RELIANCE
OILFIELD SERVICES

Radial Cement Bond
Gamma Ray
Casing Collar Log

Company TEP Rocky Mountain LLC
Well Tri State Trucking PA 521-25
Field Parachute
County Garfield State Colorado
Location: API # : 05-045-23648
2275' FNL & 1902' FWL SENW
SEC 25 TWP 6S RGE 95W

Other Services
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		Elevation
Permanent Datum	Ground Level	Elevation 5224'
Log Measured From	Kelly Bushing	24 FT
Drilling Measured From	Kelly Bushing	

K.B. 5248'
D.F. 5247'
G.L. 5224'

Company TEP Rocky Mountain LLC
Well Tri State Trucking PA 521-25
Field Parachute
County Garfield
State Colorado

Date	17-JAN-2018
Run Number	One
Depth Driller	8098 FT
Depth Logger	7976 FT
Bottom Logged Interval	7976 FT
Top Log Interval	Surface
Open Hole Size	8.75"
Type Fluid	Fresh Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	234°F
Estimated Cement Top	See Log
Time Well Ready	R.O.A.
Time Logger on Bottom	06:50
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	1119 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	8055 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 from 4262 FT to 4283 FT
Log ran from 7976 FT to Surface
Log ran with 0 PSI Surface Induced Pressure

Thank you for choosing Reliance Oilfield Services, LLC!!

RELIANCE
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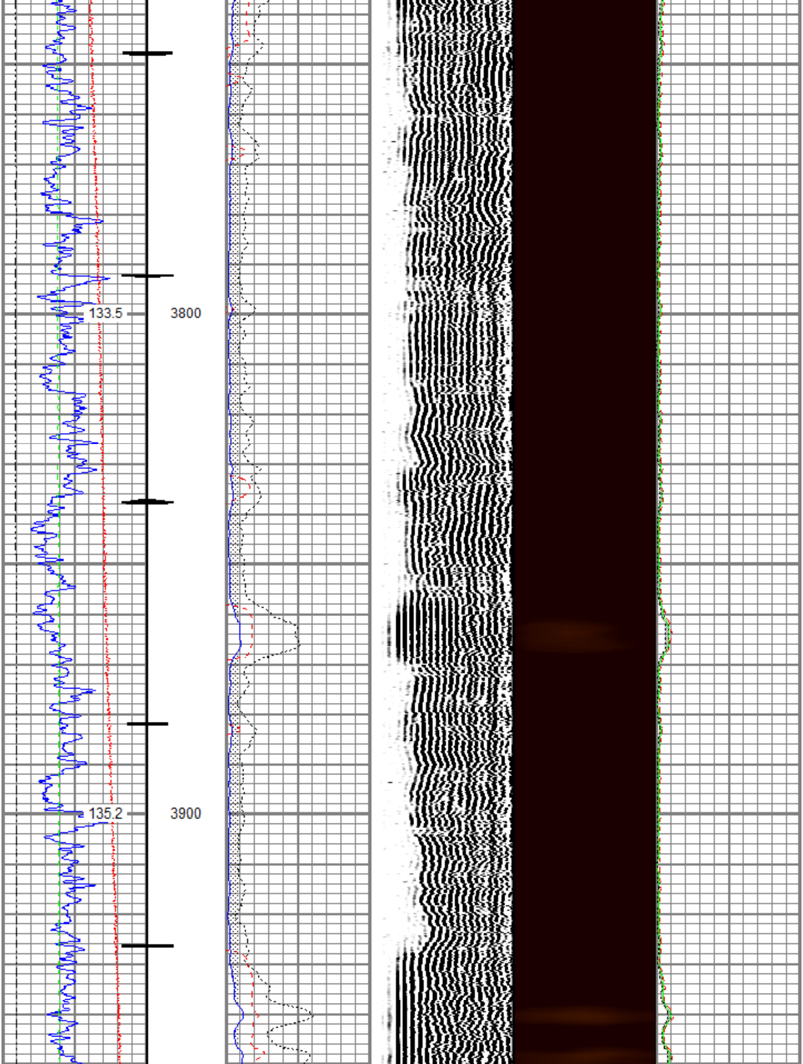
Main Pass

Recorded with 0 PSI Surface Induced Pressure

Database File	tep_tri state trucking pa 521-25_rbl_01-17-18\processed_tep_tri state trucking pa 521-25_rbl_01-17-18.db
Dataset Pathname	main.1
Presentation Format	ros_rbt004_tep
Dataset Creation	Wed Jan 17 11:54:28 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 1200	10 110	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					
Temperature					
0 (degF) 20					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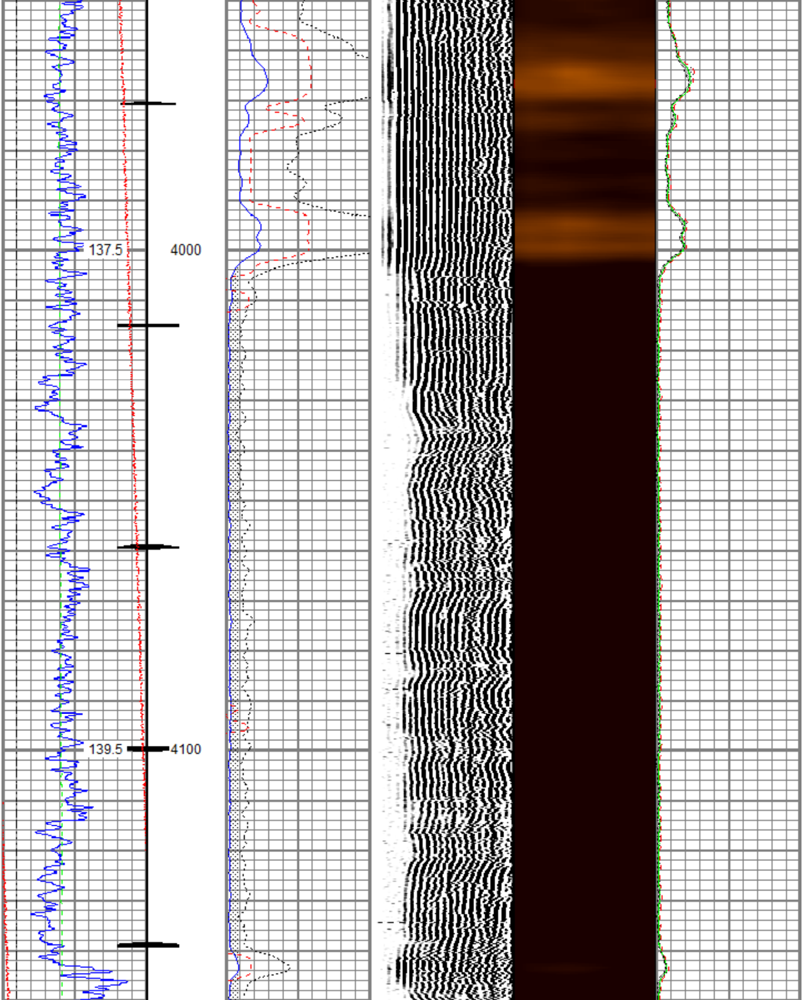
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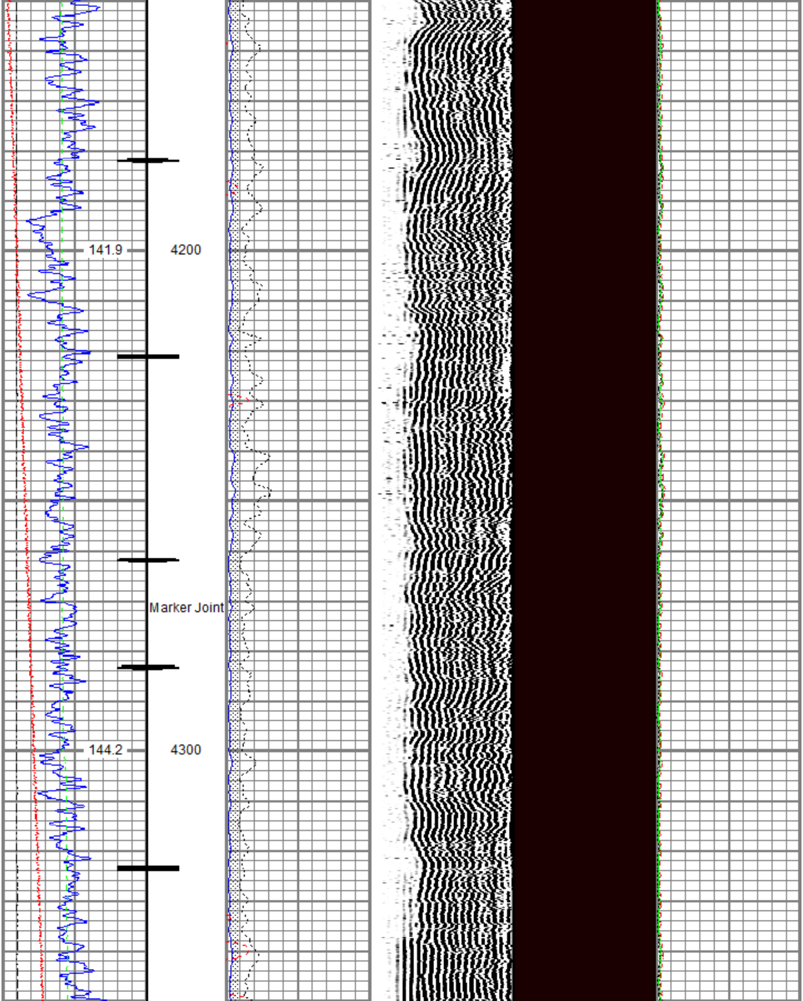
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Marker Joint
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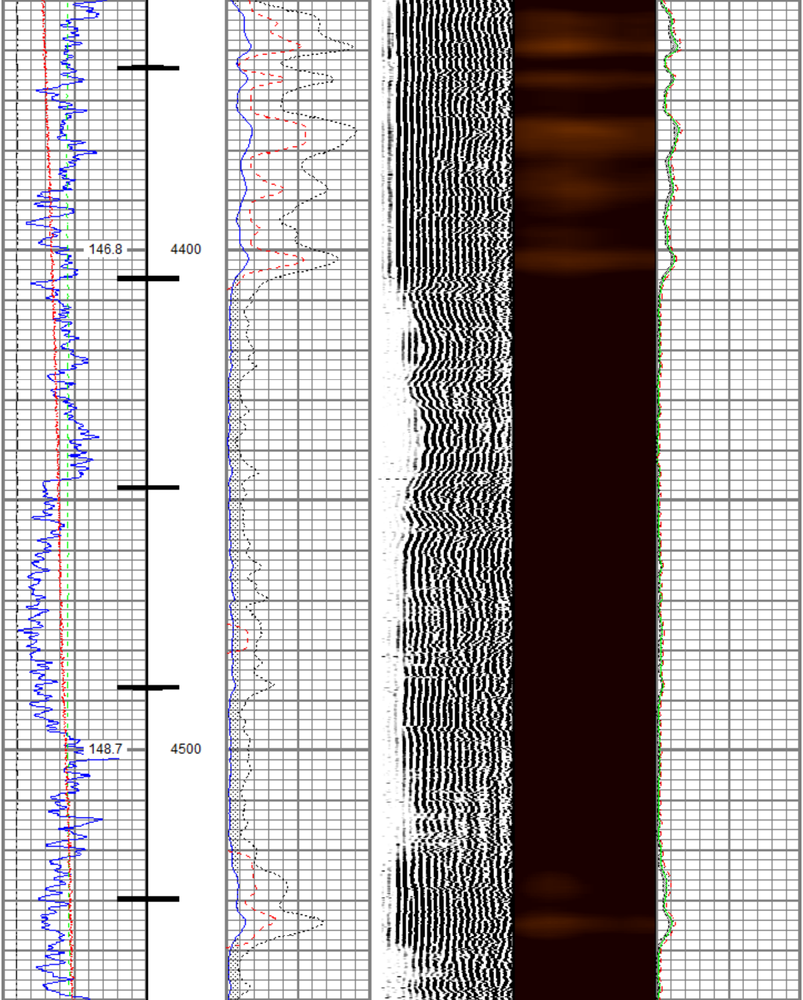
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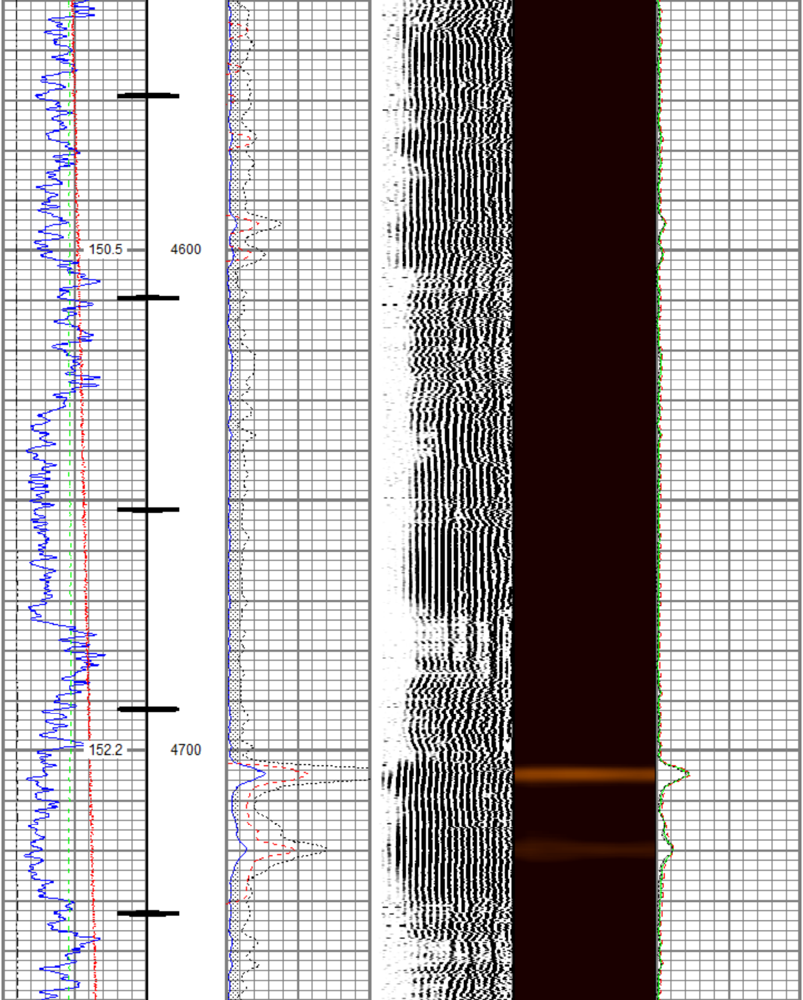
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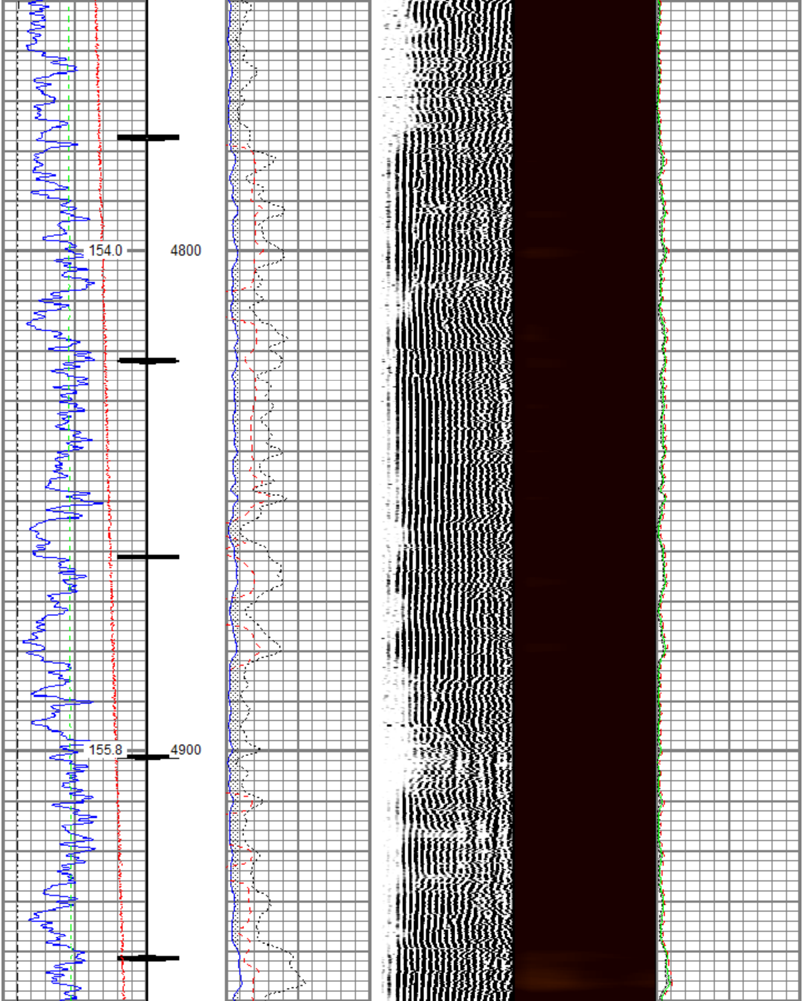
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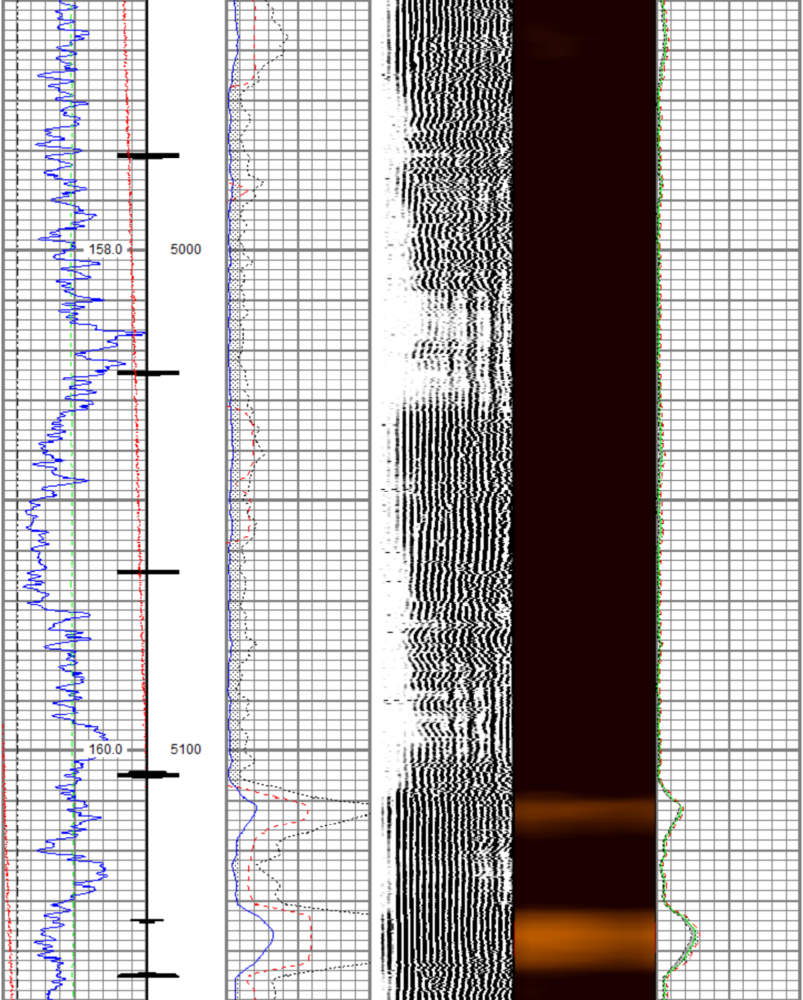
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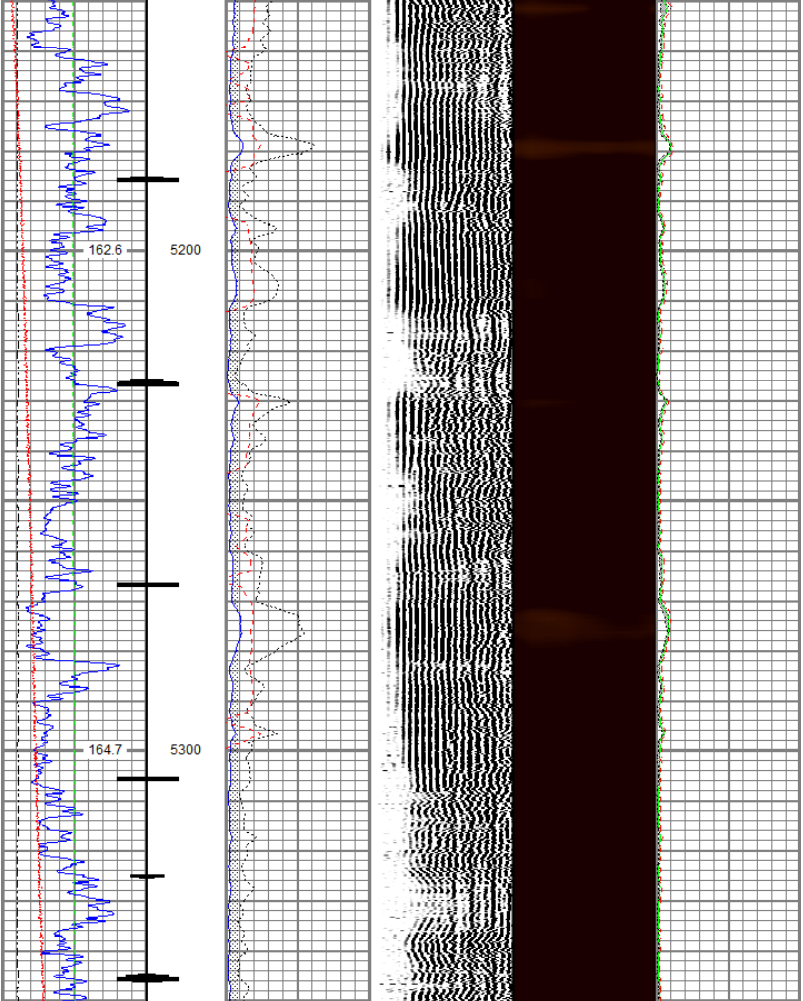
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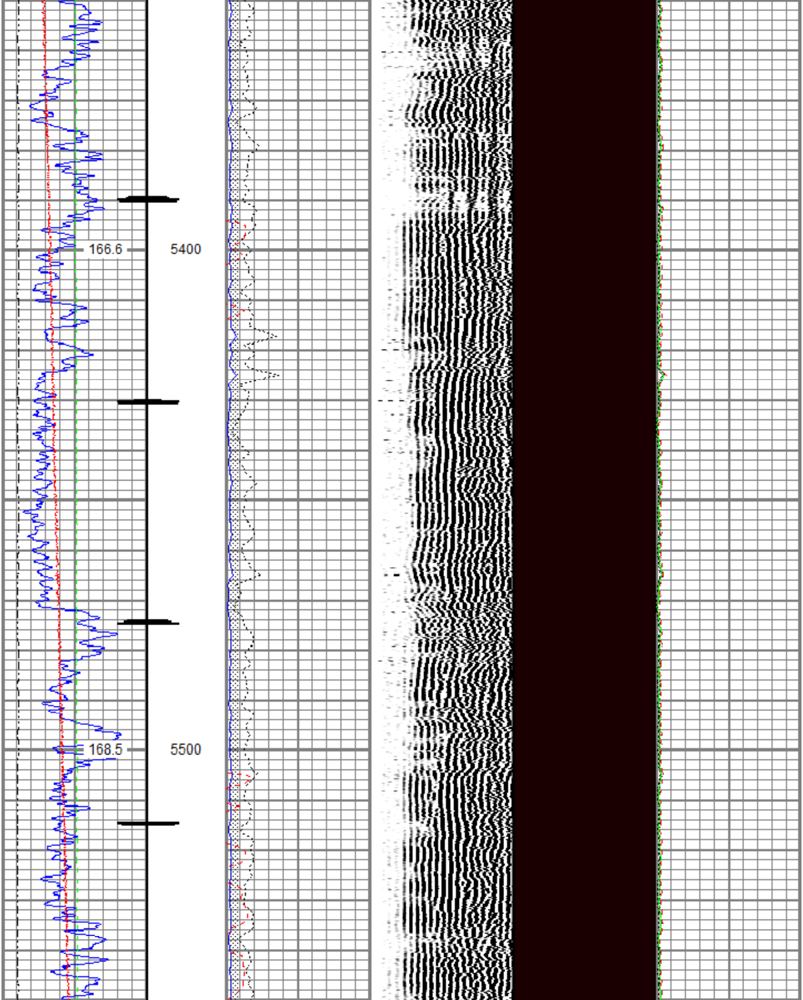
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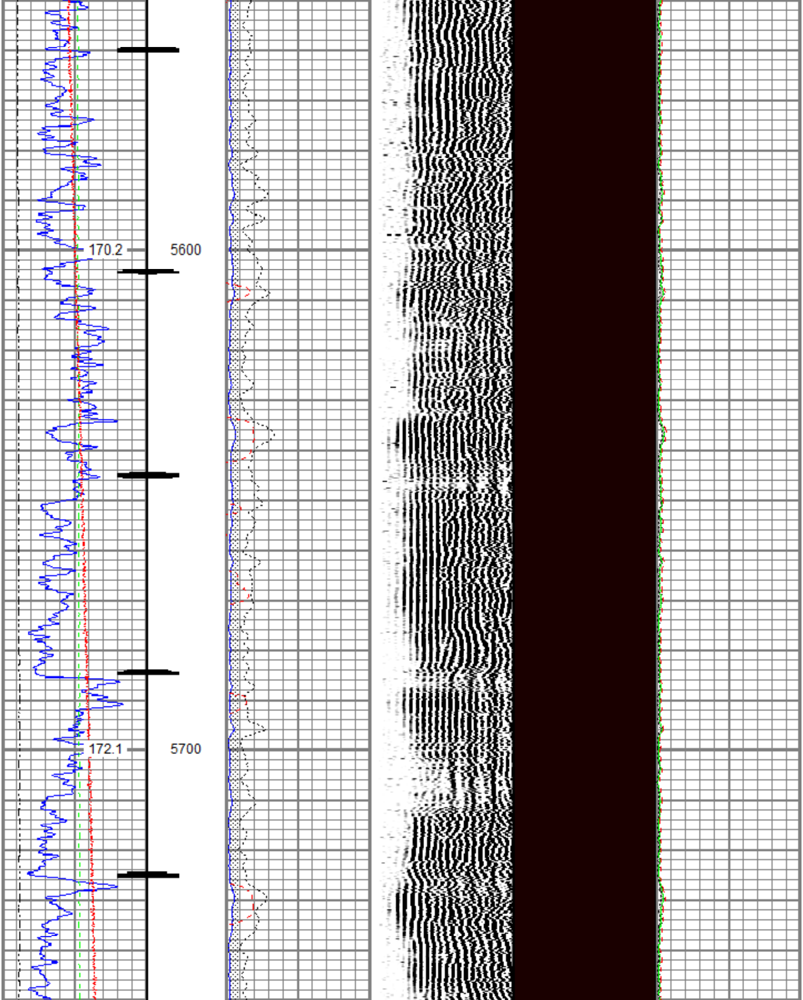
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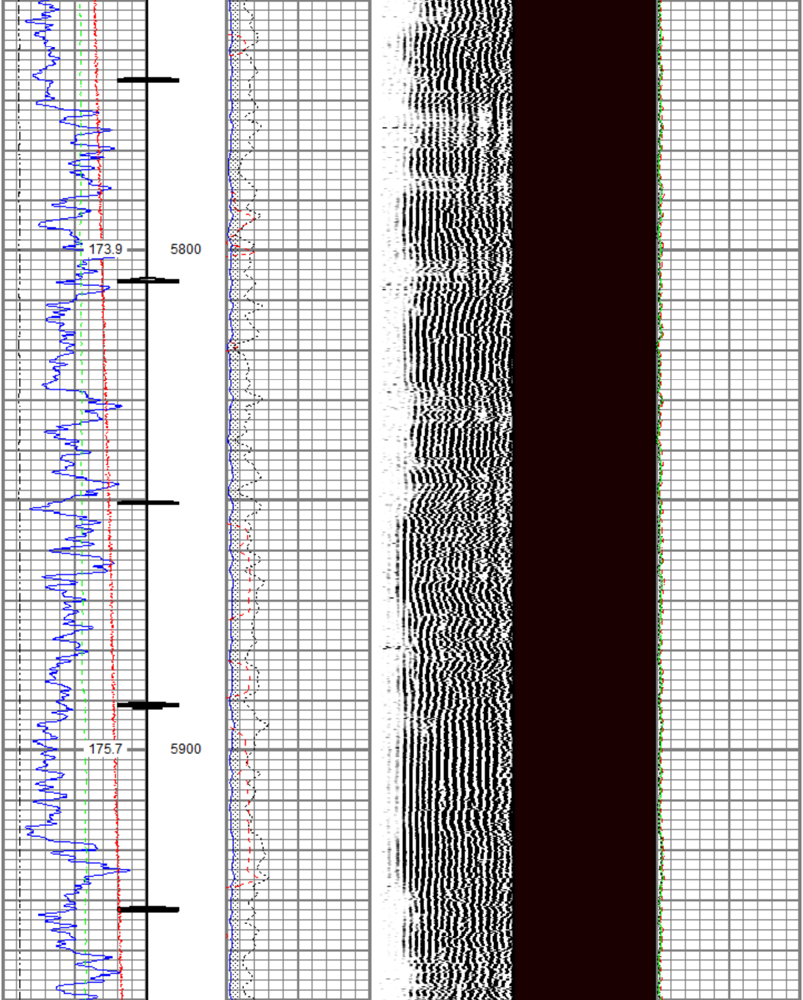
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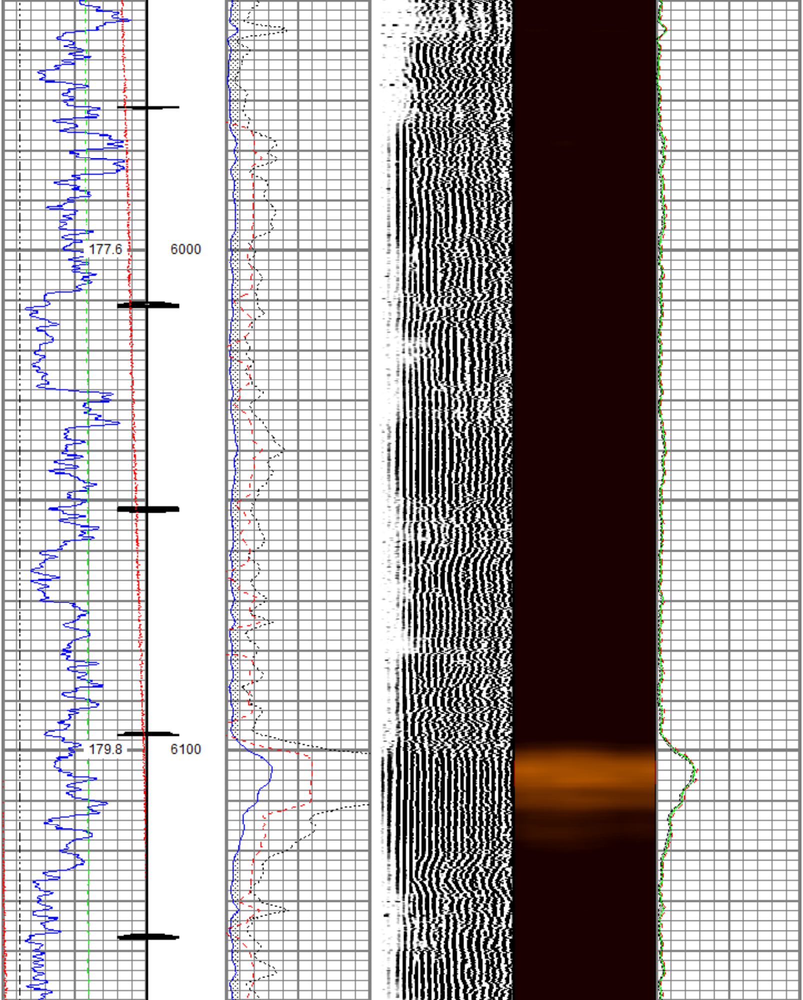
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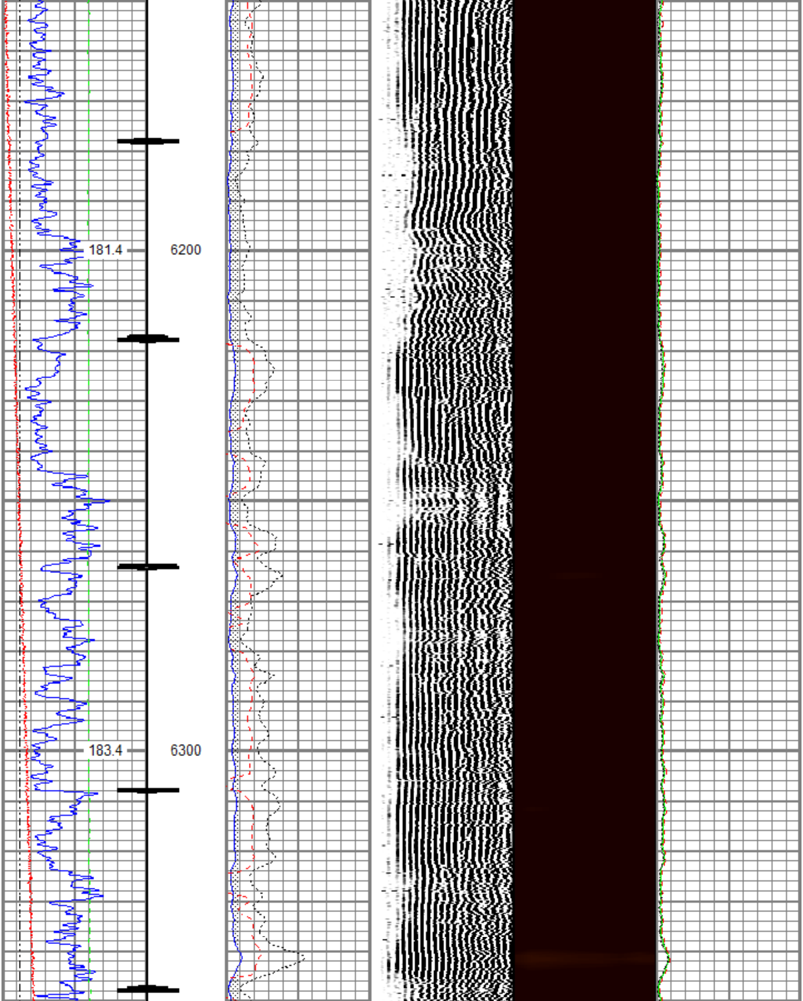
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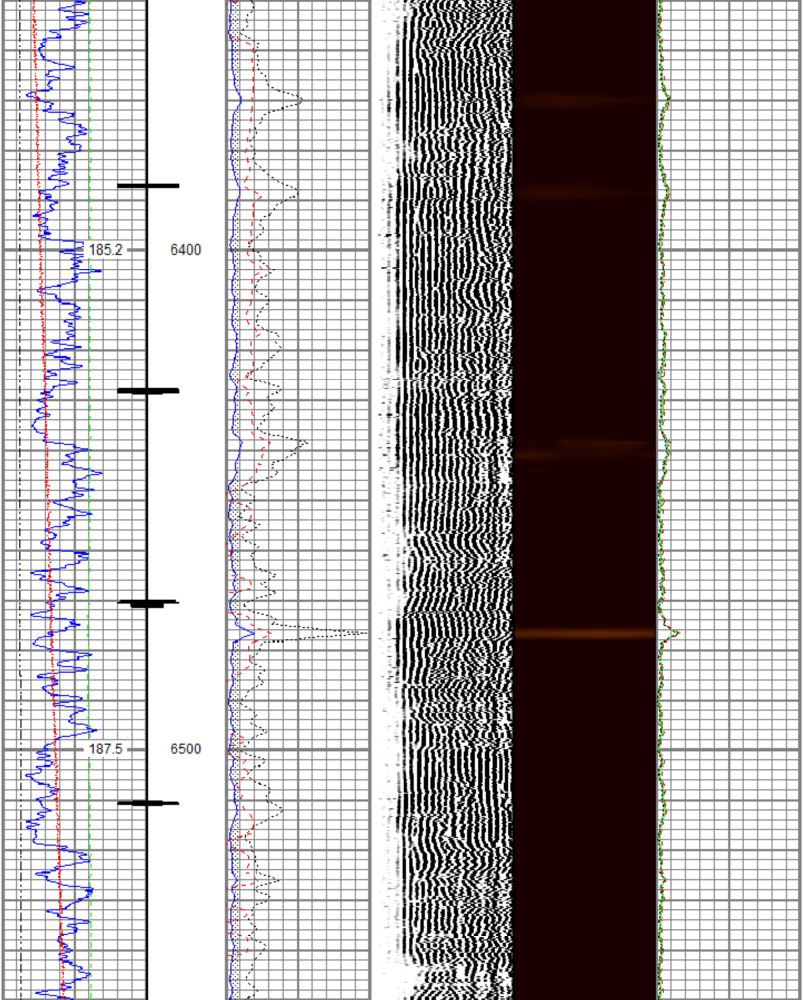
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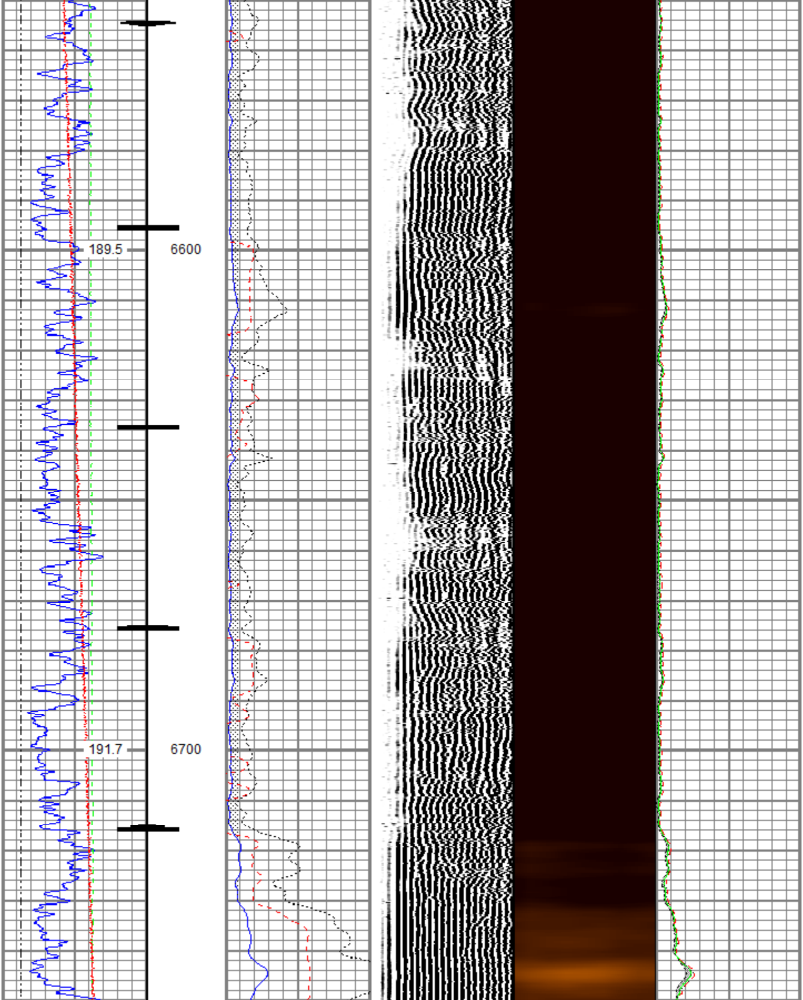
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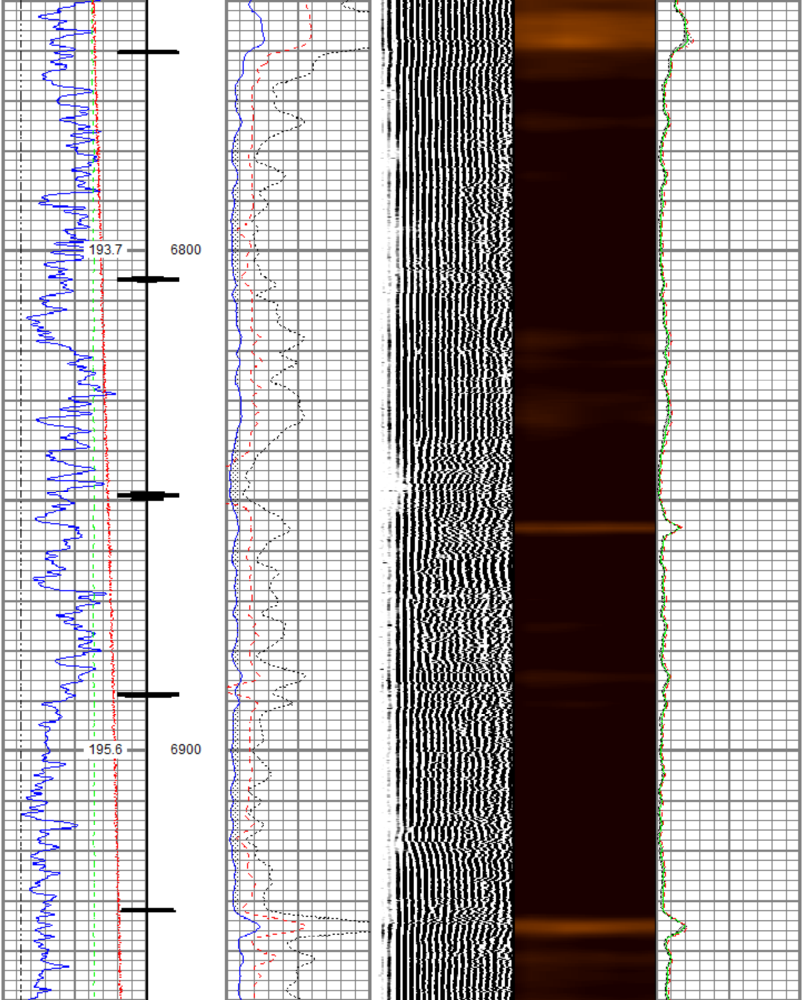
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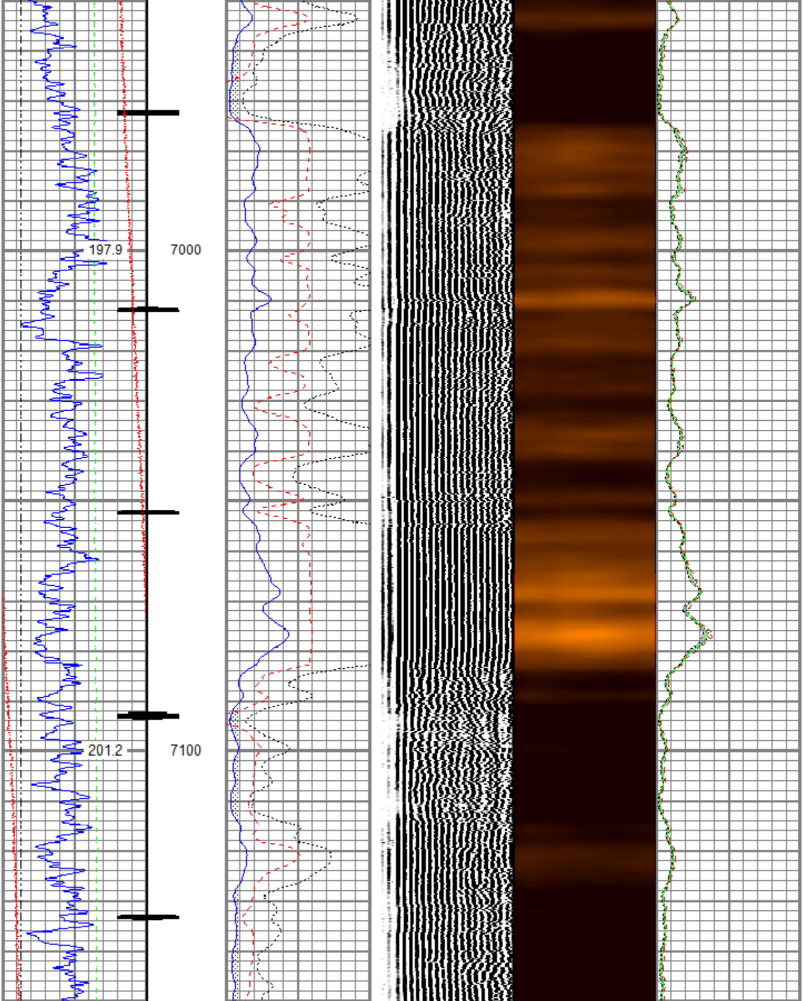
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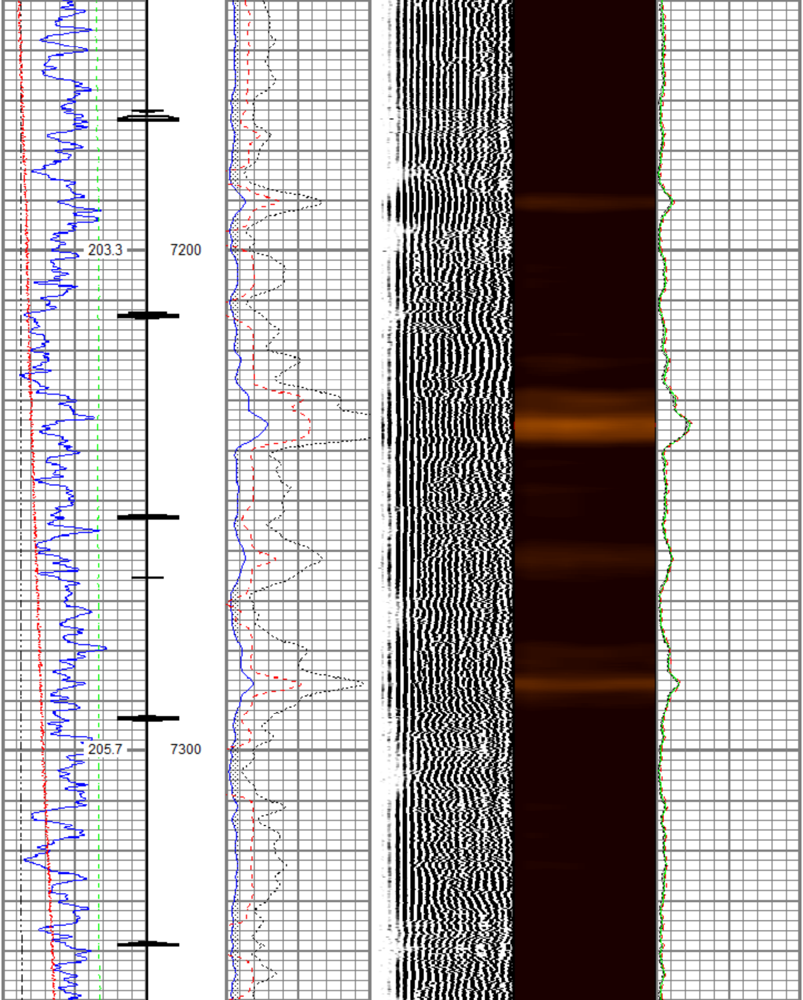
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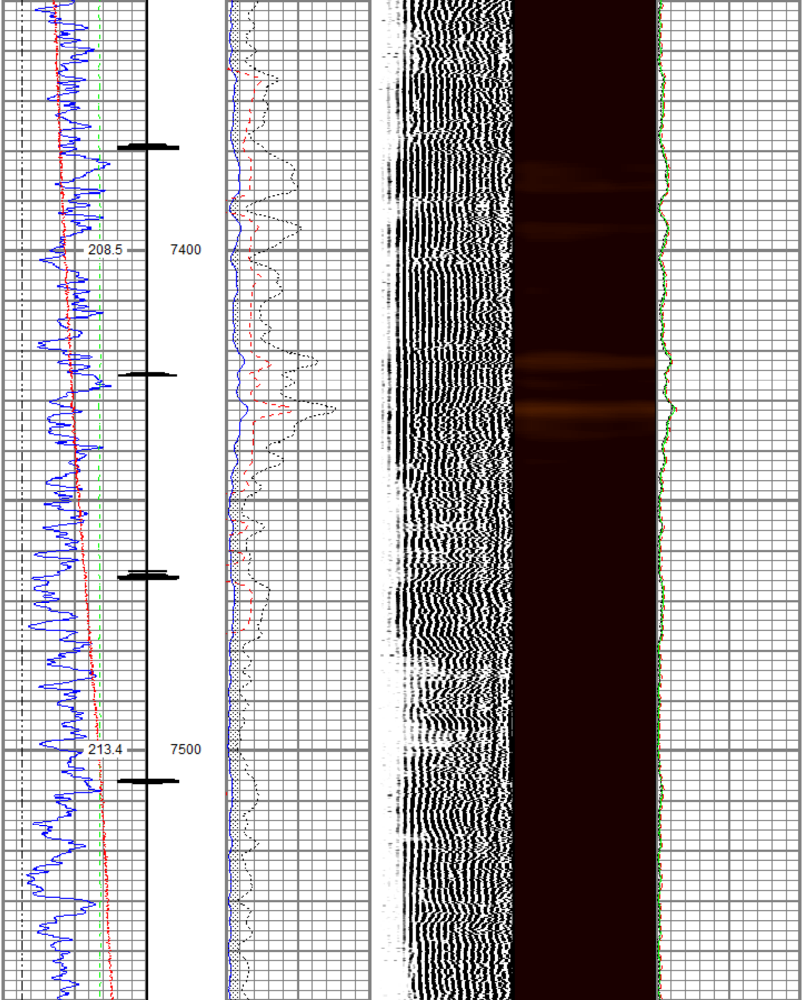
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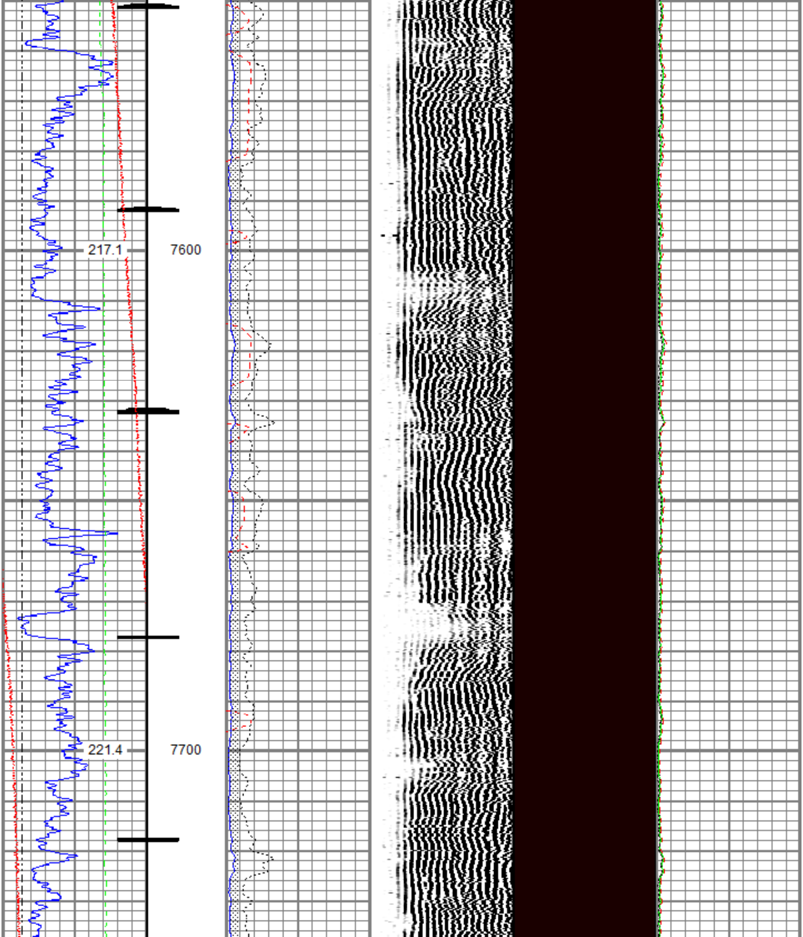
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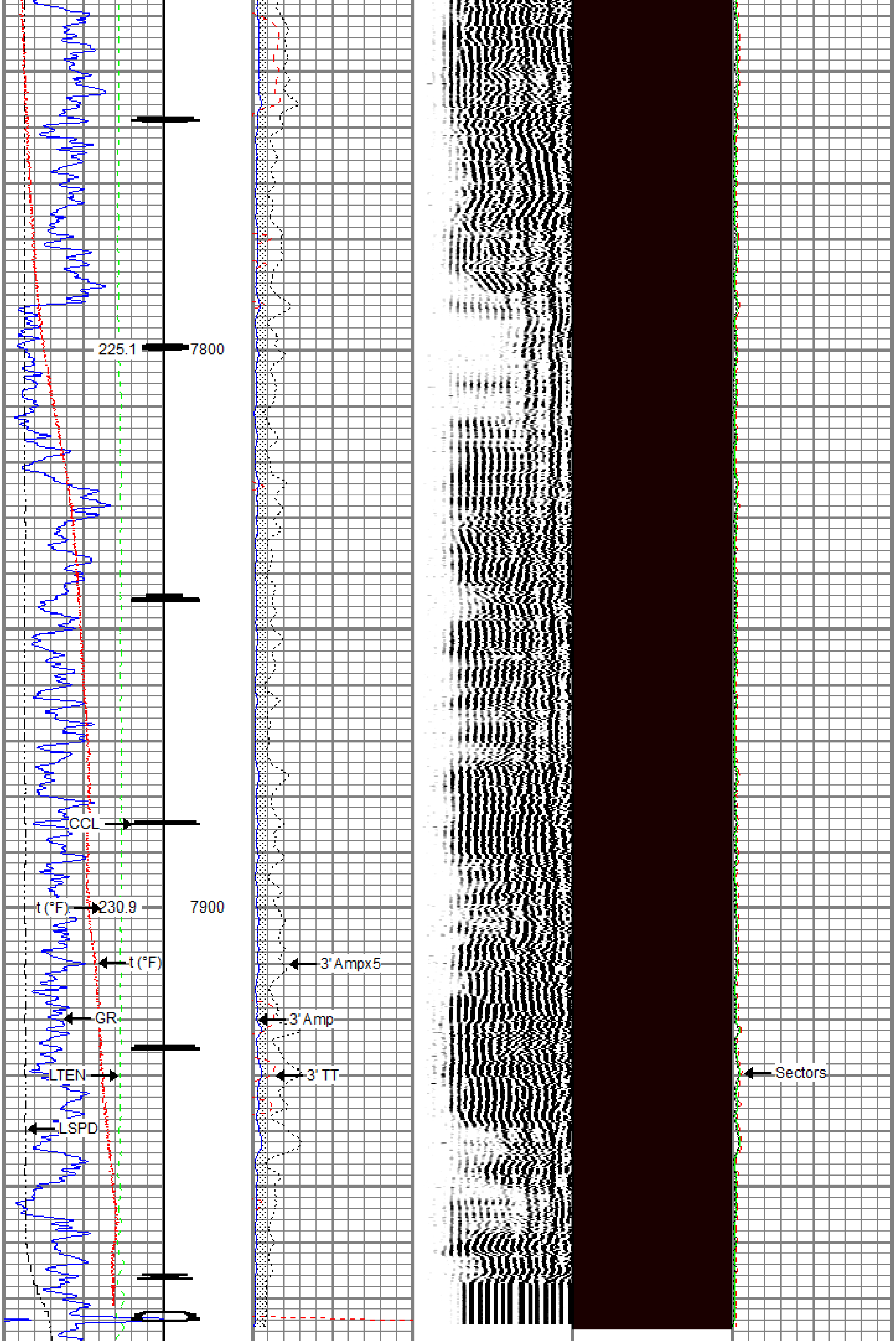

Gamma Ray 0 (GAPI) 200 Casing Collar Locator Line Speed -150 (ft/min) 150 Line Tension 0 (lb) 2000 Temperature 0 (degF) 20	3' Amplitude 0 (mV) 100 3' Amplitude x 5 0 (mV) 20 3' Travel Time 300 (usec) 200	5' Variable Density Log 200 1200	Sector Map 10 110	Average Amplitude 0 150 Mimimum Amplitude 0 150 Maximum Amplitude 0 150

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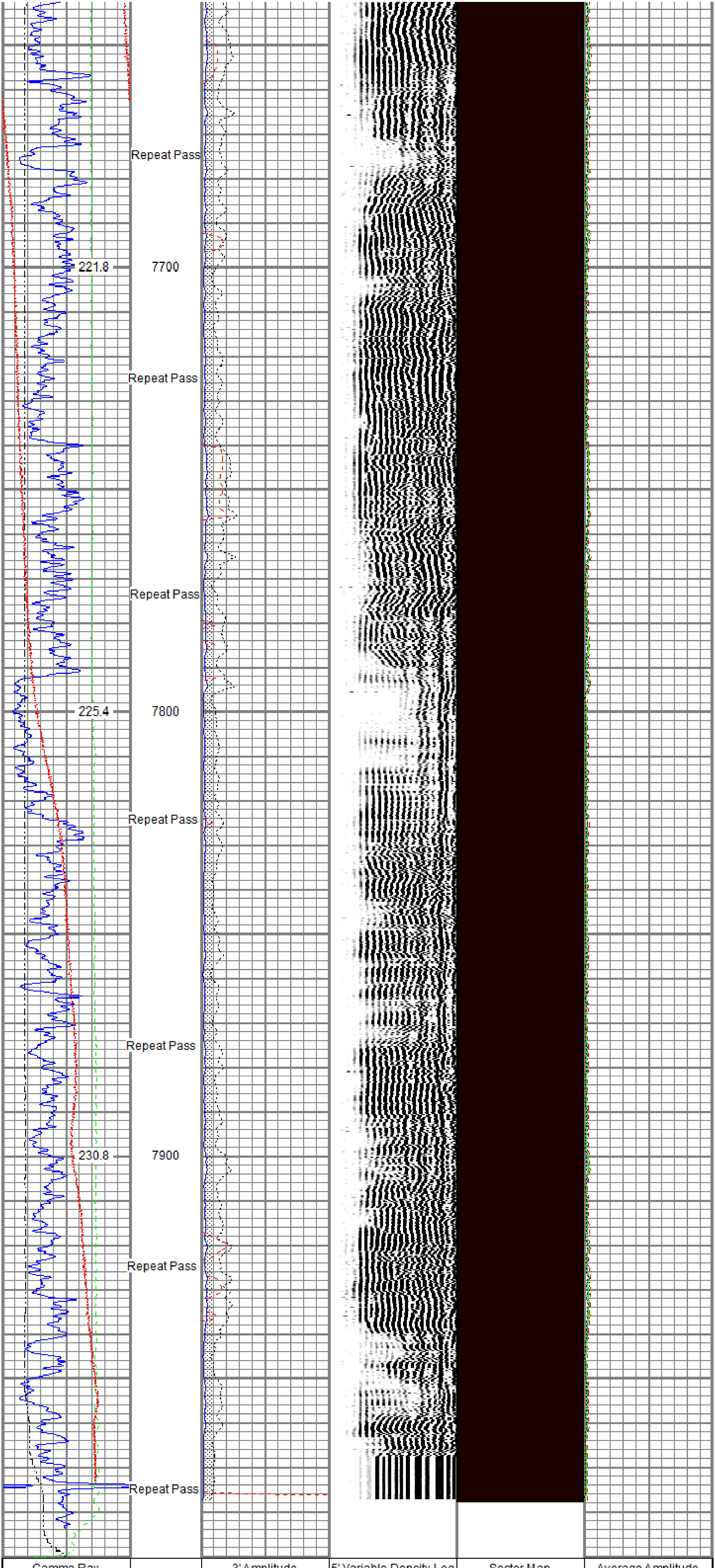
Repeat Pass

Recorded with 0 PSI Surface Induced Pressure

Database File	tep_tri state trucking pa 521-25_rbl_01-17-18\processed_tep_tri state trucking pa 521-25_rbl_01-17-18.db
Dataset Pathname	repeat.3
Presentation Format	ros_rbt004_tep
Dataset Creation	Wed Jan 17 12:57:31 2018
Charted by	Depth in Feet scaled 1:240

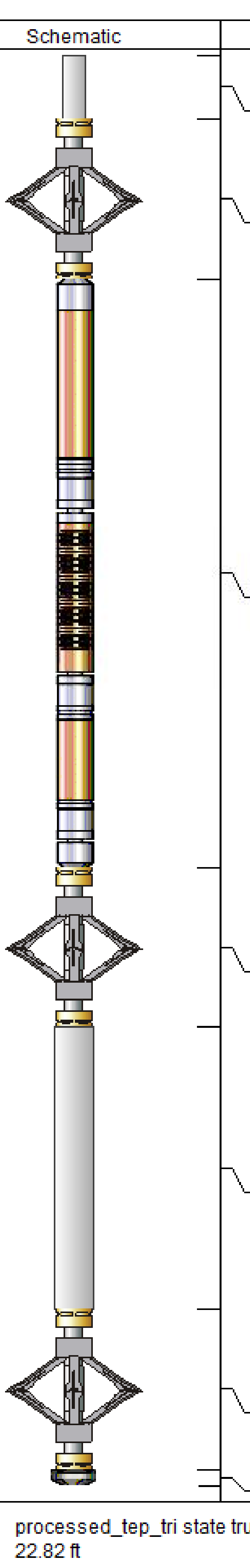
Gamma Ray 0 (GAPI) 200 Line Speed -150 (ft/min) 150 Line Tension 0 (lb) 2000 Temperature 0 (degF) 20	3' Amplitude 0 (mV) 100 3' Amplitude x 5 0 (mV) 20 3' Travel Time 300 (usec) 200	5' Variable Density Log 200 1200	Sector Map 10 110	Average Amplitude 0 150 Mimimum Amplitude 0 150 Maximum Amplitude 0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



Gamma Ray 0 (GAPI) 200 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

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
CCL$2	6.42
CCL$1	6.42
GR	5.18

Schematic



Description	Length (ft)	O.D. (in)	Weight (lb)
Titan CHD-16875 GO Titan 1-11/16" Assembled Electric Cable Head w/ 1" Fishing Neck	1.03	1.69	5.40
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:	processed_tep_tri state trucking pa 521-25_rbl_01-17-18.db: field/well/run1/main.1
Total length:	22.82 ft
Total weight:	262.40 lb
O.D.:	2.75 in

Calibration Report

Database File	c:\programdata\warrior\data\tep_tri state trucking pa 521-25_rbl_01-17-18\processed_tep_tri state trucking pa
Dataset Pathname	main.1
Dataset Creation	Wed Jan 17 11:54:28 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:	33.745	ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.008	0.825	0.800	81.196	96.625	1.527
CAL	-0.006	0.756				
5'	-0.030	0.634	0.800	81.196	120.999	4.487
SUM						
S1	-0.014	0.806	0.000	100.000	121.901	1.695
S2	-0.031	0.842	0.000	100.000	114.629	3.532
S3	-0.032	0.907	0.000	100.000	106.455	3.446
S4	-0.025	0.942	0.000	100.000	103.456	2.588
S5	-0.019	0.937	0.000	100.000	104.522	2.026
S6	-0.011	0.883	0.000	100.000	111.816	1.260
S7	-0.016	0.830	0.000	100.000	118.294	1.868
S8	-0.007	0.831	0.000	100.000	119.268	0.832

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.006	0.756	1.000	0.000

Air Zero Calibration, performed Mon Jan 15 15:05:17 2018:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	-0.008	0.000	-0.000
5'	-0.003	0.000	0.001
SUM			
S1	-0.010	0.000	0.000
S2	-0.006	0.000	0.001
S3	-0.006	0.000	-0.000
S4	-0.006	0.000	0.000
S5	-0.005	0.000	0.000
S6	-0.005	0.000	0.000
S7	-0.005	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 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 521-25
Field	Parachute
County	Garfield
State	Colorado