



**Radial  
Cement  
Bond Log**

Company Antero Resources  
Well Peach Fork 1H  
Field Marcellus  
County Tyler  
State WV  
Country USA

Location: Ed Yost Pad  
API #: 47-095-028410000  
SEC TWP RGE  
Permanent Datum GL  
Log Measured From KB  
Drilling Measured From KB  
Elevation 30'  
Other Services  
Gamma  
CCL  
Elevation  
K.B. 30'  
D.F. N/A  
G.L. N/A

Site	10/May/2023	One			
Run Number	25.205'	7.090'	7.084'	Surface	7" 7/8"
Depth Driller				Water	
Depth Logger				8.3#	
Bottom Logged Interval				142 F	
Top Logged Interval				6,510'	
Open Hole Size				14:50	
Type Fluid				15:30	
Viscosity				104	
Max. Recorded Temp.				Charleroi, PA	
Estimated Cement Top				Blane	
Time Well Ready				Mr. Corey Woods	
Time Logger on Bottom					
Equipment Number					
Location					
Recorded By					
Witnessed By					

Borehole Record		Tubing Record					
Run Number	Bit	From	To	Size	Weight	From	To
Logging Record	Size			Wg/Wt	Top		Bottom
Surface String	13" 3/8			54.5 #	Surface		353.31'
Production String	9" 5/8			36 #	Surface		3,417.1'
Production String	5" 1/2			23 #	Surface		25,176'

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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 Correlated to Marker Joint (6,010'- 6,020' ) Per Well Schematic  
 Depth Shift of ' +8  
 Free Pipe = 71.9mv  
 Bond Pipe = 3.4mv  
 ETOC = 6,510'  
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Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
Centralizer	32.54		CABLE_HEADS-TITAN_1_7/16	1.04	1.44	4.00
CABLE_HEADS	23.79					
Centralizer	22.75					

			Centralizer-Titan_2.75 Bowspring Centralizer	2.86	2.75	35.00
RBT HeadVolt	19.89 19.83					
Temp	16.98					
			RBT-Probe275T (FW1312-32) Probe 2.75" Radial with Integral Temperature Sub	9.39	2.75	90.00
WVFS8	14.75					
WVFS7	14.75					
WVFS6	14.75					
WVFS5	14.75					
WVFS4	14.75					
WVFS3	14.75					
WVFS2	14.75					
WVFS1	14.75					
WVF3FT	14.75					
WVF5FT	13.75					
Centralizer	10.50					
WVFCAL	10.50					
HEADVOLT	10.50		Centralizer-Titan_2.75 Bowspring Centralizer	2.86	2.75	35.00
GR	7.64					
CCL	6.73					
GR	5.40		GR-Probe (FW1211-86) Probe 2 3/4" Logging Gamma Ray	4.78	2.75	57.00
Centralizer	2.86					
			Centralizer-Titan_2.75 Bowspring Centralizer	2.86	2.75	35.00

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Dataset: antero\_ed\_yost\_peach-fork\_1h\_rcbl\_may-10-2023.db: field/well/rcbl/main1  
 Total length: 23.79 ft  
 Total weight: 261.00 lb  
 O.D.: 3.12 in



Main Pass

02/16/2024

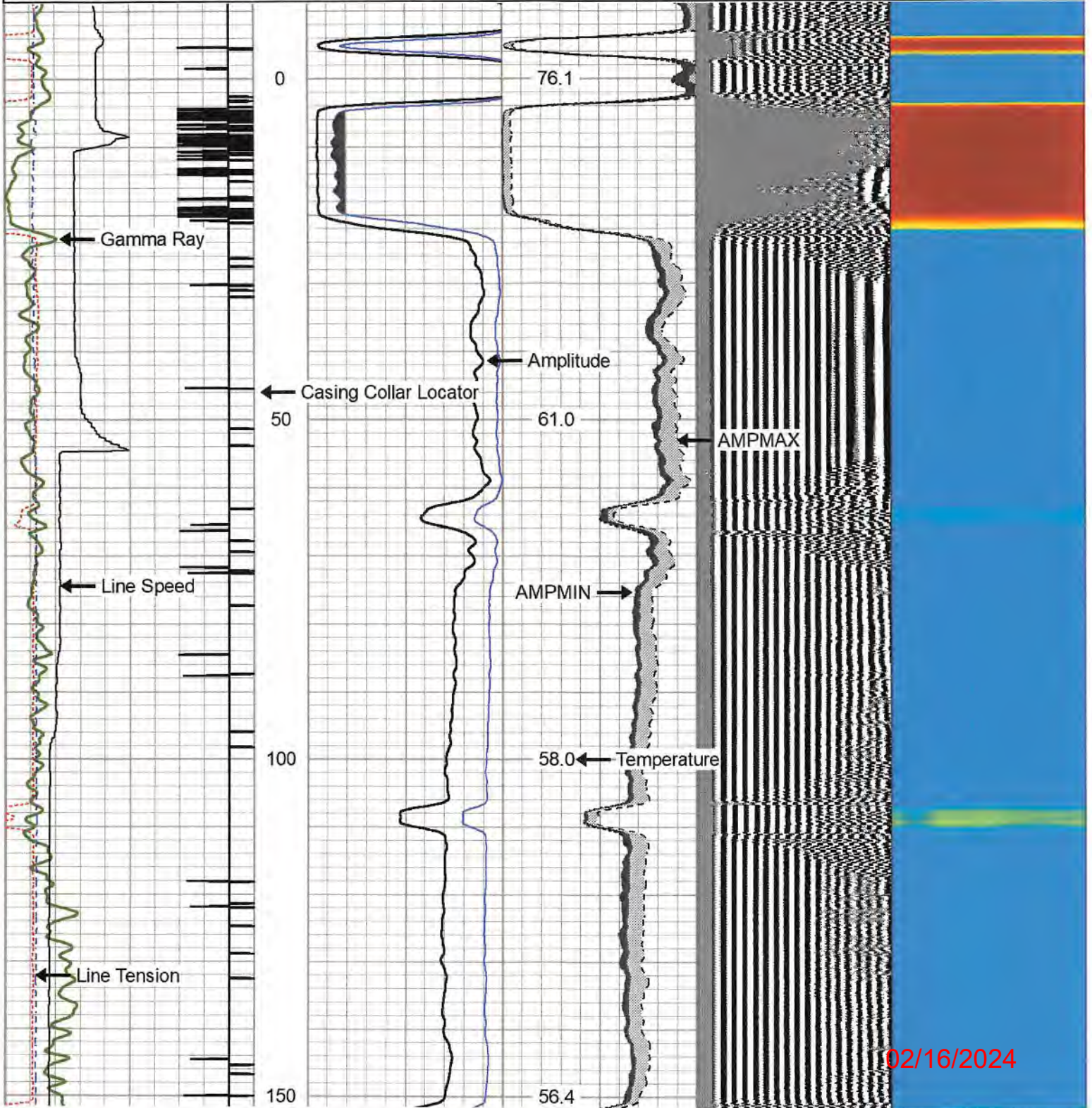
Database File antero\_ed\_yost\_peach-fork\_1h\_rcbl\_may-10-2023.db  
 Dataset Pathname rcbl/main1  
 Presentation Format rcbl-bond index for antero 1020  
 Dataset Creation Wed May 10 18:58:37 2023  
 Charted by Depth in Feet scaled 1:240

265	Travel Time (usec)	165
9	Casing Collar	-1
0	Gamma Ray (GAPI)	150
Line Speed		
-100	(ft/min)	100
0	Line Tension (lb)	2000

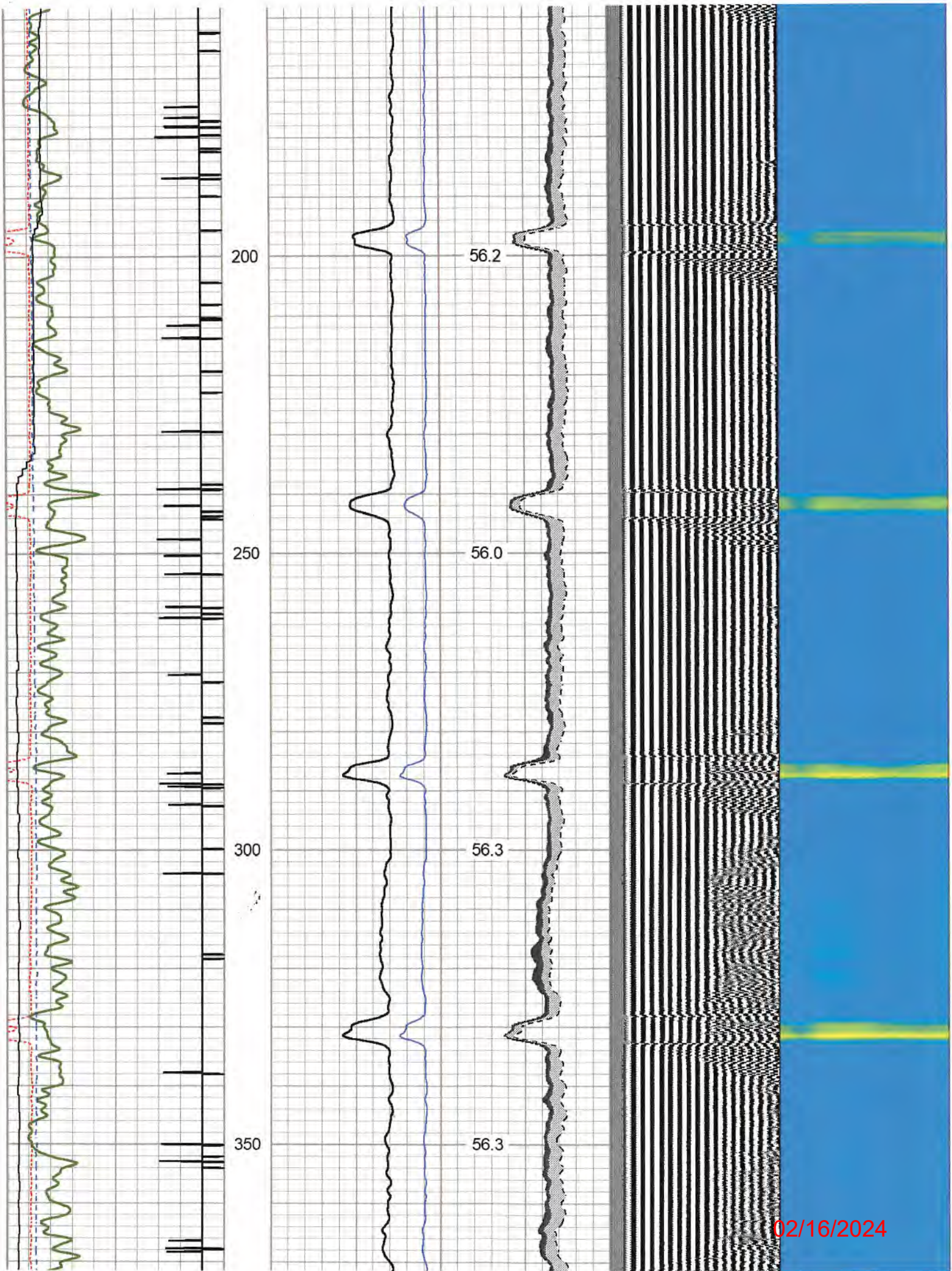
0	Amplitude (mV)	100
1	BONDIX	0
0	AMPMIN	150
0	AMPMAX	150
0	AMPAVG	150
TEMP		
(degF)		

Variable Density  
 300 (usec) 1200

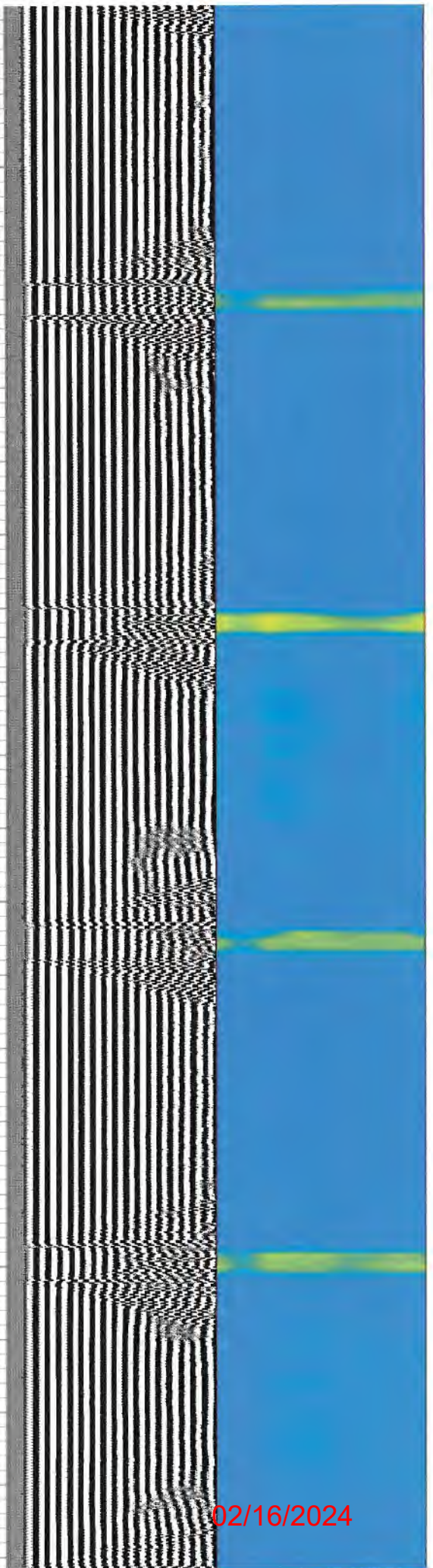
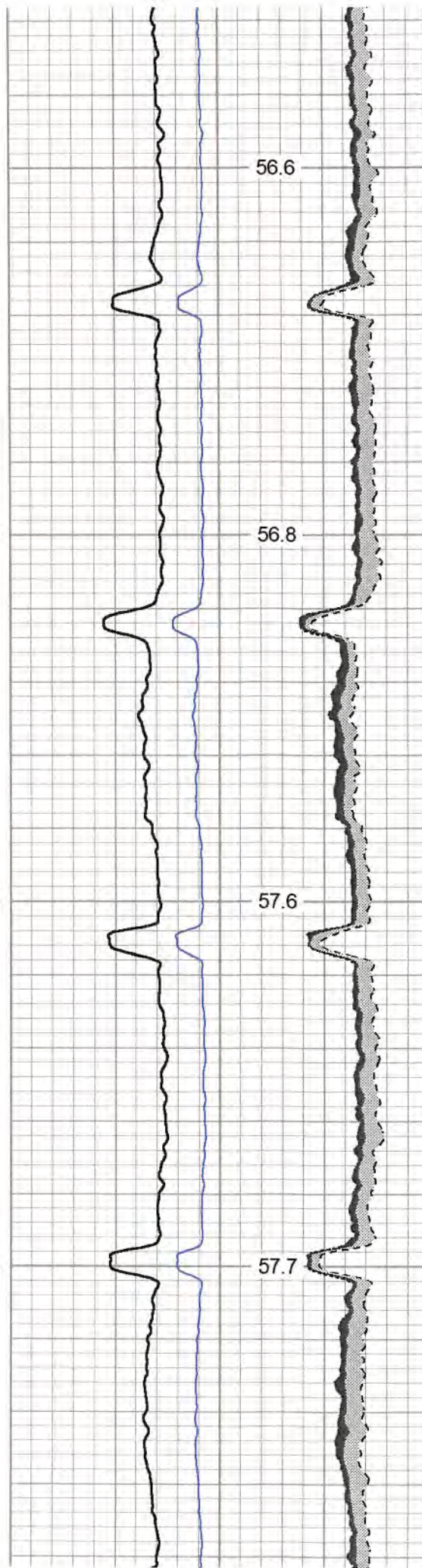
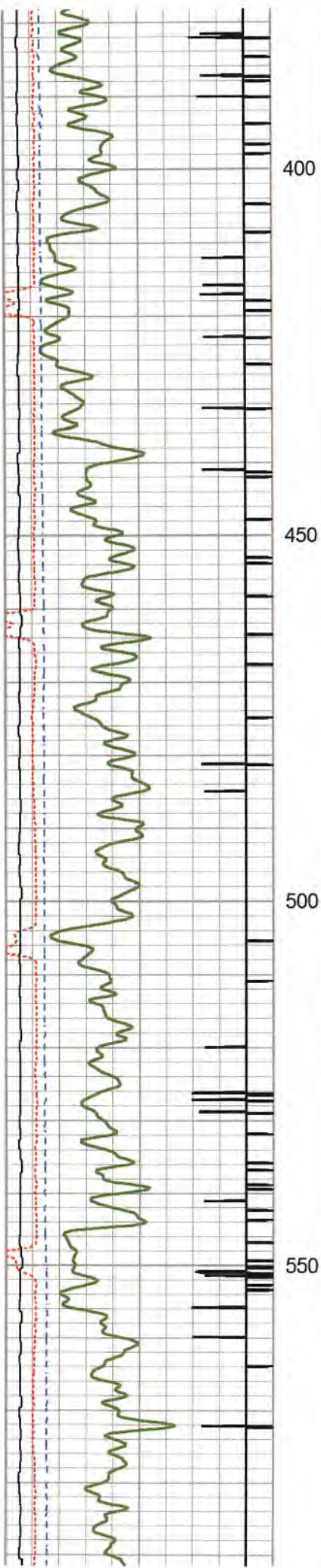
1 Cement Map 8



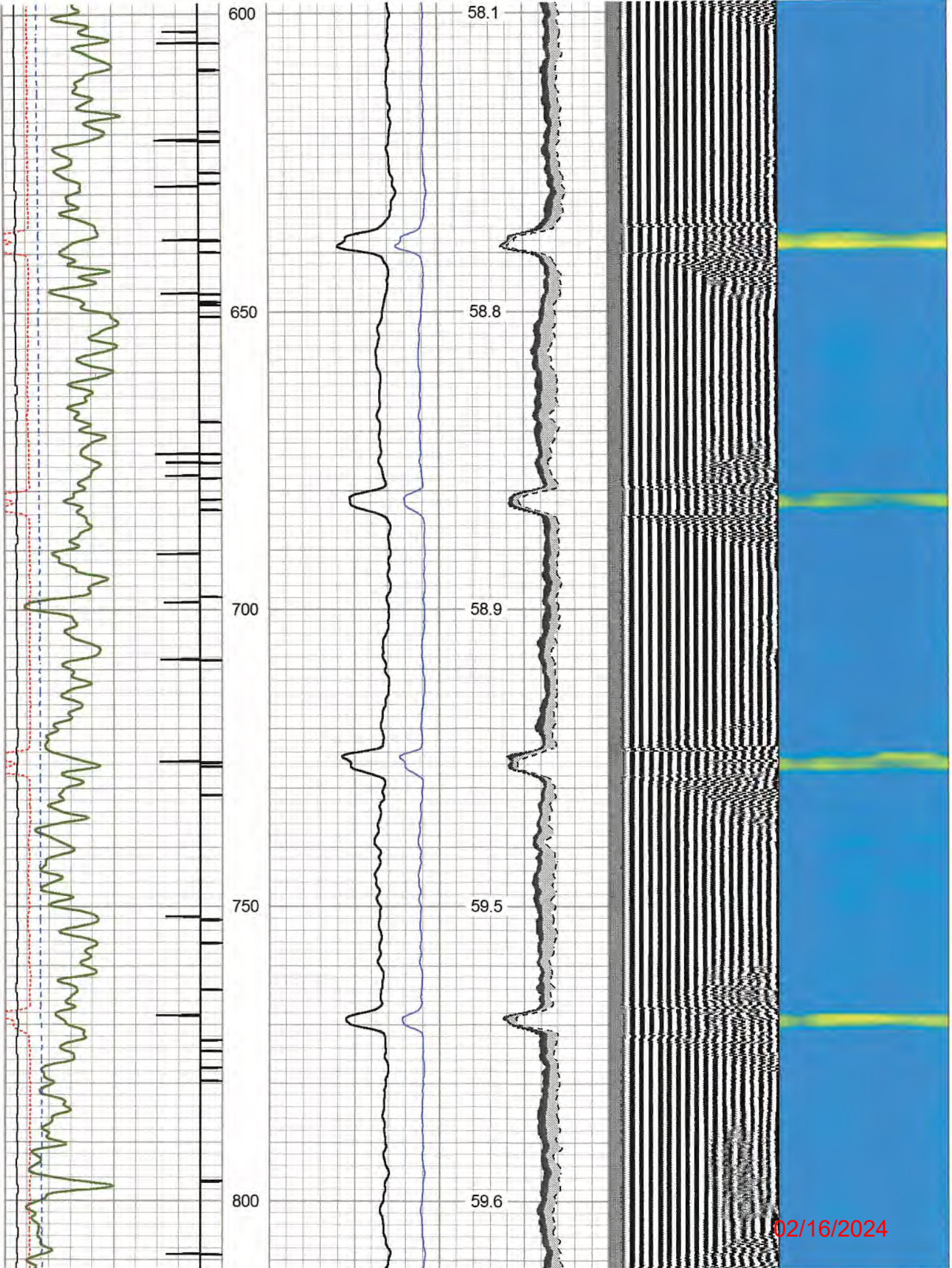
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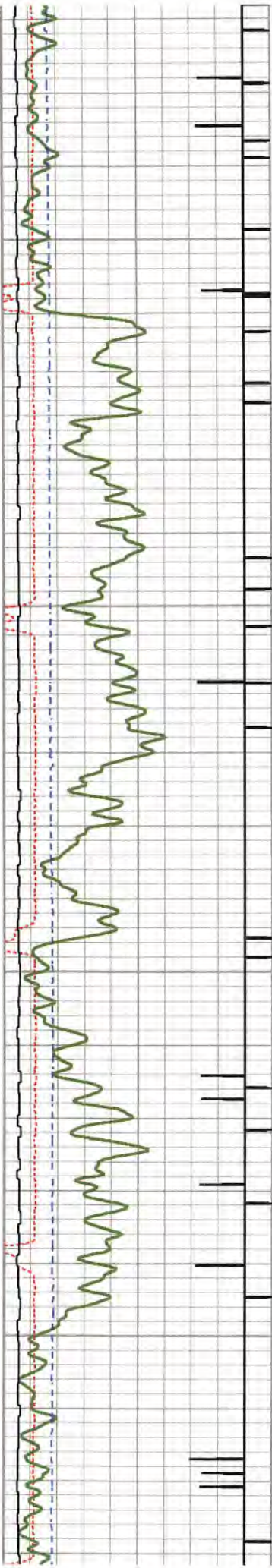


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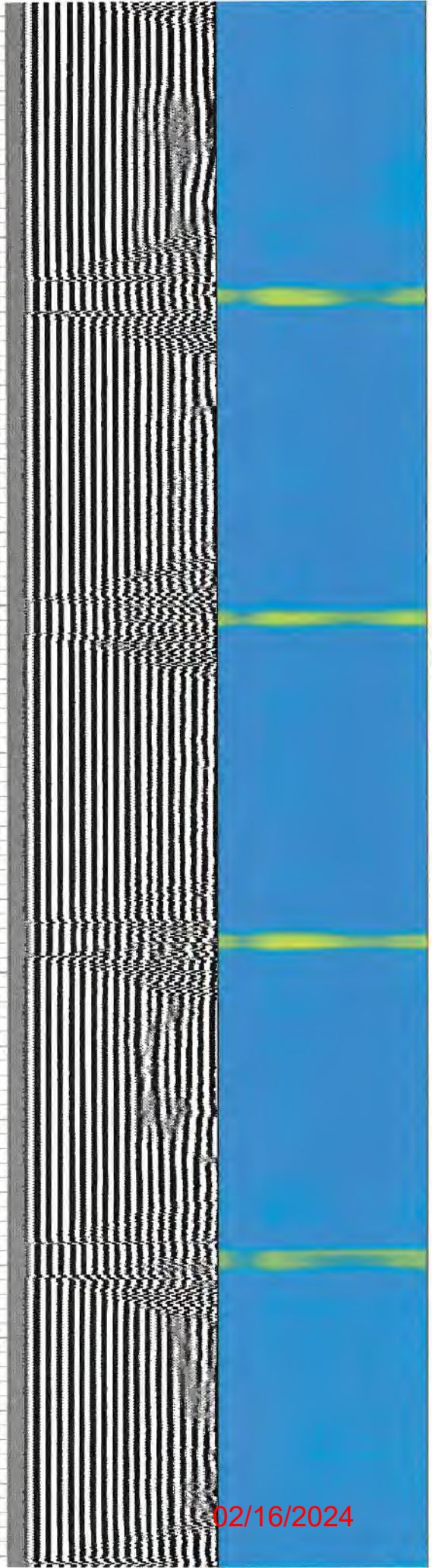
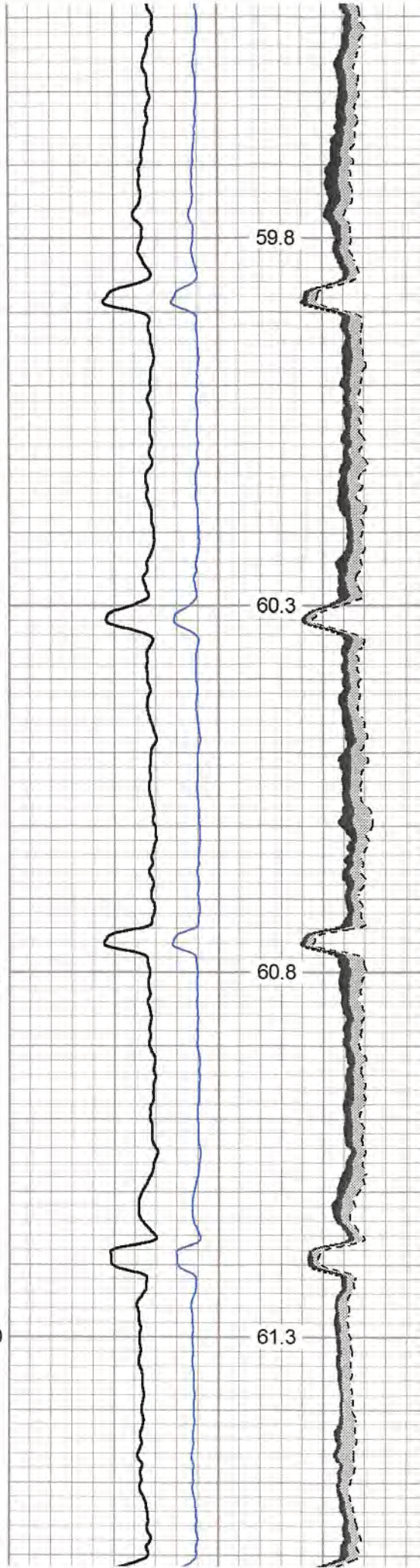


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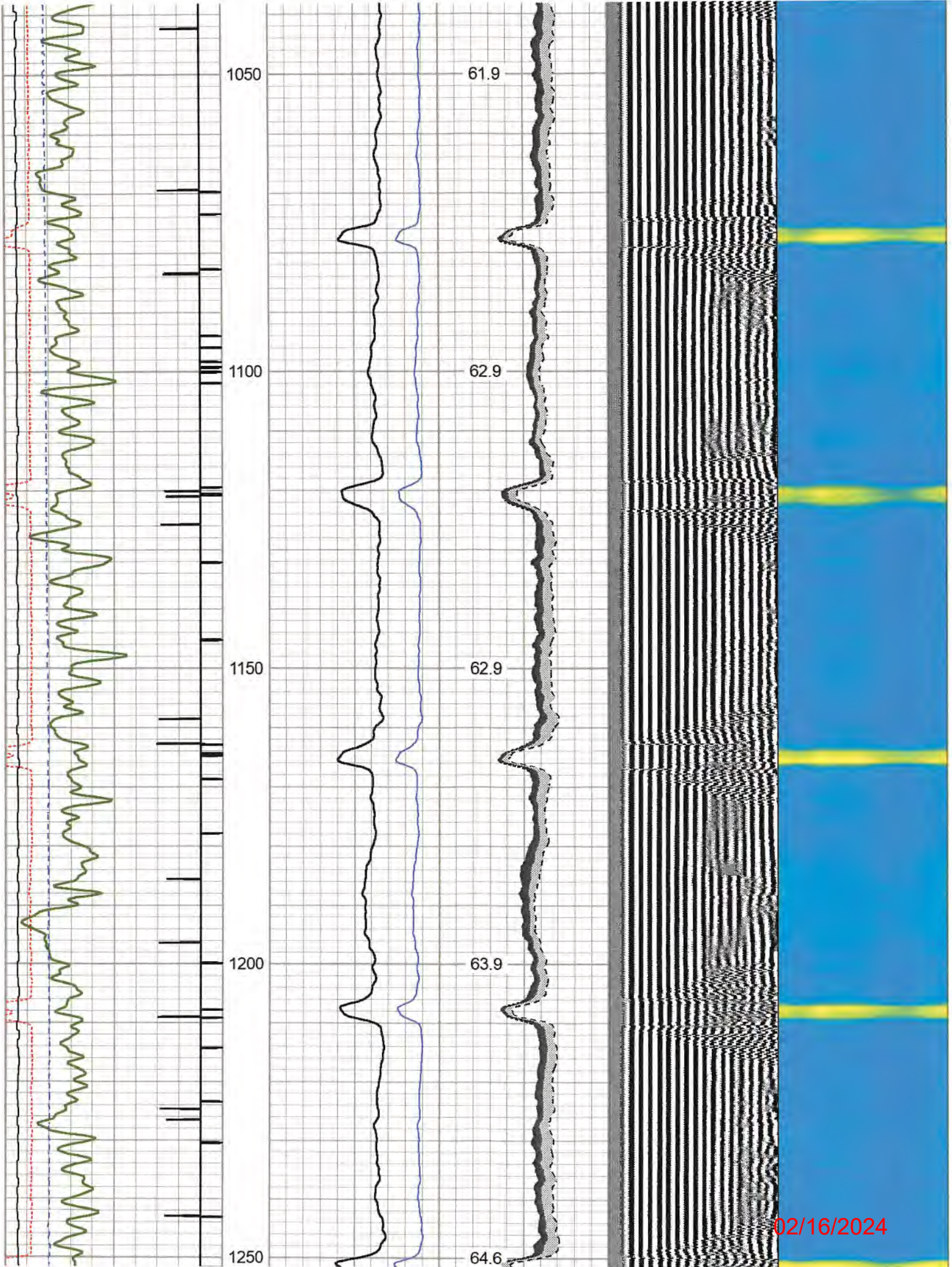




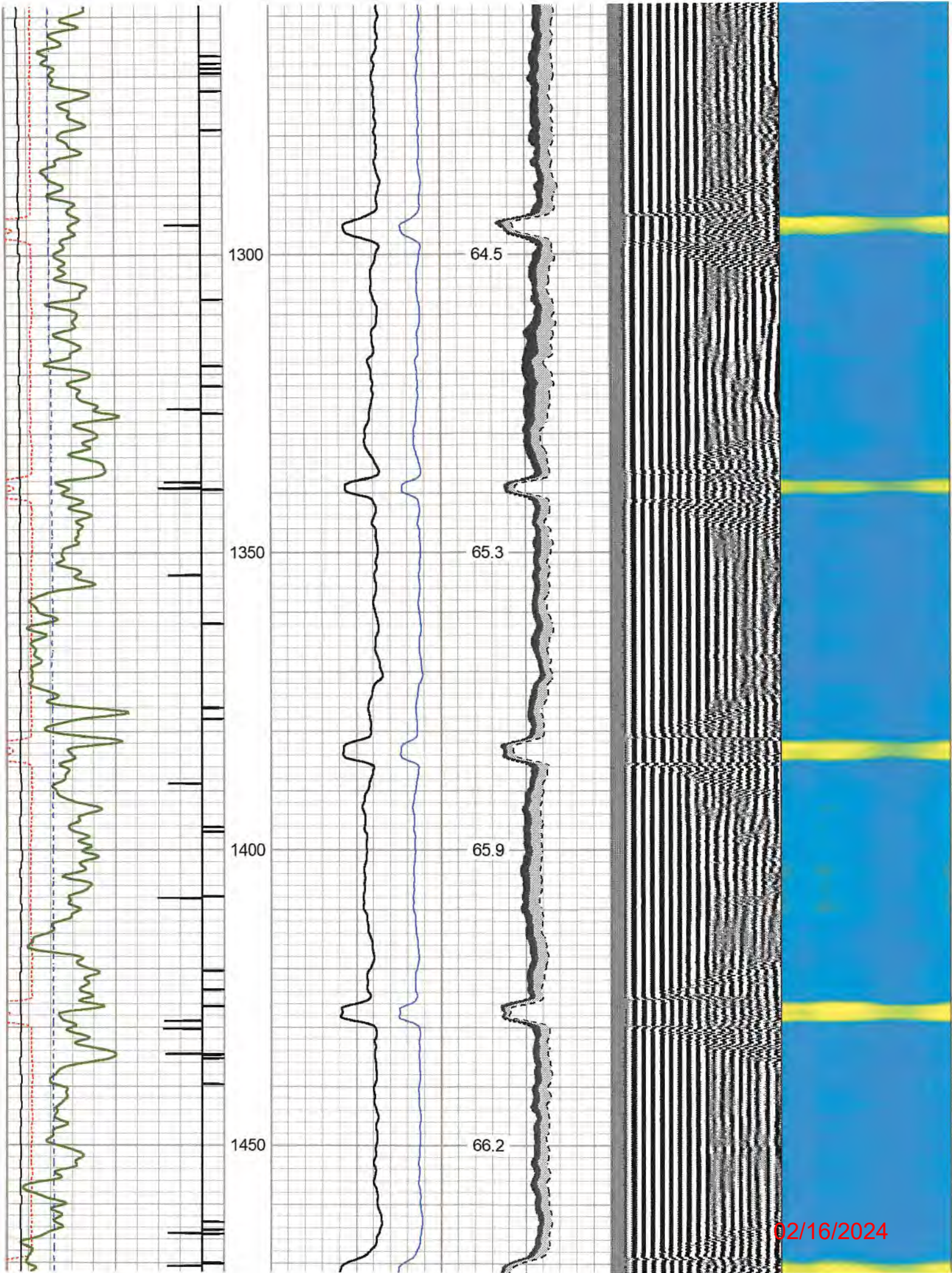
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900  
950  
1000



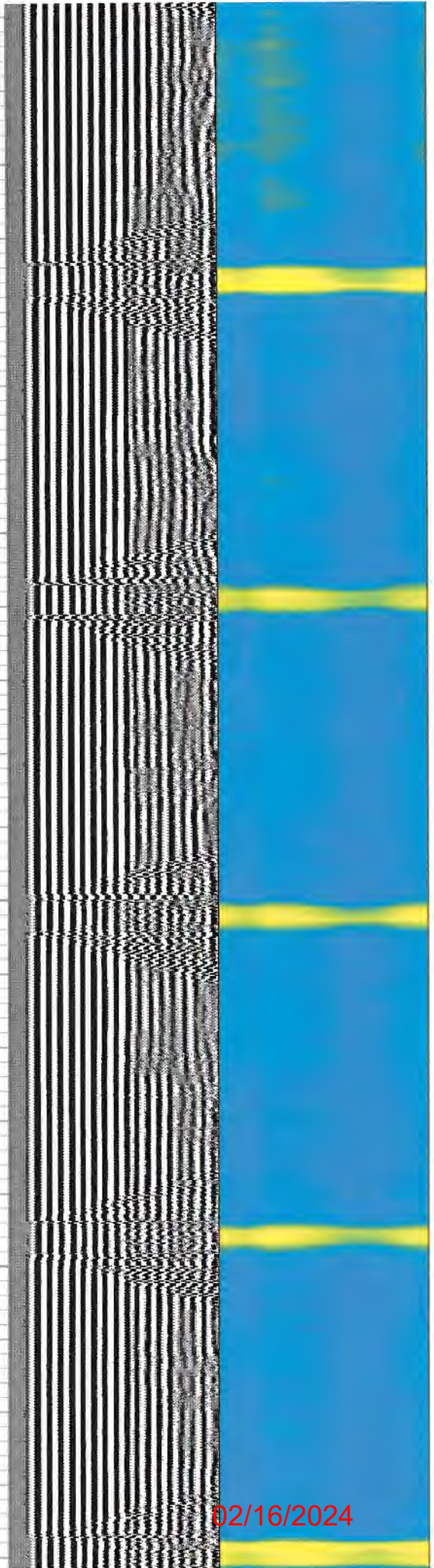
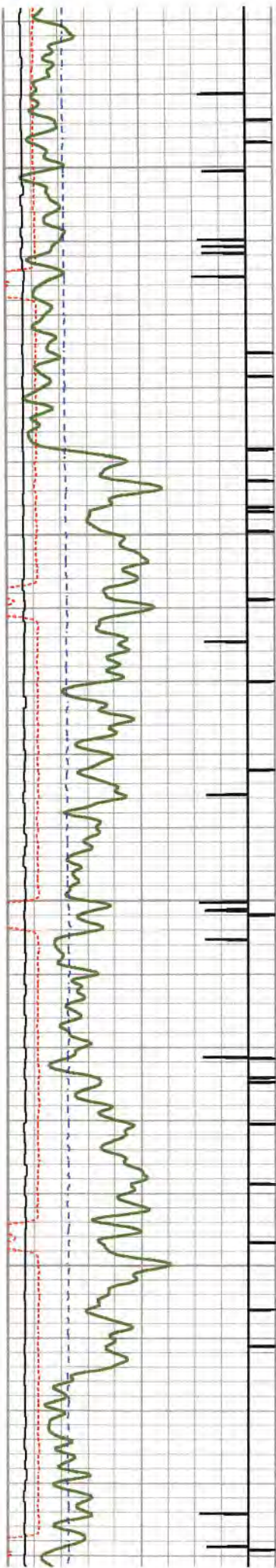
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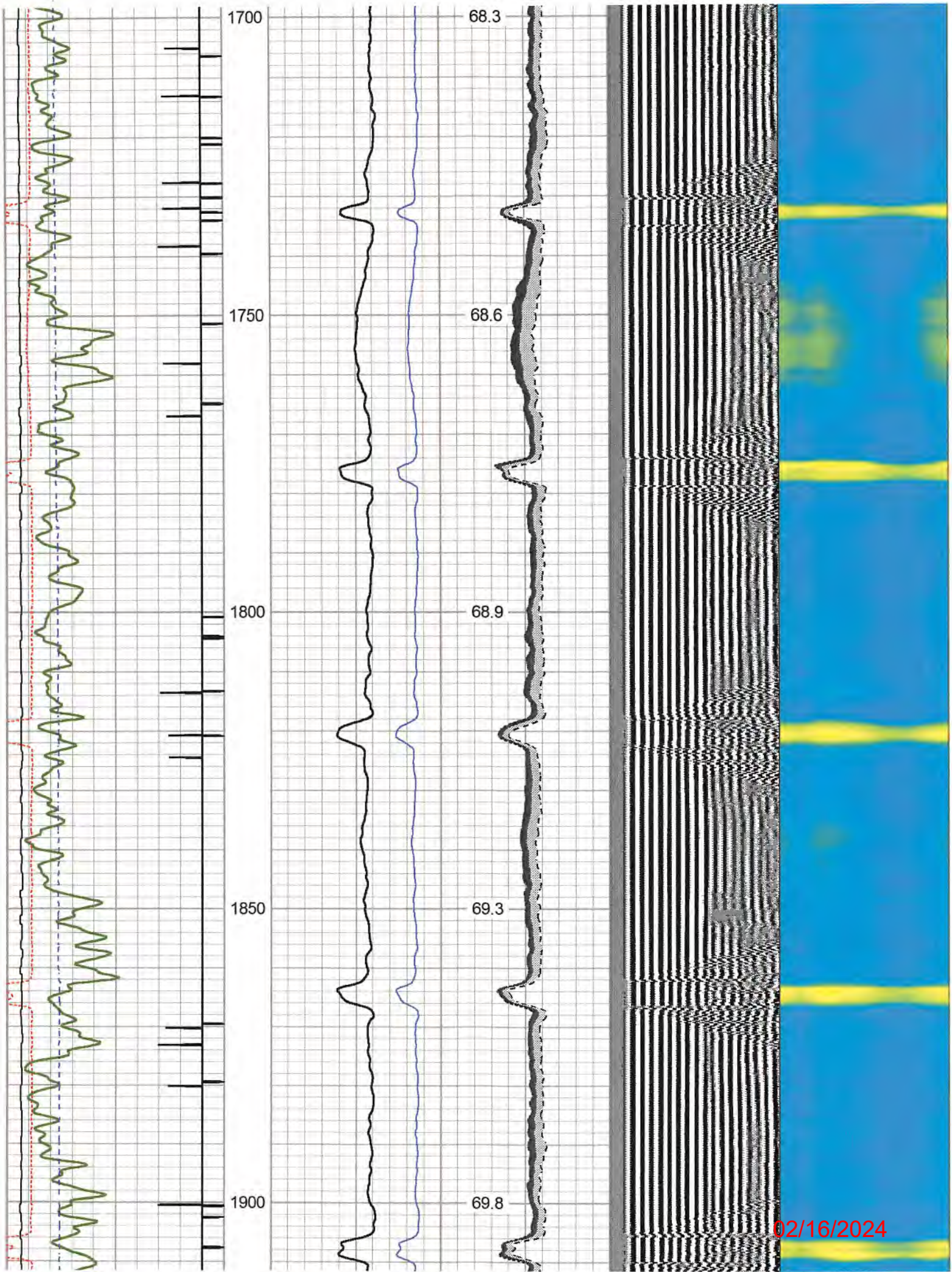




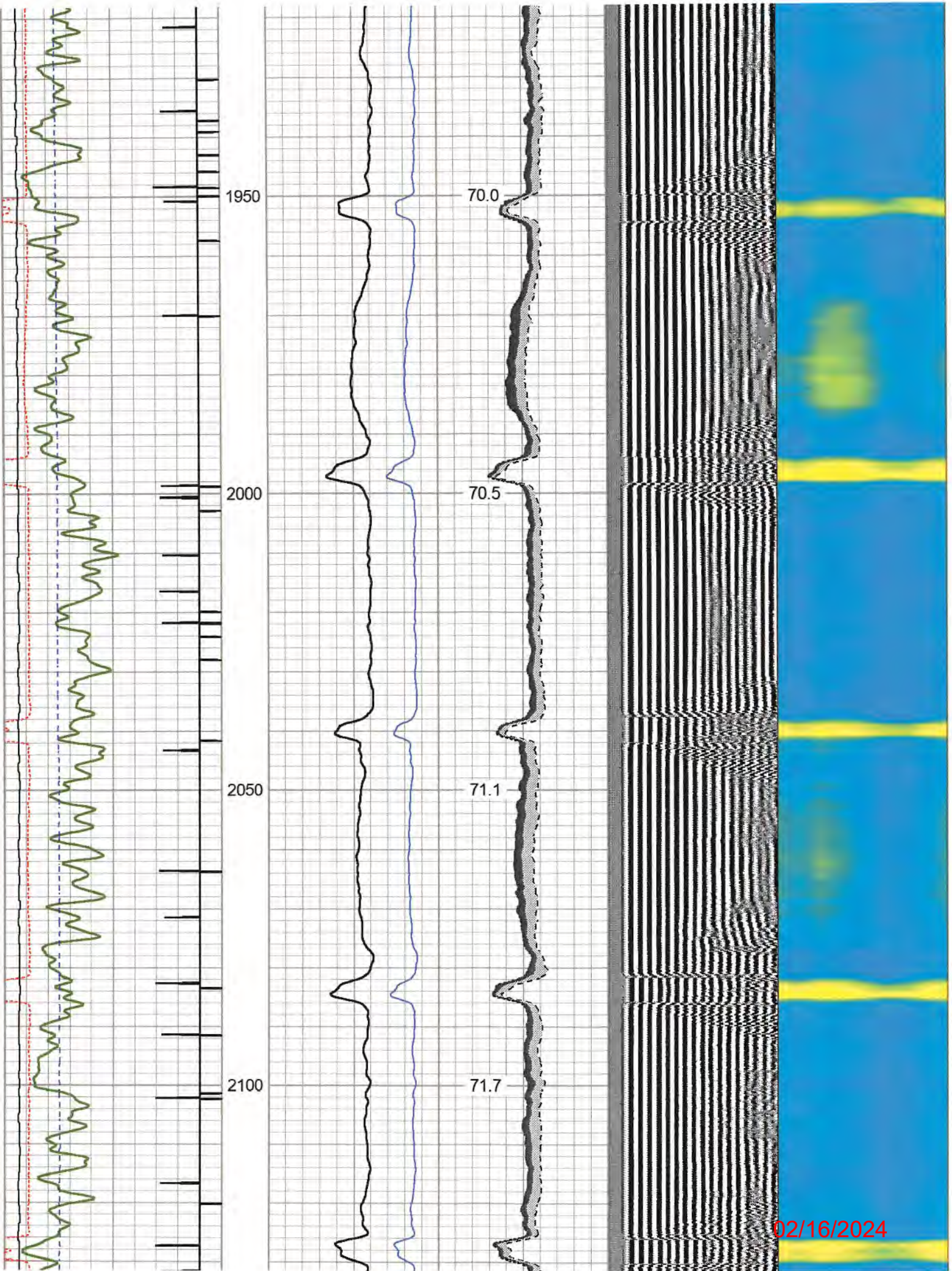
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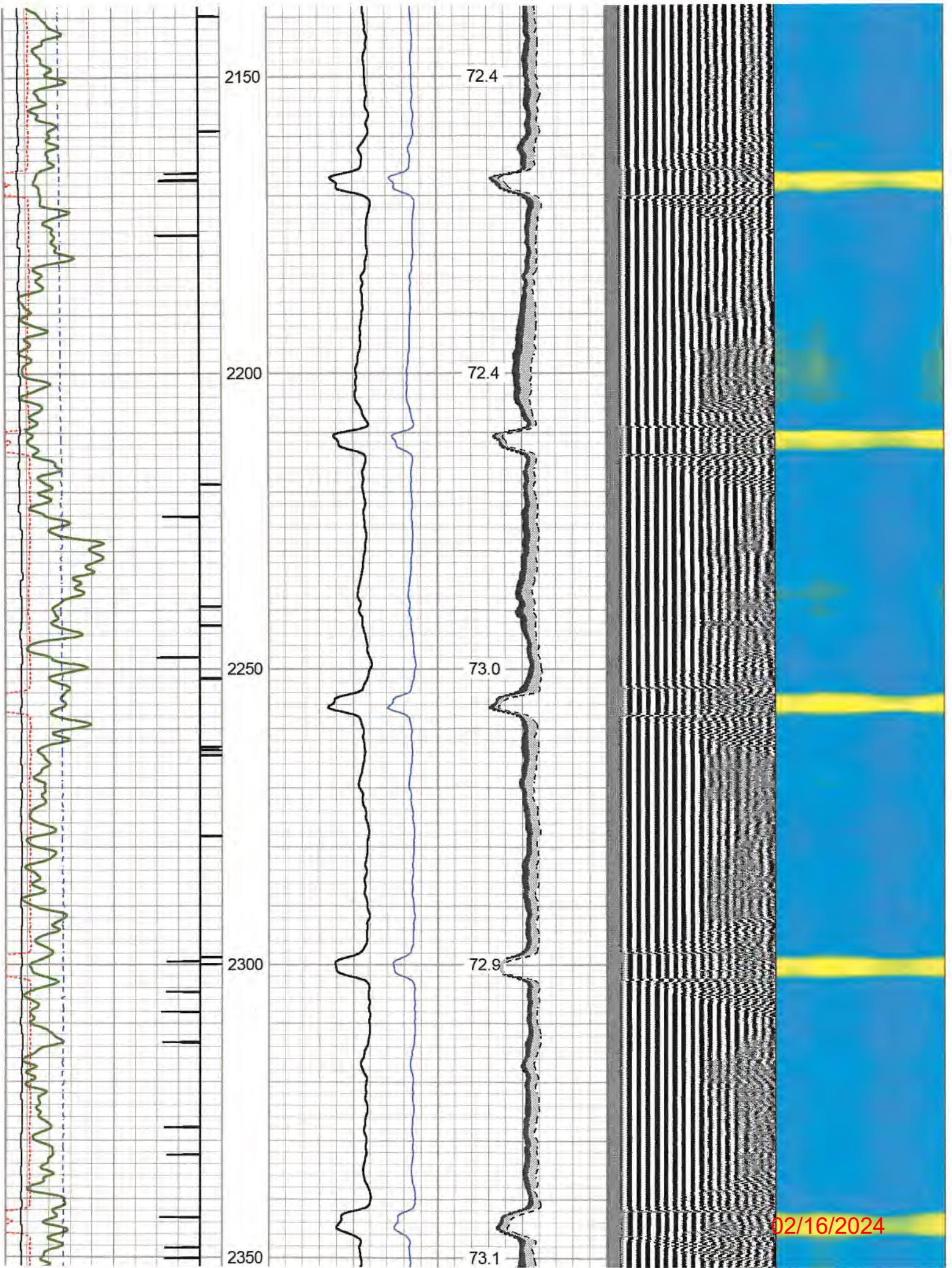


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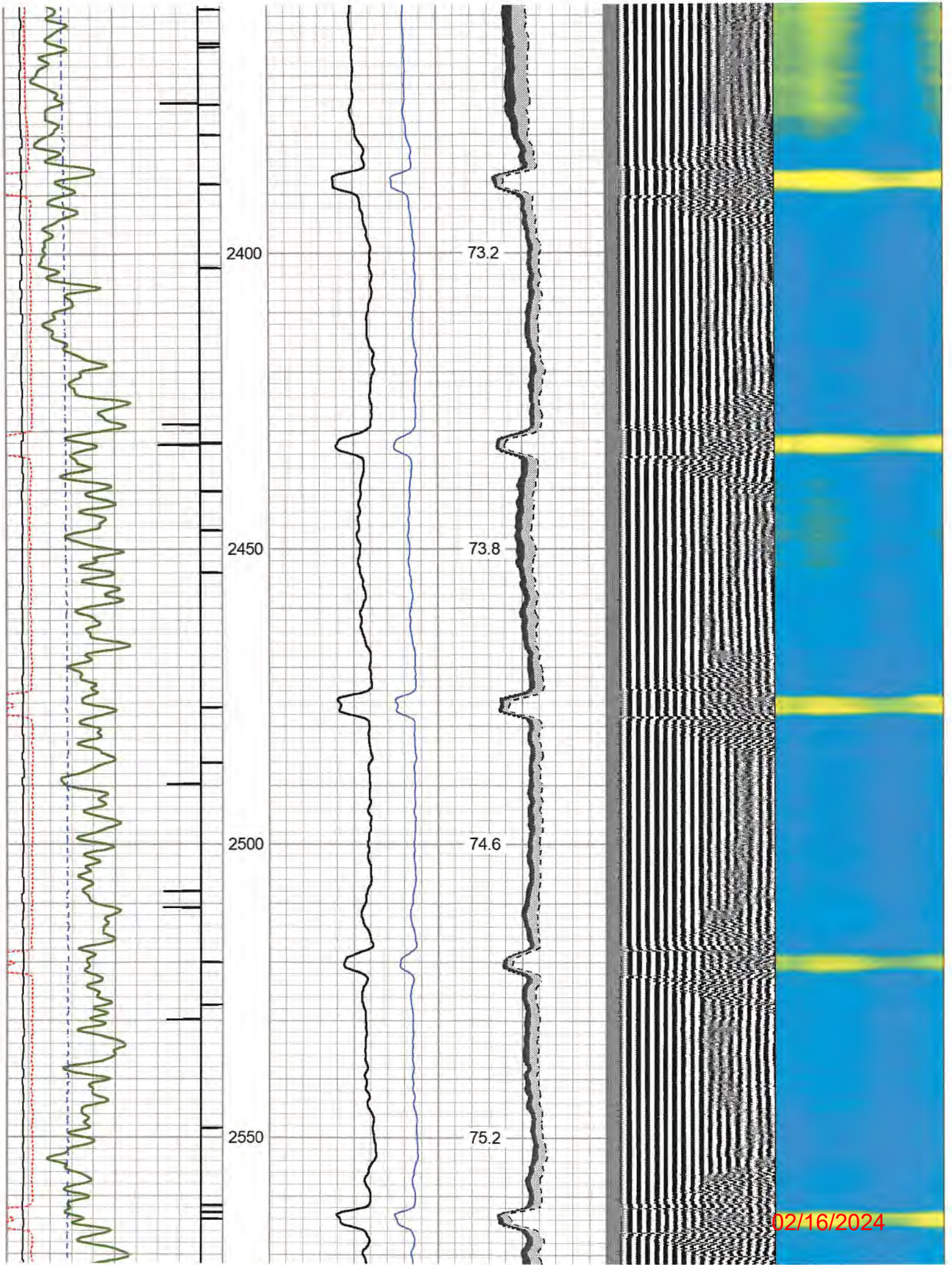


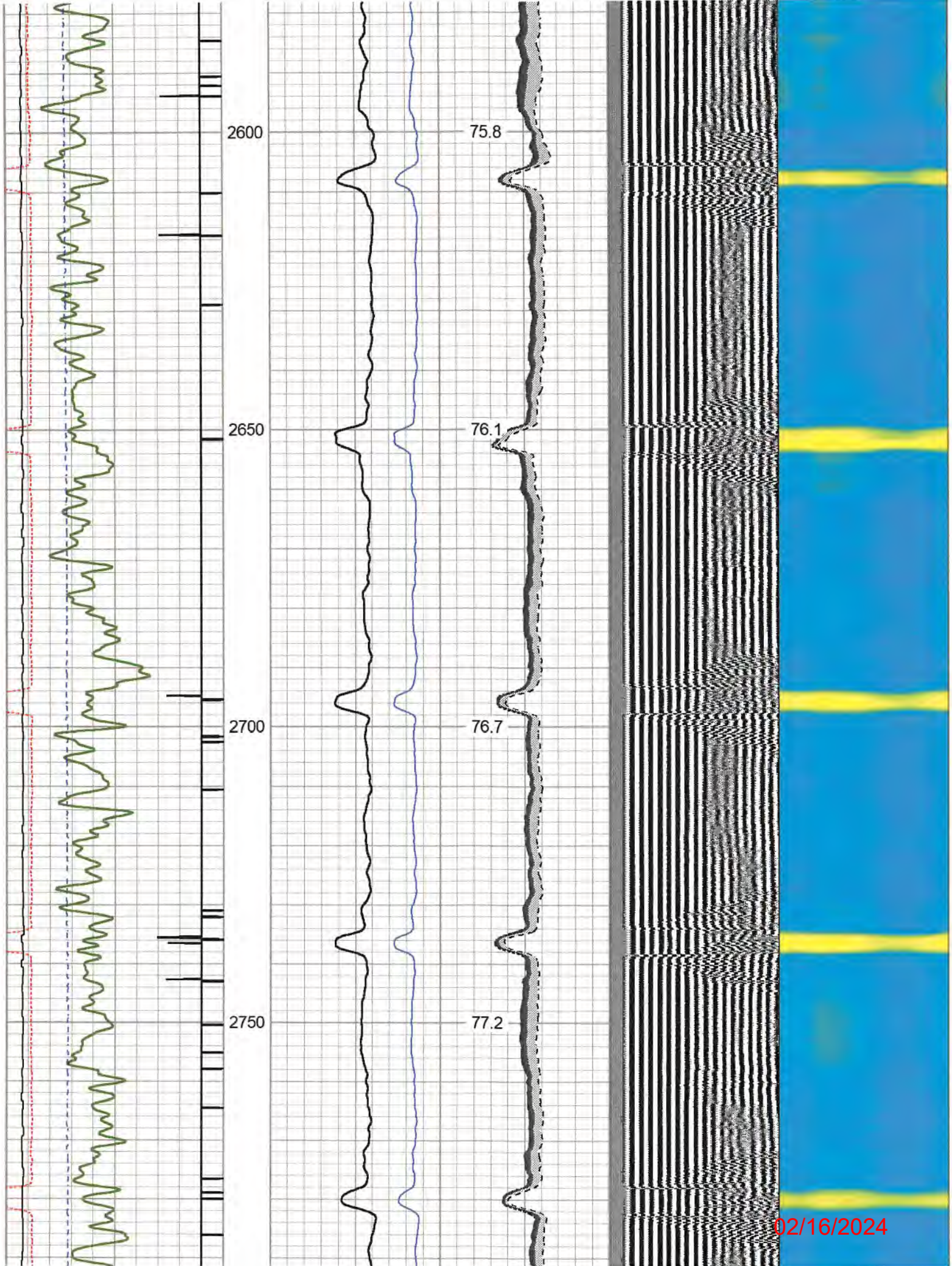
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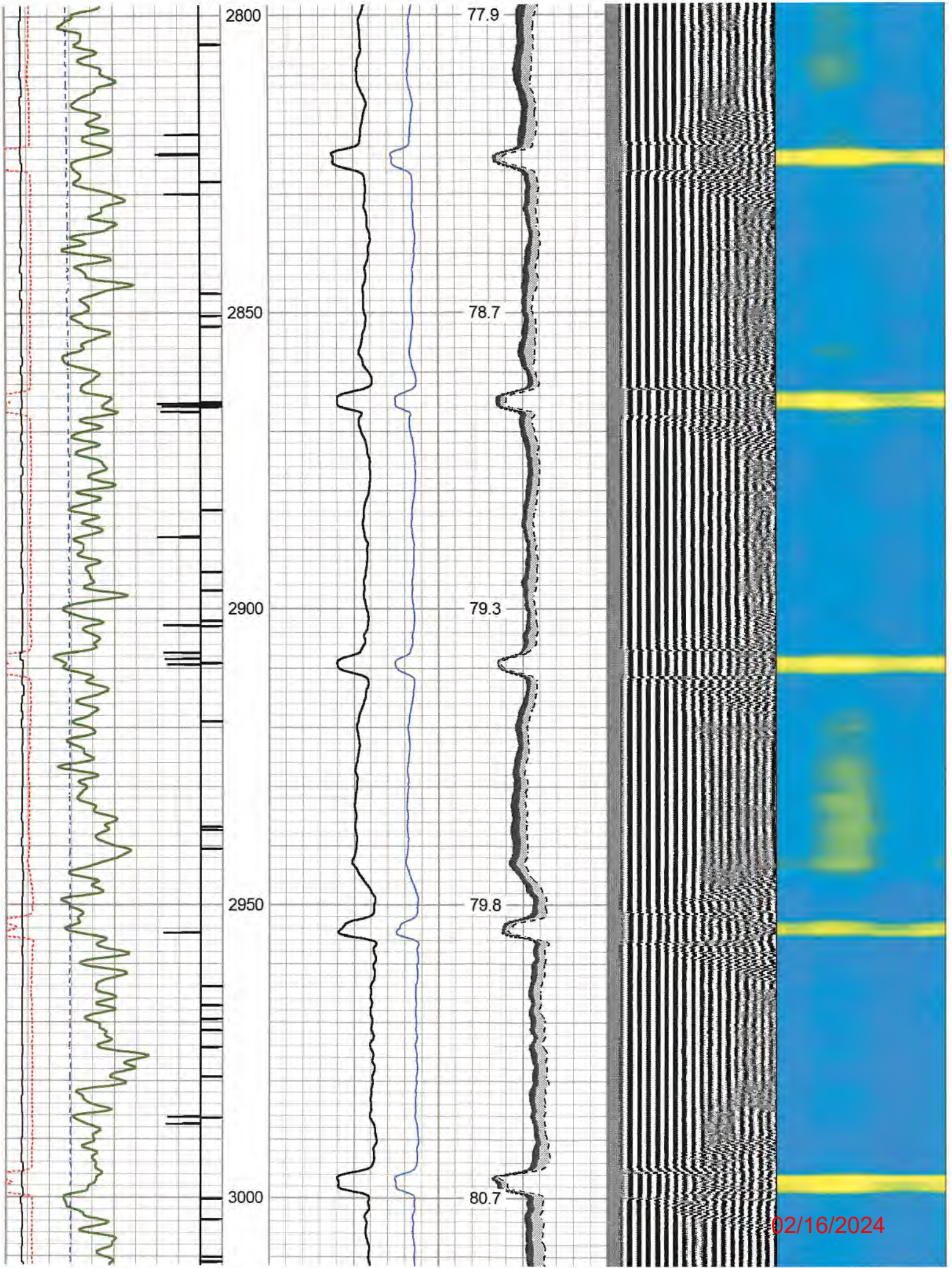


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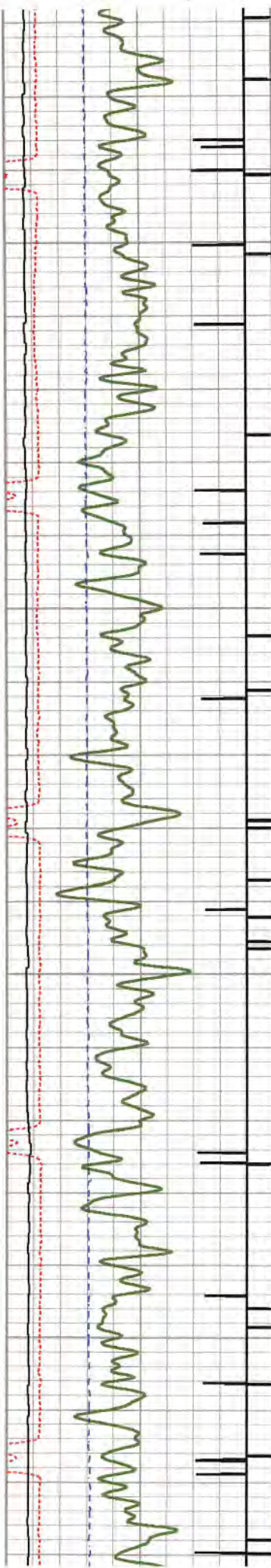


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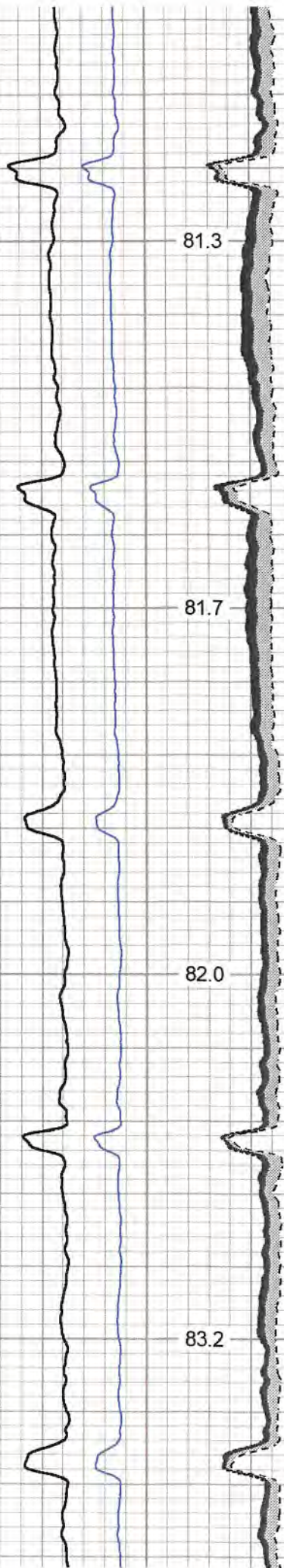


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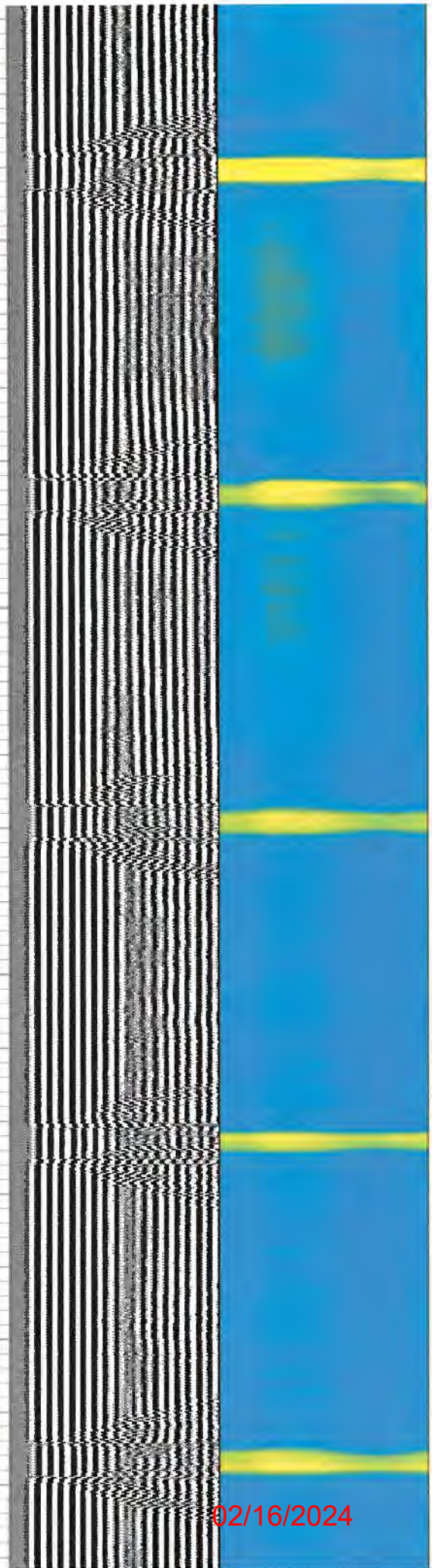




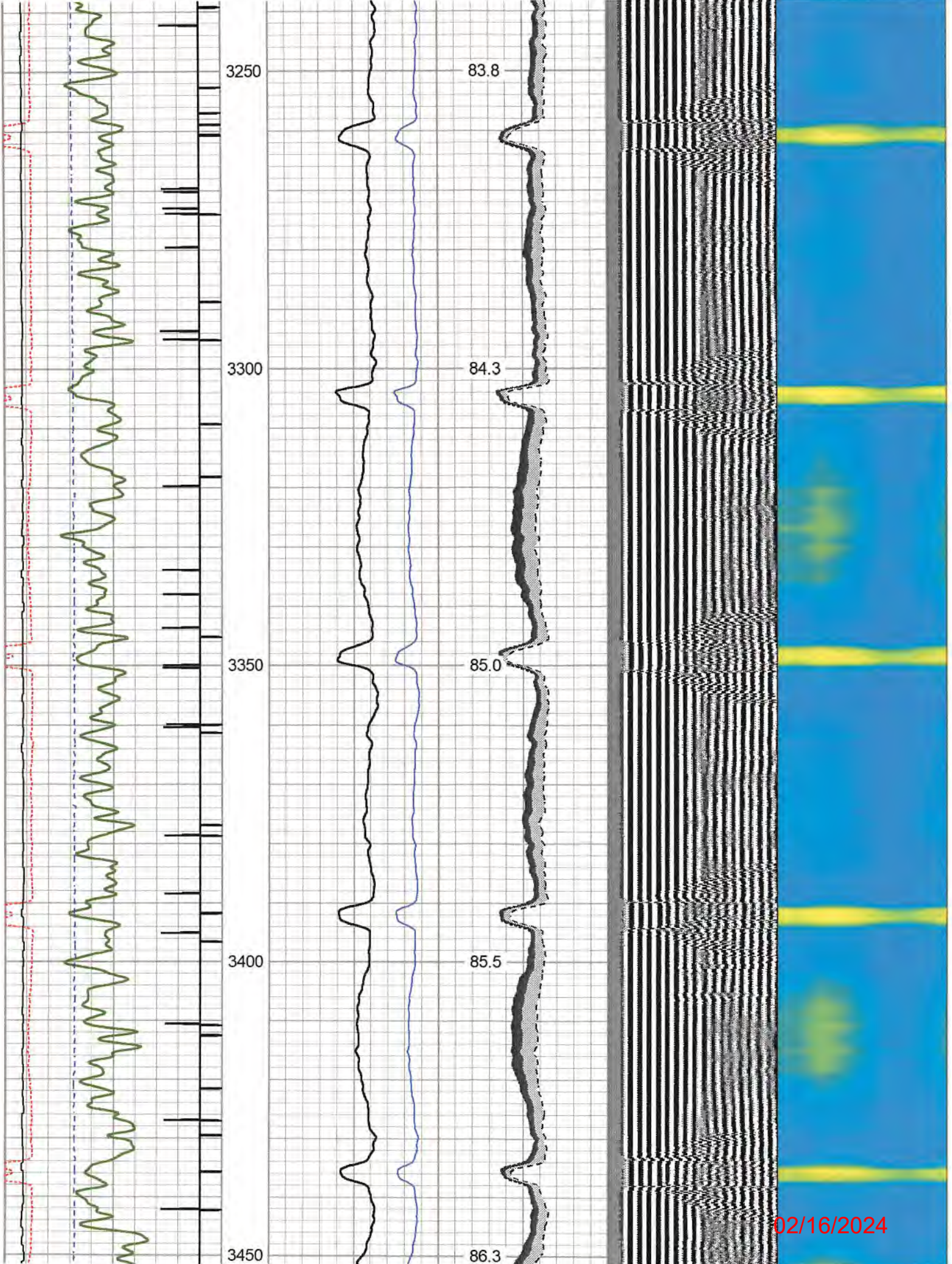
3050  
3100  
3150  
3200



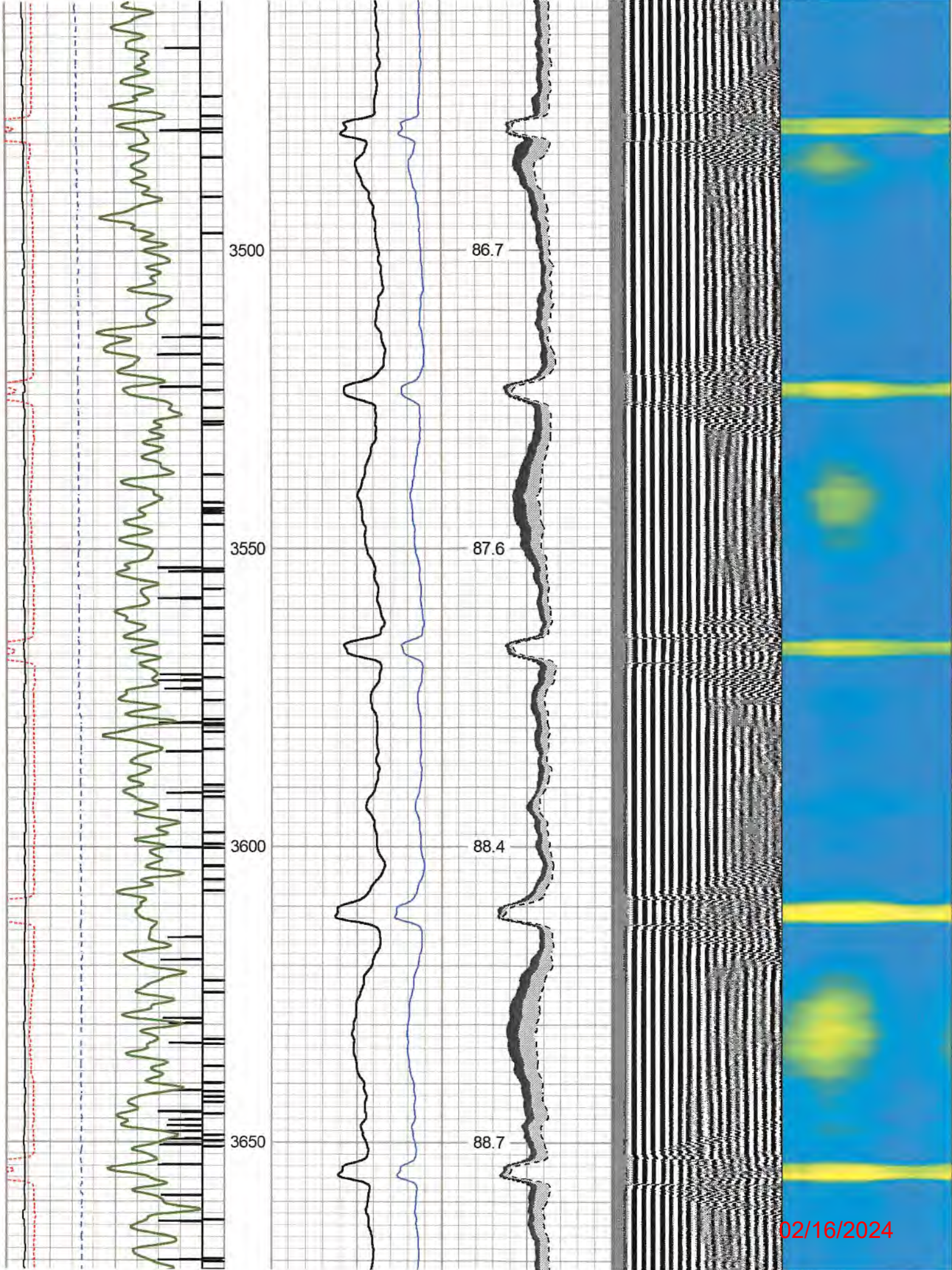
81.3  
81.7  
82.0  
83.2

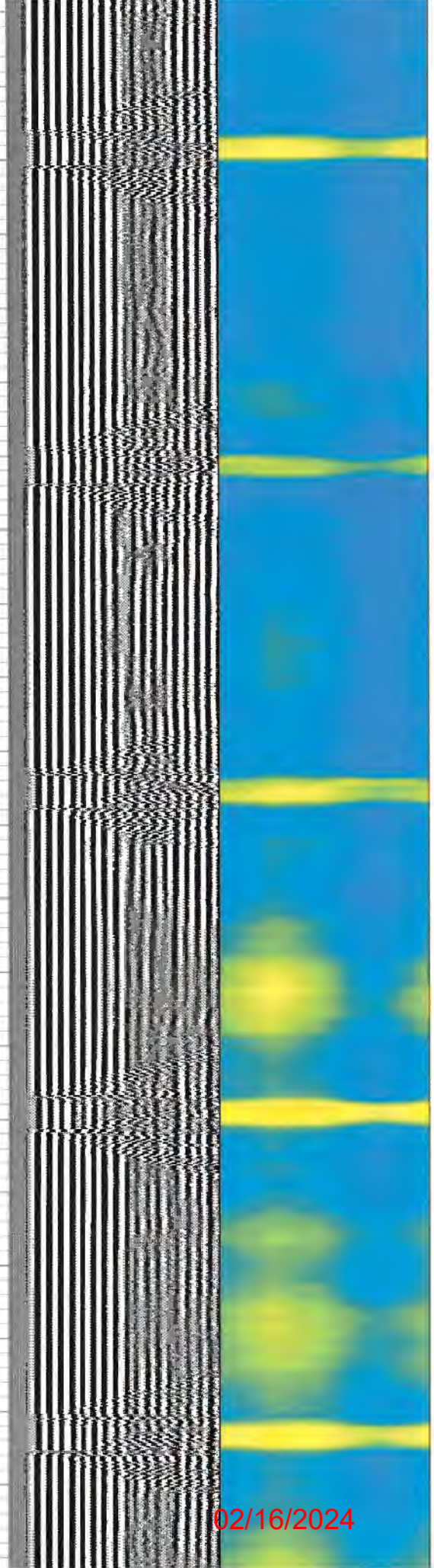
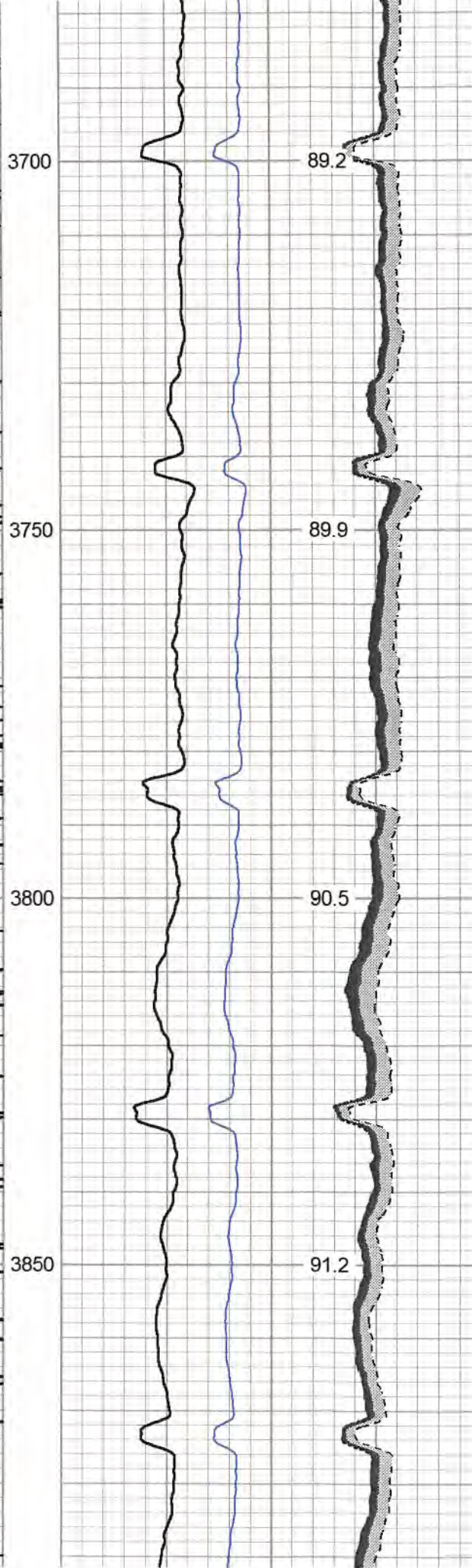
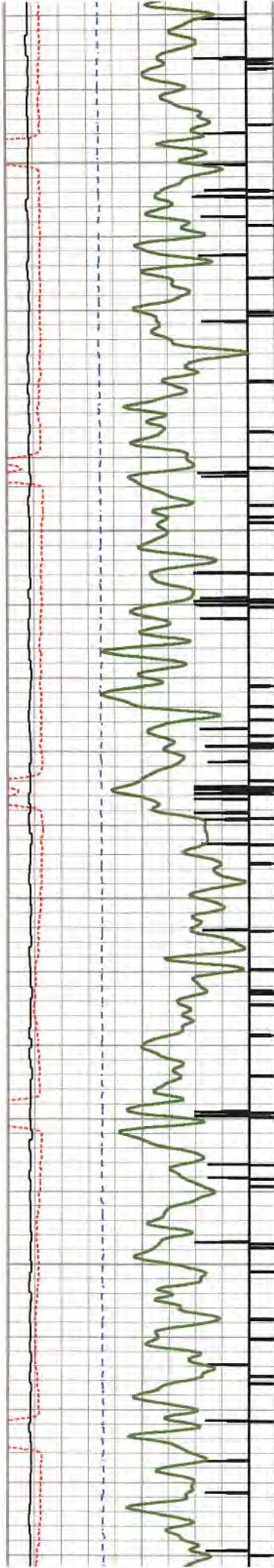


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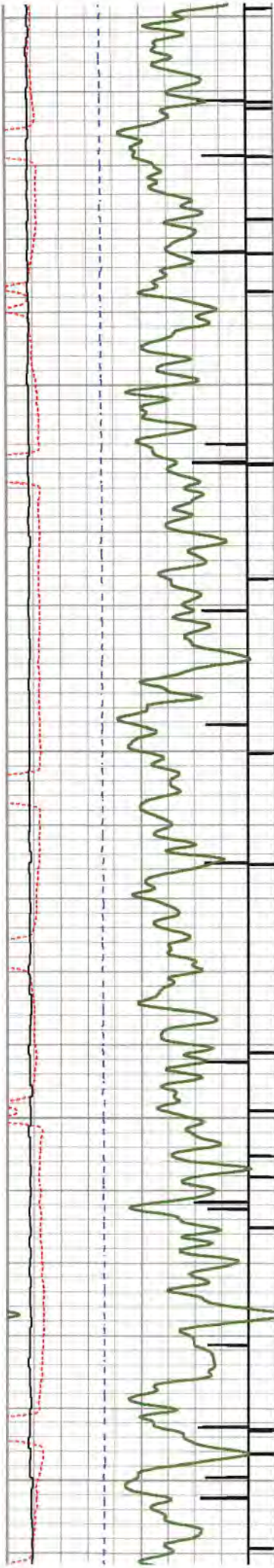


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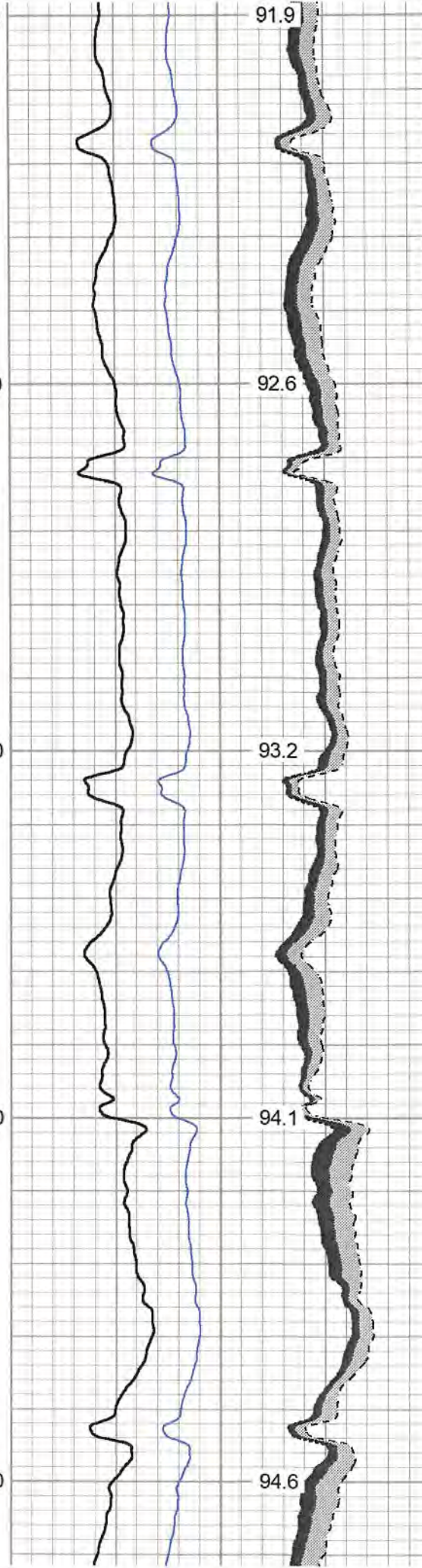




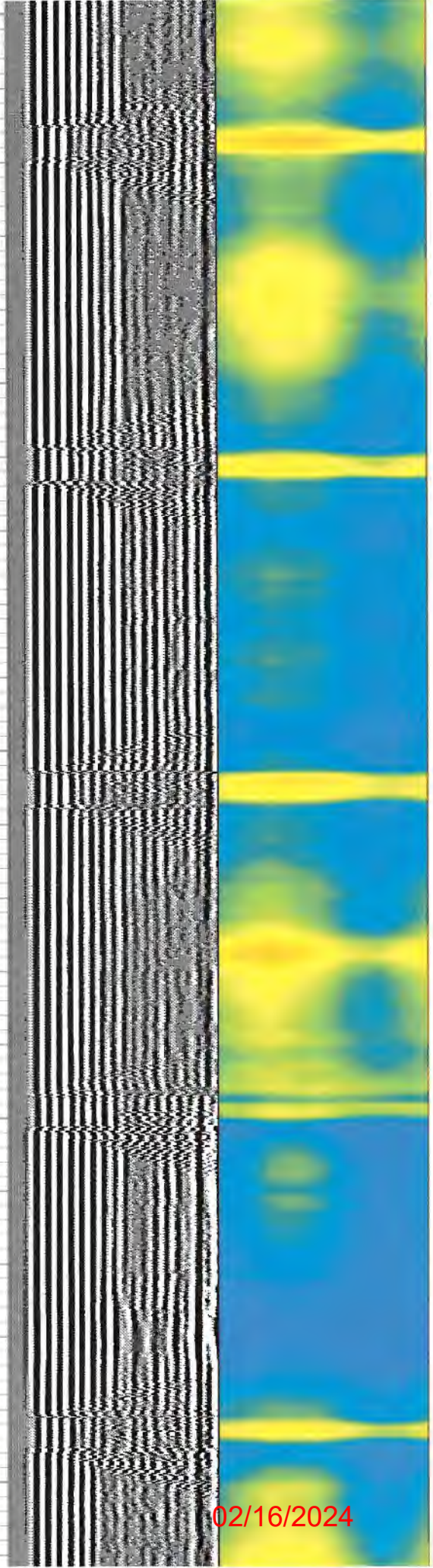
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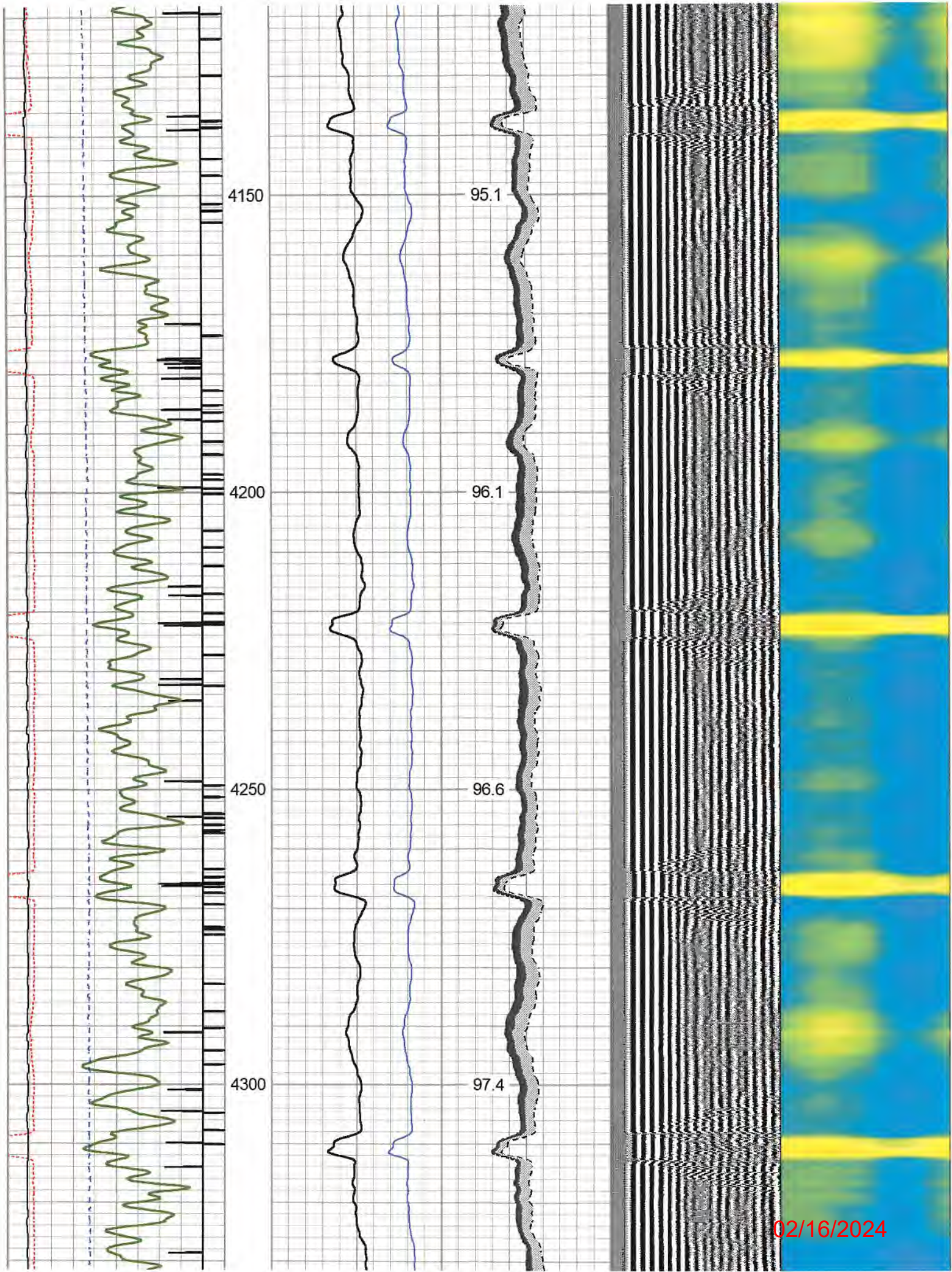
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3950  
4000  
4050  
4100



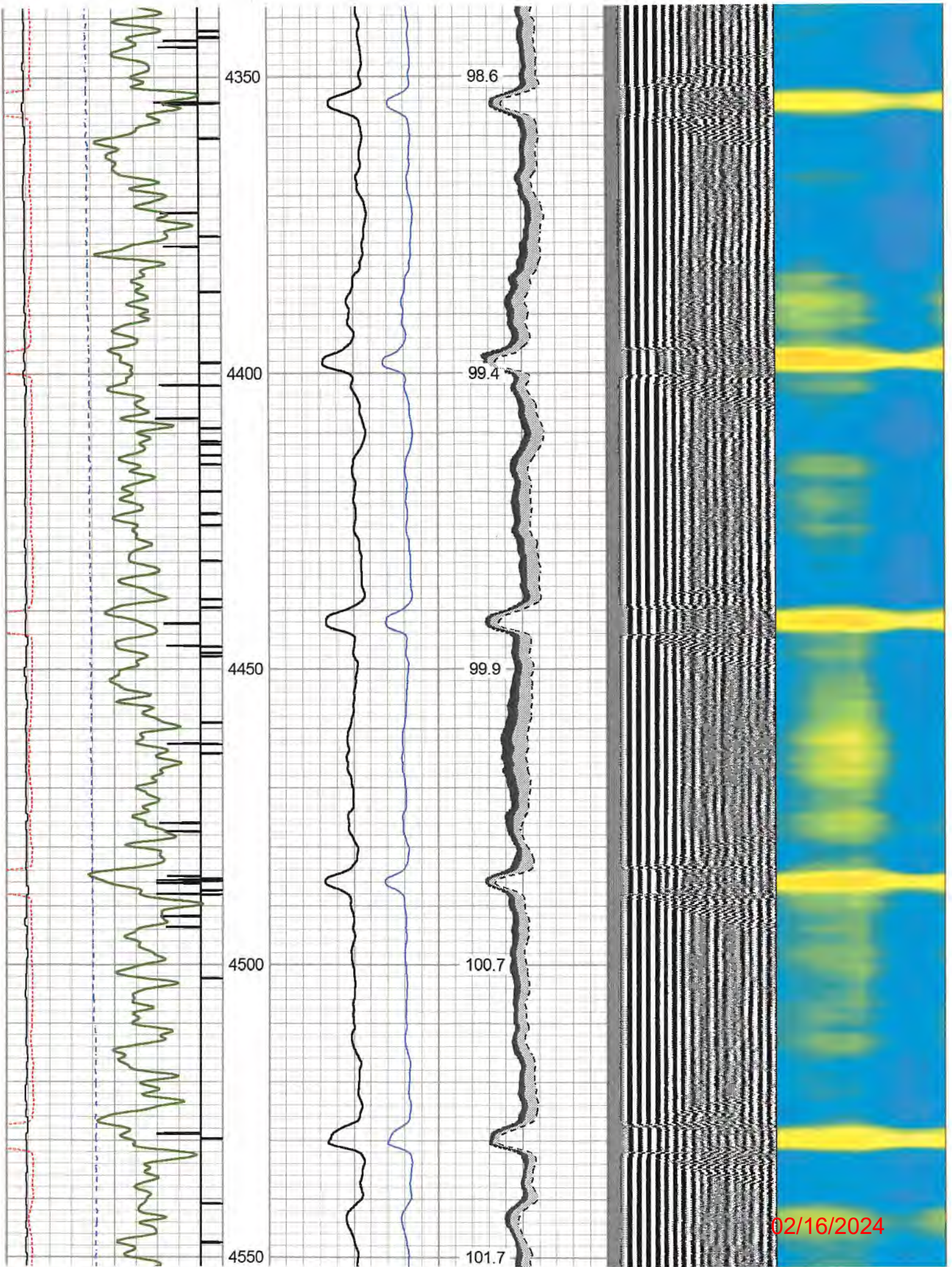
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92.6  
93.2  
94.1  
94.6

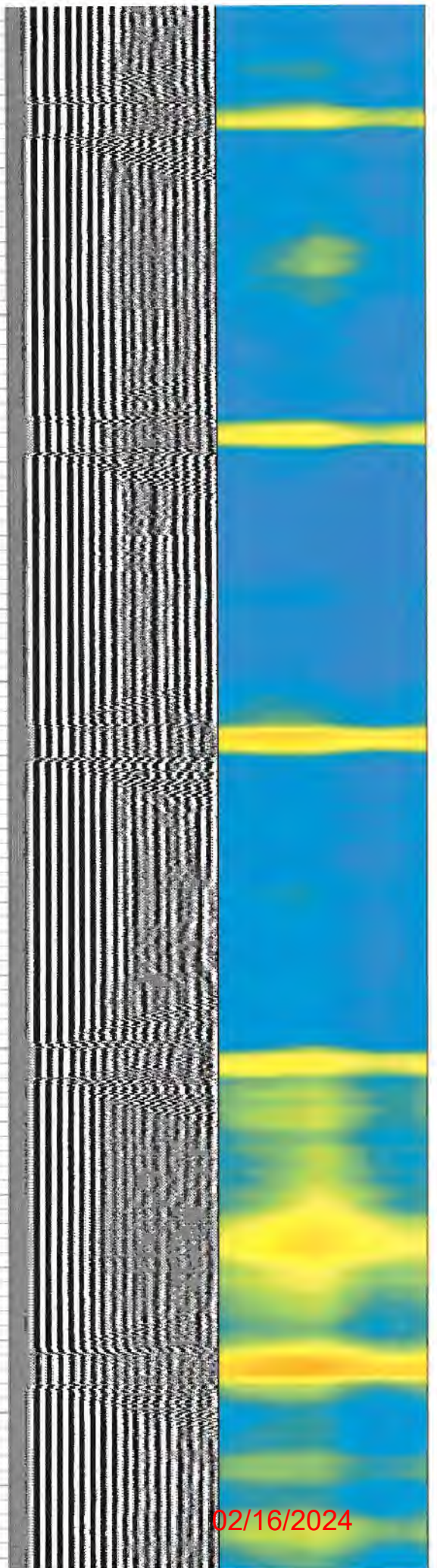
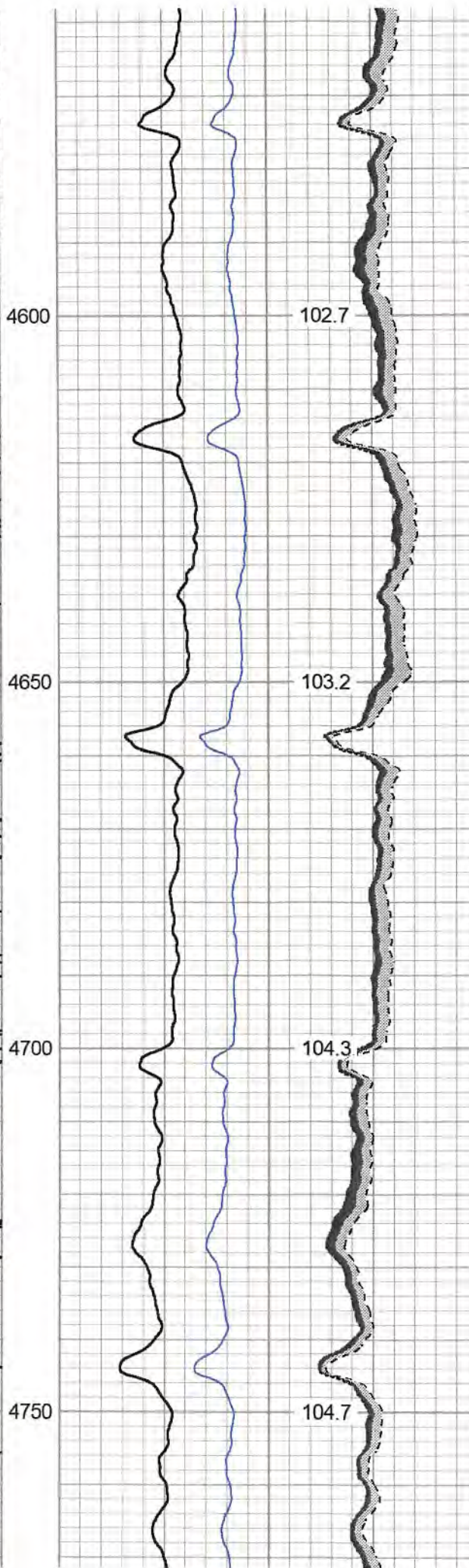
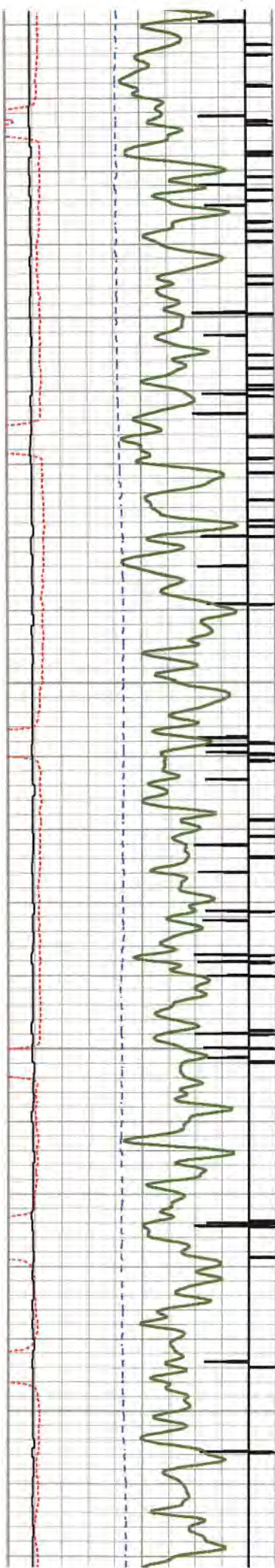


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102.7

103.2

104.3

104.7

4600

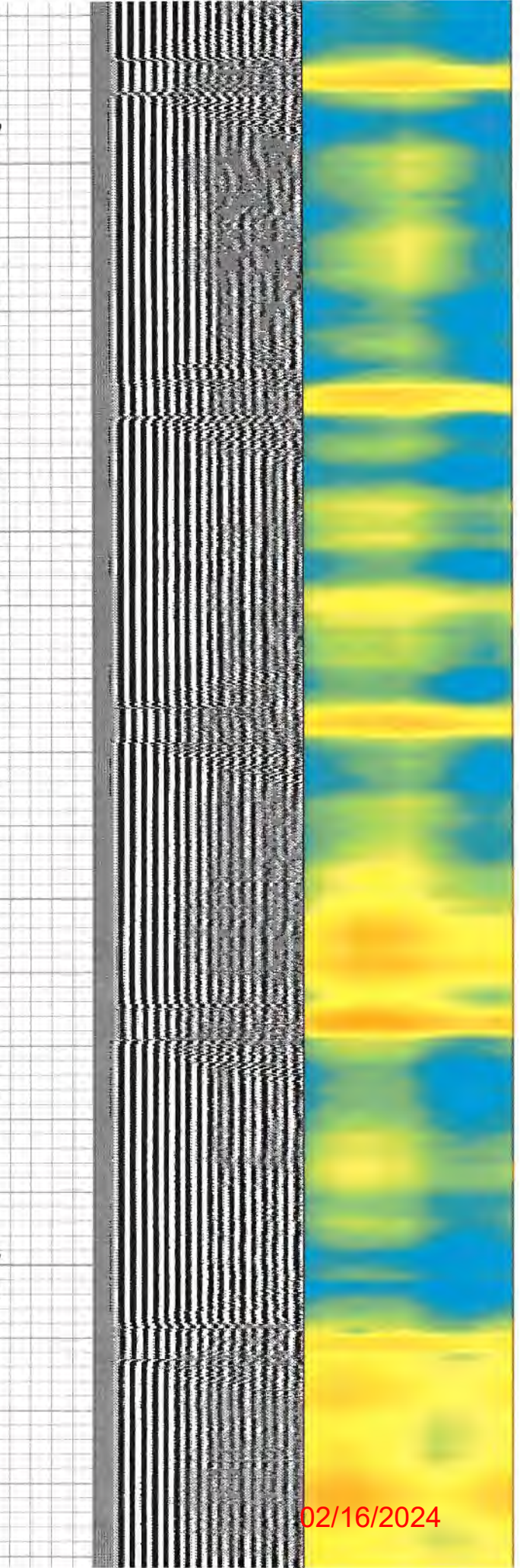
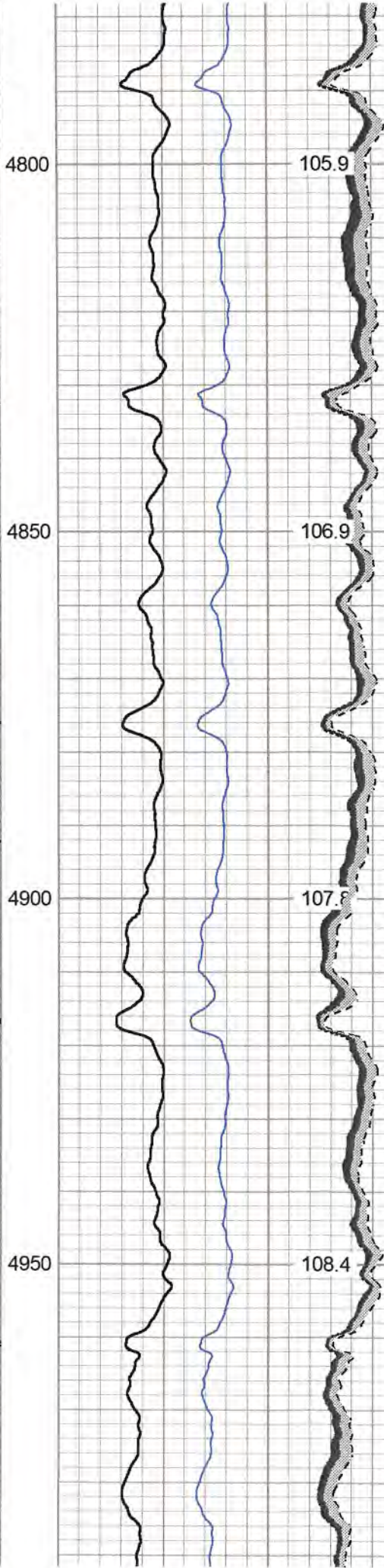
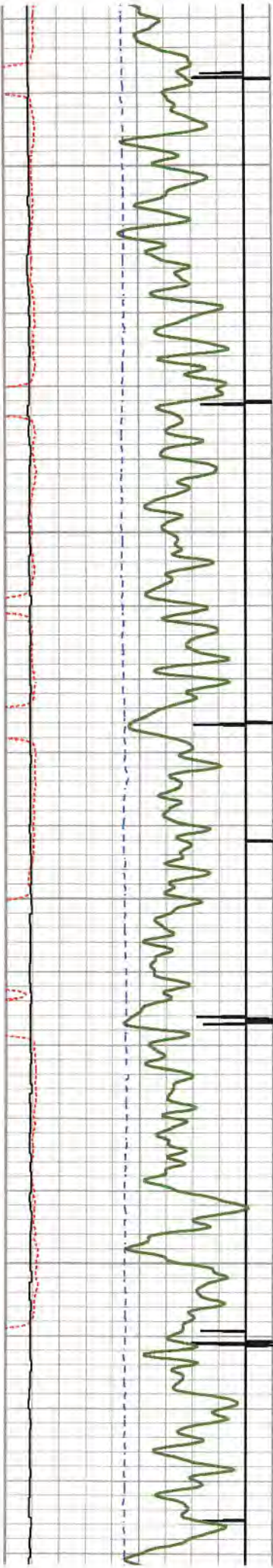
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4700

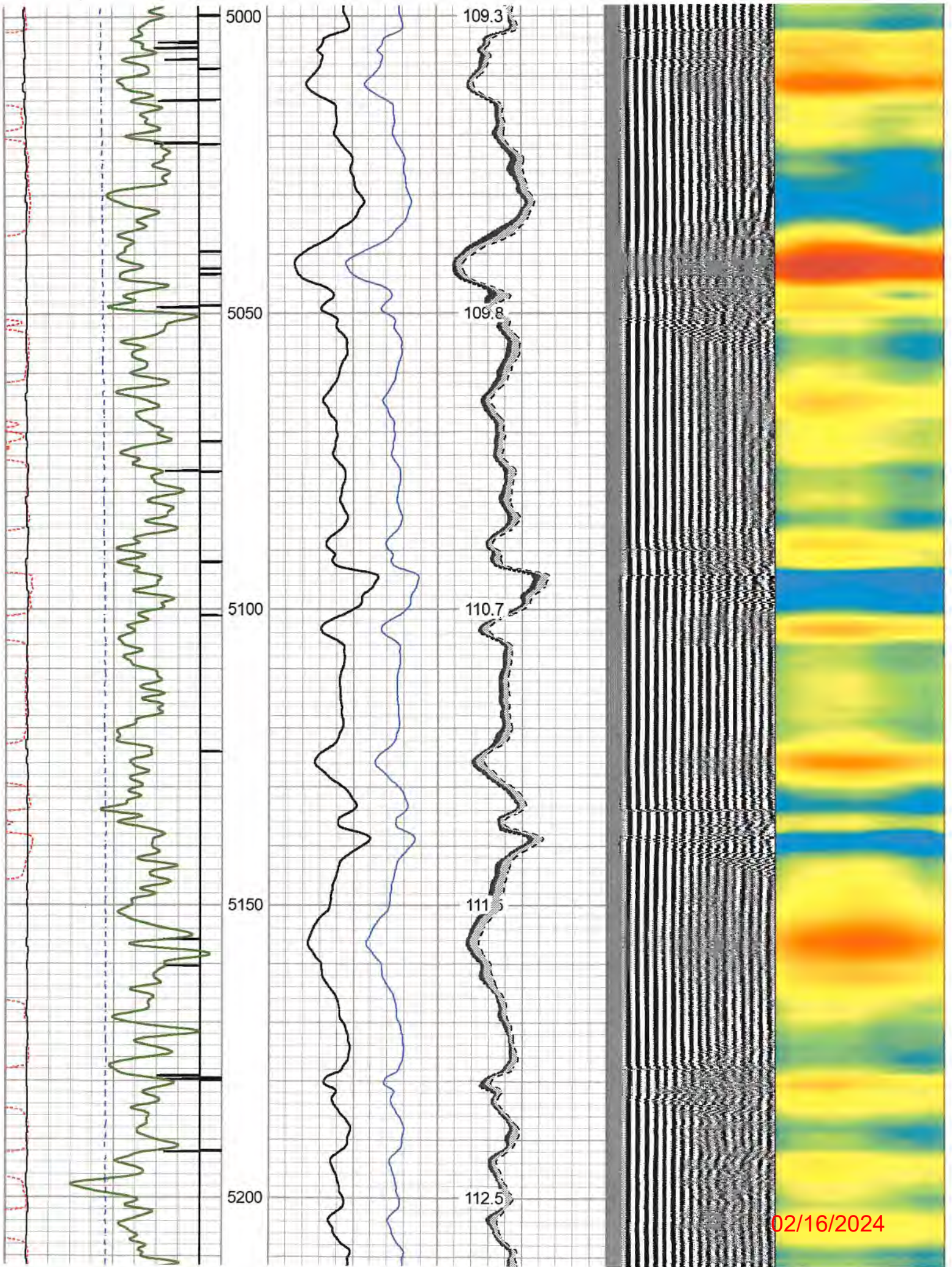
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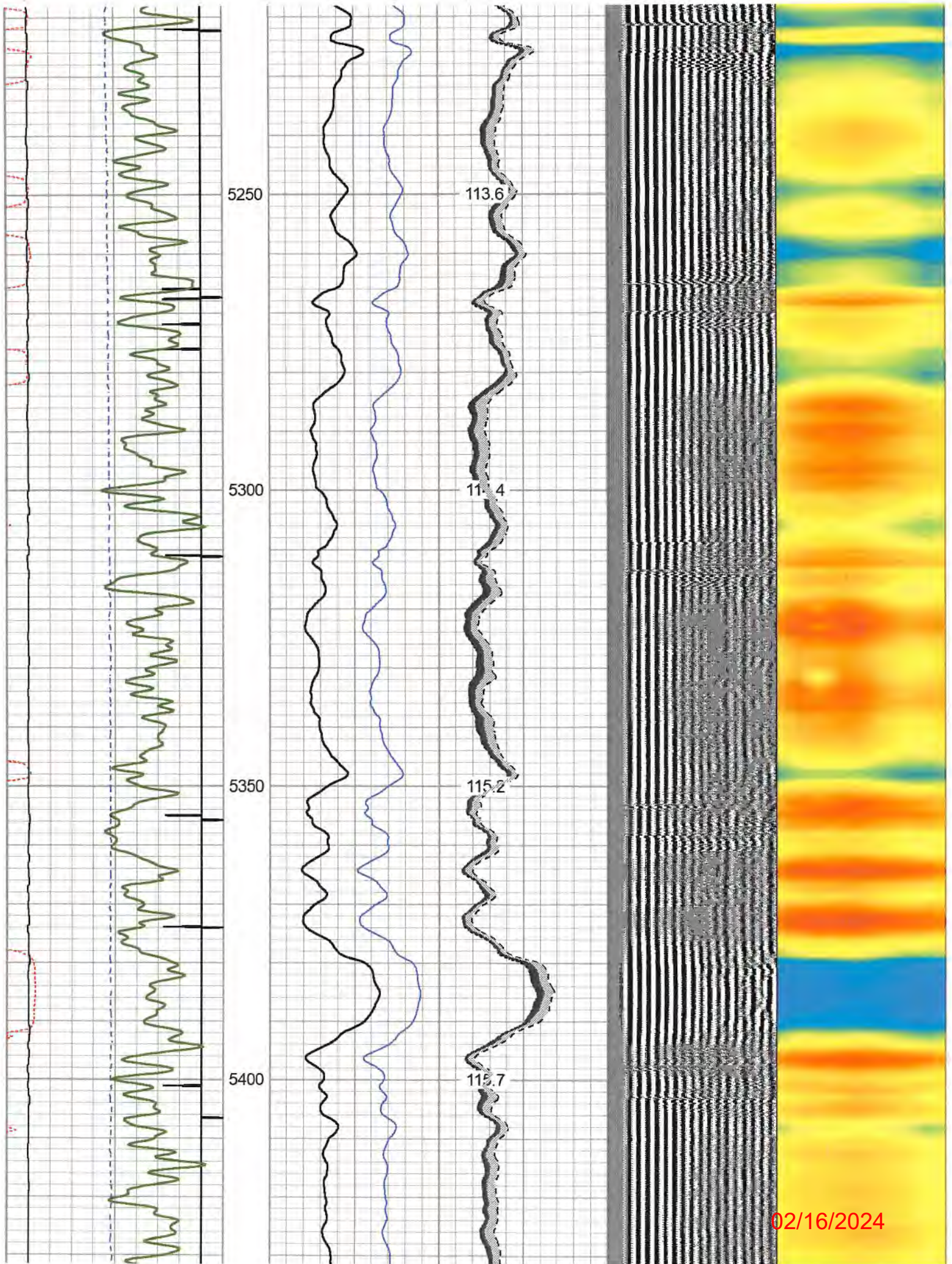
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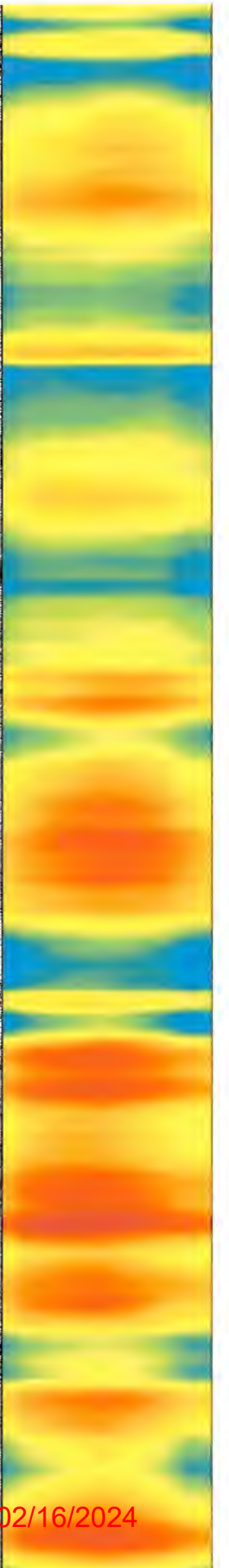
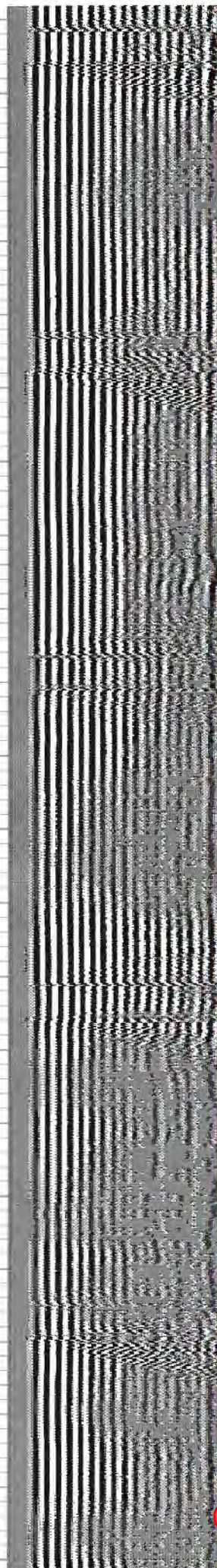
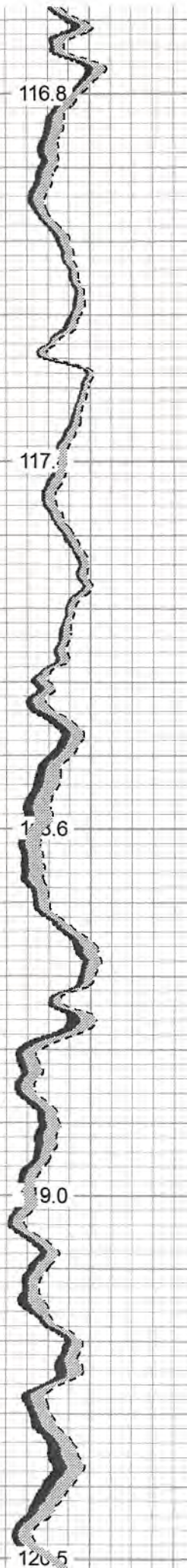
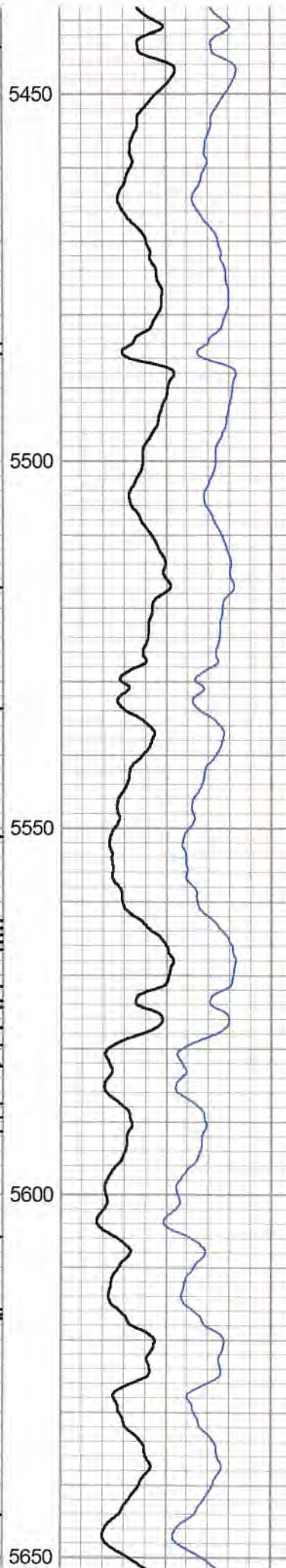
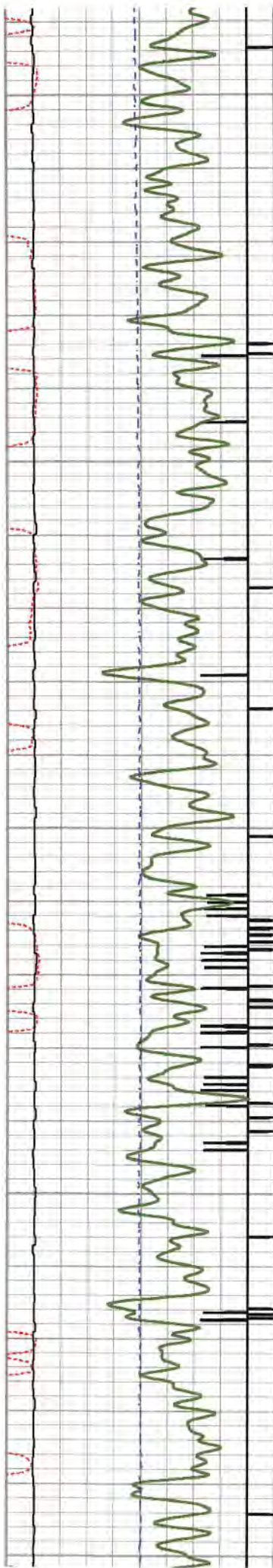


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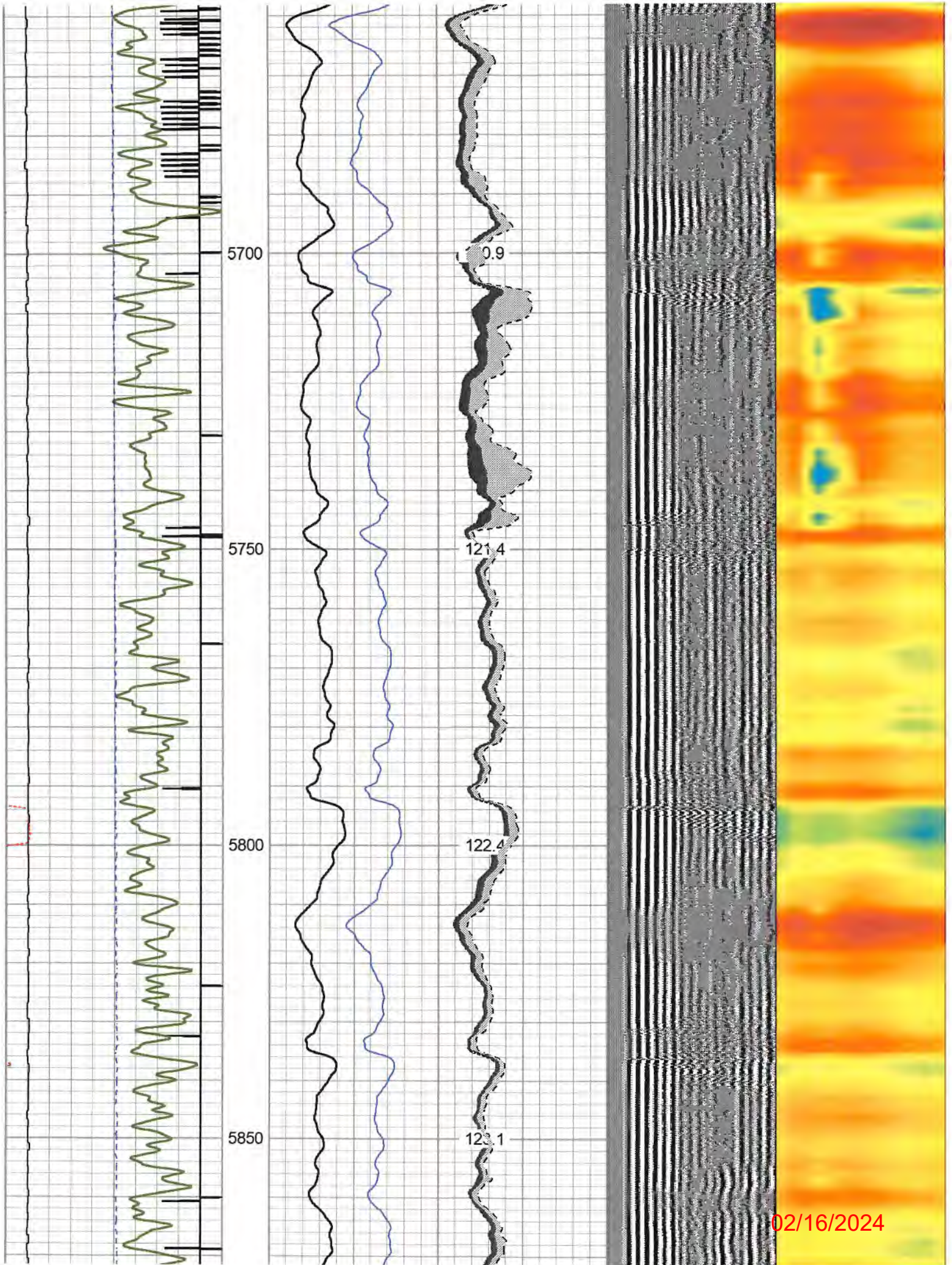




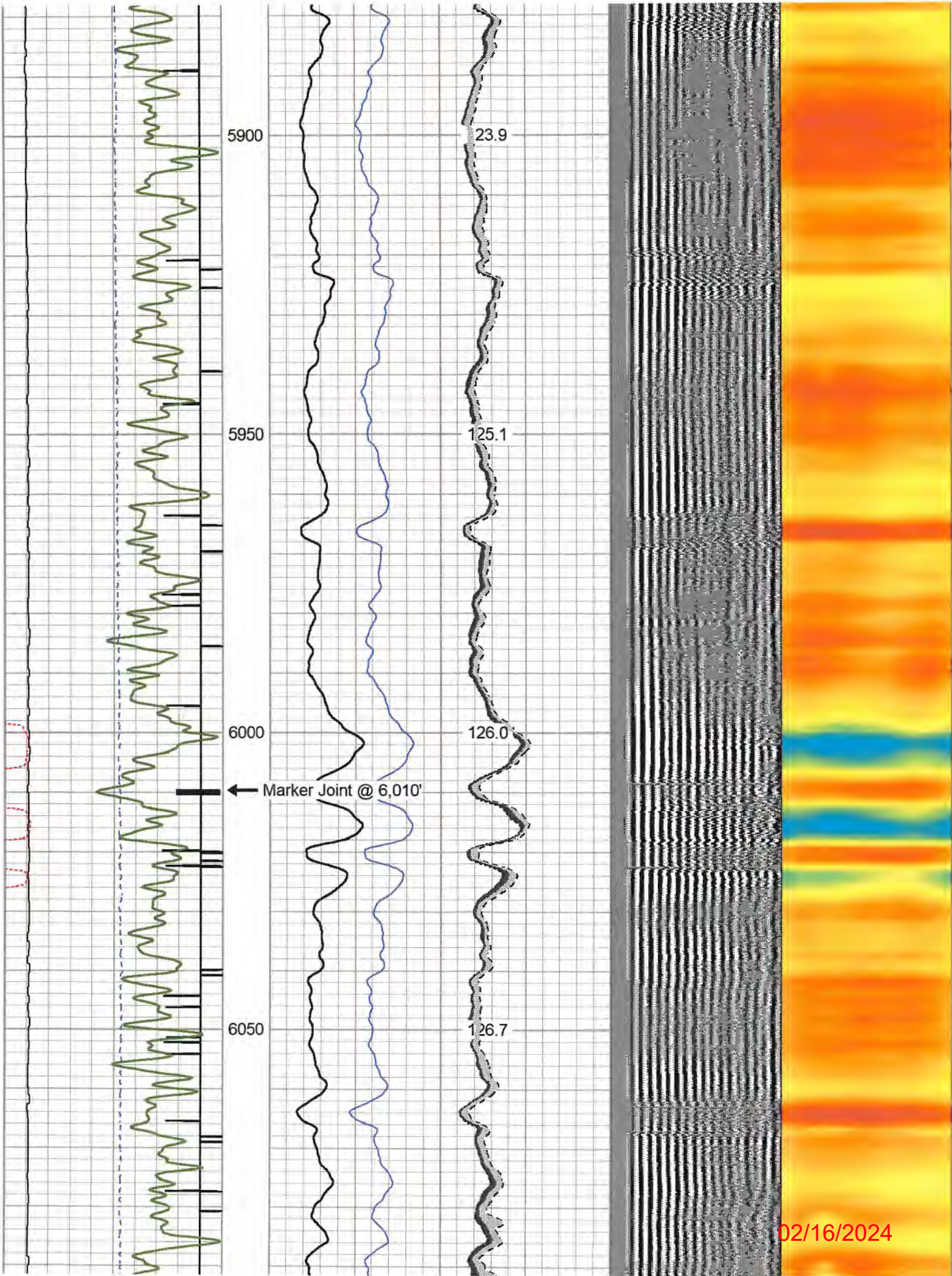
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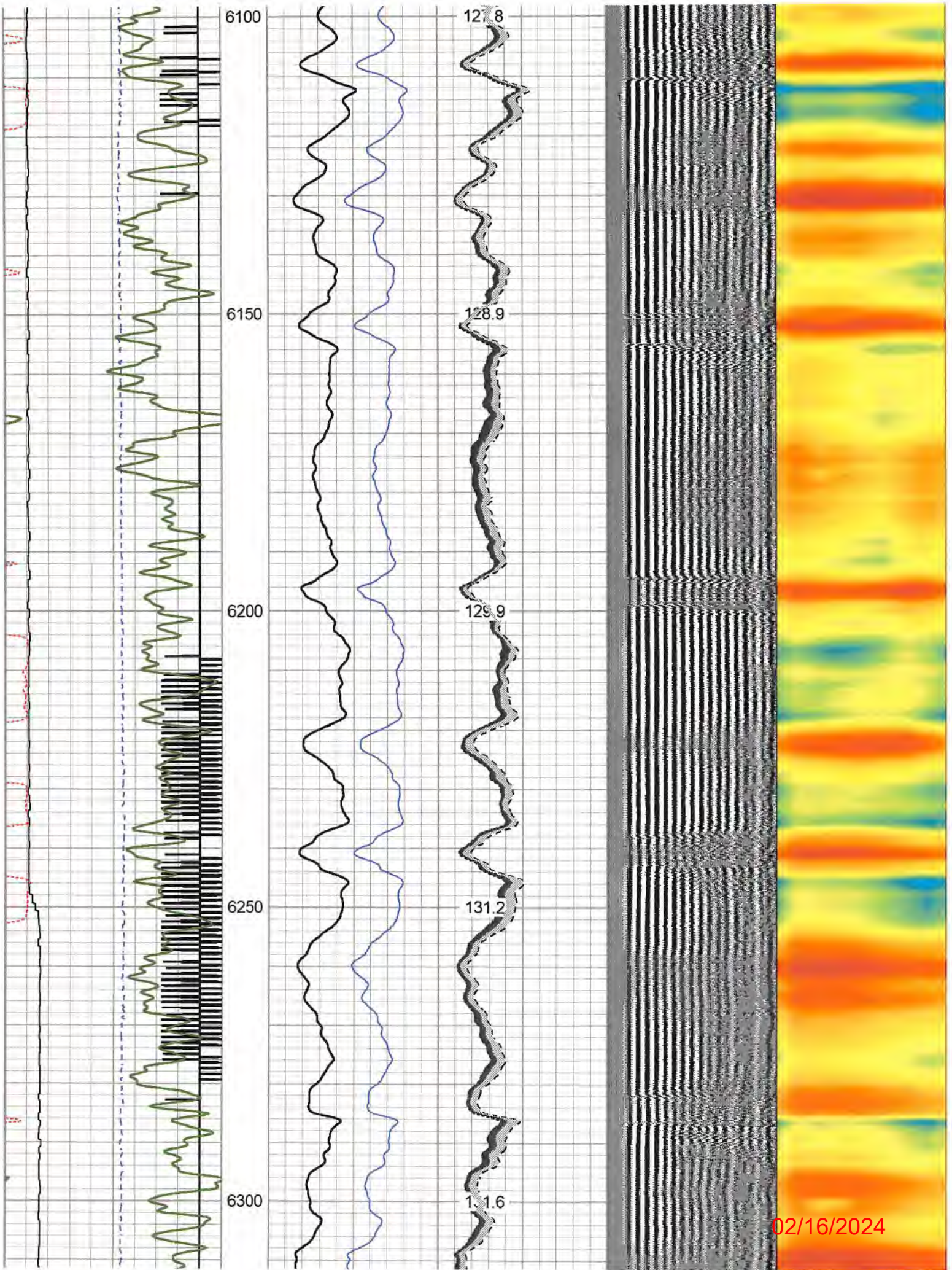
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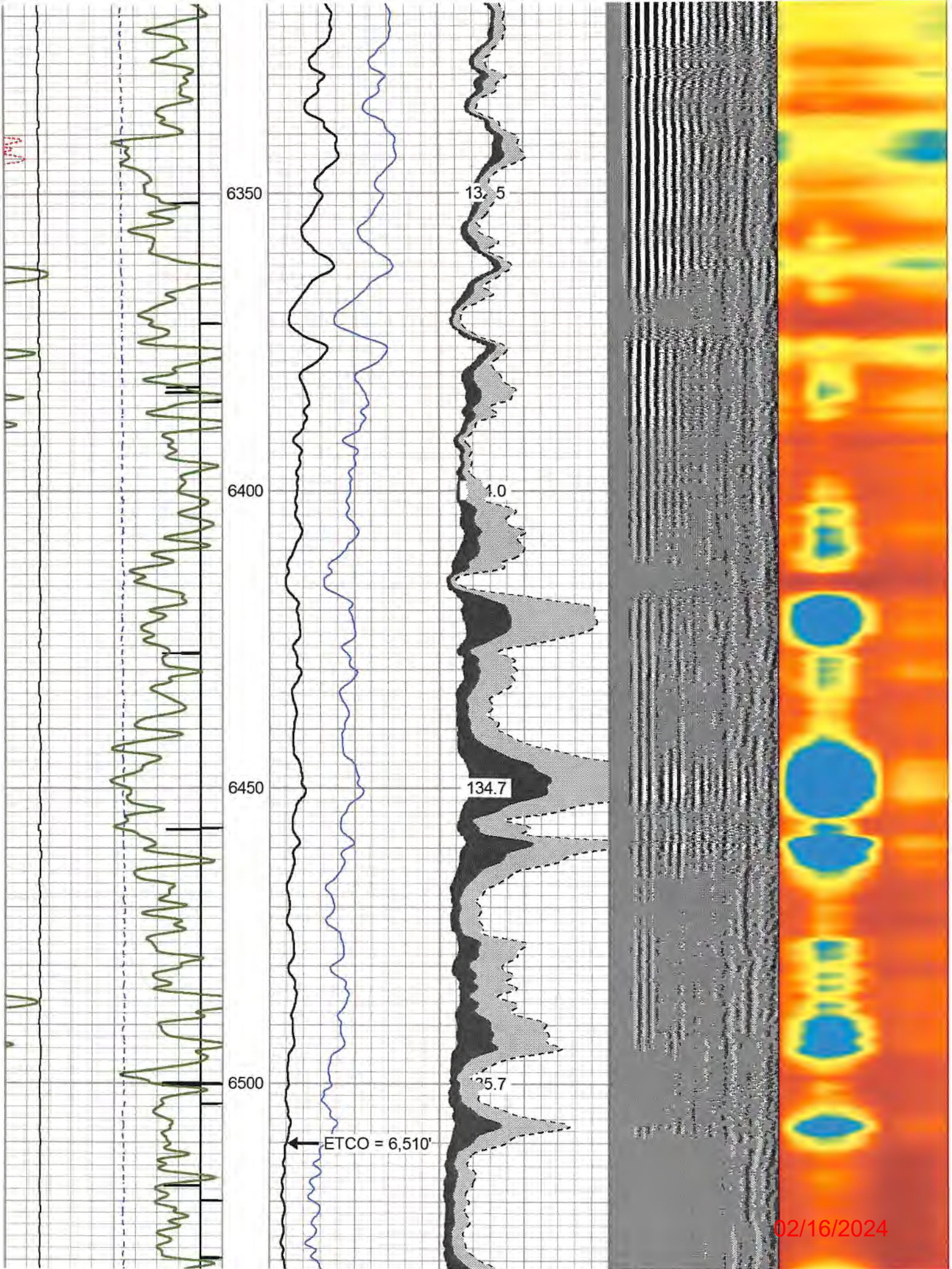
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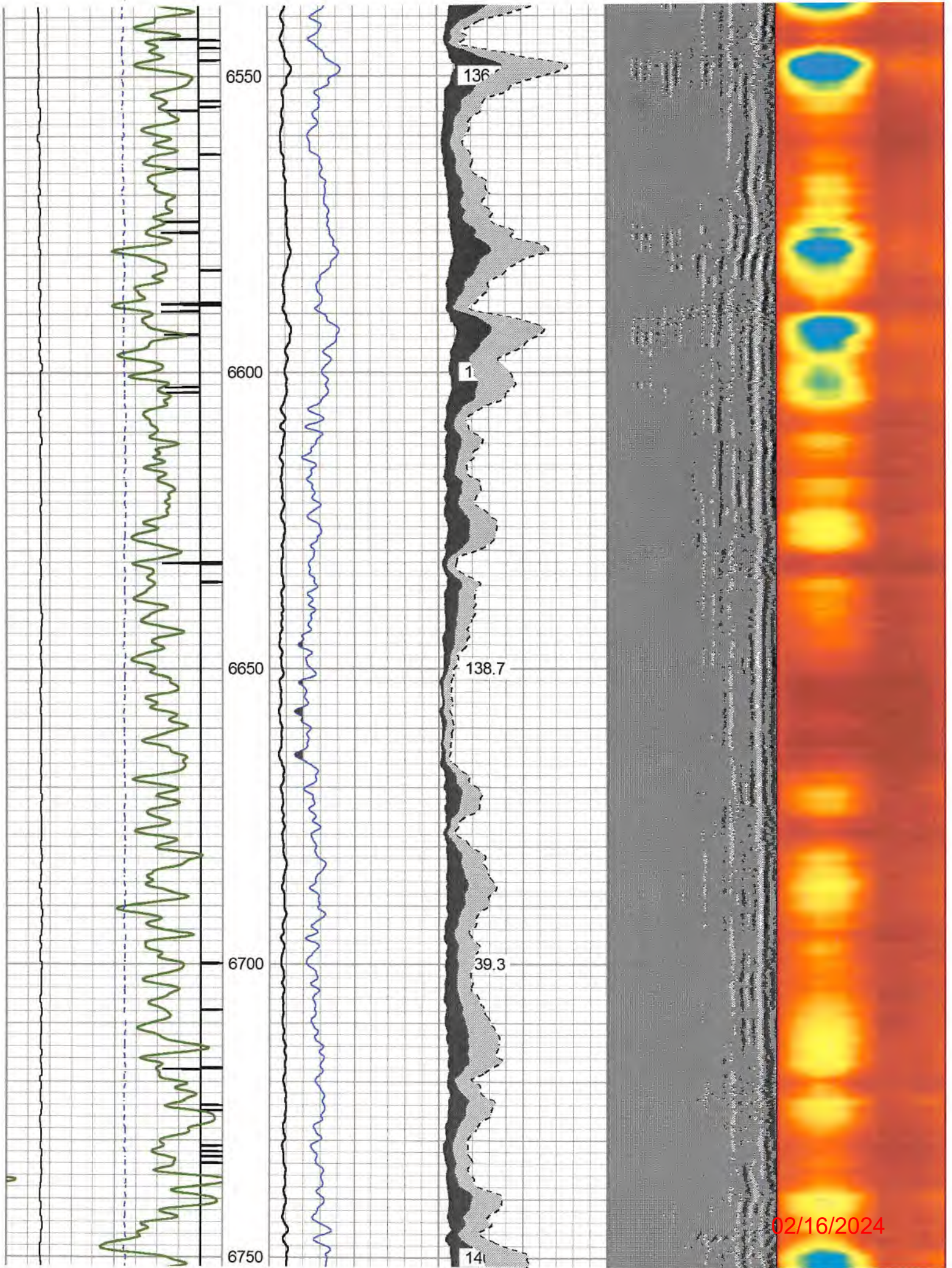
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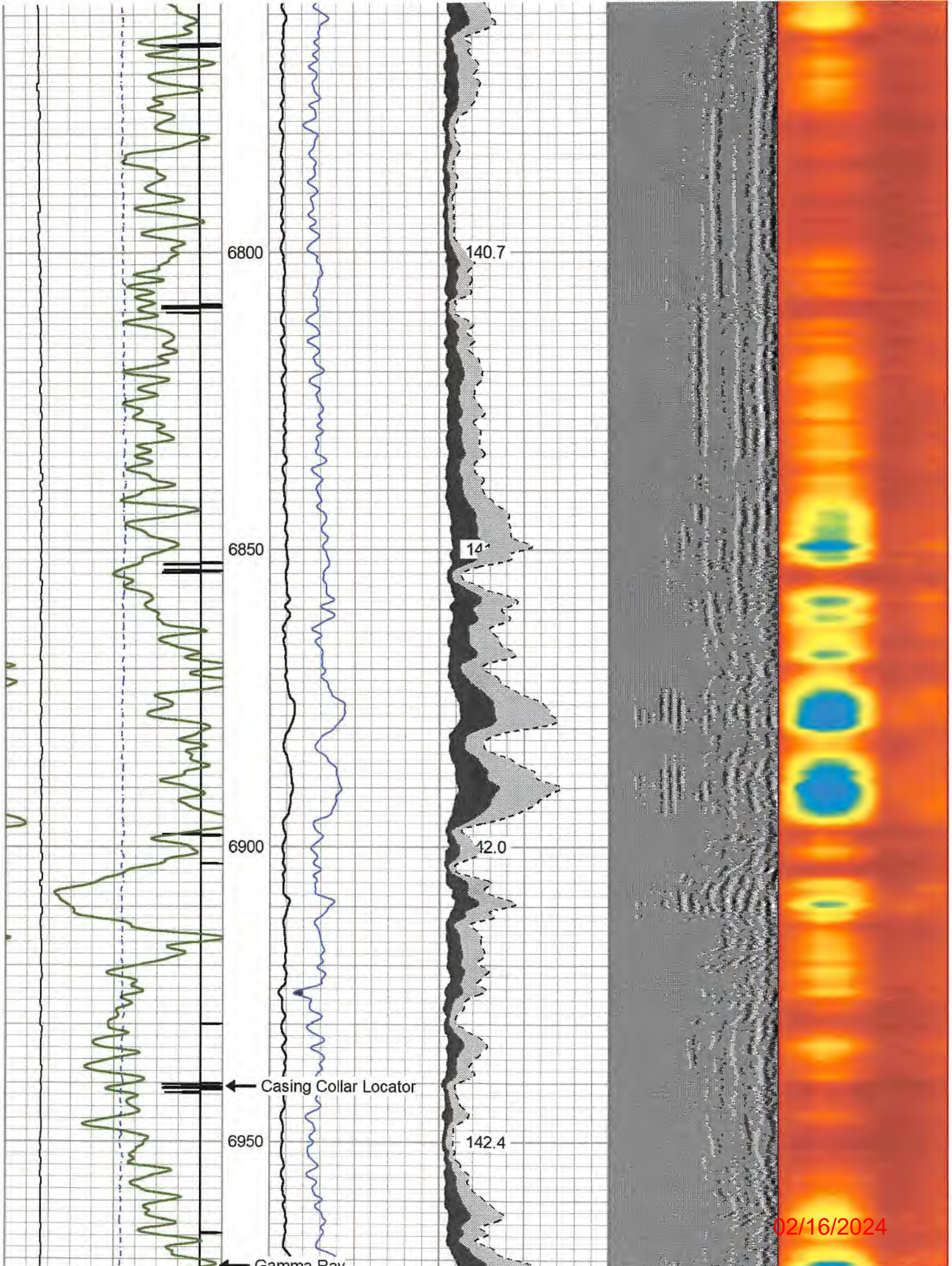


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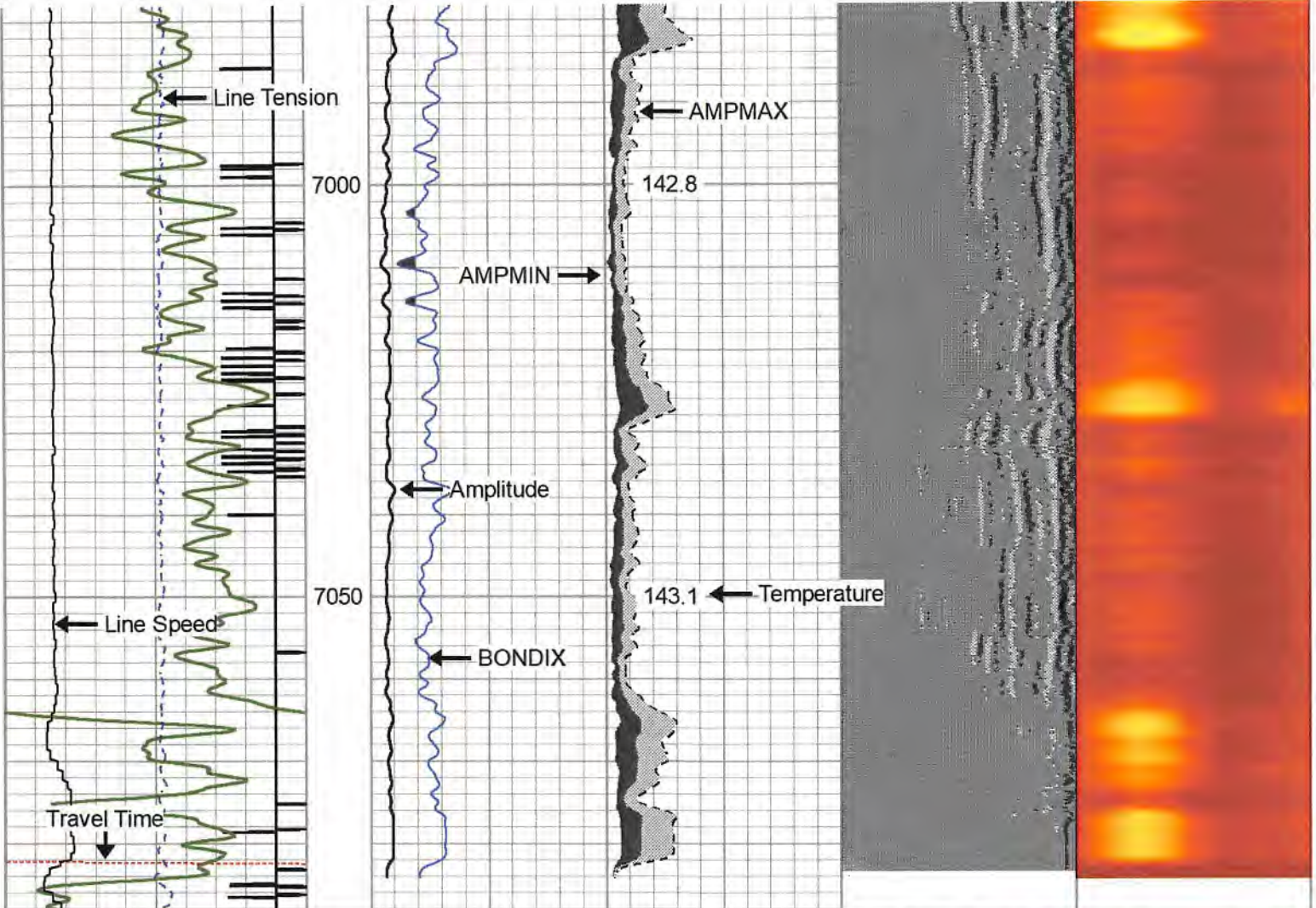








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265	Travel Time (usec)	165	0	Amplitude (mV)	100	0	AMPMIN	150	Variable Density	1	Cement Map	8
9	Casing Collar	-1	1	BONDIX	0	0	AMPMAX	150	300 (usec)	1200		
0	Gamma Ray (GAPI)	150	0	AMPAVG	150							
	Line Speed			TEMP								
-100	(ft/min)	100		(degF)								
0	Line Tension (lb)	2000										

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Repeat Pass

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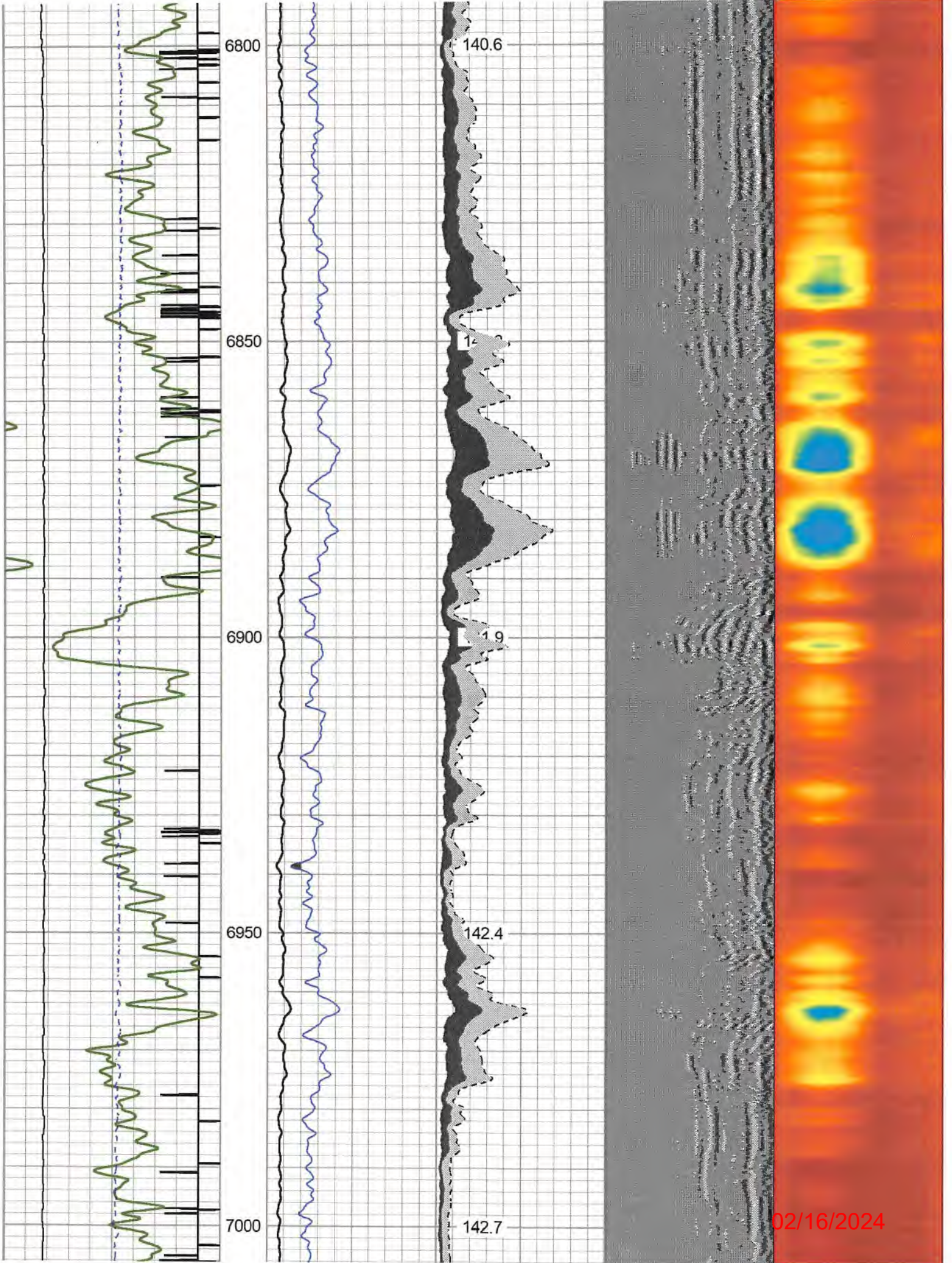
1,500 PSI Applied

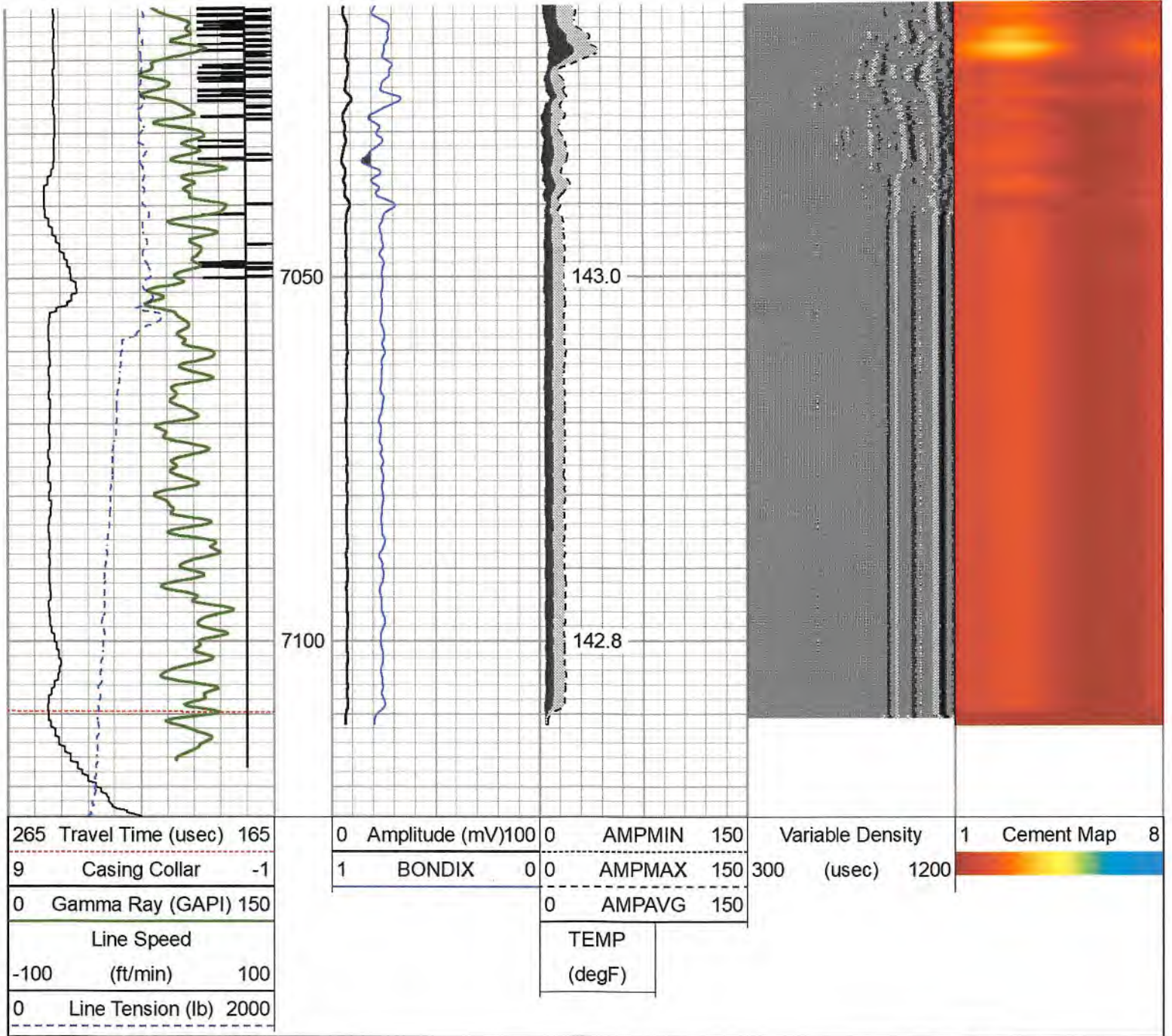
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Database File antero\_ed\_yost\_peach-fork\_1h\_rcbl\_may-10-2023.db  
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 Presentation Format rcbl-bond index for antero 1020  
 Dataset Creation Wed May 10 18:34:15 2023  
 Charted by Depth in Feet scaled 1:240

265	Travel Time (usec)	165	0	Amplitude (mV)	100	0	AMPMIN	150	Variable Density	1	Cement Map	8
9	Casing Collar	-1	1	BONDIX	0	0	AMPMAX	150	300 (usec)	1200		
0	Gamma Ray (GAPI)	150	0	AMPAVG	150							
	Line Speed			TEMP								
-100	(ft/min)	100		(degF)								
0	Line Tension (lb)	2000										

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Calibration Report

Database File antero\_ed\_yost\_peach-fork\_1h\_rcbl\_may-10-2023.db  
 Dataset Pathname rcbl/main1  
 Dataset Creation Wed May 10 18:58:37 2023

Gamma Ray Calibration Report

Serial Number: FW1211-86  
 Tool Model: Probe  
 Performed: Sun Apr 2 11:15:39 2023

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps

Sensitivity: 0.8000 GAPI/cps

Calibration Casing Diameter: 5.500 in  
 Calibration Depth: 328.092 ft

Master Calibration, performed Wed May 10 14:56:52 2023:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.018	0.364	3.400	71.921	179.011	6.697
CAL	-0.018	0.885				
5'	-0.018	0.369	3.400	71.921	176.789	6.646
SUM						
S1	-0.018	0.397	0.000	100.000	240.517	4.416
S2	-0.018	0.288	0.000	100.000	326.700	6.038
S3	-0.018	0.363	0.000	100.000	262.404	4.843
S4	-0.018	0.362	0.000	100.000	262.573	4.856
S5	-0.018	0.369	0.000	100.000	257.813	4.758
S6	-0.018	0.384	0.000	100.000	248.695	4.599
S7	-0.019	0.400	0.000	100.000	238.667	4.437
S8	-0.018	0.396	0.000	100.000	241.417	4.456

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.018	0.885	1.000	0.000

Air Zero Calibration, performed Wed May 10 10:20:54 2023:

	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

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## Log Variables

DatabaseC:\ProgramData\Warrior\Data\antero\_ed\_yost\_peach-fork\_1h\_rcbl\_may-10-2023.db  
 Dataset field/well/rcbl/main1/\_vars\_

### Top - Bottom

BHTEMP_Src TEMP	BOREID in 7.875	BOTTEMP degF 142	CASEOD in 5.5	CASETHCK in 0	CASEWGHT lb/ft 23	MAXAMPL mV 71.9	MINAMPL mV 3.4
MINATTN db/ft 0.8	PERFS No	PPT usec 0	SRFTEMP degF 0	TDEPTH ft 0	02/16/2024		

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



Company	Antero Resources		
Well	Peach Fork 1H		
Field	Marcellus		
County	Tyler		
State	WV	Country	USA

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