



**Radial Cement Bond
Gamma Ray
Casing Collar Log**

Company Kerr-McGee Oil & Gas Onshore, L.P.
Well Cannon 14C-10HZ
Field Wattenberg
County Weld State Colorado

Location: API #: 05-123-36696
SHL: 444' FNL & 1322' FWL
Lat / Long: 40.158633 / -104.768138
SEC 10 TWP 2N RGE 66W
Permanent Datum Ground Level Elevation 4952'
Log Measured From Kelly Bushing (16 FT)
Drilling Measured From Kelly Bushing
Other Services
Gauge Run
MIT-MTT
Elevation
K.B. 4968'
D.F. 4967'
G.L. 4952'

Date 30-Jul-2013
Run Number Two
Depth Driller 12036 FT
Depth Logger 7036 FT
Bottom Logged Interval 7033 FT
Top Log Interval Surface
Open Hole Size 8.750"
Type Fluid Water
Density / Viscosity 8.34 lbm/gal
Max. Recorded Temp. 295 degF
Estimated Cement Top 350
Time Well Ready 13:30
Time Logger on Bottom 14:00
Equipment Number HD-0134
Location Fort Lupton, CO.
Recorded By Sam Hopper
Witnessed By Chris Hayes

Run Number	Borehole Record			Tubing Record			
	Bit	From	To	Size	Weight	From	To
Casing Record							
Surface String		9-5/8"					
Prot. String		7"					
Production String							
Liner		4-1/2"					

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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

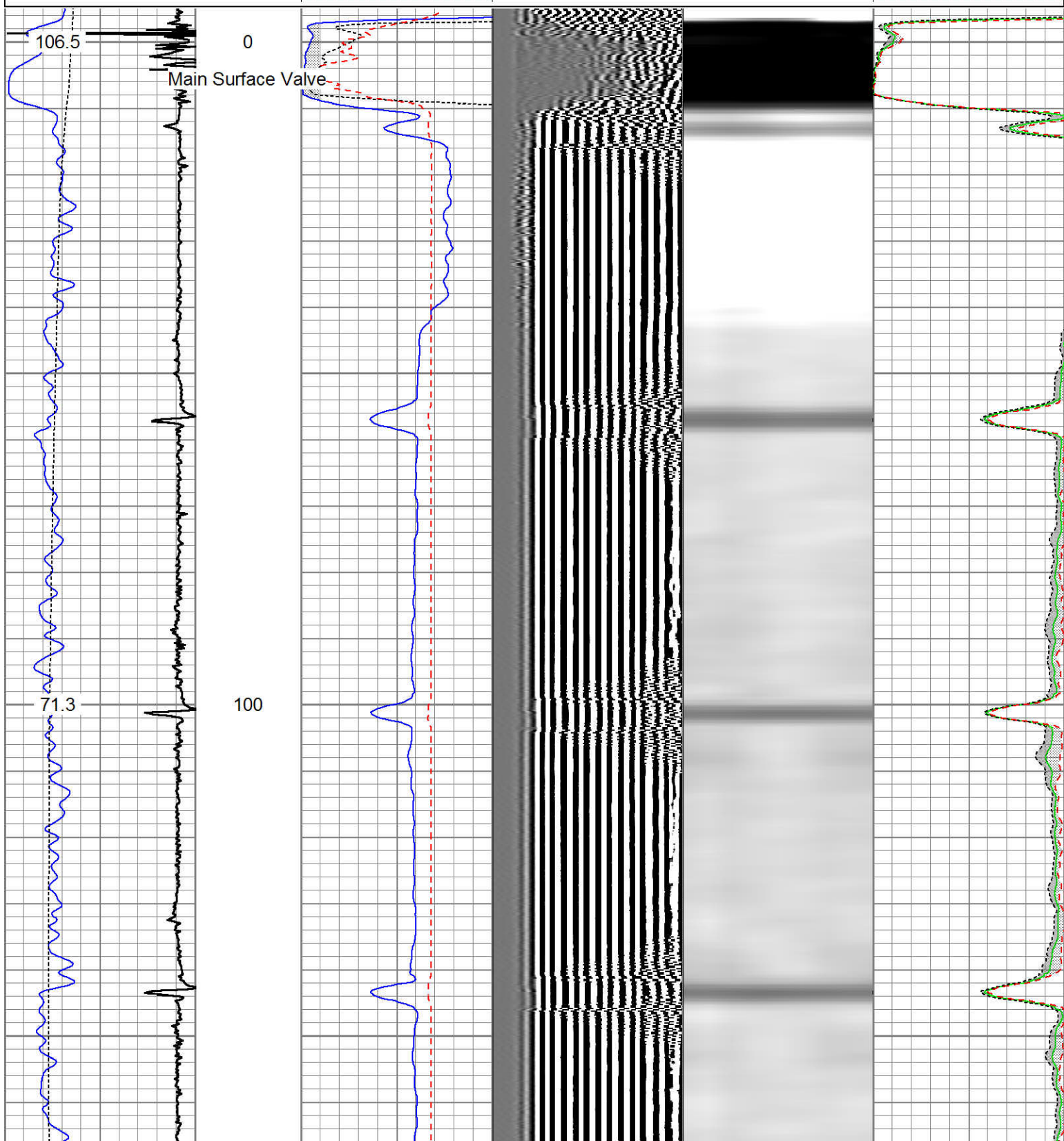
Radial Cement Bond Log is first recorded log in hole.
Depth reference to Casing Tally Report's Top of Liner at 6949'
Adjusted -10' to TOL at 6949' from a 16' KB zero.
RCBL ran with 2800 PSI surface induced pressure.
Estimated Cement Top recorded at 350'.

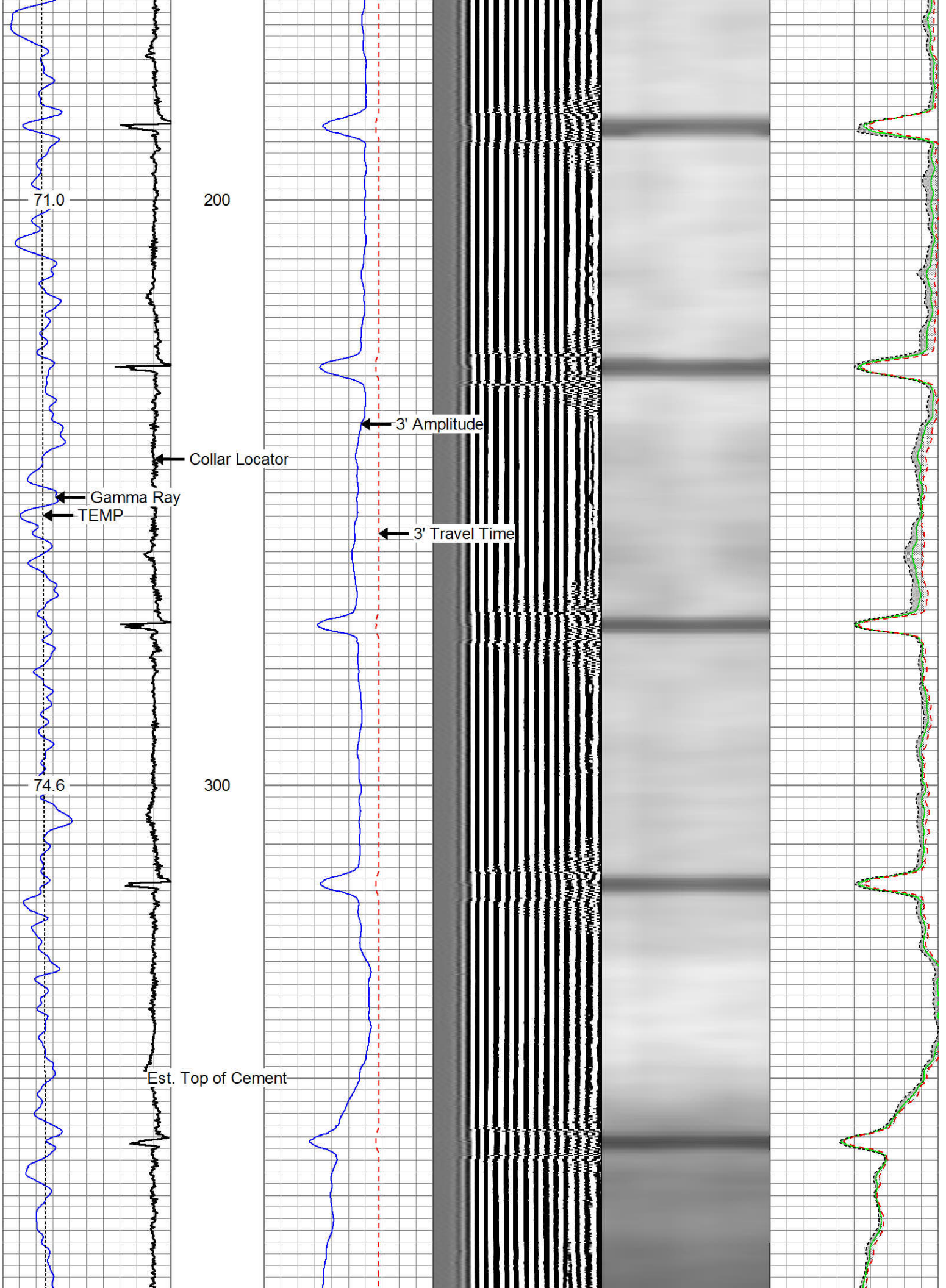
Thank You for choosing FMC Technologies Completion Services, Inc.

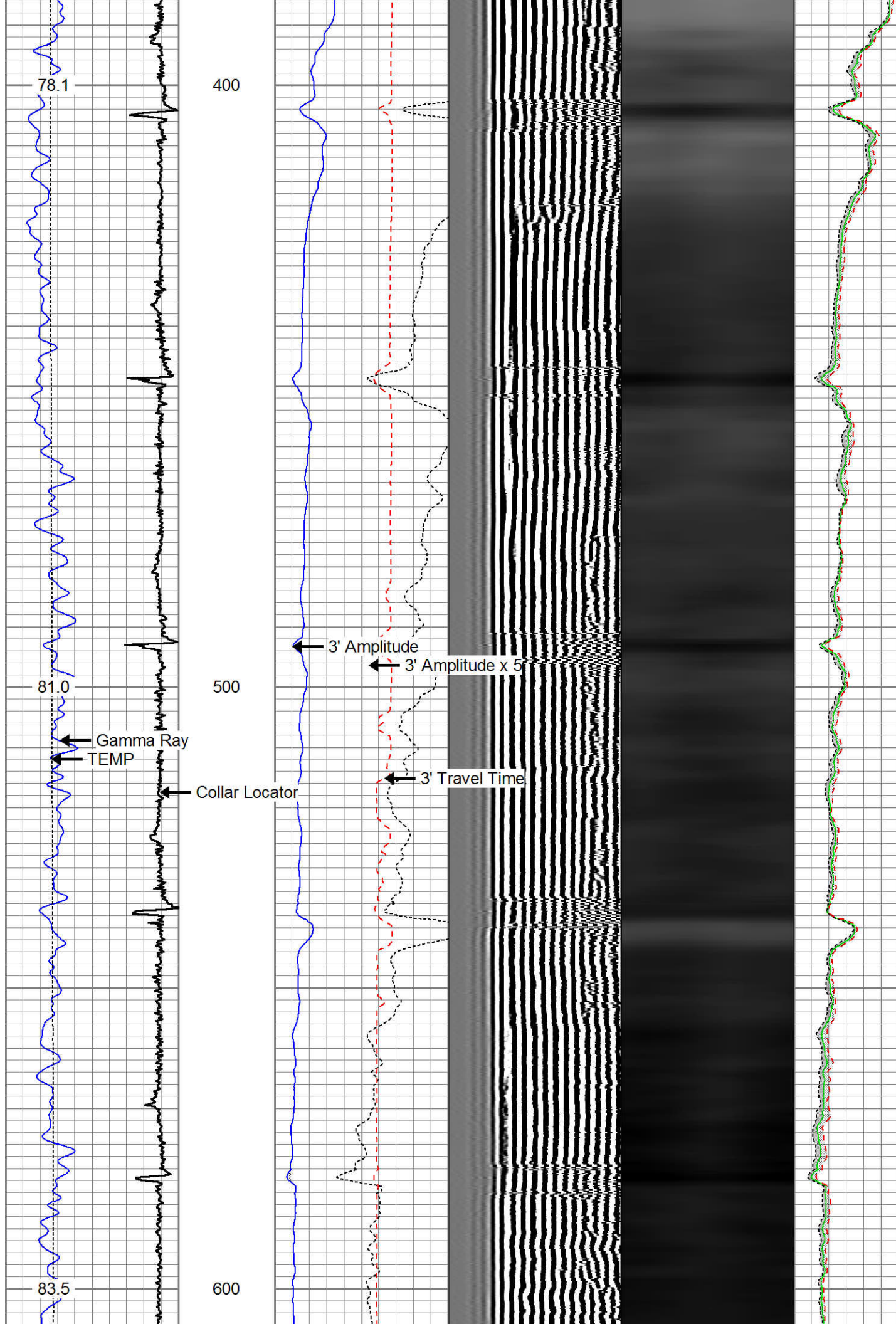
Main Pass 2800 PSI

Database File: anadarko cannon 14c-10hz.db
 Dataset Pathname: rcb/main1
 Presentation Format: rbt007
 Dataset Creation: Tue Jul 30 14:11:14 2013 by Log SCH 111116
 Charted by: Depth in Feet scaled 1:240

Gamma Ray 0 (GAPI) 150	3' Amplitude 0 (mV) 100	5' Variable Density Log 200 1200	Sector Map 10 110	Average Amplitude 0 100
Collar Locator	3' Amplitude x 5			Minimum Amplitude
0 TEMP (degF) 300	0 (mV) 20			0 100
	3' Travel Time			Maximum Amplitude
	650 (usec) 150			0 100







78.1

400

81.0

500

Gamma Ray
TEMP

Collar Locator

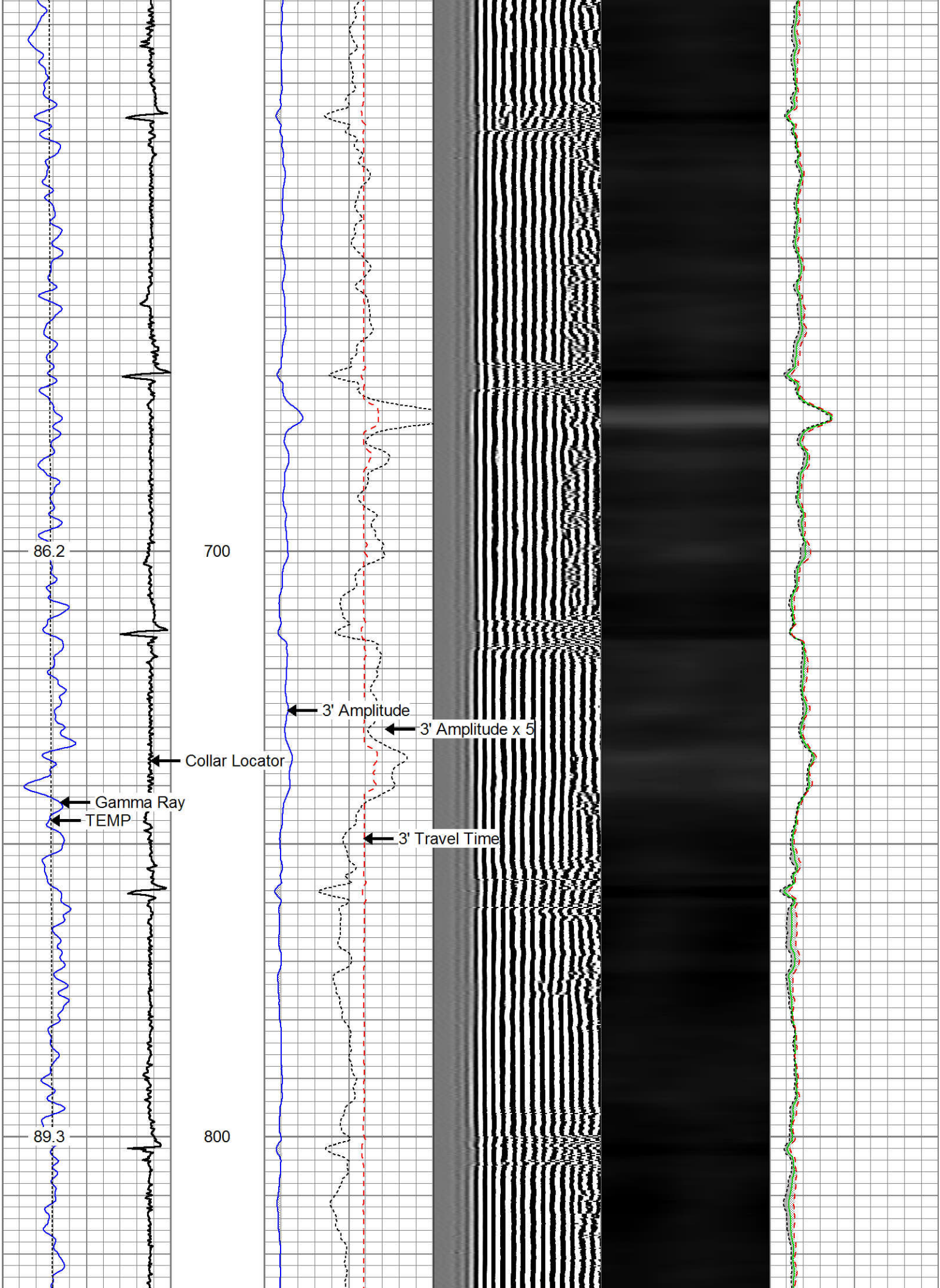
3' Amplitude

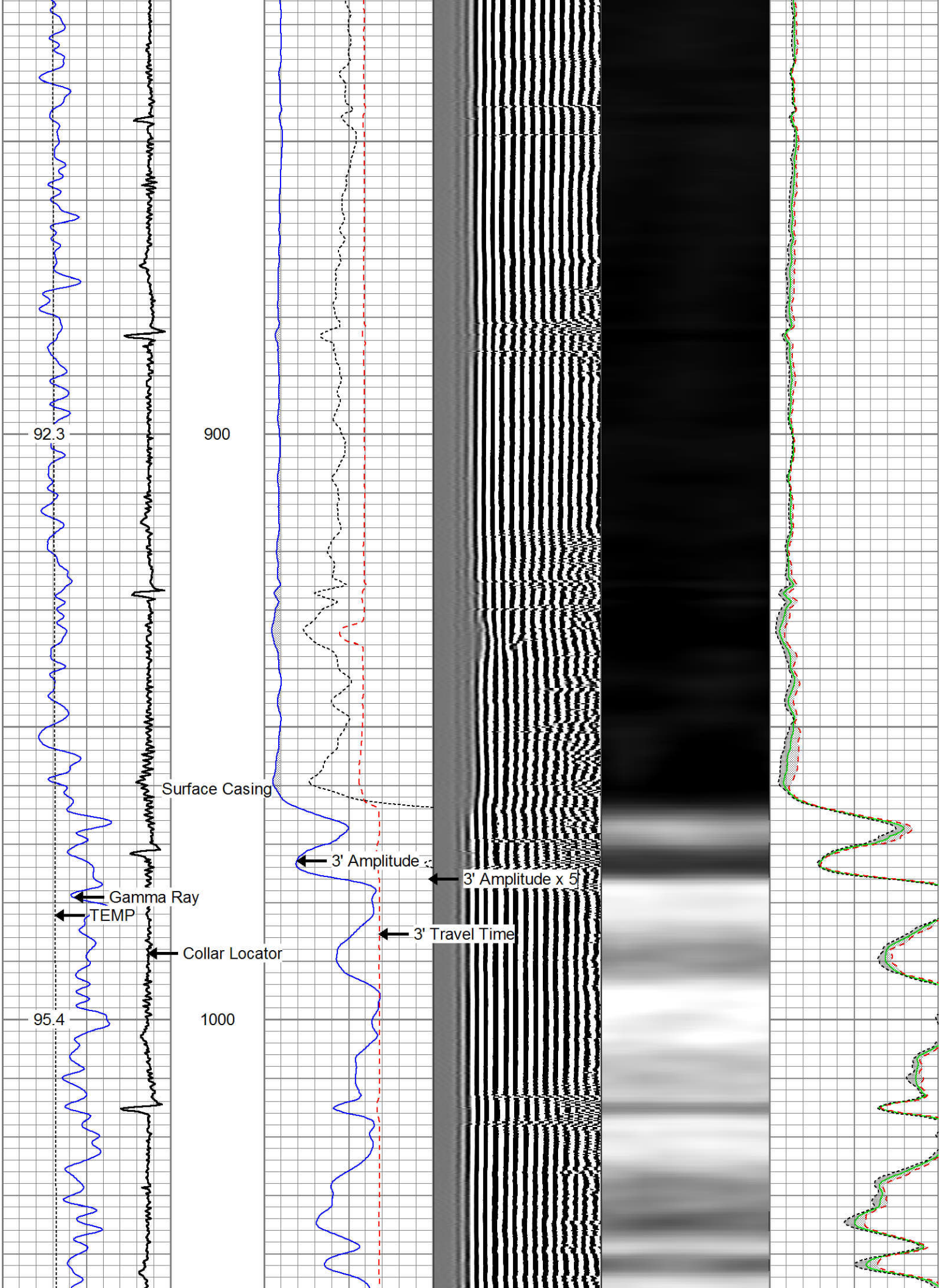
3' Amplitude x 5

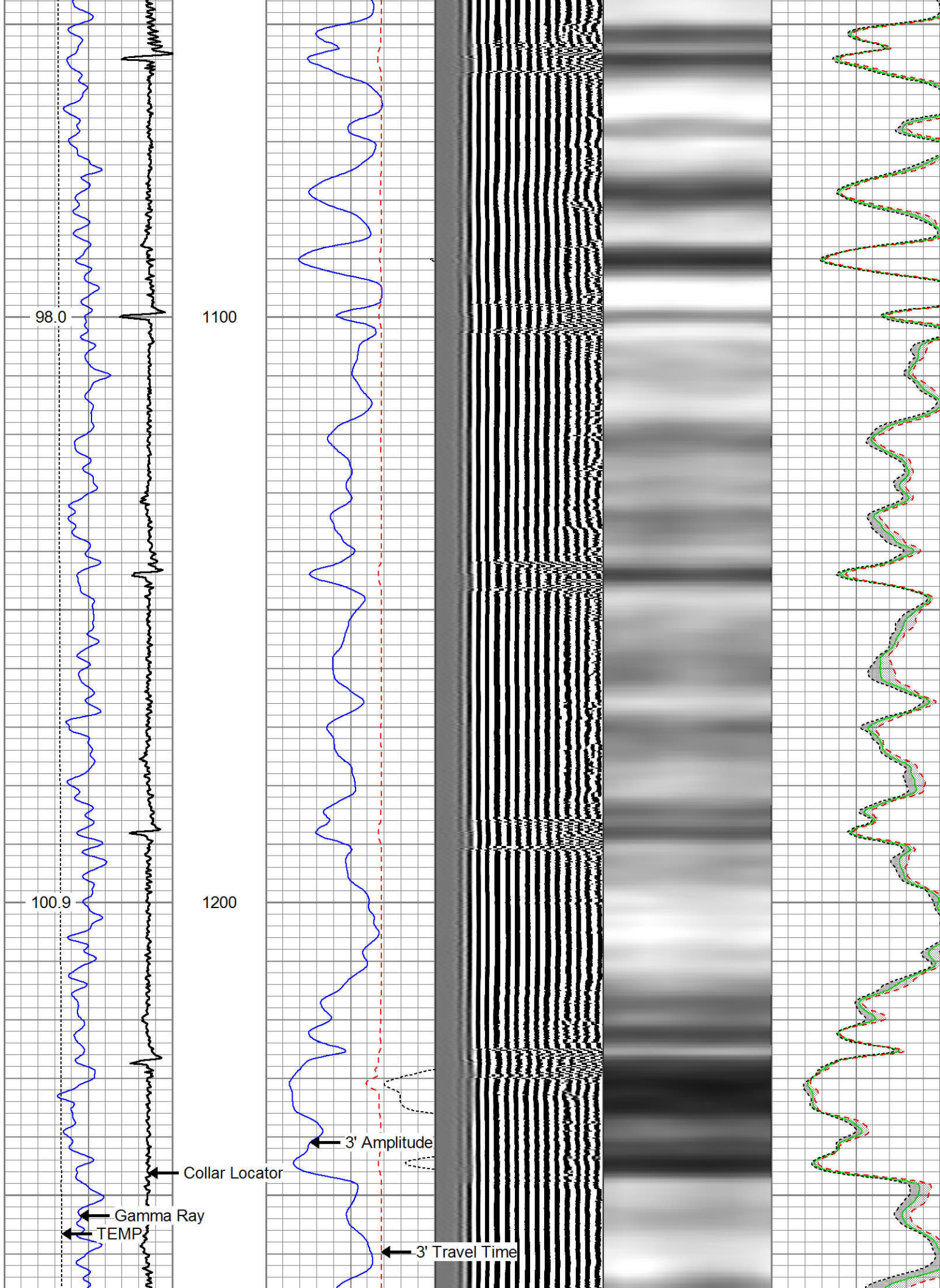
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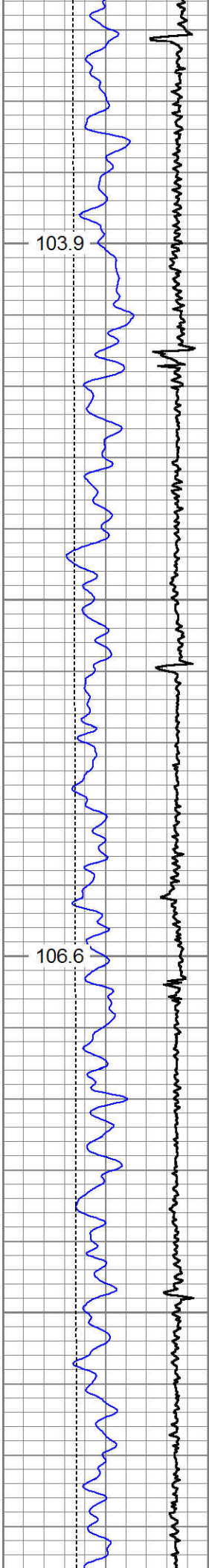
83.5

600



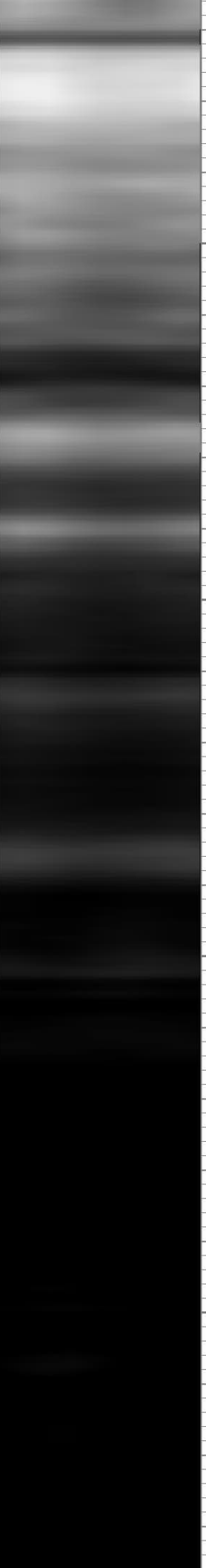
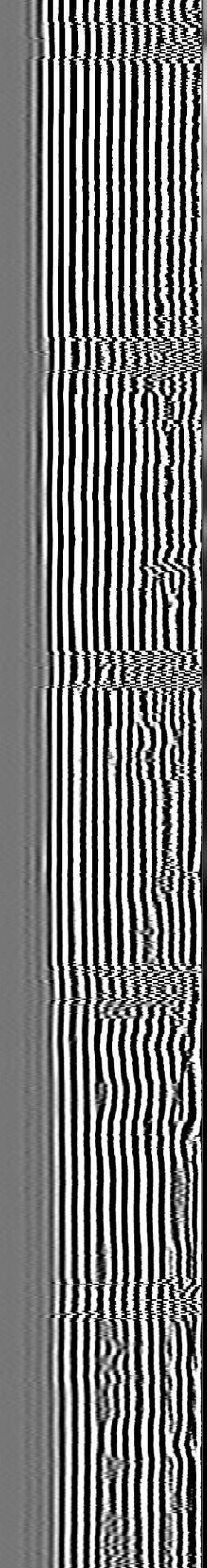
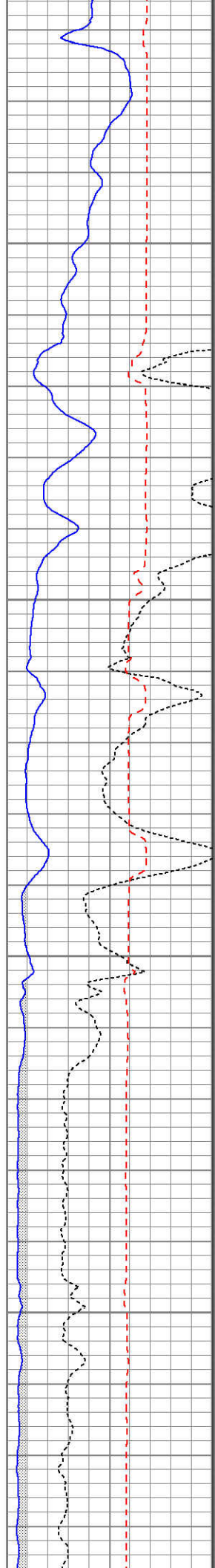


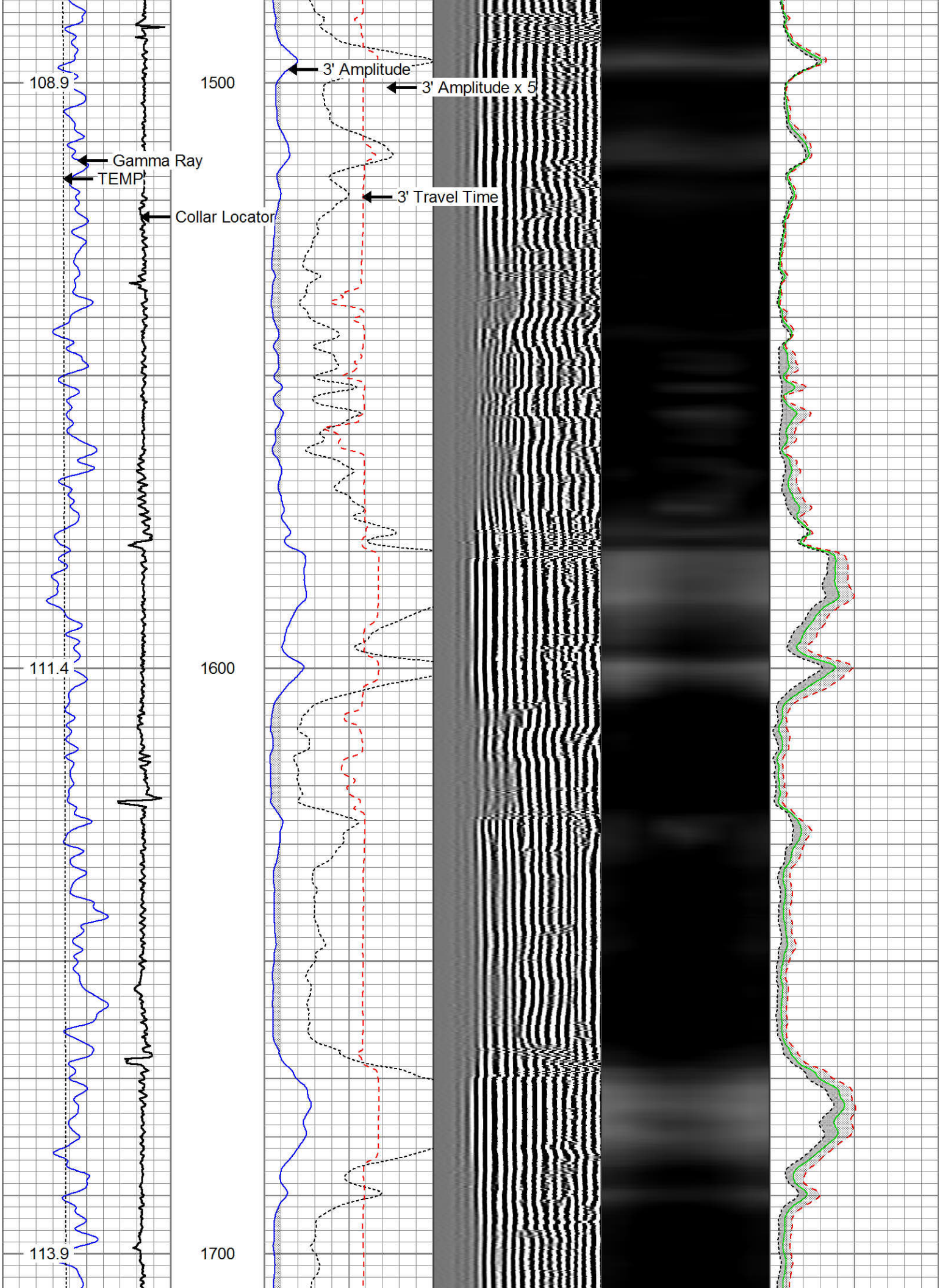


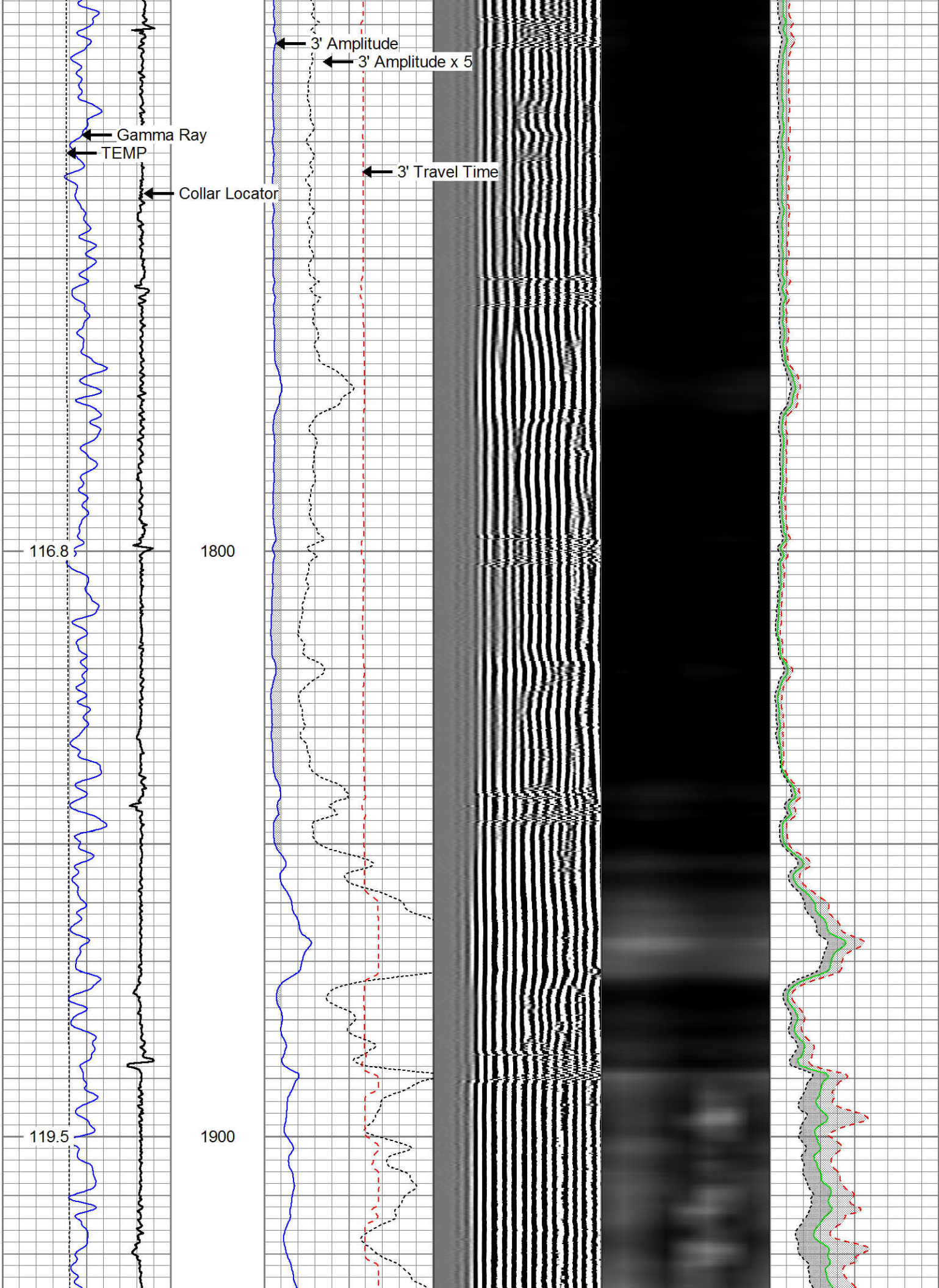


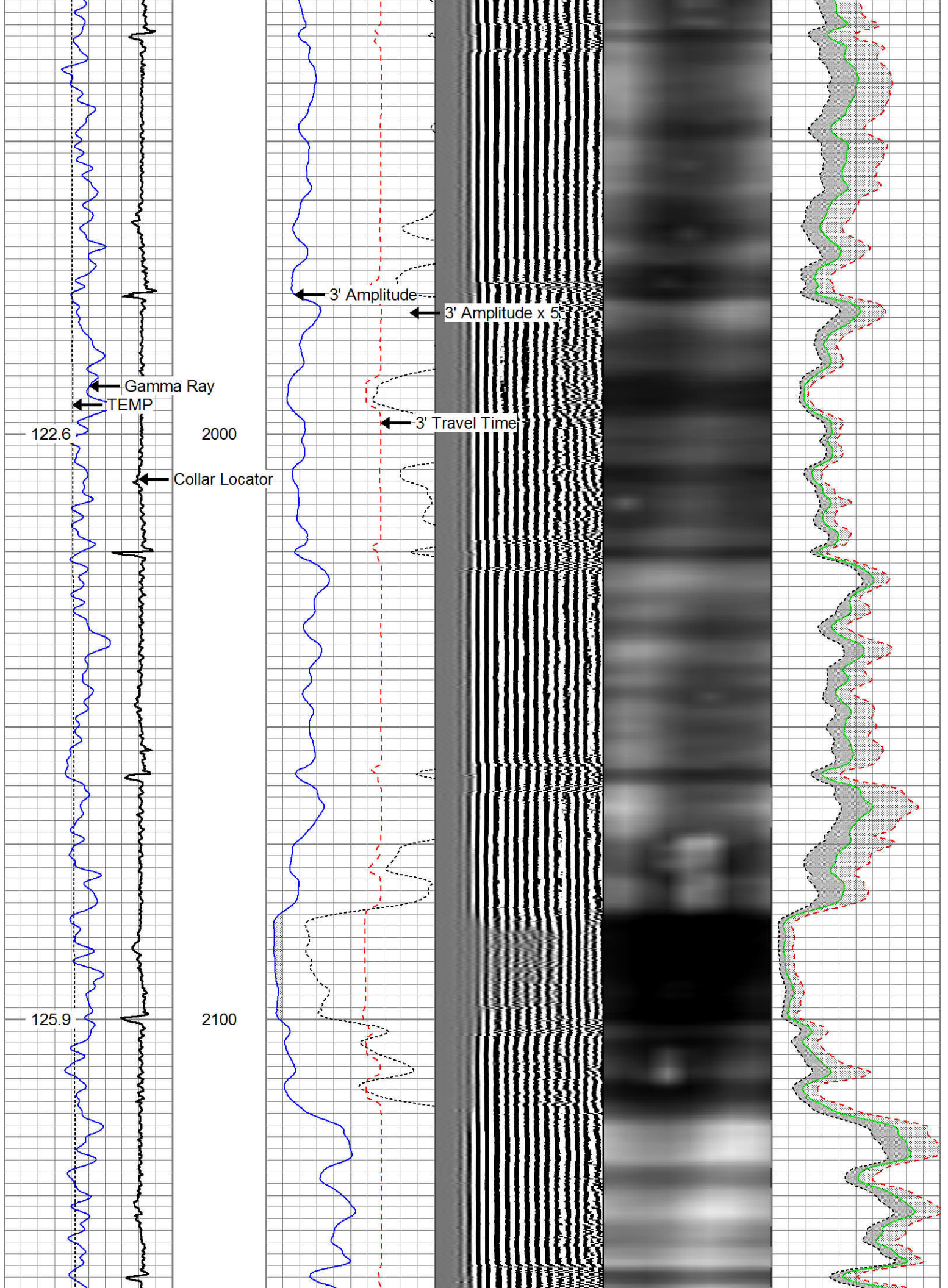
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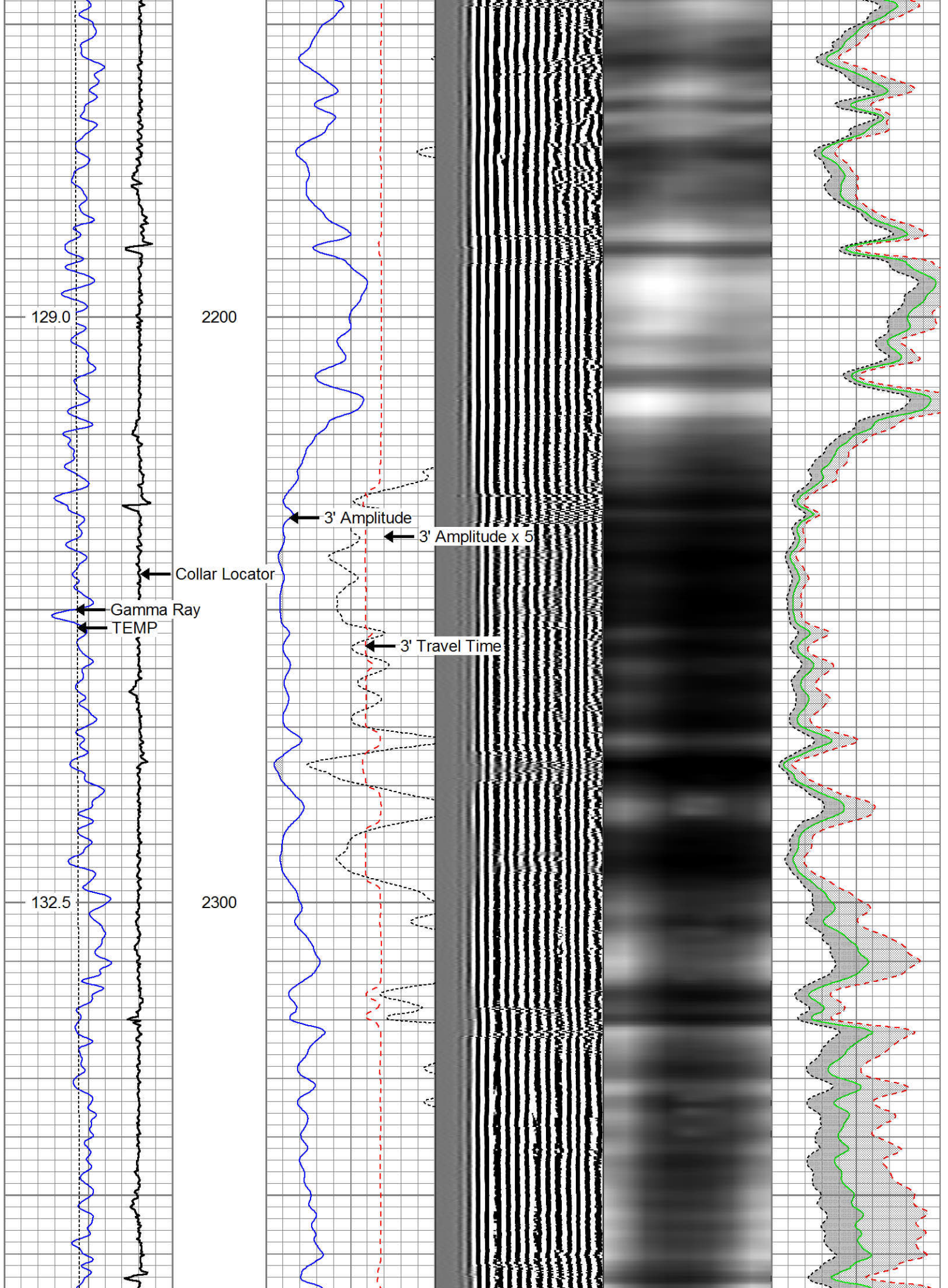
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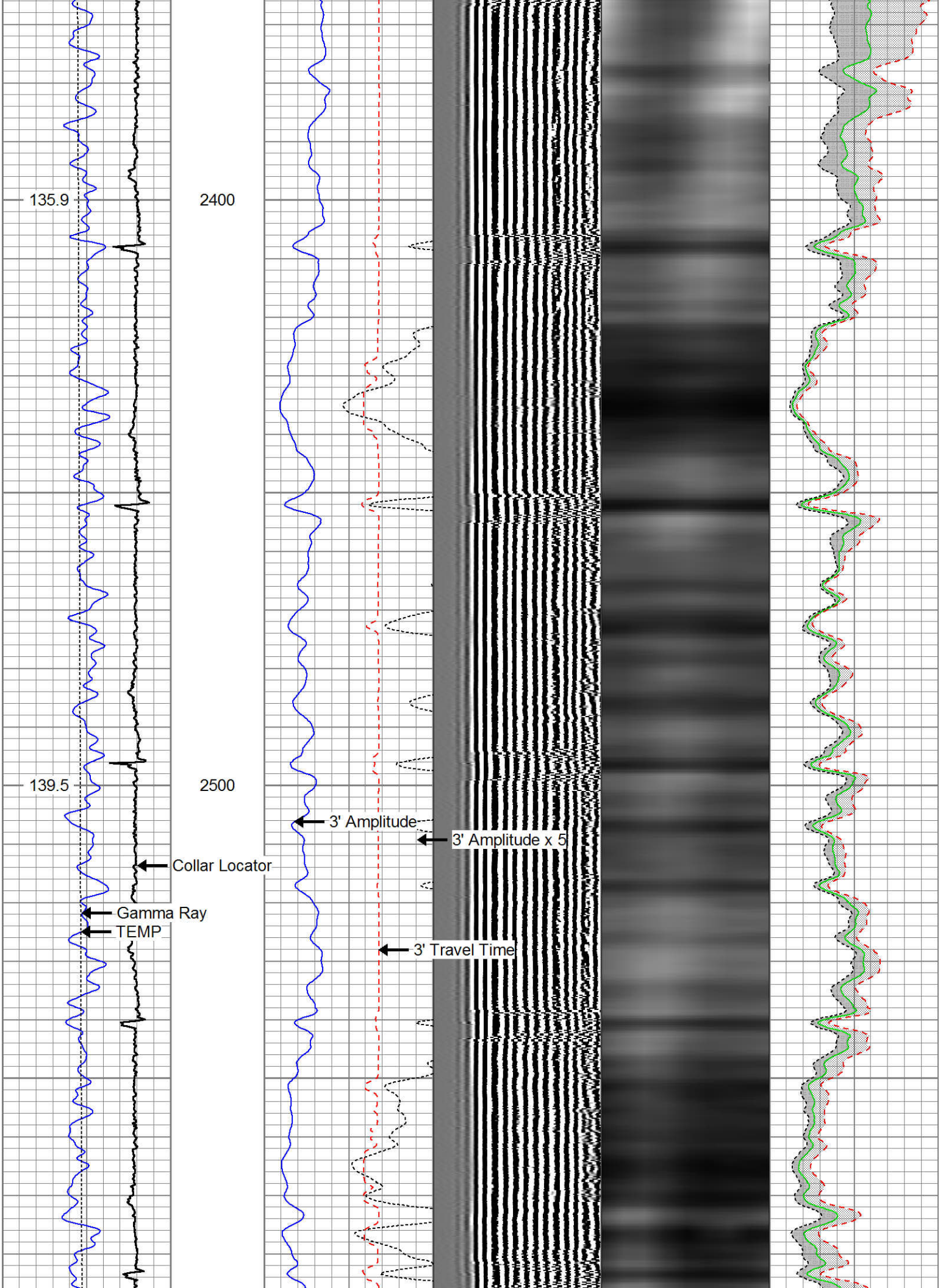


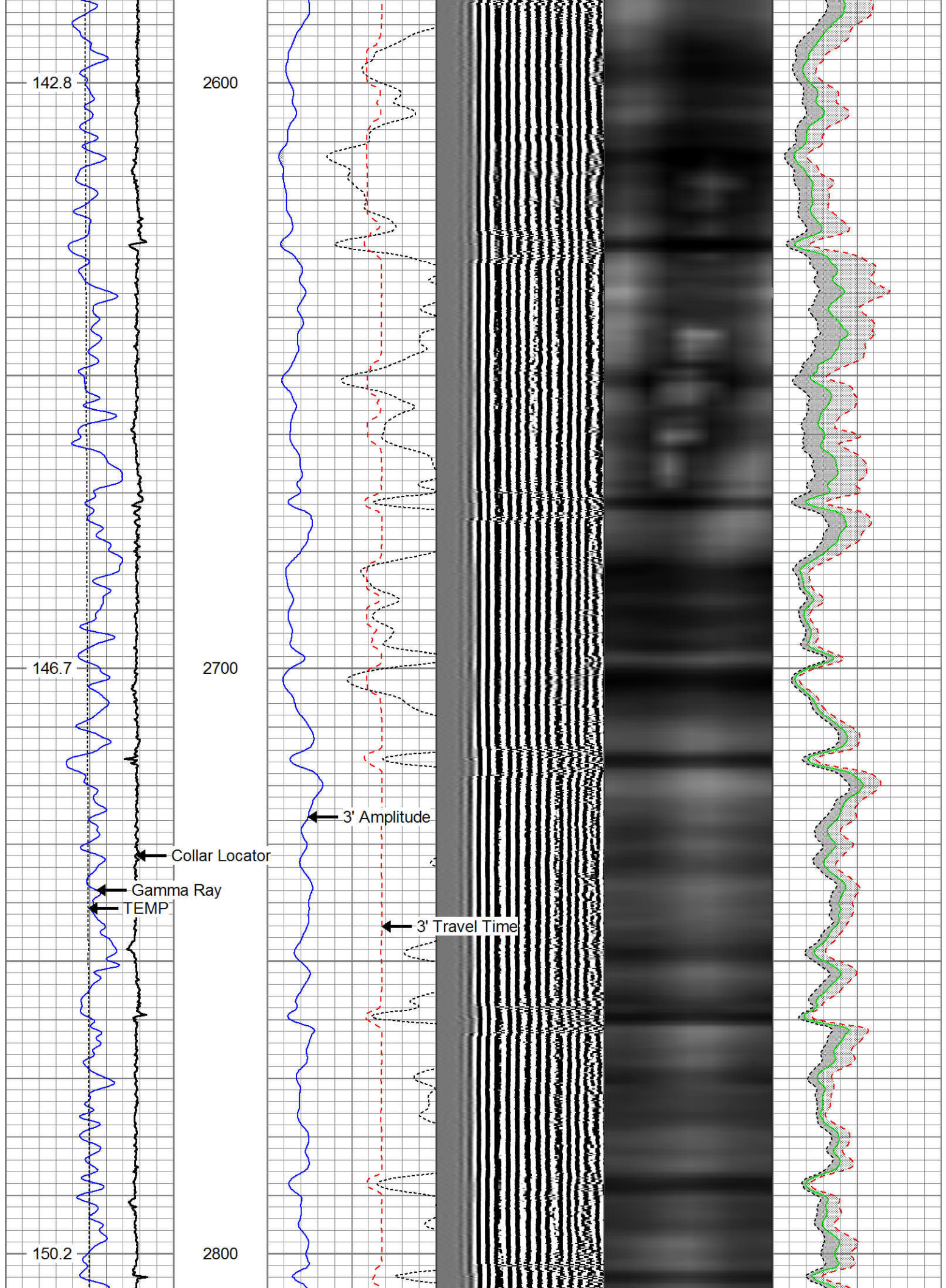


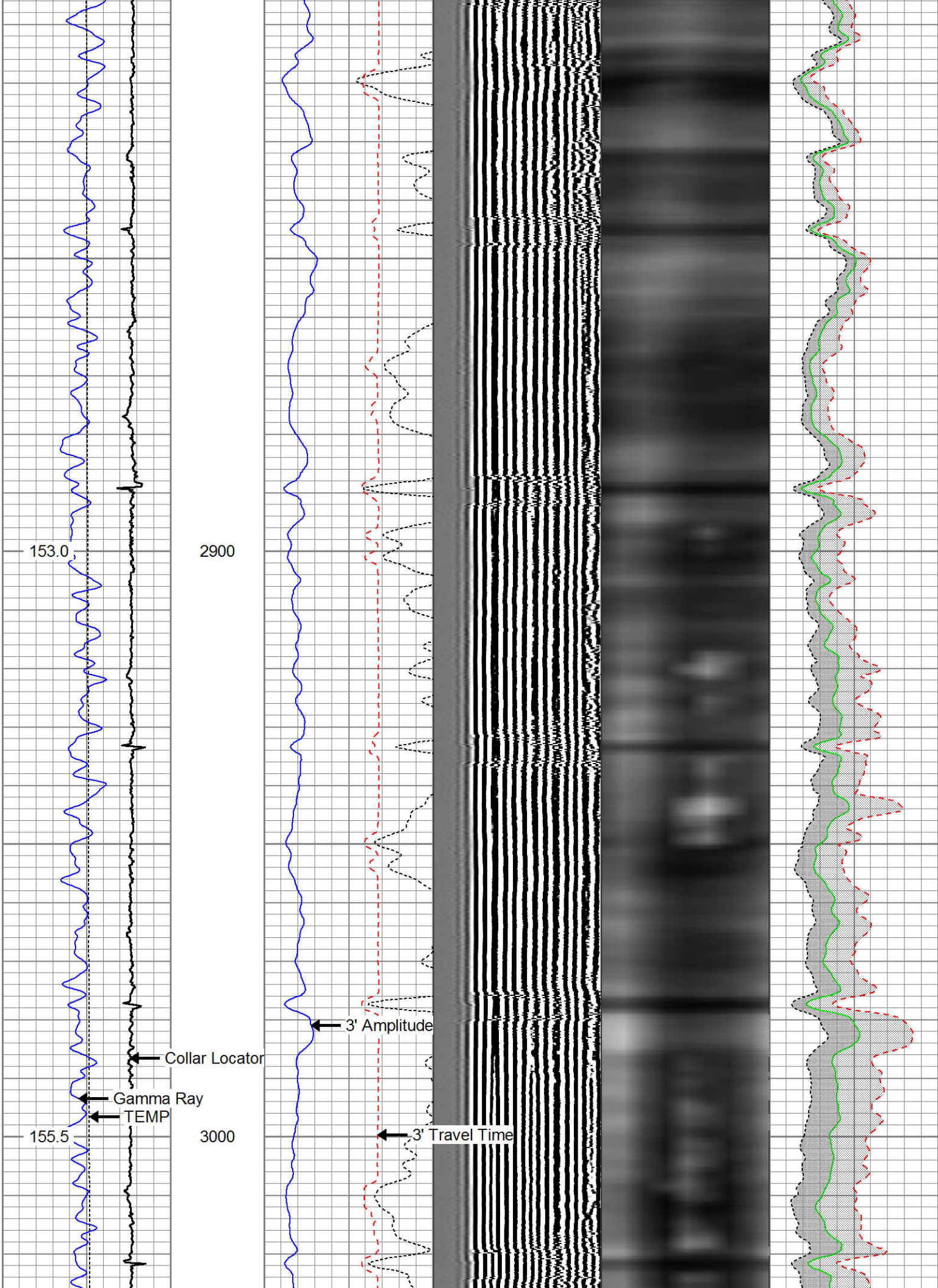


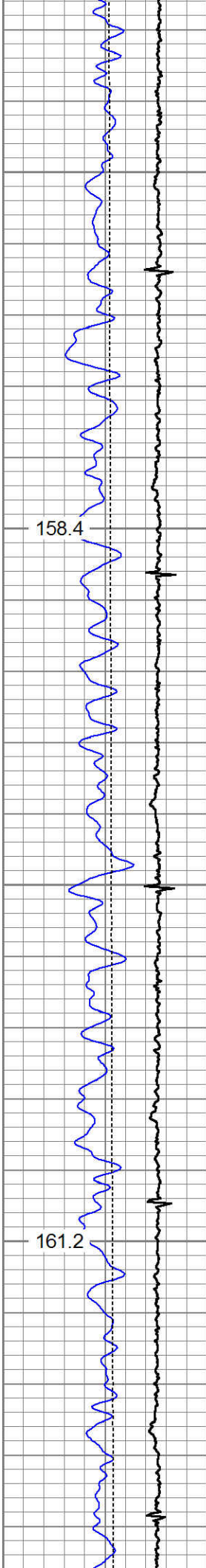






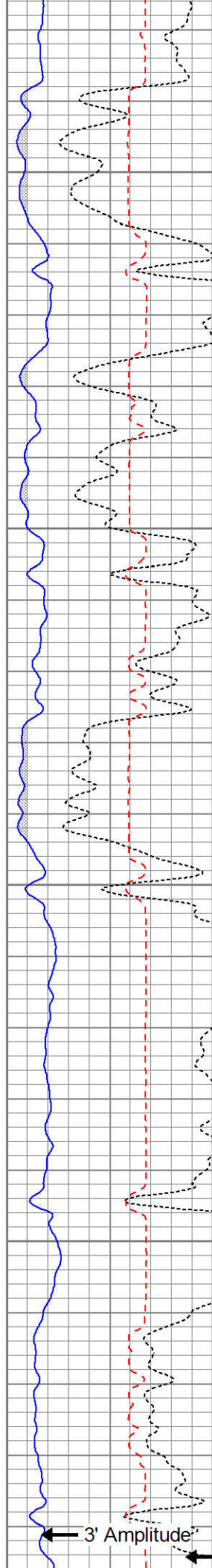




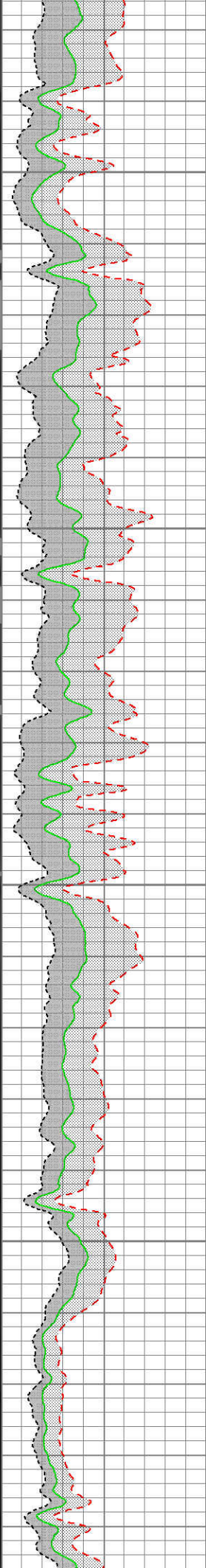
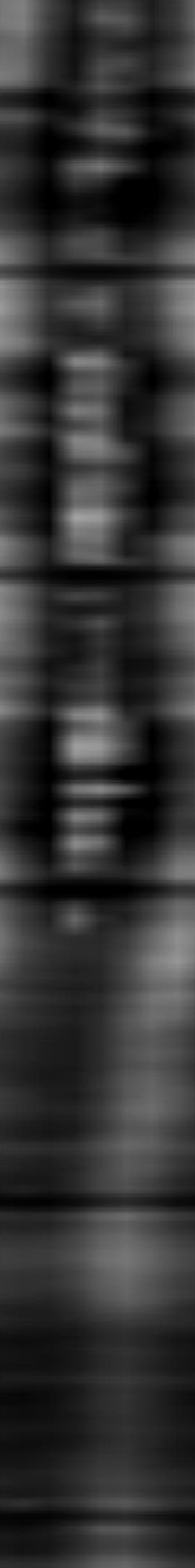
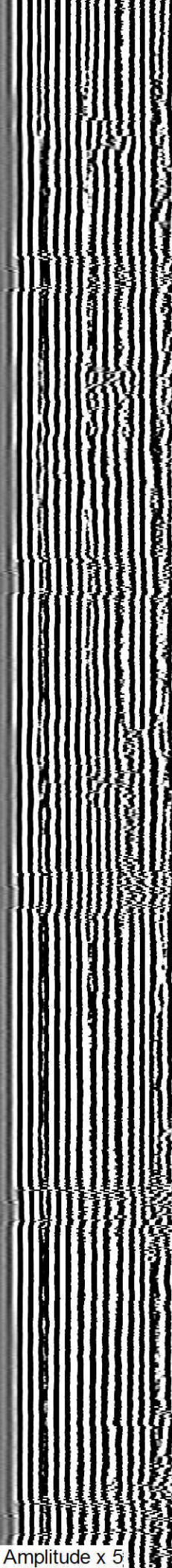


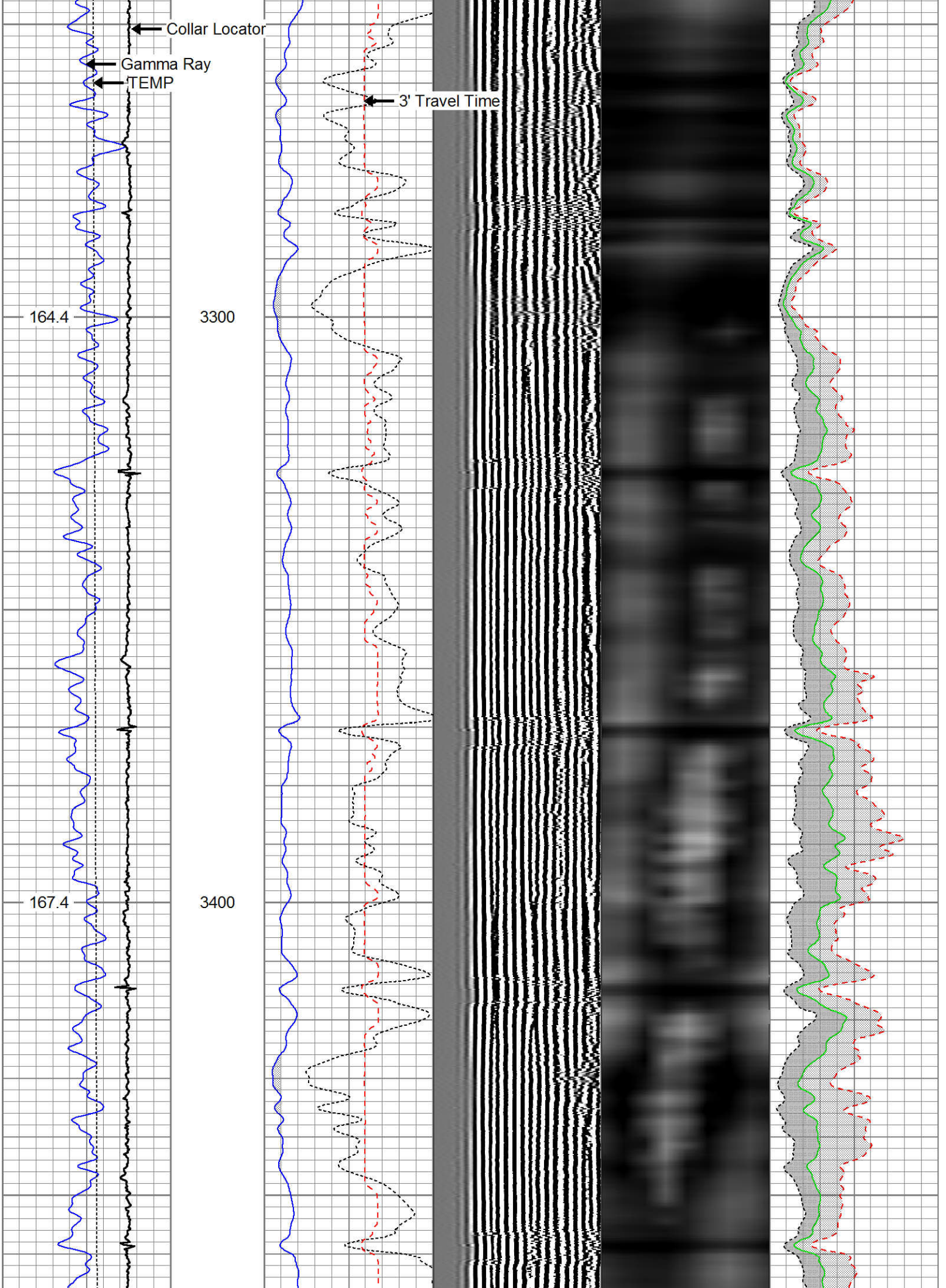
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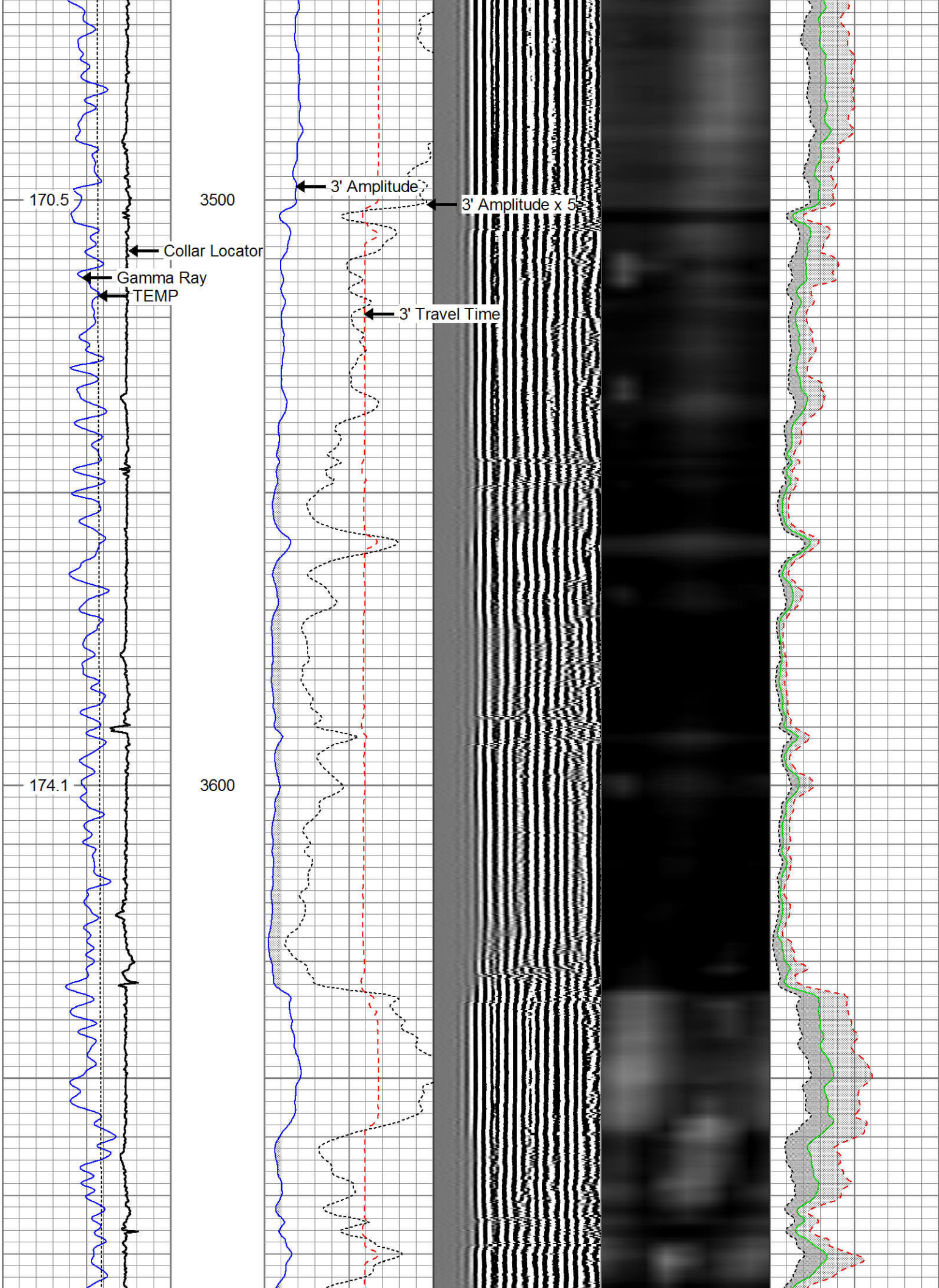
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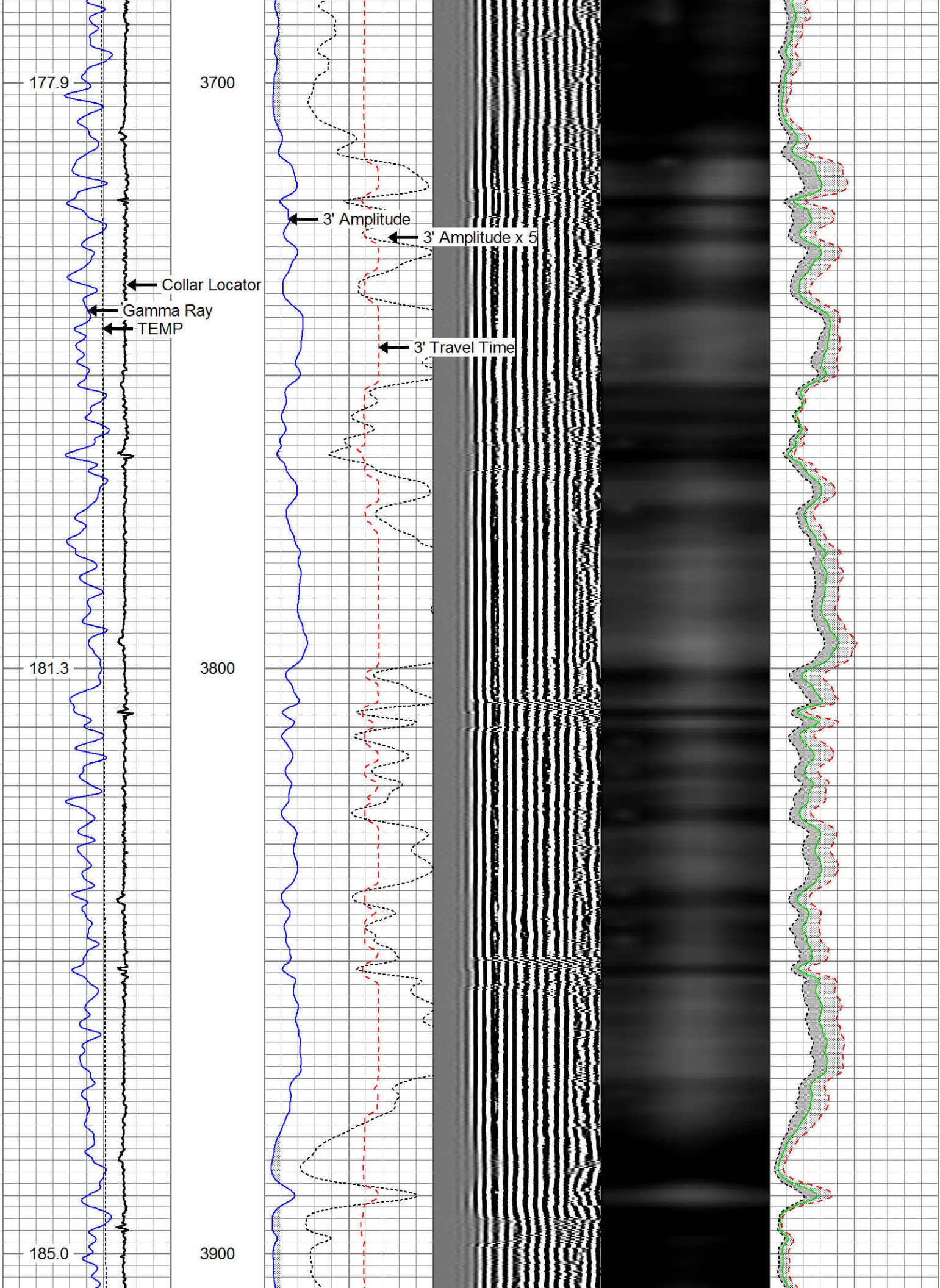


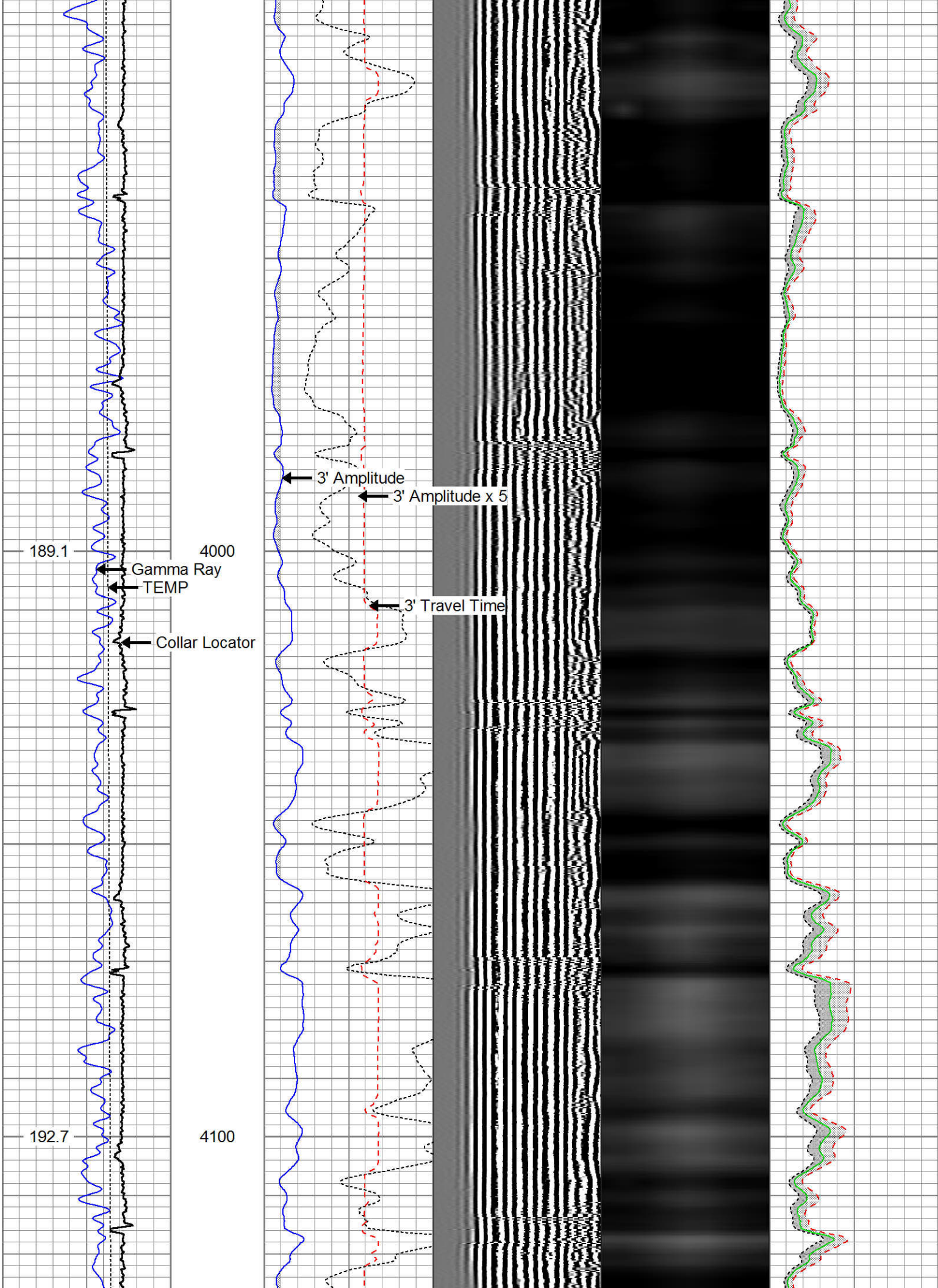
3' Amplitude x 5

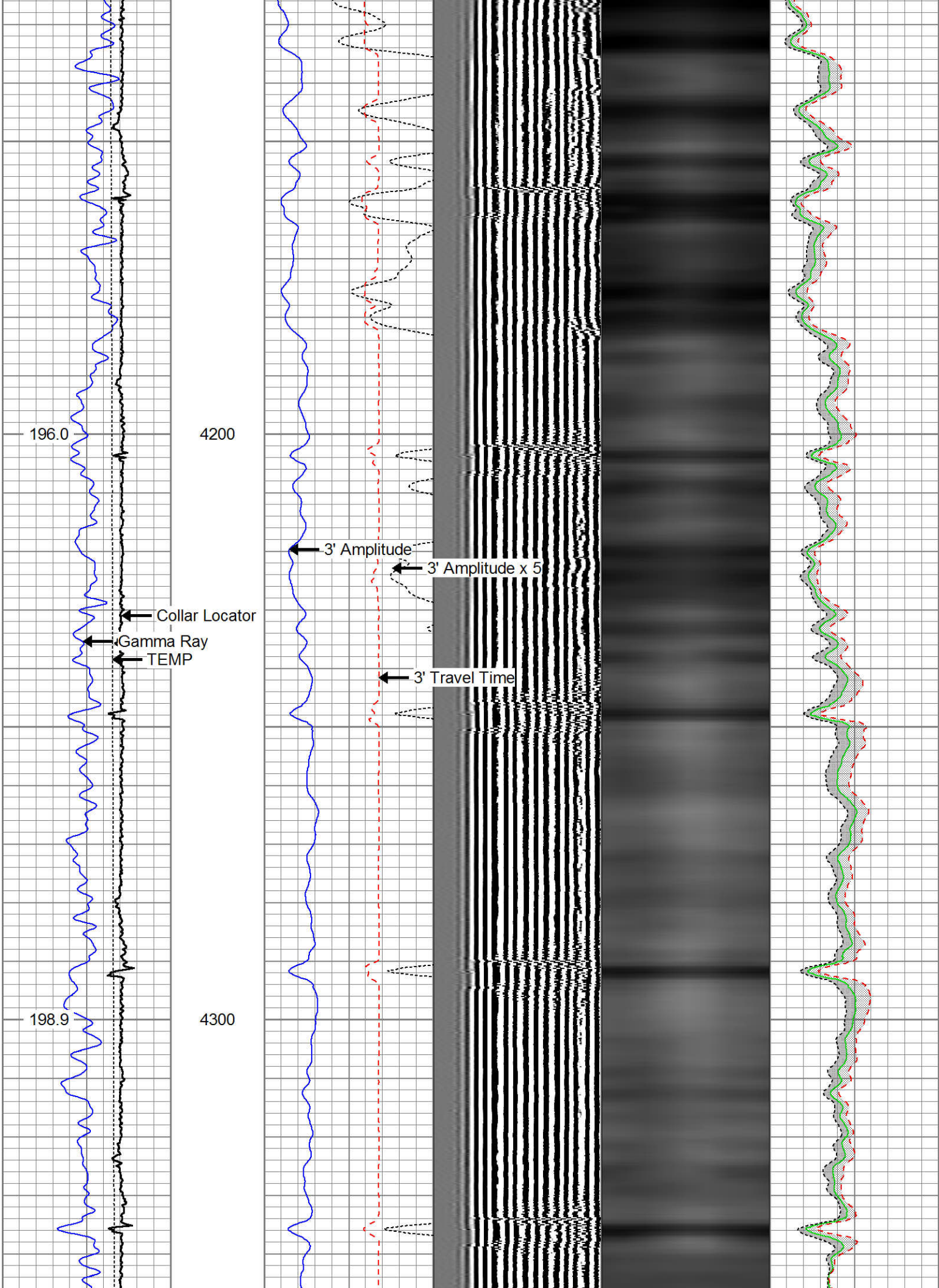


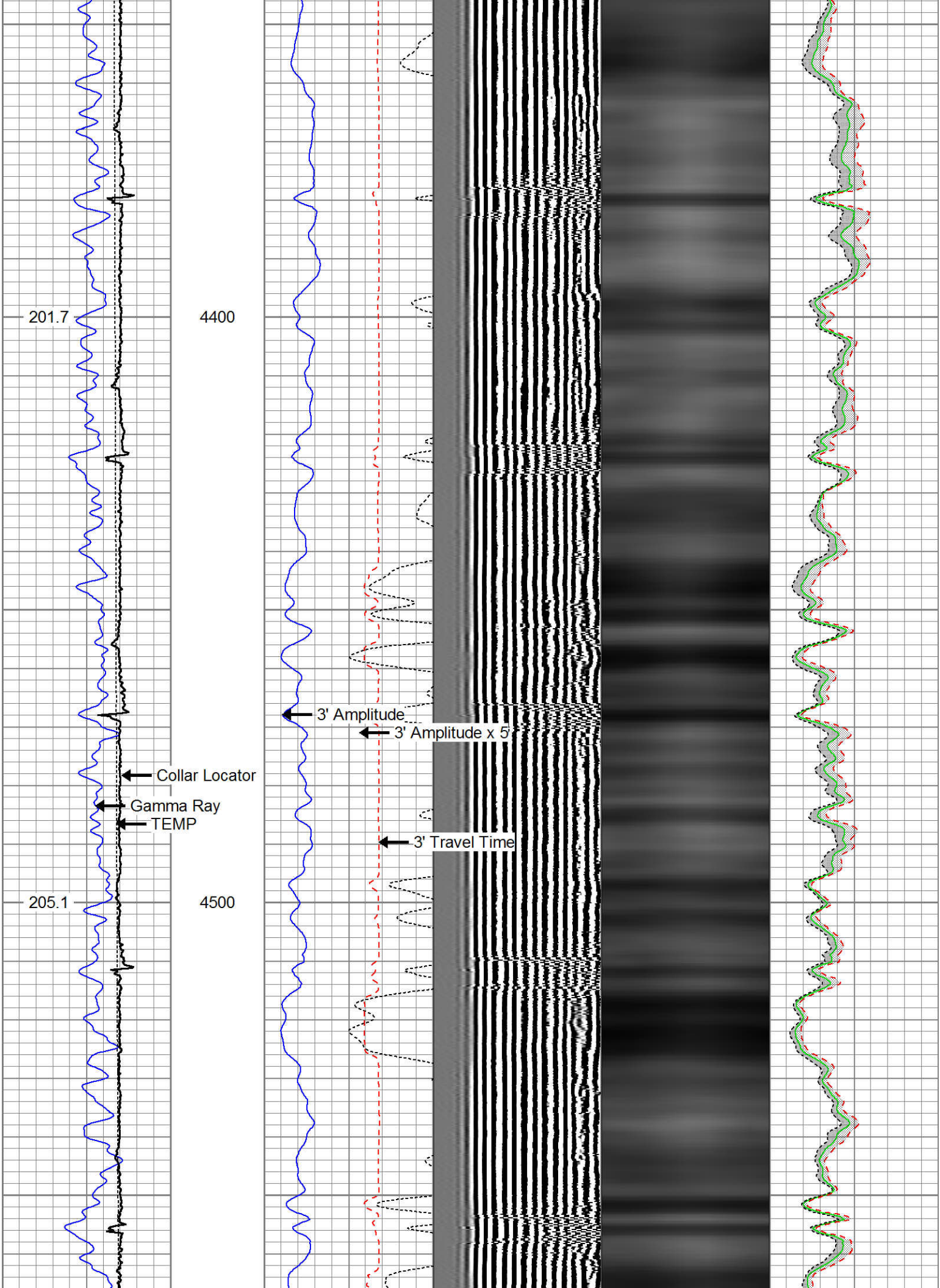


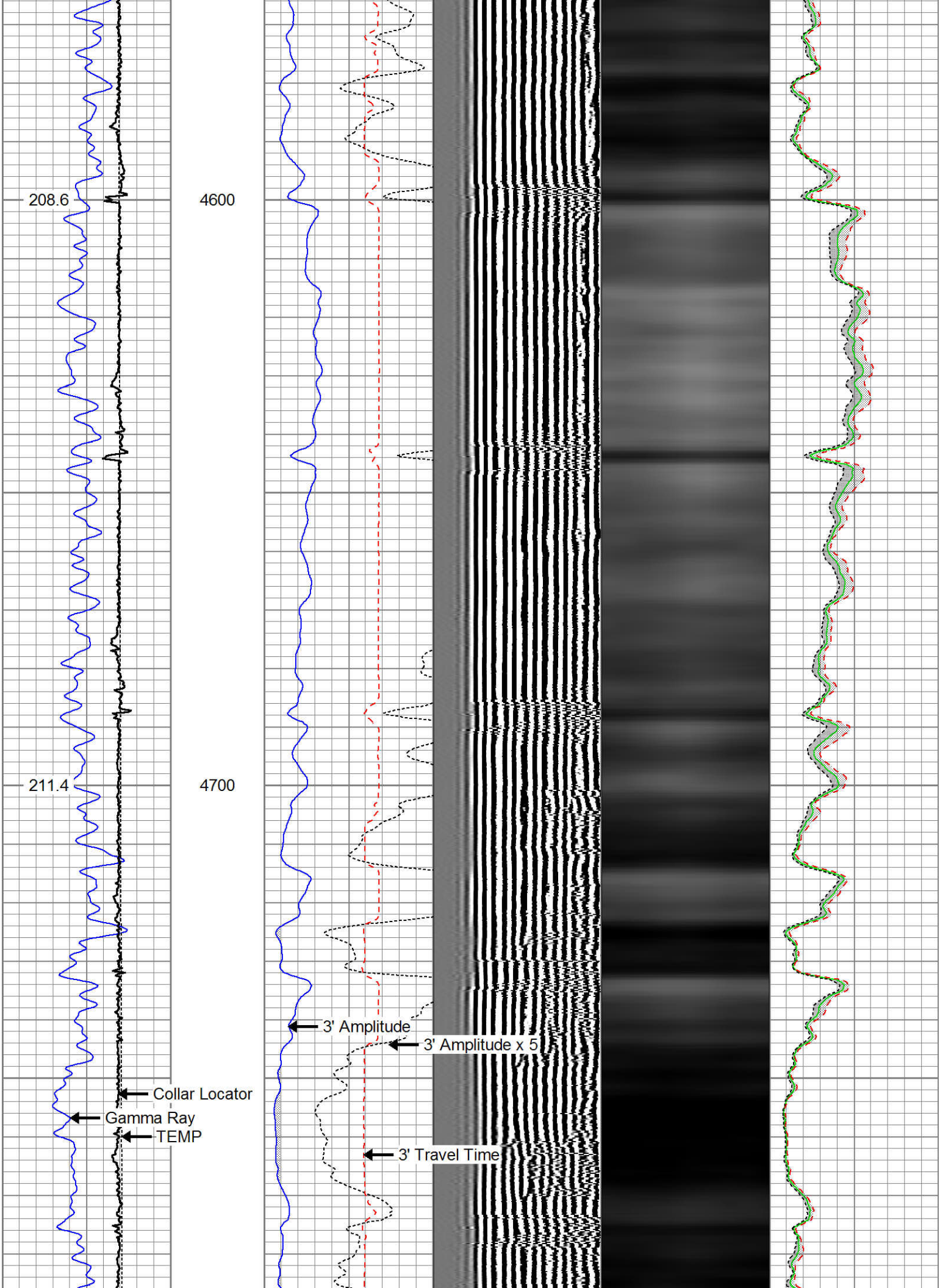


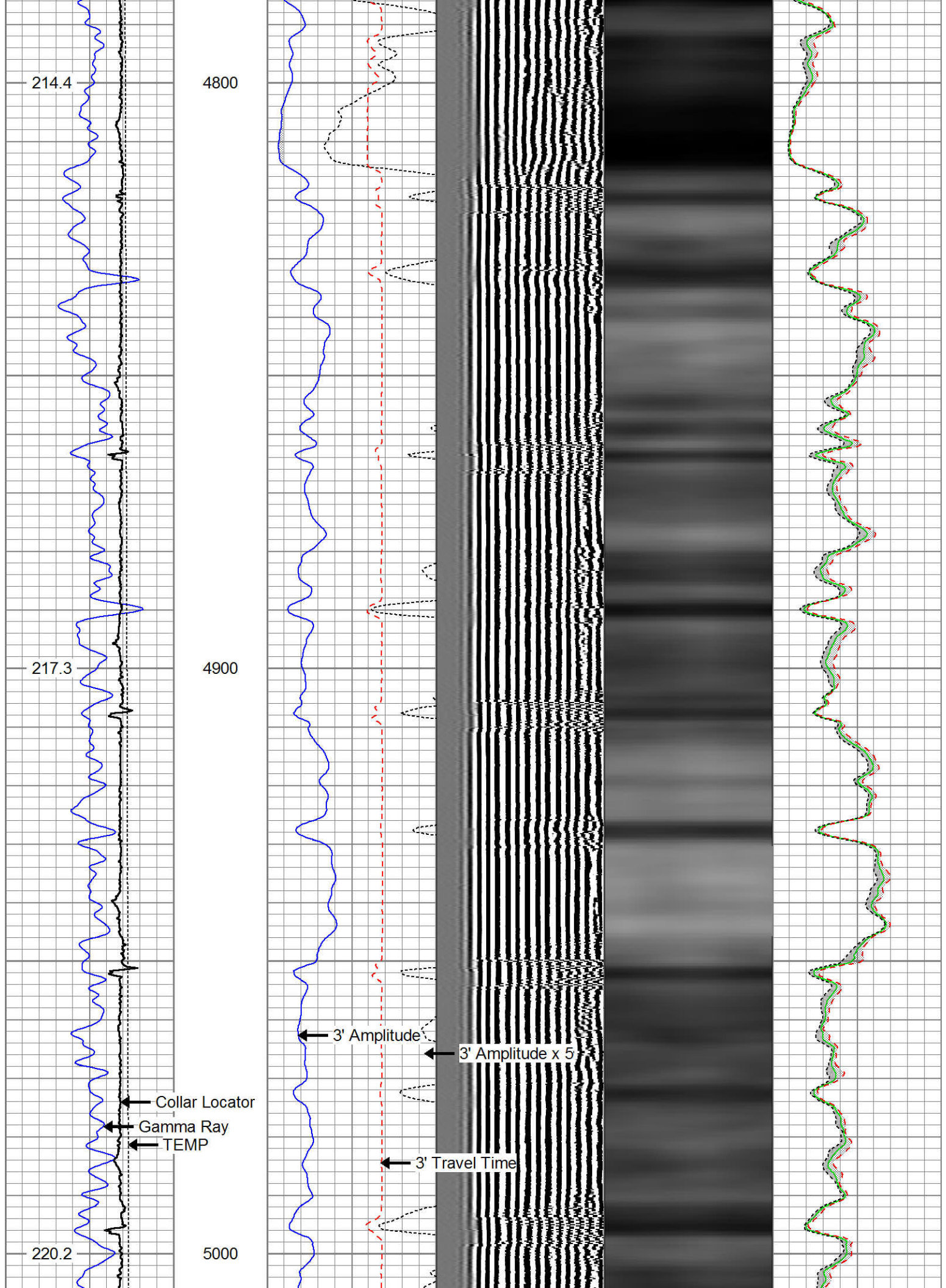


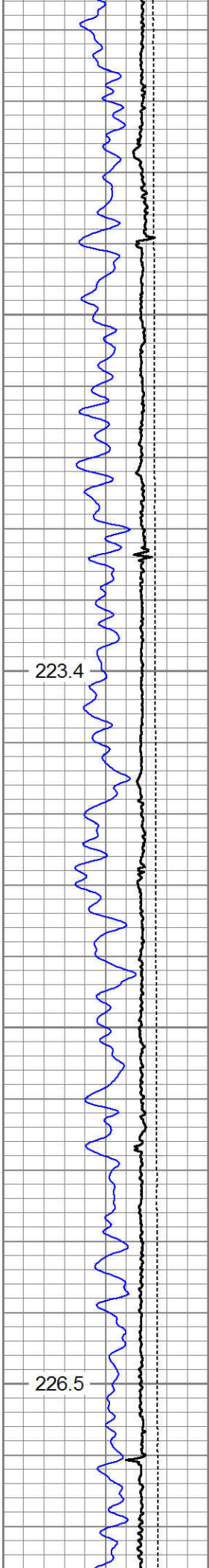






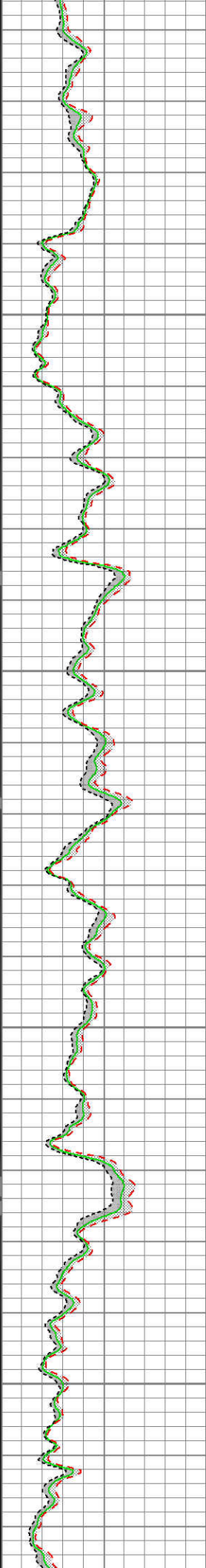
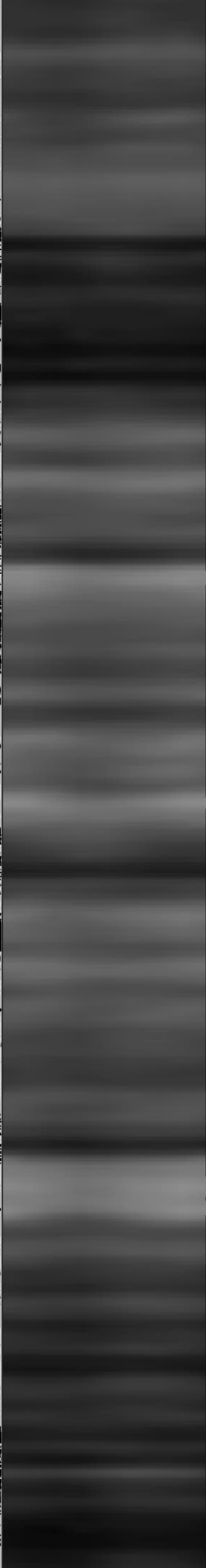
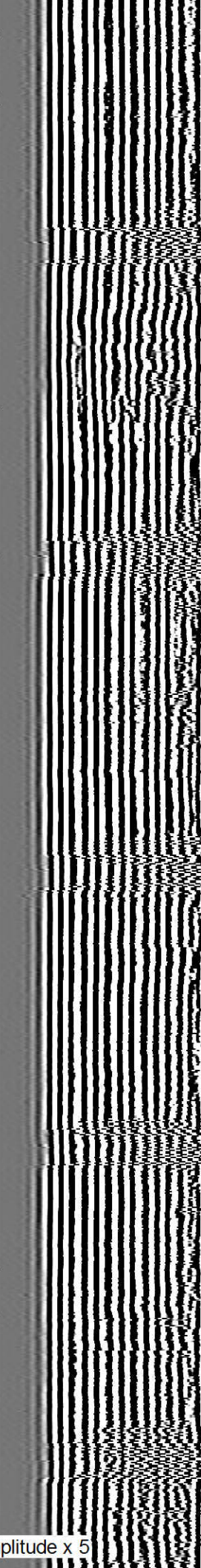
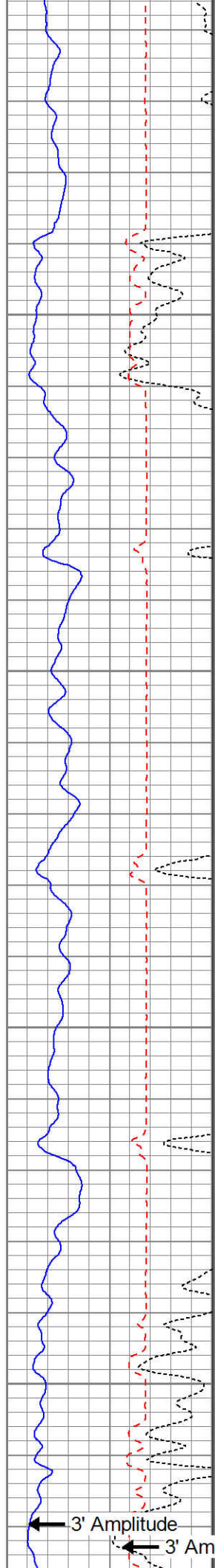


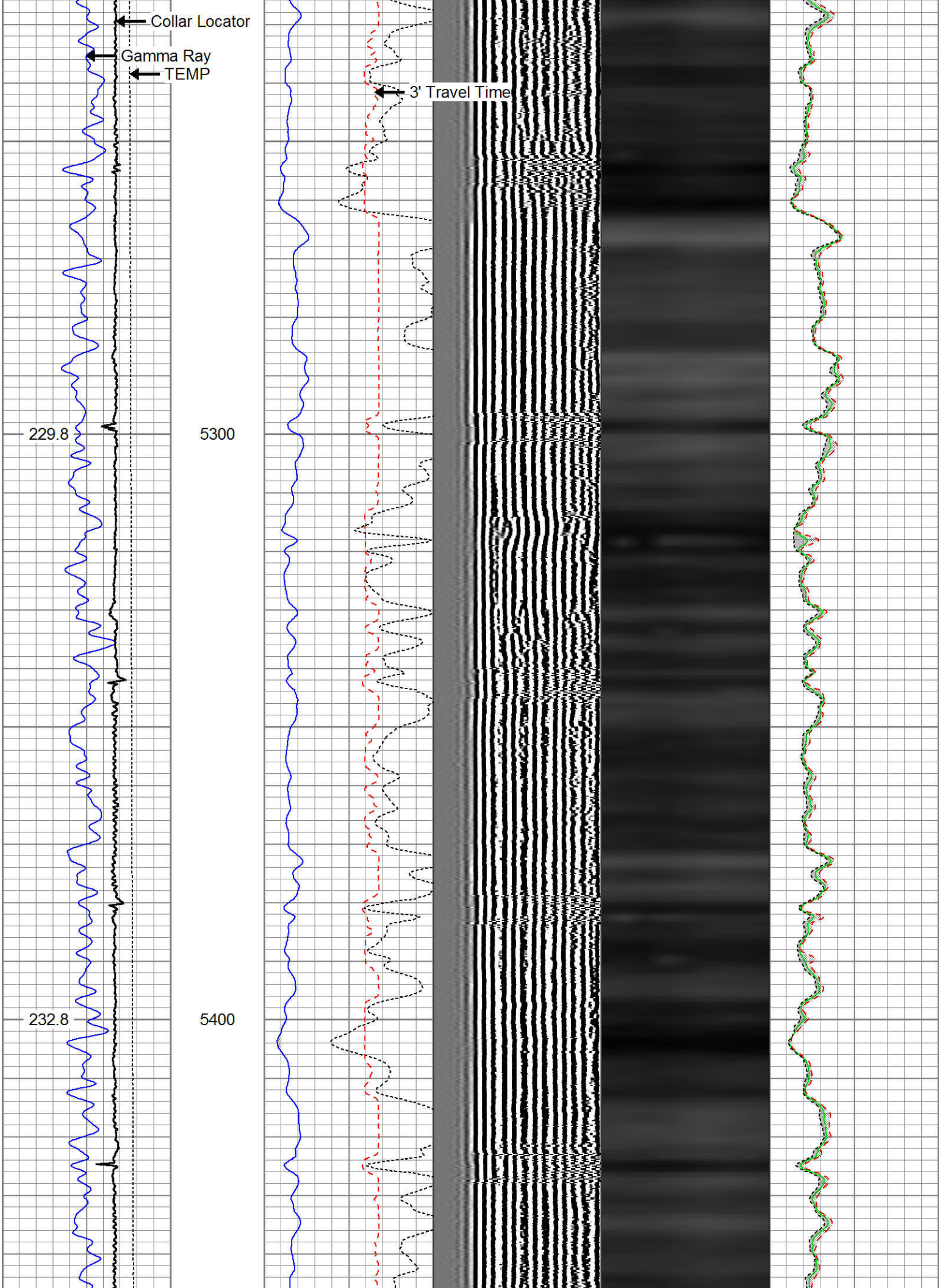


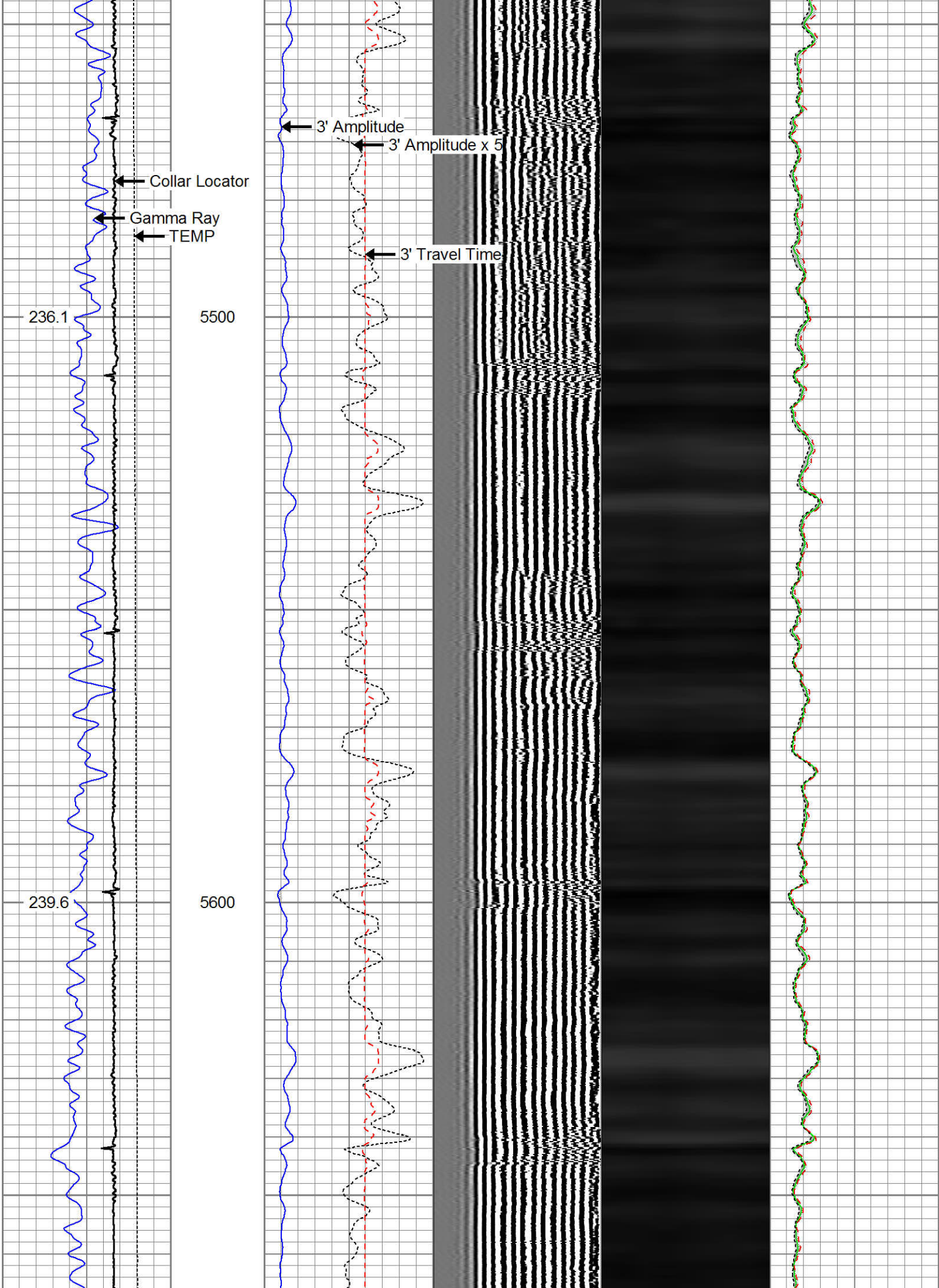


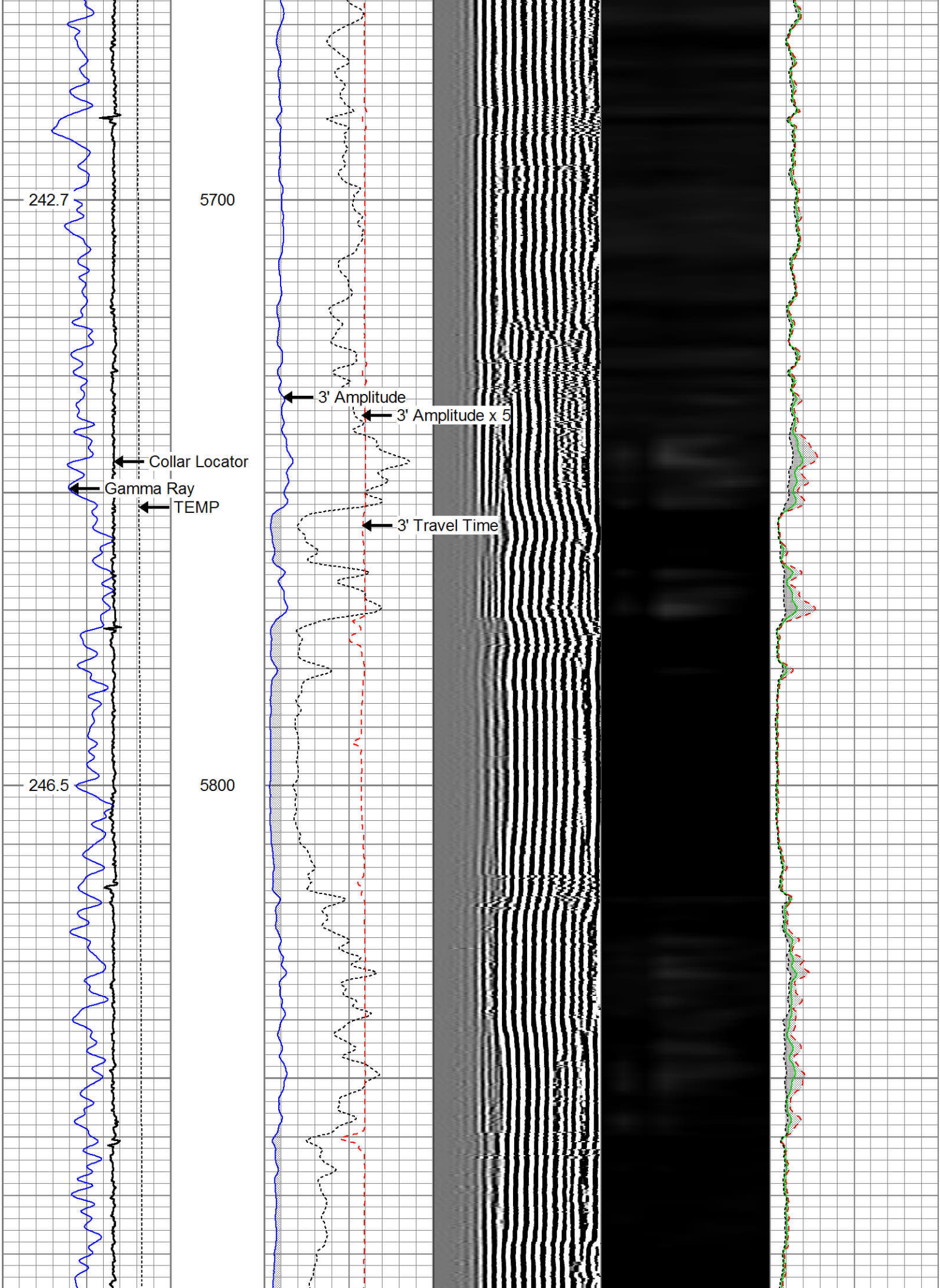
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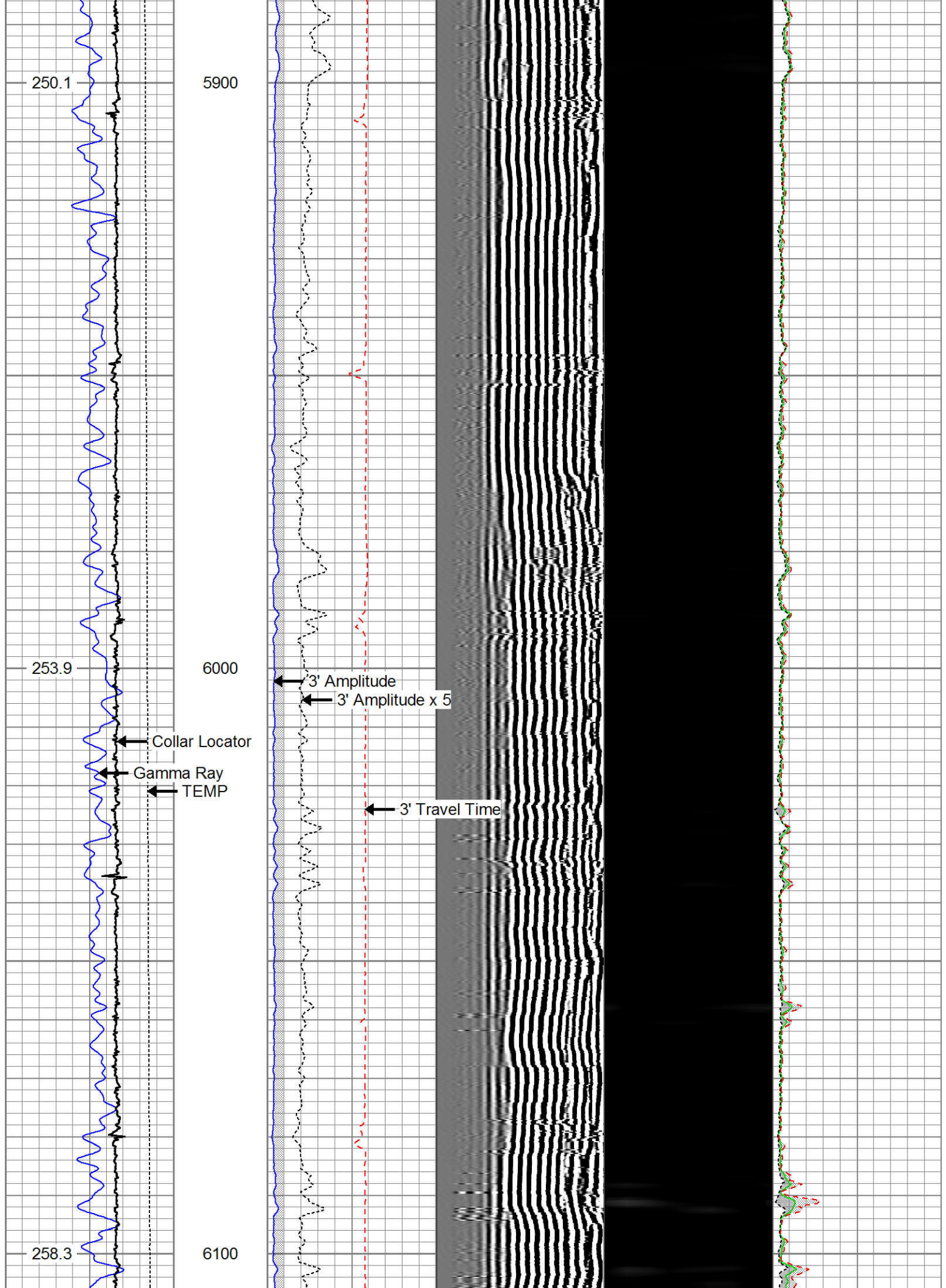
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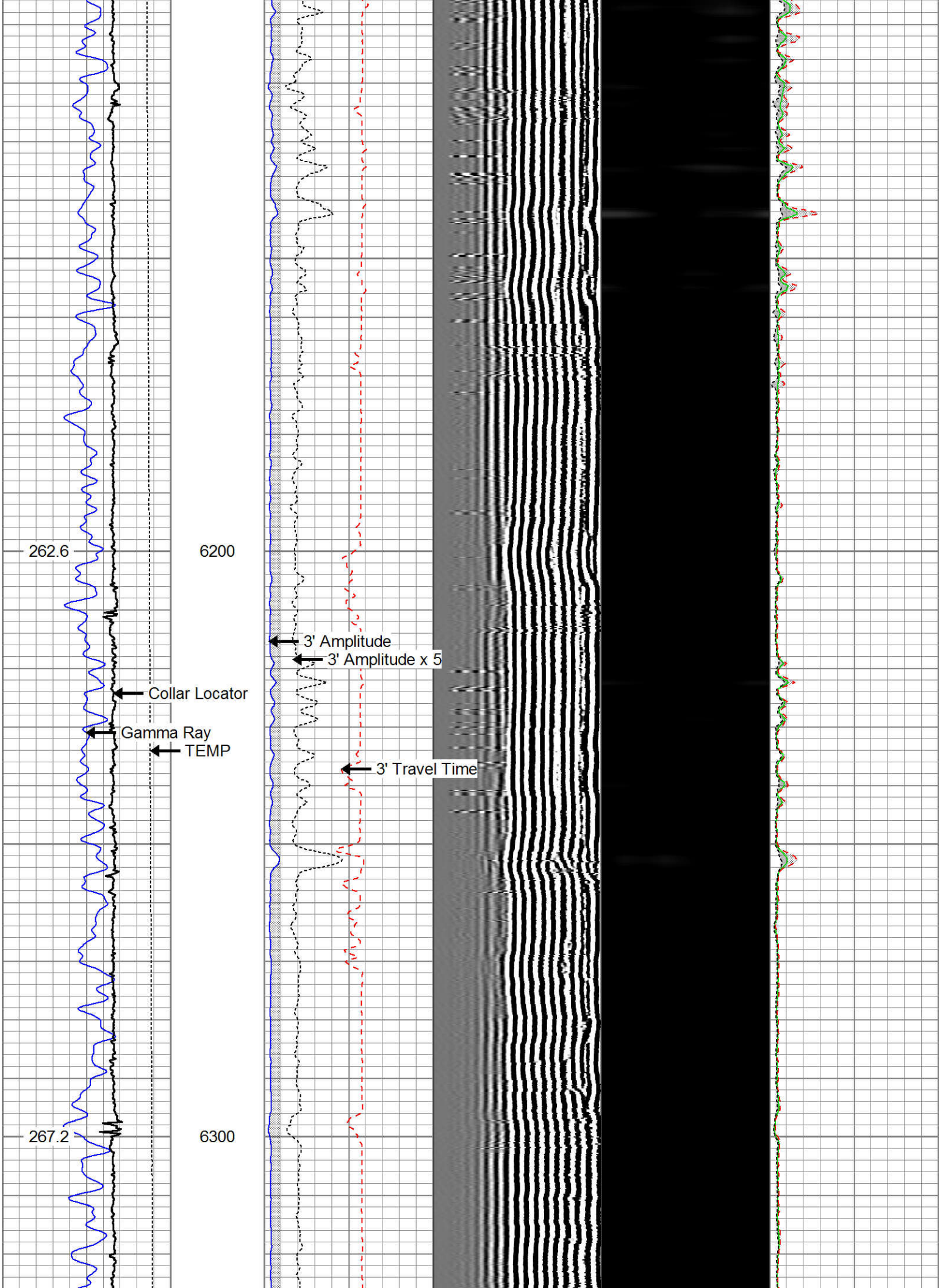


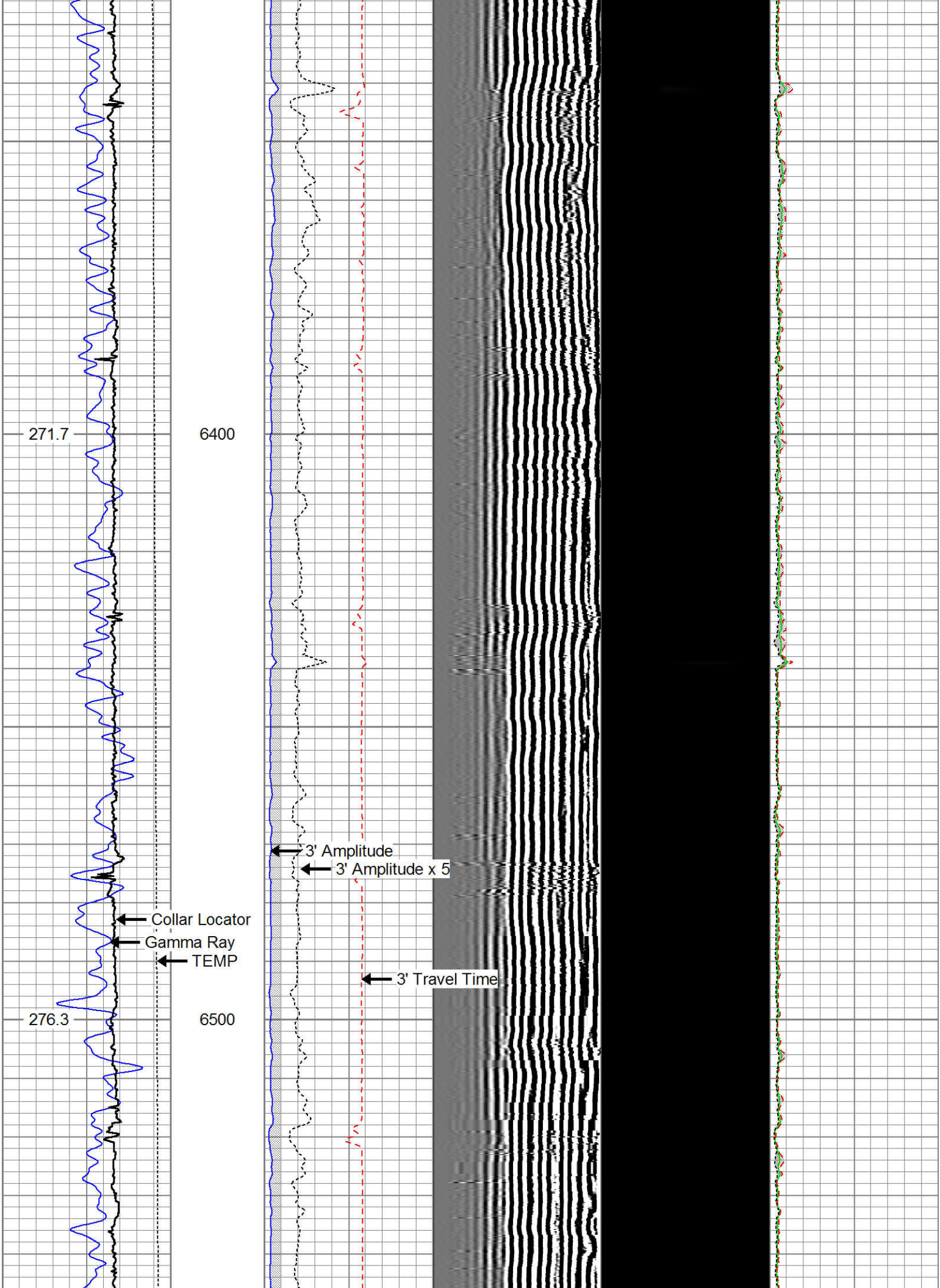


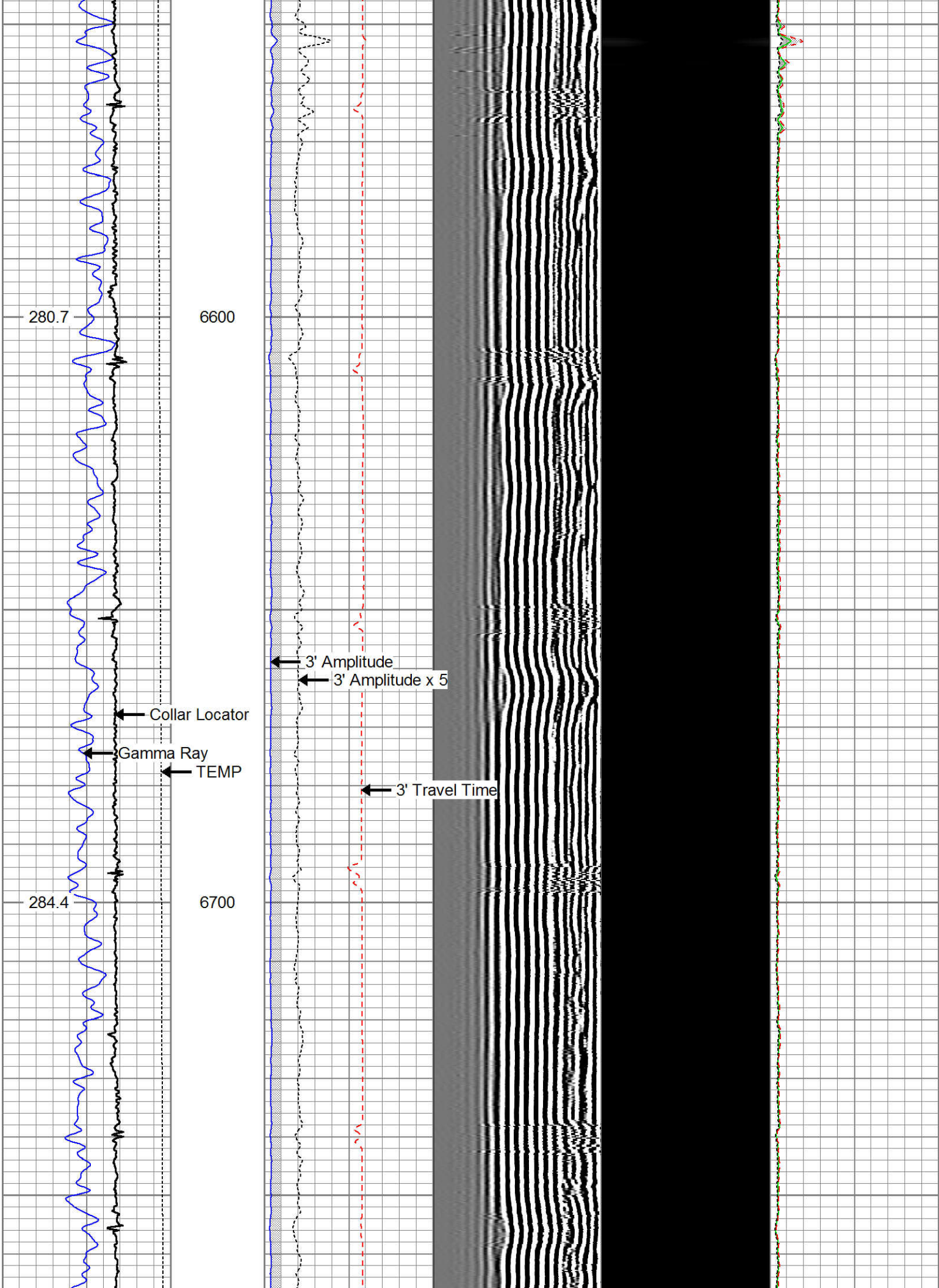


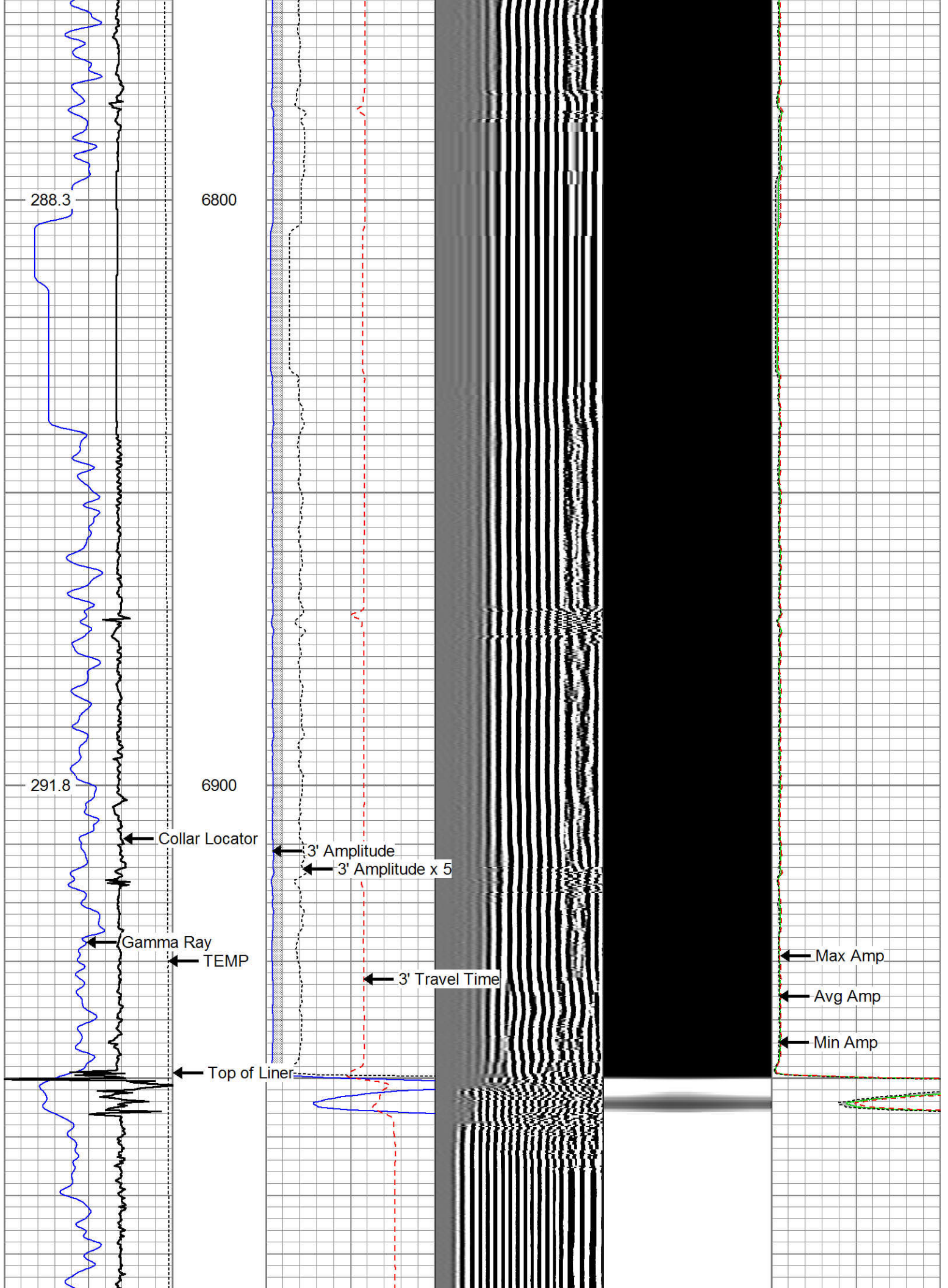


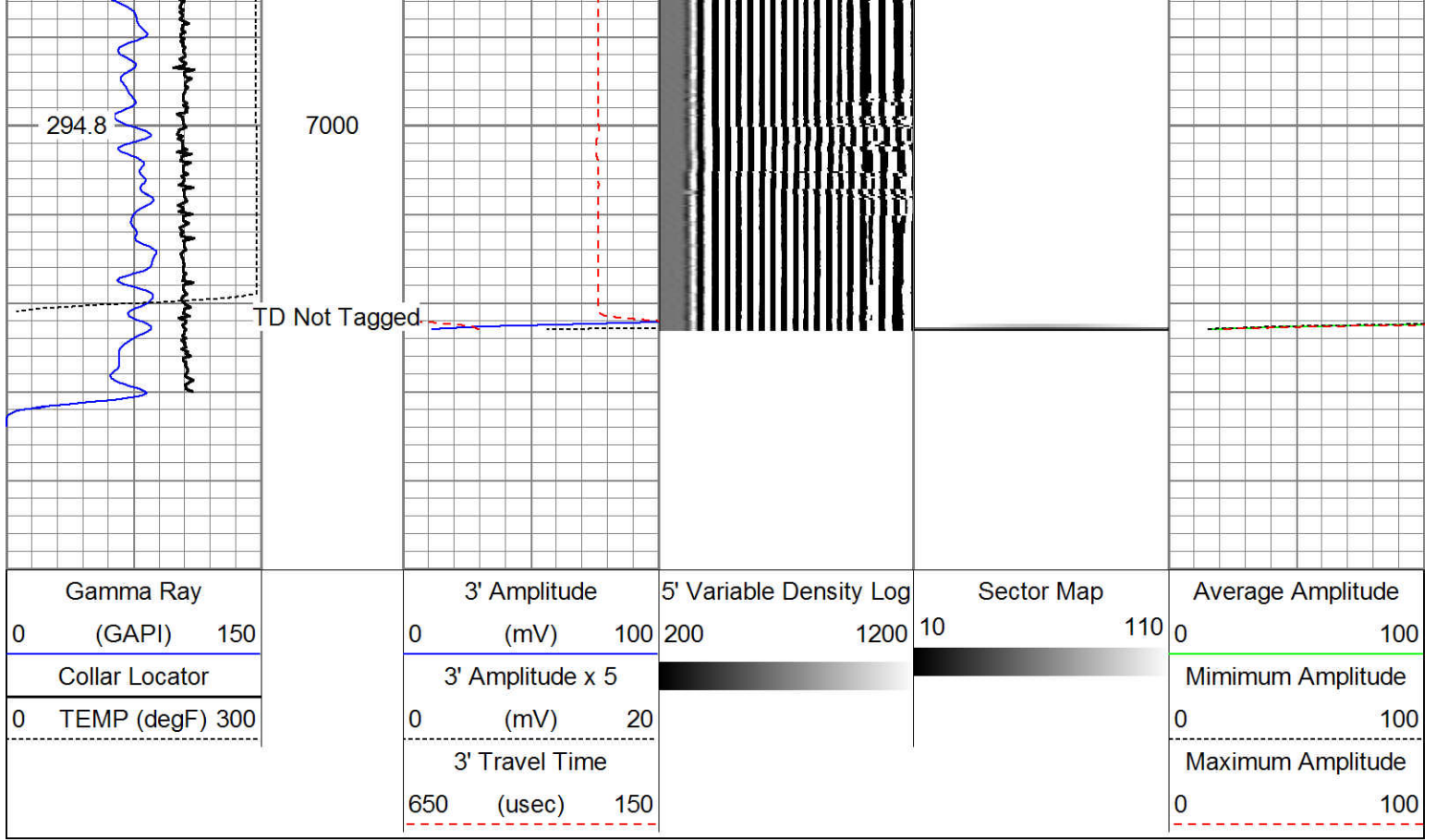






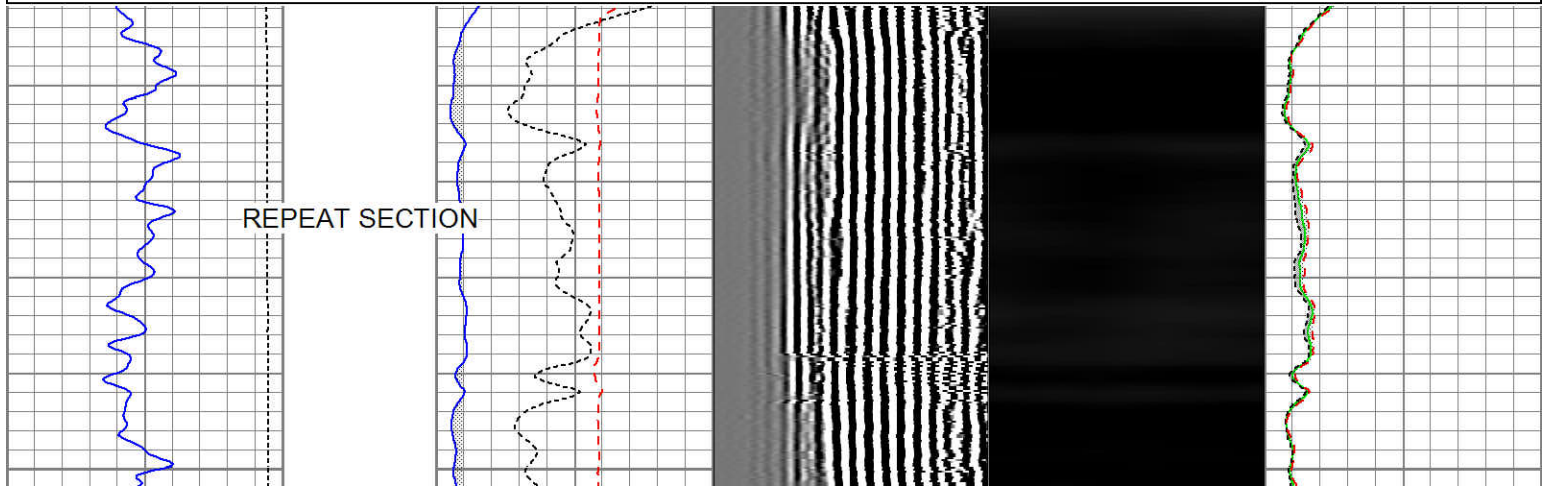
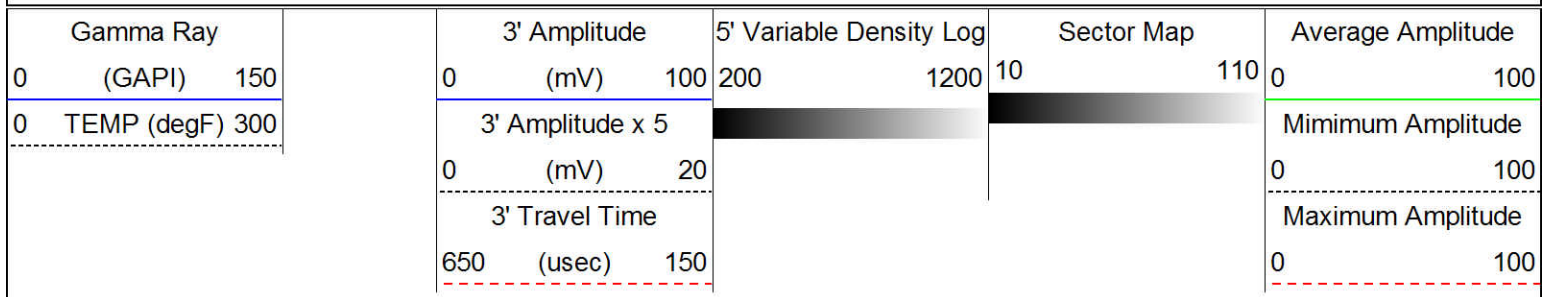


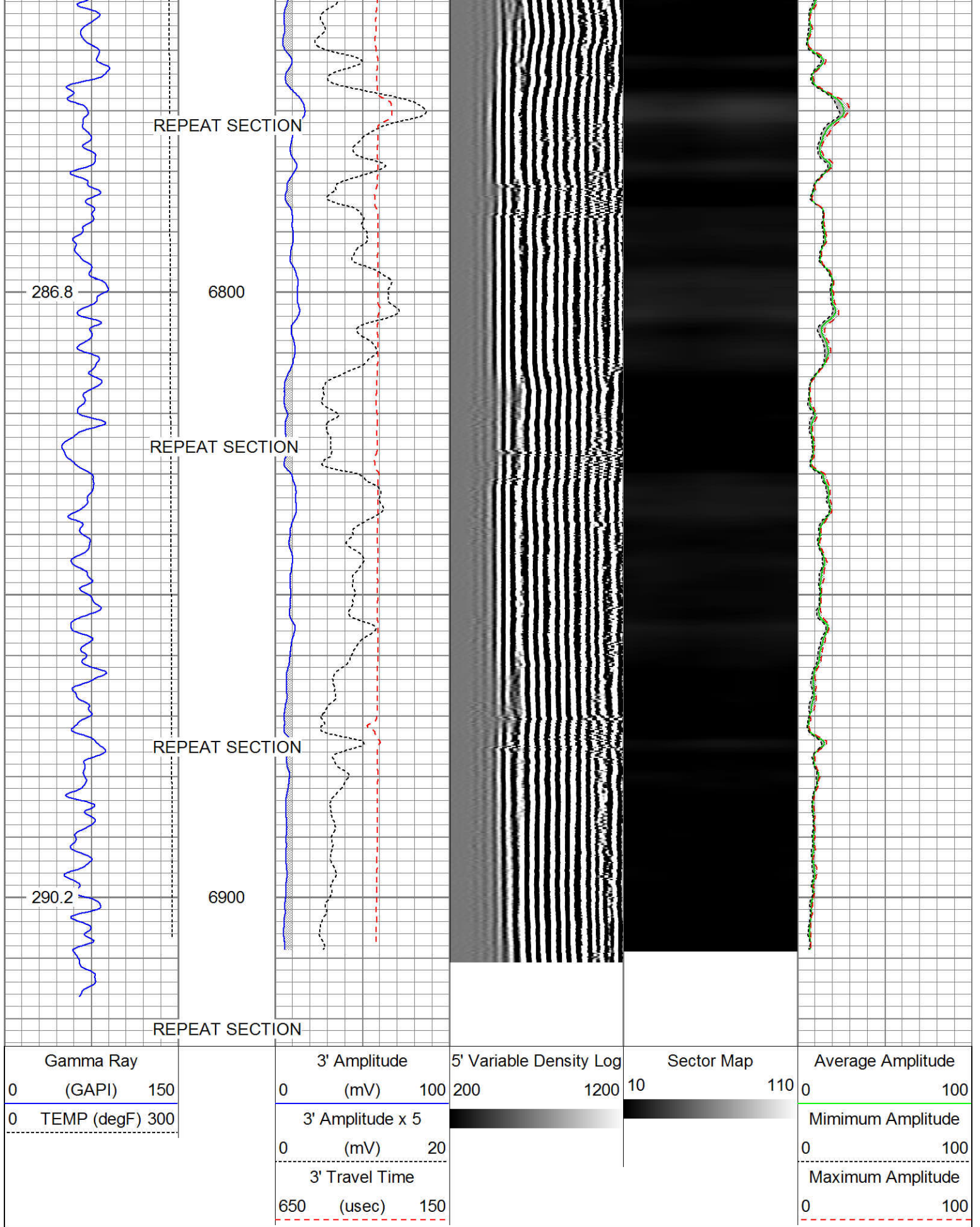




Repeat 2800 PSI

Database File: anadarko cannon 14c-10hz.db
 Dataset Pathname: rcb/pass6
 Presentation Format: rbt007
 Dataset Creation: Tue Jul 30 13:51:37 2013 by Log SCH 111116
 Charted by: Depth in Feet scaled 1:240





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			Titan_1_11_16	1.04	1.69	5.00

			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00
RHeadVolt	19.57					
Temp	16.69					
WVF3FT	14.59		Probe_RADII-C-2-3/4" (FW1302-002in7") Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	9.21	2.75	100.00
WVFCAL	14.59					
WVFS1	14.59					
WVFS2	14.59					
WVFS3	14.59					
WVFS4	14.59					
WVFS5	14.59					
WVFS6	14.59					
WVFS7	14.59					
WVFS8	14.59					
WVF5FT	13.59					
			Titan_IL_Cent Titan bowspring inline electrical centralizer - 34.75"	2.90	2.75	20.00
CCL	6.59					
DCCL	6.59					
GR	5.25		Probe_CCL_GR-2.75"Digital (FW1302-12C) Probe 2-3/4" Digital CCL / Gamma Ray Combined	4.58	2.75	55.00
			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00

Dataset: anadarko cannon 14c-10hz.db: field/well/rcbl/main1
 Total Length: 23.49 ft
 Total Weight: 200.00 lb
 O.D.: 2.75 in

Calibration Report

Gamma Ray Calibration Report

Serial Number: FW1302-120
 Tool Model: 2.75"Digital
 Performed: Mon Apr 01 19:31:37 2013

Calibrator Value: 100.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 150.0 cps

Sensitivity: 0.6667 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: FW1302-002in7"
 Tool Model: 2-3/4"

Calibration Casing Diameter: 7.000 in
 Calibration Depth: 109.656 ft

Master Calibration, performed Tue Jul 30 13:34:50 2013:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.006	0.619	0.800	62.165	98.224	1.400
CAL	-0.007	1.005				
5'	0.027	0.687	0.800	62.165	93.097	-1.748
SUM						
S1	-0.011	0.527	0.000	100.000	185.852	1.969
S2	-0.006	0.548	0.000	100.000	180.480	1.049
S3	-0.006	0.619	0.000	100.000	159.944	1.011
S4	-0.003	0.690	0.000	100.000	144.258	0.412
S5	-0.001	0.717	0.000	100.000	139.244	0.102
S6	-0.002	0.675	0.000	100.000	147.588	0.317
S7	-0.004	0.607	0.000	100.000	163.771	0.574
S8	-0.004	0.556	0.000	100.000	178.389	0.736

Internal Reference Calibration, performed Tue Jul 30 13:35:49 2013:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	-0.007	1.005	-0.007	1.005	1.000	0.000

Air Zero Calibration, performed Tue Jul 30 13:35:12 2013:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	-0.007		0.000			0.001
5'	0.027		0.000			0.000
SUM						
S1	-0.011		0.000			0.000
S2	-0.006		0.000			0.000
S3	-0.006		0.000			-0.000
S4	-0.003		0.000			-0.000
S5	-0.002		0.000			0.001

S6	-0.002	0.000	0.000
S7	-0.004	0.000	0.000
S8	-0.005	0.000	0.001



Company	Kerr-McGee Oil & Gas Onshore, L.P.
Well	Cannon 14C-10HZ
Field	Wattenberg
County	Weld
State	Colorado