RELIANCE
OILFIELD SERVICES

Temperature
Gamma Ray
Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	Federal RU 423-17
Field	Rulison
County	Garfield
State	Colorado

Company TEP Rocky Mountain LLC
Well Federal RU 423-17
Field Rulison
County Garfield State Colorado

Location: API # : 05-045-23745
1865' FSL & 2458' FWL NESW
SEC 17 TWP 7S RGE 93W

Other Services
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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	10-APR-2018		
Run Number	One		
Depth Driller	10388 FT		
Depth Logger	10325 FT		
Bottom Logged Interval	10325 FT		
Top Log Interval	Surface		
Open Hole Size	8.750"		
Type Fluid	Fresh Water		
Density / Viscosity	8.34 lb/gal		
Max. Recorded Temp.	245°F		
Estimated Cement Top	4440 FT		
Time Well Ready	ROA		
Time Logger on Bottom	22:50		
Equipment Number	HD-0359		
Location	Grand Junction, CO		
Recorded By	A. Ellsworth		
Witnessed By	Company Rep.		

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	1106 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	10347 FT
Intermediate #2					
Liner					

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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 6119 FT to 6140 FT
Log ran from 10325 FT to Surface
Log ran with 0 PSI Surface Induced Pressure

Thank you for choosing Reliance Oilfield Services, LLC!!

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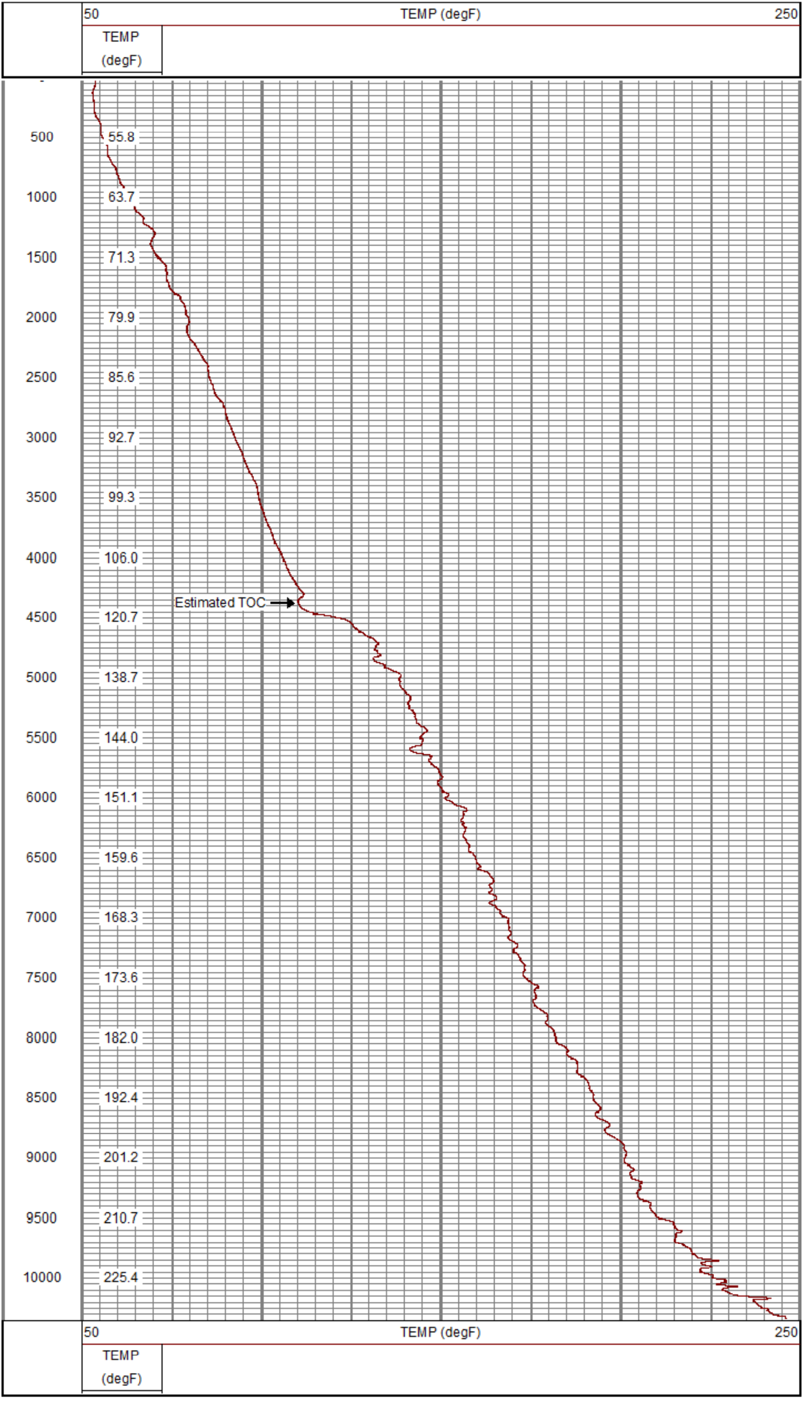
Main Pass (Quick Look)

Recorded with 0 PSI Surface Induced Pressure

Database File	tep_federal ru 423-17_temp_04-10-18\processed_tep_federal ru 423-17_temp_04-10-18.db
Dataset Pathname	MainQL
Presentation Format	ros_temp_ql_tep
Dataset Creation	Wed Apr 11 01:14:17 2018
Charted by	Depth in Feet scaled 1:10000



RELIANCE
OILFIELD SERVICES

Main Pass

Recorded with 0 PSI Surface Induced Pressure

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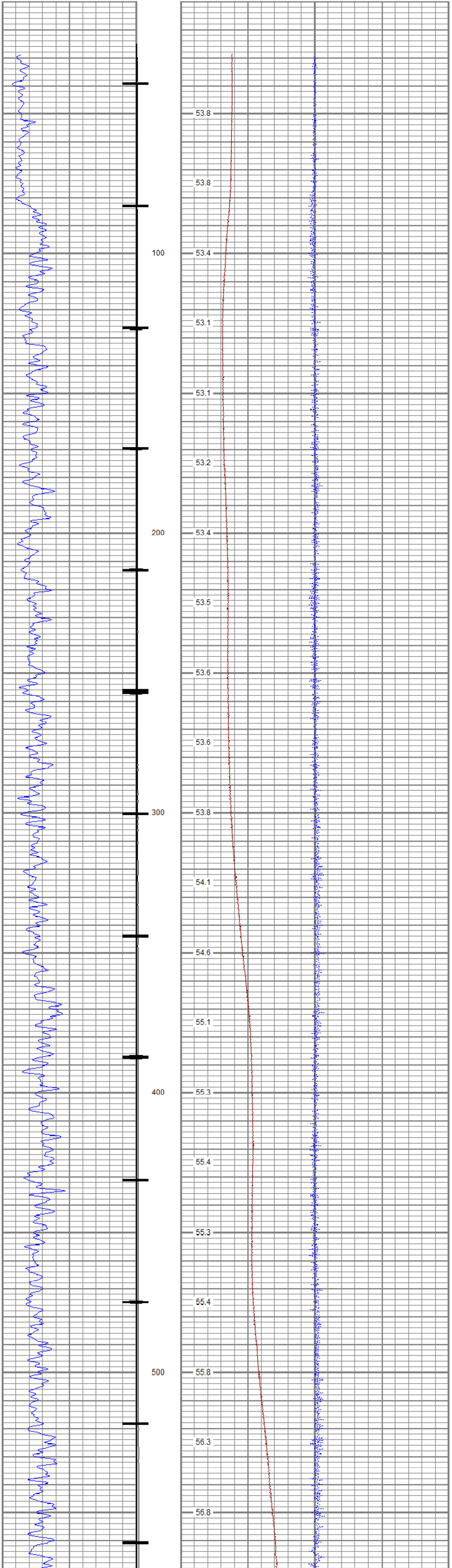
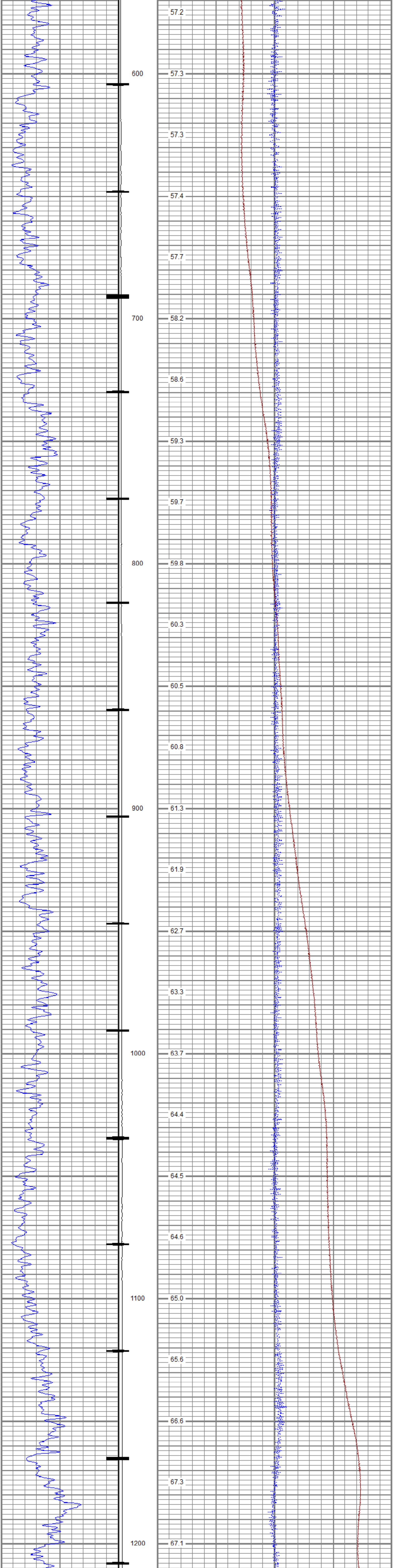
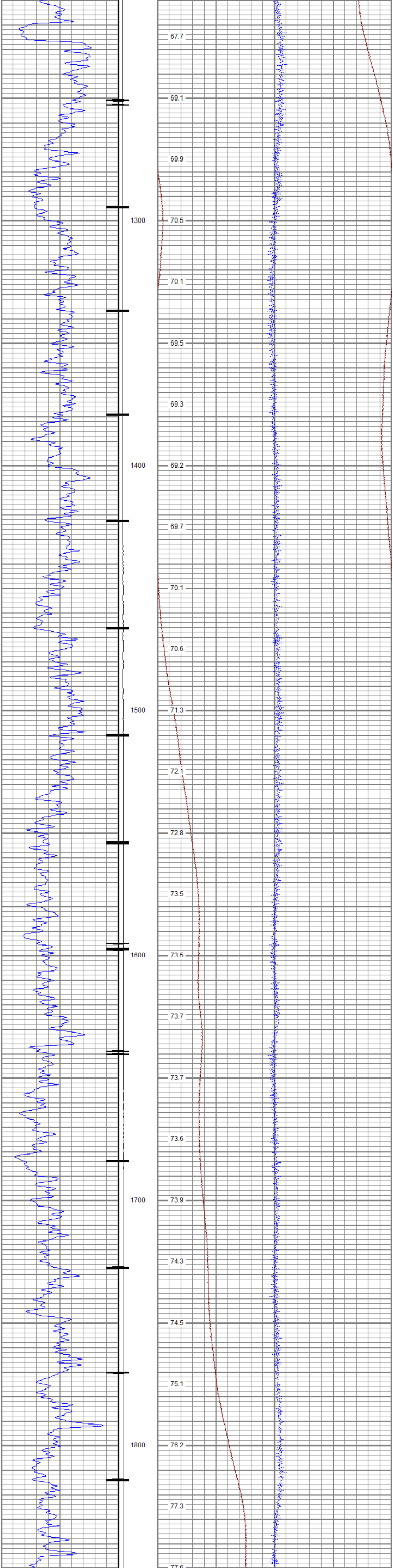
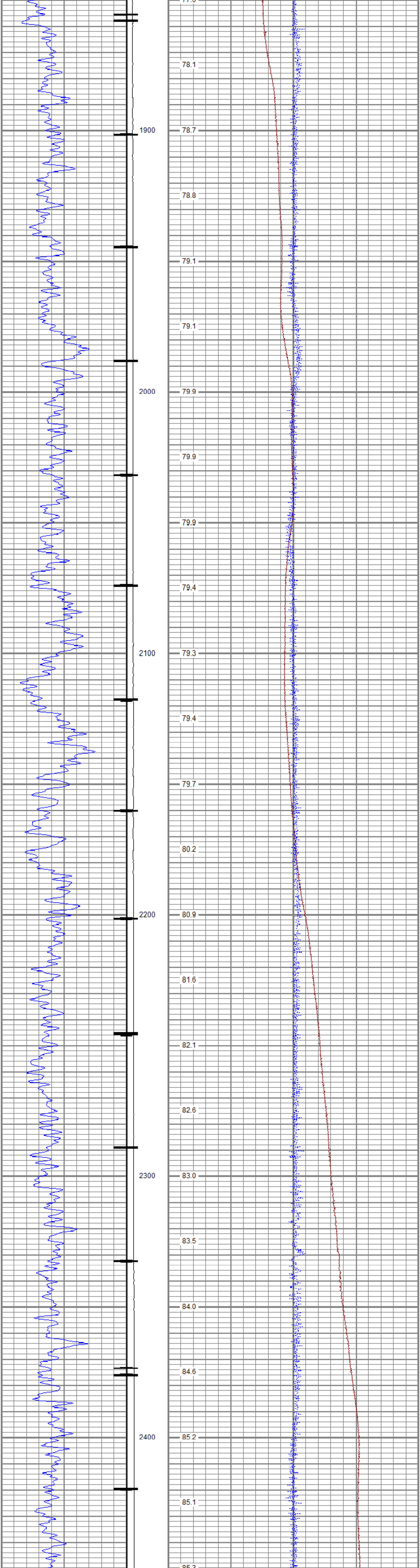
Dataset Pathname	Main
Presentation Format	ros_temp_tep
Dataset Creation	Tue Apr 10 23:47:01 2018
Charted by	Depth in Feet scaled 1:240

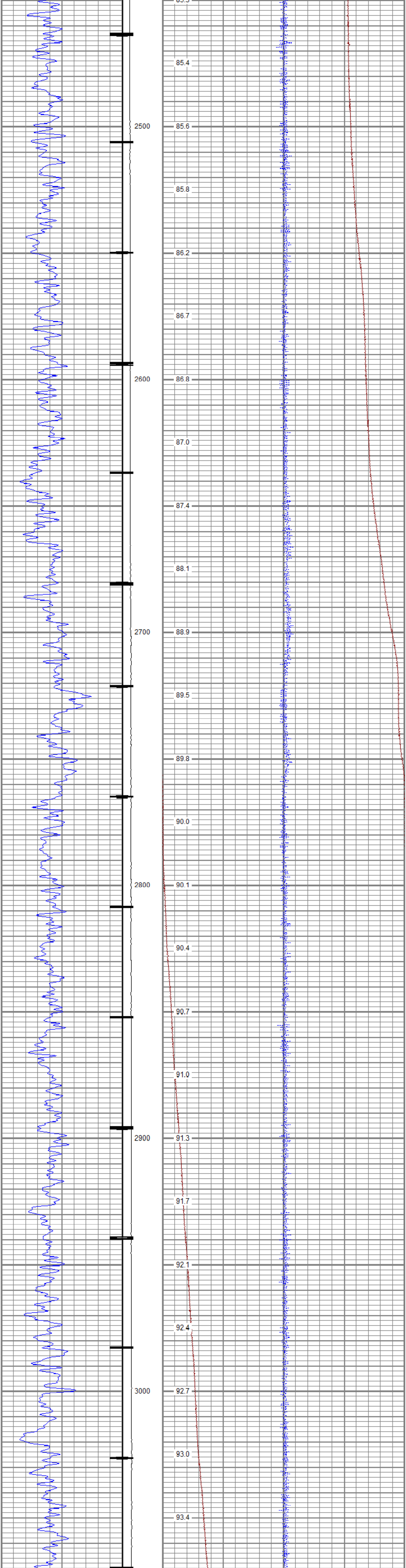
0 Gamma Ray (GAPI) 120
Casing Collar Locator
LTEN
0 (lb 2000
50 TEMP (degF) 70
-1 DTMP (degF) 1
TEMP
(degF)

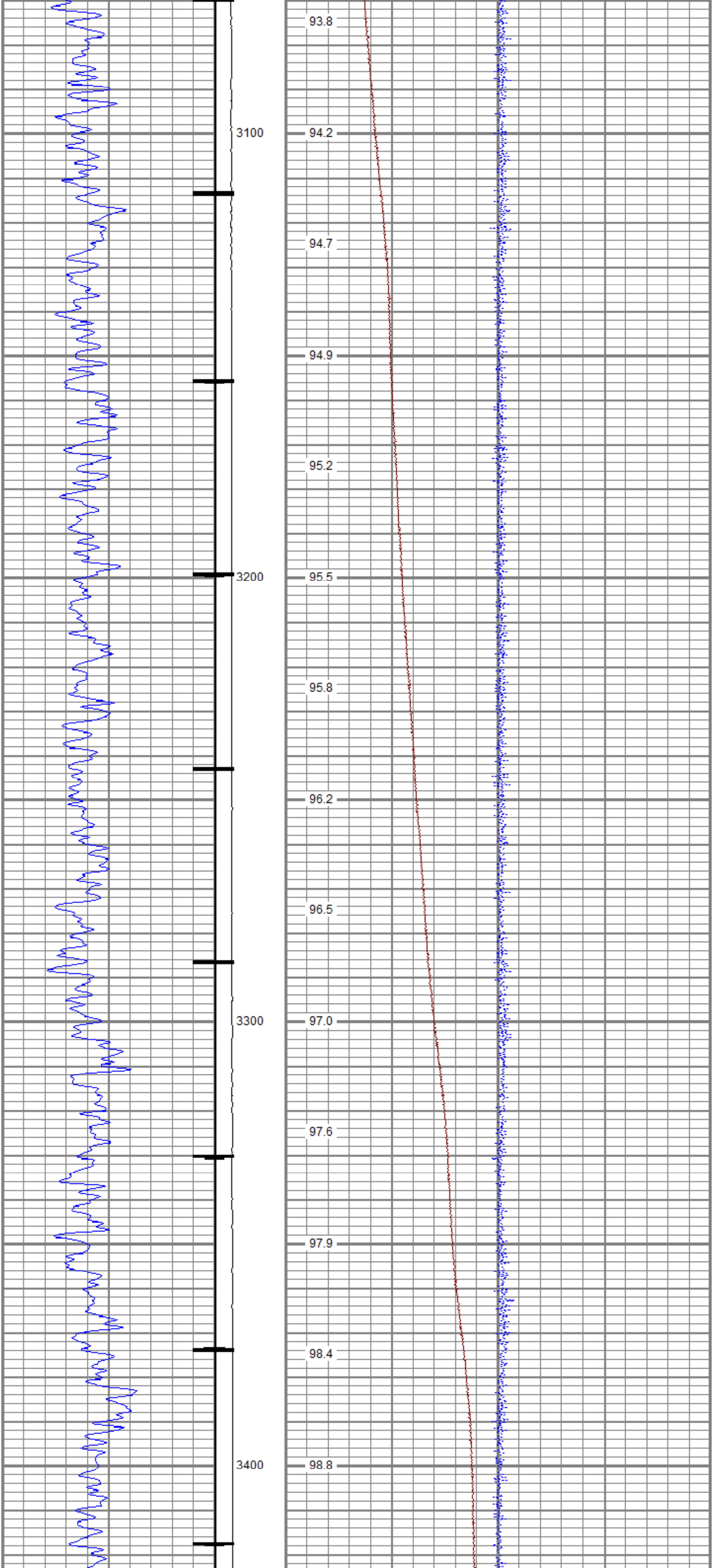


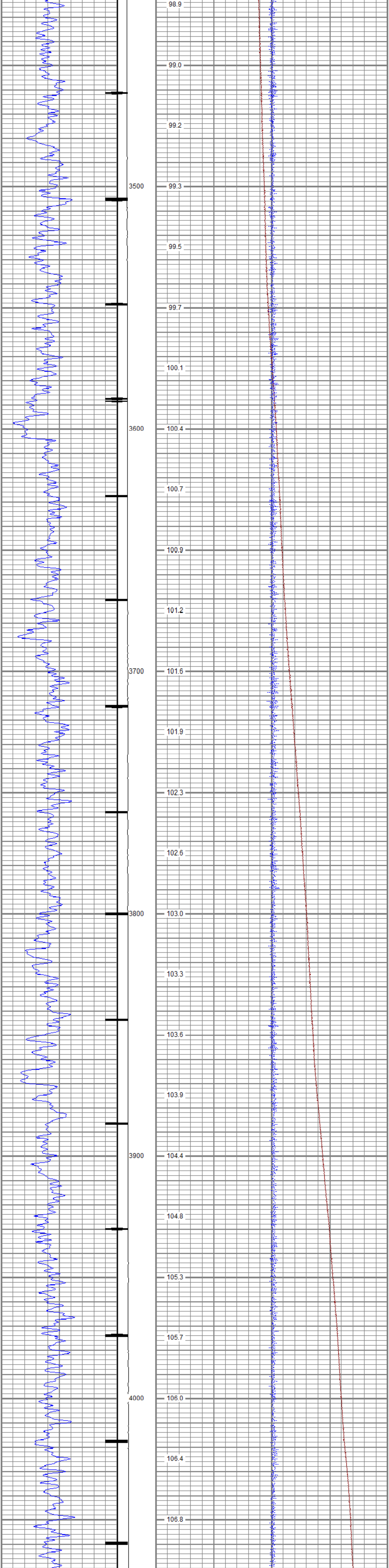








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101.6
101.9
102.3
102.6
3800
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105.7
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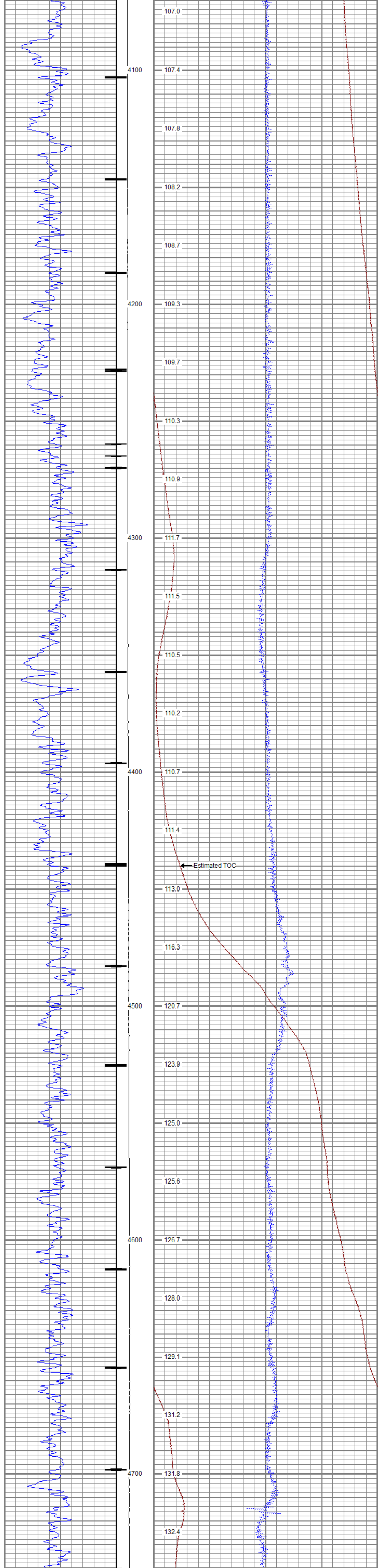
106.0
106.4
106.8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110.3
110.9
111.7
111.5
110.5
110.2
110.7
111.4
Estimated TOC
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128.0
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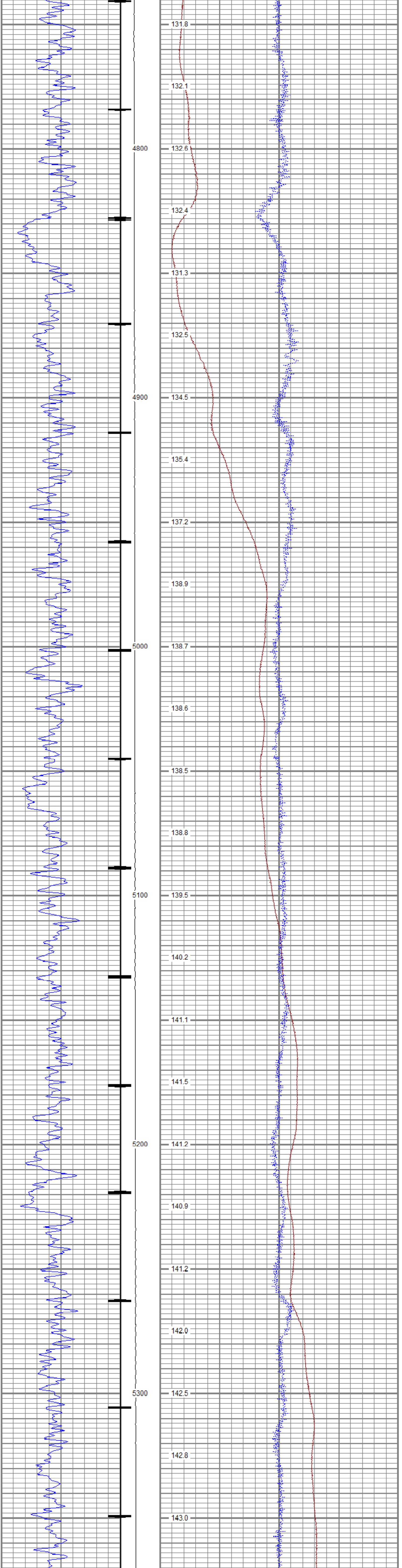
131.8
132.4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138.6
138.5
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5100
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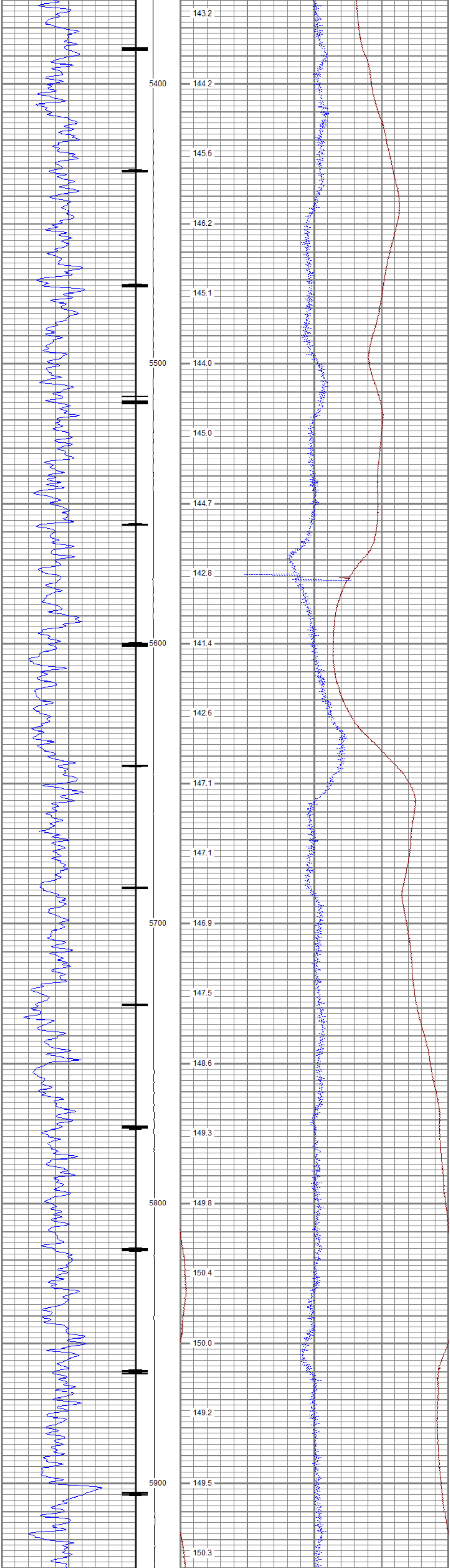
142.8
143.0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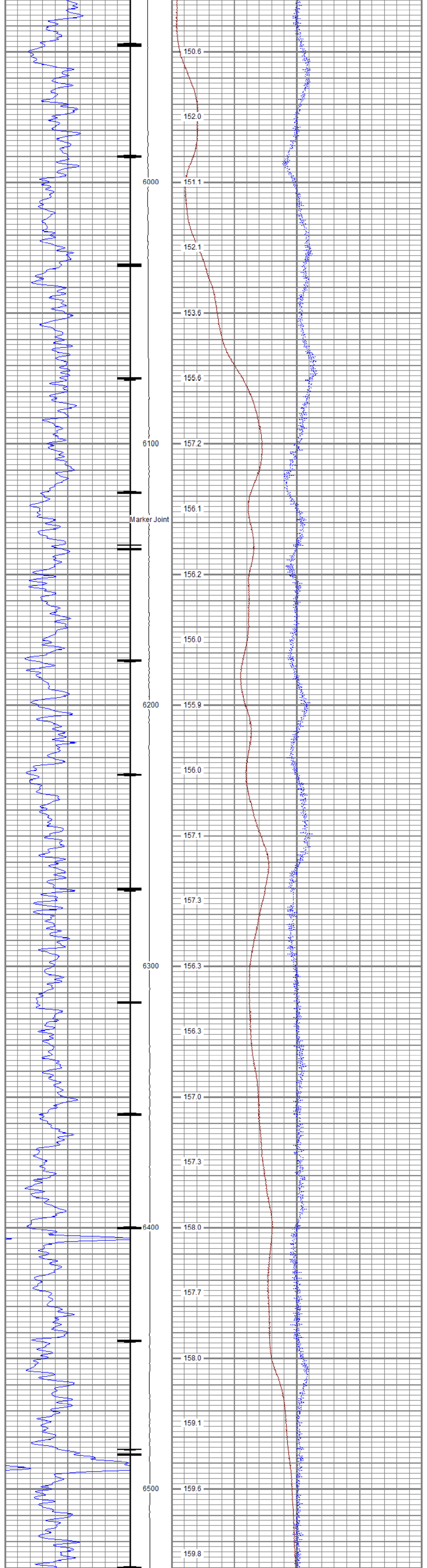
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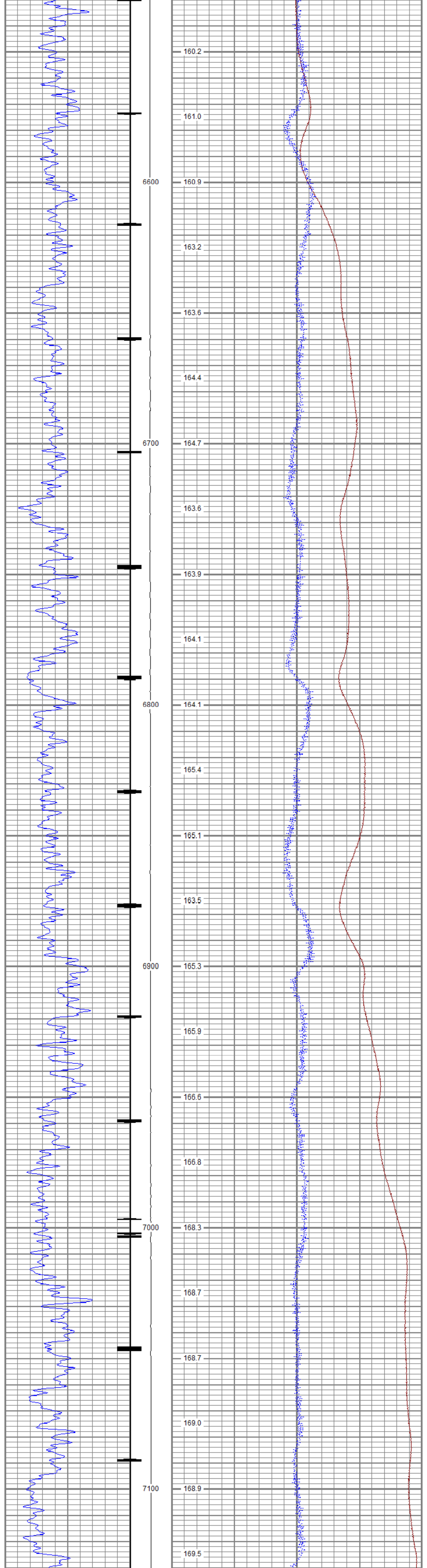
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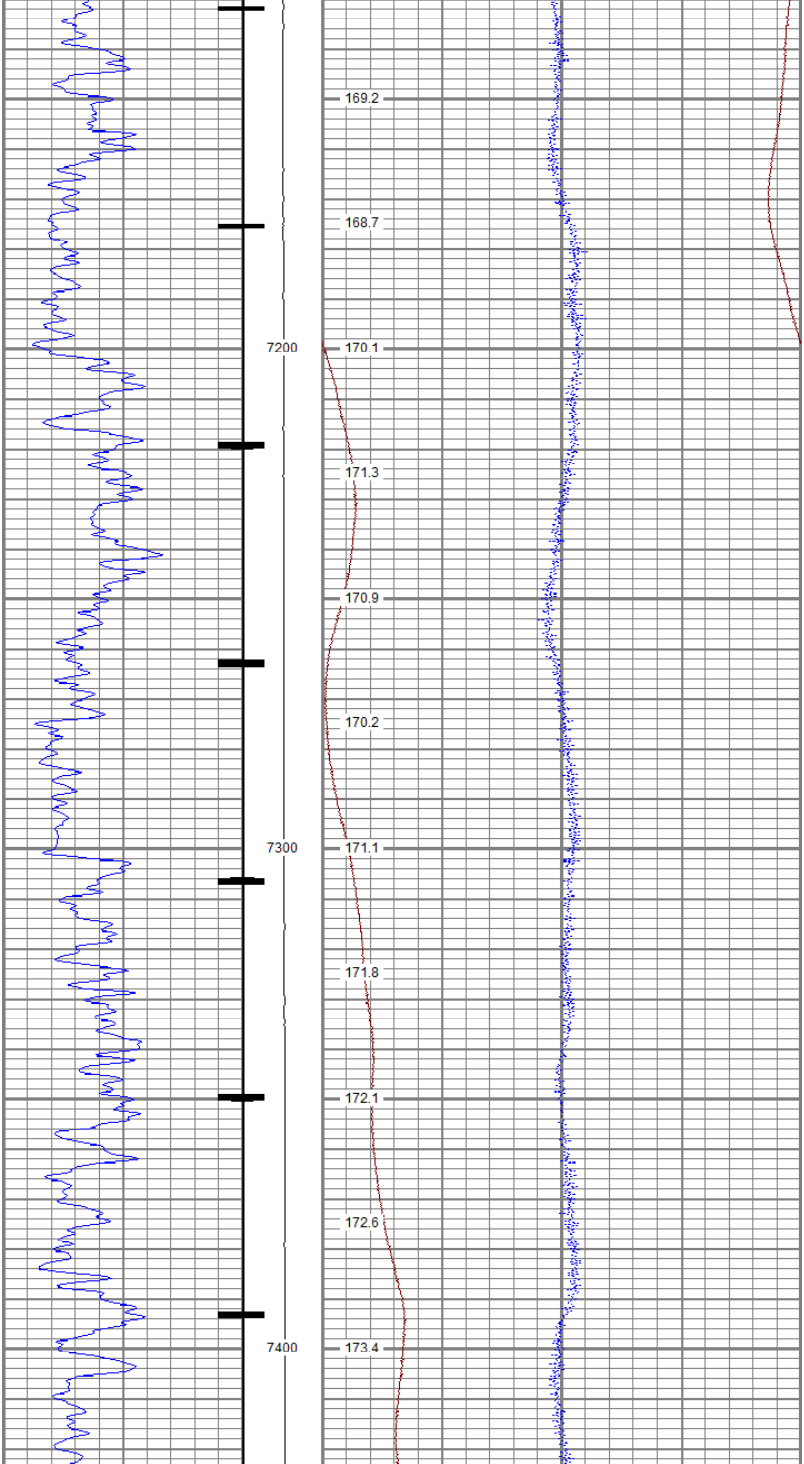
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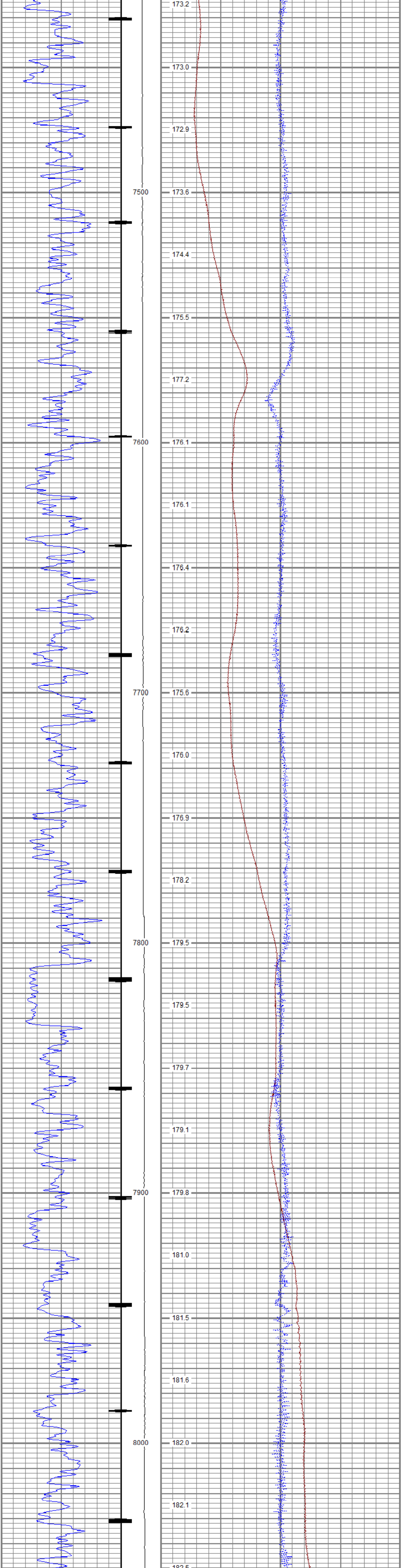
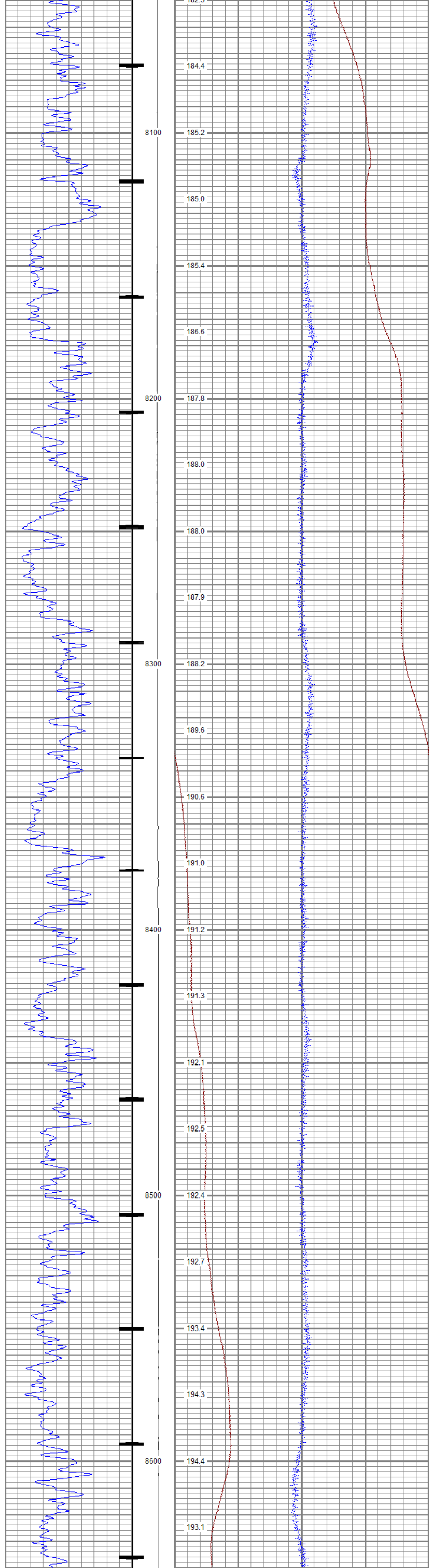
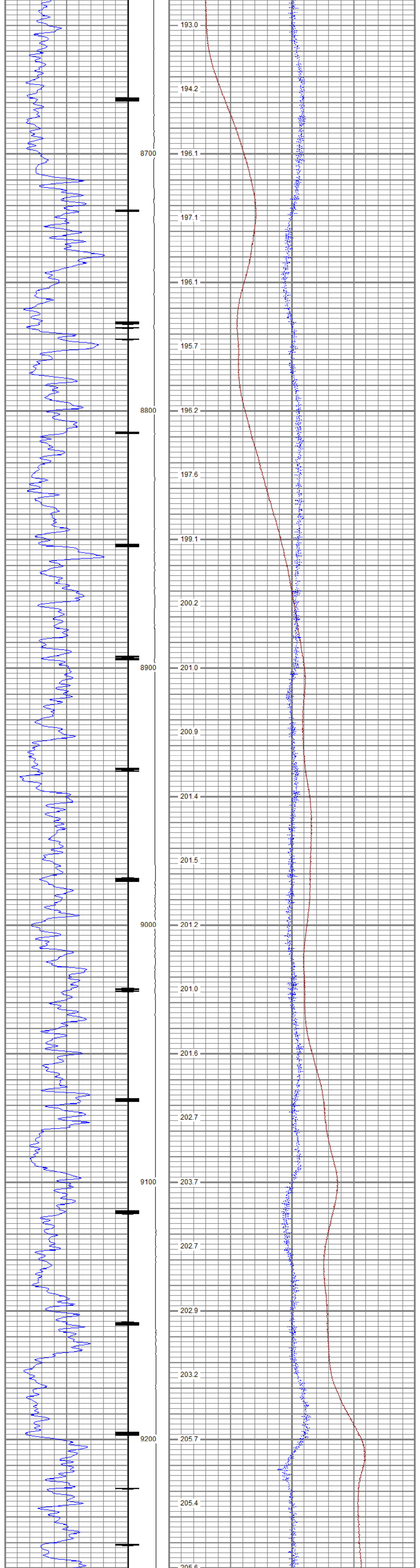
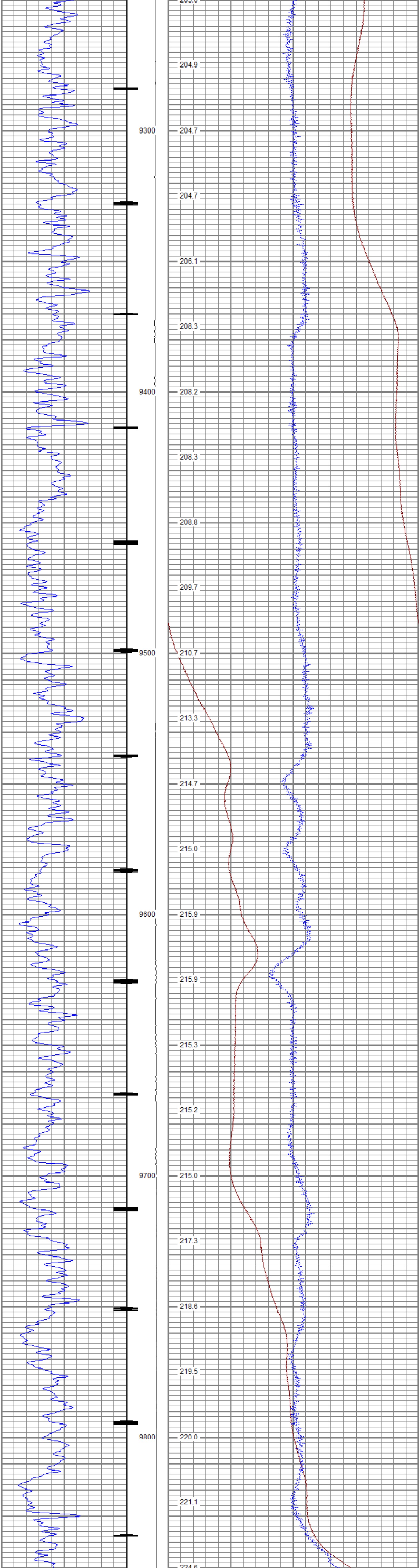
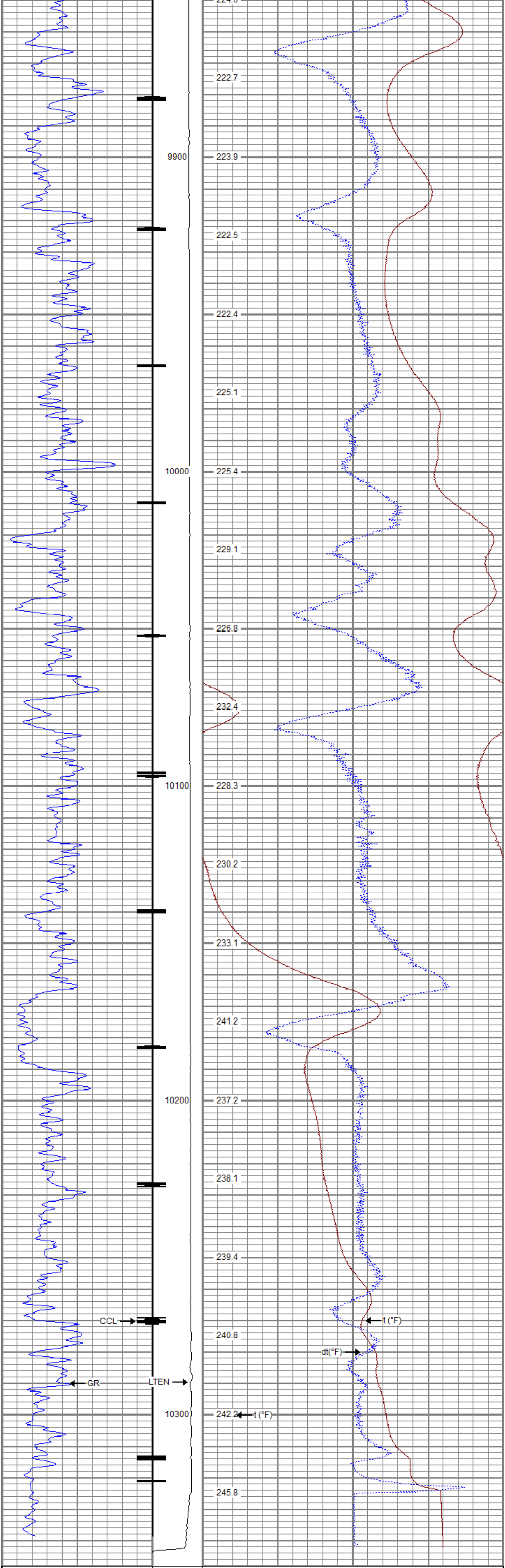


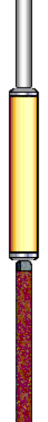








0 Gamma Ray (GAPI) 120	LTEN	50 TEMP (degF) 70
Casing Collar Locator	0 (lb2000	-1 DTMP (degF) 1
		TEMP (degF)

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 (10018437) 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

		UW PRT-016 (10025093) Platinum Resistance Thermometer	1.04	1.69	5.20
TEMP	0.37				
TSTAMP	0.00	UW BUL-006 (10019616) Sondex Ultrawire Bullnose Terminator Sub	0.22	1.69	1.20

Dataset:	PROCESSED_TEP_Federal RU 423-17_TEMP_04-10-18.db: field/well/run1/MainQL
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 423-17_TEMP_04-10-18\PROCESSED_TEP_Federal RU 42
Dataset Pathname	MainQL
Dataset Creation	Wed Apr 11 01:14:17 2018

Temperature Calibration Report

Serial Number:	10025093
Tool Model:	016
Performed:	Sun Nov 12 13:20:23 2017

Point #	Reading		Reference	
1	13006.00	cps	68.00	degF
2	18181.00	cps	104.00	degF
3	29634.00	cps	176.00	degF
4	41077.00	cps	248.00	degF
5	52560.00	cps	320.00	degF
6	58409.00	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

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