RELIANCE OILFIELD SERVICES

Radial Cement Bond
Gamma Ray
Casing Collar Log

Company TEP Rocky Mountain LLC
Well Federal PA 422-26
Field Parachute
County Garfield
State Colorado

Company	TEP Rocky Mountain LLC		
Well	Federal PA 422-26		
Field	Parachute		
County	Garfield	State	Colorado
Location:	API # : 05-045-23716 SEC 26 TWP 6S RGE 95W	Other Services PN	
Permanent Datum	Ground Level	Elevation 5636.9'	Elevation K.B. 5660.9' D.F. 5659.9' G.L. 5636.9'
Log Measured From	Kelly Bushing	24 FT	
Drilling Measured From	Kelly Bushing		

Date	02-SEP-2018		
Run Number	One		
Depth Driller	8580 FT		
Depth Logger	8528 FT		
Bottom Logged Interval	8514 FT		
Top Log Interval	Surface		
Open Hole Size	8.750"		
Type Fluid	Fresh Water		
Density / Viscosity	8.34 lb/gal		
Max. Recorded Temp.	239°F		
Estimated Cement Top	See Log		
Time Well Ready	ROA		
Time Logger on Bottom	15:30		
Equipment Number	HD 331		
Location	Grand Junction, CO		
Recorded By	M. Kochevar		
Witnessed By	J. Skalla		

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	36	J-55	Surface	1125 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	8538 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 wilful 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 at 4671 FT - 4693 FT
Log ran from 8514 FT to Surface
Recorded with 0 PSI Surface Induced Pressure

Thank you for choosing Reliance Oilfield Services, LLC!!

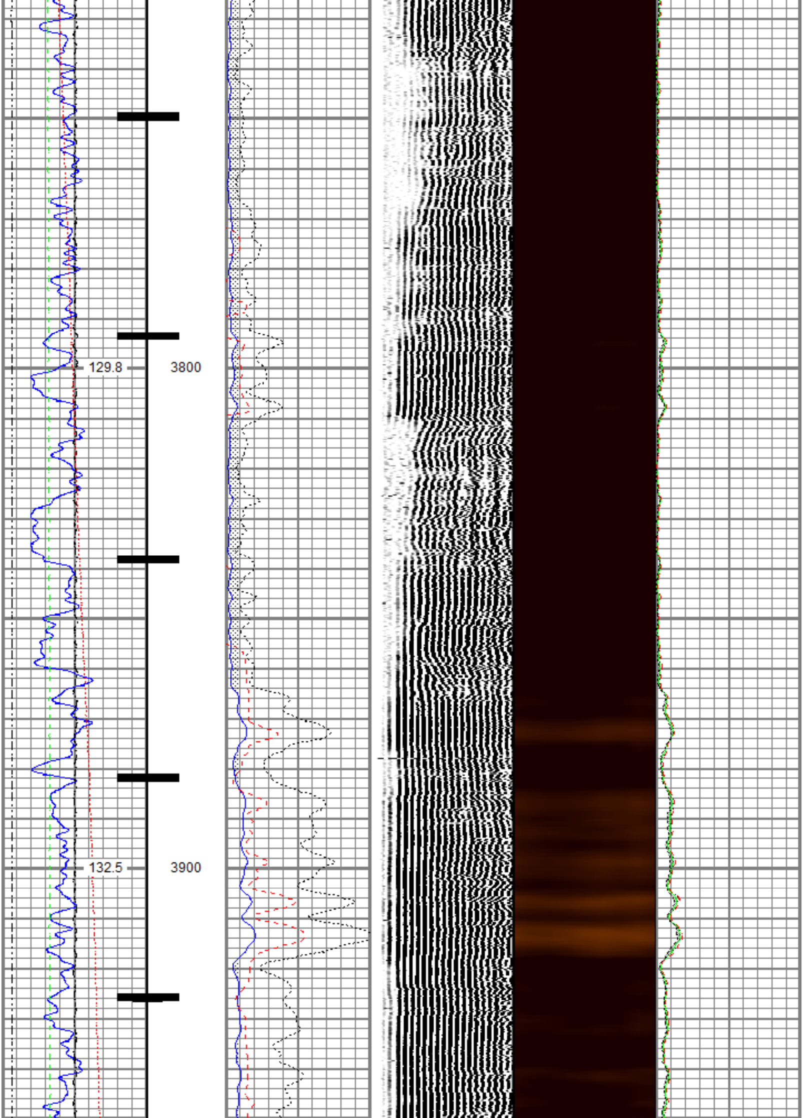
RELIANCE OILFIELD SERVICES

Main Pass

Recorded With 0 PSI Surface Induced Pressure

Database File tep_federal pa 422-26_rbl_09-02-18\processed_tep_federal pa 422-26_rbl_09-02-18.db
Dataset Pathname main.2
Presentation Format ros_rbt004_tep
Dataset Creation Tue Sep 04 10:48:35 2018
Charted by Depth in Feet scaled 1:240

Gamma Ray 0 (GAPI) 200	3' Amplitude 0 (mV) 100	5' Variable Density Log 200 1200	Sector Map 10 110	Average Amplitude 0 150
Line Speed -150 (ft/min) 150	3' Amplitude x 5 0 (mV) 20			MinimumAmplitude 0 150
Line Tension 0 (lb) 2000	3' Travel Time 300 (usec) 200			MaximumAmplitude 0 150
Differential Temperature -2 (degF) 2				
Temperature 0 (degF) 20				
CCL 10 0				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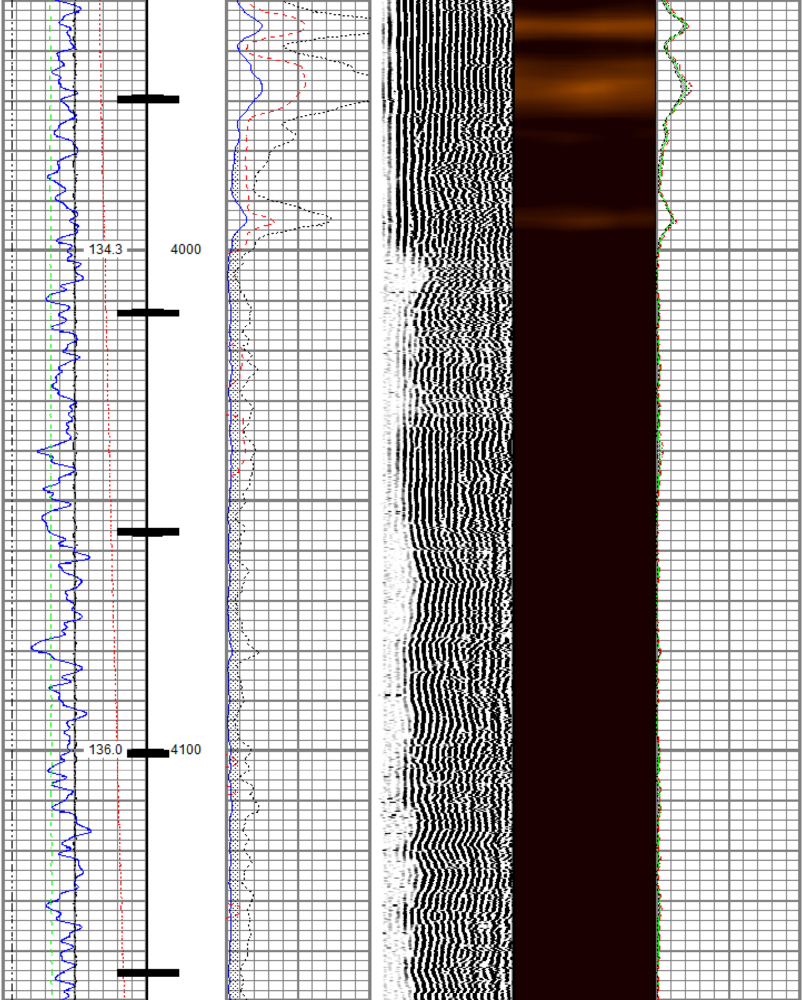
132.5
3900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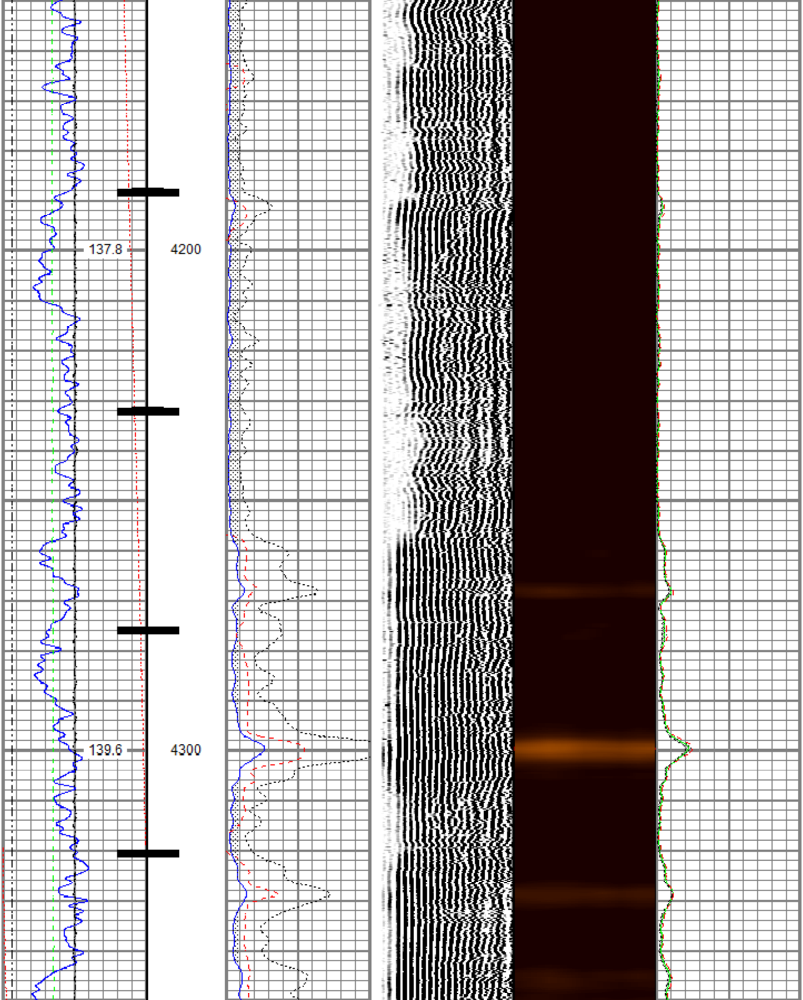
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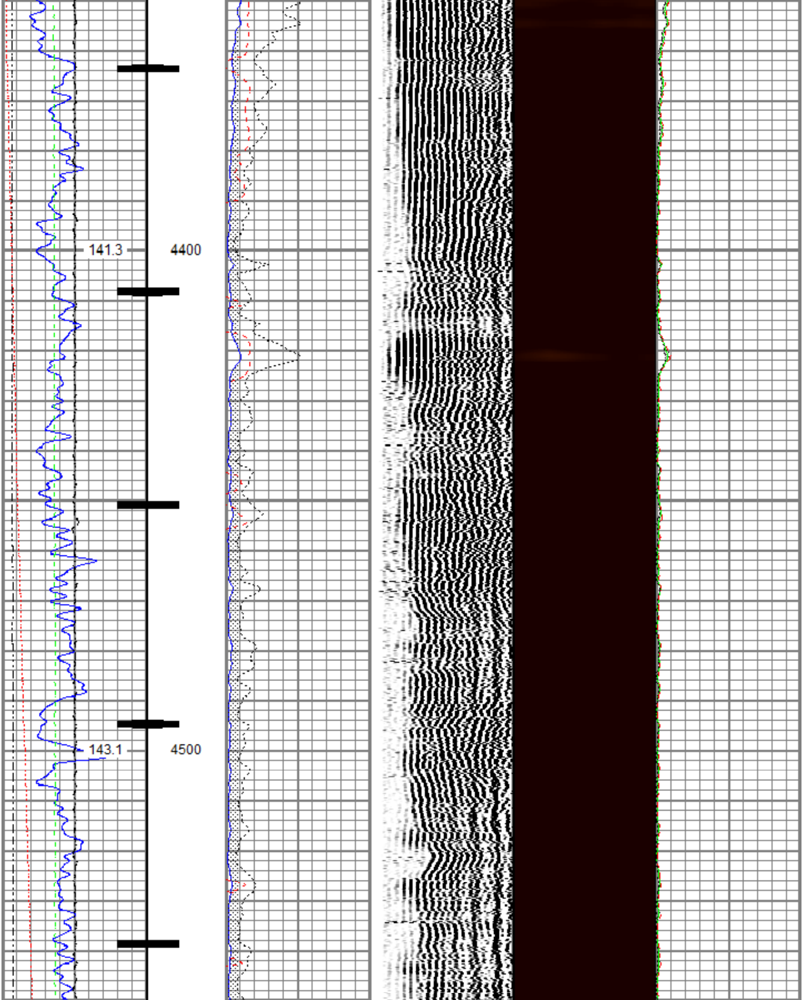
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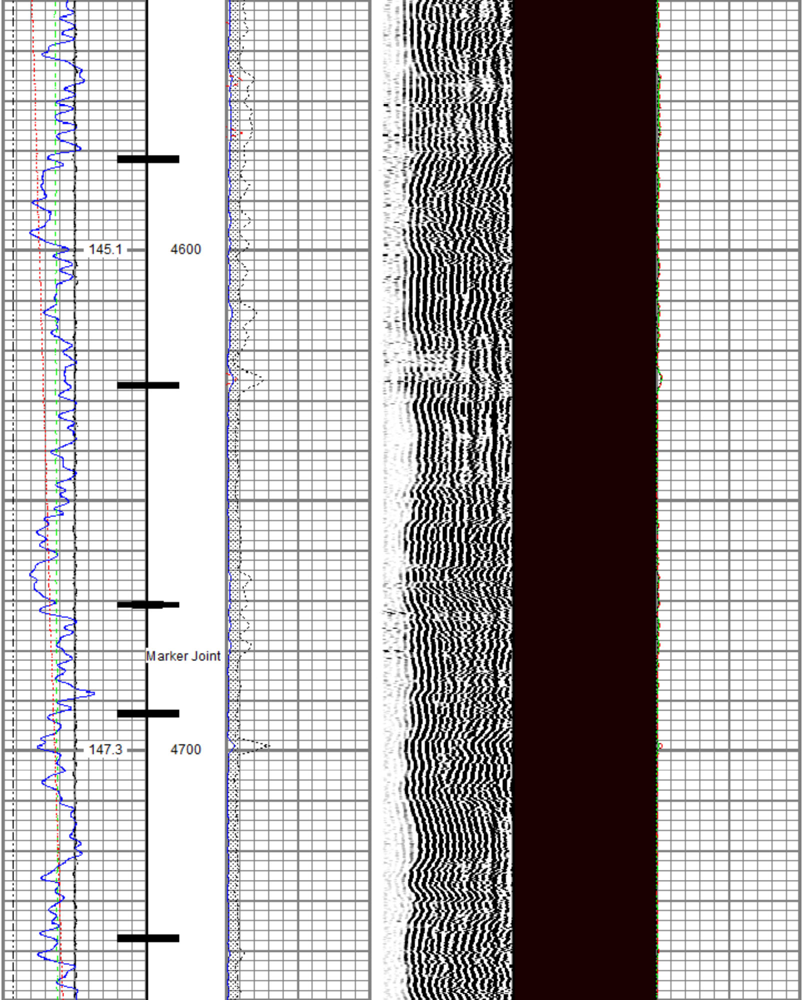
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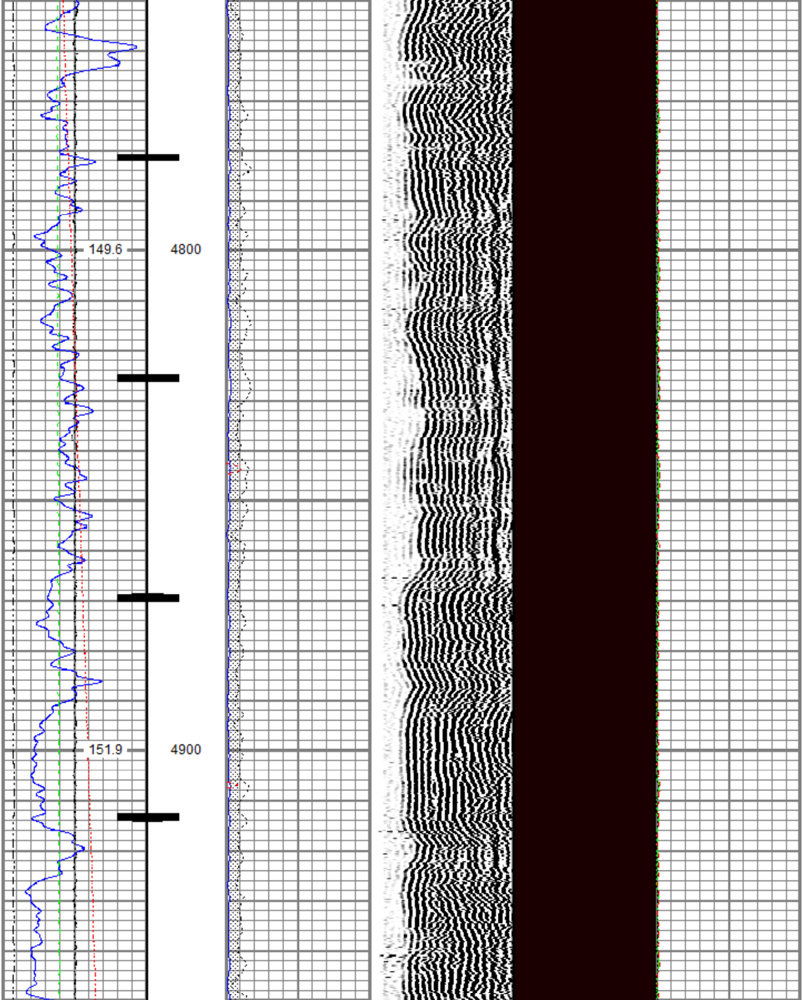
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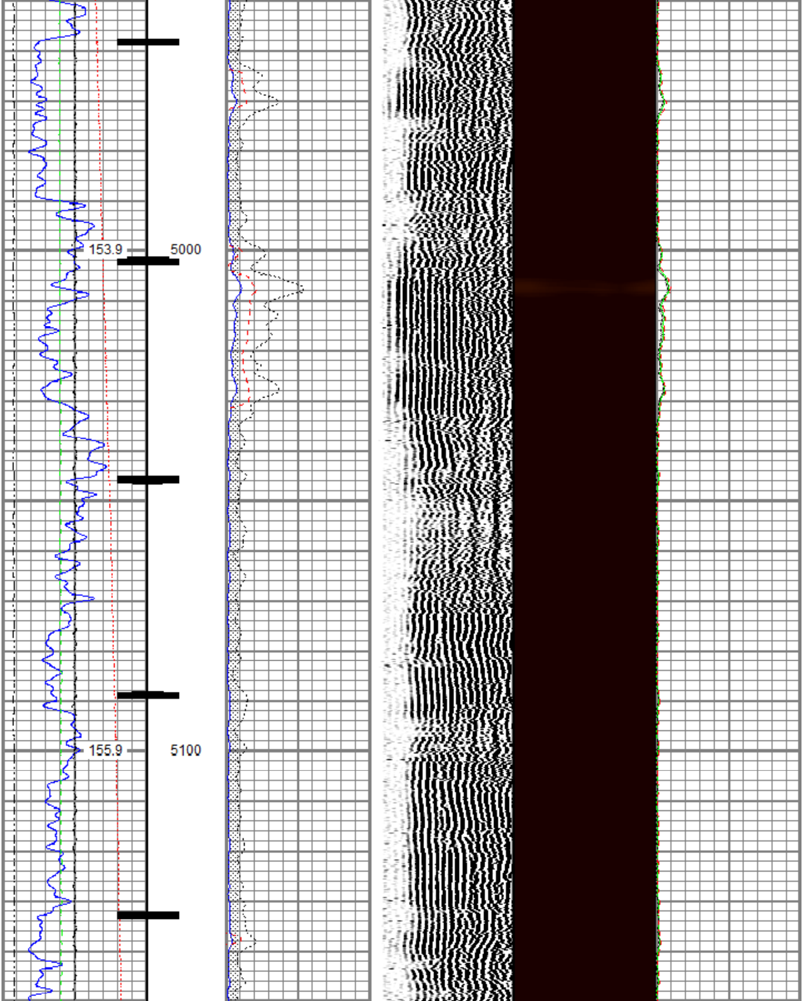
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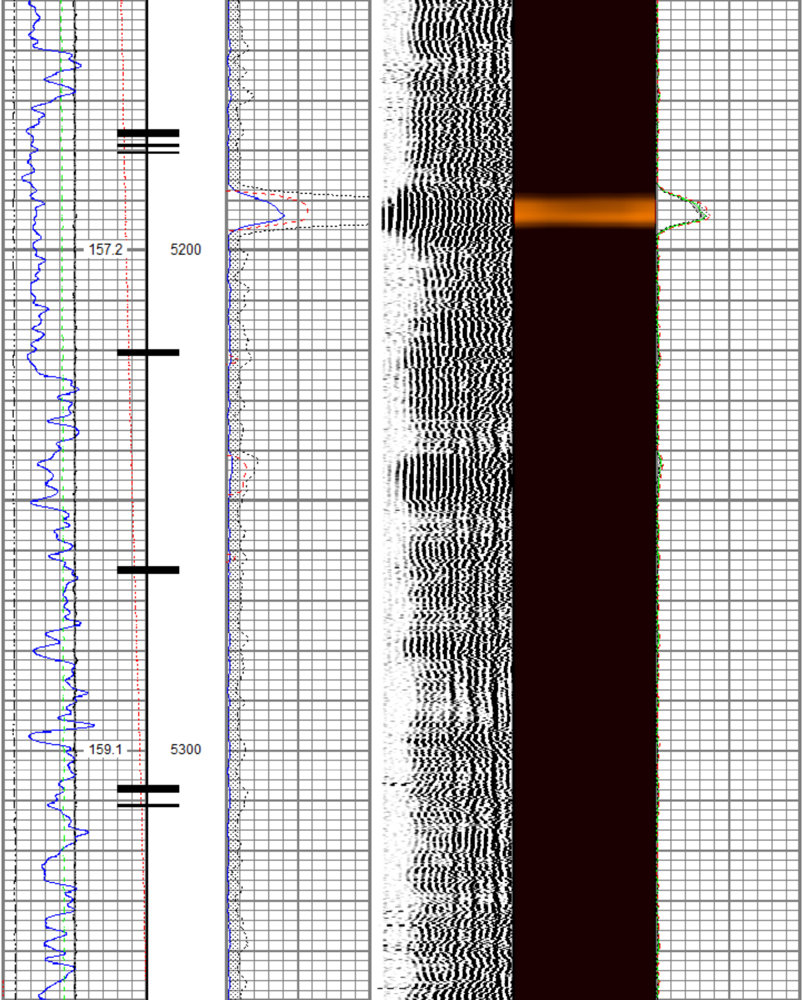
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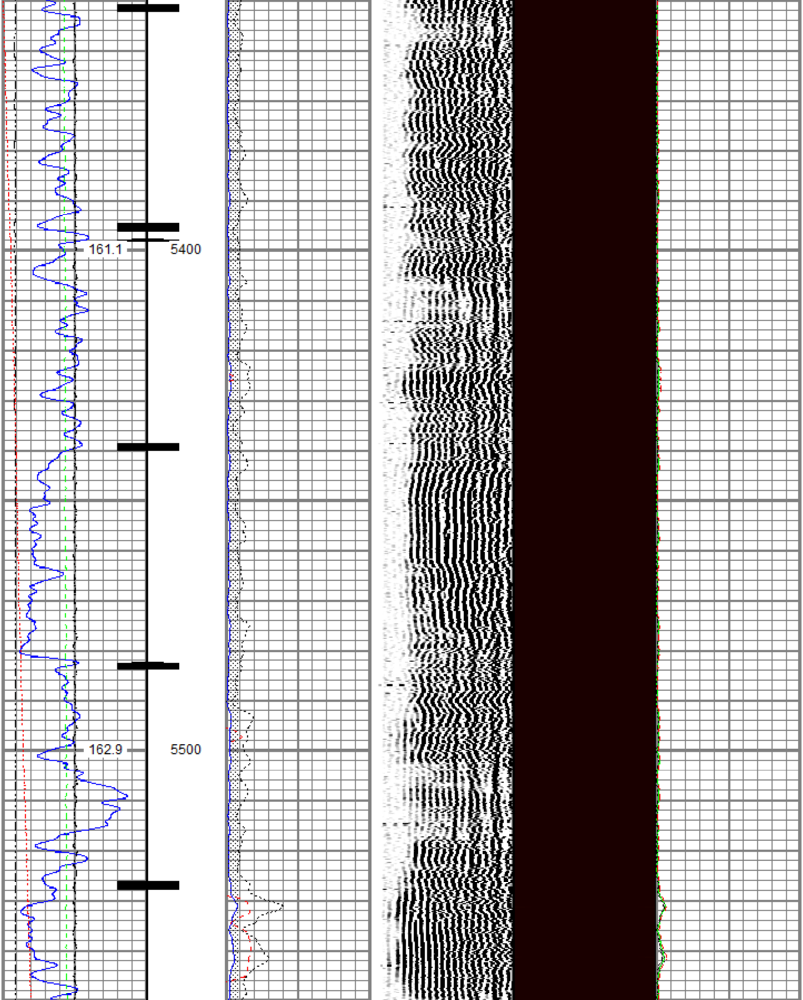
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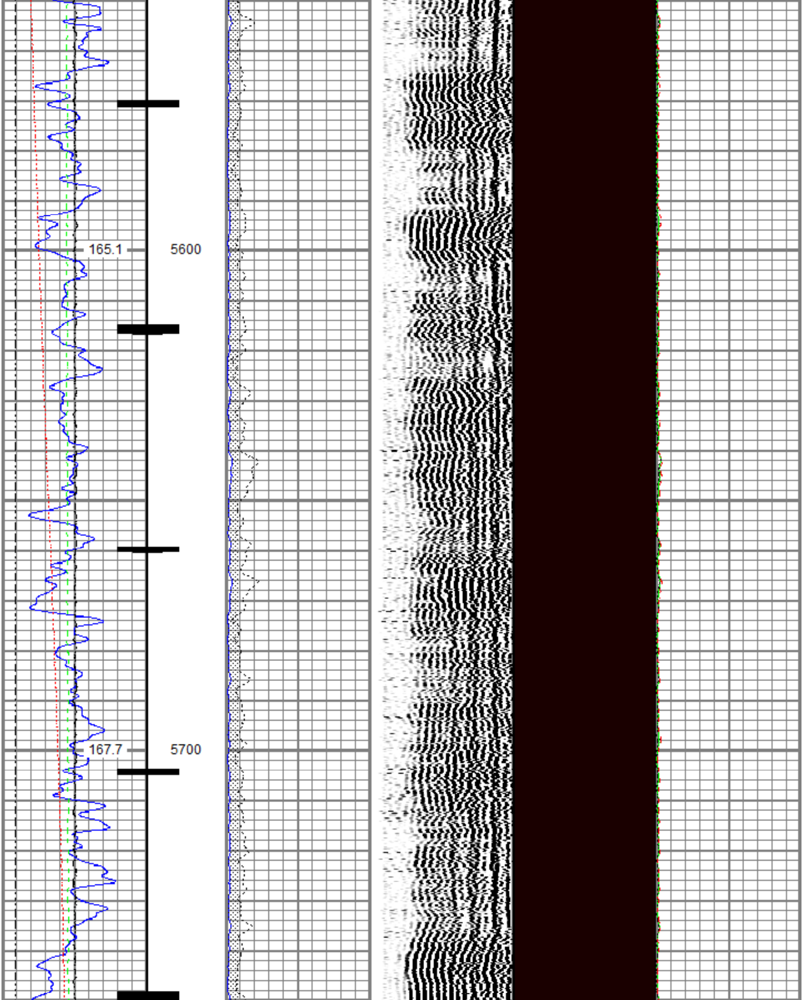
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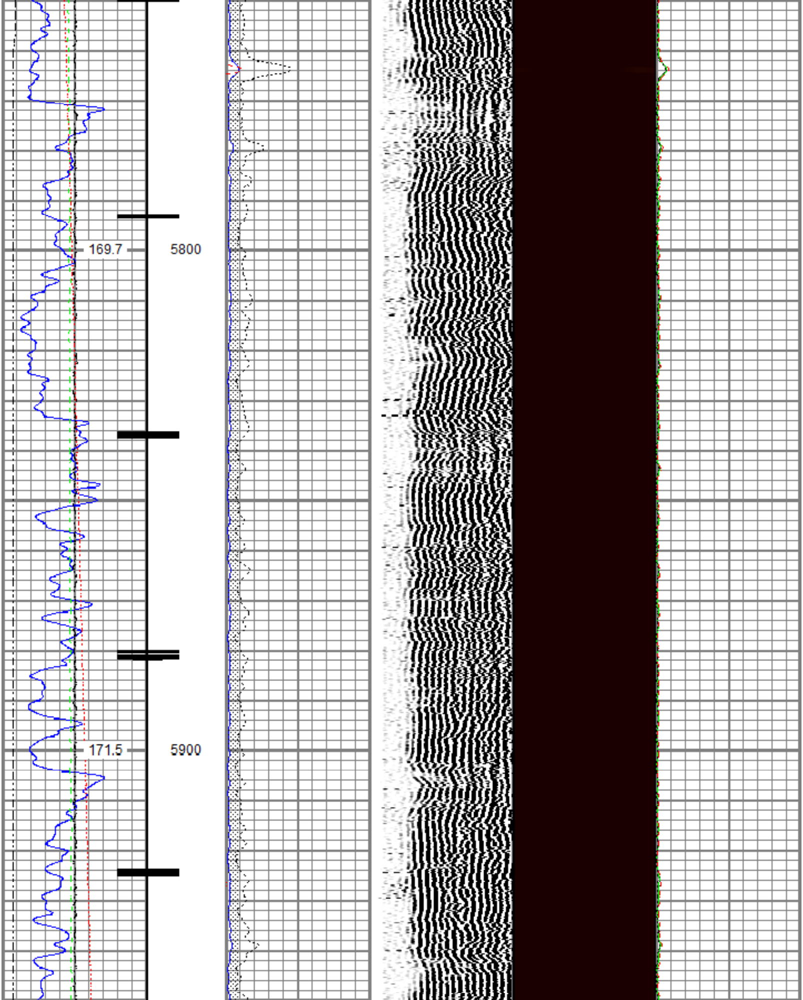
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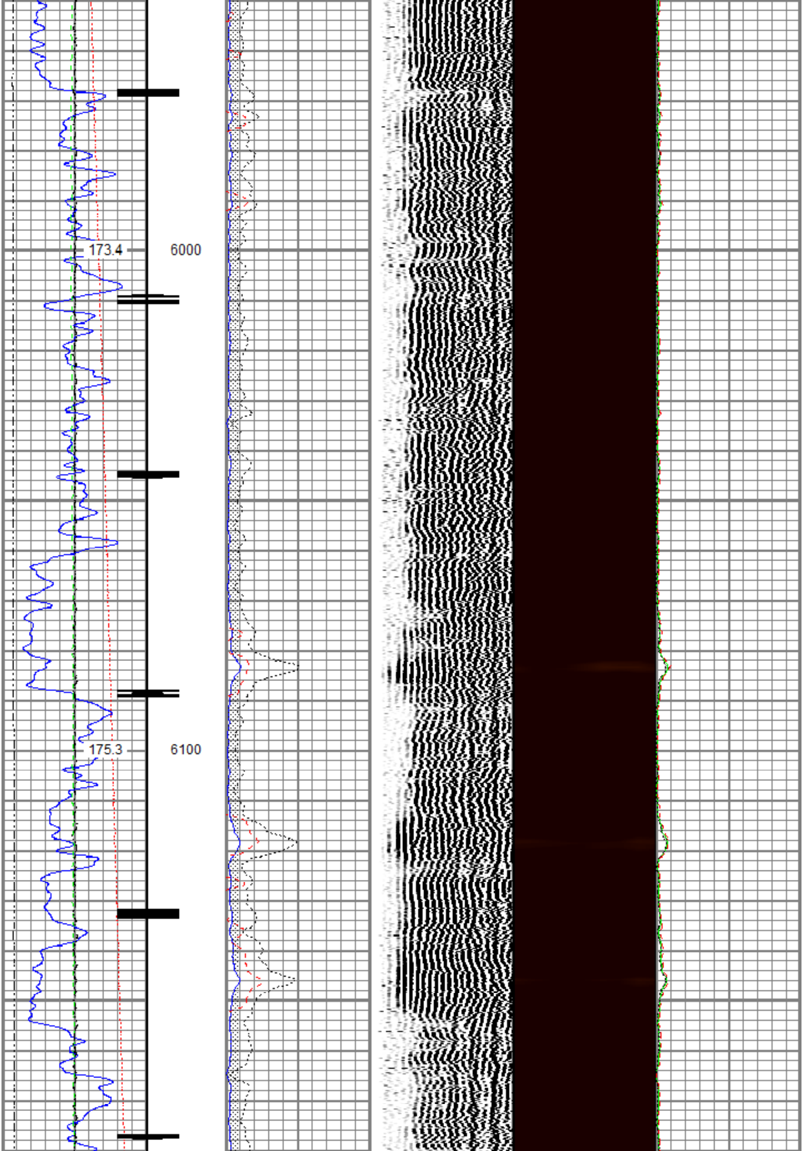
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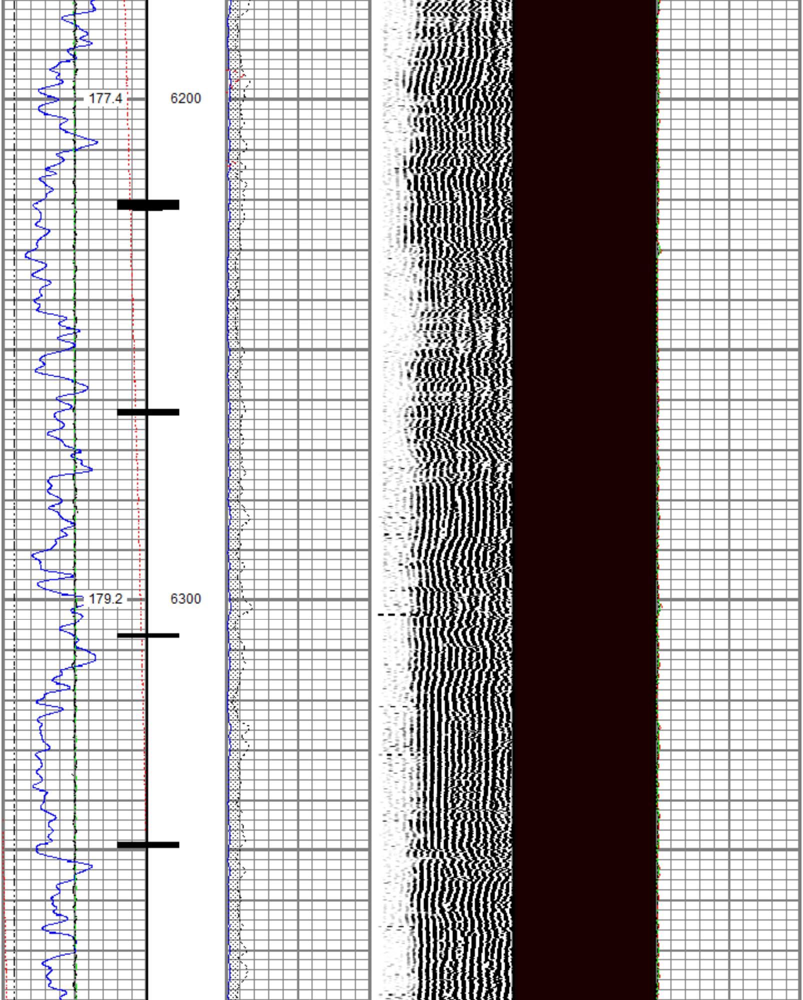
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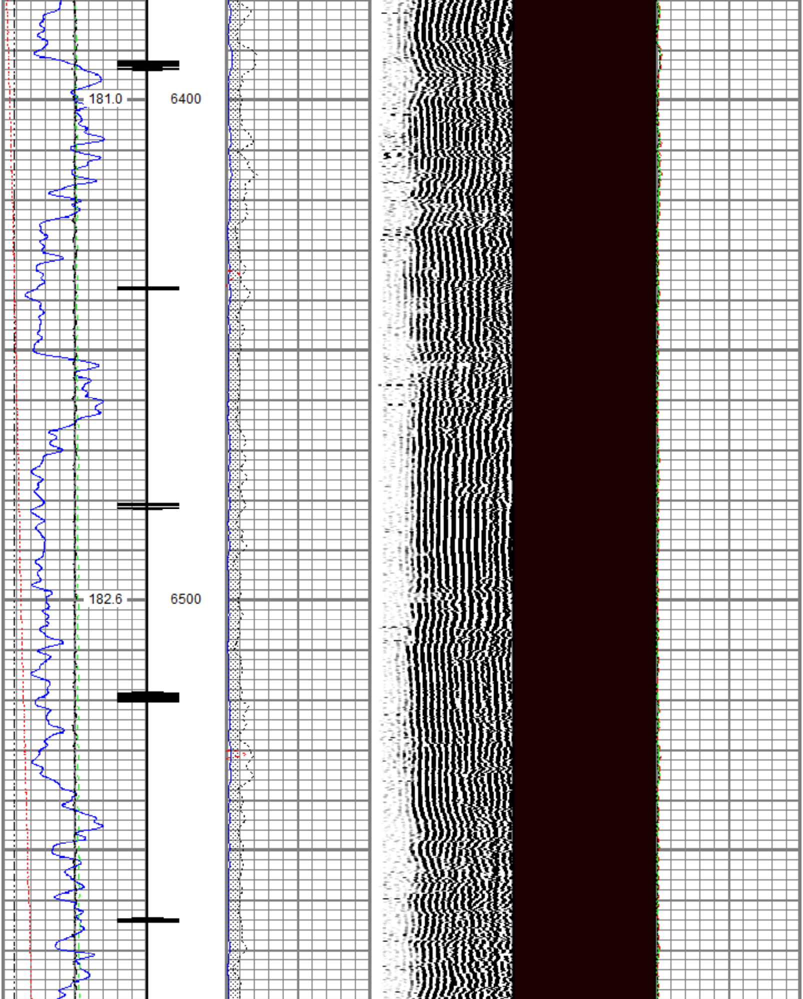
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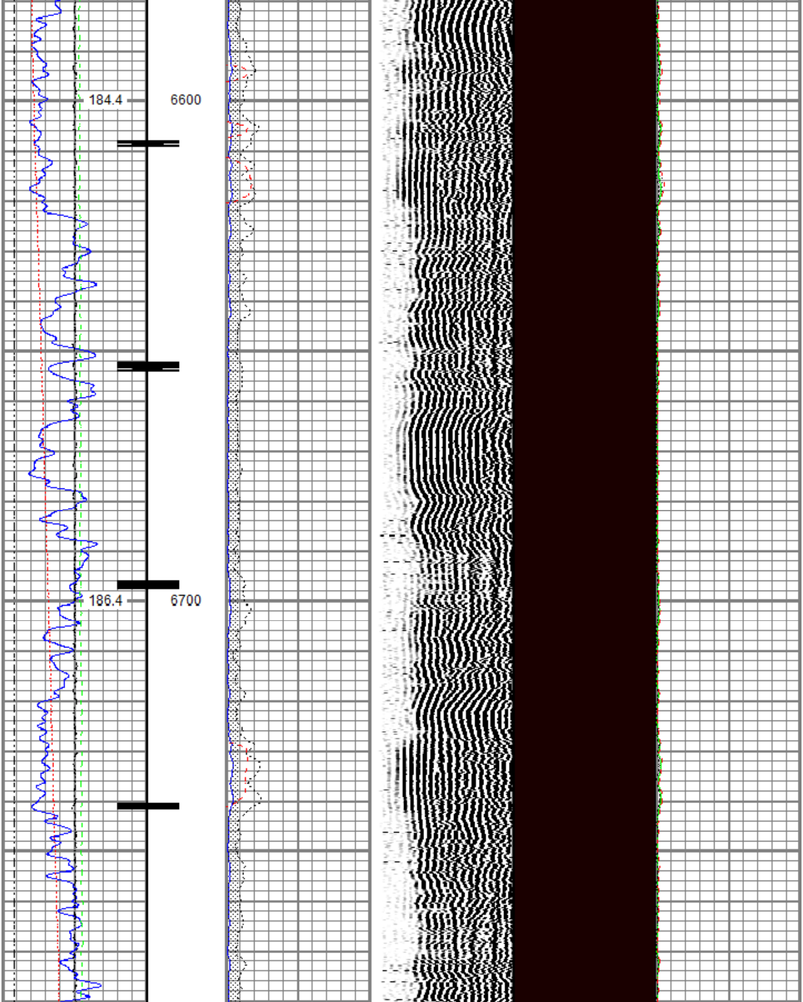
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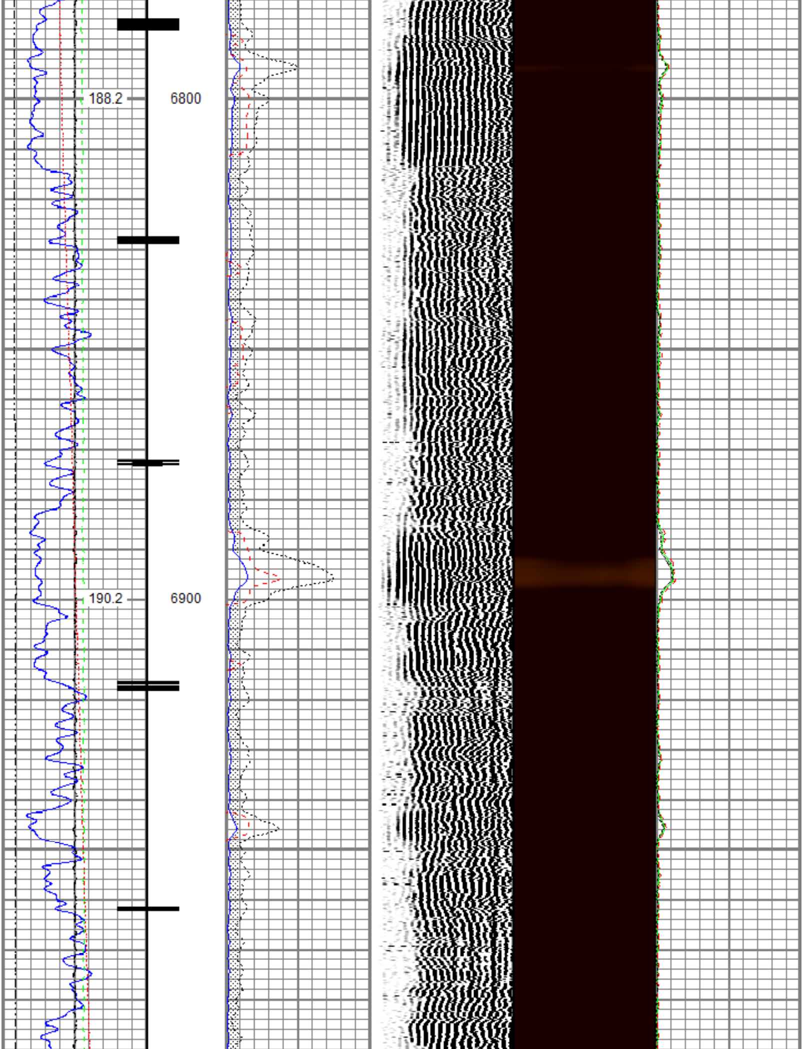
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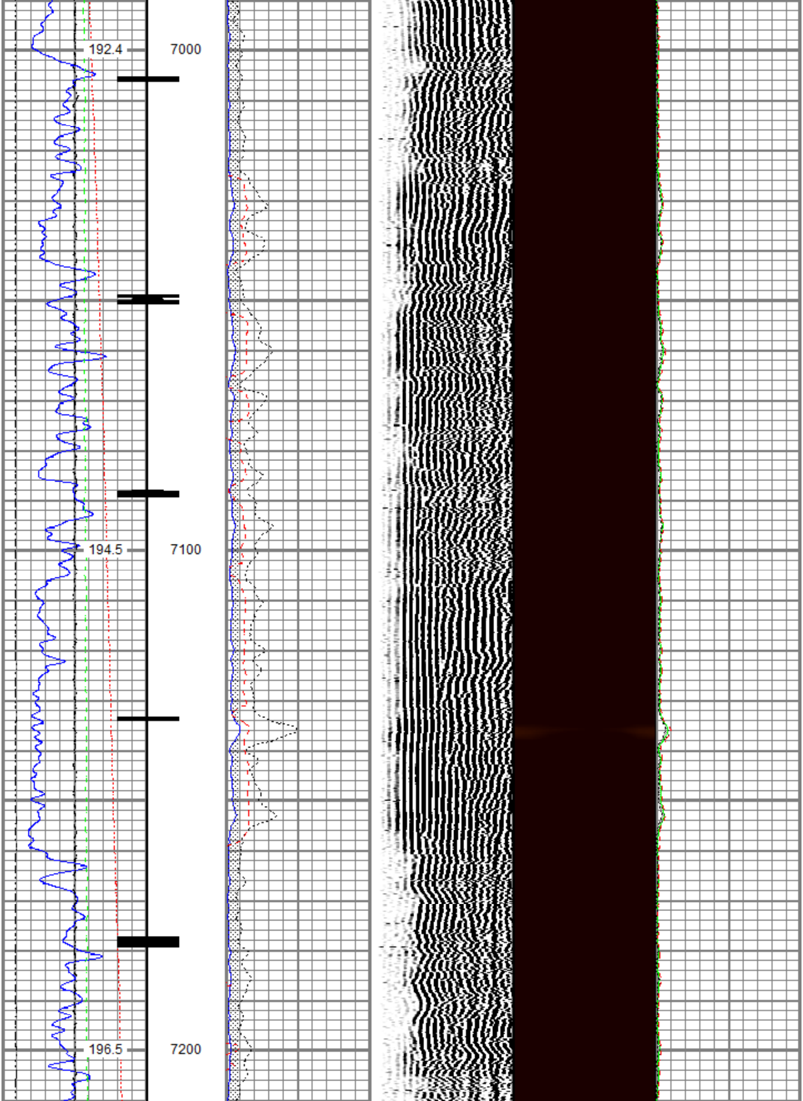
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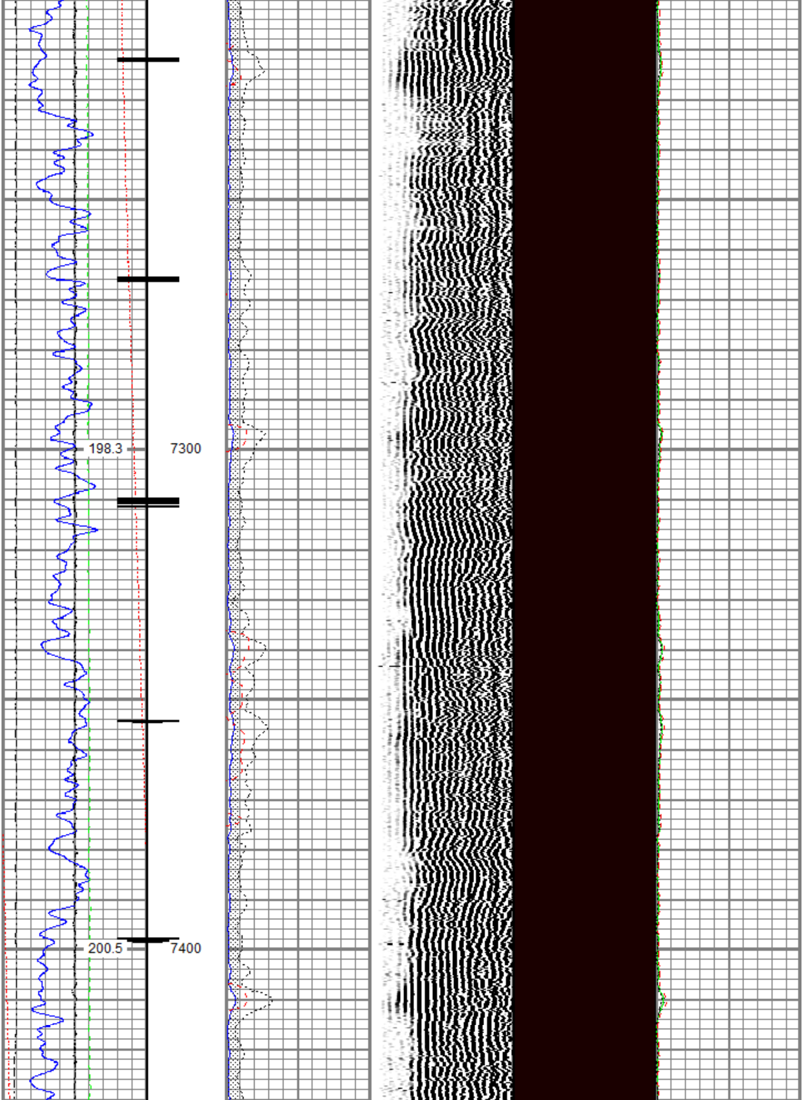
7200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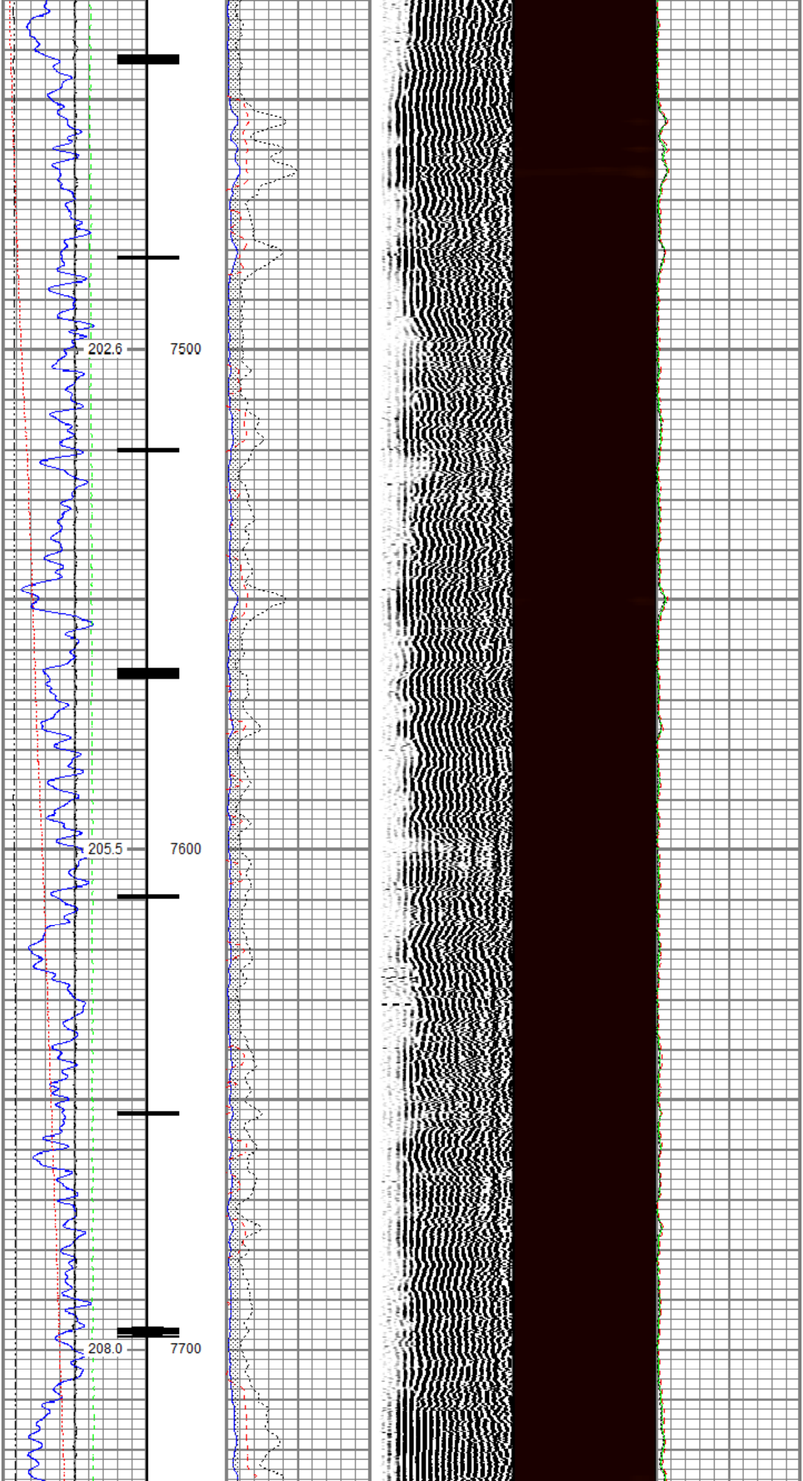
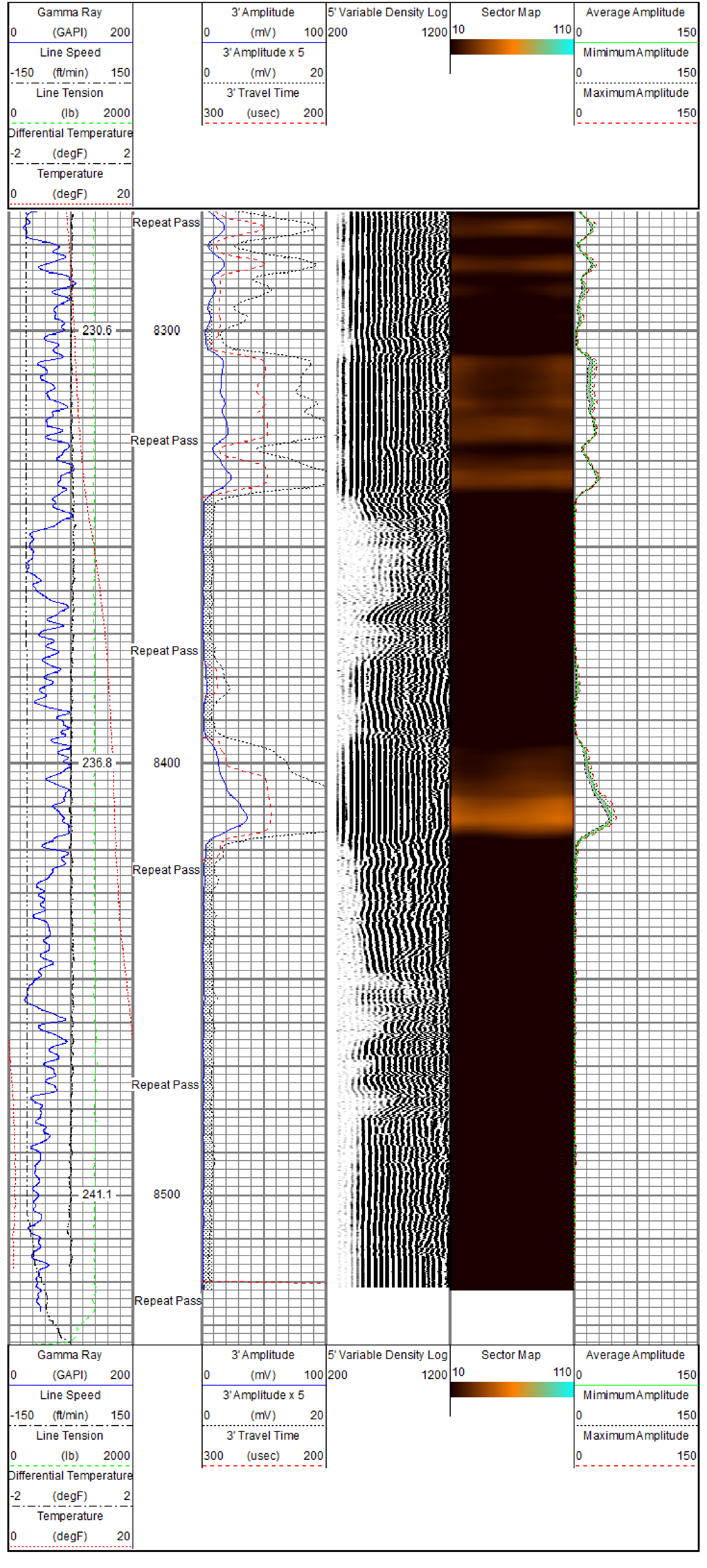

202.6
7500
205.5
7600
208.0
7700

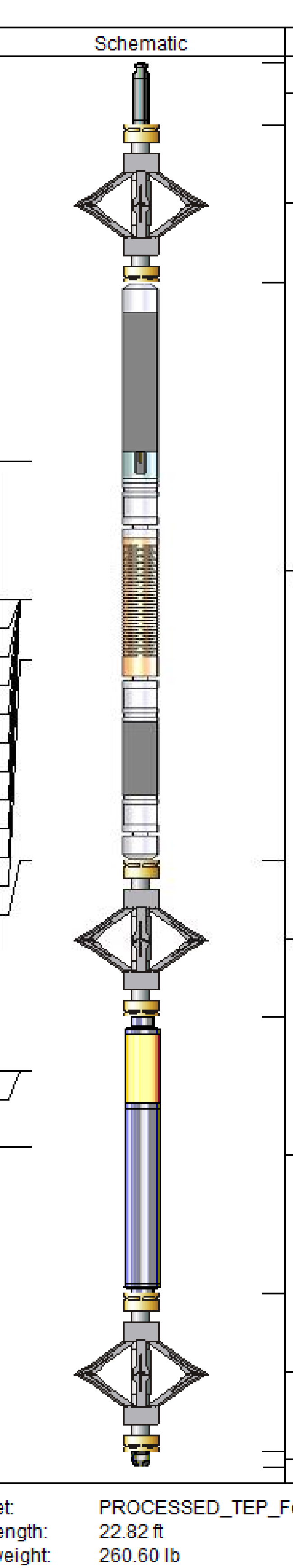
RELIANCE OILFIELD SERVICES

Repeat Pass

Recorded With 0 PSI Surface Induced Pressure

Database File	tep_federal pa 422-26_rbl_09-02-18\processed_tep_federal pa 422-26_rbl_09-02-18.db
Dataset Pathname	repeat.2
Presentation Format	ros_rbt004_tep
Dataset Creation	Tue Sep 04 11:52:30 2018
Charted by	Depth in Feet scaled 1:240



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
			DSS RAC-2750 5A GO DSS 2-3/4" Roller 5 Arm Centralizer w/ GO Ends	2.55	2.75	32.00
TEMP WVFS8 WVFS7 WVFS6 WVFS5 WVFS4 WVFS3 WVFS2 WVFS1 WVFCAL WVF3FT WVF5FT HEADVOLT	16.33 14.10 14.10 14.10 14.10 14.10 14.10 14.10 14.10 14.10 14.10 13.10 9.85		Probe Radii-2750 RBT (FW1302-001) Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub	9.39	2.75	105.00
			DSS RAC-2750 5A GO DSS 2-3/4" Roller 5 Arm Centralizer w/ GO Ends	2.55	2.75	32.00
CCL$2 CCL$1 GR	6.42 6.42 5.18		Probe GR-CCL-2750 GOB (FW1211-026) Probe 2-3/4" rev.2 Digital Scintillation Gamma Ray/CCL Combined	4.51	2.75	55.00
			DSS RAC-2750 5A GO DSS 2-3/4" Roller 5 Arm Centralizer w/ GO Ends	2.55	2.75	32.00
			GO BN-14375 GO 1-7/16" Bull Nose with Go Box Top	0.25	1.44	1.00

Dataset: PROCESSED_TEP_Federal PA 422-26_RBL_09-02-18.db: field/well/run1/main
Total length: 22.82 ft
Total weight: 260.60 lb
O.D.: 2.75 in

Calibration Report

Database File	c:\programdata\warrior\data\tep_federal pa 422-26_rbl_09-02-18\processed_tep_federal pa 422-26_rbl_09-0
Dataset Pathname	main.2
Dataset Creation	Tue Sep 04 10:48:35 2018

Gamma Ray Calibration Report

Serial Number:	FW1211-026	
Tool Model:	2750 GOB	
Performed:	Sun Nov 12 12:17:31 2017	
Calibrator Value:	637.0	GAPI
Background Reading:	113.6	cps
Calibrator Reading:	1015.2	cps
Sensitivity:	0.7065	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	FW1302-001	
Tool Model:	2750 RBT	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	32.895	ft

Master Calibration, performed (Derived):

	Raw (v) Zero	Raw (v) Cal	Calibrated (mv) Zero	Calibrated (mv) Cal	Results Gain	Results Offset
3'	0.005	0.709	0.800	81.196	114.268	0.236
CAL	0.002	0.781				
5'	0.005	0.542	0.800	81.196	149.752	0.013
SUM						
S1	-0.002	0.655	0.000	100.000	152.245	0.347
S2	0.003	0.714	0.000	100.000	140.825	-0.480
S3	0.003	0.777	0.000	100.000	129.195	-0.410
S4	0.003	0.834	0.000	100.000	120.337	-0.306
S5	0.004	0.820	0.000	100.000	122.522	-0.477
S6	0.004	0.742	0.000	100.000	135.520	-0.545
S7	0.004	0.670	0.000	100.000	150.110	-0.601
S8	0.004	0.641	0.000	100.000	156.892	-0.584

Internal Reference Calibration, performed (Not Performed):

	Raw (v) Zero	Raw (v) Cal	Calibrated (v) Zero	Calibrated (v) Cal	Results Gain	Results Offset
CAL	0.000	0.000	0.002	0.781	1.000	0.000

Air Zero Calibration, performed Sun Sep 02 15:08:22 2018:

	Raw (v) Zero	Calibrated (v) Zero	Results Offset
3'	0.001	0.000	0.000
5'	0.005	0.000	-0.000
SUM			
S1	-0.001	0.000	-0.000
S2	0.003	0.000	0.000
S3	0.002	0.000	0.000
S4	0.003	0.000	0.000
S5	0.003	0.000	-0.000
S6	0.003	0.000	0.000
S7	0.003	0.000	-0.000
S8	0.003	0.000	0.000

Temperature Calibration Report

Serial Number:	FW1302-001	
Tool Model:	2750 RBT	
Performed:	Sun Nov 12 13:24:58 2017	
	Reference	Reading
Low Reference:	100.00 degF	107.47 degF
High Reference:	350.00 degF	404.08 degF
Gain:	0.84	
Offset:	9.42	
Delta Spacing	1	

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Well	Federal PA 422-26
Field	Parachute
County	Garfield
State	Colorado