



Weatherford®

PND-S CASED HOLE TRIPLE COMBO

Company URSA OPERATING COMPANY
Well BAT 33A-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		
6022		
6022		
6012		
2900		
4.5" @ TD		
8.75"		
WATER		
8.3 / N/A		
192 DEG F		

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

REMARKS:

Project: 5133-80209541
Company: URSA OPERATING COMPANY
Well: BAT 33A-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. 25, 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: #5740

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" ? - 6022'

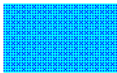
CASING RECORD:
Size Top - Bottom
4.5" Surface - TD'


ANALYST: B. Smith
PROGRAM: multiple wts

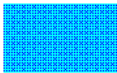
ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS AND WE CANNOT AND DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION, AND WE SHALL NOT, EXCEPT IN THE CASE OF GROSS OR WILLFULL NEGLIGENCE ON OUR PART, BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COSTS,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

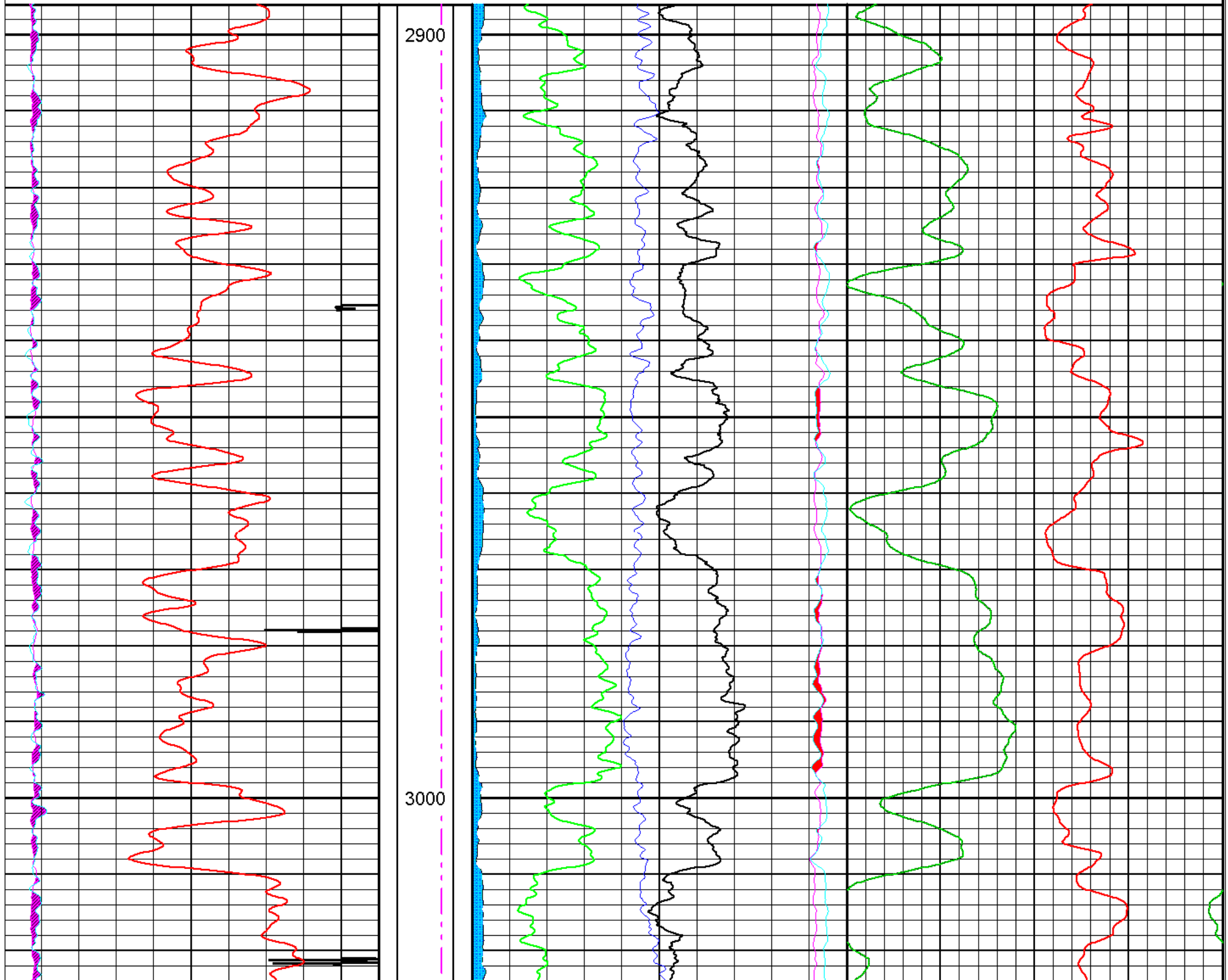
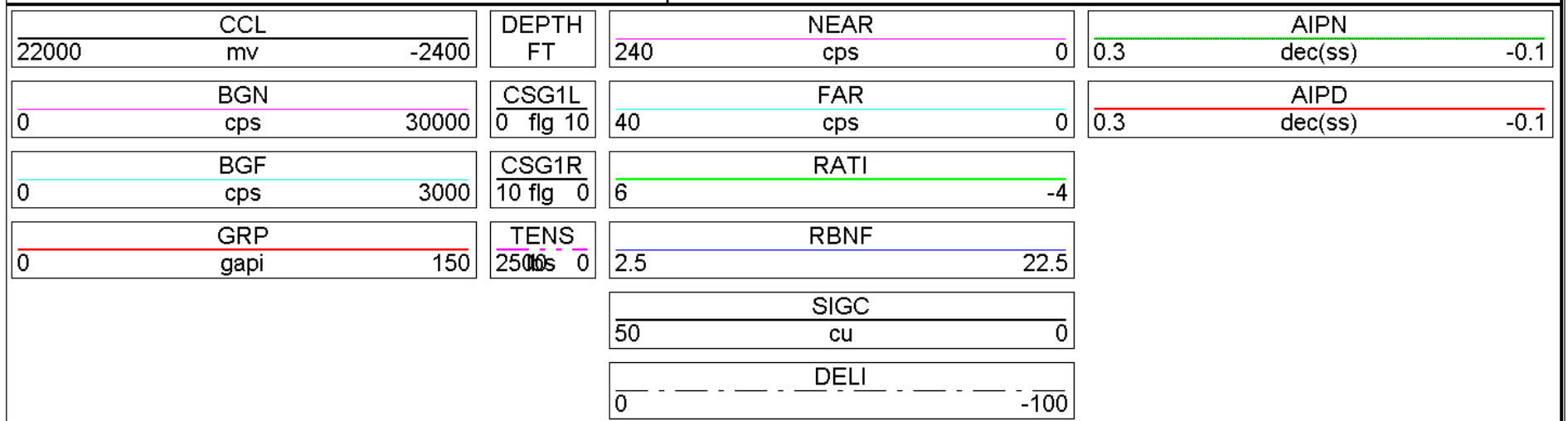
 Lower_Inelastic_Data_Quality

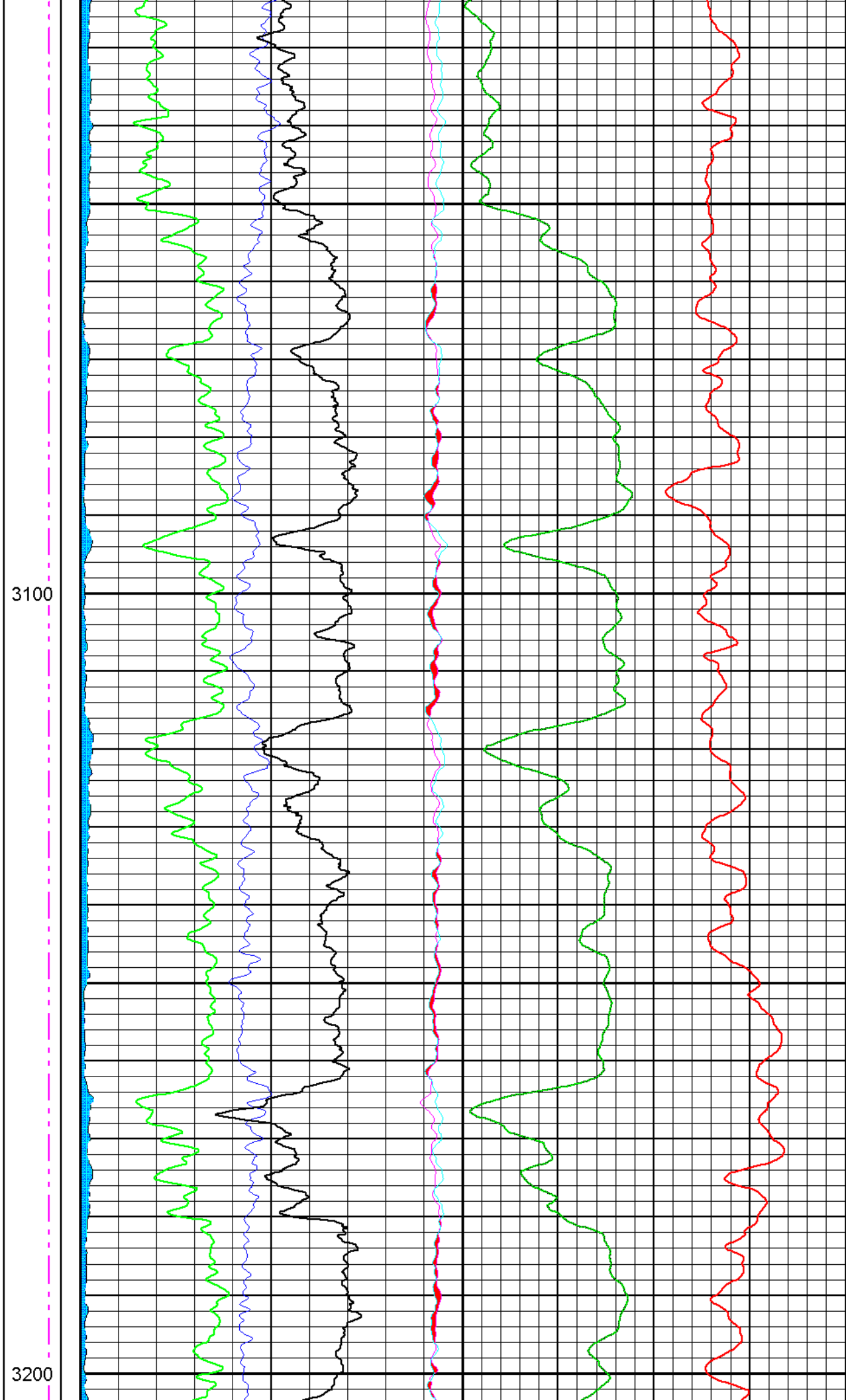
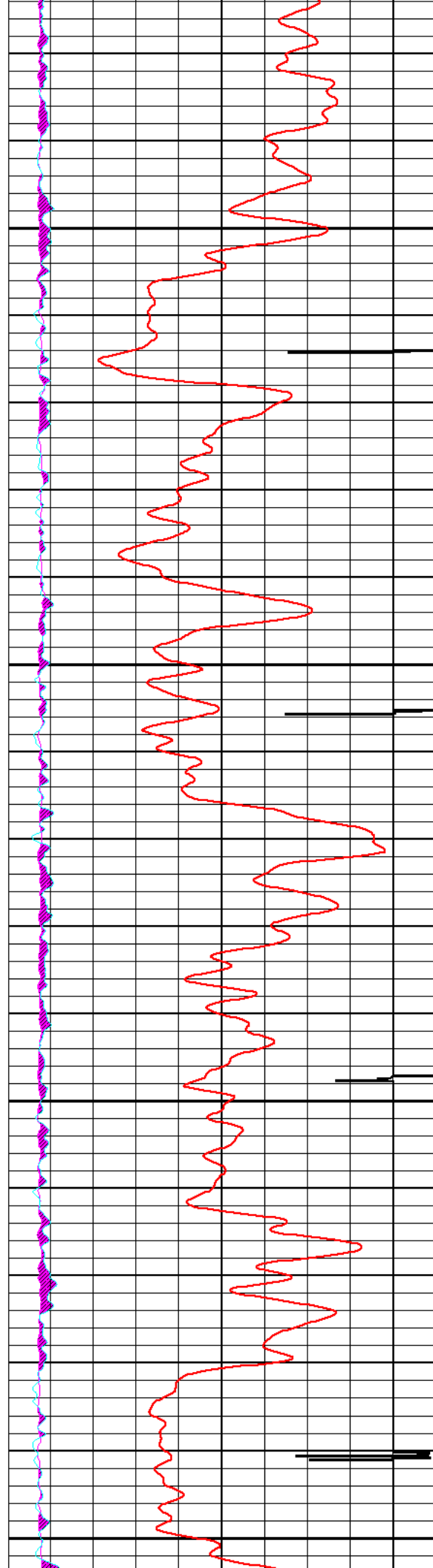
 Crossover_Near_Far_Counts

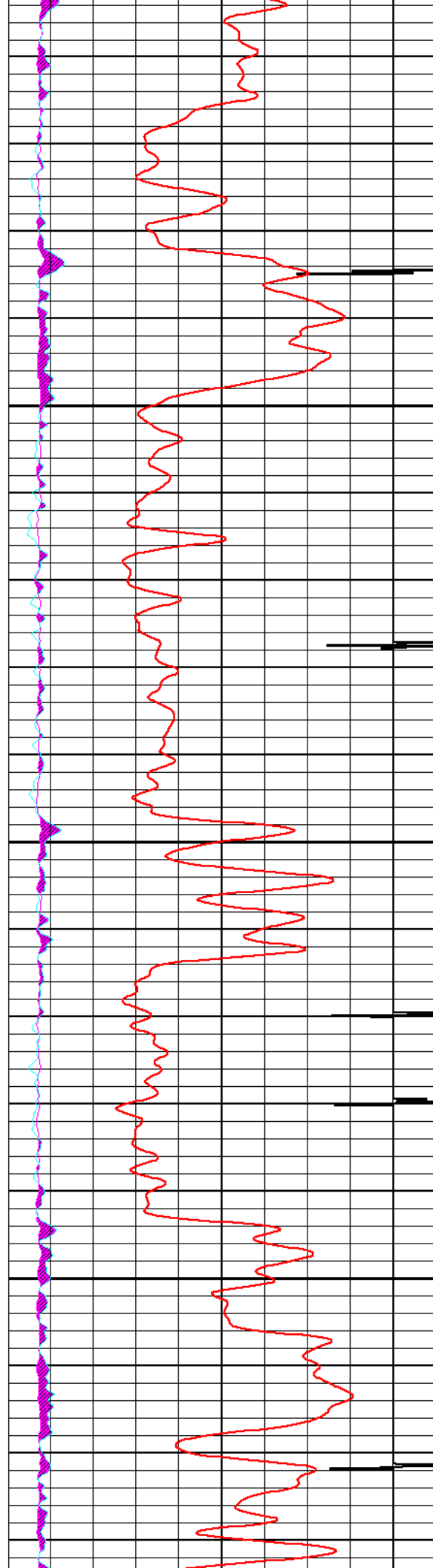
 Gas_Indication_from_AI_Porosity

 Gas_Indication_from_RAT/INEL-RAT

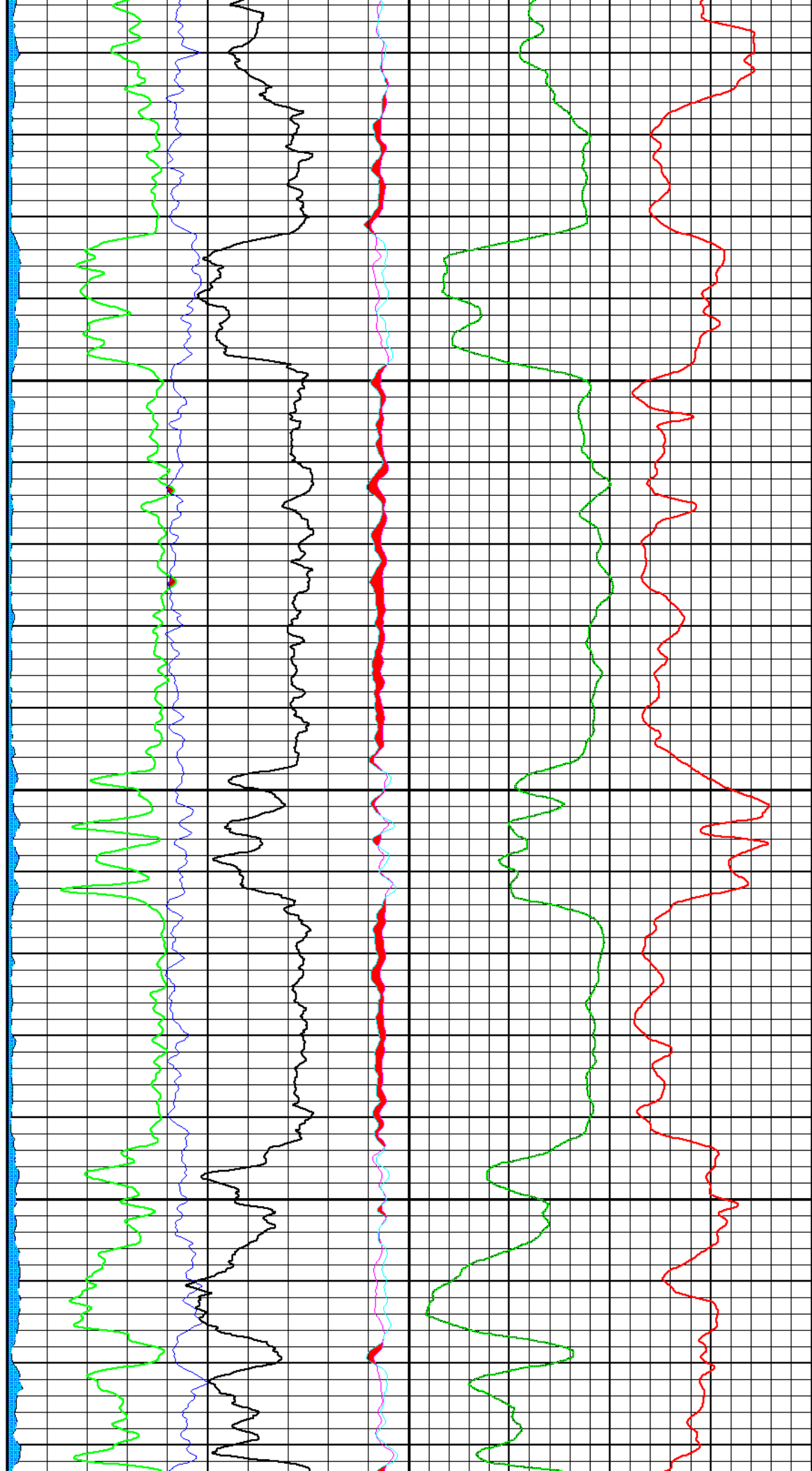
DEPTH (FT)
Interval: 2896.00 to 6034.00
Depth Scale Ratio: 1/240

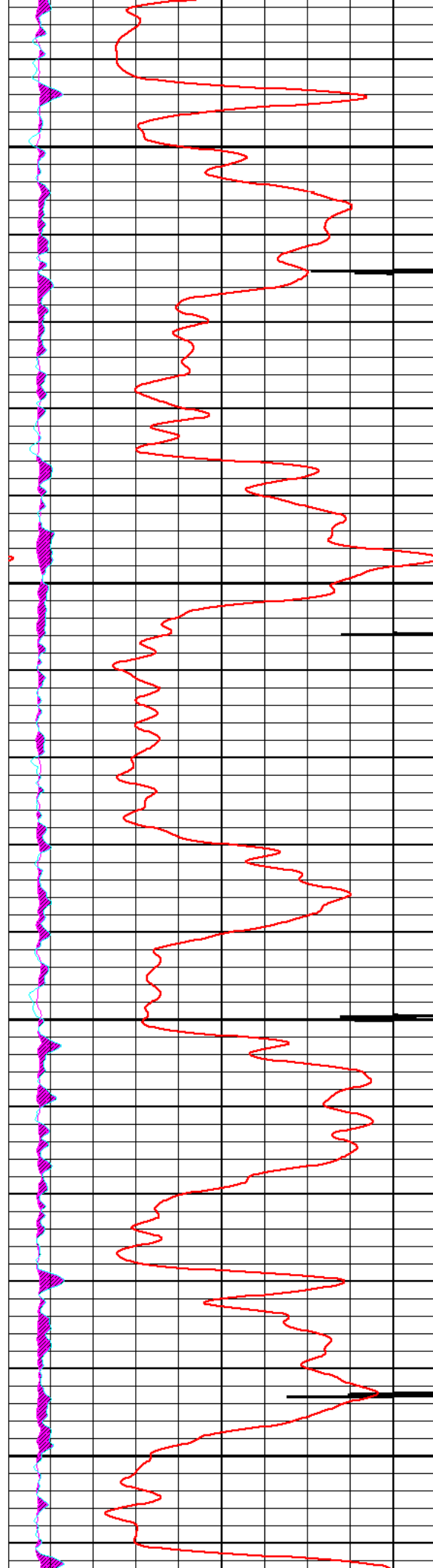






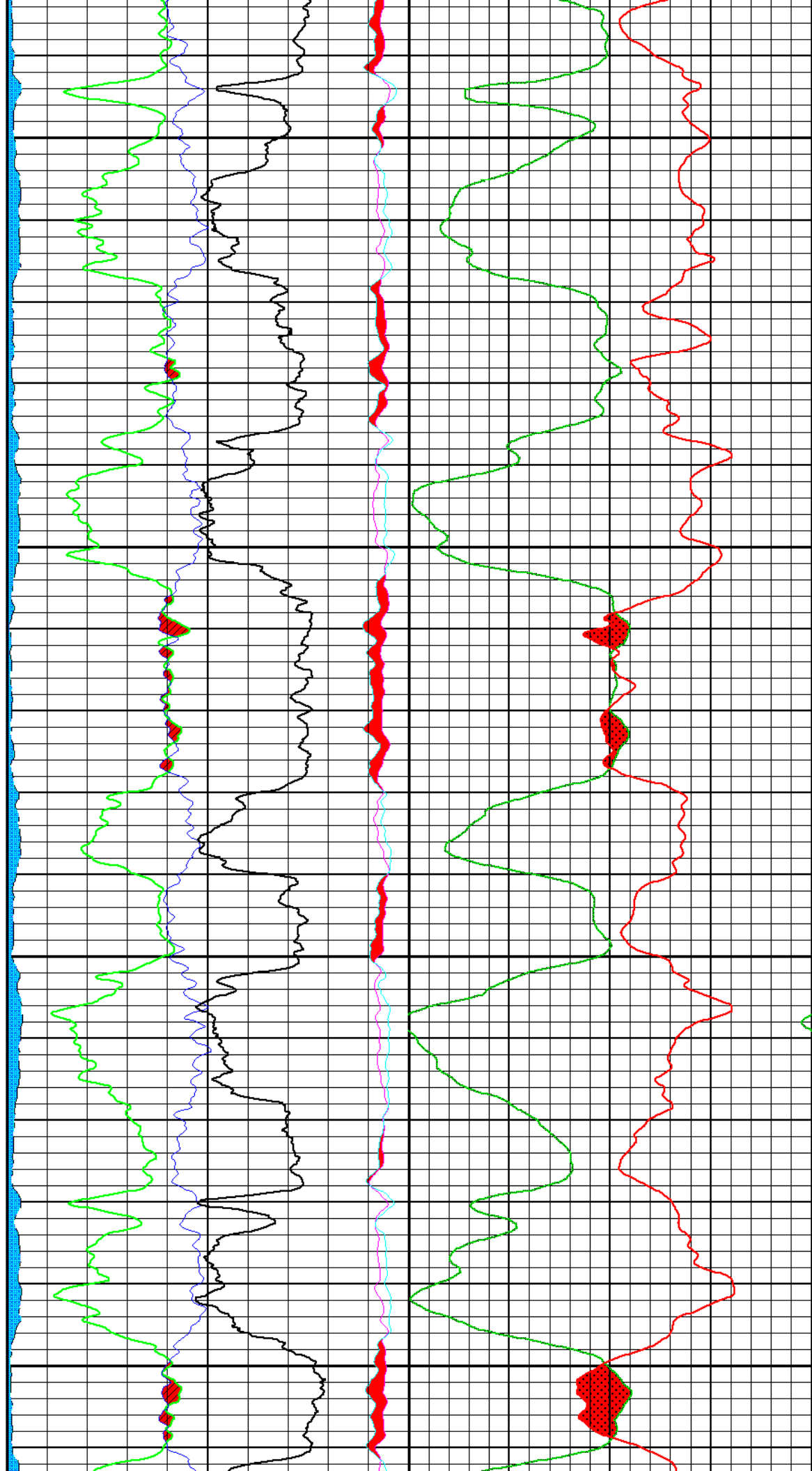
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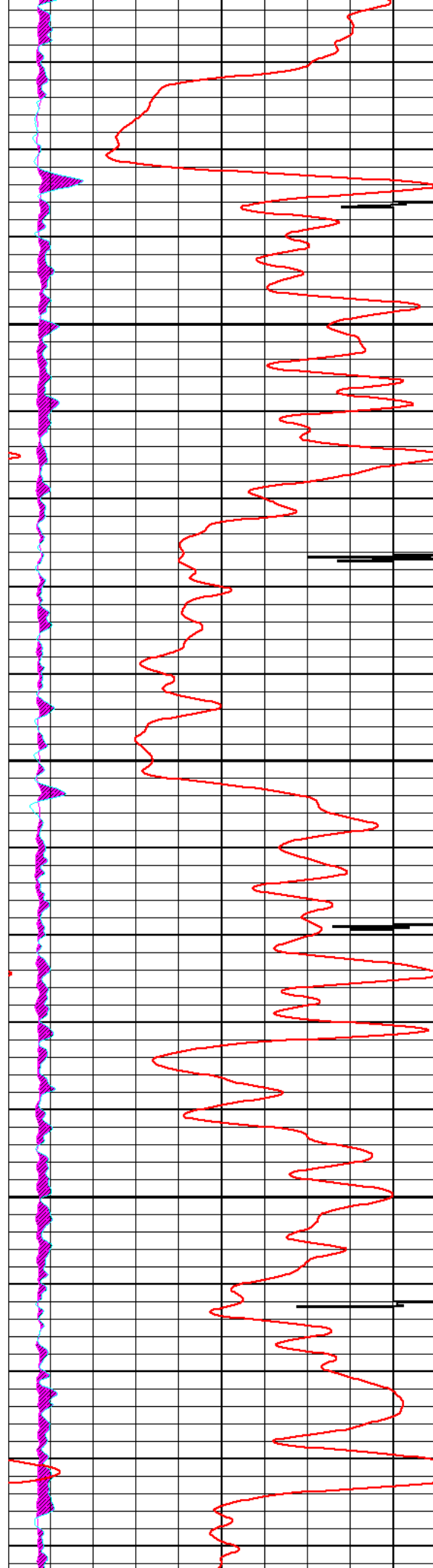




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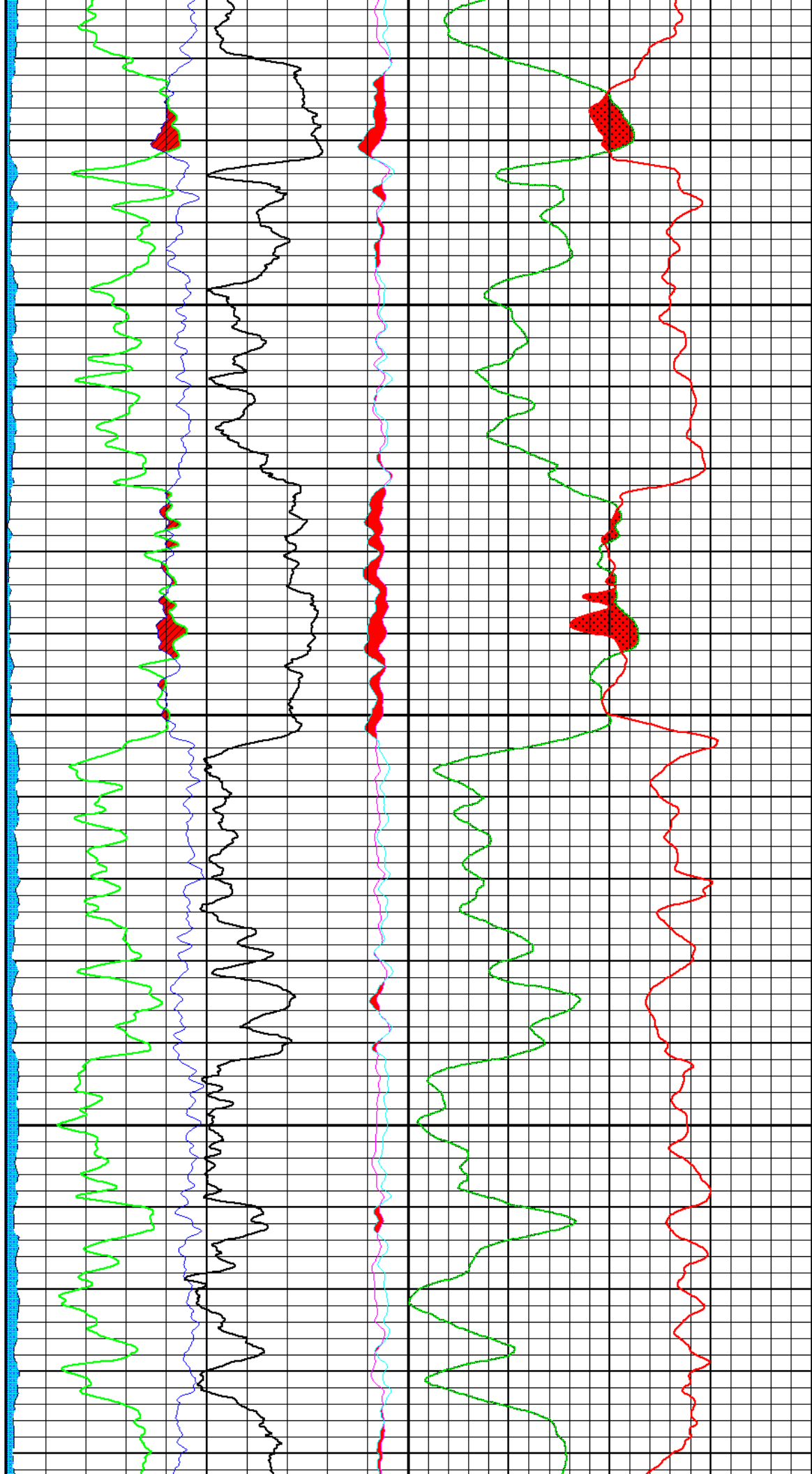
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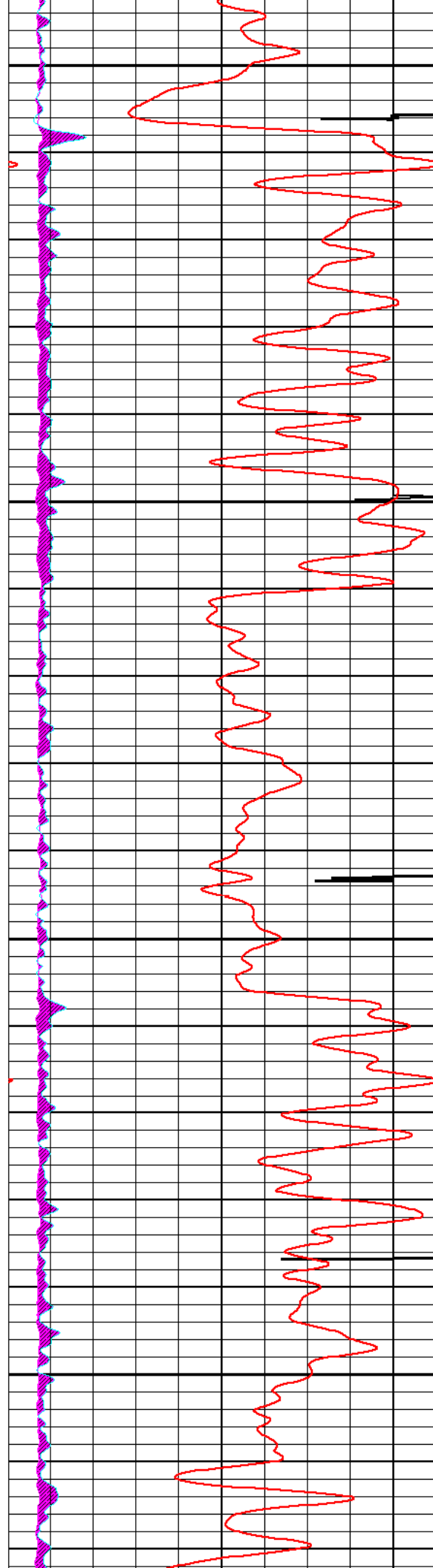




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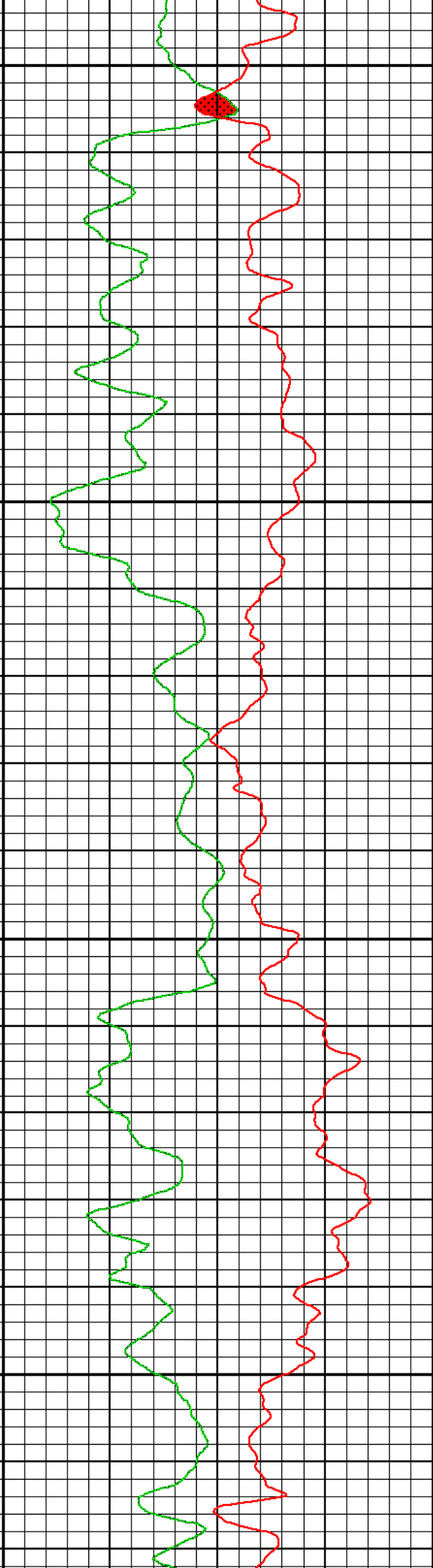
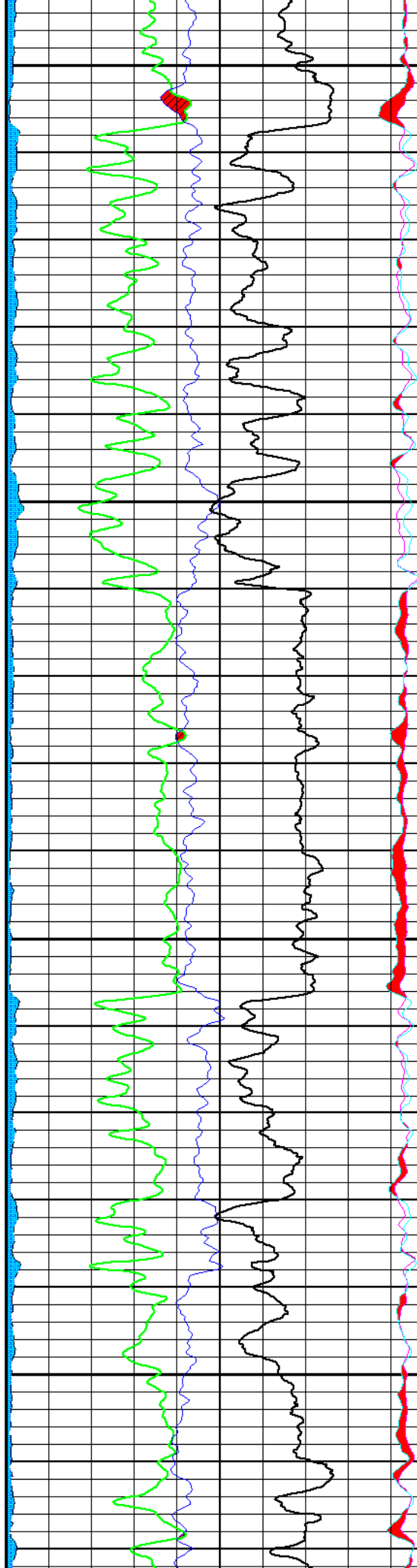
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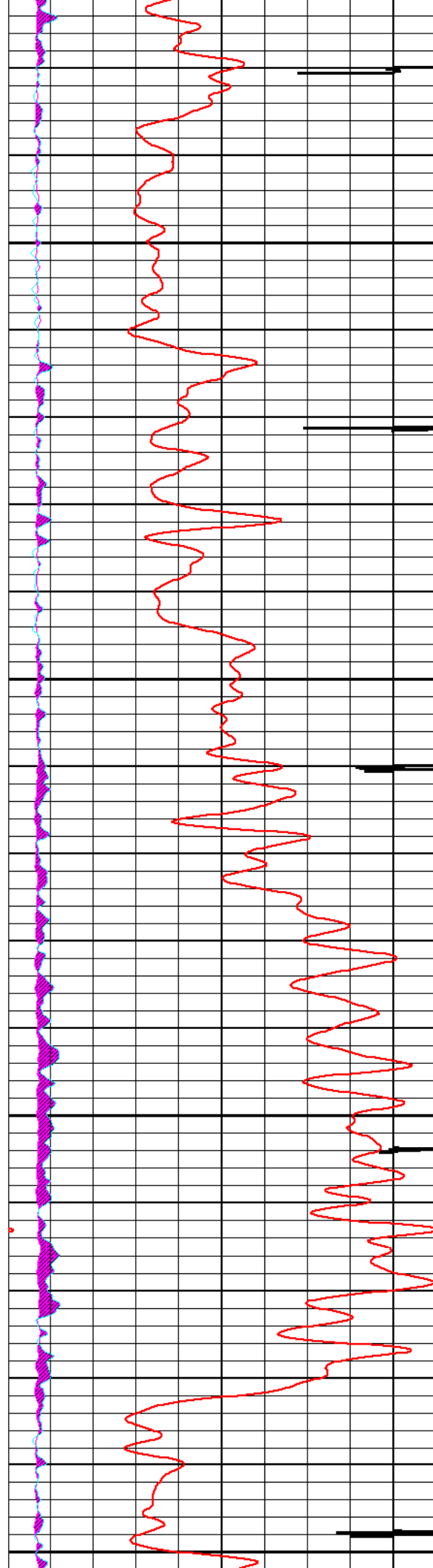




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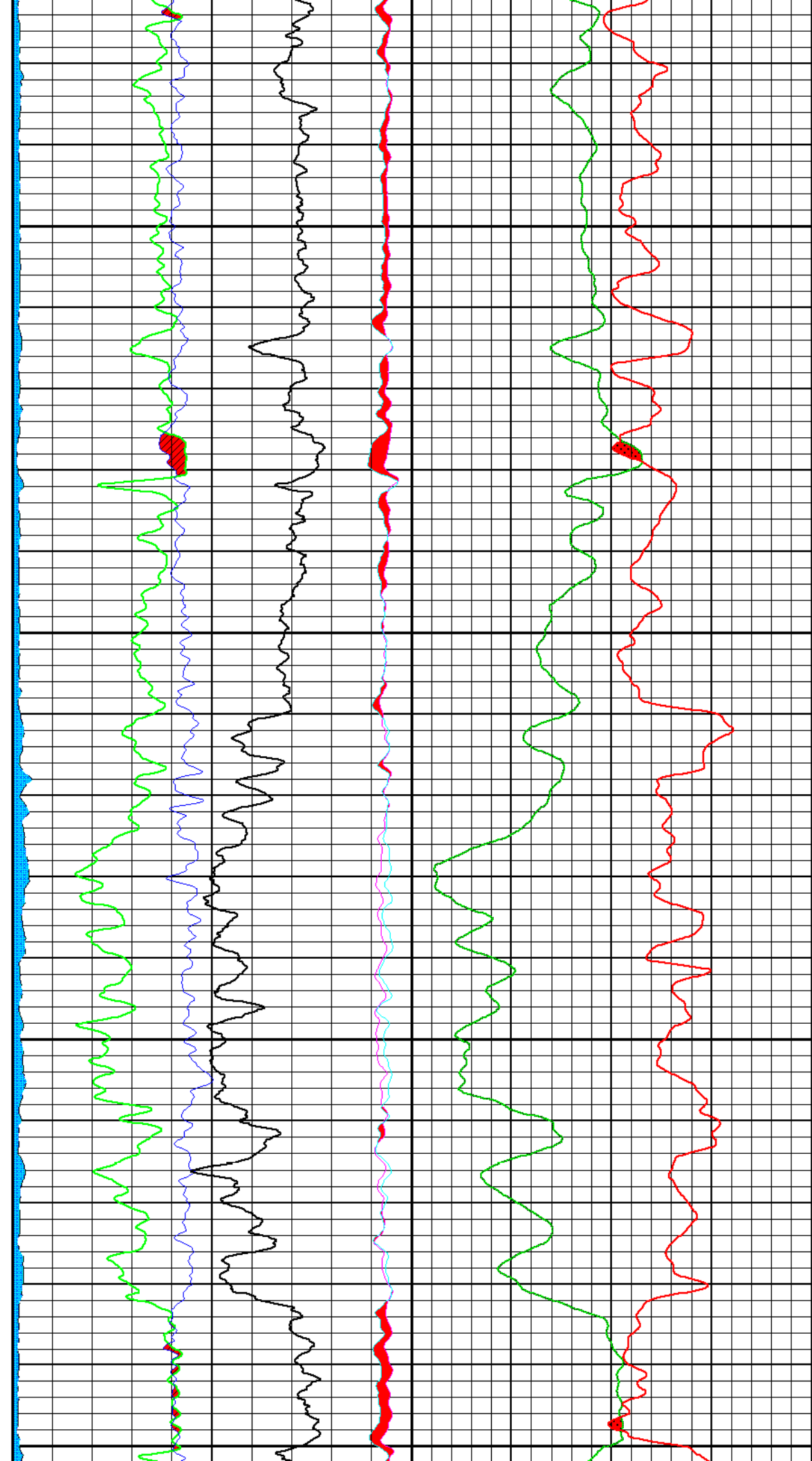
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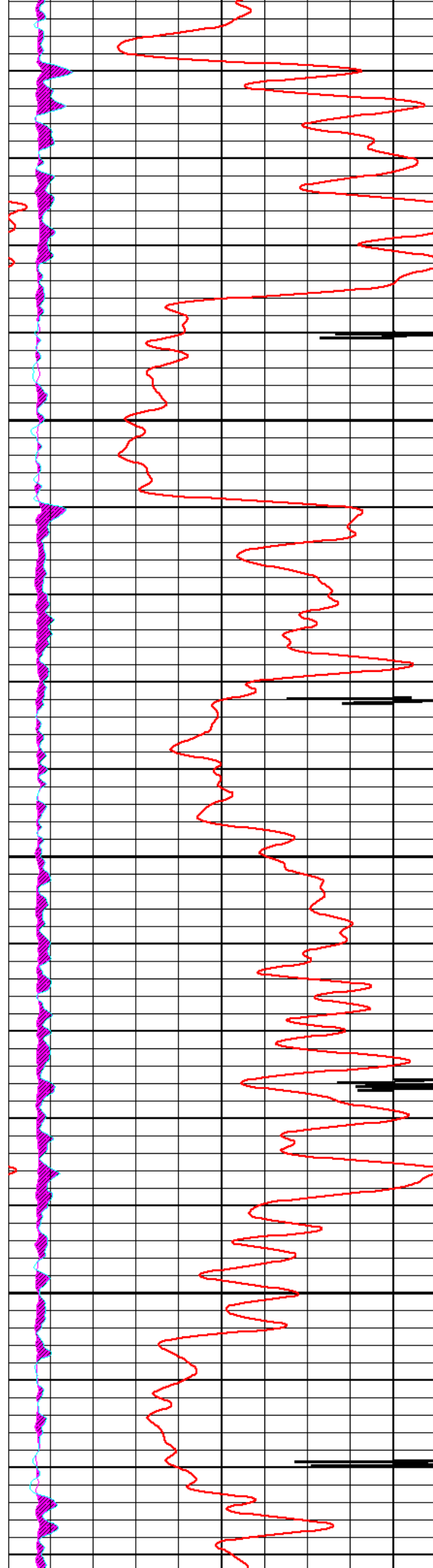




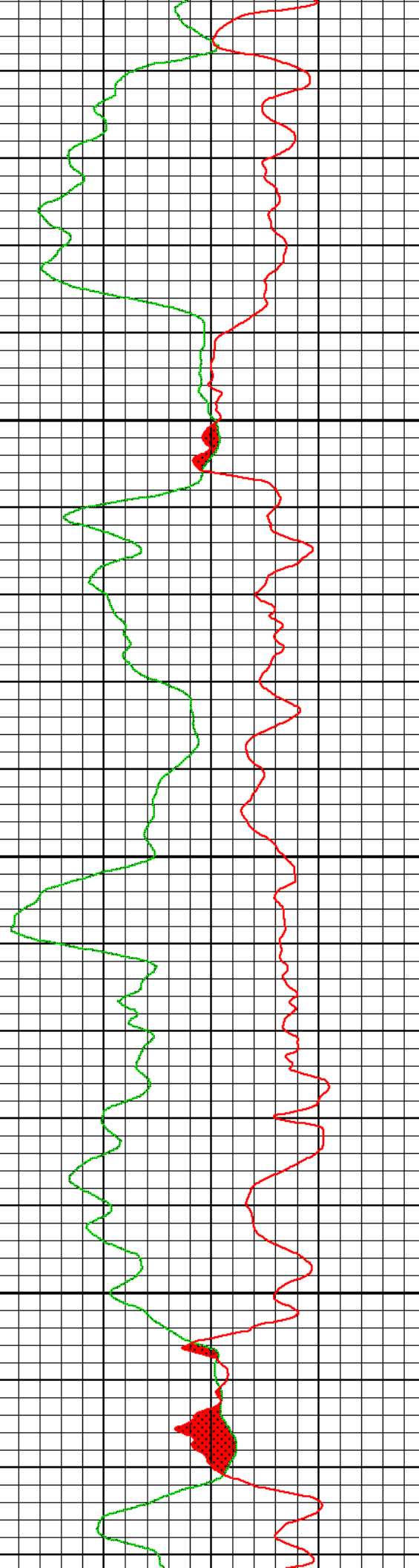
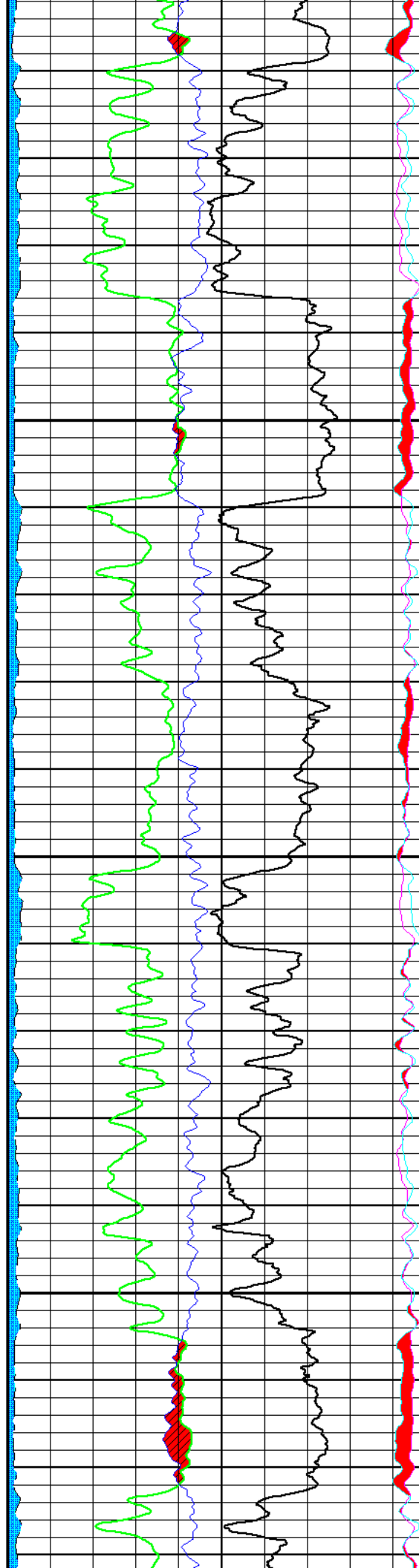
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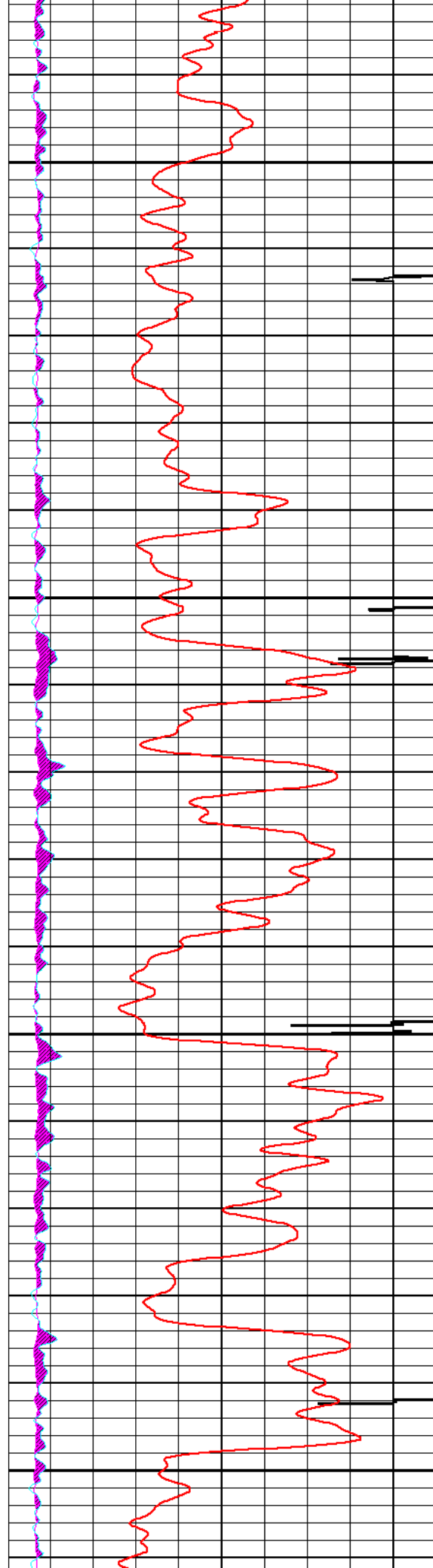
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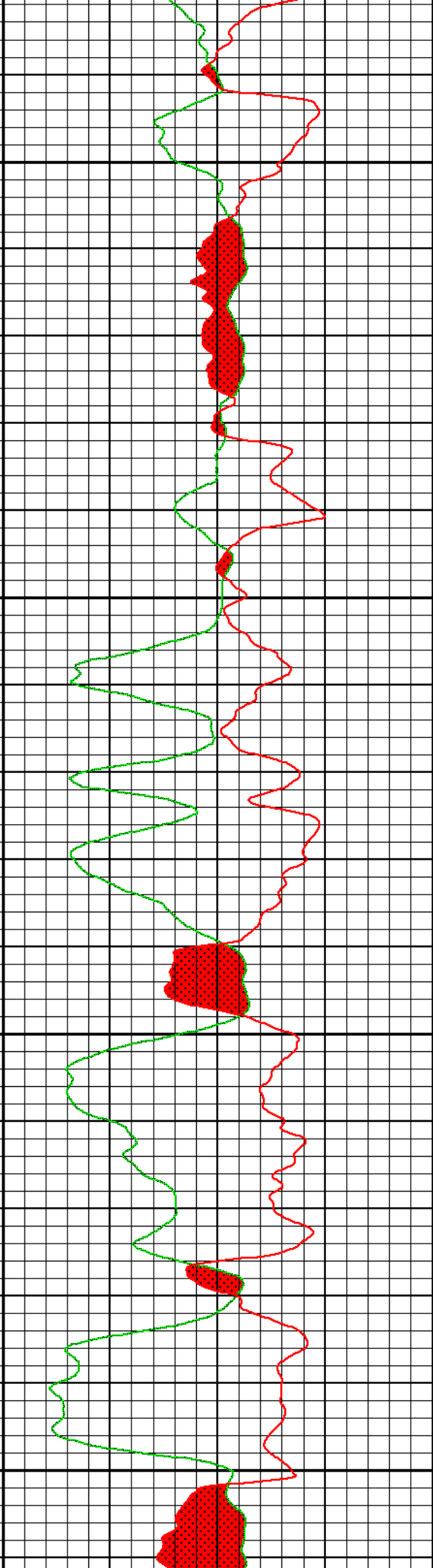
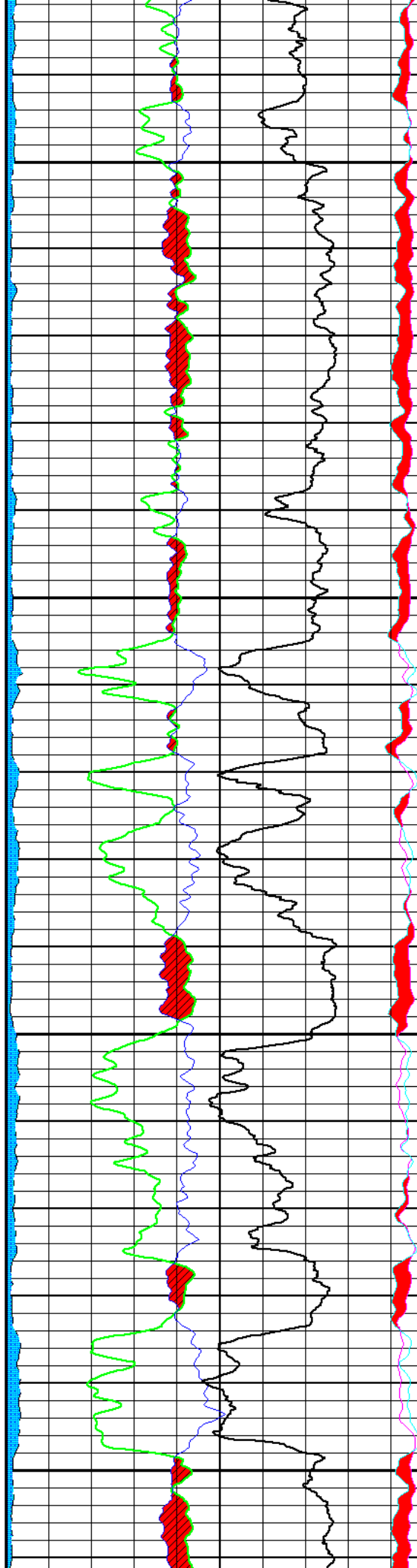
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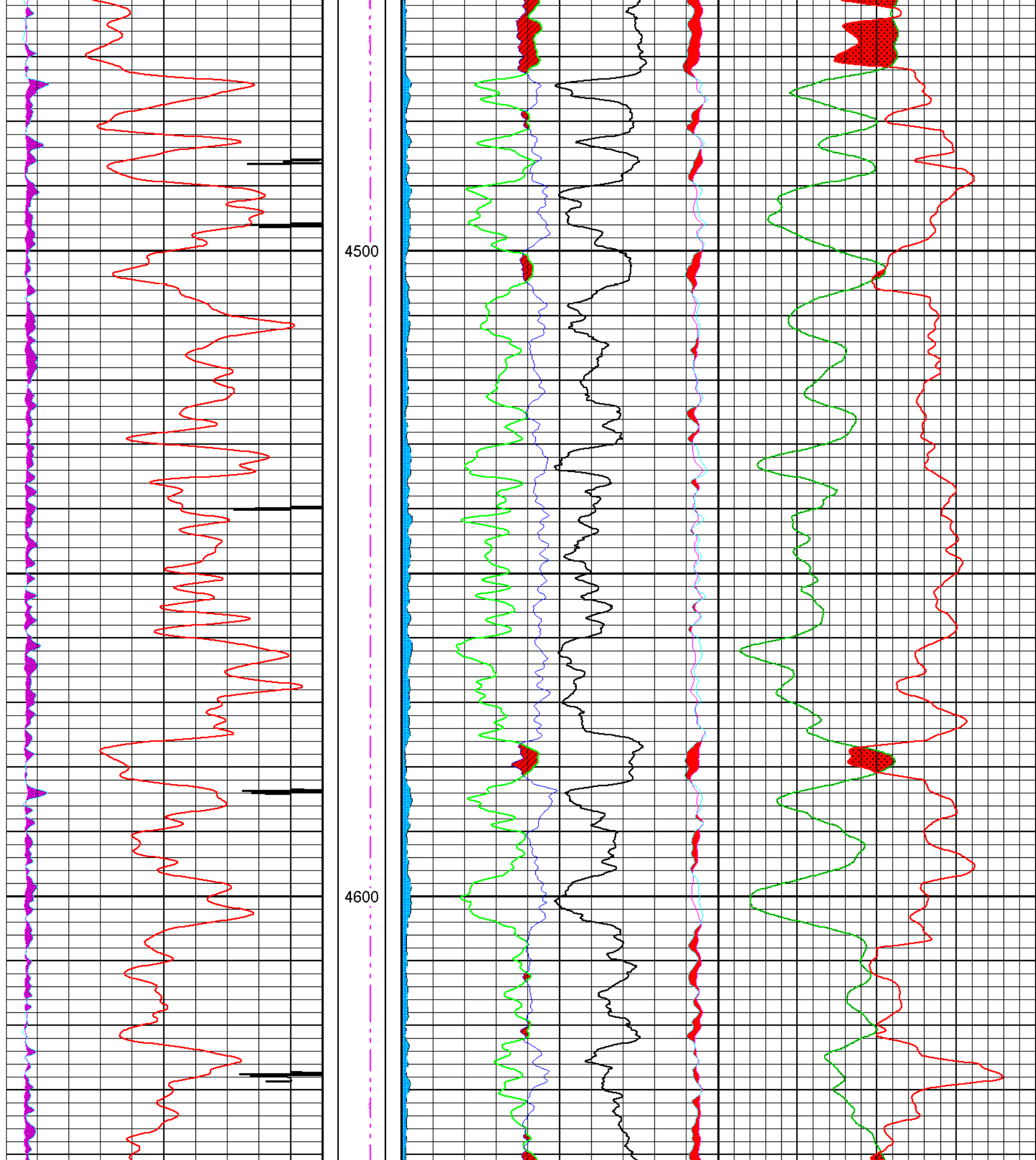


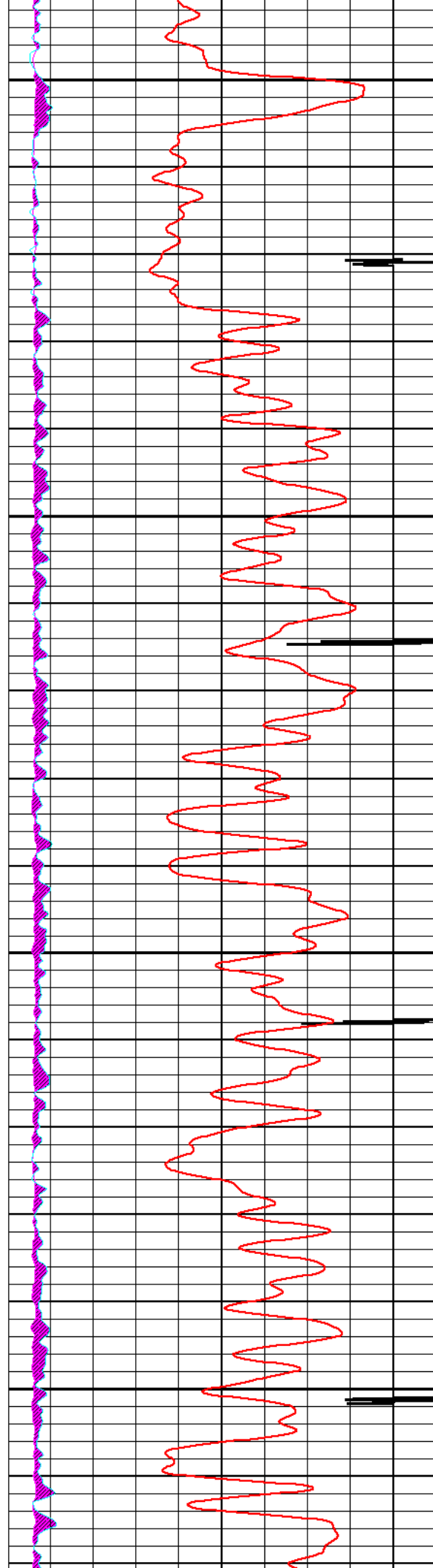


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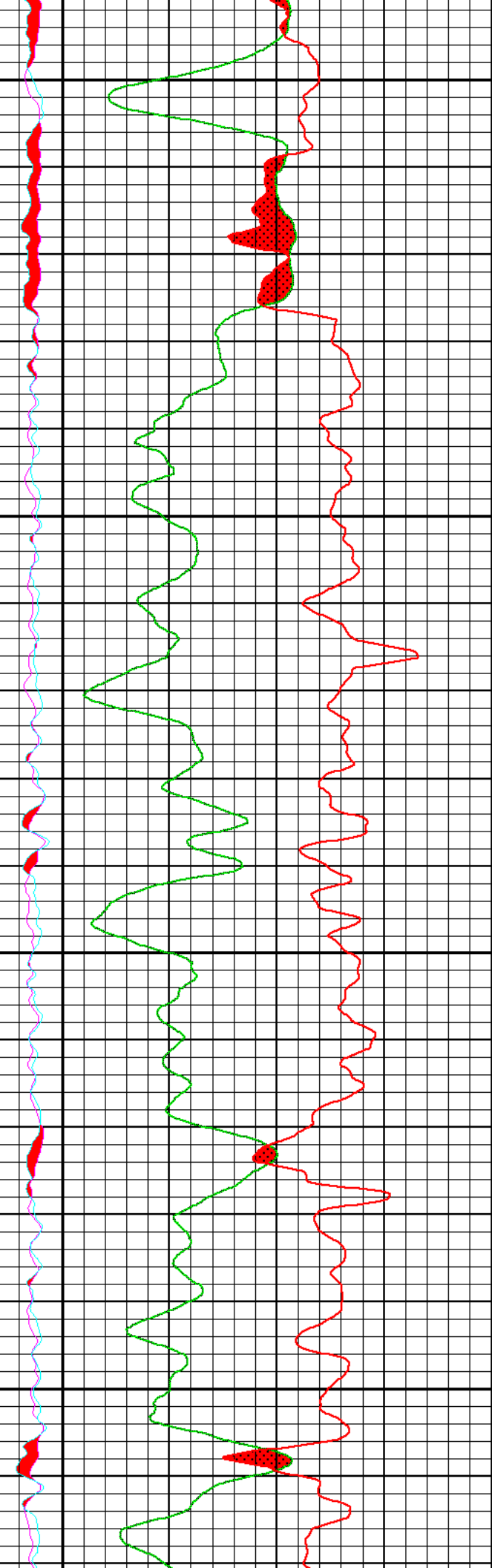
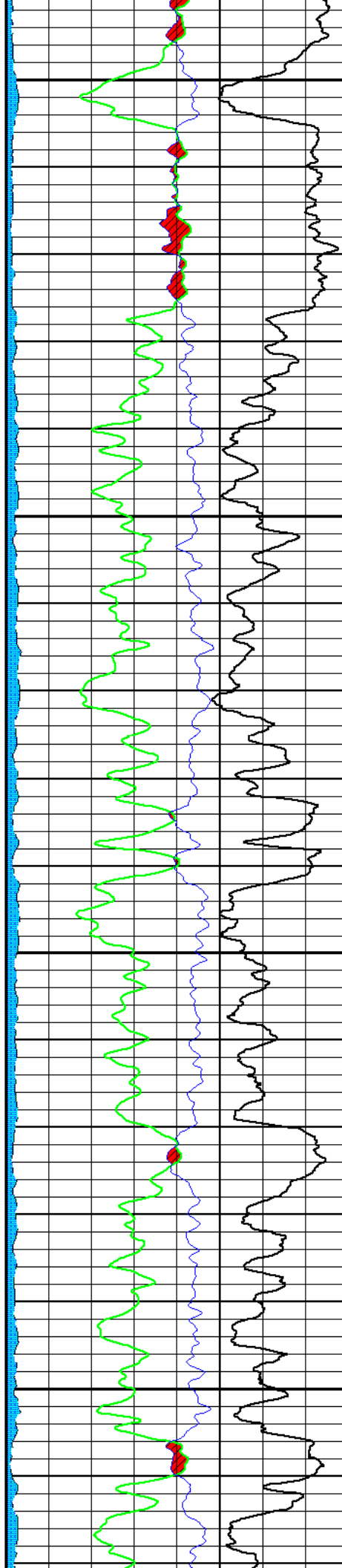


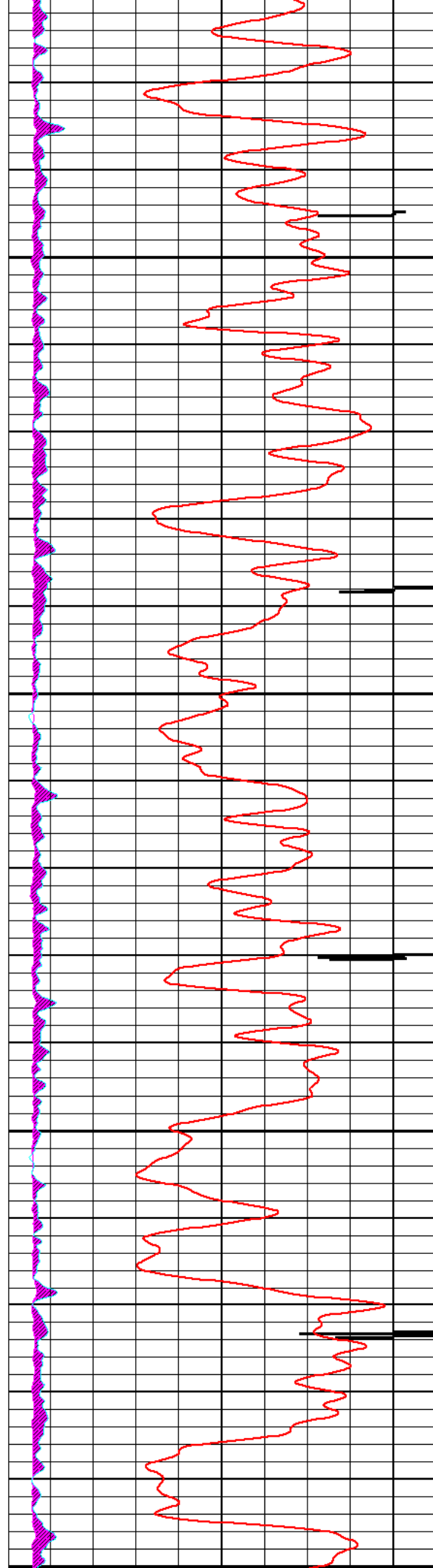




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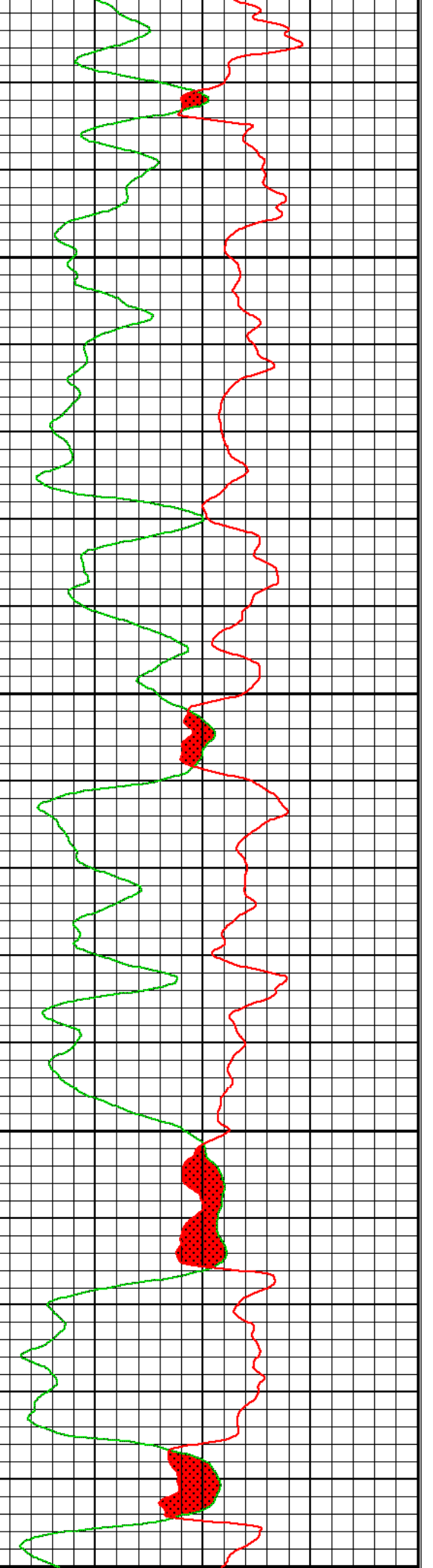
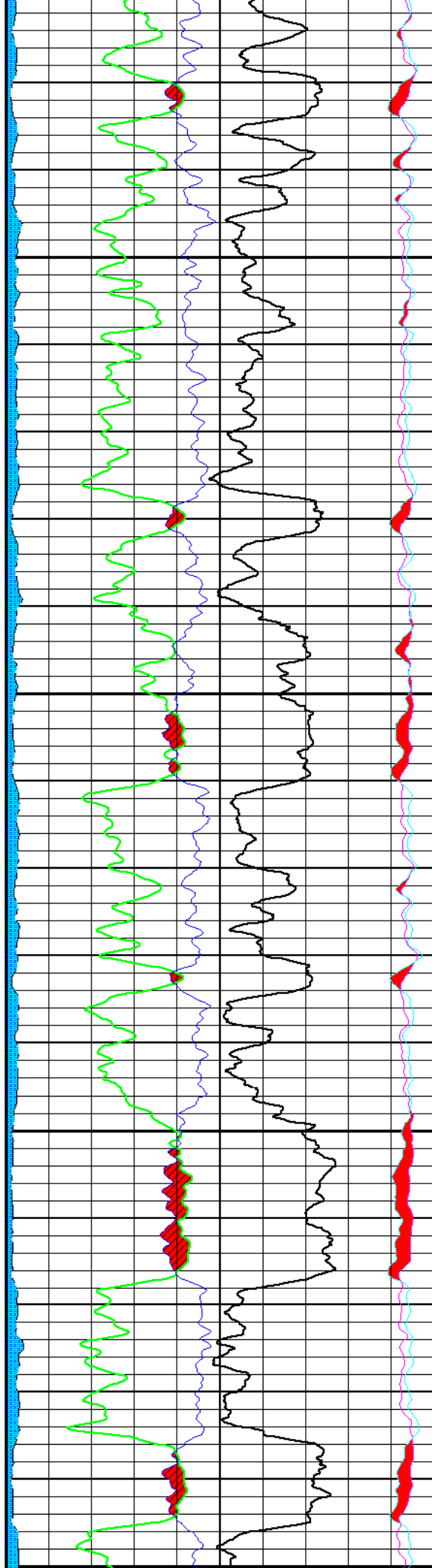
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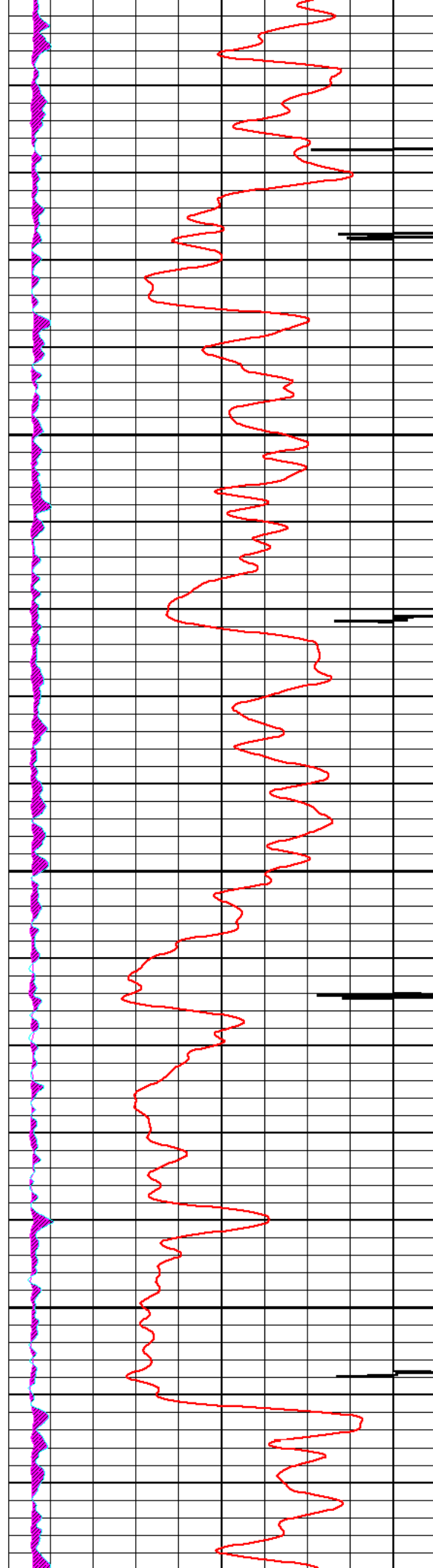




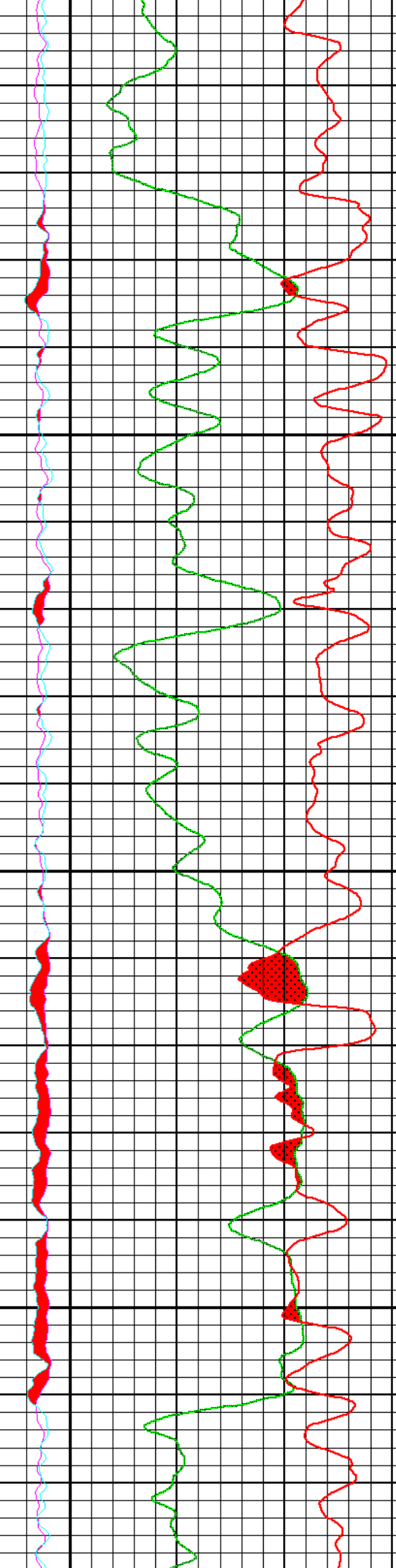
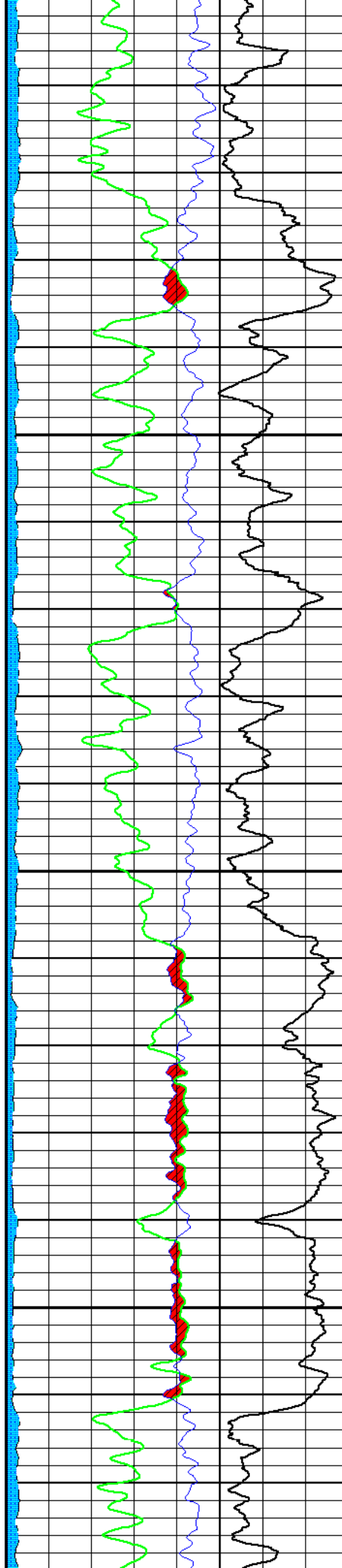
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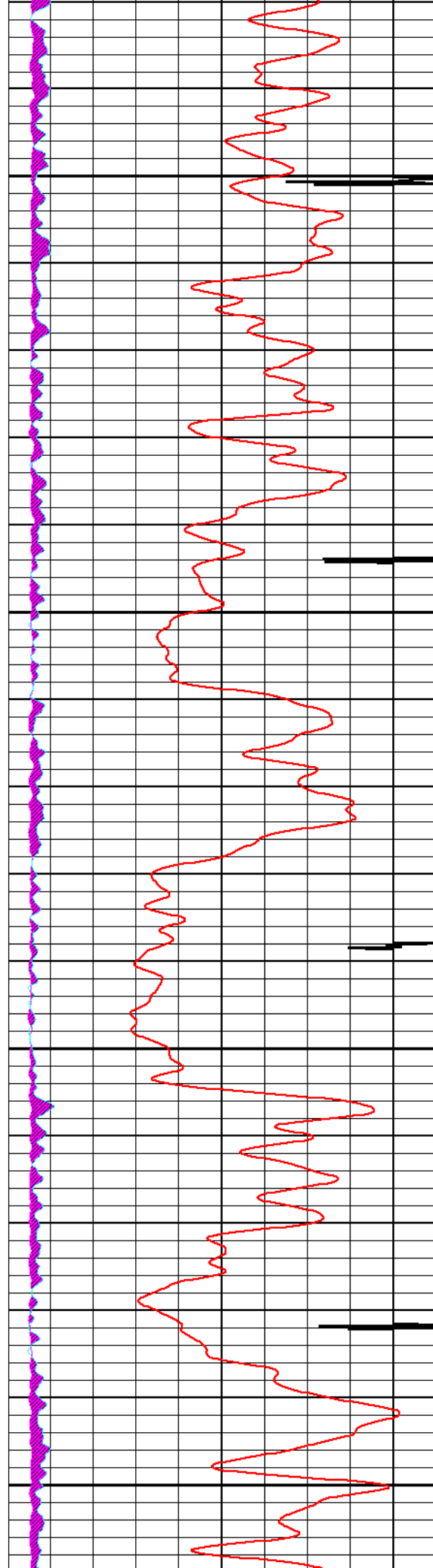
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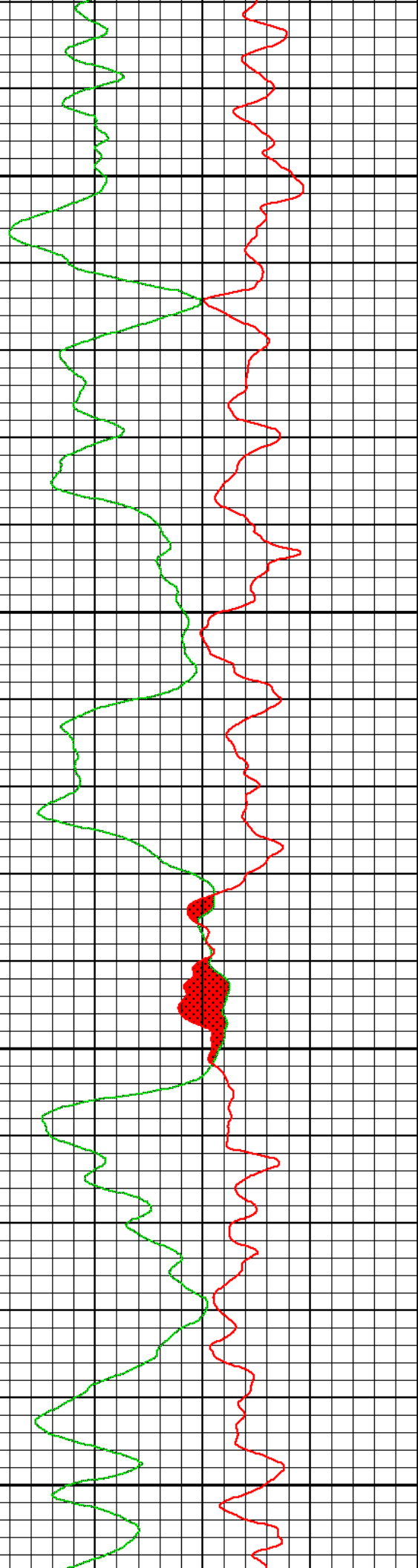
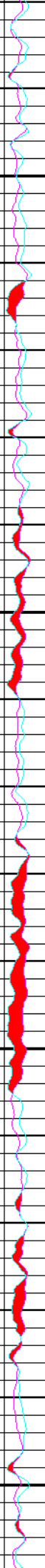
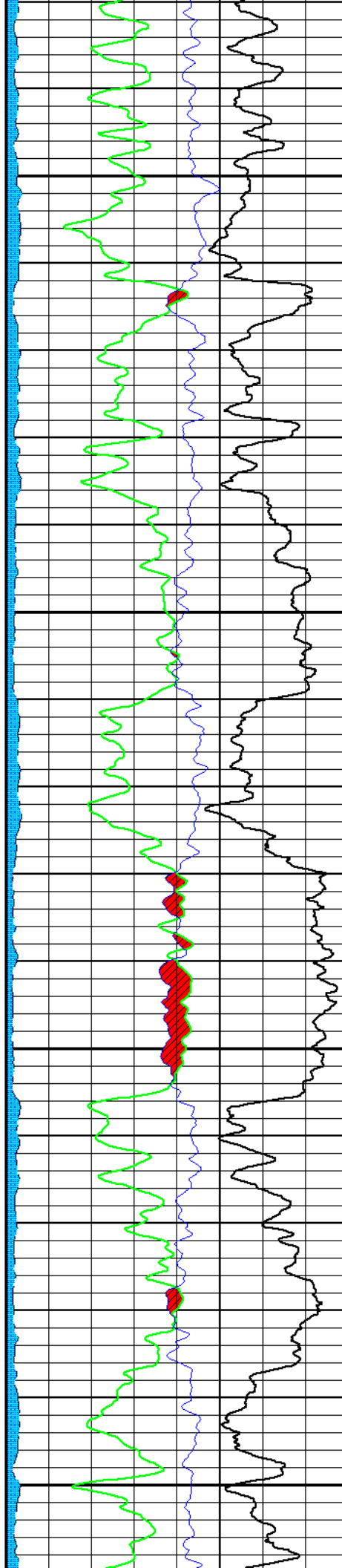
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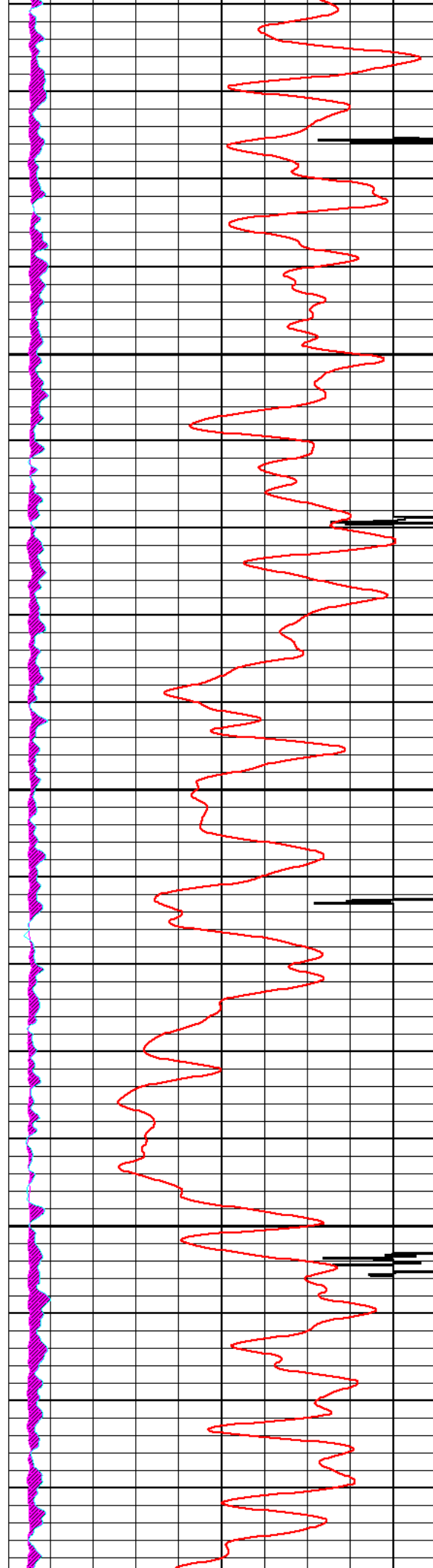




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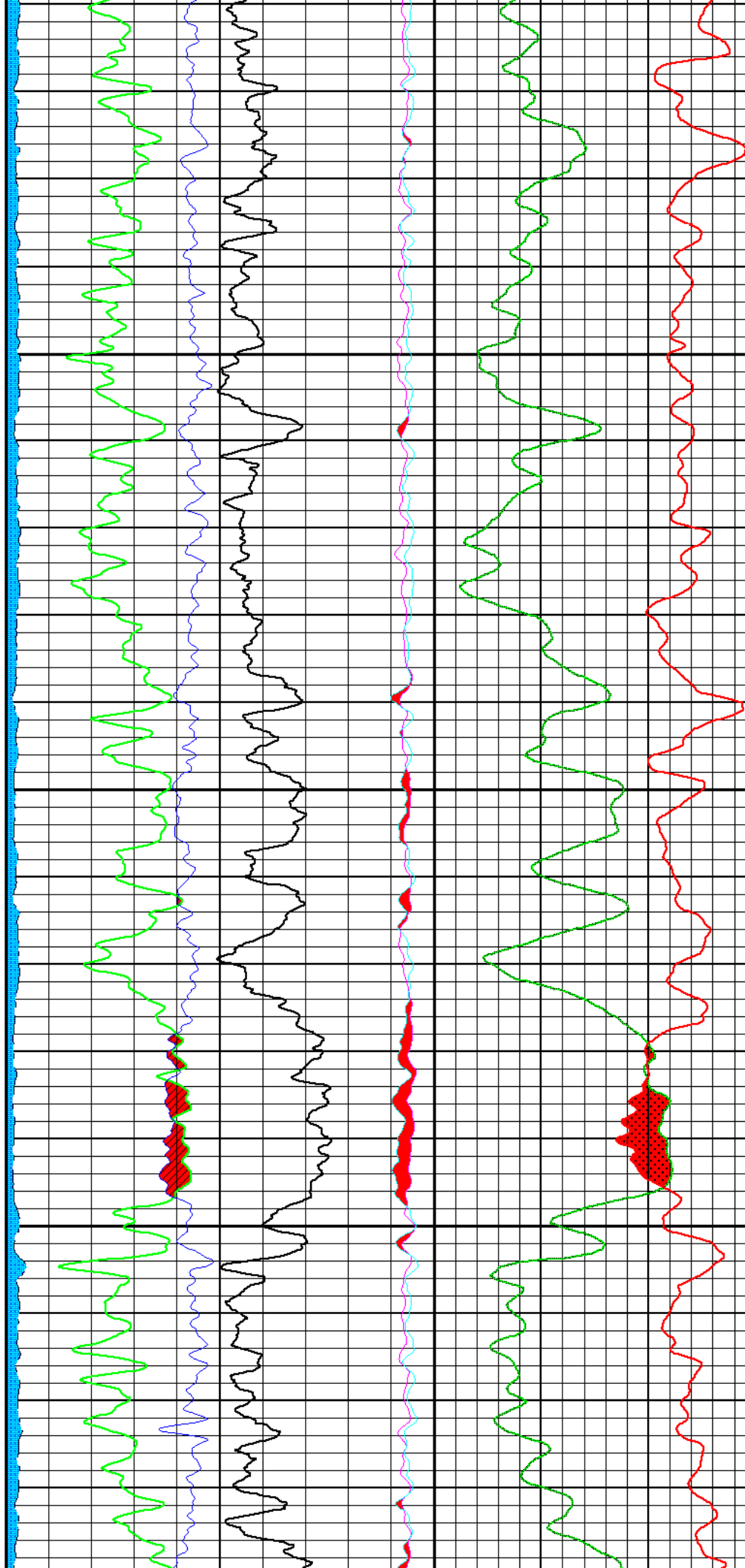
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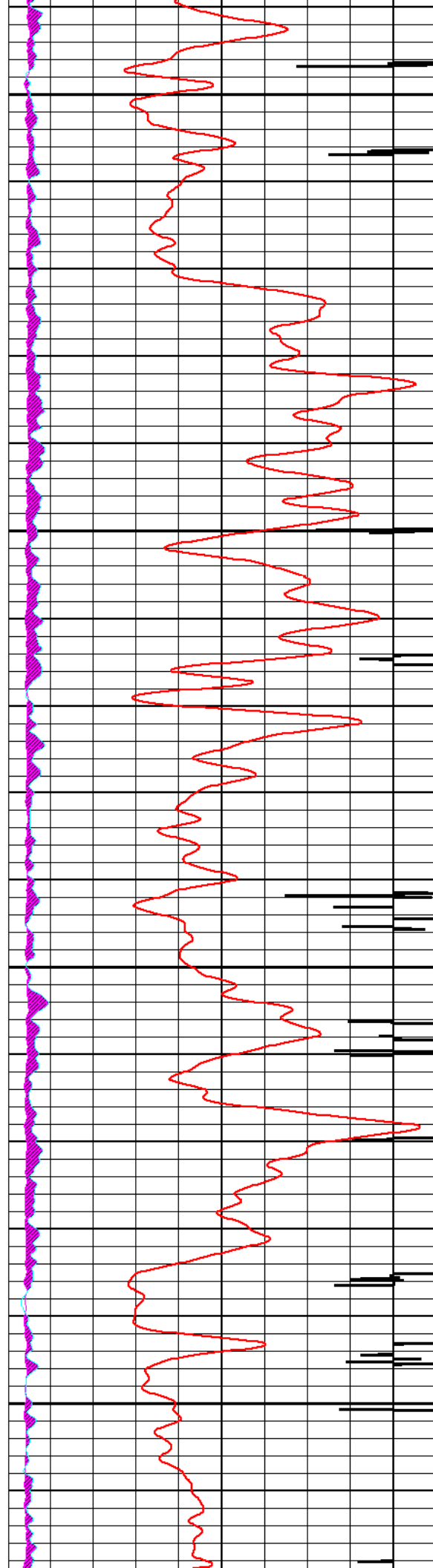




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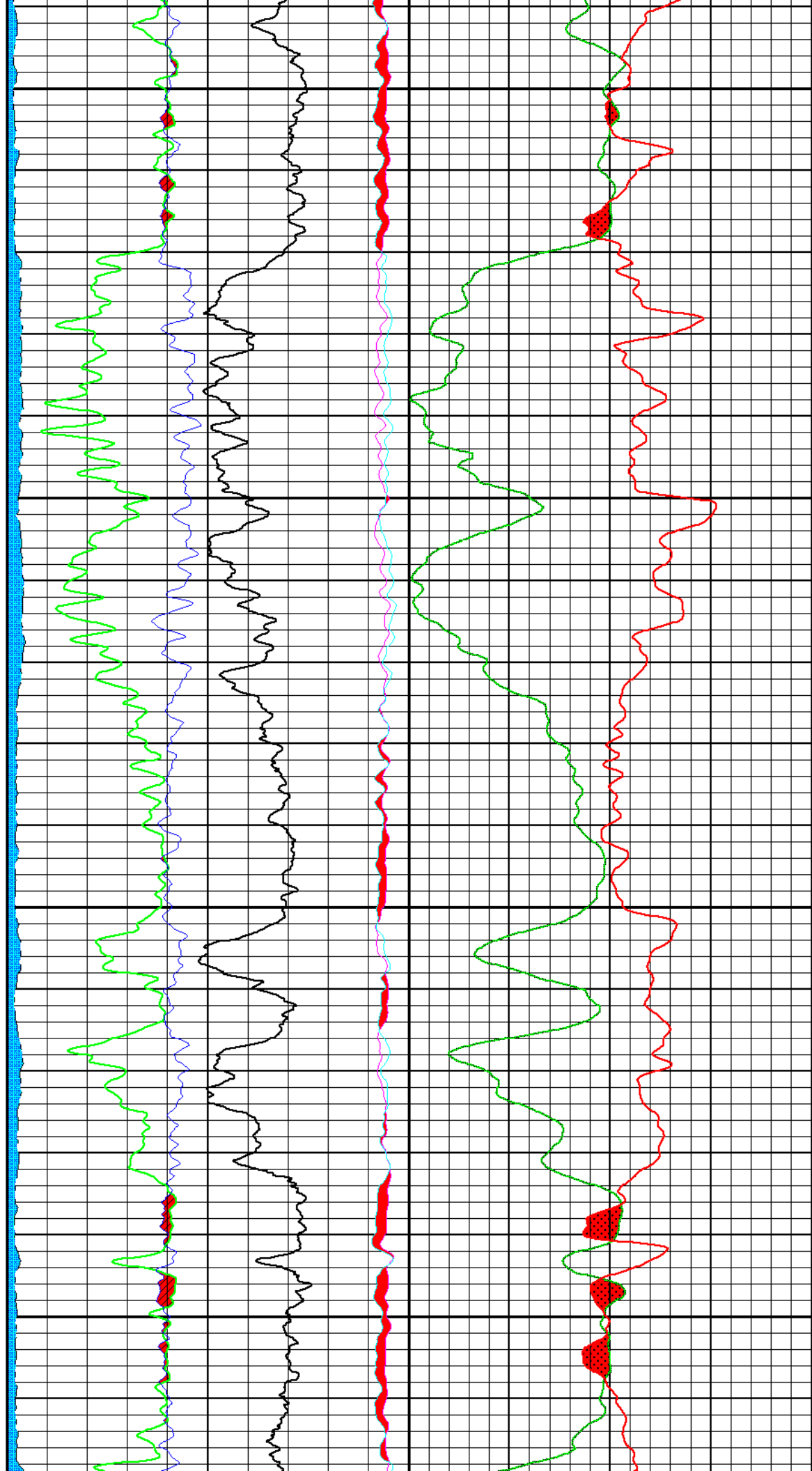
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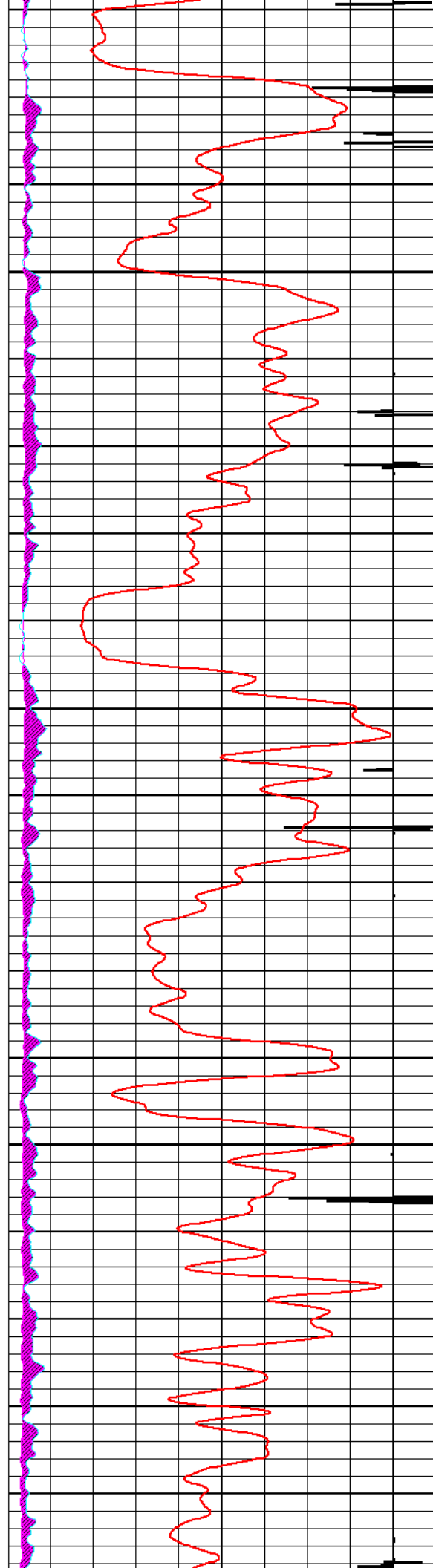




5600

5700





5800

