



Radial Cement Bond
Variable Density Log
W/ Temp/GammaRay/CCL

Company Antero Resources

Well Possum 1H

Field Rabbit Ears

County Tyler

State West Virginia

Location: API #: 47095026400000

Other Services
N/A

SEC N/A TWP N/A RGE N/A

Permanent Datum Ground Level Elevation
Log Measured From Kelly Bushing 25' A.P.D.
Drilling Measured From Kelly Bushing

Elevation
K.B.
D.F.
G.L.

Company Antero Resources
Well Possum 1H
Field Rabbit Ears
County Tyler
State West Virginia

Date	1-May-2020	
Run Number	One	
Depth Driller	18,552 ft.	
Depth Logger	7,468 ft.	
Bottom Logged Interval	7,468 ft.	
Top Log Interval	Surface	
Open Hole Size	n/a	
Type Fluid	Freshwater	
Density / Viscosity	n/a	
Max. Recorded Temp.	158 deg F	
Estimated Cement Top	4,860 ft.	
Time Well Ready	07:00	
Time Logger on Bottom	16:09	
Equipment Number	132	
Location	Marietta, Ohio	
Recorded By	Tom Weese	
Witnessed By	Chris Young	
Borehole Record		
Run Number	Bit	From To
Tubing Record		
	Size	Weight
	From	To
Casing Record		
	Size	Wgt/Ft
	Top	Bottom
Surface String	13 3/8 in.	54.5 #
Prot. String	9 5/8 in.	36 #
Production String	5 1/2	20 #
Liner		
Marker Joint		

<<< Fold Here >>>

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.

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Comments

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Primary Log on Well

Log Correlated to Marker Joint at (6,251' - 6,261')
Depth Correction (+12)

Main Pass 0 PSI
Repeat Pass 0 PSI

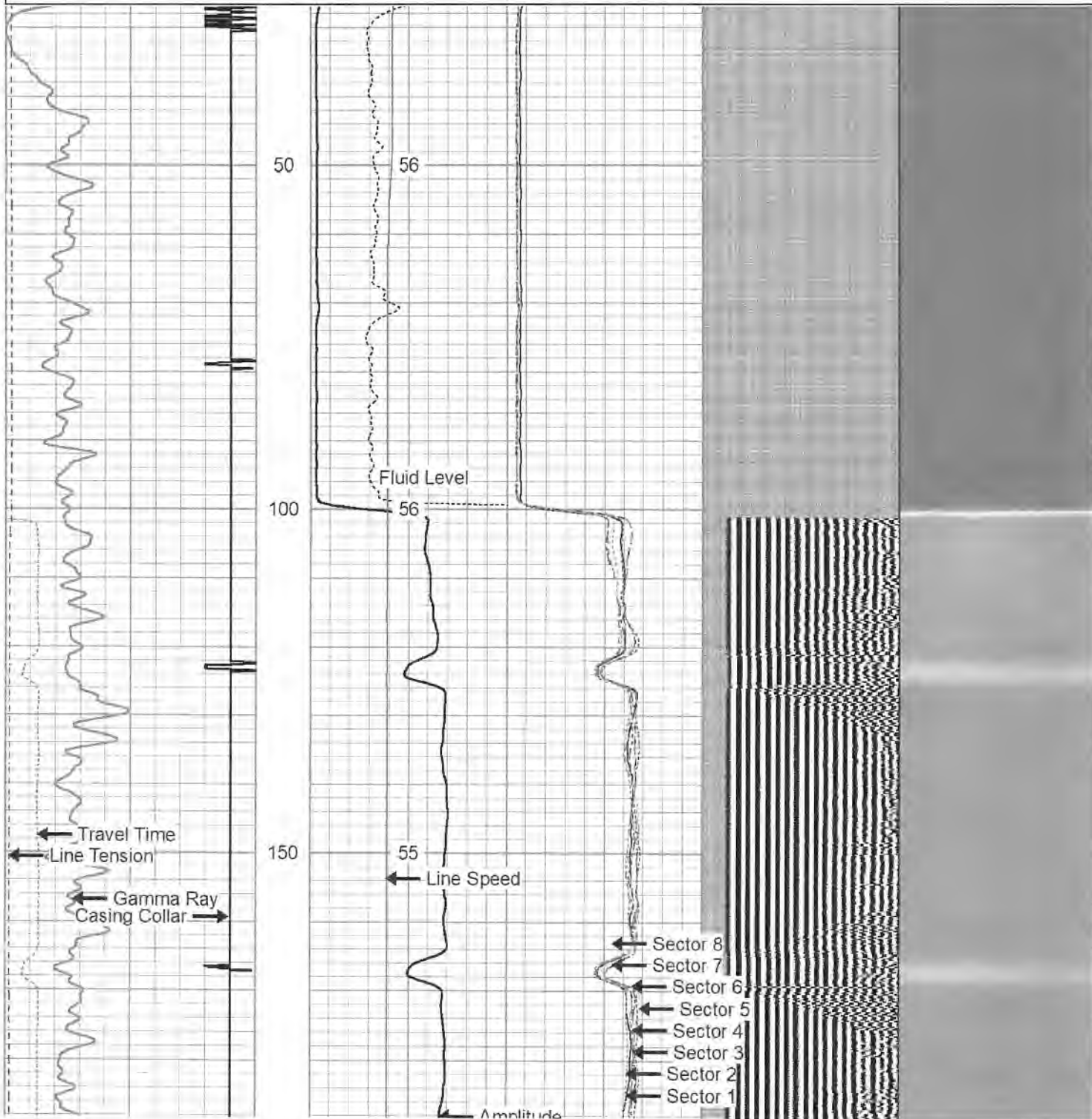
Thank You For Using Nine Energy Wireline of Marietta, Ohio



Main Pass 0 PSI

Database File antero_gamehengeeast_possum1h_rcbl_nineenergy_may_1_2020.db
 Dataset Pathname Rabbit_Ears/Possum_1H/RCBL_1/pass4.2
 Presentation Format 9rcbl
 Dataset Creation Fri May 01 17:21:31 2020
 Charted by Depth in Feet scaled 1:240

270	Travel Time (usec)	200	0	Amplitude (mV)	100	-5	Sector 1	150	Variable Density	1	Cement Map	7
9	Casing Collar	-1		Amplified Amplitude		-5	Sector 2	150	200 (usec)	1200		
0	Gamma Ray (GAPI)	150	0	(mV)	10	-5	Sector 3	150				
0	Line Tension (lb)	5000		Line Speed		-5	Sector 4	150				
			-500	(ft/min)	500	-5	Sector 5	150				
				TEMP		-5	Sector 6	150				
				(degF)		-5	Sector 7	150				
						-5	Sector 8	150				



Amplitude

200

56

250

56

300

56

350

57

400

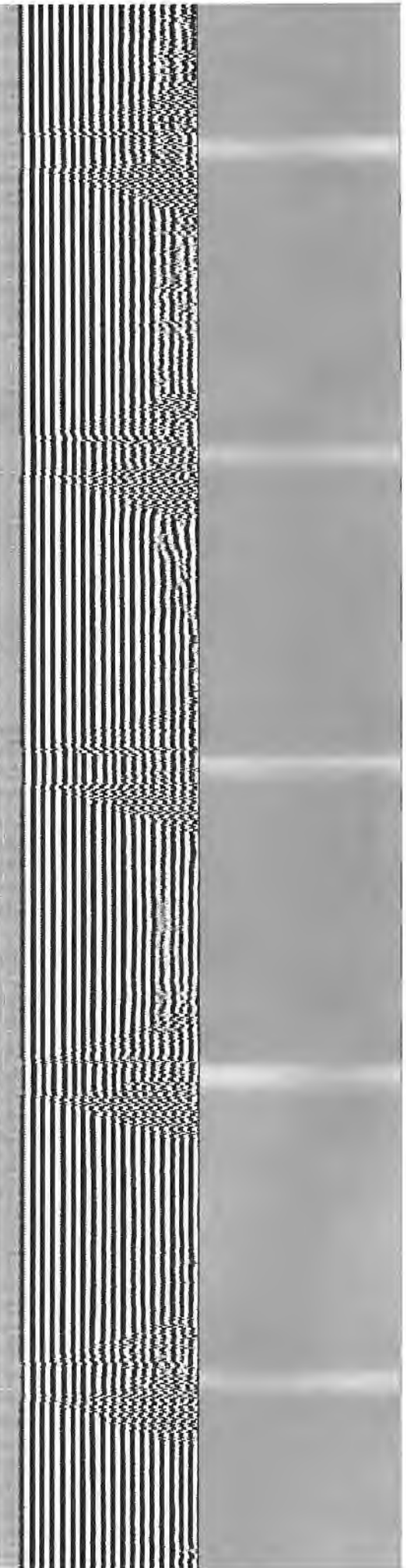
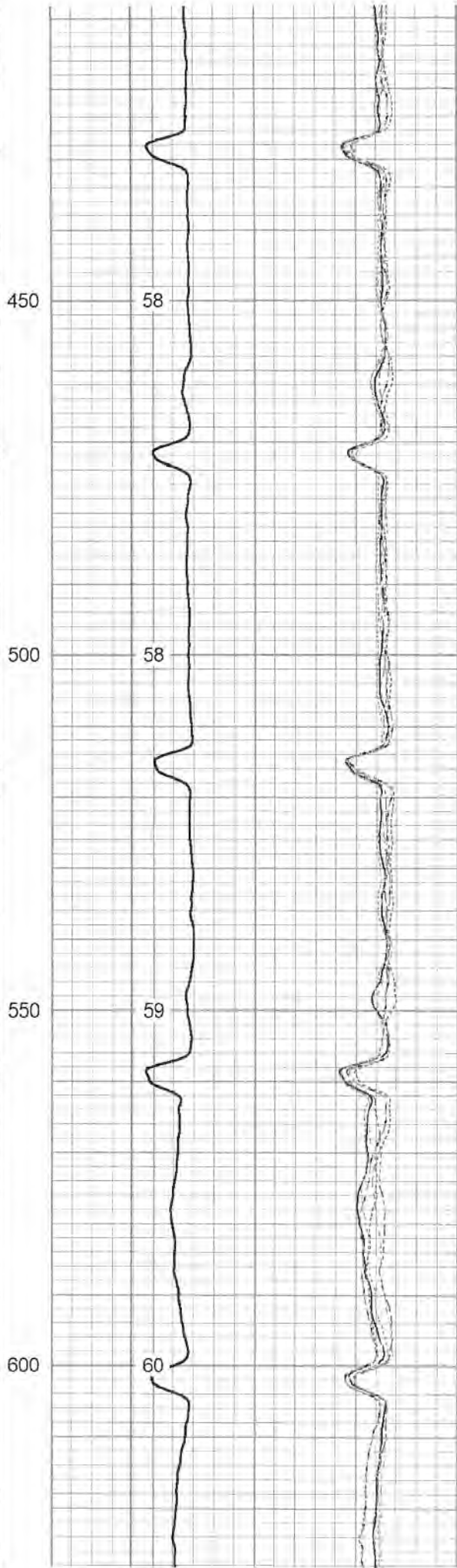
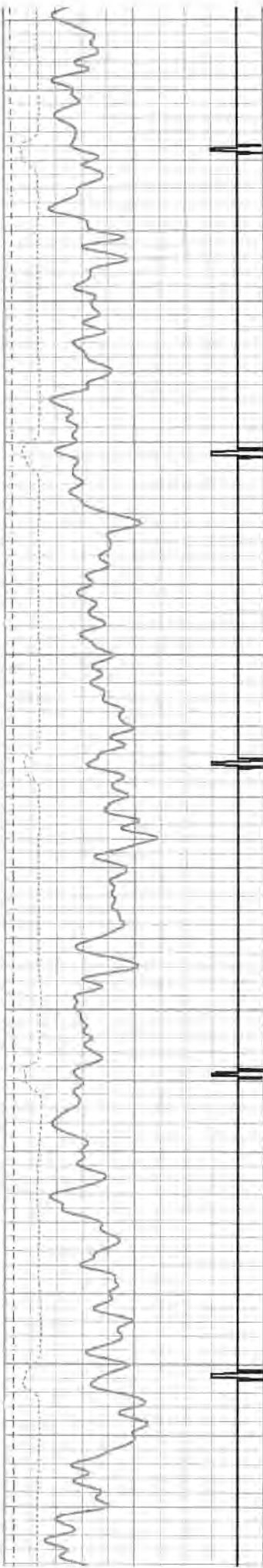
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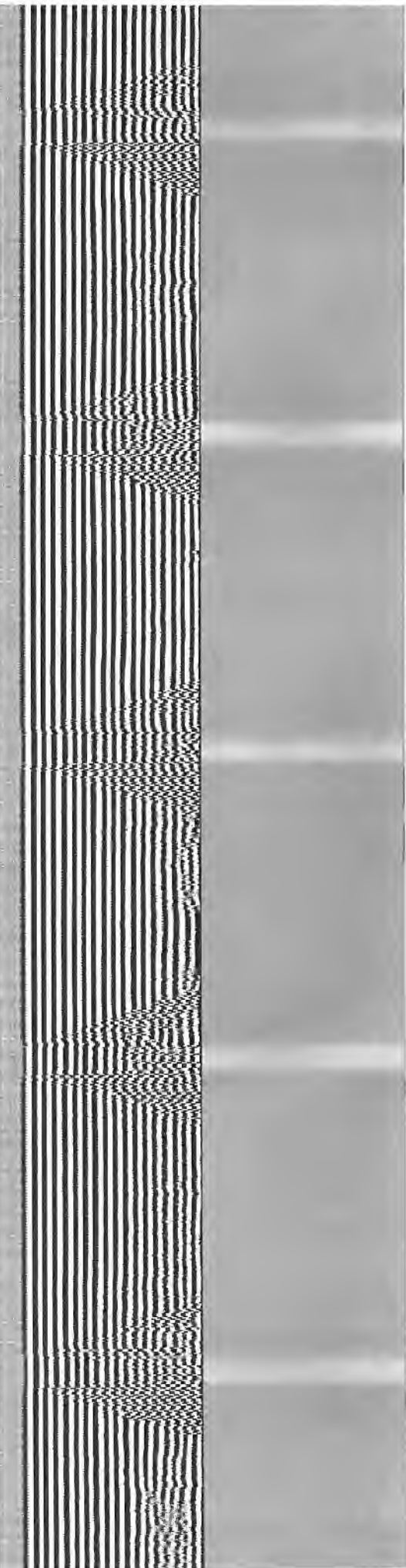
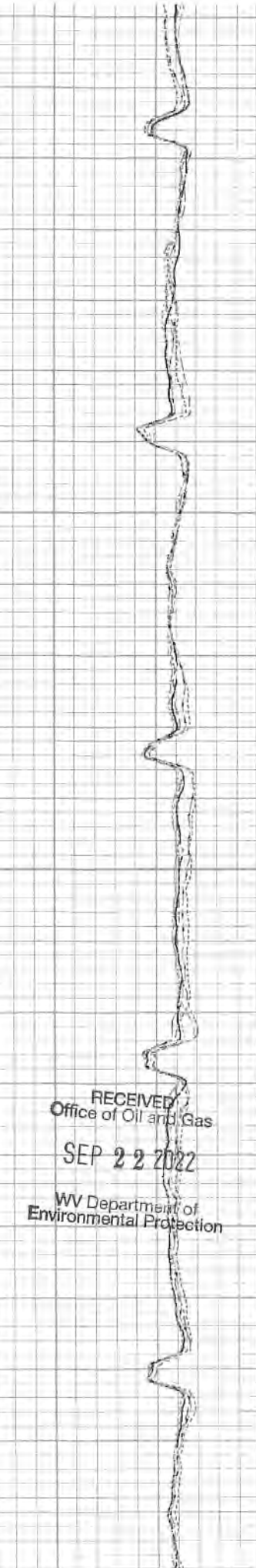
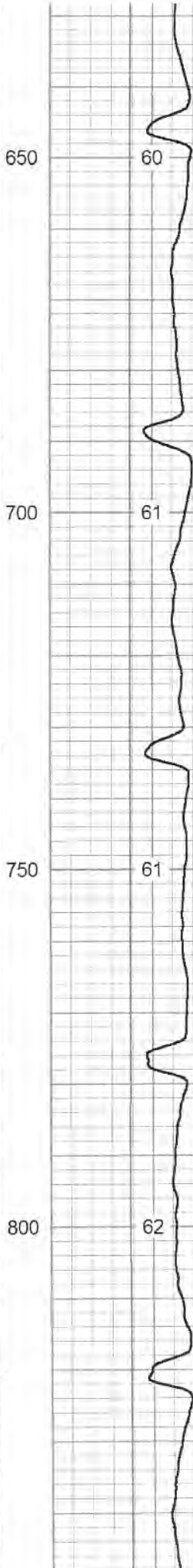
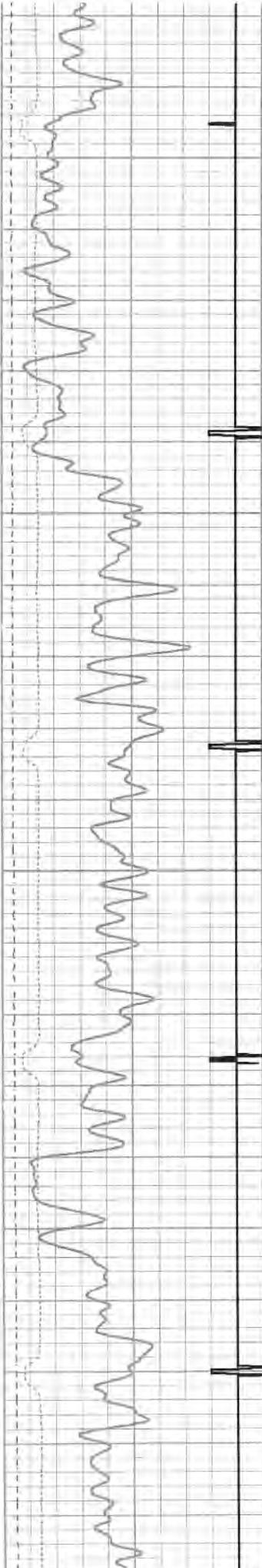
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WV





650

700

750

800

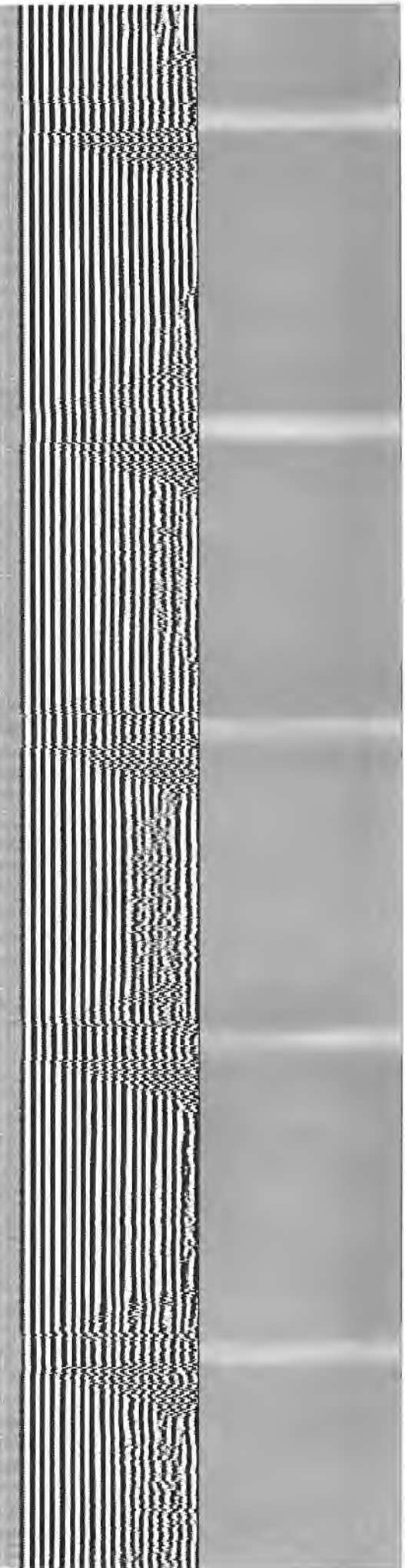
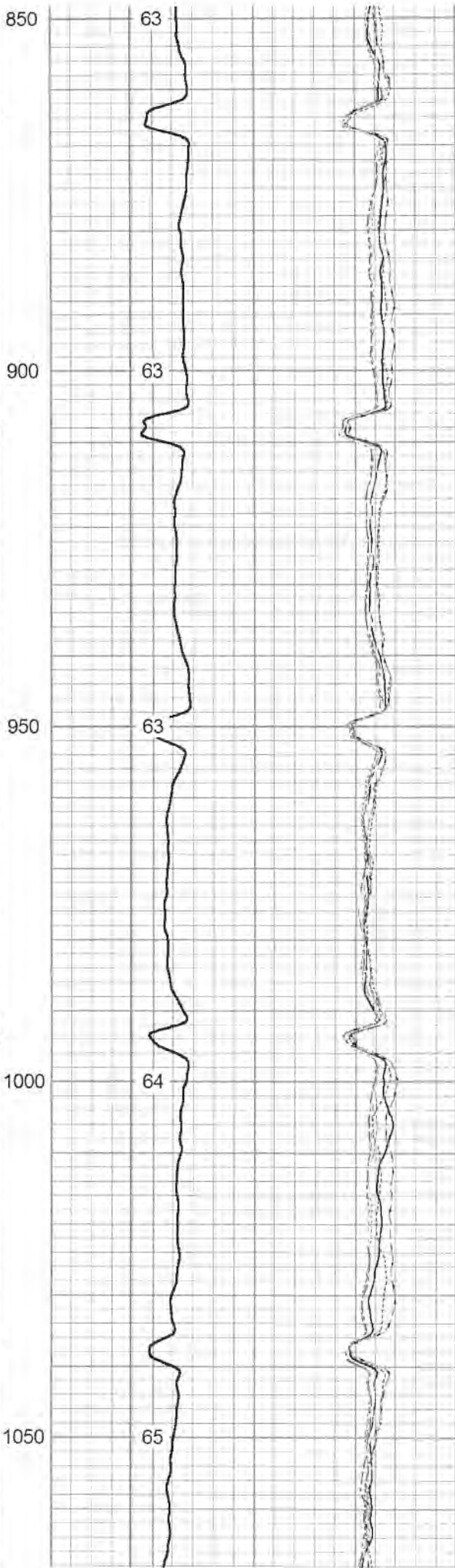
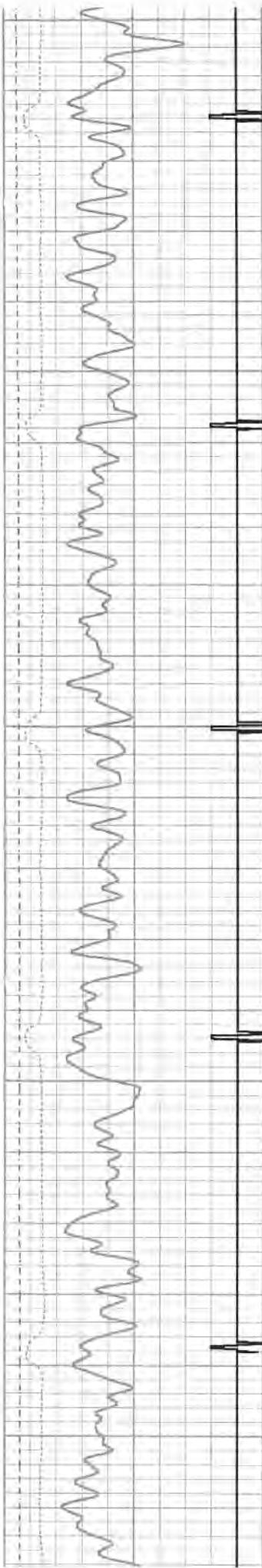
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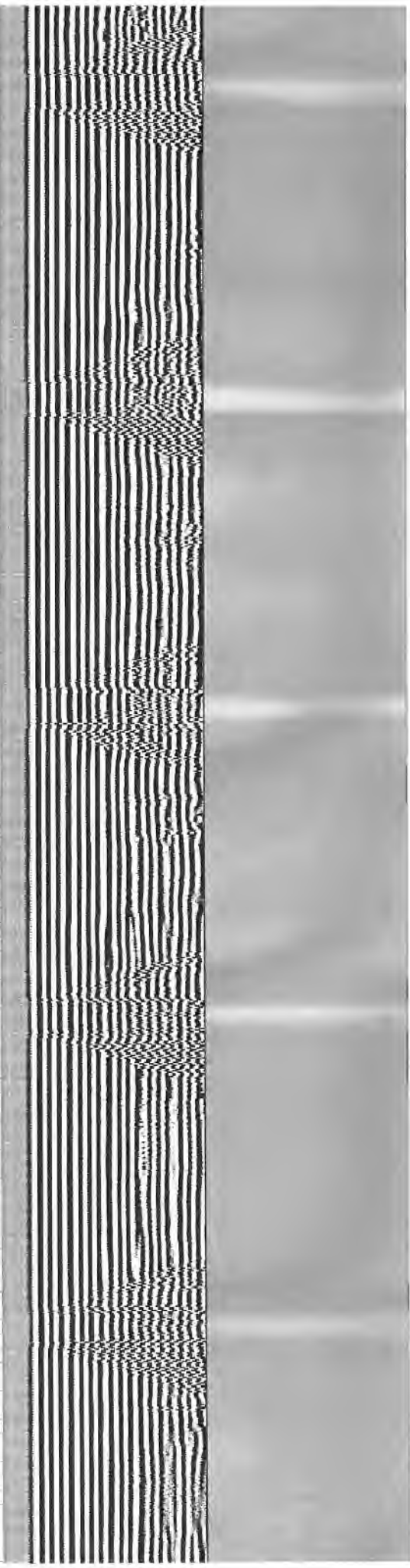
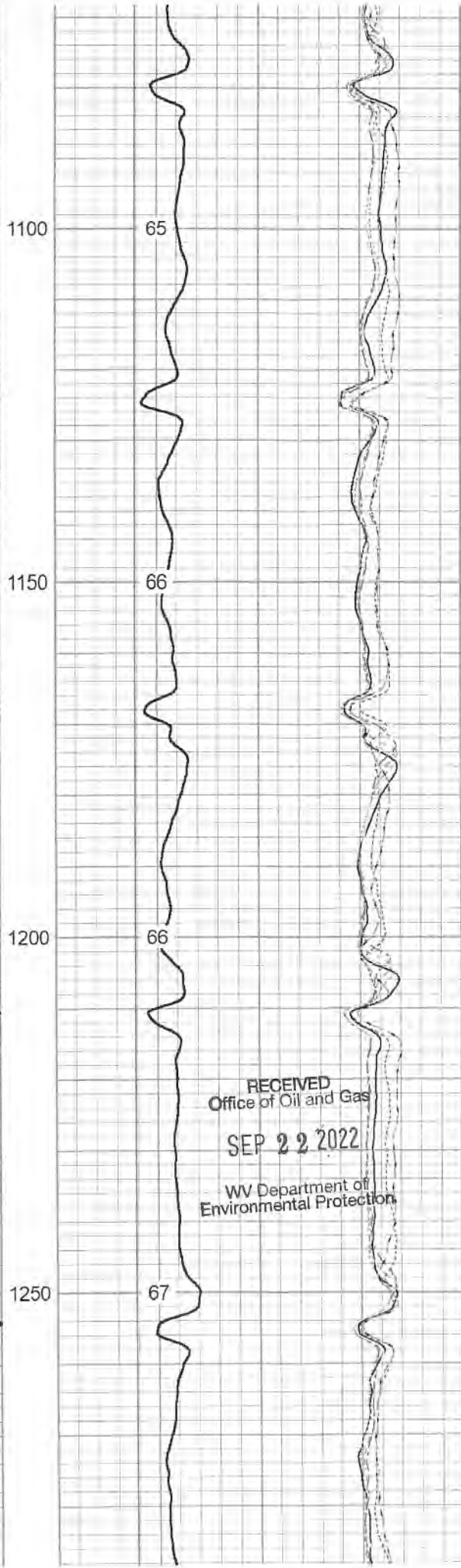
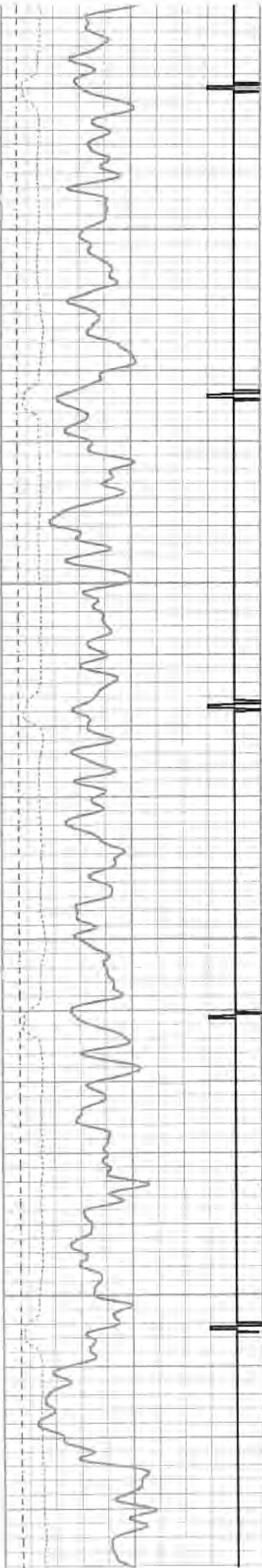
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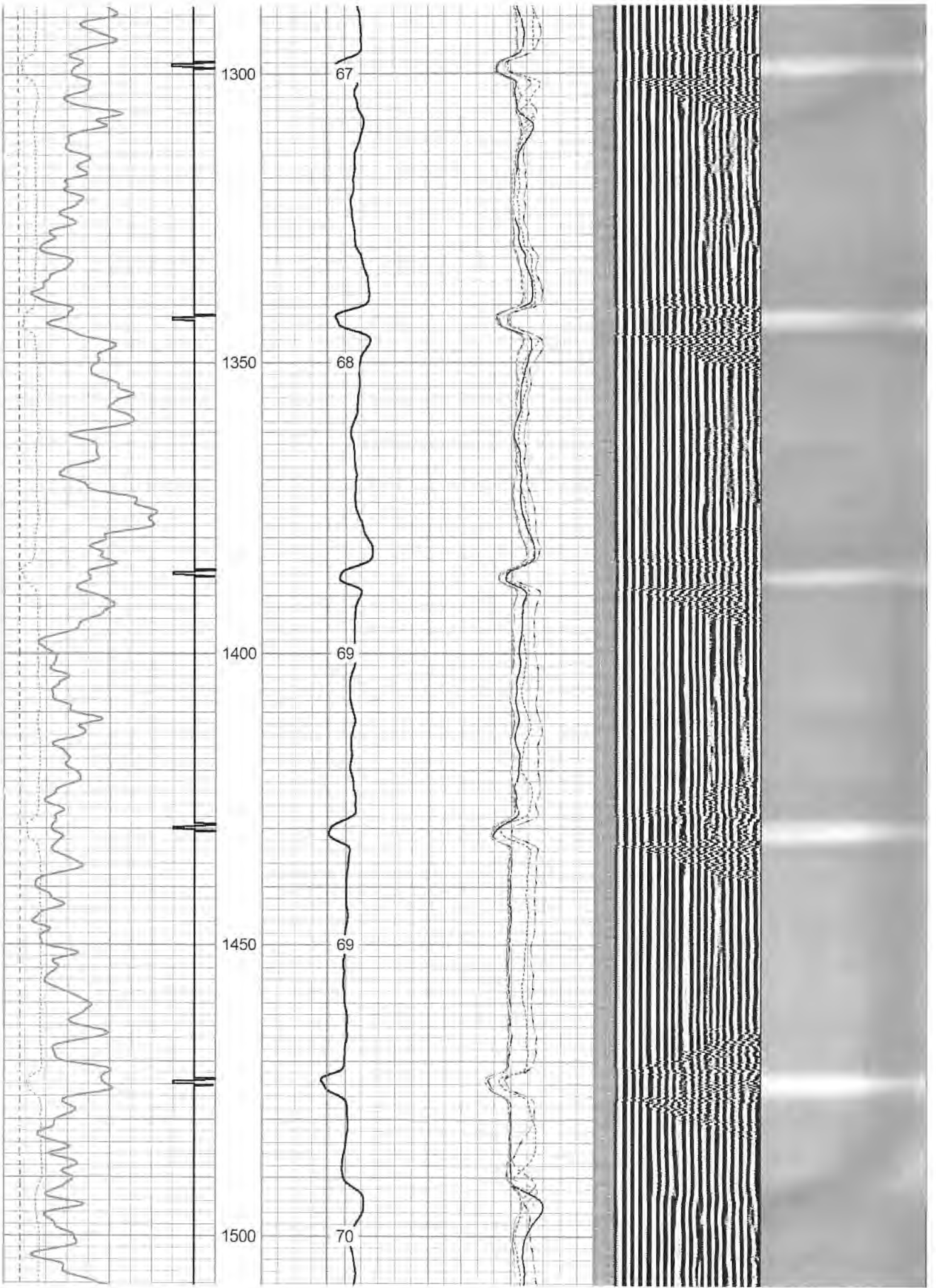
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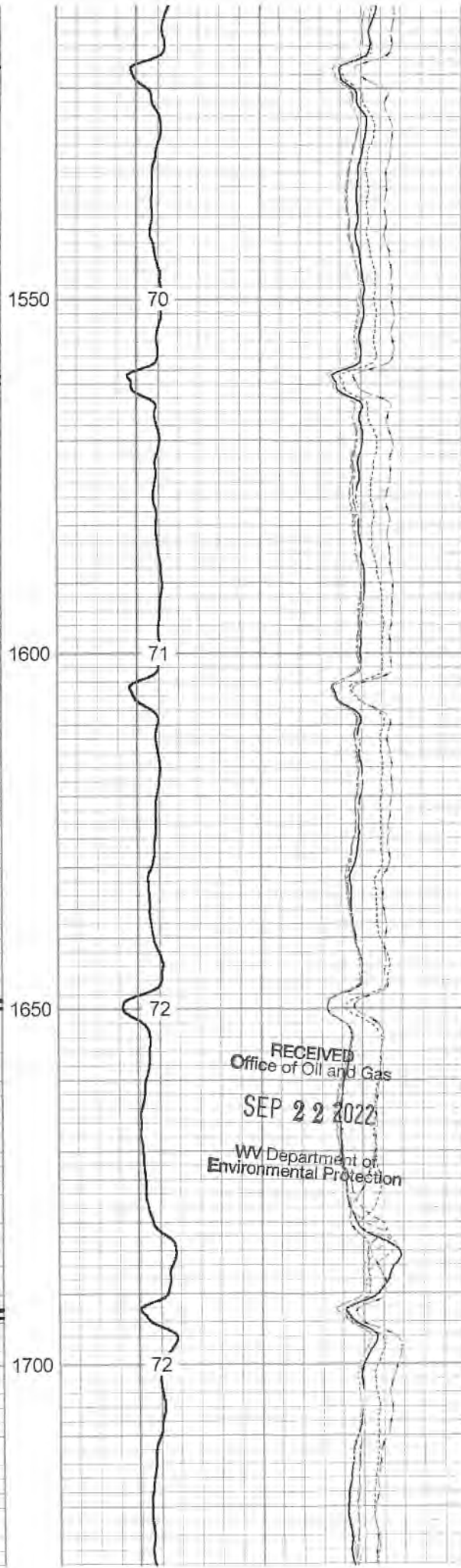
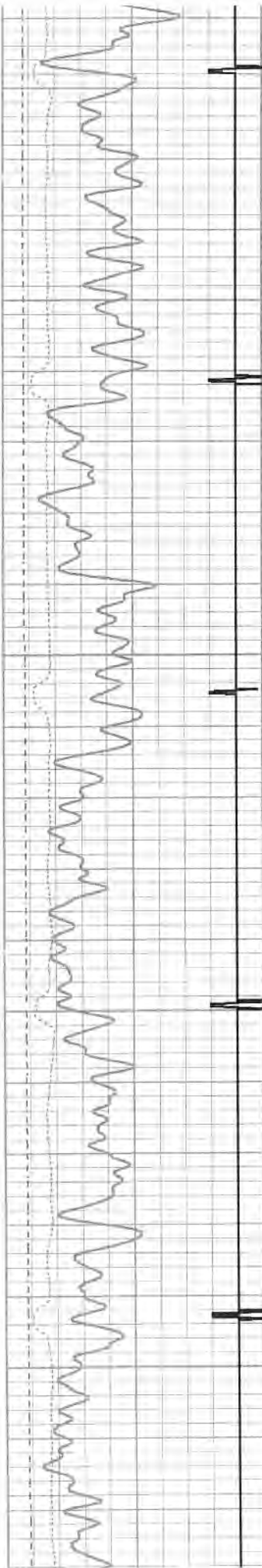
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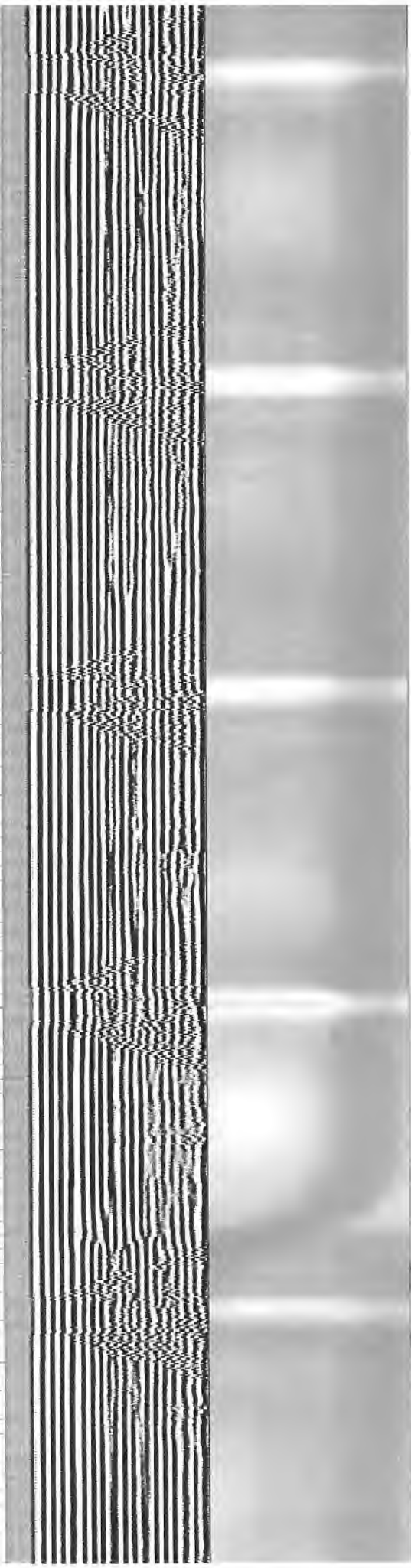


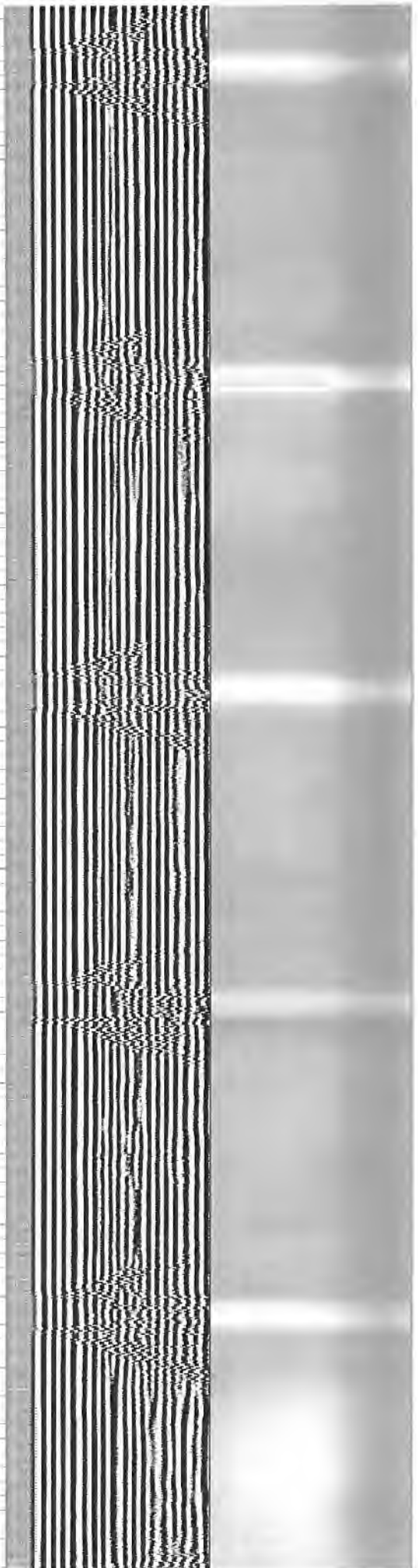
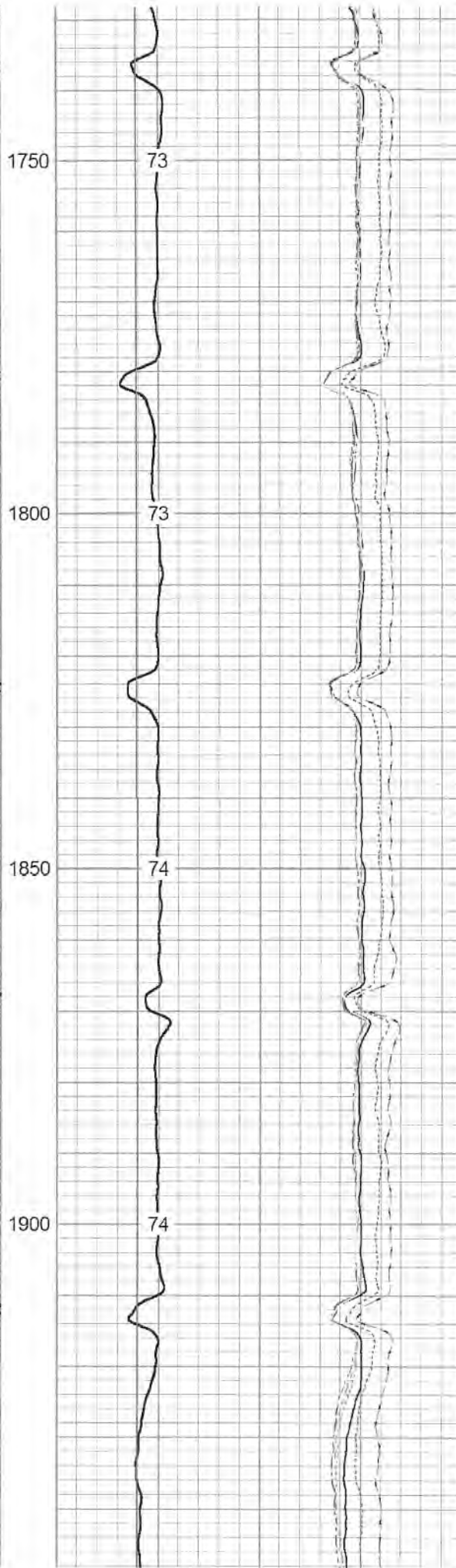
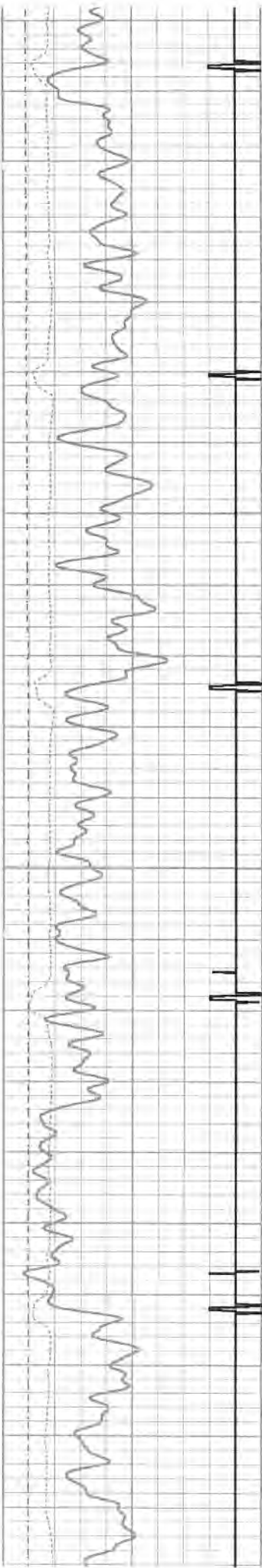
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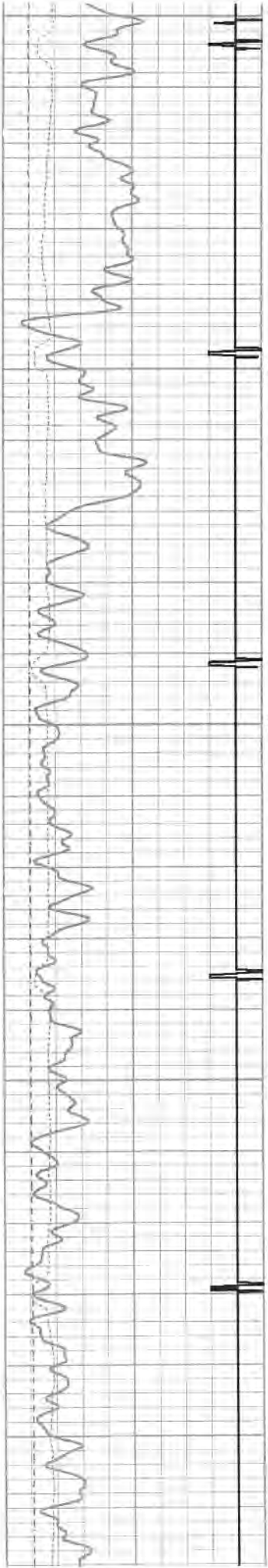




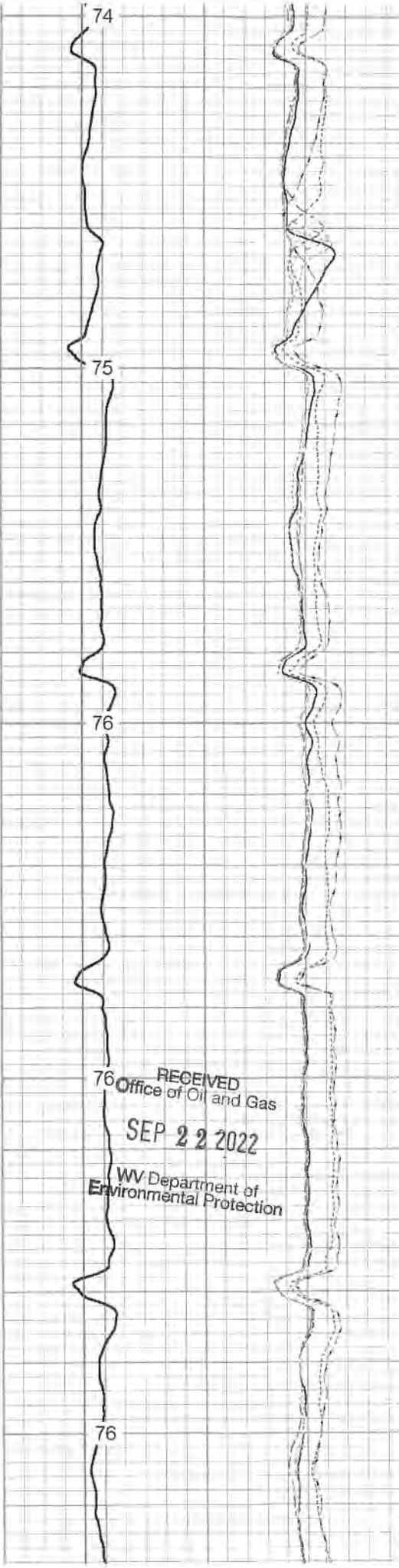
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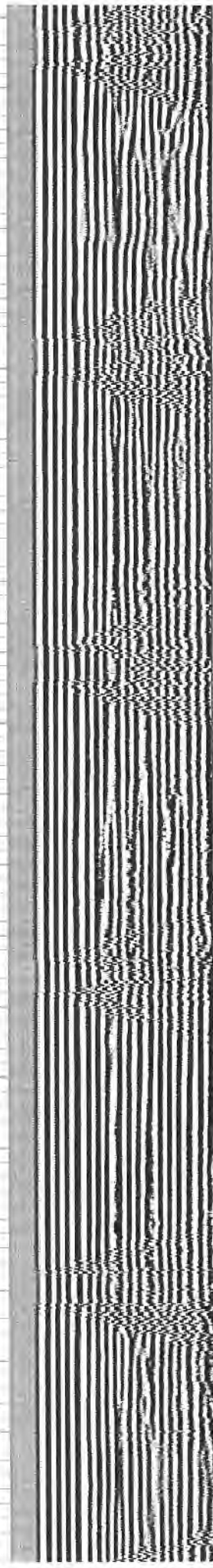




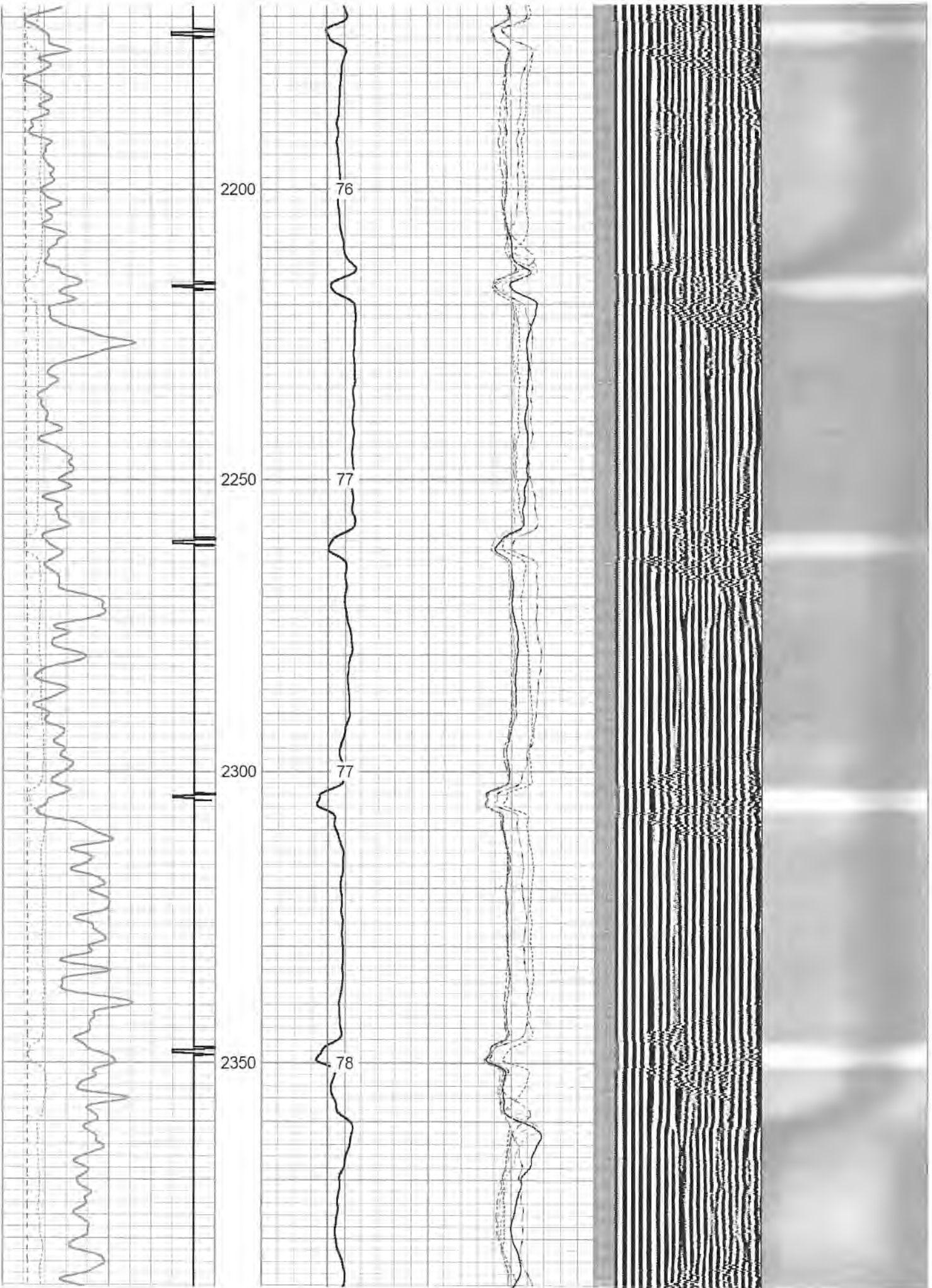
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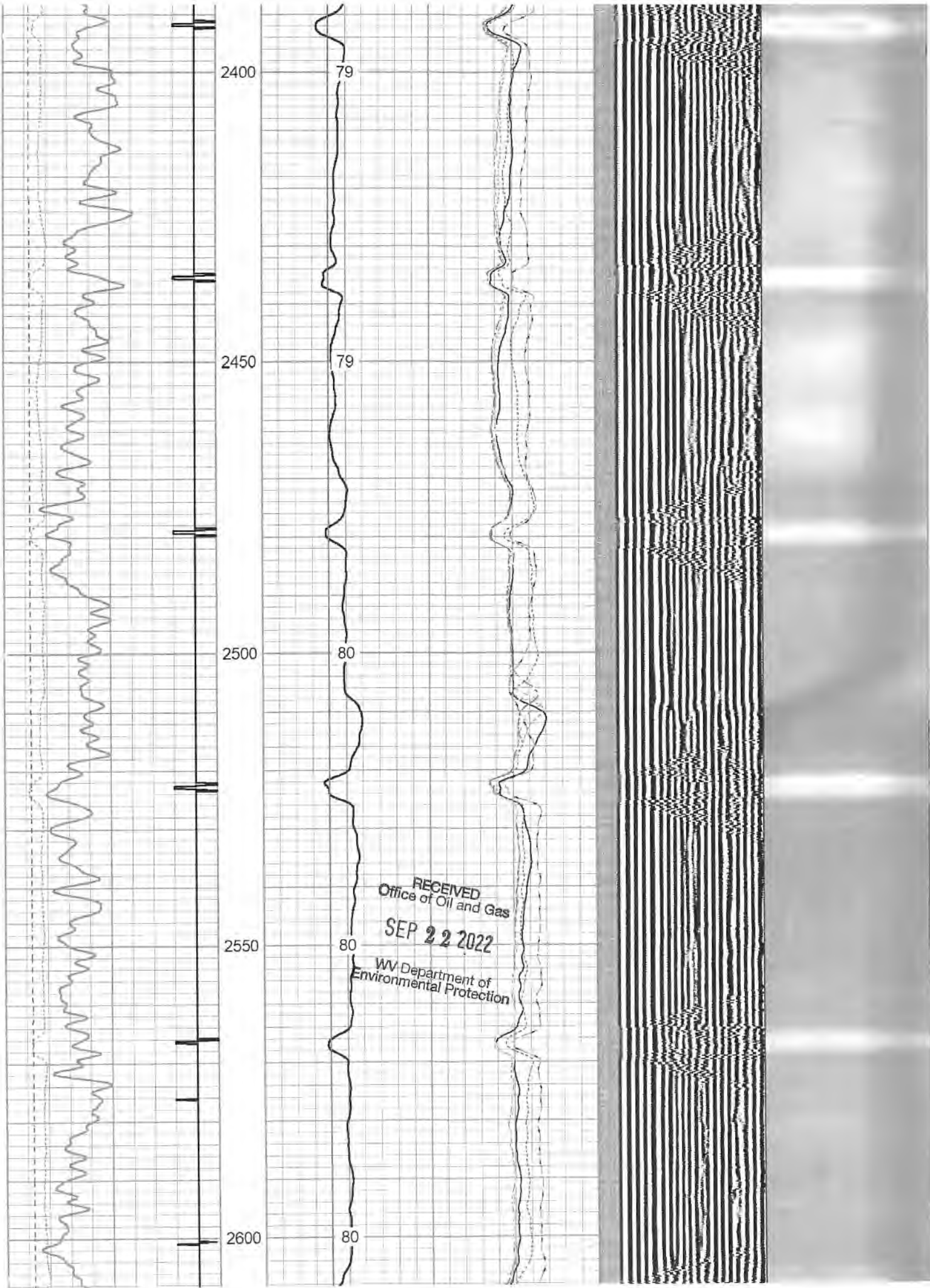


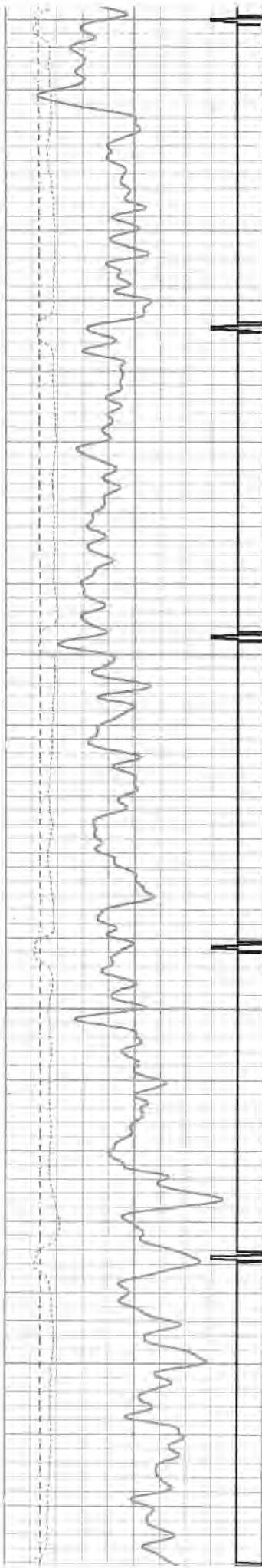
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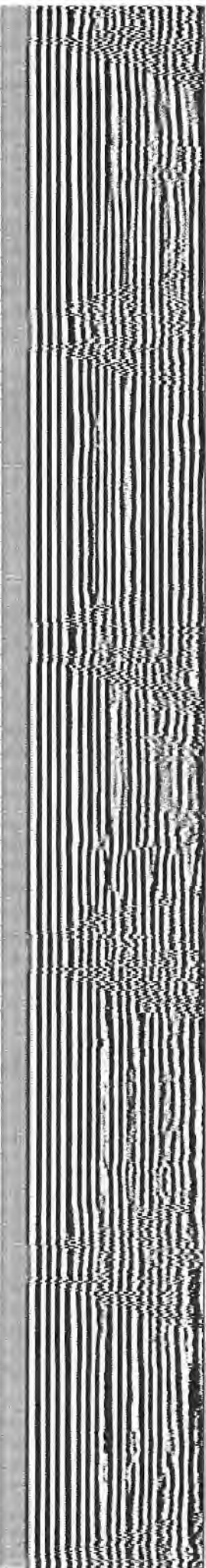
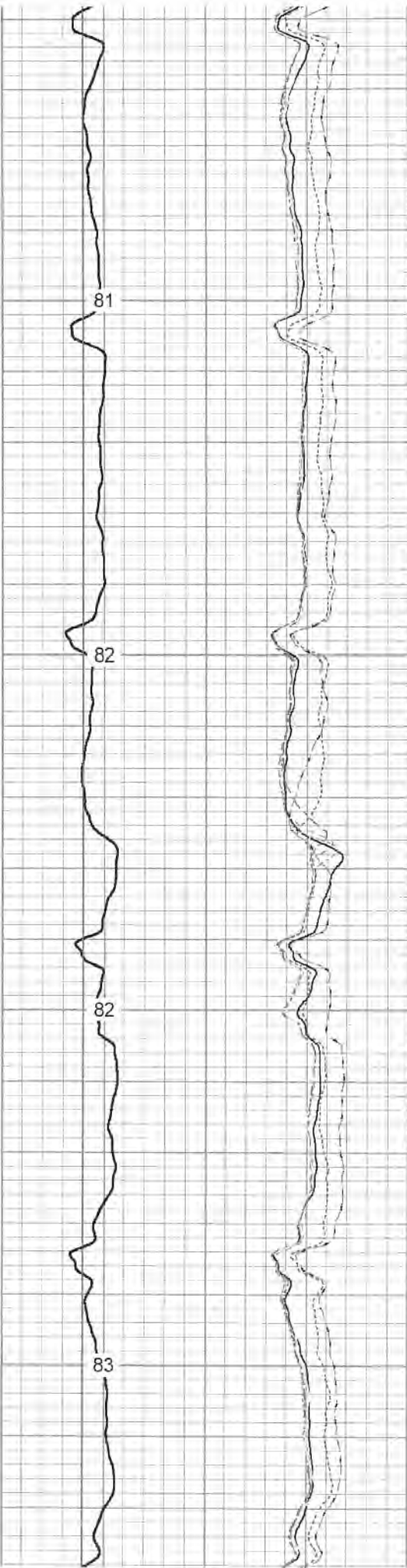
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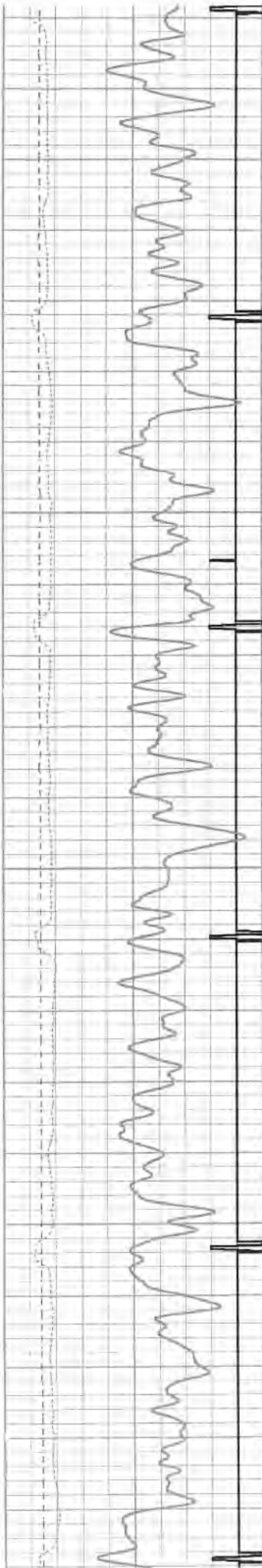
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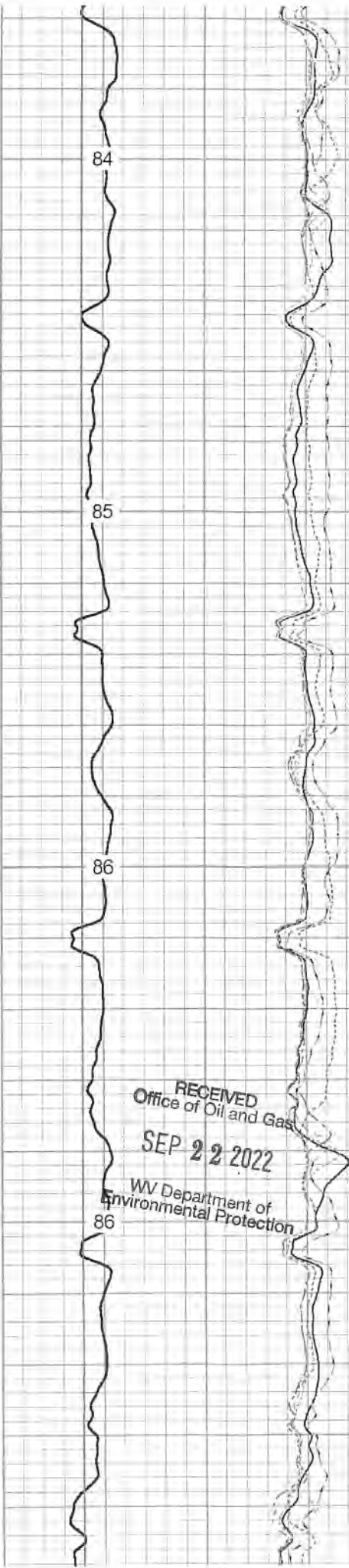
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2900
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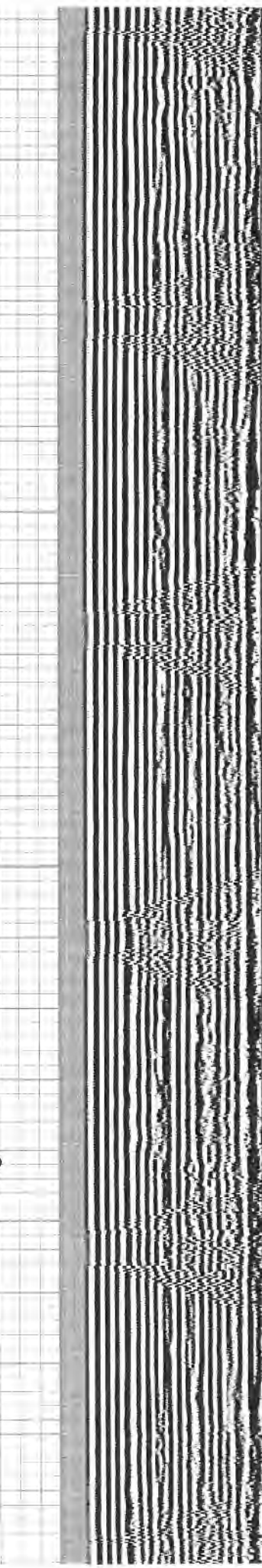
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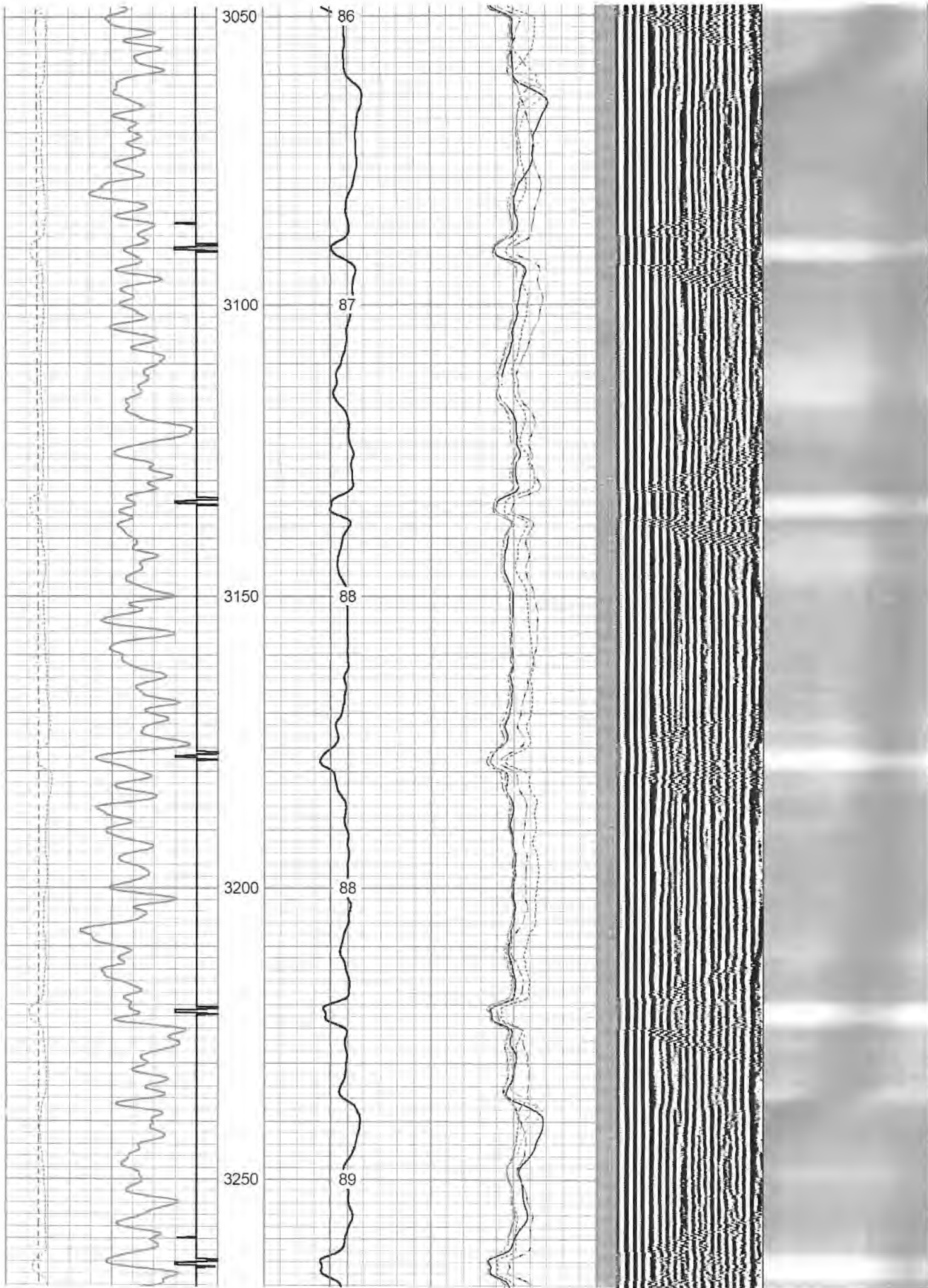
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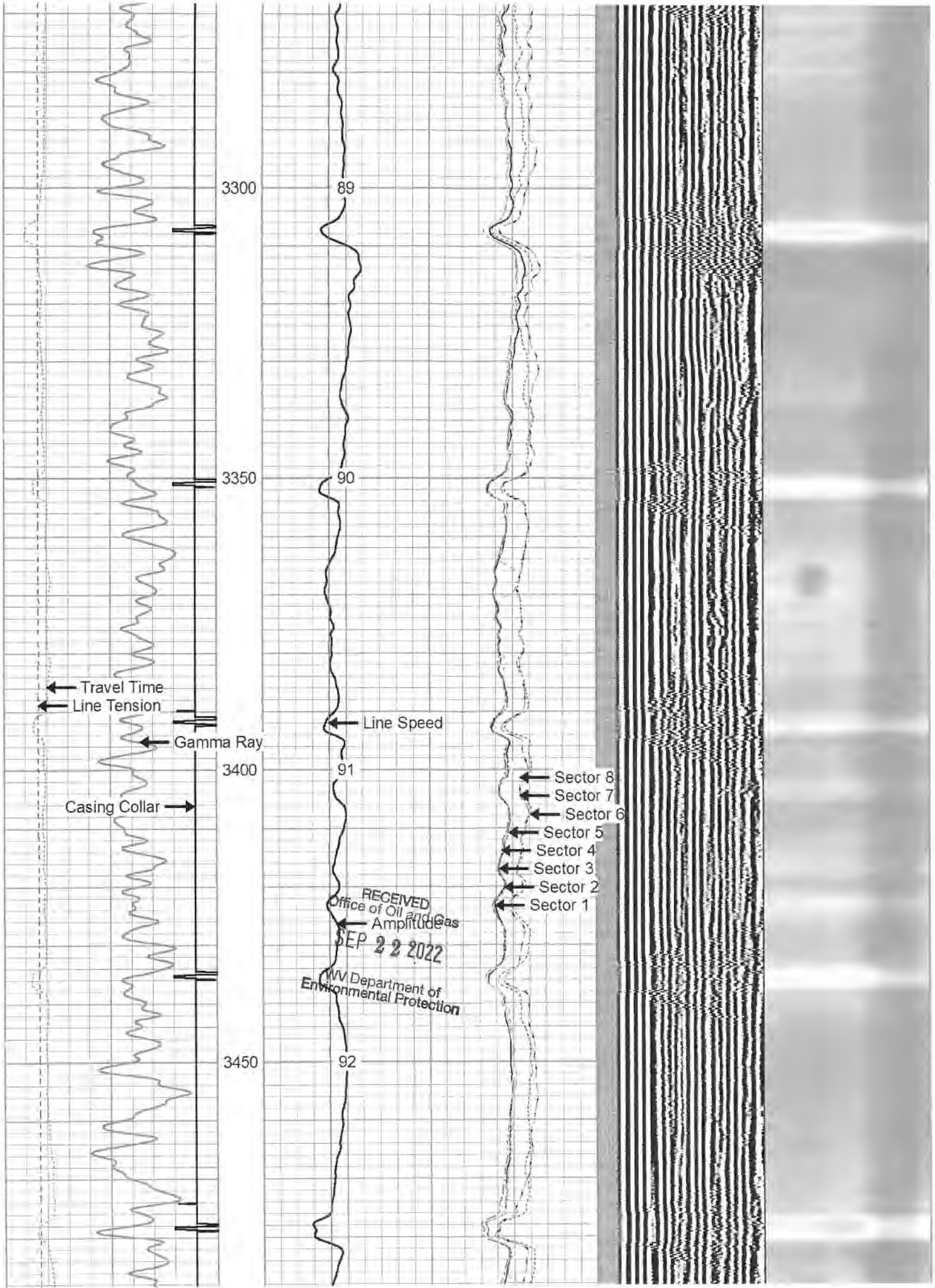
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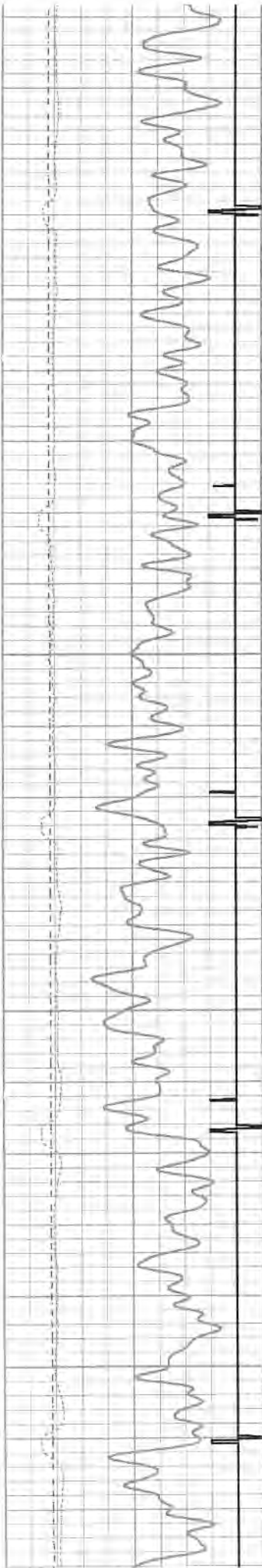
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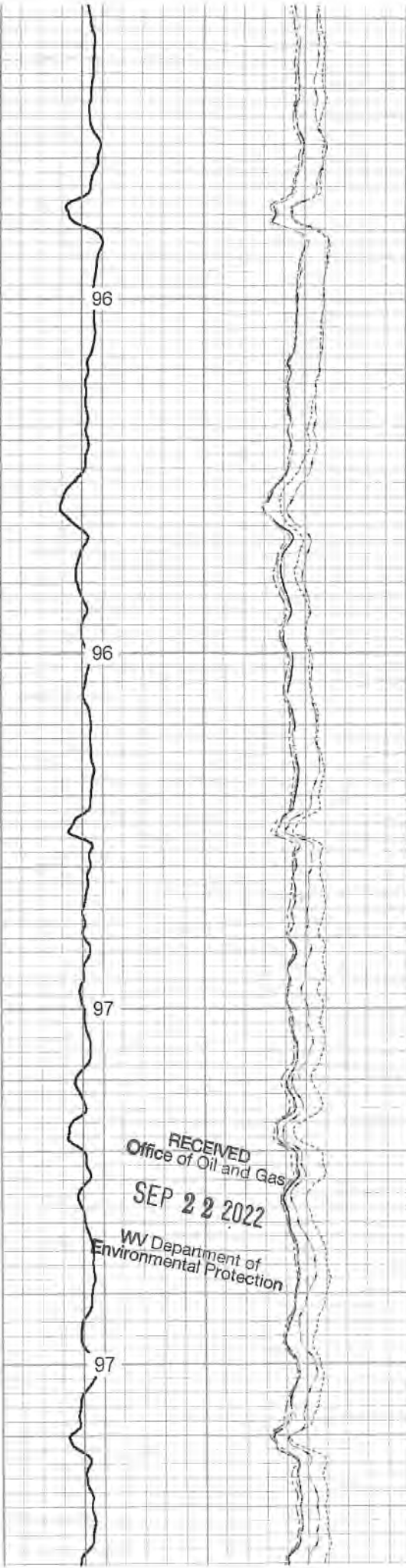








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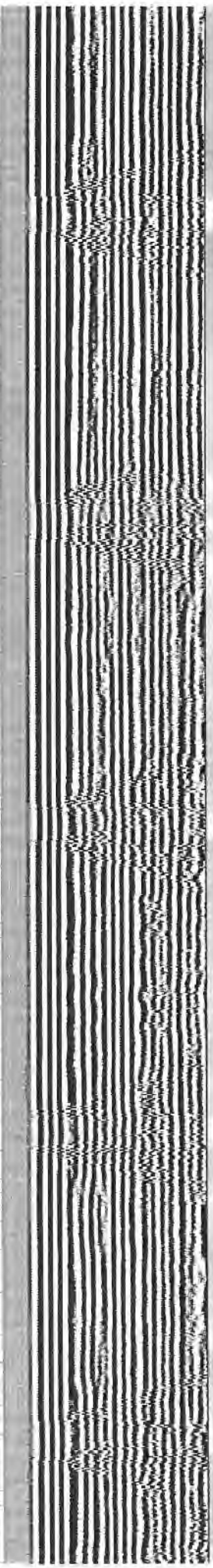
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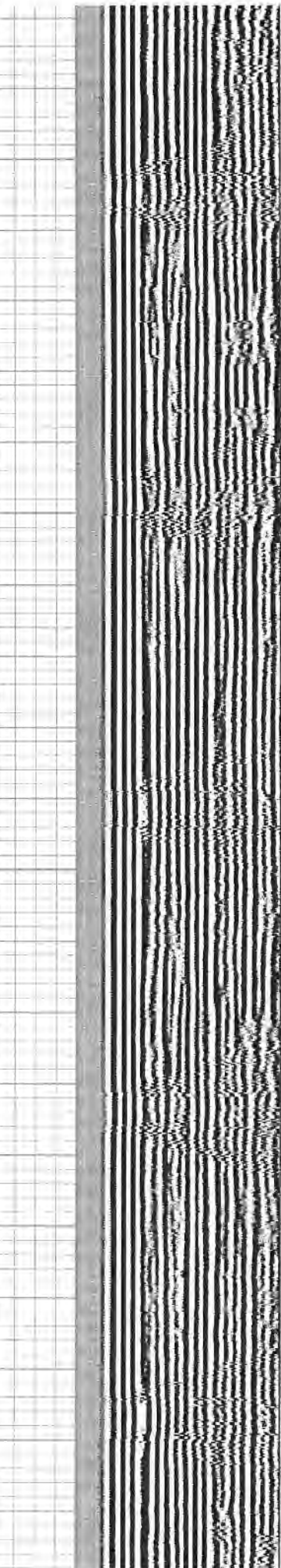
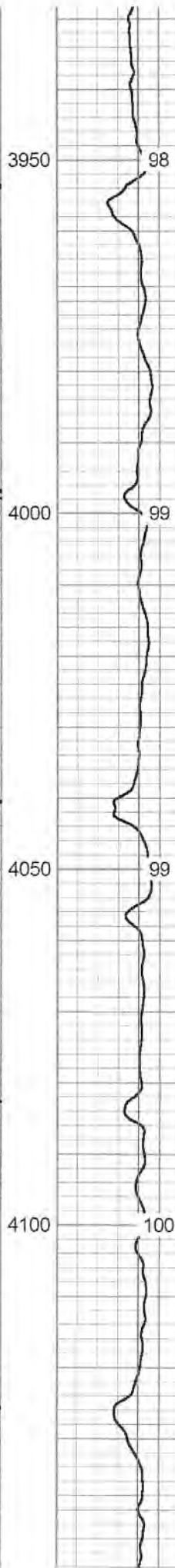
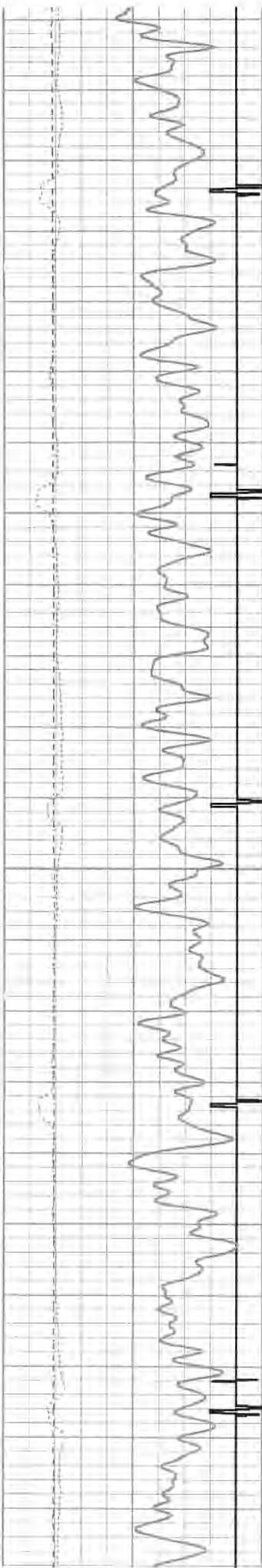
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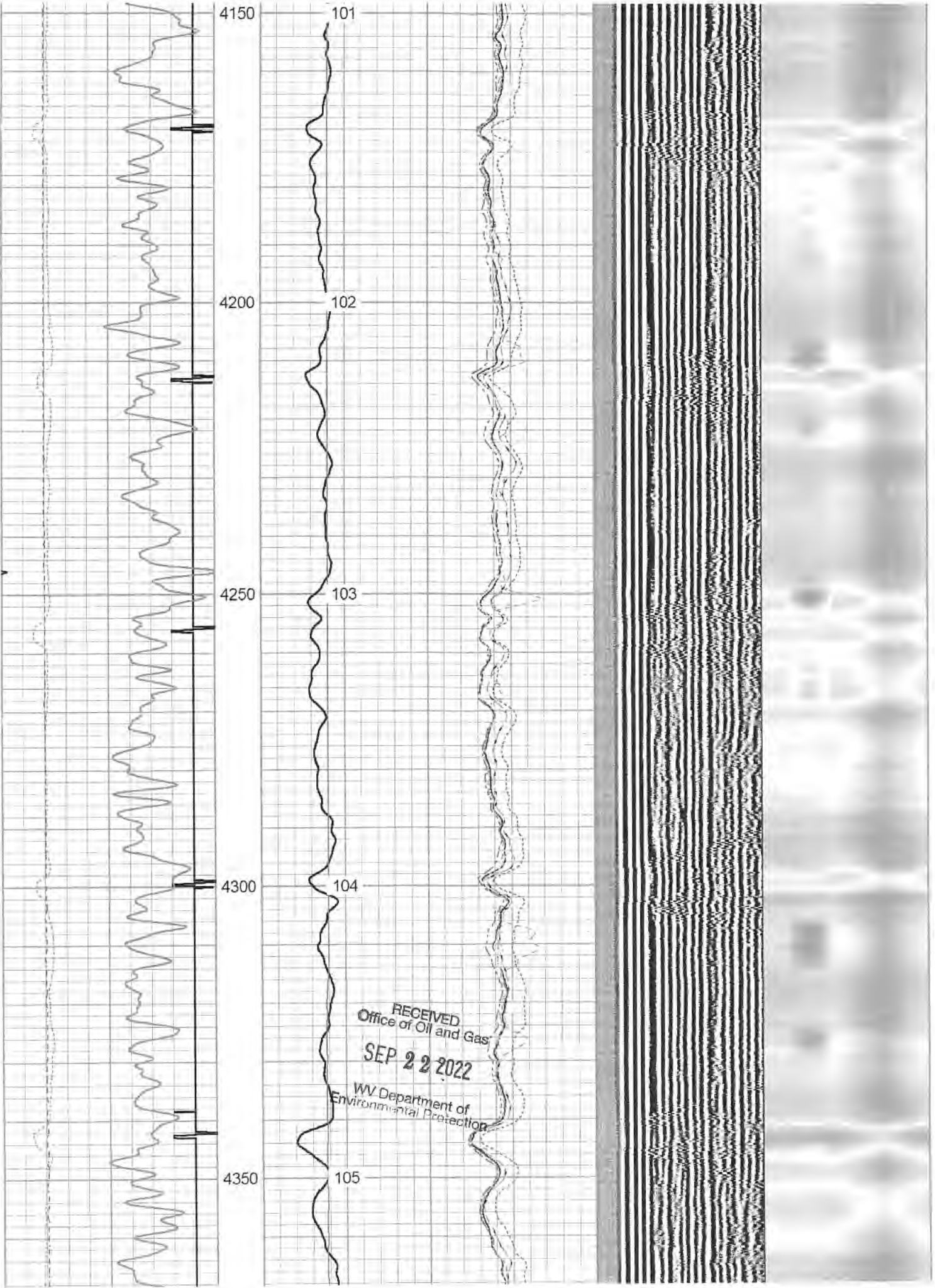
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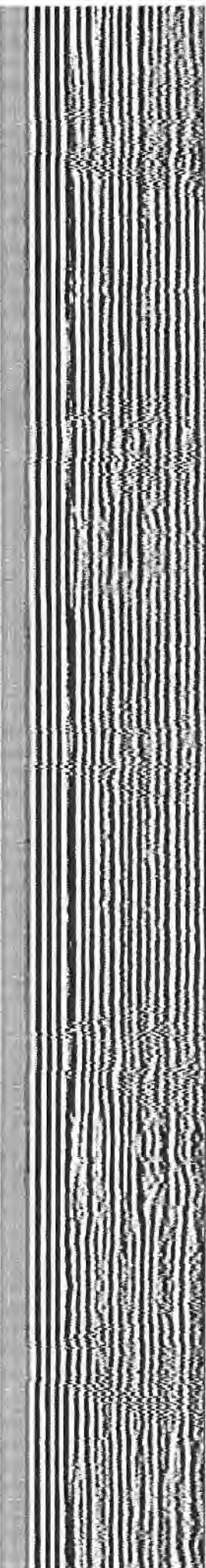
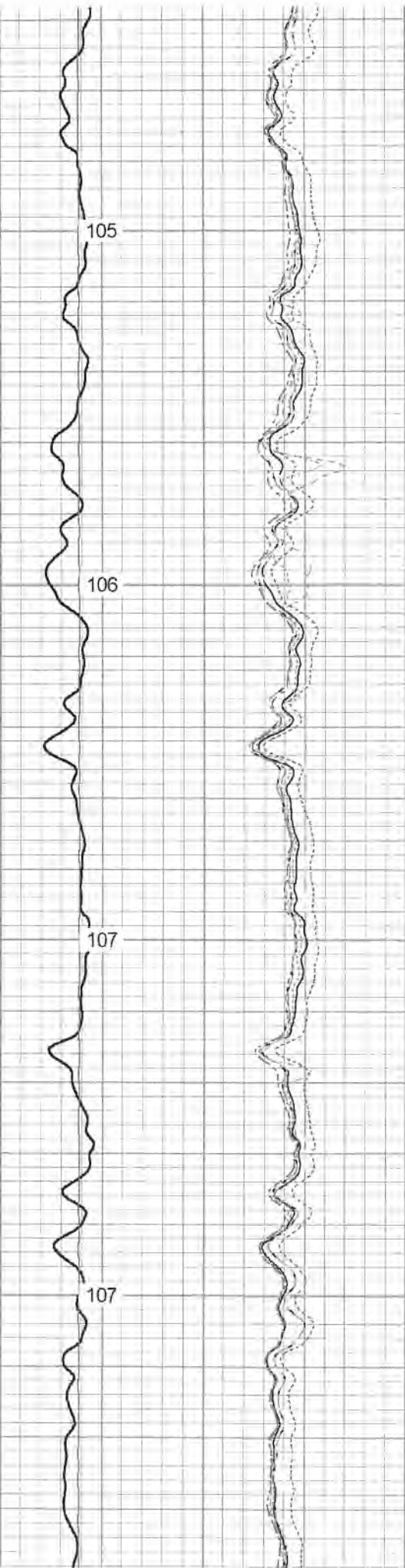
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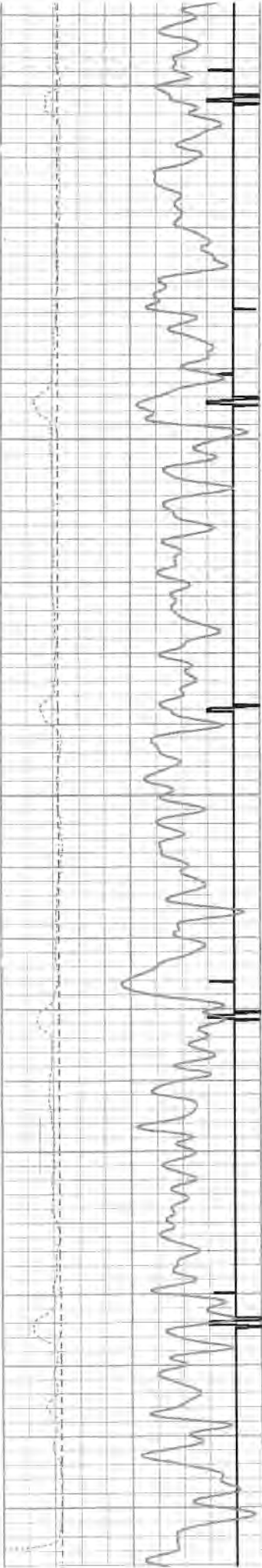
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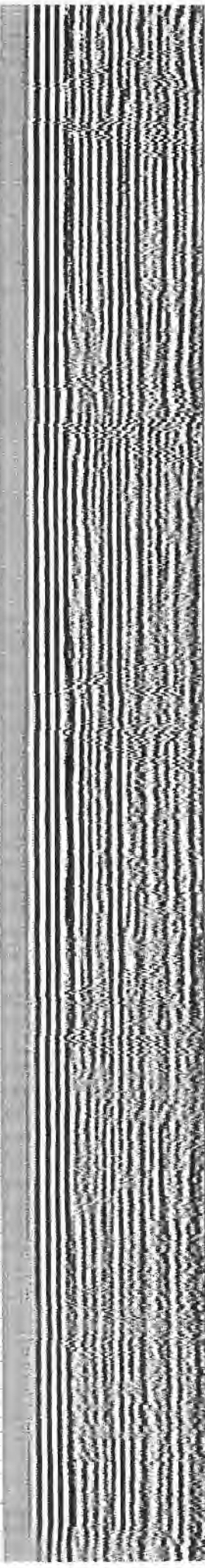


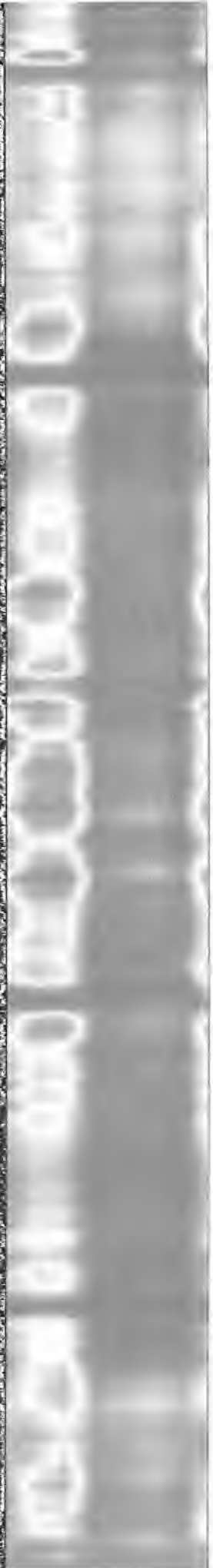
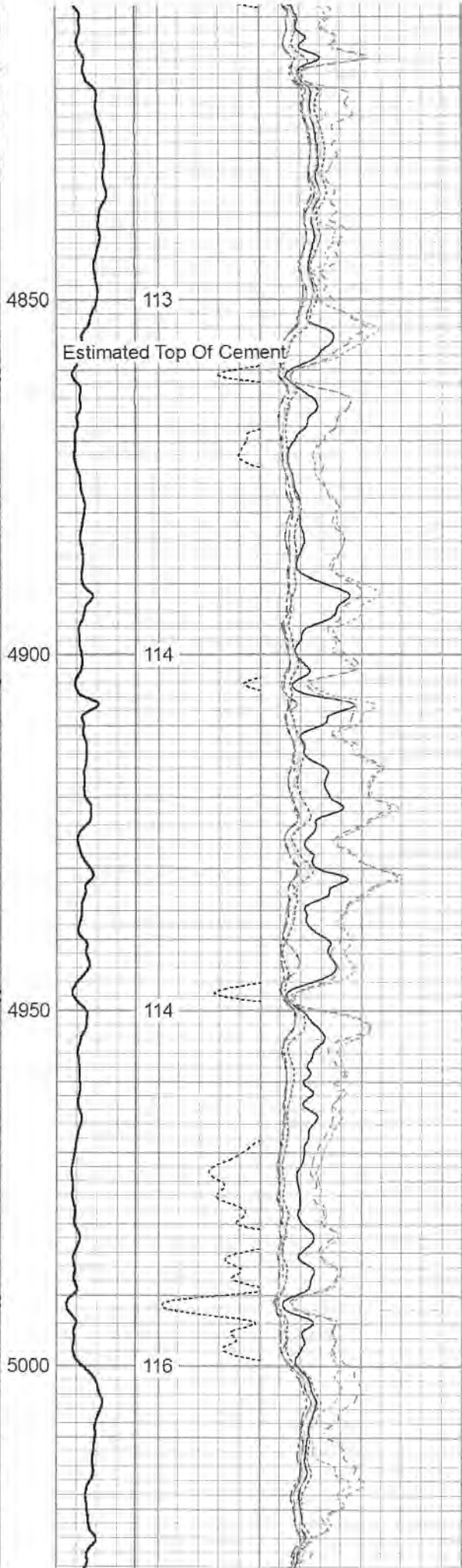
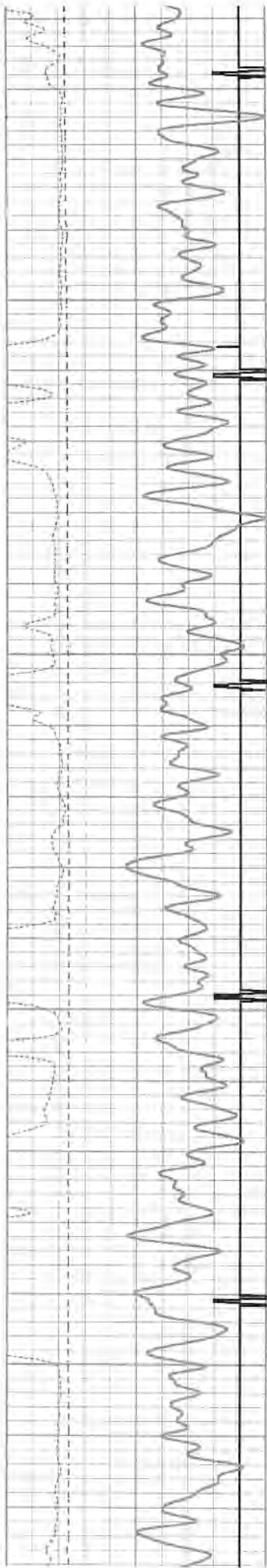


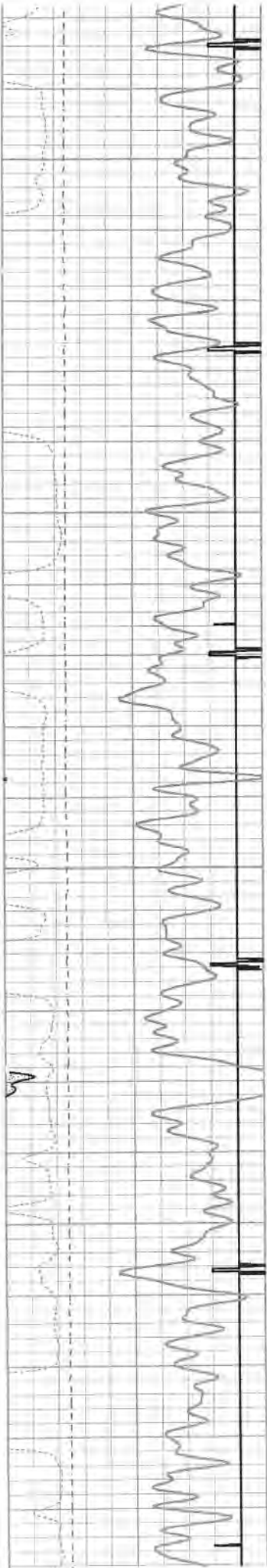
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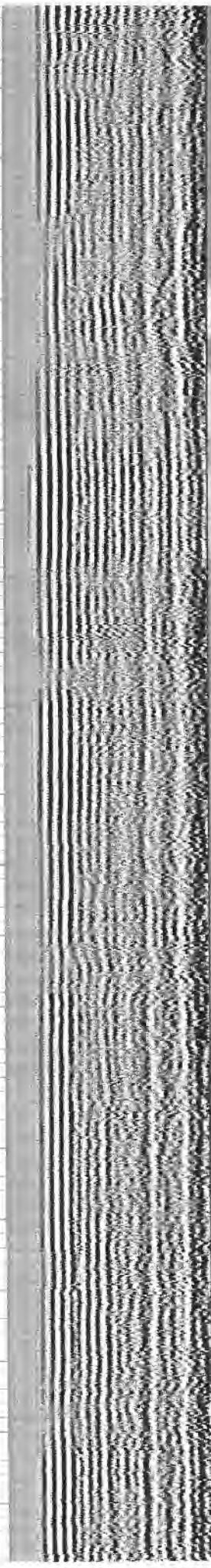


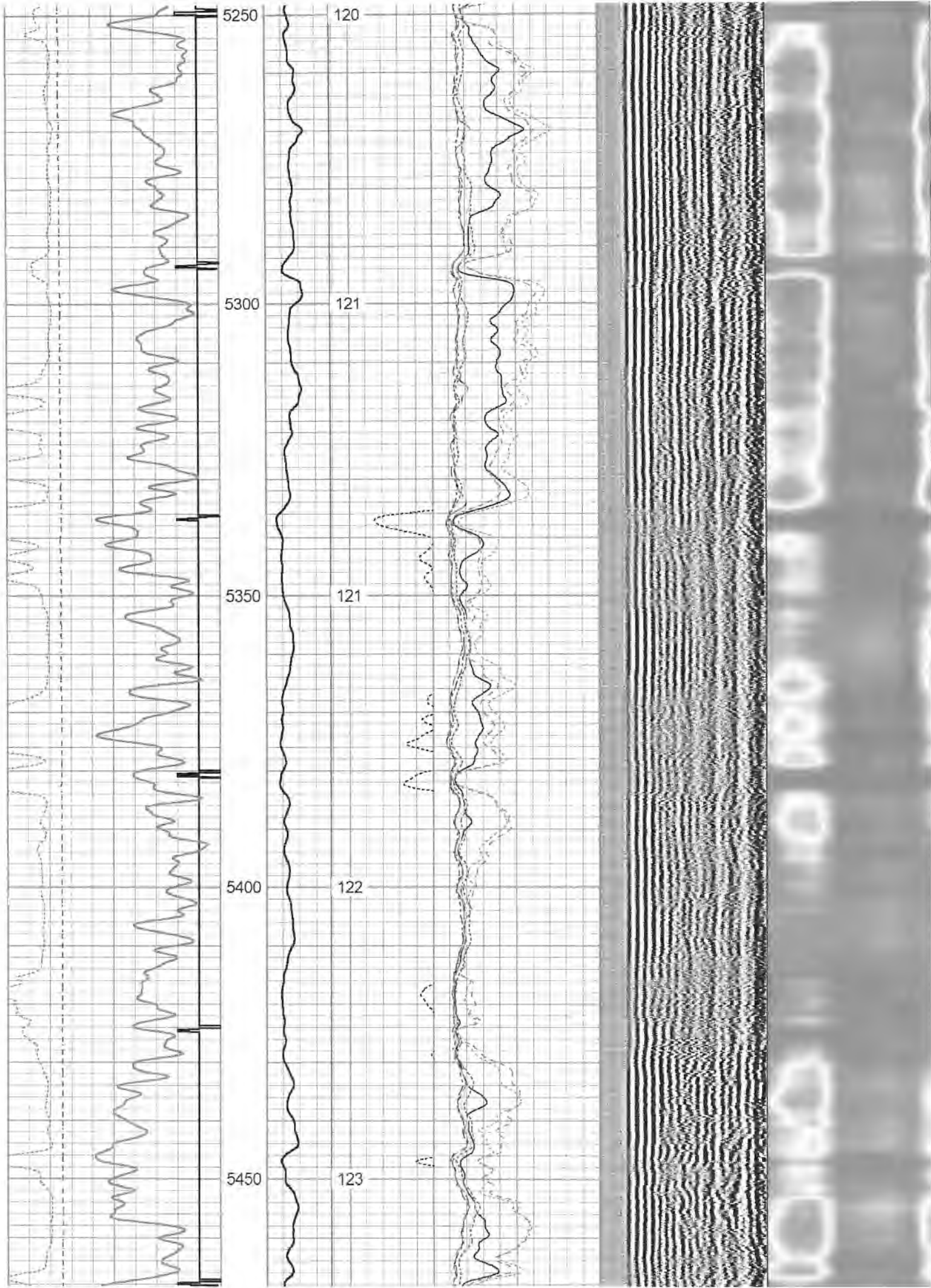


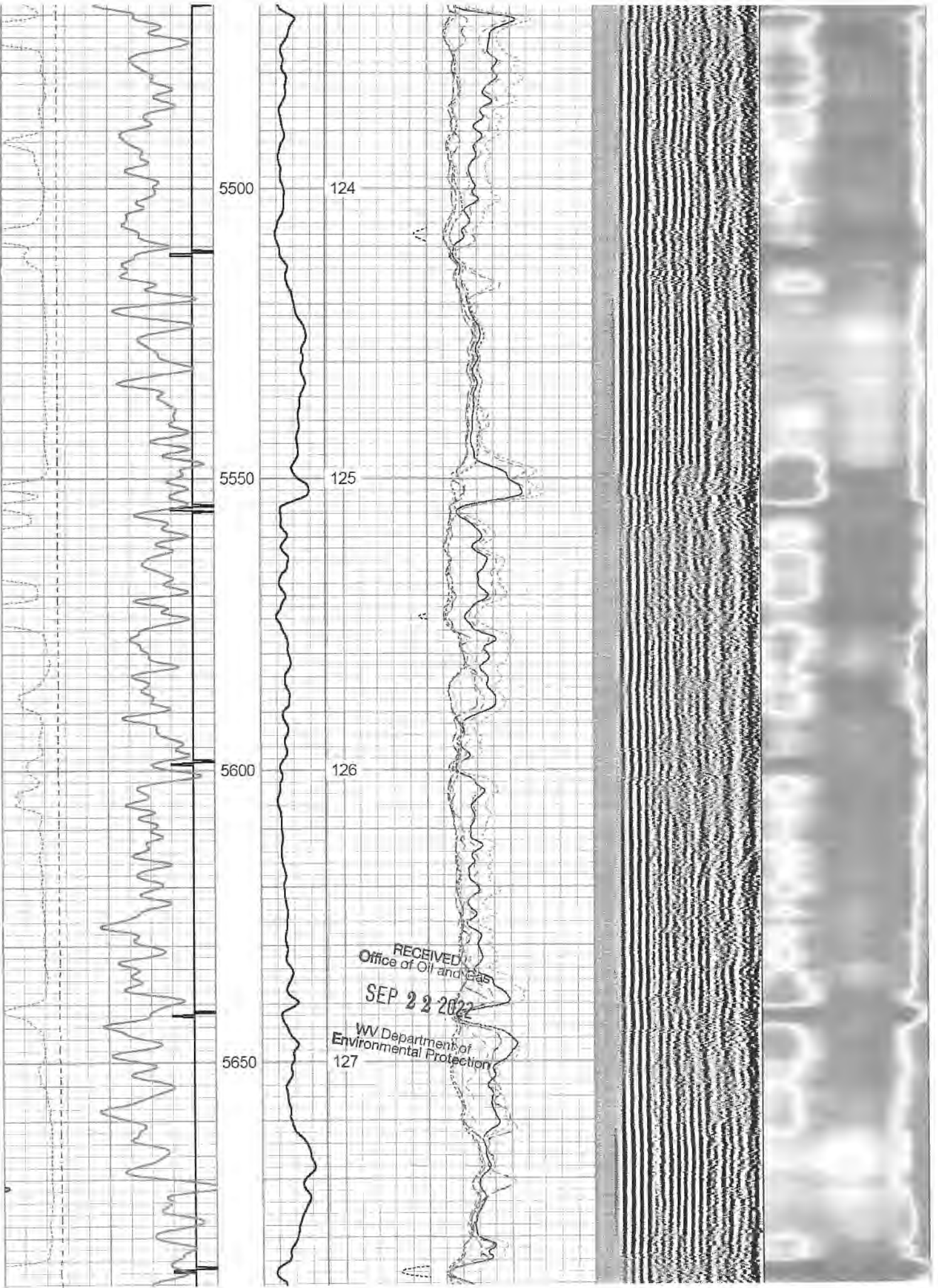
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5500

124

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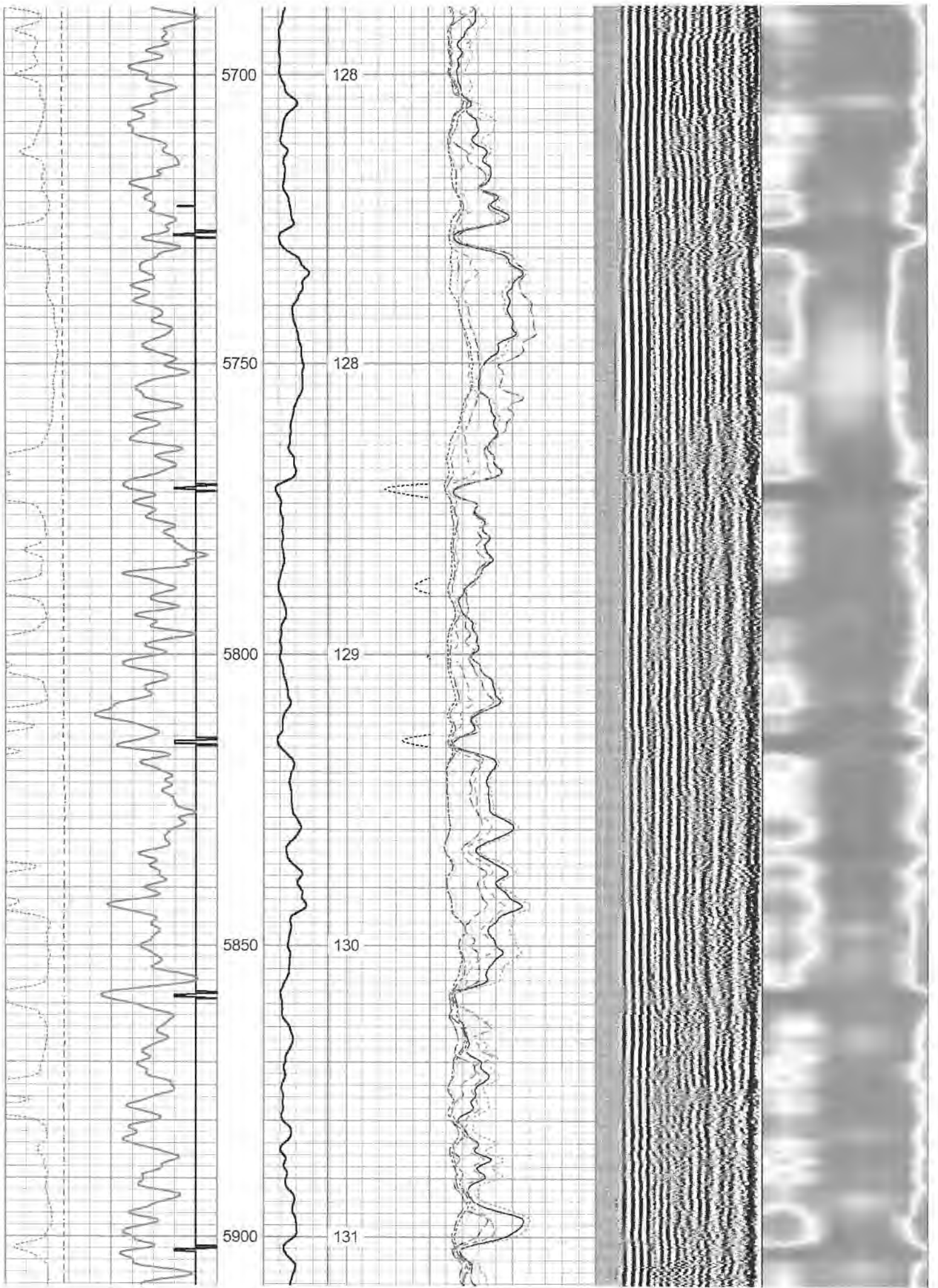
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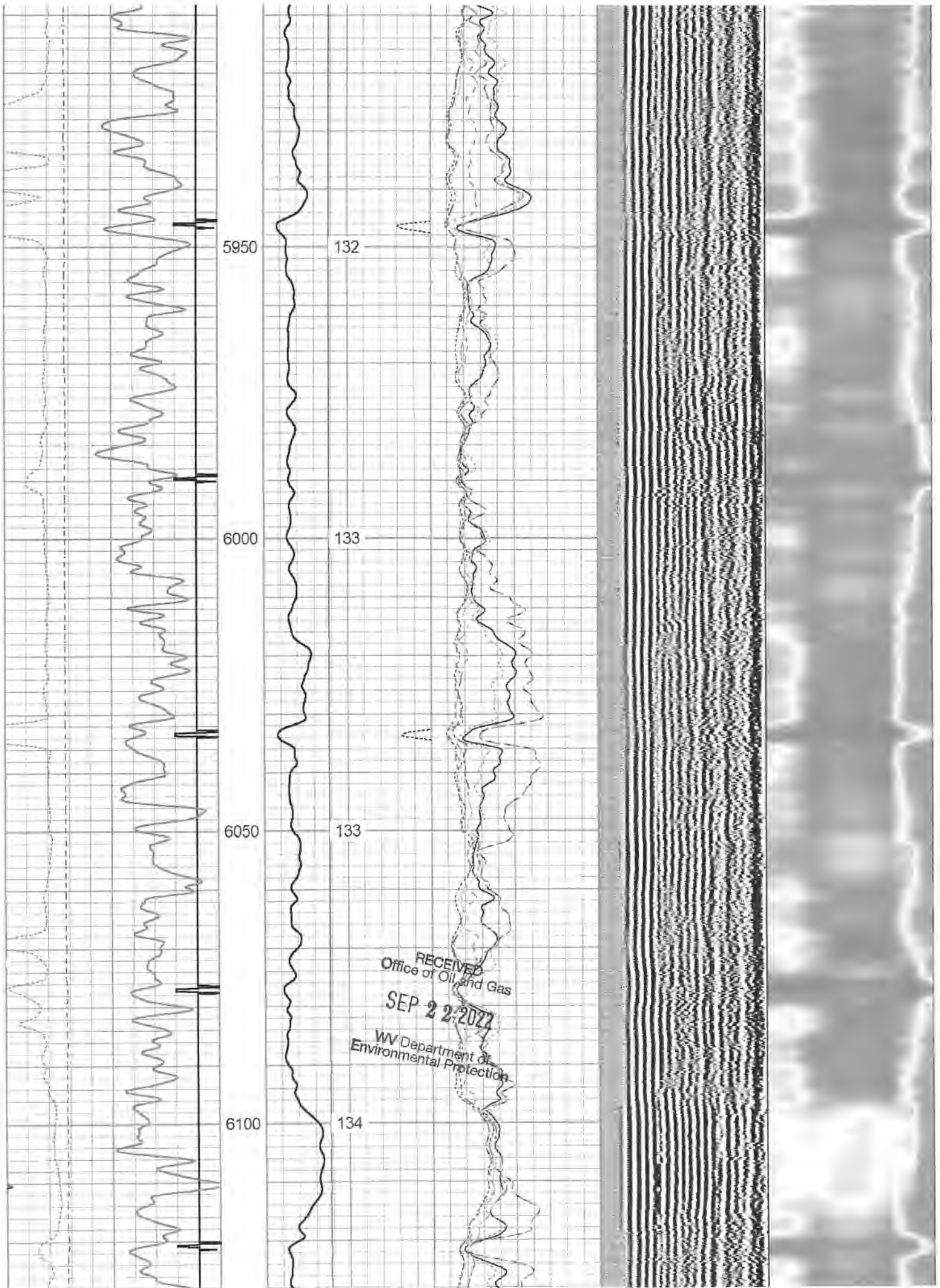
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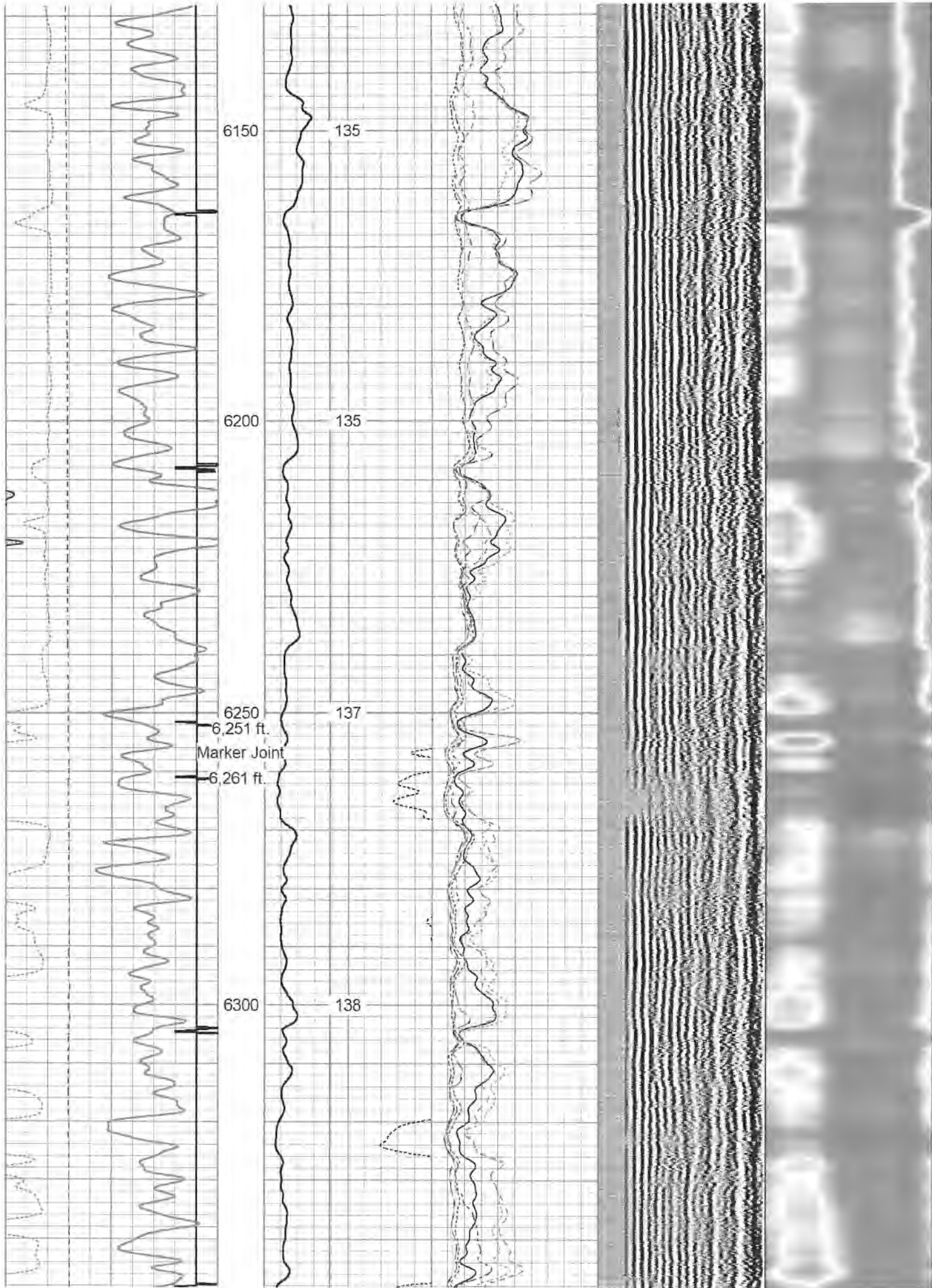
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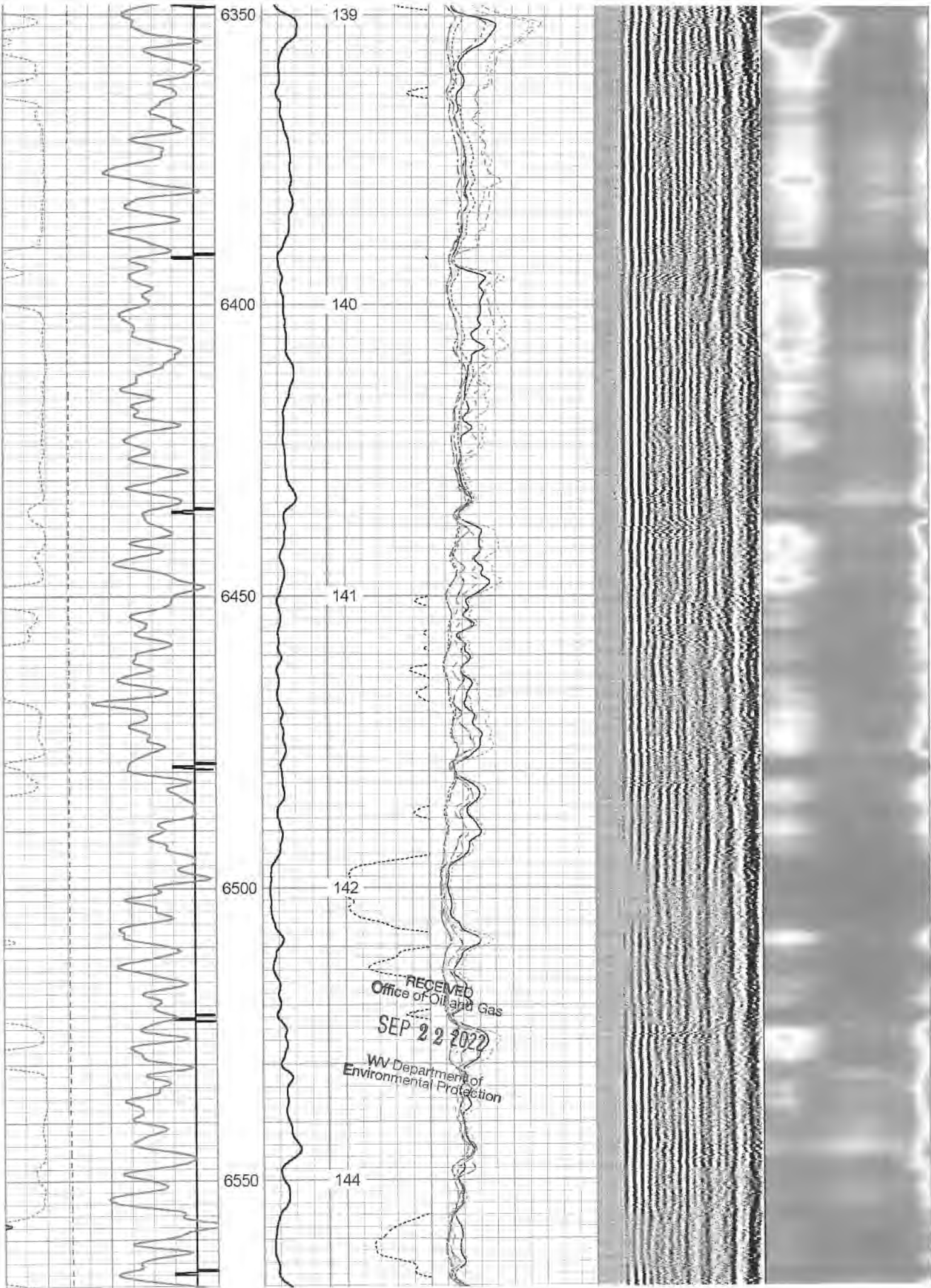
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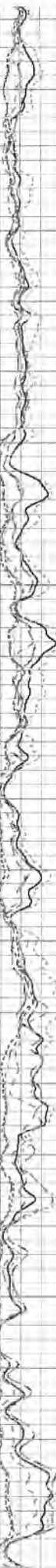
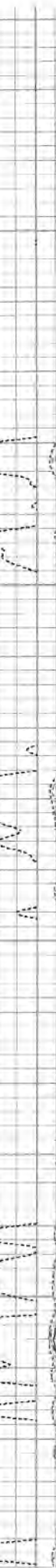
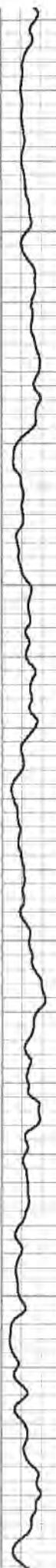
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144

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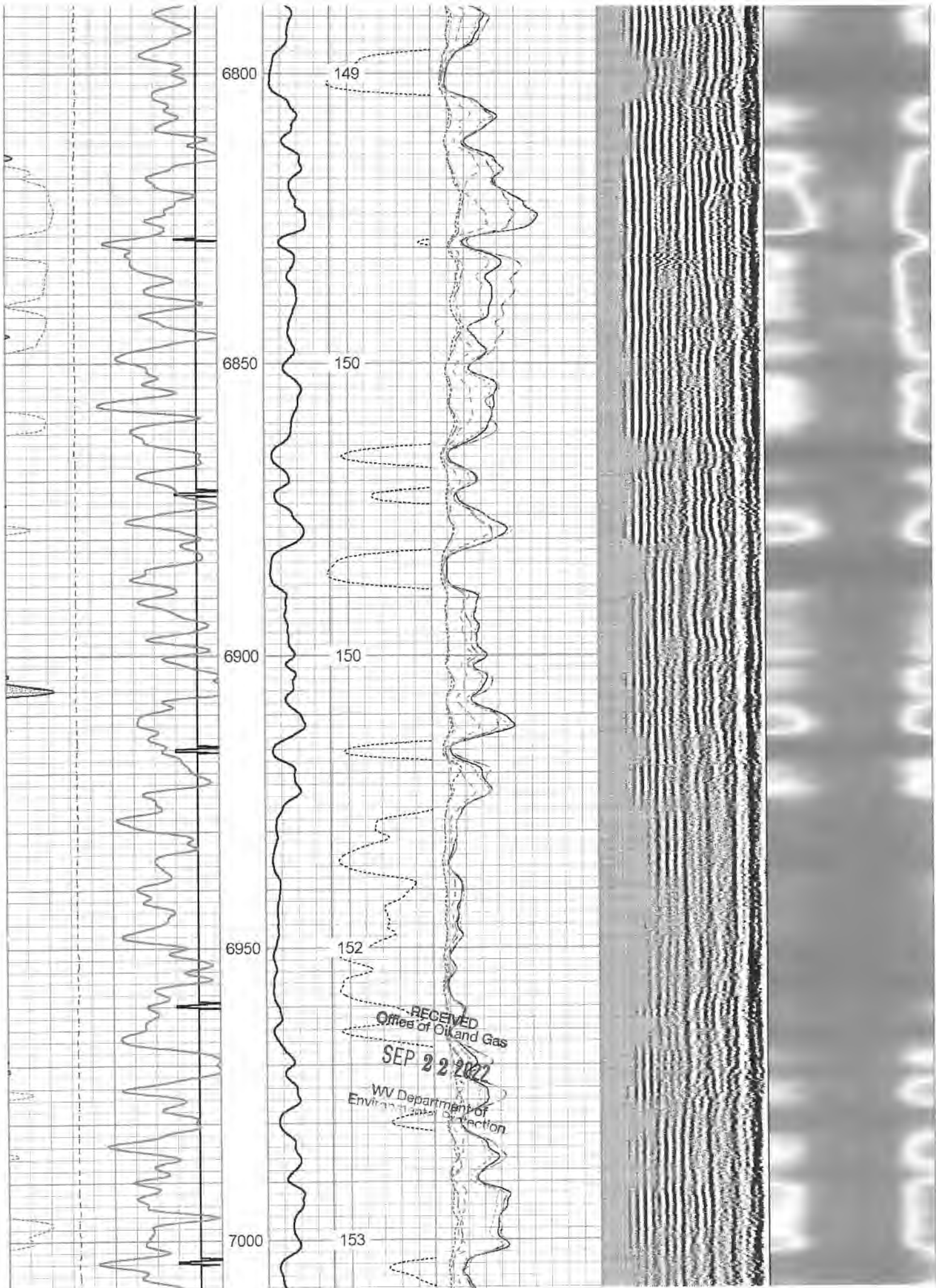
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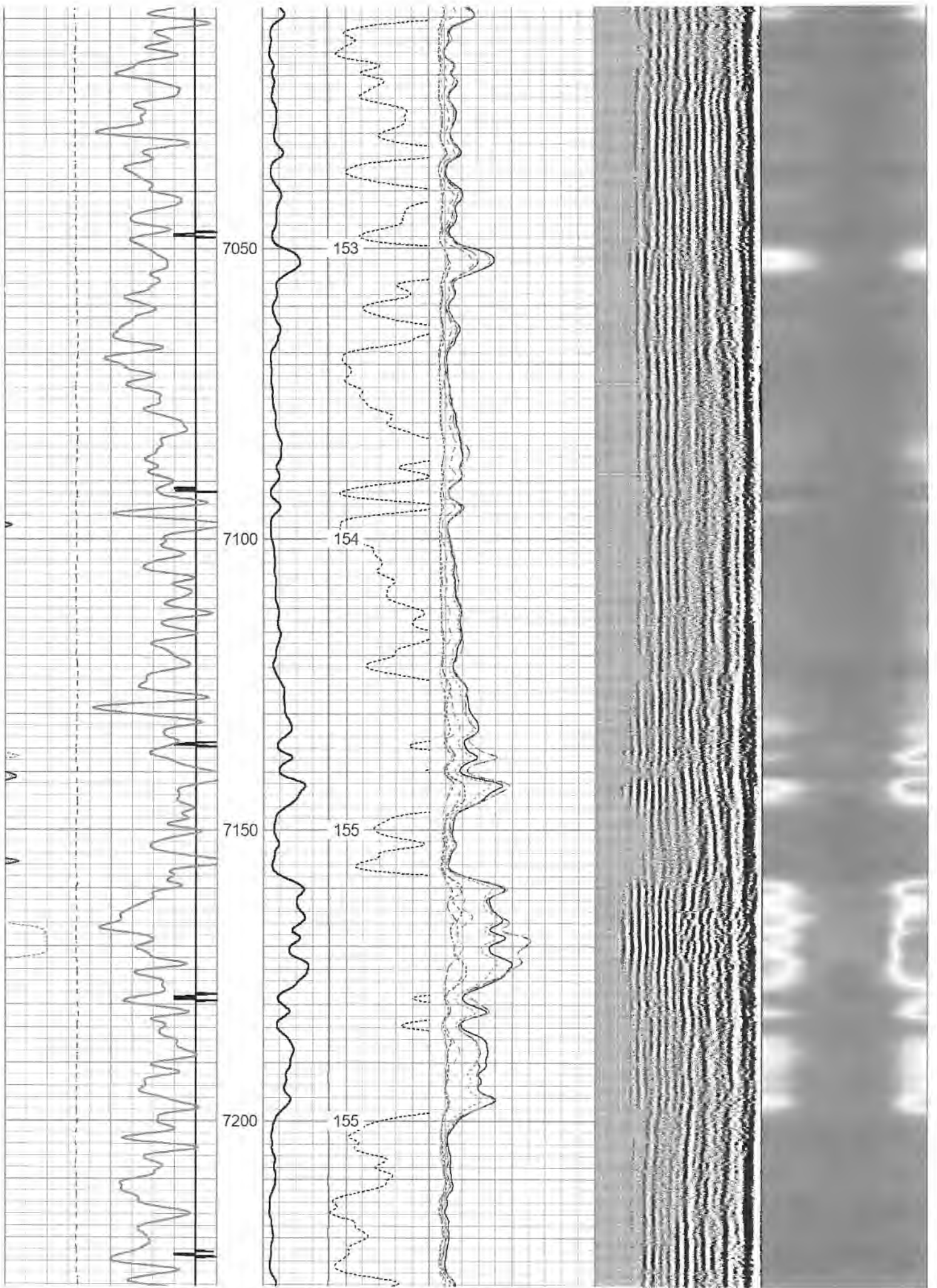
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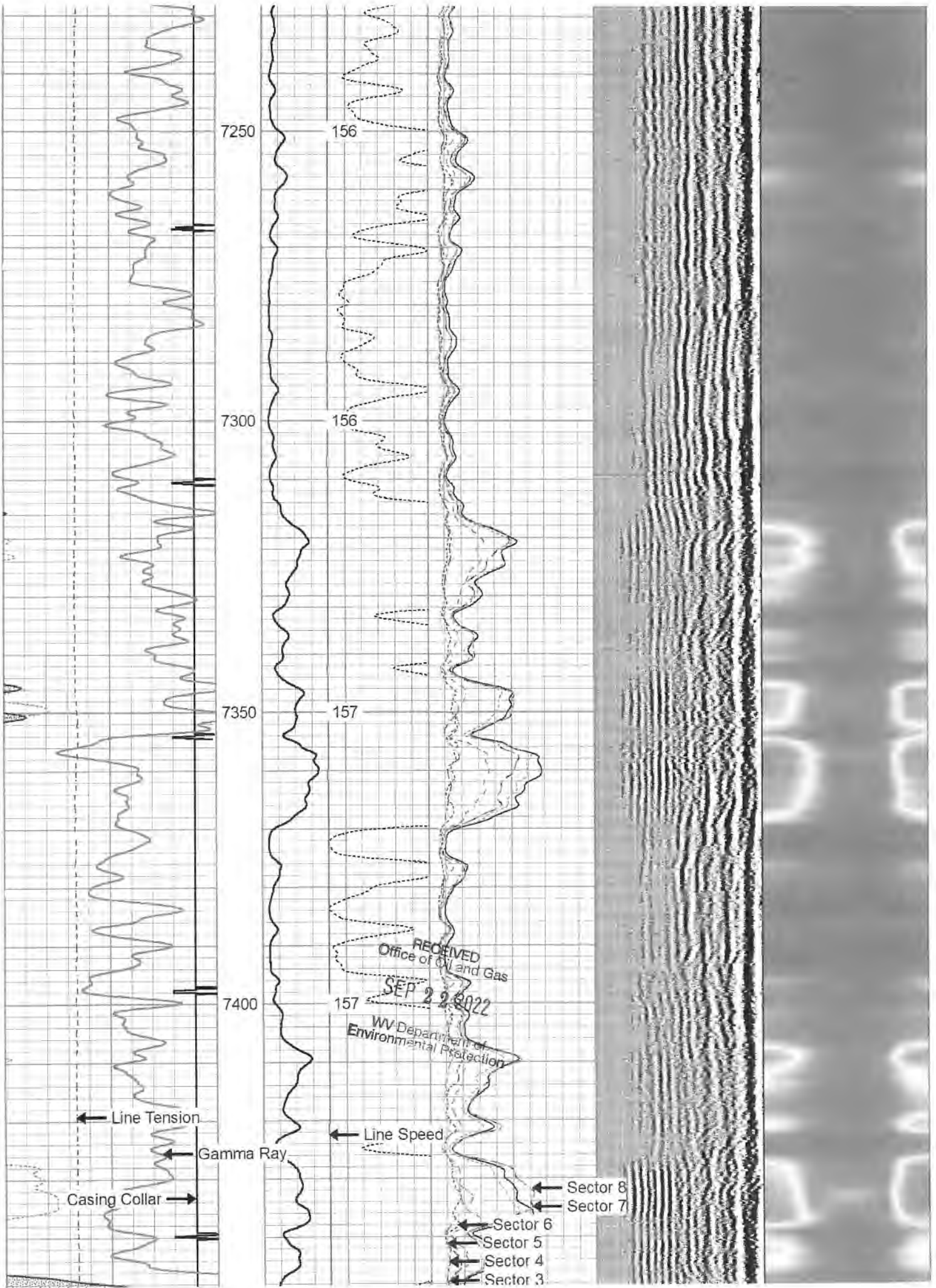
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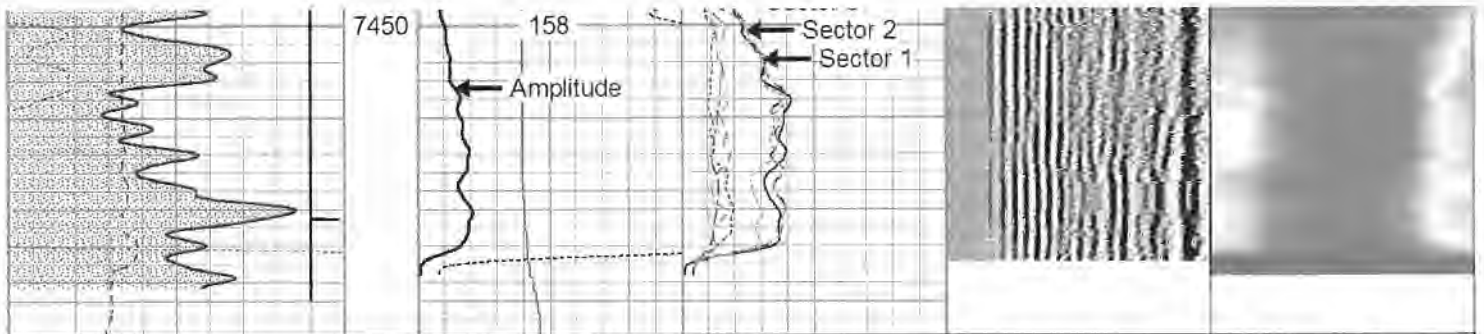
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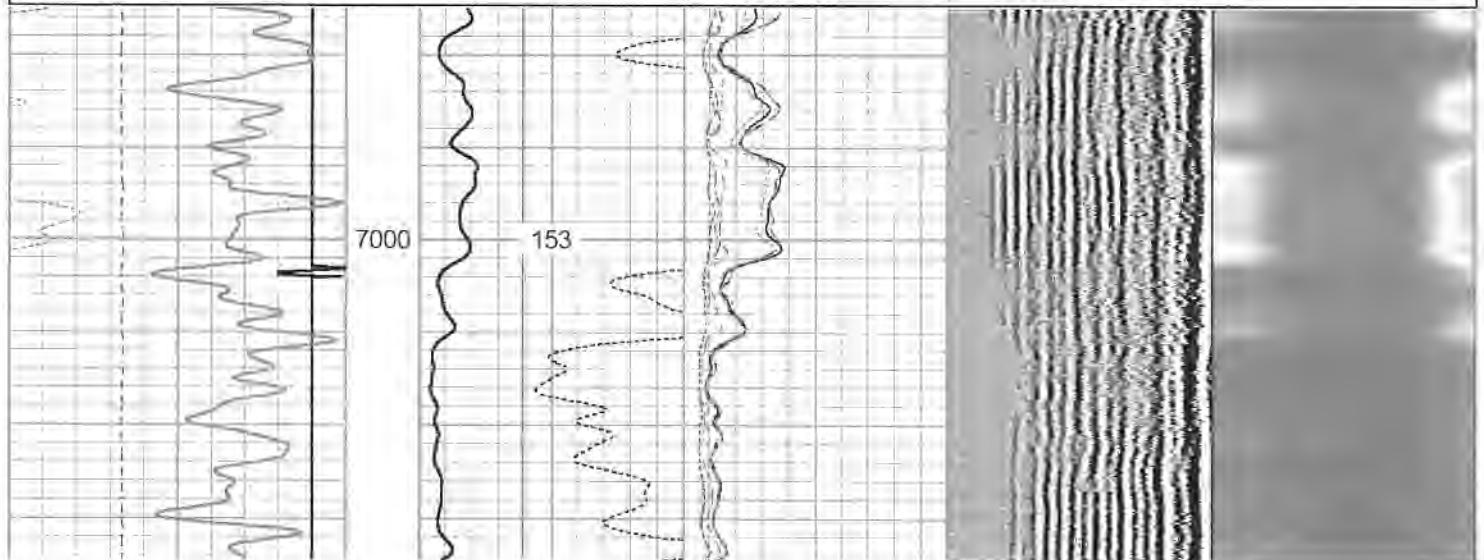
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9	Casing Collar	-1		Amplified Amplitude		-5	Sector 2	150	200 (usec)			
0	Gamma Ray (GAPI)	150	0	(mV)	10	-5	Sector 3	150				
0	Line Tension (lb)	5000		Line Speed		-5	Sector 4	150				
			-500	(ft/min)	500	-5	Sector 5	150				
				TEMP		-5	Sector 6	150				
				(degF)		-5	Sector 7	150				
						-5	Sector 8	150				

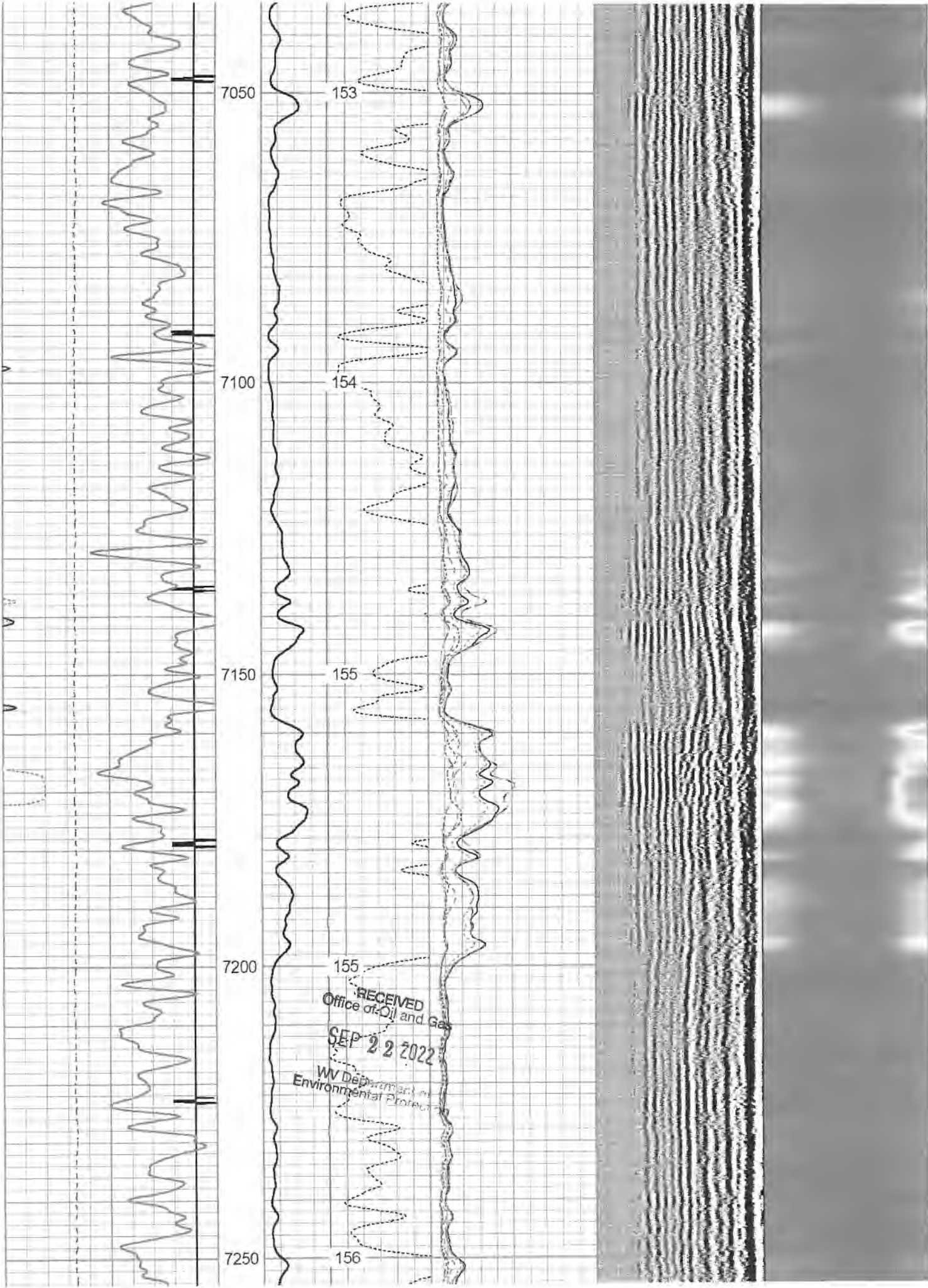


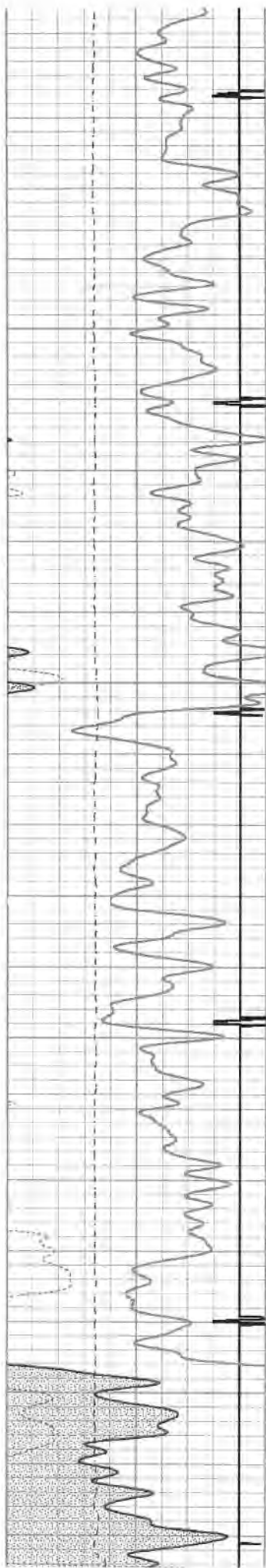
Repeat Pass 0 PSI

Database File antero_gamehengeeast_possum1h_rcbl_nineenergy_may_1_2020.db
 Dataset Pathname Rabbit_Ears/Possum_1H/RCBL_1/pass2.1
 Presentation Format 9rcbl
 Dataset Creation Fri May 01 17:17:46 2020
 Charted by Depth in Feet scaled 1:240

270	Travel Time (usec)	200	0	Amplitude (mV)	100	-5	Sector 1	150	Variable Density	1	Cement Map	7
9	Casing Collar	-1		Amplified Amplitude		-5	Sector 2	150	200 (usec)			
0	Gamma Ray (GAPI)	150	0	(mV)	10	-5	Sector 3	150				
0	Line Tension (lb)	5000		Line Speed		-5	Sector 4	150				
			-500	(ft/min)	500	-5	Sector 5	150				
				TEMP		-5	Sector 6	150				
				(degF)		-5	Sector 7	150				
						-5	Sector 8	150				







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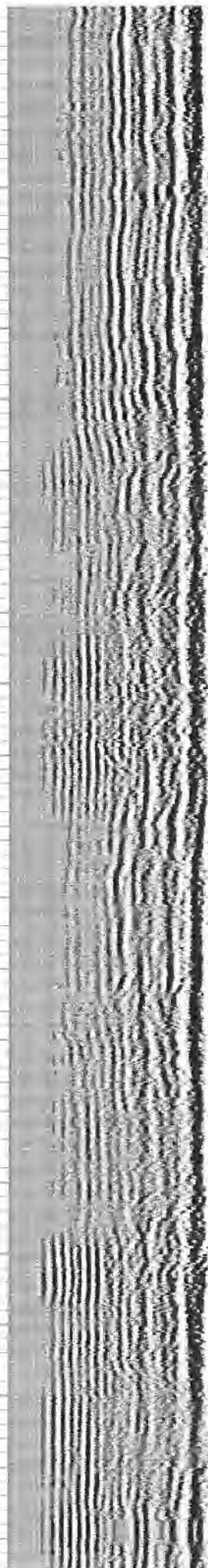
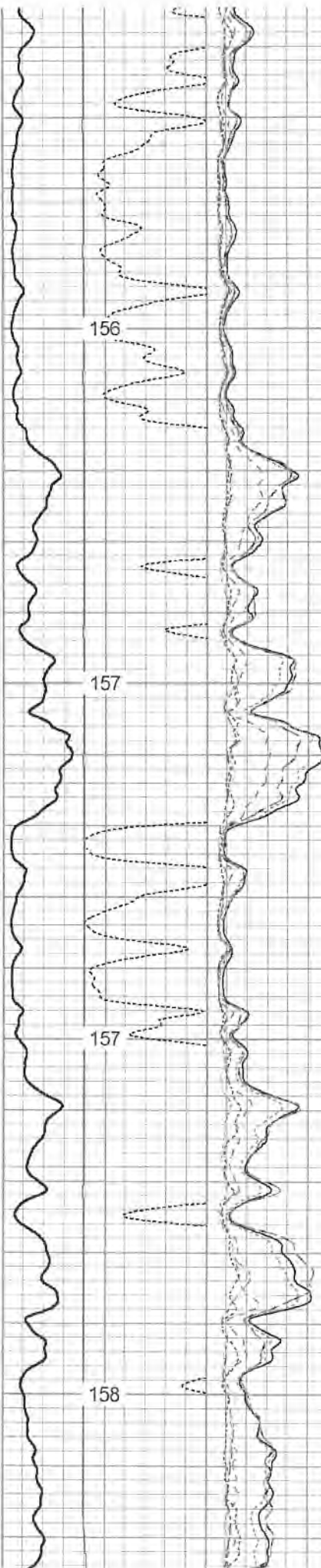
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158



270 Travel Time (usec) 200	0 Amplitude (mV) 100	-5	Sector 1	150	Variable Density	1	Cement Map	7
9 Casing Collar -1	Amplified Amplitude	-5	Sector 2	150	200 (usec) 1200			
0 Gamma Ray (GAPI) 150	0 (mV) 10	-5	Sector 3	150				
0 Line Tension (lb) 5000	Line Speed	-5	Sector 4	150				
	-500 (ft/min) 500	-5	Sector 5	150				
	TEMP	-5	Sector 6	150				
	(degF)	-5	Sector 7	150				
		-5	Sector 8	150				

Log Variables

Database: C:\ProgramData\Warrior\Data\antero_gamehengeeast_possum1h_rcbl_nineenergy_may_
Dataset Rabbit_Ears/Possum_1H/RCBL_1/pass4.2/_vars_

Top - Bottom

BHTEMP_Src	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	CASEWGHT lb/ft	MAXAMPL mV	MINAMPL mV
TEMP	7.875	150	5.5	0.361	20	72	2.2
MINATTN db/ft	PERFS	PPT usec	SRFTEMP degF	TDEPTH ft			
0.8	No	0	0	0			

Variable Description

BHTEMP_Src : BHTEMP Input Source Selector
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

Calibration Report

Database File antero_gamehengeeast_possum1h_rcbl_nineenergy_may_1_2020.db
Dataset Pathname Rabbit_Ears/Possum_1H/RCBL_1/pass4.2
Dataset Creation Fri May 01 17:21:31 2020

Gamma Ray Calibration Report

Serial Number: FW1211-86
Tool Model: Probe
Performed: Thu Dec 19 22:27:19 2019
Calibrator Value: 1.0
Background Reading: 0.0
Calibrator Reading: 1.0
Sensitivity: 0.8000

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Segmented Cement Bond Log Calibration Report

Serial Number: FW1312-32
Tool Model: Probe275T
Calibration Casing Diameter: 5.500 in
Calibration Depth: 32.025 ft

SM

Master Calibration, performed Fri May 01 15:40:45 2020:


	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.017	0.872	2.200	71.921	135.594	0.777
CAL	1.002	1.004				
5'	0.014	0.867	2.200	71.921	136.777	1.025
SUM						
S1	0.051	0.888	2.200	100.000	186.788	-3.733
S2	0.008	0.864	2.200	100.000	184.376	1.237
S3	0.007	0.850	2.200	100.000	185.953	1.407
S4	0.006	0.857	2.200	100.000	185.003	1.462
S5	0.006	0.863	2.200	100.000	184.121	1.474
S6	0.007	0.869	2.200	100.000	183.497	1.365
S7	0.007	0.862	2.200	100.000	184.353	1.448
S8	0.007	0.864	2.200	100.000	184.157	1.346

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	1.002	1.004	1.000	0.000

Air Zero Calibration, performed Fri May 01 14:47:48 2020:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Gain	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

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
Temp	11.27		CHD-Titan Titan 1 7/16" GO Cablehead	1.00	1.44	5.00
			CENT-Overbody Antelope (SP-919-0233)	1.67	4.88	5.00

WVFS8	9.03		RBT-Probe275T (FW1312-32) Probe 2.75" Radial with Integral Temperature Sub	9.39	2.75	90.00
WVFS7	9.03					
WVFS6	9.03					
WVFS5	9.03					
WVFS4	9.03					
WVFS3	9.03					
WVFS2	9.03					
WVFS1	9.03					
WVF3FT	9.03					
WVF5FT	8.03					
HeadVolt	4.78					
WVFCAL	4.78					
CCL	3.88					
GR	2.54		GR-Probe (FW1211-86) Probe 2 3/4" Logging Gamma Ray	4.78	2.75	57.00
			CENT-Overbody Antelope (SP-919-0233)	1.67	4.88	5.00

Dataset: antero_gamehengeeast_possum1h_rcbl_nineenergy_may_1_2020.db
 Total length: 15.17 ft
 Total weight: 162.00 lb
 O.D.: 4.88 in

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	Company	Antero Resources
	Well	Possum 1H
	Field	Rabbit Ears
	County	Tyler
	State	West Virginia

DM