

HALLIBURTON										RESERVOIR MONITOR TOOL - ELITE									
NEUTRON POROSITY PRESENTATION										Company KINDER MORGAN CO2 CO LP Well GOODMAN POINT (GP) 27 Field MCELMO County MONTEZUMA State CO									
Company KINDER MORGAN CO2 CO LP Well GOODMAN POINT (GP) 27 Field MCELMO County MONTEZUMA State CO										API No.: 05-088-306717-0000    Serv #: 901727288 Location: SURFACE HOLE LOCATION: 935' FSL & 2105' FEL BOTTOM HOLE LOCATION: 2225' FNL & 1096' FWL NONE									
Permanent Datum Log Measured From Drilling Measured From										GROUND LEVEL    Elevation 7080' KB    , 22.5 Ft. above perm. datum KB									
Date @ Time Logged Run No. Depth - Driller Depth - Logger Bottom - Logged Interval Top - Log Interval Max. Recorded Temp. CEMENTING DATA										08 OCT 2014 ONE 8125' 8108' 8108' 200' N/A Surface String N/A 									

Service Ticket No.	901727288	API No.	05-083-06717-0000	PGM Ver	14.5.12001
The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client					
EQUIPMENT DATA					
TELEMETRY		RESERVOIR MONITOR TOOL			
Run No.	ONE	Run No.	ONE	Run No.	
Serial No.	11510542	Serial No.	12210614	Serial No.	
Model No.	TTTC-U-002	Model No.	RMTI-A	Model No.	
Diameter	1.688"	Diameter	2.125"	Diameter	
LOGGING DATA					
General Data					
Pass	Depths		Well Head	Speed	Logging Run Comments
No	From	To	Pressure	Ft/Min	

NO.	FROM		TO		Pressure		TEMP.		MAIN LOG SECTION			
ONE	8108'		2950'		0		25					
	GAMMA RAY				NEUTRON POROSITY							
Pass	Scale				Scale			Scale			Scale	
No.	L	R	L	R	L	R	L	R	L		L	
ONE	0	150	.60	0								
DIRECTIONAL INFORMATION												
Maximum Deviation		N/A		deg. @		N/A		KOP	N/A			

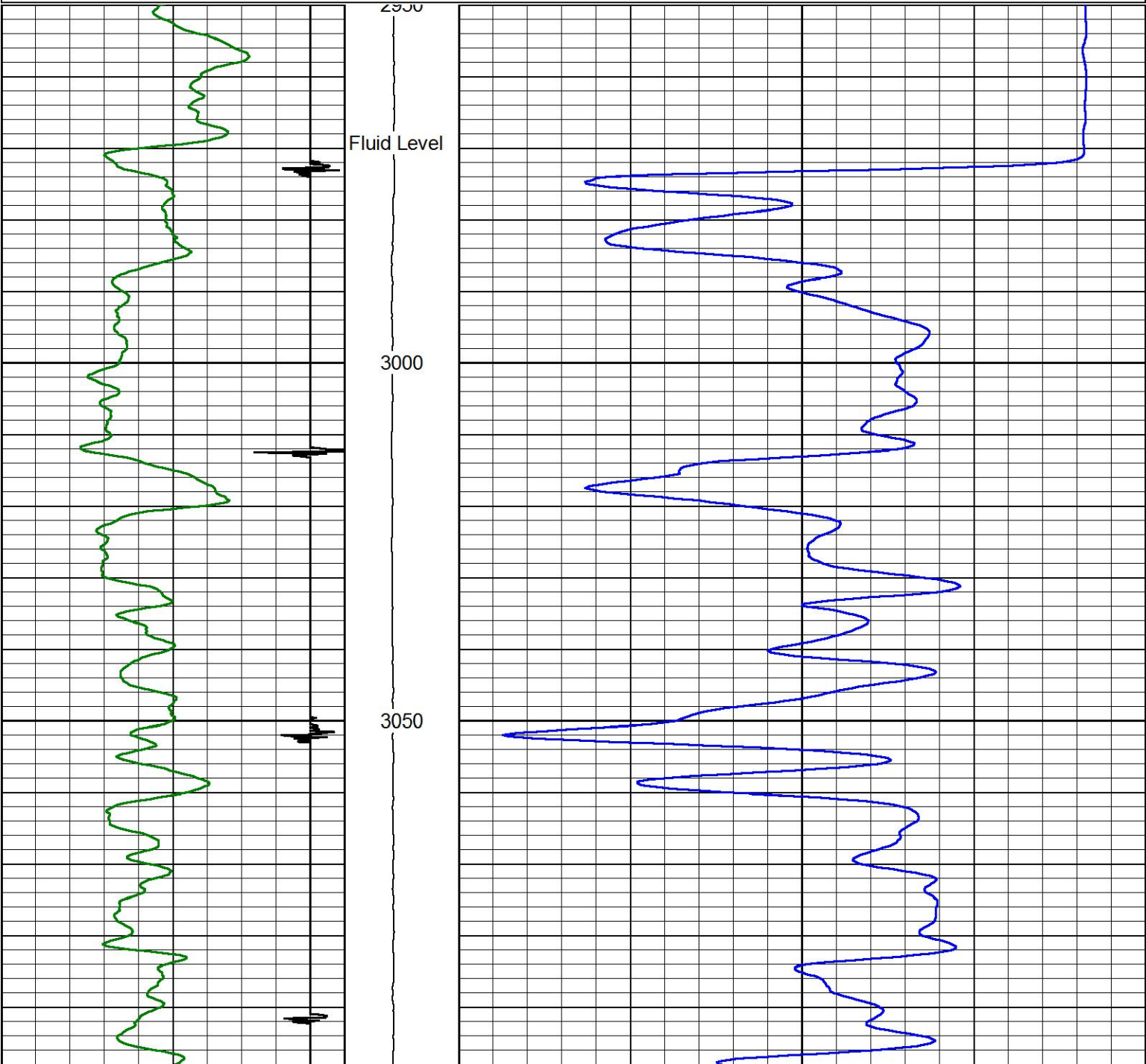
HALLIBURTON

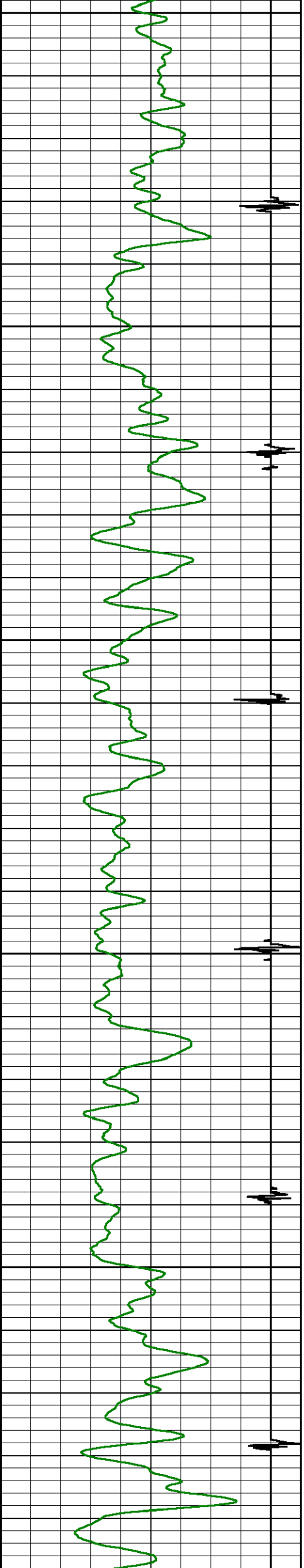
MAIN LOG SECTION

5" = 100'

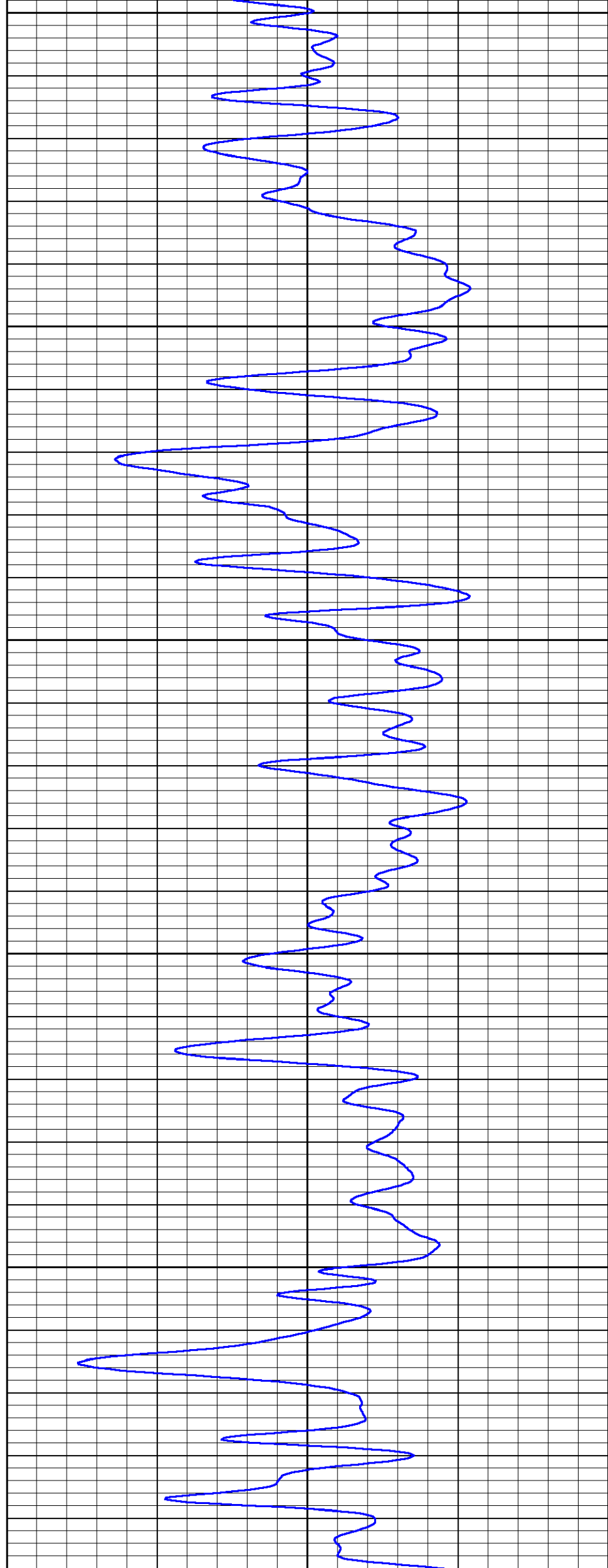
Database File	km_gp_27_rmt.db
Dataset Pathname	MAIN1
Presentation Format	rmt_phit
Dataset Creation	Wed Oct 08 16:50:28 2014
Charted by	Depth in Feet scaled 1:240

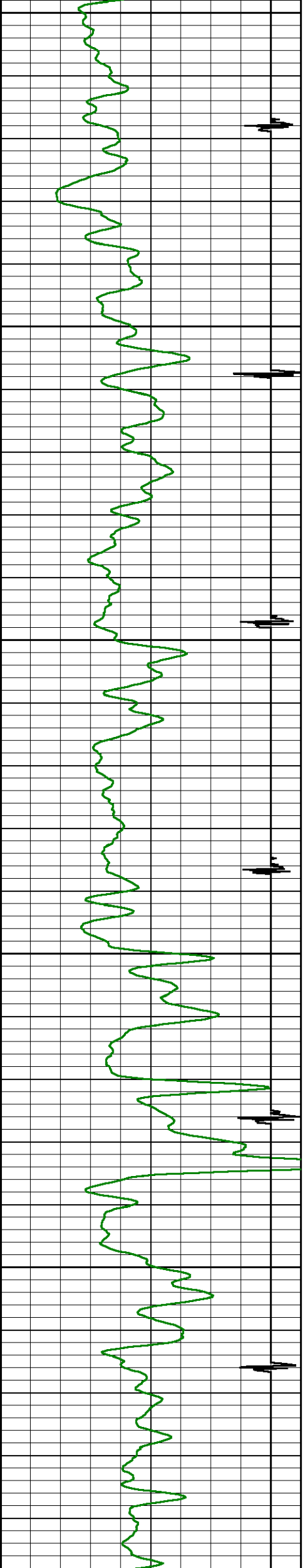
0	GR (GAPI)	150	LTEN	0.6	NEUTRON POROSITY	-0
-5400	CCL	600	0 (lb/2000)			



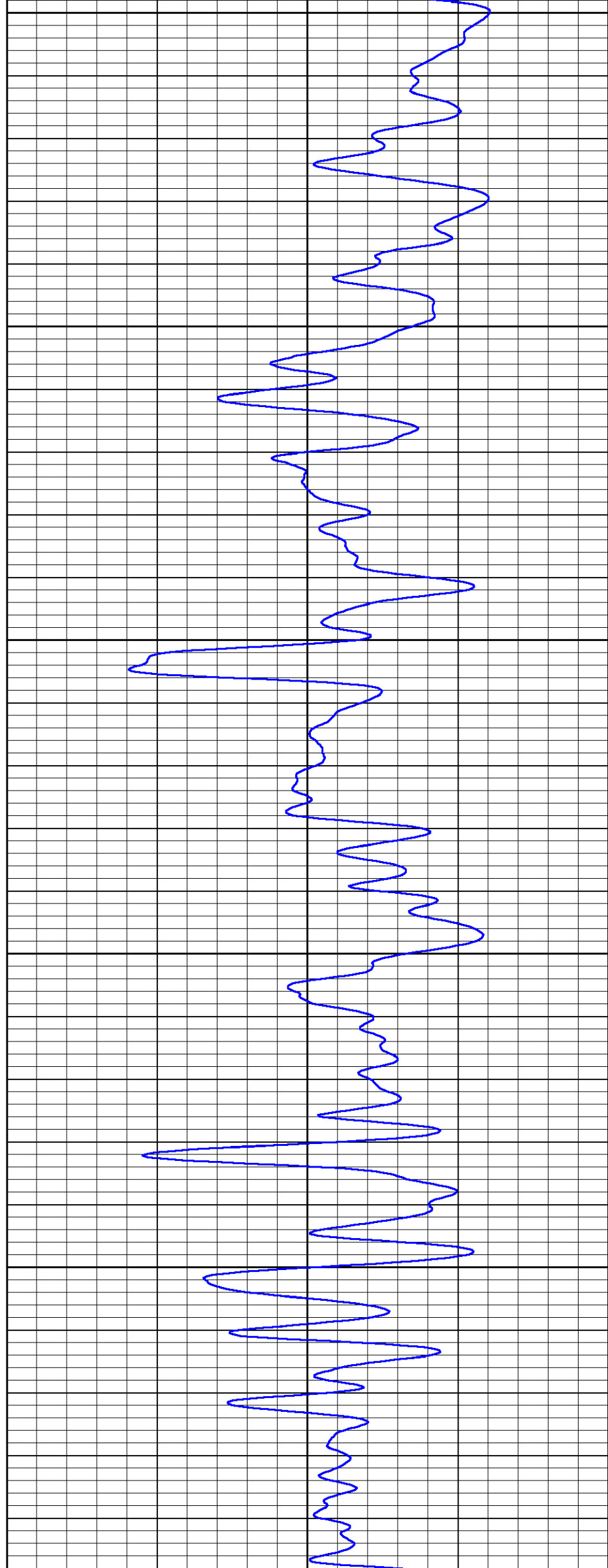


3100  
3150  
3200  
3250  
3300

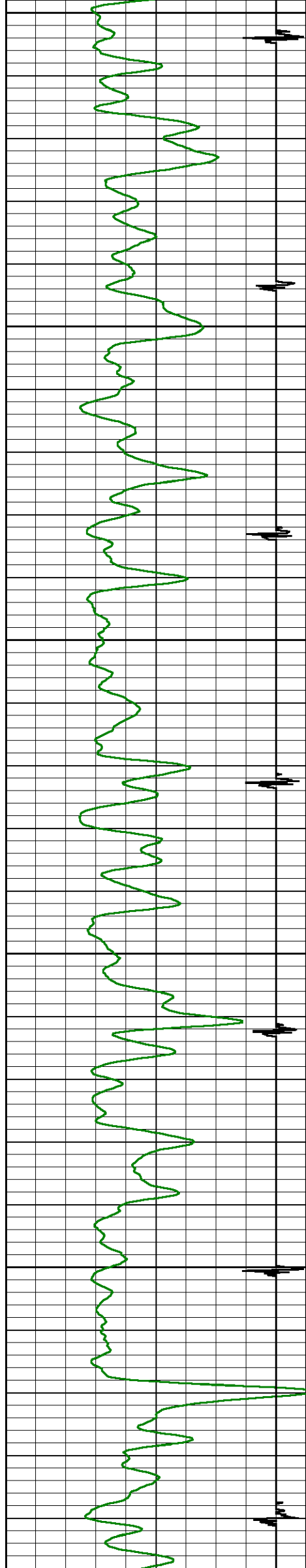




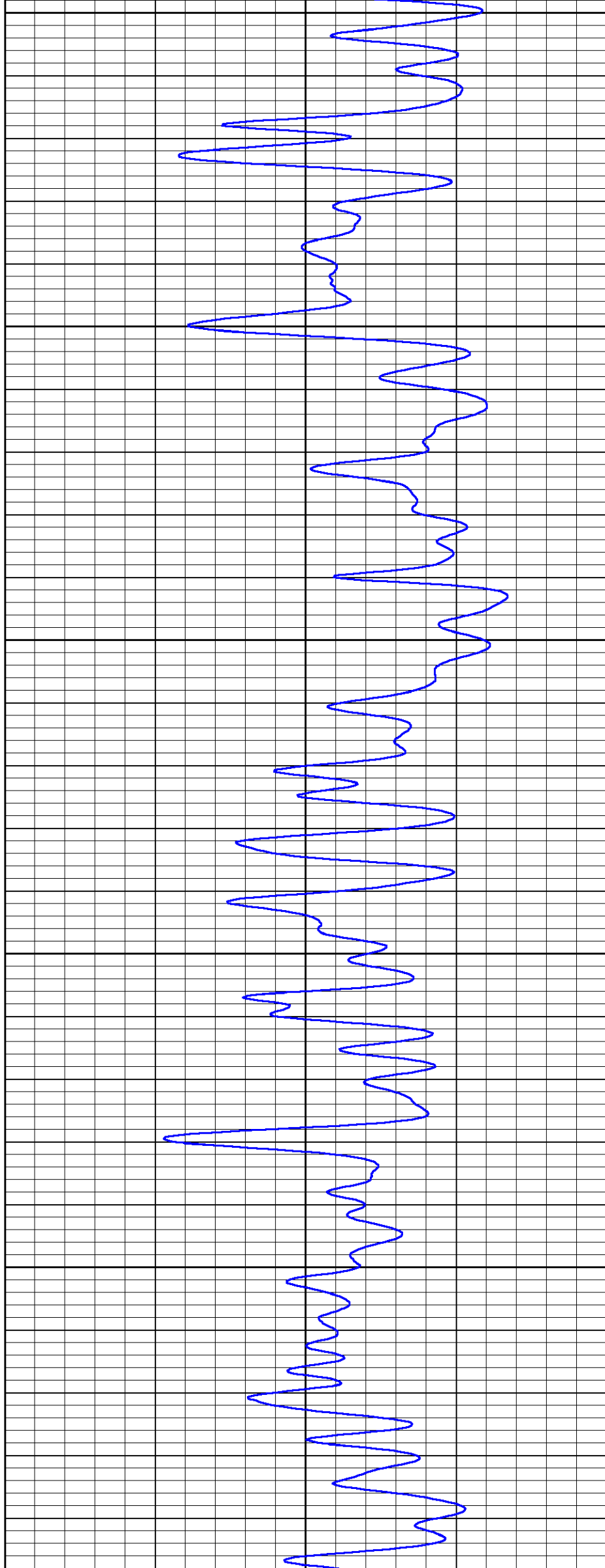
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3400  
3450  
3500  
3550

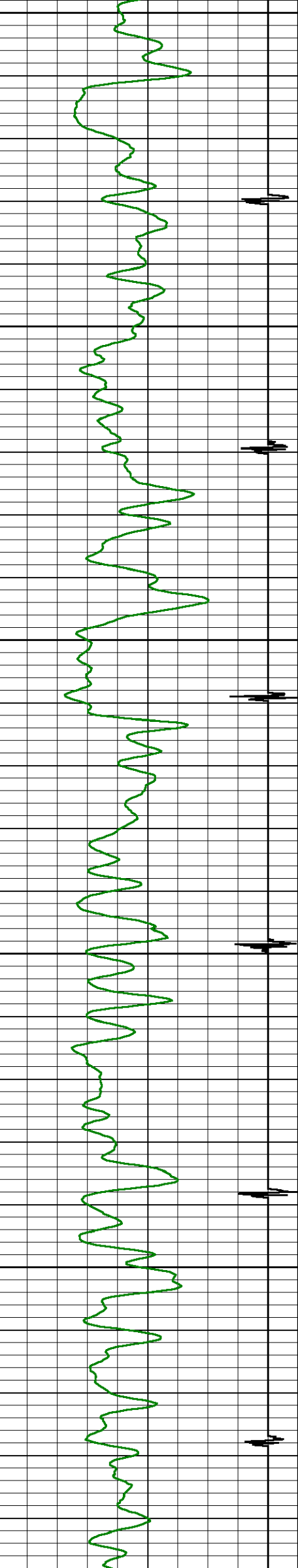






3600  
3650  
3700  
3750  
3800





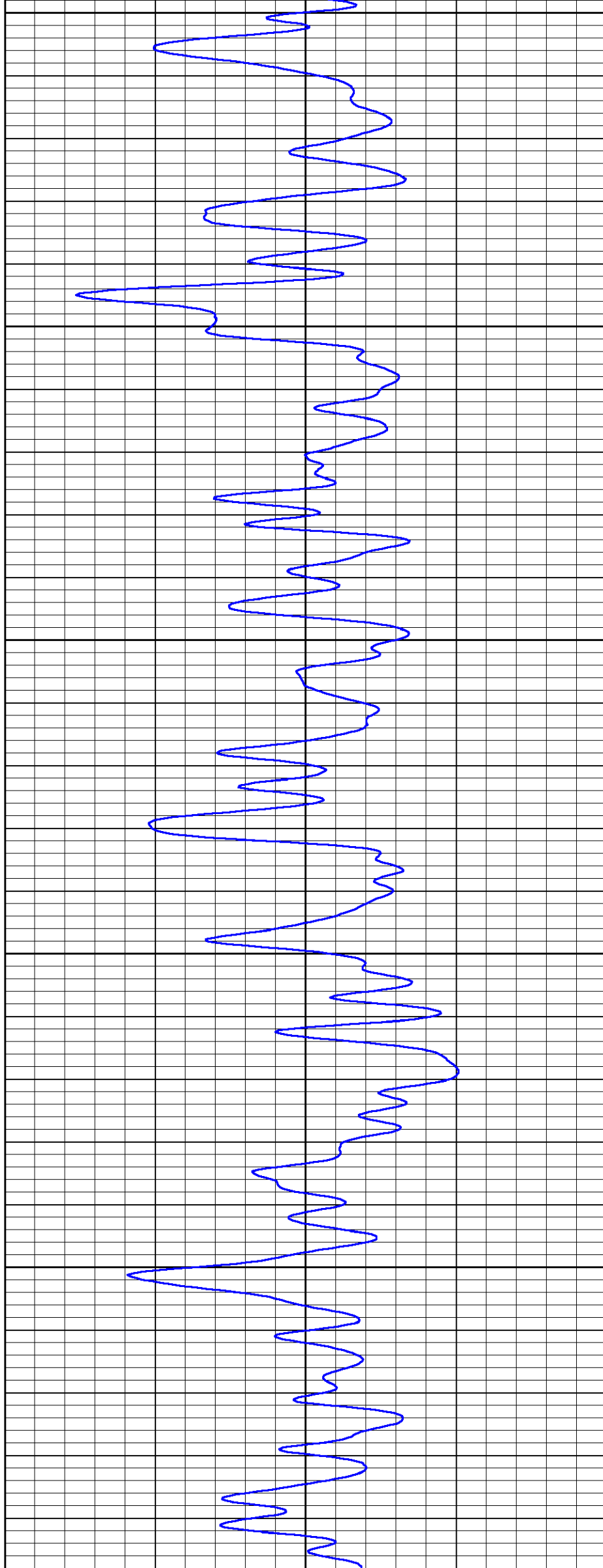
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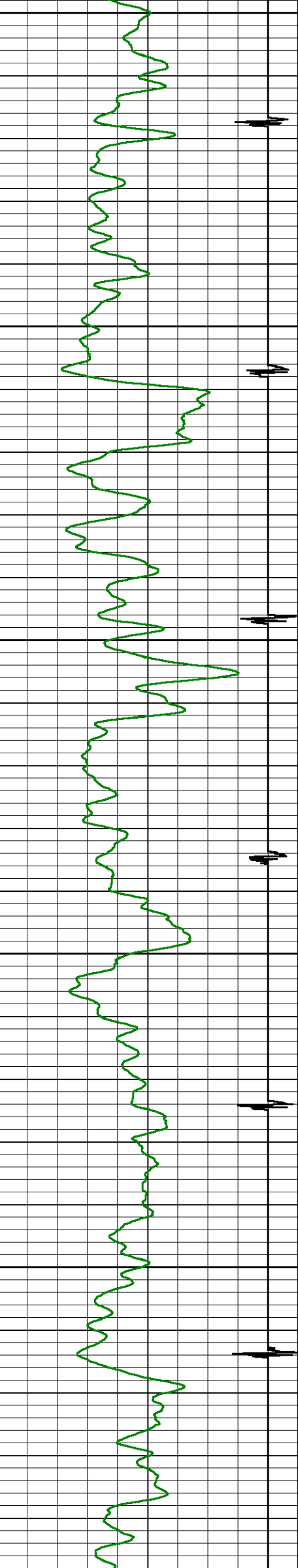
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3950

4000

4050





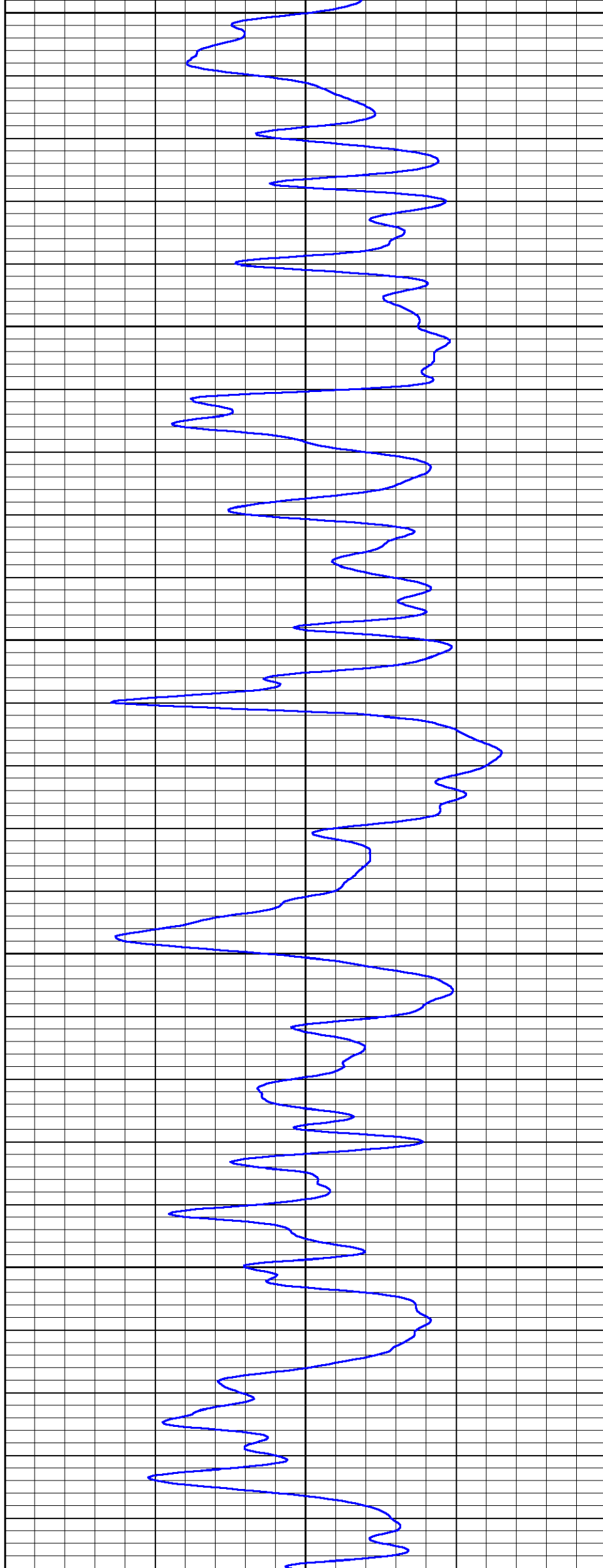
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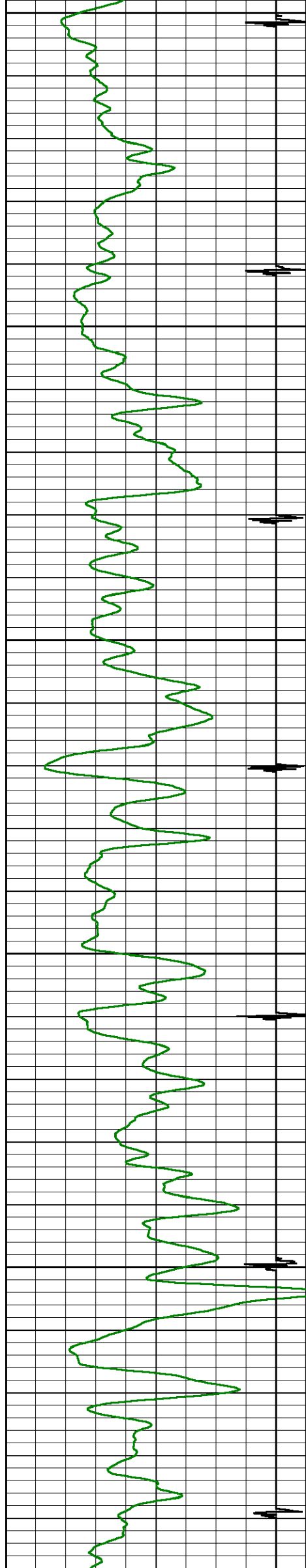
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4200

4250

4300





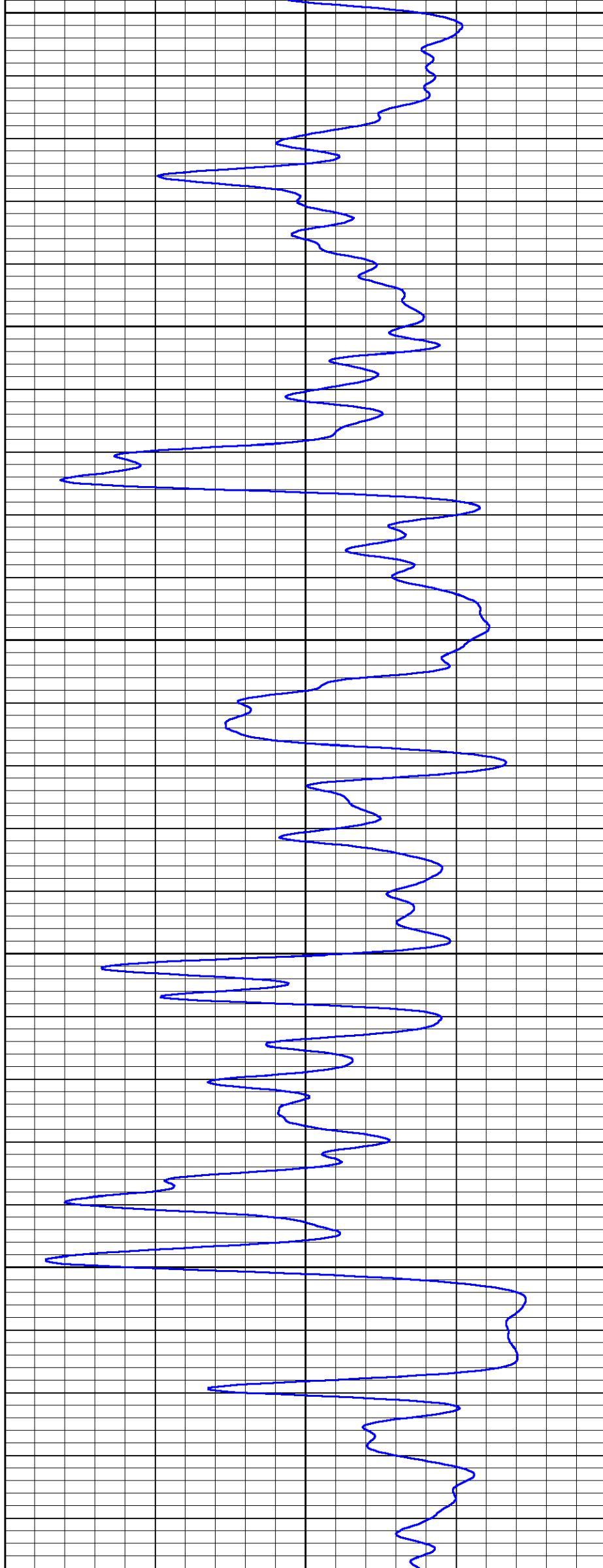
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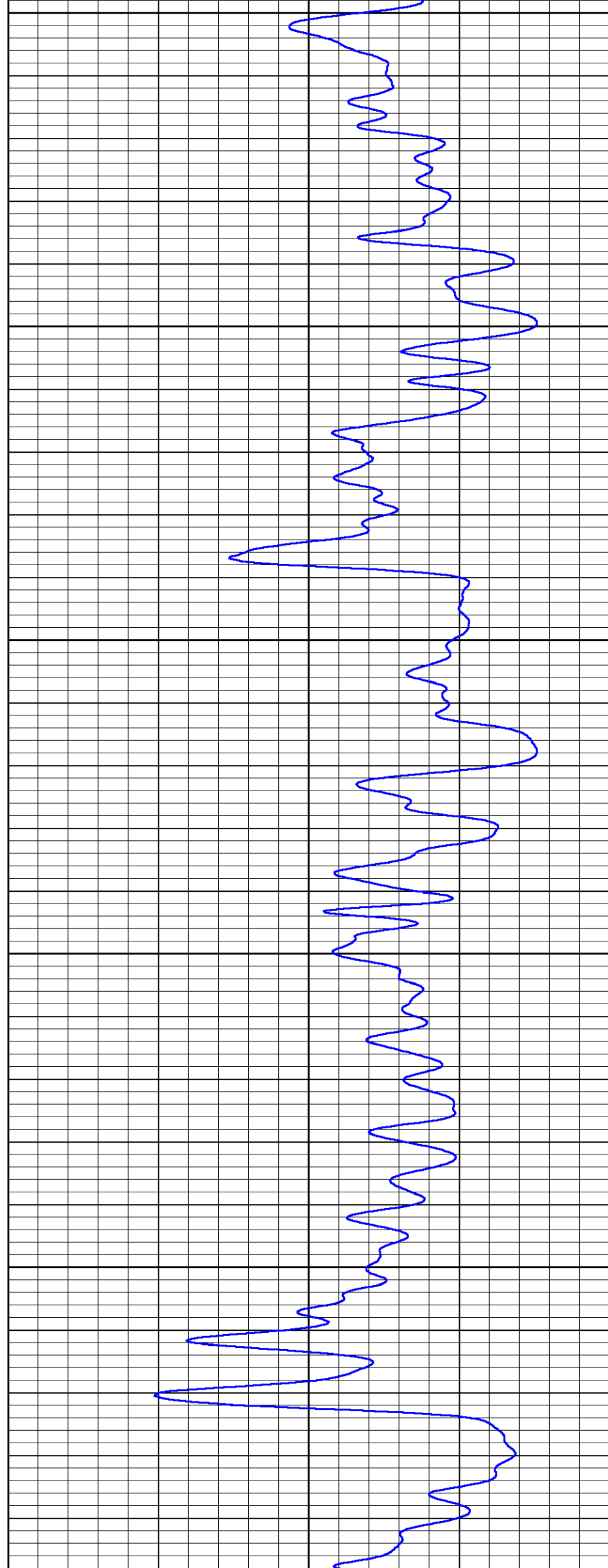
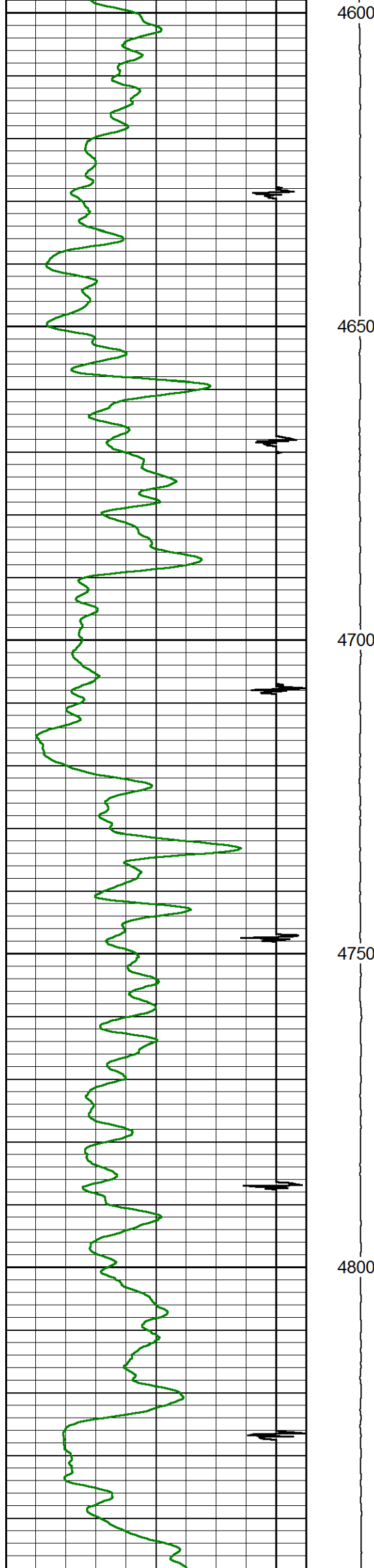
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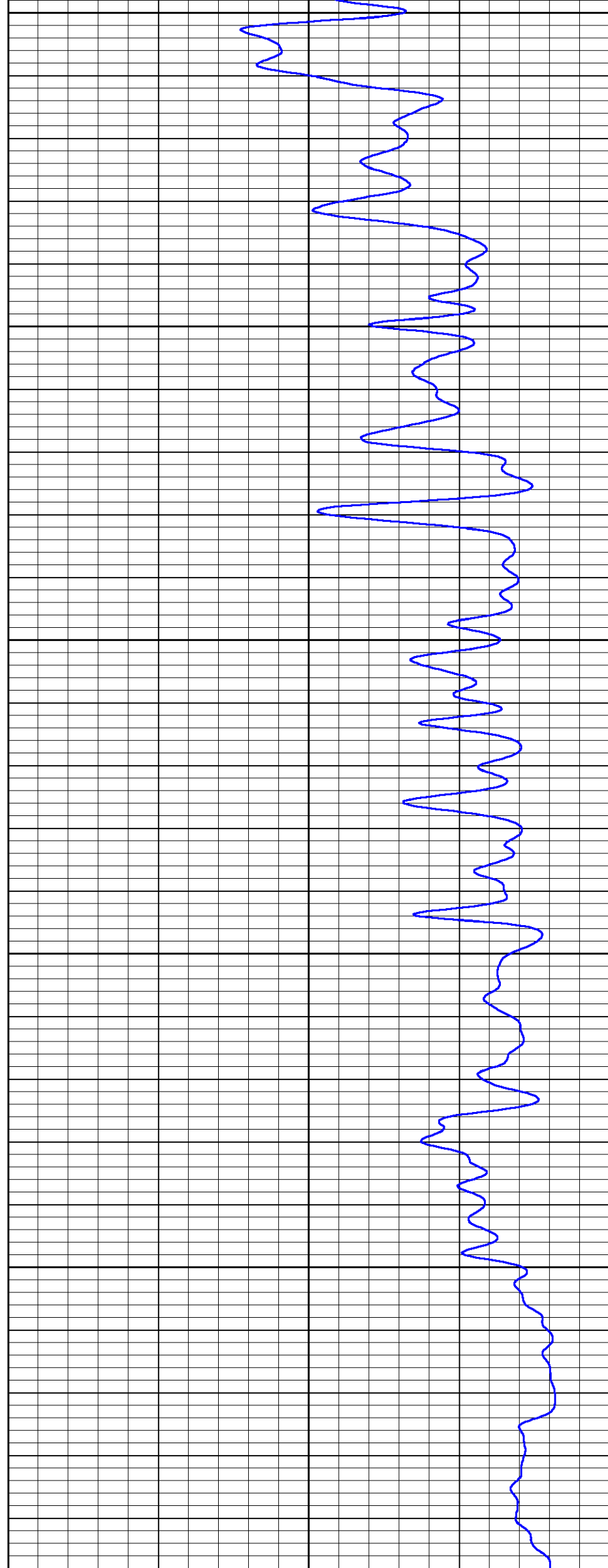
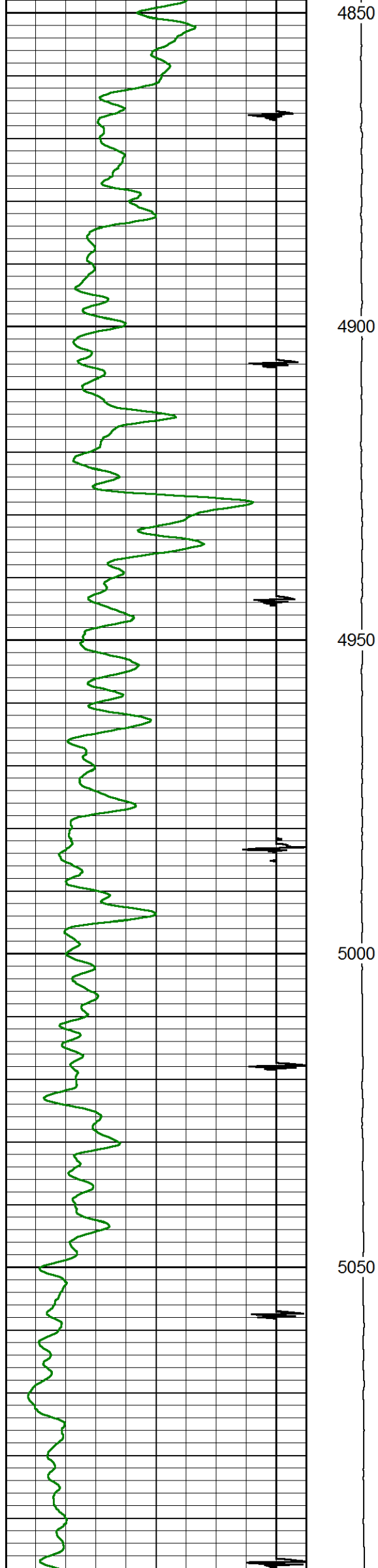
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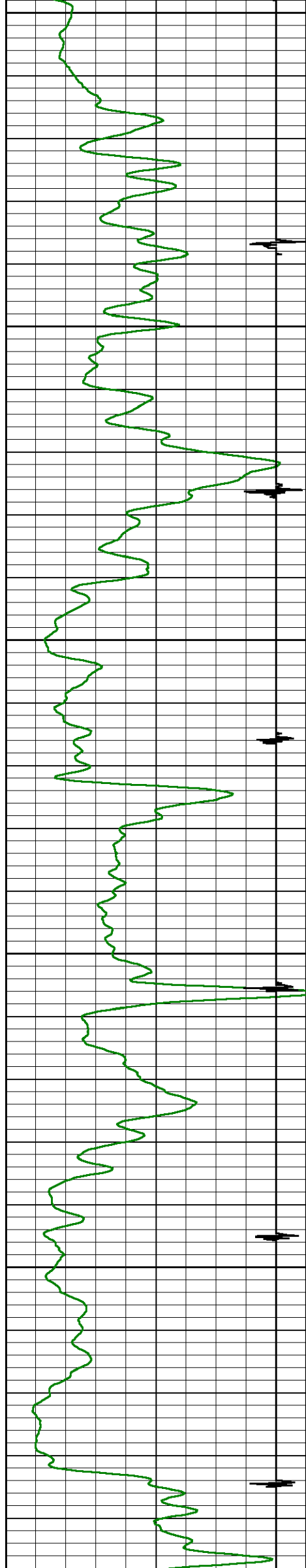
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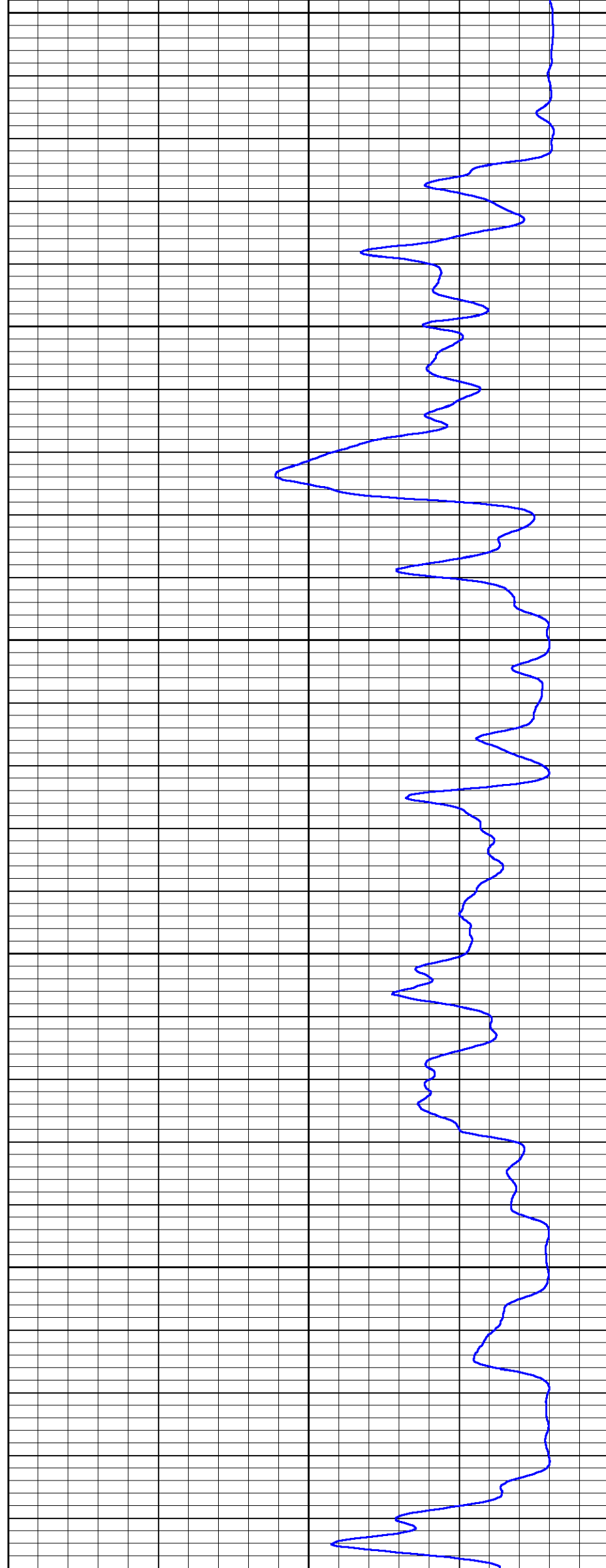
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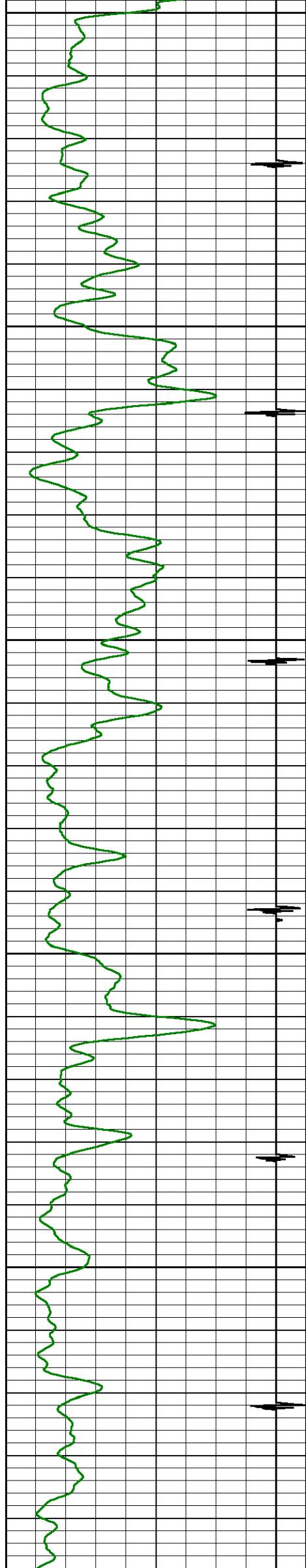
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5200

5250

5300





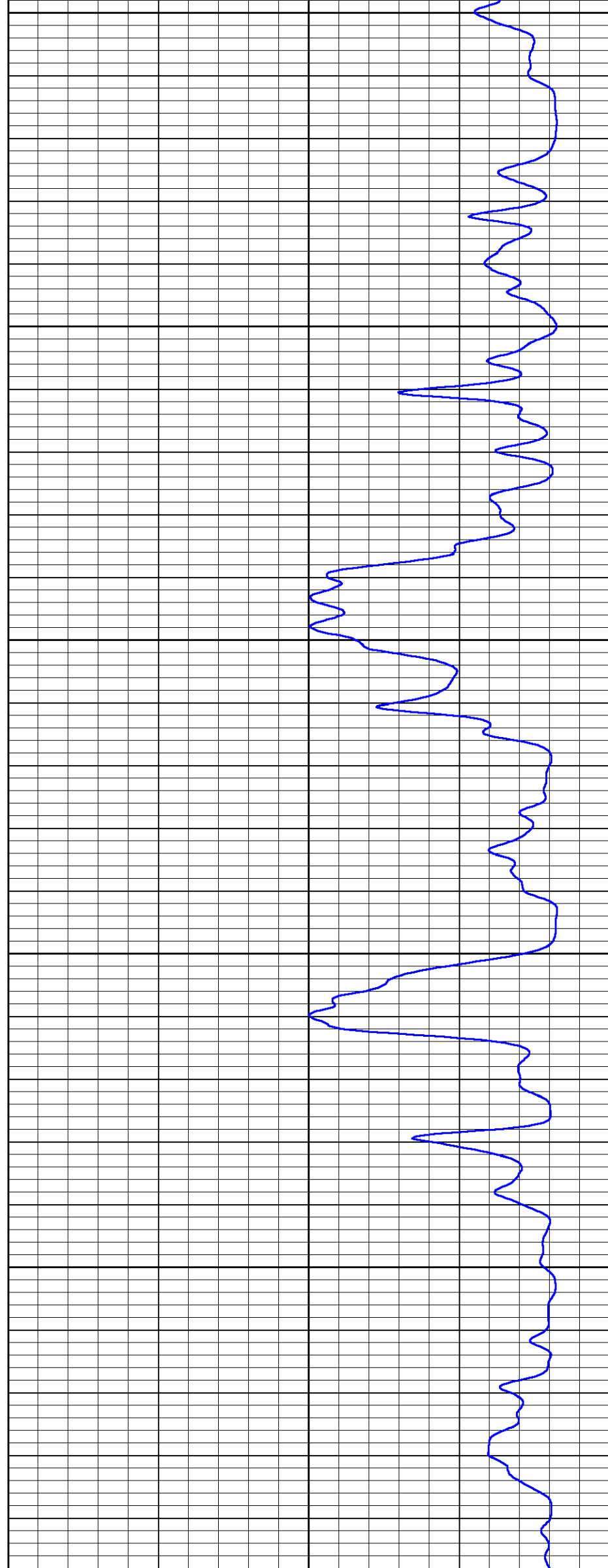
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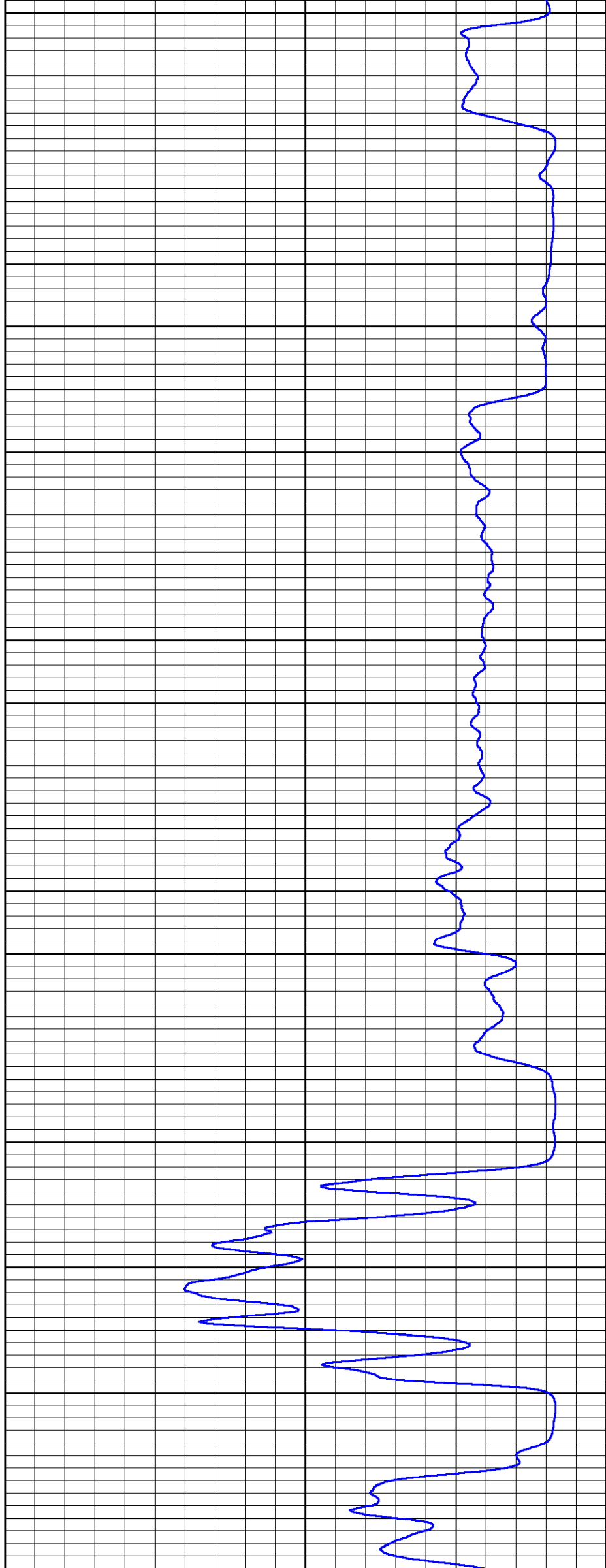
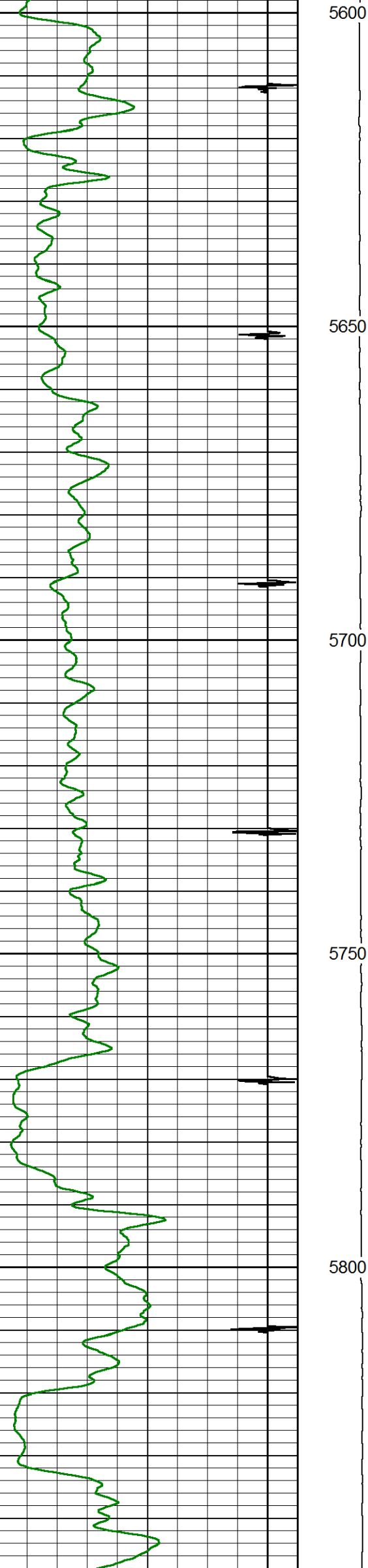
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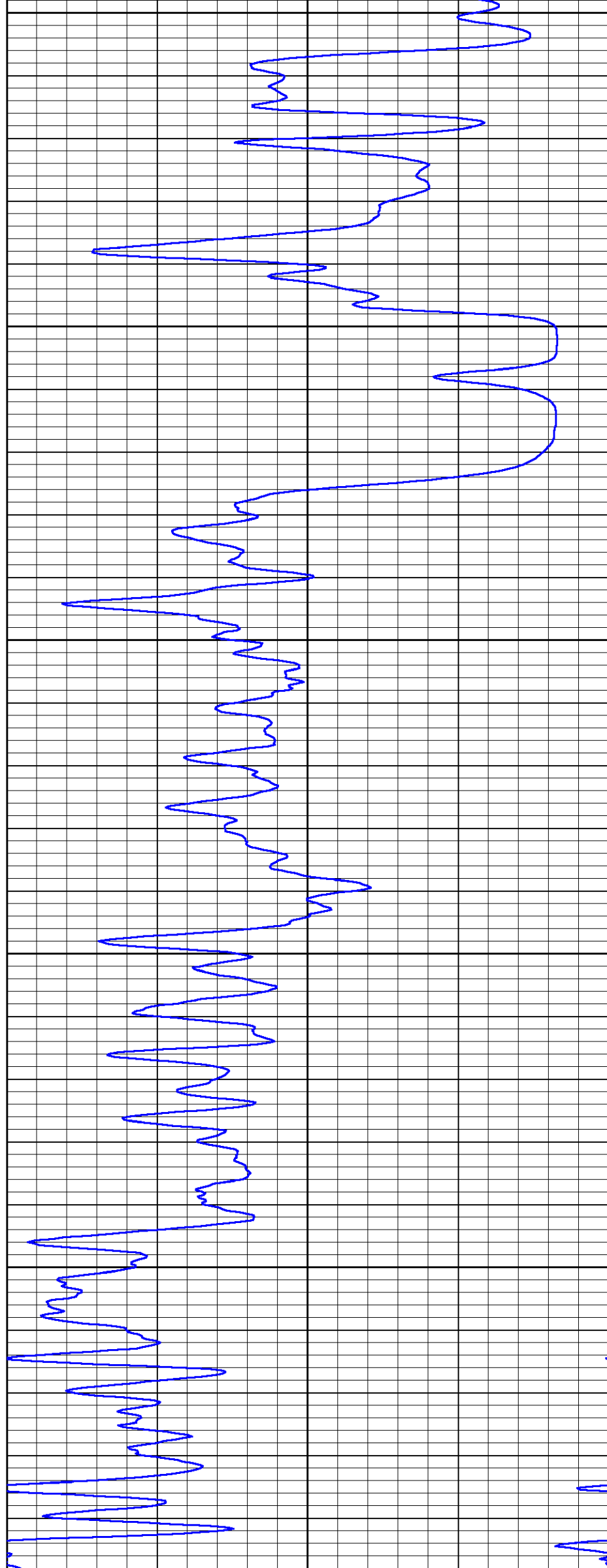
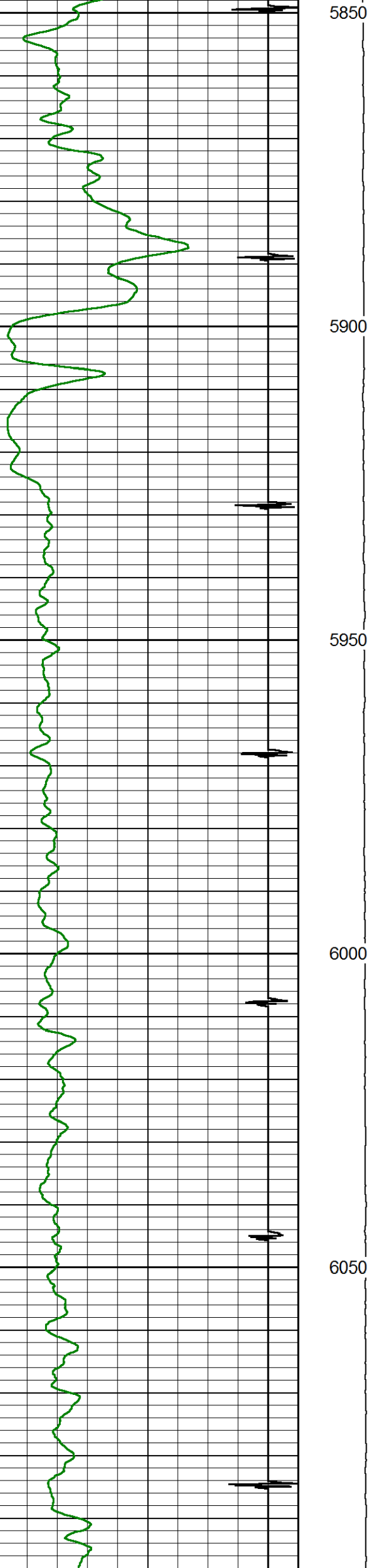
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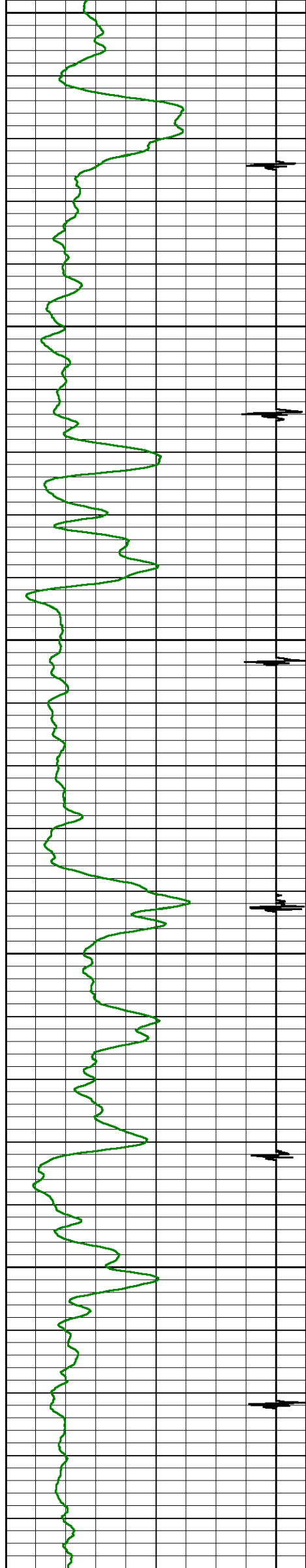
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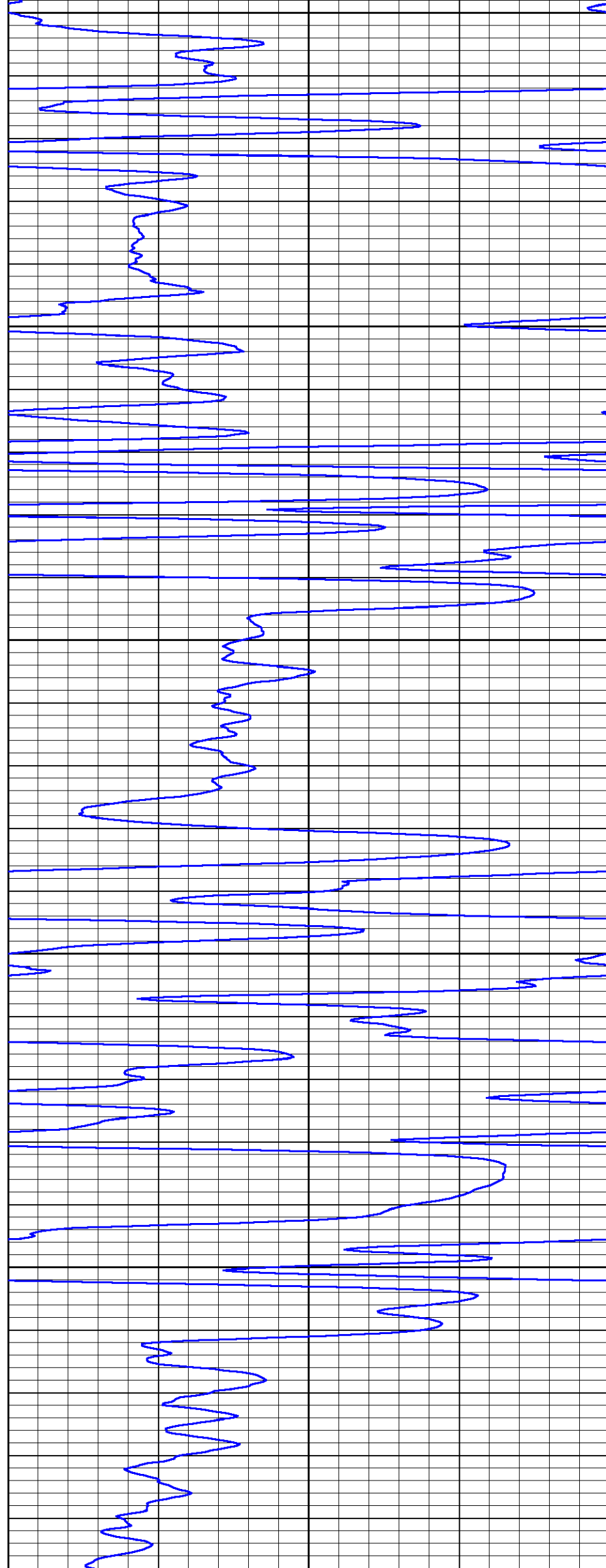
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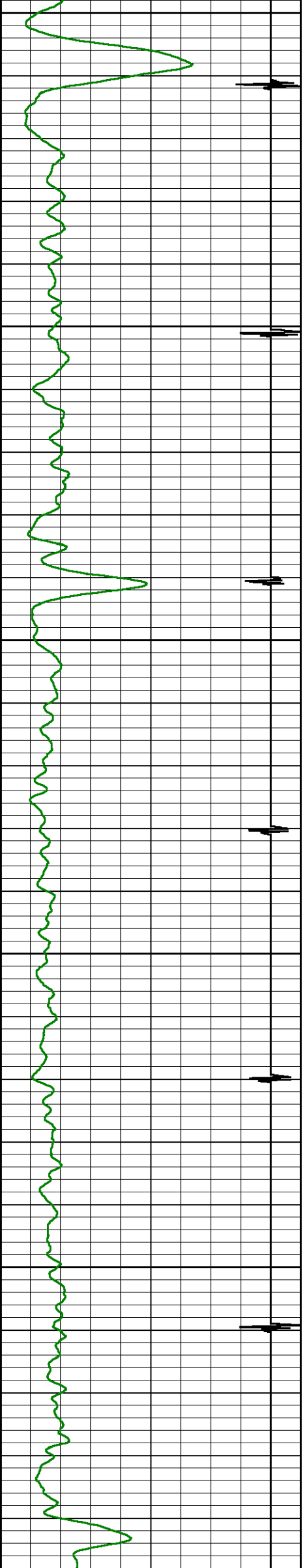
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6200

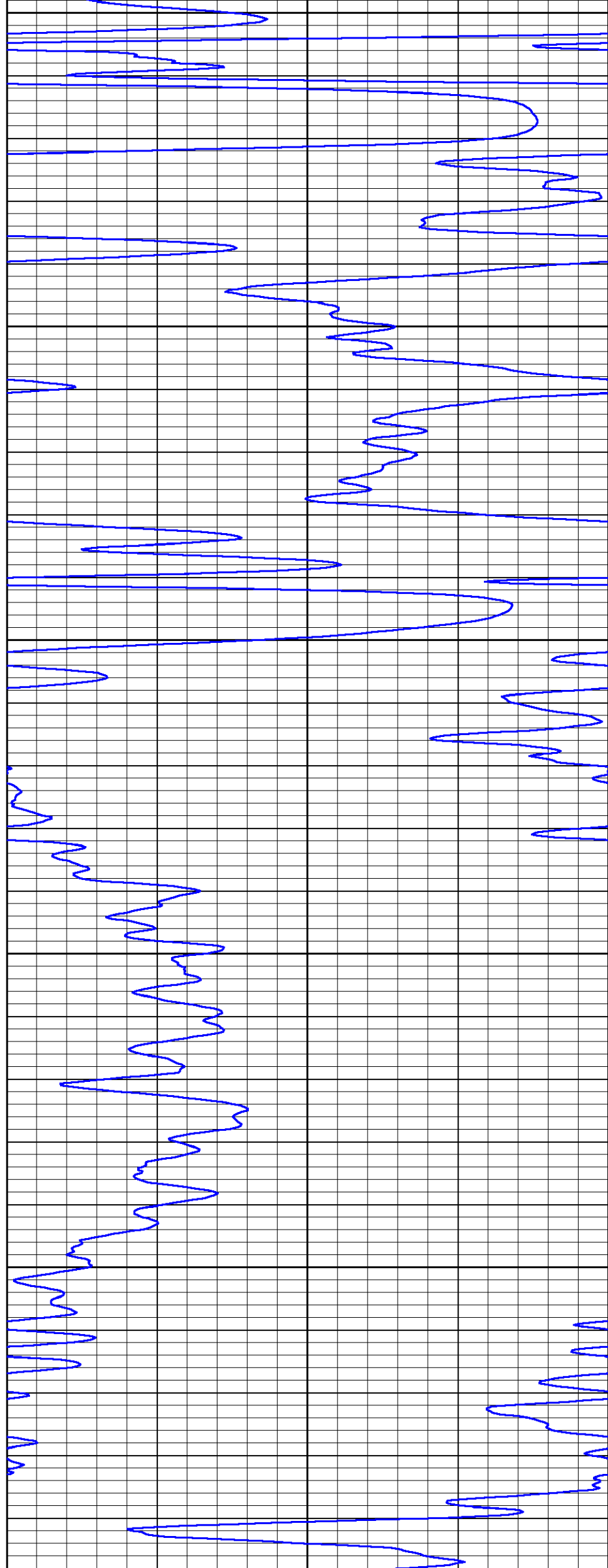
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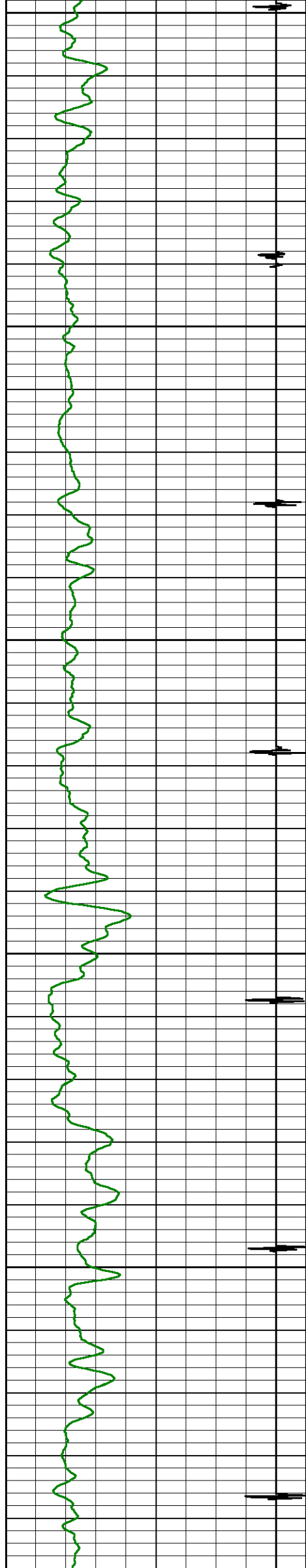
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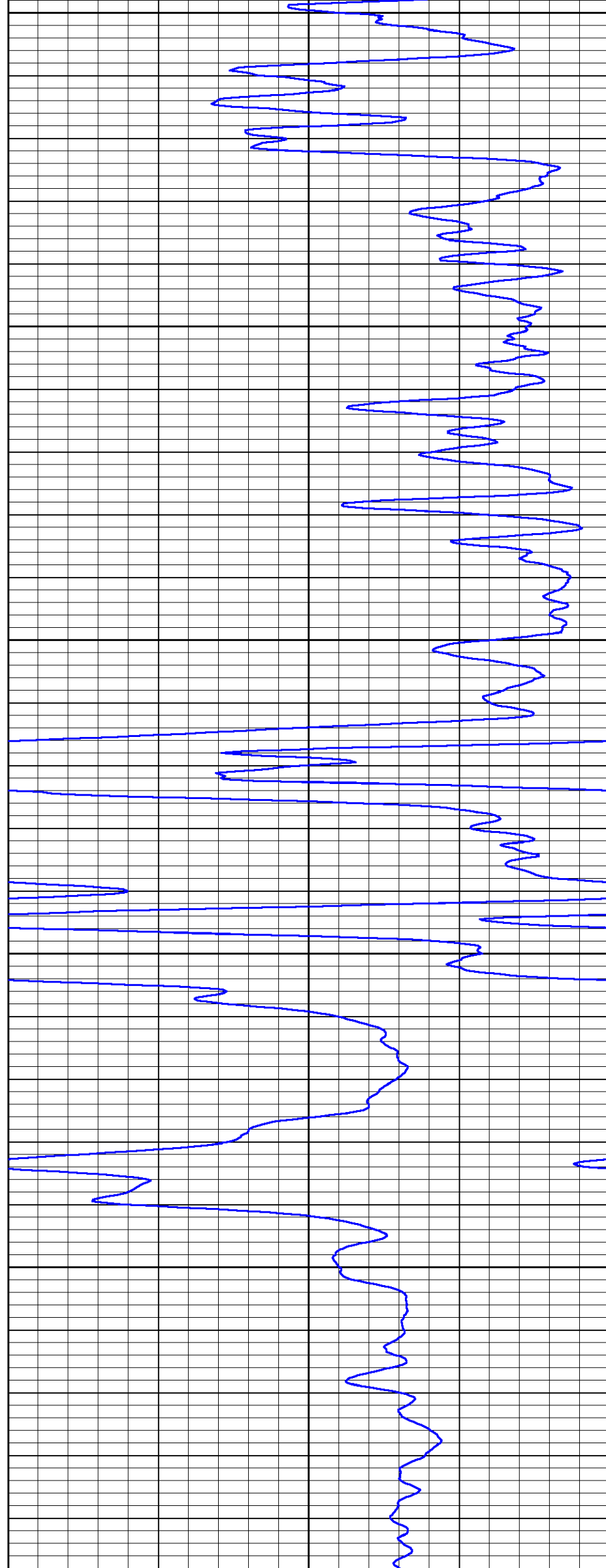


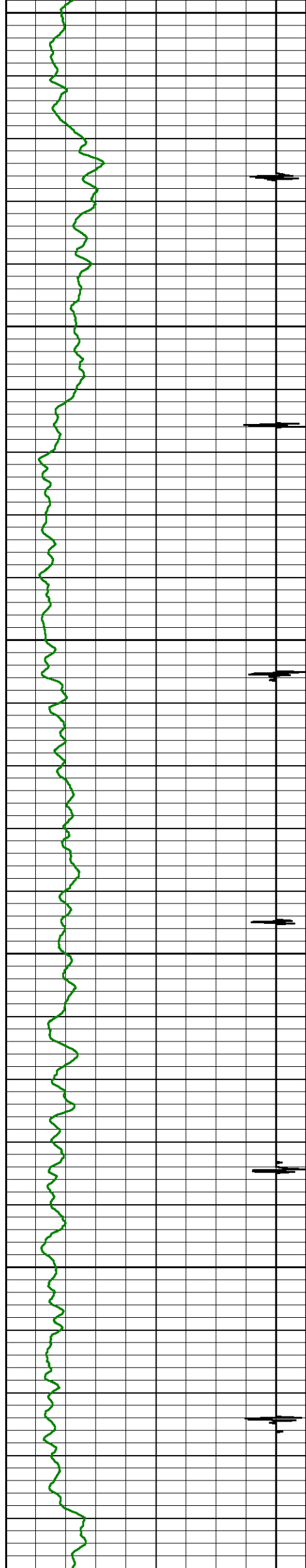
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6400  
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6500  
6550





6600  
6650  
6700  
6750  
6800





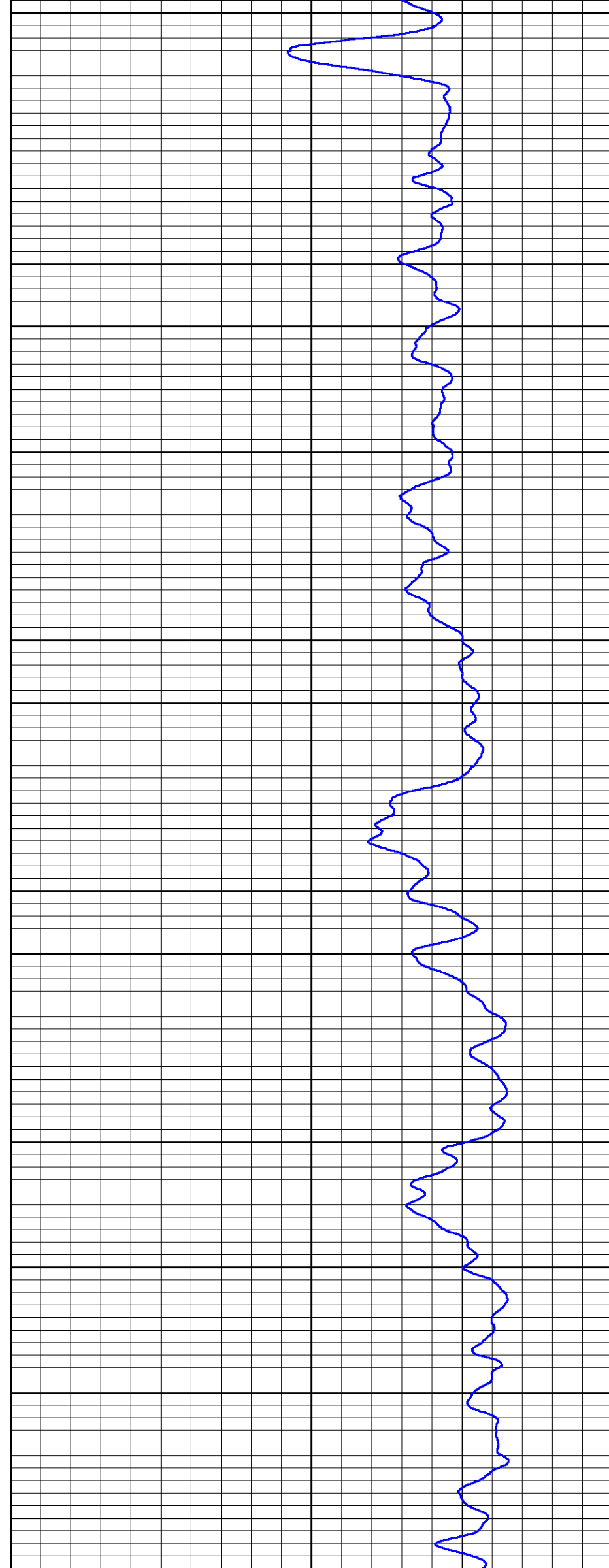
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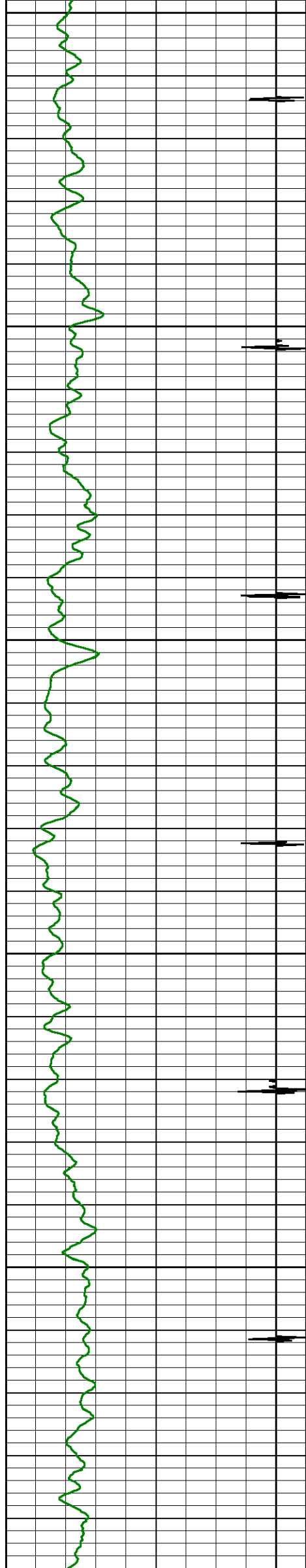
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6950

7000

7050





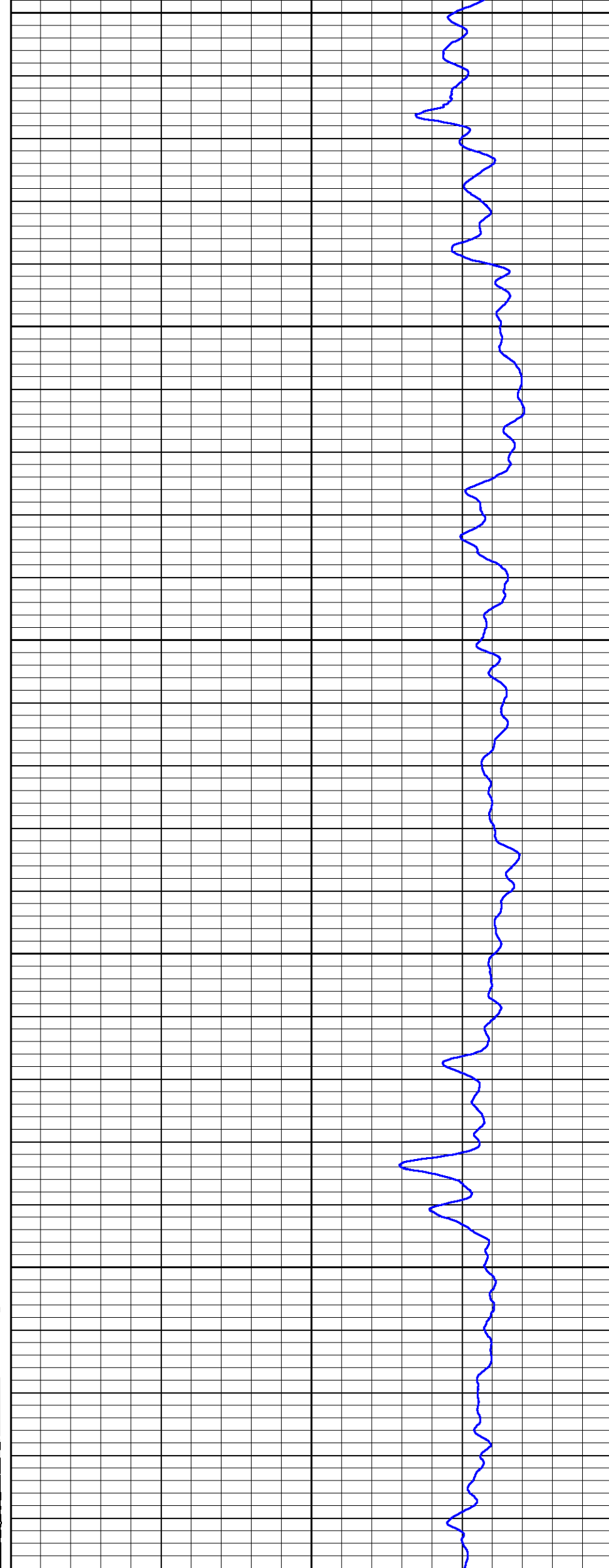
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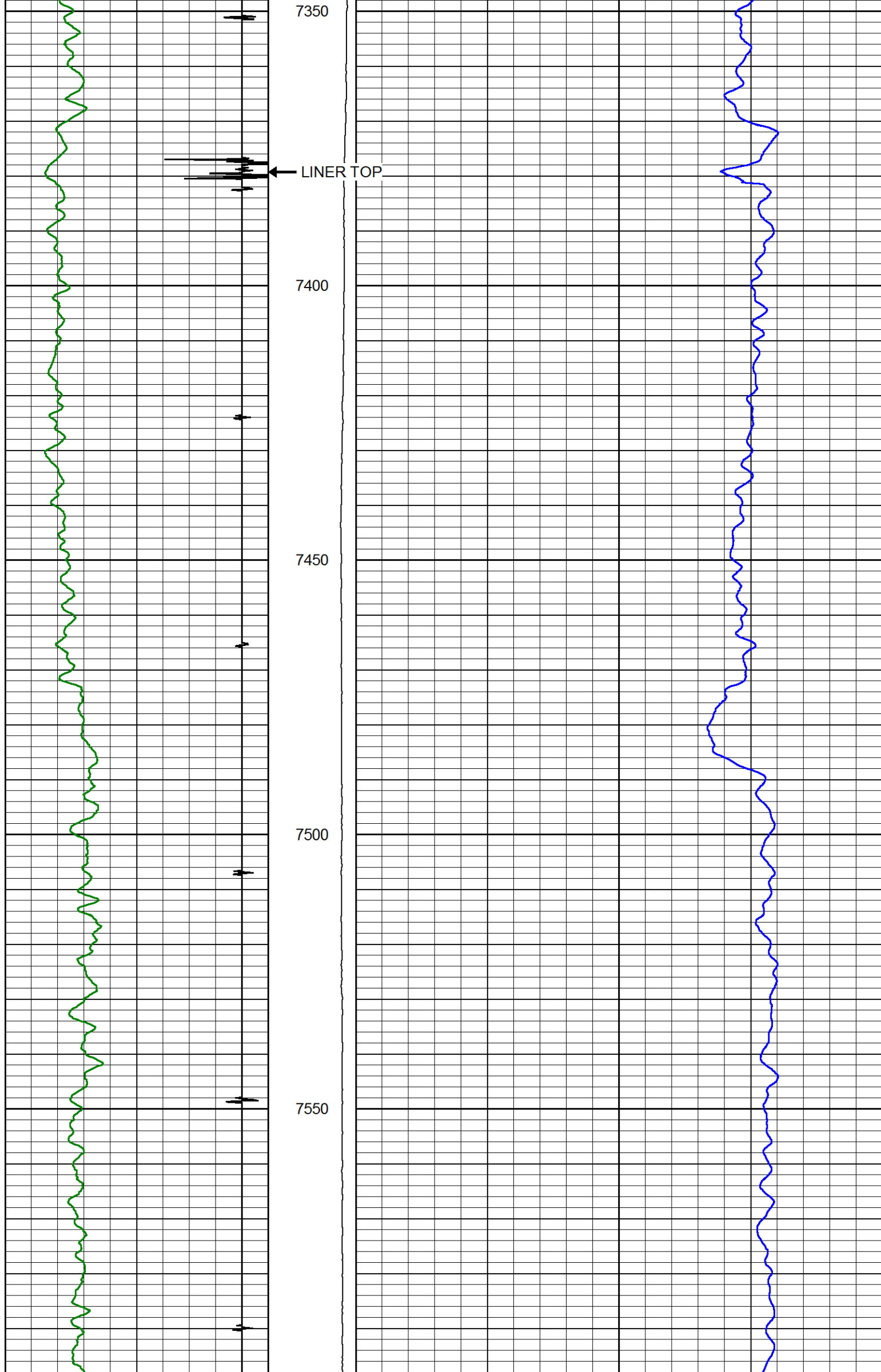
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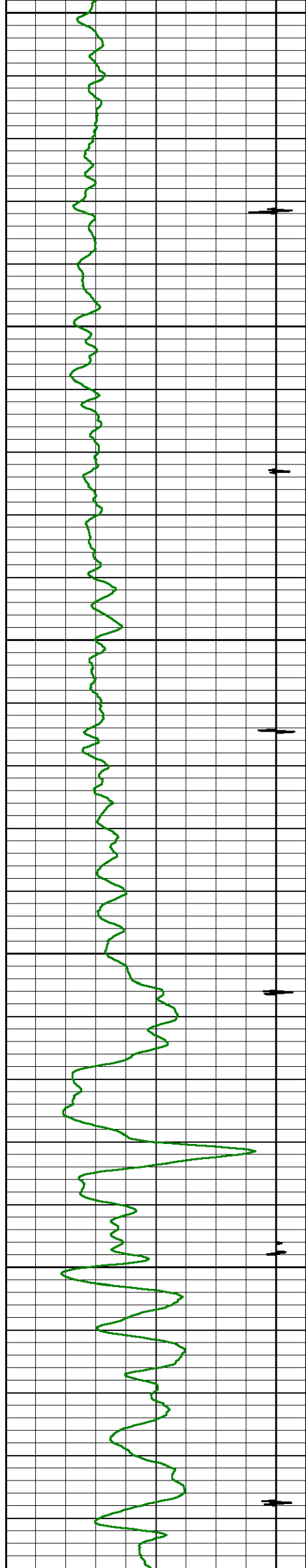
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7300









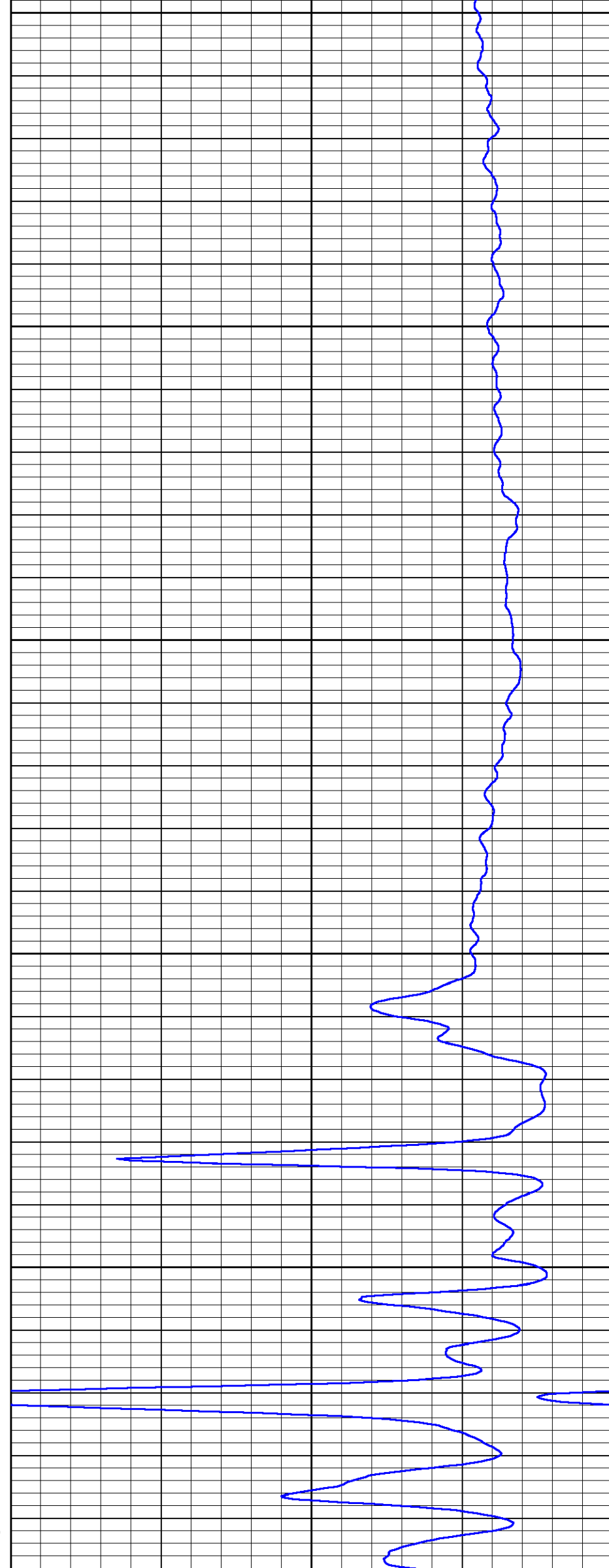
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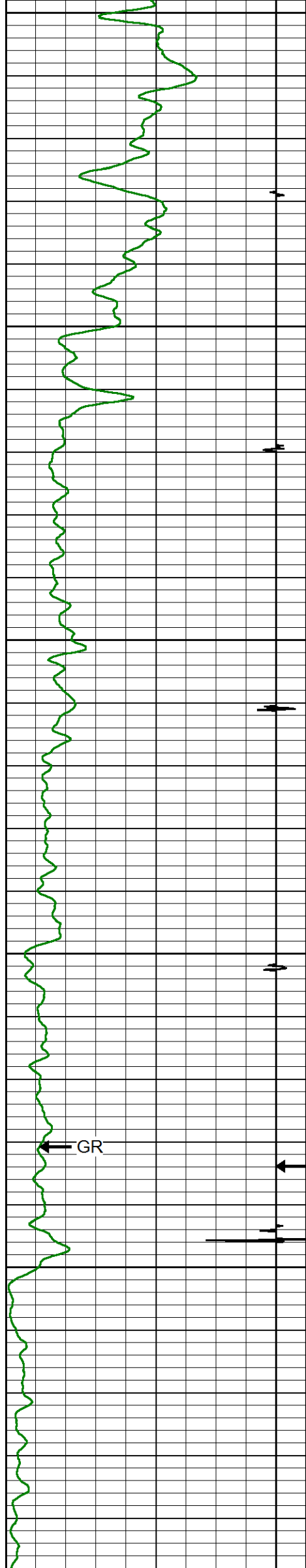
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7700

7750

7800





7850

7900

7950

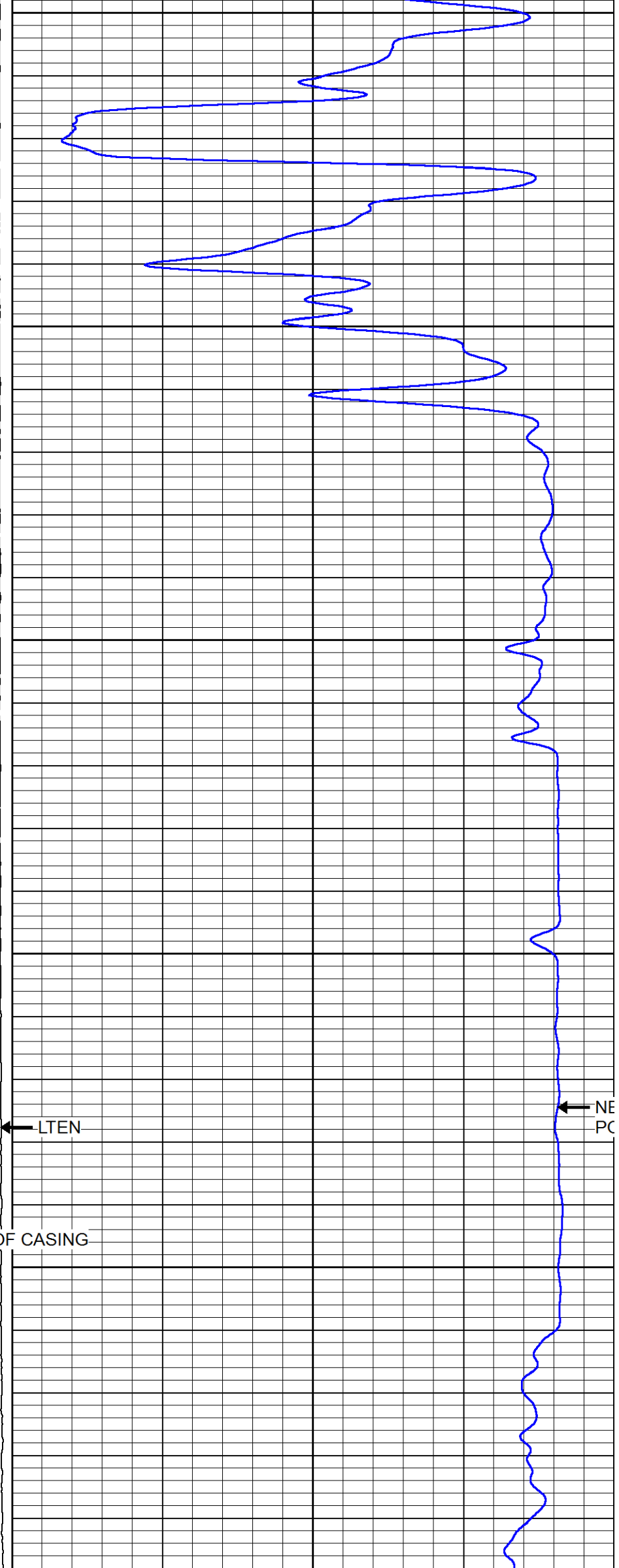
8000

8050

GR

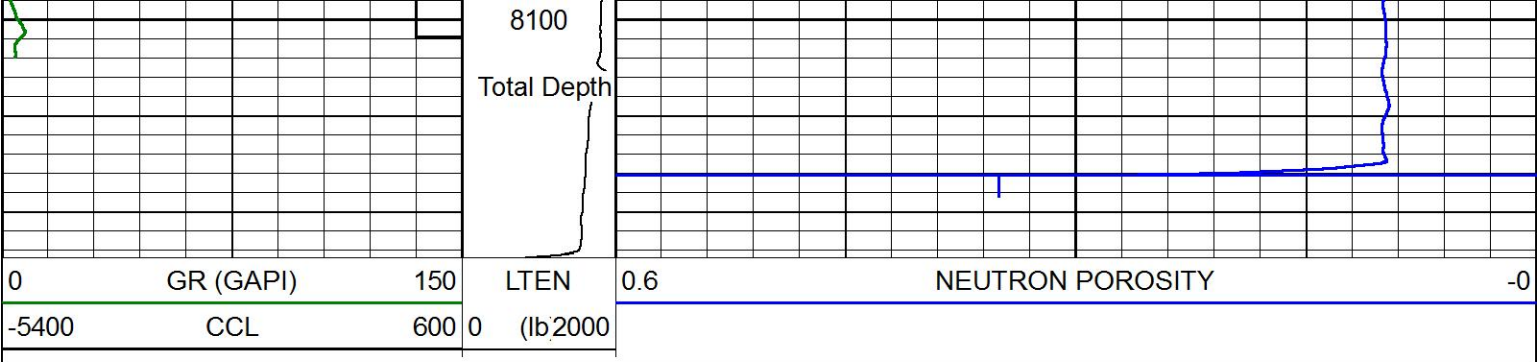
CCL

END OF CASING



LTEN

NE  
PC



MAIN LOG SECTION

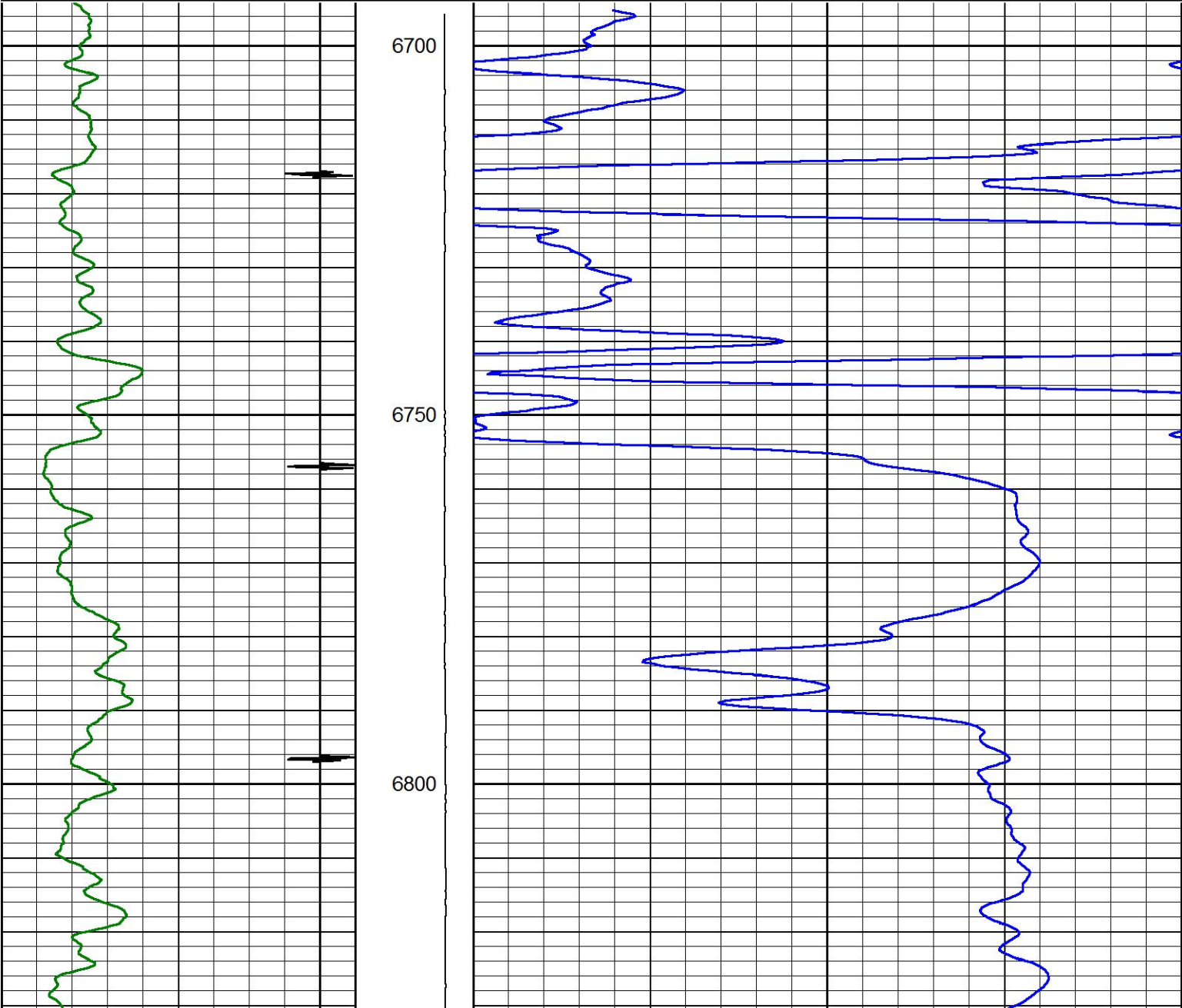
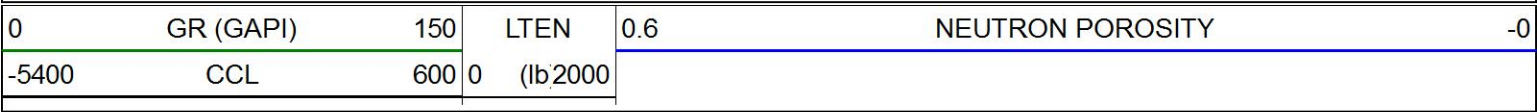
5" = 100'

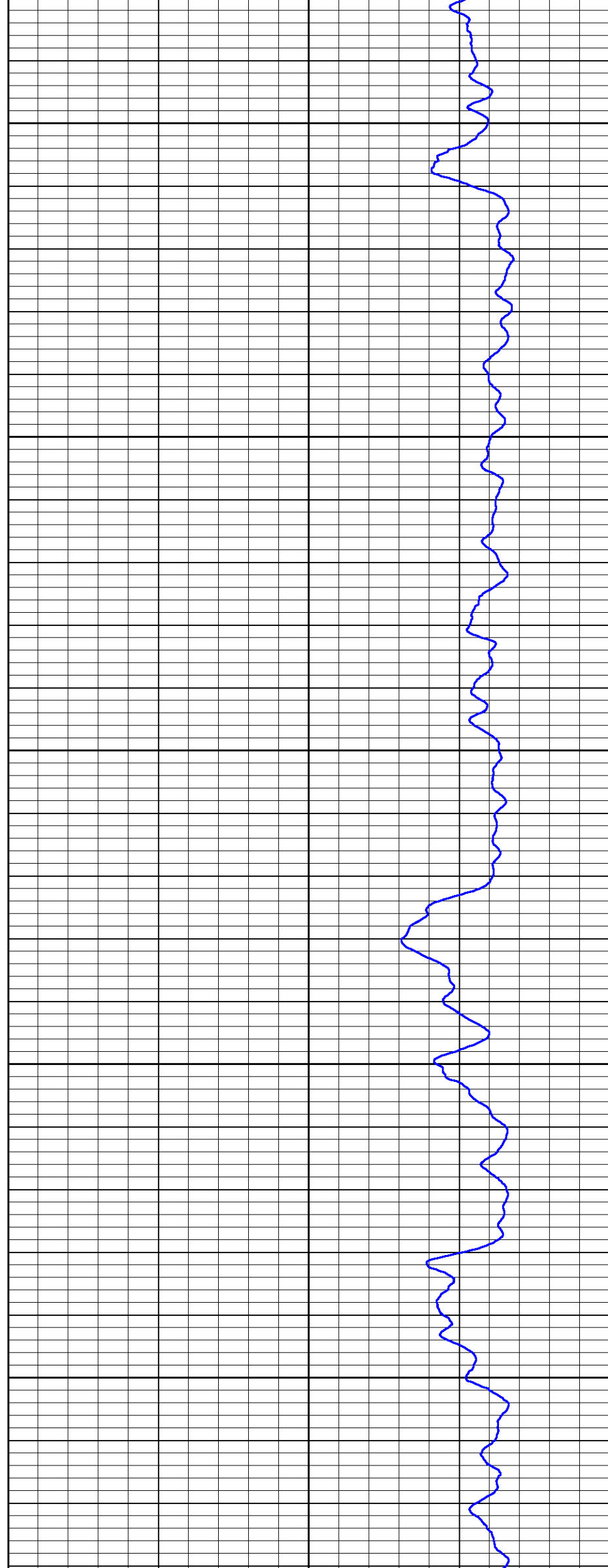
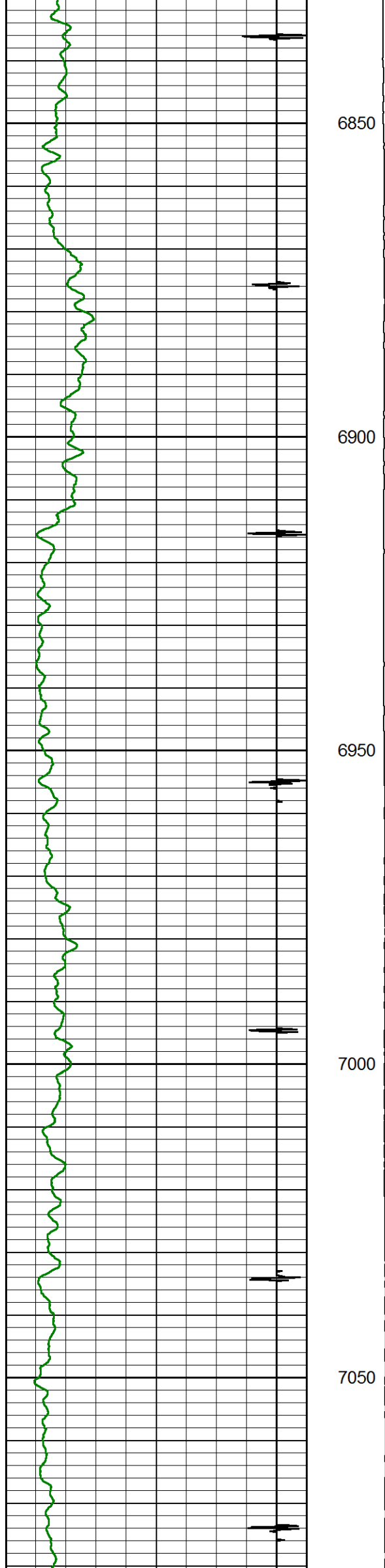
HALLIBURTON

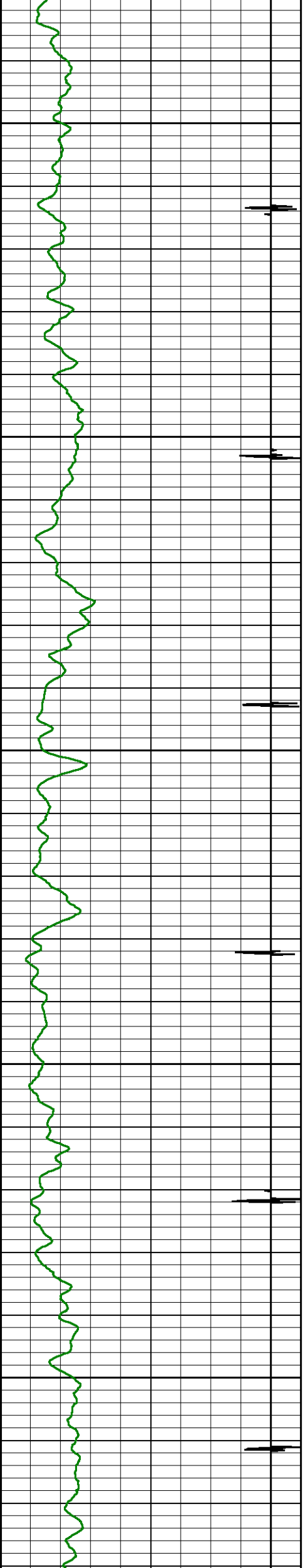
REPEAT LOG SECTION

5" = 100'

Database File km\_gp\_27\_rmt.db  
Dataset Pathname RPT1  
Presentation Format rmt\_phit  
Dataset Creation Wed Oct 08 15:36:48 2014  
Charted by Depth in Feet scaled 1:240







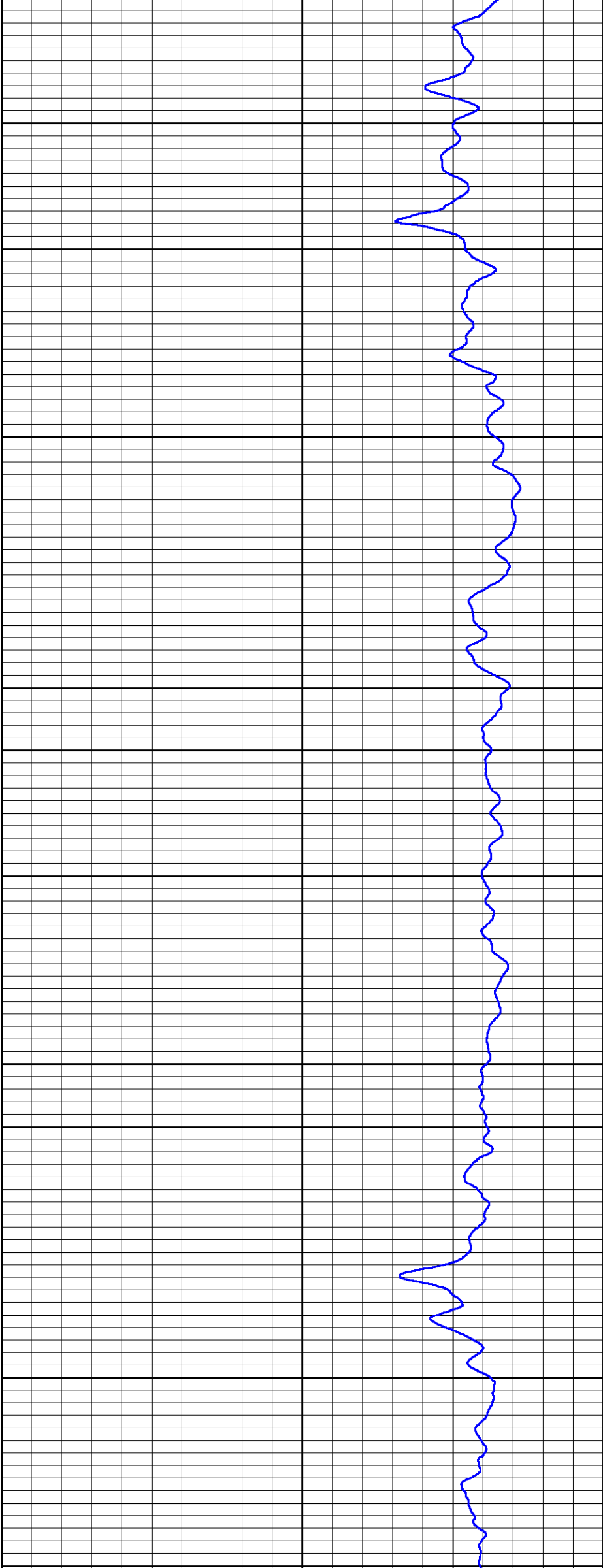
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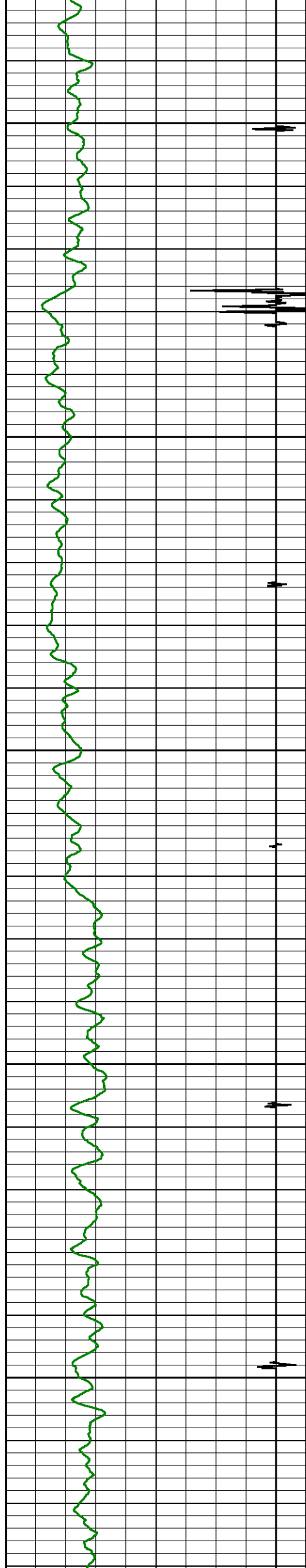
7150

7200

7250

7300





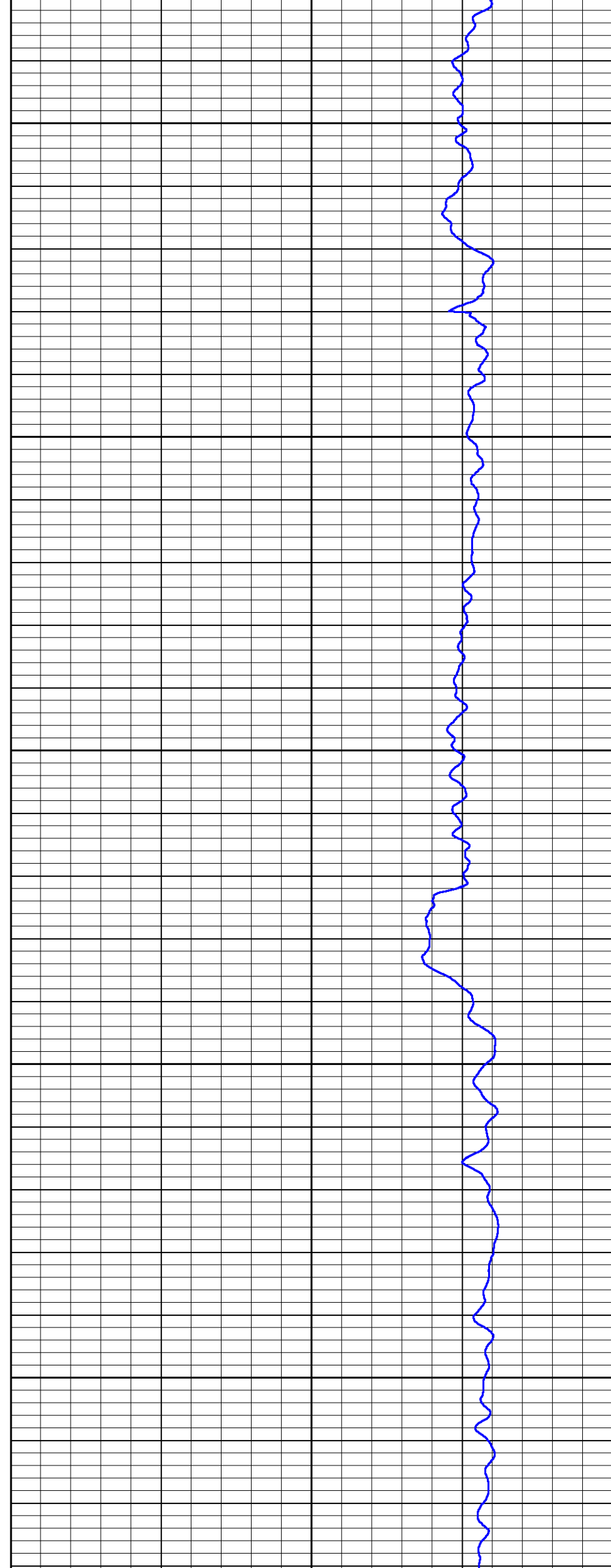
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7400

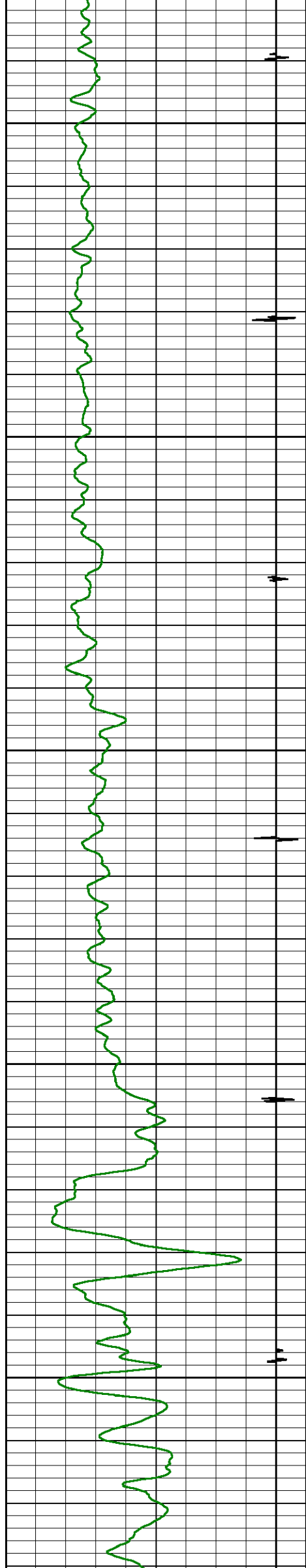
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7500

7550







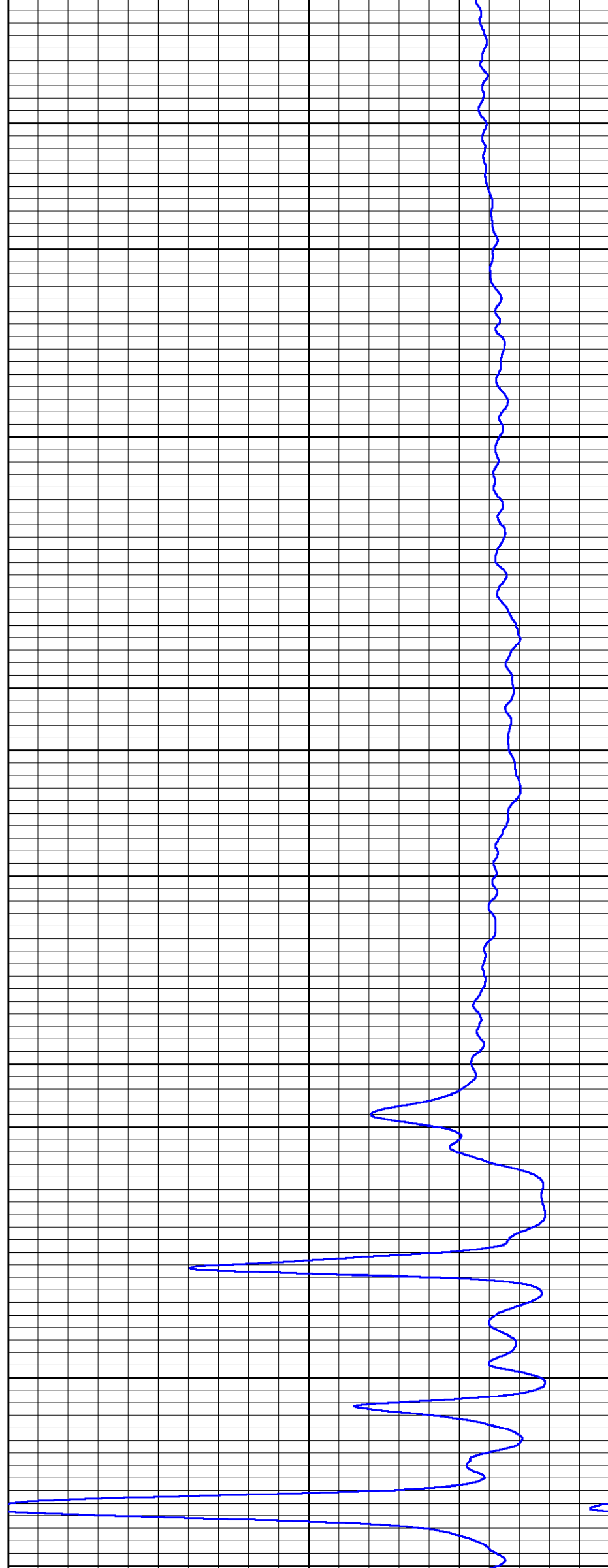
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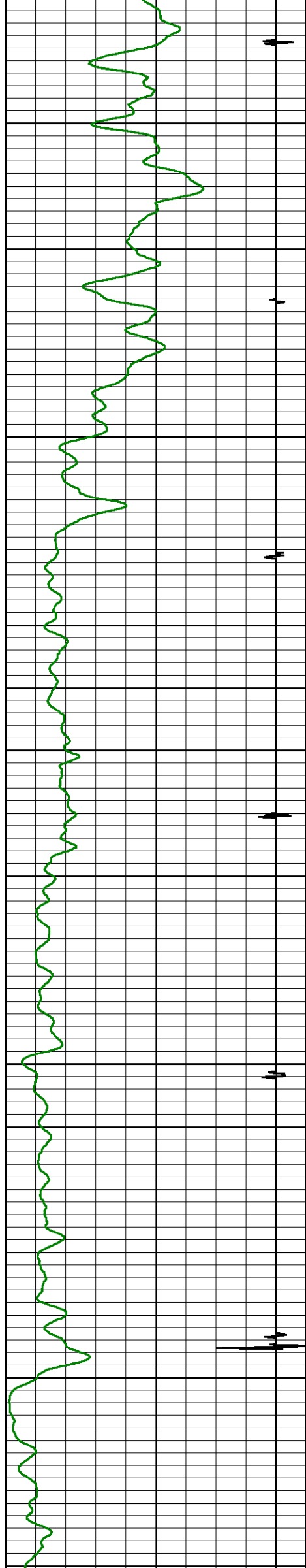
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7700

7750

7800





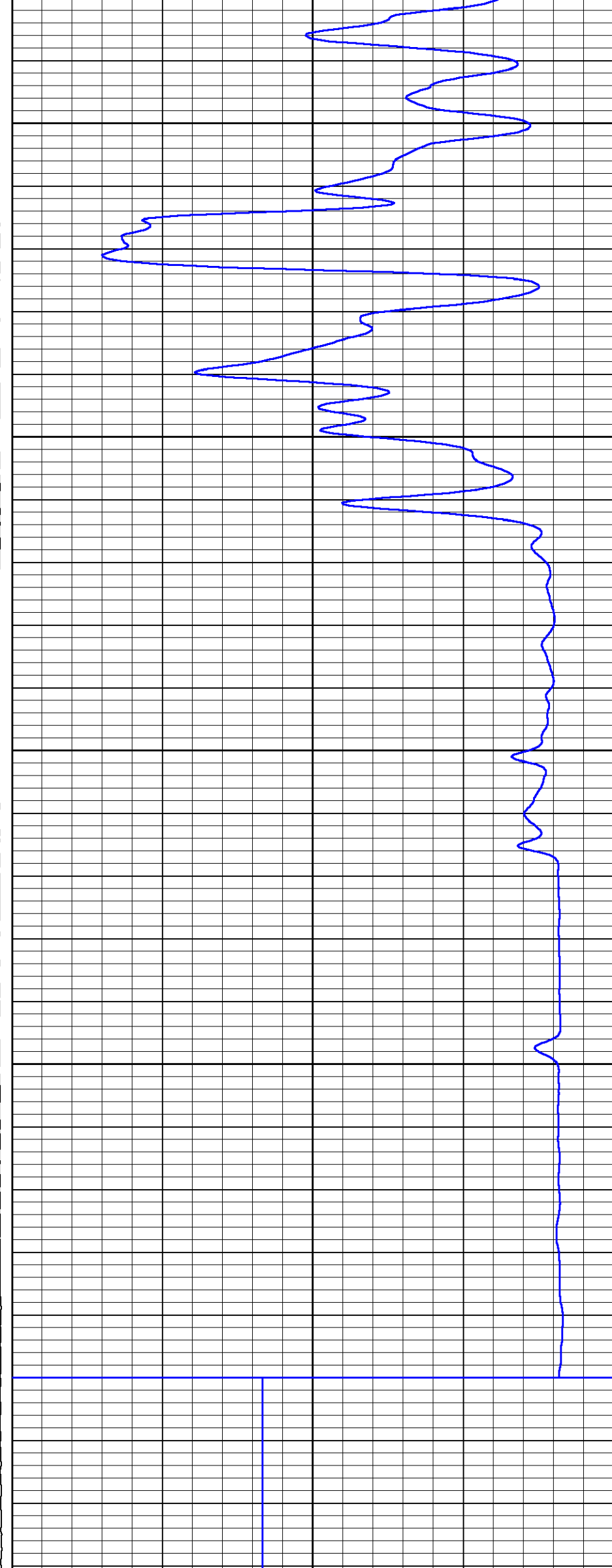
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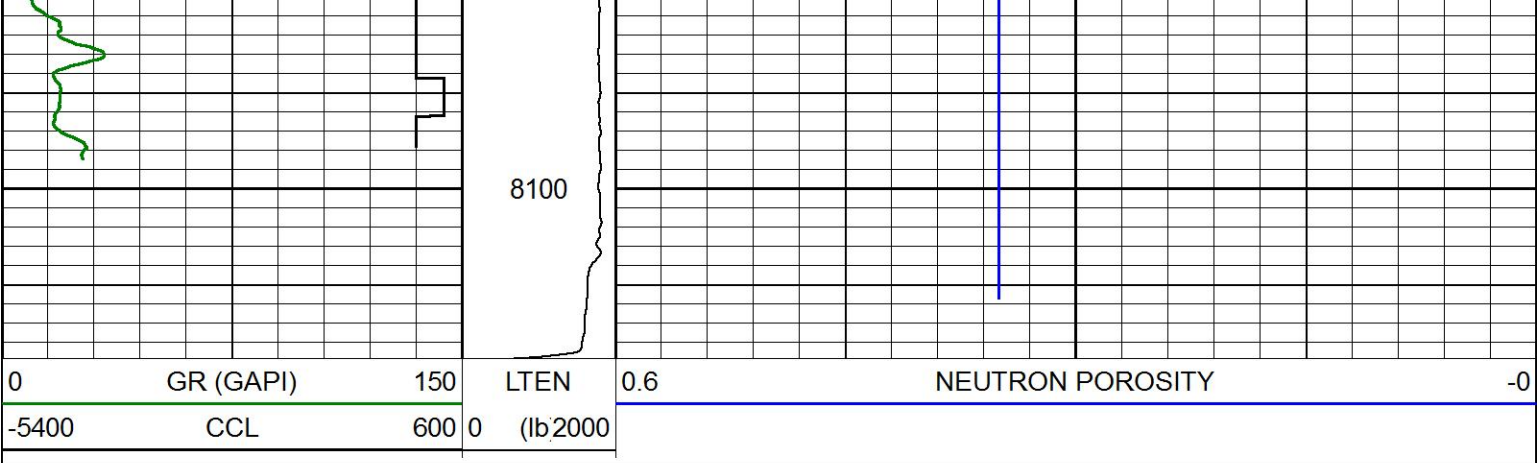
7900

7950

8000

8050





REPEAT LOG SECTION

HALLIBURTON

5" = 100'

Log Variables

DatabaseD:\Warrior\_data\km\_gp\_27\_rmt.db  
Dataset field/well/run1/MAIN1

Top - 7380.00 ft

BHTEMP_Src	BHSAL2	BHSAL1	POROS2	POROS1	LTH	UHSGC	RHO�F
1	0	1	0	1	Sandstone	NONE	0.25
SO in 0	BORSAL kppm 150	CASED? Yes	PPT usec 0	CASEWGHT lb/ft 32	MAXAMPL mV 0	MINAMPL mV 1	MINATTN db/ft 0.8
SRFTEMP degF 0	MudWgt lb/gal 8.4	CASETHCK in 0.453	CASEOD in 7	PERFS 0	TDEPTH ft 0	BOTTEMP degF 100	BITSIZE in 8.75

7380.00 ft - Bottom

BHTEMP_Src	BHSAL2	BHSAL1	POROS2	POROS1	LTH	UHSGC	RHO�F
1	0	1	0	1	Sandstone	NONE	0.25
SO in 0	BORSAL kppm 150	CASED? Yes	PPT usec 0	CASEWGHT lb/ft 12.6	MAXAMPL mV 0	MINAMPL mV 1	MINATTN db/ft 0.8
SRFTEMP degF 0	MudWgt lb/gal 8.4	CASETHCK in 0.271	CASEOD in 4.5	PERFS 0	TDEPTH ft 0	BOTTEMP degF 100	BITSIZE in 6

Calibration Report

Database File km\_gp\_27\_rmt.db  
Dataset Pathname MAIN1  
Dataset Creation Wed Oct 08 16:50:28 2014

Reservoir Monitor Tool I Calibration Report

Serial-Model: 12210614-A  
Shop Calibration Performed: Thu Sep 11 10:53:22 2014


Carbon/Oxygen Mode					
Stabilization					
Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	80.00	80.00	0.00	+/-15.00	V
ITCR2	3323	3250	73	+/-250	cps
Near Detector					
H	Channel 59	Expected Value 60 +/-2	Amplitude 0.0281	FWHM 5.25	Tol. <6.00
Fe	205	206 +/-2	0.0972	-----	-----
NGAIN = 1.000	NZOFF = 0.7				
Far Detector					
H	Channel 60	Expected Value 60 +/-2	Amplitude 0.0356	FWHM 5.69	Tol. <6.50
Fe	209	208 +/-2	0.0918	-----	-----
FGAIN = 0.991	FZOFF = 0.4				
Flask Temperature	57.4 degF				
Result	Logged	Expected Value	Diff.	Tol.	Units
COIR2	0.45	0.45	-0.00	+/-0.02	
LIRI2	1.64	1.64	0.00	+/-0.05	
TCCR2	5357	5000	357	+/-1000	cps
ITCR2	3314	3200	114	+/-250	cps

Sigma Mode					
Stabilization					
Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	80.00	80.00	0.00	+/-15.00	V
FCAP	10259	10000	259	+/-500	cps
Horizontal Water Tank					
Result	Logged	Expected Value	Diff.	Tol.	Units
N/F Normalizer	0.95	0.95	-0.00		
N/F Inel Norm	0.61	0.61	0.00		
RNF	1.05	1.07	-0.02	+/-0.12	
RINC	1.63	1.64	-0.01	+/-0.18	
SGFN	24.13	24.00	0.13	+/-0.50	cu
SGFF	22.90	22.85	0.05	+/-0.50	cu
FSIN	24743	24000	743	+/-2000	cps
FCAP	10417	10000	417	+/-1000	cps
NFTR	0.83			<5.00	
FFTR	0.88			<5.00	
NBKG	181			<500	cps
FBKG	96			<500	cps
RTN	0.41	0.40	0.01	+/-0.10	usec
RTF	0.42	0.40	0.02	+/-0.10	usec

Calibration Software Modules	
HRMTI Module	2013.11.14.0
RMTI Module	2014.5.9.1
Log Data Acquisition Software Modules	
HRMTI Module	2013.11.14.0
RMTI Module	2014.5.9.1

Gamma Ray Calibration Report						
Type / Serial:			002 / 11510542			
SHOP CALIBRATION		Wed Oct 08 12:44:31 2014				
	Counts/Sec.	Gain	Offset	Jig	Units	
Background	39.0				cps	
Calibrator	327.7				cps	
		1.4136			GAPI/cps	
PRIMARY VERIFICATION						
Background	55.1				cps	
Calibrator	461.2				cps	
Difference				406.1	GAPI	
BEFORE SURVEY VERIFICATION						
Background	0.0				cps	
Calibrator	0.0				cps	
Difference				0.0	GAPI	
AFTER SURVEY VERIFICATION						
Background	0.0				cps	
Calibrator	0.0				cps	
Difference				0.0	GAPI	

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
CCL	21.38		STNDCH-STND_CH 1.4375 IN CABLE HEAD	1.50	1.44	1.00
GR	19.13					
RmtTFGT	8.47					
RmtFBACK	8.47		TTTCU-002 (11510542) Through Tubing Telemetry Cartridge - Ultrawire	7.65	1.69	100.00
RmtFCAPT	8.47					
RmtFINEL	8.47					
RmtTNGT	7.97					
RmtNBACK	7.97					
RmtNCAPT	7.97					
RmtNINEL	7.97					
TLINICNT	0.22					
RImpBTEST	0.22					
RImpBCYC	0.22					
RImpBRGW	0.22		XHU-003 (11971778) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00
RImpBRGO	0.22					
RImpState	0.22					
RImpPhase	0.22					
RImpCyc	0.22					
RmtGenClampV	0.22					
RmtFTemp	0.22					
RmtFP5V	0.22					
RmtFPMHV	0.22					
RmtFPMI	0.22					
RmtFPrgSt1	0.22					
RmtFDetStat	0.22					
RmtNTemp	0.22					
RmtNPMHV	0.22					
RmtNPMI	0.22					
RmtNPrgSt1	0.22					
RmtNDetStat	0.22					
RmtGenIonI	0.22					
RmtGen15BusV	0.22					
RmtGenLvdsV	0.22					
RmtGenSyncV	0.22					
RmtGenClampV	0.22					
RmtGenP5V	0.22					

RmtGenP33V	0.22		RMTI-A (12210614) Halliburton RMTI Tool	14.00	2.13	77.00
RmtGen200V	0.22					
RmtGenP15VI	0.22					
RmtGenTemp	0.22					
RmtGenP5VI	0.22					
RmtGenI	0.22					
RmtGenPv	0.22					
RmtGenCmd	0.22					
RmtGenIspl	0.22					
RmtGenIsPv	0.22					
RmtGenIsPcmd	0.22					
RmtGenRepPv	0.22					
RmtGenRepV	0.22					
RmtGenRepSv	0.22					
RmtGenContSta	0.22					
RmtCommFWar	0.22					
RmtCommFlask	0.22					
HVOLTX	0.00					
ITEMPX	0.00					
TSTAMP	0.00					
XHUCUR4	0.00					
			BUL-006 (000002) Bullnose Terminator	0.22	1.69	1.20
XHUCUR3	0.00	Dataset: km_gp_27_rmt.db: field/well/run1/MAIN1 Total length: 24.95 ft Total weight: 186.20 lb O.D.: 2.13 in				
XHUCUR2	0.00					
XHUCUR1	0.00					
XHUSTAT	0.00					

Company	KINDER MORGAN CO2 CO LP			
Well	GOODMAN POINT (GP) 27			
Field	MCELMO			
County	MONTEZUMA	State	CO	
HALLIBURTON	RESERVOIR MONITOR TOOL - ELITE			