



Company: **SANDRIDGE ENERGY**

Well: OLIVER 3306 2-14H

Field: **STOHRVILLE**

County: **HARPER** State: **KANSAS**

DUAL SPACED NEUTRON SPECTRAL DENSITY MEMORY LOG

County:	HARPER				
Field:	STOHRVILLE				
Location:	SHL: 225' FSL &				
Well:	OLIVER 3306 2-				
Company:	SANDRIDGE EN				
API Serial No. 15077220310100	LOCATION				
	Permanent Datum: Log Measured From: Drilling Measured From:	GROUND LEVEL		Elev.: K.B. 1304.00 ft G.L. 1286.00 ft D.F. 1304.00 ft	
Section 14	Township 33S		Range 6W		

[illegible]

Logging Date	3-Apr-2014								
Run Number	ONE								
Depth Driller	7391 ft								
Schlumberger Depth	7080 ft								
Bottom Log Interval	7062 ft								
Top Log Interval	5460 ft								
Casing Driller Size @ Depth	7.000 in			@		5470 ft	@		
Casing Schlumberger	5460 ft								
Bit Size	6.125 in								
Type Fluid In Hole	WBM								
Density	8.9 lbm/gal		34 s						
Fluid Loss	PH		24 cm3	8.4					
Source Of Sample	MUD SENSOR								
RM @ Measured Temperature	1.650 ohm.m			@		55 degF	@		
RMF @ Measured Temperature	1.230 ohm.m			@		55 degF	@		
RMC @ Measured Temperature	2.060 ohm.m			@		55 degF	@		
Source RMF	RMC								
RM @ MRT	RMF @ MRT		0.858 @ 112	0.640	@ 112		@		@
Maximum Recorded Temperatures	112 degF								
Circulation Stopped	Time		3-Apr-2014			17:00			
Logger On Bottom	Time		3-Apr-2014			18:00			
Unit Number	Location		11	OKC, OK					
Recorded By	DENGLER								
Witnessed By	JACKIE KENNEDY								

[illegible]

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 OF 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.

OTHER SERVICES2
OS1:
OS2:
OS3:
OS4:
OS5:

REMARKS: RUN NUMBER 2

7019' LOGGED TO 5460'

NS

100

4.5" CASING

LE FALL-IN

SERVICE ORDER #:
PROGRAM VERSION:
FLUID LEVEL:

STOP

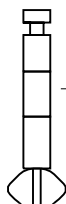
RUN 2

WITM (ThruBit)

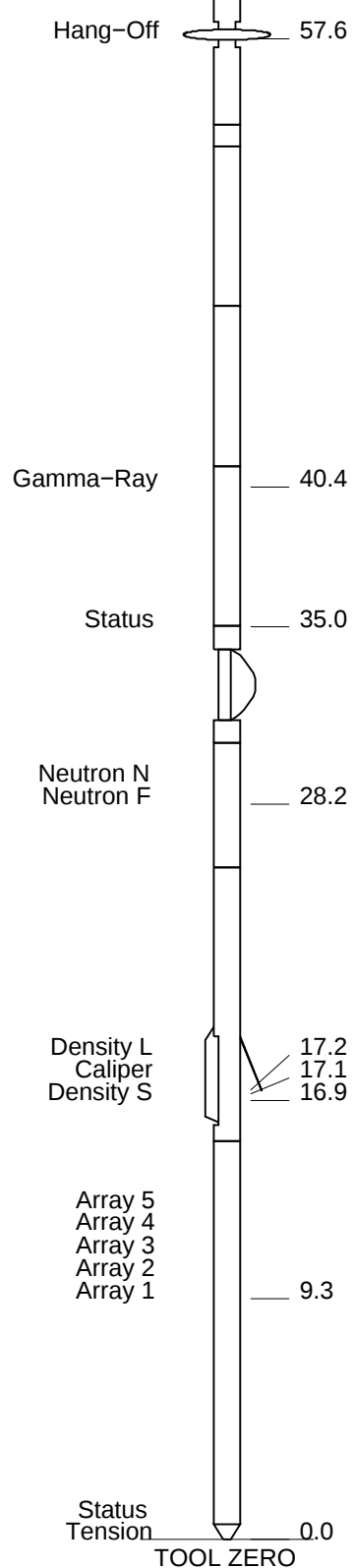
67.1

CCL

64.2



TMG-A 39
TBEX-A
TBN-A 27
NNLS-EWA 3754
TBD-A 24
GGLS-FZ 3351
TBI-A 25



MAXIMUM STRING DIAMETER 2.13 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

Schlumberger

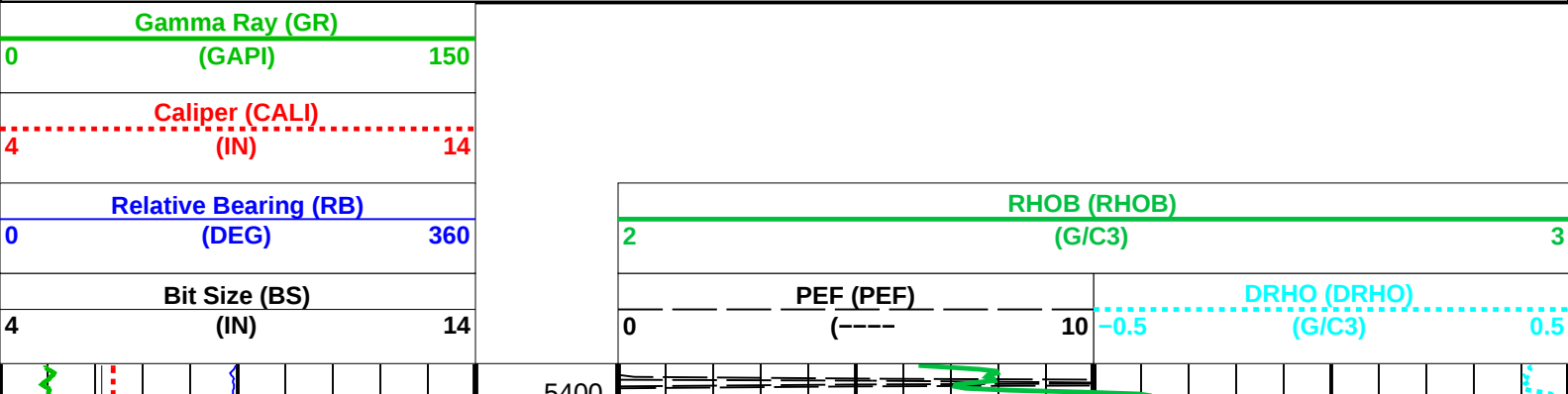
MAIN PASS

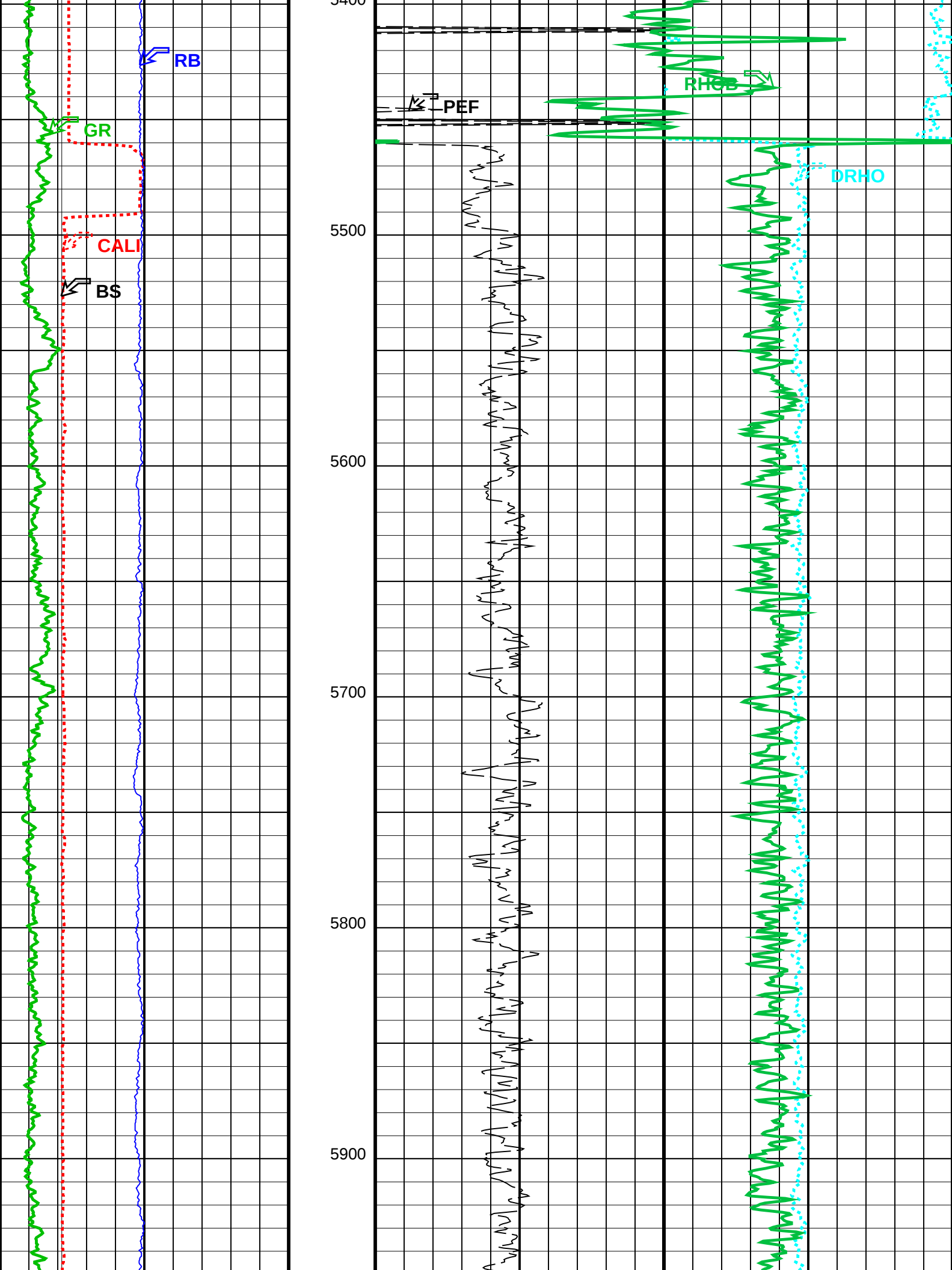
MAXIS Field Log

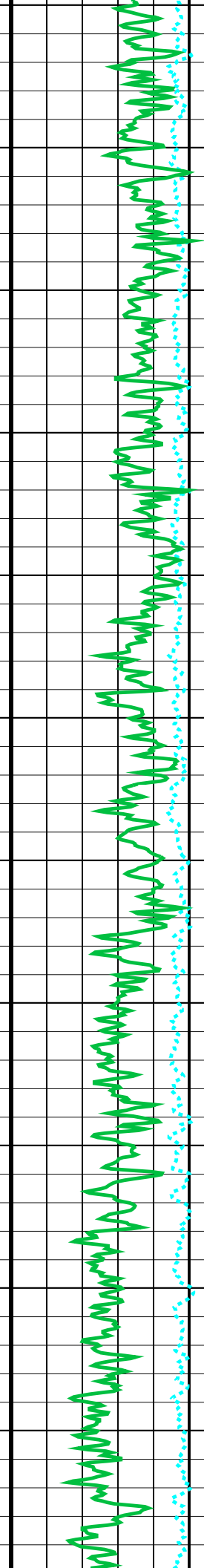
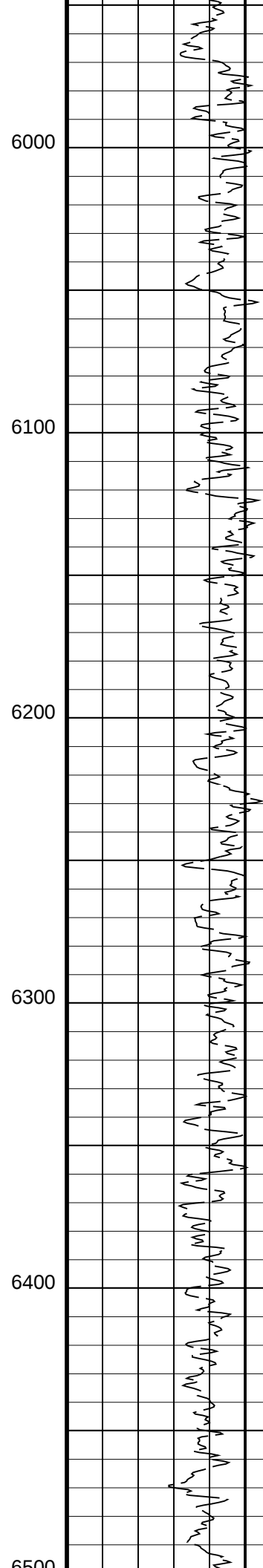
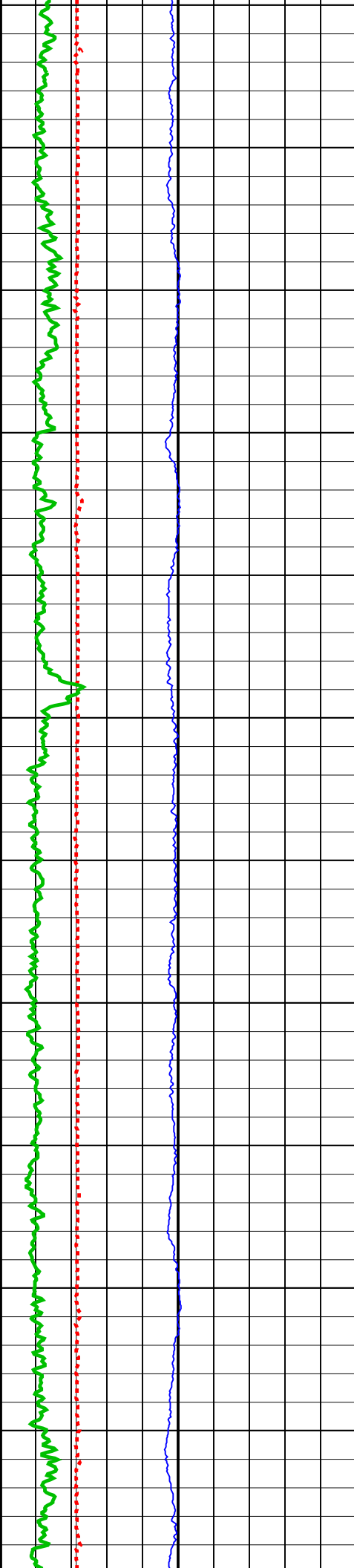
Company: SANDRIDGE ENERGY Well: OLIVER 3306 2-14H

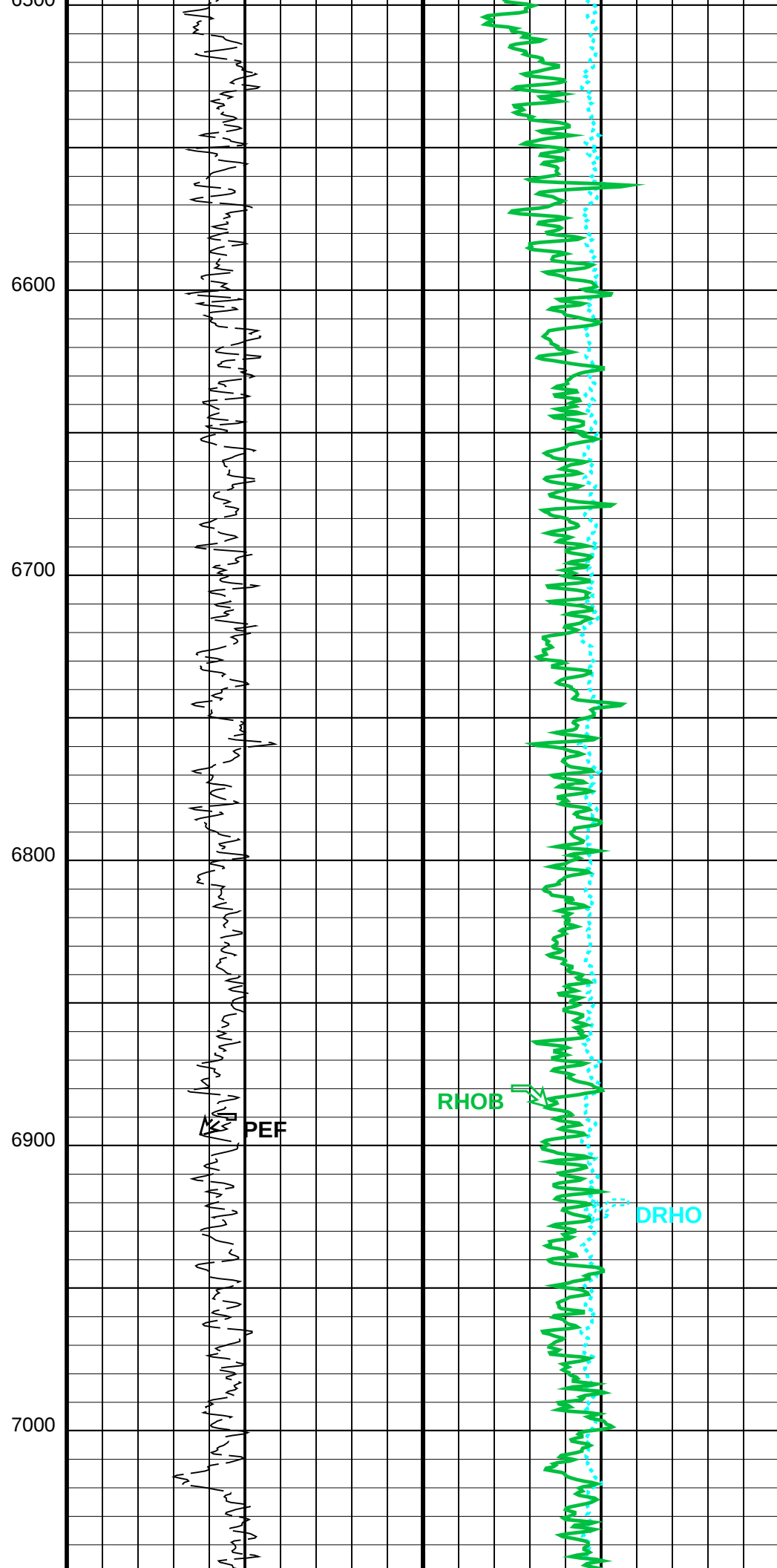
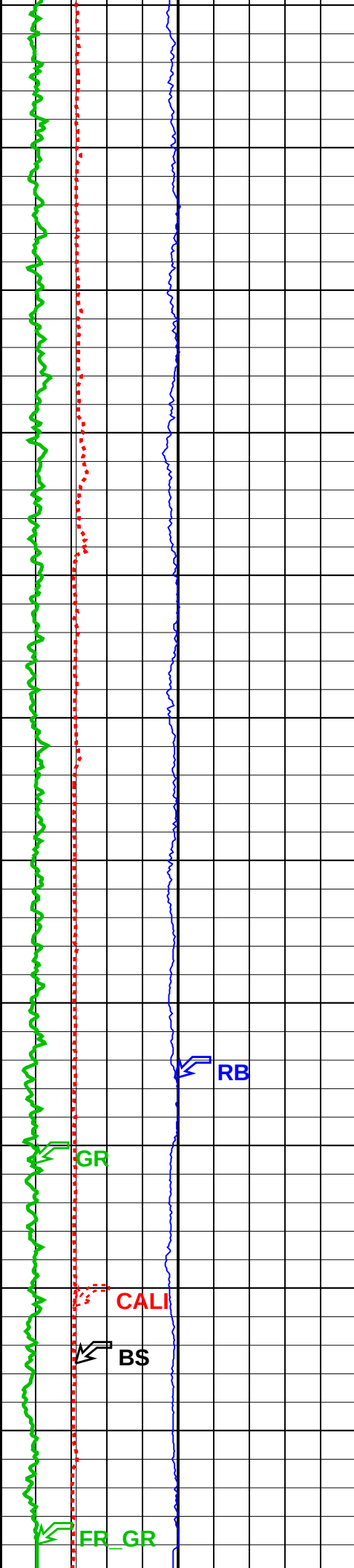
Input DLIS Files						
DEFAULT	ThruBit_009PUP	FN:8	PRODUCER	03-Apr-2014 23:46	7077.5 FT	2531.0 FT
Output DLIS Files						
	TBT .010	FN:9		03-Apr-2014 23:51	7077.5 FT	5385.5 FT

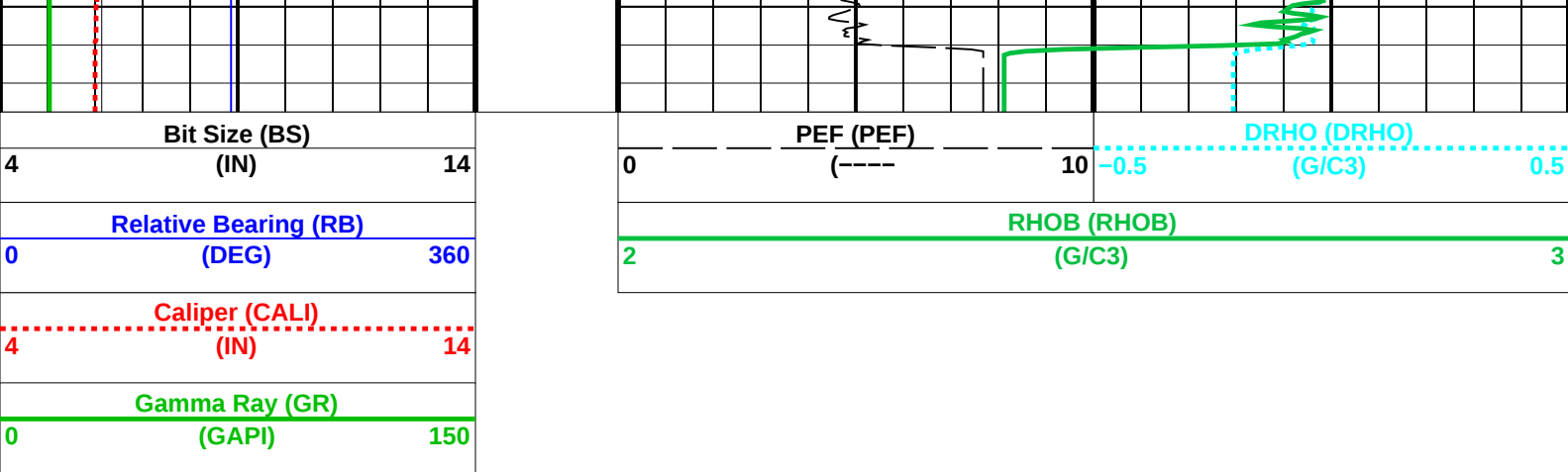
OP System Version: 19C2-270	
TBT	SRPC-5292-ThruBit_RevA











Parameters		
DLIS Name	Description	Value
TBT-A: ThruBit String		
DHC	Density Hole Correction	BS
RB_OFFSET	Additional RB offset (degrees)	0.000 deg
TBD_CAL_BLOCK	TBD Calibration Block Type	THRUBIT
TBD_SPIKE_REJECT	TBD Spike Detection Option	DETECT
TBD_SPIKE_THRESHOLD	TBD Attenuation Change Threshold for Spike Detection	5.000 %
WMUD	Mud Weight	8.900 lbm/gal
System and Miscellaneous		
BS	Bit Size	6.125 in

Format: TB_2INCH_NUCLEAR Vertical Scale: 2" per 100' Graphics File Created: 03-Apr-2014 23:51

OP System Version: 19C2-270

TBT SRPC-5292-ThruBit_RevA

Input DLIS Files					
DEFAULT	ThruBit_009PUP	FN:8	PRODUCER	03-Apr-2014 23:46	7077.5 FT 2531.0 FT
Output DLIS Files					
	TBT .010	FN:9		03-Apr-2014 23:51	



MAIN PASS

MAXIS Field Log

Company: SANDRIDGE ENERGY Well: OLIVER 3306 2-14H

Input DLIS Files					
DEFAULT	ThruBit_009PUP	FN:8	PRODUCER	03-Apr-2014 23:46	7077.5 FT 2531.0 FT
Output DLIS Files					
	TBT .013	FN:12		03-Apr-2014 23:55	7077.5 FT 2531.0 FT

Integrated Hole/Cement Volume Summary

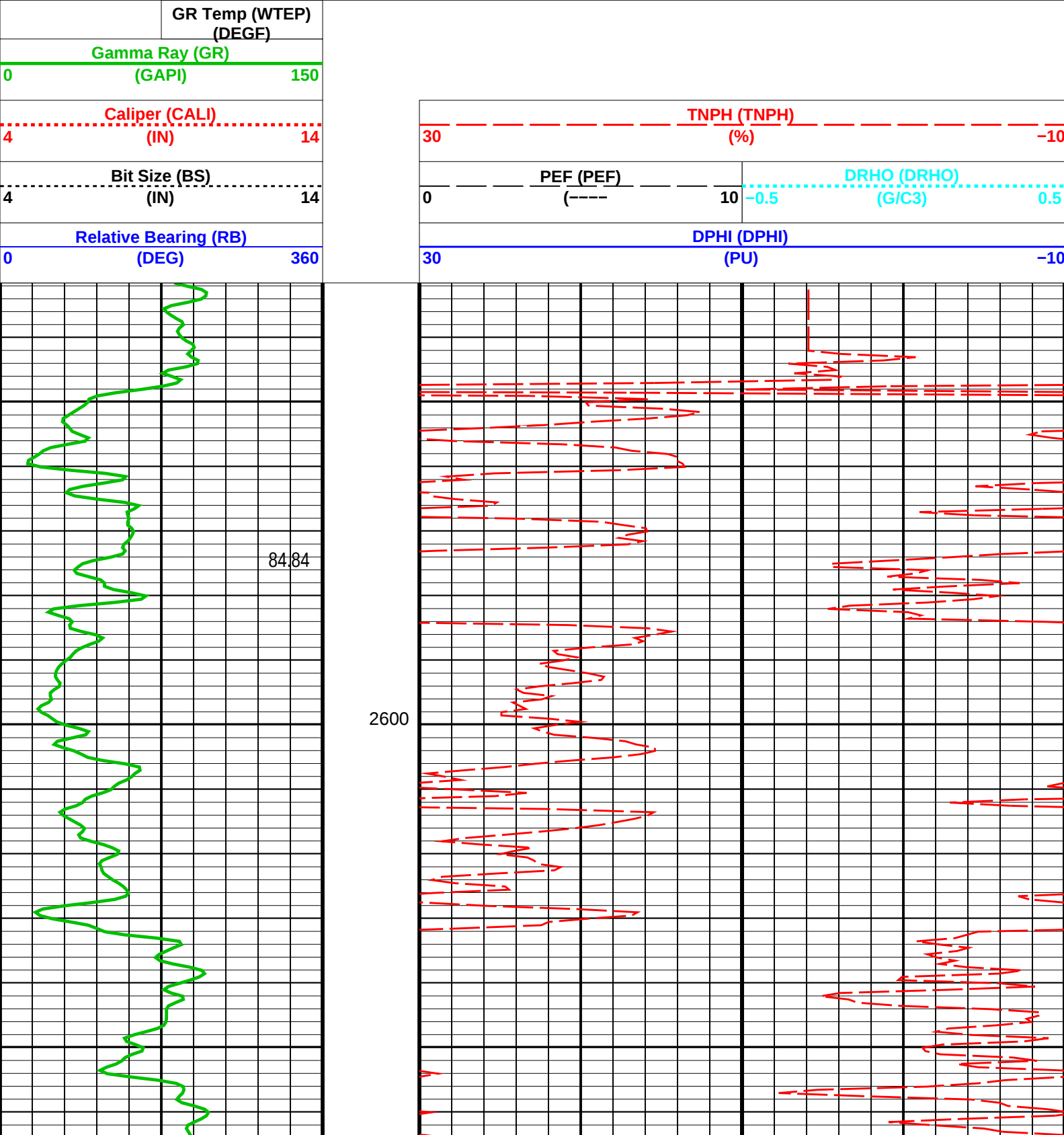
Hole Volume = 339.28 ft3

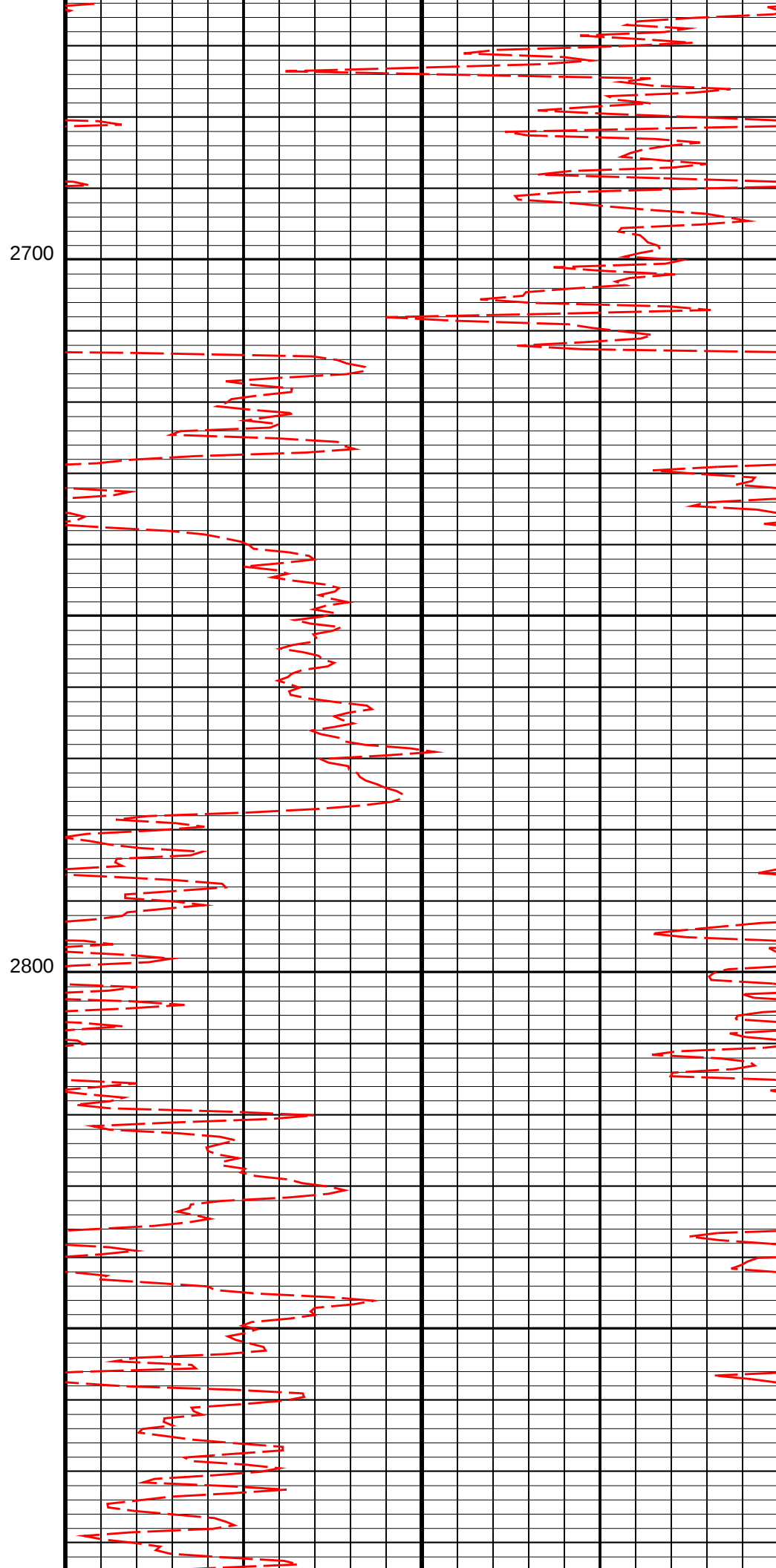
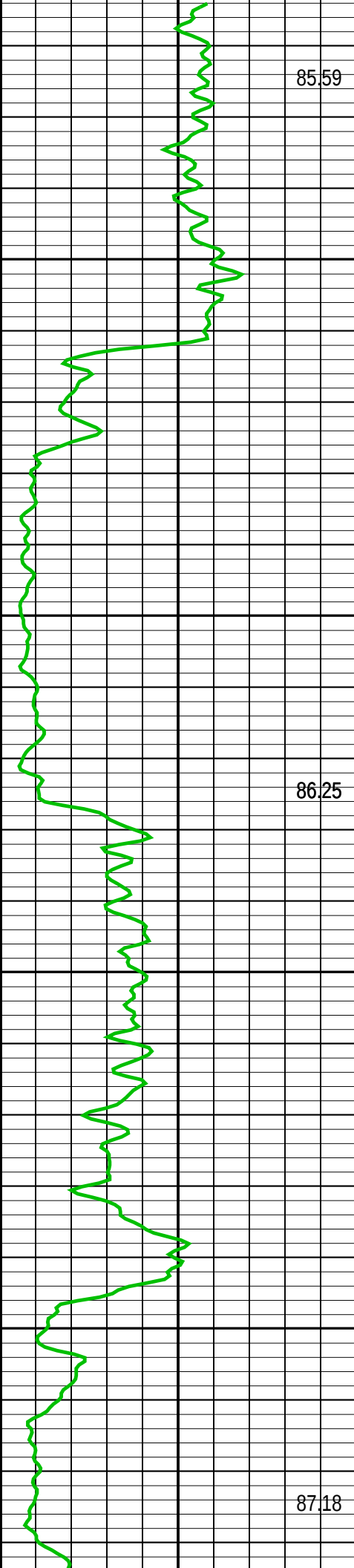
Cement Volume = 160.70 ft3 (assuming 4.50 in casing O.D.)
Computed from 7077.0 ft to 5460.5 ft

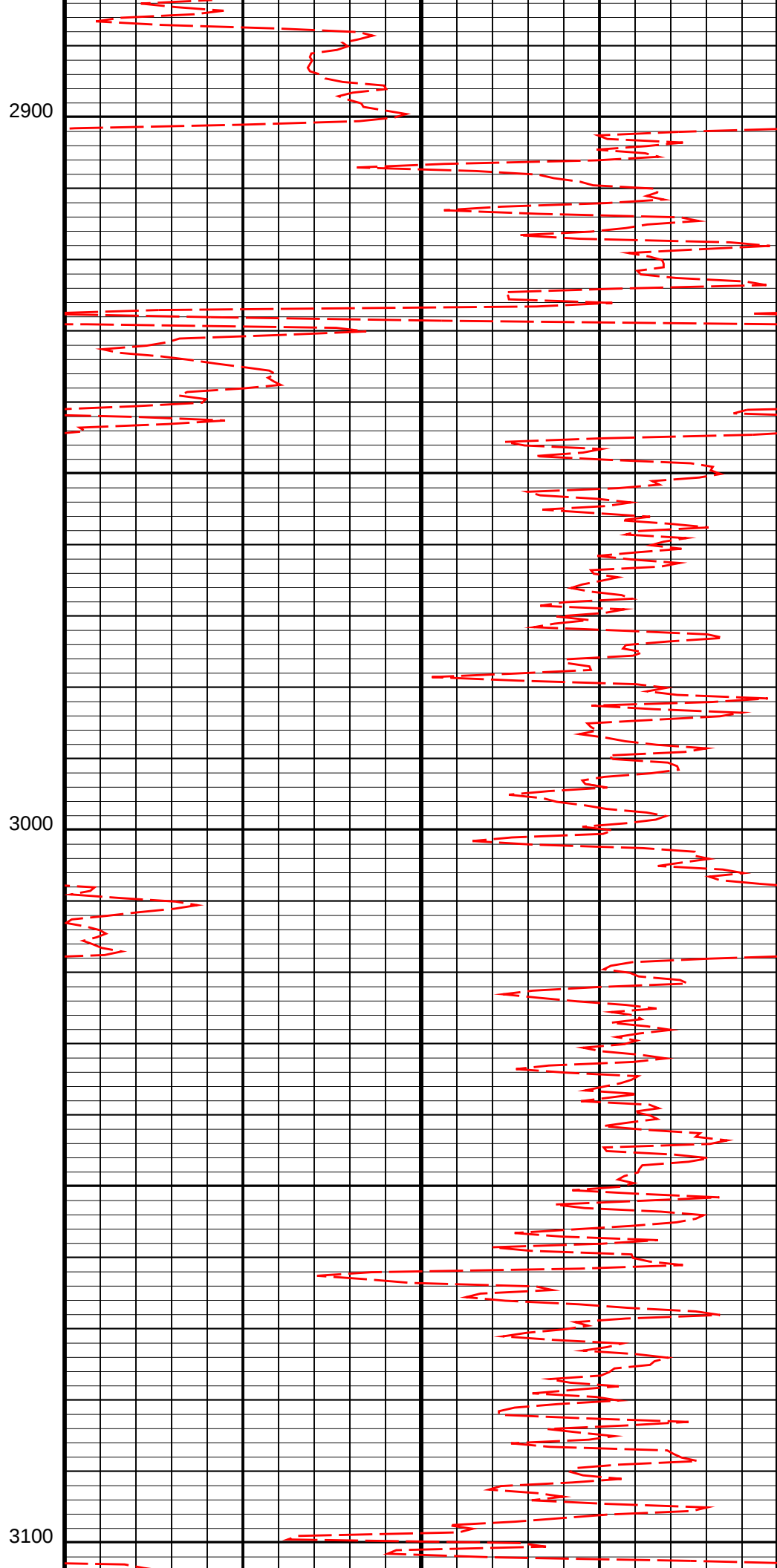
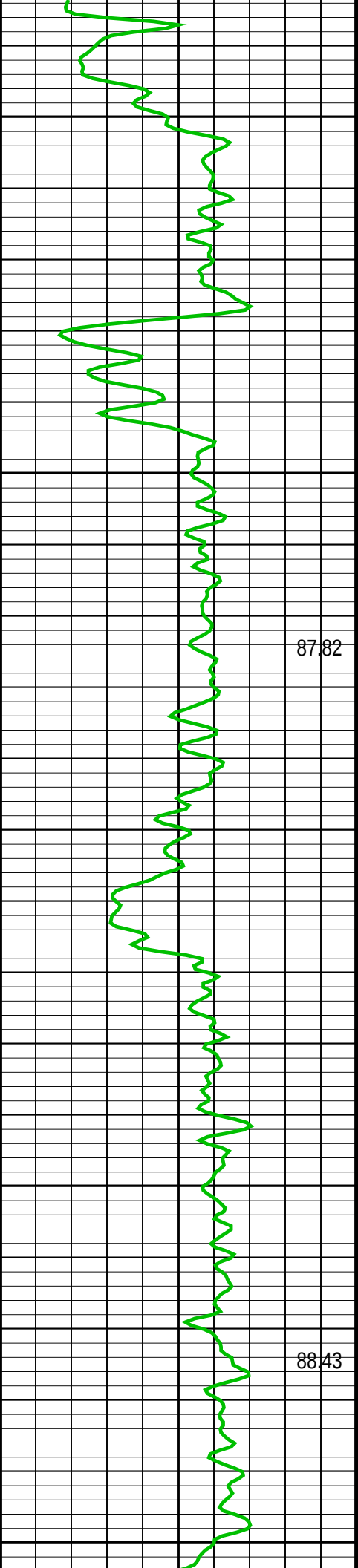
OP System Version: 19C2-270

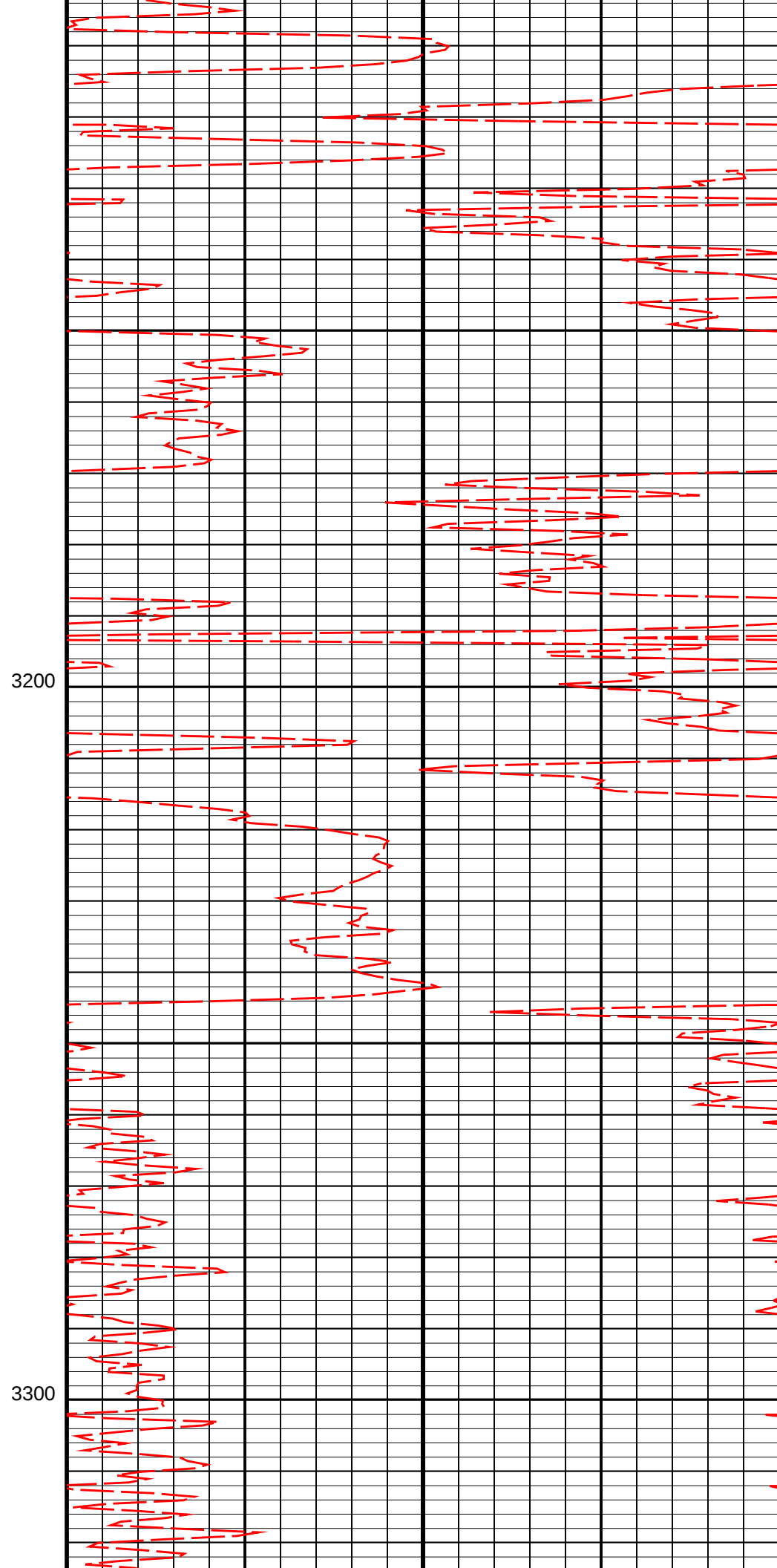
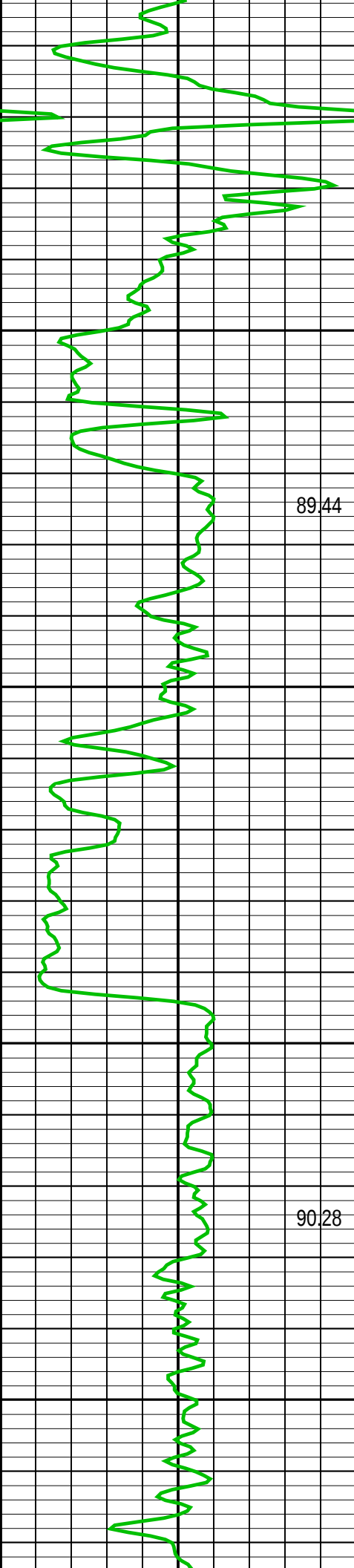
TBT SRPC-5292-ThruBit_RevA

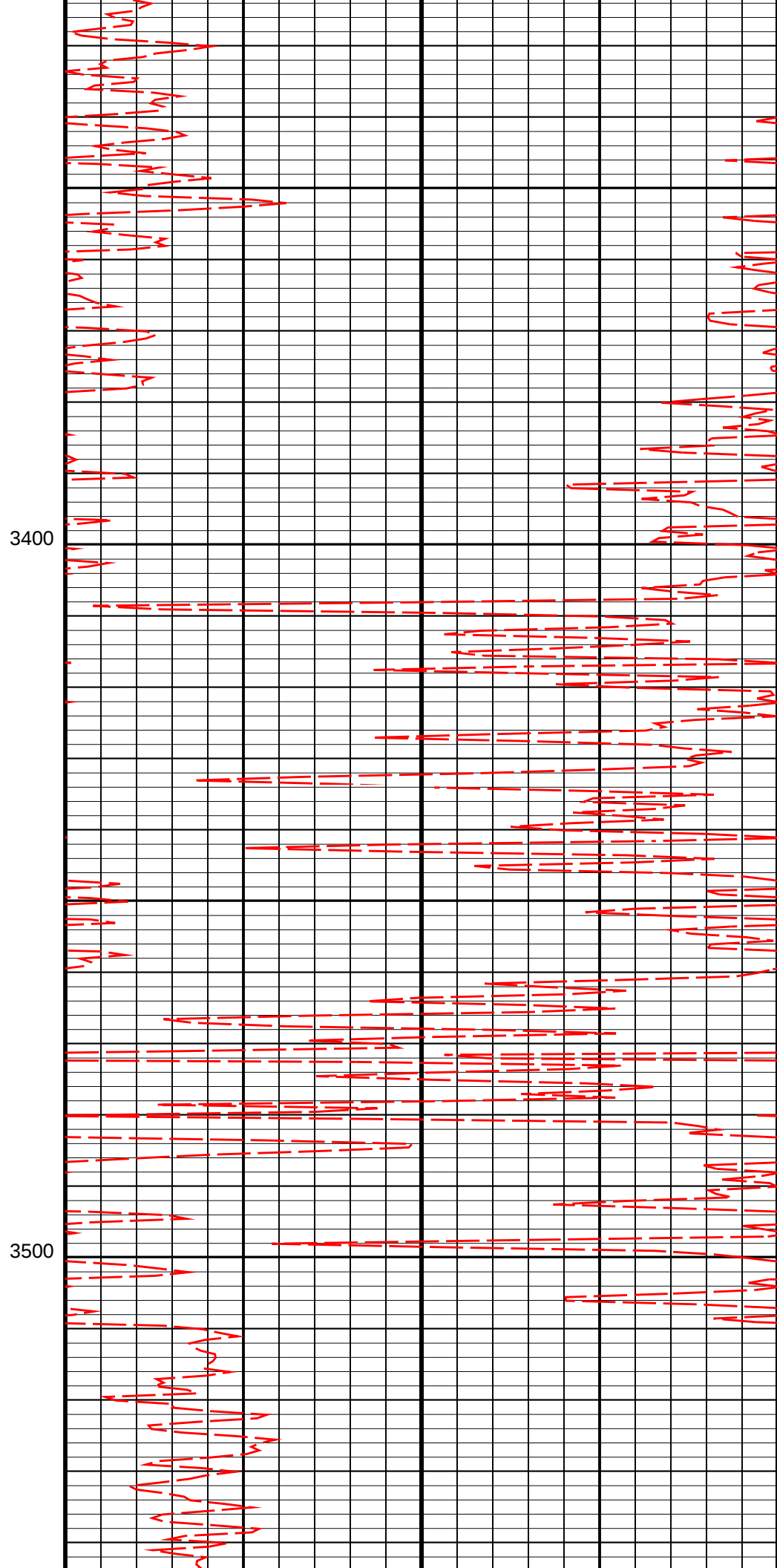
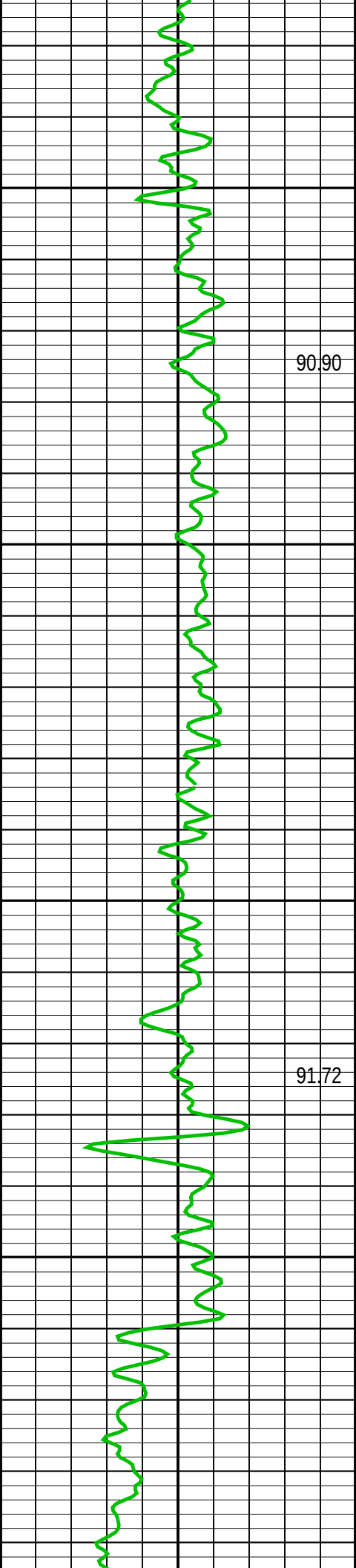
- PIP SUMMARY
- └ Integrated Cement Volume Major Pip Every 100 F3
 - └ Integrated Cement Volume Minor Pip Every 10 F3
 - └ Integrated Hole Volume Major Pip Every 100 F3
 - └ Integrated Hole Volume Minor Pip Every 10 F3

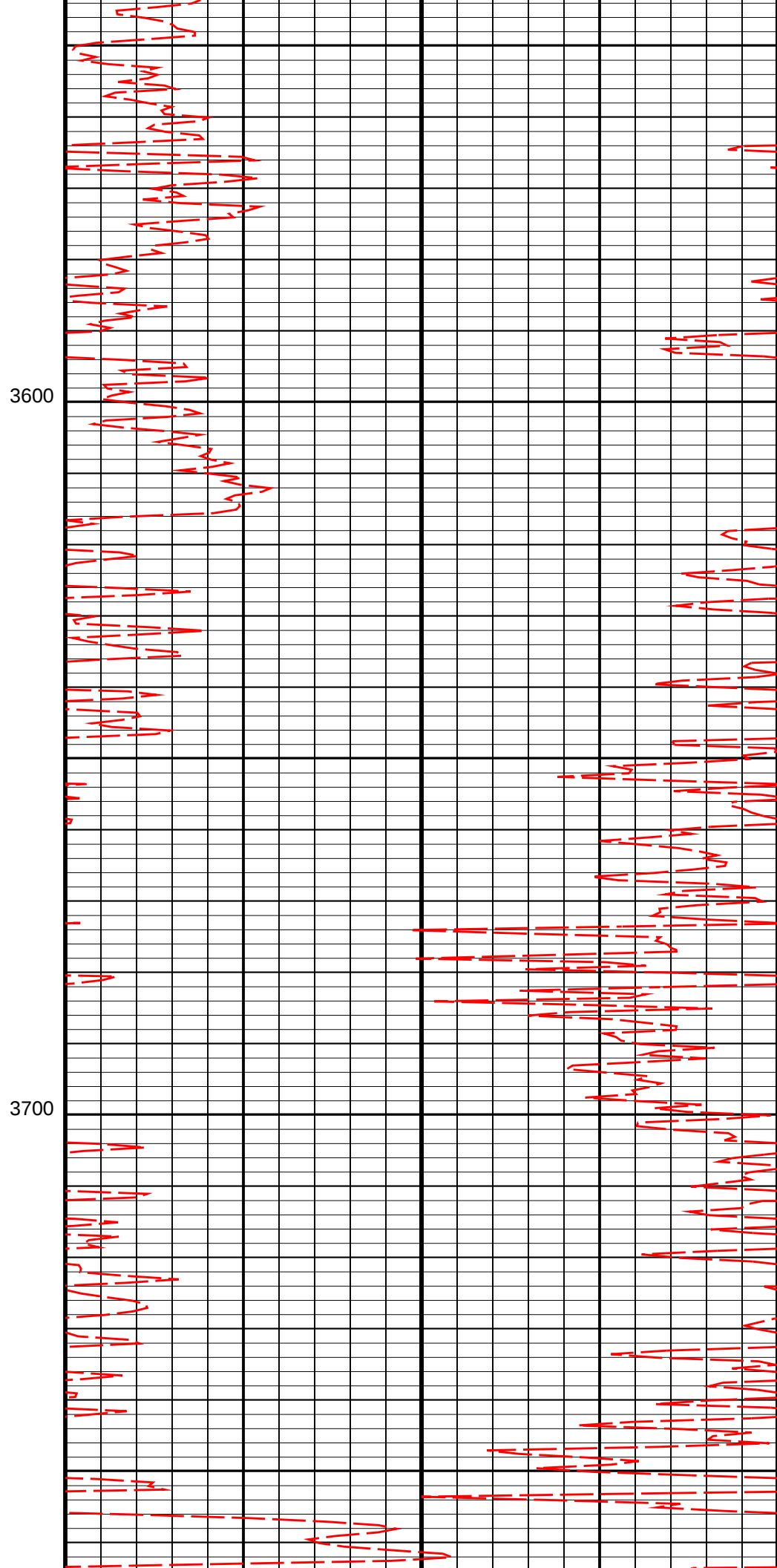
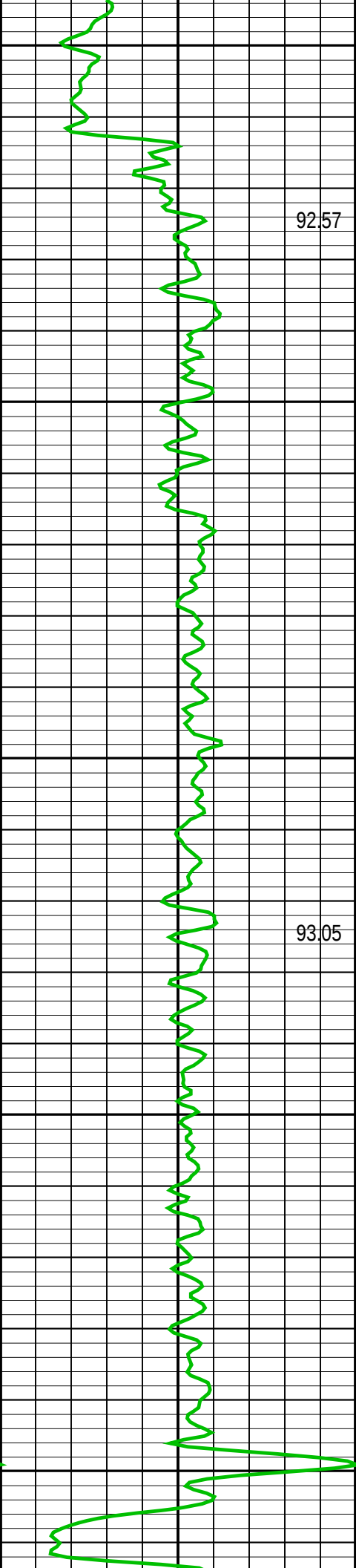


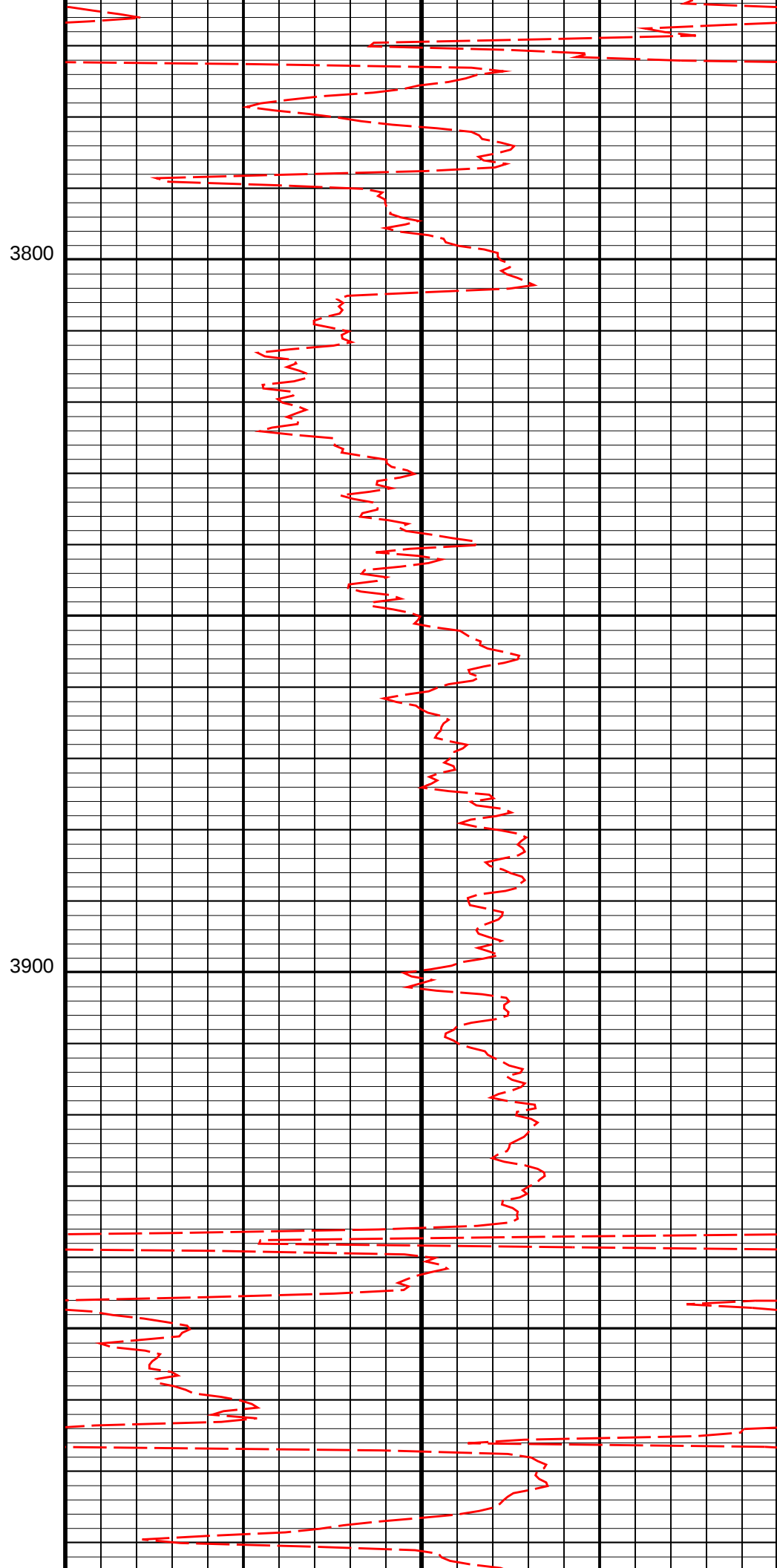
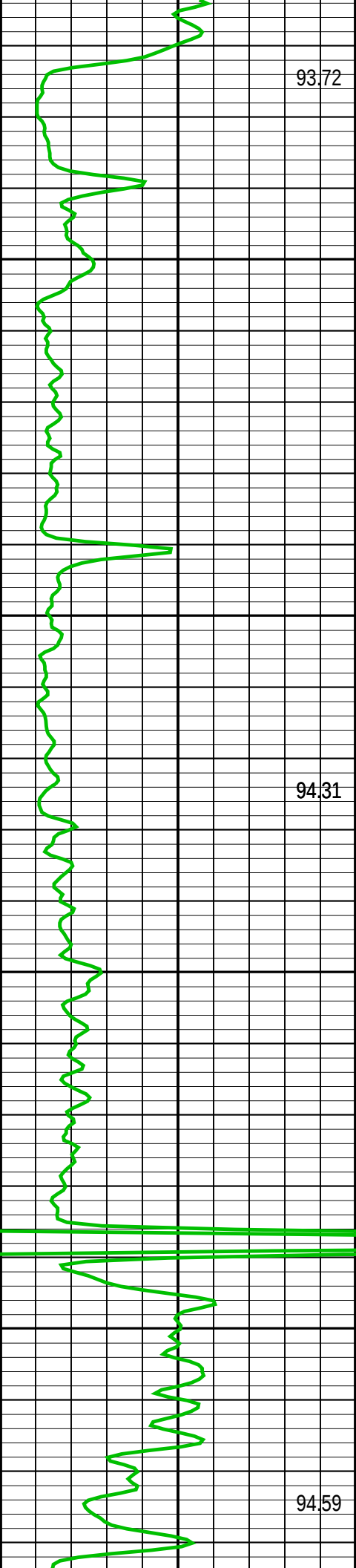


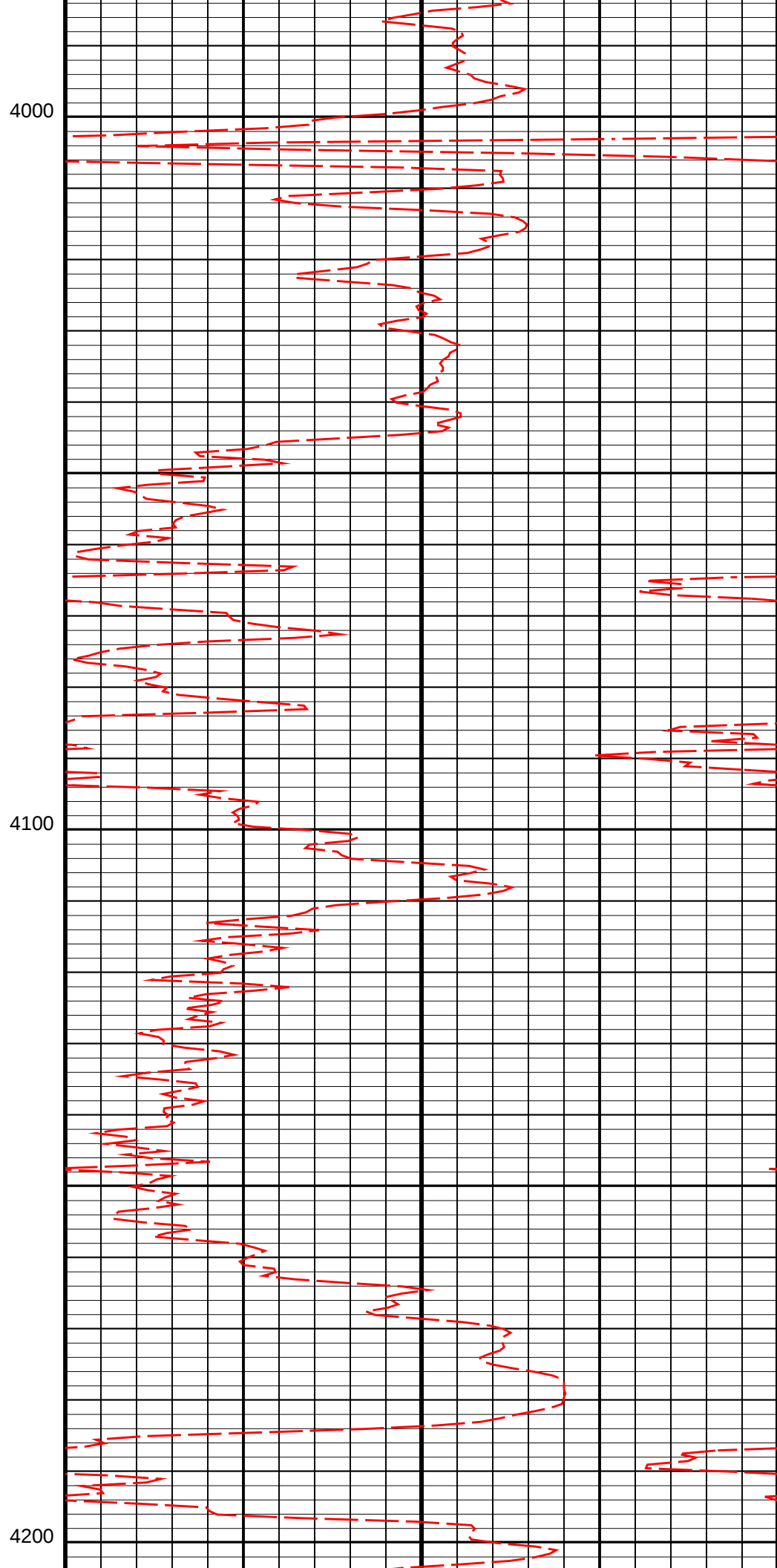
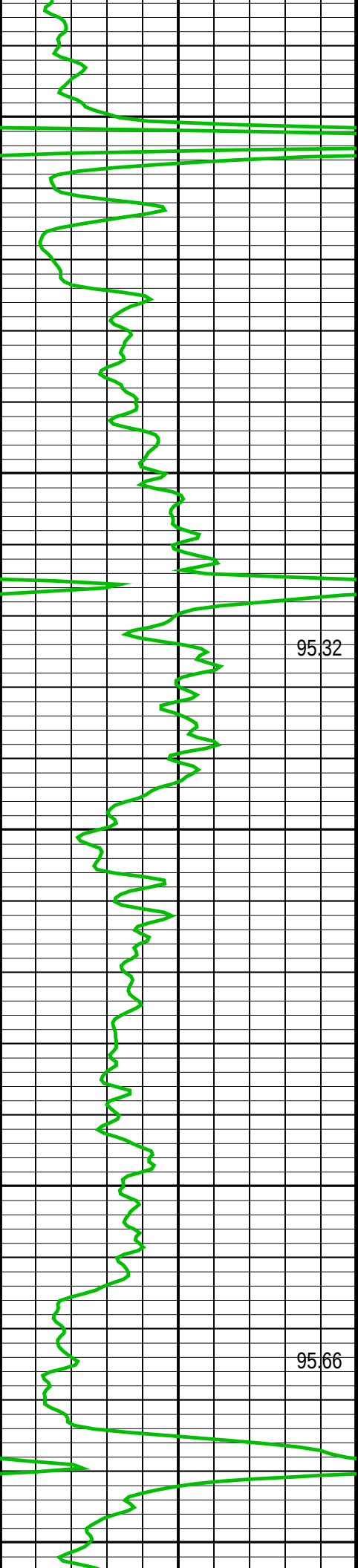


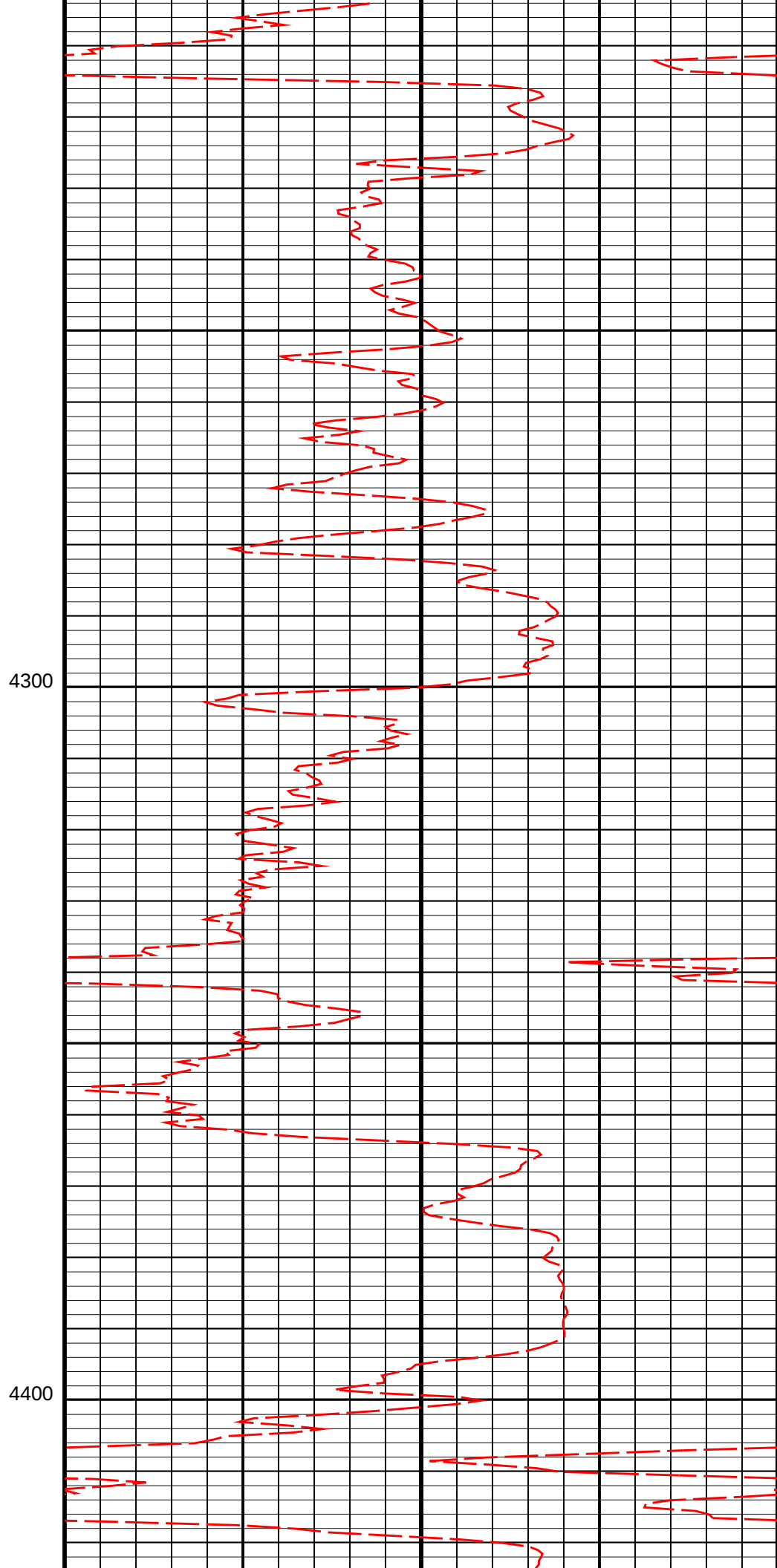
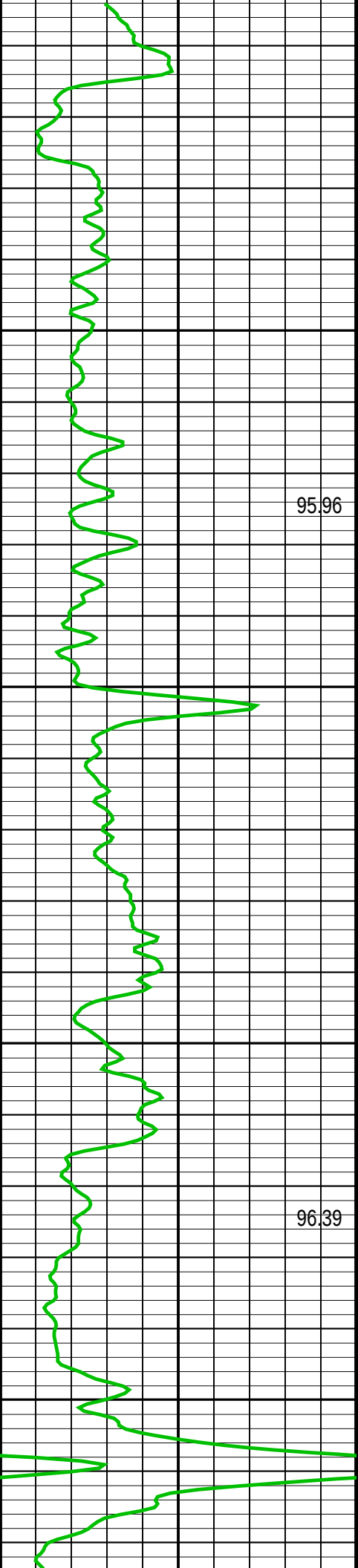


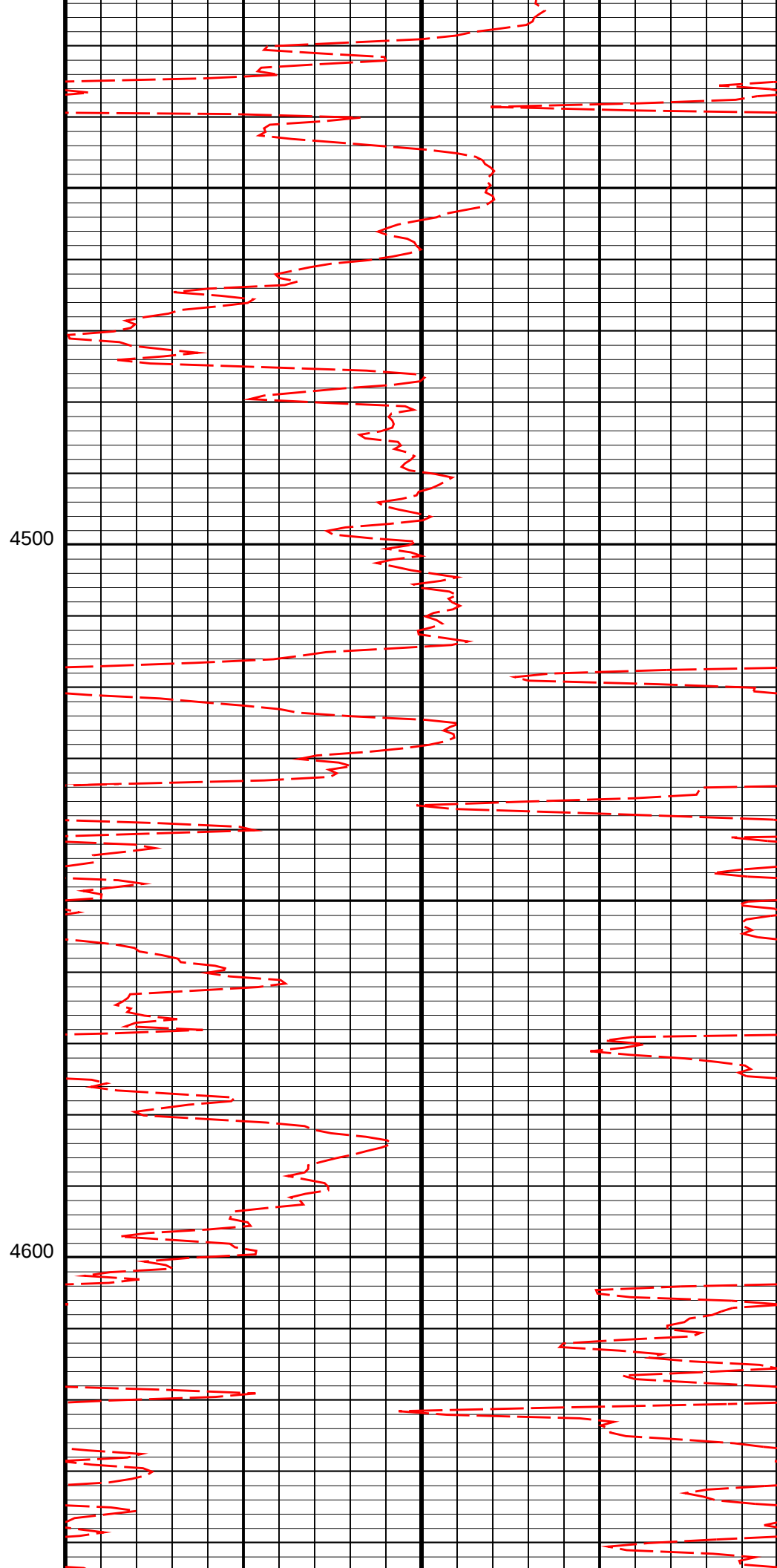
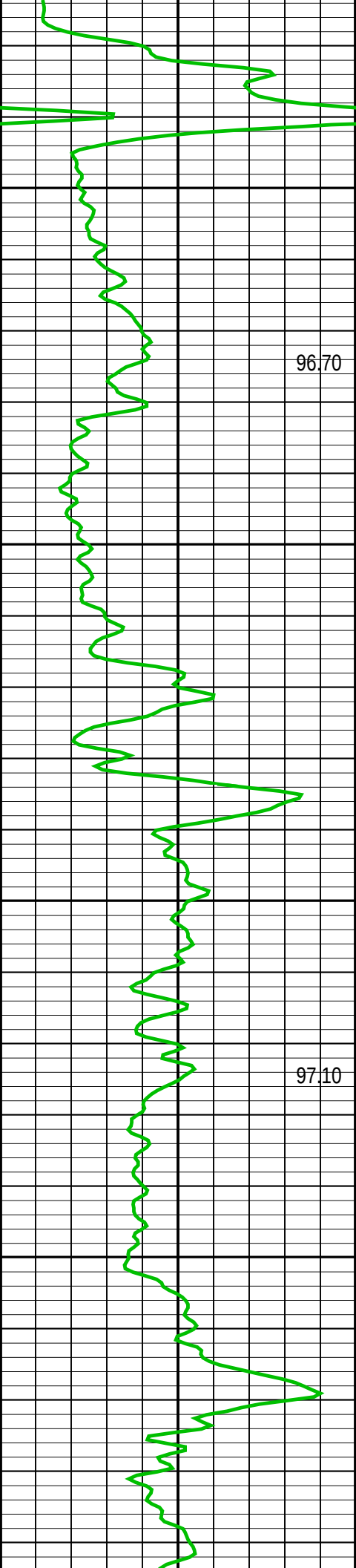


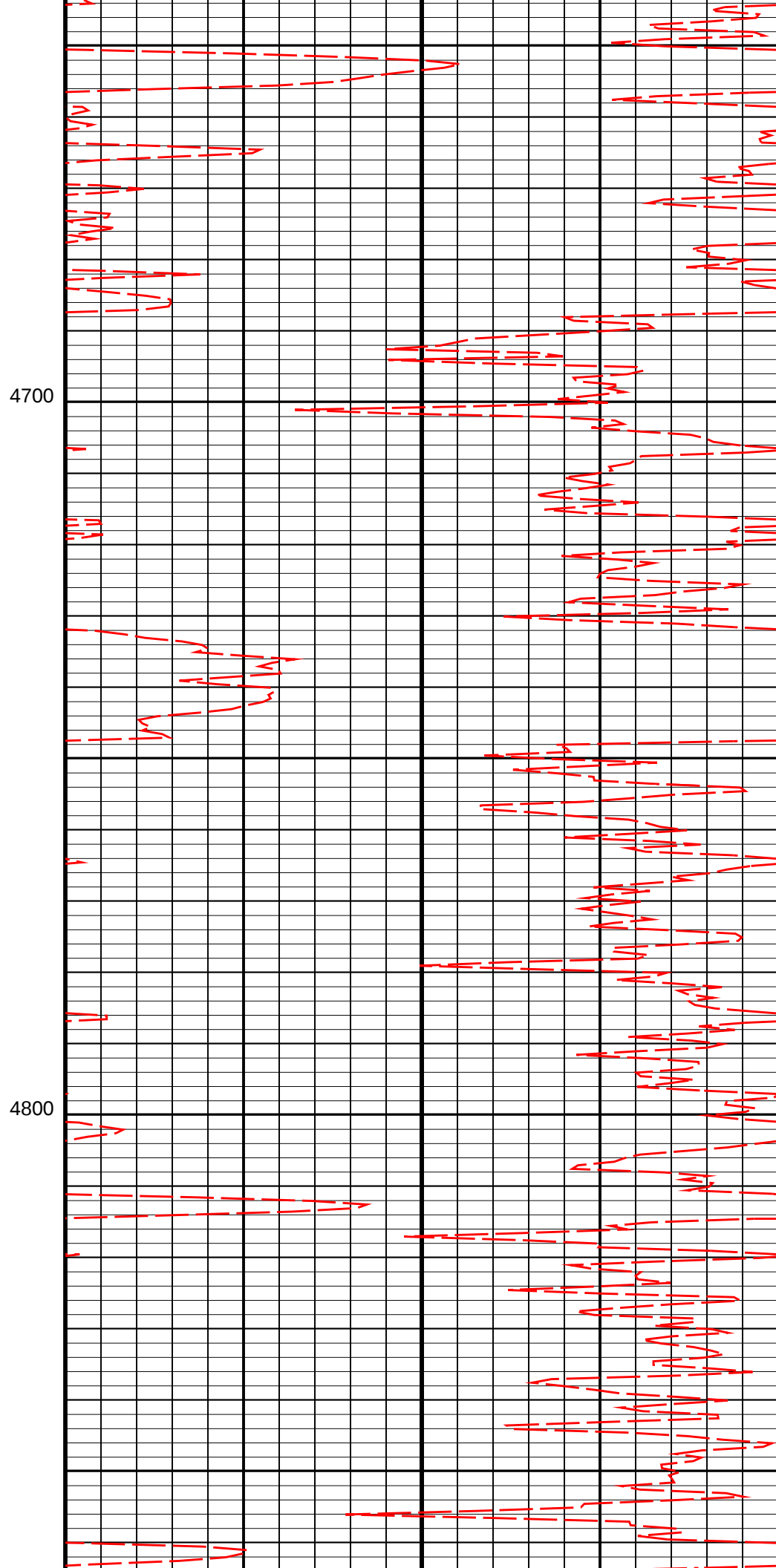
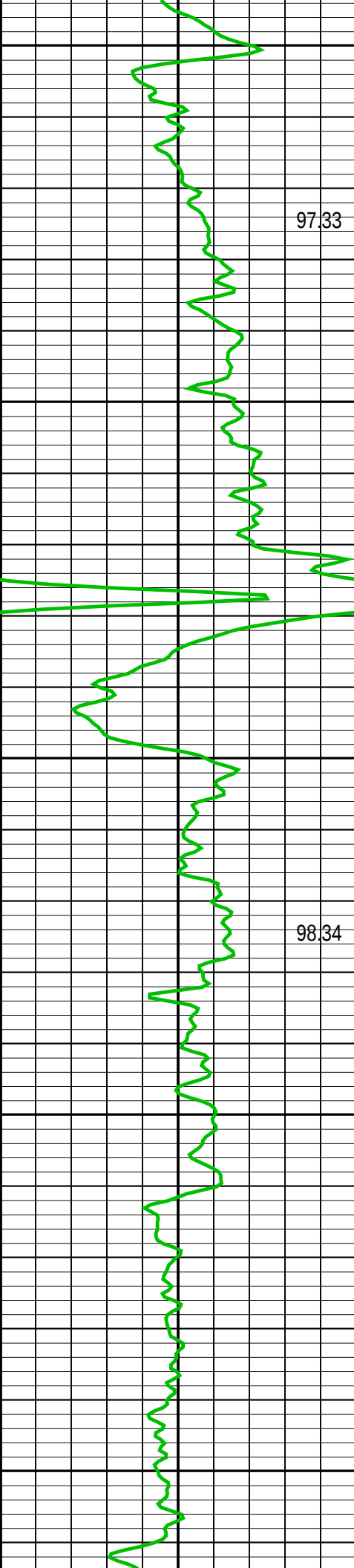


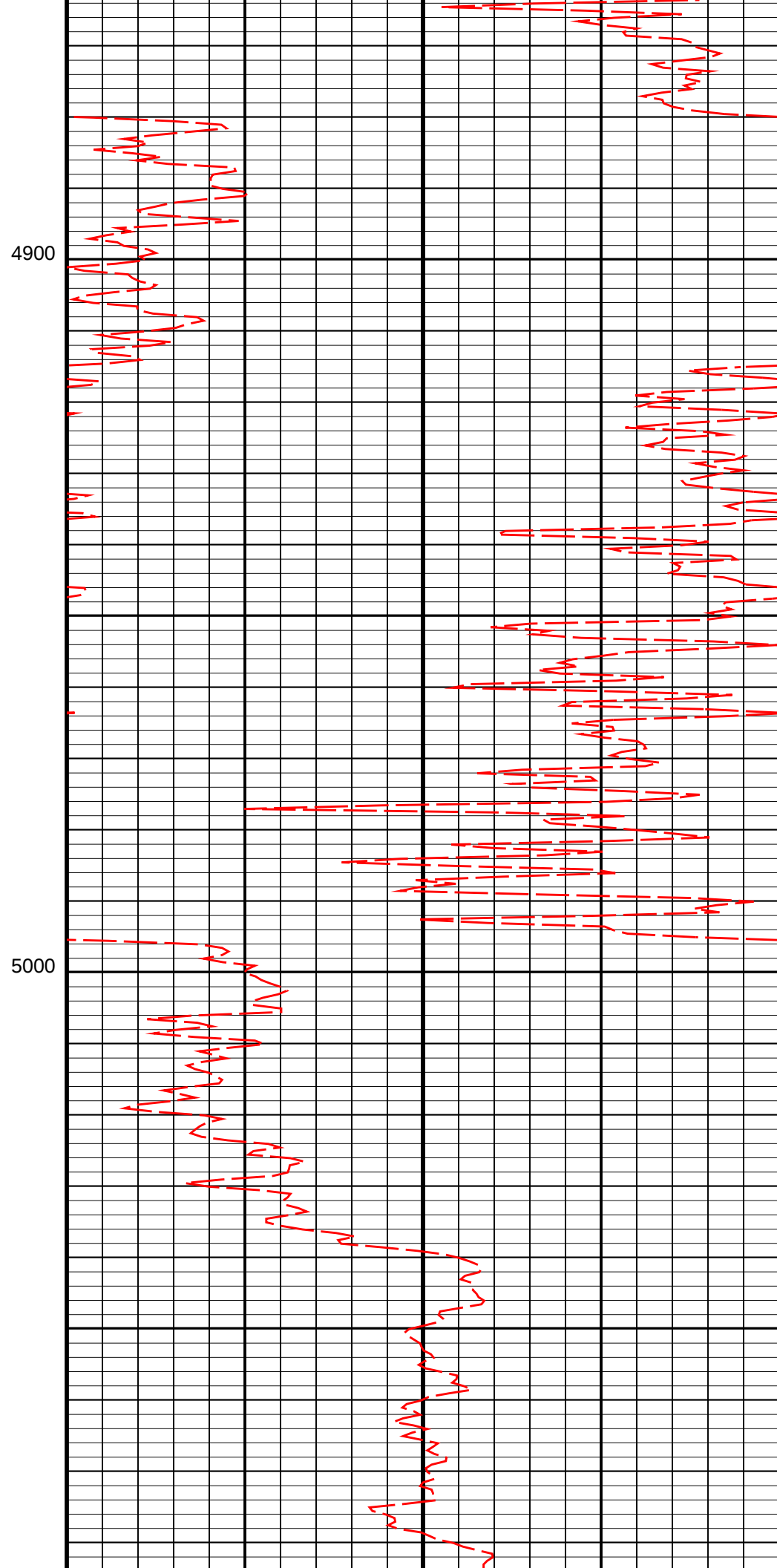
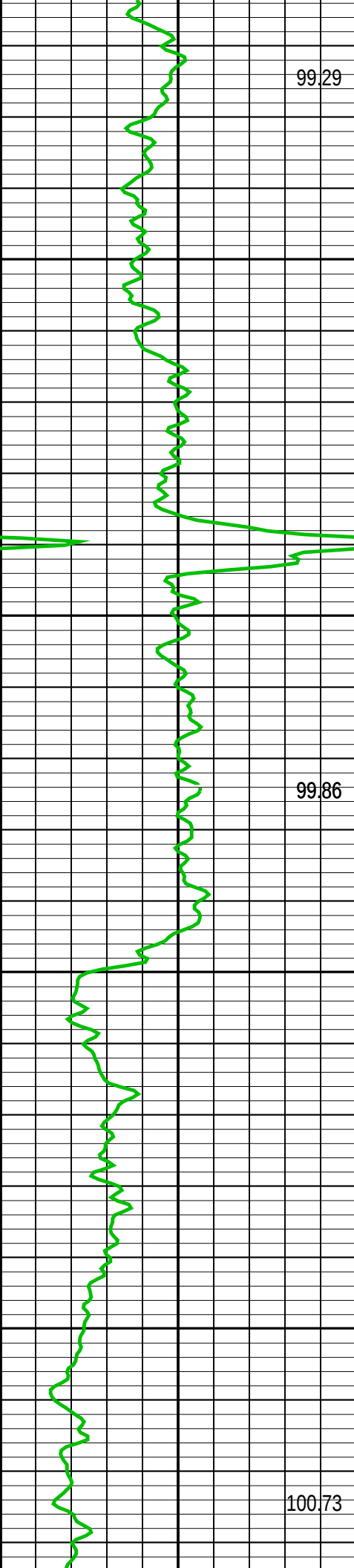


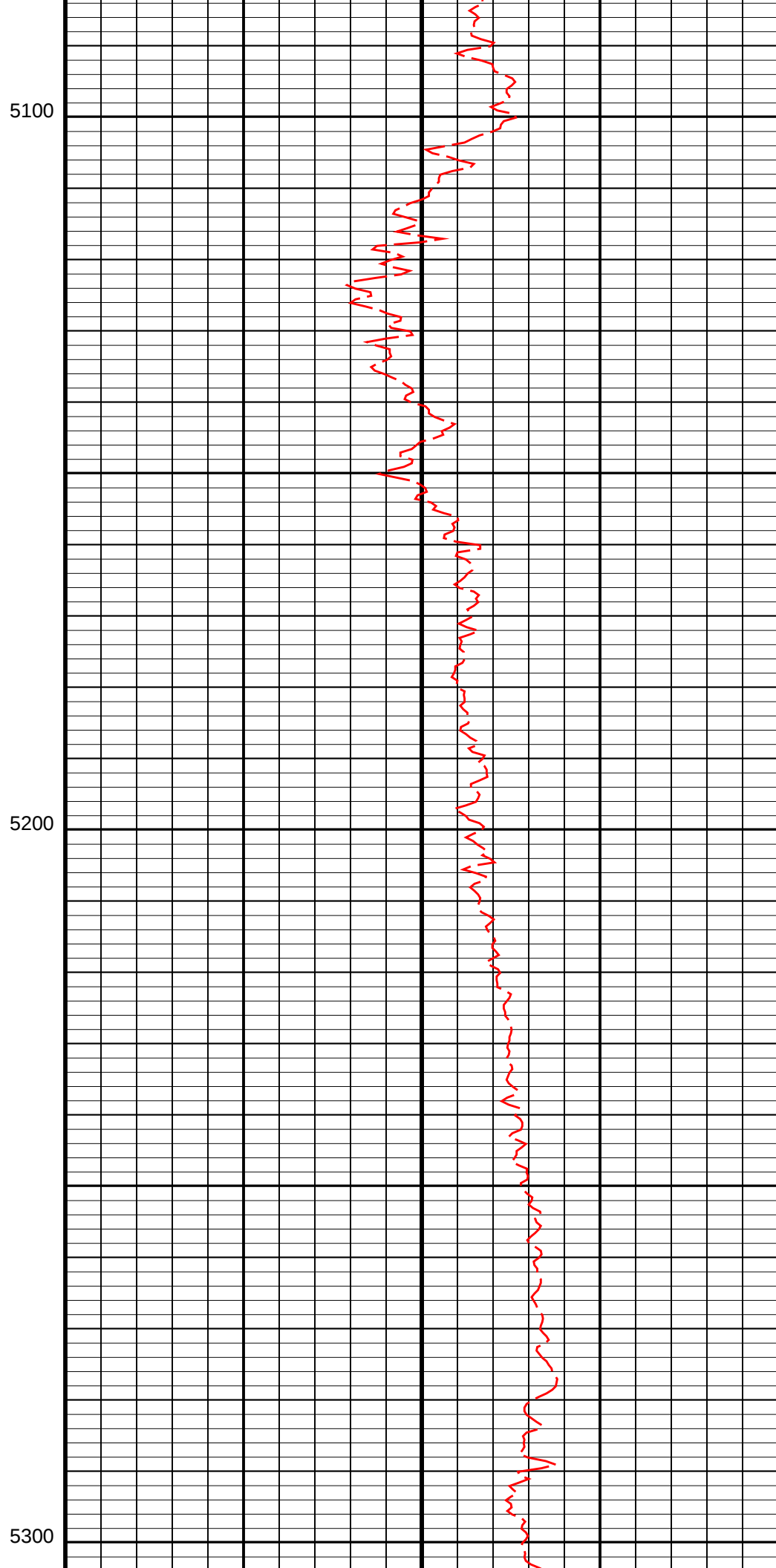
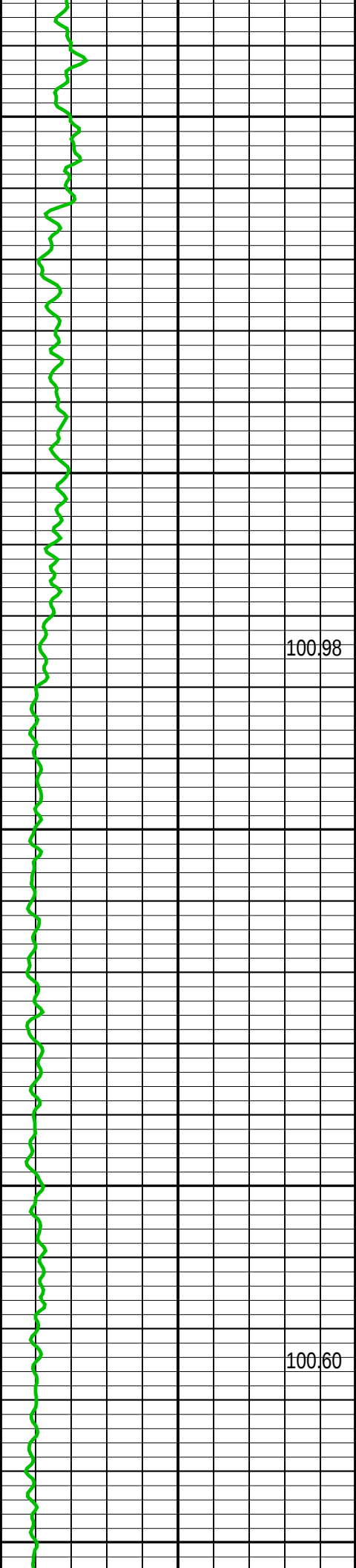


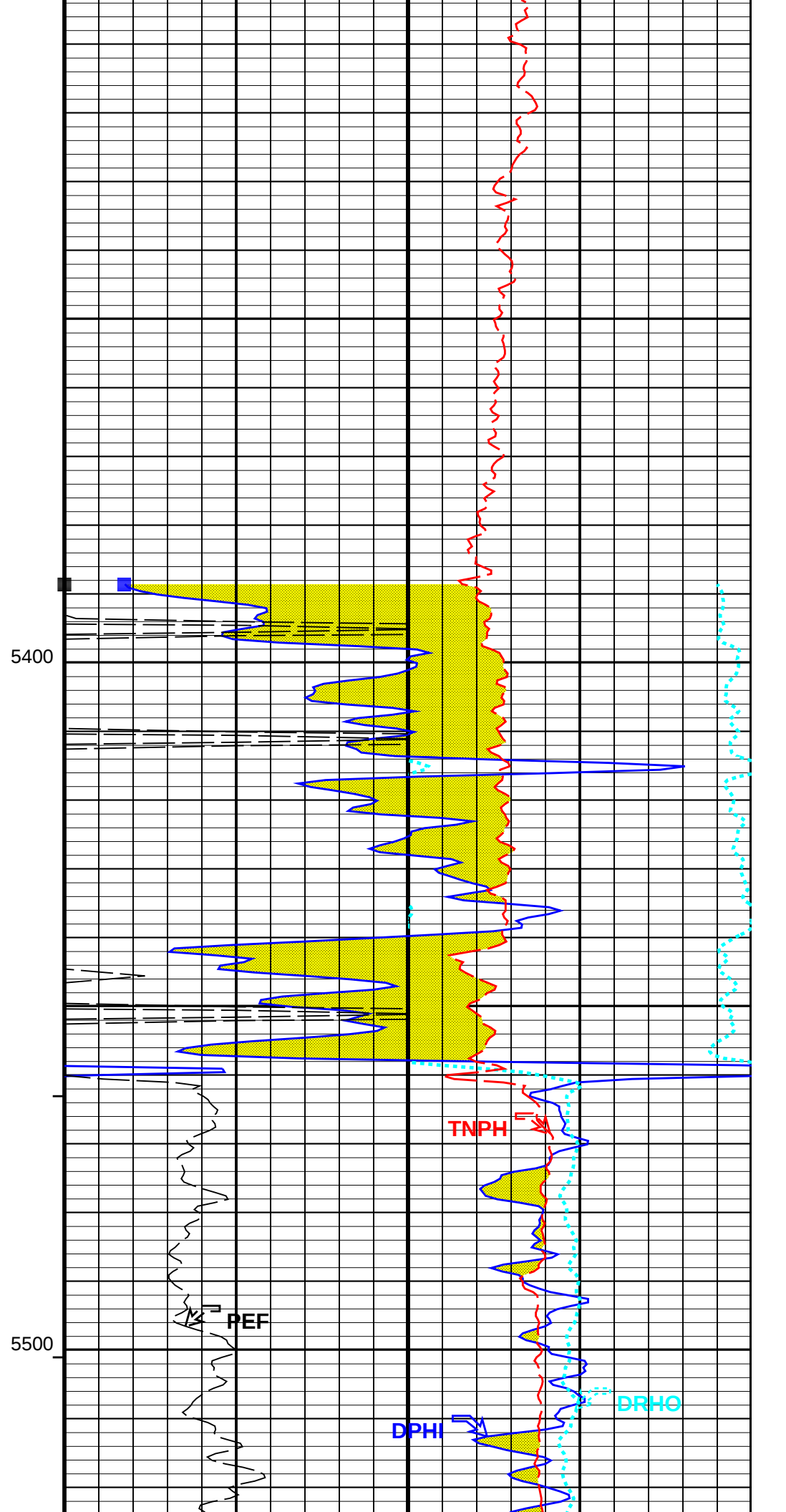
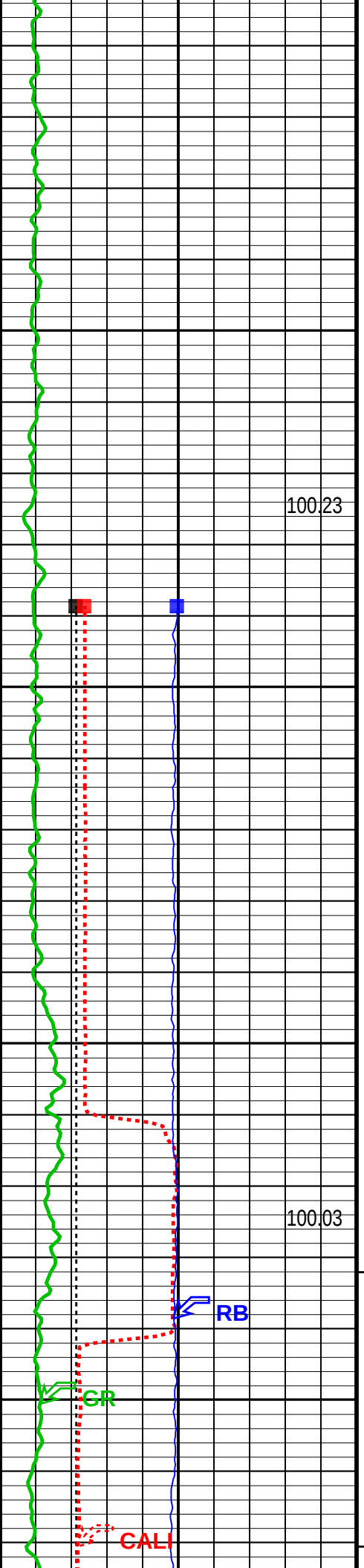


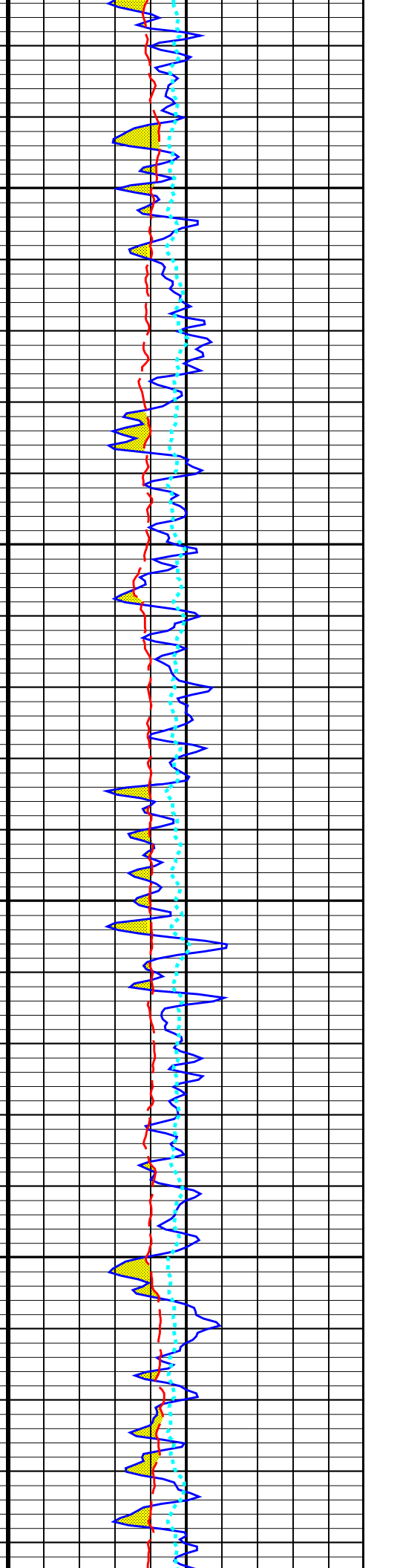
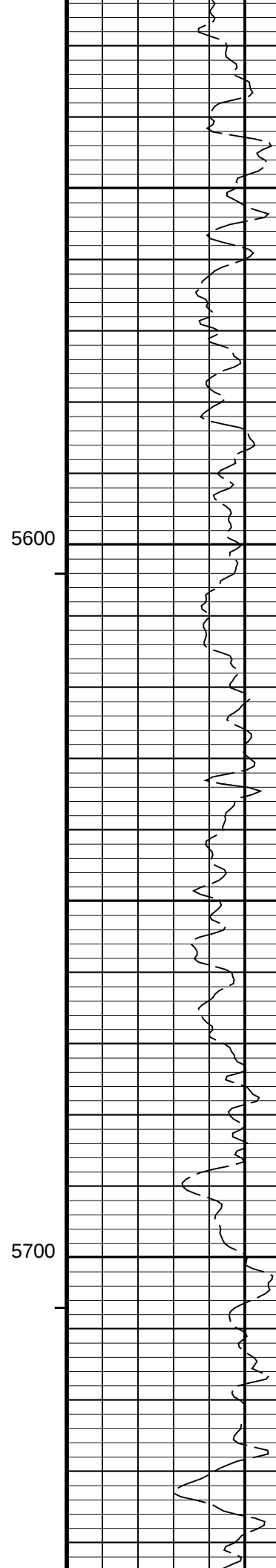
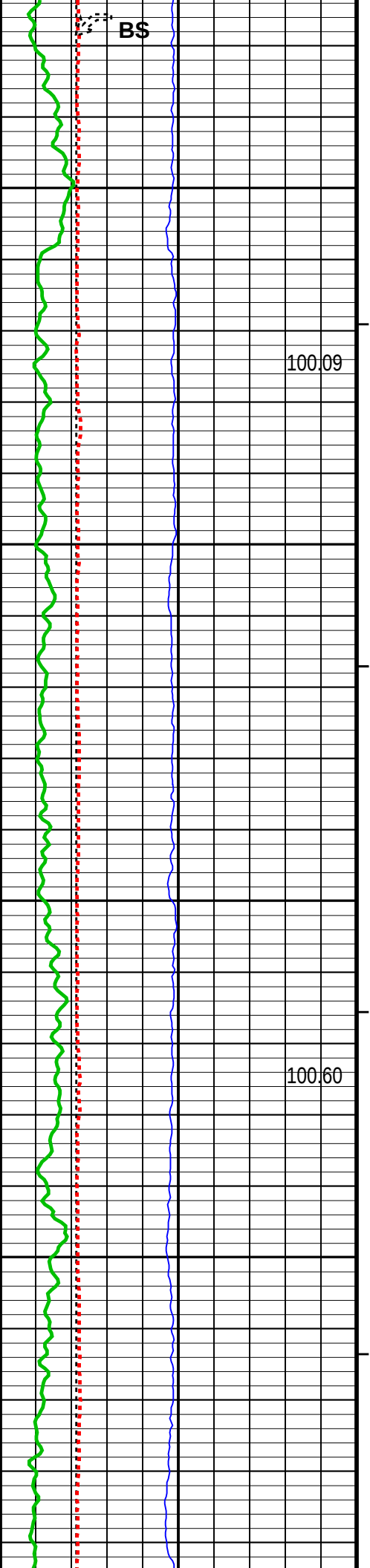


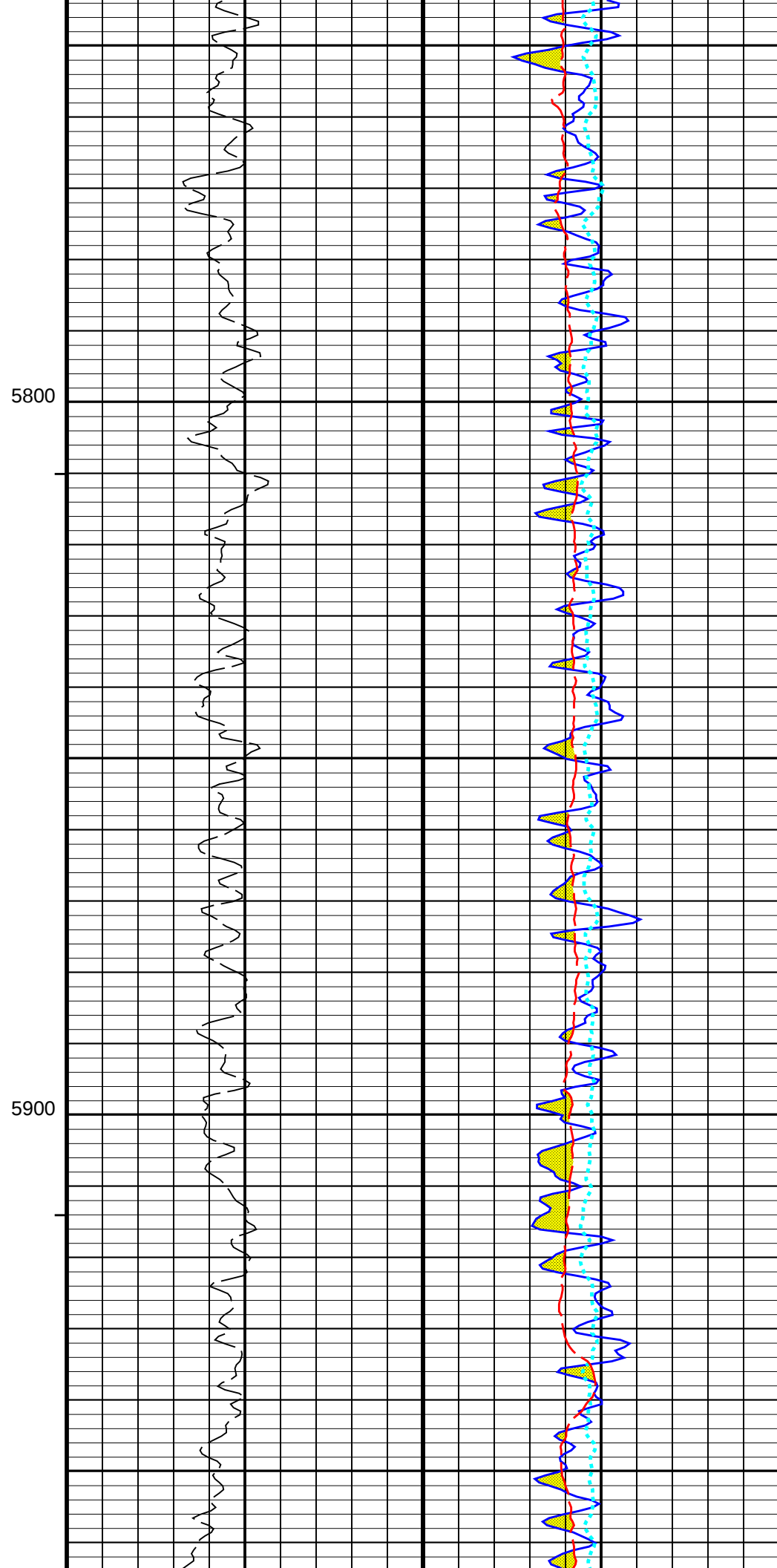
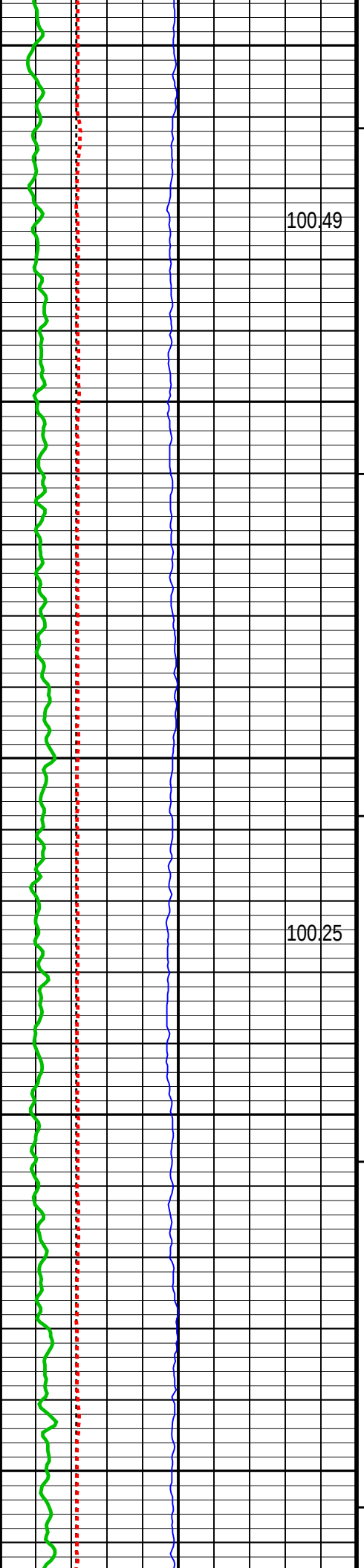


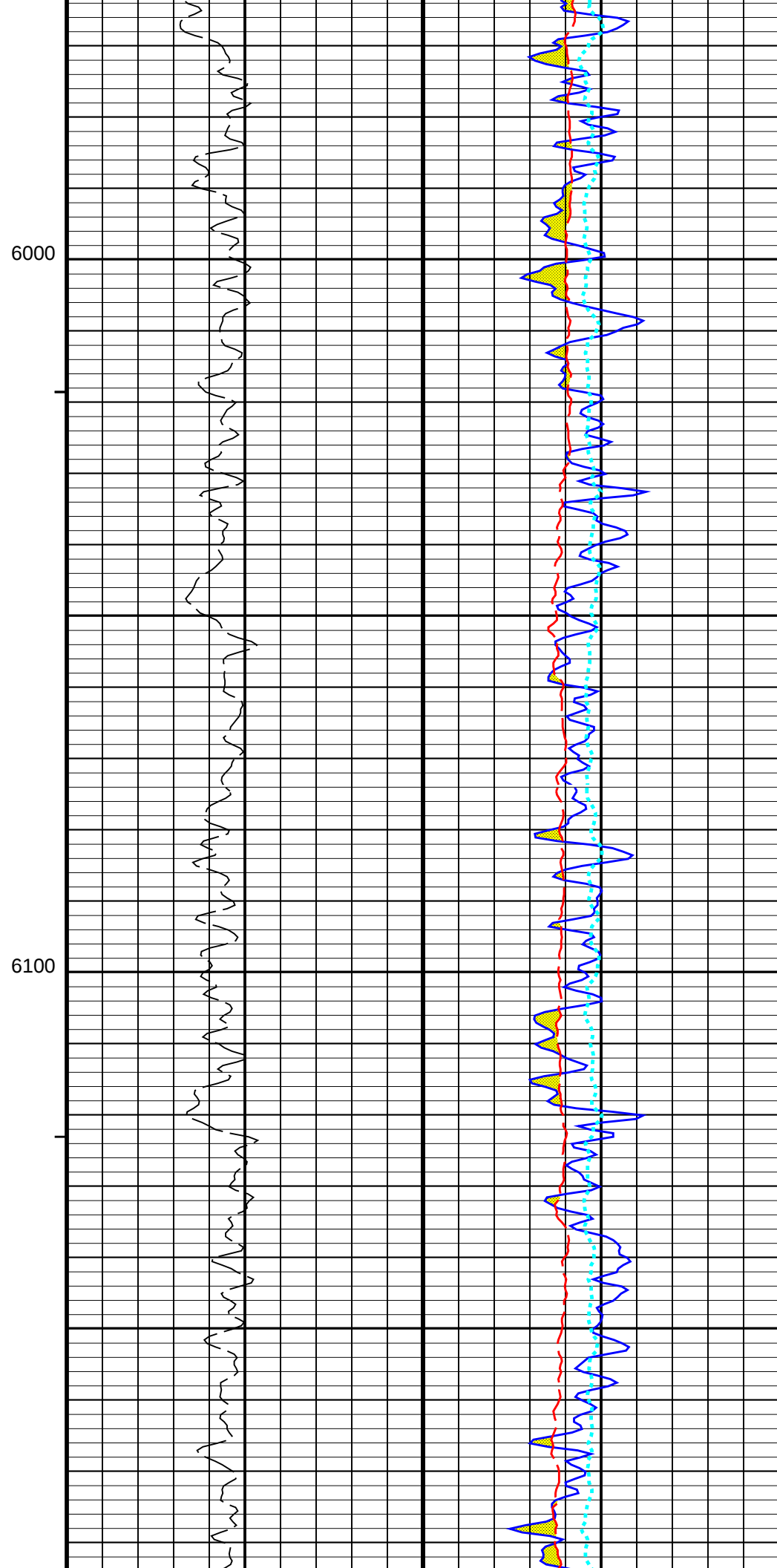
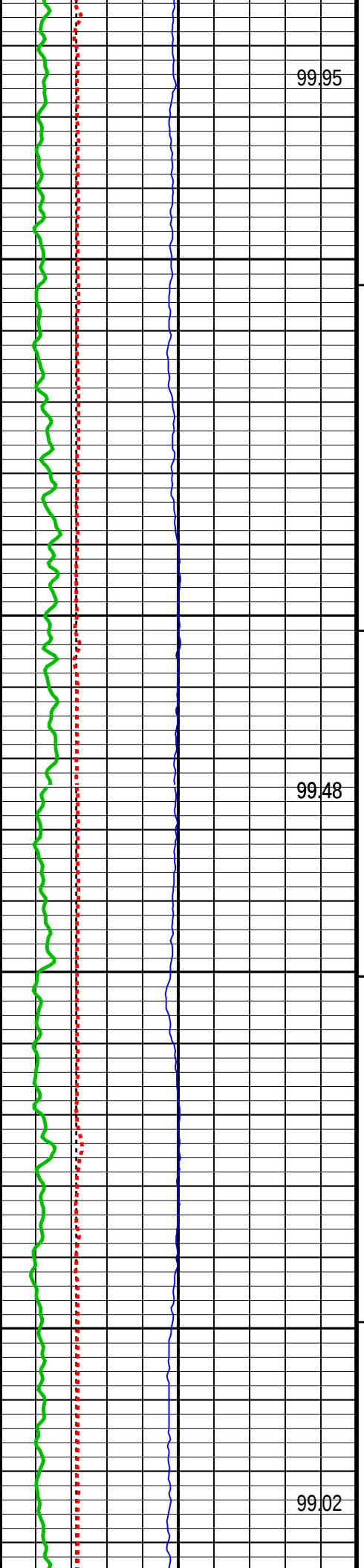


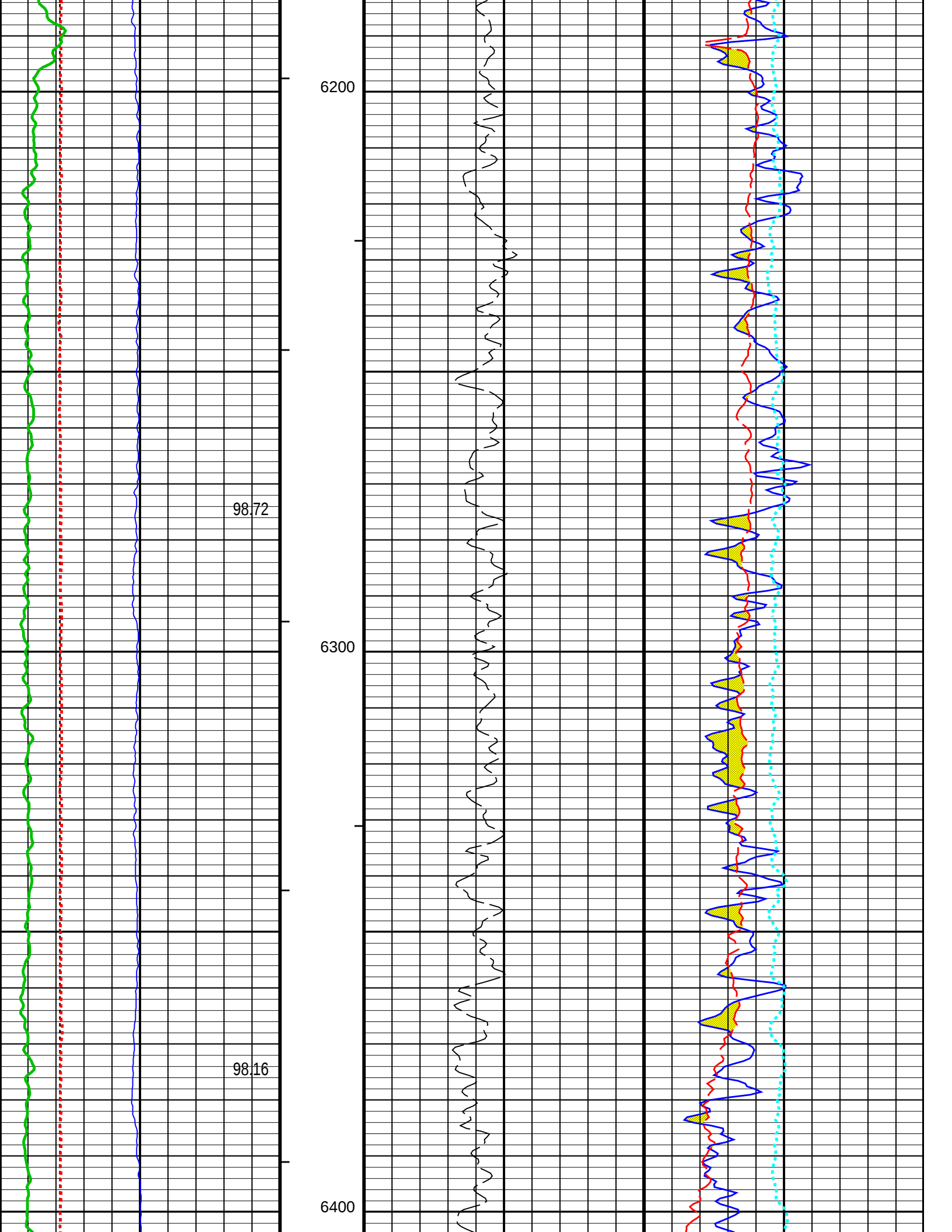


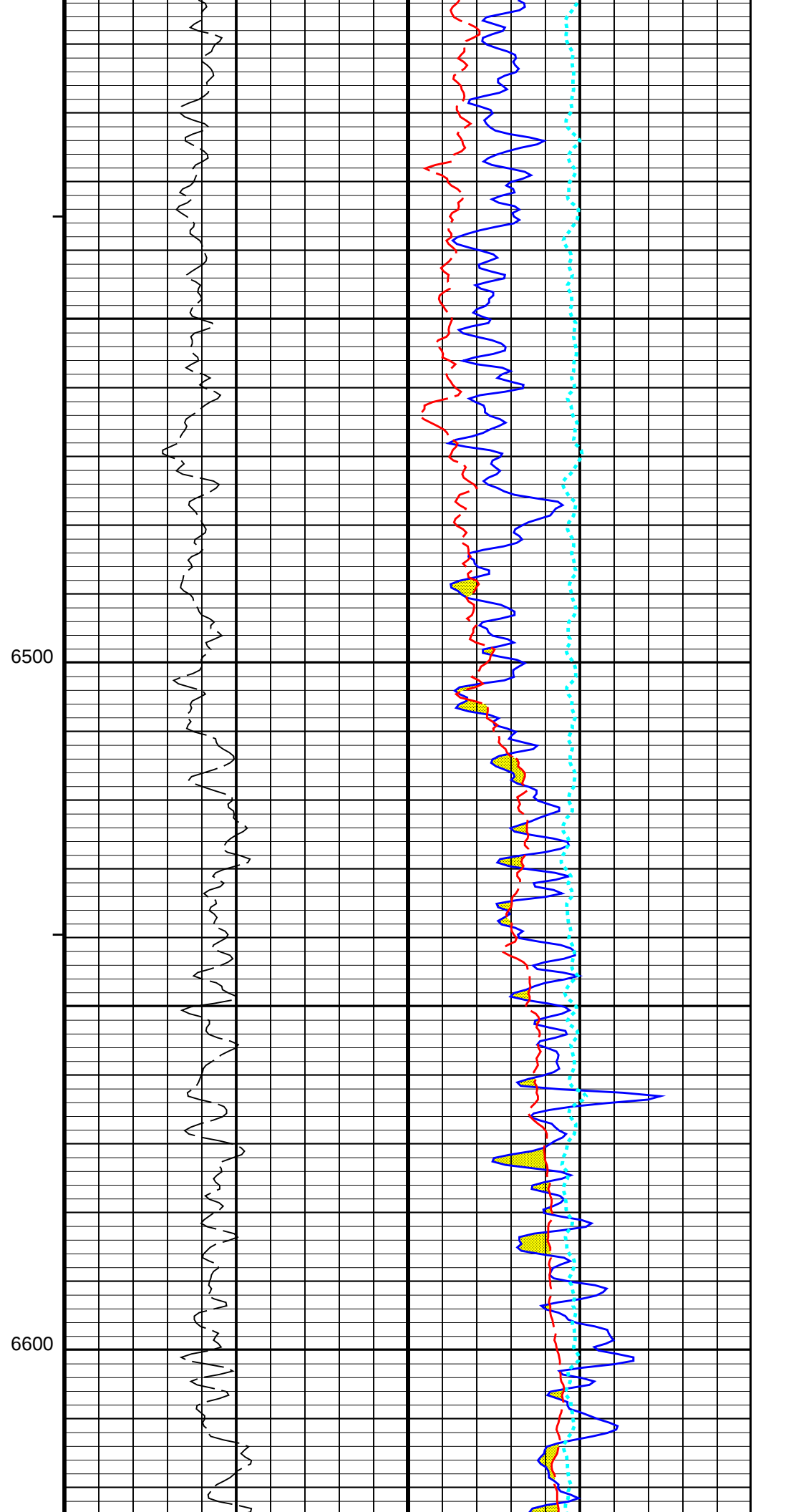
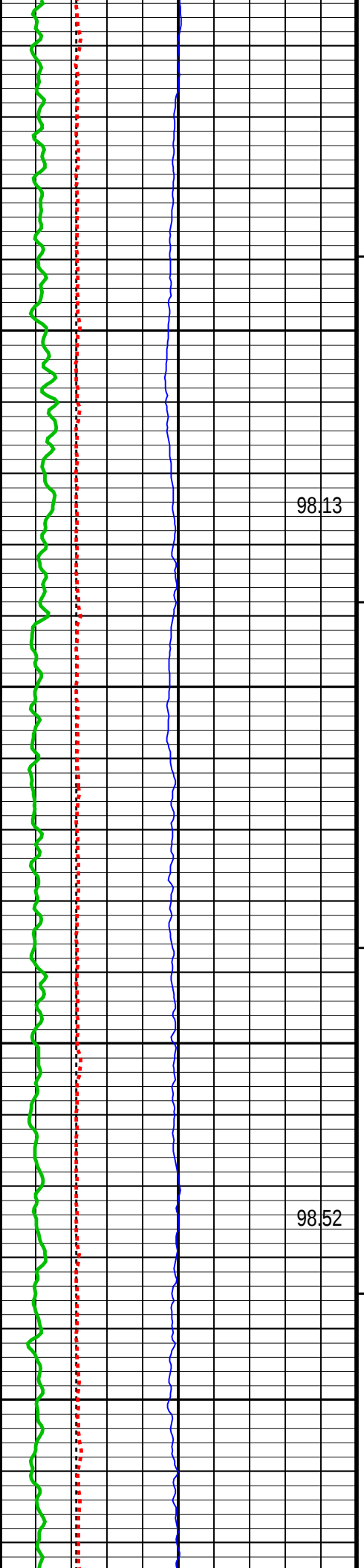


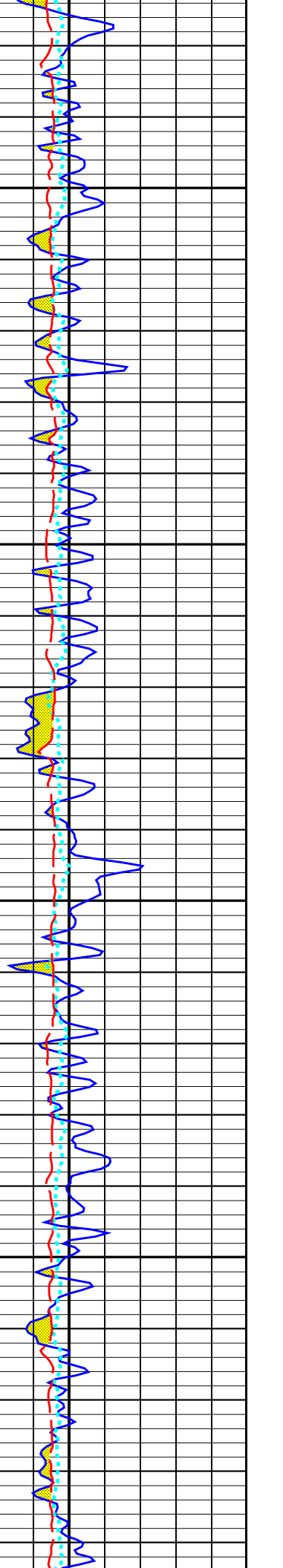
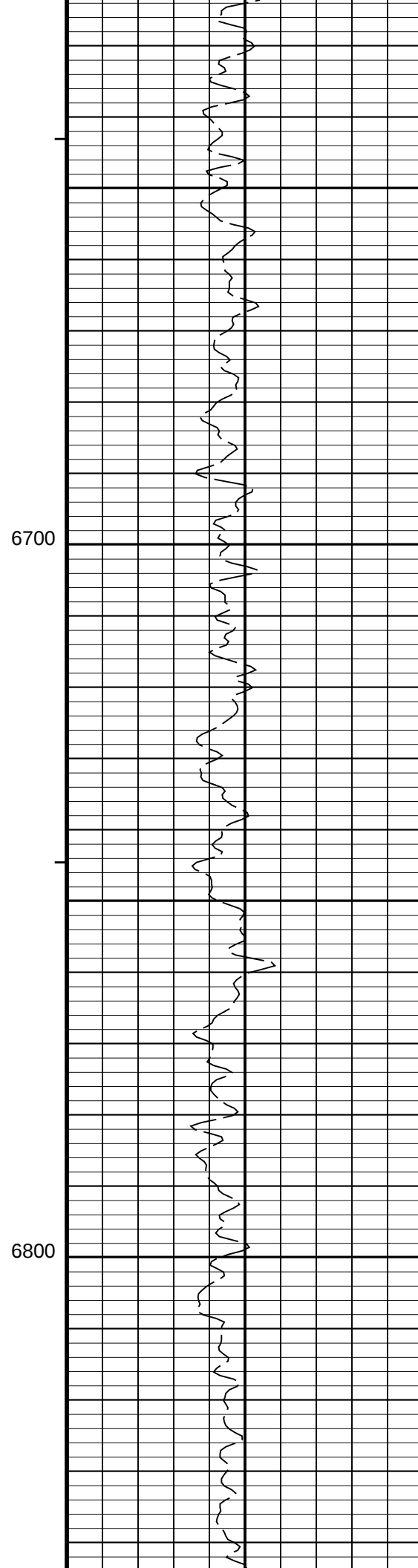
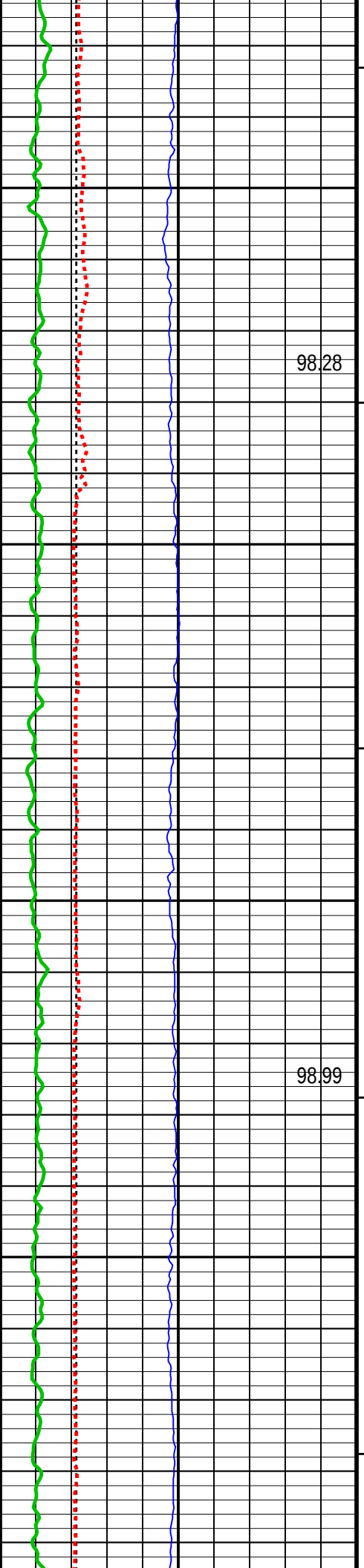


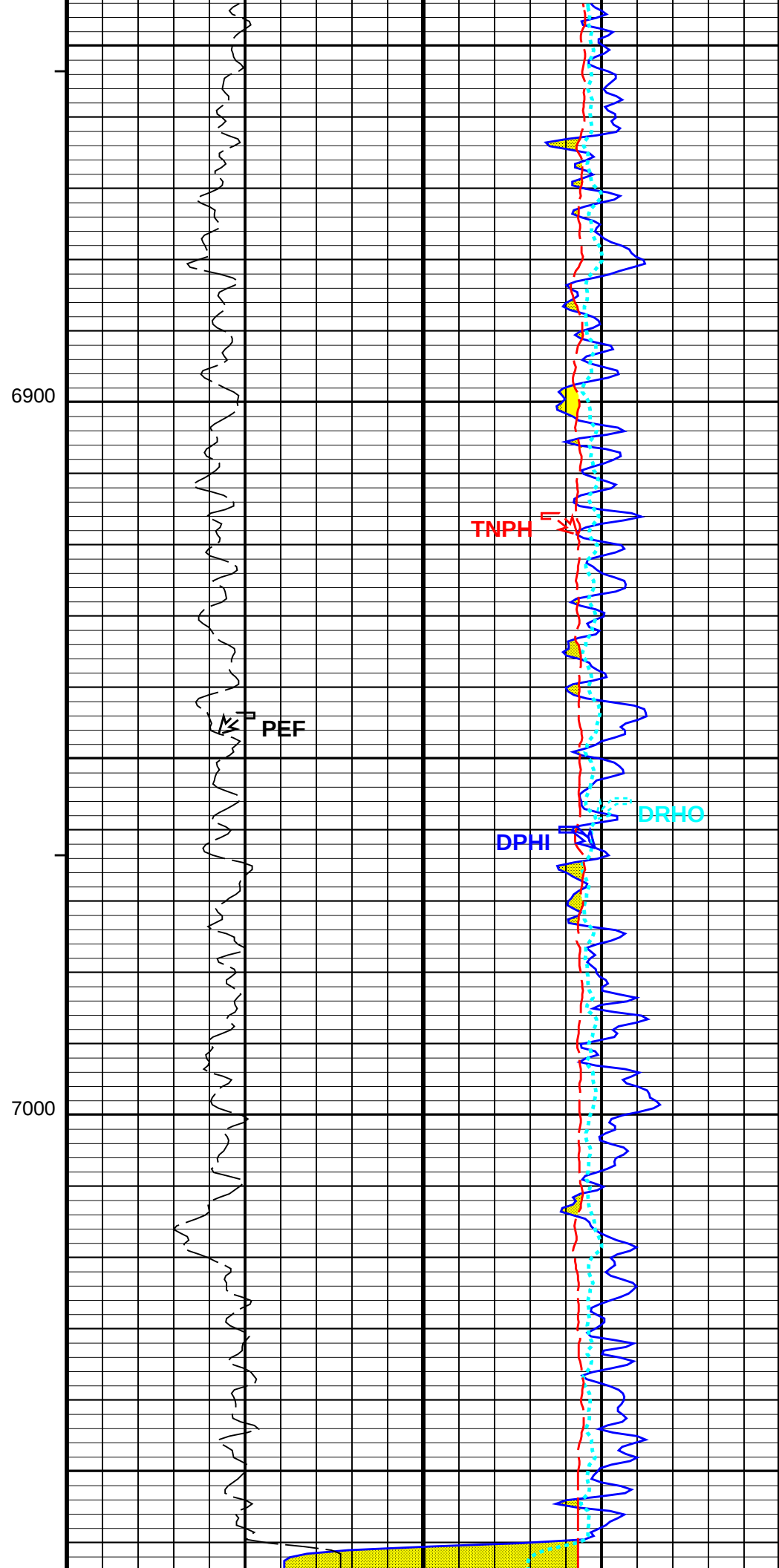
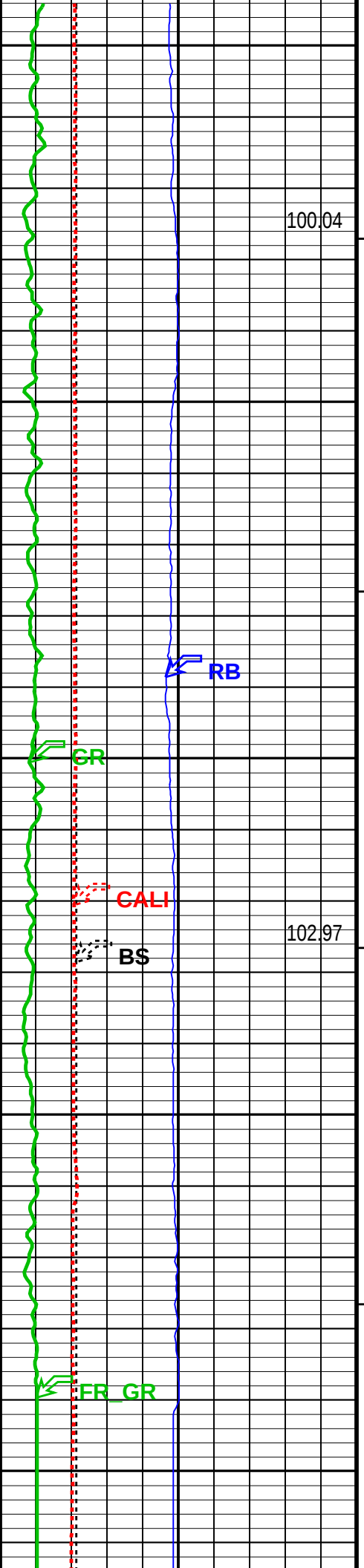












MAXIS Field Log

ThruBit String / Equipment Identification

Primary Equipment:

Induction Resistivity

Density

Gamma-Ray Logging Source

Thermal Neutron

Neutron Logging Source

Telemetry Memory GR

Battery

Battery

TBI - A

25

TBD - A

24

GGLS - FZ

TBN - A

27

NNLS - EWA

TMG - A

39

TBAT -

30

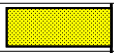
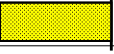
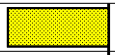
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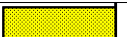
TBAT -

29

0

Auxiliary Equipment:

ThruBit String Master Calibration					
TBI Master Calibration Sonde Errors					
Freq 1, A1, R	Value	Nominal	Freq 1, A1, X	Value	Nominal
	-465.430	-457.000		-120.608	300.000
-536.000 (Minimum)	-387.000 (Maximum)		-500.000 (Minimum)	1100.00 (Maximum)	
Freq 1, A2, R	Value	Nominal	Freq 1, A2, X	Value	Nominal
	-144.586	-141.000		99.9810	320.000
-162.000 (Minimum)	-120.000 (Maximum)		-75.0000 (Minimum)	700.000 (Maximum)	
Freq 1, A3, R	Value	Nominal	Freq 1, A3, X	Value	Nominal
	-33.0525	-28.0000		-57.2370	50.0000
-38.0000 (Minimum)	-18.0000 (Maximum)		-375.000 (Minimum)	475.000 (Maximum)	
Freq 1, A4, R	Value	Nominal	Freq 1, A4, X	Value	Nominal
	-15.7993	-16.0000		250.421	300.000
-24.0000 (Minimum)	-8.00000 (Maximum)		25.0000 (Minimum)	575.000 (Maximum)	
Freq 1, A5, R	Value	Nominal	Freq 1, A5, X	Value	Nominal
	-13.4534	-14.0000		101.638	150.000
-21.0000 (Minimum)	-7.00000 (Maximum)		25.0000 (Minimum)	275.000 (Maximum)	
Freq 2, A1, R	Value	Nominal	Freq 2, A1, X	Value	Nominal
	-240.941	-237.000		-111.717	150.000
-293.000 (Minimum)	-186.000 (Maximum)		-375.000 (Minimum)	675.000 (Maximum)	
Freq 2, A2, R	Value	Nominal	Freq 2, A2, X	Value	Nominal
	-92.7280	-92.0000		36.4069	160.000
-106.000 (Minimum)	-76.0000 (Maximum)		-100.000 (Minimum)	425.000 (Maximum)	
Freq 2, A3, R	Value	Nominal	Freq 2, A3, X	Value	Nominal
	-24.6867	-21.0000		-86.4375	-20.0000
-28.0000 (Minimum)	-13.0000 (Maximum)		-325.000 (Minimum)	250.000 (Maximum)	
Freq 2, A4, R	Value	Nominal	Freq 2, A4, X	Value	Nominal
	-18.9136	-20.0000		83.1206	100.000
-28.0000 (Minimum)	-10.0000 (Maximum)		-75.0000 (Minimum)	275.000 (Maximum)	

Freq 2, A5, R			Value	Nominal	Freq 2, A5, X			Value	Nominal
			-18.5799	-20.0000				-25.7558	-25.0000
-27.0000 (Minimum)	(Nominal)	-10.0000 (Maximum)			-125.0000 (Minimum)	(Nominal)	75.0000 (Maximum)		
Freq 3, A1, R			Value	Nominal	Freq 3, A1, X			Value	Nominal
			-151.531	-149.000				-154.008	25.0000
-193.000 (Minimum)	(Nominal)	-108.000 (Maximum)			-375.000 (Minimum)	(Nominal)	425.000 (Maximum)		
Freq 3, A2, R			Value	Nominal	Freq 3, A2, X			Value	Nominal
			-70.5214	-70.0000				-15.7097	70.0000
-81.0000 (Minimum)	(Nominal)	-57.0000 (Maximum)			-125.000 (Minimum)	(Nominal)	250.000 (Maximum)		
Freq 3, A3, R			Value	Nominal	Freq 3, A3, X			Value	Nominal
			-20.3600	-17.0000				-118.966	-90.0000
-23.0000 (Minimum)	(Nominal)	-11.0000 (Maximum)			-300.000 (Minimum)	(Nominal)	125.000 (Maximum)		
Freq 3, A4, R			Value	Nominal	Freq 3, A4, X			Value	Nominal
			-20.4809	-22.0000				-27.1452	-50.0000
-31.0000 (Minimum)	(Nominal)	-11.0000 (Maximum)			-200.000 (Minimum)	(Nominal)	100.000 (Maximum)		
Freq 3, A5, R			Value	Nominal	Freq 3, A5, X			Value	Nominal
			-20.9971	-22.0000				-120.075	-110.000
-32.0000 (Minimum)	(Nominal)	-11.0000 (Maximum)			-250.000 (Minimum)	(Nominal)	-25.0000 (Maximum)		
Freq 4, A1, R			Value	Nominal	Freq 4, A1, X			Value	Nominal
			-81.3526	-80.0000				-257.264	-190.000
-108.000 (Minimum)	(Nominal)	-54.0000 (Maximum)			-450.000 (Minimum)	(Nominal)	75.0000 (Maximum)		
Freq 4, A2, R			Value	Nominal	Freq 4, A2, X			Value	Nominal
			-50.6194	-50.0000				-96.1684	-75.0000
-60.0000 (Minimum)	(Nominal)	-41.0000 (Maximum)			-200.000 (Minimum)	(Nominal)	50.0000 (Maximum)		
Freq 4, A3, R			Value	Nominal	Freq 4, A3, X			Value	Nominal
			-16.7578	-14.0000				-181.306	-190.000
-19.0000 (Minimum)	(Nominal)	-8.00000 (Maximum)			-350.000 (Minimum)	(Nominal)	-25.0000 (Maximum)		
Freq 4, A4, R			Value	Nominal	Freq 4, A4, X			Value	Nominal
			-23.4425	-25.0000				-188.783	-235.000
-37.0000 (Minimum)	(Nominal)	-11.0000 (Maximum)			-400.000 (Minimum)	(Nominal)	-75.0000 (Maximum)		
Freq 4, A5, R			Value	Nominal	Freq 4, A5, X			Value	Nominal
			-26.3620	-28.0000				-280.695	-300.000
-43.0000 (Minimum)	(Nominal)	-12.0000 (Maximum)			-475.000 (Minimum)	(Nominal)	-125.000 (Maximum)		
Master: 16-Jan-2014 10:00									

ThruBit String Master Calibration					
TBI Master Calibration COMPLEX GAINS					
Freq 1, R	Value	Nominal	Freq 1, X	Value	Nominal
	0.9910	1.000		-0.002016	0
	0.9856	1.000		0.0003740	0
	0.9923	1.000		-0.006785	0
	0.9844	1.000		0.004711	0
	0.9930	1.000		0.0009287	0
0.9500 (Minimum)	1.050 (Maximum)		-0.05000 (Minimum)	0.05000 (Maximum)	
Freq 2, R	Value	Nominal	Freq 2, X	Value	Nominal
	0.9867	1.000		-0.01021	0
	0.9806	1.000		-0.007859	0
	0.9817	1.000		-0.007923	0
	0.9801	1.000		-0.003088	0

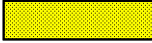
		0.9912	1.000			-0.009475	0
0.9500 (Minimum)	(Nominal)	1.050 (Maximum)		-0.05000 (Minimum)	(Nominal)	0.05000 (Maximum)	
Freq 3, R			Value	Nominal	Freq 3, X		
			0.9918	1.000		-0.006593	0
			0.9858	1.000		-0.004282	0
			0.9867	1.000		-0.004736	0
			0.9833	1.000		0.0005233	0
			0.9977	1.000		-0.006462	0
0.9500 (Minimum)	(Nominal)	1.050 (Maximum)			-0.05000 (Minimum)	(Nominal)	0.05000 (Maximum)
Freq 4, R			Value	Nominal	Freq 4, X		
			0.9874	1.000		0.01570	0
			0.9811	1.000		0.01711	0
			0.9842	1.000		0.01431	0
			0.9766	1.000		0.02269	0
			1.006	1.000		0.01184	0
0.9300 (Minimum)	(Nominal)	1.070 (Maximum)			-0.05000 (Minimum)	(Nominal)	0.05000 (Maximum)
Master: 16-Jan-2014 10:00							

ThruBit String Master Calibration								
TBD Caliper Master Calibration								
Caliper 12in Ring IN	Value	Nominal	Caliper 9in Ring IN	Value	Nominal	Caliper 6in Ring IN	Value	Nominal
	1896.4	1949.8		2056.1	2096.7		2210.8	2285.7
1799.8 (Minimum)	(Nominal)	2099.8 (Maximum)	1946.7 (Minimum)	(Nominal)	2246.7 (Maximum)	2135.7 (Minimum)	(Nominal)	2435.7 (Maximum)
Master: 15-Mar-2014 16:25								

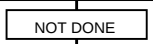
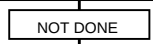
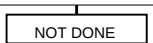
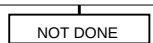
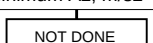
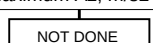
ThruBit String Master Calibration						
TBD Density Master Calibration. PEEK Window, ThruBit blocks						
Aluminium Density G/C3	Value	Nominal	Magnesium Density G/C3	Value	Nominal	
	2.607	2.607		1.752	1.752	
2.557 (Minimum)	(Nominal)	2.657 (Maximum)	1.702 (Minimum)	(Nominal)	1.802 (Maximum)	
LS1 Background CPS	Value	Nominal	SS1 Background CPS	Value	Nominal	
	140.87	150.00		156.41	150.00	
130.00 (Minimum)	(Nominal)	170.00 (Maximum)	130.00 (Minimum)	(Nominal)	170.00 (Maximum)	
LS4 Background CPS	Value	Nominal	SS1 Aluminium CPS	Value	Nominal	
	30.48	31.00	EXCEEDS LIMIT	4234.44	4900.00	
27.00 (Minimum)	(Nominal)	35.00 (Maximum)	4500.00 (Minimum)	(Nominal)	5500.00 (Maximum)	
LS1 Aluminium CPS	Value	Nominal	SS1 Magnesium CPS	Value	Nominal	
	831.41	850.00	EXCEEDS LIMIT	6996.90	8000.00	
750.00 (Minimum)	(Nominal)	950.00 (Maximum)	7000.00 (Minimum)	(Nominal)	9000.00 (Maximum)	
LS4 Aluminium CPS	Value	Nominal				
	967.84	955.00				
843.00 (Minimum)	(Nominal)	1068.0 (Maximum)				
LS1 Al + Sleeve CPS	Value	Nominal				
	748.66	725.00				
650.00 (Minimum)	(Nominal)	800.00 (Maximum)				
LS4 Al + Sleeve CPS	Value	Nominal				
	EXCEEDS LIMIT	479.98				
382.00 (Minimum)	(Nominal)	471.00 (Maximum)				
LS1 Magnesium CPS	Value	Nominal				

5250.00 (Minimum)	6250.00 (Maximum)		
SS Slope		Value	Nominal
		1.634	1.645
1.520 (Minimum)	1.770 (Maximum)		
LS Slope		Value	Nominal
		0.4188	0.4150
0.3800 (Minimum)	0.4500 (Maximum)		
Pef K Factor		Value	Nominal
		4.924	4.840
3.510 (Minimum)	6.170 (Maximum)		
Pef B Factor		Value	Nominal
		-0.6690	-0.5550
-0.7000 (Minimum)	-0.4100 (Maximum)		

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ThruBit String Master Calibration					
Thermal Neutron Master Calibration					
TNF, Background CPS	Value	Nominal	TNN, Background CPS	Value	Nominal
	0.31	1.0		0.24	1.0
0 (Minimum)	(Nominal)	2.0 (Maximum)	0 (Minimum)	(Nominal)	2.0 (Maximum)
TNF, Tank CPS	Value	Nominal	TNN, Tank CPS	Value	Nominal
	70.73	96.00		2047.1	2860.0
25.00 (Minimum)	(Nominal)	200.0 (Maximum)	750.00 (Minimum)	(Nominal)	5700.0 (Maximum)
TNF, Tank + AI Sleeve CPS	Value	Nominal	TNN, Tank + AI Sleeve CPS	Value	Nominal
	2336.5	3040.0		24102.3	32350.0
727.00 (Minimum)	(Nominal)	6080.0 (Maximum)	8000.00 (Minimum)	(Nominal)	64700.0 (Maximum)
Tank + AI Sleeve Ratio	Value	Nominal	Tank + AI Sleeve Porosity PU	Value	Nominal
	11.034	10.797		14.46	14.40
10.300 (Minimum)	(Nominal)	11.300 (Maximum)	13.40 (Minimum)	(Nominal)	15.40 (Maximum)
Tank, Ratio	Value	Nominal	Tank, Temperature DEGF	Value	Nominal
	28.942	30.958		59.3	70.0
28.000 (Minimum)	(Nominal)	34.000 (Maximum)	20.0 (Minimum)	(Nominal)	120 (Maximum)

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ThruBit String Master Calibration					
TMG Accelerometer Calibration					
Minimum Ax, m/s2	Value	Nominal	Maximum Ax, m/s2	Value	Nominal
	N/A	-9.810		N/A	9.810
-10.81 (Minimum)	(Nominal)	-8.810 (Maximum)	8.810 (Minimum)	(Nominal)	10.81 (Maximum)
Minimum Ay, m/s2	Value	Nominal	Maximum Ay, m/s2	Value	Nominal
	N/A	-9.810		N/A	9.810
-10.81 (Minimum)	(Nominal)	-8.810 (Maximum)	8.810 (Minimum)	(Nominal)	10.81 (Maximum)
Minimum Az, m/s2	Value	Nominal	Maximum Az, m/s2	Value	Nominal
	N/A	0		N/A	9.810
-1.000 (Minimum)	(Nominal)	1.000 (Maximum)	8.810 (Minimum)	(Nominal)	10.81 (Maximum)
RB Offset, degrees	Value	Nominal			
	-17.00	0			
-360.0 (Minimum)	(Nominal)	360.0 (Maximum)			

Master: Calibration not done

ThruBit String Master Calibration								
TMG Gamma-Ray Calibration								
GR Background GAPI			Value	Nominal	GR Jig-Background GAPI		Value	Nominal
			26.71	30.00			153.5	162.7
0 (Minimum)			120.0 (Maximum)		130.2 (Minimum)		195.2 (Maximum)	
Master: 19-Mar-2014 15:34								

Company: **SANDRIDGE ENERGY**

Well: **OLIVER 3306 2-14H**
Field: **STOHRVILLE**
County: **HARPER**
State: **KANSAS**



DUAL SPACED NEUTRON
SPECTRAL DENSITY
MEMORY LOG