RELIANCE OILFIELD SERVICES

Radial Cement Bond Log Gamma Ray Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	Chevron TR 323-23-597
Field	Trail Ridge
County	Garfield
State	Colorado

Company TEP Rocky Mountain LLC
Well Chevron TR 323-23-597
Field Trail Ridge
County Garfield State Colorado
Location: API # : 05-045-23466
SEC 23 TWP 5S RGE 97W
Other Services
PDN

				Elevation
Permanent Datum	Ground Level	Elevation	8545'	K.B. 8569'
Log Measured From	Kelly Bushing	24 FT		D.F. 8568'
Drilling Measured From	Kelly Bushing			G.L. 8545'

Date	25-AUG-2017
Run Number	One
Depth Driller	10339 FT
Depth Logger	10236 FT
Bottom Logged Interval	10227 FT
Top Log Interval	Surface
Open Hole Size	8.750"
Type Fluid	Fresh Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	268°F
Estimated Cement Top	See Log
Time Well Ready	ROA
Time Logger on Bottom	18:20
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	3000 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	10266 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 per customer request
Depth referenced to Kelly Bushing at 24 FT
Ground Level 1 FT below cut pipe
Recorded Marker Joint from 6811 FT to 6833 FT
Log ran from 10236 FT to Surface
Recorded with 0 PSI Surface Induced Pressure

Thank you for choosing Reliance Oilfield Services, LLC!!

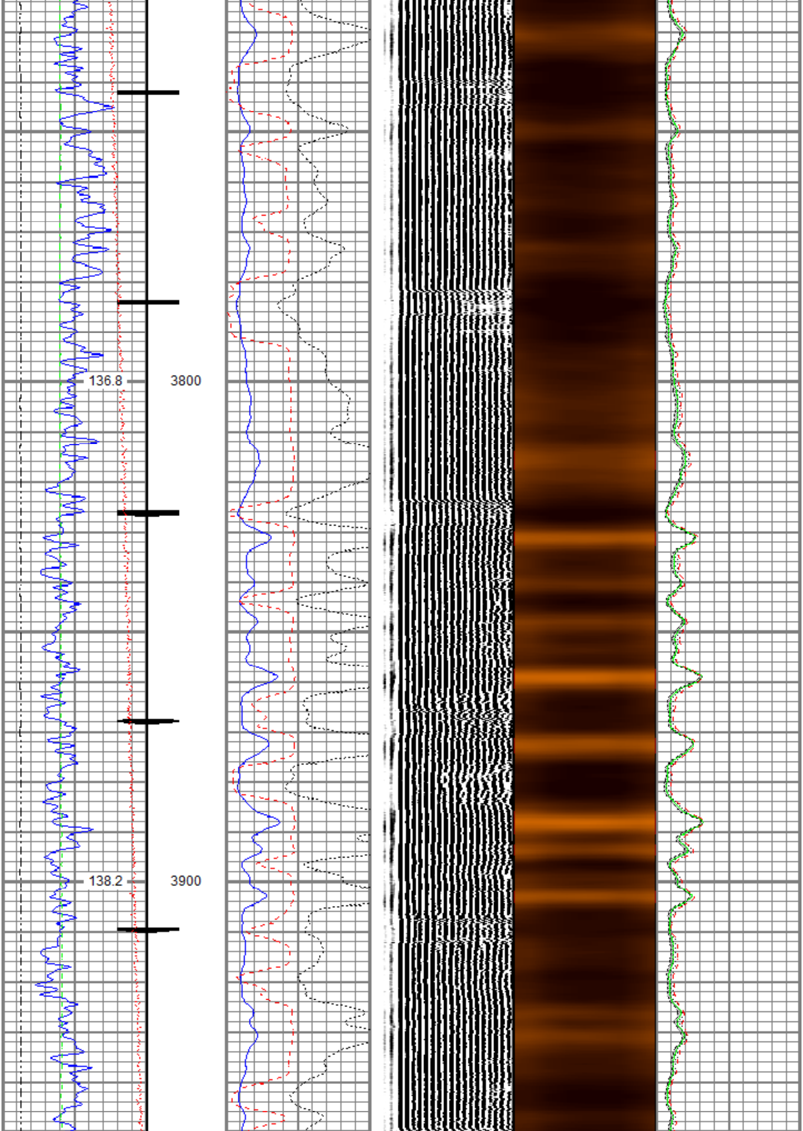
RELIANCE OILFIELD SERVICES

Main Pass

Recorded with 0 PSI Surface Induced Pressure.

Database File	tep_chevron tr 323-23-597\processed_tep_chevron tr 323-23-597_rbl_08-25-17.db
Dataset Pathname	main
Presentation Format	ros_rbt004_tep
Dataset Creation	Fri Aug 25 18:07:30 2017
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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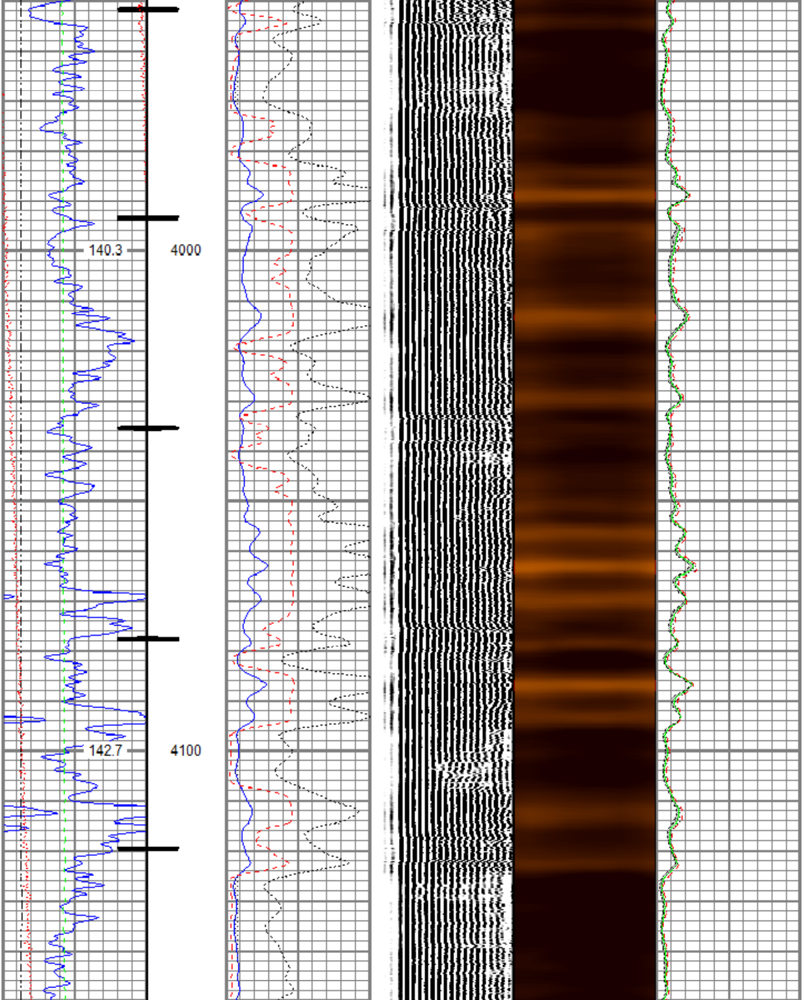
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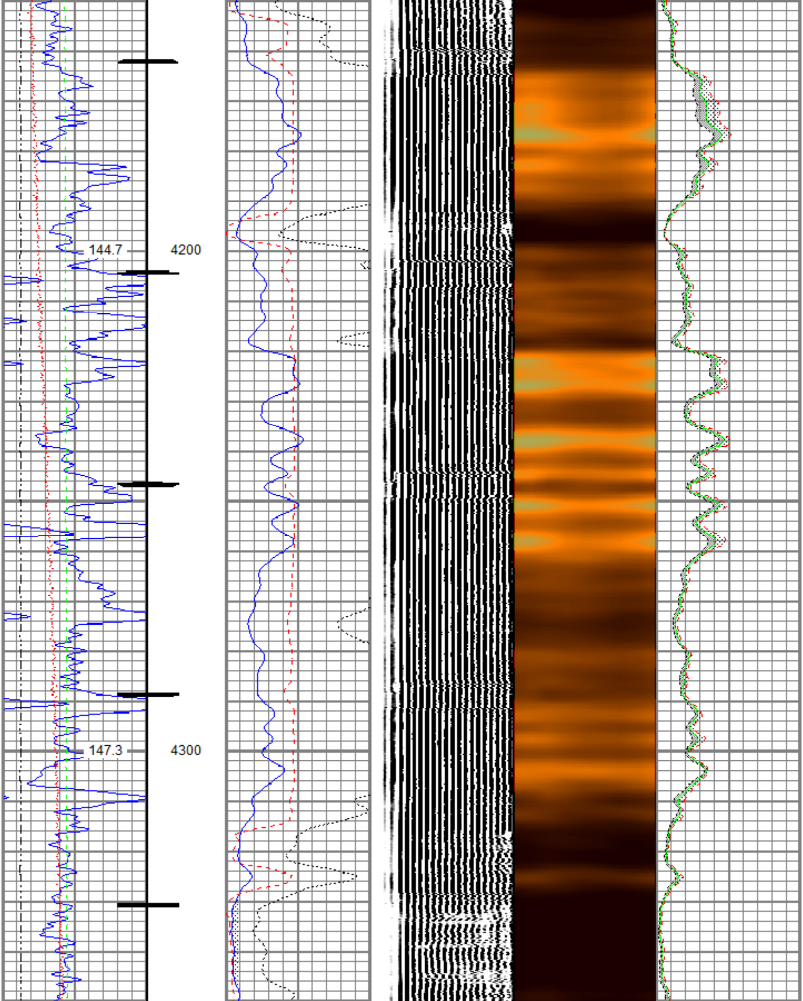
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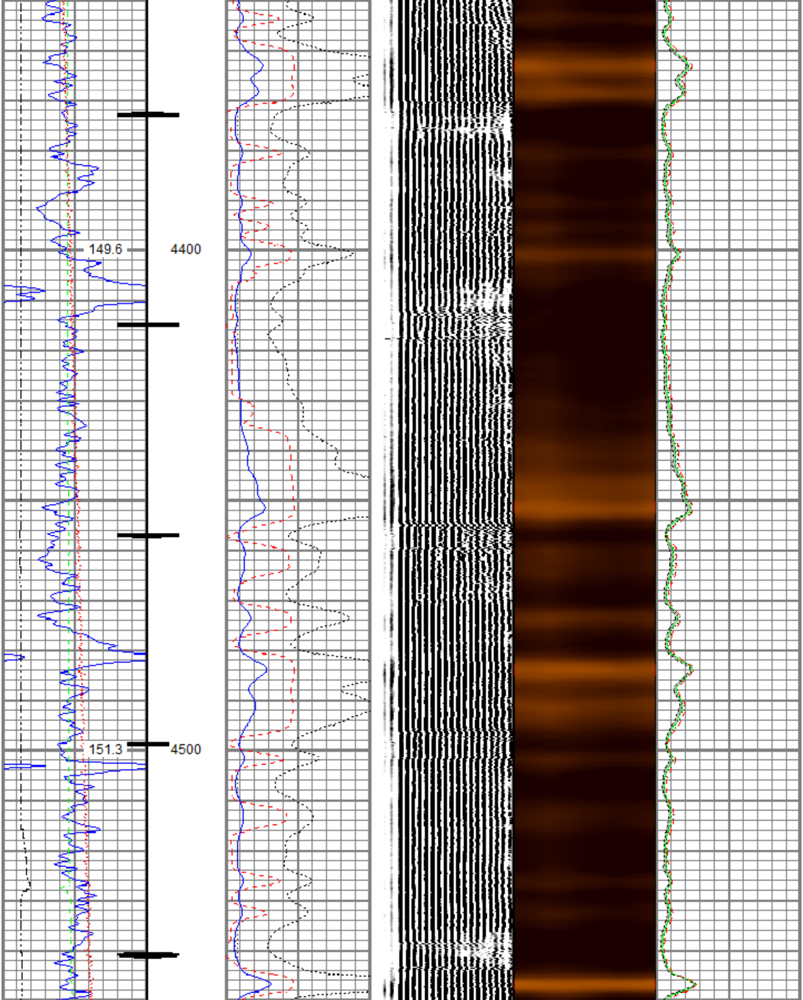
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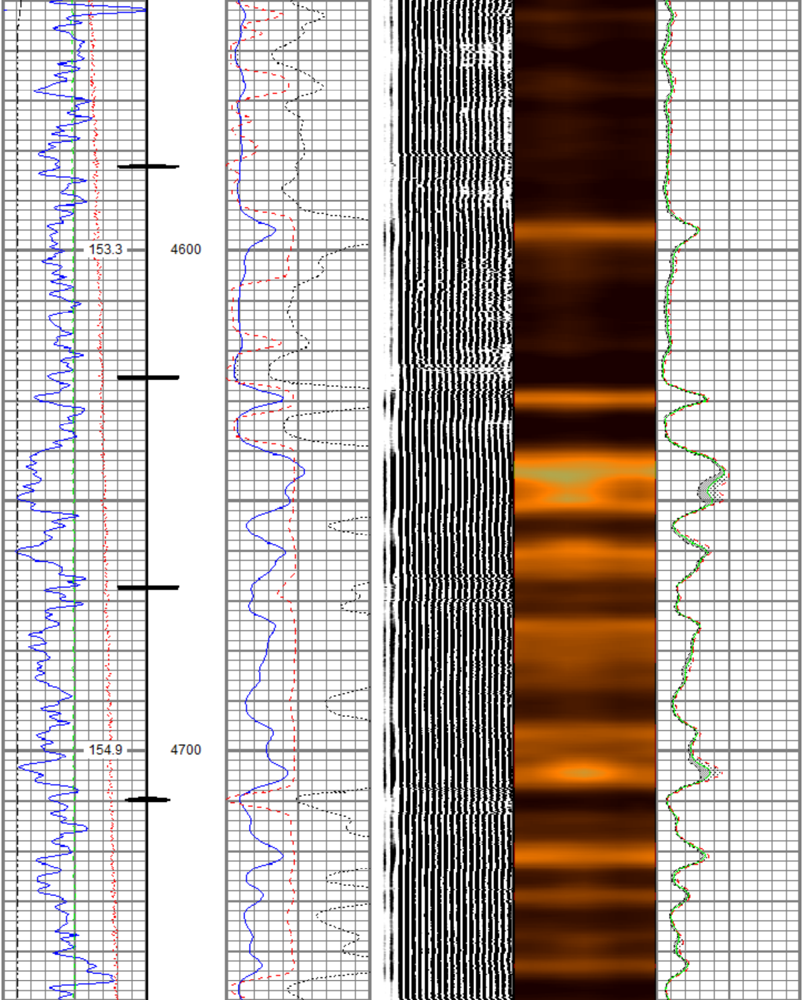
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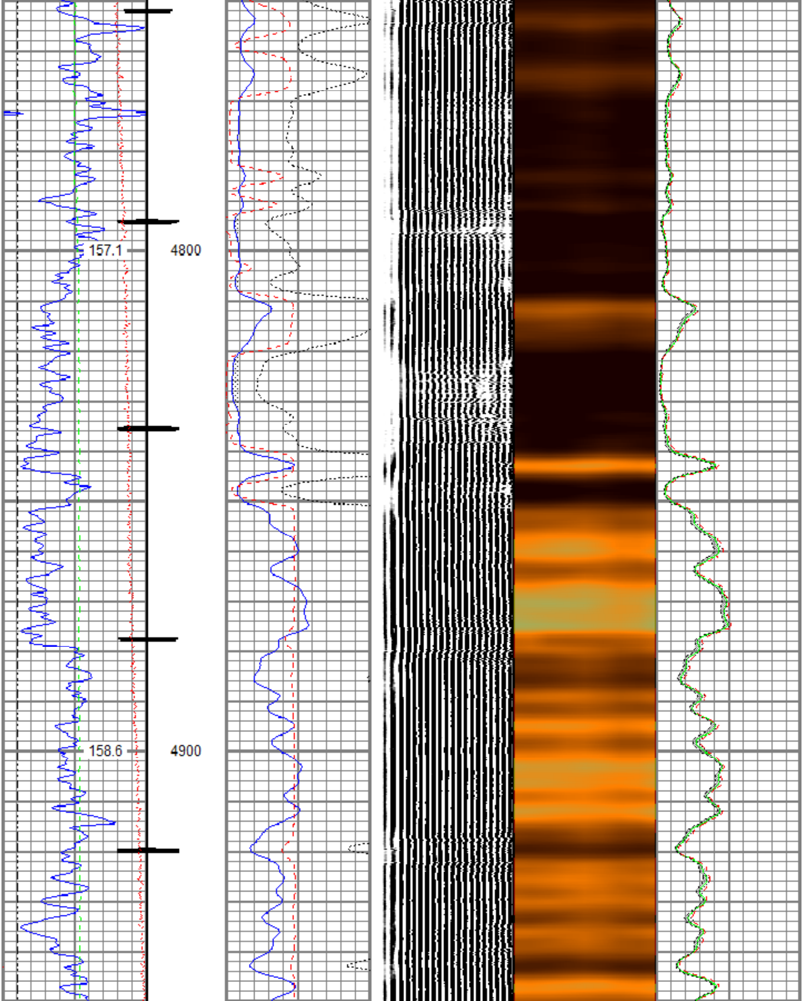
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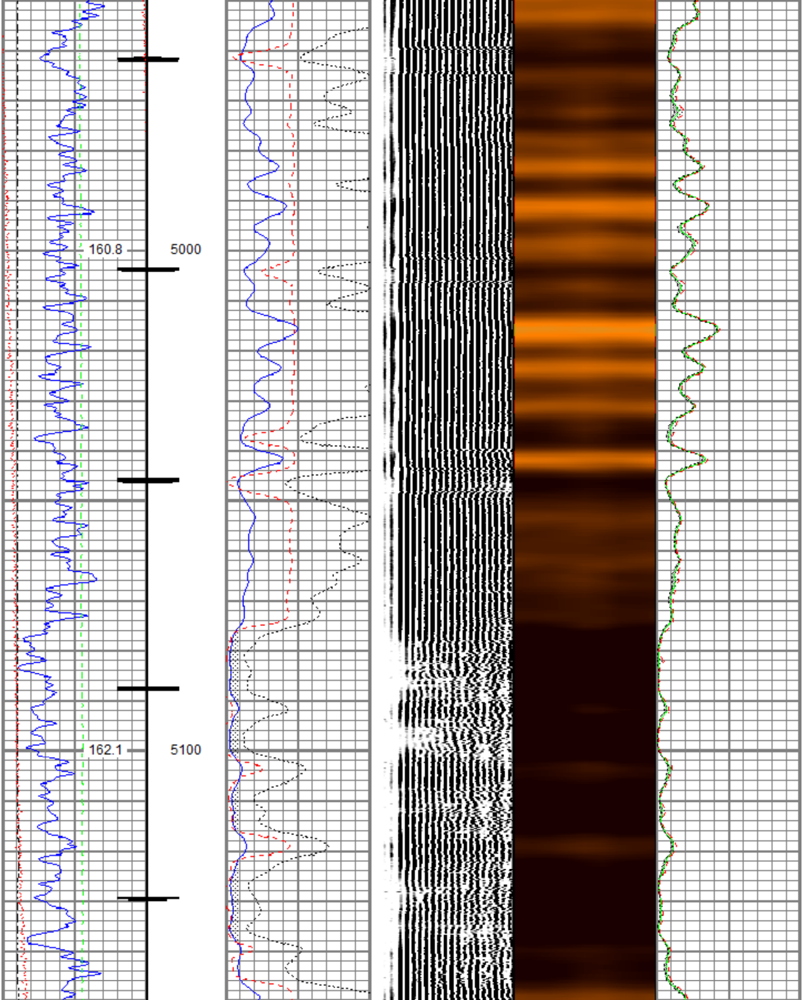
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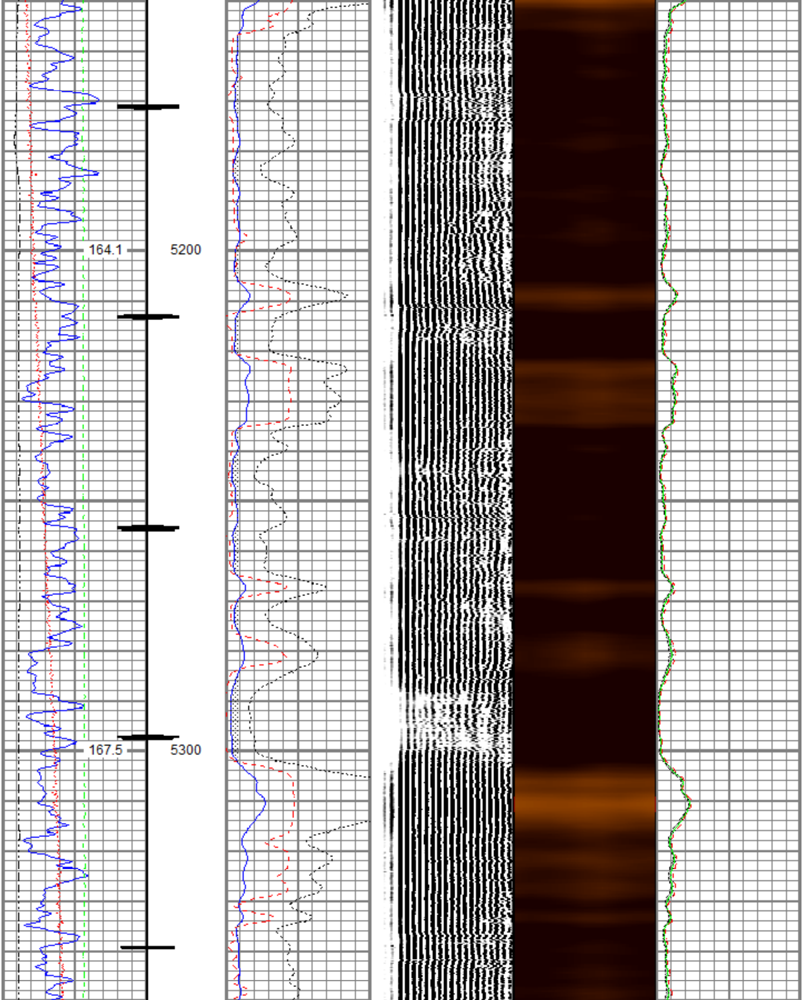
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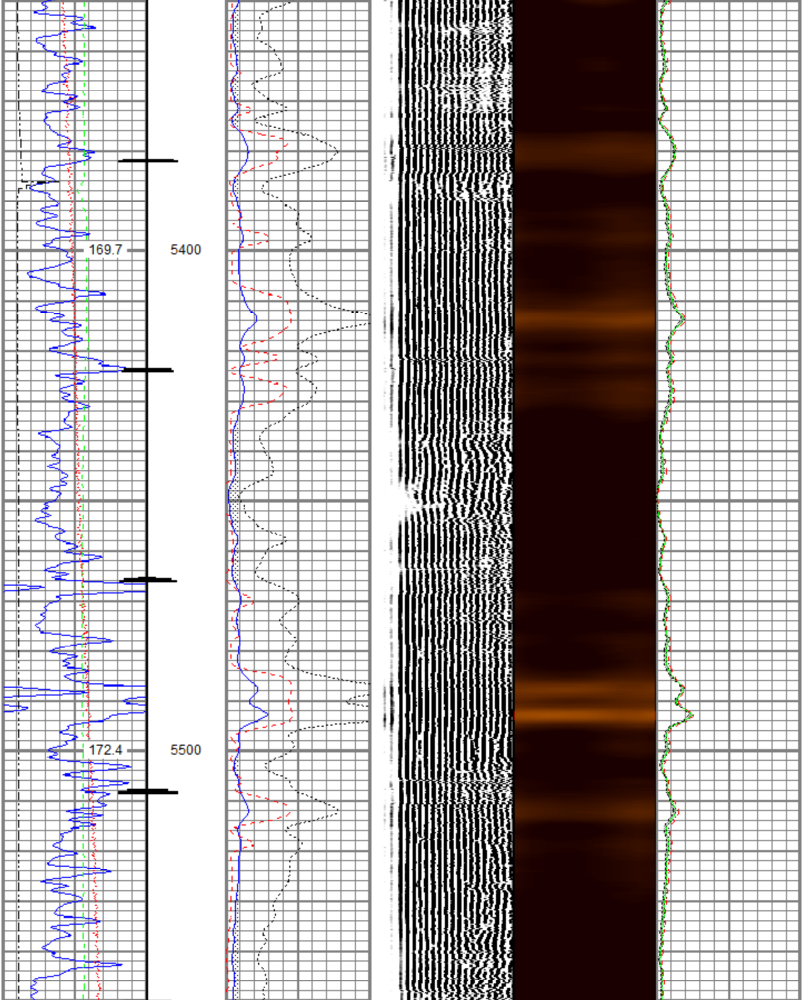
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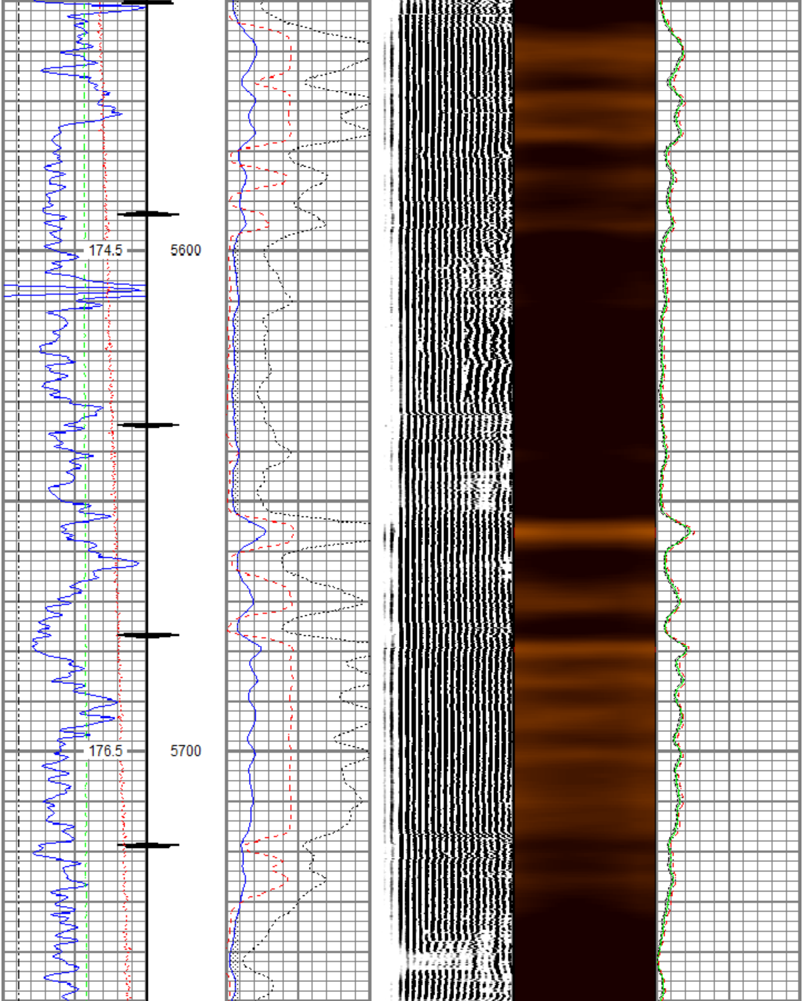
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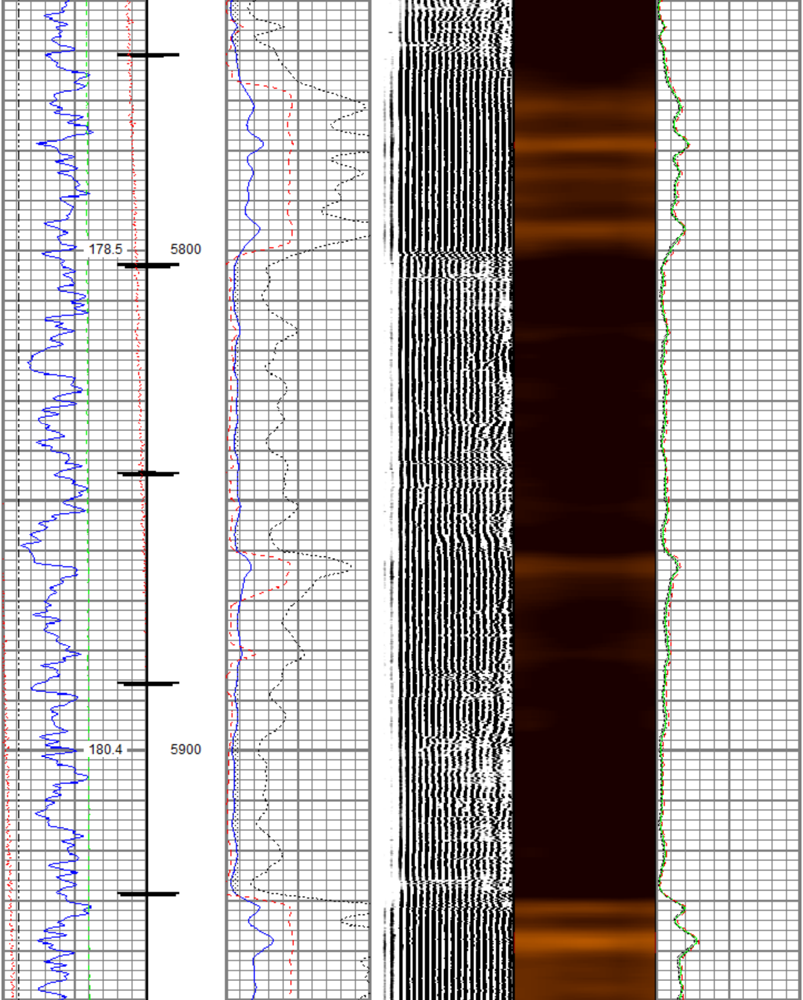
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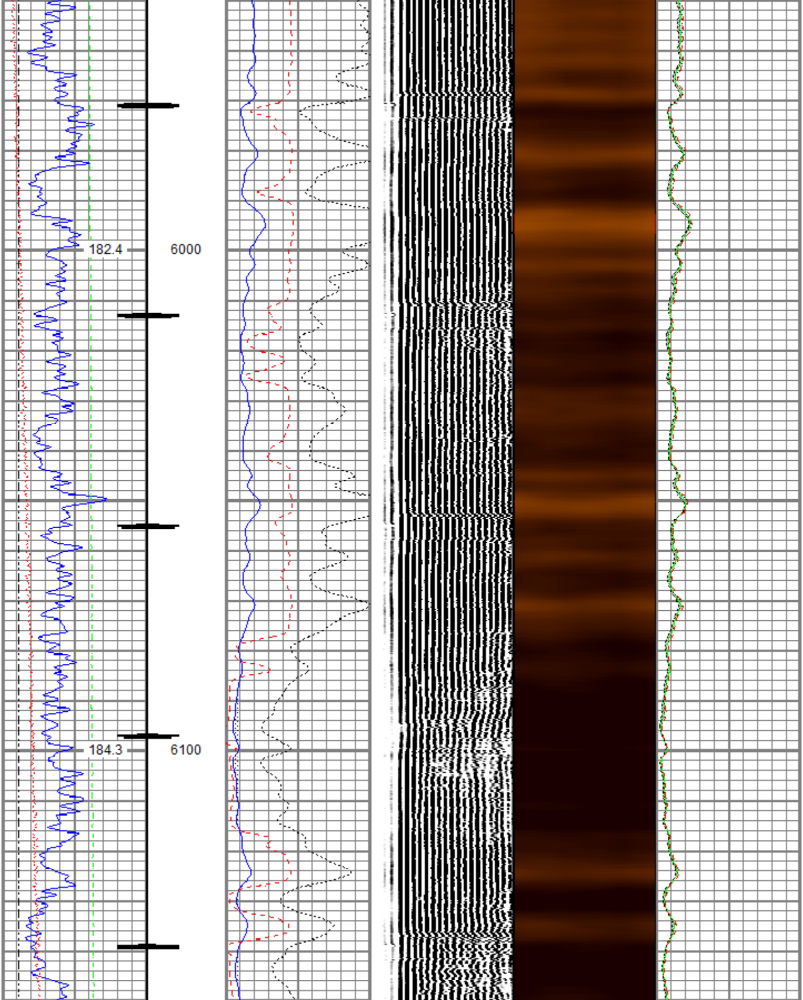
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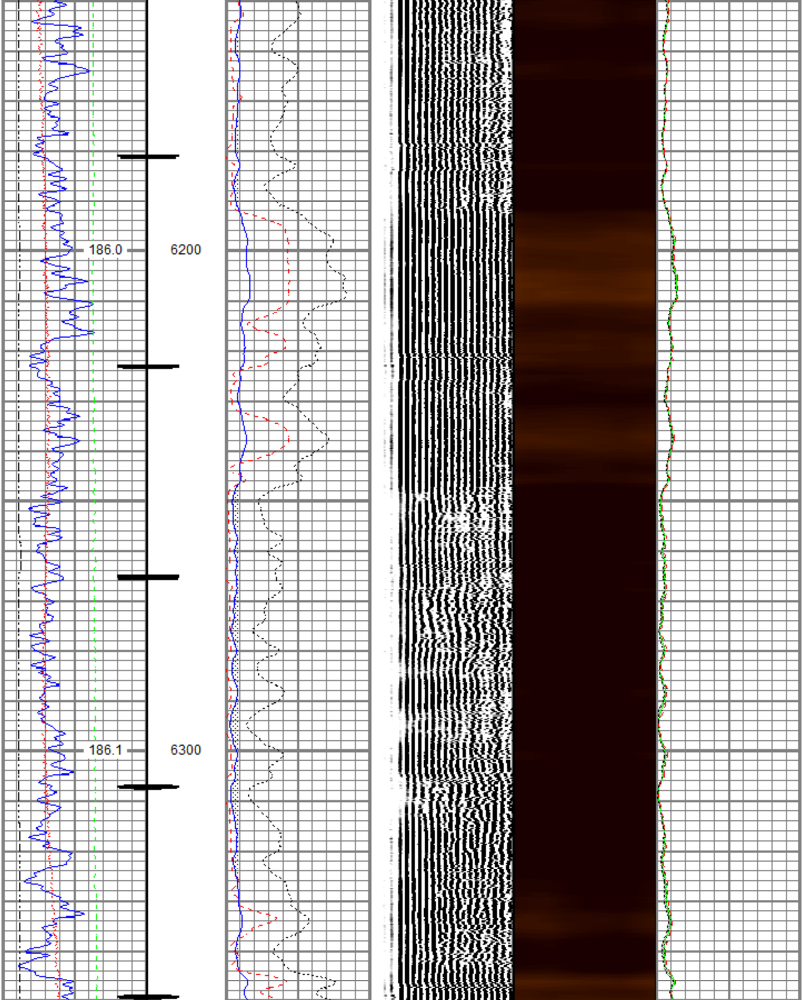
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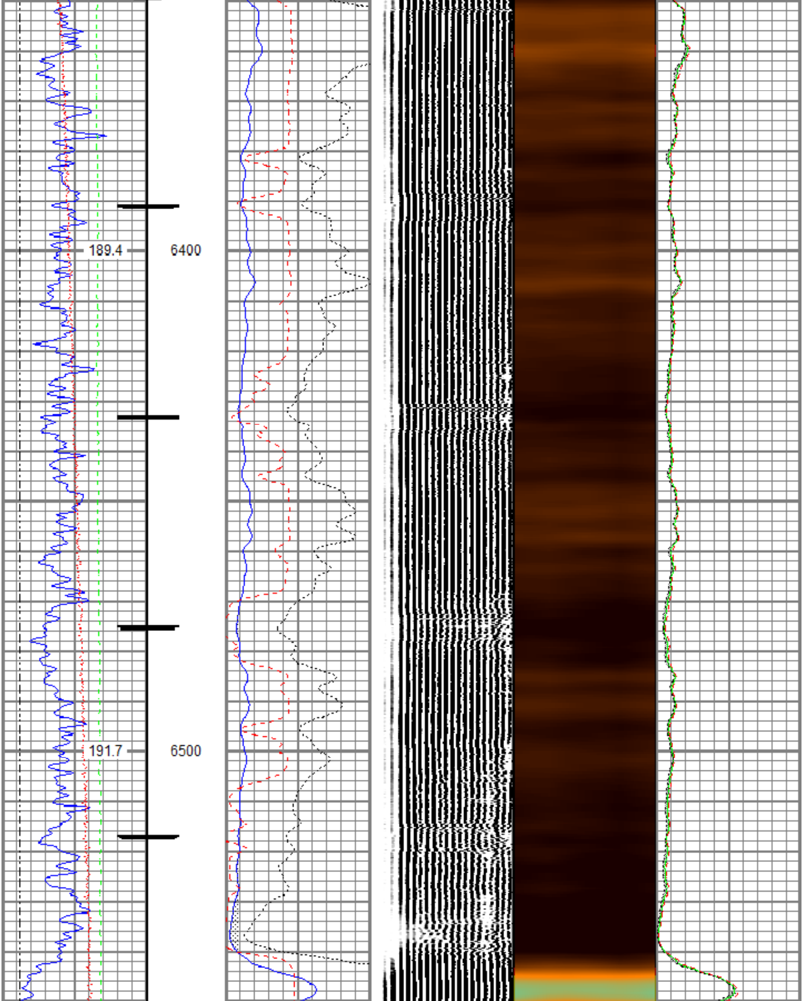
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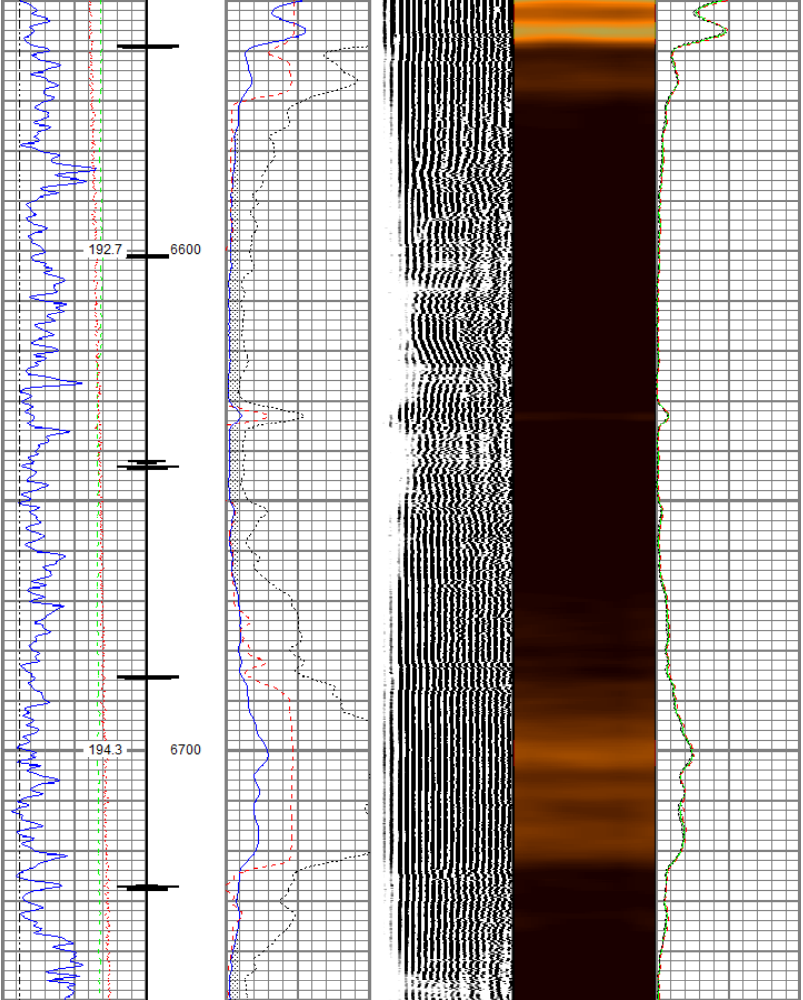
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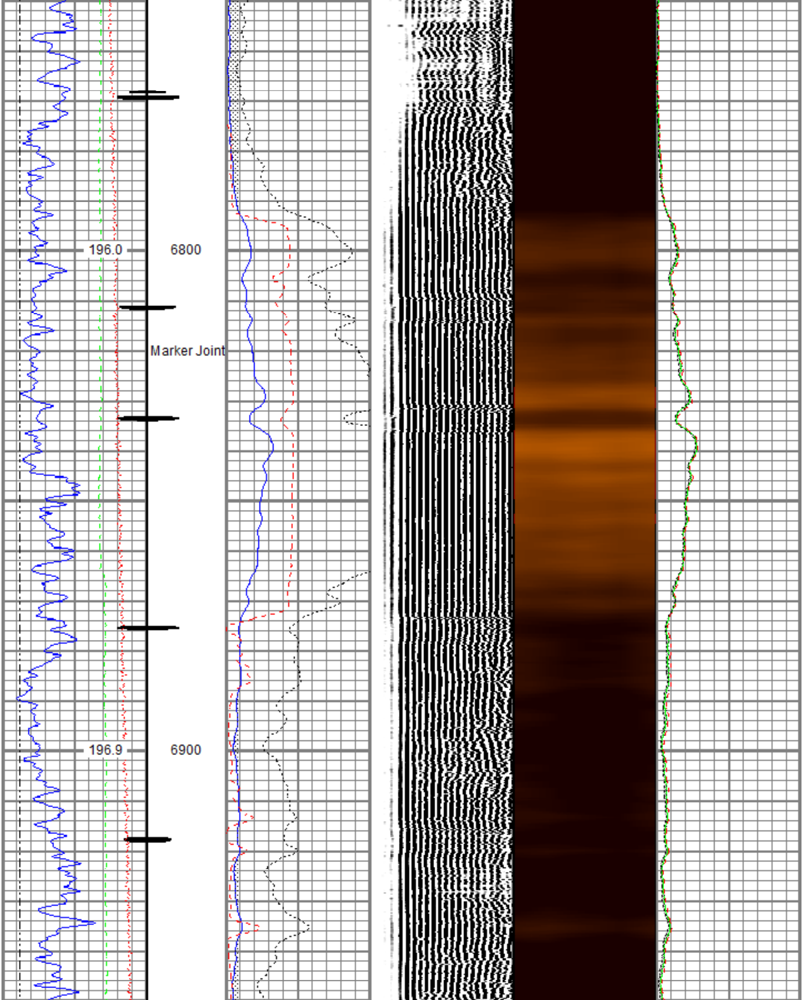
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Marker Joint
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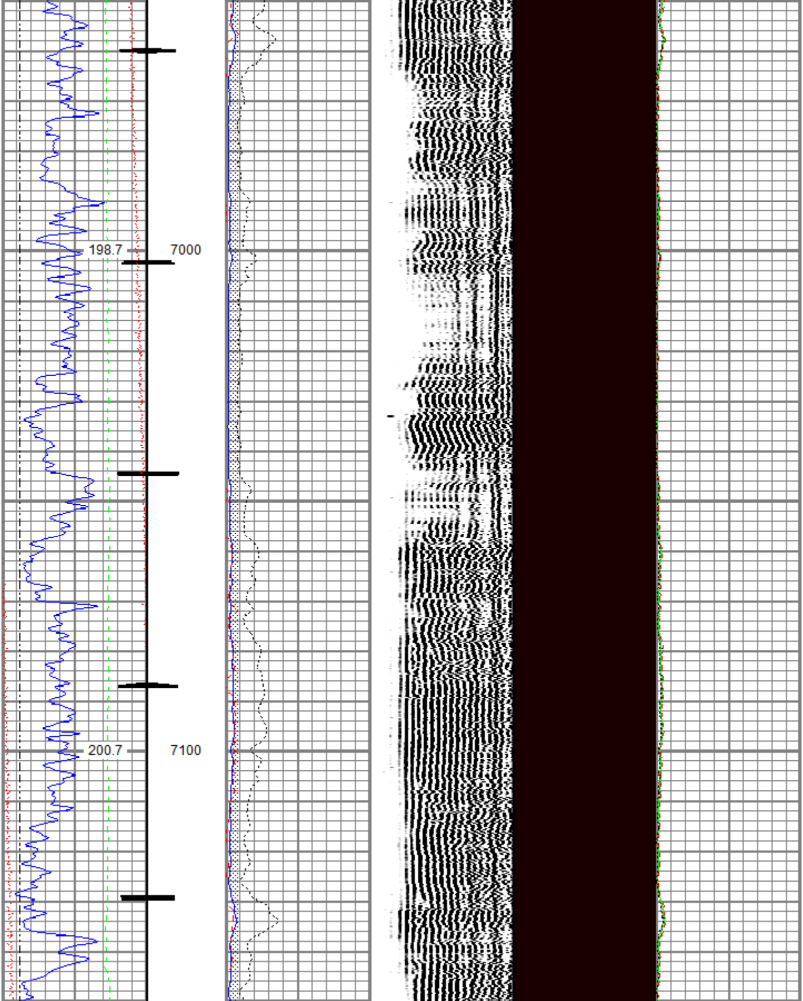
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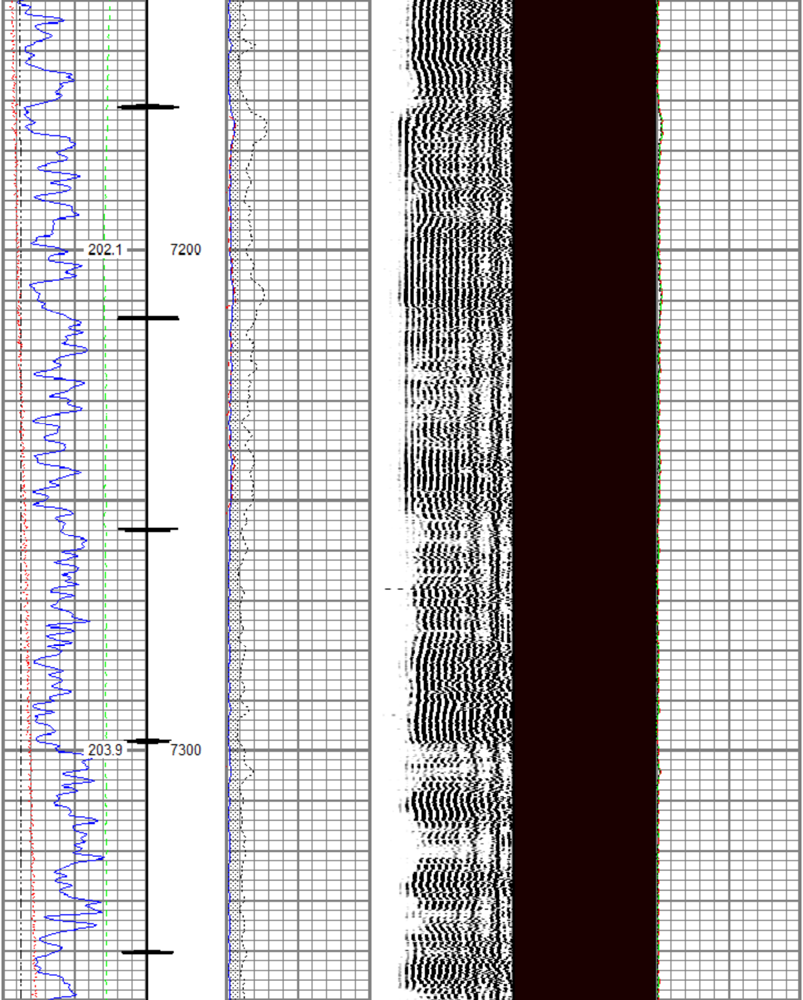
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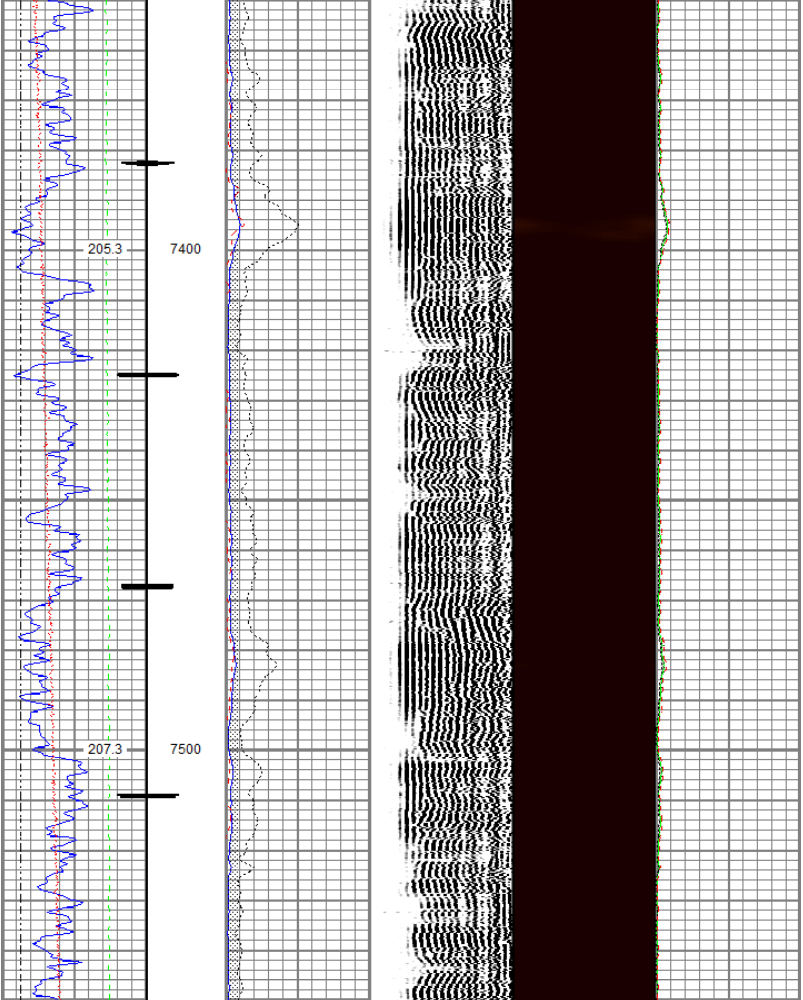
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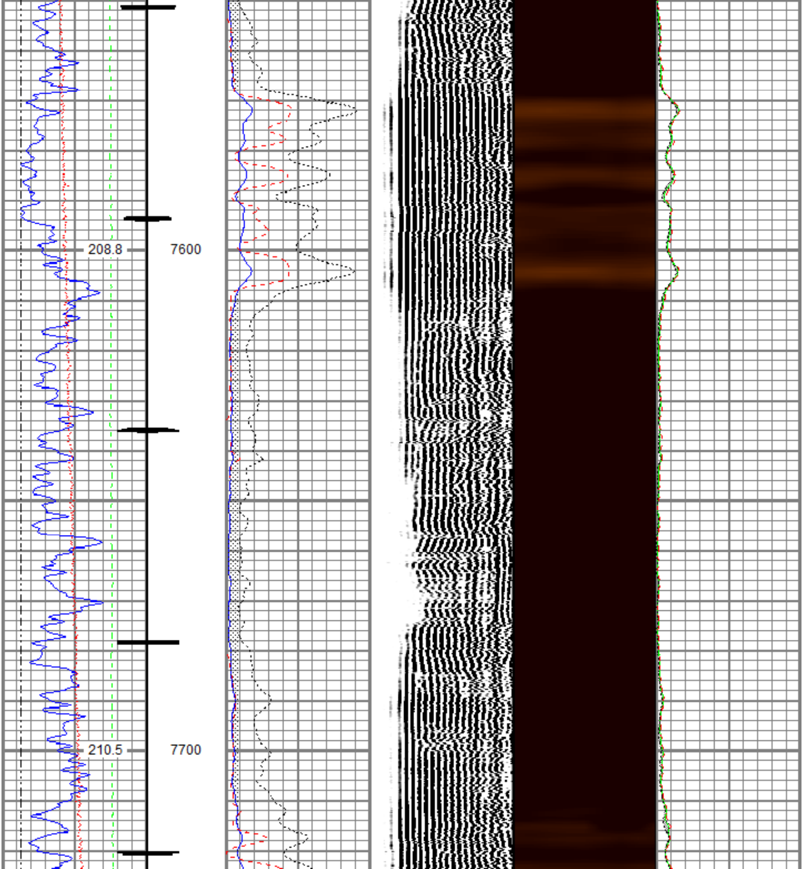
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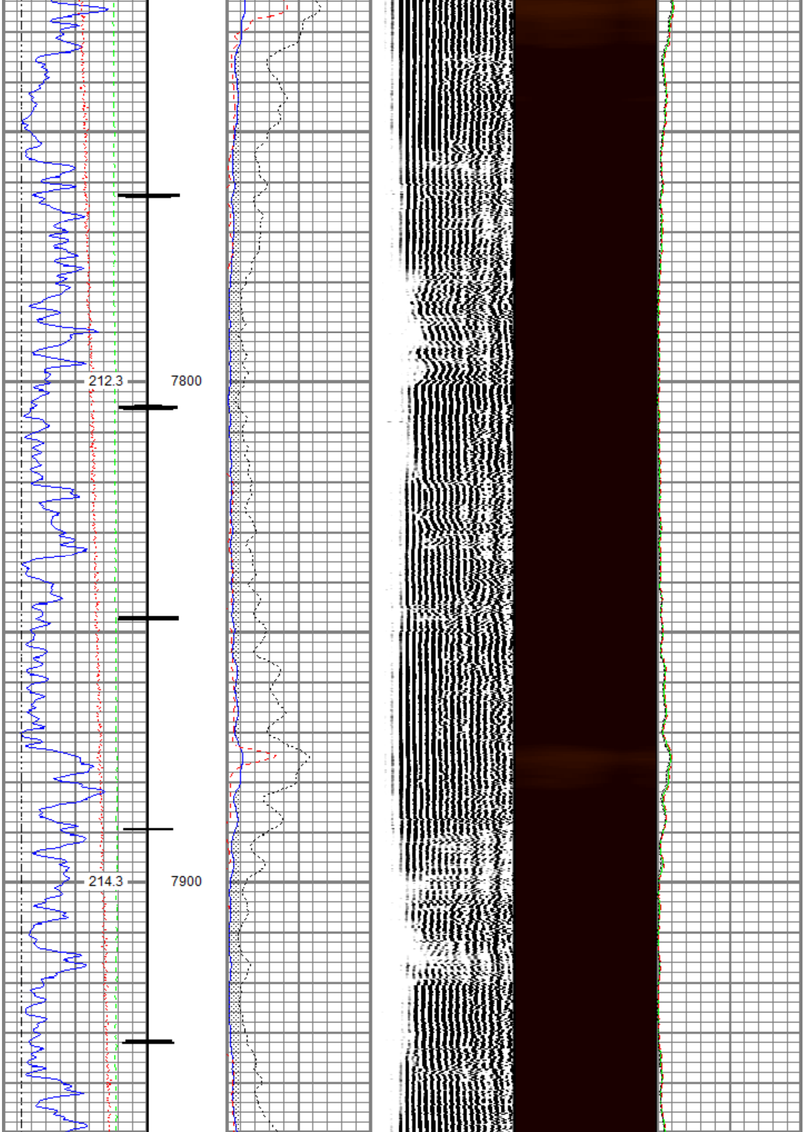

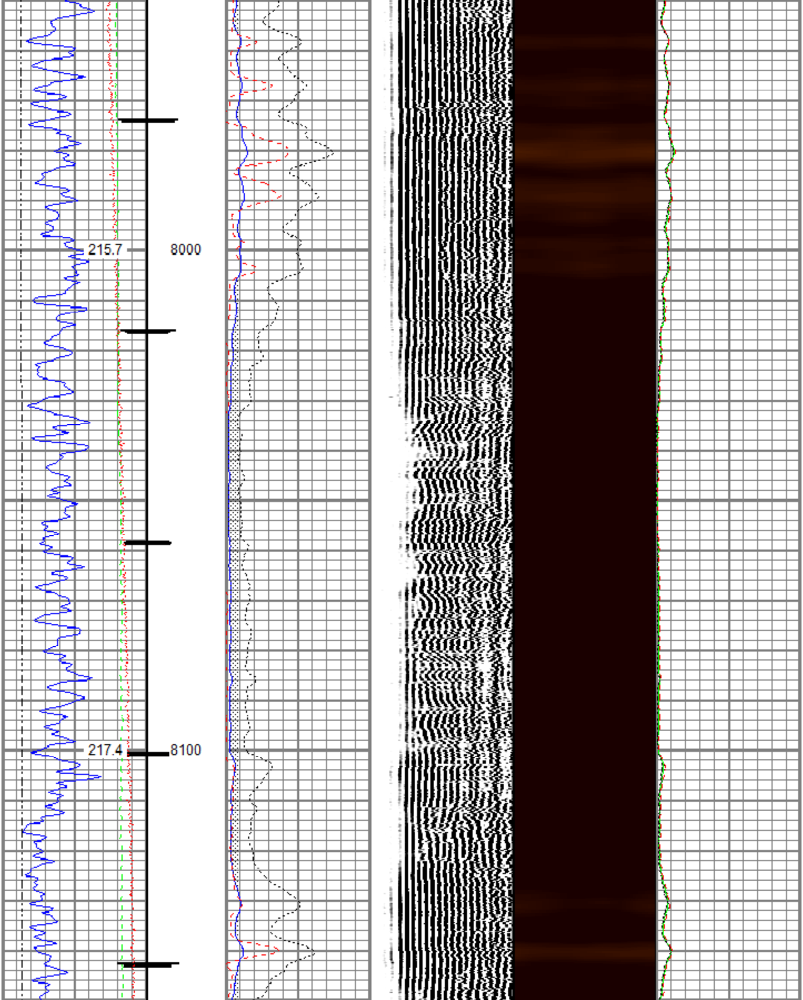

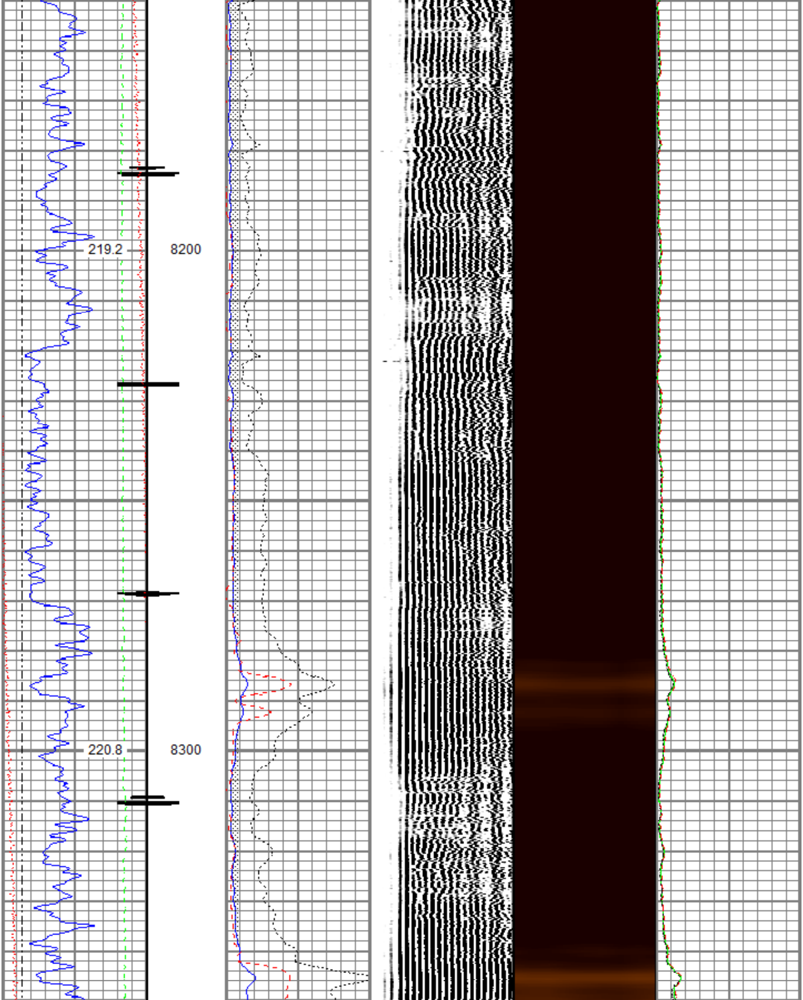

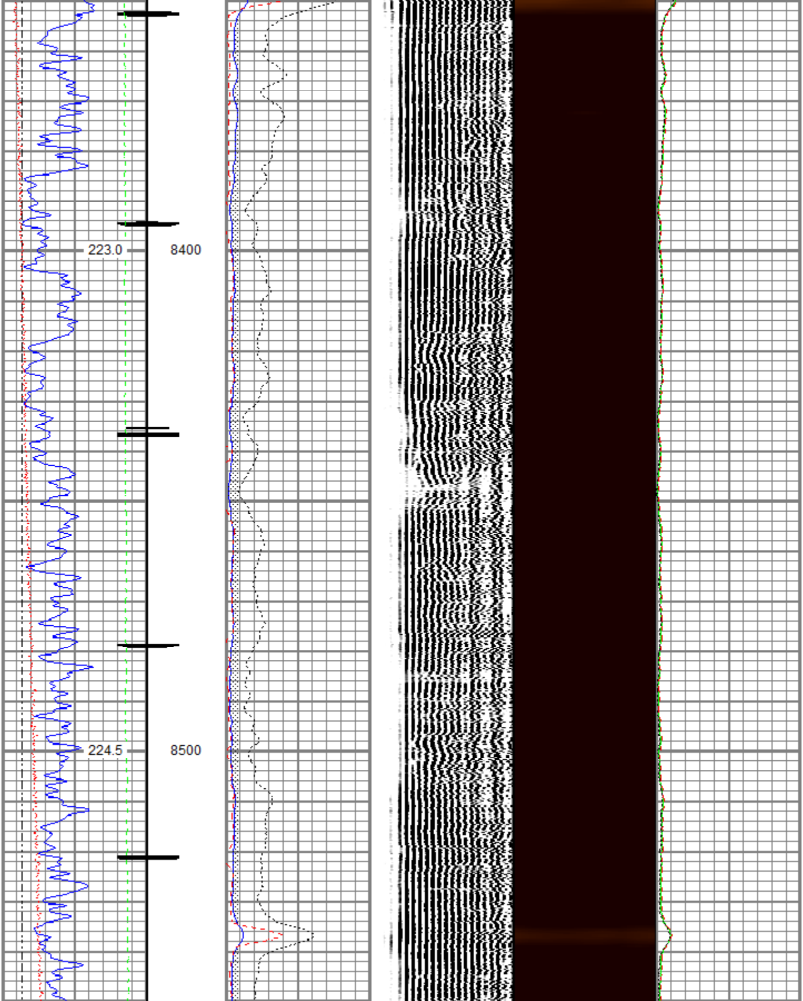

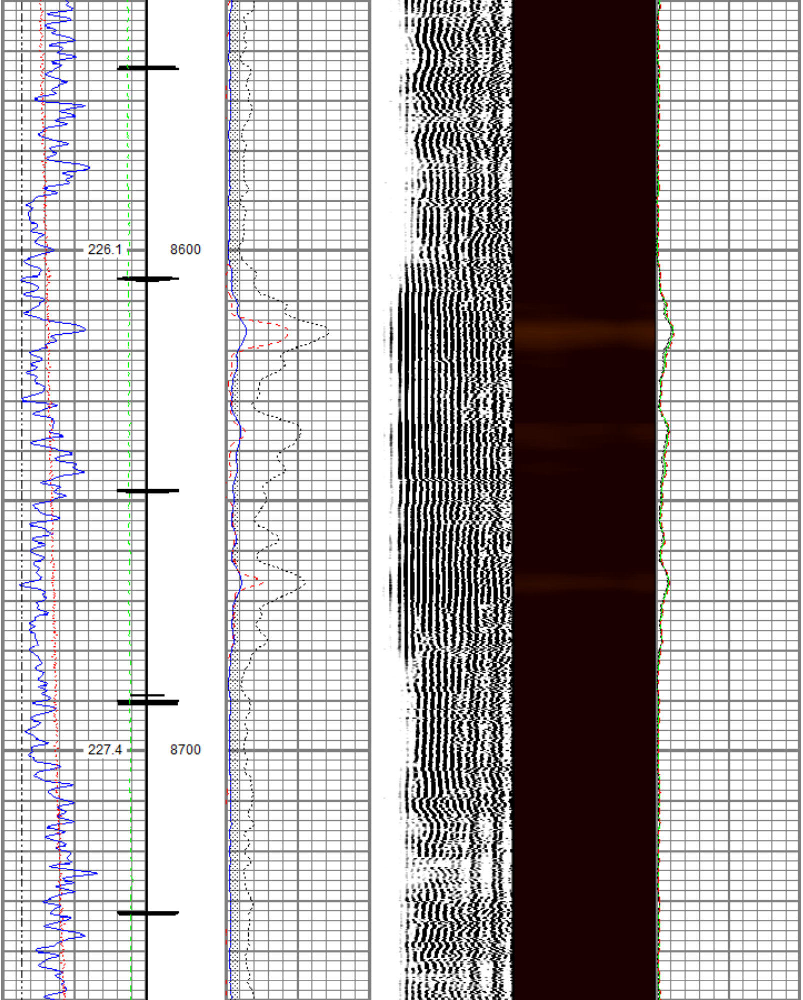

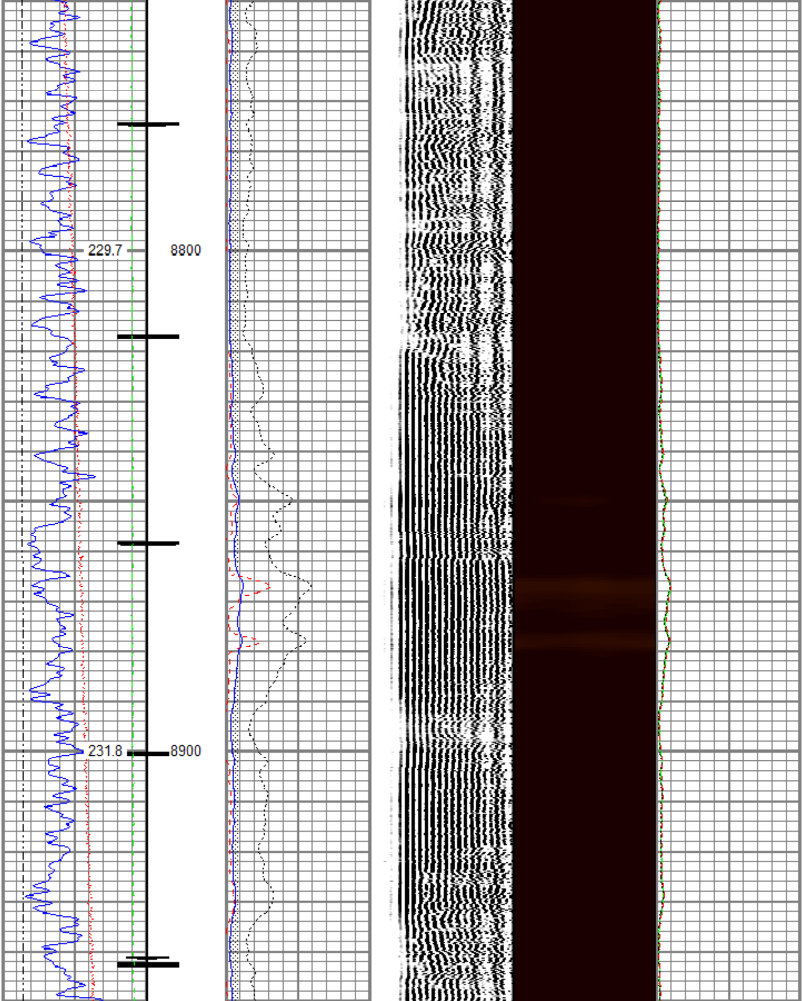

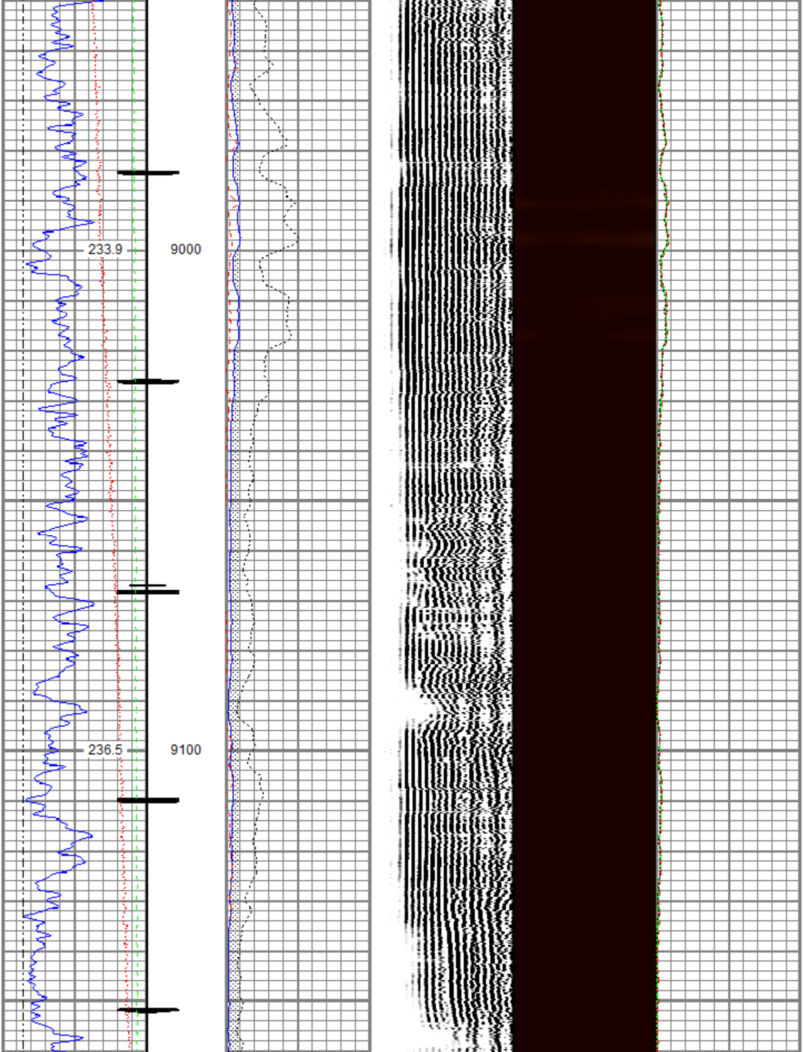

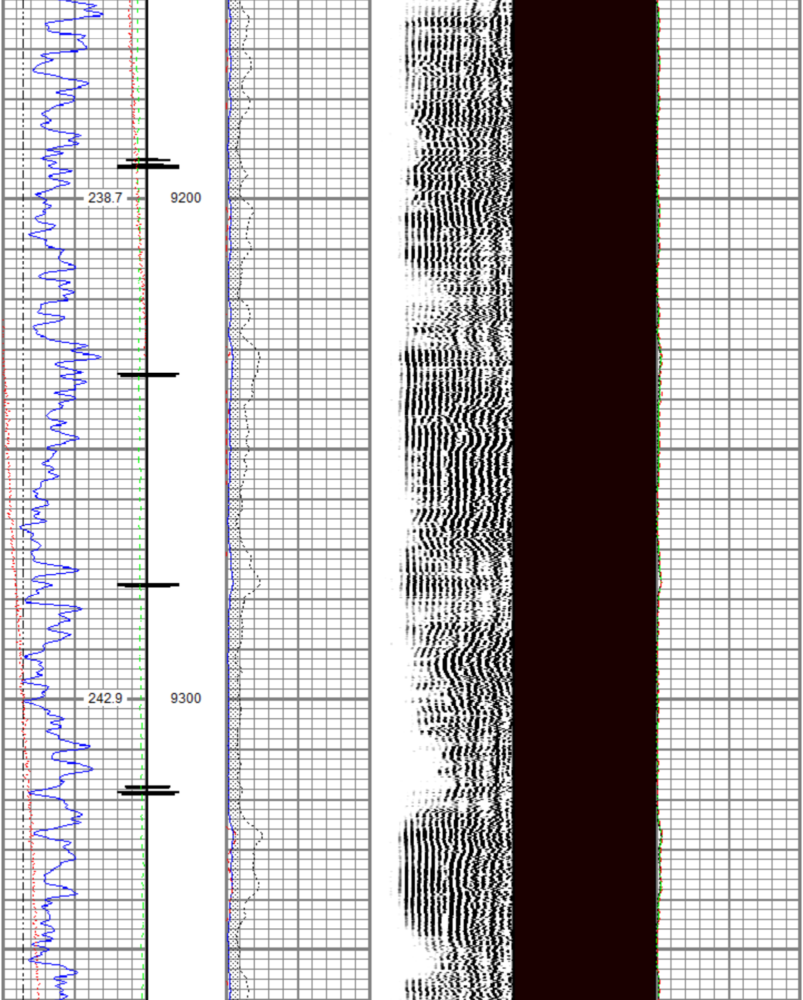

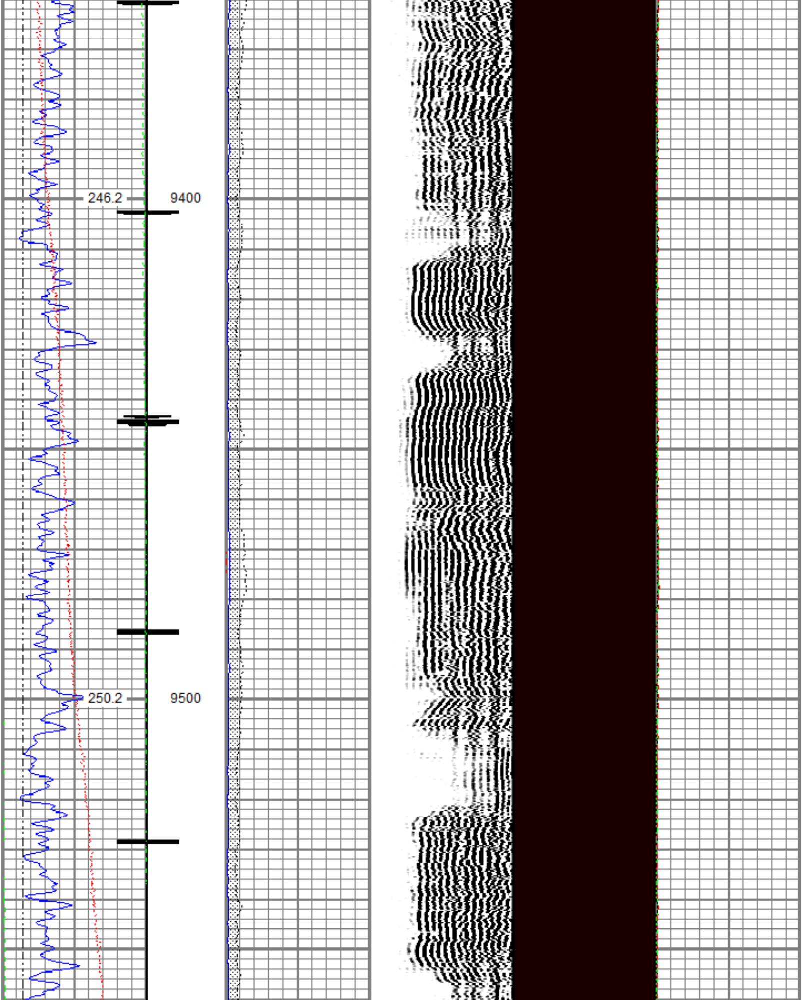

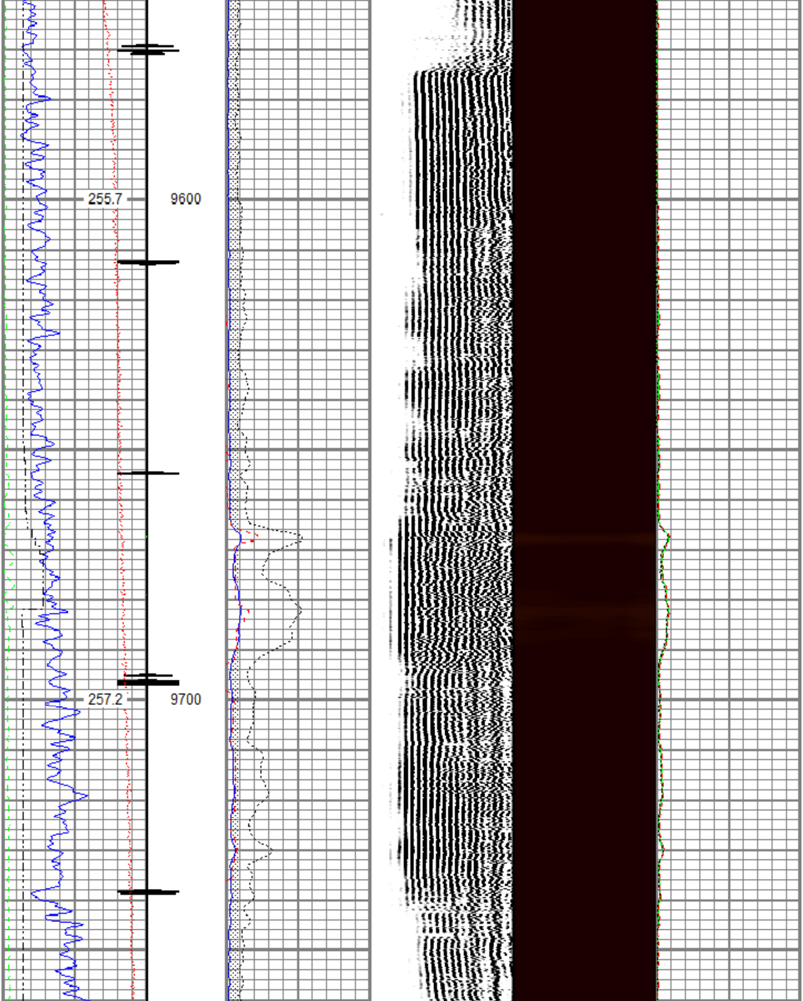

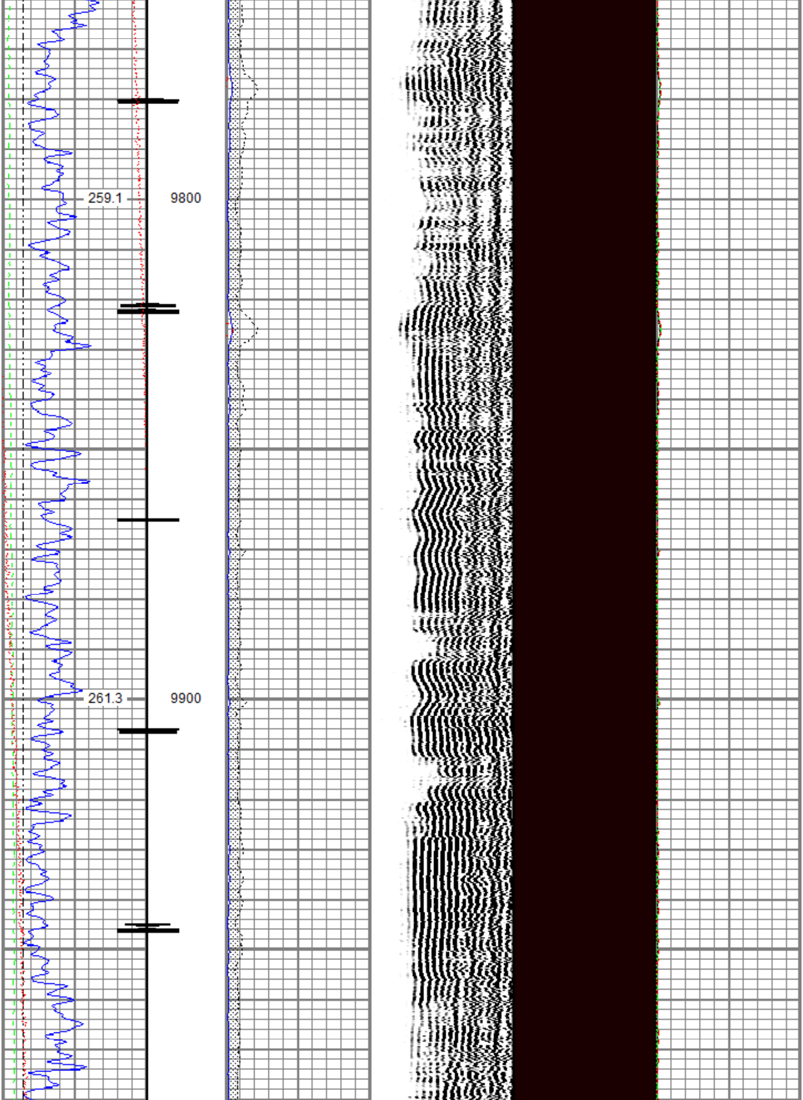

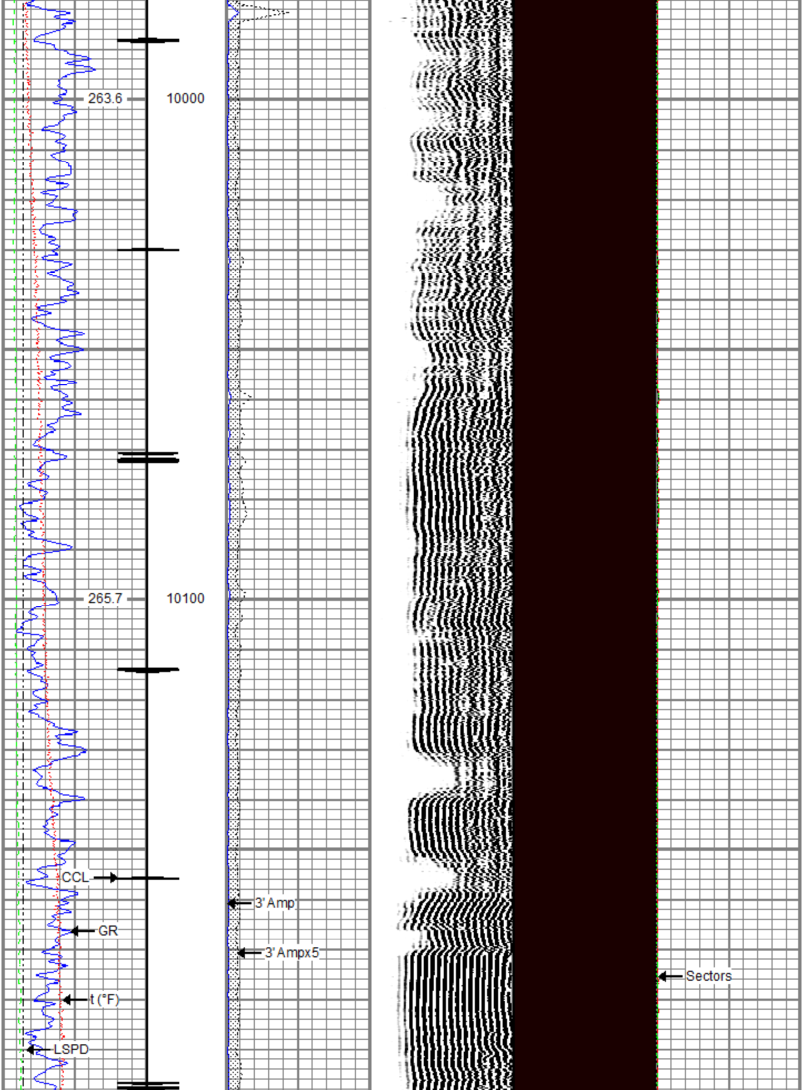

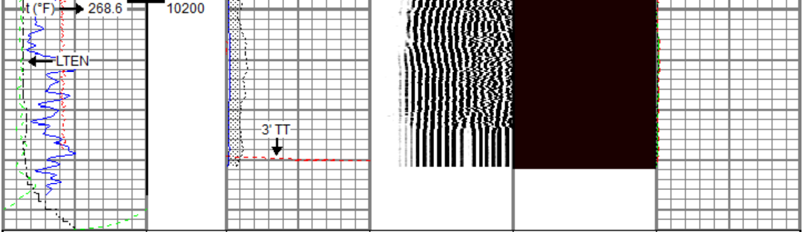

Gamma Ray
0 (GAPI) 200
Casing Collar Locator
Line Speed
-150 (ft/min) 150
Line Tension
0 (lb) 2000
Temperature
0 (degF) 20

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_chevron tr 323-23-597\processed_tep_chevron tr 323-23-597_rbl_08-25-17.db
Dataset Pathname	repeat
Presentation Format	ros_rbt004_tep
Dataset Creation	Fri Aug 25 18:03:19 2017
Charted by	Depth in Feet scaled 1:240

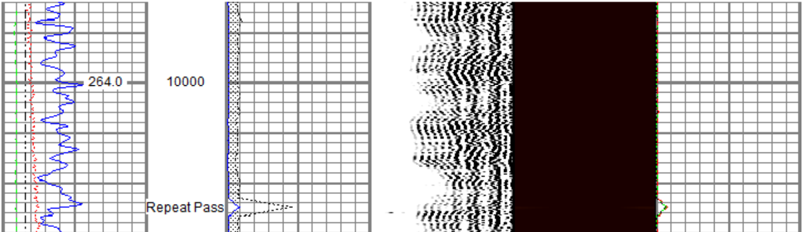
Gamma Ray
0 (GAPI) 200
Line Speed
-150 (ft/min) 150
Line Tension
0 (lb) 2000
Temperature
0 (degF) 20

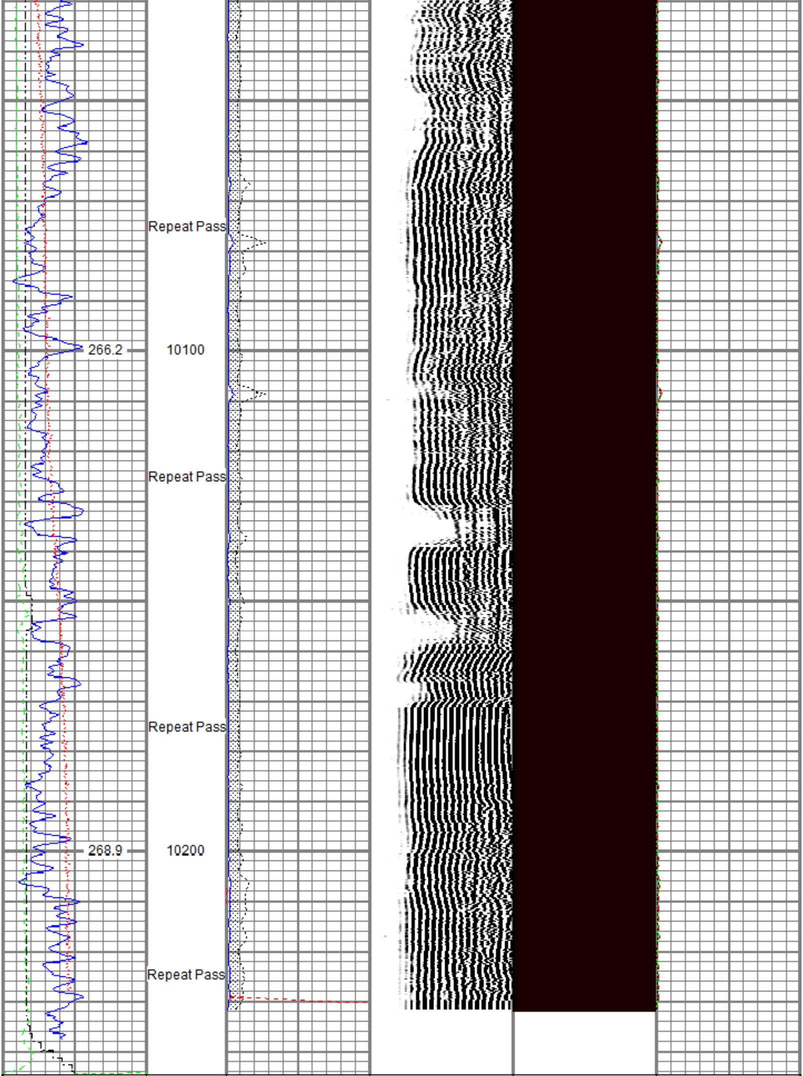
3' Amplitude
0 (mV) 100
3' Amplitude x 5
0 (mV) 20
3' Travel Time
300 (usec) 200

5' Variable Density Log
200 1200

Sector Map
10 110

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

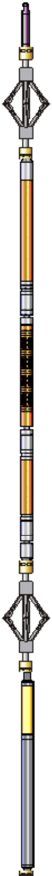




Gamma Ray 0 (GAPI) 200	3' Amplitude 0 (mV) 100	5' Variable Density Log 200 1200	Sector Map 10 110	Average Amplitude 0 150
Line Speed -150 (ft/min) 150	3' Amplitude x 5 0 (mV) 20			Mimimum Amplitude 0 150
Line Tension 0 (lb) 2000	3' Travel Time 300 (usec) 200			Maximum Amplitude 0 150
Temperature 0 (degF)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

Sensor	Offset (ft)
HeadVolt	18.84
Temp	16.05
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
DCCL	6.18
CCL	6.18
GR	4.96

Schematic



Description	Length (ft)	O.D. (in)	Weight (lb)
Titan_Electric_Cable_Heads-Titan_1-1 Electric Cable Head with 1" Fishing Neck	1/11.03	1.69	5.40
DSS_RAC-RAC_5-Arm 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00
Probe_RADII-C-P_RBT_2750 (FW1305 Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	099.19	2.75	105.00
DSS_RAC-RAC_5-Arm 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00
Probe_GR_CCL-P_CGR_2750_S (FW1 Probe 2-3/4" Digital CCL / Gamma Ray Combined	214.541)	2.75	55.00

		DSS_RAC-RAC_5-Arm 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00

Dataset: PROCESSED_TEP_Chevron TR 323-23-597_RBL_08-25-17.db: field/well/run1/main
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 323-23-597\PROCESSED_TEP_Chevron TR 323-23-597_RBL_08-25-17
Dataset Pathname main
Dataset Creation Fri Aug 25 18:07:30 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: 31.422 ft

Master Calibration, performed Fri Aug 25 12:46:07 2017:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.005	0.732	0.800	81.196	109.095	1.389
CAL	0.751	0.751				
5'	-0.002	0.627	0.800	81.196	127.862	1.045
SUM						
S1	-0.008	0.686	0.000	100.000	143.936	1.216
S2	-0.005	0.703	0.000	100.000	141.232	0.755
S3	-0.006	0.716	0.000	100.000	138.528	0.795
S4	-0.005	0.729	0.000	100.000	136.265	0.719
S5	-0.005	0.730	0.000	100.000	135.983	0.725
S6	-0.005	0.726	0.000	100.000	136.688	0.721
S7	-0.006	0.720	0.000	100.000	137.887	0.779
S8	-0.005	0.716	0.000	100.000	138.711	0.713

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	0.751	0.751	1.000	0.000

Air Zero Calibration, performed Fri Aug 25 12:46:28 2017:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	-0.005	0.000	0.000
5'	-0.002	0.000	0.000
SUM			
S1	-0.008	0.000	-0.000
S2	-0.005	0.000	-0.000
S3	-0.005	0.000	-0.000
S4	-0.005	0.000	-0.000
S5	-0.005	0.000	0.000
S6	-0.005	0.000	-0.000
S7	-0.006	0.000	-0.000
S8	-0.005	0.000	0.000

RELIANCE
OILFIELD SERVICES

Company	TEP Rocky Mountain LLC
Well	Chevron TR 323-23-597
Field	Trail Ridge
County	Garfield
State	Colorado