



A Schlumberger Company

AZIMUTHAL IMAGE  
GAMMA-RAY

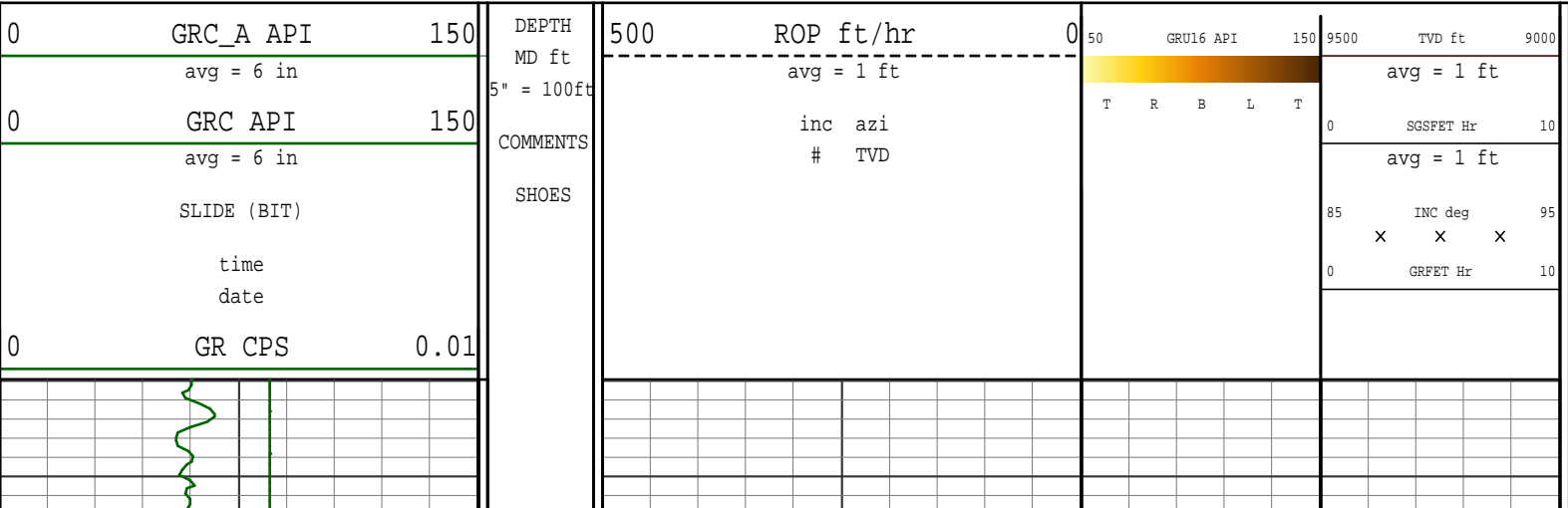
5" = 100'  
FEET MD

COMPANY : SWN PRODUCTION COMPANY LLC WELL : DIAMOND T SHEEP 7-92 #2-26H35 FIELD : WILDCAT COUNTY : MOFFAT STATE : CO COUNTRY : USA API No.: 05-081-07817				COMPANY : SWN PRODUCTION COMPANY LLC WELL : DIAMOND T SHEEP 7-92 #2-26H35 FIELD : WILDCAT COUNTY : MOFFAT STATE : CO COUNTRY : USA API WELL No.: 05-081-07817			
WELL LOCATION LAT:40°32'03"N LON:107°41'35"W X:2,390,469' Y:1,445,029'NAD83 SEC:26 TWP:07N RANGE:92W				OTHER SERVICES DIRECTIONAL ROP APWD			
DEPTH REF. : ROTARY TABLE ELEVATION : 23.00 ft (ROTARY TABLE - GROUND LEVEL) ALTITUDE : 6678.00 ft (GROUND LEVEL - MEAN SEA LEVEL)							
BOREHOLE RECORD				DEVIATION RECORD			
HOLE SIZE in	FROM ft	TO ft	INCLINATION deg	FROM ft	TO ft		
17 1/2	60	1412	0-4	0	4238		
12 1/4	1412	8390	4-0	4238	6425		
8 3/4	8390	15009	0-2	6425	8425		
			2-95	8425	11662		
			95-101	11662	15009		

MAX REC TEMP deg F	110	124	148	147	210	
Rm @ MAX TEMP ohmm						
LWD ENGINEER #1	B.HOLLOWAY	B.HOLLOWAY	B.HOLLOWAY	B.HOLLOWAY	B.HOLLOWAY	B.HOLLOWAY
LWD ENGINEER #2					E.TIBLIN	E.TIBLIN
LWD ENGINEER #3						

REMARKS

SOUTHWESTERN ENERGY AFE#: 1005618
SCHLUMBERGER JOB#: 15CC00759
ALL LOGGING DATA IS MEMORY UNLESS STATED OTHERWISE.
ALL REFERENCES TO LOG TOP, LOG BOTTOM, OR LOGGING TOOL DEPTH REFER TO THE GAMMA-RAY SENSOR UNLESS STATED OTHERWISE.
ALL ANNOTATIONS IN THE DEPTH TRACK ARE REFERENCED TO BIT DEPTH.
THIRD PARTY DEPTH TRACKING PROVIDED BY PASON.
RUN #1: 8" TELAPACER/DIRECTIONAL ONLY RUN.
RUN #2: 8" TELAPACER/GAMMA LOGGING RUN.
RUN #3: 8" TELAPACER/GAMMA LOGGING RUN.
RUN #4: 8" TELAPACER/GAMMA LOGGING RUN.
RUN #5: 8" TELAPACER/GAMMA LOGGING RUN.
RUN #6: 6 3/4" TELAPACER/GAMMA/DPM LOGGING RUN.
RUN #7: 6 3/4" TELAPACER/AGR/DPM LOGGING RUN.
REMARK #1: GAMMA-RAY FROM 1350'-1412'MD (1349'-1411'TVD) LOGGED THROUGH CASING.
REMARK #2: GAMMA-RAY LOGGED THROUGH CASING FROM 8336'-8390'MD (8326'-8380'TVD).
REMARK #3: AZIMUTHAL GAMMA-RAY FROM 10082'-10280'MD (9598'-9615'TVD) LOGGED WHILE REAMING 54.4 HOURS AFTER DRILLING.
NOTICE - All interpretations are opinions based on inferences from electrical or other measurements and we do not guarantee the accuracy or correctness of any interpretations. We shall not, except in the case of gross or willful negligence on our part, be liable or responsible for loss, costs, damages or expenses incurred or sustained by anyone as a result of any interpretations made by one of our officers, agents or employees. These interpretations are also subject to our General Terms and Conditions as set out in our current Price Schedule.
PATHFINDER - A Schlumberger Company
Version No : RX5 V7.01A Release 24Jul2015
Plot Time : 30-Aug-2015 19:24



SEE REMARK #1

R  
U  
N  
#1

1400

13 3/8"  
CASING

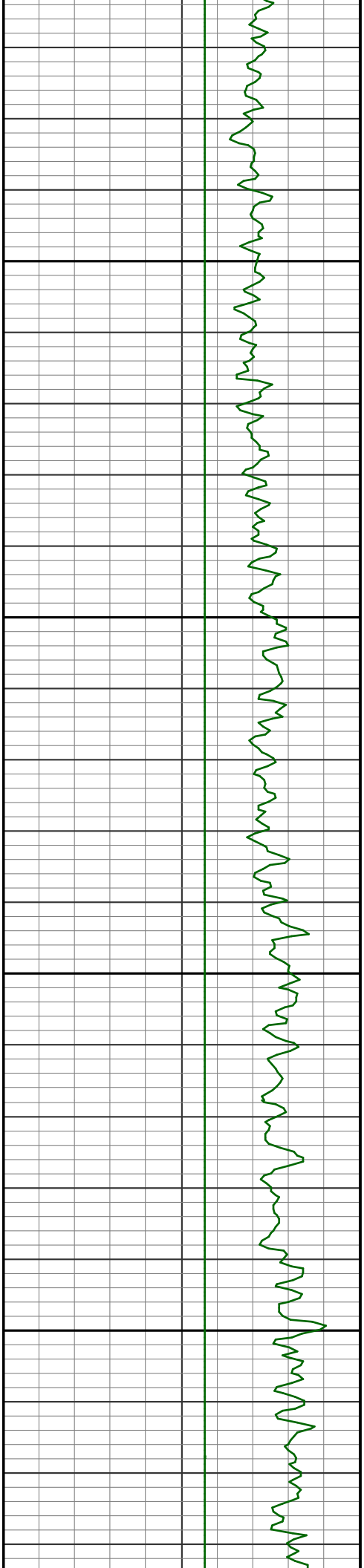
R  
U  
N  
#2

1500

1.6 231.0  
22 1356

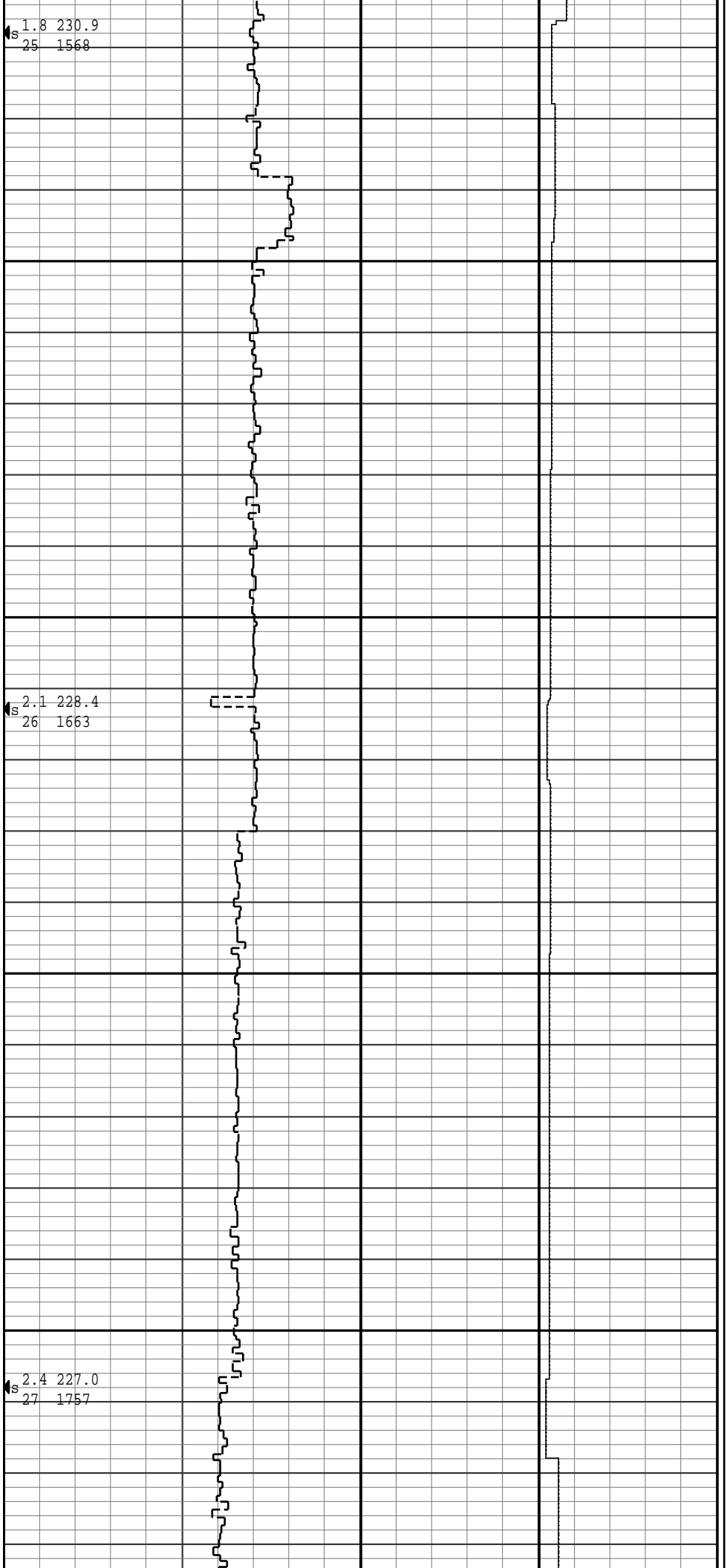
1.6 234.5  
23 1365

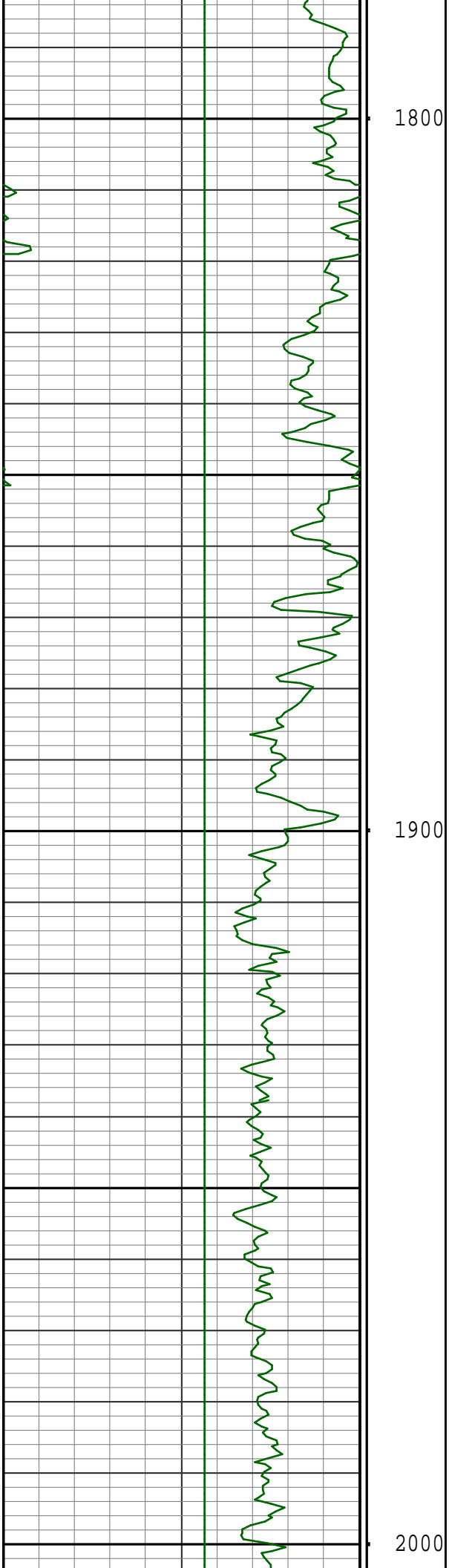
1.8 232.6  
24 1472



1600

1700

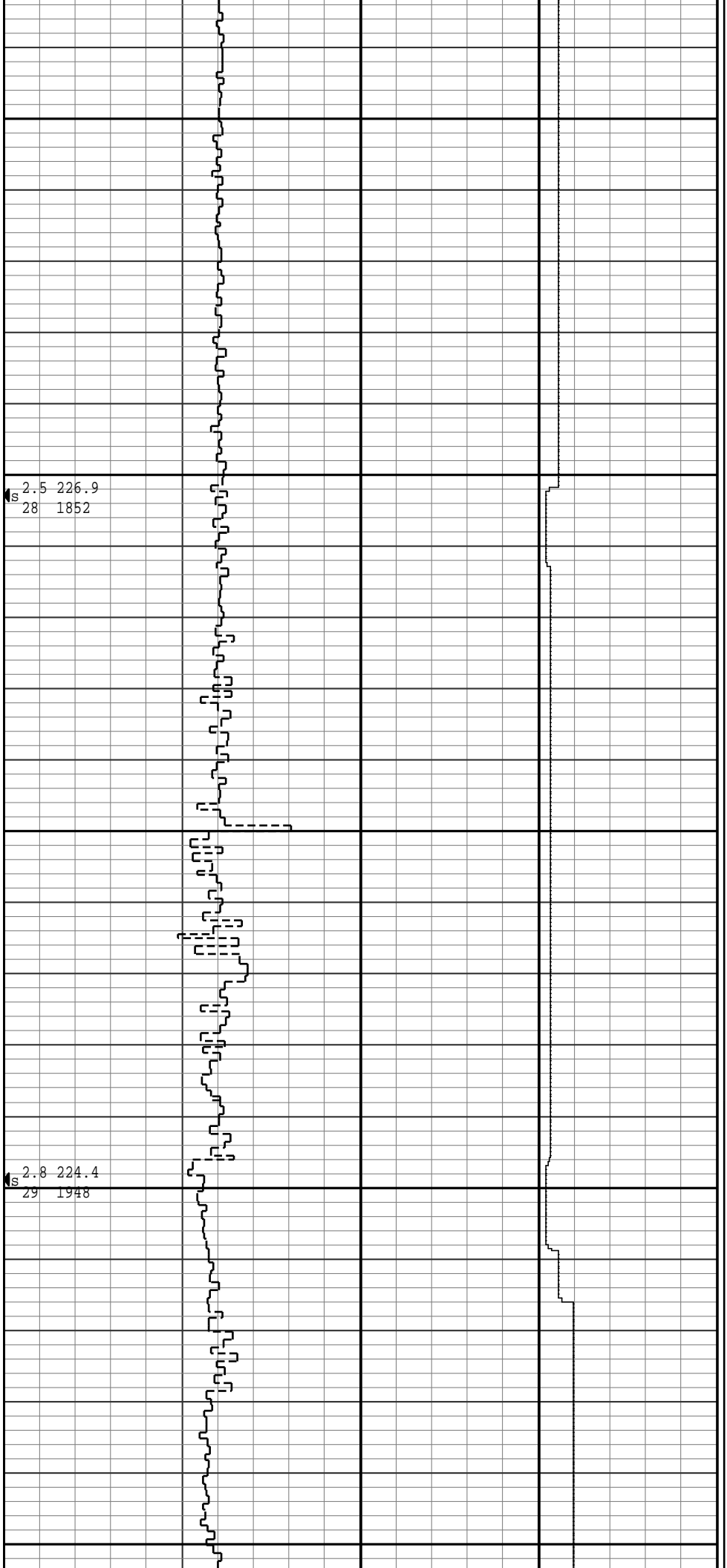




1800

1900

2000



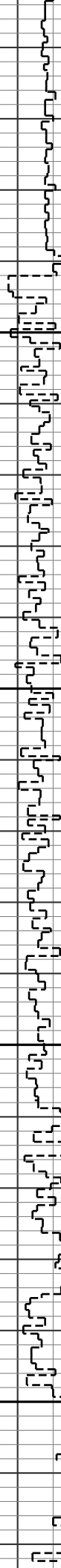


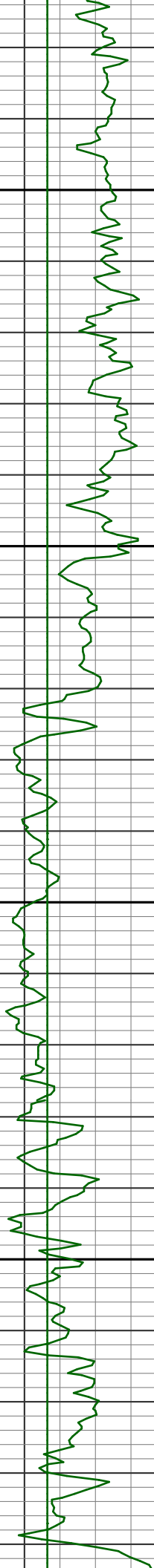
2100

2200

3.1 224.6  
30 2043

3.2 224.5  
31 2139





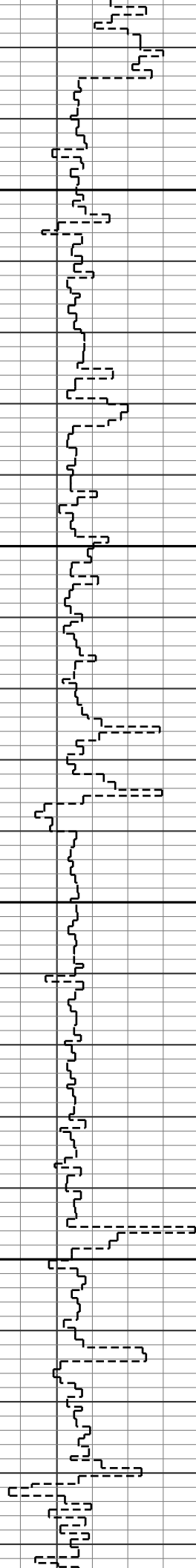
2300

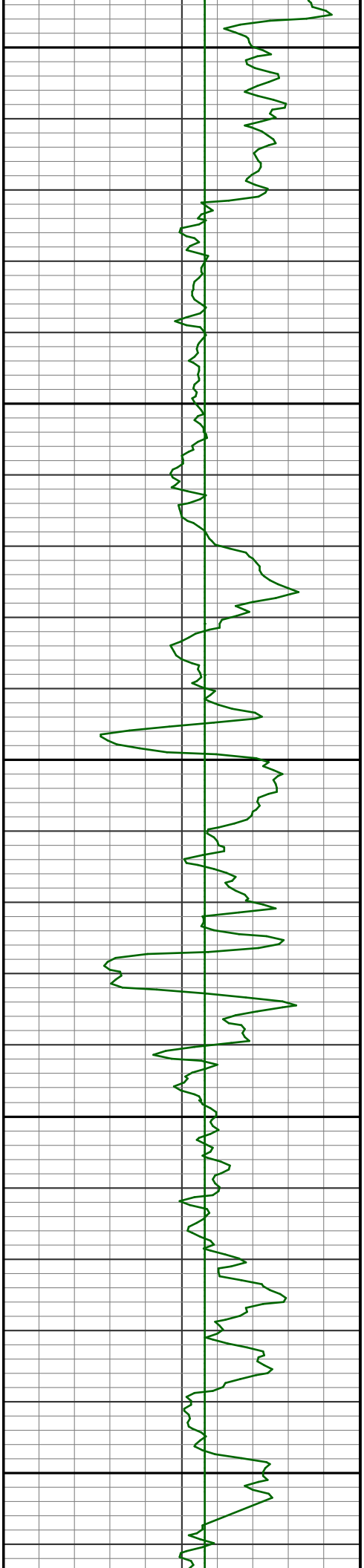
3.2 224.4  
32 2235

2.9 221.1  
33 2330

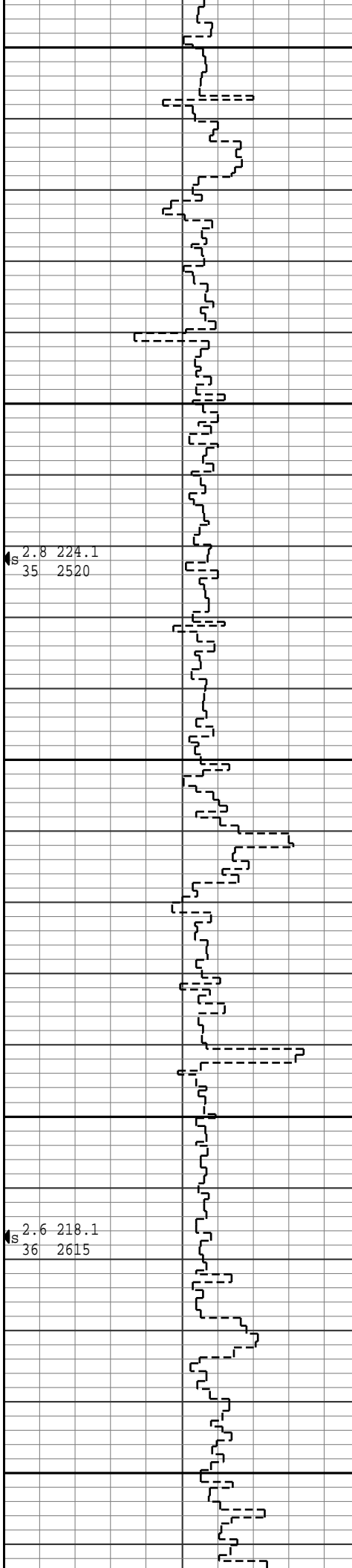
2400

2.8 224.1  
34 2425





2500

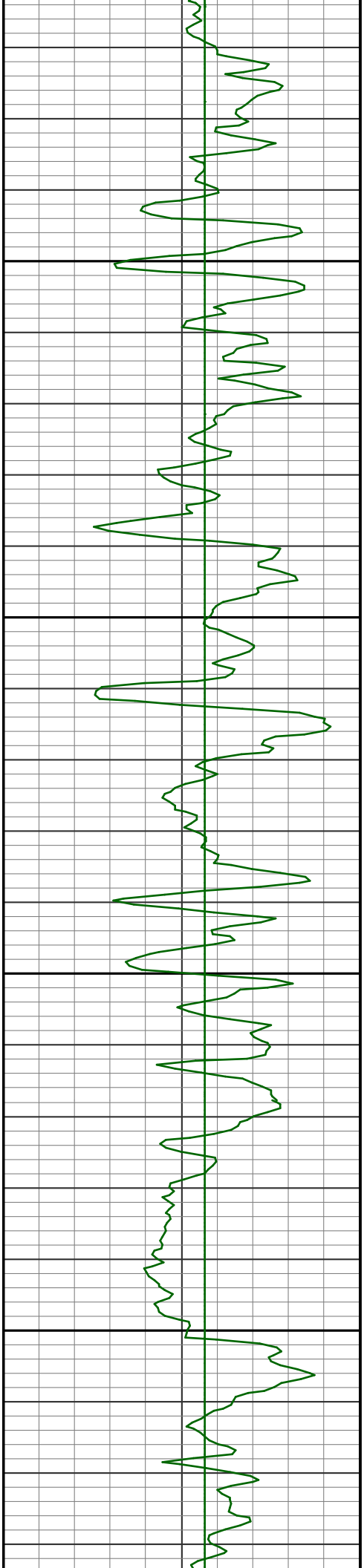


2.8 224.1  
35 2520

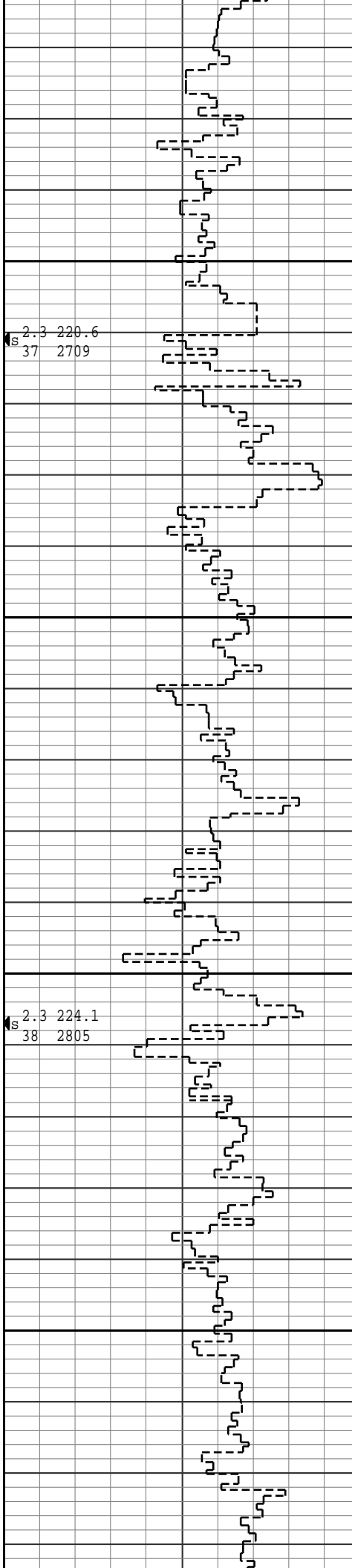
2600

2.6 218.1  
36 2615





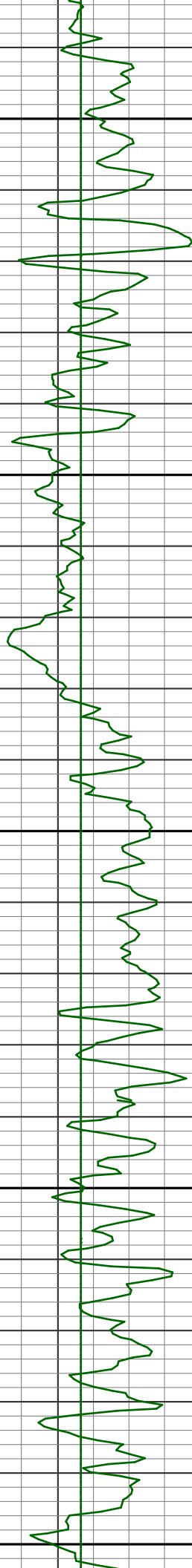
2700



2.3 220.6  
s 37 2709

2800

2.3 224.1  
s 38 2805



2900

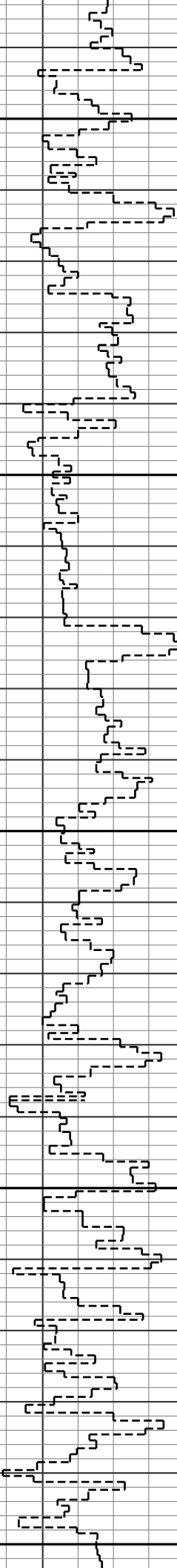
2.6 221.4  
39 2900

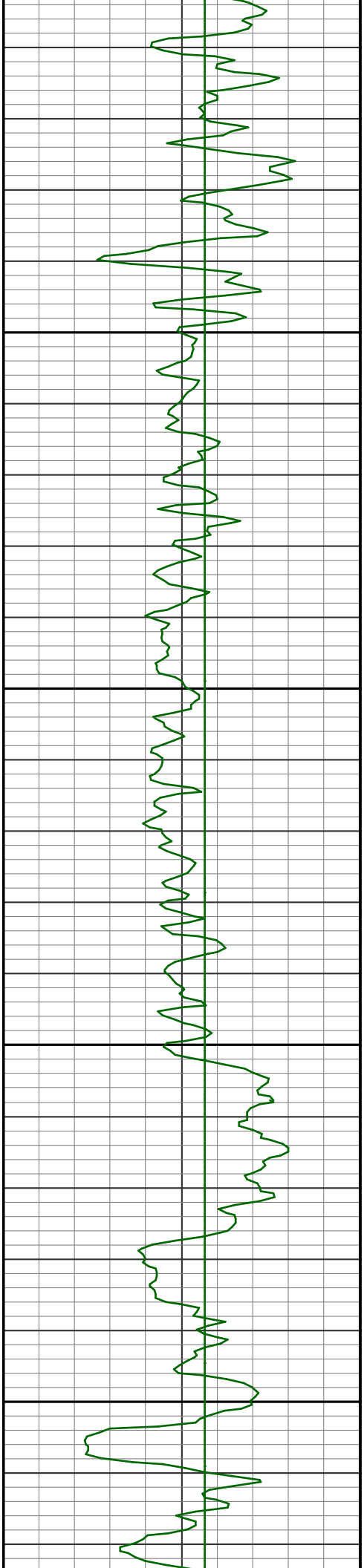
3000

2.8 222.9  
40 2995

3100

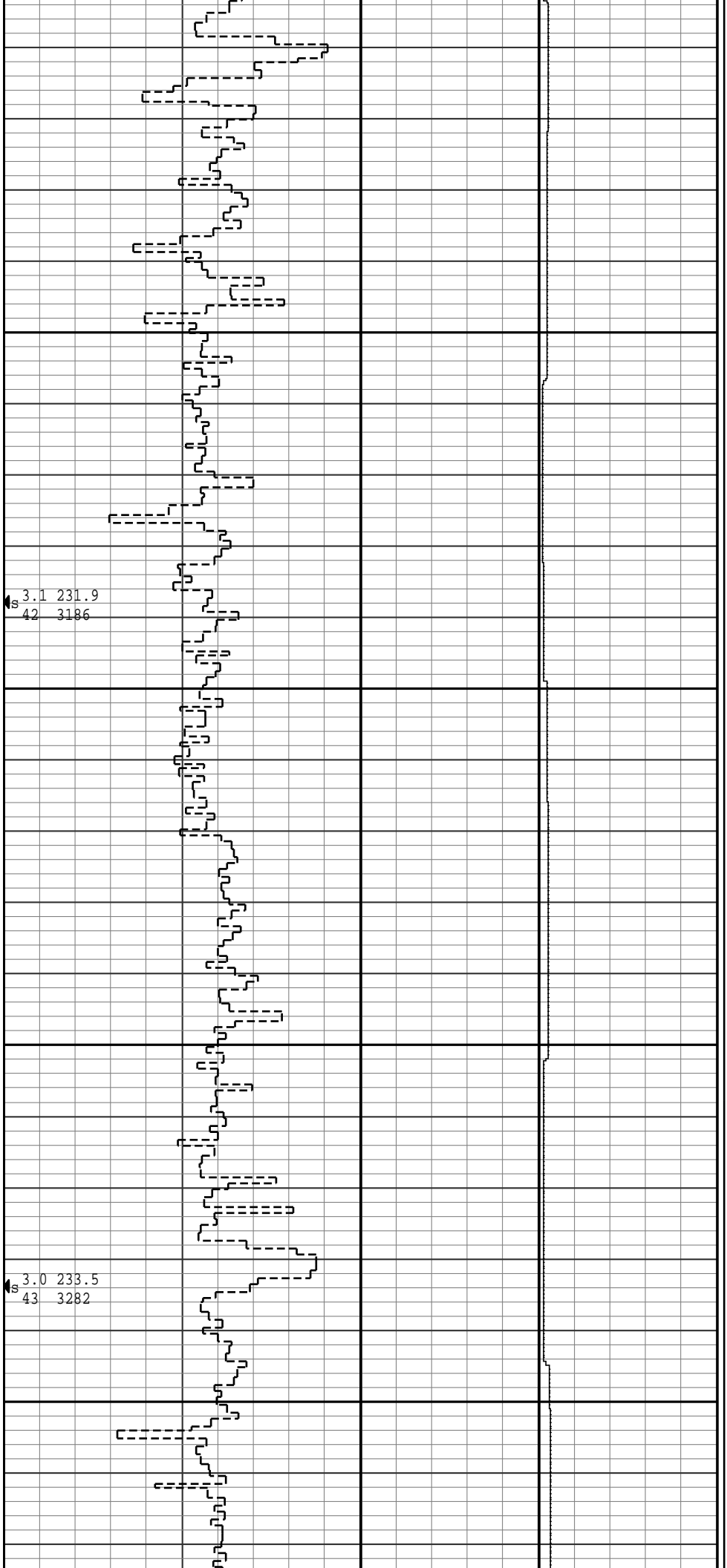
2.9 227.1  
41 3091

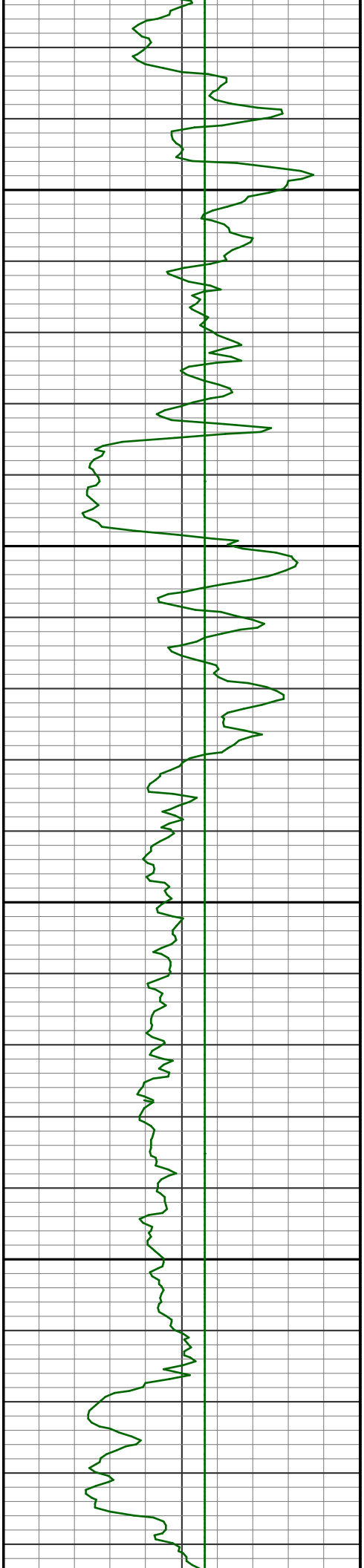




3200

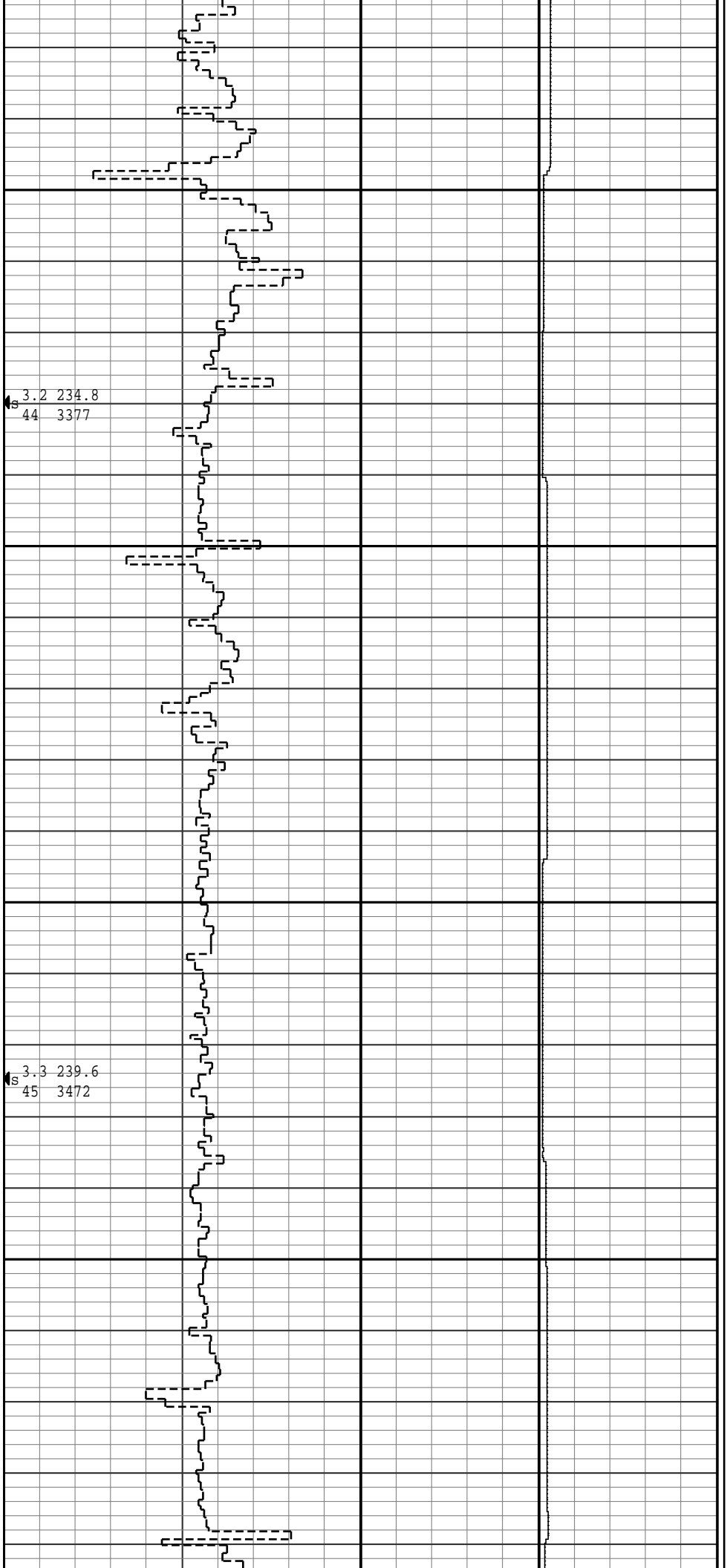
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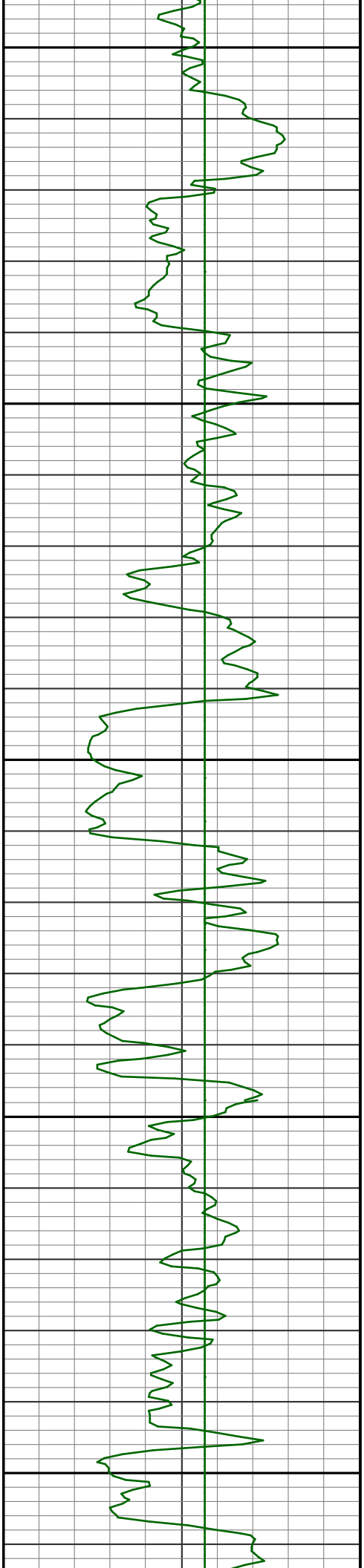
3400

3500



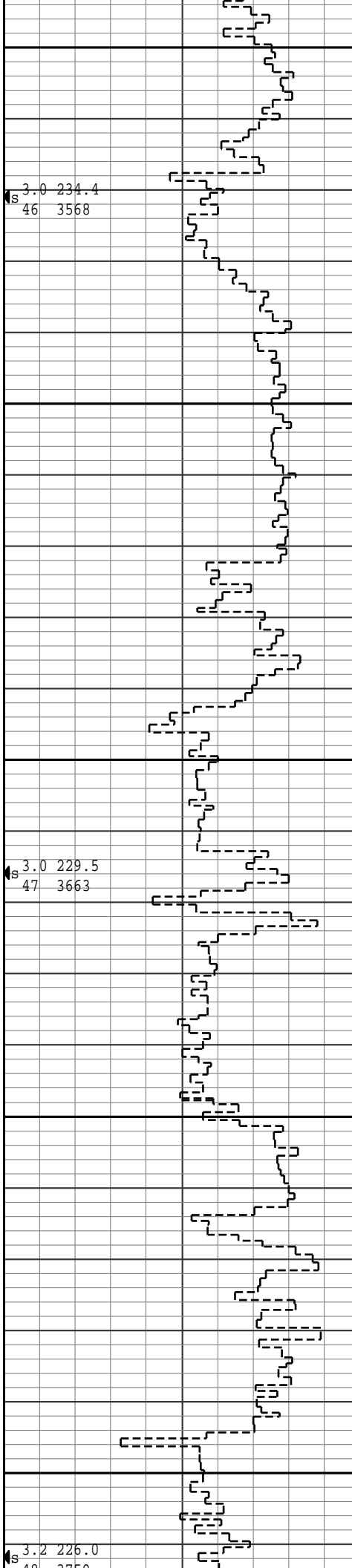
3.2 234.8  
44 3377

3.3 239.6  
45 3472



3600

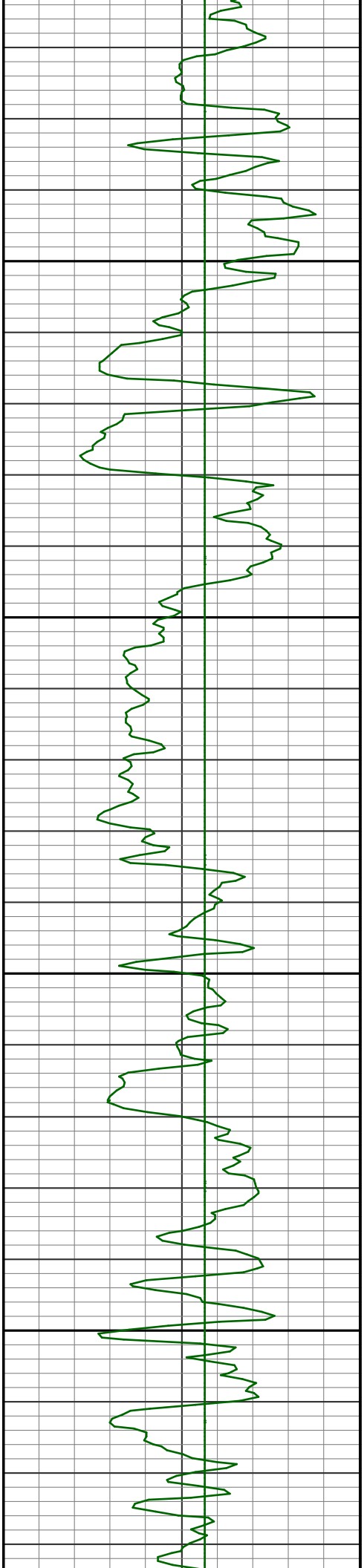
3700



3.0 234.4  
46 3568

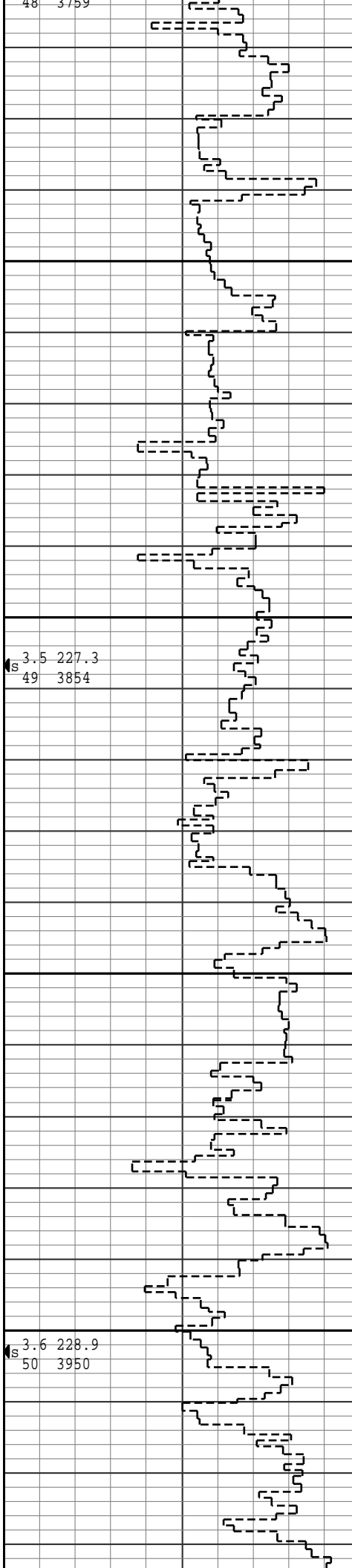
3.0 229.5  
47 3663

3.2 226.0  
48 3750



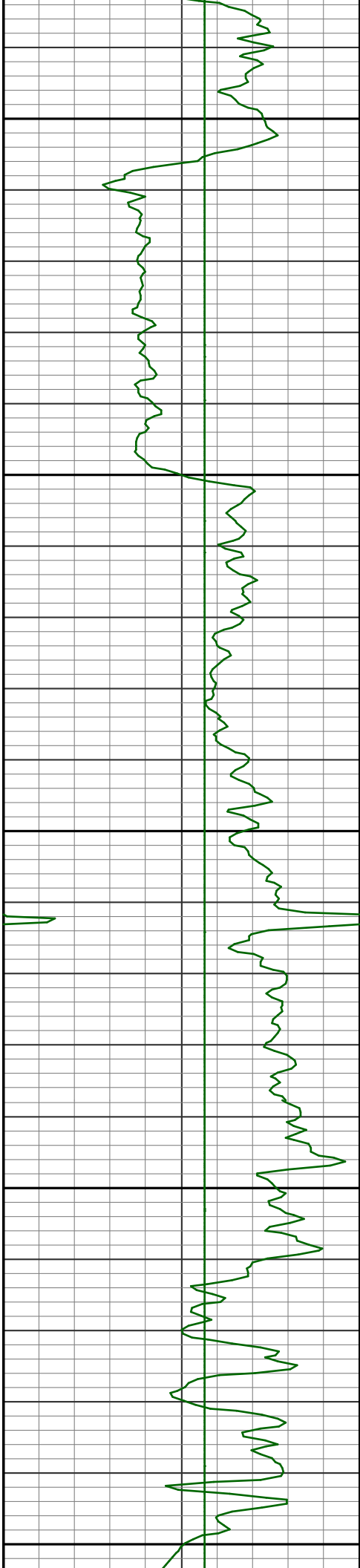
3800

3900



3.5 227.3  
49 3854

3.6 228.9  
50 3950



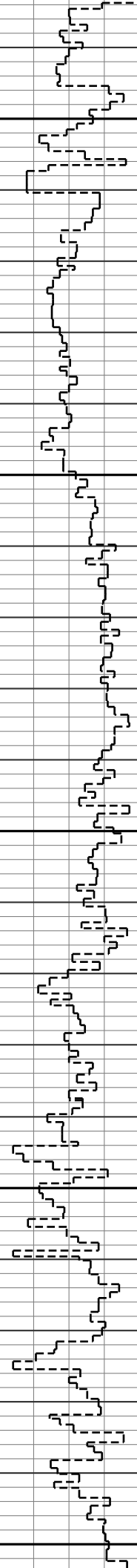
4000

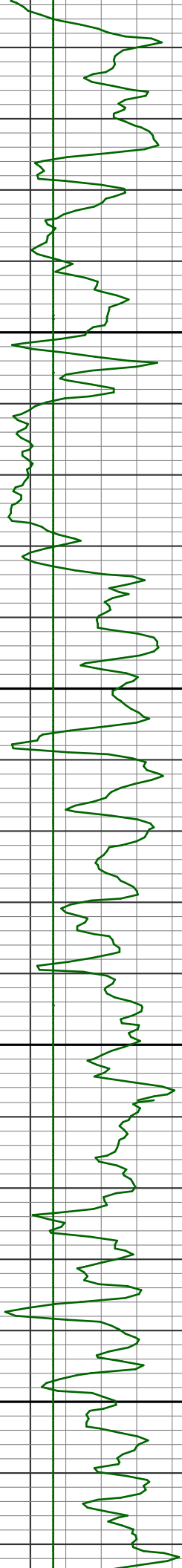
4100

4200

3.8 228.7  
51 4044

4.0 228.2  
52 4139



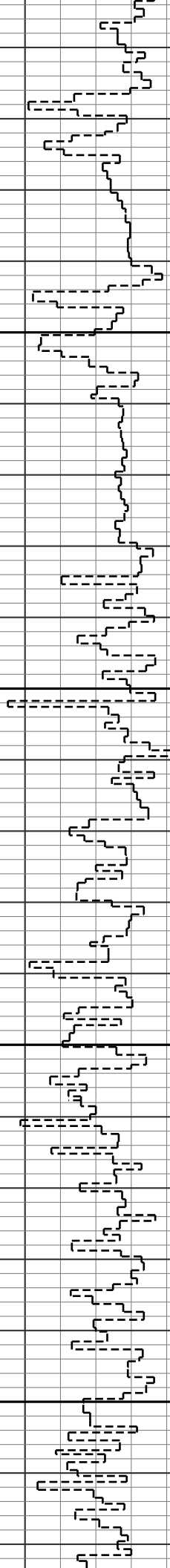


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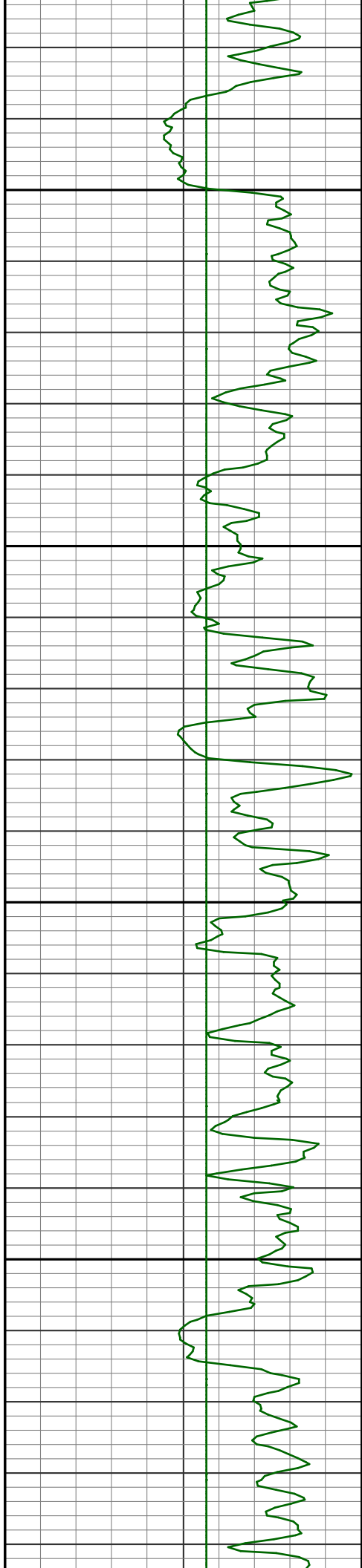
4400

4.0 227.9  
53 4234

3.8 231.5  
54 4330

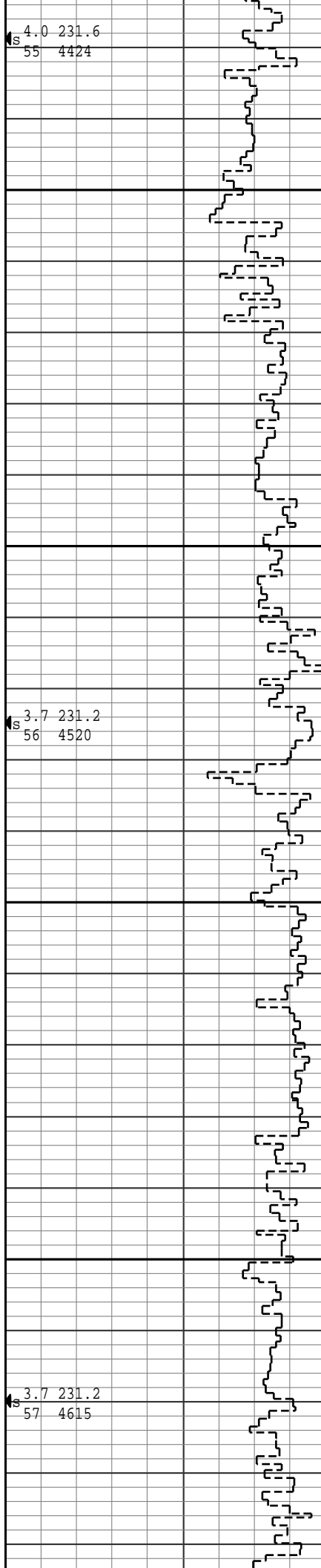






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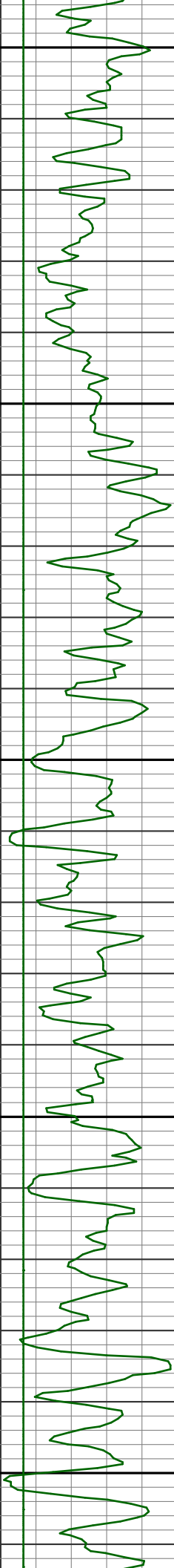
4600



4.0 231.6  
55 4424

3.7 231.2  
56 4520

3.7 231.2  
57 4615

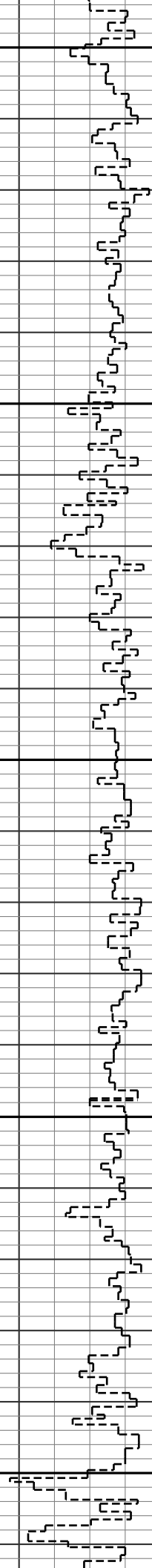


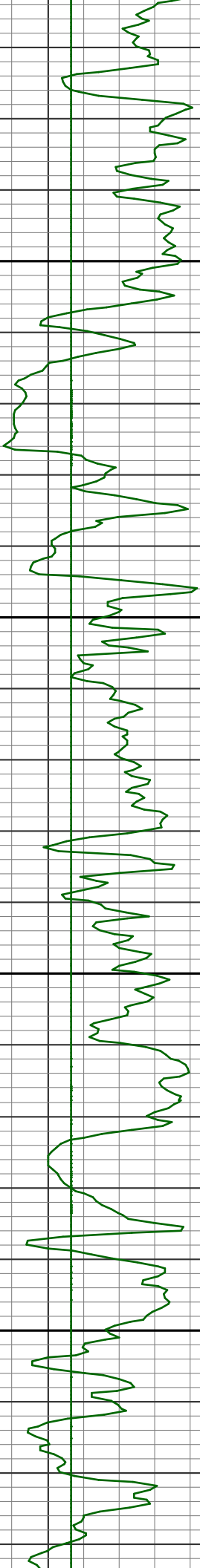
4700

3.9 228.9  
S 58 4710

4800

3.9 230.2  
S 59 4806



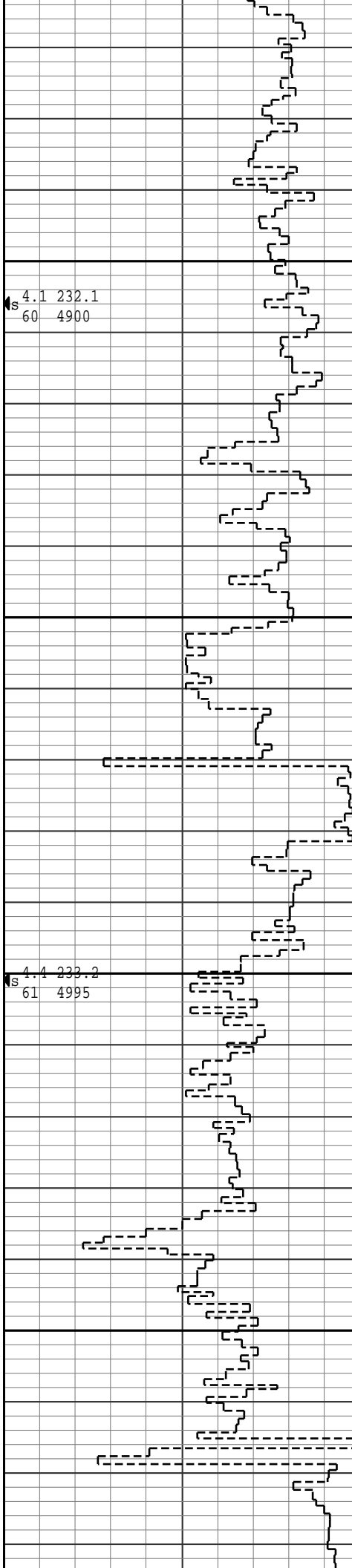


4900

R  
U  
N  
#2

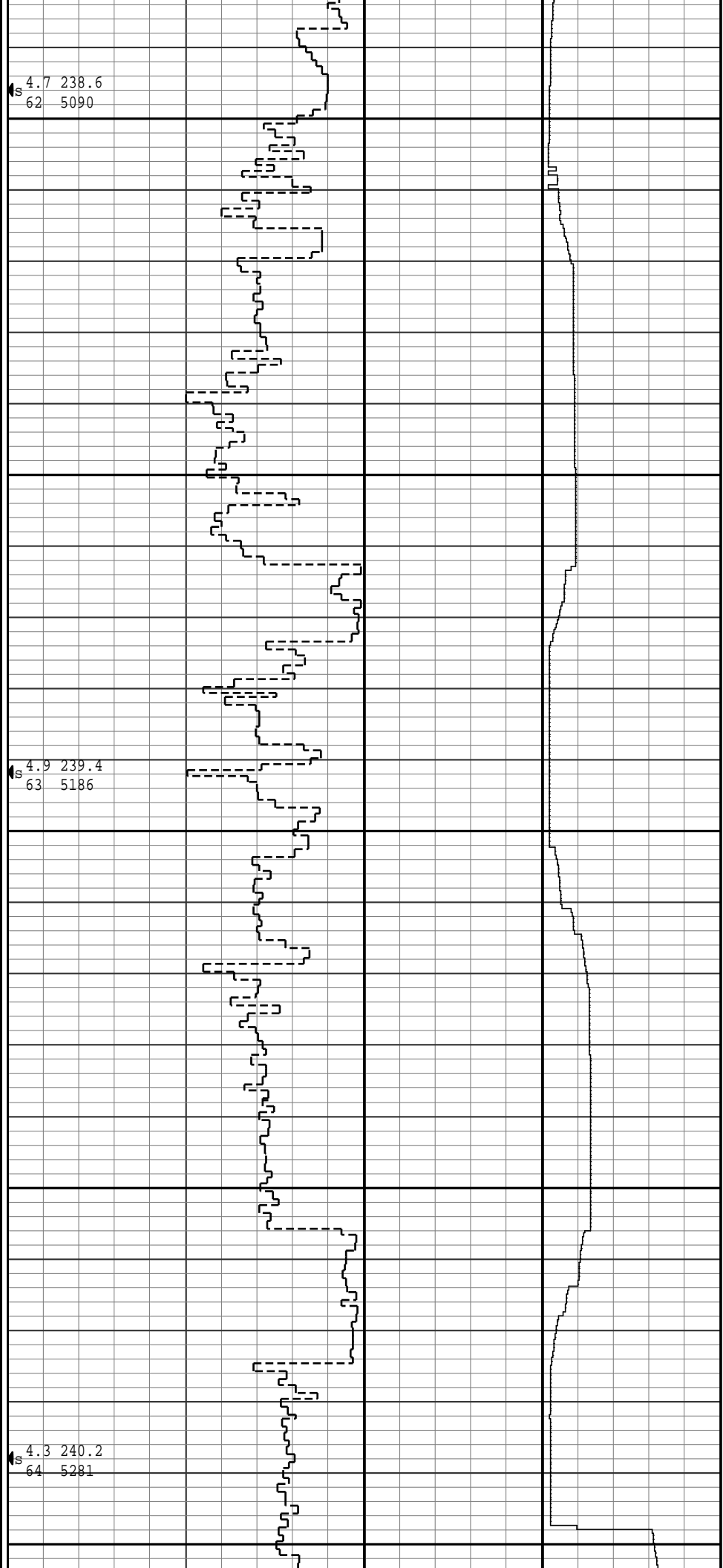
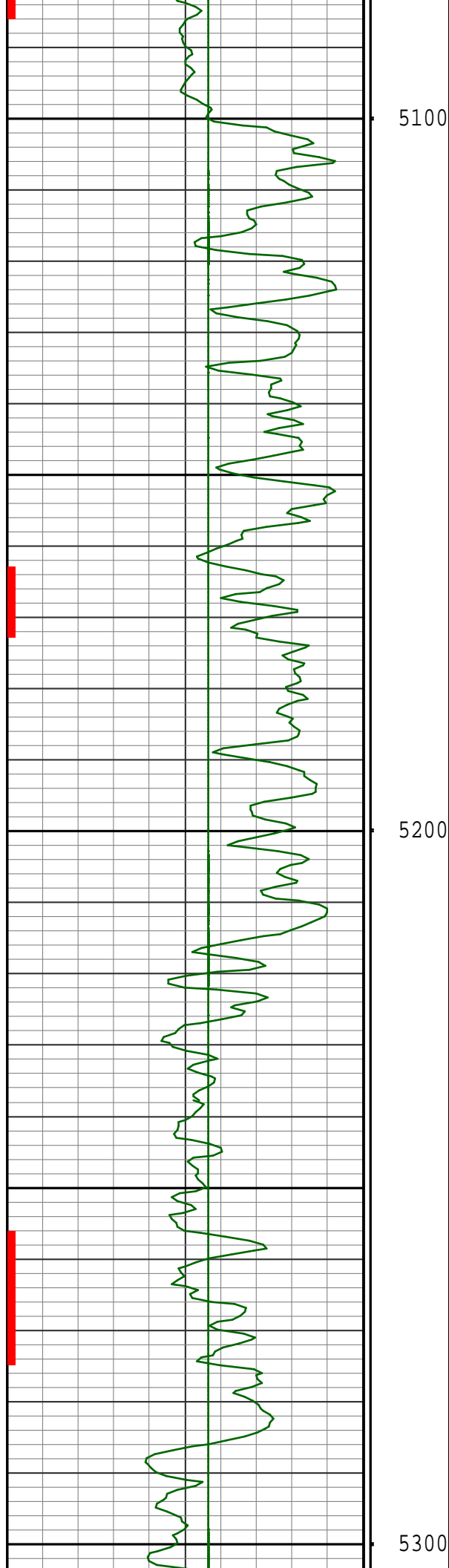
5000

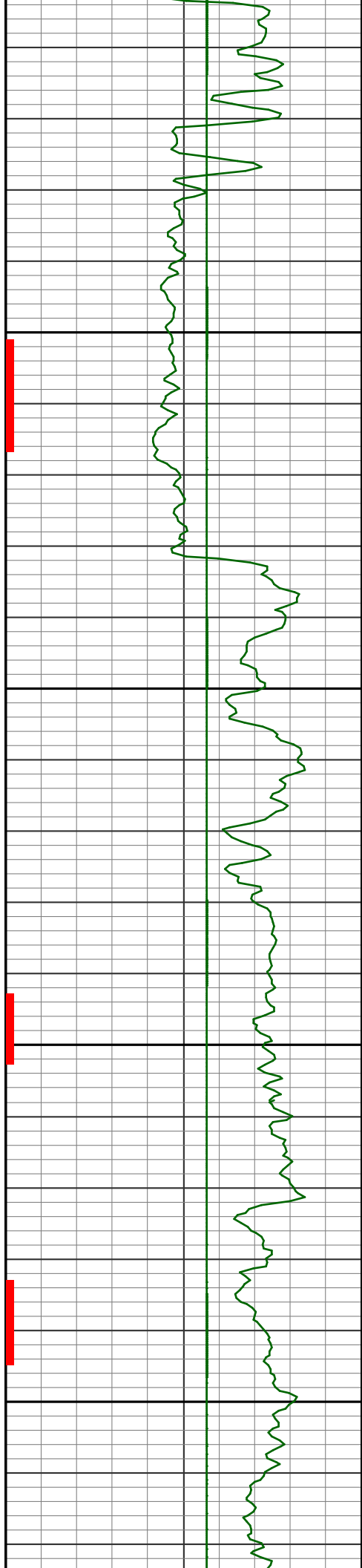
R  
U  
N  
#3



4.1 232.1  
s 60 4900

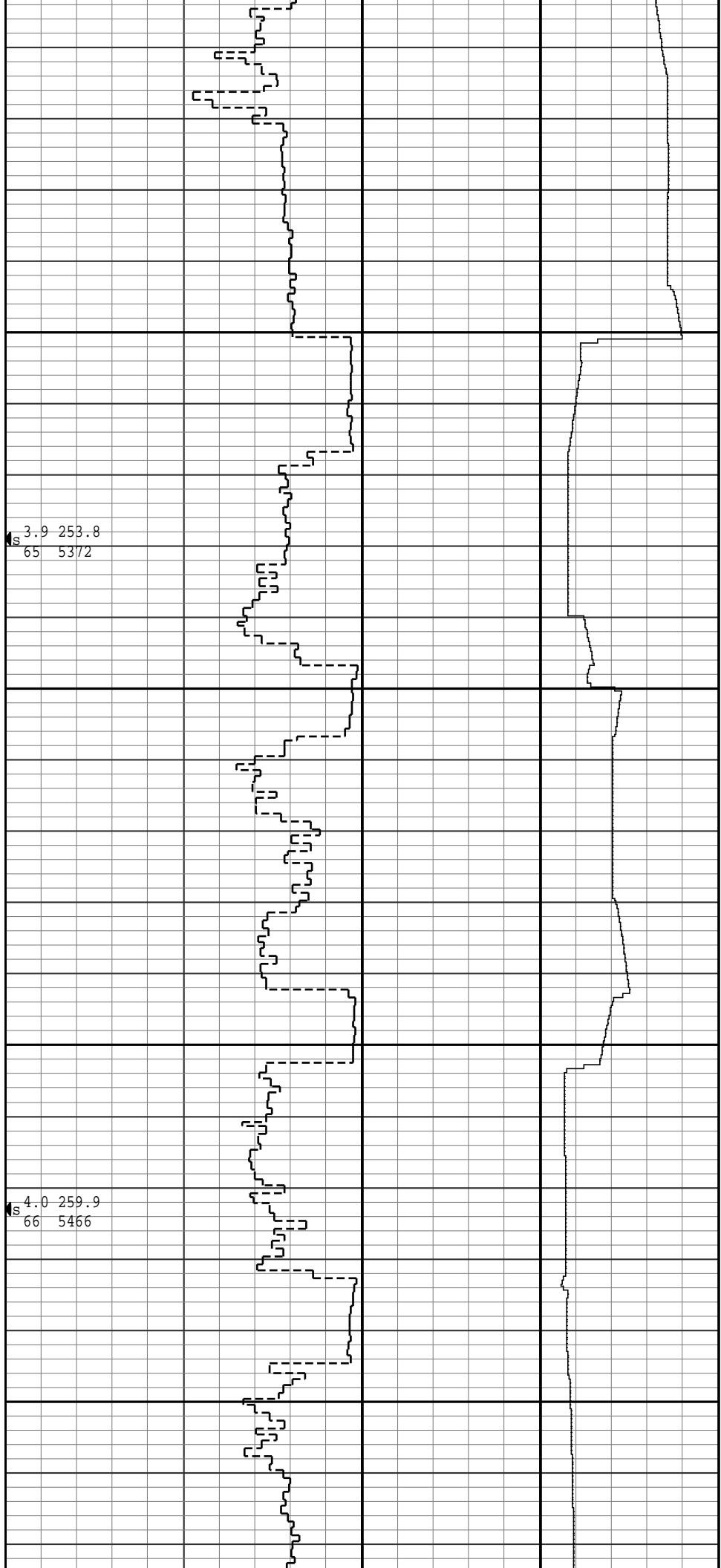
4.4 233.2  
s 61 4995

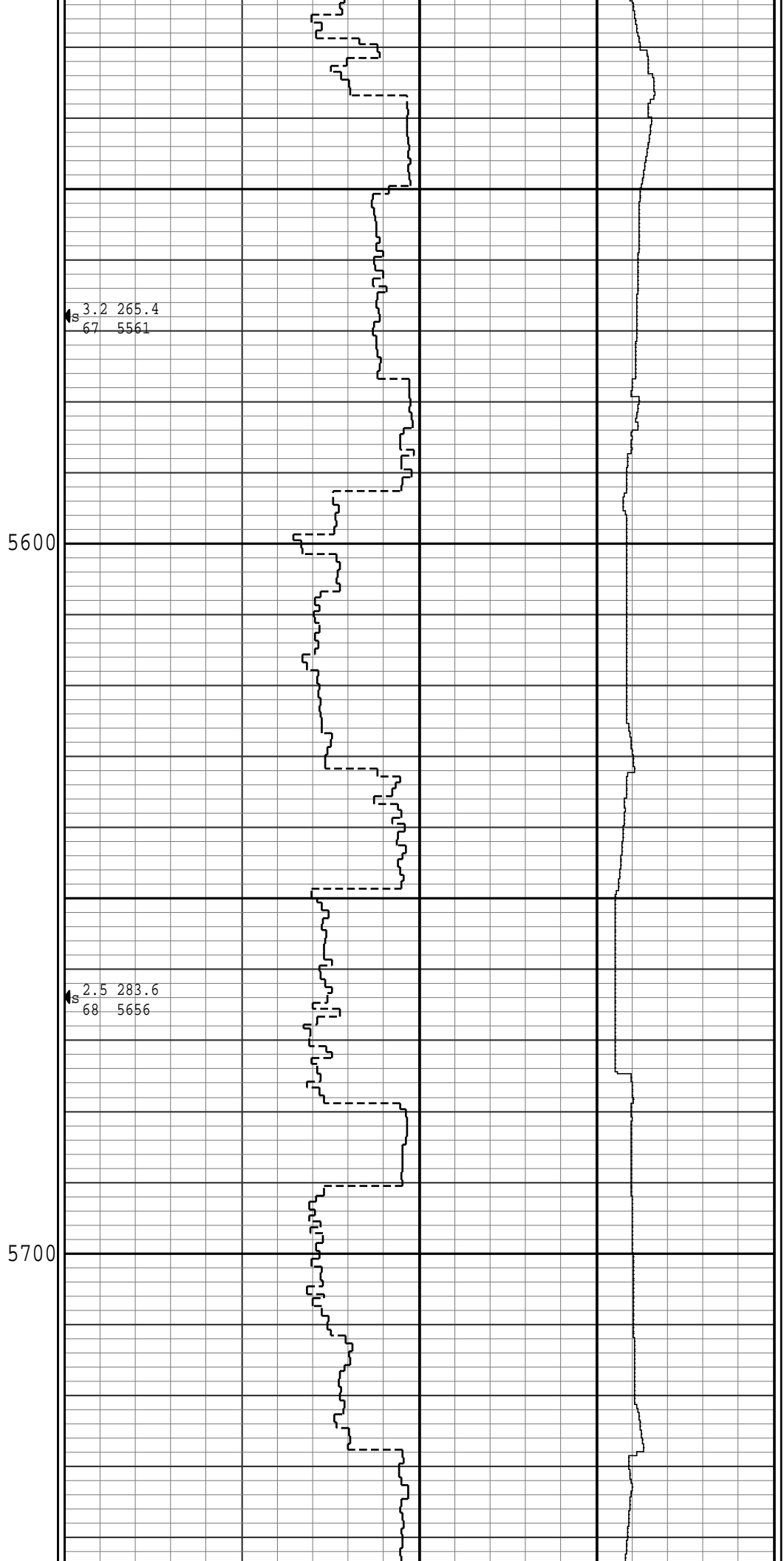
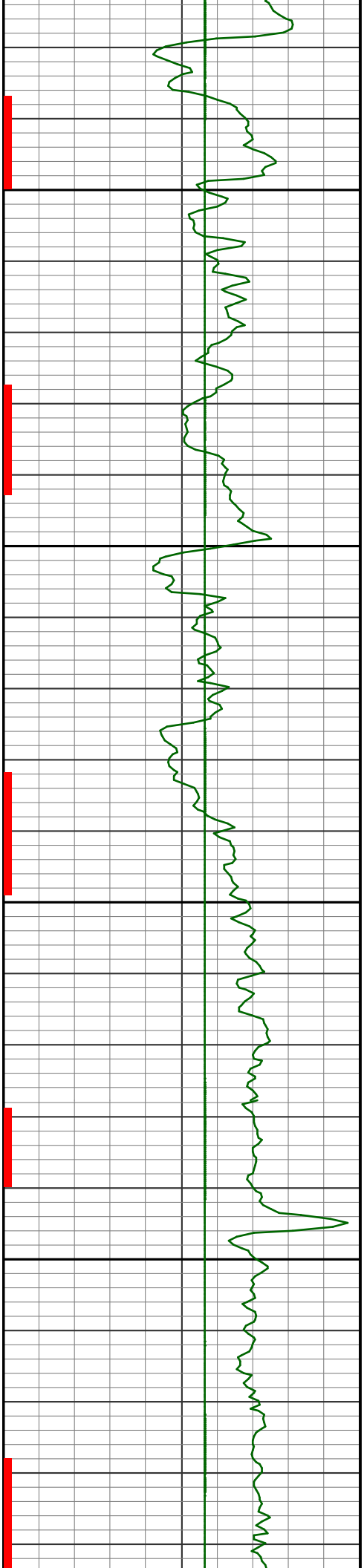


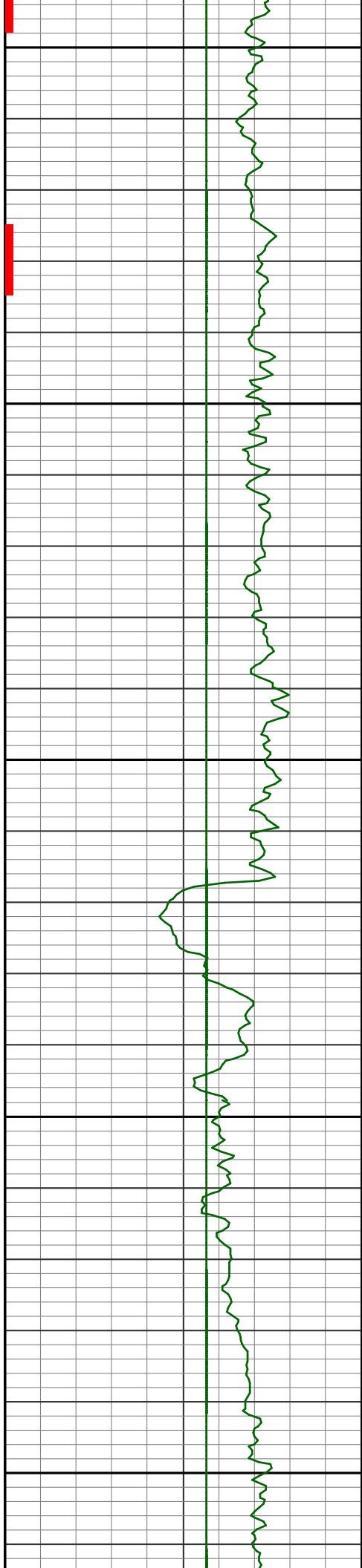


5400

5500

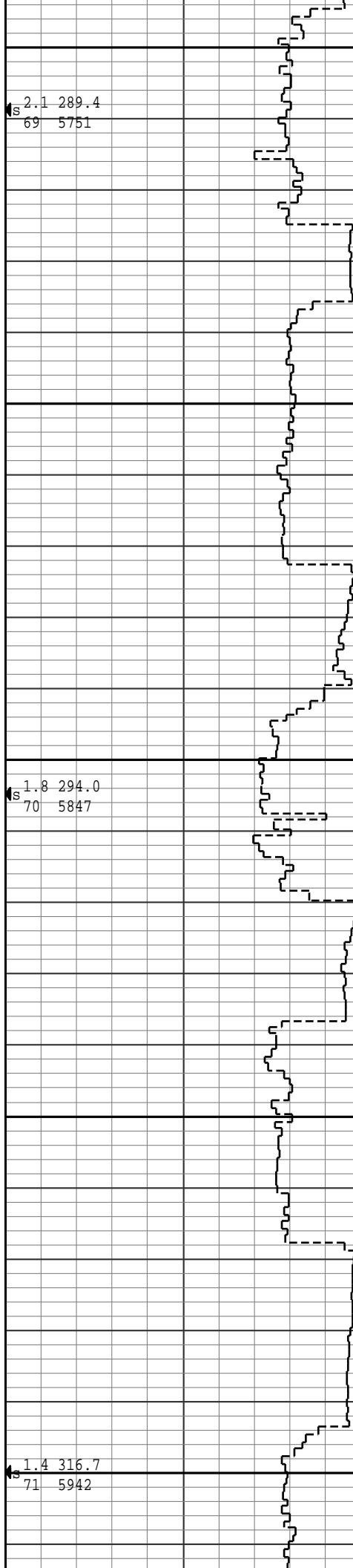


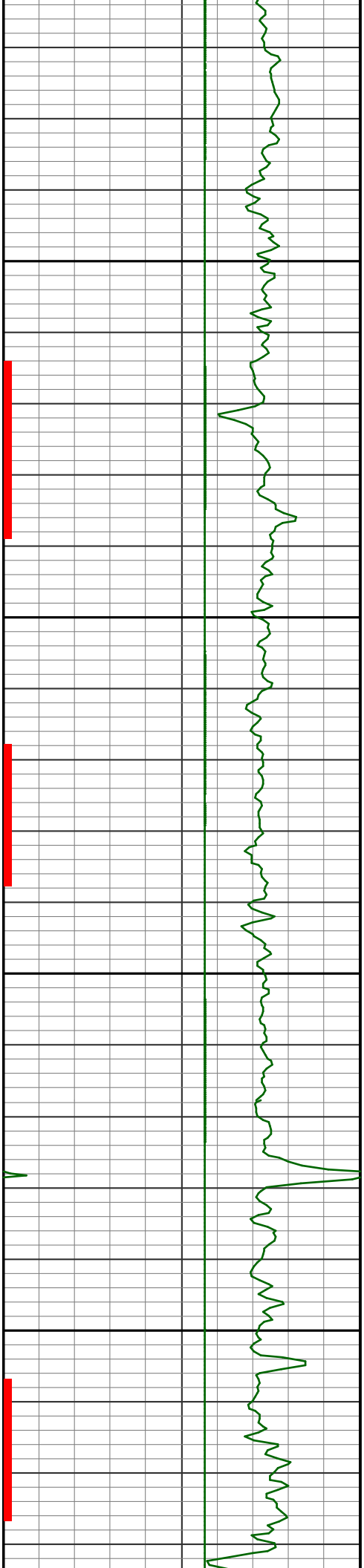




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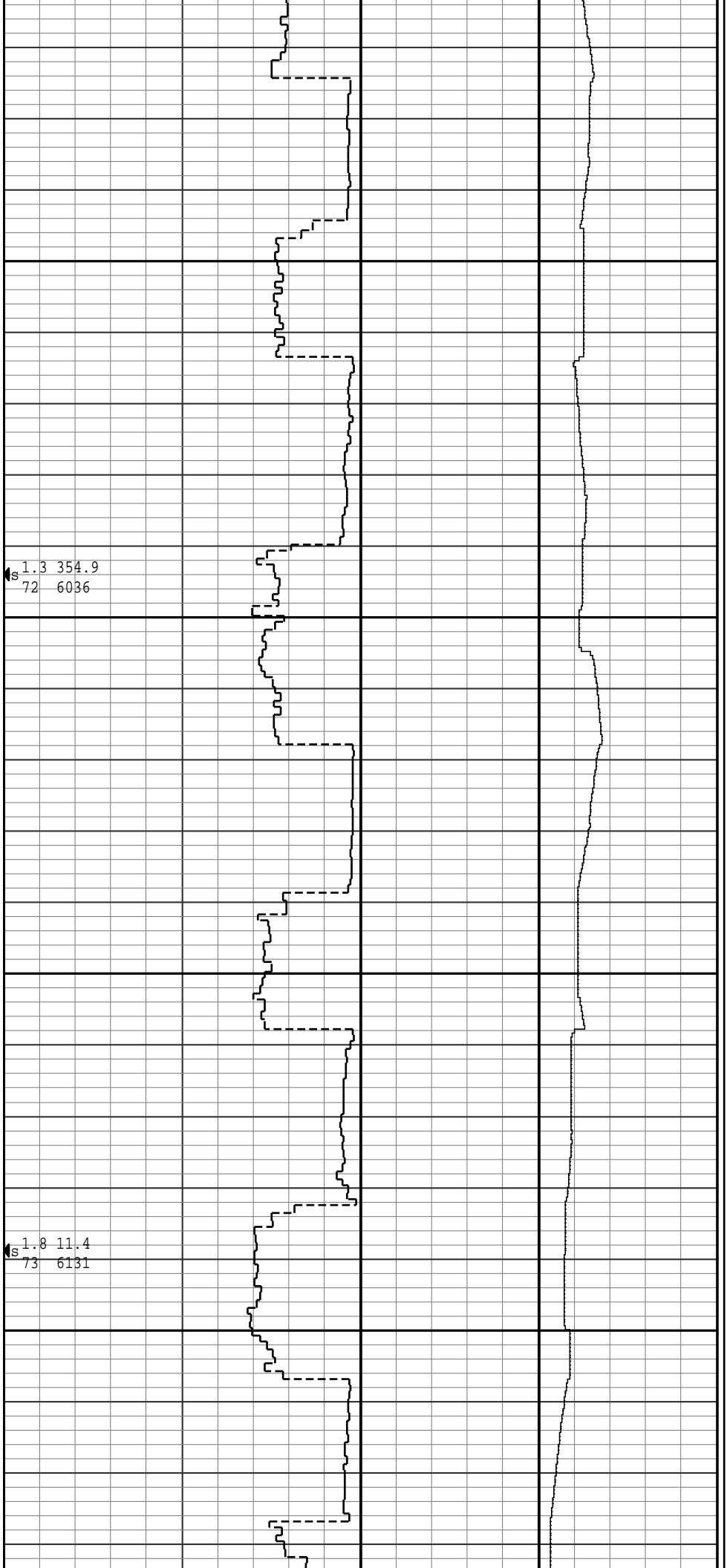
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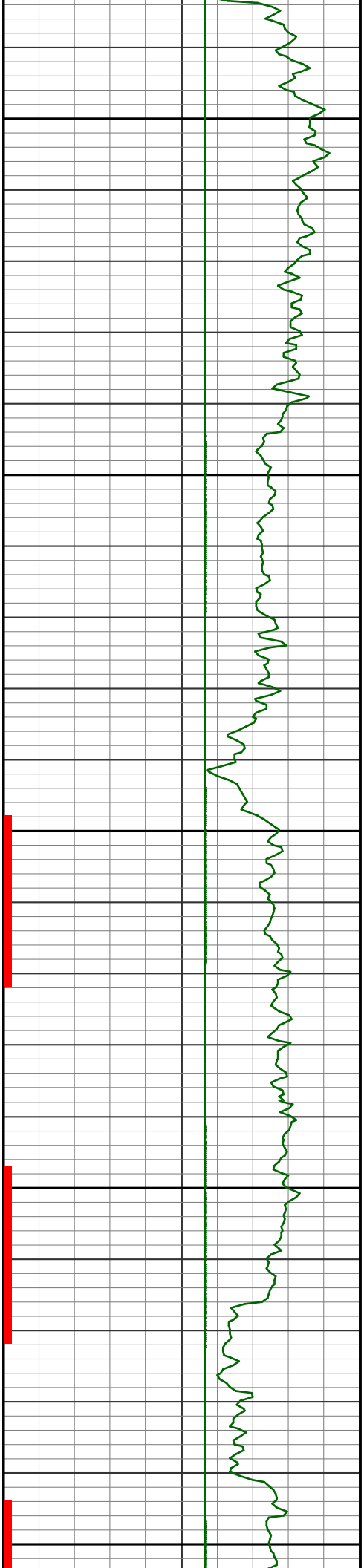


6000

6100







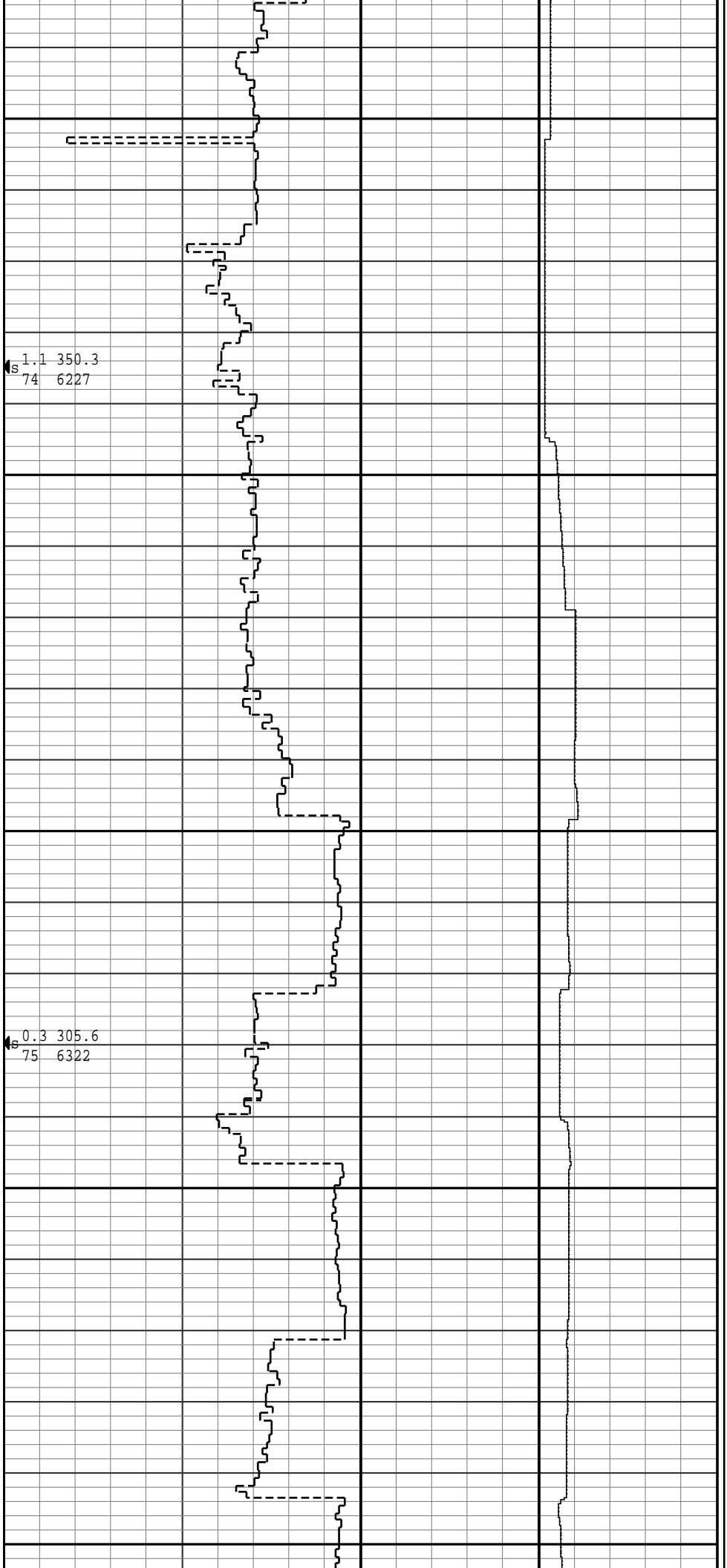
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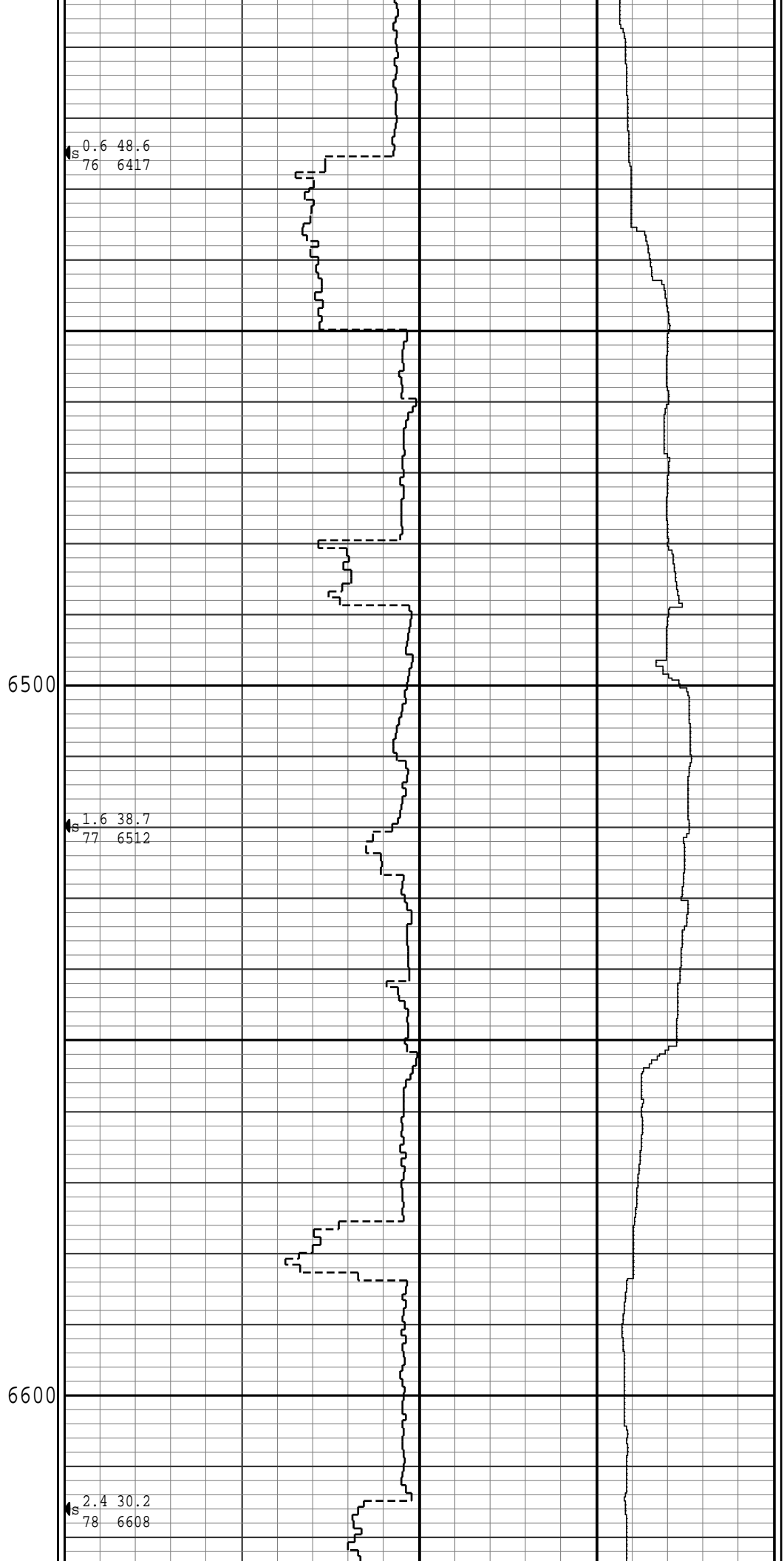
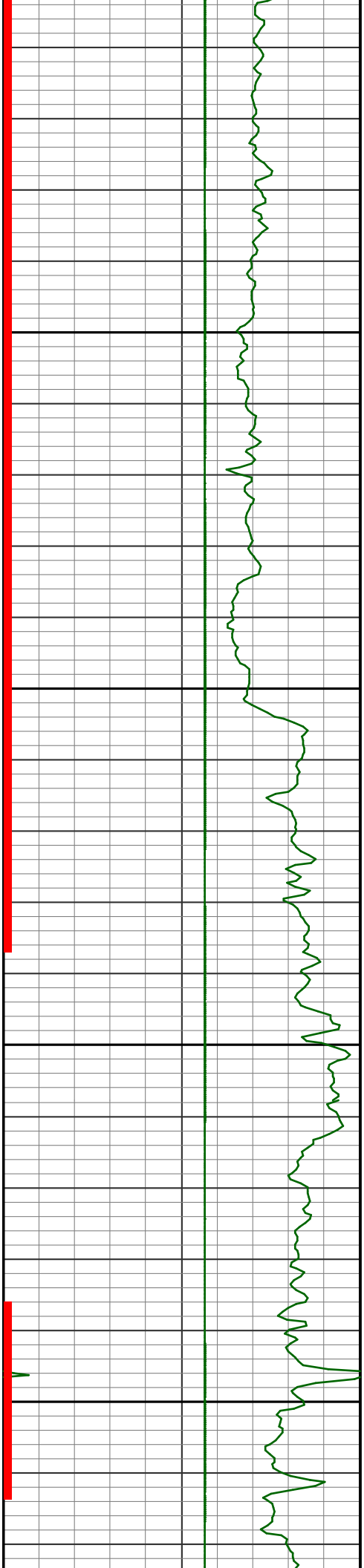
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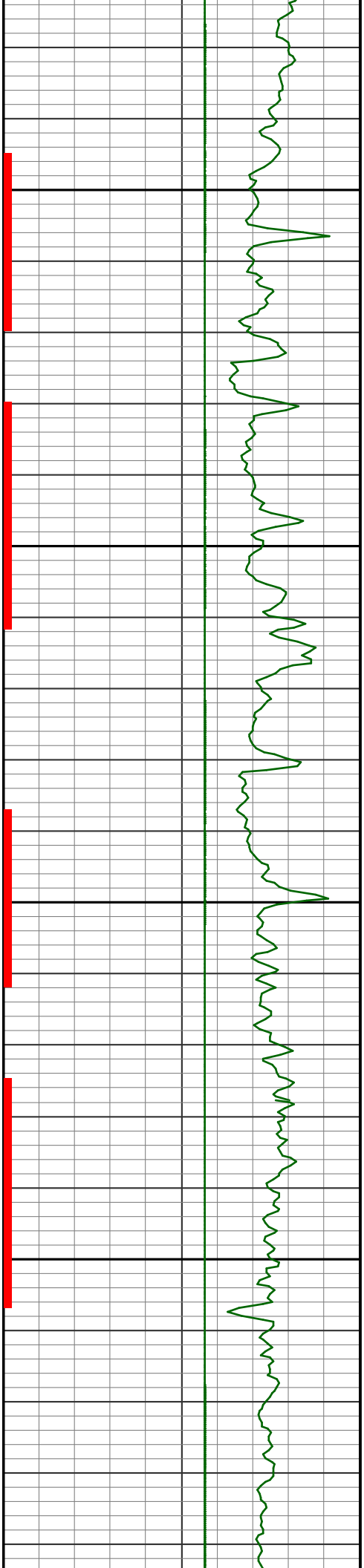
6400

1.1 350.3  
74 6227

0.3 305.6  
75 6322





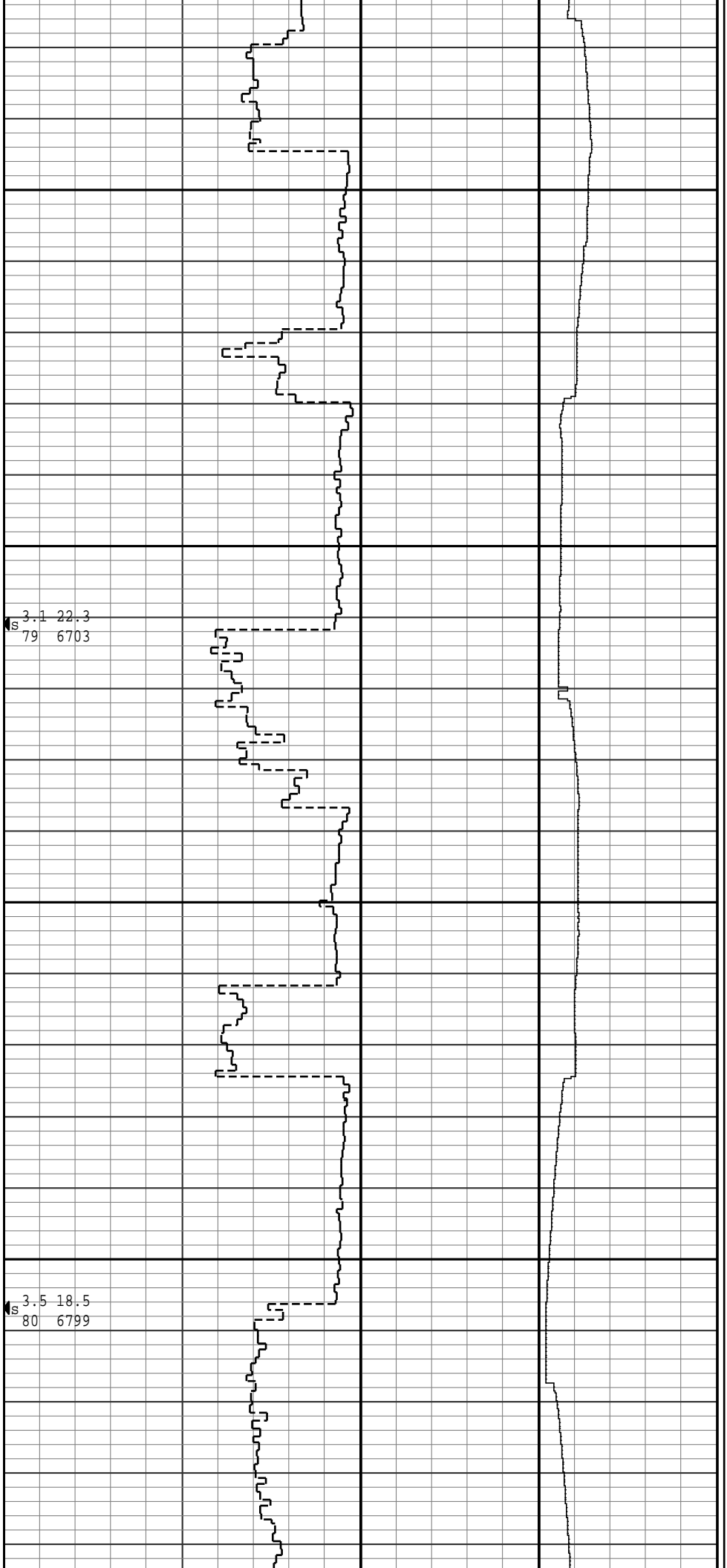


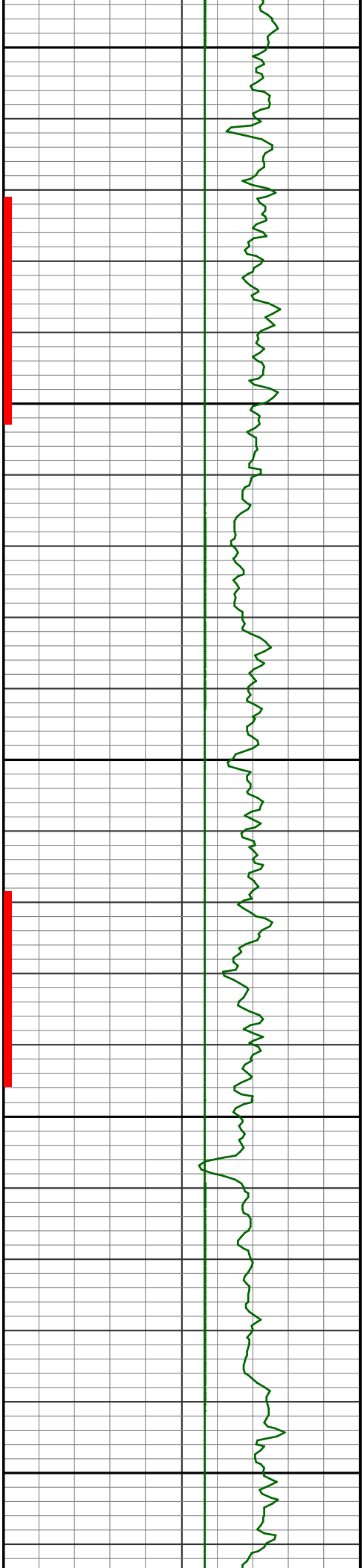
6700

3.1 22.3  
79 6703

6800

3.5 18.5  
80 6799



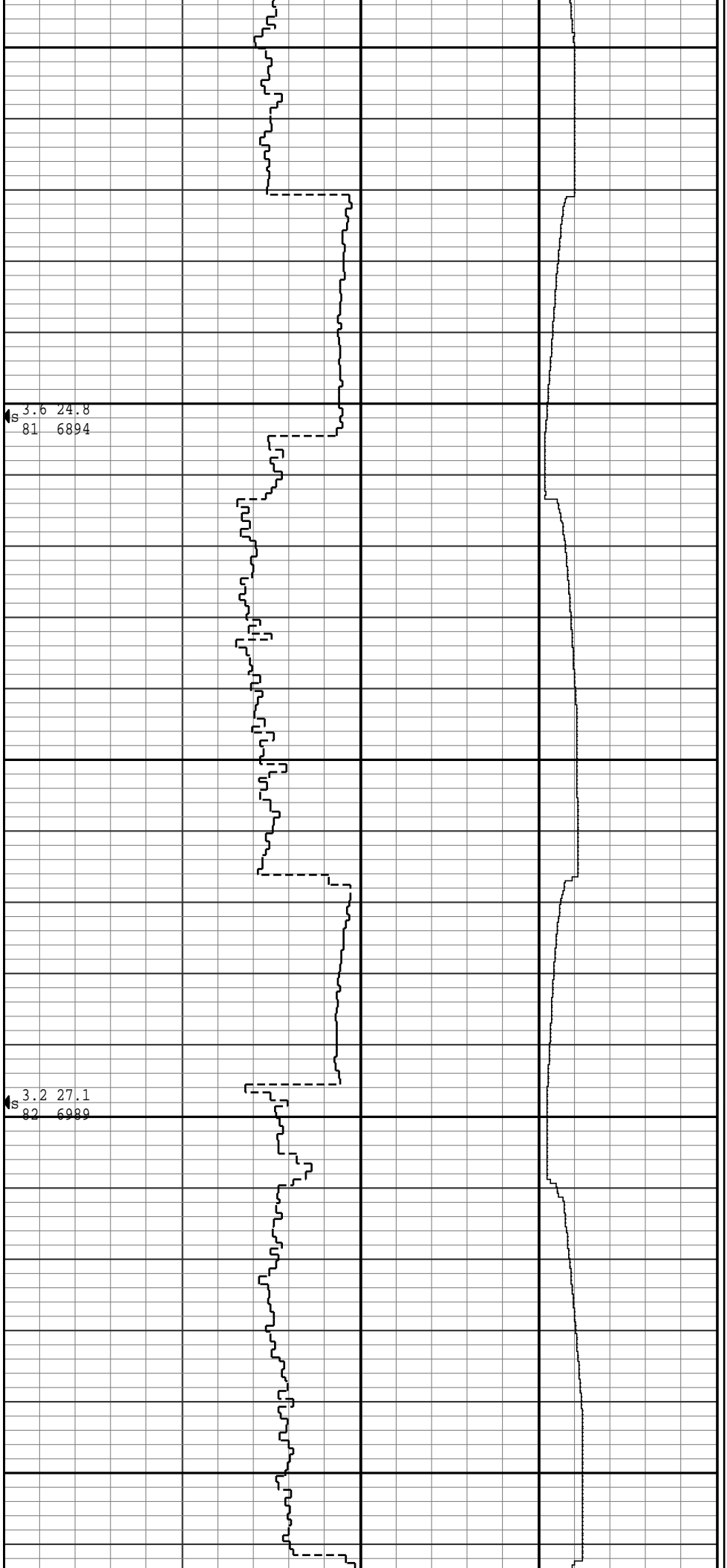


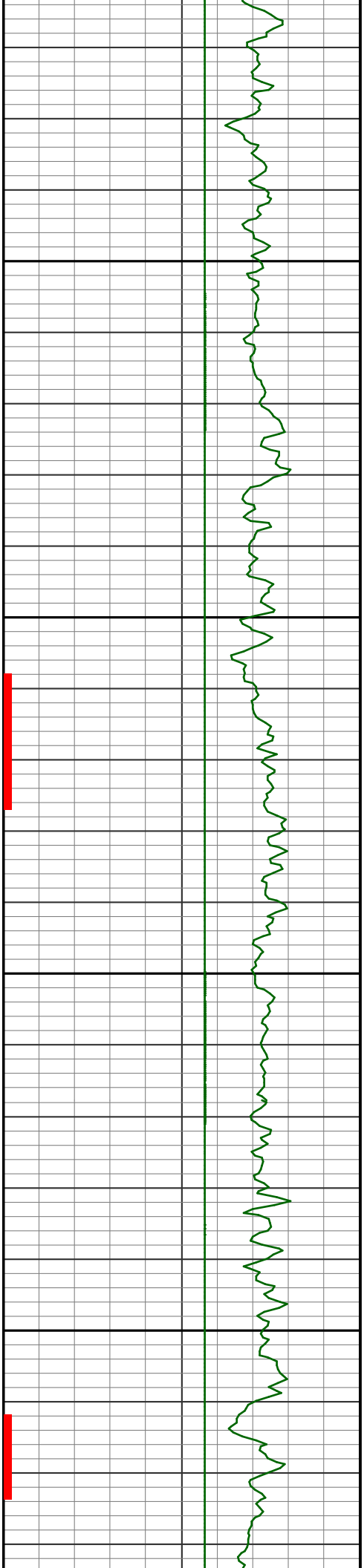
6900

s 3.6 24.8  
81 6894

7000

s 3.2 27.1  
82 6989





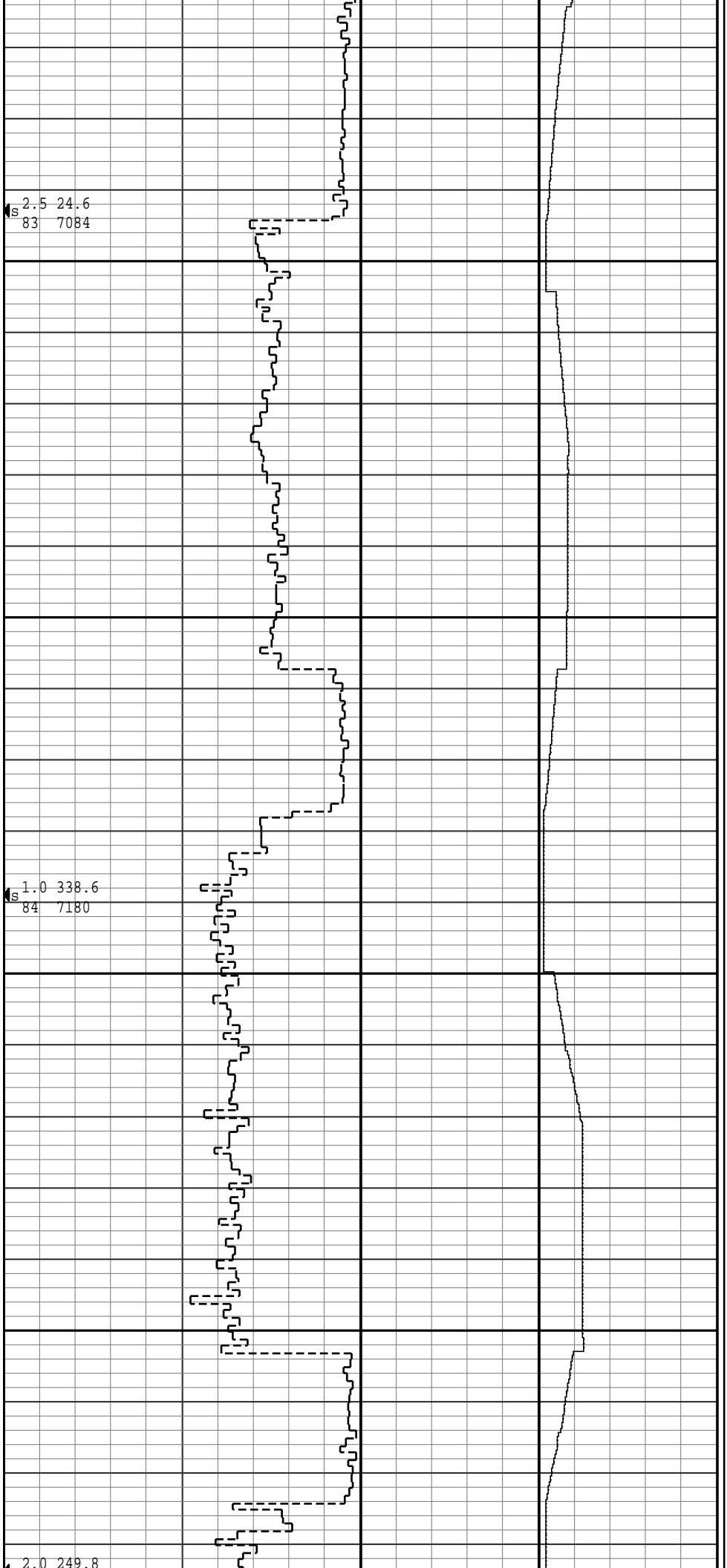
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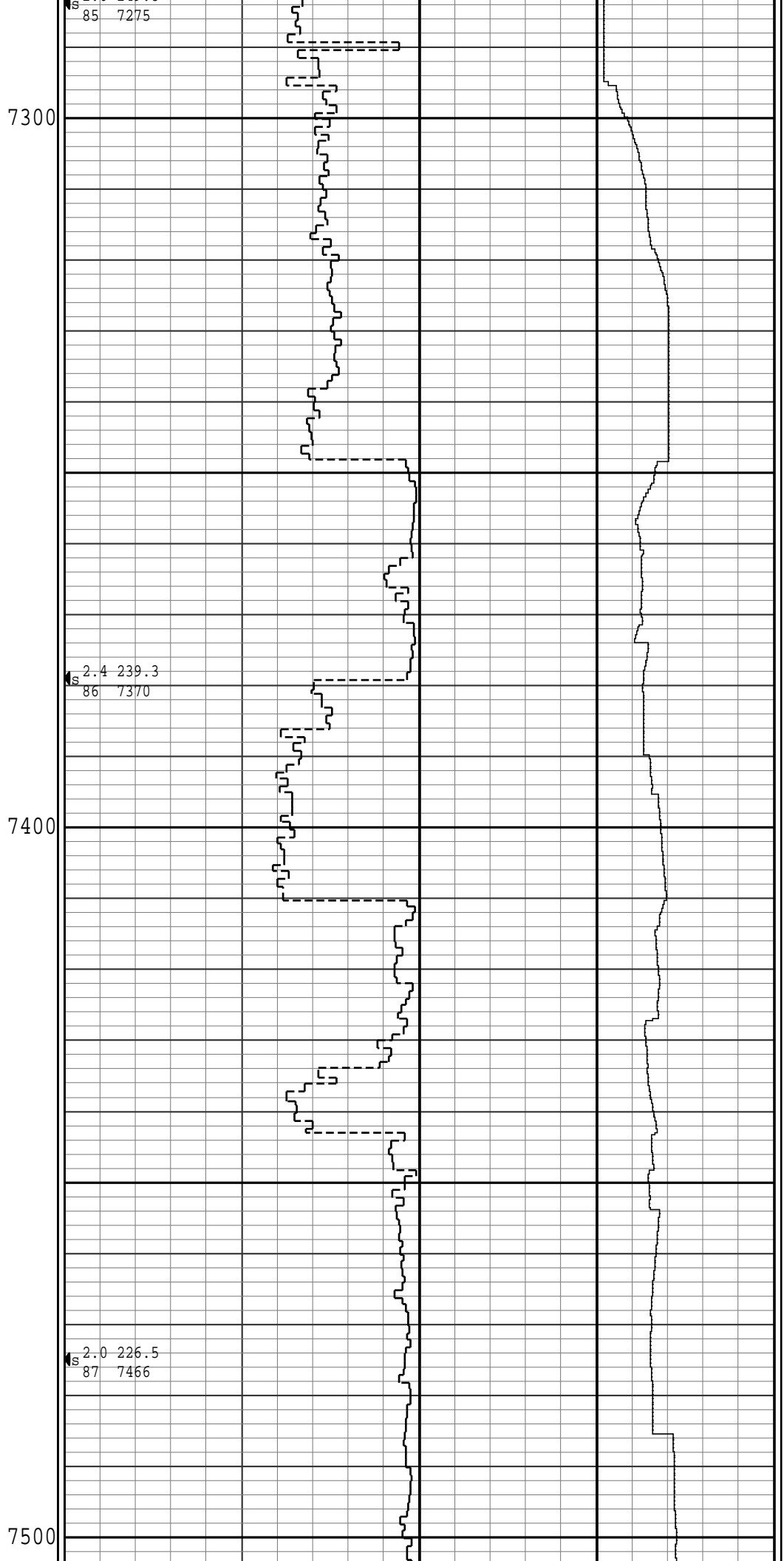
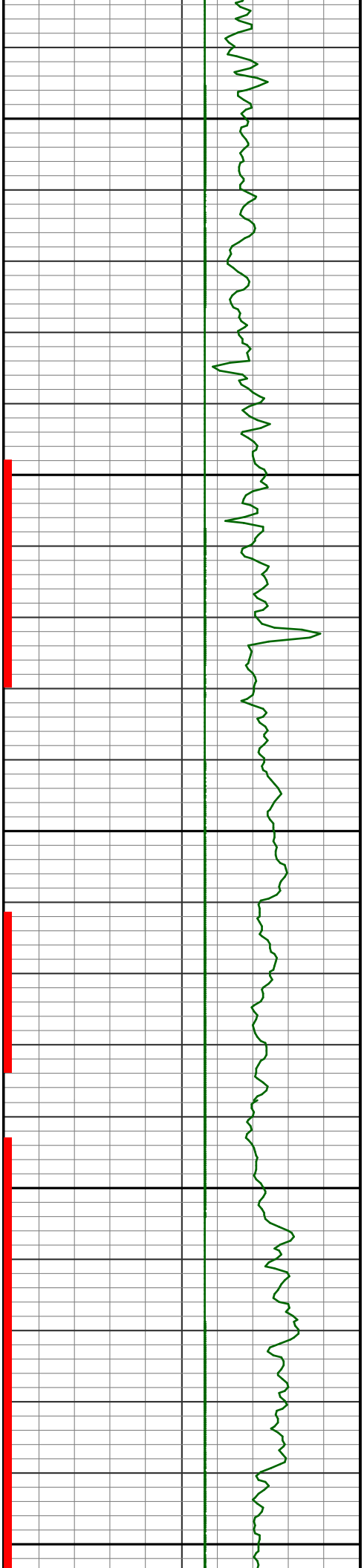
S 2.5 24.6  
83 7084

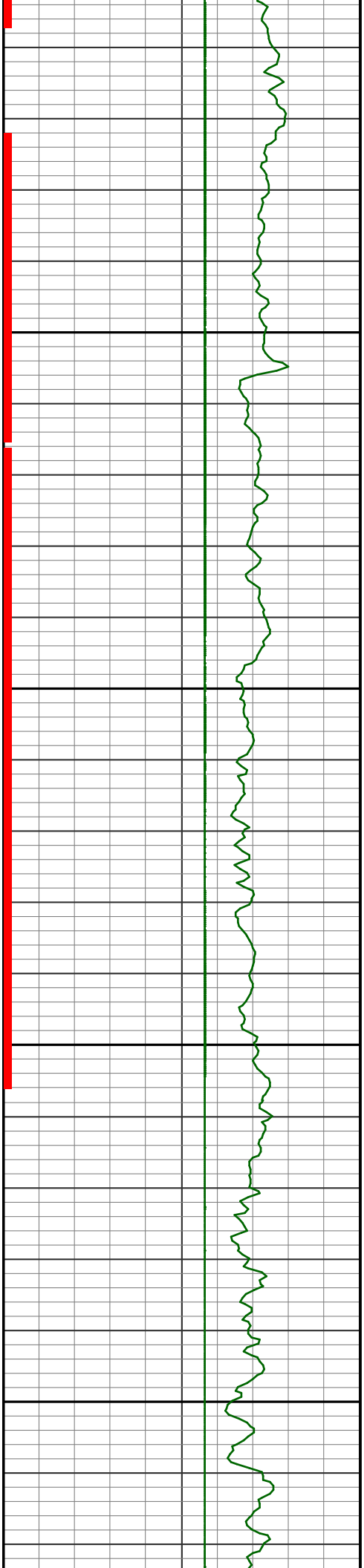
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S 1.0 338.6  
84 7180

S 2.0 249.8





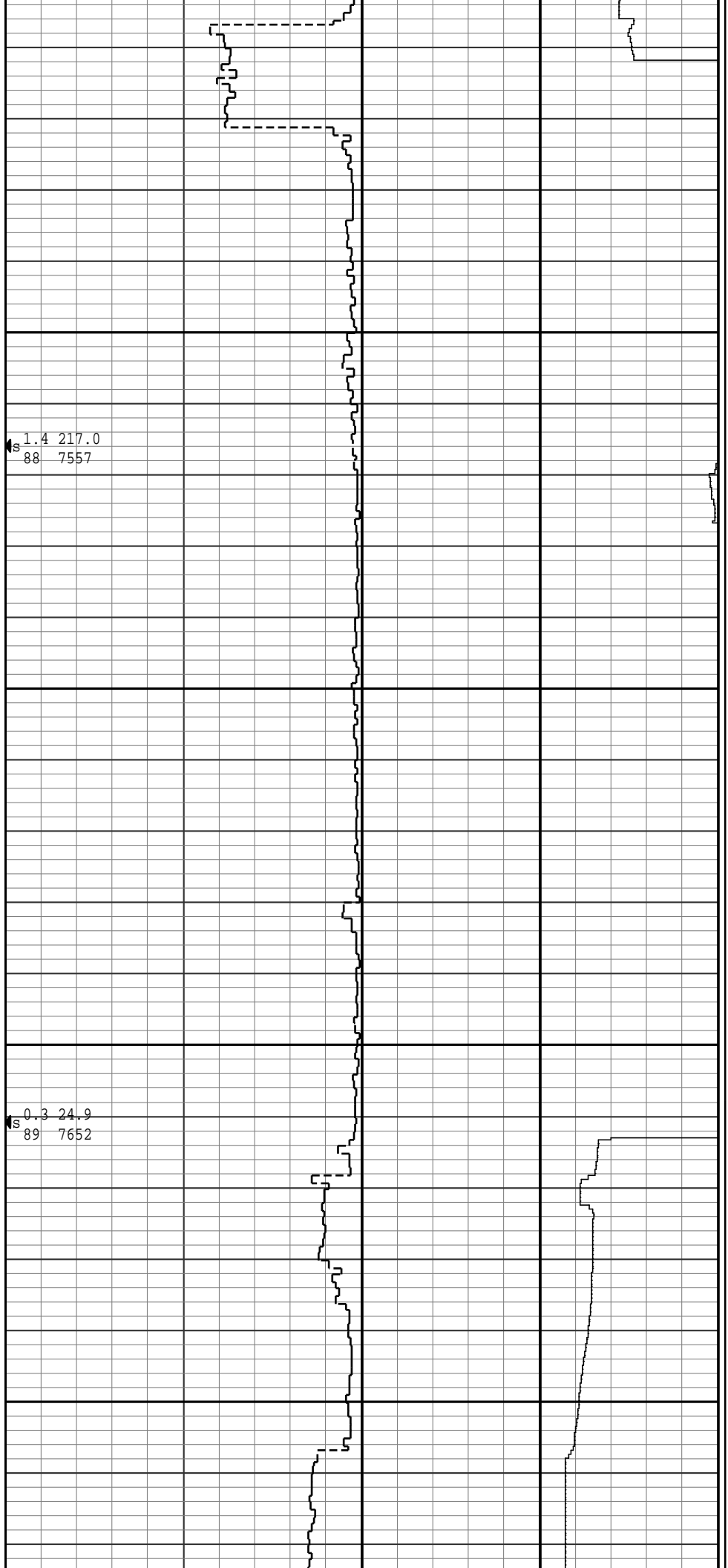


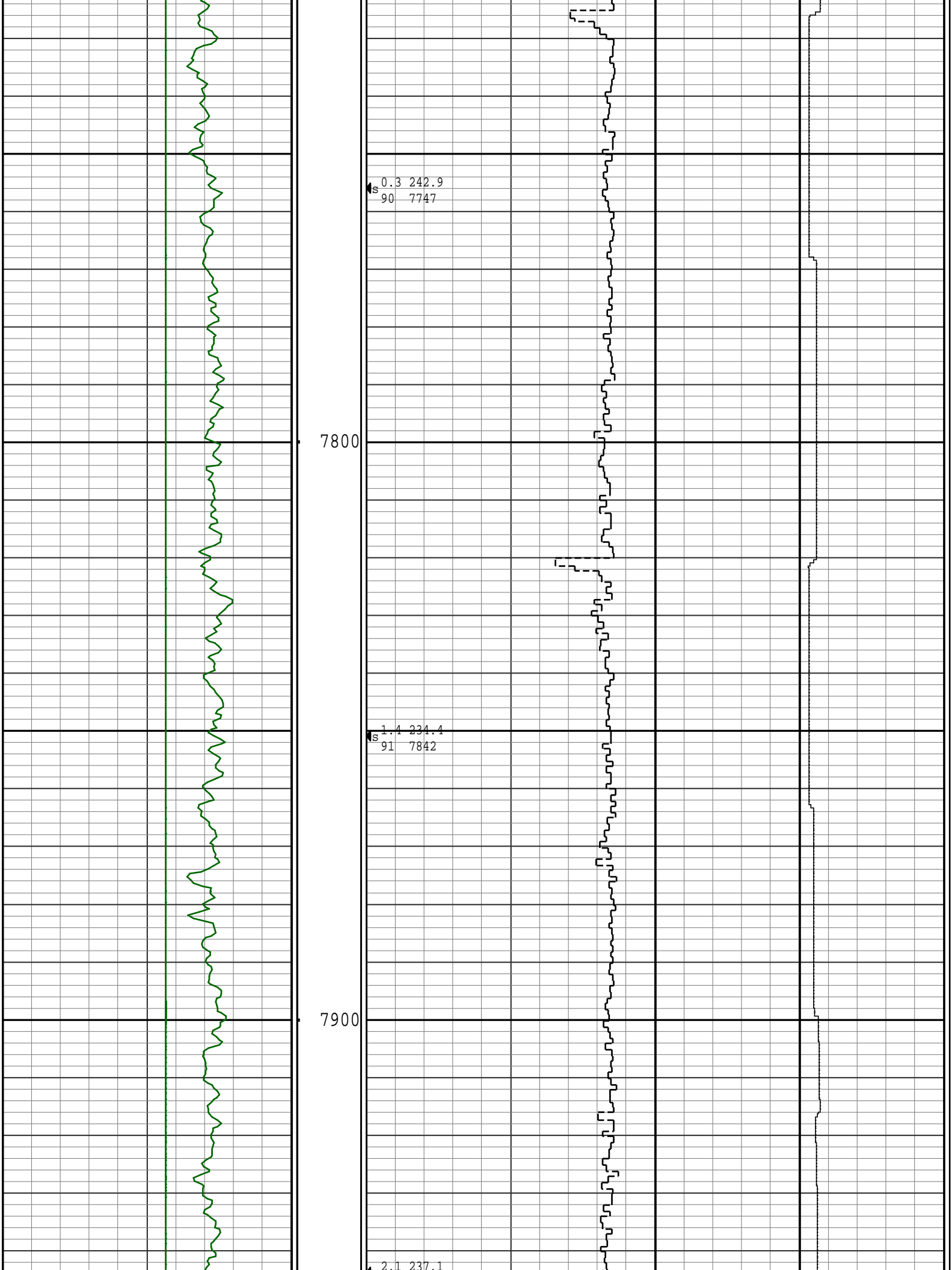
R  
U  
N  
#3

7600

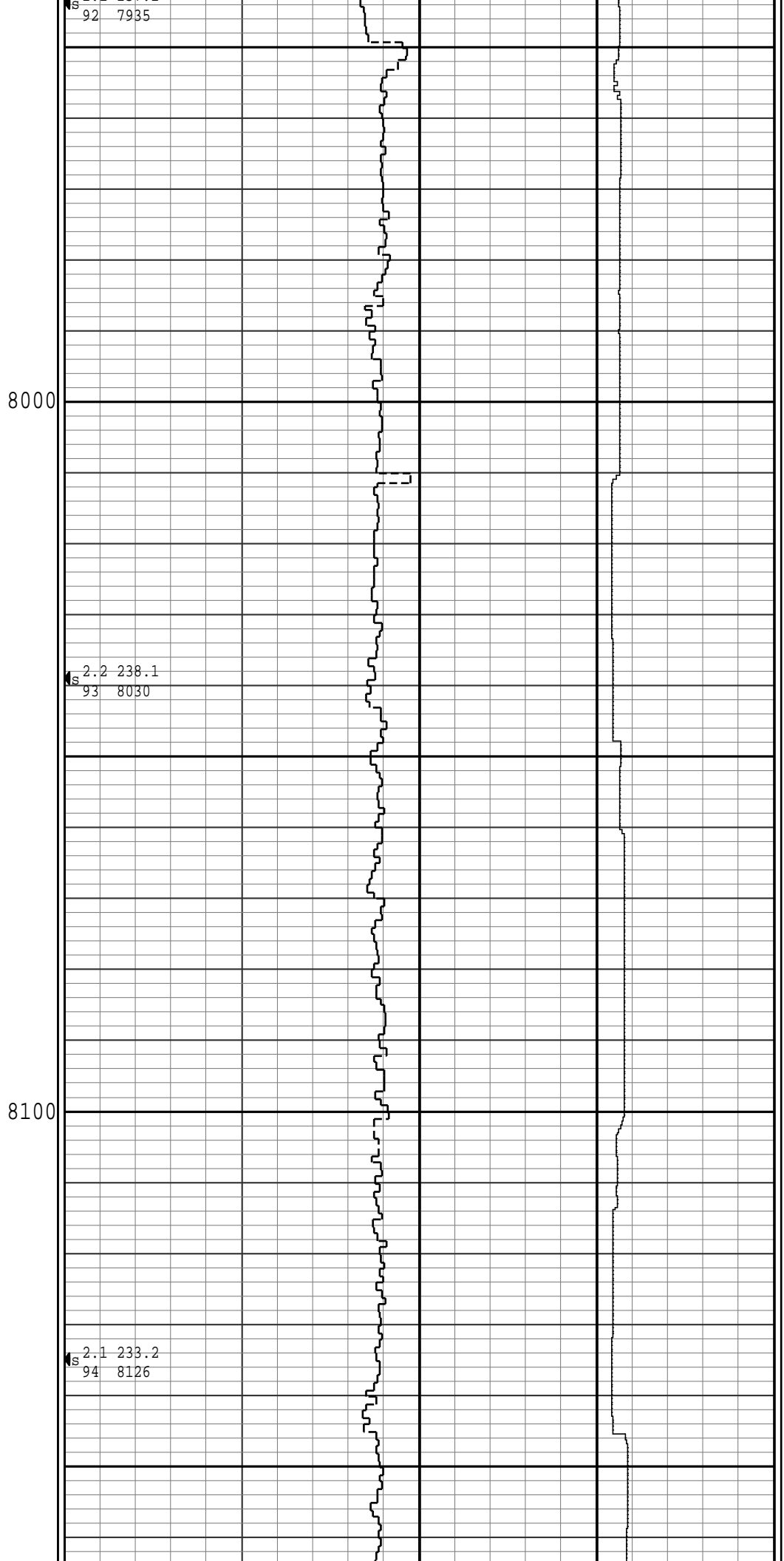
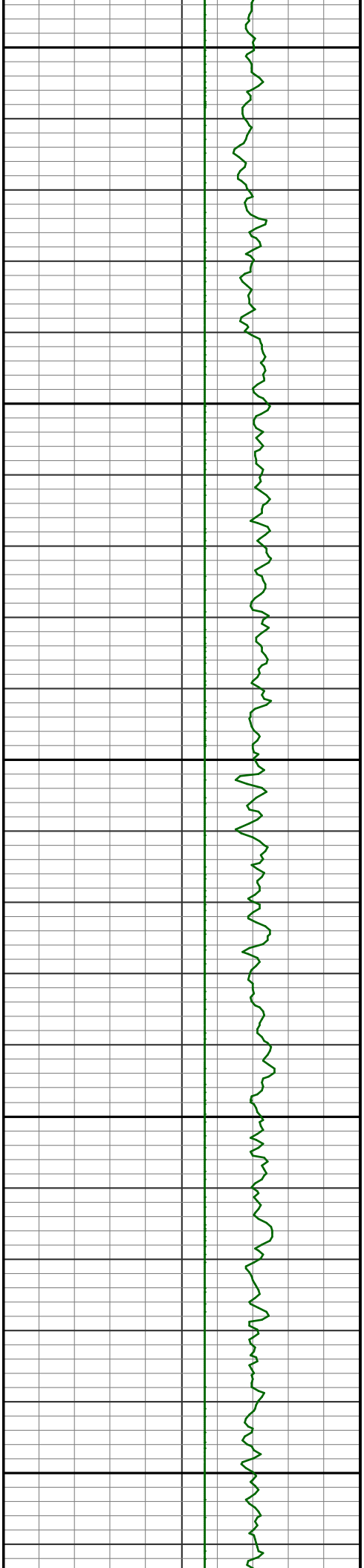
R  
U  
N  
#4

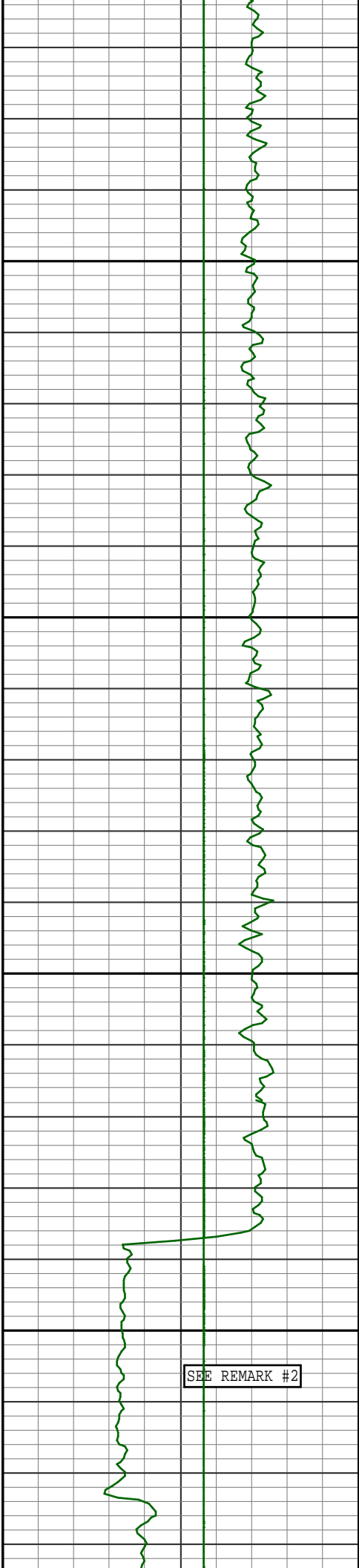
7700











8200

2.3 234.6  
95 8221

8300

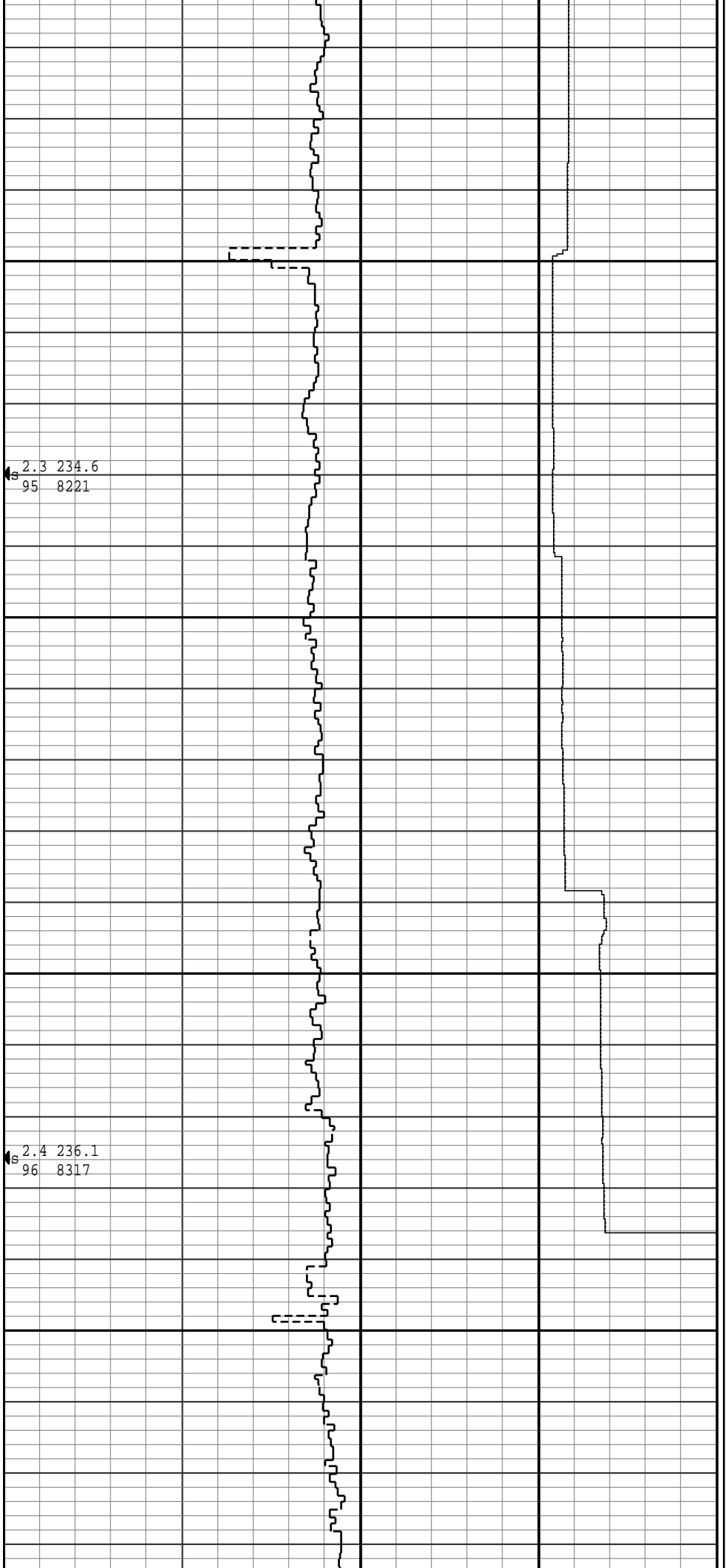
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96 8317

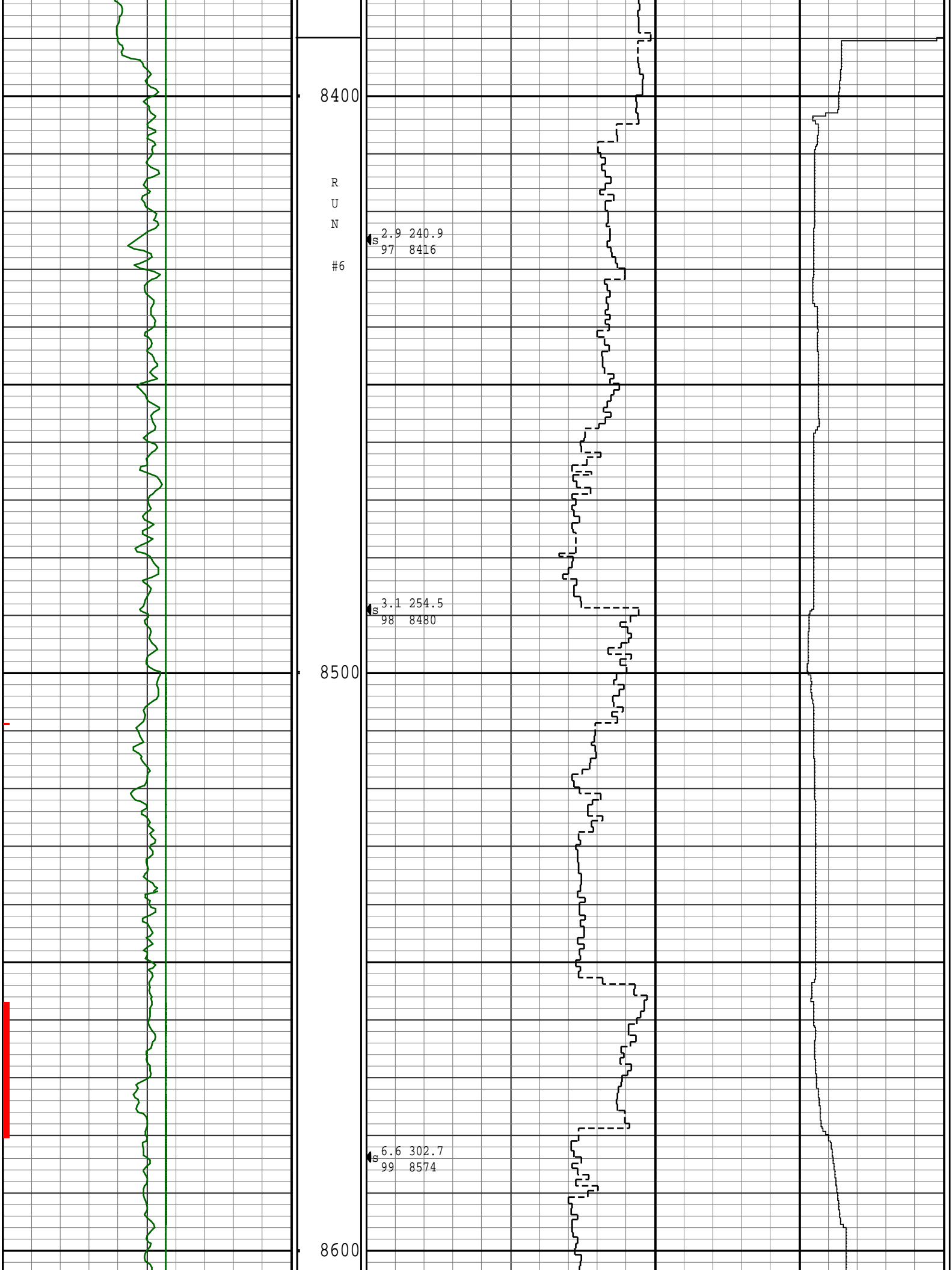
R  
U  
N

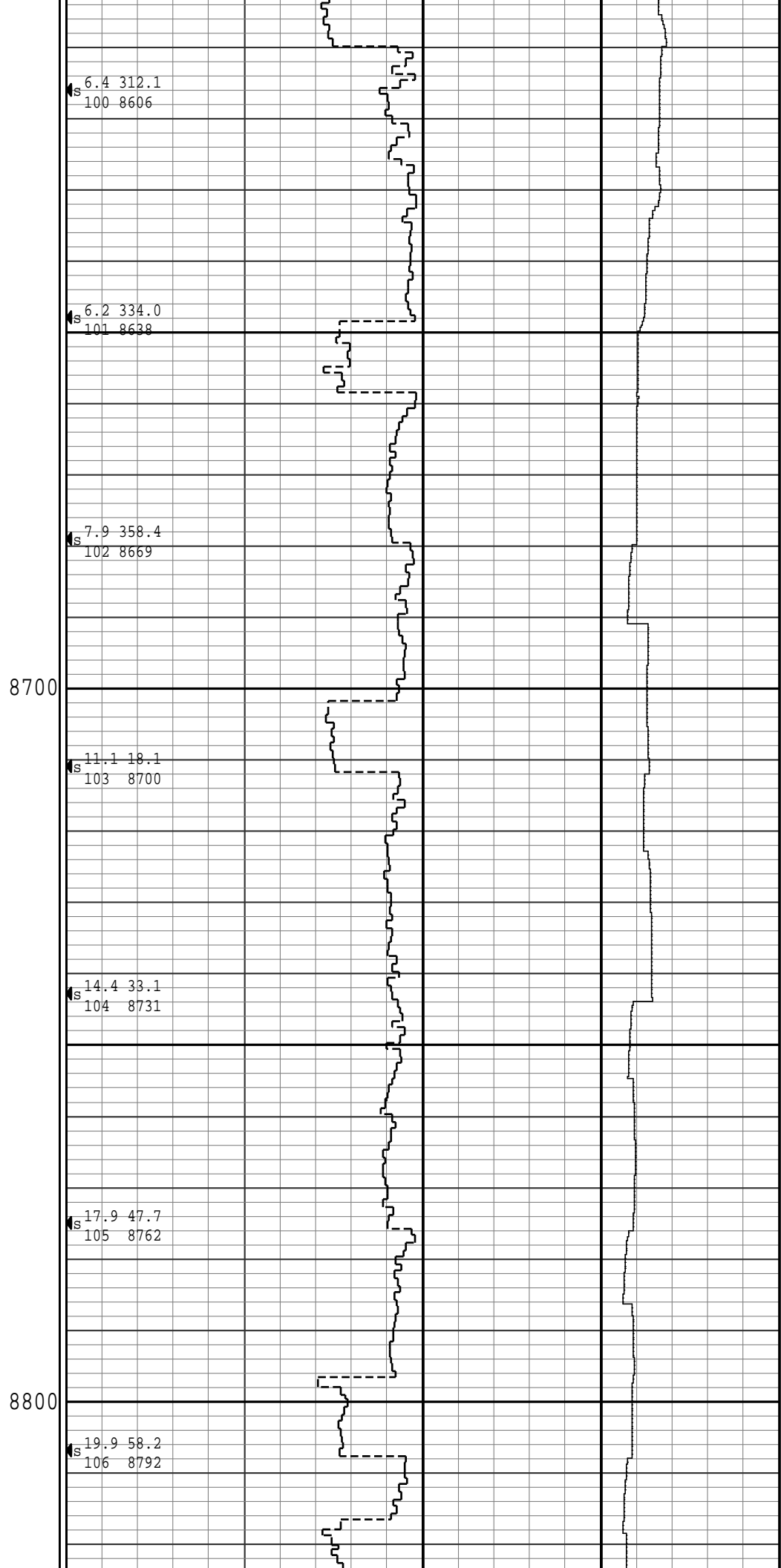
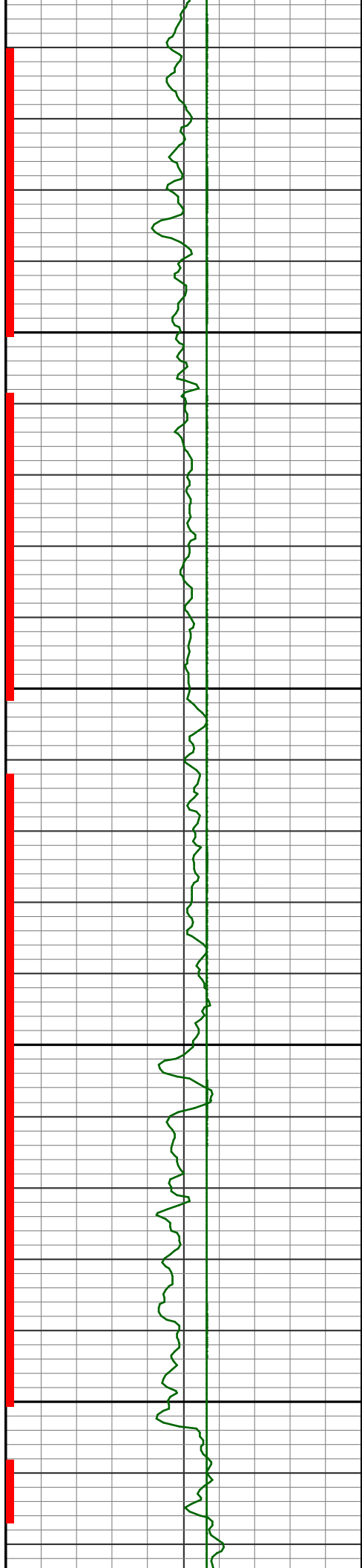
#5

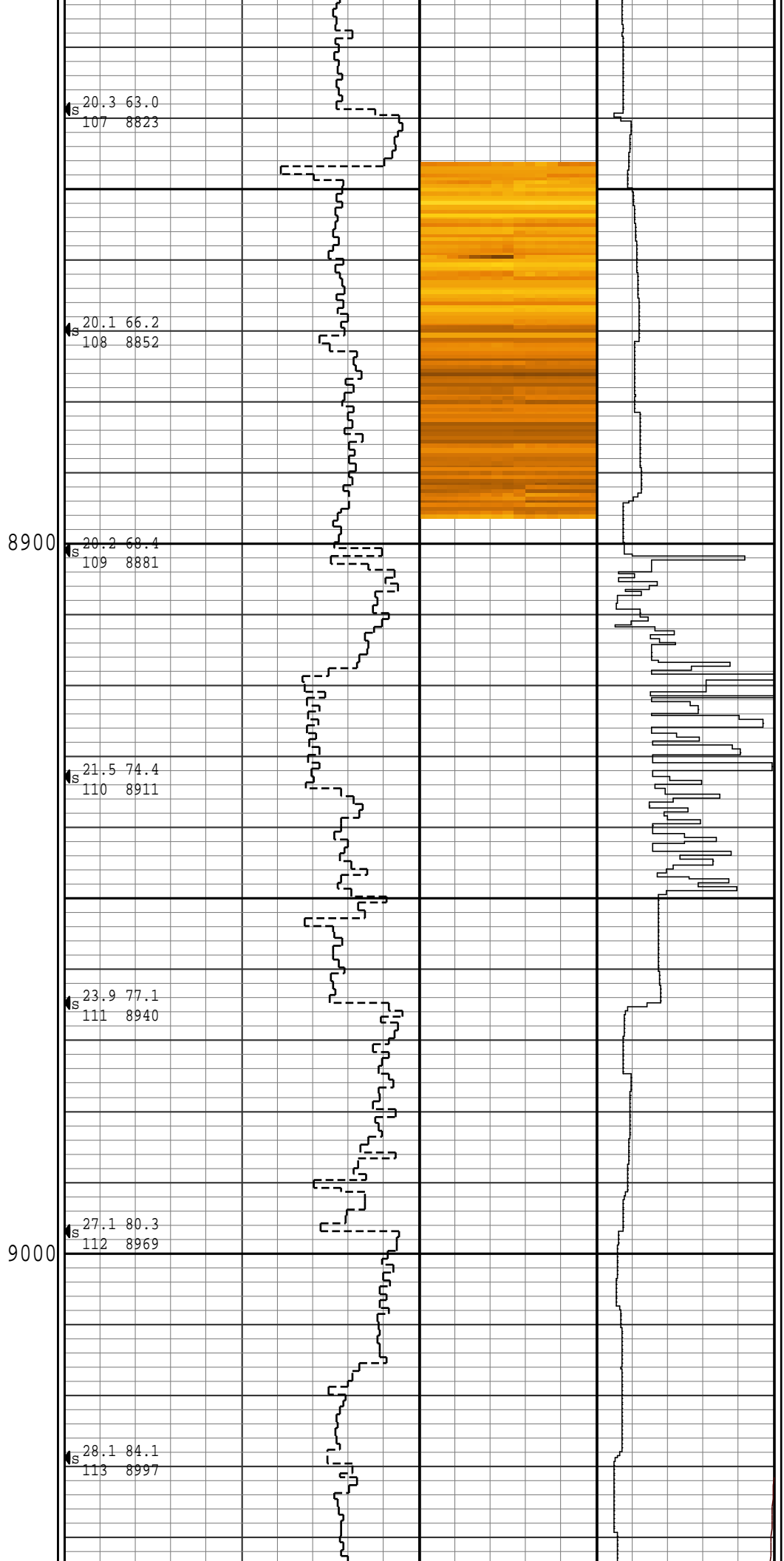
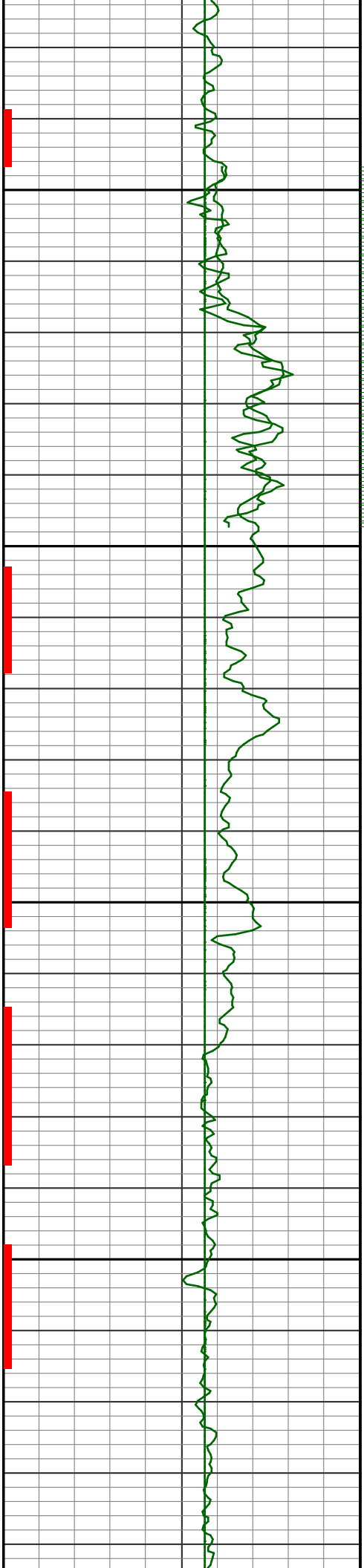
SEE REMARK #2

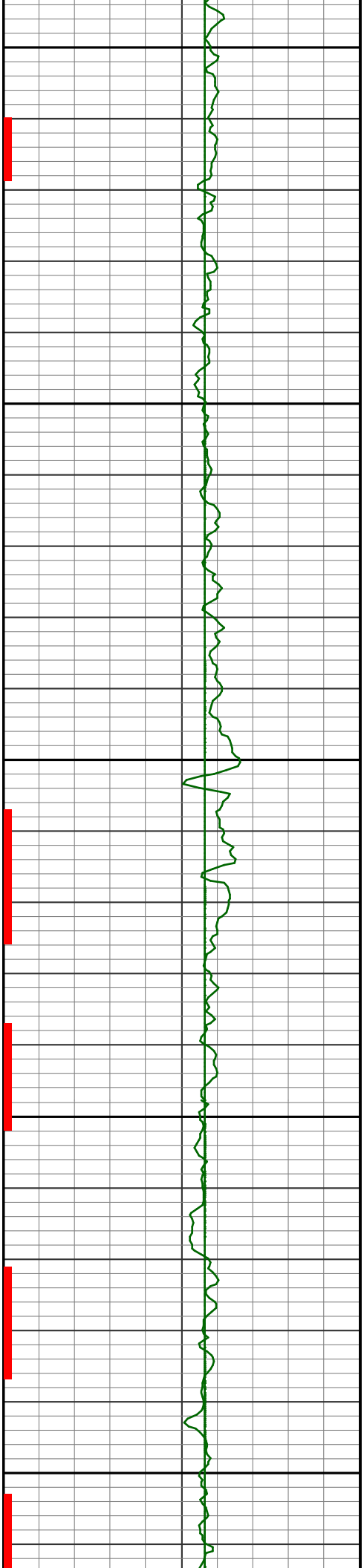
9 5/8"  
CASING





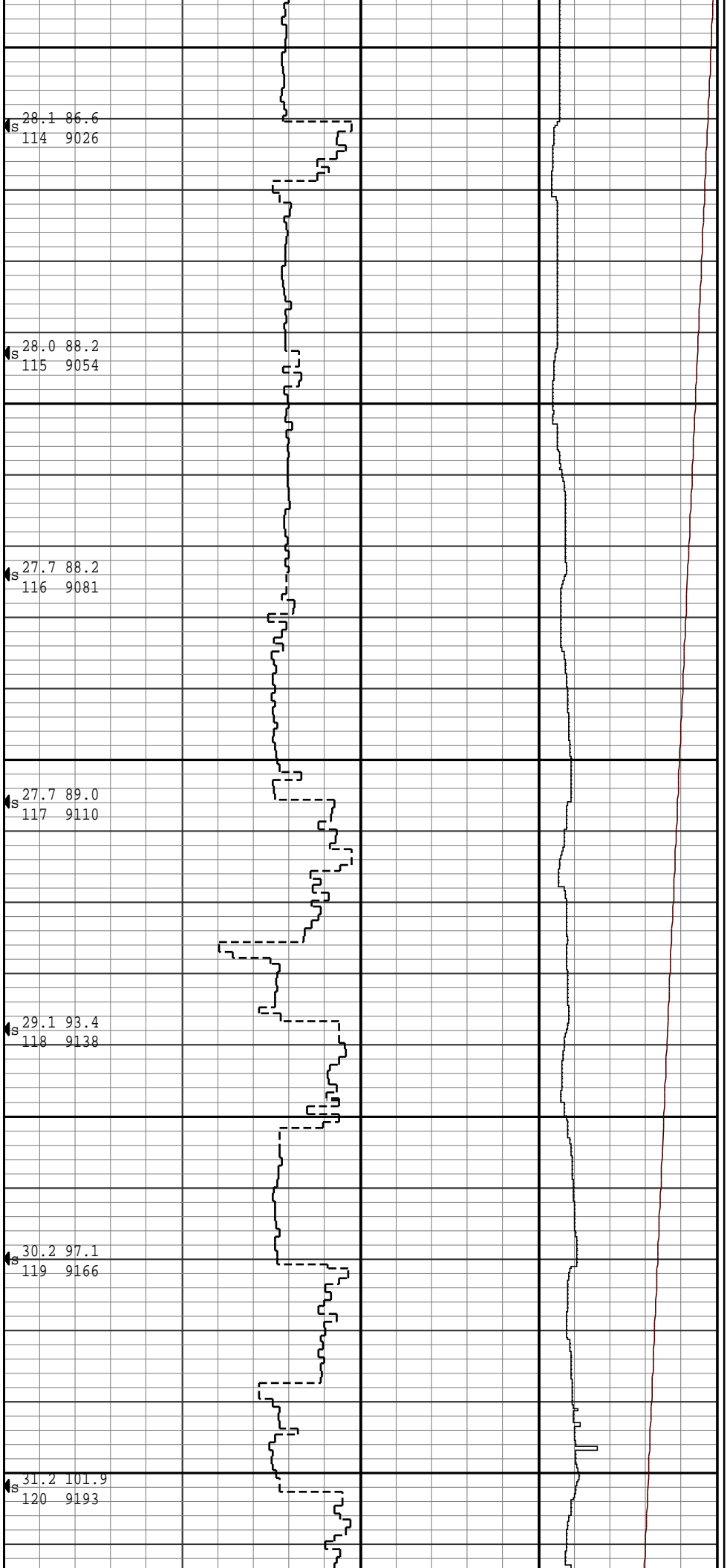


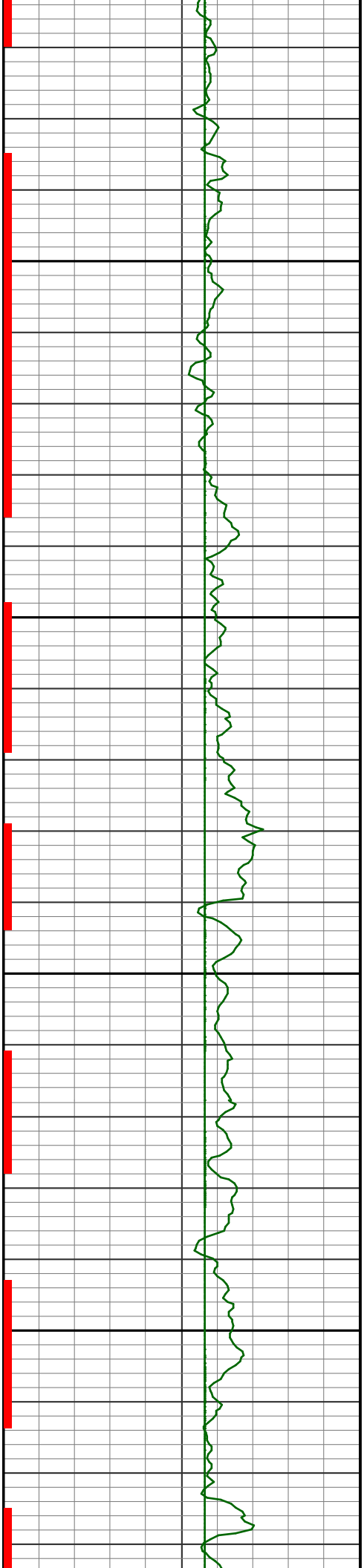




9100

9200





9300

S 33.3 105.4  
121 9220

S 35.5 108.2  
122 9246

S 37.9 111.7  
123 9271

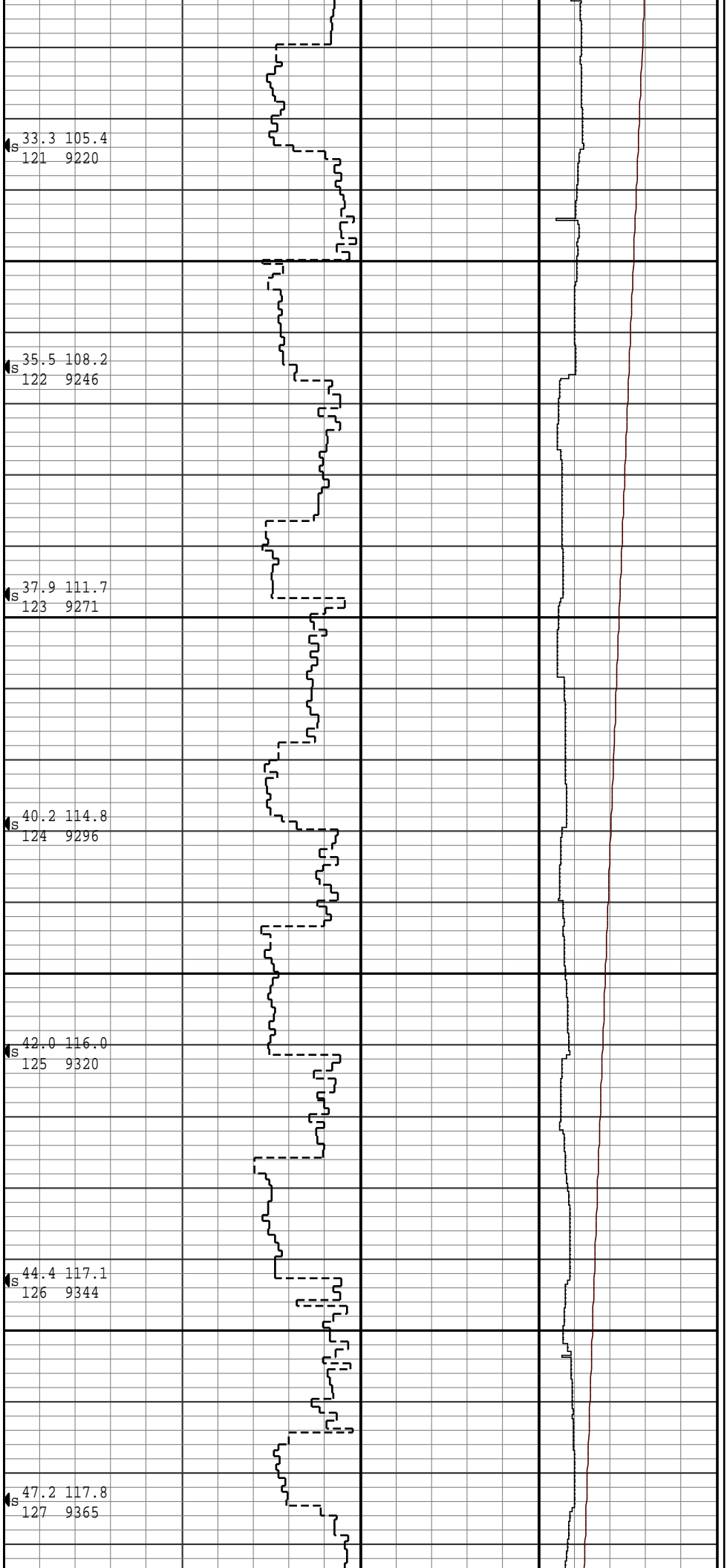
S 40.2 114.8  
124 9296

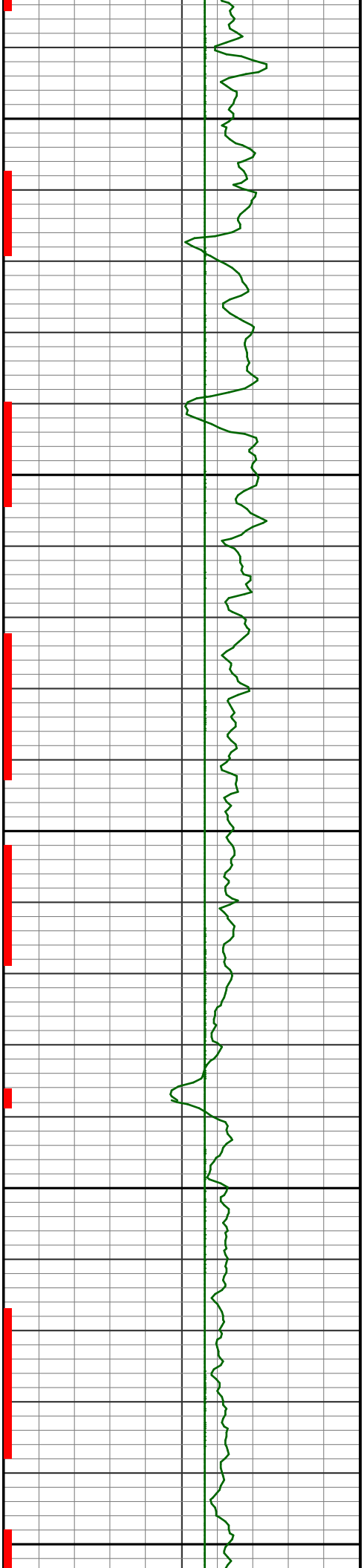
9400

S 42.0 116.0  
125 9320

S 44.4 117.1  
126 9344

S 47.2 117.8  
127 9365





9500

48.9 118.7  
128 9387

50.4 118.9  
129 9407

53.2 119.0  
130 9427

9600

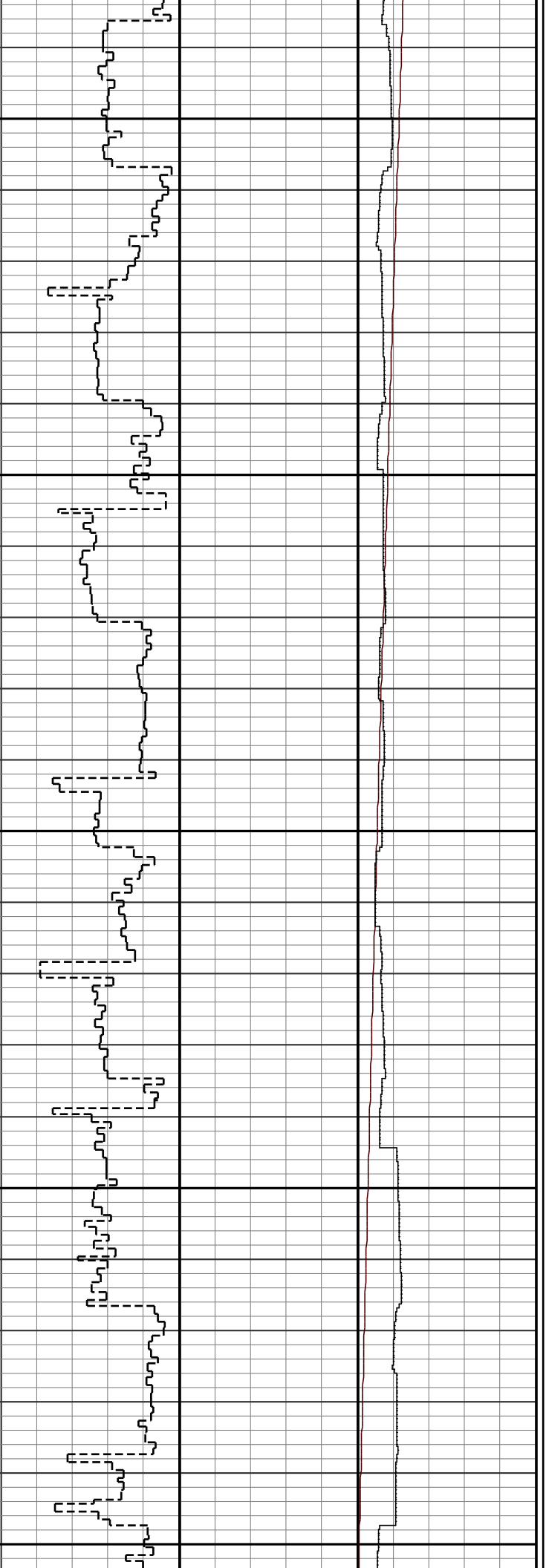
56.9 121.0  
131 9445

59.1 122.2  
132 9462

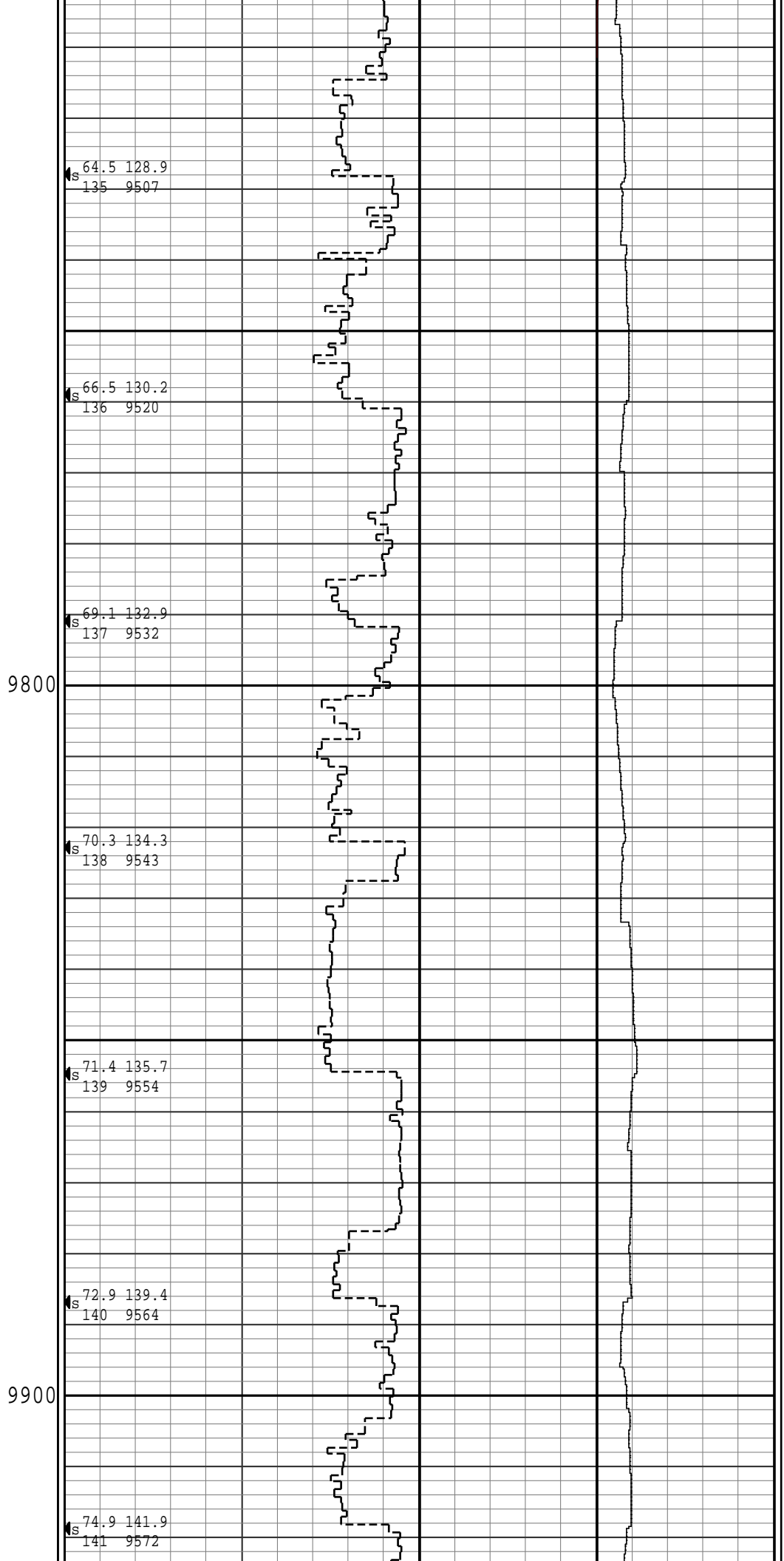
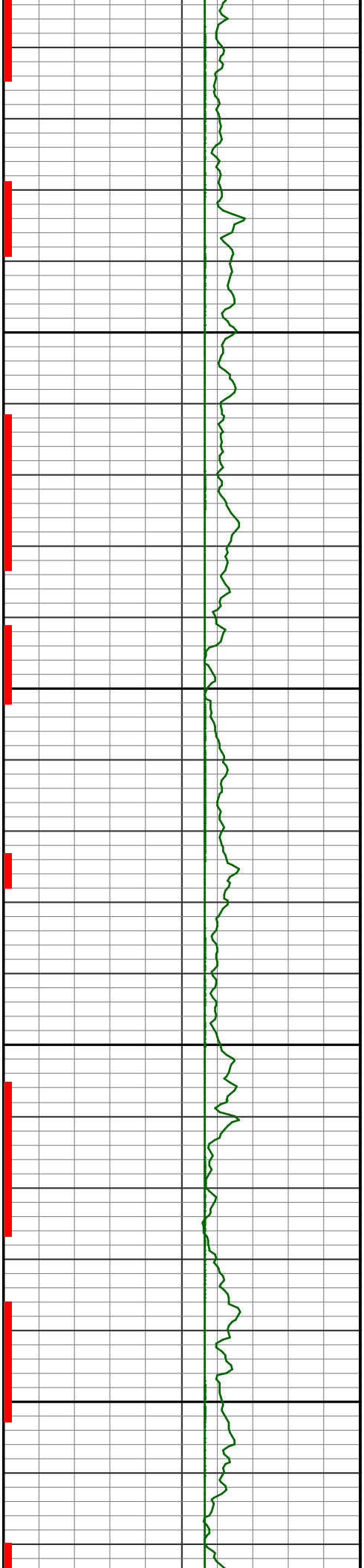
60.4 123.6  
133 9478

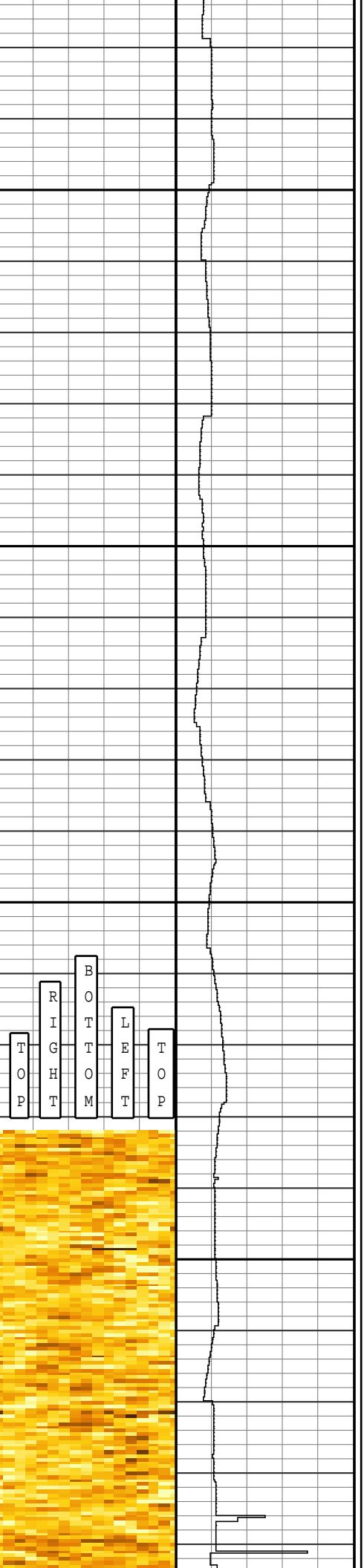
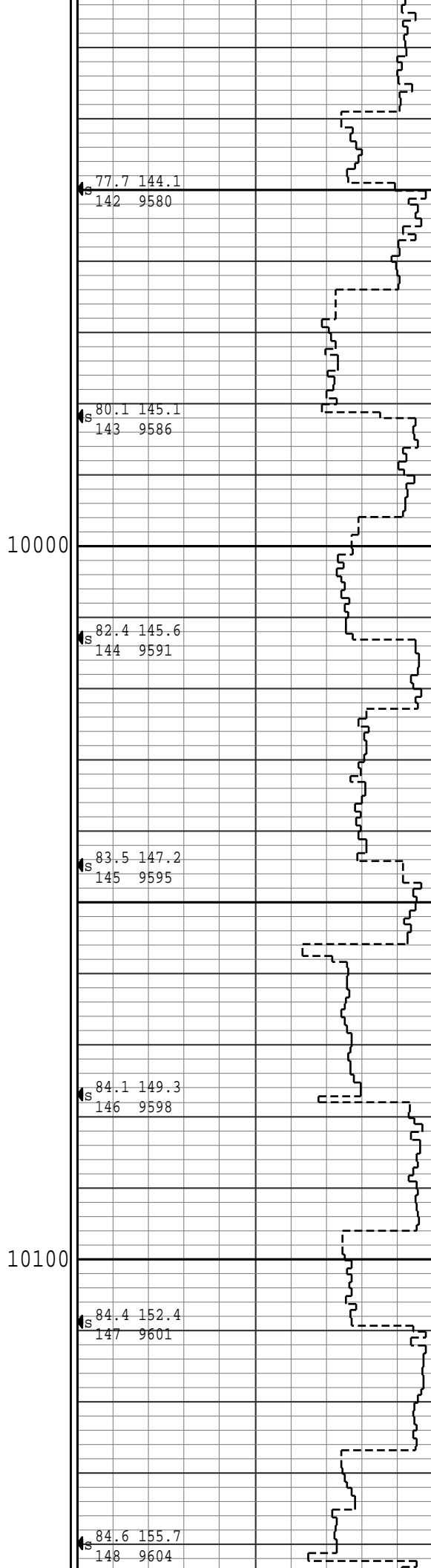
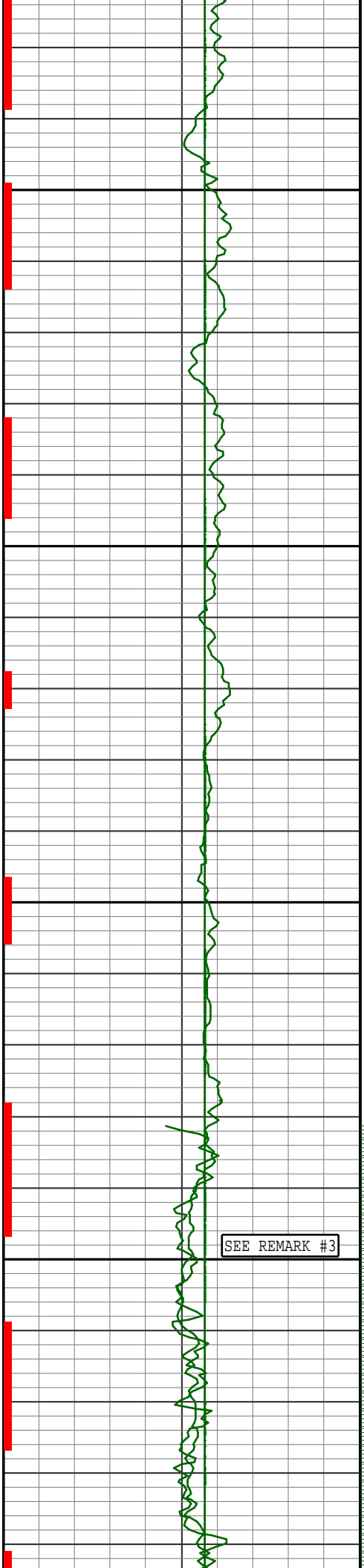
9700

62.3 127.4  
134 9493



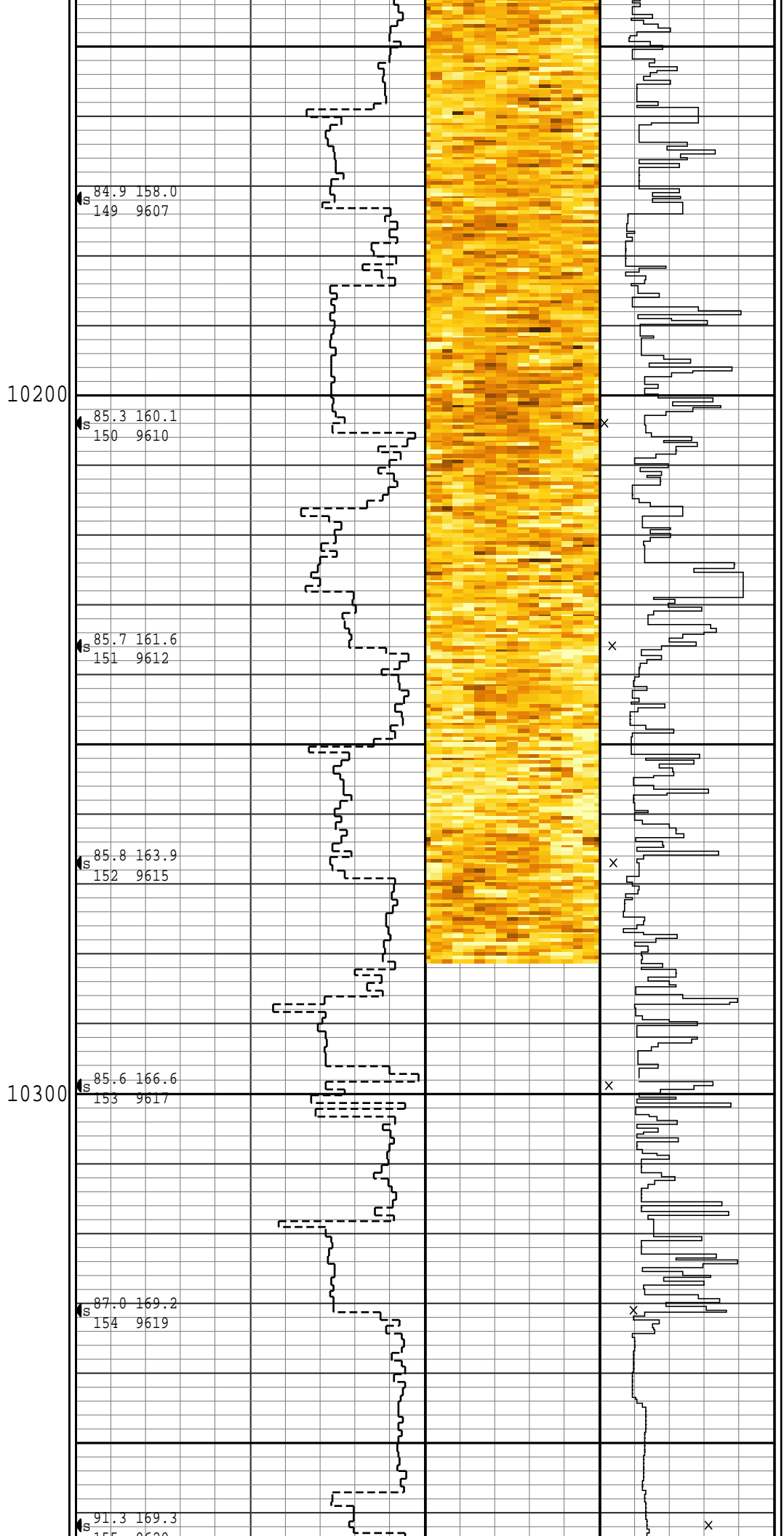
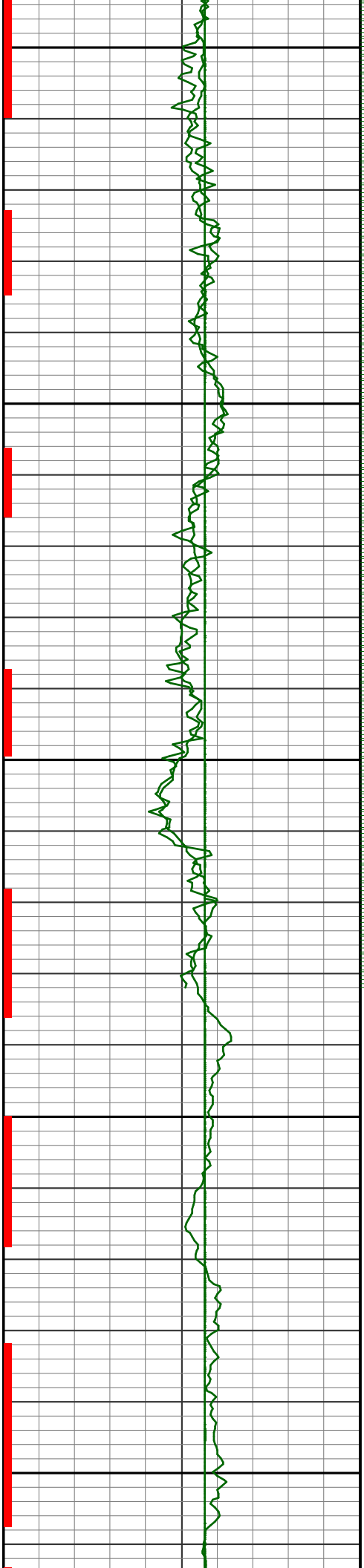


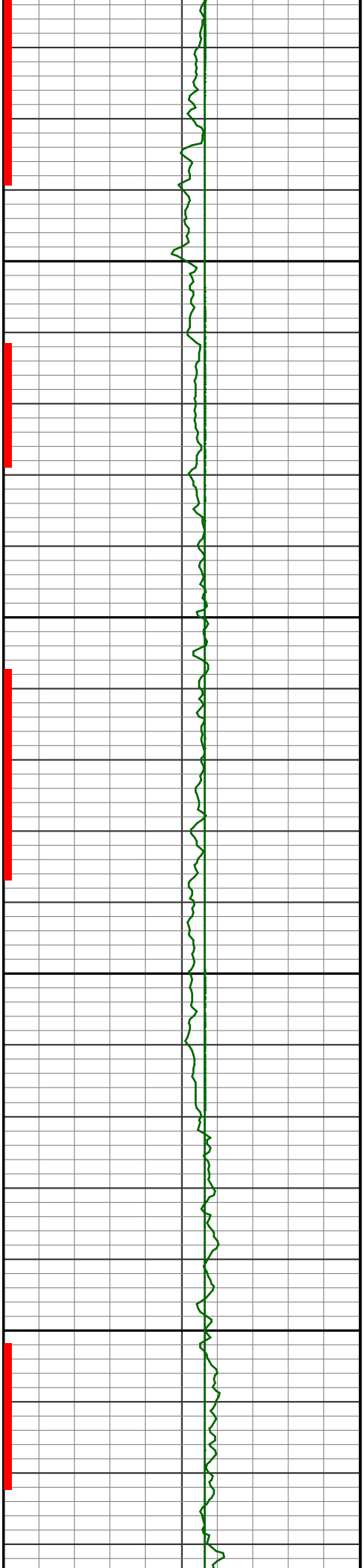




SEE REMARK #3

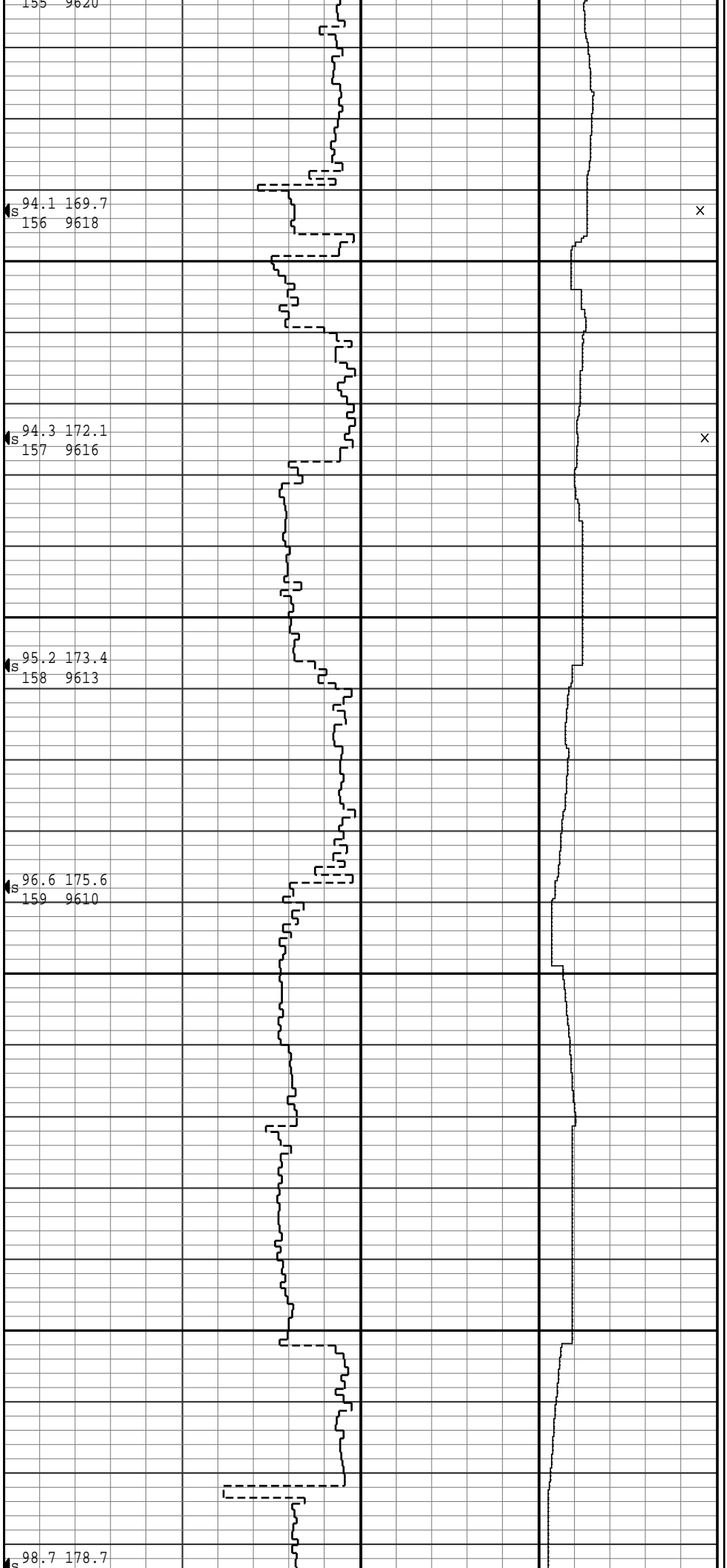
TO  
RIGHT  
BOTTOM  
LEFT  
TOP

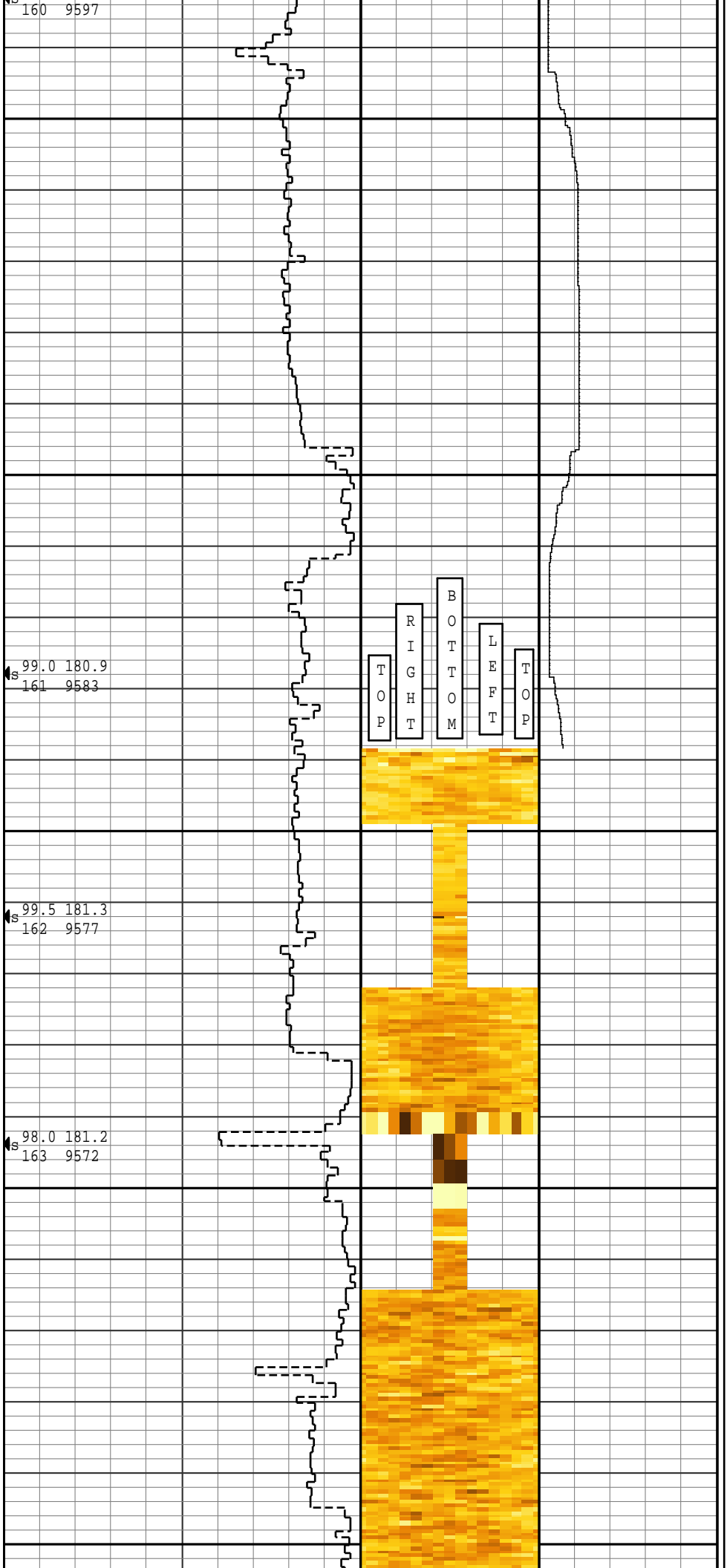
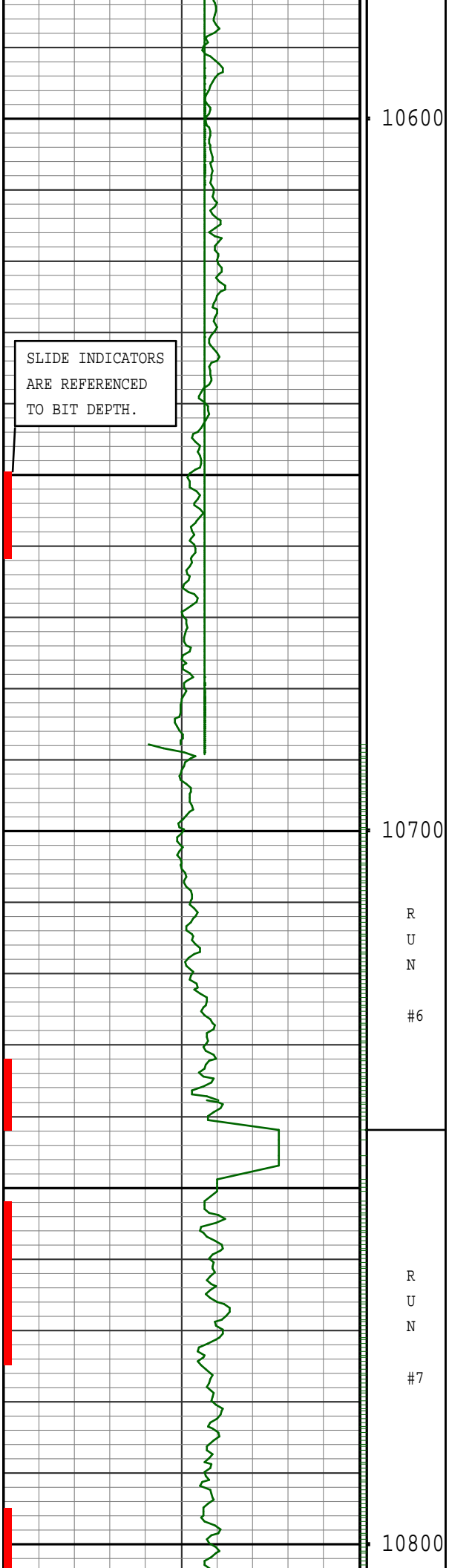


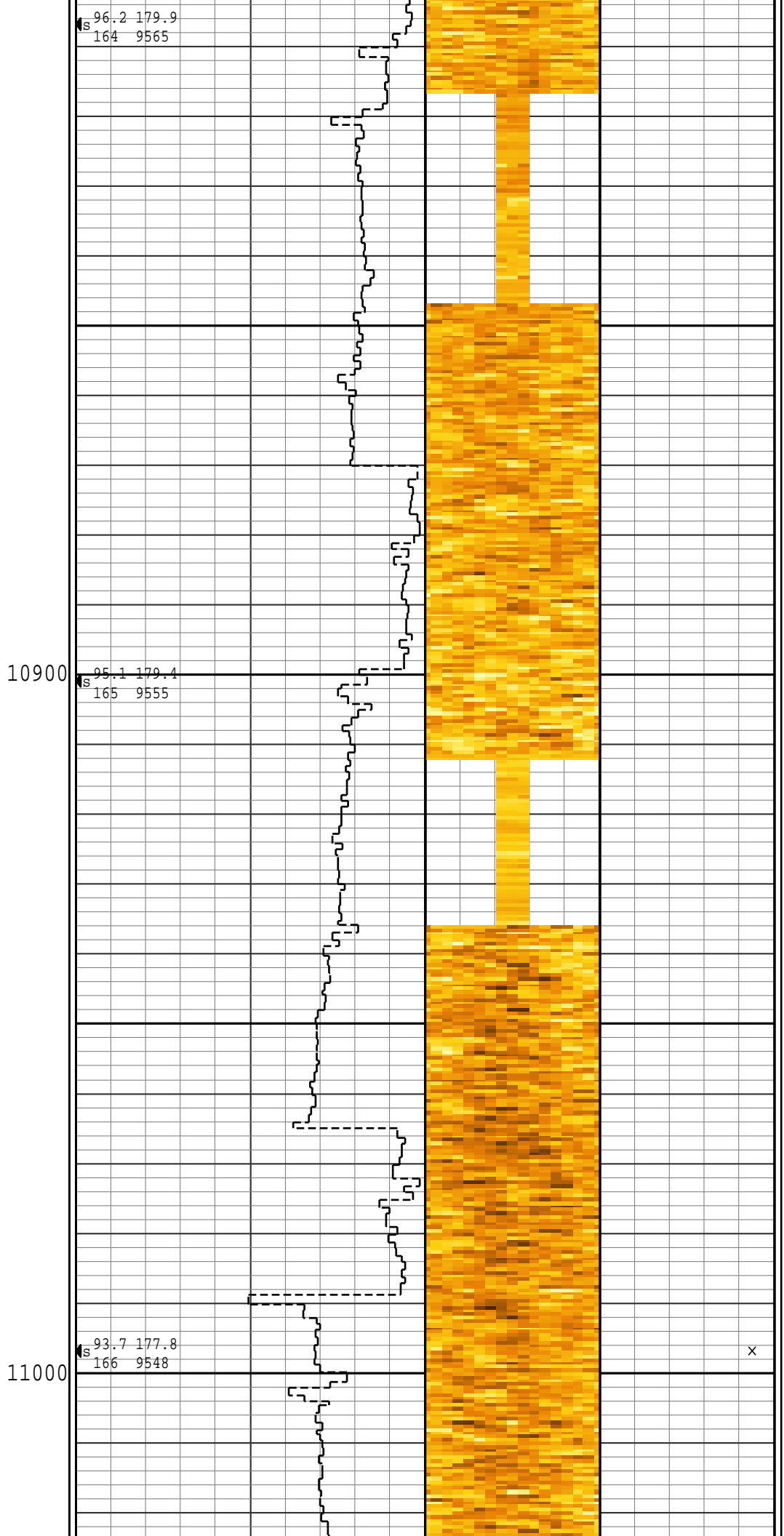
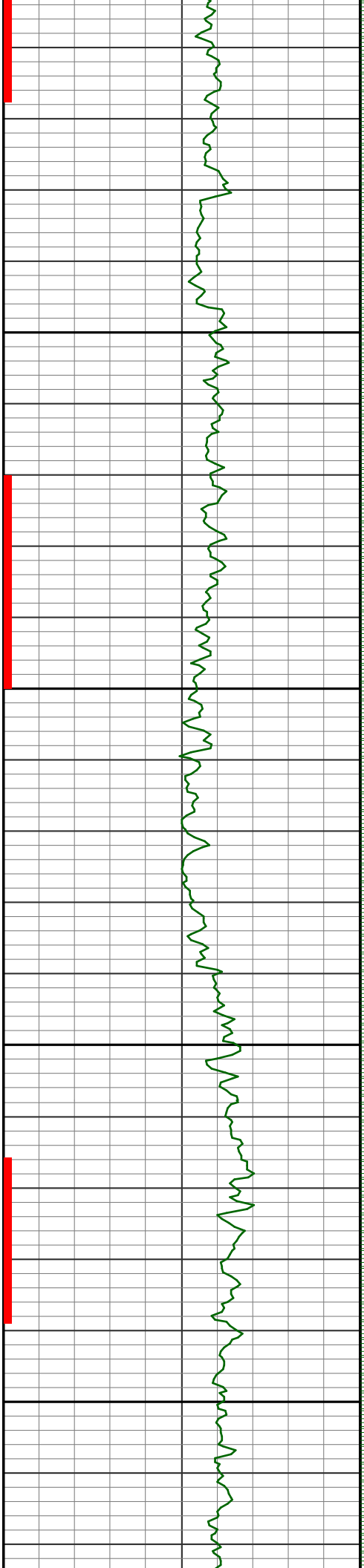


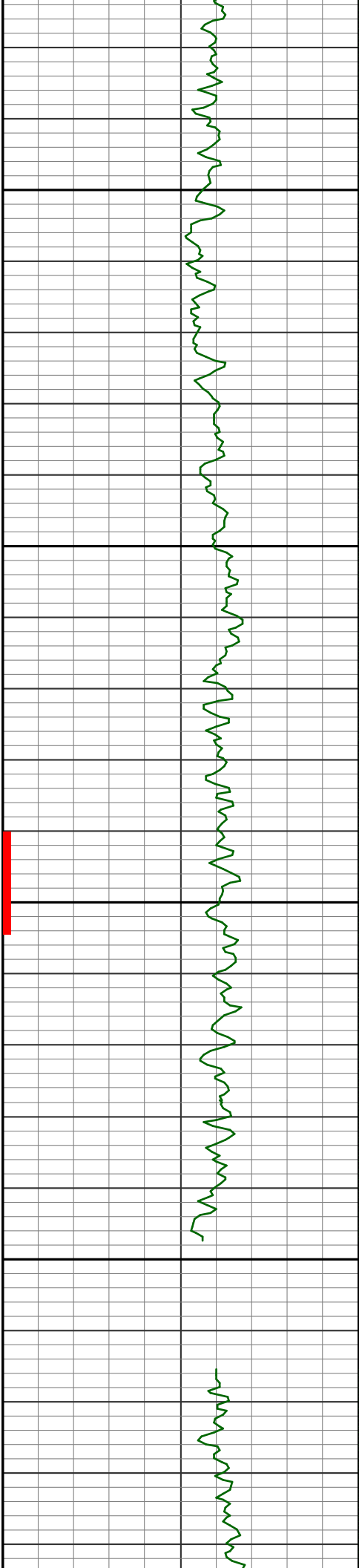
10400

10500



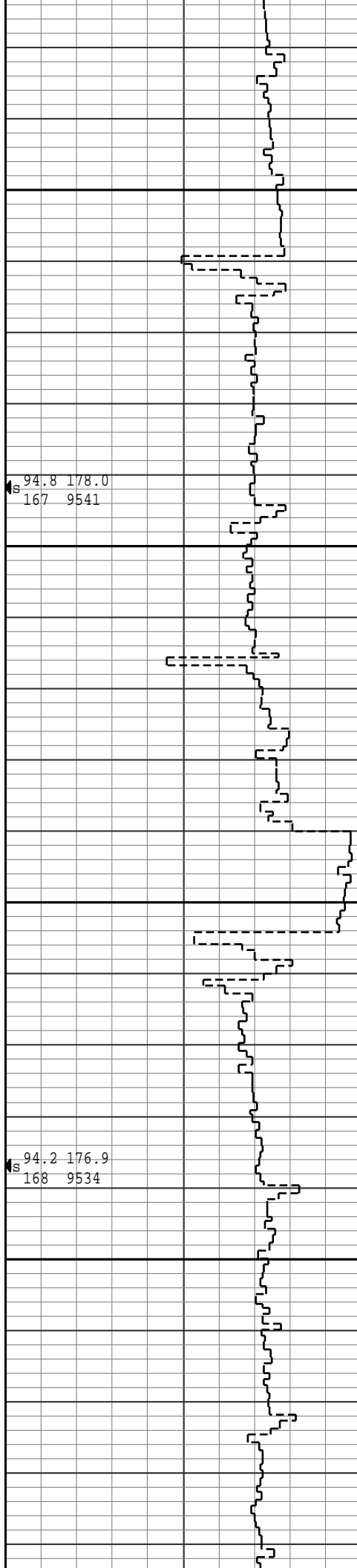






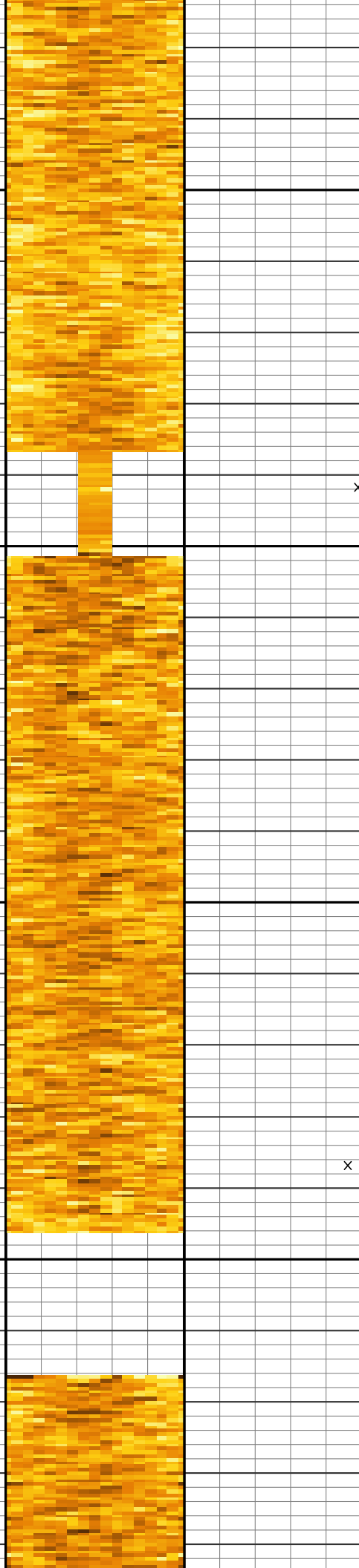
11100

11200



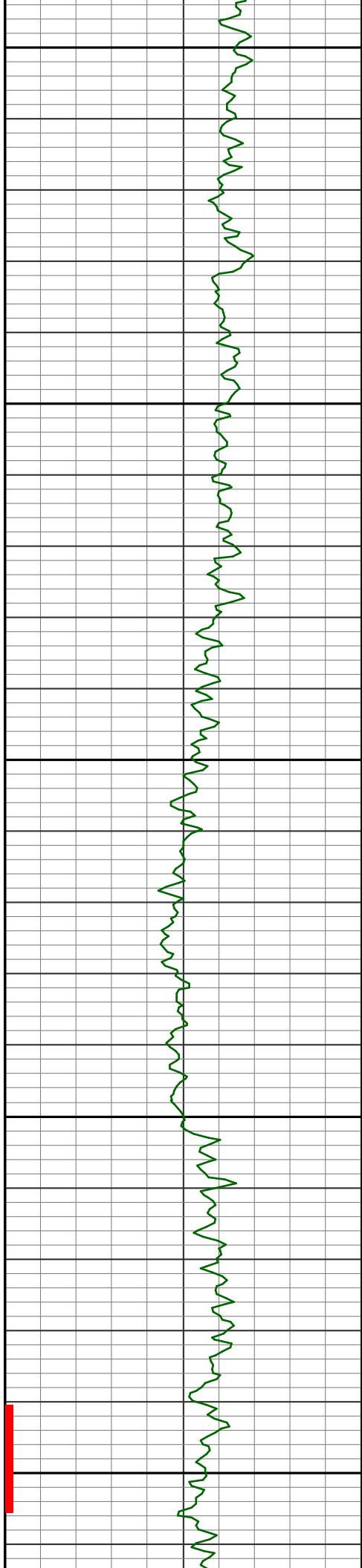
94.8 178.0  
167 9541

94.2 176.9  
168 9534

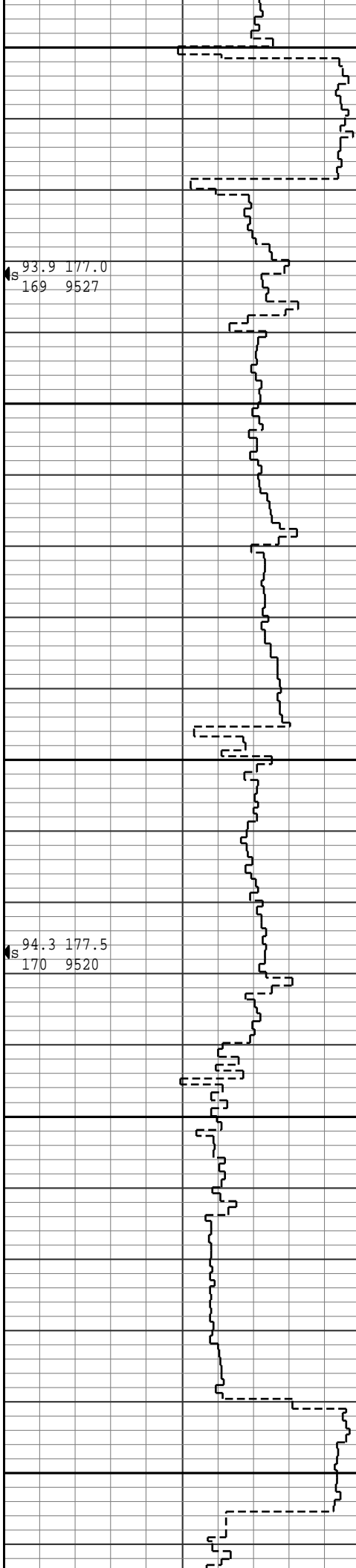


x

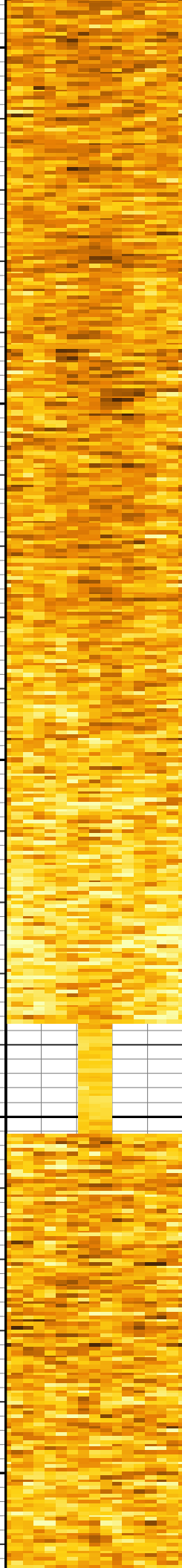
x



11300



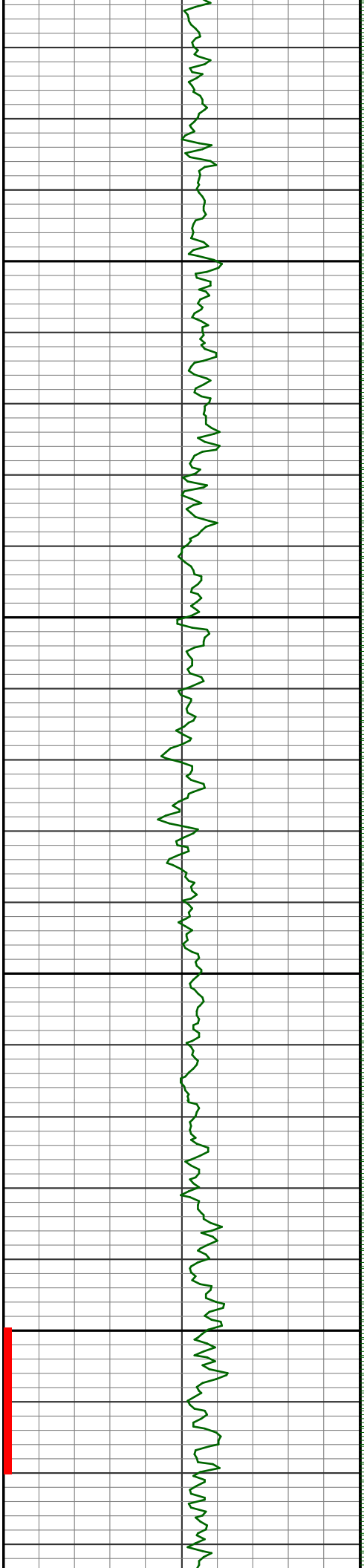
11400



x

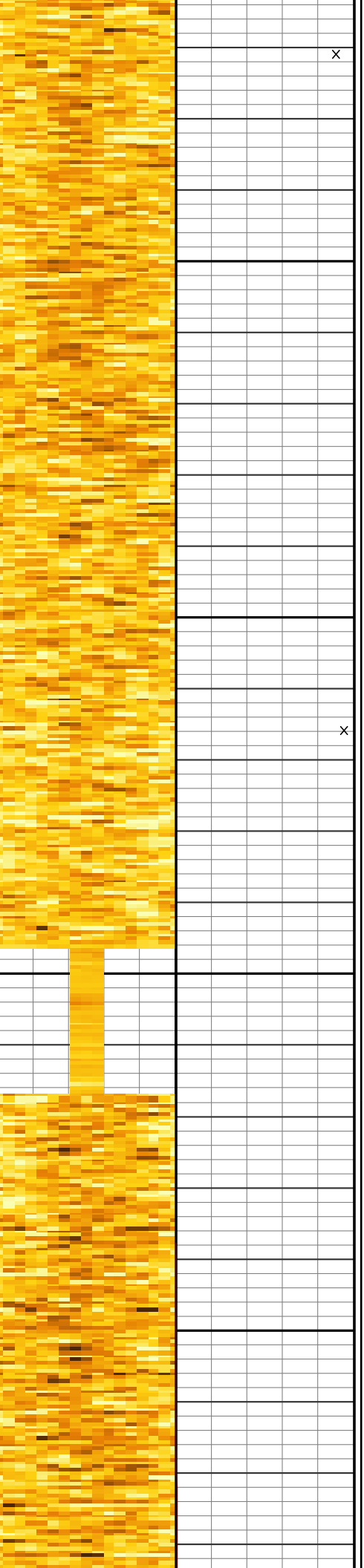
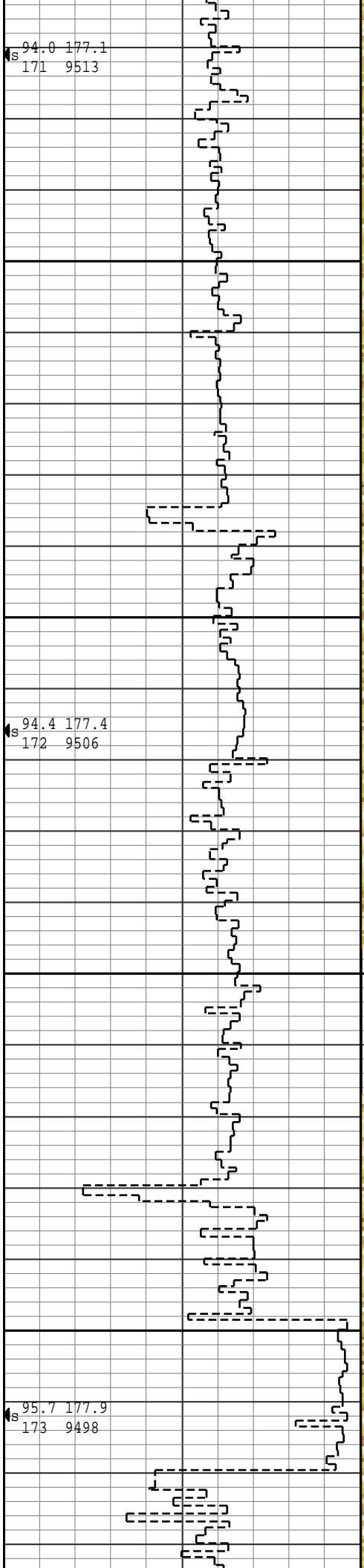
x





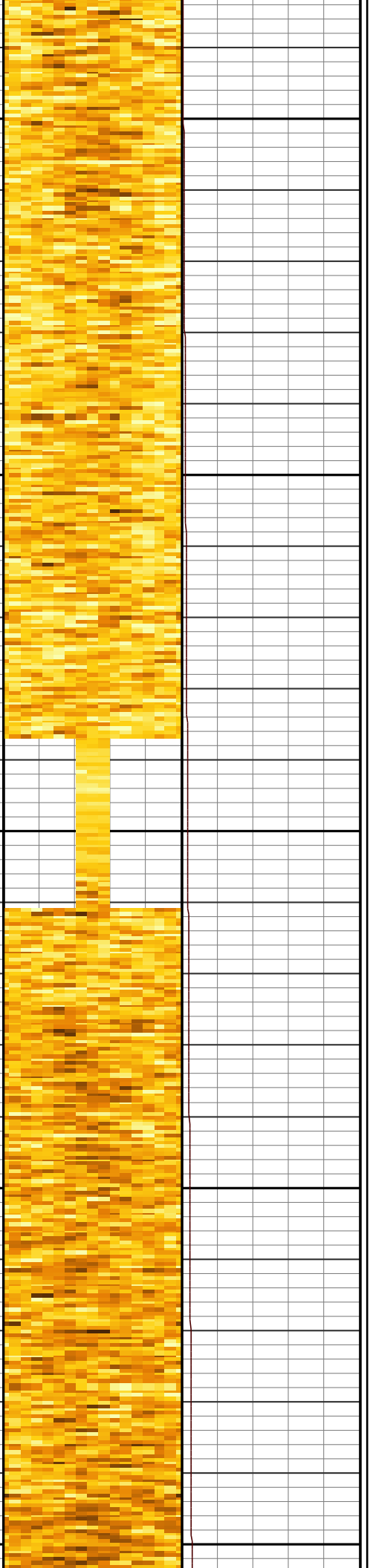
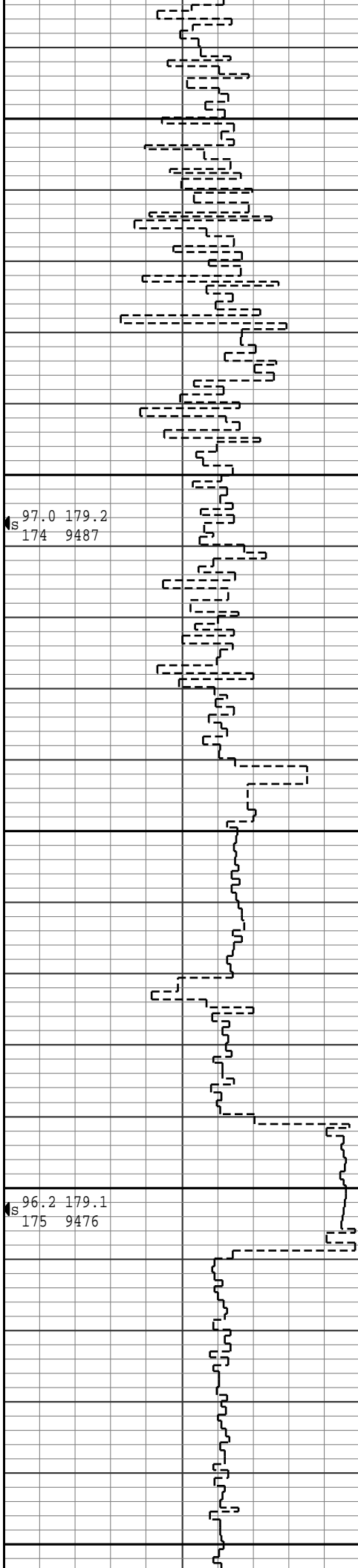
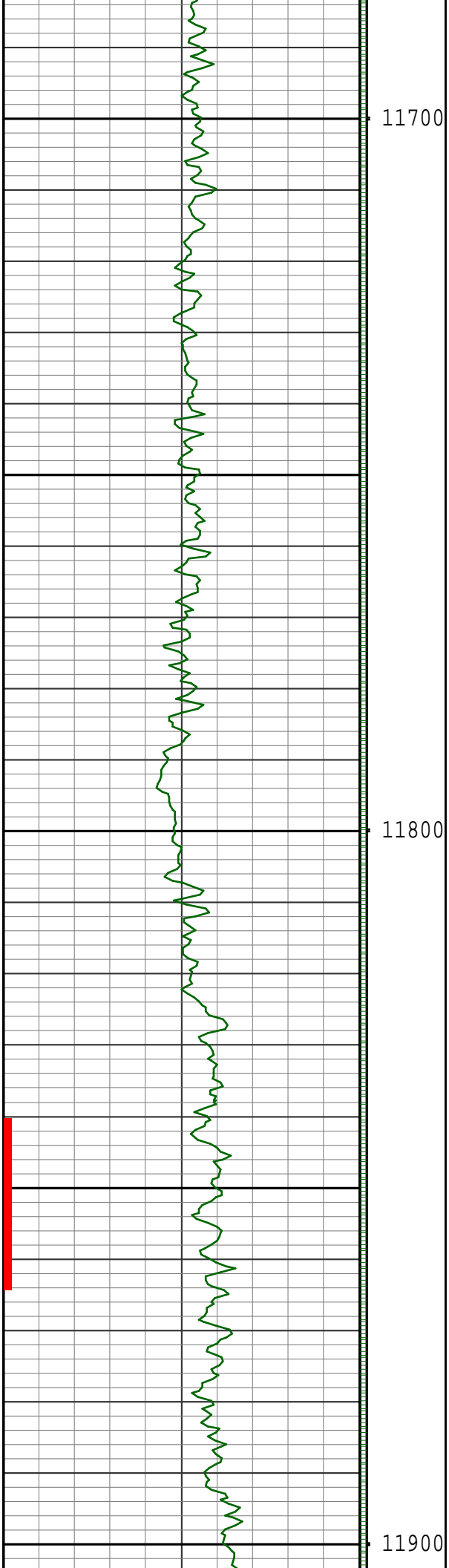
11500

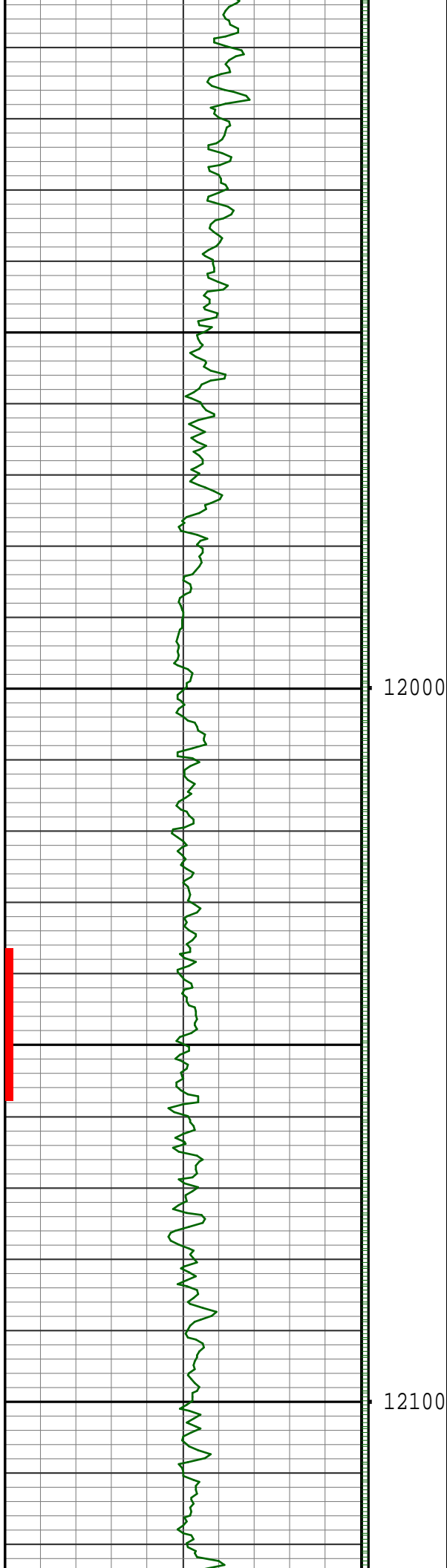
11600



x

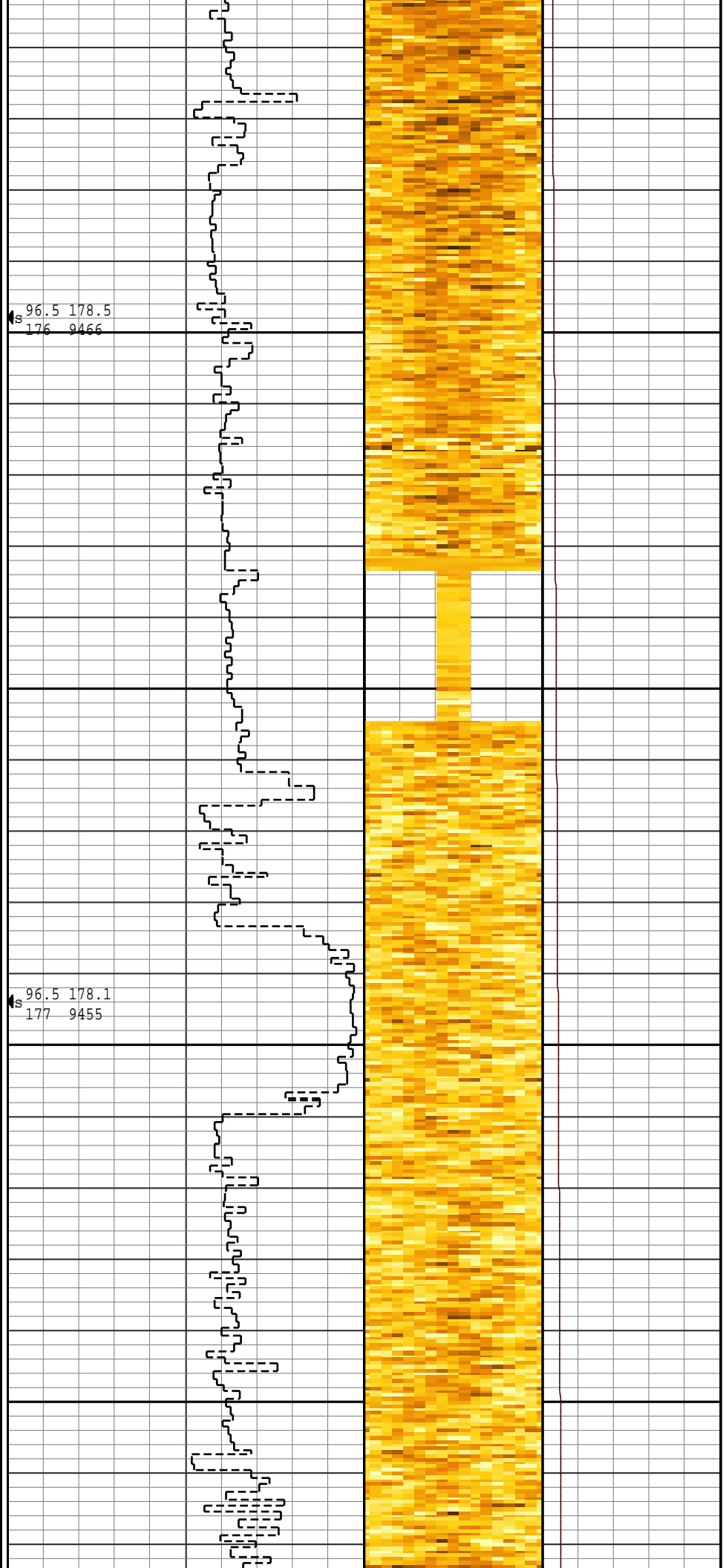
x

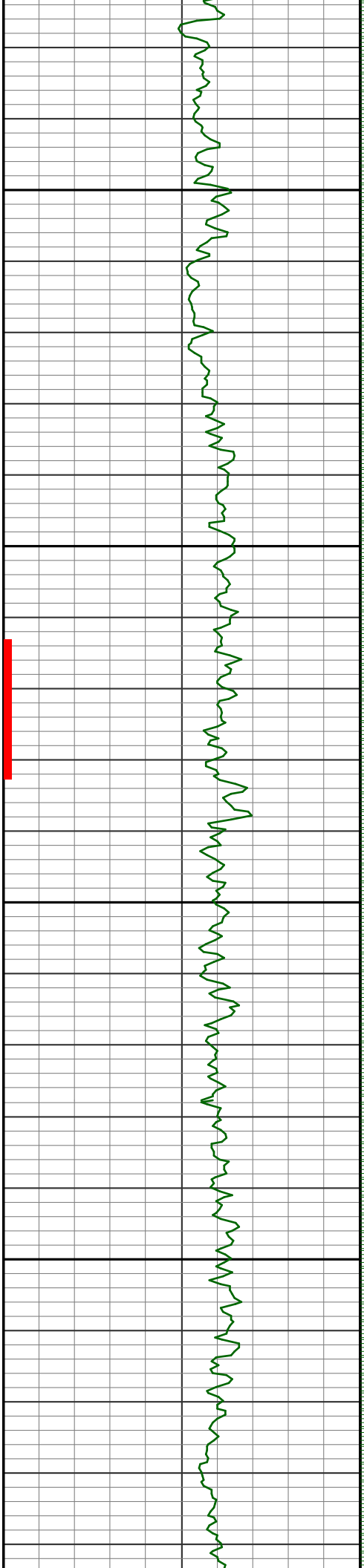




12000

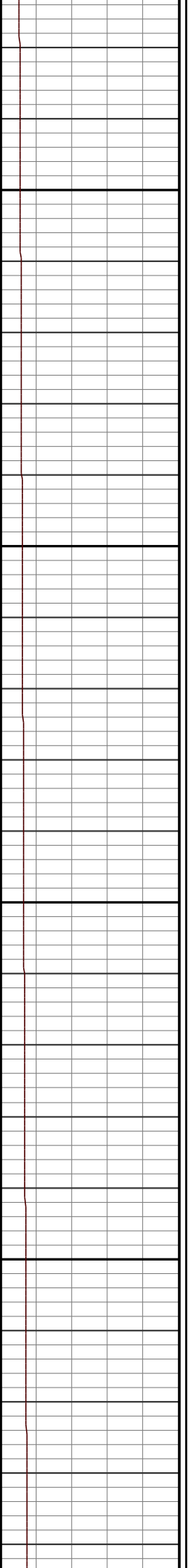
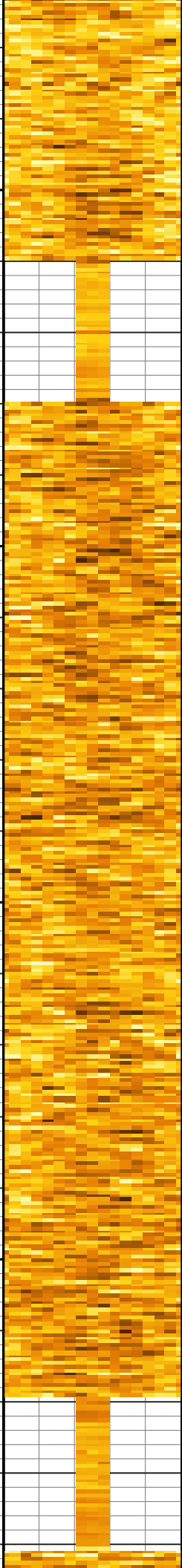
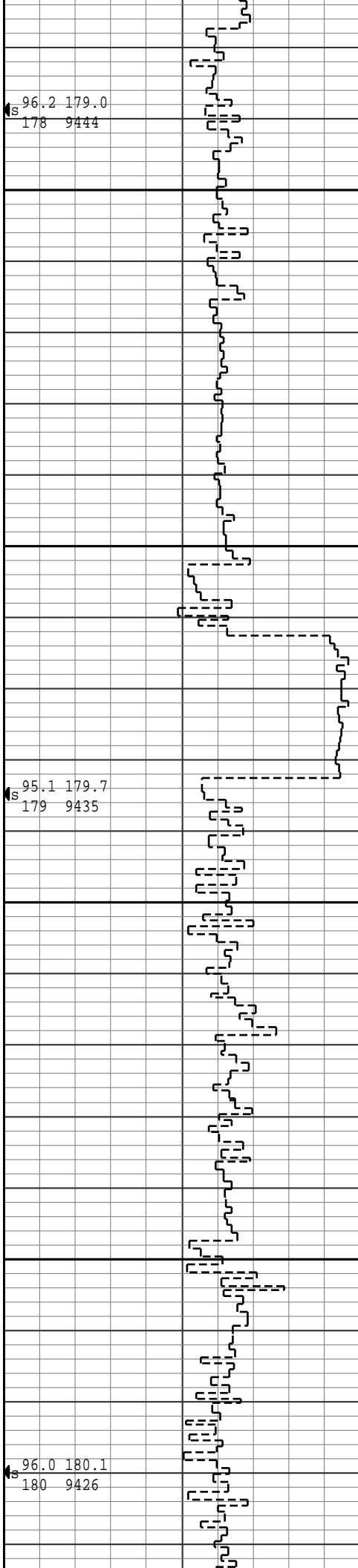
12100

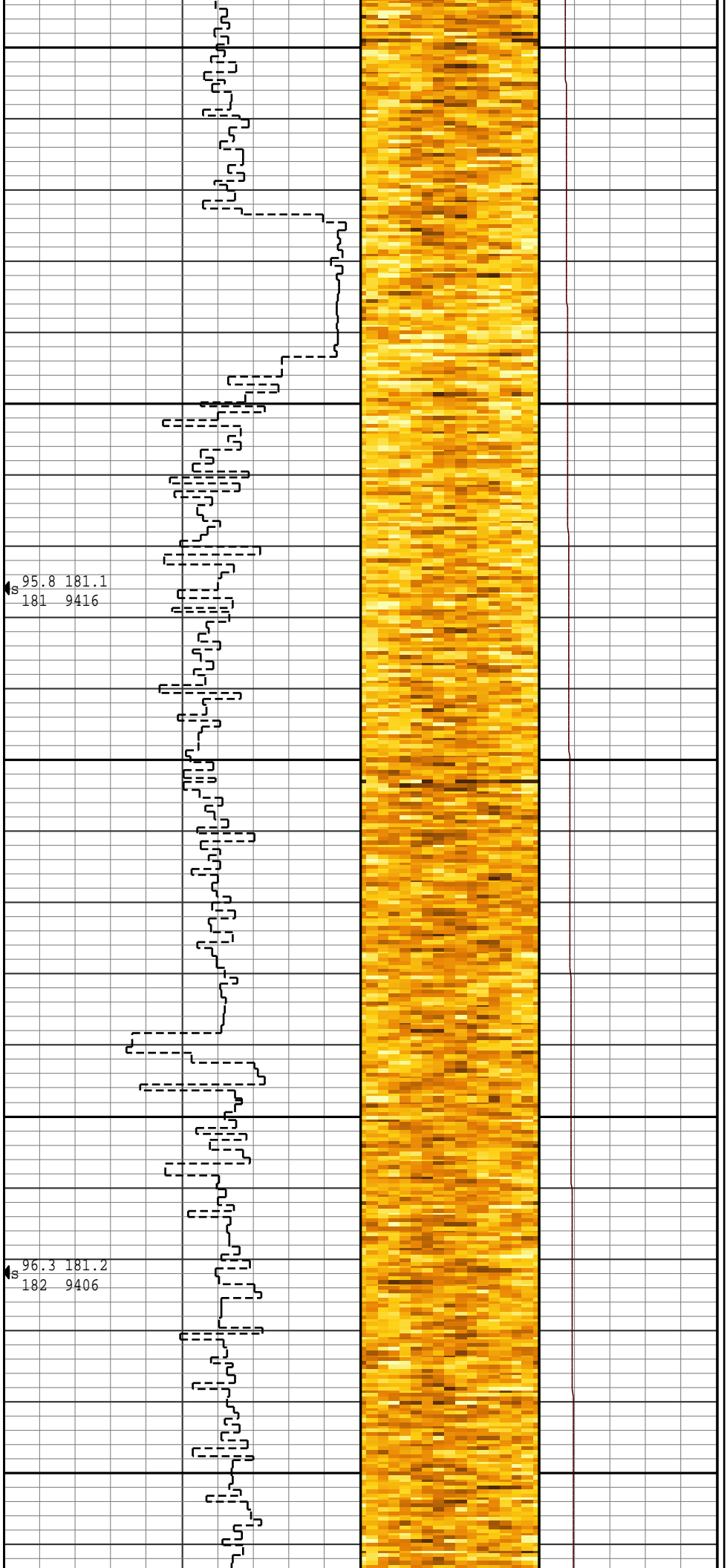
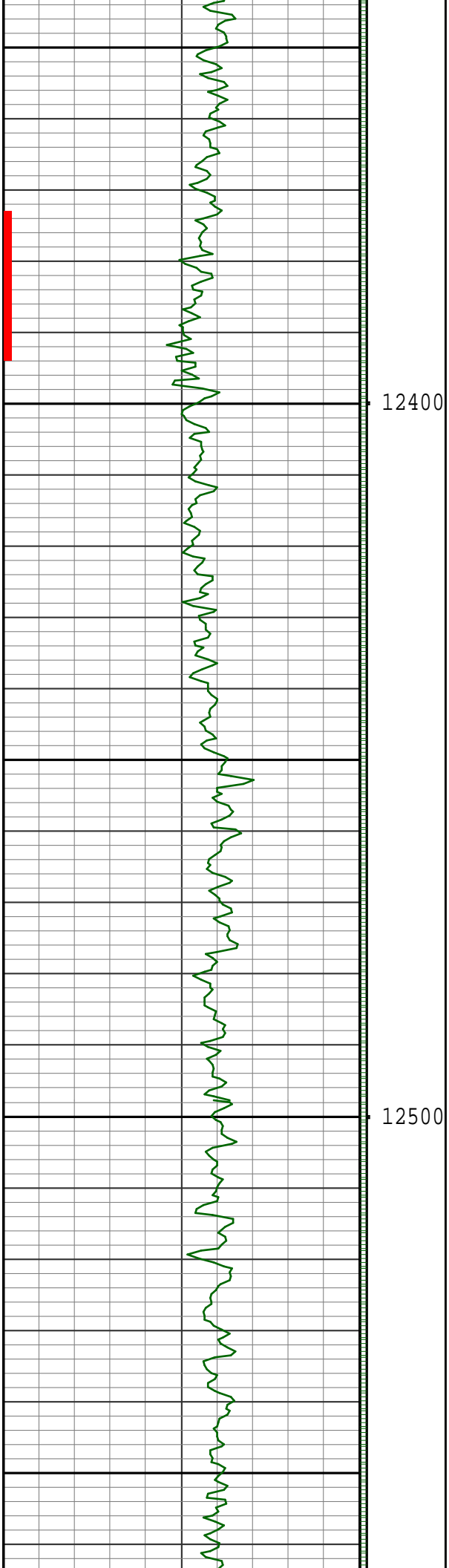


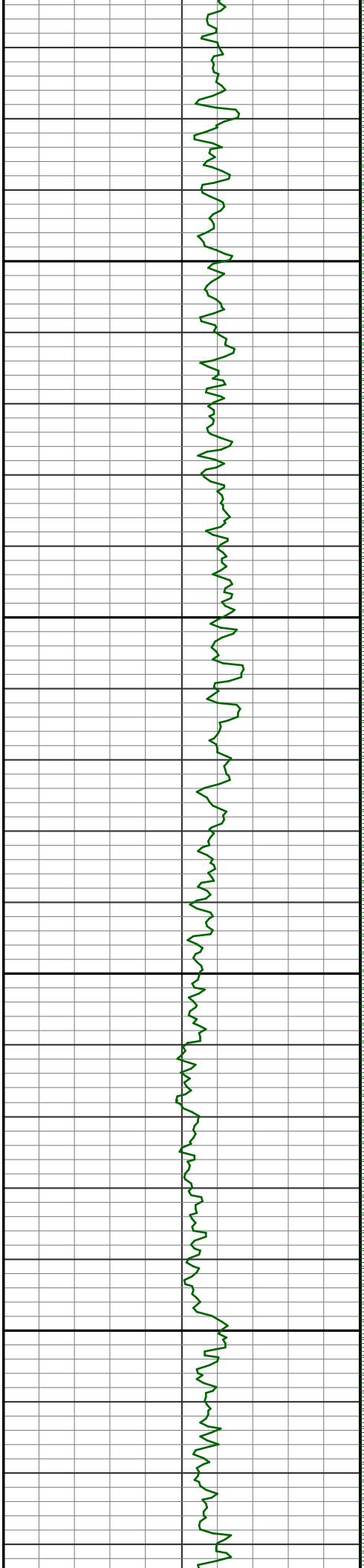


12200

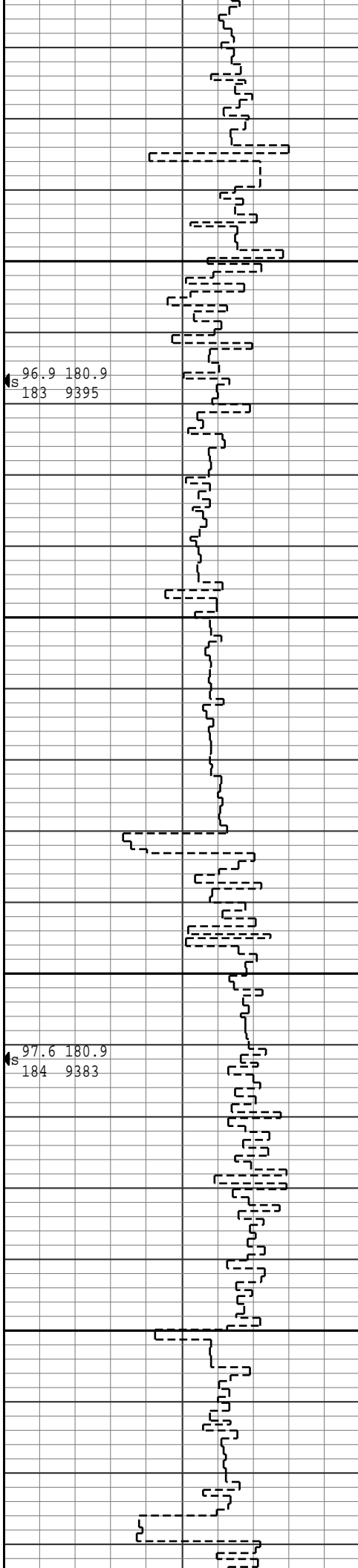
12300







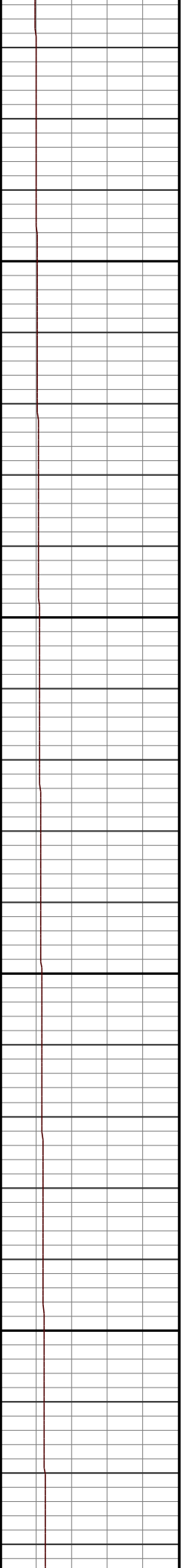
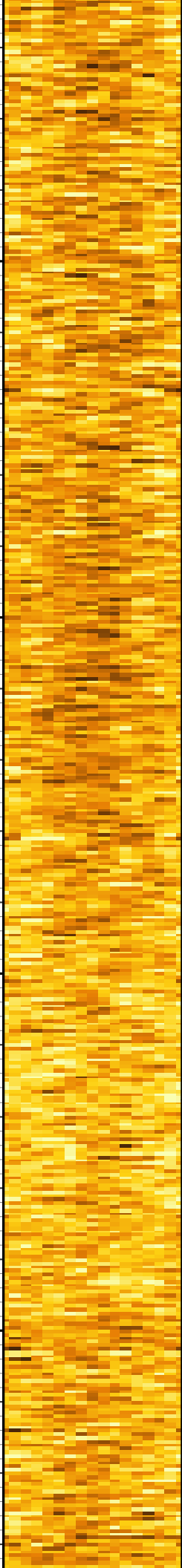
12600

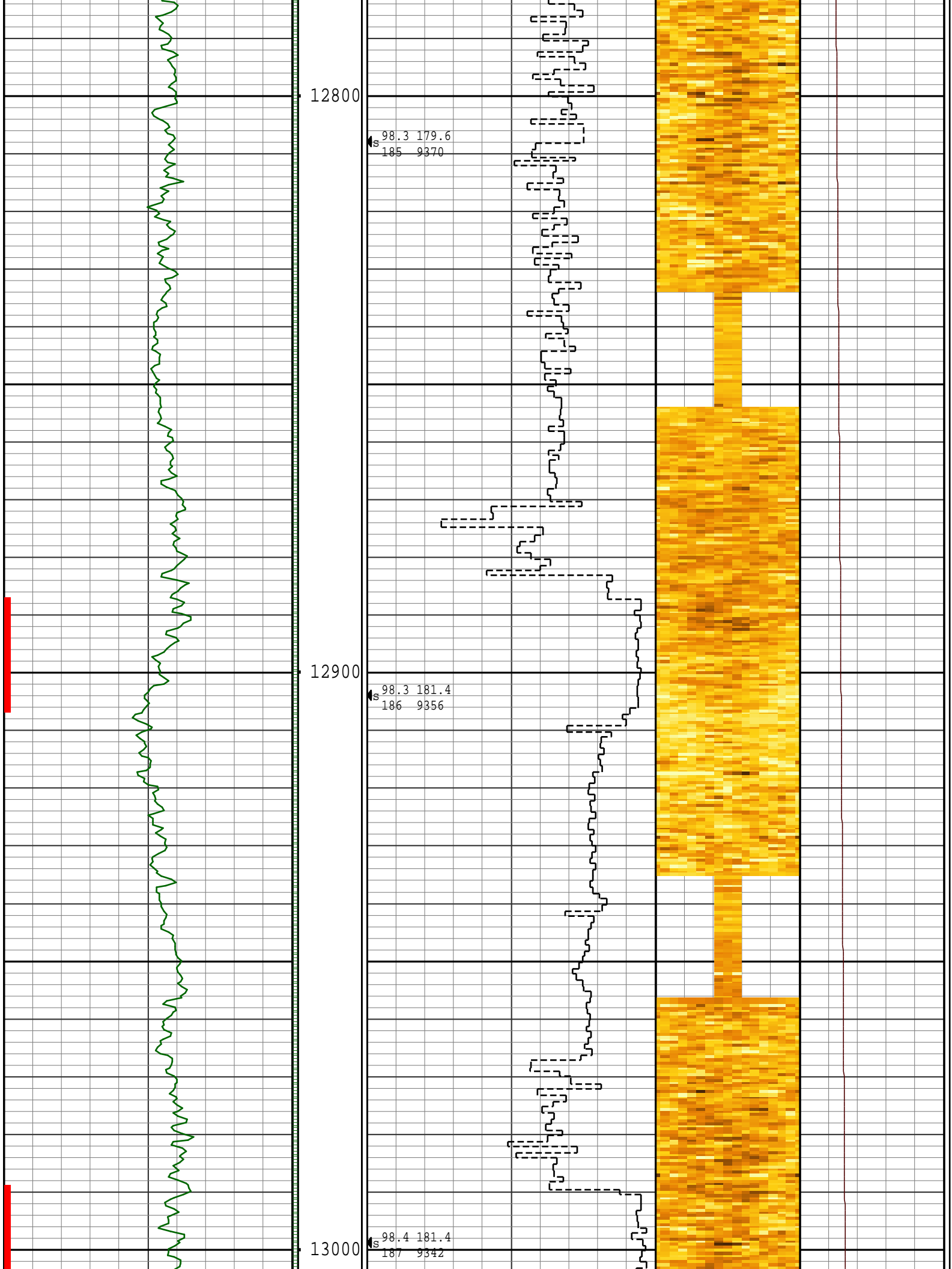


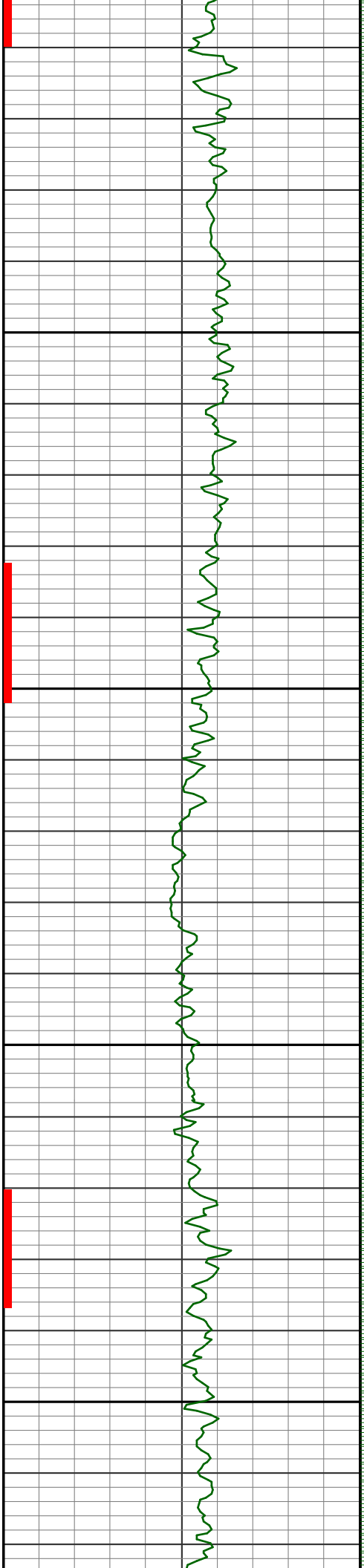
96.9 180.9  
183 9395

12700

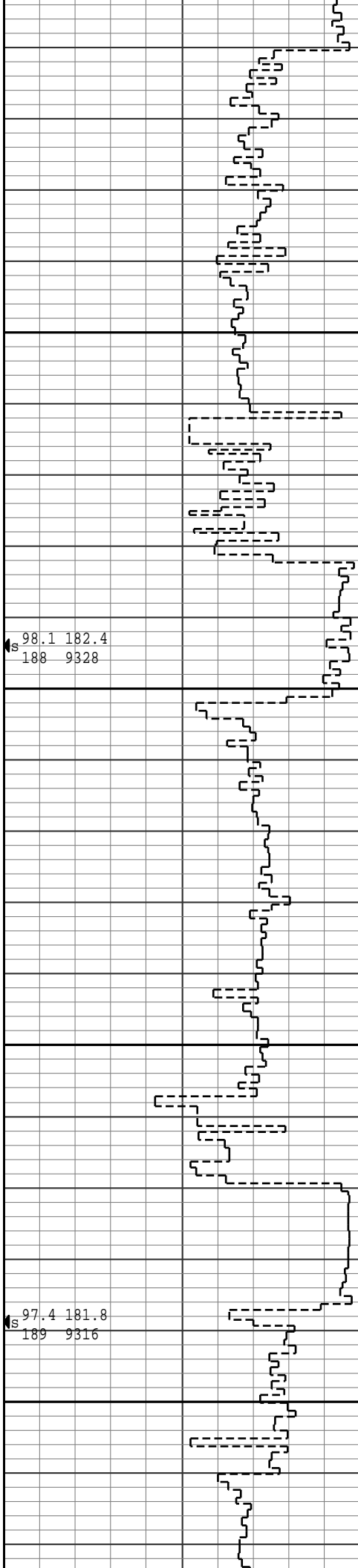
97.6 180.9  
184 9383



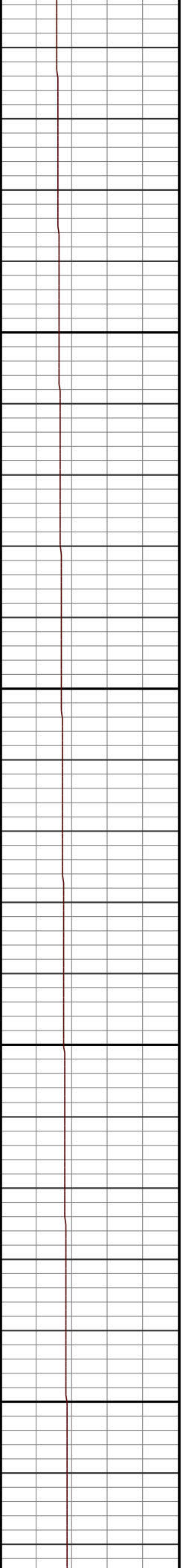
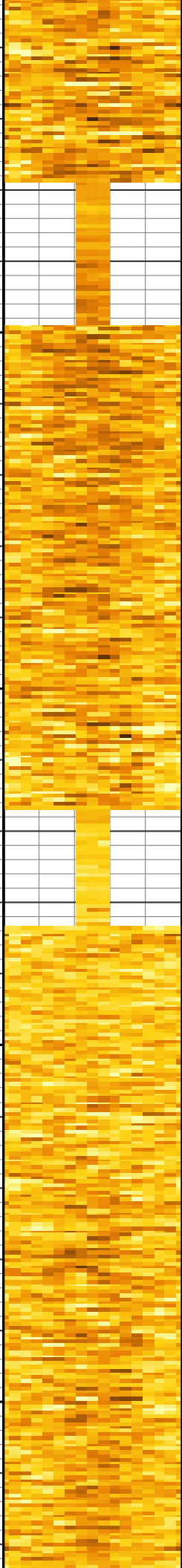




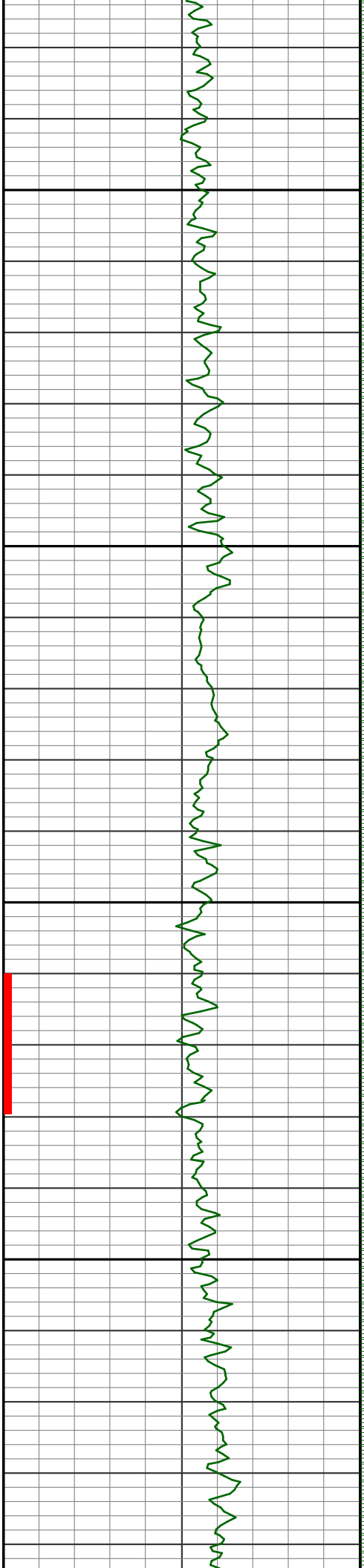
13100



13200

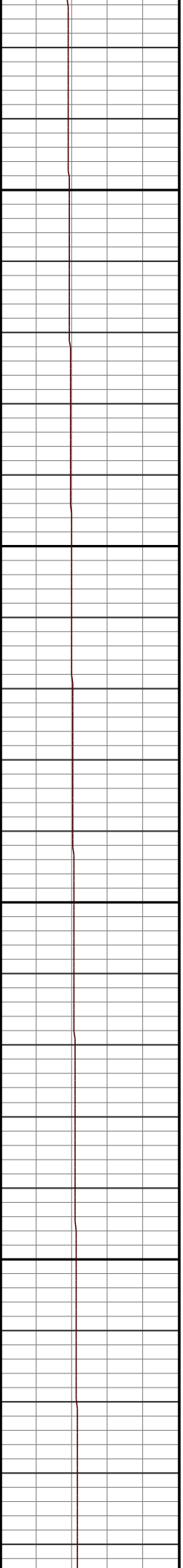
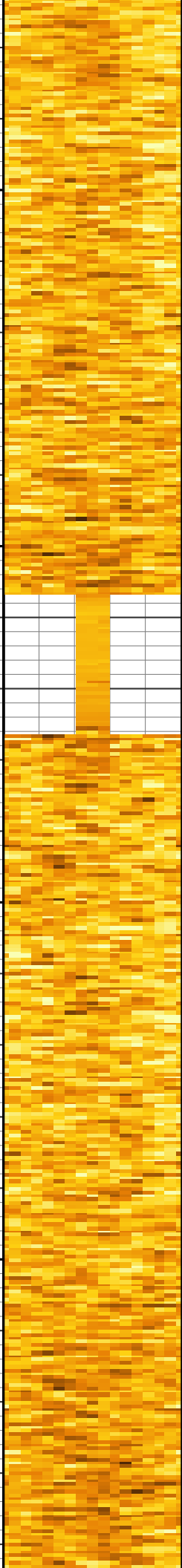
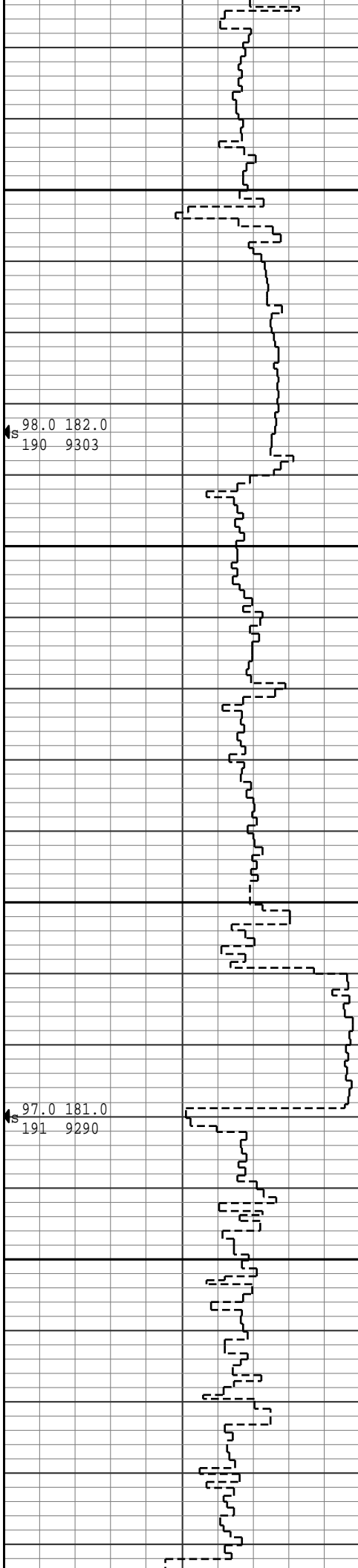


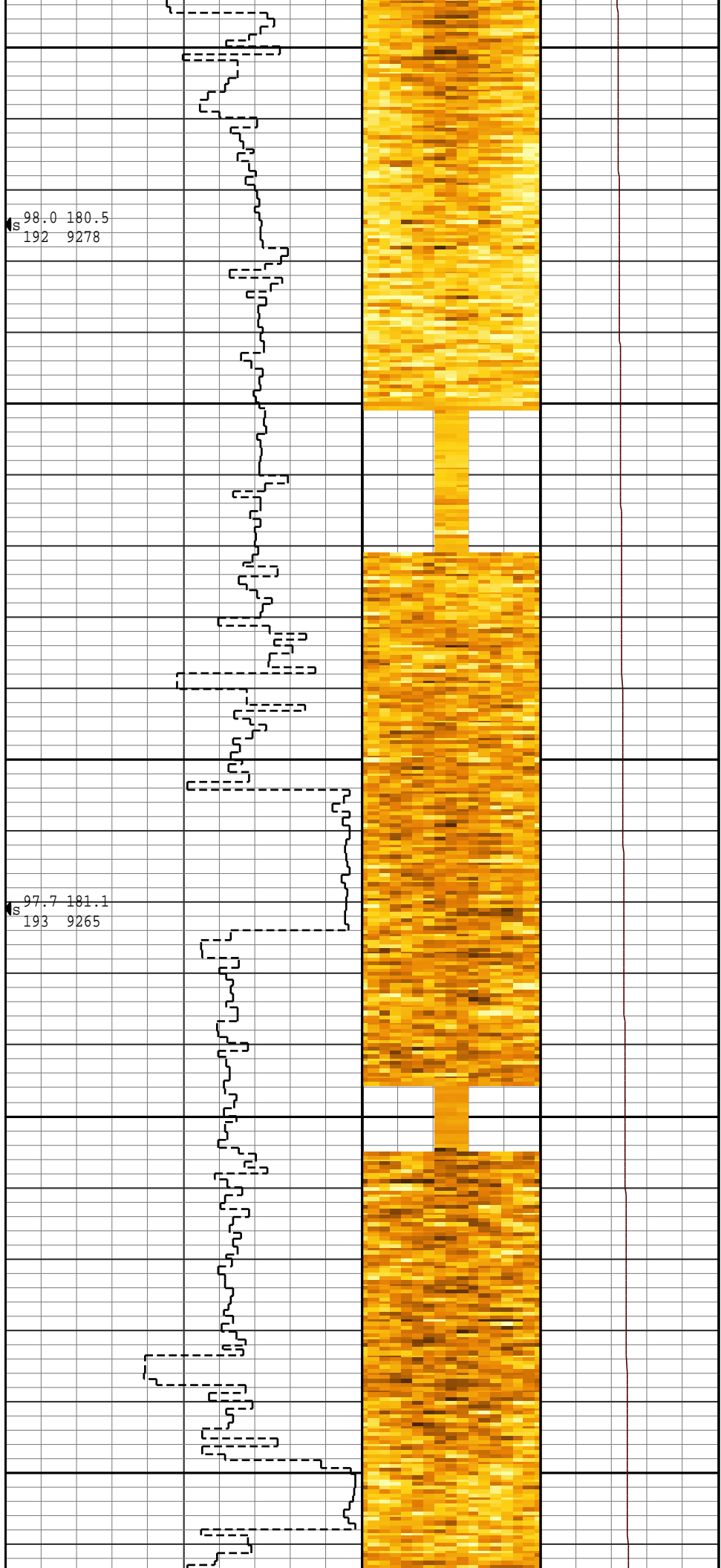
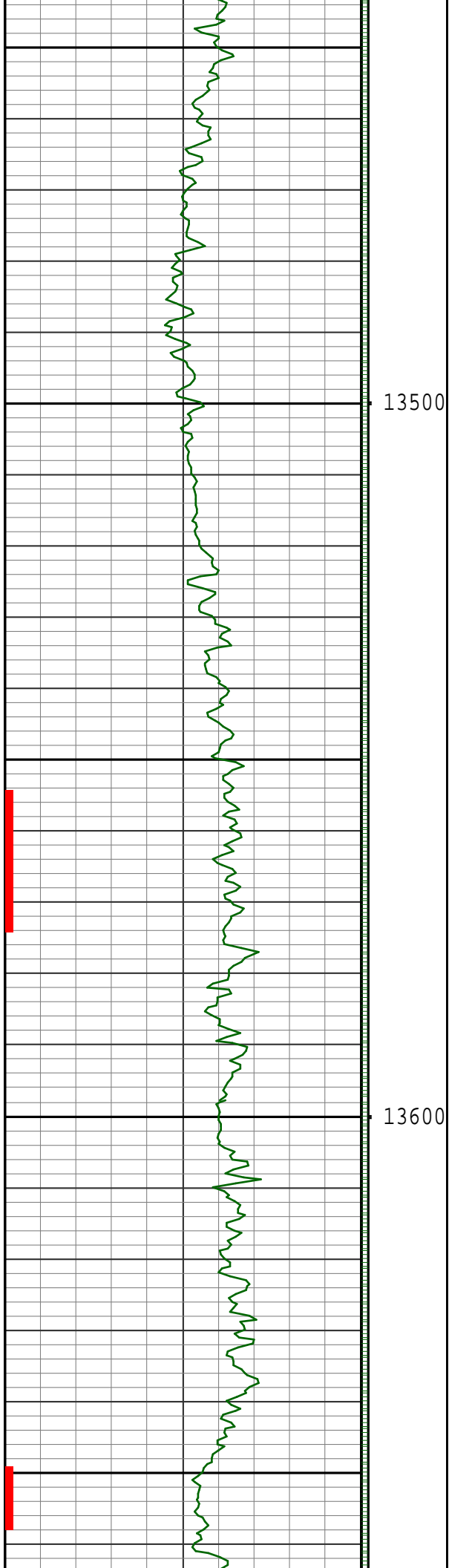


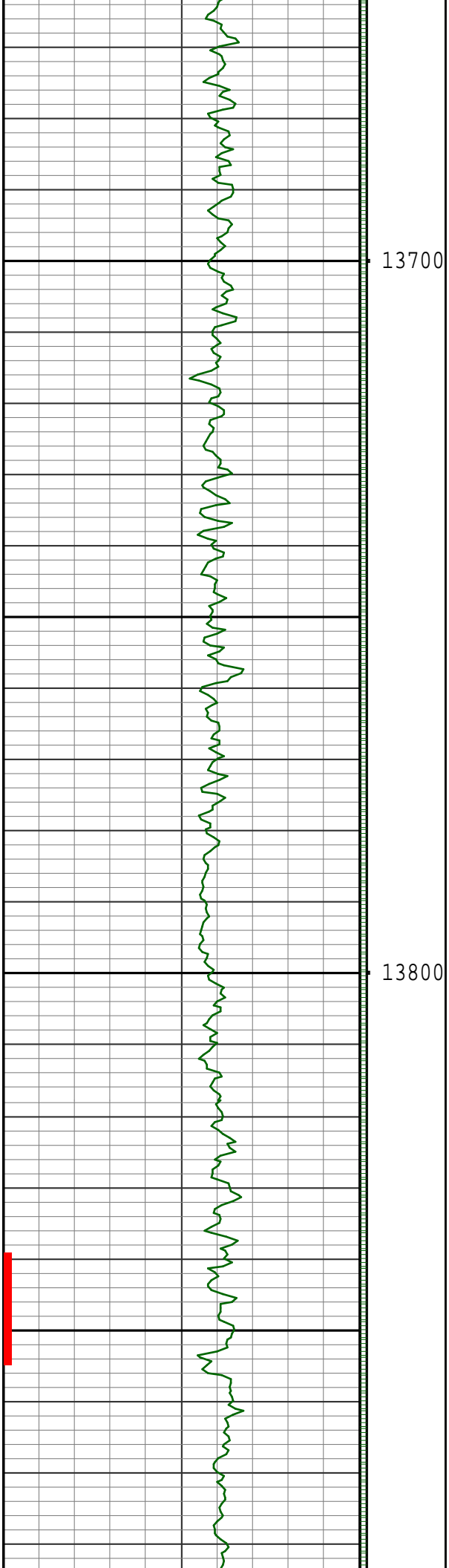


13300

13400

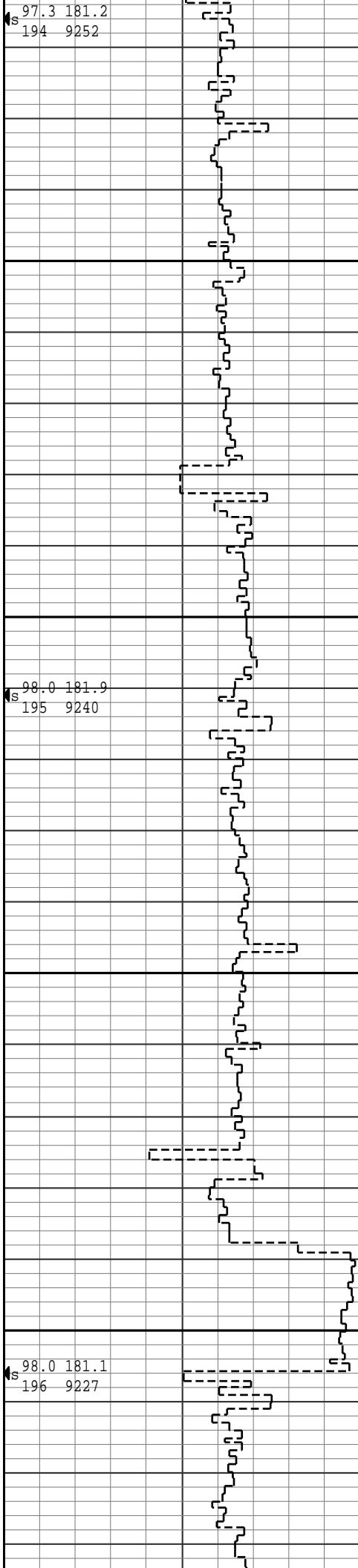






13700

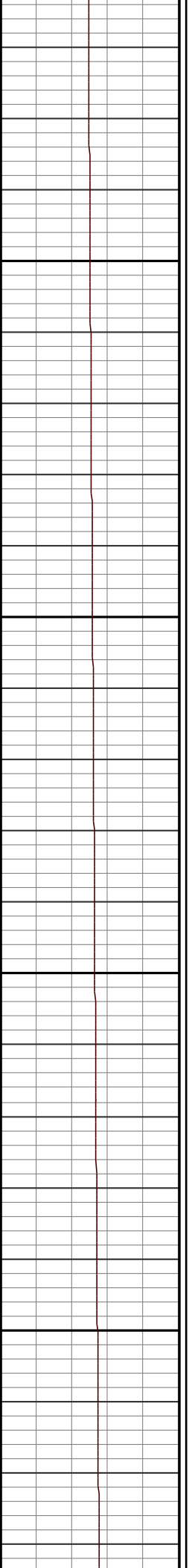
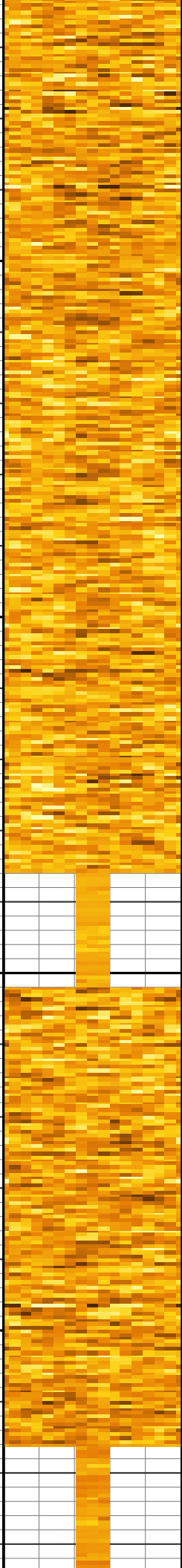
13800

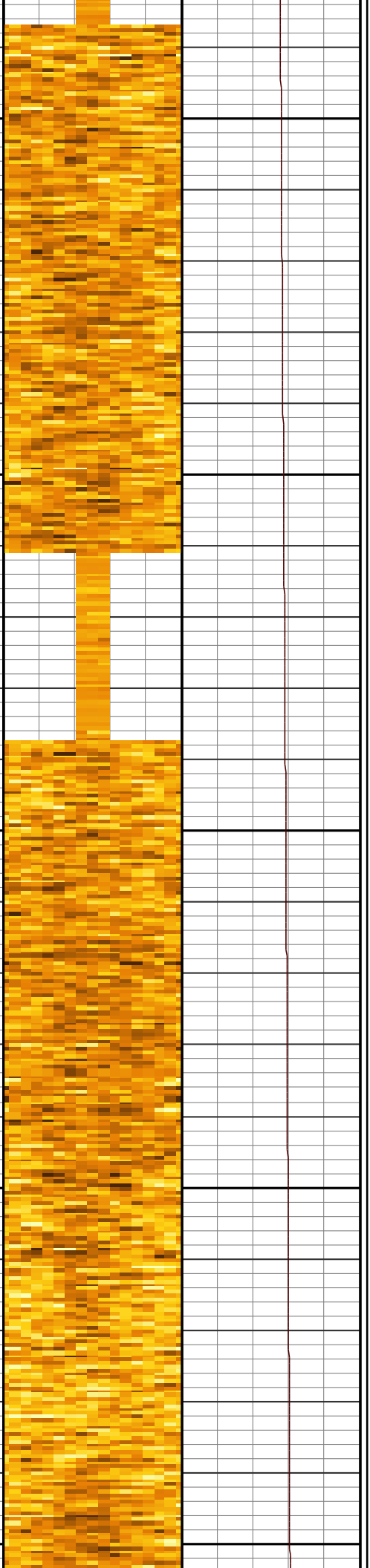
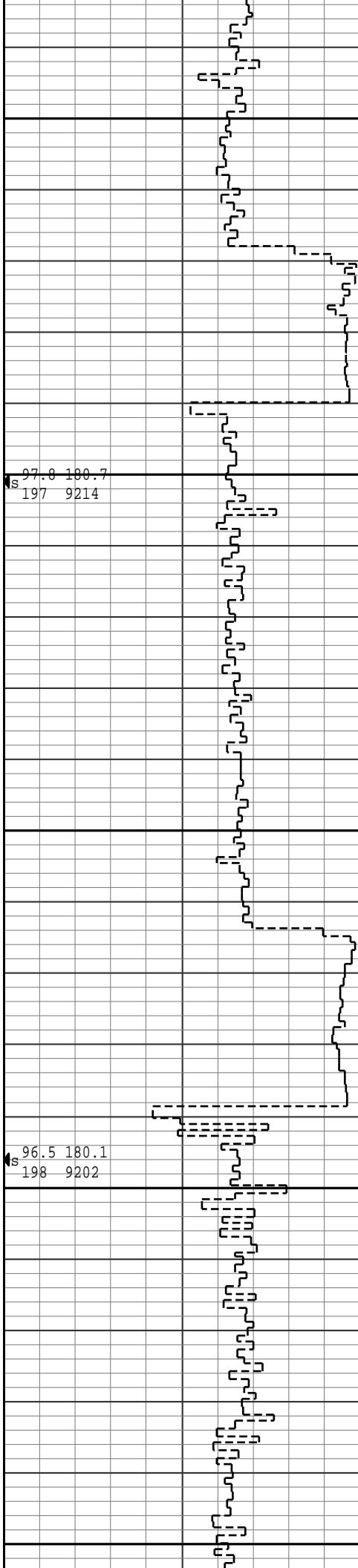
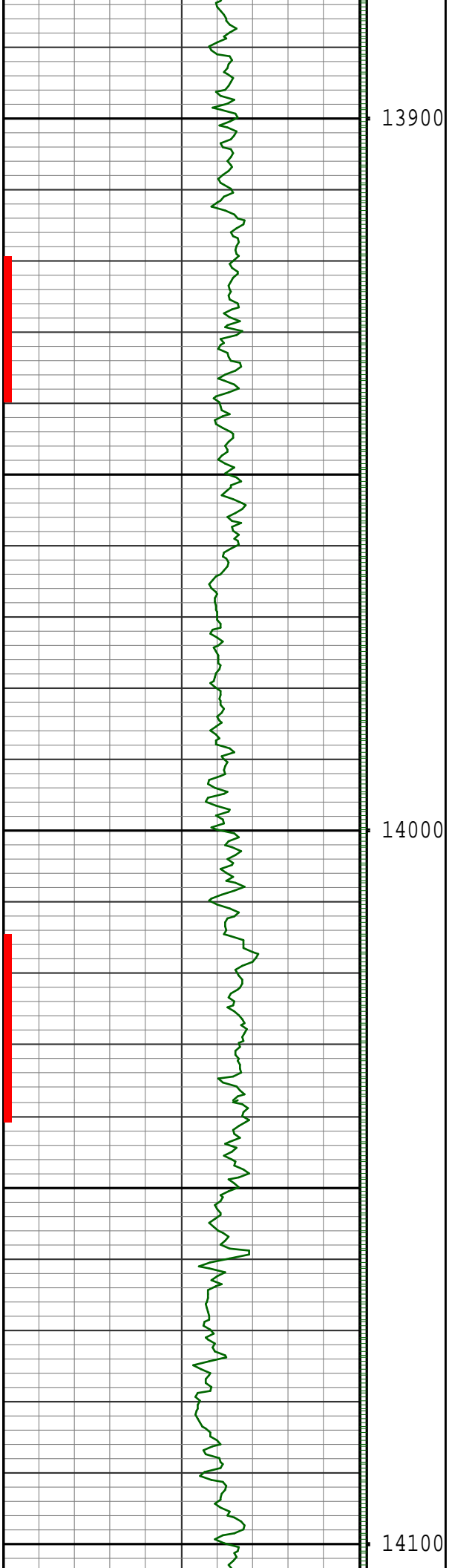


97.3 181.2  
194 9252

98.0 181.9  
195 9240

98.0 181.1  
196 9227





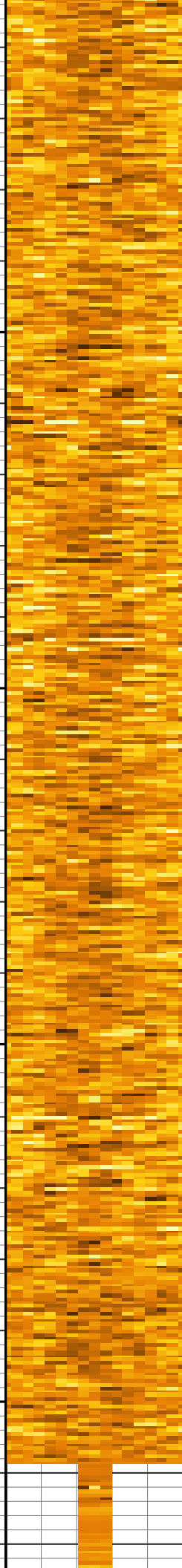
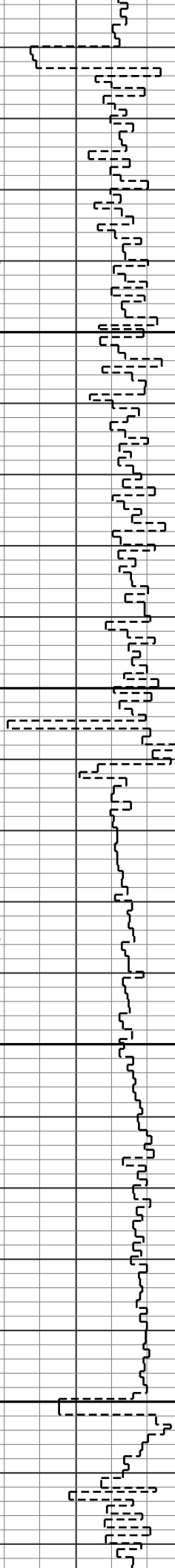


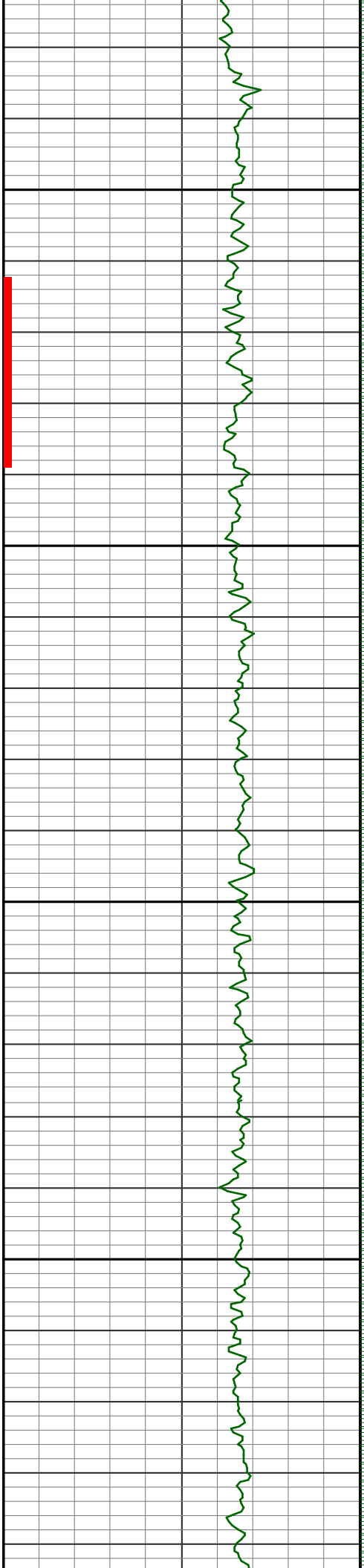
14200

14300

S 97.0 179.5  
199 9191

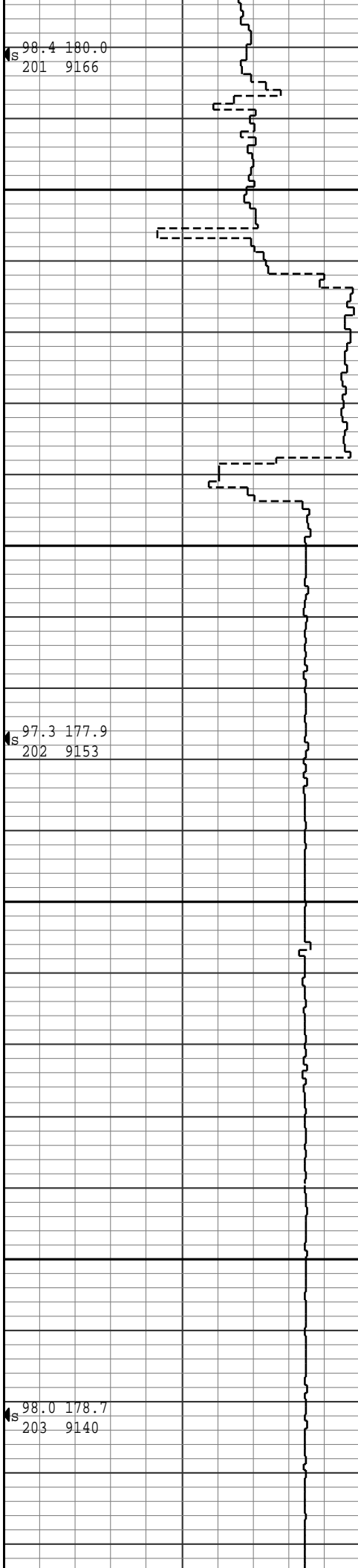
S 97.4 179.3  
200 9179





14400

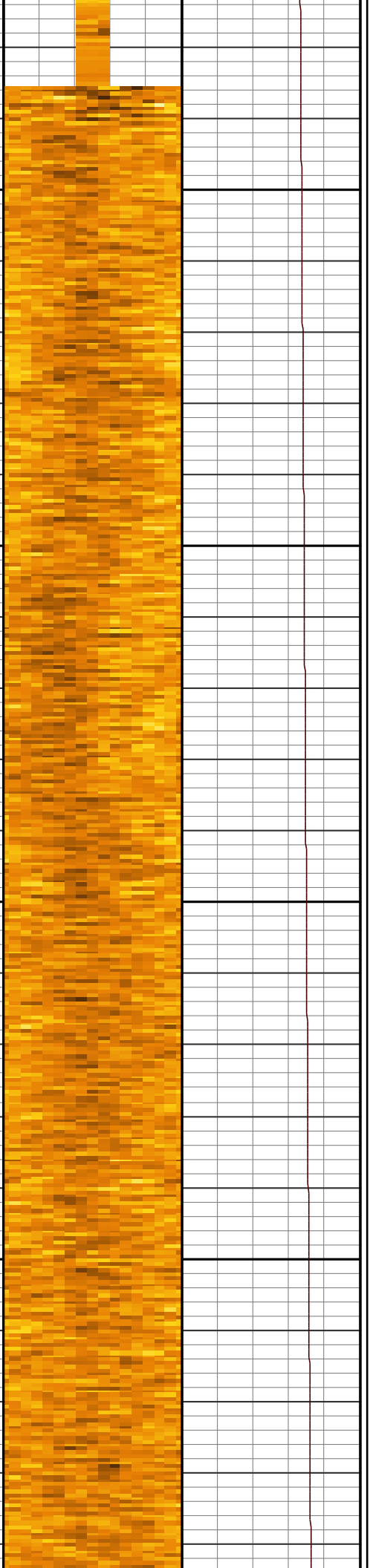
14500

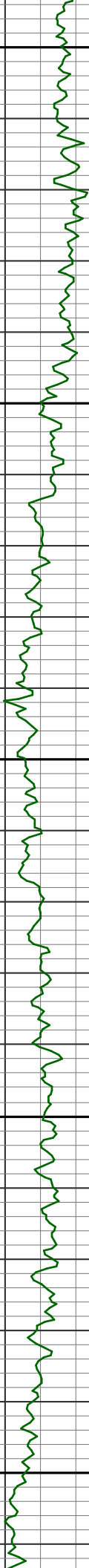


98.4 180.0  
201 9166

97.3 177.9  
202 9153

98.0 178.7  
203 9140



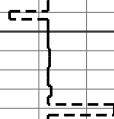


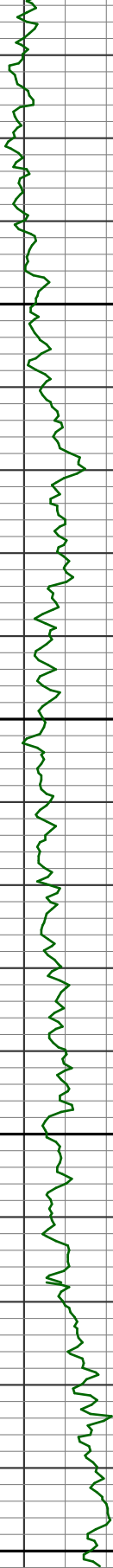
14600

99.0 179.2  
204 9126

14700

99.4 179.1  
205 9111





14800

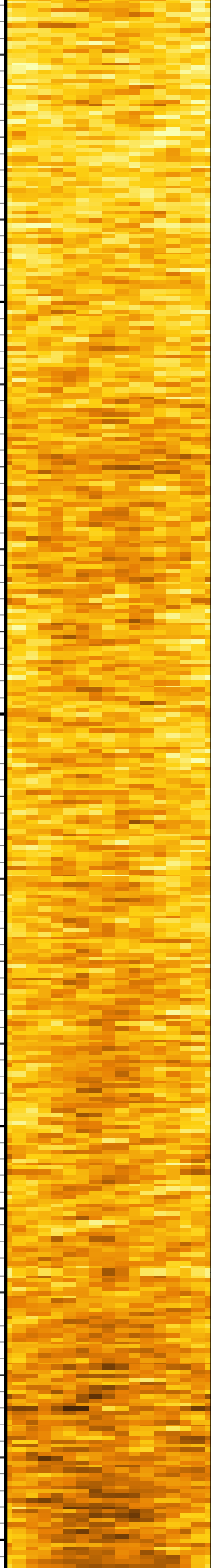
S 100.1 179.1  
206 9095

14900


S 100.9 178.4  
207 9078

R 101.2 179.1  
U 208 9069  
N

#7





			15000										
				101.2 179.1 209 9057			PROJECTED SURVEY						
0	GRC_A API	150	DEPTH MD ft	500	ROP ft/hr		0	50	GRU16 API	150	9500	TVD ft	9000
avg = 6 in				avg = 1 ft					avg = 1 ft				
0	GRC API	150	COMMENTS	inc azi				T	R	B	L	T	
avg = 6 in				# TVD							0	SGSFET Hr	10
SLIDE (BIT)			SHOES								avg = 1 ft		
time											85	INC deg	95
date											x	x	x
0	GR CPS	0.01									0	GRFET Hr	10





13475.00	97.96	180.50	9277.93	95.00	3894.76	3849.52 S	609.86 E	3897.53	171.00	1.13	231.13
13571.00	97.69	181.14	9264.86	96.00	3989.01	3944.62 S	608.50 E	3991.28	171.23	0.72	231.13
13666.00	97.34	181.18	9252.44	95.00	4082.28	4038.78 S	606.59 E	4084.08	171.46	0.37	231.13
13761.00	97.96	181.85	9239.79	95.00	4175.43	4132.90 S	604.10 E	4176.82	171.68	0.96	234.75
13856.00	97.96	181.14	9226.63	95.00	4268.52	4226.95 S	601.65 E	4269.56	171.90	0.74	234.75
13951.00	97.78	180.71	9213.63	95.00	4361.77	4321.05 S	600.13 E	4362.52	172.09	0.49	231.13
14046.00	96.46	180.11	9201.85	95.00	4455.28	4415.31 S	599.45 E	4455.82	172.27	1.52	234.75
14141.00	96.99	179.53	9190.73	95.00	4548.99	4509.66 S	599.75 E	4549.36	172.42	0.82	234.75
14236.00	97.43	179.34	9178.80	95.00	4642.67	4603.90 S	600.68 E	4642.92	172.57	0.50	238.36
14331.00	98.40	179.99	9165.72	95.00	4736.16	4697.99 S	601.23 E	4736.31	172.71	1.23	227.52
14427.00	97.34	177.95	9152.58	96.00	4830.76	4793.07 S	602.94 E	4830.84	172.83	2.38	238.36
14522.00	97.96	178.66	9139.93	95.00	4924.53	4887.18 S	605.73 E	4924.57	172.93	0.99	238.36
14616.00	99.01	179.18	9126.06	94.00	5017.03	4980.13 S	607.48 E	5017.04	173.05	1.24	234.75
14710.00	99.36	179.08	9111.05	94.00	5109.33	5072.91 S	608.89 E	5109.33	173.16	0.39	238.36
14805.00	100.07	179.15	9095.02	95.00	5202.46	5166.54 S	610.34 E	5202.47	173.26	0.75	238.36
14900.00	100.86	178.41	9077.77	95.00	5295.43	5259.94 S	612.32 E	5295.46	173.36	1.13	238.36
14945.00	101.21	179.13	9069.16	45.00	5339.38	5304.09 S	613.27 E	5339.43	173.40	1.75	241.98
PROJECTION TO BIT DEPTH AT 15008'MD.											
15008.00	101.21	179.13	9056.91	63.00	5400.85	5365.89 S	614.21 E	5400.92	173.47	0.00	

BOTTOM HOLE ASSEMBLY RECORD											
RUN #1		ft	RUN #2		ft	RUN #3		ft	RUN #4		ft
17.5" PDC BIT		1.15	12.25" PDC BIT		1.23	12.25" PDC BIT		1.23	12.25" PDC BIT		1.23
STAB		6.05	1.5° MUD MOTOR		26.90	1.5° MUD MOTOR		26.90	1.5° MUD MOTOR		27.85
NMPC		10.13	STAB		8.05	STAB		8.05	STAB		8.05
STAB		8.33	NMPC		10.13	NMPC		10.13	NMPC		10.13
FLOAT		2.66	NM FLOAT		2.66	NM FLOAT		2.66	NM FLOAT		2.66
HDS1-L		30.30	HDS1-L DIR/GR		29.89	HDS1-L DIR/GR		29.89	HDS1-L DIR/GR		29.89
X/O		2.78	FILTER		4.84	FILTER		4.84	FILTER		4.84
FILTER		4.84	GYRO UBHO		2.55	GYRO UBHO		2.55	GYRO UBHO		2.55
GYRO UBHO		2.55	NMDC		30.49	NMDC		30.49	NMDC		30.49
STAB		8.18	NMDC		29.73	NMDC		29.73	NMDC		29.73
NMDC		30.49	DC X 3 JTS		91.72	DC X 3 JTS		91.72	DC X 3 JTS		91.72
DC X 9 JTS		276.36	X/O		3.00	X/O		3.00	X/O		3.00
X/O		3.05	DC X 9 JTS		276.36	DC X 9 JTS		276.36	DC X 9 JTS		276.36
HWDP X 30 JTS		919.04	X/O		3.05	X/O		3.05	X/O		3.05
			HWDP X 25 JTS		765.35	HWDP X 25 JTS		765.35	HWDP X 25 JTS		765.35
			FISHING JARS		32.00	FISHING JARS		32.00	FISHING JARS		32.00
			HWDP X 4 JTS		122.97	HWDP X 4 JTS		122.97	HWDP X 4 JTS		122.97
TOTAL BHA:		1400.96	TOTAL BHA:		1440.92	TOTAL BHA:		1440.90	TOTAL BHA:		1441.59
OFFSETS:			OFFSETS:			OFFSETS:			OFFSETS:		
DIRECTIONAL		41.04	DIRECTIONAL		61.30	DIRECTIONAL		61.30	DIRECTIONAL		61.97
			GAMMA-RAY		53.22	GAMMA-RAY		53.22	GAMMA-RAY		53.89

BOTTOM HOLE ASSEMBLY RECORD										
RUN #5		ft	RUN #6		ft	RUN #7		ft		
12.25" PDC BIT		1.23	8.75" PDC BIT		0.65	8.75" PDC BIT		1.00		
1.5° MUD MOTOR		26.45	2.0° MUD MOTOR		25.90	1.25° MUD MOTOR		25.02		
STAB		8.05	NM STAB		4.55	NM STAB		4.55		
NMPC		10.13	NMPC		10.09	NMPC		10.09		
NM FLOAT		2.66	NM FLOAT		2.82	NM FLOAT		2.82		
HDS1-L DIR/GR		29.89	DPM		4.67	DPM		4.65		
FILTER		4.84	HDS1-L DIR/AGR		30.20	HDS1-L DIR/AGR		30.20		
GYRO UBHO		2.55	X/O		2.85	X/O		2.85		

NMDC	30.49	NMDC	30.69	NMDC	30.69		
NMDC	29.73	DP X 66 JTS	2098.41				
DC X 3 JTS	91.72	HWDP X 30 JTS	919.40				
X/O	3.00						
DC X 9 JTS	276.36						
X/O	3.05						
HWDP X 25 JTS	765.35						
FISHING JARS	32.00						
HWDP X 4 JTS	122.97						
TOTAL BHA:	1440.47	TOTAL BHA:	3129.87	TOTAL BHA:	111.87		
OFFSETS:		OFFSETS:		OFFSETS:			
DIRECTIONAL	60.85	DIRECTIONAL	61.15	DIRECTIONAL	60.57		
GAMMA-RAY	52.77	GAMMA-RAY	53.07	GAMMA-RAY	53.50		
		APWD	47.51	APWD	44.67		



A Schlumberger Company

AZIMUTHAL IMAGE  
GAMMA-RAY

5" = 100'  
FEET MD