



# Weatherford®

## PND-S CASED HOLE TRIPLE COMBO

Company URSA OPERATING COMPANY  
Well BAT 12C-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 25, 2014 PND		
6103		
6089		
6079		
2900		
4.5" @ TD		
8.75"		
WATER		
8.3 / N/A		
192 DEG F		

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

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REMARKS:

Project: 5133-80195239  
Company: URSA OPERATING COMPANY  
Well: BAT 12C-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 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: #5735

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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

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" ? - 6103'


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

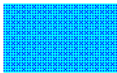
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ANALYST: B. Smith  
PROGRAM: multiple wts


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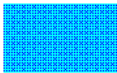
WEATHERFORD INTERNATIONAL, LTD.


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 Poss.NormDeposits(BGN-F)

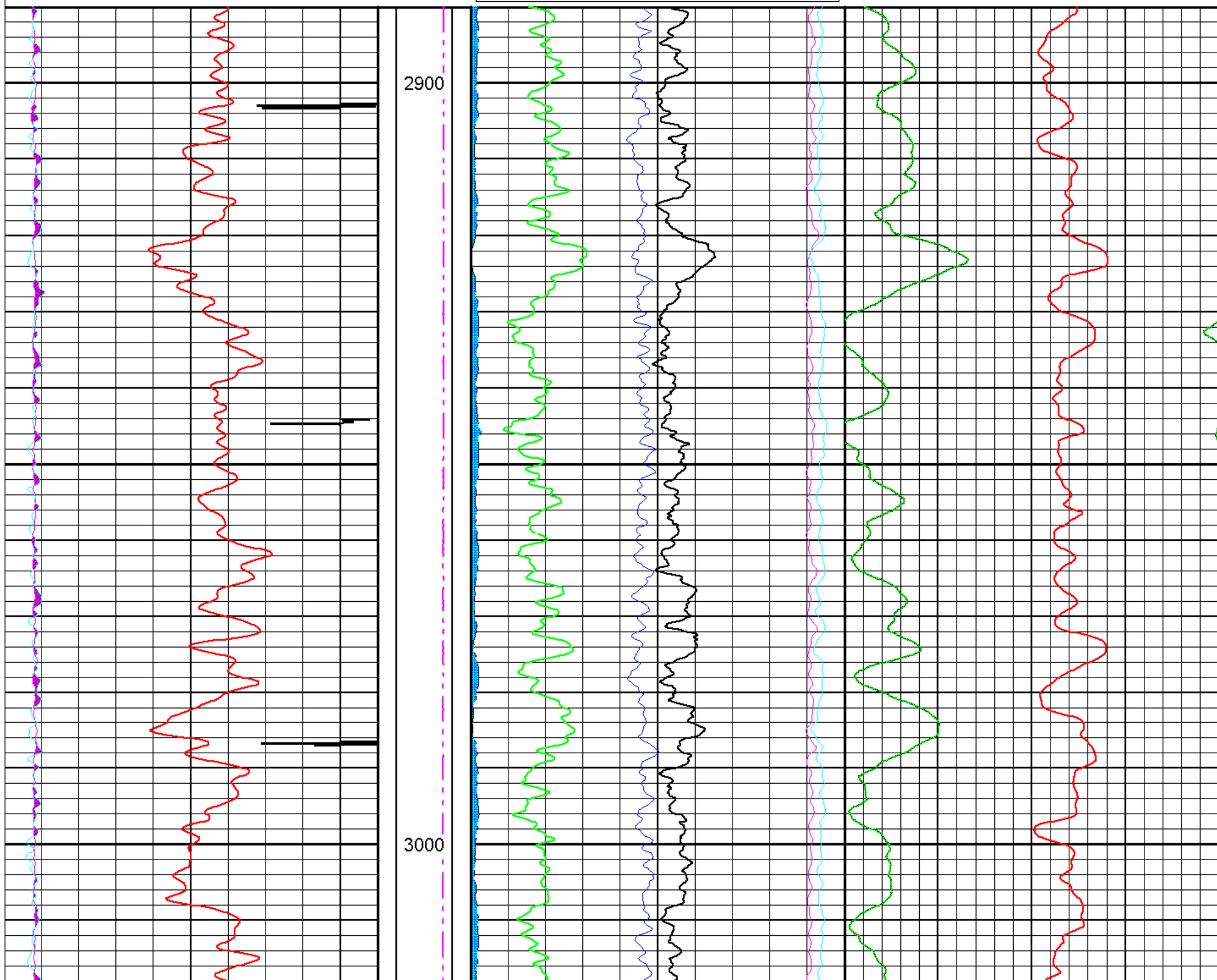
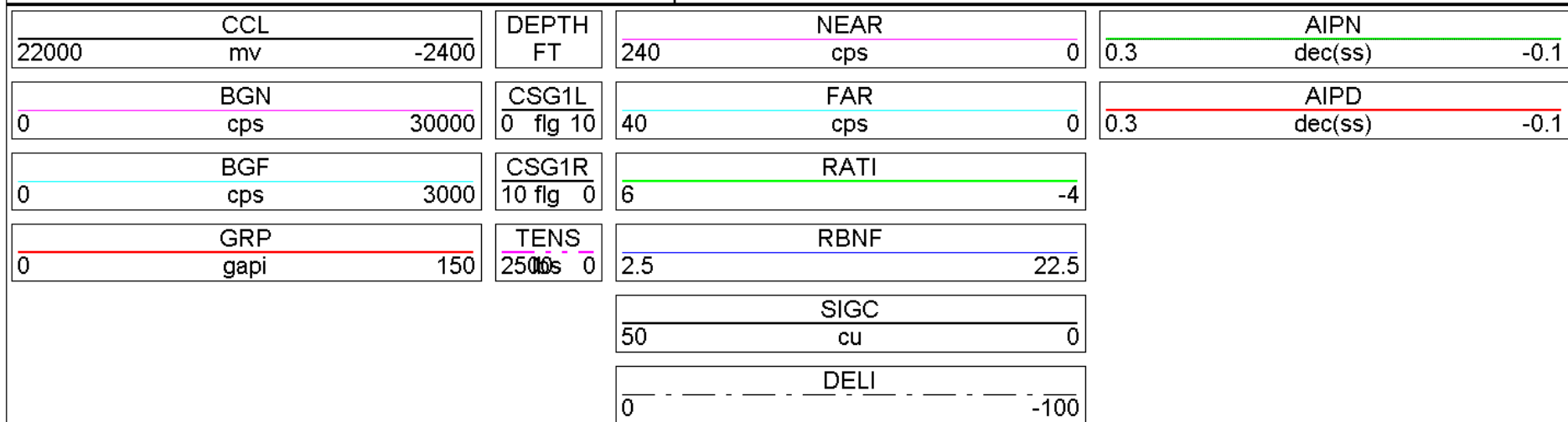
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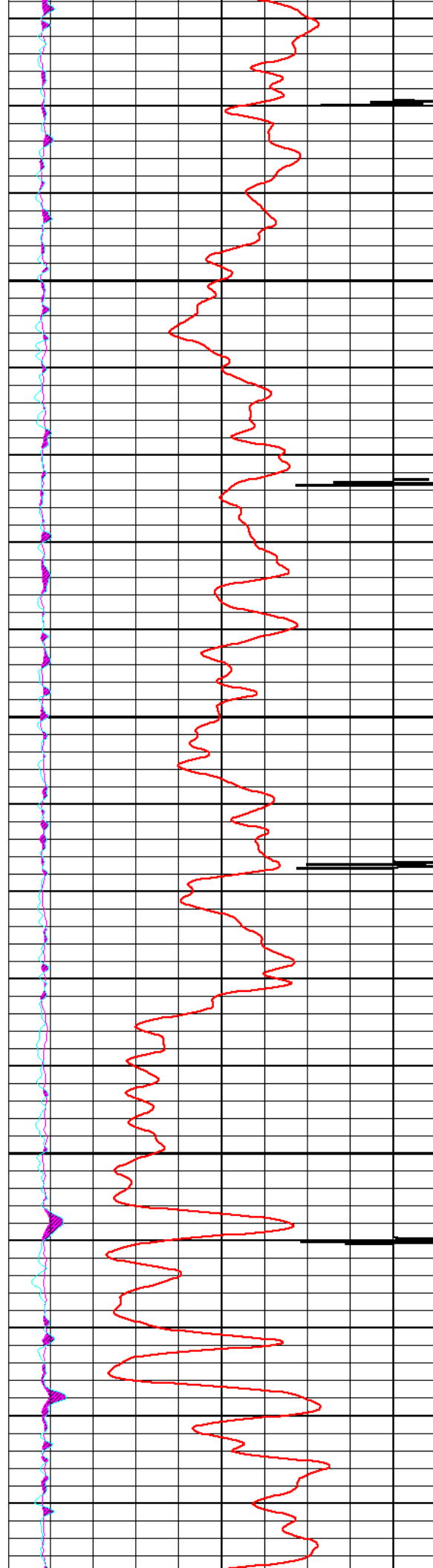
 Gas\_Indication\_from\_RAT/INEL-RAT

 Lower\_Inelastic\_Data\_Quality

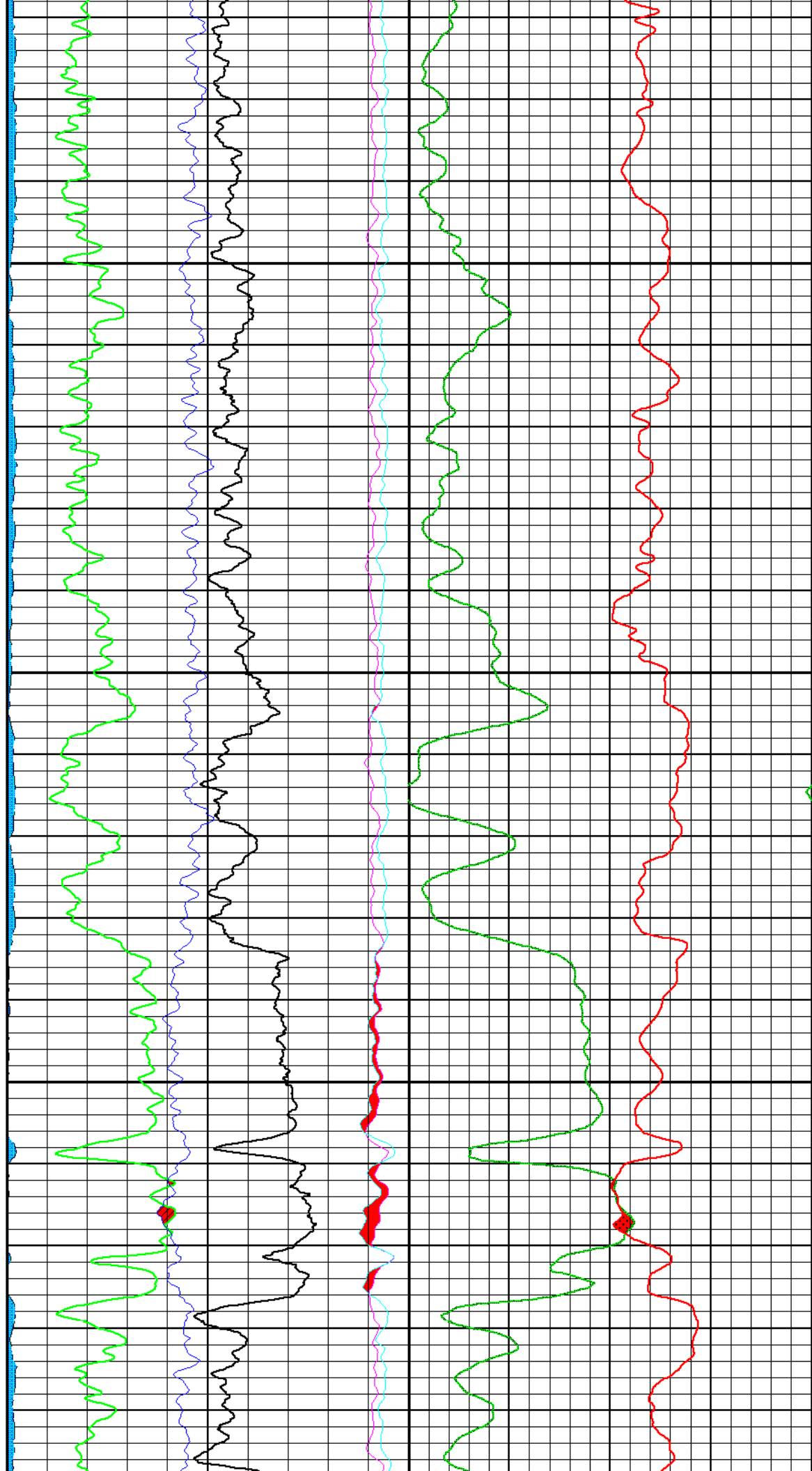
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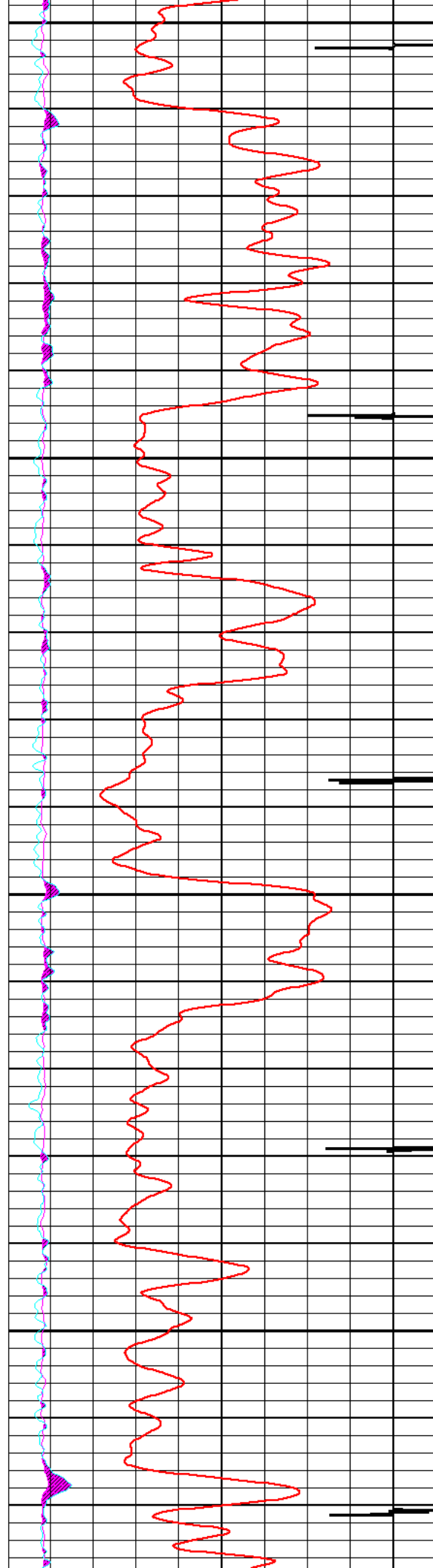
DEPTH (FT)  
Interval: 2890.00 to 6101.00  
Depth Scale Ratio: 1/240





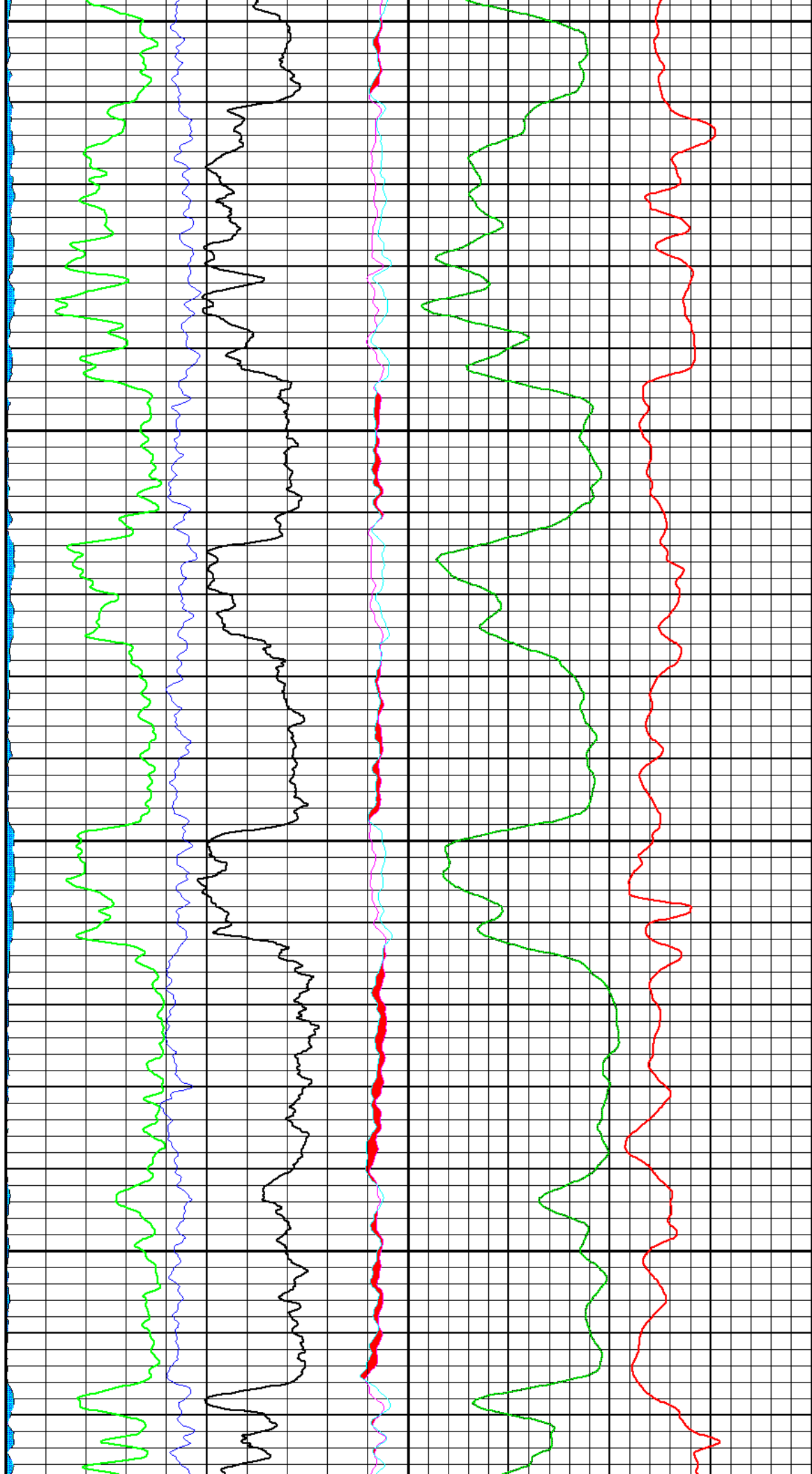
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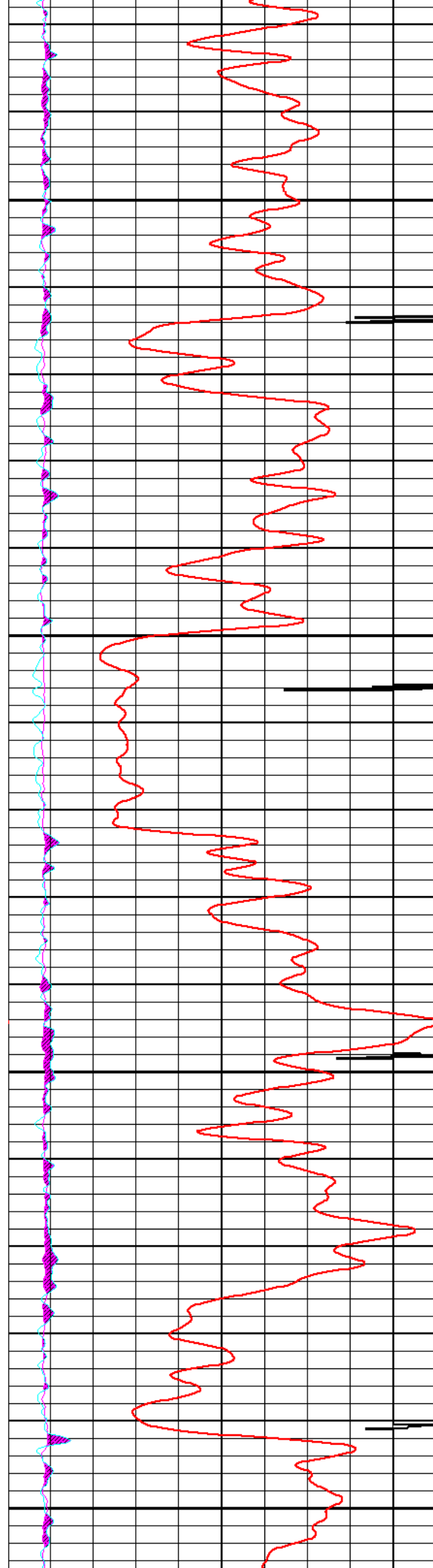




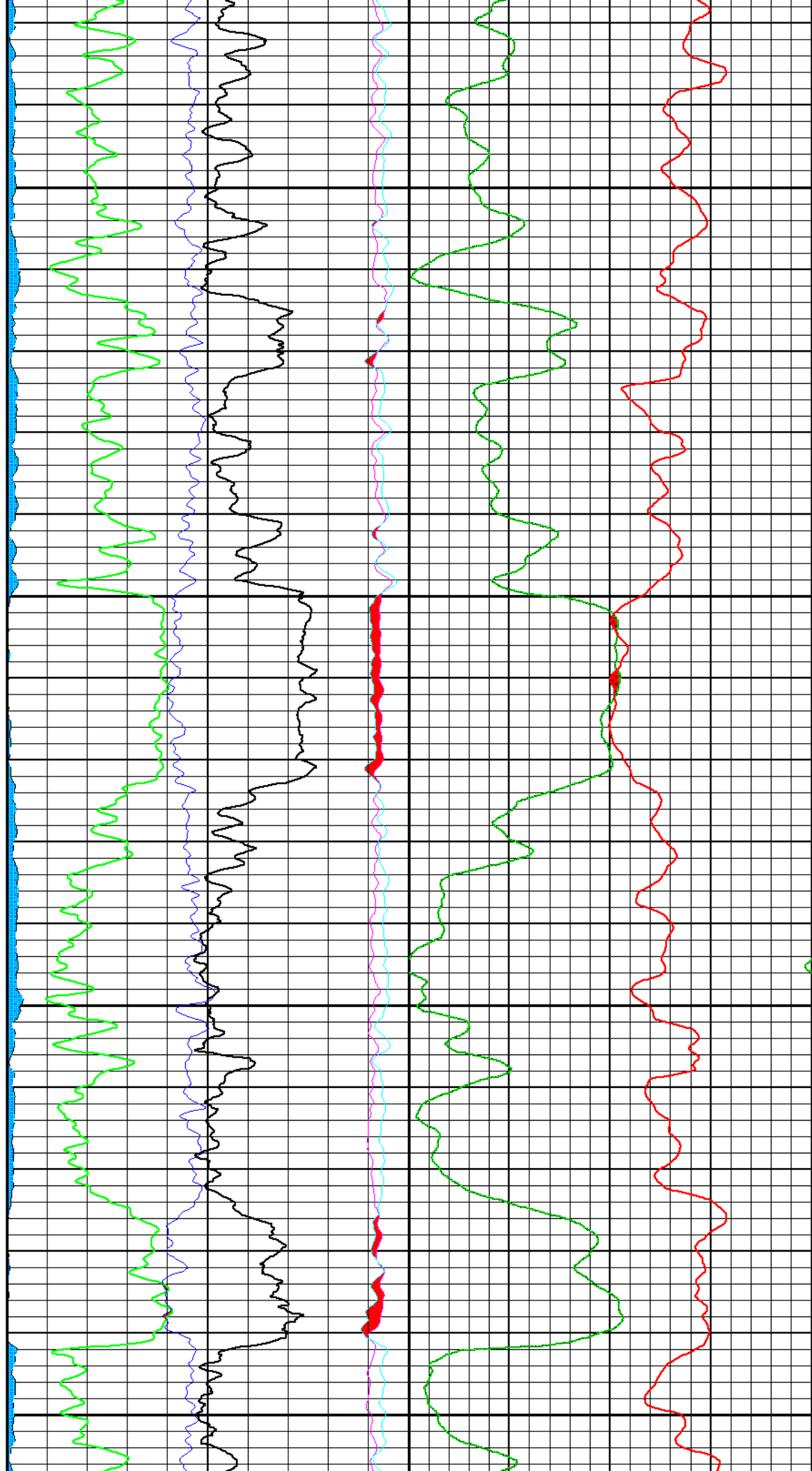
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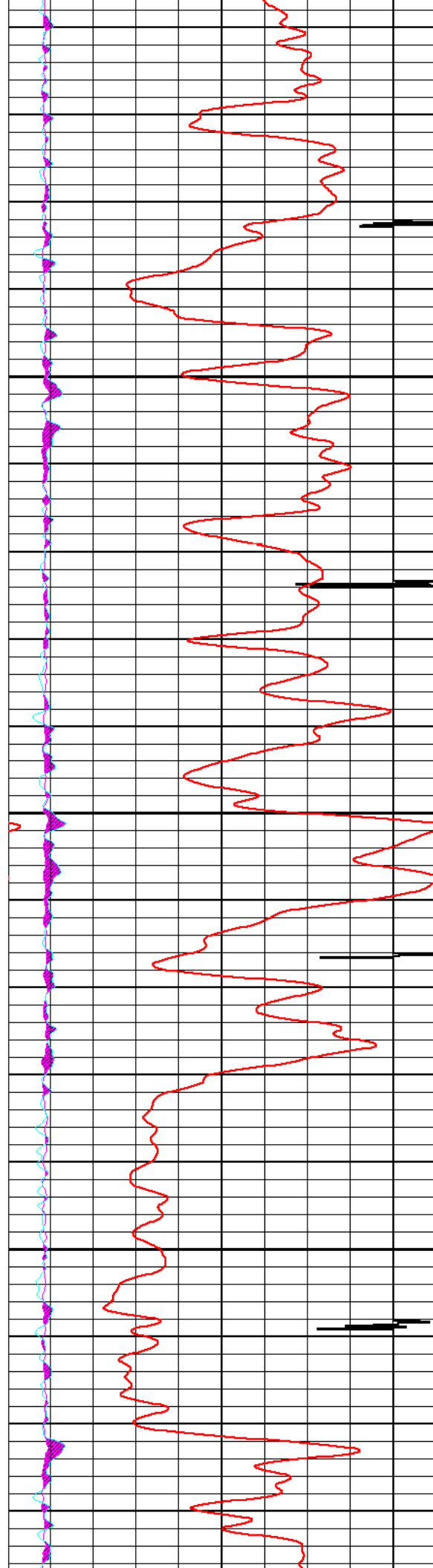
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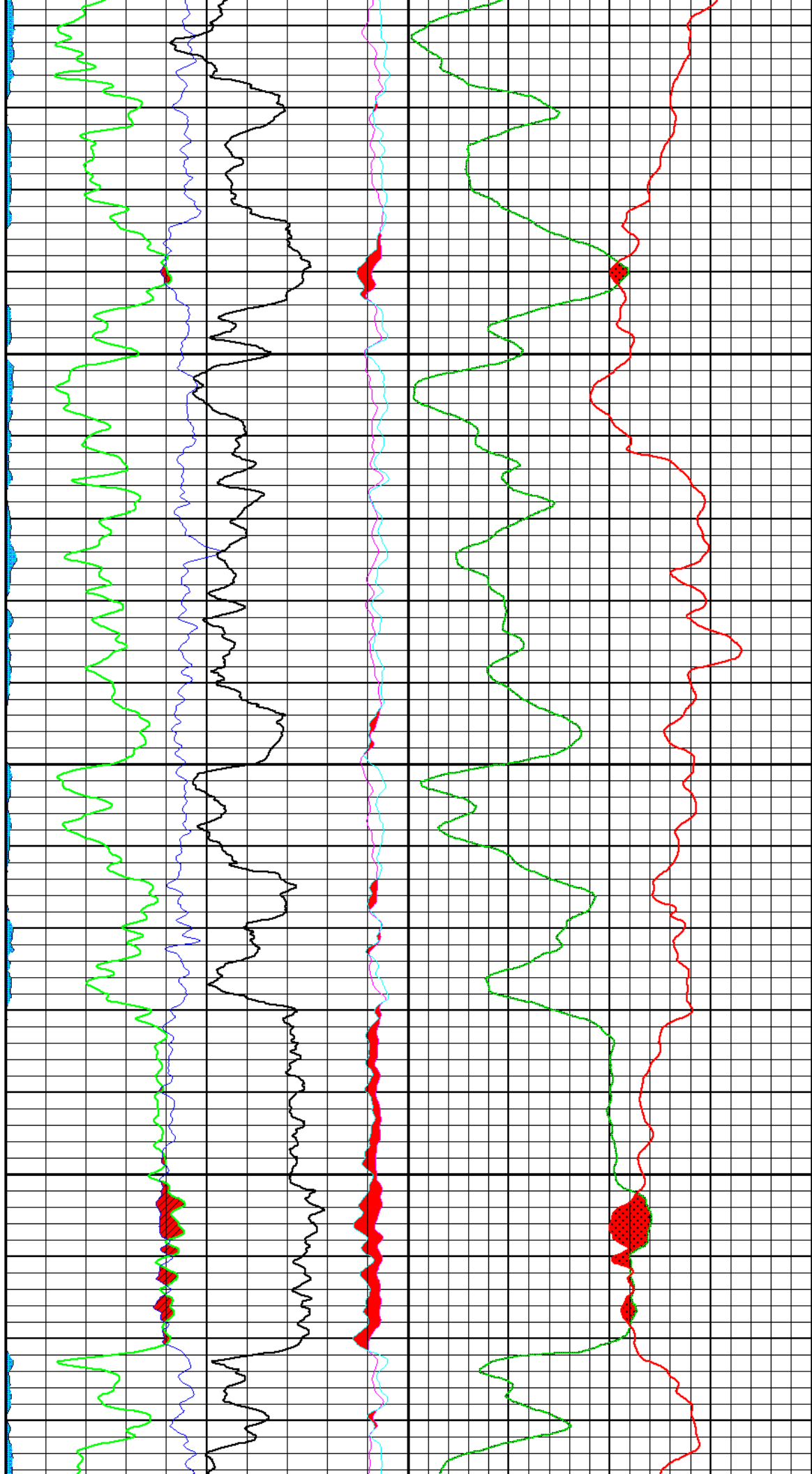
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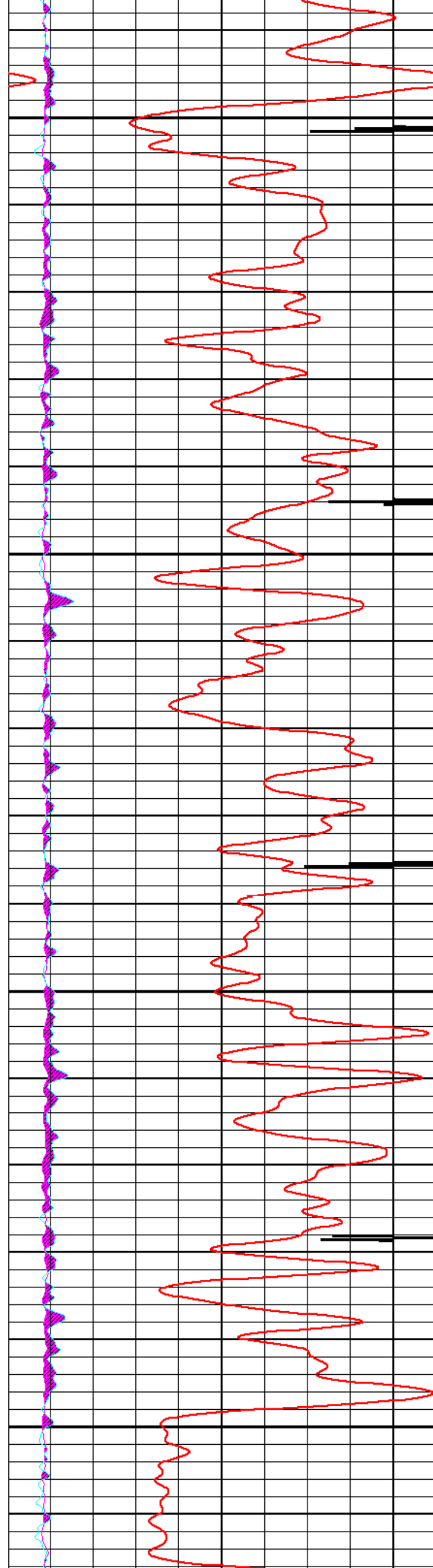


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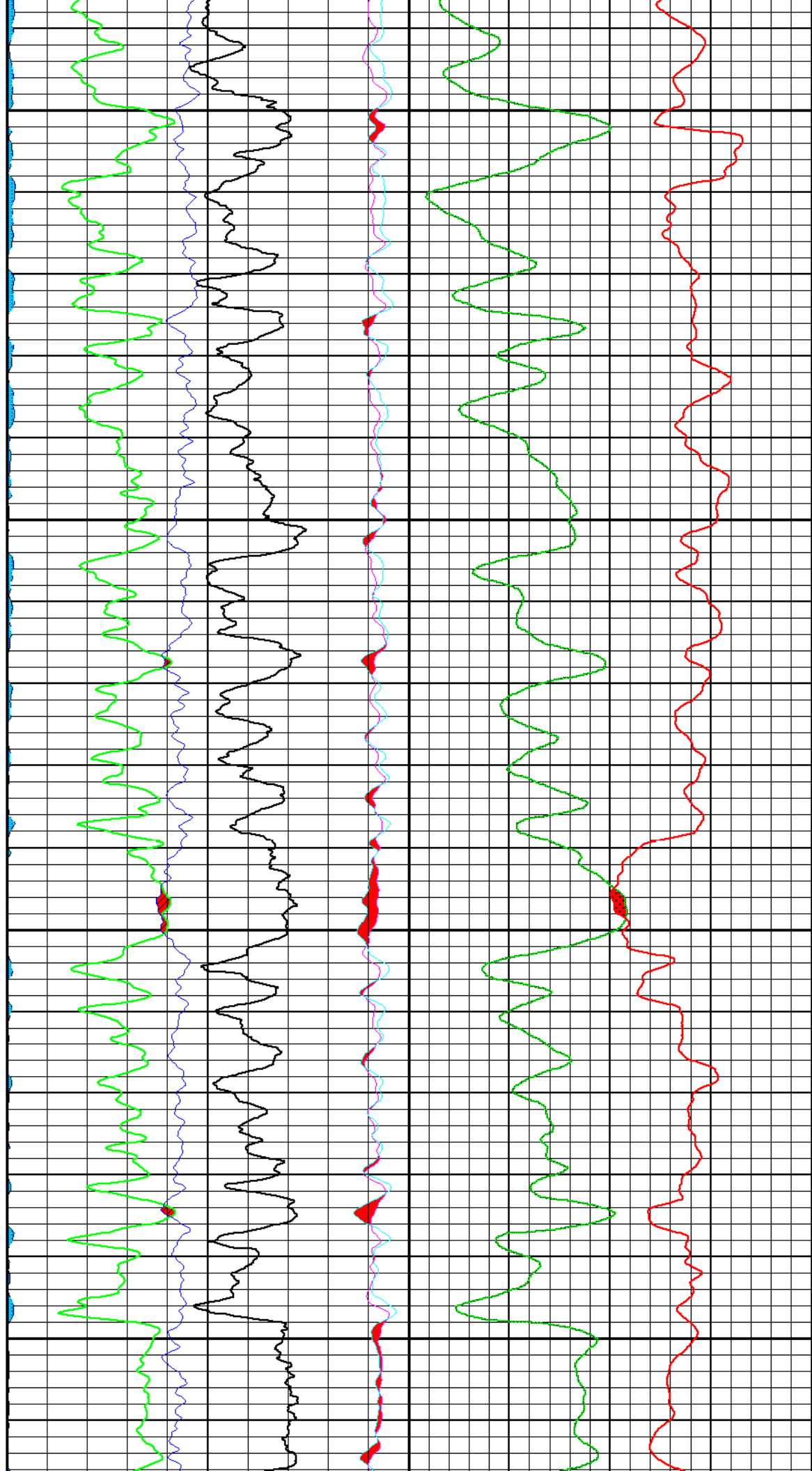


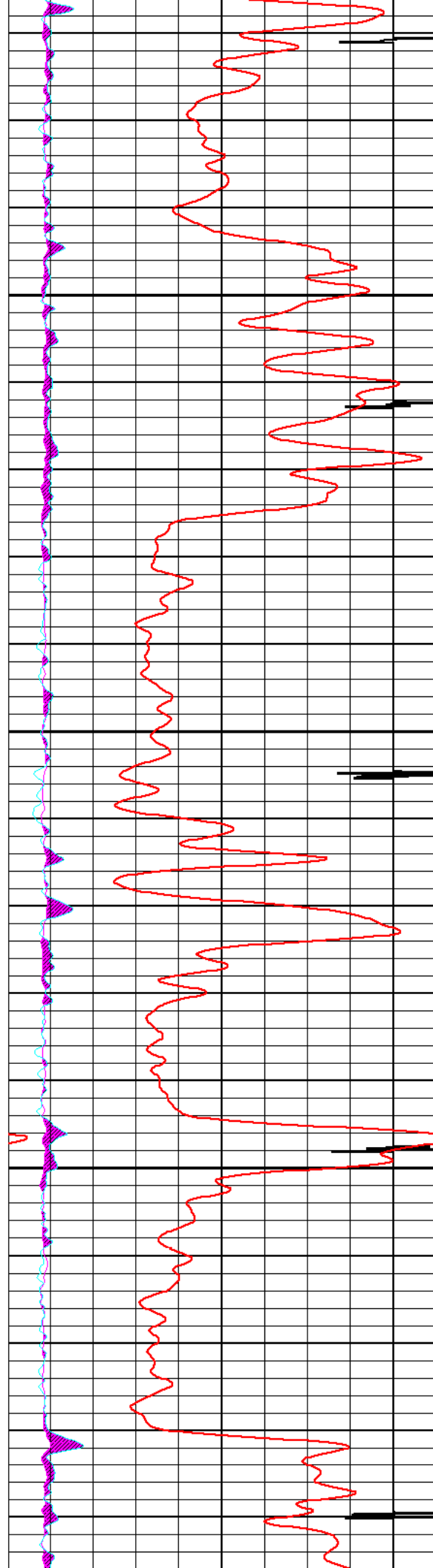




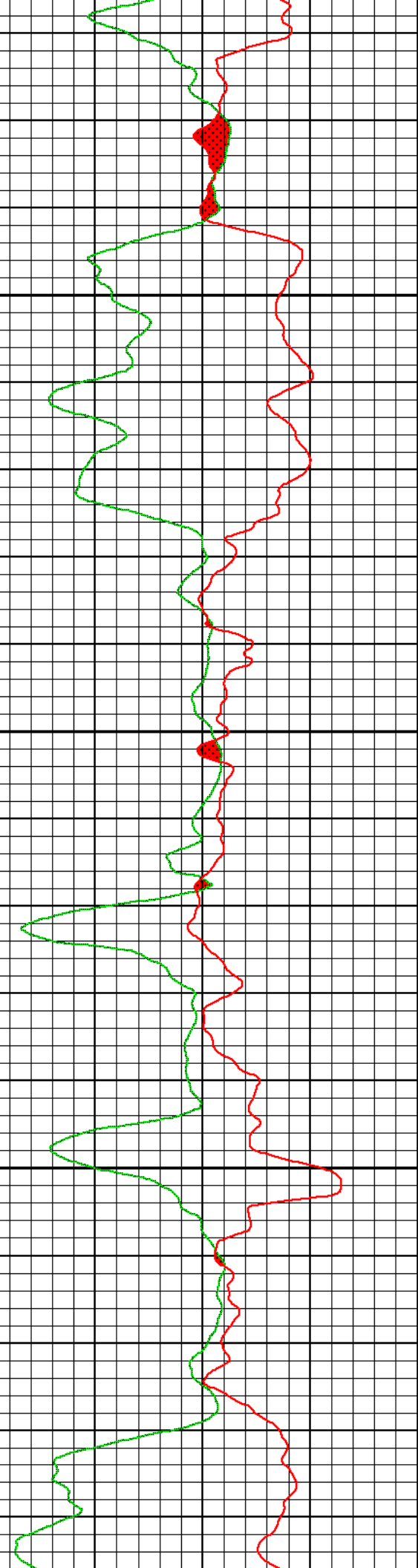
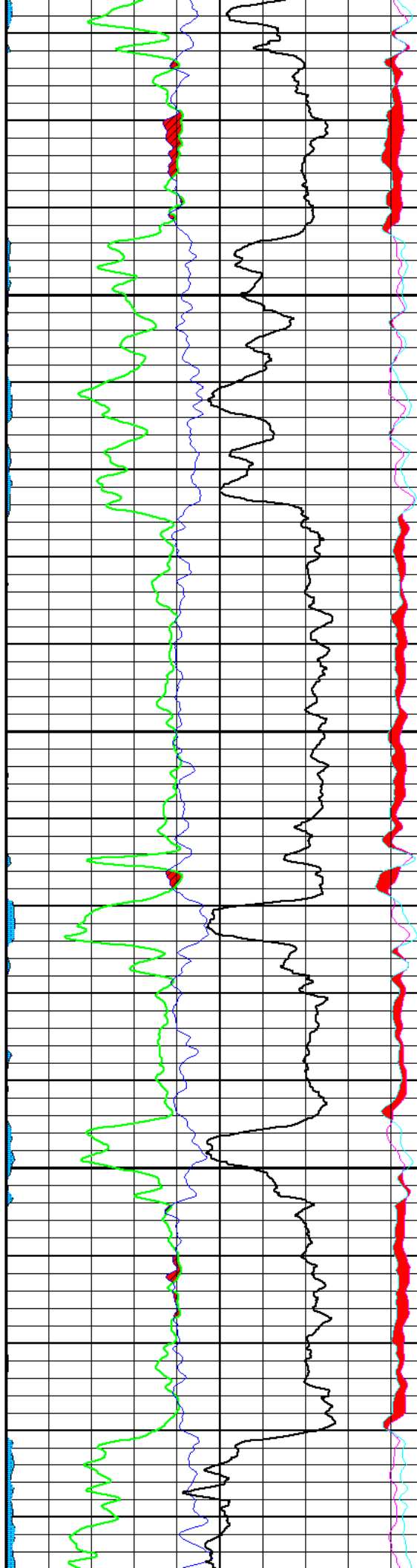
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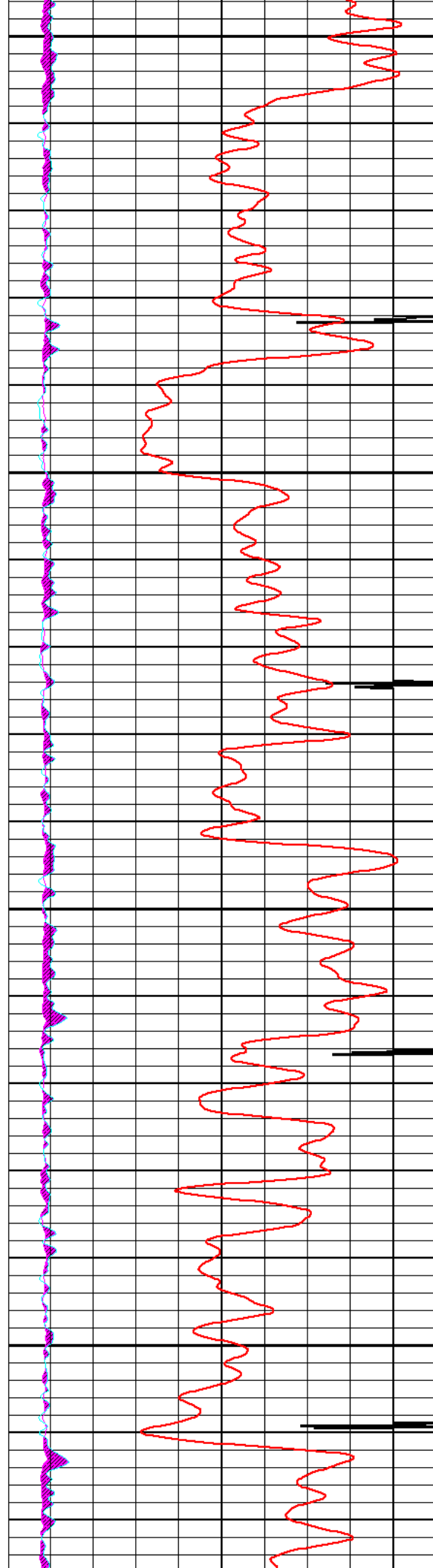
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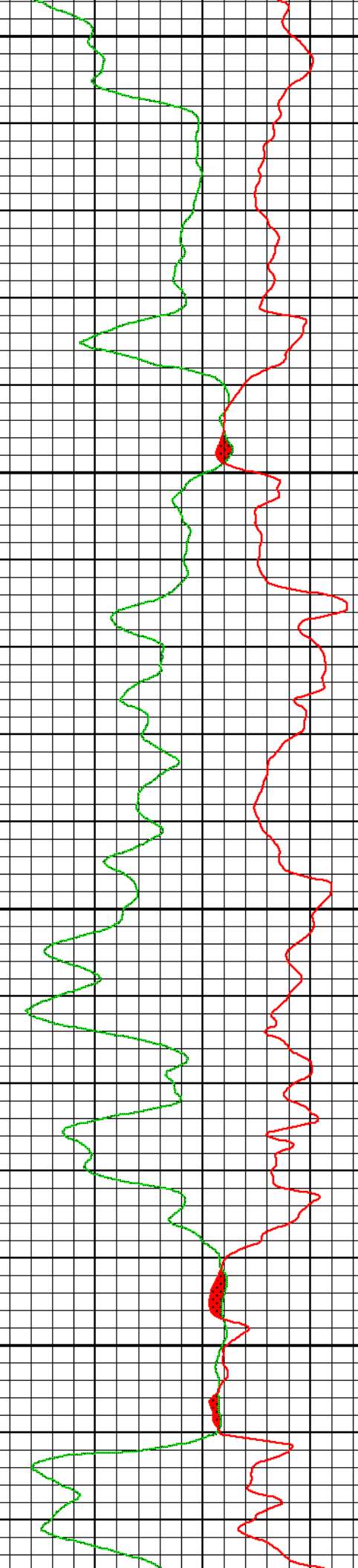
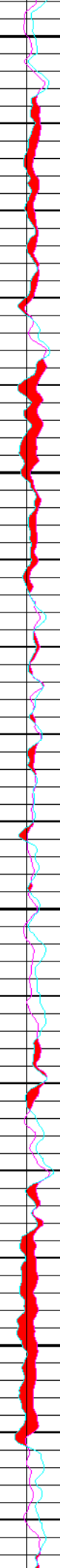
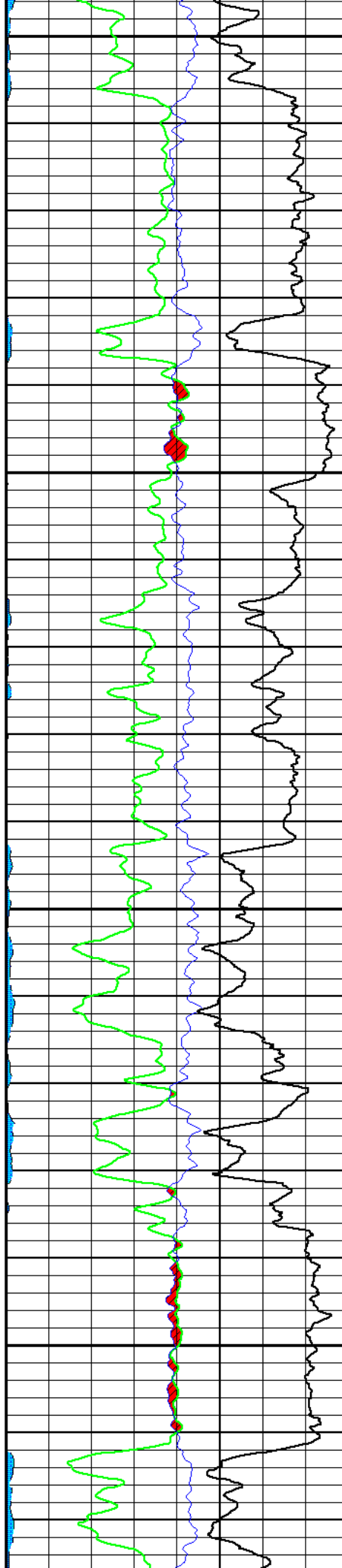
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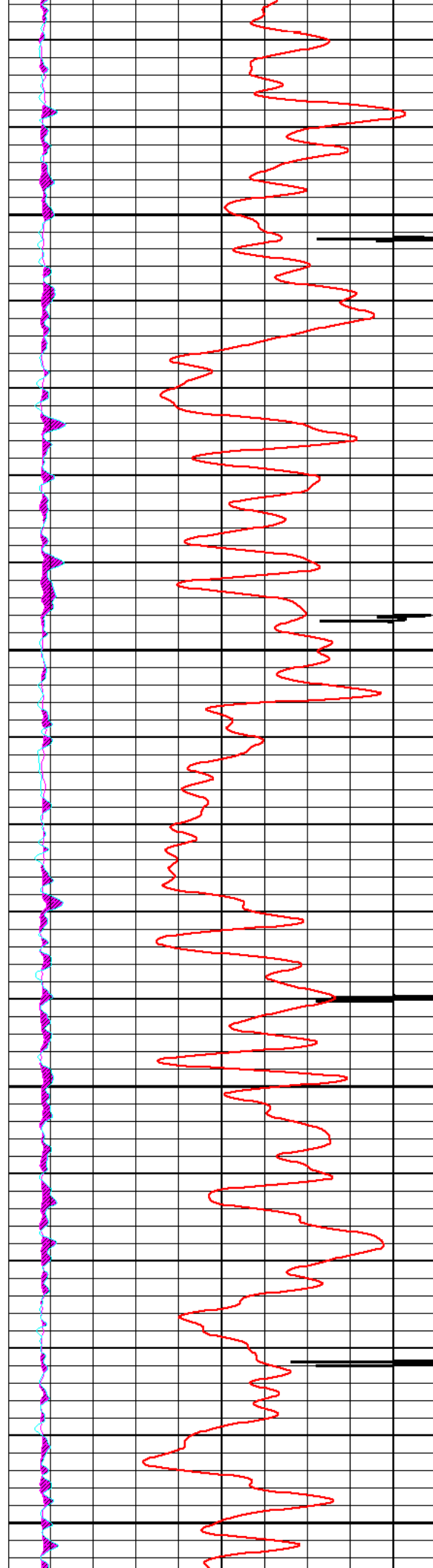




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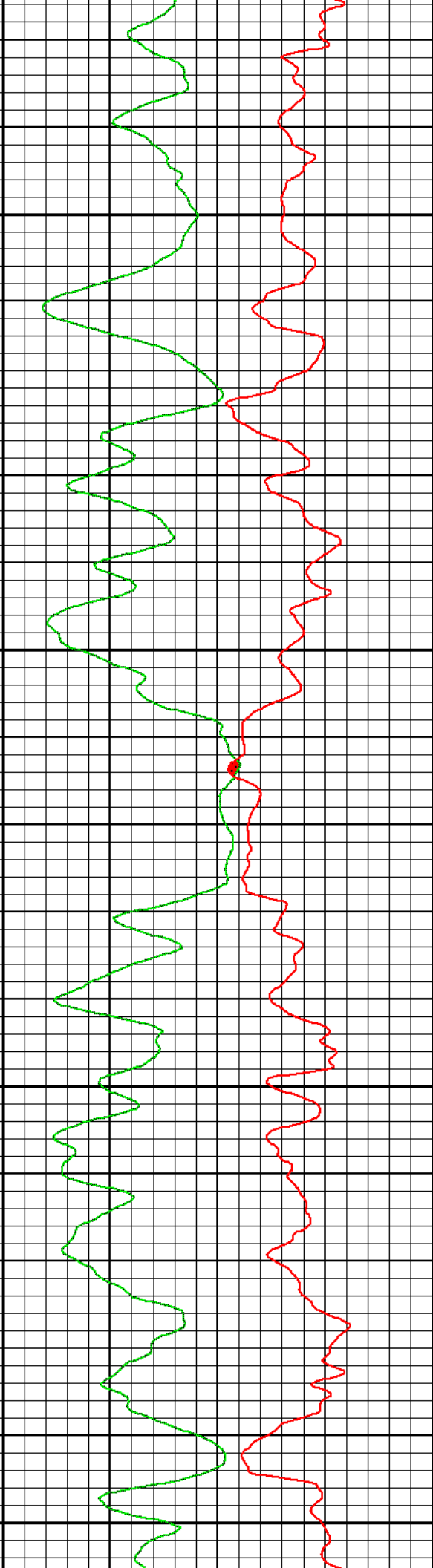
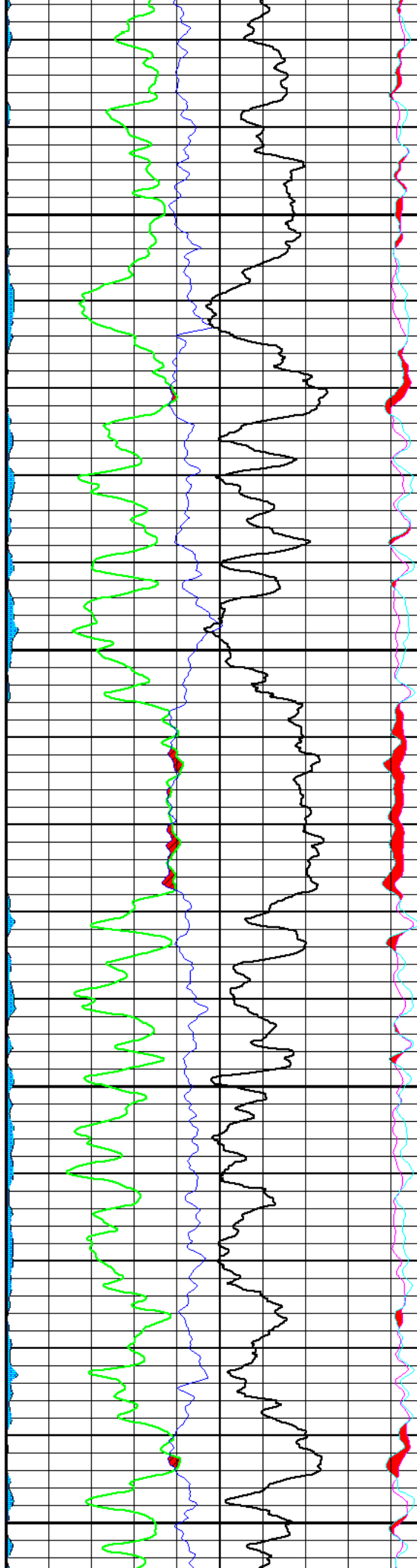
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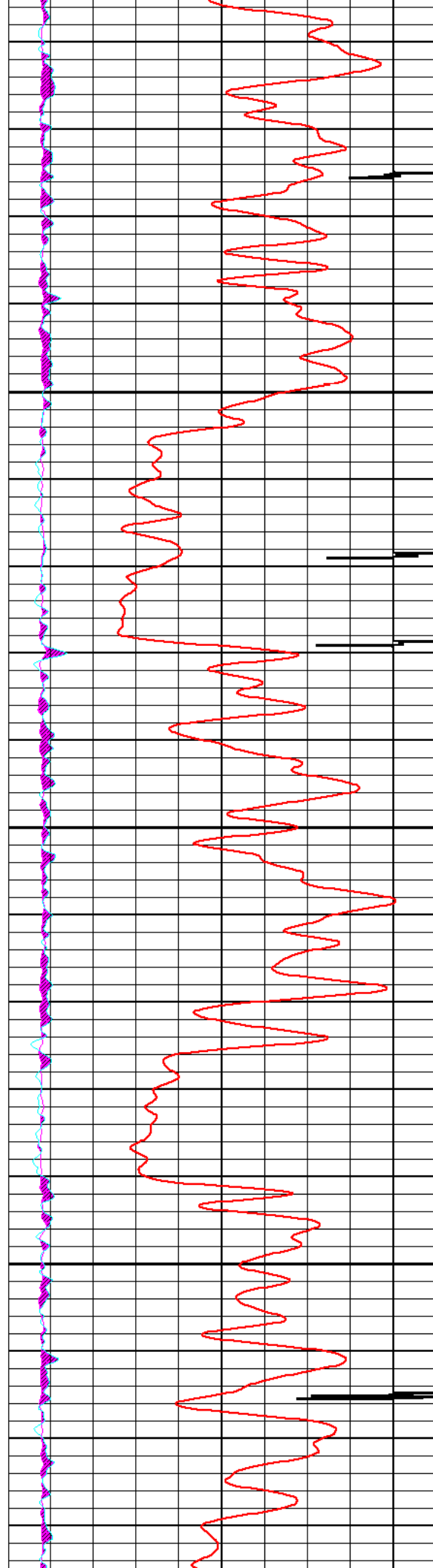




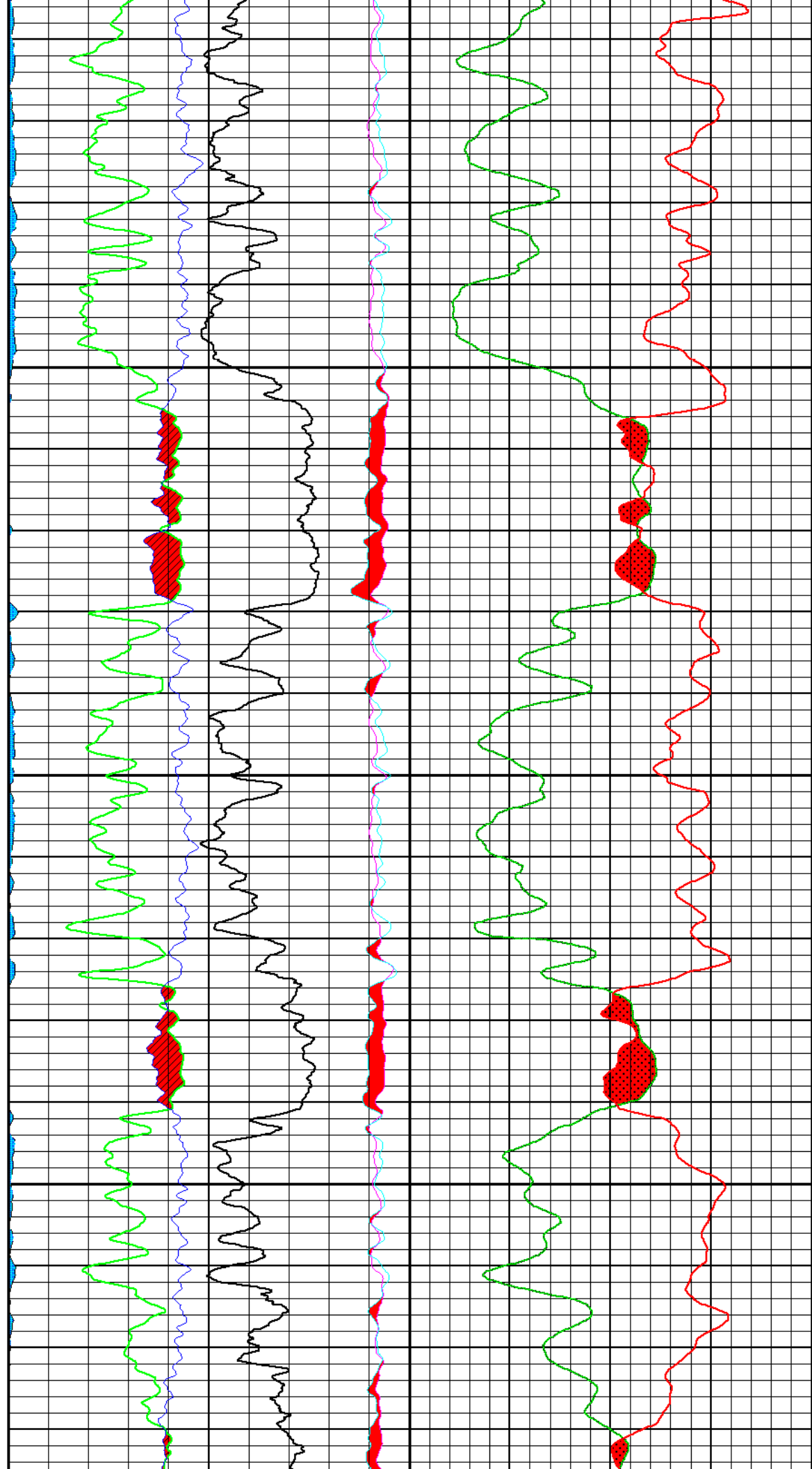
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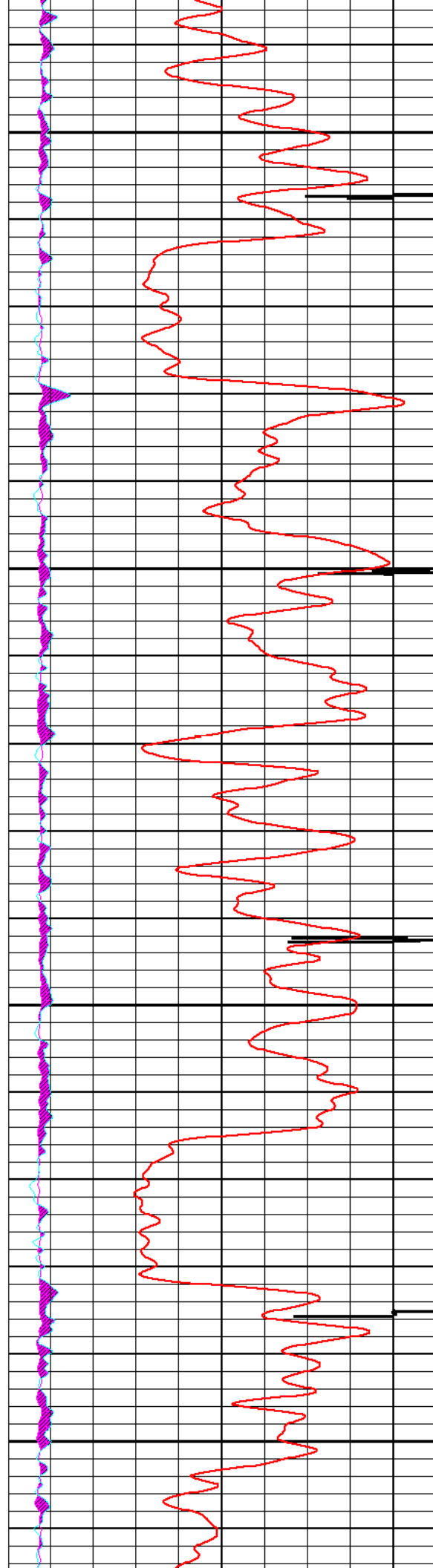
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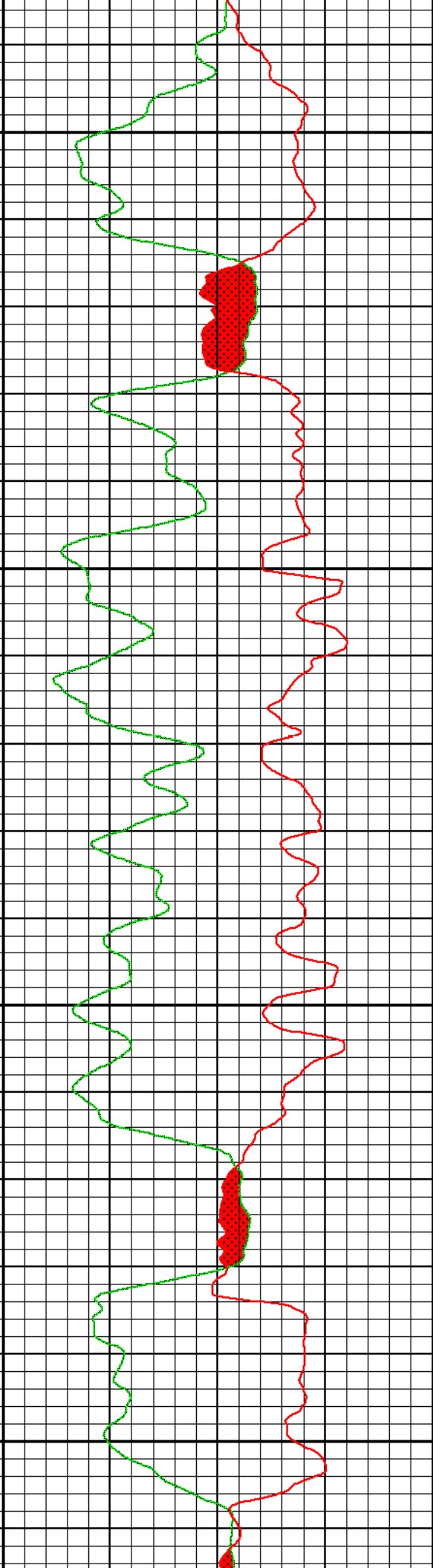
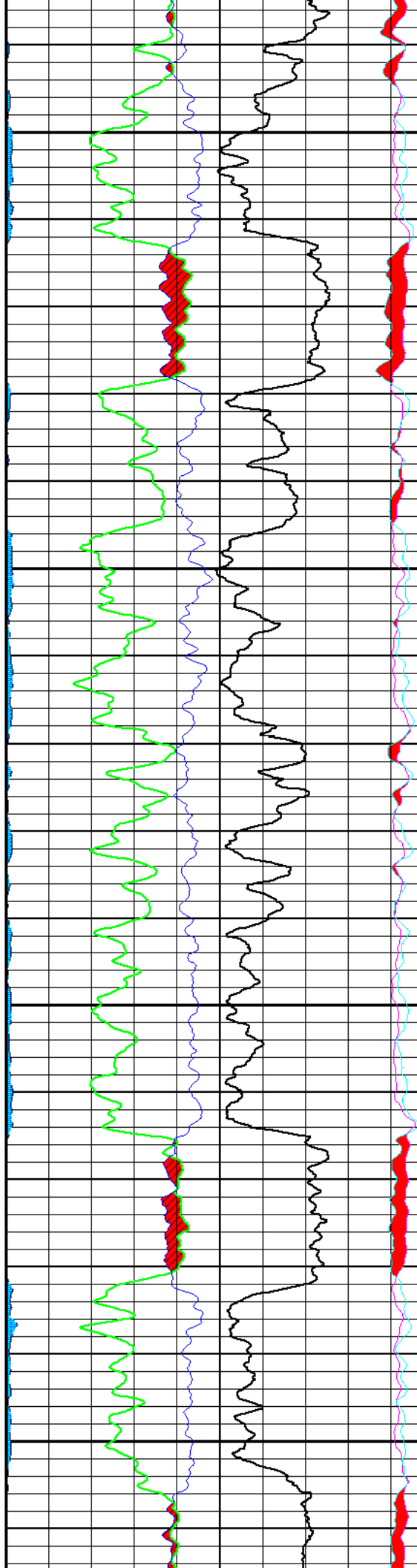
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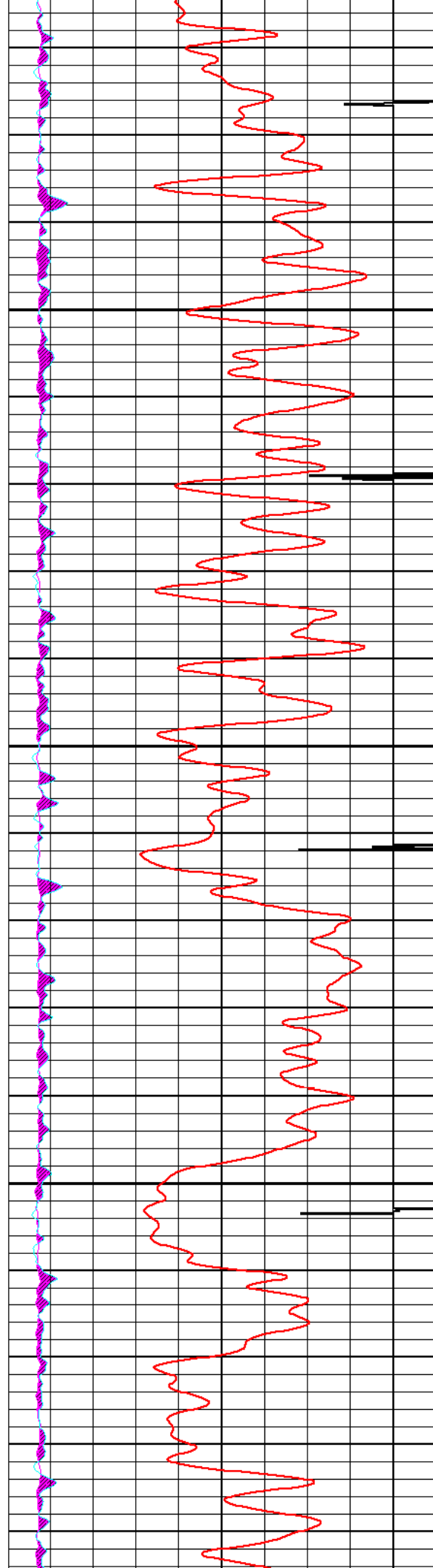




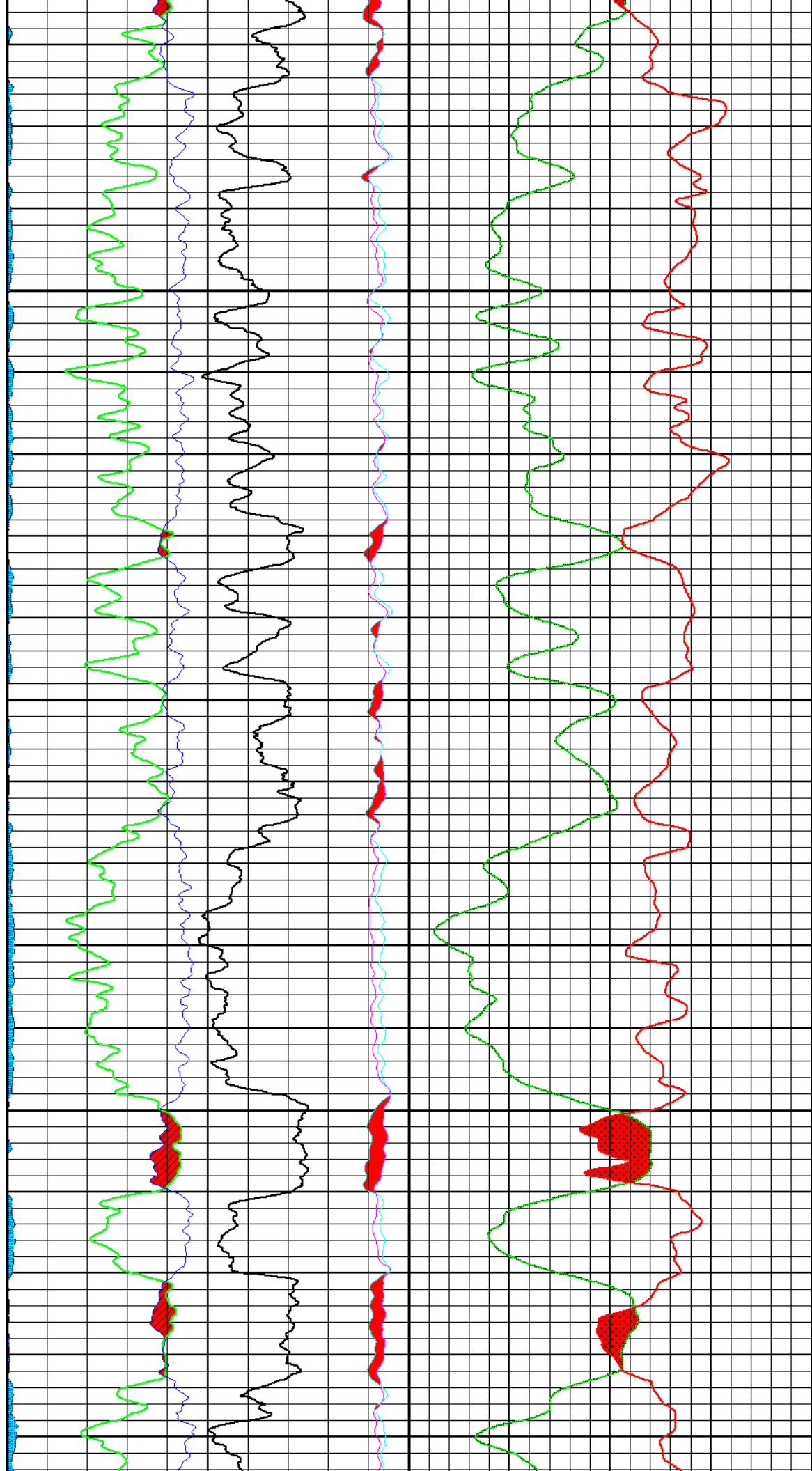
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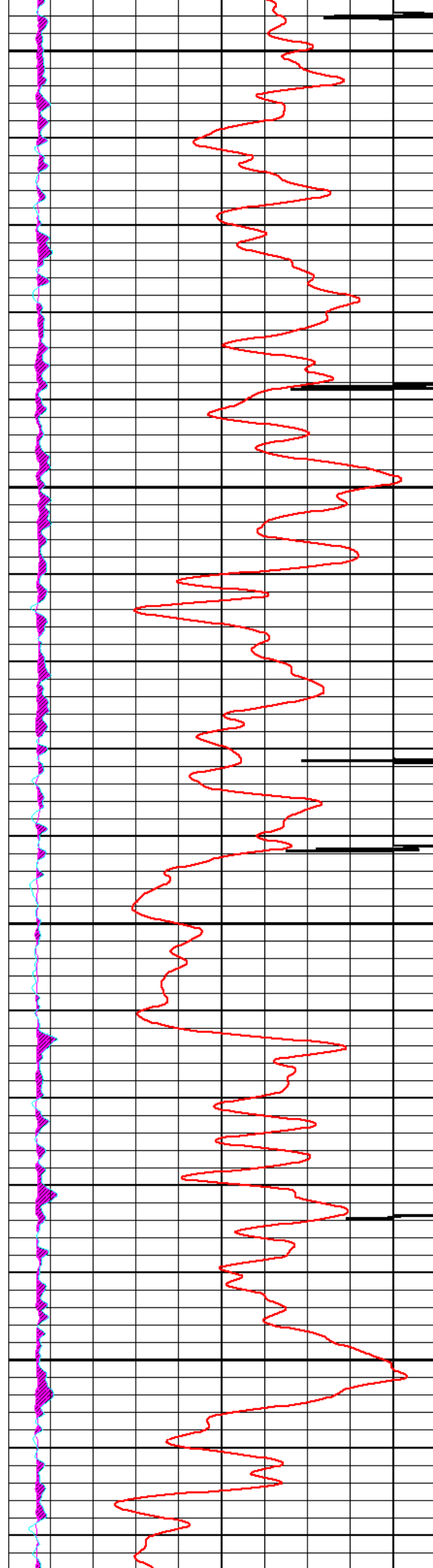




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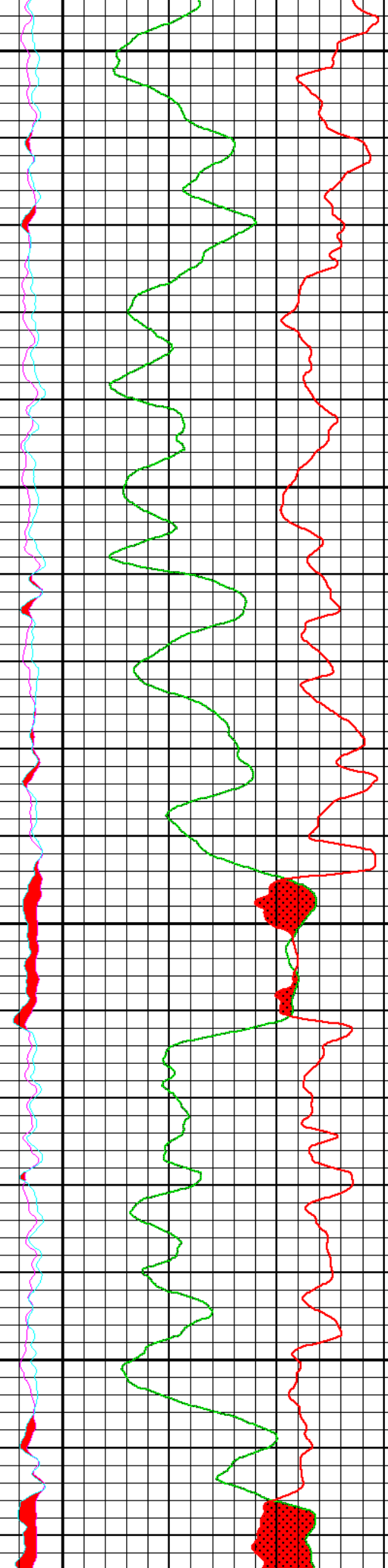
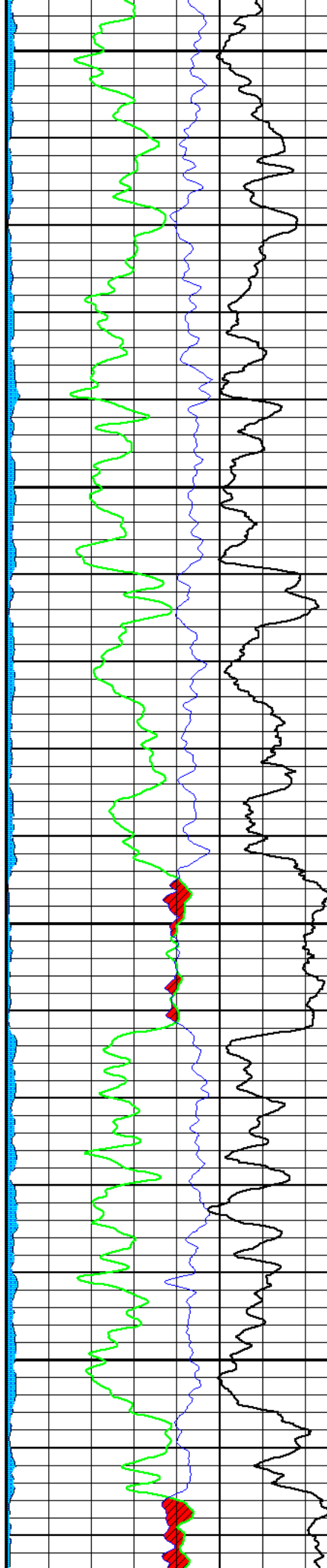




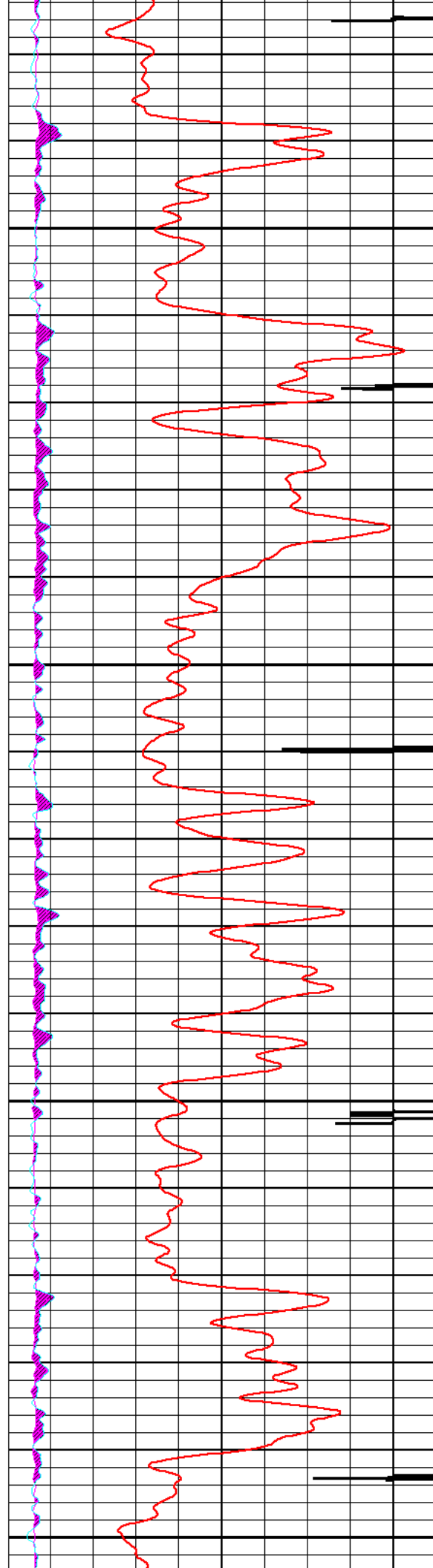


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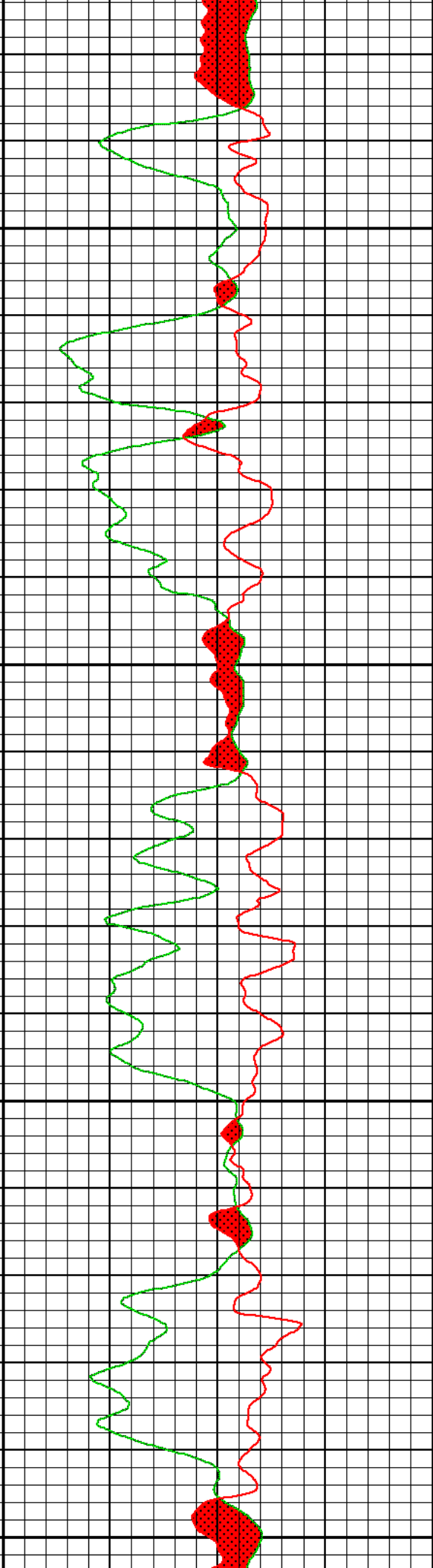
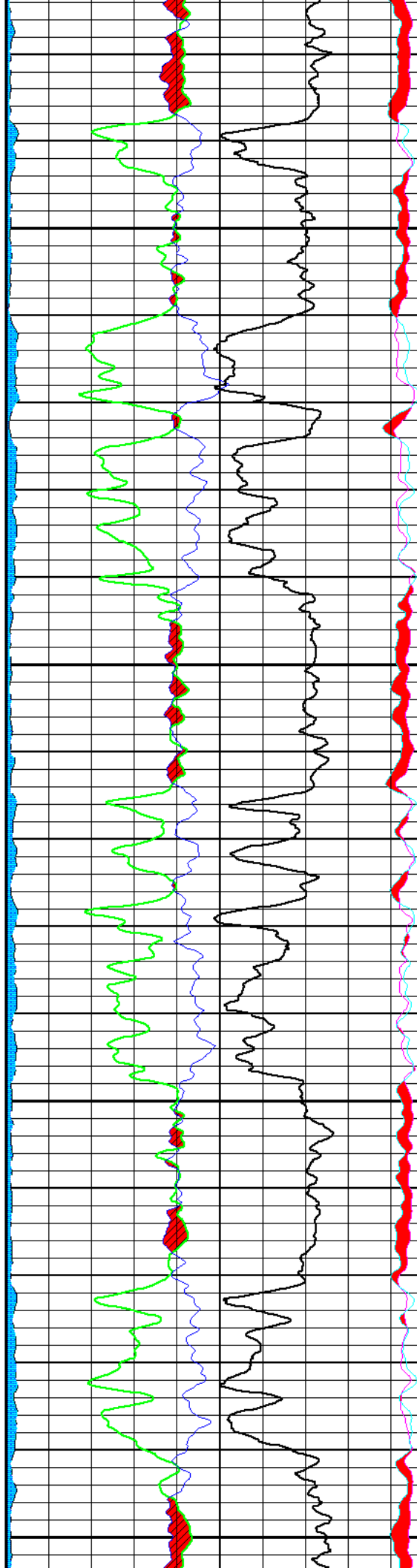


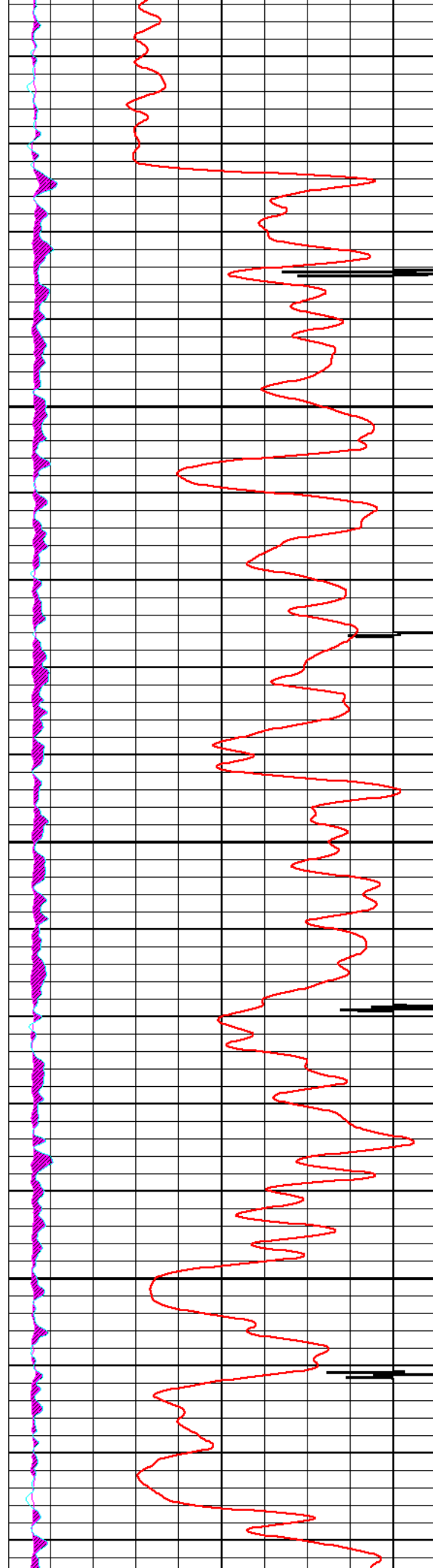




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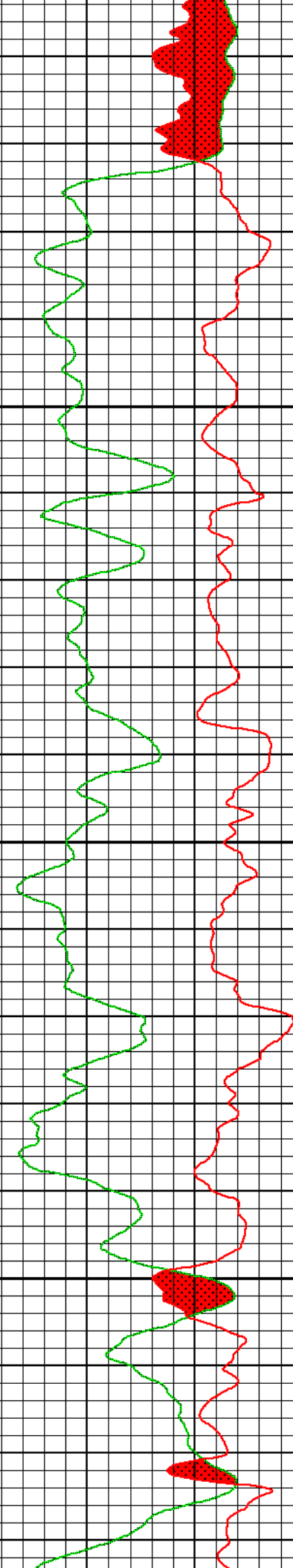
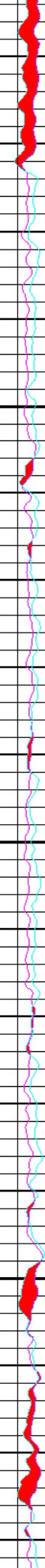
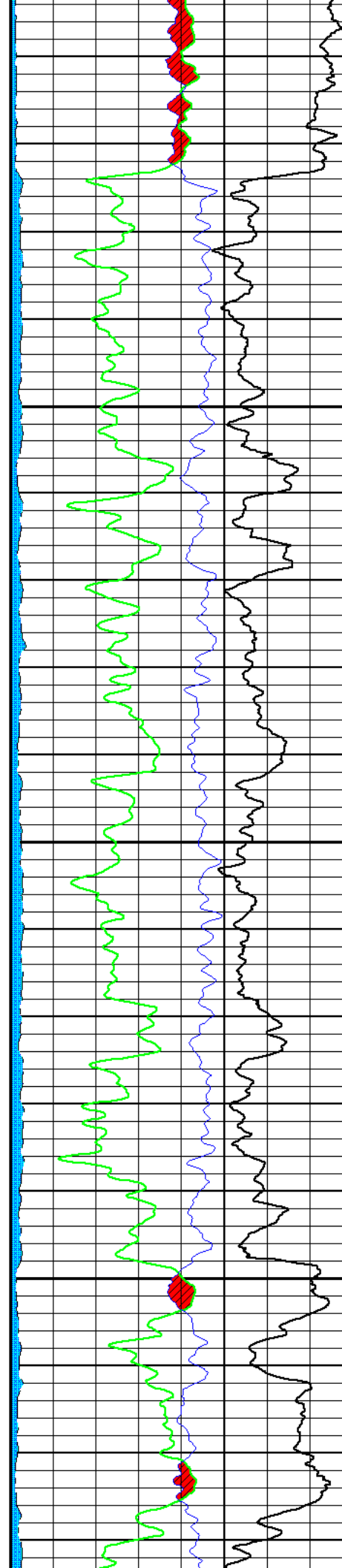
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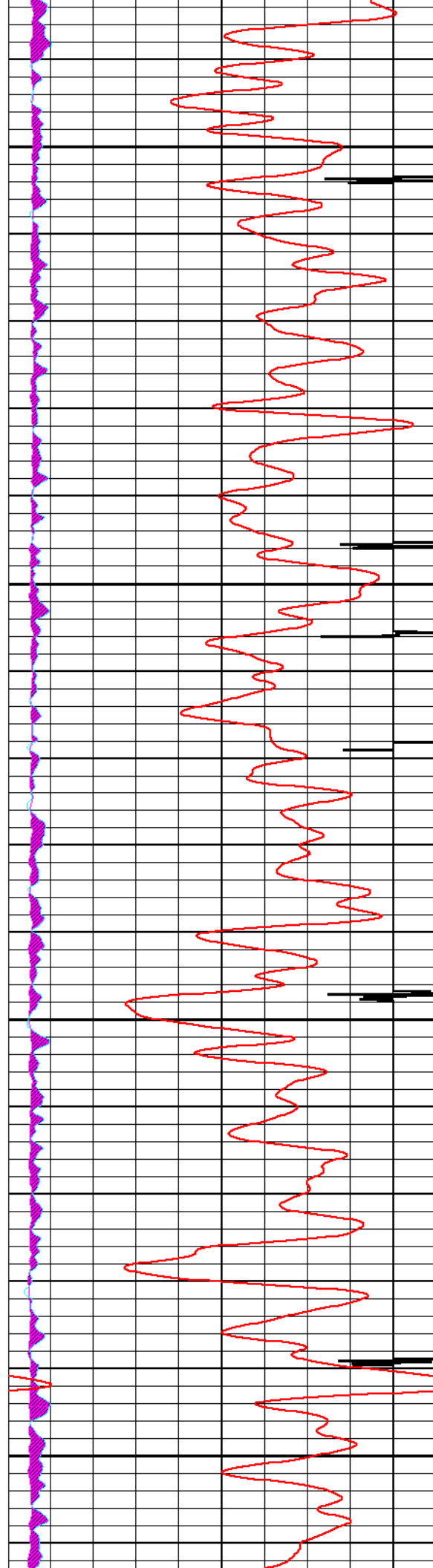




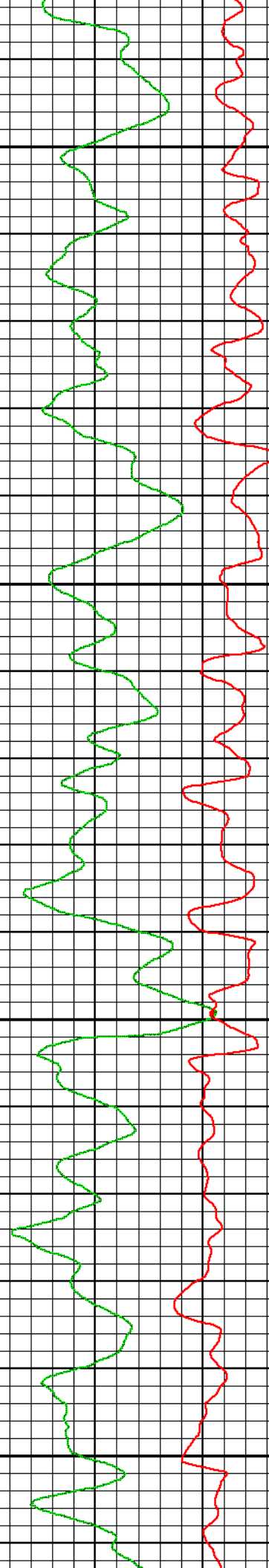
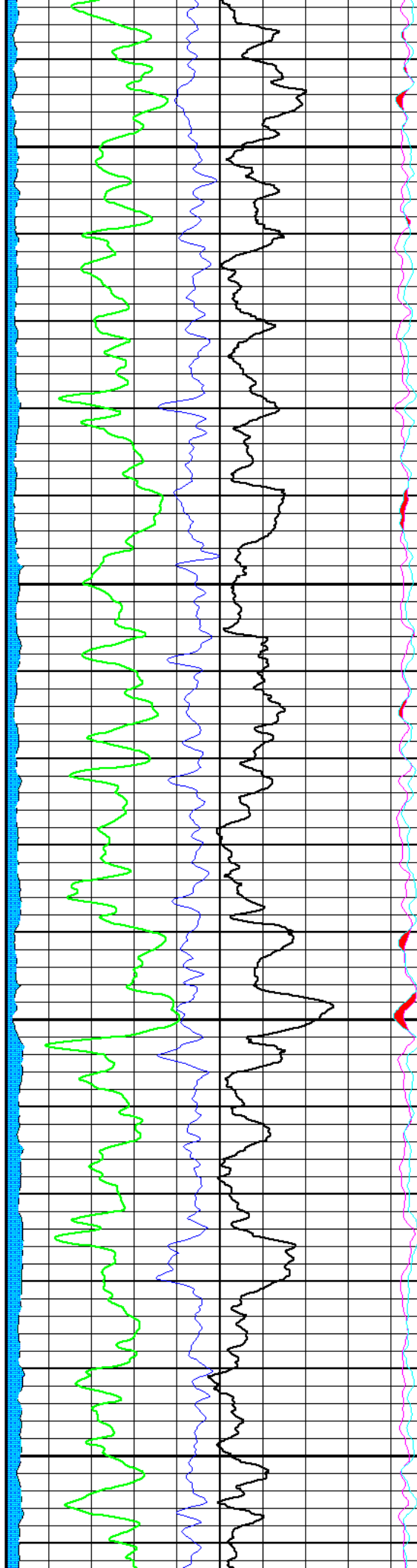
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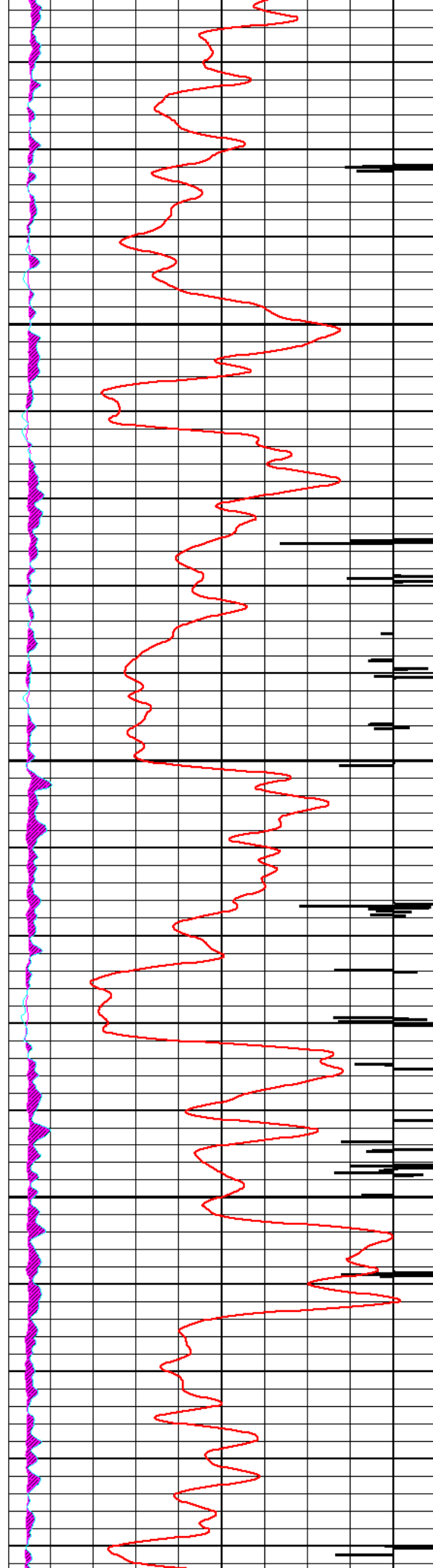
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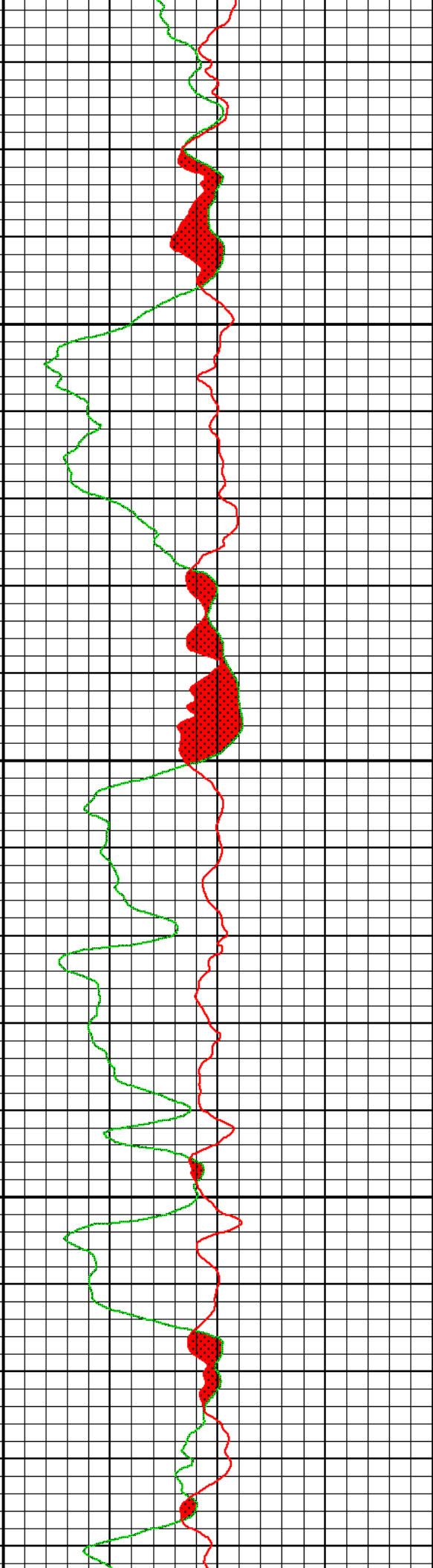
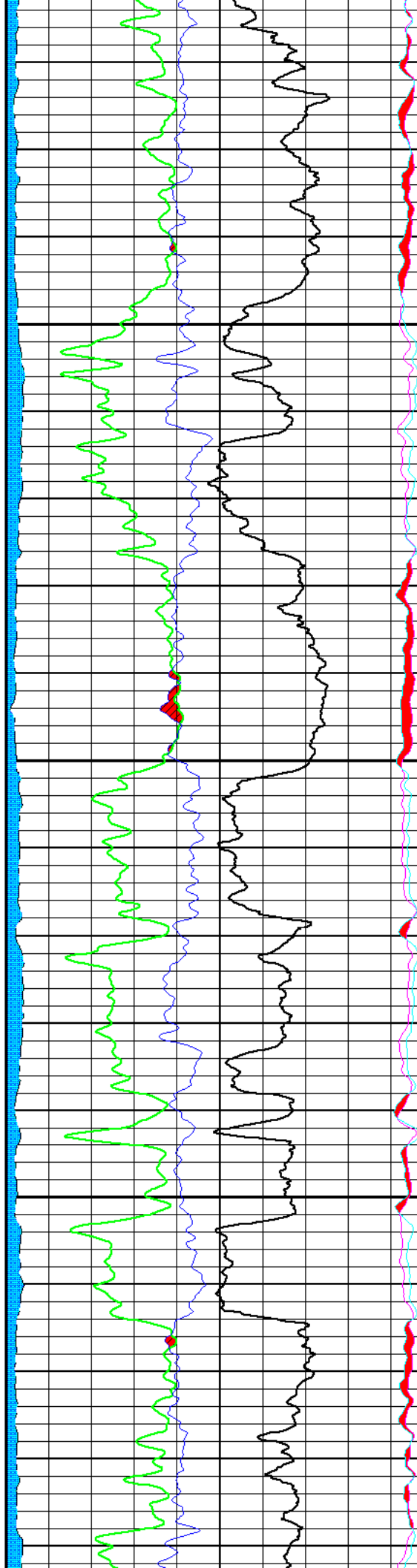


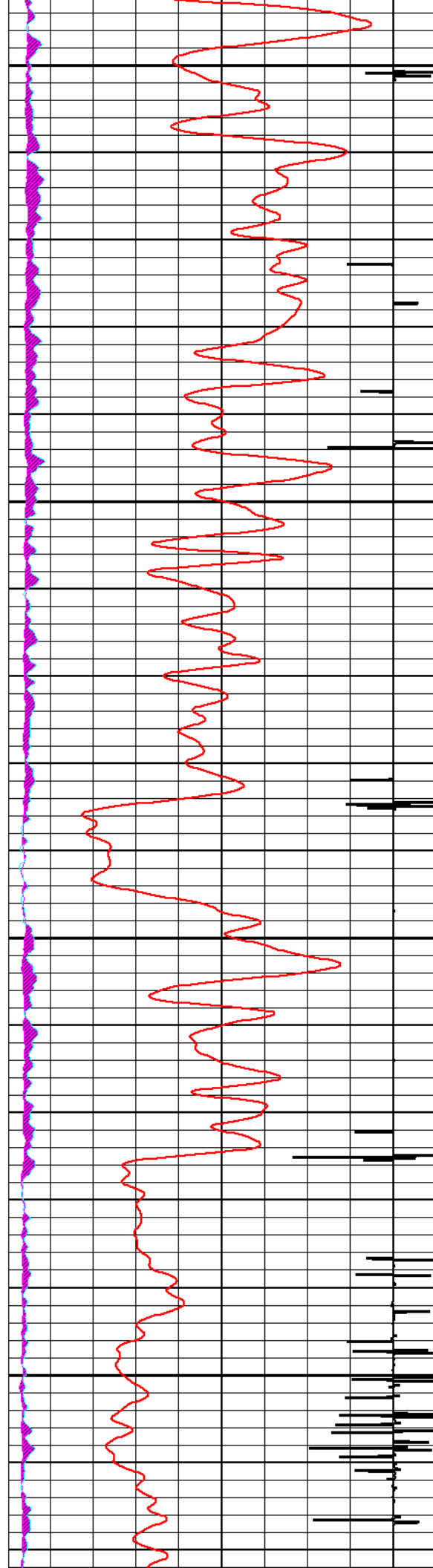
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