RELIANCE OILFIELD SERVICES

Radial Cement Bond
Gamma Ray
Casing Collar Log

Company TEP Rocky Mountain LLC
Well Tri State Trucking PA 424-24
Field Parachute
County Garfield
State Colorado

Company	TEP Rocky Mountain LLC
Well	Tri State Trucking PA 424-24
Field	Parachute
County	Garfield
State	Colorado
Location:	API # : 05-045-23645
	SEC 25 TWP 6S RGE 95W
Other Services	--
Permanent Datum	Ground Level
Elevation	5223.8'
Log Measured From	Kelly Bushing 24 FT
Drilling Measured From	Kelly Bushing
Elevation	K.B. 5247.8' D.F. 5246.8' G.L. 5223.8'

Date	03-APR-2018
Run Number	One
Depth Driller	8747 FT
Depth Logger	8687 FT
Bottom Logged Interval	8673 FT
Top Log Interval	Surface
Open Hole Size	8.750"
Type Fluid	Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	237°F
Estimated Cement Top	See Log
Time Well Ready	ROA
Time Logger on Bottom	10:35
Equipment Number	HD-0359
Location	Grand Junction, CO
Recorded By	A. Ellsworth
Witnessed By	C. Applegate

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	1128 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	8706 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 4658 FT to 4680 FT
Log ran from 8673 FT to Surface
Recorded with 0 PSI Surface Induced Pressure

Thank you for choosing Reliance Oilfield Services, LLC!

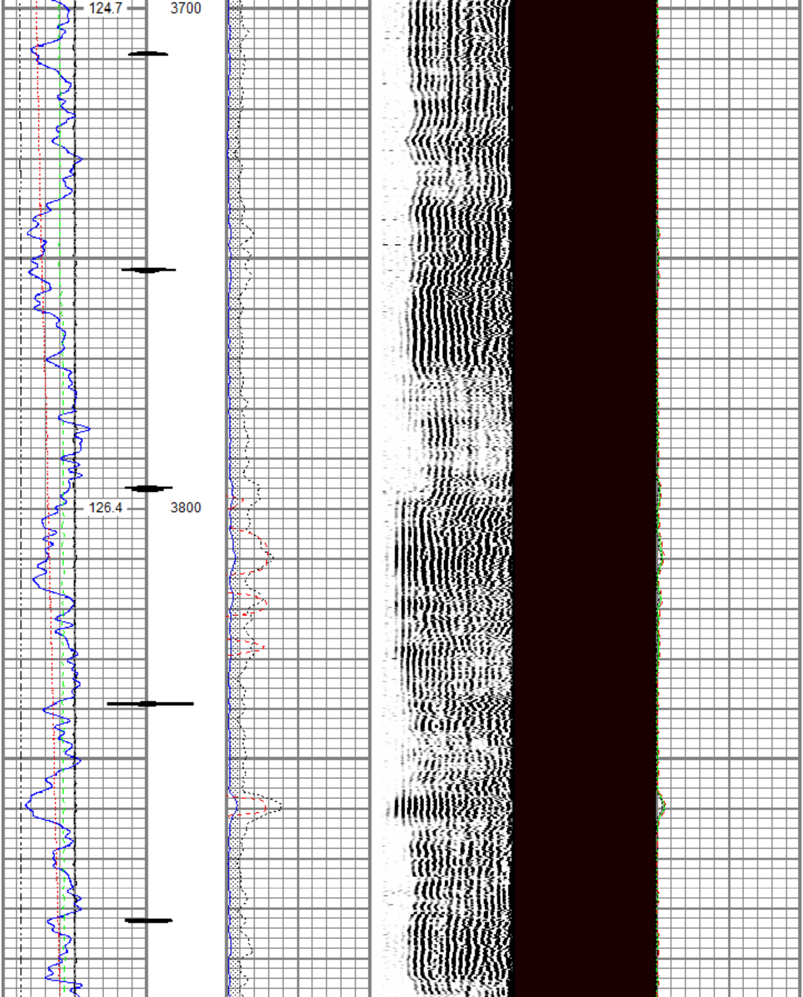
RELIANCE OILFIELD SERVICES

Main Pass

Recorded With 0 PSI Surface Induced Pressure

Database File	tep\tri state trucking pa 424-24\tep_tri state trucking pa 424-24_rbl_04-03-18.db
Dataset Pathname	main
Presentation Format	ROS_RB~3
Dataset Creation	Tue Apr 03 11:31:35 2018
Charted by	Depth in Feet scaled 1:240

Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 200	0 (mV) 100	200 (usec) 1200		0 150
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
Line Speed	0 (mV) 20			0 150
-150 (ft/min) 150	3' Travel Time			Maximum Amplitude
Line Tension	300 (usec) 200			0 150
0 (lb) 2000				
Differential Temperature				
-2 (degF) 2				
Temperature				
0 (degF) 20				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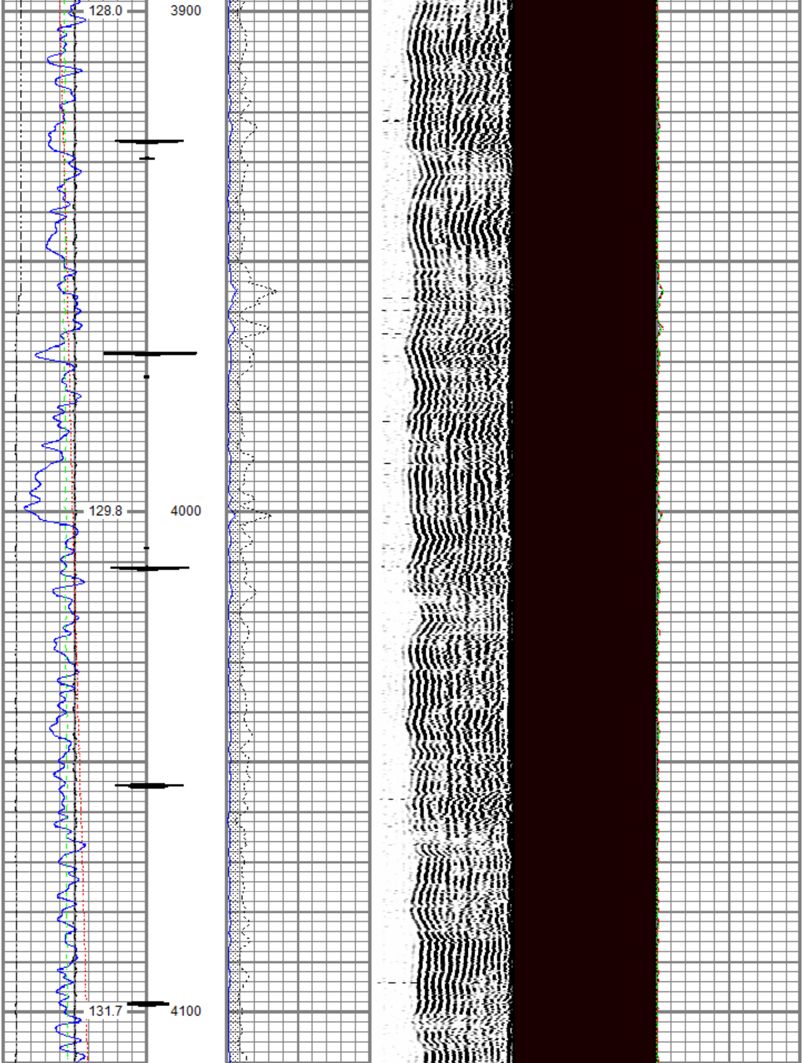
3700
126.4
3800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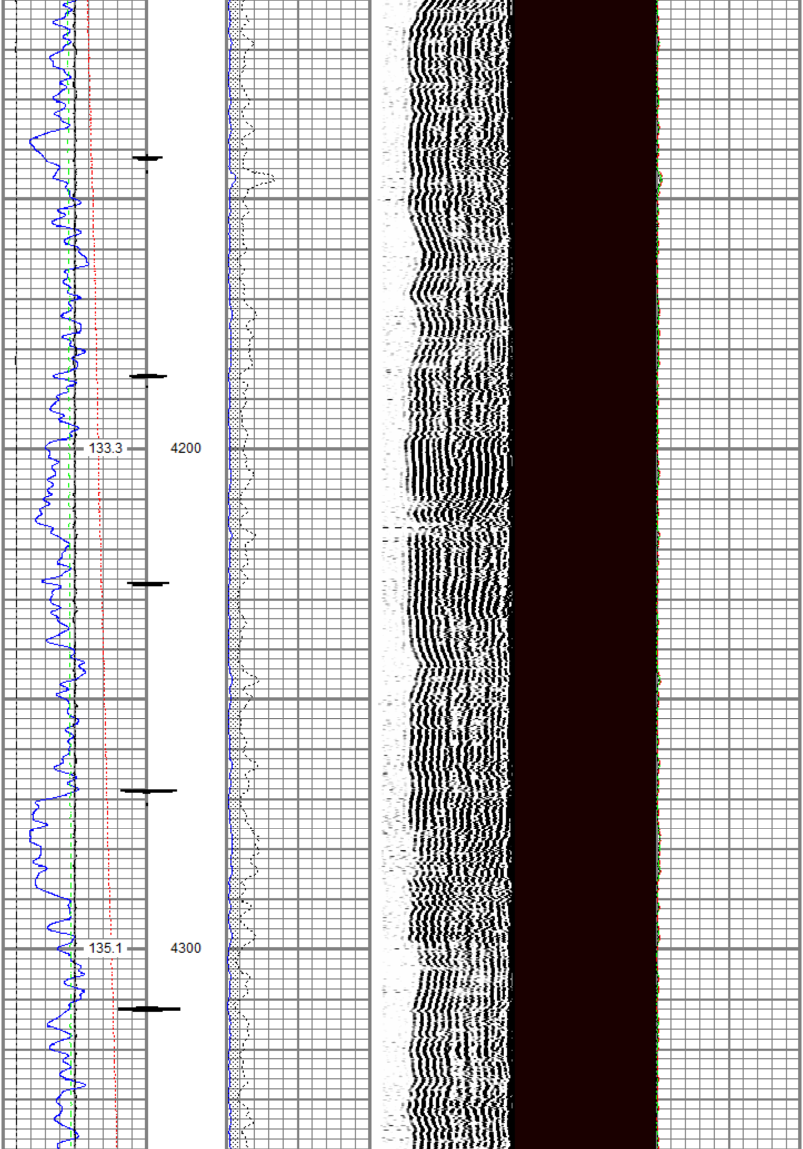
129.8
4000
131.7
4100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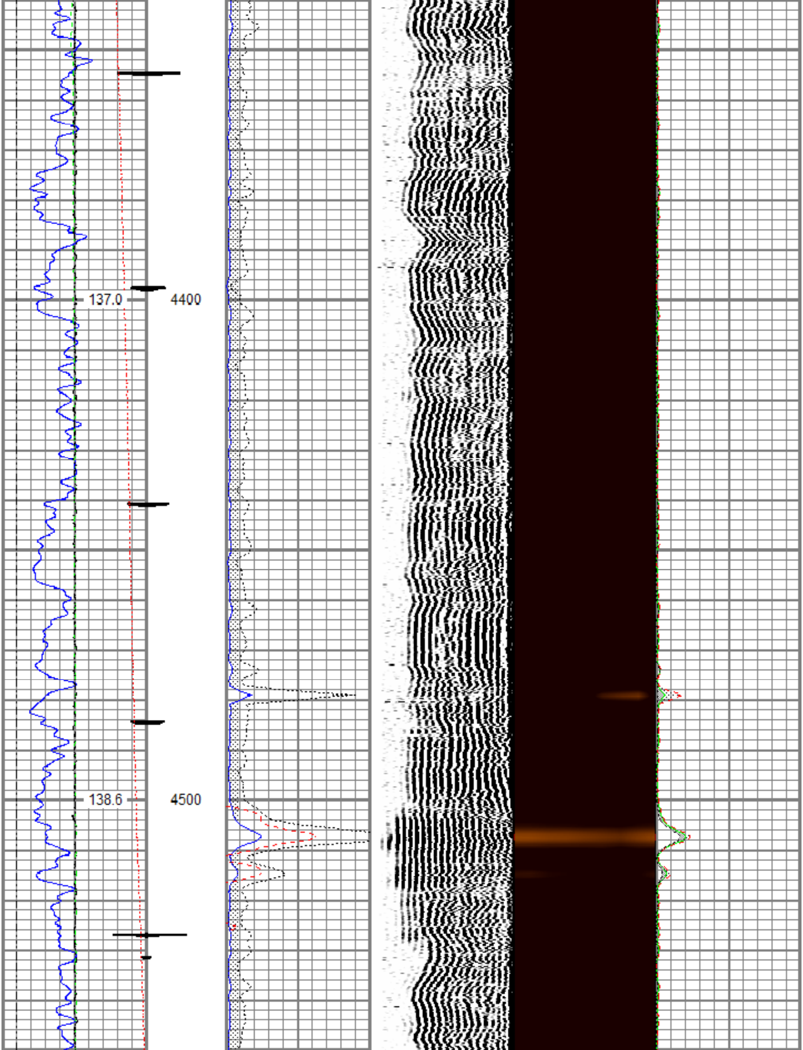
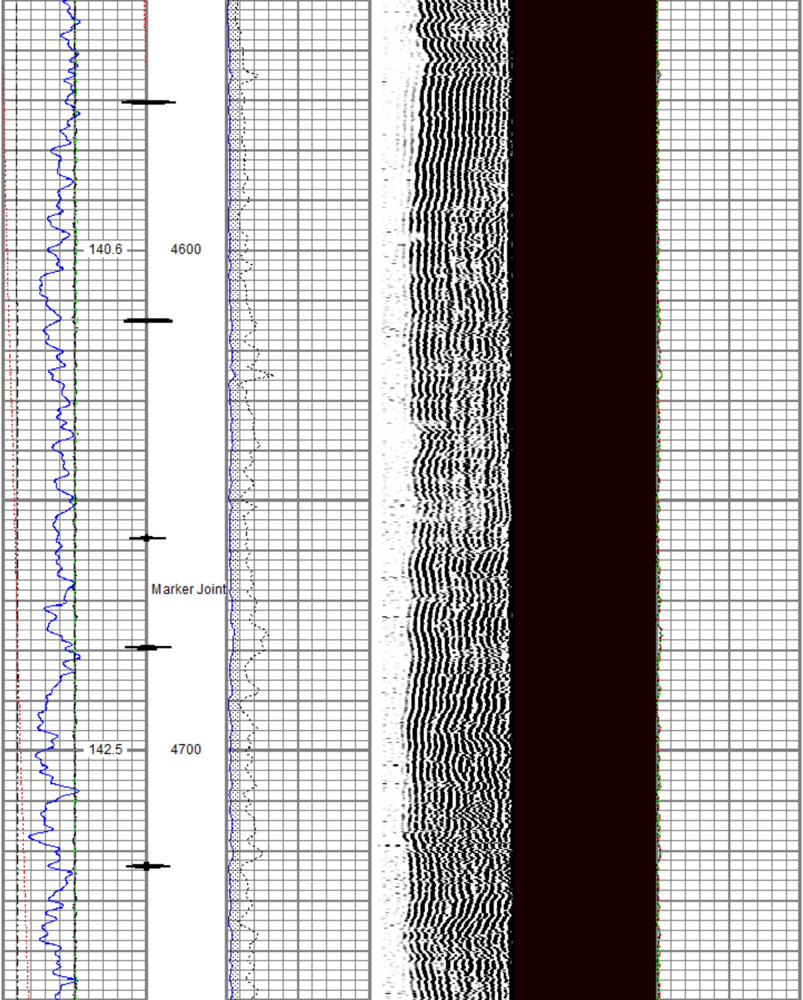
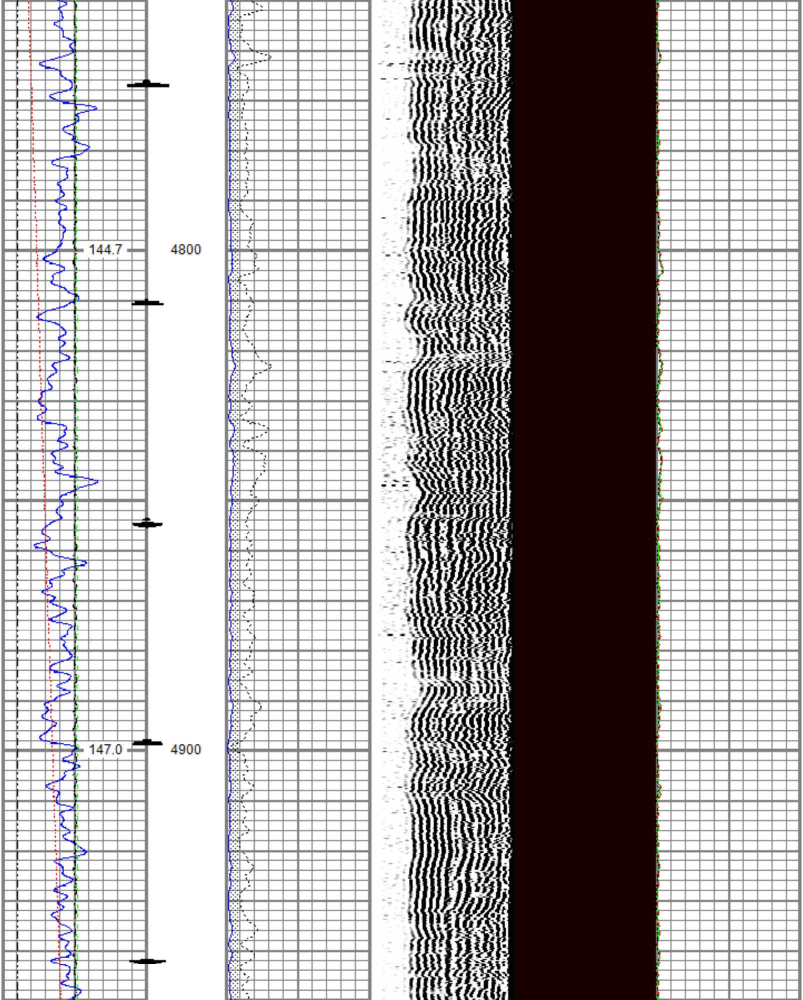
4200
135.1
4300


137.0
4400
138.6
4500



140.6
4600
Marker Joint
142.5
4700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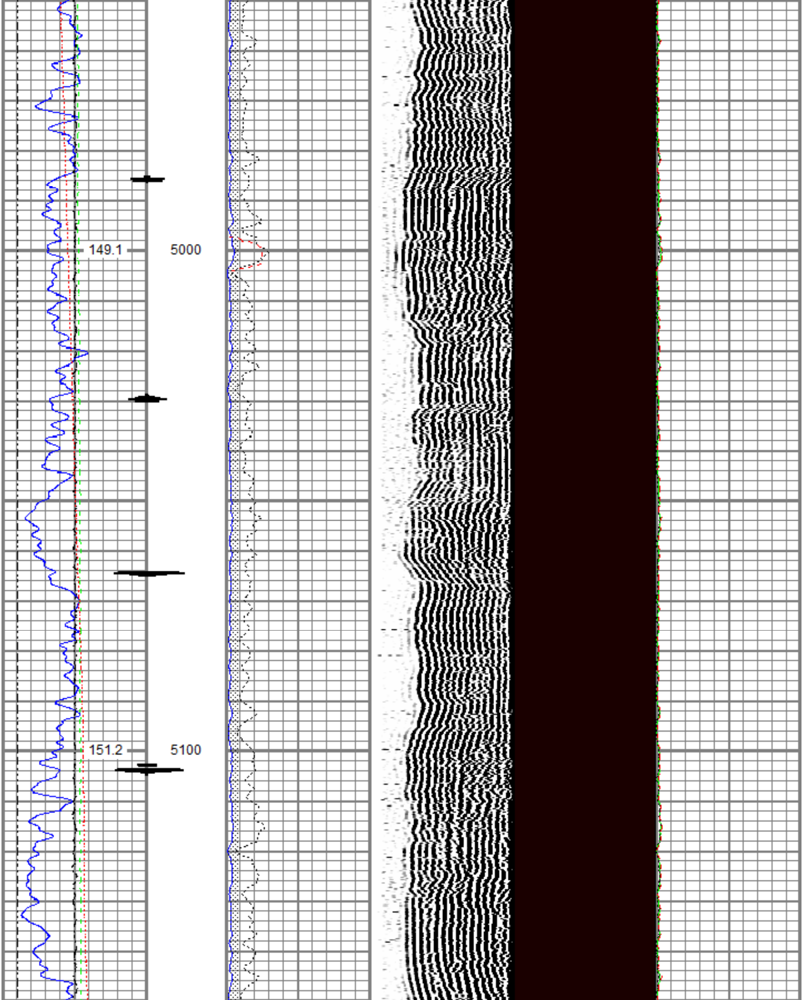
4900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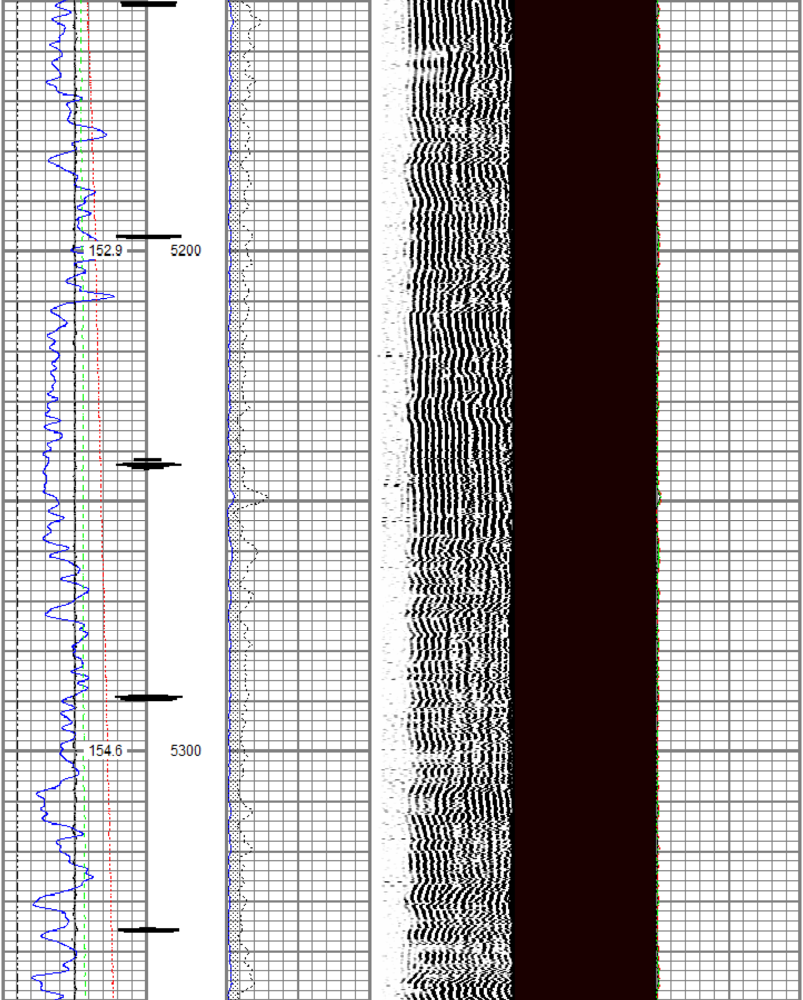
151.2
5100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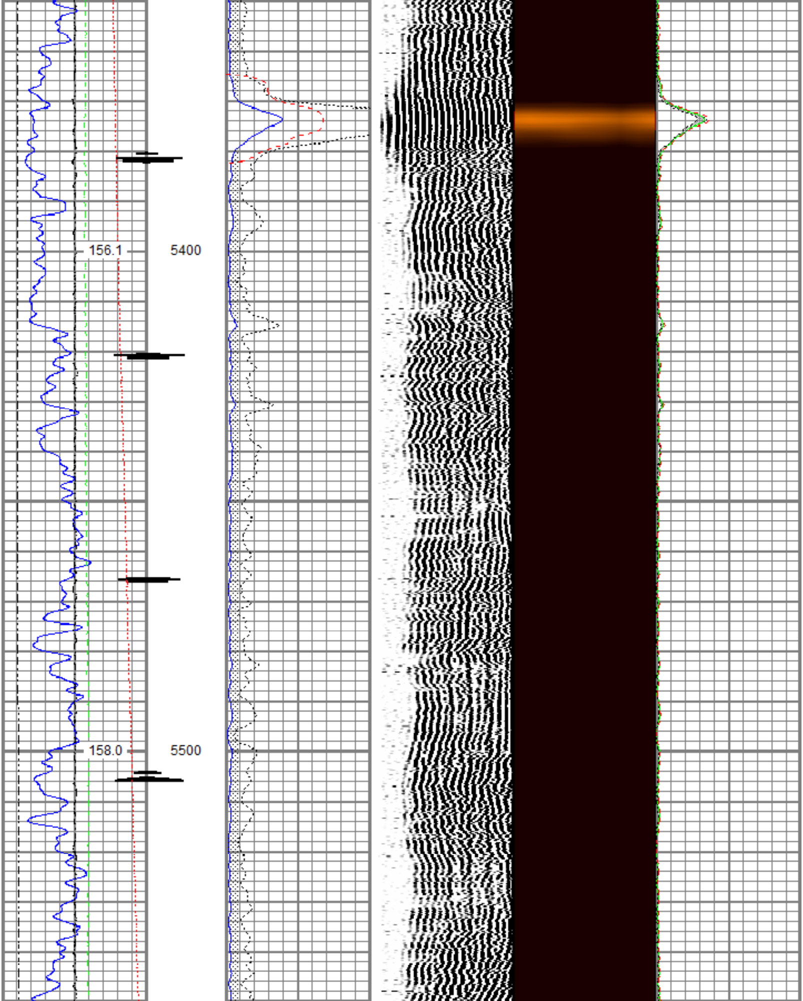
5300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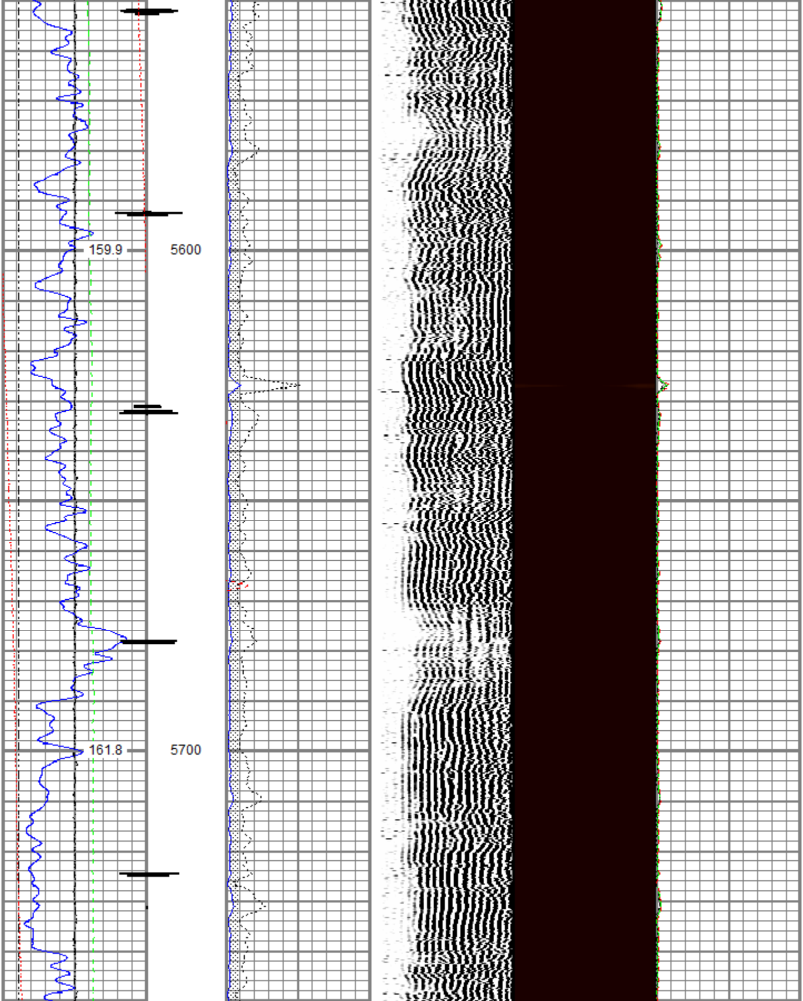
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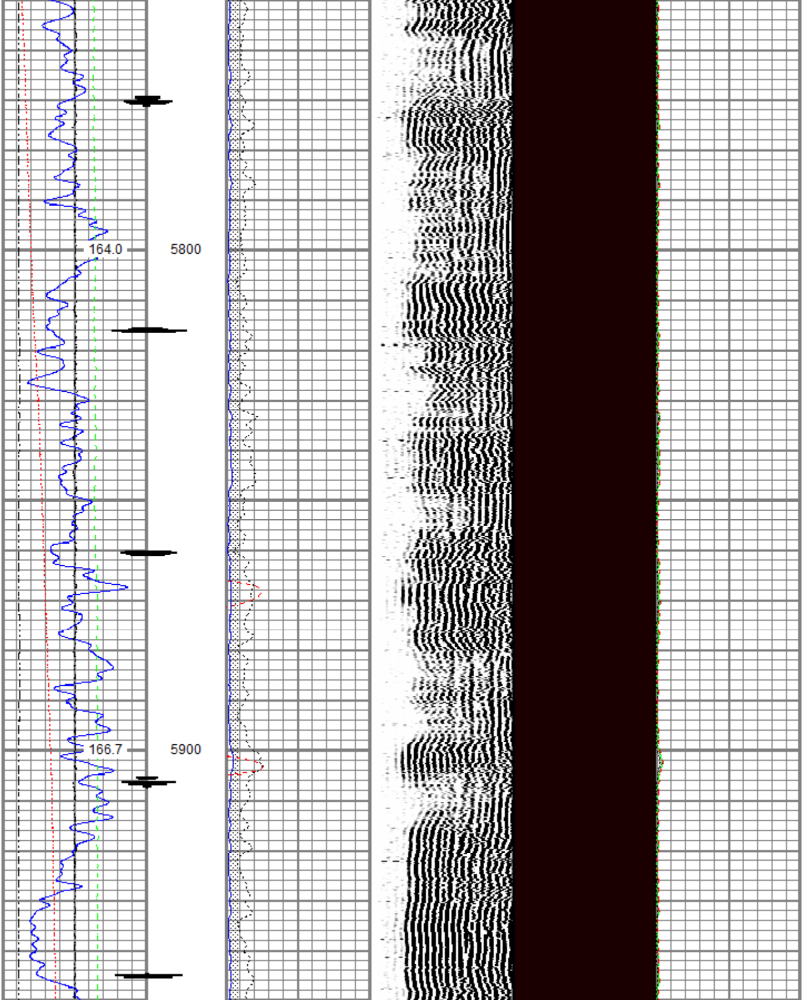
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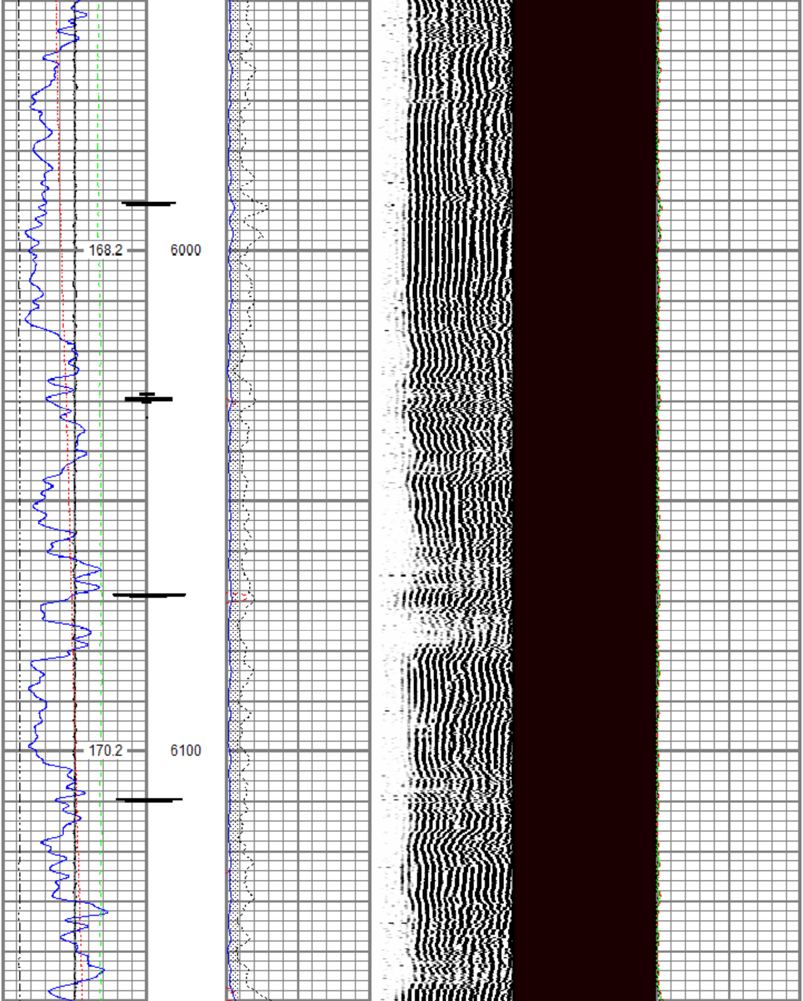
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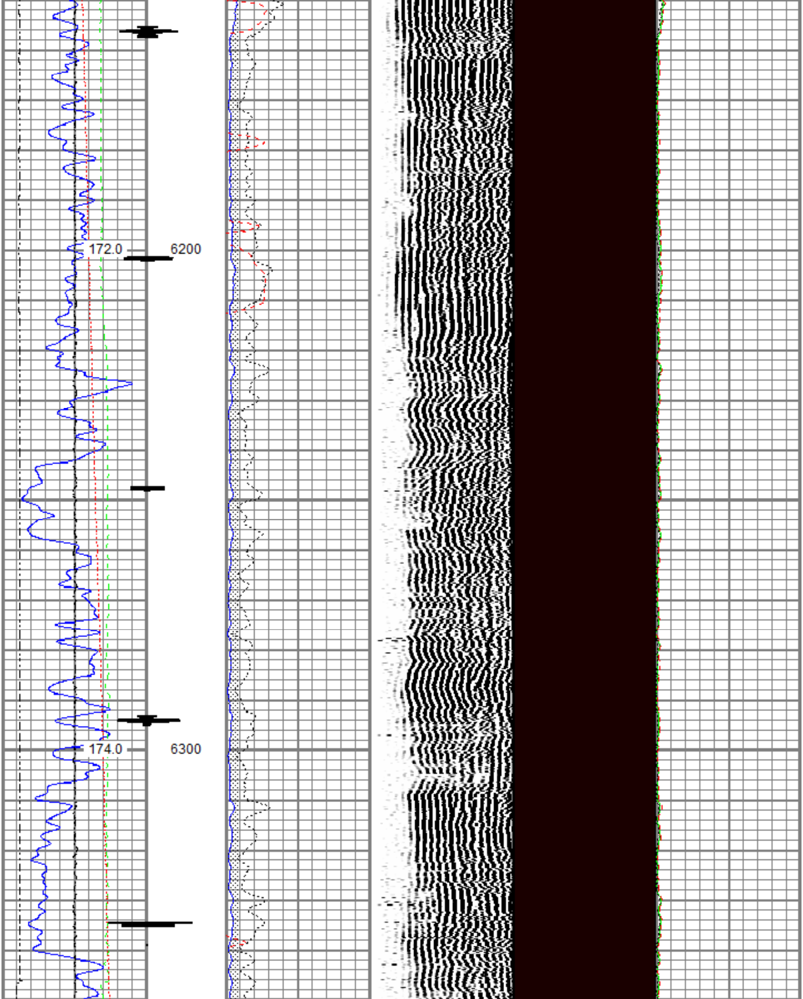
170.2
6100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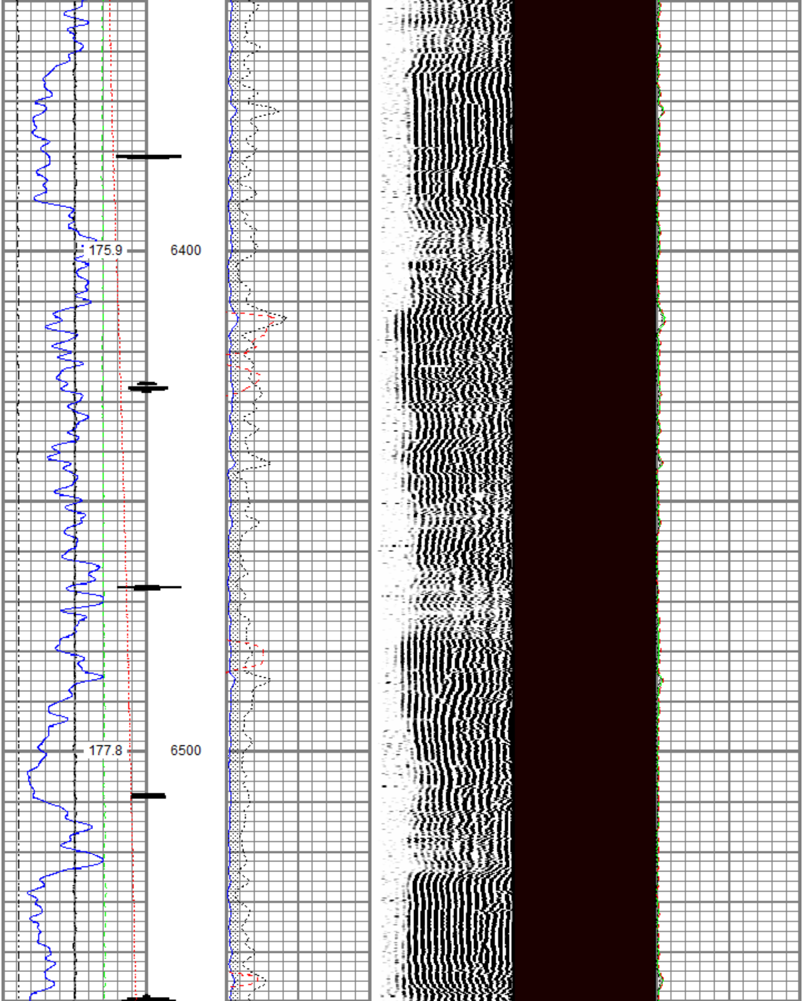
6200
174.0
6300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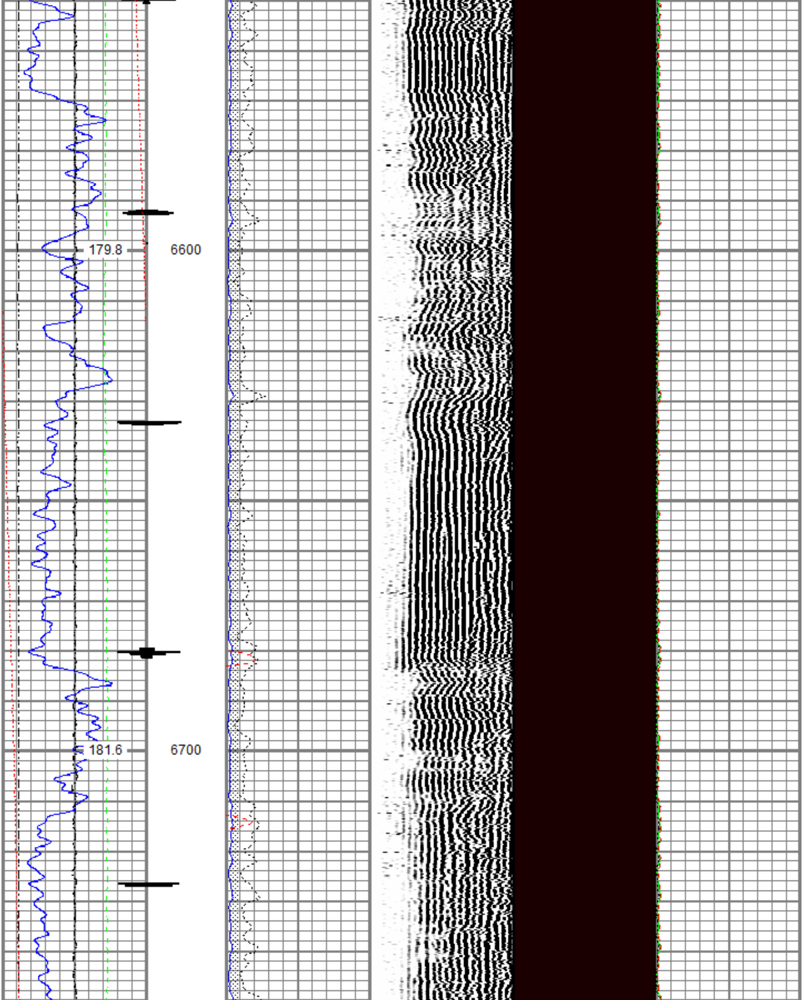
177.8
6500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181.6
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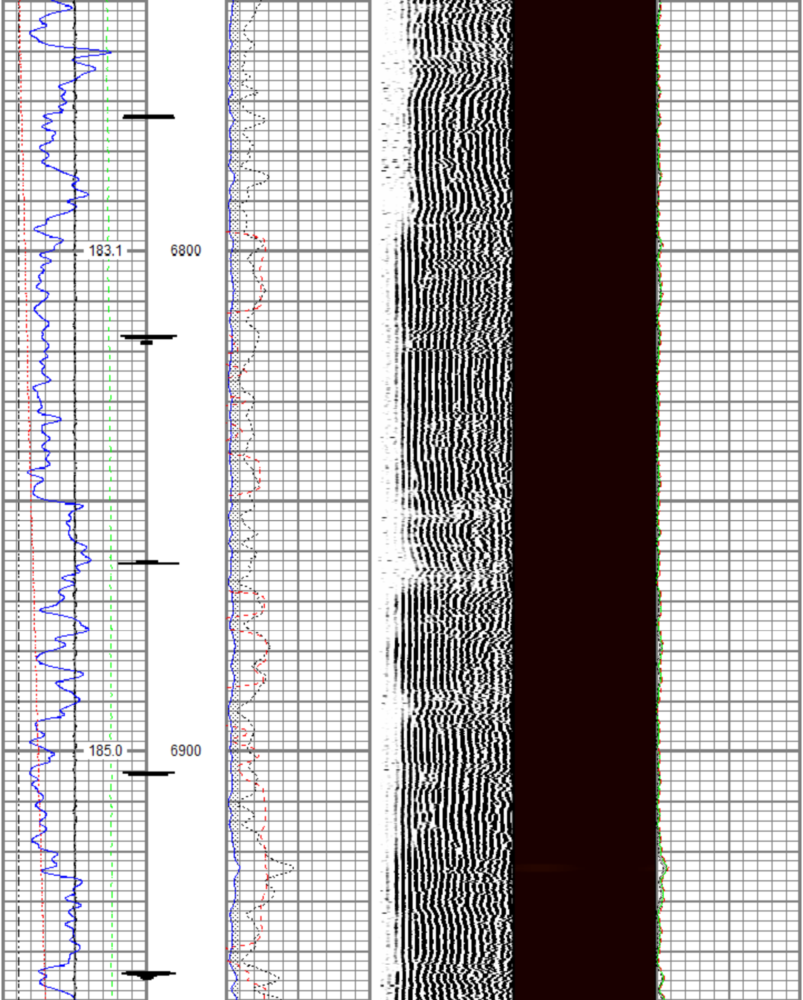
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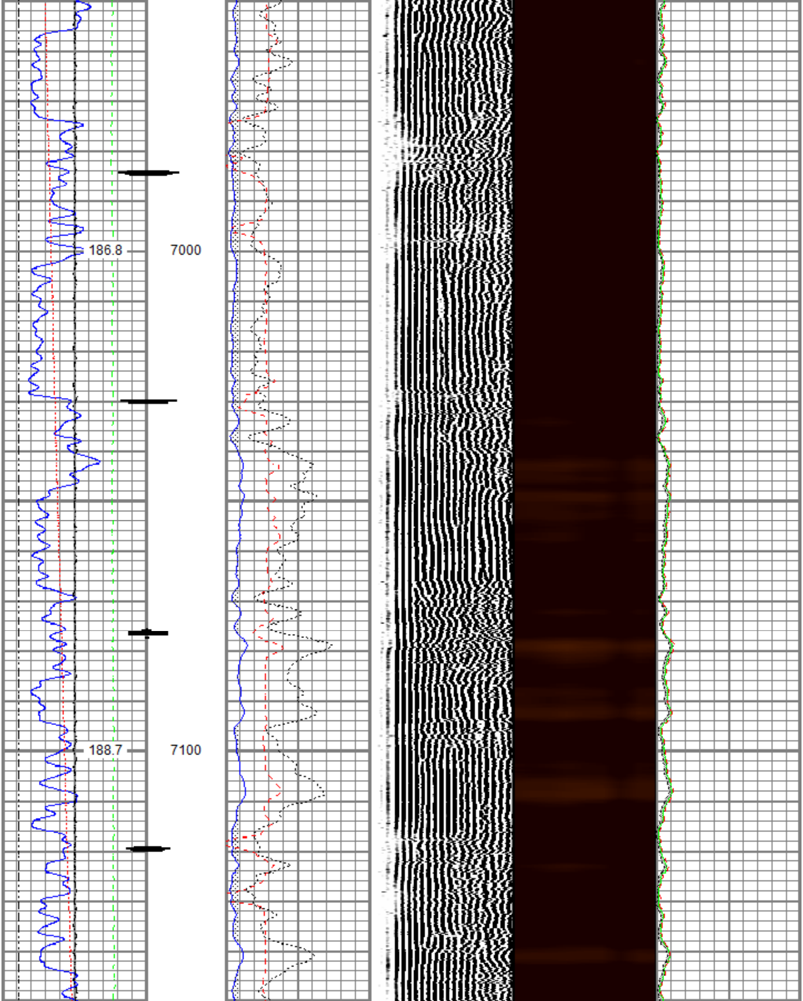
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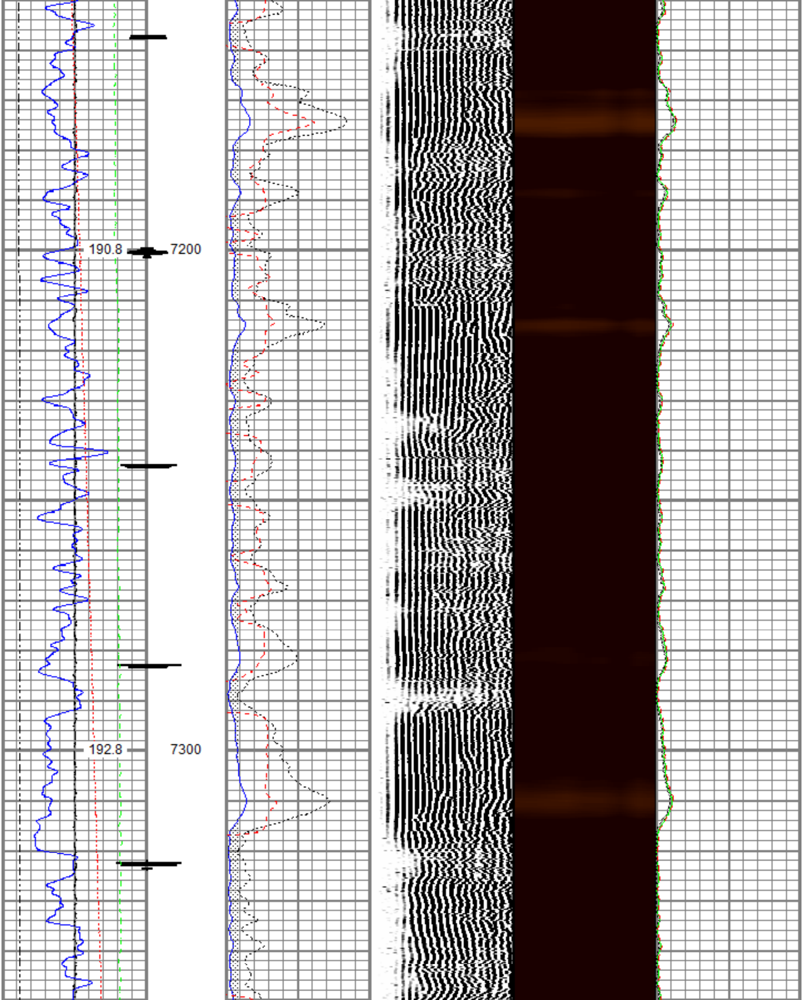
7000
188.7
7100



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7200
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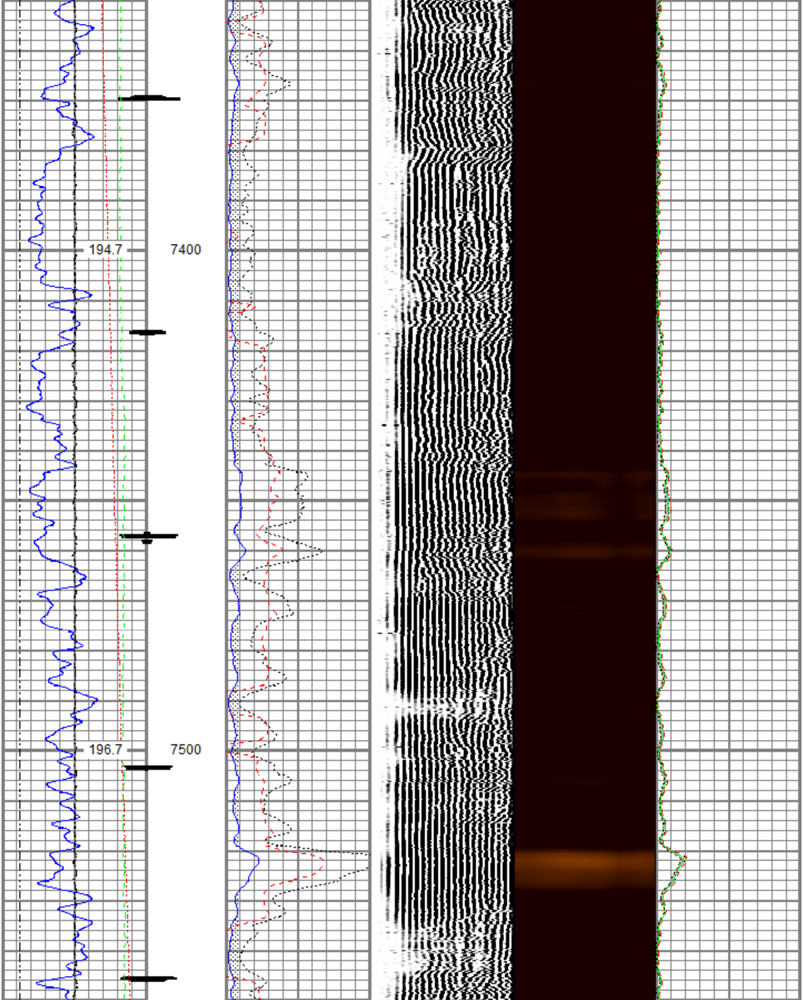
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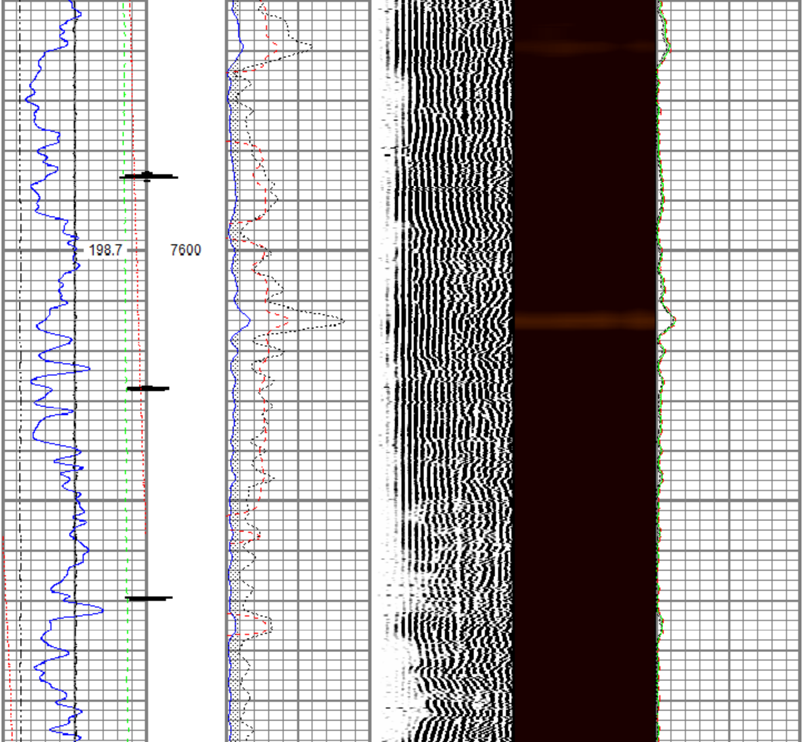
198.7
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Gamma Ray
0 (GAPI) 200
Casing Collar Locator
Line Speed
-150 (ft/min) 150
Line Tension
0 (lb) 2000
Differential Temperature
-2 (degF) 2
Temperature
0 (degF) 20

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

5' Variable Density Log
200 (usec) 1200

Sector Map

Average Amplitude
0 150
Mimimum Amplitude
0 150
Maximum Amplitude
0 150

Repeat Pass

Recorded With 0 PSI Surface Induced Pressure

Database File	tep\tri state trucking pa 424-24\tep_tri state trucking pa 424-24_rbl_04-03-18.db
Dataset Pathname	repeat
Presentation Format	ros_rbt004_tep
Dataset Creation	Tue Apr 03 11:26:50 2018
Charted by	Depth in Feet scaled 1:240

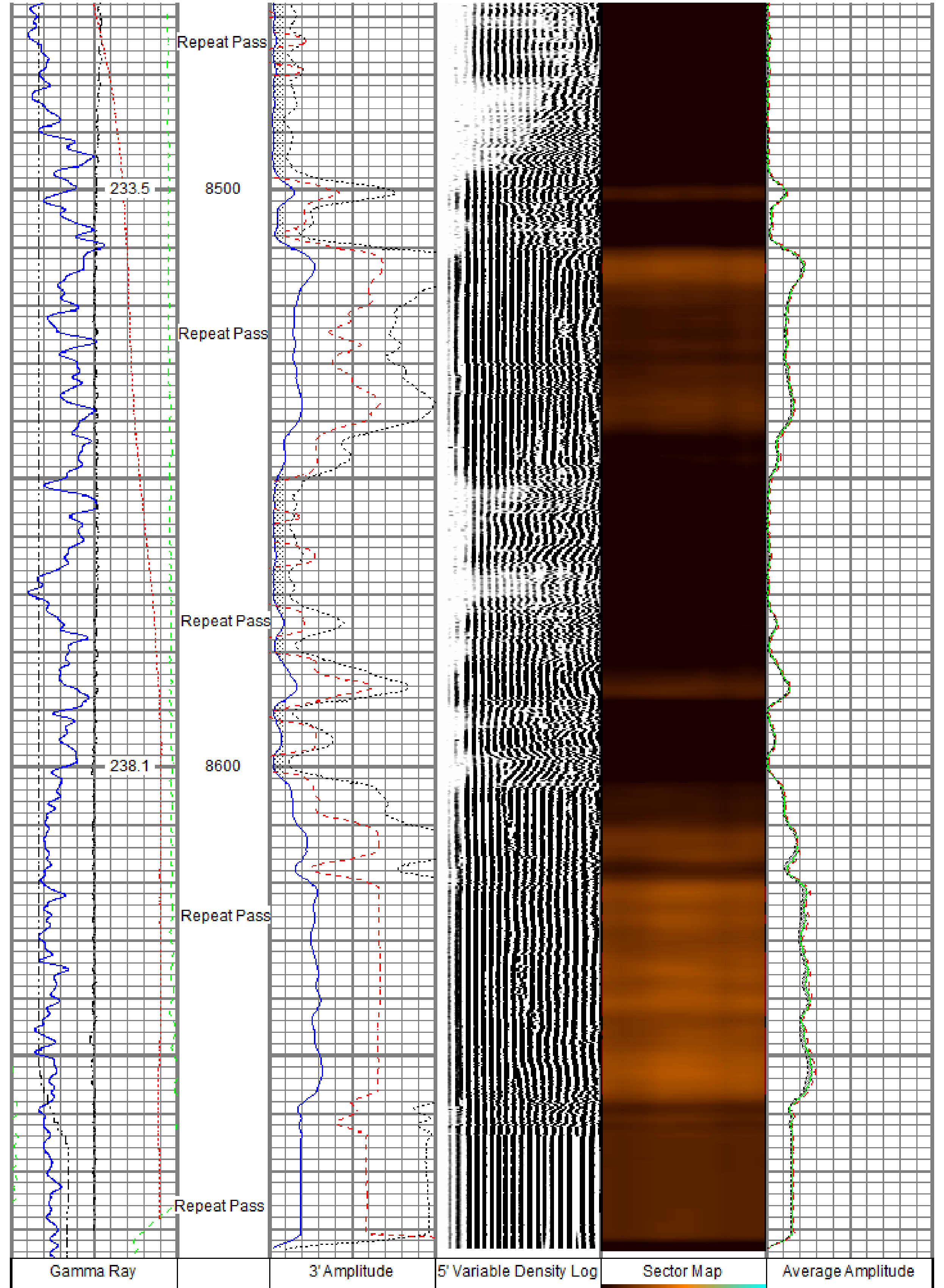
Gamma Ray
0 (GAPI) 200
Line Speed
-150 (ft/min) 150
Line Tension
0 (lb) 2000
Differential Temperature
-2 (degF) 2
Temperature
0 (degF) 20

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

5' Variable Density Log
200 (usec) 1200

Sector Map

Average Amplitude
0 150
Mimimum Amplitude
0 150
Maximum Amplitude
0 150



Gamma Ray
0 (GAPI) 200
Line Speed
-150 (ft/min) 150
Line Tension
0 (lb) 2000
Differential Temperature
-2 (degF) 2
Temperature
0 (degF) 20

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

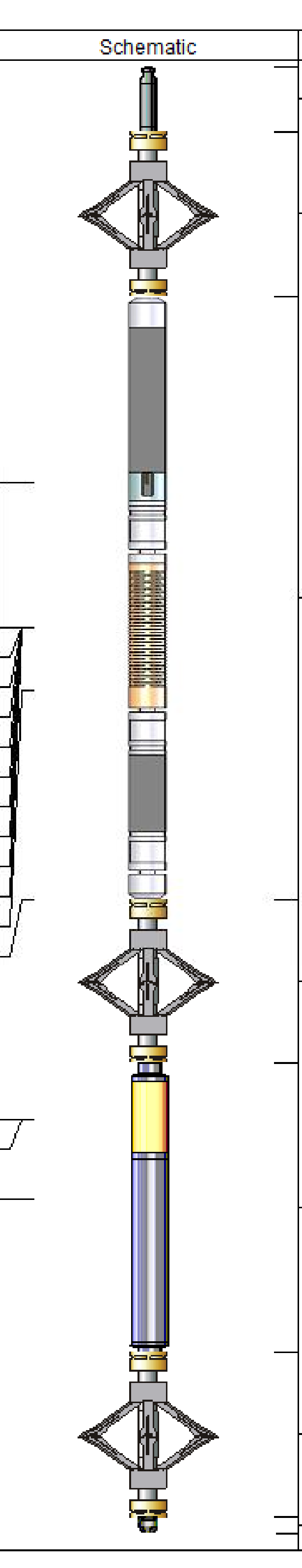
5' Variable Density Log
200 (usec) 1200

Sector Map

Average Amplitude
0 150
Mimimum Amplitude
0 150
Maximum Amplitude
0 150

Sensor	Offset (ft)
TEMP	16.33
WVFS8	14.10
WVFS7	14.10
WVFS6	14.10
WVFS5	14.10
WVFS4	14.10
WVFS3	14.10
WVFS2	14.10
WVFS1	14.10
WVFCAL	14.10
WVF3FT	14.10
WVF5FT	13.10
HEADVOLT	9.85
CCL$2	6.42
CCL$1	6.42
GR	5.18

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
Probe Radii-2750 RBT (FW1305-098) 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
Probe GR-CCL-2750 GOB (FW1307-038) 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:	tep_tri state trucking pa 424-24_rbl_04-03-18.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\Tri State Trucking PA 424-24\TEP_Tri State Trucking PA 424-24_RBL_04-
Dataset Pathname	main
Dataset Creation	Tue Apr 03 11:31:35 2018

Gamma Ray Calibration Report

Serial Number:	FW1307-038	
Tool Model:	2750 GOB	
Performed:	Sun Nov 12 11:44:12 2017	
Calibrator Value:	637.0	GAPI
Background Reading:	113.2	cps
Calibrator Reading:	1022.4	cps
Sensitivity:	0.7007	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	FW1305-098	
Tool Model:	2750 RBT	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	33.442	ft

Master Calibration, performed Tue Apr 03 09:49:56 2018:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.007	0.714	0.800	81.196	111.441	1.582
CAL	-0.006	0.751				
5'	-0.002	0.709	0.800	81.196	113.182	0.980
SUM						
S1	-0.008	0.713	0.000	100.000	138.631	1.151
S2	-0.005	0.727	0.000	100.000	136.608	0.630
S3	-0.004	0.722	0.000	100.000	137.692	0.553
S4	-0.005	0.719	0.000	100.000	138.252	0.624
S5	-0.004	0.721	0.000	100.000	137.889	0.582
S6	-0.005	0.726	0.000	100.000	136.864	0.650
S7	-0.004	0.732	0.000	100.000	135.892	0.569
S8	-0.005	0.722	0.000	100.000	137.554	0.700

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.006	0.751	1.000	0.000

Air Zero Calibration, performed Tue Apr 03 09:50:21 2018:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	-0.007	0.000	0.000
5'	-0.001	0.000	-0.000
SUM			
S1	-0.009	0.000	0.000
S2	-0.005	0.000	-0.000
S3	-0.004	0.000	0.000
S4	-0.005	0.000	0.001
S5	-0.004	0.000	0.000
S6	-0.005	0.000	-0.000
S7	-0.004	0.000	0.000
S8	-0.005	0.000	-0.000

Temperature Calibration Report

Serial Number:	FW1305-098	
Tool Model:	2750 RBT	
Performed:	Sun Nov 12 12:43:57 2017	
	Reference	Reading
Low Reference:	100.00 degF	109.43 degF
High Reference:	350.00 degF	405.87 degF
Gain:	0.84	
Offset:	7.72	
Delta Spacing	1	

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