



**Radial Cement Bond
Gamma Ray/CCL Log**

Company Kerr-McGee Oil & Gas Onshore LP
Well Riverbend 37-12
Field Wattenberg
County Weld
State Colorado

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Location: API #: 05-123-33940
NE NE 556' FNL 535' FEL
SEC 13 TWP 1N RGE 67W
Permanent Datum Ground Level Elevation 4913'
Log Measured From Kelly Bushing
Drilling Measured From Kelly Bushing
Other Services None
Elevation K.B. 4928'
D.F. 4927'
G.L. 4913'

Date	8-Jan-2016
Run Number	One
Depth Driller	7890'
Depth Logger	2650'
Bottom Logged Interval	2650'
Top Log Interval	Surface
Open Hole Size	7 7/8"
Type Fluid	Water
Density / Viscosity	N/A
Max. Recorded Temp.	N/A
Estimated Cement Top	340'
Time Well Ready	Upon Arrival
Time Logger on Bottom	7:30 AM
Equipment Number	200
Location	Ault, CO
Recorded By	Chris Blankenhorn
Witnessed By	Nate Windholz

Borehole Record		Tubing Record					
Run Number	Bit	From	To	Size	Weight	From	To
Casing Record							
Surface String	8 5/8"			24#		Surface	Bottom
Prot. String							
Production String	4 1/2"			11.6#		Surface	8187'
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

Thank you for using Cutters Wireline Services!
Your crew today was: C. Blankenhorn, T. Lee, Y. Tojo, Swei L.
Free Pipe Amplitude = 82mV

Calibration Report

Database File: kerr mcgee riverbend 3712.db
Dataset Pathname: pass6.2
Dataset Creation: Fri Jan 08 07:35:48 2016 by Calc Std Casedhole 09061

Gamma Ray Calibration Report

Serial Number: DIG110255
 Tool Model: 275D_INC
 Performed: Mon Apr 18 12:08:17 2011

Calibrator Value: 200.0 GAPI

Background Reading: 20.0 cps
 Calibrator Reading: 360.0 cps

Sensitivity: 0.7000 GAPI/cps

Inclinometer Calibration Report

Performed: Mon Apr 18 12:08:46 2011

	Low Read.	High Read.	Low Ref.	High Ref.	
X Accelerometer	-3622.00	3614.00	-1.00	1.00	gee
Y Accelerometer	-3722.00	3562.00	-1.00	1.00	gee
Z Accelerometer	-75.00	3555.00	0.00	1.00	gee

Segmented Cement Bond Log Calibration Report

Serial Number: 110217
 Tool Model: Probe

Calibration Casing Diameter: 4.500 in
 Calibration Depth: 251.415 ft

Master Calibration, performed Fri Jan 08 07:32:58 2016:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	0.807	0.000	81.196	70.000	0.000
CAL	0.000	1.780				
5'	0.000	0.762	0.000	81.196	106.567	0.000
SUM						
S1	0.000	0.901	0.000	100.000	111.030	0.000
S2	0.000	0.749	0.000	100.000	133.525	0.000
S3	0.000	0.730	0.000	100.000	136.894	0.000
S4	0.000	0.753	0.000	100.000	132.735	0.000
S5	0.000	0.780	0.000	100.000	128.218	0.000
S6	0.000	0.845	0.000	100.000	118.404	0.000
S7	0.000	0.872	0.000	100.000	114.671	0.000
S8	0.000	0.857	0.000	100.000	116.674	0.000

Internal Reference Calibration, performed Wed Dec 31 18:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.000	1.780	1.000	0.000

Air Zero Calibration, performed Fri Jan 08 07:19:50 2016:

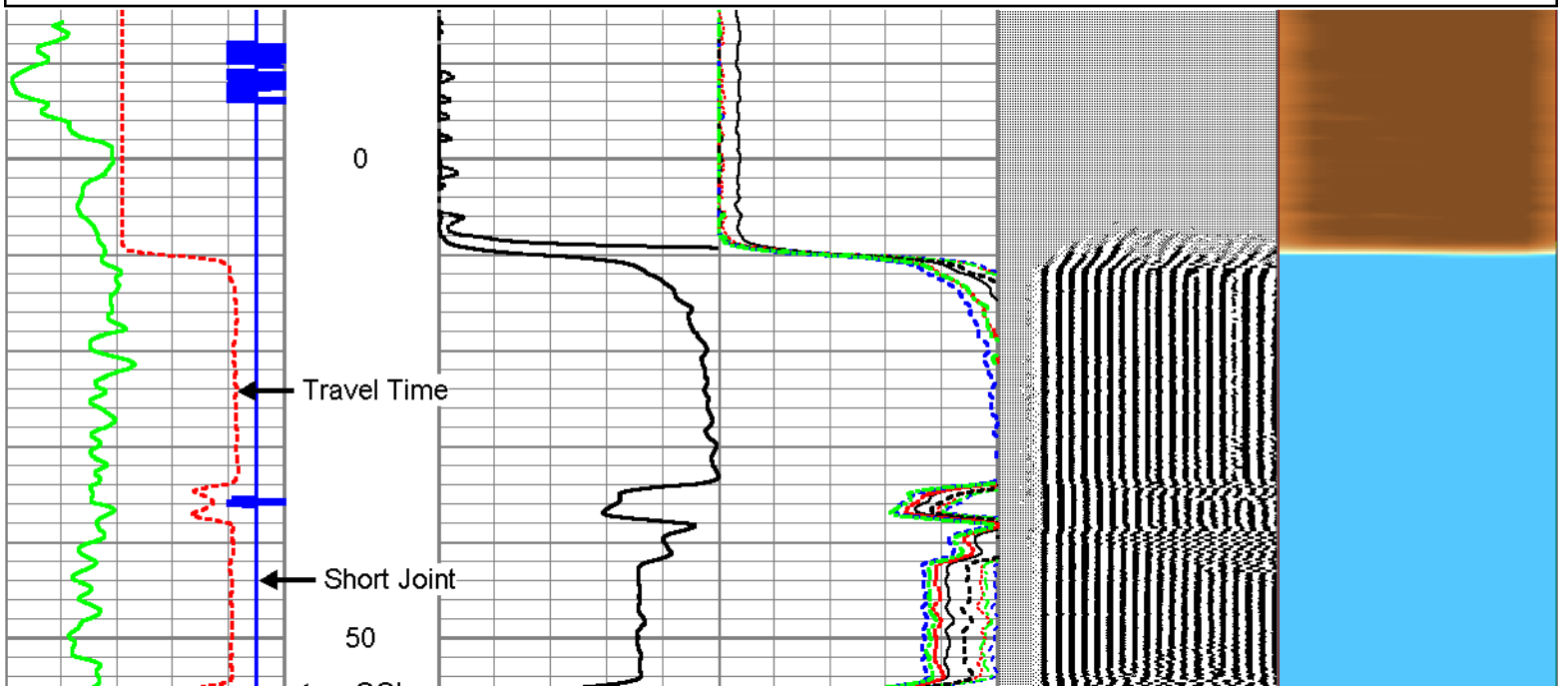
	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.000	0.000	0.000
5'	0.000	0.000	0.000
SUM			
S1	0.000	0.000	0.000
S2	0.000	0.000	0.000
S3	0.000	0.000	0.000
S4	0.000	0.000	0.000
S5	0.000	0.000	0.000
S6	0.000	0.000	0.000
S7	0.000	0.000	0.000
S8	0.000	0.000	0.000

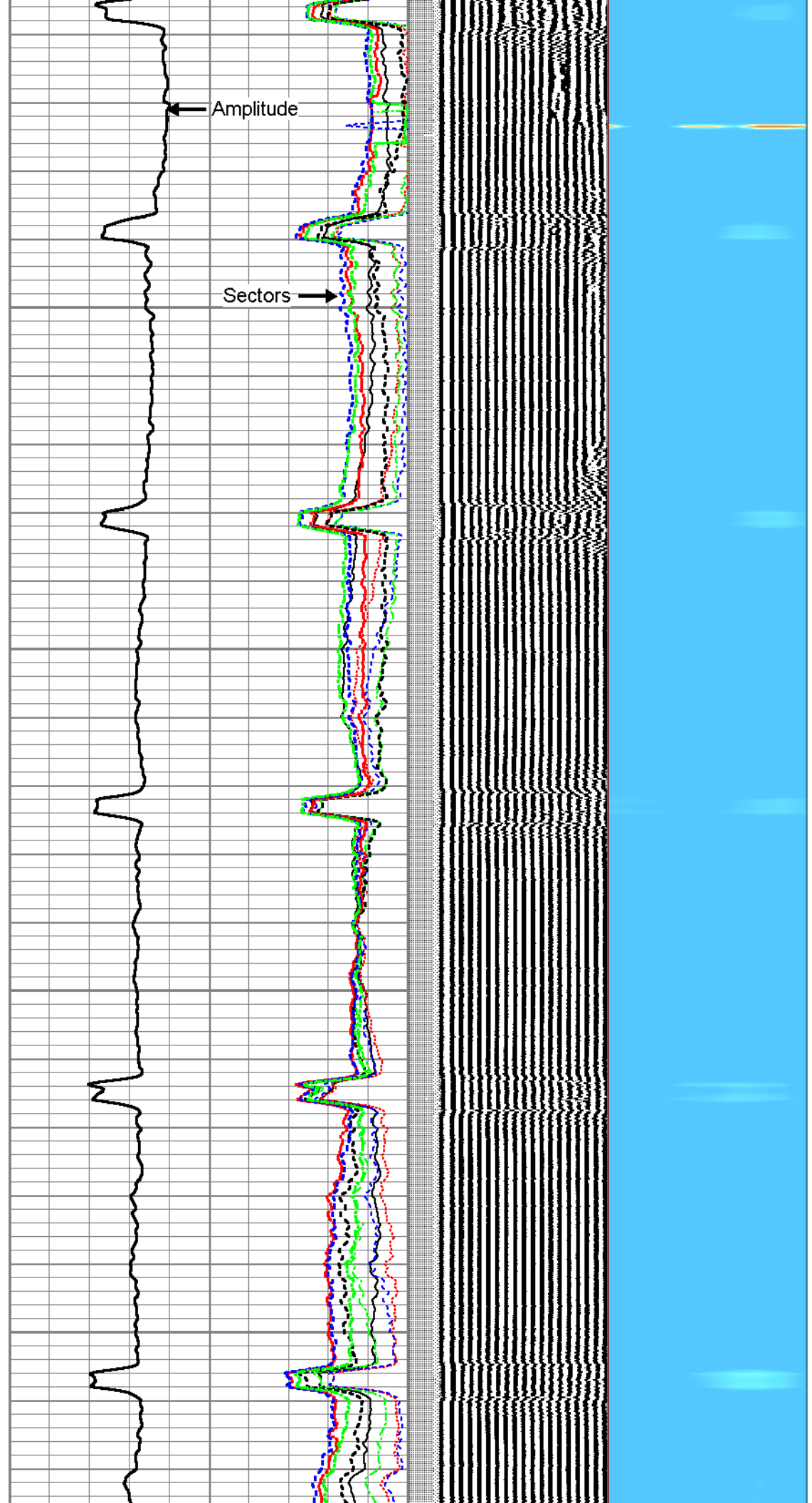
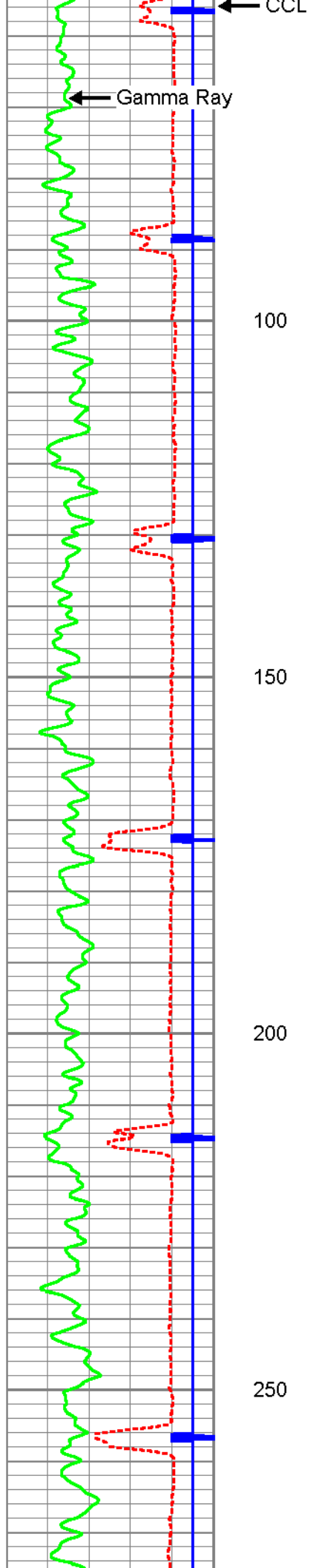


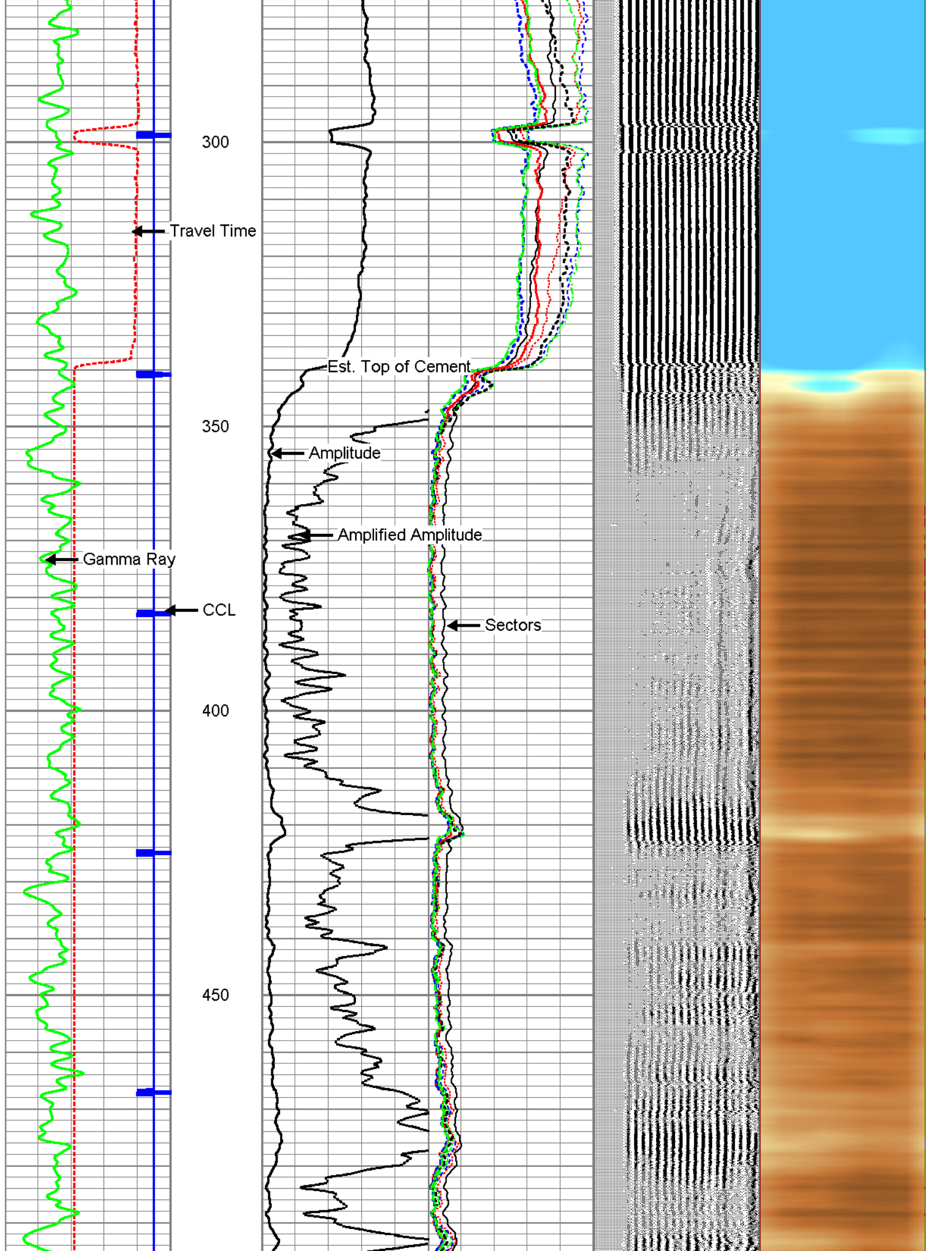
Main Pass @ 0 PSI

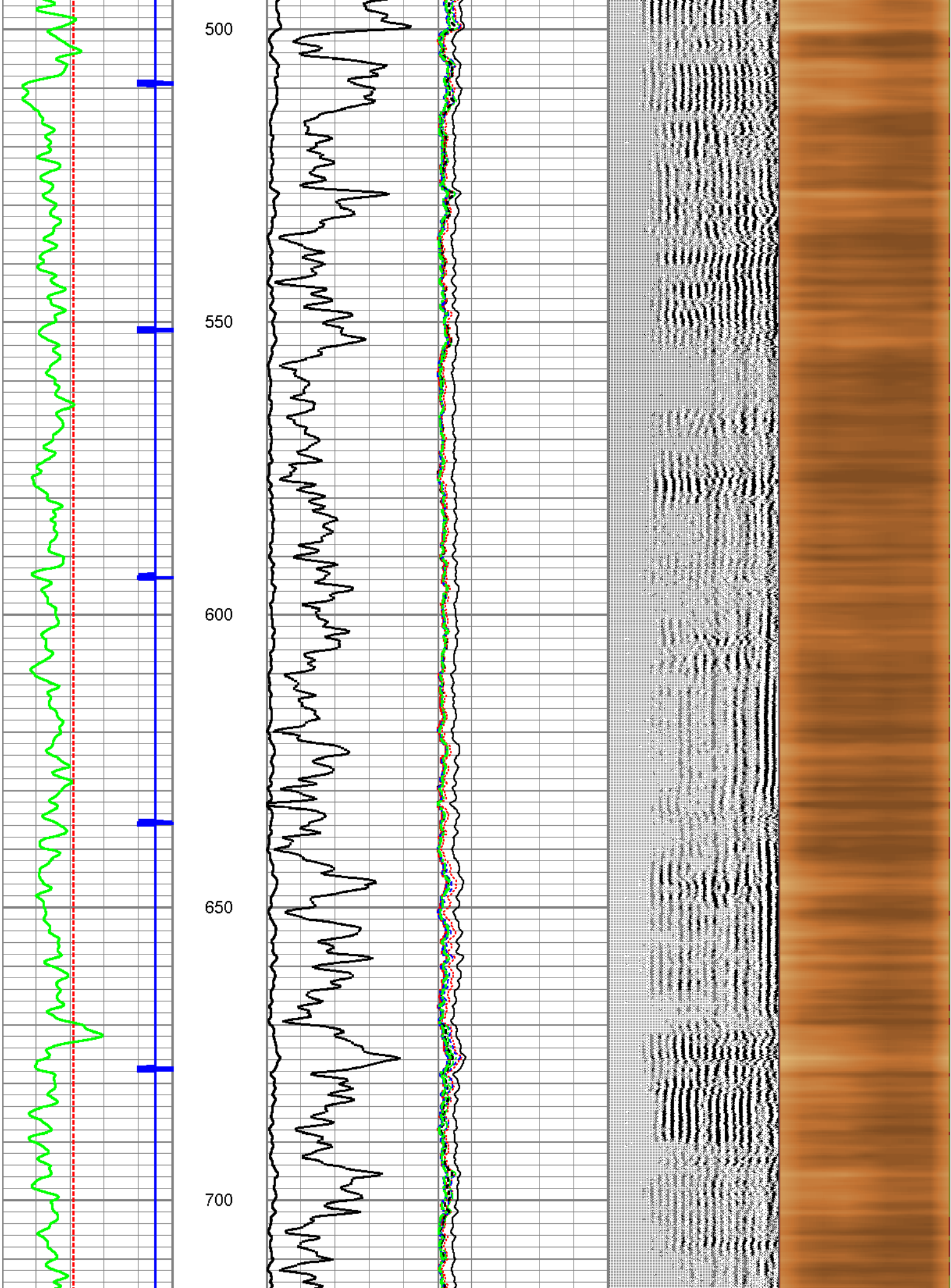
Database File: kerr mcgee riverbend 3712.db
 Dataset Pathname: pass6.2
 Presentation Format: scbl_inc
 Dataset Creation: Fri Jan 08 07:35:48 2016 by Calc Std Casedhole 09061
 Charted by: Depth in Feet scaled 1:240

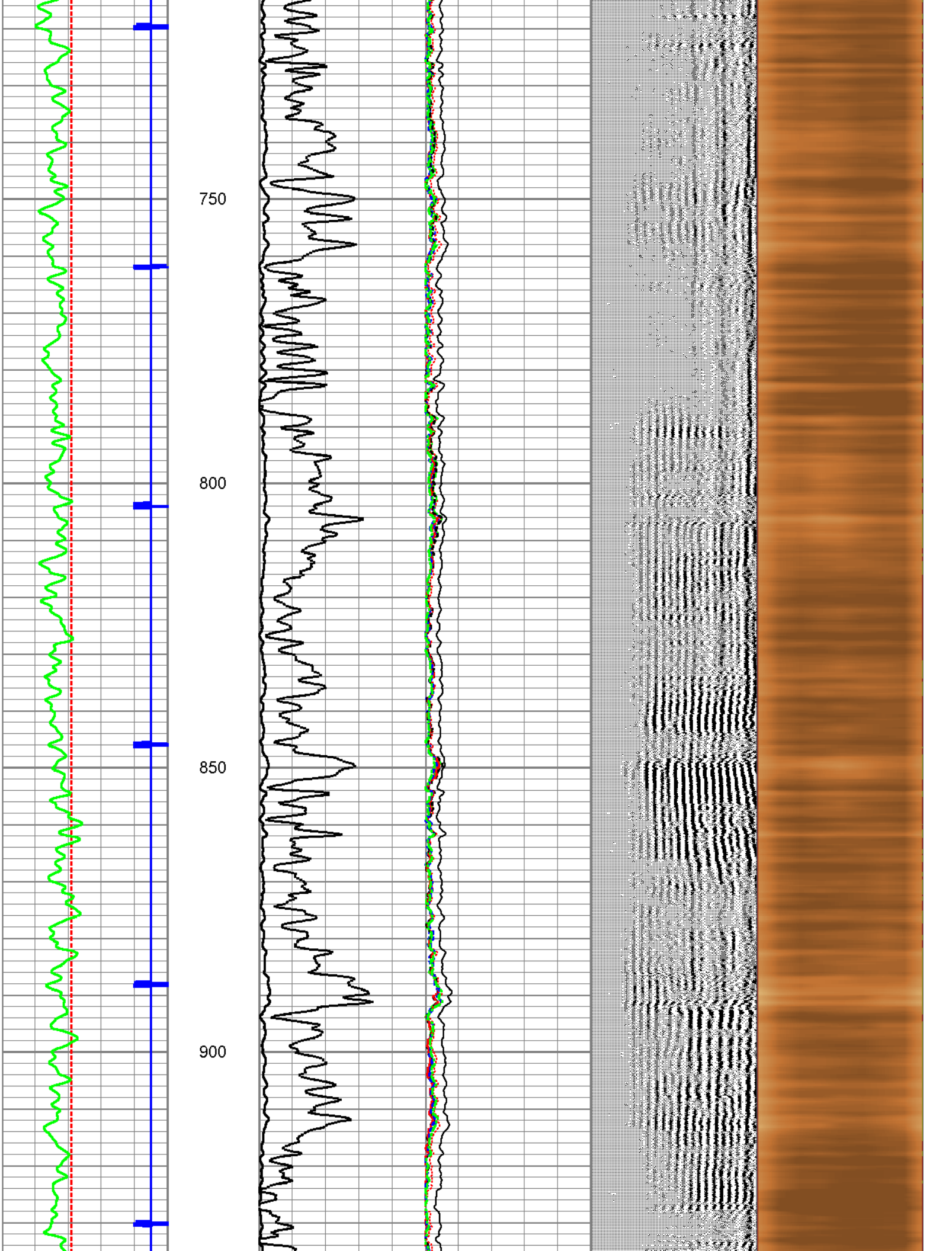
325	TT (usec)	225	0	AMP (mV)	100	0	AMPS1	150	200	VDL	1200	Cement Map	
-9	CCL	1	0	AMPx10 (mV)	10	0	AMPS2	150				1	80
0	GR (GAPI)	150				0	AMPS3	150					
						0	AMPS4	150					
						0	AMPS5	150					
						0	AMPS6	150					
						0	AMPS7	150					
						0	AMPS8	150					

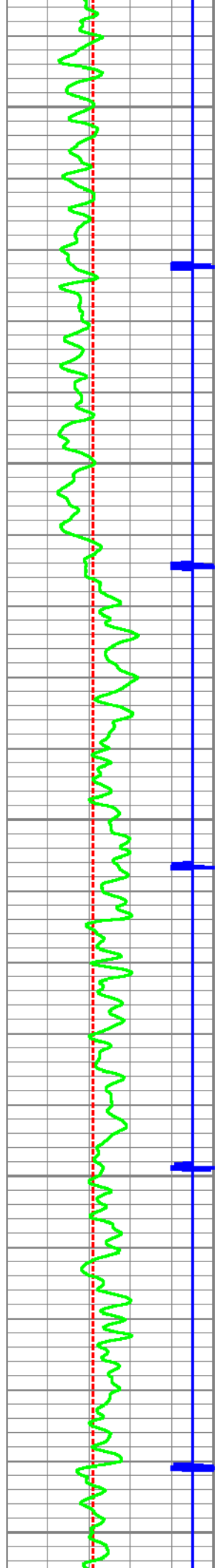




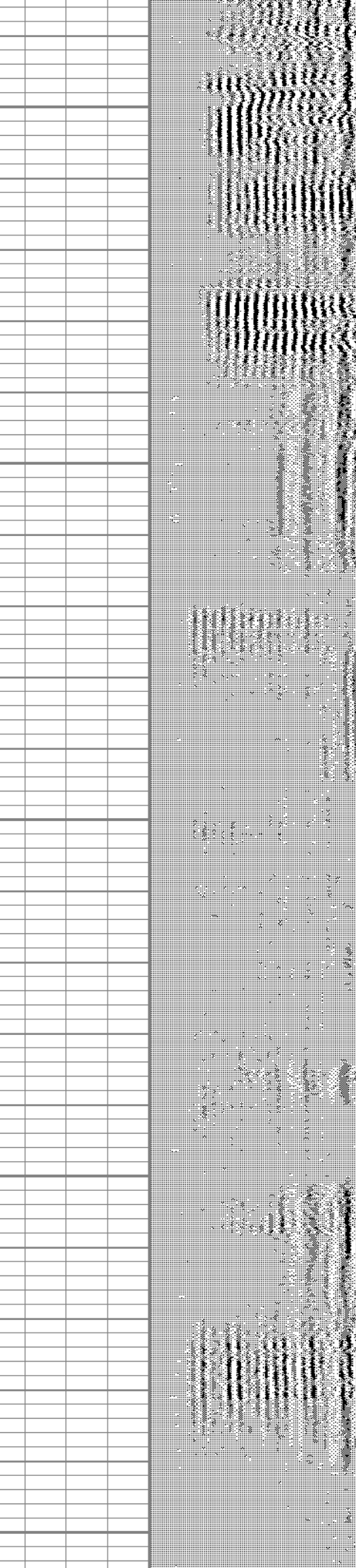
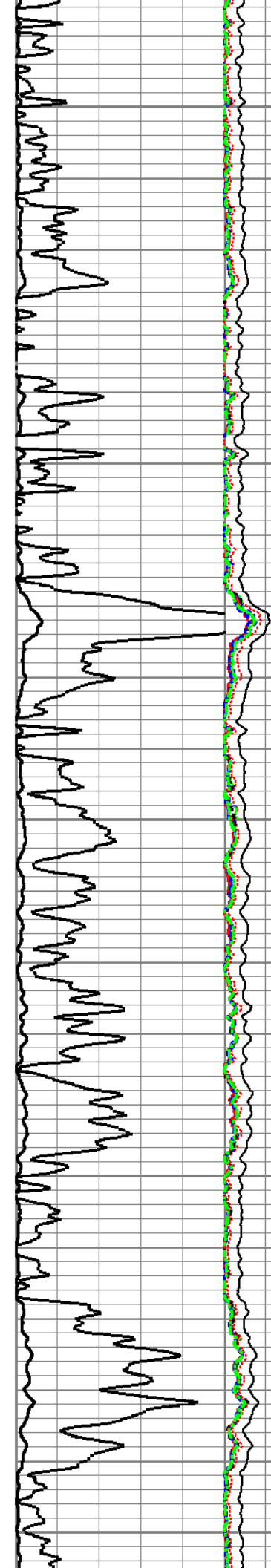


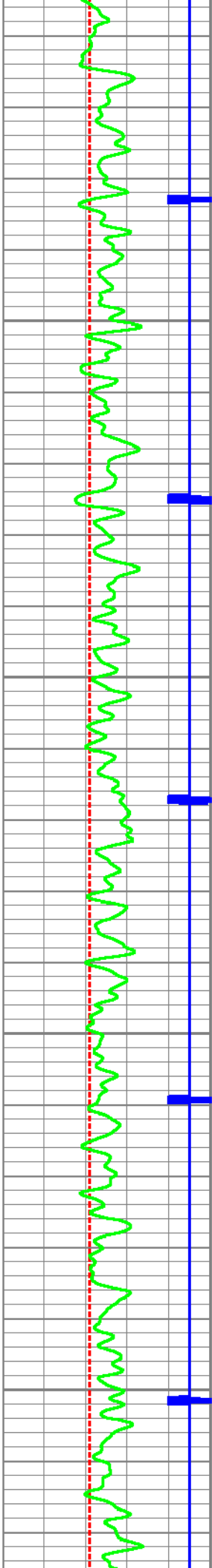






950
1000
1050
1100
1150



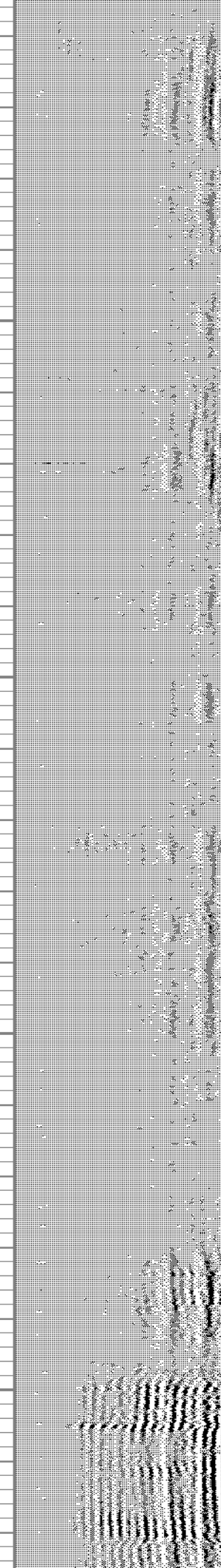
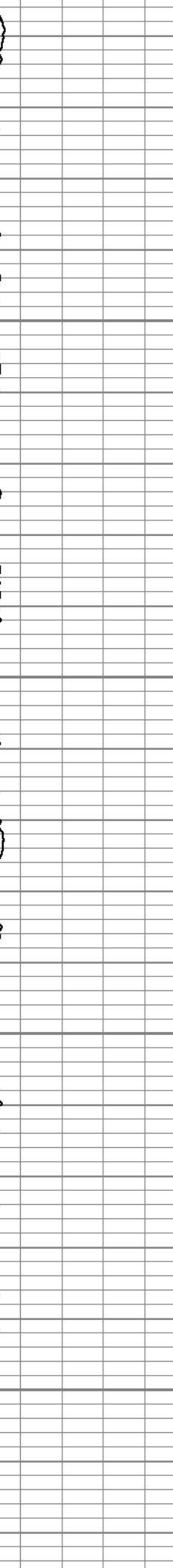
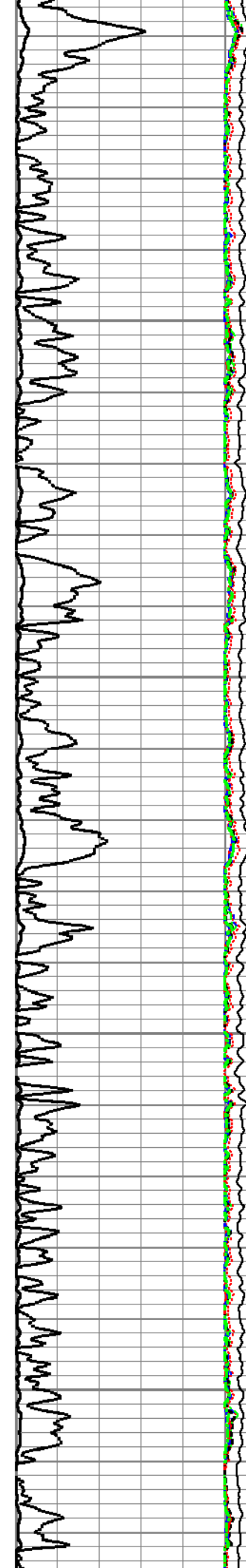


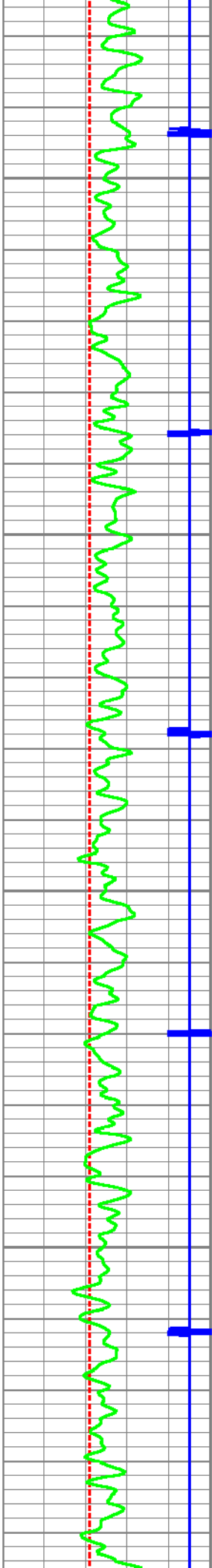
1200

1250

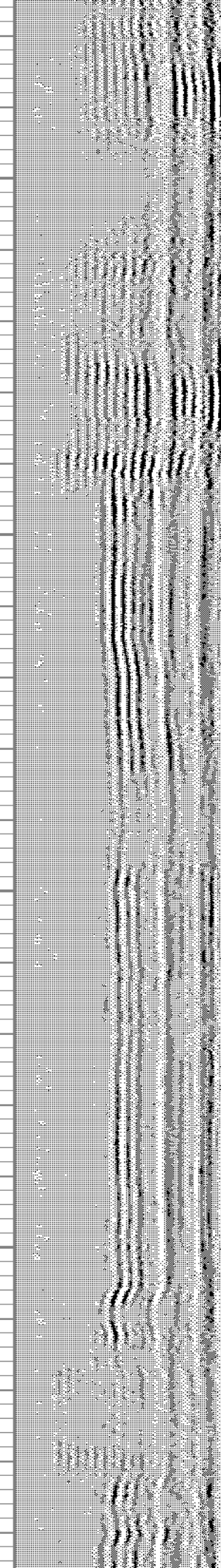
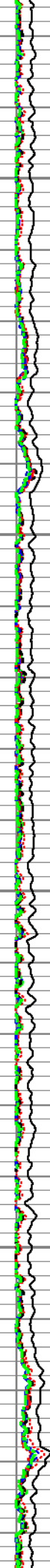
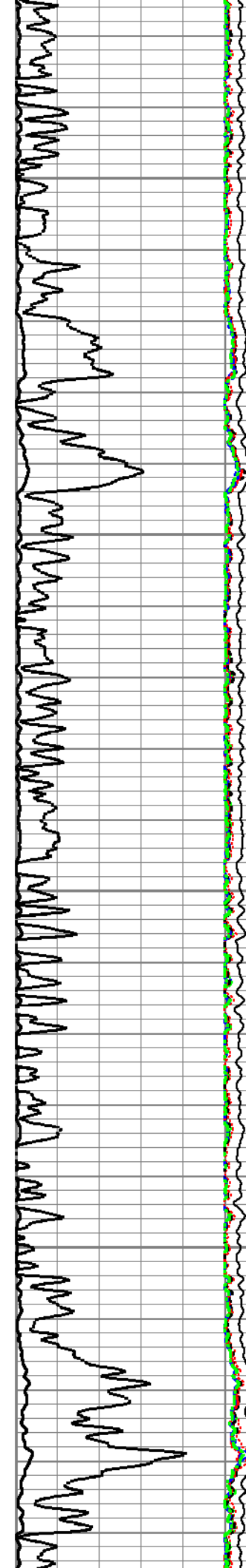
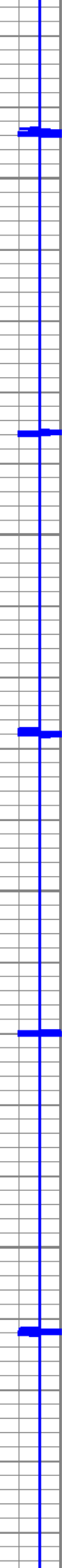
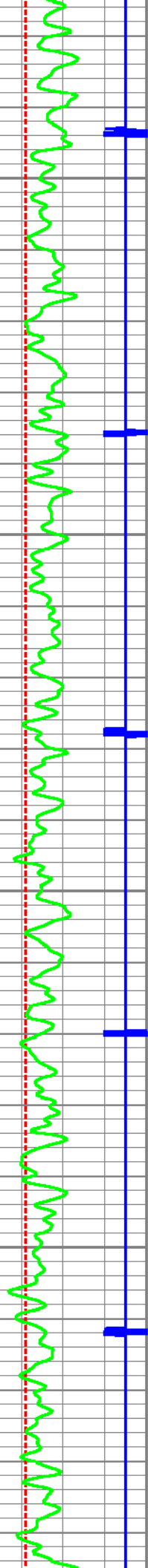
1300

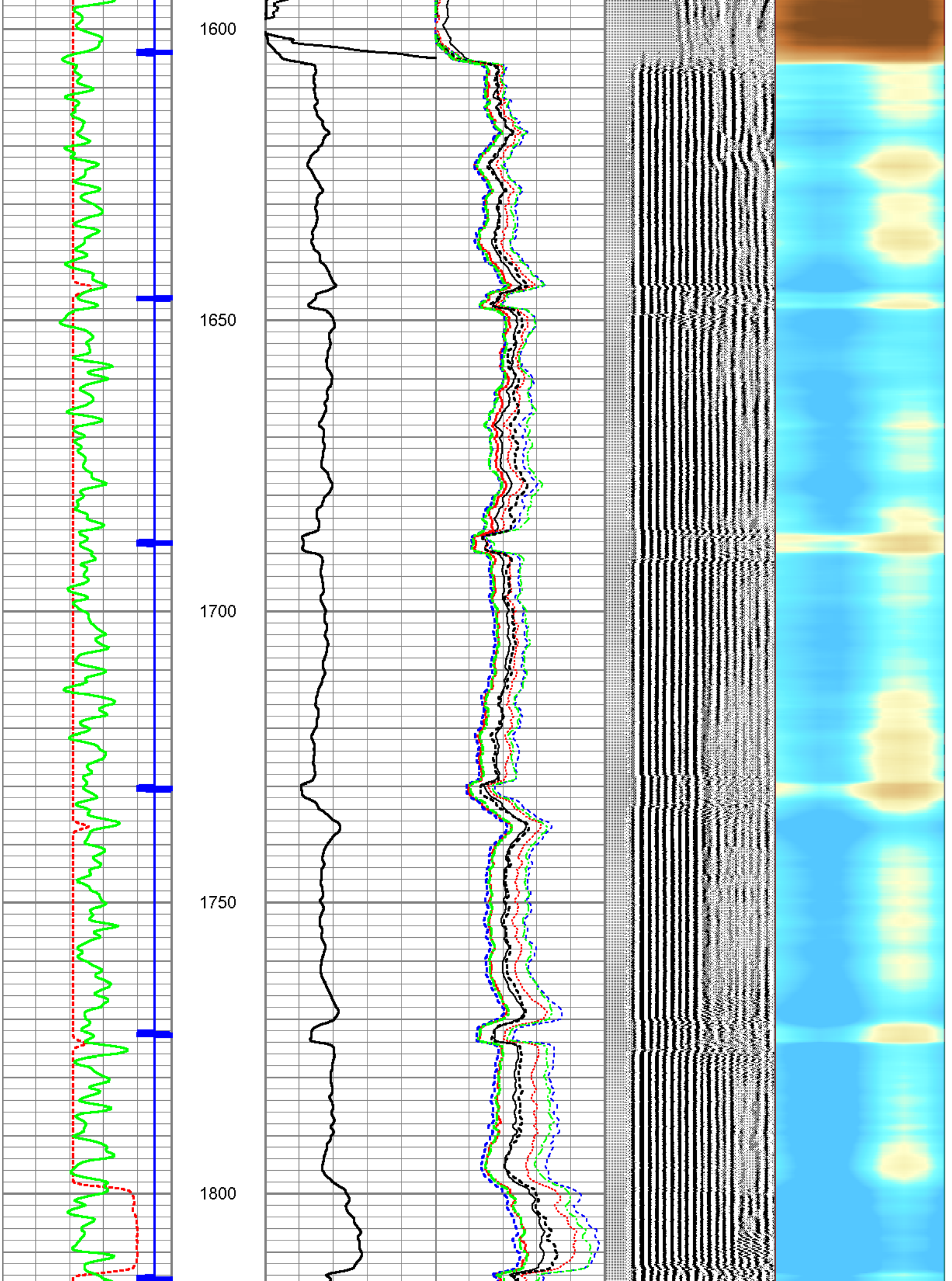
1350

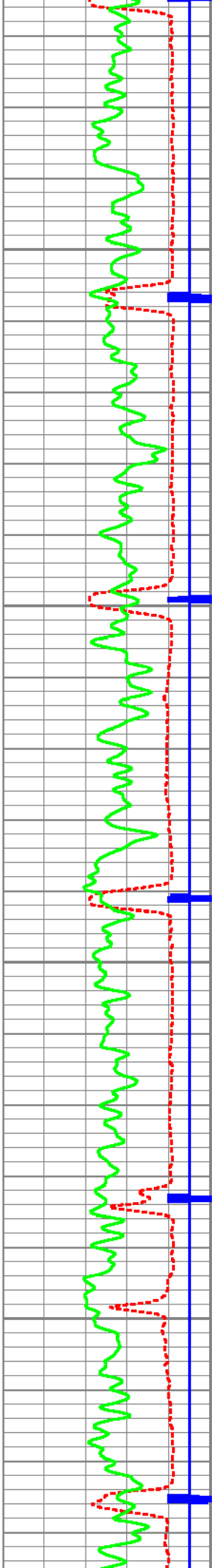




1400
1450
1500
1550





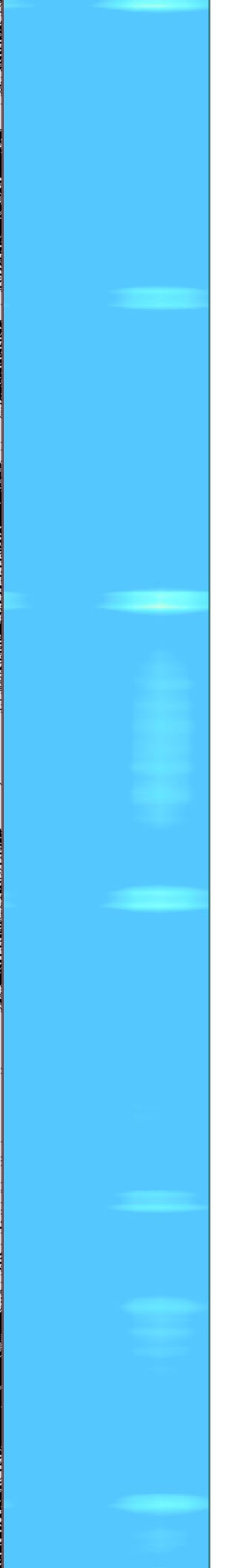
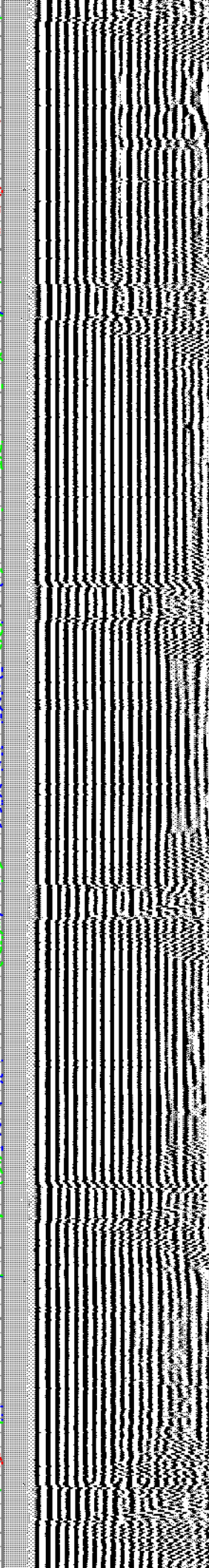
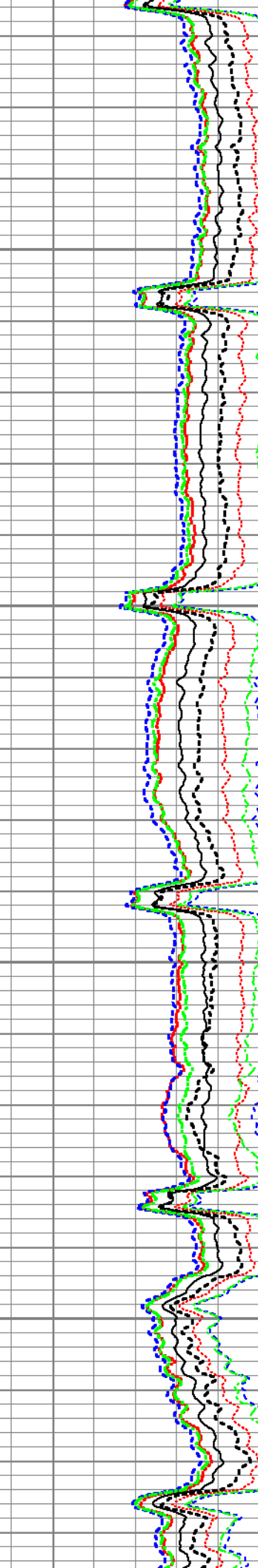
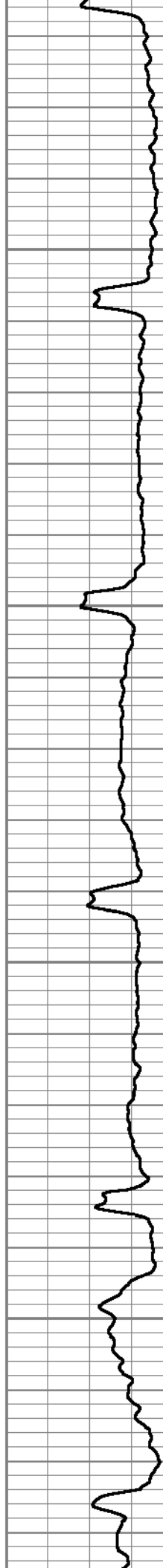


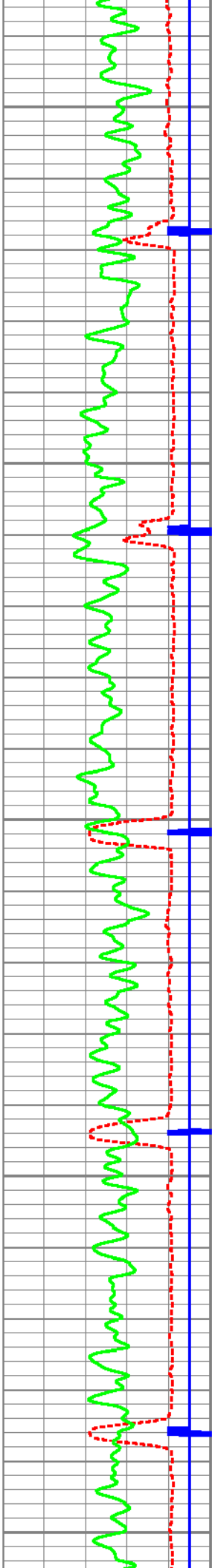
1850

1900

1950

2000





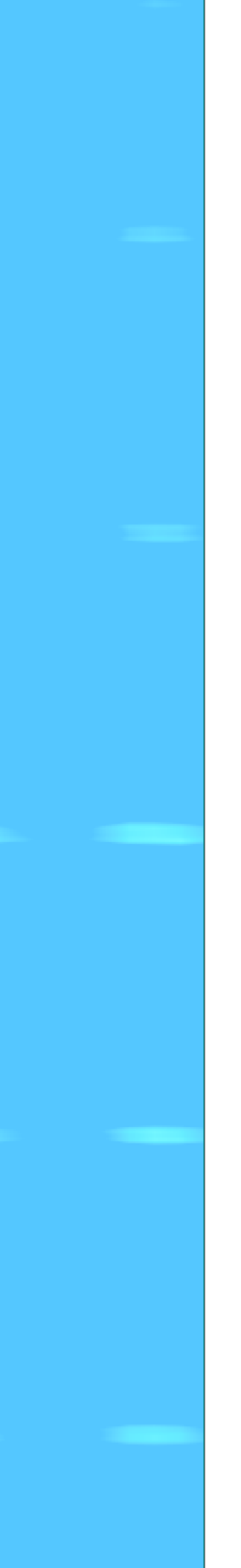
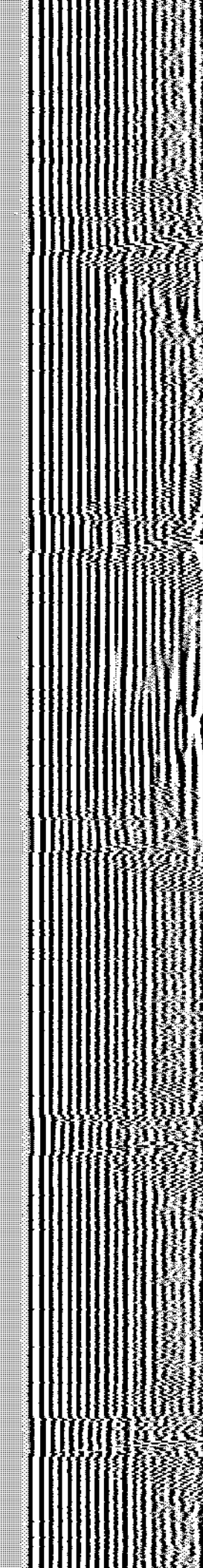
2050

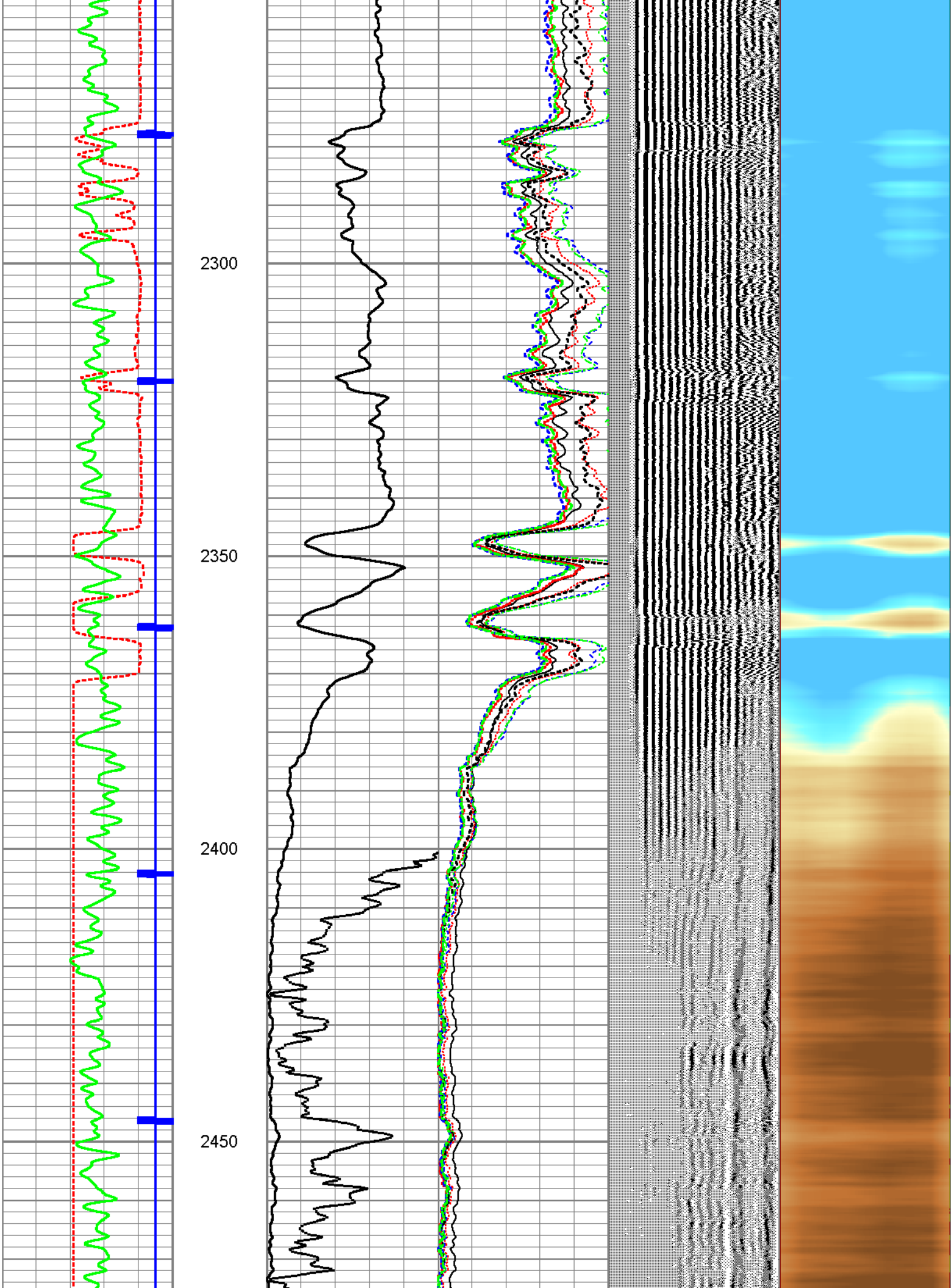
2100

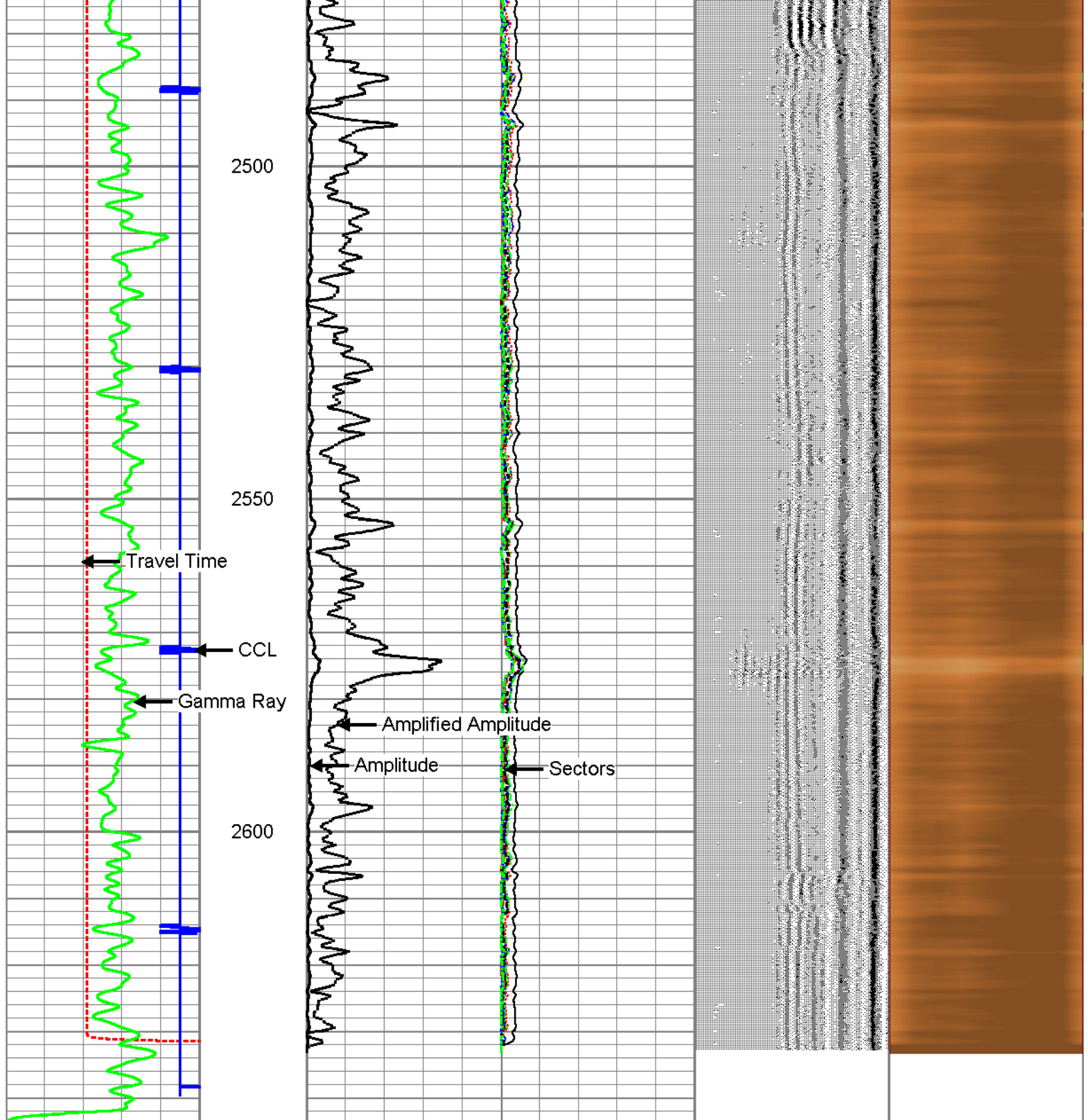
2150

2200

2250



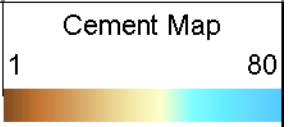




325	TT (usec)	225
-9	CCL	1
0	GR (GAPI)	150

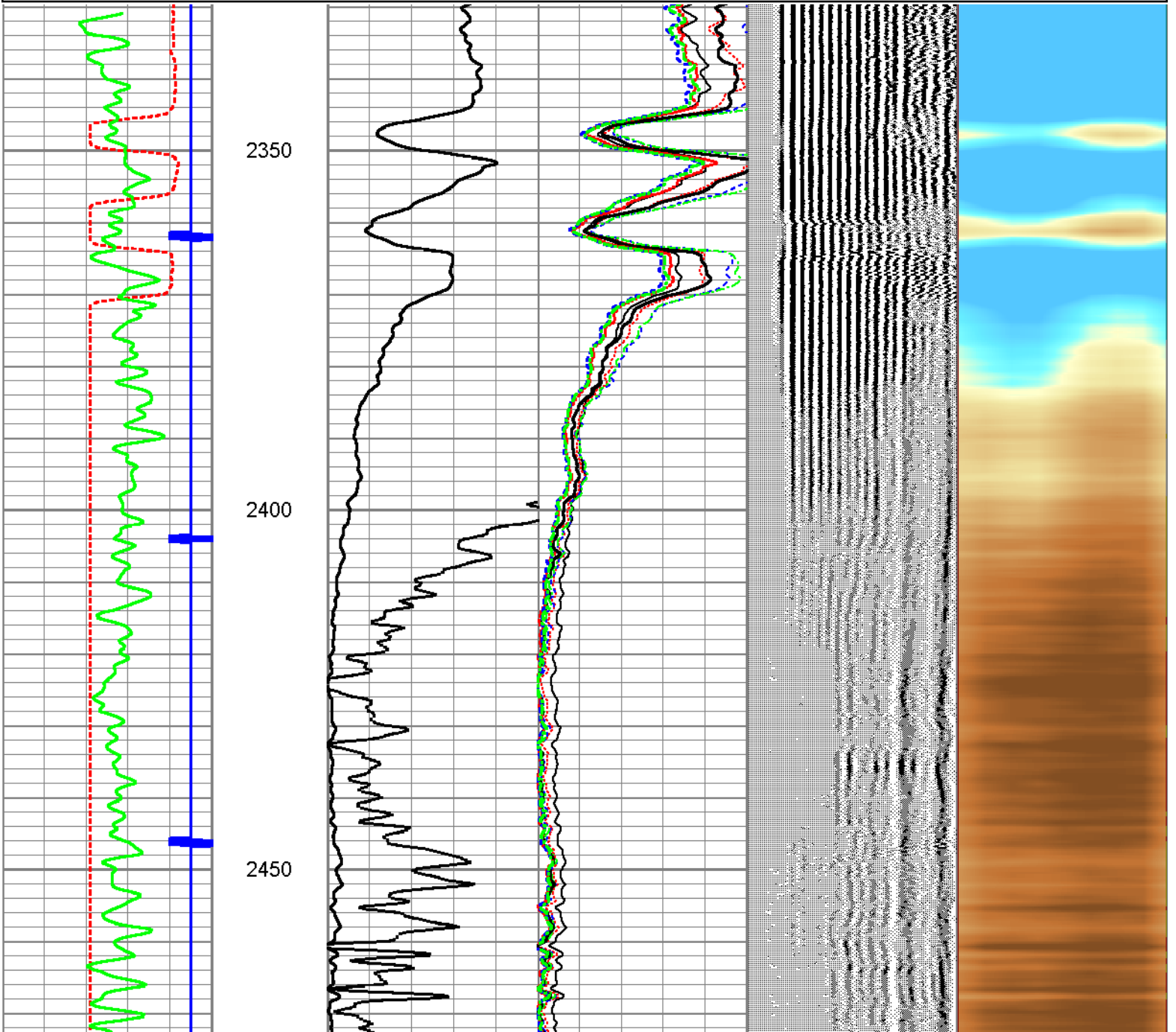
0	AMP (mV)	100	0	AMPS1	150
0	AMPx10 (mV)	10	0	AMPS2	150
0			0	AMPS3	150
0			0	AMPS4	150
0			0	AMPS5	150
0			0	AMPS6	150
0			0	AMPS7	150
0			0	AMPS8	150

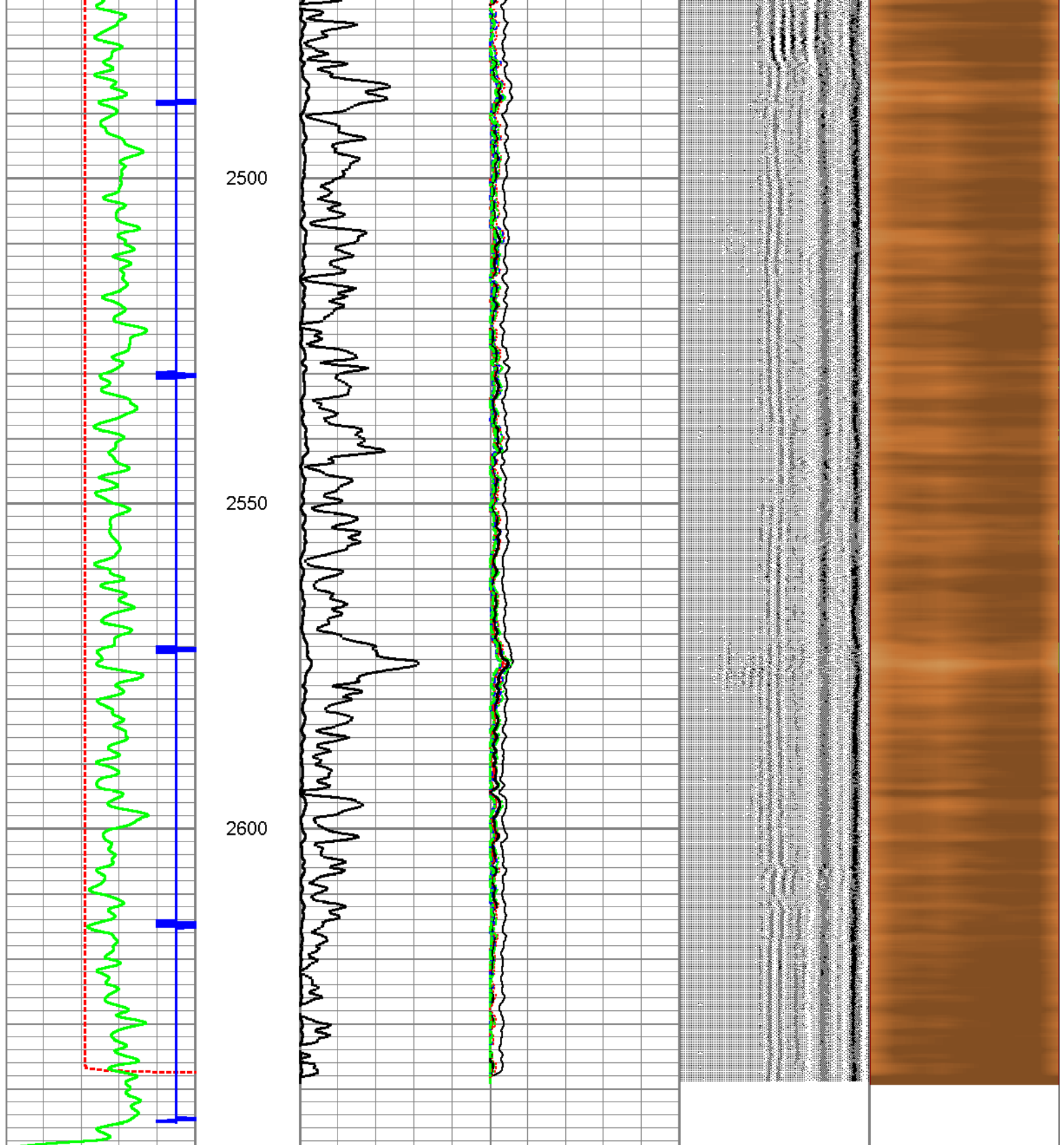
200 VDL 1200



Database File: kerr mcgee riverbend 3712.db
 Dataset Pathname: pass5.1
 Presentation Format: scbl_inc
 Dataset Creation: Fri Jan 08 07:36:33 2016 by Calc Std Casedhole 09061
 Charted by: Depth in Feet scaled 1:240

325	TT (usec)	225	GR	0	AMP (mV)	100	0	AMPS1	150	200	VDL	1200	1	Cement Map	8
-9	CCL	1	(GAPI)	0	AMPx10 (mV)	10	0	AMPS2	150				1		80
0	GR (GAPI)	150	150	300			0	AMPS3	150						
							0	AMPS4	150						
							0	AMPS5	150						
							0	AMPS6	150						
							0	AMPS7	150						
							0	AMPS8	150						





325	TT (usec)	225	GR	0	AMP (mV)	100	0	AMPS1	150	200	VDL	1200	1	Cement Map	8
-9	CCL	1	(GAPI)	0	AMPx10 (mV)	10	0	AMPS2	150				1		80
0	GR (GAPI)	150	150	300			0	AMPS3	150						
							0	AMPS4	150						
							0	AMPS5	150						
							0	AMPS6	150						
							0	AMPS7	150						
							0	AMPS8	150						

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)	
			Standard Standard Cable Head	1.00	1.69	1.00	
			PTS275	2.83	2.75		
HEADVOLT	16.25						
WWF3FT	11.58			RBT-Probe (110217) Probe Radii Bond Tool with Digital Telemetry	8.92	2.75	90.00
WWFCAL	11.58						
WWFS1	11.58						
WWFS2	11.58						
WWFS3	11.58						
WWFS4	11.58						
WWFS5	11.58						
WWFS6	11.58						
WWFS7	11.58						
WWFS8	11.58						
WWF5FT	10.58						
			PTS275	2.83	2.75		
CCL	3.50						
IntTemp	2.00		GR-275D_INC (275D_with_INC) 2-3/4" GR-CCL with Inclination	4.50	2.75		
ACCX	1.83						
ACCY	1.83						
ACCZ	1.83						
GR	0.83						

Dataset: kerr mcgee riverbend 3712.db: field/well/run1/pass7
 Total Length: 20.08 ft
 Total Weight: 91.00 lb
 O.D.: 2.75 in



Company	Kerr-McGee Oil & Gas Onshore LP
Well	Riverbend 37-12
Field	Wattenberg
County	Weld
State	Colorado