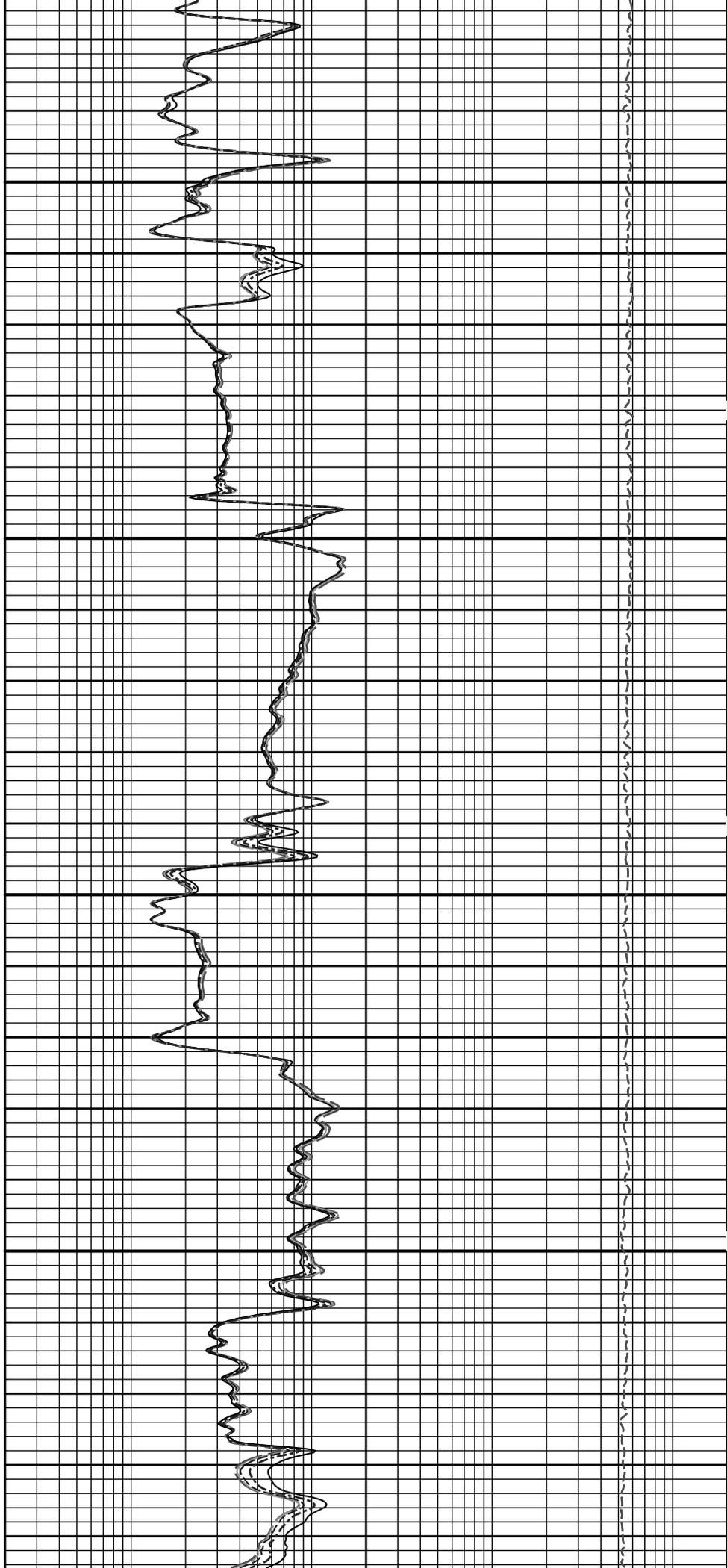
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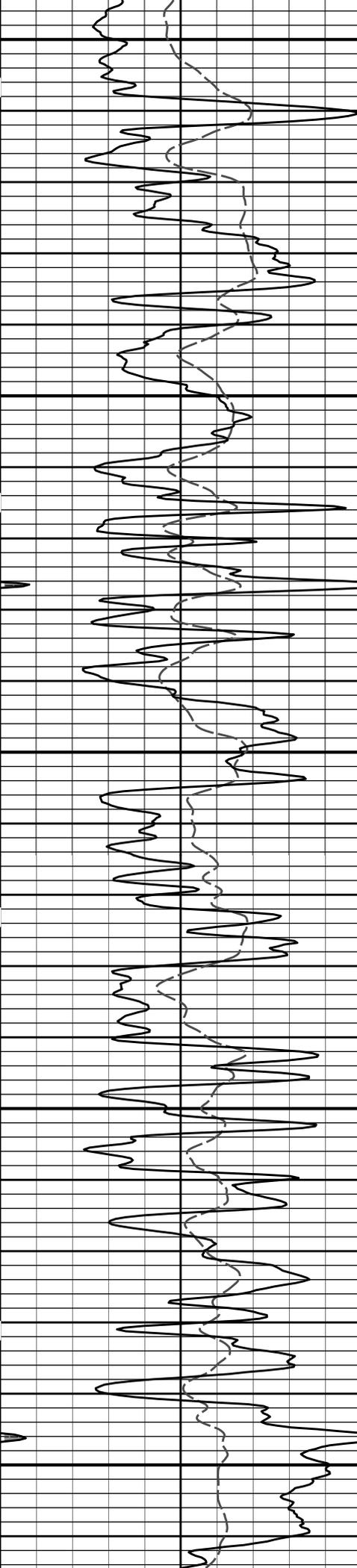




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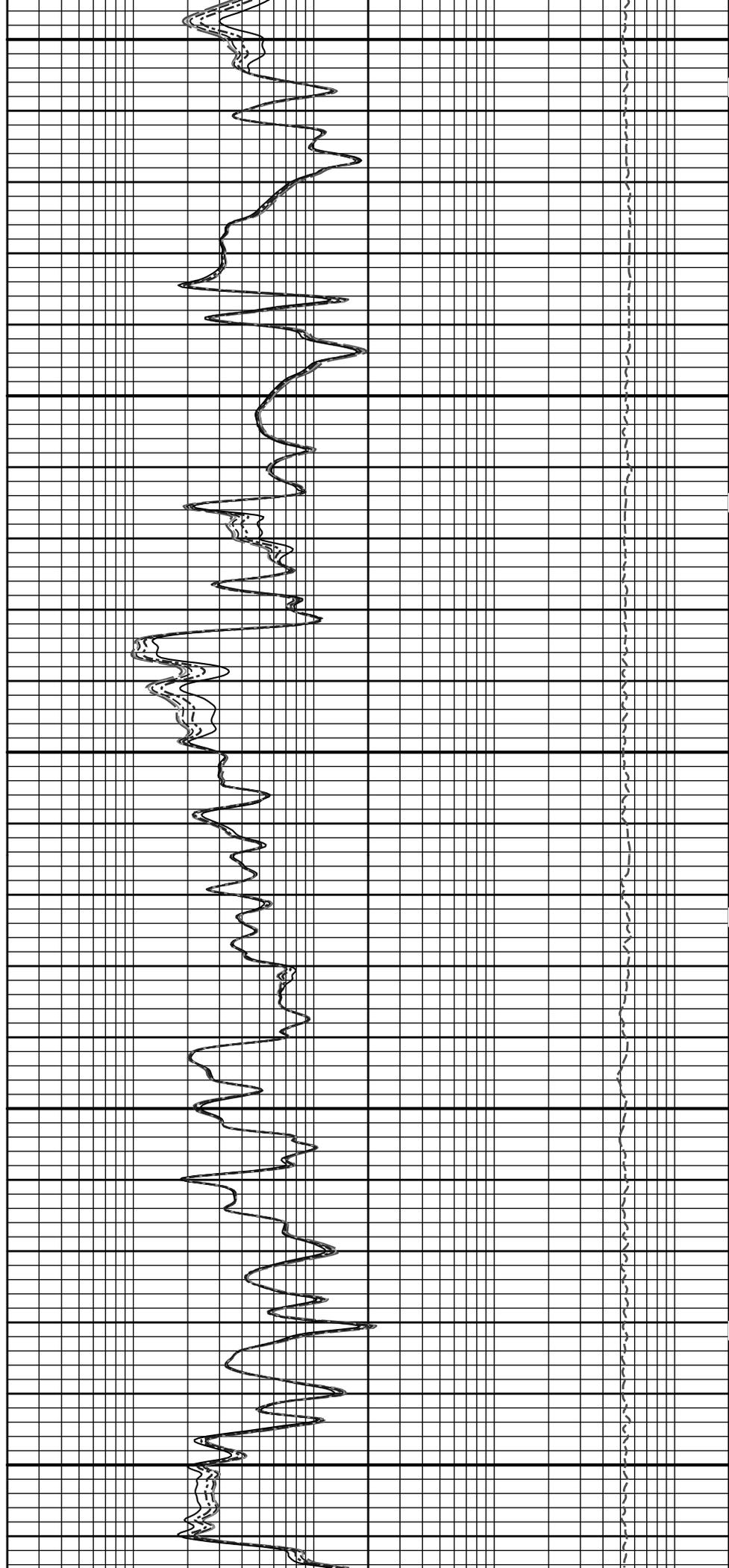


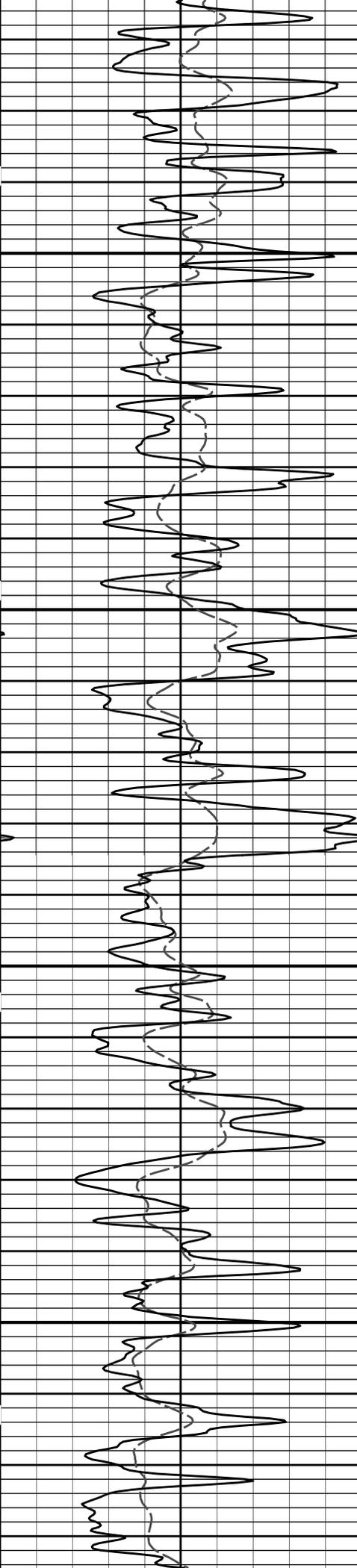


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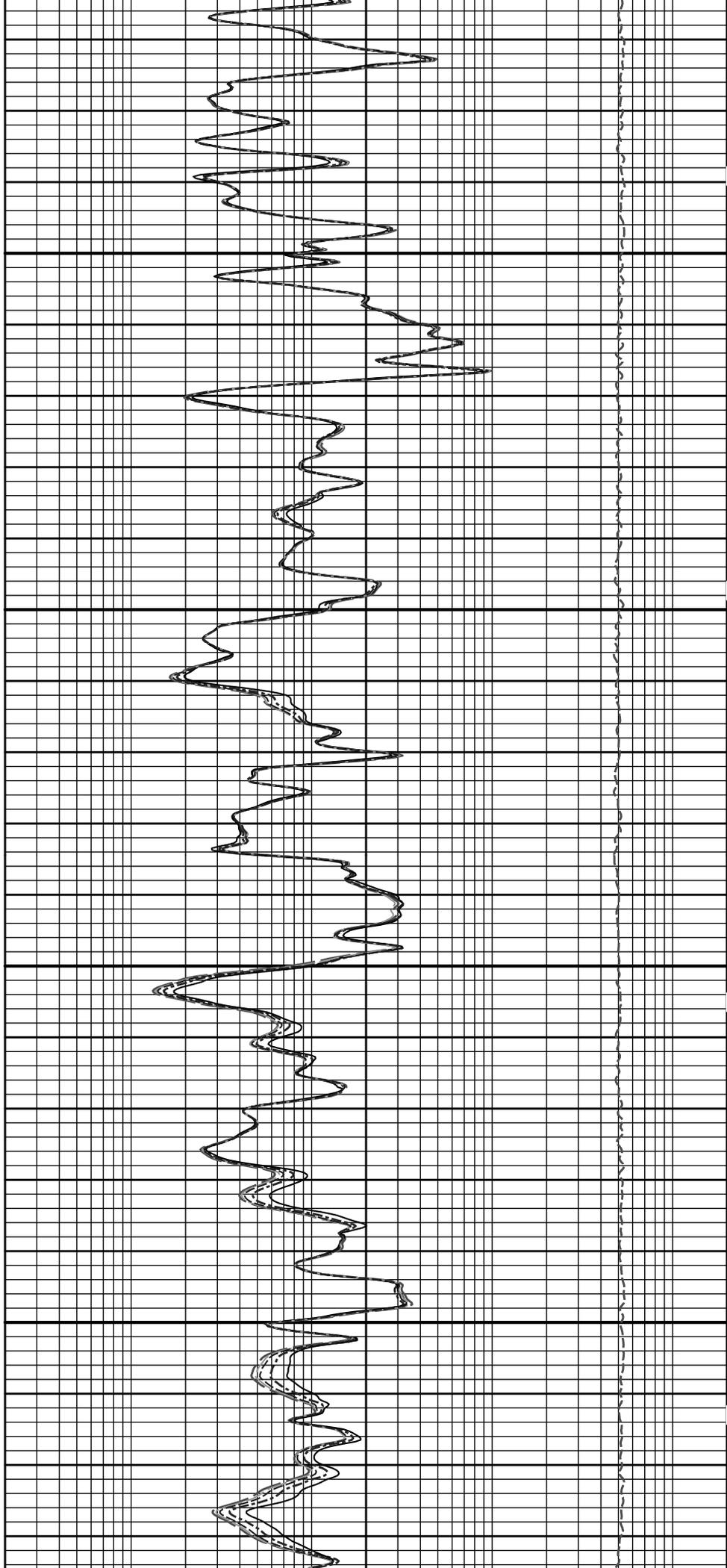
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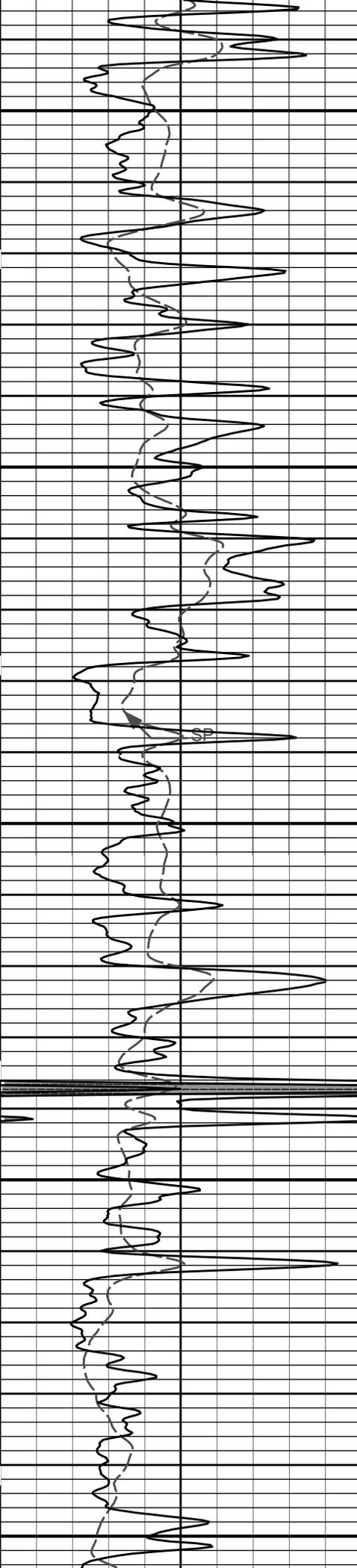




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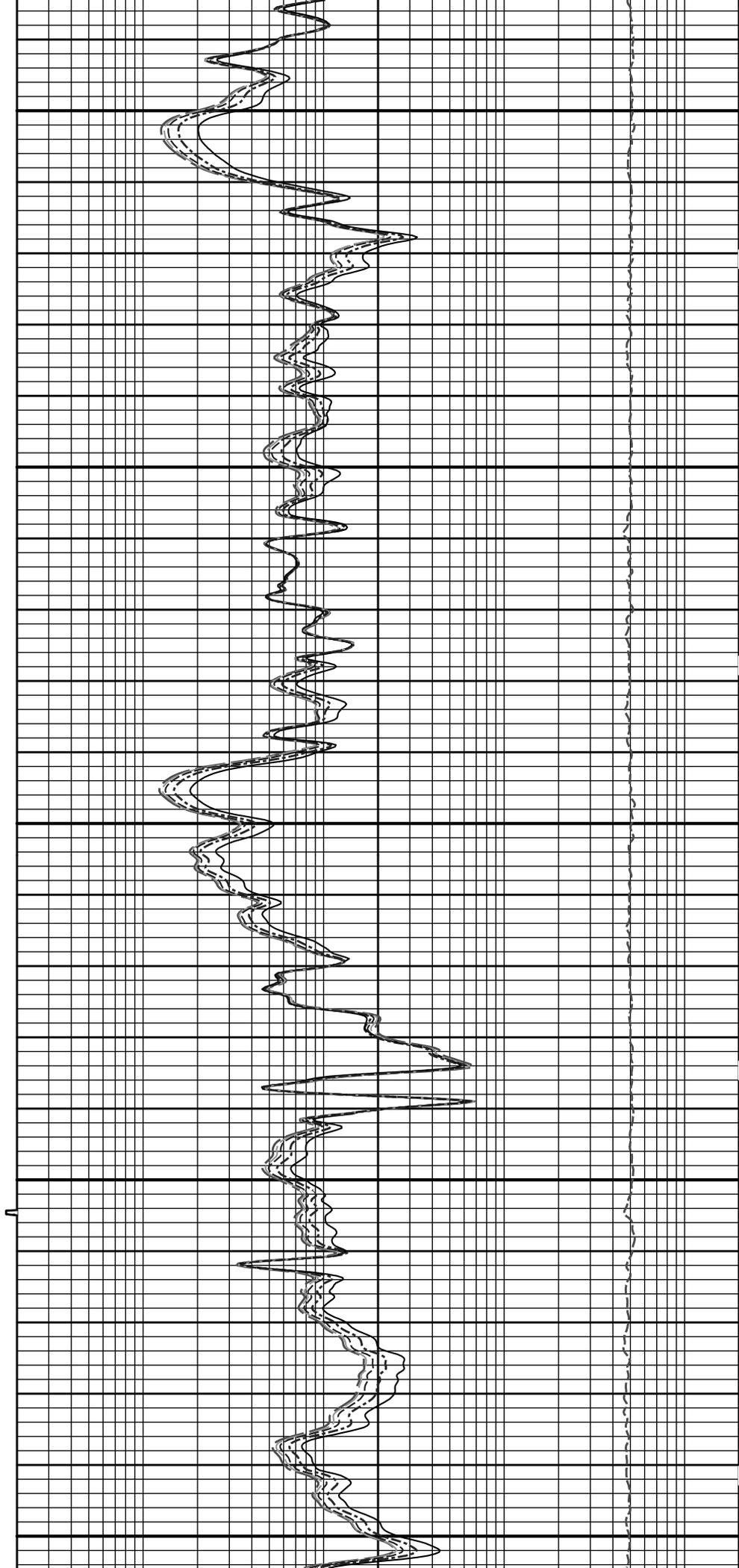
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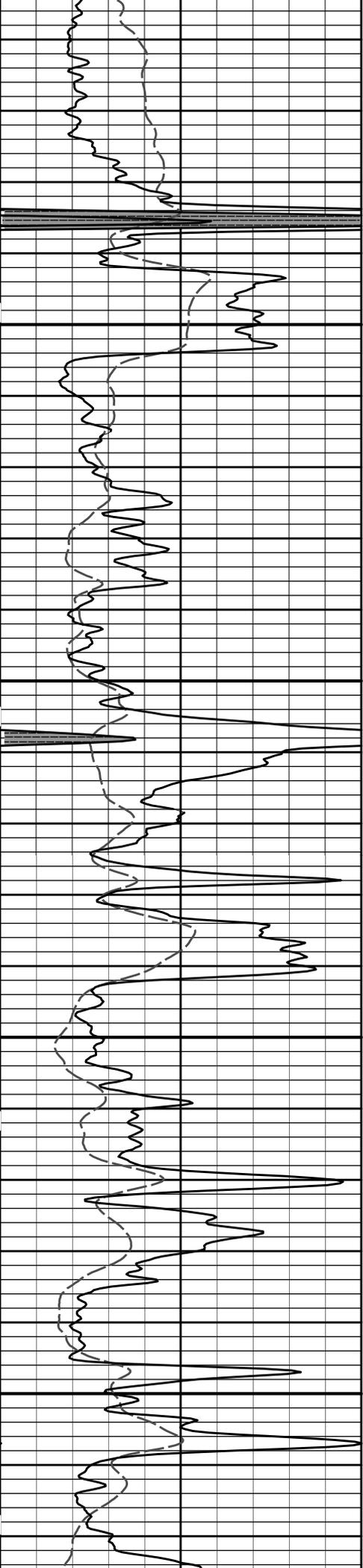




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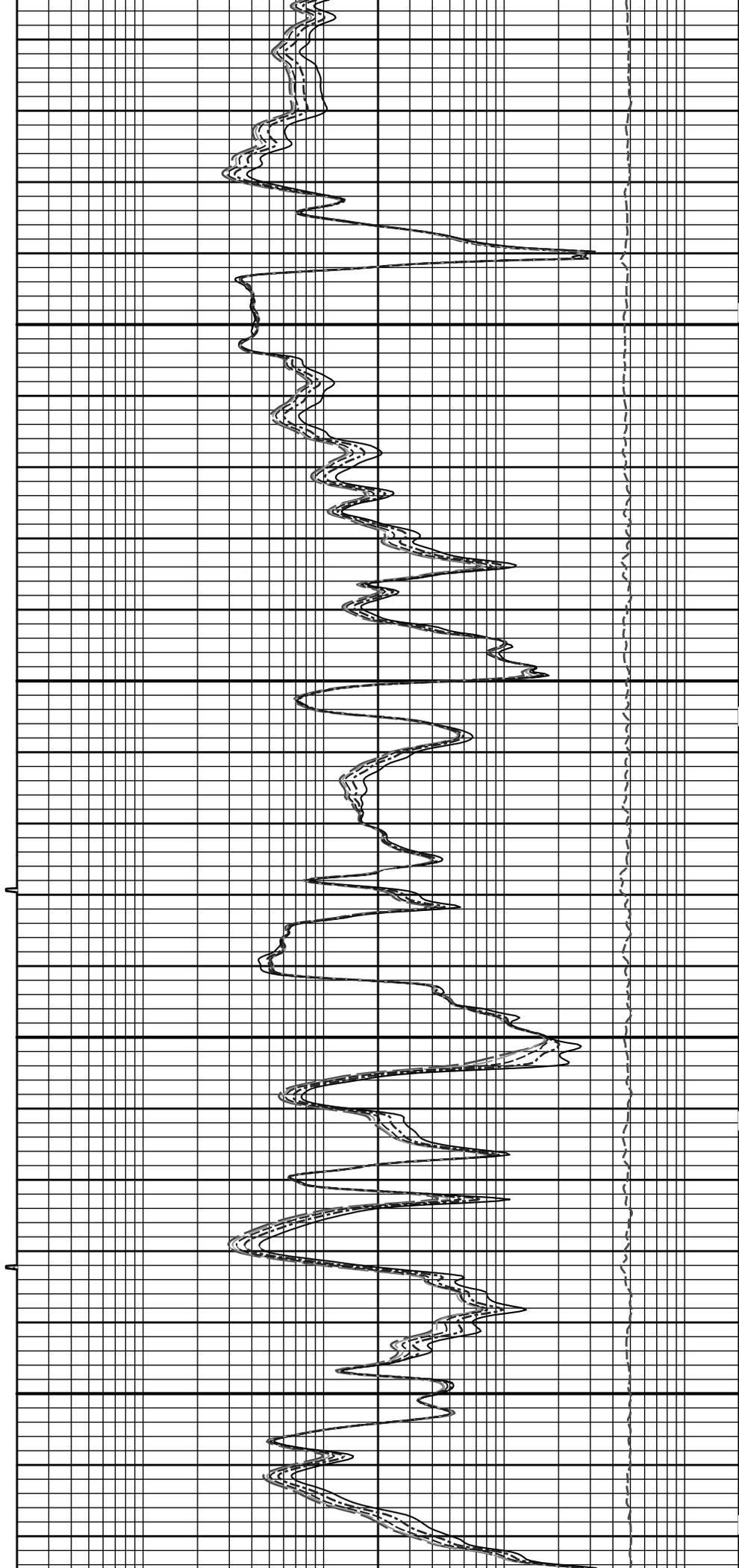
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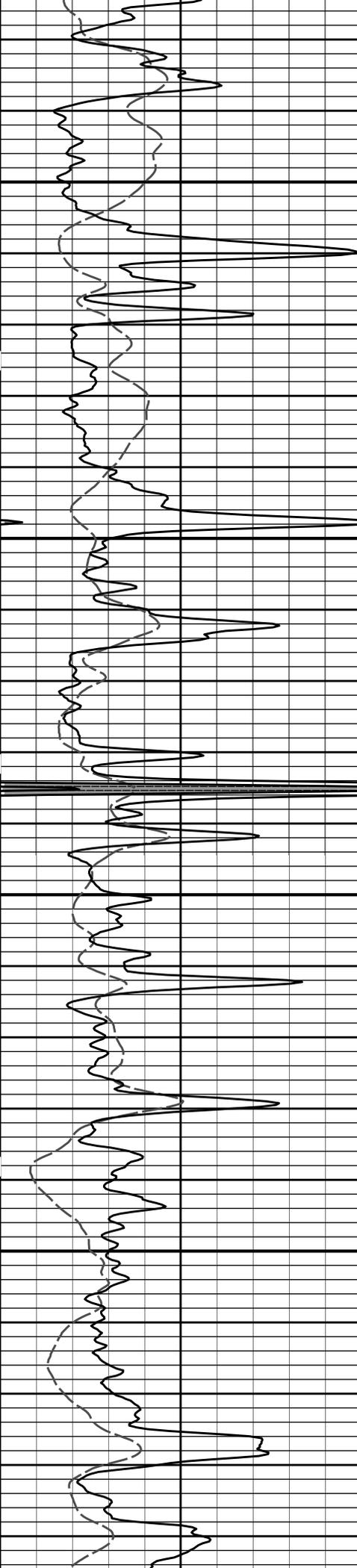




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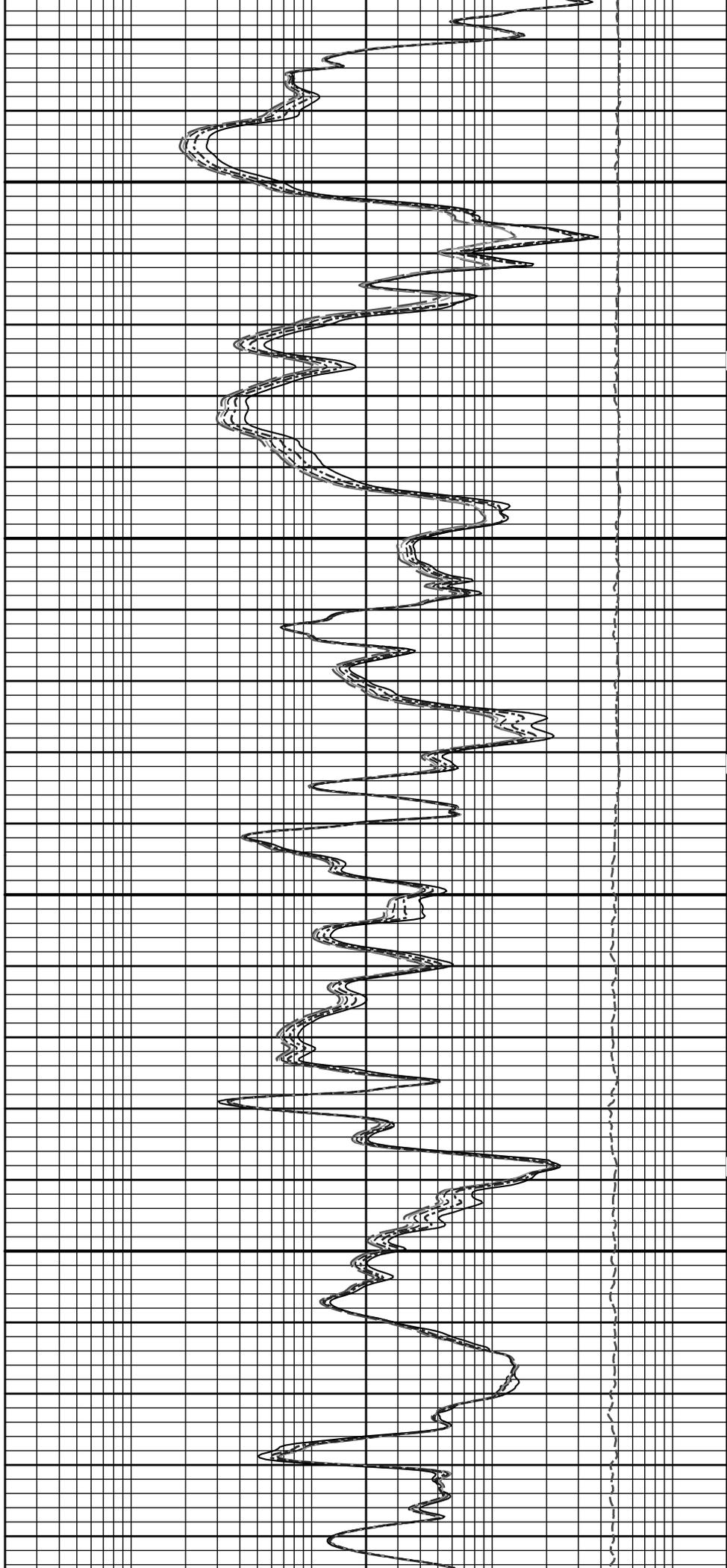
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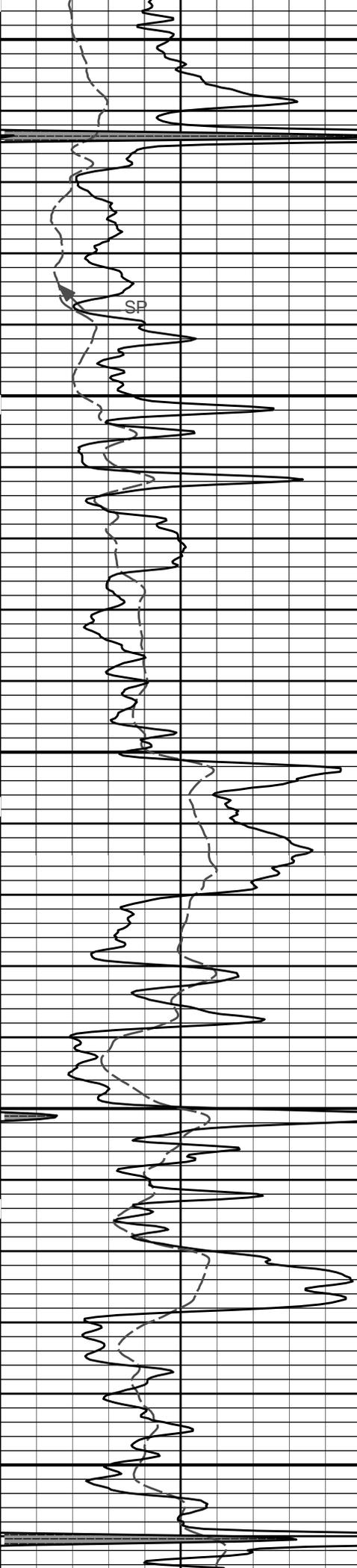




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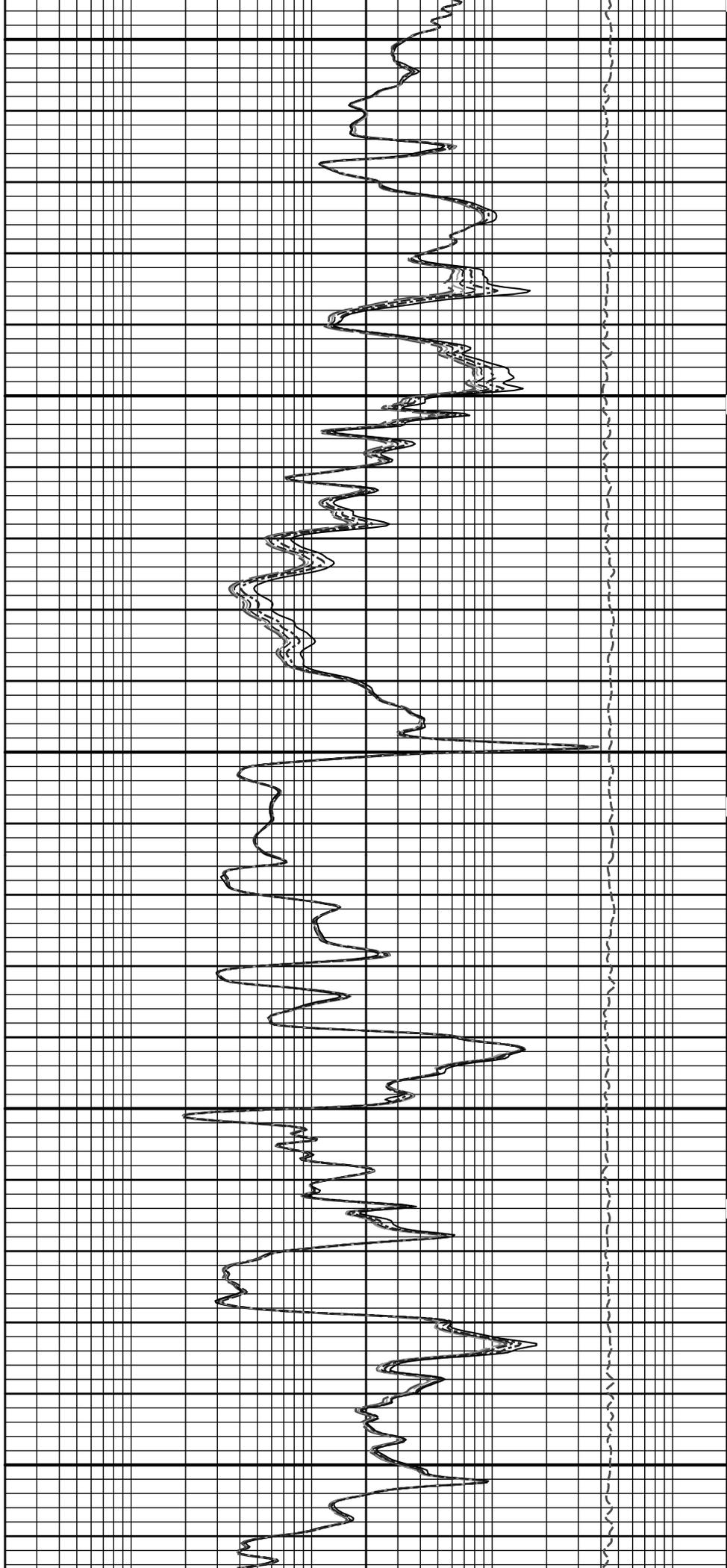


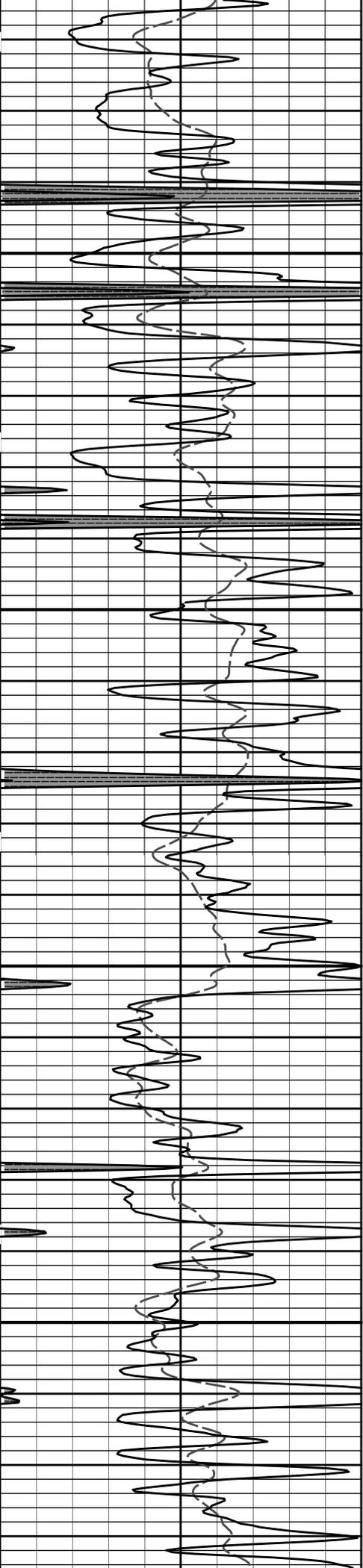


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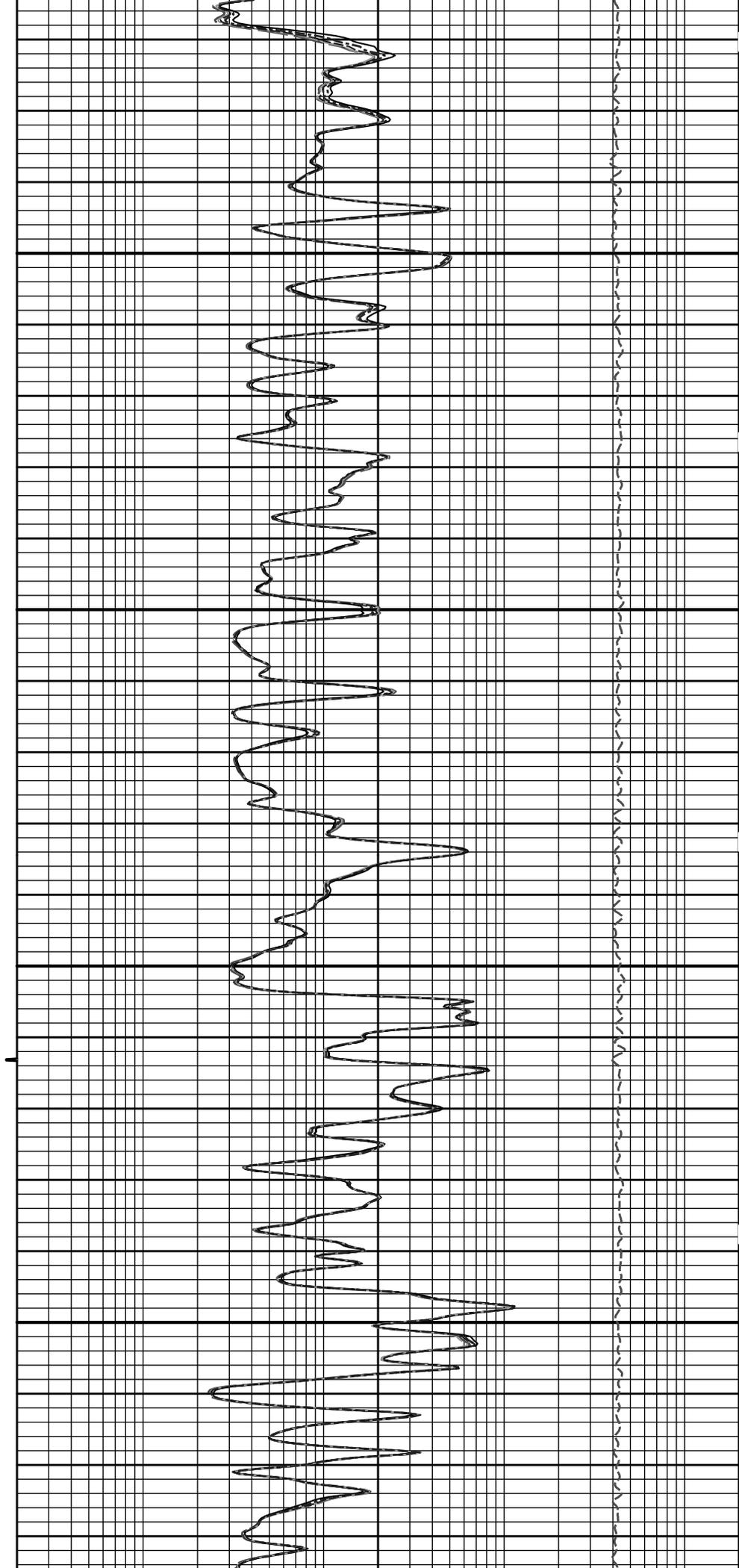
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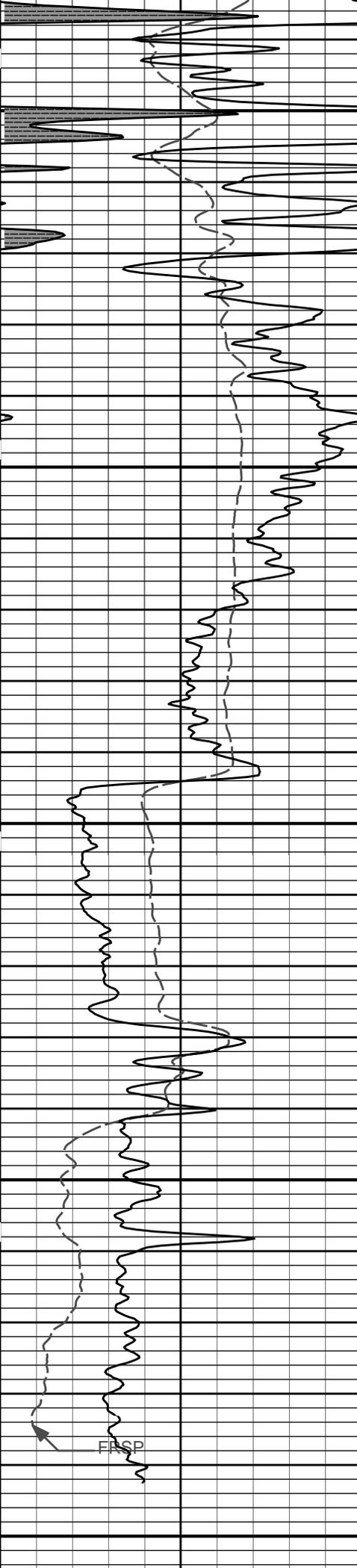




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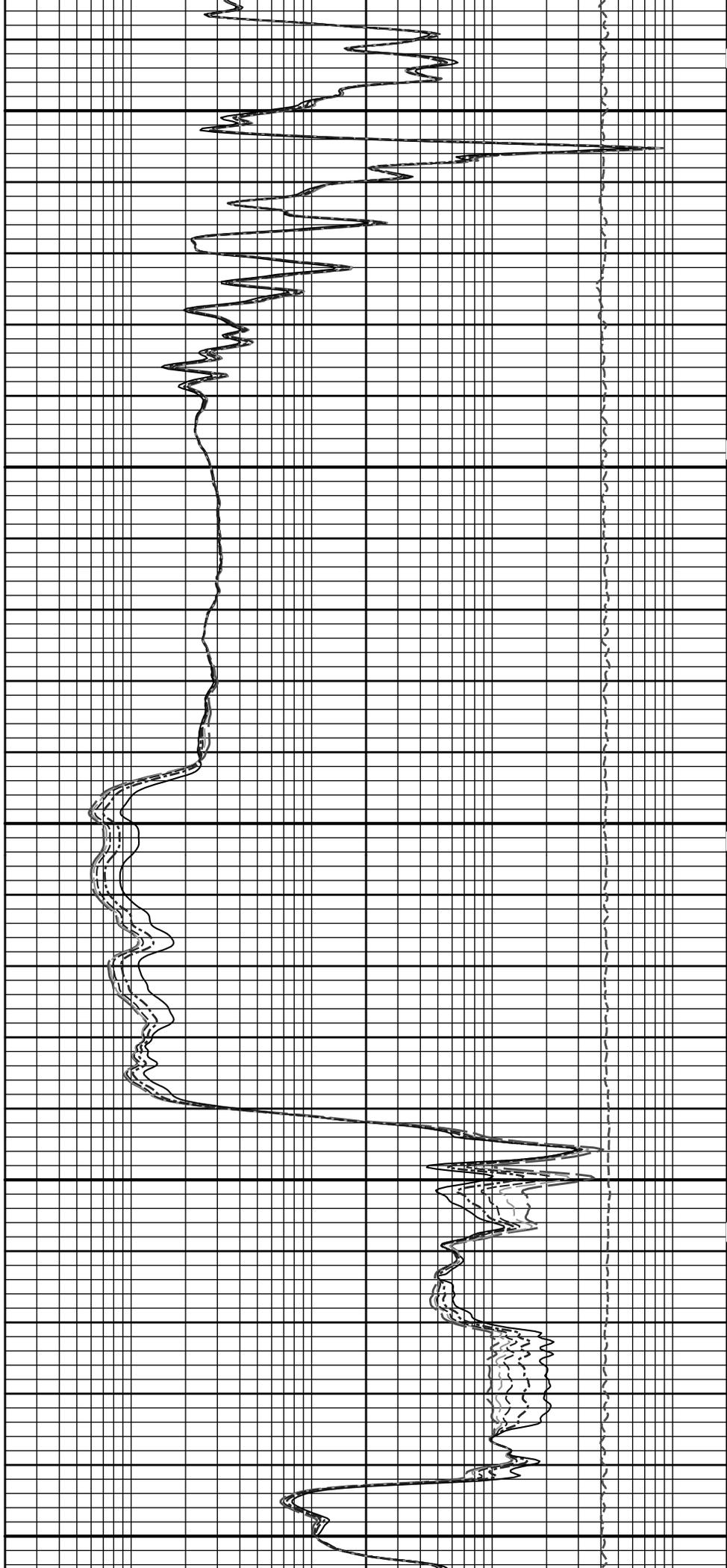
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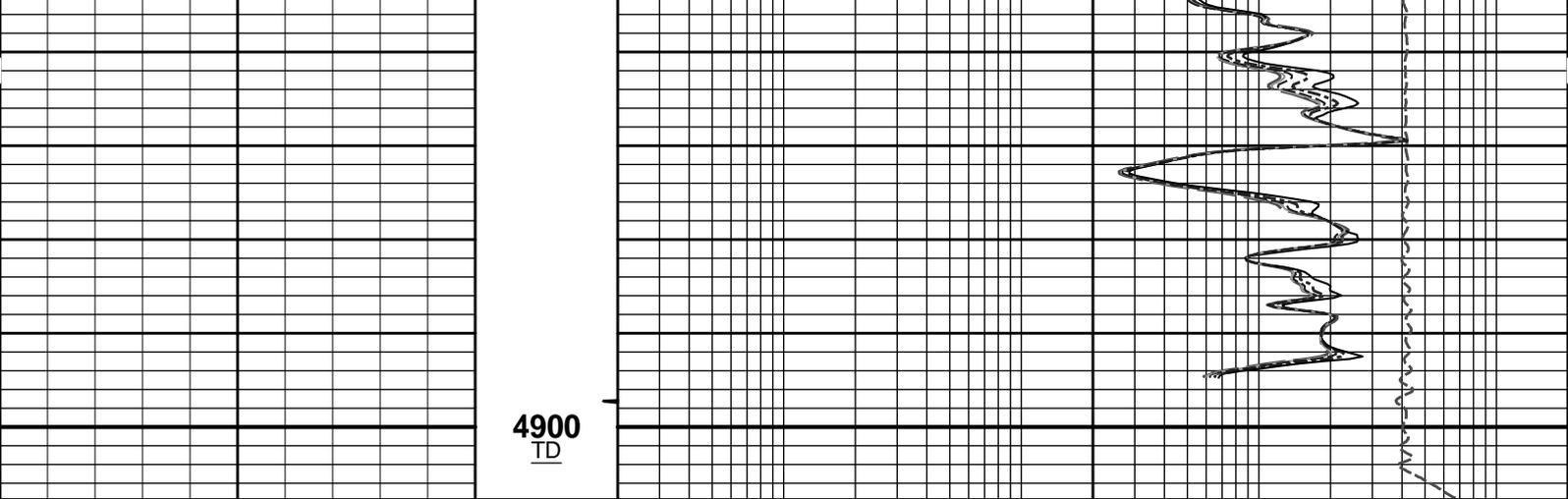




4700

4800





SP -]20[+	MD 1 : 240 ft	10K	Tension	0
Gamma API	Tension Pull	0.2	10in Resistivity 2ft Res	2000
api			ohmm	
SHALE	Tension Pull	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: 03-Jul-12 02:18:03
 Plot Range: 1790 ft to 4907.75 ft
 Data: SMU_320\Well Based\CASING\
 Plot File: \\-LOCAL-ISMU_320\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CHACRT\ACRT_5_main_lib

5 INCH MAIN LOG

HALLIBURTON

Plot Time: 03-Jul-12 02:18:03
 Plot Range: 4500 ft to 4908.92 ft
 Data: SMU_320\Well Based\REPEAT\
 Plot File: \\-LOCAL-ISMU_320\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CHACRT\ACRT_5_repeat_lib

REPEAT SECTION

		0.2	90in Resistivity 2ft Res	2000
			ohmm	
		0.2	60in Resistivity 2ft Res	2000
			ohmm	
		0.2	30in Resistivity 2ft Res	2000
			ohm-metre	
		0.2	20in Resistivity 2ft Res	2000
			ohmm	
SHALE				
Gamma API		0.2	10in Resistivity 2ft Res	2000

api

SP

-]20[+

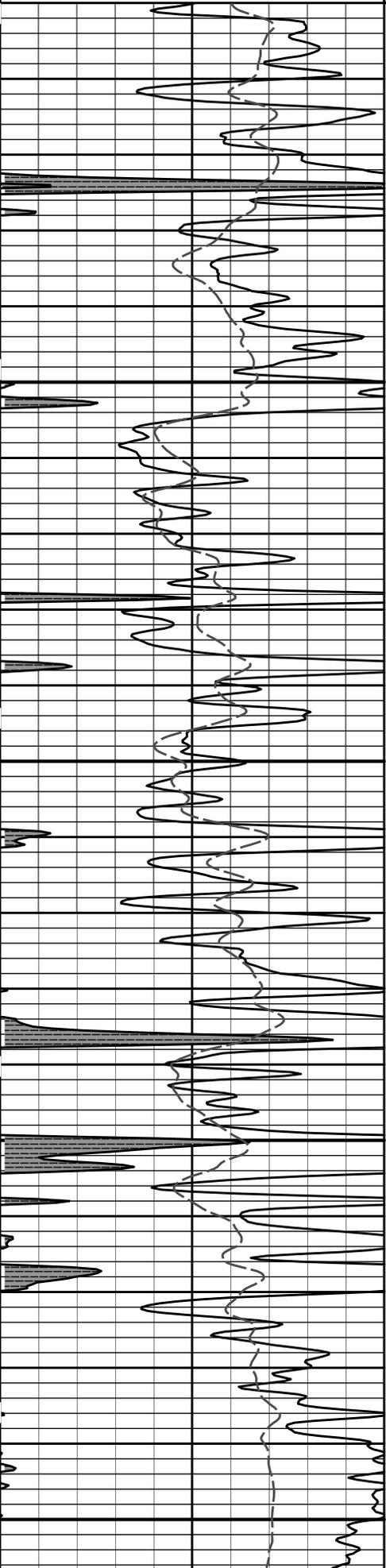
MD
1 : 240
ft

ohmm

10K

Tension
pounds

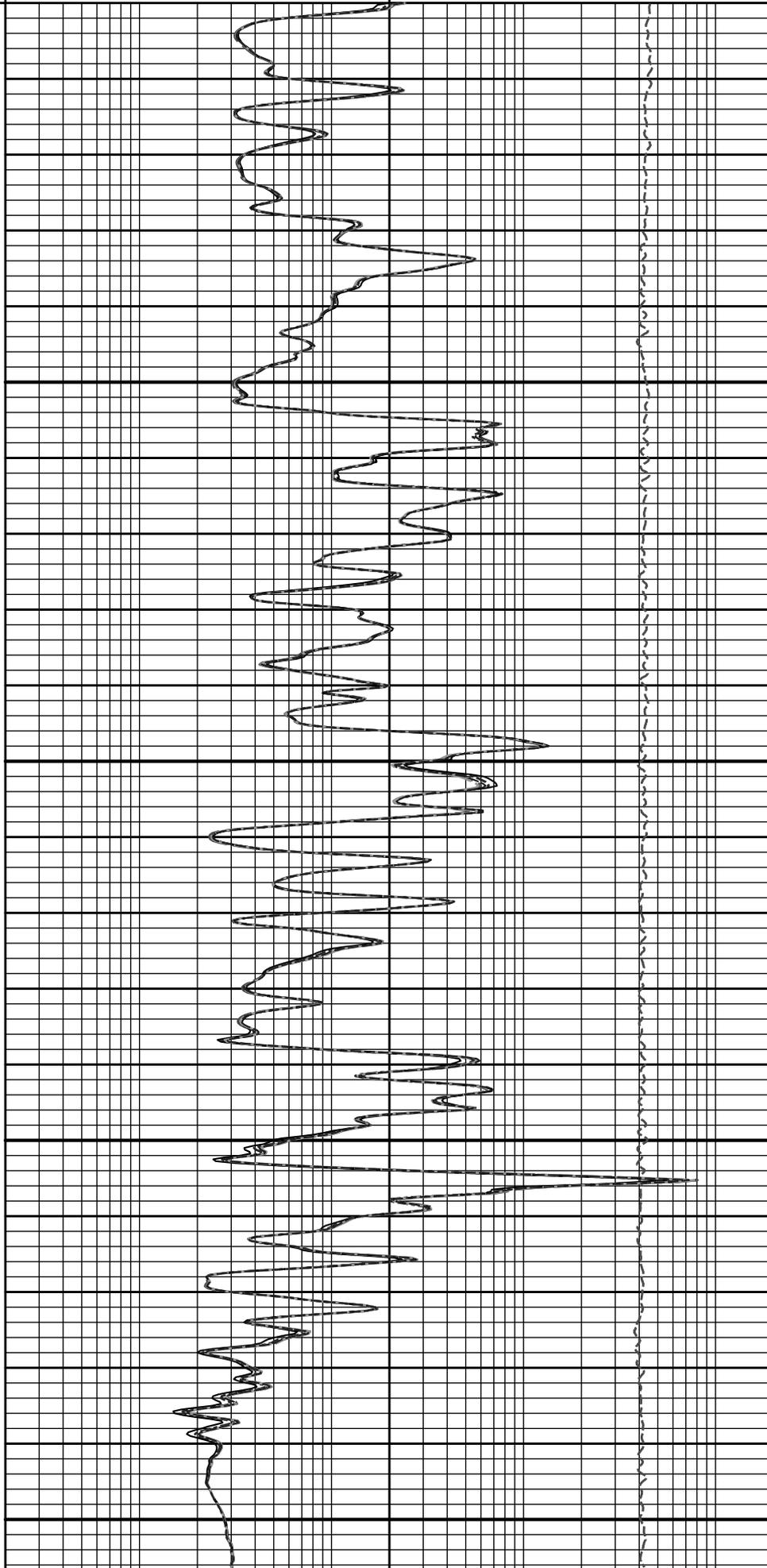
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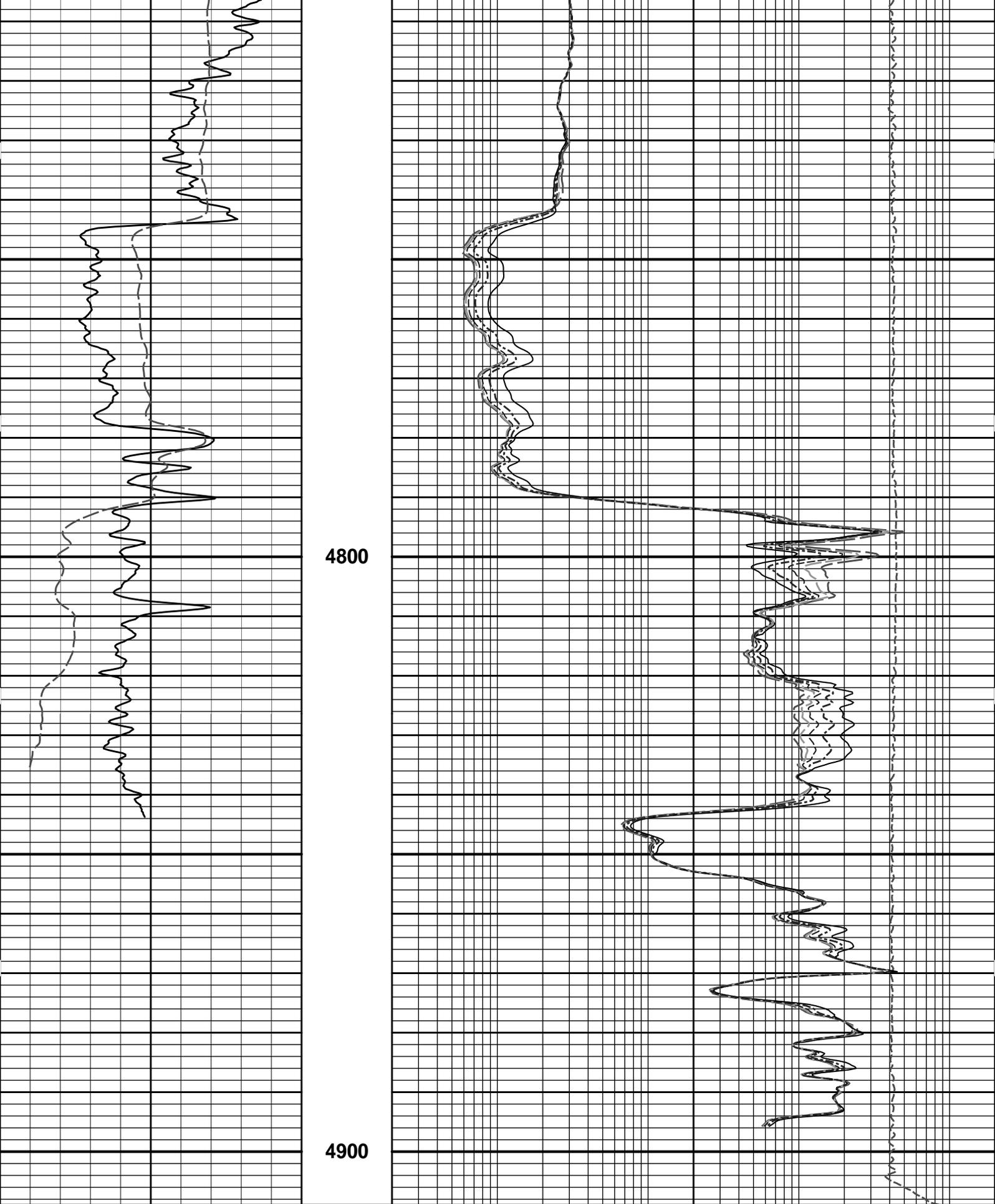


4500

4600

4700





SP -20[+	MD 1 : 240 ft	10K Tension pounds 0
0 Gamma API 150	0.2 10in Resistivity 2ft Res	2000

api

SHALE

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: 03-Jul-12 02:18:06

Plot Range: 4500 ft to 4908.92 ft

Data: SMU_320\Well Based\REPEAT\

Plot File: \\-LOCAL-\SMU_320\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CHIACRT\ACRT_5_repeat_lib

REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
Cable Head- PROT01 30.00 lbs		Ø 3.625 in →			1.92 ft	75.95 ft
SP Sub-001 60.00 lbs		Ø 3.625 in →		← SP @ 72.26 ft	3.74 ft	74.03 ft
GTET-11039640 165.00 lbs		Ø 3.625 in →		← GammaRay @ 64.23 ft	8.52 ft	70.30 ft
DSNT-11055304 174.00 lbs	DSN Decentralizer- 11005605 6.60 lbs	Ø 5.000 in* → Ø 3.625 in →		← DSN Far @ 54.84 ft ← DSN Near @ 54.09 ft	9.69 ft	61.78 ft
SDLT-I04_M296 360.00 lbs		Ø 4.500 in →			10.81 ft	52.09 ft

SDLT Pad-P84
65.00 lbs
Microlog Pad-M296
8.00 lbs

Ø 4.750 in*
Ø 4.750 in*

Microlog @ 44.28 ft
SDL Caliper @ 44.09 ft
SDL @ 44.08 ft

IQ Flex-696
140.00 lbs

Ø 3.625 in →

5.67 ft

Centralizer 29-2
12.00 lbs

Ø 4.000 in* →

35.61 ft

BSAT-10747684
300.00 lbs

Ø 3.625 in →

← Sonic Receivers @ 27.09 ft

15.77 ft

ACRt Instrument-
I962
50.00 lbs

Centralizer 25-002
8.00 lbs

Ø 4.000 in*
Ø 3.625 in →

5.03 ft

Regal Standoff 6_75-1
20.00 lbs

Ø 6.750 in* →

← Mud Resistivity @ 13.44 ft

14.80 ft

ACRt Sonde-
I962_S909
200.00 lbs

Ø 3.625 in →

← ACRt @ 9.46 ft

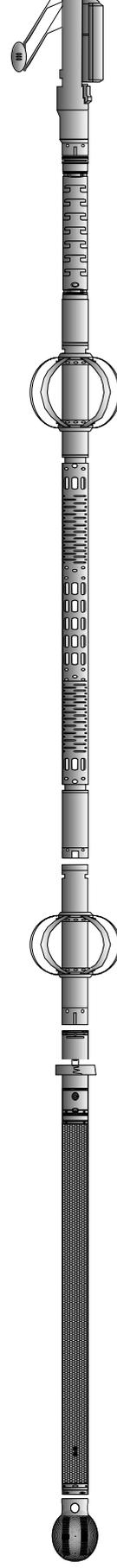
14.22 ft

Cabbage Head-
TRK696
10.00 lbs

Ø 3.625 in
Ø 6.000 in →

0.58 ft

0.00 ft



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max. Log. Speed (fpm)
CH	Standard OH Cable Head	PROT01	30.00	1.92	74.03	300.00
SP	SP Sub	001	60.00	3.74	70.30	300.00
GTET	Gamma Telemetry Tool	11039640	165.00	8.52	61.78	60.00
DSNT	Dual Spaced Neutron	11055304	174.00	9.69	52.09	60.00
DCNT	DSN Decentralizer	11005605	6.60	5.13	55.42	300.00
SDLT	Spectral Density Tool	I04_M296	360.00	10.81	41.28	60.00

SDLP	Density Insite Pad	P84	65.00	2.55	*	43.49	60.00
MICP	Microlog Pad	M296	8.00	1.00	*	43.78	60.00
IQF	IQ Flex tool	696	140.00	5.67		35.61	300.00
BSAT	Borehole Sonic Array Tool	10747684	300.00	15.77		19.83	60.00
OBCEN	Centralizer - 29 in.Overbody	2	12.00	2.42	*	32.88	300.00
ACRt	Array Compensated True Resistivity Instrument Section	I962	50.00	5.03		14.80	300.00
OBCEN	Centralizer - 25 in. Overbody	002	8.00	2.08	*	16.30	300.00
ACRt	Array Compensated True Resistivity Sonde Section	I962_S909	200.00	14.22		0.58	300.00
RSOF	Regal Standoff 6.75in	1	20.00	0.52	*	13.38	300.00
CBHD	Cabbage Head	TRK696	10.00	0.58		0.00	300.00

Total **1,608.60** **75.95**

* Not included in Total Length and Length Accumulation.

Data: SMU_320\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CHIDLE **Date: 02-Jul-12 17:50:41**

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11039640 **Reference Calibration Date:** 17-May-12 09:57:29

Engineer: THOMAS HYDE **Calibration Date:** 14-Jun-12 08:57:44

Software Version: WL INSITE R3.4.2 (Build 2) **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	51.3	51.0	api
Background + Calibrator	322.2	320.7	api
Calibrator	270.9	269.6	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11039640 **Reference Calibration Date:** 14-Jun-12 08:57:44

Engineer: C. HAVERKAMP **Calibration Date:** 02-Jul-12 17:32:38

Software Version: WL INSITE R3.6.0 (Build 3) **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	63.5	api
Background + Calibrator	320.7	328.6	api
Calibrator	269.6	265.1	api

Shop	Field	Difference	Tolerance
269.6	265.1	4.5	+/- 9.00

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name: ACRt Sonde - I962_S909 **Reference Calibration Date:** 08-Jun-12 17:51:17

Engineer: J. BOLLLOM **Calibration Date:** 08-Jun-12 18:05:05

Software Version: WL INSITE R3.4.2 (Build 2) **Calibration Version:** 1

Host Tool Name: ACRt Instrument - I962

TYPICAL GAIN RANGE

0.10000 0.10000 0.10000 0.10000

Subarray	R12KHZ			R36KHZ			R72KHZ		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.01	1.05	0.95	1.01	1.05	0.95	1.00	1.05
A2 (50")	0.95	1.01	1.05	0.95	1.02	1.05	0.95	1.01	1.05
A3 (29")	0.95	1.02	1.05	0.95	1.02	1.05	0.95	1.01	1.05
A4 (17")	0.95	1.02	1.05	0.95	1.02	1.05	0.95	1.01	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.01	1.05	0.95	1.00	1.05
A6 (6")	N/A	N/A	N/A	0.95	1.01	1.05	0.95	1.00	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	-0.68	2	-6	-3.66	-2	-8	-5.22	-2
A2 (50")	-7	-1.79	0	-7	-3.80	0	-7	-5.01	0
A3 (29")	-27	-14.17	-9	-9	-4.12	-3	-7	-2.04	-1
A4 (17")	-180	-99.82	-60	-45	-27.40	-15	-39	-20.82	-13
A5 (10")	N/A	N/A	N/A	-150	-78.47	-50	-80	-15.64	-10
A6 (6")	N/A	N/A	N/A	175	374.93	525	90	266.90	270

TRANSMITTER CURRENT GAIN

Signal	Lower	R	Upper
12K	0.6	0.91	1.3
36K	1.0	1.37	2.0
72K	1.0	1.64	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 RANGE CHK	PASS
Tx CURRENT GAIN	PASS
Rmud VERIFICATION	PASS

TOOL OK TO LOG

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11039640						
Gamma Ray Calibrator	269.6	265.1	-----	4.5	+/- 9.00	api
ACRt Sonde-1962_S909						
Mud Cell	1.00	-----	-----	0.00	-----	ohm-m

Data: SMU_320\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CHVDLE

Date: 02-Jul-12 17:53:47

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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	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	4920.00	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	
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	DFL	Formation Density Fluid	1.000	g/cc
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	usof

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				
Data: SMU_320\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CHIDLE			Date: 02-Jul-12 23:50:10	

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INPUTS, DELAYS AND FILTERS TABLE

Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
Depth Panel				
TENS	Tension	0.00	NO	
SP Sub				
PLTC	Plot Control Mask	72.25	NO	
SP	Spontaneous Potential	72.25	BLK	1.250
SPR	Raw Spontaneous Potential	72.25	NO	
SPO	Spontaneous Potential Offset	72.25	NO	
GTET				
TPUL	Tension Pull	64.23	NO	
GR	Natural Gamma Ray API	64.23	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	64.23	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	64.23	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
DSNT				
TPUL	Tension Pull	53.99	NO	
RNDS	Near Detector Telemetry Counts	54.09	BLK	1.417
RFDS	Far Detector Telemetry Counts	54.84	TRI	0.583
DNTT	DSN Tool Temperature	54.09	NO	
DSNS	DSN Tool Status	53.99	NO	
ERND	Near Detector Telemetry Counts EVR	54.09	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	54.84	BLK	0.000
ENTM	DSN Tool Temperature EVR	54.09	NO	
SDLT				
TPUL	Tension Pull	44.09	NO	
PCAL	Pad Caliper	44.09	TRI	0.250
ACAL	Arm Caliper	44.09	TRI	0.250
BSAT				
TPUL	Tension Pull	27.09	NO	
STAT	Status	27.09	NO	

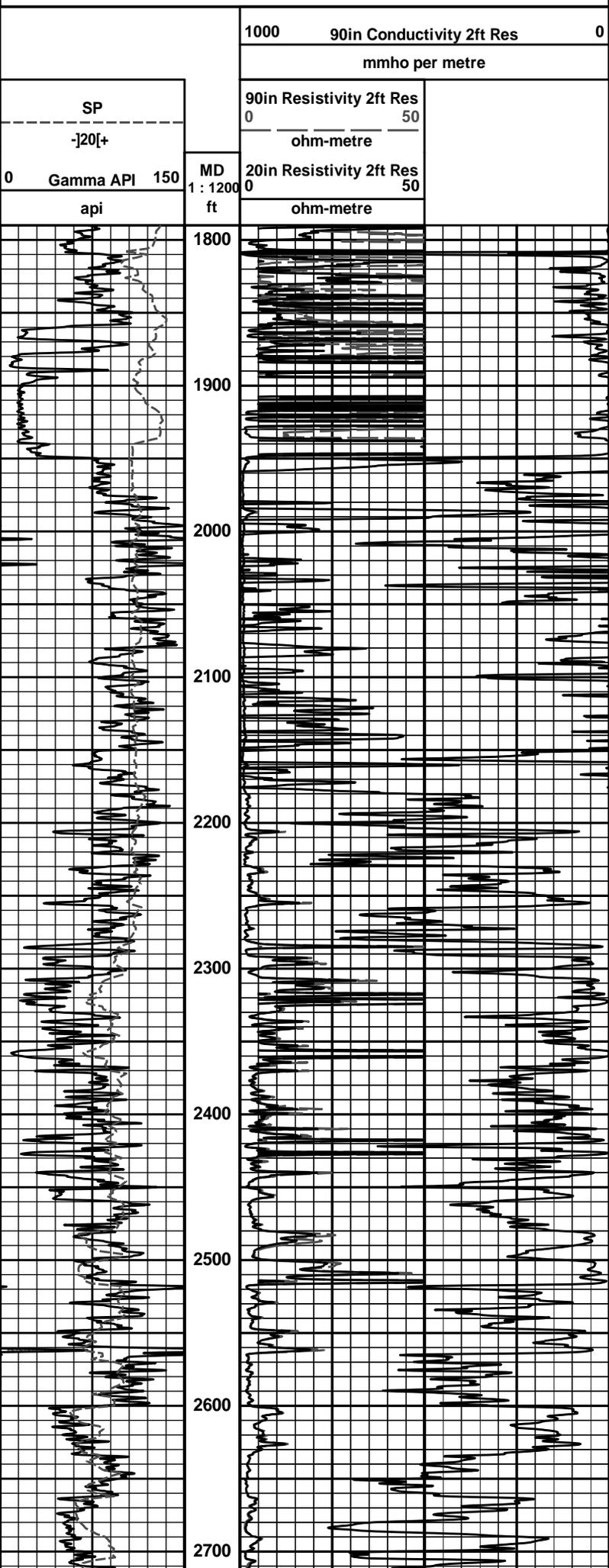
STAT	Status	27.09	NO	
DLYT	Delay Time	27.09	NO	
SI	Sample Interval	27.09	NO	
TXRX	Raw Telemetry 10 Receivers	27.09	NO	
FRMC	Tool Frame Count	27.09	NO	
GMOD	Gain processing mode	19.83	NO	
ACRt Sonde				
TPUL	Tension Pull	2.97	NO	
F1R1	ACRT 12KHz - 80in R value	9.22	BLK	0.000
F1X1	ACRT 12KHz - 80in X value	9.22	BLK	0.000
F1R2	ACRT 12KHz - 50in R value	6.72	BLK	0.000
F1X2	ACRT 12KHz - 50in X value	6.72	BLK	0.000
F1R3	ACRT 12KHz - 29in R value	5.22	BLK	0.000
F1X3	ACRT 12KHz - 29in X value	5.22	BLK	0.000
F1R4	ACRT 12KHz - 17in R value	4.22	BLK	0.000
F1X4	ACRT 12KHz - 17in X value	4.22	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	3.72	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	3.72	BLK	0.000
F1R6	ACRT 12KHz - 6in R value	3.47	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	3.47	BLK	0.000
F2R1	ACRT 36KHz - 80in R value	9.22	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	9.22	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.72	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.72	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	5.22	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	5.22	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	4.22	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	4.22	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.72	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.72	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.47	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.47	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	9.22	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	9.22	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	6.72	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.72	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	5.22	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	5.22	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	4.22	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	4.22	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.72	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.72	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	3.47	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.47	BLK	0.000
RMUD	Mud Resistivity	12.76	BLK	0.000
F1RT	Transmitter Reference 12 KHz Real Signal	2.97	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	2.97	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	2.97	BLK	0.000
F2XT	Transmitter Reference 36 KHz Imaginary Signal	2.97	BLK	0.000
F3RT	Transmitter Reference 72 KHz Real Signal	2.97	BLK	0.000
F3XT	Transmitter Reference 72 KHz Imaginary Signal	2.97	BLK	0.000
TFPU	Upper Feedpipe Temperature Calculated	2.97	BLK	0.000
TFPL	Lower Feedpipe Temperature Calculated	2.97	BLK	0.000
ITMP	Instrument Temperature	2.97	BLK	0.000
TCVA	Temperature Correction Values Loop Off	2.97	NO	

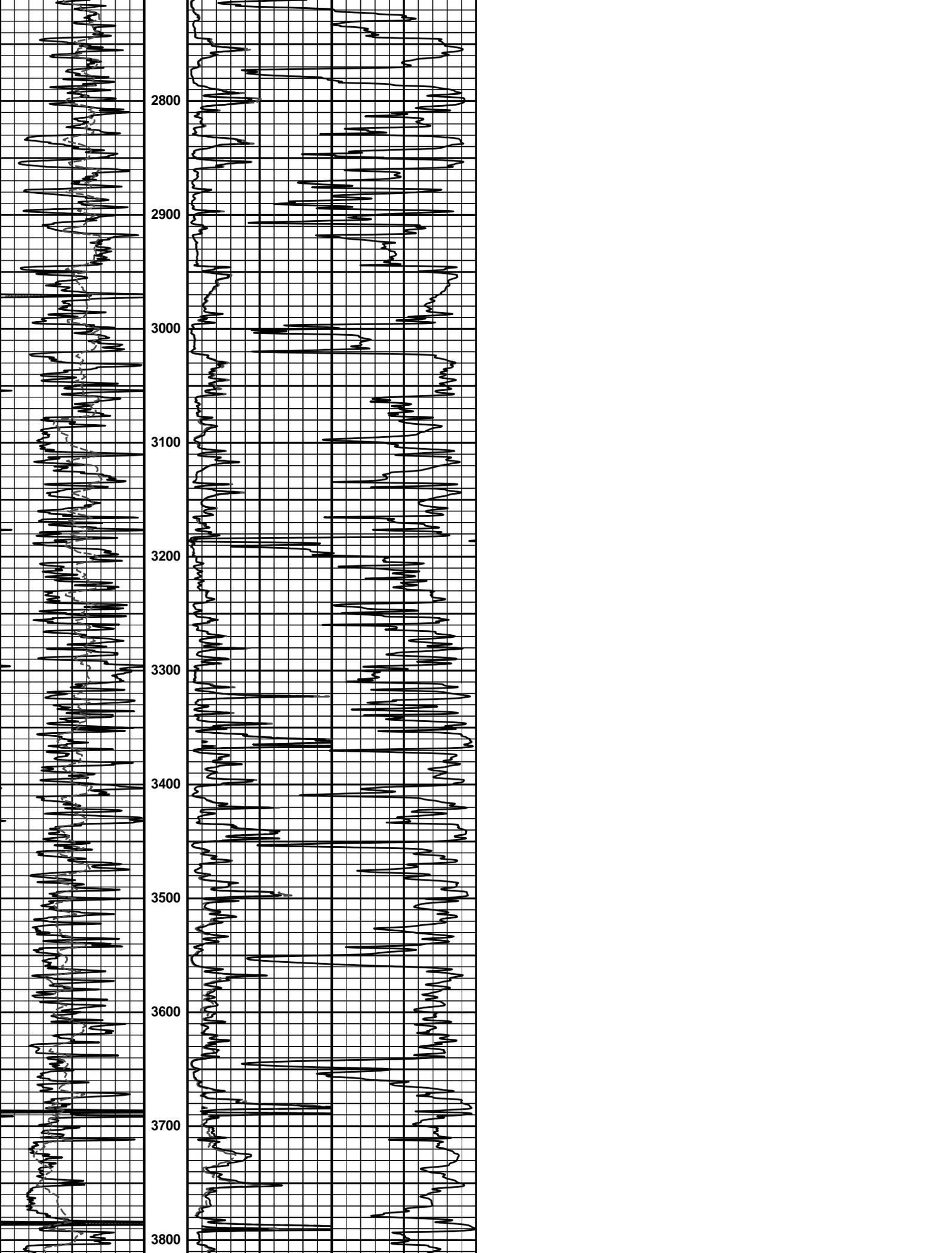
TIDV	Instrument Temperature Derivative	2.97	NO	
TUDV	Upper Temperature Derivative	2.97	NO	
TLDV	Lower Temperature Derivative	2.97	NO	
TRBD	Receiver Board Temperature	2.97	NO	
Microlog Pad				
TPUL	Tension Pull	44.28	NO	
MINV	Microlog Lateral	44.28	BLK	0.750
MNOR	Microlog Normal	44.28	BLK	0.750
SDLT Pad				
TPUL	Tension Pull	44.08	NO	
NAB	Near Above	43.90	BLK	0.920
NHI	Near Cesium High	43.90	BLK	0.920
NLO	Near Cesium Low	43.90	BLK	0.920
NVA	Near Valley	43.90	BLK	0.920
NBA	Near Barite	43.90	BLK	0.920
NDE	Near Density	43.90	BLK	0.920
NPK	Near Peak	43.90	BLK	0.920
NLI	Near Lithology	43.90	BLK	0.920
NBAU	Near Barite Unfiltered	43.90	BLK	0.250
NLIU	Near Lithology Unfiltered	43.90	BLK	0.250
FAB	Far Above	44.26	BLK	0.250
FHI	Far Cesium High	44.26	BLK	0.250
FLO	Far Cesium Low	44.26	BLK	0.250
FVA	Far Valley	44.26	BLK	0.250
FBA	Far Barite	44.26	BLK	0.250
FDE	Far Density	44.26	BLK	0.250
FPK	Far Peak	44.26	BLK	0.250
FLI	Far Lithology	44.26	BLK	0.250
PTMP	Pad Temperature	44.09	BLK	0.920
NHV	Near Detector High Voltage	43.49	NO	
FHV	Far Detector High Voltage	43.49	NO	
ITMP	Instrument Temperature	43.49	NO	
DDHV	Detector High Voltage	43.49	NO	
Data: SMU_320\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CHWDL			Date: 03-Jul-12 01:13:50	

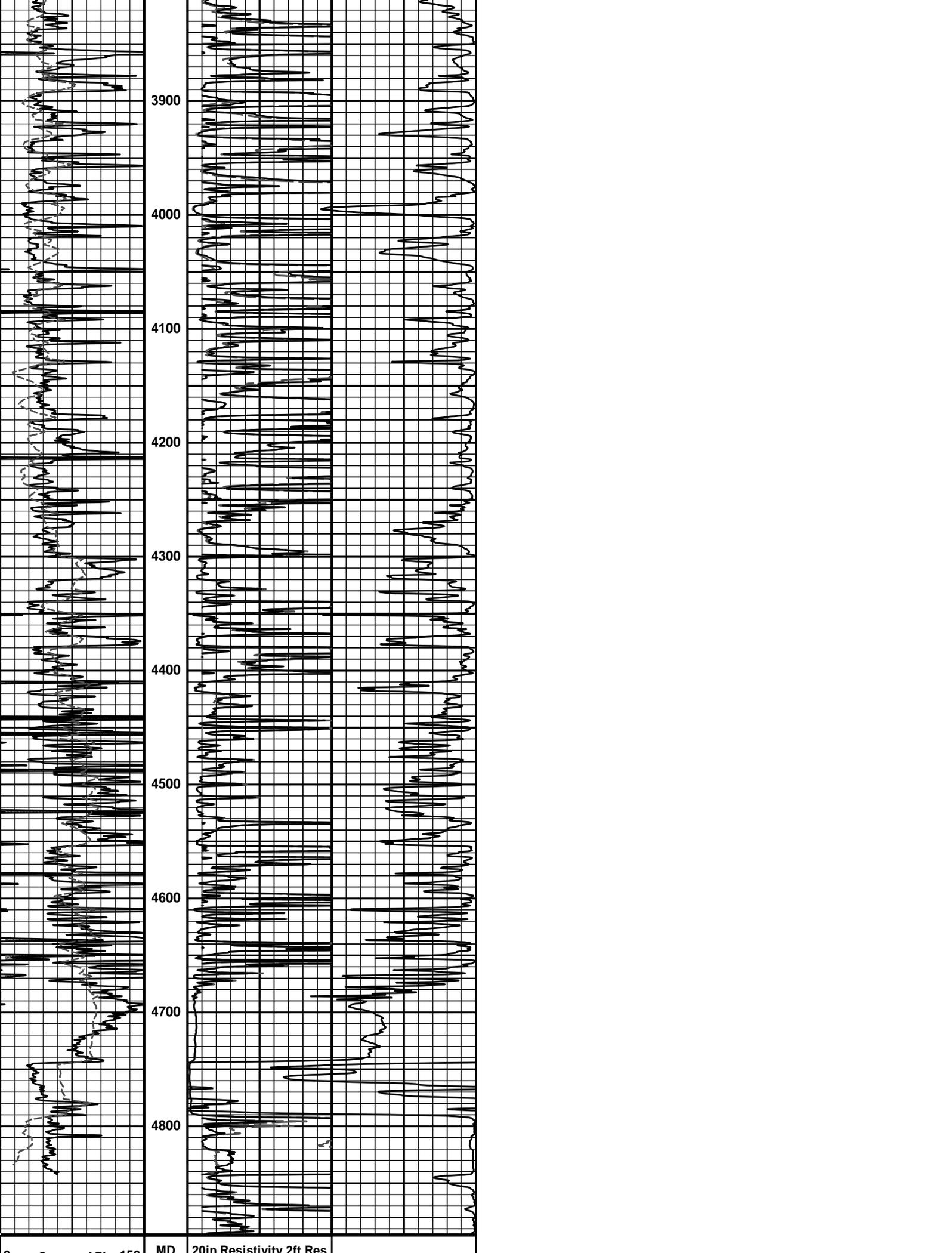
COMPANY	OXY USA INC			
WELL	SMU #320			
FIELD	SMU			
COUNTY	FINNEY	STATE	KANSAS	
HALLIBURTON		ARRAY COMPENSATED TRUE RESISITIVITY LOG		

HALLIBURTON
Plot Time: 03-Jul-12 02:18:07
Plot Range: 1790 ft to 4894.75 ft
Data: SMU_320\Well Based\CASING\
Plot File: \\-LOCAL-ISMU_320\...ACRT_1_lib

1 INCH MAIN LOG







3900
4000
4100
4200
4300
4400
4500
4600
4700
4800

MD 20in Resistivity 2ft Res

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

HALLIBURTON

Plot Time: 03-Jul-12 02:18:09
 Plot Range: 1790 ft to 4894.75 ft
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 Plot File: \\LOCAL\SMU_320\...ACRT_1.lib

1 INCH MAIN LOG