PIONEER

Pioneer Energy Services

RADIAL BOND LOG WITH GAMMA RAY

Comp. ANADARKO
Well MORRISON 17-42
Field WATTENBERG
Co. WELD
State COLORADO

Company **ANADARKO**
Well **MORRISON 17-42**
Field **WATTENBERG**
County **WELD** State **COLORADO**

Location: API # : 05123201100000
SE NE
1780' FNL 461' FEL
LAT: 40.05320 LONG: -104.90680
SEC 17 TWP 1N RGE 67W

Other Services
NONE

Permanent Datum	GL	Elevation 5089'	Elevation	K.B. 5101' D.F. 5100' G.L. 5098'
Log Measured From	KB	12' Above Perm. Datum		
Drilling Measured From	KB			

Date of Service	12-5-16		
Run Number	ONE		
Depth Driller or PBTD	7907'		
Depth Logger	4720'		
Bottom Log Interval	4720'		
Top Log Interval	SURFACE		
Open Hole Size	N/A		
Type Fluid	FSW		
Fluid Level	SURACE		
Fluid Density	N/A		
Max. Recorded Temperature	N/A		
Max. Wellhead Pressure	N/A		
Wellhead Connection	N/A		
Estimated Cement Top	3726'		
Unit Number	P-53		
Wireline Size	9/32"		
Location	FT MORGAN		
Recorded By	DOLPH		
Witnessed By	MR.GOMEZ		

	Size	Wt/Ft	Top	Bottom
Tubing Record				
Surface Casing				
Production Casing	4.5"	11.6#	SURFACE	7909'
Liner Record				

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not 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.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

THANK YOU FOR USING PIONEER ENERGY SERVICES!

Your Pioneer Energy Services Crew	Tool Data - Services	Serial Number
Engineer: DOLPH	SCBL	
Operator: HOLLIS	CCL	
Operator: MUNOZ	GAMMA-RAY	
Operator:		

Log Variables

DatabaseC:\ProgramData\Warrior\Data\anadarko_morrison17-42_20161205_scbl.db
Dataset field/well/SCBL1/pass7/_vars_

Top - Bottom

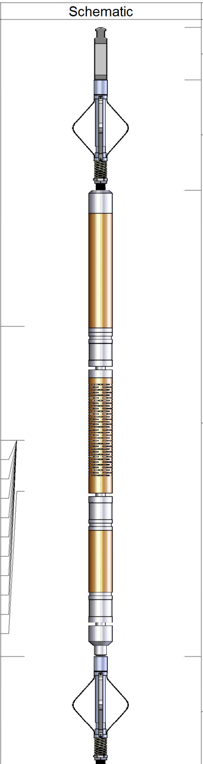
BHTEMP_Src	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	CASEWGHT lb/ft	MAXAMPL mV
TEMP	7.875	100	4.5	0	11.6	0
MINAMPL mV	**MINATTN db/ft**	**PERFS**	**PPT usec**	**SRFTEMP degF**	**TDEPTH ft**	
0.7	0.08	0	0	0	0	

Variable Description

BHTEMP_Src : BHTEMP Input Source Selector
BOREID : Borehole I.D.
BOTTEMP : Bottom Hole Temperature
CASEOD : Casing O.D.
CASETHCK : Casing Thickness
CASEWGHT : Casing Weight
MAXAMPL : Maximum Amplitude
MINAMPL : Minimum Amplitude
MINATTN : Minimum Attenuation
PERFS : Perforation Flag
PPT : Predicted Pipe Time
SRFTEMP : Surface Temperature
TDEPTH : Total Depth

Sensor	Offset (ft)
TEMP	13.46
WVFS8	11.23
WVFS7	11.23
WVFS6	11.23
WVFS5	11.23
WVFS4	11.23
WVFS3	11.23
WVFS2	11.23
WVFS1	11.23
WVFCAL	11.23
WVF3FT	11.23
WVF5FT	10.23
HEADVOLT	6.98

Schematic



Description	Length (ft)	O.D. (in)	Weight (lb
Cable Head-Titan 143 1 7/16" Titan Cable Head (1" Fish Top)	1.03	1.43	2.00
Centralizer-169 Titan Non-ADJ Titan 1 11/16" Non Adjustable Centralizer	2.17	2.88	22.00
SCBL-275 Probe w Temp New Mod (FW1[illegible]8) Probe Radii Bond Tool with Temperature	9.17	2.75	95.00
Centralizer-169 Titan Non-ADJ Titan 1 11/16" Non Adjustable Centralizer	2.17	2.88	22.00

CCL	3.91				
		GR_CCL-275 Probe GR-CCL Dig (11121 Probe 2 3/4" Gamma Ray / CCL Digital	14.54	2.75	60.00
GR	1.17				
		Bullnose-Titan GO Pin Pressure Cap	0.27	1.38	1.00

Dataset:	anadarko_morrison17-42_20161205_scbl.db: field/well/SCBL1/pass7
Total length:	19.34 ft
Total weight:	202.00 lb
O.D.:	2.88 in

PIONEER
Pioneer Energy Services

FREE PIPE SECTION

ZERO PSI APPLIED AT SURFACE

Database File	anadarko_morrison17-42_20161205_scbl.db
Dataset Pathname	SCBL1/pass3
Presentation Format	pinr_scbl
Dataset Creation	Mon Dec 05 12:24:36 2016
Charted by	Depth in Feet scaled 1:240

3' Travel Time
260 (usec) 160
-9 Collar Locator 1
Gamma Ray
0 (GAPI) 150
TEMP
(degF)

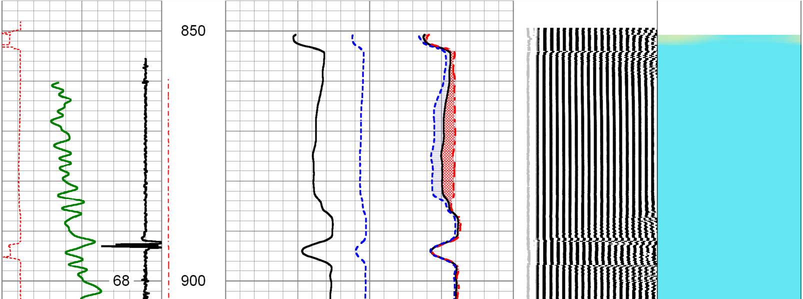
Line Tension
0 (l3000

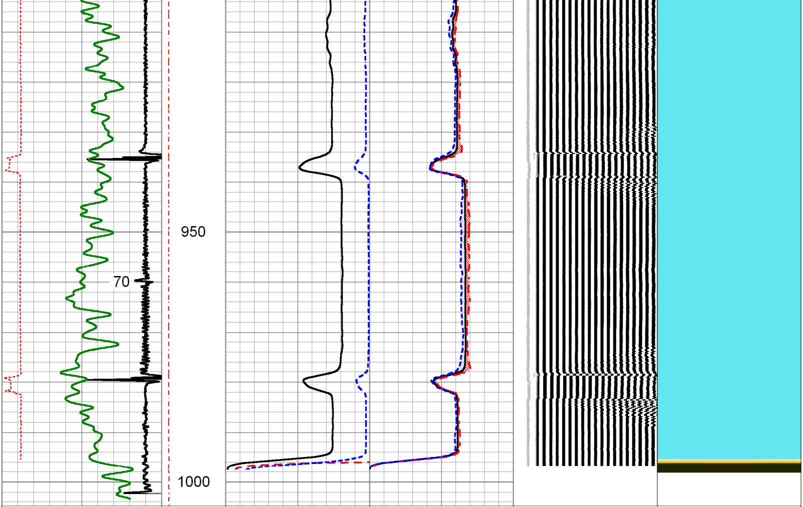
3' Amplitude
0 (mV) 100
3' Amplified Amplitude X 5
0 (mV) 20
1 Bond Index 0

Sector Amplitude Average
0 150
Sector Amplitude Maximum
0 150
Sector Amplitude Minimum
0 150

200 VDL 1200

1 Sector Map 8
10 60





3' Travel Time
260 (usec) 160
-9 Collar Locator 1
Gamma Ray
0 (GAPI) 150
TEMP
(degF)

Line Tension
0 (l3000

3' Amplitude
0 (mV) 100
3' Amplified Amplitude X 5
0 (mV) 20
1 Bond Index 0

Sector Amplitude Average
0 150
Sector Amplitude Maximum
0 150
Sector Amplitude Minimum
0 150

200 VDL 1200

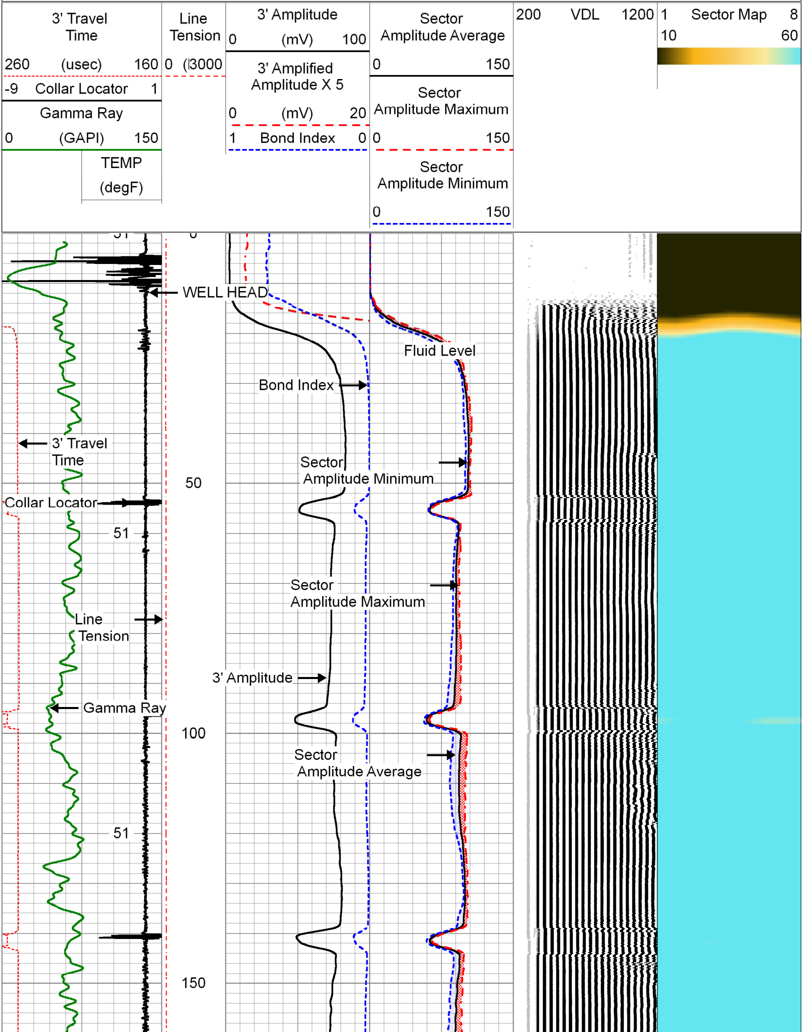
1 Sector Map 8
10 60

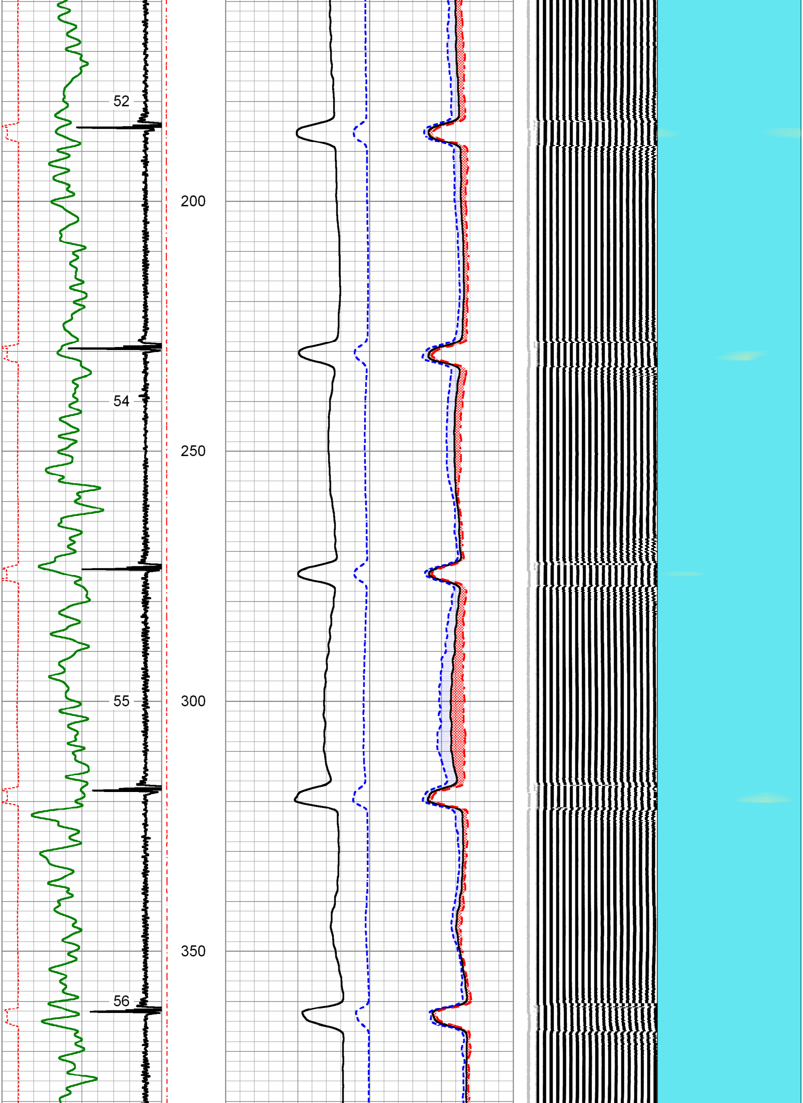
PIONEER
Pioneer Energy Services

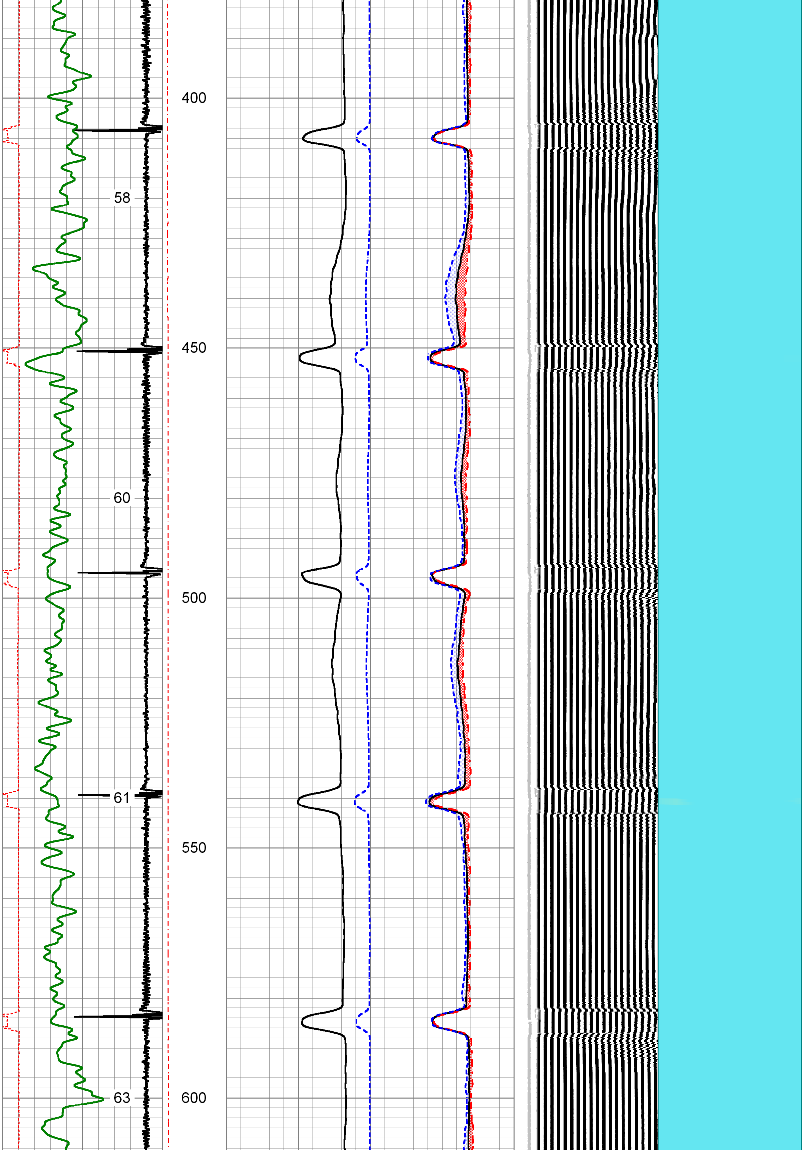
MAIN LOG

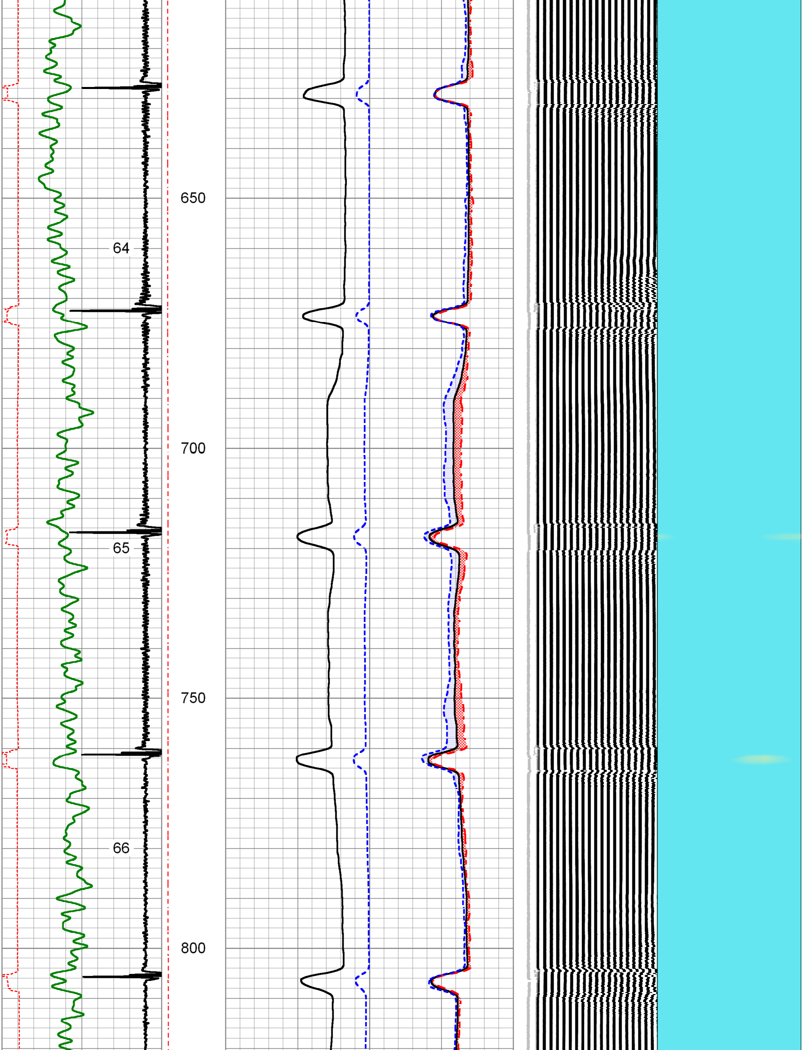
ZERO PSI APPLIED AT SURFACE

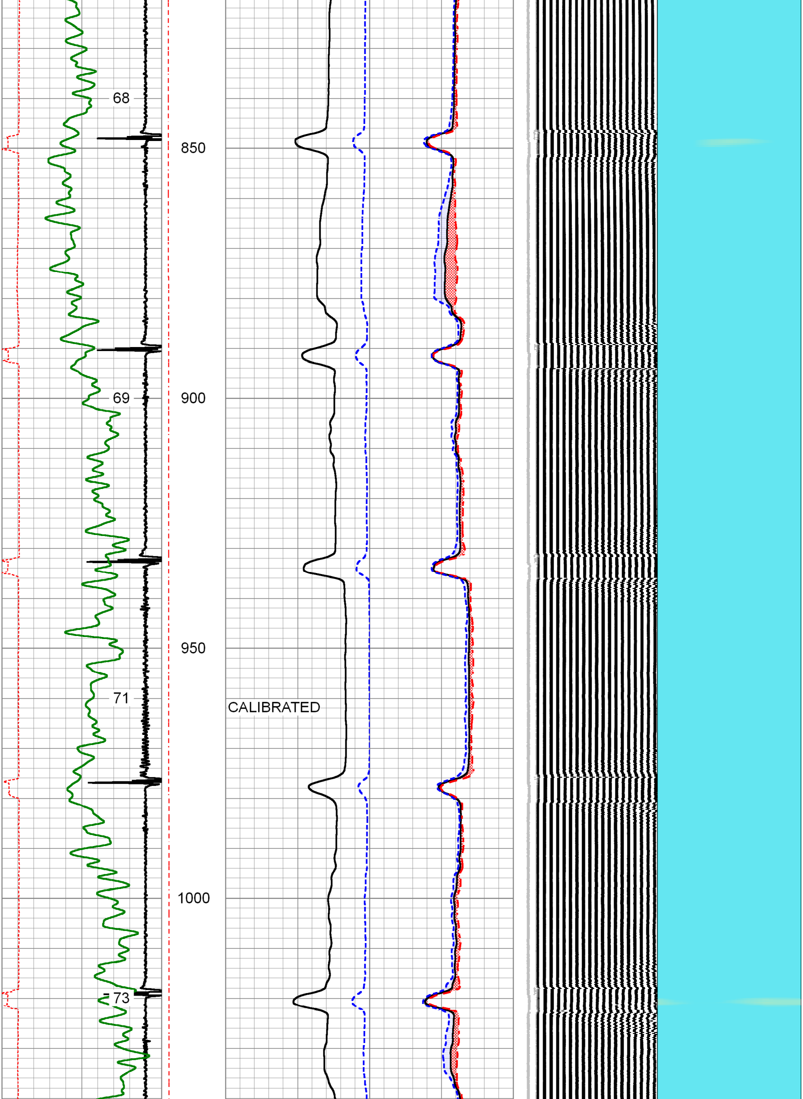
Database File	anadarko_morrison17-42_20161205_scbl.db
Dataset Pathname	SCBL1/pass7
Presentation Format	pinr_scbl
Dataset Creation	Mon Dec 05 12:47:13 2016
Charted by	Depth in Feet scaled 1:240

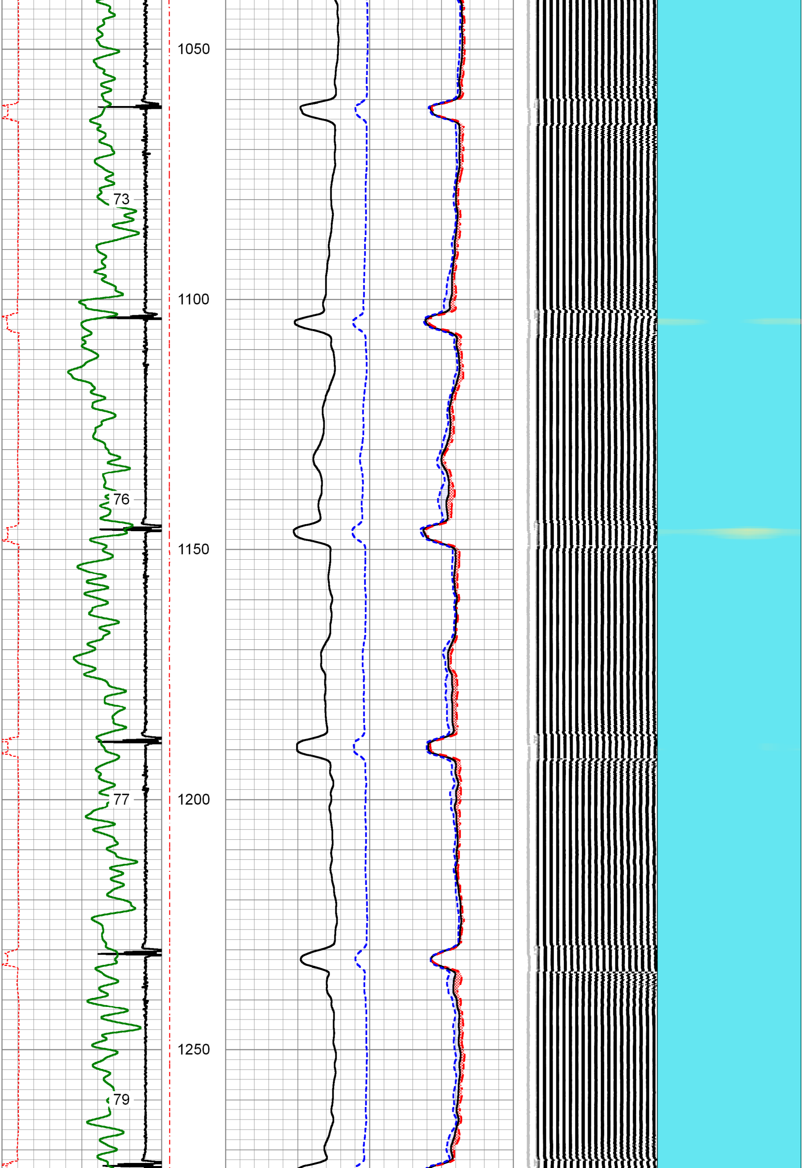


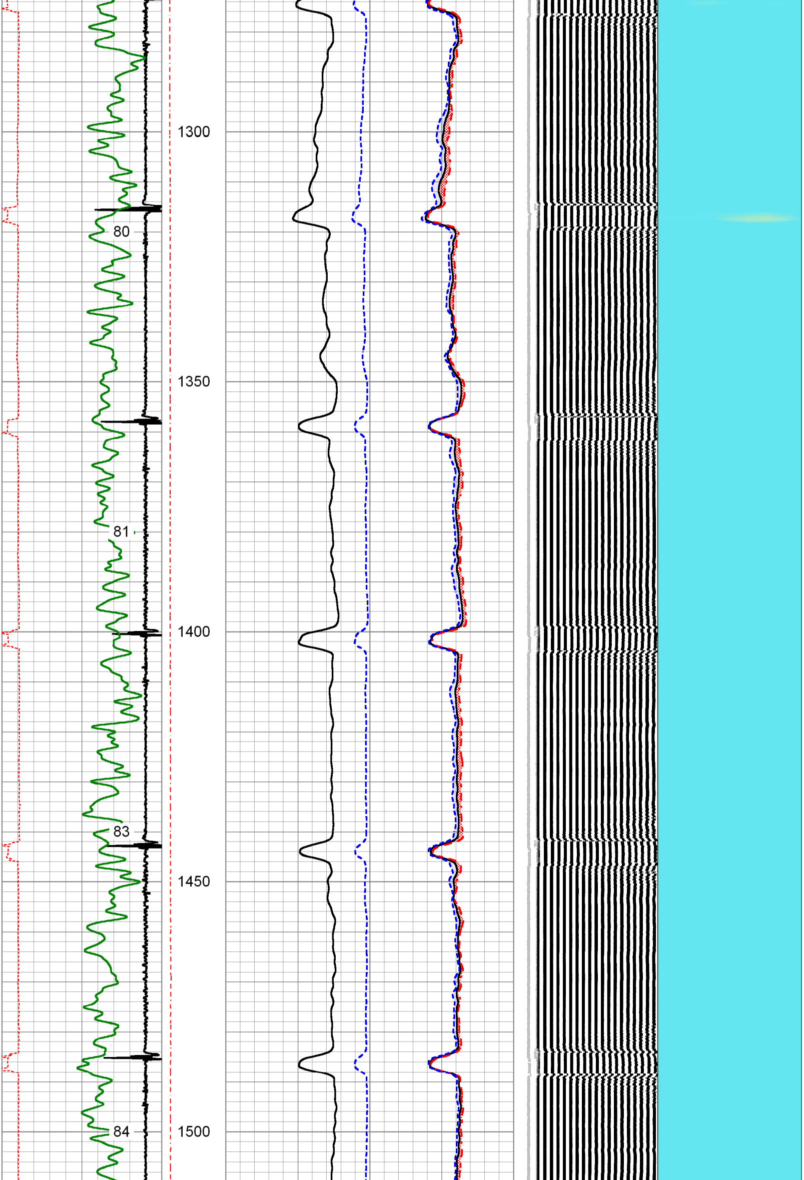


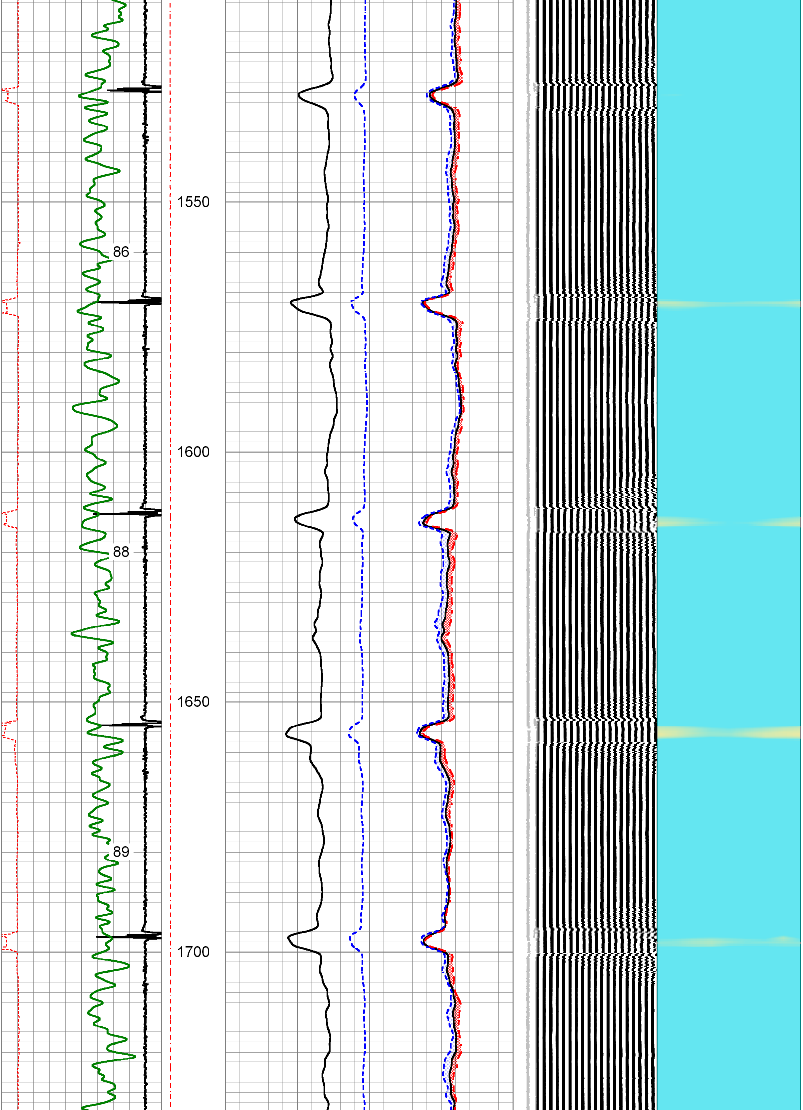


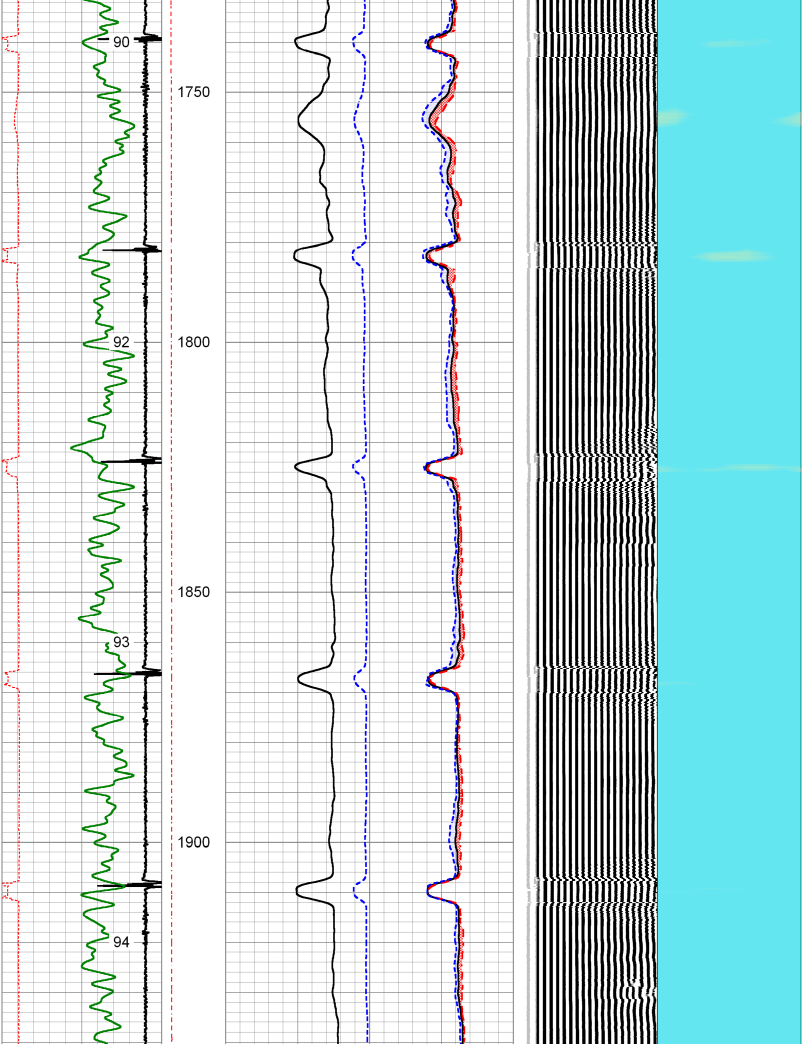


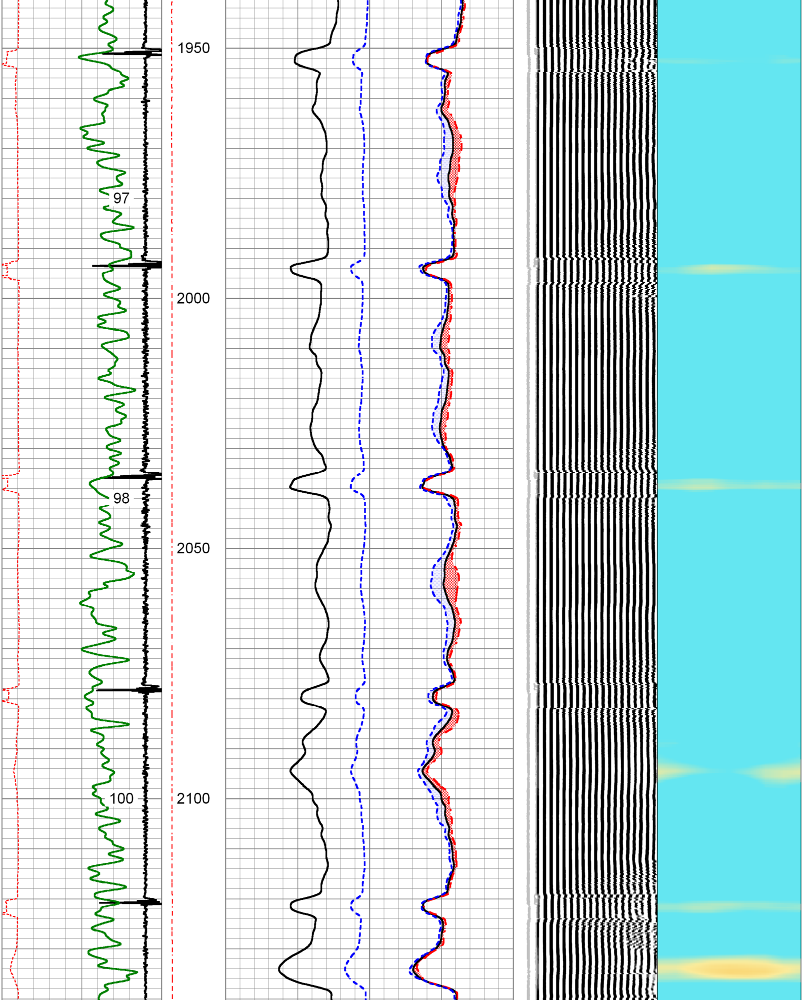


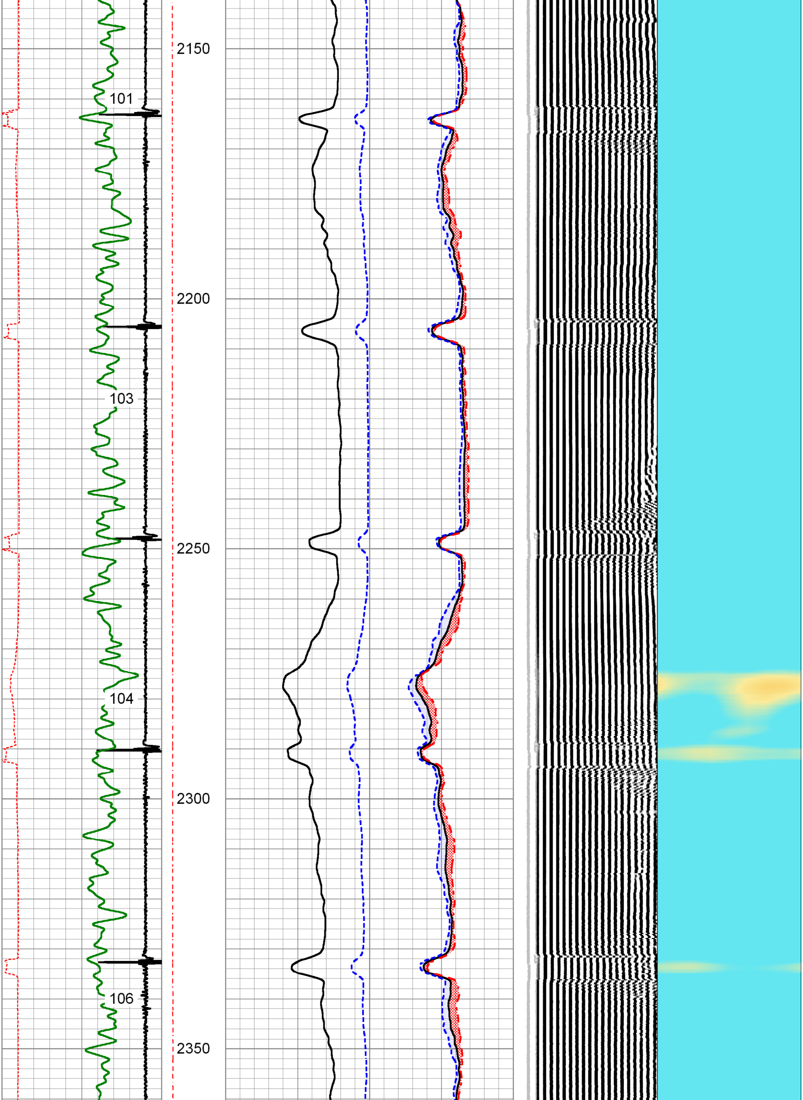


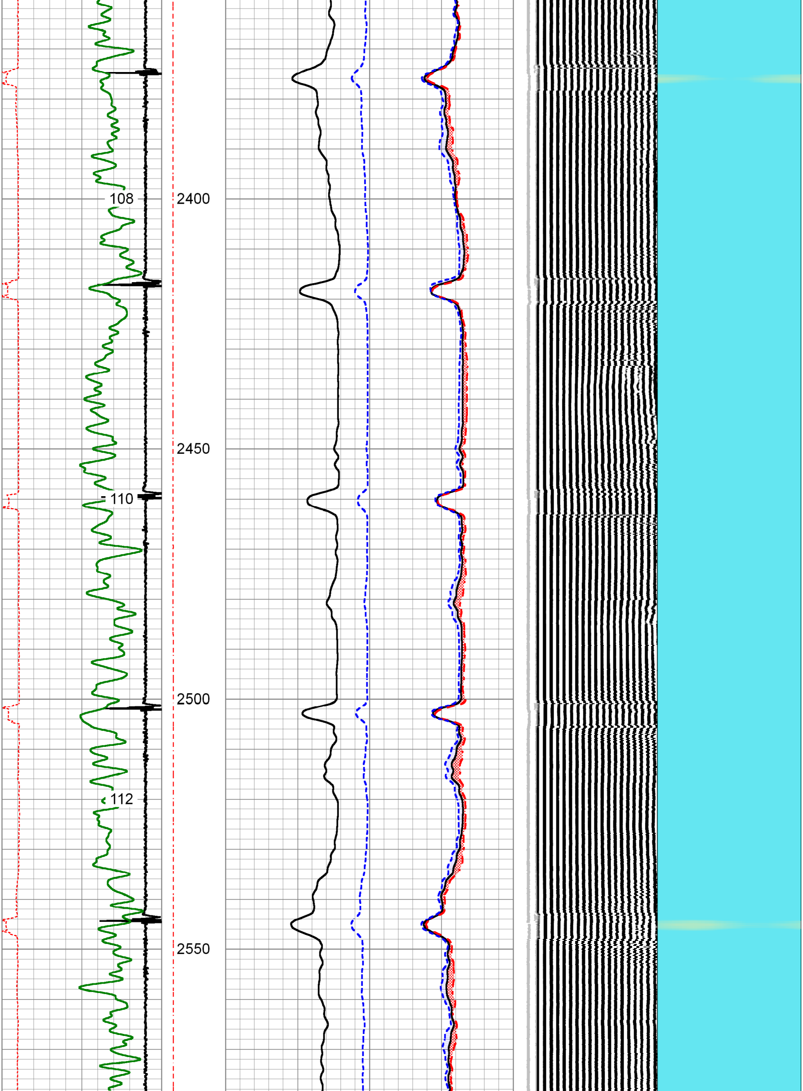


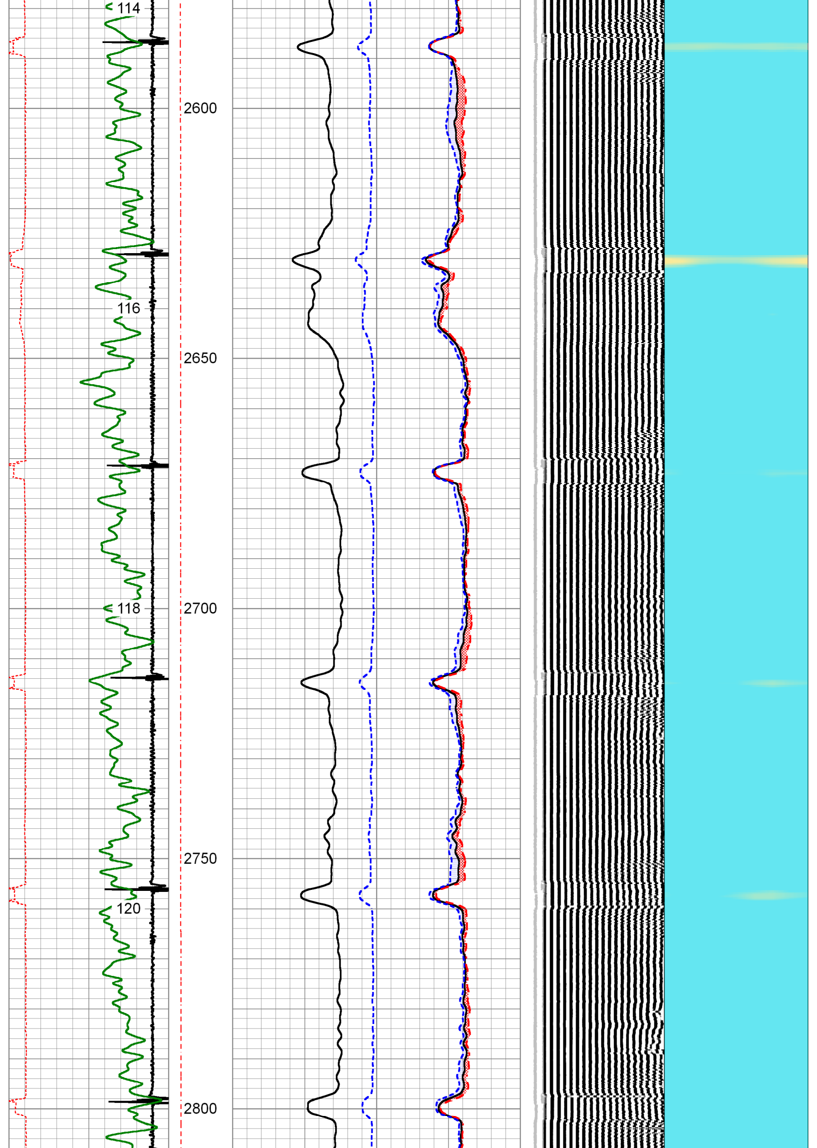


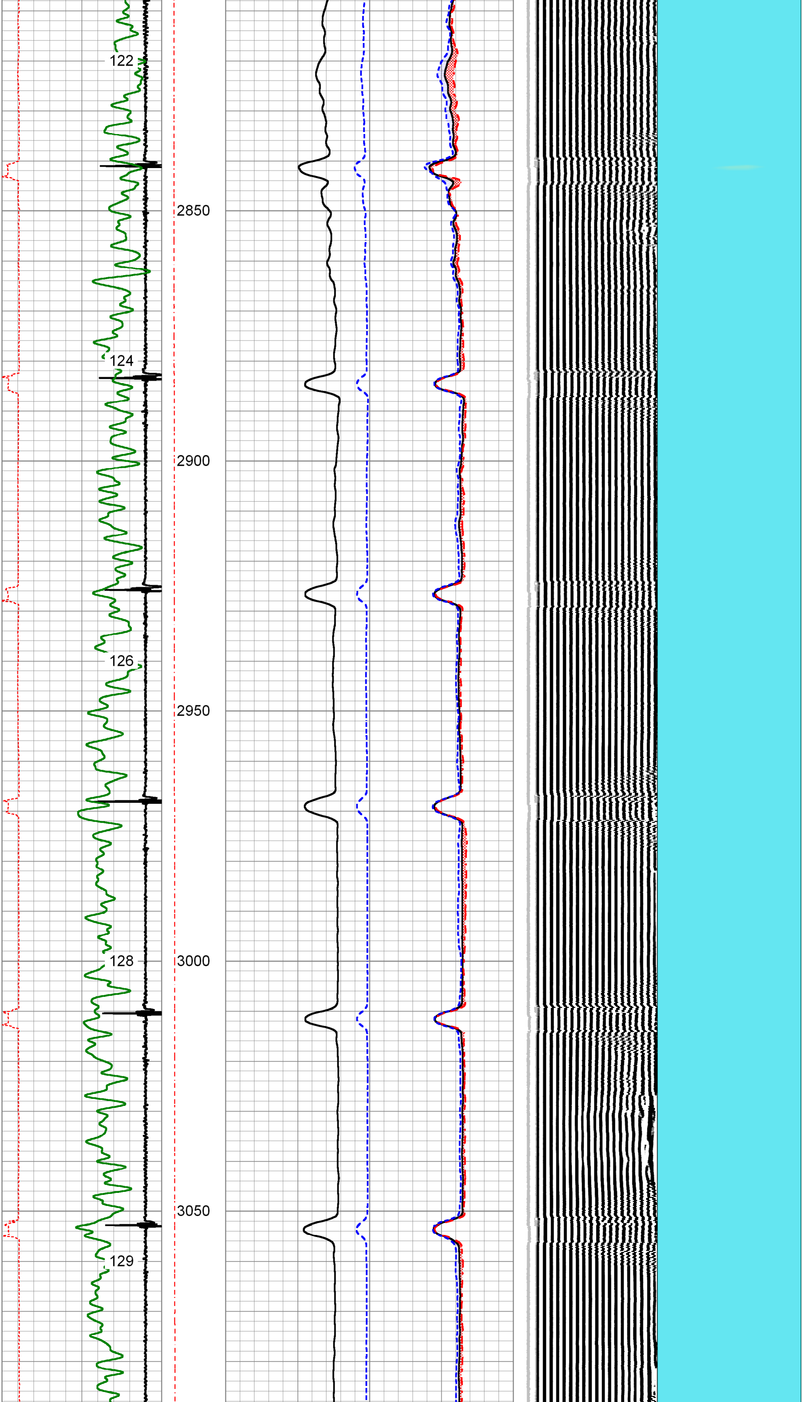


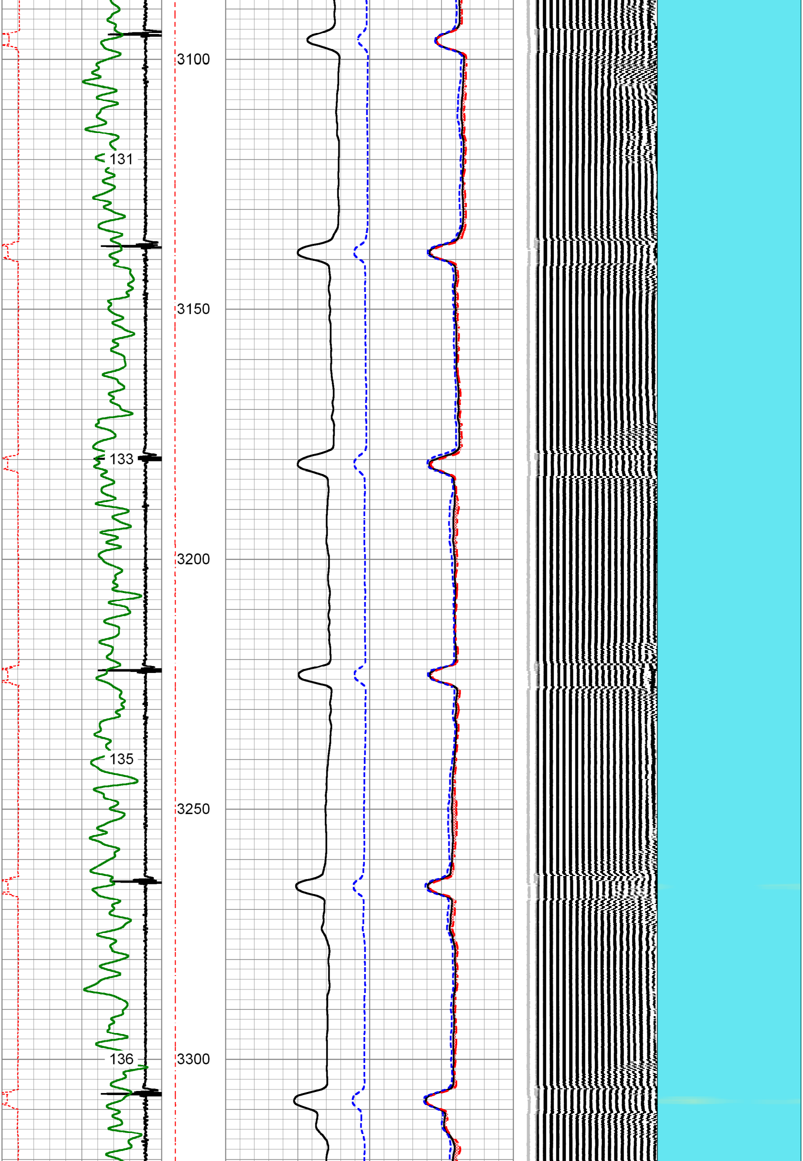


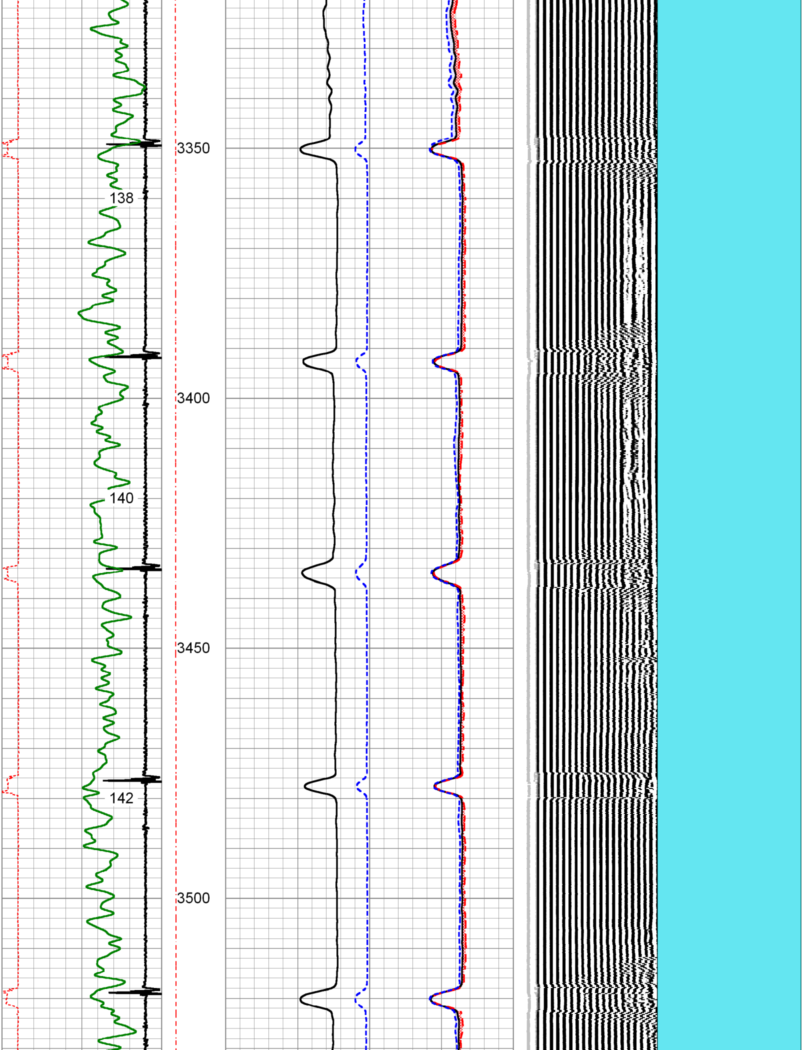


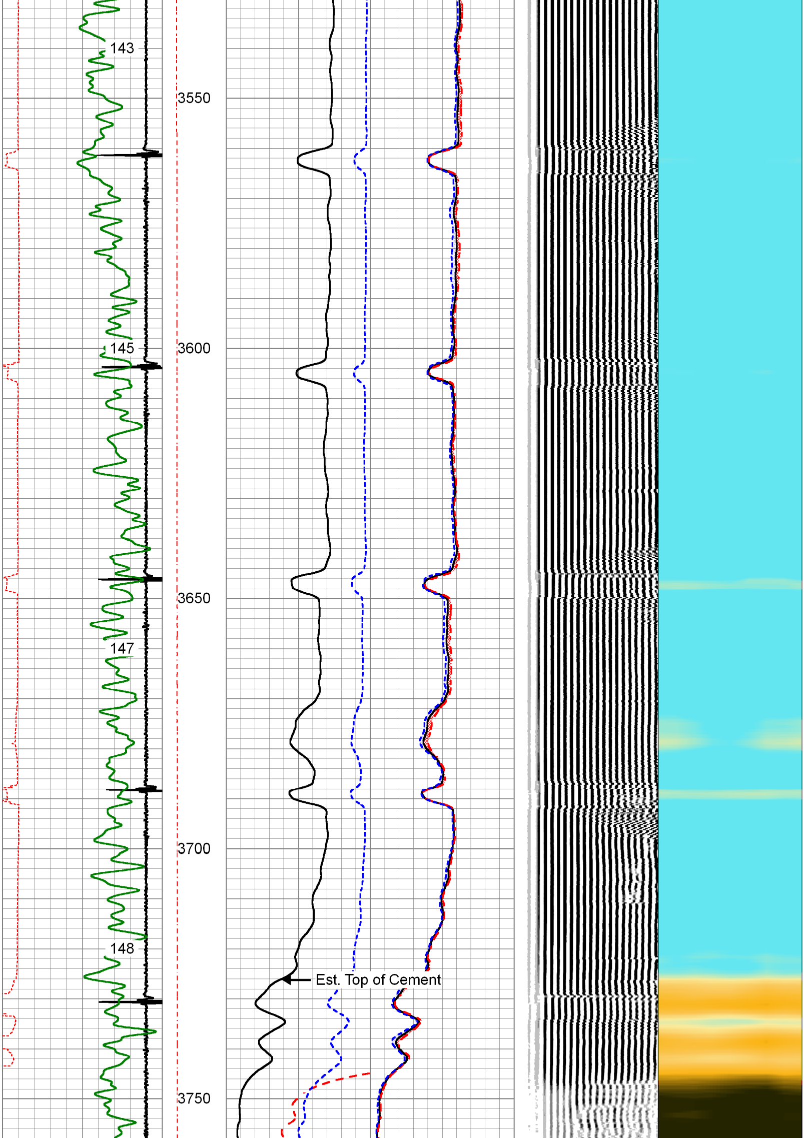


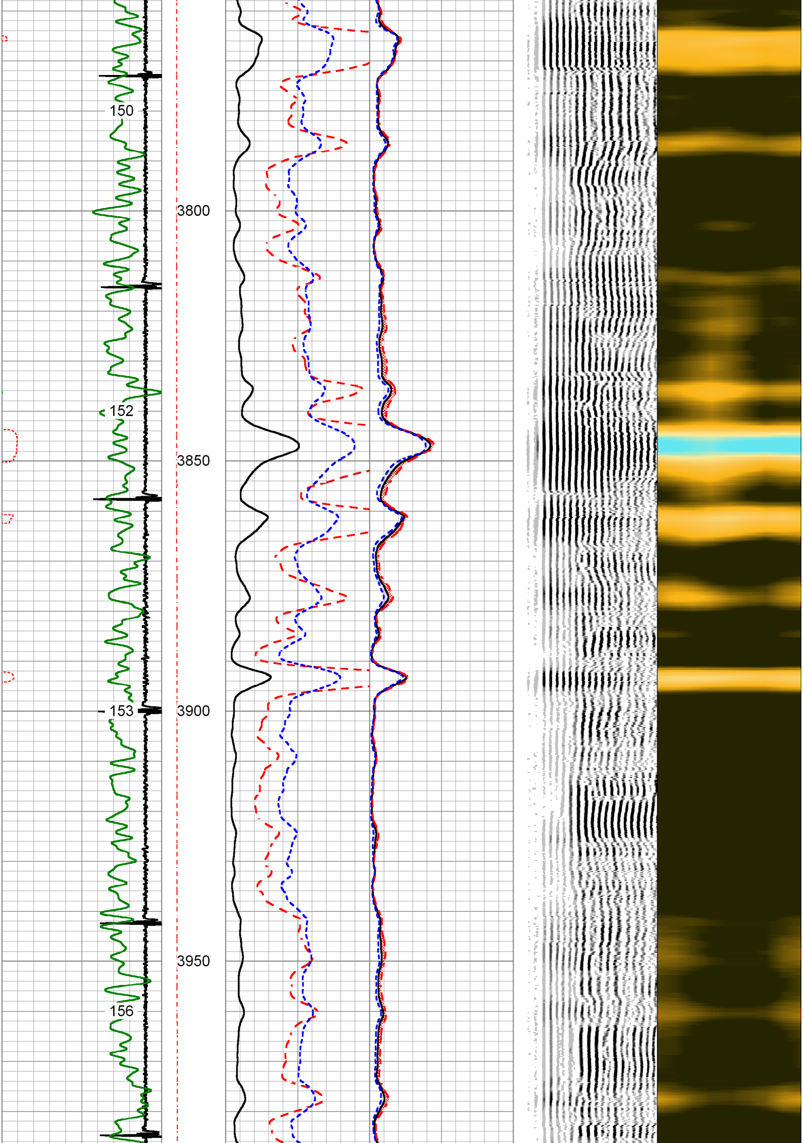


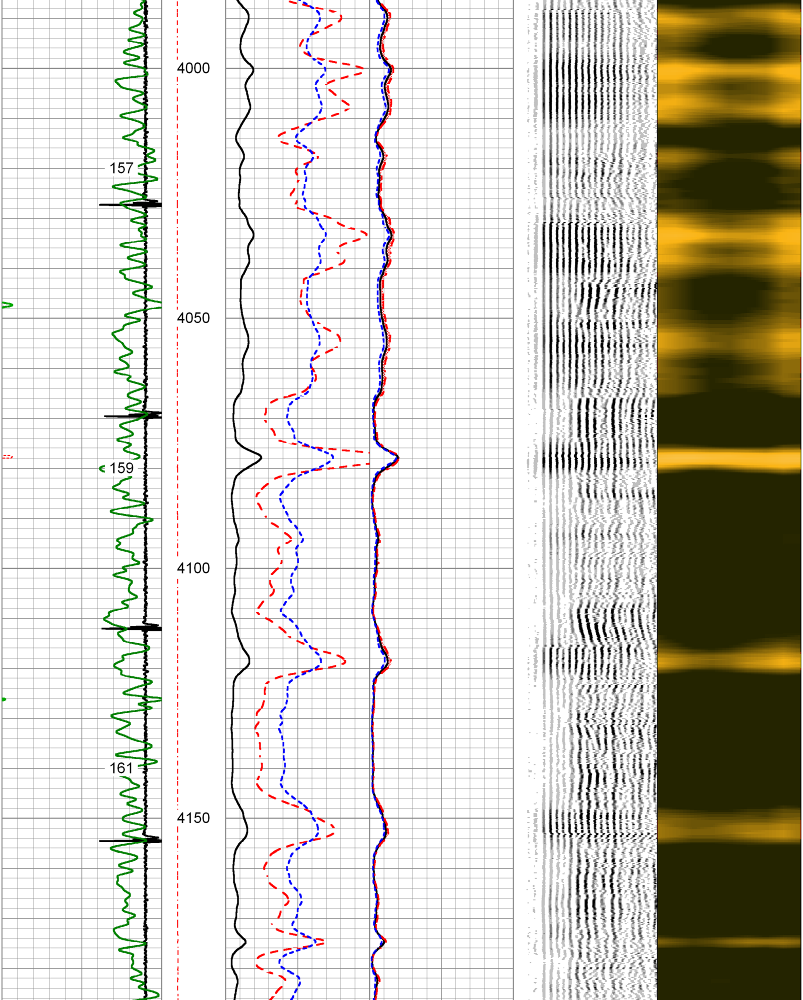


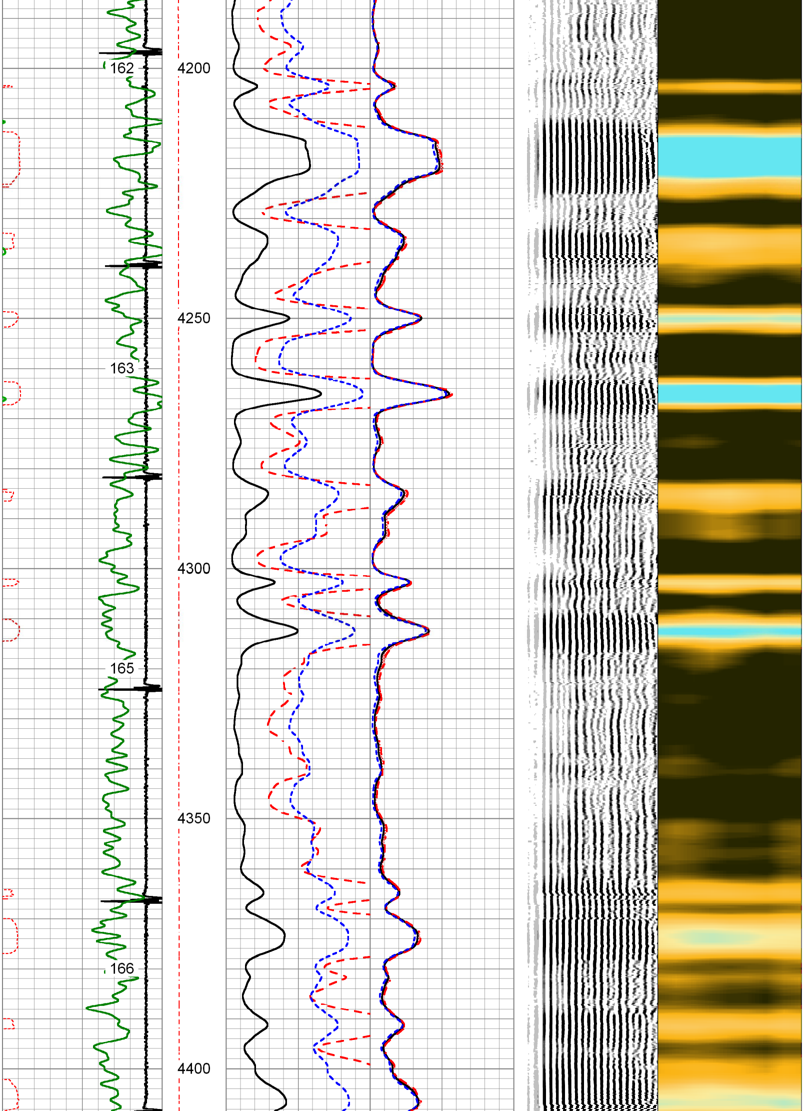


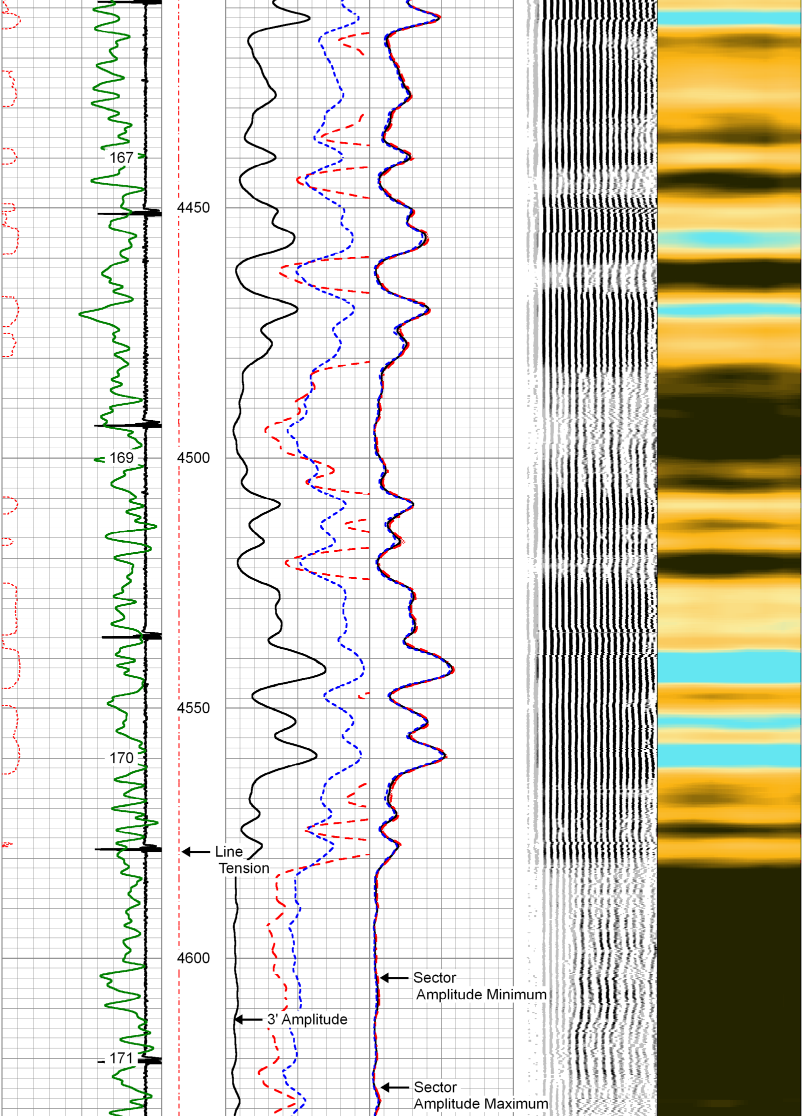


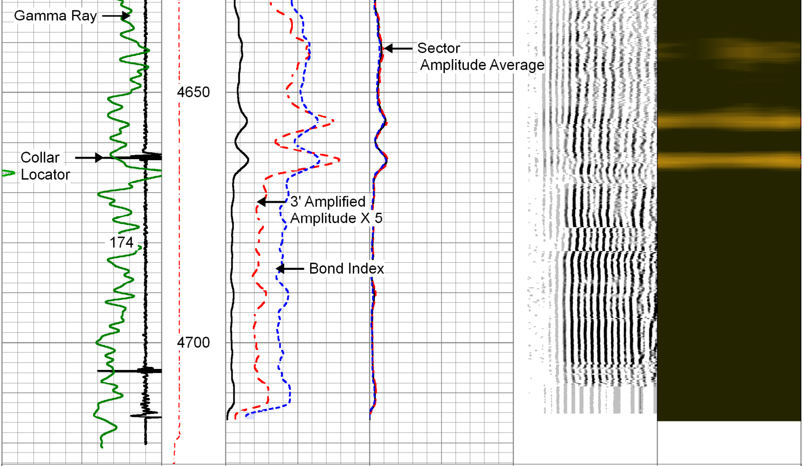












3' Travel Time 260 (usec) 160	Line Tension 0 (l3000	3' Amplitude 0 (mV) 100	Sector Amplitude Average 0 150	200 VDL 1200	1 Sector Map 8 10 60
-9 Collar Locator 1		3' Amplified Amplitude X 5 0 (mV) 20	Sector Amplitude Maximum 0 150		
Gamma Ray 0 (GAPI) 150		1 Bond Index 0	Sector Amplitude Minimum 0 150		
TEMP (degF)					

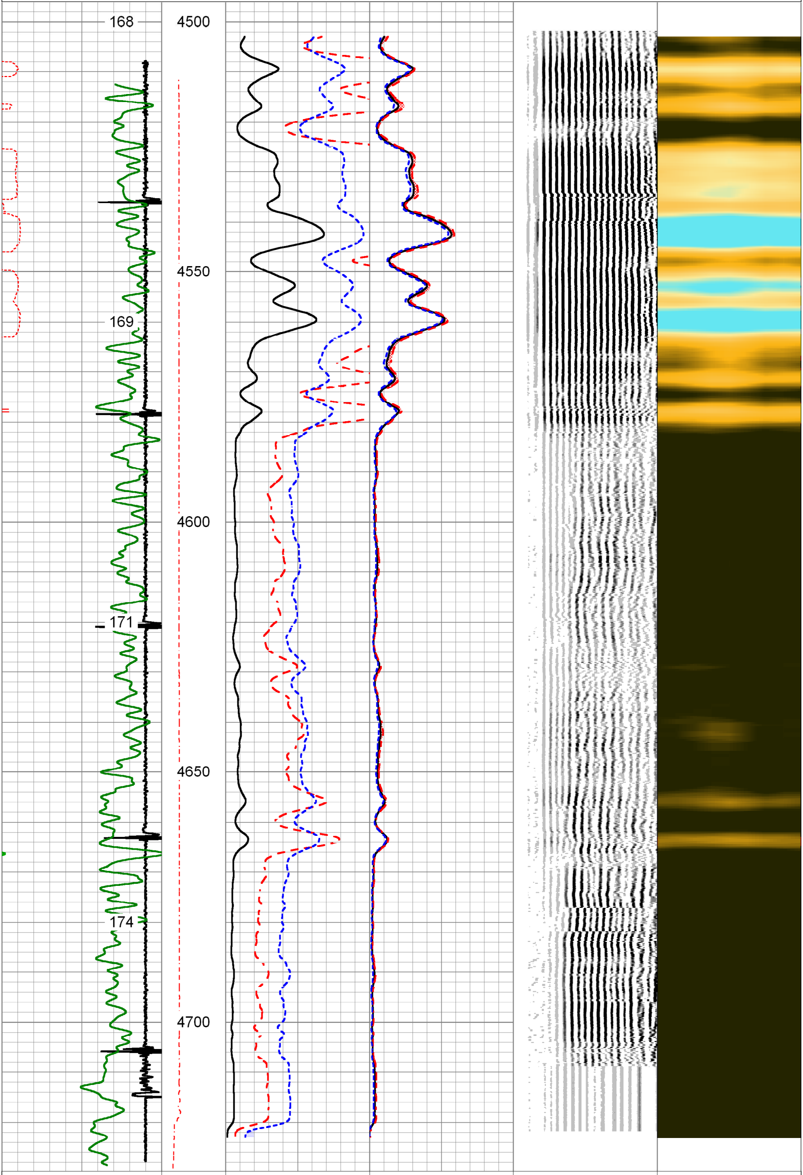
PIONEER
Pioneer Energy Services

REPEAT SECTION

ZERO PSI APPLIED AT SURFACE

Database File	anadarko_morrison17-42_20161205_scbl.db
Dataset Pathname	SCBL1/pass5
Presentation Format	pinr_scbl
Dataset Creation	Mon Dec 05 12:42:01 2016
Charted by	Depth in Feet scaled 1:240

3' Travel Time 260 (usec) 160	Line Tension 0 (l3000	3' Amplitude 0 (mV) 100	Sector Amplitude Average 0 150	200 VDL 1200	1 Sector Map 8 10 60
-9 Collar Locator 1		3' Amplified Amplitude X 5 0 (mV) 20	Sector Amplitude Maximum 0 150		
Gamma Ray 0 (GAPI) 150		1 Bond Index 0	Sector Amplitude Minimum 0 150		
TEMP (degF)					



3' Travel Time 260 (usec) 160 -9 Collar Locator 1 Gamma Ray 0 (GAPI) 150 TEMP (degF)	Line Tension 0 (l3000	3' Amplitude 0 (mV) 100 3' Amplified Amplitude X 5 0 (mV) 20 1 Bond Index 0	Sector Amplitude Average 0 150 Sector Amplitude Maximum 0 150 Sector Amplitude Minimum 0 150	200 VDL 1200	1 Sector Map 8 10 60

Calibration Report

Database File anadarko_morrison17-42_20161205_scbl.db
Dataset Pathname SCBL1/pass6
Dataset Creation Mon Dec 05 12:46:23 2016

Gamma Ray Calibration Report

Serial Number:	111211	
Tool Model:	275 Probe GR-CCL Dig	
Performed:	Mon Dec 05 10:38:41 2016	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.8000	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	FW1403-68	
Tool Model:	275 Probe w Temp New Mod	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	963.583	ft

Master Calibration, performed Mon Dec 05 12:23:48 2016:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.003	1.389	1.500	81.196	57.464	1.355
CAL	0.000	2.000				
5'	0.002	1.366	1.500	81.196	58.456	1.357
SUM						
S1	-0.014	1.391	0.000	100.000	71.169	1.018
S2	0.003	1.422	0.000	100.000	70.442	-0.187
S3	0.002	1.475	0.000	100.000	67.867	-0.132
S4	0.002	1.494	0.000	100.000	67.033	-0.133
S5	0.002	1.461	0.000	100.000	68.575	-0.158
S6	0.002	1.424	0.000	100.000	70.330	-0.132
S7	0.003	1.388	0.000	100.000	72.183	-0.192
S8	0.002	1.373	0.000	100.000	72.910	-0.131

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.000	2.000	1.000	0.000

Air Zero Calibration, performed Mon Dec 05 11:02:07 2016:

	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:	FW1403-68
Tool Model:	275 Probe w Temp New Mod
Performed:	Mon Nov 09 16:45:31 2015

	Reference		Reading	
Low Reference:	0.00	degF	0.00	degF
High Reference:	1.00	degF	1.00	degF

Gain:	1.00
Offset:	0.00
Delta Spacing	1

PIONEER
Pioneer Energy Services

Company	ANADARKO
Well	MORRISON 17-42
Field	WATTENBERG
County	WELD
State	COLORADO