



DUAL IND / DUAL COMP
POROSITY LOG

Pioneer Energy Services

Company EXTRACTION OIL & GAS, LLC
Well JOHNSON TRUST NO. 5
Field WATTENBERG
County WELD
State COLORADO

Company EXTRACTION OIL & GAS, LLC
Well JOHNSON TRUST NO. 5
Field WATTENBERG
County WELD State COLORADO

Location: API #: 05-123-42321-00

2,153' FSL & 389' FWL

SEC 13 TWP 2N RGE 68W

Permanent Datum GROUND LEVEL Elevation 4925'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 4950'
D.F. 4949'
G.L. 4925'

NONE

Date 1/28/2016

Run Number ONE

Depth Driller 12330'

Depth Logger 7200'

Bottom Logged Interval 7200'

Top Log Interval SURFACE CASING

Casing Driller 9.625" @ 1576'

Casing Logger 1578'

Bit Size 8.750"

Type Fluid in Hole OIL BASED MUD

Salinity, ppm CL N/A

Density / Viscosity 9.6 36

pH / Fluid Loss N/A N/A

Source of Sample Flowline

Rm @ Meas. Temp N/A @ N/A

Rmf @ Meas. Temp N/A @ N/A

Rmc @ Meas. Temp N/A @ N/A

Source of Rmf / Rmc Charts

Rm @ BHT N/A @ 202

Operating Rig Time 2 HOURS

Max Rec. Temp. F 202

Equipment Number 108

Location Colby

Recorded By J. LONG

Witnessed By LARRY SIEGEL

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not 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.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

PATTERSON-UTI RIG NO. 346

NO REPEAT DUE TO HOLE CONDITIONS
NO FOCUS TOOL DUE TO OIL BASED MUD

SO# 1-50575

Log Measured From: KELLY BUSHING 25 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneerenergy.com 785-625-3858

Your Pioneer Energy Services Crew



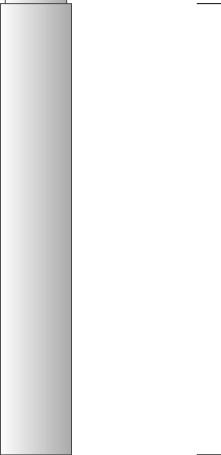
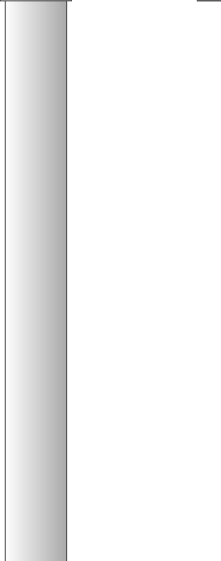
Engineer: J. LONG
Operator: J. HENRICKSON
Operator:
Operator:

This Log Record Was Witnessed By


Primary Witness: LARRY SIEGEL
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	0	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	60	0	7	0	7200	202	8.75

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	33.00		GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC	29.90		CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	29.15					
LSD DCAL SSD	20.85		CDL-M&W (71-914)	8.50	4.00	250.00
	20.83					
	20.35					
RLL3F	15.80		DIL-PSI HIGH TEMP (PSI 216 HT)	18.50	3.50	220.00
RLL3	15.80					
CILD	8.00					

CILM	4.70								
SP	0.20								
Dataset: extraction_johnsontrust_5.db: field/well/stack/pass3.1 Total length: 35.50 ft Total weight: 620.00 lb O.D.: 4.00 in									



PIONEER
Pioneer Energy Services

MAIN PASS

Database File

extraction_johnsontrust_5.db

Dataset Pathname

stack/pass3.1

Presentation Format

split

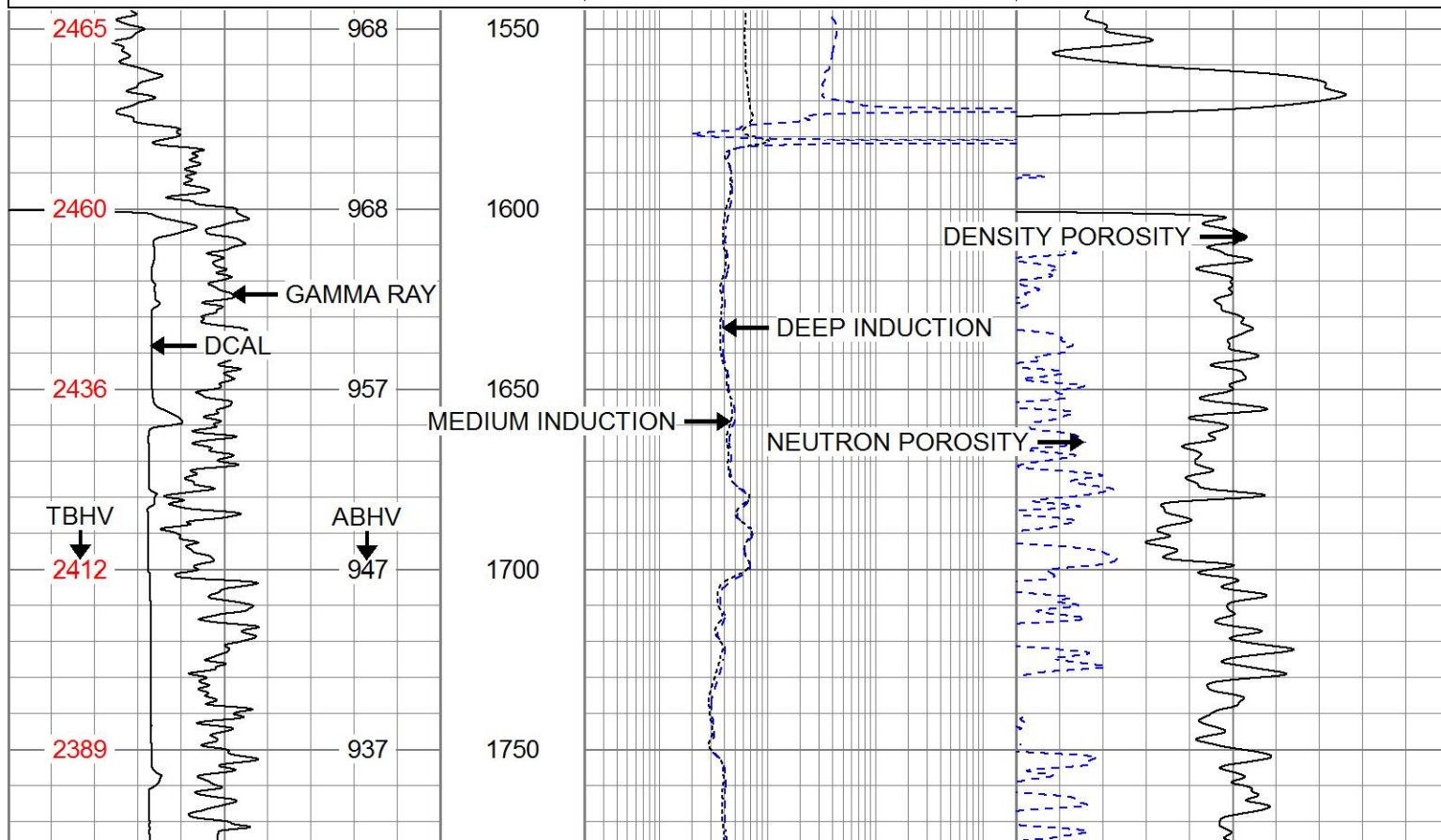
Dataset Creation

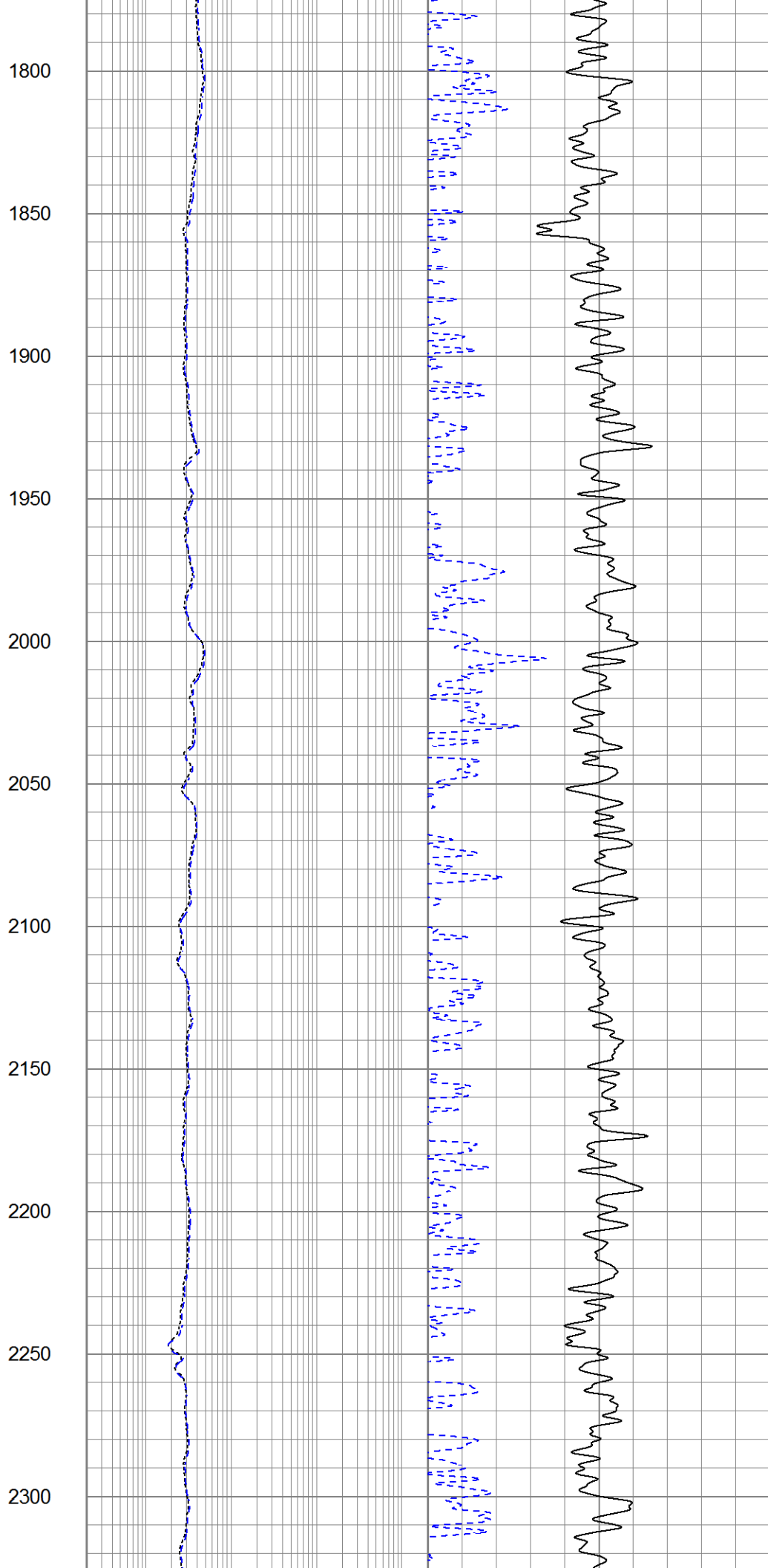
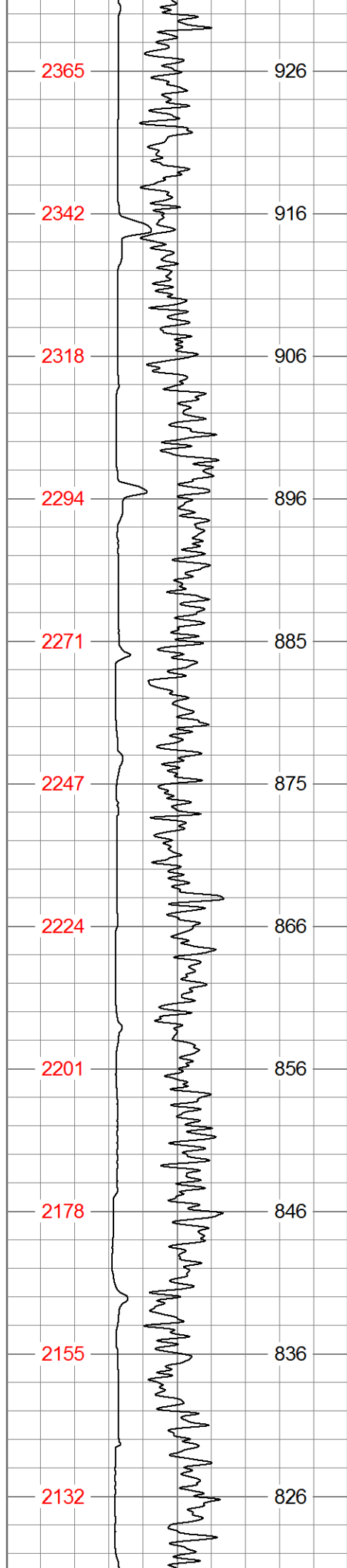
Thu Jan 28 17:51:40 2016

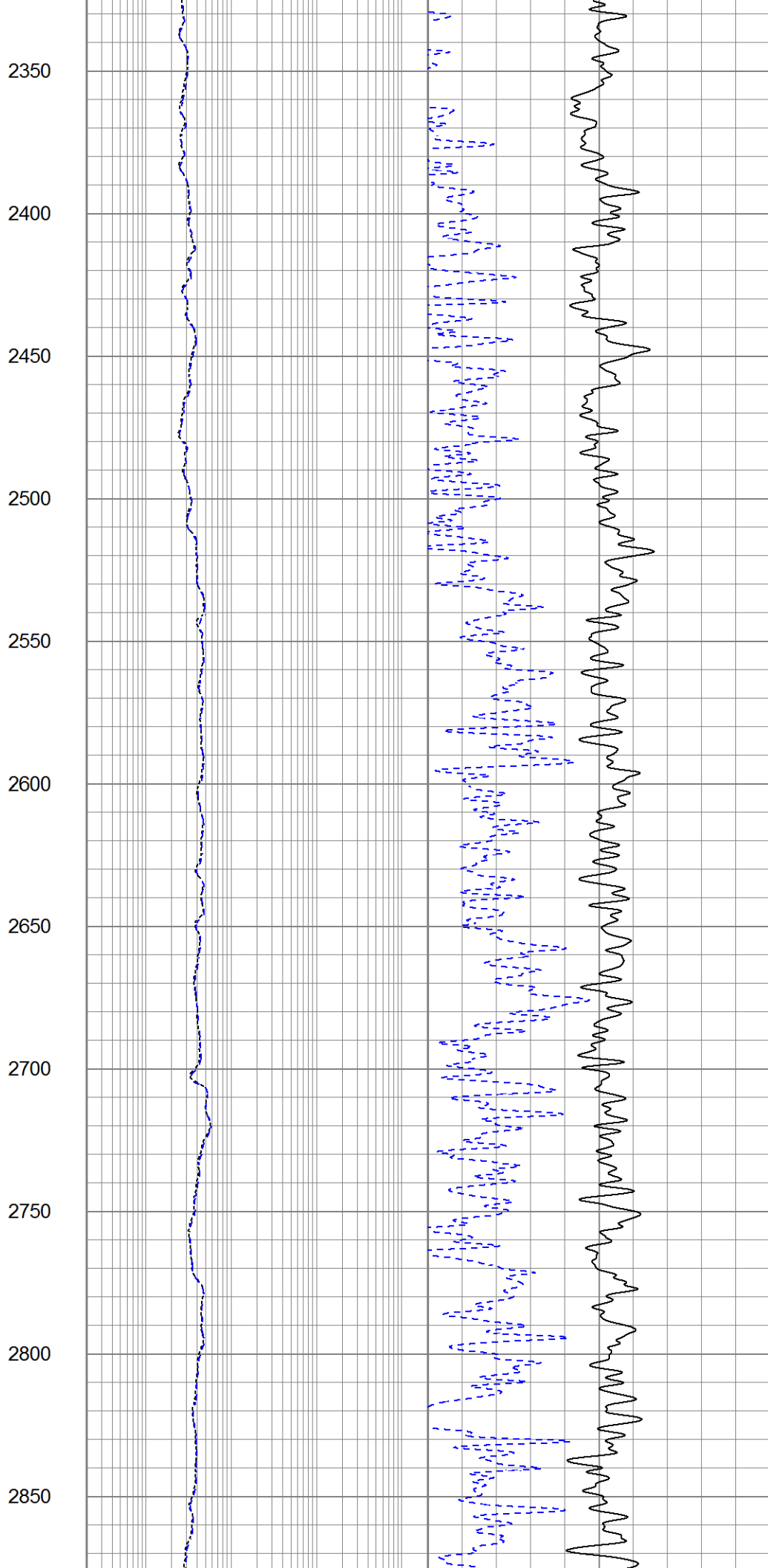
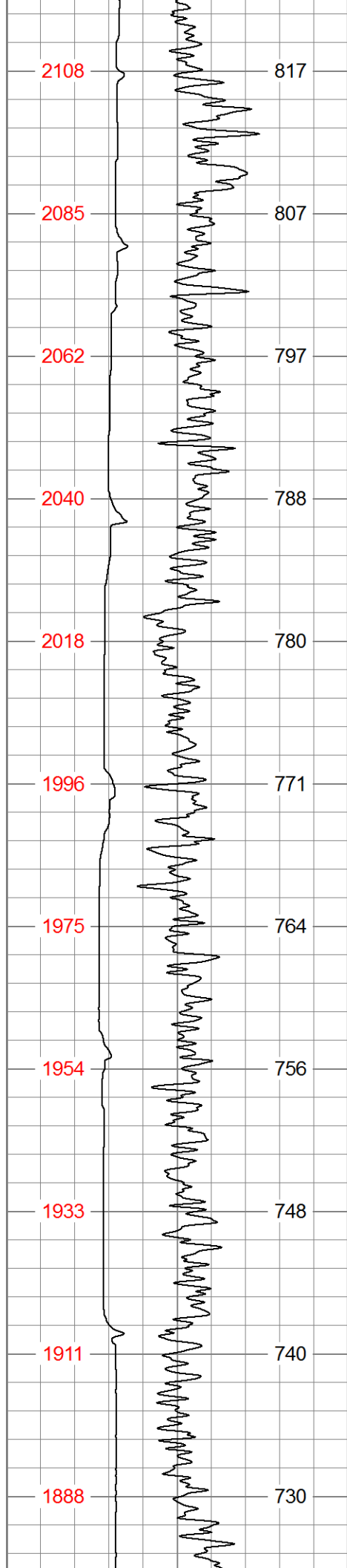
Charted by

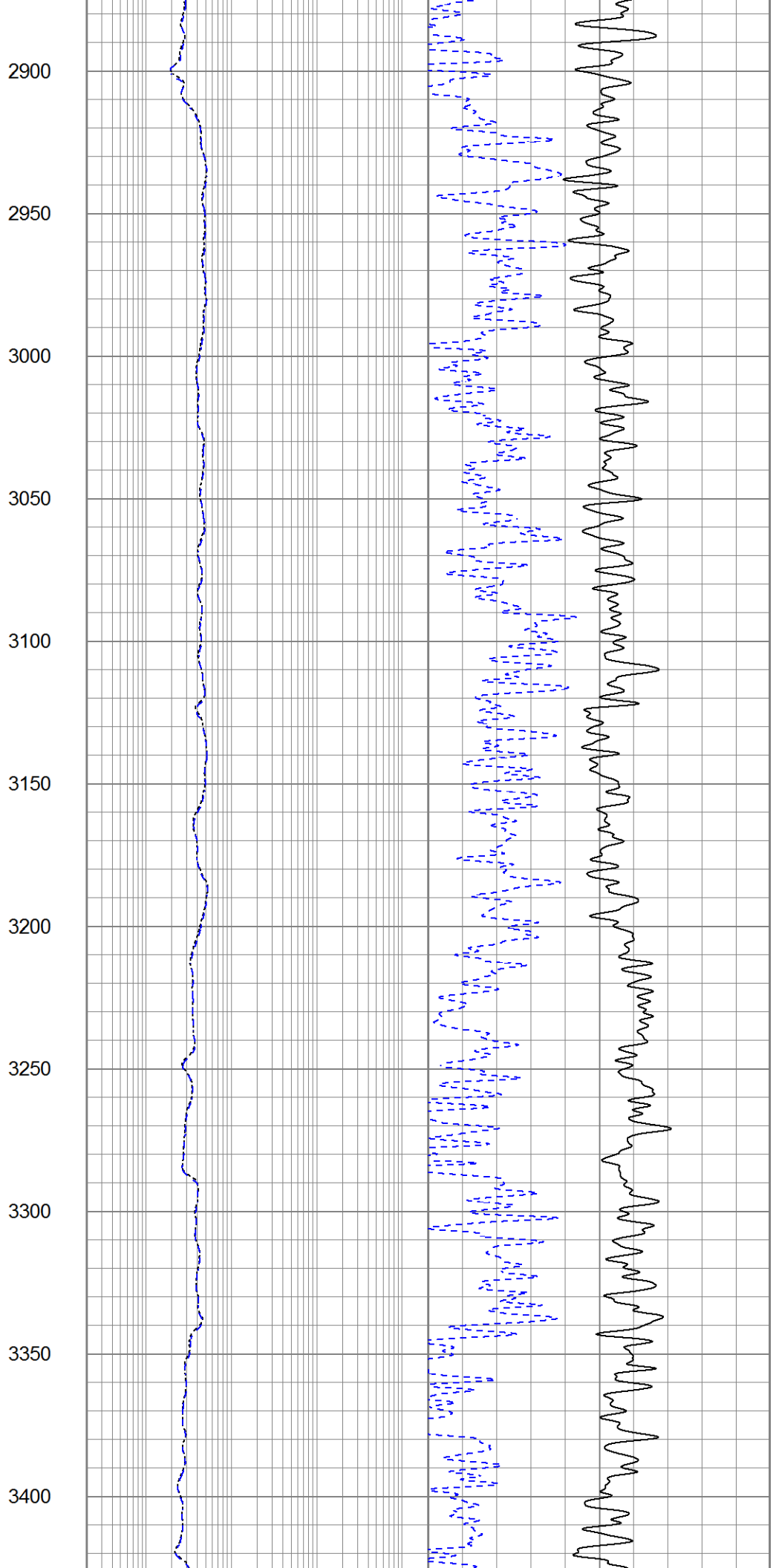
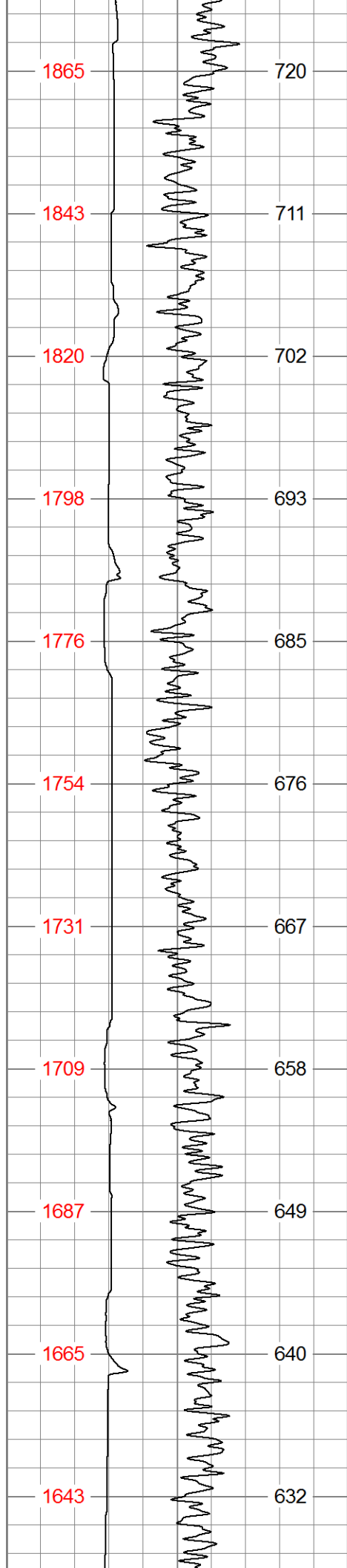
Depth in Feet scaled 1:600

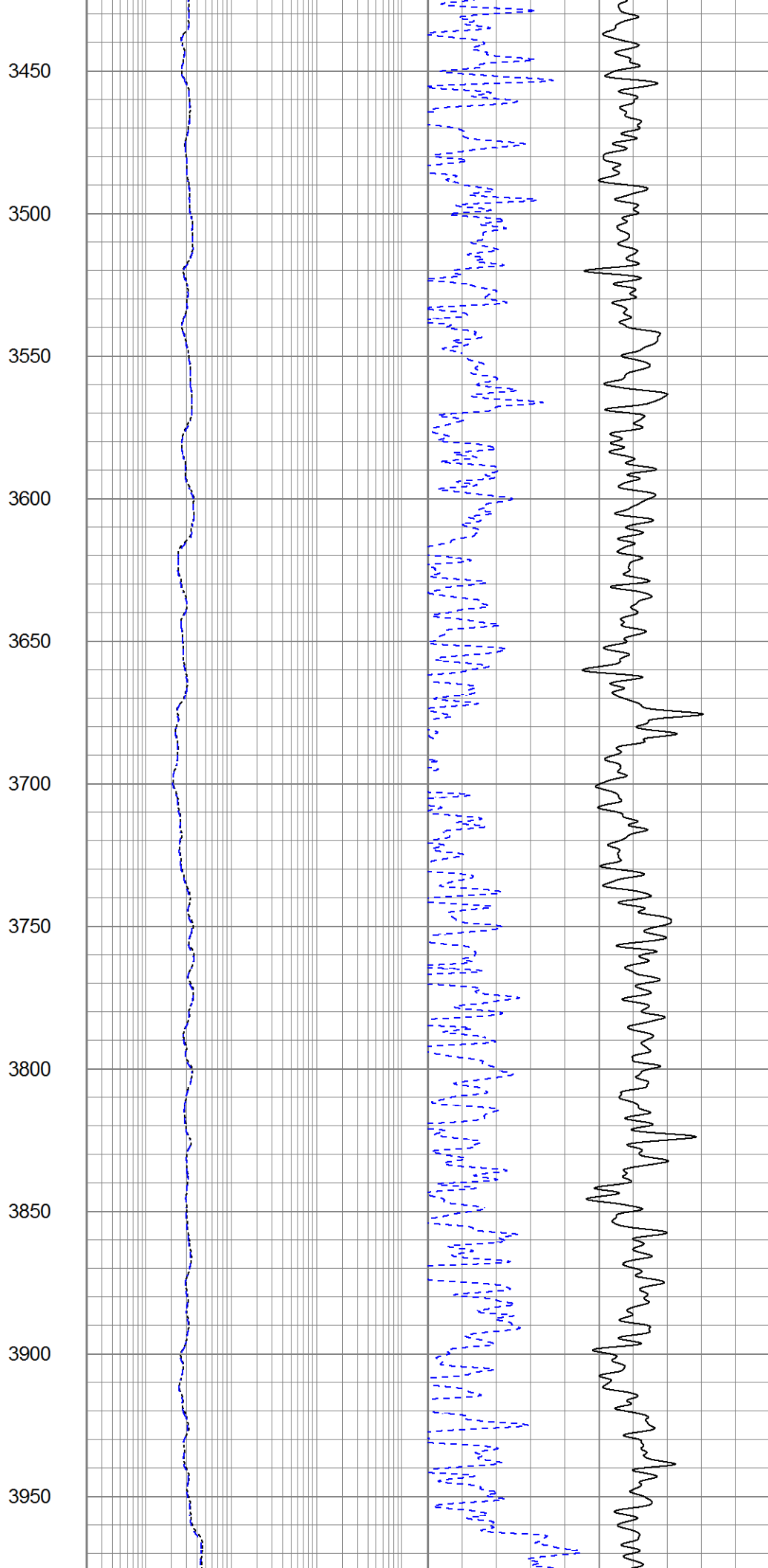
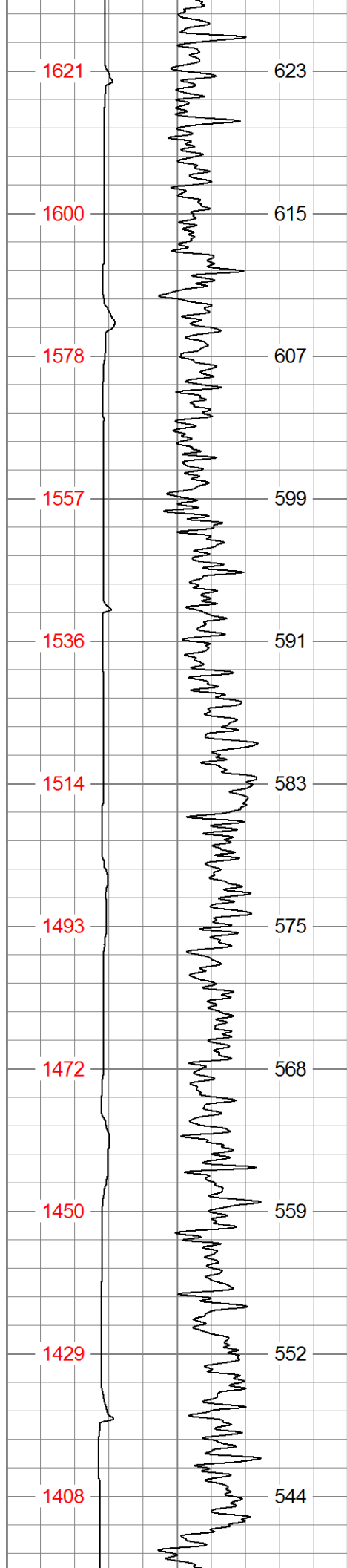
0	GAMMA RAY (GAPI)	200	<div></div>	MEDIUM INDUCTION	30	DENSITY POROSITY (pu)	0		
6	CALIPER (in)	16		0.2	(Ohm-m)	2000	30	NEUTRON POROSITY (pu)	0
6	DCAL (in)	16		DEEP INDUCTION					
				0.2	(Ohm-m)	2000			

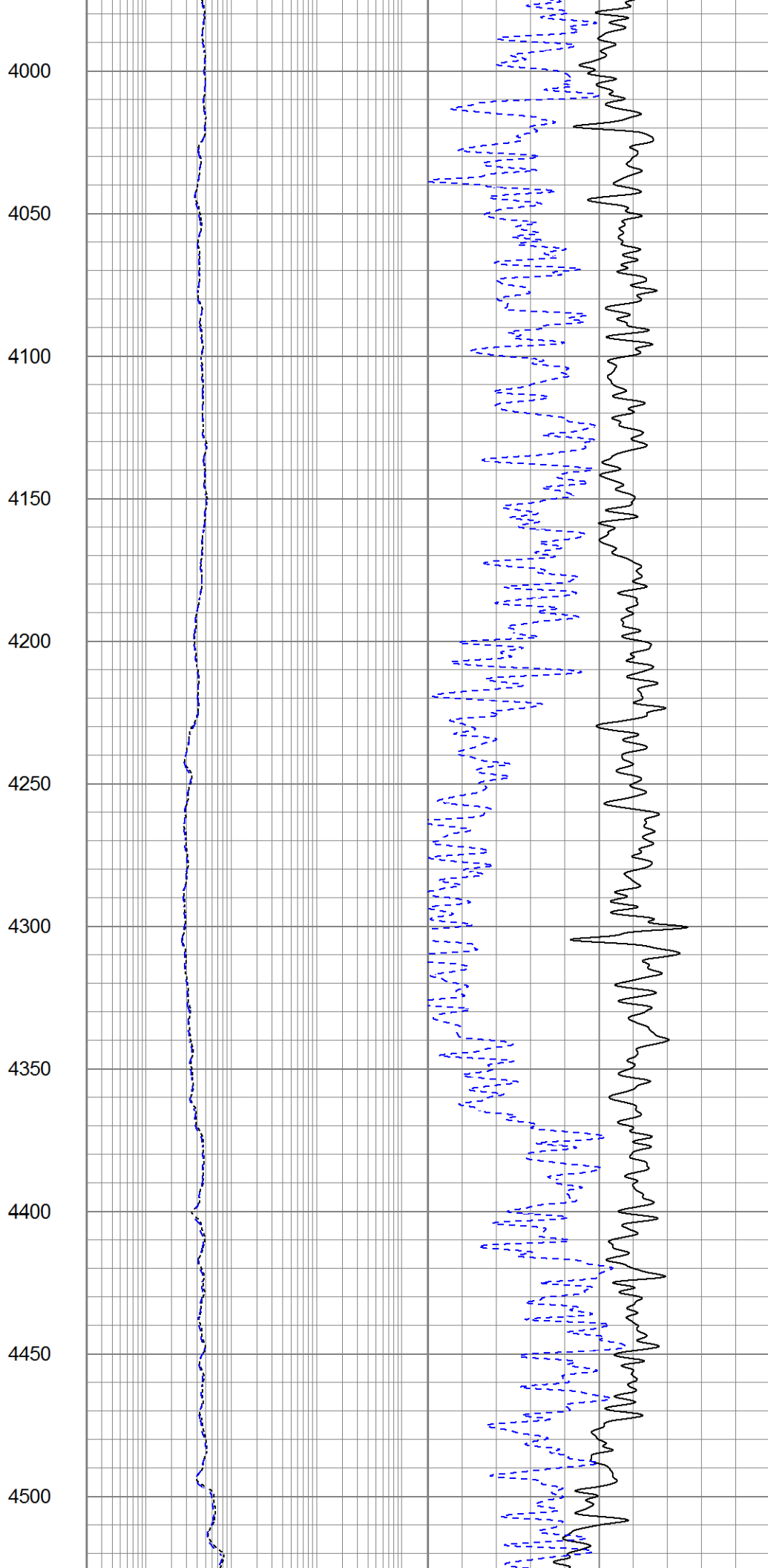
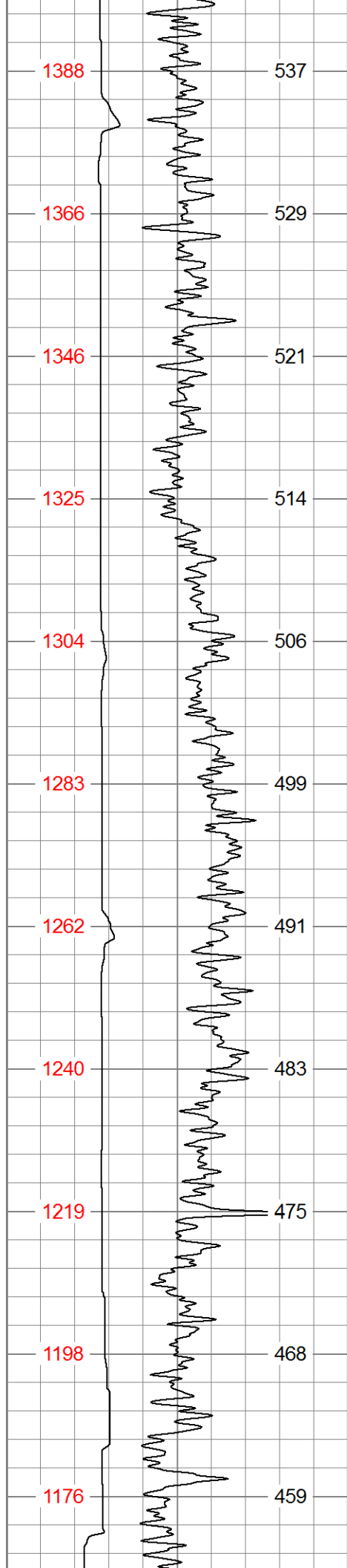


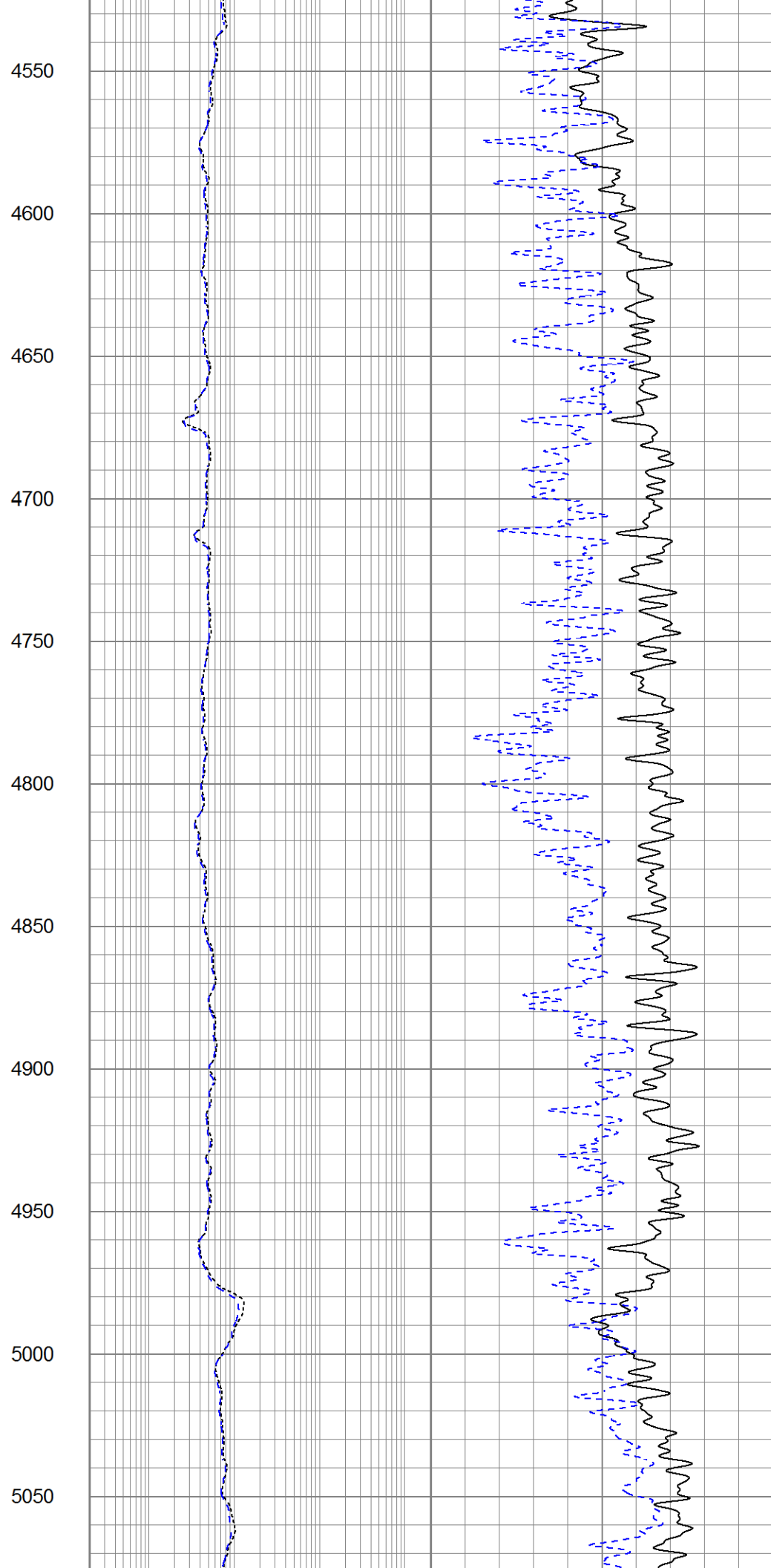
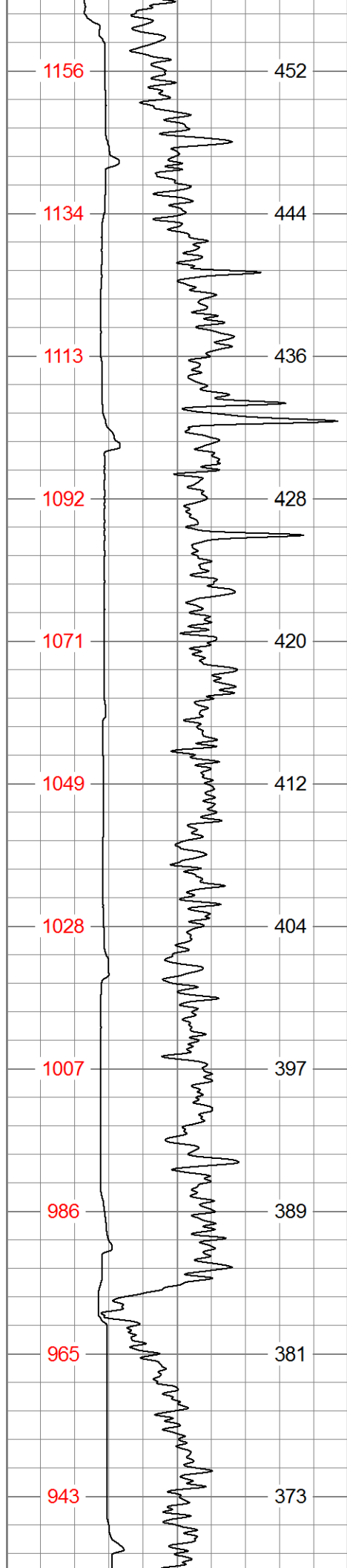


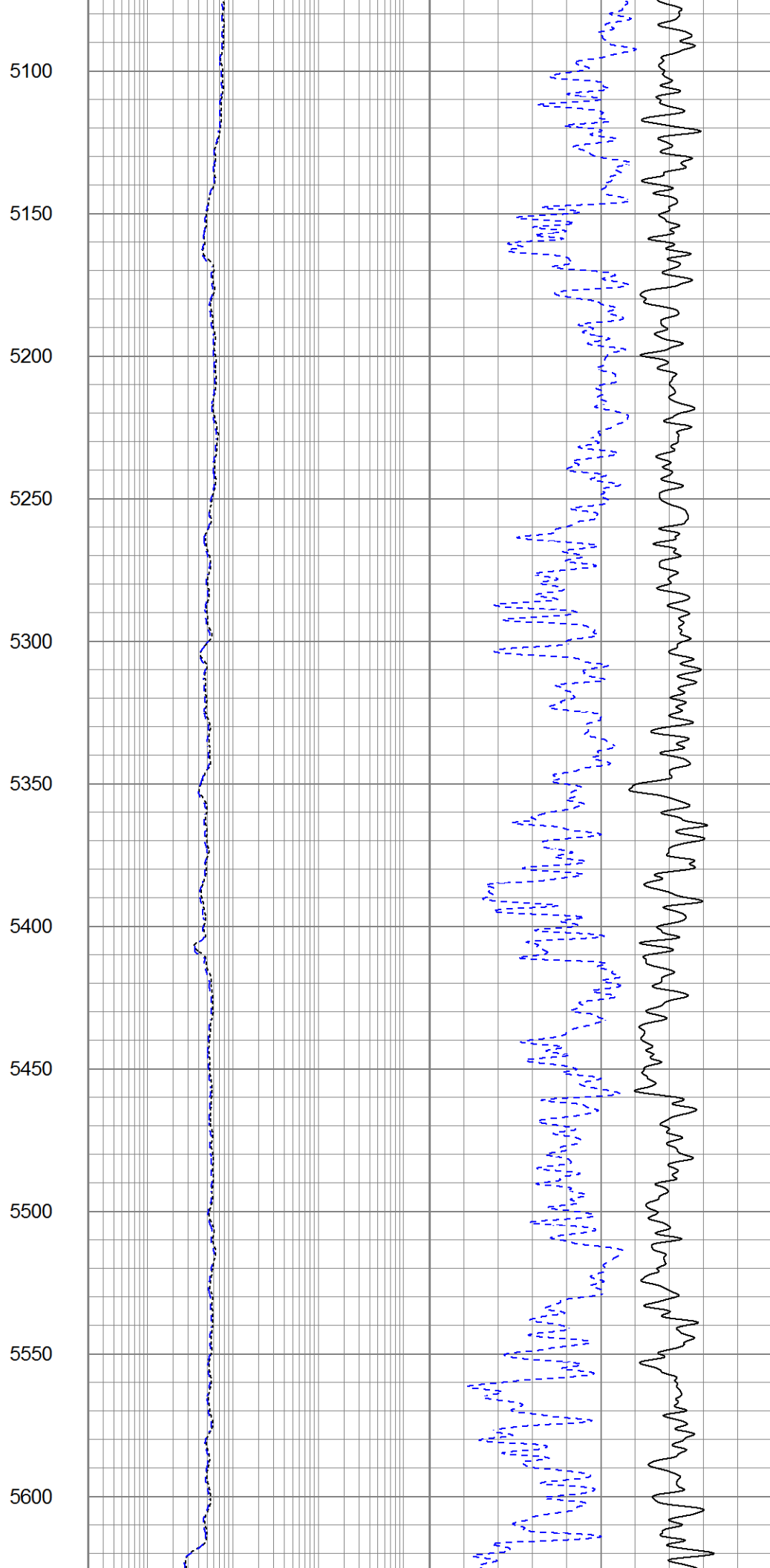
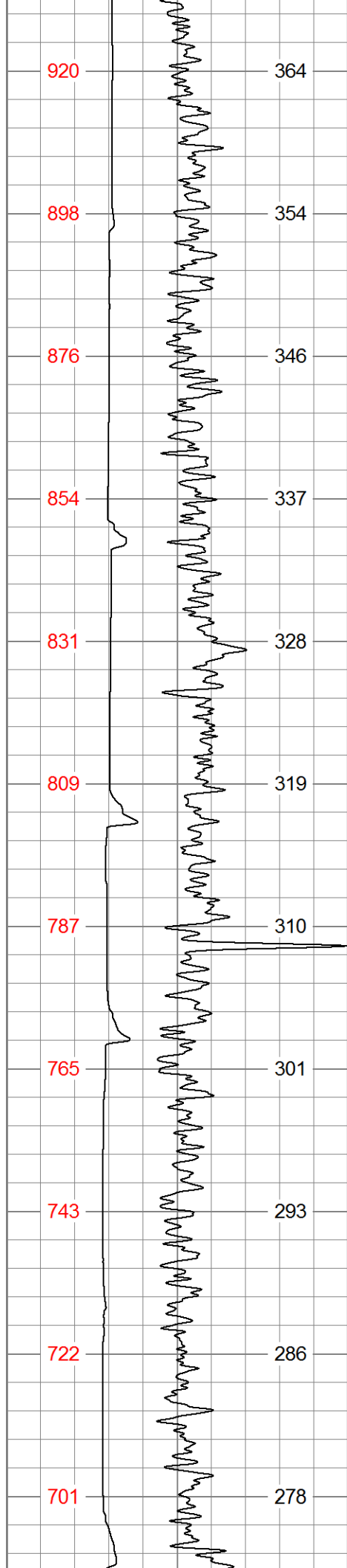


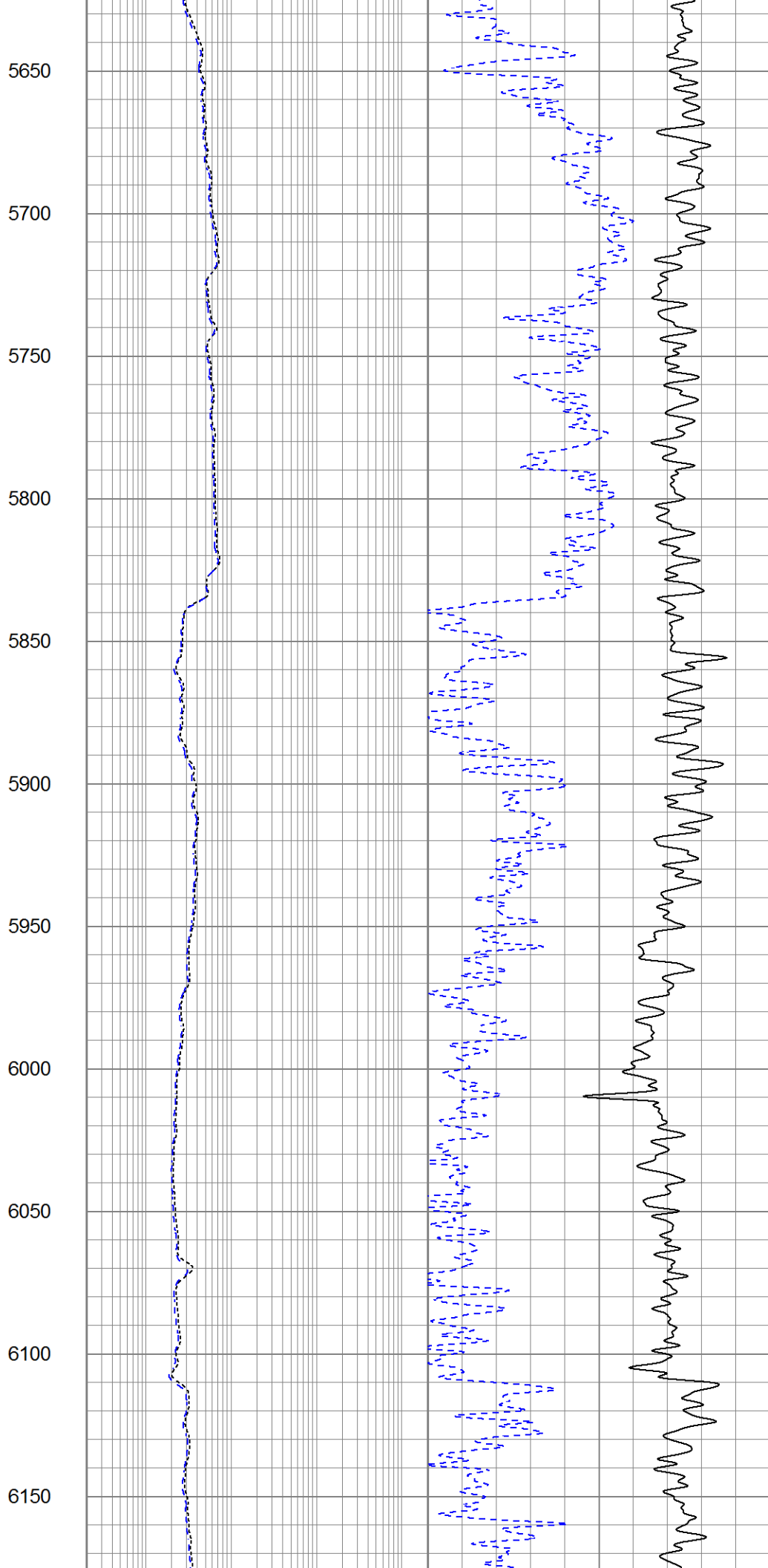
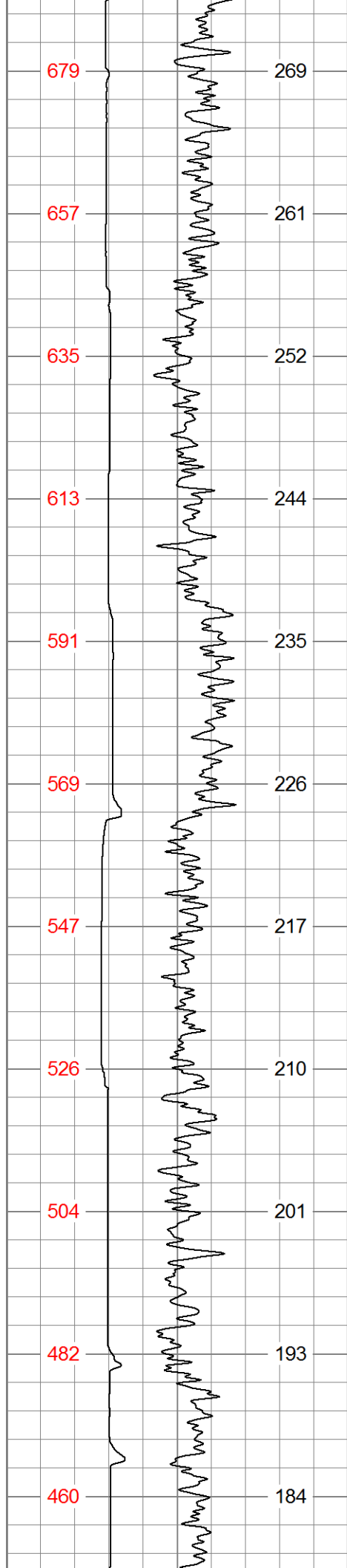


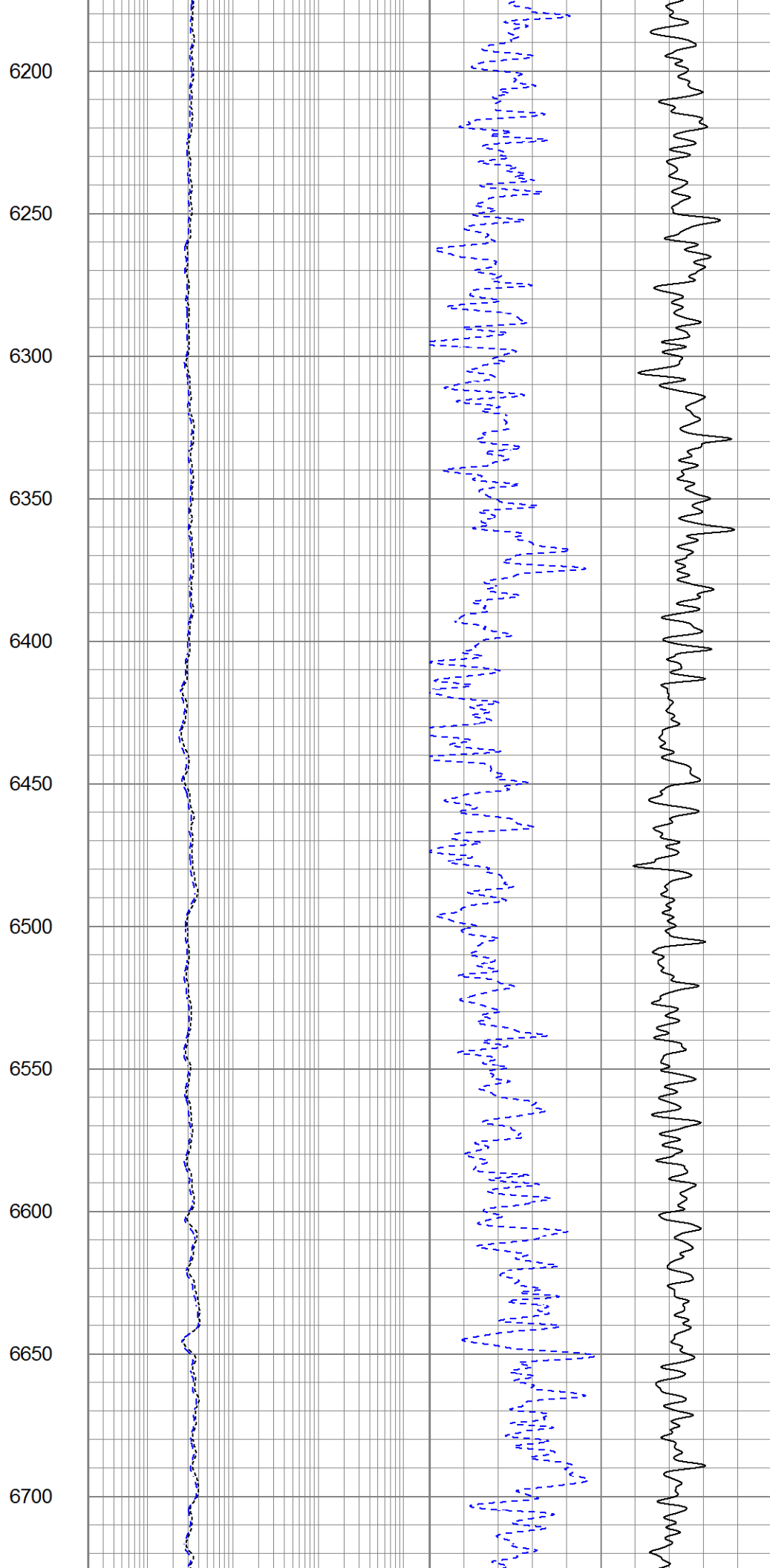
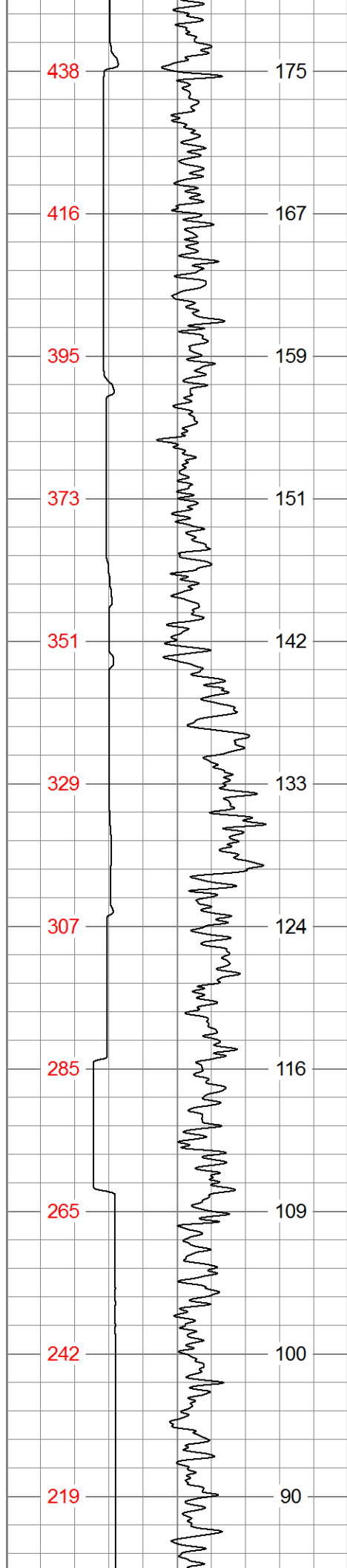


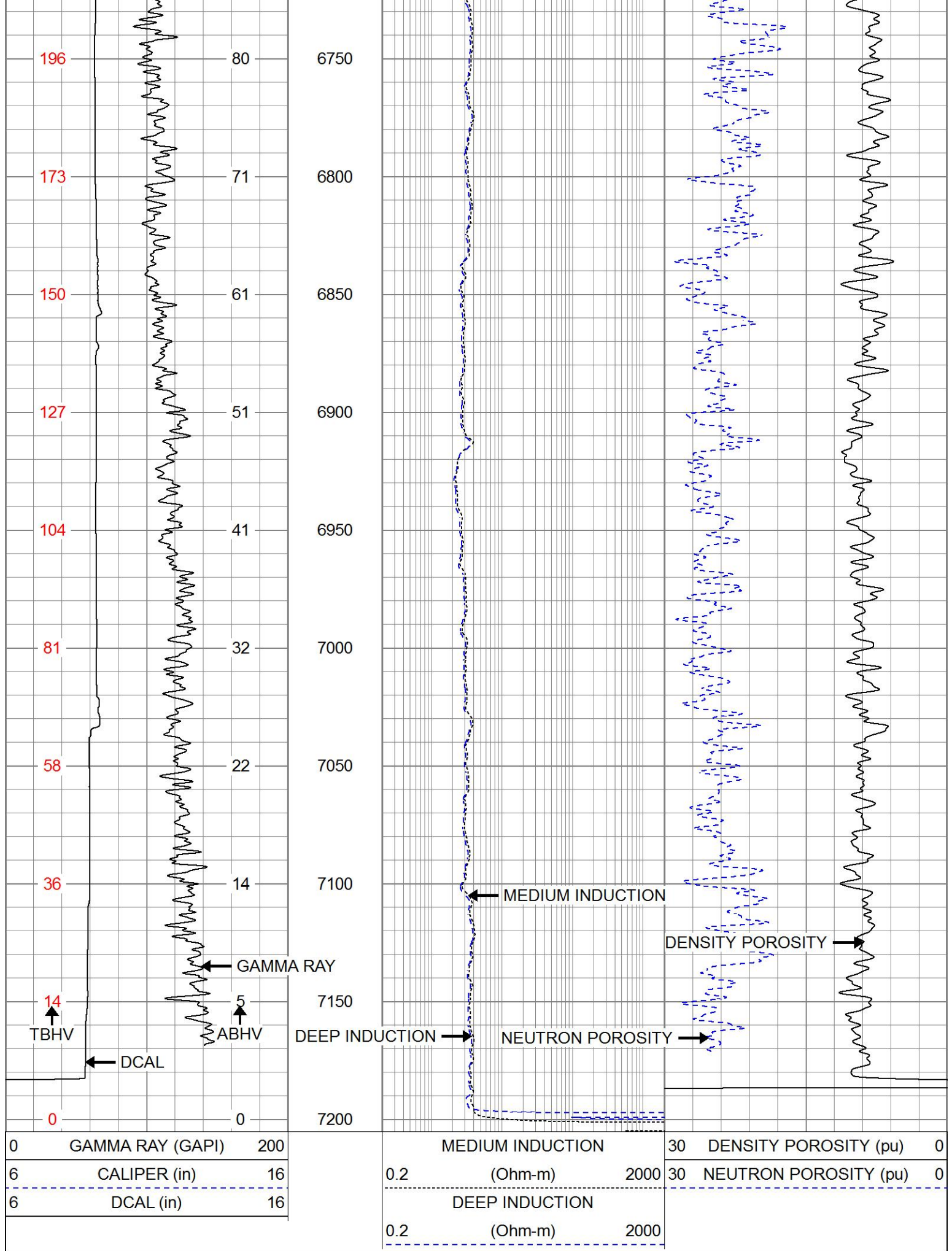








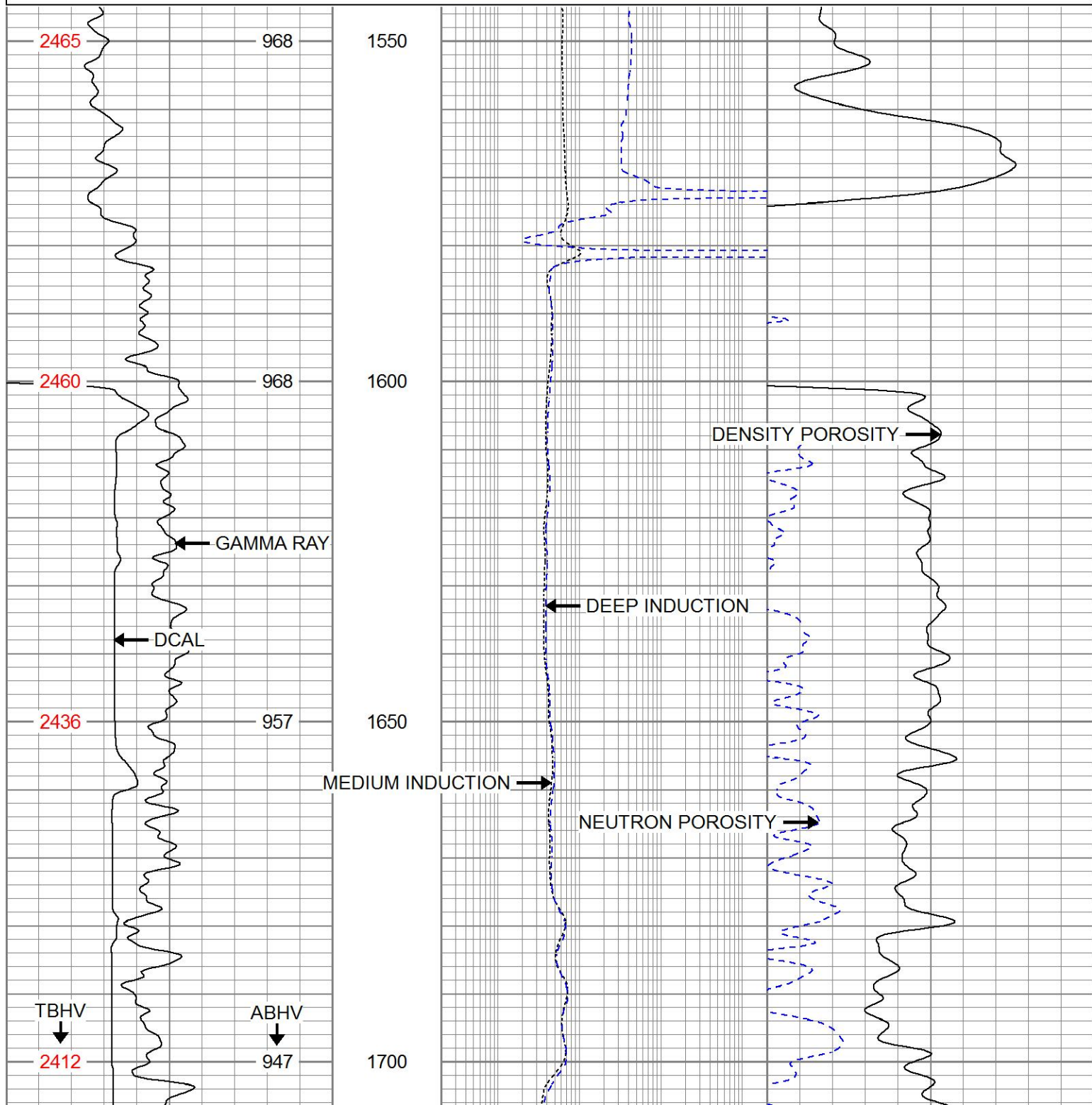


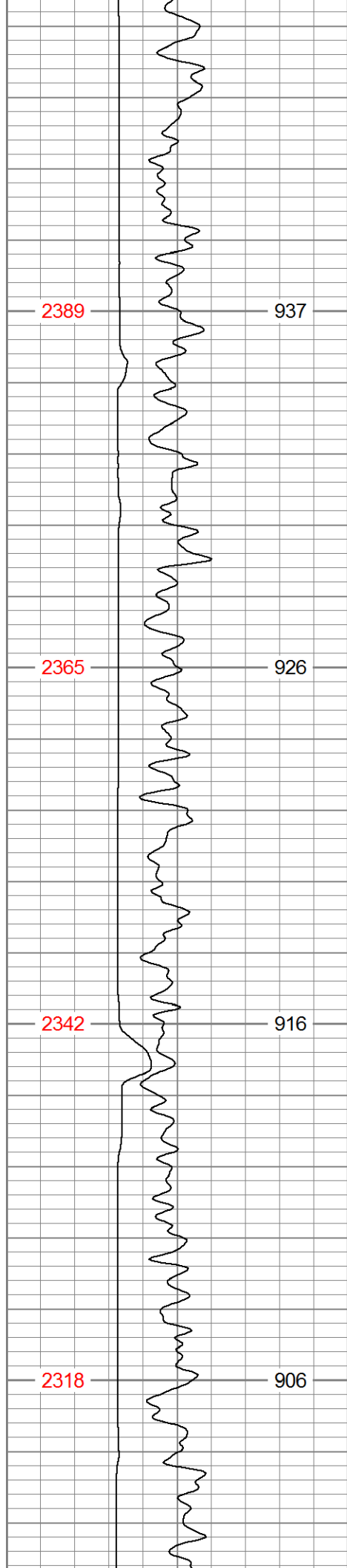


MAIN PASS

Database File extraction_johnsontrust_5.db
 Dataset Pathname stack/pass3.1
 Presentation Format split
 Dataset Creation Thu Jan 28 17:51:40 2016
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	200		MEDIUM INDUCTION	30	DENSITY POROSITY (pu)	0	
6	CALIPER (in)	16		0.2 (Ohm-m)	2000	30	NEUTRON POROSITY (pu)	0
6	DCAL (in)	16		DEEP INDUCTION				
				0.2 (Ohm-m)	2000			



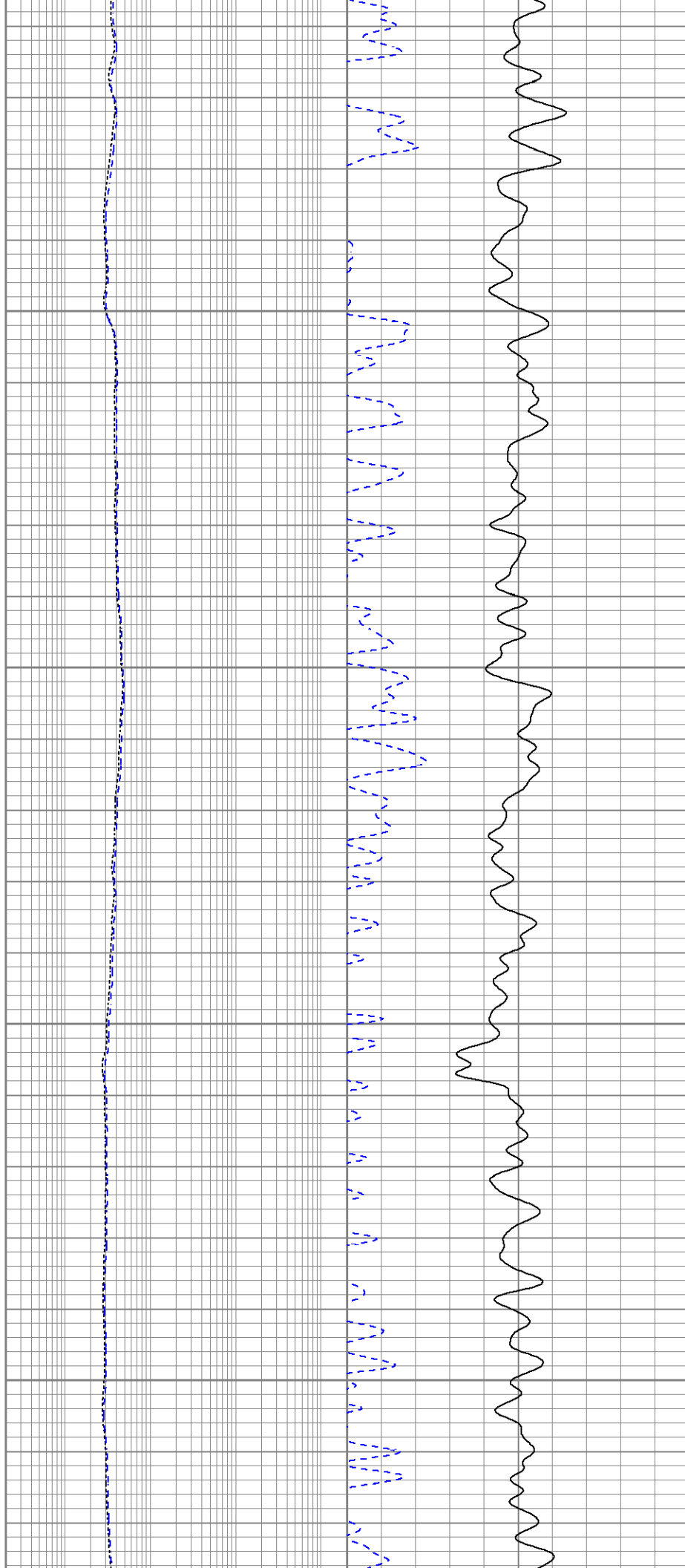


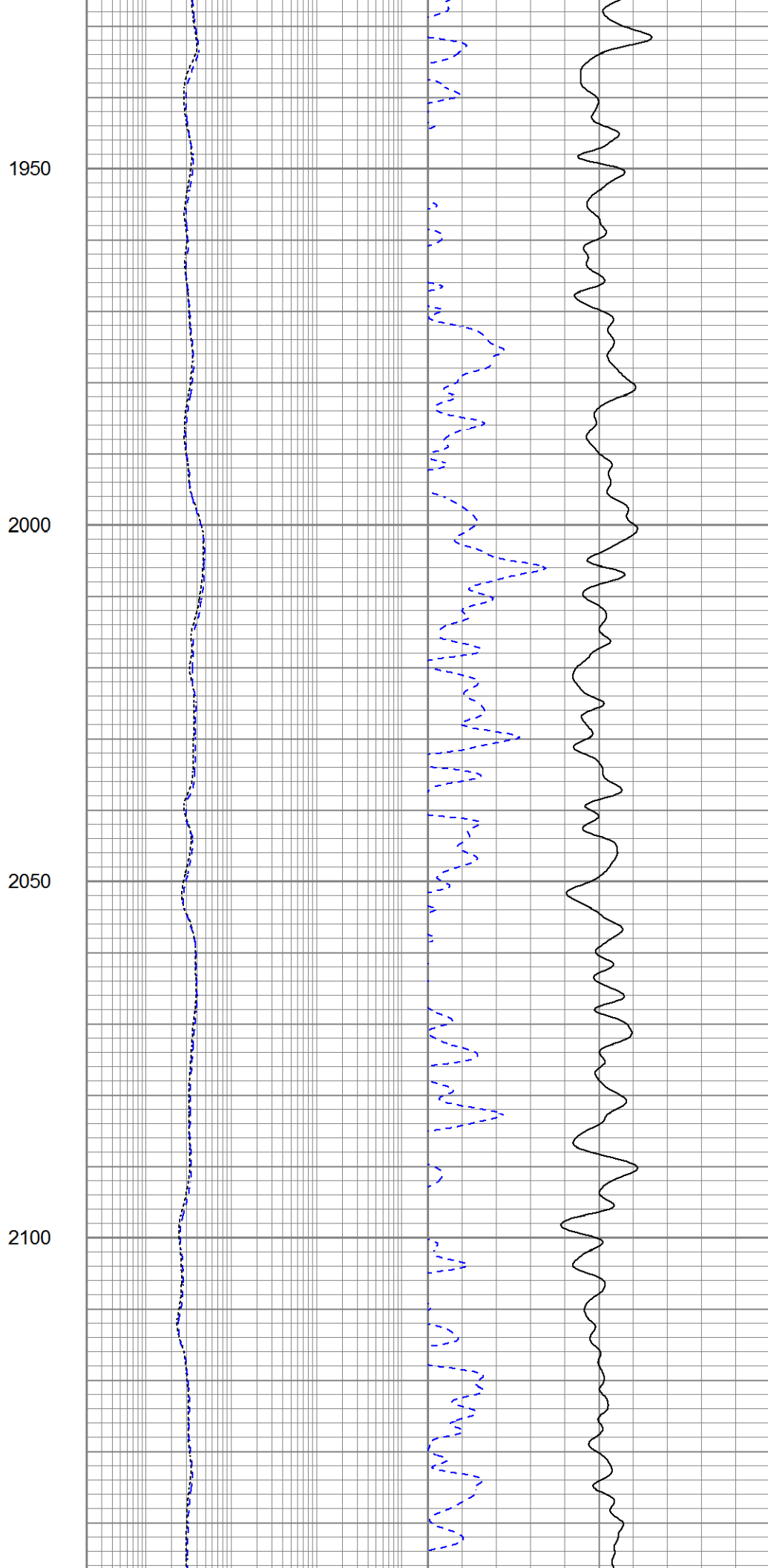
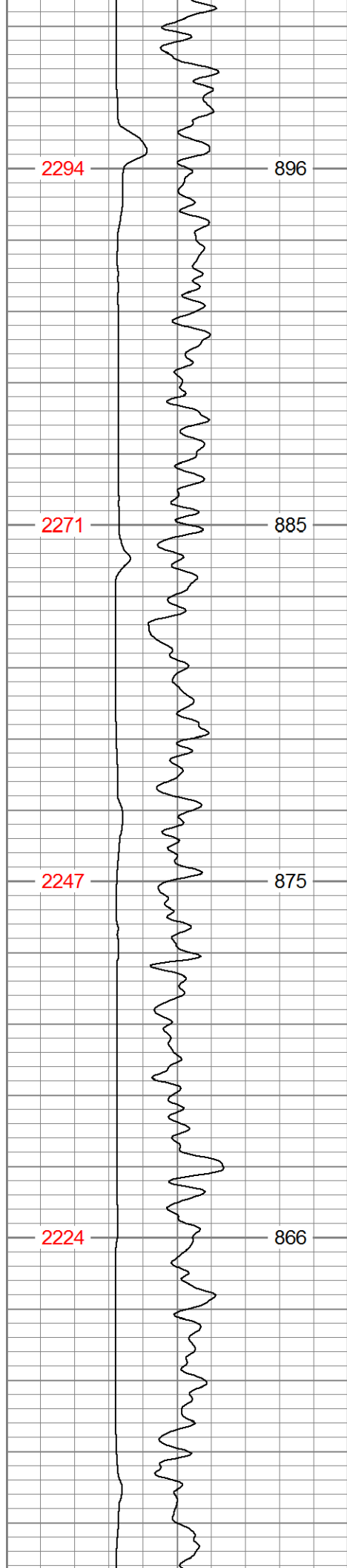
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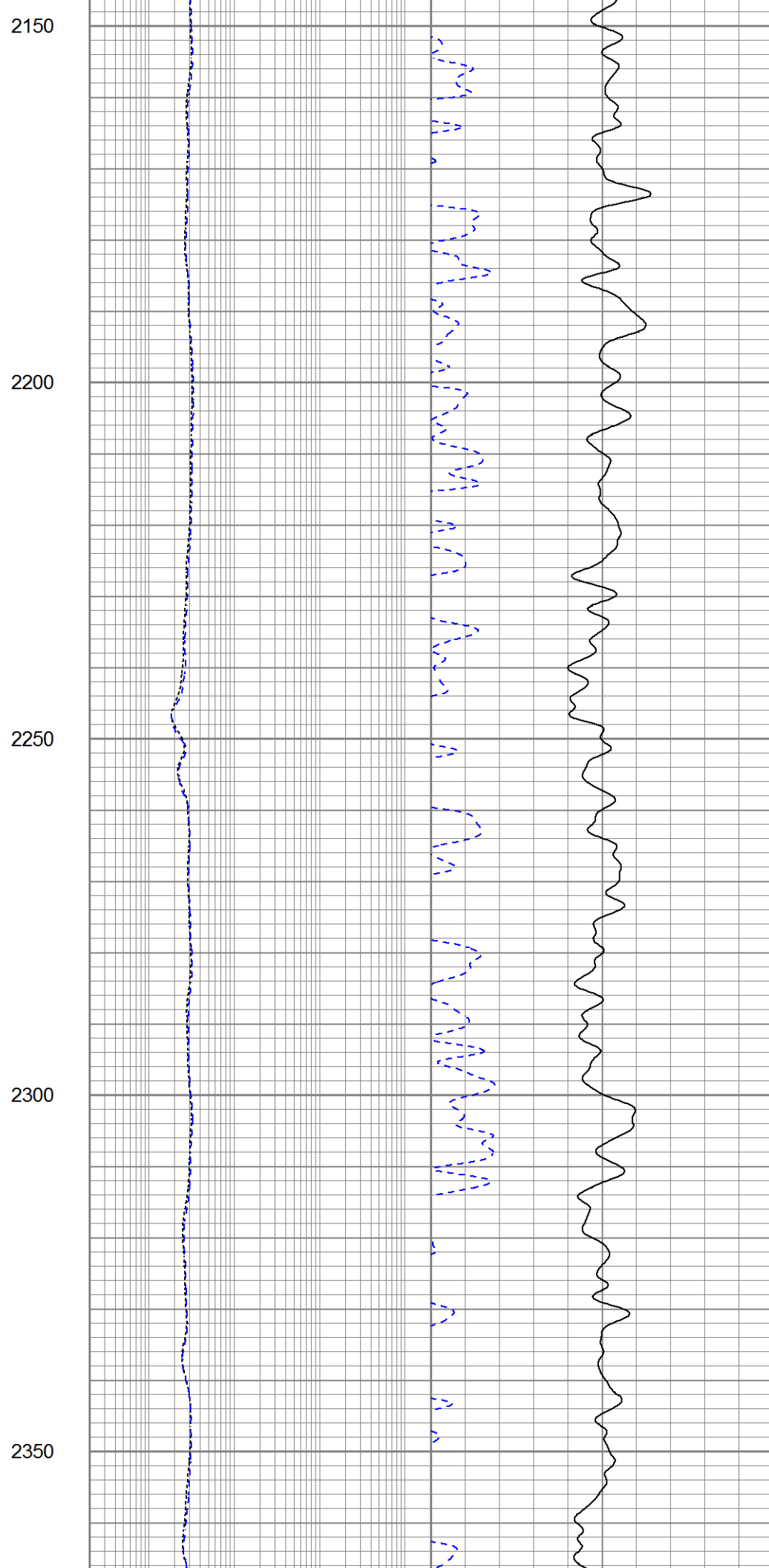
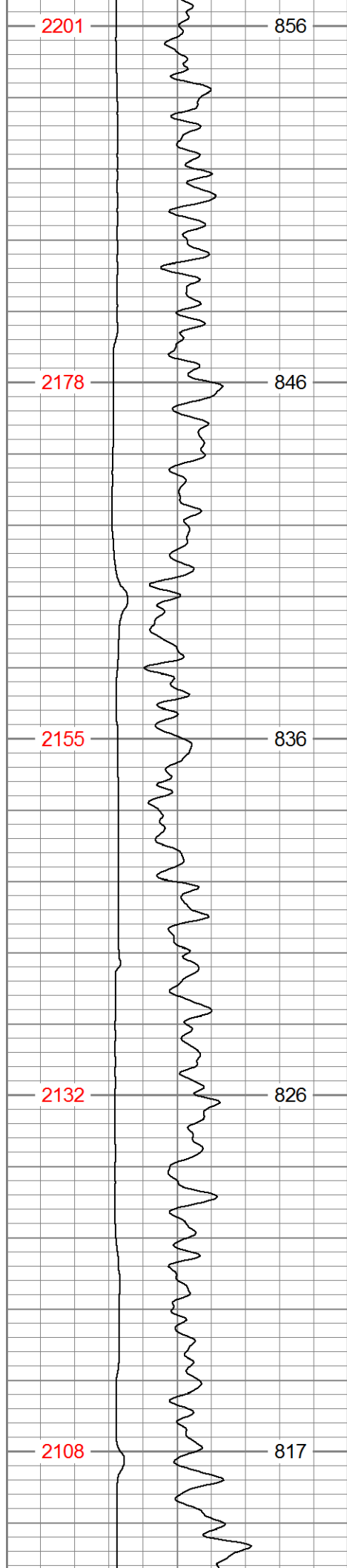
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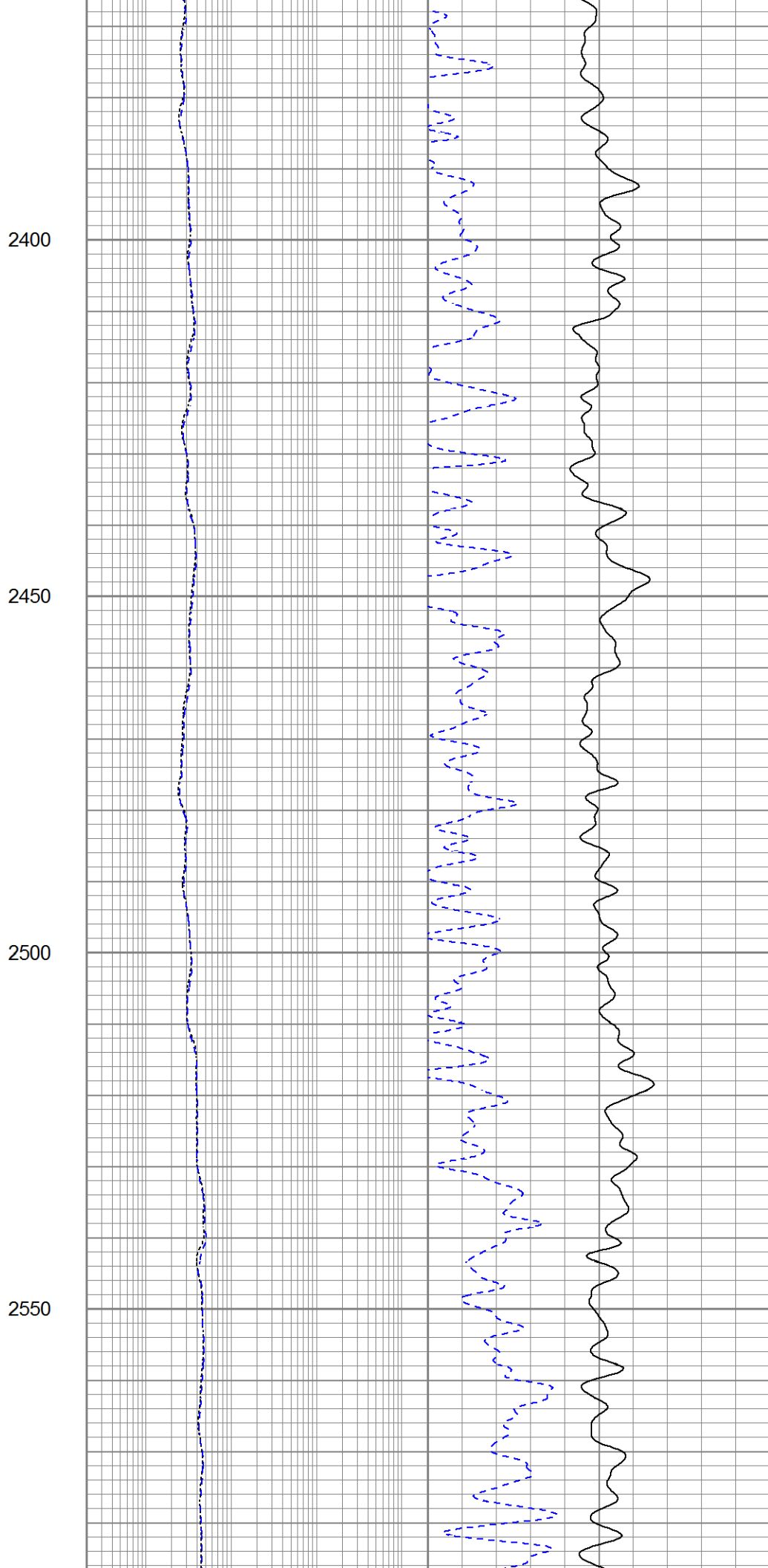
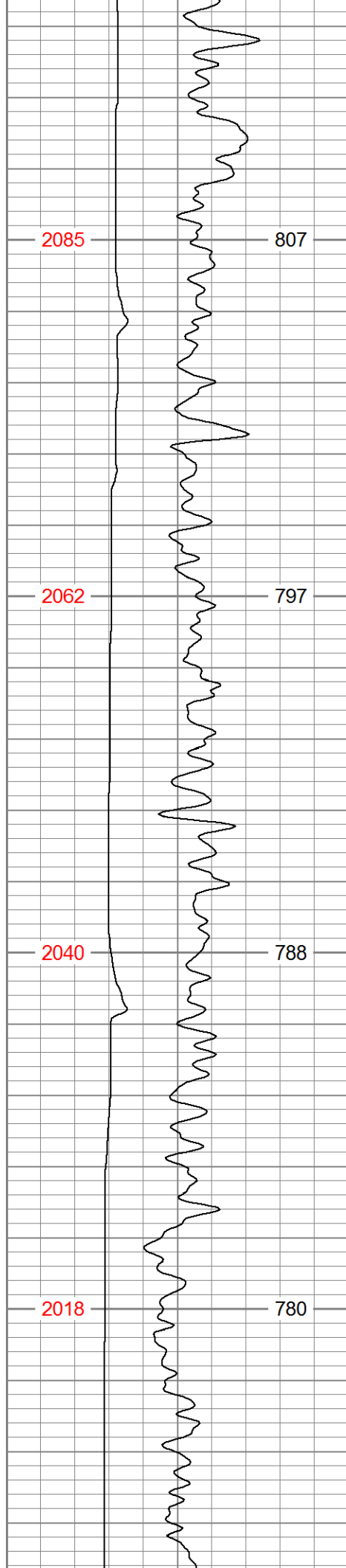
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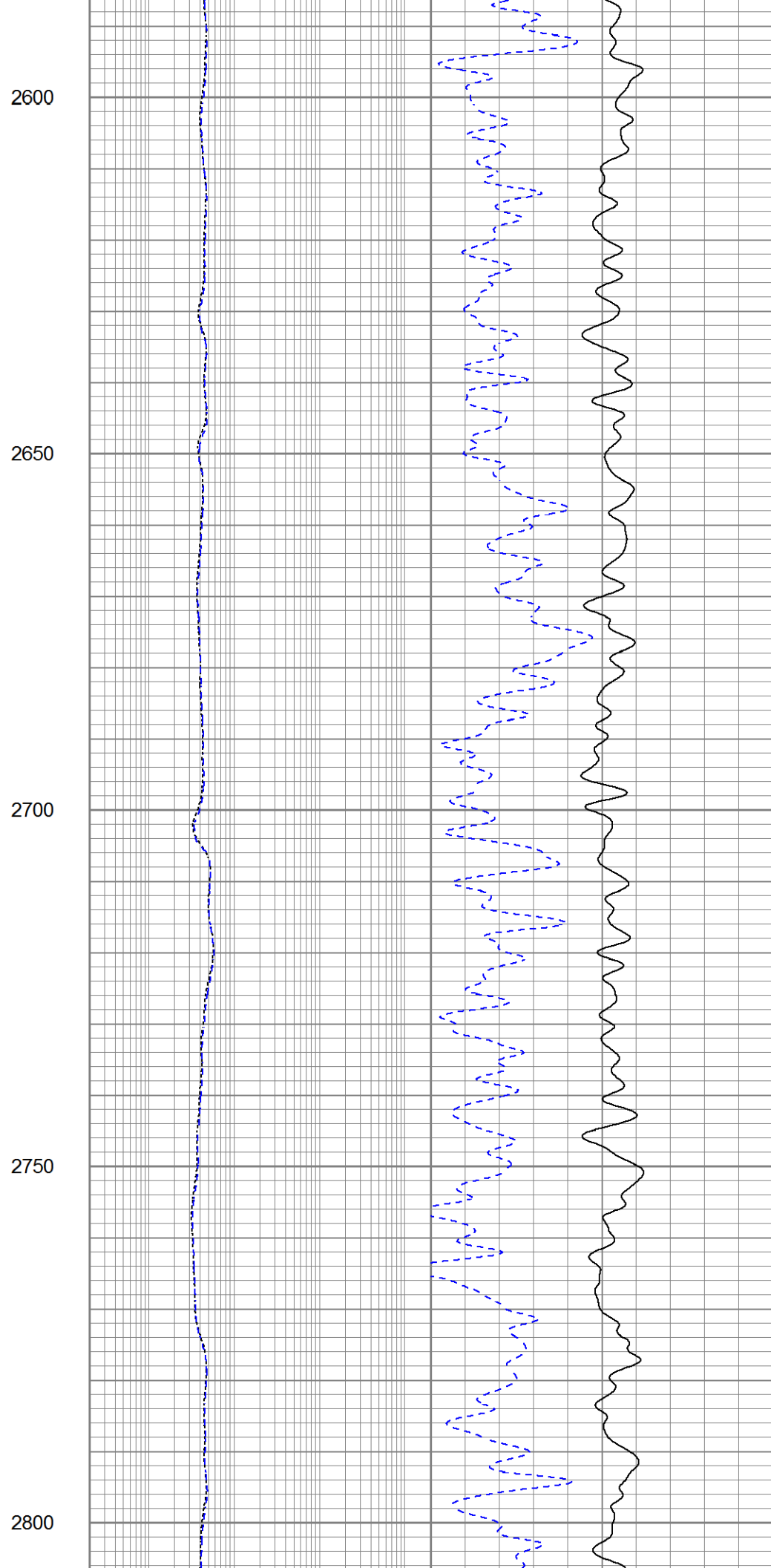
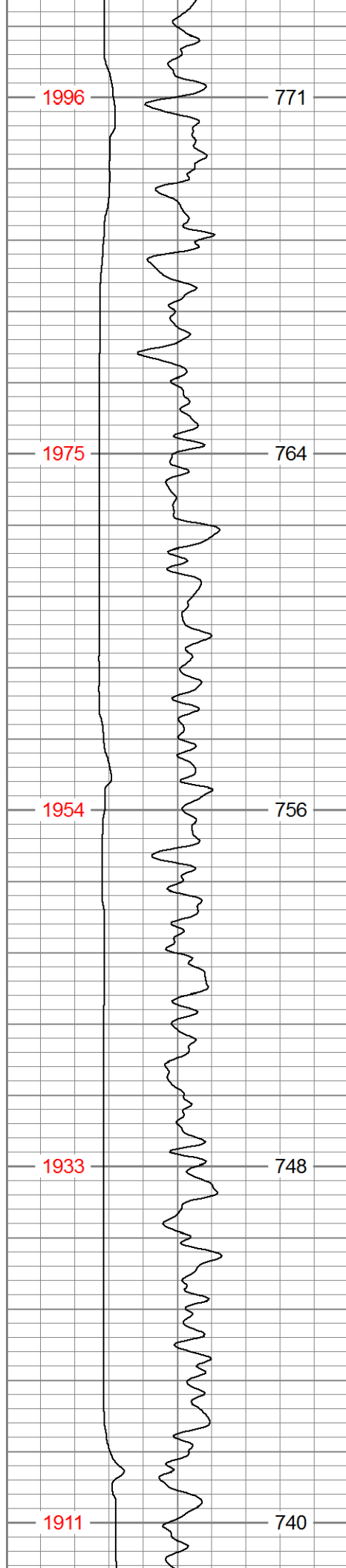
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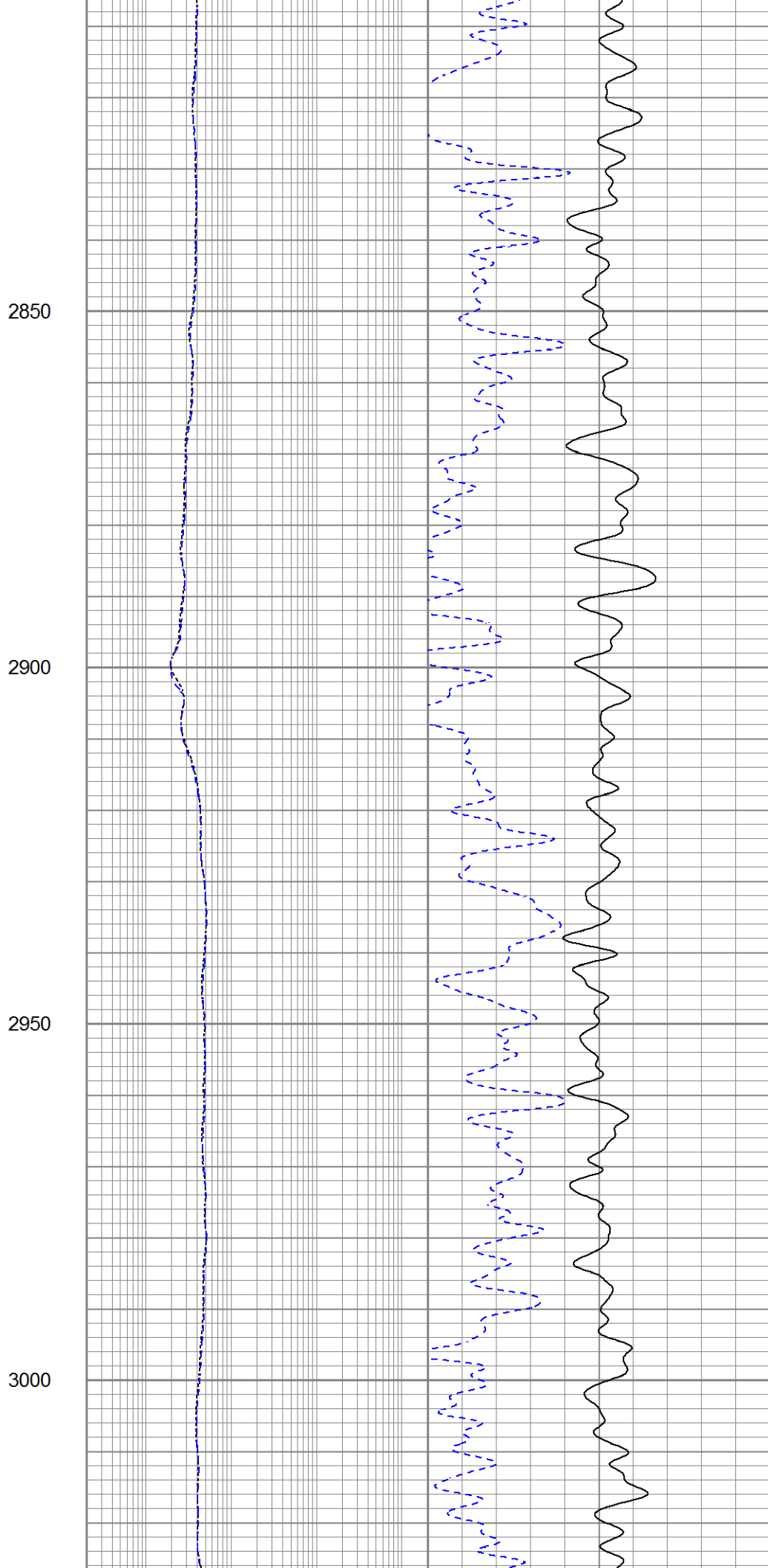
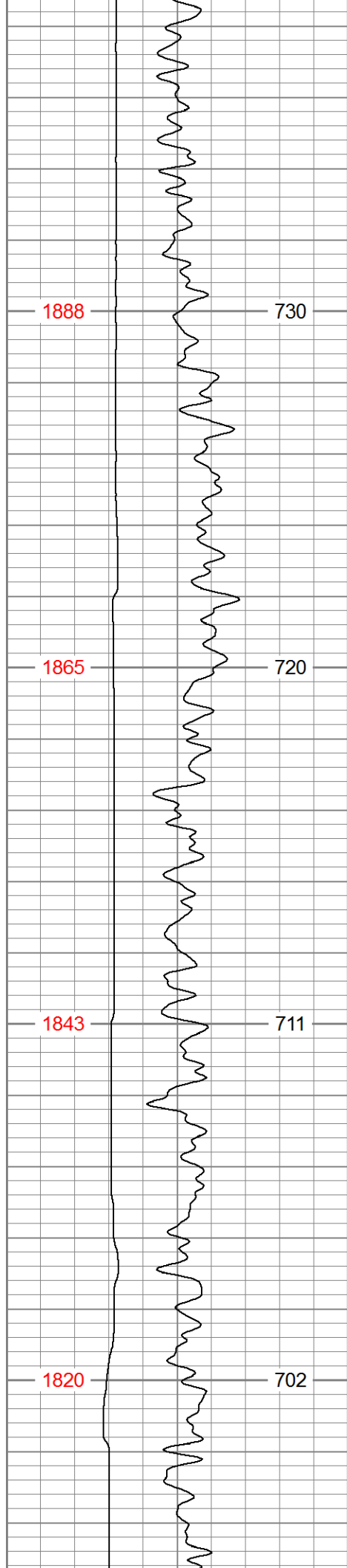


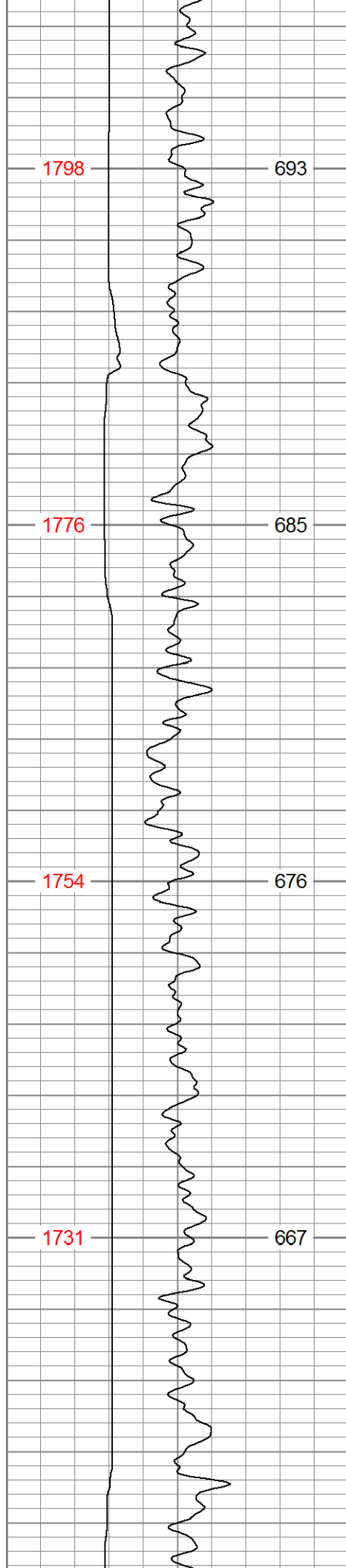










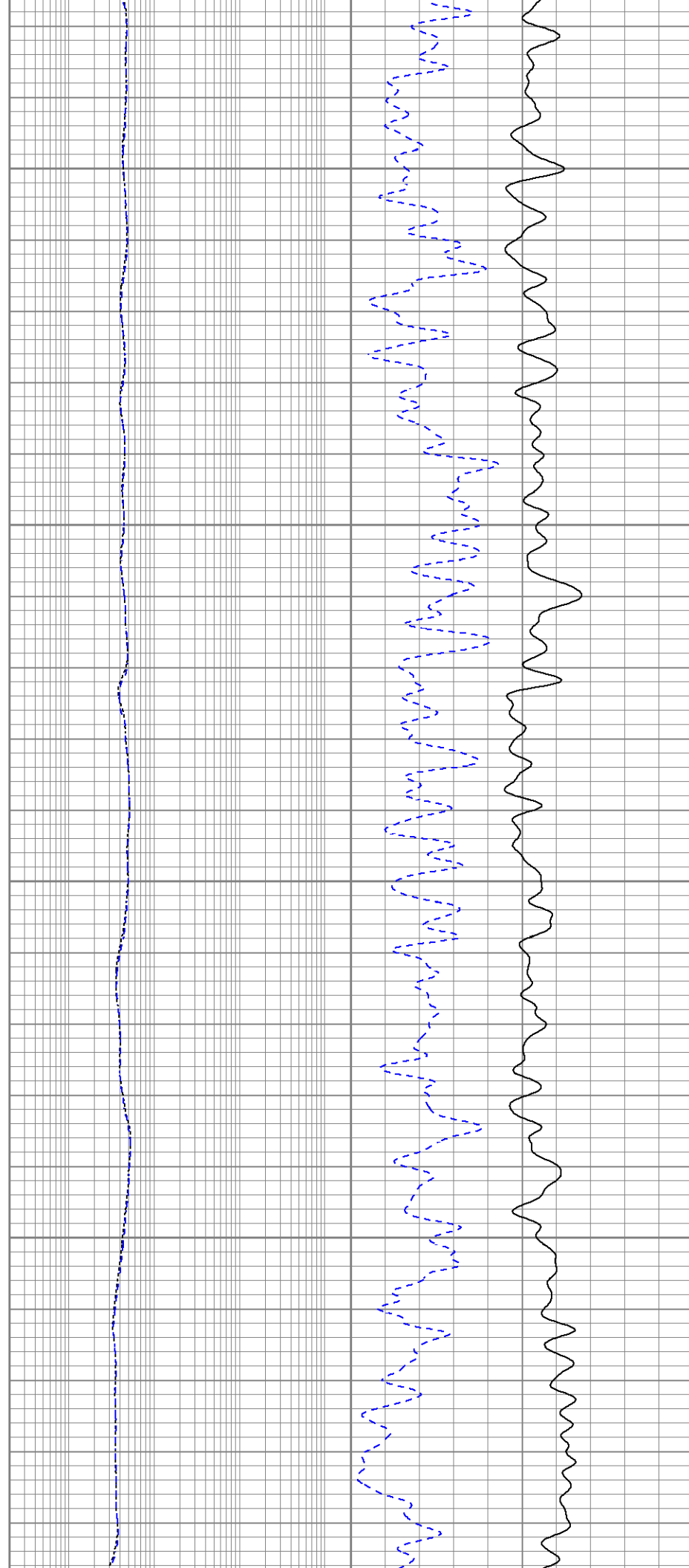


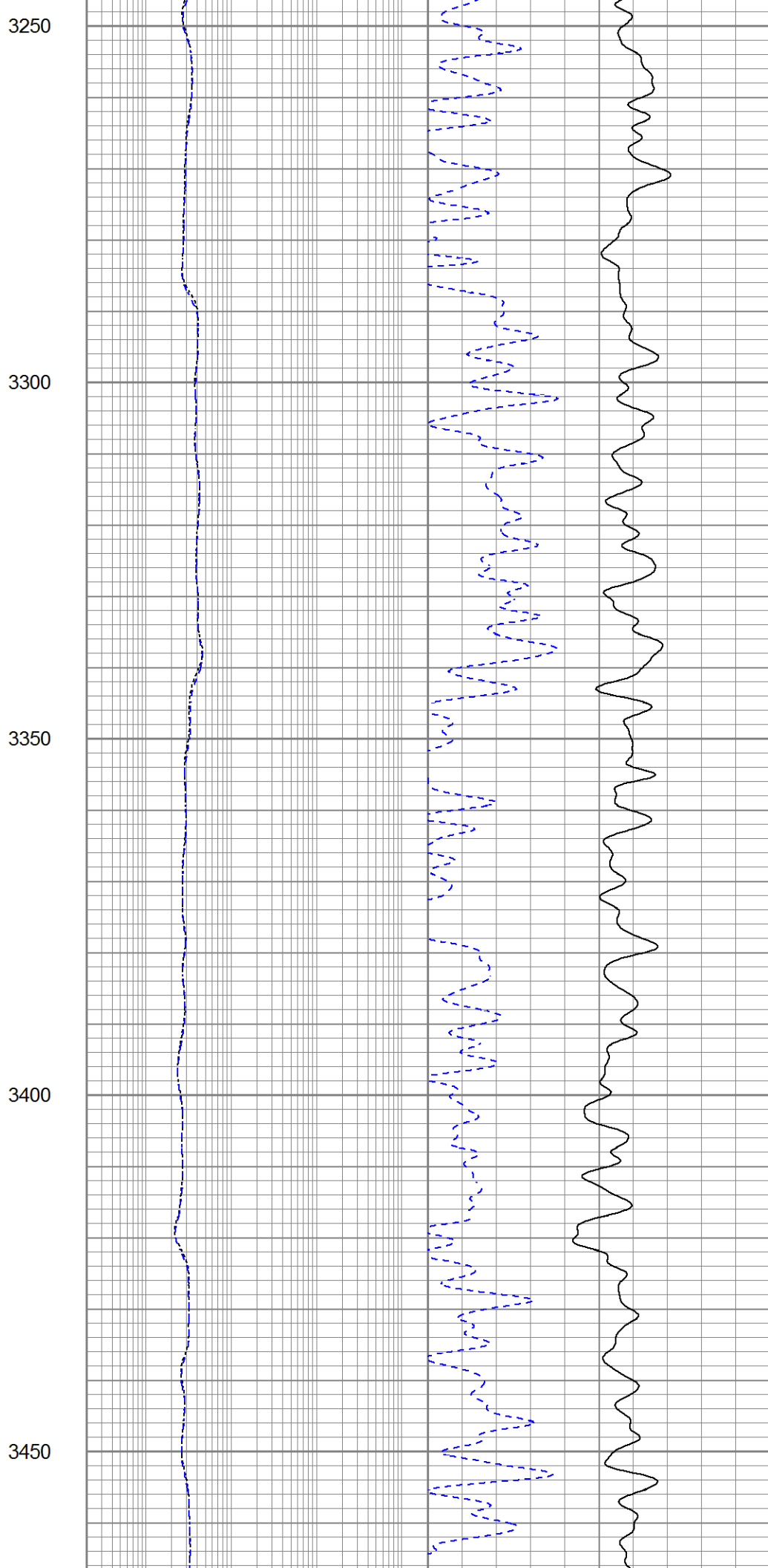
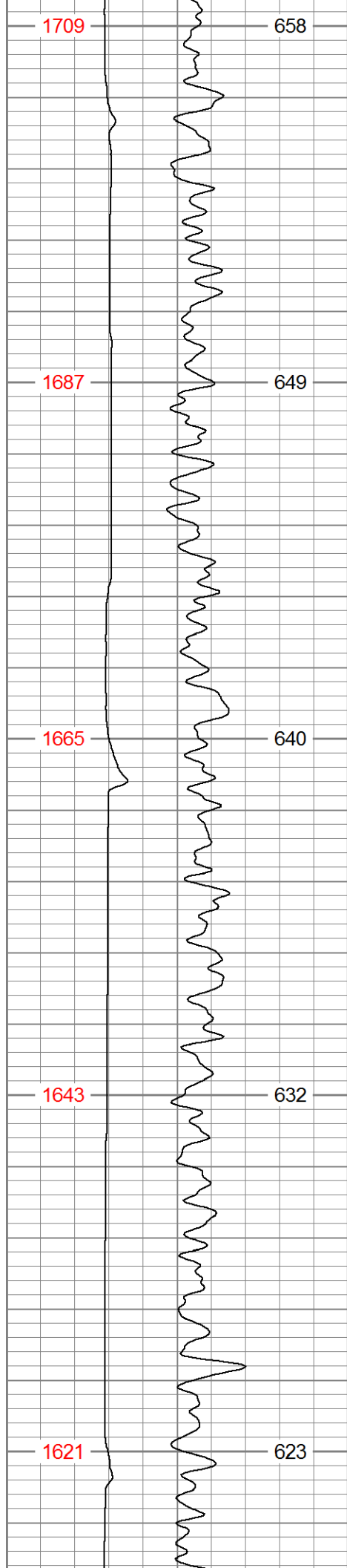
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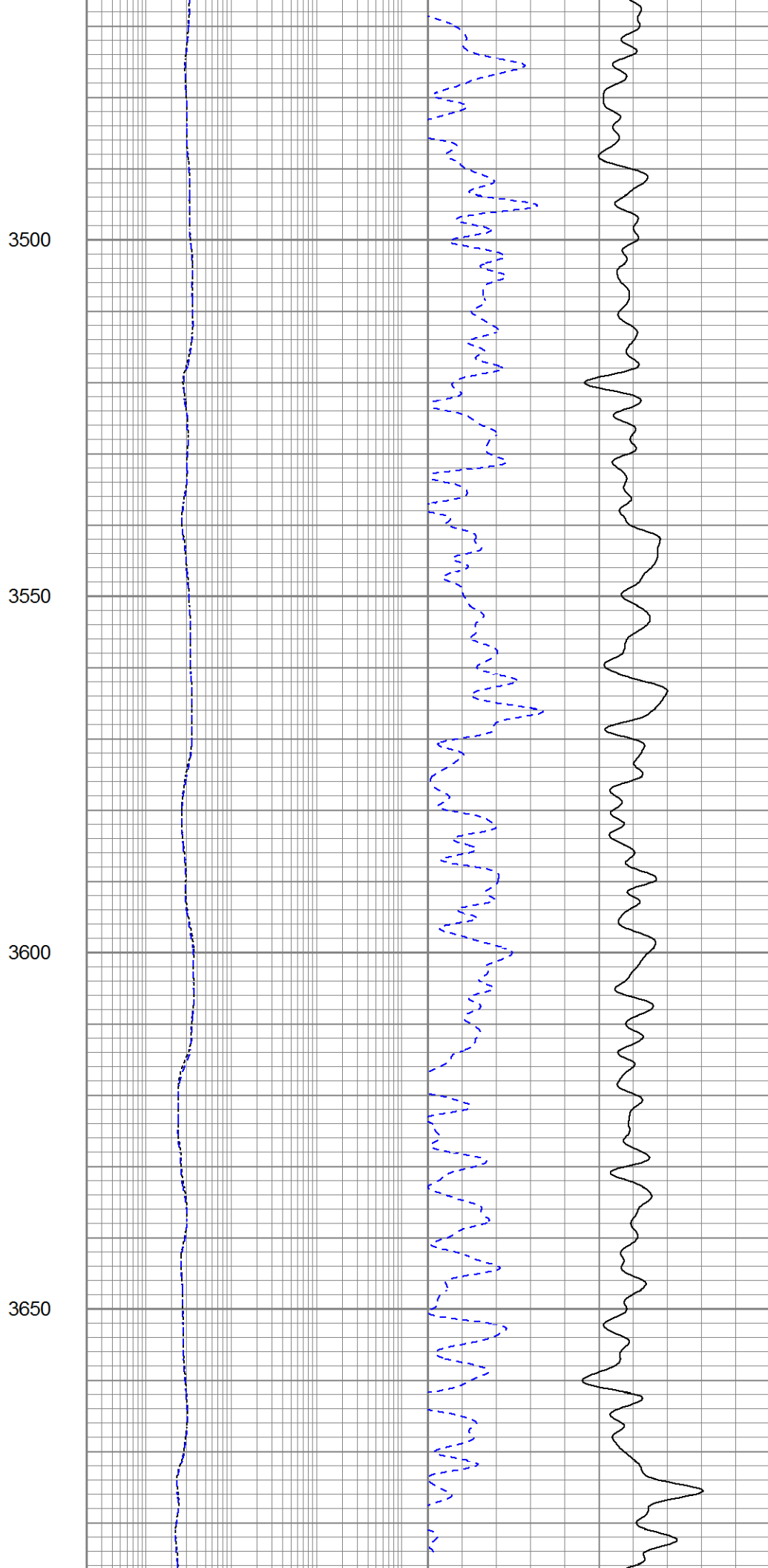
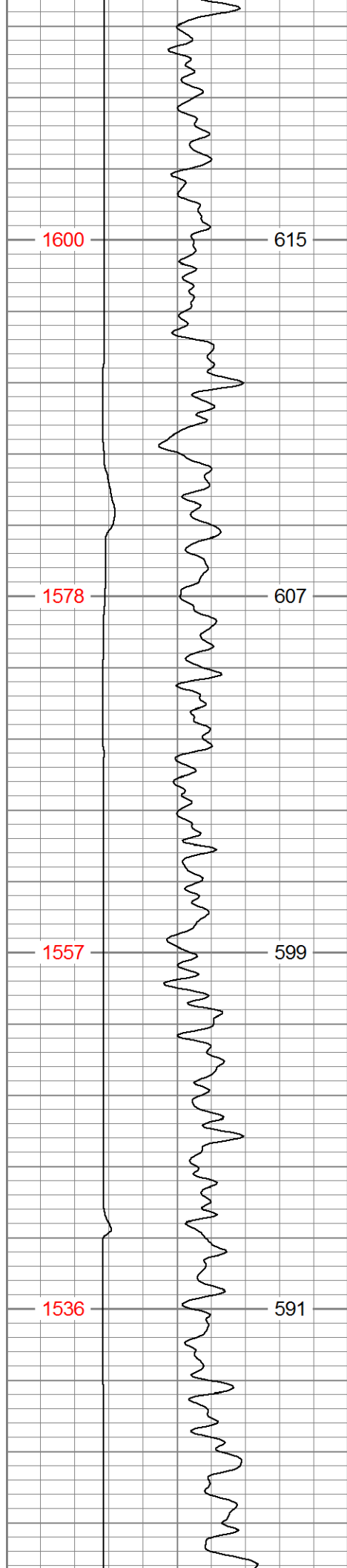
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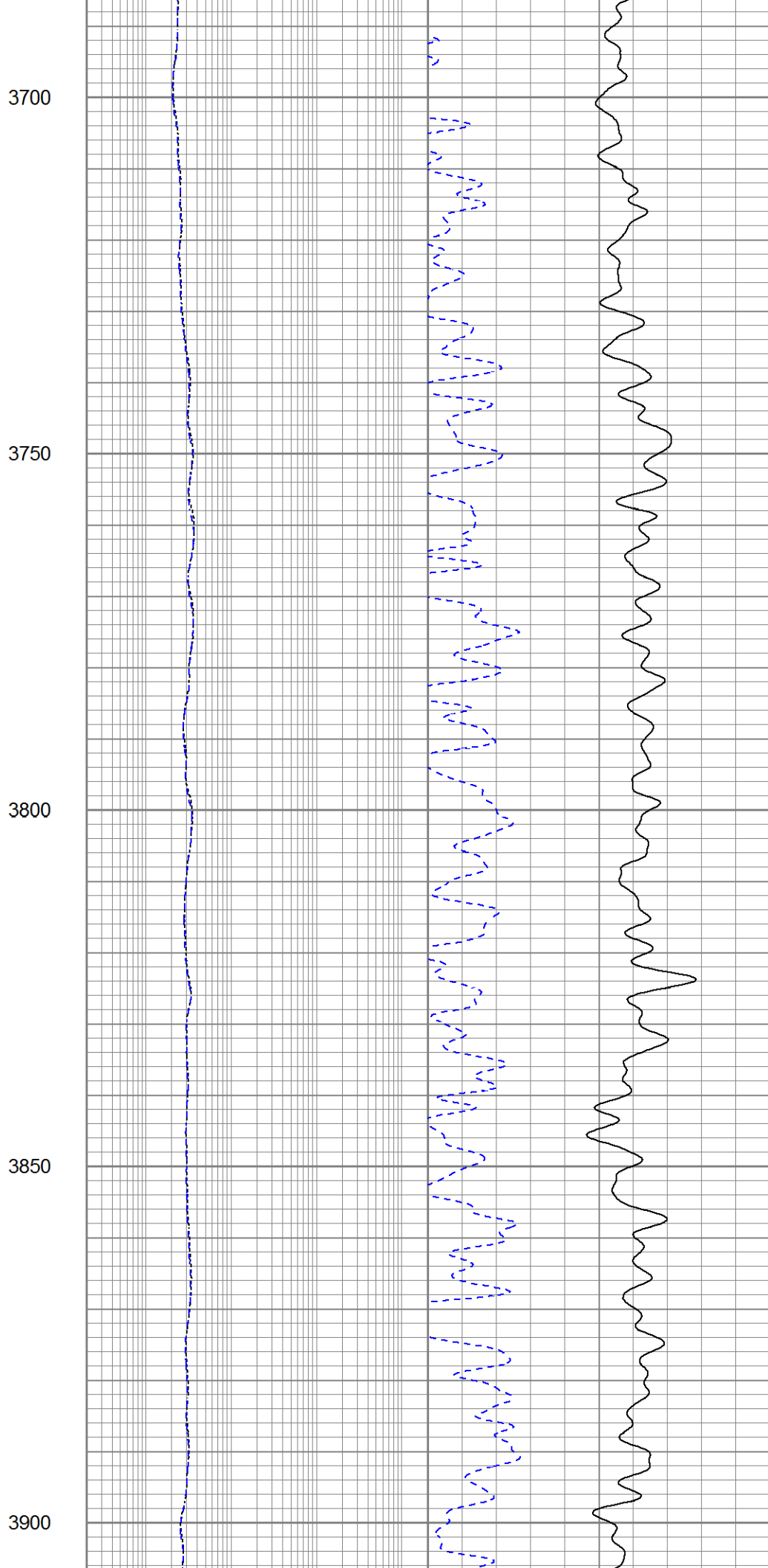
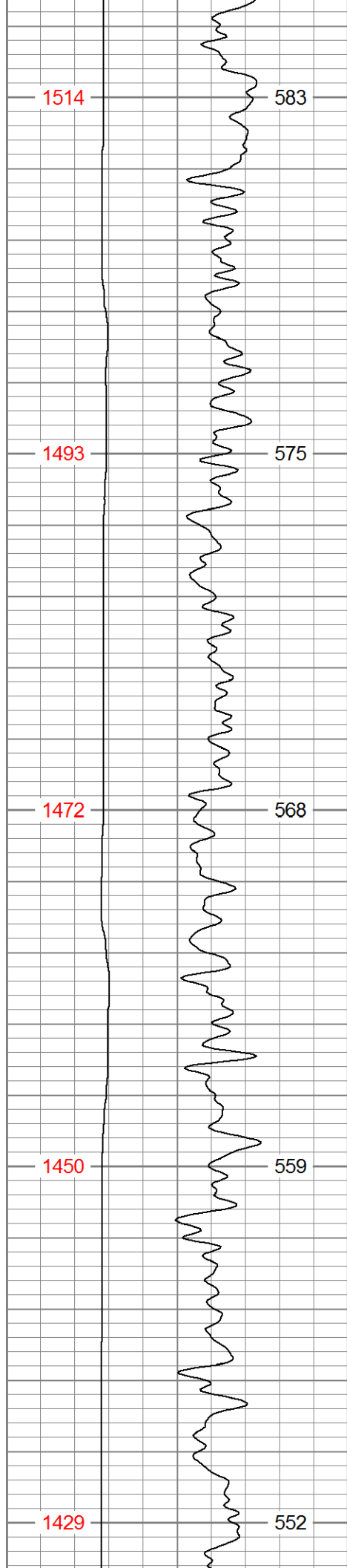
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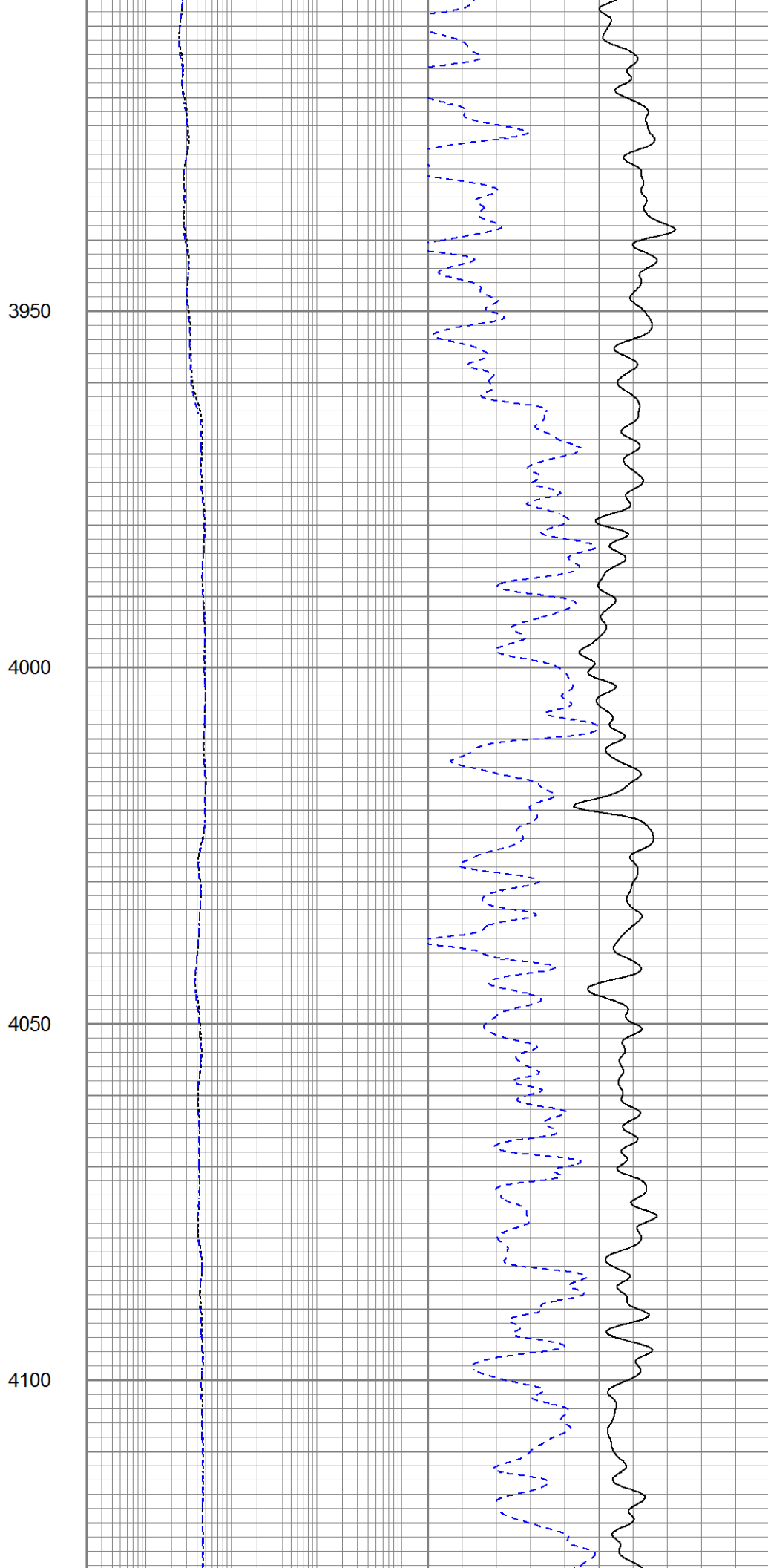
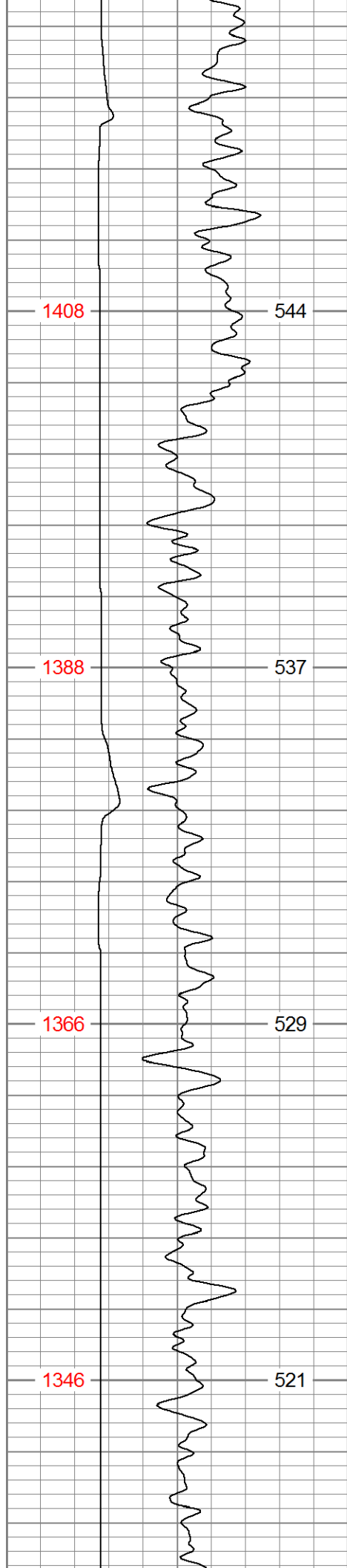
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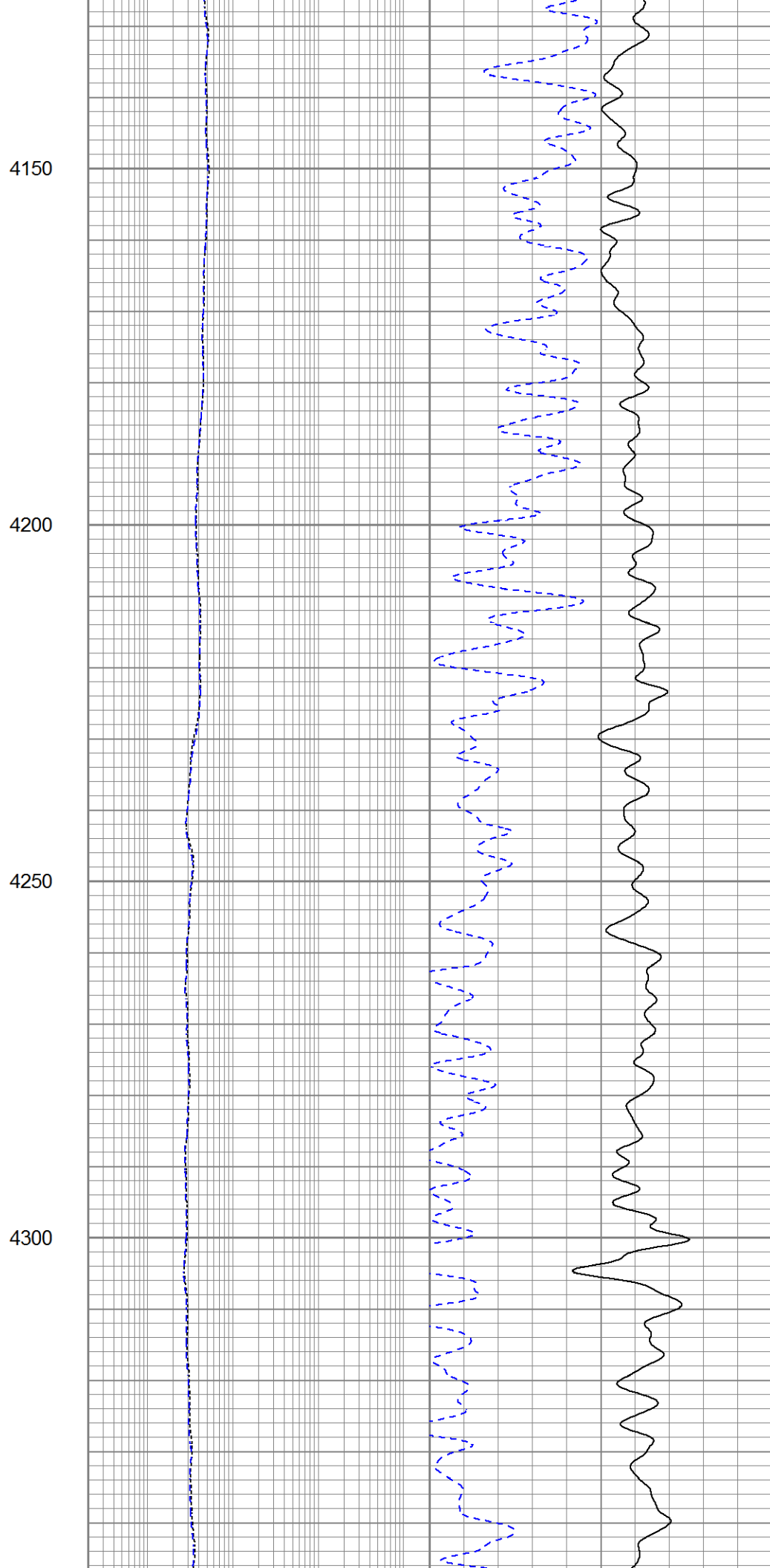
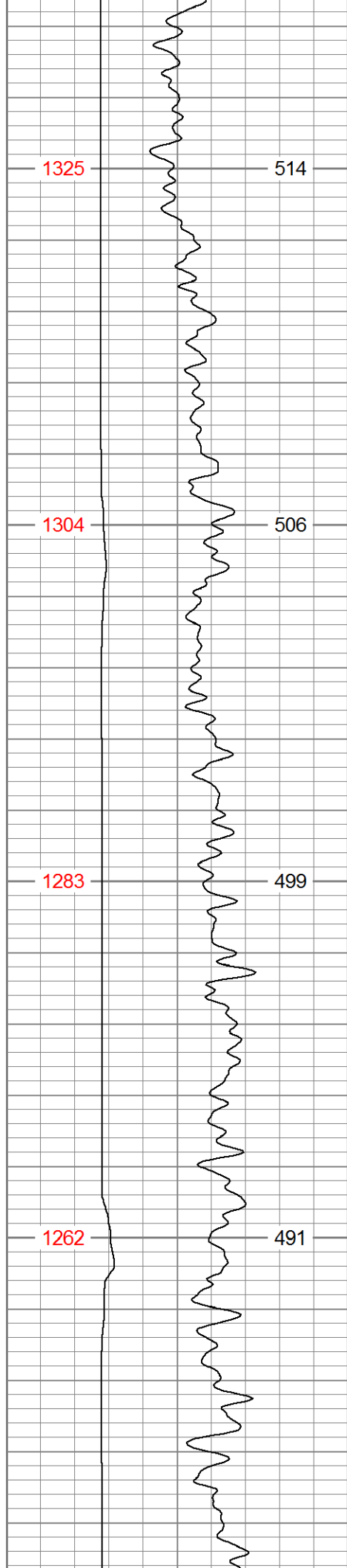


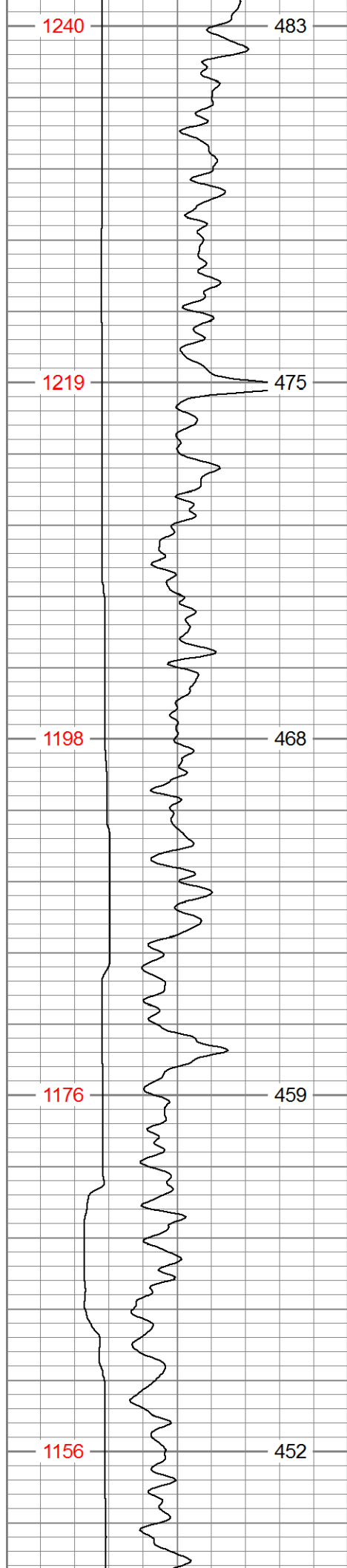












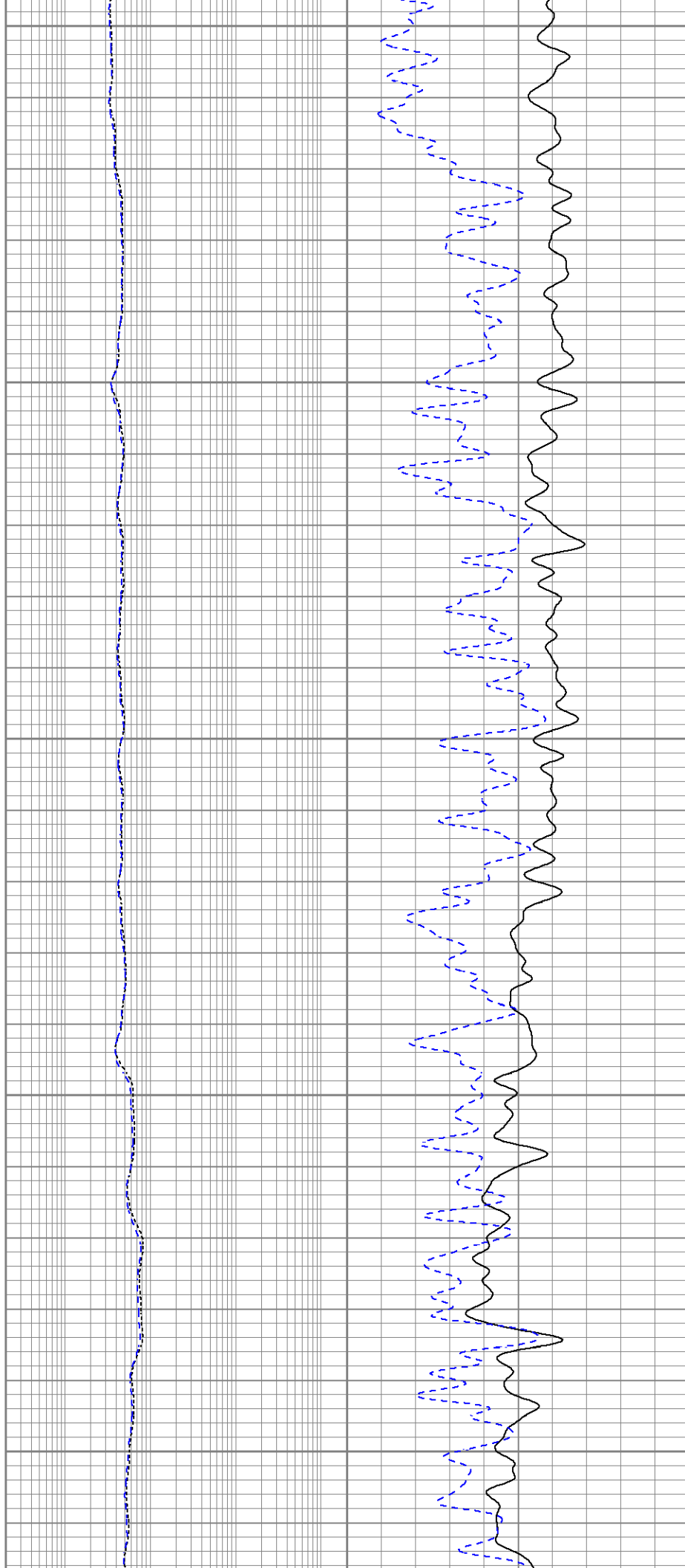
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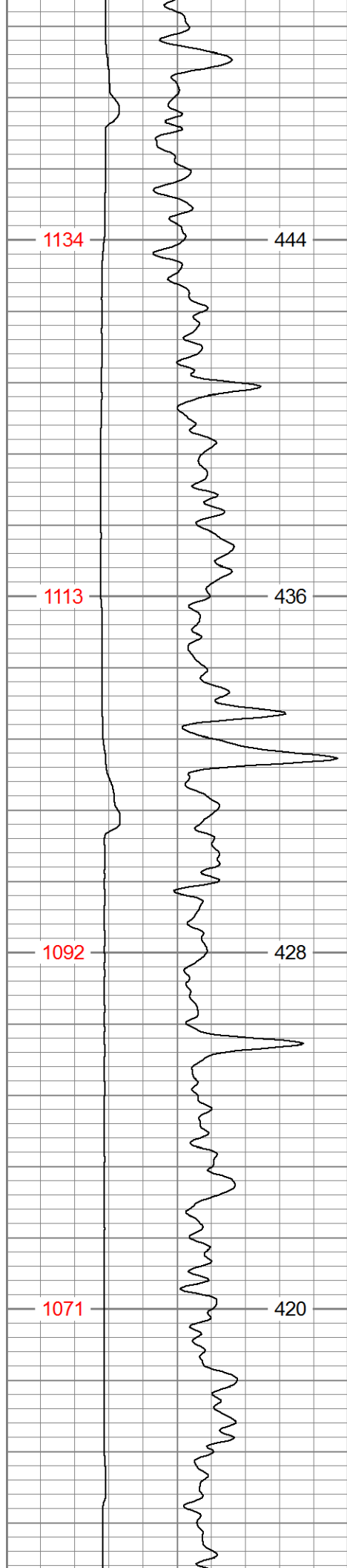
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4450

4500

4550



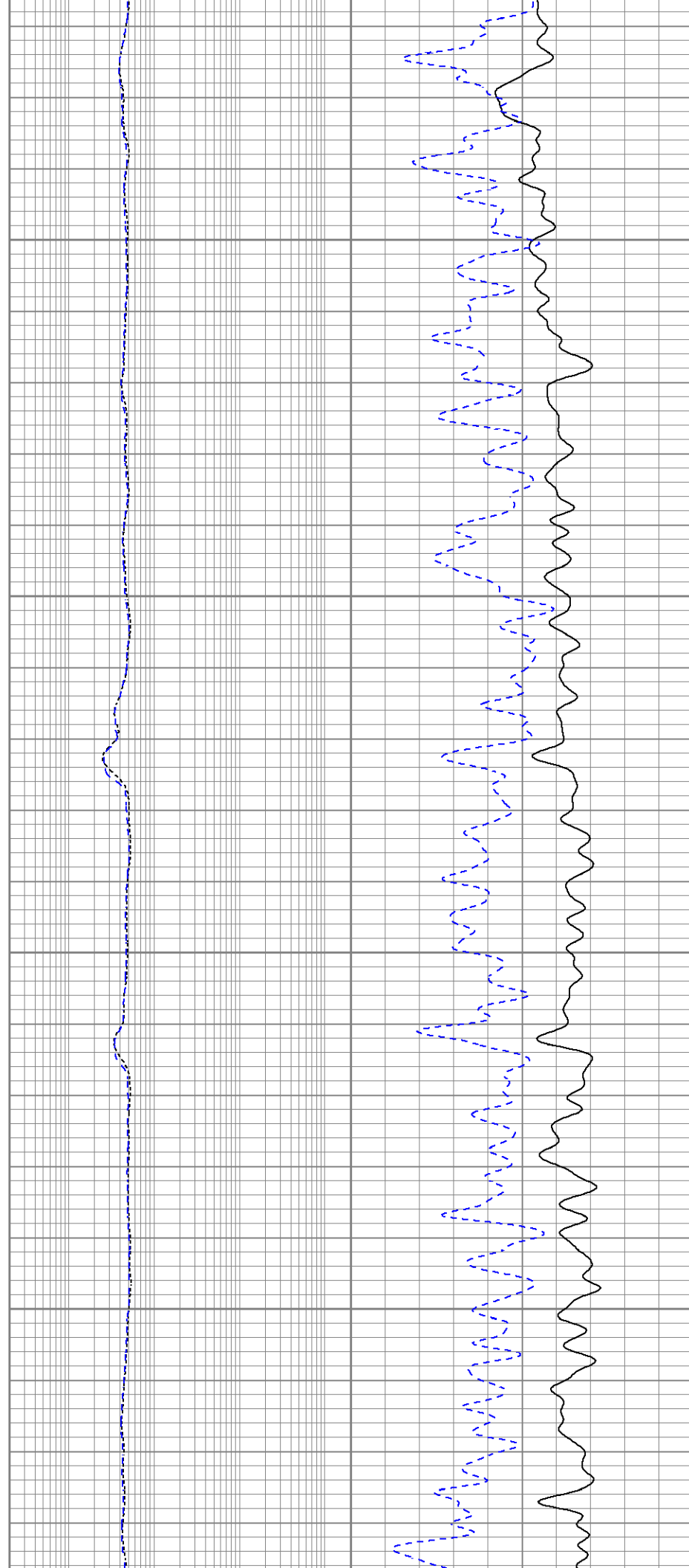


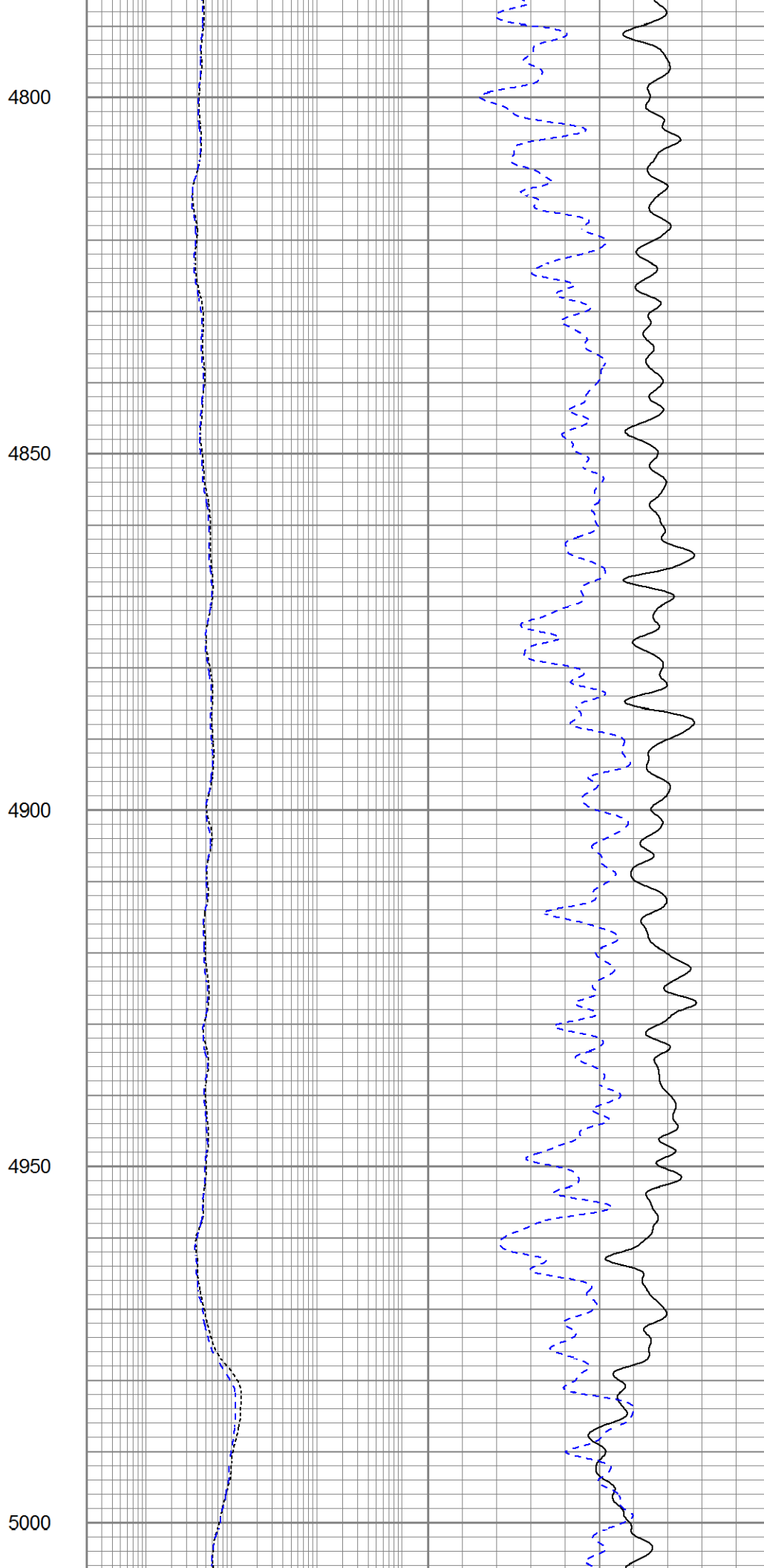
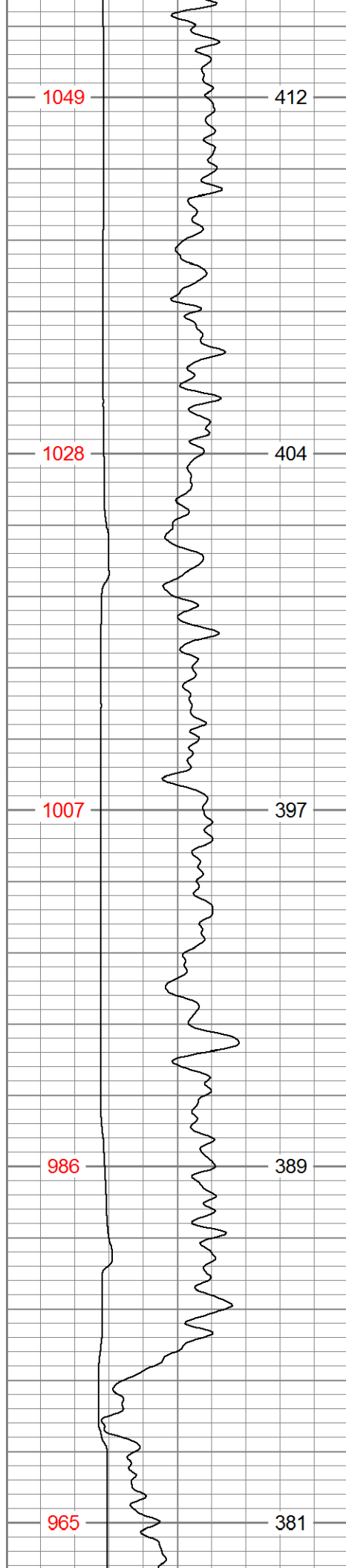
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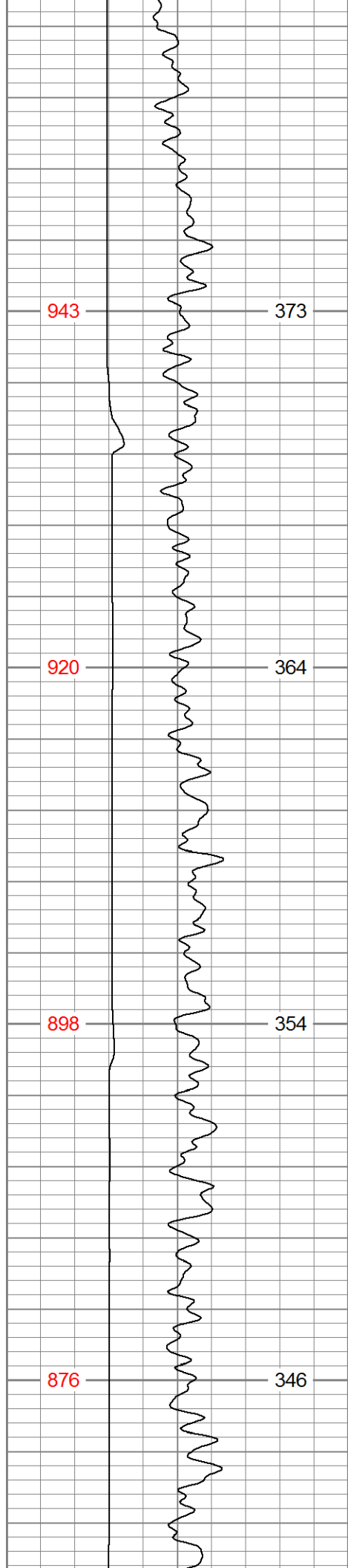
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4750





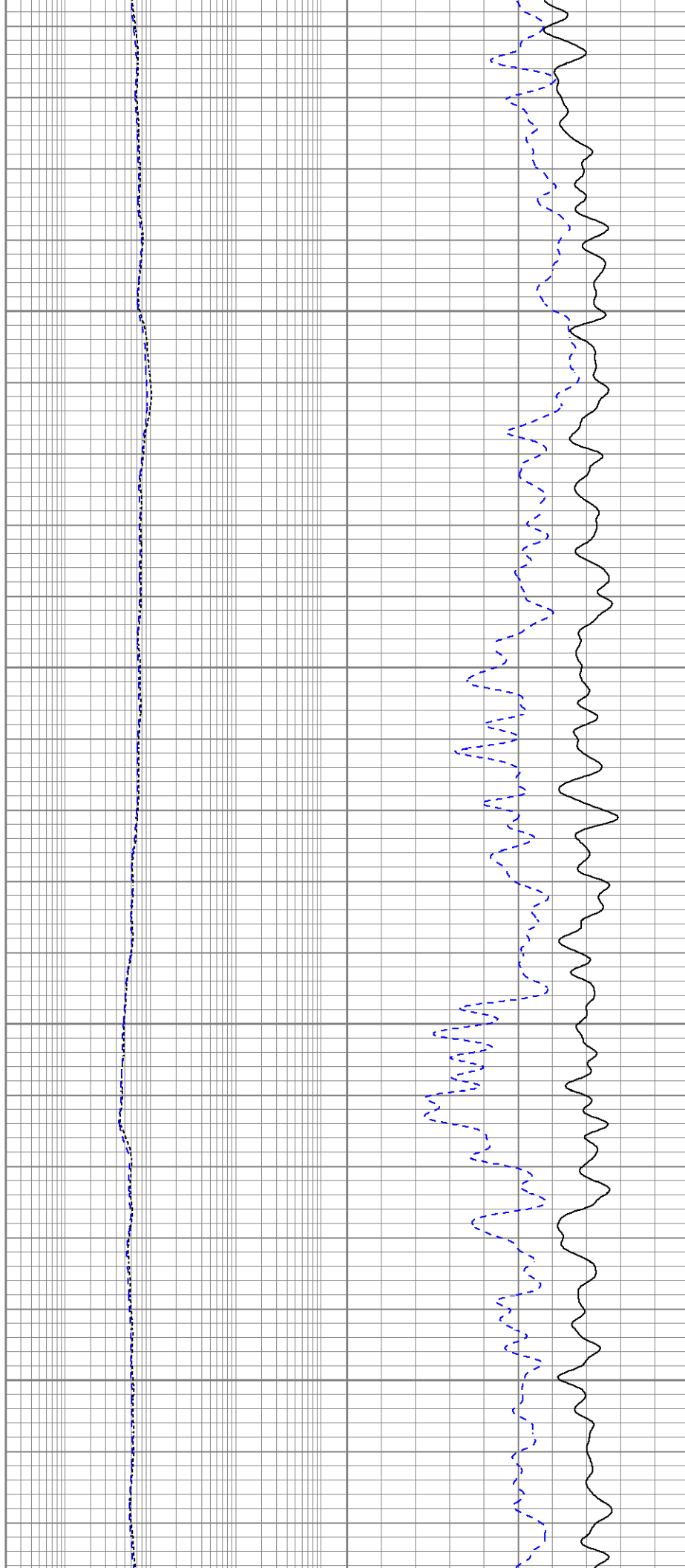


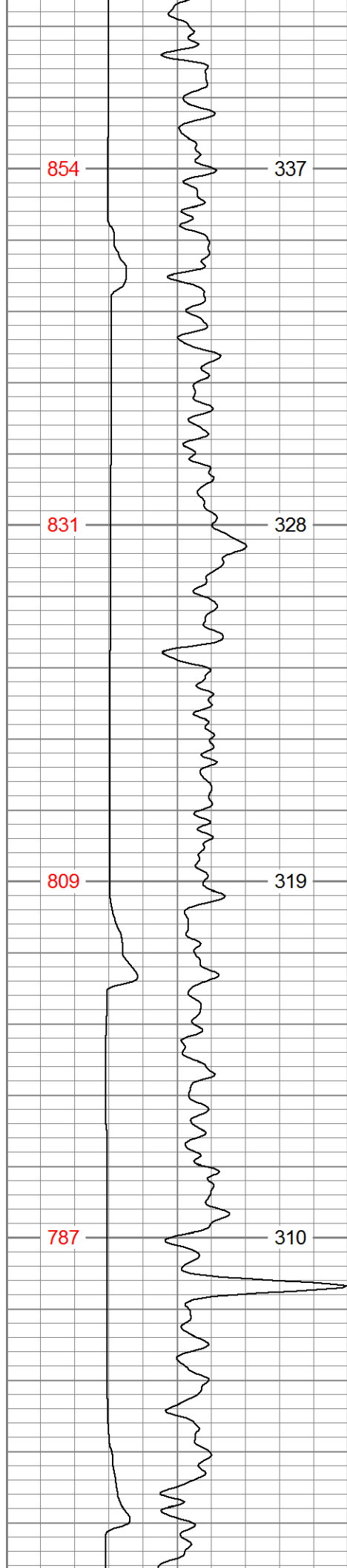
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5150

5200



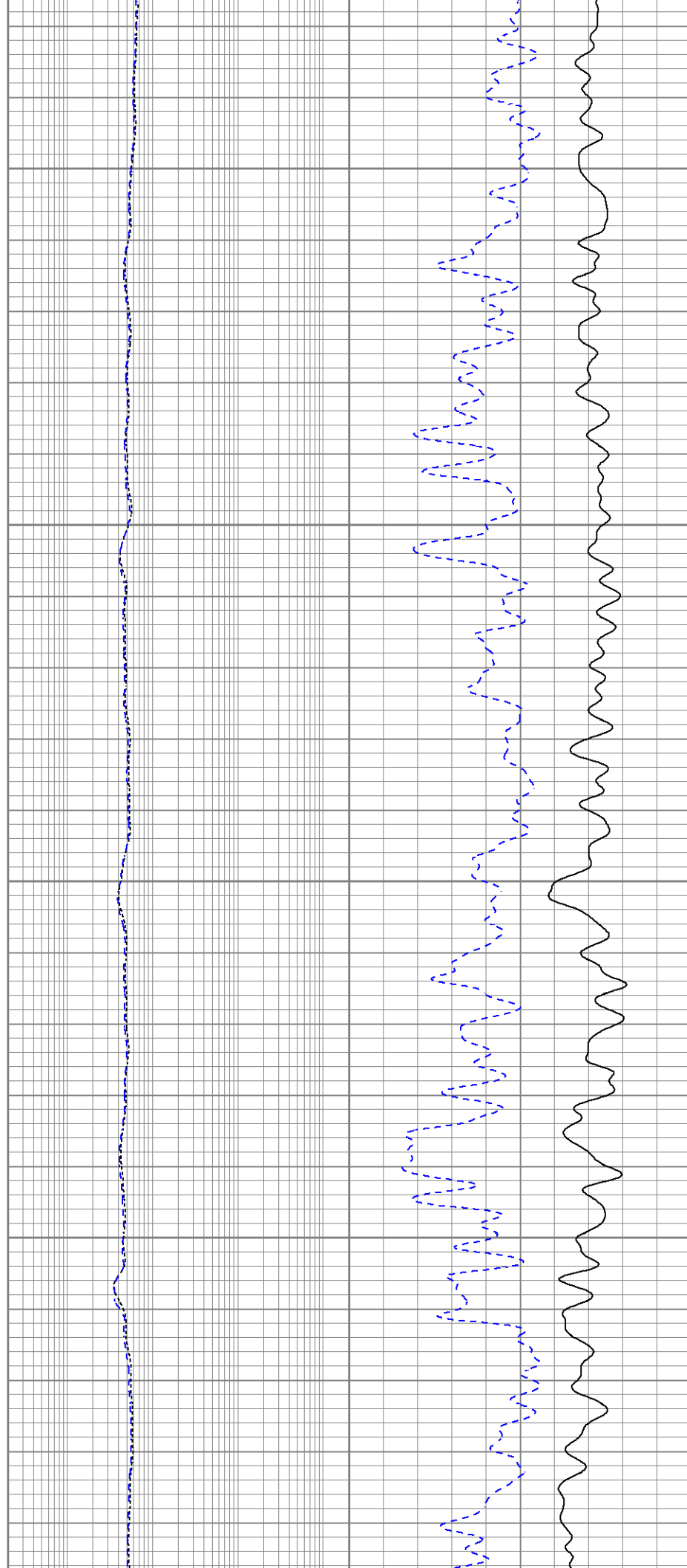


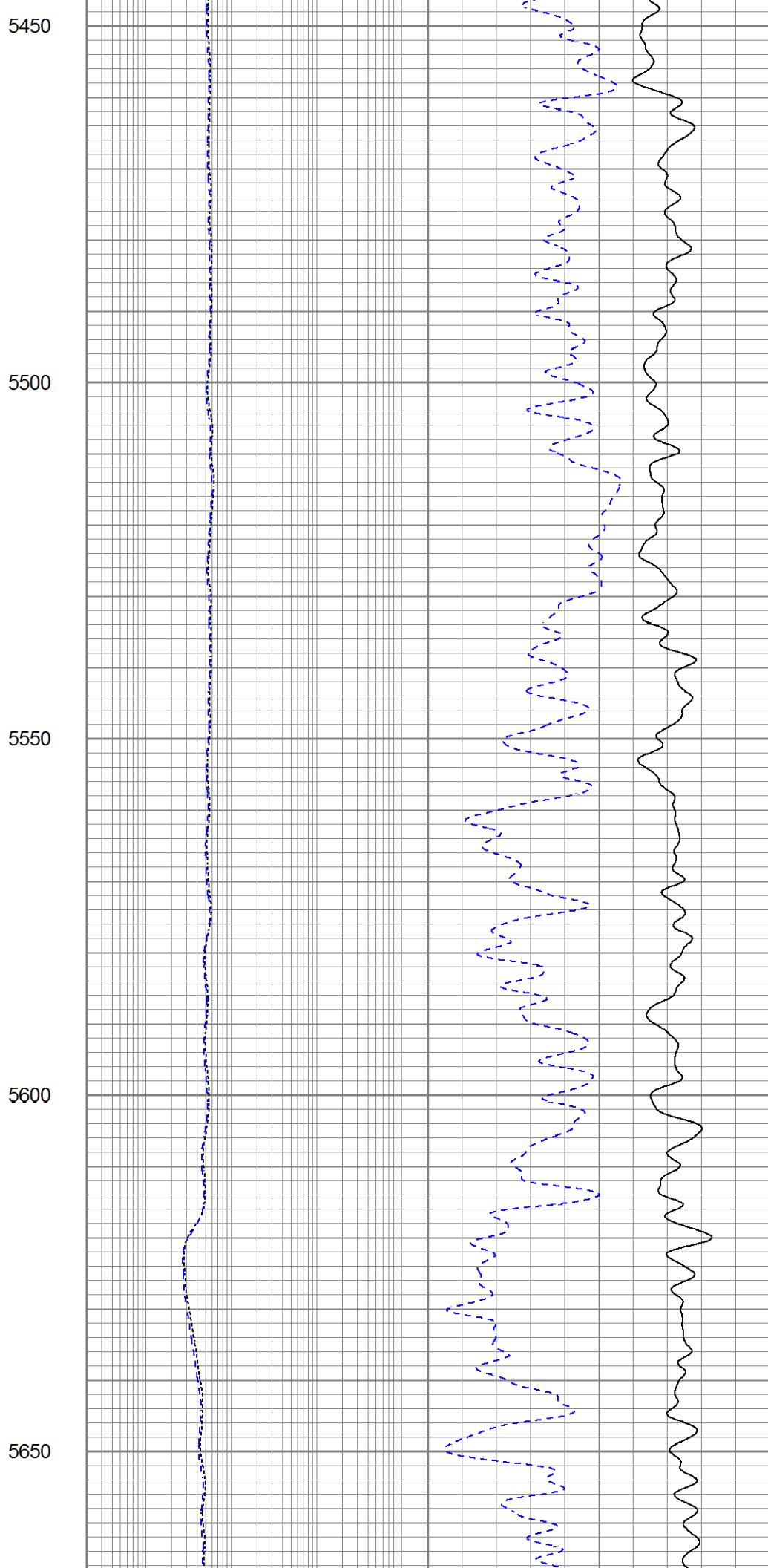
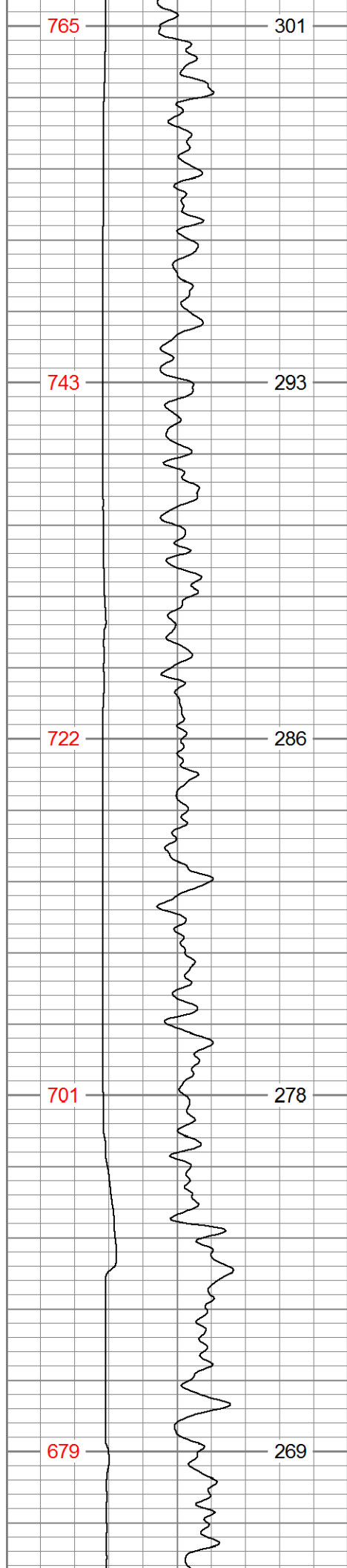
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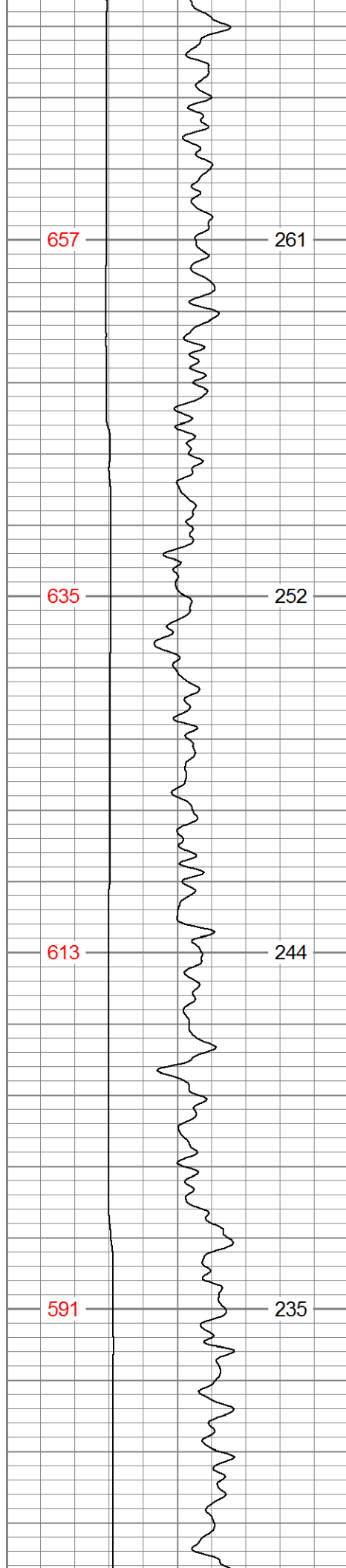
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5400





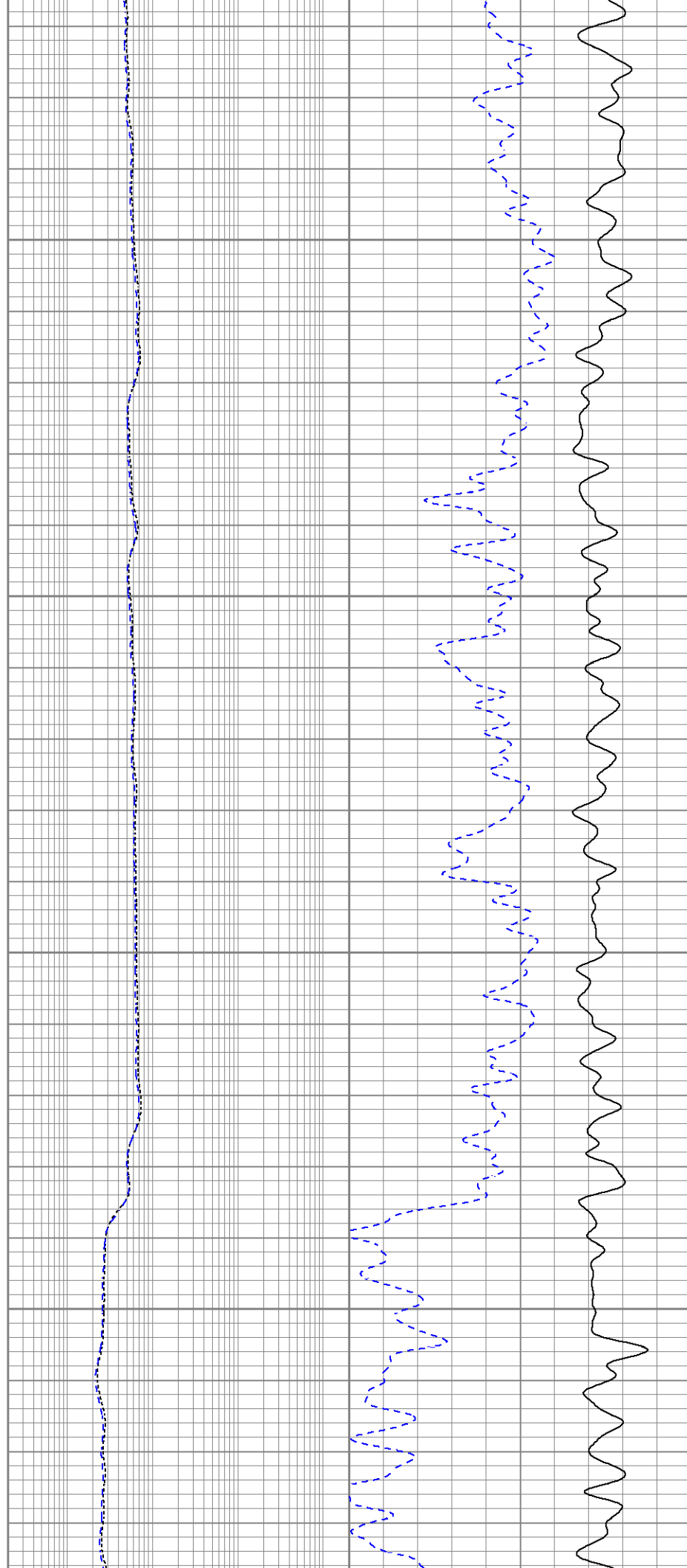


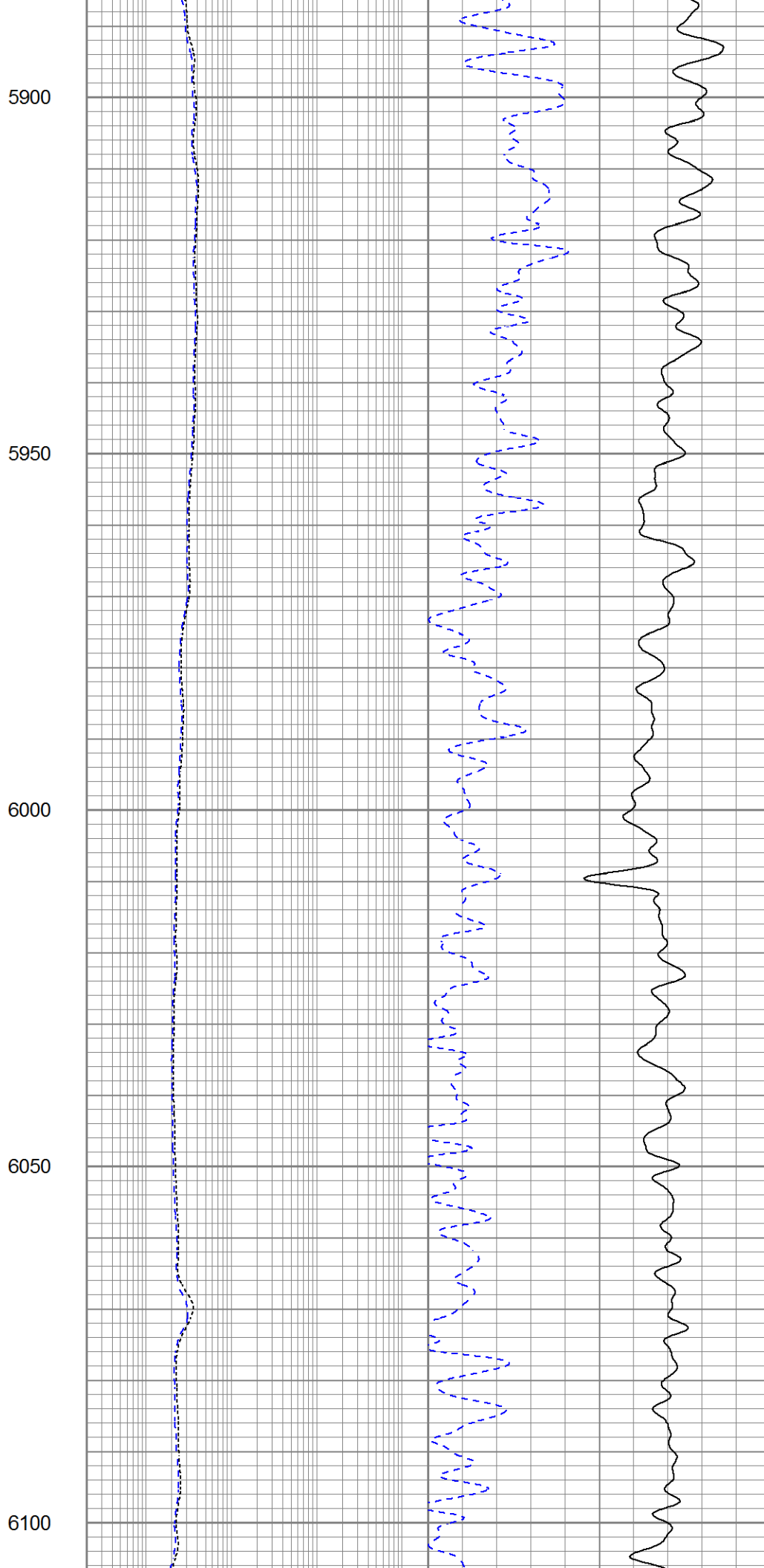
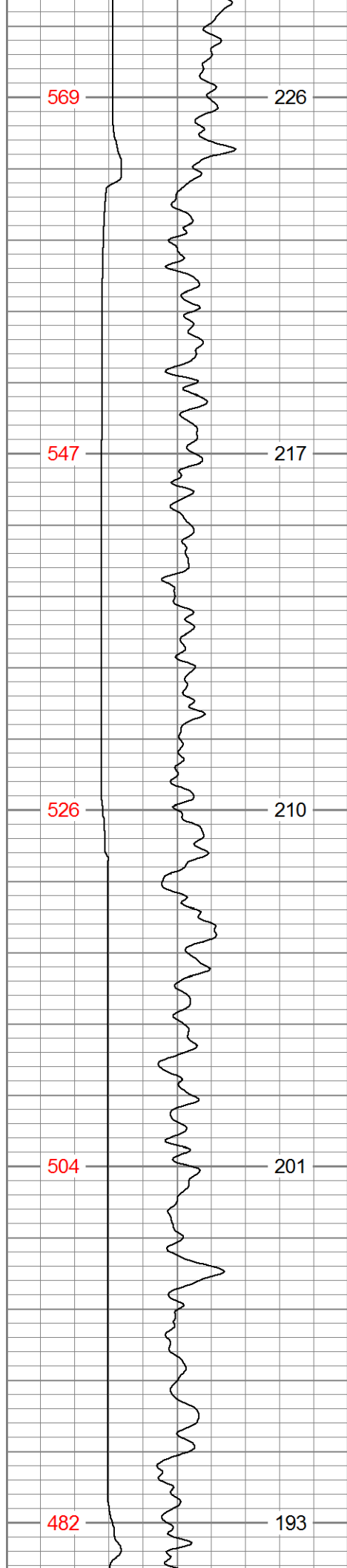
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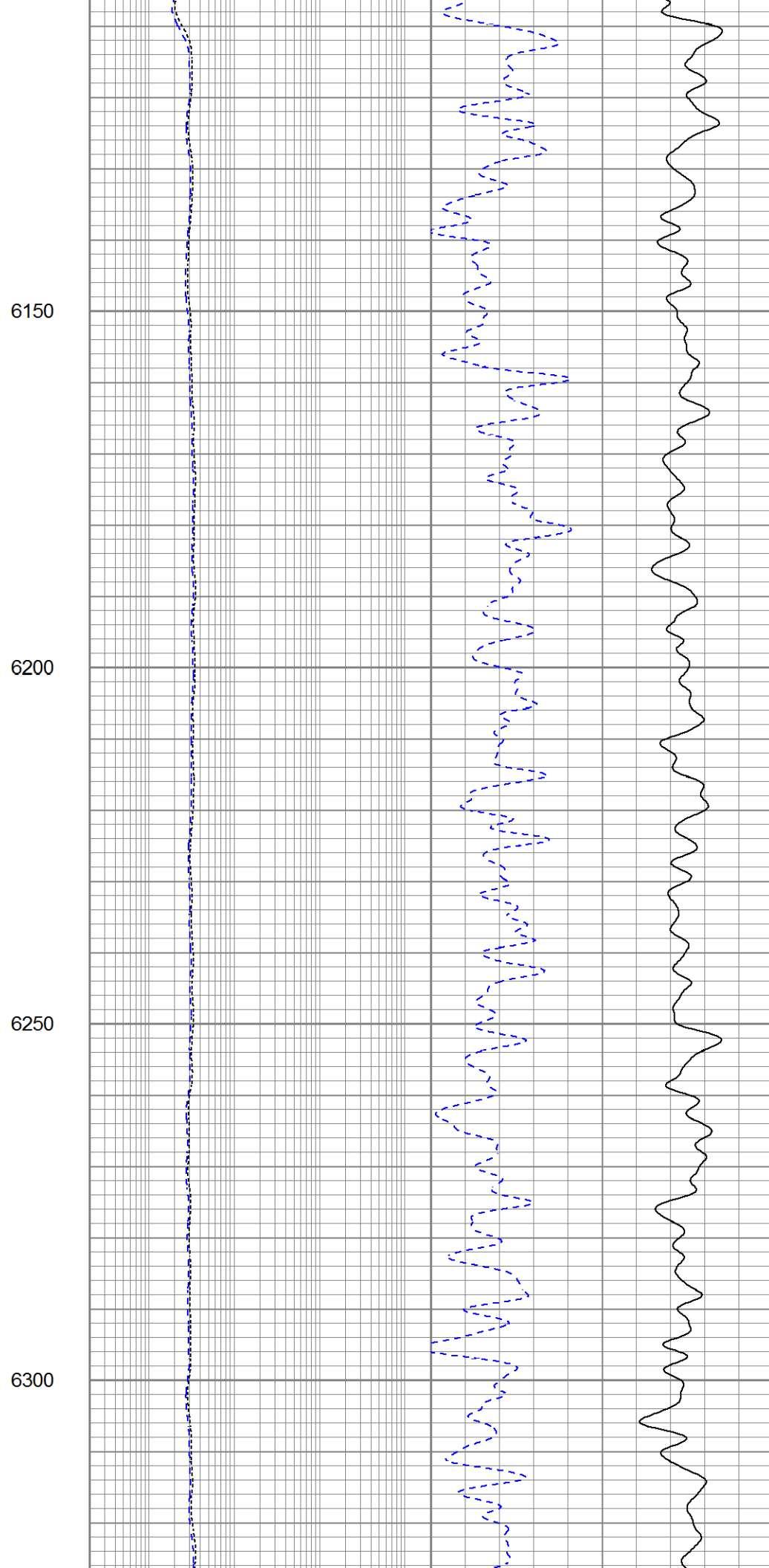
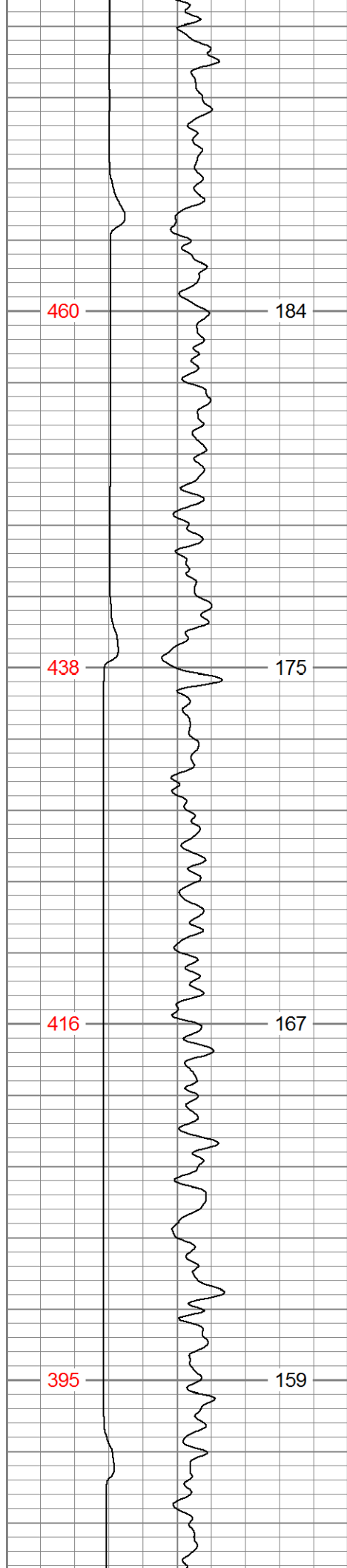
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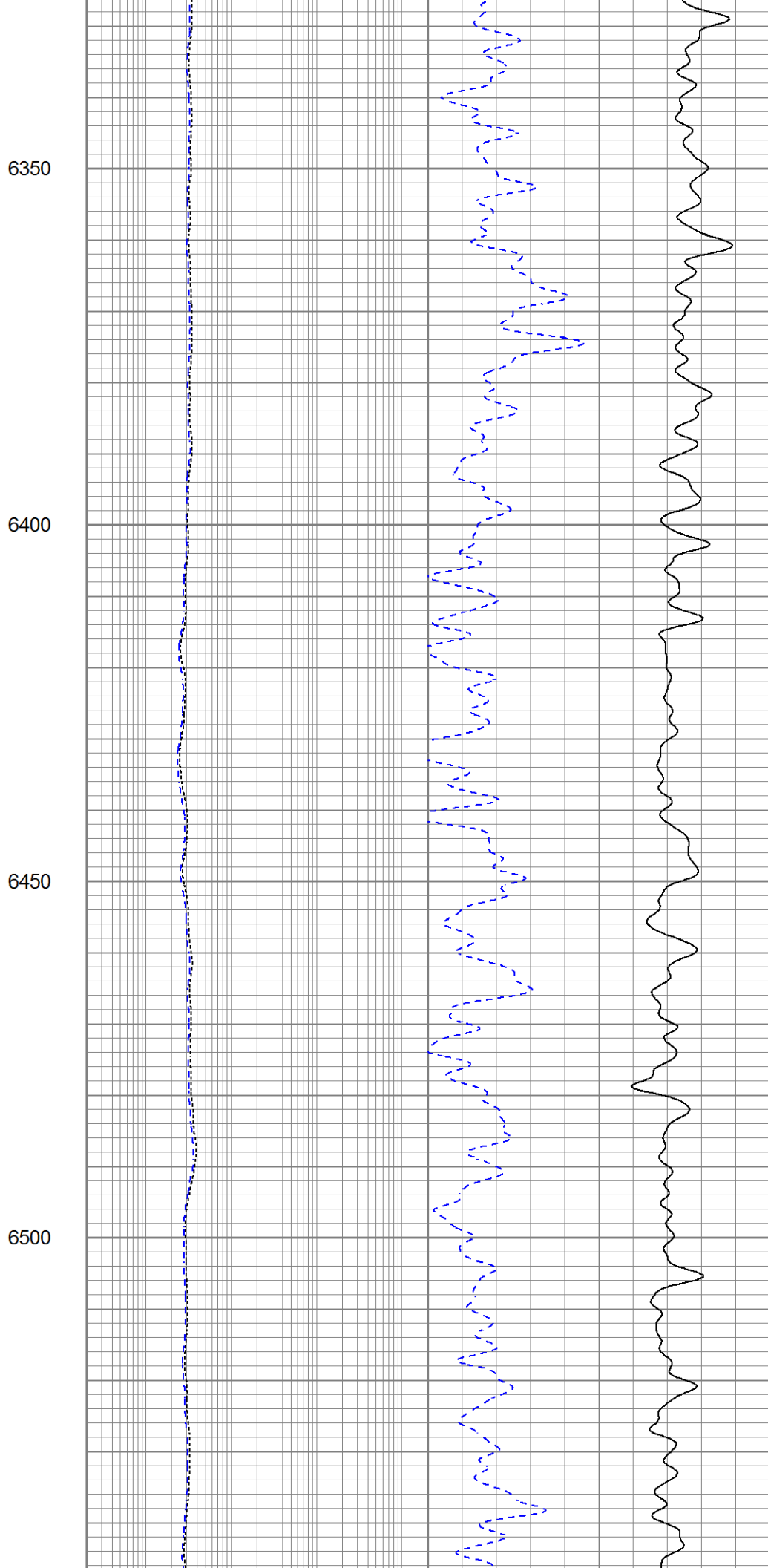
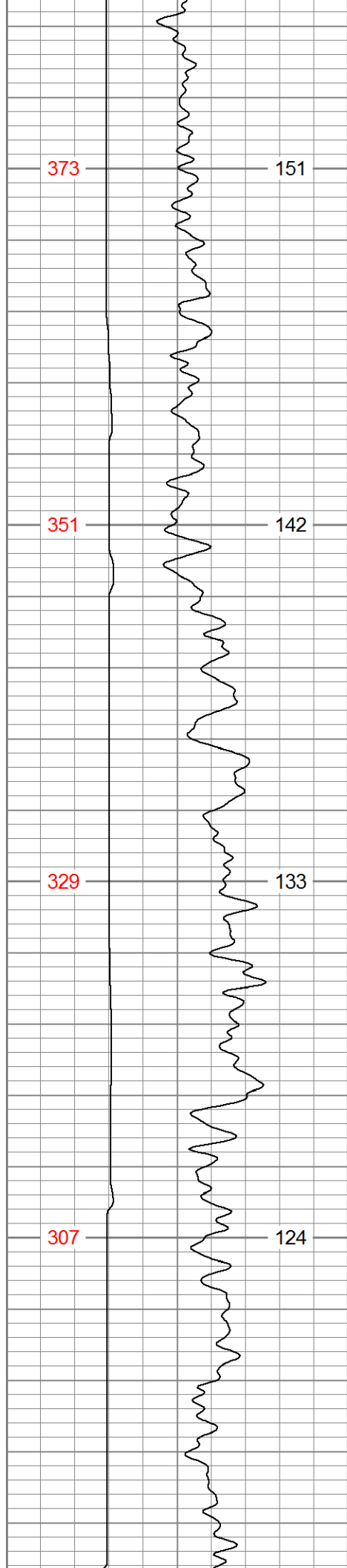
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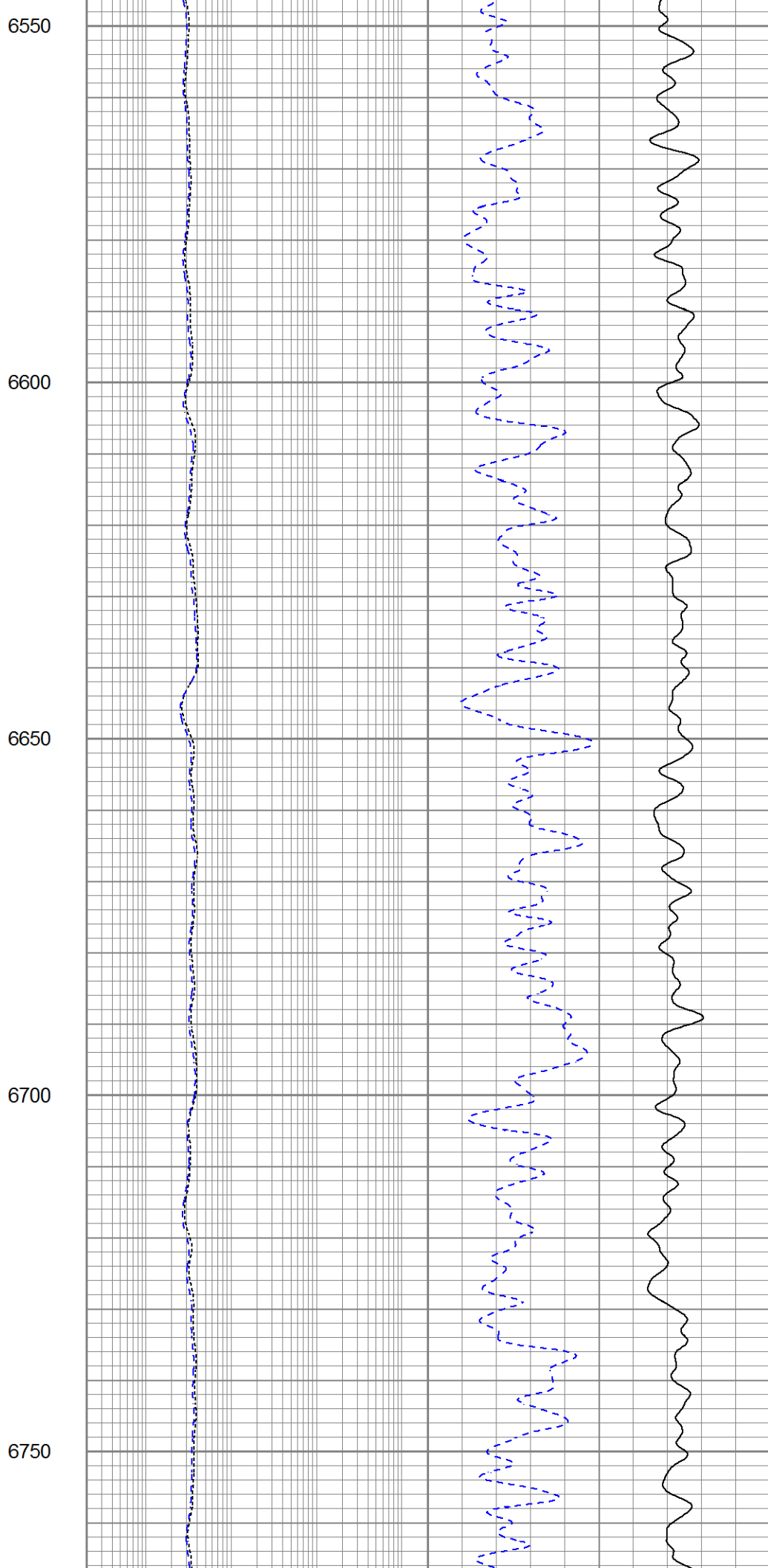
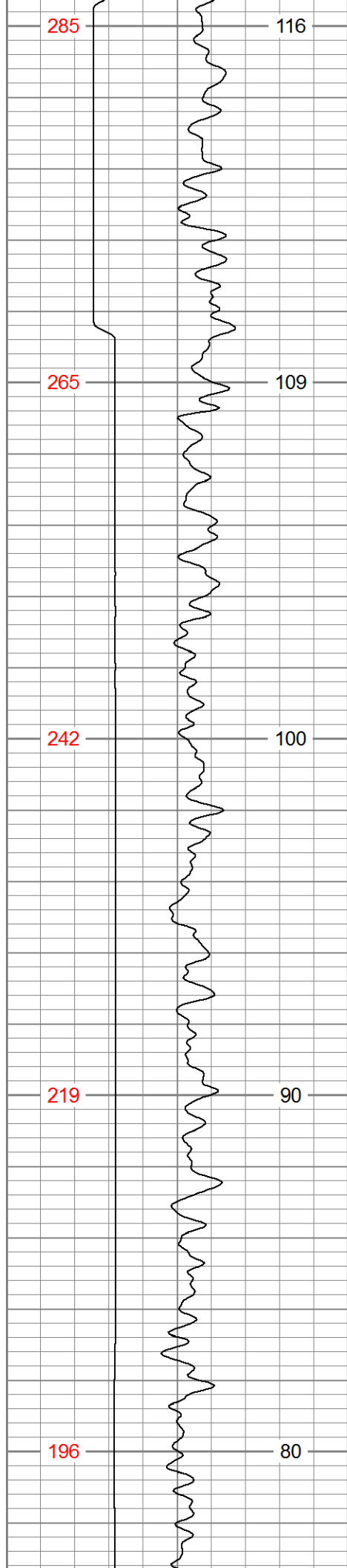
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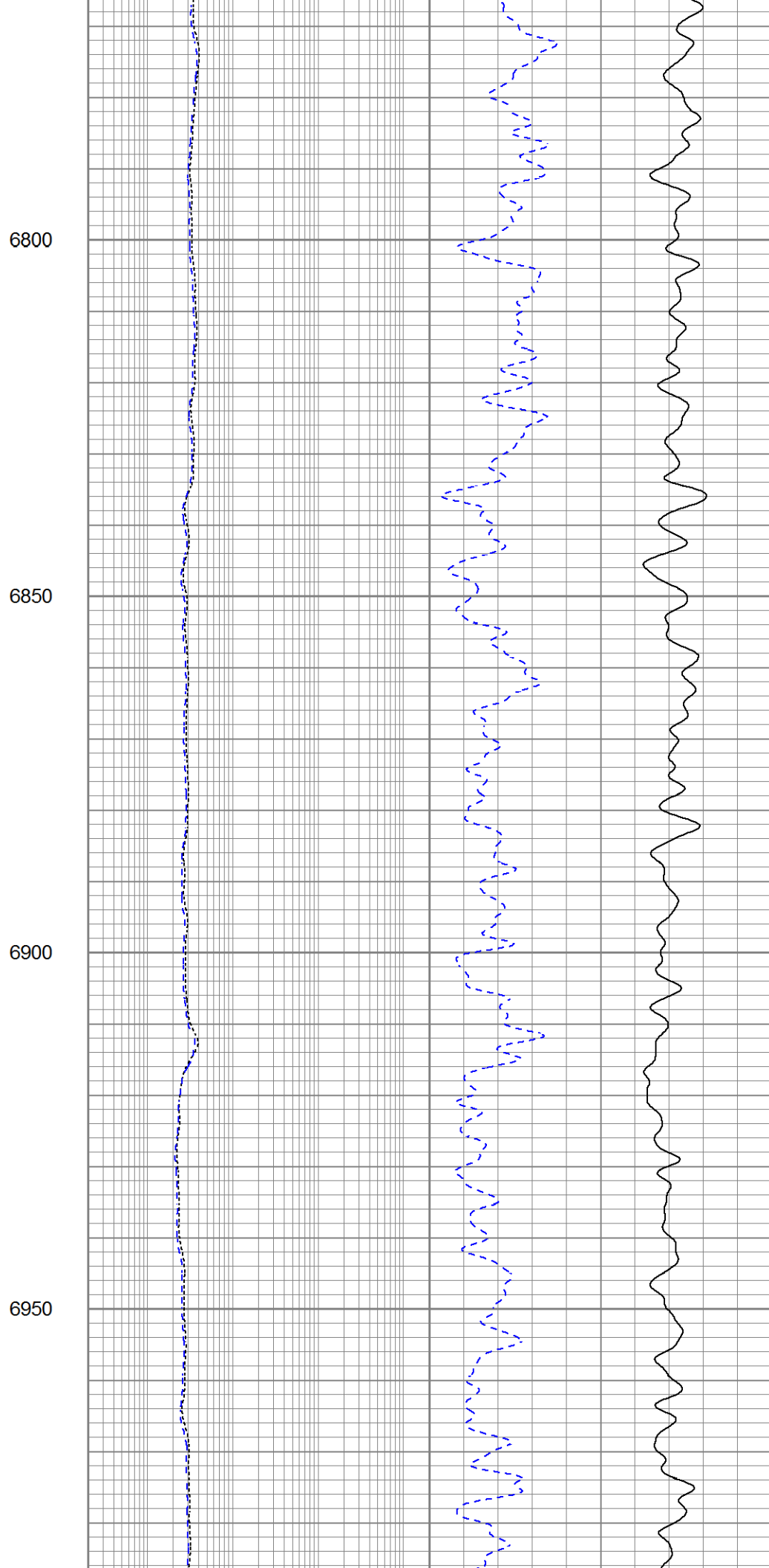
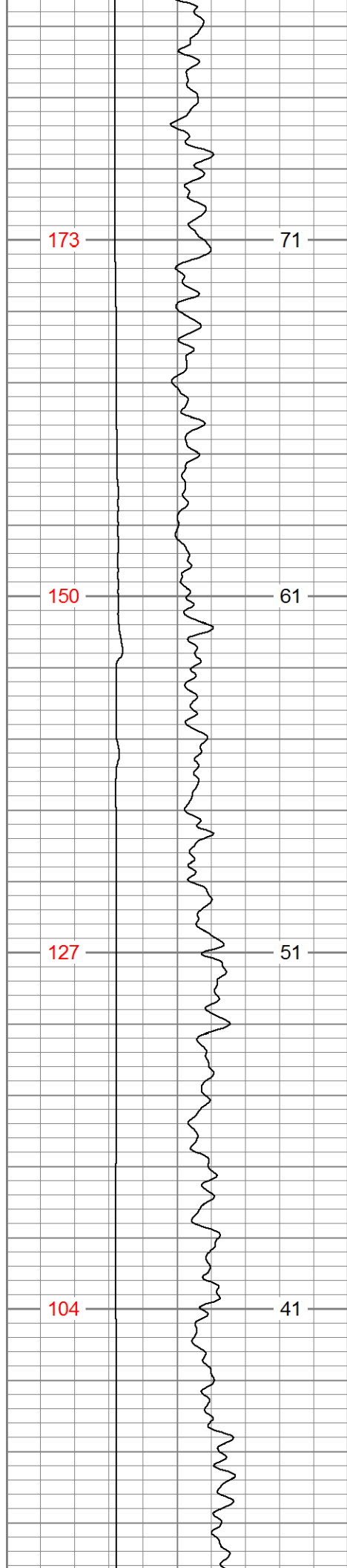


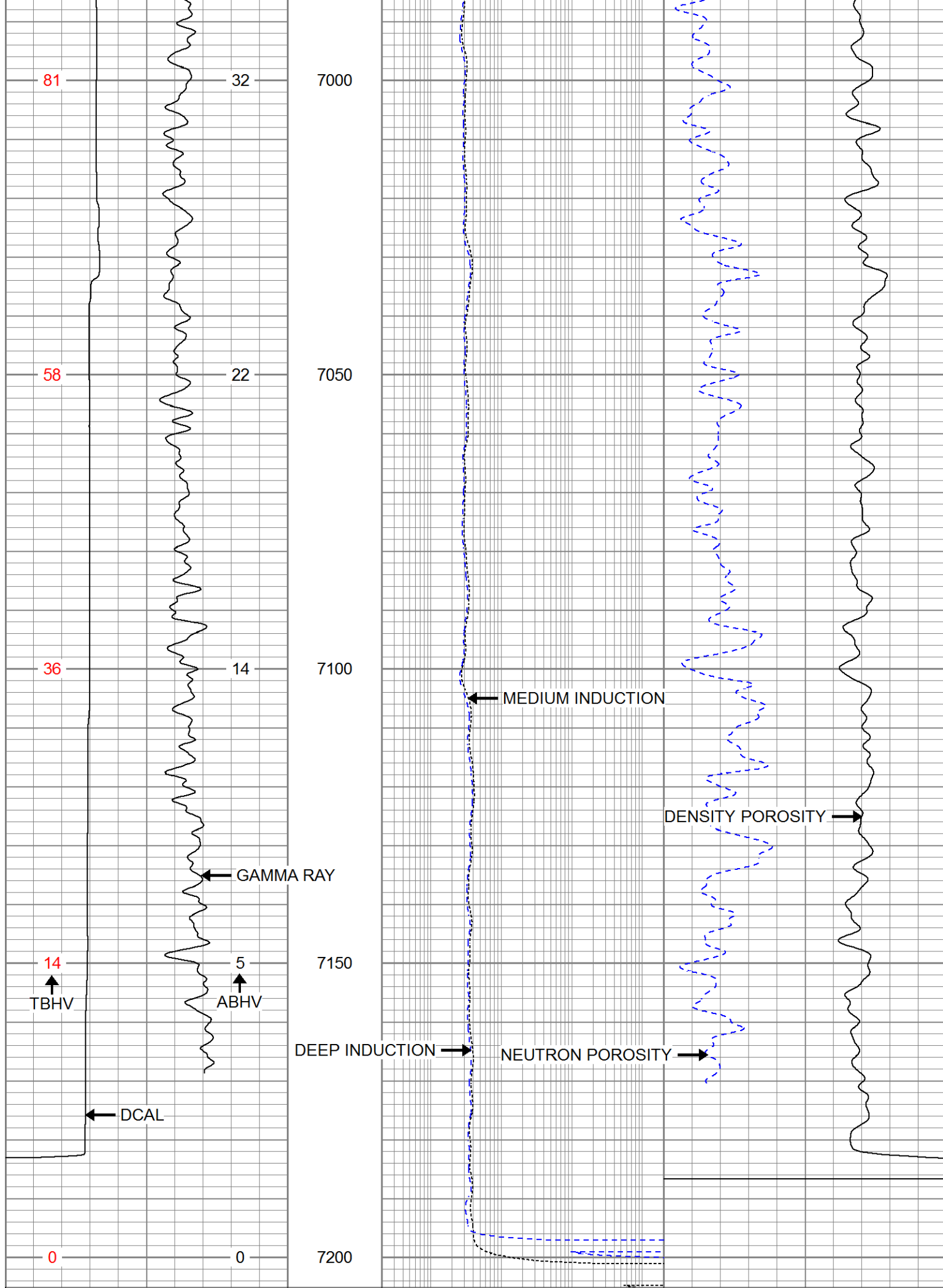












0	GAMMA RAY (GAPI)	200		MEDIUM INDUCTION	30	DENSITY POROSITY (pu)	0
6	CALIPER (in)	16	0.2	(Ohm-m)	2000	30	NEUTRON POROSITY (pu)
6	DCAL (in)	16		DEEP INDUCTION			
			0.2	(Ohm-m)	2000		

Calibration Report	
Database File	extraction_johnsontrust_5.db
Dataset Pathname	stack/pass3.1
Dataset Creation	Thu Jan 28 17:51:40 2016

Dual Induction Calibration Report

Serial-Model:	PSI 216 HT-PSI HIGH TEMP
Calibration Performed:	Tue Dec 08 03:00:31 2015

Readings			References			Results	
Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	75.411	495.929	4.000	250.000	mmho/m	0.650	-38.115
Medium	75.269	470.661	10.000	100.000	mmho/m	0.545	-38.133

Compensated Density Calibration Report
--

Serial-Model:	71-914-M&W
Source / Verifier:	/
Master Calibration Performed:	Tue Dec 08 03:30:25 2015

Master Calibration					
Density		Far Detector		Near Detector	
Magnesium	1.755 g/cc	4314.49	5307.52	cps	
Aluminum	2.670 g/cc	822.19	3456.36	cps	
Spine Angle = 75.49			Density/Spine Ratio = 0.534		
Size		Reading			
Small Ring	4.00 in	1.16			
Large Ring	14.00 in	1.57			

Compensated Neutron Calibration Report
--

Serial Number:	tk10-MW
Tool Model:	M&W
Calibration Performed:	Mon Dec 7 11:08:05 2015

Detector	Readings	Target	Normalization
Short Space	6240.00 cps	1000.00 cps	1.6025
Long Space	460.00 cps	1000.00 cps	1.9500

Gamma Ray Calibration Report

Serial Number:	89-M&W
Tool Model:	M&W
Calibration Performed:	Tue Dec 08 03:19:38 2015

Calibrator Value:	1000.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	6.2	cps
Sensitivity:	0.5200	GAPI/cps



Company	EXTRACTION OIL & GAS, LLC
Well	JOHNSON TRUST NO. 5
Field	WATTENBERG
County	WELD
State	COLORADO