RELIANCE
OILFIELD SERVICES

Radial Cement Bond
Gamma Ray
Casing Collar Log

Company TEP Rocky Mountain LLC
Well Youberg SR 441-12
Field Rulison
County Garfield
State Colorado

Company	TEP Rocky Mountain LLC
Well	Youberg SR 441-12
Field	Rulison
County	Garfield State Colorado
Location:	API # : 05-045-23300
	SEC 12 TWP 7S RGE 94W
Other Services	PDN

Permanent Datum	Ground Level	Elevation 7254'	Elevation
Log Measured From	Kelly Bushing	24 FT	K.B. 7278' D.F. 7277' G.L. 7254'
Drilling Measured From	Kelly Bushing		

Date	12-SEPT-2017
Run Number	One
Depth Driller	9650 FT
Depth Logger	9578 FT
Bottom Logged Interval	9578 FT
Top Log Interval	Surface
Open Hole Size	8.750"
Type Fluid	Fresh Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	241°F
Estimated Cement Top	See Log
Time Well Ready	ROA
Time Logger on Bottom	14:50
Equipment Number	HD-0359
Location	Grand Junction
Recorded By	A. Ellsworth
Witnessed By	---

Borehole Record

Run Number	Bit	From	To

Tubing Record

Size (in)	Weight (lb/ft)	From	To

Casing Record	Size (in)	Wgt (lb/ft)	Grade	Top	Bottom
Surface Casing	9 5/8	32.3	H-40	Surface	1131 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	9608 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 per customer request
Depth referenced to Kelly Bushing at 24 FT
Marker Joint logged at 5909 FT - 5931 FT
Logged from 9578 FT to Surface

Thank you for choosing Reliance Oilfield Services, LLC!!

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Main Pass

Recorded With 0 PSI Surface Induced Pressure

Database File	c:\programdata\warrior\data\tep_youberg sr 441-12_rbl_09-12-17\processed_tep_youberg sr 441-12_rbl_
Dataset Pathname	Main
Presentation Format	ros_rbt004_tep
Dataset Creation	Tue Sep 12 14:55:28 2017
Charted by	Depth in Feet scaled 1:240

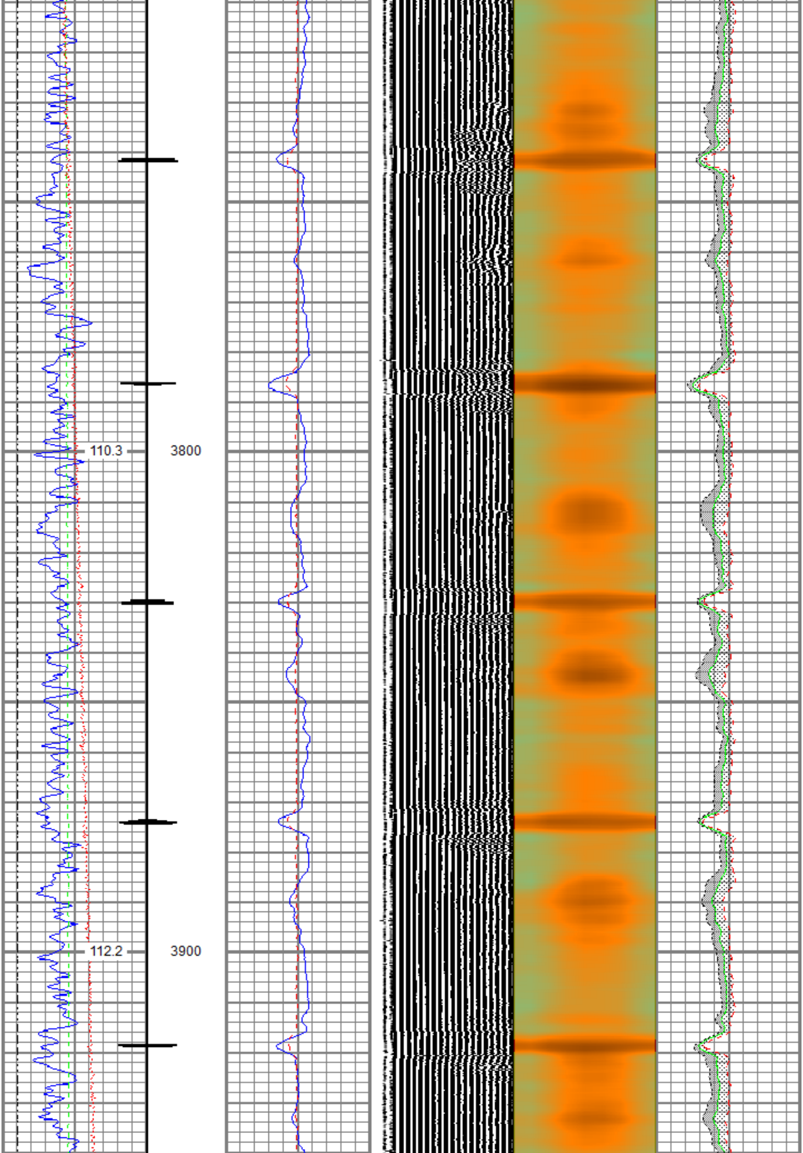
Gamma Ray
0 (GAPI) 200
Casing Collar Locator
Line Speed
-150 (ft/min) 150
Line Tension
0 (lb) 2000
Temperature
0 (degF) 200

3' Amplitude
0 (mV) 100
3' Amplitude x 5
0 (mV) 20
3' Travel Time
300 (usec) 200

5' Variable Density Log
200 1200

Sector Map
10 110

Average Amplitude
0 150
MimimumAmplitude
0 150
MaximumAmplitude
0 150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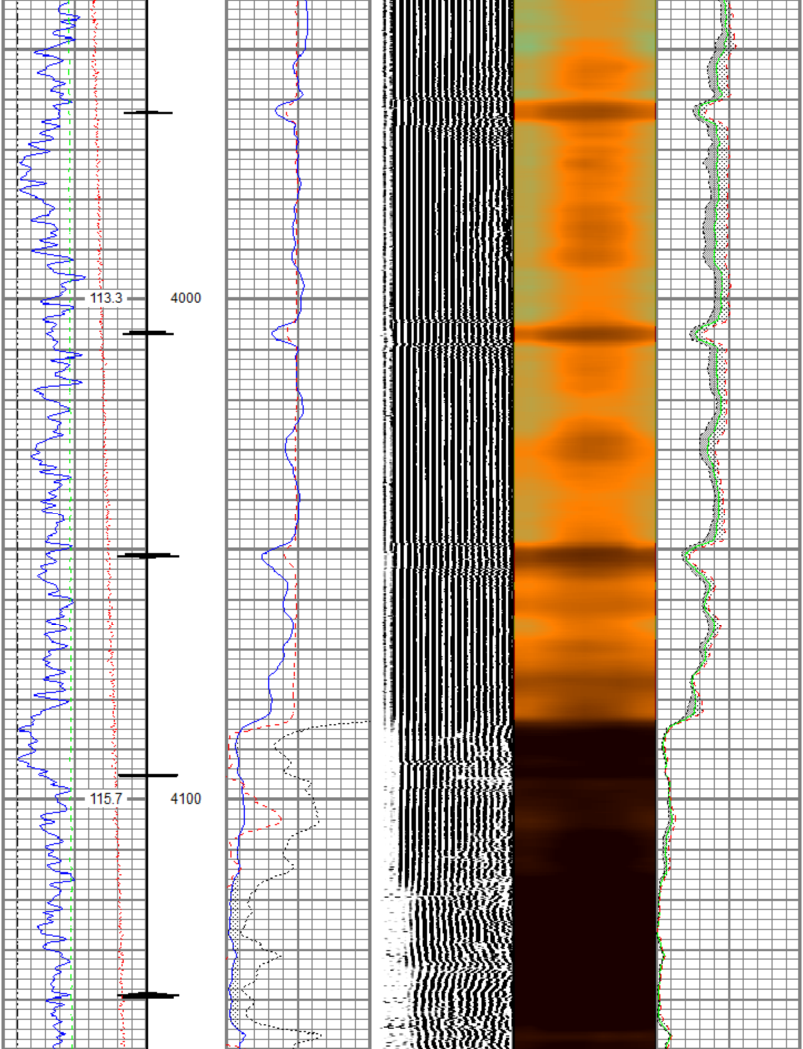
3800
112.2
3900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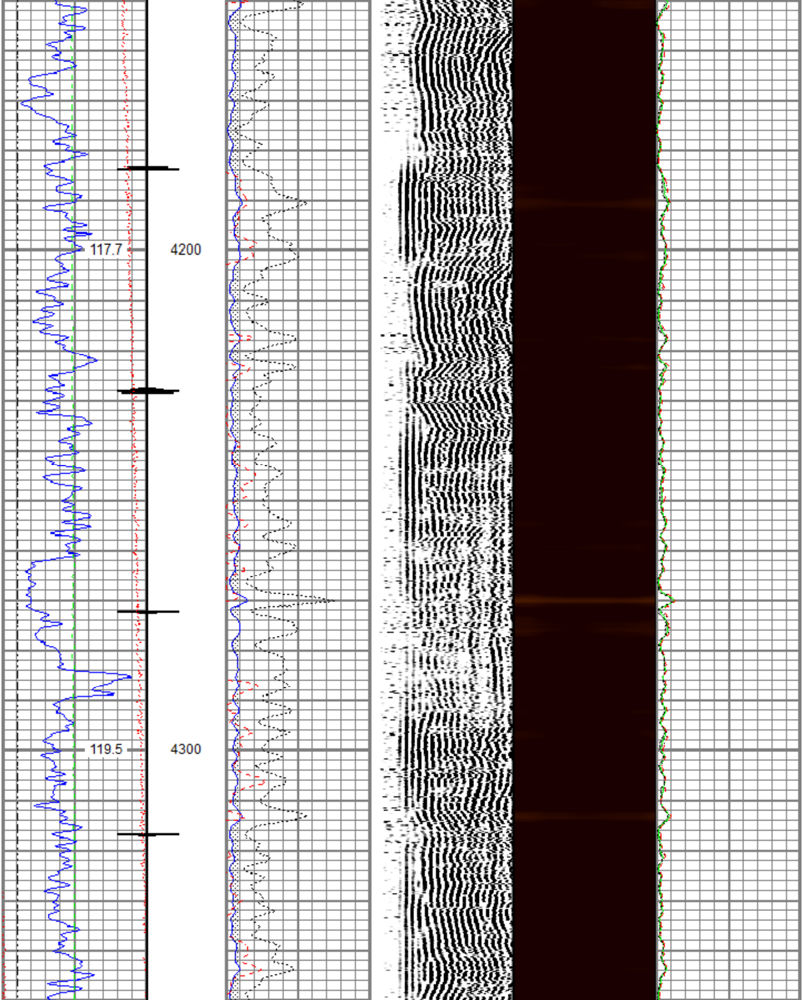
4100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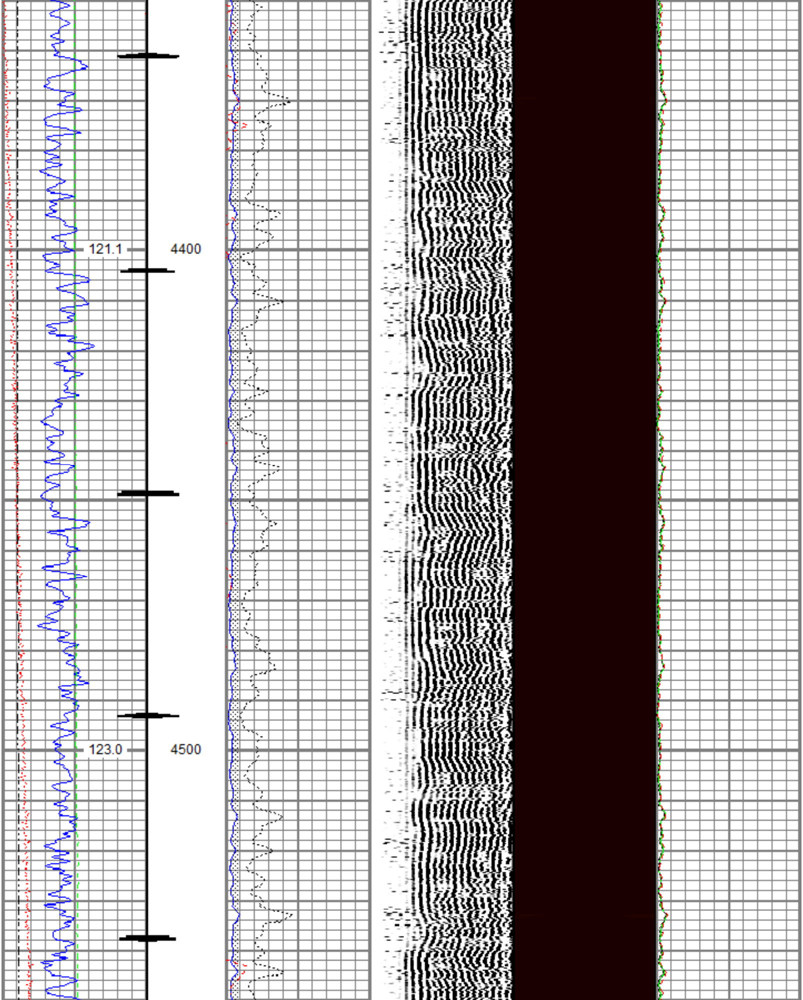
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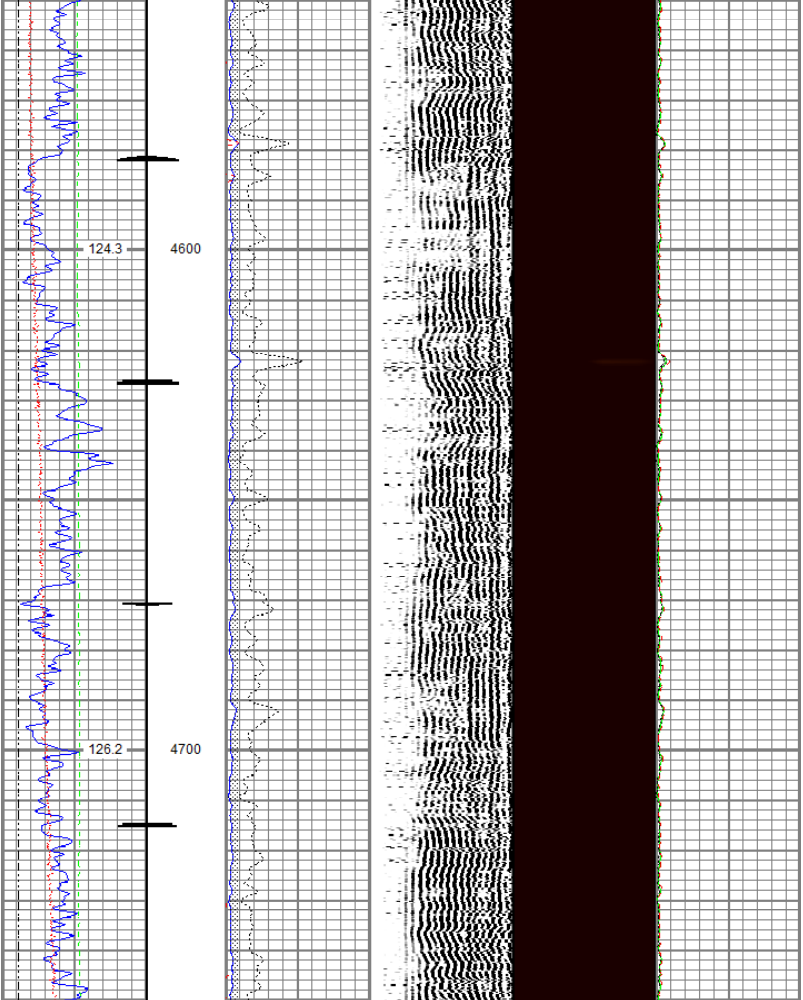
4400
123.0
4500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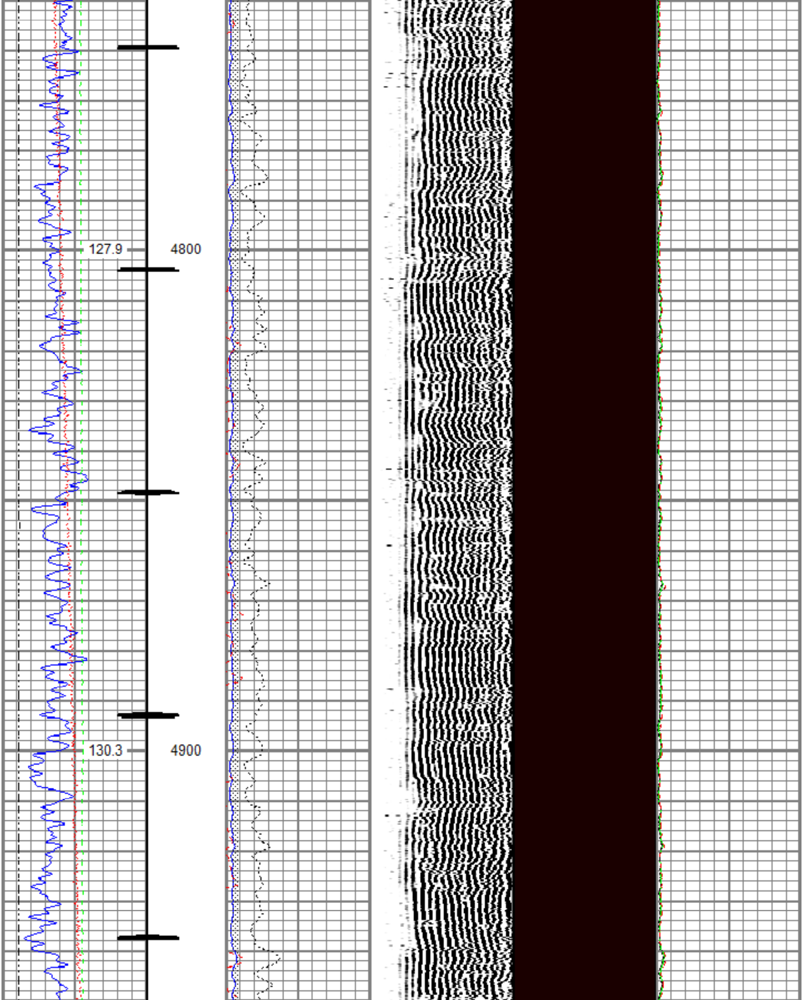
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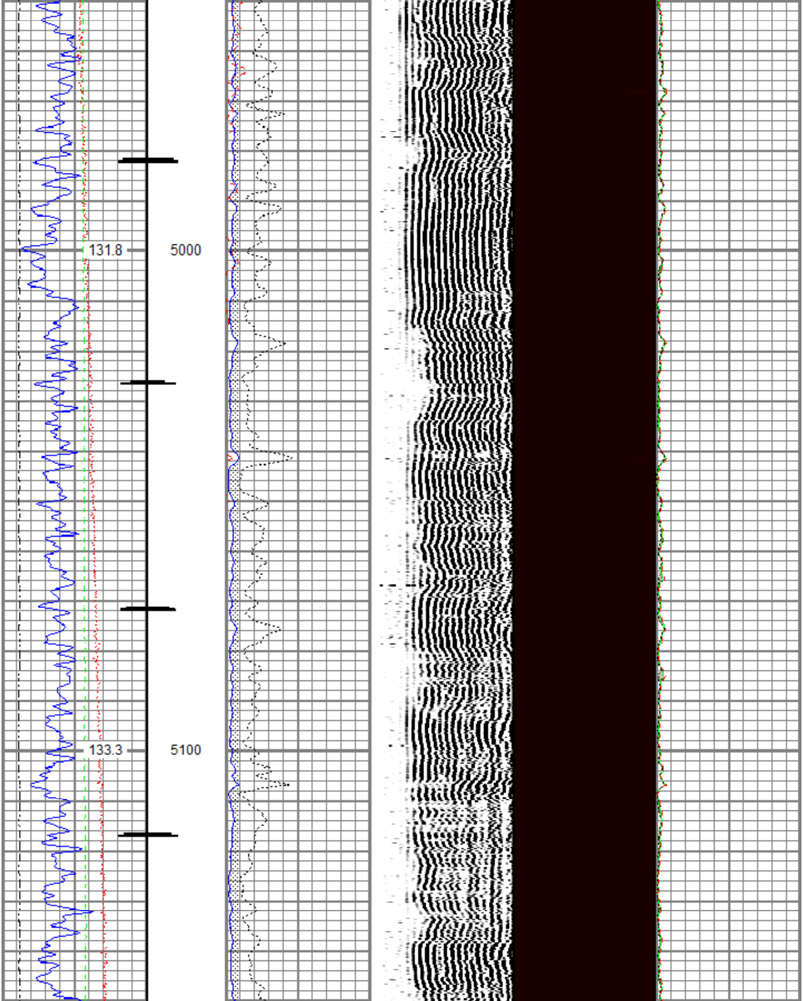
4800
130.3
4900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133.3
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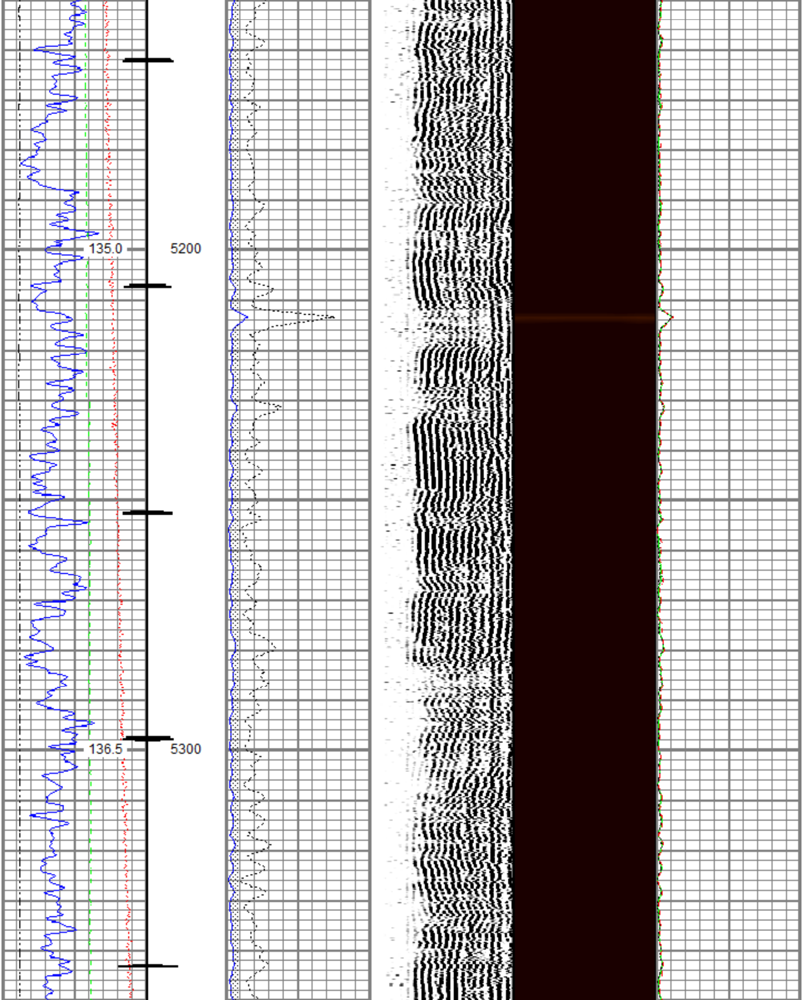
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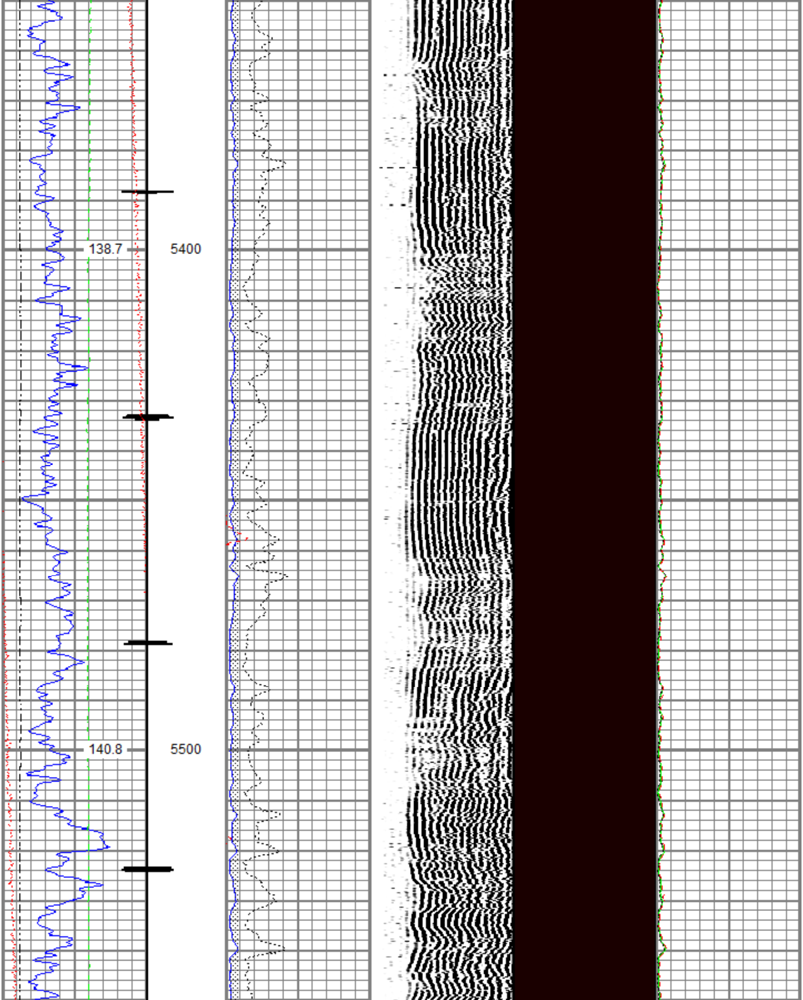
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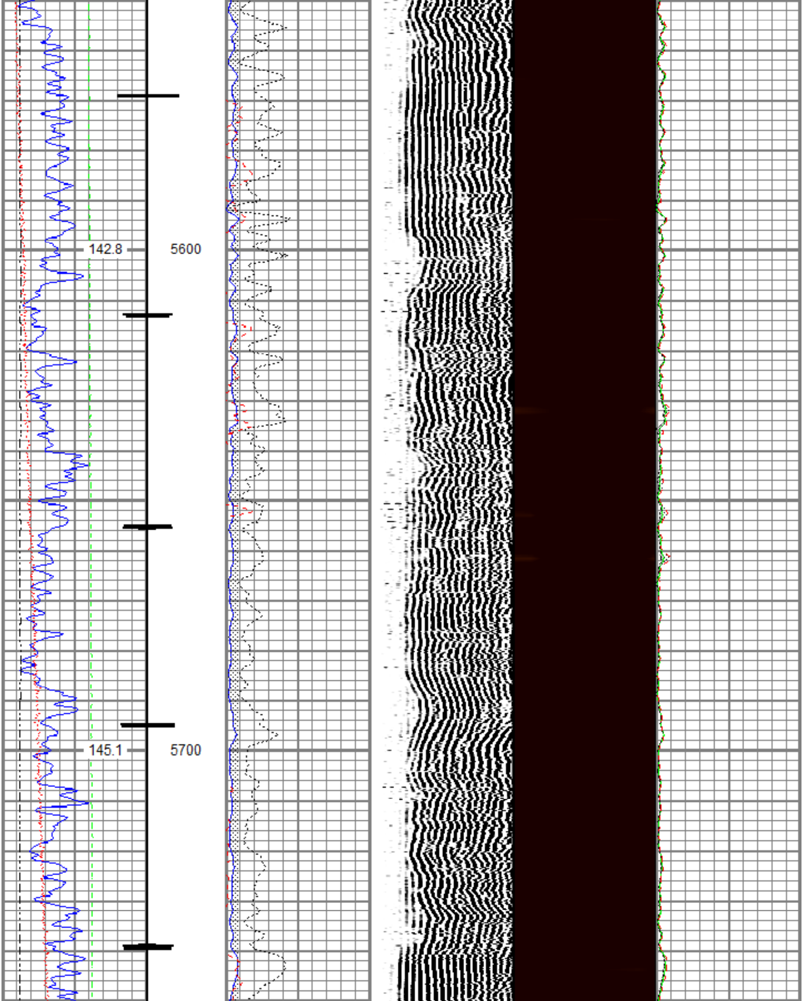
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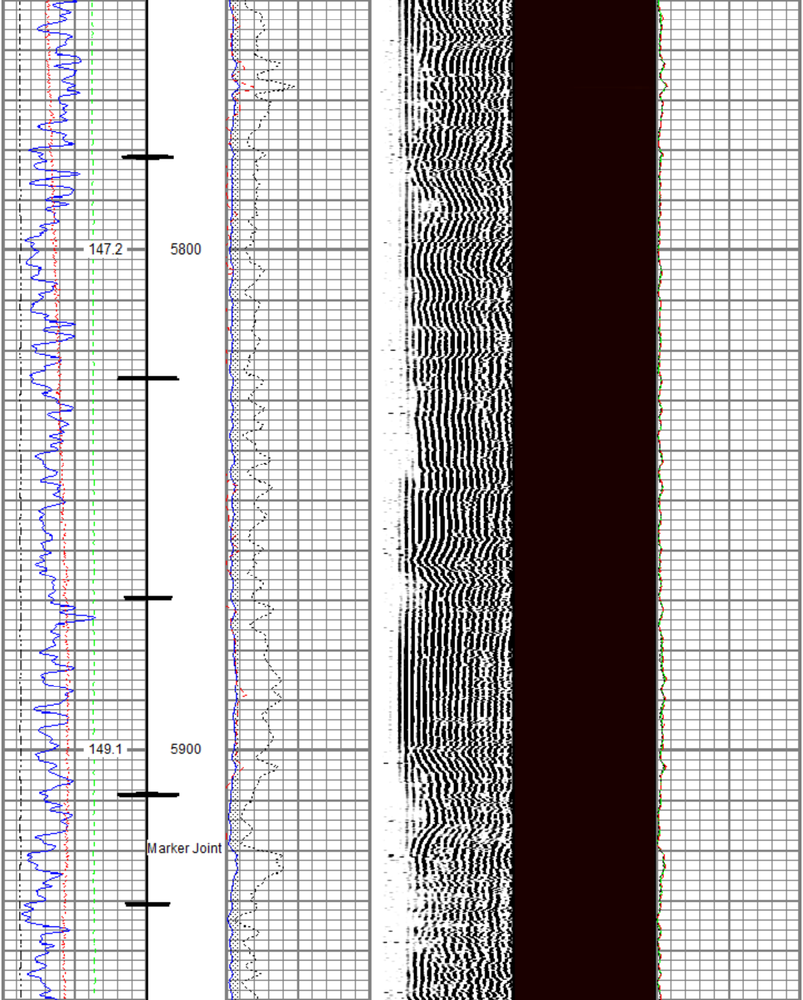
147.2
5800
149.1
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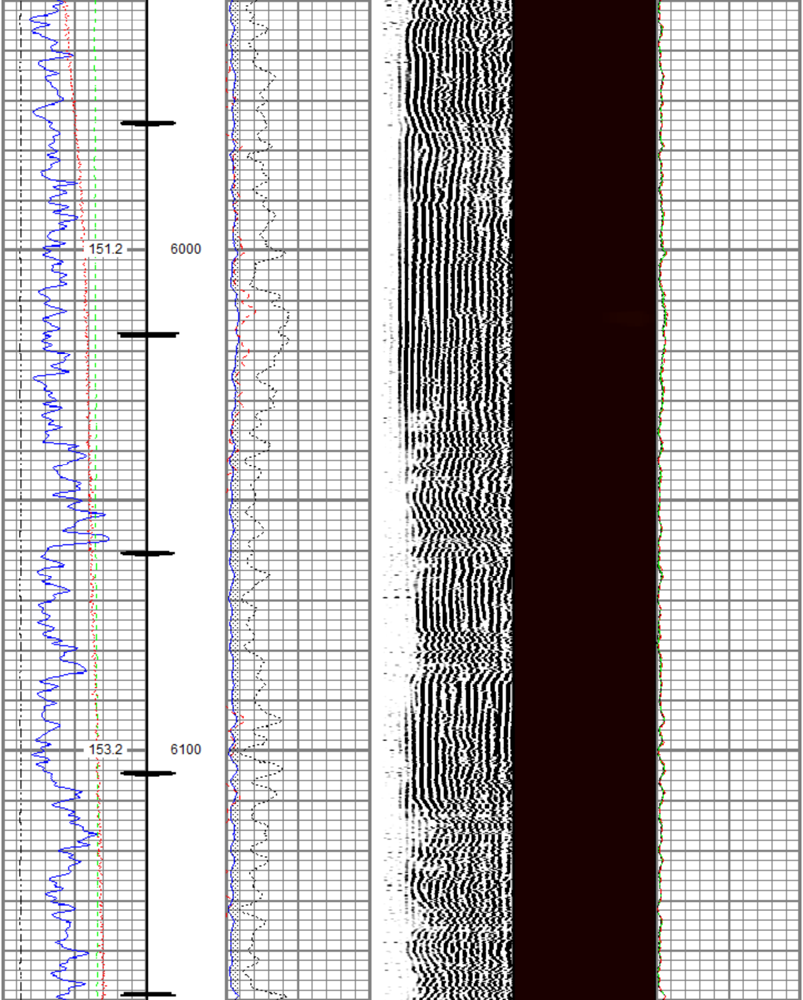
Marker Joint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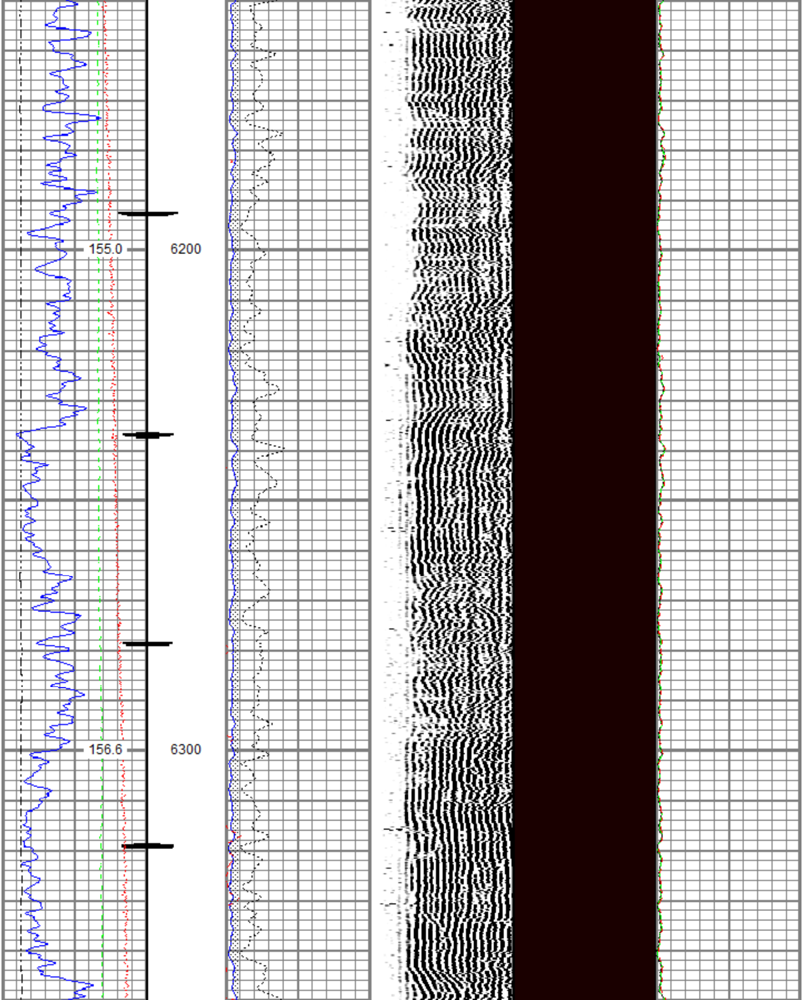
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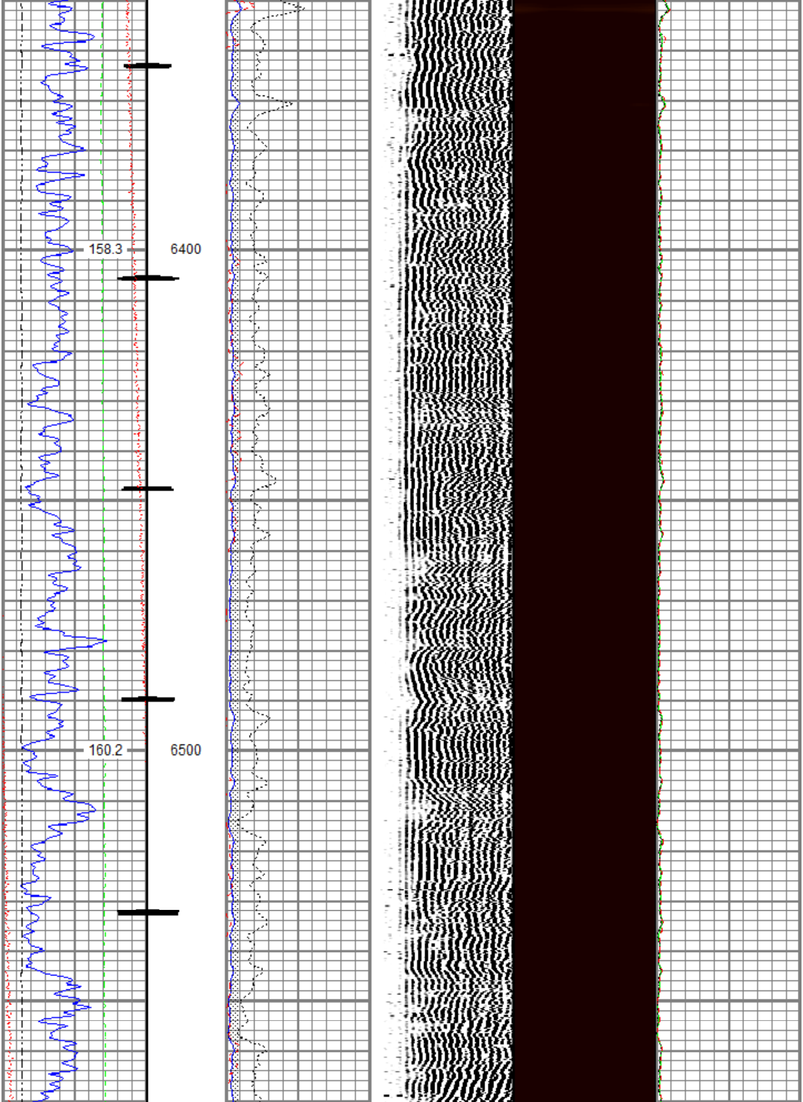
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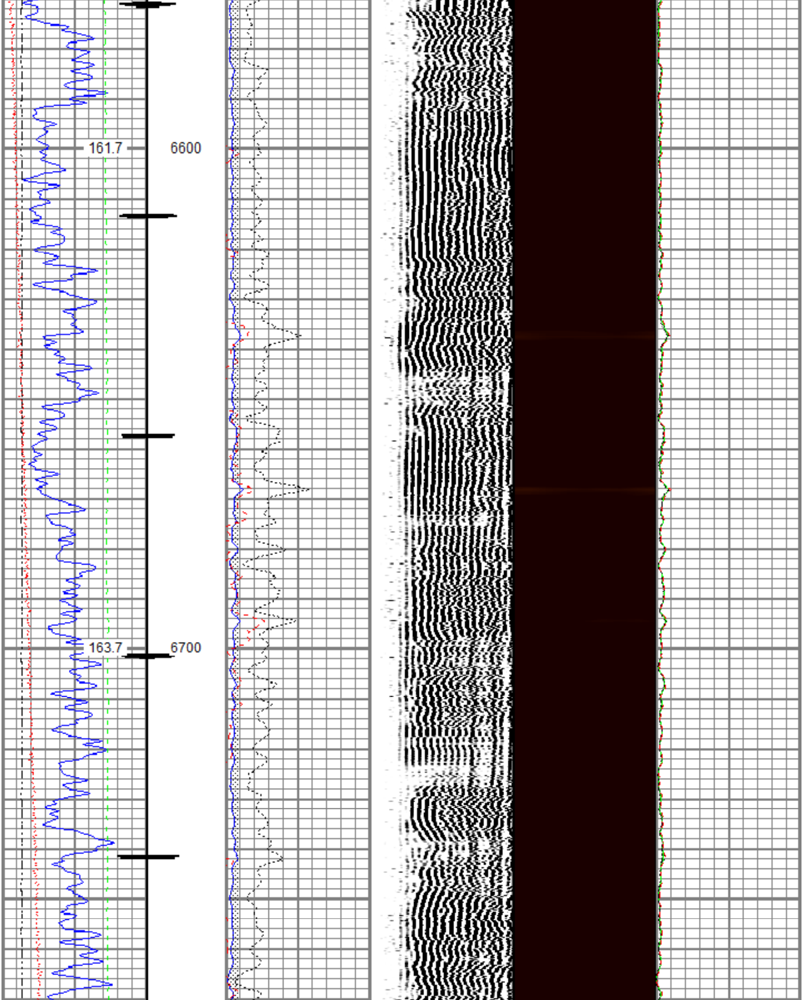
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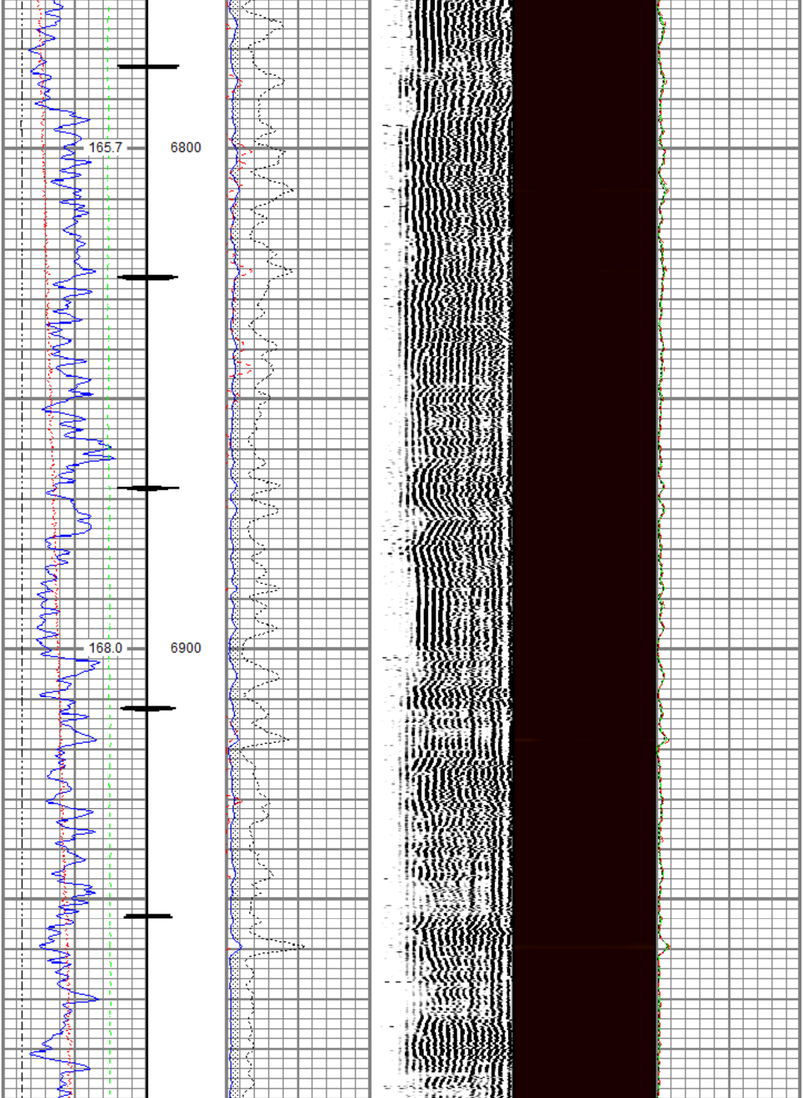
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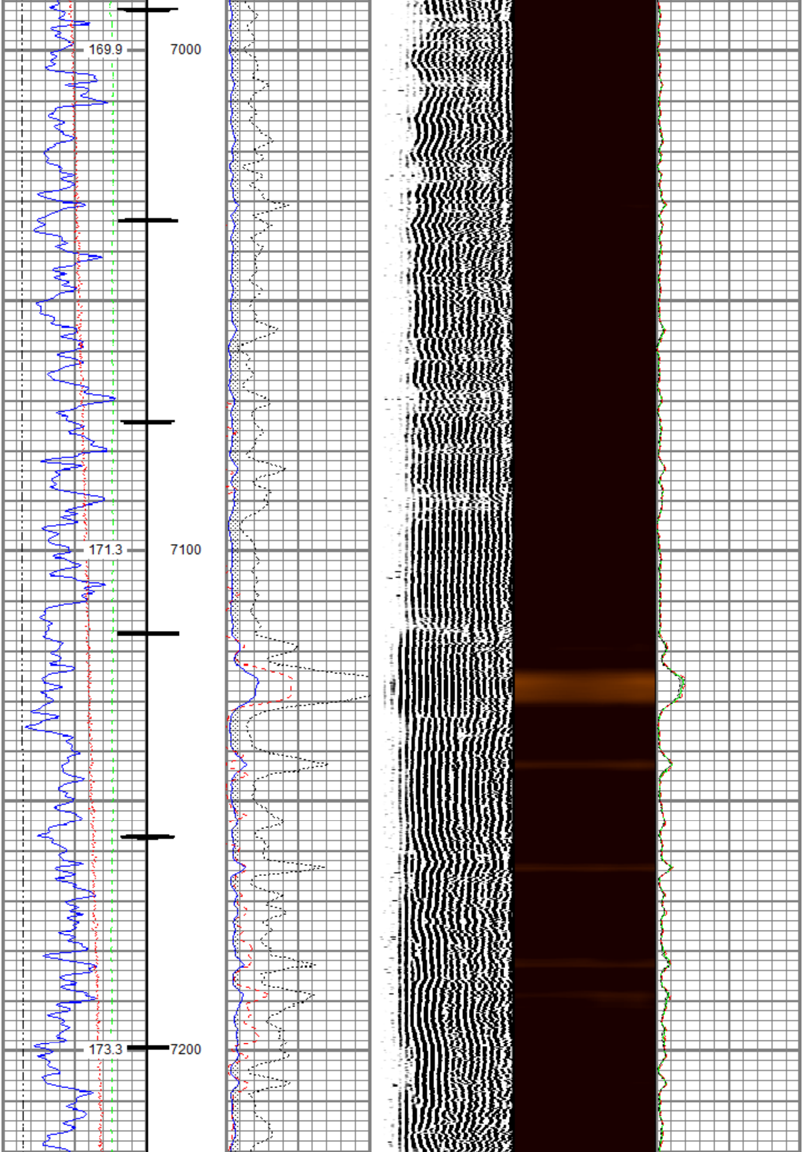
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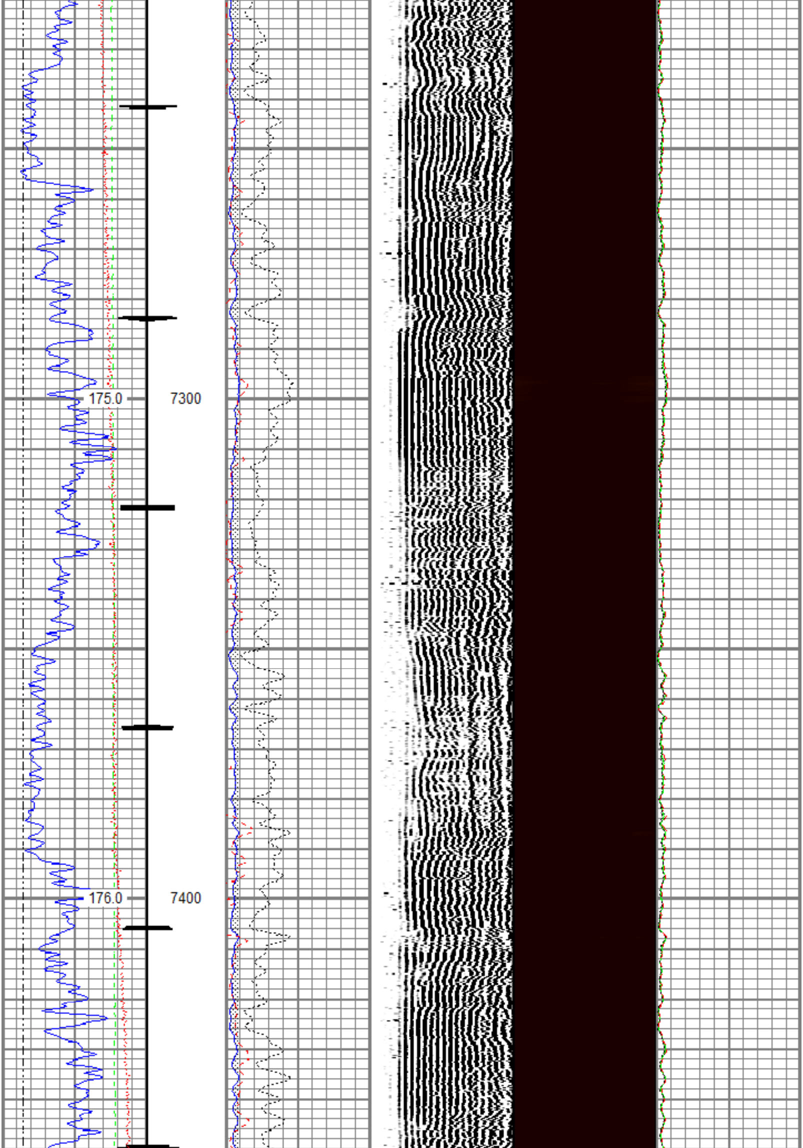
7000
171.3
7100
173.3
7200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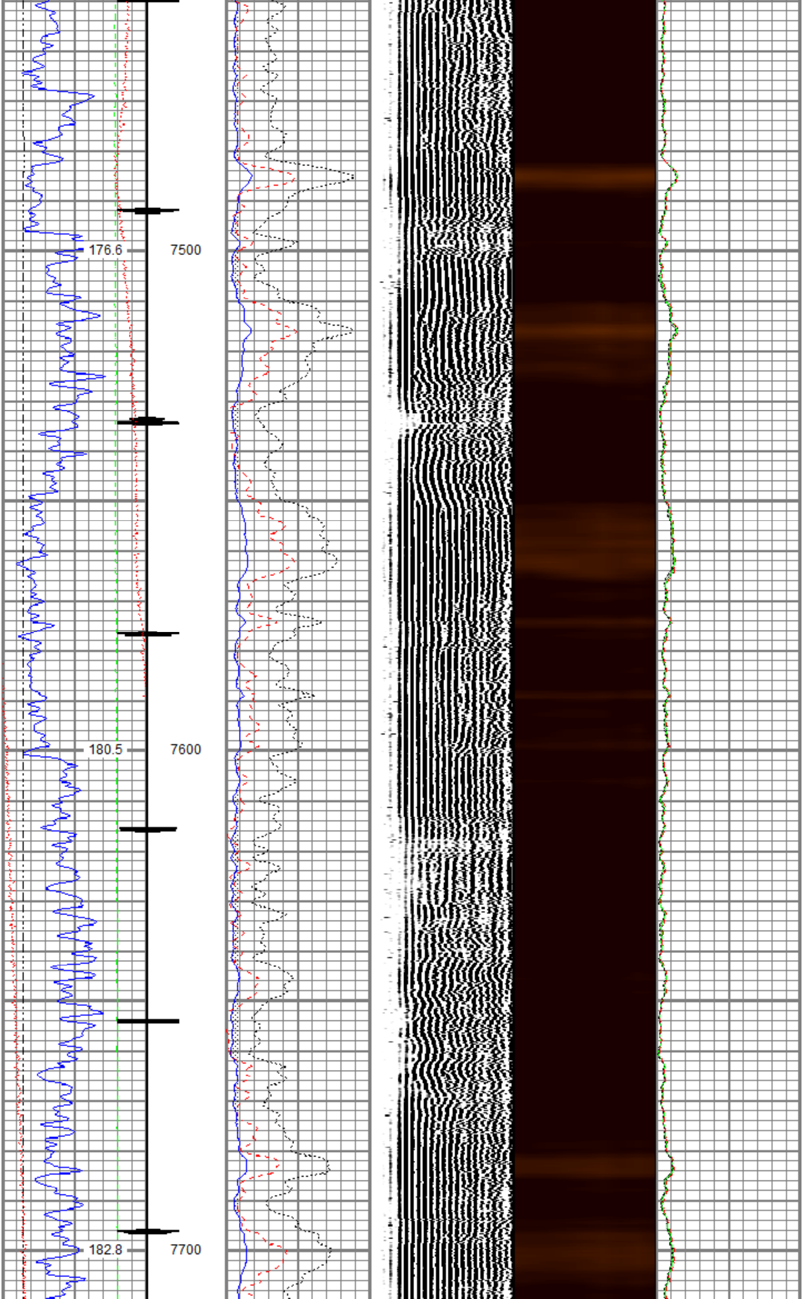
7300
176.0
7400


176.6
7500
180.5
7600
182.8
7700

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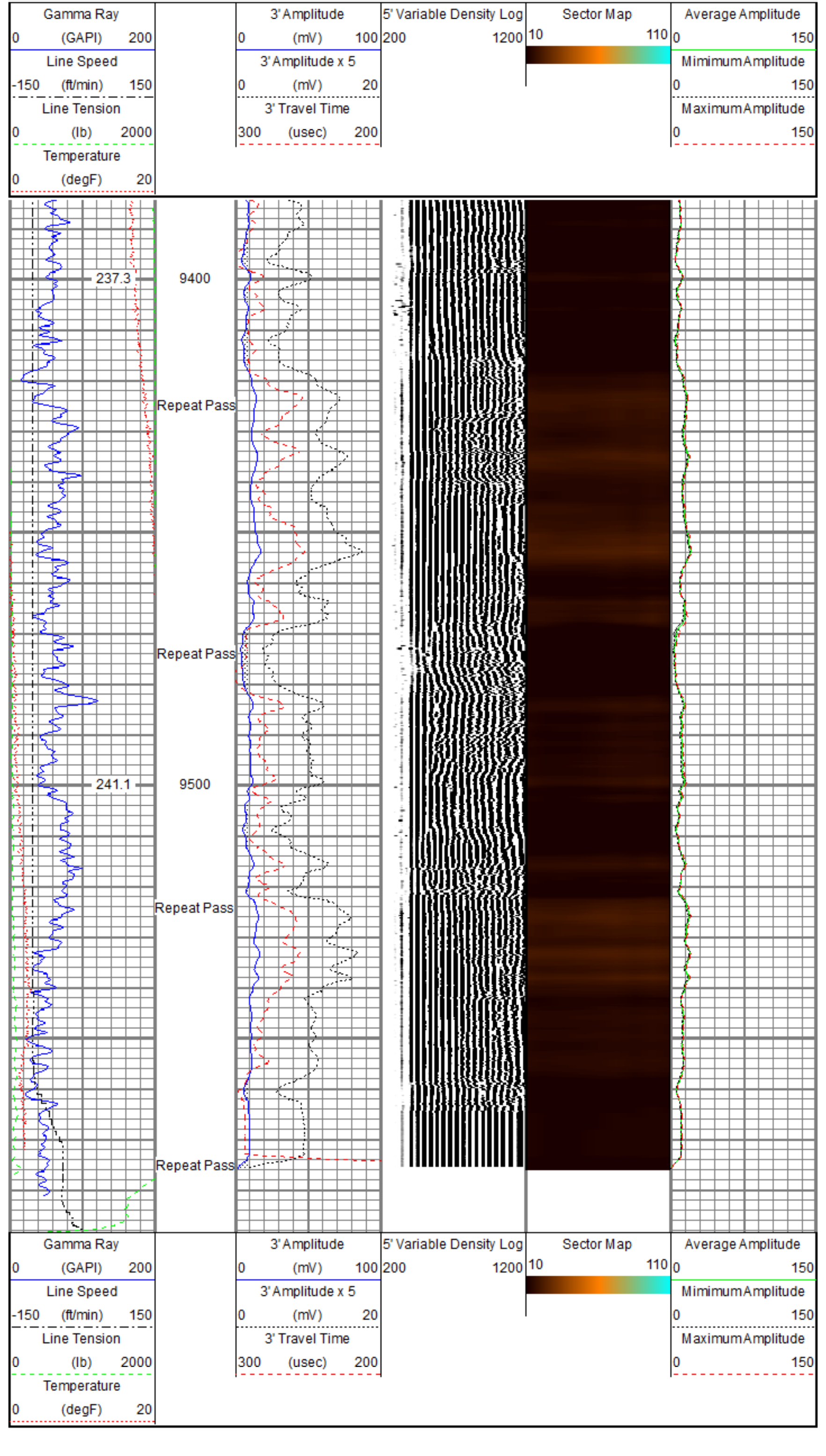
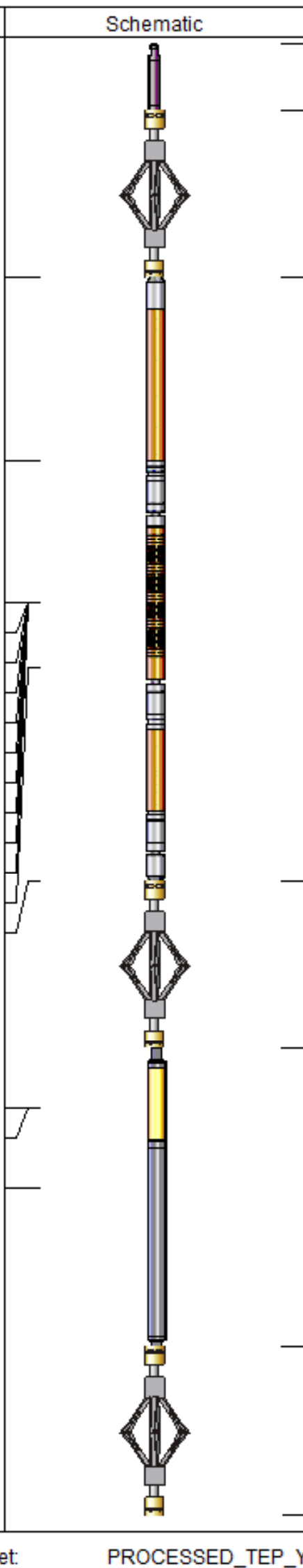
Repeat Pass

Recorded With 0 PSI Surface Induced Pressure

Database File	c:\programdata\warrior\data\tep_youberg sr 441-12_rbl_09-12-17\processed_tep_youberg sr 441-12_rbl_
Dataset Pathname	Repeat
Presentation Format	ros_rbt004_tep
Dataset Creation	Tue Sep 12 14:51:08 2017
Charted by	Depth in Feet scaled 1:240





Sensor	Offset (ft)
HeadVolt	18.84
Temp	16.05
WVFS8	13.88
WVFS7	13.88
WVFS6	13.88
WVFS5	13.88
WVFS4	13.88
WVFS3	13.88
WVFS2	13.88
WVFS1	13.88
WVFCAL	13.88
WVF3FT	13.88
WVF5FT	12.88
HEADVOLT	9.63
DCCL	6.18
CCL	6.18
GR	4.96

Description	Length (ft)	O.D. (in)	Weight (lb)
Titan_Electric_Cable_Heads-Titan_1-11/11.03 Electric Cable Head with 1" Fishing Neck		1.69	5.40
DSS_RAC-RAC_5-Arm 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00
Probe_RADII-C-P_RBT_2750 (FW1305-099.19 Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe		2.75	105.00
DSS_RAC-RAC_5-Arm 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00
Probe_GR_CCL-P_CGR_2750_S (FW1214.541) Probe 2-3/4" Digital CCL / Gamma Ray Combined		2.75	55.00
DSS_RAC-RAC_5-Arm 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00

Dataset: PROCESSED_TEP_Youberg SR 441-12_RBL_09-12-17.db: field/well/run1/Main
Total length: 22.40 ft
Total weight: 261.40 lb
O.D.: 2.75 in

Calibration Report

Database File	C:\ProgramData\Warrior\Data\TEP_Youberg SR 441-12_RBL_09-12-17\PROCESSED_TEP_Youberg SR 44
Dataset Pathname	Main
Dataset Creation	Tue Sep 12 14:55:28 2017

Gamma Ray Calibration Report

Serial Number:	FW1211-081	
Tool Model:	P_CGR_2750_S	
Performed:	Sat Feb 06 11:31:52 2016	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.6	cps
Sensitivity:	0.6061	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	FW1305-098	
Tool Model:	P_RBT_2750	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	230.397	ft

Master Calibration, performed Tue Sep 12 14:18:15 2017:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.005	0.674	0.800	81.196	118.290	1.435
CAL	-0.006	0.755				
5'	-0.003	0.501	0.800	81.196	159.611	1.244
SUM						
S1	-0.008	0.675	0.000	100.000	146.333	1.234
S2	-0.005	0.684	0.000	100.000	145.012	0.782
S3	-0.006	0.691	0.000	100.000	143.571	0.822
S4	-0.006	0.701	0.000	100.000	141.520	0.788
S5	-0.005	0.700	0.000	100.000	141.747	0.753
S6	-0.005	0.681	0.000	100.000	145.667	0.798
S7	-0.005	0.665	0.000	100.000	149.130	0.790
S8	-0.005	0.655	0.000	100.000	151.356	0.802

Internal Reference Calibration, performed Fri May 05 10:29:14 2017:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.006	0.755	1.000	0.000

Air Zero Calibration, performed Tue Sep 12 14:14:19 2017:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.000	0.000	0.000
5'	0.000	0.000	0.000
SUM			
S1	0.000	0.000	0.000
S2	0.000	0.000	0.000
S3	0.000	0.000	0.000
S4	0.000	0.000	0.000
S5	0.000	0.000	0.000
S6	0.000	0.000	0.000
S7	0.000	0.000	0.000
S8	0.000	0.000	0.000

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Field	Rulison
County	Garfield
State	Colorado