RELIANCE OILFIELD SERVICES

Temperature
Gamma Ray
Casing Collar Log

Company TEP Rocky Mountain LLC
Well Federal RU 524-17
Field Rulison
County Garfield
State Colorado

Company TEP Rocky Mountain LLC
Well Federal RU 524-17
Field Rulison
County Garfield State Colorado

Location: API # : 05-045-23731
SEC 17 TWP 7S RGE 93W

Other Services

Permanent Datum Ground Level Elevation 8365.6'
Log Measured From Kelly Bushing 24 FT
Drilling Measured From Kelly Bushing

Elevation
K.B. 8389.6'
D.F. 8388.6'
G.L. 8365.6'

Date	22-MAY-2018			
Run Number	One			
Depth Driller	10558 FT			
Depth Logger	10497 FT			
Bottom Logged Interval	10497 FT			
Top Log Interval	Surface			
Open Hole Size	8.750"			
Type Fluid	Fresh Water			
Density / Viscosity	8.34 lb/gal			
Max. Recorded Temp.	246°F			
Estimated Cement Top	4580 FT			
Time Well Ready	ROA			
Time Logger on Bottom	10:40			
Equipment Number	HD-0359			
Location	Grand Junction, CO			
Recorded By	A. Ellsworth			
Witnessed By	Bob Brown			

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To

Casing Record	Size (in)	Wgt (lbs/Ft)	Grade	Top	Bottom
Surface Casing	9 5/8	32.3	H-40	Surface	1141 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	10518 FT
Intermediate #2					
Liner					

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

Log ran as per customer request
Depth referenced to Kelly Bushing at 24 FT
Marker Joint logged from 6346 FT to 6368 FT
Log ran from 10497 FT to Surface
Log ran with 0 PSI Surface Induced Pressure

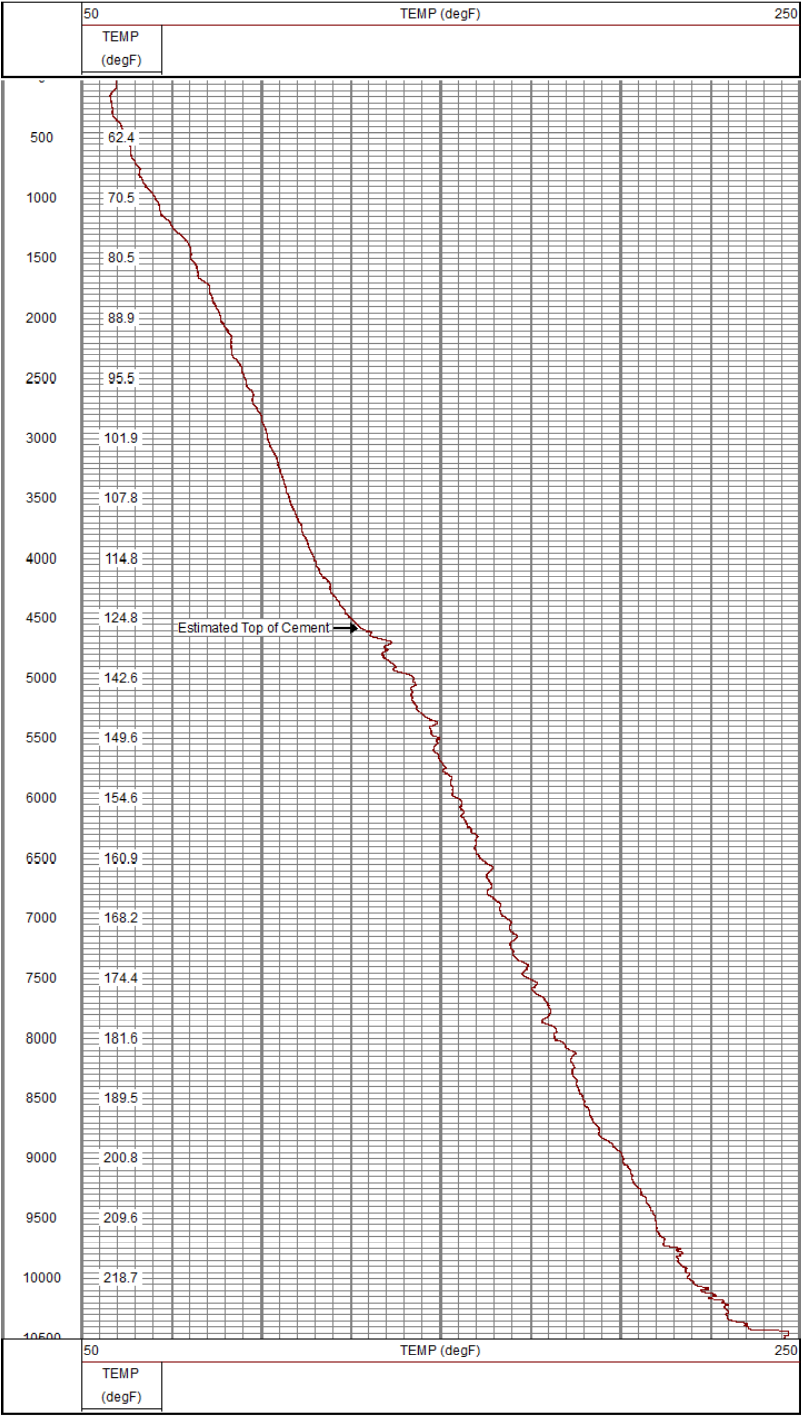
Thank you for choosing Reliance Oilfield Services, LLC!!

RELIANCE OILFIELD SERVICES

Main Pass (Quick Look)

Recorded with 0 PSI Surface Induced Pressure

Database File tep\federal ru 524-17\tep_federal ru 524-17_temp_05-22-18.db
Dataset Pathname mainql
Presentation Format ros_temp_ql_tep
Dataset Creation Tue May 22 11:27:25 2018
Charted by Depth in Feet scaled 1:10000

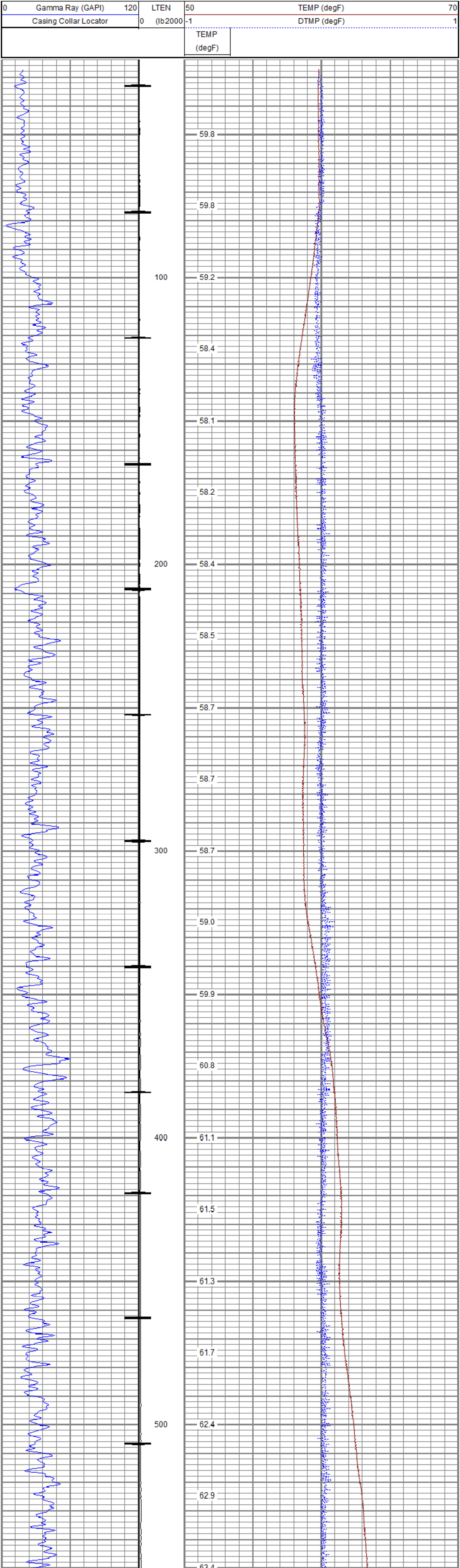


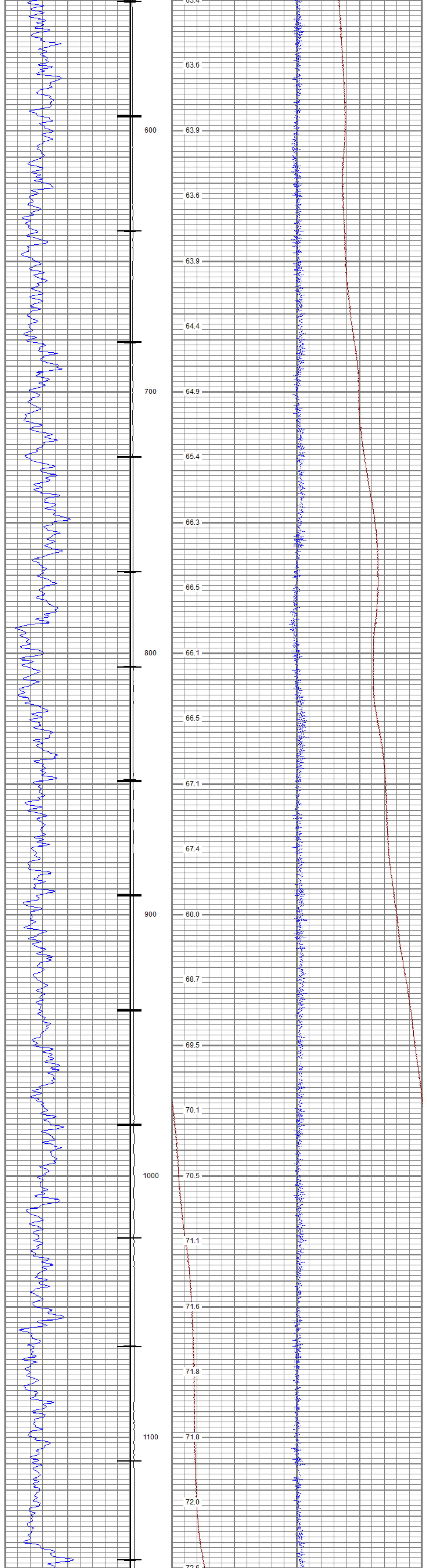
RELIANCE OILFIELD SERVICES

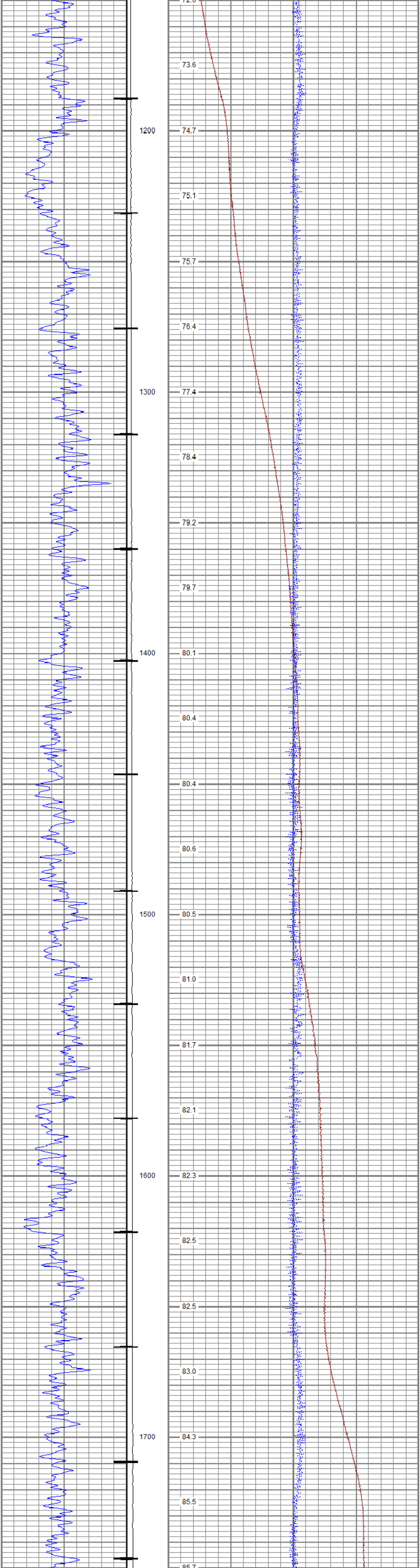
Main Pass

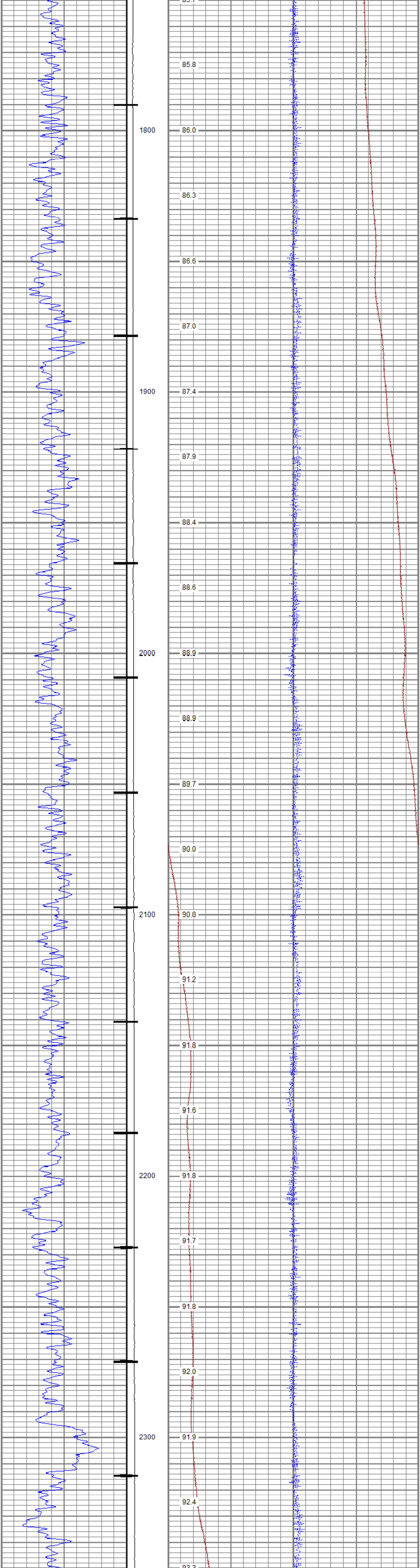
Recorded with 0 PSI Surface Induced Pressure

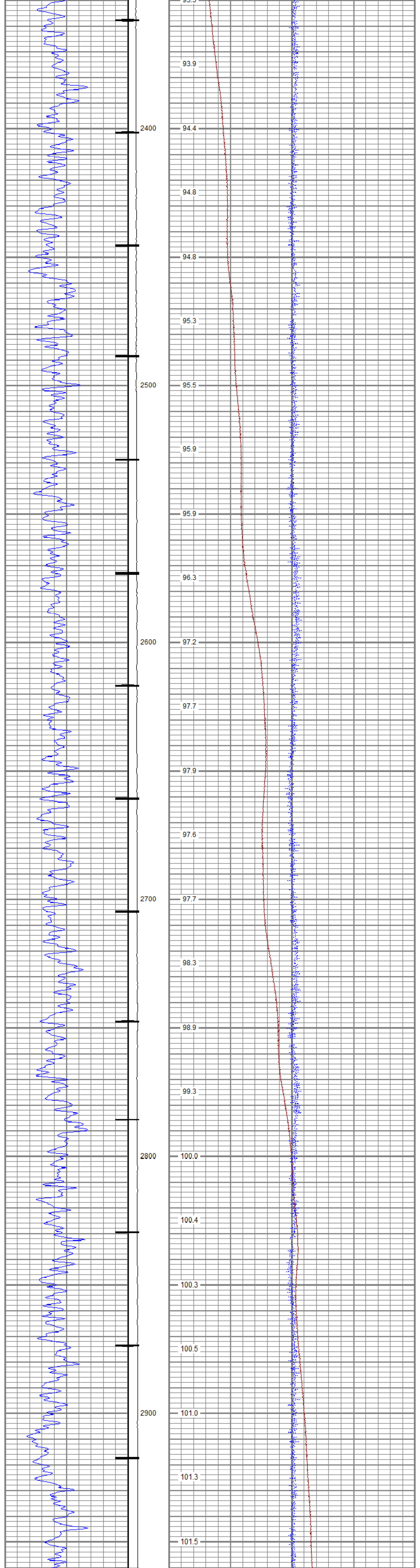
Database File tep\federal ru 524-17\tep_federal ru 524-17_temp_05-22-18.db
Dataset Pathname main
Presentation Format ros_temp_tep
Dataset Creation Tue May 22 09:57:13 2018
Charted by Depth in Feet scaled 1:240

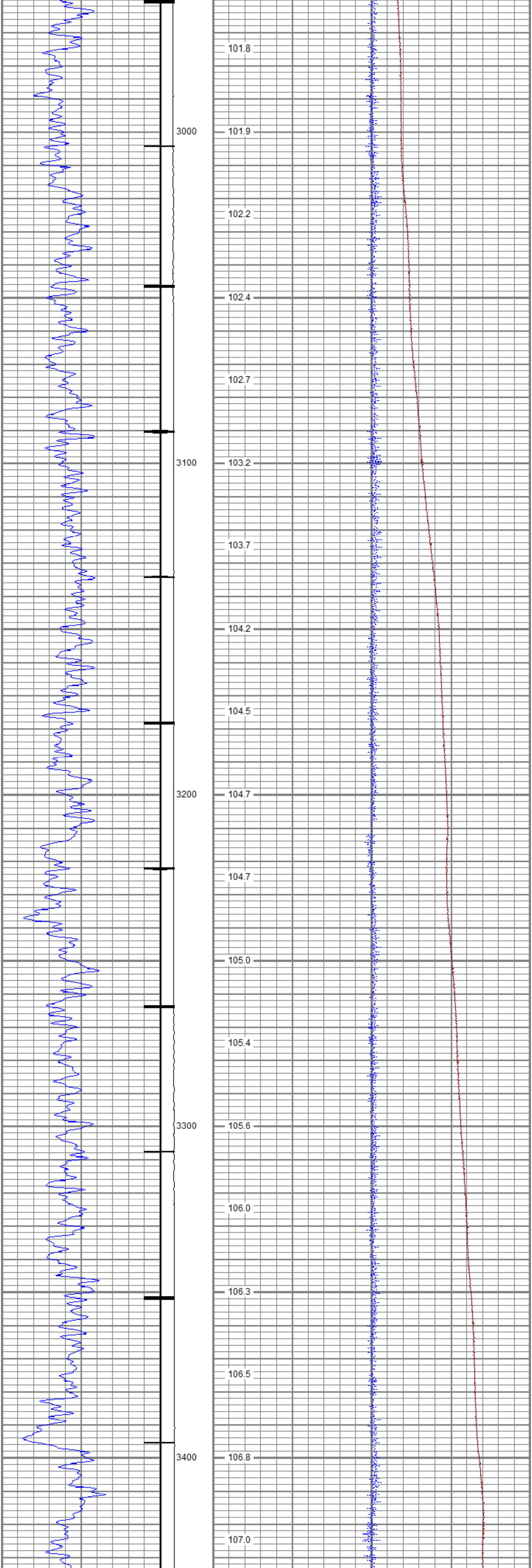


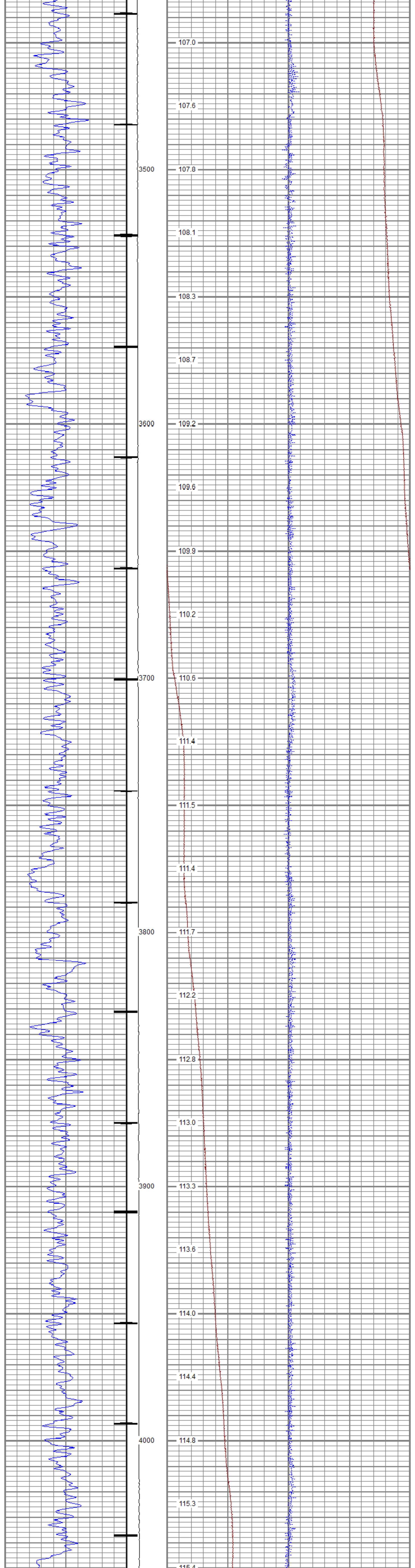


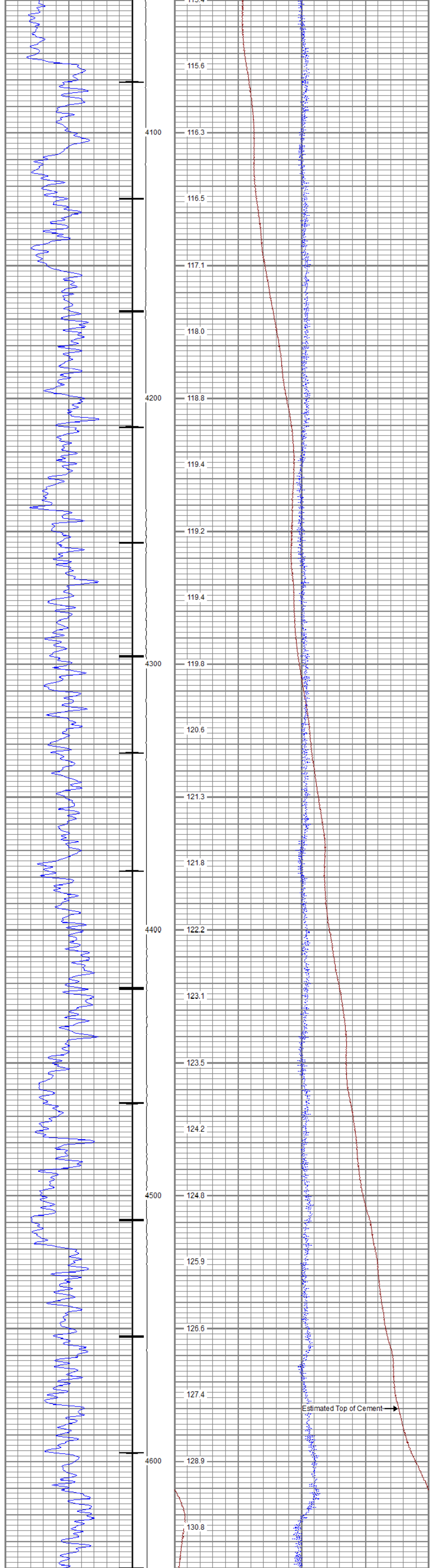


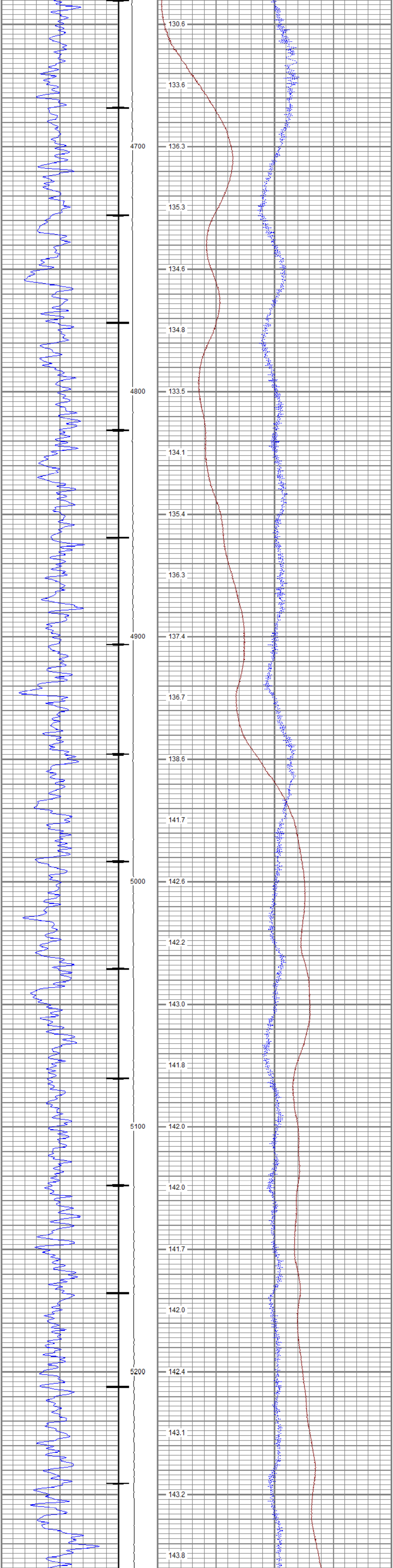


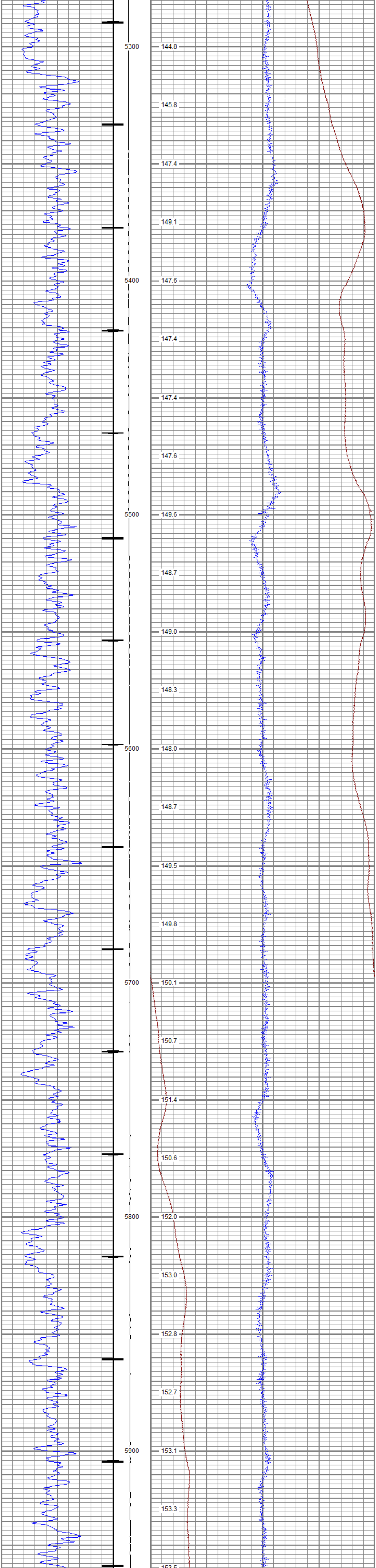


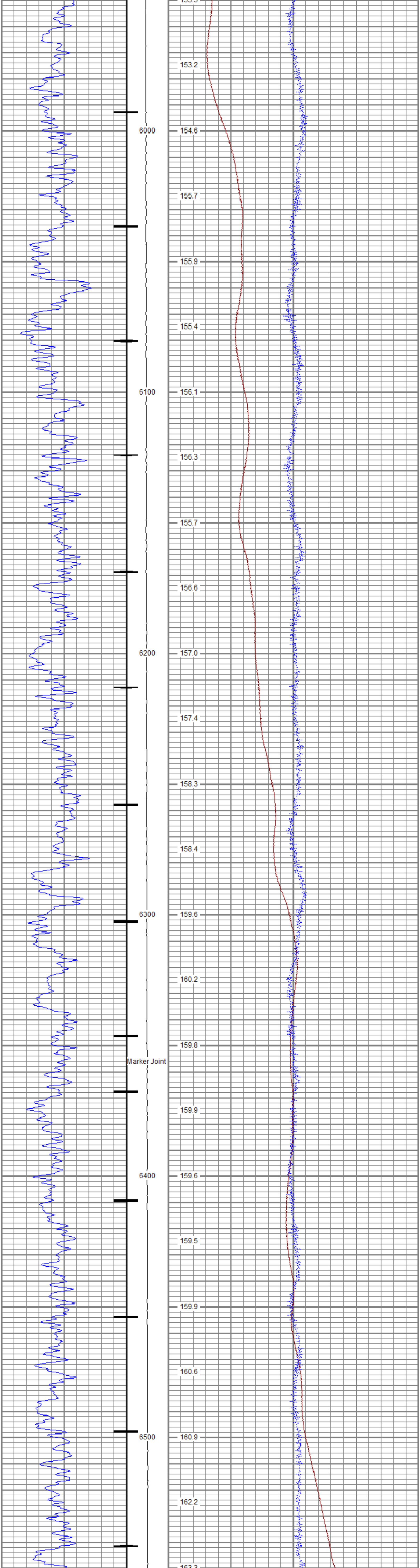


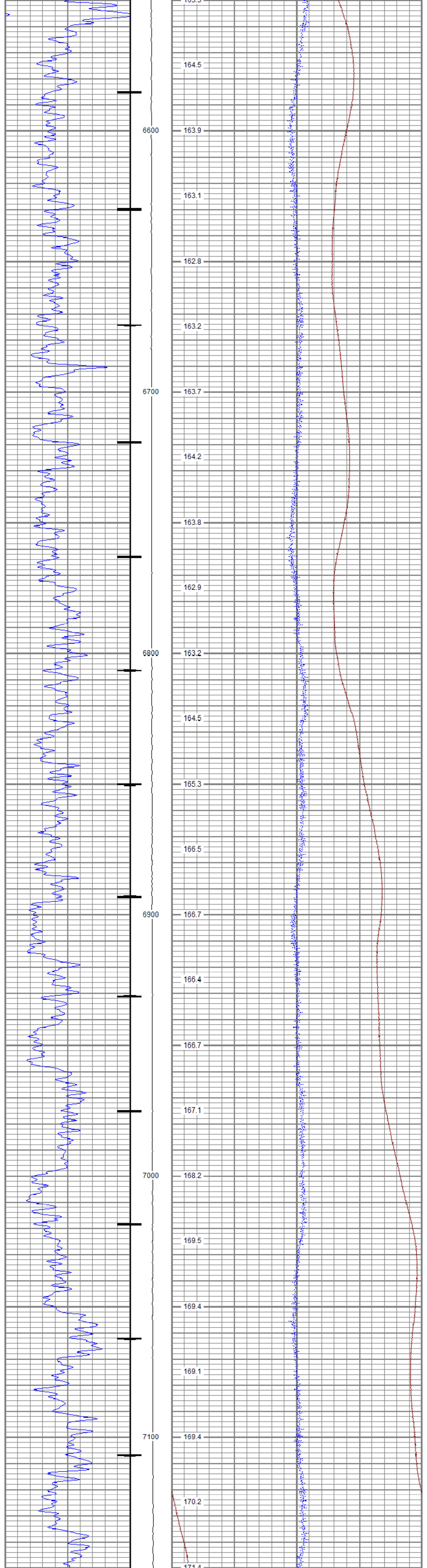

107.0
107.6
107.8
3500
108.1
108.3
108.7
3600
109.2
109.6
109.9
110.2
3700
110.6
111.4
111.5
111.4
3800
111.7
112.2
112.8
113.0
3900
113.3
113.6
114.0
114.4
4000
114.8
115.3
115.4

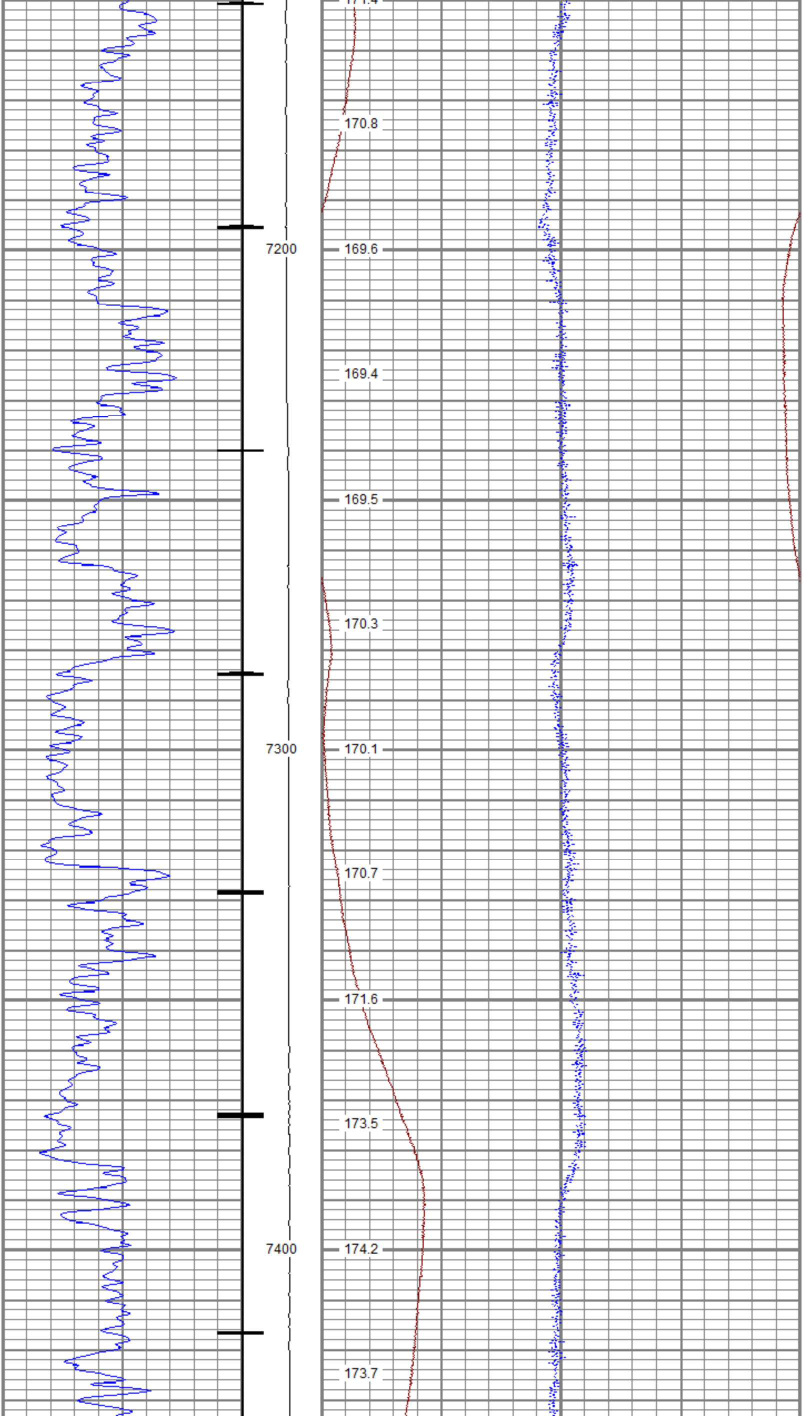

4100
4200
4300
4400
4500
4600
115.6
116.3
116.5
117.1
118.0
118.8
119.4
119.2
119.4
119.8
120.6
121.3
121.8
122.2
123.1
123.5
124.2
124.8
125.9
126.6
127.4
Estimated Top of Cement
128.9
130.8

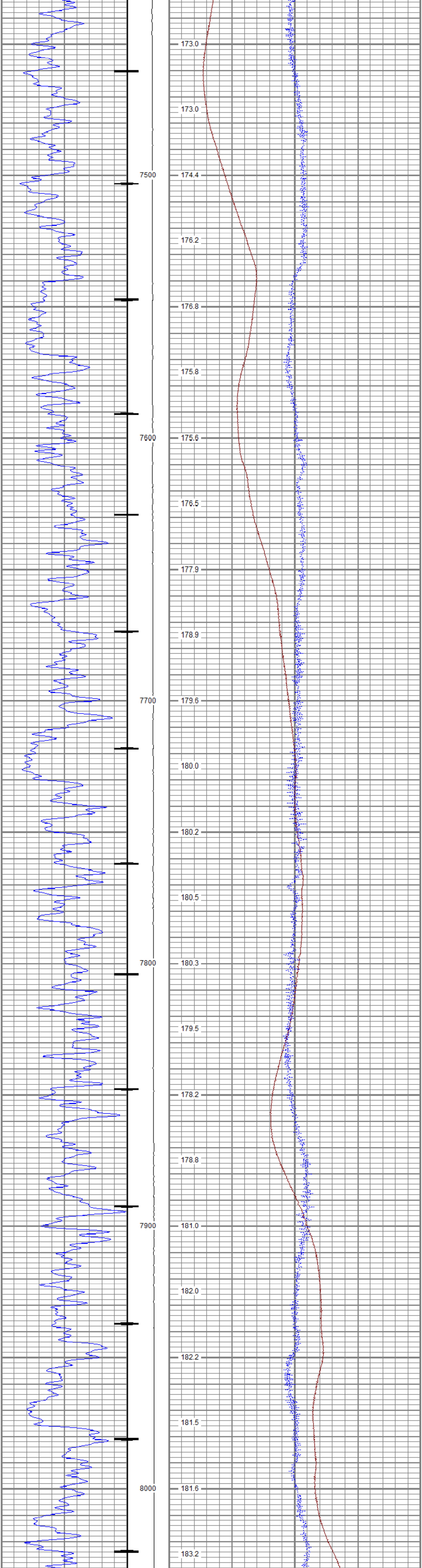

130.6
133.6
4700
136.3
135.3
134.6
134.8
4800
133.5
134.1
135.4
136.3
4900
137.4
136.7
138.6
141.7
5000
142.6
142.2
143.0
141.8
5100
142.0
142.0
141.7
142.0
5200
142.4
143.1
143.2
143.8

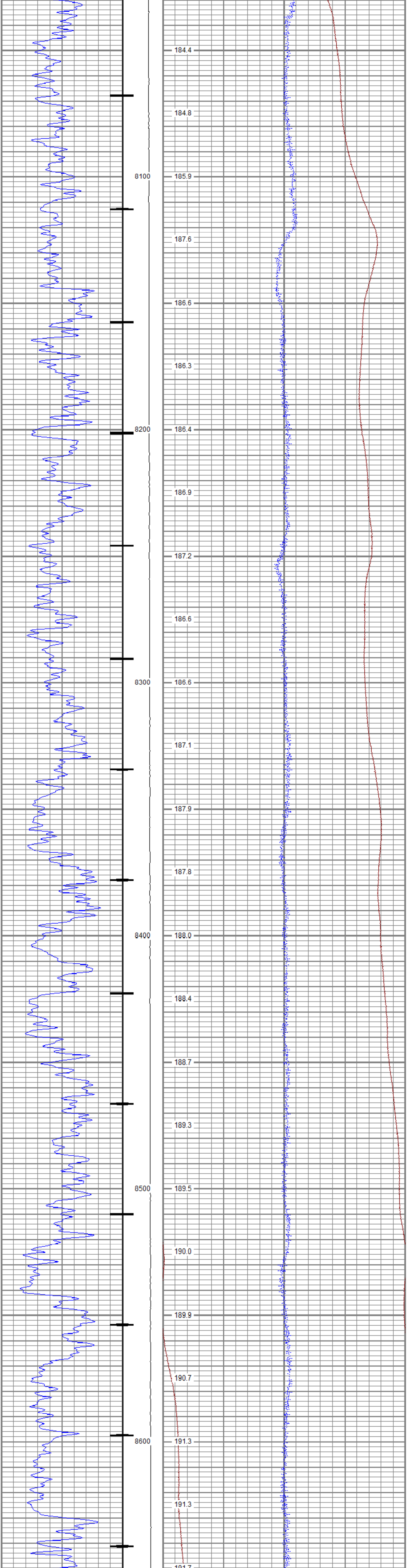

5300
144.8
145.8
147.4
149.1
5400
147.6
147.4
147.4
147.6
5500
149.6
148.7
149.0
148.3
5600
148.0
148.7
149.5
149.8
5700
150.1
150.7
151.4
150.6
5800
152.0
153.0
152.8
152.7
5900
153.1
153.3
153.5

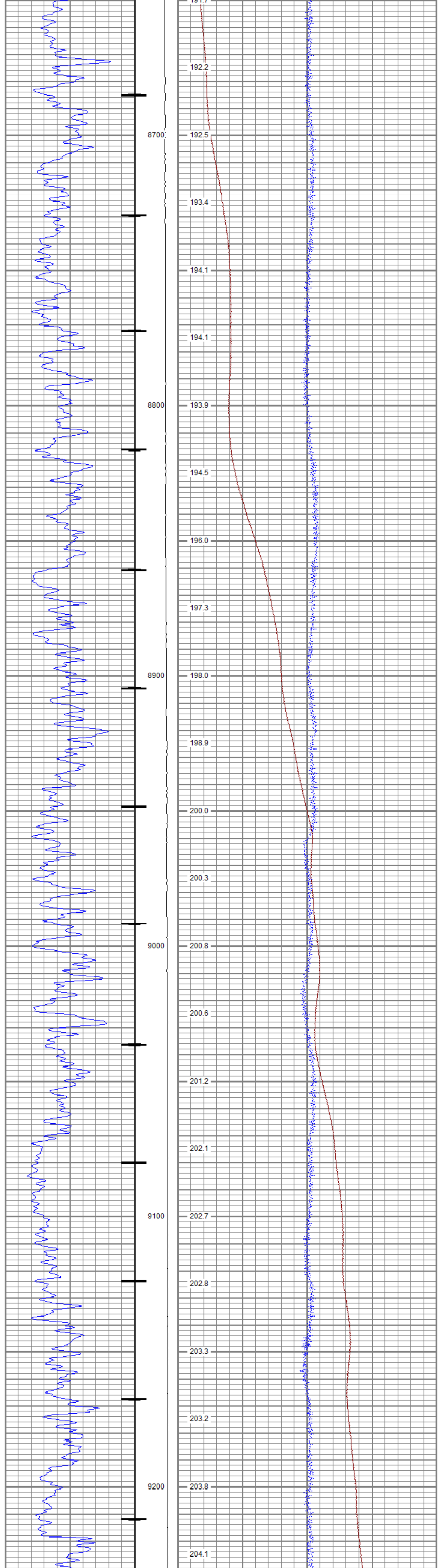

6000
6100
6200
6300
Marker Joint
6400
6500
153.2
154.6
155.7
155.9
155.4
156.1
156.3
155.7
156.6
157.0
157.4
158.3
158.4
159.6
160.2
159.8
159.9
159.6
159.5
159.9
160.6
160.9
162.2

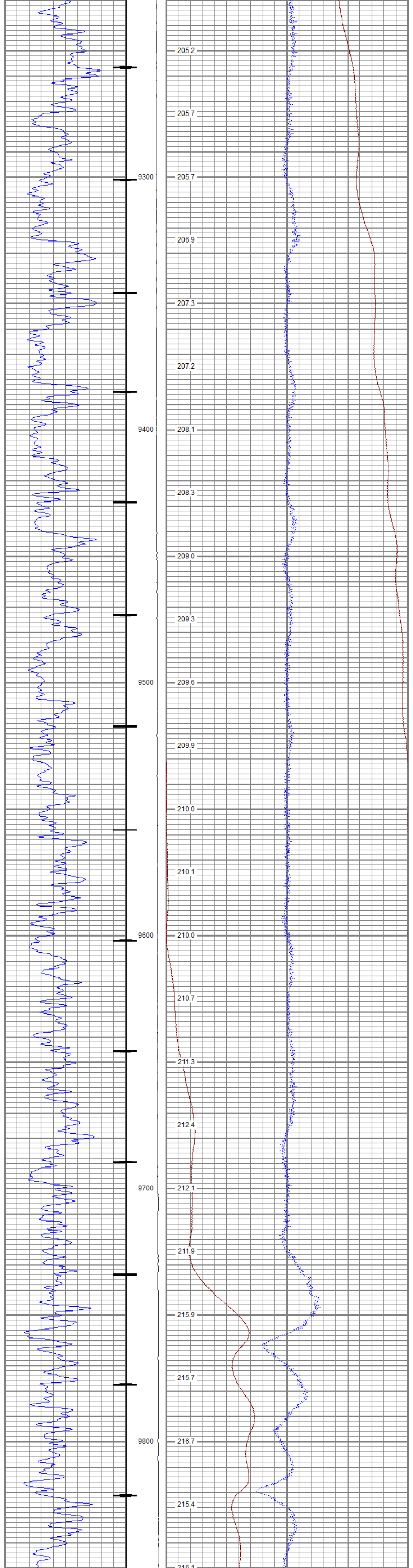

164.5
6600
163.9
163.1
162.8
163.2
6700
163.7
164.2
163.8
162.9
6800
163.2
164.5
165.3
166.5
6900
166.7
166.4
166.7
167.1
7000
168.2
169.5
169.4
169.1
7100
169.4
170.2

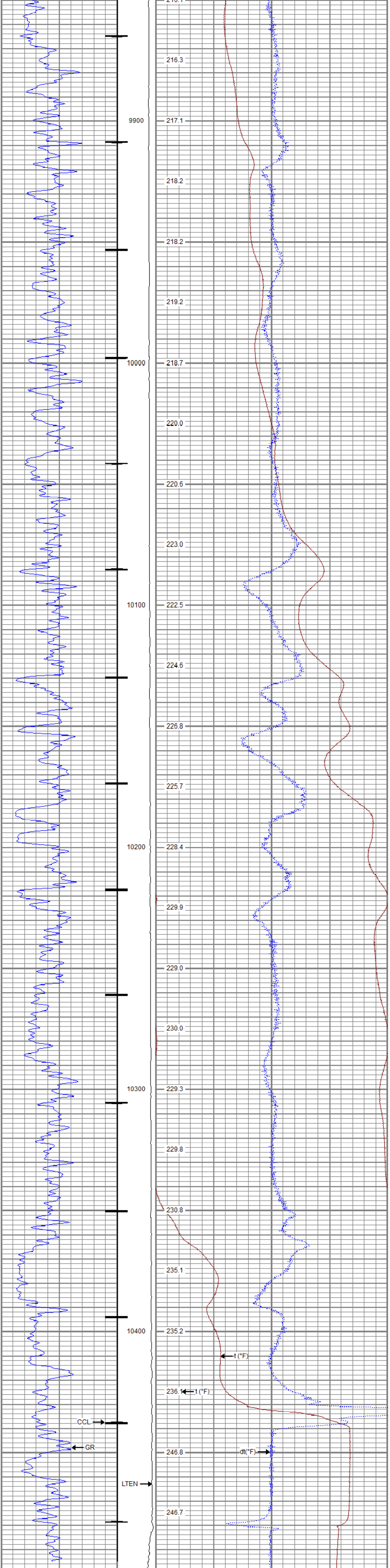

170.8
7200
169.6
169.4
169.5
170.3
7300
170.1
170.7
171.6
173.5
7400
174.2
173.7



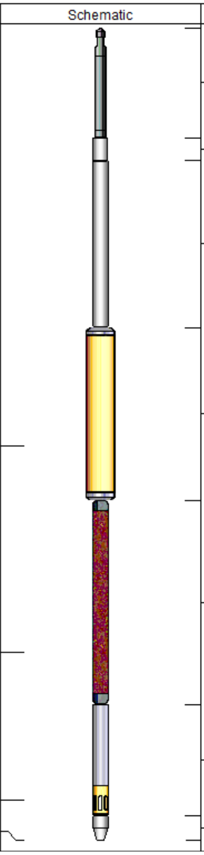








0 Gamma Ray (GAPI) 120	LTEN	50 TEMP (degF) 70
Casing Collar Locator	0 (lb2000	-1 DTMP (degF) 1
		TEMP (degF)

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Titan CHD-14375 GO Titan 1-7/16" Assembled Electric Cable Head w/ 1" Fishing Neck	1.03	1.44	3.60
			UW AGS-001 (211461) Sondex Adapter - GO Box to Sondex Pin	0.21	1.69	1.00
			UW XTU-002 (10017430) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
CCL	3.70		UW CCL-028 (10024821) 3-1/8" Ultrawire Casing Collar Locator	1.61	3.13	36.00
GR	1.76		UW PGR-020 (10019371) Production Gamma Ray	1.92	1.69	9.50
TEMP	0.37		UW PRT-016 (10025100) Platinum Resistance Thermometer	1.04	1.69	5.20
TSTAMP	0.00		UW BUL-006 (10019616) Sondex Ultrawire Bullnose Terminator Sub	0.22	1.69	1.20

Dataset:	tep_federal ru 524-17_temp_05-22-18.db: field/well/run1/main
Total length:	7.62 ft
Total weight:	63.00 lb
O.D.:	3.13 in

Calibration Report

Database File	C:\ProgramData\Warrior\Data\TEP\Federal RU 524-17\TEP_Federal RU 524-17_TEMP_05-22-18.db
Dataset Pathname	main
Dataset Creation	Tue May 22 09:57:13 2018

Temperature Calibration Report

Serial Number:	10025100
Tool Model:	016
Performed:	Sun Nov 12 13:30:03 2017

Point #	Reading		Reference	
1	13249.00	cps	68.00	degF
2	18454.00	cps	104.00	degF
3	29735.00	cps	176.00	degF
4	41457.00	cps	248.00	degF
5	52851.00	cps	320.00	degF
6	59128.00	cps	356.00	degF
7		cps		degF
8		cps		degF
9		cps		degF
10		cps		degF

Gamma Ray Calibration Report

Serial Number:	10019371	
Tool Model:	020	
Performed:	Sun Nov 12 05:37:04 2017	
Calibrator Value:	637.0	GAPI
Background Reading:	78.8	cps
Calibrator Reading:	1069.9	cps
Sensitivity:	0.6427	GAPI/cps

RELIANCE
OILFIELD SERVICES

Company	TEP Rocky Mountain LLC
Well	Federal RU 524-17
Field	Rulison
County	Garfield
State	Colorado