



ThruBit
A Schlumberger Company

BOREHOLE VOLUME CALIPER LOG

Company	CHEVRON PRODUCTION COMPANY	Company	CHEVRON PRODUCTION COMPANY
Well	FEE 162Y	Well	FEE 162Y
Field	RANGELY	Field	RANGELY
County	RIO BLANCO	County	RIO BLANCO
State	COLORADO	State	COLORADO
Location:	API # : 05-103-11945-0000 566' FNL & 1443' FEL LAT=40.119750, LONG=-108.844017 SEC 28 TWP 2N RGE 102W	OBITS NEUTRON INDUCTION SONIC	
Permanent Datum	G.L.	Elevation	5320'
Log Measured From	K.B. @ 22' ABOVE PERM DATUM	K.B. 5342' D.F. 5341' G.L. 5320'	
Drilling Measured From	K.B.		
Date	12/13/12		
Run Number	ONE		
Depth Driller	6677'		
Depth Logger	6655'		
Bottom Logged Interval	6614'		
Top Log Interval	1990'		
Casing Driller	2011'		
Casing Logger	2002'		
Bit Size	8.75"		
Type Fluid in Hole	WBM		
Density / Viscosity	10.3 / 51		
pH / Fluid Loss	11.5 / 16		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.85 OHM @ 75 DEGF		
Rmf @ Meas. Temp	0.66 OHM @ 72.9 DEGF		
Rmc @ Meas. Temp	1.04 OHM @ 72.6 DEGF		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	0.33 OHM @ 139 DEGF		
Time Circulation Stopped	0500 13DEC12		
Time Logger on Bottom	0645 13DEC12		
Maximum Recorded Temperature	139 DEGF		
Equipment Number	T009		
Location	BRIGHTON, CO		
Recorded By	J. TOEDTEMEIER	K. BANGE	
Witnessed By	T. ZUNICH		

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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 ThruBit LLC 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.

Comments

VERTICAL MEMORY BIT DEPTH SET AT 6550' LOGGED TO 2000'
ALL SCALES AND PRESENTATIONS PER CLIENT REQUEST
SANDSTONE MATRIX, 2.65 g/cc USED FOR POROSITY MEASUREMENTS
TOOLSTRING RAN WITH CENTRALIZERS, LARGE DECENTRALIZER, TWO KNUCKLES
TBHV REPRESENTS TOTAL BOREHOLE VOLUME, ft3
ABHV REPRESENTS ANNULAR HOLE VOLUME, CALCULATED FOR 7" CSG, ft3
DEPTH REFERENCE: DOWN LOG
PIPE TALLY IS INVALID AND WAS NOT USED
TBHV=2120 ft3
ABHV=870 ft3
RIG: NABORS M11
CREW: J. TOEDTEMEIER, K. BANGE, J. SHEETS, T. HATCH

Service Ticket No. 1626

API No. 05-103-11945-0000

PGM Ver WARRIOR 7.0

The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client

EQUIPMENT DATA

GAMMA RAY

NEUTRON

DENSITY

INDUCTION

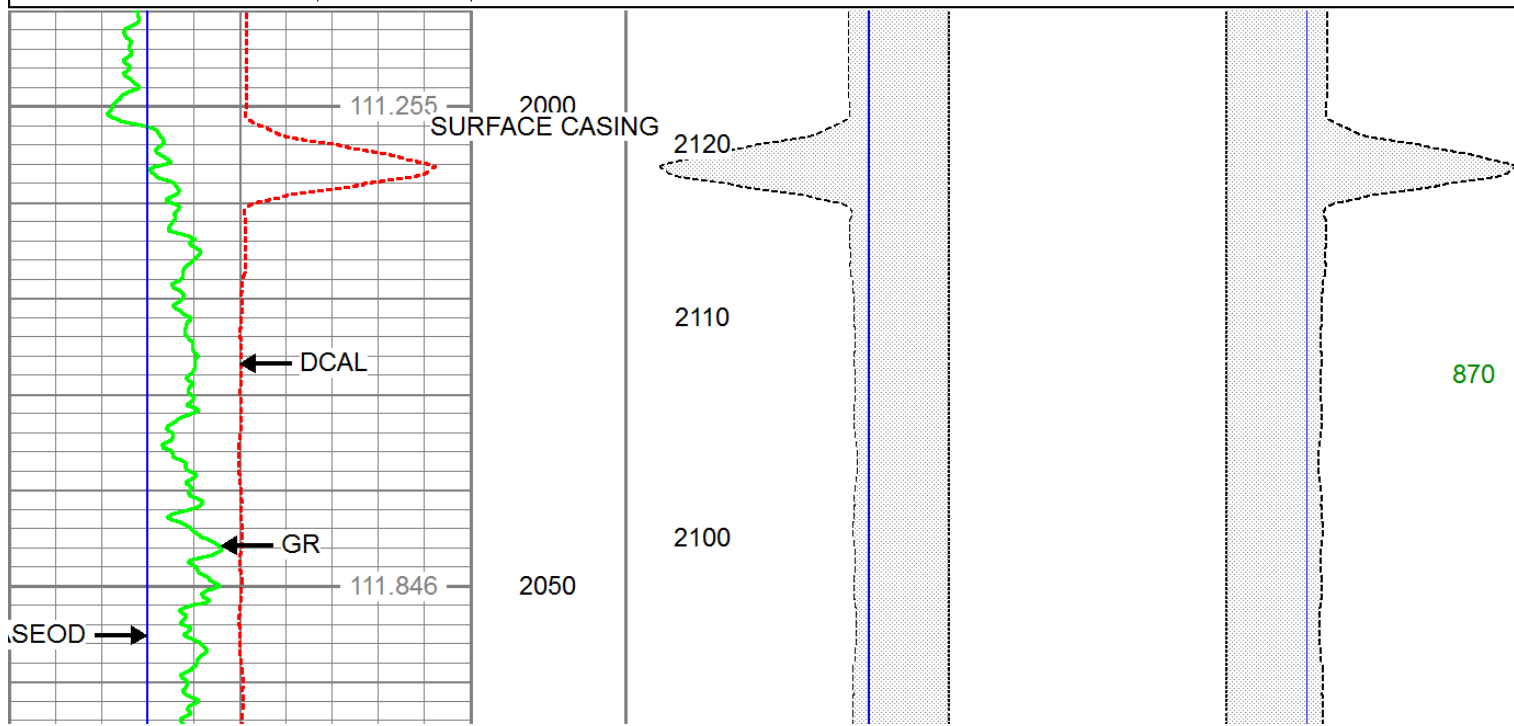
Run No.	ONE	Run No.	ONE	Run No.	ONE	Run No.	ONE	
Serial No.	PS23T	Serial No.	PS09N	Serial No.	PS25D	Serial No.	PS30R	
Model No.	PS	Model No.	PS	Model No.	PS	Model No.	PS	
Diameter	2.125"	Diameter	2.125"	Diameter	2.125"	Diameter	2.125"	
LOGGING DATA								
General Data								
Pass	Depths		Well Head	Speed	Logging Run Comments			
No.	From	To	Pressure	Ft/Min				
ONE	6646'	2000'	N/A	30				
	GAMMA RAY		NEUTRON		DENSITY		INDUCTION	
Pass	Scale		Scale		Scale		Scale	
No.	L	R	L	R	L	R	L	L
ONE	0 API	150 API	30%	-10%	30%	-10%	0.2 OHM-M	2000 OHM-M
DIRECTIONAL INFORMATION								
Maximum Deviation		2.73	deg. @	6622'	KOP	NONE		

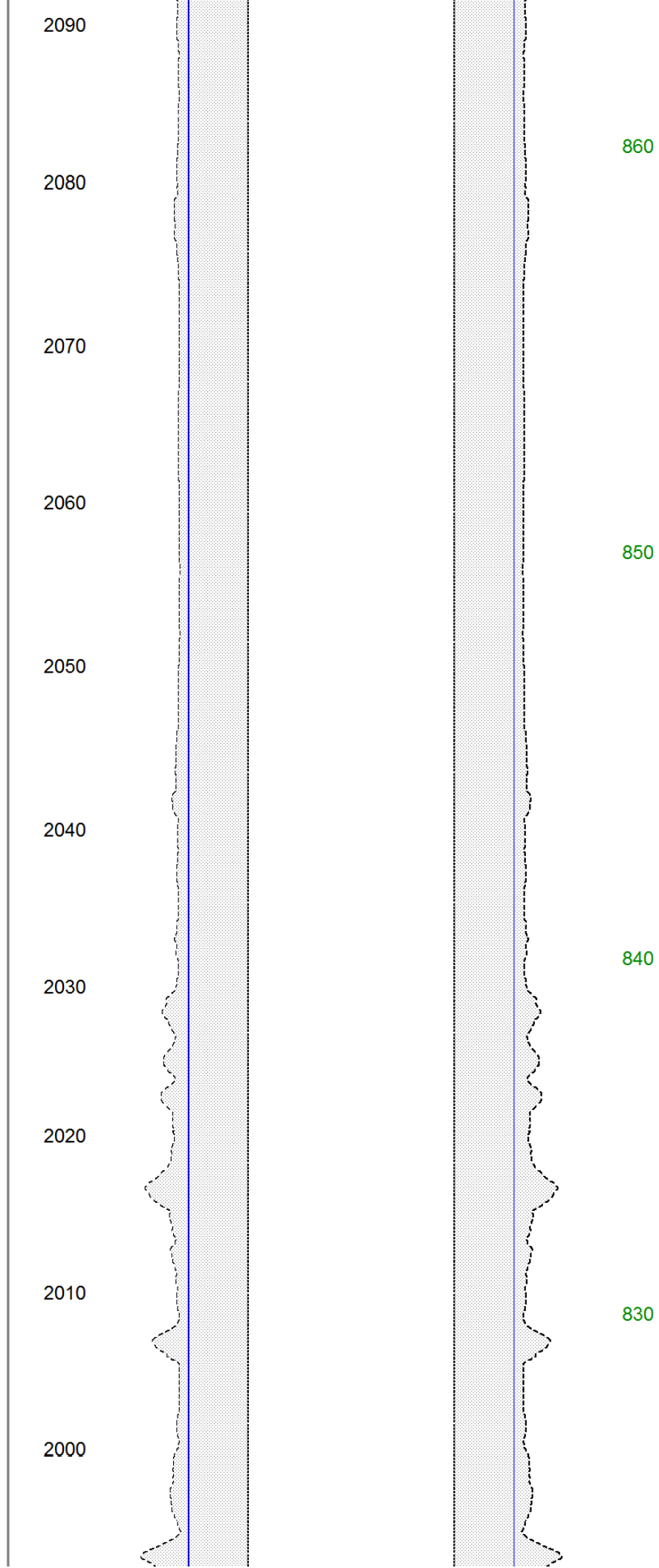
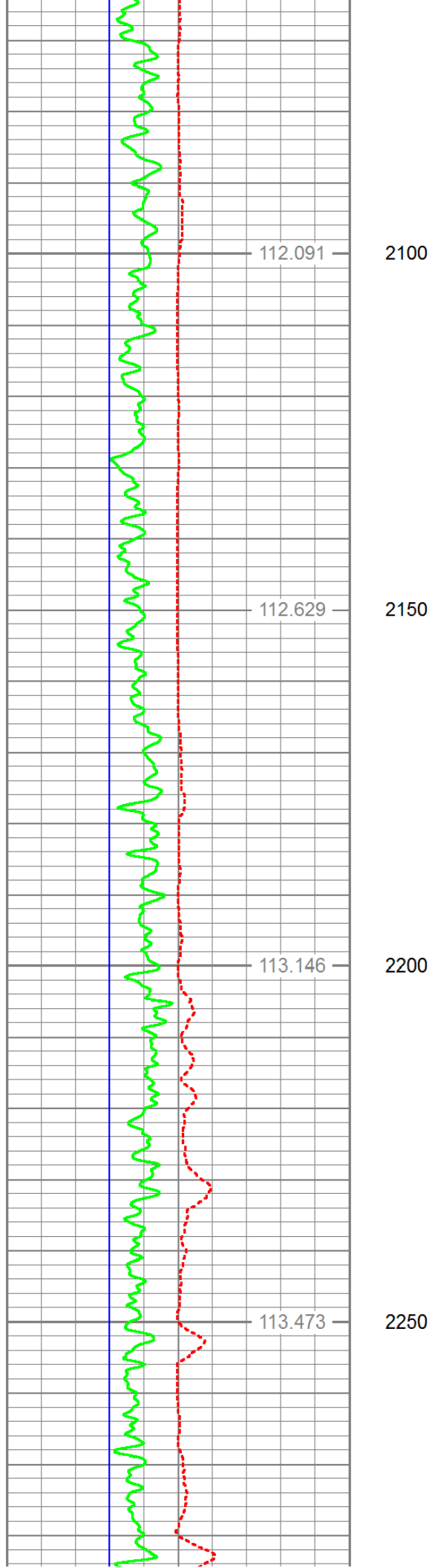


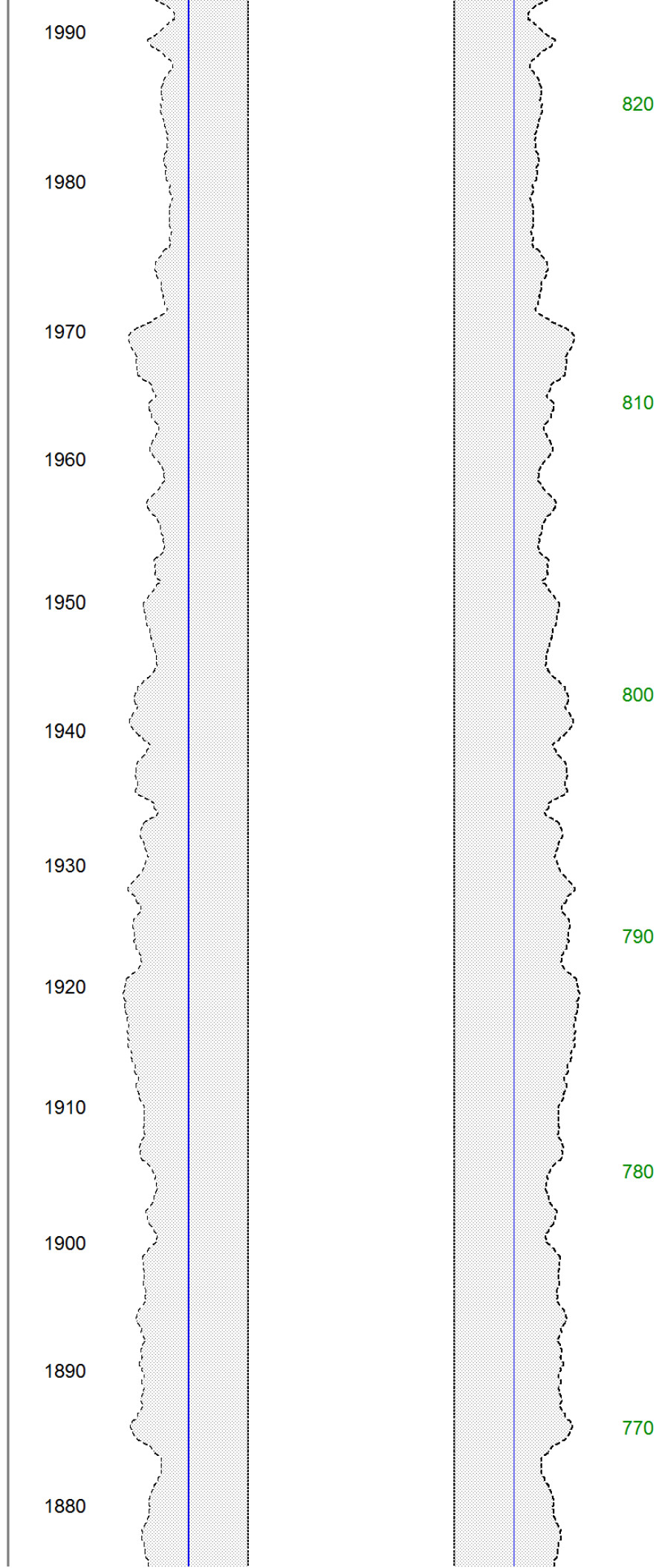
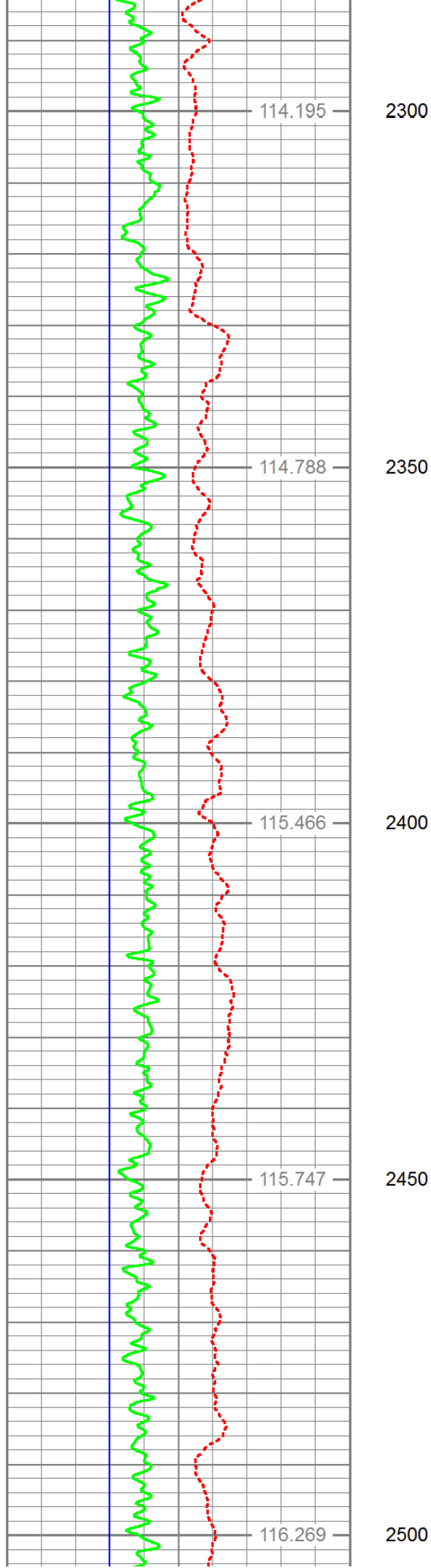
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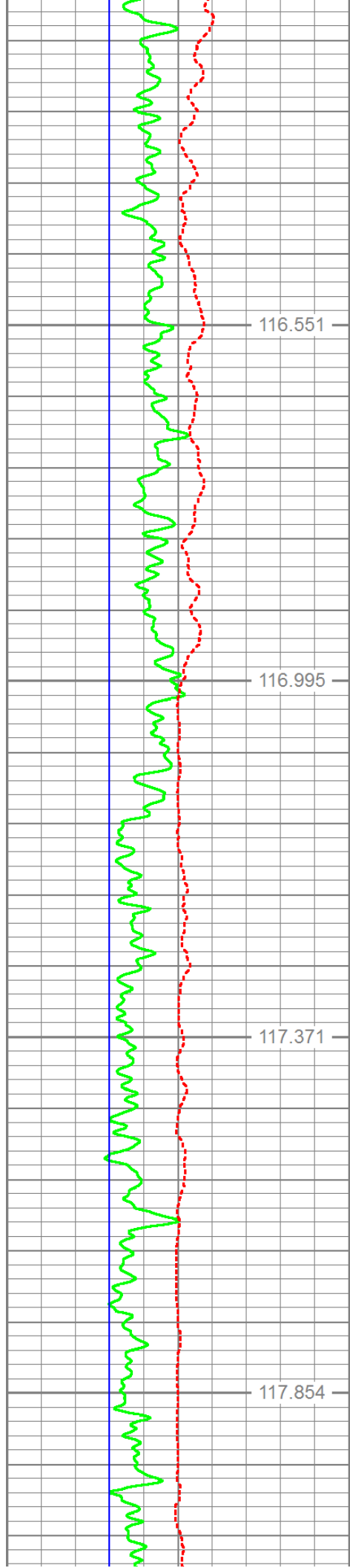
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 Dataset Pathname: proc1/merge3
 Presentation Format: BOREHO~4
 Dataset Creation: Thu Dec 13 20:28:04 2012
 Charted by: Depth in Feet scaled 1:240

0	GR (GAPI)	150	14	BOREID (in)	4	4	BOREID (in)	14
4	DCAL (in)	14	14	DCAL (in)	4	4	DCAL (in)	14
4	CASEOD (in)	14	14	CASEOD (in)	4	4	CASEOD (in)	14
		GRTEMP			TBHV (ft3)			ABHV (ft3)
		(degF)						









2550

2600

2650

2700

1870

1860

1850

1840

1830

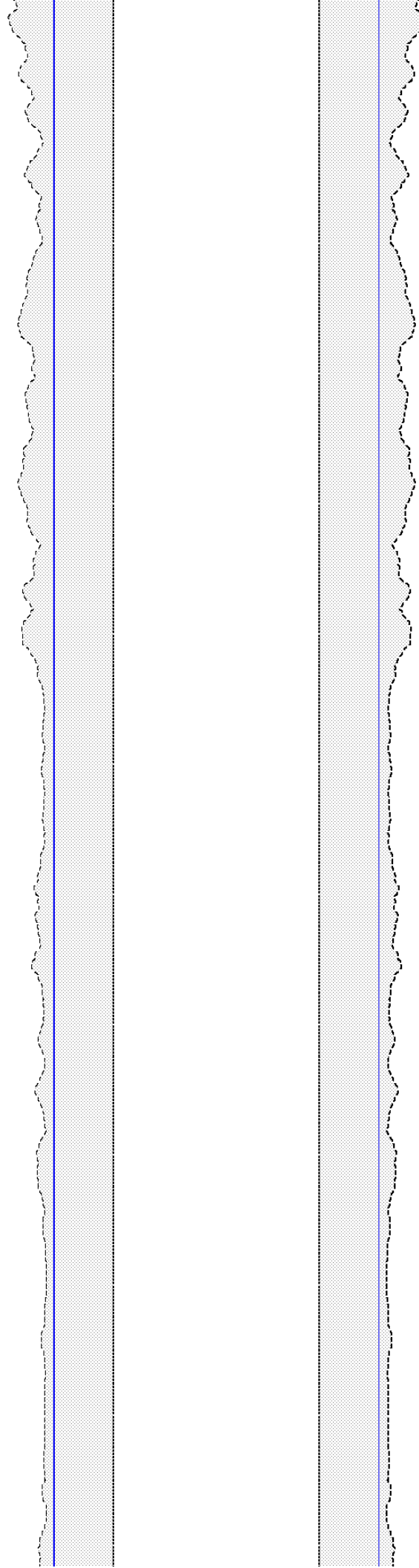
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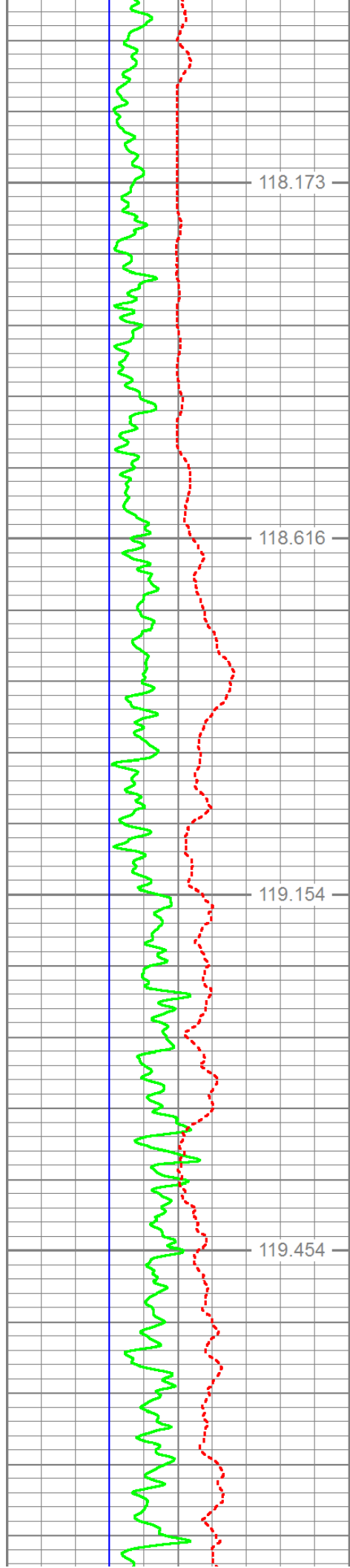
1810

1800

1790

1780





2750

2800

2850

2900

118.173

118.616

119.154

119.454

1770

1760

1750

1740

1730

1720

1710

1700

1690

1680

1670

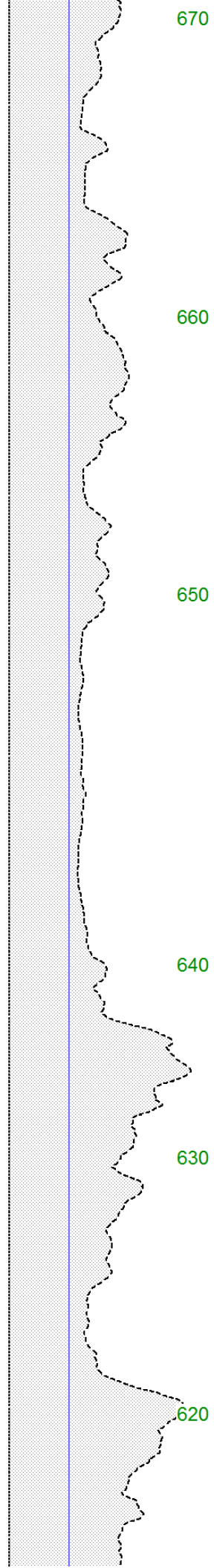
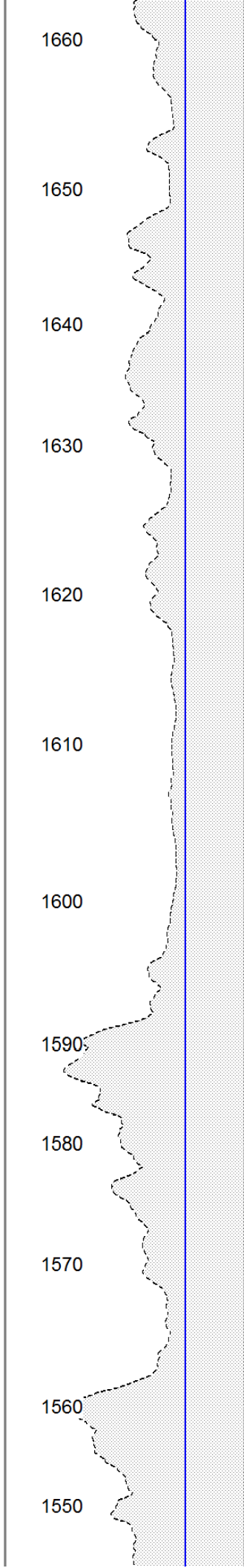
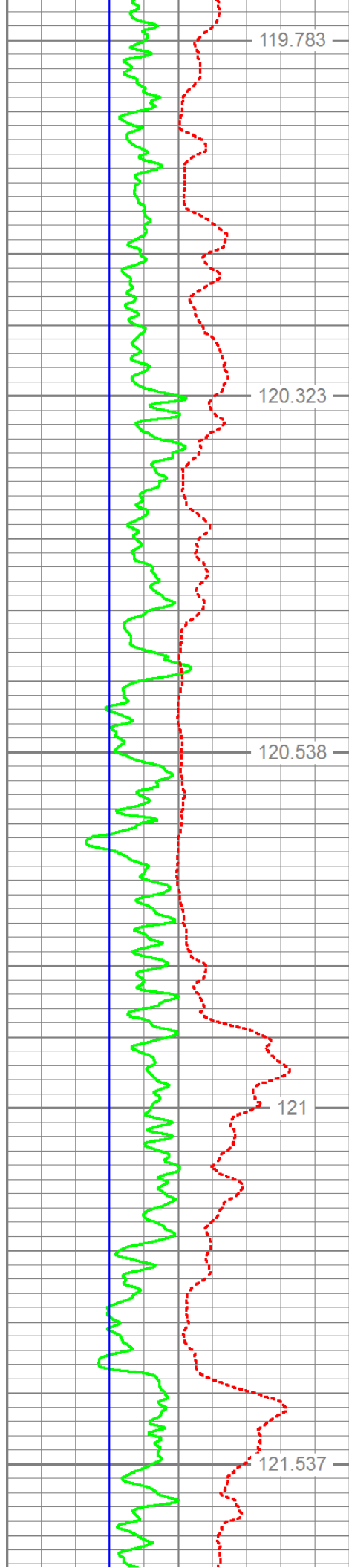
720

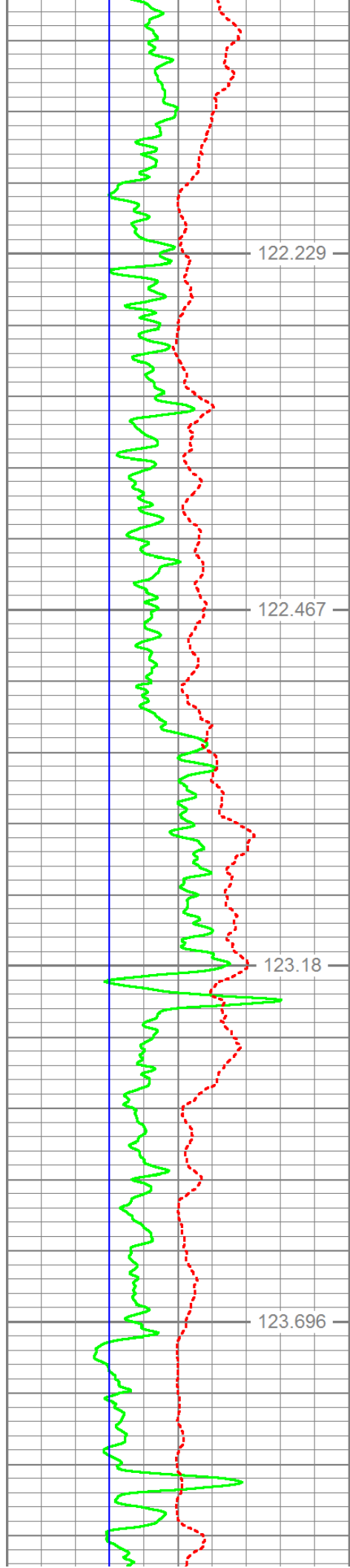
710

700

690

680





3200

3250

3300

3350

1540

1530

1520

1510

1500

1490

1480

1470

1460

1450

1440

610

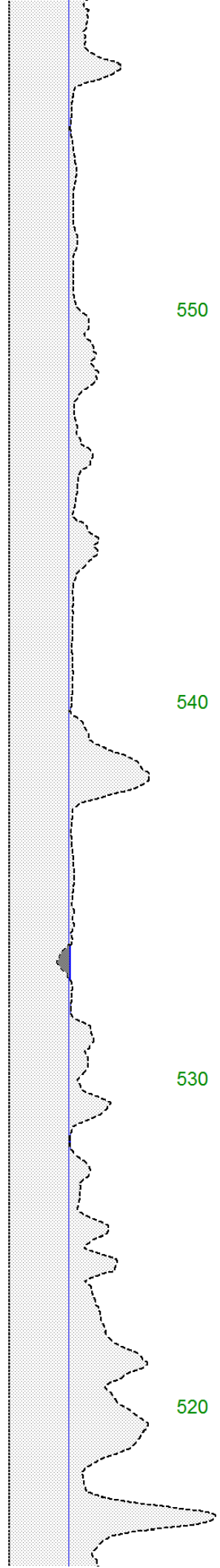
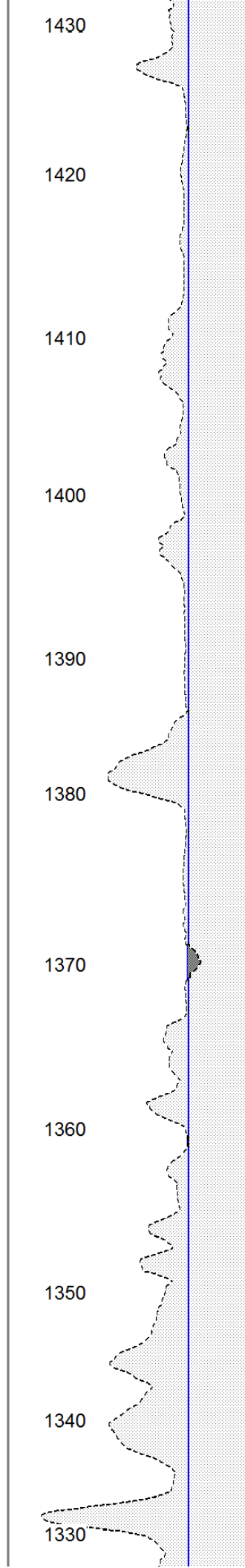
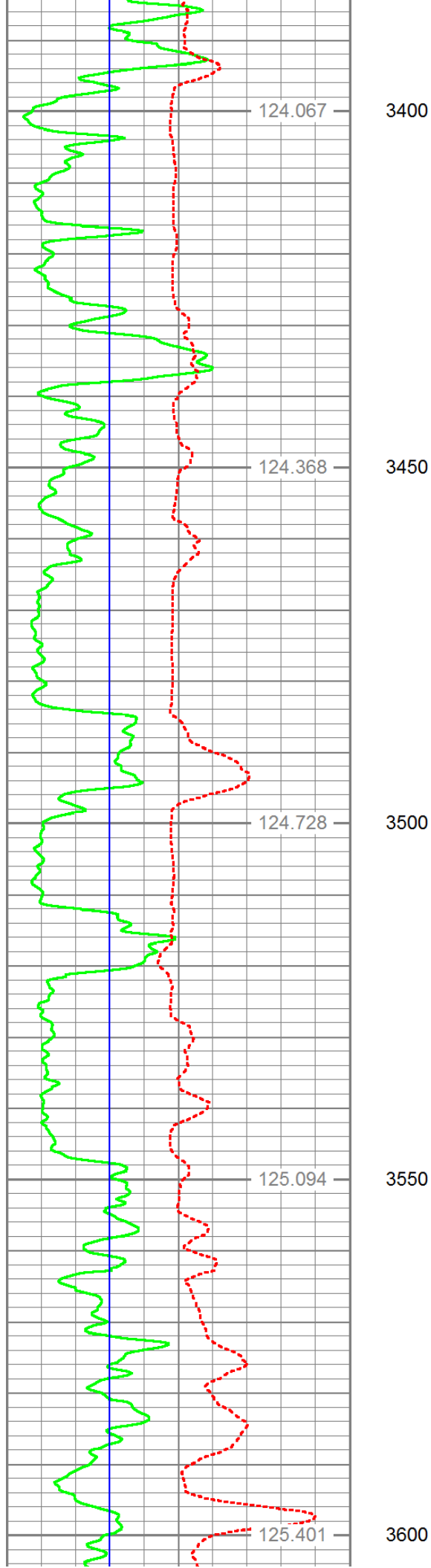
600

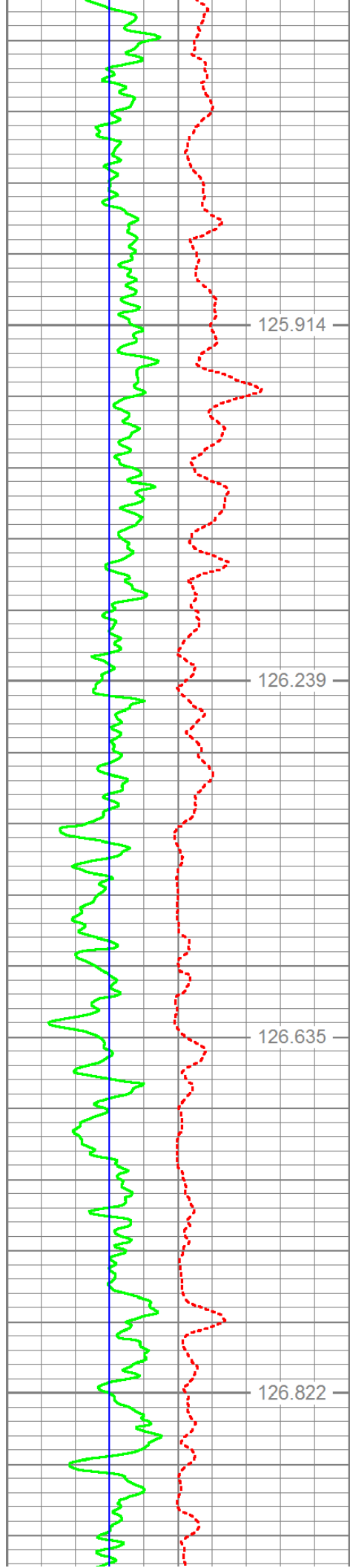
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580

570

560





3650

3700

3750

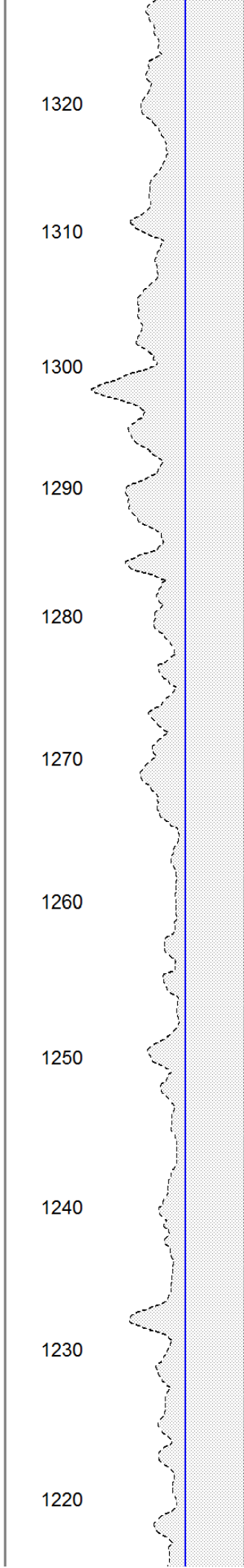
3800

125.914

126.239

126.635

126.822



1320

1310

1300

1290

1280

1270

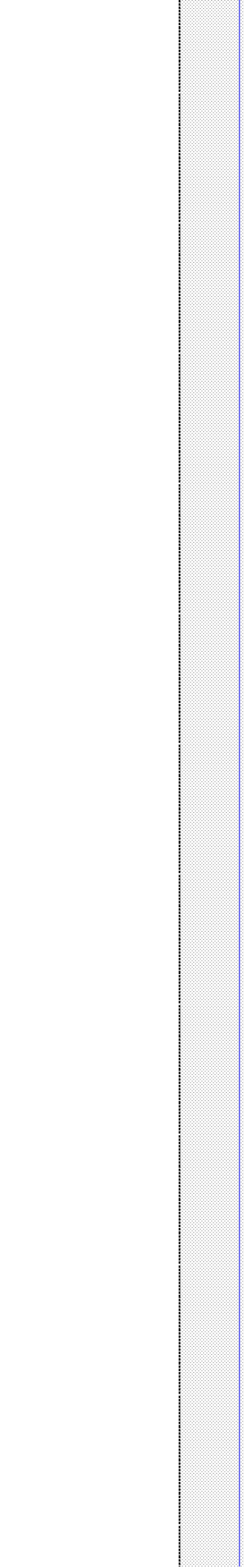
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1250

1240

1230

1220



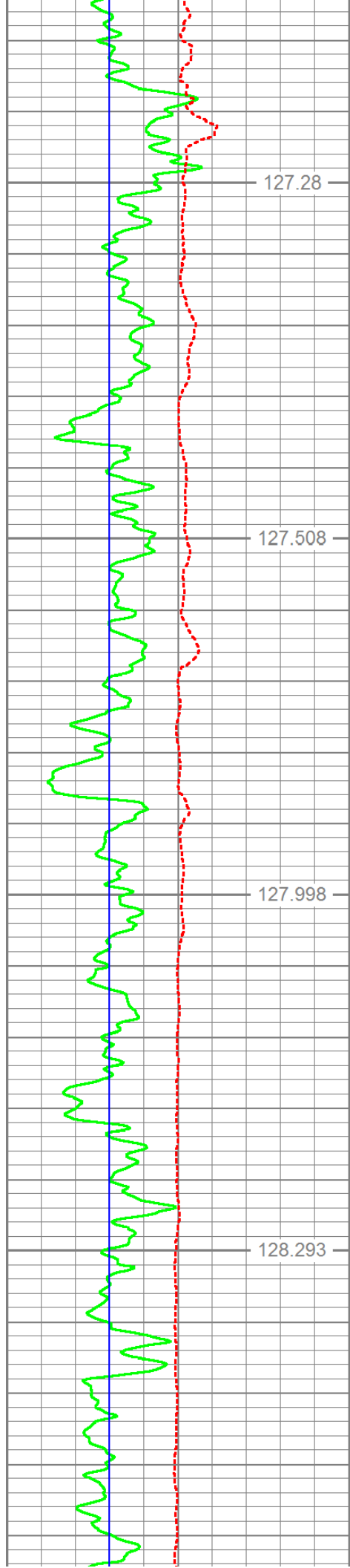
510

500

490

480

470



3850

127.28

3900

127.508

3950

127.998

4000

128.293

1210

1200

1190

1180

1170

1160

1150

1140

1130

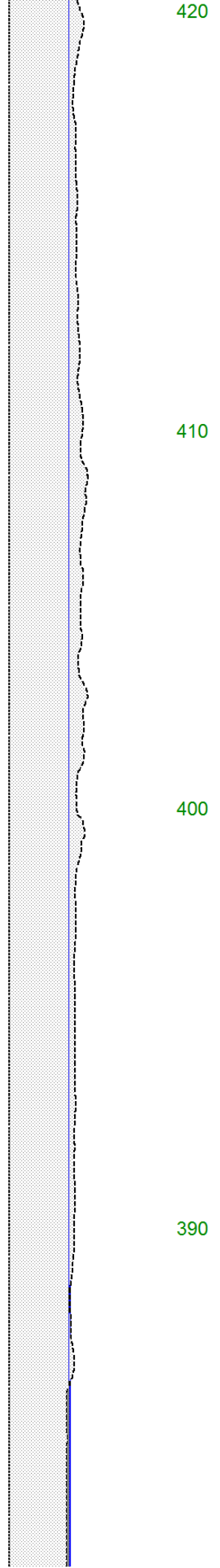
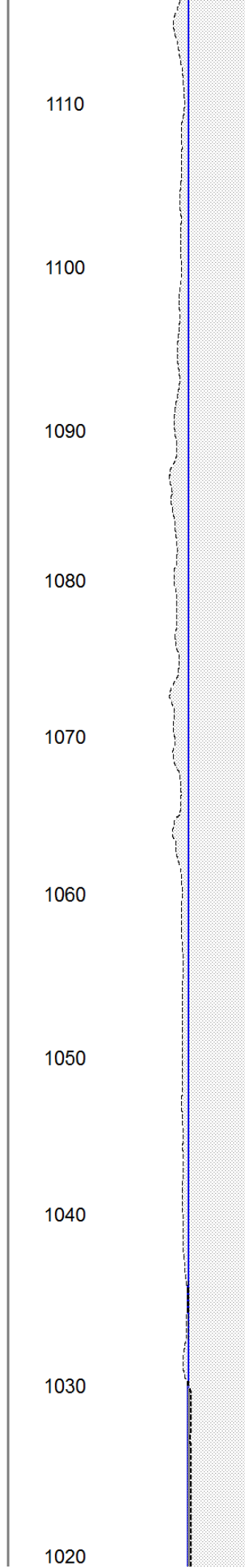
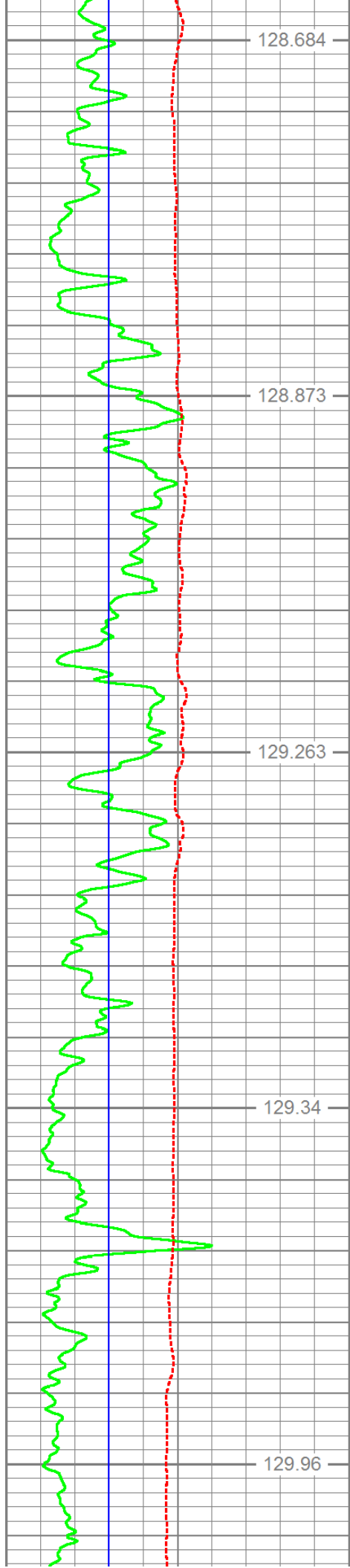
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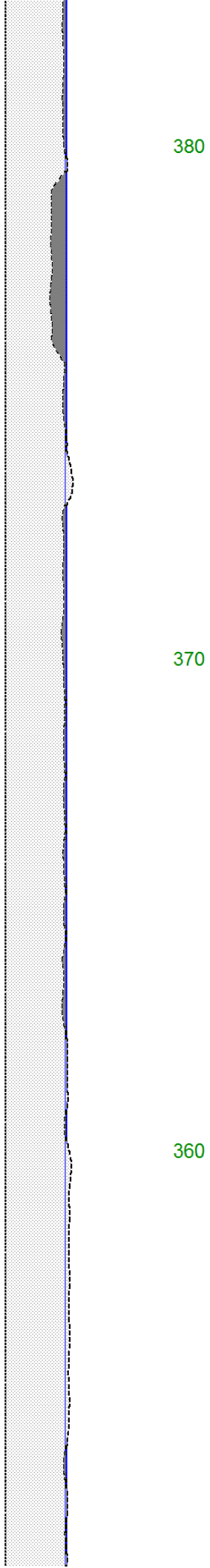
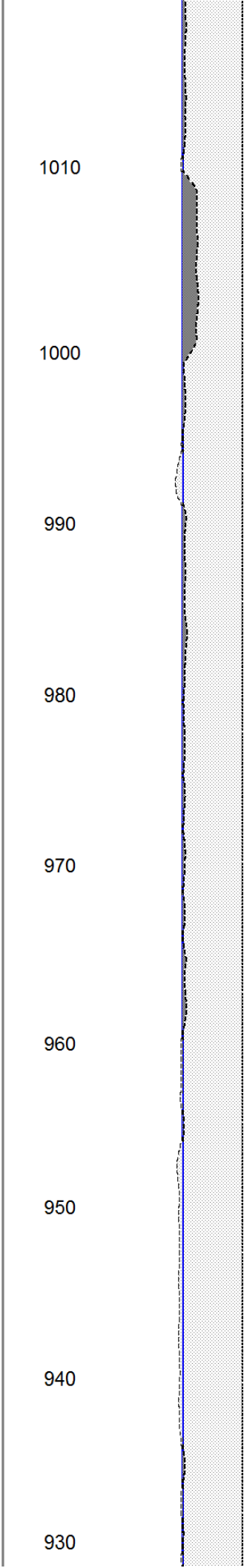
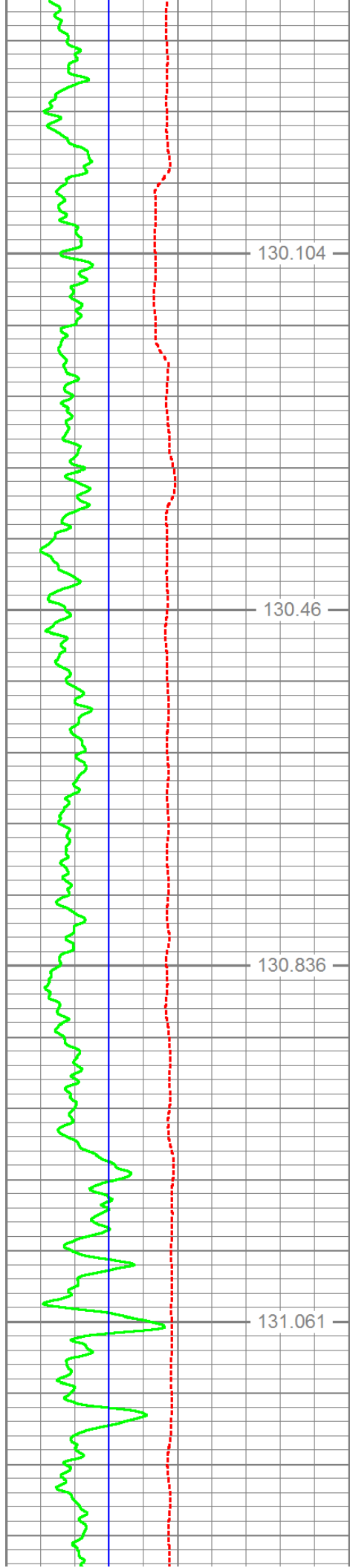
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450

440

430

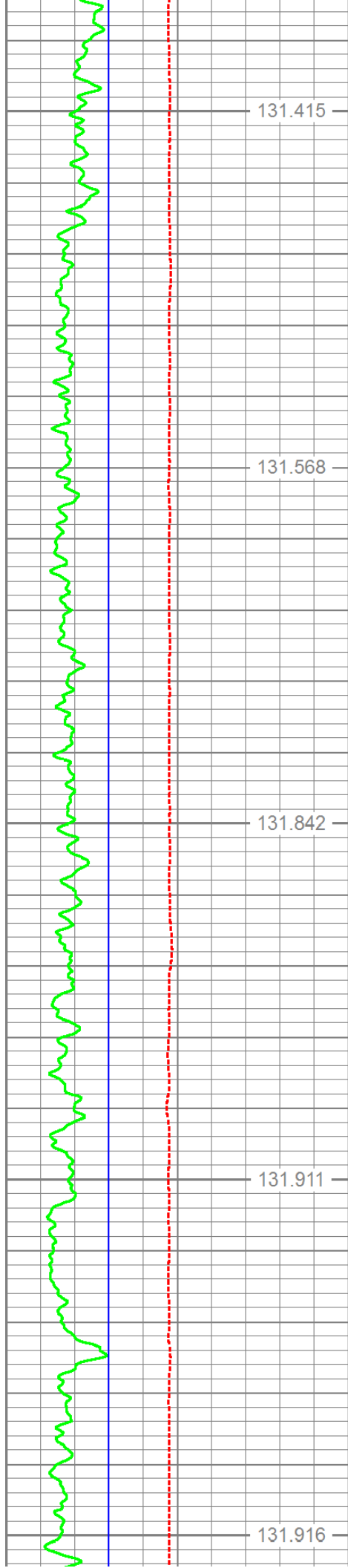




380

370

360



4500

920

910

4550

900

890

4600

880

870

4650

860

850

4700

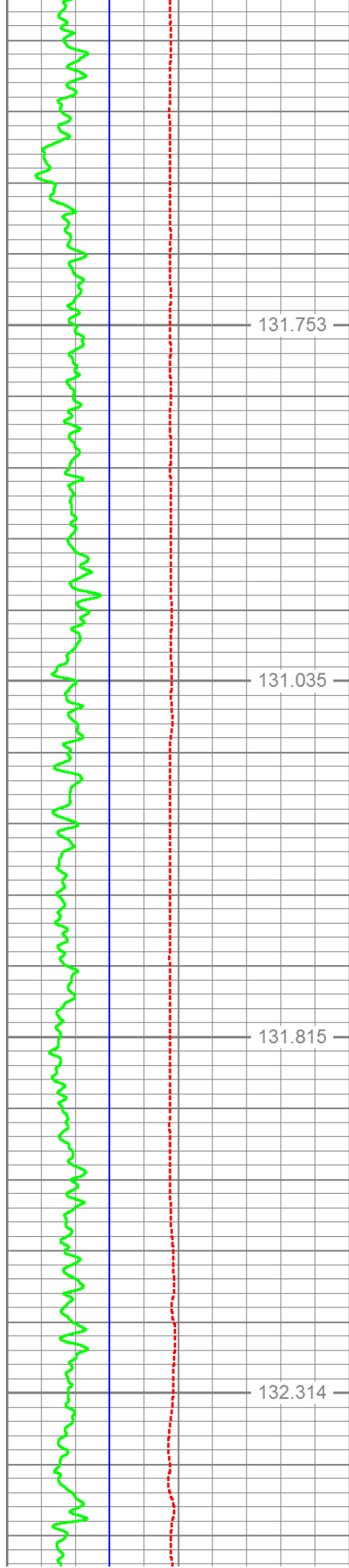
840

350

340

330

320



131.753 4750

131.035 4800

131.815 4850

132.314 4900

830

820

810

800

790

780

770

760

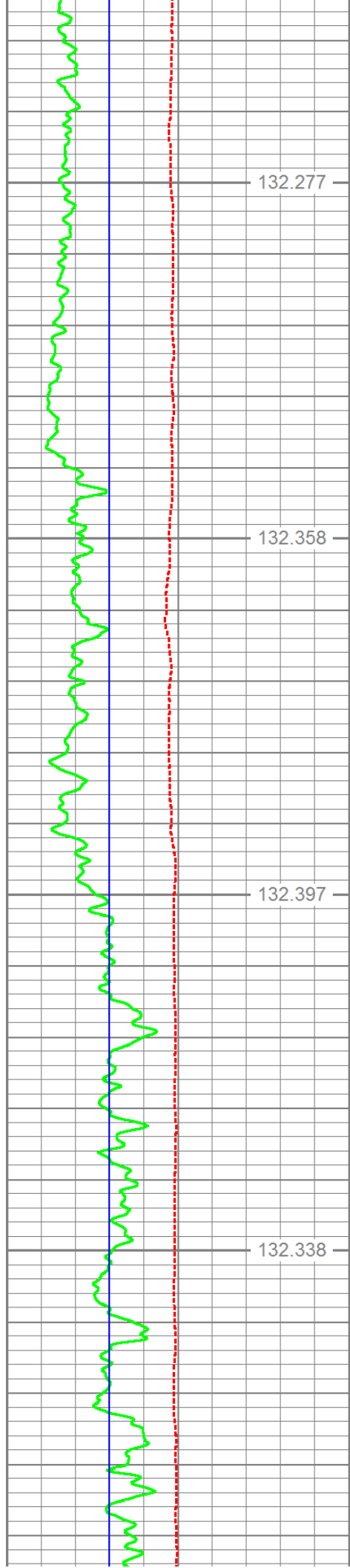
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740

310

300

290



4950

5000

5050

5100

730

720

710

700

690

680

670

660

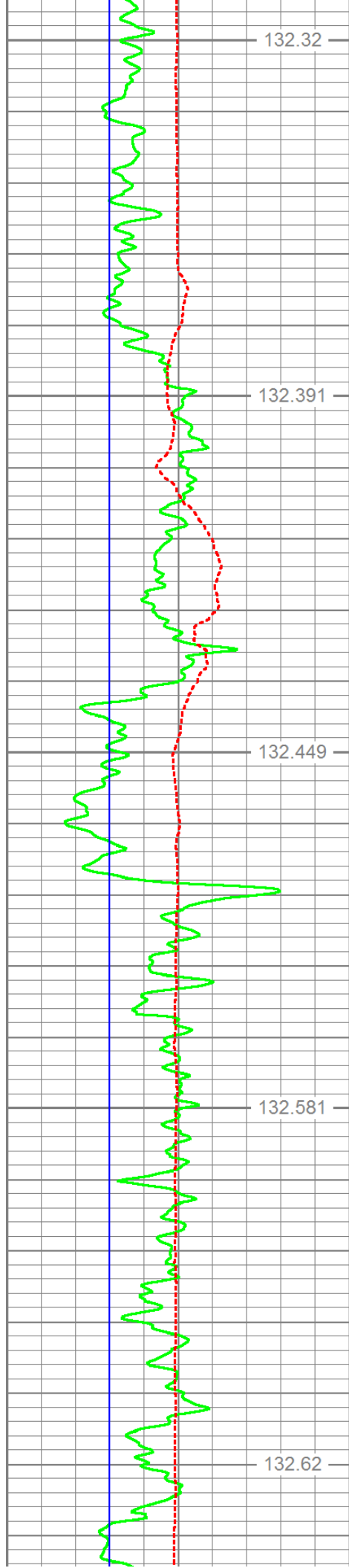
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280

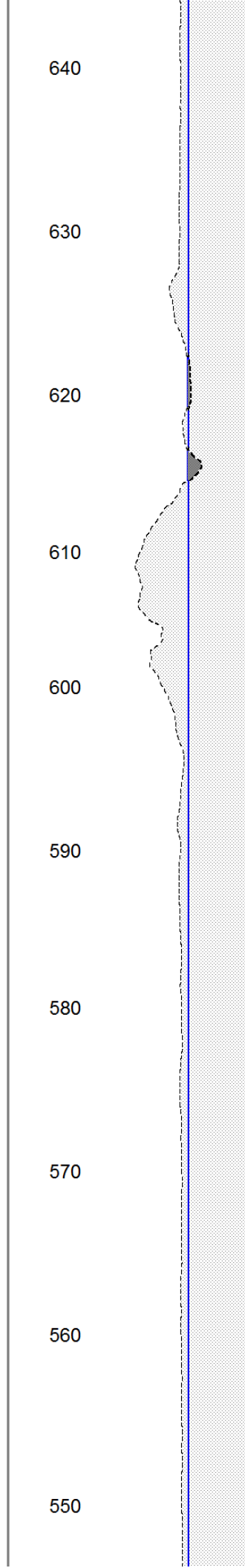
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260

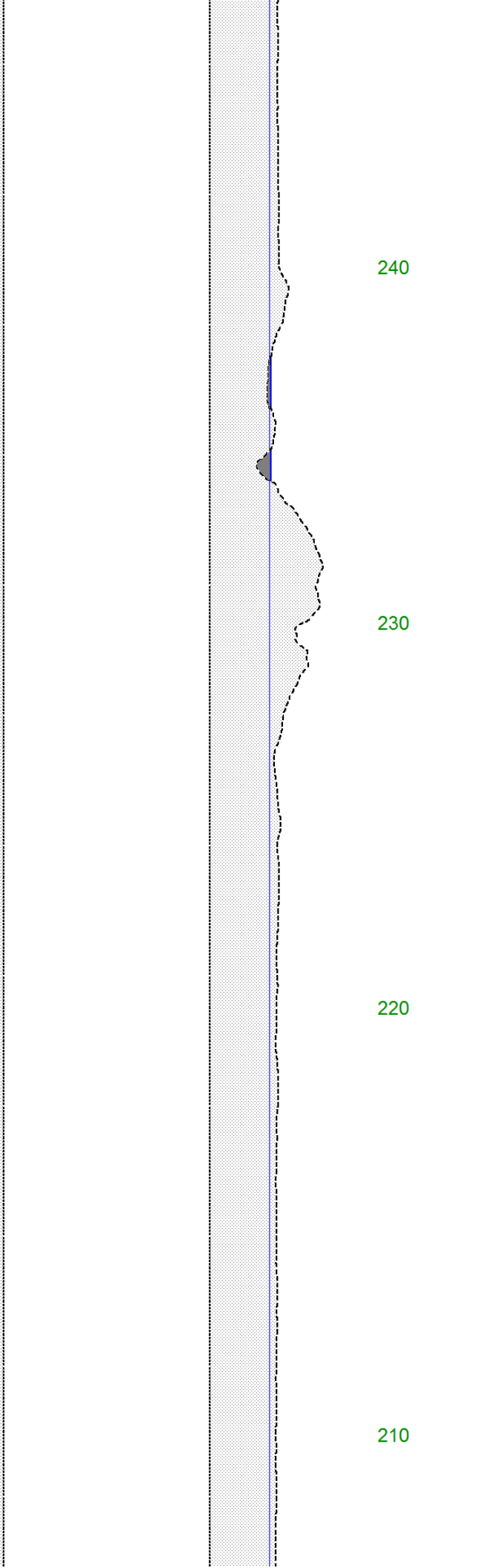
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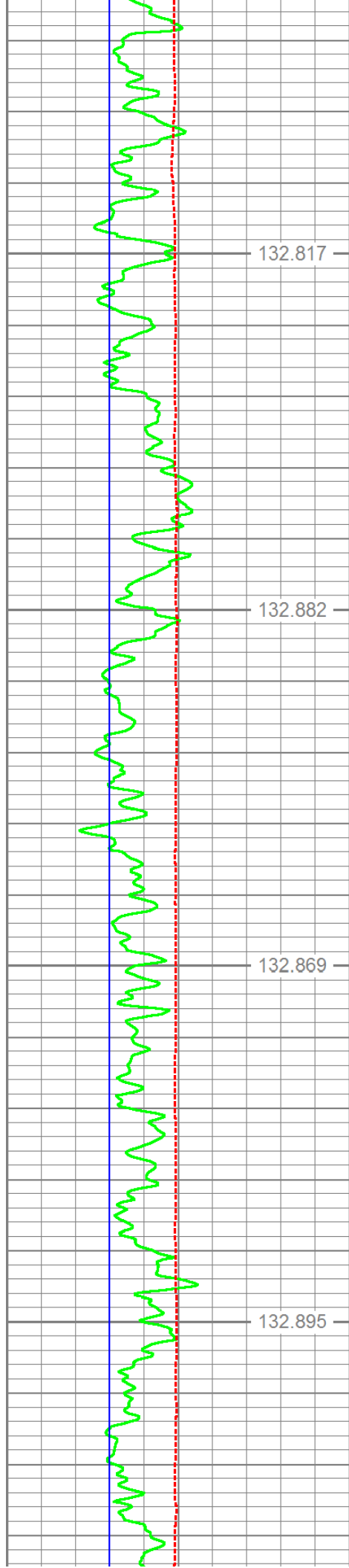
5150
5200
5250
5300
5350



640
630
620
610
600
590
580
570
560
550



240
230
220
210



5400

5450

5500

5550

540

530

520

510

500

490

480

470

460

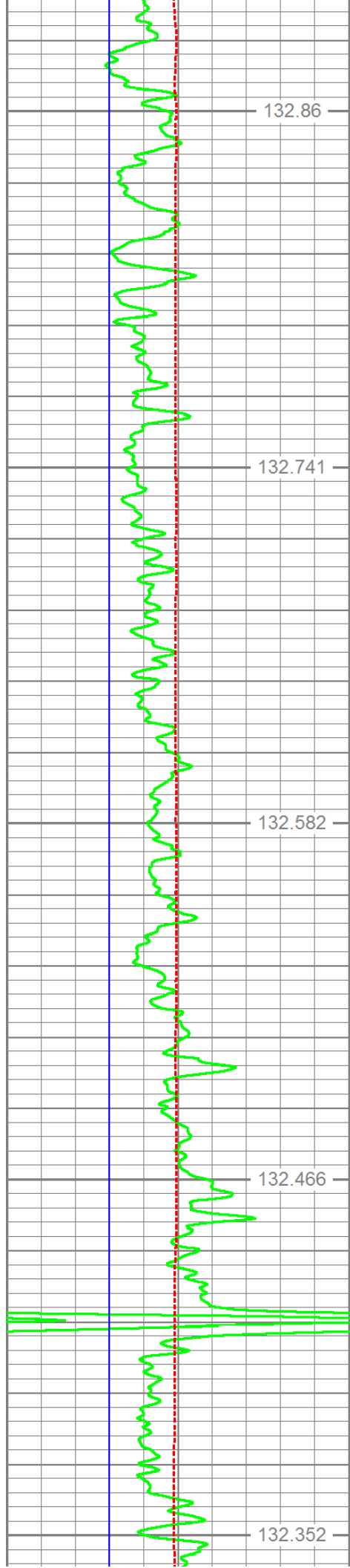
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200

190

180

170



5600

440

430

5650

420

410

5700

400

390

5750

380

370

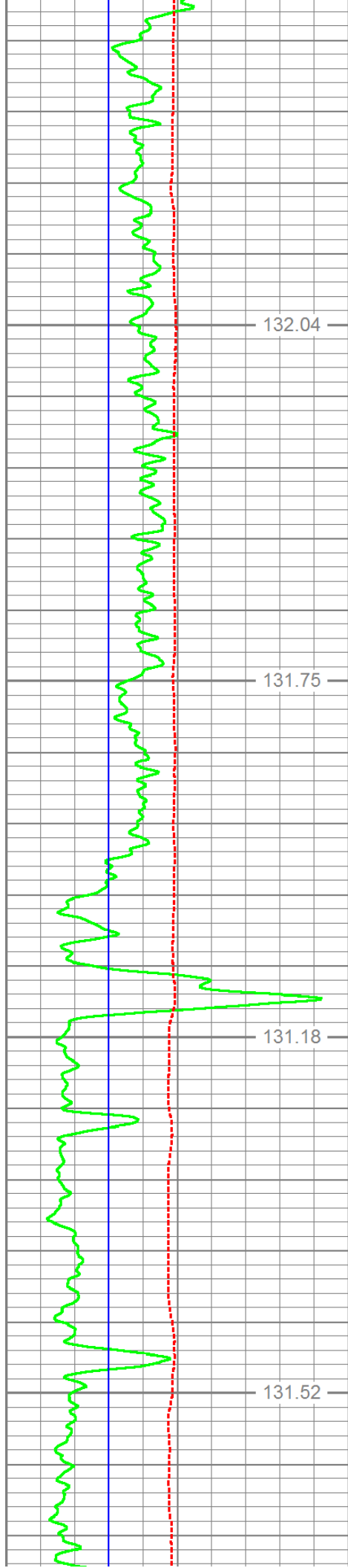
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360

160

150

140



5850

5900

5950

6000

350

340

330

320

310

300

290

280

270

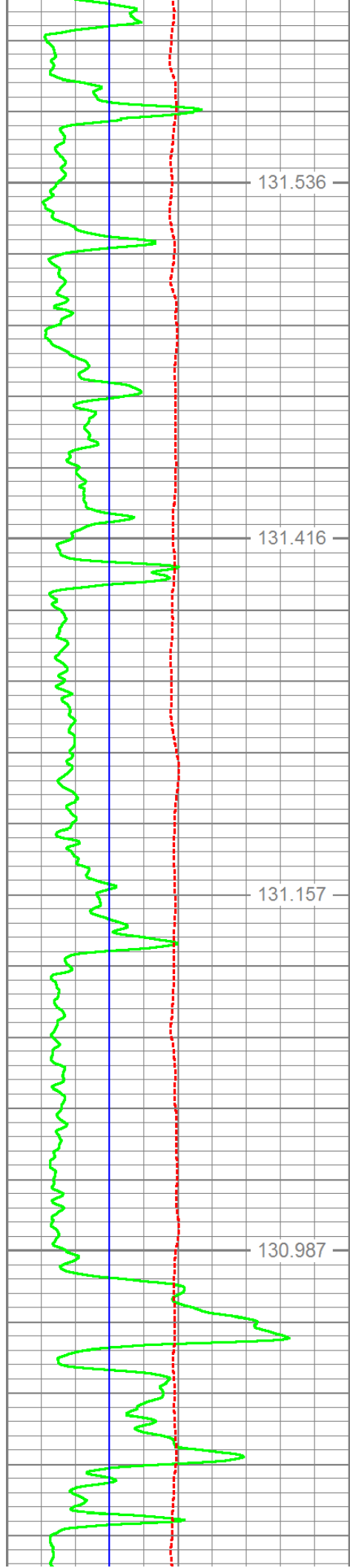
260

130

120

110

100



6050

6100

6150

6200

250

240

230

220

210

200

190

180

170

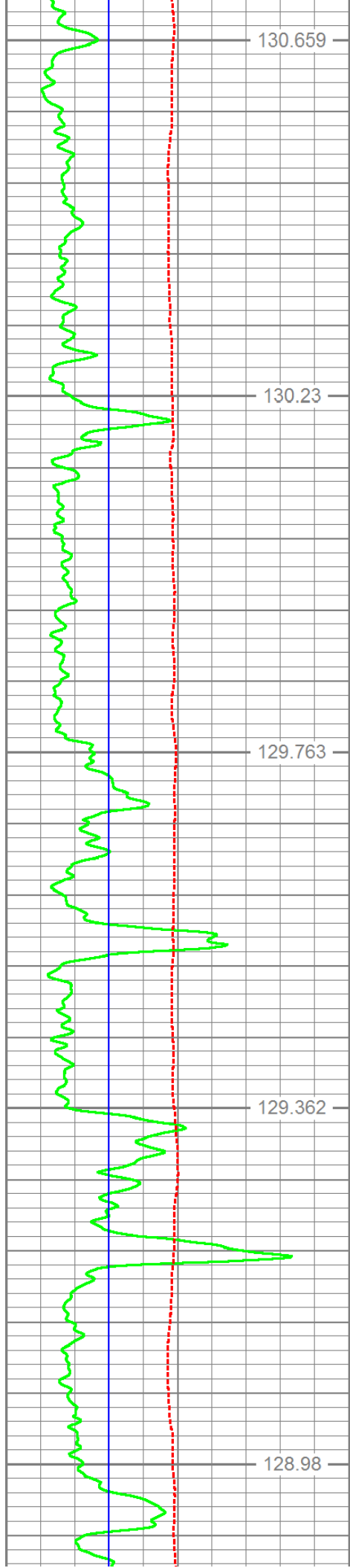


90

80

70

60



6250

6300

6350

6400

6450

160

150

140

130

120

110

100

90

80

70

50

40

30

Sensor	Offset (ft)	Schematic		Description	Len (ft)	OD (in)	Wt (lb)
Thrubit	94.67			Cablehead-S	2.31	2.13	5.00
Thrubit	92.36			Solid Weakpoint			
				PSBDOT	3.87	2.25	35.00
Thrubit	88.49			HangOff_Tool	5.00	2.38	60.00
Thrubit	83.49			10-1	0.88	2.13	3.95
TBBAT2	82.62			TBBAT2-A (PS26B) Thrubit Battery	6.13	2.13	80.00
TBBAT	76.49			TBBAT-A (PS21B) Thrubit Battery	6.13	2.13	38.20
TMG	70.37			TMG-PS (PS23T) ThruBit Telemetry Gamma Ray	6.13	2.13	45.00
GR	70.24						
GRTEMP	69.41						
Thrubit	64.24			Decentralizer (Big)	8.45	2.13	70.00
CNLSC	53.85			TBN-PS (PS09N) ThruBit Neutron	4.77	2.13	63.00
				TBD-PS (PS25D) Thrubit Density	10.48	2.13	91.00
LSW1	43.29			Knuckle	1.42	2.13	11.50
DCAL	42.38			Knuckle	1.42	2.13	11.50
Thrubit	40.54						
Thrubit	39.13						
DT	31.04			TBS-A (TBS17) Thrubit Sonic -- Initial Support	16.46	2.13	75.00
TT	31.04						
RmbPk	31.04						
WVF1	31.04						
WVF2	31.04						
WVF3	31.04						
WVF4	31.04			Sonic Centralizer	2.96	2.13	22.60
WVF5	31.04						
WVF6	31.04						
WVF7	31.04						
Thrubit	21.25			TBI-PS (PS30R) Thrubit Induction	15.29	2.13	94.00
A1_P	13.60						
A2_P	13.10						
A3_P	12.35						
A4_P	11.35						
A5_P	9.60						
Thrubit	3.00			CaseholeCent	3.00	1.69	13.35

Dataset: chevron_fee 162y_12dec12_mem_2.db: field/well/proc1/merge3
 Total Length: 94.67 ft
 Total Weight: 719.10 lb

O.D. 2.38 in



ThruBit

A Schlumberger Company

Company	CHEVRON PRODUCTION COMPANY
Well	FEE 162Y
Field	RANGELY
County	RIO BLANCO
State	COLORADO