

County: Weld State: Colorado

Witnessed By	Steve Viall
--------------	-------------

Disclaimer

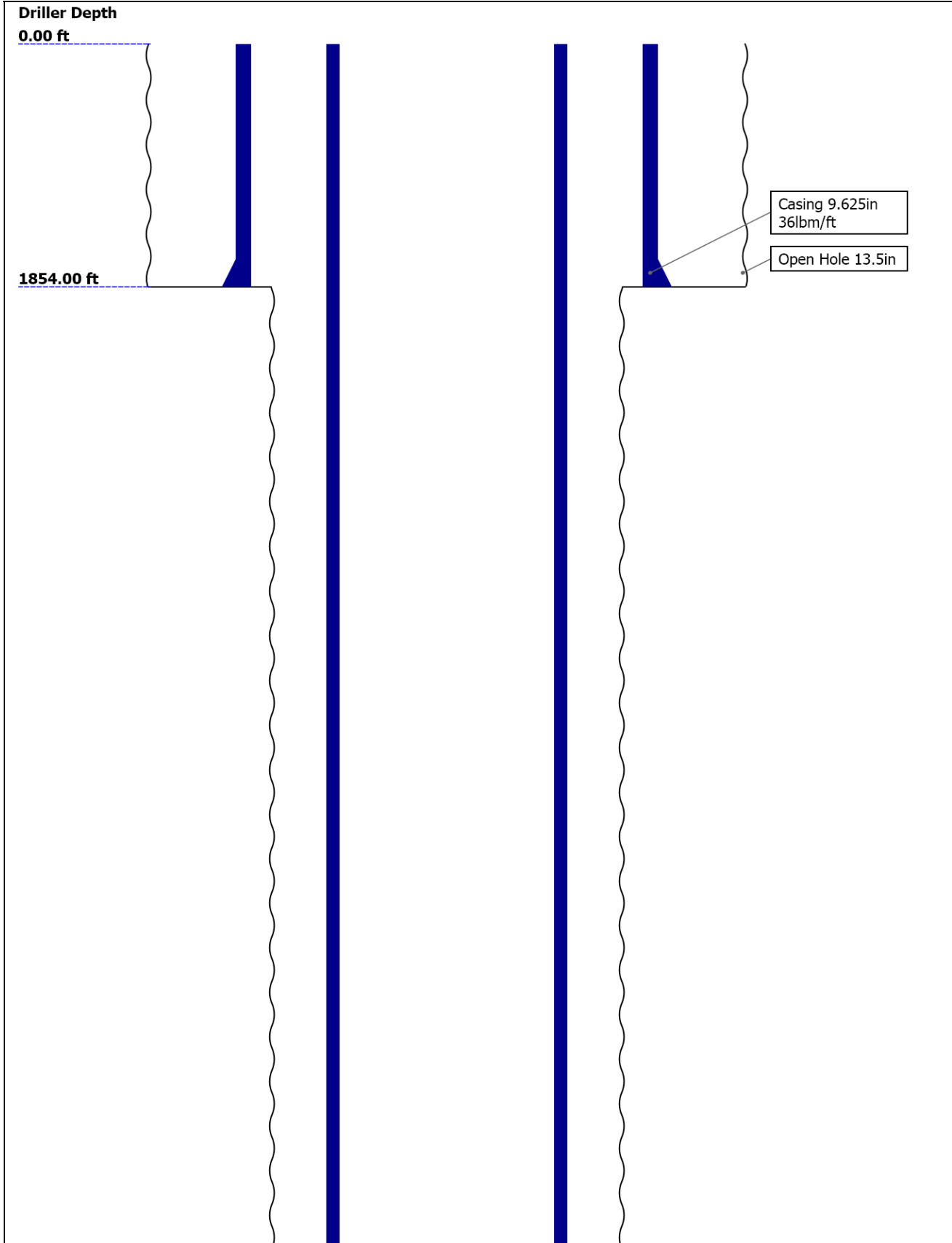
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

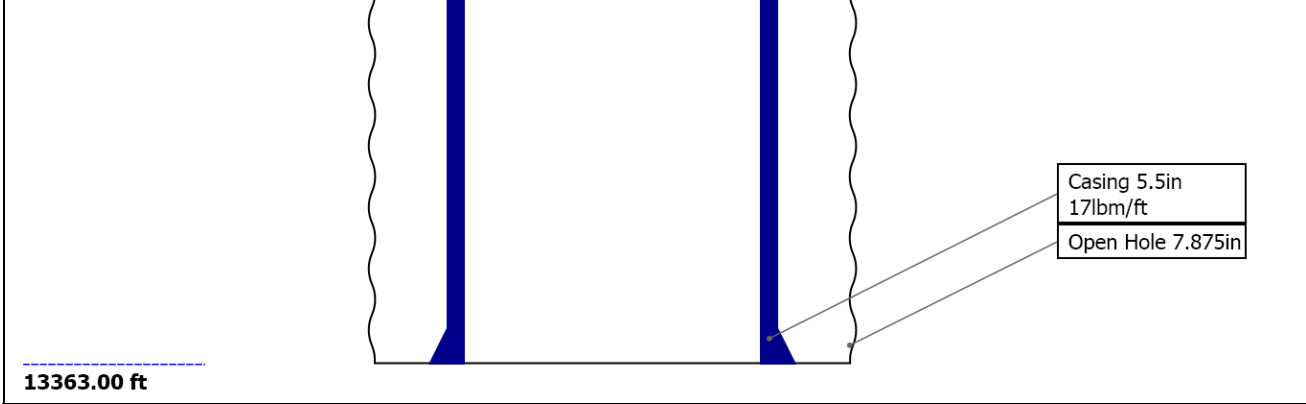
Contents

- | | |
|---------------------------------------|---|
| 1. Header | 15. XYZ (USI Acoustic Impedance of Mud vs Depth 3.0 in) |
| 2. Disclaimer | |
| 3. Contents | 16. Calibration Report |
| 4. Well Sketch | 17. Tail |
| 5. Borehole Size/Casing/Tubing Record | |
| 6. Operational Run Summary | |
| 7. Borehole Fluids | |
| 8. Remarks and Equipment Summary | |
| 9. Depth Summary | |
| 10. USI Fluid Properties Measurement | |
| 11. Run 1 State Log | |
| 11.1 Integration Summary | |
| 11.2 Software Version | |
| 11.3 Composite Summary | |
| 11.4 Log (ND State Only) | |
| 11.5 Parameter Listing | |
| 12. Run 1 USI Compressed Goodwin | |

- 12.1 Integration Summary
- 12.2 Composite Summary
- 12.3 Log (USI Goodwin)
- 13. Run 1 Correlation Log
 - 13.1 Integration Summary
 - 13.2 Log (Correlation 5 Inch)
- 14. XYZ (USI Fluid Acoustic Slowness vs Depth 3.0 in)

Well Sketch





Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	13.5	7.875				
Top Driller (ft)	0	1854				
Top Logger (ft)	0	1854				
Bottom Driller (ft)	1854	13363				
Bottom Logger (ft)	1854	7694				
Casing						
Size (in)	9.625	5.5				
Weight (lbm/ft)	36	17				
Inner Diameter (in)	8.921	4.892				
Grade	J55	P110				
Top Driller (ft)	0	0				
Top Logger (ft)	0	0				
Bottom Driller (ft)	1854	13363				
Bottom Logger (ft)	1854	13363				

Operational Run Summary

Parameter (unit)	Run 1					
Date Log Started	25-Aug-2015					
Time Log Started	13:04:31					
Date Log Finished	25-Aug-2015					
Time Log Finished	15:57:09					
Top Log Interval (ft)						
Bottom Log Interval (ft)	7694.00					
Total Depth (ft)	7694.00					
Max Hole Deviation (deg)	0.00					
Azimuth of Max Deviation (deg)	0.00					
Bit Size (in)	7.875					
Logging Unit Number	9108					
Logging Unit Location	Fort Morgan, CO					
Recorded By	Keri Ondrus					

Witnessed By	Steve Vigil					
Service Order Number	BX19-00274					

Borehole Fluids

Parameter(unit)	Run 1					
Fluid Type	Water					
Max Recorded Temperatures (degF)	234.75					
Salinity (ppm)	0					
Density (lbm/gal)	8.4					
Date Logger on Bottom	25-Aug-2015					
Time Logger on Bottom	13:55:00					
Total Solid (%)						
High Gravity Solids (%)						

Remarks and Equipment Summary

Run 1: Toolstring			Run 1: Remarks
Equip name	length	MP nameOffset	This is a subsequent trip to the well.
LEH-QT	32.77		Toolstring run as per toolsketch.
LEH-QT			Log objective: Cement and Casing Evaluation
EDTC-B:	29.85		Cemented by Schlumberger
8593			11.2 PPG MUDPUSH Express OBM, 12.0 PPG Lead Slurry, and 13.5 PPG Tail Slurry.
EDTH-B:			Estimated TOC @ 1770'. Expected TOC @ 0'.
8625			0 PSI repeat pass over Sussex from 4650'-4350'.
EDTG-A:			2800 PSI main pass.
77756			Bottom log interval at 7694', lost cable tension at this point.
EDTC-B:			Thank you for choosing Schlumberger Wireline!
8593			SLB crew: I Derry, D Marquez, A Carrera
CME-AF	23.35		
AH-184	19.56		
[2]:292			
9			
AH-184	17.56		
[1]:398			
5			
USIT-E:1	15.56		
722			
ECH-MFA			
:1992			
USAC-A:			
1722			
USIS-A:2			
797			
USSC-B:			
1730			
USRS-AB			
:865			
USI-SEN			
SOR			

<div><div><div><div><div></div><div>USIT Sensor Head</div><div>0.37</div></div><div></div><div>nsor</div><div>TOOL_ZERO</div><div>ension</div></div><div>Lengths are in ft</div><div>Maximum Outer Diameter = 5.125 in</div><div>Line: Sensor Location, Value: Gating Offset</div><div>All measurements are relative to TOOL_ZERO</div></div></div>			
Depth Summary			
Run 1			
Depth Measuring Device			
Type	IDW-B		
Serial Number	6510		
Calibration Date	28-Apr-2015		
Calibrator Serial Number			
Calibration Cable Type	7-46AXS		
Wheel Correction 1	-4		
Wheel Correction 2	-2		
Tension Device			
Type	CMTD-B/A		
Serial Number	171		
Calibration Date	18-Aug-2015		
Calibrator Serial Number	123		
Number of Calibration Points	10		
Calibration Root Mean Square Error	28		
Calibration Peak Error	59		
Logging Cable			
Type	7-46A-XS		
Serial Number			
Length	17100.00 ft		
Conveyance Type	Wireline		
Rig Type	Crane		
Run 1:Depth Control Parameters		Depth Control Remarks	
Log Sequence	Subsequent Trip To the Well	All Schlumberger depth control procedures followed	
Reference Log Name	Gauge Ring/ Junk Basket: Collar Strip	IDW used as primary depth control device.	
Reference Log Run Number		Z-chart used as secondary depth control device.	
Reference Log Date	21-Aug-2015		
Subsequent Trip Down Log Correction	-8.50 ft		
USIT - Fluid Properties Measurement			
Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 1	Main[6]:Up	7696.18	9.32
Fluid Velocity = "Automatic". CFVL equals DFSL channel			
Start Depth(ft)	Stop Depth(ft)	Start Value(us/ft)	End Value(us/ft)
Mud Impedance = "FreePipe Norm.". Free Pipe normalization zone is : 145.87m(478.59ft) to 152.10m(499.00ft) MUD_N_FRP = 1.38 DFD = 1.01g/cm3(8.40lbm/gal) CZMD median computed in free pipe normalization interval = 2.07 MRayl			
Start Depth(ft)	Stop Depth(ft)	Start Value(Mrayl)	End Value(Mrayl)
Run 1			
State Log			
Software Version			
Acquisition System		Version	
Maxwell 2014 SP3		5.3.45427.3100	

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 1	Main[6]:Up	Up	9.32 ft	7696.18 ft	25-Aug-2015 2:12:30 PM	25-Aug-2015 3:52:18 PM	ON	2.08 ft	Yes

All depths are referenced to toolstring zero

Log

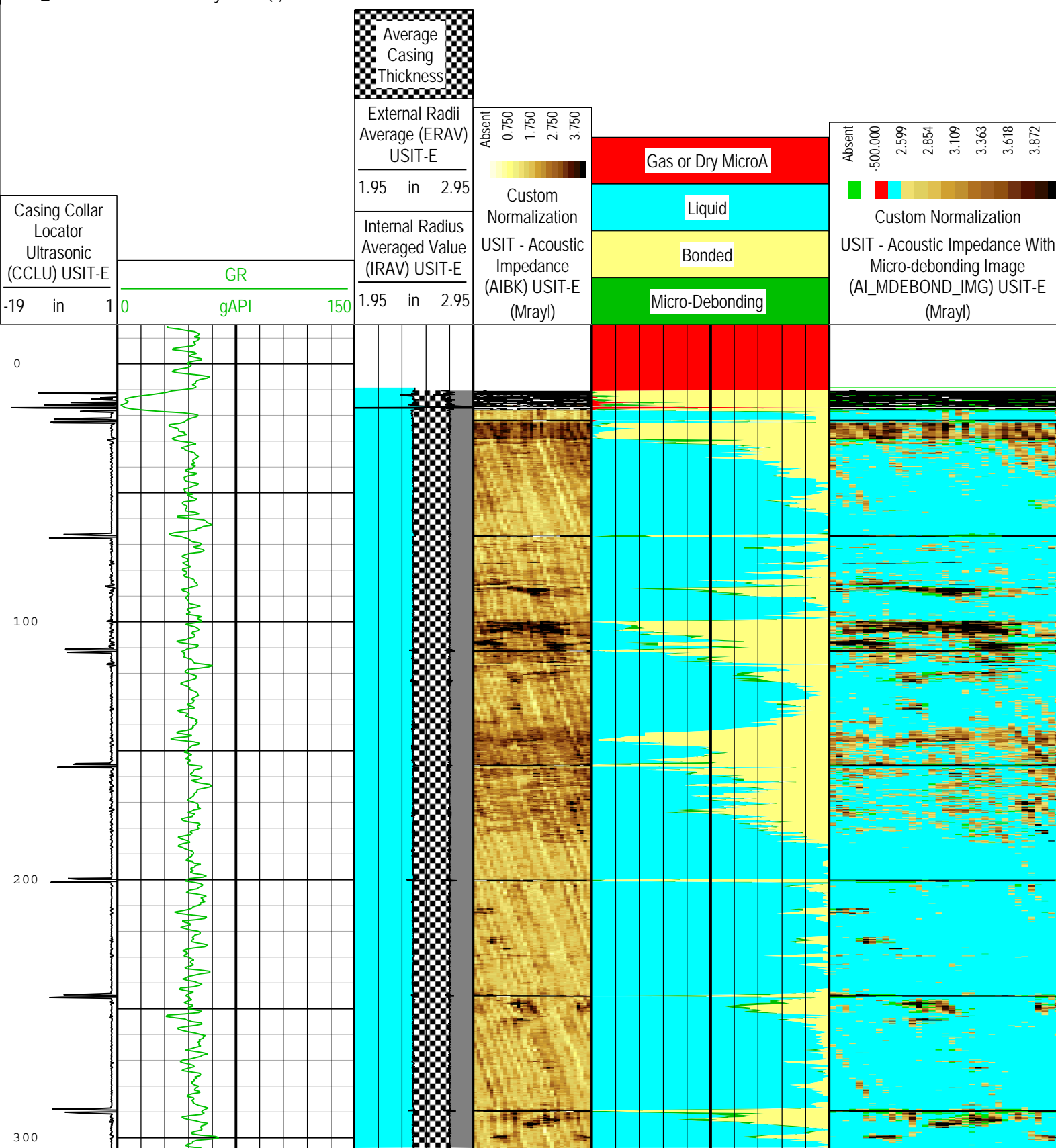
Company: Anadarko Petroleum Company

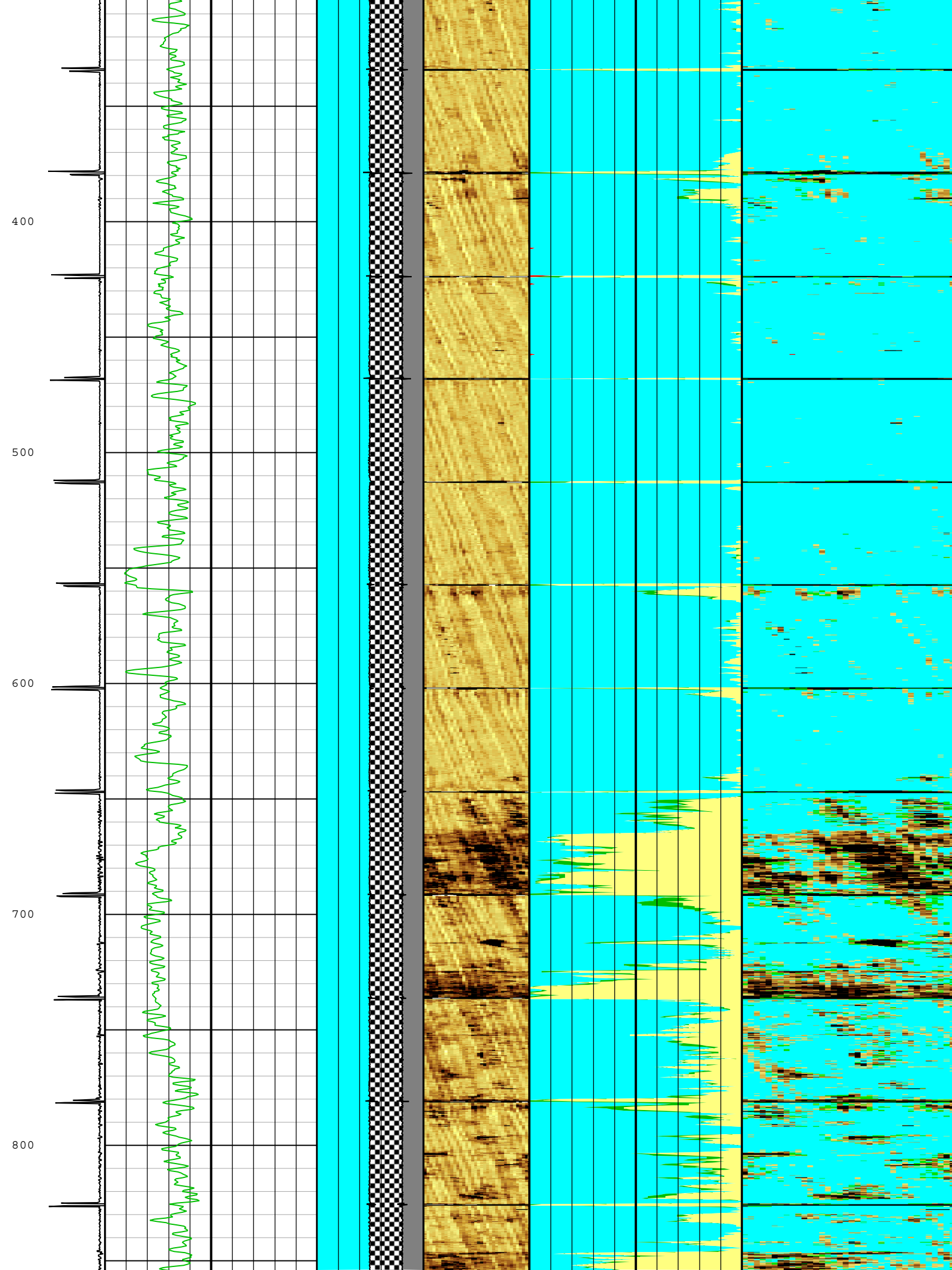
Well:English Farms 15C-8HZ

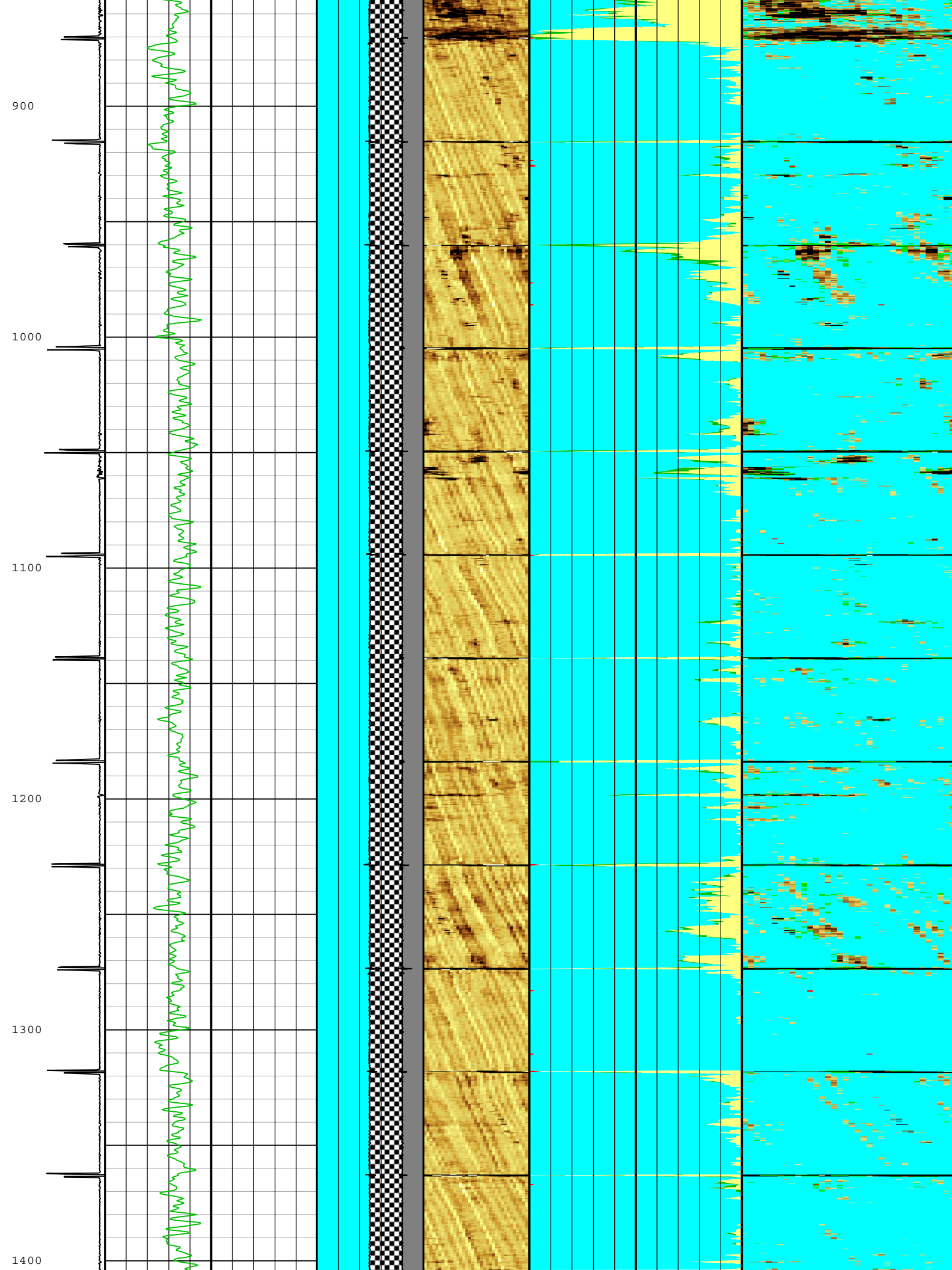
Run 1: Main[6]:Up:S008

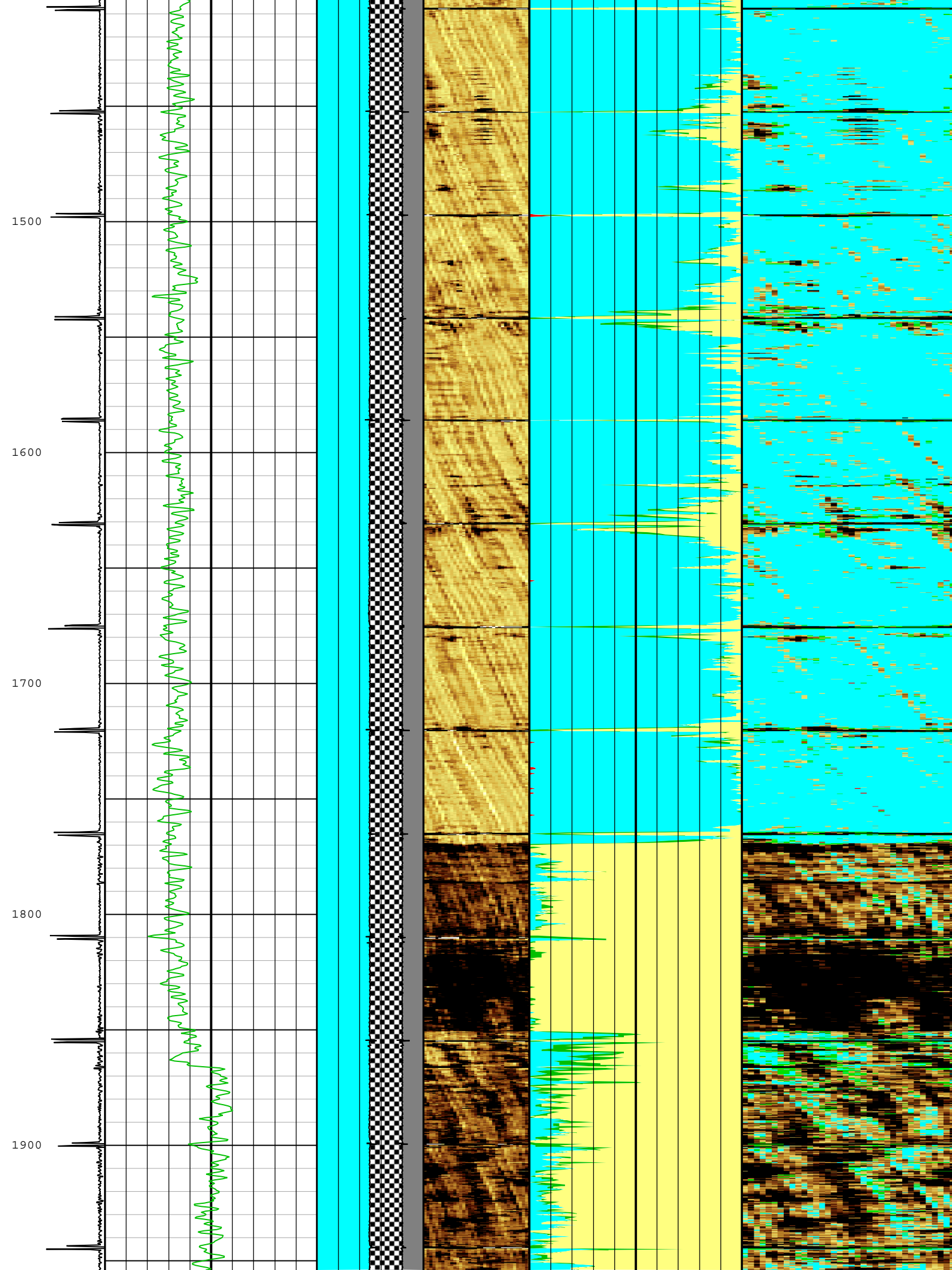
Description: USI Corrosion Format: Log (ND State Only) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 25-Aug-2015 17:25:50

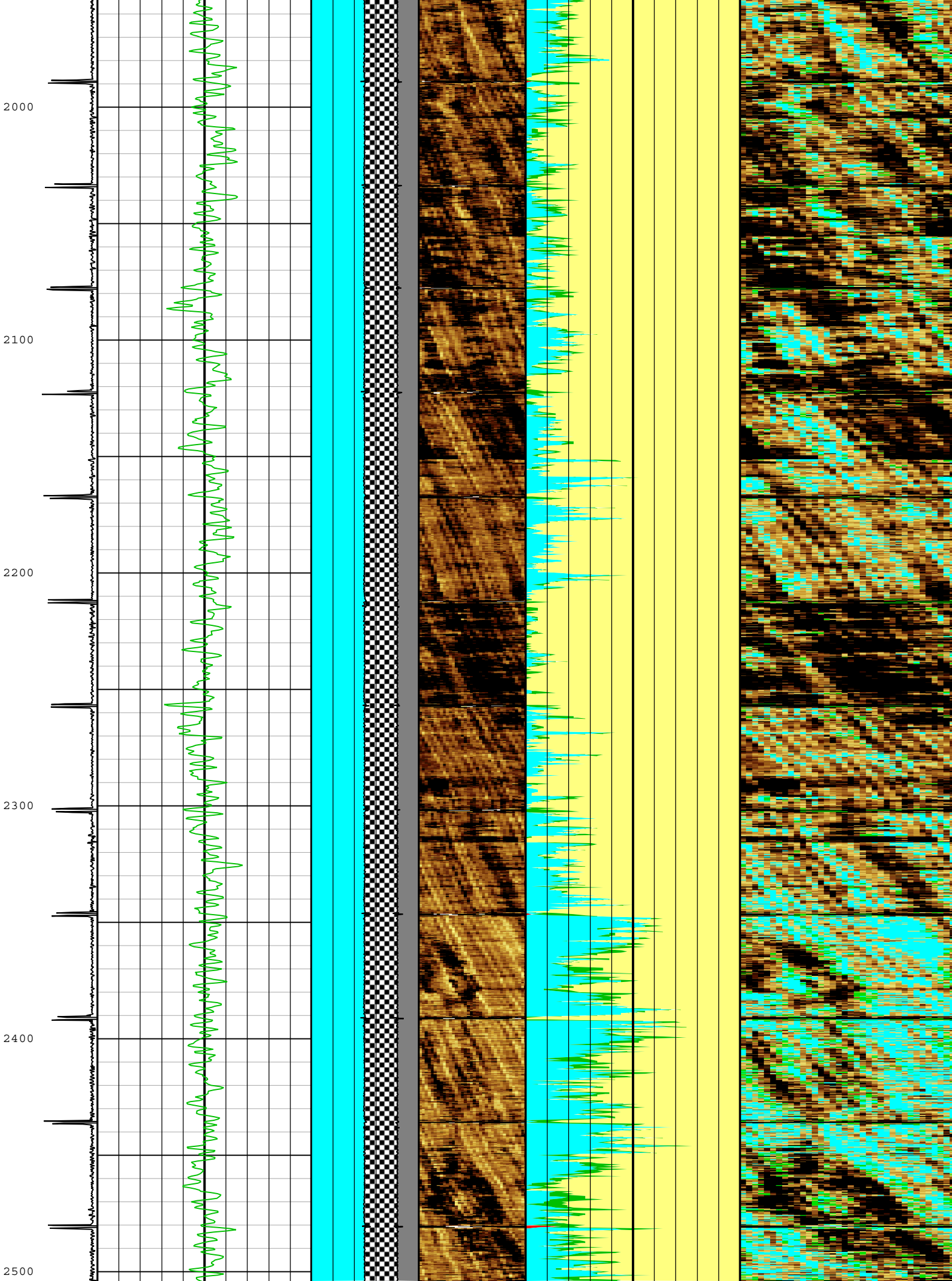
TIME_1900 - Time Marked every 60.00 (s)

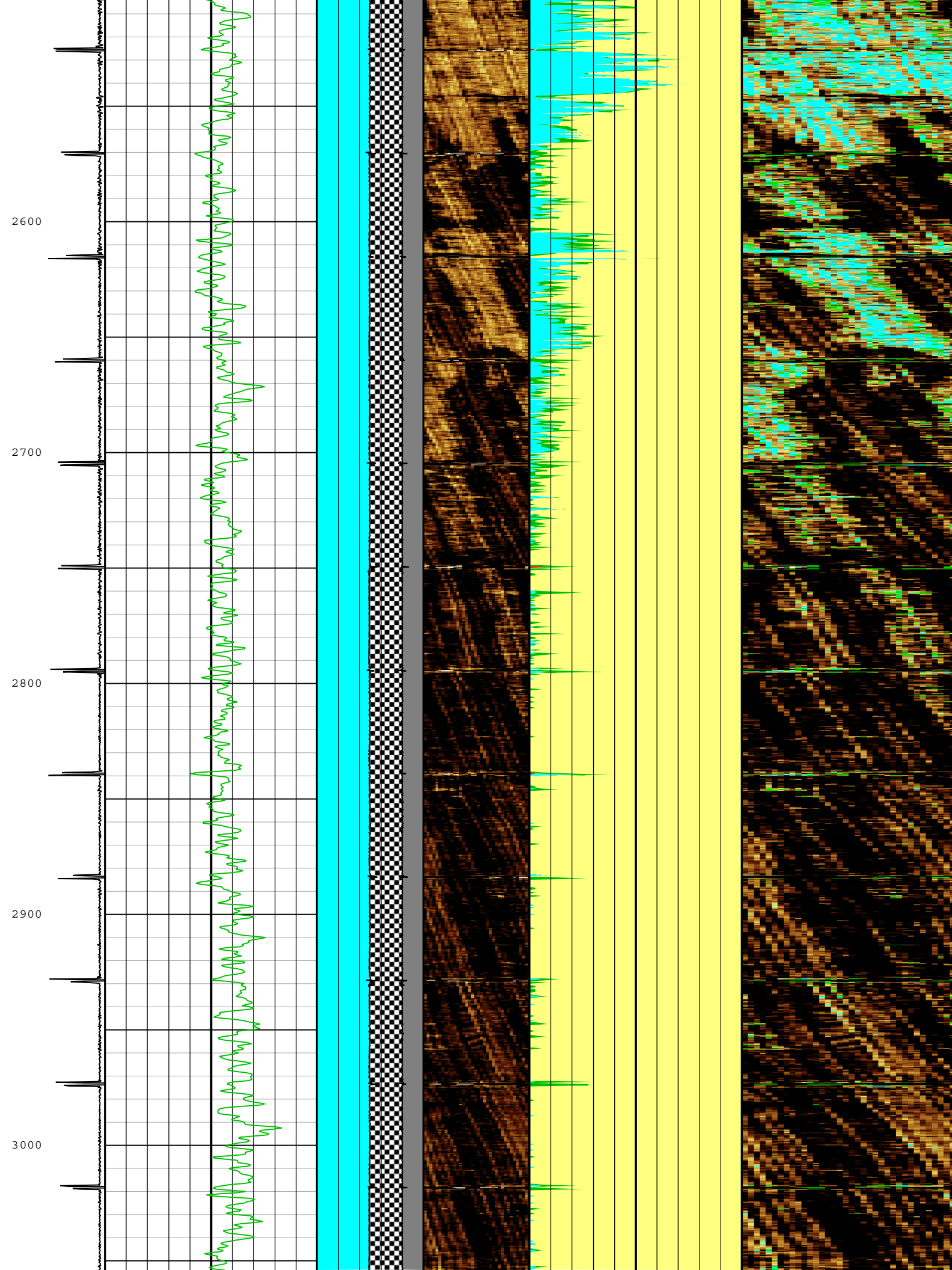


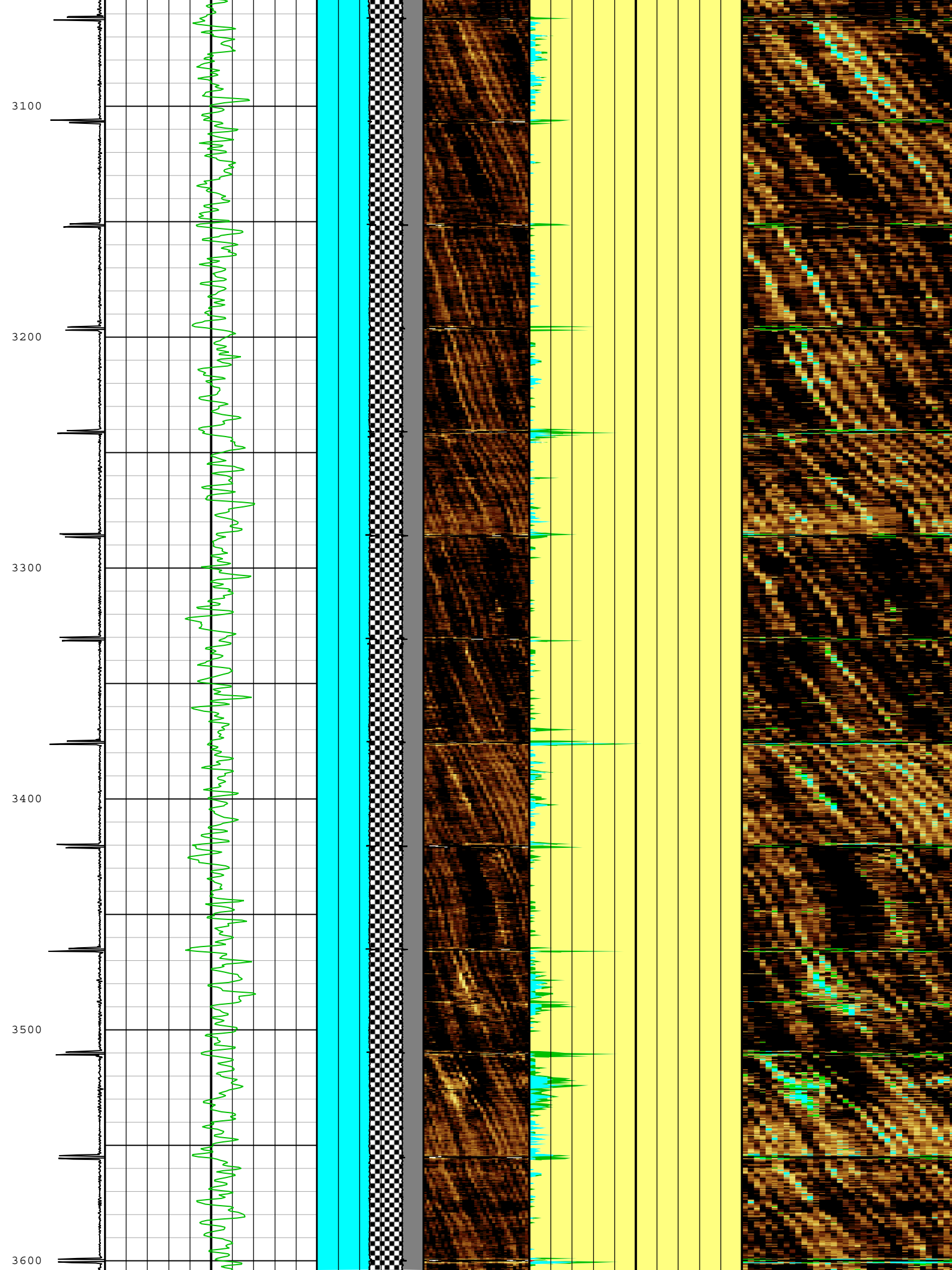


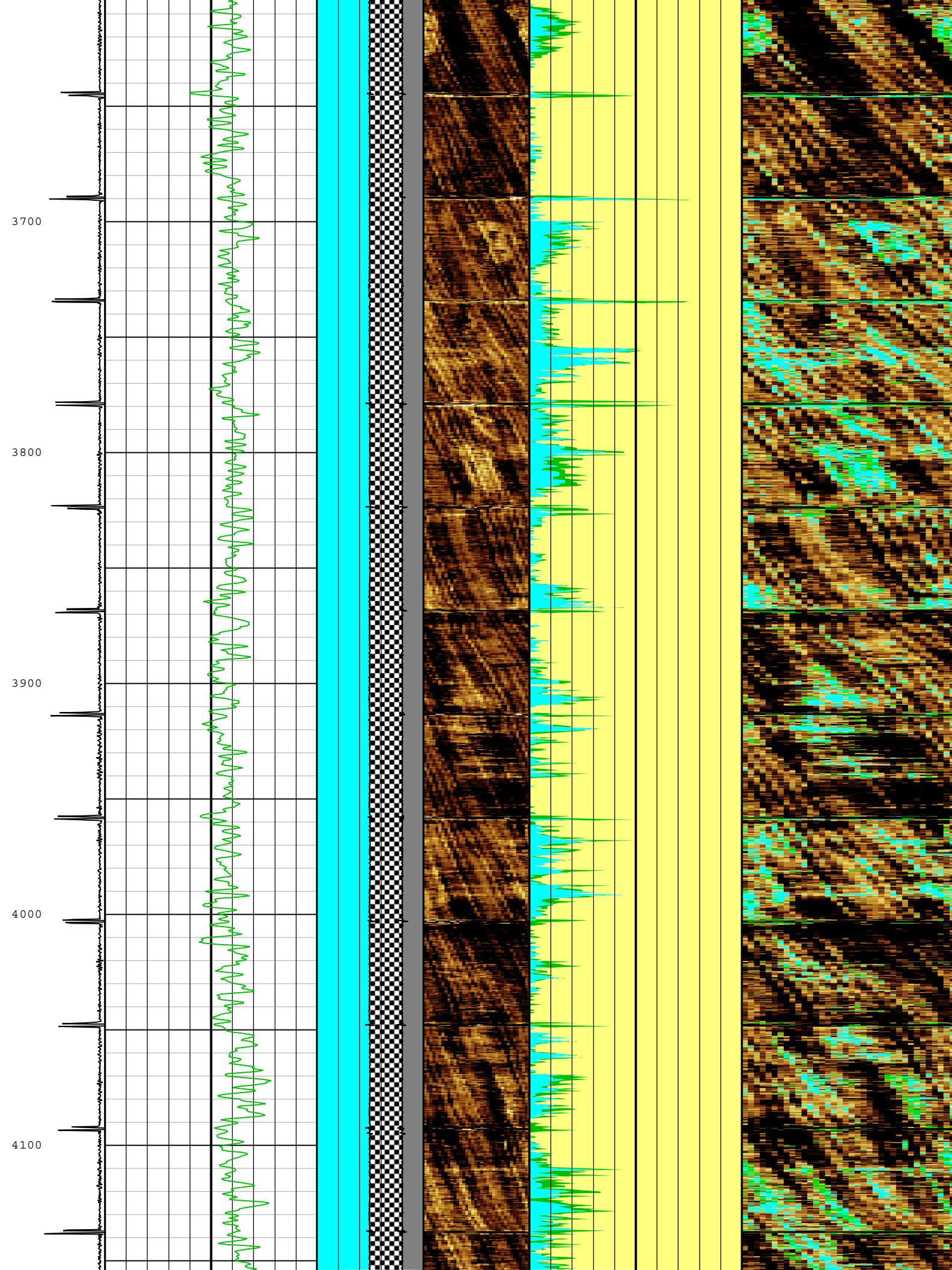


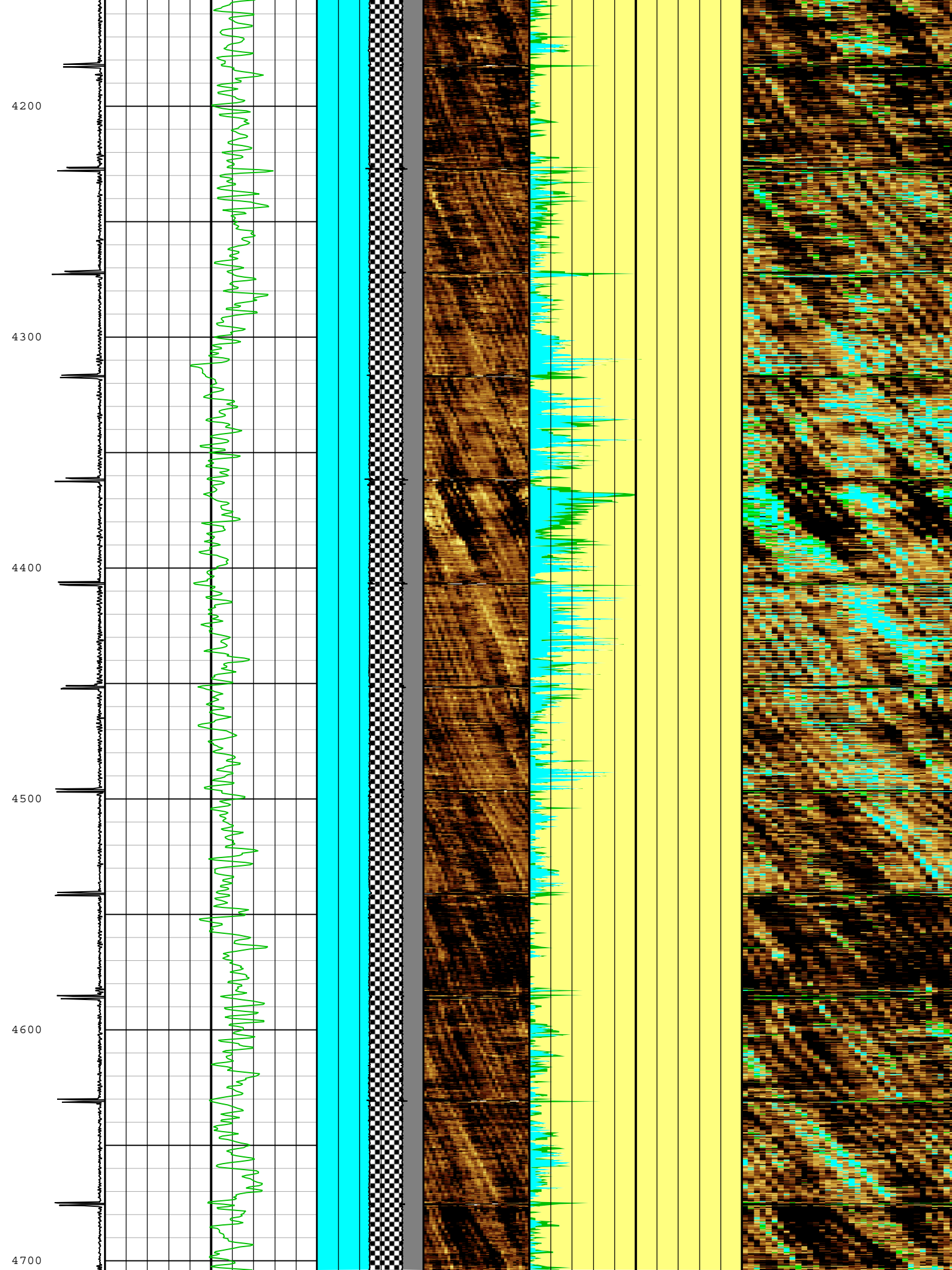


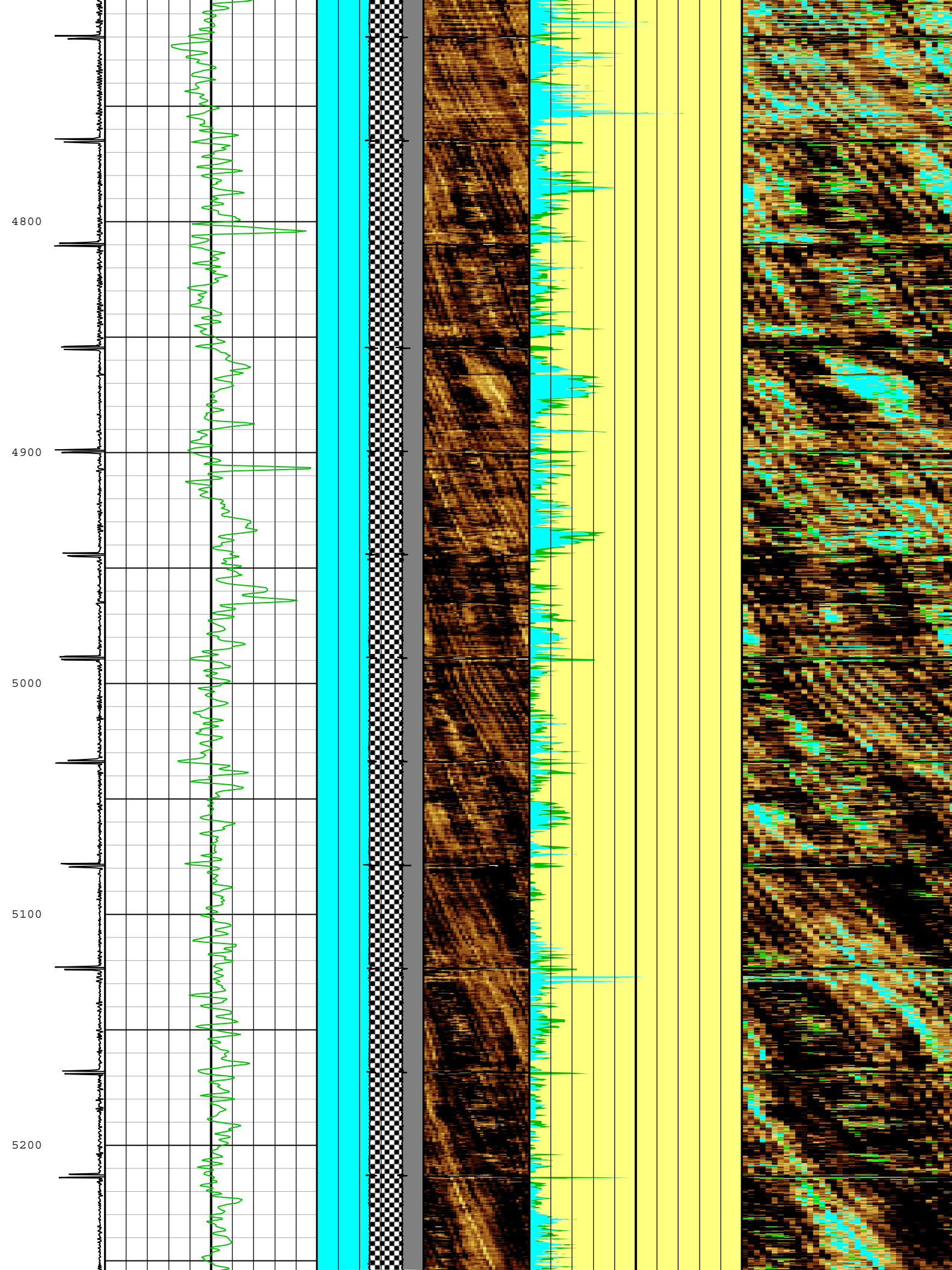


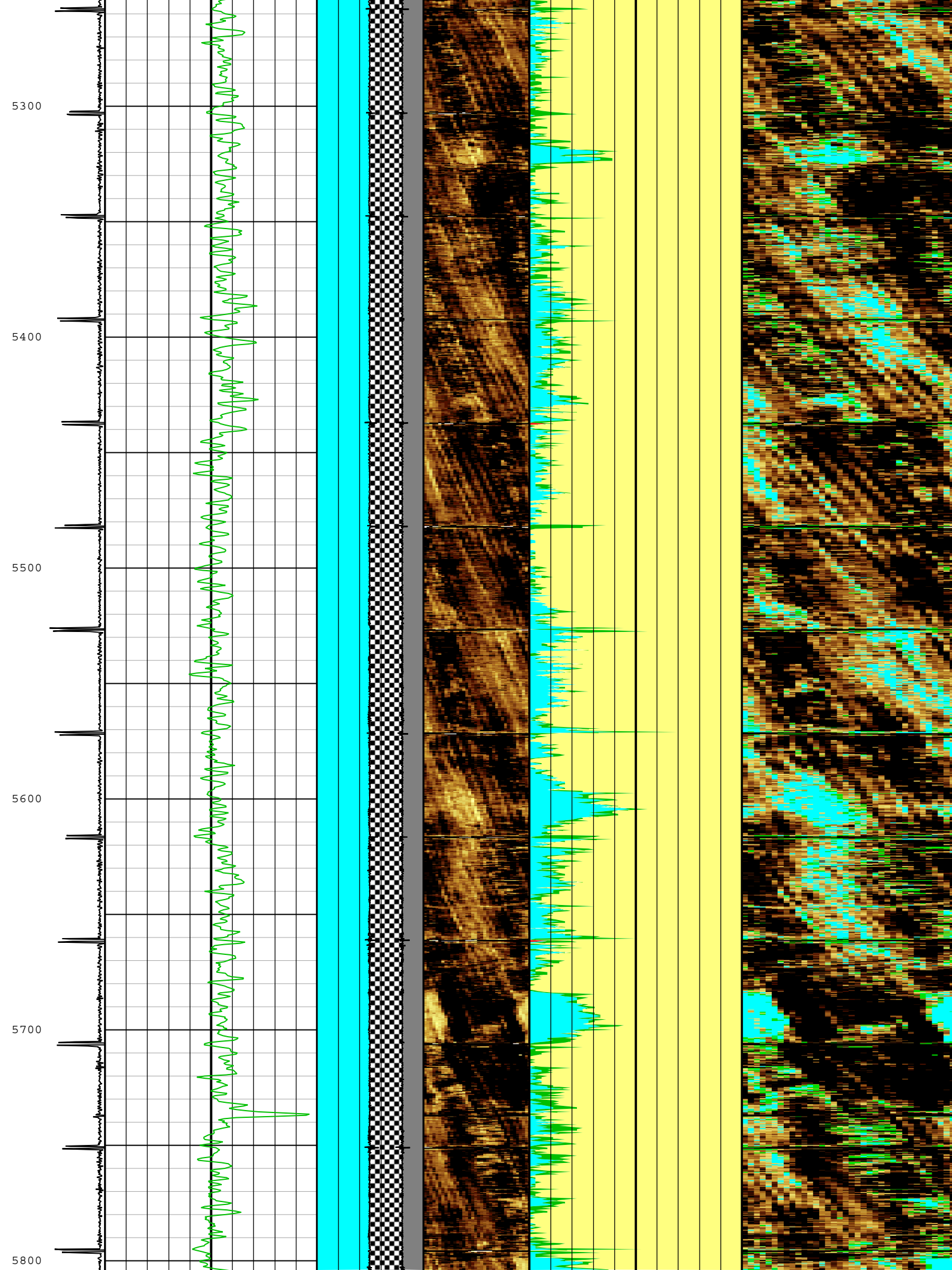


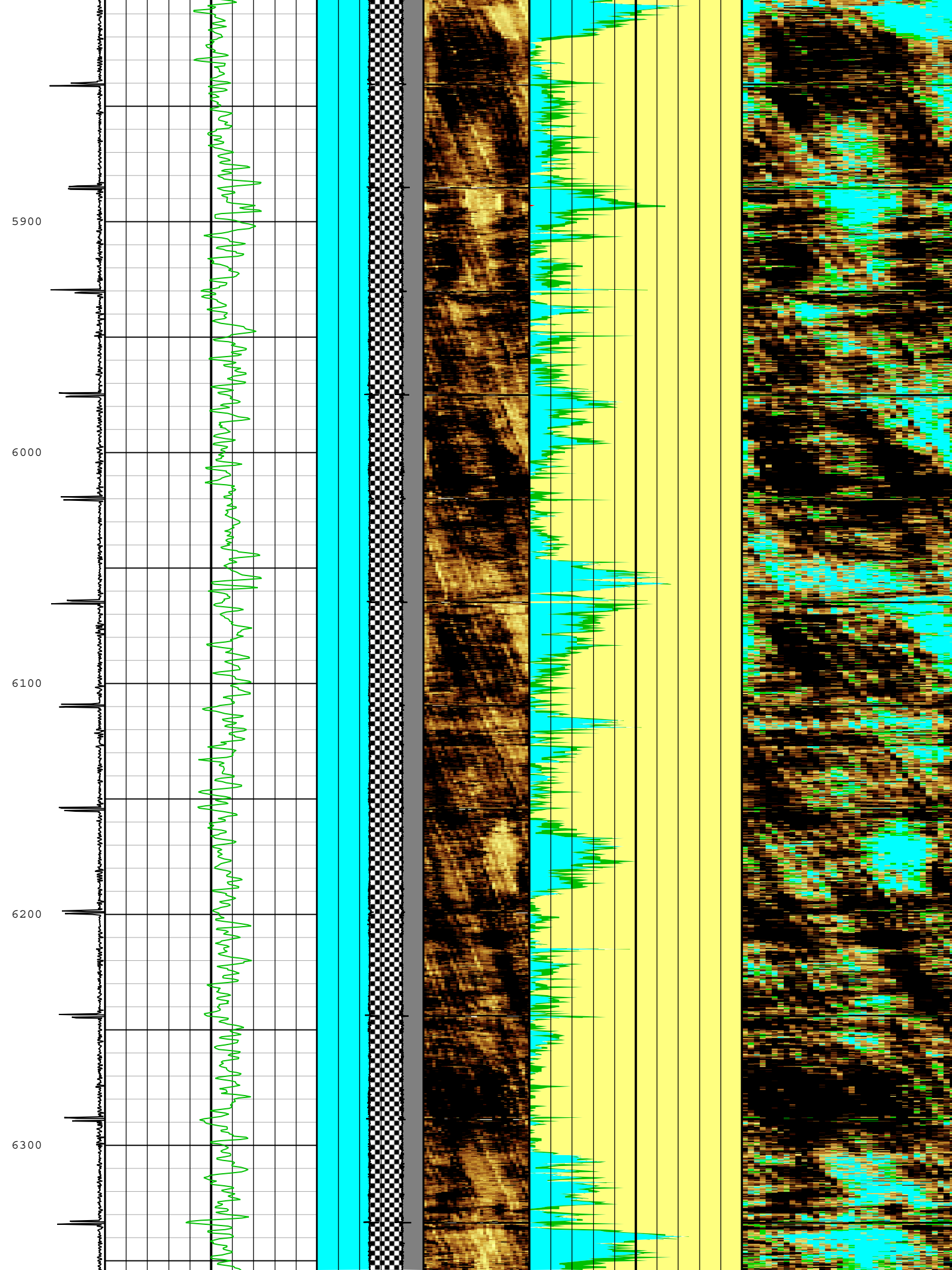


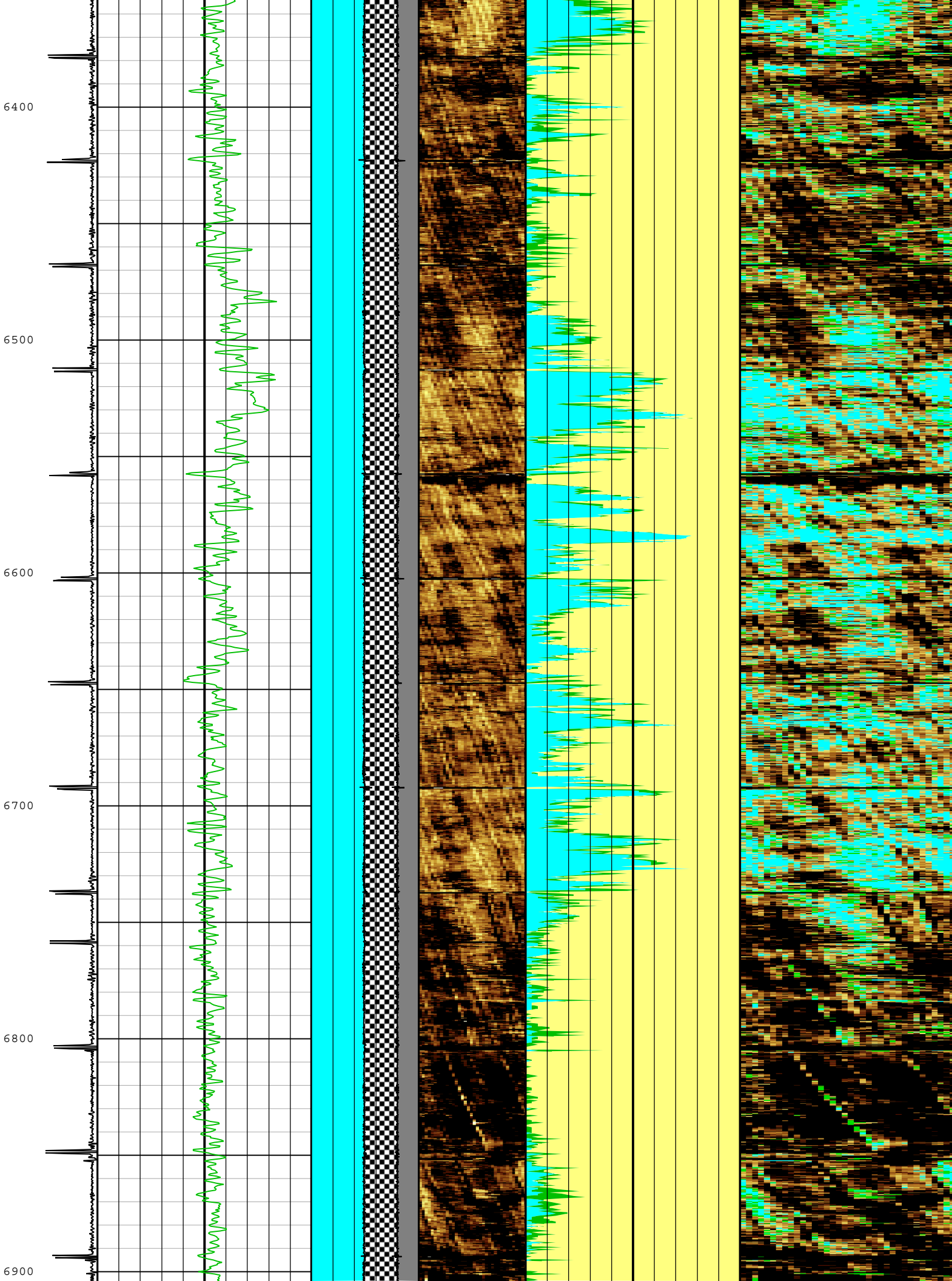


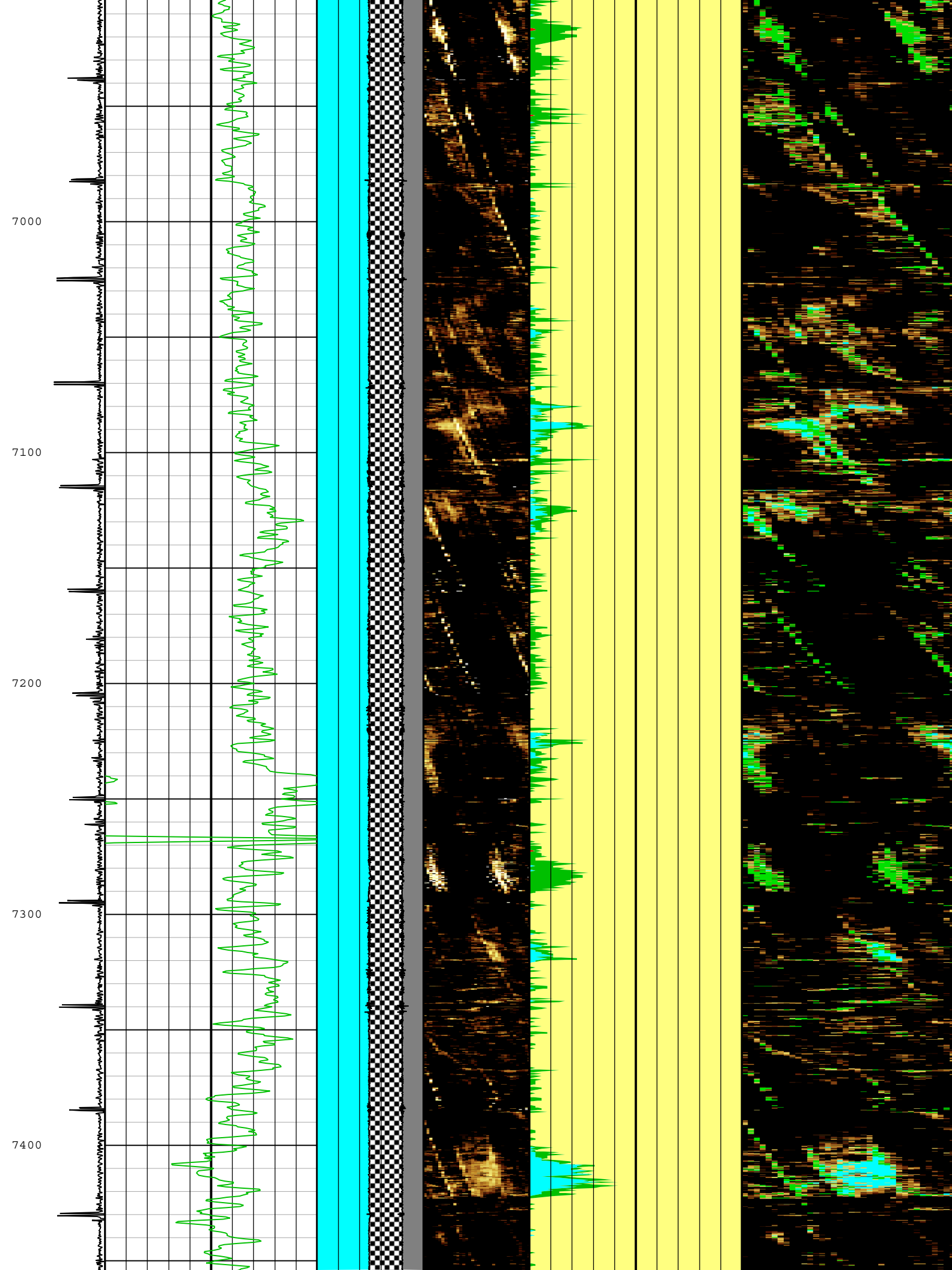


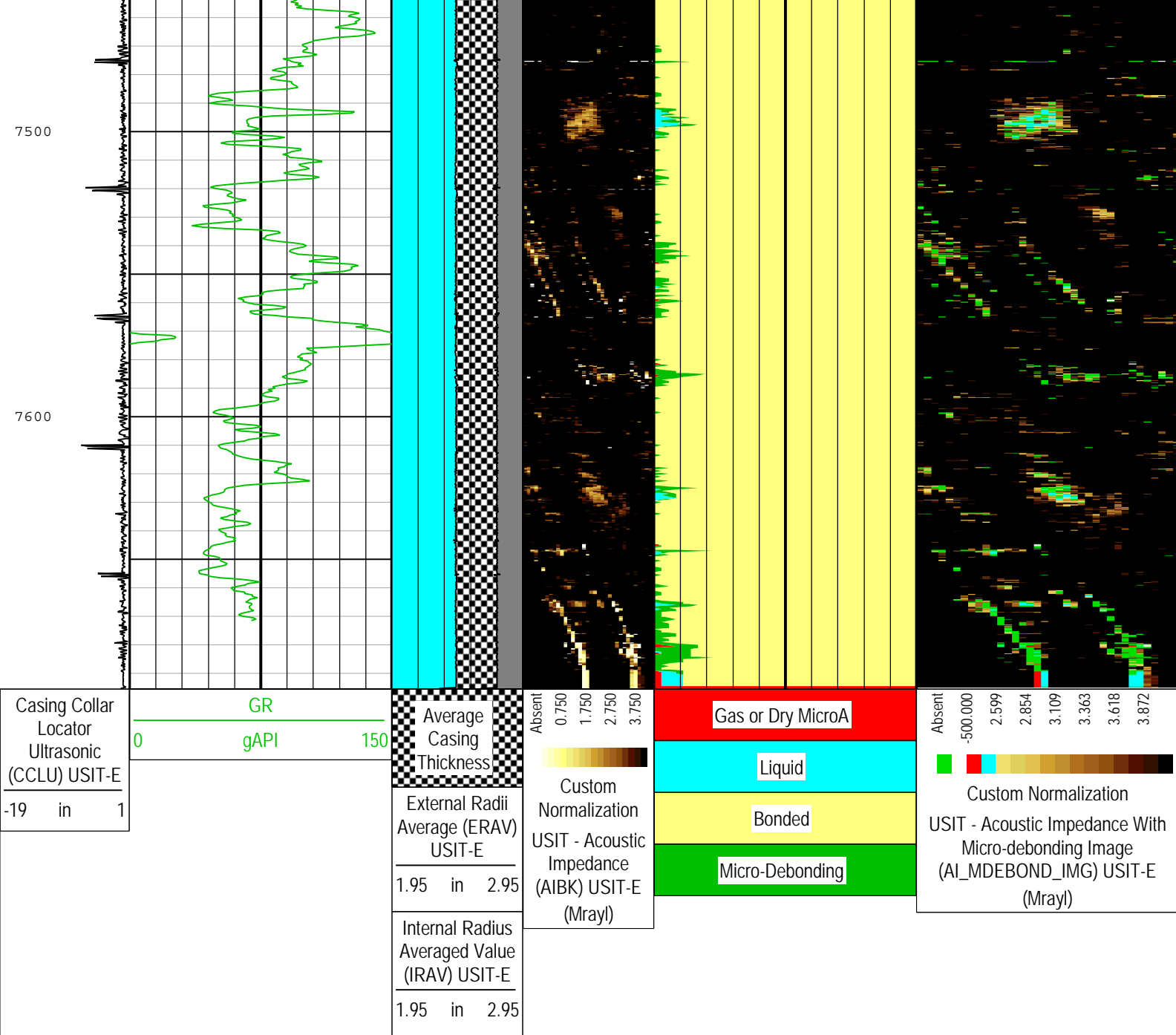












TIME_1900 - Time Marked every 60.00 (s)

Description: USI Corrosion Format: Log (ND State Only) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 25-Aug-2015 17:25:50

Channel Processing Parameters				
Run 1: Parameters				
Parameter	Description	Tool	Value	Unit
AFVU	Automatic Fluid Velocity Update	USIT-E	On	
ISSBAR	Barite Mud Presence Flag	Borehole	No	
BERJ	Bad Echo Rejection	USIT-E	On	
BS	Bit Size	WLSESSION	Depth Zoned	in
CASING_PRATIO	Casing Poisson Ratio	USIT-E	Standard Poisson Ratio	
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Light Cement	
THNO	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.304	in
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
FD	Fluid Density	USIT-E	10	lbm/gal

FD	Fluid Density	USIT-E	10	lbm/gal
FDII	FPM Data Interpolation Interval	USIT-E	0	ft
GR_MULTIPLIER	Gamma Ray Multiplier	EDTC-B	1	
HEMA	Hematite Presence Flag	Borehole	No	
ICE_BINPROC	ICE Bin Processing Depth Interval	USIT-E	0	ft
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	Off	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	18.79	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.38	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1	
RAPID_OPTION	Rapid Access Computation Option	USIT-E	Off	
RCOD	Reference Calibrator Outer Diameter	USIT-E	4.5	in
RCSO	Reference Calibrator Standoff	USIT-E	0.842	in
RCTH	Reference Calibrator Thickness	USIT-E	0.216	in
SDNV	Number of Vertical Samples used for Micro-debonding Computation	USIT-E	5	
SDTHOR	Acoustic Impedance STD Horizontal Threshold for Micro-debonding	USIT-E	0.5	Mrayl
SDTVER	Acoustic Impedance STD Vertical Threshold for Micro-debonding	USIT-E	0.3	Mrayl
TCUB	T^3 Processing Level	USIT-E	Loop	
THDH	Maximum Search Thickness (percentage of nominal)	USIT-E	130	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	70	%
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.77	Mrayl
UFGDE	Fiberglass Density	USIT-E	16.27	lbm/gal
UFGPS	Fiberglass Processing Selection	USIT-E	No	
UFGVL	Fiberglass Velocity	USIT-E	9678.48	ft/s
USI_FSOD	USIT USI Fluid Slowness Fits Casing Outer Diameter	USIT-E	0_OFF	
USI_FVEL_SEL	USI Fluid Velocity Selection	USIT-E	Automatic	
USI_ZMUD_SEL	USI Mud Impedance Selection	USIT-E	FreePipe Norm.	
THDP	Thickness Detection Policy	USIT-E	Fundamental	
VCAS	Ultrasonic Transversal Velocity in Casing	USIT-E	51.4	us/ft
ZCAS	Acoustic Impedance of Casing	USIT-E	46.25	Mrayl
ZINI	Initial Estimate of Cement Impedance	USIT-E	-1	Mrayl
ZMUD	Acoustic Impedance of Mud	Borehole	1.8	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

Depth Zone Parameters			
Parameter	Value	Start (ft)	Stop (ft)
BS	13.5	0	1854
BS	7.875	1854	7694
All depth are actual.			

Tool Control Parameters	
-------------------------	--

Run 1: Parameters				
Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	Time Zoned	dB
U-USIT_DDT5	USIC Downhole Decimation for T5 only	USIT-E	0_NONE	
DOT(DOS)	Distance between Opposite Transducer Faces	USIT-E	1.756	in
EMXV	EMEX Voltage	USIT-E	Time Zoned	V
HRES	Horizontal Resolution	USIT-E	10 deg	
MOTOR_PROTECT	Motor Protection	USIT-E	0	

MOTOR_PROTECT	Motor Protection	USIT-E	On	
TMUC	Type of Mud	USIT-E	BRI	
UACLV_PERM	Ultrasonic ACLV Permanent	USIT-E	No	
ULOG	Logging Objective	USIT-E	MEASUREMENT	
UMFR	Modulation Frequency	USIT-E	333333	Hz
USFR	Ultrasonic Sampling Frequency	USIT-E	500000	Hz
UPAT	USIT Emission Pattern	USIT-E	Pattern 500 KHz	
UWKM	USIT Working Mode	USIT-E	Uncompressed 10 deg at 3.0 in LF	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-E	7700	ft
USSP	Ultrasonic Service	USIT-E	USI	
VRES	Vertical Resolution	USIT-E	3.0 in	
WINB	Window Begin Time	USIT-E	Time Zoned	us
WINE	Window End Time	USIT-E	73.83	us

Time Zone Parameters					
Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
AGMX	18	25-Aug-2015 14:12:30	25-Aug-2015 14:23:21	7696.18	7691.91
AGMX	48	25-Aug-2015 14:23:21	25-Aug-2015 15:52:18	7691.91	9.32
EMXV	55	25-Aug-2015 14:12:30	25-Aug-2015 14:24:50	7696.18	7668.48
EMXV	50	25-Aug-2015 14:24:50	25-Aug-2015 14:25:19	7668.48	7661.03
EMXV	55	25-Aug-2015 14:25:19	25-Aug-2015 14:31:49	7661.03	7319.7
EMXV	58	25-Aug-2015 14:31:49	25-Aug-2015 14:31:56	7319.7	7310.87
EMXV	62	25-Aug-2015 14:31:56	25-Aug-2015 14:32:04	7310.87	7299.48
EMXV	55	25-Aug-2015 14:32:04	25-Aug-2015 14:32:12	7299.48	7288.68
EMXV	50	25-Aug-2015 14:32:12	25-Aug-2015 14:32:36	7288.68	7257.47
EMXV	45	25-Aug-2015 14:32:36	25-Aug-2015 14:33:05	7257.47	7217.9
EMXV	42	25-Aug-2015 14:33:05	25-Aug-2015 14:39:18	7217.9	6719.86
EMXV	40	25-Aug-2015 14:39:18	25-Aug-2015 14:52:52	6719.86	5582.76
EMXV	38	25-Aug-2015 14:52:52	25-Aug-2015 14:56:33	5582.76	5235.48
EMXV	36	25-Aug-2015 14:56:33	25-Aug-2015 15:21:02	5235.48	2798.97
EMXV	38	25-Aug-2015 15:21:02	25-Aug-2015 15:27:46	2798.97	2132.56
EMXV	40	25-Aug-2015 15:27:46	25-Aug-2015 15:52:18	2132.56	9.32
WINB	33.83	25-Aug-2015 14:12:30	25-Aug-2015 14:23:50	7696.18	7684.25
WINB	29.8	25-Aug-2015 14:23:50	25-Aug-2015 15:52:18	7684.25	9.32

All depth are at tool zero.

Run 1

USI Compressed Goodwin

Pass Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 1	Main[6]:Up	Up	9.32 ft	7696.18 ft	25-Aug-2015 2:12:30 PM	25-Aug-2015 3:52:18 PM	ON	2.08 ft	Yes

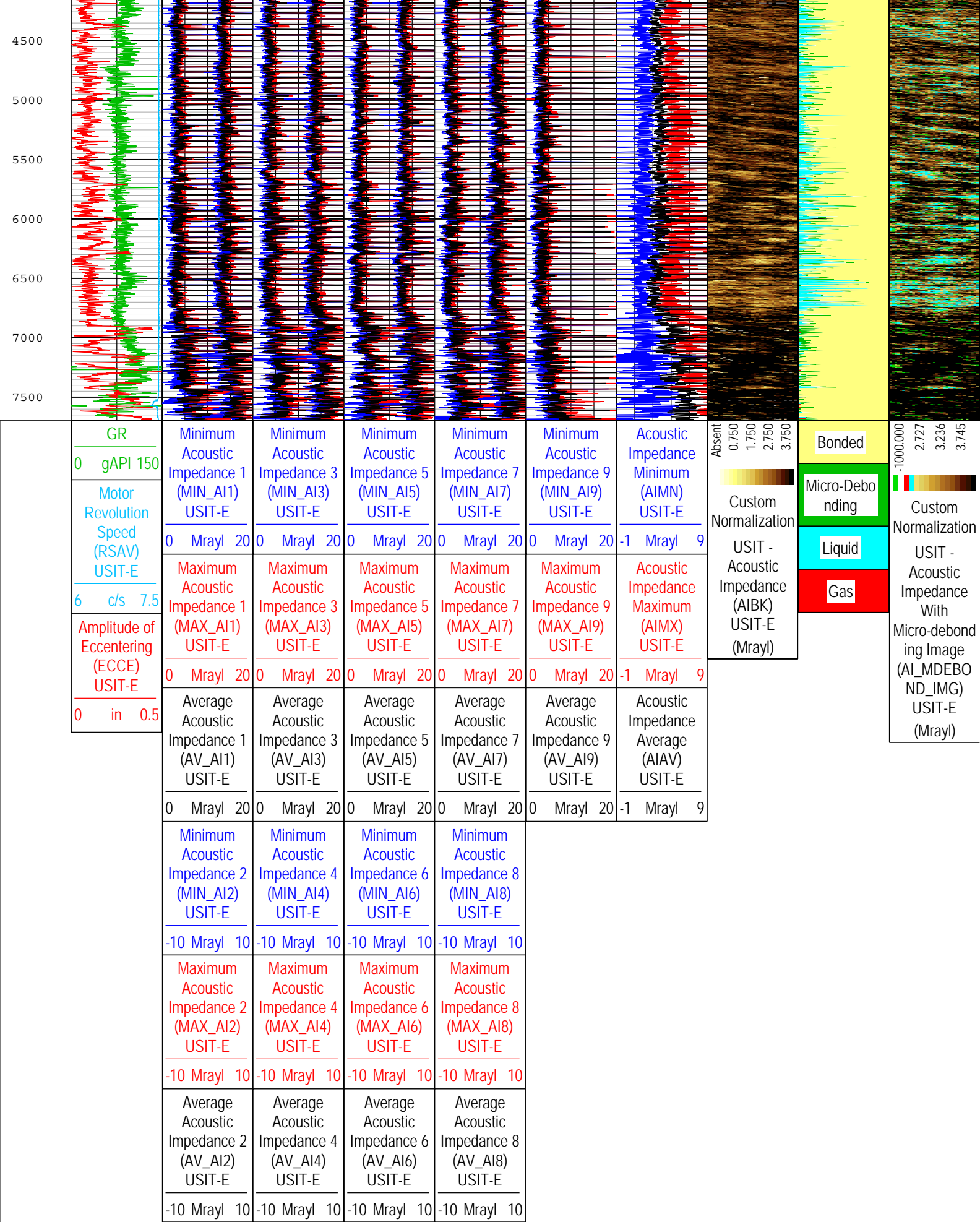
All depths are referenced to toolstring zero

Log	Company:Anadarko Petroleum Company	Well:English Farms 15C-8HZ
	Run 1: Main[6]:Up:S008	

Description: USI Goodwin Format: Log (USI Goodwin) Index Scale: 0.1 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 25-Aug-2015 17:25:58

TIME_1900 - Time Marked every 60.00 (s)

[illegible]



TIME_1900 - Time Marked every 60.00 (s)

Description: USI Goodwin Format: Log (USI Goodwin) Index Scale: 0.1 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 25-Aug-2015 17:25:58

Correlation Log

Log

Company:Anadarko Petroleum Company

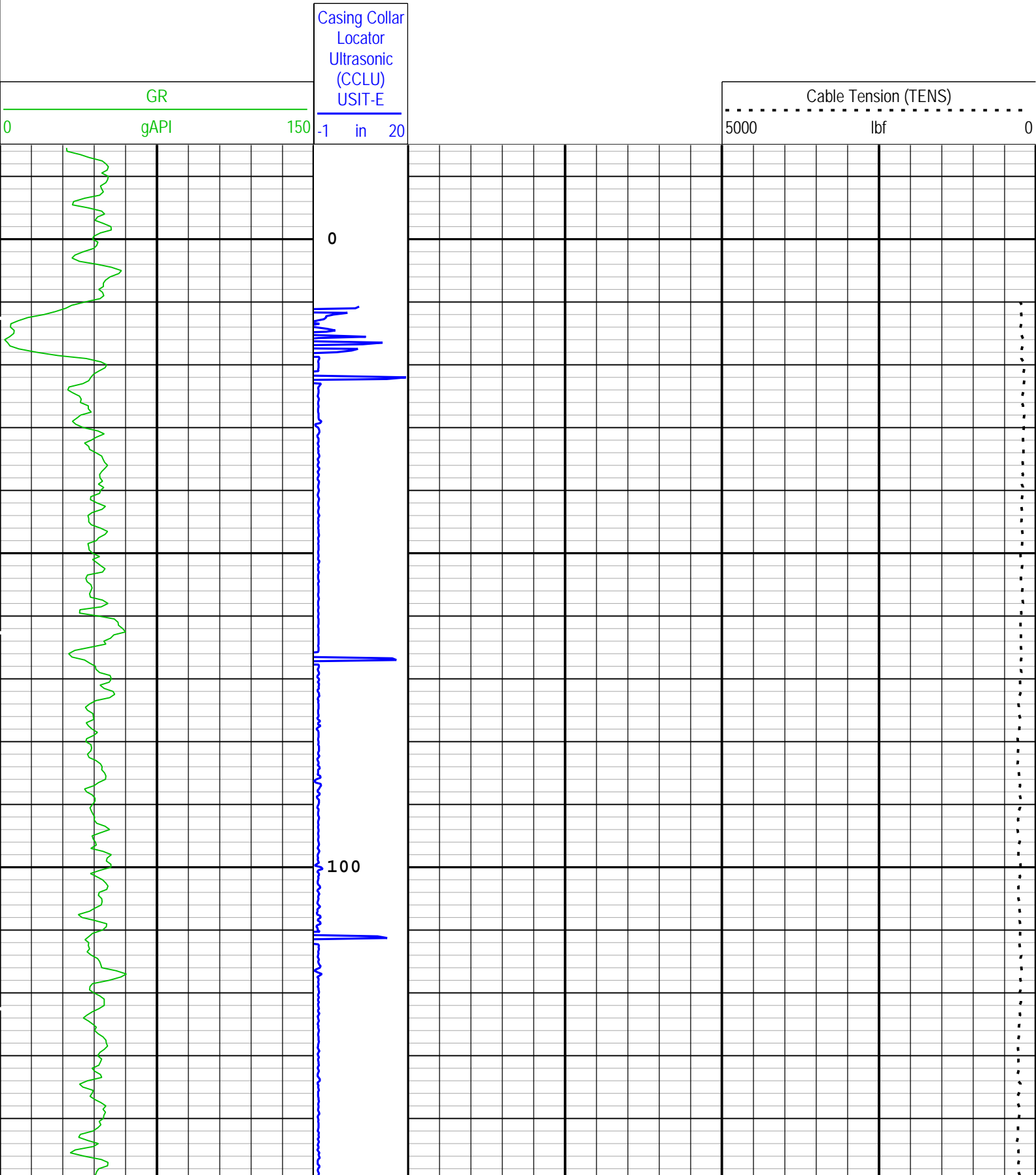
Well:English Farms 15C-8HZ

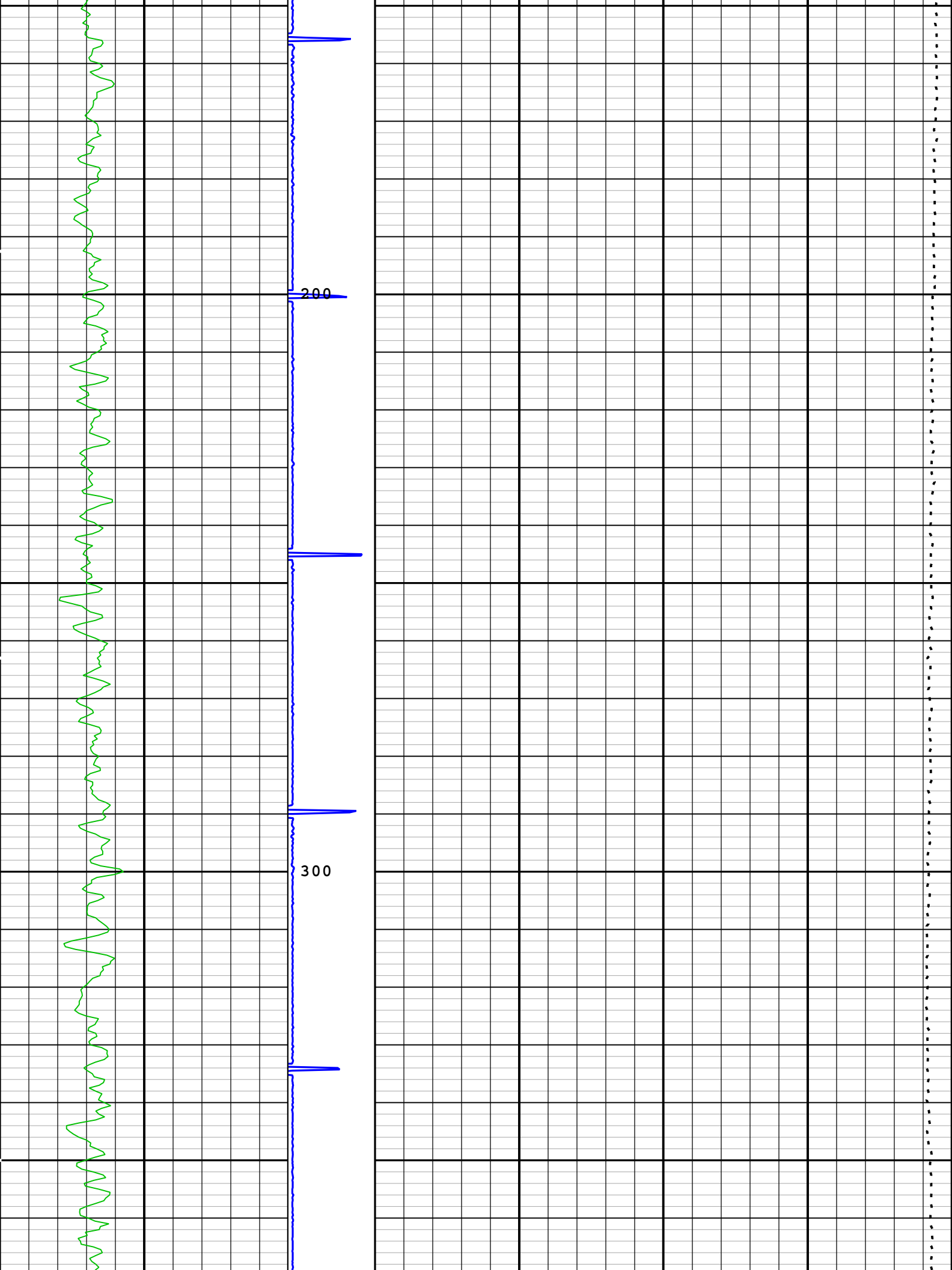
Run 1: Main[6]:Up:S008

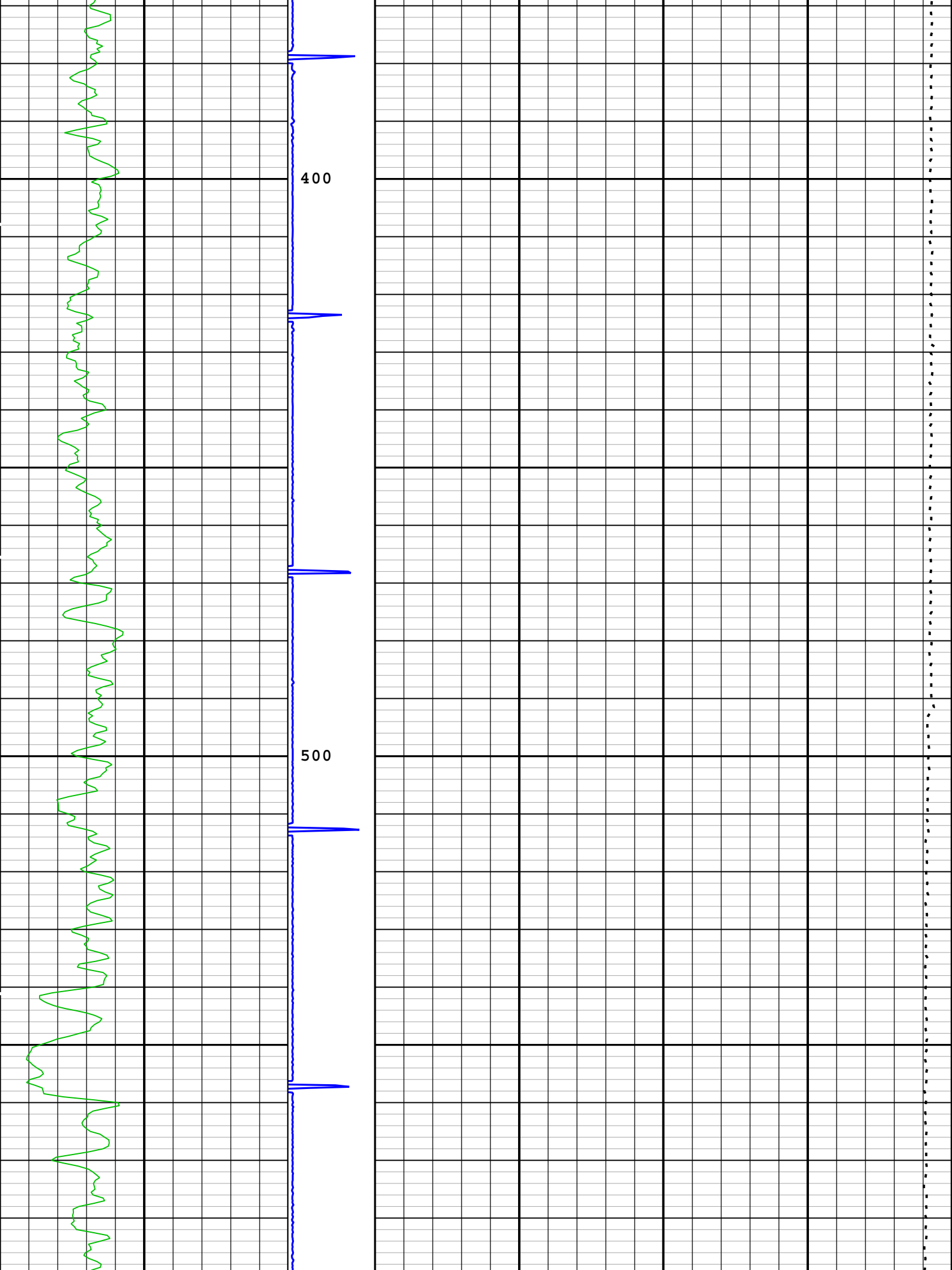
Description: DEPTH Domain Log for EDTCB GR channels Format: Log (Correlation 5 Inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type:

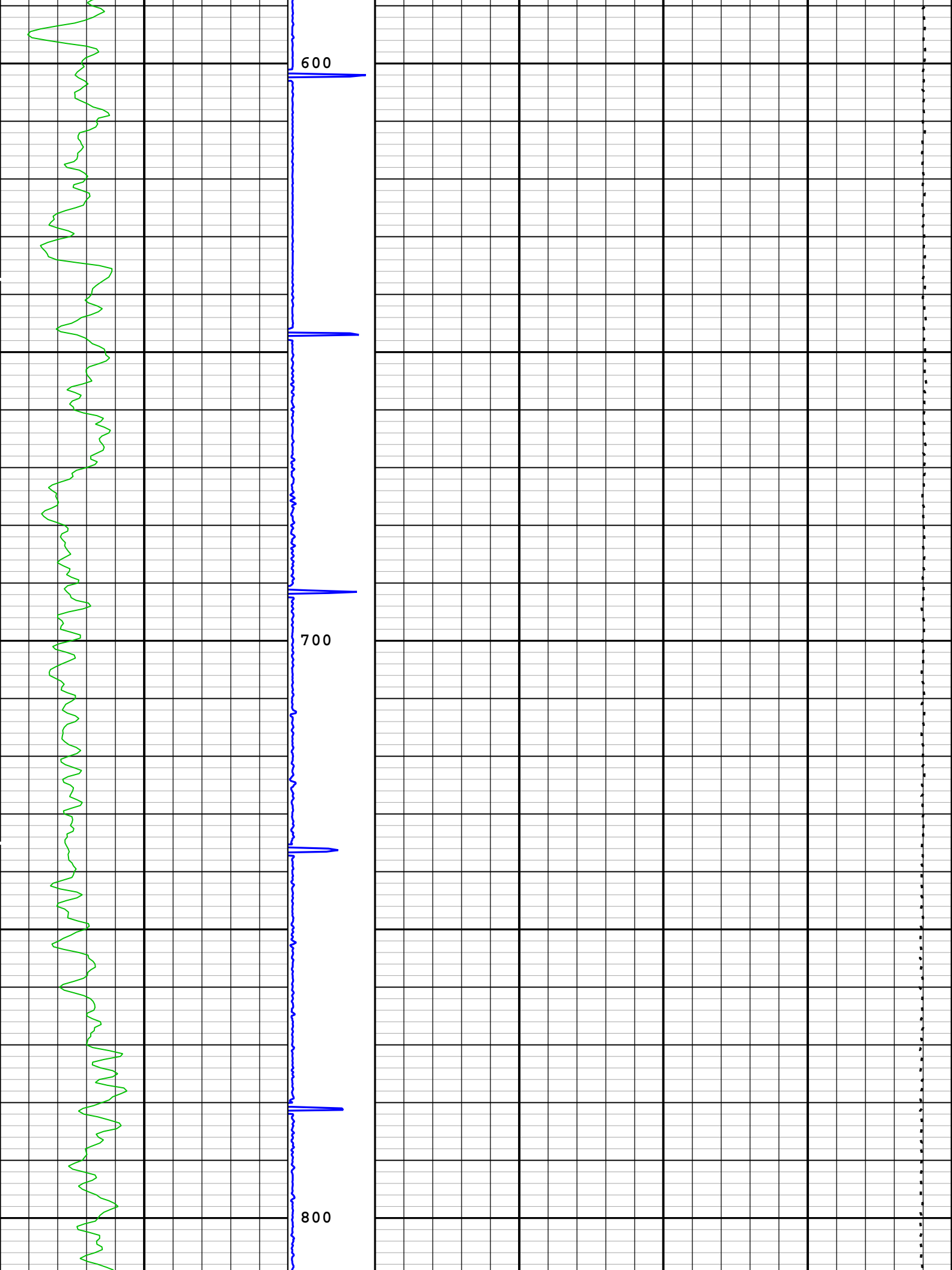
Measured Depth Creation Date: 25-Aug-2015 17:26:00

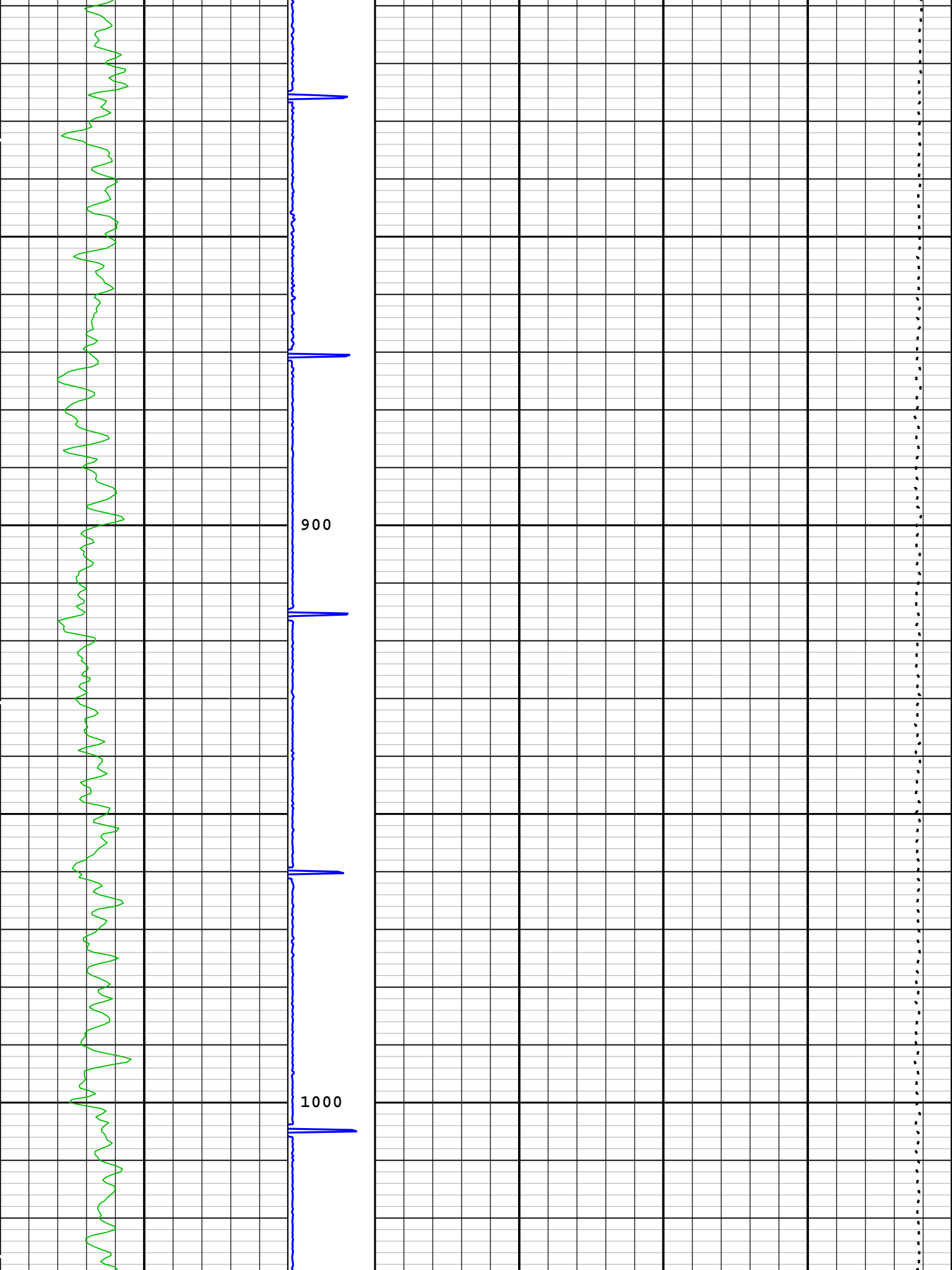
TIME_1900 - Time Marked every 60.00 (s)

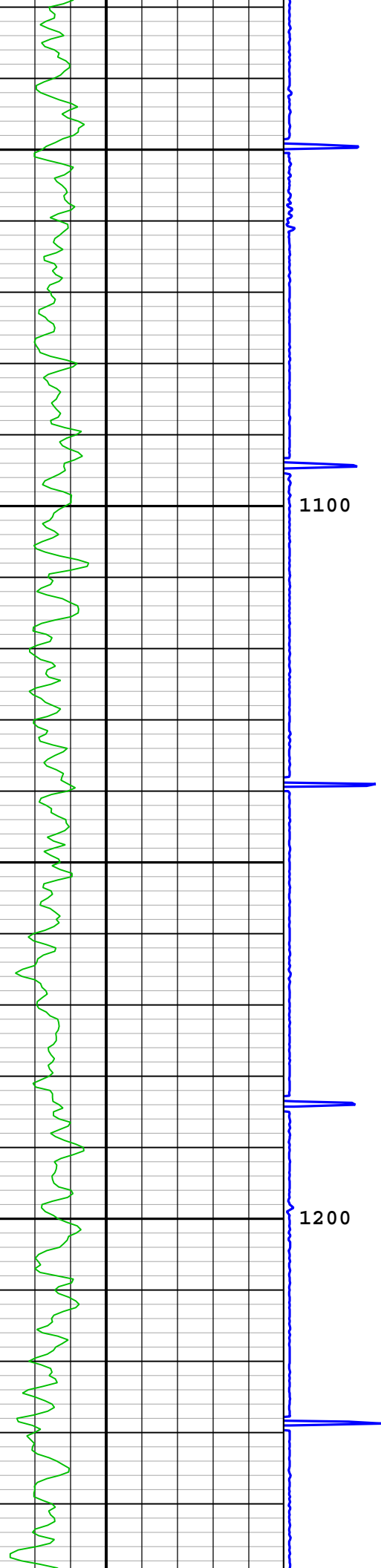


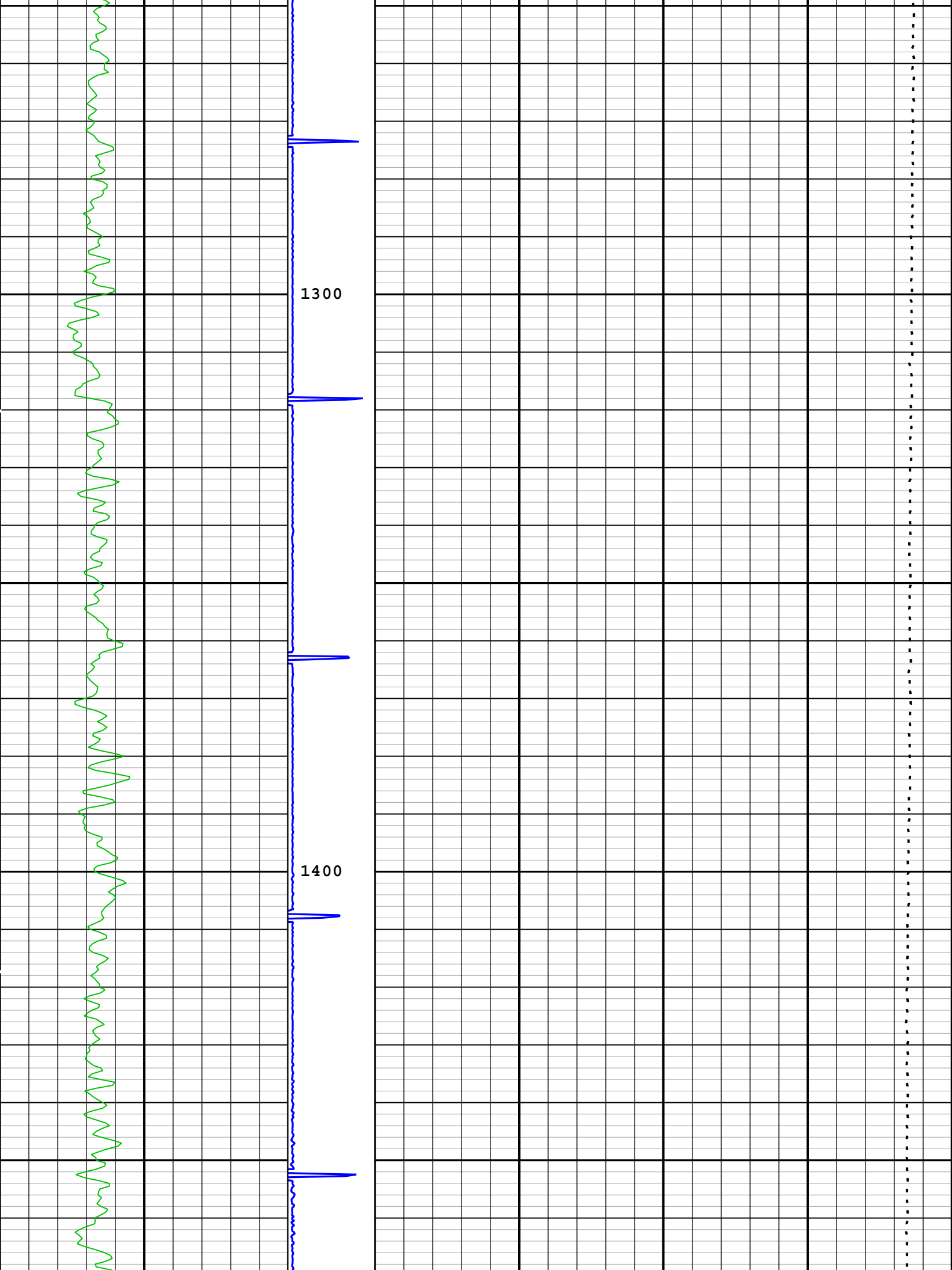


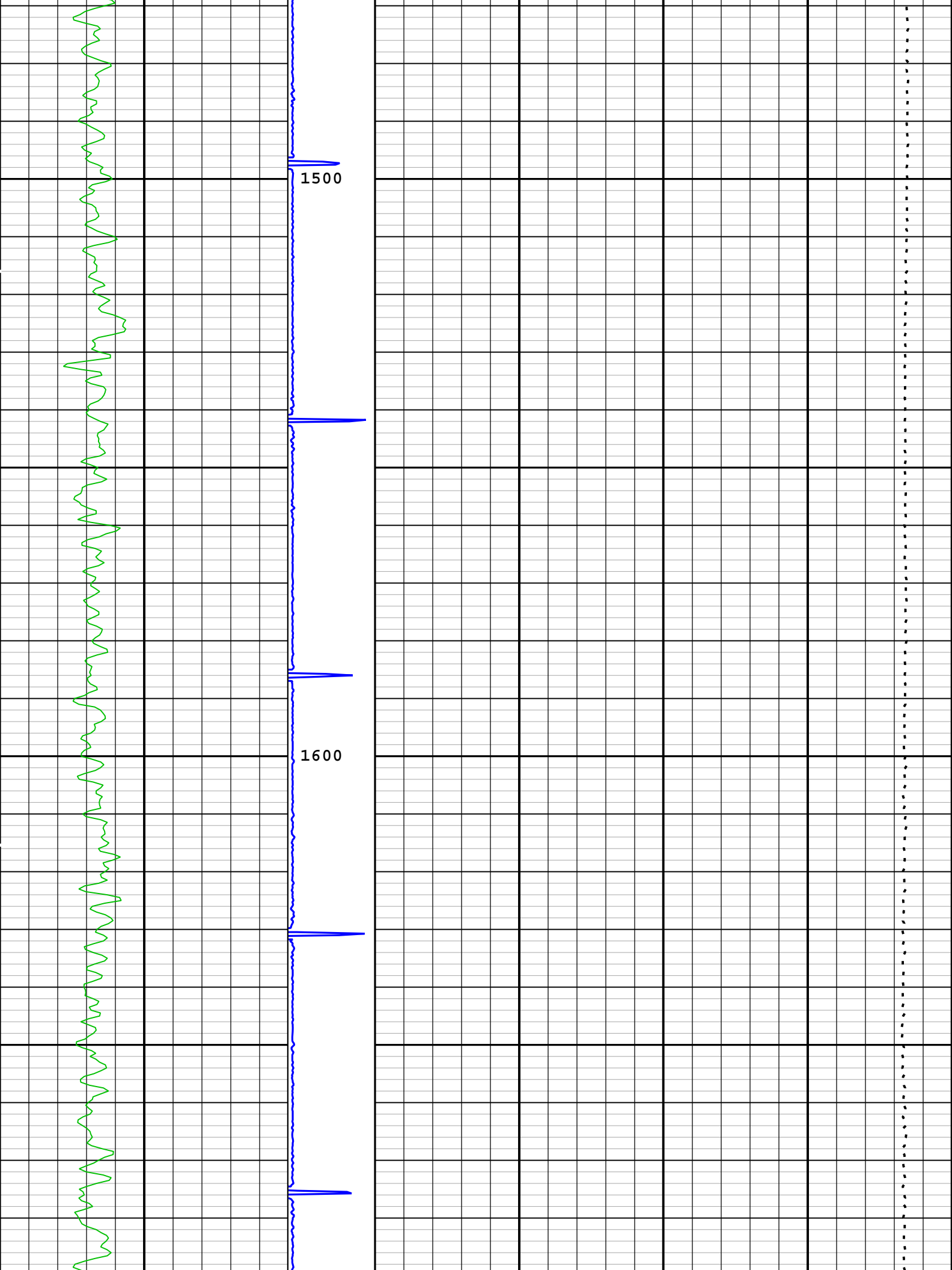


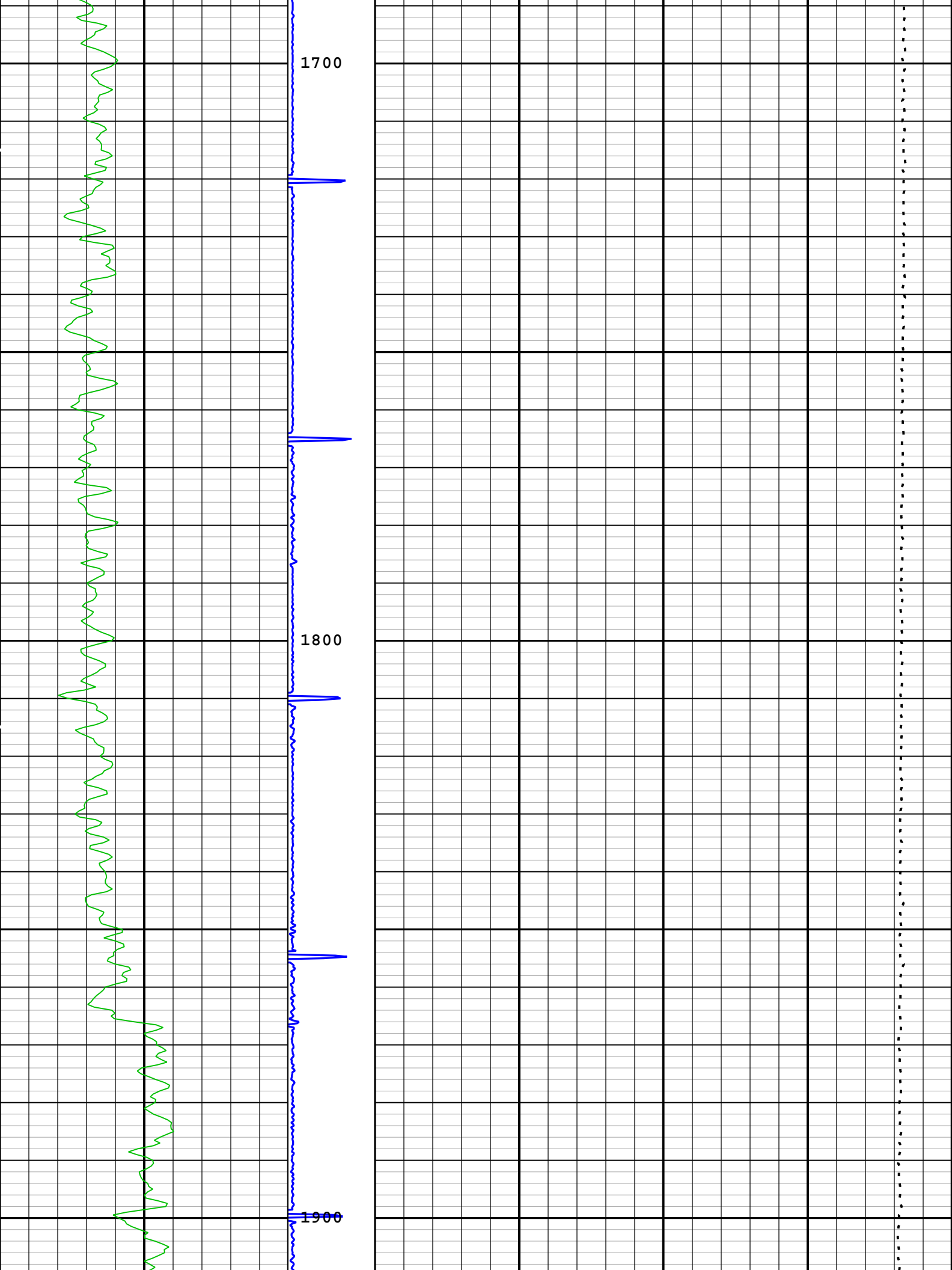


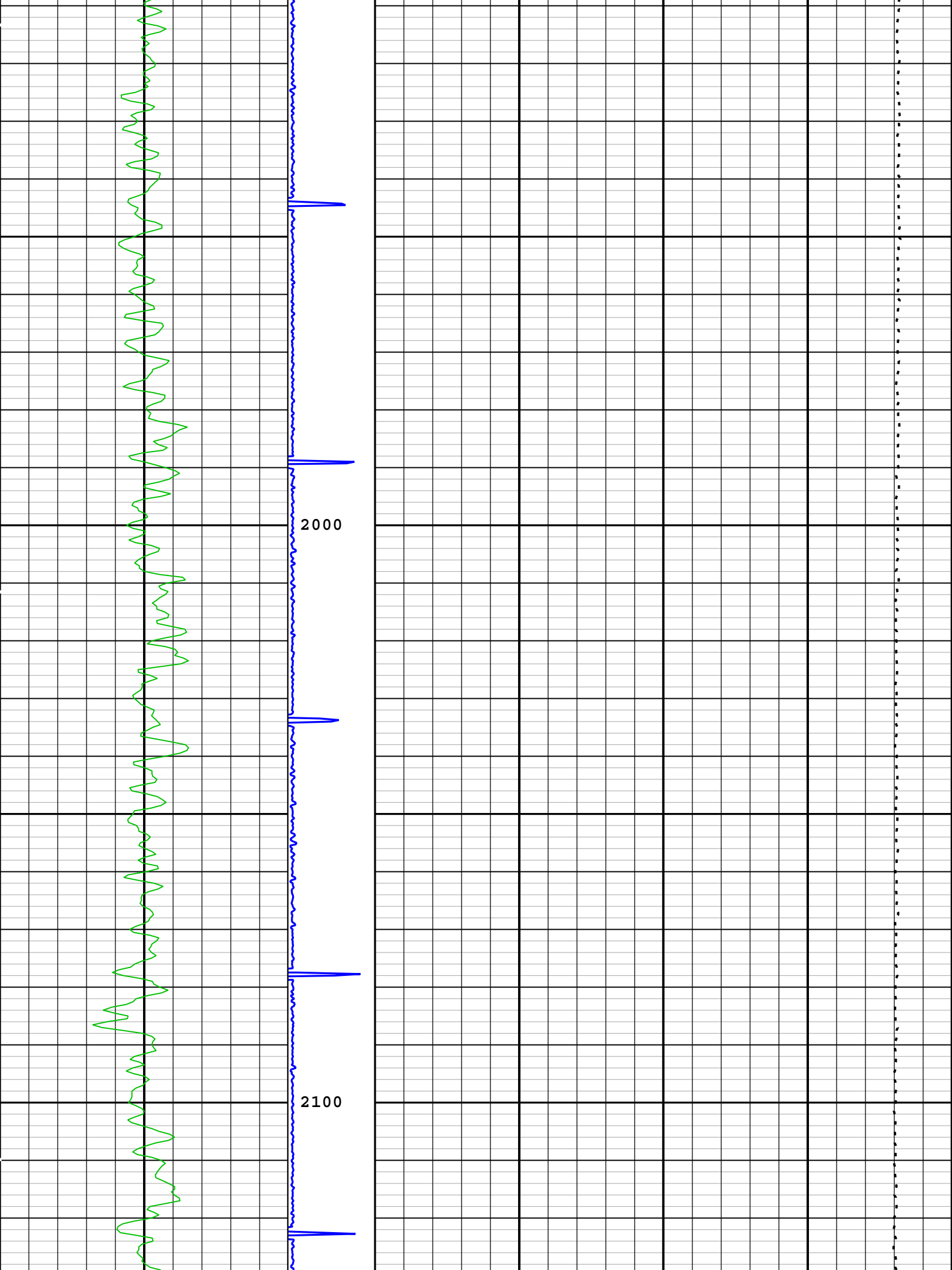


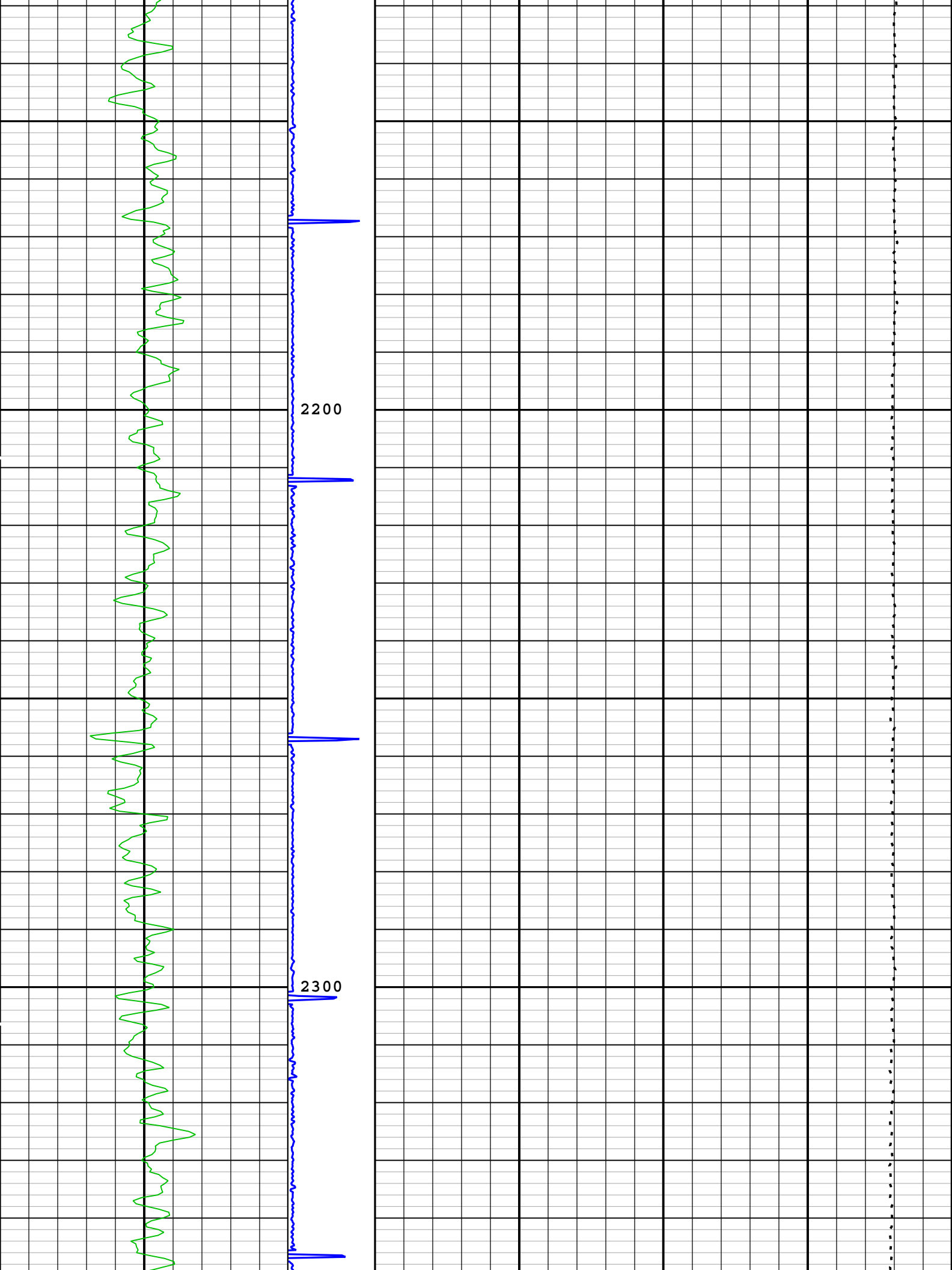


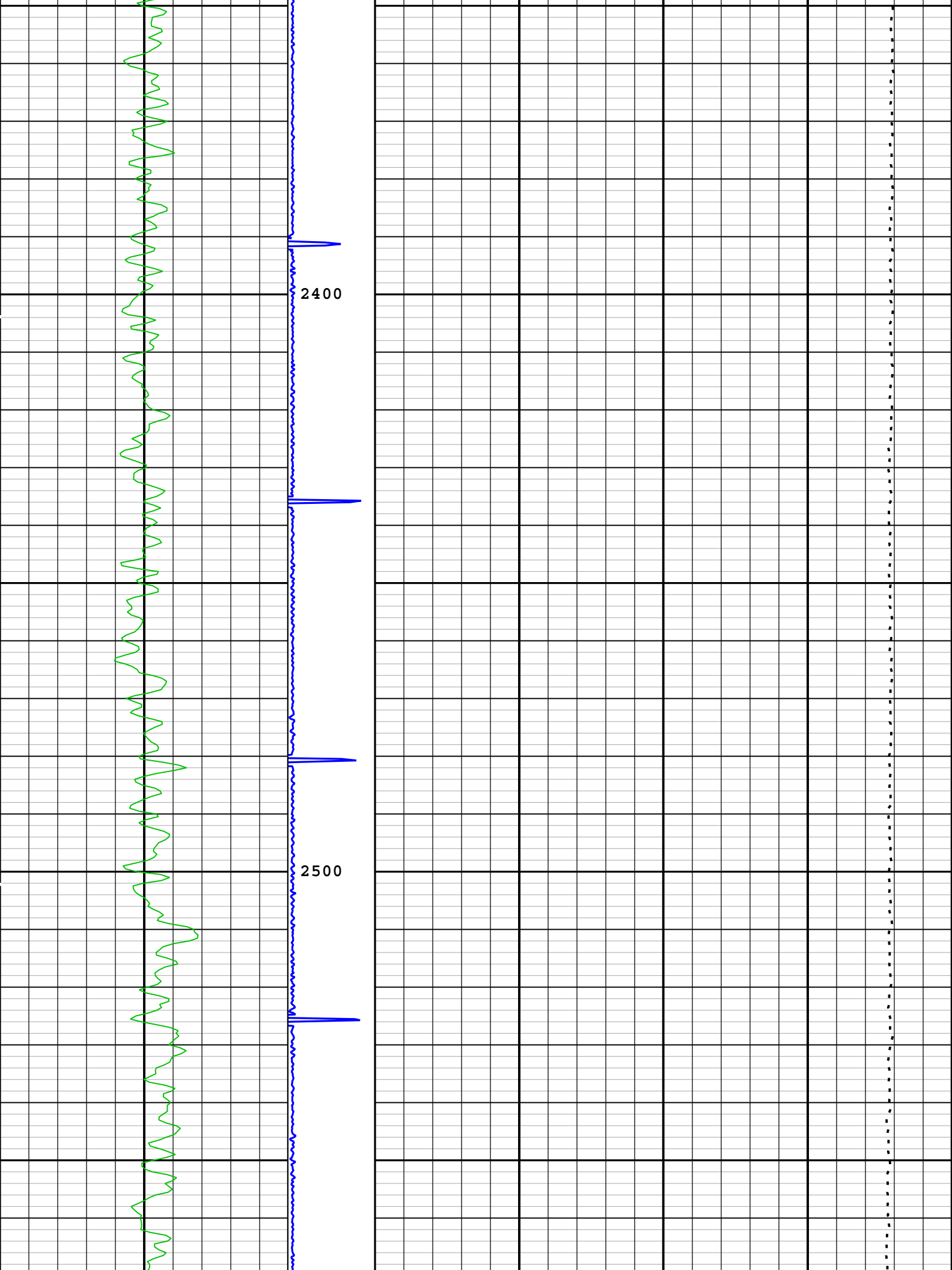


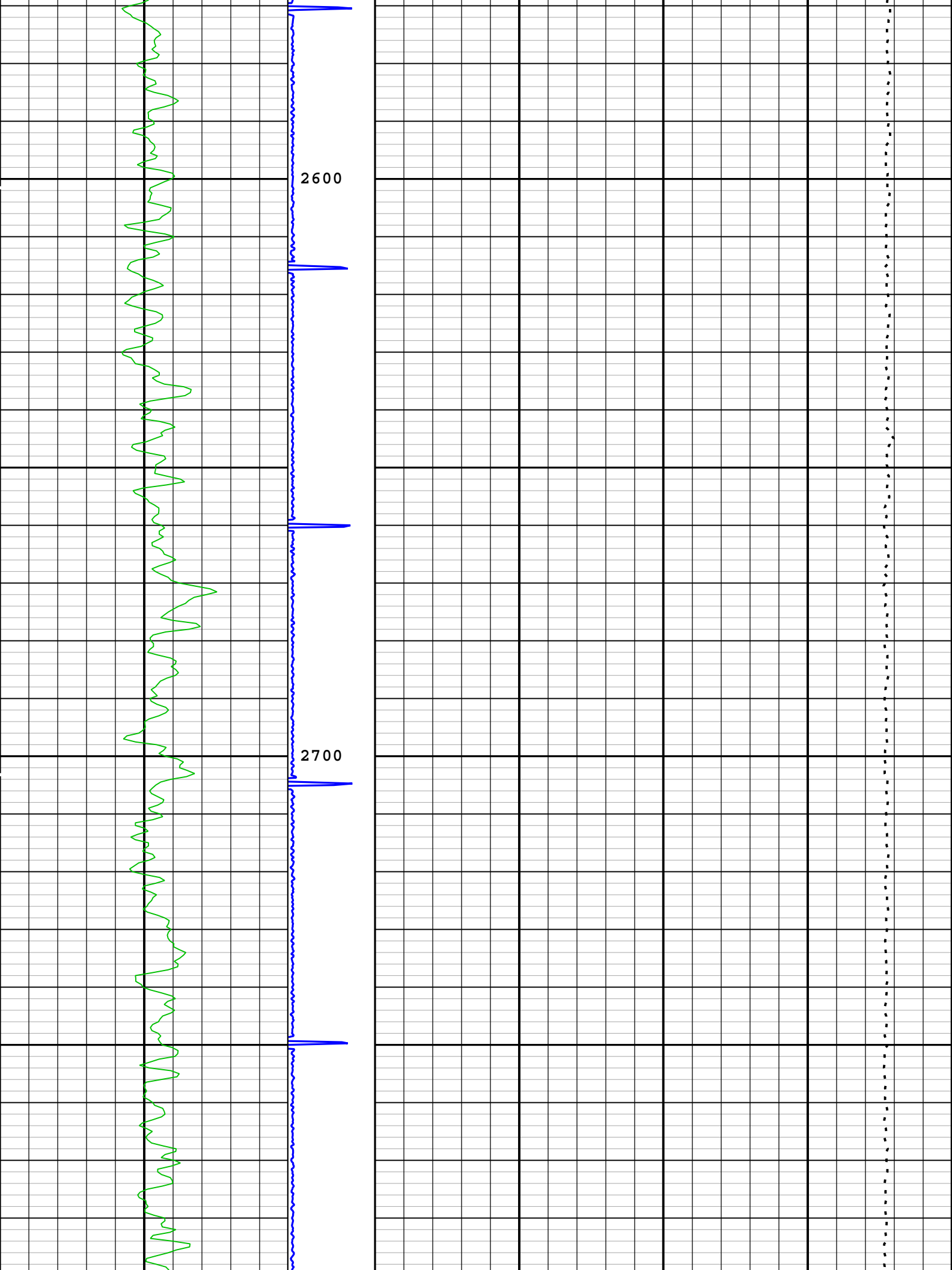


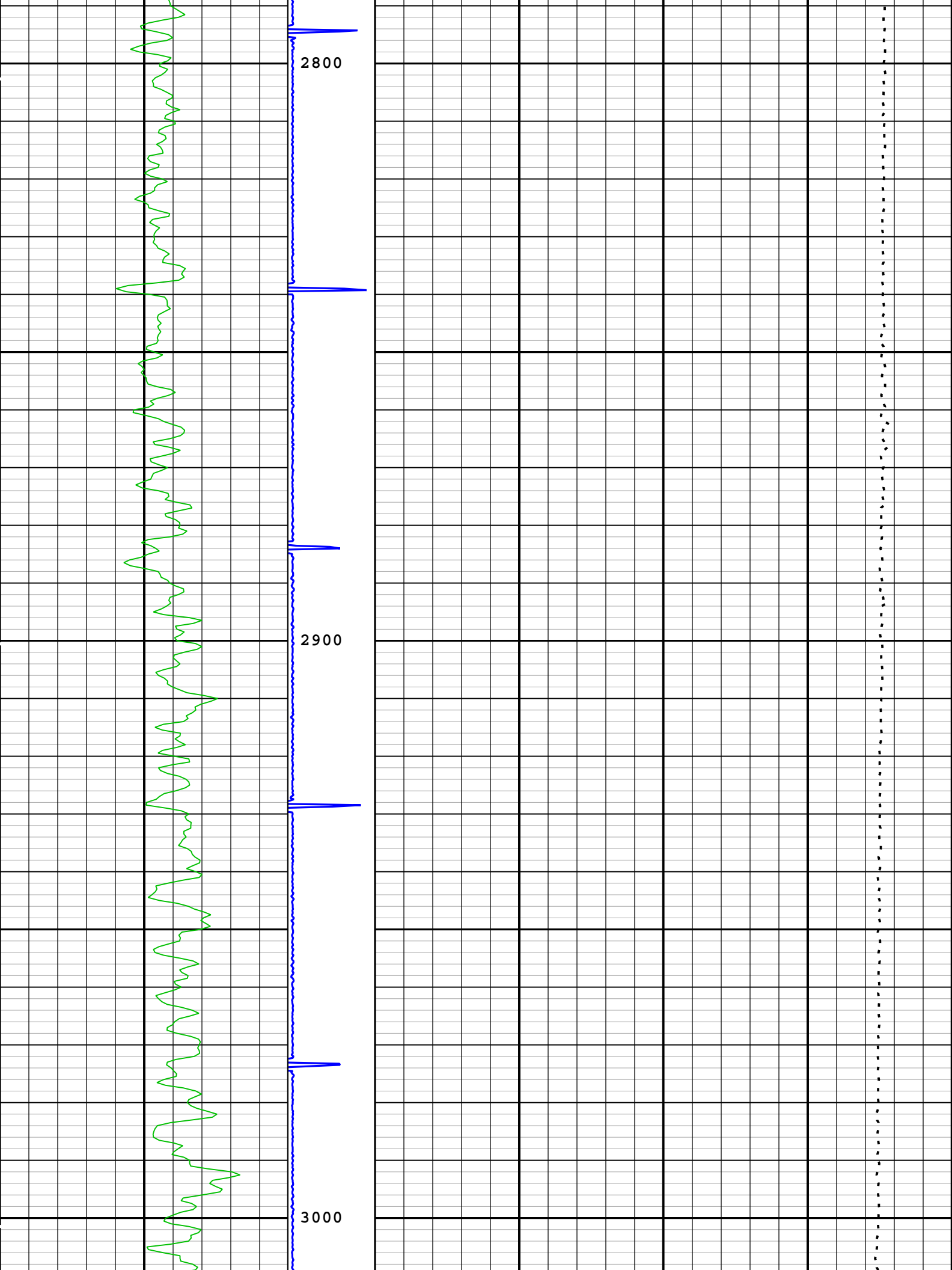


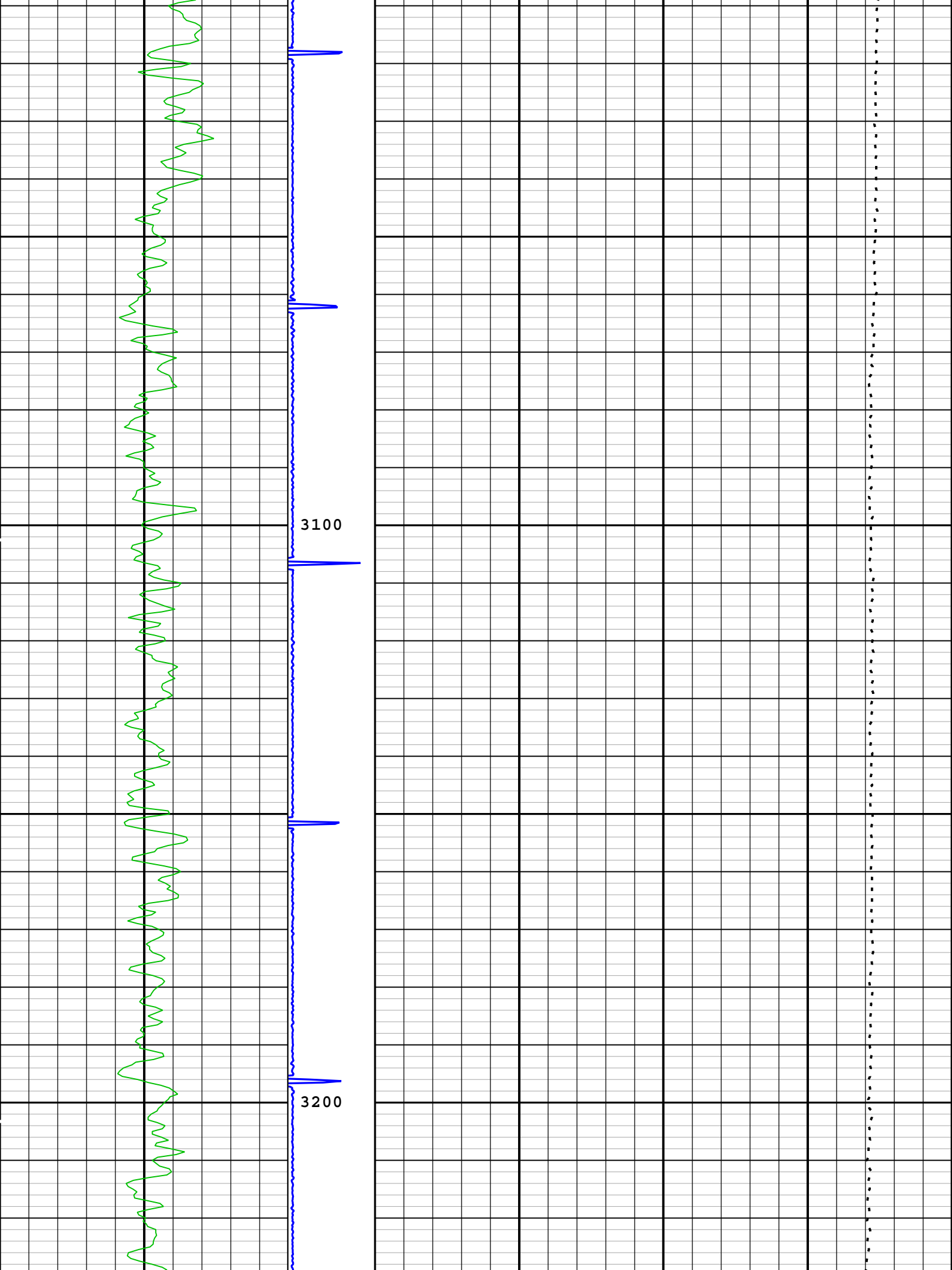


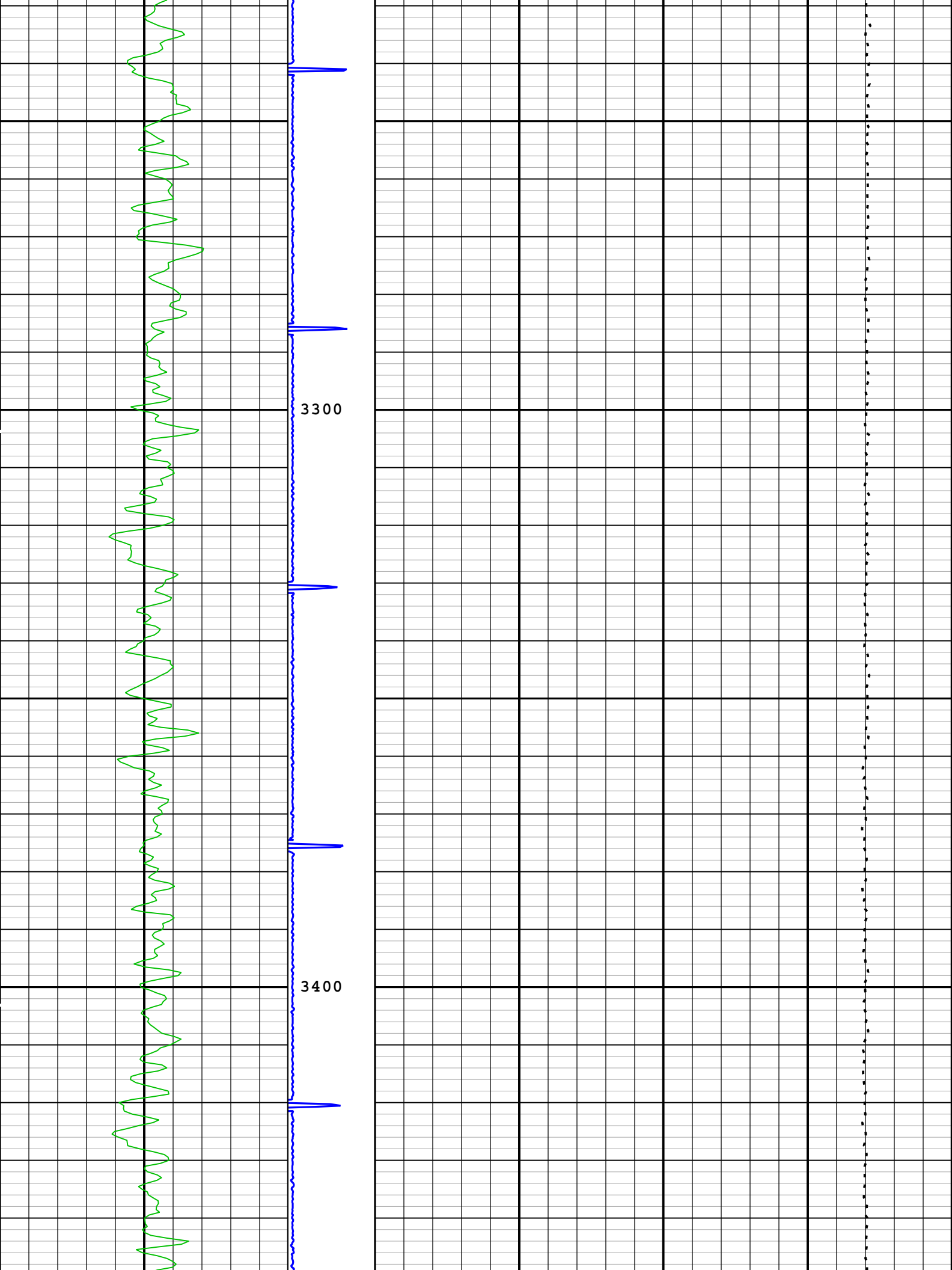


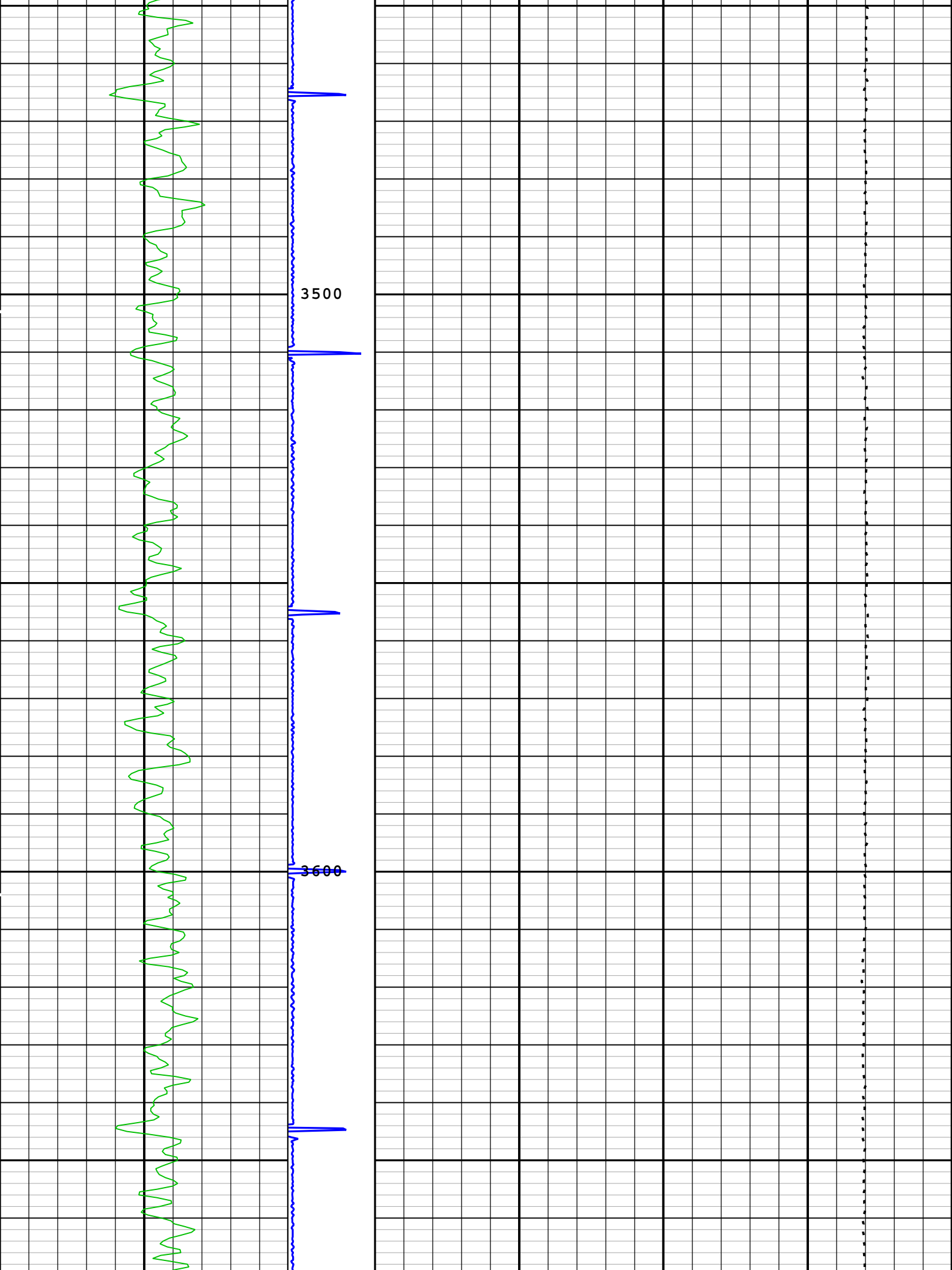


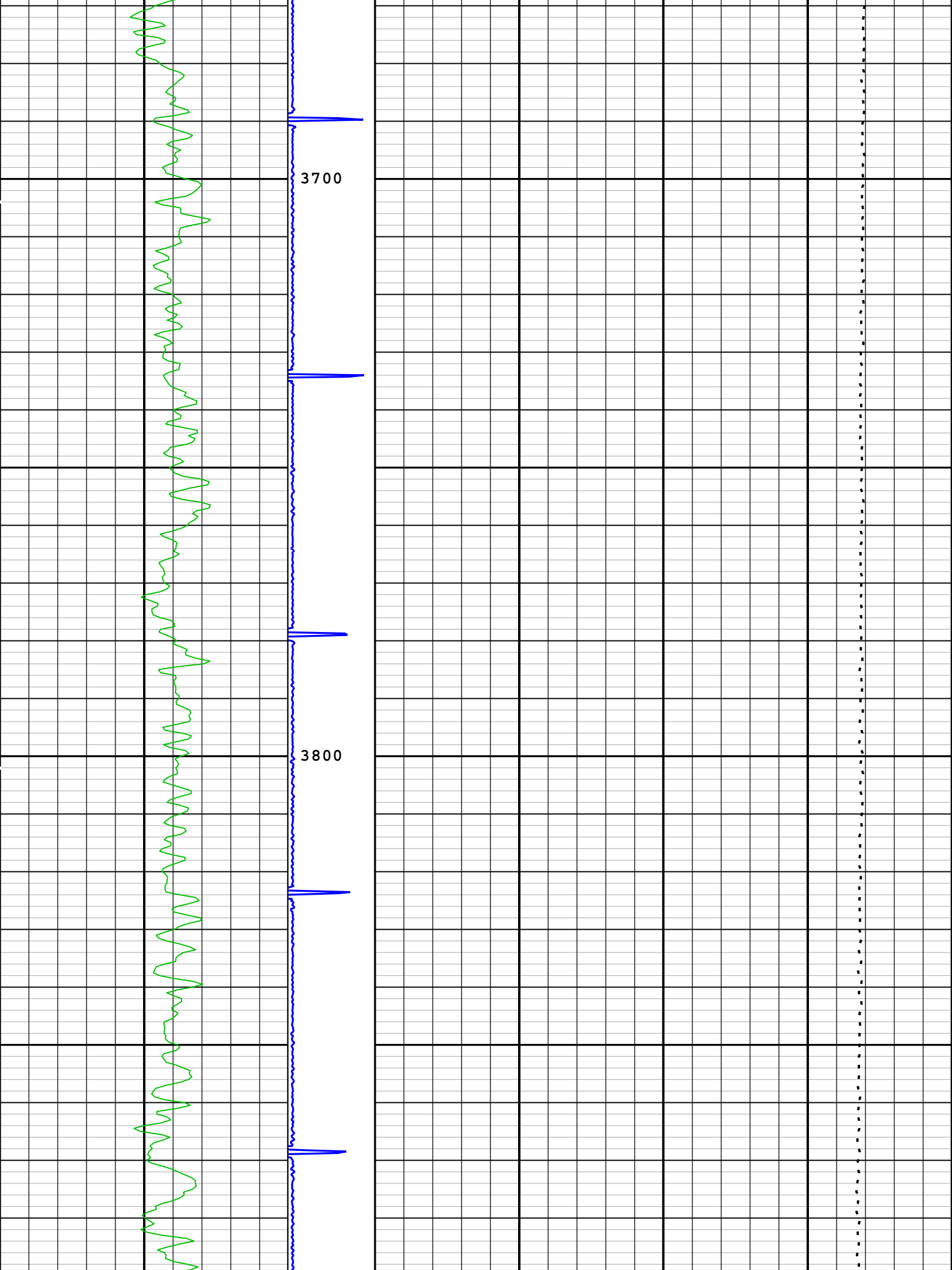


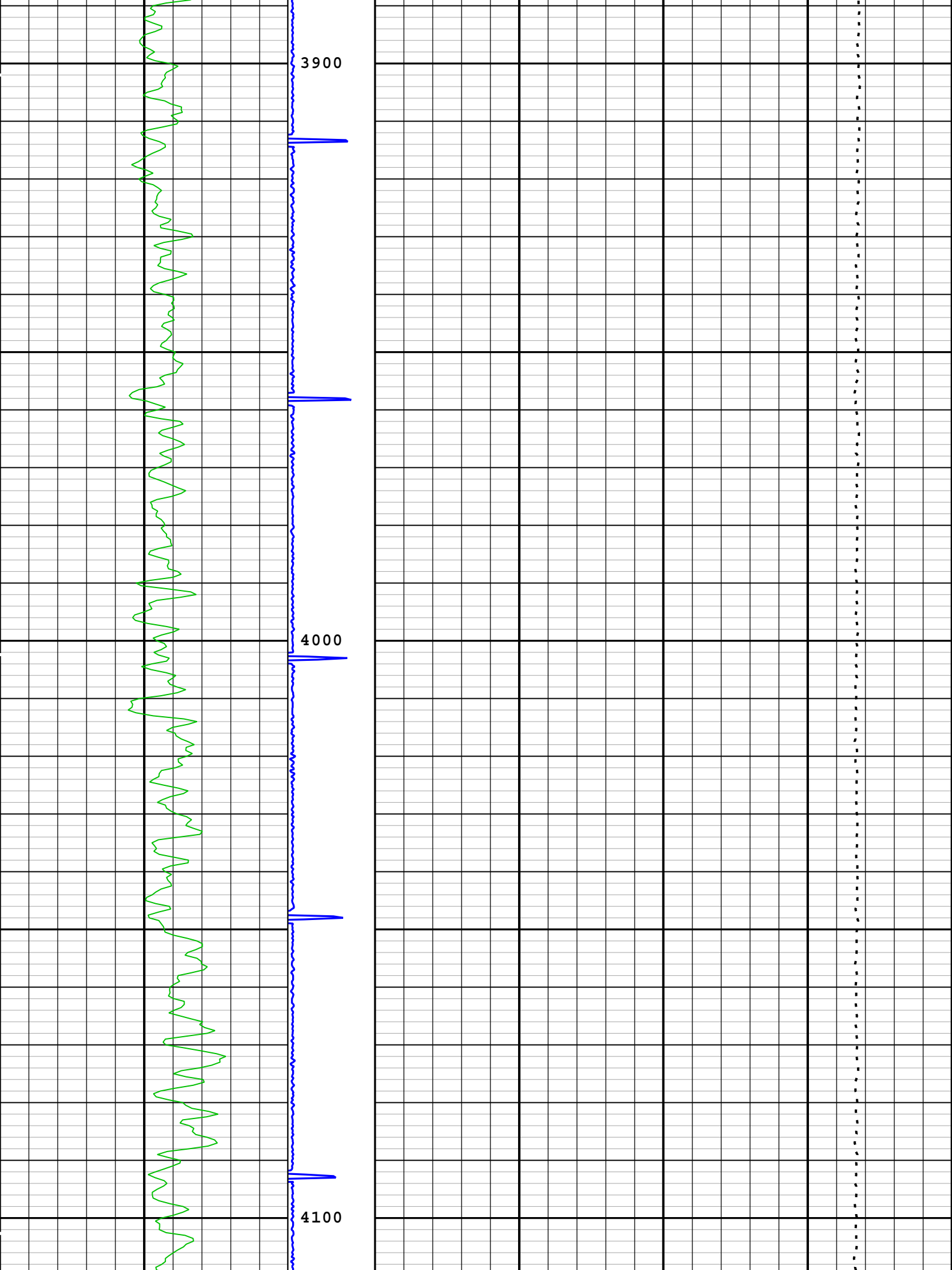


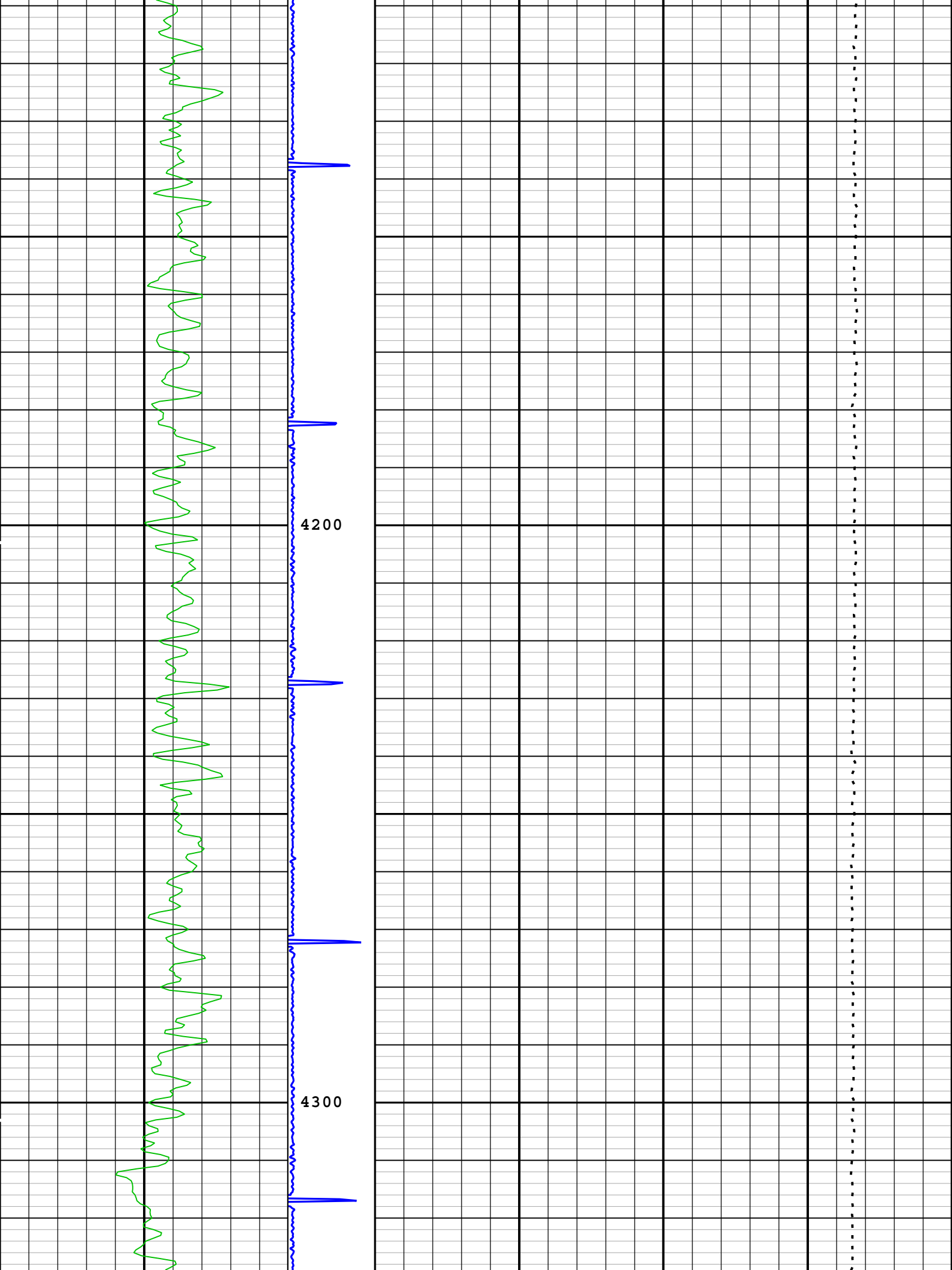


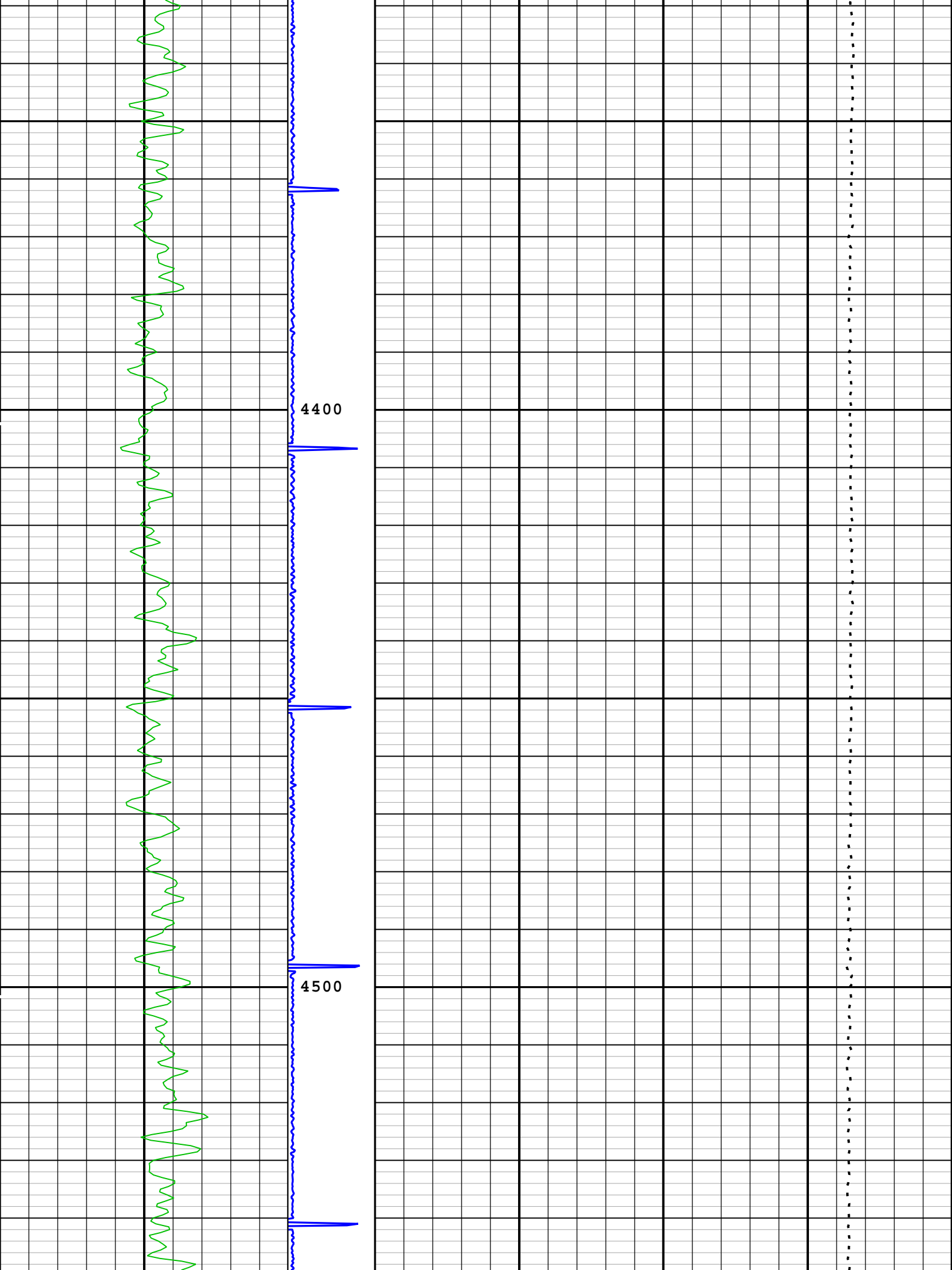


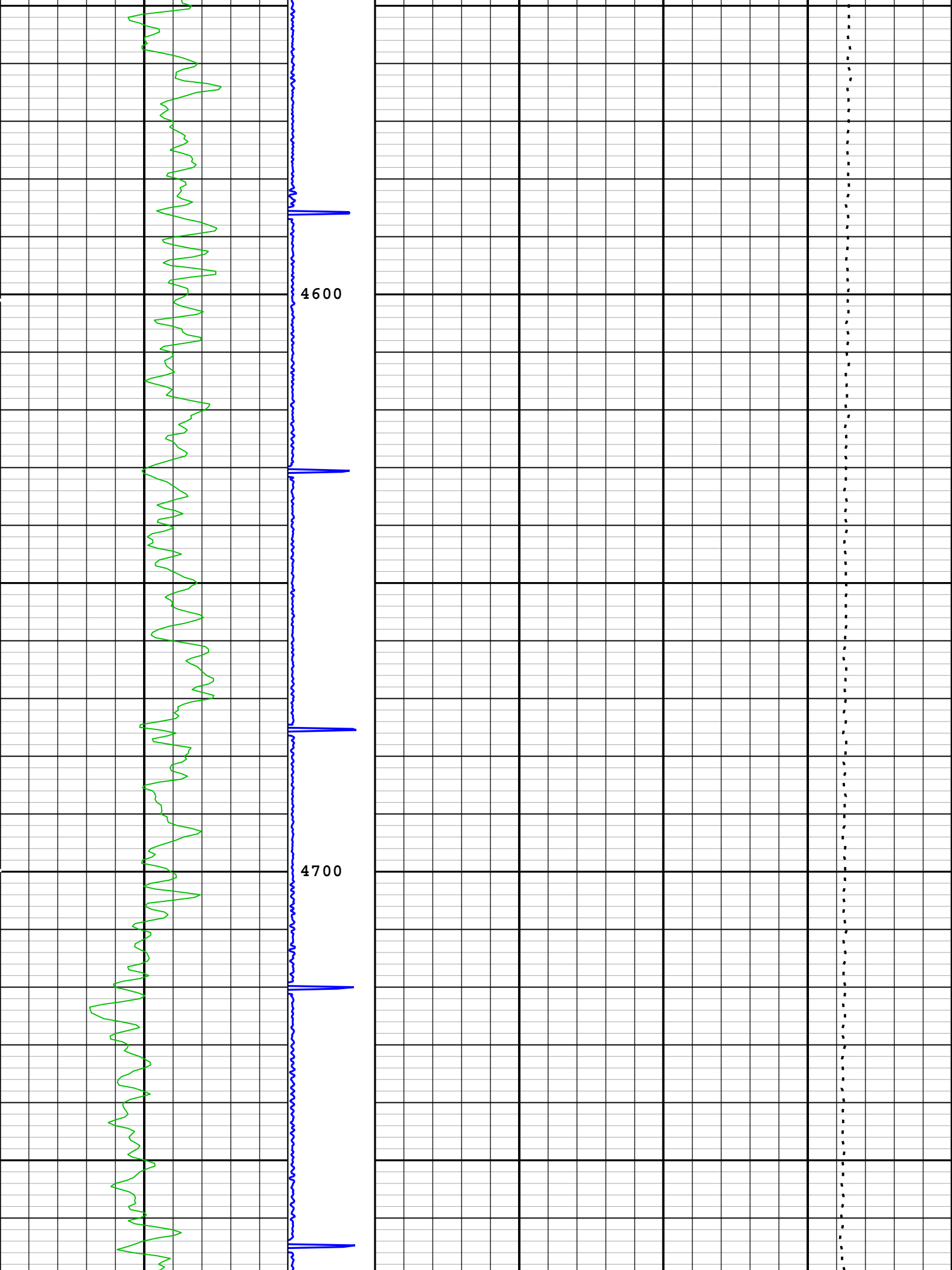


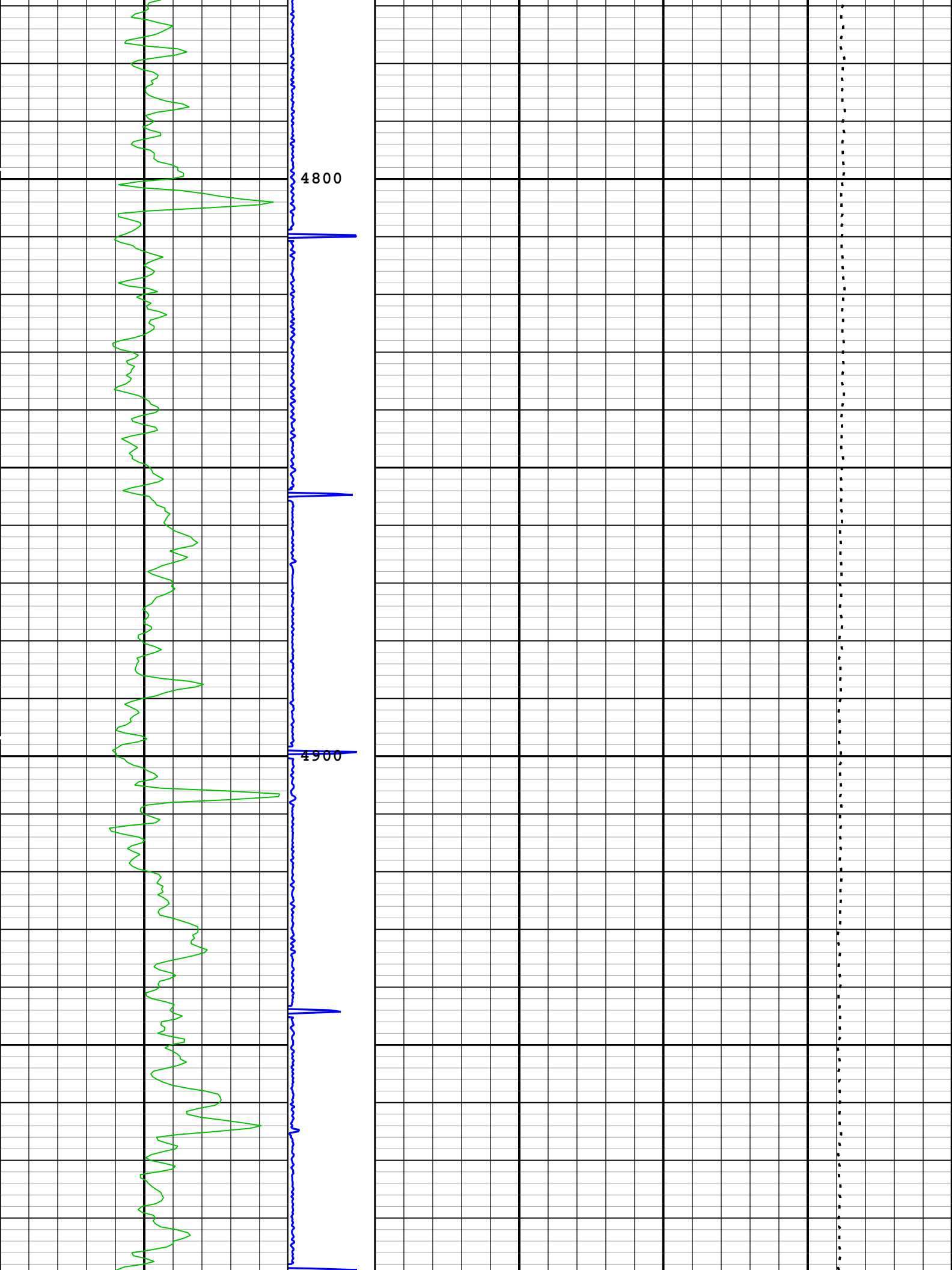


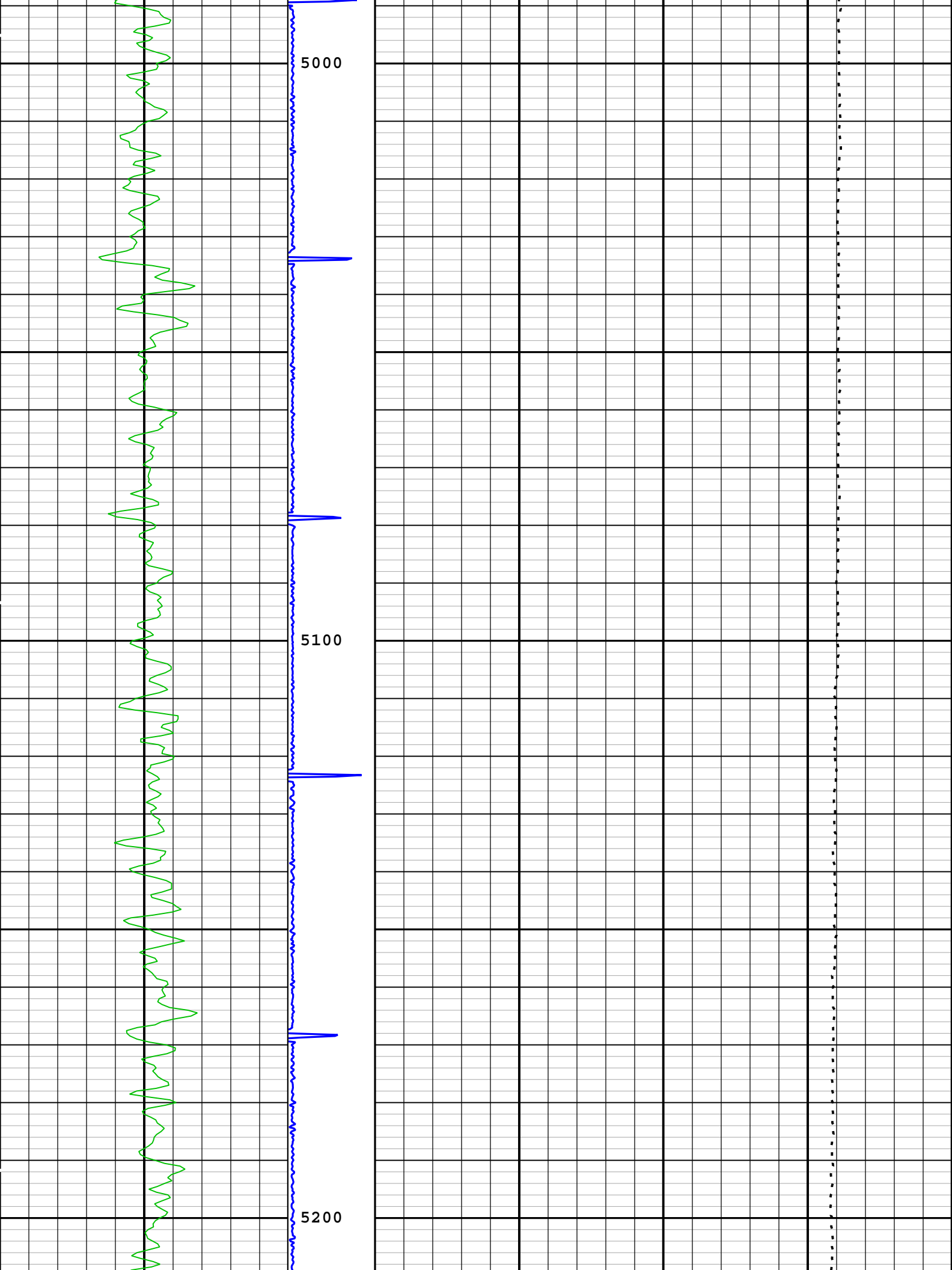


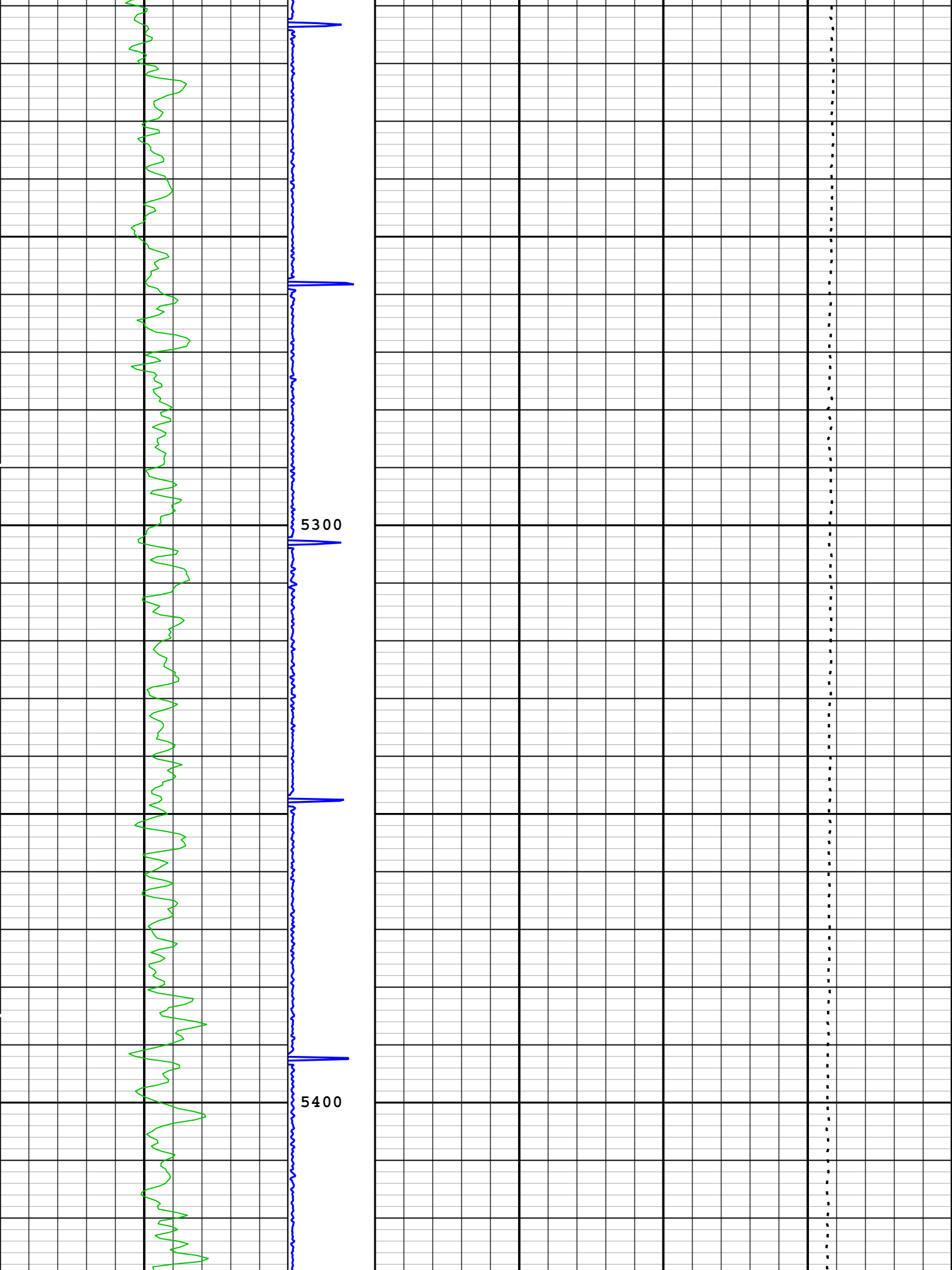


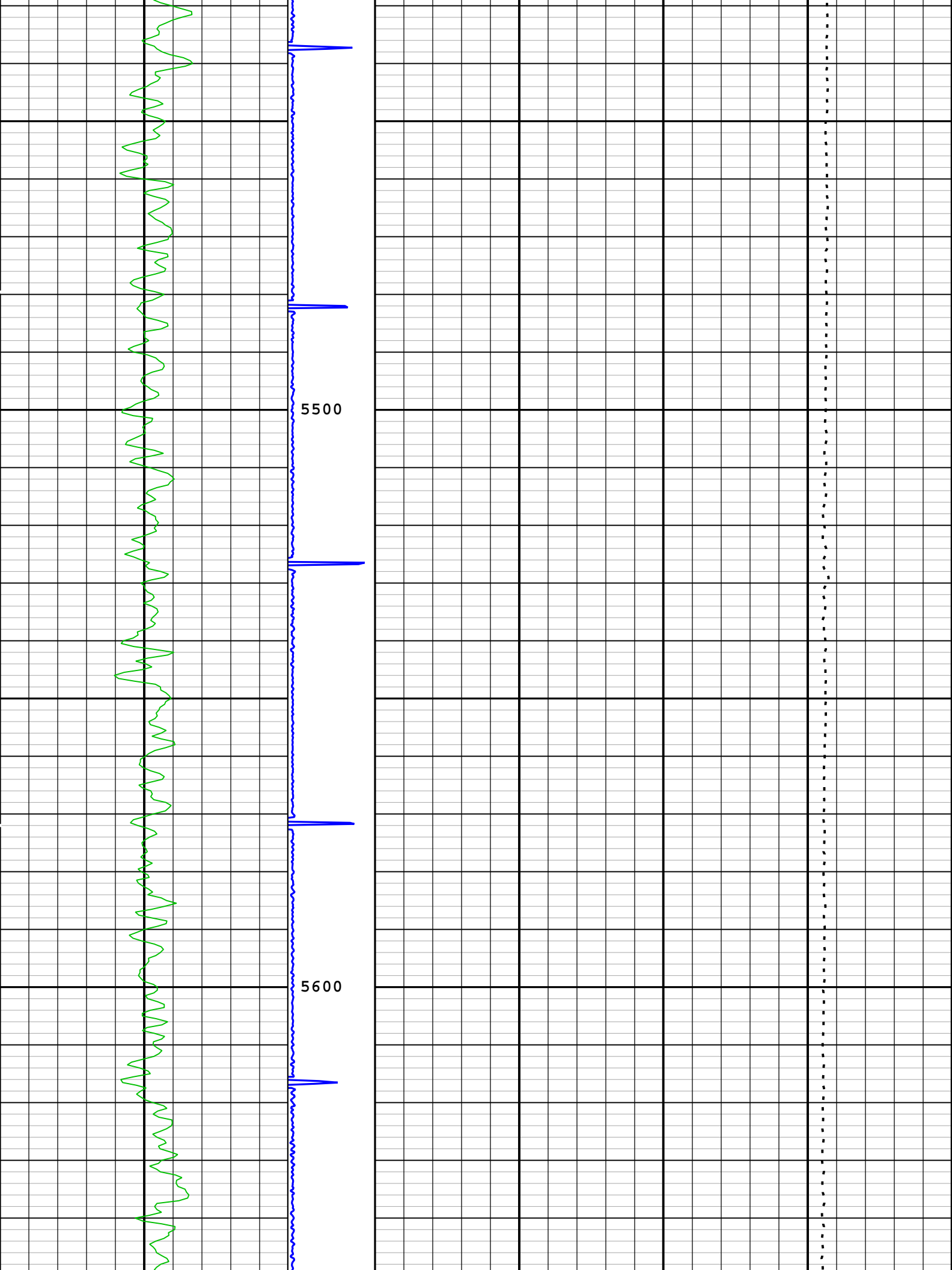


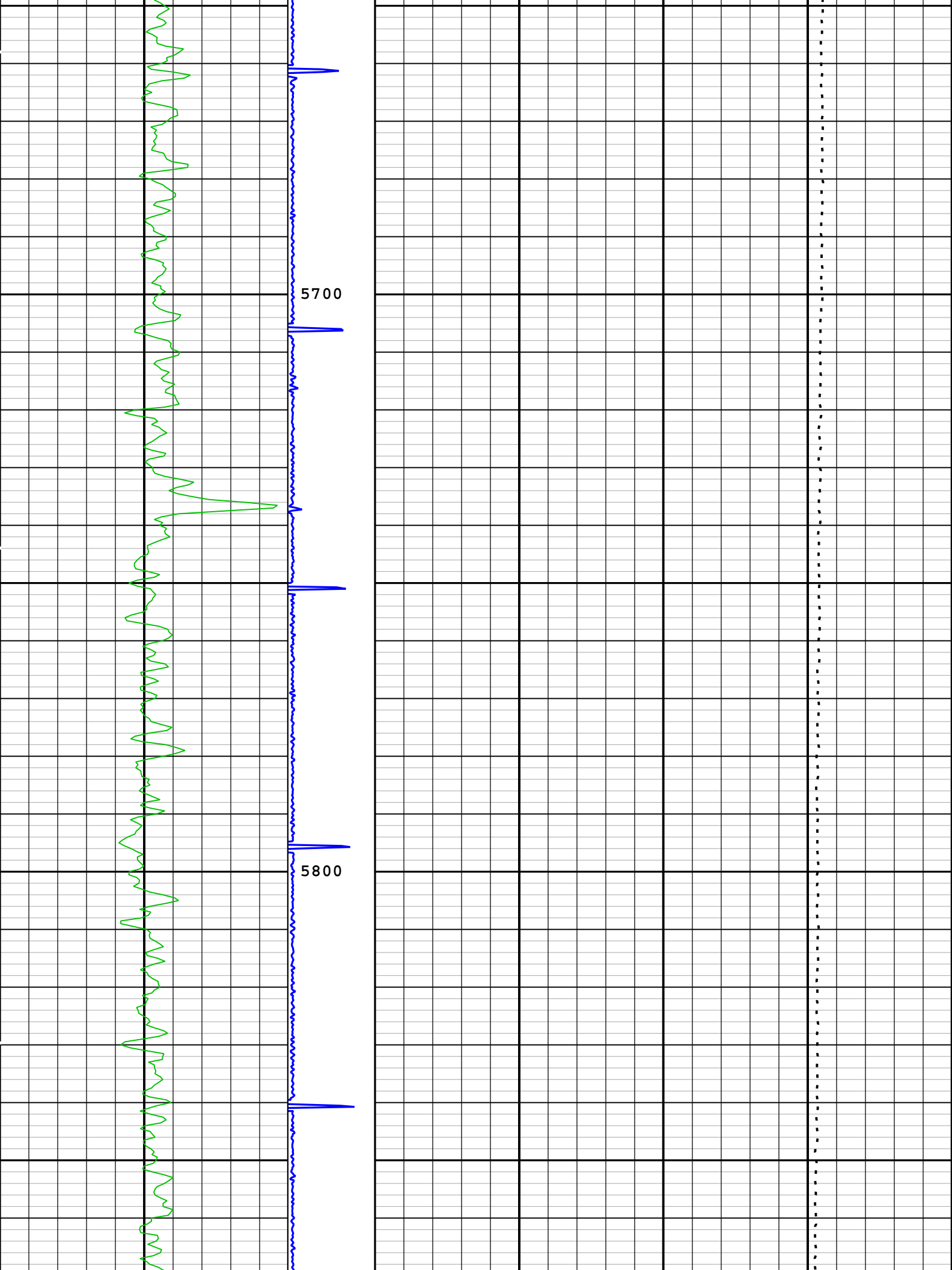


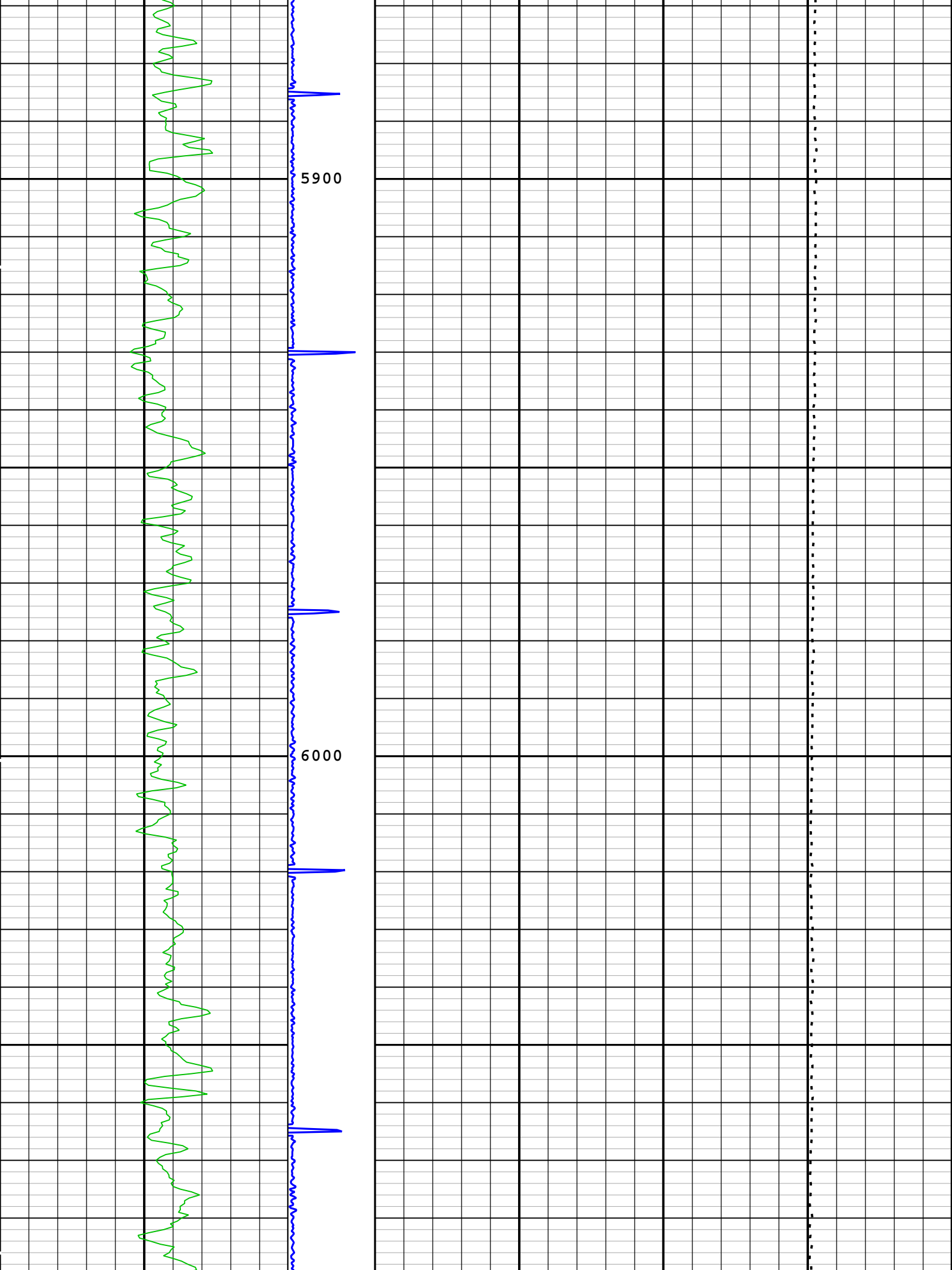


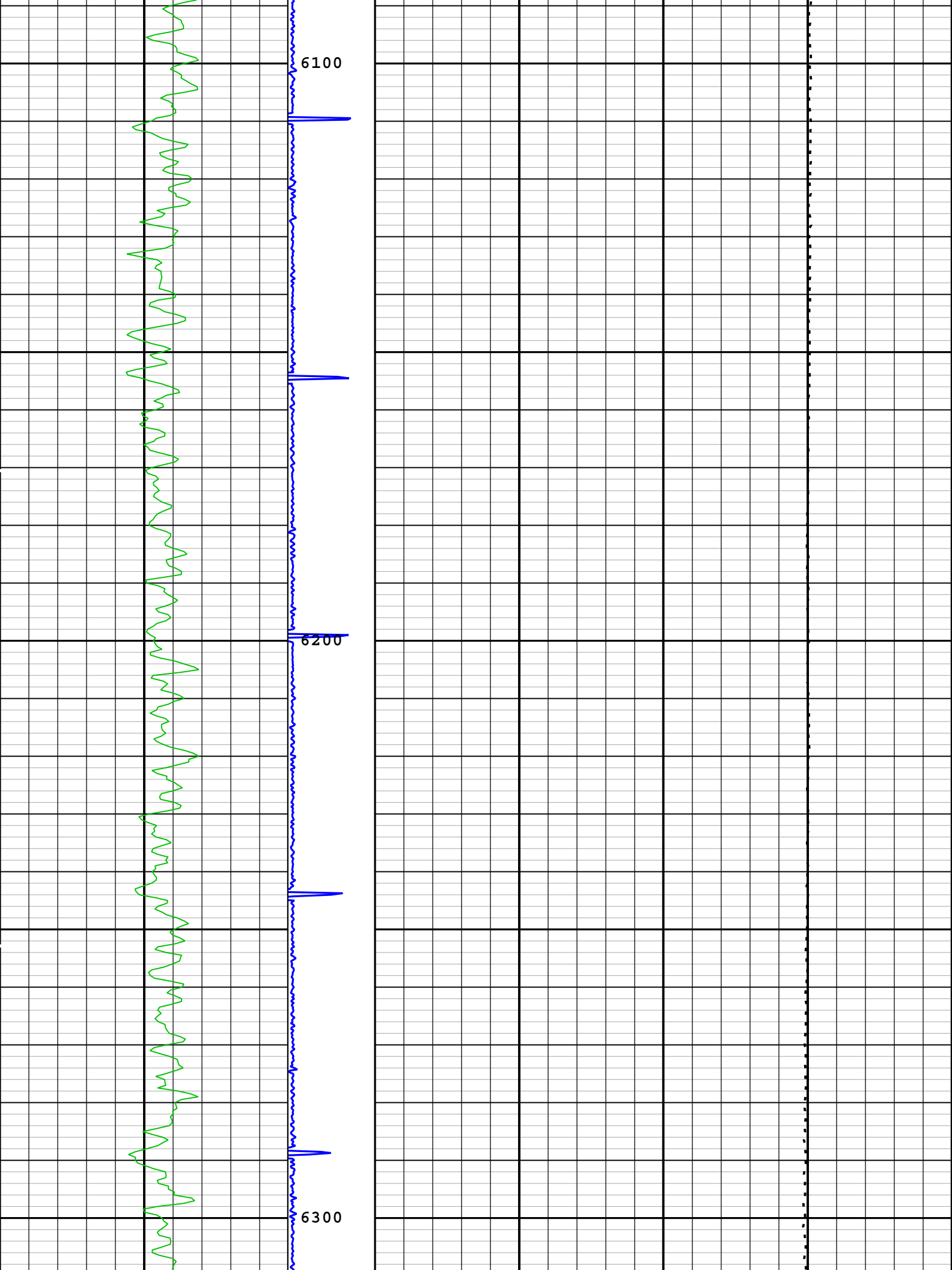


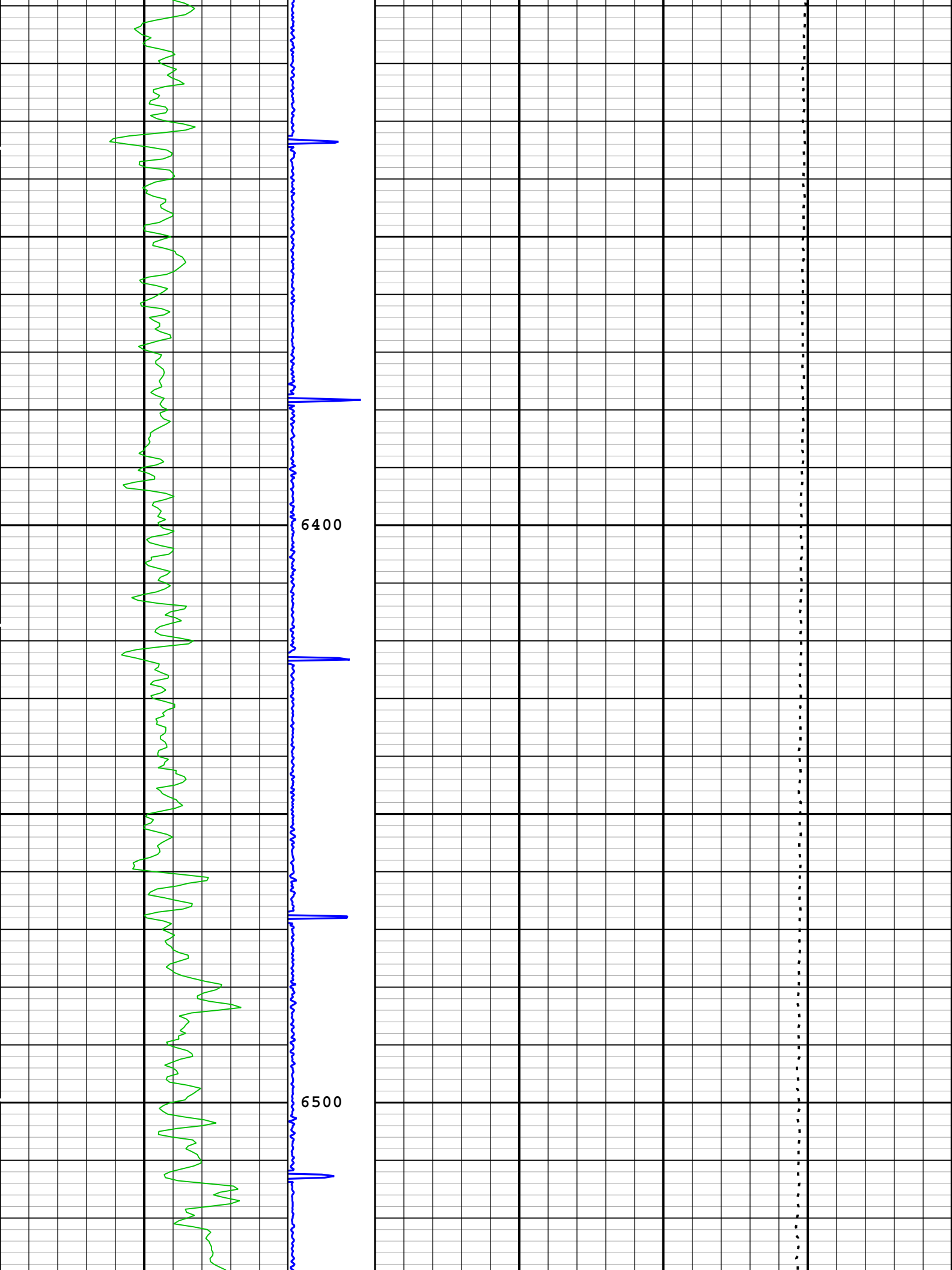


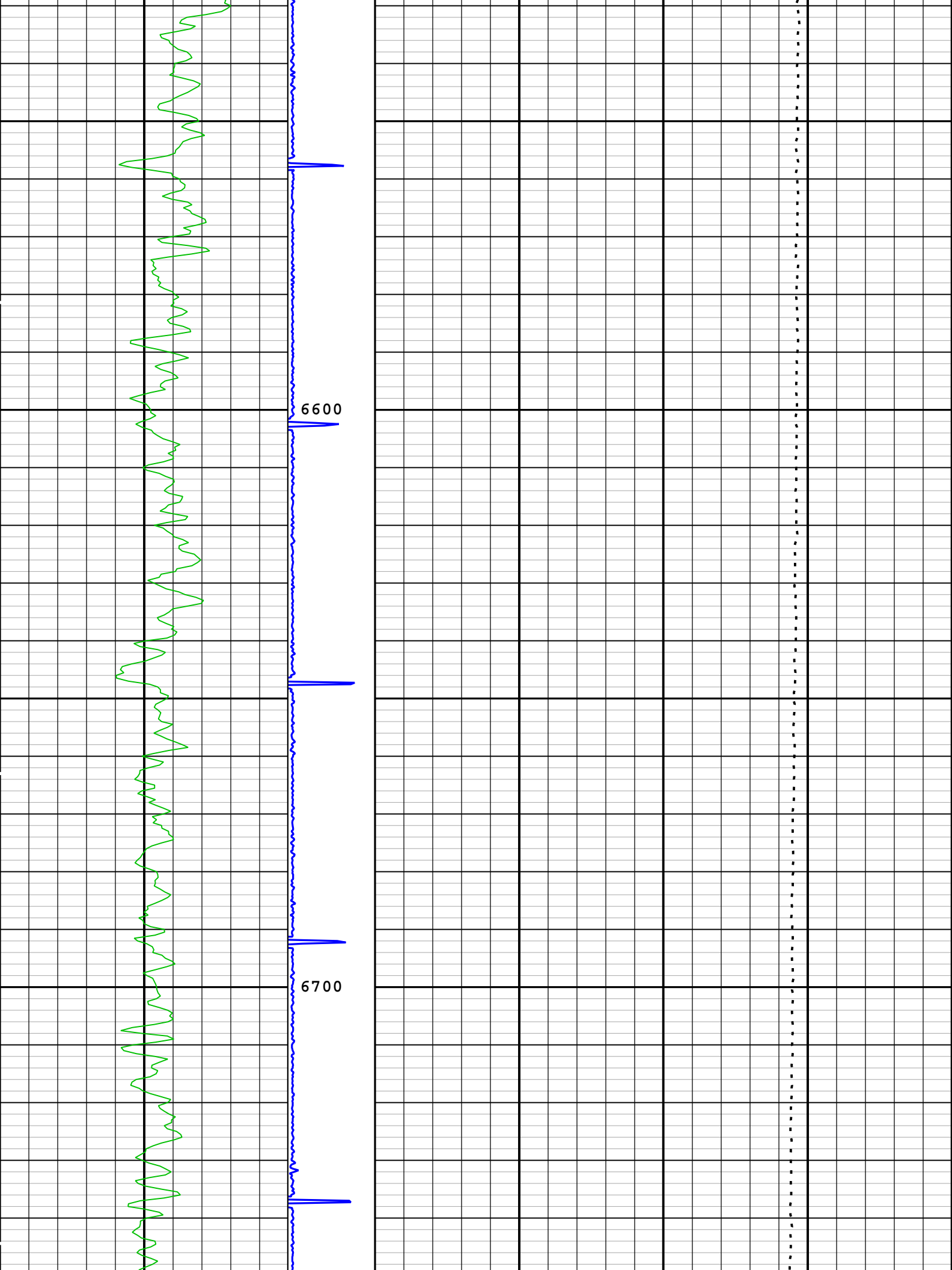


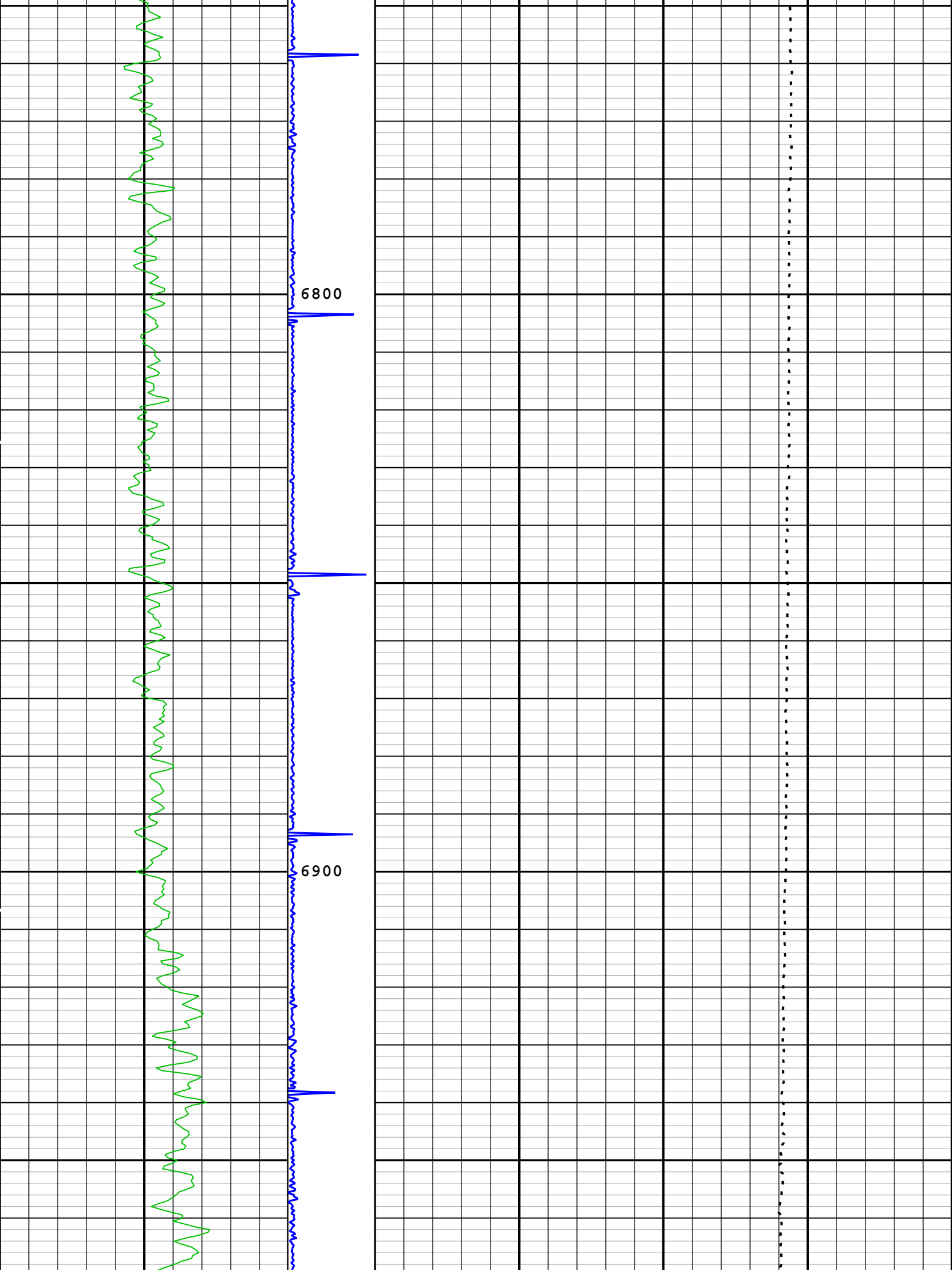


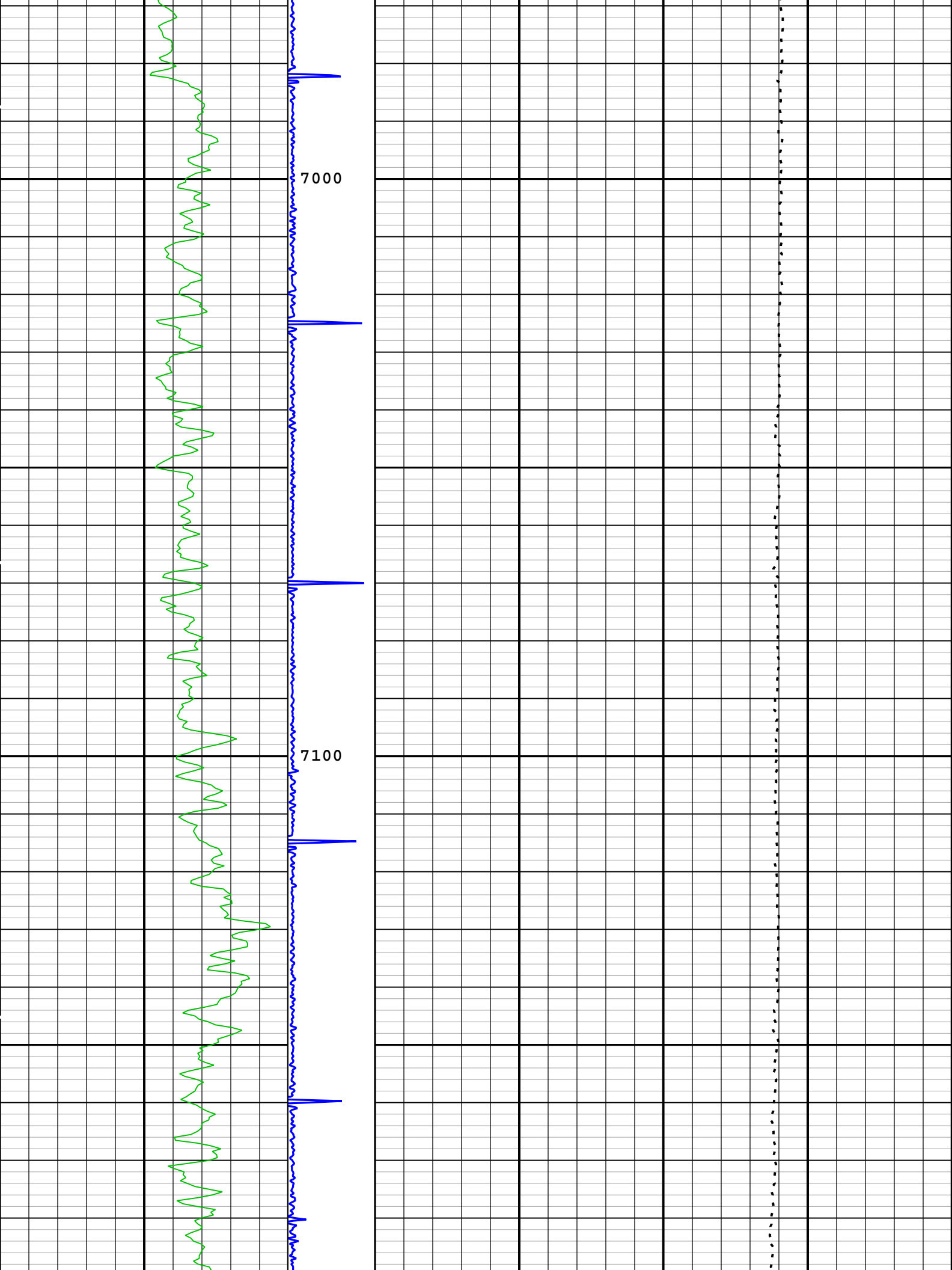


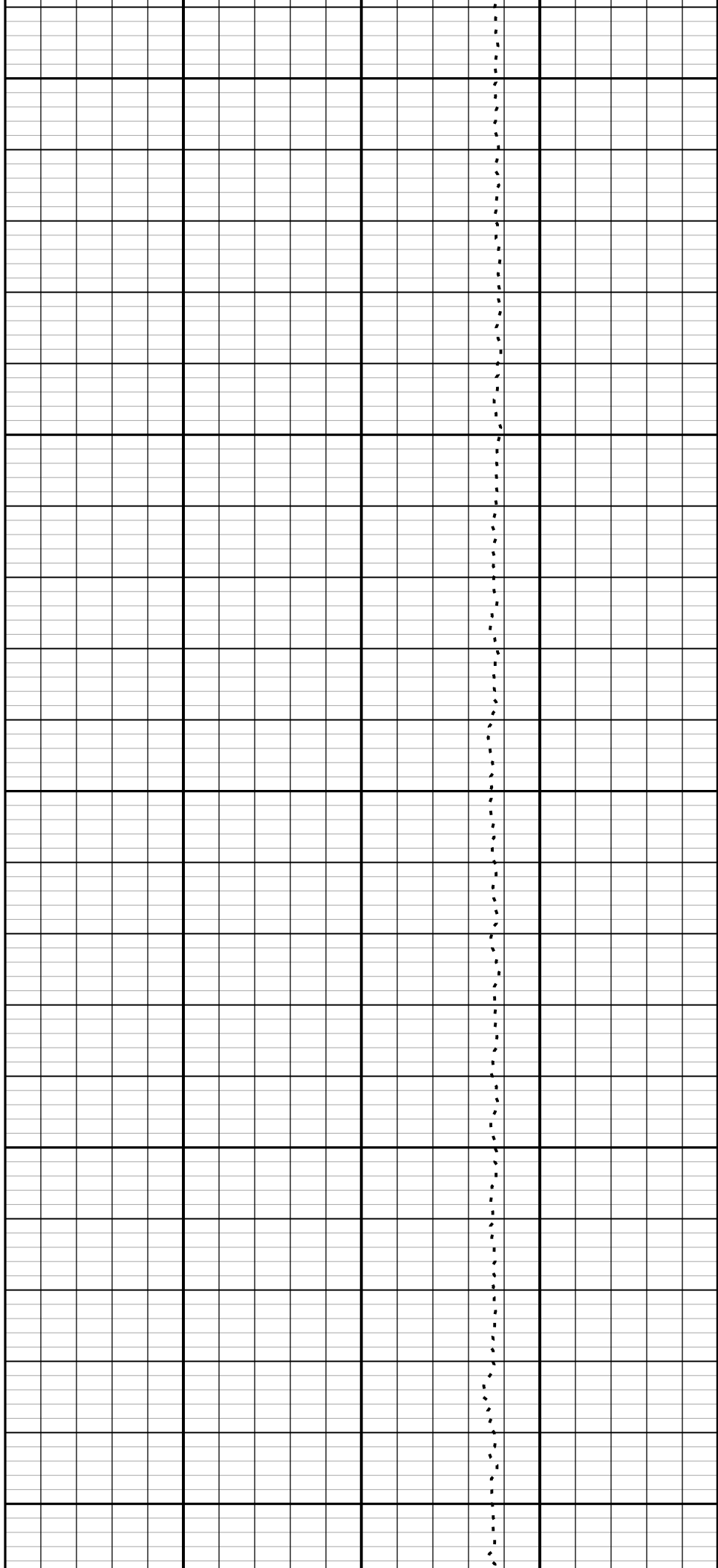
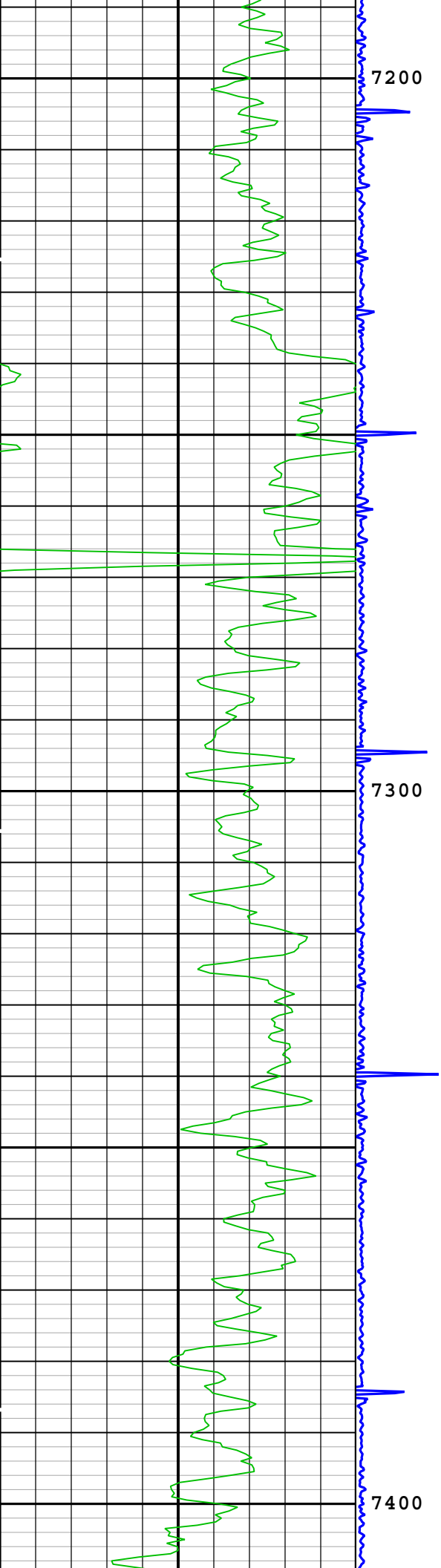


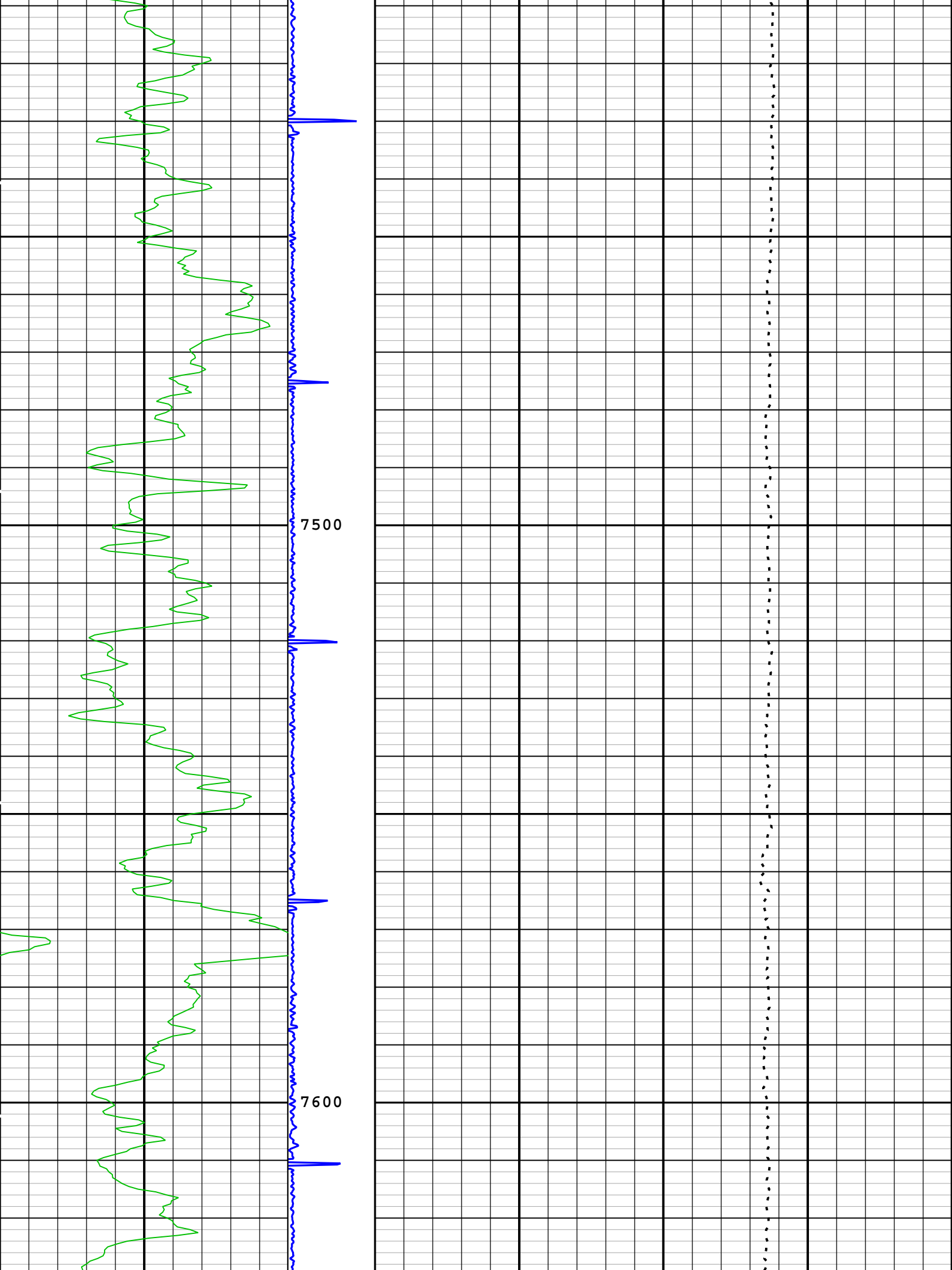


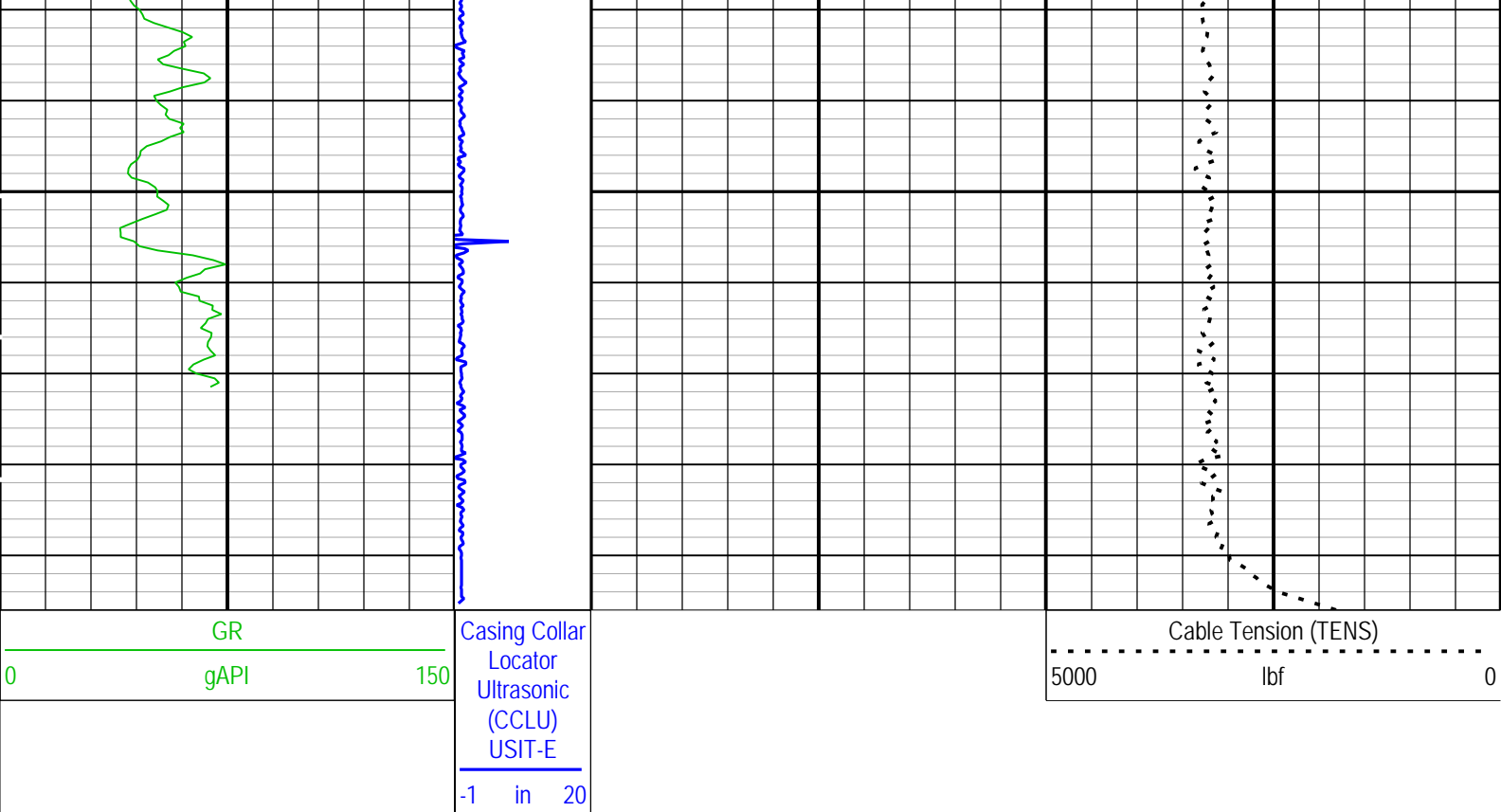












TIME_1900 - Time Marked every 60.00 (s)

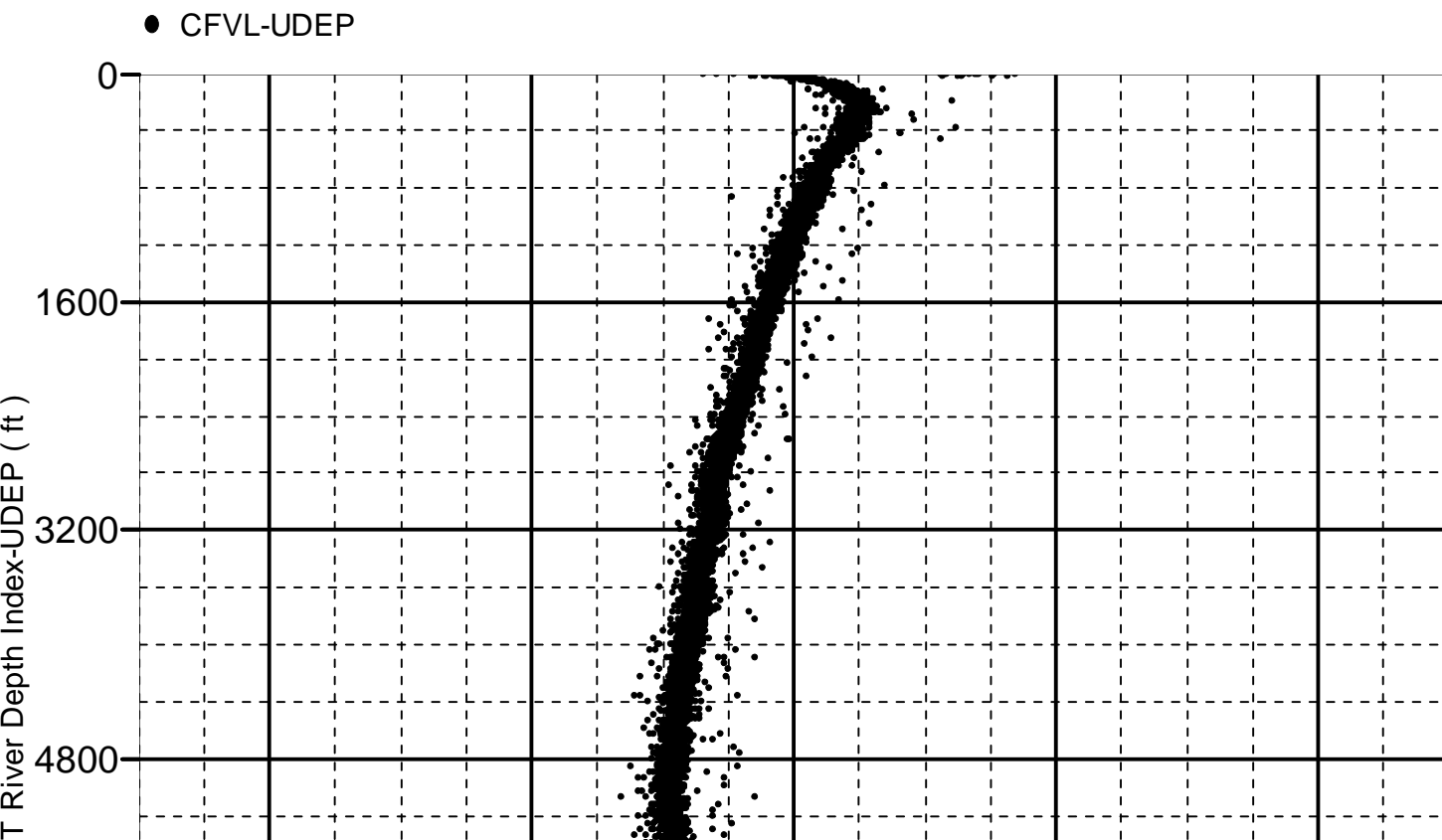
Description: DEPTH Domain Log for EDTCB GR channels Format: Log (Correlation 5 Inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 25-Aug-2015 17:26:00

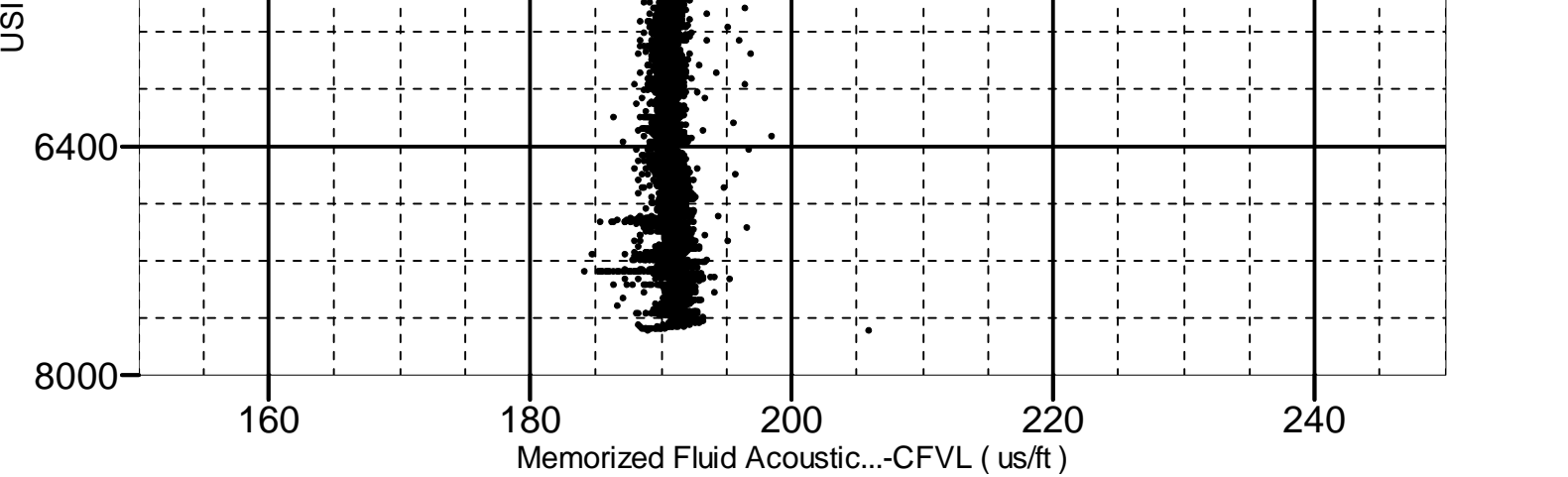
XYZ Company:Anadarko Petroleum Company Well:English Farms 15C-8HZ Run 1: Main[6]:Up:S008

Fluid Acoustic Slowness vs Depth

2D Cross Plot

Index Range: From 7695.75 to 9.00 ft





XYZ

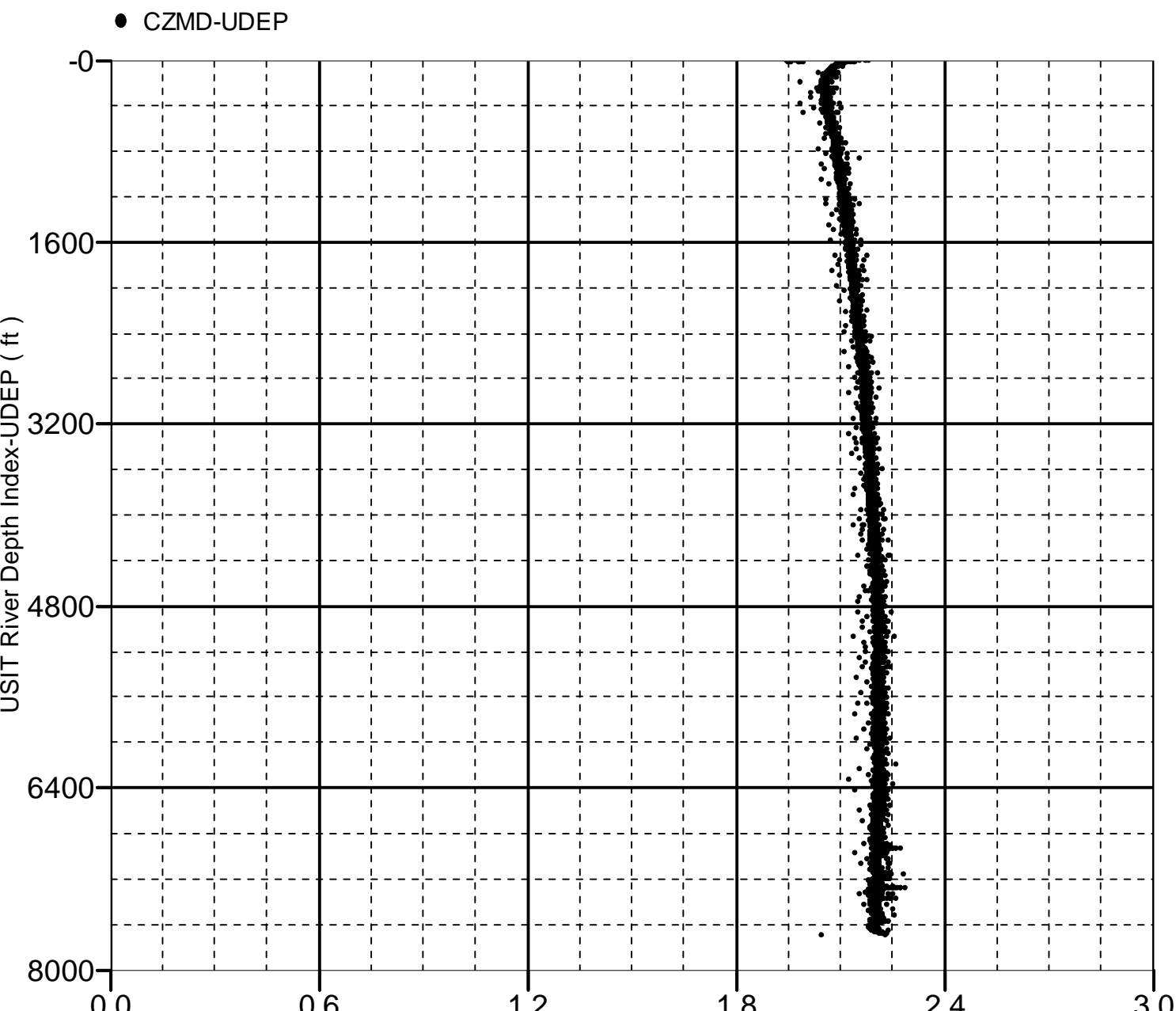
Company:Anadarko Petroleum Company Well:English Farms 15C-8HZ

Run 1: Main[6]:Up:S008

Acoustic Impedance of Mud vs Depth

2D Cross Plot

Index Range: From 7695.75 to 9.00 ft



Calibration Report

EDTC-B (Enhanced Digital Telemetry Cartridge - Version B) Calibration - Run 1

Primary Equipment :

EDTC-B

EDTC-B

8593

Calibration Parameter :

Plus Reference (Jig minus background reference)

165

EDTC-B Accelerometer Calibration - EDTC-B Accelerometer Calibration

Before (Measured): 07:07:56 25-Aug-2015

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
AZ Vertical Measurement	ft/s2	Before	32.19	31.53	32.07	32.84	

EDTC-B Memory Data - EDTC-B Memory Data

Master (EEPROM): 13:55:36 25-Aug-2015

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Initial PMT HV	V	Master			1686.000		
Accelerometer Serial Number		Master			659		
Accelerometer Coefficients - 0		Master	-----	-----	2.925	-----	
Accelerometer Coefficients - 1		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 2		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 3		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 4		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 5		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 6		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 7		Master	-----	-----	-0.005	-----	
Accelerometer Coefficients - 8		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 9		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 10		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 11		Master	-----	-----	0.000	-----	
Gamma-Ray Detector Serial Number		Master			7756		

EDTC-B Gamma-Ray Calibration - Gamma Ray Coefficients

Before (Measured): 13:27:18 24-Aug-2015

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Gamma Ray Gain		Before	1.000	0.900	1.029	1.100	

EDTC-B Gamma-Ray Calibration - Gamma Ray Accumulations

Before (Measured): 13:27:18 24-Aug-2015

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RGR Zero Measurement	gAPI	Before		0	71.752	120.000	
RGR Plus Measurement	gAPI	Before	165.000	150.000	160.369	180.000	

Company:	Anadarko Petroleum Company	Schlumberger
Well:	English Farms 15C-8HZ	
Field:	Wattenberg	
County:	Weld	
State:	Colorado	
Ultrasonic Imager		
State Log		
Gamma Ray - CCL Log		