



Weatherford®

PND-S CASED HOLE TRIPLE COMBO

Company URSA OPERATING COMPANY
Well BAT 33B-24-07-96
Field BATTLEMENT MESA
County GARFIELD State COLORADO Country USA
Location _____

Section 24 Township 7S Range 96W API Num _____
Permanent Datum GL Elevation 5160 K.B. 5175.5
Log Measured From KB , 15.5 Above Perm Datum D.F. _____
Drilling Meas From KB G.L. 5160

Date
Depth - Driller
Depth - Logger
Btm Log Interval
Top Log Interval
Casing - Driller
Casing - Logger
Bitsize
Type Fluid in Hole
Dens. /Misc.
pH / Fluid Loss
Source of Sample
Rm @ Meas. Temp
Rmf @ Meas. Temp
Rmc @ Meas. Temp
Source: Rmf / Rmc
Rm @ BHT
Max. Rec. Temp.

Run 1	Run 2	Run 3
FEB 26, 2014 PND		
5972		
5972		
5966		
2800		
4.5" @ TD		
8.75"		
WATER		
8.3 / N/A		
194 DEG F		

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

REMARKS:

Project: 5133-80211344
Company: URSA OPERATING COMPANY
Well: BAT 33B-24-07-96
Field: BATTLEMENT MESA
County: GARFIELD
State: COLORADO
Country: USA
Log Date: FEB 26, 2014 PND

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

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

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

Neutron = SS, RHOMA=2.68, RHOFI=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: #5741

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

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

PARAMETERS:

BOREHOLE ENVIRONMENT:


BOREHOLE RECORD:
Bit Size Top - Bottom
8.75" ? - 5972'

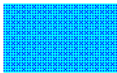
CASING RECORD:
Size Top - Bottom
4.5" Surface - TD'


ANALYST: B. Smith
PROGRAM: multiple wts

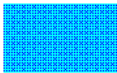
ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS AND WE CANNOT AND DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION, AND WE SHALL NOT, EXCEPT IN THE CASE OF GROSS OR WILLFULL NEGLIGENCE ON OUR PART, BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COSTS, 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.


WEATHERFORD INTERNATIONAL, LTD.

 Poss.NormDeposits(BGN-F)

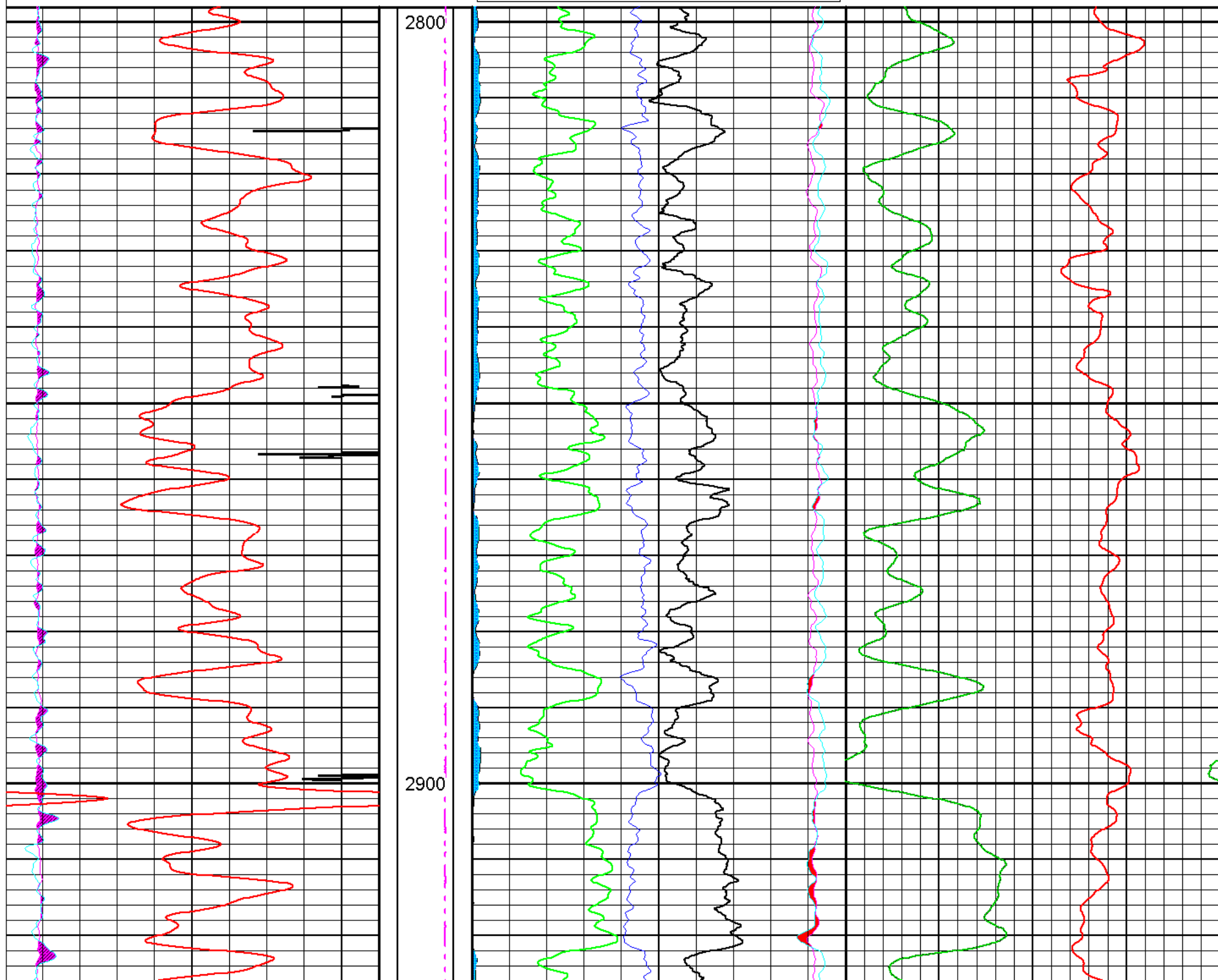
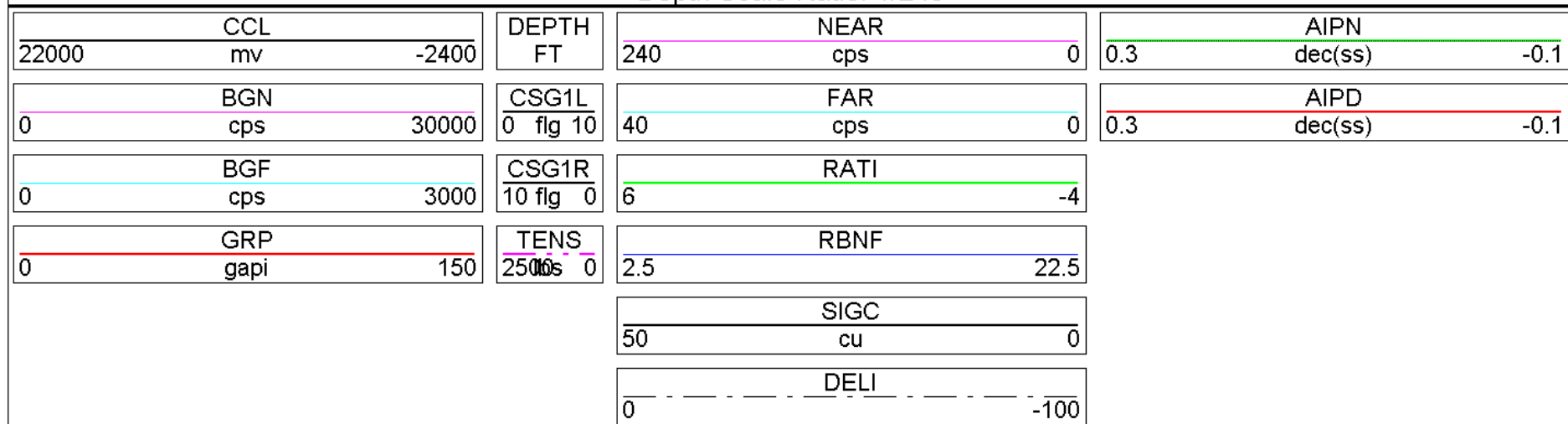
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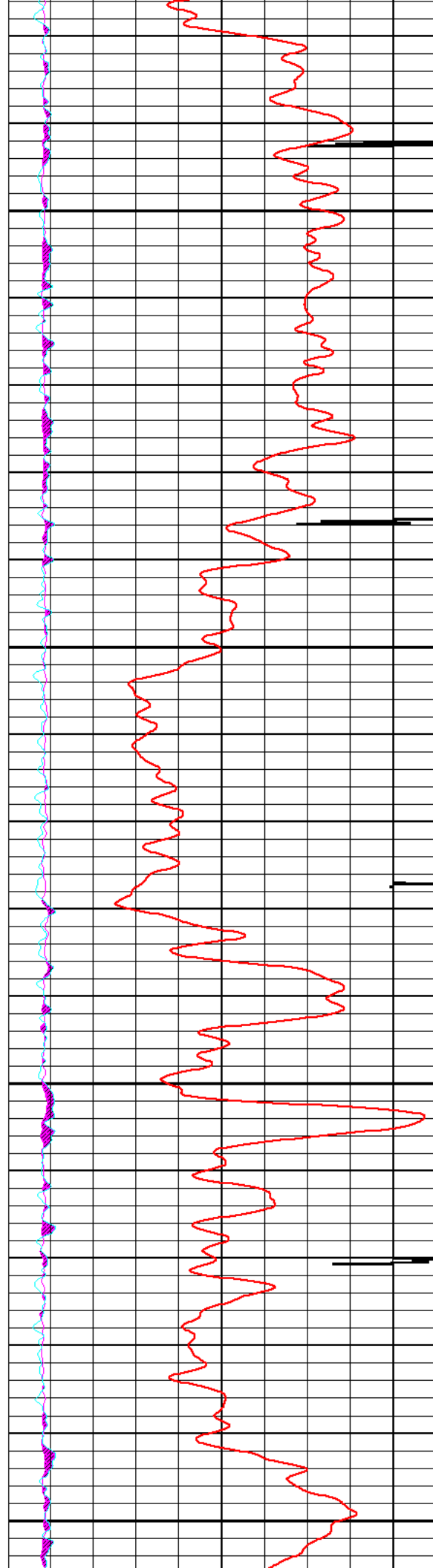
 Crossover_Near_Far_Counts

 Gas_Indication_from_AI_Porosity

 Gas_Indication_from_RAT/INEL-RAT

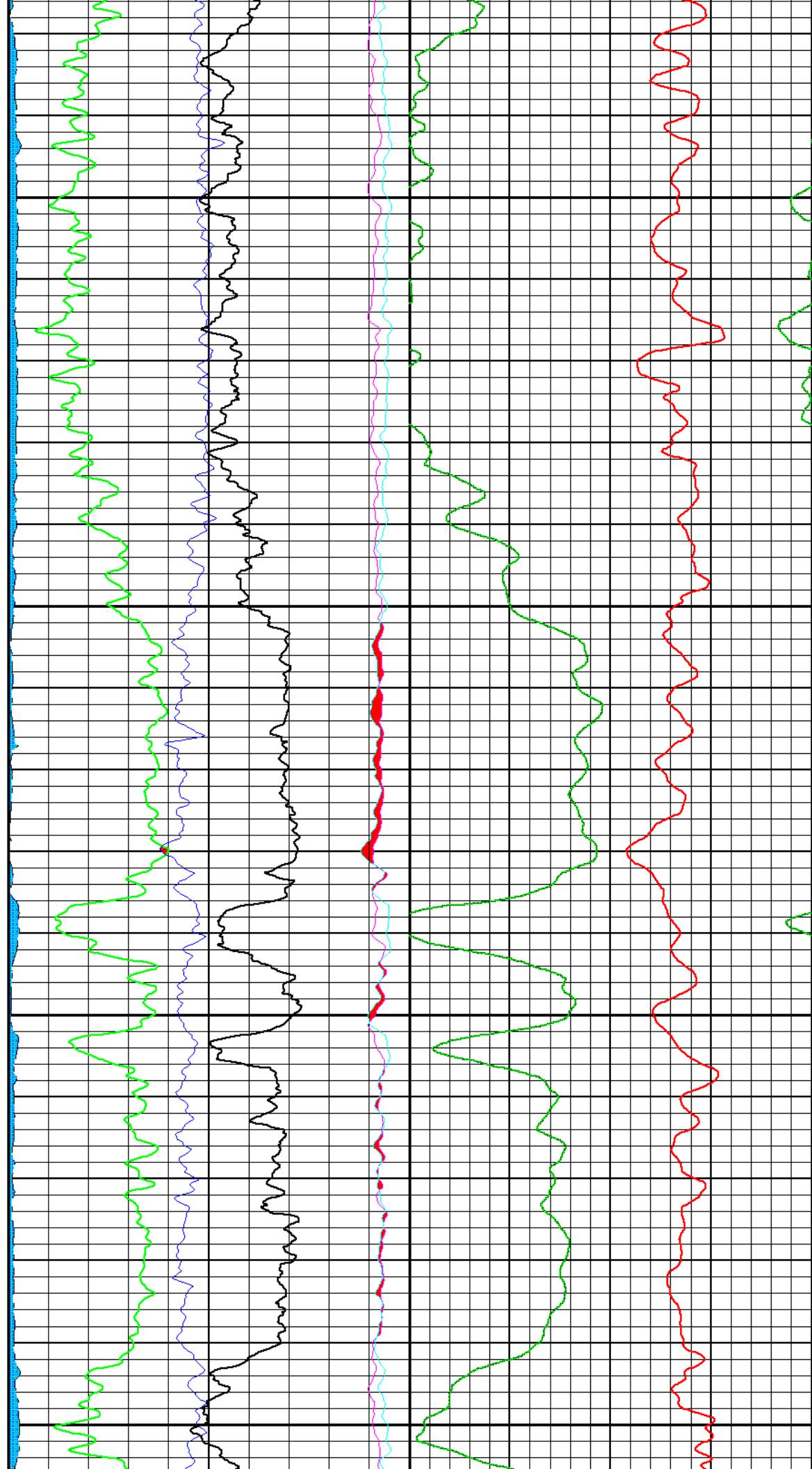
DEPTH (FT)
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Depth Scale Ratio: 1/240

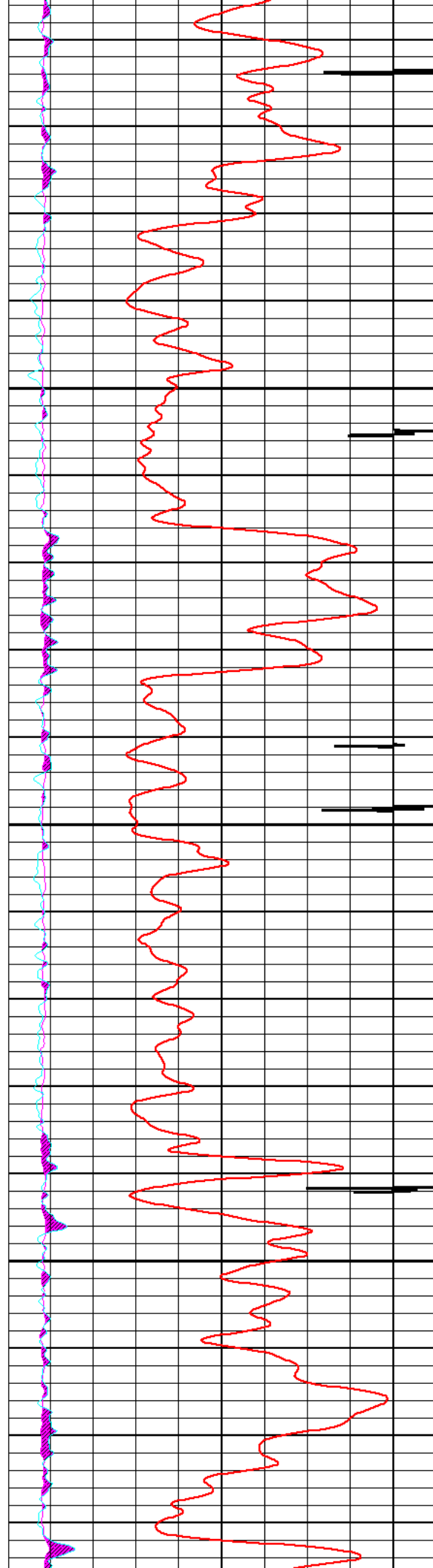




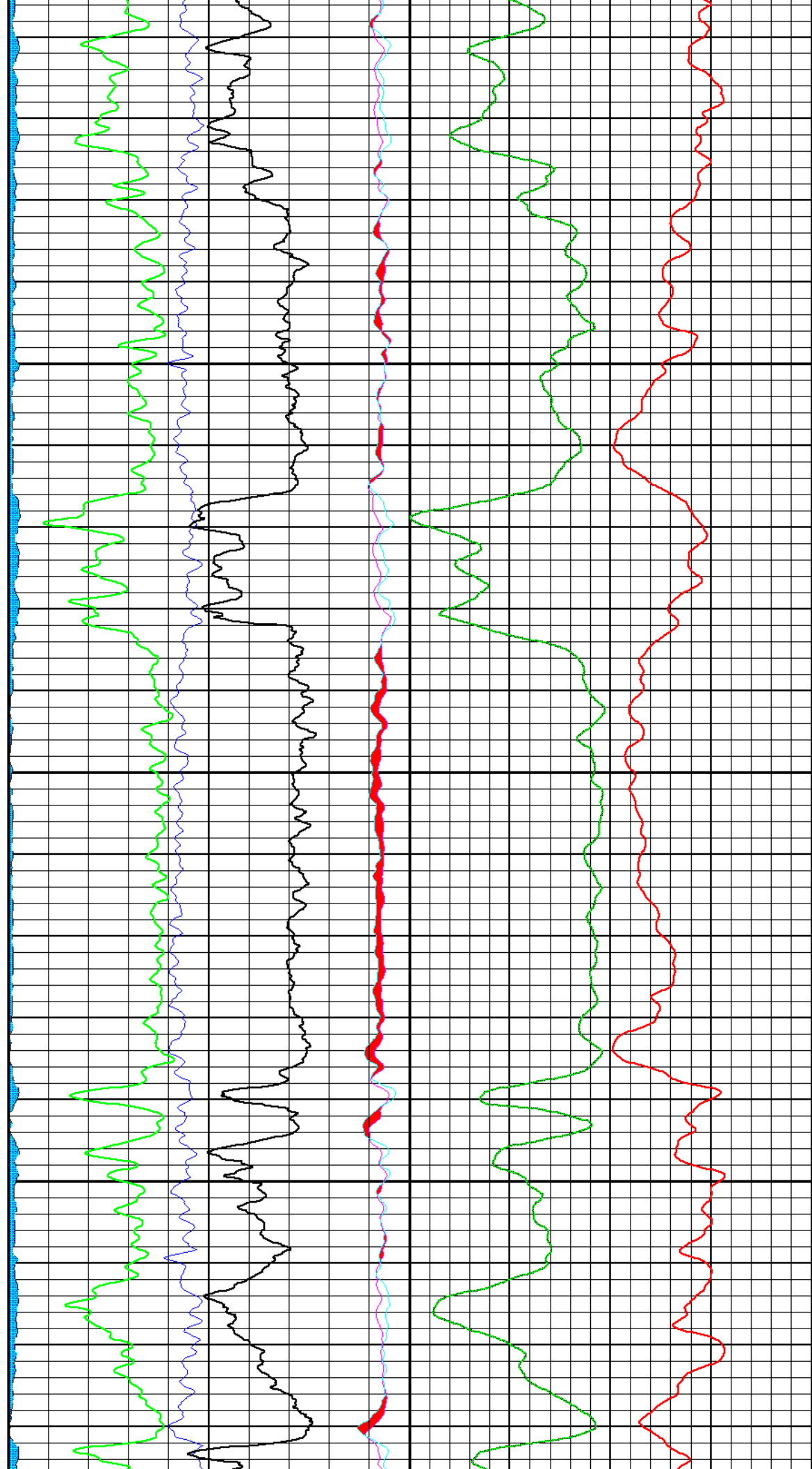
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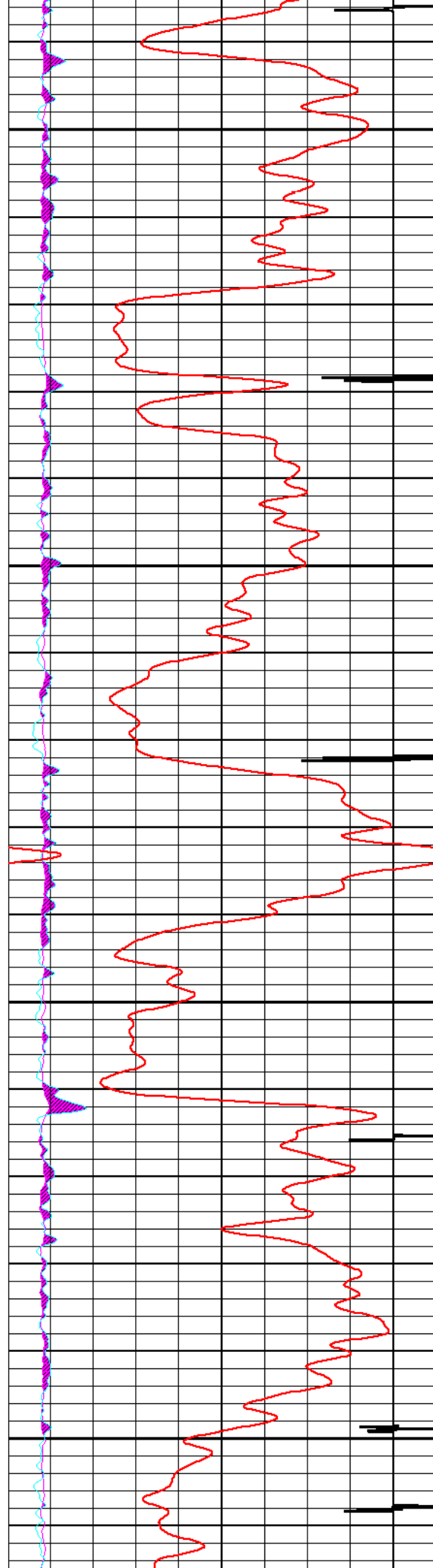
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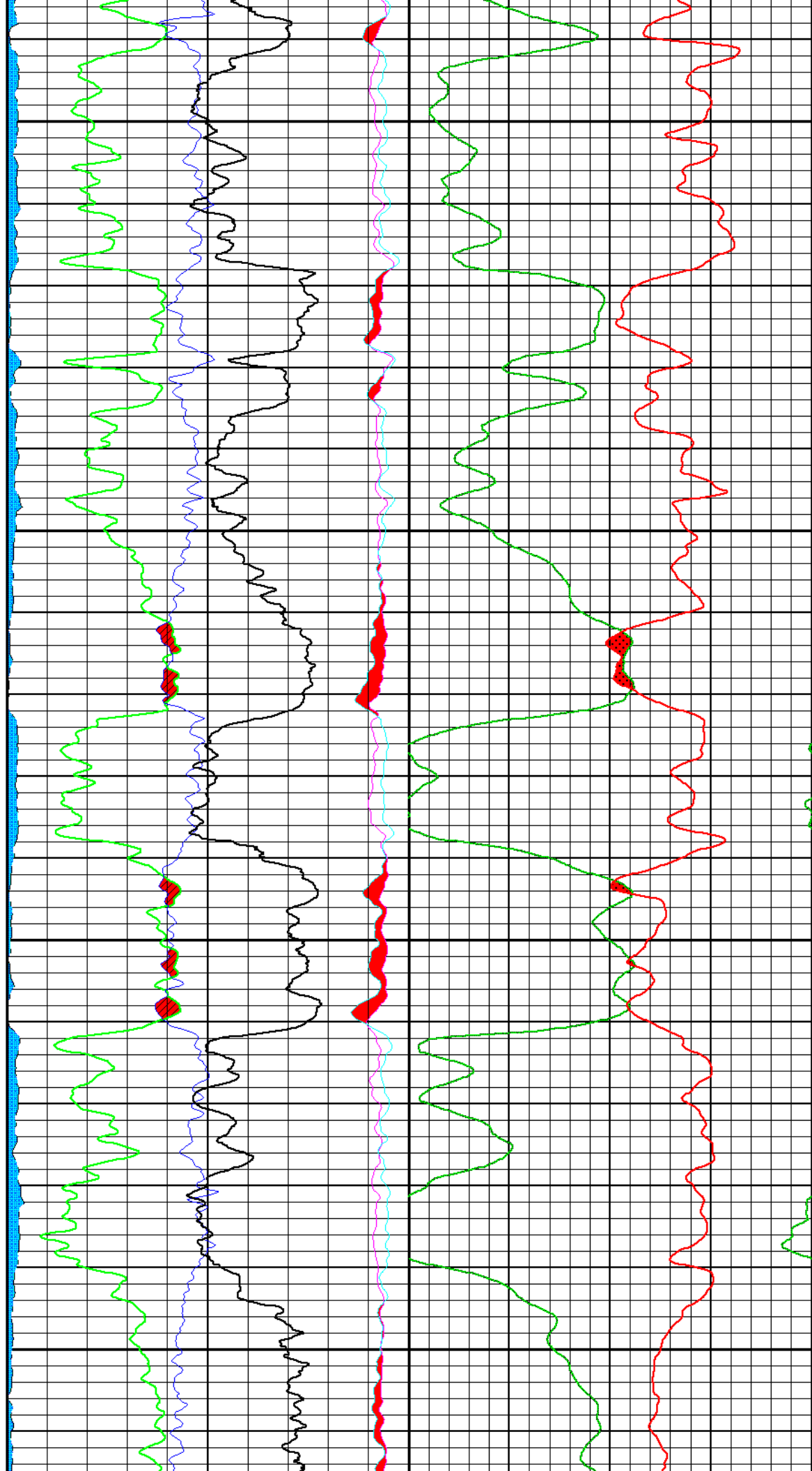
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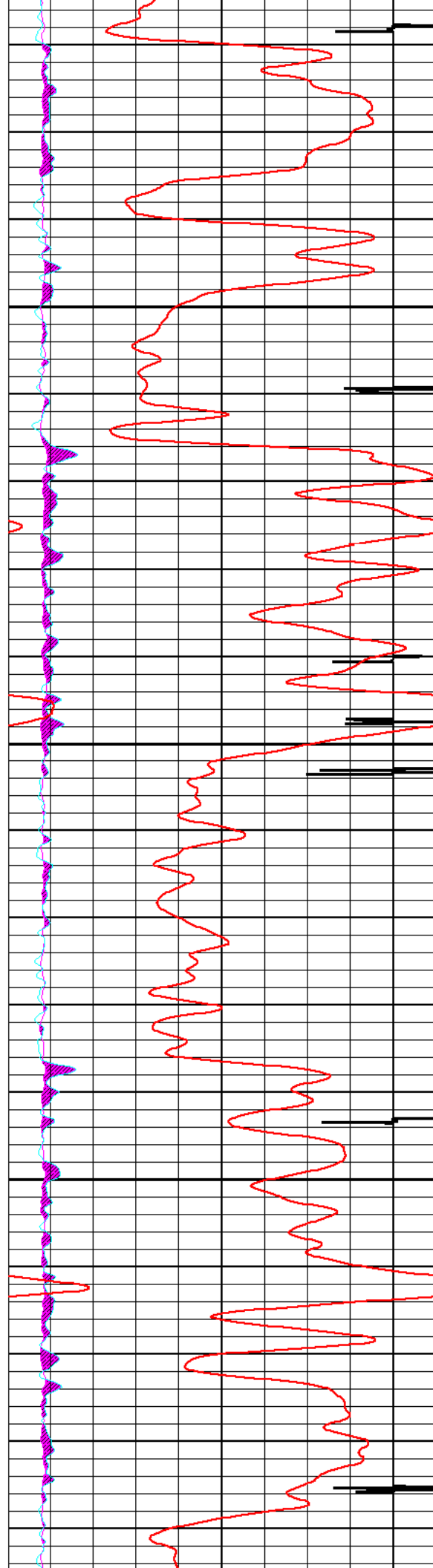




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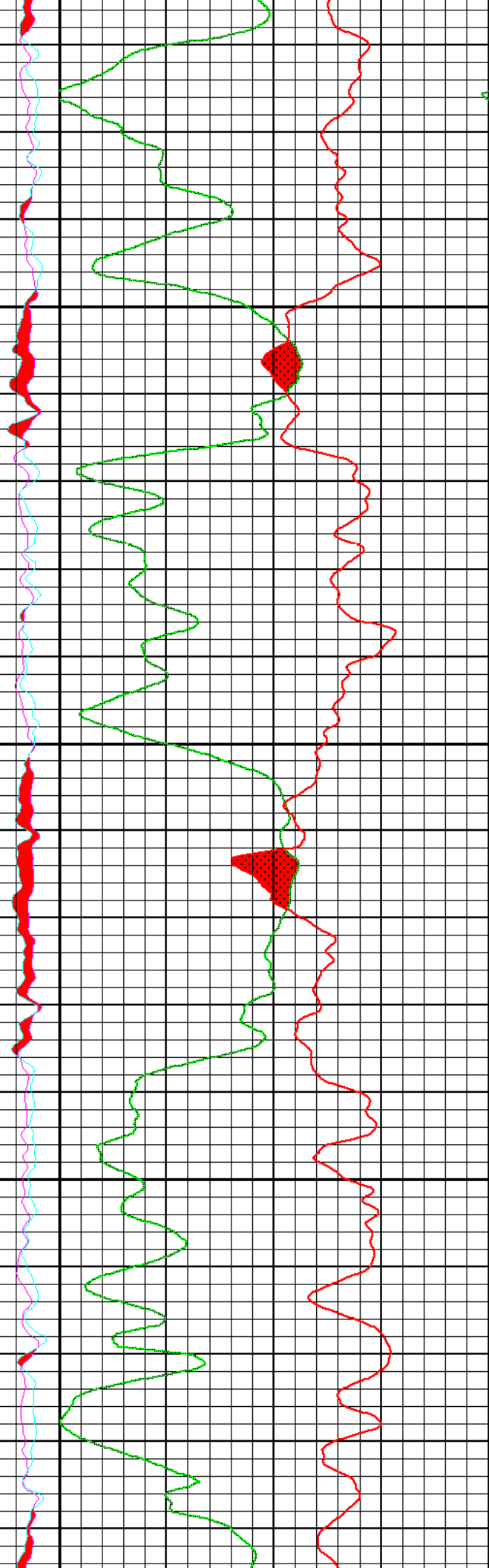
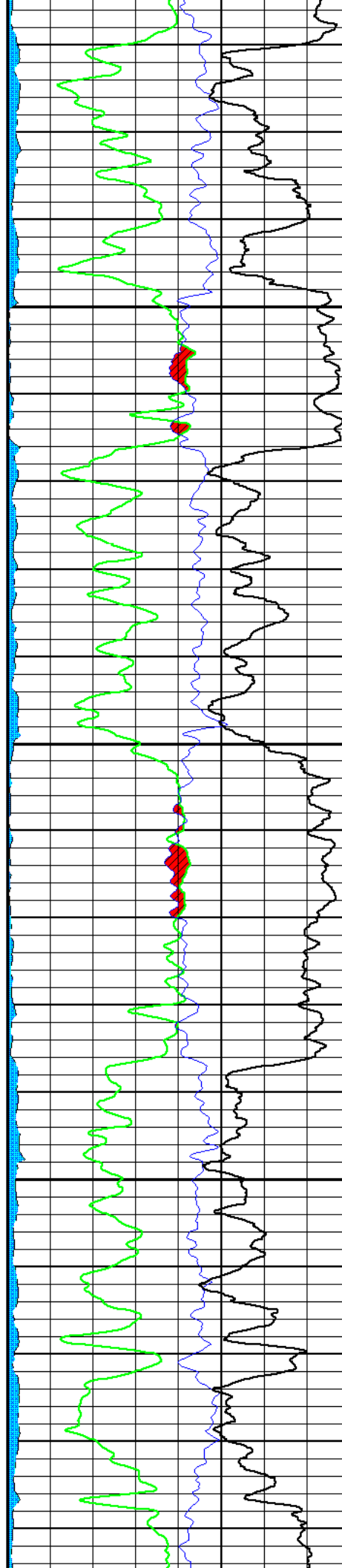
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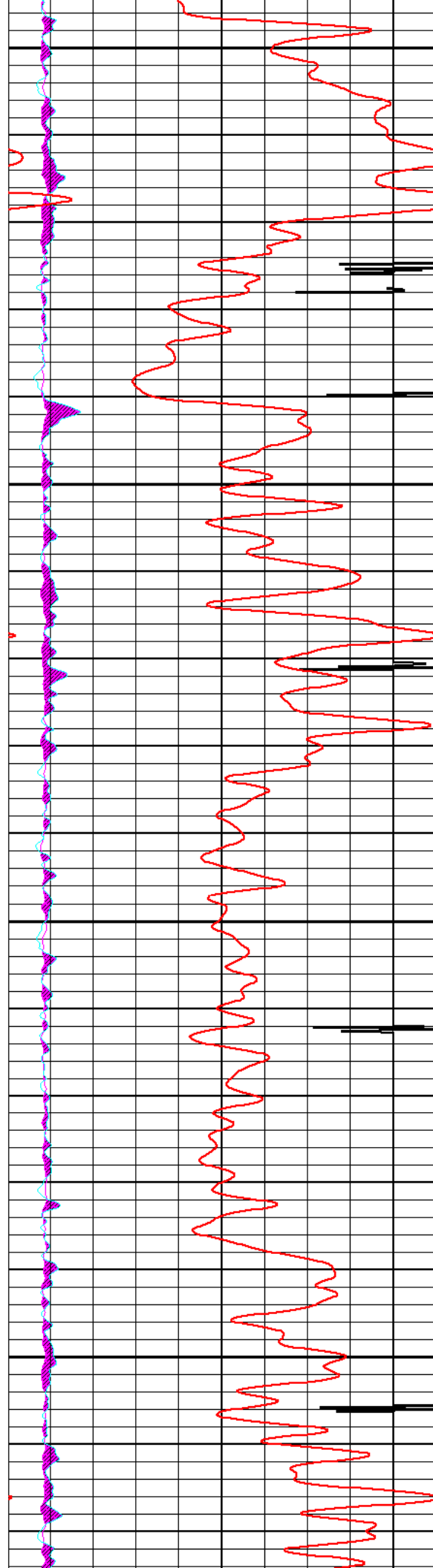




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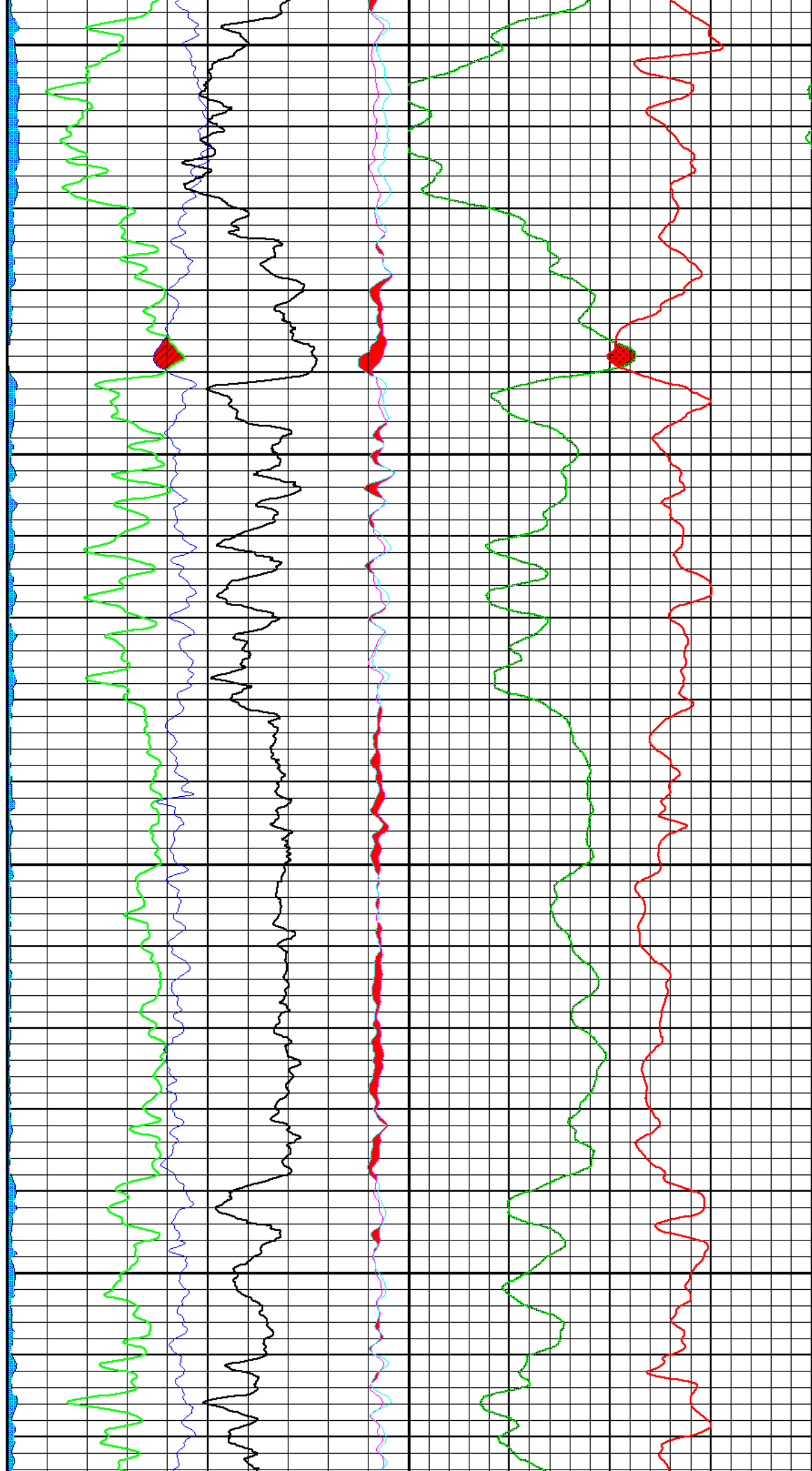
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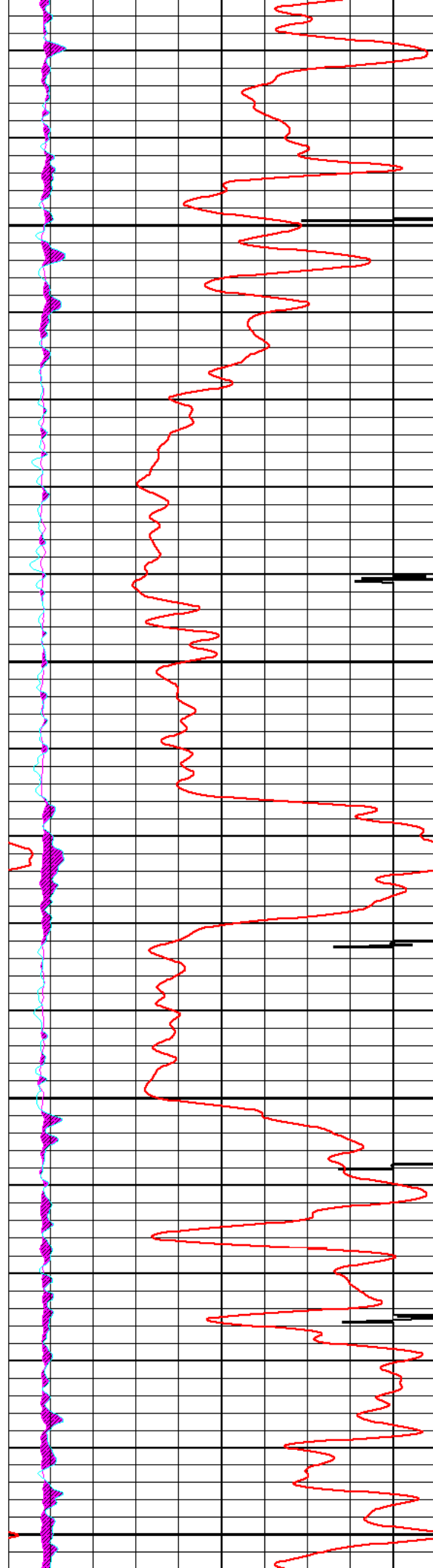




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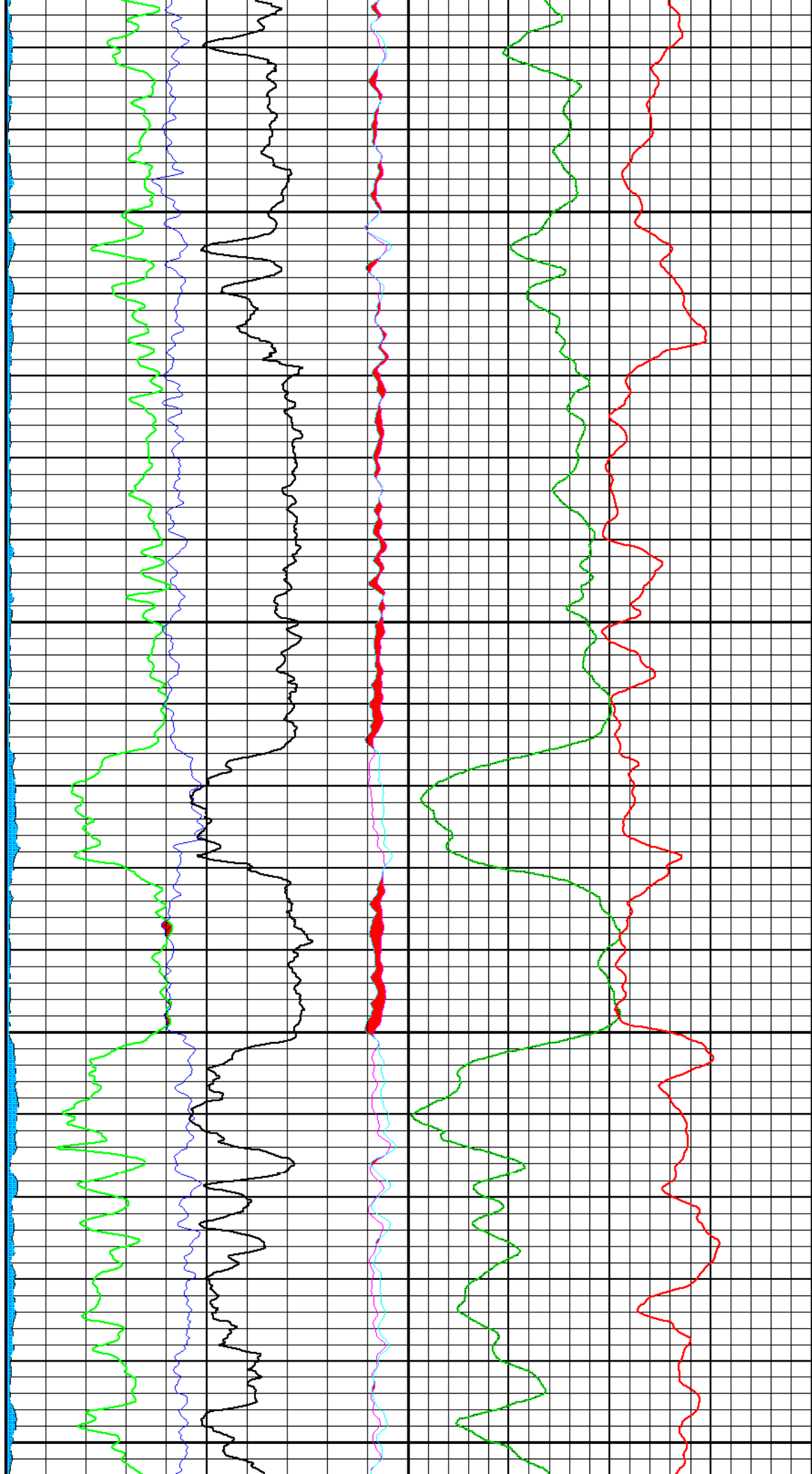
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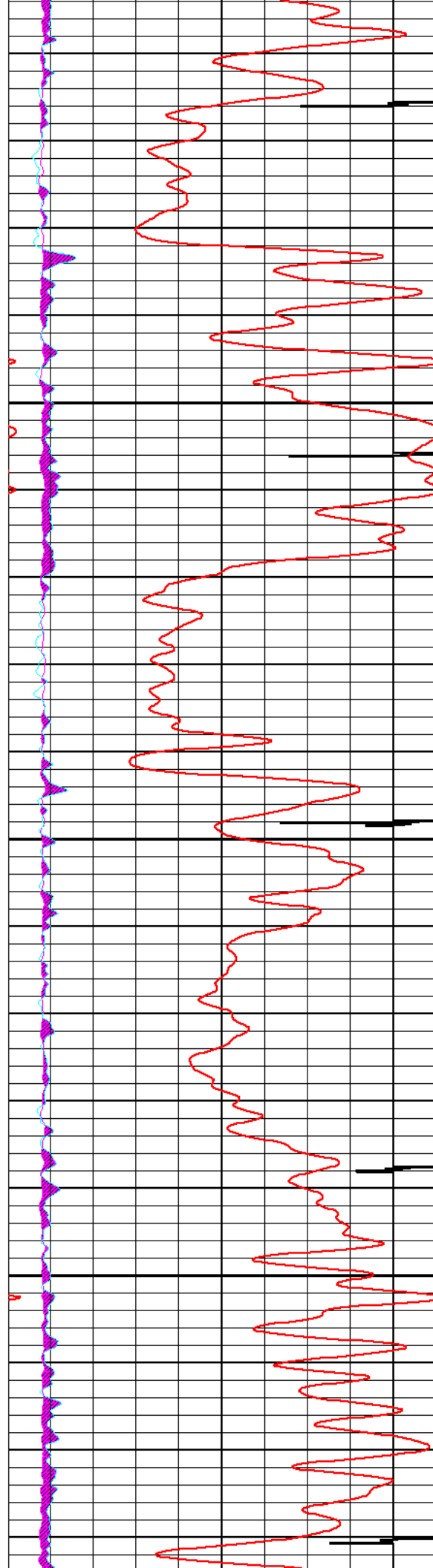




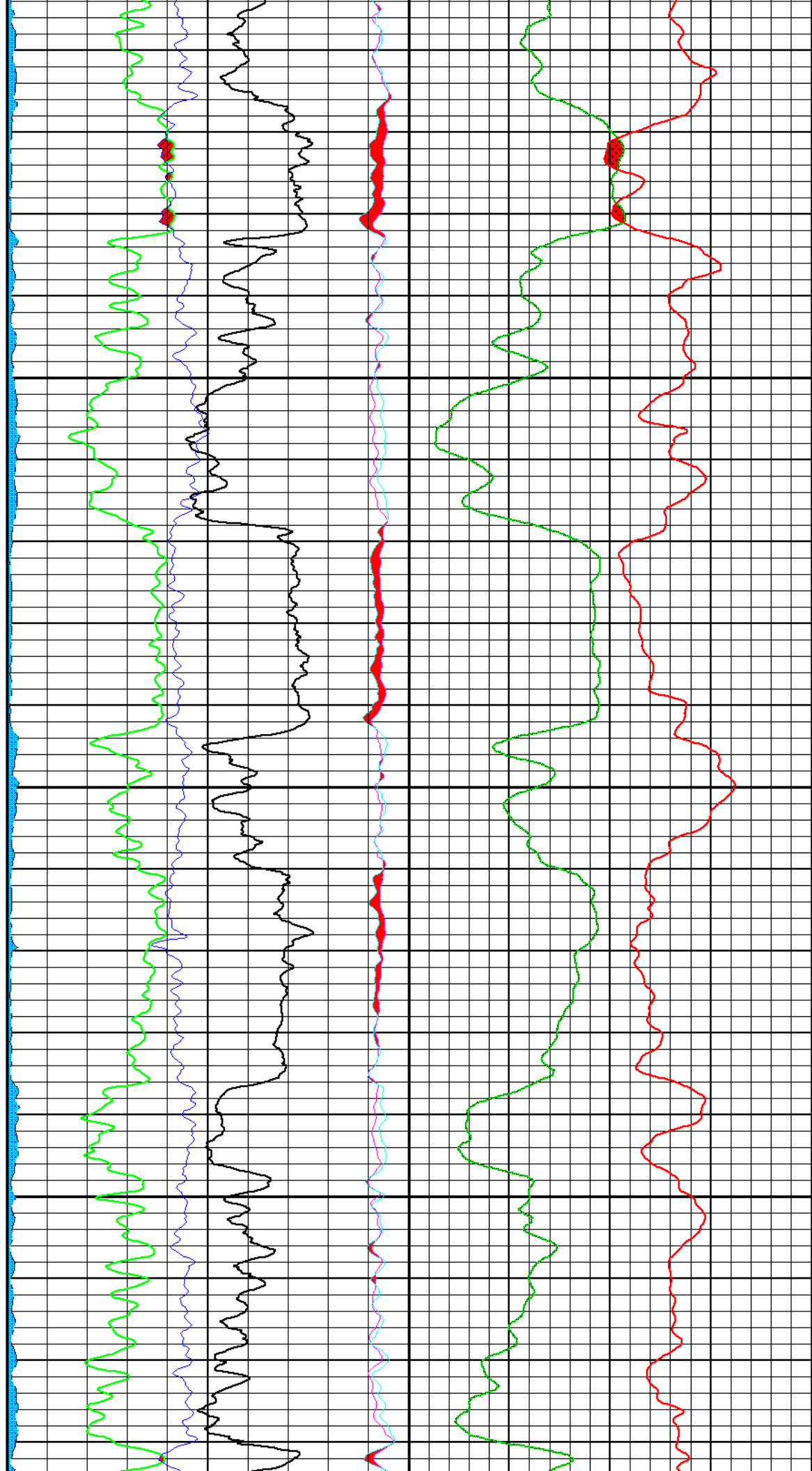
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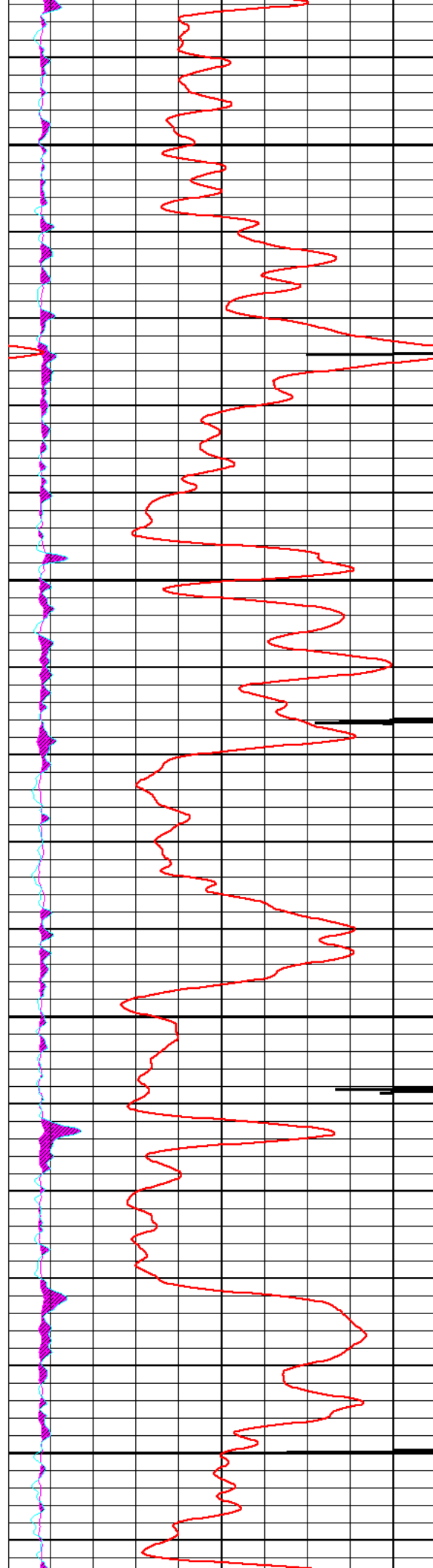
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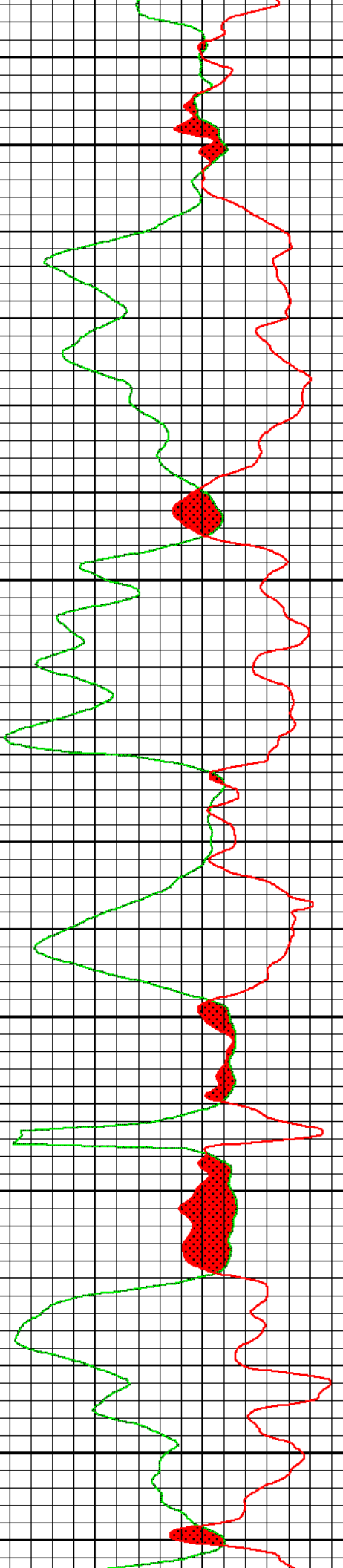
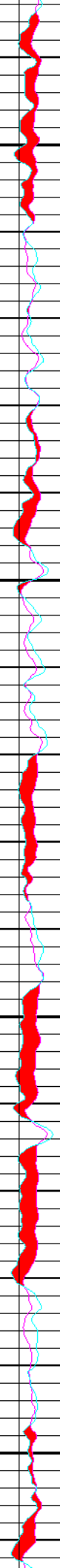
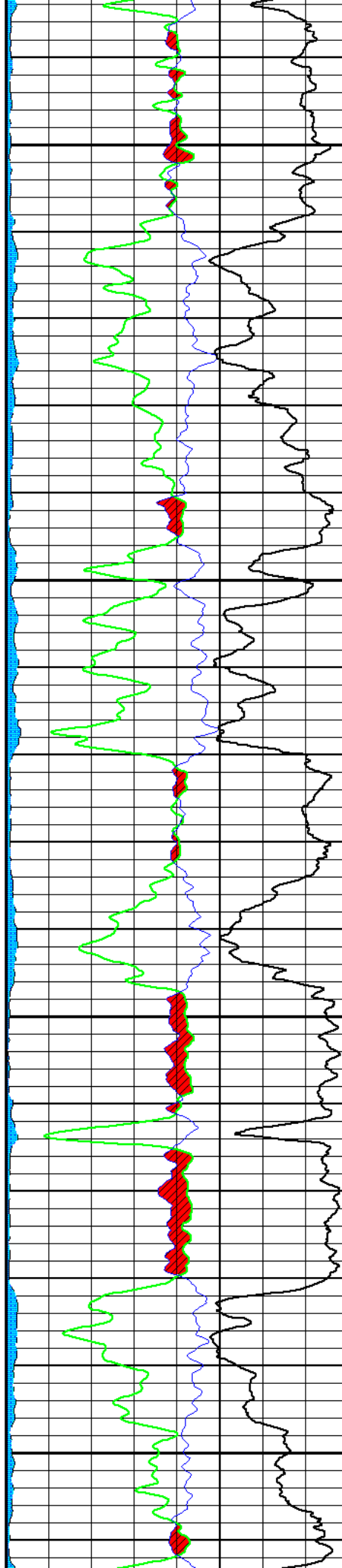
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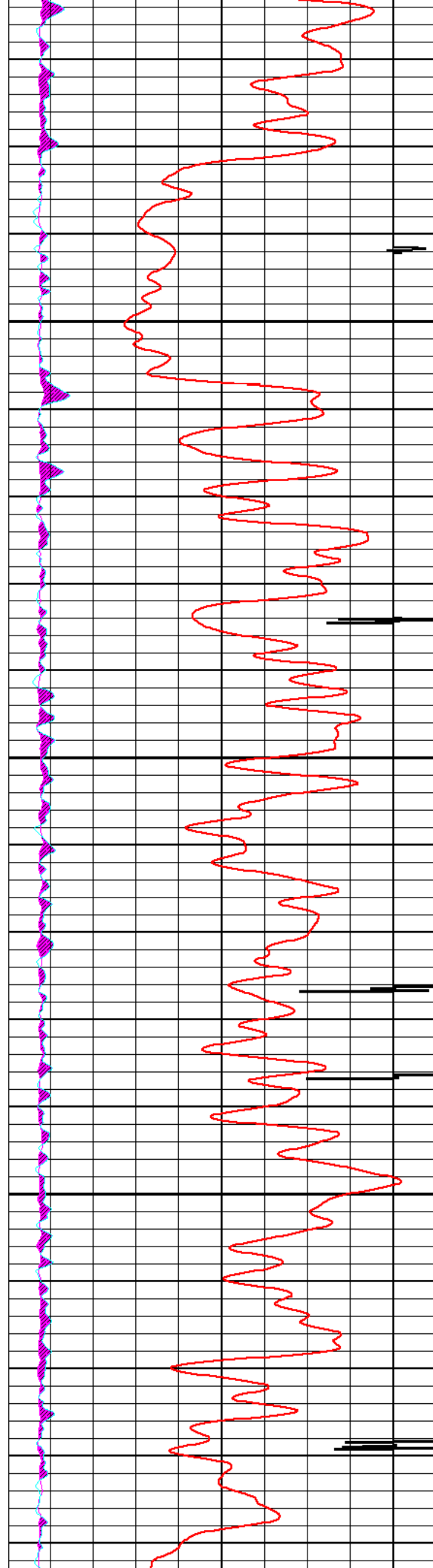




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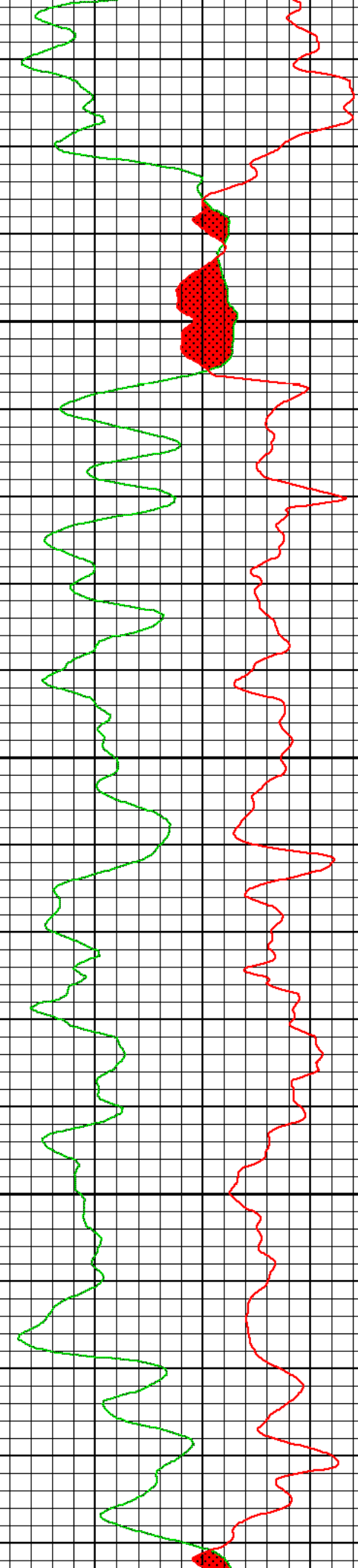
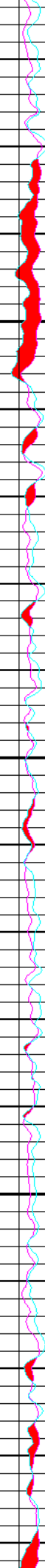
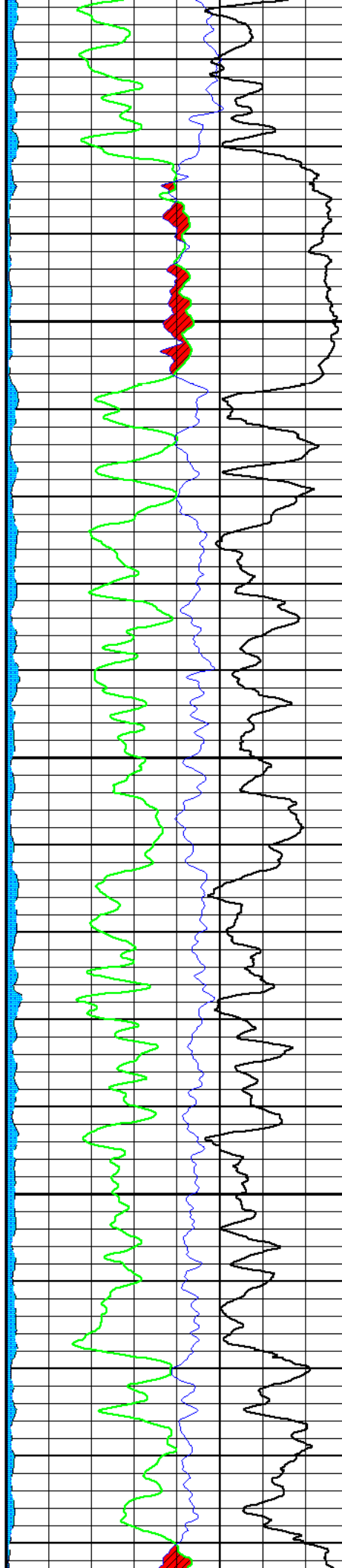
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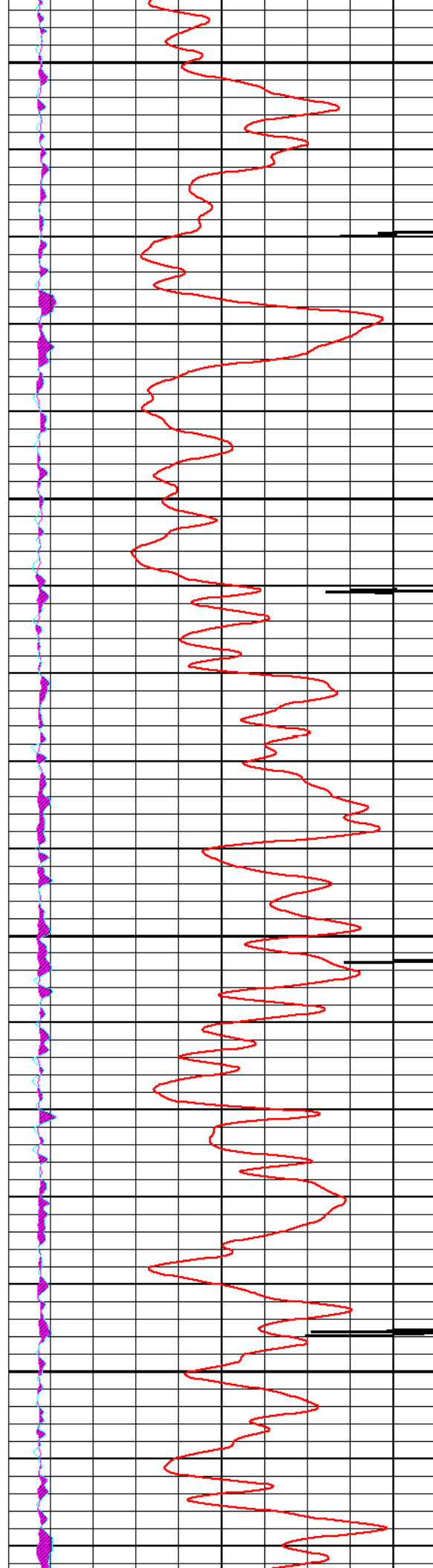




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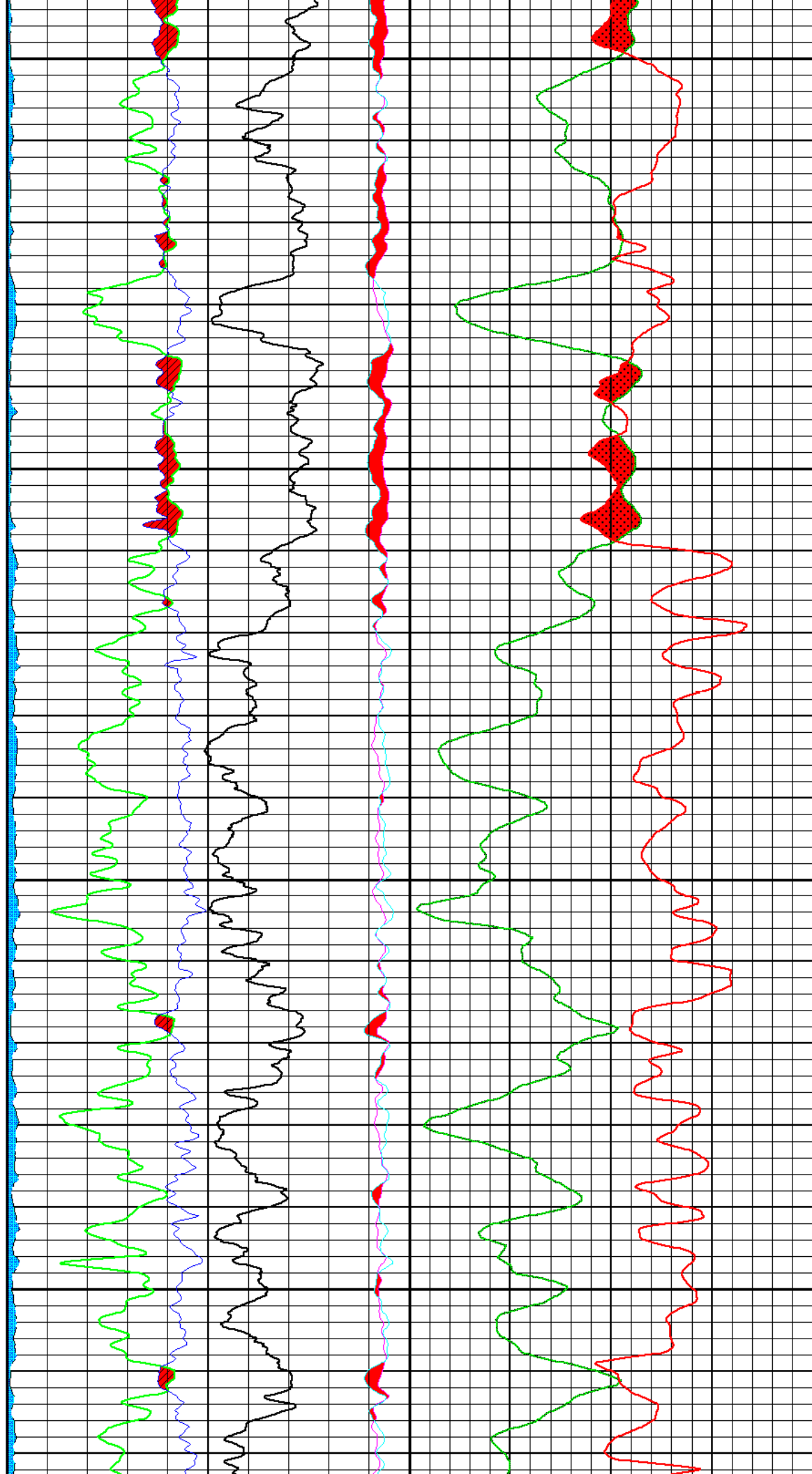
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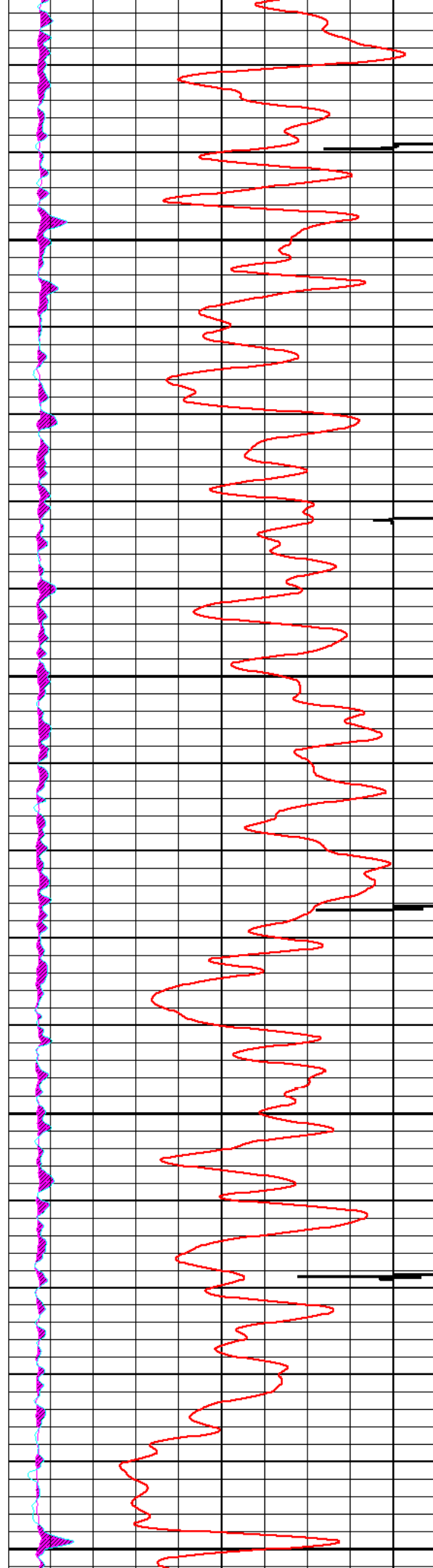




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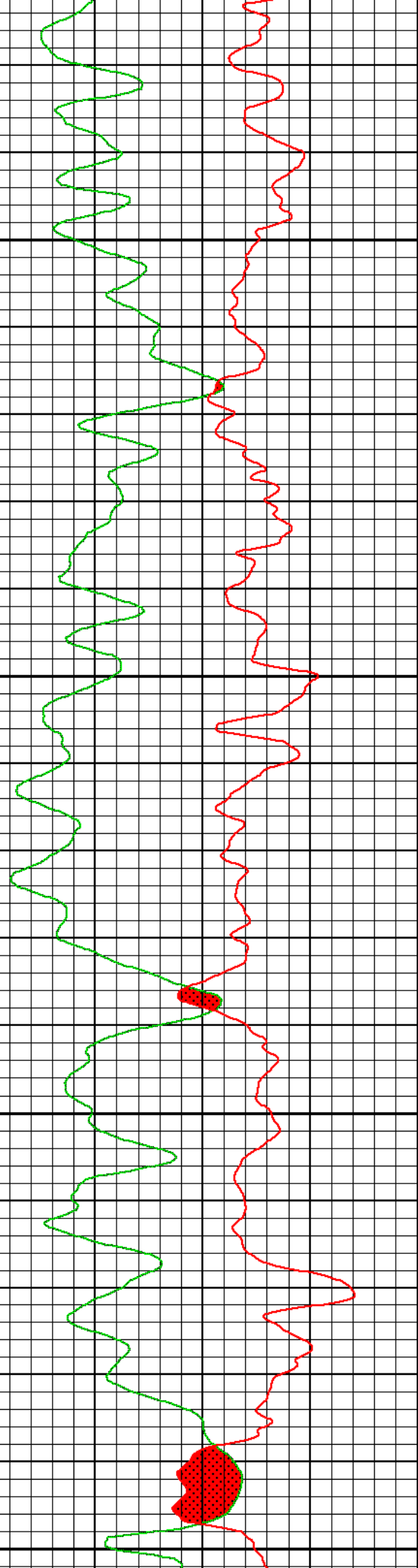
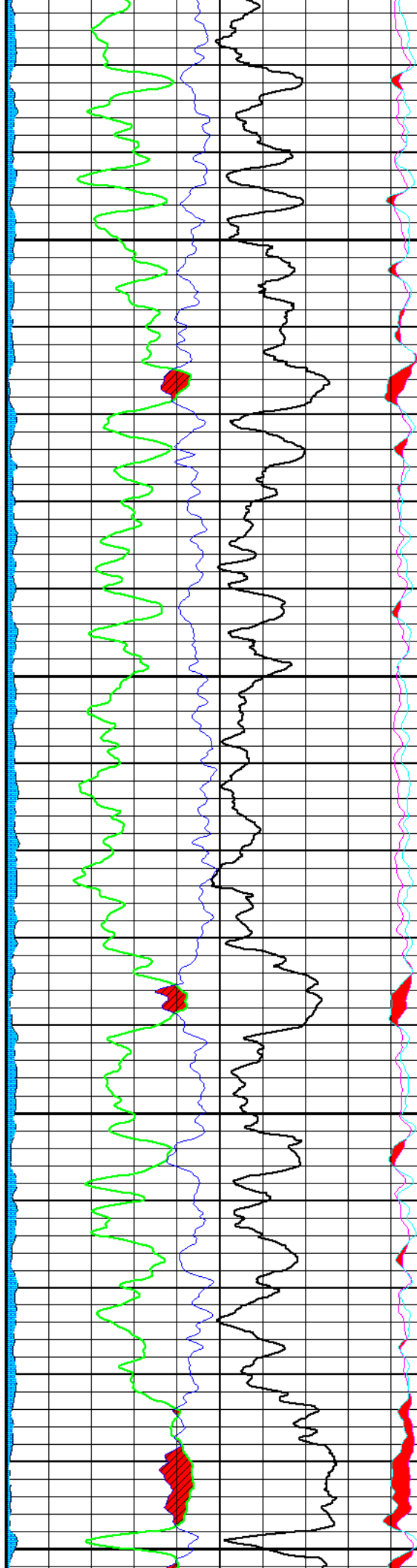
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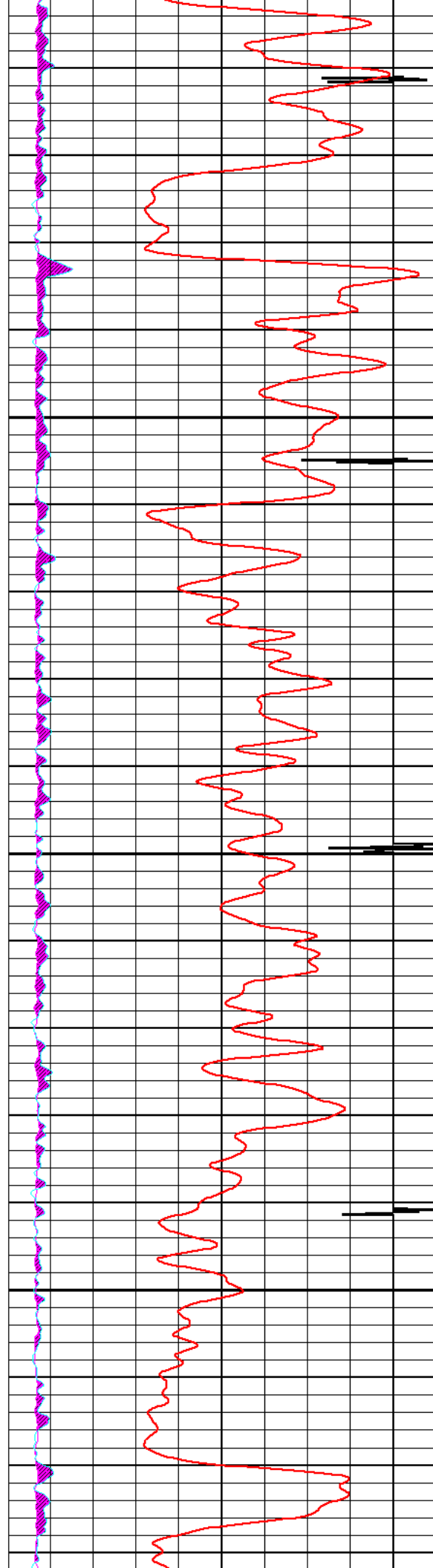




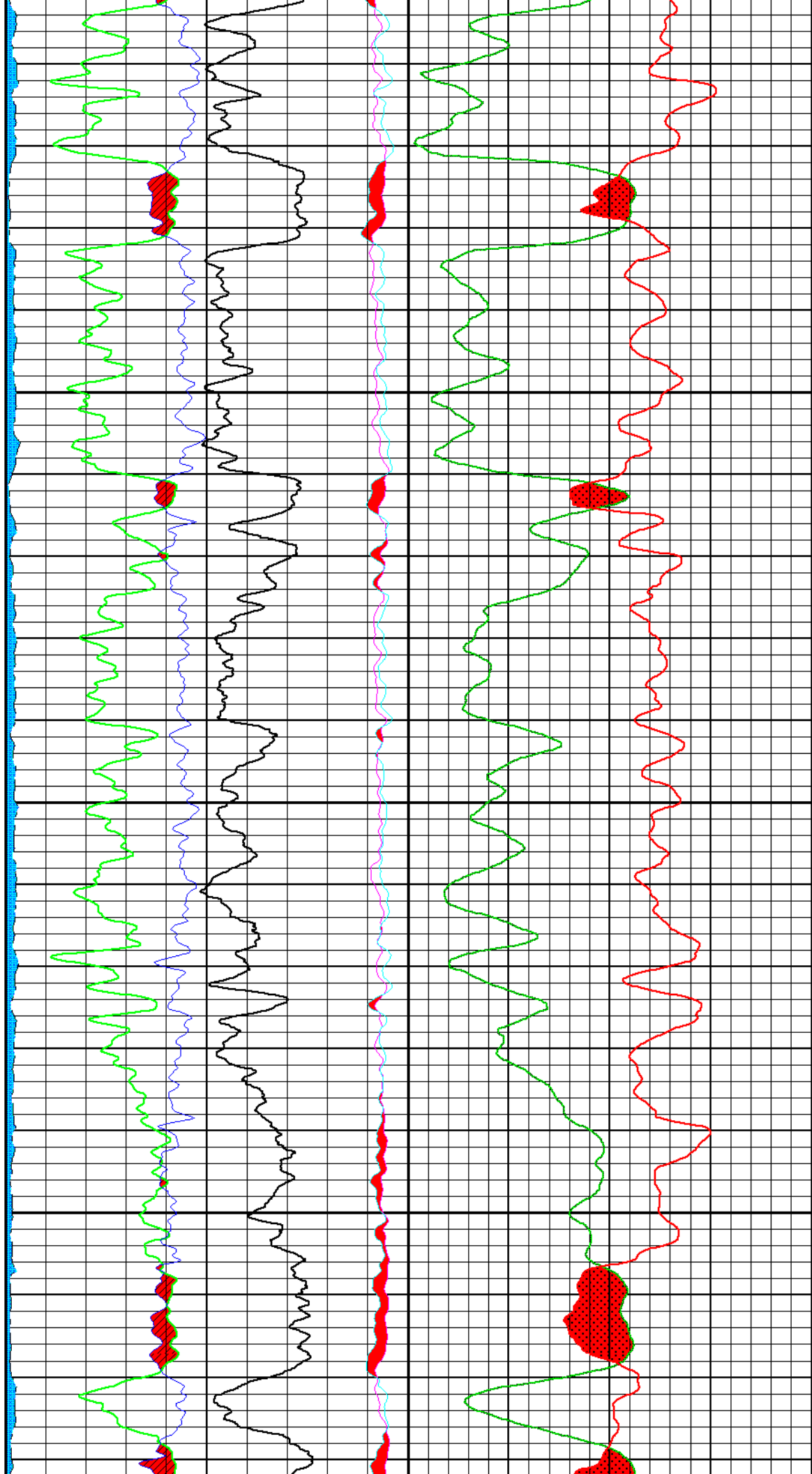
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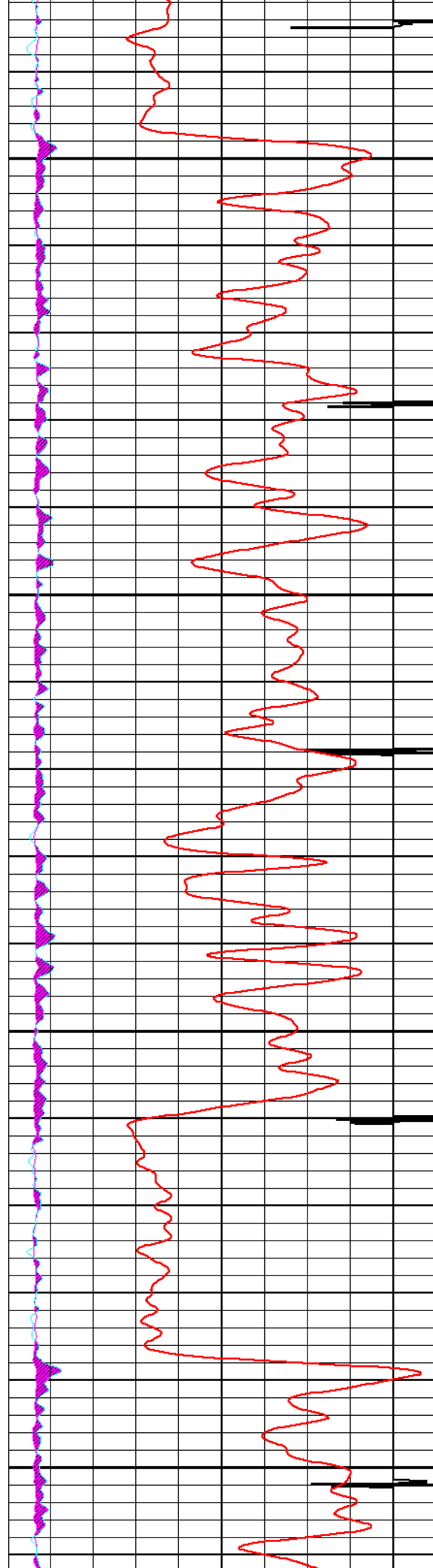
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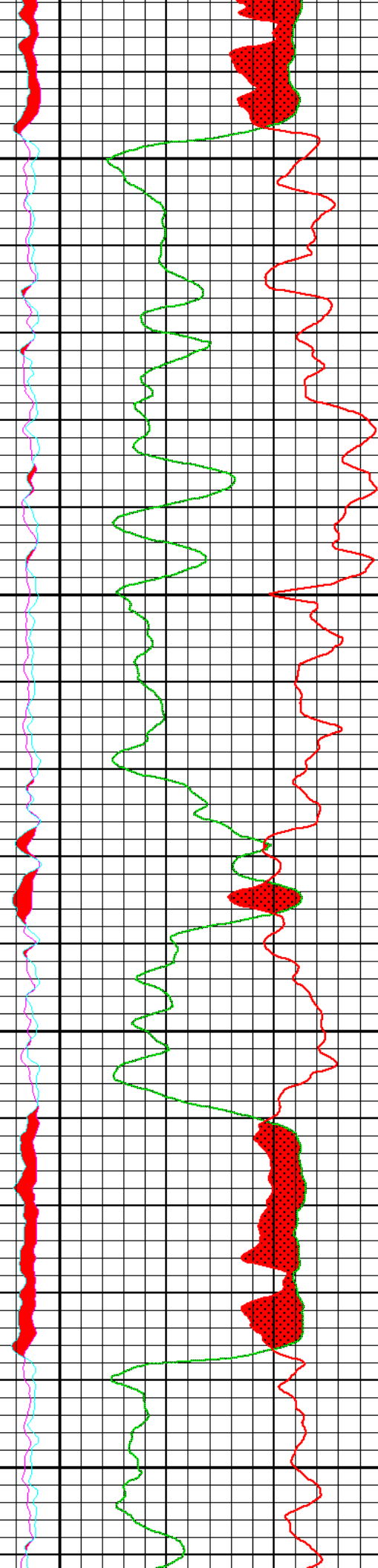
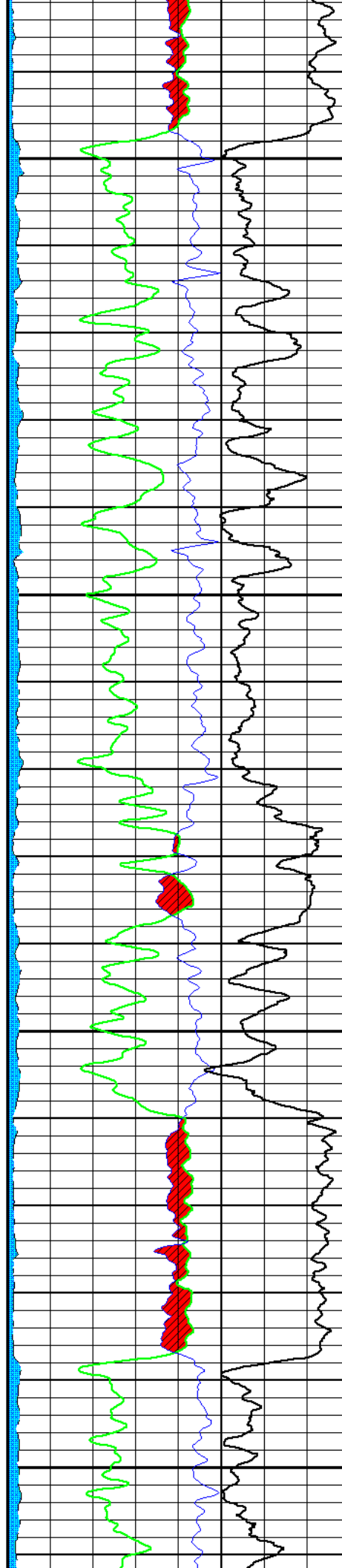
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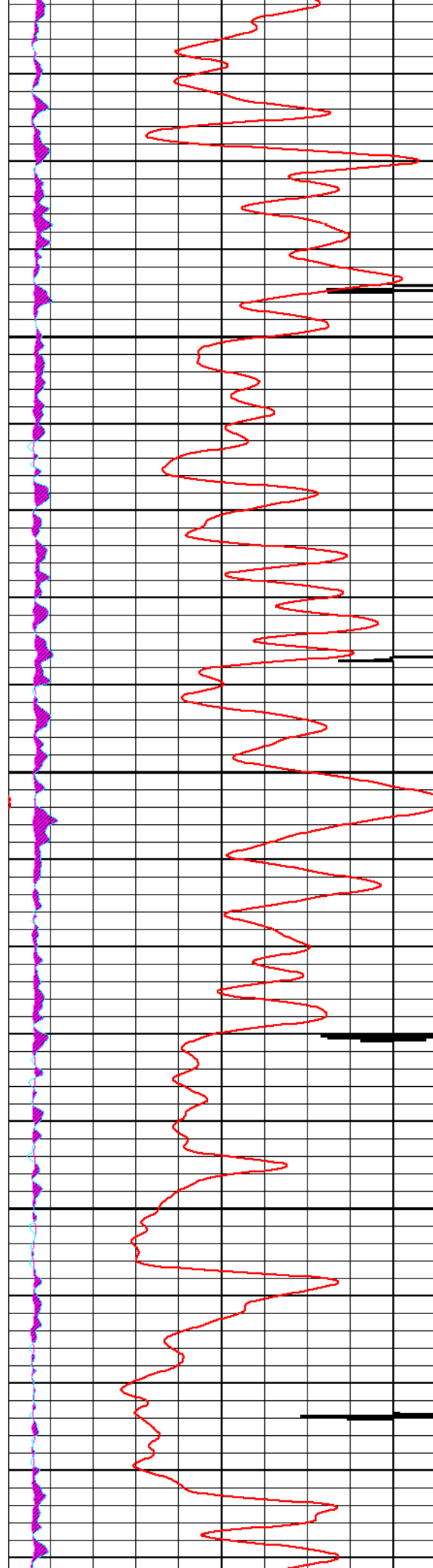




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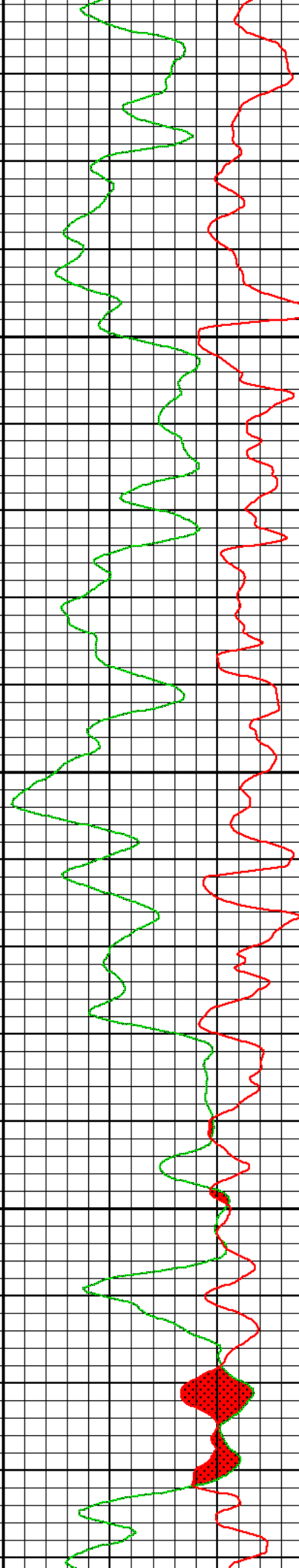
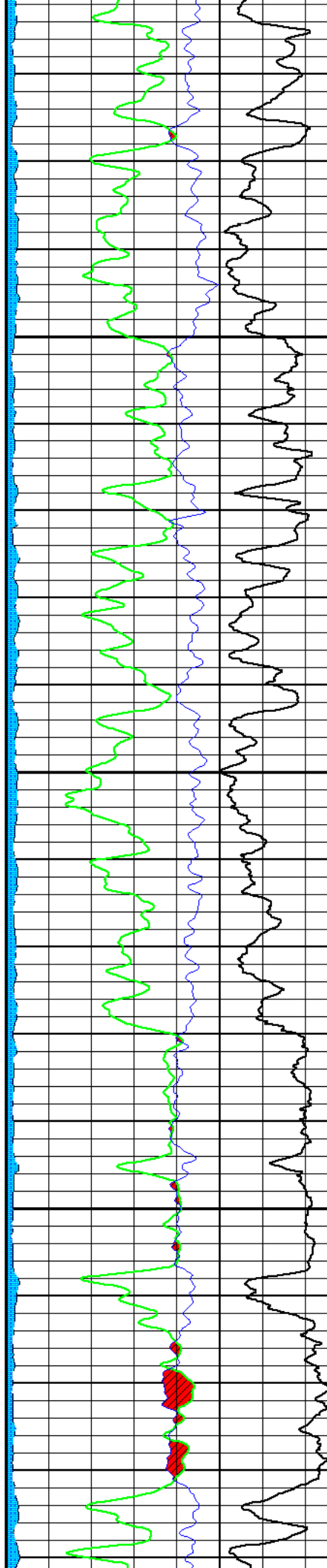
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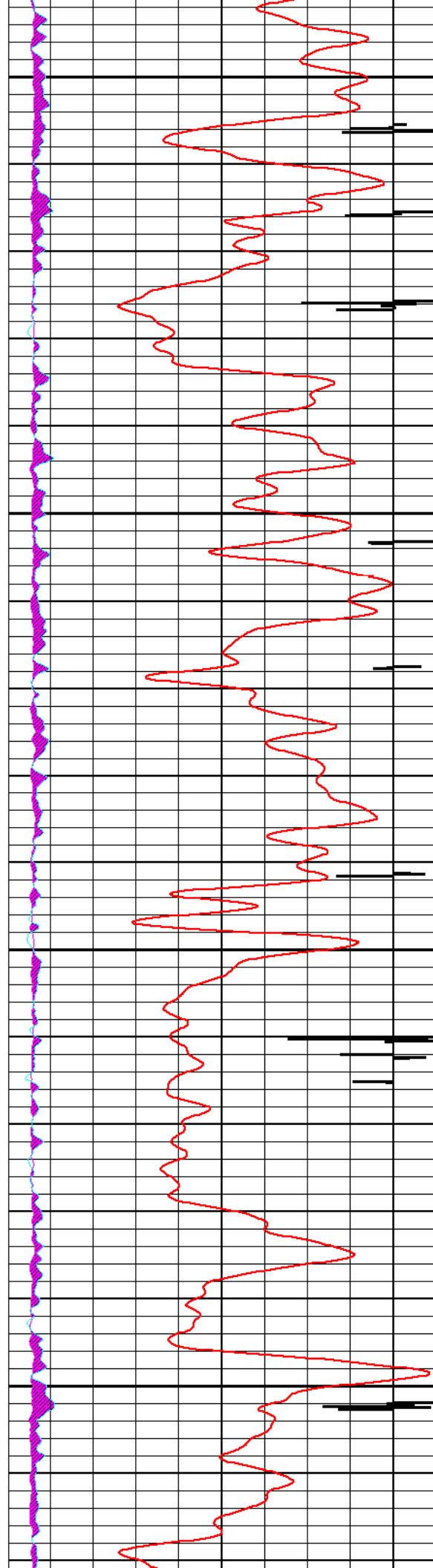




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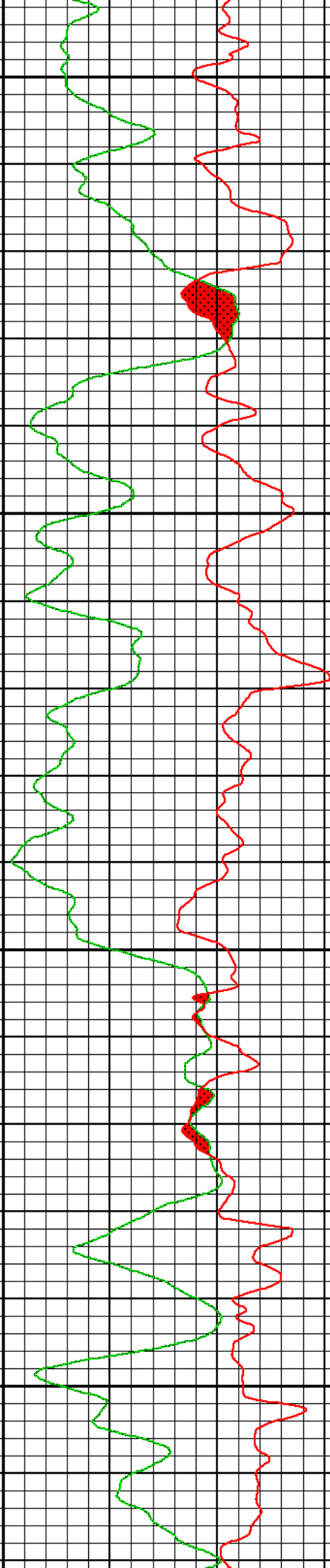
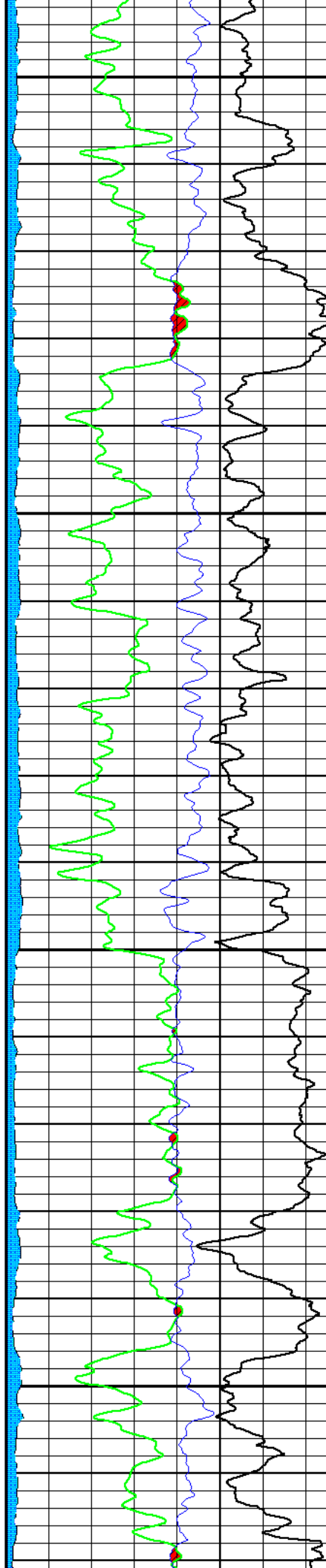
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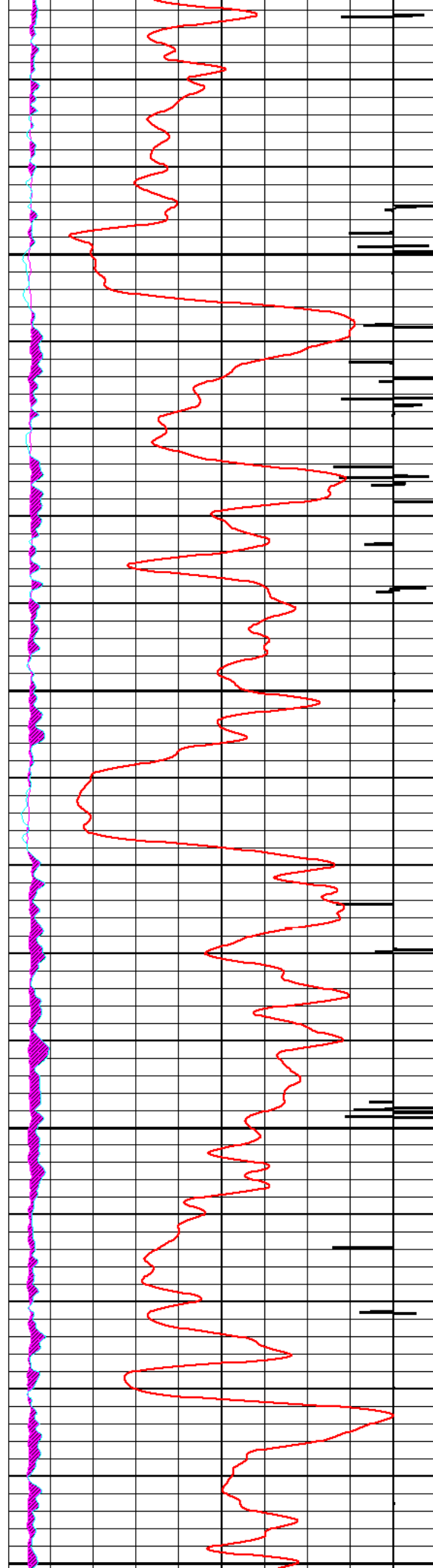




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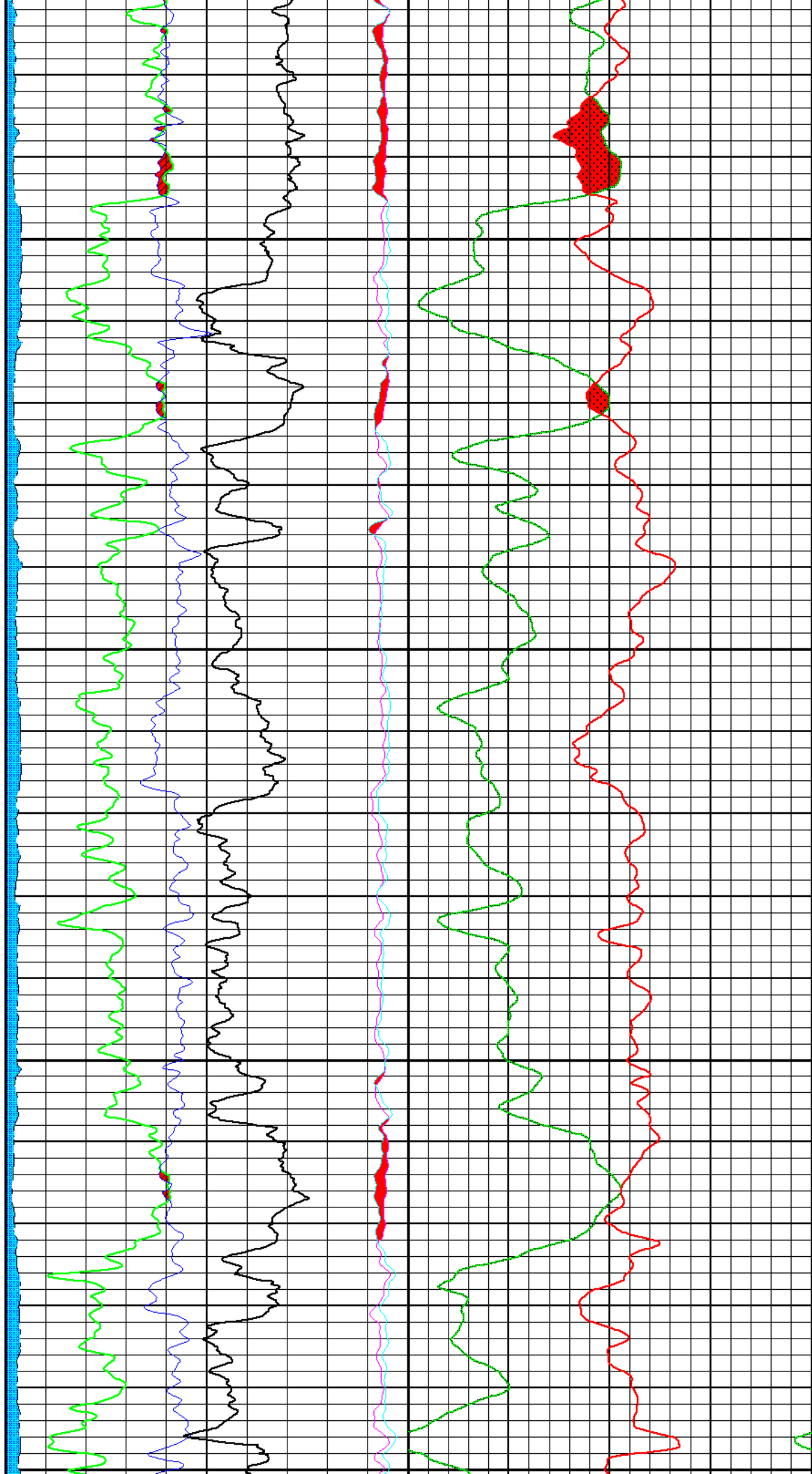
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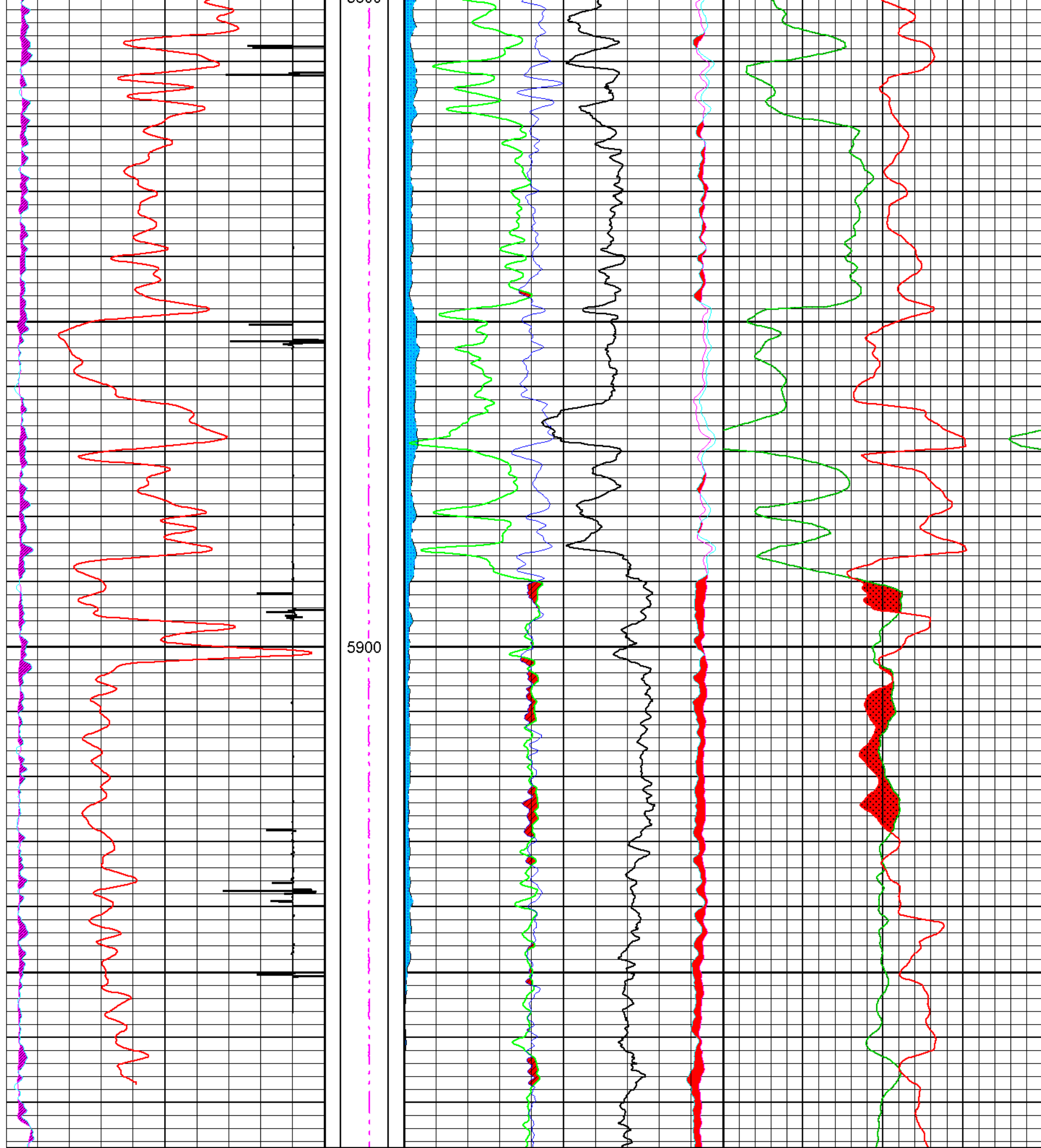




5700

5800





22000	mv	-2400	FT	240	cps	0	0.3	dec(ss)	-0.1			
BGN			CSG1L	FAR			AIPD					
0	cps	30000	0 flg 10	40	cps	0	0.3	dec(ss)	-0.1			
BGF			CSG1R	RATI								
0	cps	3000	10 flg 0	6		-4						
GRP			TENS	RBNF								
0	gapi	150	2500s 0	2.5		22.5						
				SIGC								
				50	cu	0						
				DELI								
				0		-100						