RELIANCE OILFIELD SERVICES

Radial Cement Bond Log
Gamma Ray
Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	Chevron TR 324-23-597
Field	Trail Ridge
County	Garfield
State	Colorado

Company TEP Rocky Mountain LLC
Well Chevron TR 324-23-597
Field Trail Ridge
County Garfield State Colorado
Location: API # : 05-045-23471
SEC 23 TWP 5S RGE 97W

Other Services
PDN

Permanent Datum	Ground Level	Elevation	8545'
Log Measured From	Kelly Bushing	24 FT	
Drilling Measured From	Kelly Bushing		

Elevation
K.B. 8569'
D.F. 8568'
G.L. 8545'

Date	26-AUG-2017
Run Number	One
Depth Driller	10385 FT
Depth Logger	10311 FT
Bottom Logged Interval	10302 FT
Top Log Interval	Surface
Open Hole Size	8.750"
Type Fluid	Fresh Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	260°F
Estimated Cement Top	See Log
Time Well Ready	ROA
Time Logger on Bottom	1:00
Equipment Number	HD-0359
Location	Grand Junction
Recorded By	Z.Fisher
Witnessed By	-----

	Borehole Record			Tubing Record			
Run Number	Bit	From	To	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	3087 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	10344 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
Ground Level 1 FT below cut pipe
Recorded Marker Joint from 5738 FT to 5759 FT
Log ran from 10311 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_chevron tr 324-23-597\tep_chevron tr 324-23-597_rbl_08-25-17.db
Dataset Pathname	main.1
Presentation Format	ros_rbt004_tep
Dataset Creation	Sun Aug 27 10:20:47 2017
Charted by	Depth in Feet scaled 1:240

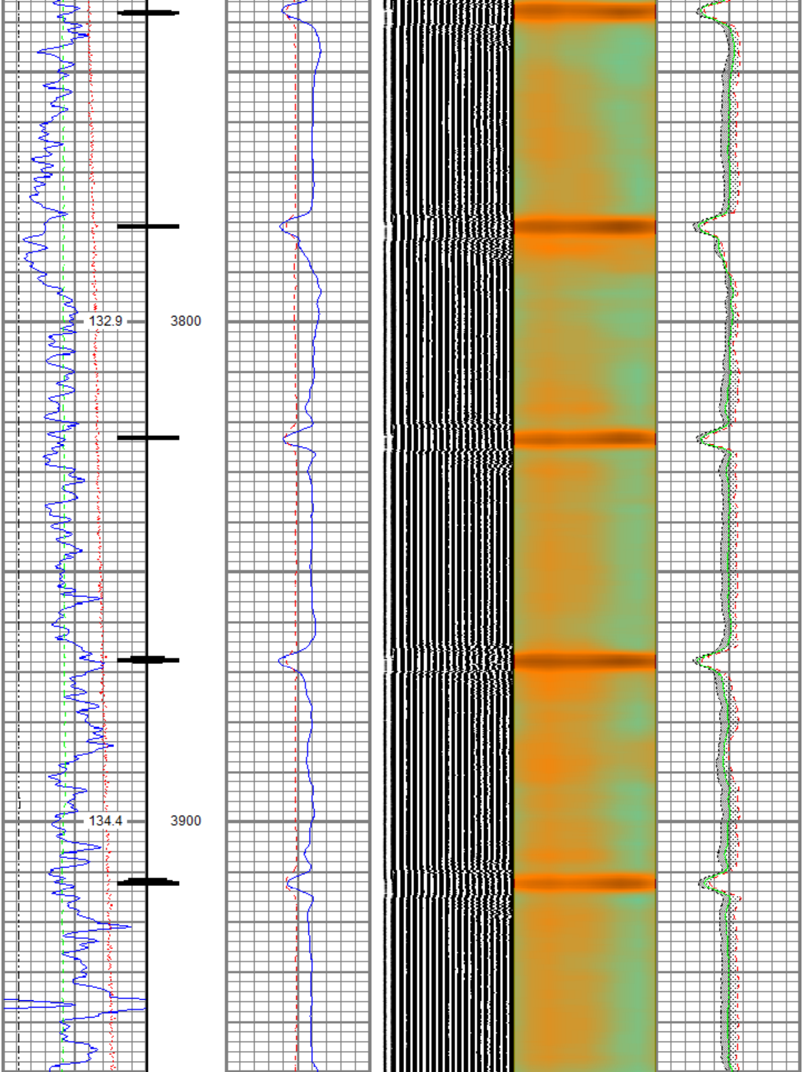
Gamma Ray
0 (GAPI) 200
Casing Collar Locator
Line Speed
-150 (ft/min) 150
Line Tension
0 (lb) 2000
Temperature
0 (degF) 20

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
Mimimum Amplitude
0 150
Maximum Amplitude
0 150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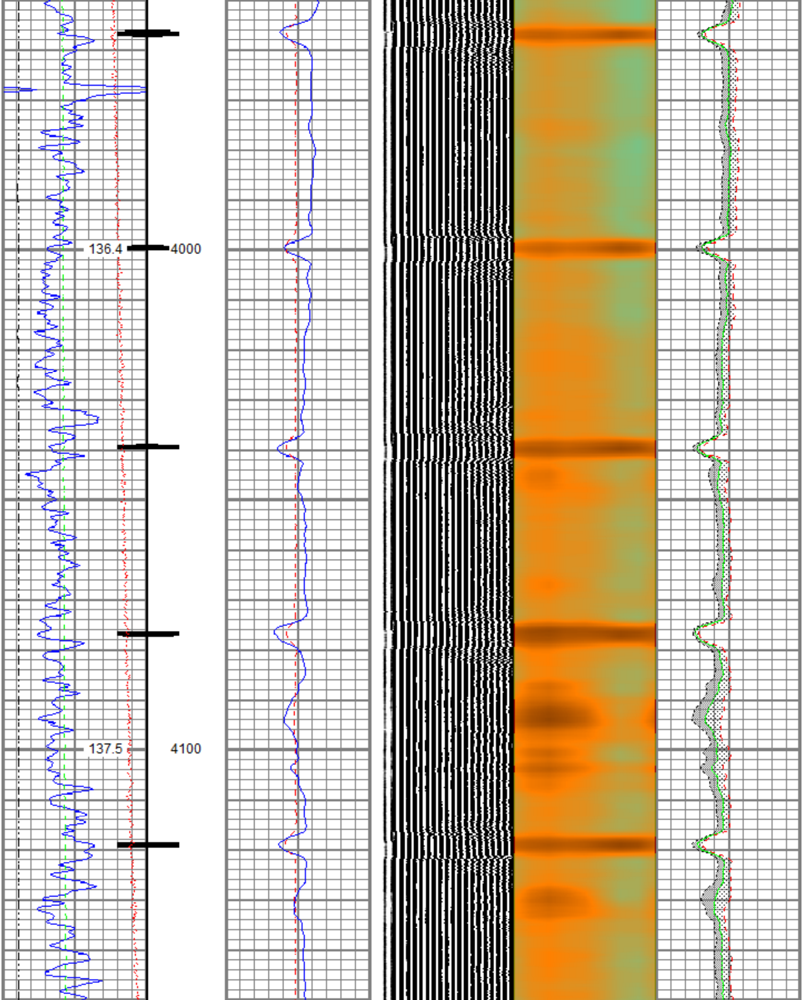
134.4
3900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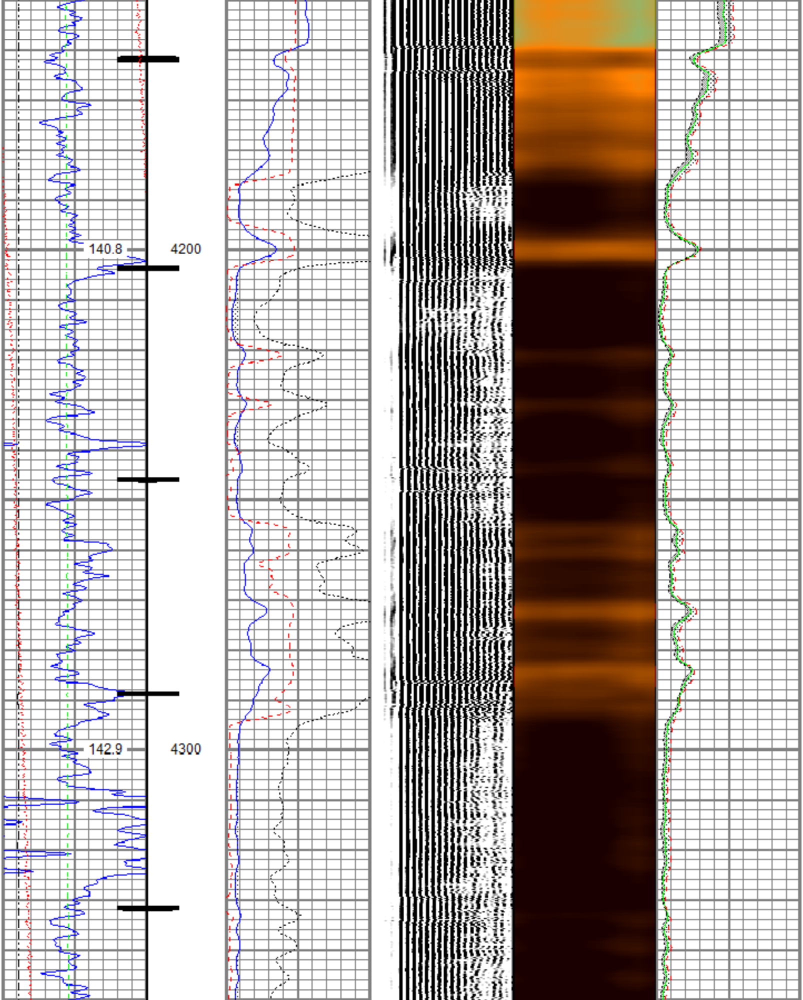
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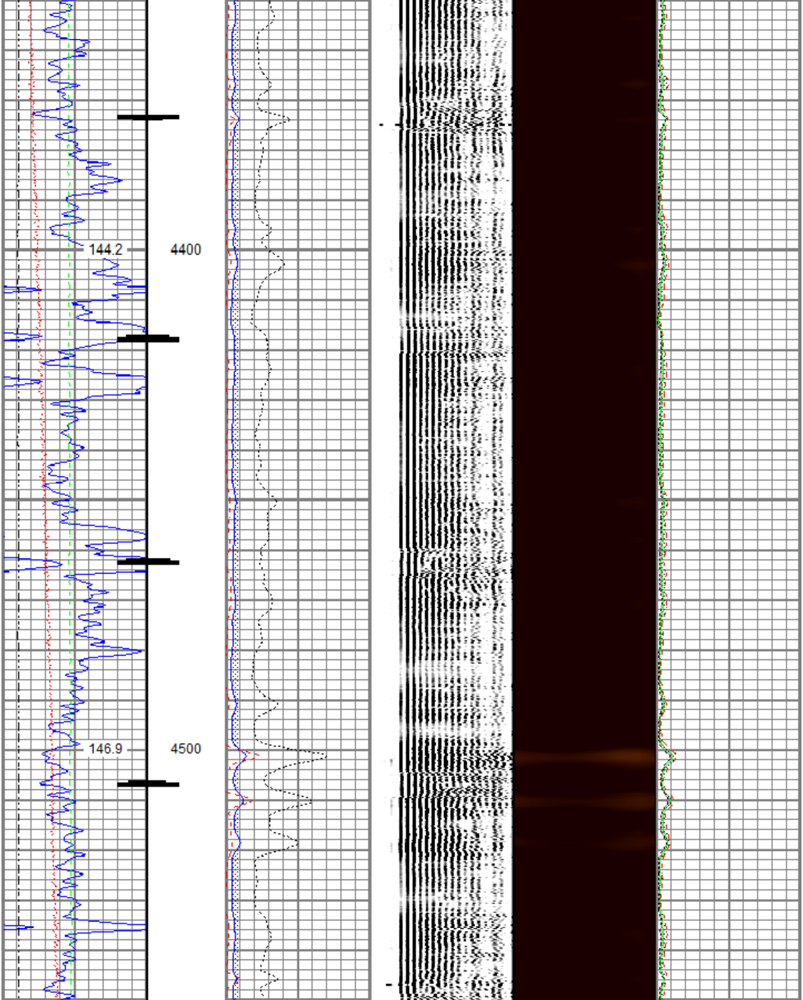
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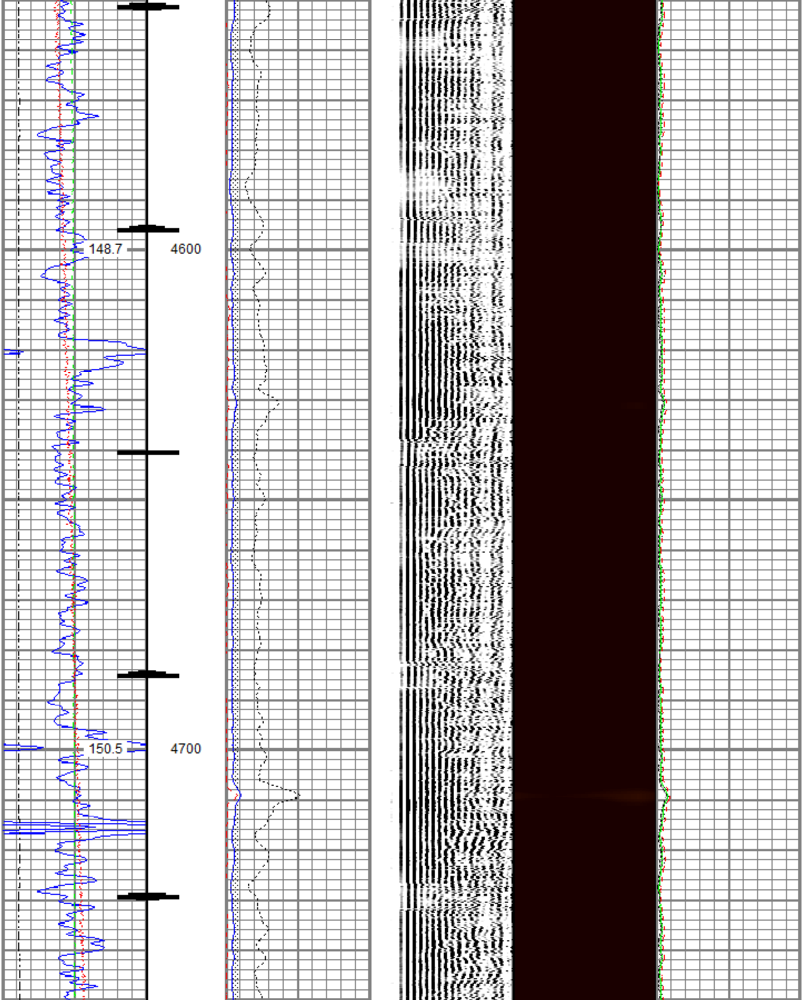
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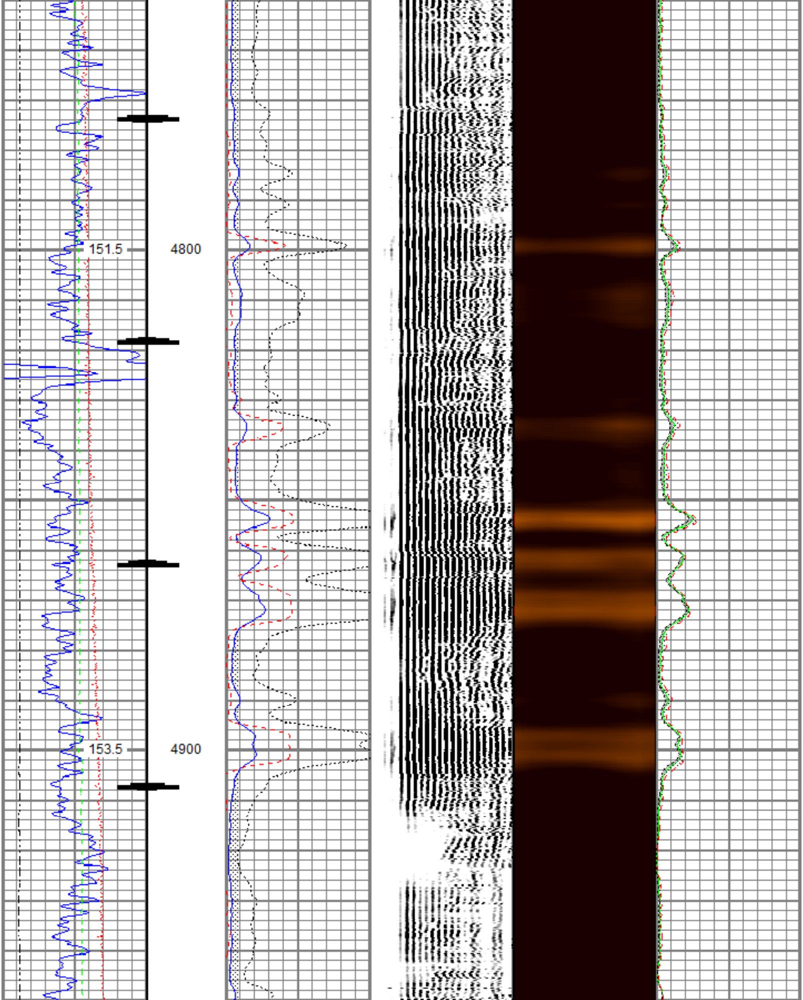
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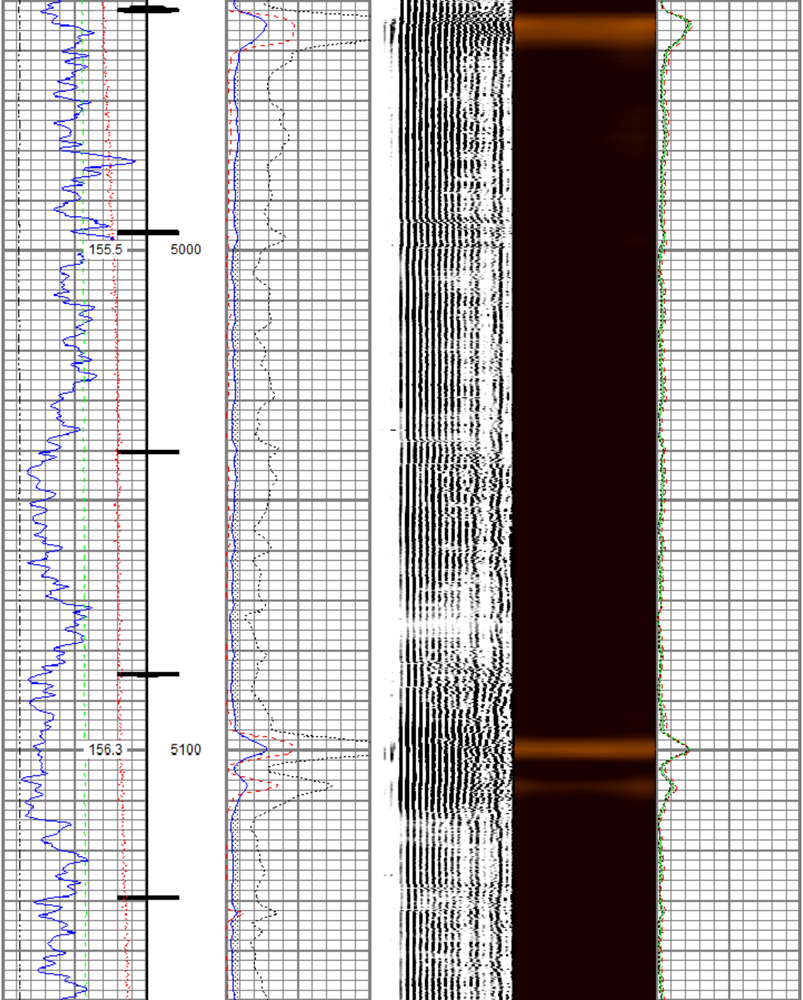
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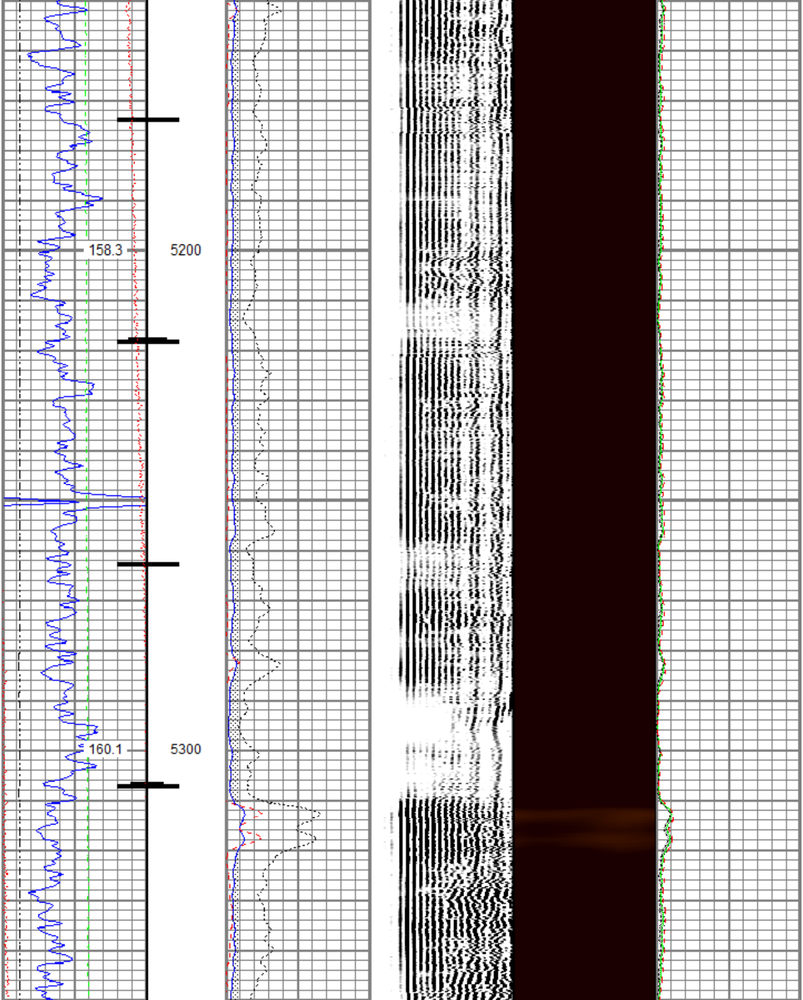
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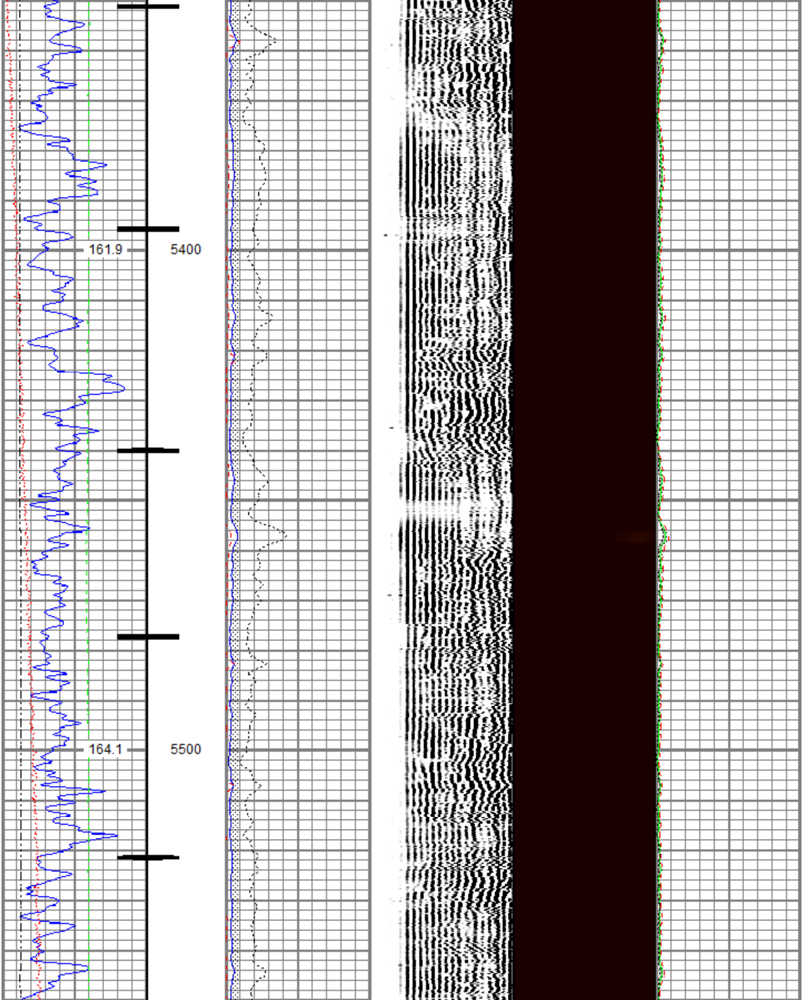
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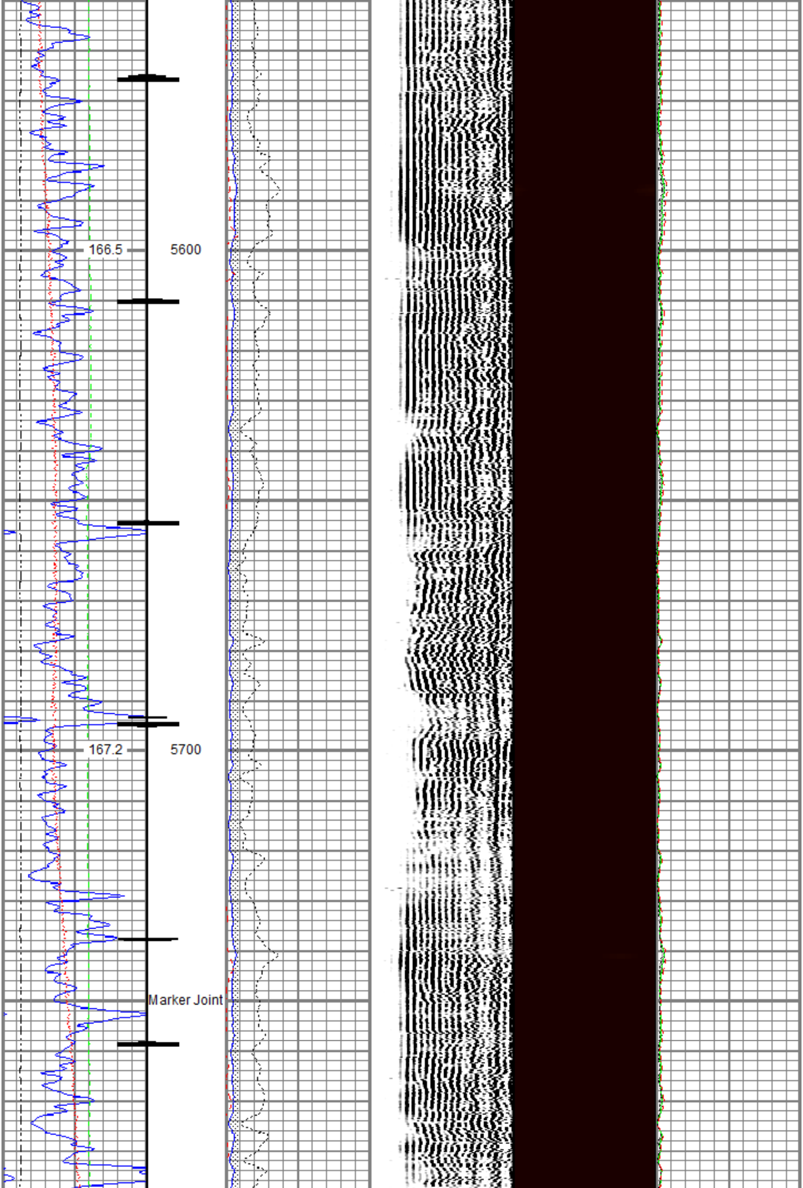
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167.2
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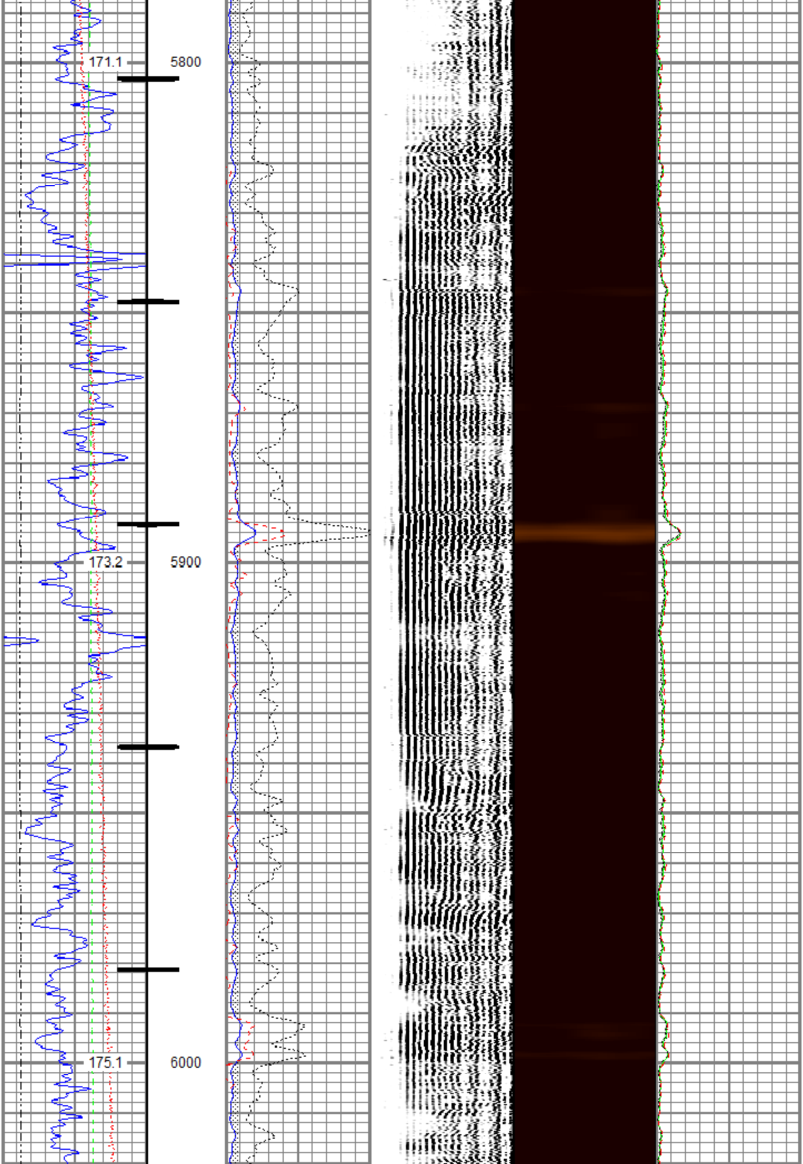
Marker Joint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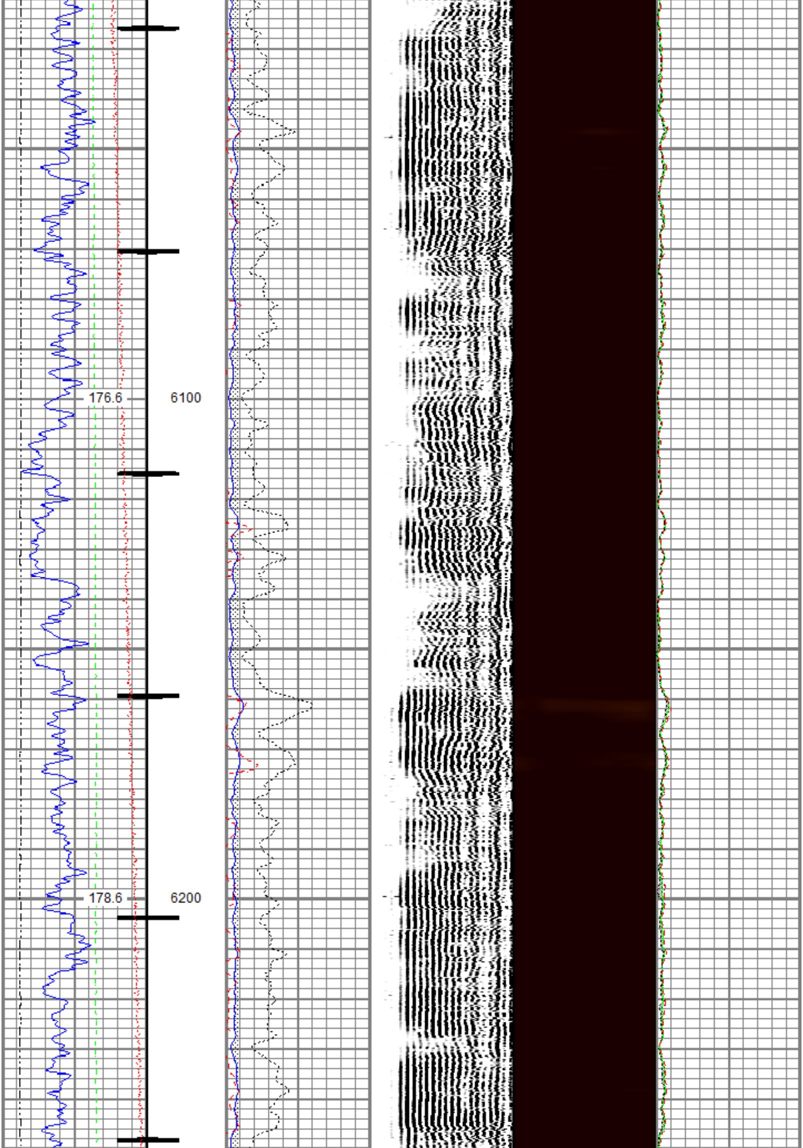
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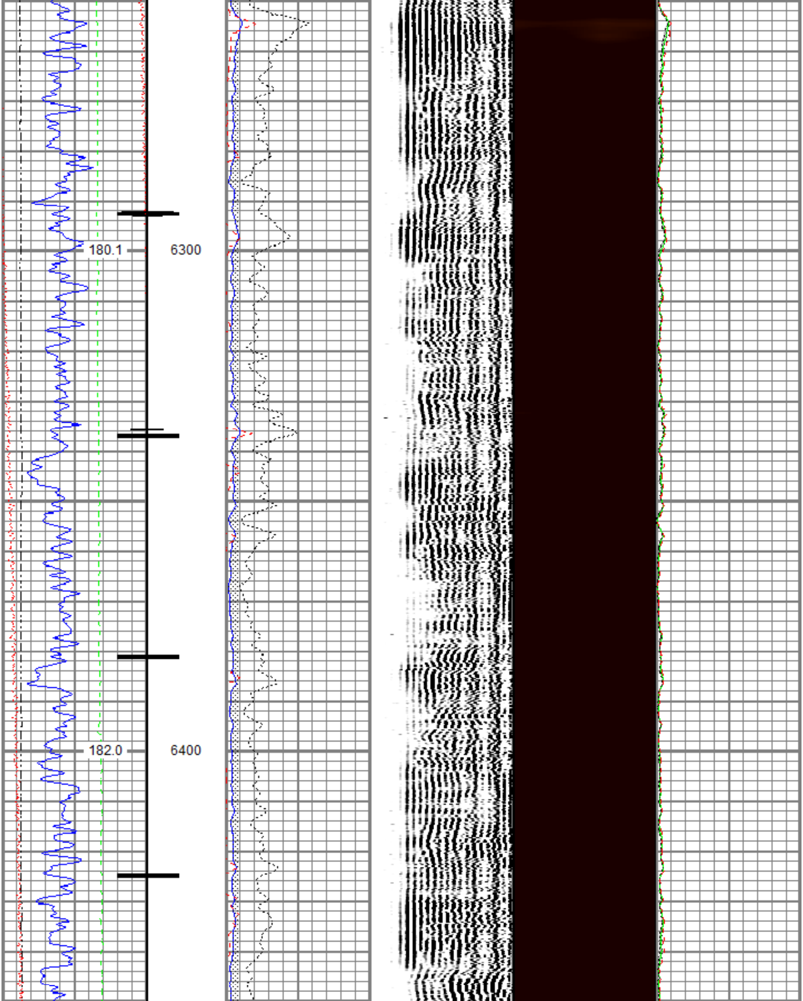
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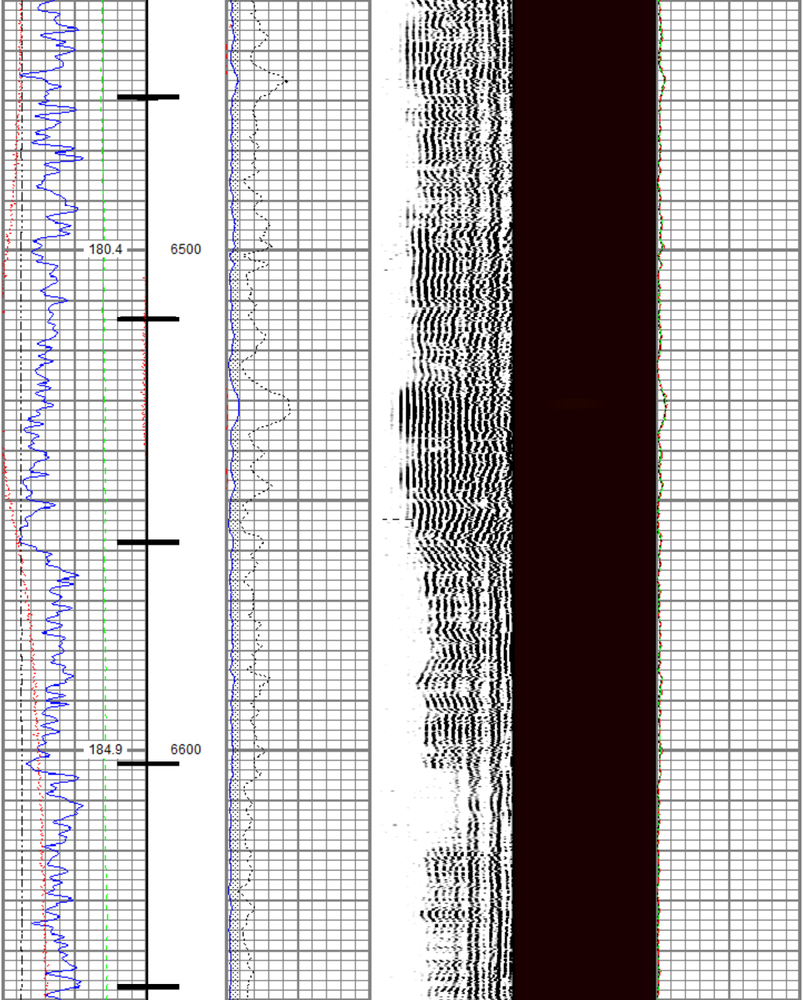
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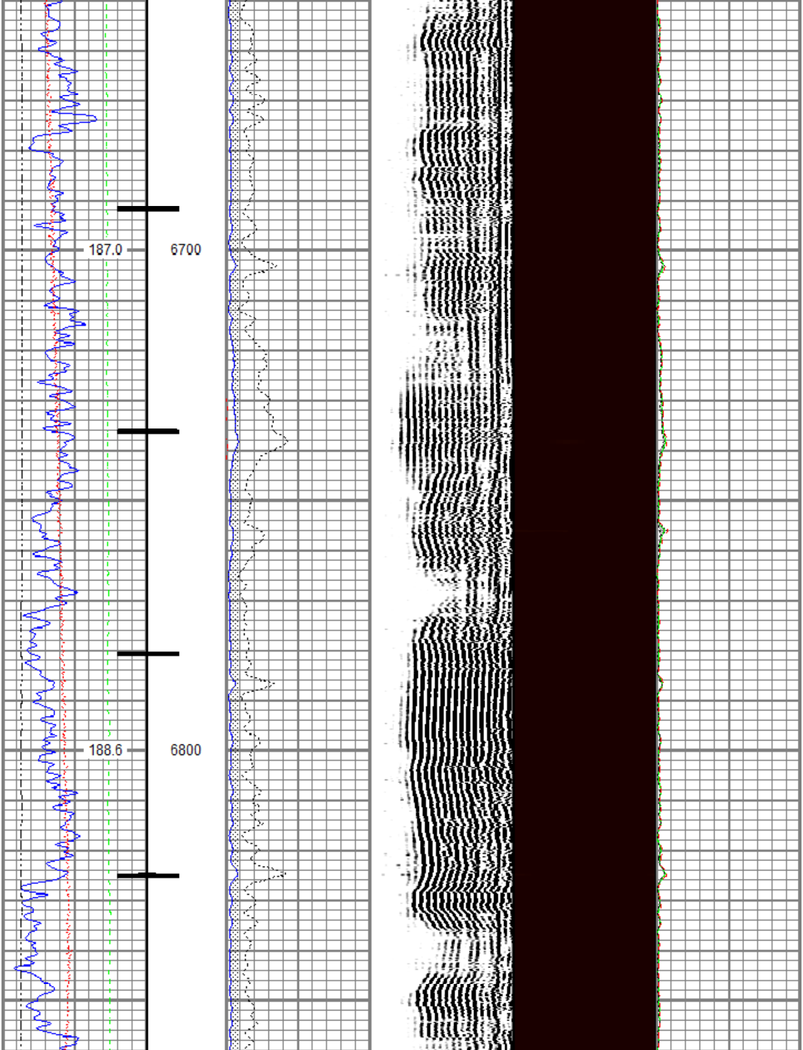
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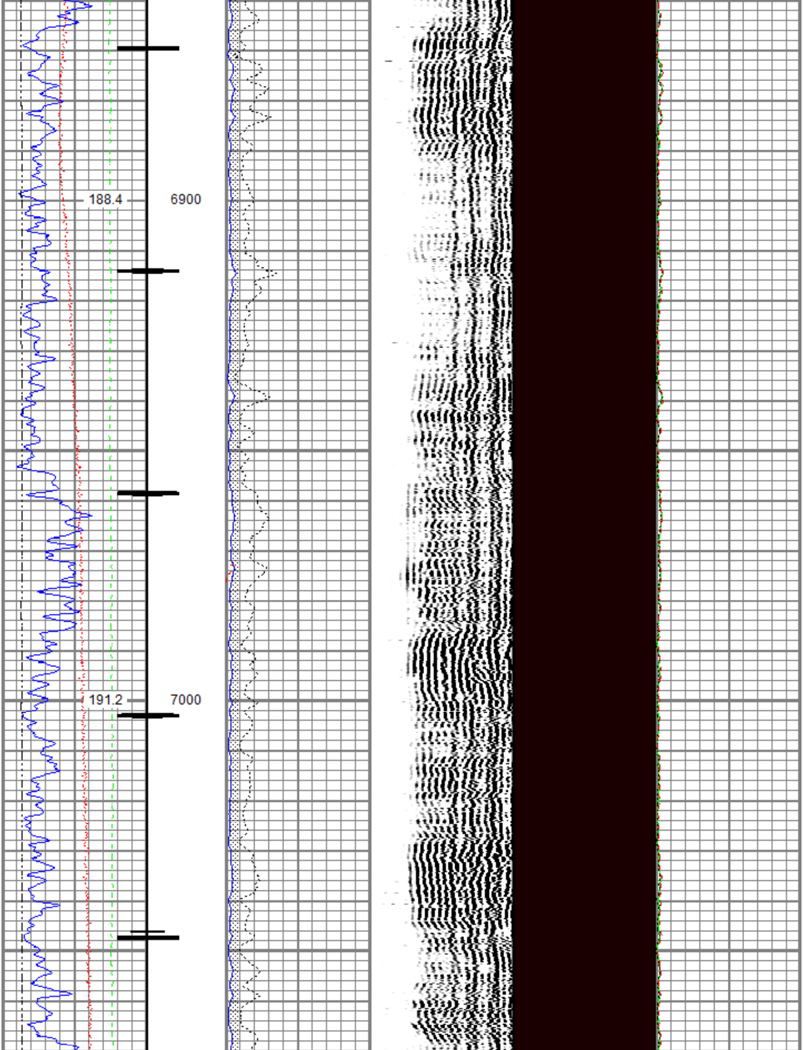
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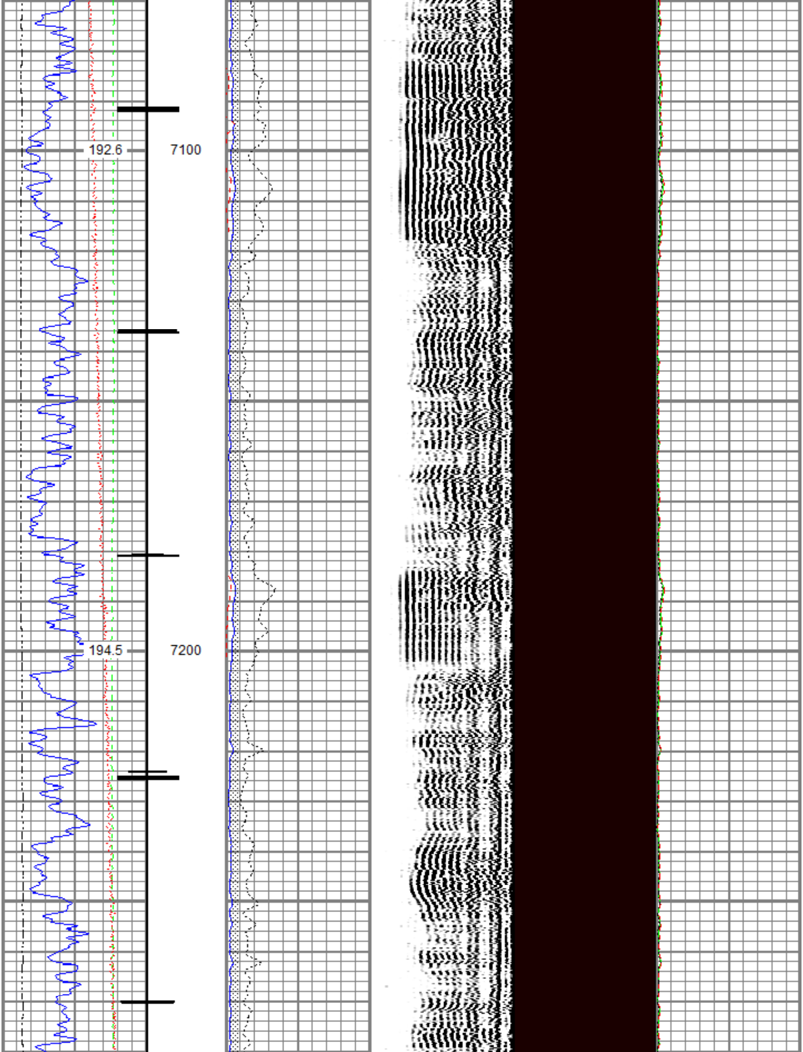
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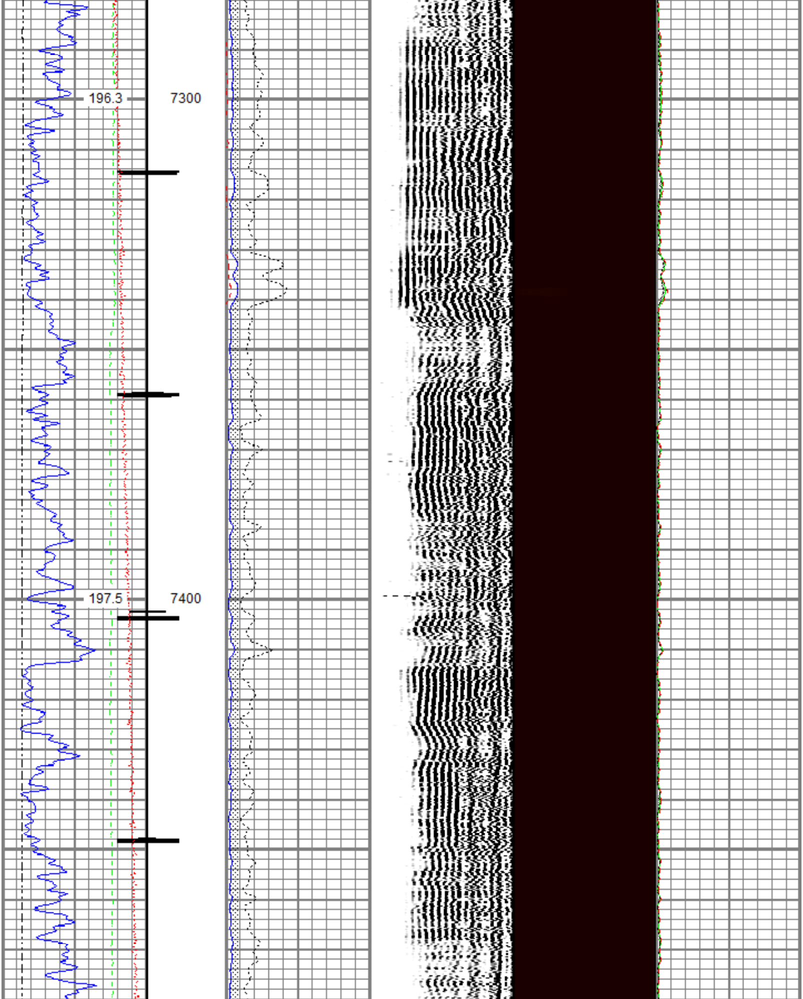
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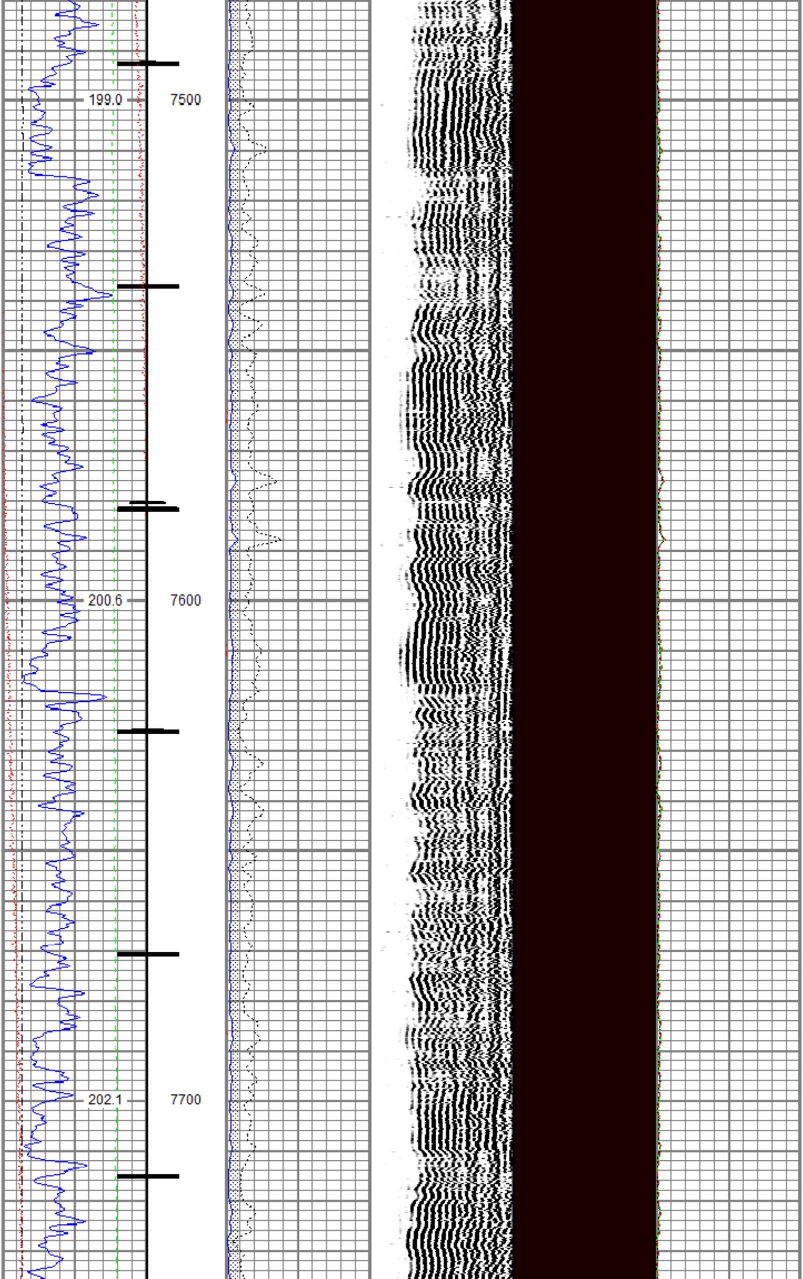
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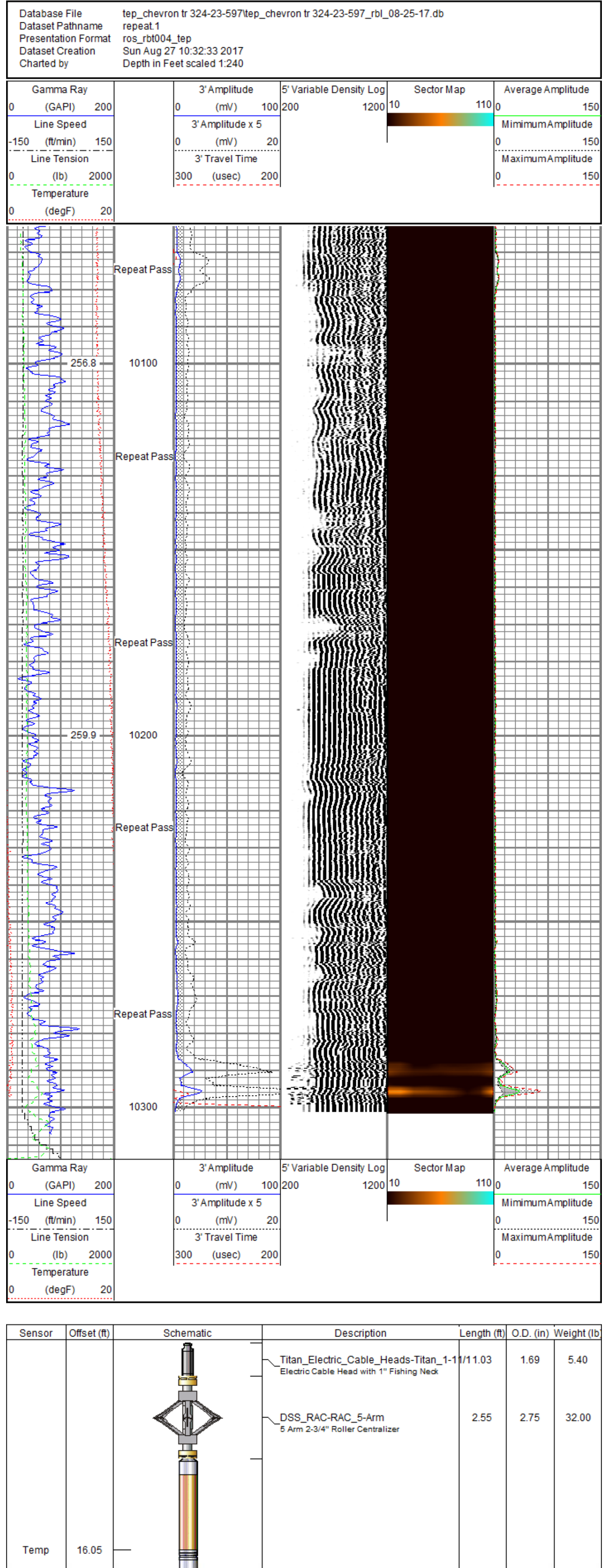
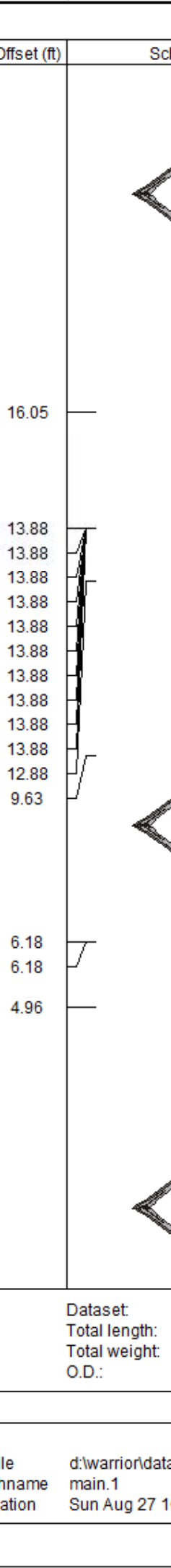
Repeat Pass

Recorded With 0 PSI Surface Induced Pressure

Database File	tep_chevron tr 324-23-597\tep_chevron tr 324-23-597_rbl_08-25-17.db
Dataset Pathname	repeat.1
Presentation Format	ros_rbt004_tep
Dataset Creation	Sun Aug 27 10:32:33 2017
Charted by	Depth in Feet scaled 1:240





Sensor	Offset (ft)	Description	Length (ft)	O.D. (in)	Weight (lb
		Titan_Electric_Cable_Heads-Titan_1-11/1 Electric Cable Head with 1" Fishing Neck	1.03	1.69	5.40
		DSS_RAC-RAC_5-Arm 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00
Temp	16.05				
		Probe_RADII-C-P_RBT_2750 (FW1305-0 Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	9.19	2.75	105.00
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				
		DSS_RAC-RAC_5-Arm 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00
DCCL	6.18				
CCL	6.18				
GR	4.96				
		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:	tep_chevron tr 324-23-597_rbl_08-25-17.db: field/well/run1/main.1
Total length:	22.40 ft
Total weight:	261.40 lb
O.D.:	2.75 in

Calibration Report

Database File	d:\warrior\data\tep_chevron tr 324-23-597\tep_chevron tr 324-23-597_rbl_08-25-17.db
Dataset Pathname	main.1
Dataset Creation	Sun Aug 27 10:20:47 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:	29.498	ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.007	0.645	0.800	81.196	123.420	1.644
CAL	0.766	0.765				
5'	-0.007	0.515	0.800	81.196	154.189	1.831
SUM						
S1	-0.010	0.648	0.000	100.000	152.117	1.452
S2	-0.006	0.666	0.000	100.000	148.702	0.900
S3	-0.007	0.682	0.000	100.000	145.080	0.995
S4	-0.007	0.667	0.000	100.000	148.483	1.006
S5	-0.007	0.687	0.000	100.000	144.070	1.031
S6	-0.006	0.704	0.000	100.000	140.835	0.873
S7	-0.009	0.717	0.000	100.000	137.671	1.245
S8	-0.006	0.680	0.000	100.000	145.712	0.928

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	0.766	0.765	1.000	0.000

Air Zero Calibration, performed Fri Aug 25 22:01:58 2017:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	-0.006	0.000	0.000
5'	-0.002	0.000	-0.000
SUM			
S1	-0.009	0.000	-0.000
S2	-0.005	0.000	0.000
S3	-0.006	0.000	-0.000
S4	-0.005	0.000	-0.000
S5	-0.006	0.000	-0.000
S6	-0.006	0.000	0.001
S7	-0.006	0.000	0.000
S8	-0.006	0.000	0.000

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