ALLIED HORIZONTAL WIRELINE SERVICES

RADIAL CEMENT BOND LOG

Company BAYSWATER EXPLORATION AND PRODUCTION
Well CARLSON B-15-16HC
Field WATTENBERG
County WELD
State COLORADO Country USA

Company BAYSWATER EXPLORATION AND PRODUCTION
Well CARLSON B-15-16HC
Field WATTENBERG
County WELD
State COLORADO **Country** USA

Location: API # : 05-123-41710

SEC 15 TWP 65W RGE 5N

Other Services
NONE

Permanent Datum	GL	Elevation	4621FT
Log Measured From	KB (+23FT FROM PD)		
Drilling Measured From	KELLY BUSHING		

Elevation
K.B. 4644FT
D.F. 4643FT
G.L. 4621FT

Date	13 AUG 2015		
Run Number	ONE		
Depth Driller	7430FT		
Depth Logger			
Bottom Logged Interval			
Top Log Interval	0FT		
Open Hole Size	8.75IN		
Type Fluid	WATER		
Density / Viscosity	N/A		
Max. Recorded Temp.	N/A		
Estimated Cement Top			
Time Well Ready	02:45HRS		
Time Logger on Bottom	03:30HRS		
Equipment Number	13034		
Location	BRIGHTON		
Recorded By	OSTLER, SCHAAF	RALL	
Witnessed By			

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	8.75IN	7430FT	0FT	7IN	29#	7430FT	0FT

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String				
Prot. String				
Production String	7IN	29#	0FT	7430FT
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

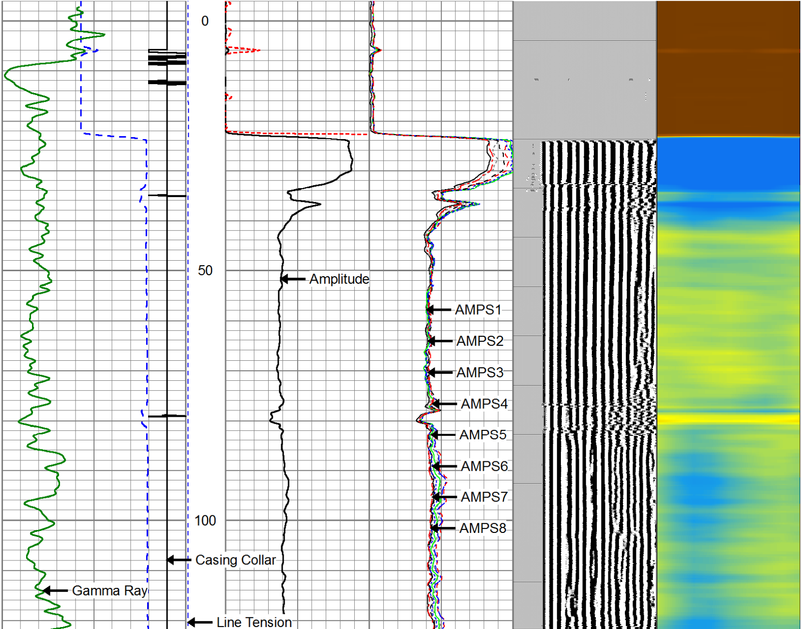
WELL WAS LOGGED WITH 0 PSI AT THE WELL HEAD
LOG WAS MEASURED FROM KB +23FT AT GROUND LEVEL
ITEMS MARKED N/A INDICATE INFORMATION NOT PROVIDED BY CUSTOMER
TOOL CENTRALIZED USING OVER THE TOOL GEMOCO CENTRALIZERS

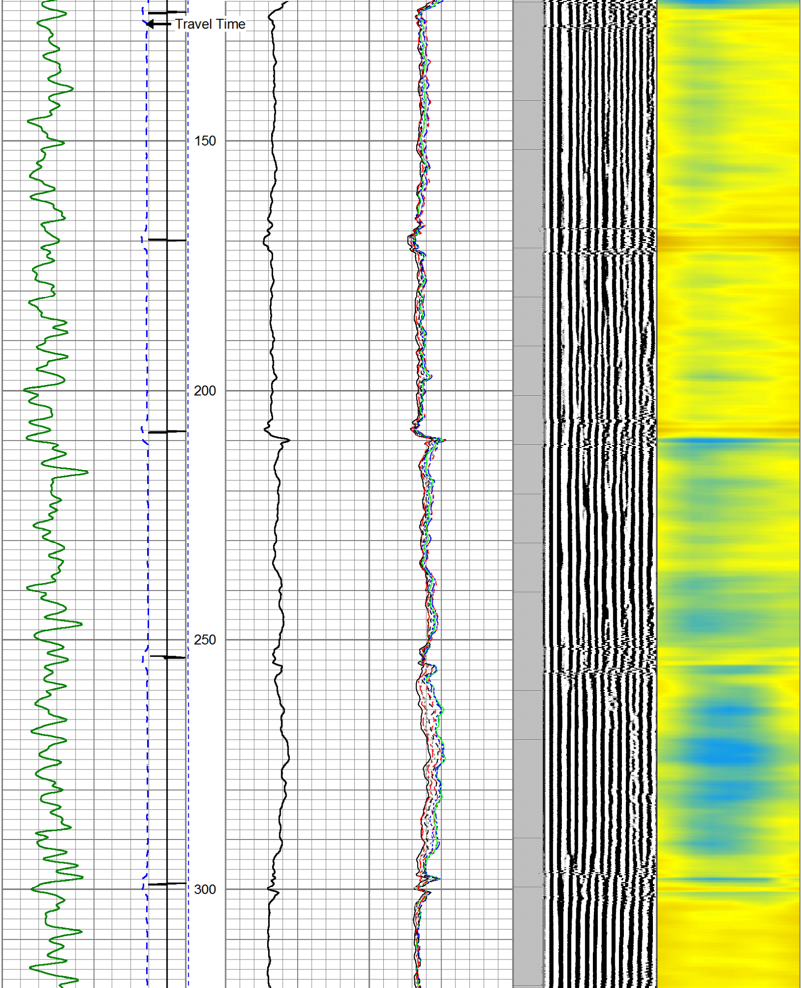
ALLIED HORIZONTAL
WIRELINE SERVICES

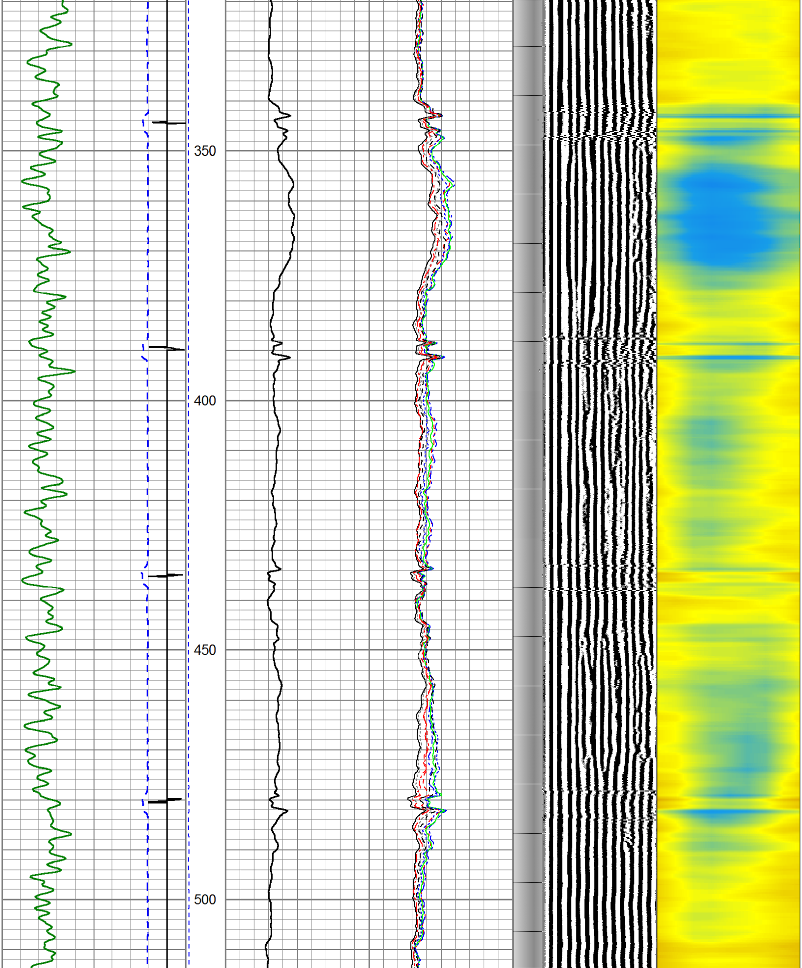
MAIN PASS (0 PSI)

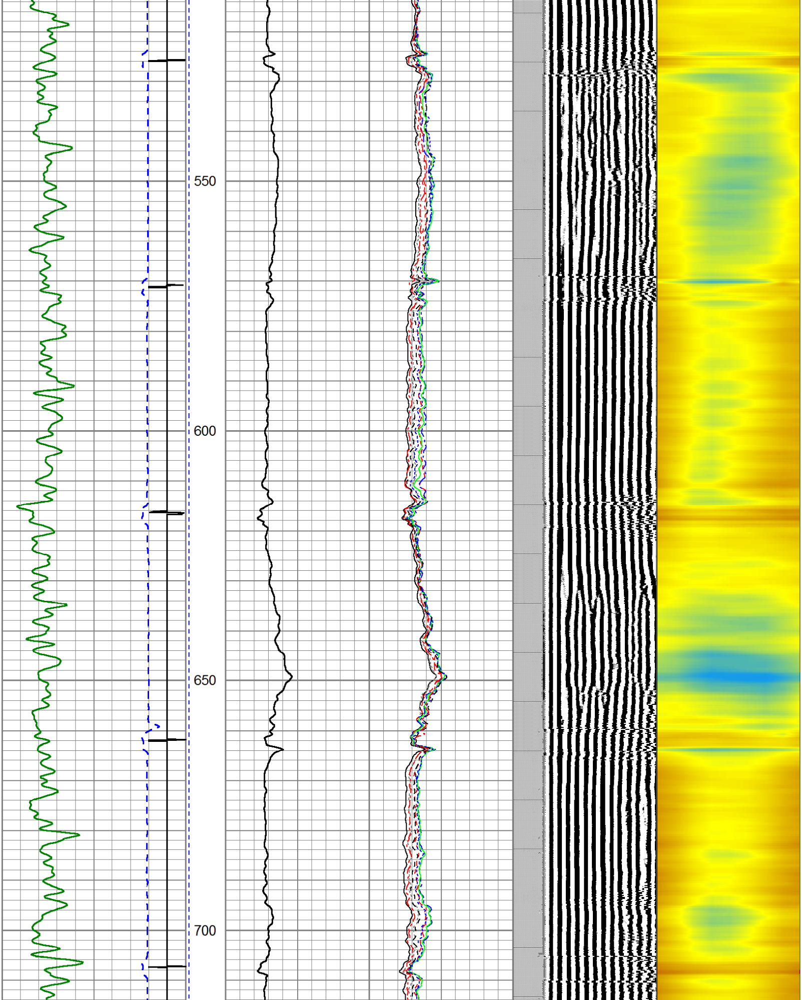
Database File:	bayswater_carlson b-15-16hn_rcbl.db
Dataset Pathname:	pass9
Presentation Format:	ahws_rcbl
Dataset Creation:	Thu Aug 13 04:45:05 2015 by Log 7.0 B1
Charted by:	Depth in Feet scaled 1:240

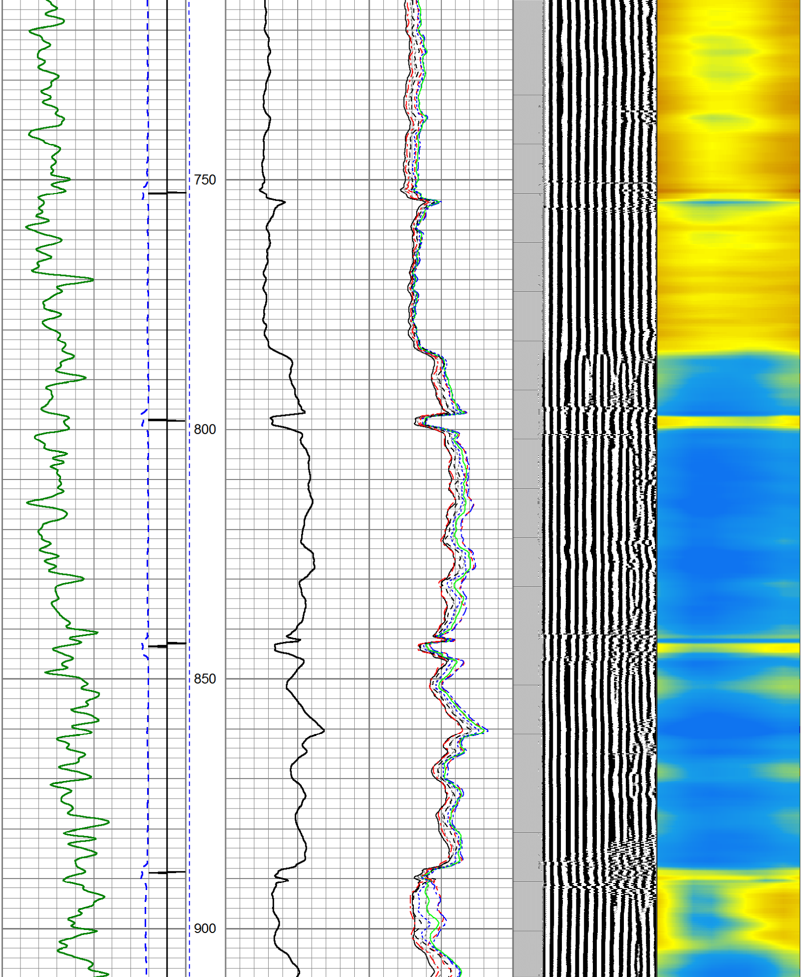
444 Travel Time (usec) 244	e Tens	0 Amplitude (mV)100	-5 AMPS1 150	Variable Density	1 Cement Map 8
9 *Casing Collar* -1	(lb)	Amplified Amplitude	-5 AMPS2 150	200 1200	0 100
0 Gamma Ray (GAPI) 150	(2500	0 (mV) 10	-5 AMPS3 150		
			-5 AMPS4 150		
			-5 AMPS5 150		
			-5 AMPS6 150		
			-5 AMPS7 150		
			-5 AMPS8 150		

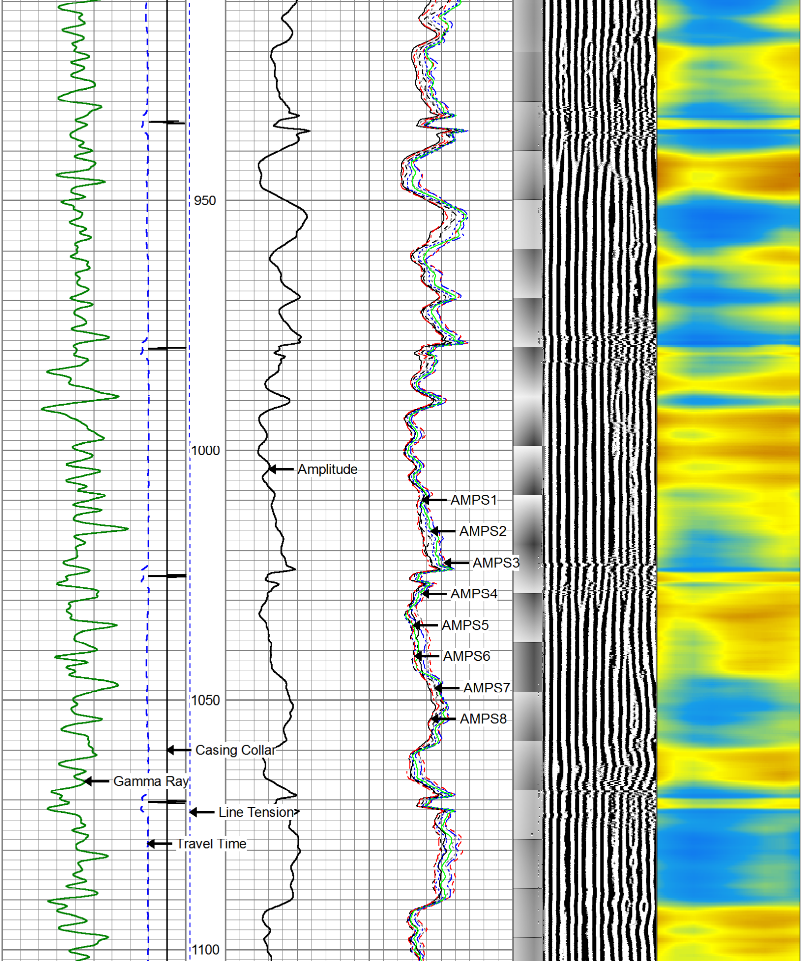


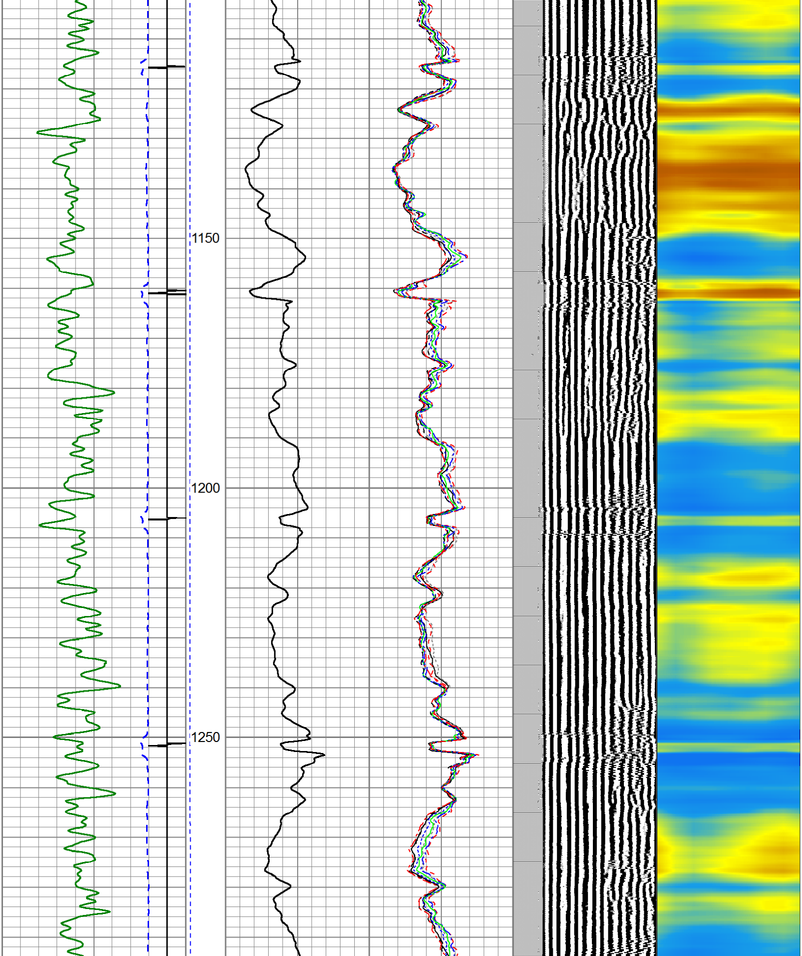


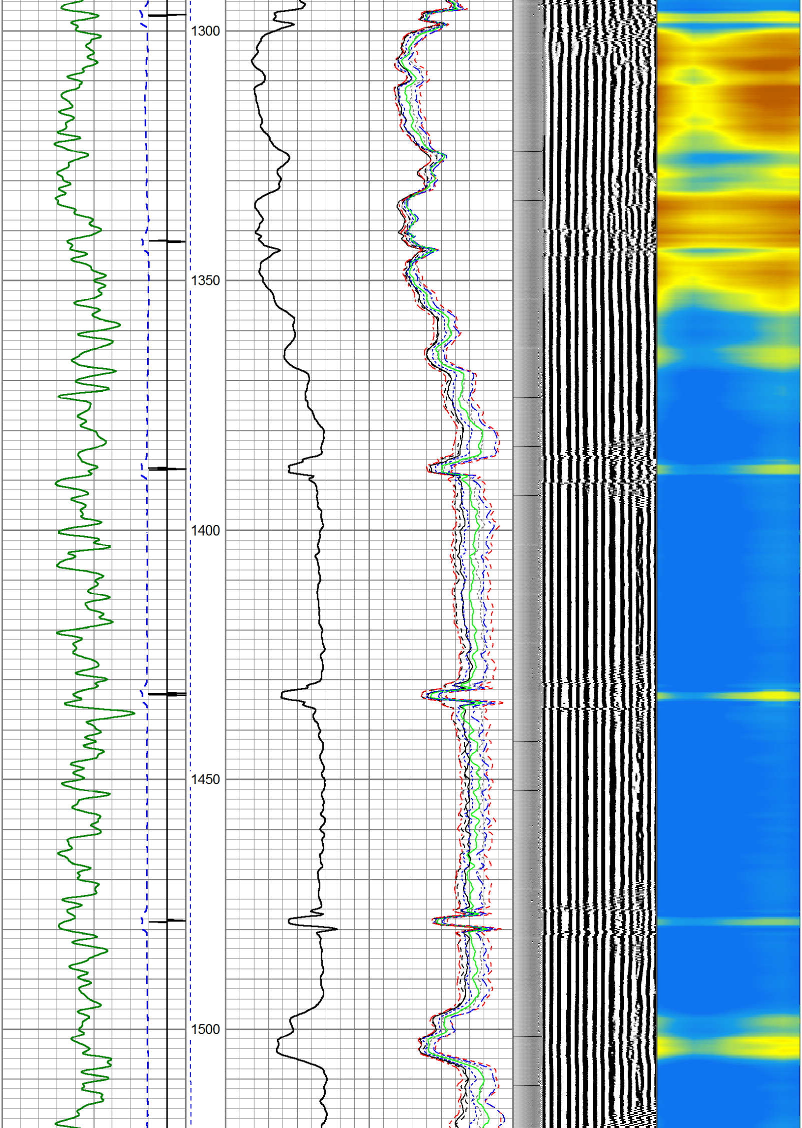


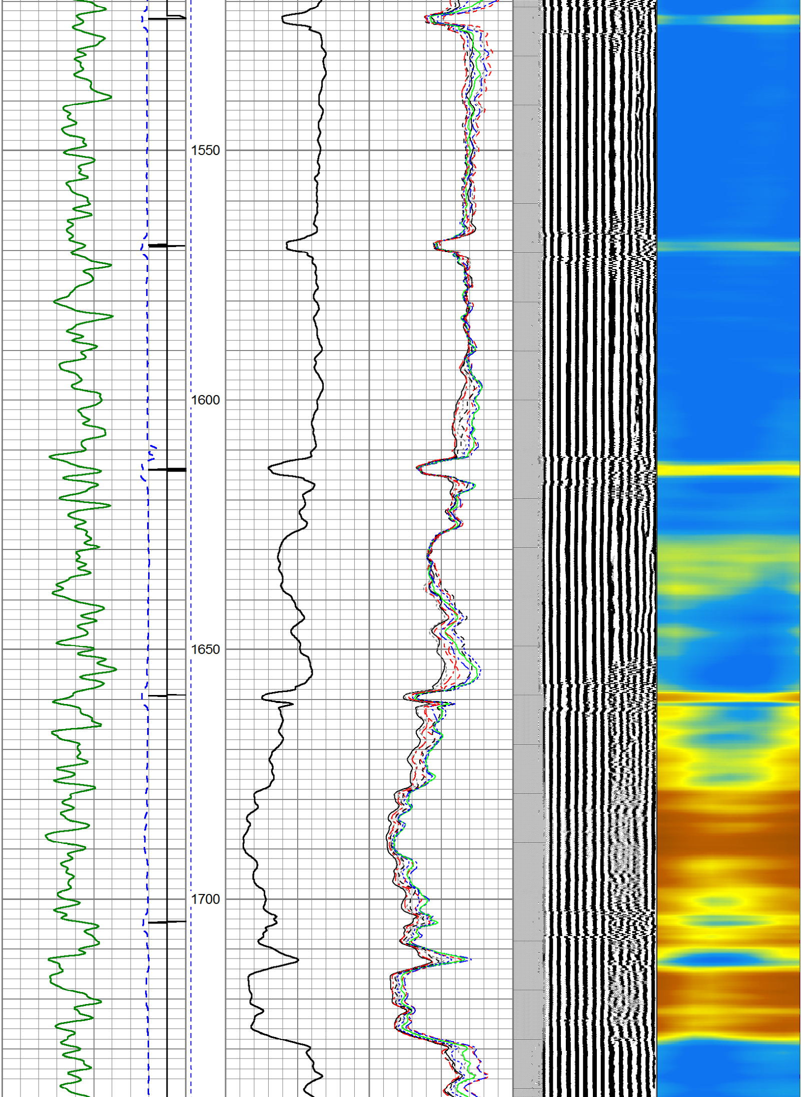


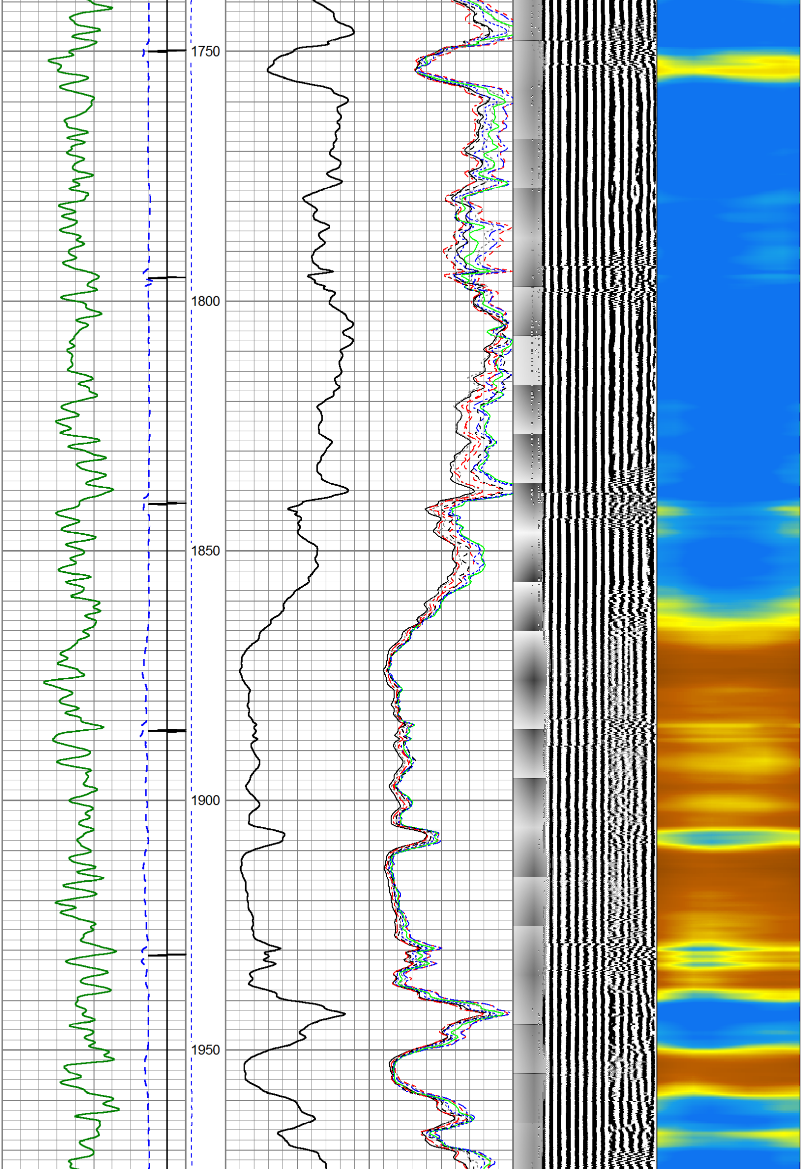


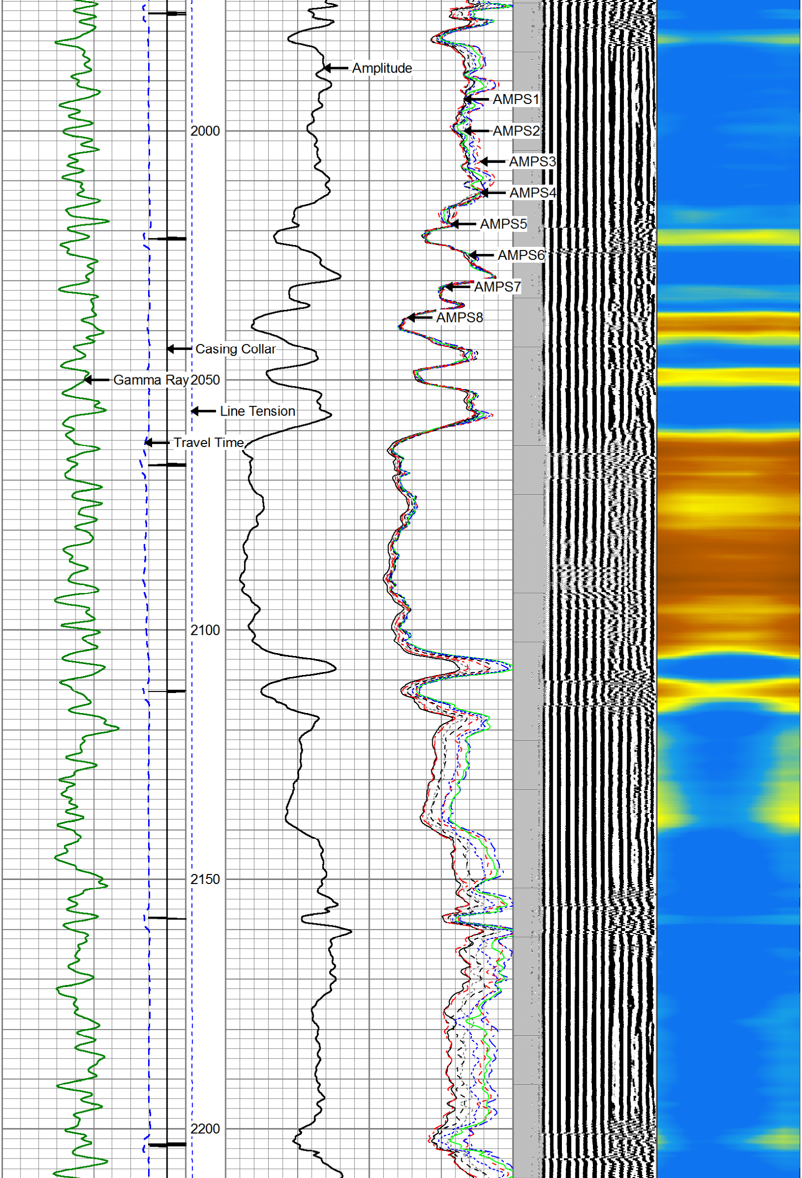


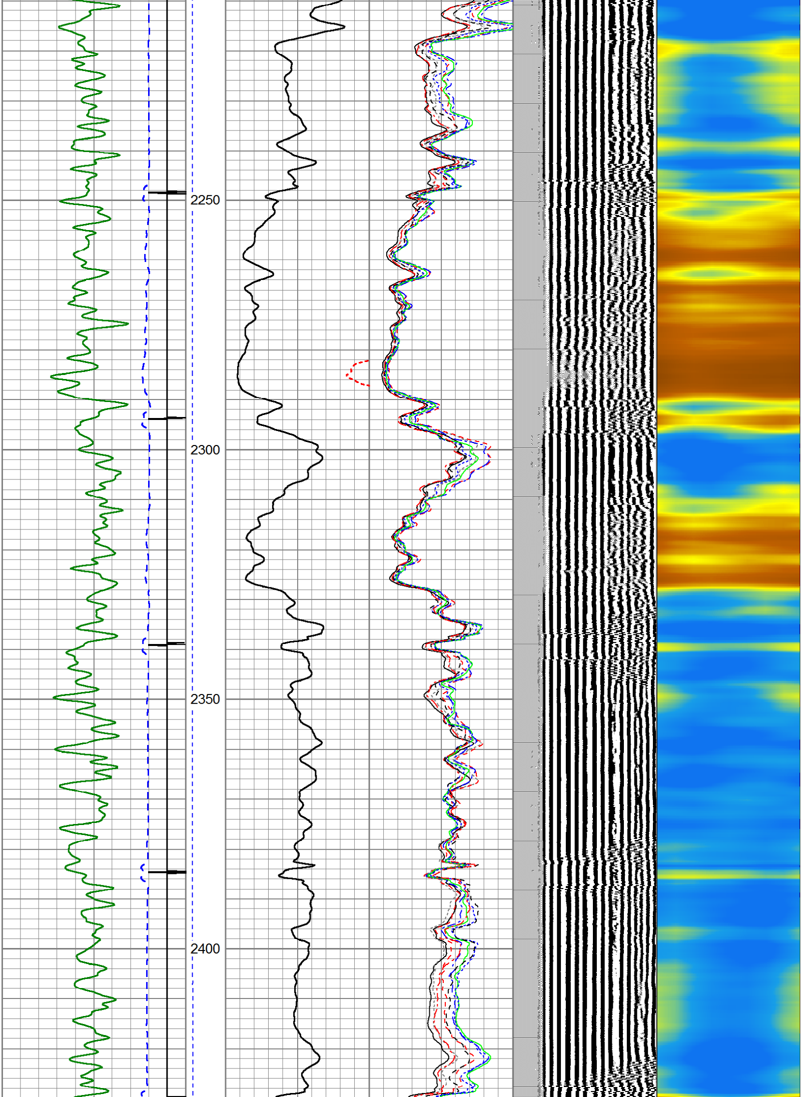


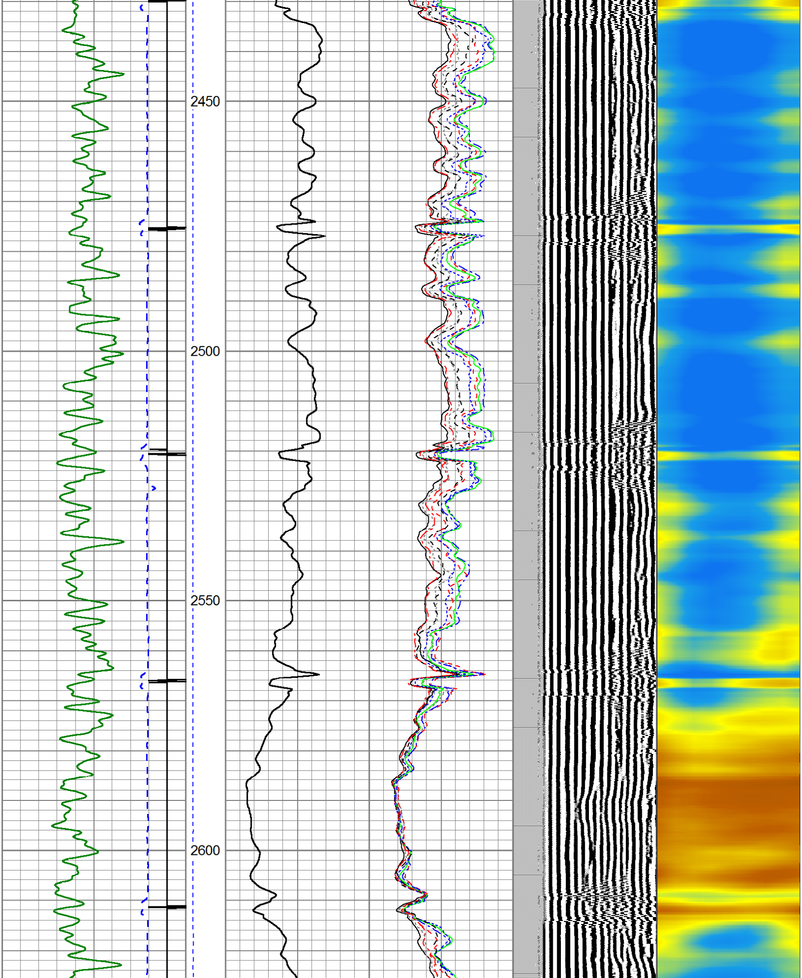


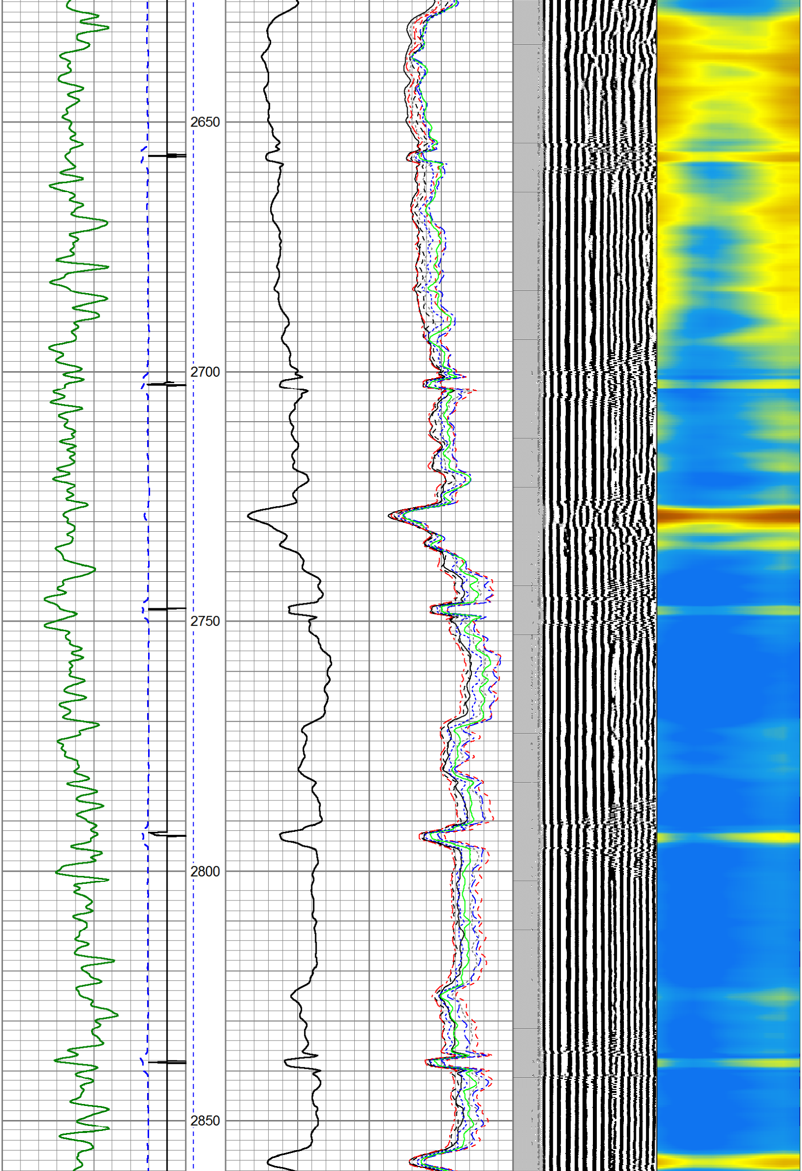


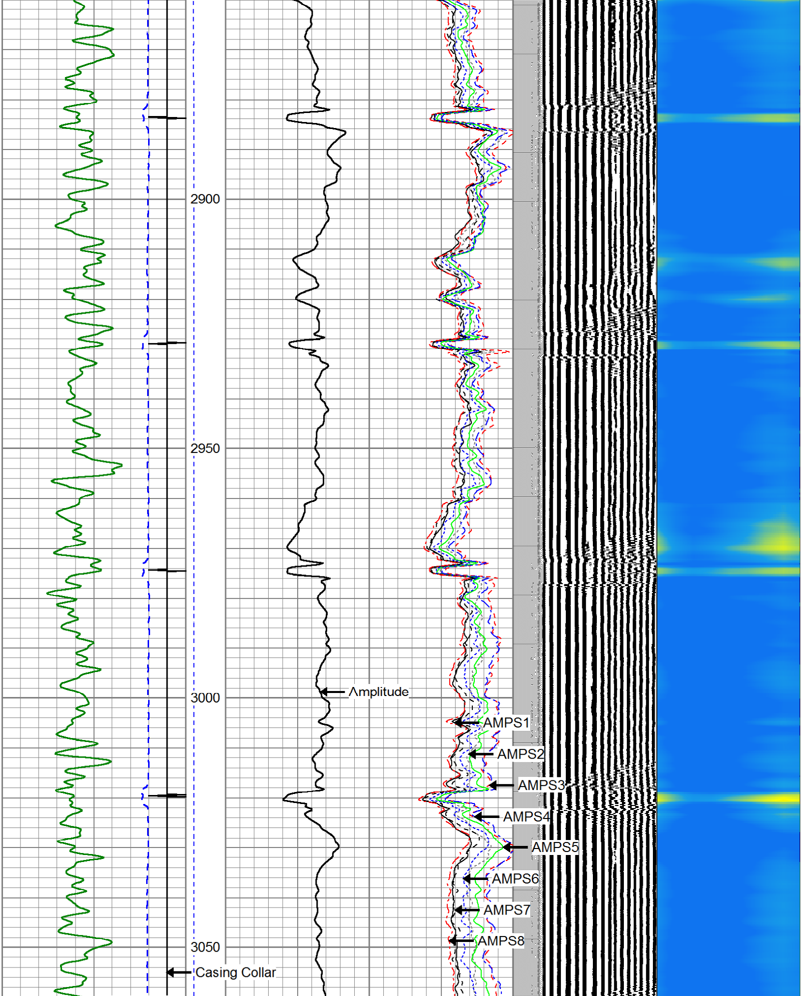


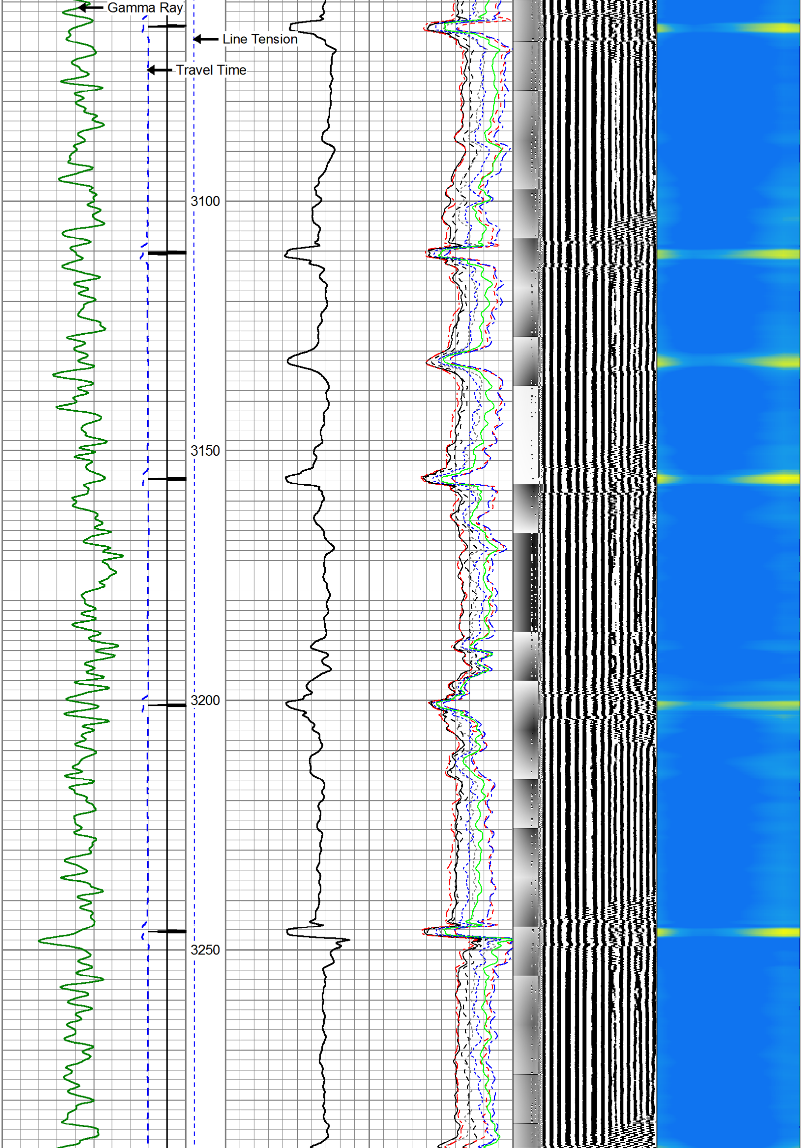


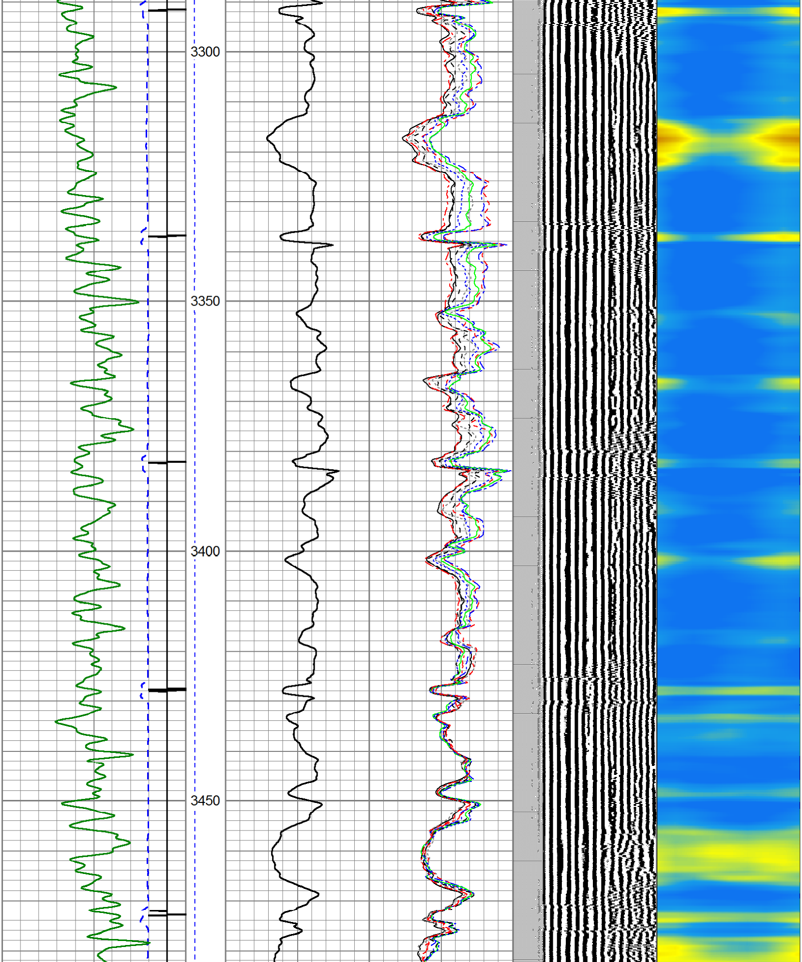


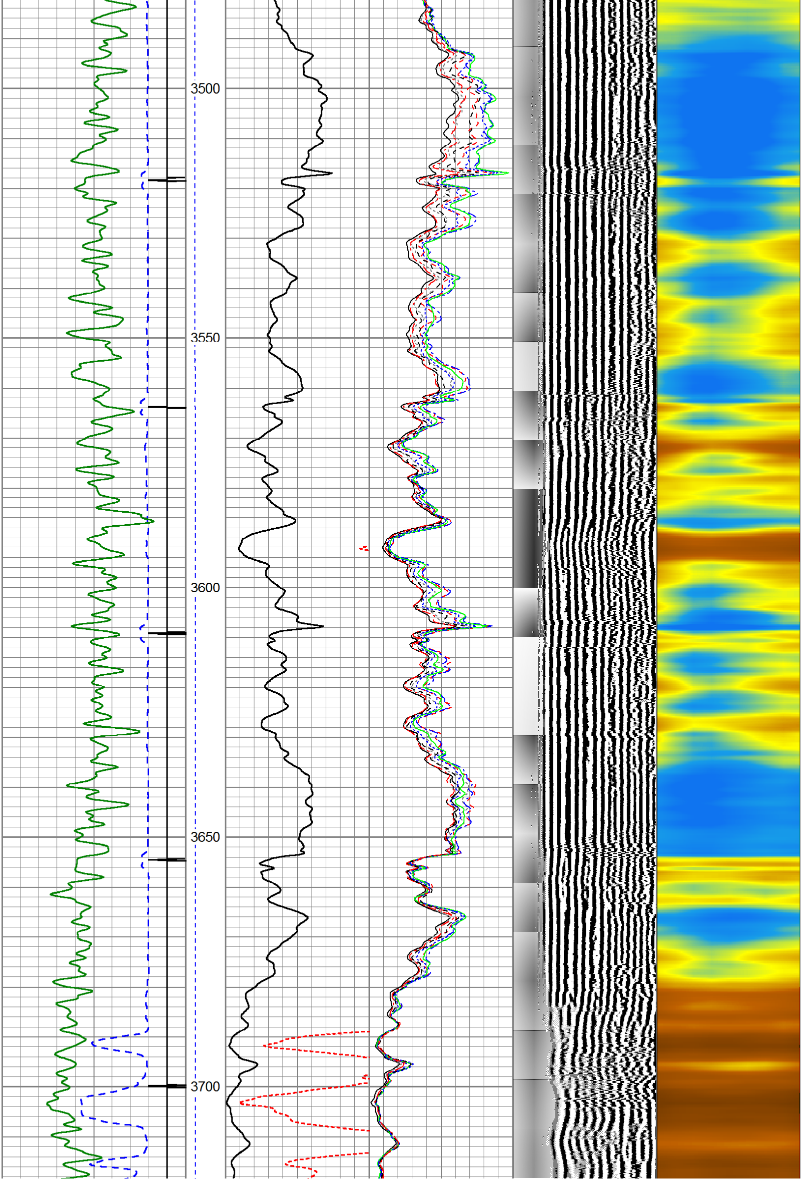


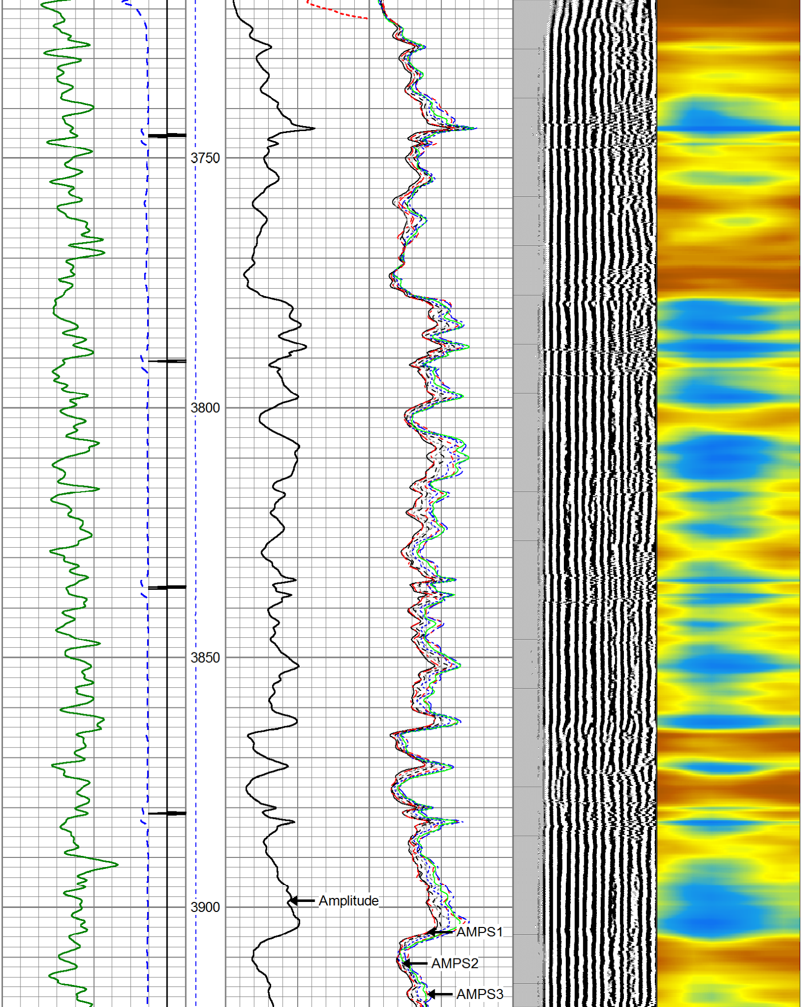


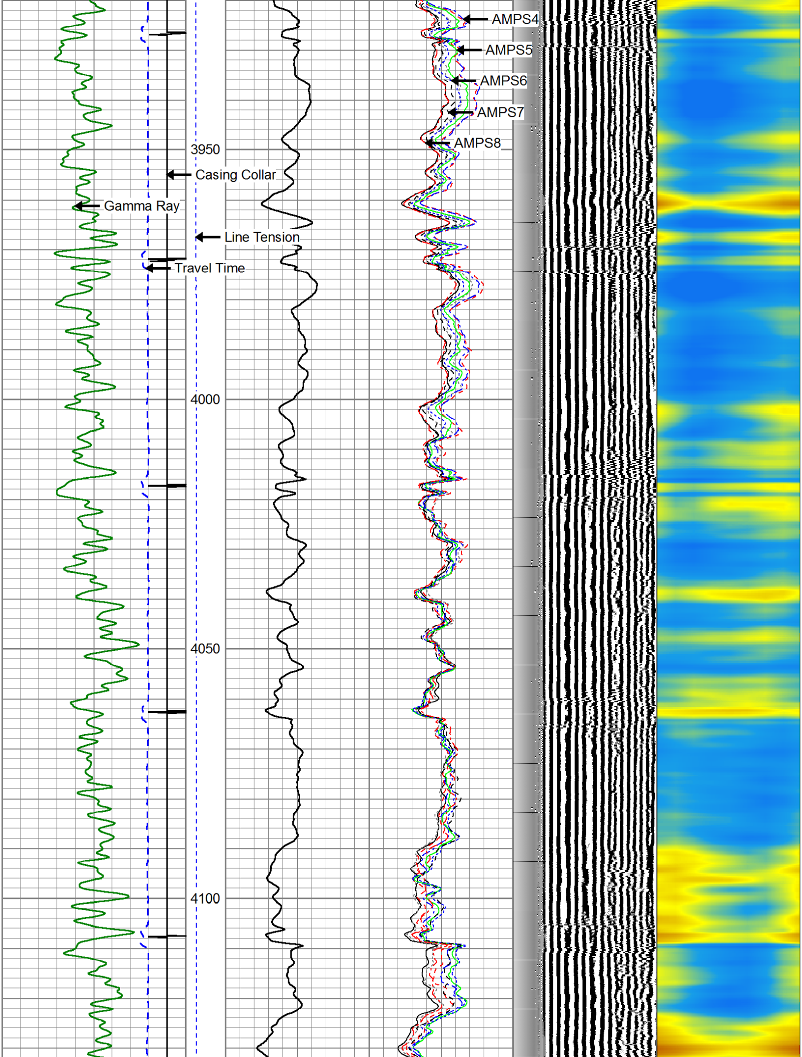


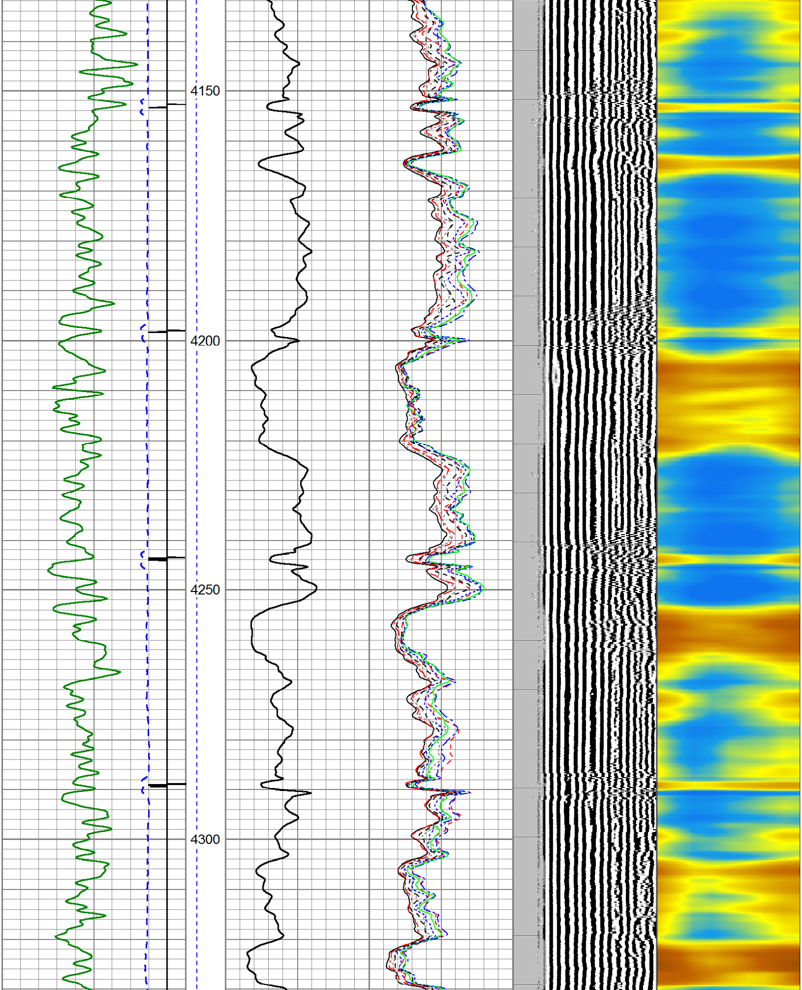


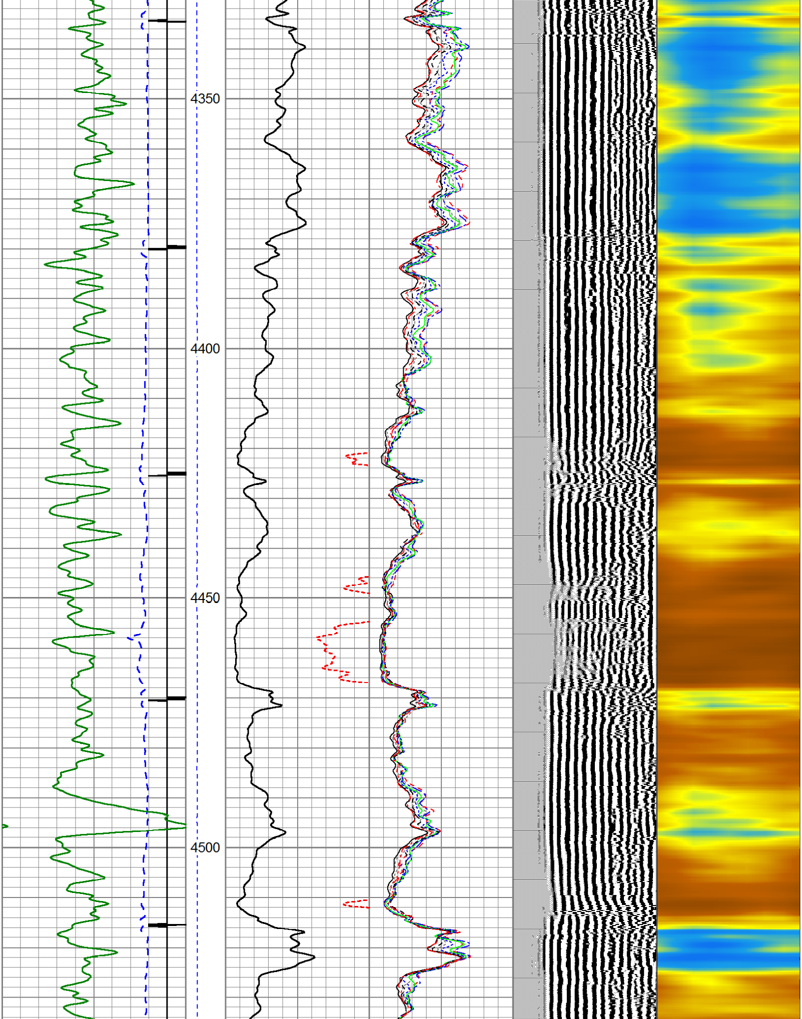


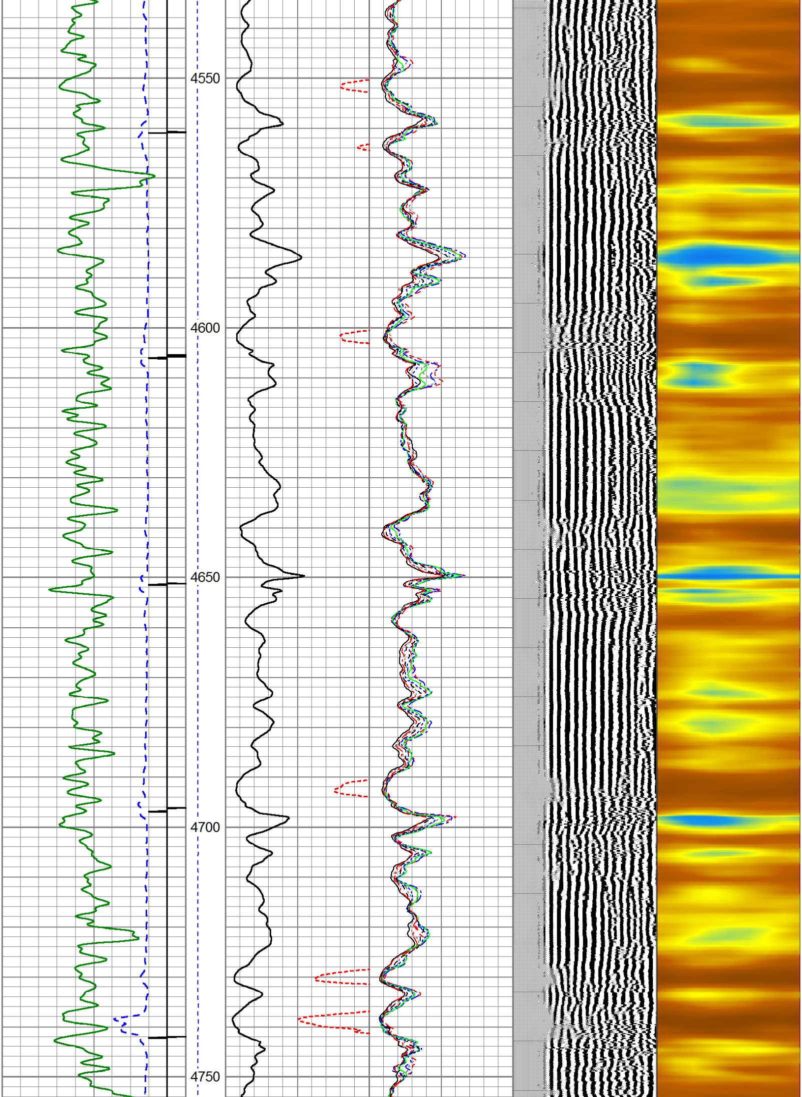


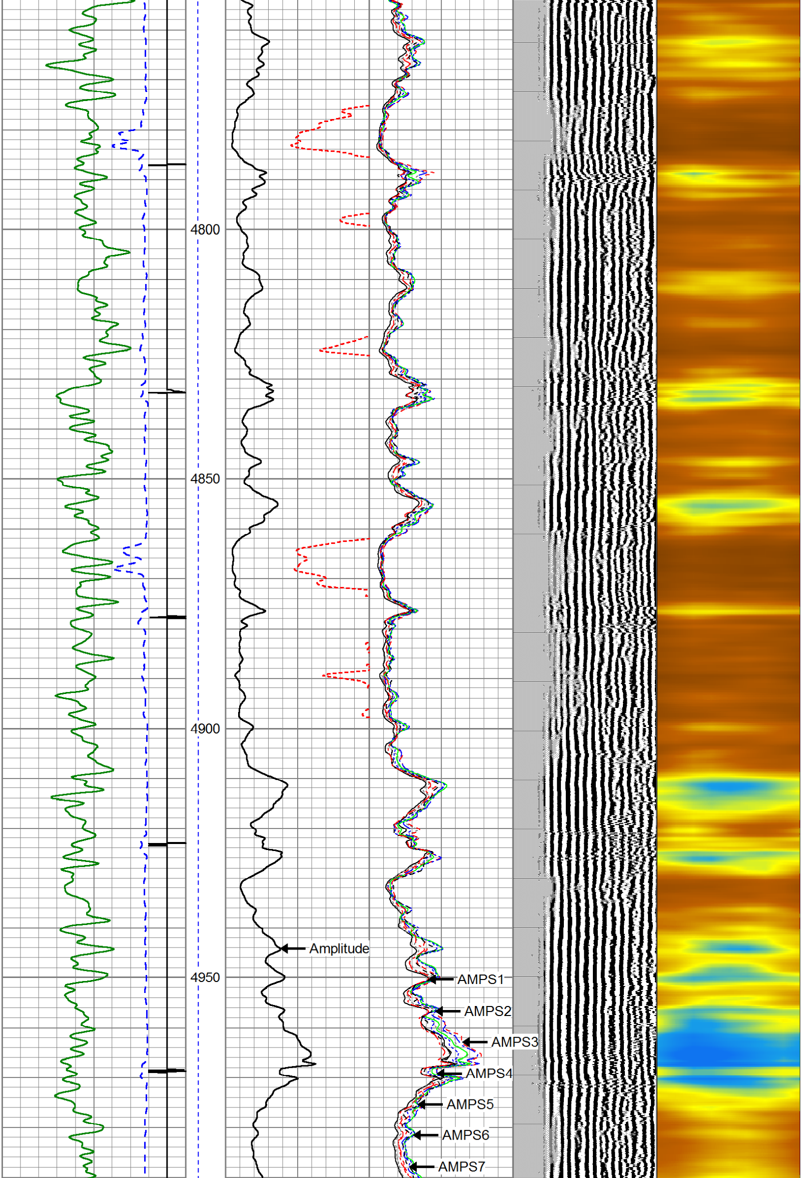


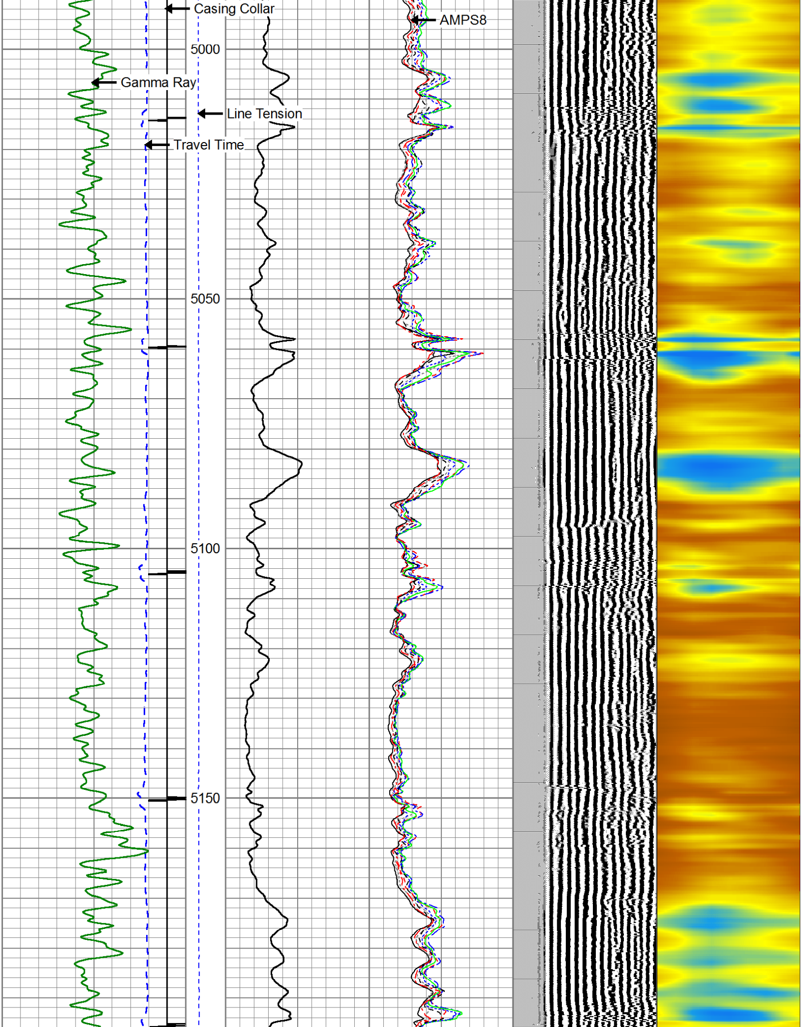


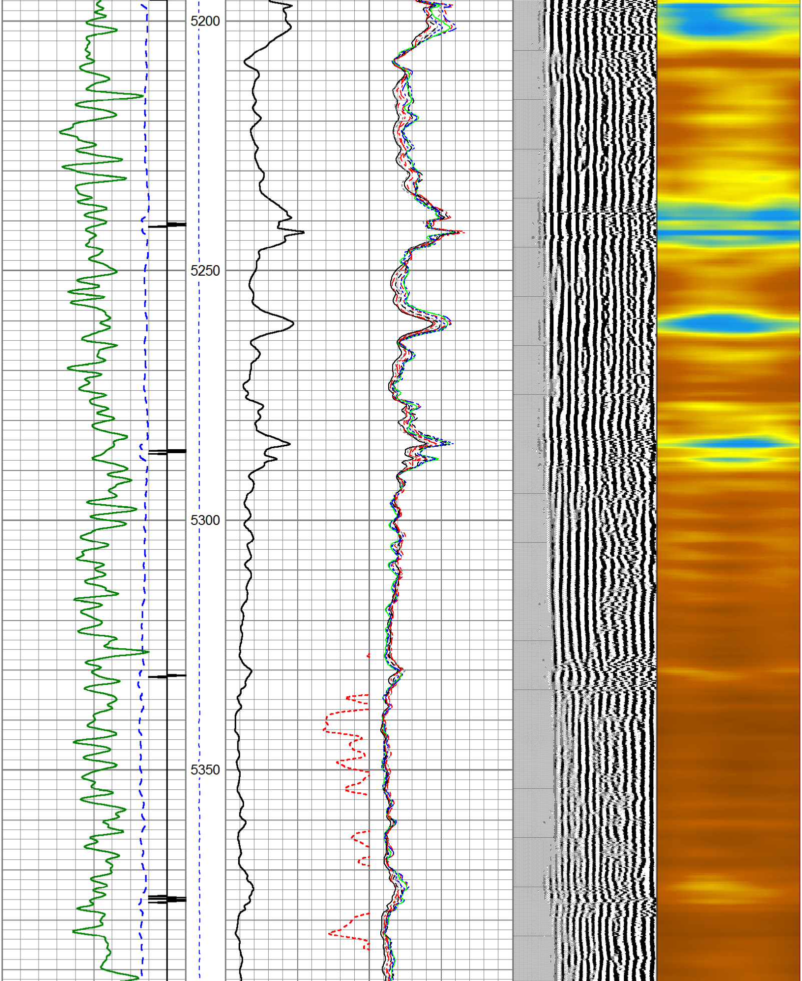


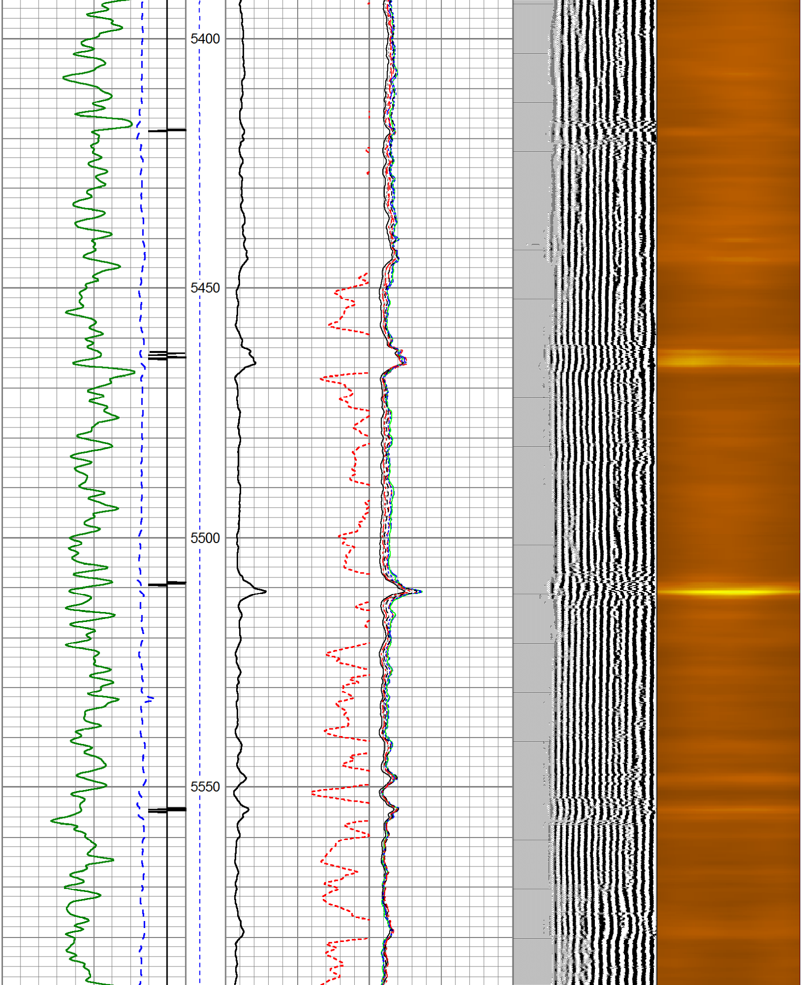


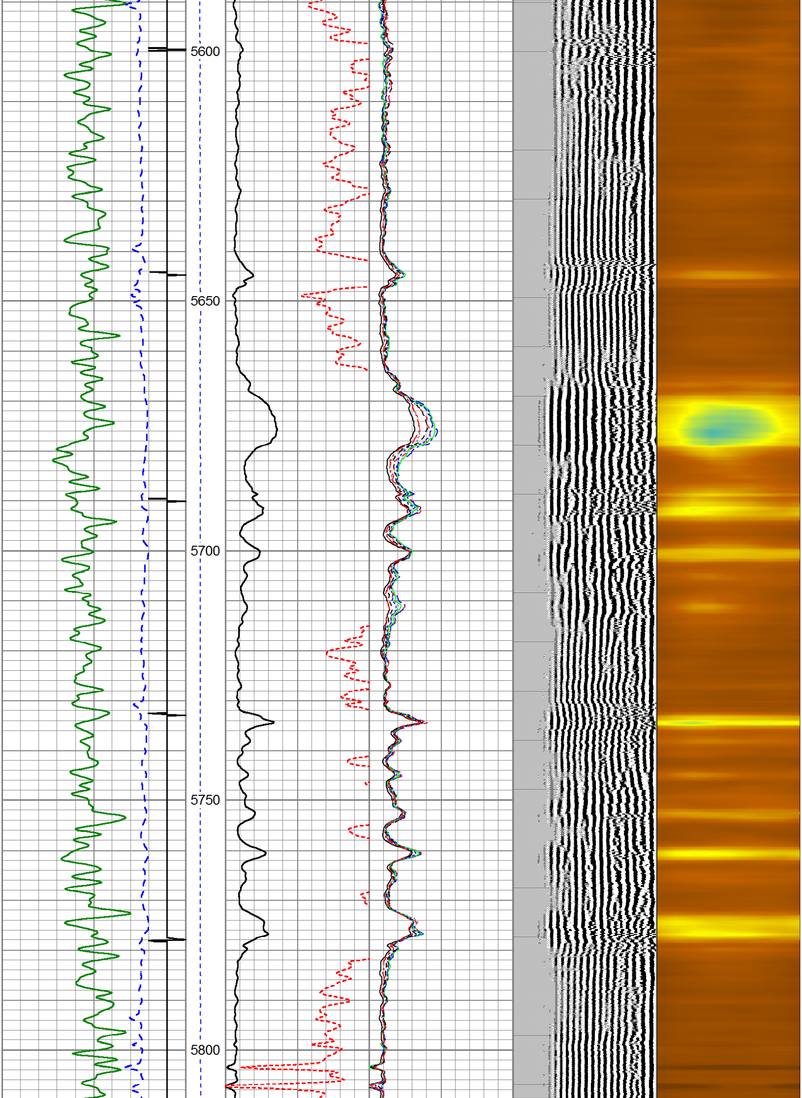


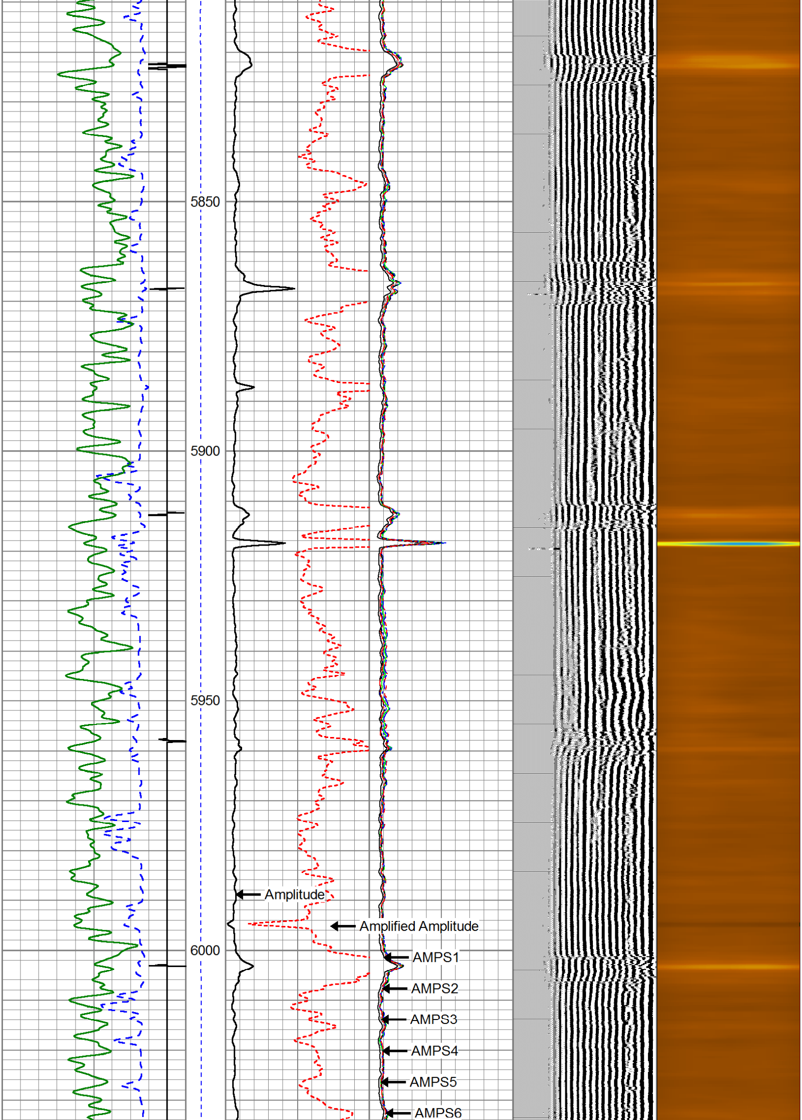


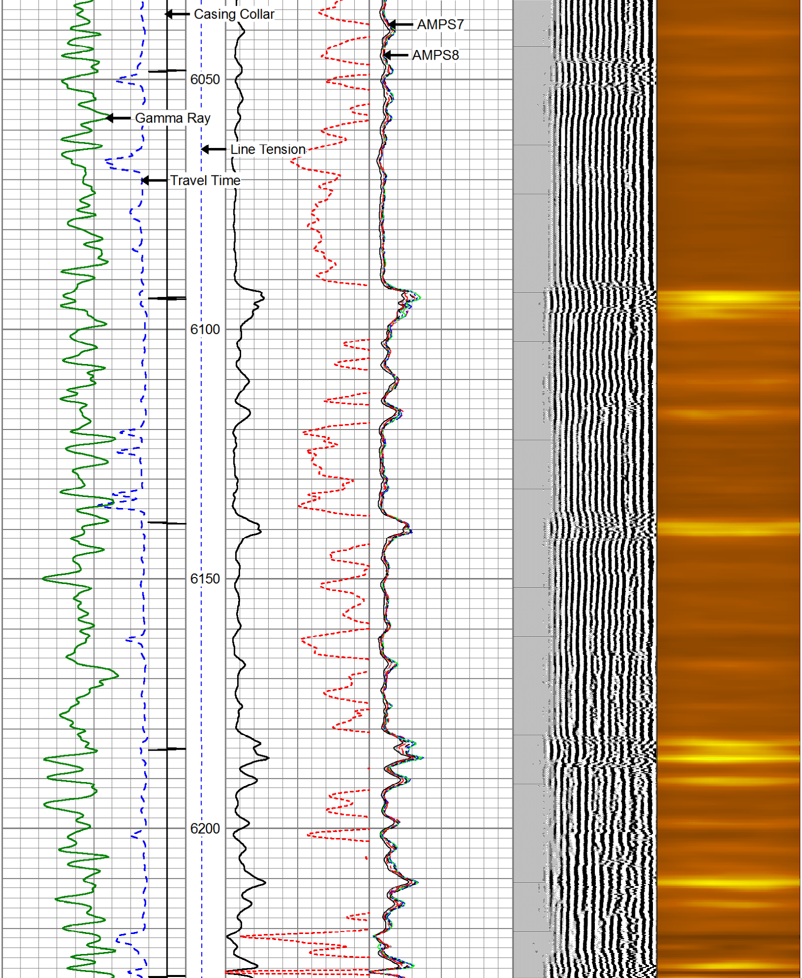


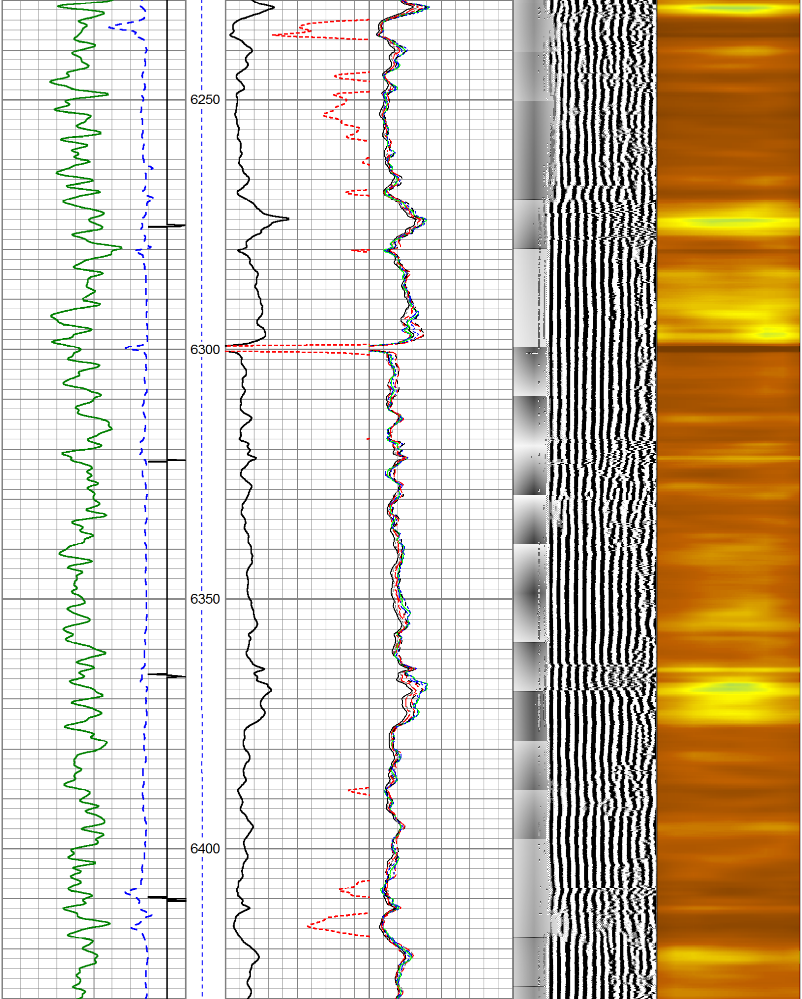


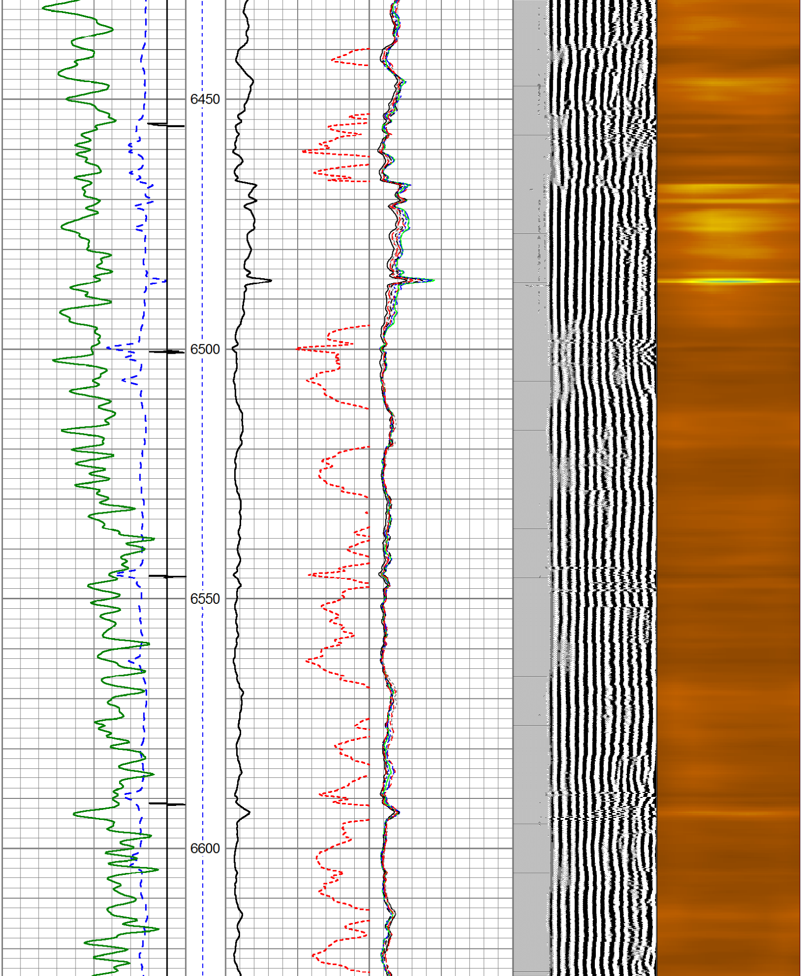


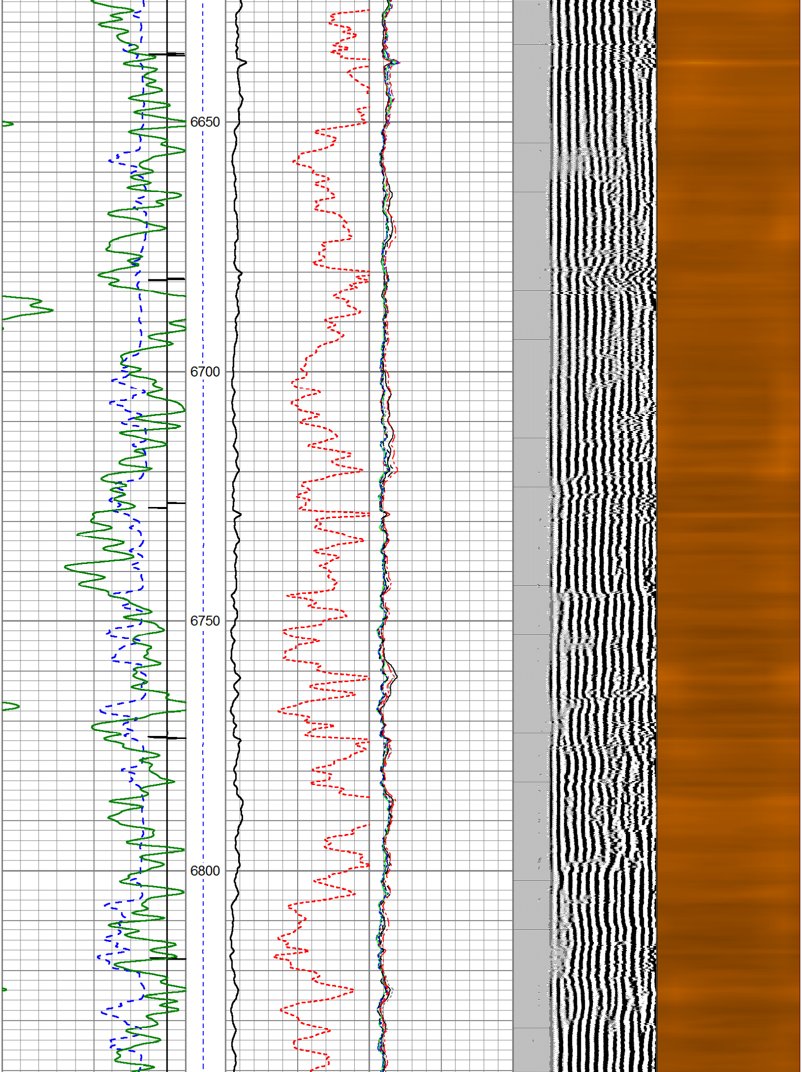


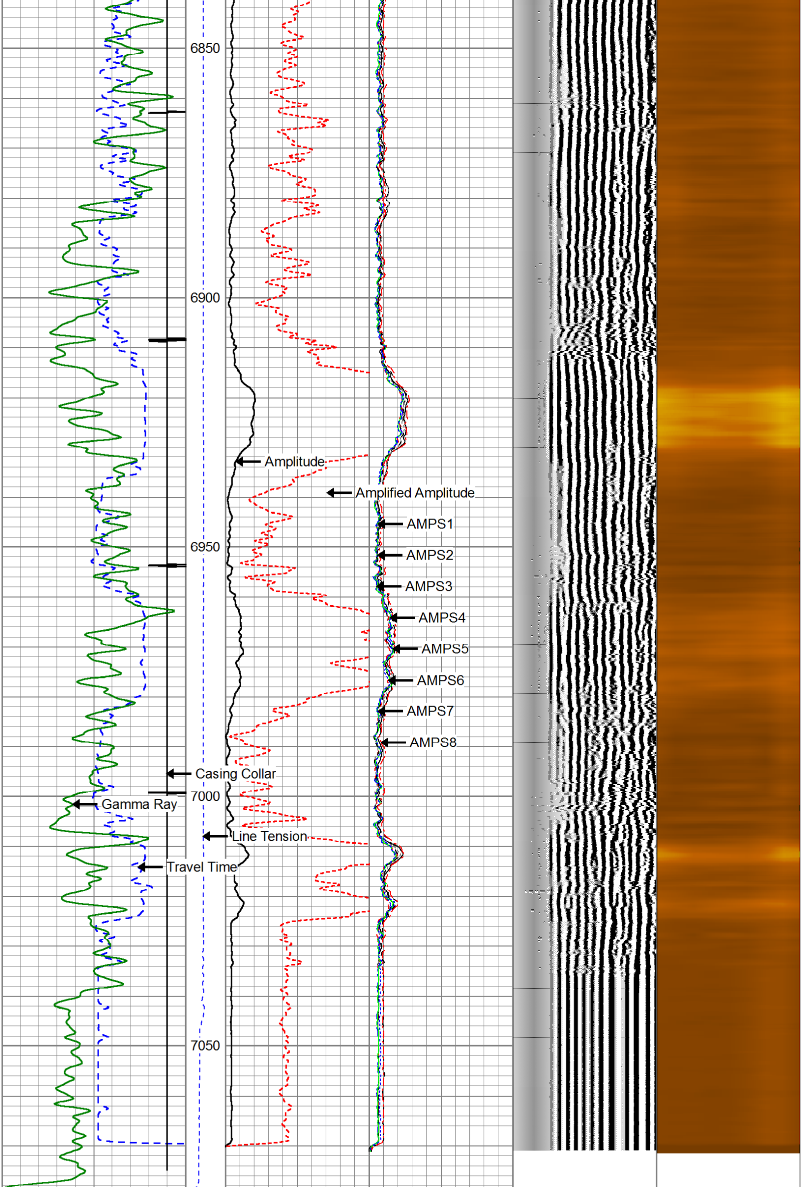












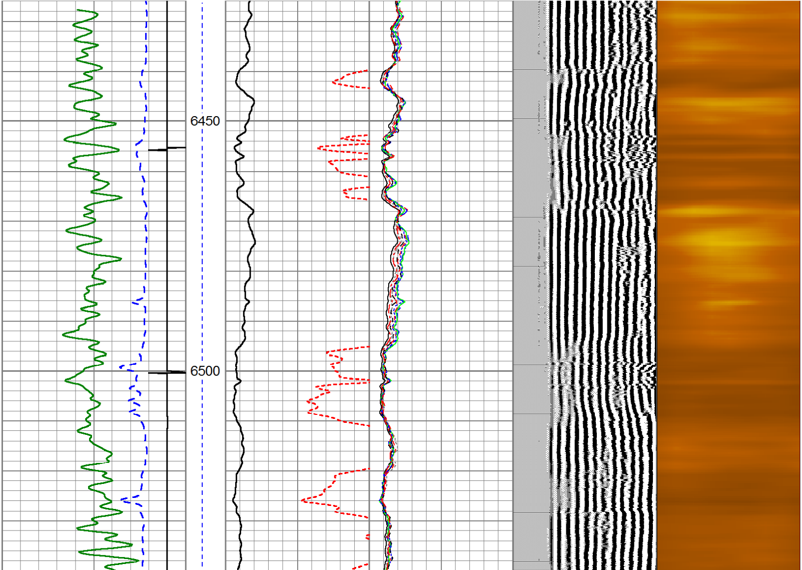
444 Travel Time (usec) 244	e Tens	0 Amplitude (mV)100	-5 AMPS1 150	Variable Density	1 Cement Map 8
9 *Casing Collar* -1	(lb)	Amplified Amplitude	-5 AMPS2 150	200 1200	0 100
0 Gamma Ray (GAPI) 150	(2500	0 (mV) 10	-5 AMPS3 150		
			-5 AMPS4 150		
			-5 AMPS5 150		
			-5 AMPS6 150		
			-5 AMPS7 150		
			-5 AMPS8 150		

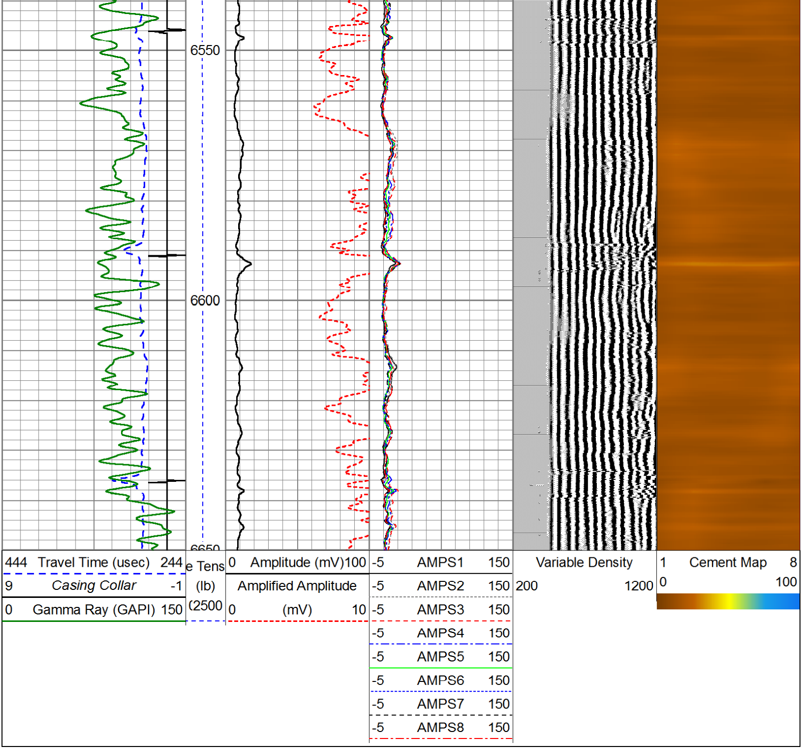
ALLIED HORIZONTAL WIRELINE SERVICES

REPEAT PASS (0 PSI)

Database File: bayswater_carlson b-15-16hn_rcbl.db
Dataset Pathname: pass7
Presentation Format: ahws_rcbl
Dataset Creation: Thu Aug 13 04:35:00 2015 by Log 7.0 B1
Charted by: Depth in Feet scaled 1:240

444 Travel Time (usec) 244	e Tens	0 Amplitude (mV)100	-5 AMPS1 150	Variable Density	1 Cement Map 8
9 *Casing Collar* -1	(lb)	Amplified Amplitude	-5 AMPS2 150	200 1200	0 100
0 Gamma Ray (GAPI) 150	(2500	0 (mV) 10	-5 AMPS3 150		
			-5 AMPS4 150		
			-5 AMPS5 150		
			-5 AMPS6 150		
			-5 AMPS7 150		
			-5 AMPS8 150		

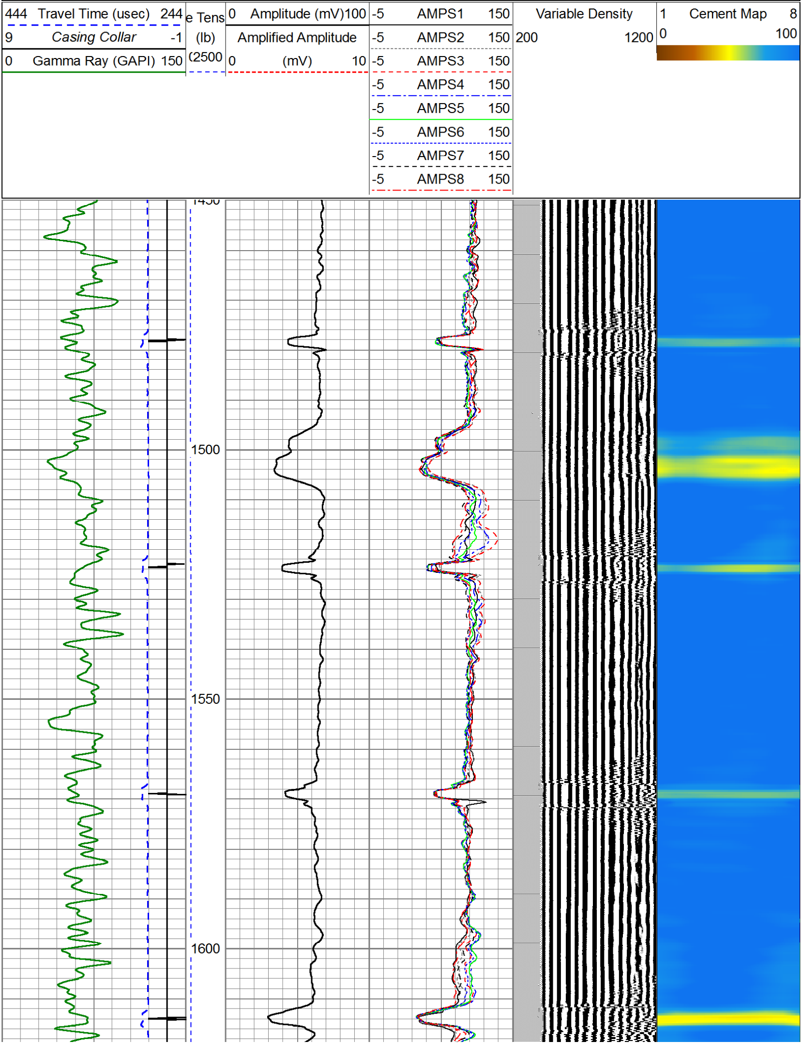


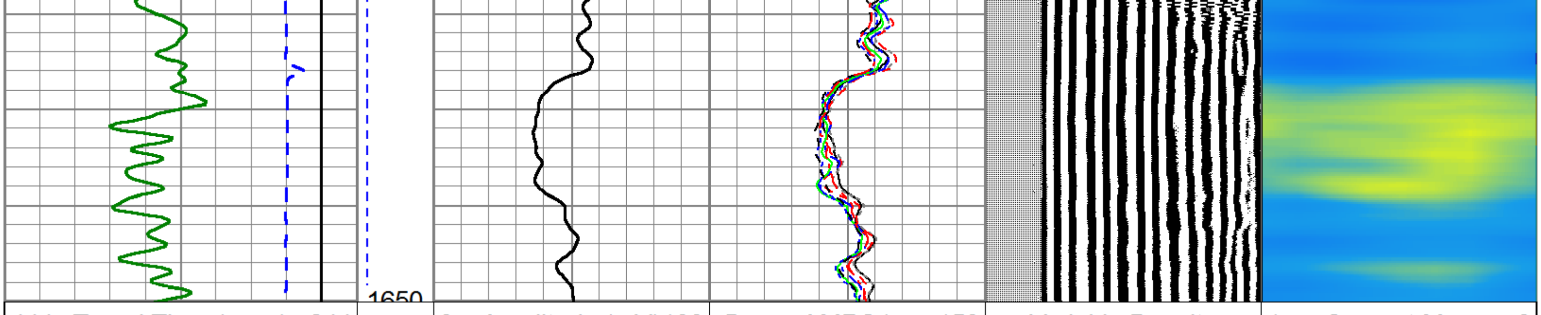


ALLIED
HORIZONTAL
WIRELINE SERVICES

FREE PIPE PASS (0 PSI)

Database File:	bayswater_carlson b-15-16hn_rcbl.db
Dataset Pathname:	pass5
Presentation Format:	ahws_rcbl
Dataset Creation:	Thu Aug 13 04:05:16 2015 by Log 7.0 B1
Charted by:	Depth in Feet scaled 1:240





444 Travel Time (usec) 244	e Tens	0 Amplitude (mV)100	-5 AMPS1 150	Variable Density	1 Cement Map 8
9 *Casing Collar* -1	(lb)	Amplified Amplitude	-5 AMPS2 150	200 1200	0 100
0 Gamma Ray (GAPI) 150	(2500	0 (mV) 10	-5 AMPS3 150		
			-5 AMPS4 150		
			-5 AMPS5 150		
			-5 AMPS6 150		
			-5 AMPS7 150		
			-5 AMPS8 150		

Log Variables

Database:C:\Warrior\Data\bayswater_carlson b-15-16hn_rcbl.db
Dataset: field/well/run1/pass9

Top - Bottom

PPT usec	CASEWGHT lb/ft	MAXAMPL mV	MINAMPL mV	MINATTN db/ft	SRFTEMP degF	CASEOD in	PERFS
284	29	62.2	1	0.8	65	7	0

TDEPTH ft	BOTTEMP degF	BOREID in
7400	120	8.75

Calibration Report

Database File:	bayswater_carlson b-15-16hn_rcbl.db
Dataset Pathname:	pass9
Dataset Creation:	Thu Aug 13 04:45:05 2015 by Log 7.0 B1

Gamma Ray Calibration Report

Serial Number:	110109-Dig	
Tool Model:	Probe275	
Performed:	Wed Aug 12 23:03:04 2015	
Calibrator Value:	1022.0	GAPI
Background Reading:	79.6	cps
Calibrator Reading:	1548.2	cps
Sensitivity:	0.6959	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	111107	
Tool Model:	PROBE_BH	
Calibration Casing Diameter:	7.000	in
Calibration Depth:	1609.967	ft

Master Calibration, performed Thu Aug 13 04:04:23 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.023	1.065	0.000	62.165	59.693	-1.390
CAL	0.016	1.870				
5'	0.053	0.906	0.000	62.165	72.876	-3.869
SUM						
S1	0.060	1.308	0.000	100.000	80.114	-4.772
S2	0.026	1.312	0.000	100.000	77.740	-2.003
S3	0.024	1.130	0.000	100.000	90.431	-2.206
S4	0.033	0.999	0.000	100.000	103.515	-3.389
S5	0.030	0.909	0.000	100.000	113.708	-3.377
S6	0.026	0.862	0.000	100.000	119.630	-3.144
S7	0.020	0.901	0.000	100.000	113.565	-2.304
S8	0.020	1.102	0.000	100.000	92.423	-1.823

Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.016	1.870	1.000	0.000

Air Zero Calibration, performed Wed Dec 31 17:00:00 1969:

	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

Service Ticket No. 42056 API No. 05-123-41710 PGM Ver WARRIOR 7.0 CH

The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client

EQUIPMENT DATA

PROBE 2.75 RADII		PROBE GR-CCL					
Run No.	1	Run No.	1	Run No.		Run No.	
Serial No.	111107	Serial No.	110109	Serial No.		Serial No.	
Model No.	RADII 275	Model No.	GR 275	Model No.		Model No.	
Diameter	2.75IN	Diameter	2.75IN	Diameter		Diameter	

LOGGING DATA

General Data

Pass	Depths		Well Head	Speed	Logging Run Comments
No.	From	To	Pressure	Ft/Min	
7	6650FT	6425FT	0	100	REPEAT PASS
9	7044FT	0FT	0	100	MAIN PASS

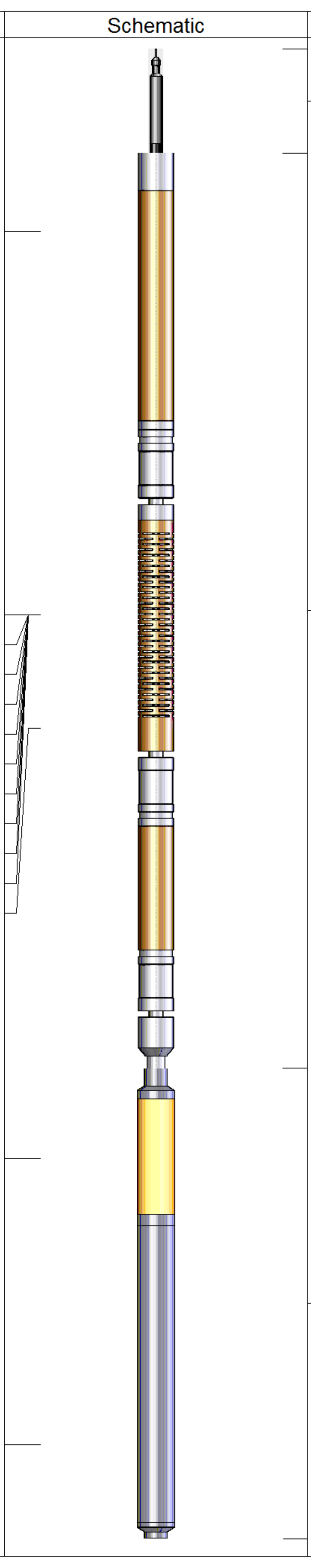
	AMP 3FT		SECTORS		VDL		GAMMA RAY	
Pass	Scale		Scale		Scale		Scale	
No.	L	R	L	R	L	R	L	L
7	0	100	-5	150	0	1200	0	150
9	0	100	-5	150	0	1200	0	150

DIRECTIONAL INFORMATION

Maximum Deviation	N/A	deg. @	KOP	N/A

Sensor	Offset (ft)
Headvolt	12.50
WVF3FT	8.83
WVFCAL	8.83
WVFS1	8.83
WVFS2	8.83
WVFS3	8.83
WVFS4	8.83
WVFS5	8.83
WVFS6	8.83
WVFS7	8.83
WVFS8	8.83
WVF5FT	7.75
CCL	3.63
GR	0.89

Schematic



Description	Len (ft)	OD (in)	Wt (lb)
CHD-STNDRD (GOI) Standard Cable Head	1.00	1.69	10.00
RBT-PROBE_BH (111107) Probe Radii Bond Tool with Digital Telemetry	8.75	2.75	90.00
GR-Probe275 (110109-Dig)	4.50	2.75	57.00

Dataset:	bayswater_carlson b-15-16hn_rcbl.db: field/well/run1/pass9
Total Length:	14.25 ft
Total Weight:	157.00 lb
O.D.	2.75 in

ALLIED HORIZONTAL WIRELINE SERVICES

Company	BAYSWATER EXPLORATION AND PRODUCTION
Well	CARLSON B-15-16HC
Field	WATTENBERG
County	WELD
State	COLORADO
Country	USA