PND-S CASED HOLE TRIPLE COMBO

Weatherford®

Company	URSA OPERATING COMPANY				
Well	BAT 32D-24-07-96				
Field	BATTLEMENT MESA				
County	GARFIELD	State	COLORADO	Country	USA
Location					
Section	24	Township	7S	Range	96W
Permanent Datum	GL			Elevation	5160
Log Measured From	KB	, 15.5	Above Perm Datum		
Drilling Meas From	KB				

	Run 1	Run 2	Run 3
Date	FEB 25, 2014 PND		
Depth - Driller	6187		
Depth - Logger	6168		
Btm Log Interval	6158		
Top Log Interval	2900		
Casing - Driller	4.5" @ TD		
Casing - Logger			
Bitsize	8.75"		
Type Fluid in Hole	WATER		
Dens. /Visc.	8.3 / N/A		
pH / Fluid Loss			
Source of Sample			
Rm @ Meas. Temp			
Rmf @ Meas. Temp			
Rmc @ Meas. Temp			
Source: Rmf / Rmc			
Rm @ BHT			
Max. Rec. Temp.	190 DEG F		

PLOT TYPE: PND-S *CASED-HOLE TRIPLE COMBO LOG*

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REMARKS:

Project: 5133-80204164
Company: URSA OPERATING COMPANY
Well: BAT 32D-24-07-96
Field: BATTLEMENT MESA
County: GARFIELD
State: COLORADO
Country: USA
Log Date: FEB 25, 2014 PND

PND-S digital data matches PND-S field print.

Field Print was correlated to Weatherford wireline Sector Bond Gamma Ray CCL log dated Feb. 24, 2014.

Porosity data computed from (PND-S, AI) Neutron/Density data.

Neutron = SS, RHOma=2.68, RHOfl=1.0

Open Hole Porosities from BAT 23CWI-24-07-96 used to aid in calibrating AI porosity curves. OH porosity log data affected by hole washouts.

Matrix model = Sand/Shale.

NOTE: PND-S Inelastic Porosity and Saturation estimates will be affected adversely by inconsistent cement, multiple casing/tubing strings and/or large borehole sections of the well. Pulsed neutron measurements in recently-drilled wells will be subject to the effects of drilling fluid invasion and must be considered to be of a relative nature.

APP Jobnum: #5739

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CURVE DESCRIPTIONS:

CURVE LEGEND:
- CCL = Collar Locator
- BGN = Near Background Counts
- BGF = Far Background Counts
- GRP = Gamma Ray, from (PND-S) data
- CSG1L = 4.5" Casing Flag
- CSG1R = 4.5" Casing Flag
- TENS = Line Tension (CH)
- NEAR = Near Detector Counts
- FAR = Far Detector Counts
- RATI = Formation Ratio
- RBNF = Ratio of (Near/Far) Bulk Inelastic data
- SIGC = Formation Sigma, from (PND-S) data
- DELI = Inelastic Data Quality Indicator, from (PND-S) Inelastic data

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   AIPN     = Neutron-Type Porosity, from (PND-S) Capture data, (Matrix=SS)
   AIPD     = Density-Type Porosity, from (PND-S) Inelastic data, (Rhoma=2.68)


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PARAMETERS:

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BOREHOLE ENVIRONMENT:

 BOREHOLE RECORD:
   Bit Size   Top    -  Bottom
      8.75"       ? -    6187'

 CASING RECORD:
     Size     Top    -  Bottom
       4.5" Surface -      TD'

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ANALYST: B. Smith
PROGRAM: multiple wts

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MEASUREMENTS AND WE CANNOT AND DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF
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SCHEDULE.
                        WEATHERFORD INTERNATIONAL, LTD.

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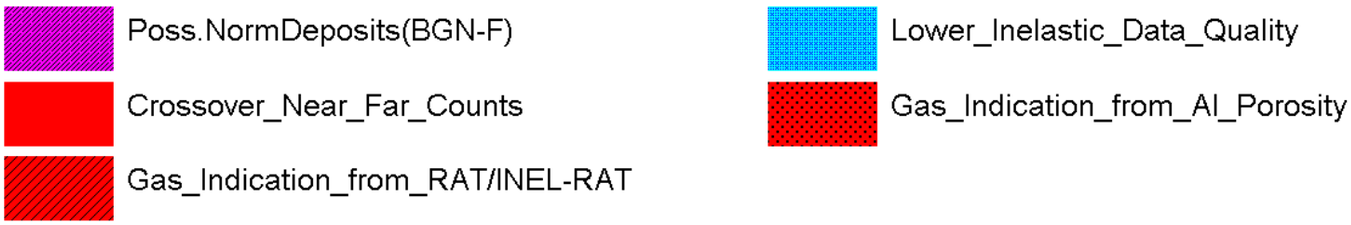


DEPTH (FT)
Interval: 2882.00 to 6173.00
Depth Scale Ratio: 1/240

CCL		
22000	mv	-2400

BGN		
0	cps	30000

BGF		
0	cps	3000

GRP		
0	gapi	150

DEPTH
FT

CSG1L		
0	flg	10

CSG1R		
10	flg	0

TENS		
2500	lbs	0

NEAR		
240	cps	0

FAR		
40	cps	0

RATI	
6	-4

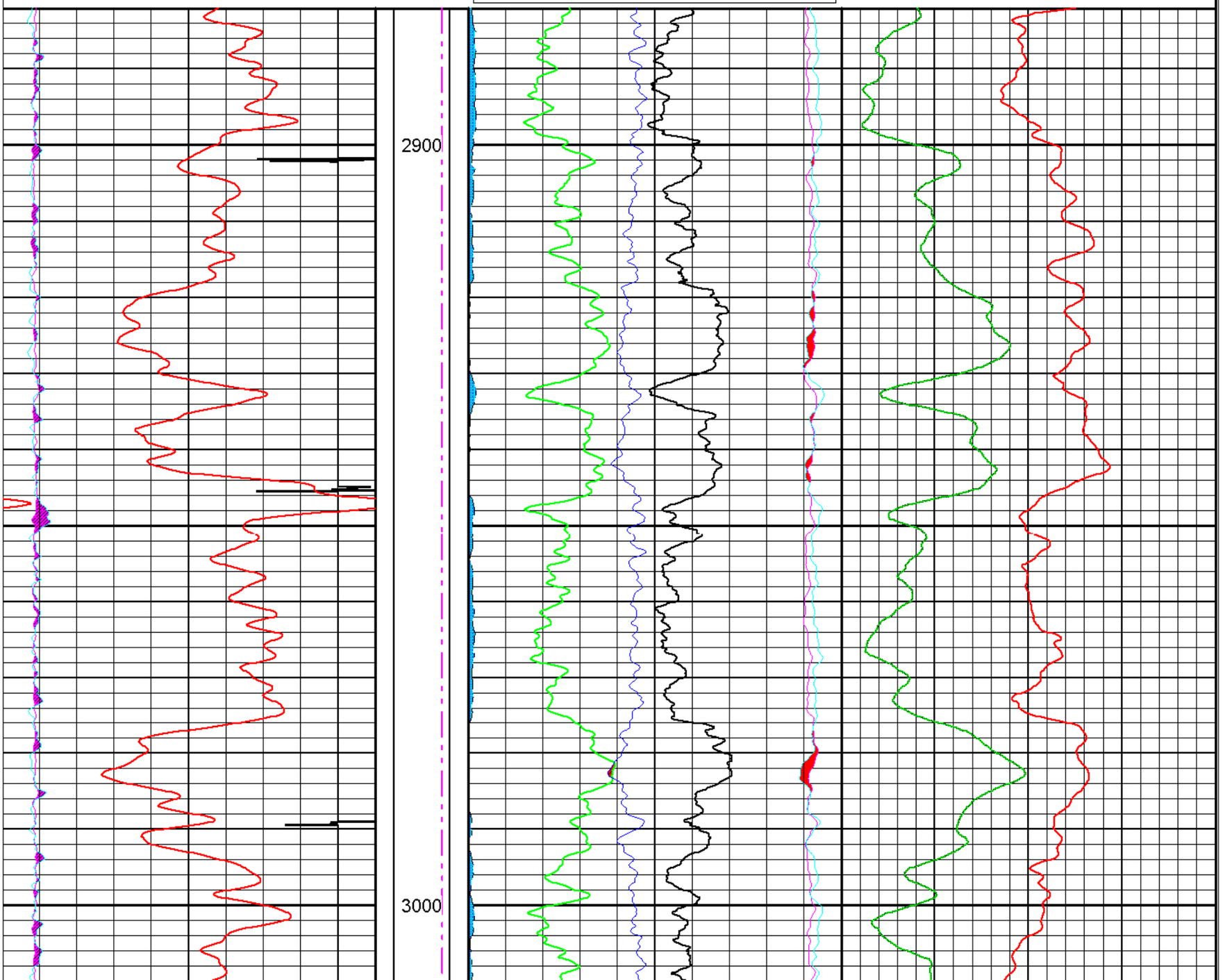
RBNF	
2.5	22.5

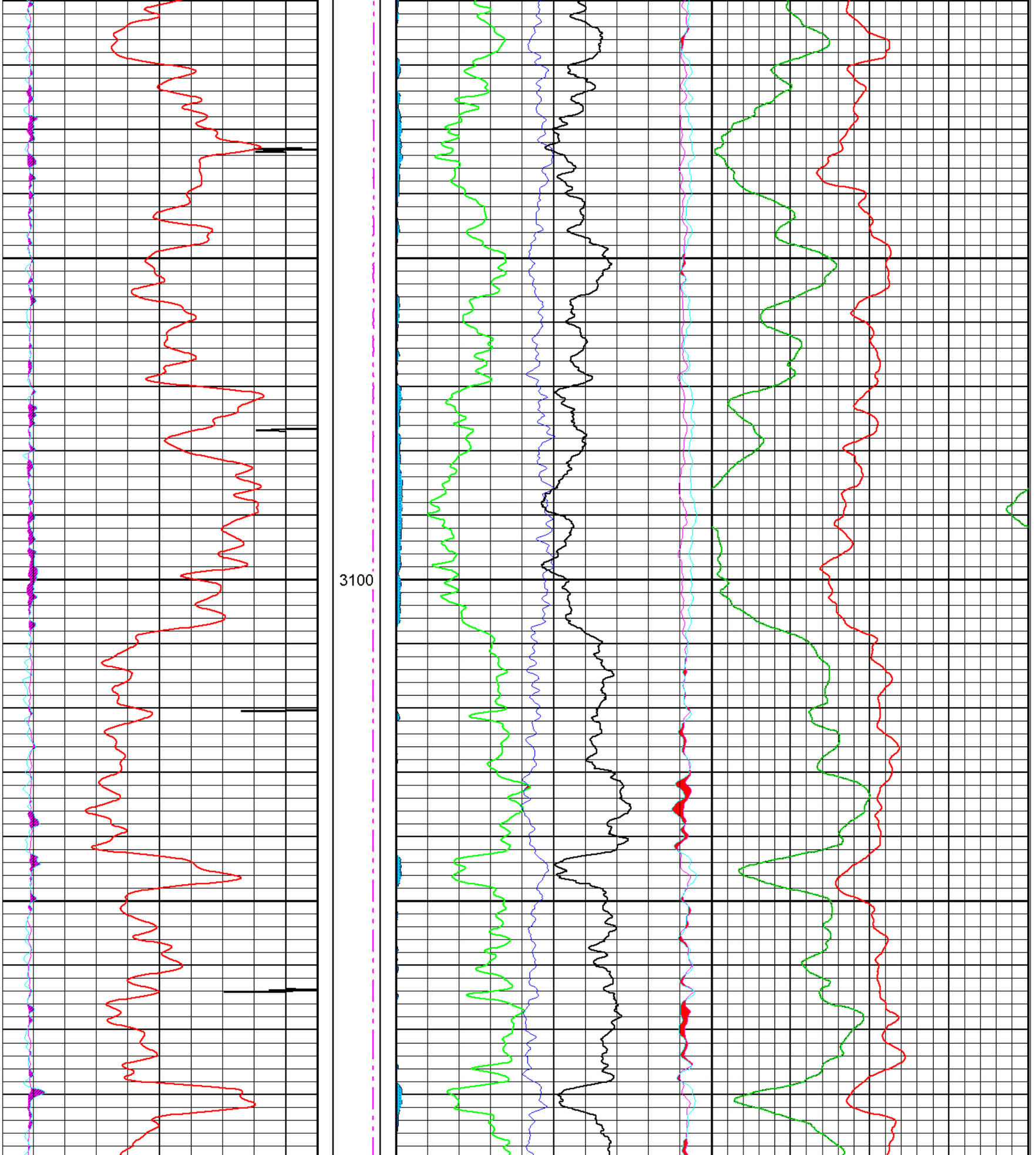
SIGC		
50	cu	0

DELI	
0	-100

AIPN		
0.3	dec(ss)	-0.1

AIPD		
0.3	dec(ss)	-0.1

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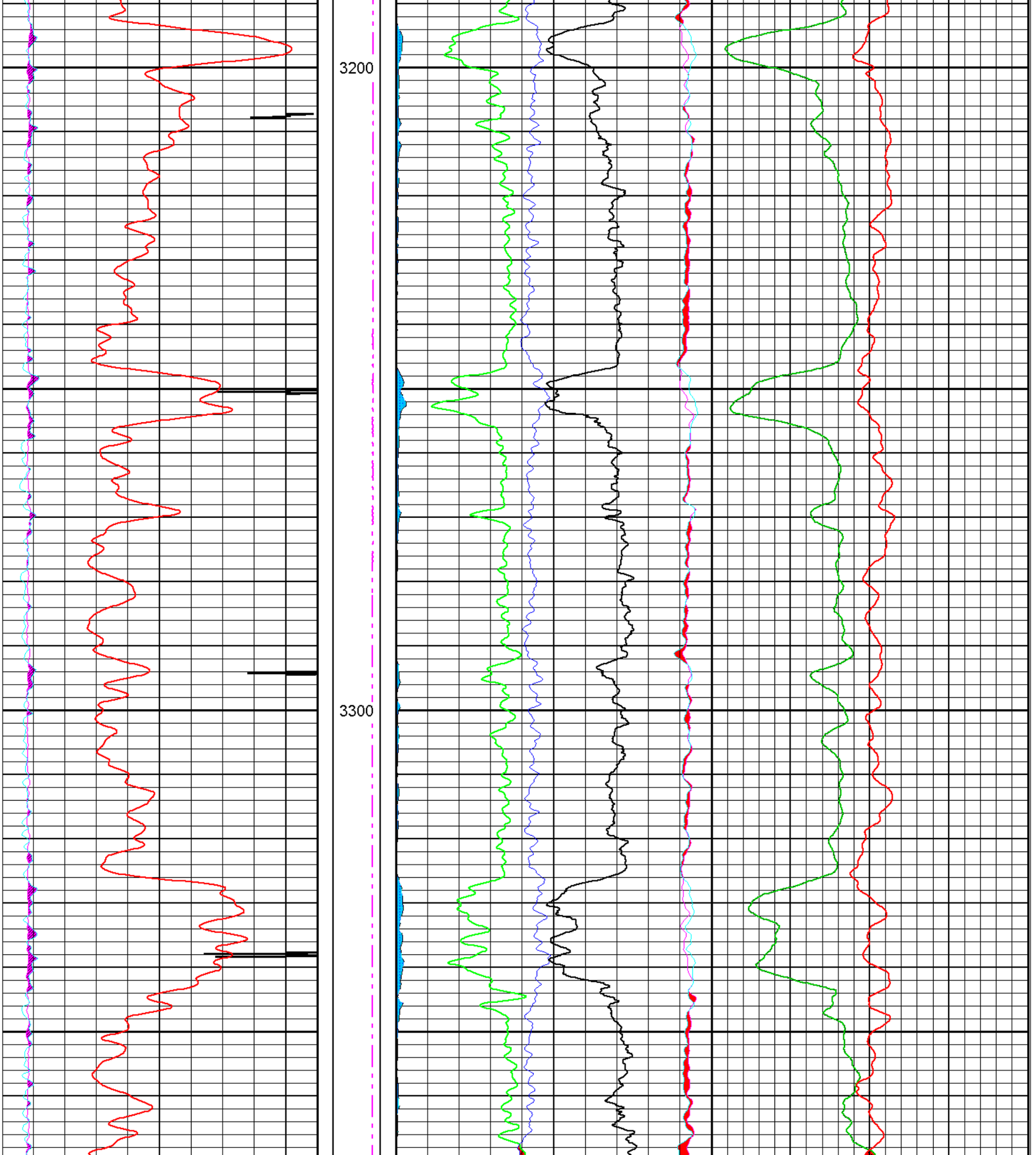
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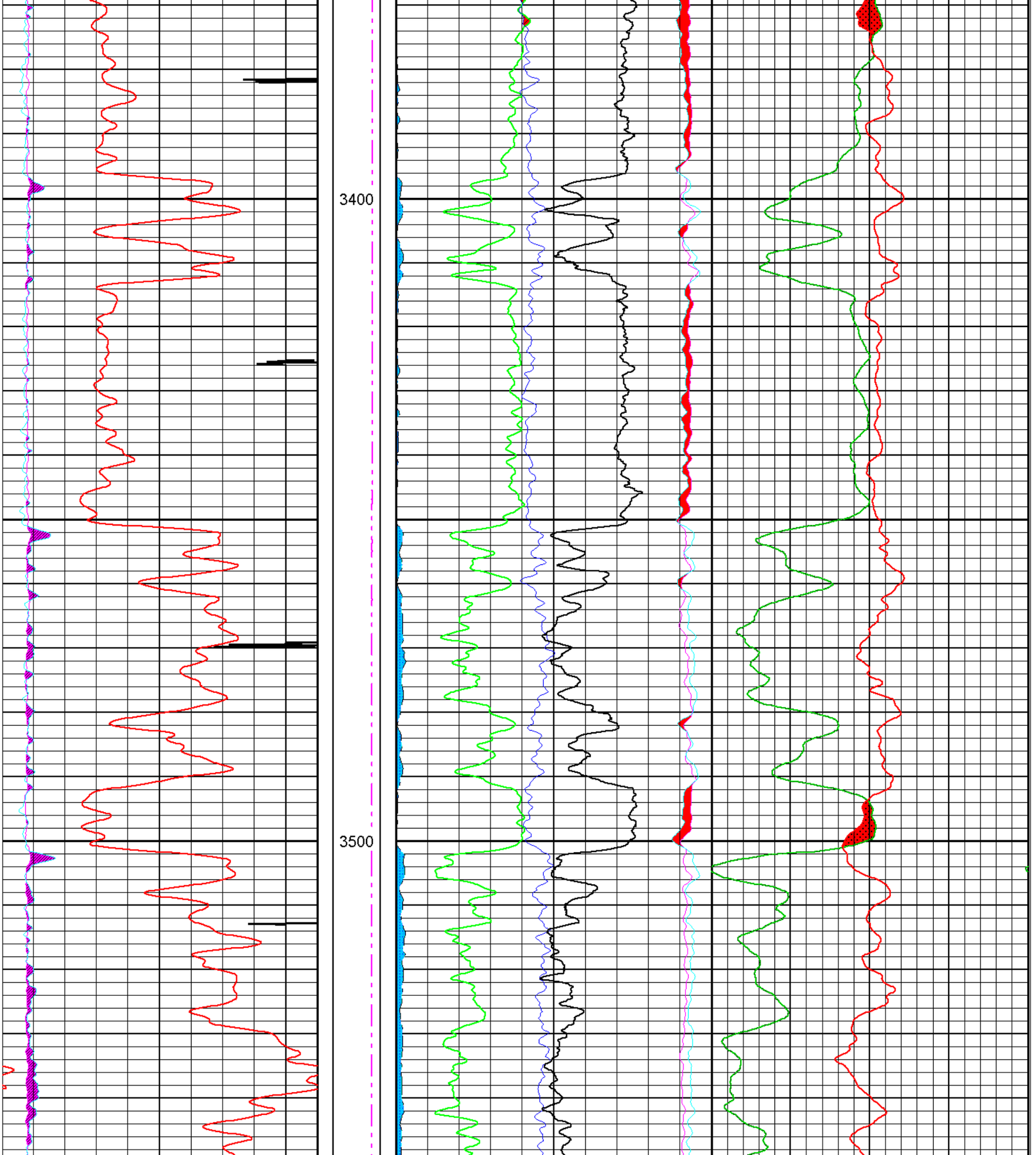
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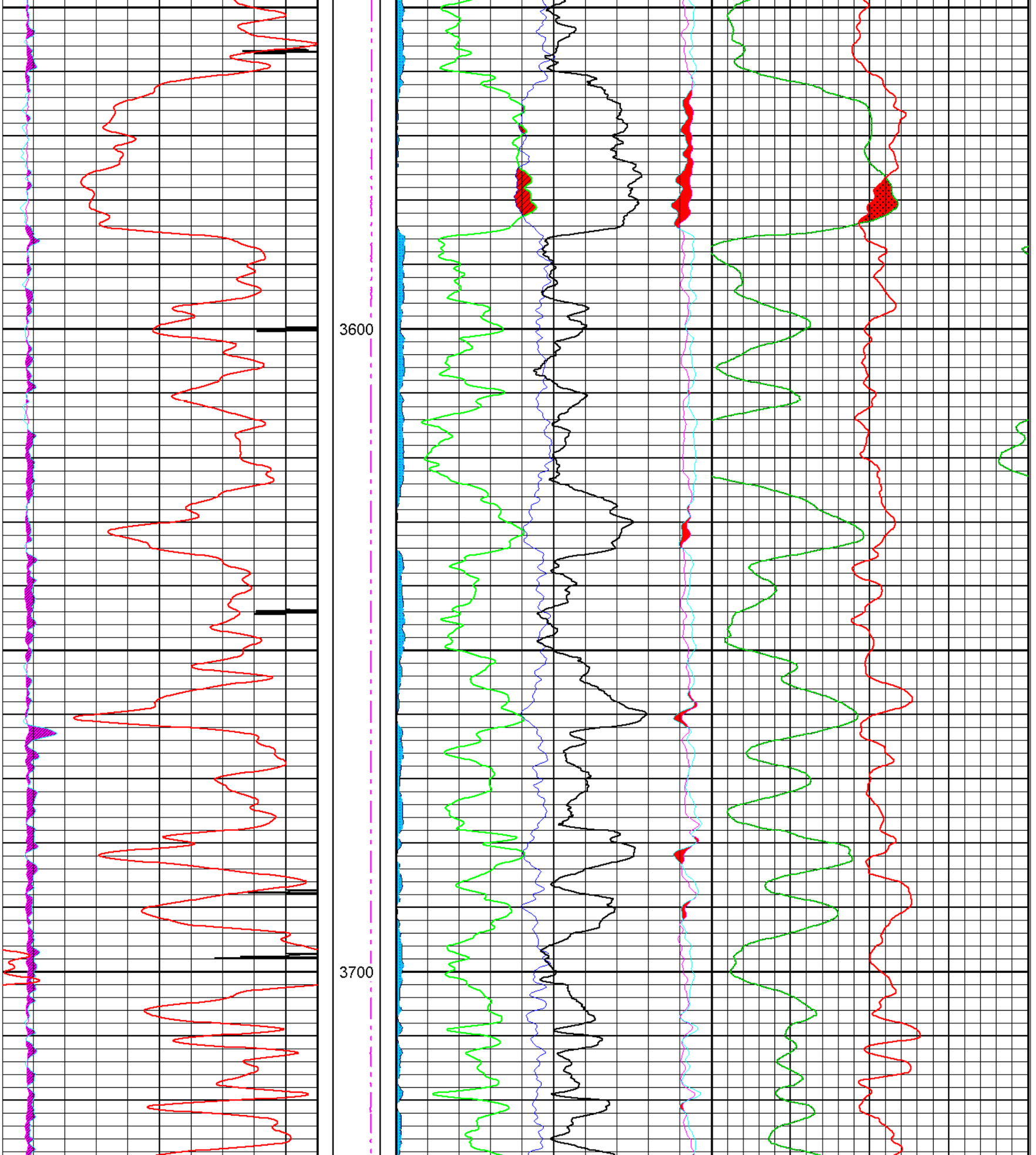
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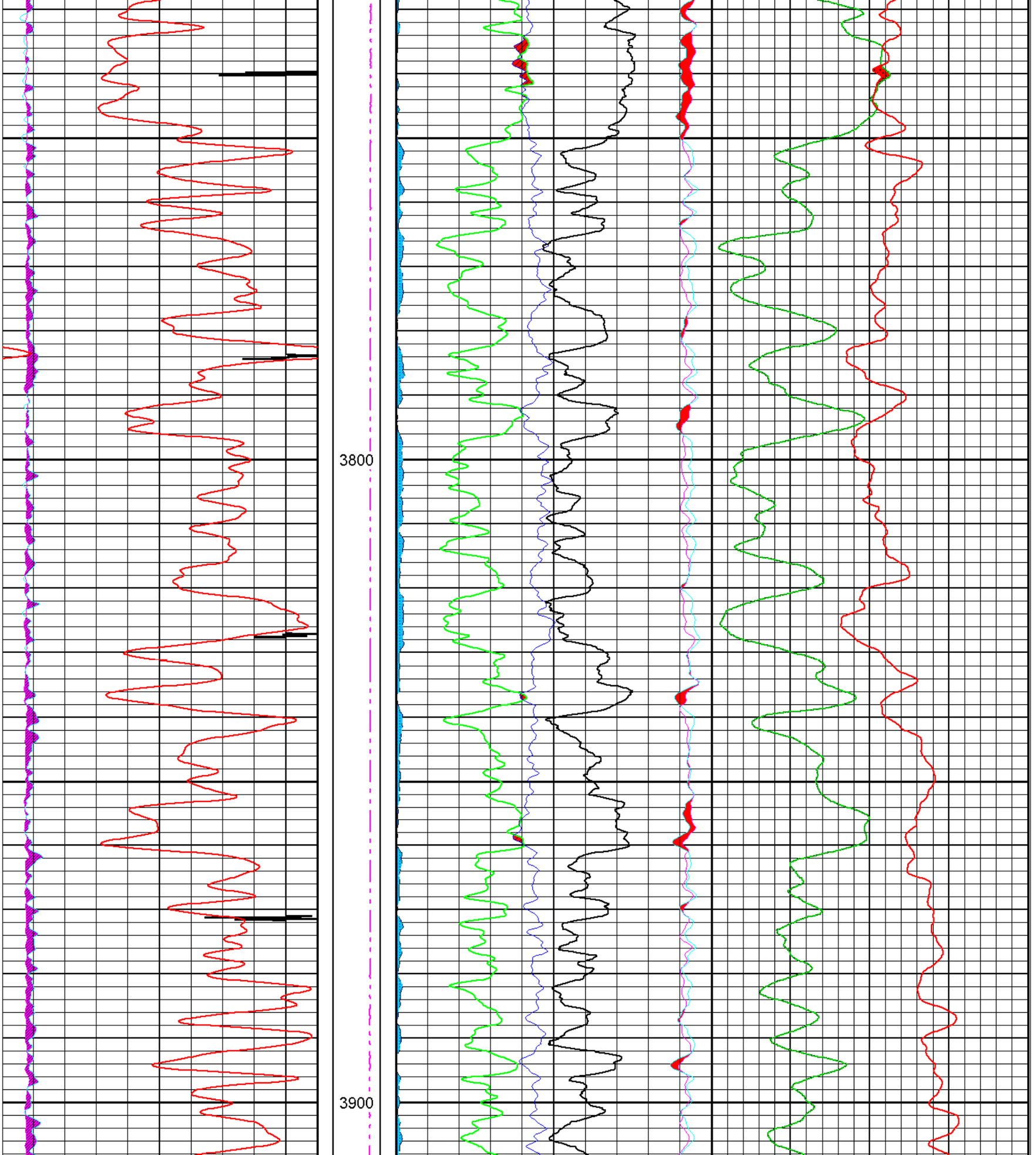
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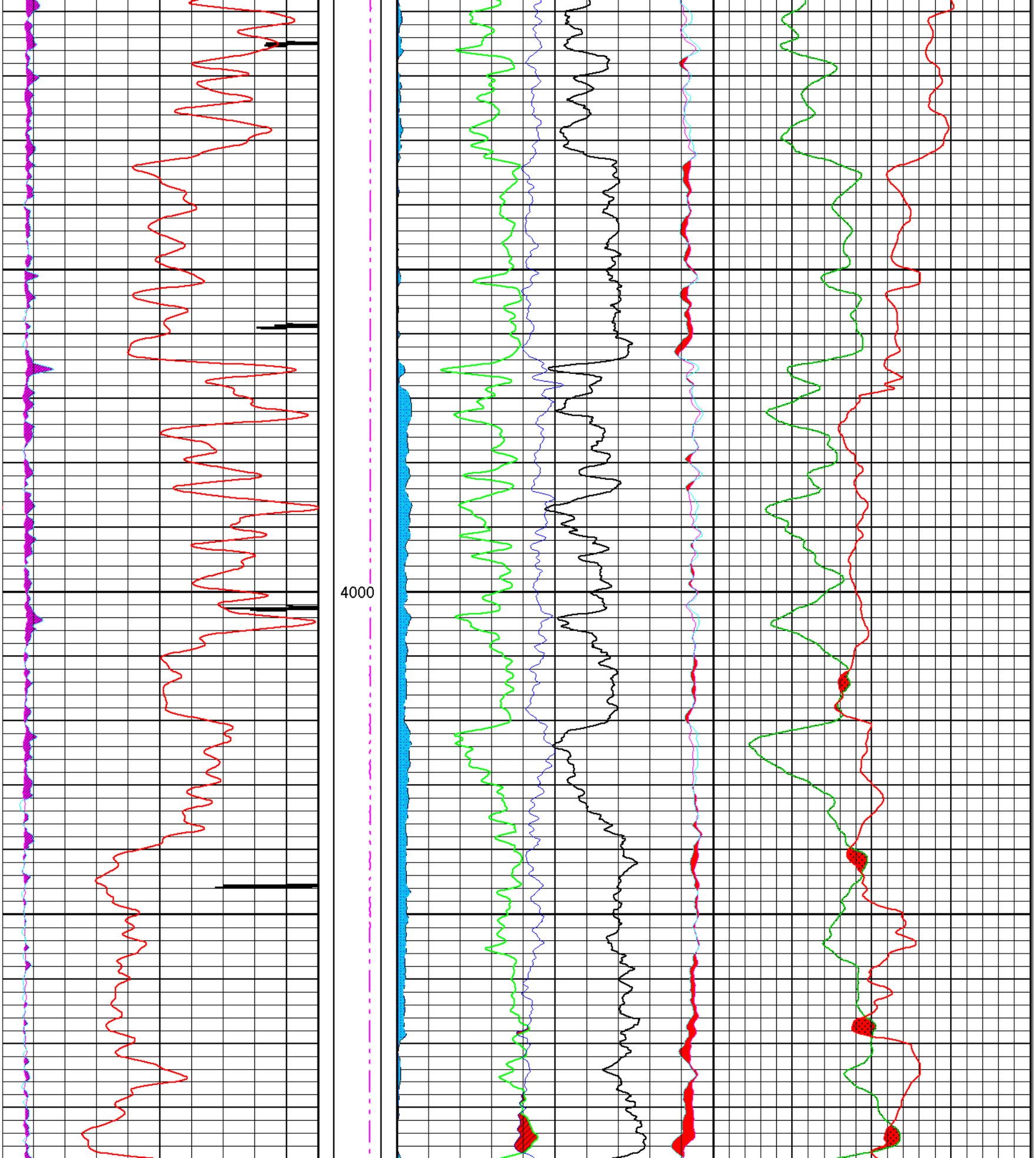
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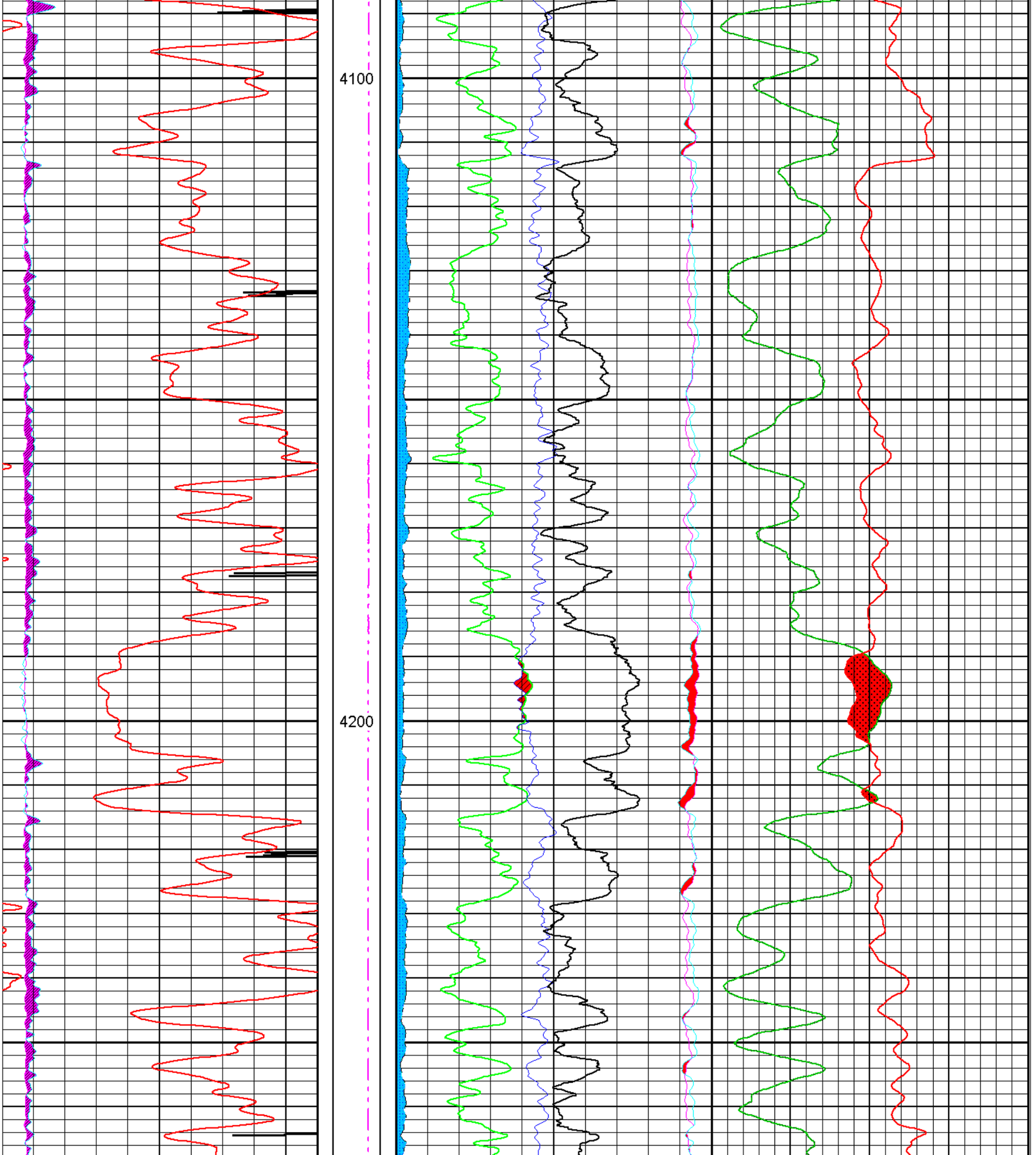
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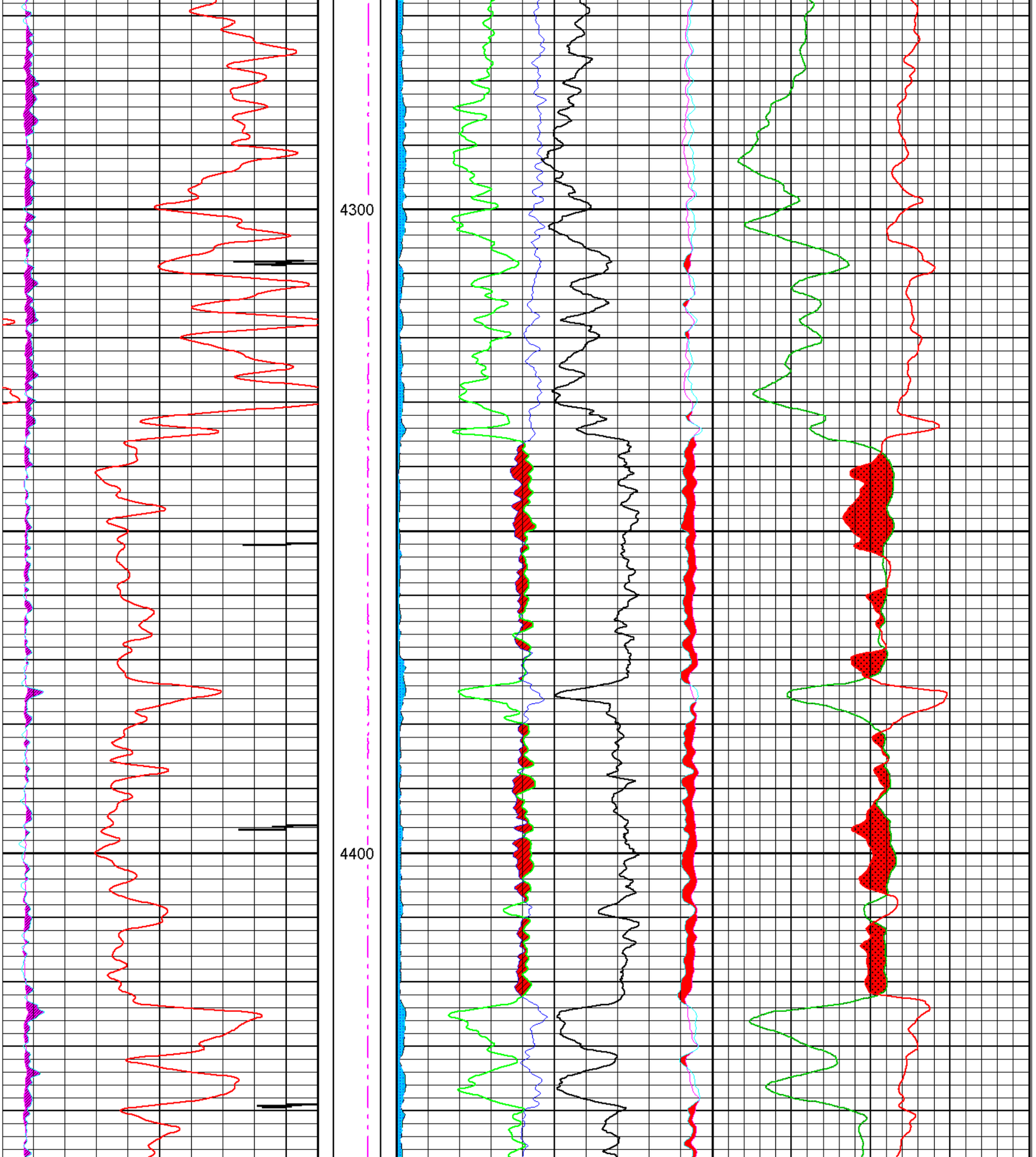
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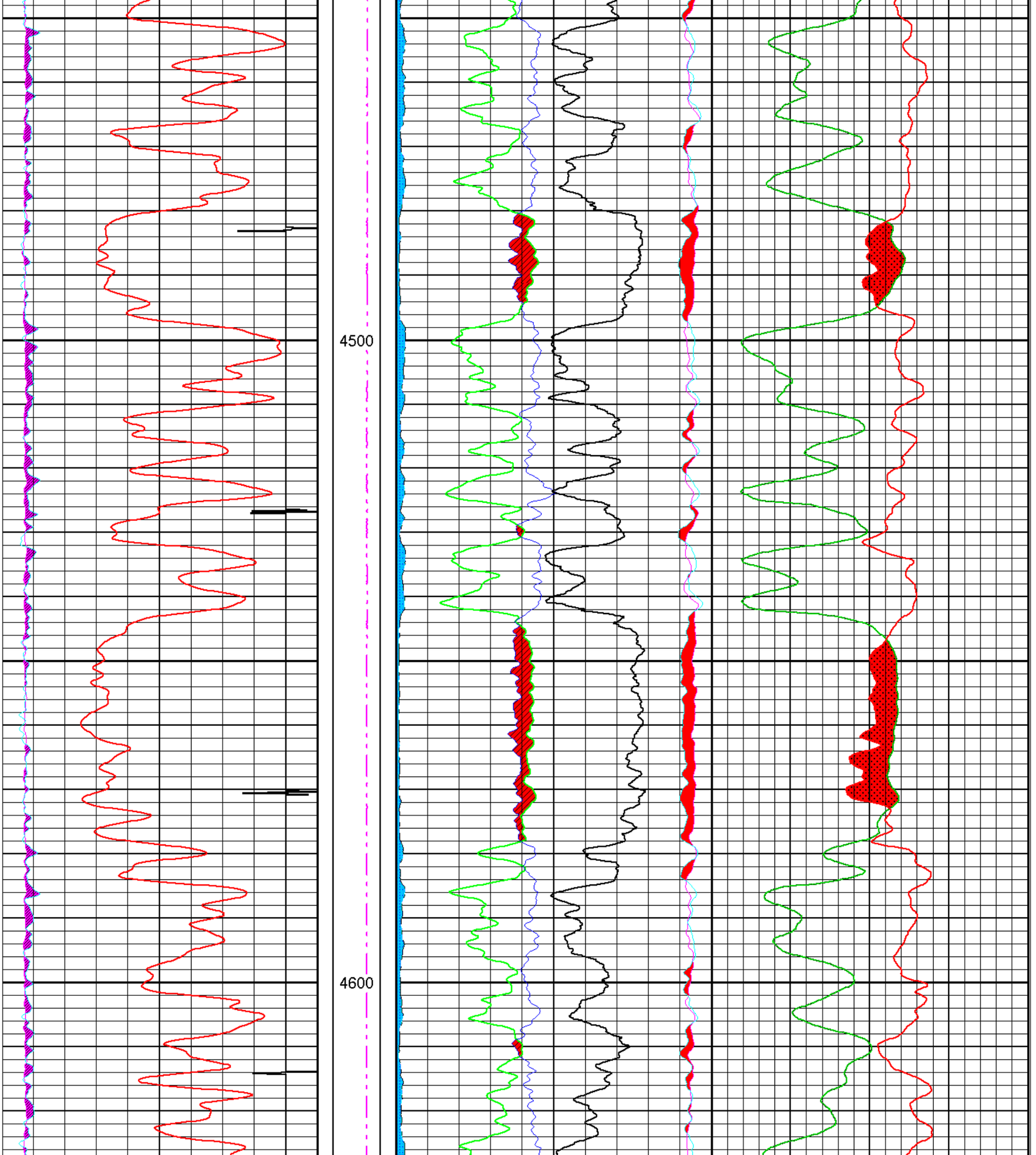
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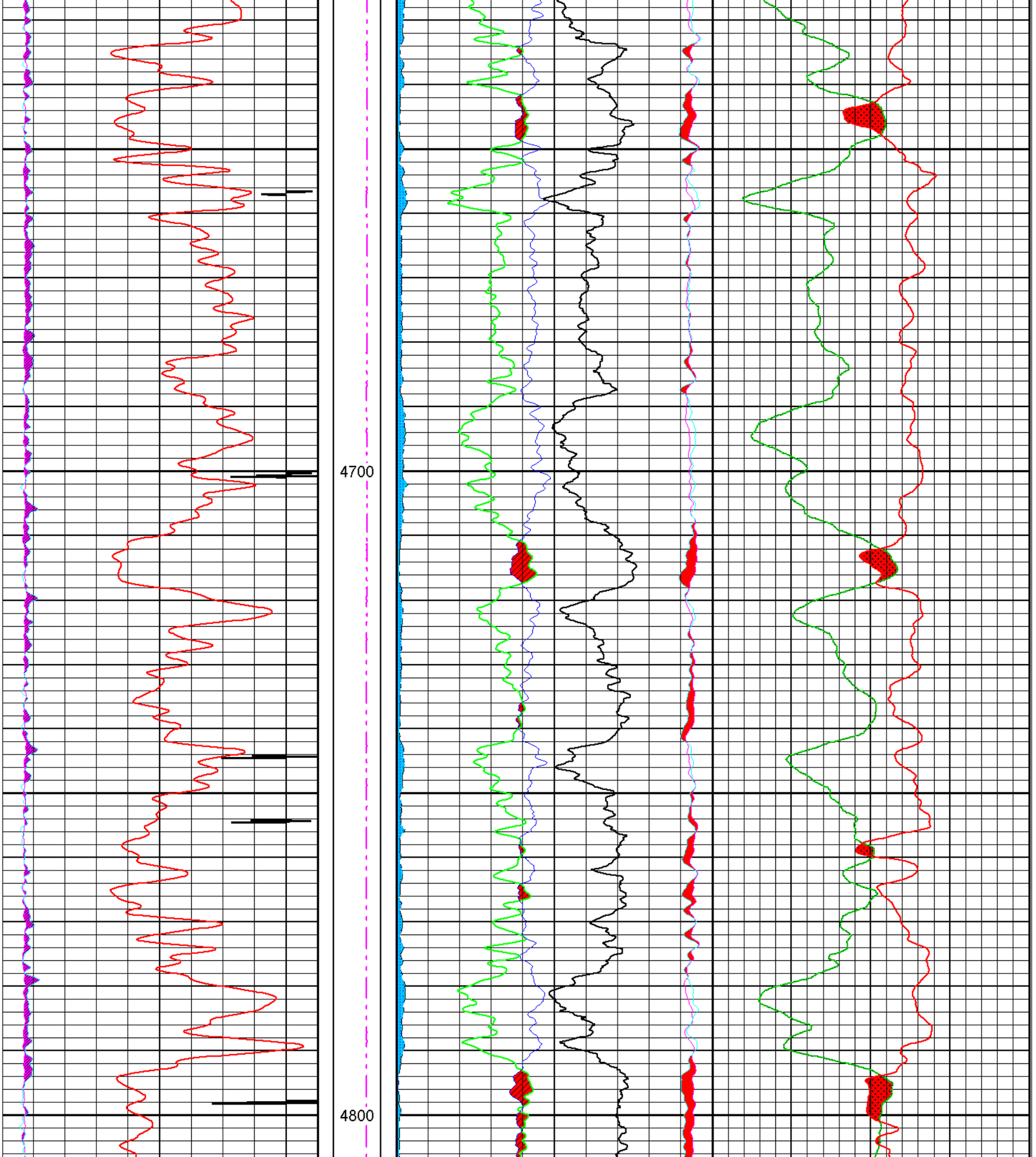
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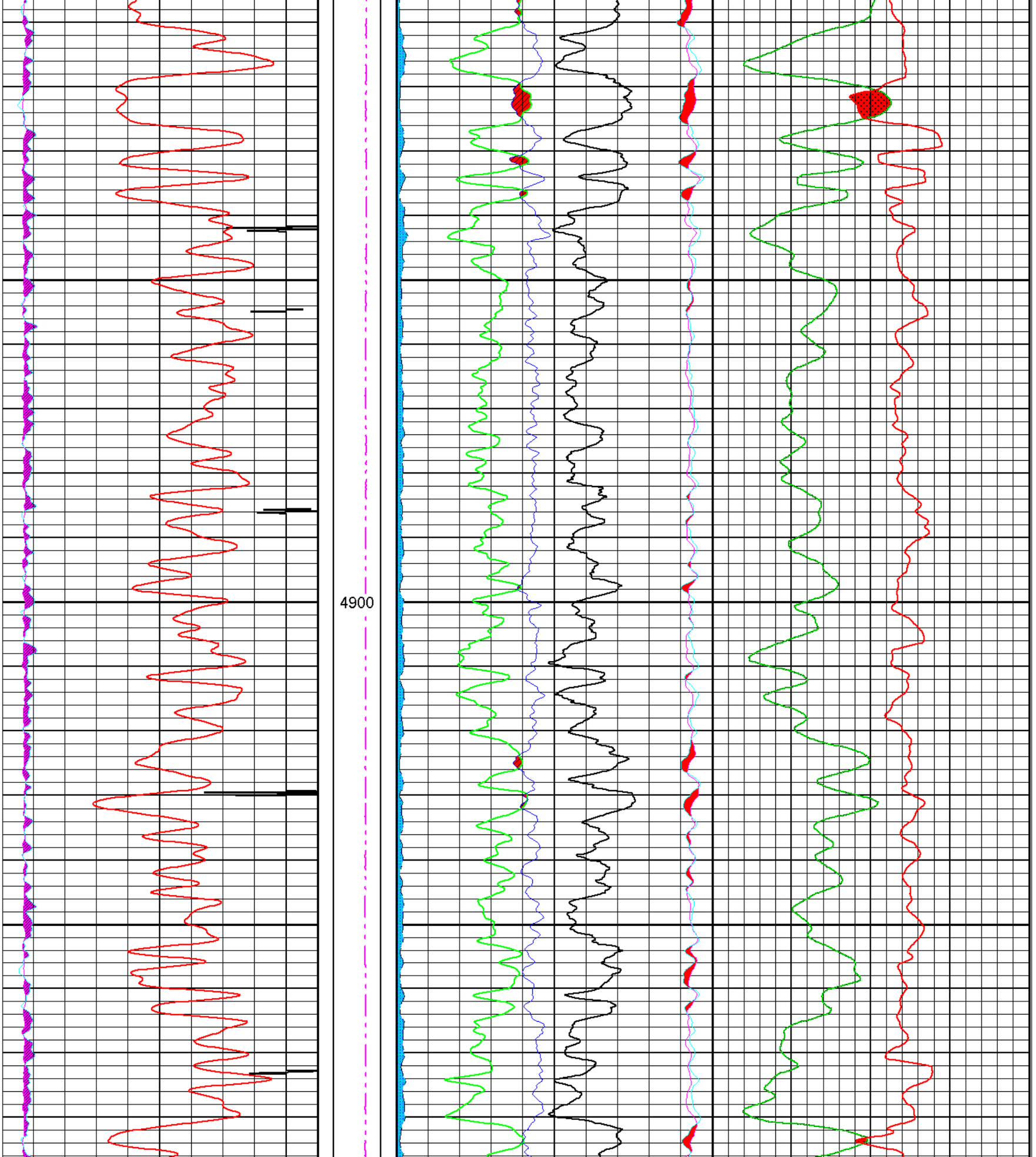
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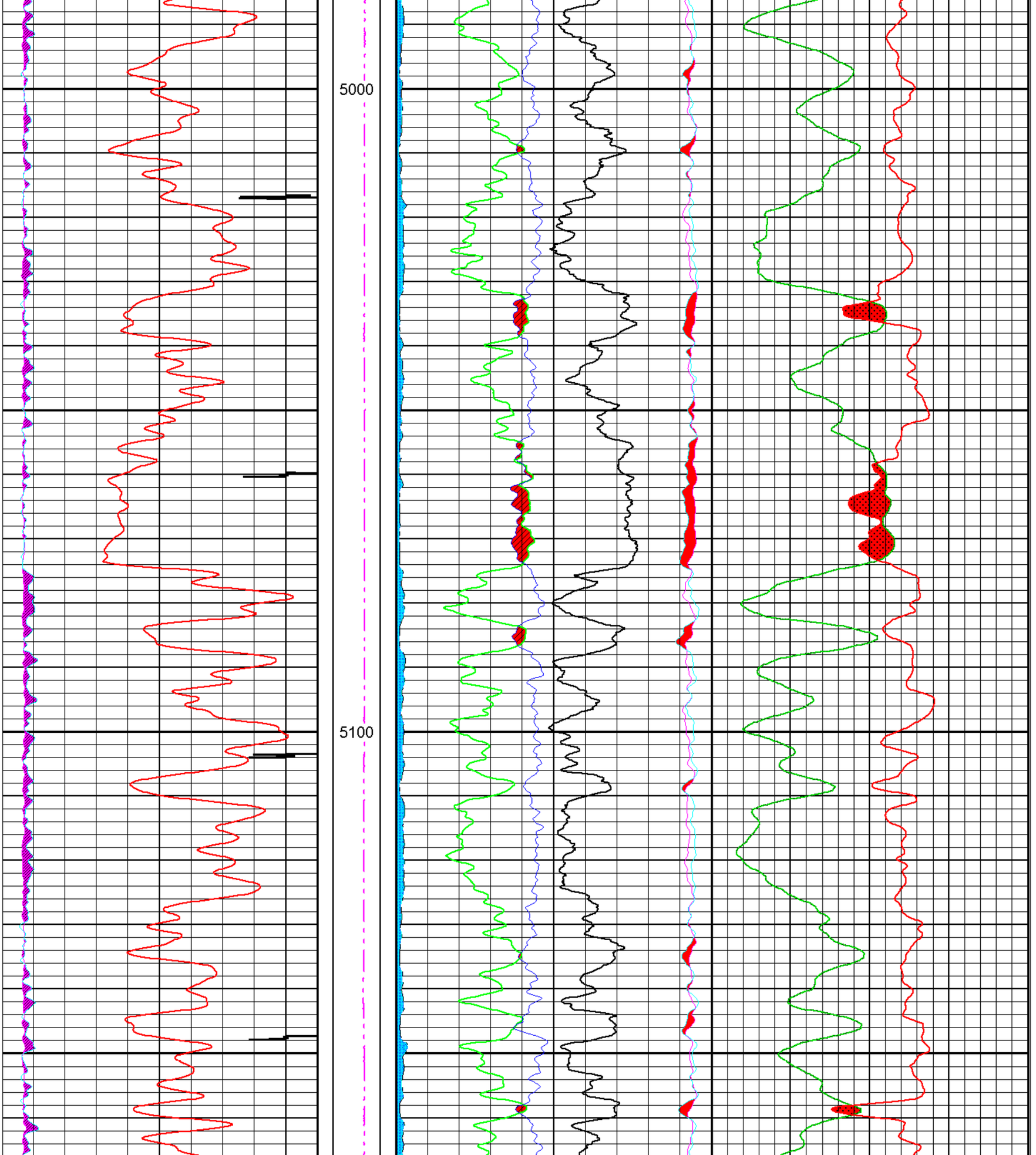
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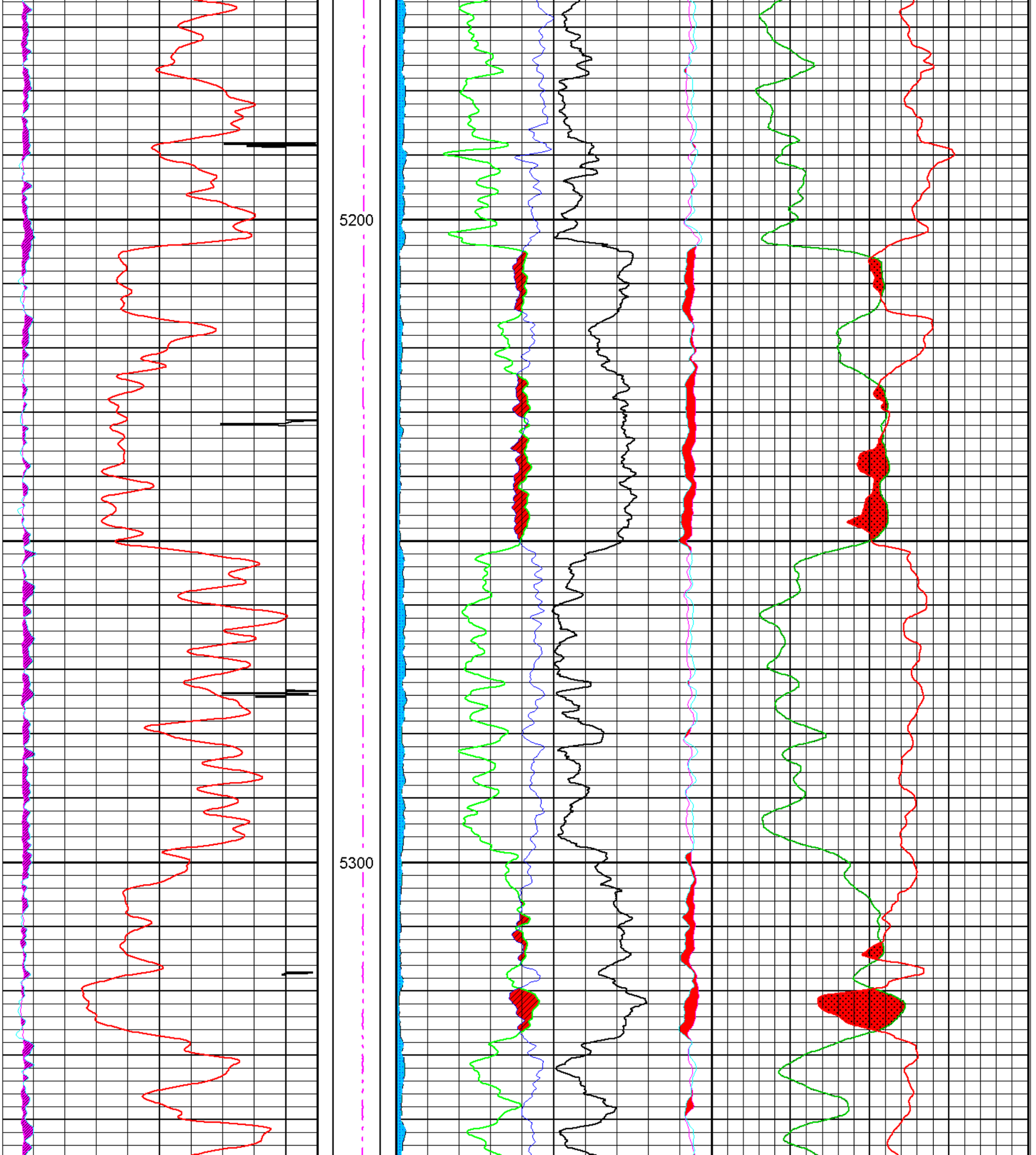
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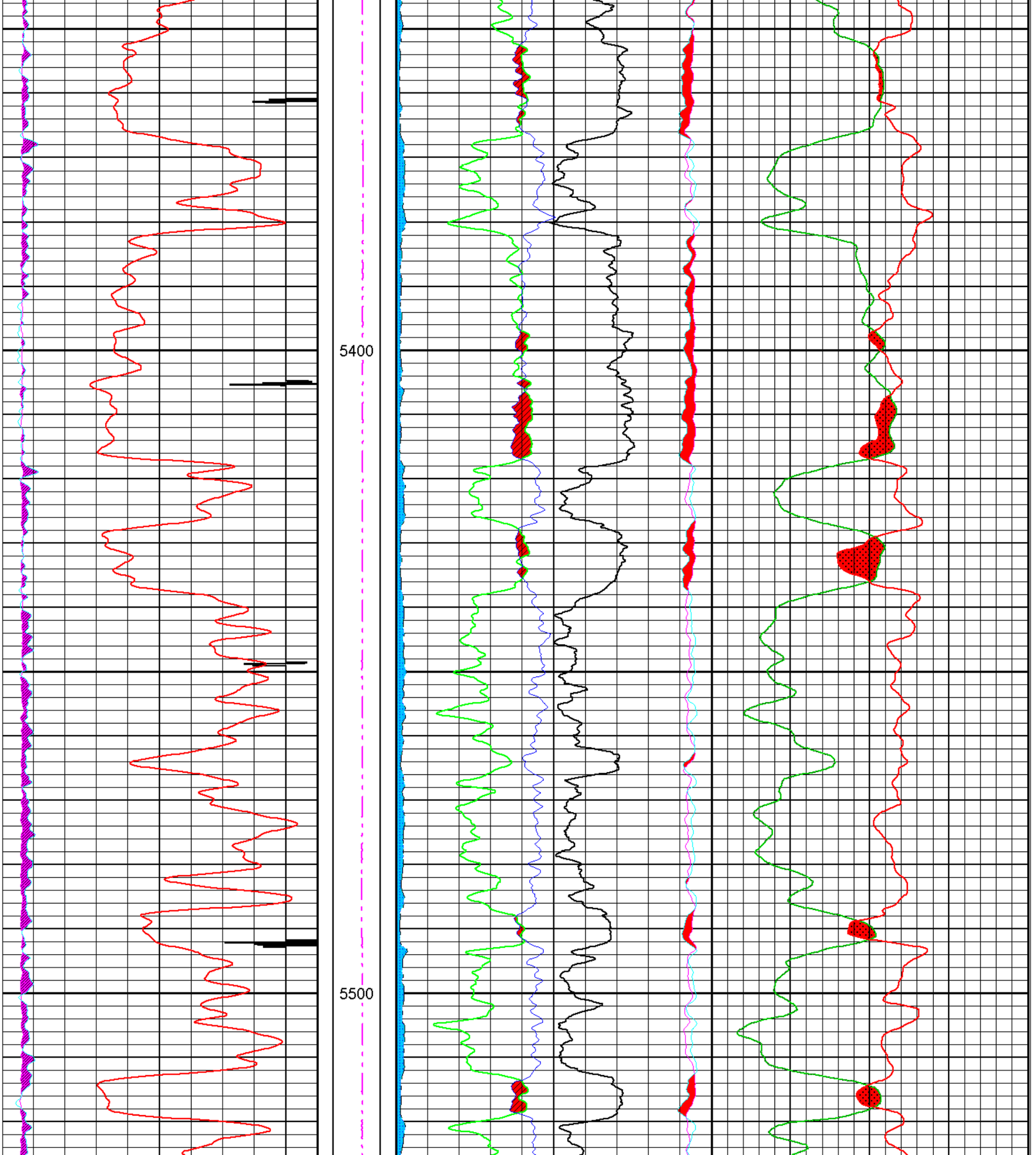
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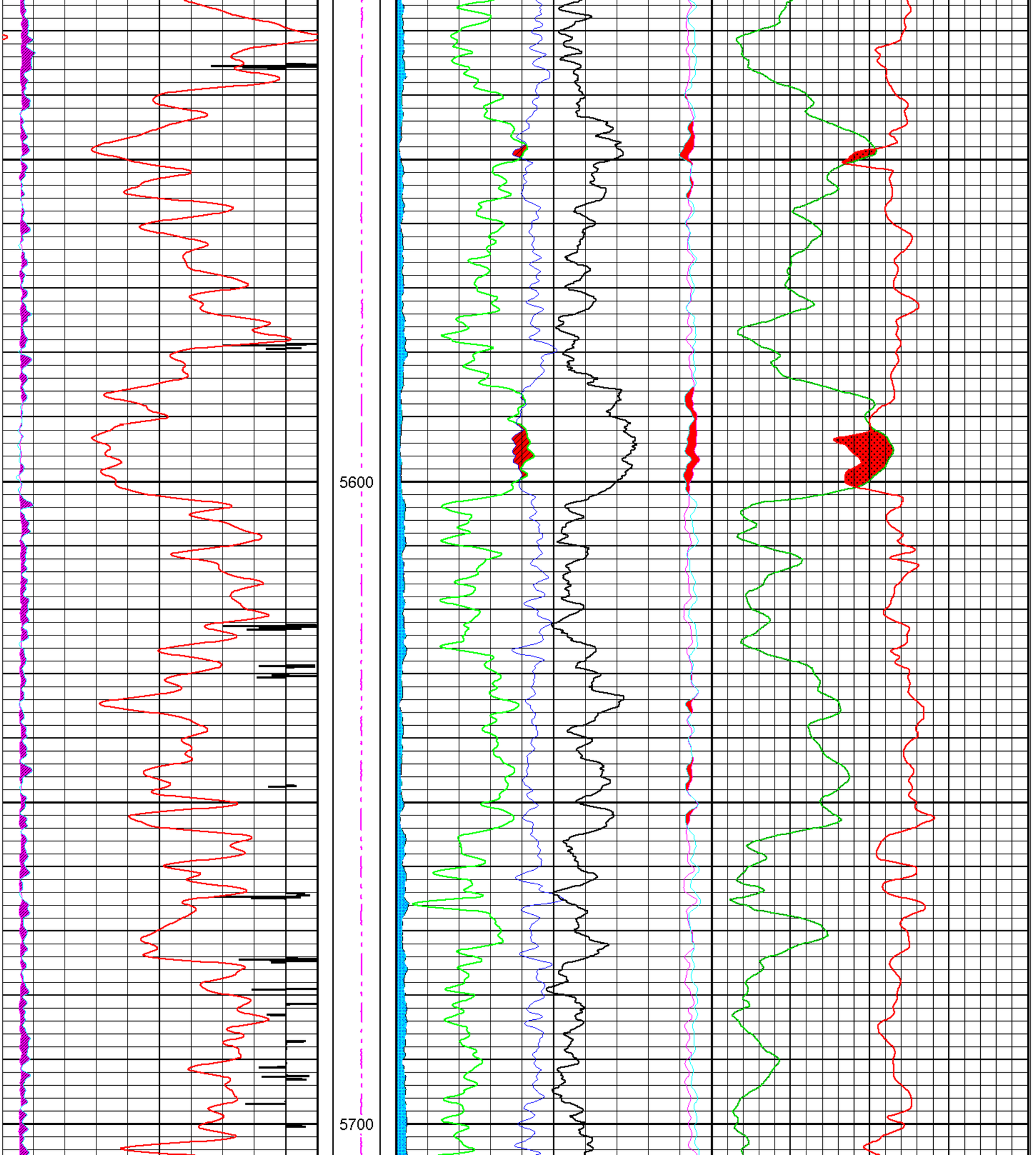
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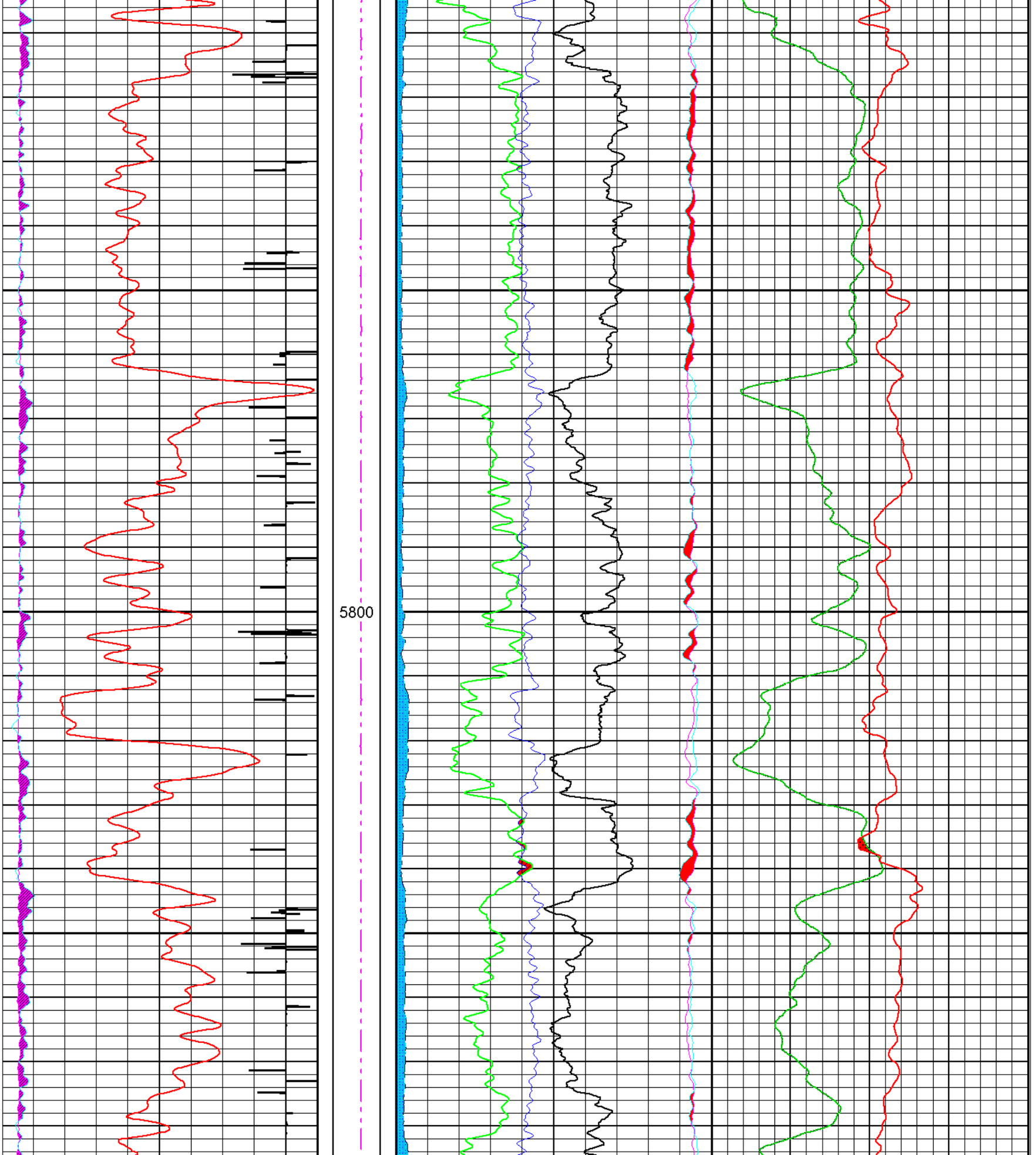
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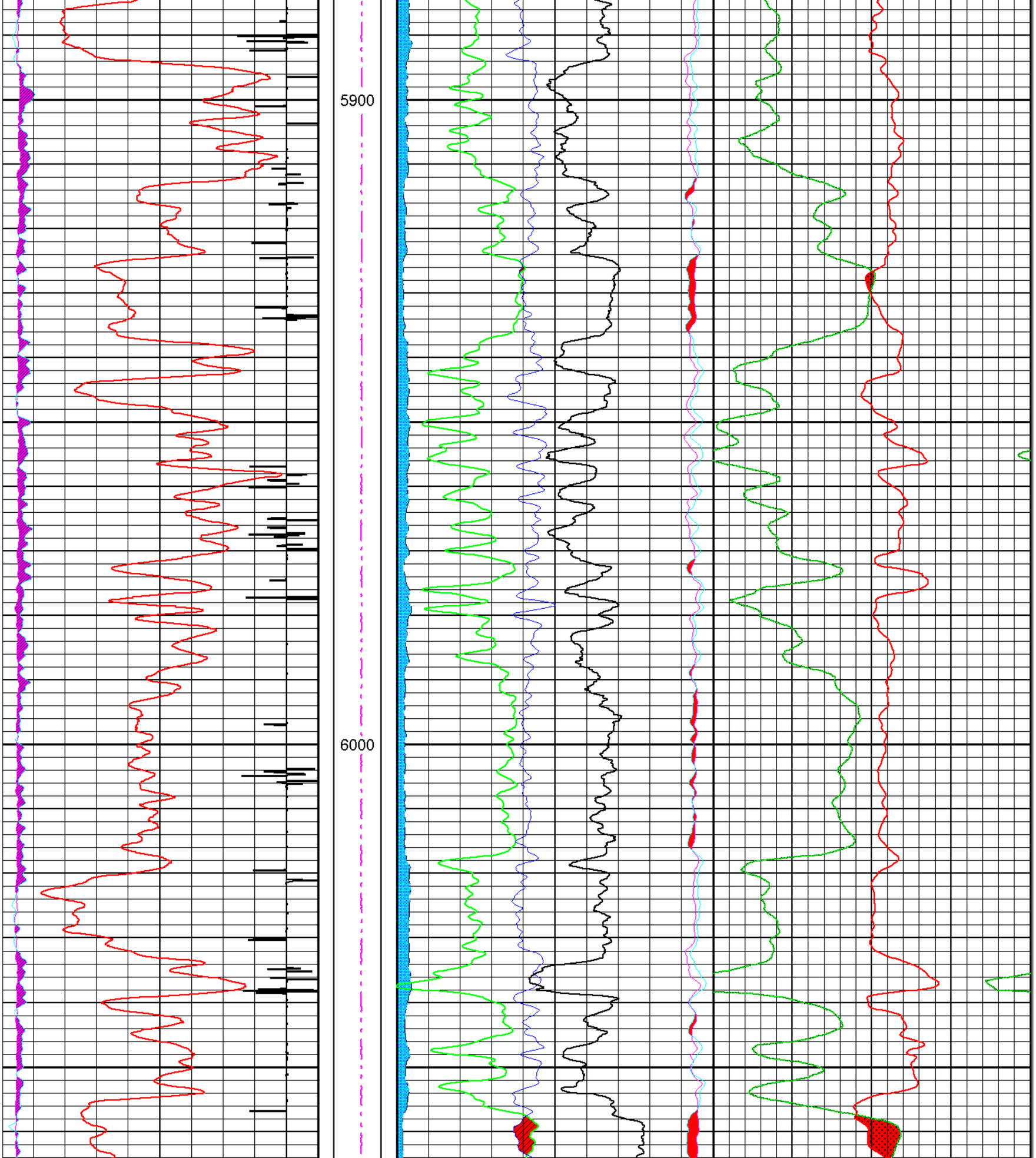
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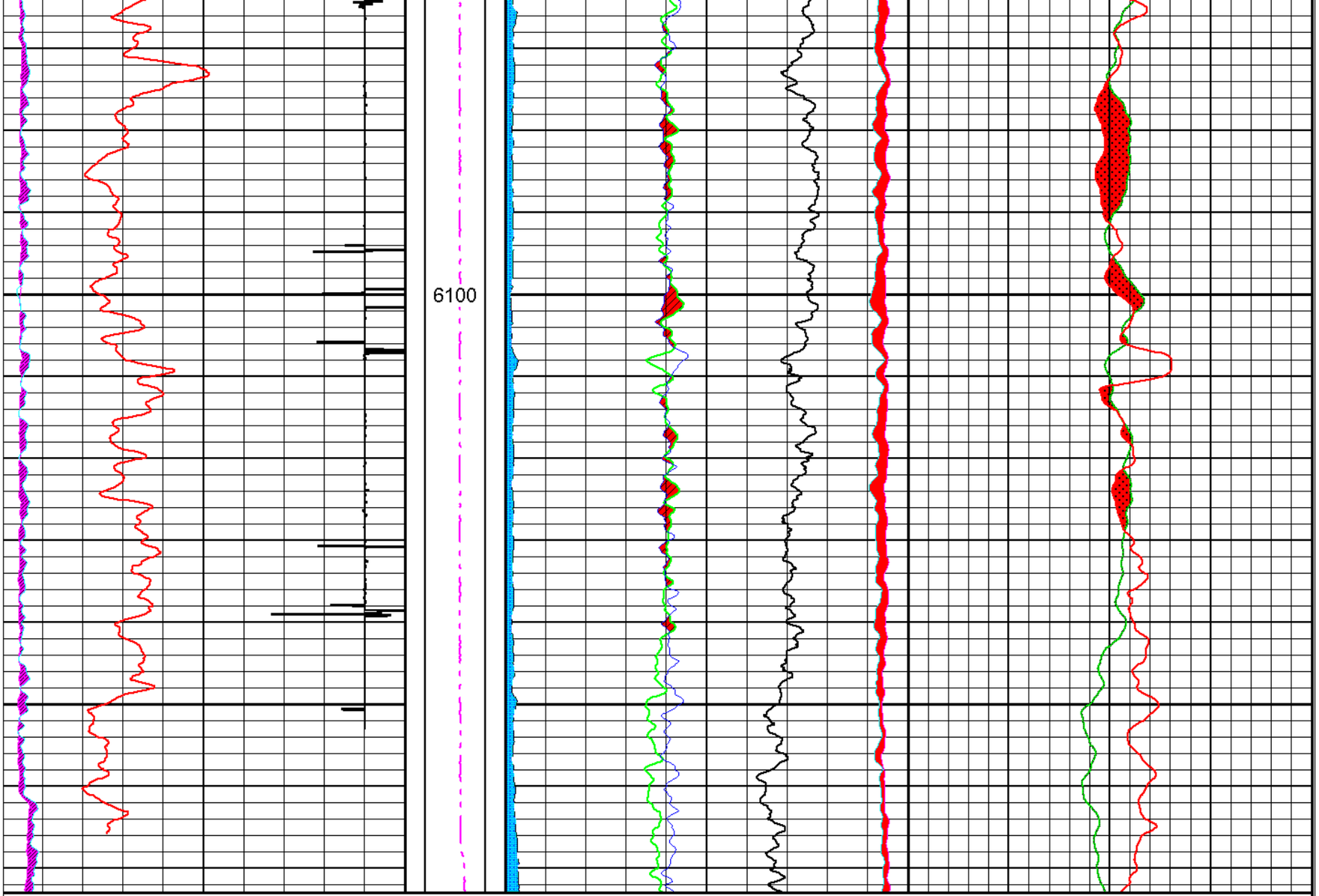

CCL		
22000	mv	-2400

DEPTH	
FT	

NEAR		
240	cps	0

AIPN		
0.3	dec(ss)	-0.1

BGN		
0	cps	30000

CSG1L		
0	flg	10

FAR		
40	cps	0

AIPD		
0.3	dec(ss)	-0.1

BGF		
0	cps	3000

CSG1R		
10	flg	0

RATI	
6	-4

GRP		
0	gapi	150

TENS		
2500	lbs	0

RBNF	
2.5	22.5

SIGC		
50	cu	0

DELI	
0	-100