



40 ARM CALIPER

Company WHITING PETOLEUM  
Well RAZOR 33M-2803  
Field WILDCAT  
County WELD  
State COLORADO

Company WHITING PETOLEUM  
Well RAZOR 33M-2803  
Field WILDCAT  
County WELD State COLORADO

Location: API #: 051233925700  
SEC 33 TWP 10N RGE 58W  
Other Services CBL 3.75" GUAGE  
Elevation K.B. 4747.5 D.F. G.L. 4729  
Permanent Datum GL 4729 Elevation  
Log Measured From KB (18.5')  
Drilling Measured From KELLY BUSHING

Date	25 JAN 2015		
Run Number	TWO		
Depth Driller	4962.7'		
Depth Logger	5050'		
Bottom Logged Interval	5048'		
Top Log Interval	0'		
Open Hole Size	11/4		
Type Fluid	WATER		
Density / Viscosity	11/4		
Max. Recorded Temp.	11/4		
Estimated Cement Top	11/4		
Time Well Ready	12:45		
Time Logger on Bottom	16:15		
Equipment Number	13033		
Location	BRIGHTON		
Recorded By	J. OSTLER		
Witnessed By			

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
Casing Record		Size	Wgt/Ft	Top	Bottom		
Surface String		9.625"	36#	0'	1575'		
Prot. String		7"	29#	0'	6022.9'		
Production String							
Liner		4.5"	11.6"	4962.7'	13107'		

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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

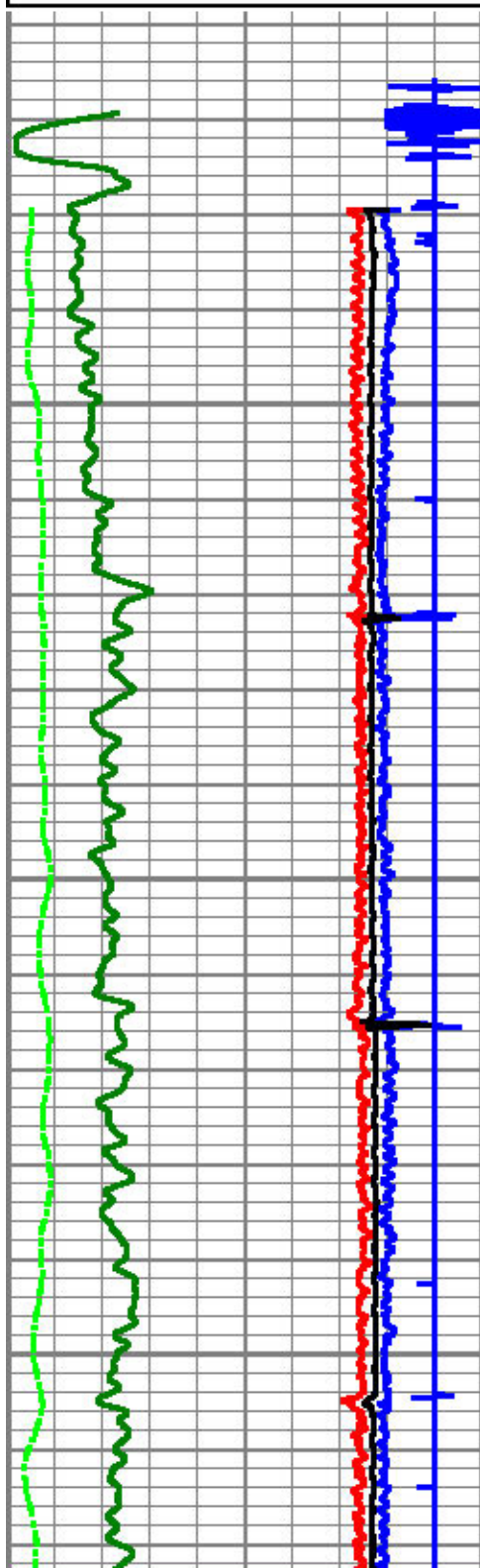
WELL WAS LOGGED WITH 1500 PSI AT THE WELL HEAD  
CREW: GILBERTO CAVAZOS, MIKE BINGAHAM, TIM FISHEL

# WIRELINE SERVICES

Database File: 2803.db  
 Dataset Pathname: pass12  
 Presentation Format: psmfc40  
 Dataset Creation: Sun Jan 25 13:36:03 2015 by Log 0  
 Charted by: Depth in Feet scaled 1:240

4.5	IDMX (in)	5.5
4.5	IDMN (in)	5.5
4.5	IDAV (in)	5.5
0	GR (GAPI)	150
9	CCL	-1
0	DEVI (°)	20

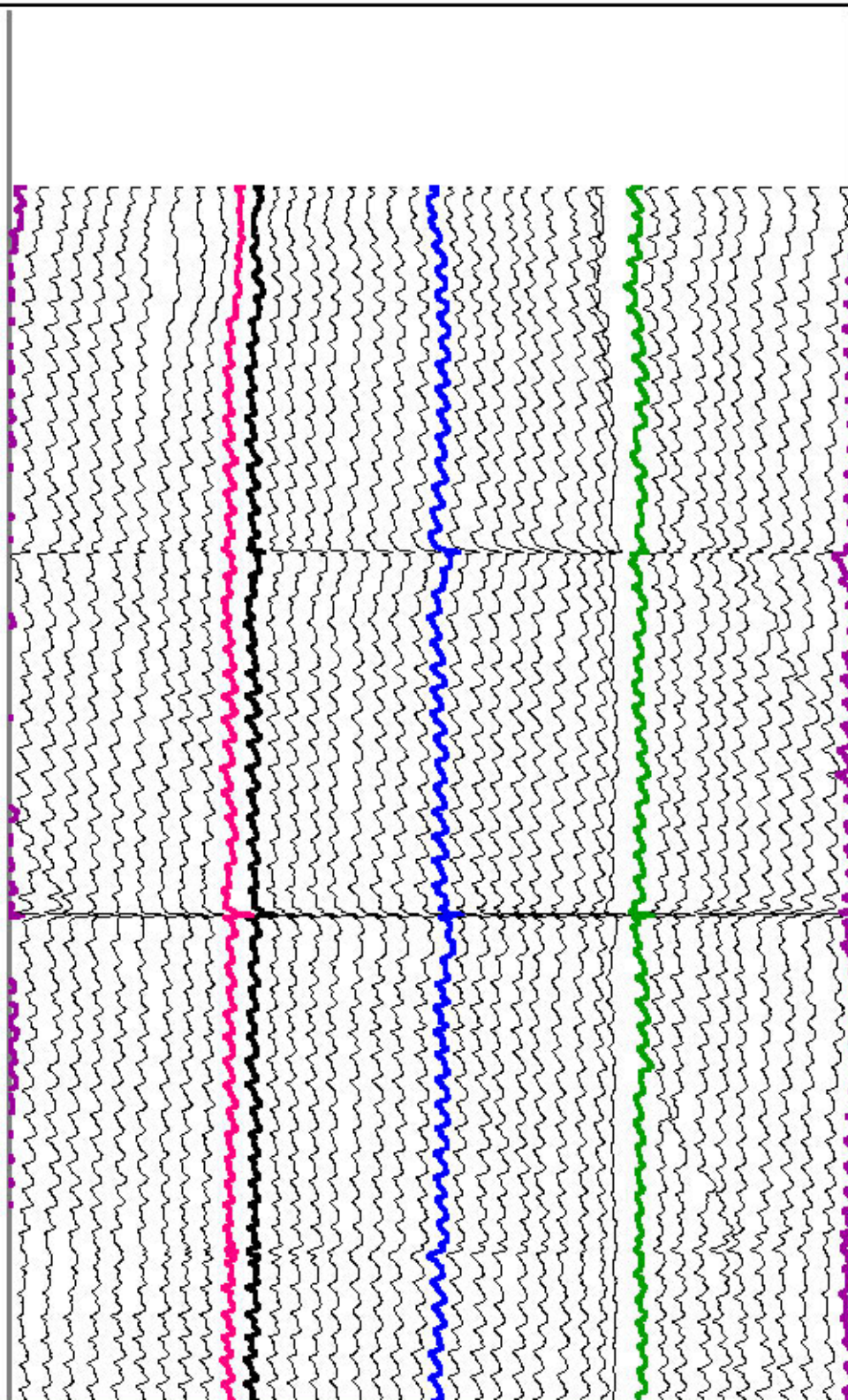
2.4375	R01 (in)	4.9375
1.875	R10 (in)	4.375
1.25	R20 (in)	3.75
0.625	R30 (in)	3.125
0	R40 (in)	2.5



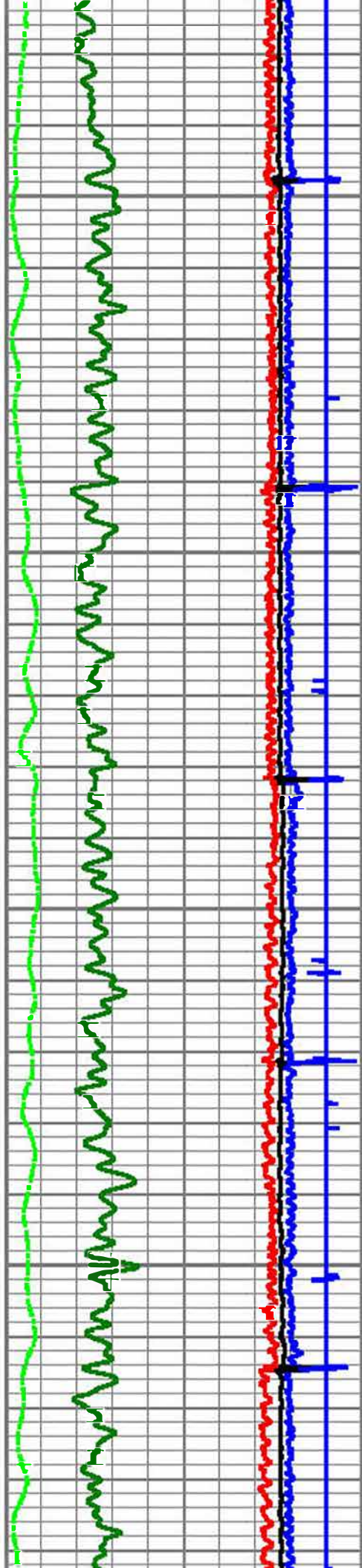
50

100

150





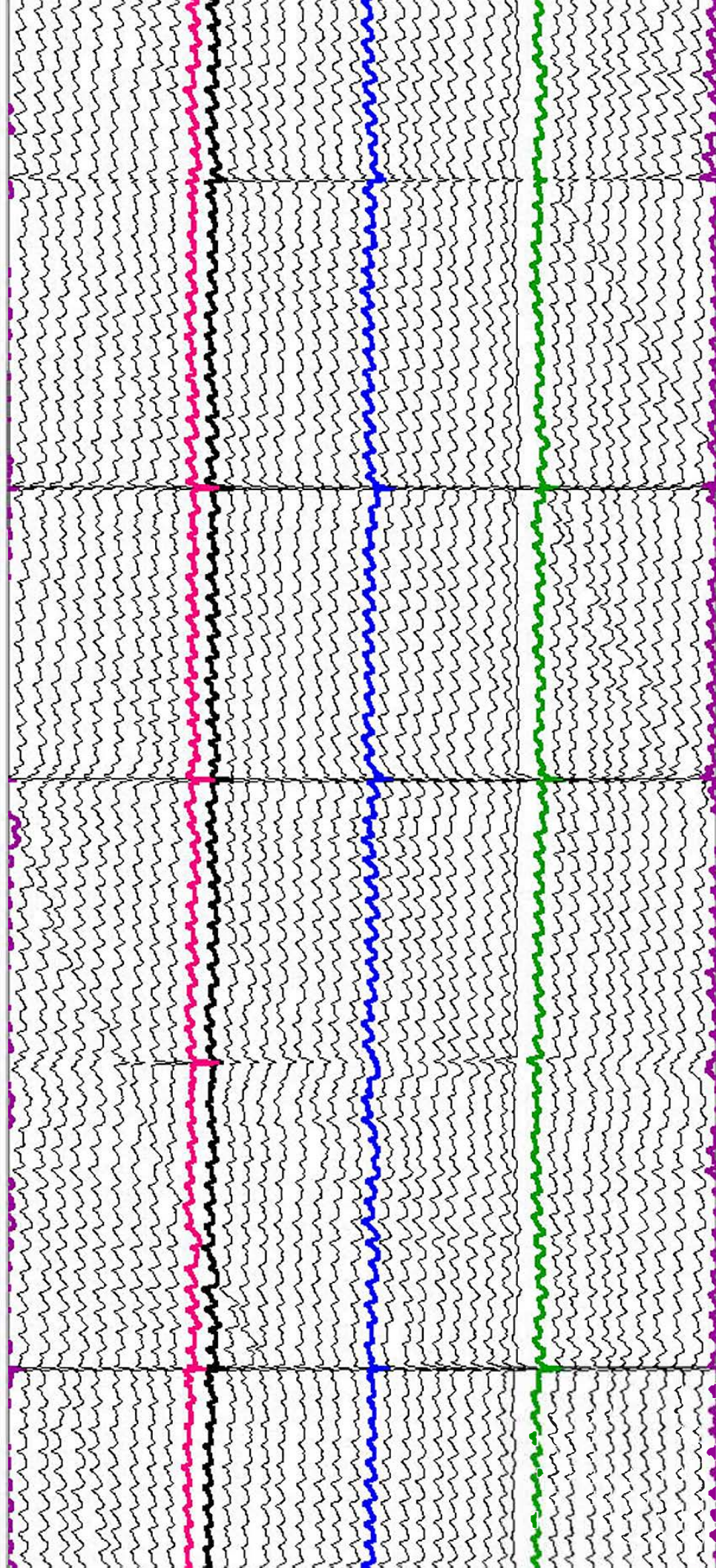


200

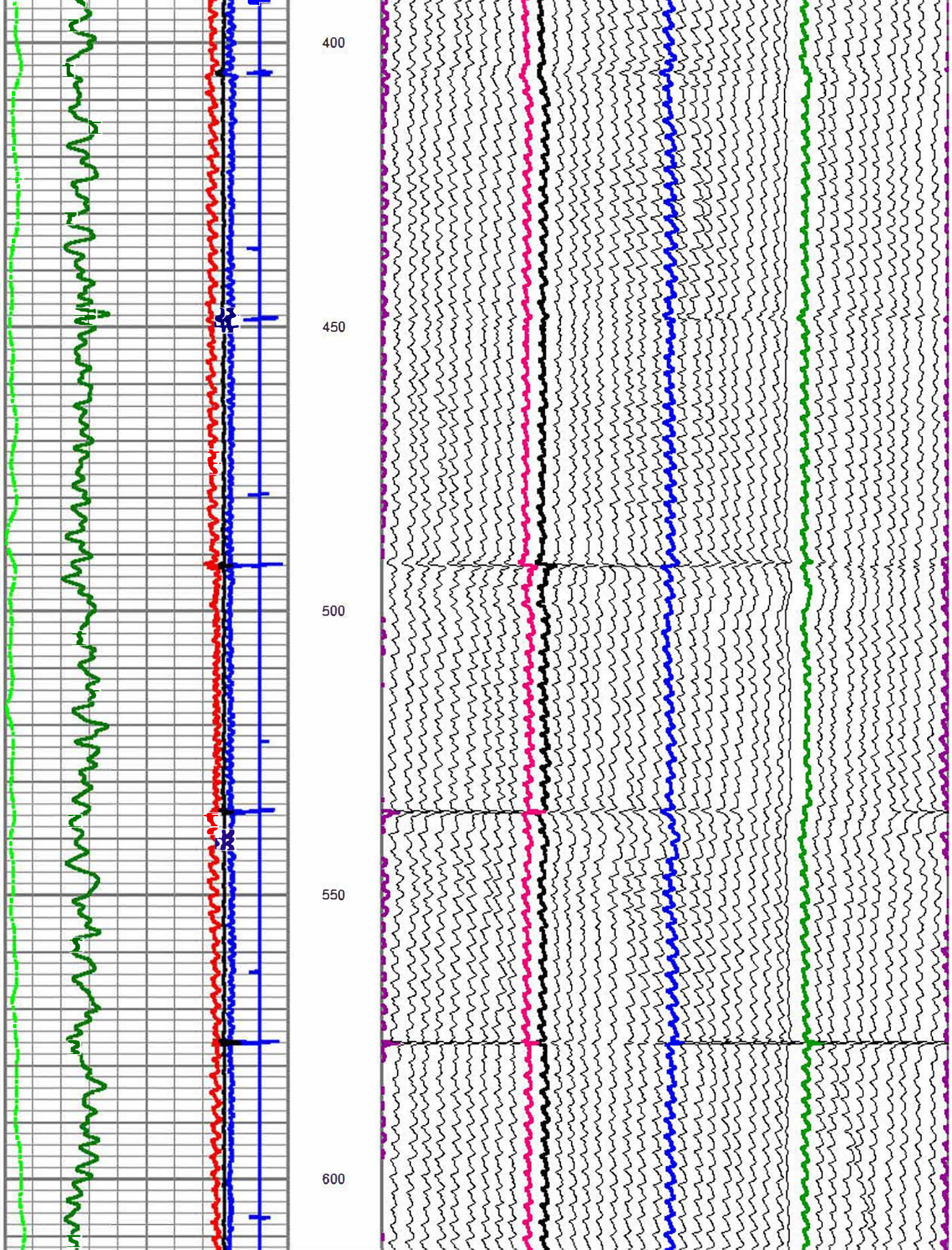
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300

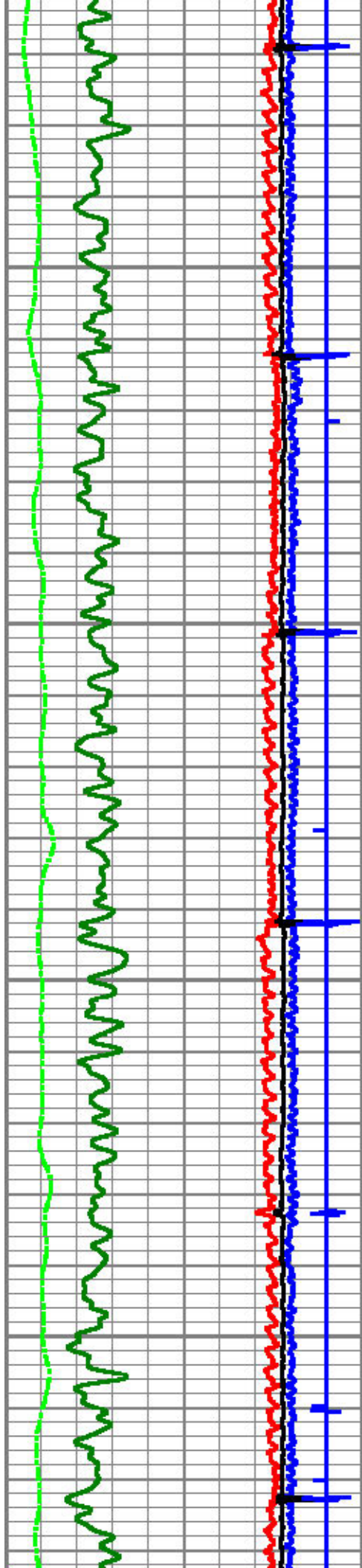
350









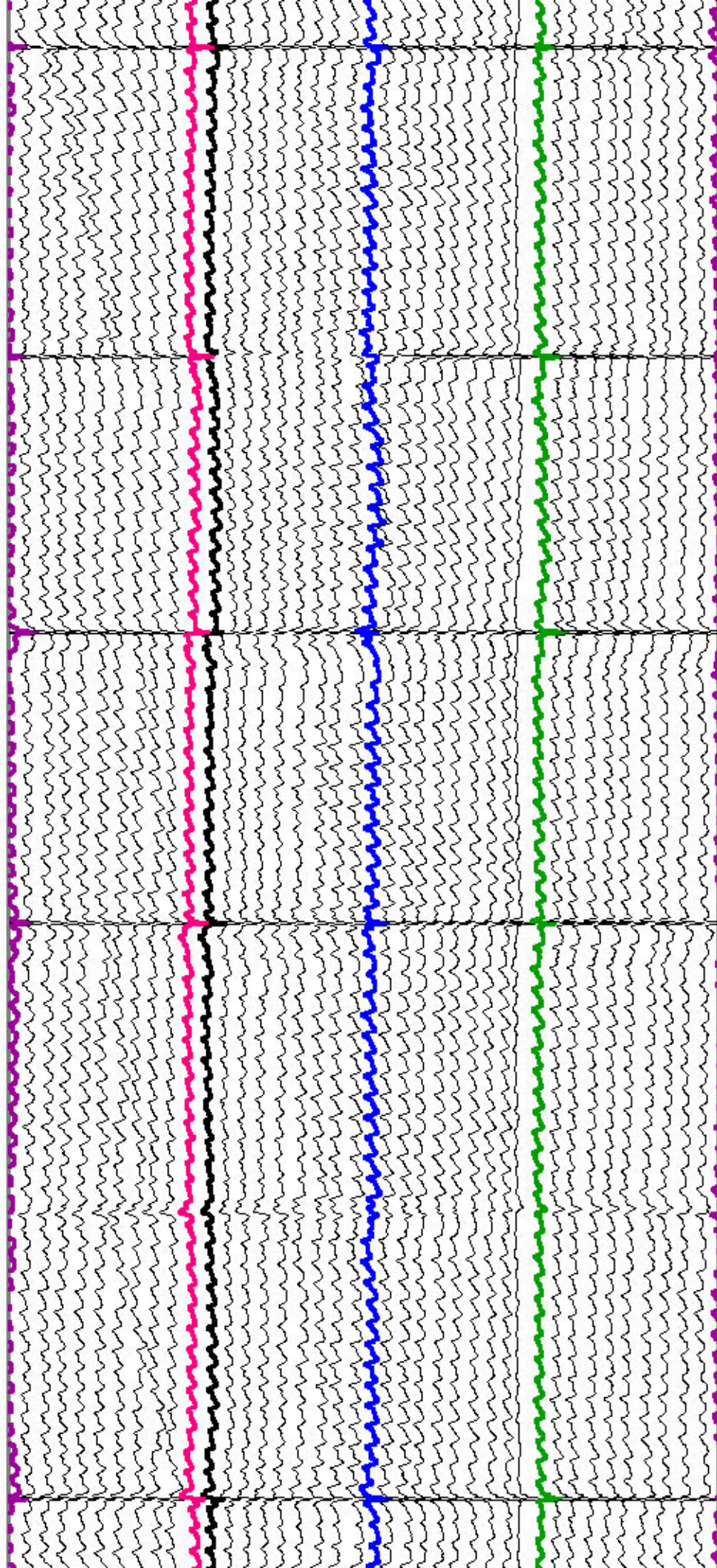


650

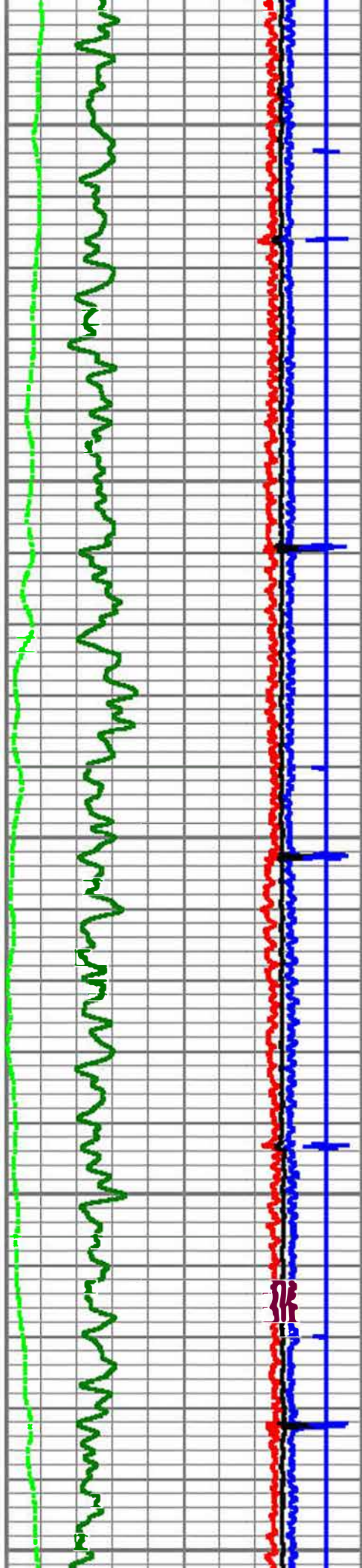
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750

800







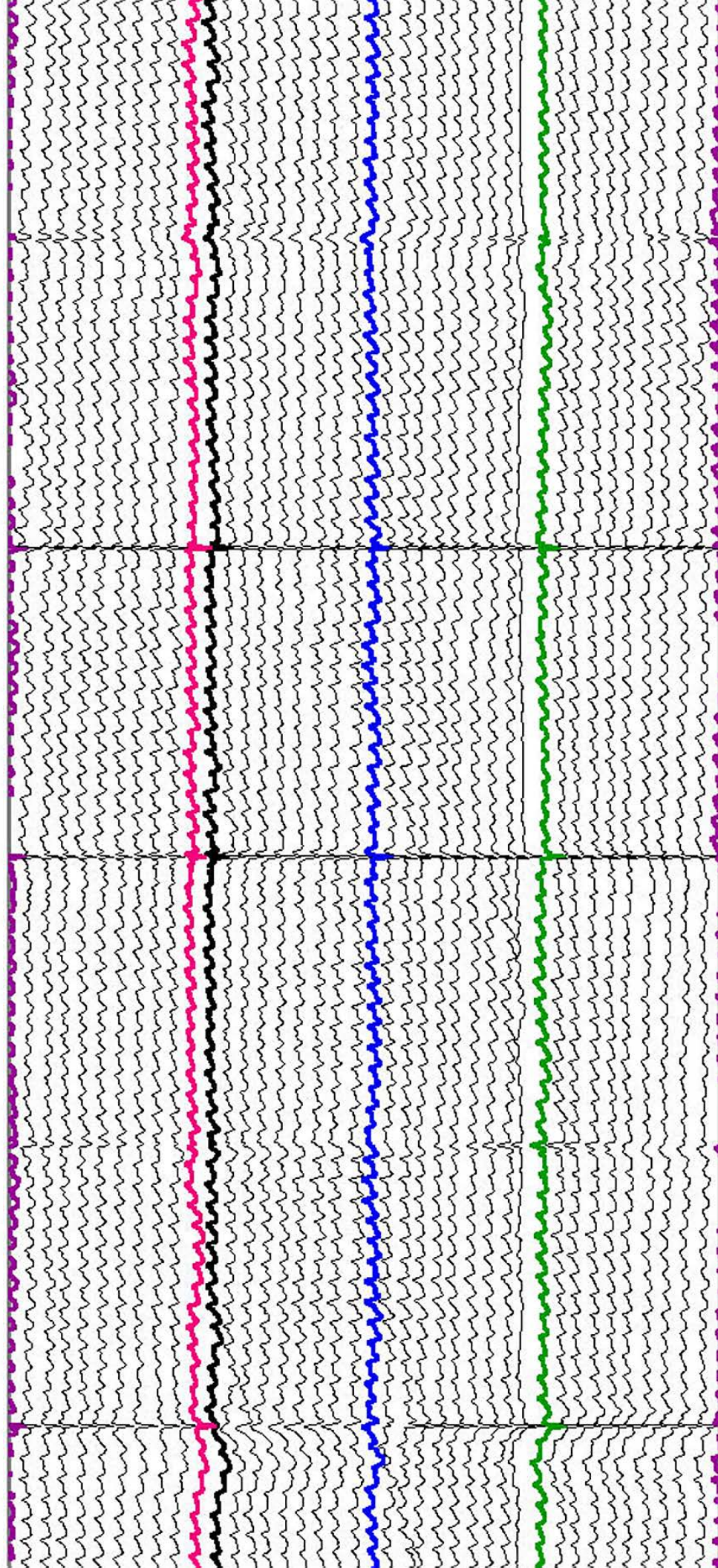
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900

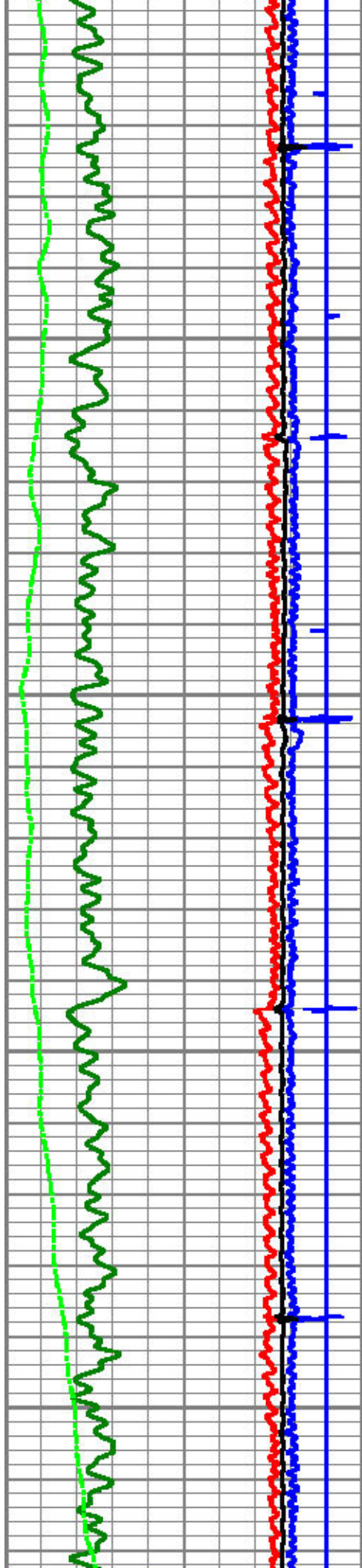
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1000

1050





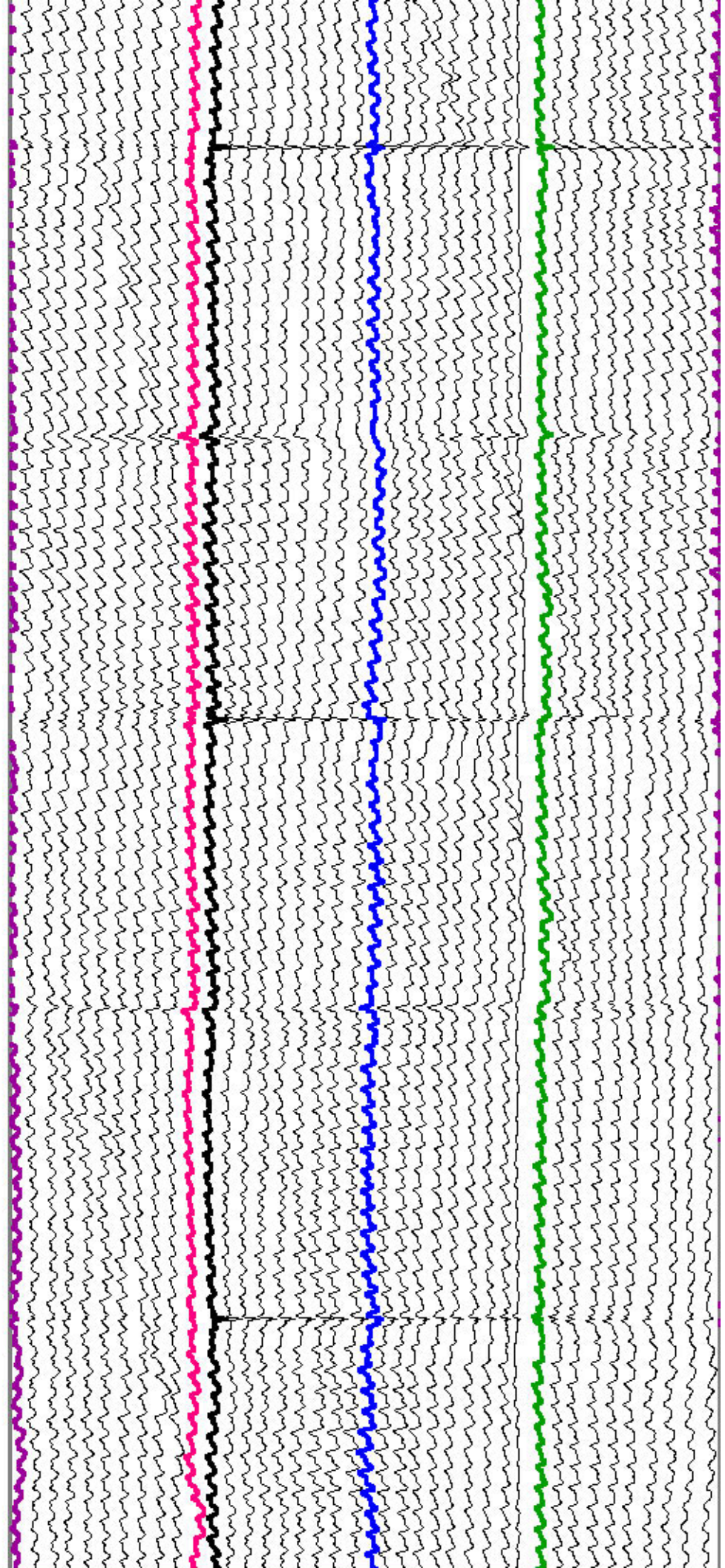


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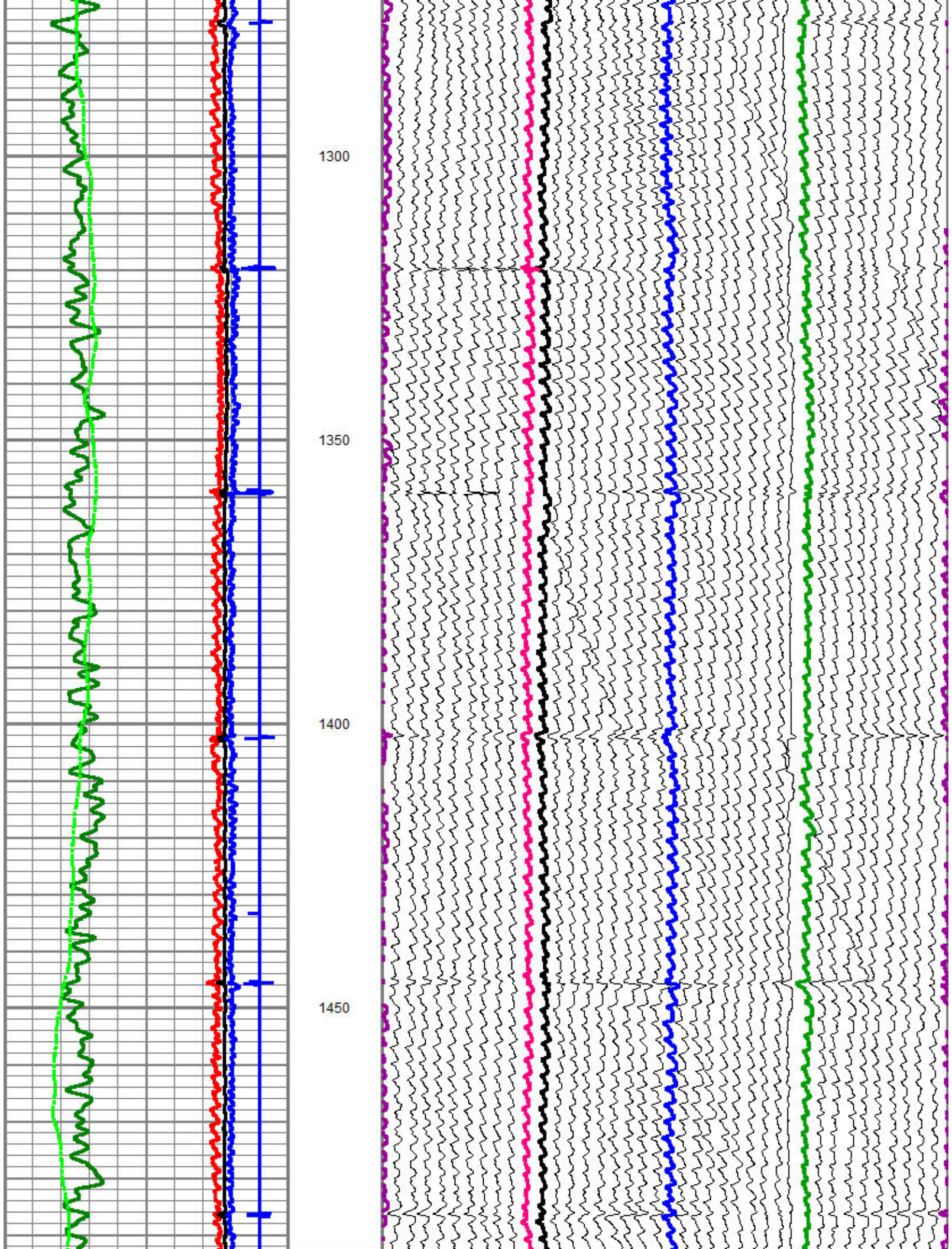
1150

1200

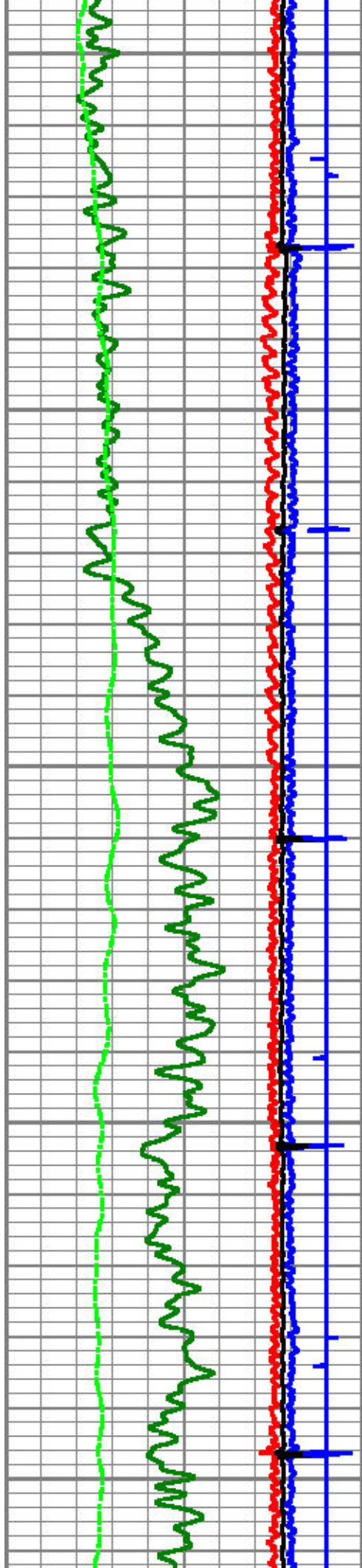
1250











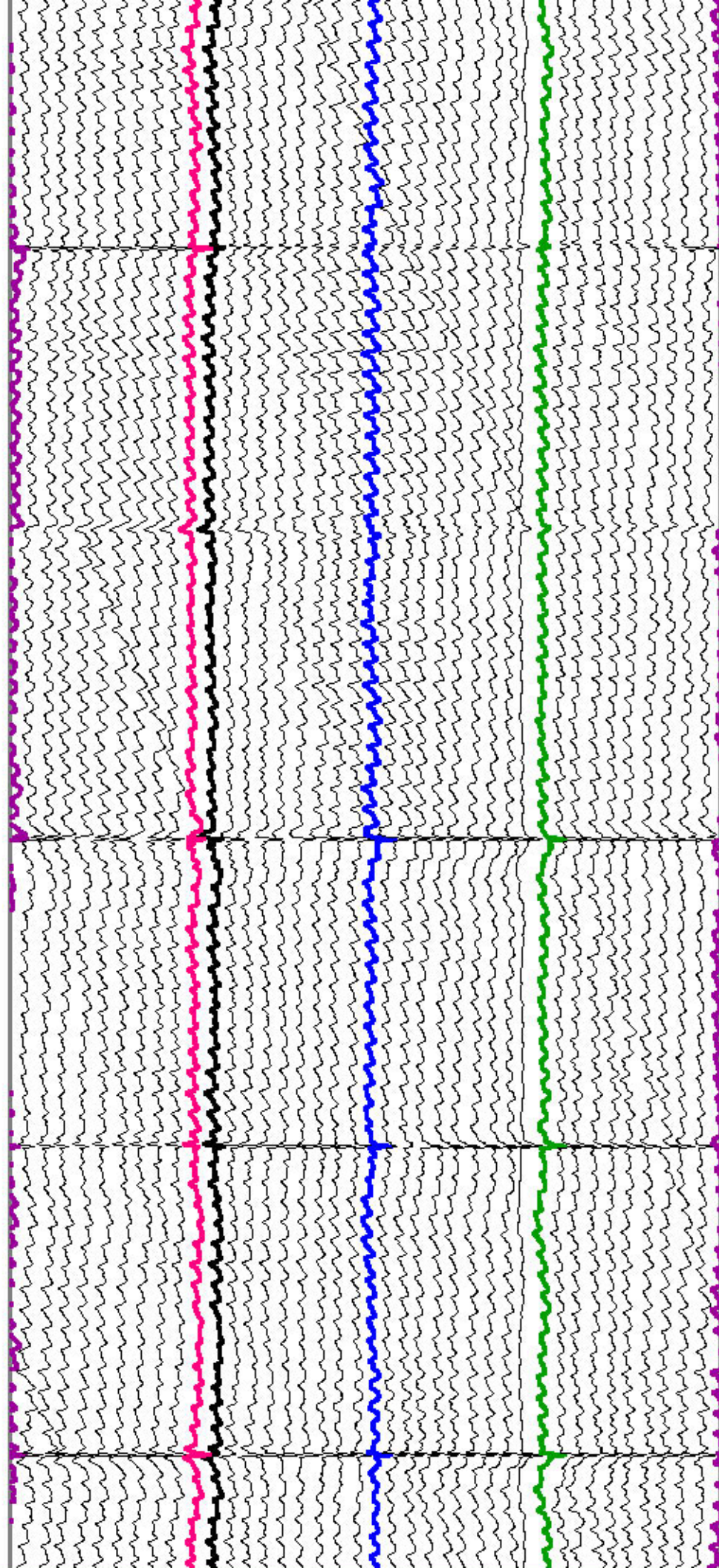
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1550

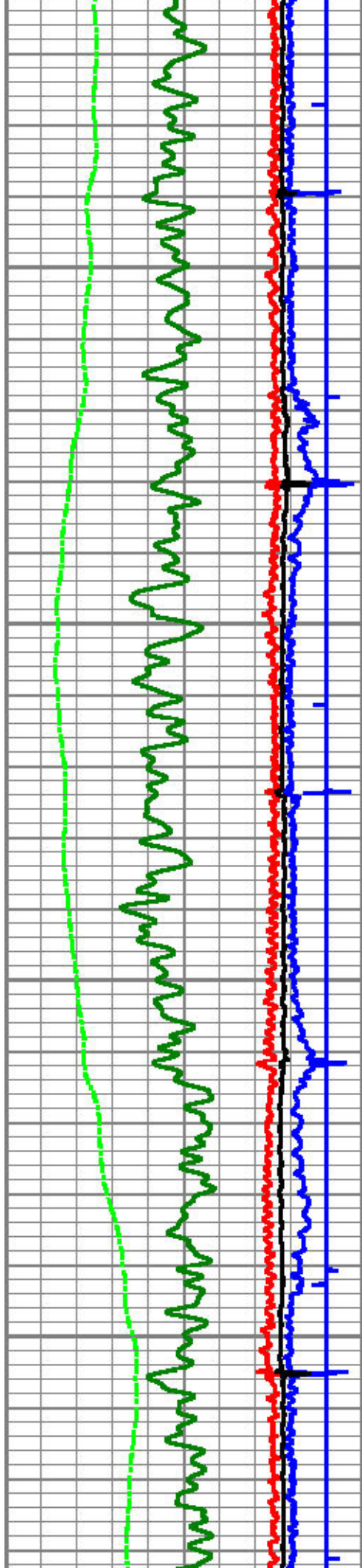
1600

1650

1700





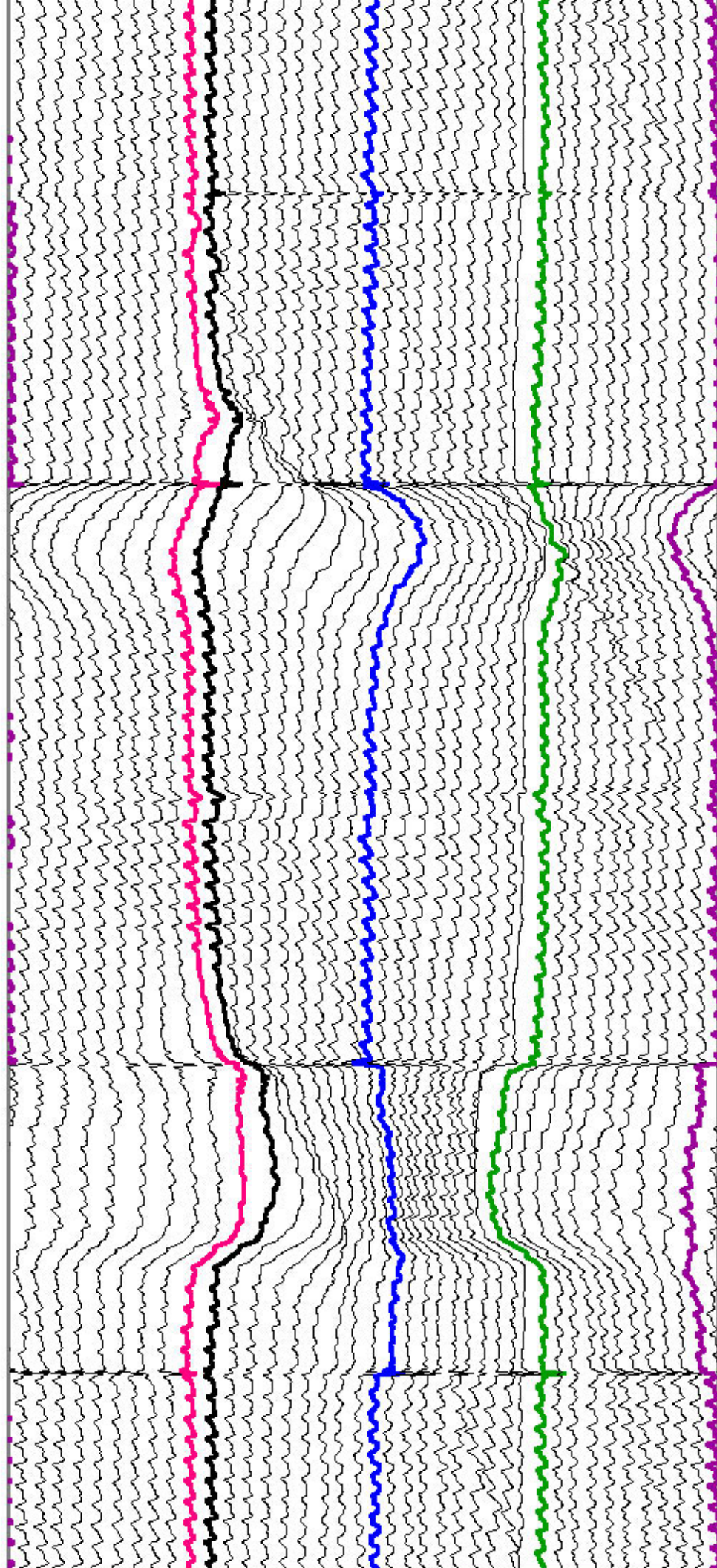


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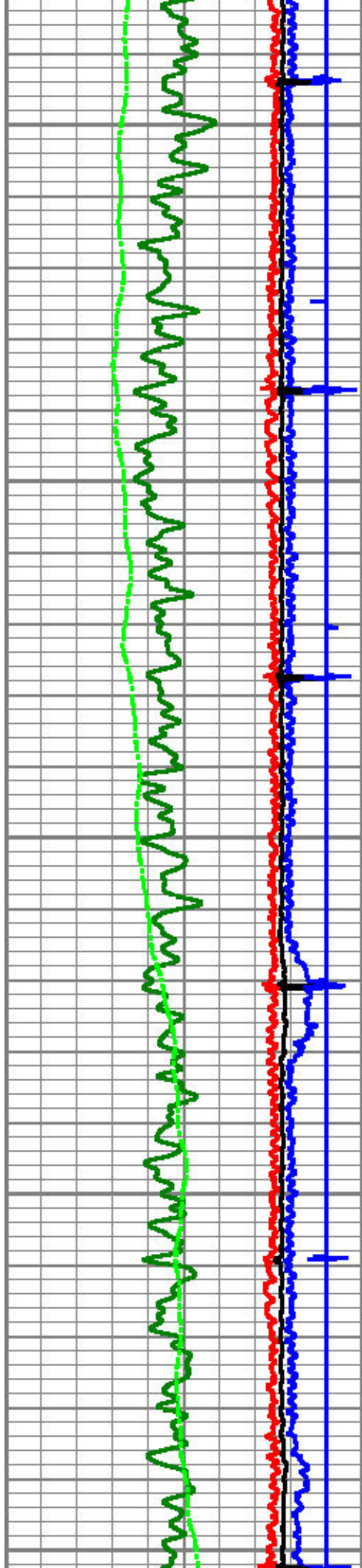
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1850

1900







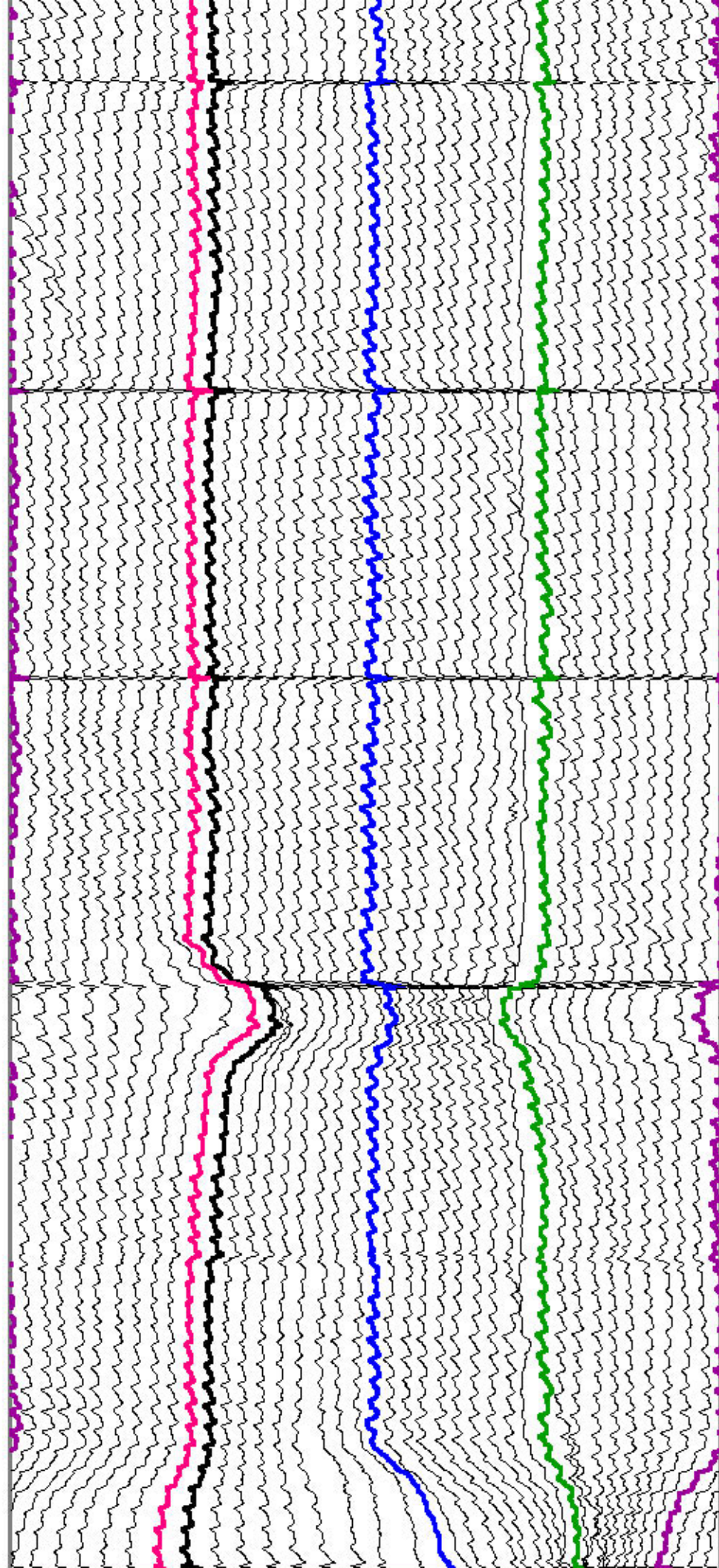
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2000

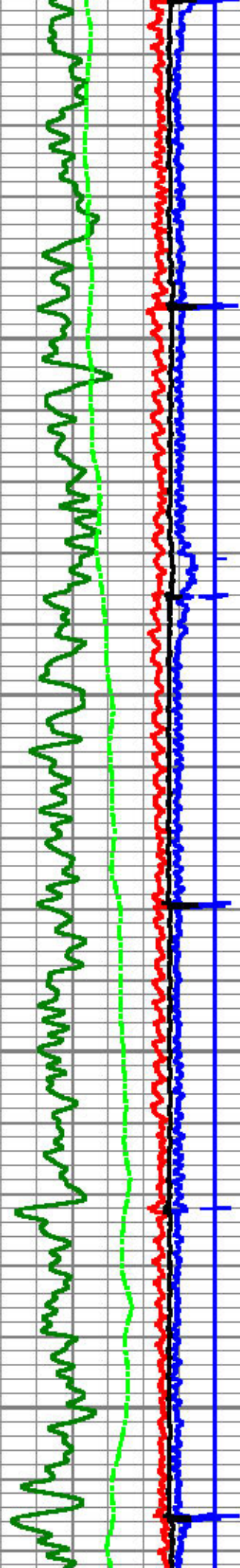
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2100

2150





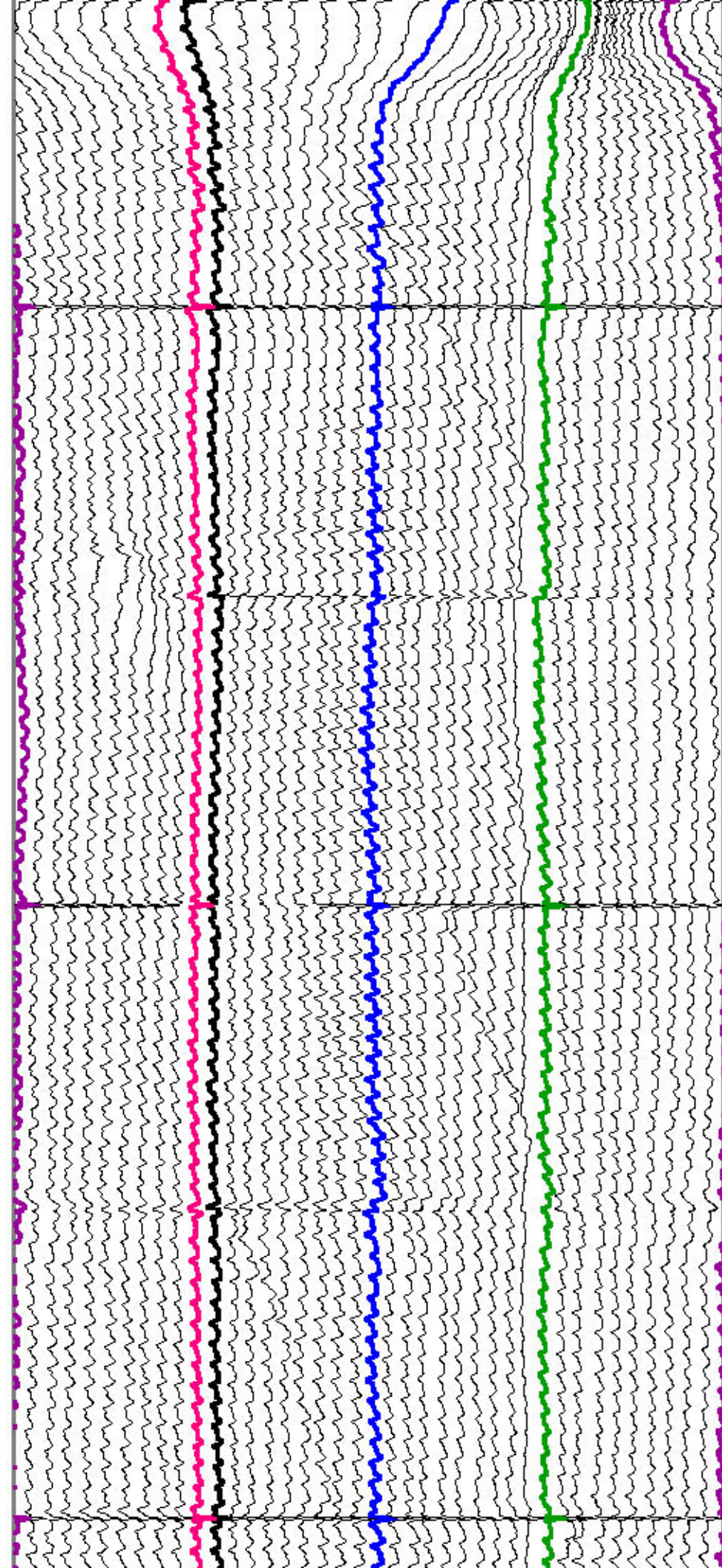


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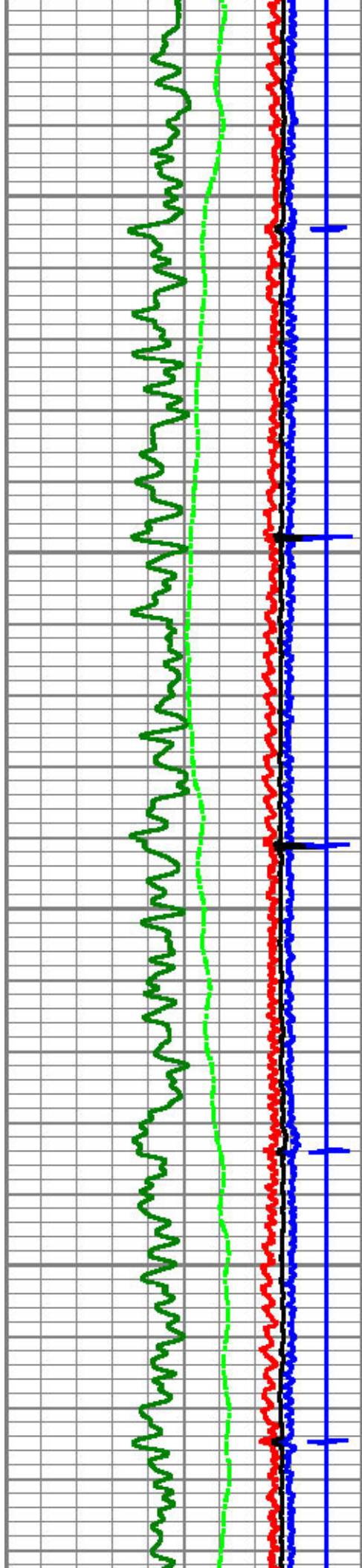
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2300

2350





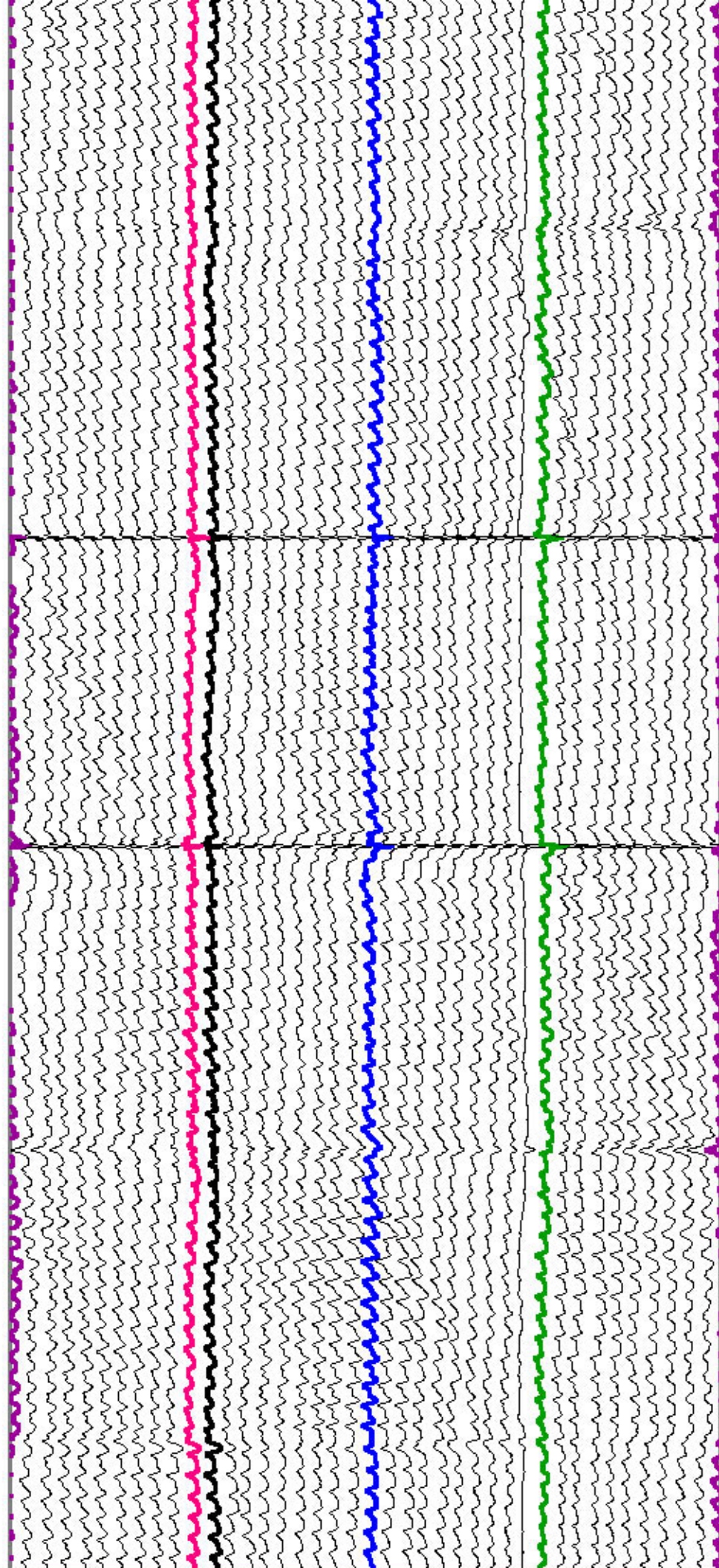


2400

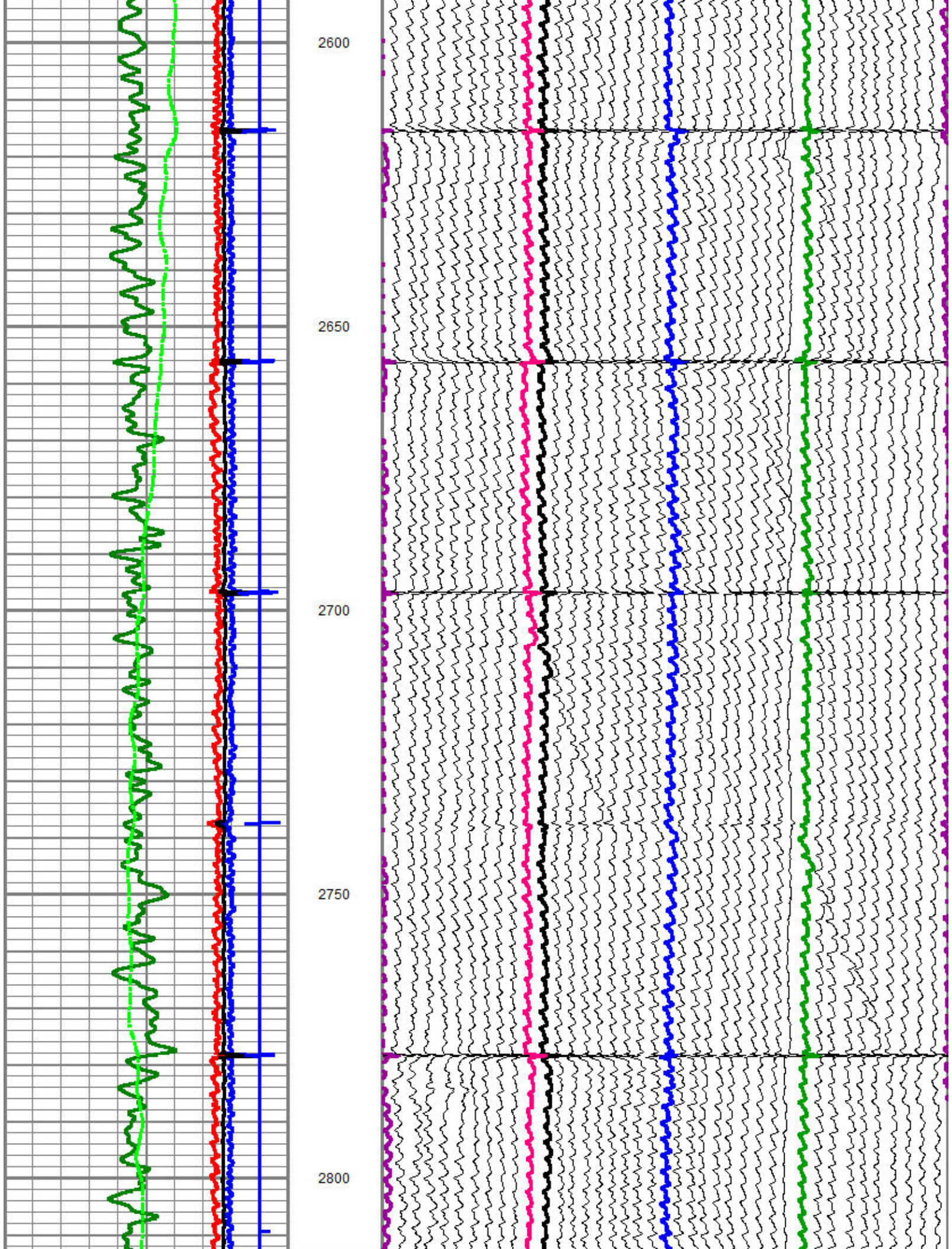
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2500

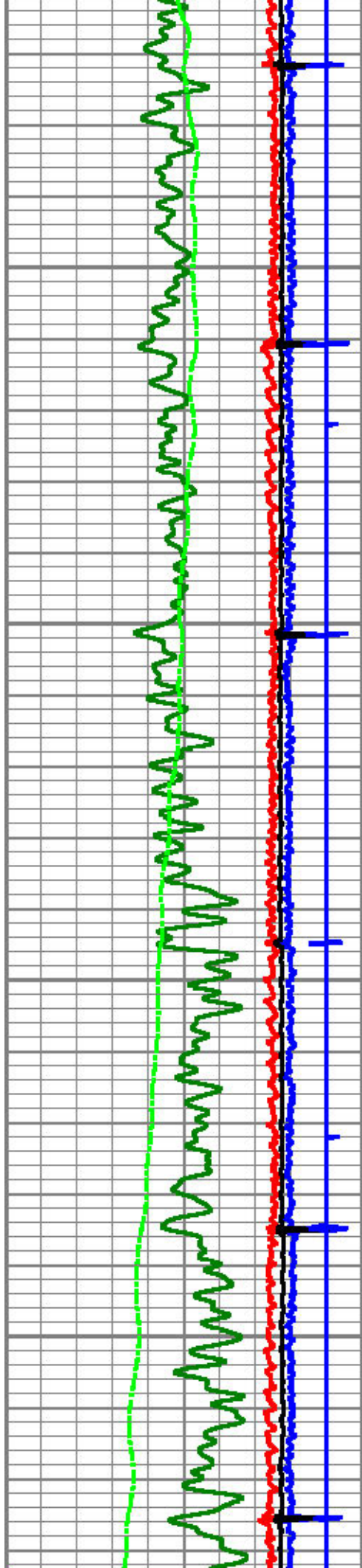
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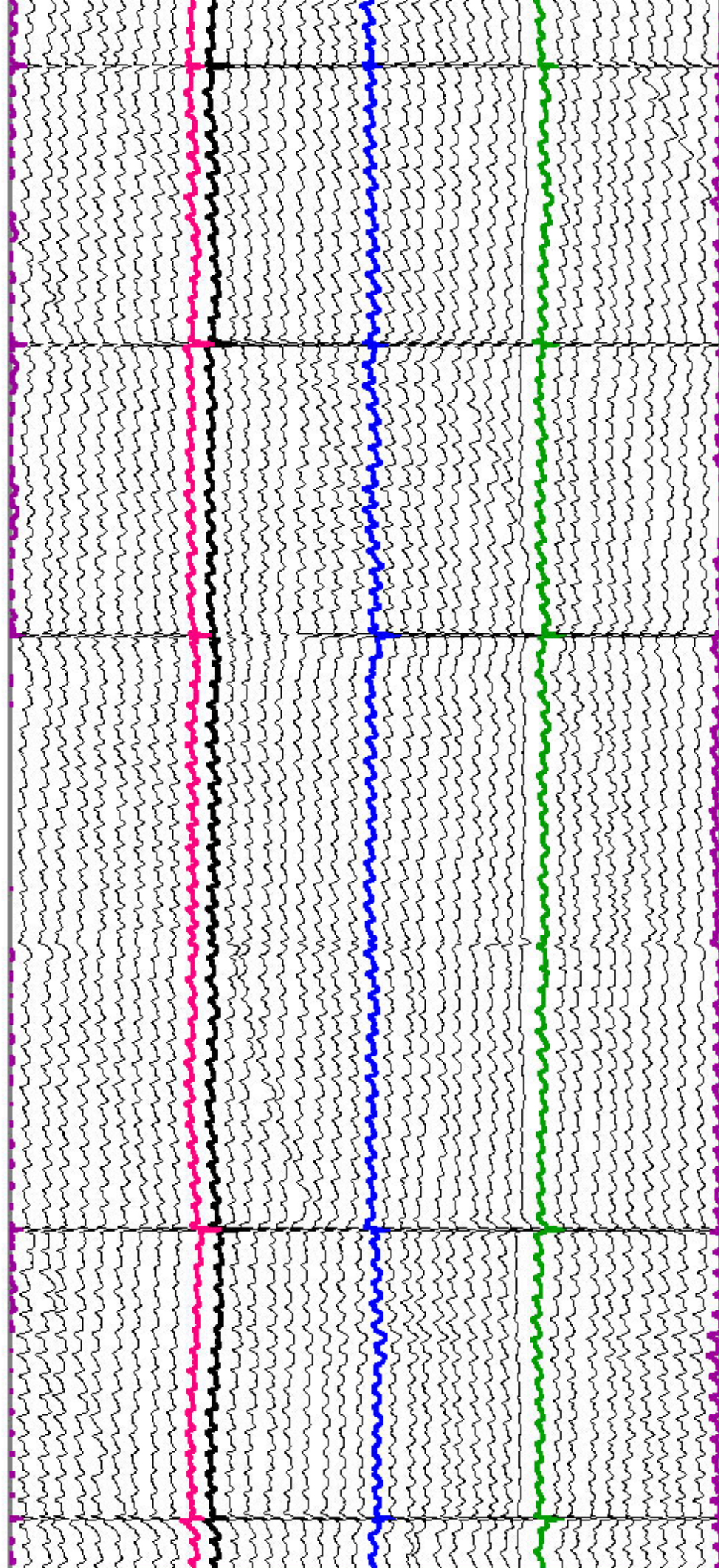


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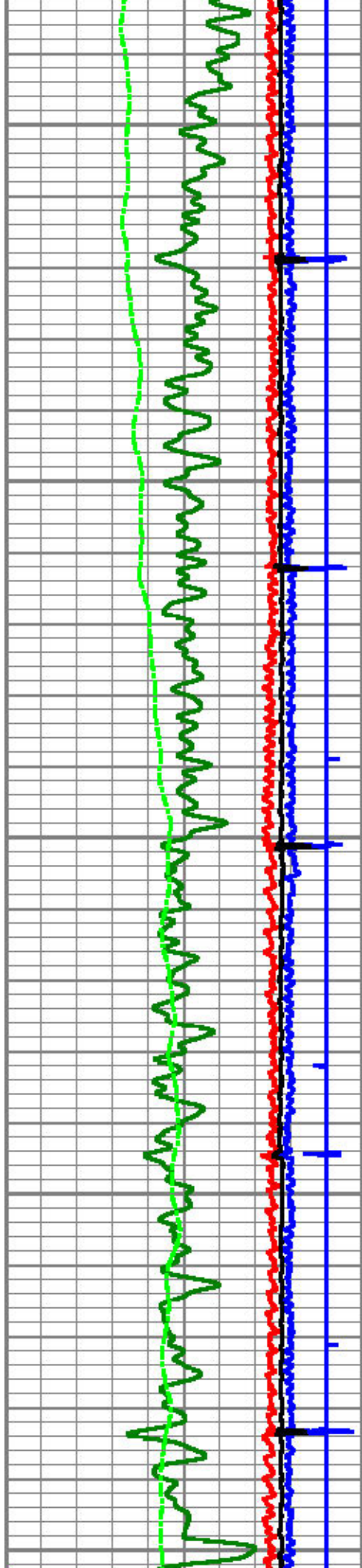
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2950

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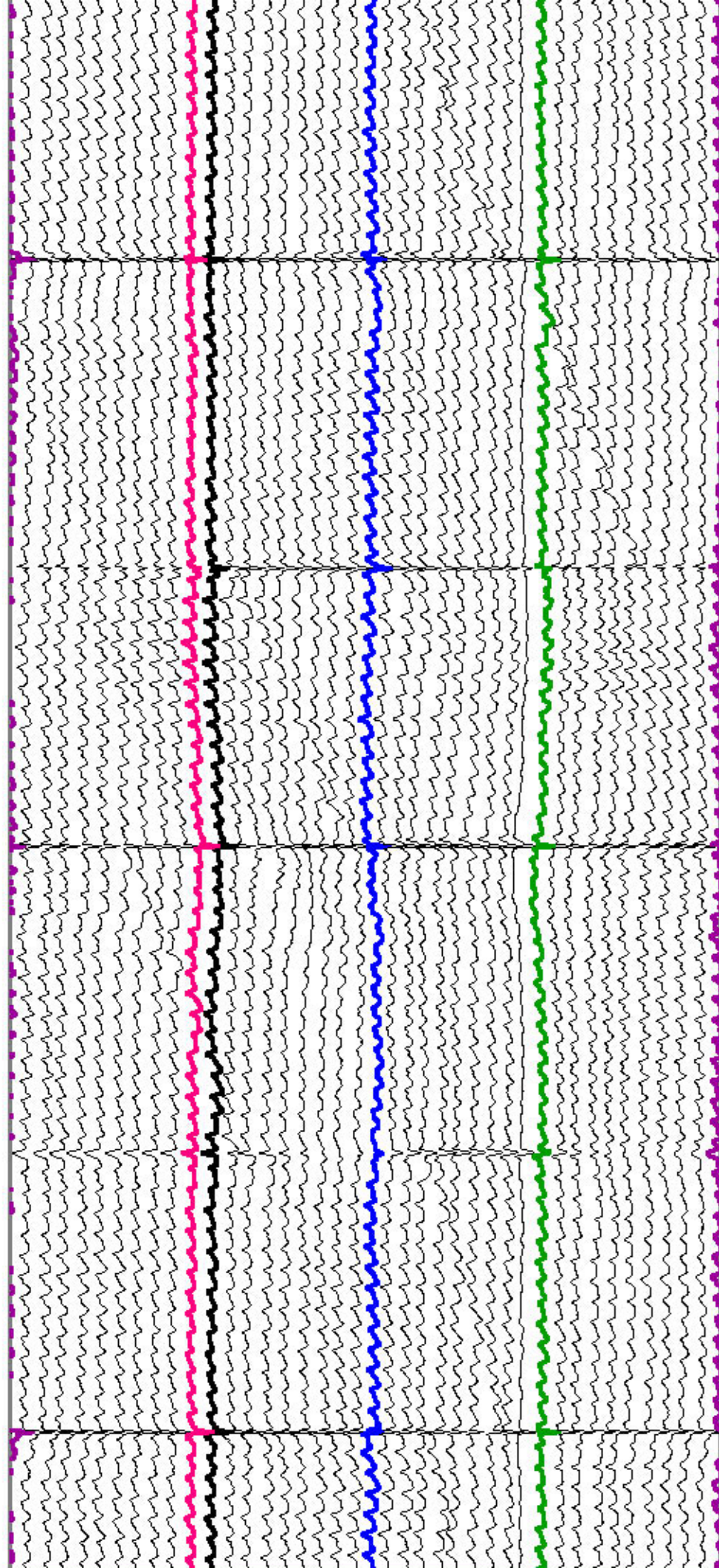
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3100

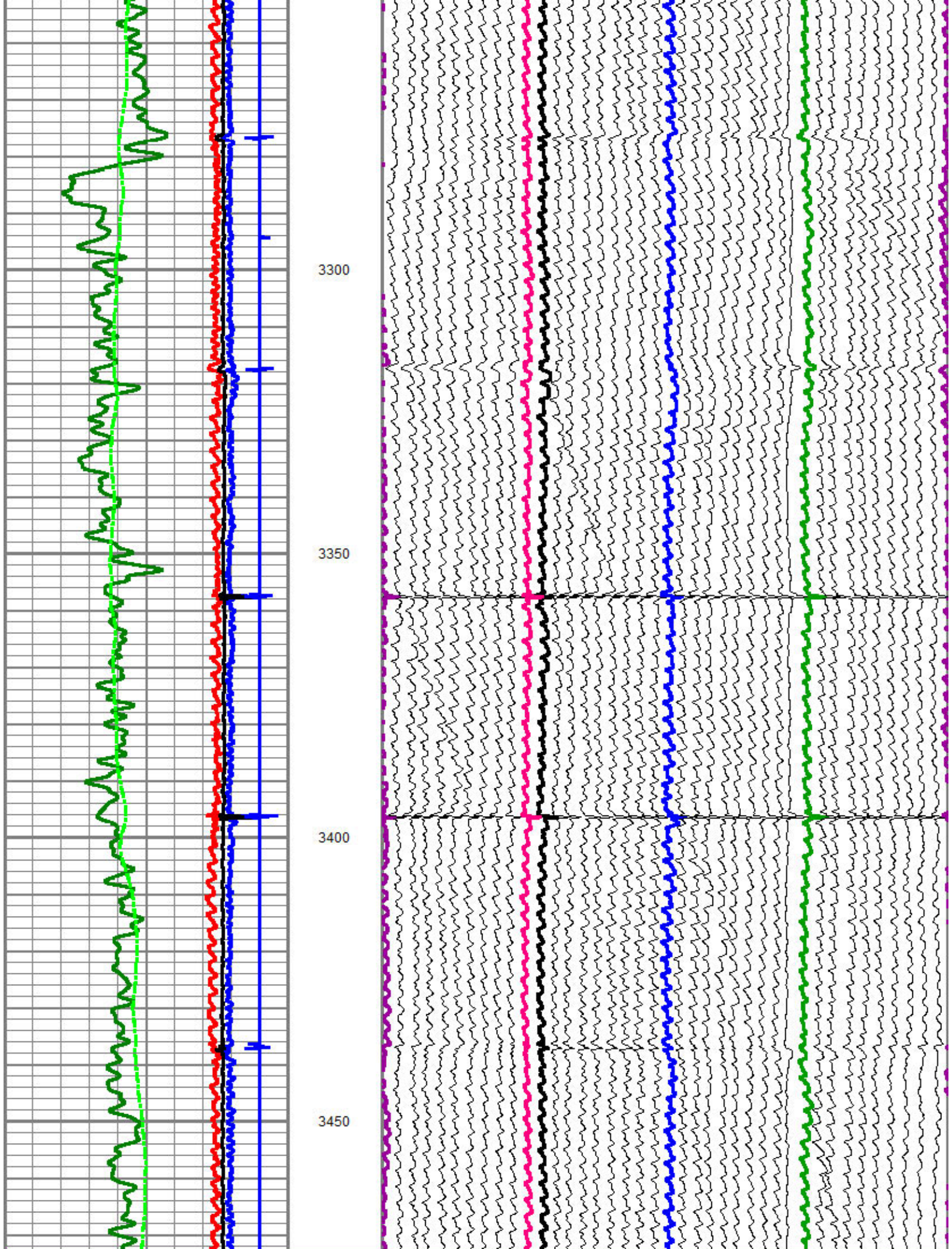
3150

3200

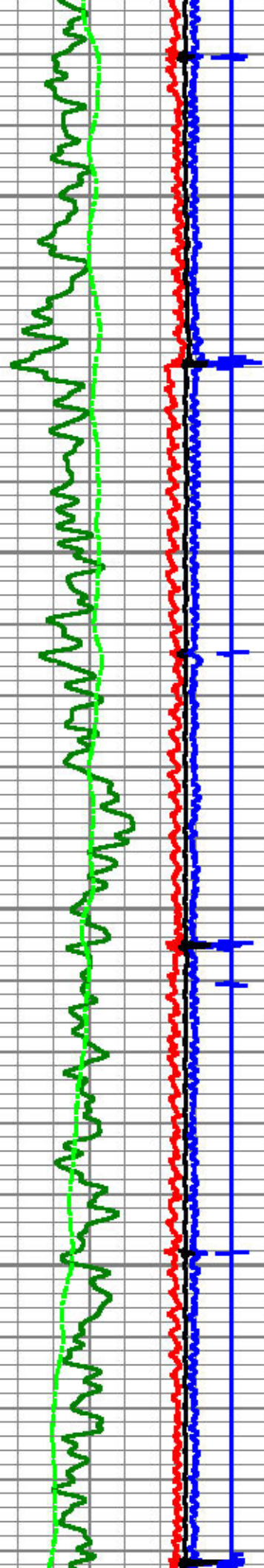
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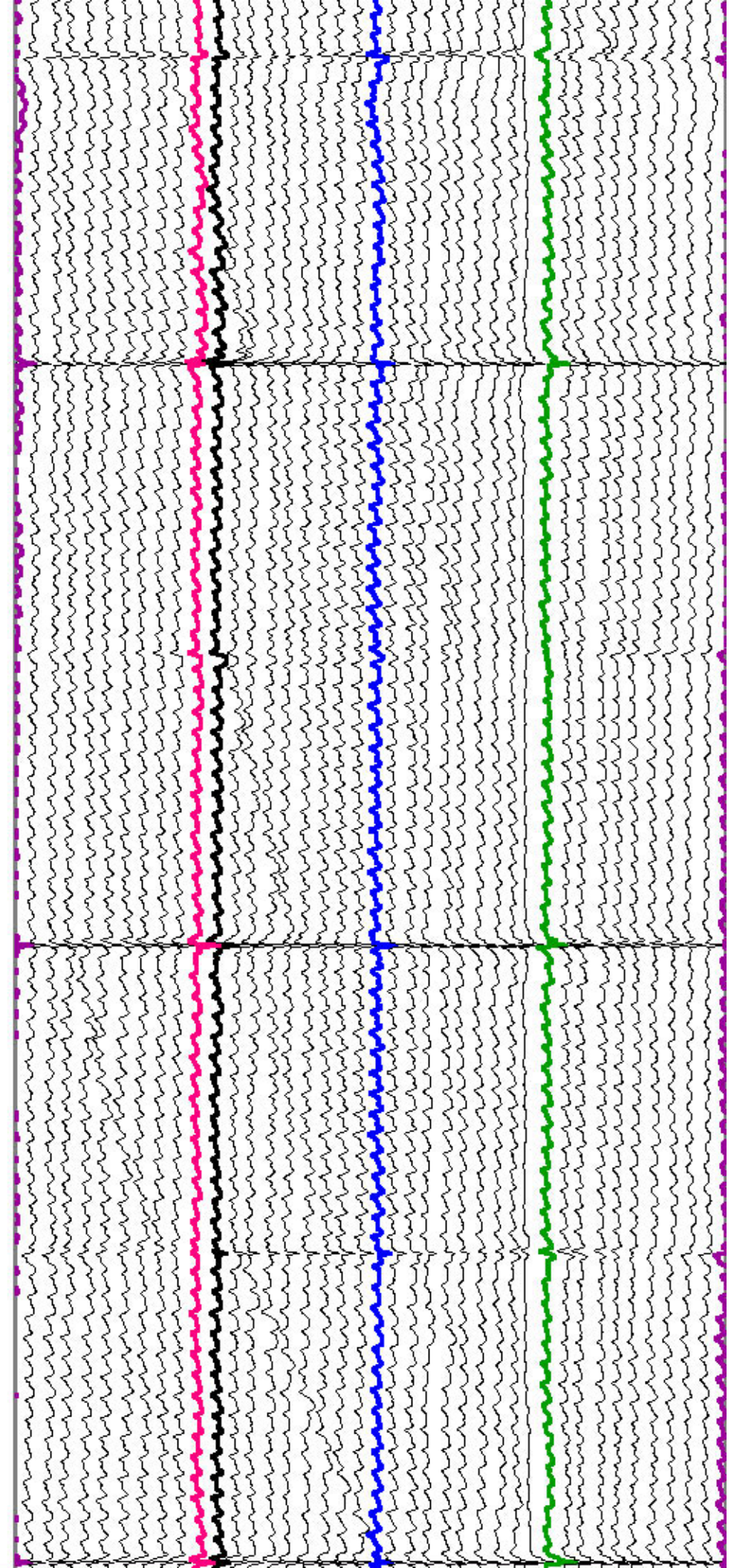


3500

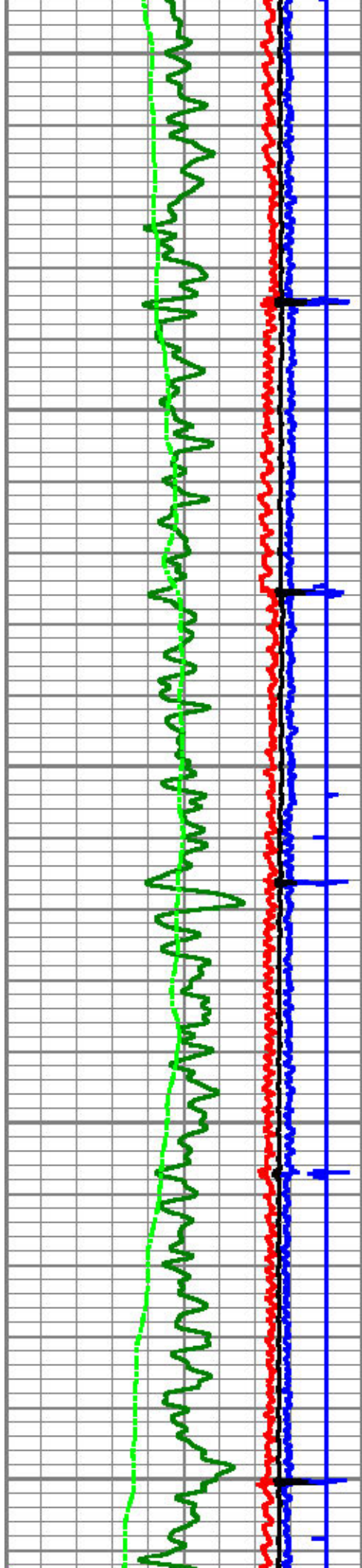
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3600

3650







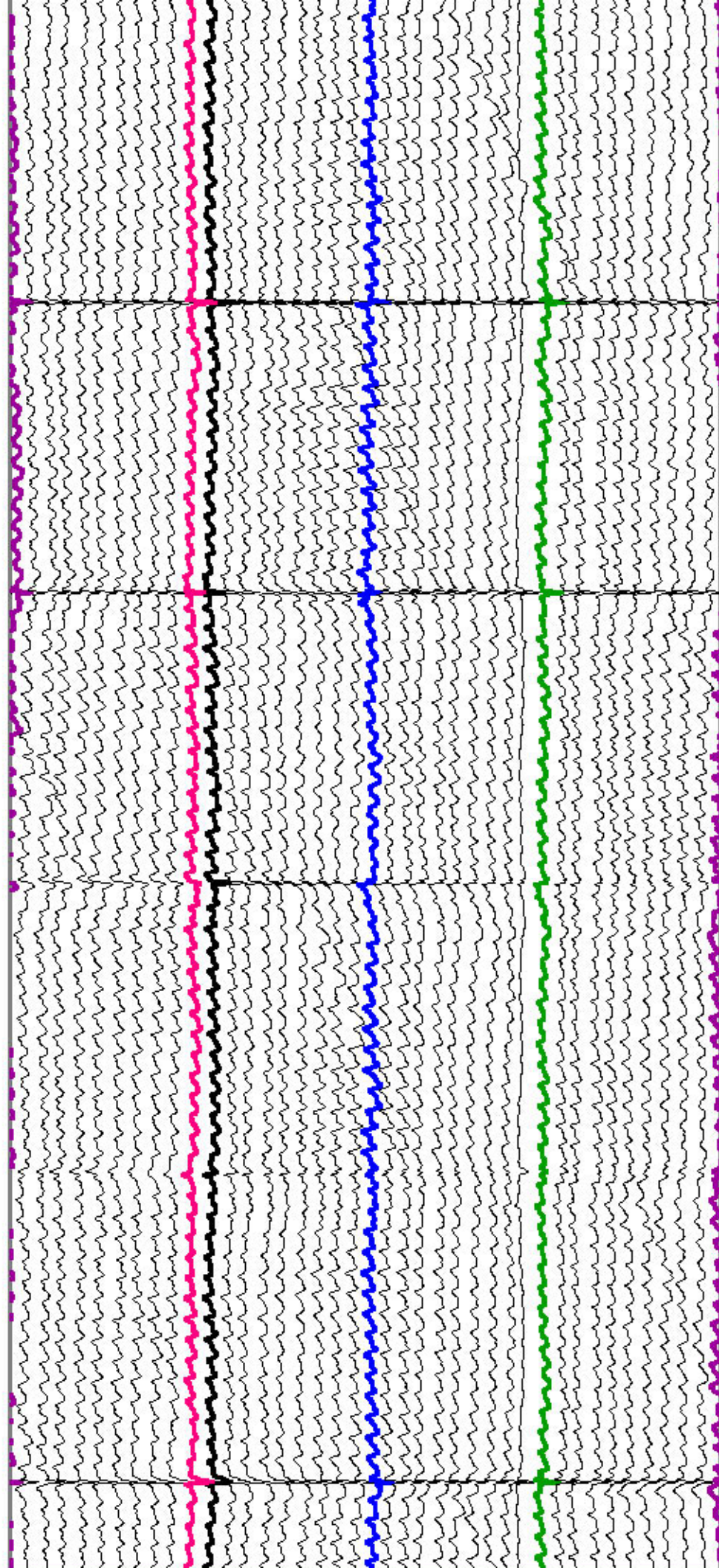
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3750

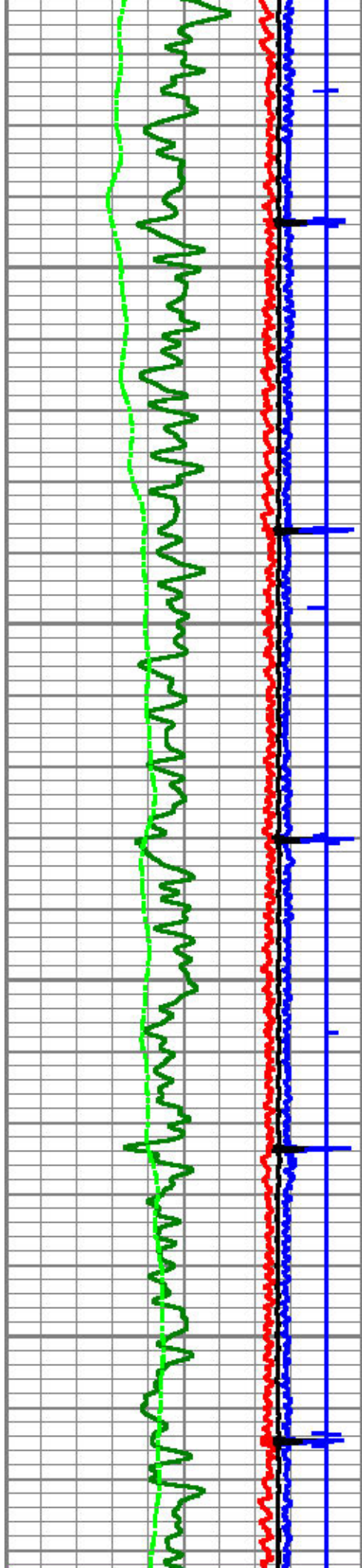
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3850

3900





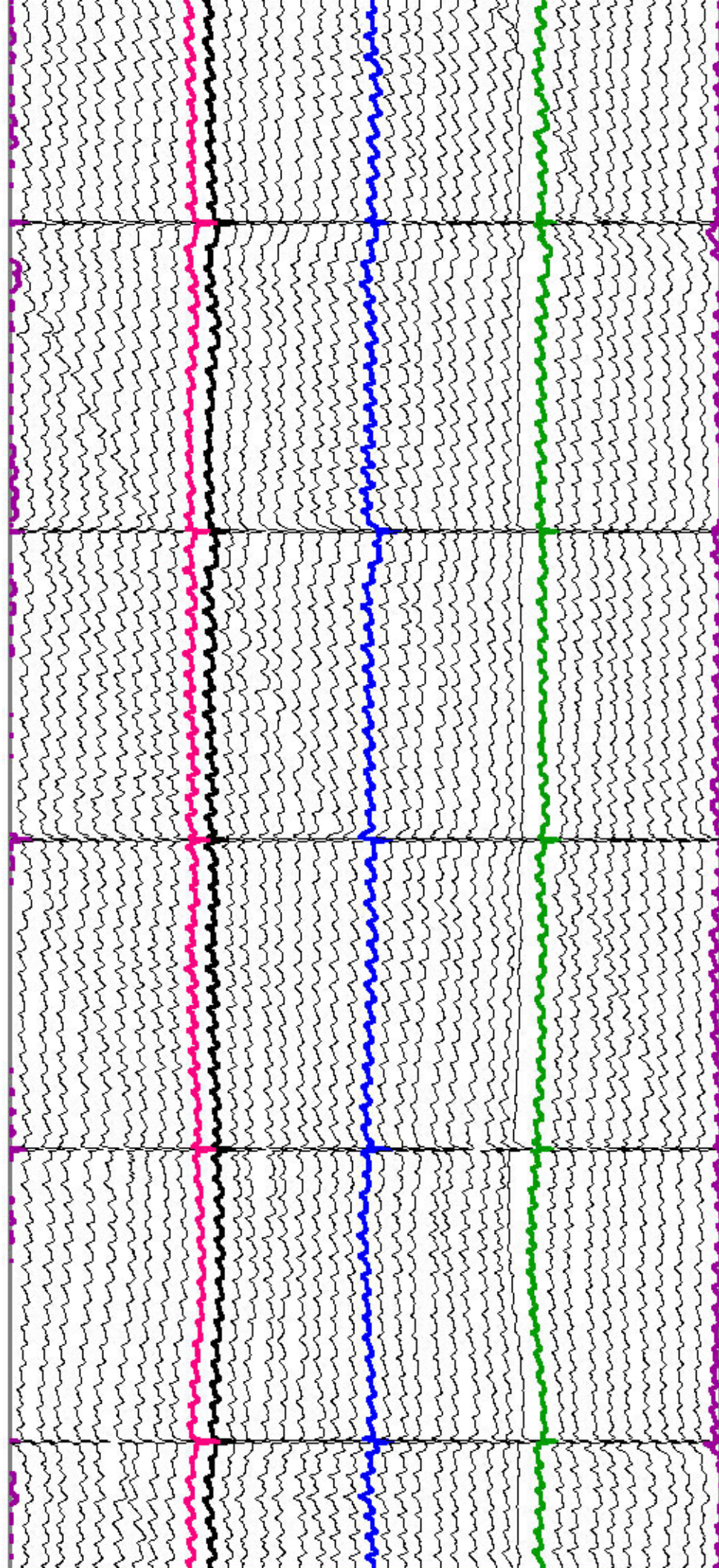


3950

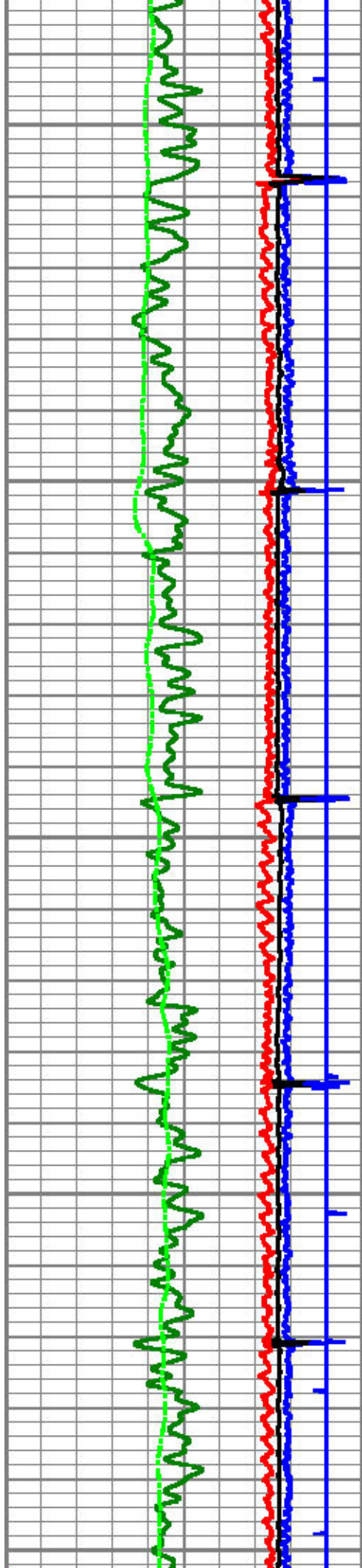
4000

4050

4100







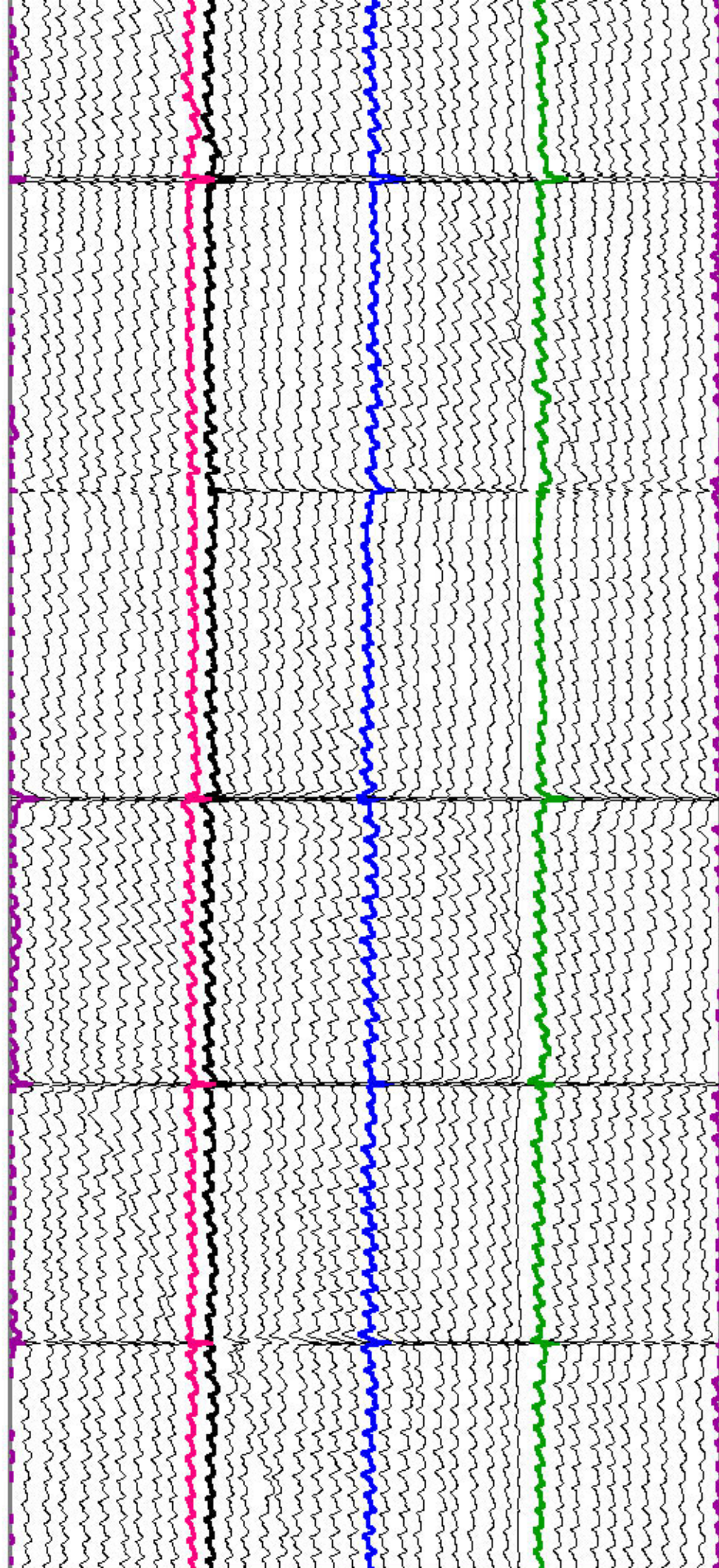
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4200

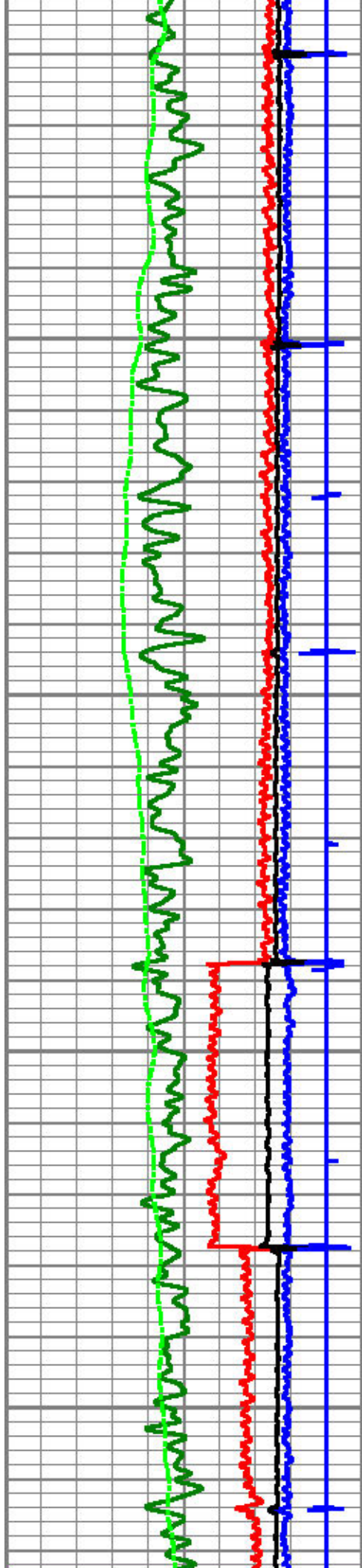
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4300

4350





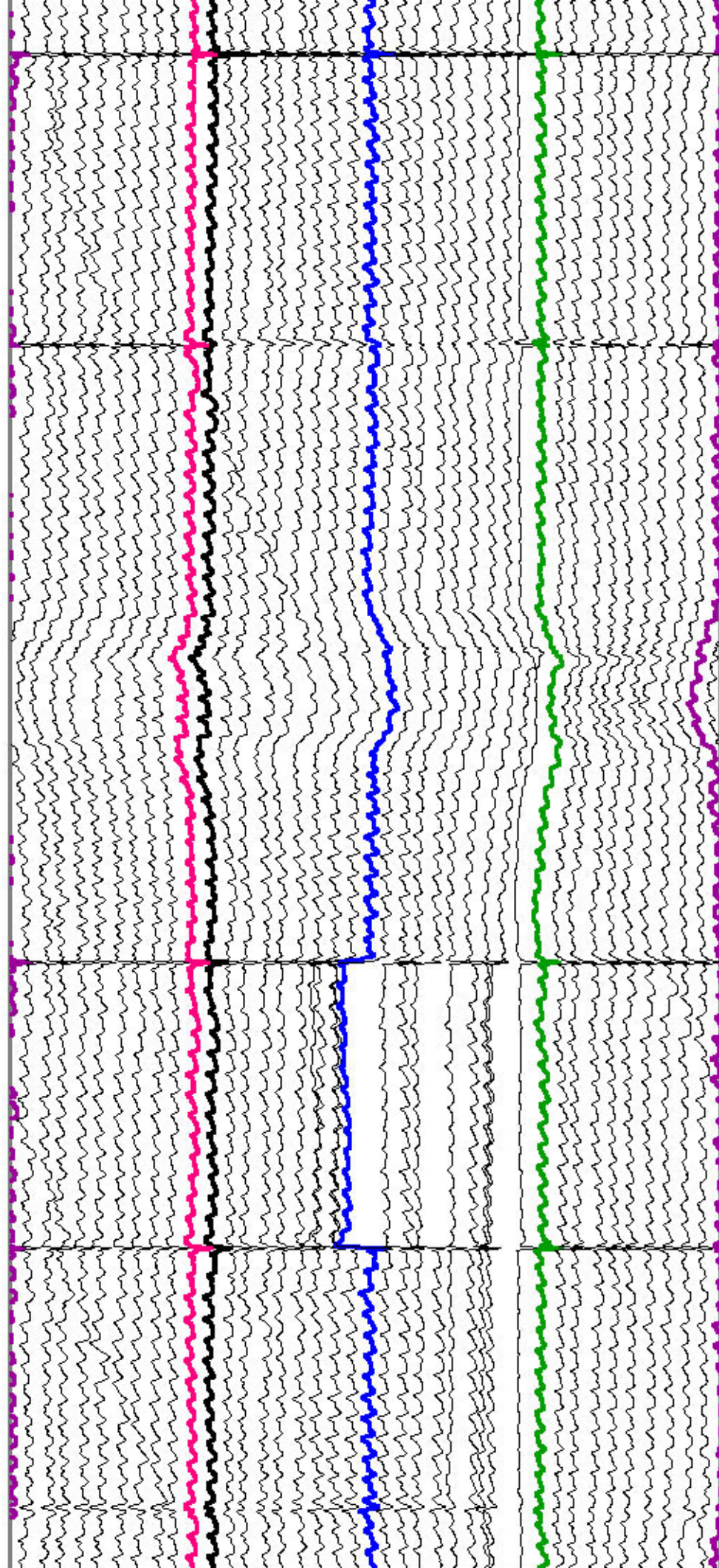


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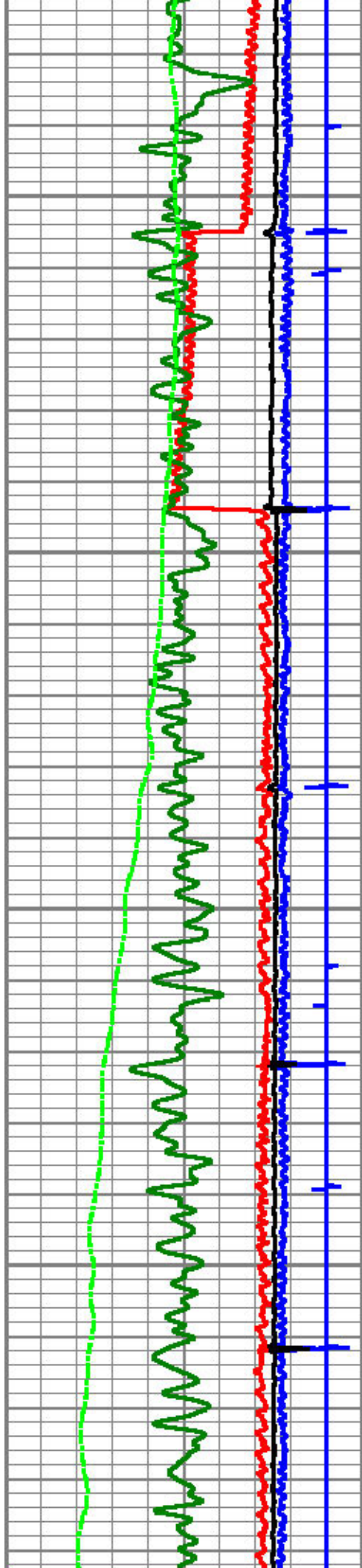
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4500

4550





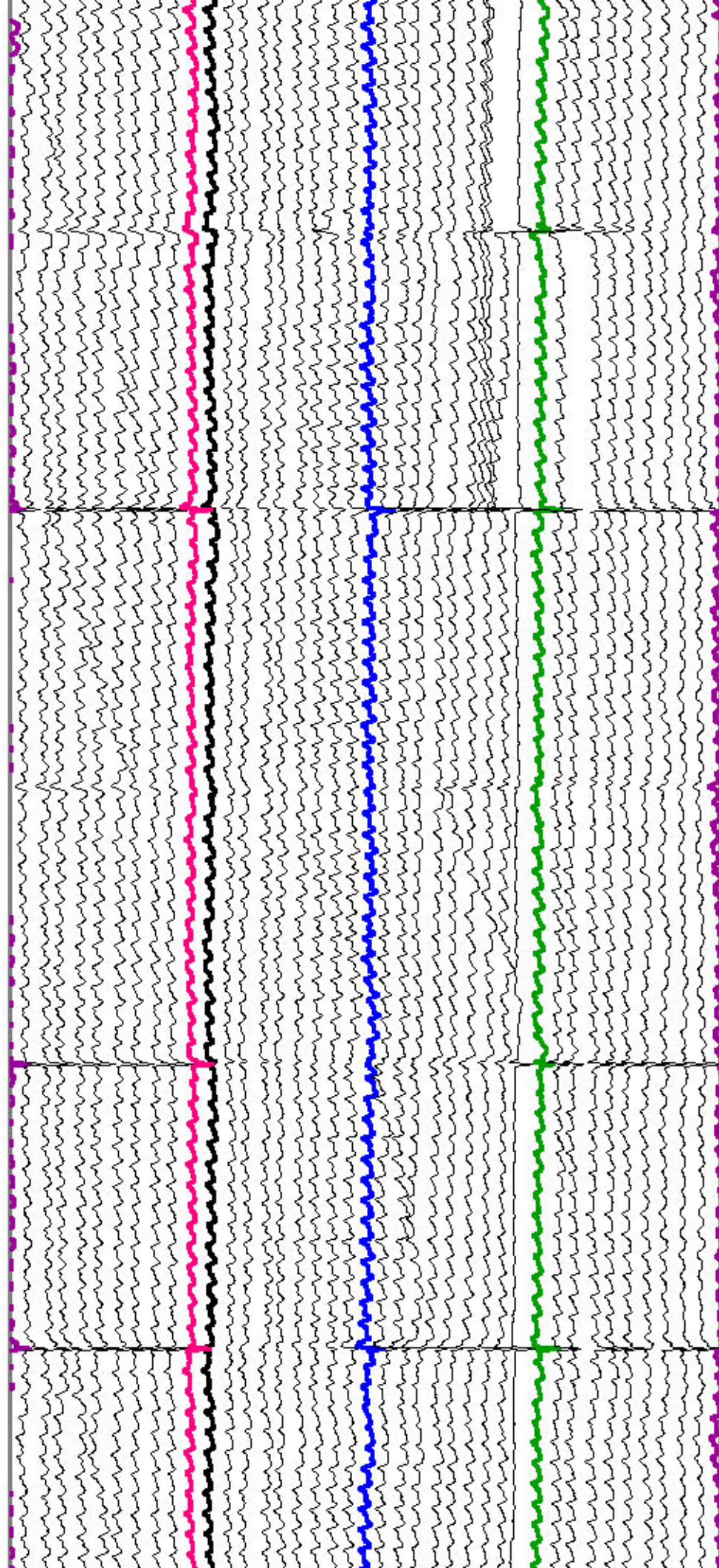


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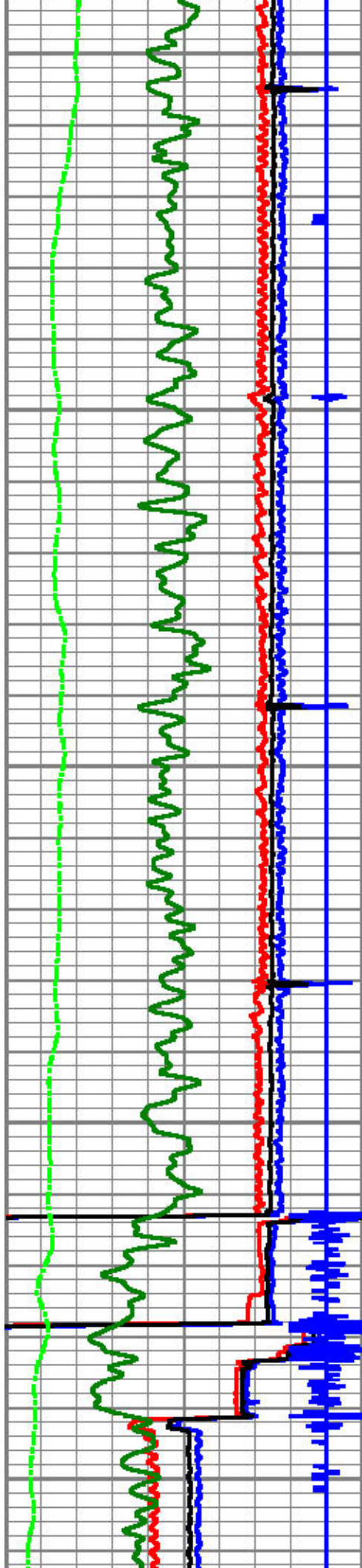
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4700

4750







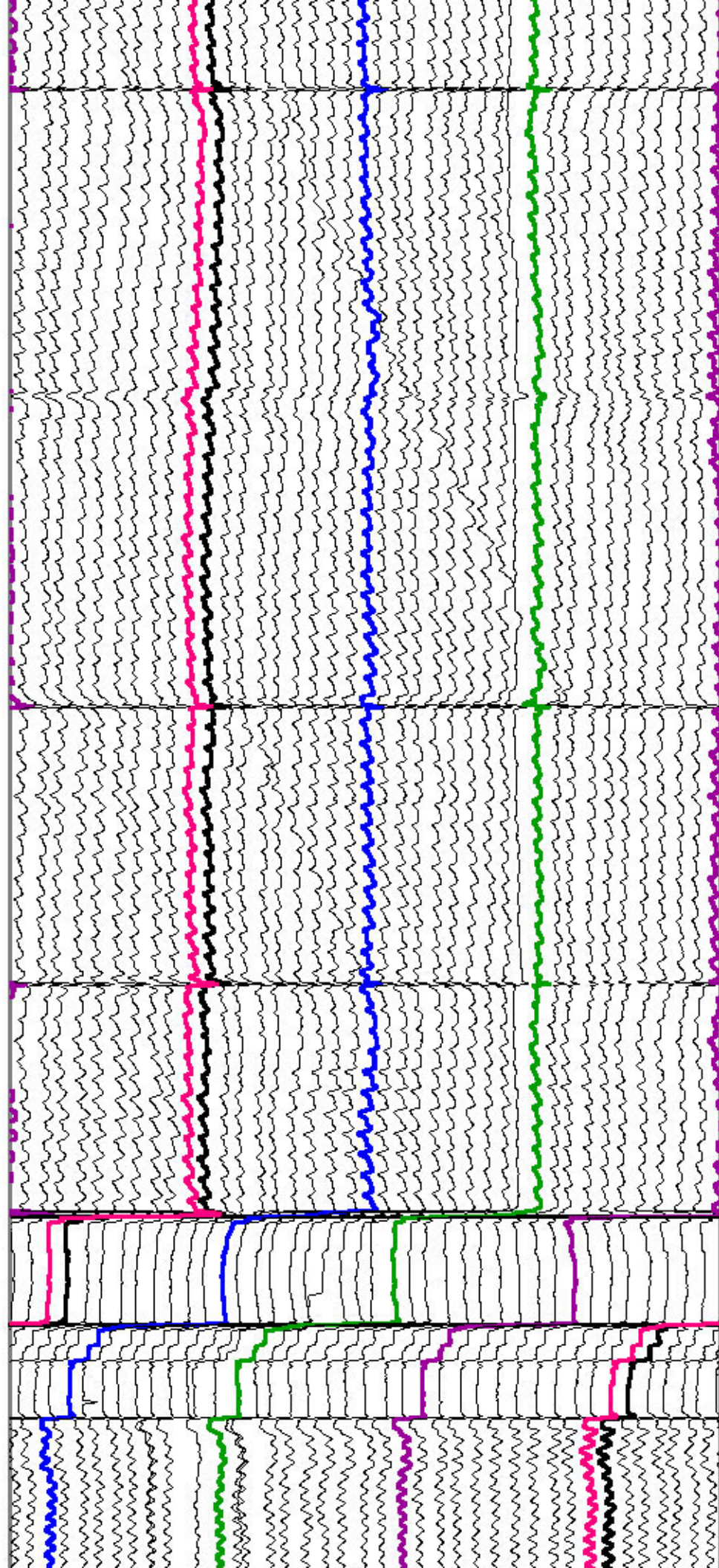
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4850

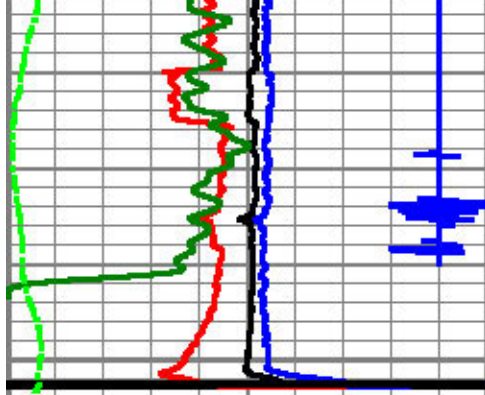
4900

4950

5000

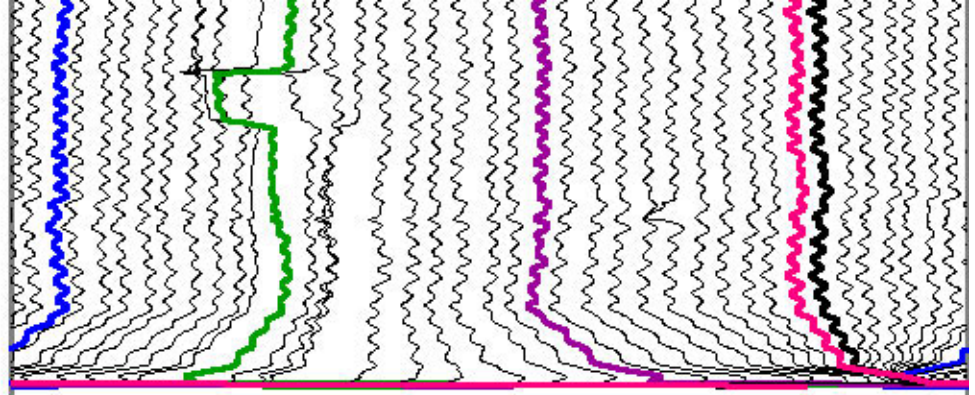






5050

4.5	IDMX (in)	5.5
4.5	IDMN (in)	5.5
4.5	IDAV (in)	5.5
0	GR (GAPI)	150
9	CCL	-1
0	DEVI (°)	20



2.4375	R01 (in)	4.9375
1.875	R10 (in)	4.375
1.25	R20 (in)	3.75
0.625	R30 (in)	3.125
0	R40 (in)	2.5

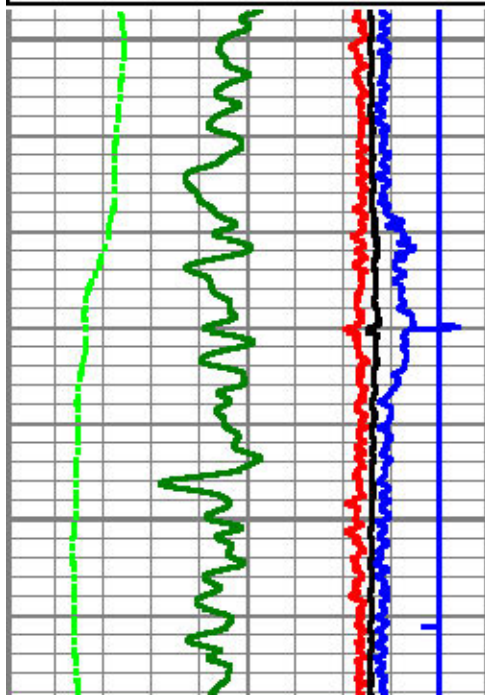


## REPEAT PASS

Database File: 2803.db  
 Dataset Pathname: pass20  
 Presentation Format: ptsmfc40  
 Dataset Creation: Sun Jan 25 15:34:54 2015 by Log 0  
 Charted by: Depth in Feet scaled 1:240

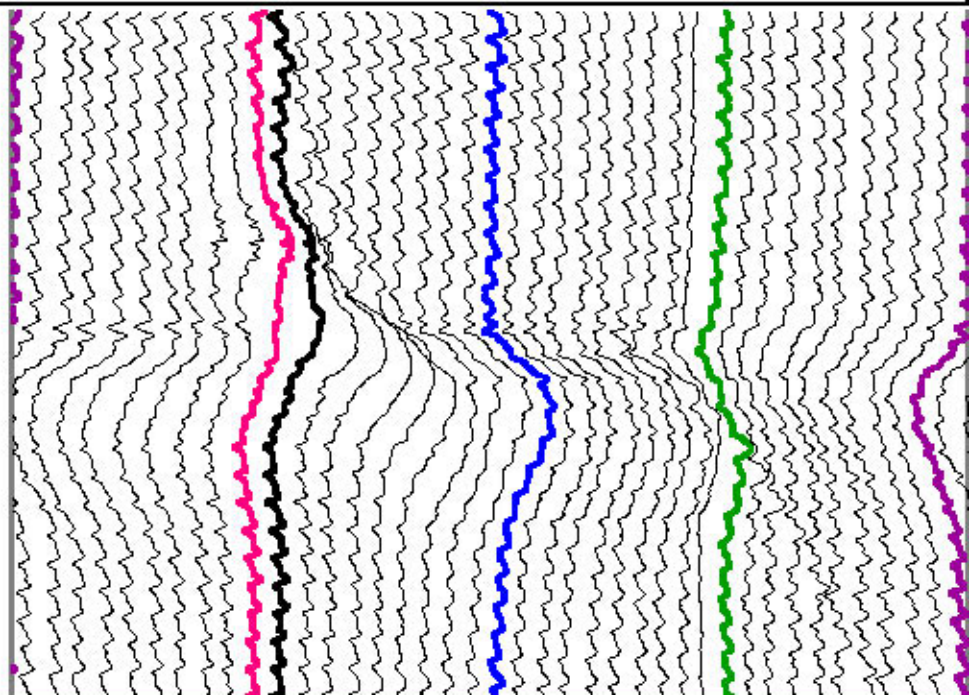
4.5	IDMX (in)	5.5
4.5	IDMN (in)	5.5
4.5	IDAV (in)	5.5
0	GR (GAPI)	150
9	CCL	-1
0	DEVI (°)	20

2.4375	R01 (in)	4.9375
1.875	R10 (in)	4.375
1.25	R20 (in)	3.75
0.625	R30 (in)	3.125
0	R40 (in)	2.5

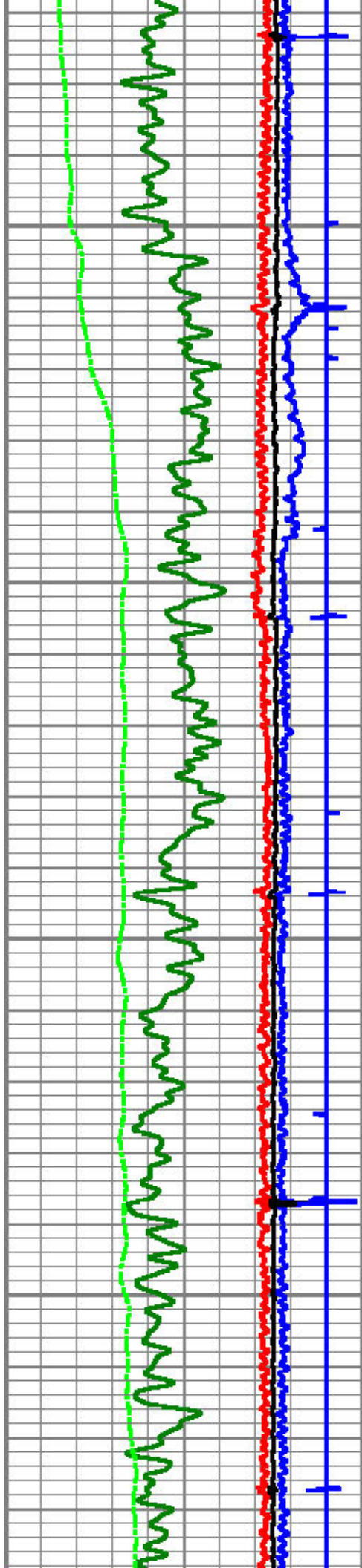


1750

1800





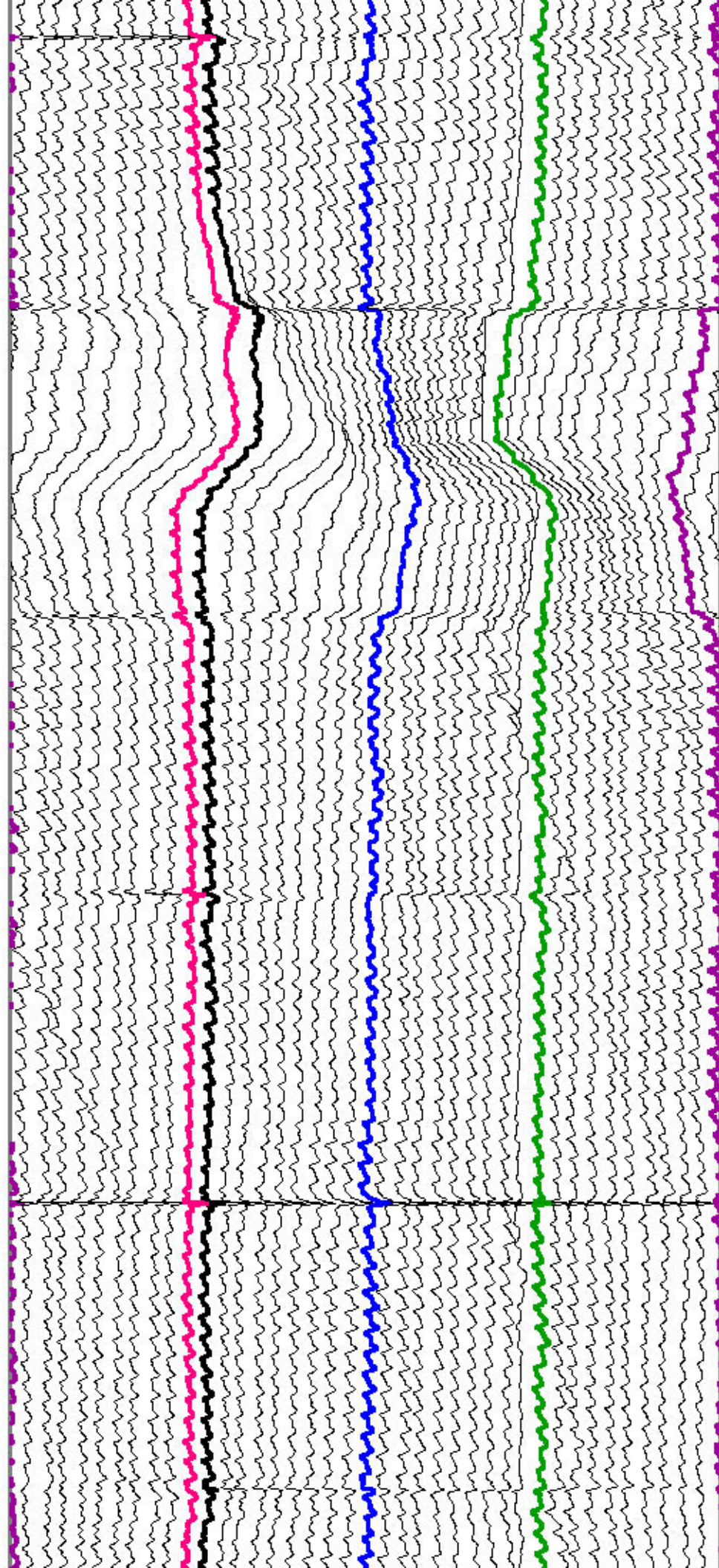


1850

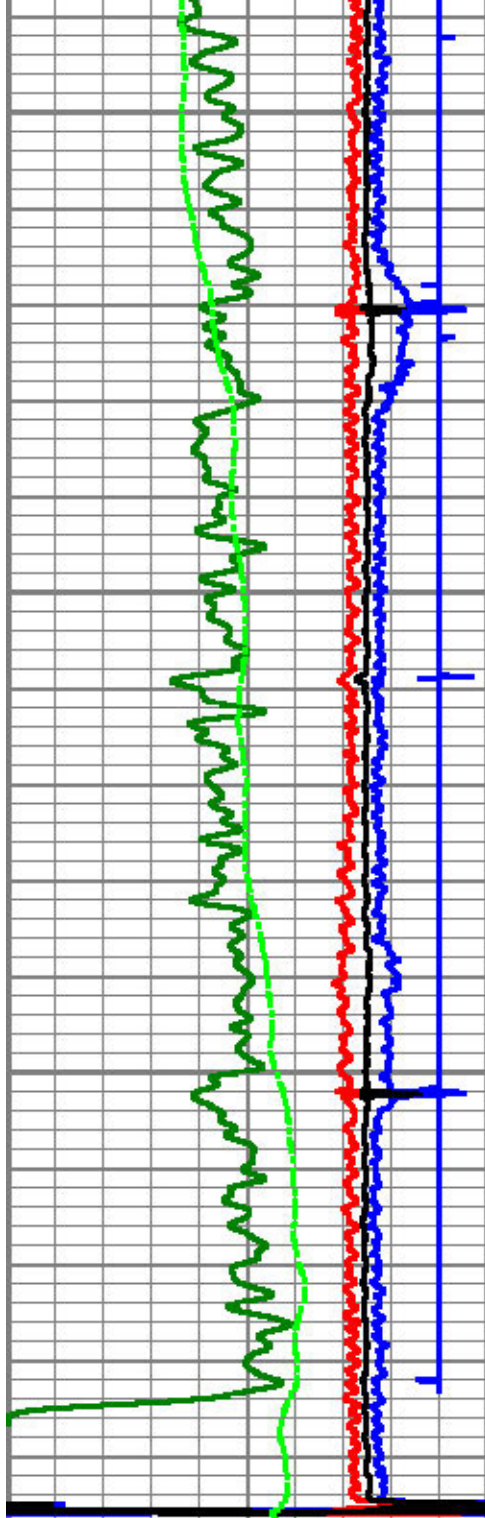
1900

1950

2000





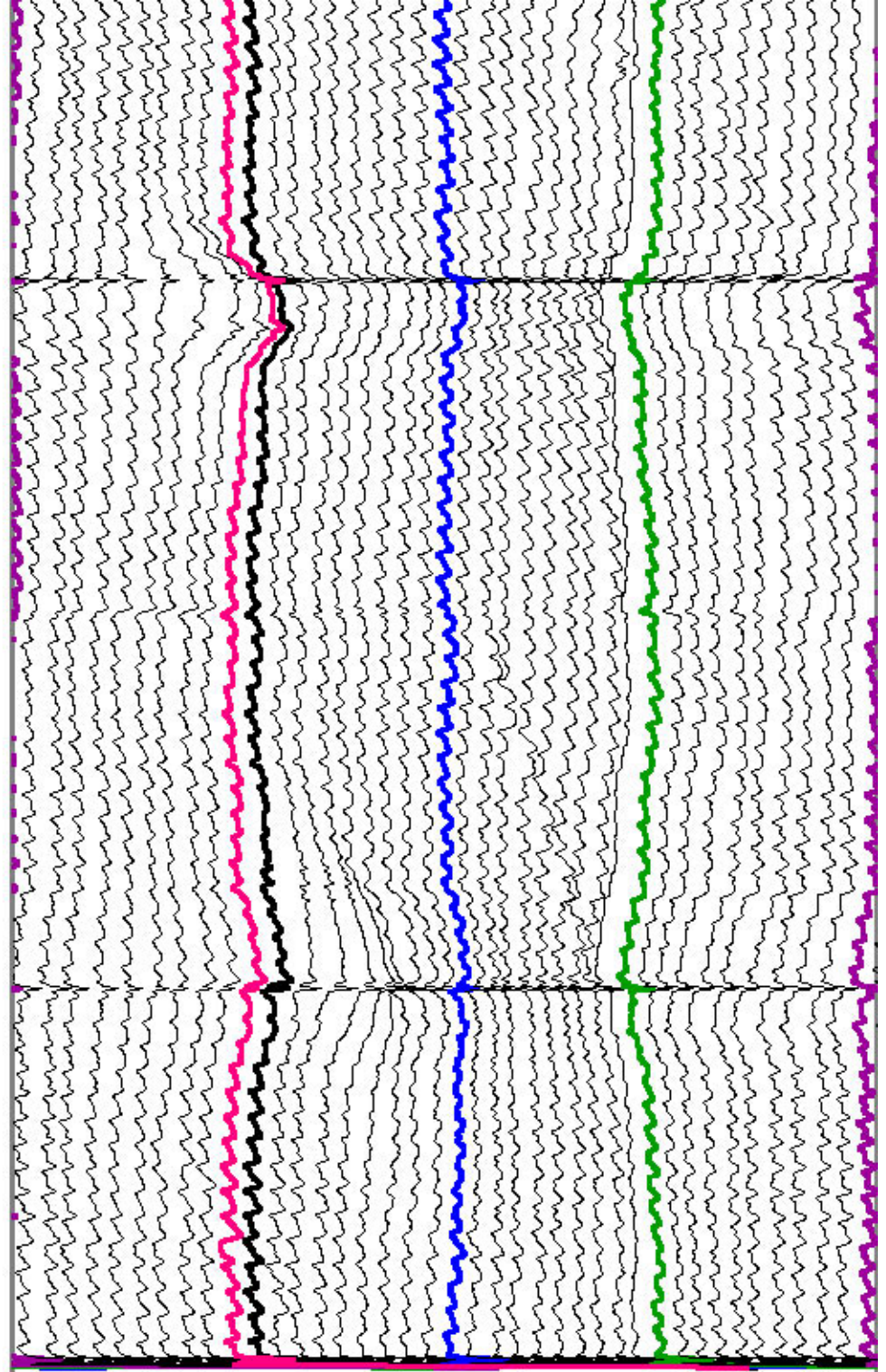


4.5	IDMX (in)	5.5
4.5	IDMN (in)	5.5
4.5	IDAV (in)	5.5
0	GR (GAPI)	150
9	CCL	-1
0	DEVI (°)	20

2050

2100

2150



2.4375	R01 (in)	4.9375
1.875	R10 (in)	4.375
1.25	R20 (in)	3.75
0.625	R30 (in)	3.125
0	R40 (in)	2.5

### Calibration Report

Database File: 2803.db  
 Dataset Pathname: pass12  
 Dataset Creation: Sun Jan 25 13:36:03 2015 by Log 0

### 40 Arm Multi Sensor Caliper Calibration Report

Serial Number

110814



Tool Model: 40incl  
 Performed: Sat Jan 24 17:08:02 2015

Ref ID: (inches)	3.00	4.00	5.00	6.00	7.00
Arm1	1.61	2.08	2.58	3.09	3.56
Arm2	1.60	2.08	2.57	3.07	3.56
Arm3	1.60	2.06	2.57	3.08	3.54
Arm4	1.61	2.08	2.57	3.07	3.55
Arm5	1.60	2.08	2.58	3.08	3.54
Arm6	1.61	2.09	2.57	3.07	3.55
Arm7	1.62	2.10	2.58	3.08	3.54
Arm8	1.60	2.08	2.58	3.08	3.53
Arm9	1.59	2.05	2.56	3.06	3.51
Arm10	1.61	2.09	2.58	3.07	3.53
Arm11	1.60	2.07	2.58	3.08	3.52
Arm12	1.60	2.10	2.58	3.06	3.54
Arm13	1.61	2.12	2.61	3.09	3.55
Arm14	1.60	2.10	2.58	3.07	3.54
Arm15	1.59	2.09	2.58	3.07	3.53
Arm16	1.60	2.10	2.59	3.07	3.54
Arm17	1.61	2.11	2.61	3.10	3.55
Arm18	1.59	2.11	2.60	3.08	3.56
Arm19	1.61	2.11	2.61	3.12	3.56
Arm20	1.59	2.10	2.59	3.08	3.55
Arm21	1.60	2.12	2.62	3.10	3.56
Arm22	1.62	2.13	2.63	3.12	3.58
Arm23	1.62	2.13	2.63	3.12	3.58
Arm24	1.61	2.12	2.62	3.11	3.59
Arm25	1.61	2.12	2.63	3.10	3.59
Arm26	1.61	2.12	2.62	3.11	3.59
Arm27	1.61	2.11	2.62	3.12	3.58
Arm28	1.61	2.12	2.62	3.12	3.60
Arm29	1.59	2.09	2.60	3.11	3.58
Arm30	1.61	2.11	2.61	3.11	3.60
Arm31	1.62	2.12	2.62	3.12	3.60
Arm32	1.62	2.12	2.61	3.12	3.59
Arm33	1.63	2.11	2.61	3.11	3.59
Arm34	1.60	2.10	2.60	3.11	3.60
Arm35	1.60	2.07	2.59	3.10	3.57
Arm36	1.60	2.09	2.58	3.09	3.57
Arm37	1.62	2.11	2.60	3.09	3.59
Arm38	1.61	2.09	2.58	3.09	3.58
Arm39	1.61	2.07	2.58	3.09	3.57
Arm40	1.61	2.08	2.57	3.06	3.57

\* = Bad Arm Flag

#### Inclinometer Calibration Report

Performed:	Sat Jan 24 17:34:08 2015				
	Low Read.	High Read.	Low Ref.	High Ref.	
X Accelerometer	-3710.00	3588.00	-1.00	1.00	gee
Y Accelerometer	-3668.00	3670.00	-1.00	1.00	gee
Z Accelerometer	15.38	3636.62	0.00	1.00	gee

#### Gamma Ray Calibration Report

Serial Number: FW1311-4  
 Tool Model: Probe275  
 Performed: Sat Jan 24 17:41:23 2015

Calibrator Value: 1022.0 GAPI



Background Reading:	71.7	cps
Calibrator Reading:	1479.2	cps
Sensitivity:	0.7261	GAPI/cps

### Segmented Cement Bond Log Calibration Report

Serial Number:	FW1408-26
Tool Model:	RBTC3
Calibration Casing Diameter:	5.500 in
Calibration Depth:	59.255 ft

Master Calibration, performed Sat Jan 24 17:58:31 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.013	0.929	2.000	71.921	74.222	2.944
CAL	-0.015	1.022				
5'	-0.017	0.934	2.000	71.921	73.574	3.239
SUM						
S1	0.045	0.941	0.000	100.000	120.000	-0.563
S2	-0.011	0.945	0.000	100.000	104.590	1.149
S3	-0.012	0.935	0.000	100.000	105.598	1.275
S4	-0.018	0.929	0.000	100.000	105.666	1.873
S5	-0.016	0.928	0.000	100.000	105.964	1.674
S6	-0.012	0.930	0.000	100.000	106.113	1.269
S7	-0.011	0.931	0.000	100.000	106.117	1.193
S8	-0.017	0.938	0.000	100.000	104.654	1.787

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	-0.015	1.022	1.000	0.000

Air Zero Calibration, performed Mon Dec 15 09:56:27 2014:

	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:	FW1408-26
Tool Model:	RBTC3
Performed:	Sun Jun 13 13:33:21 1993

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

Gain:	1.00
-------	------



Offset: 0.00  
Delta Spacing 1

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
				2.83	2.75	
WVF3FT	20.80		RBT-RBTC3 (FW1408-26)	9.25	2.75	100.00
WVFCAL	20.80					
WVFS1	20.80					
WVFS2	20.80					
WVFS3	20.80					
WVFS4	20.80					
WVFS5	20.80					
WVFS6	20.80					
WVFS7	20.80					
WVFS8	20.80					
WVF5FT	19.80		PTS275	2.83	2.75	
TEMP	16.55					
CCL	13.59					
GR	12.26		GR-Probe275 (FW1311-4) Probe 2 3/4" Logging Gamma Ray	4.00	2.75	57.00
			PTS275	2.83	2.75	
ACCX	5.00					
ACCY	5.00					
ACCZ	5.00		Probe_MFCAL-40incl (110814)	6.89	2.75	50.00
ETEMP	2.00					
Meas	1.25					



Dataset:	2803.db: field/well/run1/pass12
Total Length:	28.64 ft
Total Weight:	207.00 lb
O.D.	3.71 in



<b>Company</b>	WHITING PETOLEUM
<b>Well</b>	RAZOR 33M-2803
<b>Field</b>	WILDCAT
<b>County</b>	WELD
<b>State</b>	COLORADO