RELIANCE OILFIELD SERVICES

Radial Cement Bond Gamma Ray Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	Tri State Trucking PA 414-24
Field	Parachute
County	Garfield
State	Colorado

Company TEP Rocky Mountain LLC
Well Tri State Trucking PA 414-24
Field Parachute
County Garfield State Colorado
Location: API # : 05-045-23653
SEC 25 TWP 6S RGE 95W

Other Services
--

Permanent Datum	Ground Level	Elevation 5223.8'	Elevation K.B. 5247.8' D.F. 5246.8' G.L. 5223.8'
Log Measured From	Kelly Bushing	24 FT	
Drilling Measured From	Kelly Bushing		

Date	23-MAR-2018
Run Number	One
Depth Driller	8925 FT
Depth Logger	8835 FT
Bottom Logged Interval	8830 FT
Top Log Interval	Surface
Open Hole Size	8.750"
Type Fluid	Fresh Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	240°F
Estimated Cement Top	See Log
Time Well Ready	ROA
Time Logger on Bottom	5:45
Equipment Number	HD-359
Location	Grand Junction, CO
Recorded By	J. Donnelly
Witnessed By	D. Welsh

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	1131 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	8884 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 at 4571-4593 FT
Log ran from 8835 FT to Surface
Recorded with 0 PSI Surface Induced Pressure

Thank you for choosing Reliance Oilfield Services, LLC!!

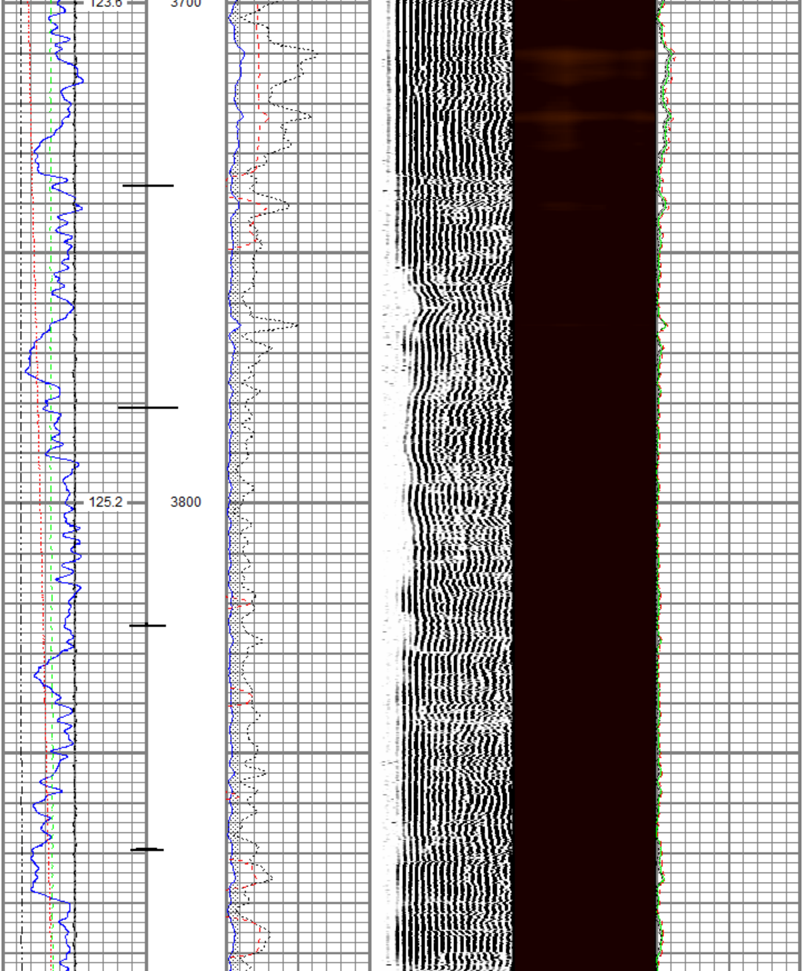
RELIANCE OILFIELD SERVICES

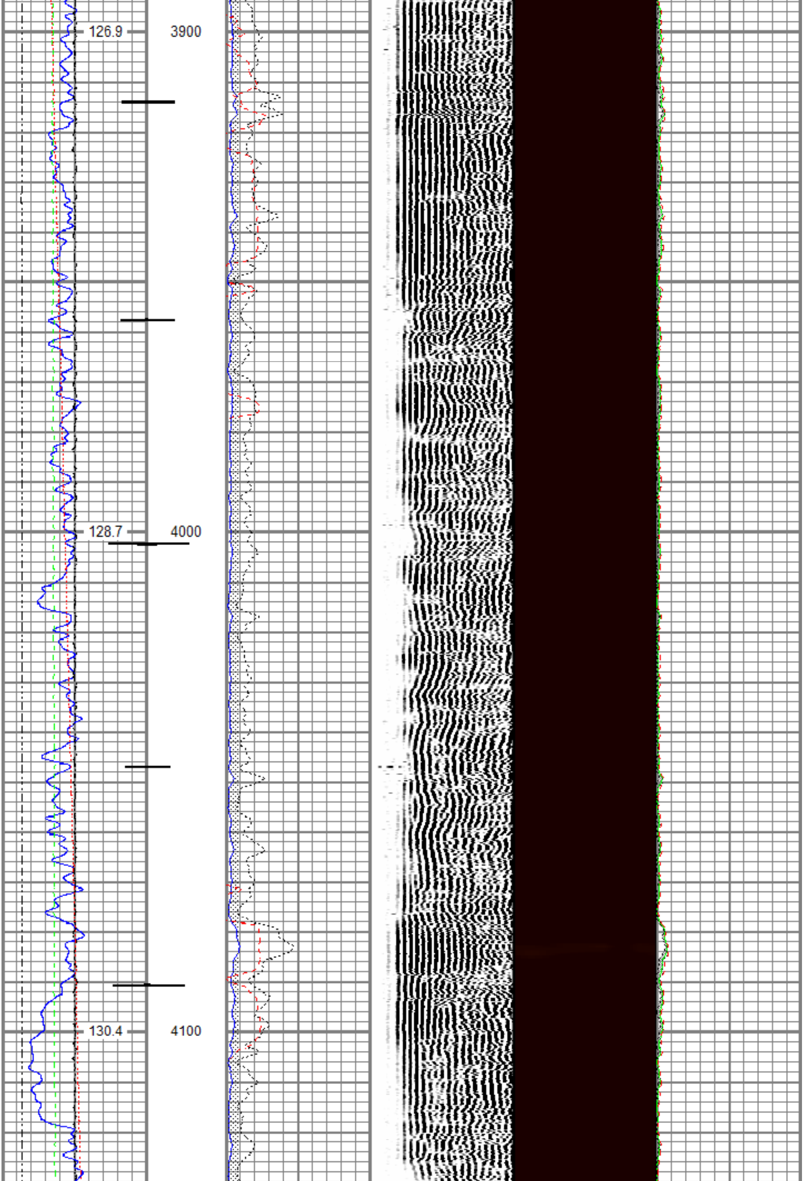
Main Pass

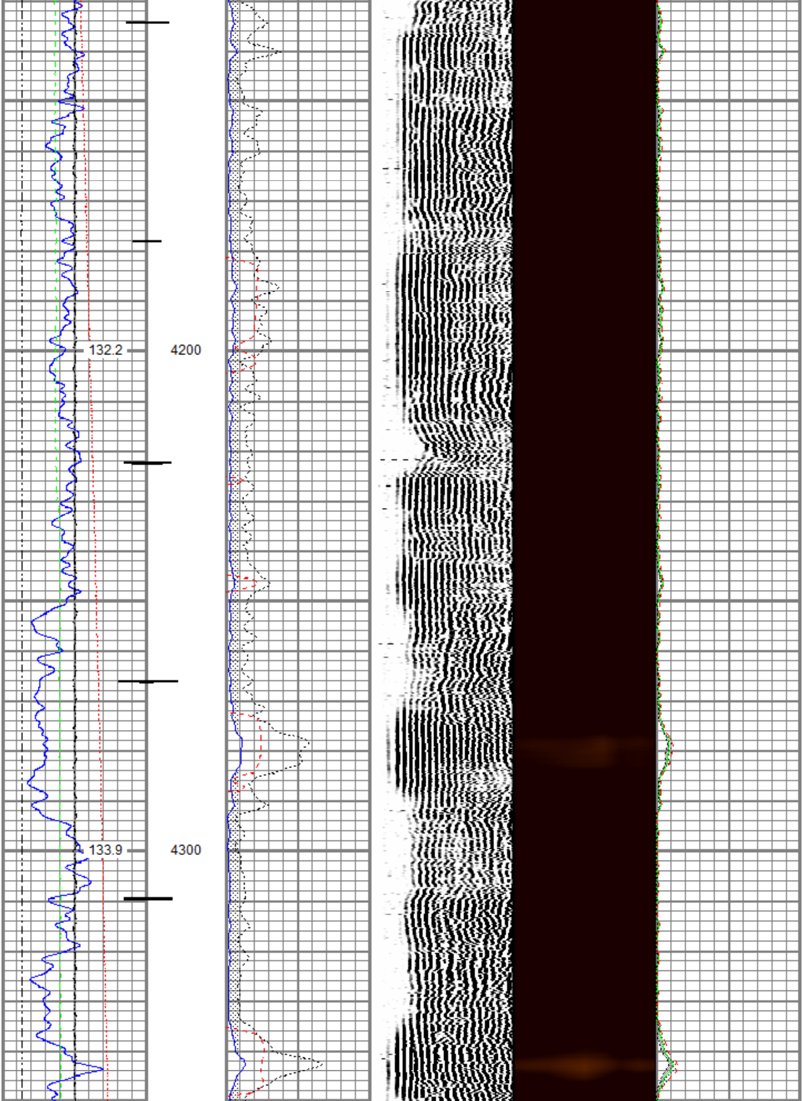
Recorded with 0 PSI Surface Induced Pressure

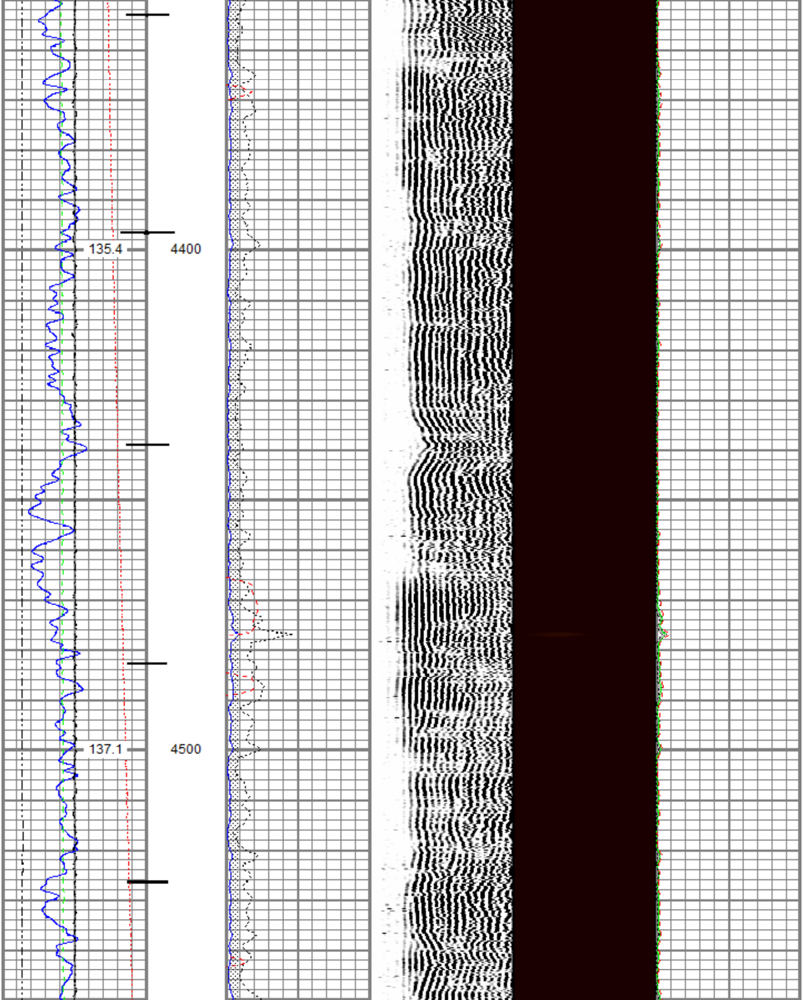
Database File	tep_tri state trucking pa 414-24_rbl_03-23-18\processed_tep_tri state trucking pa 414-24_rbl_03-23-18.db
Dataset Pathname	main.2
Presentation Format	ros_rbt004_tep
Dataset Creation	Fri Mar 23 09:00:09 2018
Charted by	Depth in Feet scaled 1:240

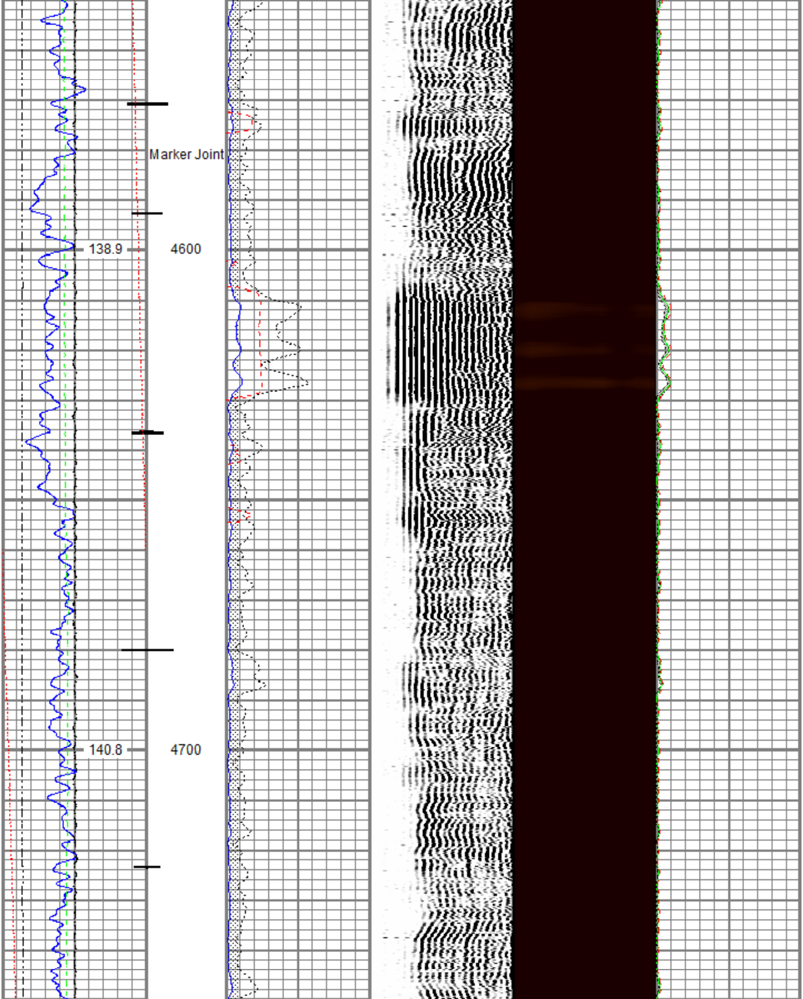
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 200	0 (mV) 100	200 (usec) 1200		0 150
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
Line Speed	0 (mV) 20			0 150
-150 (ft/min) 150	3' Travel Time			Maximum Amplitude
Line Tension	300 (usec) 200			0 150
0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

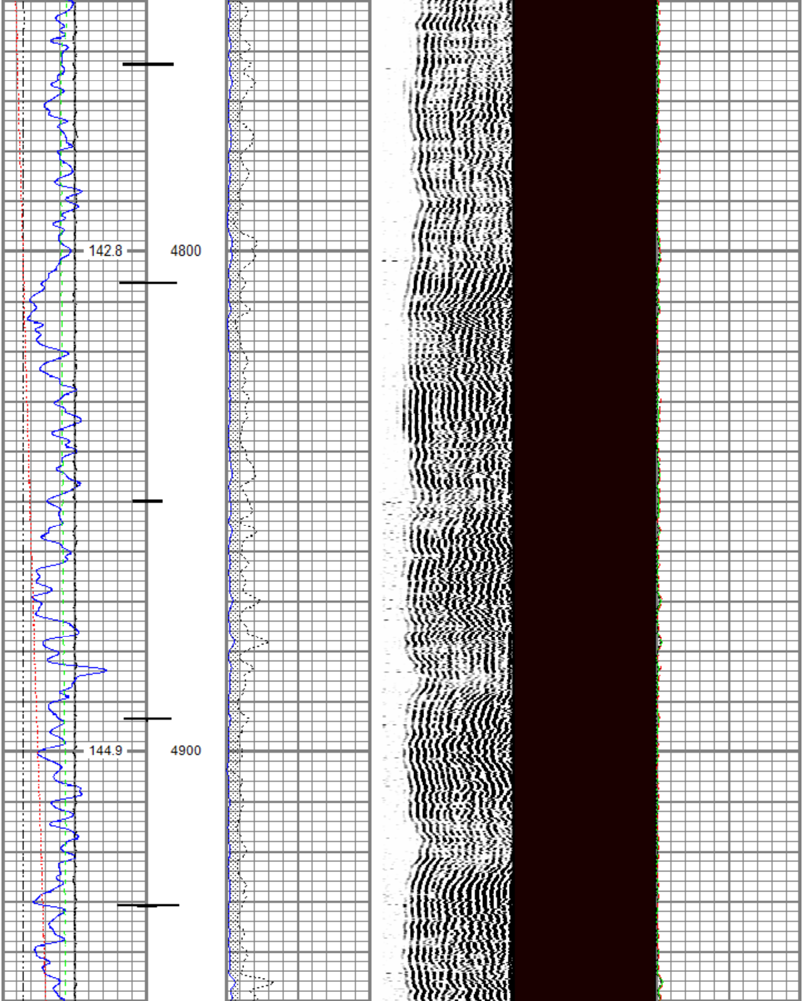

123.6
3700
125.2
3800

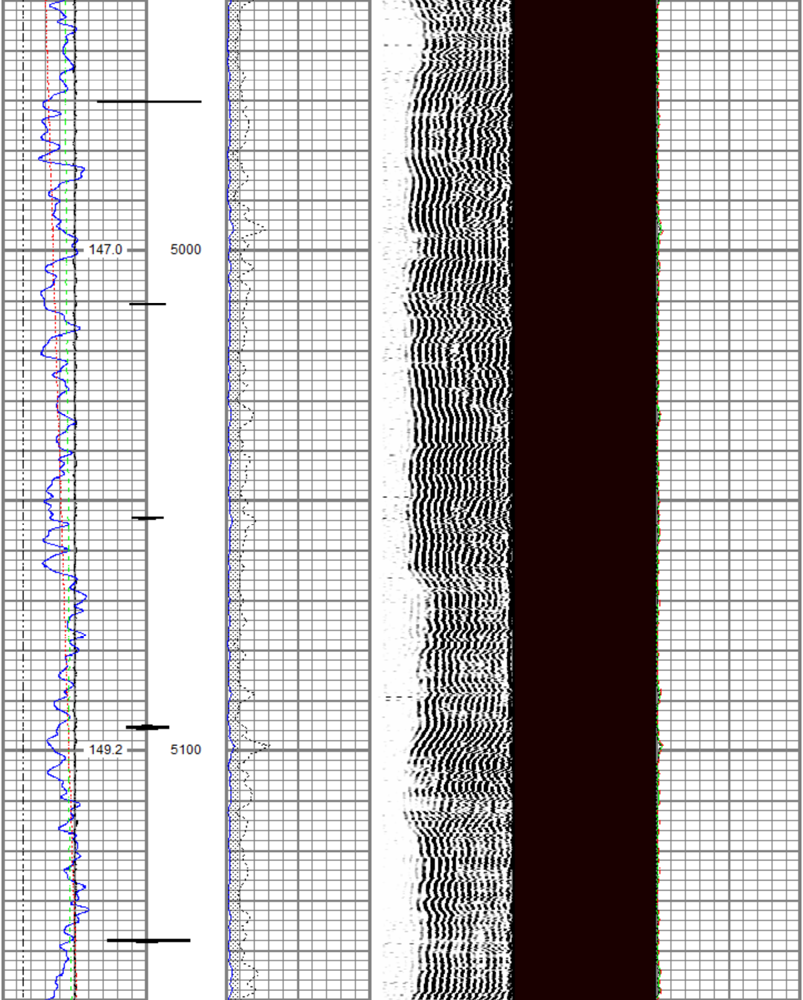

126.9
3900
128.7
4000
130.4
4100

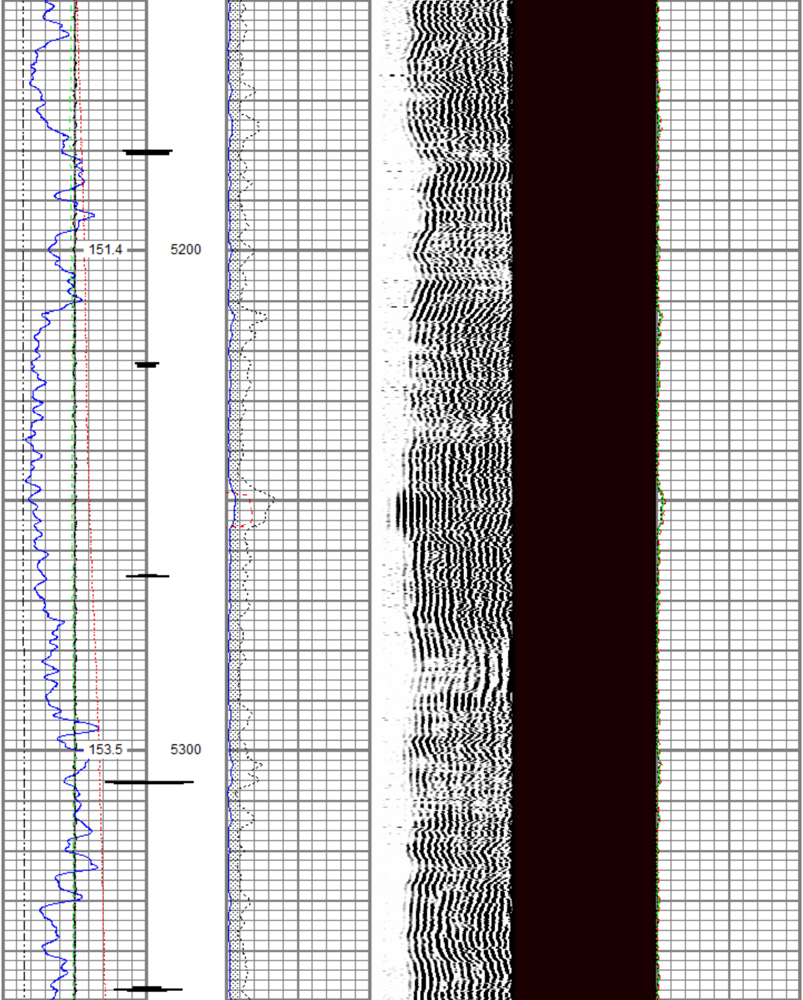

132.2
4200
133.9
4300

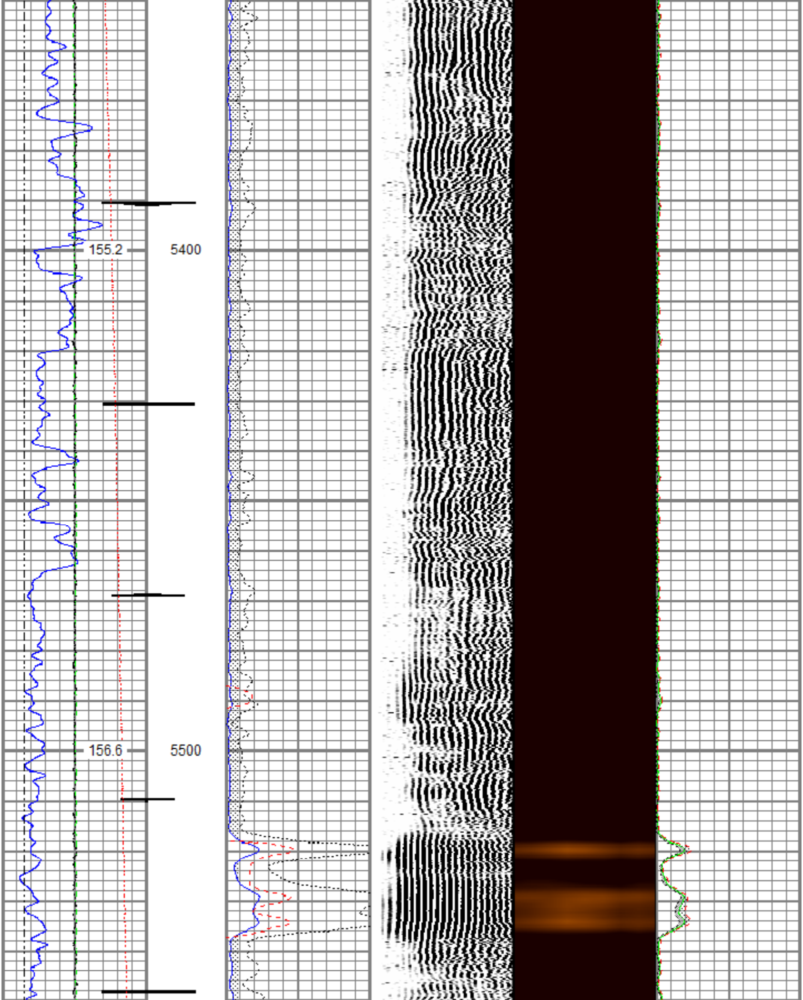

135.4
4400
137.1
4500

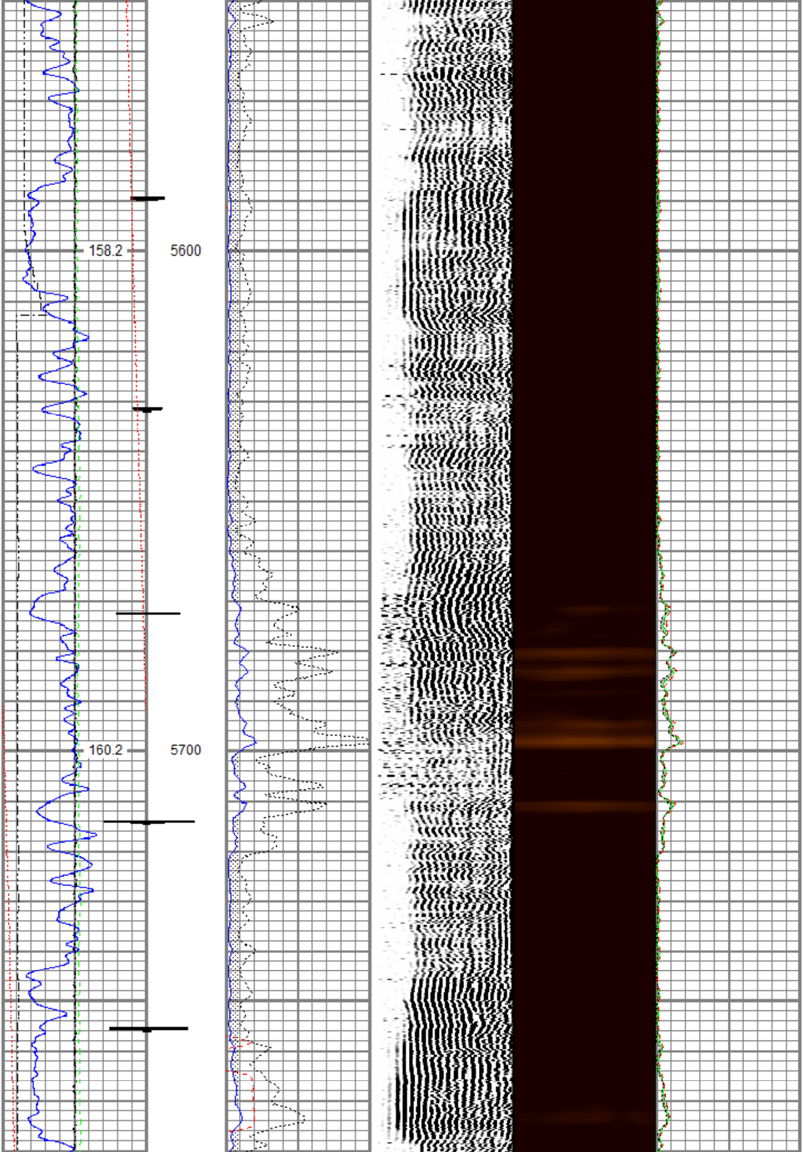

Marker Joint
138.9
4600
140.8
4700

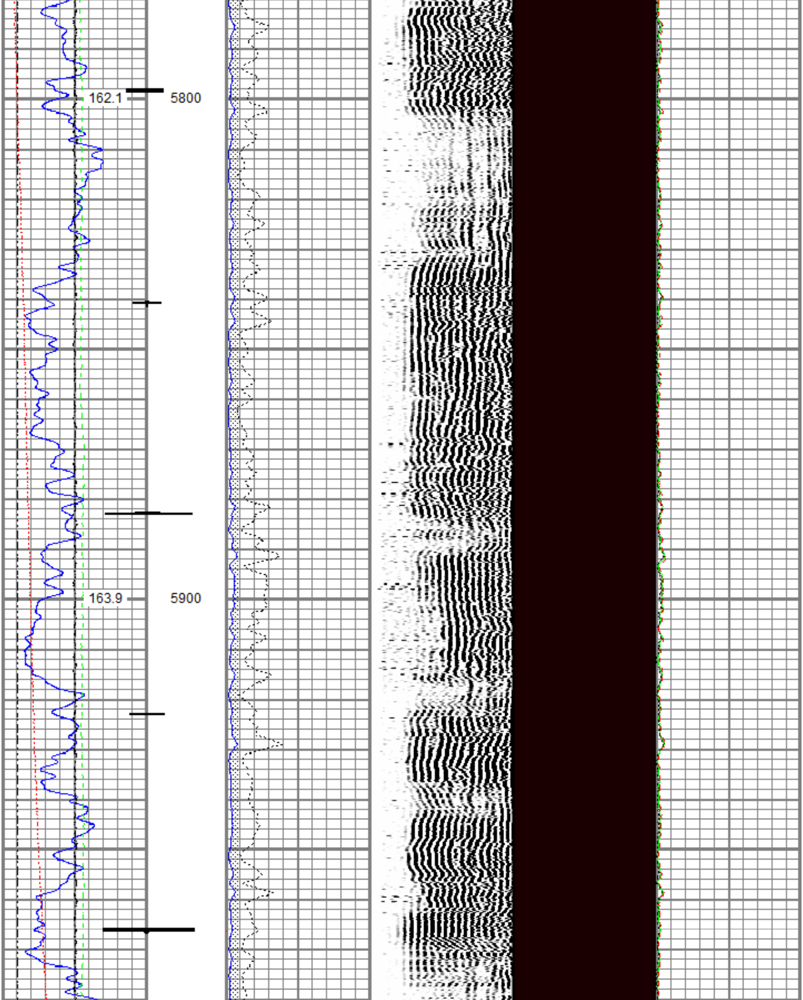

142.8
4800
144.9
4900

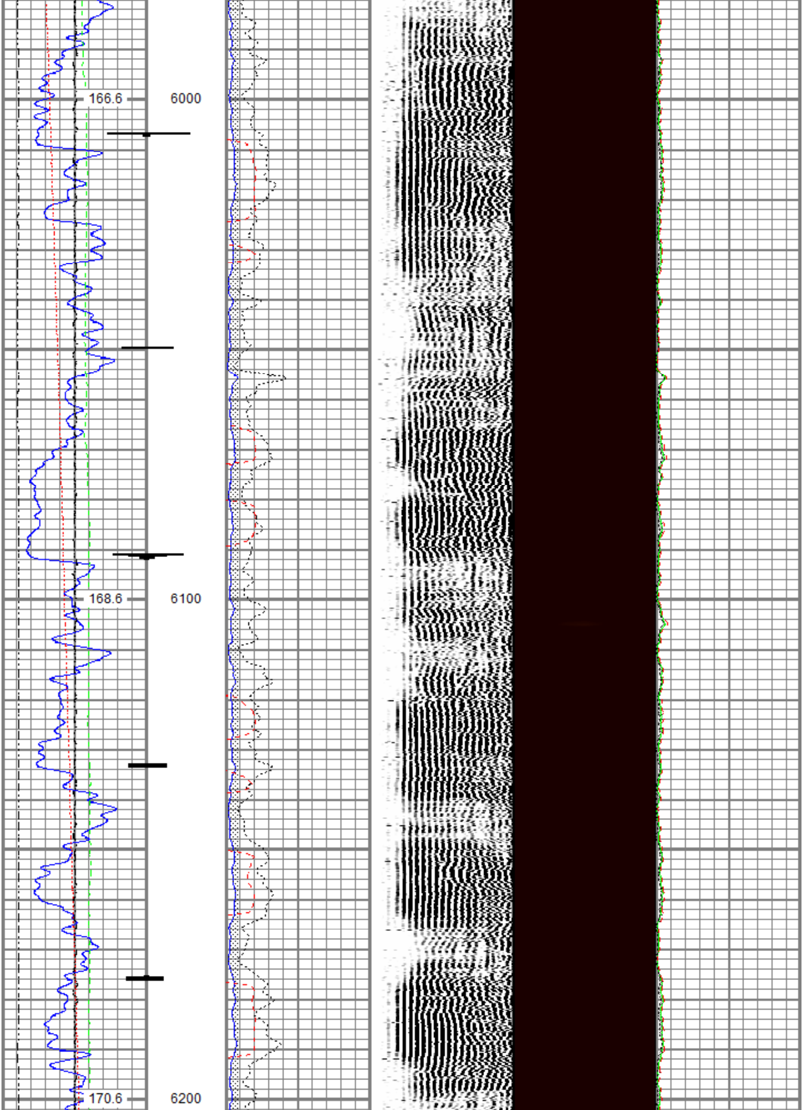

147.0
5000
149.2
5100

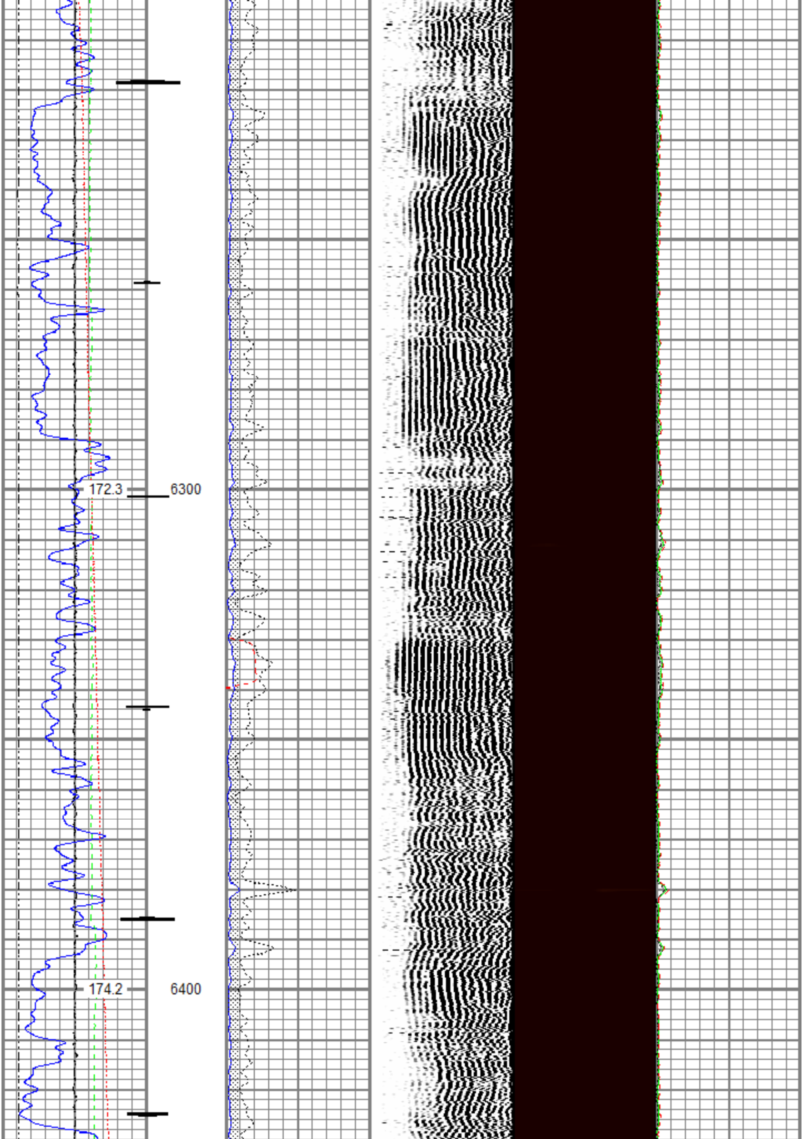

151.4
5200
153.5
5300

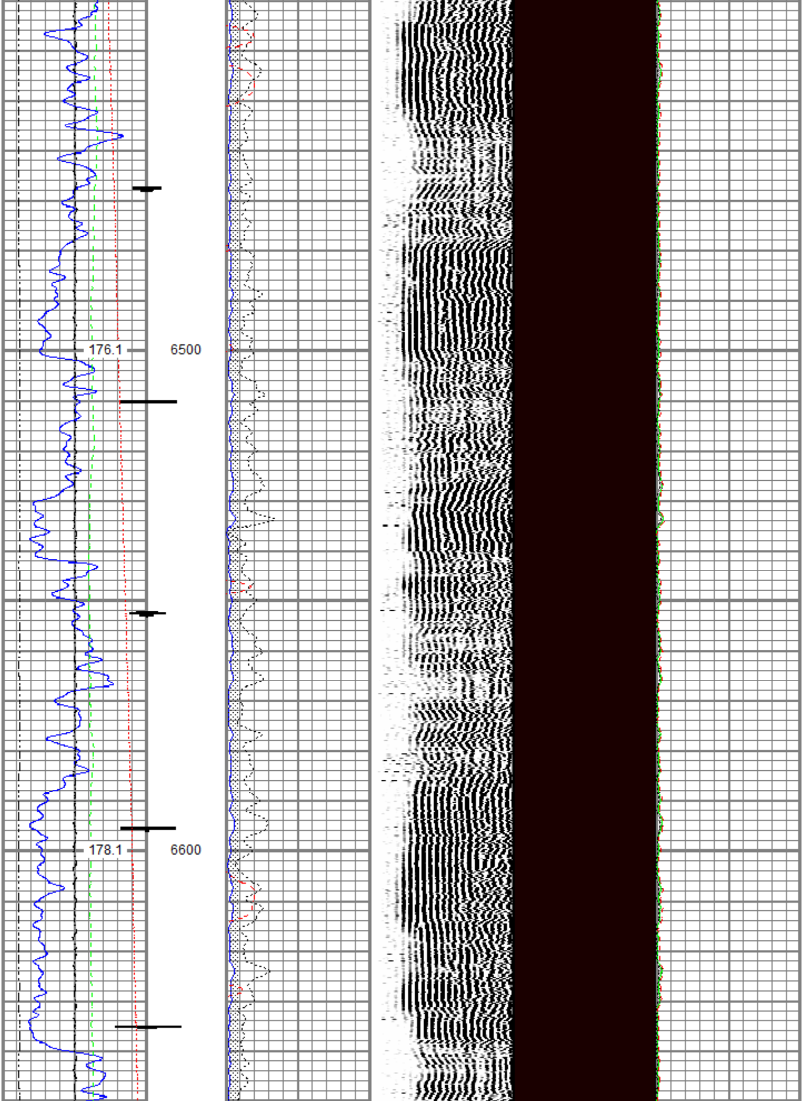

155.2
5400
156.6
5500

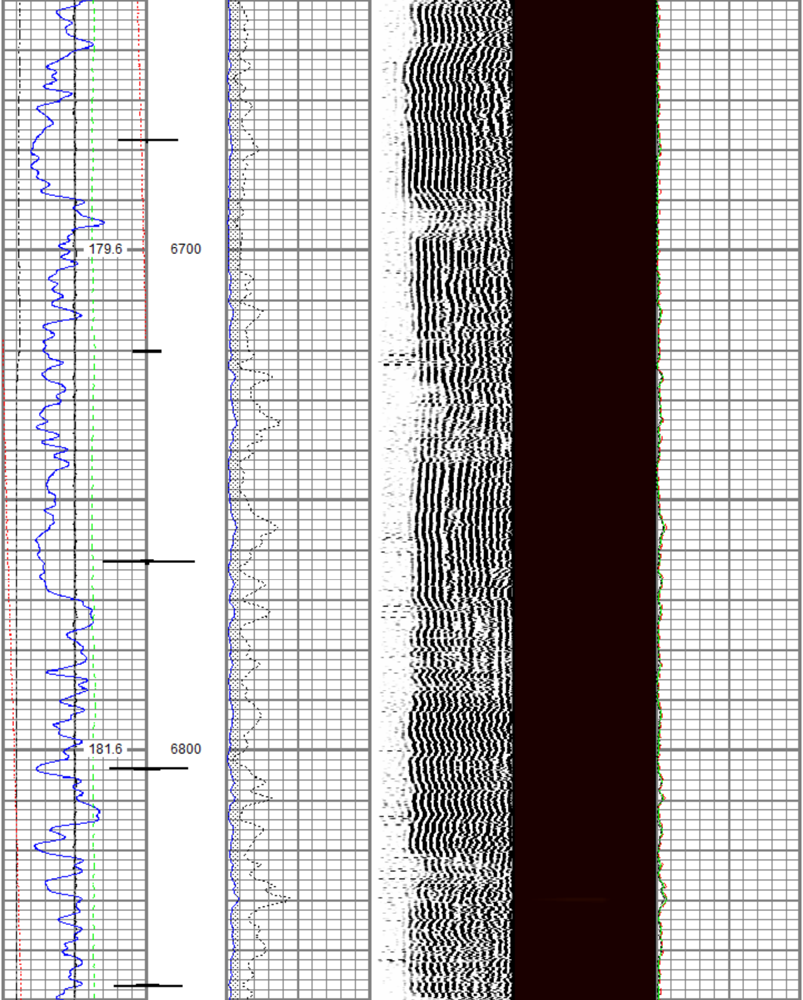

158.2
5600
160.2
5700

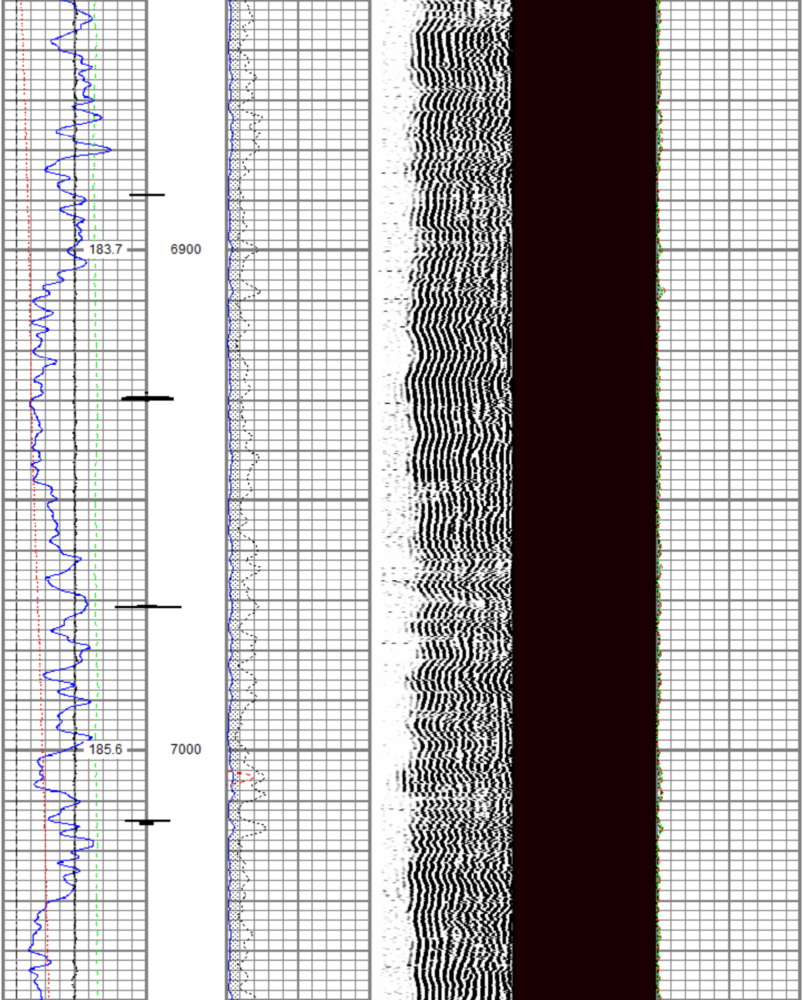

162.1
5800
163.9
5900

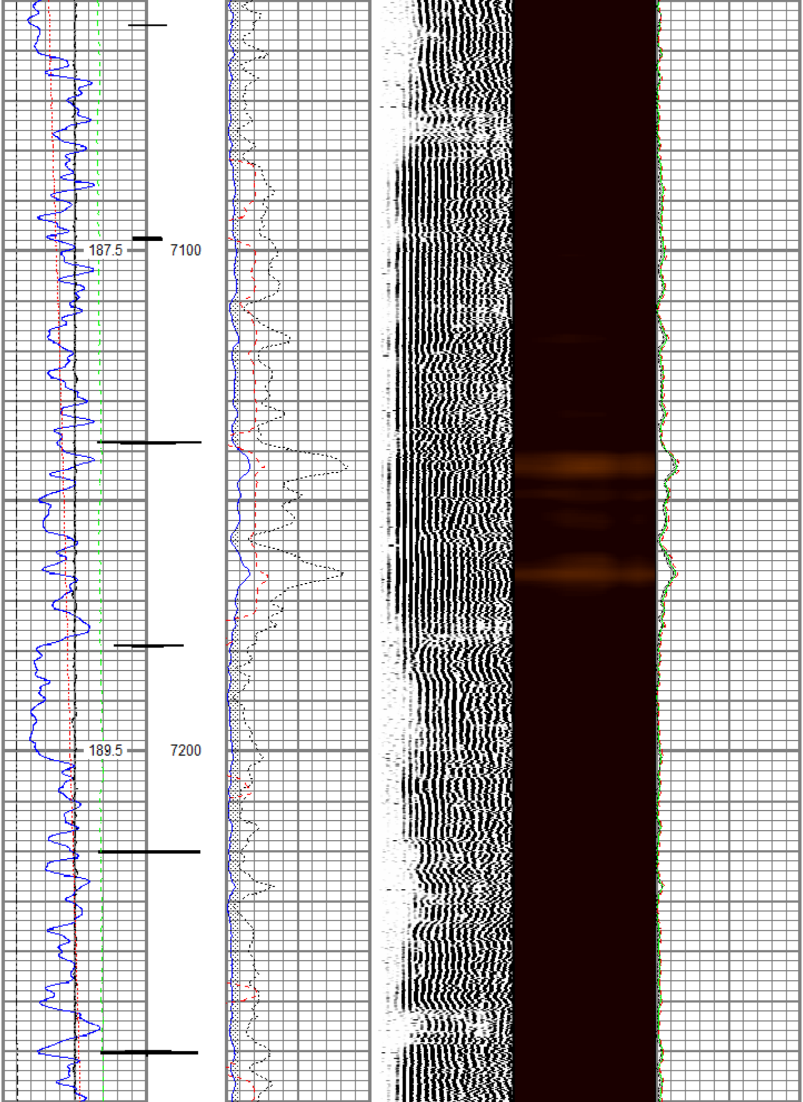

166.6
6000
168.6
6100
170.6
6200

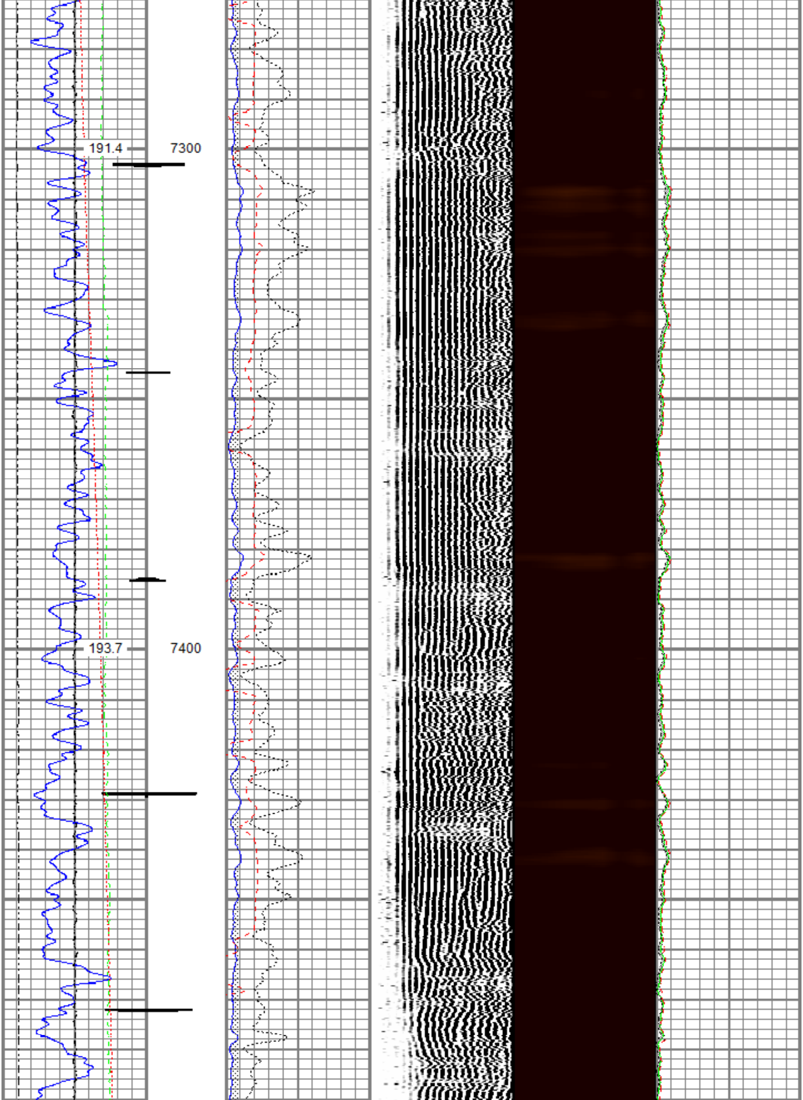

172.3
6300
174.2
6400

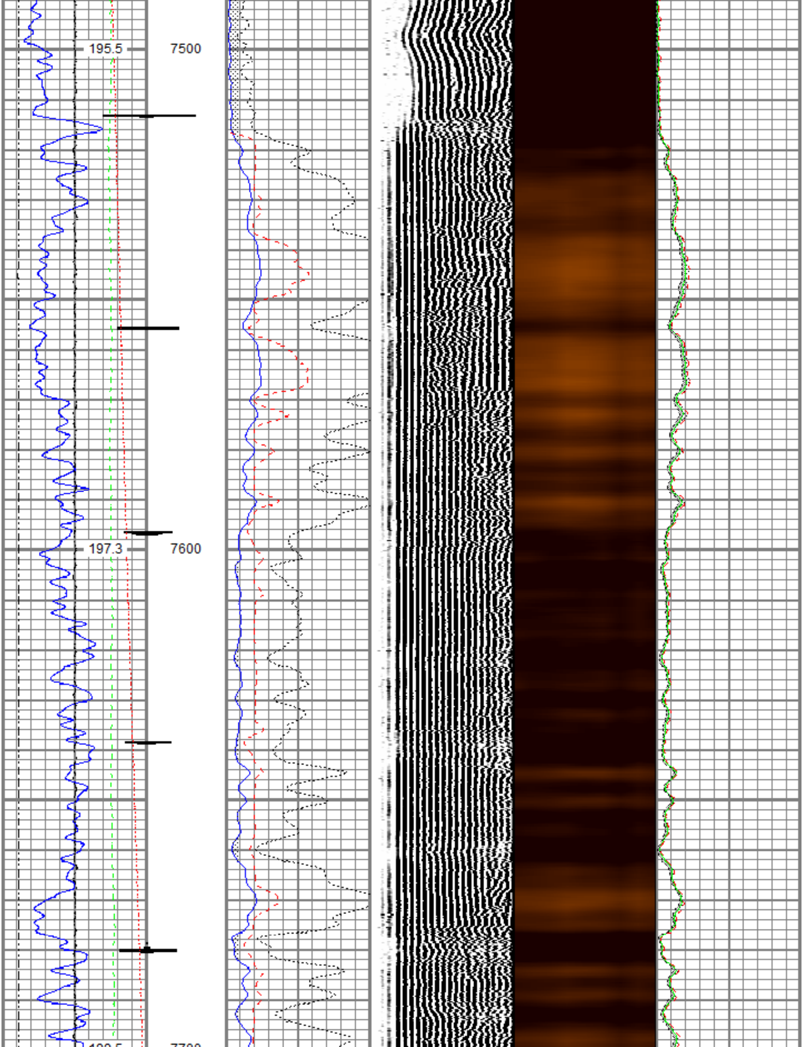

176.1
6500
178.1
6600


179.6
6700
181.6
6800


183.7
6900
185.6
7000


187.5
7100
189.5
7200


191.4
7300
193.7
7400

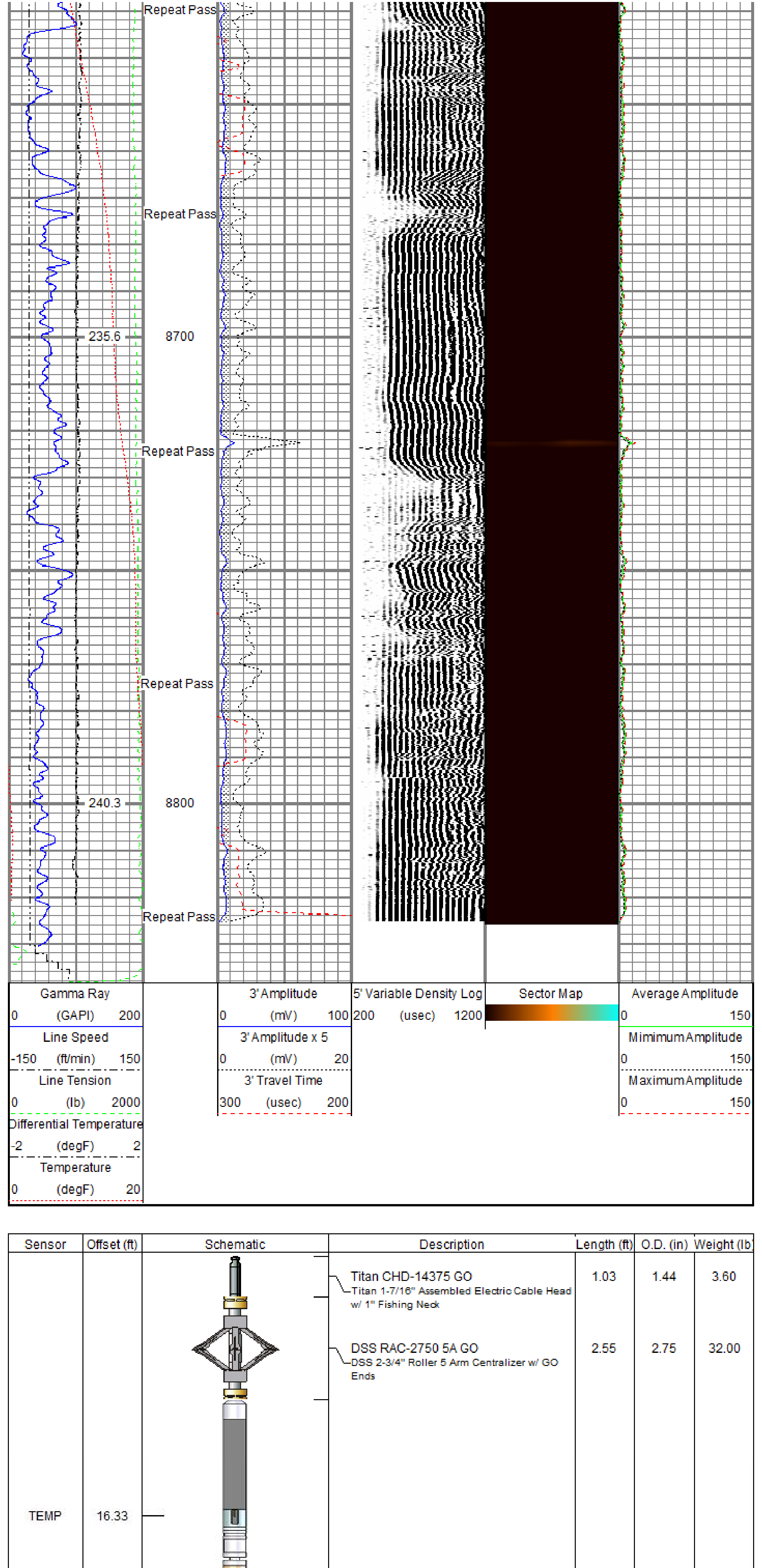

195.5
7500
197.3
7600

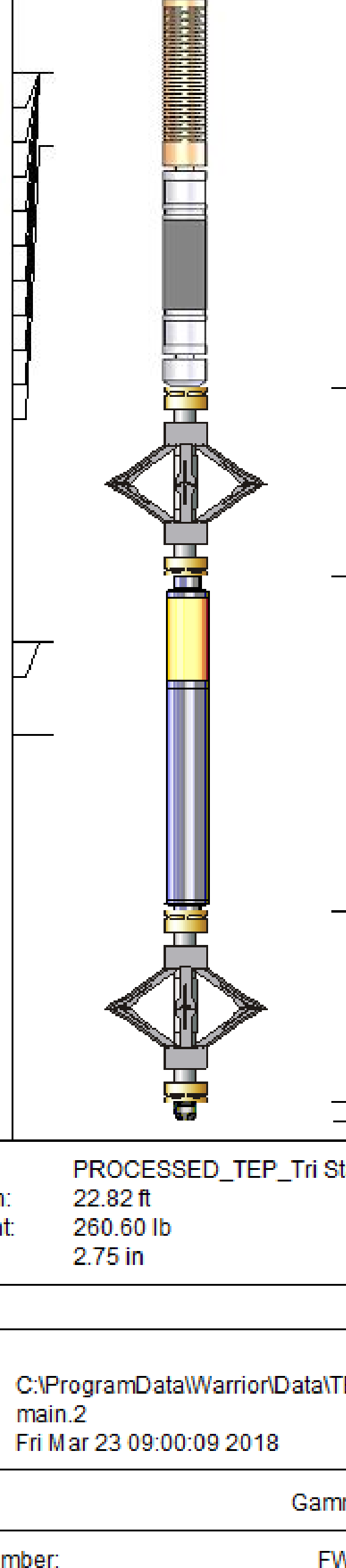
RELIANCE OILFIELD SERVICES

Repeat Pass

Recorded with 0 PSI Surface Induced Pressure

Database File	tep_tri state trucking pa 414-24_rbl_03-23-18\processed_tep_tri state trucking pa 414-24_rbl_03-23-18.db
Dataset Pathname	repeat.1
Presentation Format	ros_rbl004_tep
Dataset Creation	Fri Mar 23 08:34:07 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	16.33					
WVFS8	14.10		Probe Radii-2750 RBT (FW1305-098) Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub	9.39	2.75	105.00
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					
			DSS RAC-2750 5A GO DSS 2-3/4" Roller 5 Arm Centralizer w/ GO Ends	2.55	2.75	32.00
CCLS2	6.42					
CCLS1	6.42					
GR	5.18		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: PROCESSED_TEP_Tri State Trucking PA 414-24_RBL_03-23-18.db: field/well/run1/main.2
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 414-24_RBL_03-23-18\PROCESSED_TEP_Tri Sta
Dataset Pathname main.2
Dataset Creation Fri Mar 23 09:00:09 2018

Gamma Ray Calibration Report

Serial Number:	FW1307-038	
Tool Model:	2750 GOB	
Performed:	Sun Nov 12 12:44:12 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:	32.159	ft

Master Calibration, performed Fri Mar 23 06:18:02 2018:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.004	0.507	0.800	81.196	157.129	1.494
CAL	0.478	0.503				
5'	-0.002	0.490	0.800	81.196	163.126	1.196
SUM						
S1	-0.007	0.506	0.000	100.000	194.932	1.304
S2	-0.005	0.505	0.000	100.000	196.272	0.942
S3	-0.005	0.506	0.000	100.000	195.742	0.965
S4	-0.005	0.506	0.000	100.000	195.723	1.008
S5	-0.005	0.507	0.000	100.000	195.476	0.954
S6	-0.005	0.510	0.000	100.000	194.372	0.885
S7	-0.004	0.510	0.000	100.000	194.543	0.874
S8	-0.004	0.507	0.000	100.000	195.453	0.840

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.478	0.503	1.000	0.000

Air Zero Calibration, performed Fri Mar 23 06:17:36 2018:

	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

Temperature Calibration Report

Serial Number:	FW1305-098	
Tool Model:	2750 RBT	
Performed:	Sun Nov 12 13:43:57 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	

RELIANCE OILFIELD SERVICES

Company	TEP Rocky Mountain LLC
Well	Tri State Trucking PA 414-24
Field	Parachute
County	Garfield
State	Colorado