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V.D.L. C.C.L. GAMMA RAY CEMENT BOND LOG

Company	Bonanza Creek Energy
Well	NORTH PLATTE K21-O24-34HNC
Field	Wattenberg
County	Weld
State	Colorado

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Well NORTH PLATTE K21-O24-34HNC
Field Wattenberg
County Weld State Colorado

Location: API # : 05-123-41886

SHL: 1153' FSL & 2473' FWL SESW

SEC 27 TWP 5N RGE 63W

Other Services
None

Permanent Datum	GL	Elevation	4541'
Log Measured From	KB		
Drilling Measured From	KB		

Elevation
K.B. 4558'
D.F. 4558'
G.L. 4541'

Date	10 OCTOBER 2015		
Run Number	One		
Depth Driller	6967'		
Depth Logger	6210'		
Bottom Logged Interval	6210'		
Top Log Interval	SURFACE		
Open Hole Size	N/A		
Type Fluid	WATER		
Density / Viscosity	8.34 LB/G		
Max. Recorded Temp.	N/A		
Estimated Cement Top	N/A		
Time Well Ready	0700		
Time Logger on Bottom	1600		
Equipment Number	P109		
Location	FORT MORGAN		
Recorded By	SHAUN STUMP		
Witnessed By	KURT DODGE		

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	9.875"	36#	SURFACE	1689'
Prot. String				
Production String	7"	26#	SURFACE	6967'
Liner	4.5"	11.6#	6175'	6967'

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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 as per customer request
Log ran from Liner top to Surface.
Log ran with 0 PSI surface induced pressure
Log Measured from KB.
Liner top @ 6180'.
KOP @ 6175'.
Limited Header Info on location.

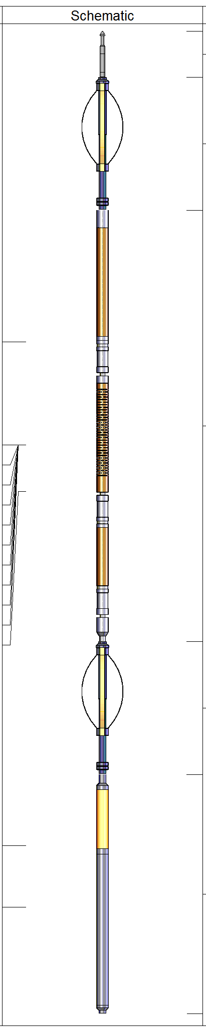
Thank you for choosing Pioneer Energy Services.
SO#2-290141

Log Variables

Database:C:\Warrior\Data\bc_k21_o24_34hnc.db
Dataset: field/well/run1/FPP

Top - Bottom

PPT usec	CASEWGHT lb/ft	MAXAMPL mV	MINAMPL mV	MINATTN db/ft	CASEOD in	PERFS	TDEPTH ft
0	26	0	1.5	0.08	7	0	0
BOTTEMP degF	**BOREID** in						
193	8.75						



Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			STNDRD Standard Cable Head	1.00	1.69	10.00
			PTS275	2.88	2.75	
TEMP	14.53					
			RBT-RBTC3 (111206)	9.33	2.75	100.00
WVF3FT	12.29					
WVFCAL	12.29					
WVFS1	12.29					
WVFS2	12.29					
WVFS3	12.29					
WVFS4	12.29					
WVFS5	12.29					
WVFS6	12.29					
WVFS7	12.29					
WVFS8	12.29					
WVF5FT	11.29					
			PTS275	2.88	2.75	
CCL	3.63					
GR	2.30		GR_CCL-Probe (Base) Probe Gamma CCL	5.17	2.75	100.00

Dataset: bc_k21_o24_34hnc.db: field/well/run1/FPP
Total Length: 21.25 ft
Total Weight: 210.00 lb
O.D. 2.75 in

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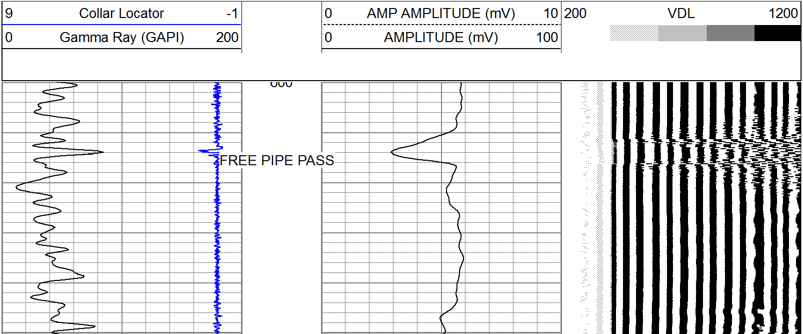
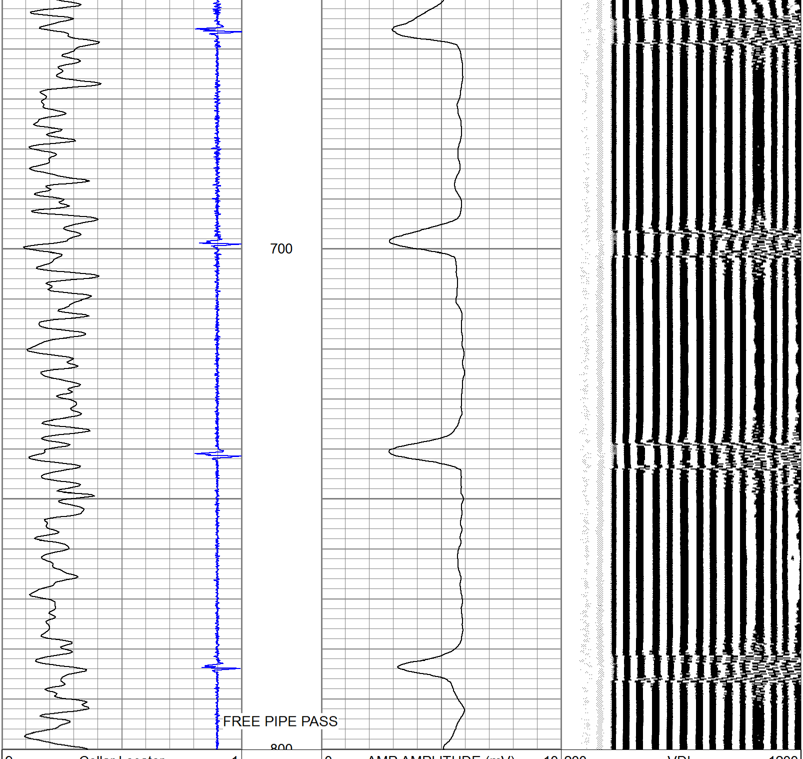
FREE PIPE PASS

Database File:	bc_k21_o24_34hnc.db
Dataset Pathname:	FPP
Presentation Format:	cbl
Dataset Creation:	Sat Oct 10 16:52:08 2015 by Calc SCH 120430
Charted by:	Depth in Feet scaled 1:240





9	Collar Locator	-1	0	AMP AMPLITUDE (mV)	10	200 VDL 1200
0	Gamma Ray (GAPI)	200	0	AMPLITUDE (mV)	100	

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END OF FREE PIPE PASS

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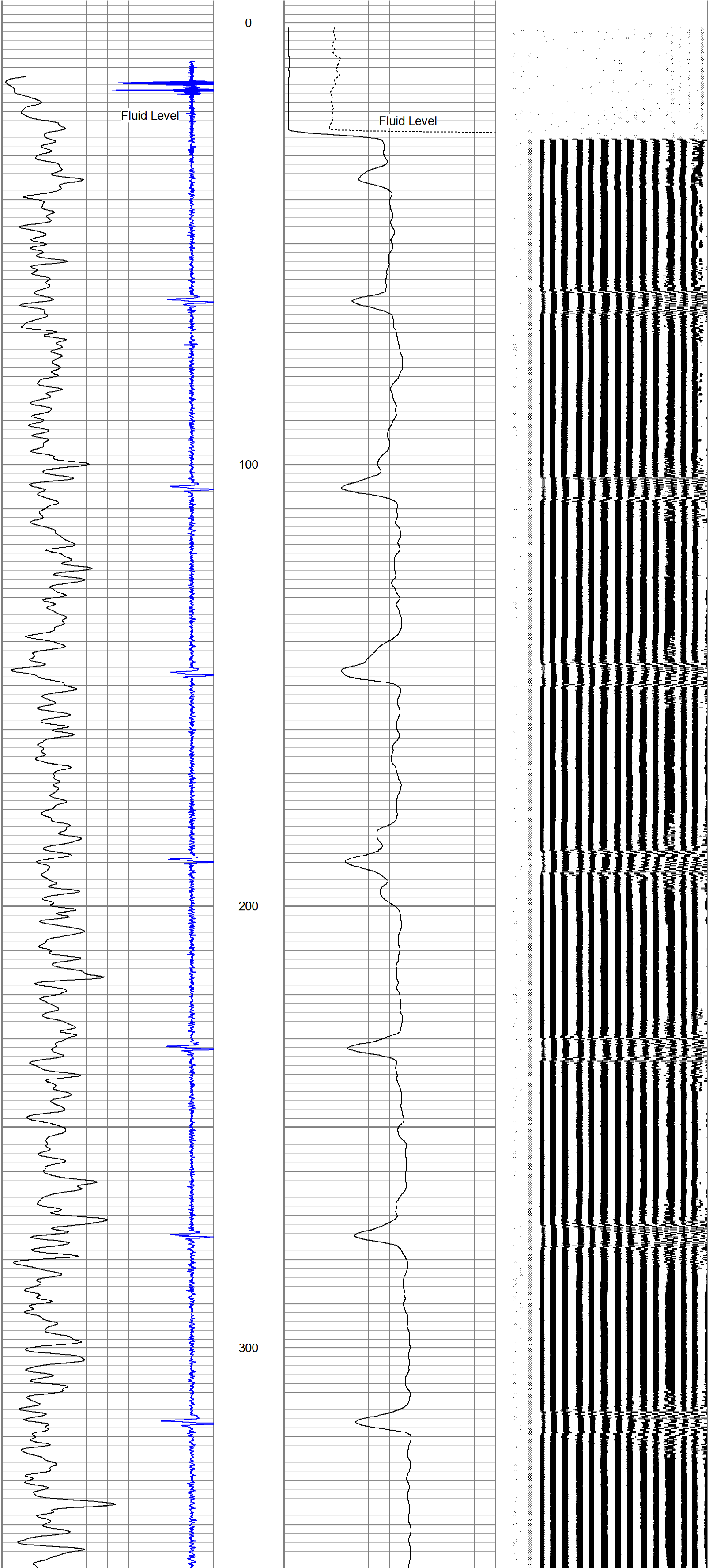
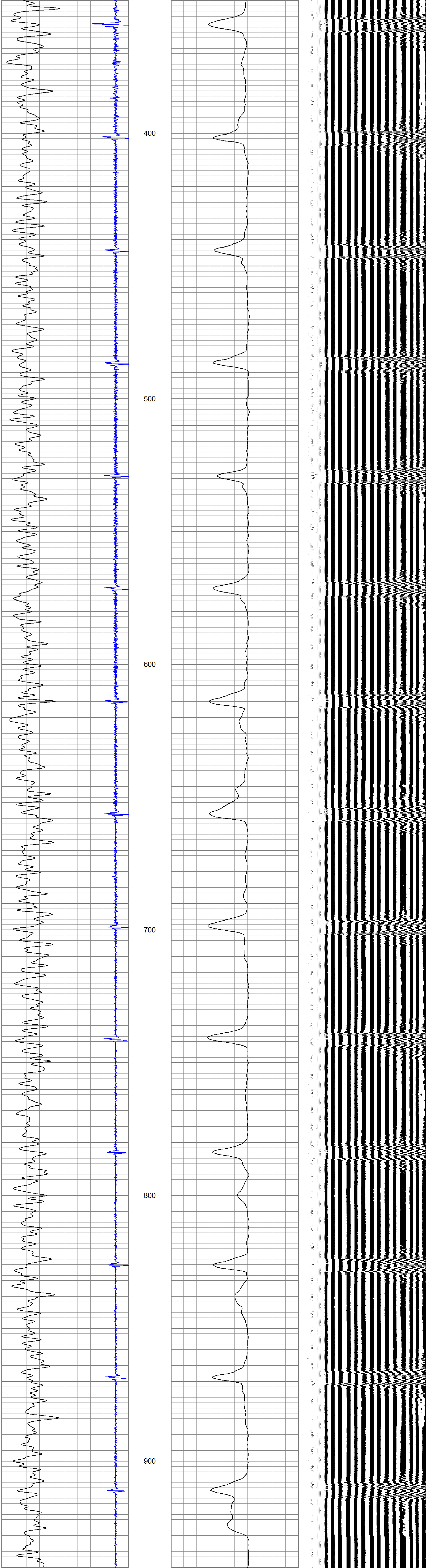
MAIN PASS

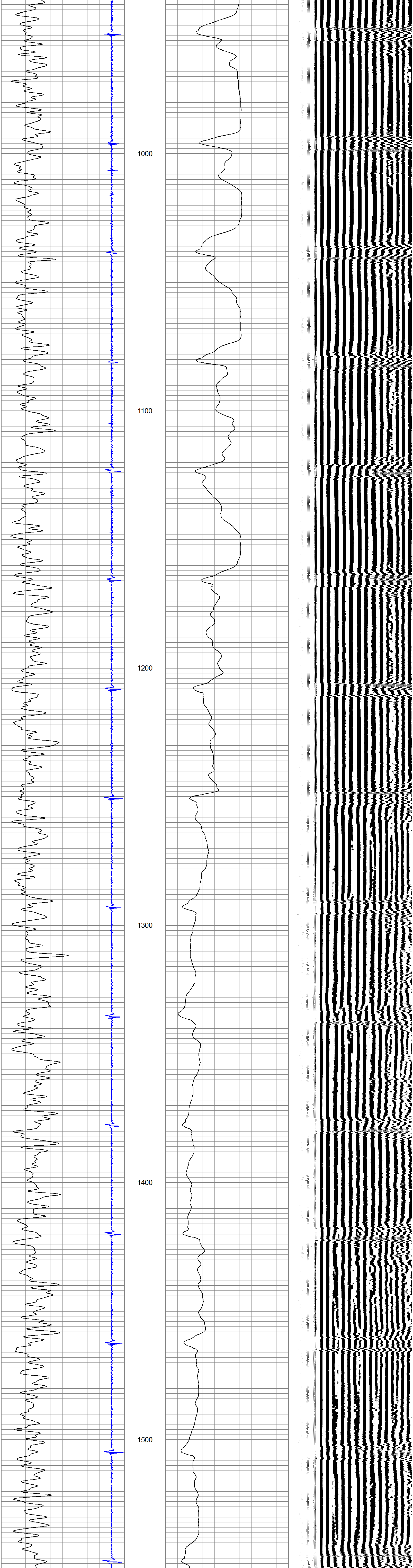
0 PSI ON WELL WHILE LOGGING

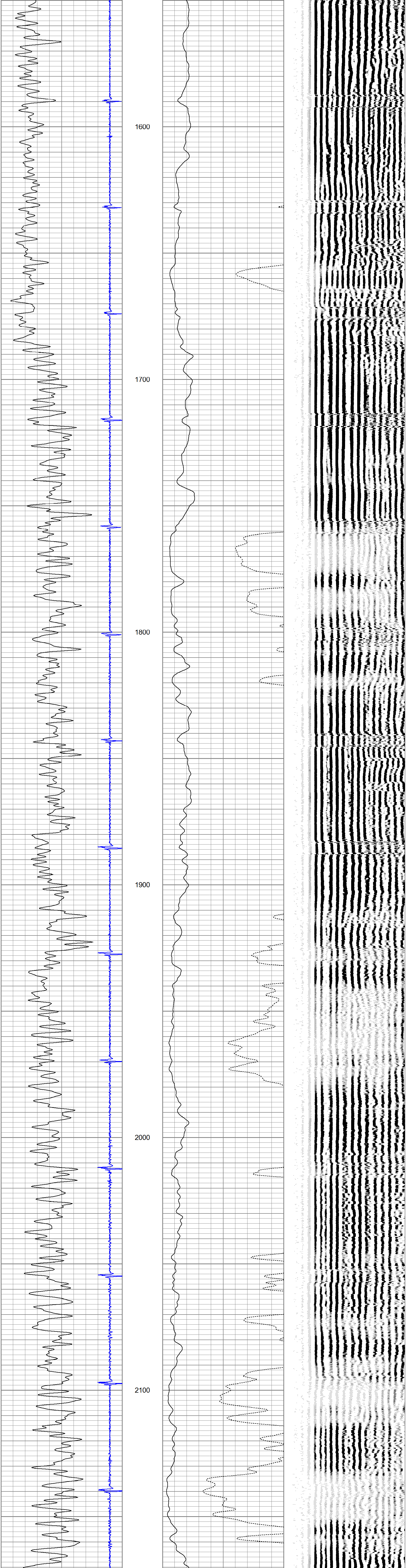
Database File:	bc_k21_o24_34hnc.db
Dataset Pathname:	MP2
Presentation Format:	cbl
Dataset Creation:	Sat Oct 10 16:50:51 2015 by Calc SCH 120430
Charted by:	Depth in Feet scaled 1:240

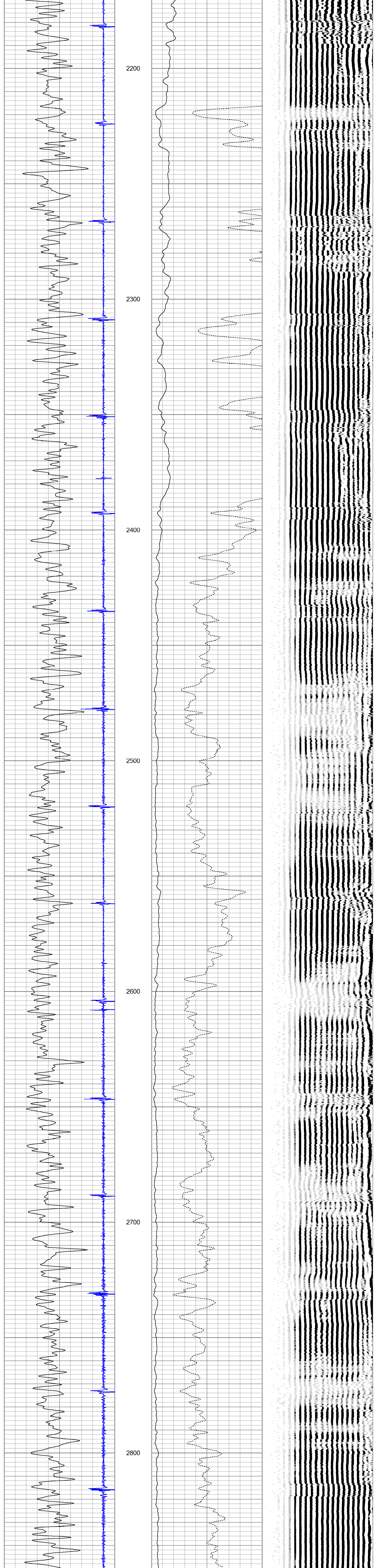
9	Collar Locator	-1	0	AMP AMPLITUDE (mV)	10	200 VDL 1200
0	Gamma Ray (GAPI)	200	0	AMPLITUDE (mV)	100	

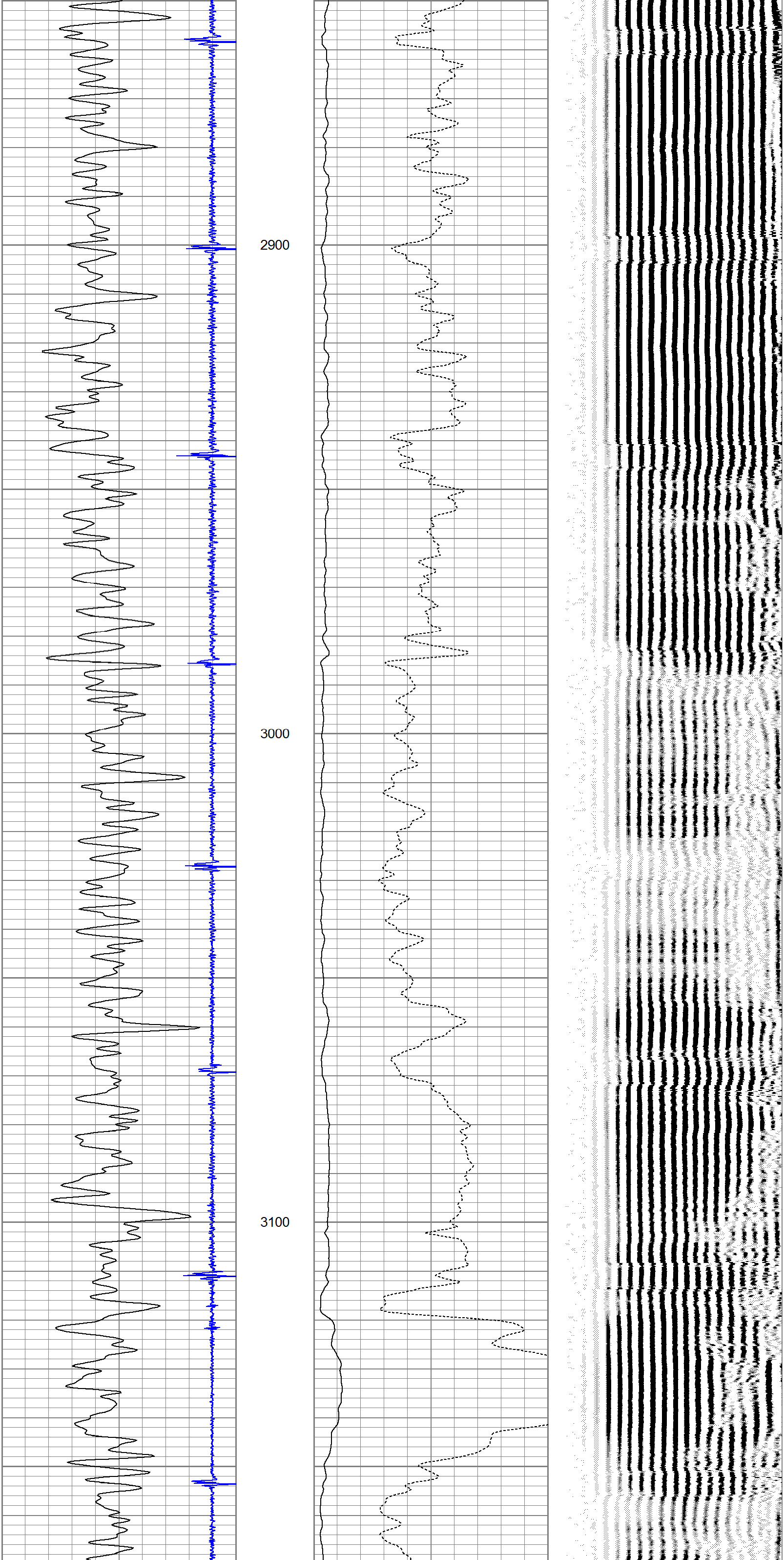


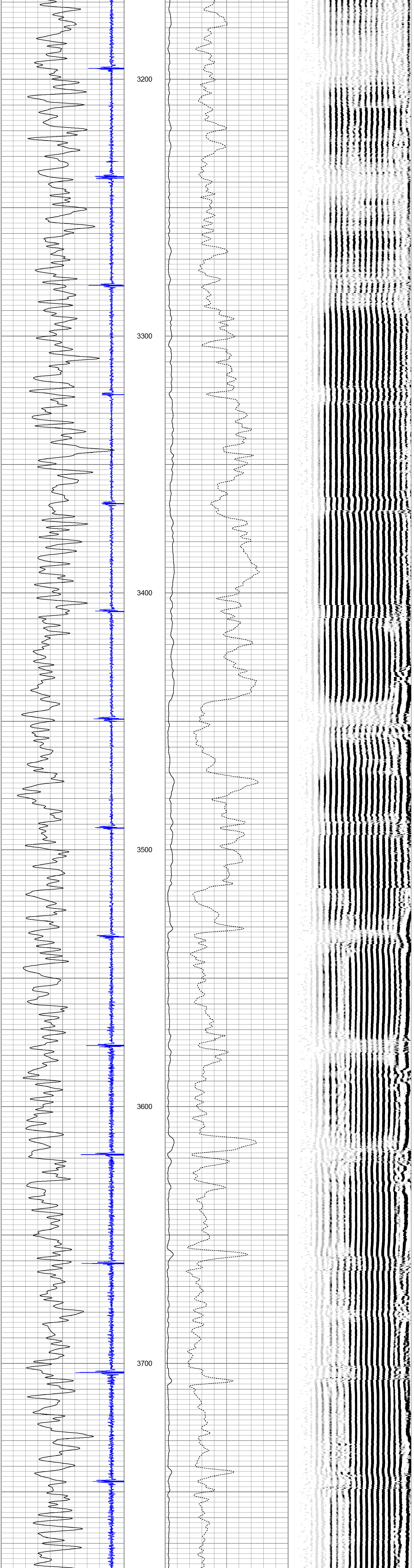


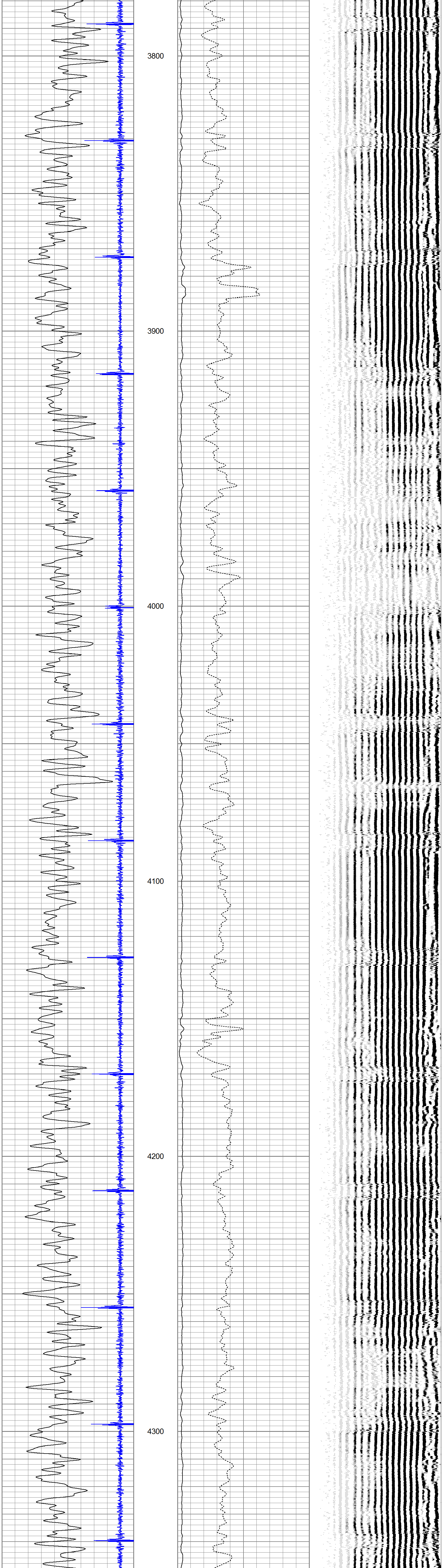


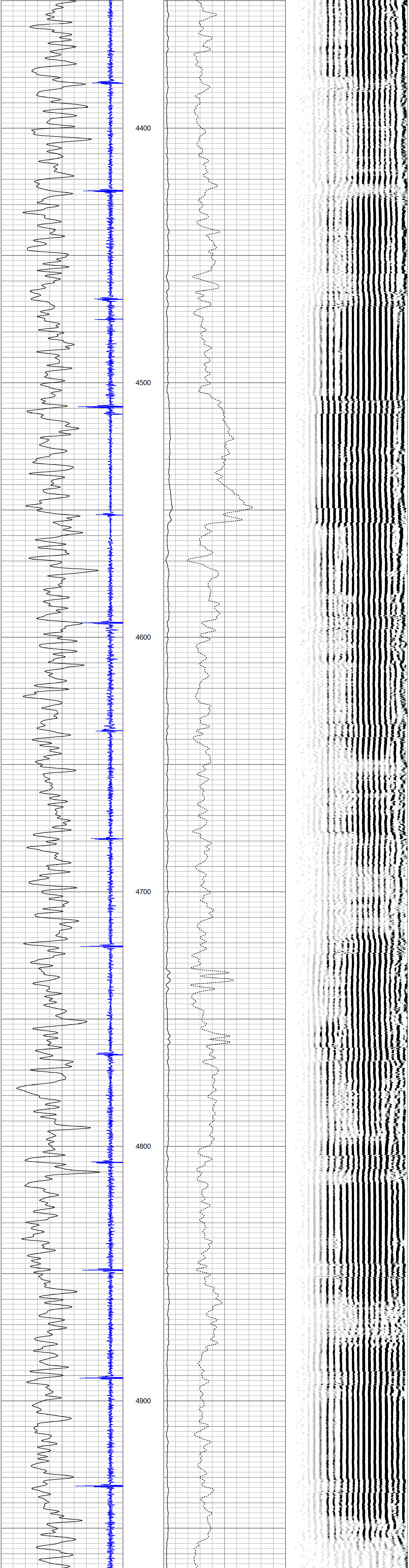


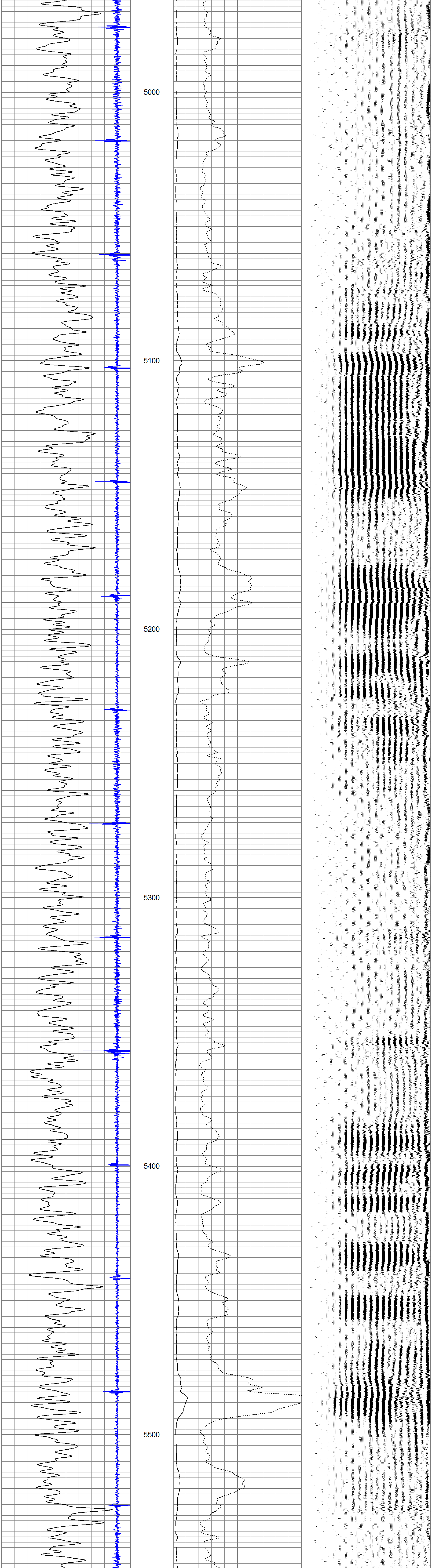


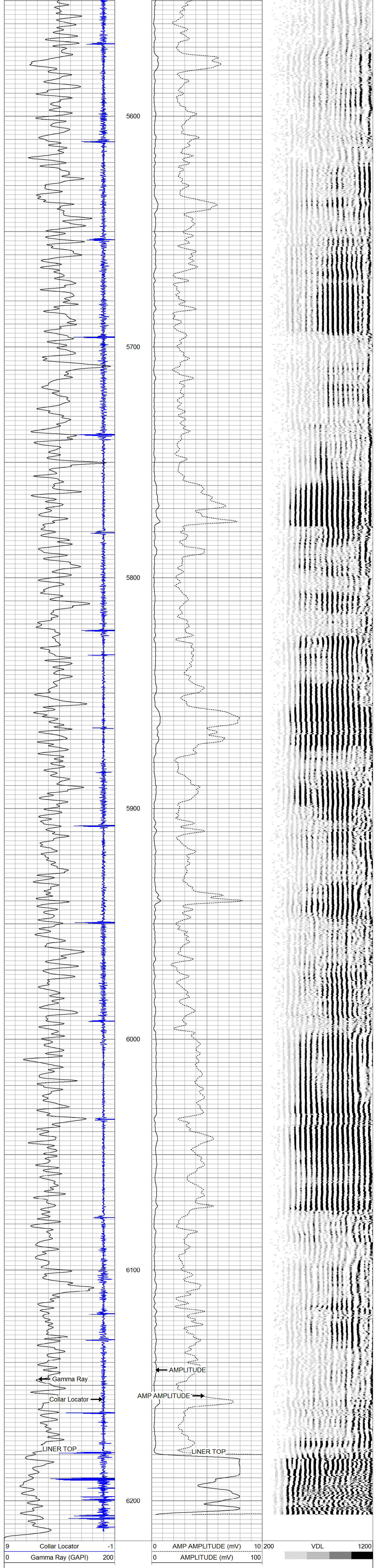












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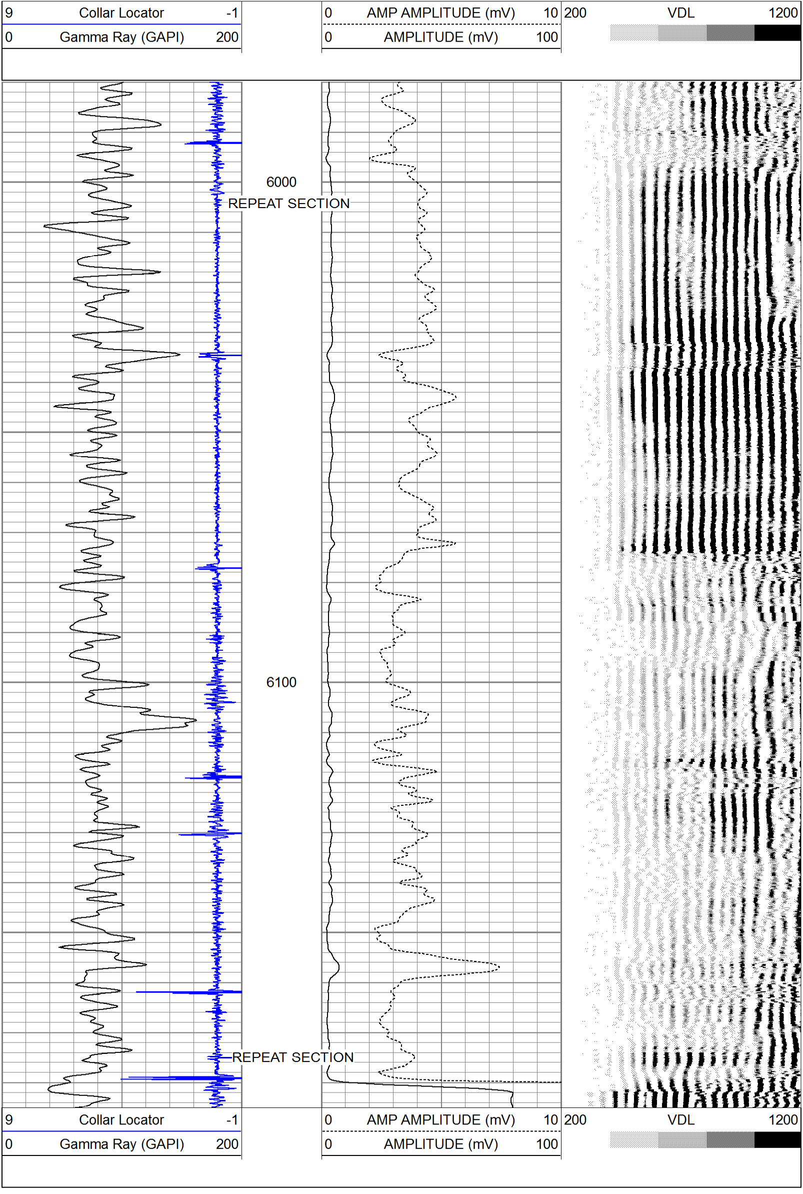
REPEAT SECTION

Database File:	bc_k21_o24_34hnc.db
Dataset Pathname:	pass2.1
Presentation Format:	cbl
Dataset Creation:	Sat Oct 10 15:35:57 2015 by Calc SCH 120430
Charted by:	Depth in Feet scaled 1:240



Calibration Report

Database File:	bc_k21_o24_34hnc.db
Dataset Pathname:	pass2
Dataset Creation:	Sat Oct 10 14:41:39 2015 by Log SCH 120430

Gamma Ray Calibration Report

Serial Number:	Base	
Tool Model:	Probe	
Performed:	Sat Oct 10 13:03:24 2015	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.5000	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	111206	
Tool Model:	RBTC3	
Calibration Casing Diameter:	7.000	in
Calibration Depth:	1643.850	ft

Master Calibration, performed Sat Oct 10 13:06:44 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.021	0.961	1.500	62.165	61.791	2.794
CAL	2.079	2.078				
5'	0.010	0.983	1.500	62.165	62.386	0.866
SUM						
S1	-0.027	1.054	0.000	100.000	92.469	2.533
S2	-0.004	1.143	0.000	100.000	87.182	0.349
S3	-0.007	1.139	0.000	100.000	87.219	0.647
S4	-0.042	1.036	0.000	100.000	92.817	3.879
S5	-0.031	0.978	0.000	100.000	99.110	3.092
S6	-0.020	1.149	0.000	100.000	85.565	1.696
S7	-0.003	1.149	0.000	100.000	86.761	0.271
S8	-0.045	1.180	0.000	100.000	81.620	3.694

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	2.079	2.078	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

Temperature Calibration Report

Serial Number:	111206	
Tool Model:	RBTC3	
Performed:	Sun Jun 13 13:33:21 1993	

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

Gain:	1.00
Offset:	0.00
Delta Spacing	1

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Well	NORTH PLATTE K21-O24-34HNC
Field	Wattenberg
County	Weld
State	Colorado