



**CEMENT BOND LOG
WITH GAMMA RAY**

Comp. ANADARKO PETROLEUM CORP.
Well RITCHEY USX WW27-04
Field WATTENBERG
Co. WELD
State COLORADO

Company **ANADARKO PETROLEUM CORP.**
Well **RITCHEY USX WW27-04**
Field **WATTENBERG**
County **WELD** State **COLORADO**

Location: **NW NW**
API #: 05-123-34071
Other Services
Permanent Datum **GL** Elevation **5090'**
Log Measured From **GL** 0 Above Perm. Datum
Drilling Measured From **KB**

Date of Service	08/09/2019		
Run Number	ONE		
Depth Driller or P8TD	8257'		
Depth Logger	1475'		
Bottom Log Interval	1470'		
Top Log Interval	SURFACE		
Open Hole Size	7-7/8"		
Type Fluid	WATER		
Fluid Level	SURFACE		
Fluid Density	8.4		
Max. Recorded Temperature	N/A		
Max. Wellhead Pressure	ZERO		
Wellhead Connection	PACK OFF		
Estimated Cement Top	----		
Unit Number	P-133		
Wireline Size	9/32"		
Location	FORT MORGAN CO.		
Recorded By	P LOPEZ		
Witnessed By	MR. CY DREILING		
	Size	W/Ft	Top
Tubing Record			Bottom
Surface Casing	8.62	24.00	SURFACE 1420'
Production Casing	4.50	11.6	SURFACE 8257'
Liner Record			

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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.
ALL WIRELINE DEPTH
TOOL ZEROED AT GROUND LEVEL
RBT TANKED CALIBRATED ON 6/1/2019

THANK YOU FOR USING PIONEER ENERGY SERVICES!

Your Pioneer Energy Services Crew	Tool Data - Services	Serial Number
Engineer: P LOPEZ	RBL-DC	140141
Operator: G SOTO	GR CCL	110246
Operator: BONES		
Operator:		

Log Variables

DatabaseC:\ProgramData\Warrion\Data\anadarko_ritchey usx ww27-04_0512334071_201908
 Dataset field/well/run1/pass11/_vars_

Top - Bottom

BOREID in 7.875	BOTTEMP degF 150	CASEOD in 4.5	CASETHCK in 0.25	CASEWGHT lb/ft 11.6	MAXAMPL mV 81.2	MINAMPL mV 0.7
MINATTN db/ft 0.8	PERFS 0	PPT usec 249	SRFTEMP degF 50	TDEPTH ft 1500		


Variable Description

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)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Cable Head-Titan_144 1 7/16" Titan Cable Head	1.03	1.44	2.00
			Centralizer-275 Probe 2 3/4" Probe Adjustable Spring Centralizer	2.88	2.75	15.00
WVFS8	14.76		PROBE-RBT-DIGITAL-RBL-DC (FW1401)	48.75	2.75	100.00
WVFS7	14.76		Probe 2 3/4" Radii Bond-Corrosion Package			
WVFS6	14.76					
WVFS5	14.76					
WVFS4	14.76					
WVFS3	14.76					
WVFS2	14.76					
WVFS1	14.76					
WVFCAL	14.76					
WV3FT	14.76					
WV5FT	13.76					
HEADVOLT	10.57					
			Centralizer-275 Probe 2 3/4" Probe Adjustable Spring Centralizer	2.88	2.75	15.00

CCL	6.78		PROBE-GR/CCL-ANALOG-GR/CCL-A (1104.54 2 3/4" Gamma with CCL-Analog	2.75	60.00
GR	4.05		Centralizer-275 Probe 2 3/4" Probe Adjustable Spring Centralizer	2.88	15.00
			Bullnose-Titan GO Pin Pressure Cap	0.27	1.00
Dataset: anadarko_ritchey usx ww27-04_0512334071_20190809_scbl.db: field/well/run1/pass11 Total length: 23.23 ft Total weight: 208.00 lb O.D.: 2.75 in					



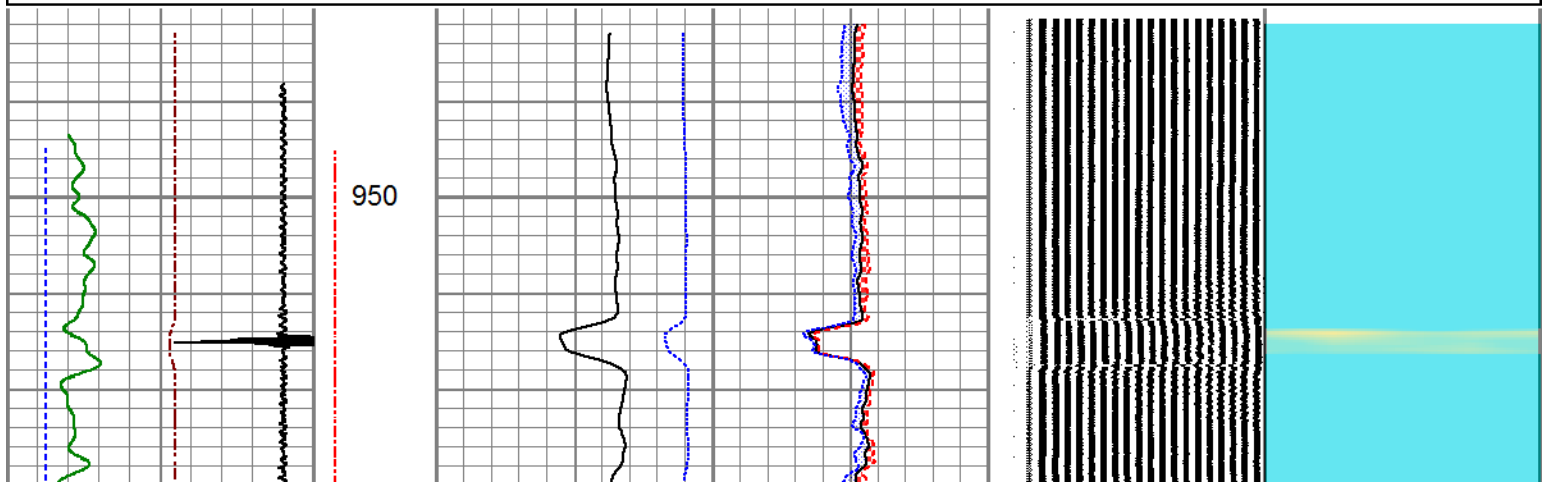
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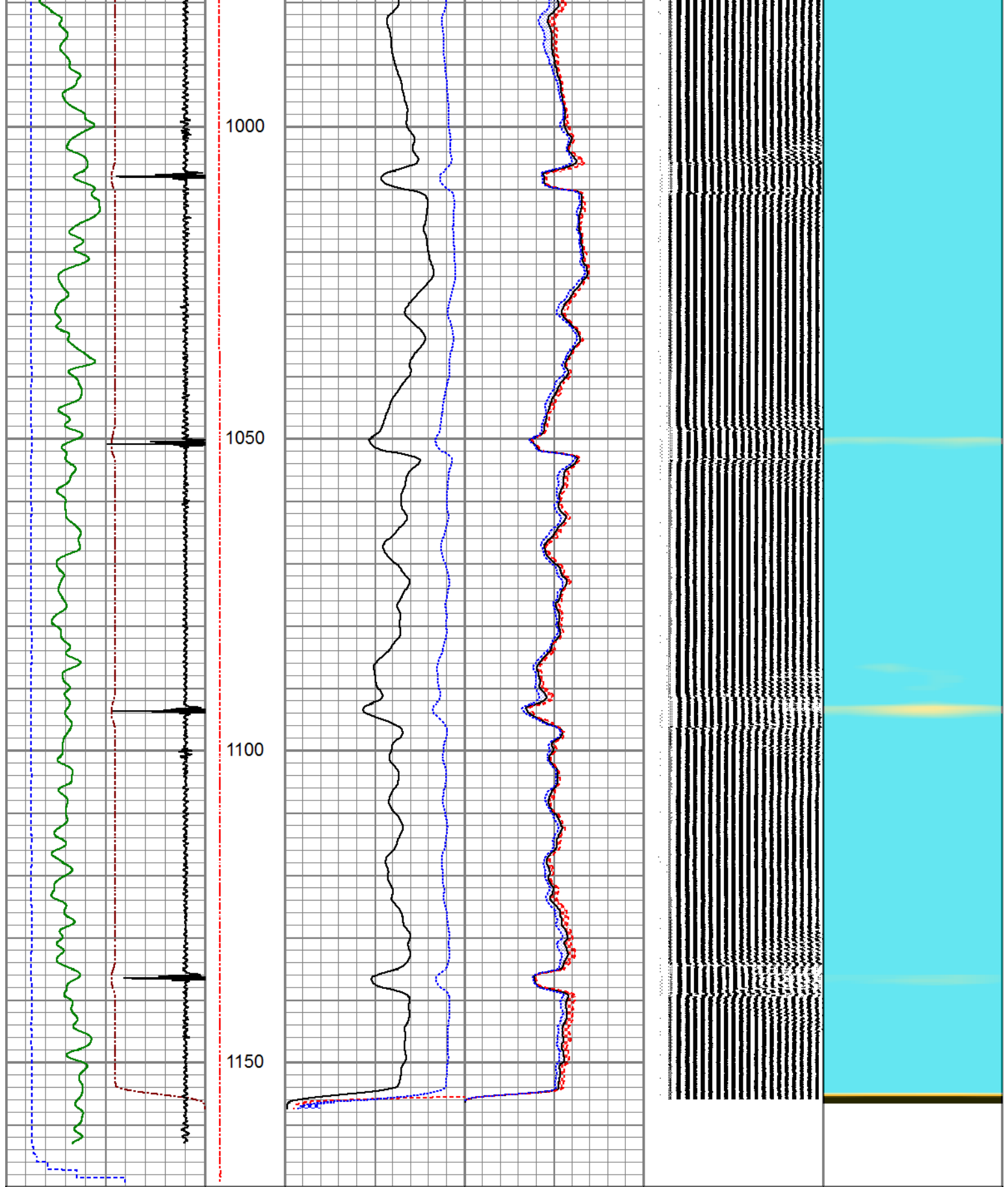
FREE PIPE SECTION

ZERO PSI APPLIED AT SURFACE

Database File	anadarko_ritchey usx ww27-04_0512334071_20190809_scbl.db
Dataset Pathname	pass5
Presentation Format	pinr_scbl
Dataset Creation	Fri Aug 09 08:20:35 2019
Charted by	Depth in Feet scaled 1:240

3Ft Travel Time 500 (usec)	0	ineTensio (lb)	0	3' Amplitude (mV)	100	Sector Amplitude Average	200	VDL (usec)	1200	1	Sector Map	8
-9 Collar Locator	1	0	2000	3' Amplified Amplitude X 5	0	150						
Gamma Ray 0 (GAPI)	150			0 (mV)	20	Sector Amplitude Maximum						
-100 LSPD (ft/min)	100			1 Bond Index	0	150						
						Sector Amplitude Minimum	0					
							150					





3Ft Travel Time 500 (usec)	0	3' Amplitude (mV)	0 100	Sector Amplitude Average	200 150	VDL (usec)	1 1200	Sector Map	8
-9 Collar Locator	1	3' Amplified Amplitude X 5 (mV)	0 20	Sector Amplitude Maximum	0				
Gamma Ray (GAPI)	150	Bond Index	0 0						
-100 LSPD (ft/min)	100								

Sector Amplitude Minimum
0 150

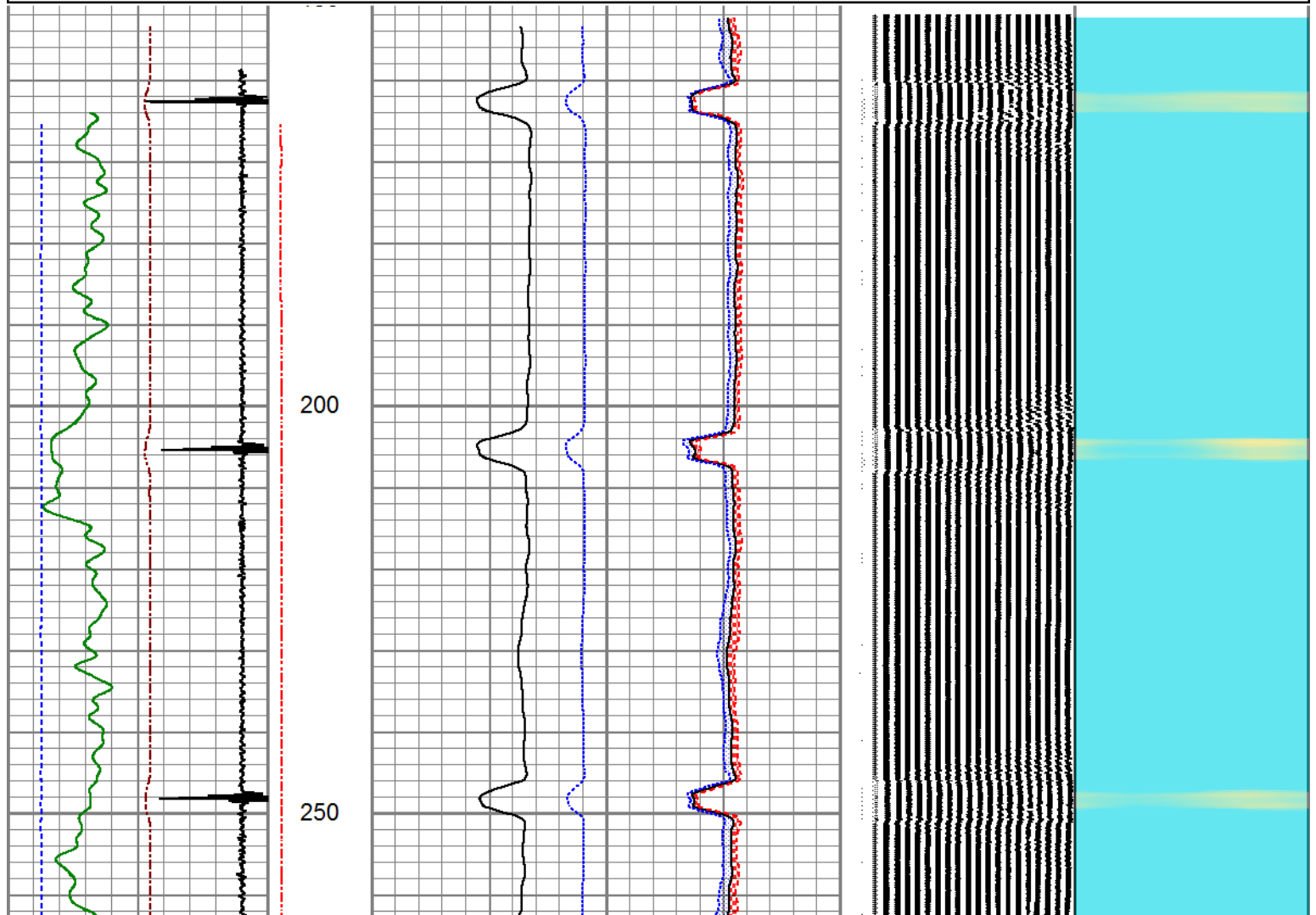


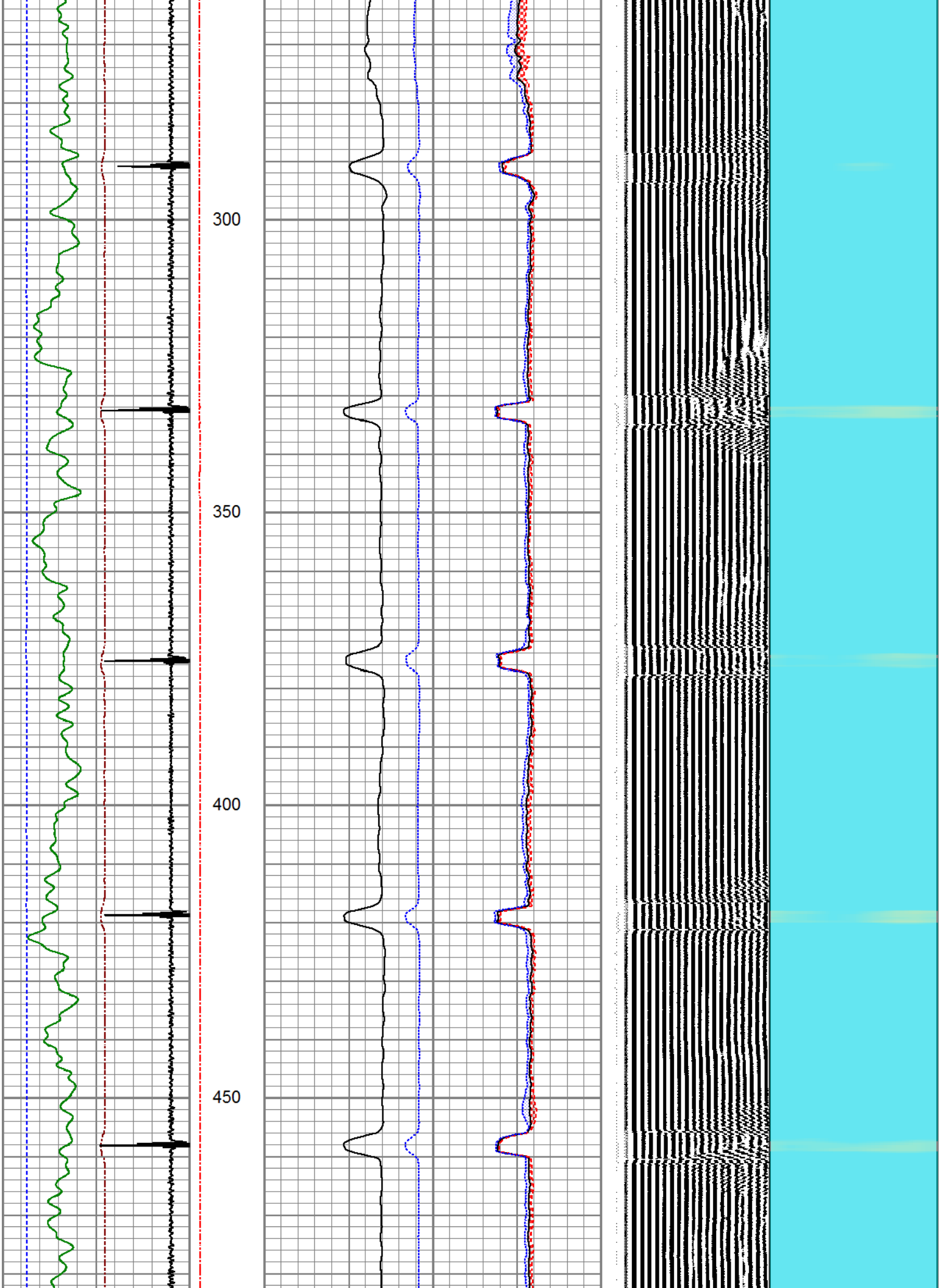
MAIN LOG

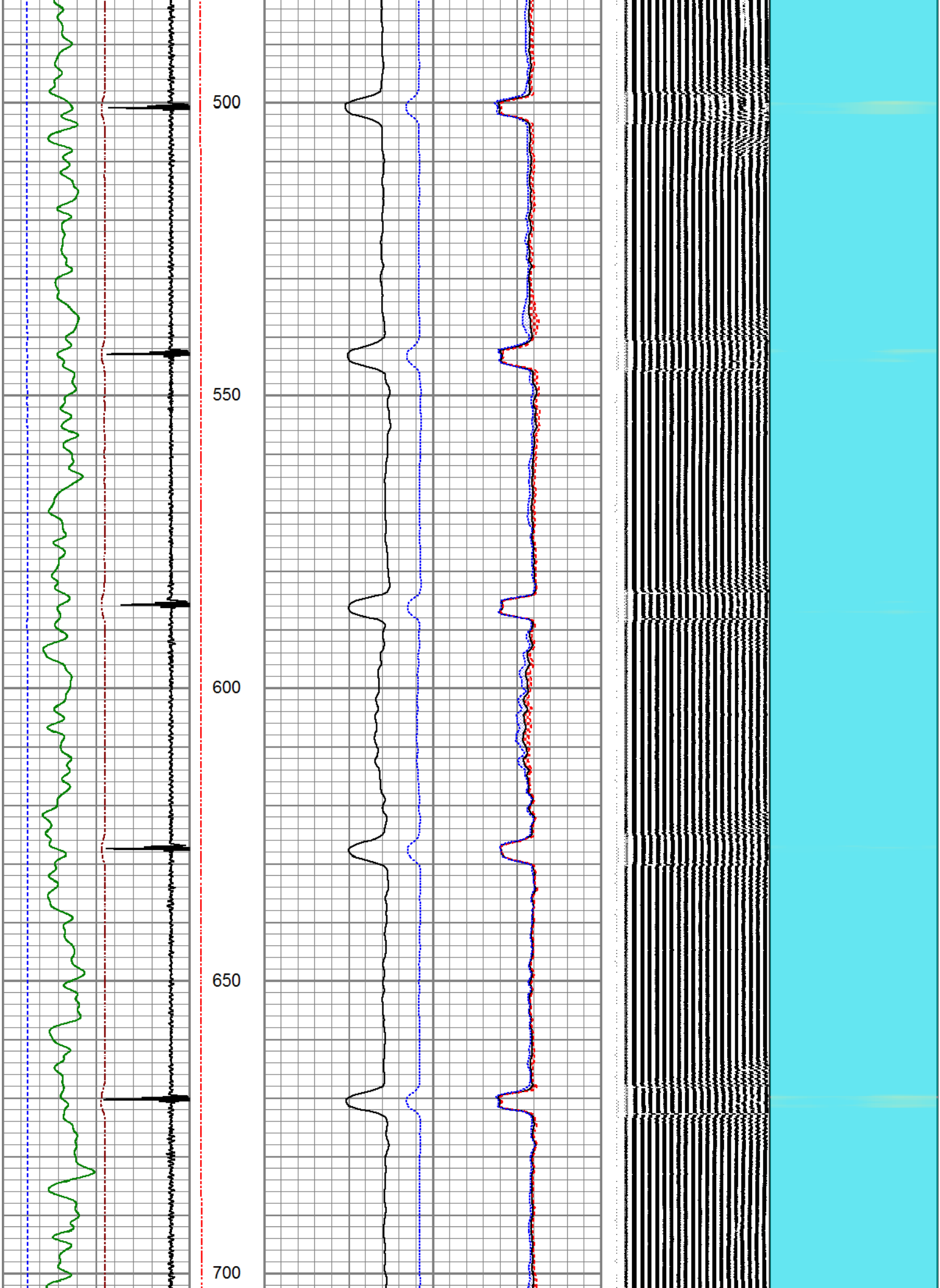
ZERO PSI APPLIED AT SURFACE

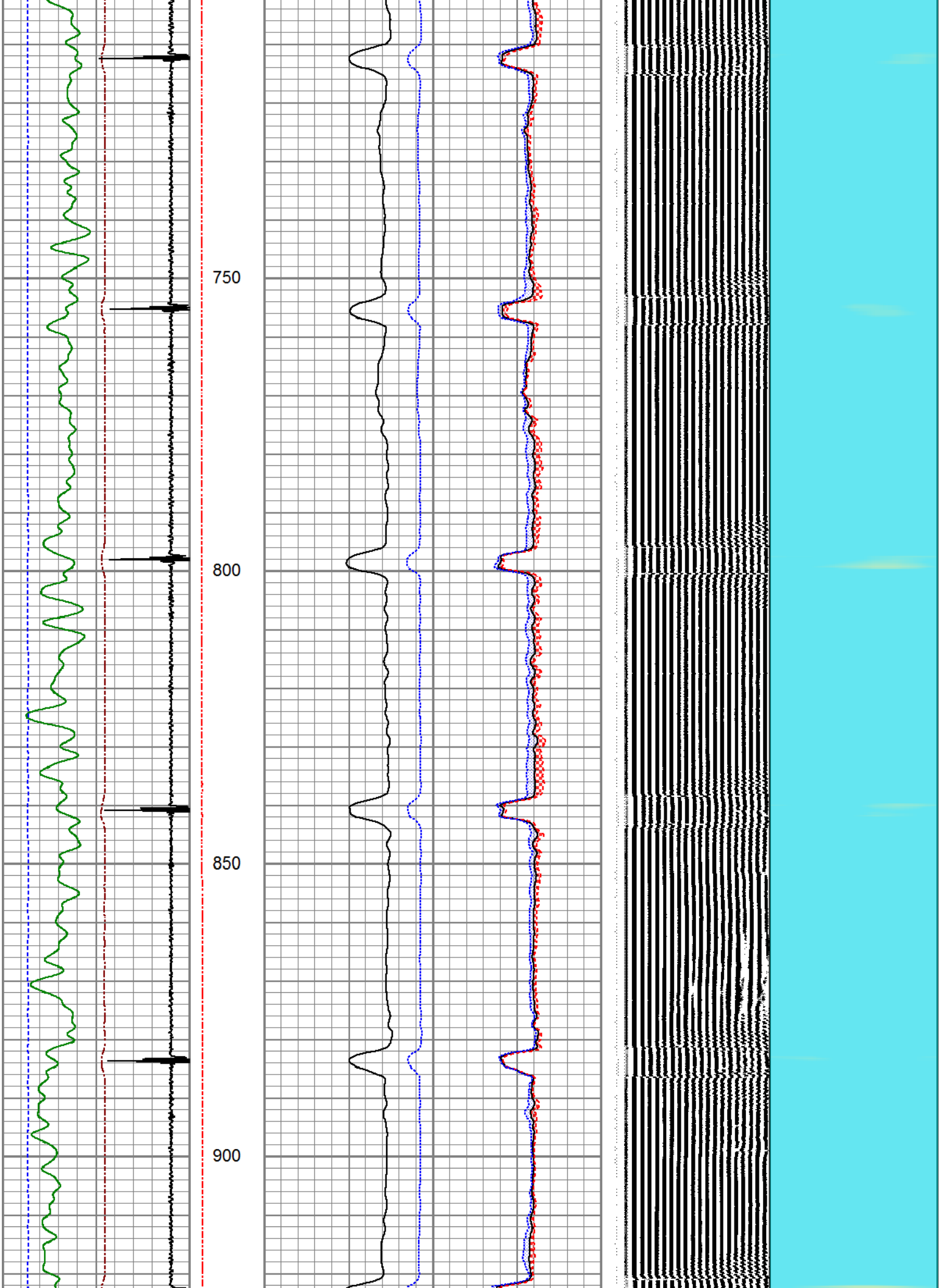
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 Charted by Depth in Feet scaled 1:240

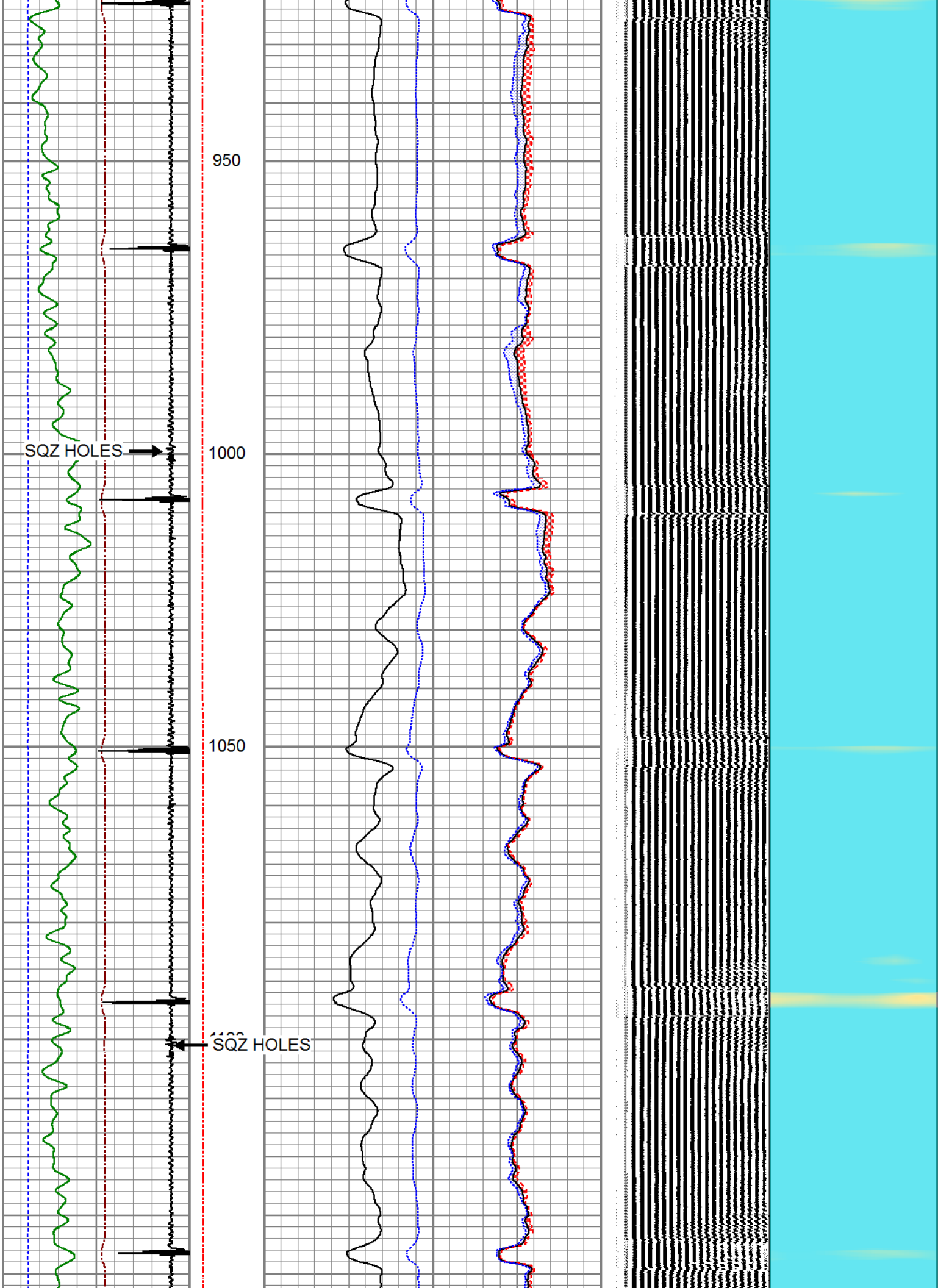
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-9 Collar Locator 1		3' Amplified Amplitude X 5 (mV) 20	Sector Amplitude Maximum 0 150		
Gamma Ray 0 (GAPI) 150		1 Bond Index 0	Sector Amplitude Minimum 0 150		
-100 LSPD (ft/min) 100					

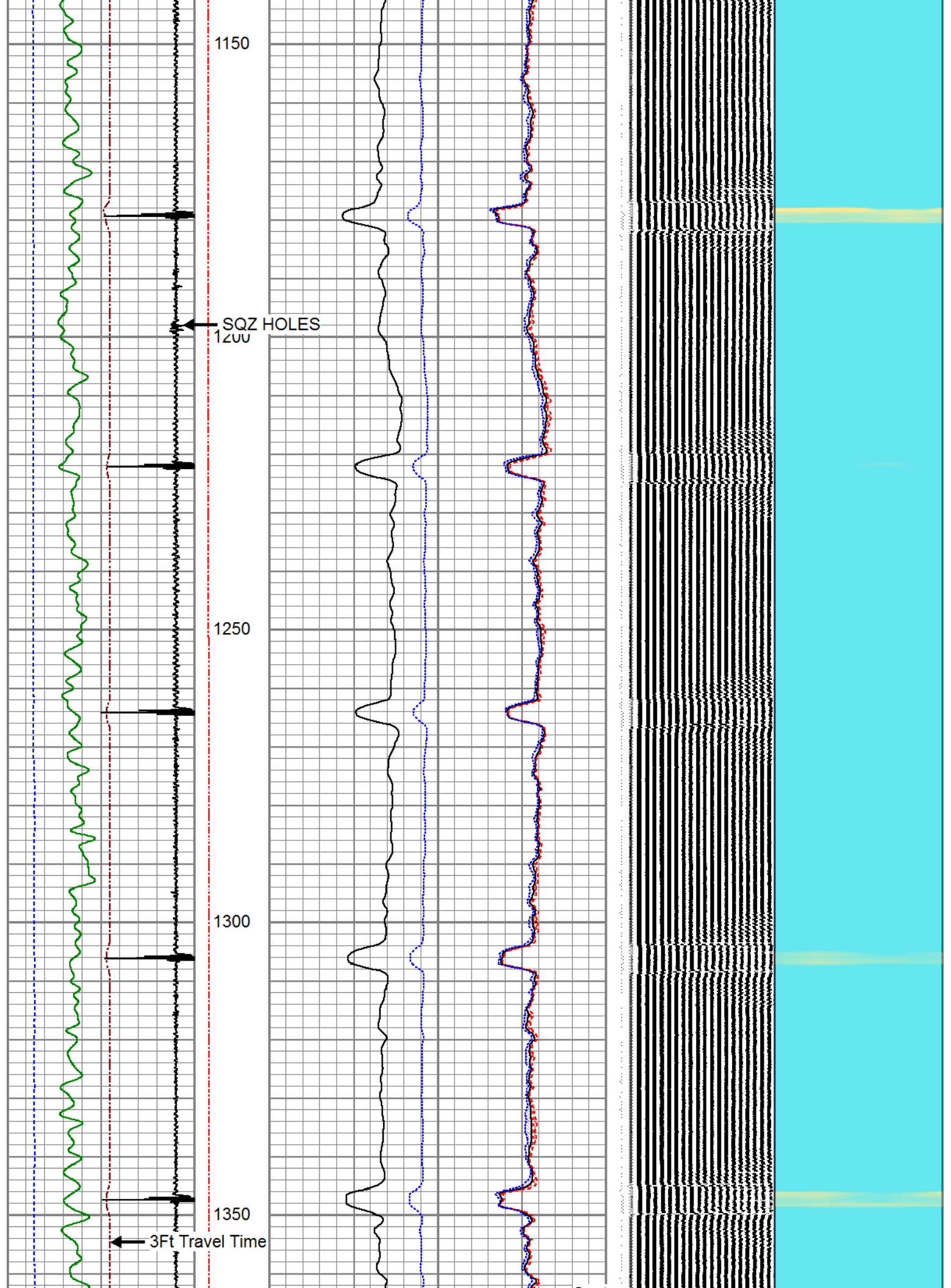


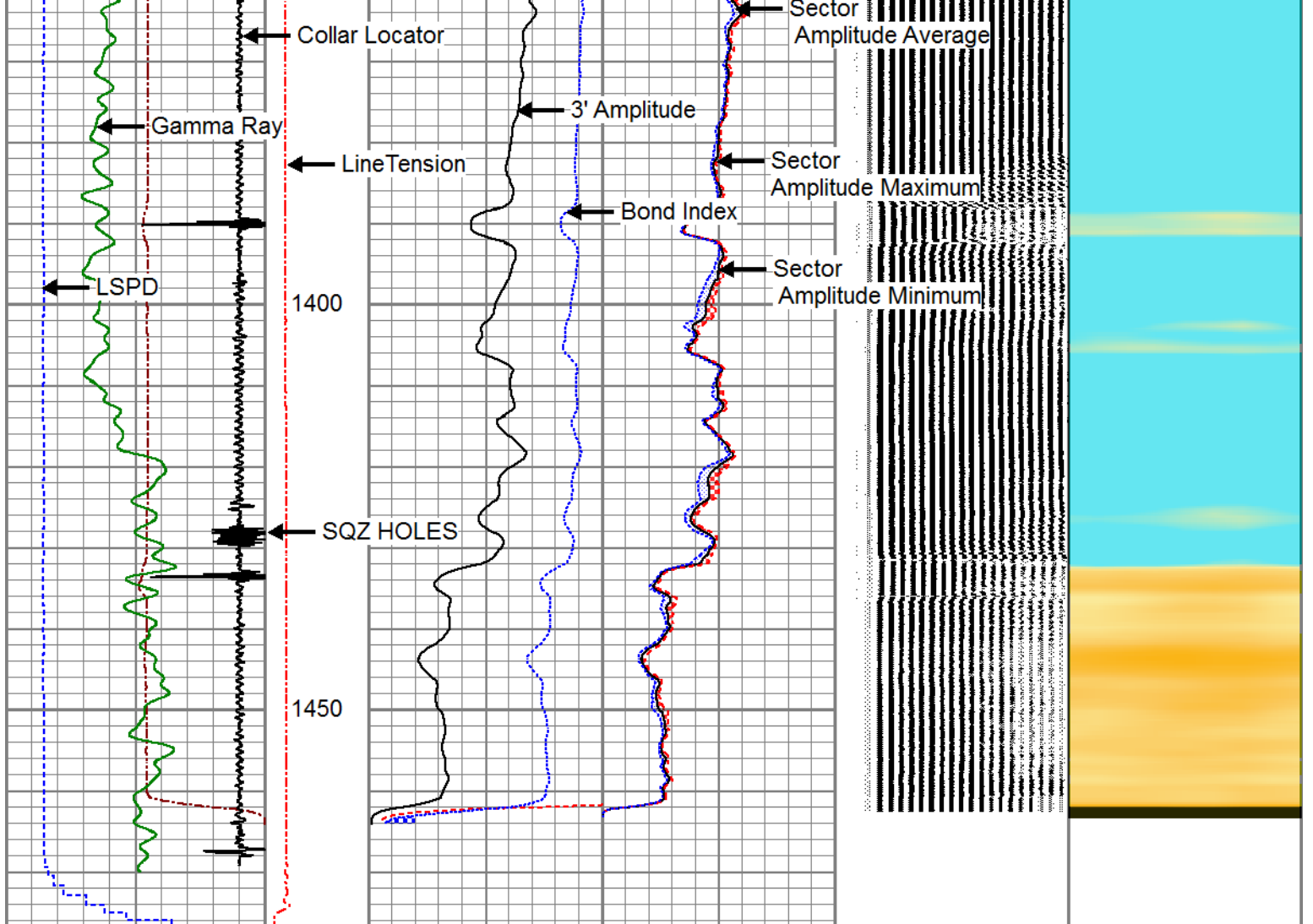












3Ft Travel Time 500 (usec)	Line Tension 0 (lb)	3' Amplitude 0 (mV)	Sector Amplitude Average 0	VDL 200 (usec)	1	Sector Map	8
-9 Collar Locator	10 2000	3' Amplified Amplitude X 5 0 (mV)	0 150	1200			
Gamma Ray 0 (GAPI)	150	20	Sector Amplitude Maximum 0 150				
-100 LSPD (ft/min)	100	1 Bond Index	0 150				
			Sector Amplitude Minimum 0 150				



REPEAT SECTION

ZERO PSI APPLIED AT SURFACE

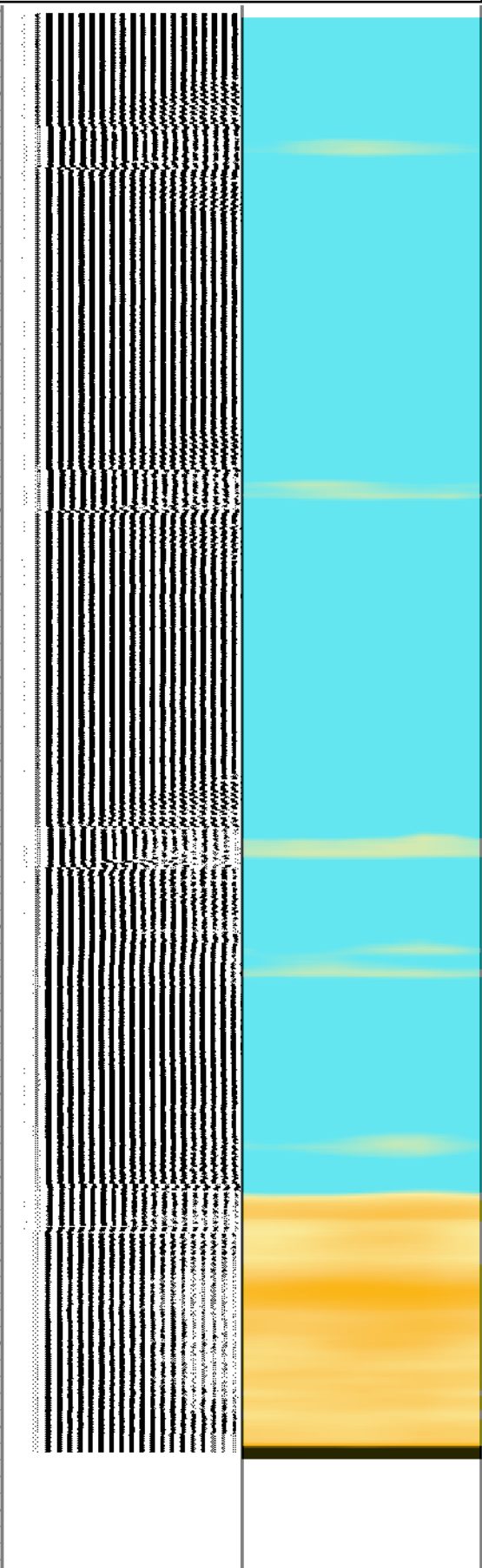
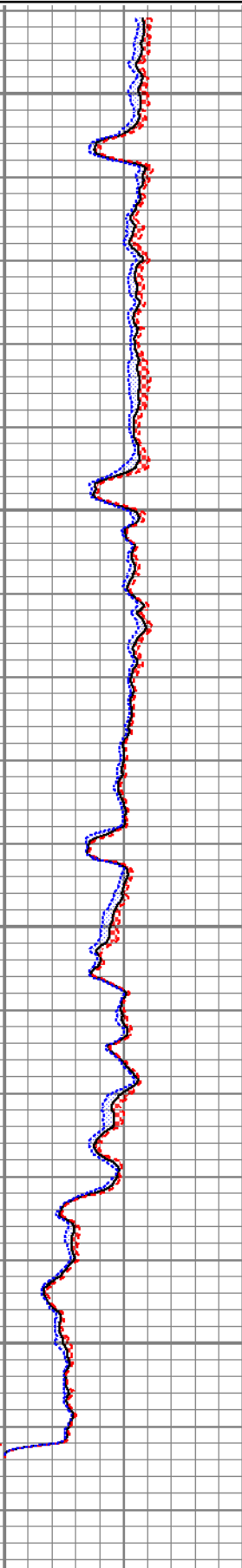
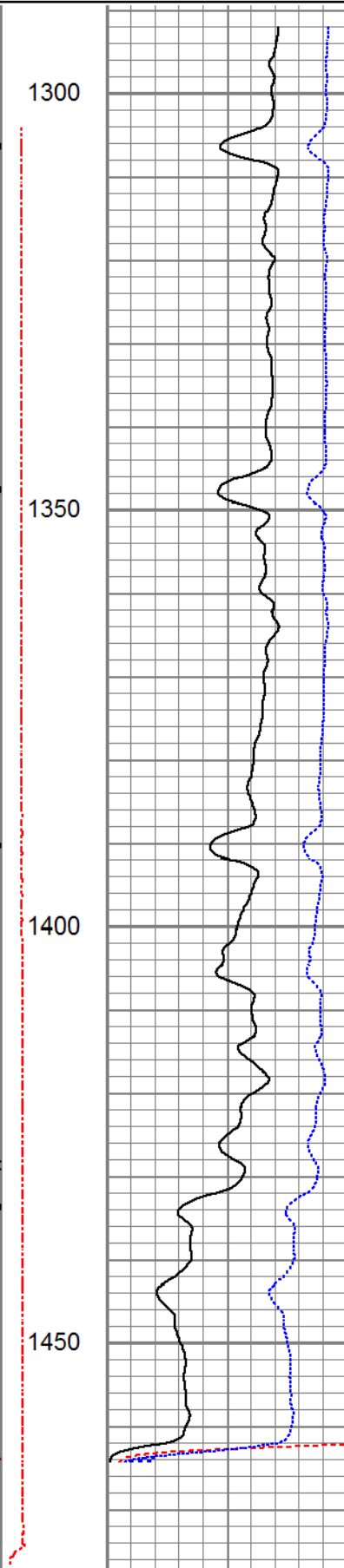
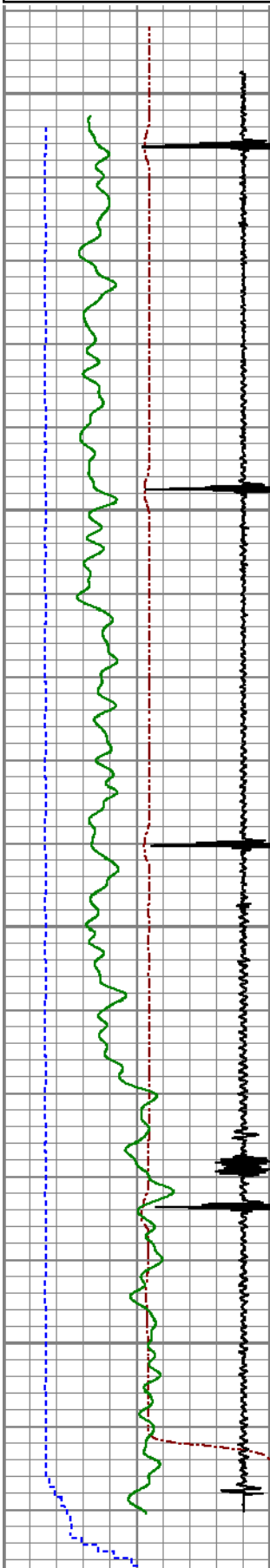
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 Presentation Format pinr_scbl
 Dataset Creation Fri Aug 09 08:27:22 2019
 Charted by Depth in Feet scaled 1:240

3Ft Travel Time 500 (usec)	Line Tension 0 (lb)	3' Amplitude 0 (mV)	Sector Amplitude Average 0	VDL 200 (usec)	1	Sector Map	8
-9 Collar Locator	10 2000	3' Amplified	0 150				


Gamma Ray		
0	(GAPI)	150
-100 LSPD (ft/min) 100		

Amplitude X 5		
0	(mV)	20
1	Bond Index	0

Sector	
Amplitude Maximum	150
Amplitude Minimum	0



3Ft Travel Time 500 (usec) 0	ineTensio (lb) 0	3' Amplitude (mV) 100	Sector Amplitude Average	200	VDL (usec) 1200	1	Sector Map	8
-9 Collar Locator 1	0 2000	3' Amplified Amplitude X 5	0	150				
Gamma Ray 0 (GAPI) 150		0 (mV) 20	Sector Amplitude Maximum					
-100 LSPD (ft/min) 100		1 Bond Index 0	0	150				
			Sector Amplitude Minimum	0				
				150				



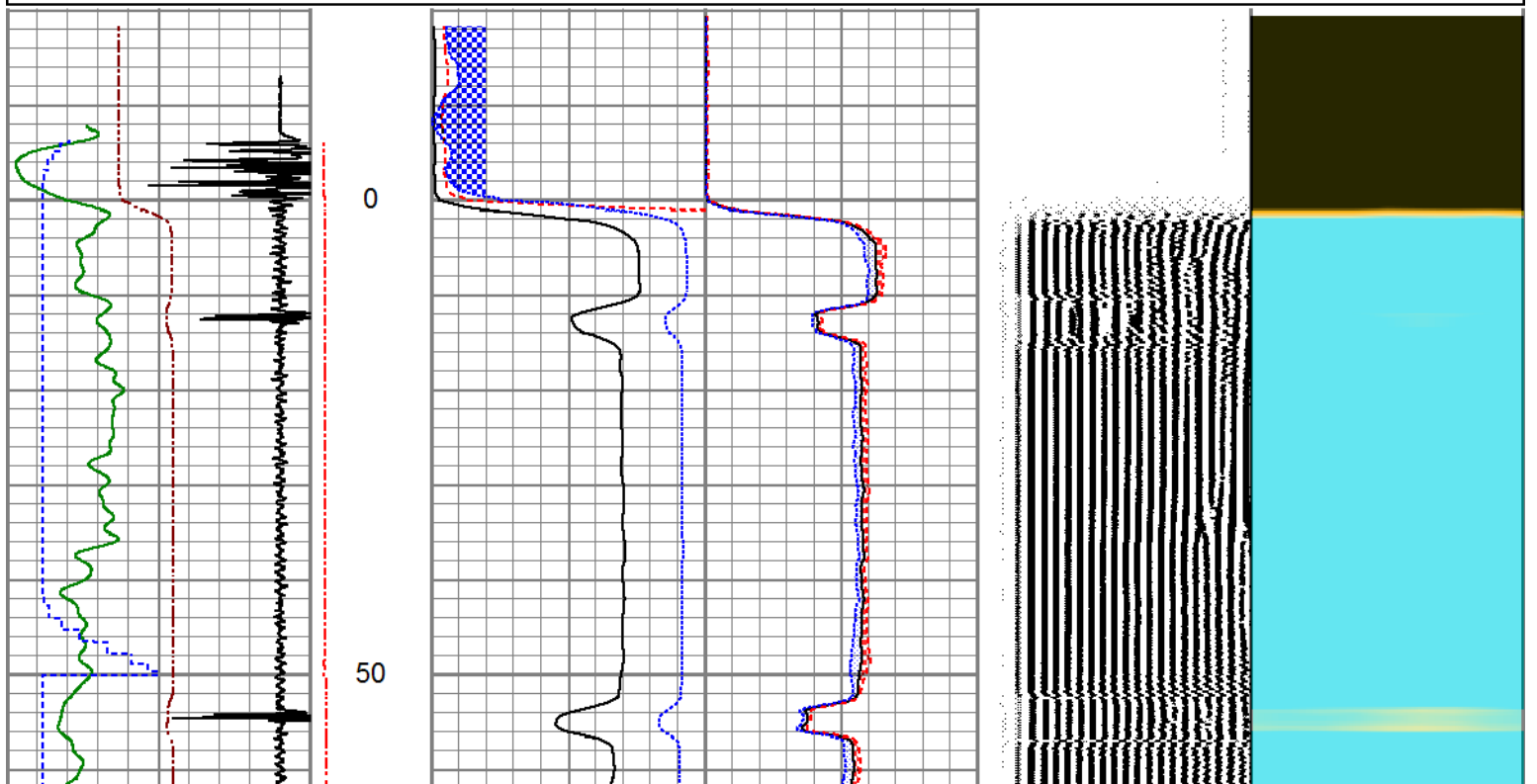
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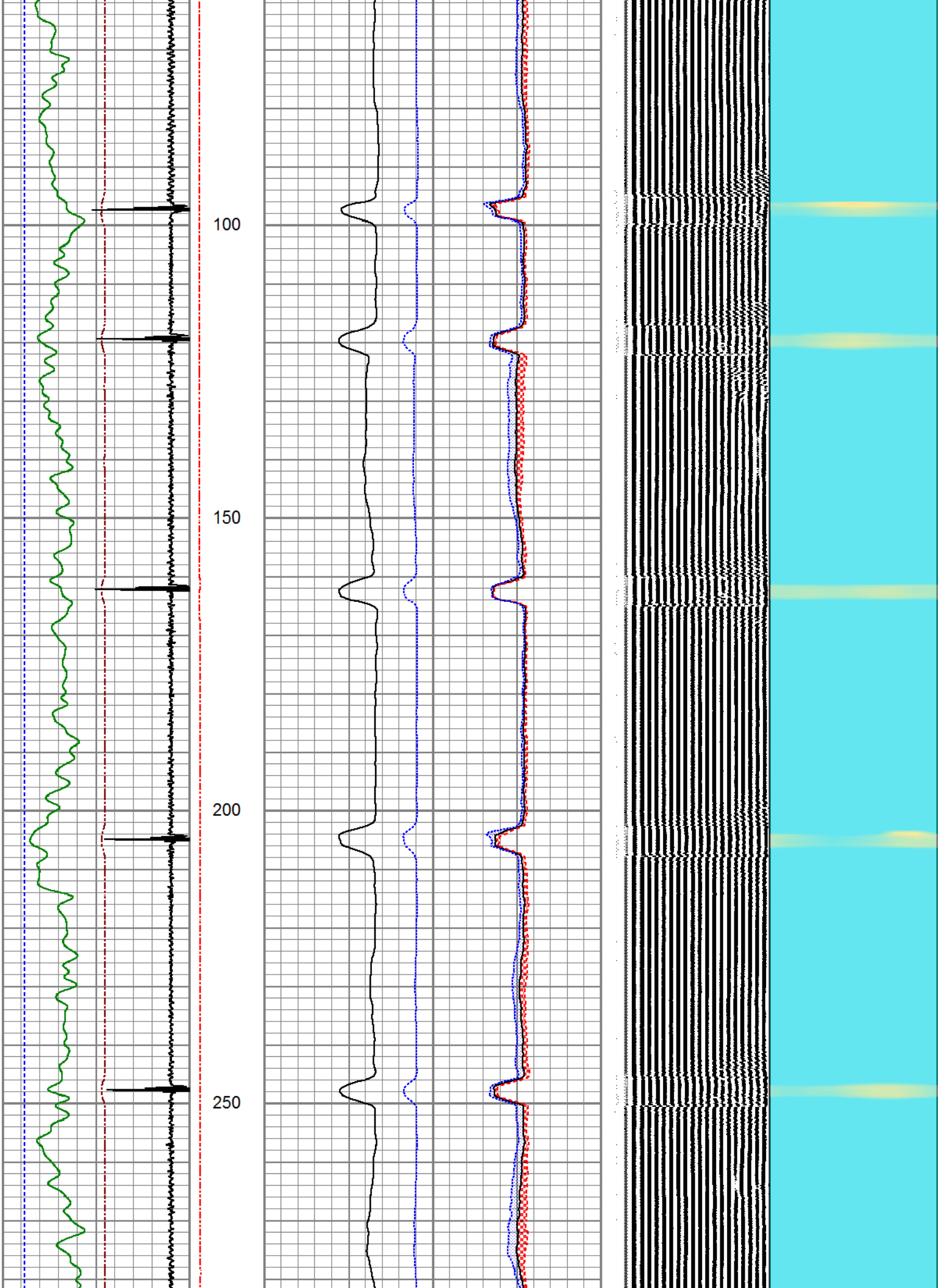
MAIN LOG

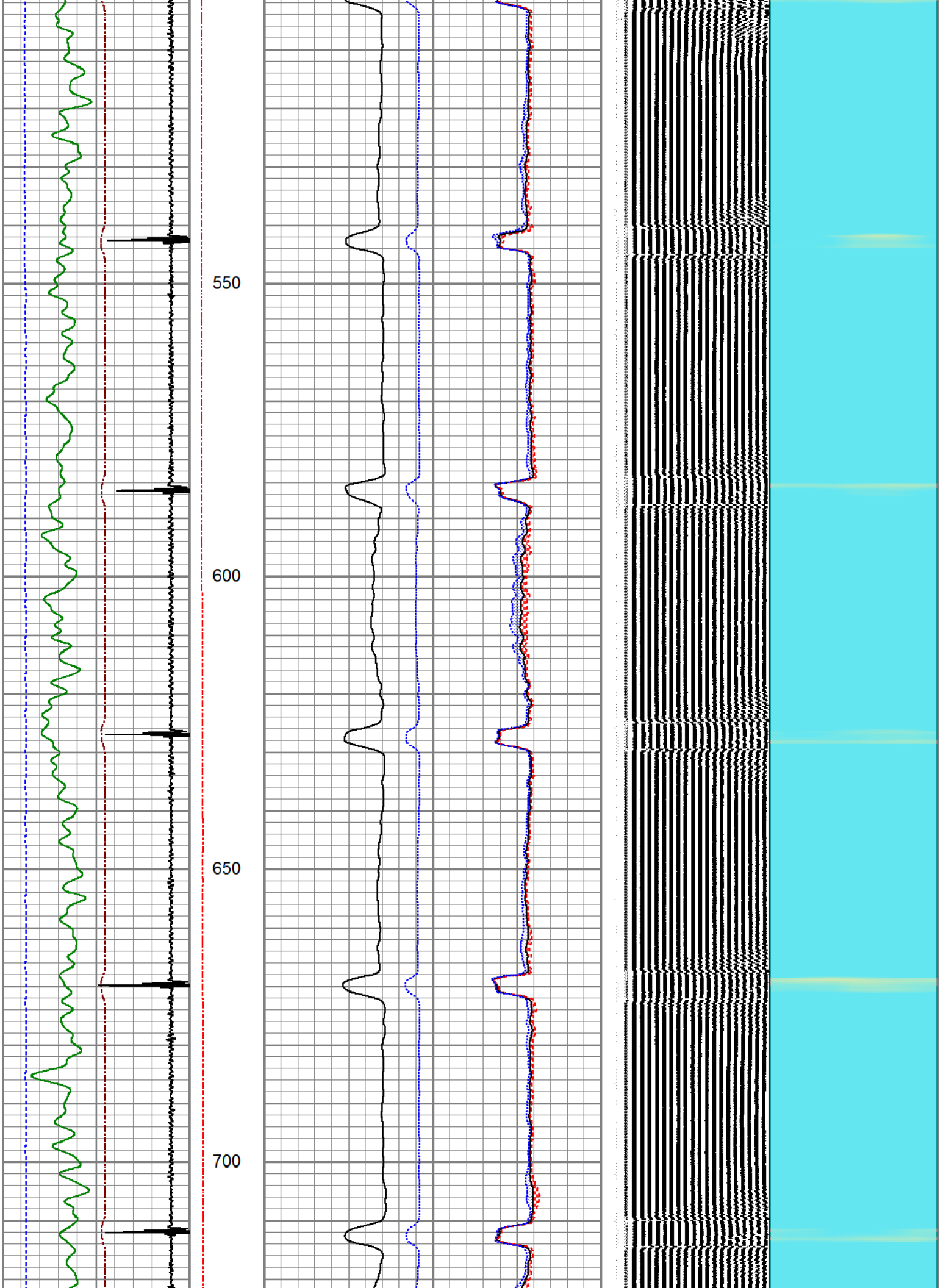
200 PSI APPLIED AT SURFACE

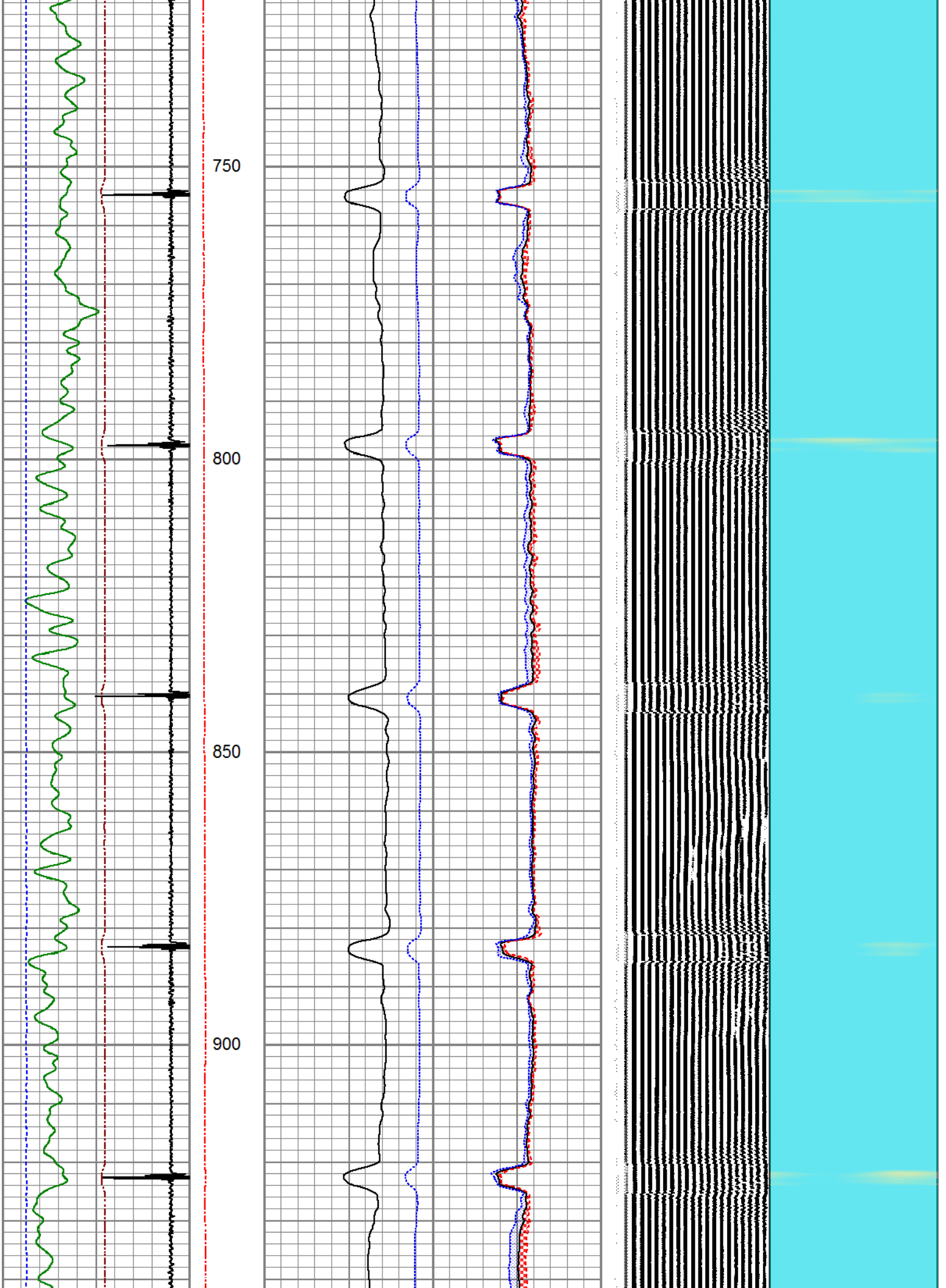
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 Presentation Format: pinr_scbl
 Dataset Creation: Fri Aug 09 08:53:42 2019
 Charted by: Depth in Feet scaled 1:240

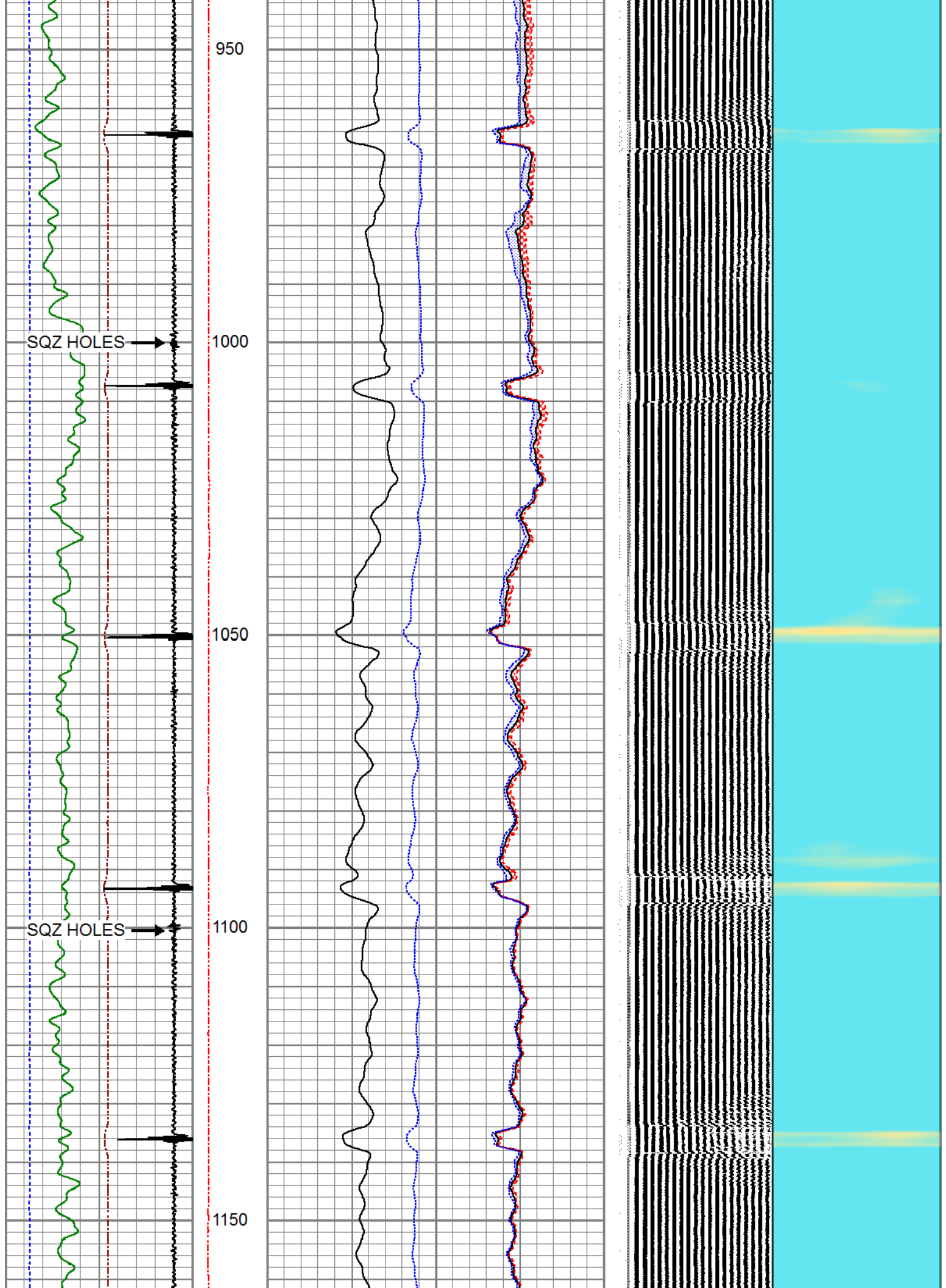
3Ft Travel Time 500 (usec) 0	ineTensio (lb) 0	3' Amplitude (mV) 100	Sector Amplitude Average	200	VDL (usec) 1200	1	Sector Map	8
-9 Collar Locator 1	0 2000	3' Amplified Amplitude X 5	0	150				
Gamma Ray 0 (GAPI) 150		0 (mV) 20	Sector Amplitude Maximum					
-100 LSPD (ft/min) 100		1 Bond Index 0	0	150				
			Sector Amplitude Minimum	0				
				150				

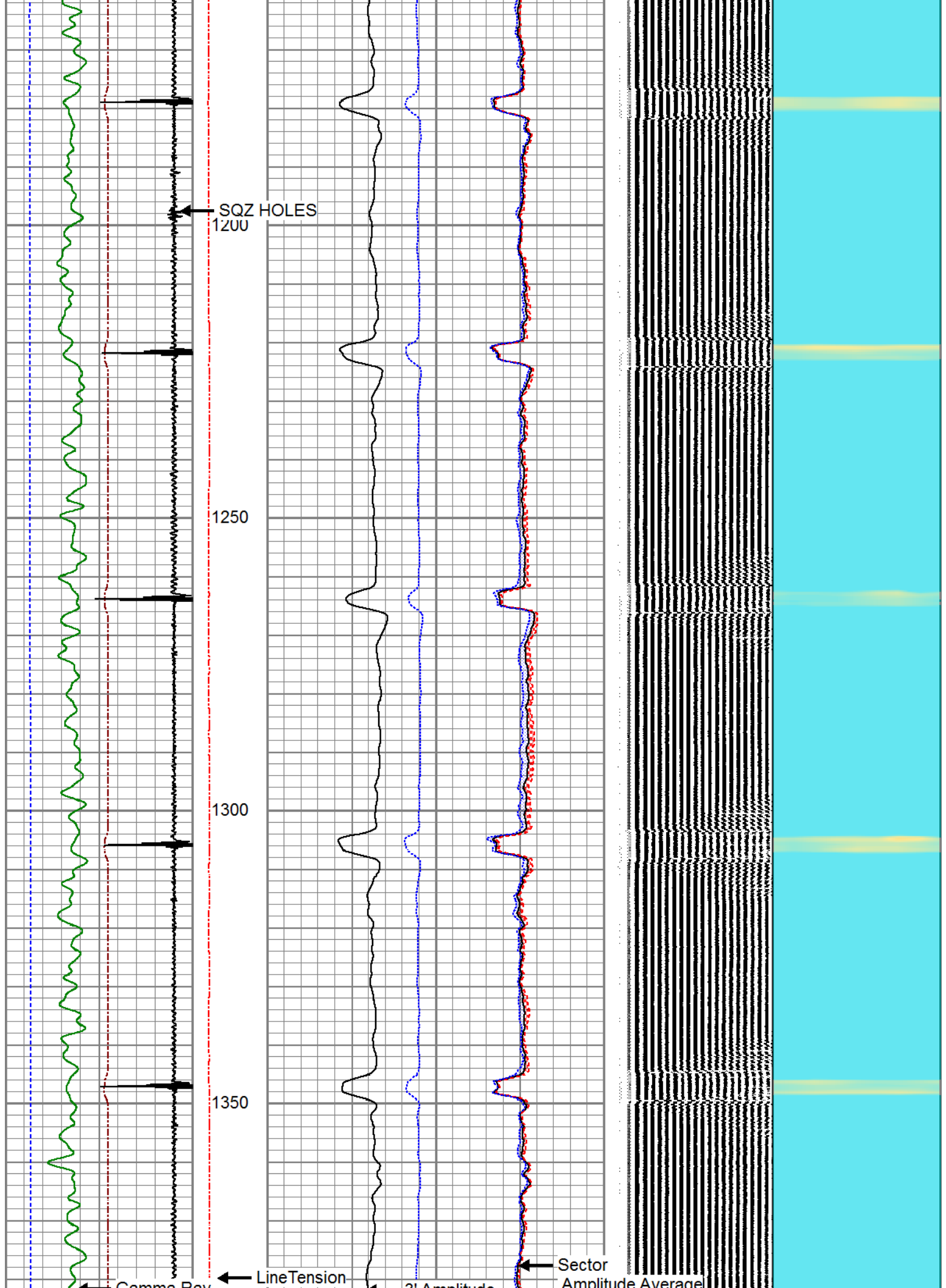


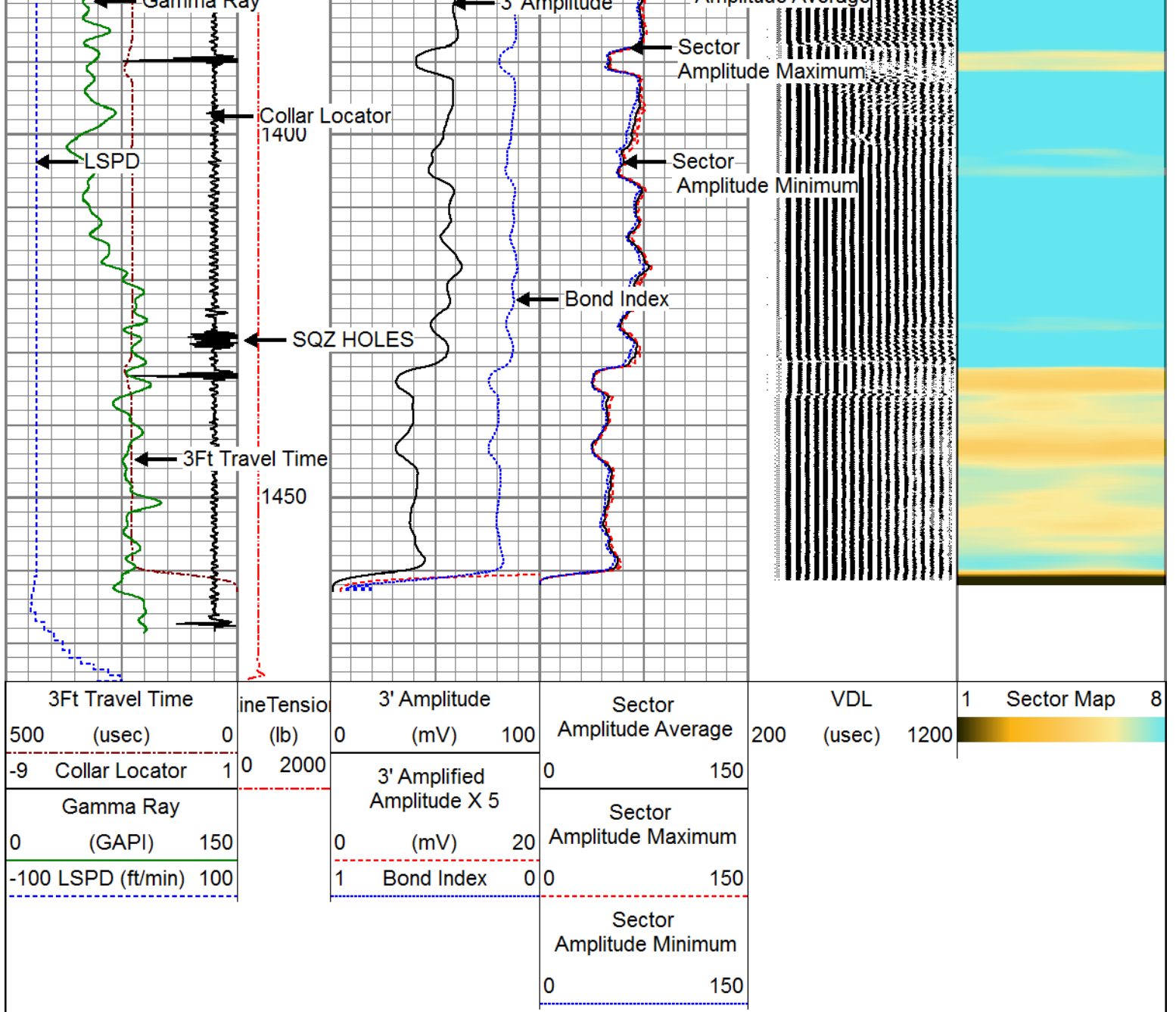












Calibration Report

Database File anadarko_ritchey usx ww27-04_0512334071_20190809_scbl.db
 Dataset Pathname pass11
 Dataset Creation Fri Aug 09 08:53:42 2019

Gamma Ray Calibration Report

Serial Number: 110246
 Tool Model: GR/CCL-A
 Performed: Mon Jun 17 12:19:26 2019

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

Sensitivity: 0.7000 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: FW1401-41-T
 Tool Model: RBL-DC

Calibration Casing Diameter: 4.500 in
 Calibration Depth: 1036.613 ft

Master Calibration, performed Fri Aug 09 08:19:00 2019:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	0.969	1.000	81.196	82.741	1.000
CAL	0.000	1.501				
5'	0.000	0.981	1.000	81.196	81.790	1.000
SUM						
S1	0.000	0.927	0.000	100.000	107.885	0.000
S2	0.000	0.934	0.000	100.000	107.050	0.000
S3	0.000	0.969	0.000	100.000	103.249	0.000
S4	0.000	1.022	0.000	100.000	97.866	0.000
S5	0.000	1.060	0.000	100.000	94.379	0.000
S6	0.000	1.055	0.000	100.000	94.810	0.000
S7	0.000	0.997	0.000	100.000	100.277	0.000
S8	0.000	0.956	0.000	100.000	104.650	0.000

Air Zero Calibration, performed Thu Nov 29 15:24:07 2018:

	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	



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