CORDAX™

MEASURED DEPTH
COMPENSATED NEUTRON-DENSITY POROSITY
PROPAGATION RESISTIVITY
SPECTRAL GAMMA RAY LOG

Company: GREAT WESTERN OPERATING COMPANY LLC.
Well: POSTLE IC 09-142HC
Field: WATTENBERG
County: WELD State: CO

COMPANY: GREAT WESTERN OPERATING COMPANY LLC.
WELL: POSTLE IC 09-142HC
FIELD: WATTENBERG
COUNTY: WELD STATE: CO

API No.	05-123-47382	Other Services
Location	SEC: 11 TWP: 3N RNG: 68W	N/A

Permanent Datum:	GROUND LEVEL	Elevation:	4977.0 ft	Elev.: K.B.	4997.0 ft
Log meas. from:	KELLY BUSHING	20.0 ft	above Perm. Datum	D.F.	- - - - - - - -
Drill. meas. from:	KELLY BUSHING			G.L.	4977.0 ft

Date	11-MAY-2020					
Run No.	1 (HORIZONTAL)		TVD			
Depth Driller	18341.0 ft		7240.0 ft			
Depth Logger	18341.0 ft		7237.4 ft			
Bottom Logged Interval	18126.6 ft		7237.4 ft			
Top Logged Interval	6187.5 ft		6175.55 ft			
Casing Driller	1552.0 ft		1551.0 ft			
Casing Logger	N/A		N/A			
Bitsize	8.50 in					
Type Fluid in Hole	OBM					
Density / Viscosity	11.1	69.0 sec/qt				
pH / Water Loss	N/A	N/A				
Source of Sample	N/A					
Rm at Meas. Temp.	N/A					
Rmf at Meas. Temp.	N/A					
Rmc at Meas. Temp.	N/A					
Source Rmf/Rmc	N/A	N/A				
Rm at BHT	N/A					
End Circulation	10-MAY-2020 @ 07:40					
Logger on Bottom	10-MAY-2020 @ 10:04					
Max. Recorded Temp.	250 °F					
Equip. No / Location	DL-205	OKC				
Recorded by	M.GRIMALDO		R.BERGERON			
Witnessed by	R.WALLEY					

Fold Here

In making interpretations of logs, Contractors employees will give the Customer the benefit of their best judgement, but since all interpretations are opinions, based on inferences from electrical or other measurements, Contractor cannot, and does not guarantee the accuracy or the correctness of any interpretation.

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REMARKS

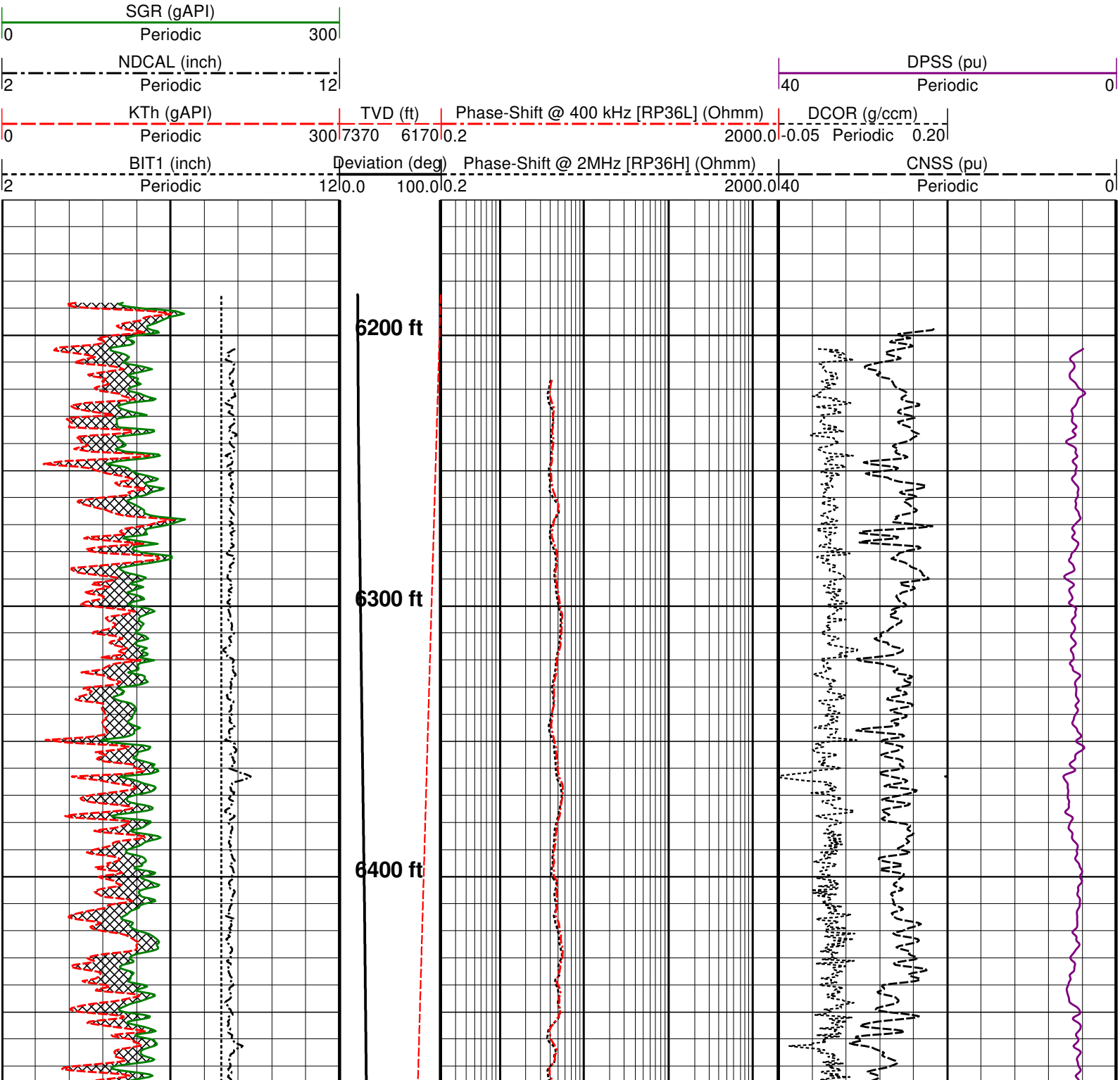
TOOLS PUMPED DOWN FROM SURFACE; LOGGING PERFORMED WHILE TRIPPING OUT
COMPENSATED NEUTRON-DENSITY PRESENTED IN SANDSTONE AND LIMESTONE
MAX DEVIATION: 93.14 DEG @ 14112.0 ft
DRILLING RIG: PRECISION DRILLING 460
SURFACE CASING SIZE: 9.625 in, 36 lbm/ft FROM 0 ft TO 1552.0 ft
BITSIZE: 8.5 in FROM 1552.0 ft TO 18341.0 ft
ALL LOG DEPTHS WERE RECORDED WITH EDR (TOTCO), AND CORRECTED TO PIPE TALLY

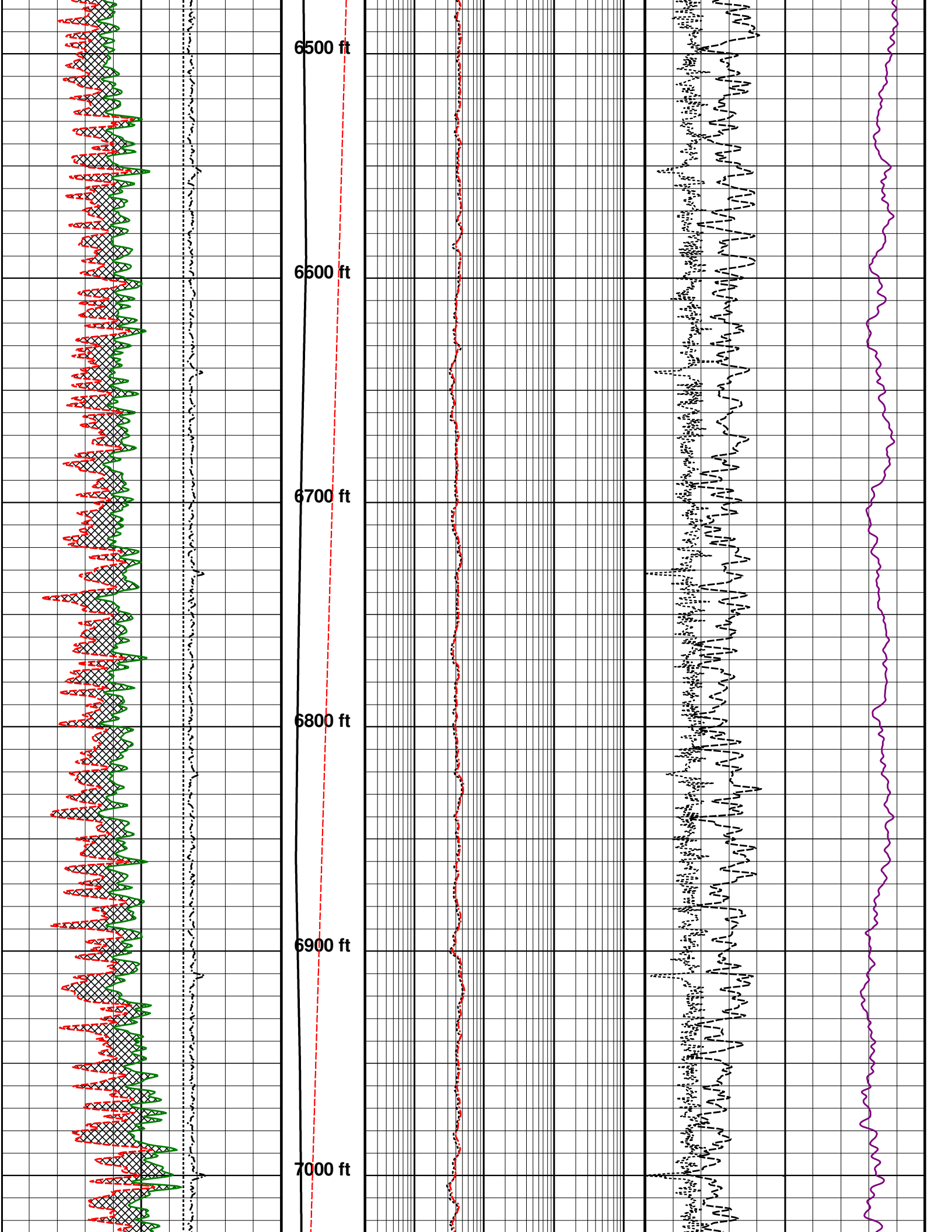
EQUIPMENT DATA

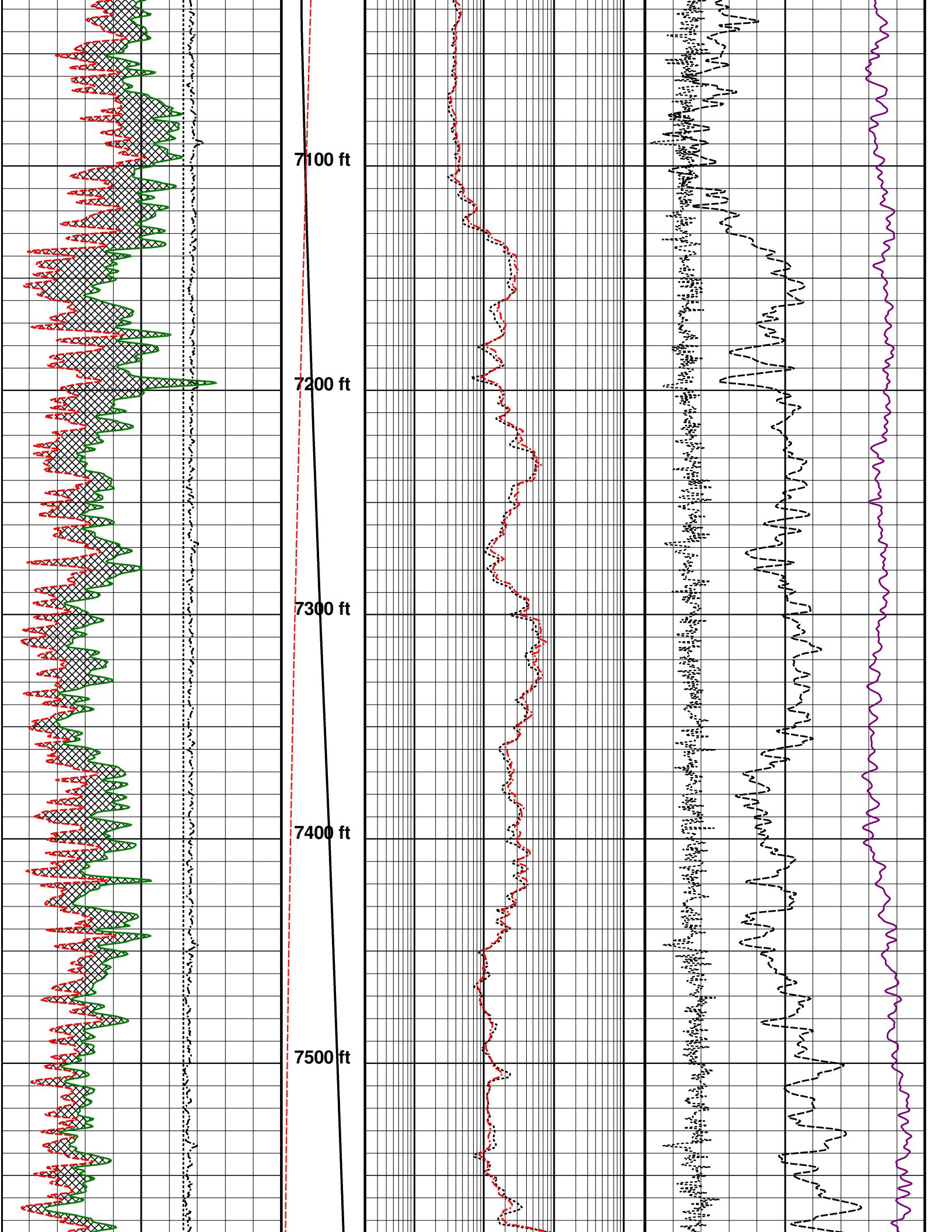
Run	Trip	Instrument	Serial No.	Series No.	Distance to Reference
1	1	TELEMETRY	310208		248.78 ft
1	1	SGR	1460017		
1	1	GR-CN	1473018 U	1473018 L	
1	1	KNUCKLE	0813		
1	1	DENSITY	1481006		
1	1	PRT	PRTX013		213.8 ft
1	1	STEEL COLLAR	DL-4XH-005	DL-4XH-006	
1	1	OMEGA COLLAR	RSA65008		
1	1	Am241Be / Cs137	34981B	63550B	

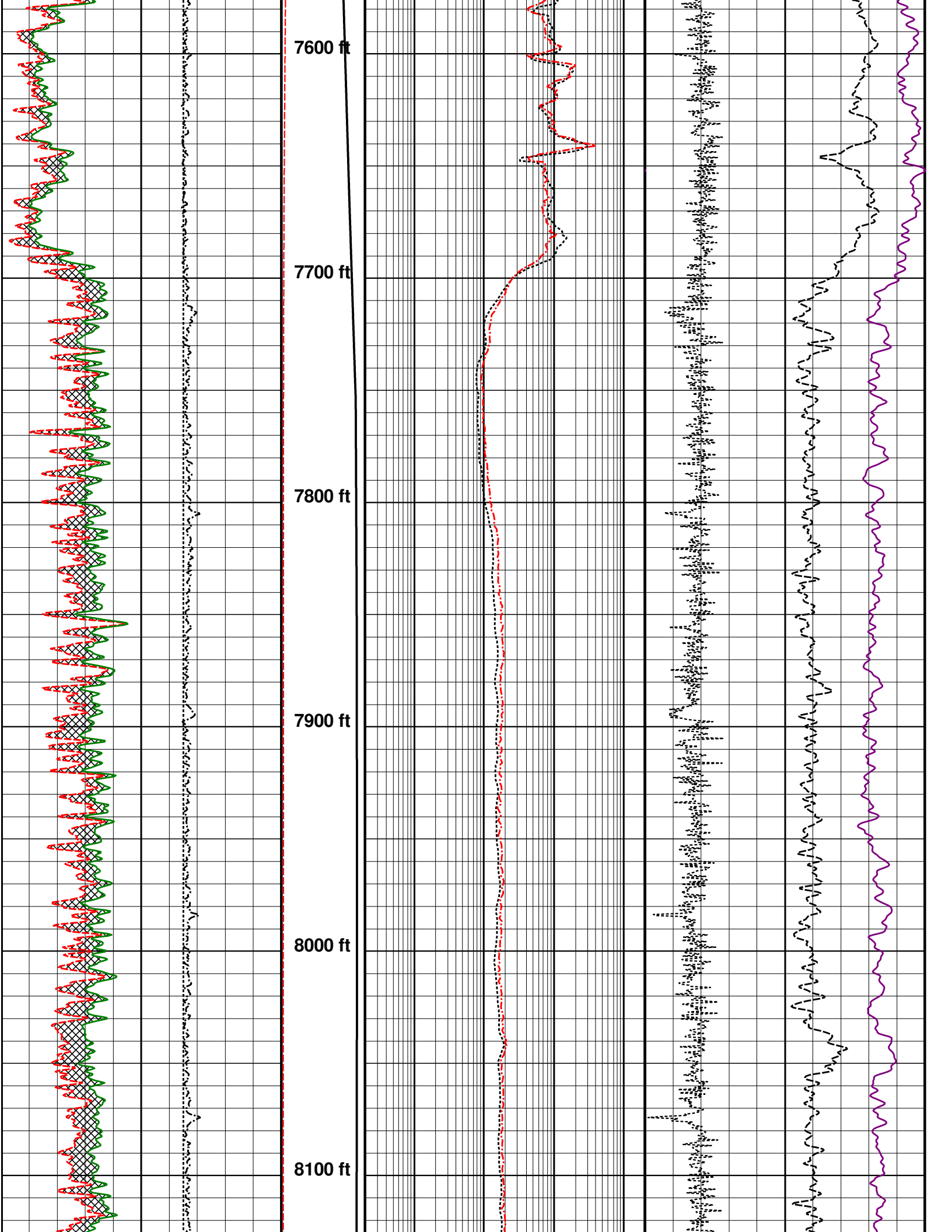
2" MAIN PASS SANDSTONE

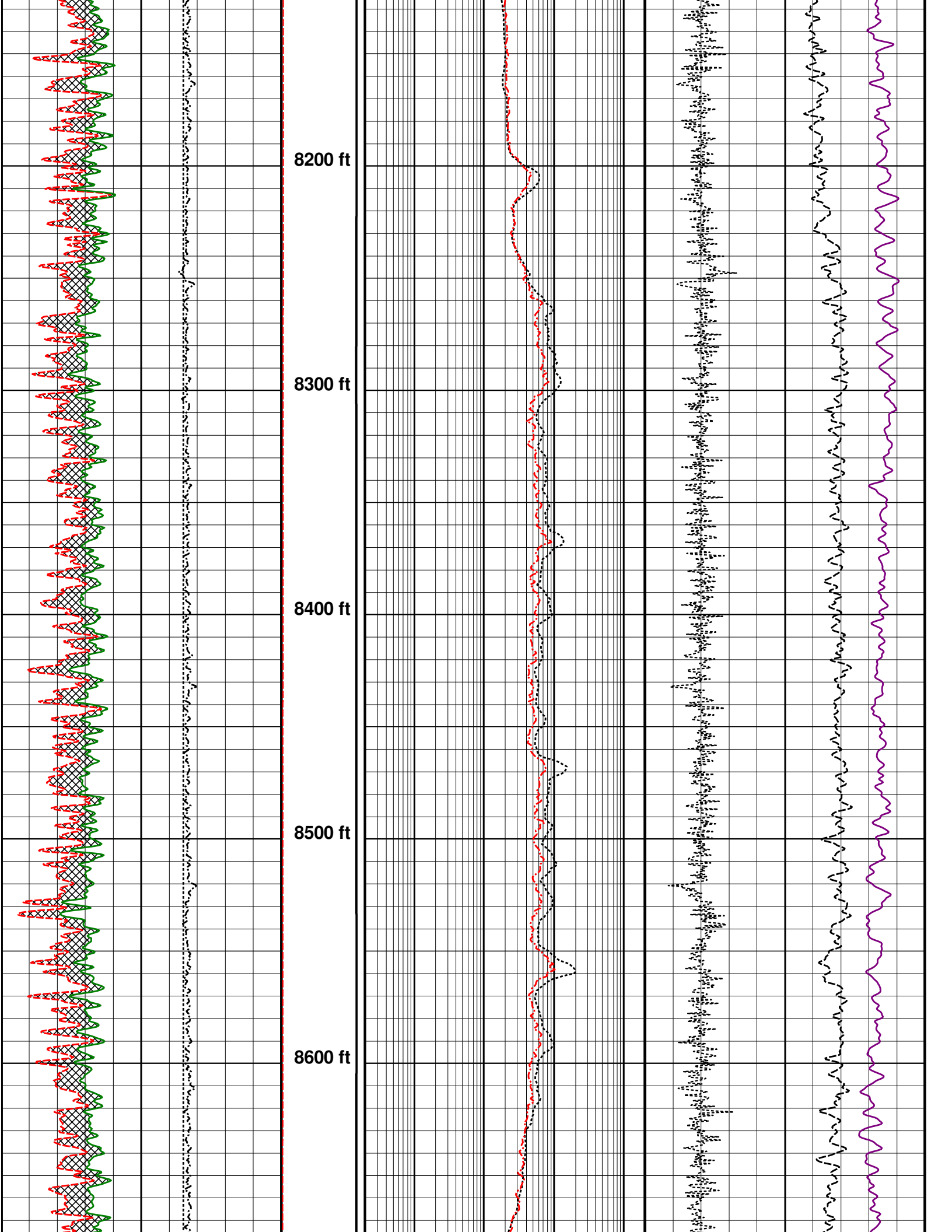
Company	**: GREAT WESTERN OPERATING CO LLC**	**Date**	**: 11.05.2020**
Well	**: POSTLE IC 09-142HC**	**Time**	**:**
Scale	**: 1 : 600**	**Remarks**	**: SANDSTONE MATRIX**
Depth in	**: feet**		
Software	**: WinAPlot Ver. 6, 18, 0, 0**	**File Name**	**: C:\...\Data\FINAL MD.las**

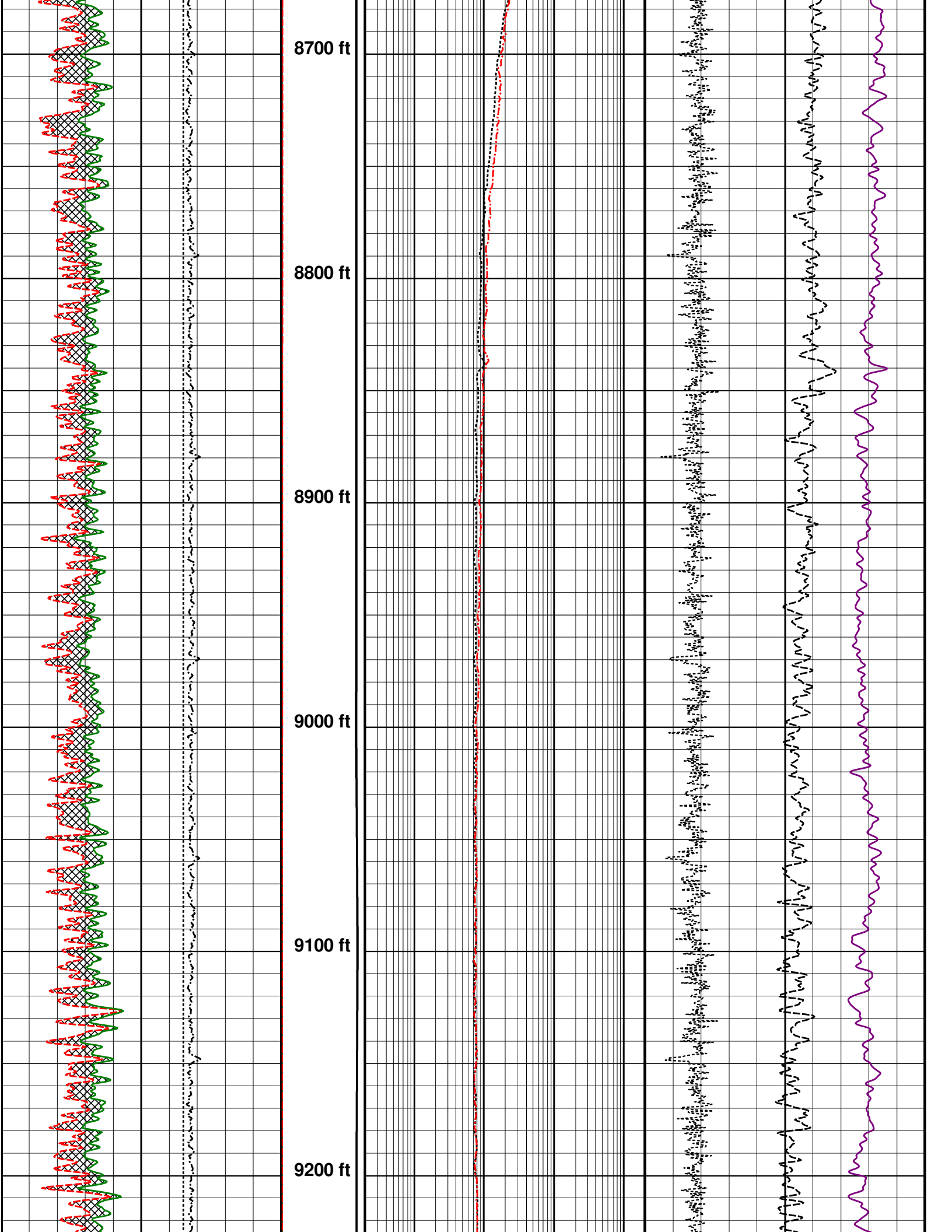



6500 ft
6600 ft
6700 ft
6800 ft
6900 ft
7000 ft


7100 ft
7200 ft
7300 ft
7400 ft
7500 ft


7600 ft
7700 ft
7800 ft
7900 ft
8000 ft
8100 ft


8200 ft
8300 ft
8400 ft
8500 ft
8600 ft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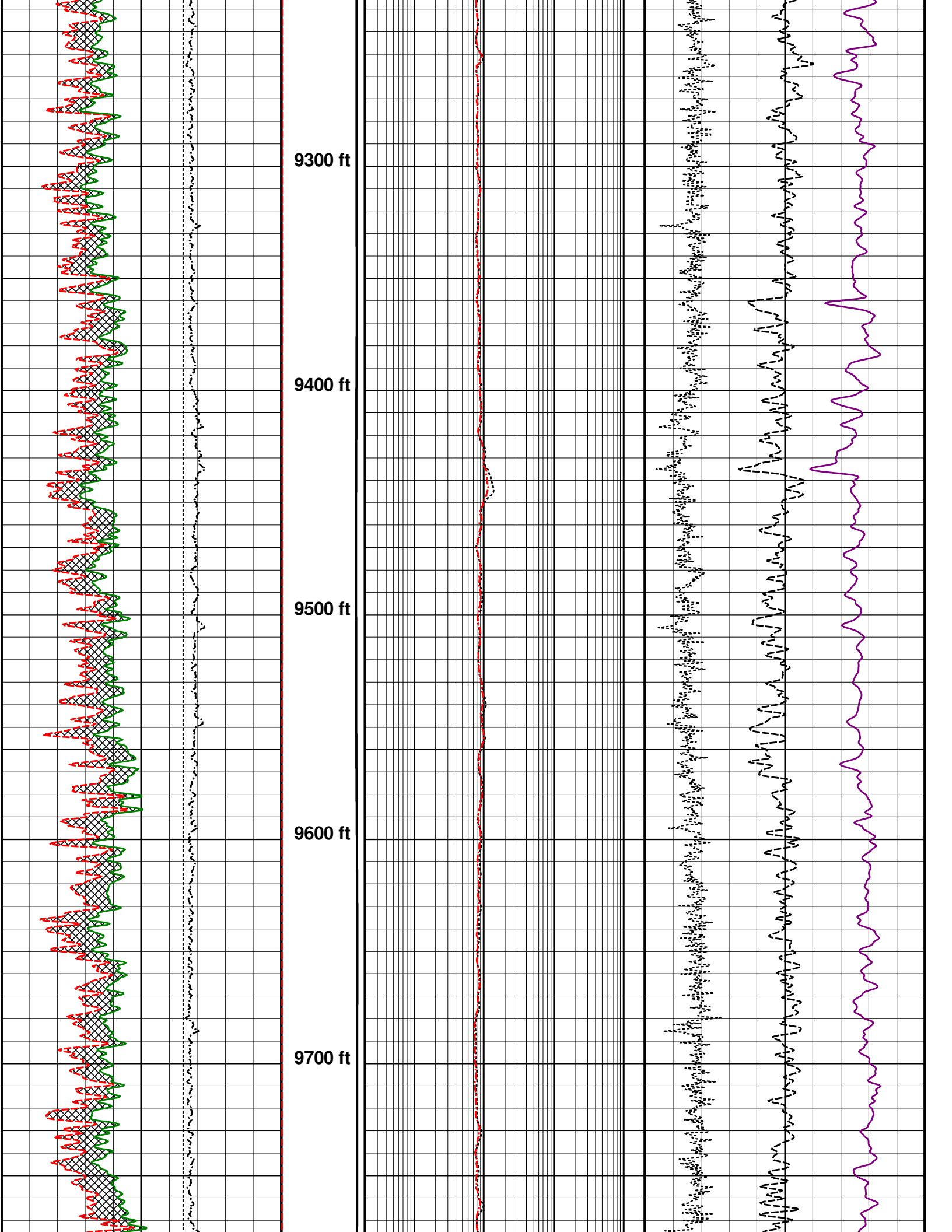
8800 ft
8900 ft
9000 ft
9100 ft
9200 ft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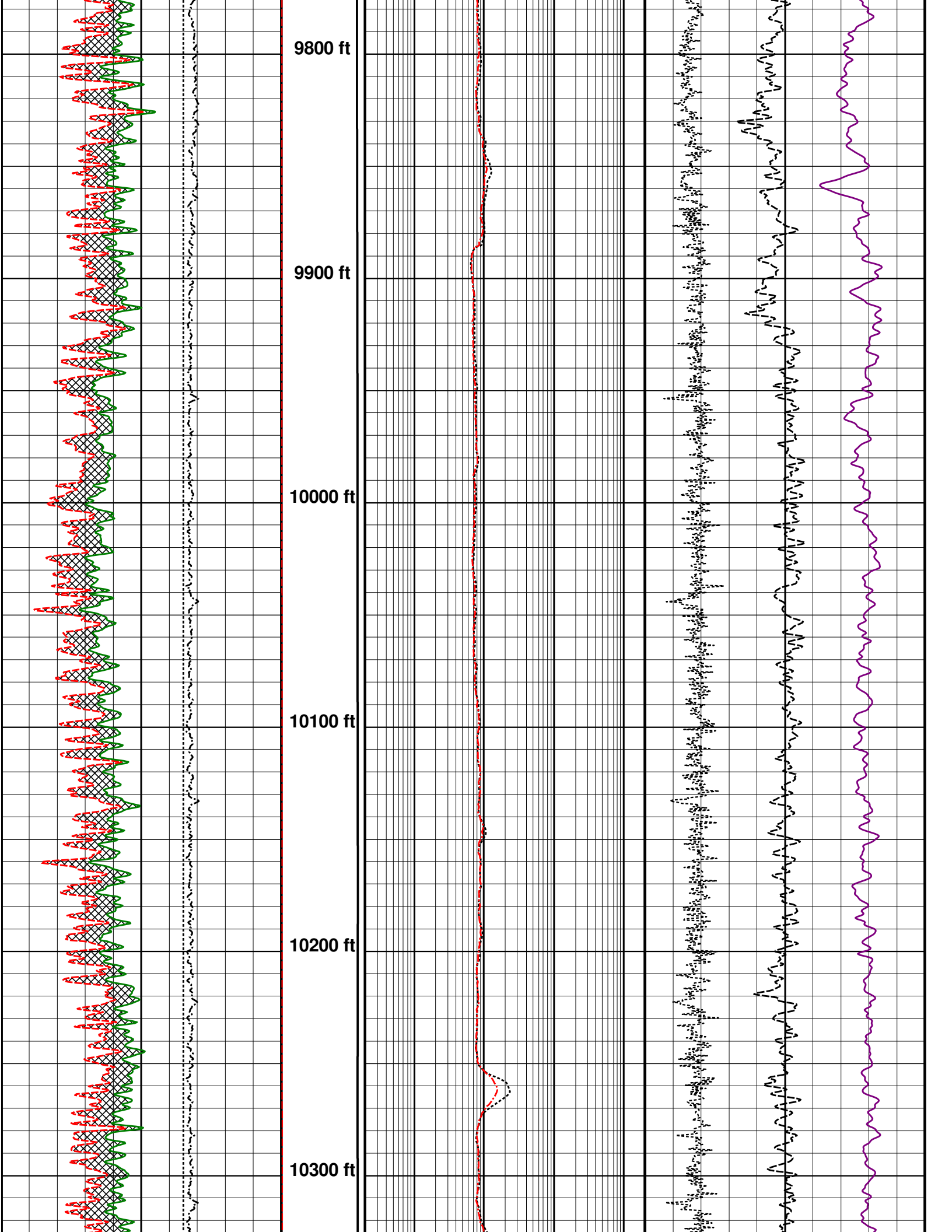
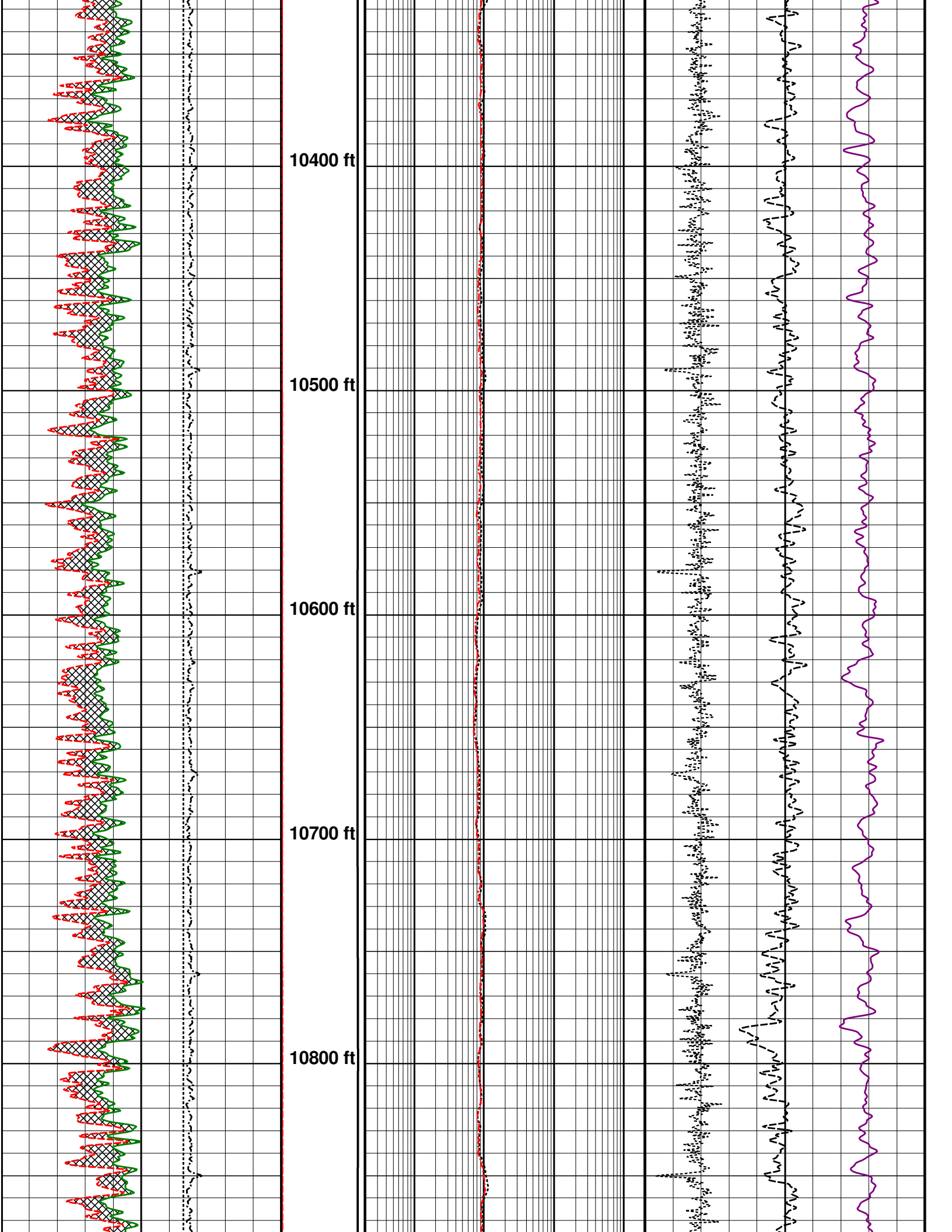
9400 ft
9500 ft
9600 ft
9700 ft


9800 ft
9900 ft
10000 ft
10100 ft
10200 ft
10300 ft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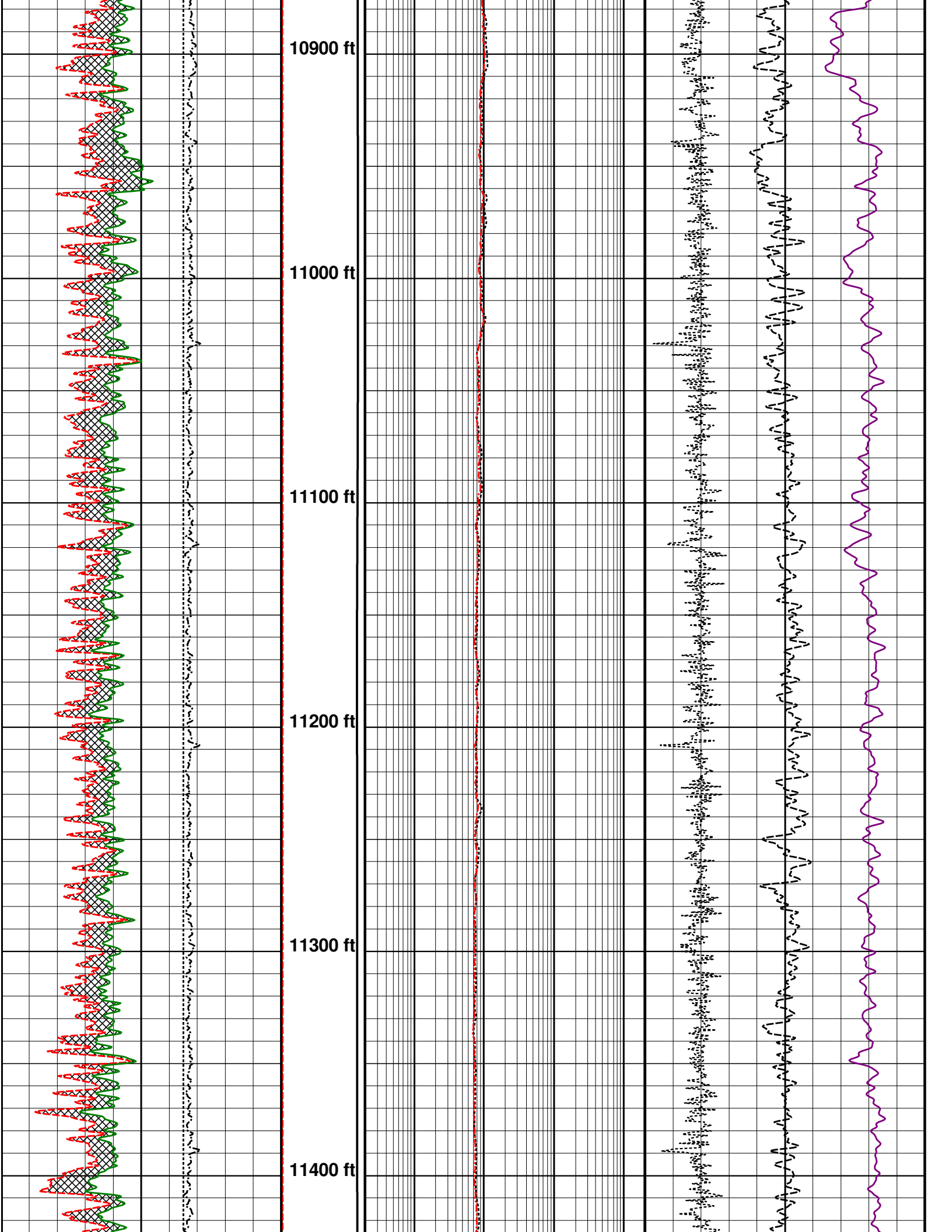
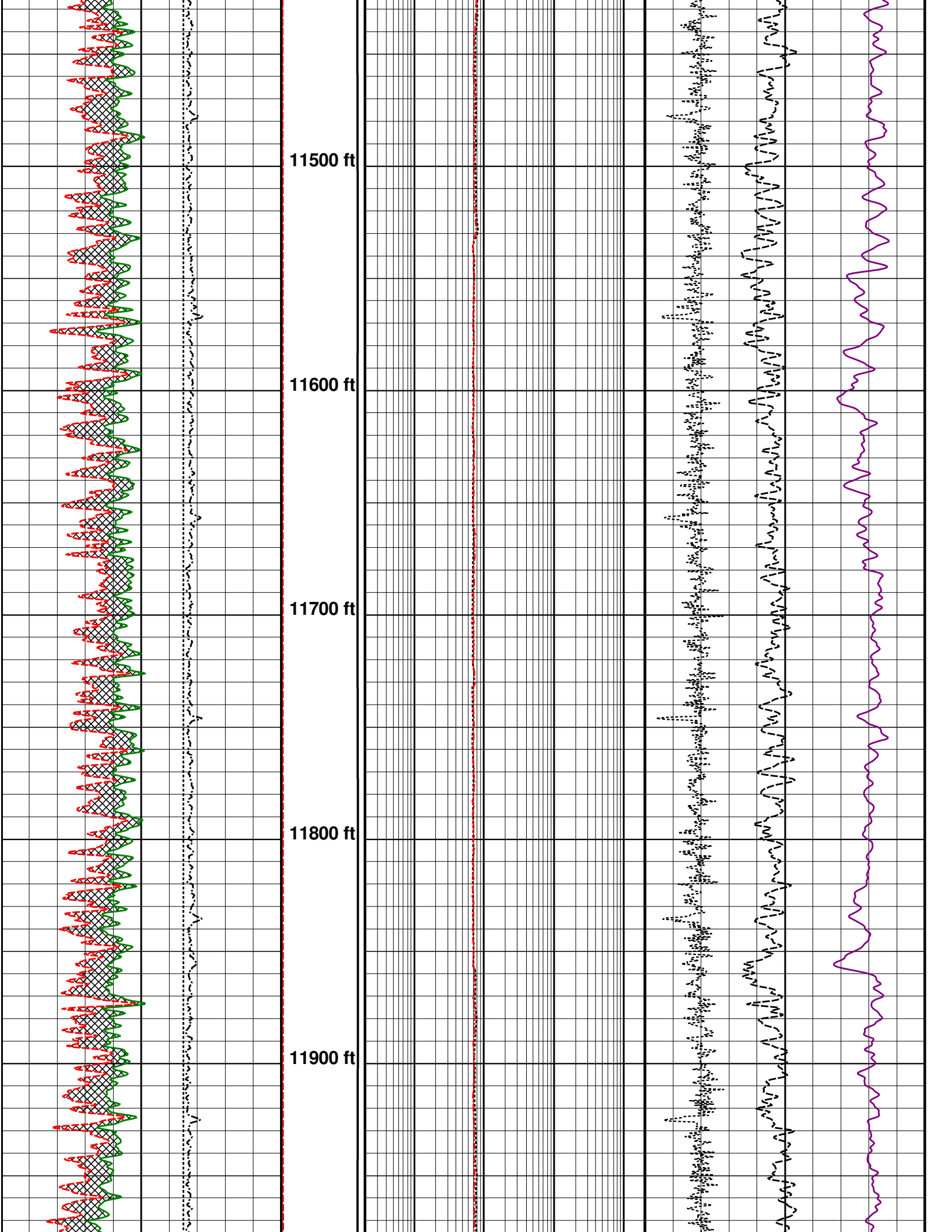
10500 ft
10600 ft
10700 ft
10800 ft


10900 ft
11000 ft
11100 ft
11200 ft
11300 ft
11400 ft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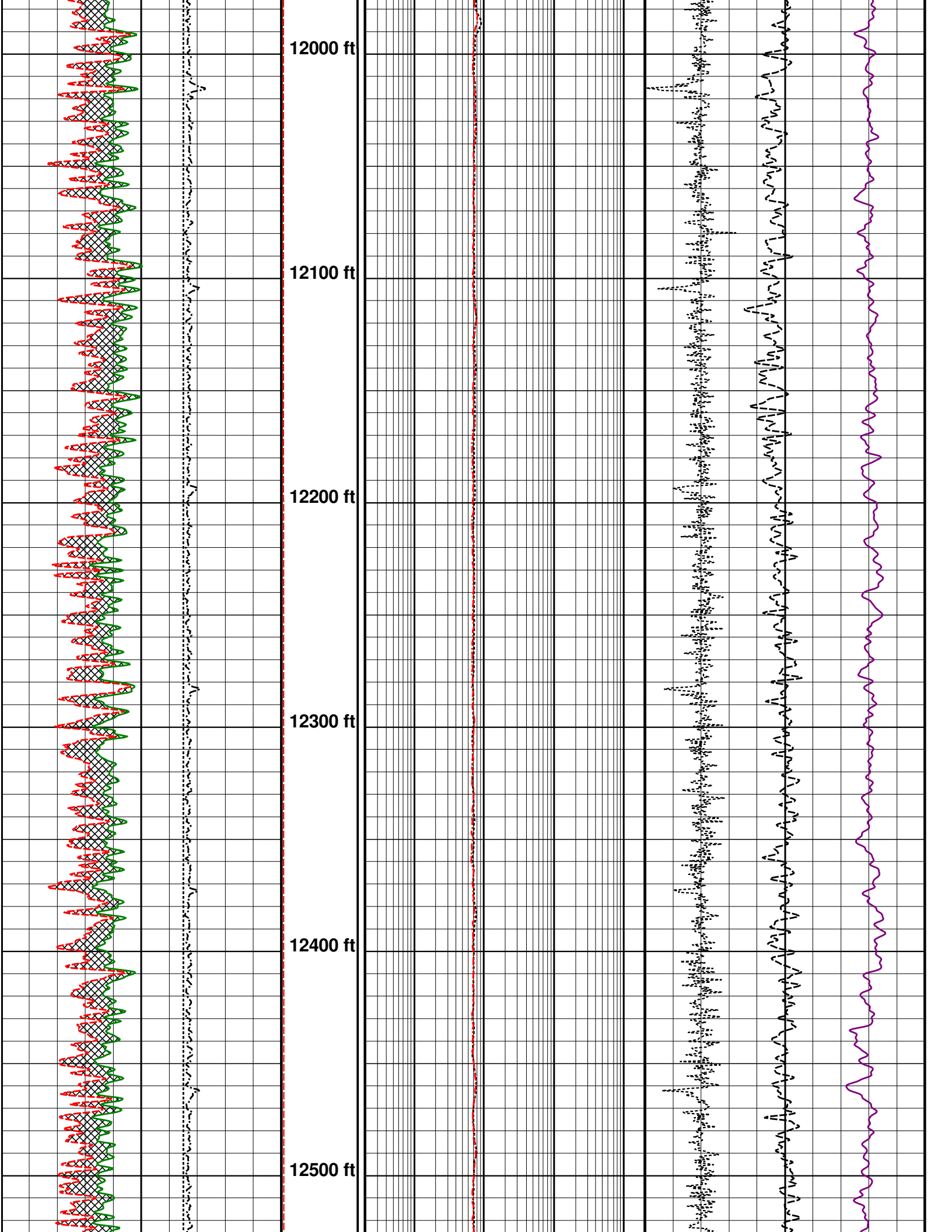
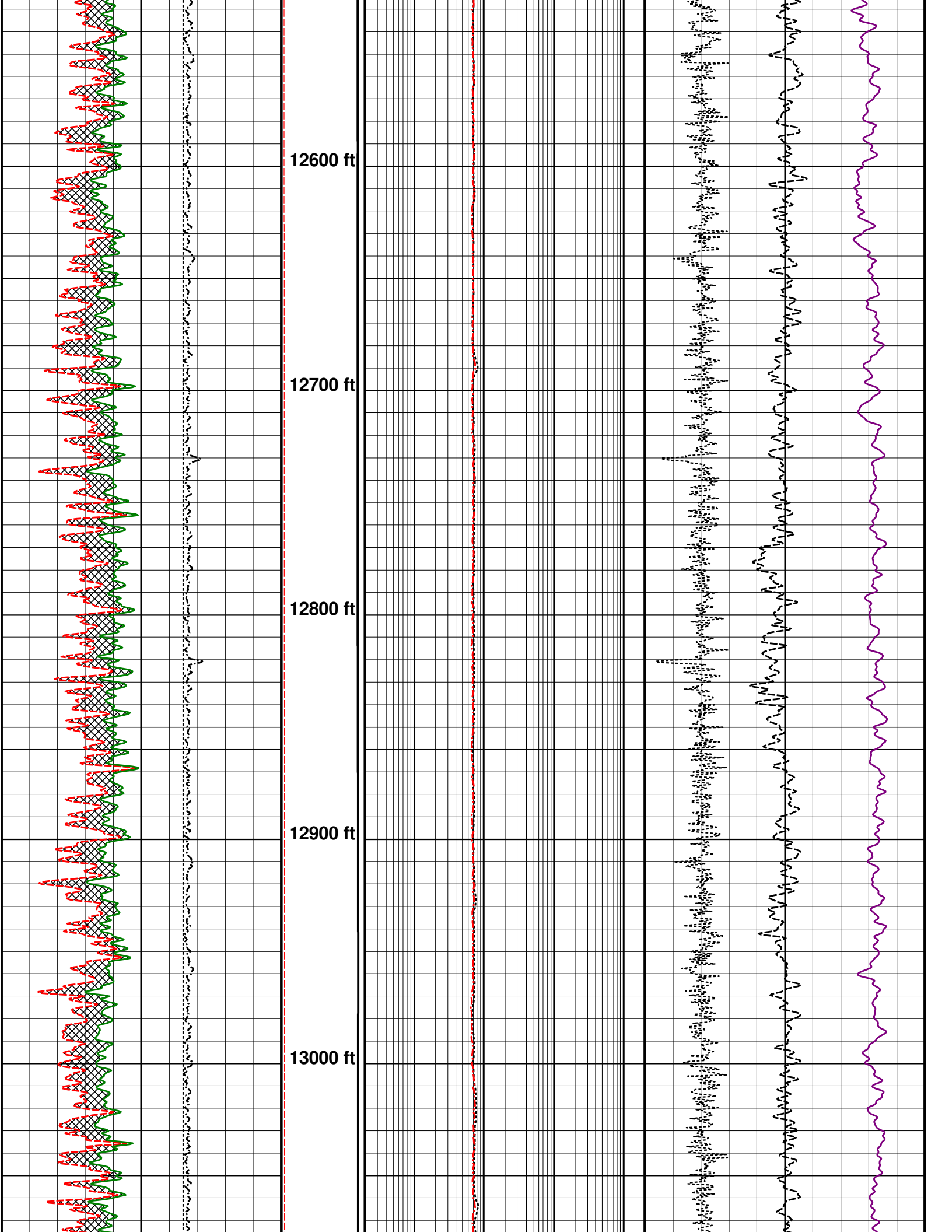
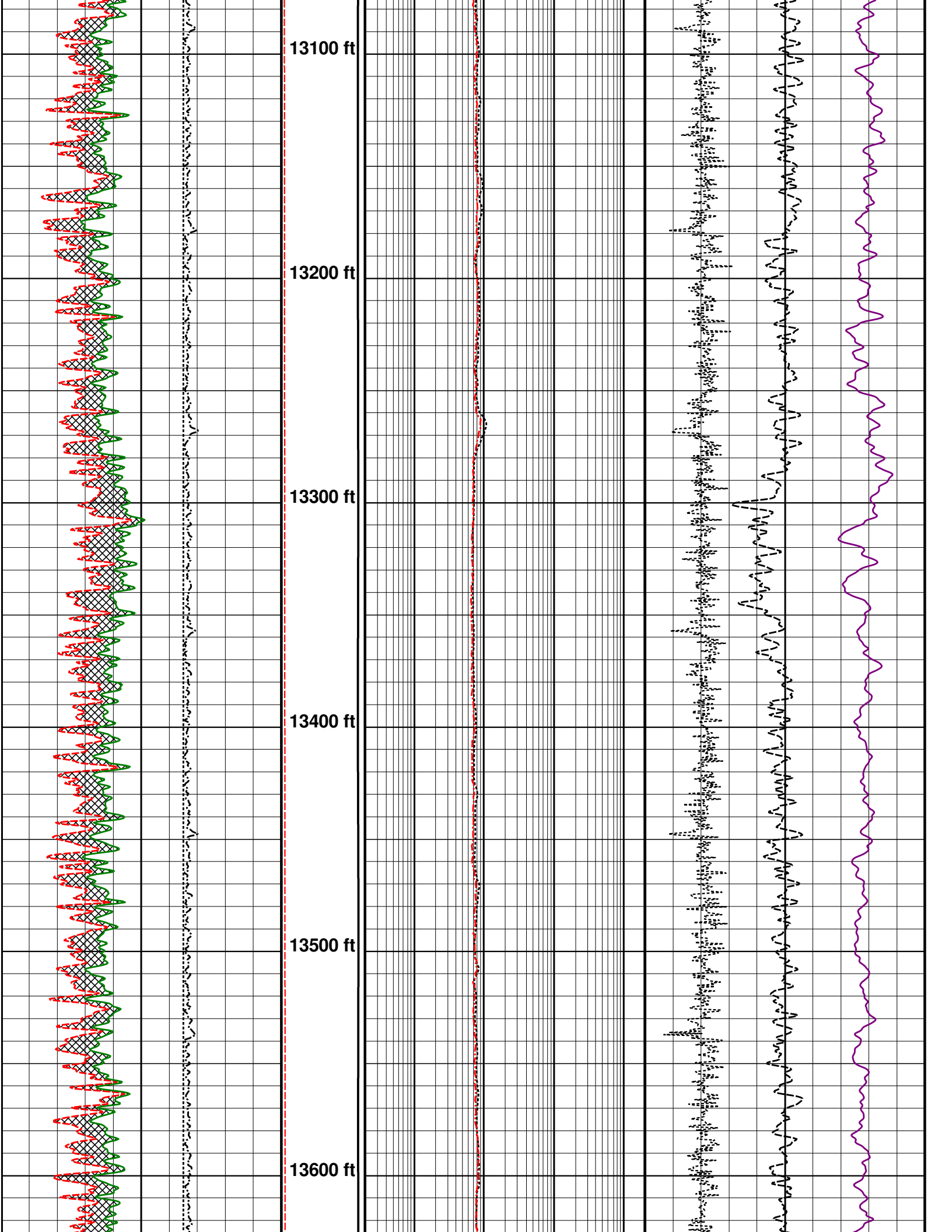
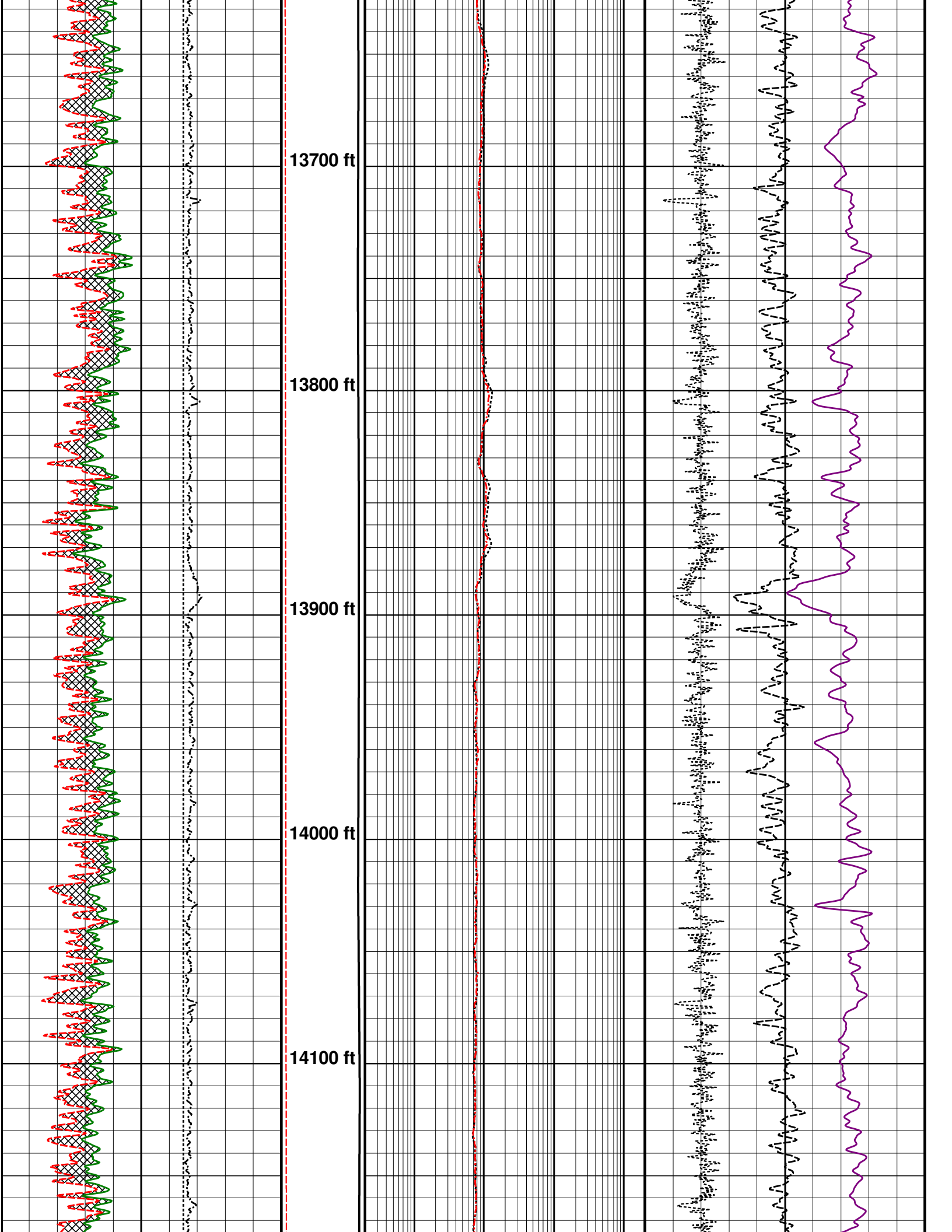
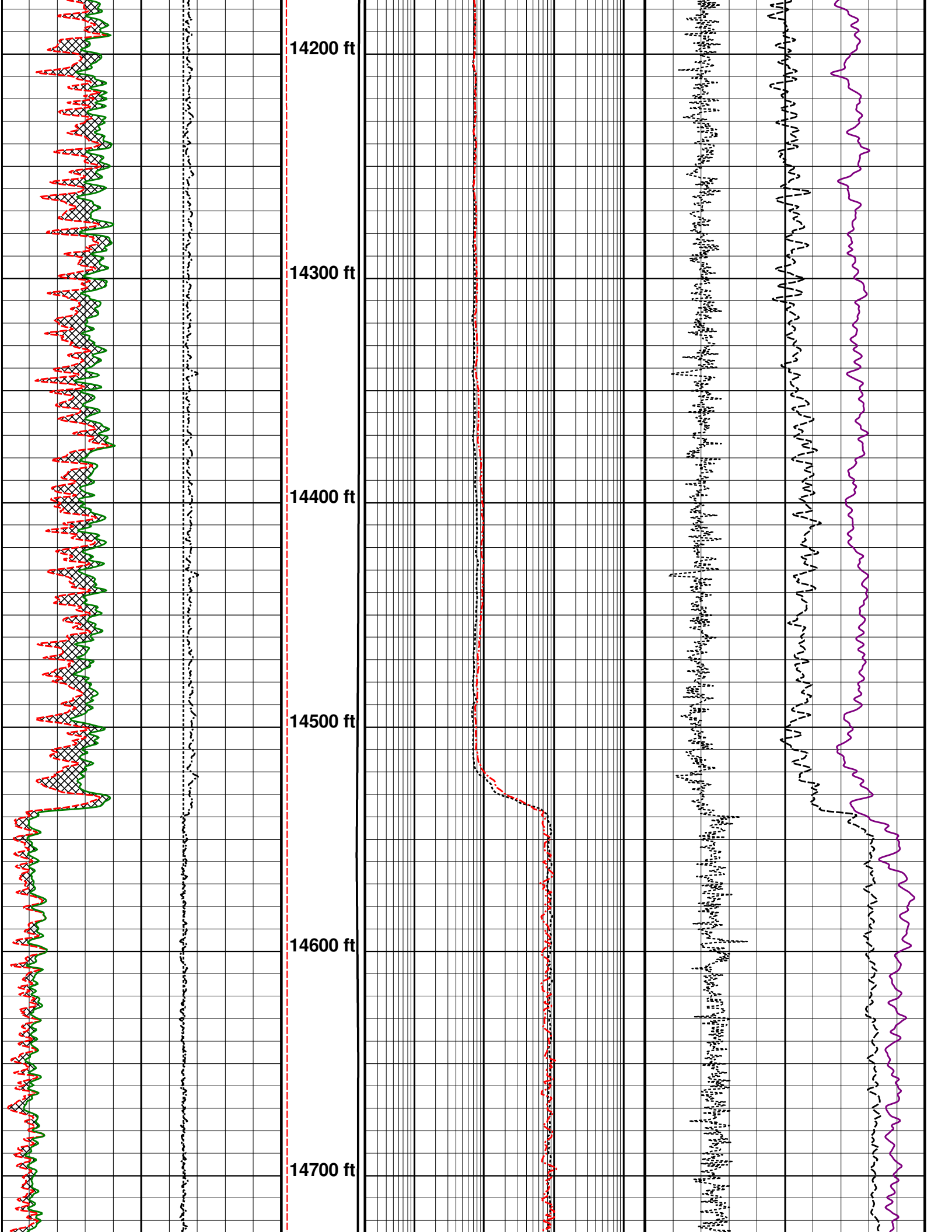
11600 ft
11700 ft
11800 ft
11900 ft

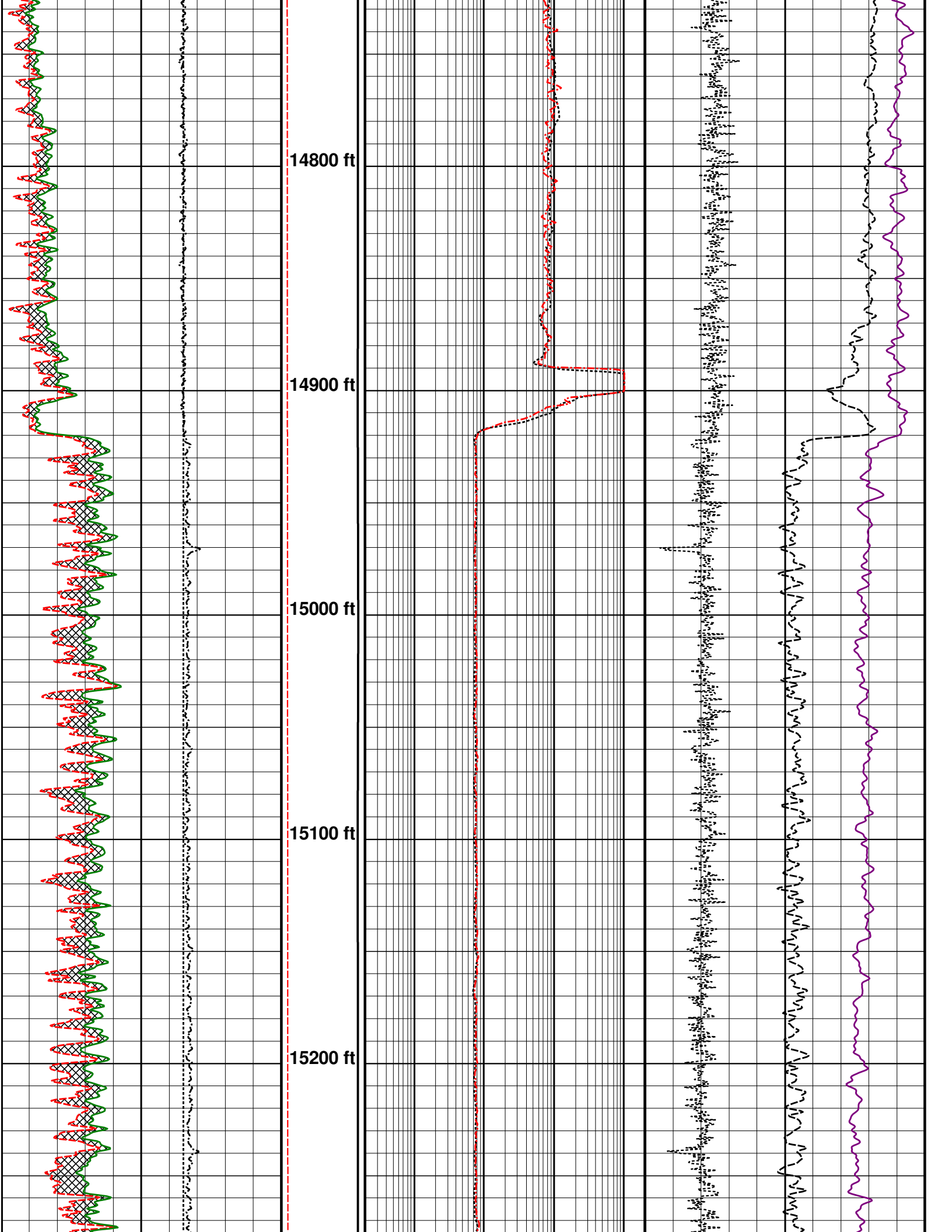

12000 ft
12100 ft
12200 ft
12300 ft
12400 ft
12500 ft

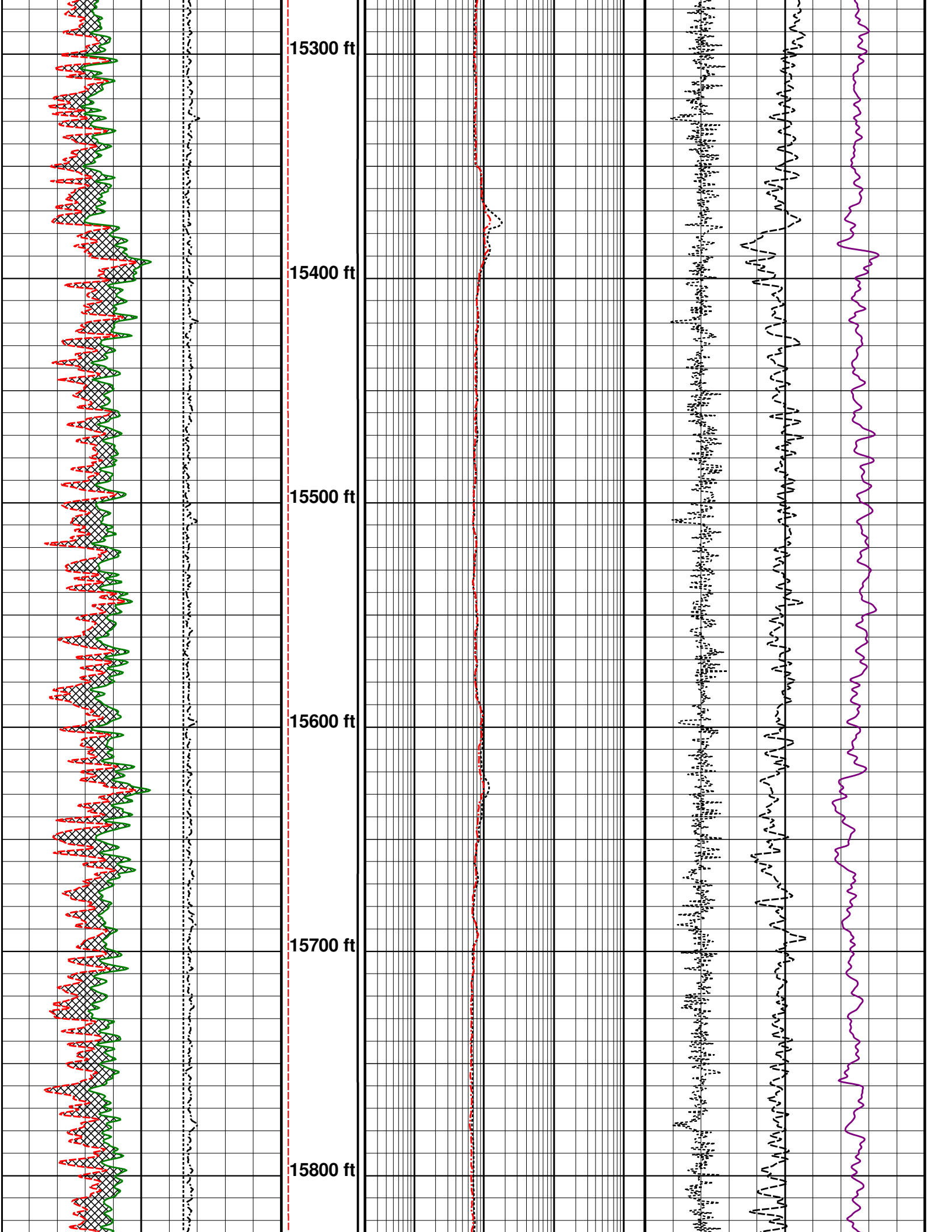

12600 ft
12700 ft
12800 ft
12900 ft
13000 ft


13100 ft
13200 ft
13300 ft
13400 ft
13500 ft
13600 ft


13700 ft
13800 ft
13900 ft
14000 ft
14100 ft


14200 ft
14300 ft
14400 ft
14500 ft
14600 ft
14700 ft


14800 ft
14900 ft
15000 ft
15100 ft
15200 ft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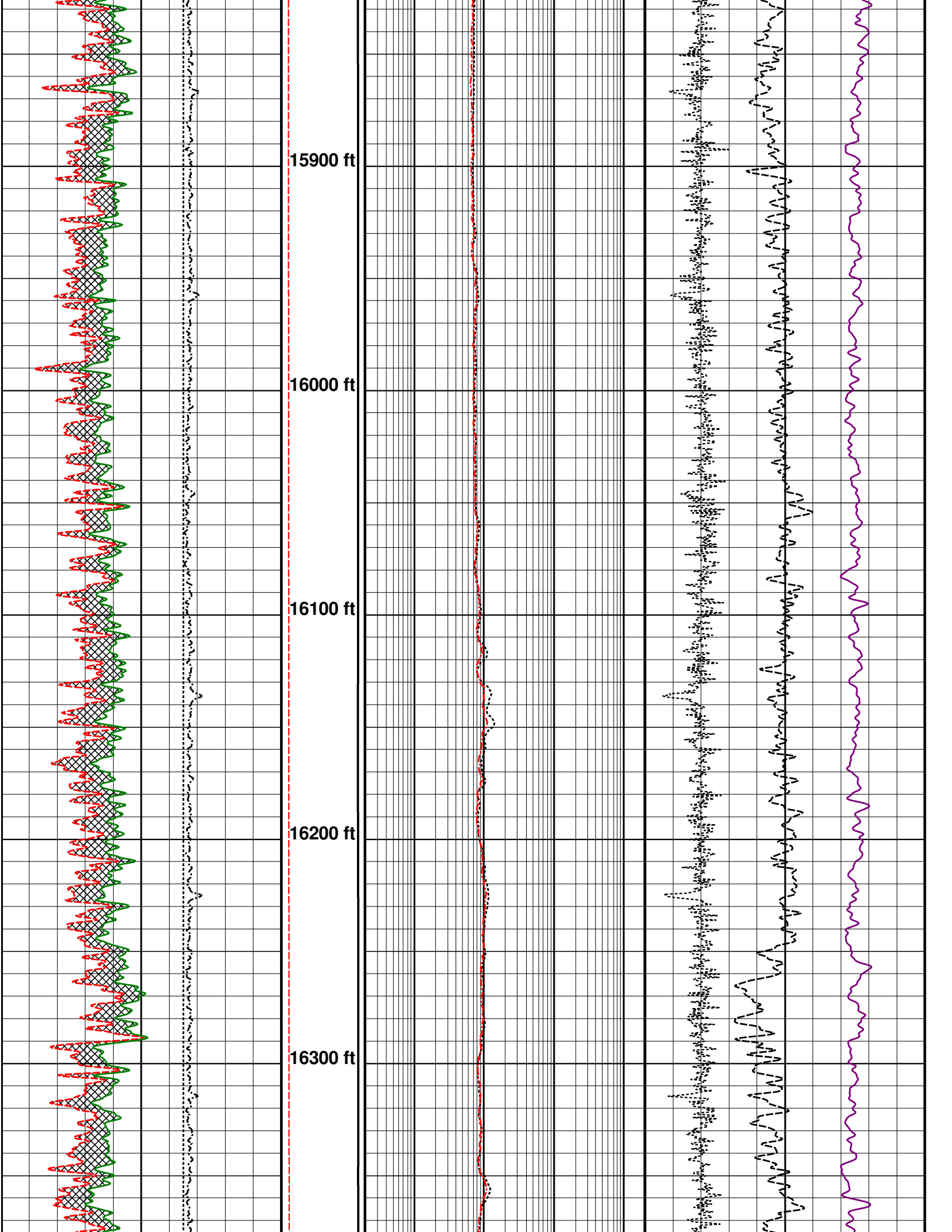
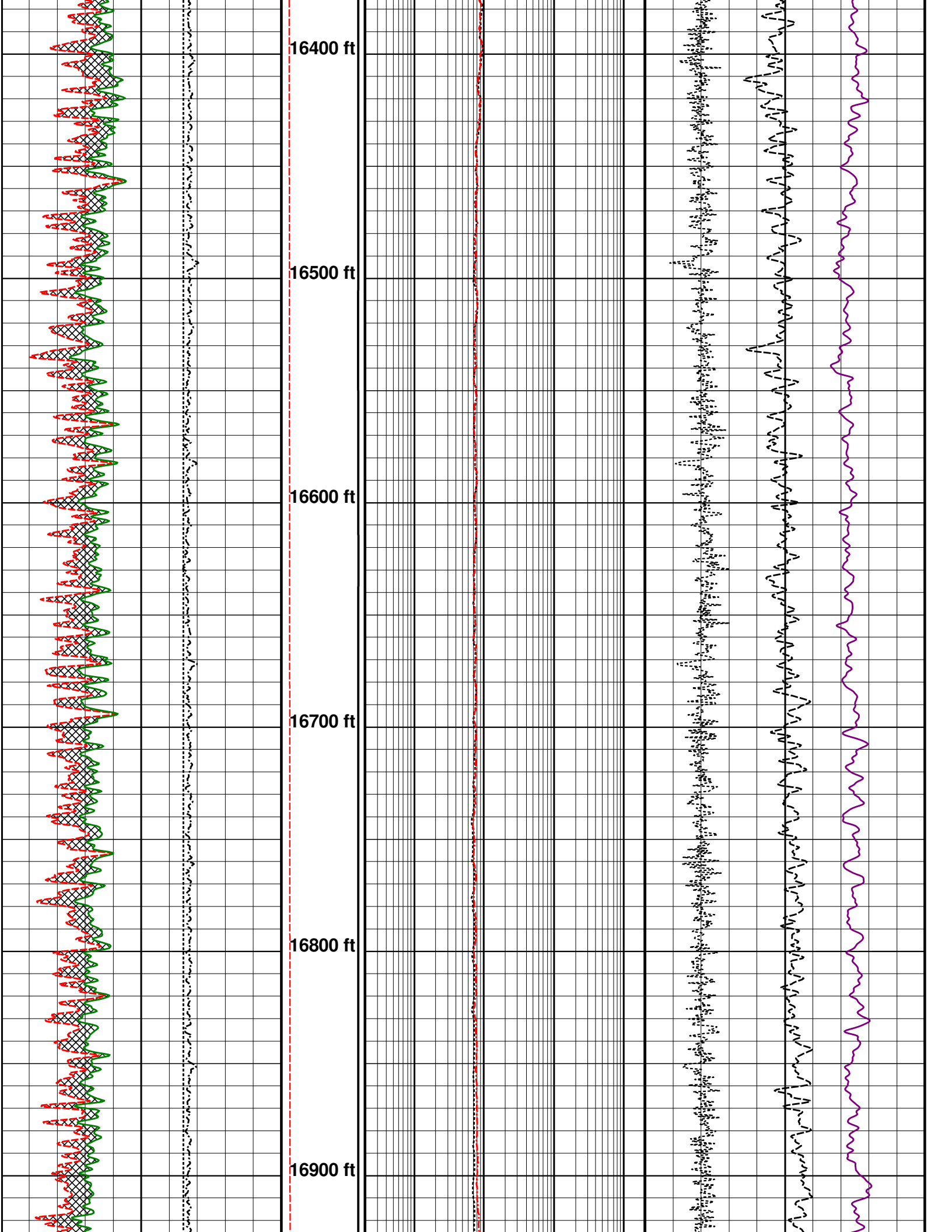
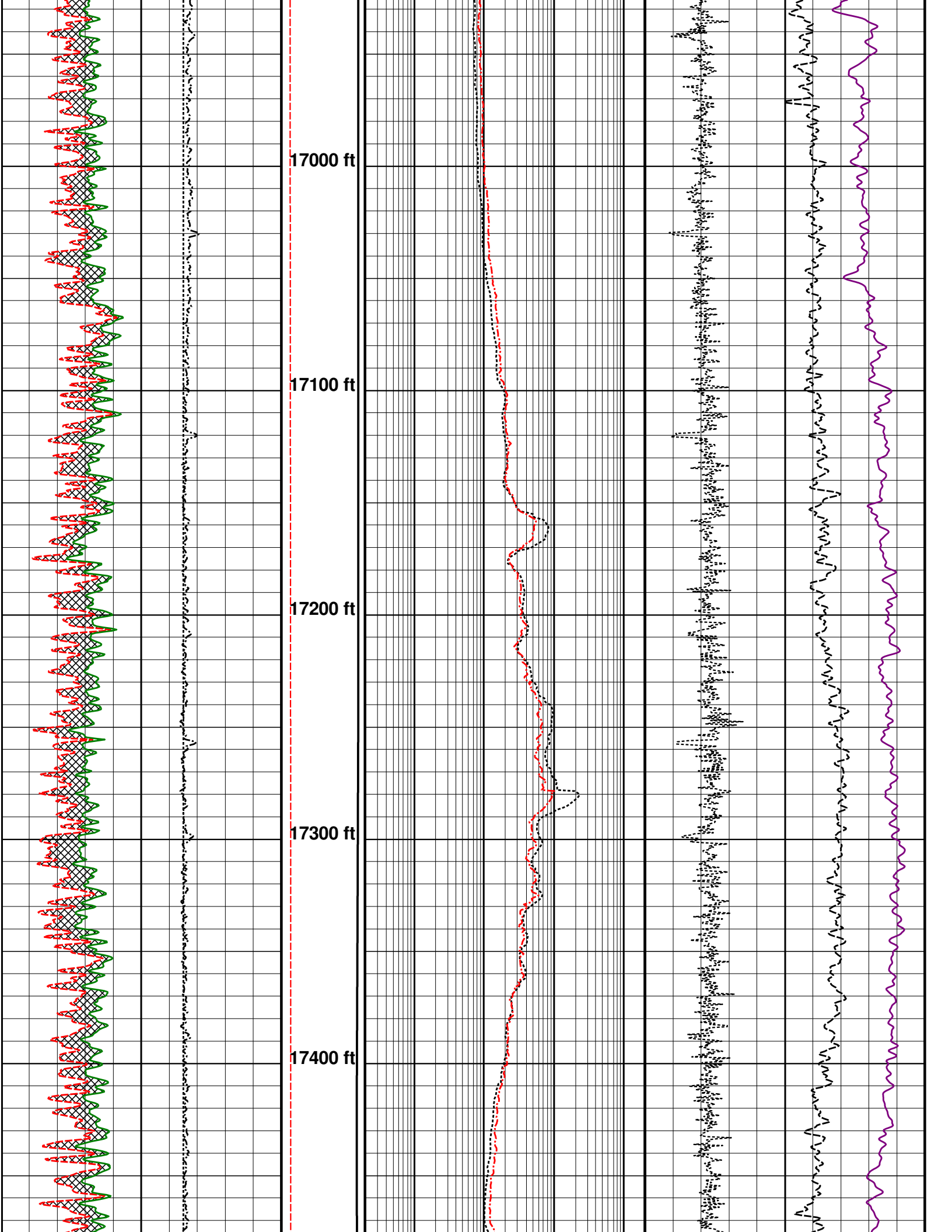
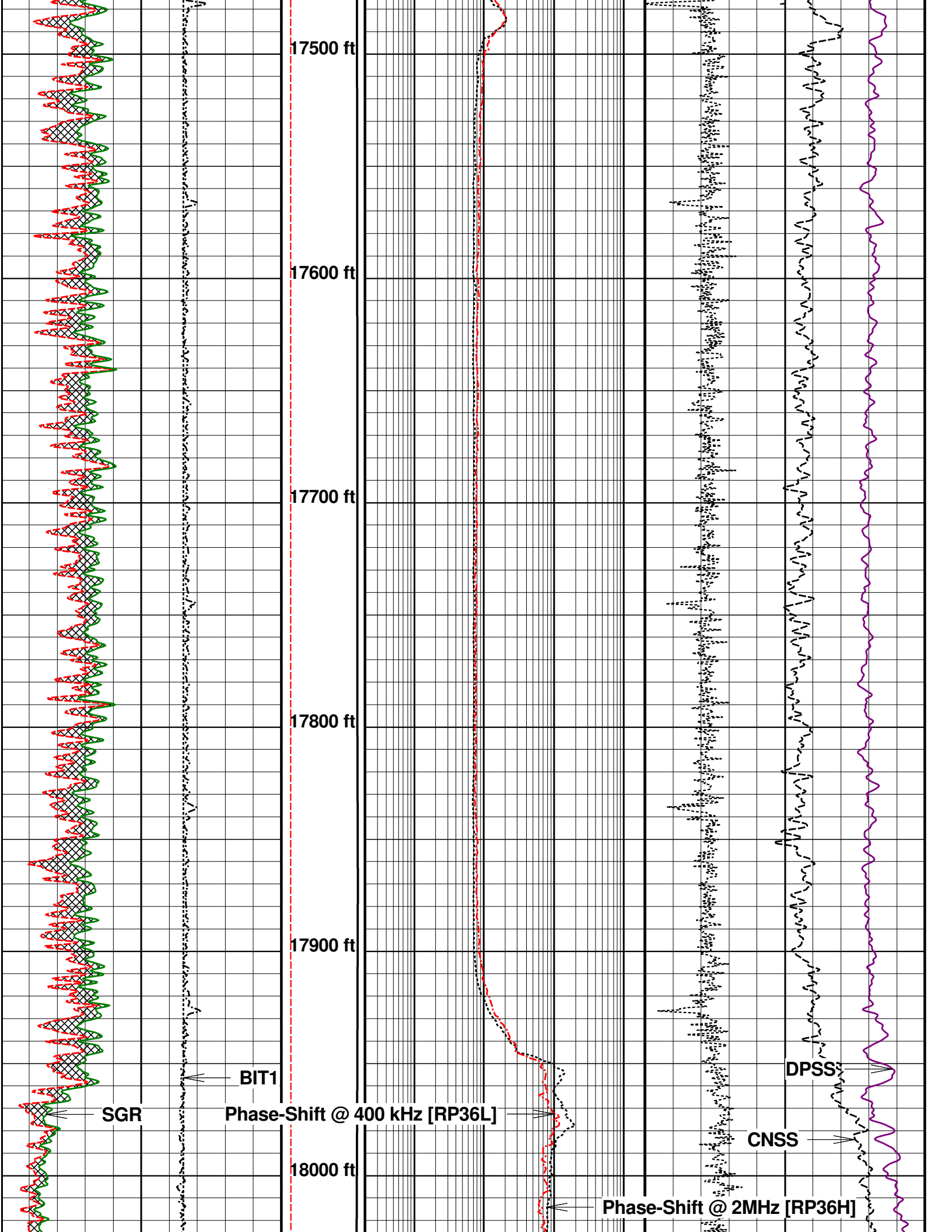
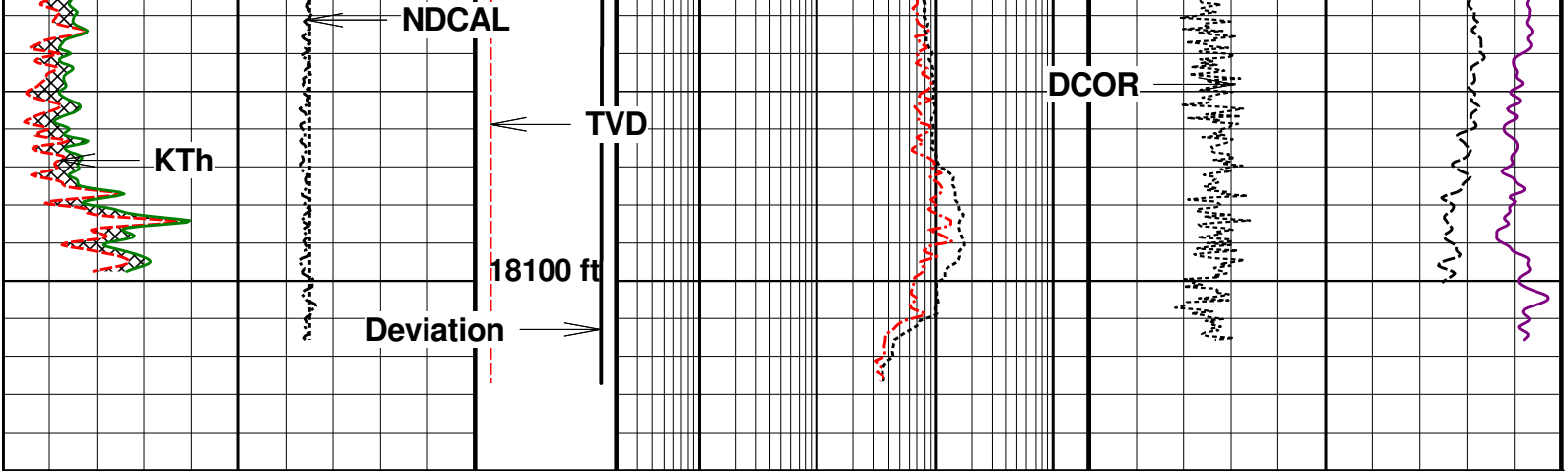
15400 ft
15500 ft
15600 ft
15700 ft
15800 ft


15900 ft
16000 ft
16100 ft
16200 ft
16300 ft


16400 ft
16500 ft
16600 ft
16700 ft
16800 ft
16900 ft


17000 ft
17100 ft
17200 ft
17300 ft
17400 ft


17500 ft
17600 ft
17700 ft
17800 ft
17900 ft
18000 ft
BIT1
SGR
Phase-Shift @ 400 kHz [RP36L]
DPSS3
CNSS
Phase-Shift @ 2MHz [RP36H]



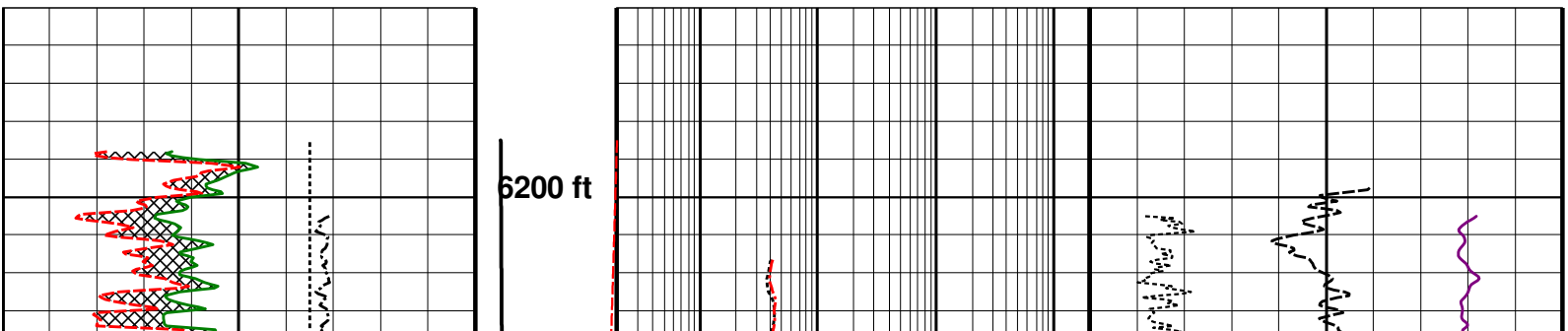
BIT1 (inch) 2 Periodic 12
Deviation (deg) 0.0 100.0
Phase-Shift @ 2MHz [RP36H] (Ohmm) 0.2 2000.0
CNSS (pu) 40 Periodic 0
KTh (gAPI) 0 Periodic 300
TVD (ft) 7370 6170
Phase-Shift @ 400 kHz [RP36L] (Ohmm) 0.2 2000.0
DCOR (g/ccm) -0.05 Periodic 0.20
NDCAL (inch) 2 Periodic 12
DPSS (pu) 40 Periodic 0
SGR (gAPI) 0 Periodic 300

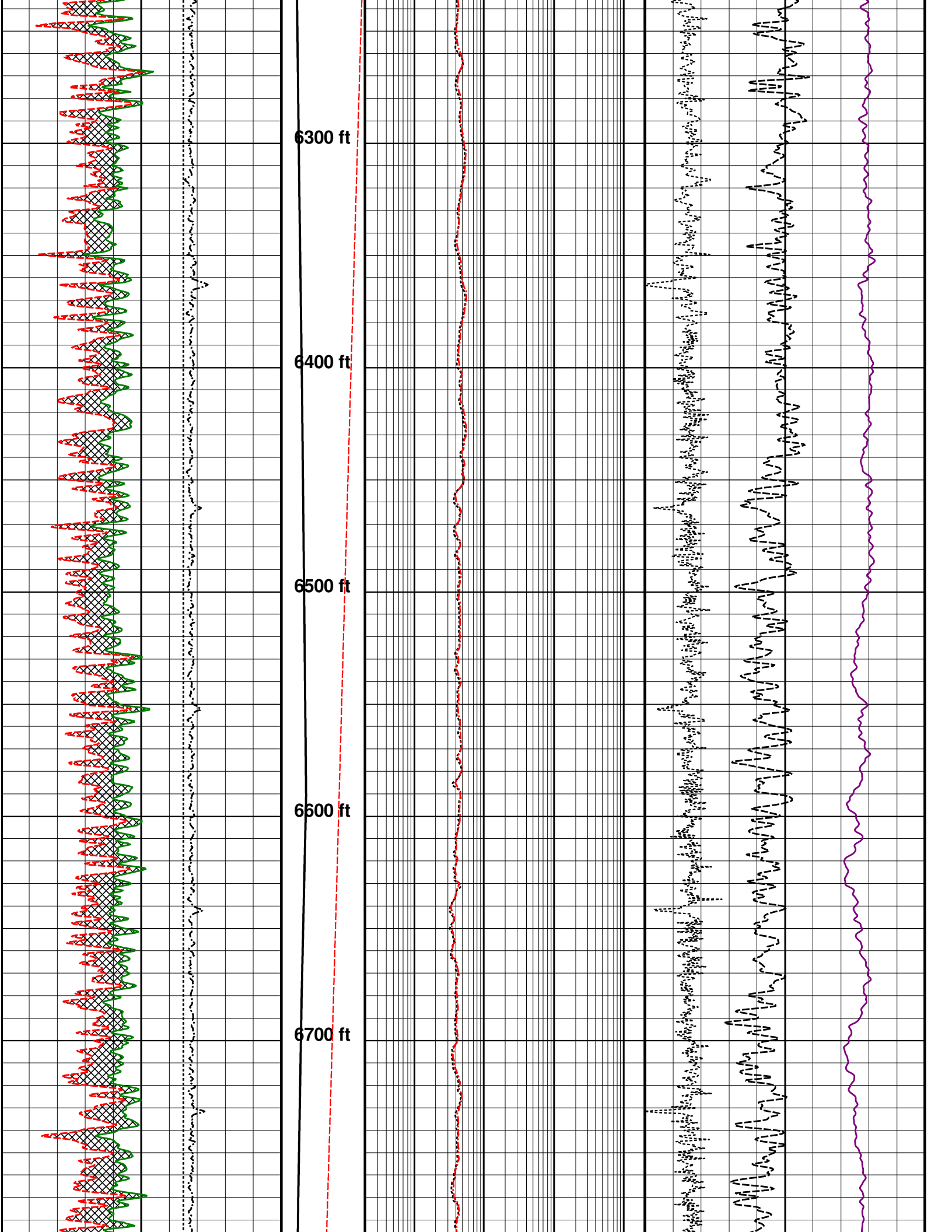
Uranium

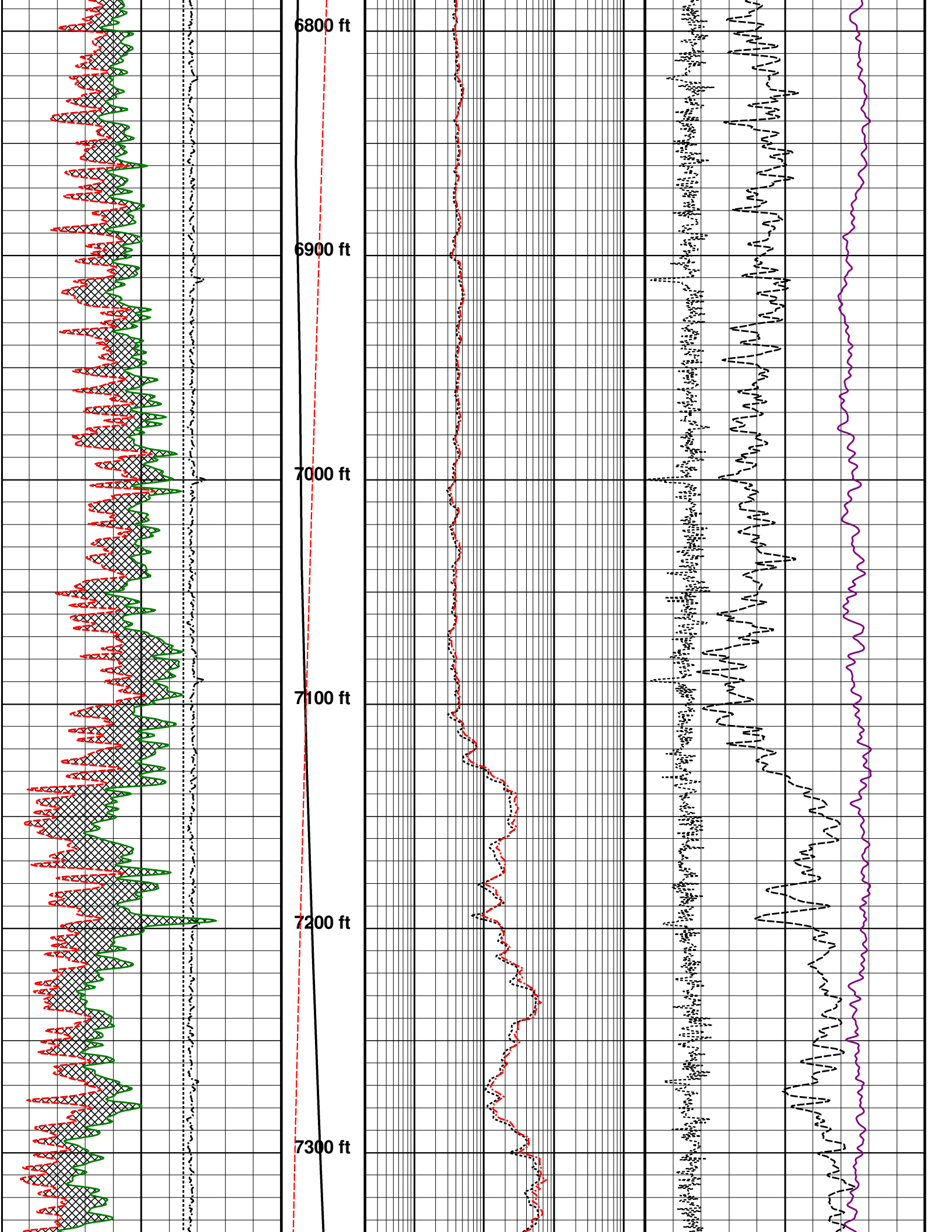
2" MAIN PASS LIMESTONE

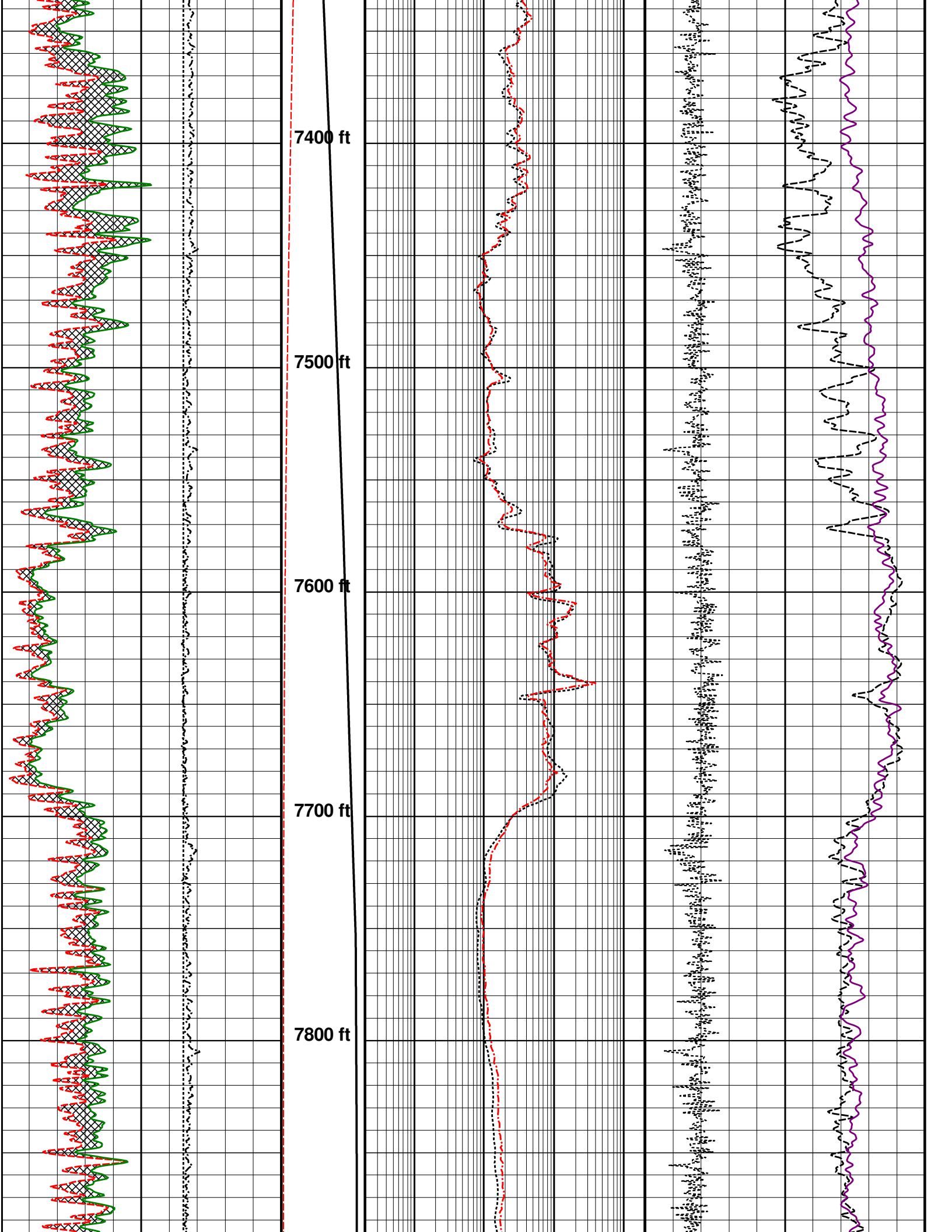
Company	**: GREAT WESTERN OPERATING CO LLC**	**Date**	**: 11.05.2020**
Well	**: POSTLE IC 09-142HC**	**Time**	**:**
Scale	**: 1 : 600**	**Remarks**	**: LIMESTONE MATRIX**
Depth in	**: feet**		
Software	**: WinAPlot Ver. 6, 18, 0, 0**	**File Name**	**: C:\...\Data\FINAL MD.las**

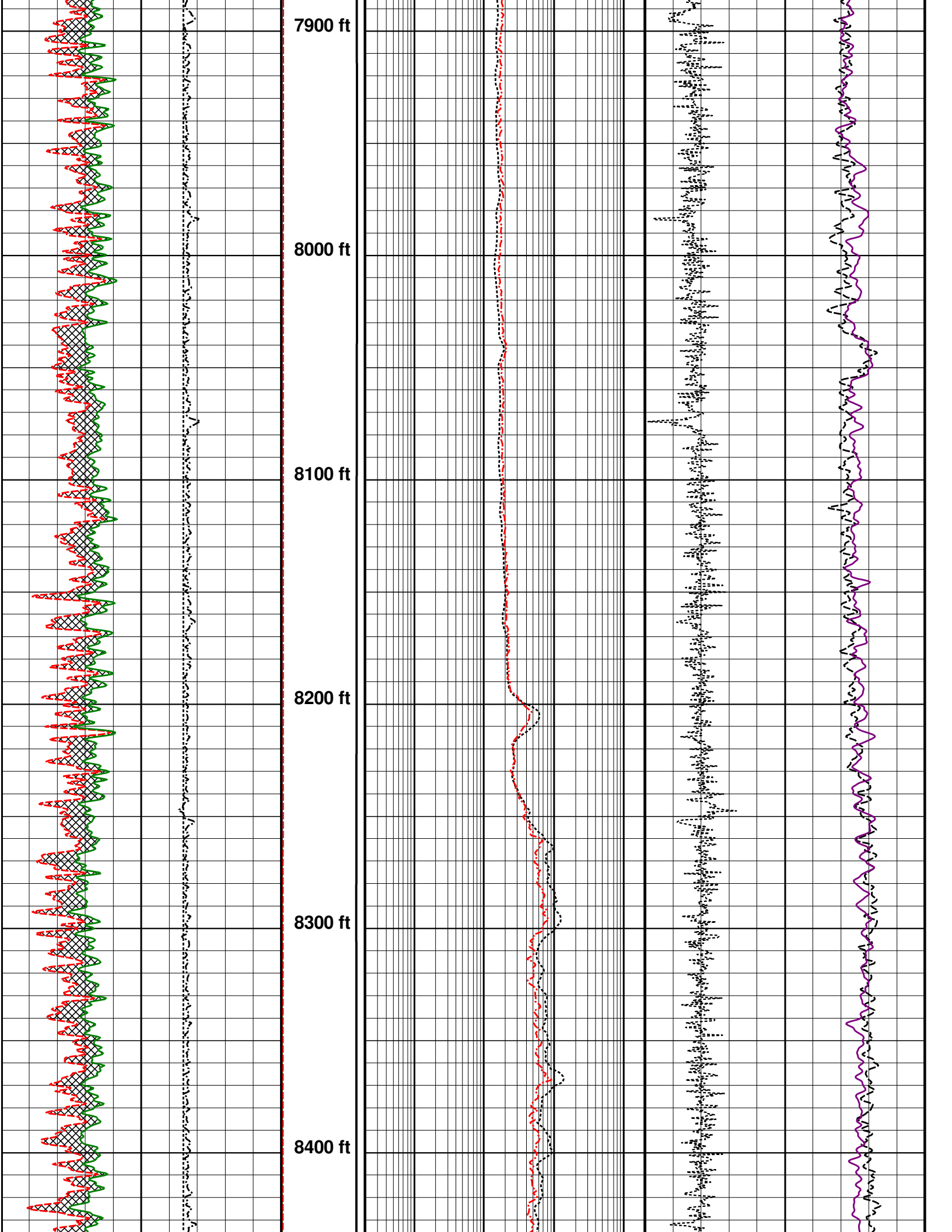
SGR (gAPI) 0 Periodic 300
NDCAL (inch) 2 Periodic 12
DPLS (pu) 40 Periodic 0
KTh (gAPI) 0 Periodic 300
TVD (ft) 7370 6170
Phase-Shift @ 400 kHz [RP36L] (Ohmm) 0.2 2000.0
DCOR (g/ccm) -0.05 Periodic 0.20
BIT1 (inch) 2 Periodic 12
Deviation (deg) 0.0 100.0
Phase-Shift @ 2MHz [RP36H] (Ohmm) 0.2 2000.0
CNLS (none) 40 Periodic 0

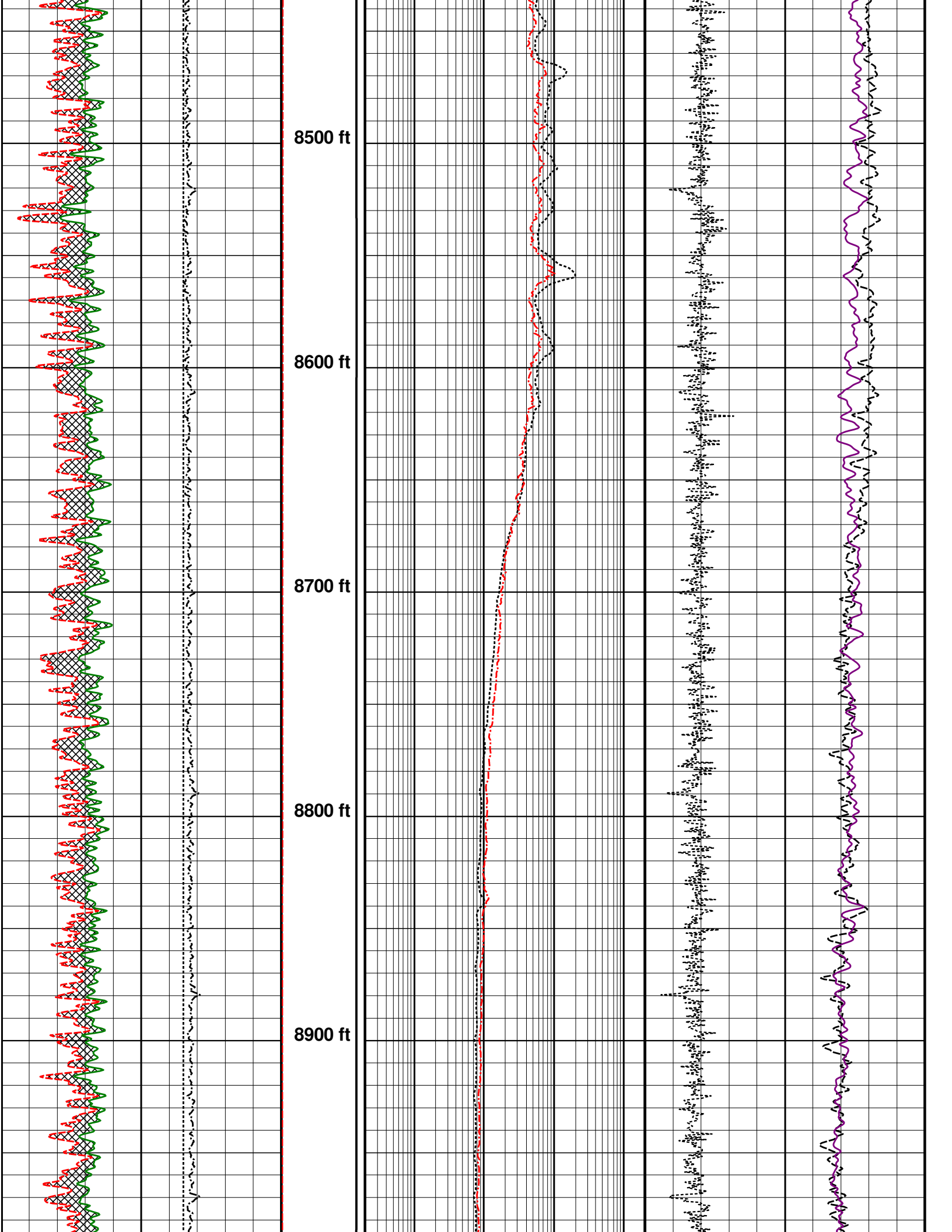


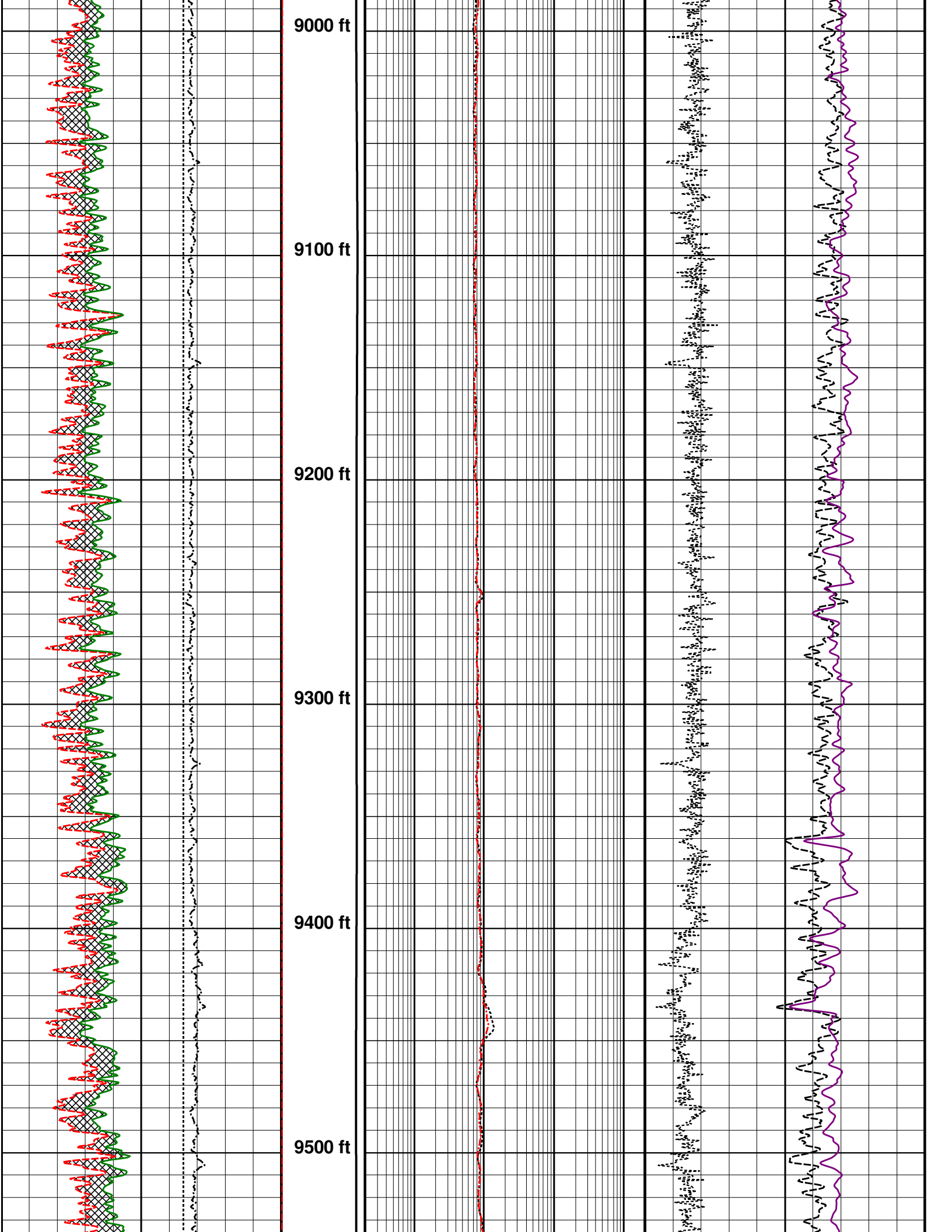

6300 ft
6400 ft
6500 ft
6600 ft
6700 ft


6800 ft
6900 ft
7000 ft
7100 ft
7200 ft
7300 ft


7400 ft
7500 ft
7600 ft
7700 ft
7800 ft


7900 ft
8000 ft
8100 ft
8200 ft
8300 ft
8400 ft


8500 ft
8600 ft
8700 ft
8800 ft
8900 ft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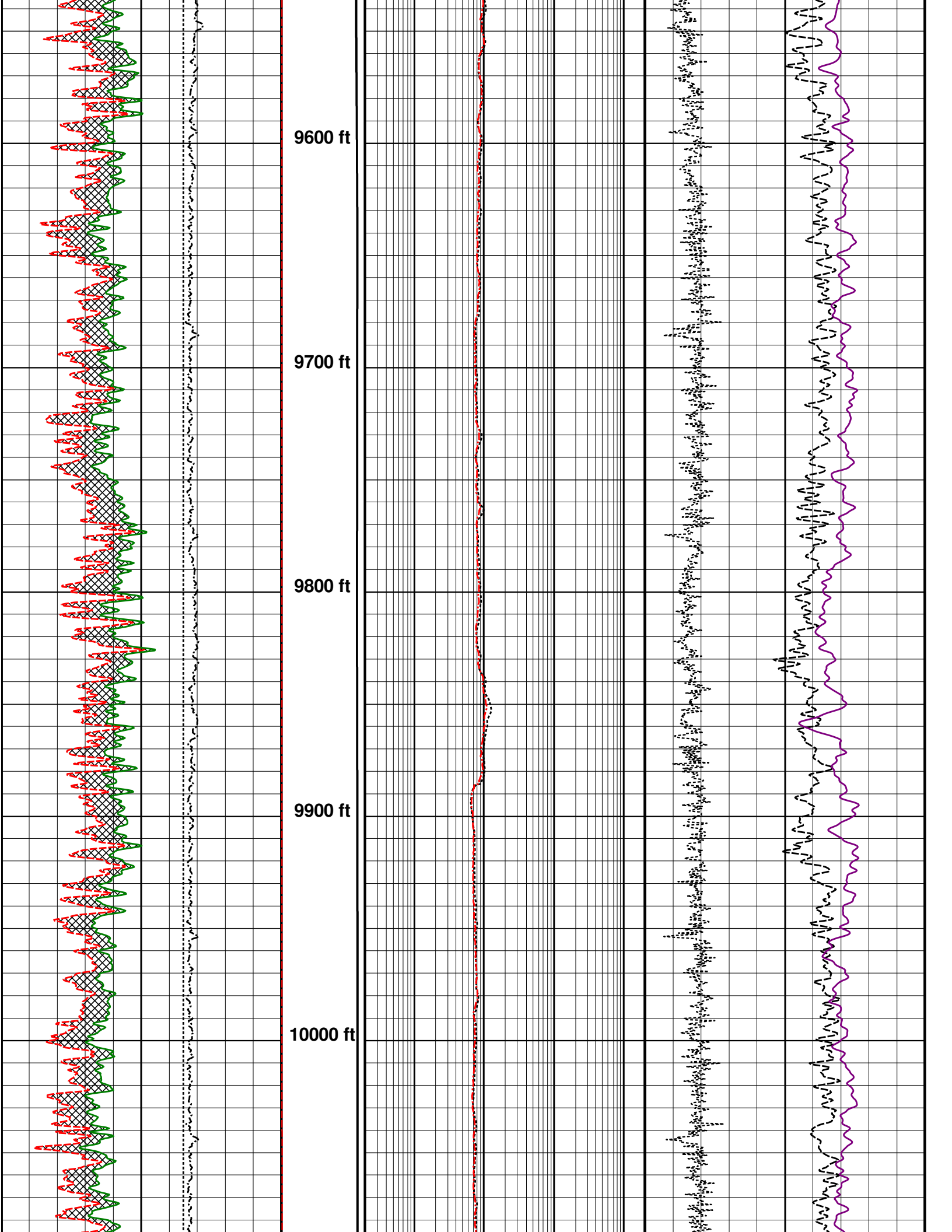
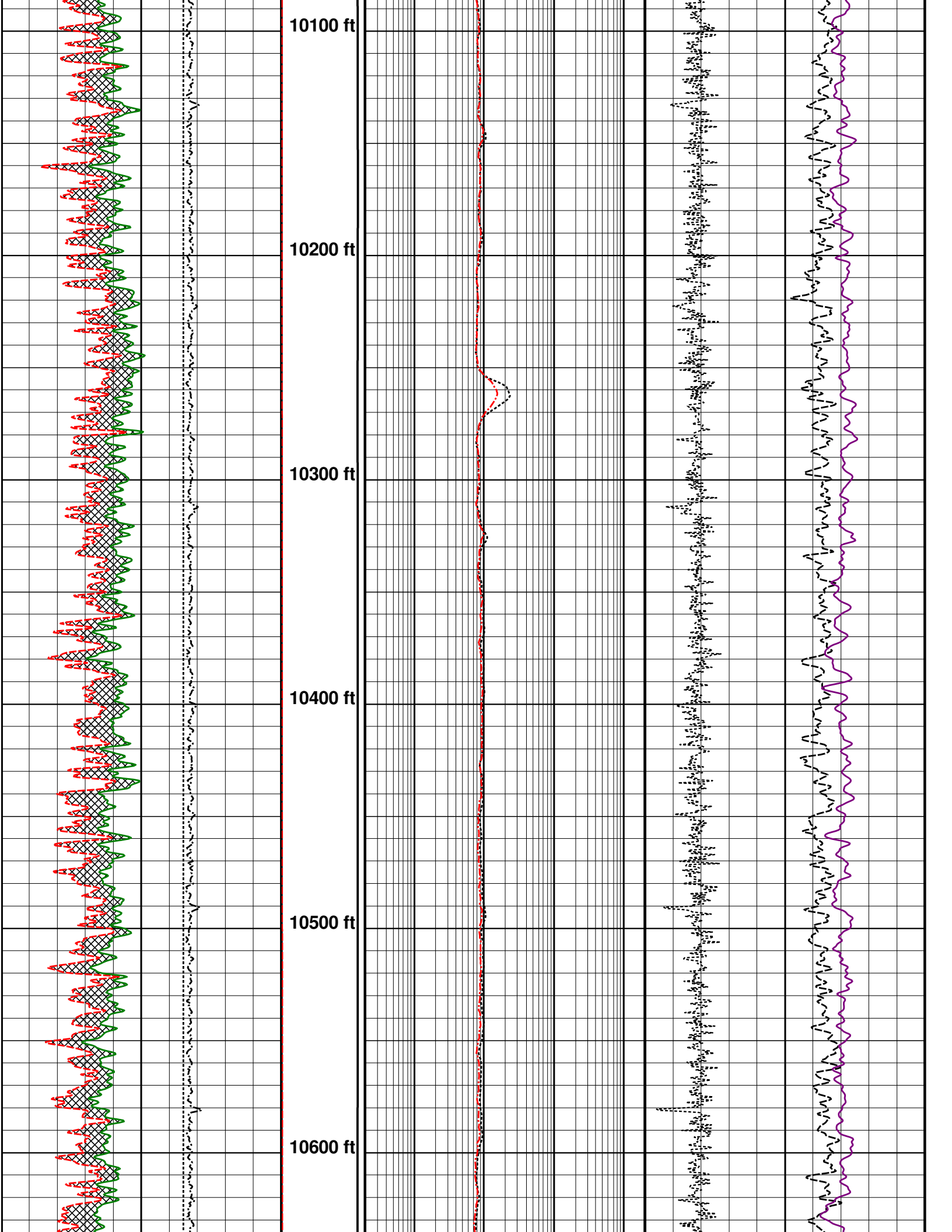
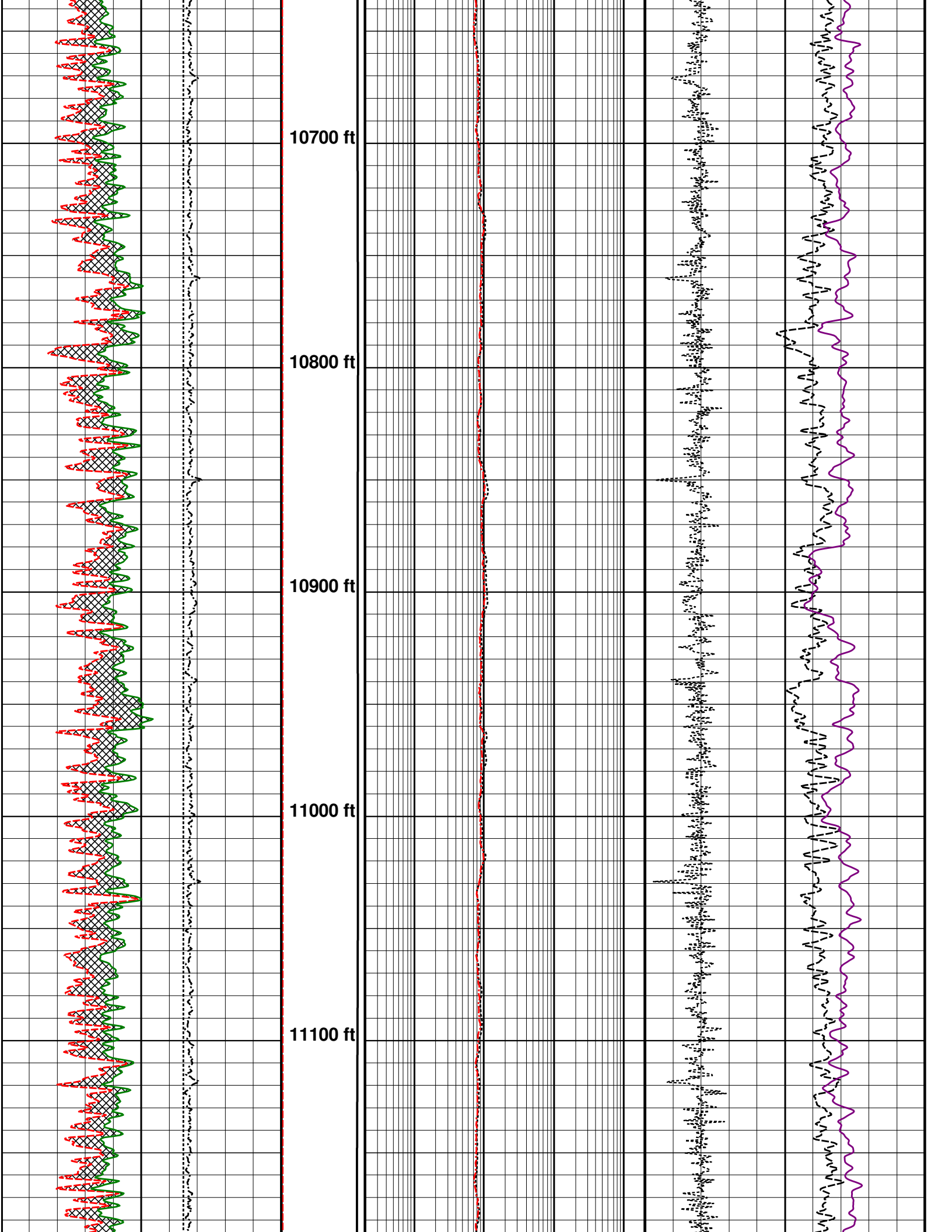
9300 ft
9400 ft
9500 ft


9600 ft
9700 ft
9800 ft
9900 ft
10000 ft


10100 ft
10200 ft
10300 ft
10400 ft
10500 ft
10600 ft


10700 ft
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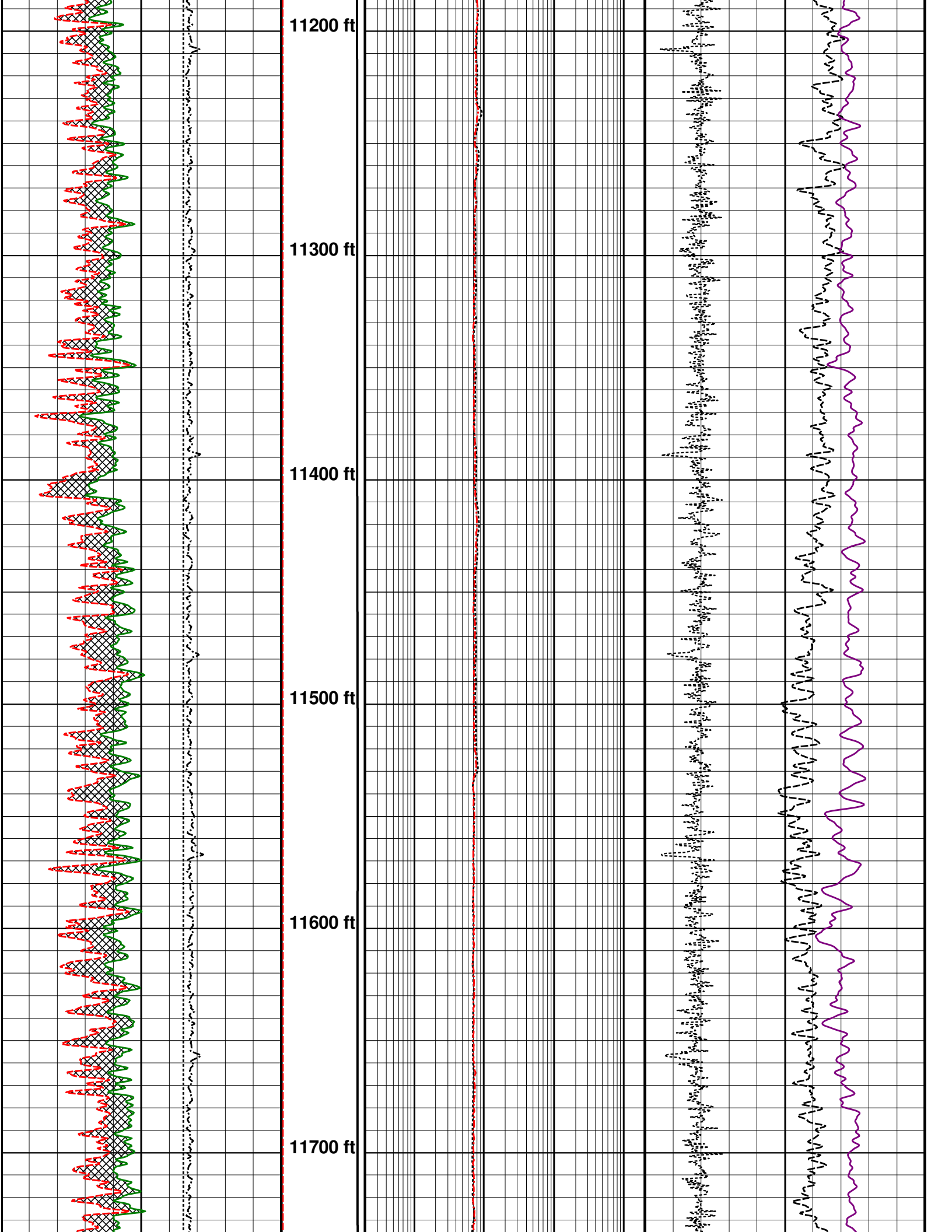
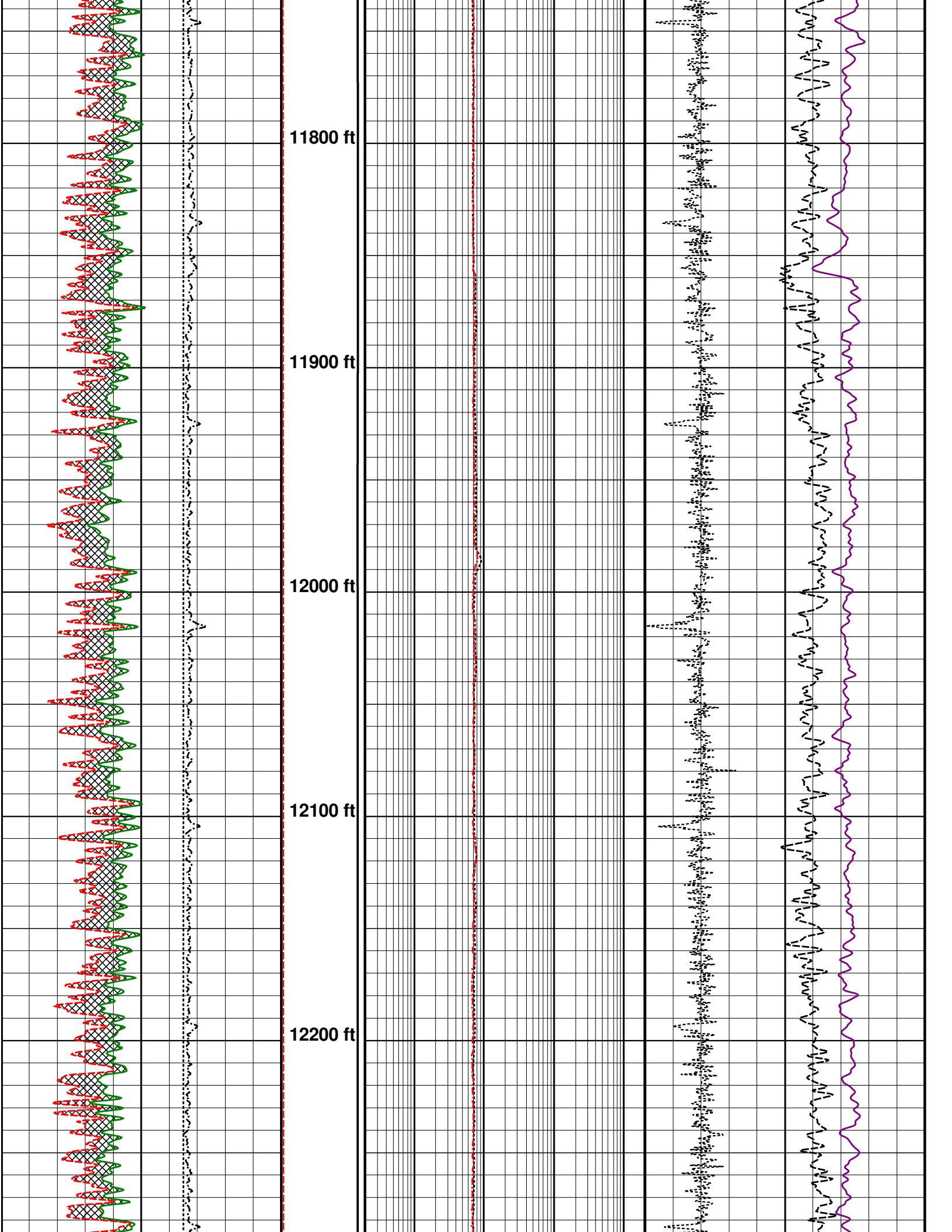
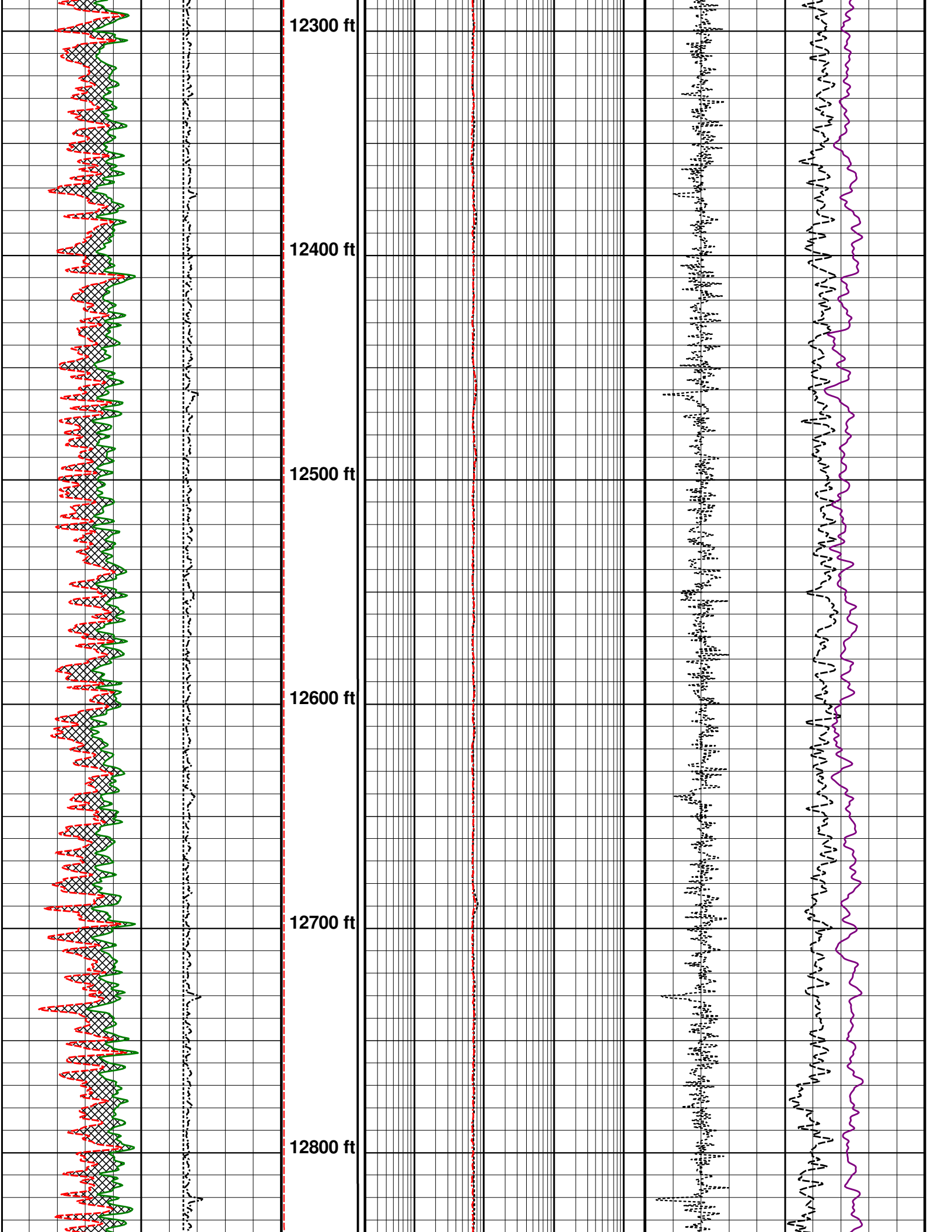
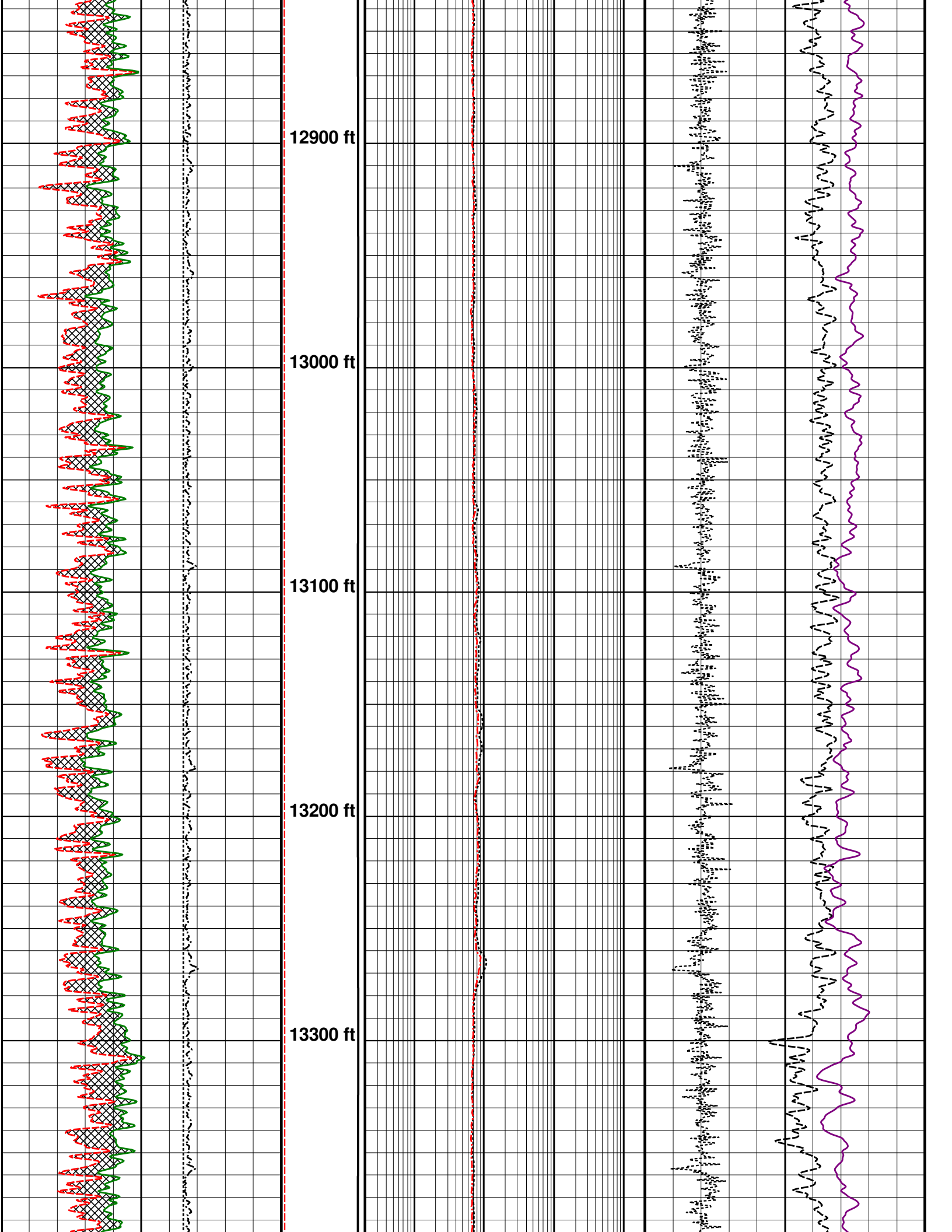
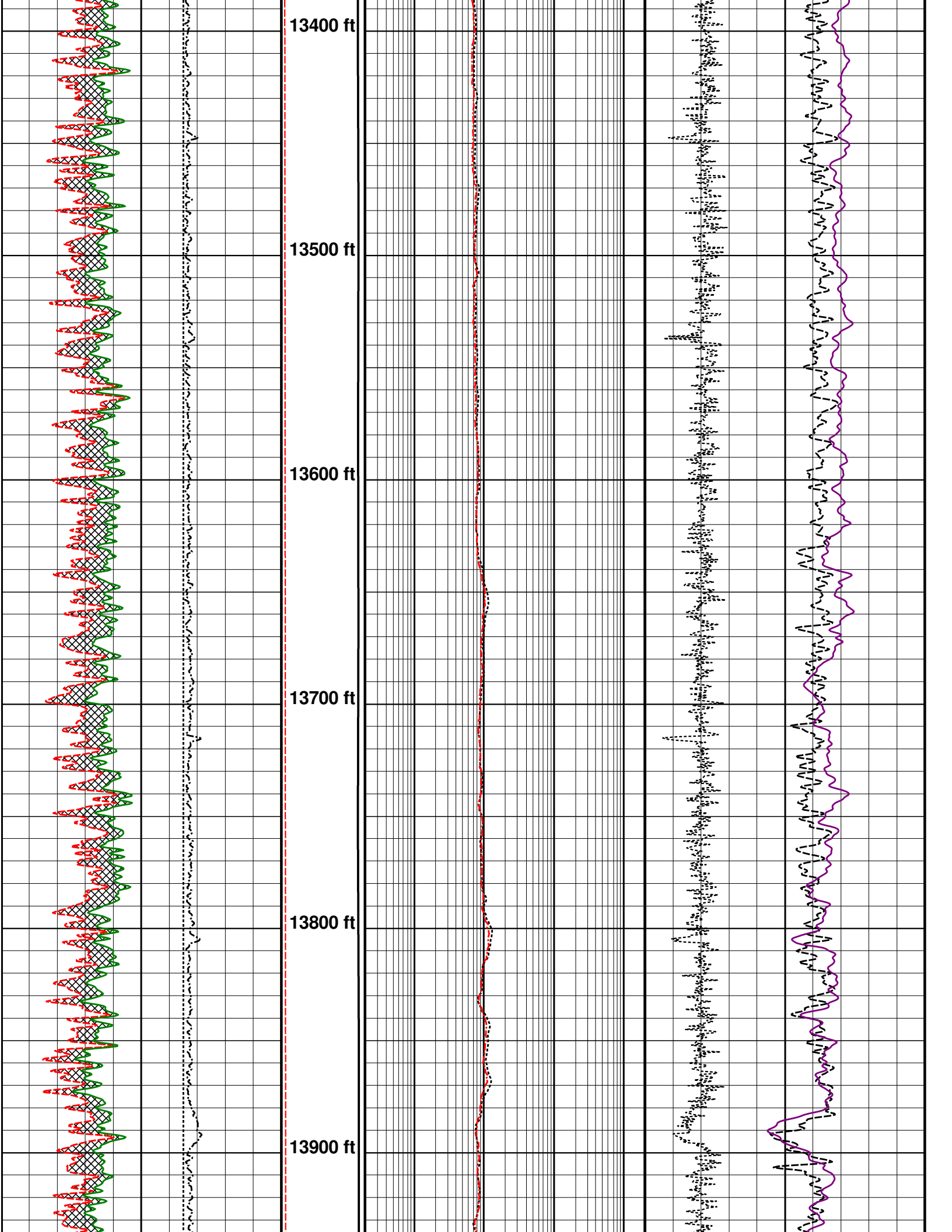
10900 ft
11000 ft
11100 ft

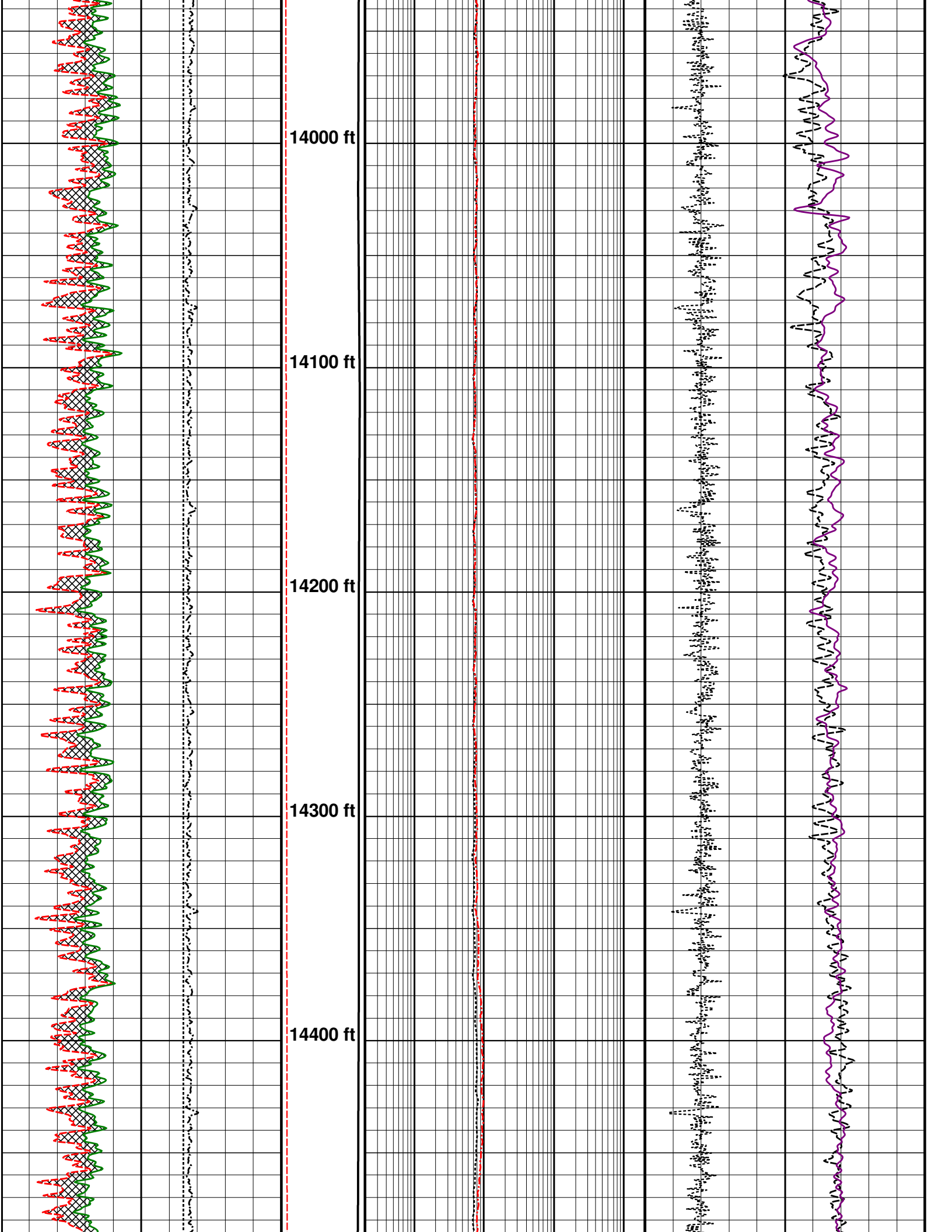

11200 ft
11300 ft
11400 ft
11500 ft
11600 ft
11700 ft


11800 ft
11900 ft
12000 ft
12100 ft
12200 ft


12300 ft
12400 ft
12500 ft
12600 ft
12700 ft
12800 ft


12900 ft
13000 ft
13100 ft
13200 ft
13300 ft


13400 ft
13500 ft
13600 ft
13700 ft
13800 ft
13900 ft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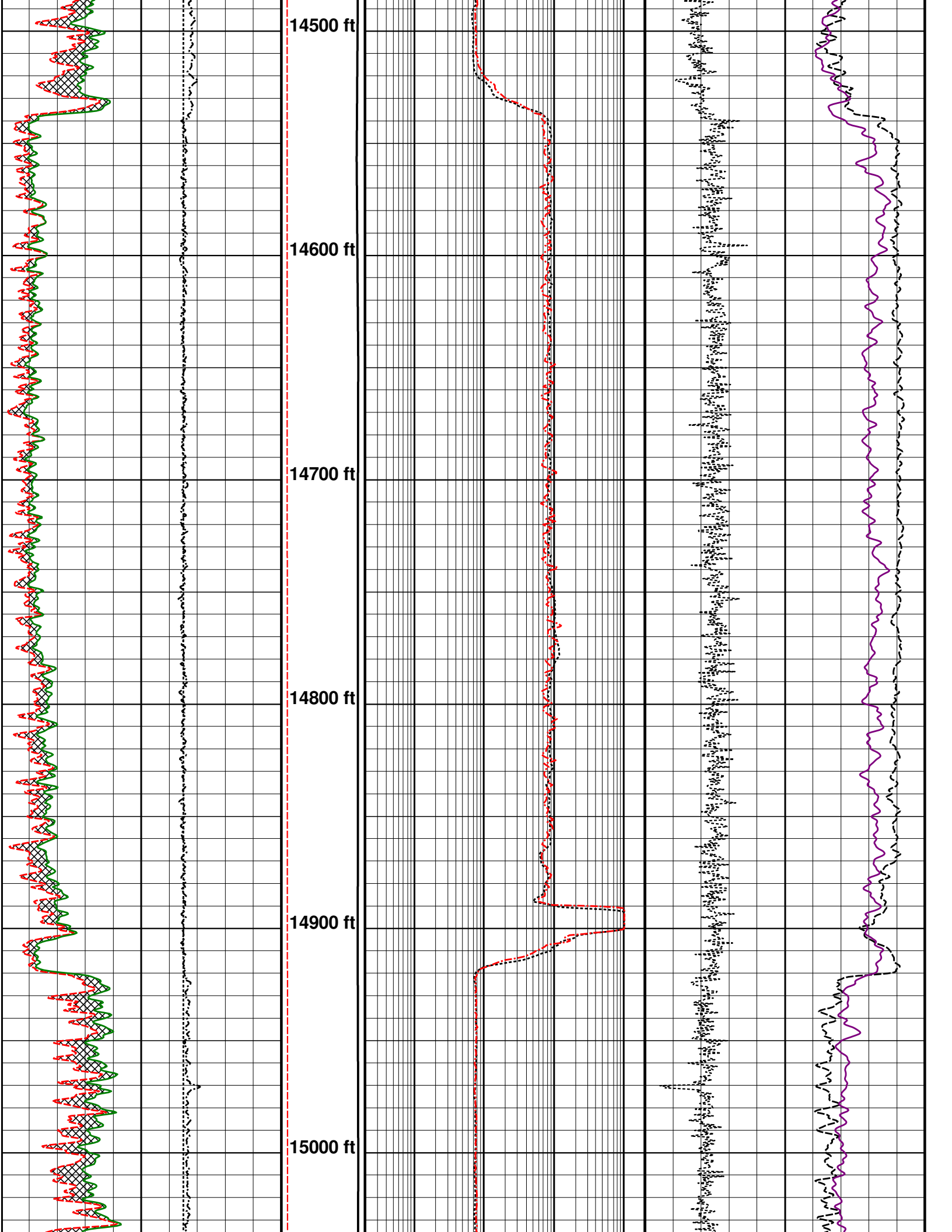
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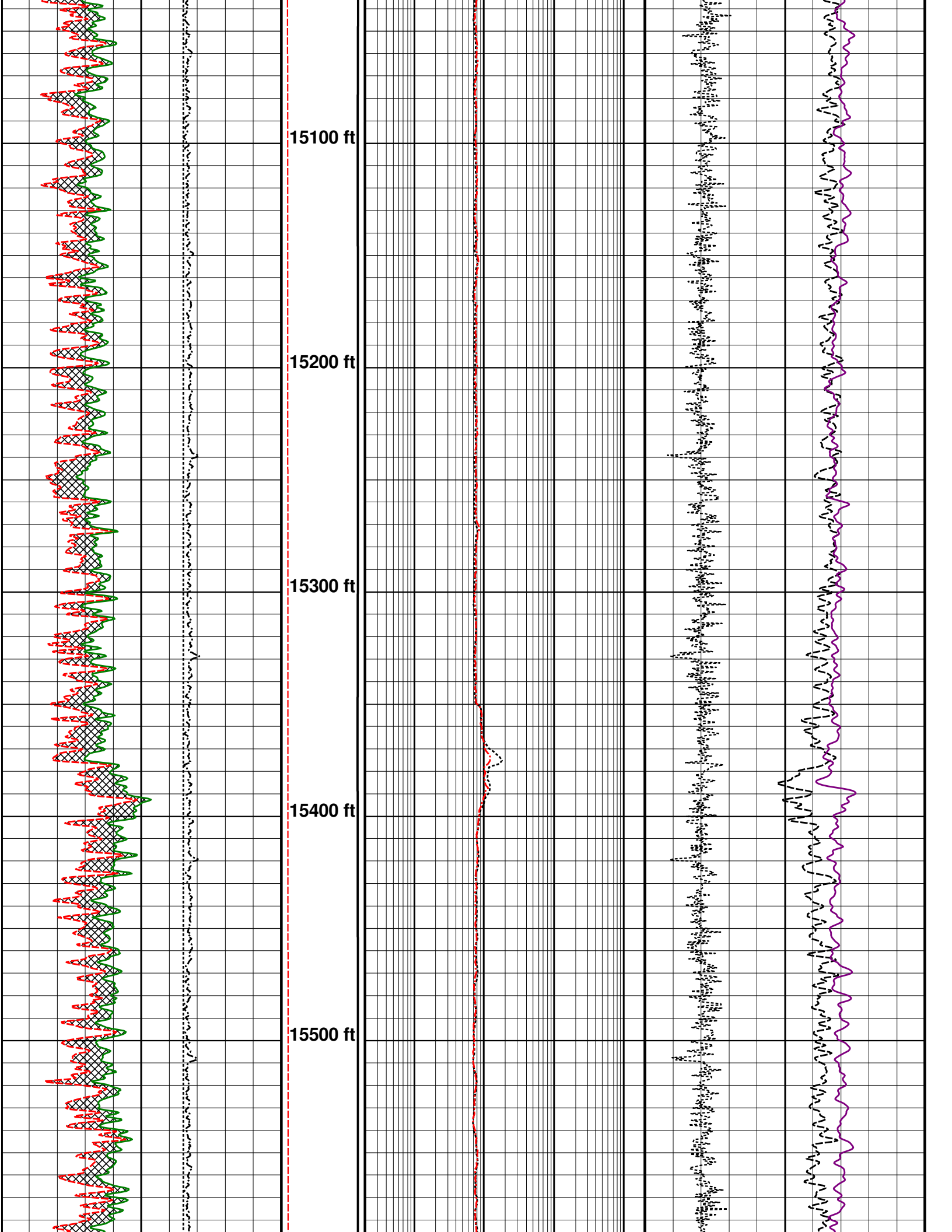
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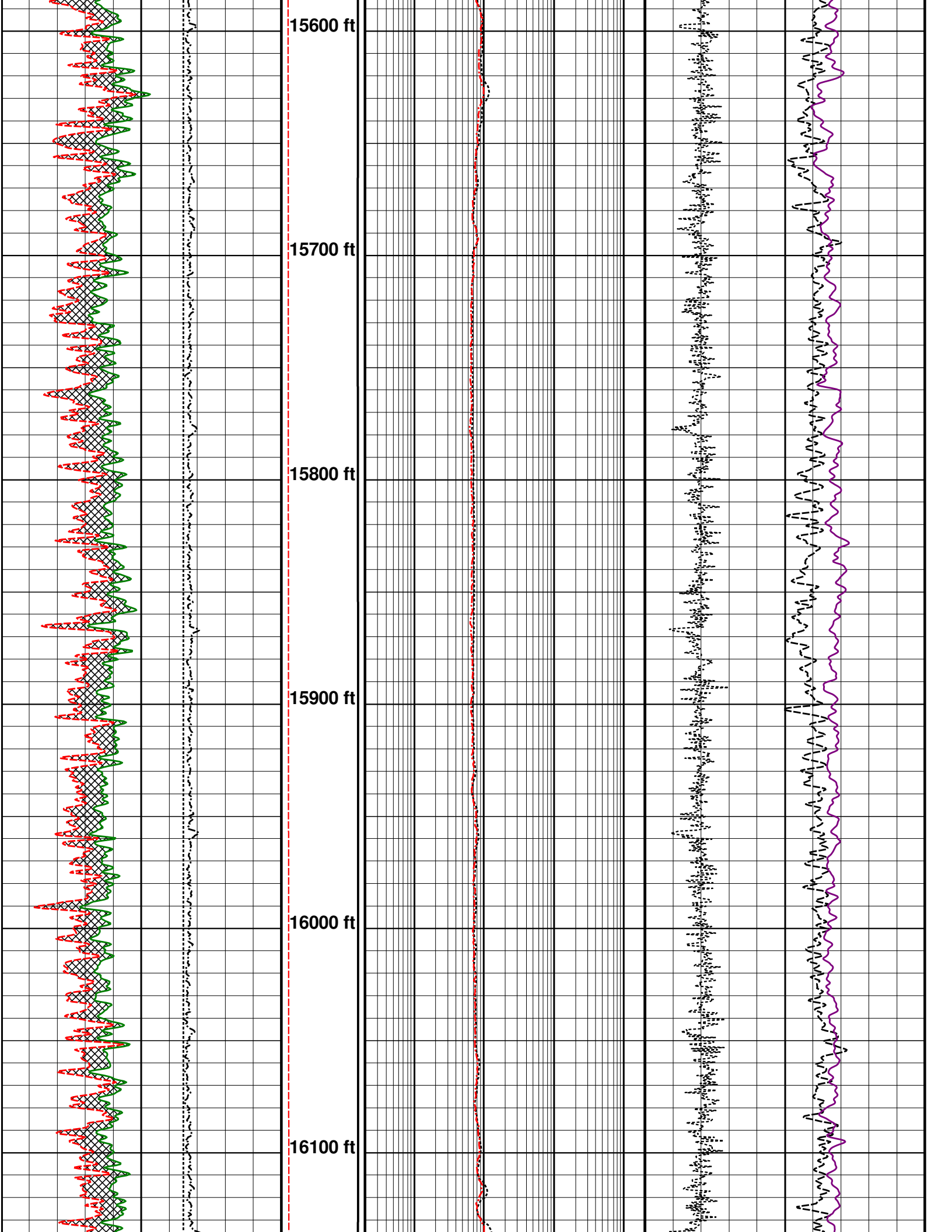
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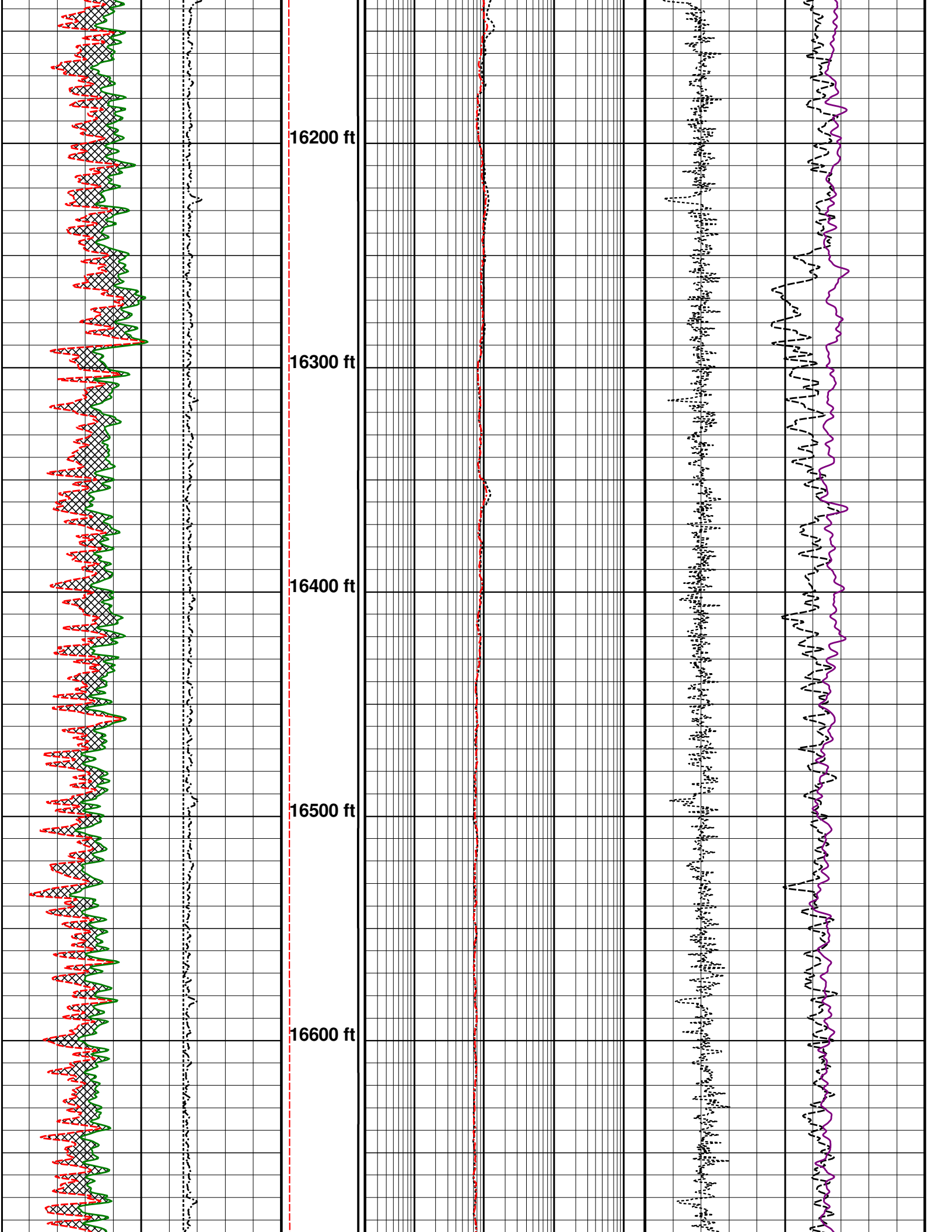
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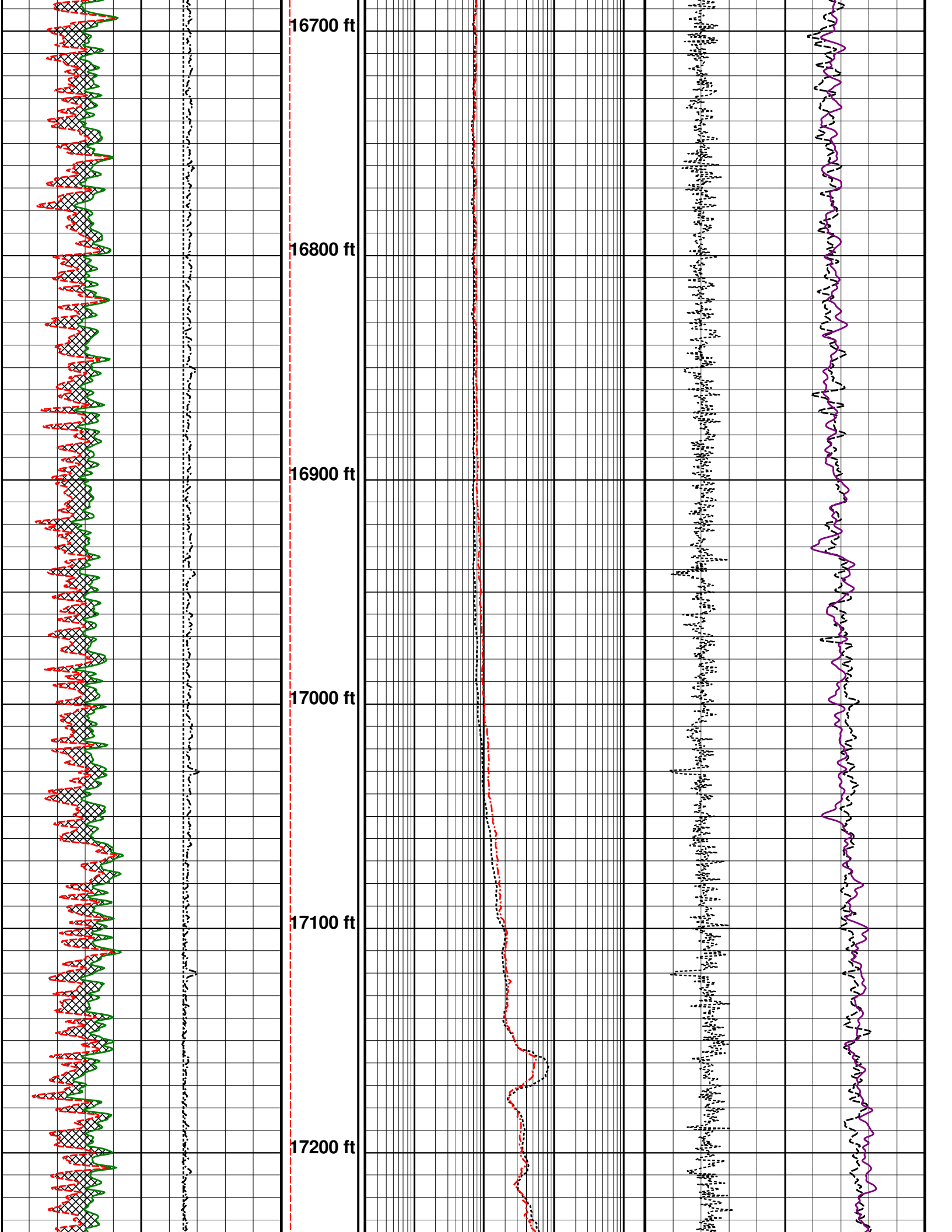
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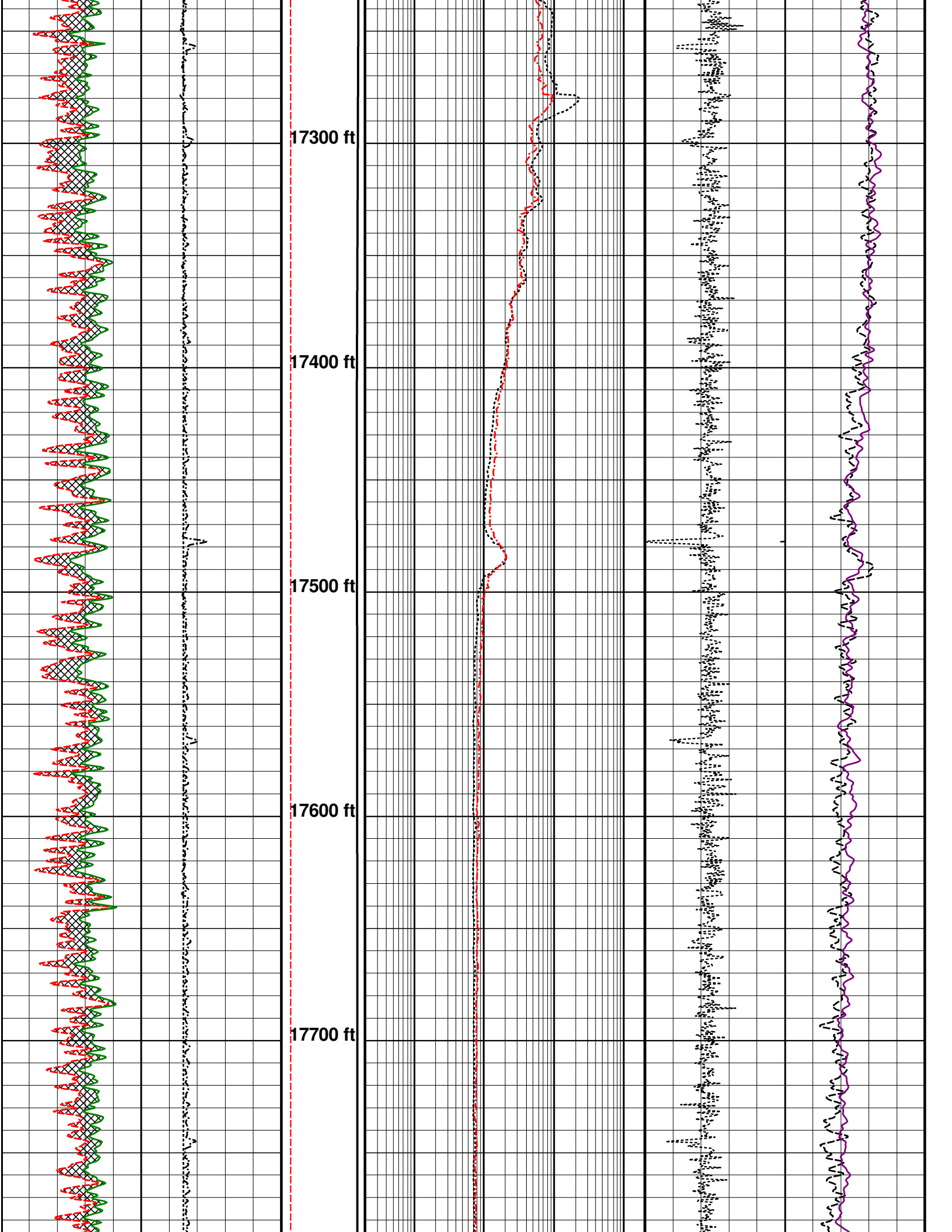
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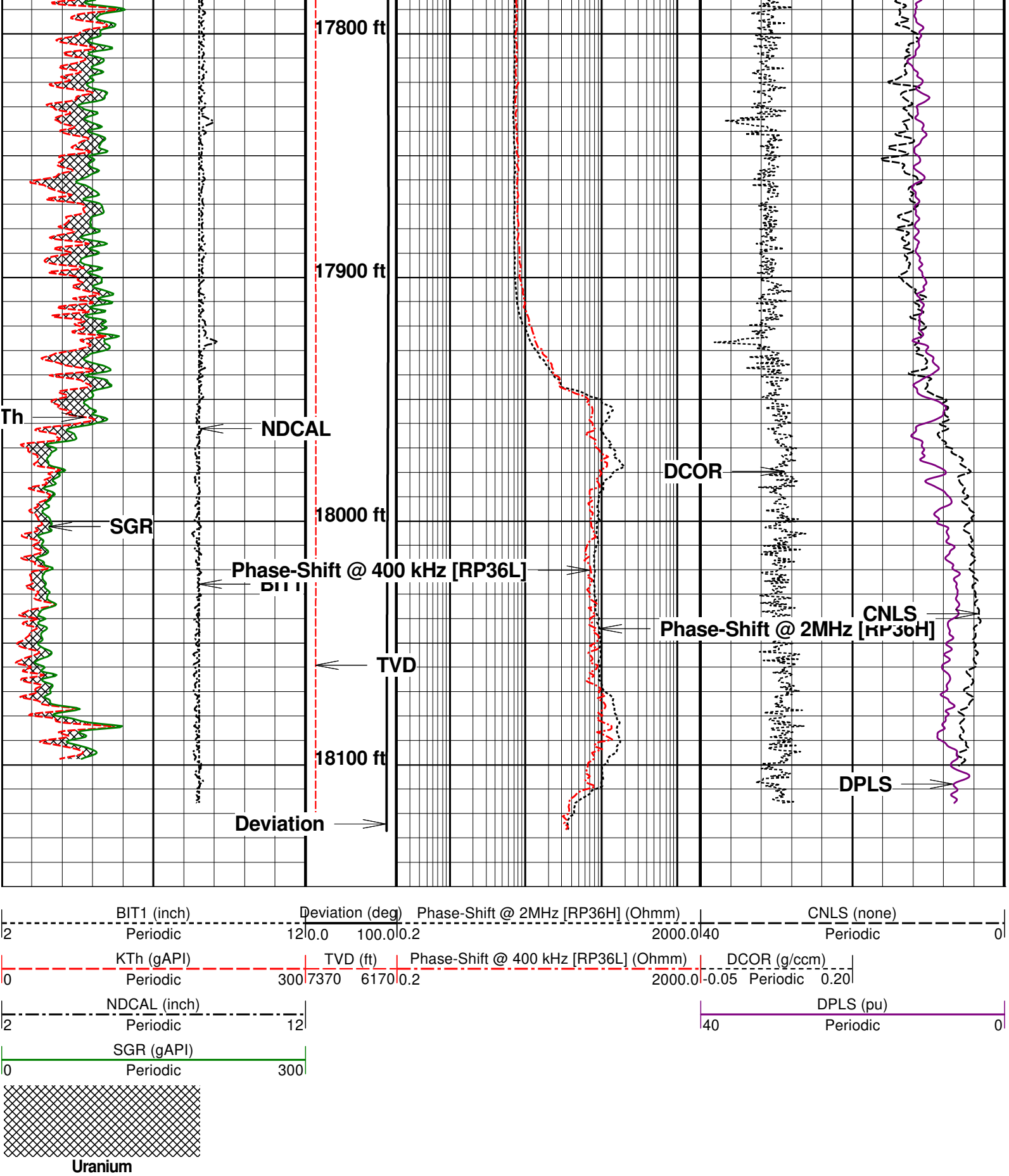
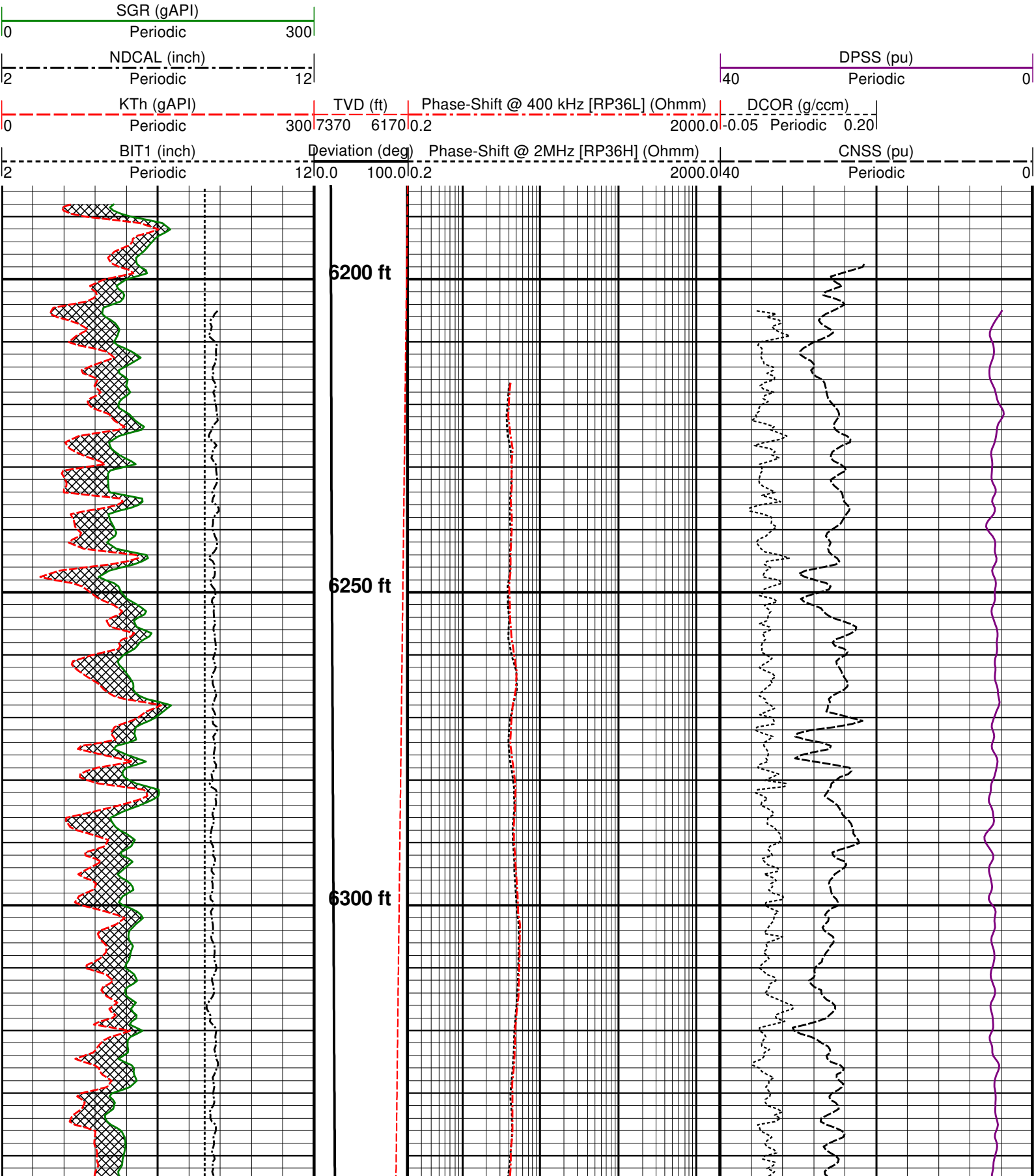
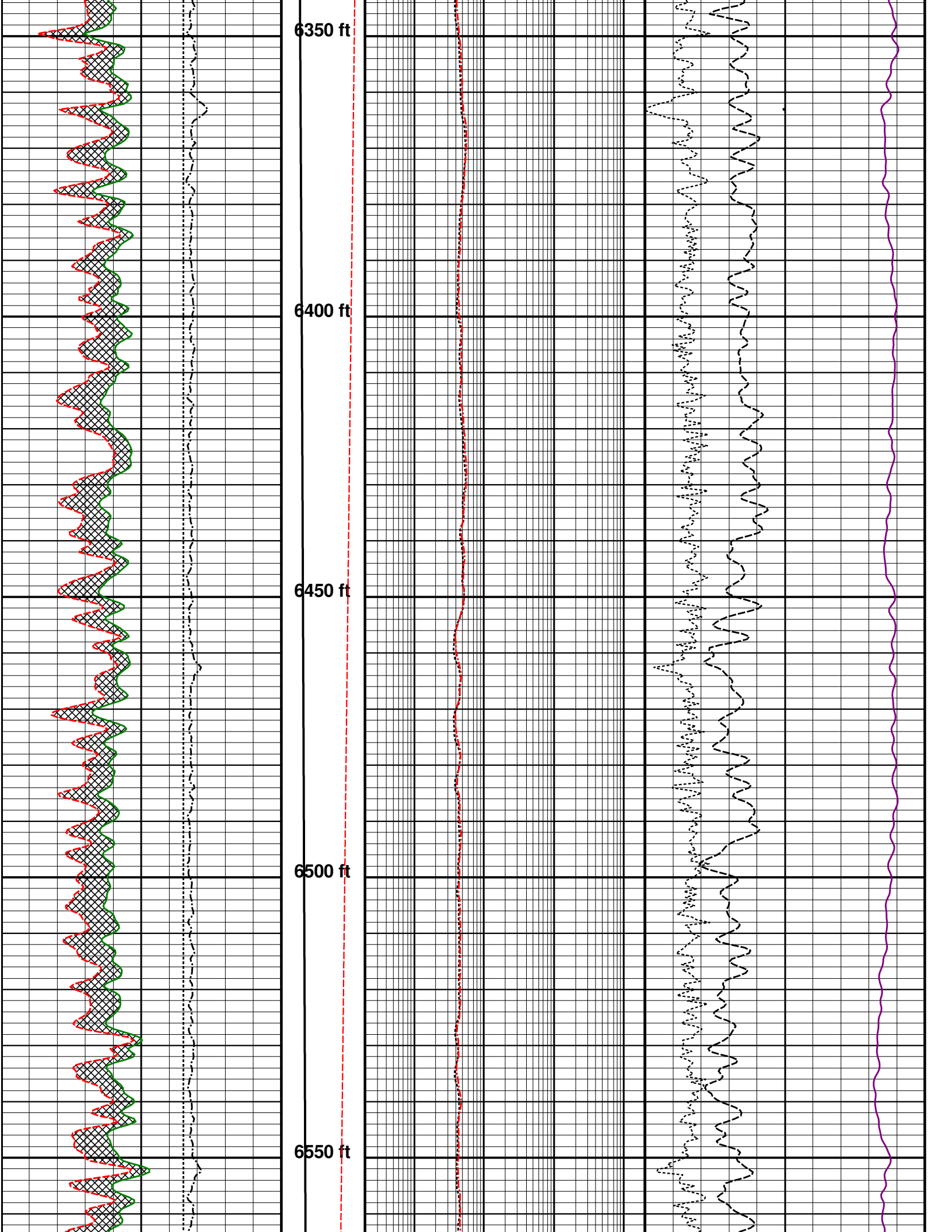
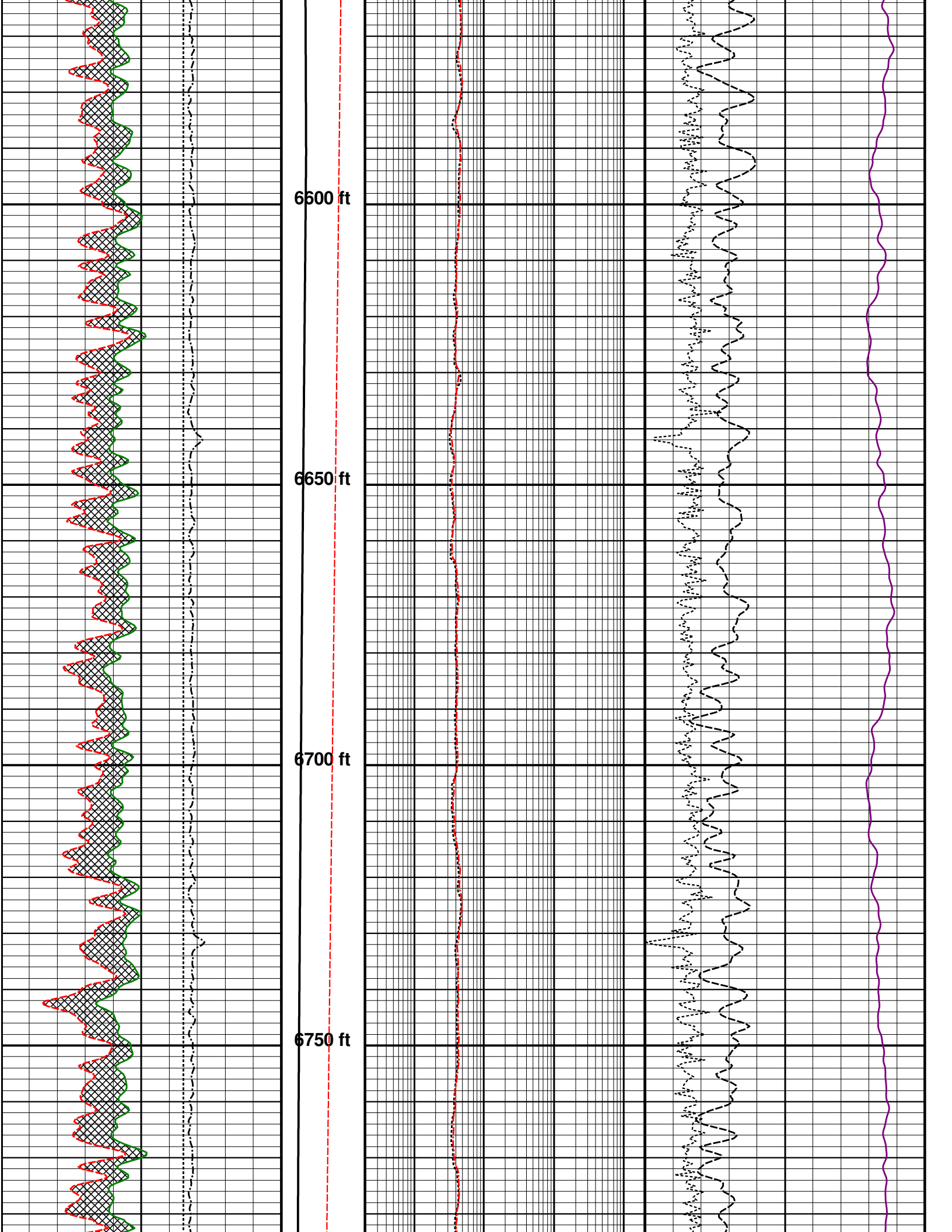


5" MAIN PASS SANDSTONE

Company	**: GREAT WESTERN OPERATING CO LLC**	**Date**	**: 11.05.2020**
Well	**: POSTLE IC 09-142HC**	**Time**	**:**
Scale	**: 1 : 240**	**Remarks**	**: SANDSTONE MATRIX**
Depth in	**: feet**		
Software	**: WinAPlot Ver. 6, 18, 0, 0**	**File Name**	**: C:\...\Data\FINAL MD.las**




6350 ft
6400 ft
6450 ft
6500 ft
6550 ft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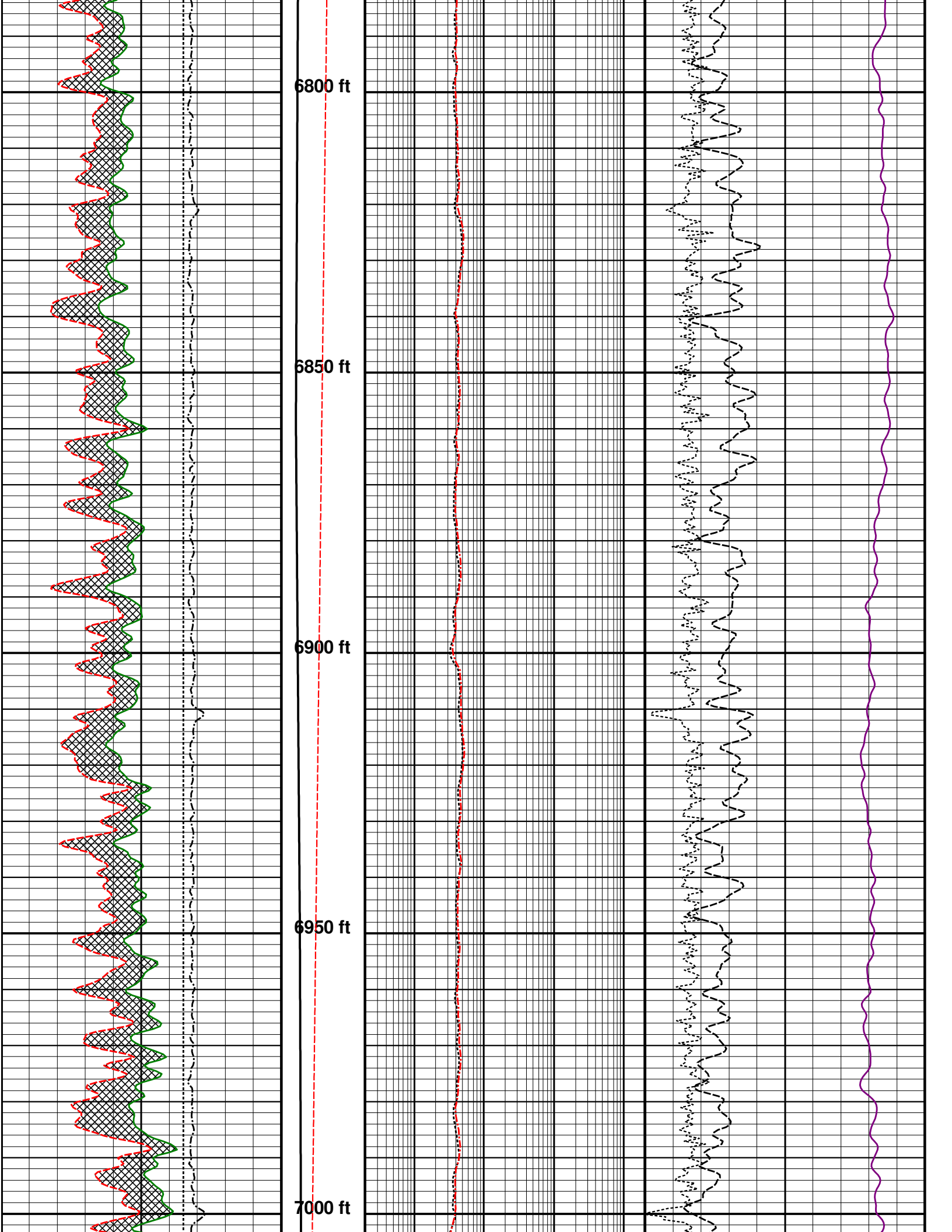
6650 ft
6700 ft
6750 ft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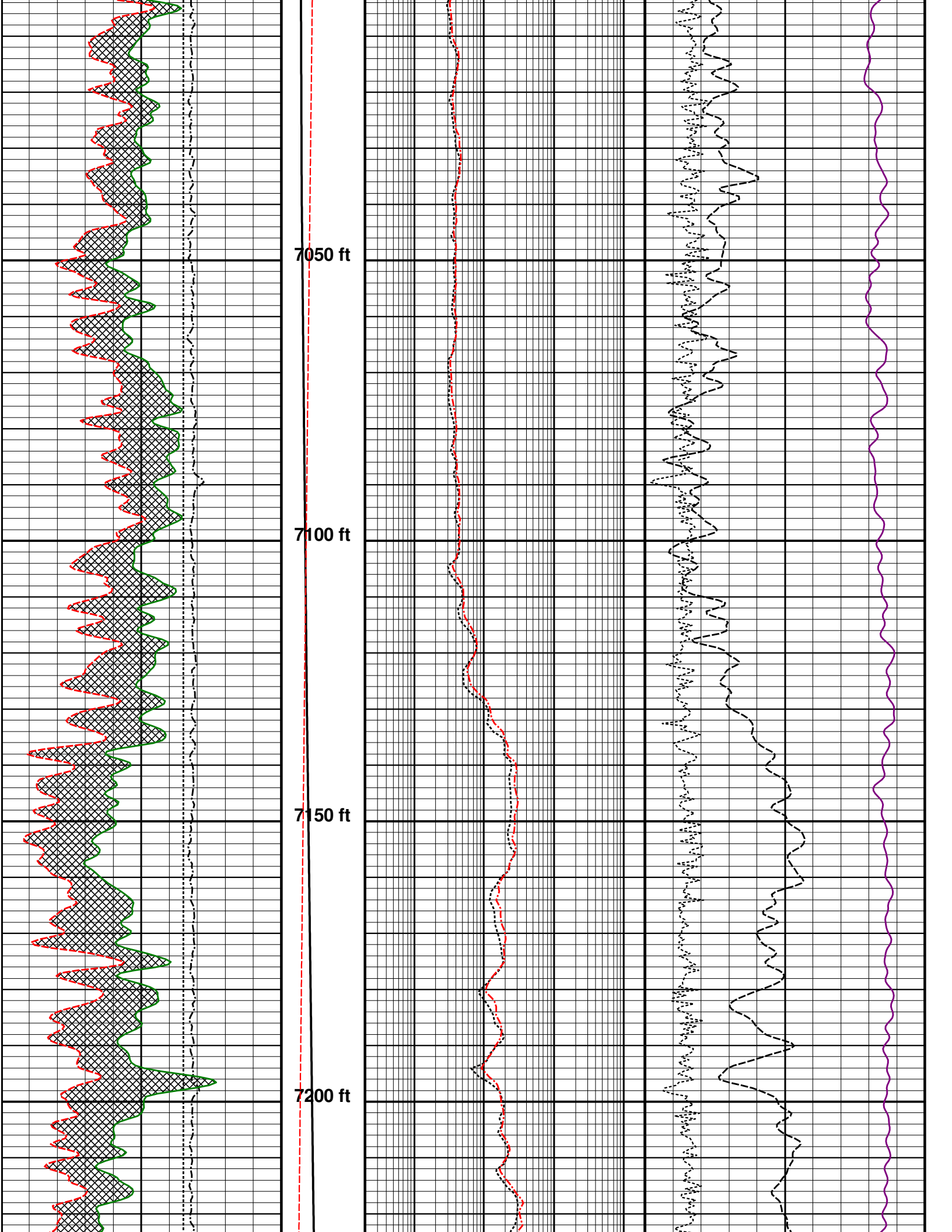
6900 ft
6950 ft
7000 ft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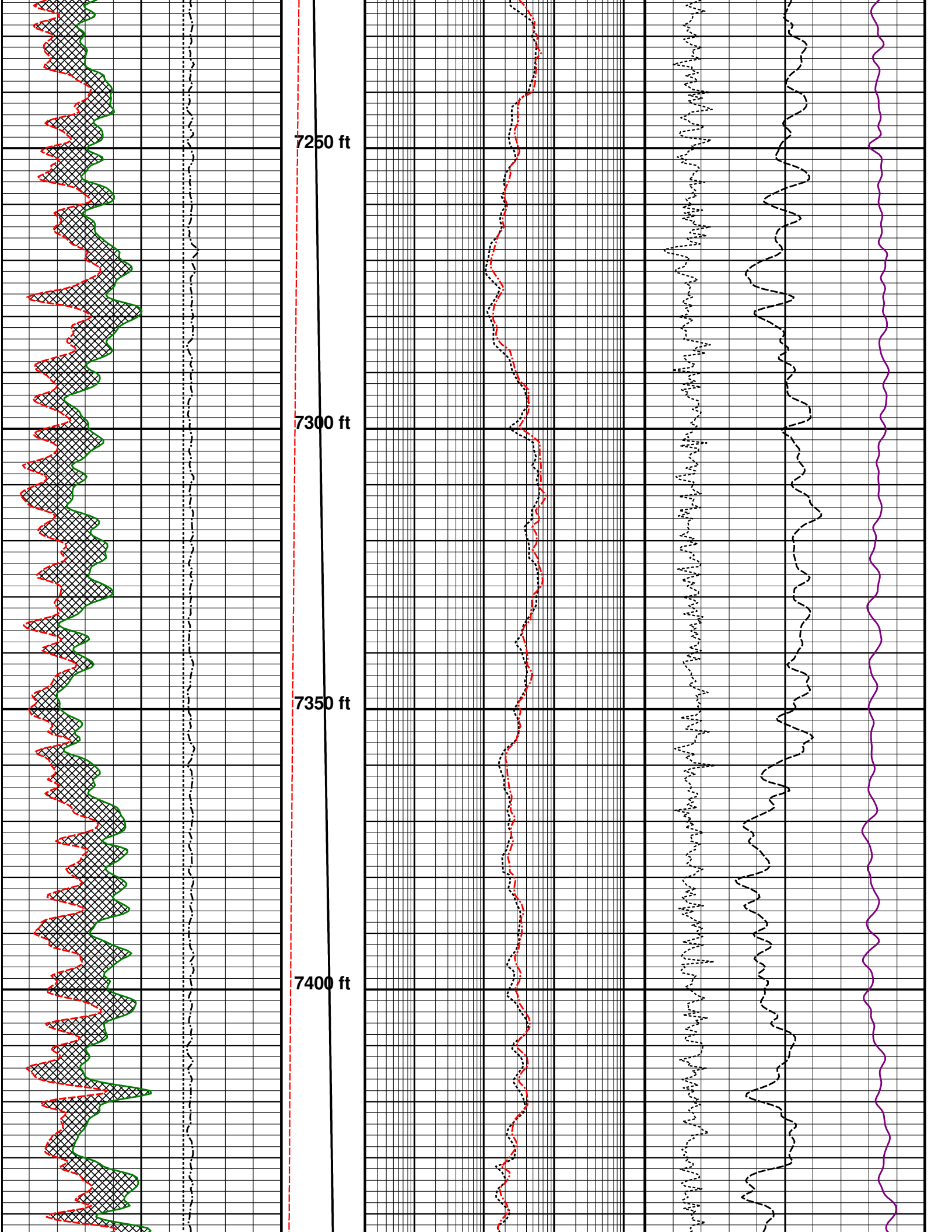
7150 ft
7200 ft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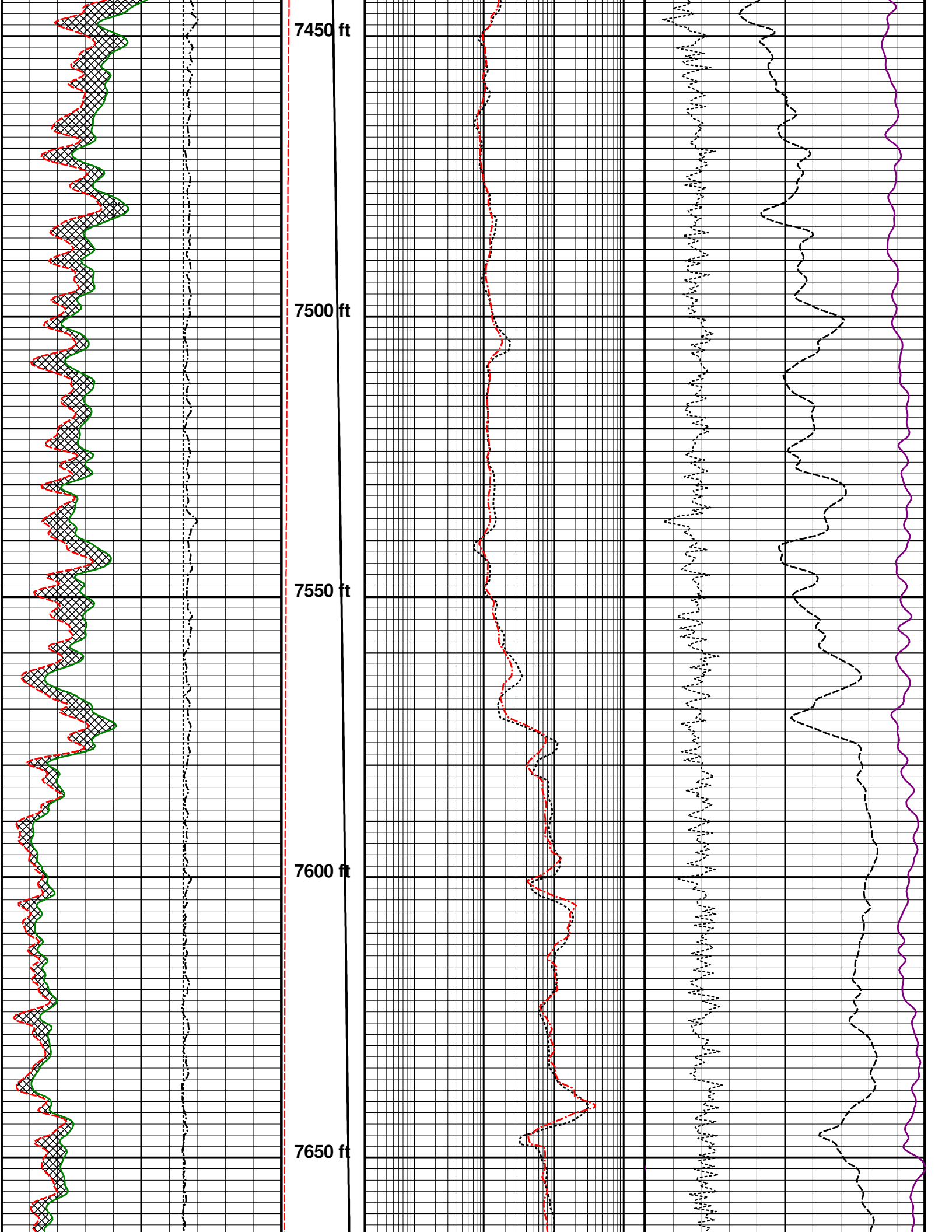
7300 ft
7350 ft
7400 ft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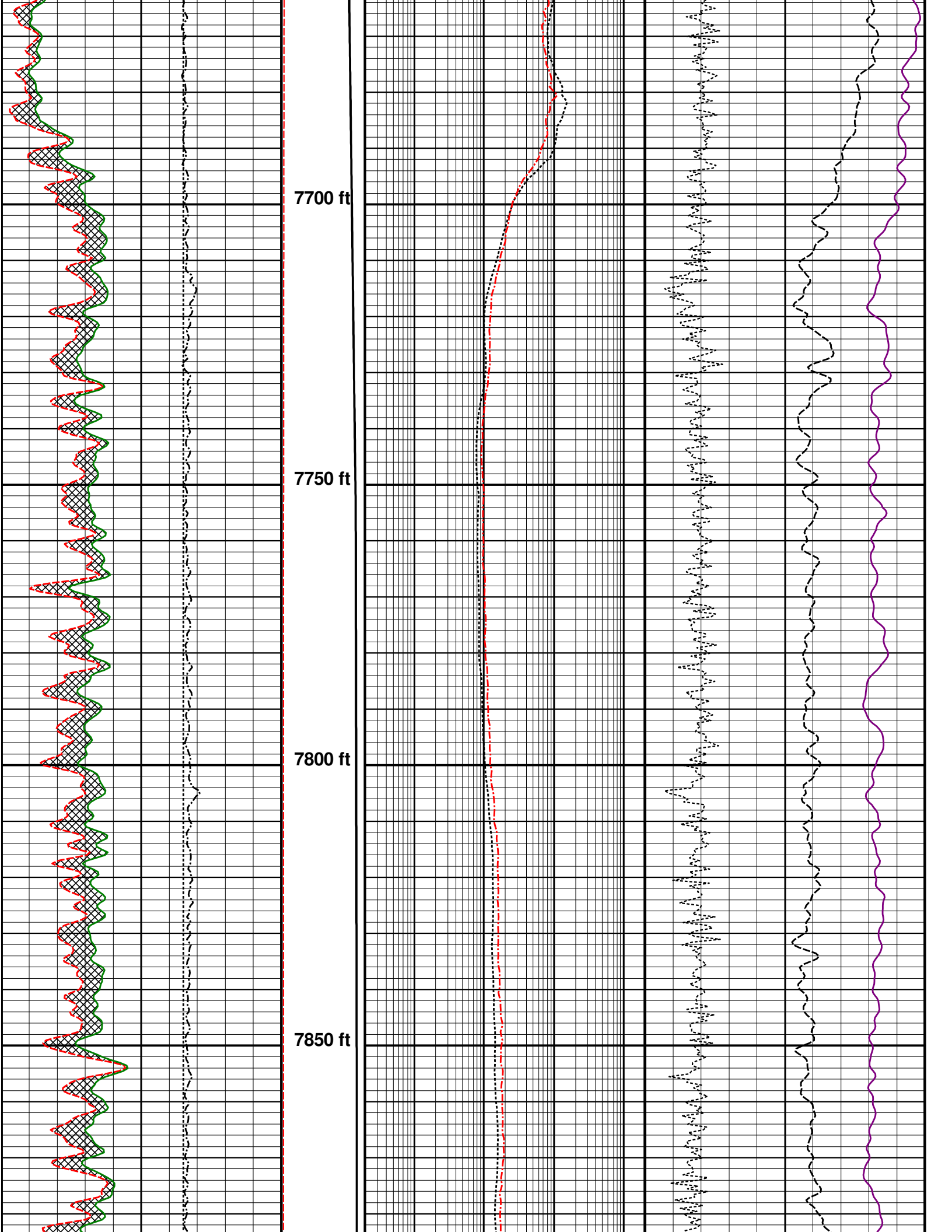
7500 ft
7550 ft
7600 ft
7650 ft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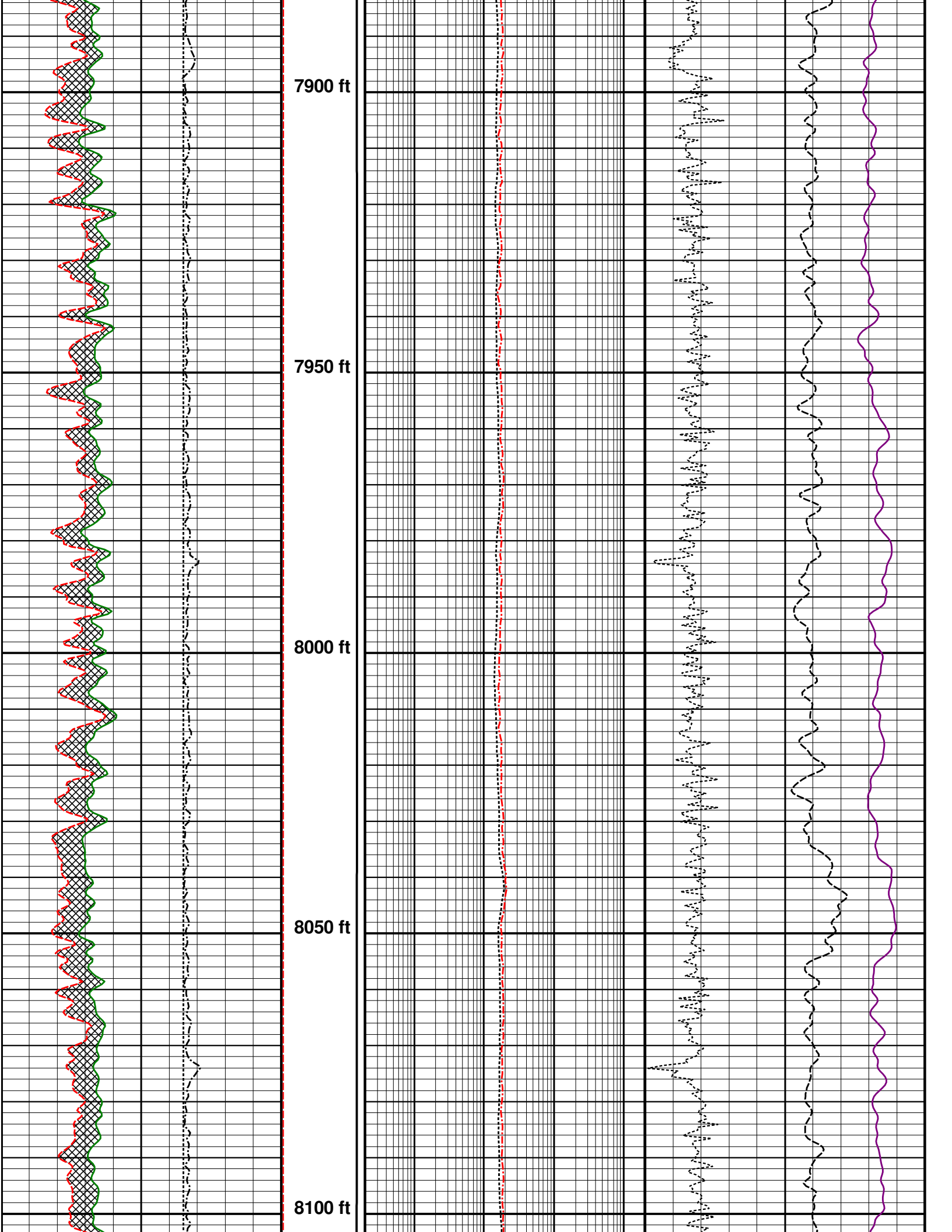
7750 ft
7800 ft
7850 ft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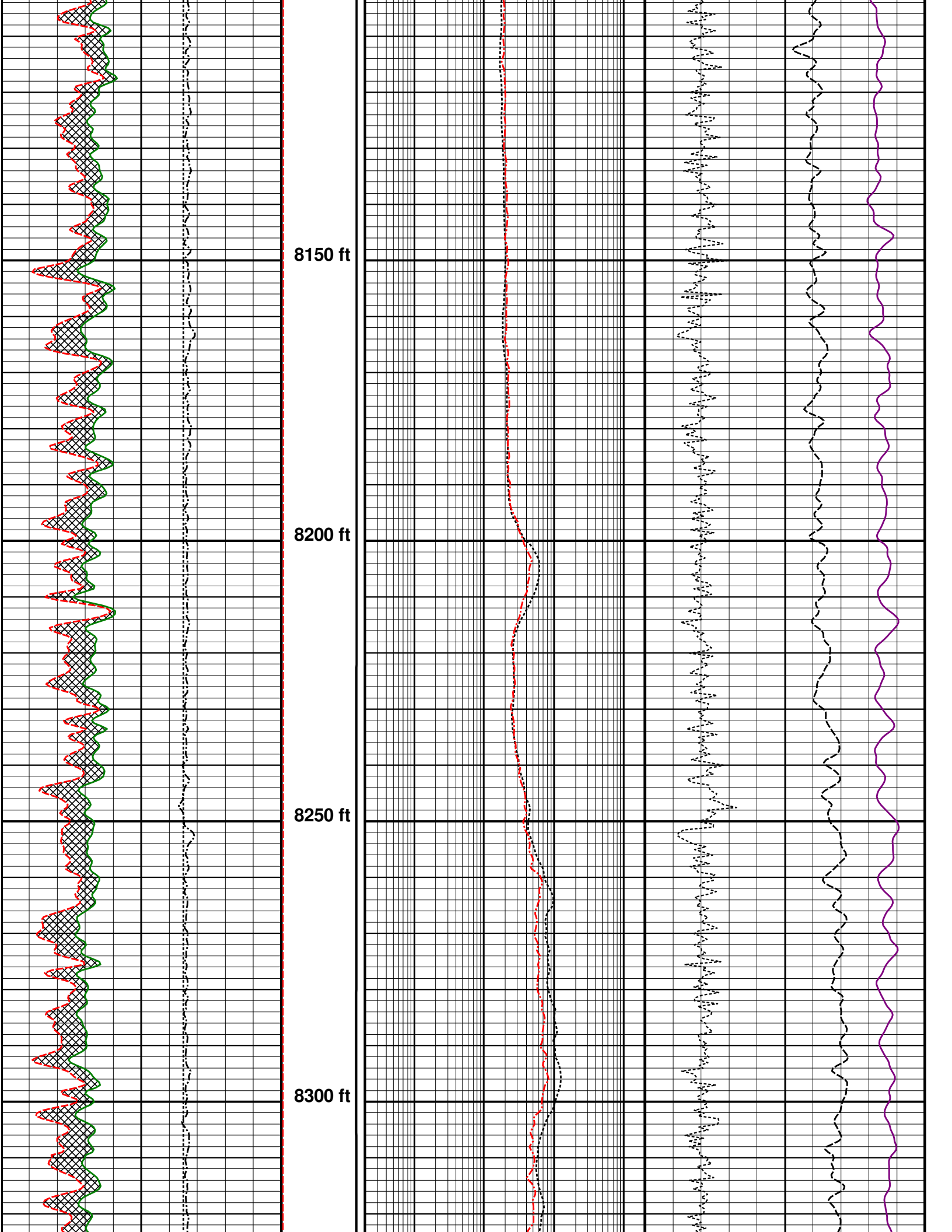
7950 ft
8000 ft
8050 ft
8100 ft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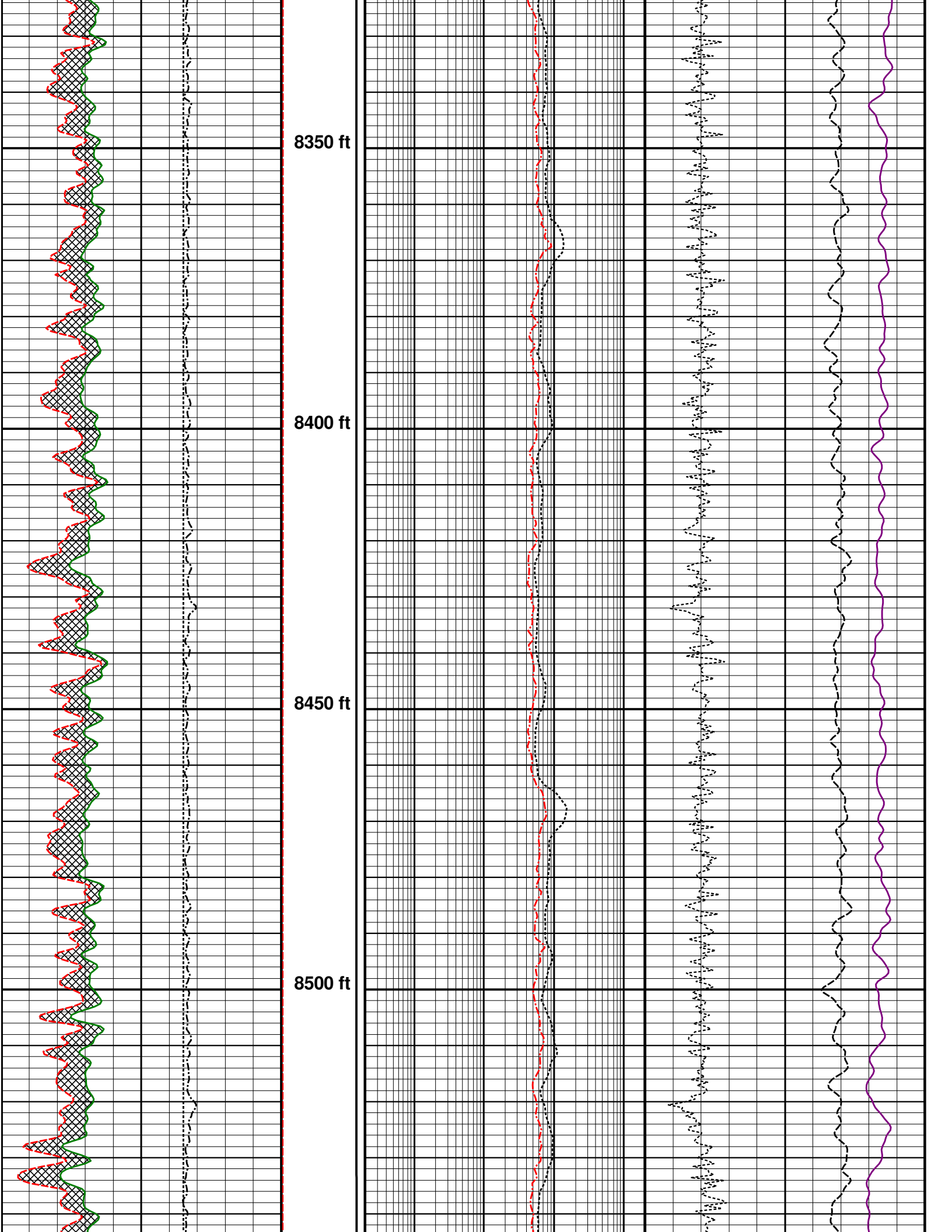
8300 ft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8400 ft
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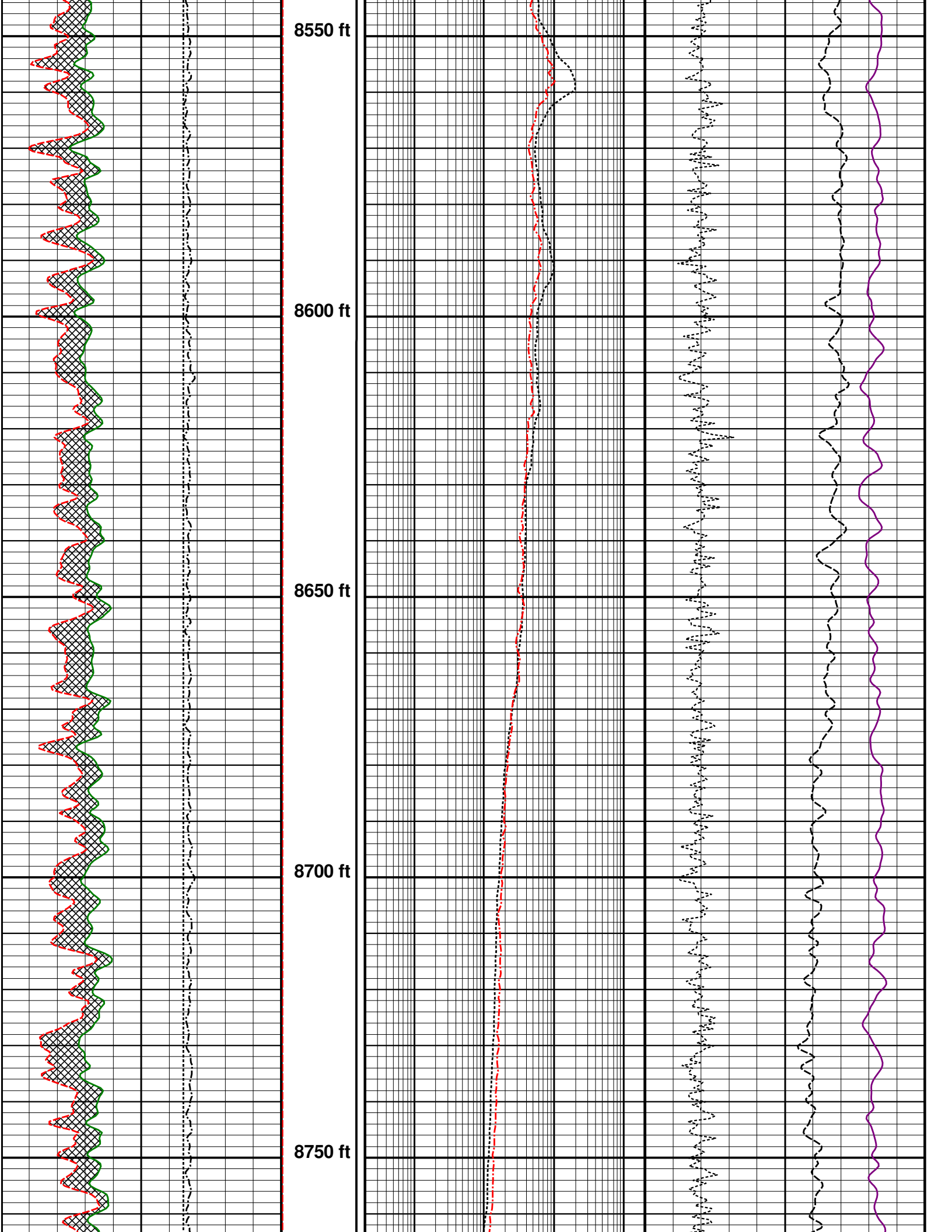
8500 ft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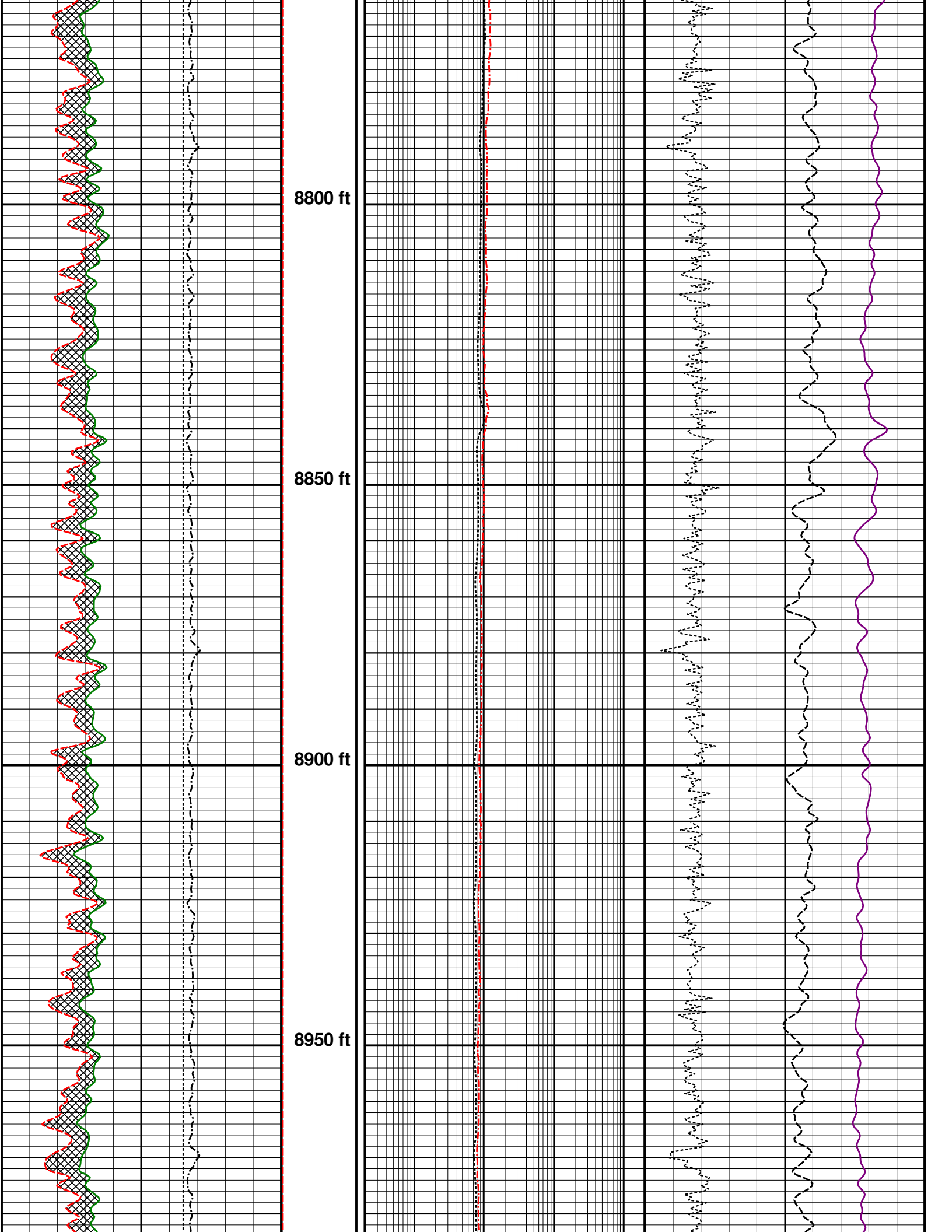
8600 ft
8650 ft
8700 ft
8750 ft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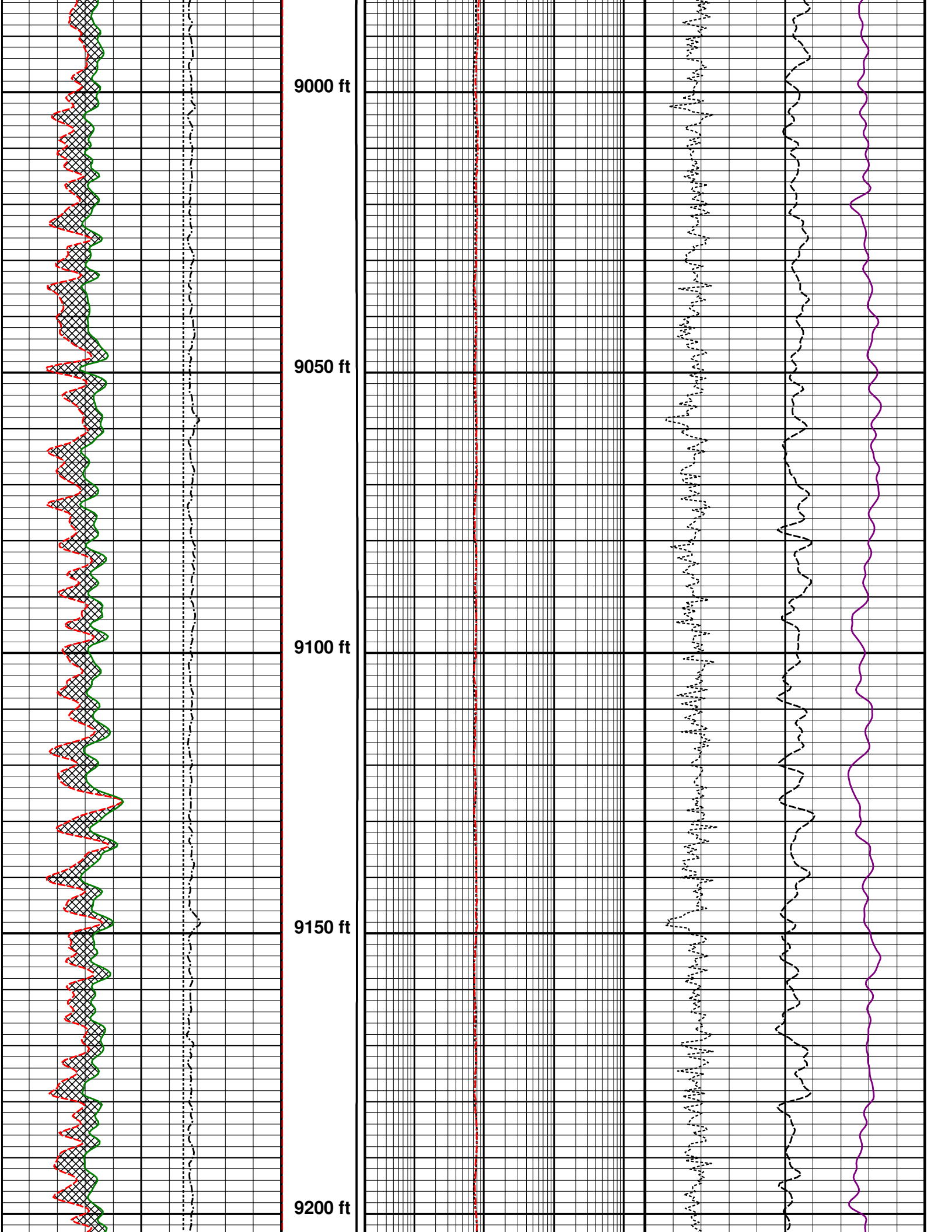
8950 ft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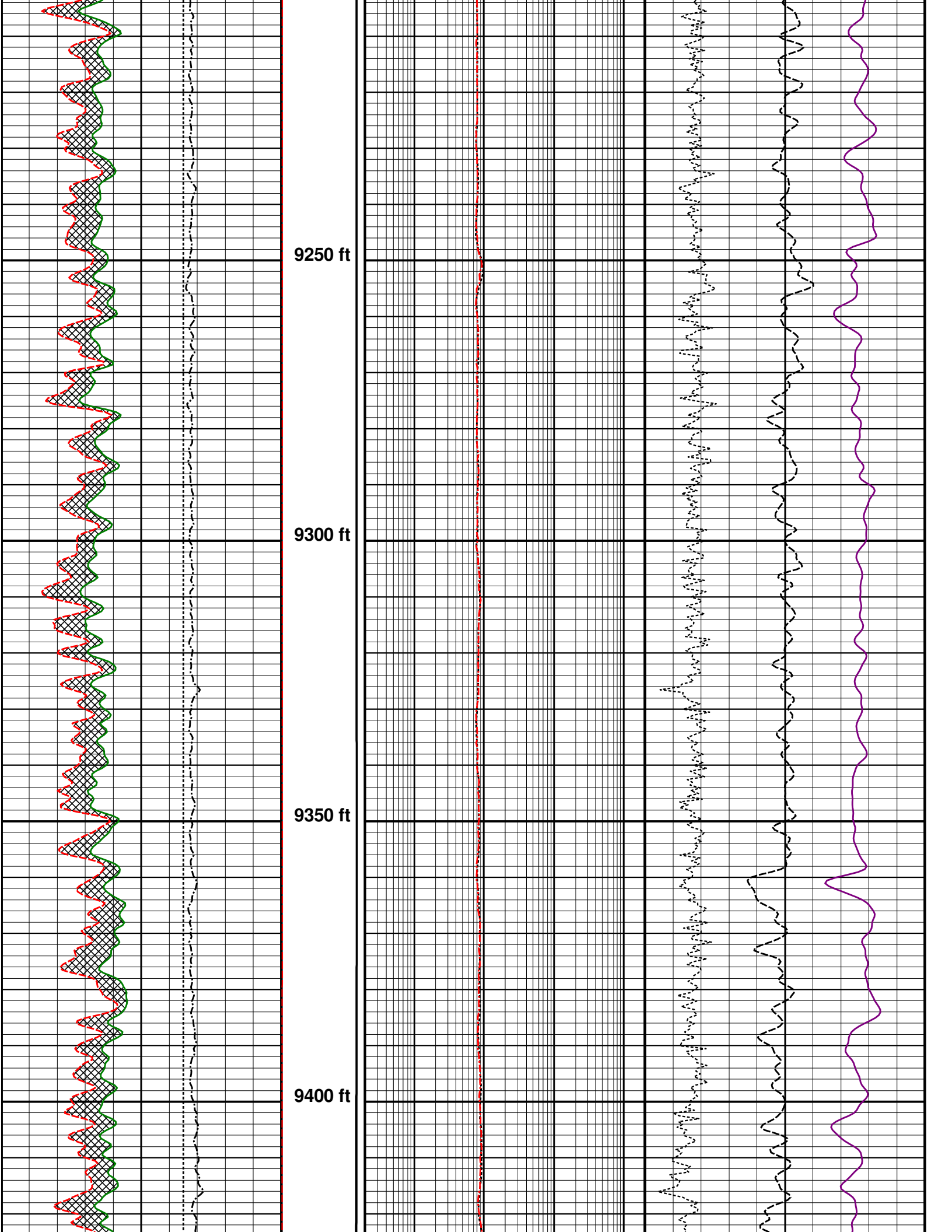
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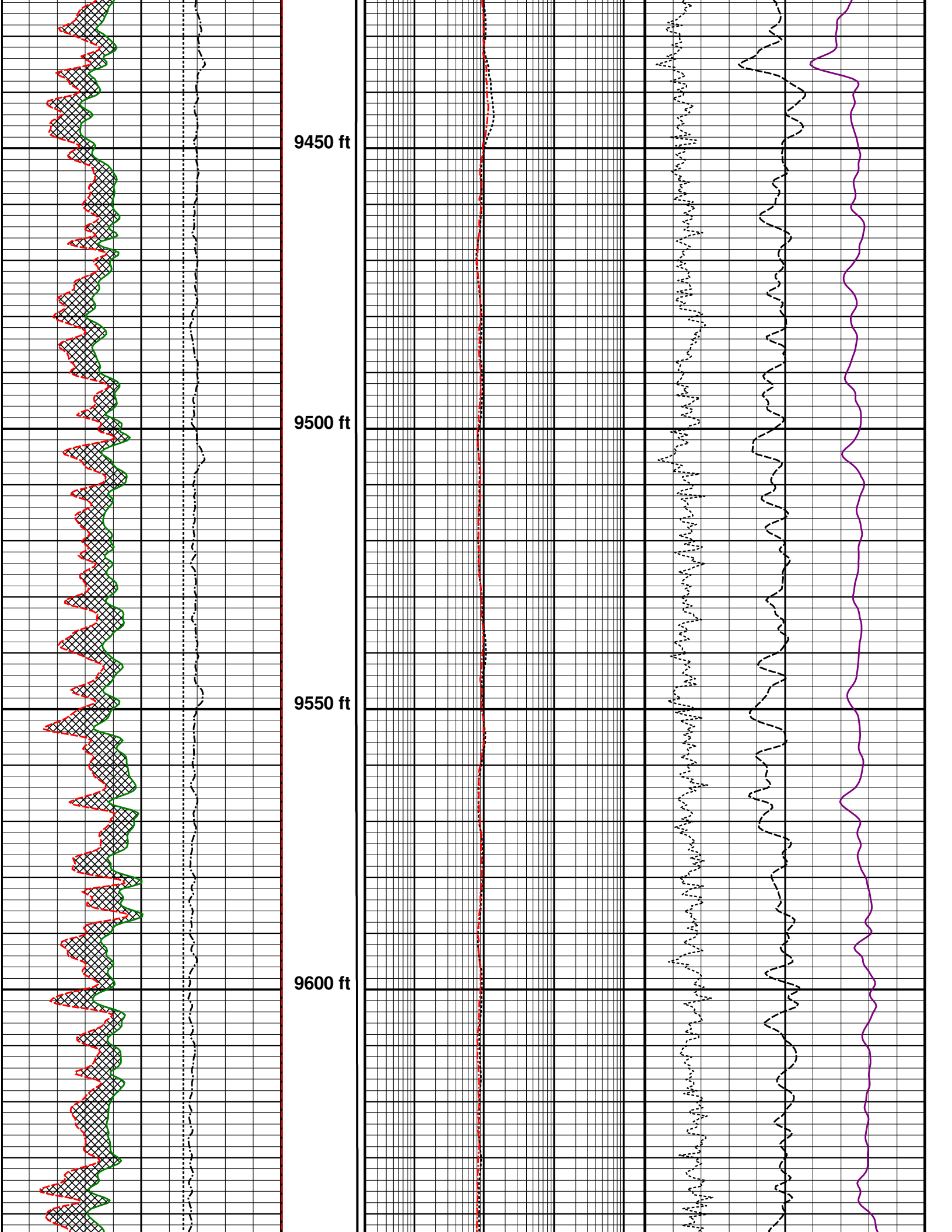
9300 ft
9350 ft
9400 ft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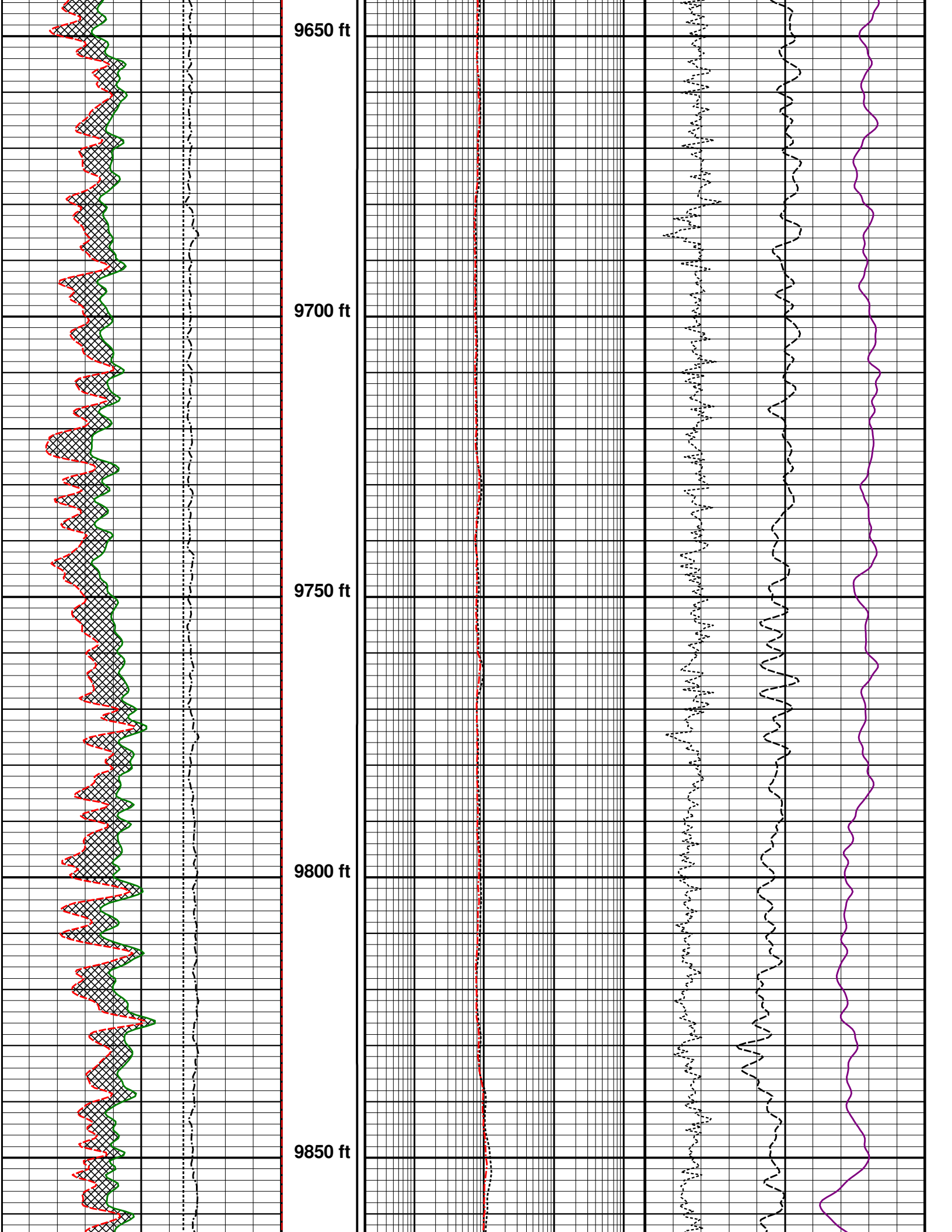
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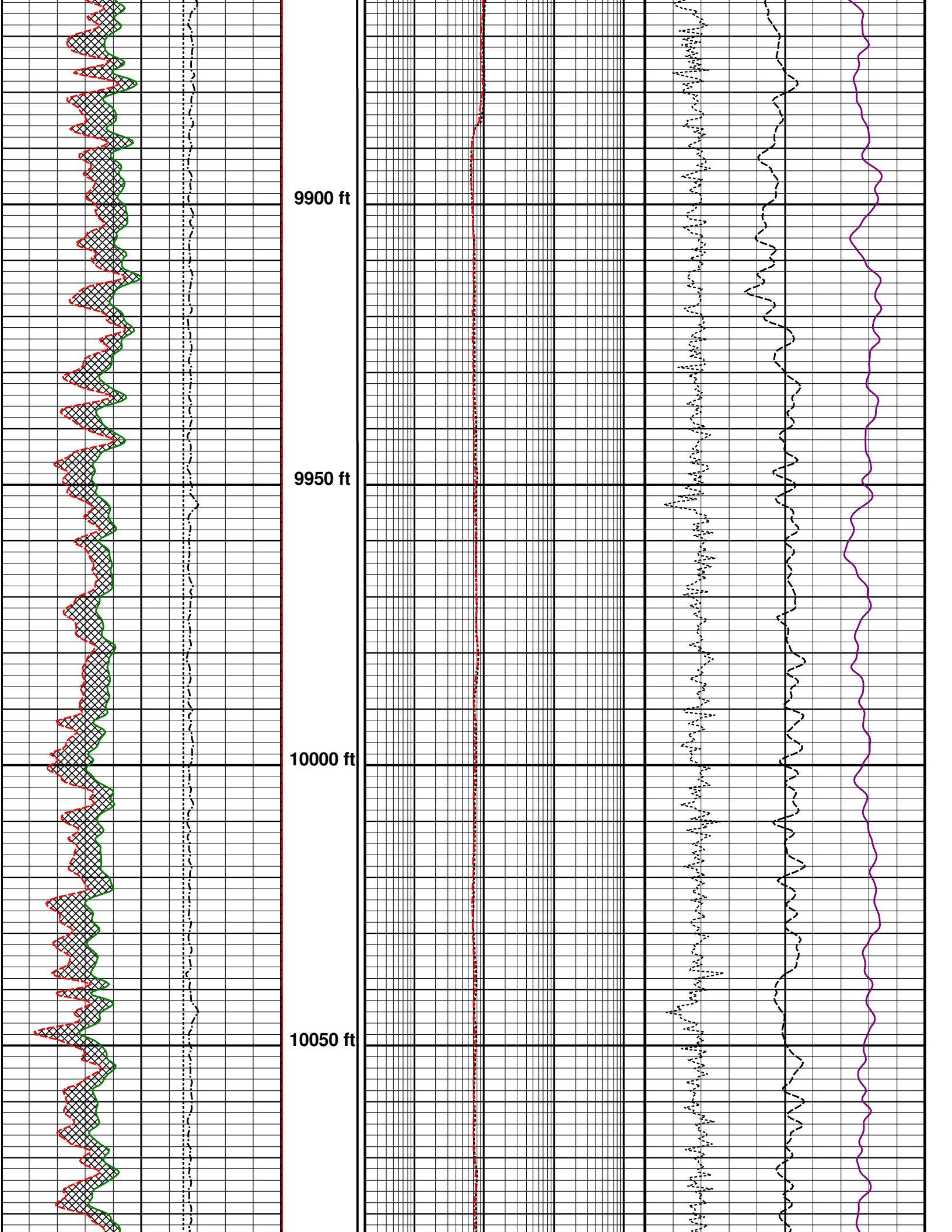
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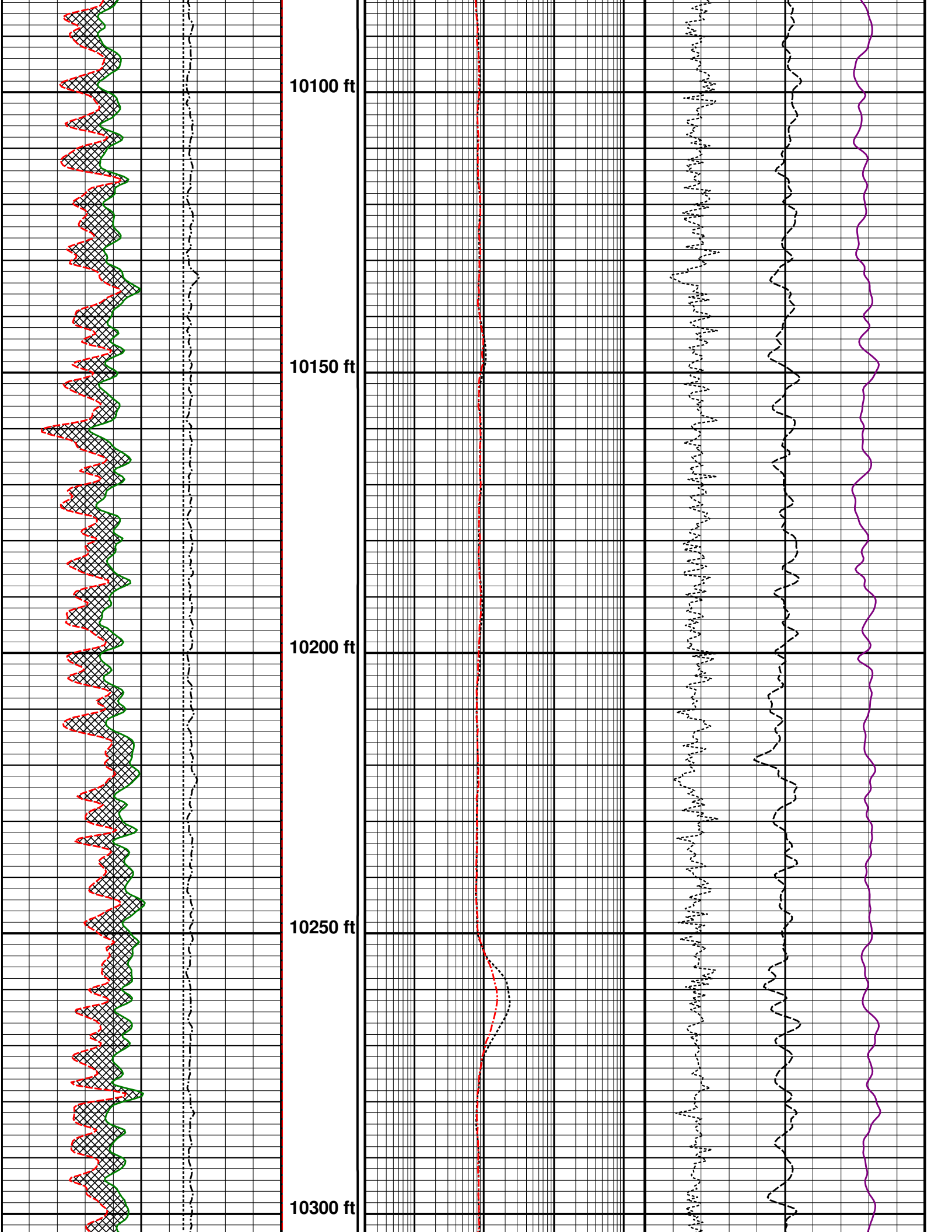
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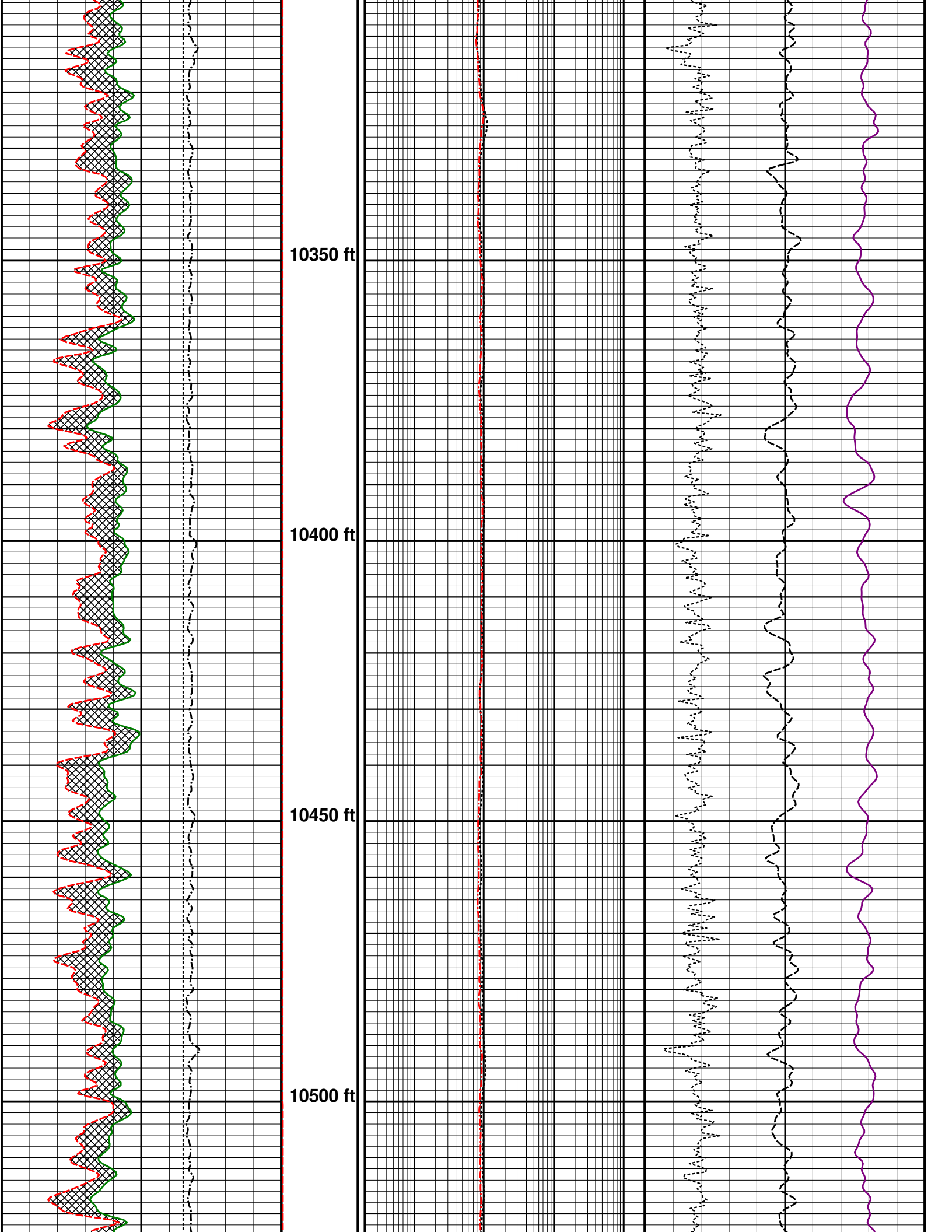
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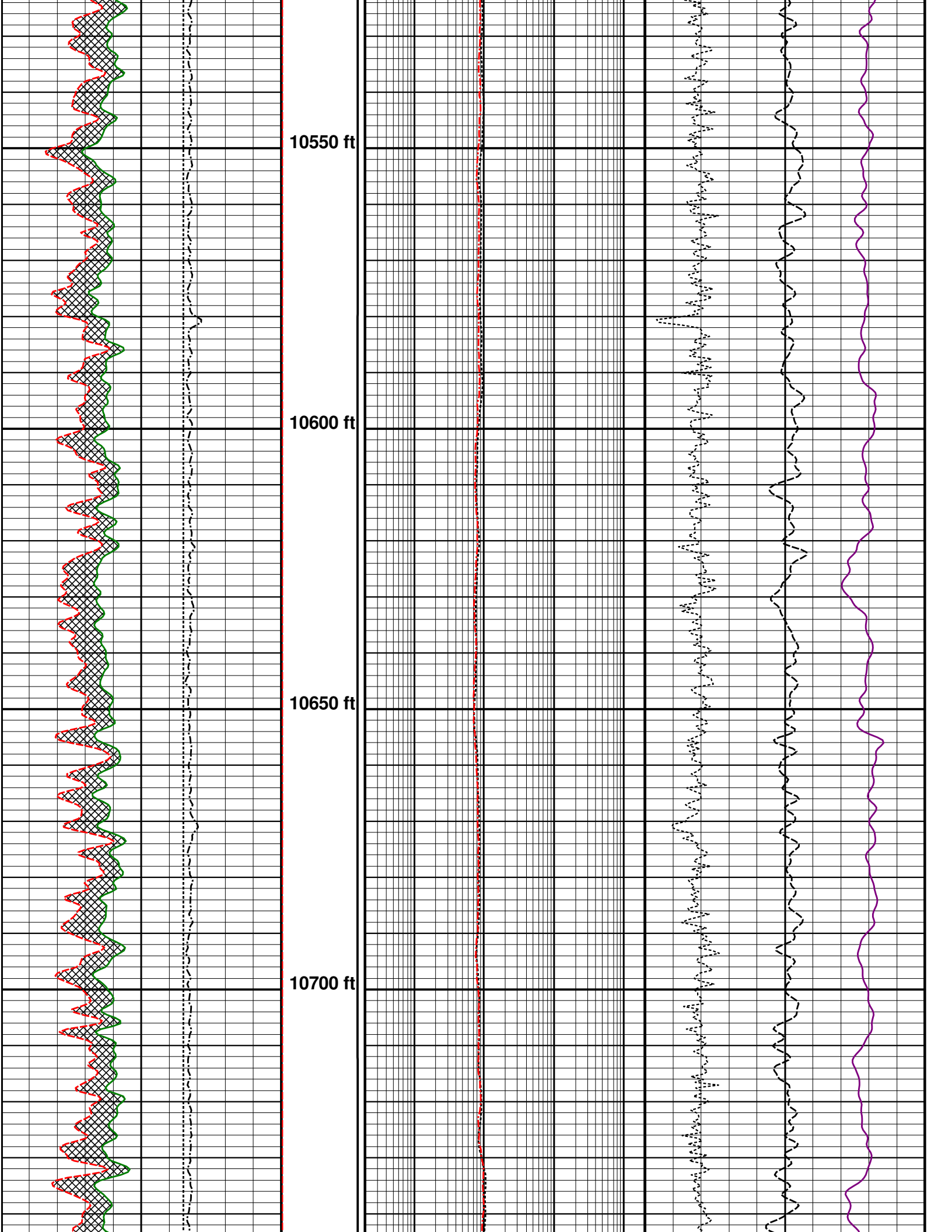
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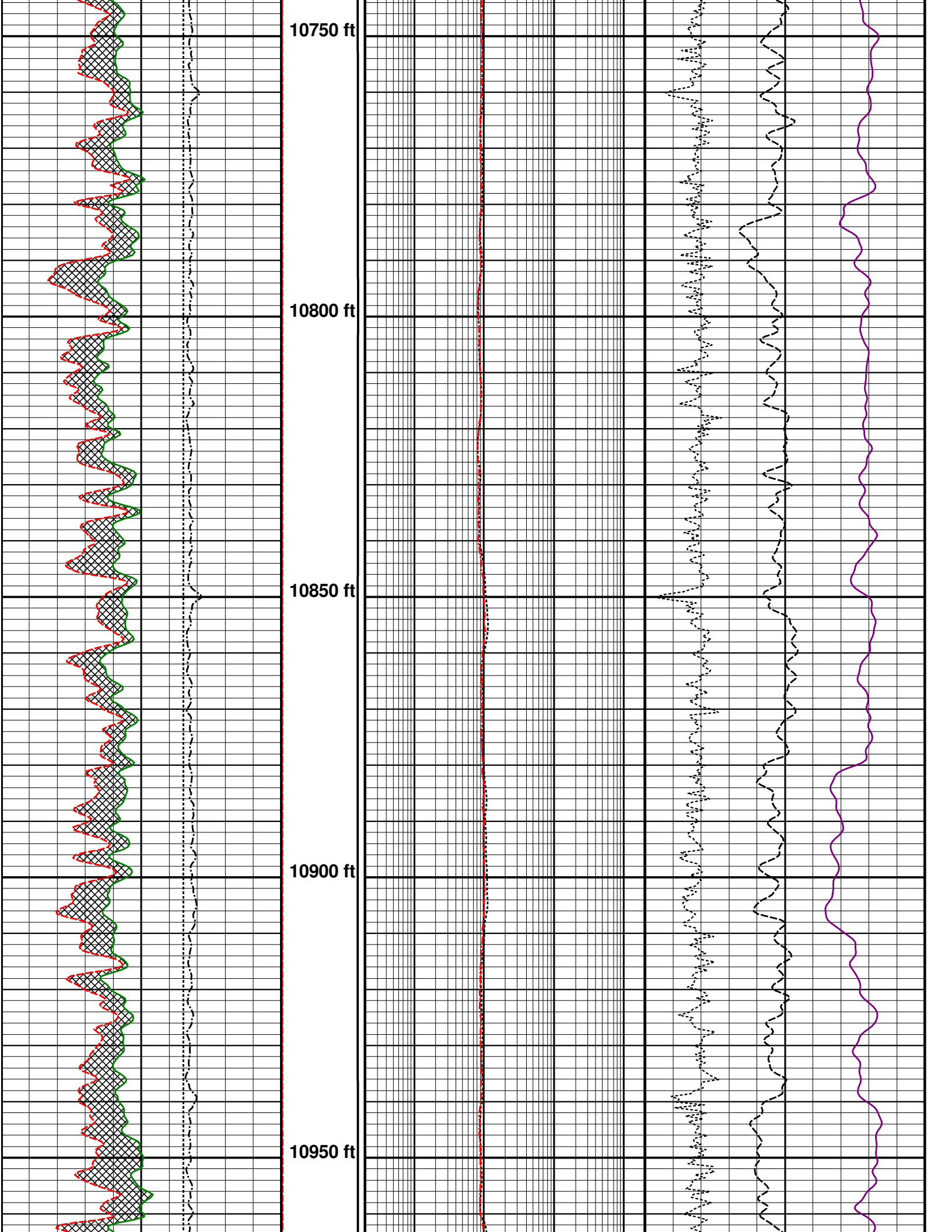
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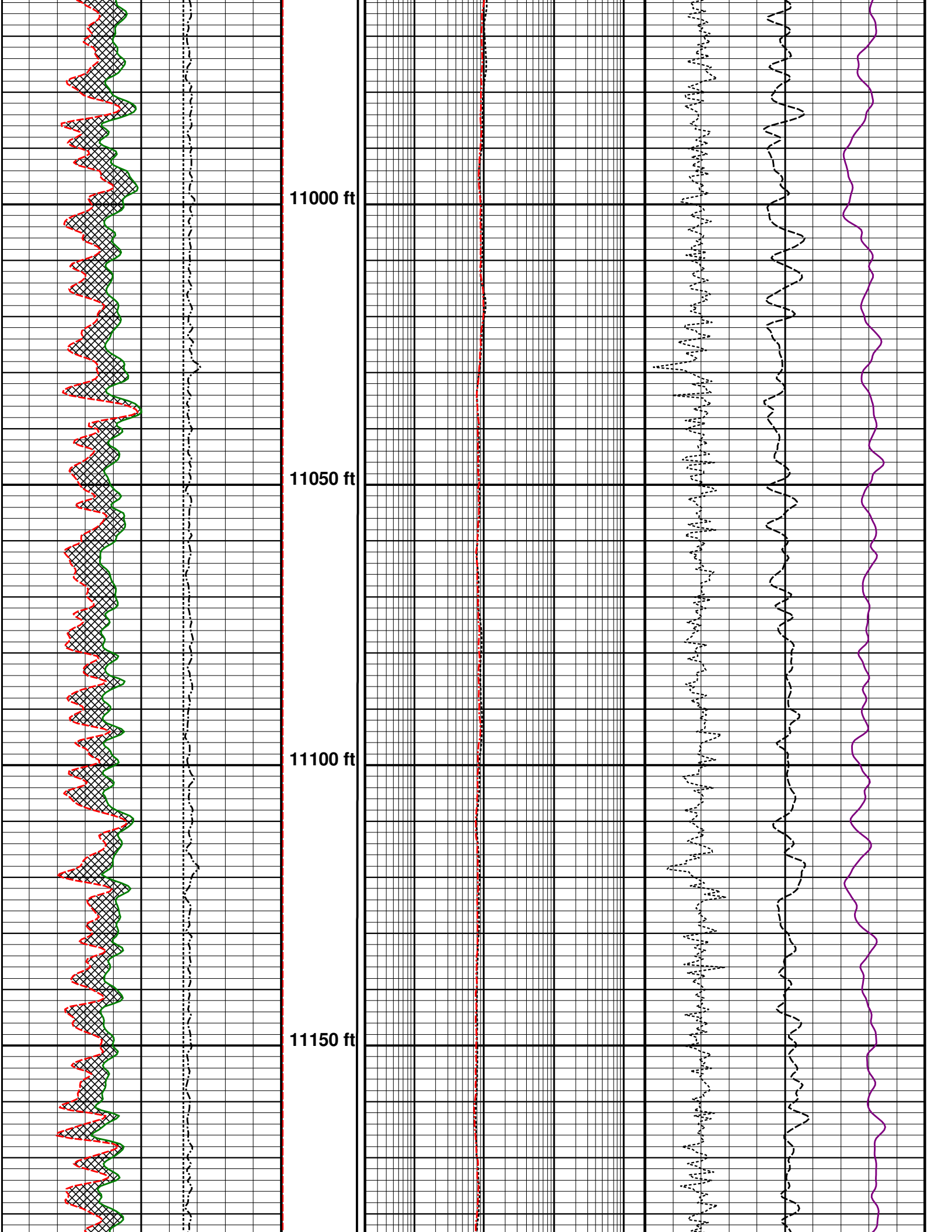
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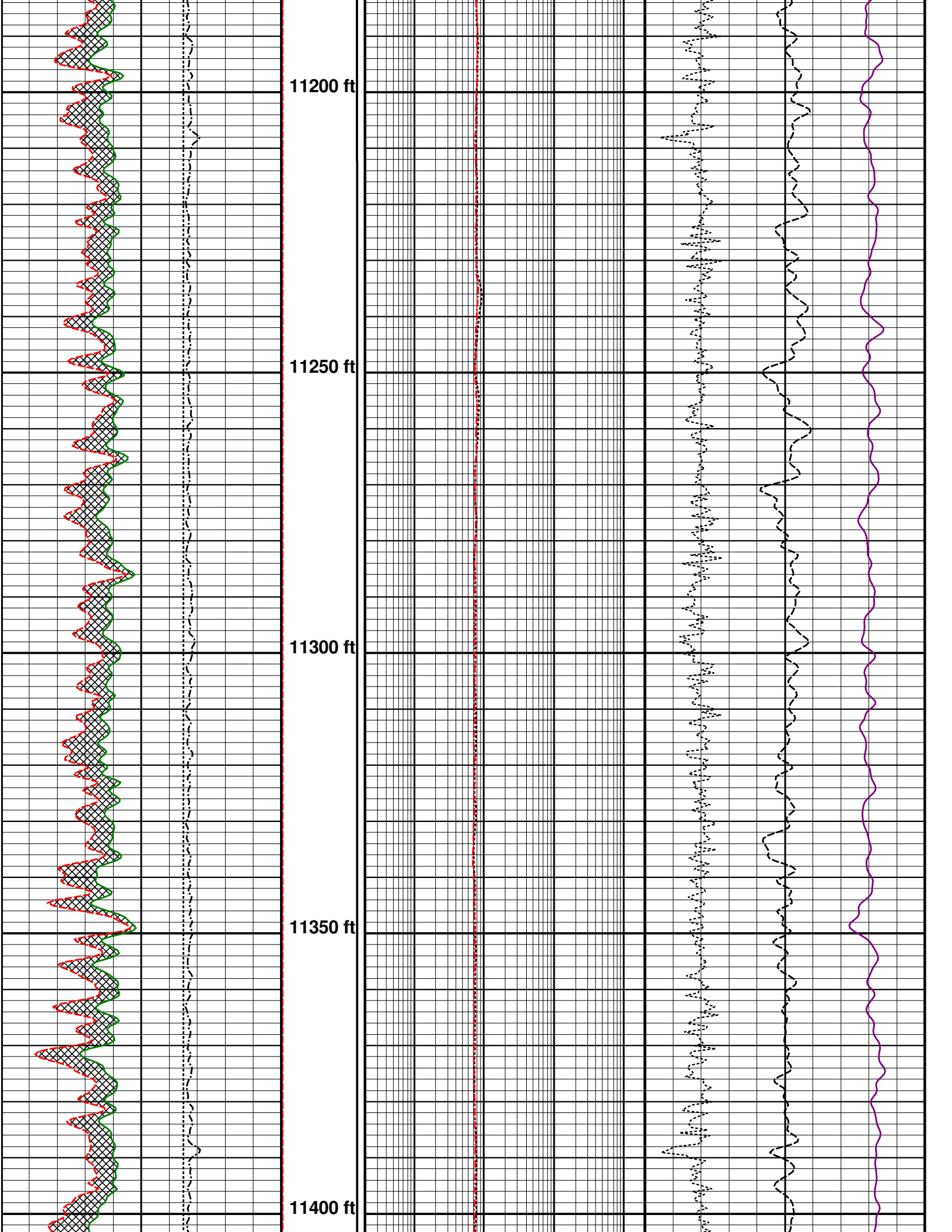
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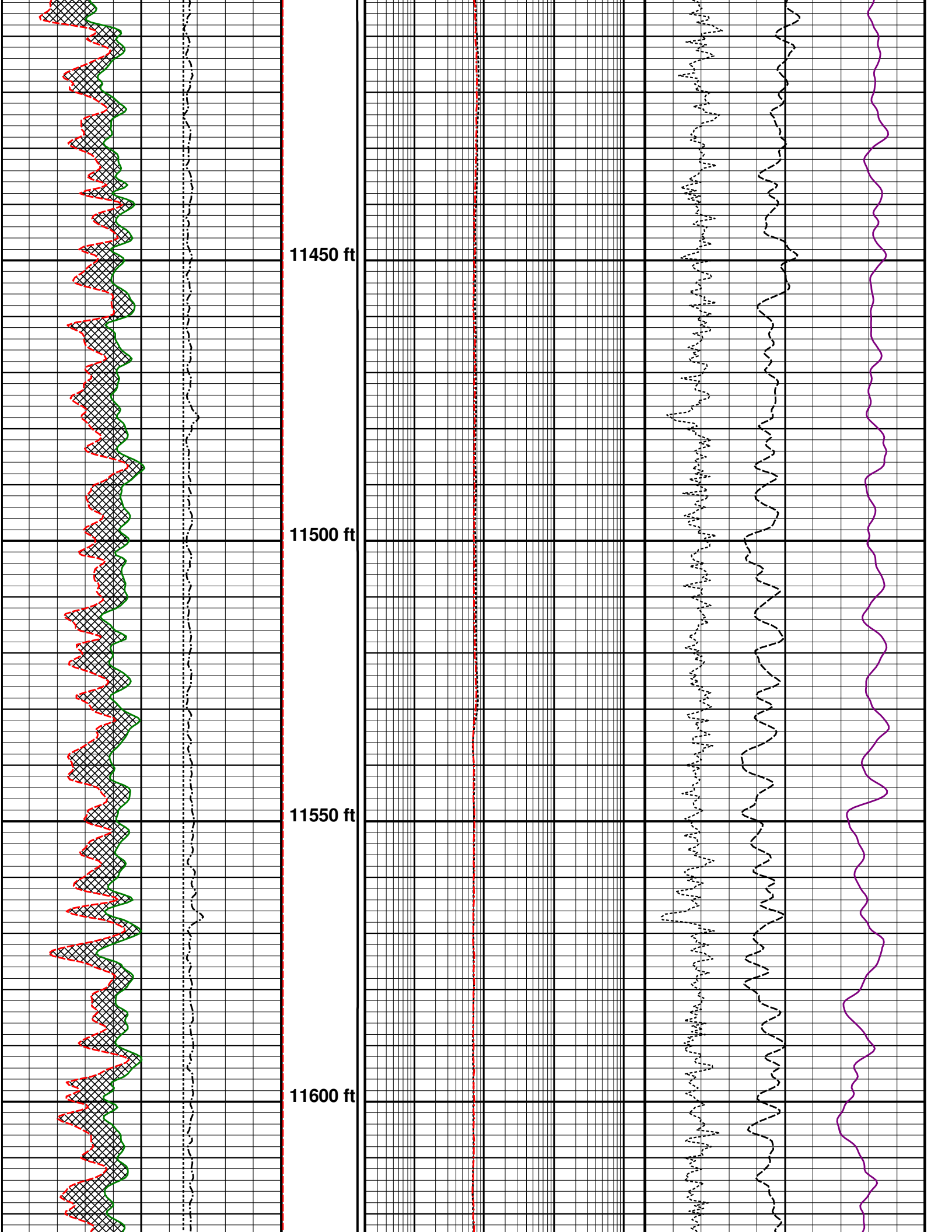
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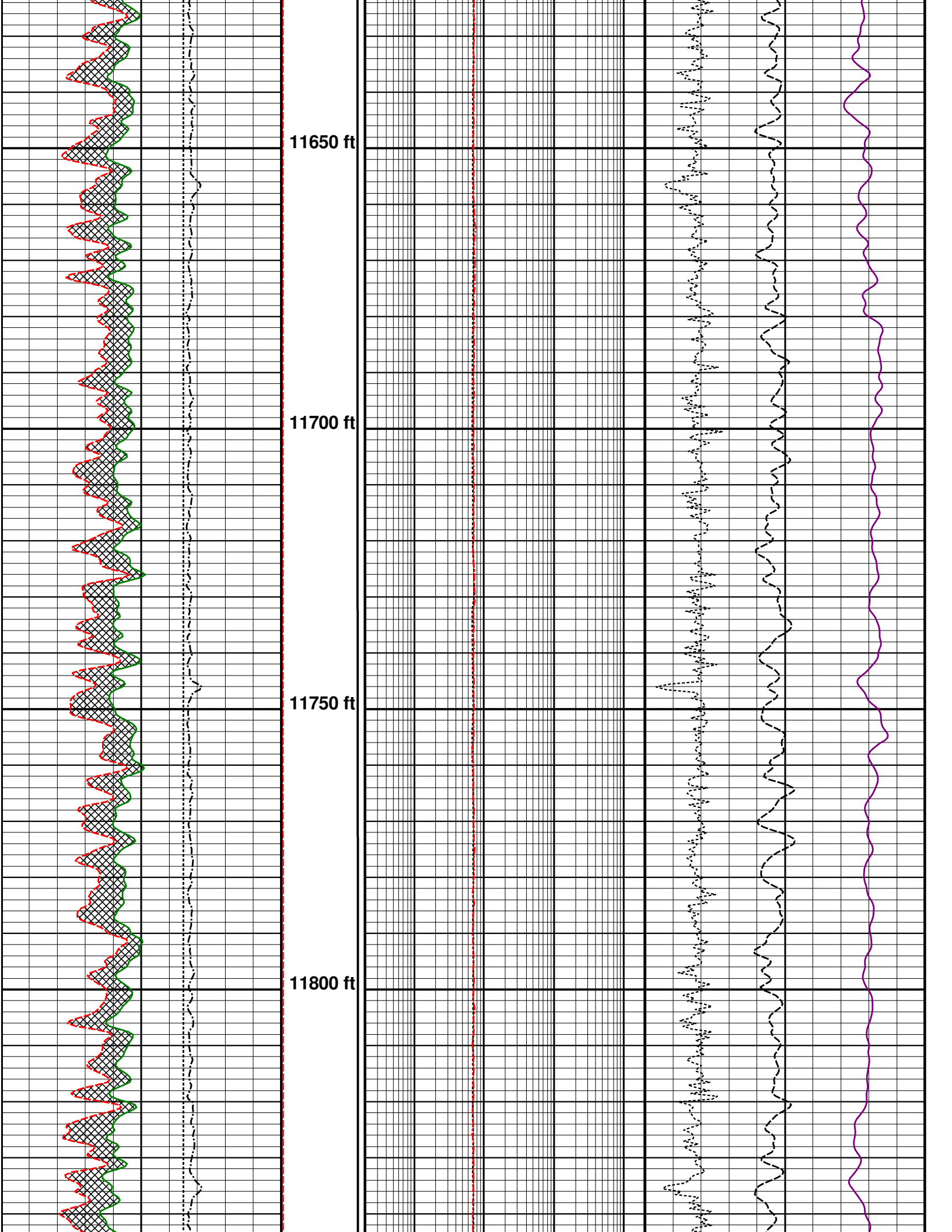
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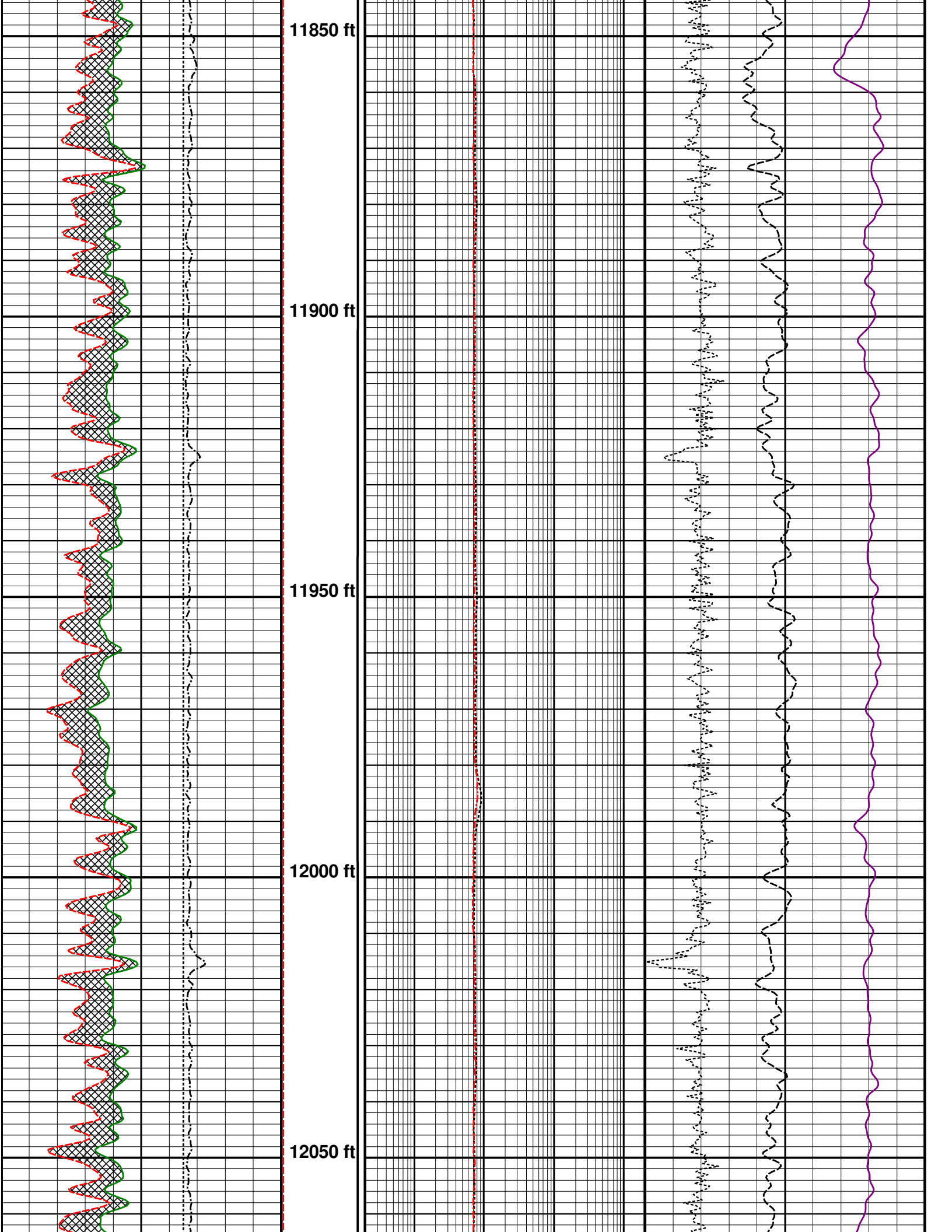
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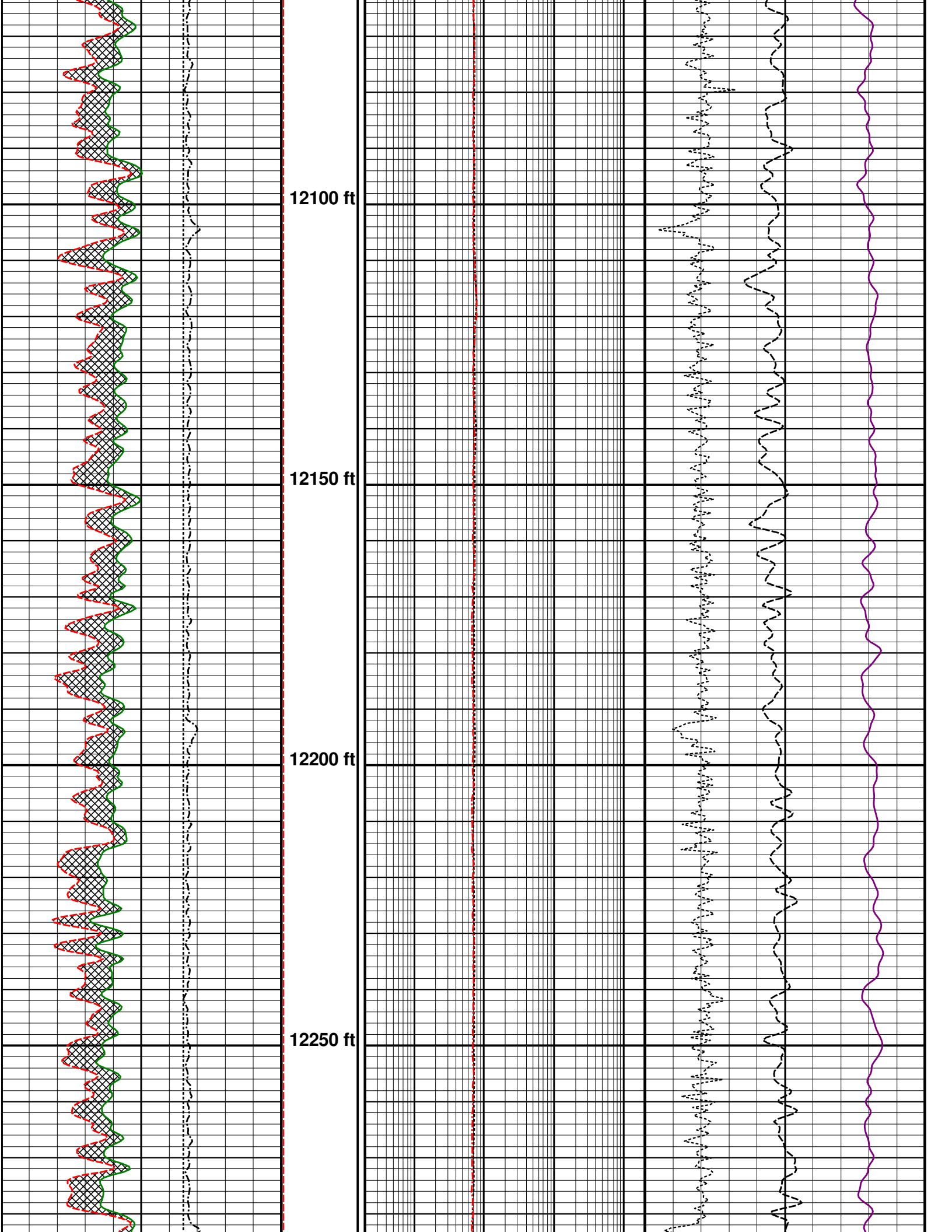
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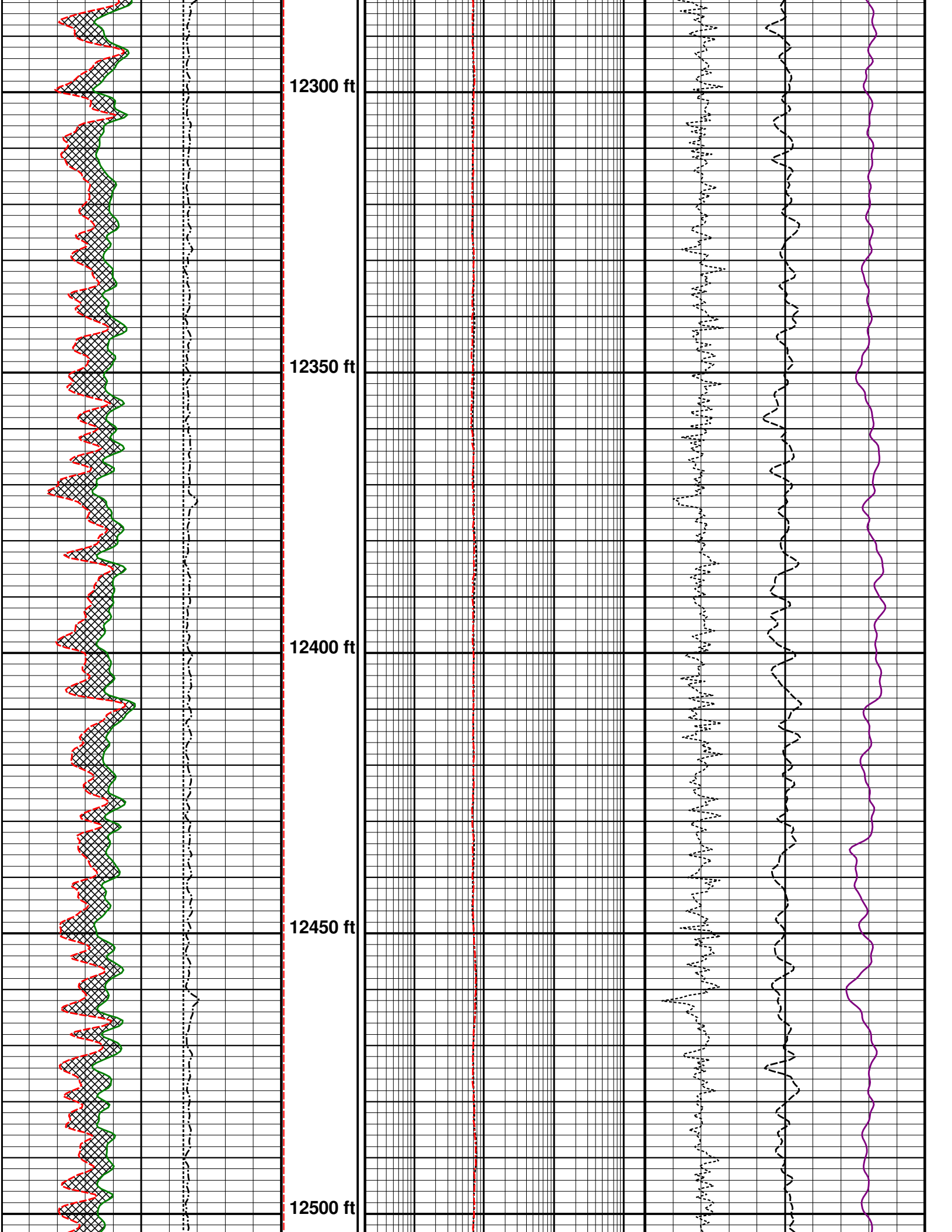
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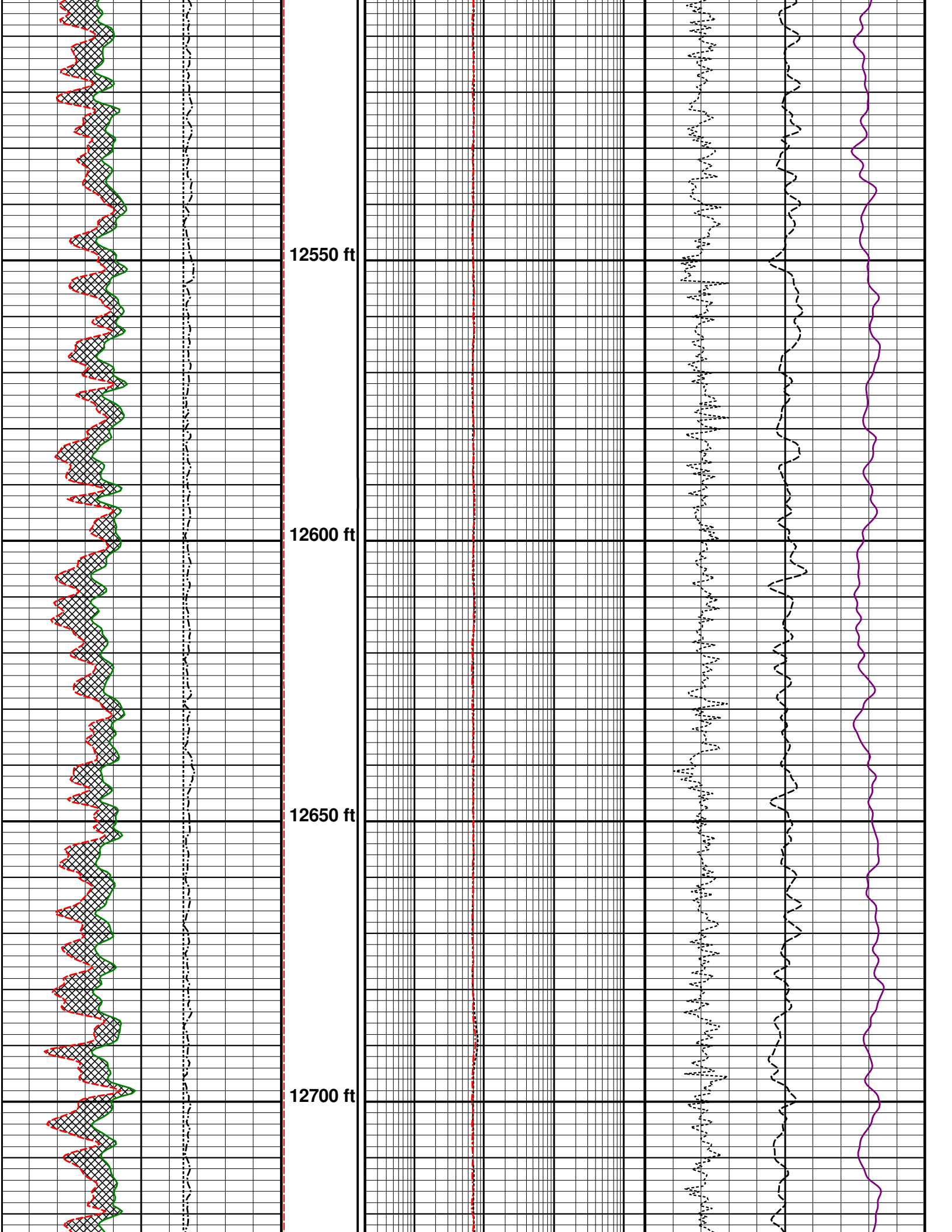
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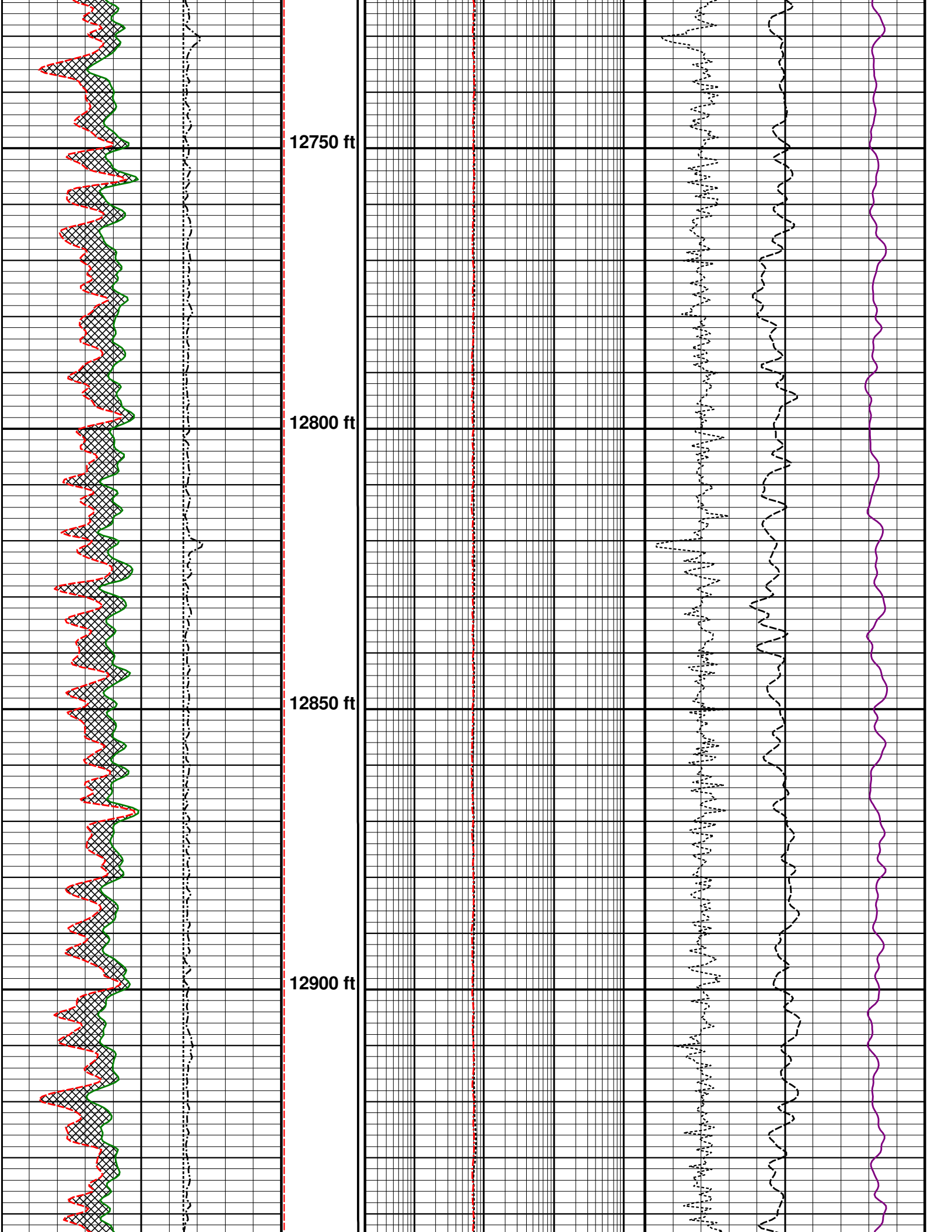
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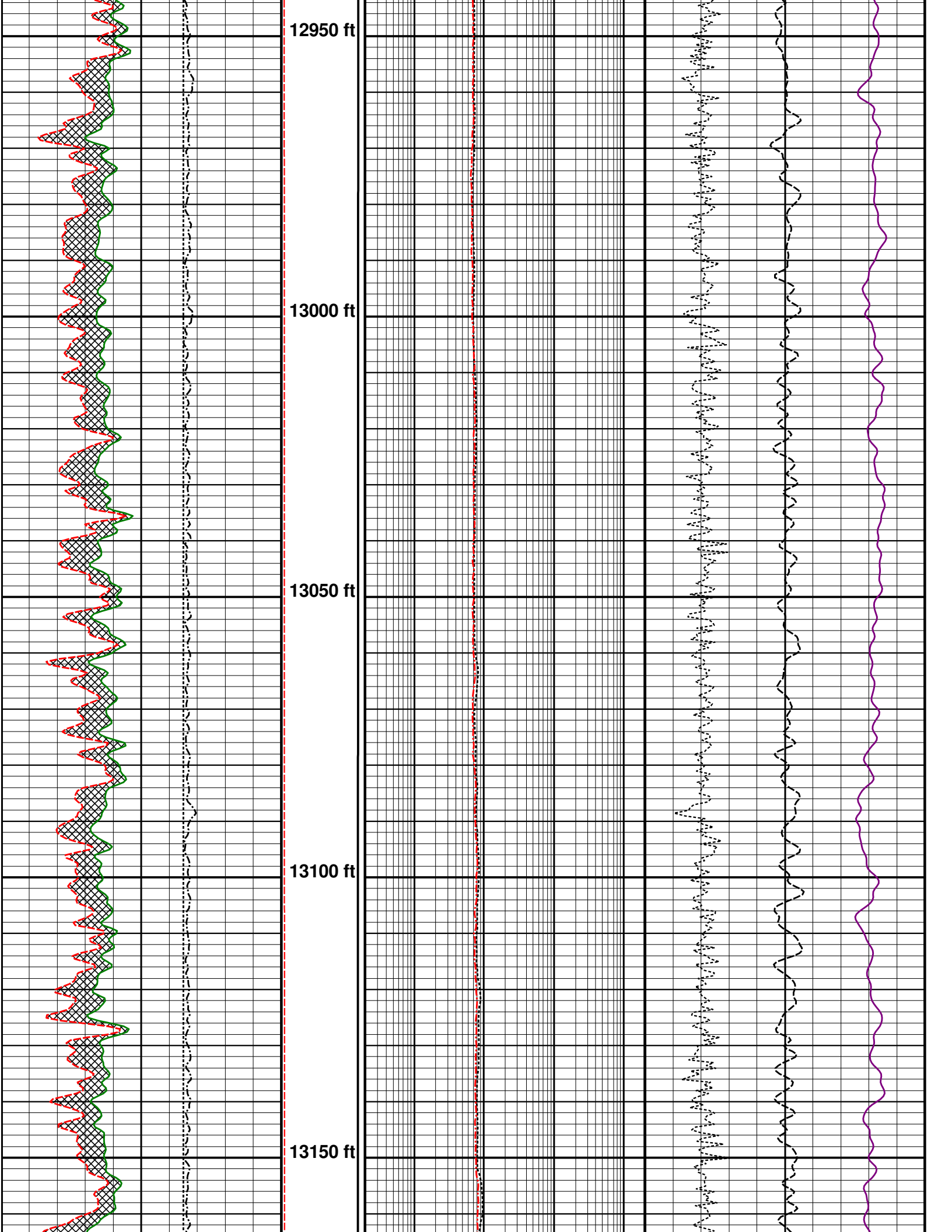
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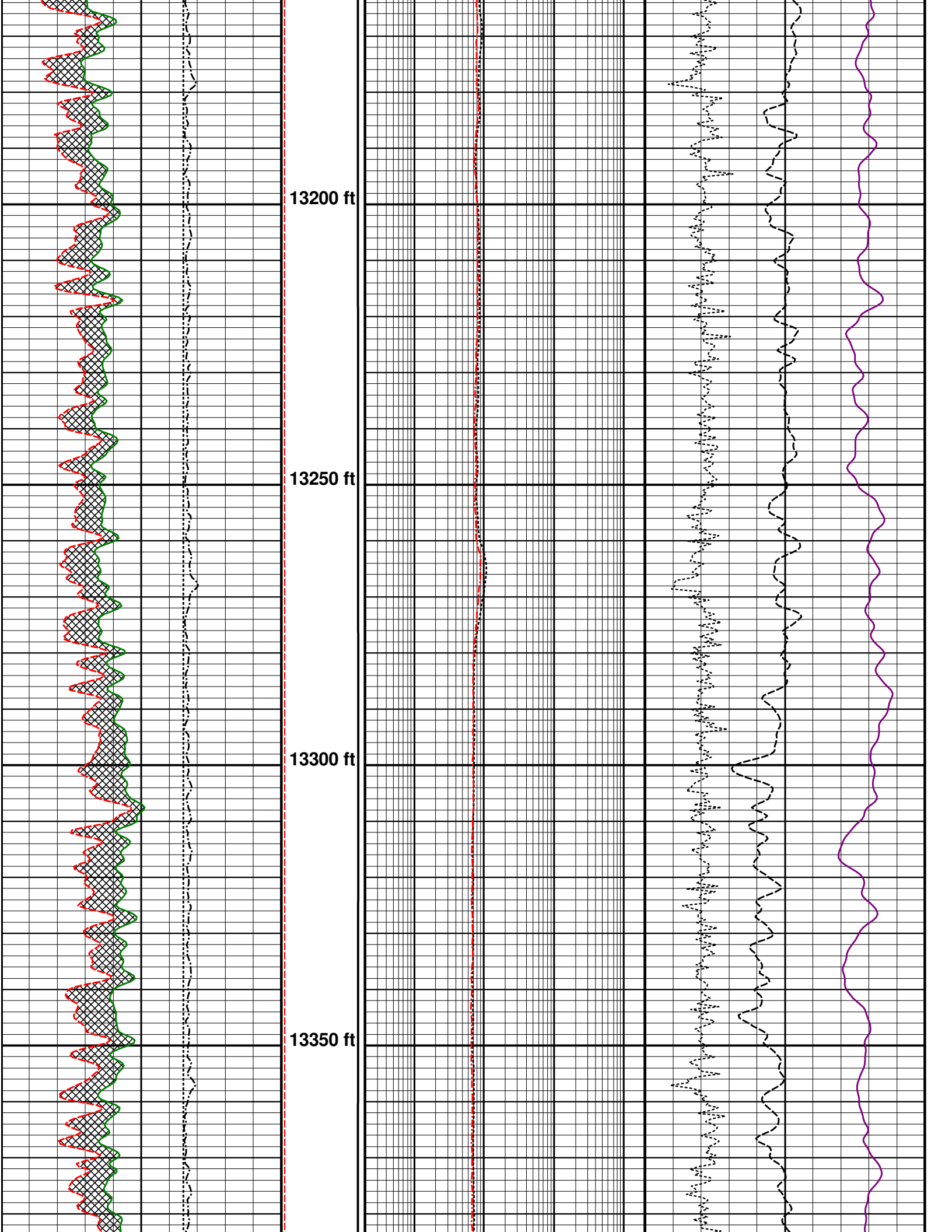
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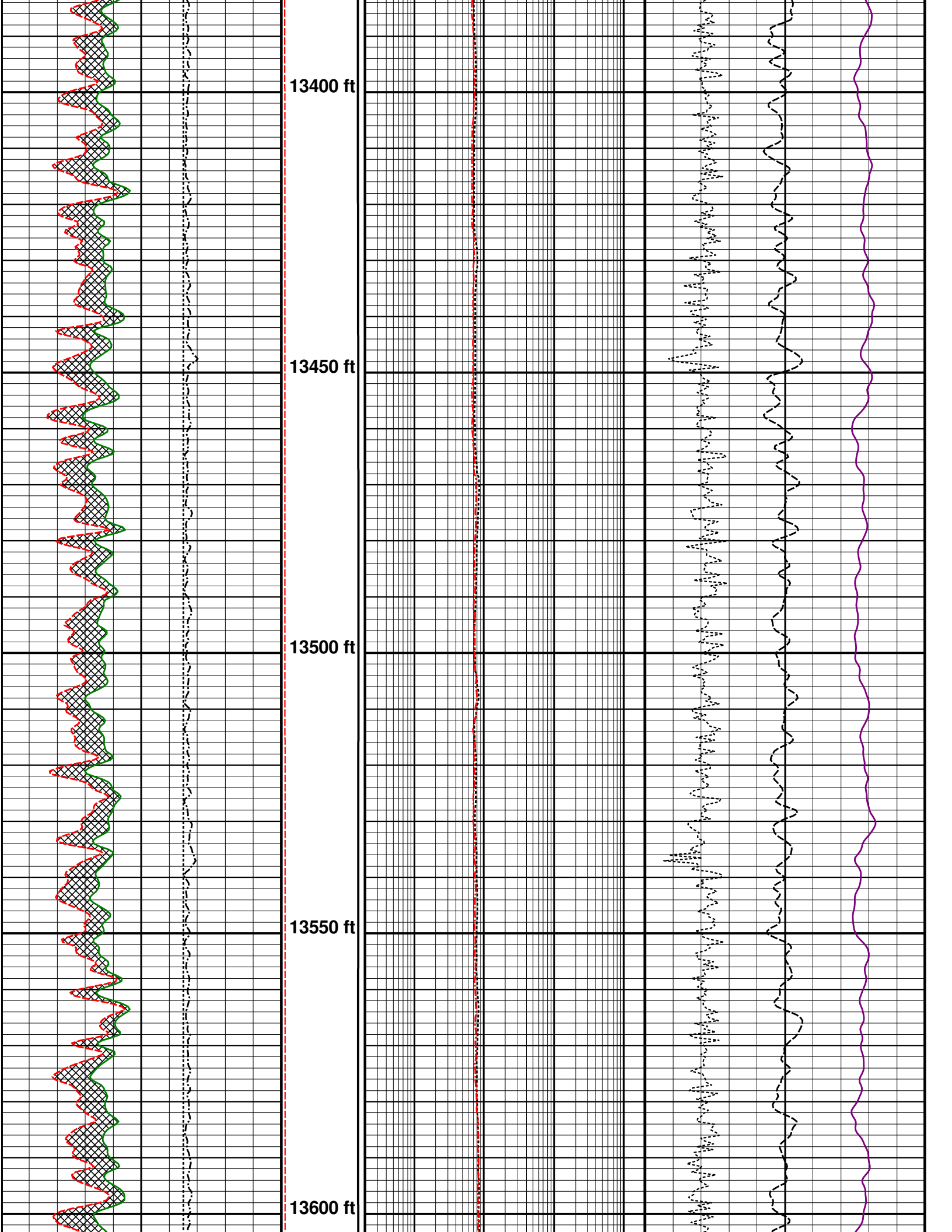
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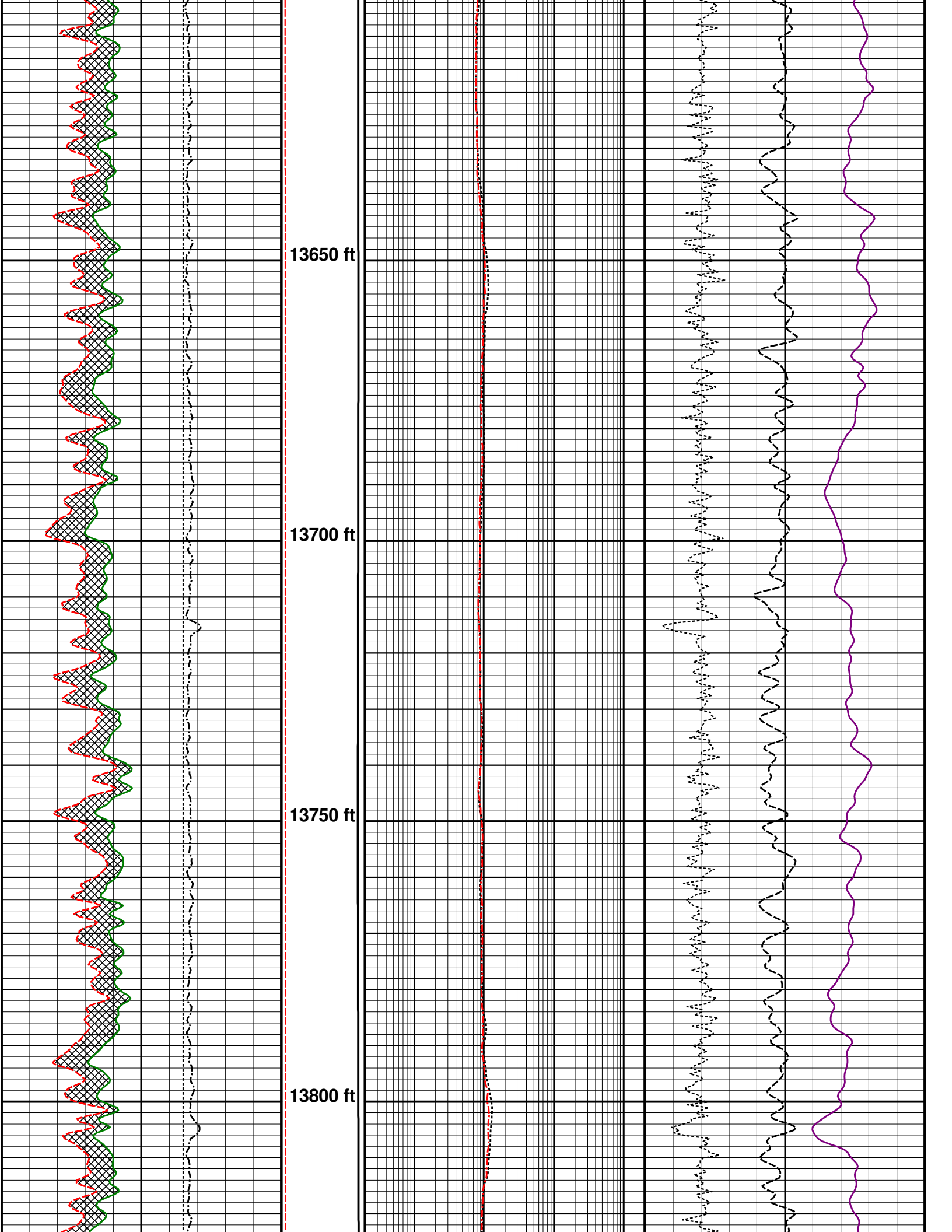
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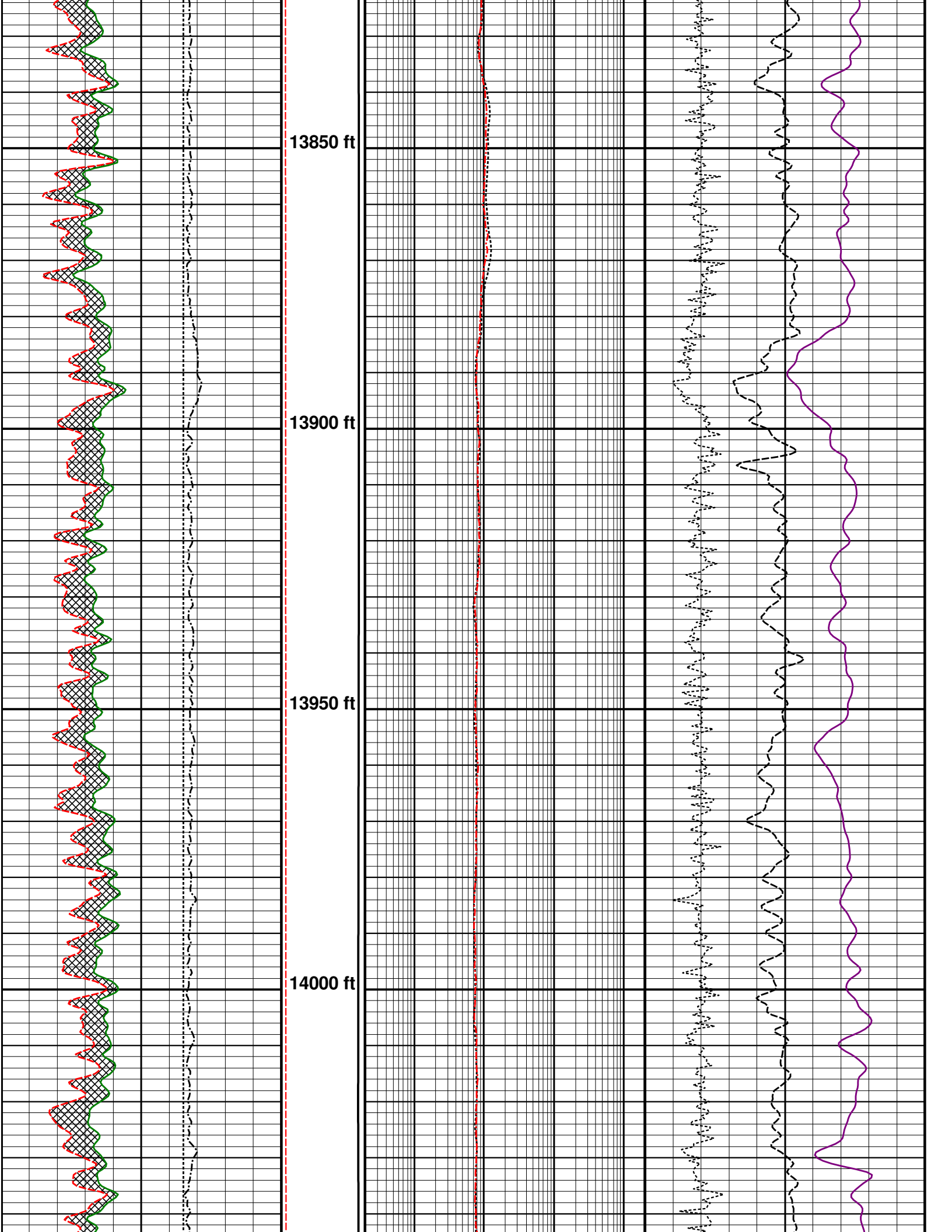
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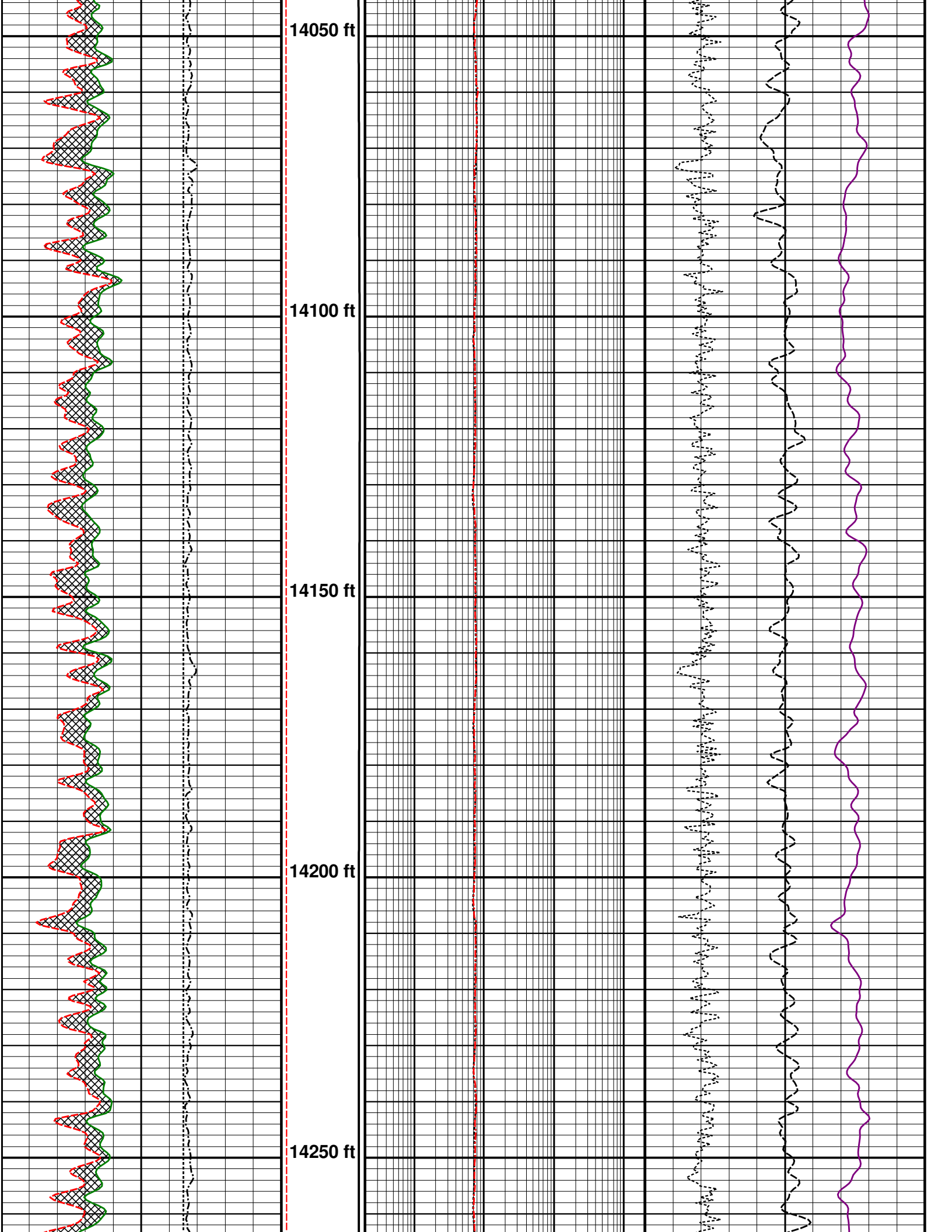
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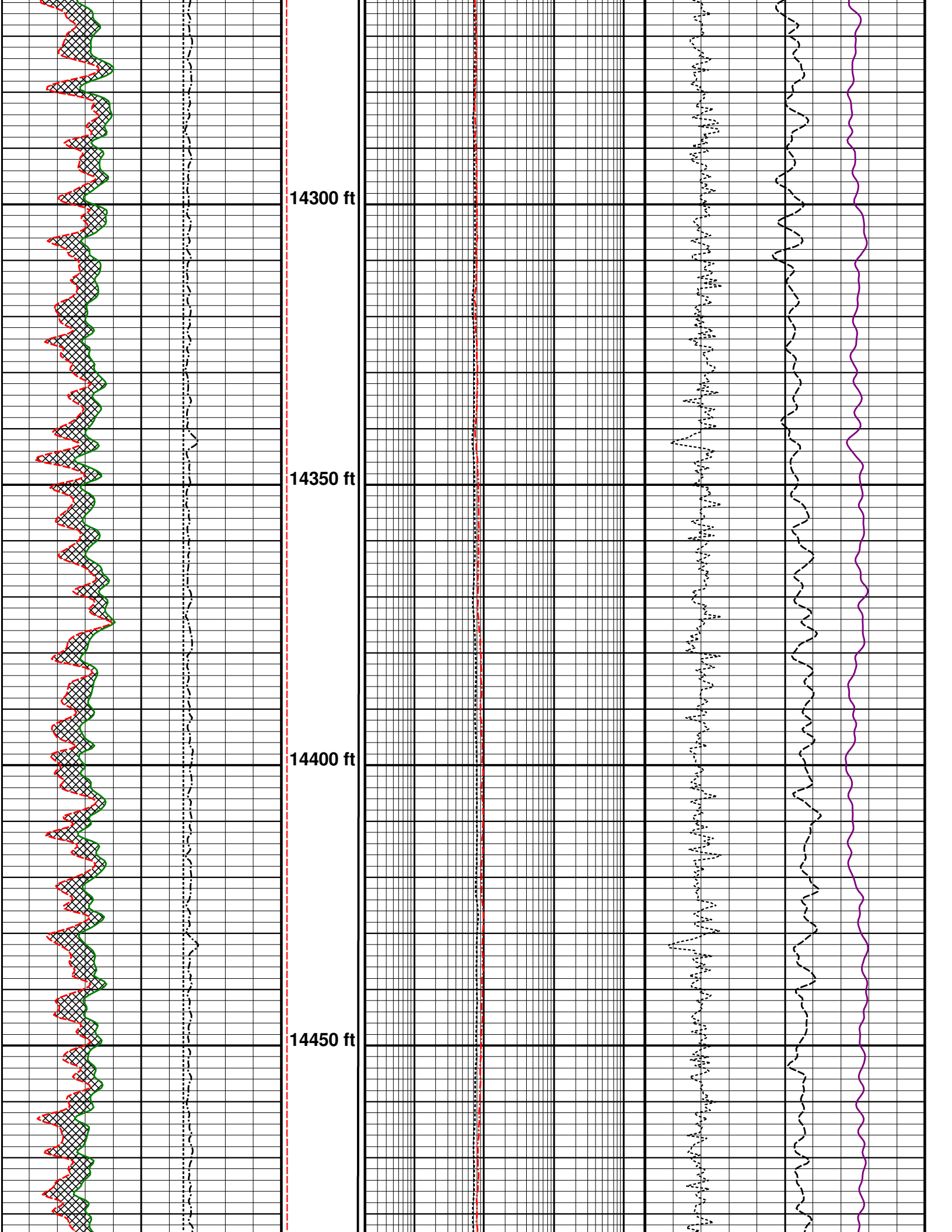
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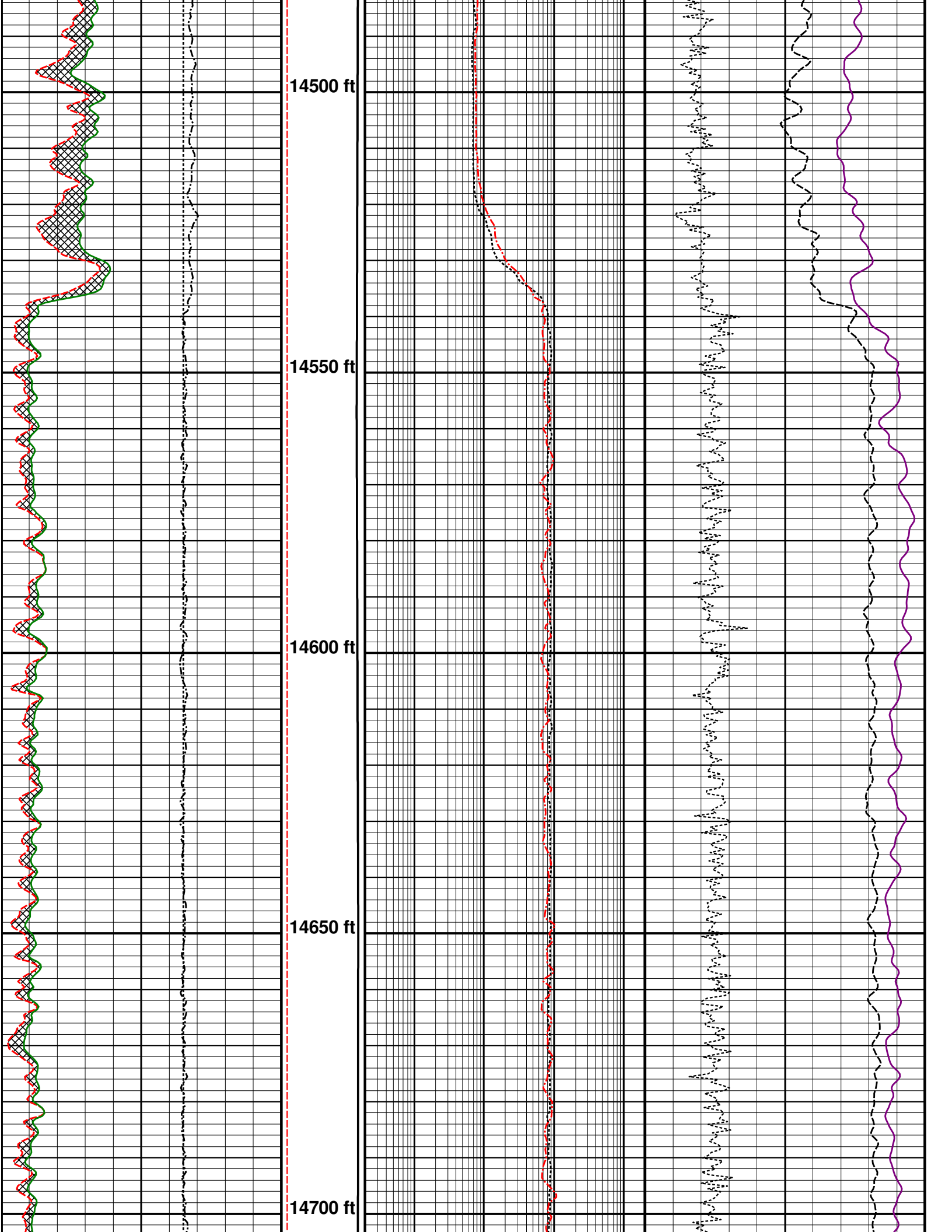
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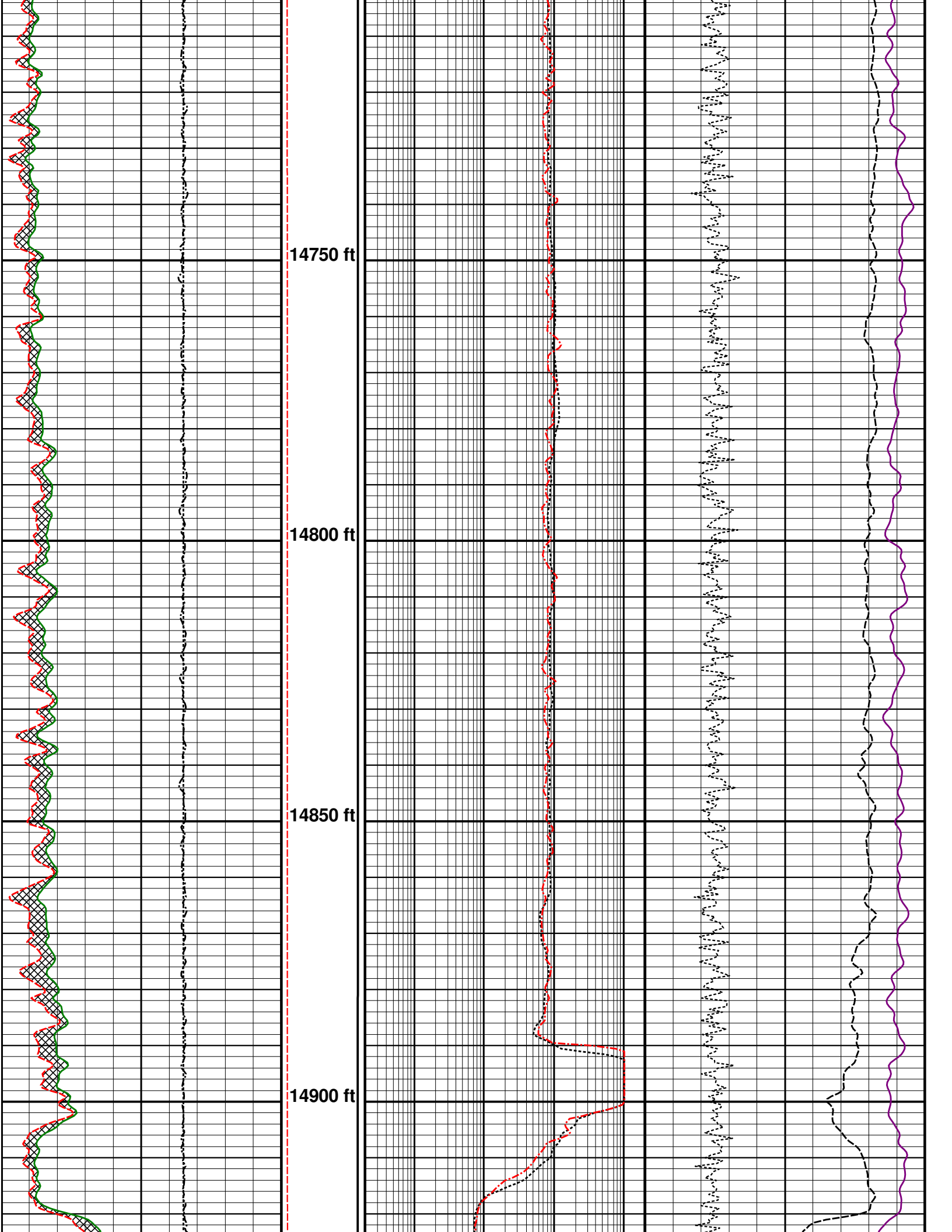
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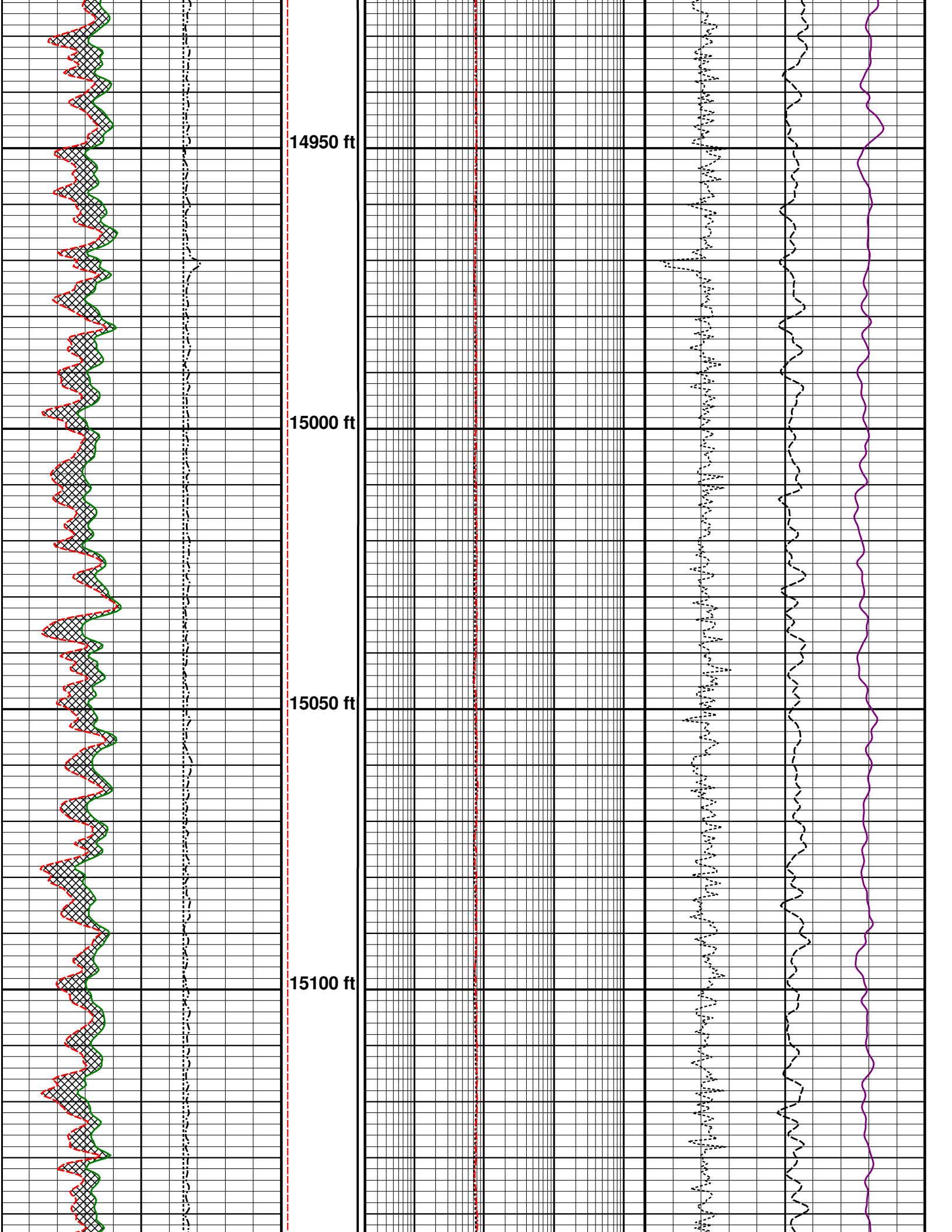
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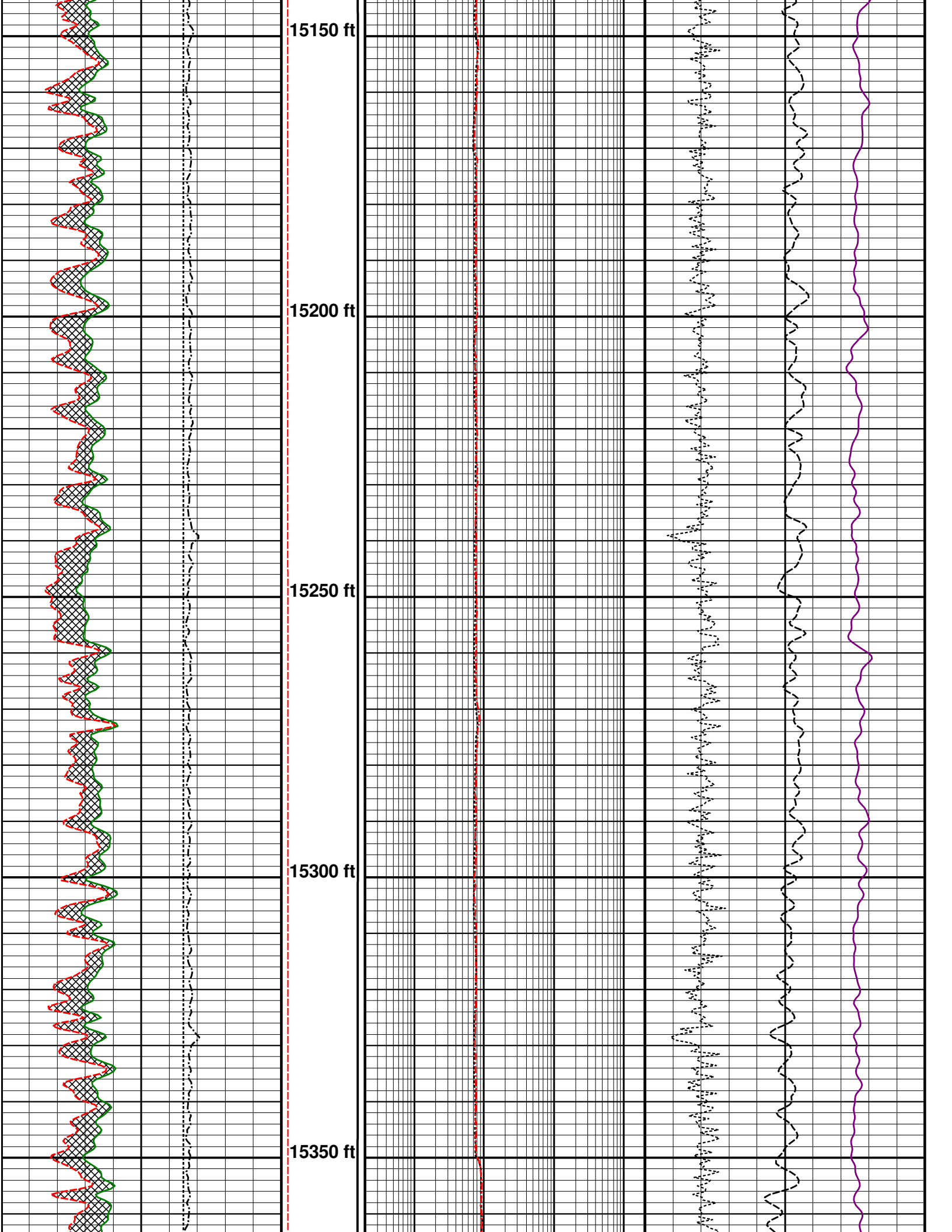
15050 ft
15100 ft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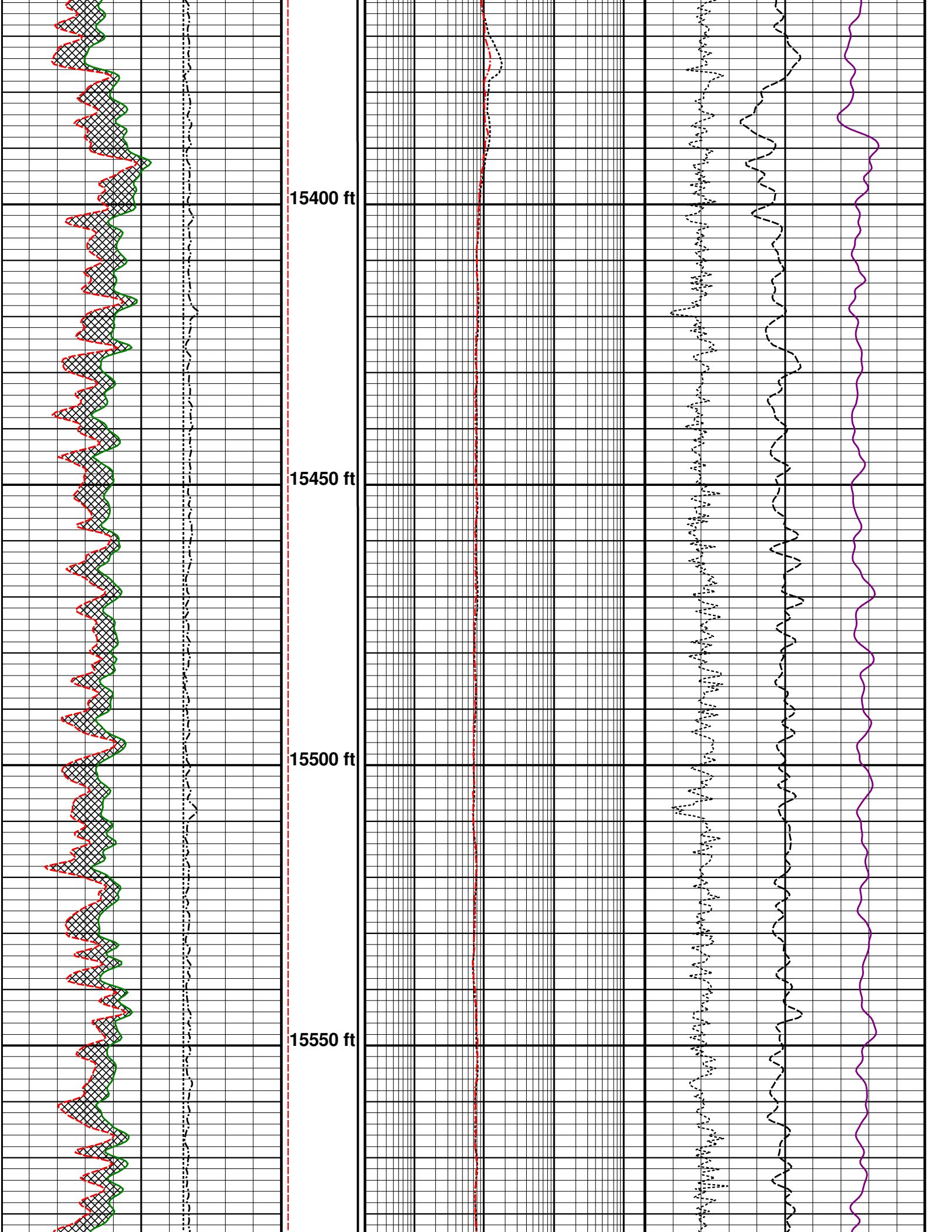
15350 ft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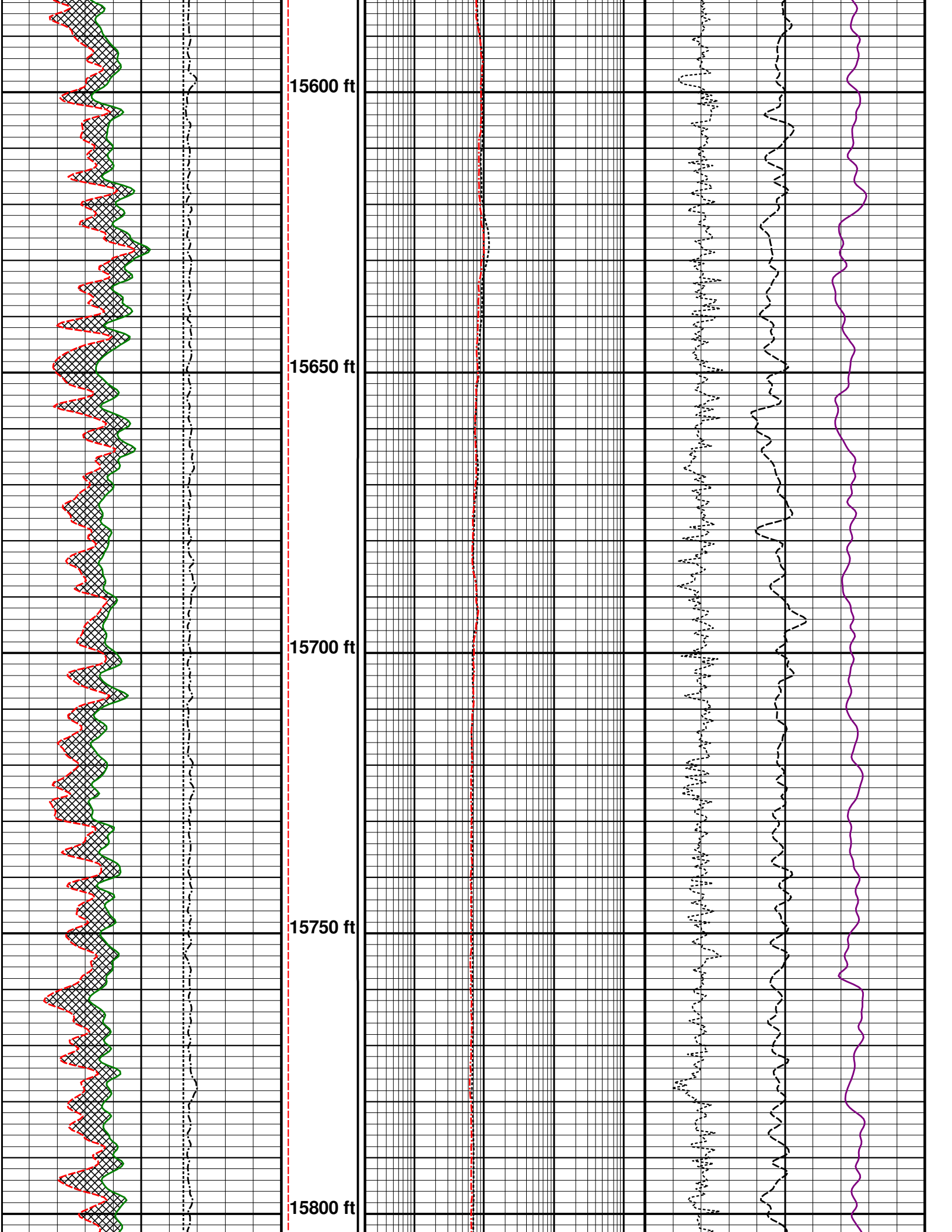
15450 ft
15500 ft
15550 ft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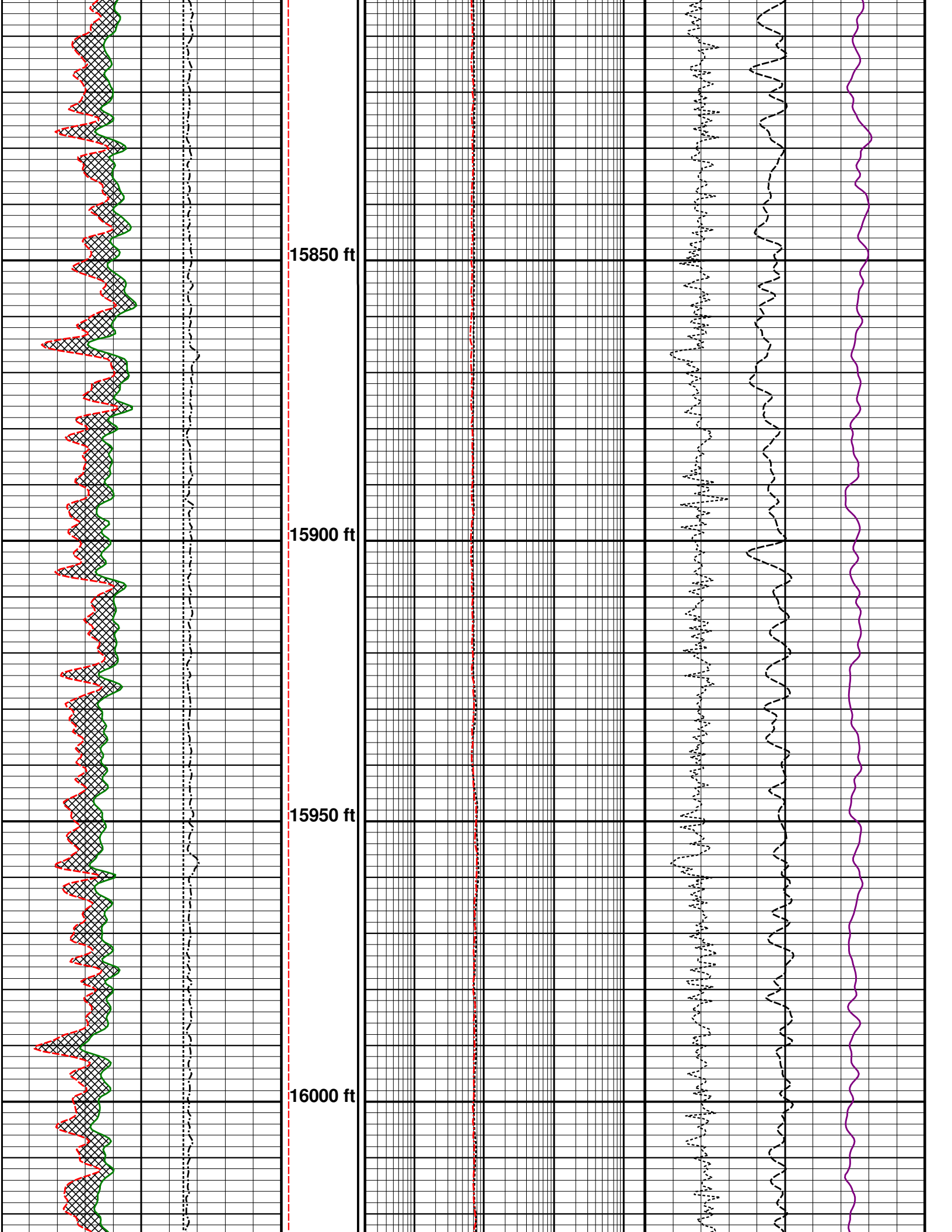
15650 ft
15700 ft
15750 ft
15800 ft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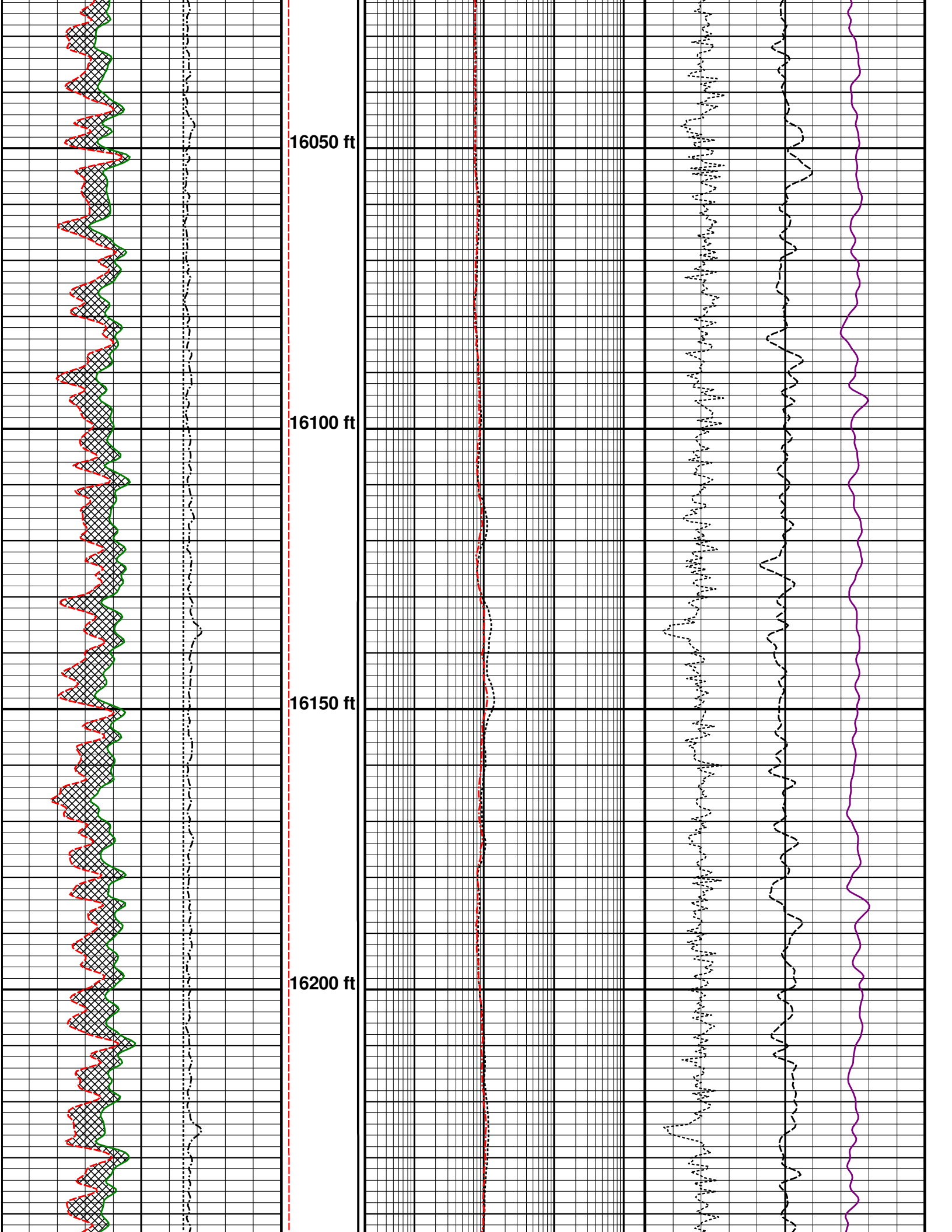
15950 ft
16000 ft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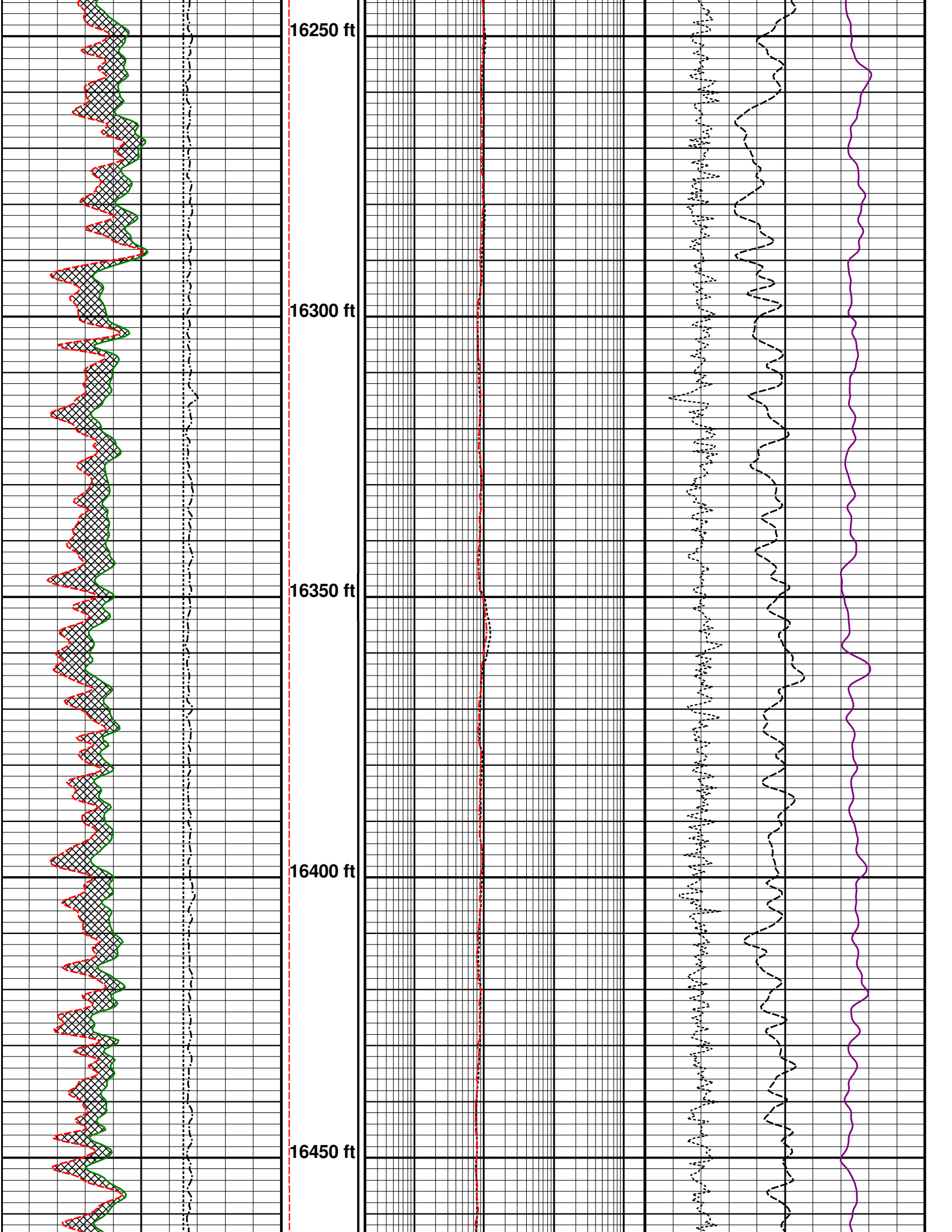
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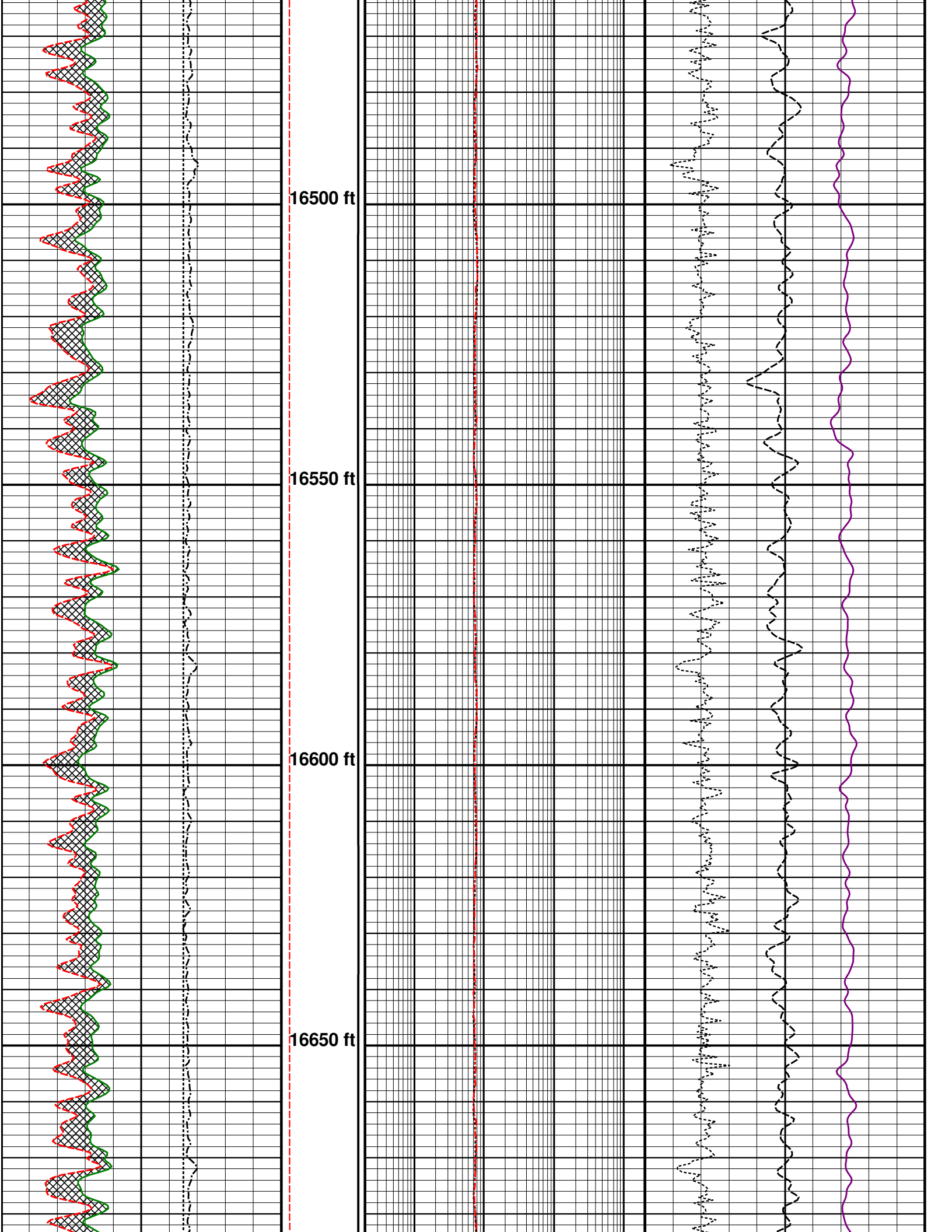
16450 ft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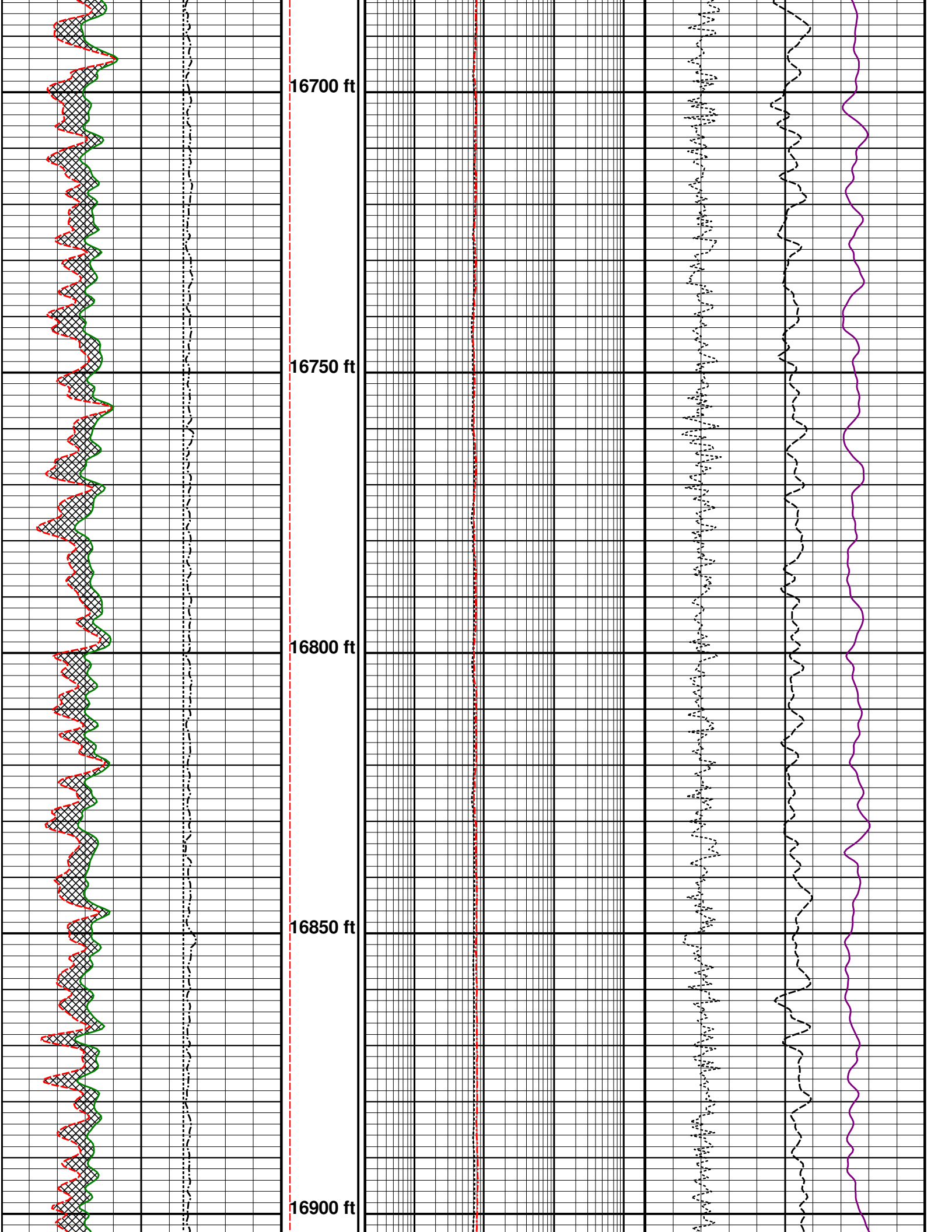
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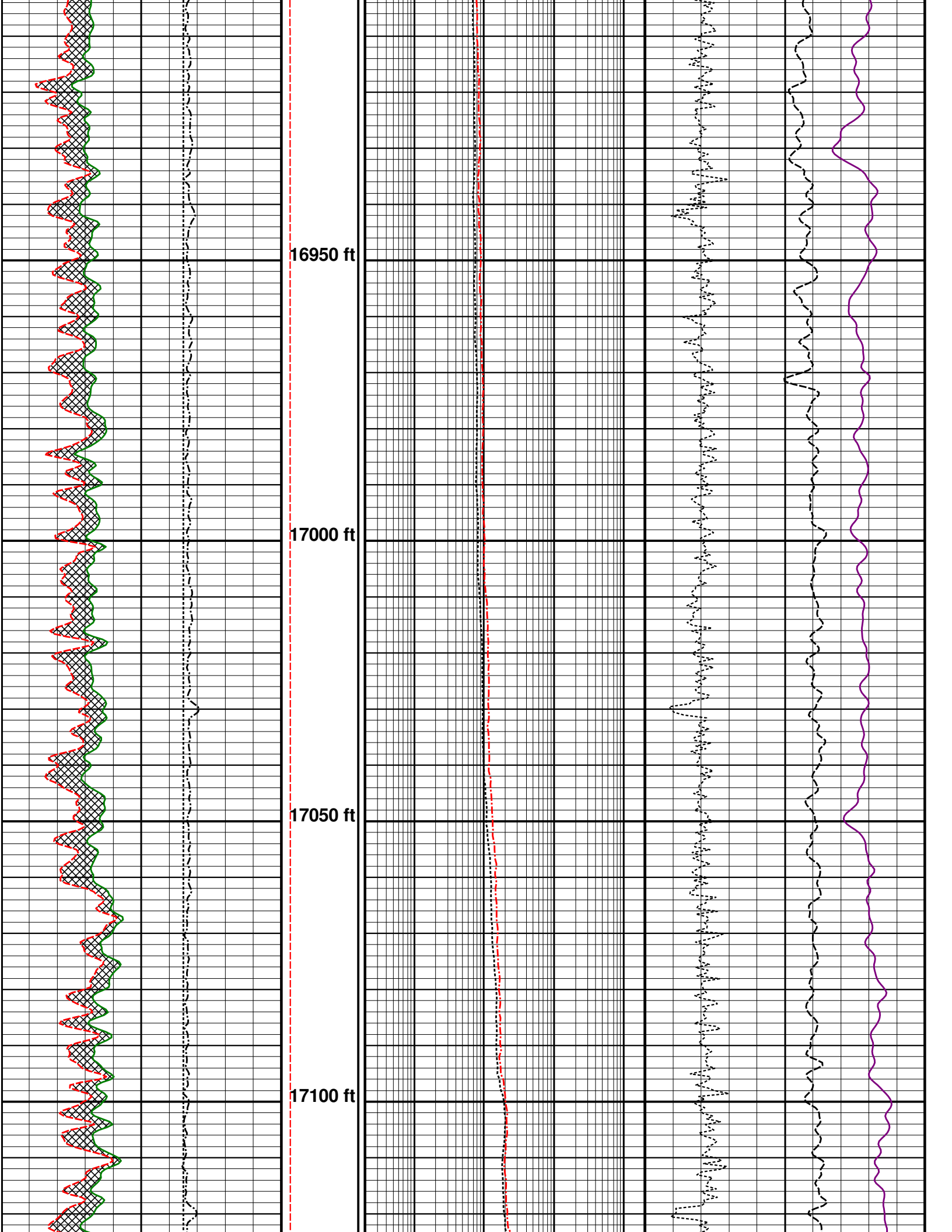
16900 ft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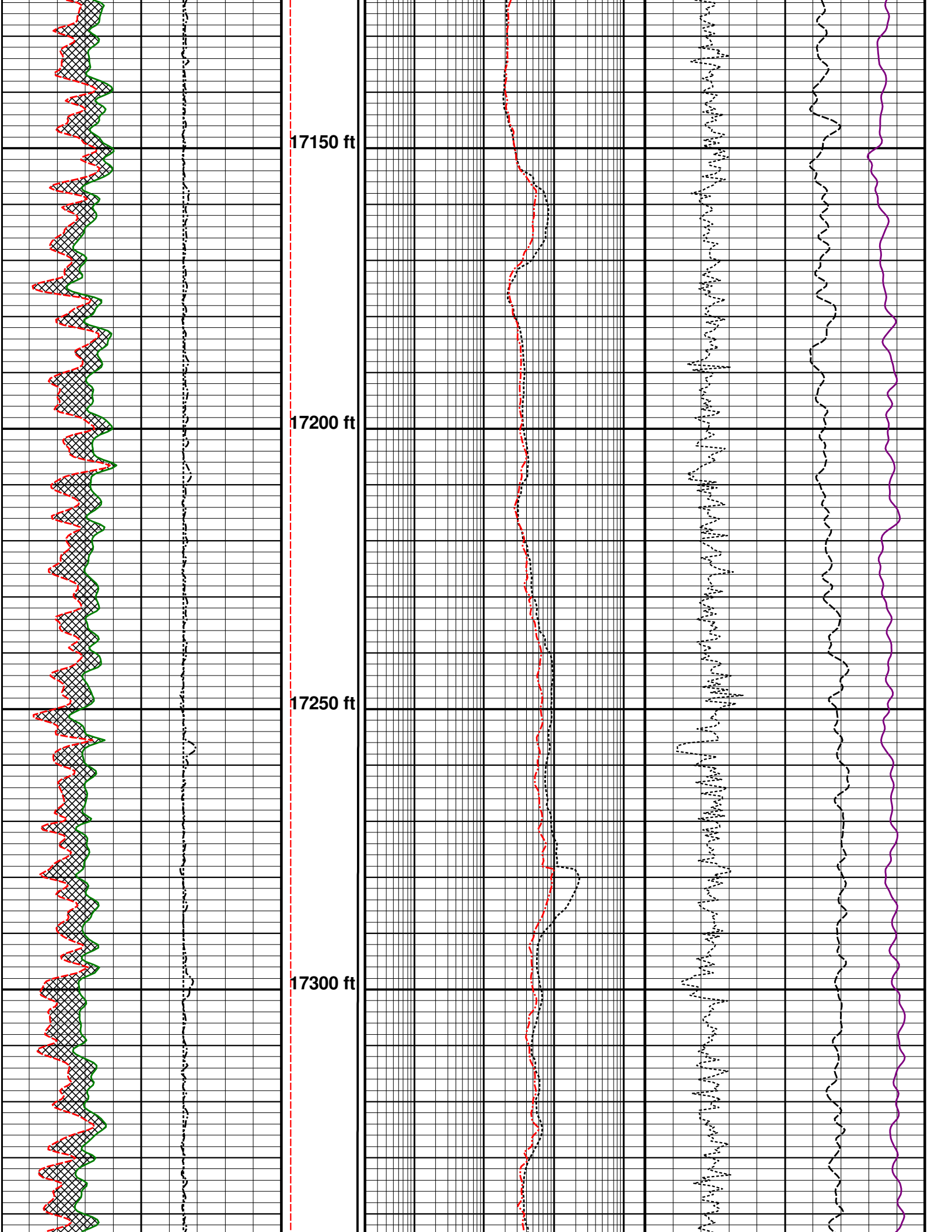
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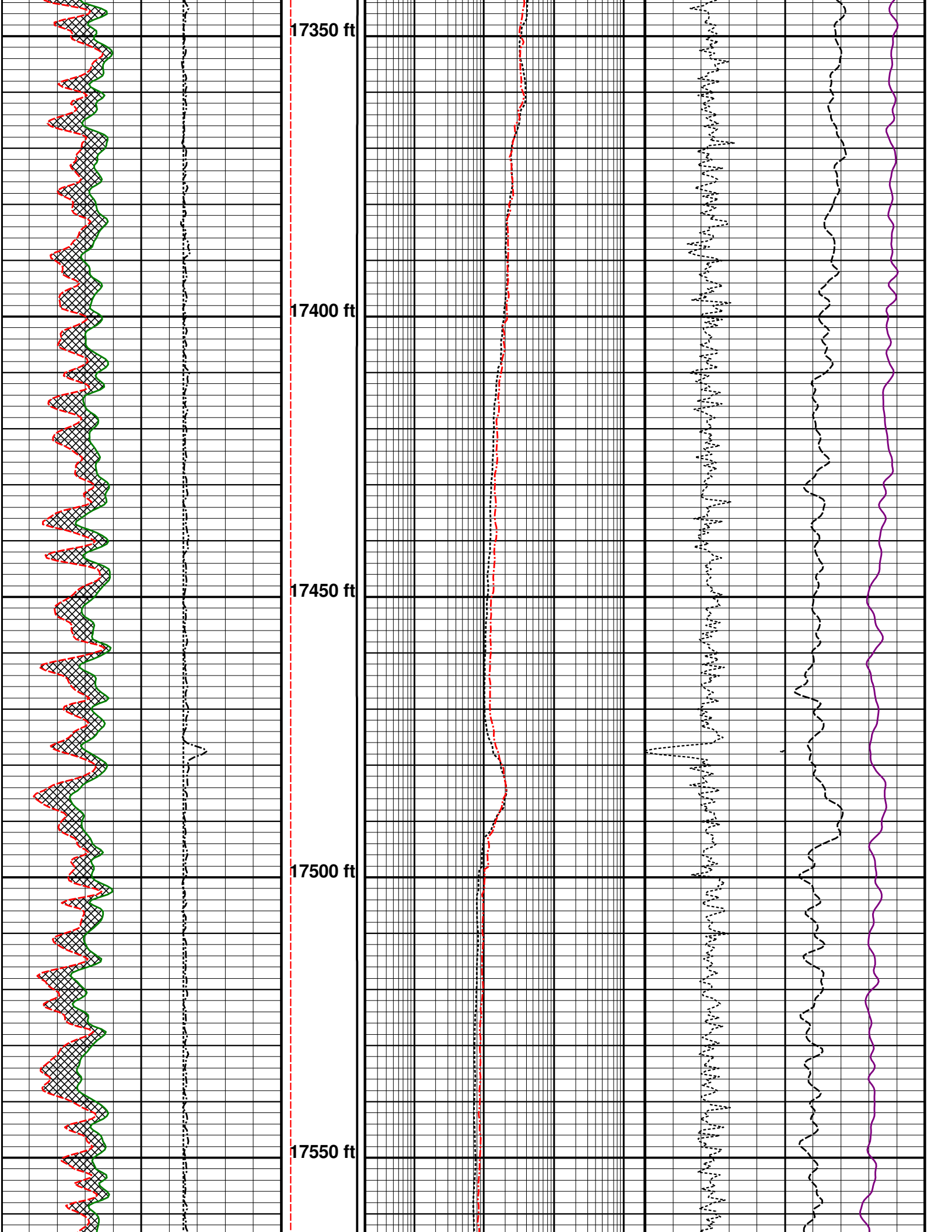
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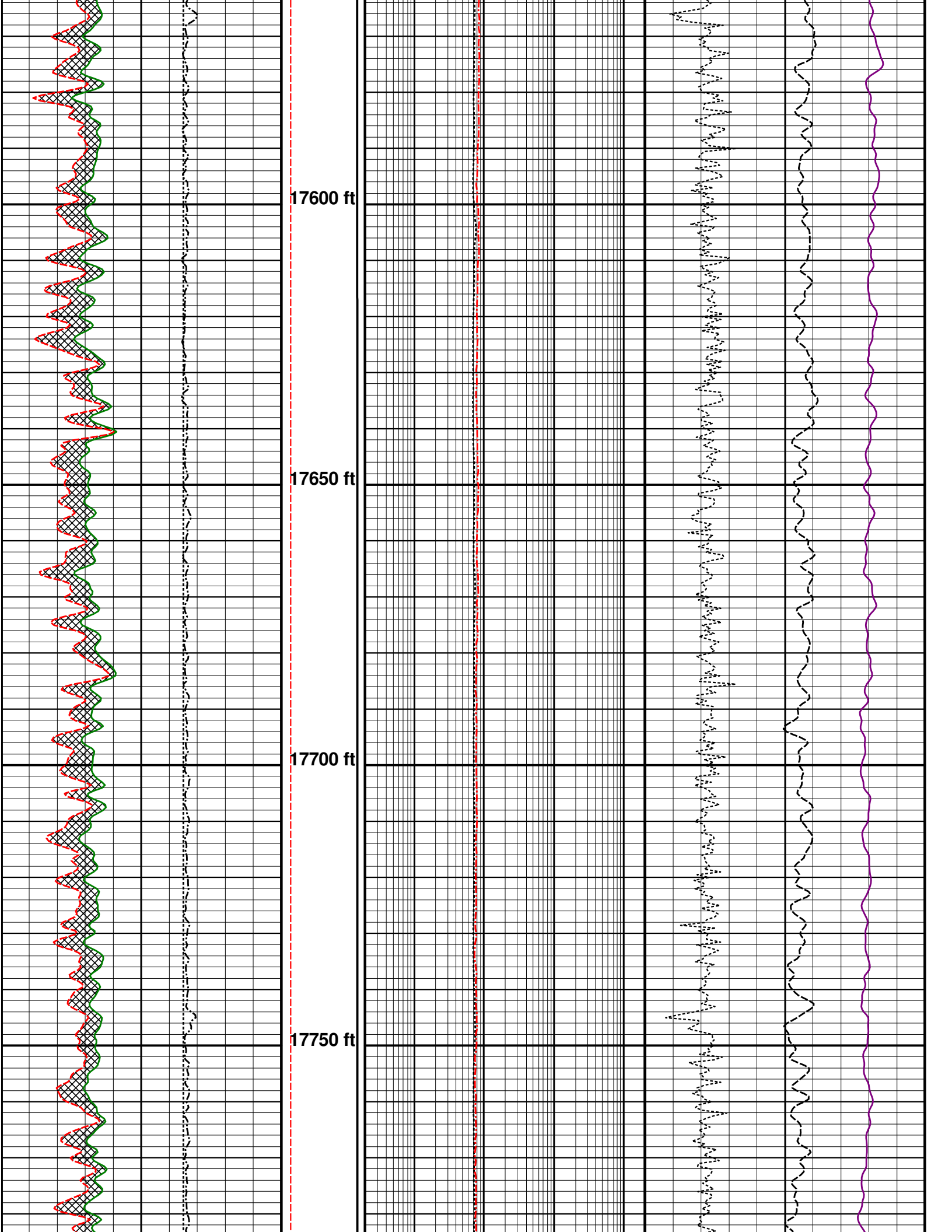
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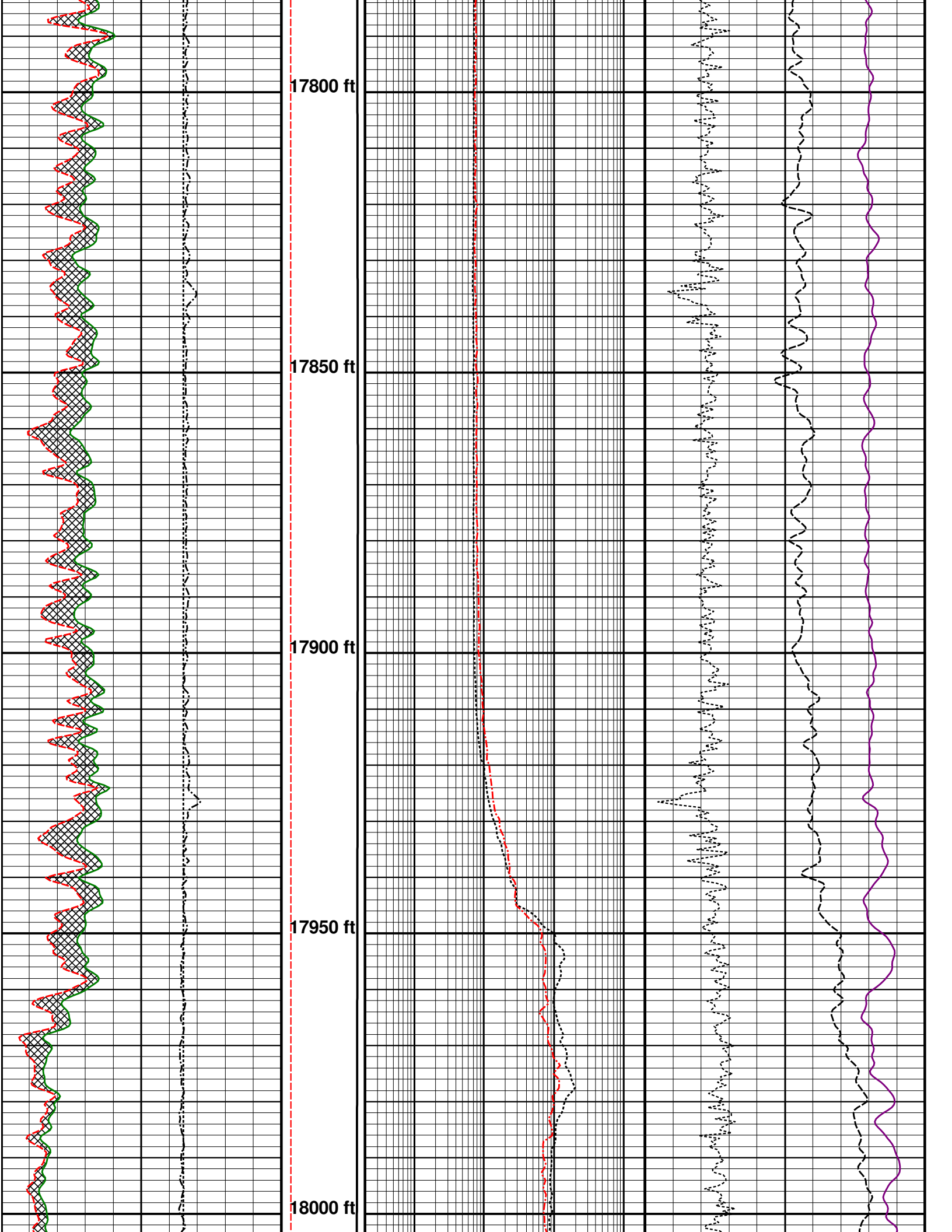
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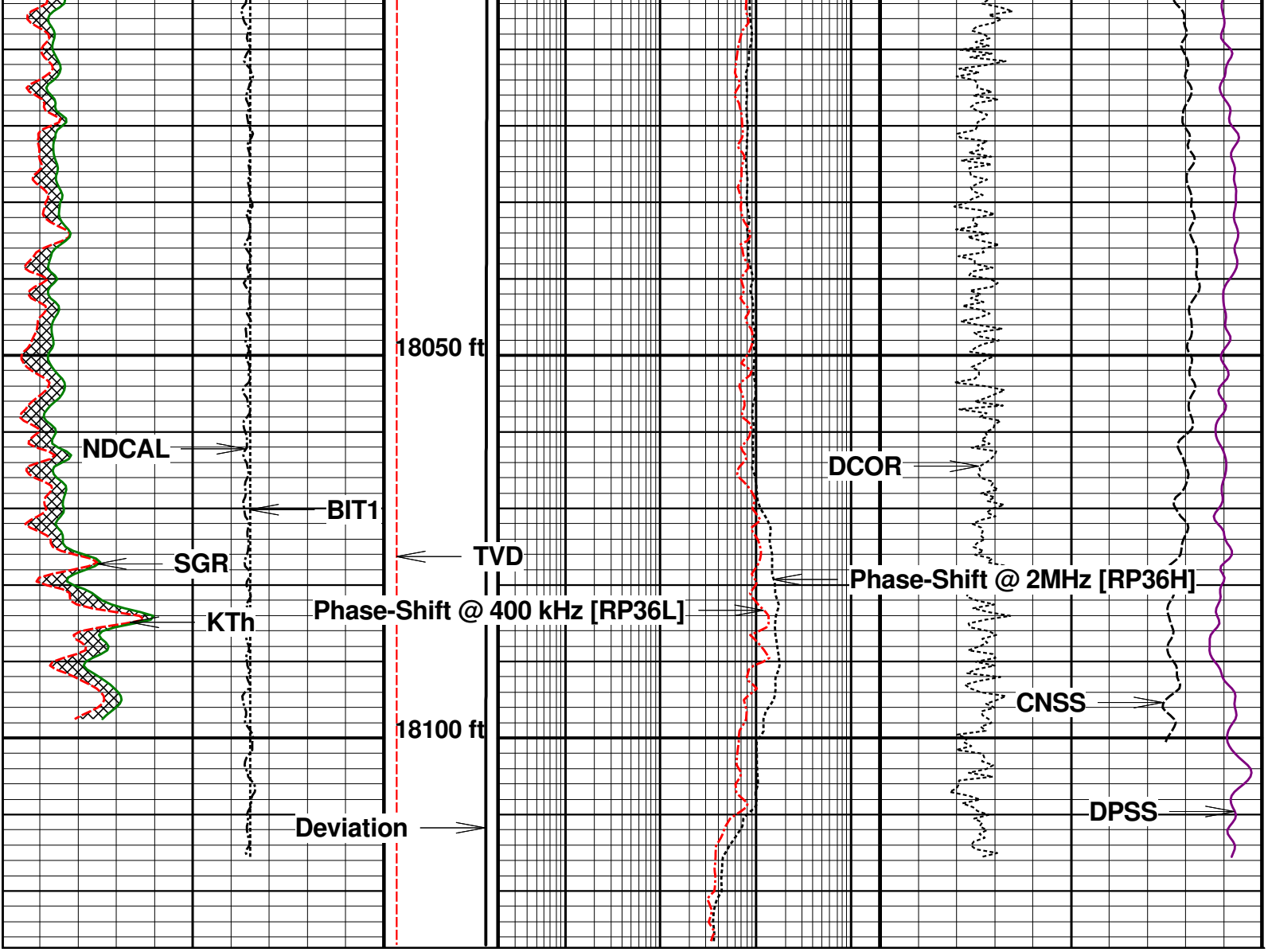
17950 ft
18000 ft



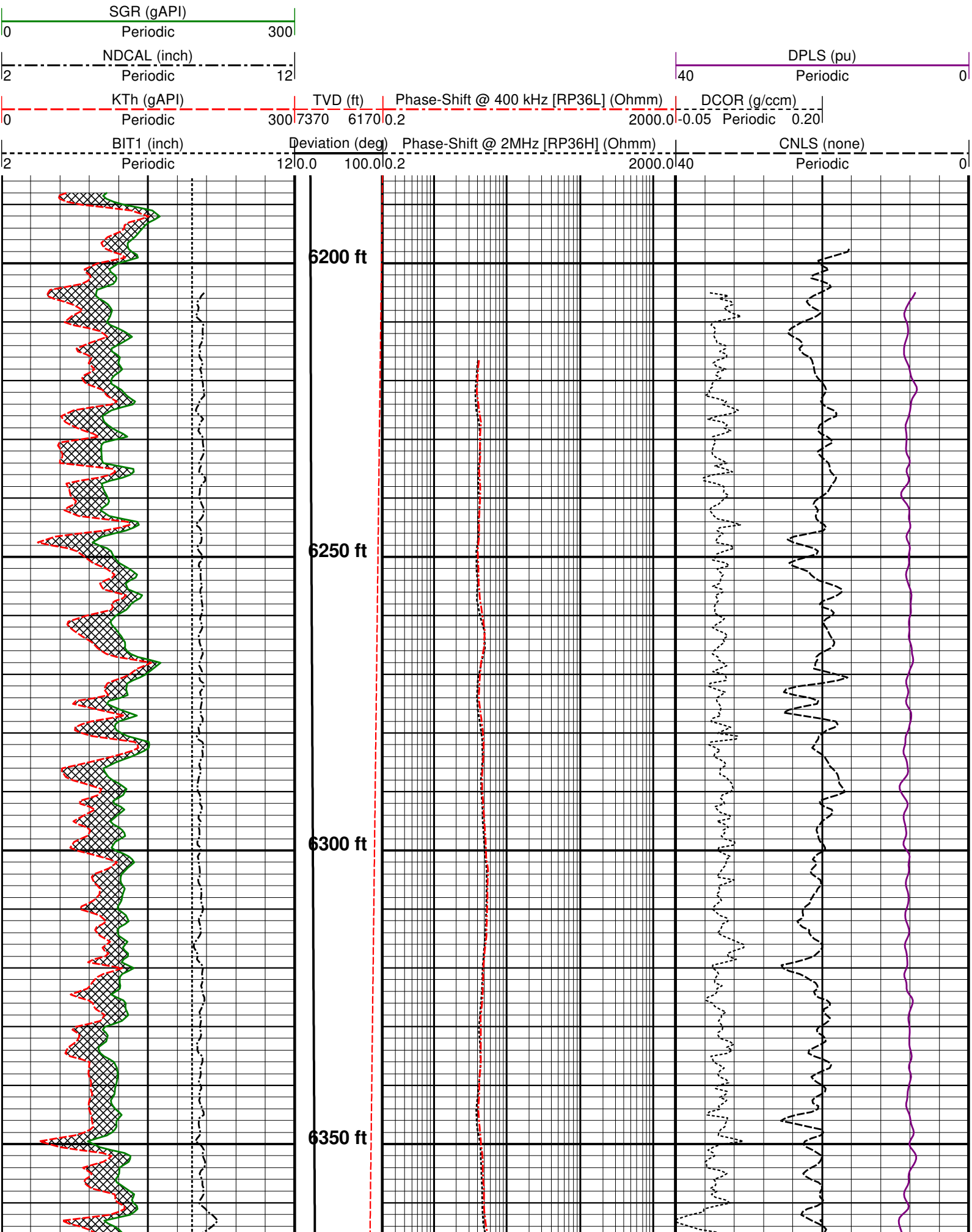
BIT1 (inch)	2 Periodic 12	Deviation (deg)	0.0 100.0	Phase-Shift @ 2MHz [RP36H] (Ohmm)	0.2 2000.0
CNSS (pu)	40 Periodic 0	KTh (gAPI)	0 Periodic 300	TVD (ft)	7370 6170
Phase-Shift @ 400 kHz [RP36L] (Ohmm)	0.2 2000.0	DCOR (g/ccm)	-0.05 Periodic 0.20	NDCAL (inch)	2 Periodic 12
DPSS (pu)	40 Periodic 0	SGR (gAPI)	0 Periodic 300		

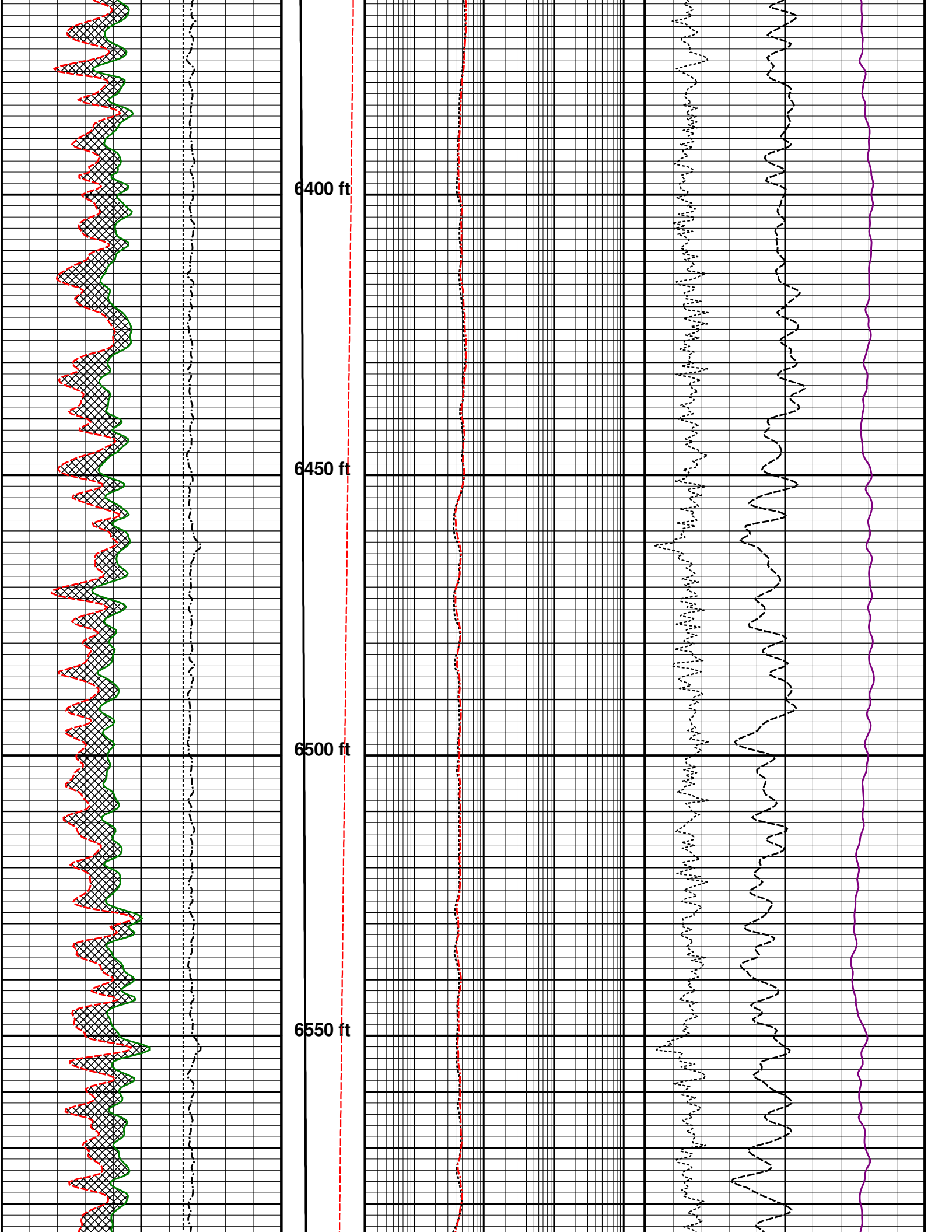
Uranium

5" MAIN PASS LIMESTONE

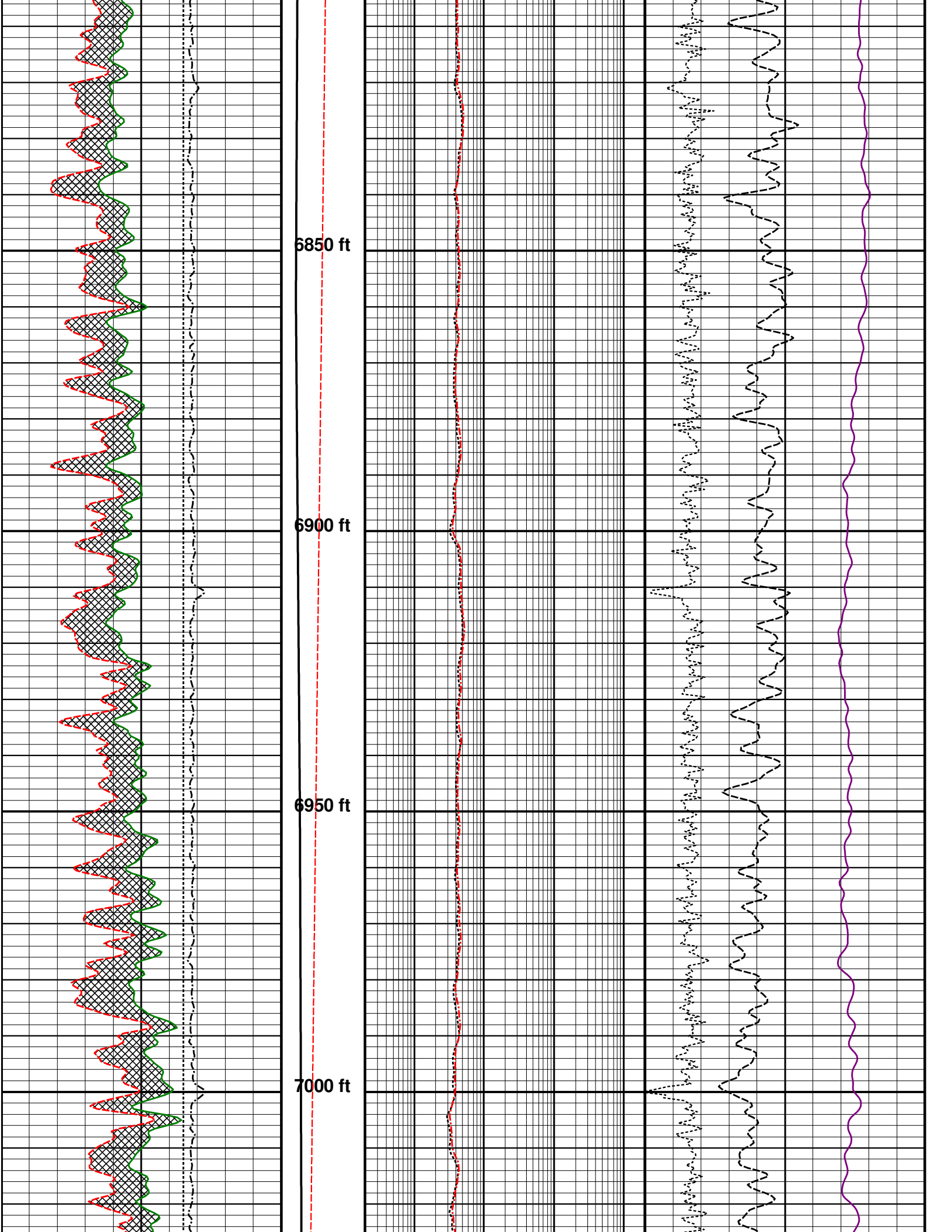
Company	: GREAT WESTERN OPERATING CO LLC	Date	: 11.05.2020
Well	: POSTLE IC 09-142HC	Time	:
Scale	: 1 : 240	Remarks	: LIMESTONE MATRIX
Depth in	: feet		
Software	: WinAPlot Ver. 6.18.0.0	File Name	: C:\...\Data\FINAL MD.las

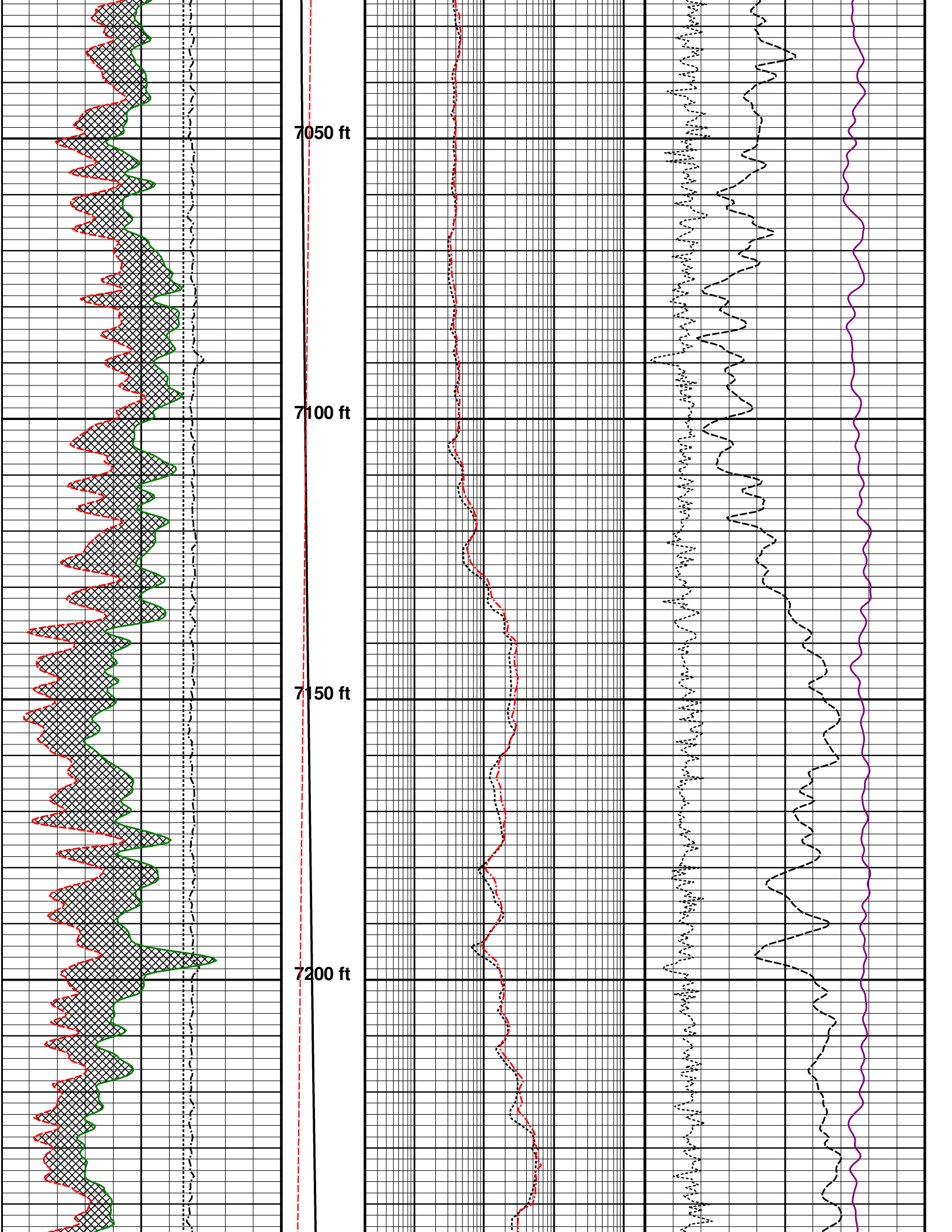
Software : WinAPlot Ver. 6, 18, 0, 0 File Name : C:\...\Data\FINAL MD.las




6400 ft
6450 ft
6500 ft
6550 ft

6600 ft
6650 ft
6700 ft
6750 ft
6800 ft


6850 ft
6900 ft
6950 ft
7000 ft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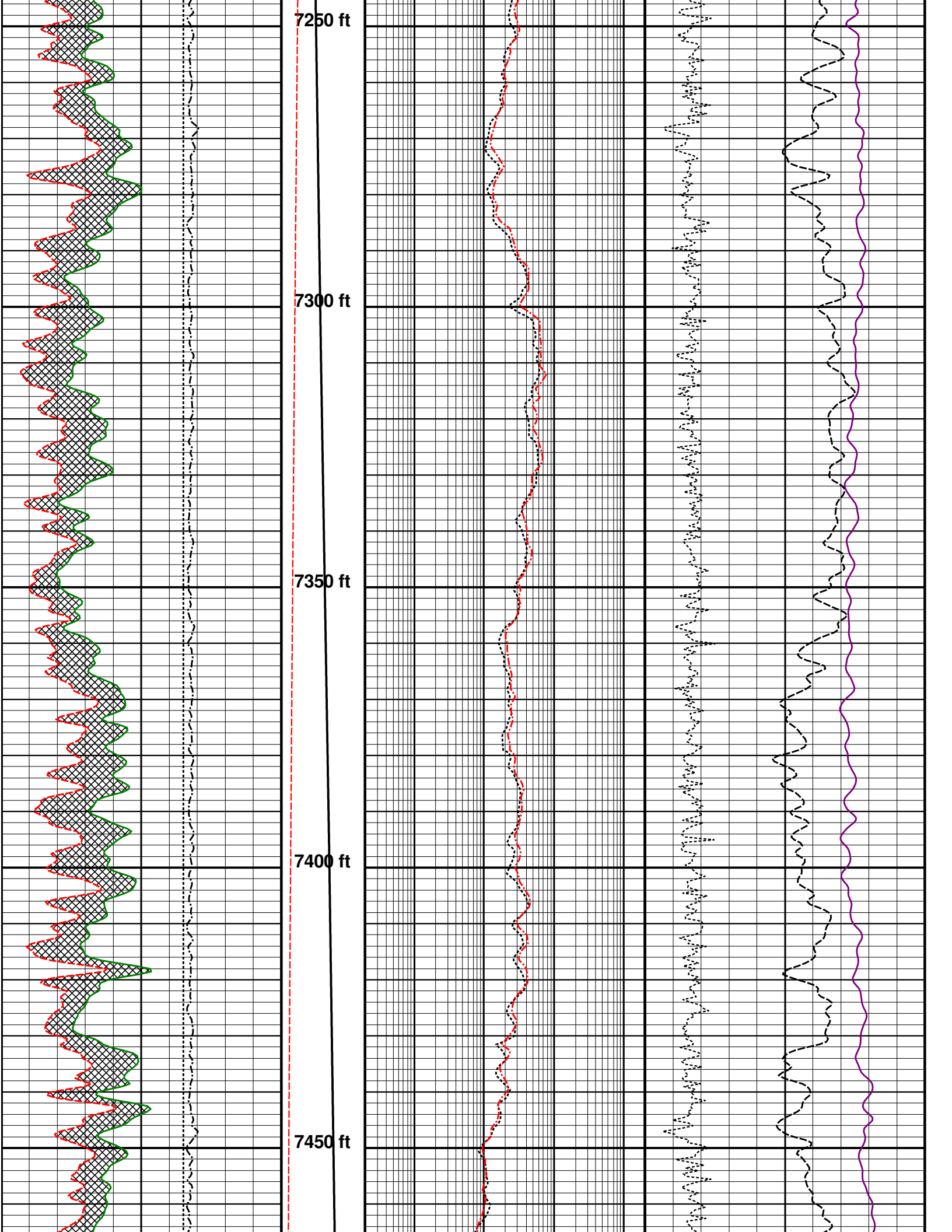
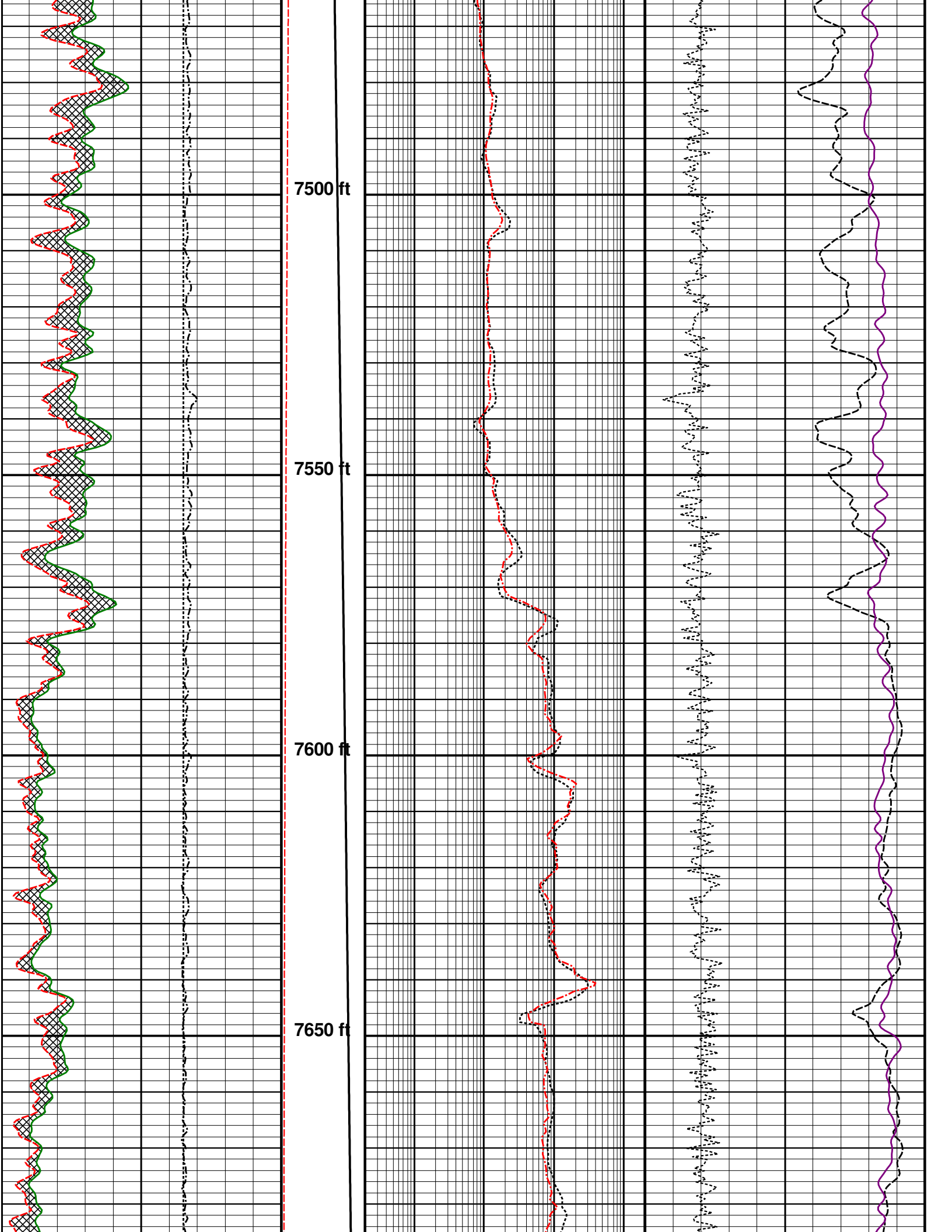
7100 ft
7150 ft
7200 ft


7250 ft
7300 ft
7350 ft
7400 ft
7450 ft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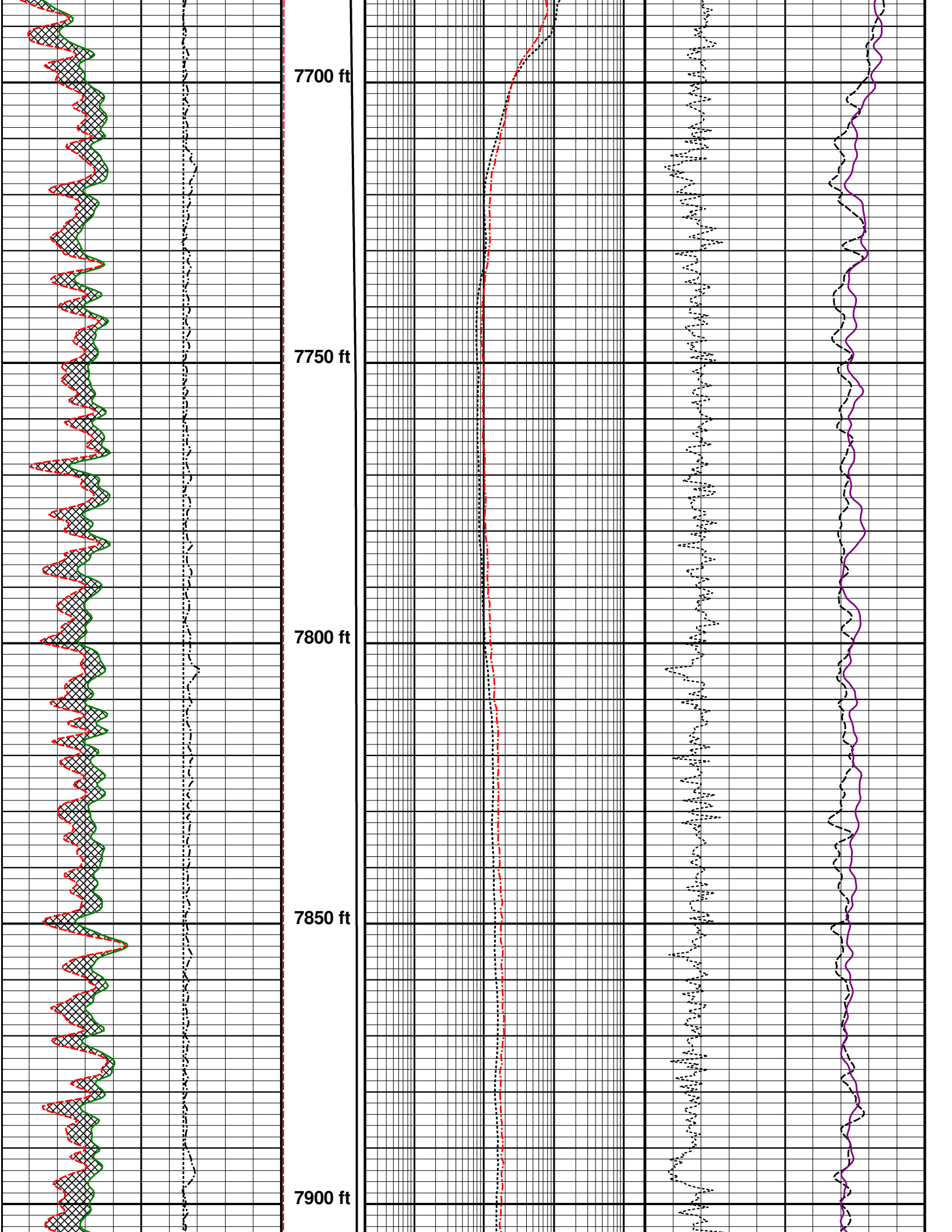
7550 ft
7600 ft
7650 ft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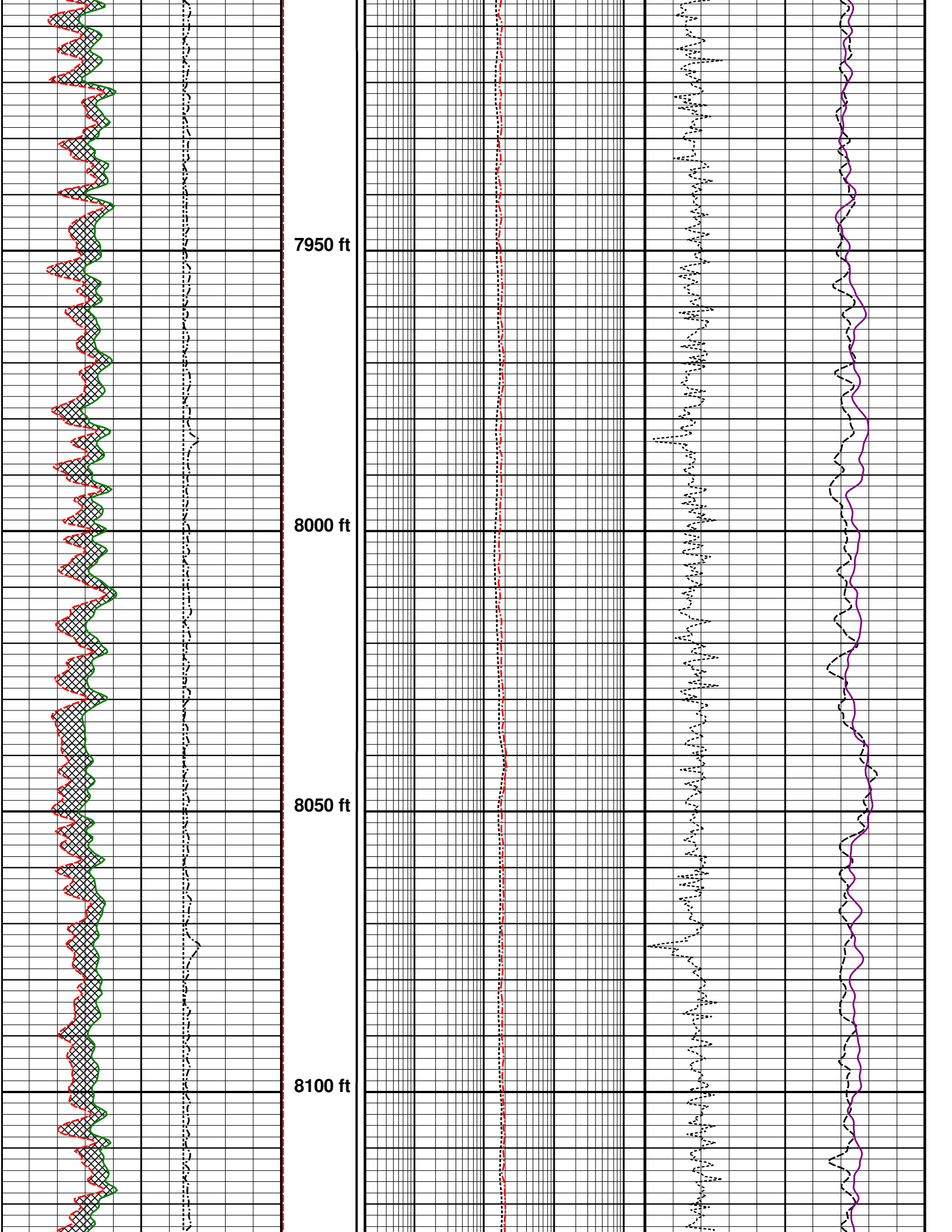
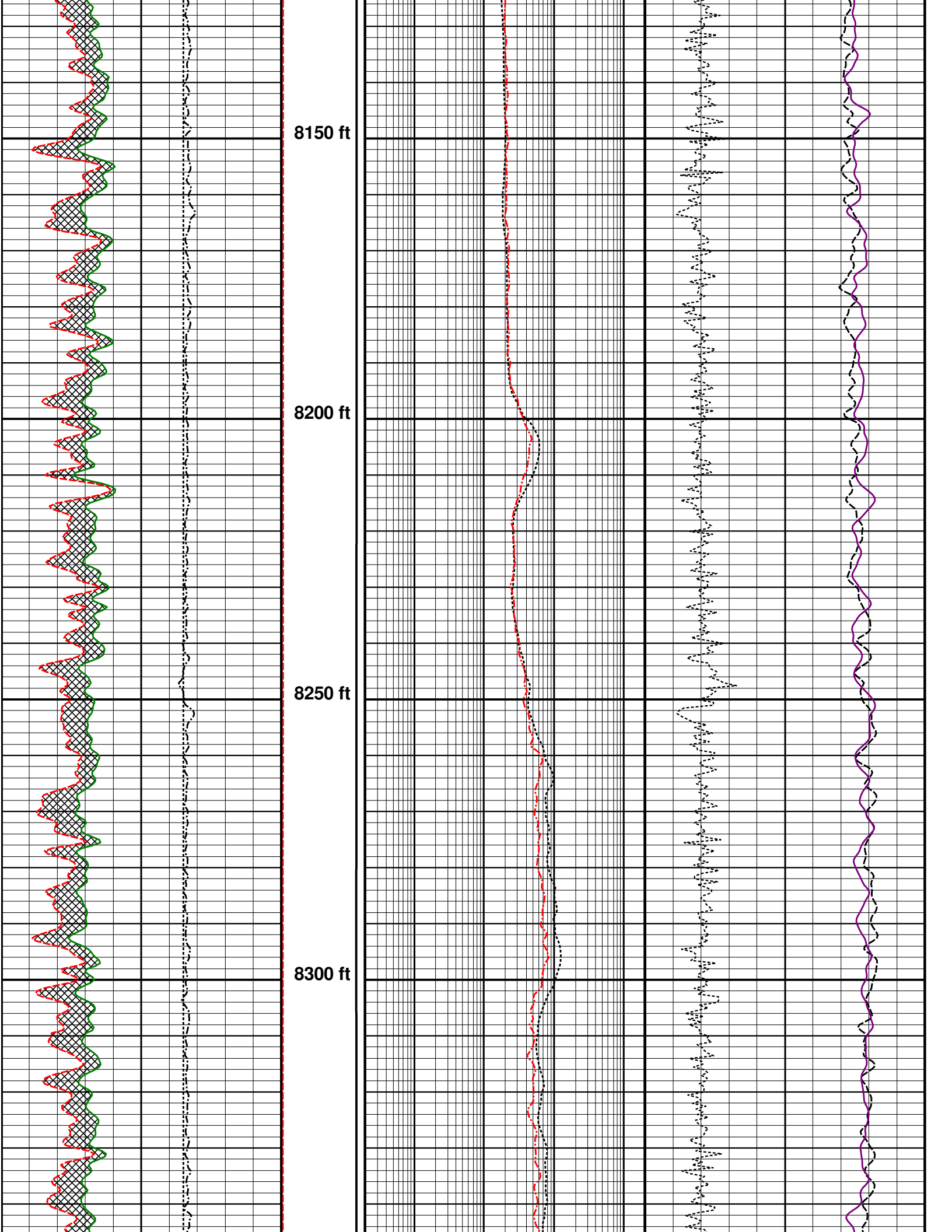
7750 ft
7800 ft
7850 ft
7900 ft


7950 ft
8000 ft
8050 ft
8100 ft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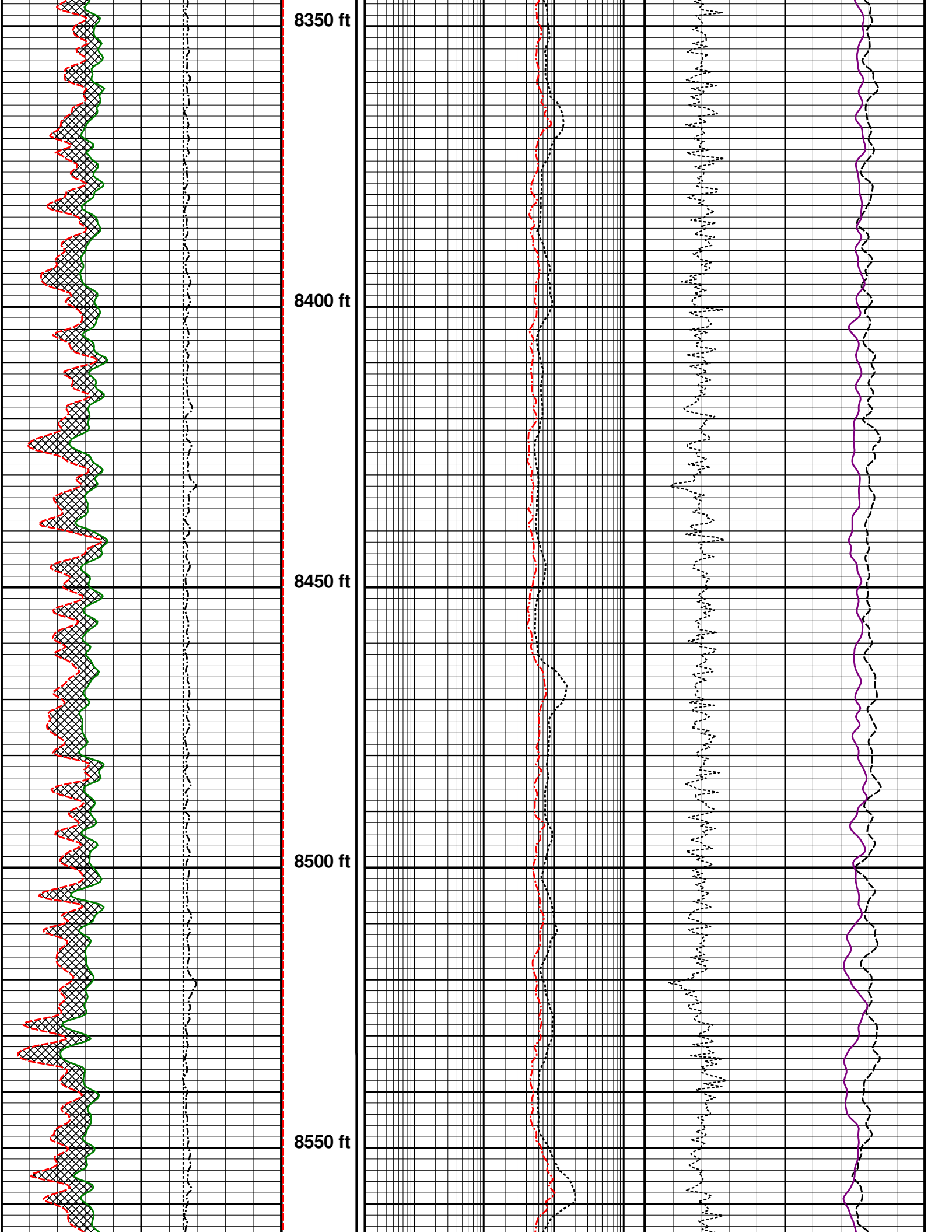
8200 ft
8250 ft
8300 ft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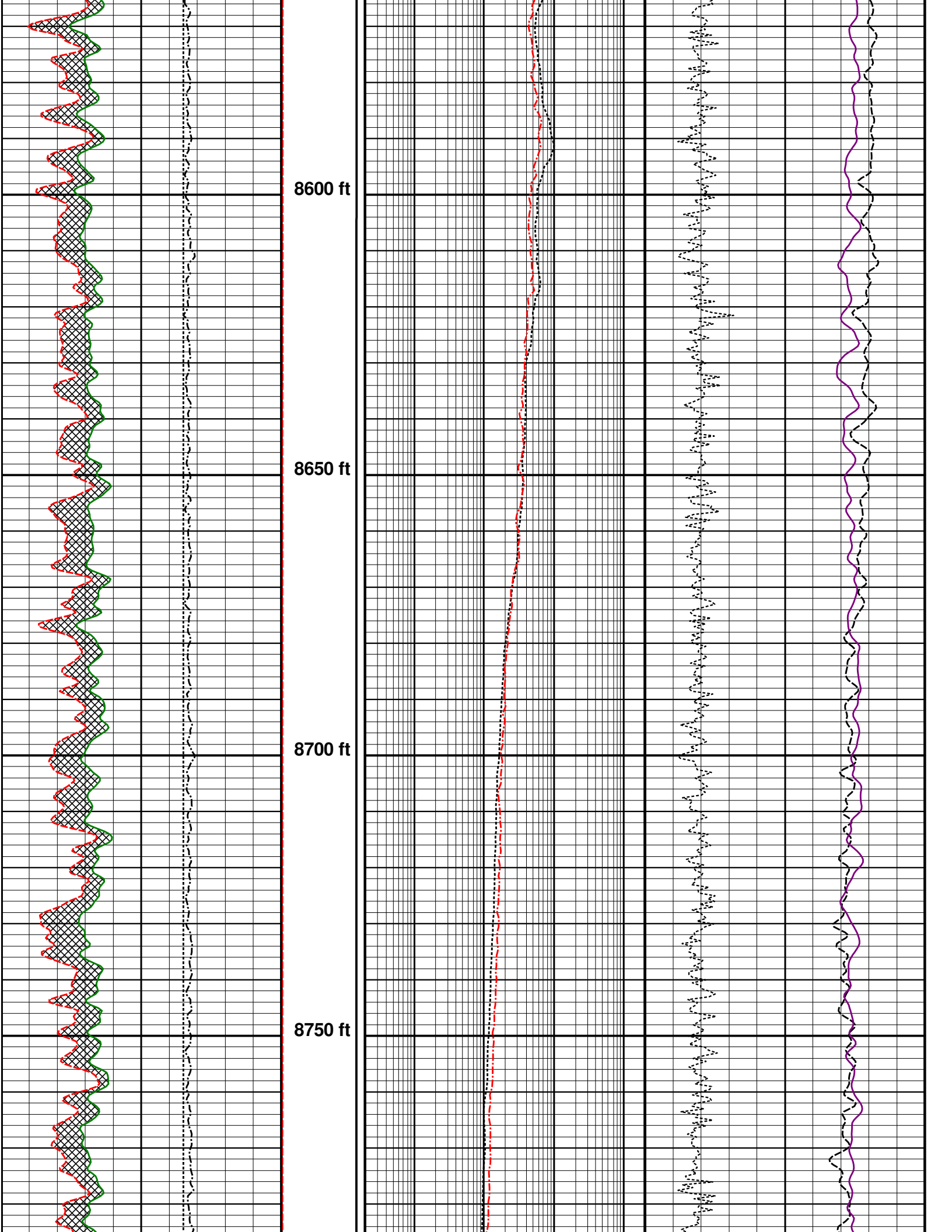
8400 ft
8450 ft
8500 ft
8550 ft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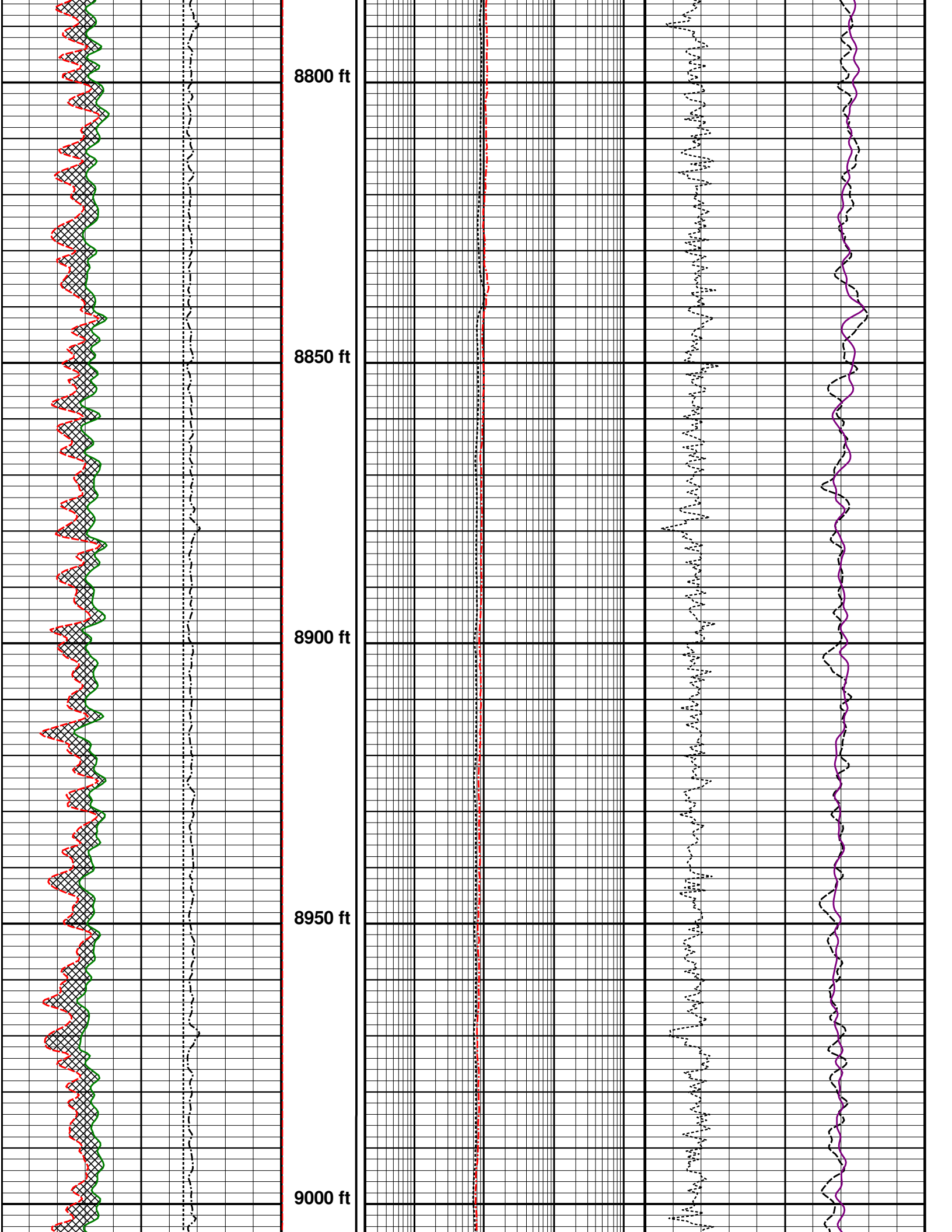
8650 ft
8700 ft
8750 ft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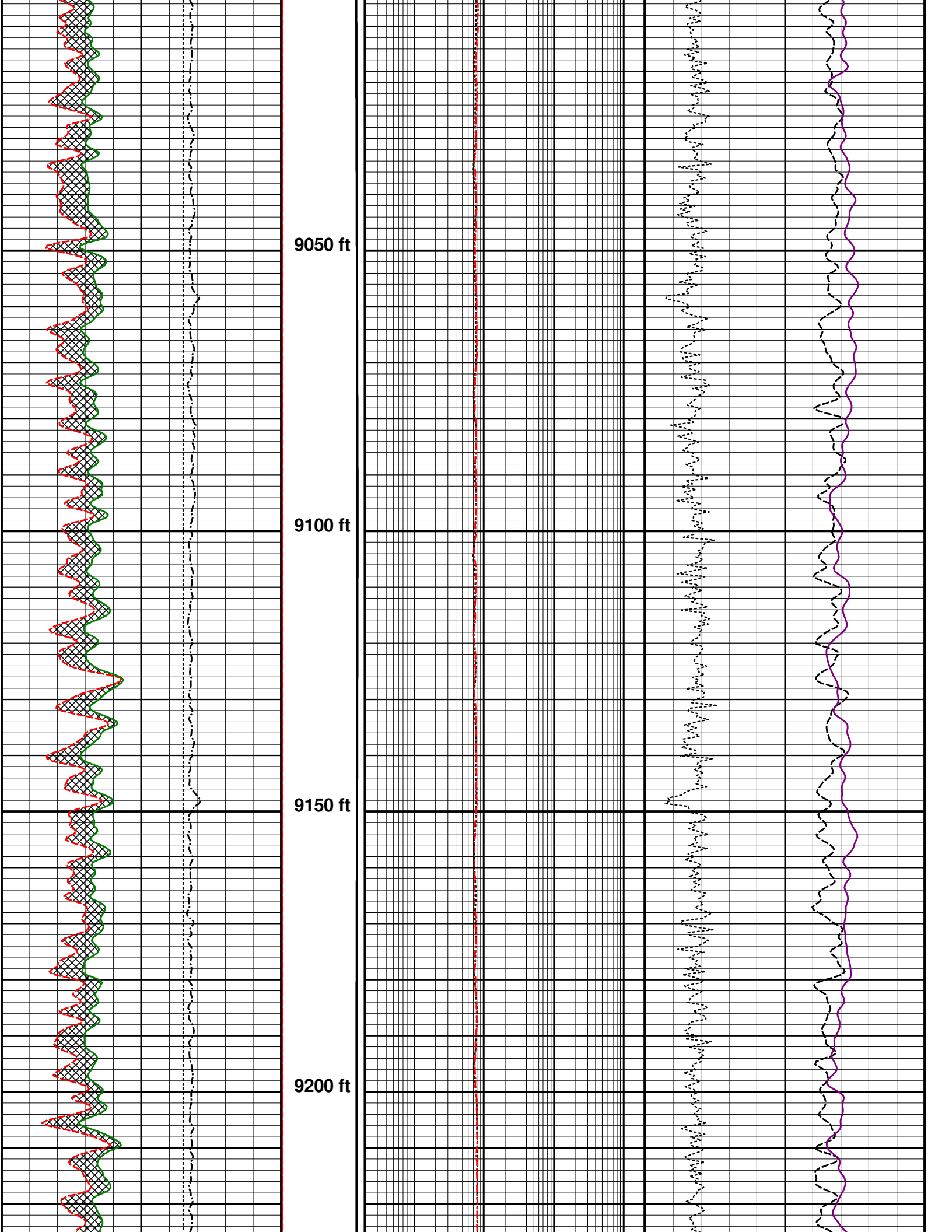
8850 ft
8900 ft
8950 ft
9000 ft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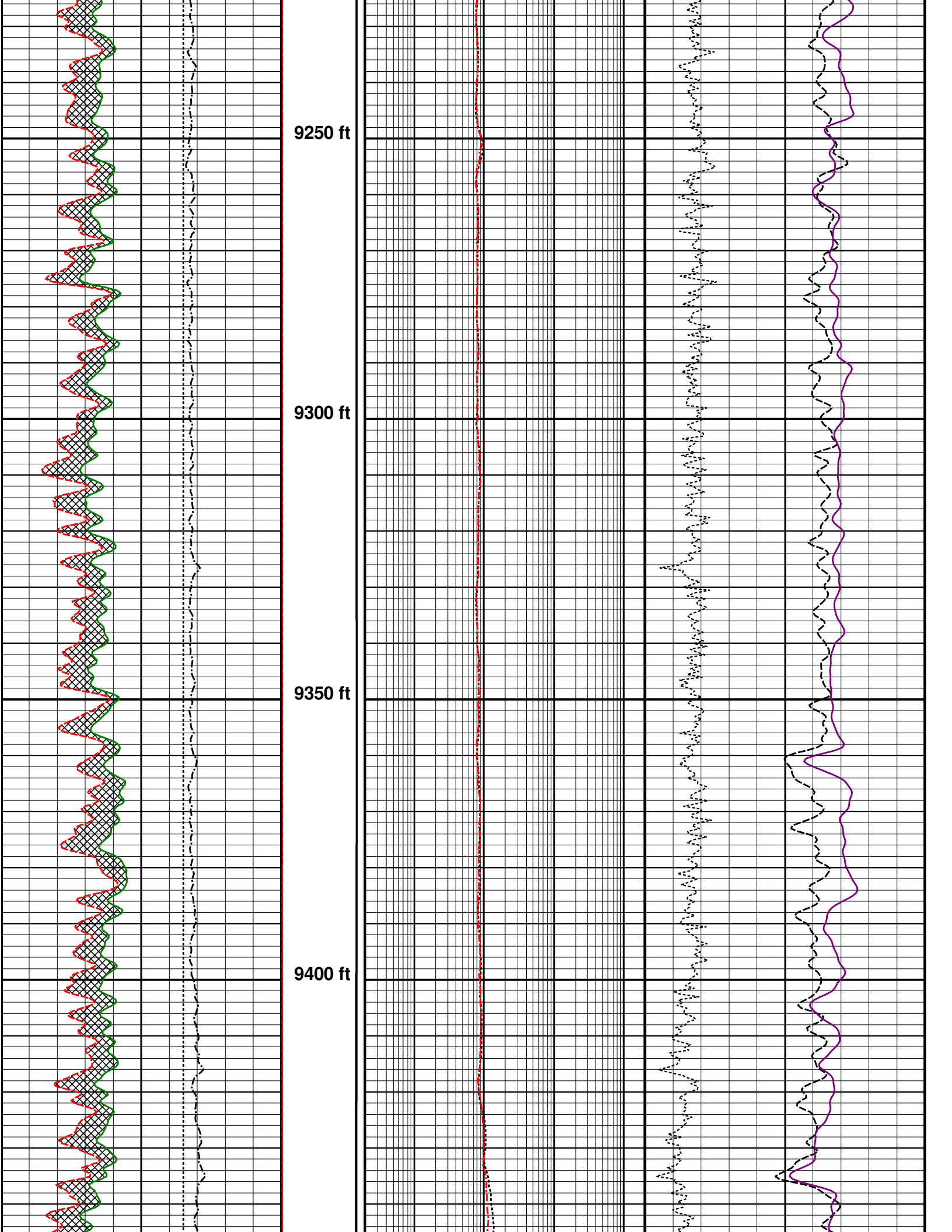
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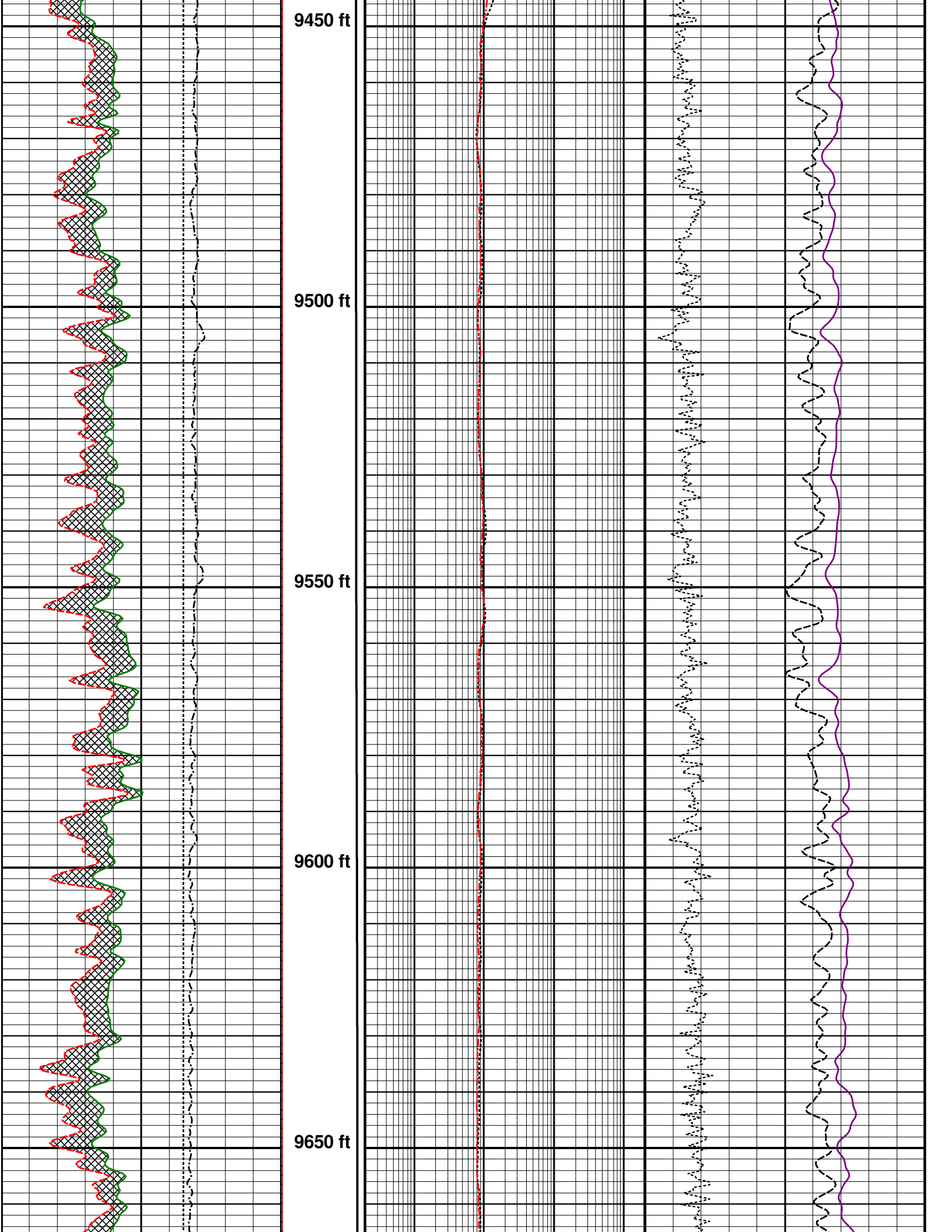
9300 ft
9350 ft
9400 ft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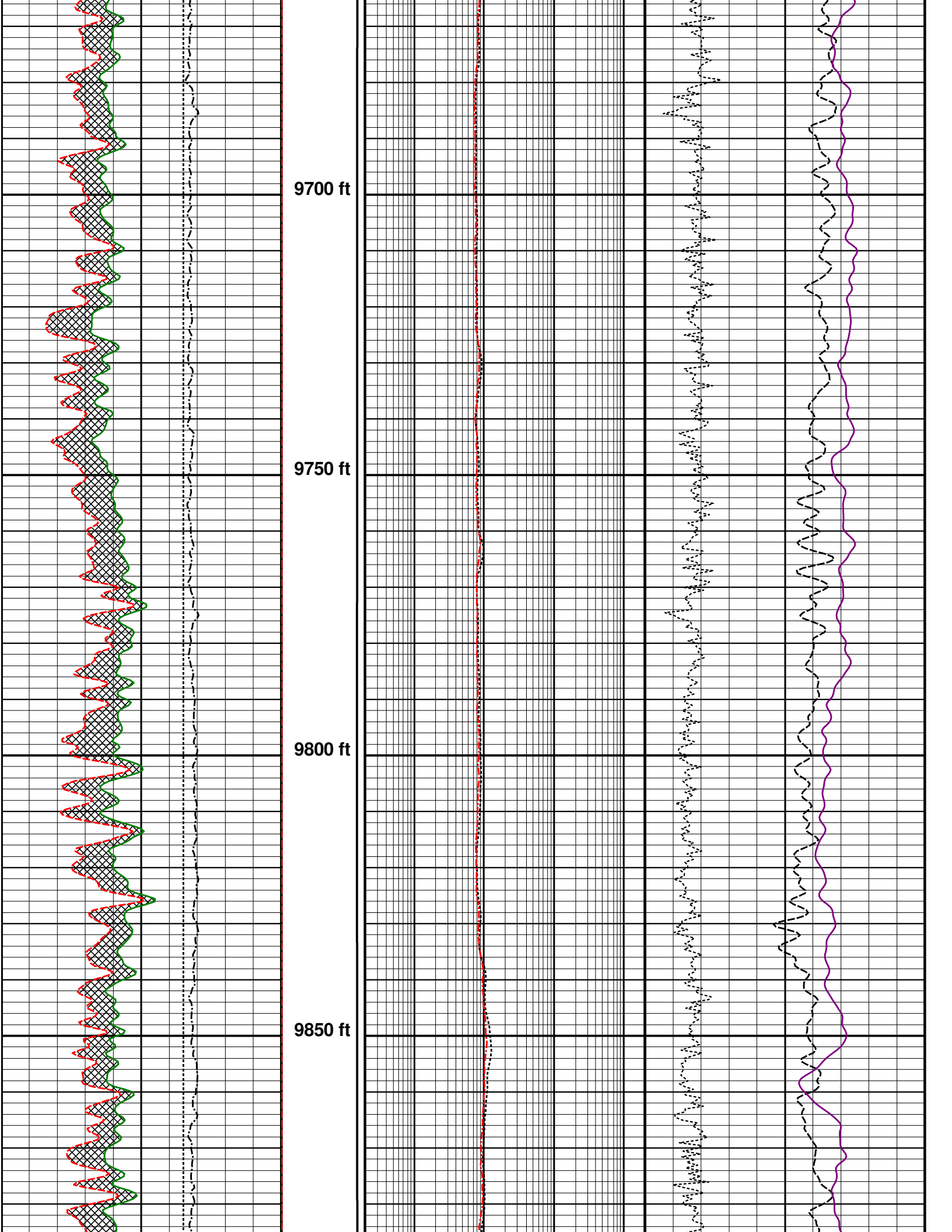
9500 ft
9550 ft
9600 ft
9650 ft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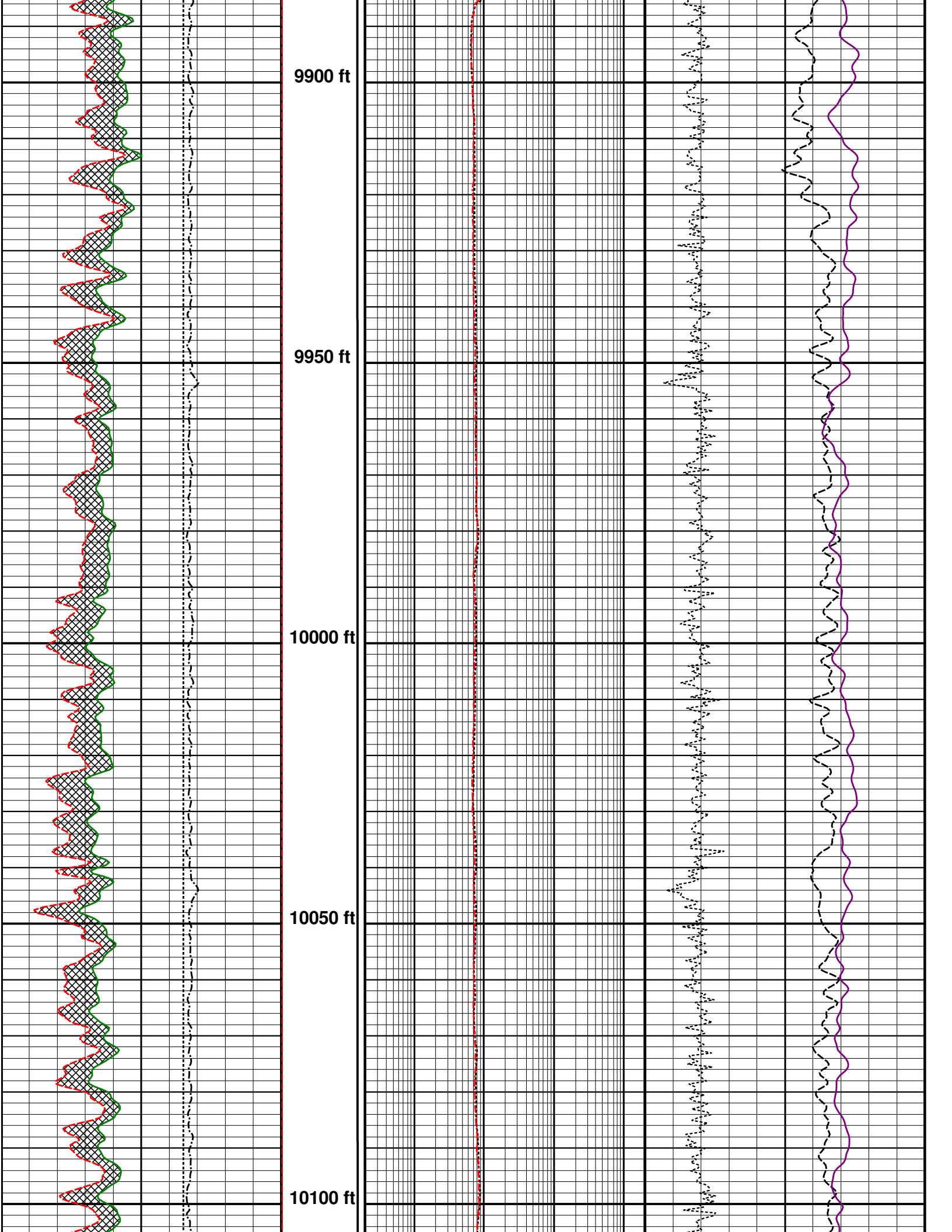
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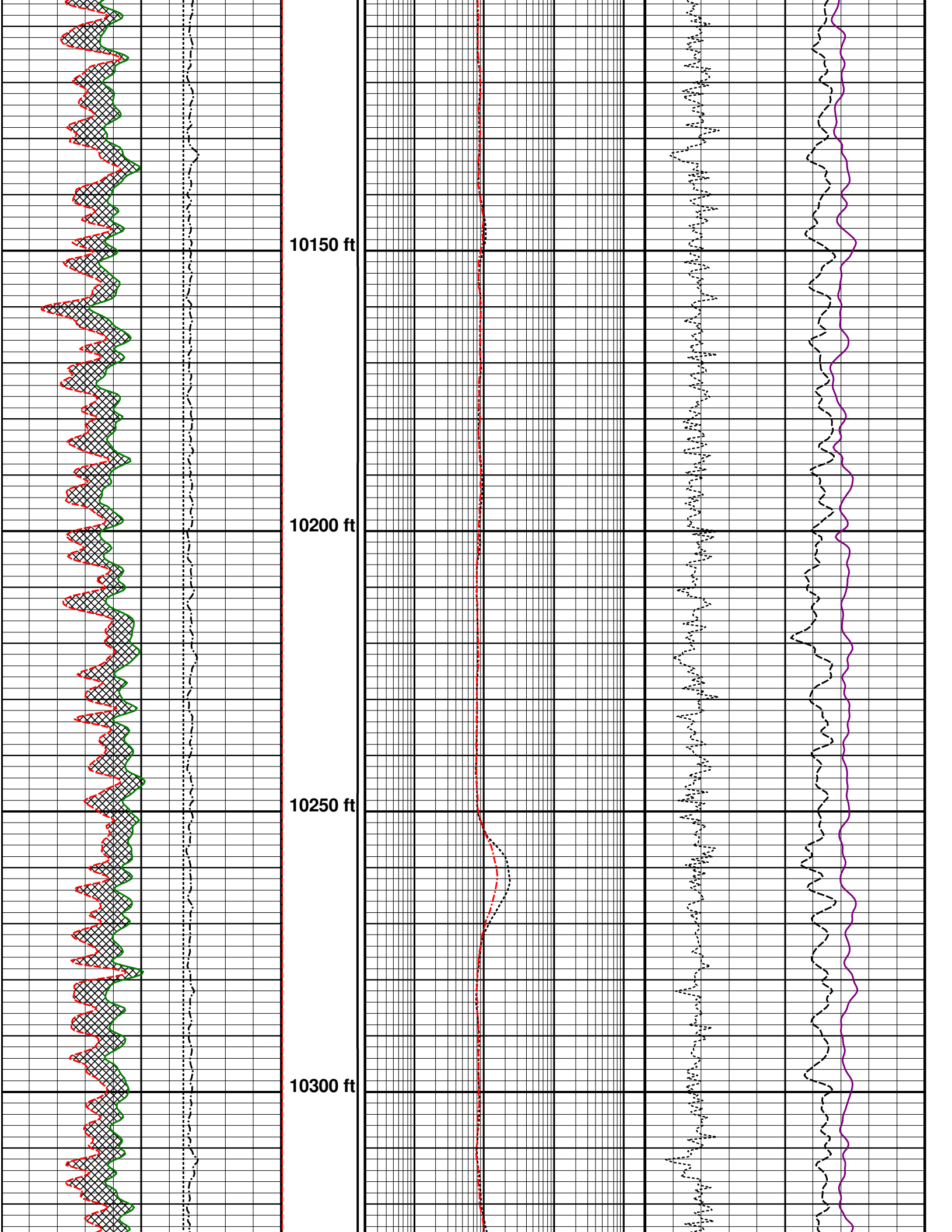
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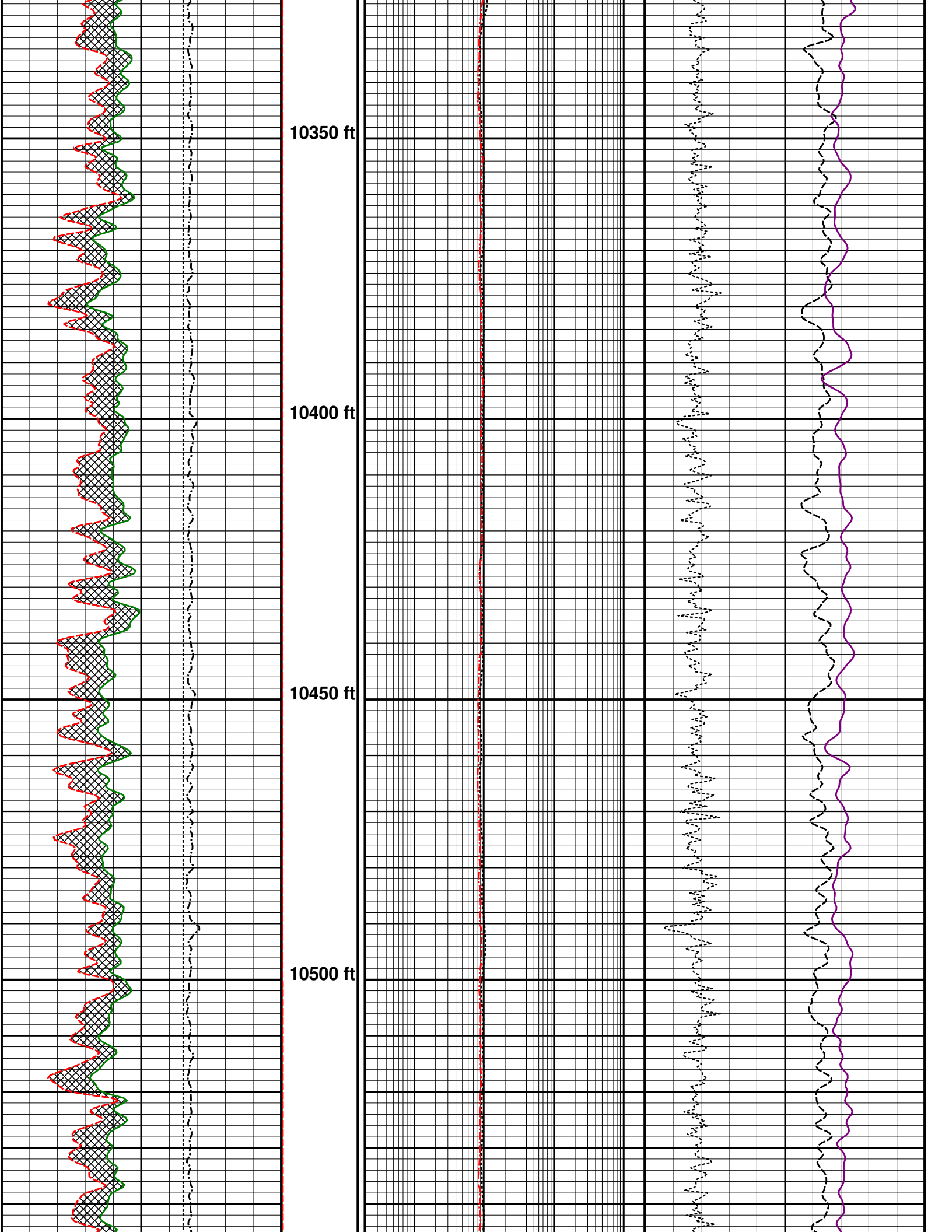
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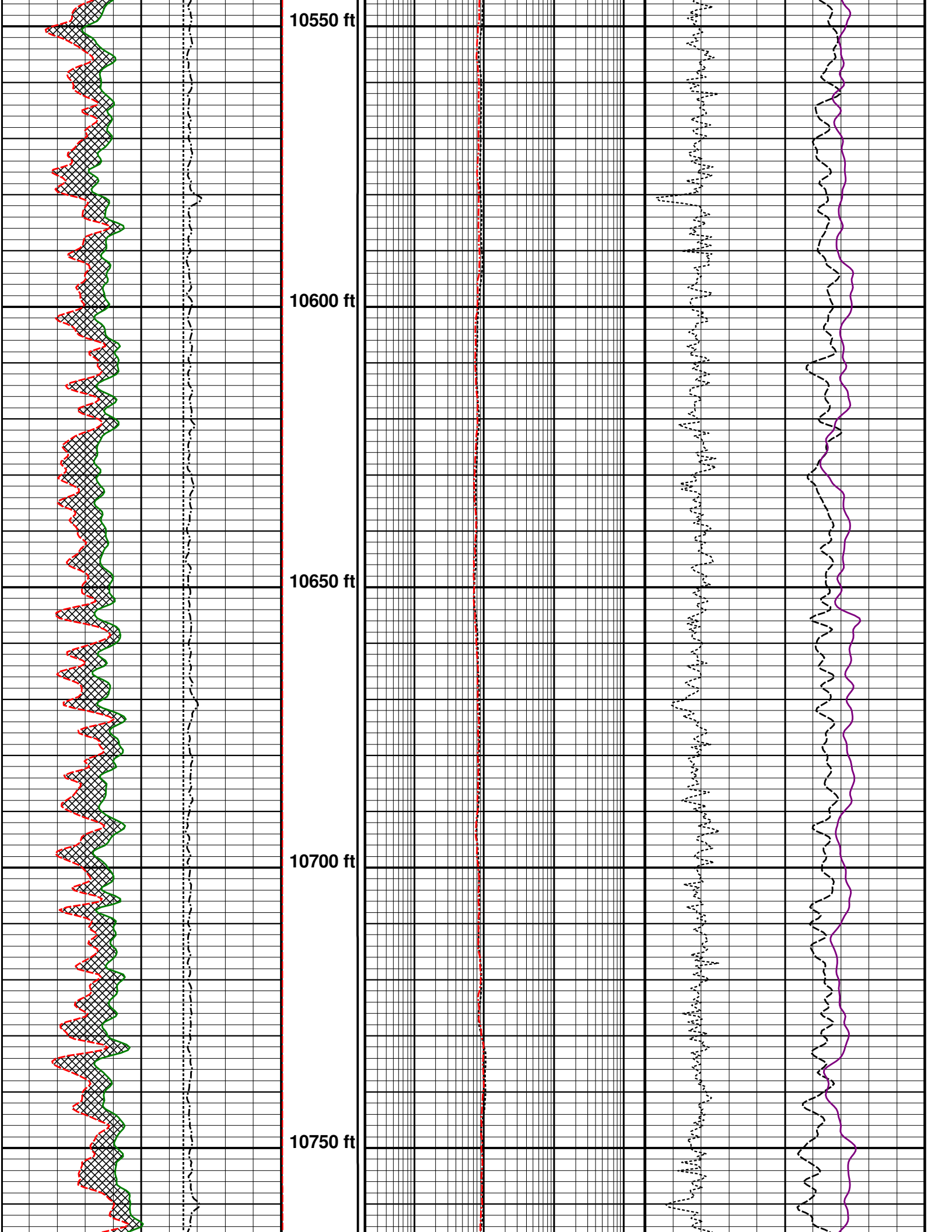
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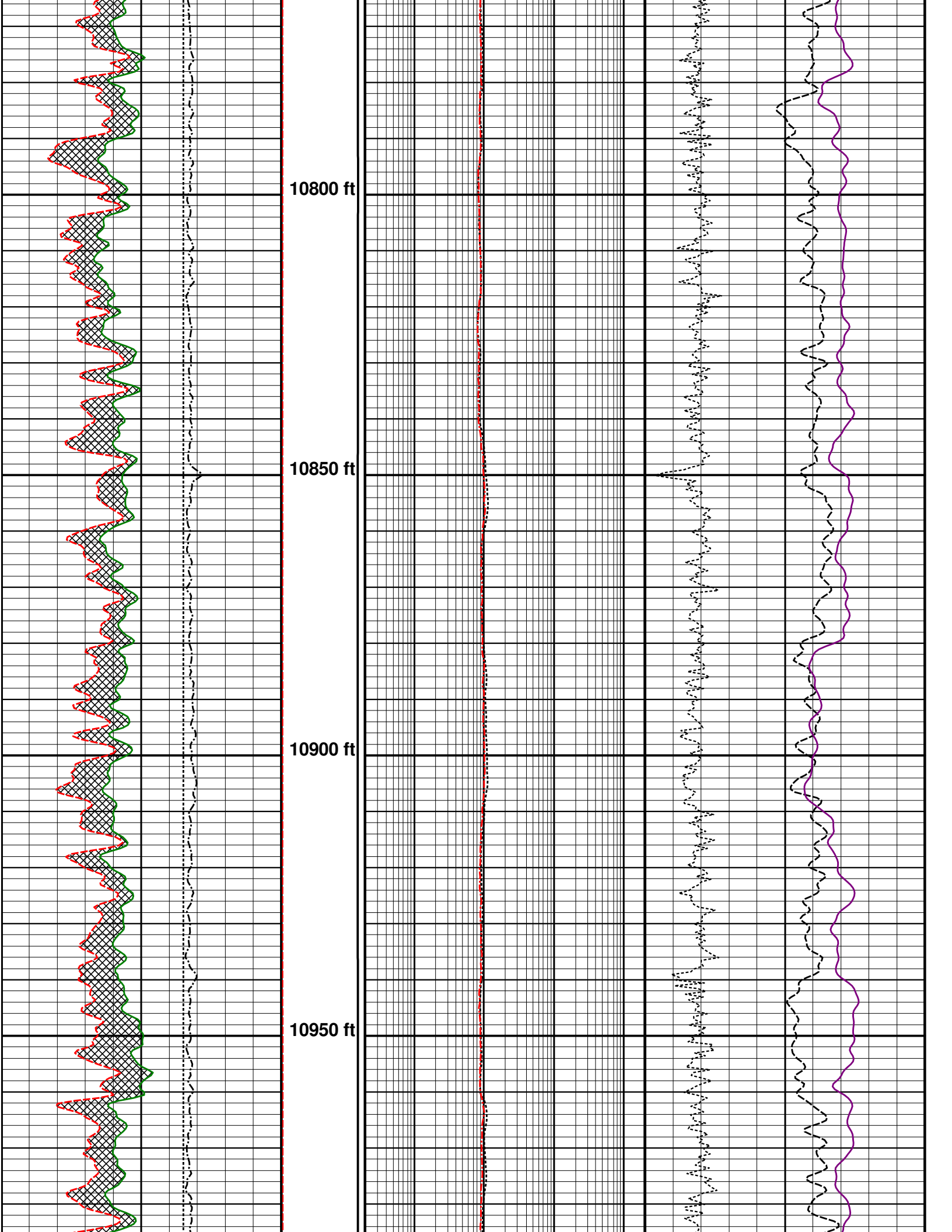
10650 ft
10700 ft
10750 ft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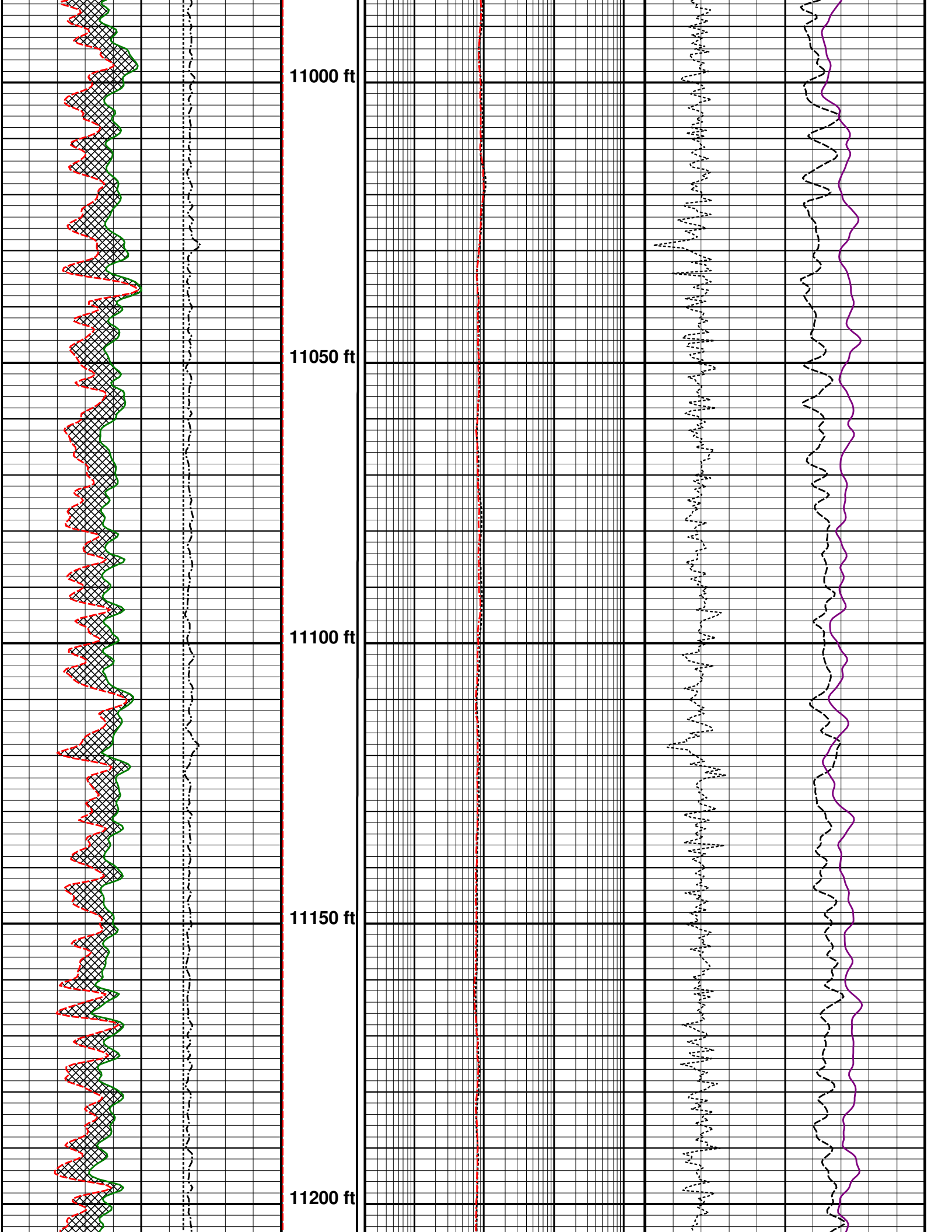
10950 ft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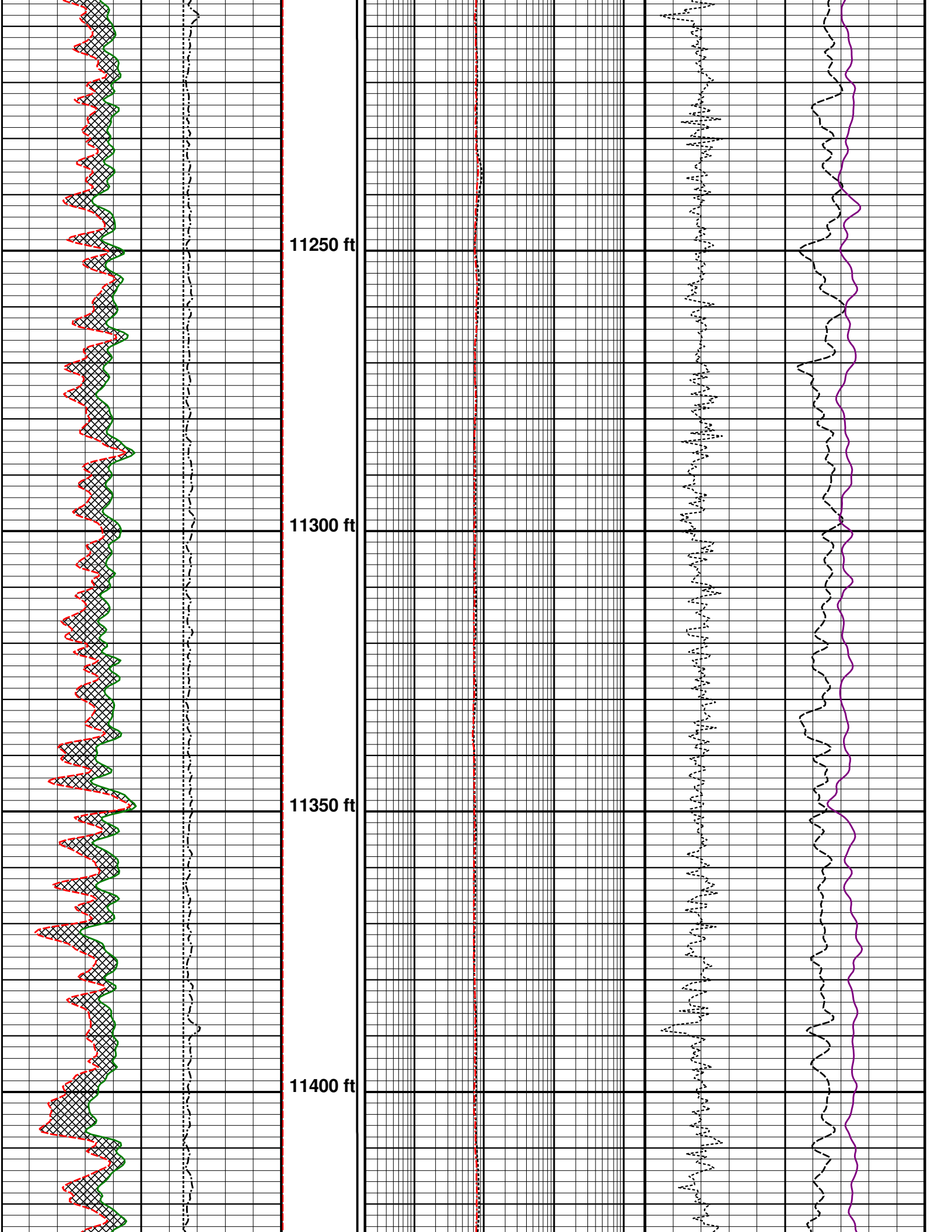
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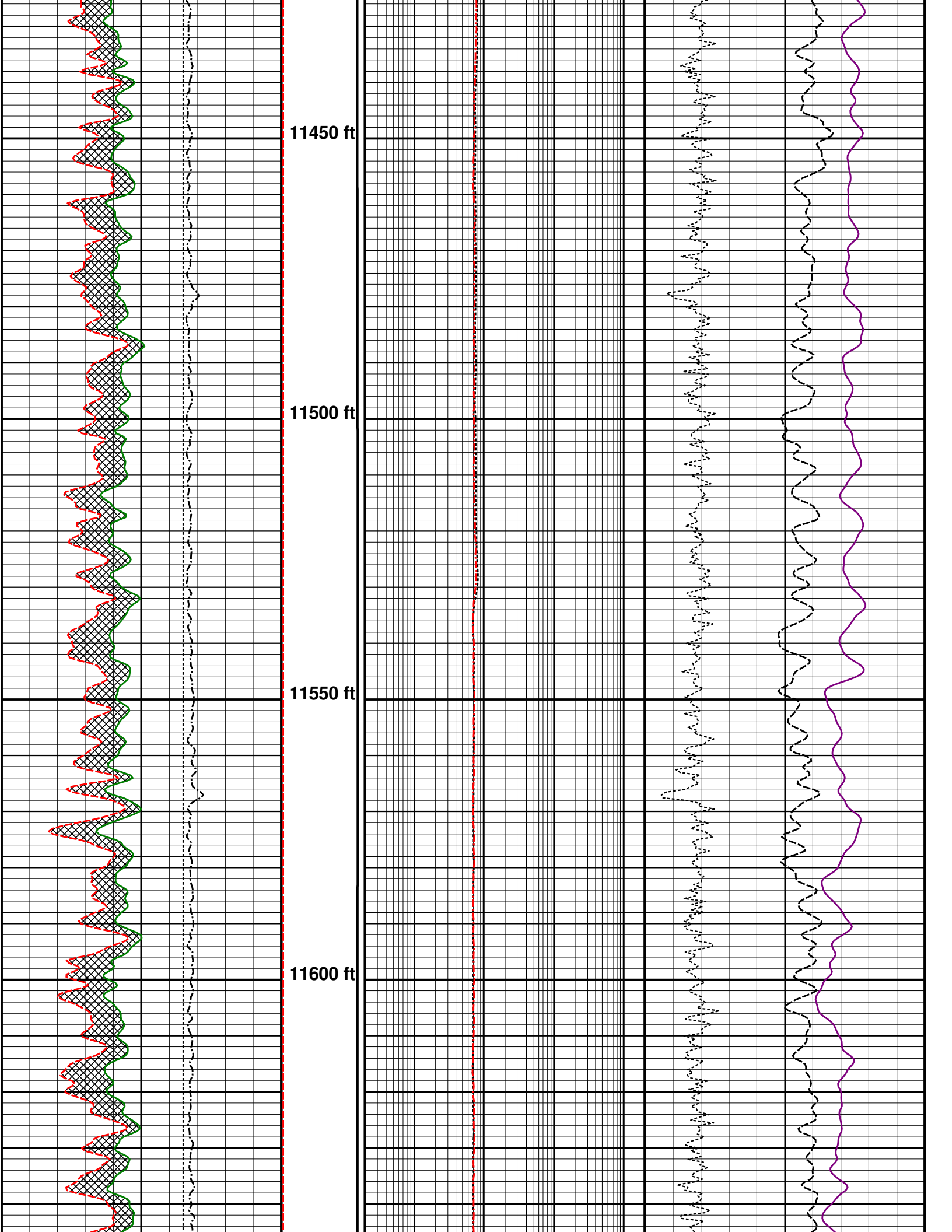
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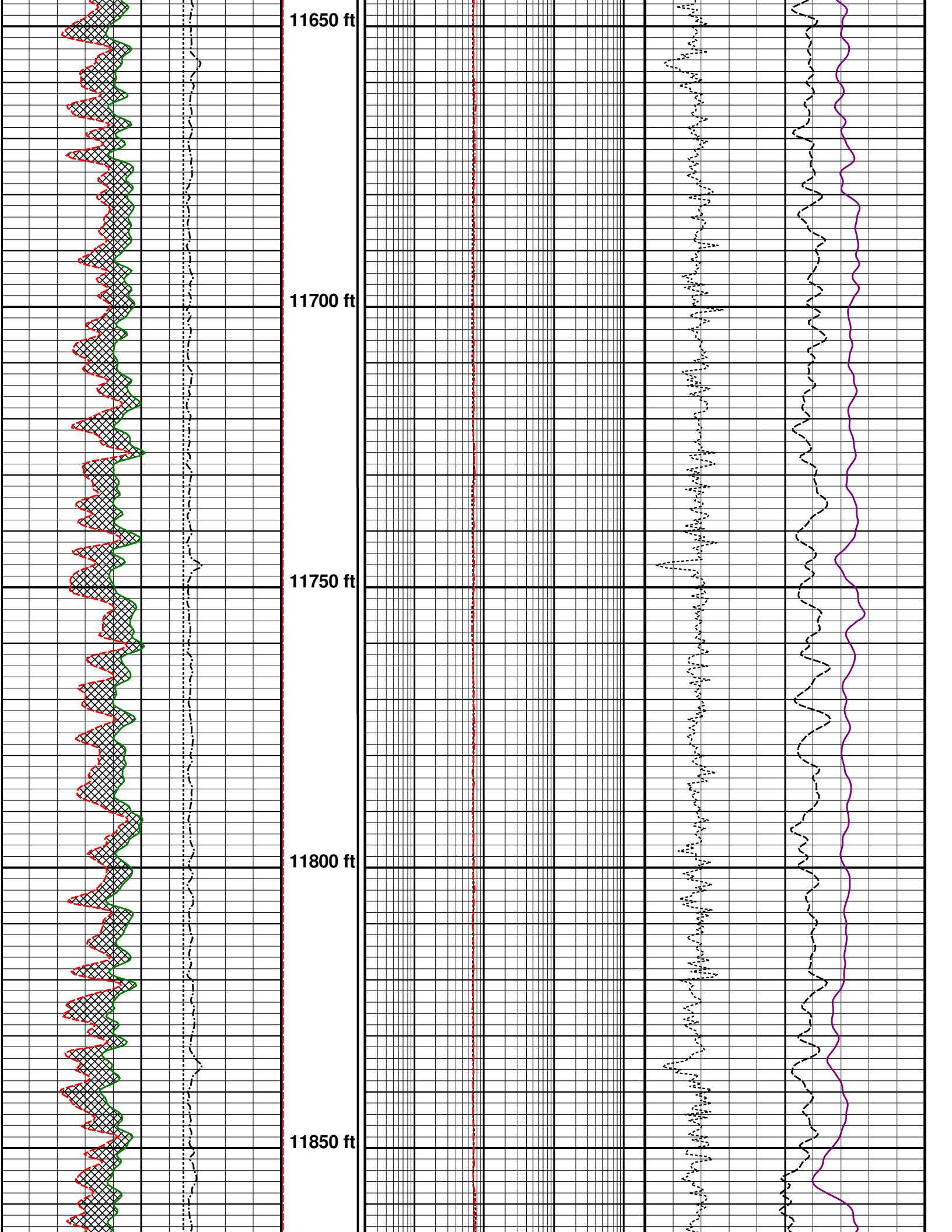
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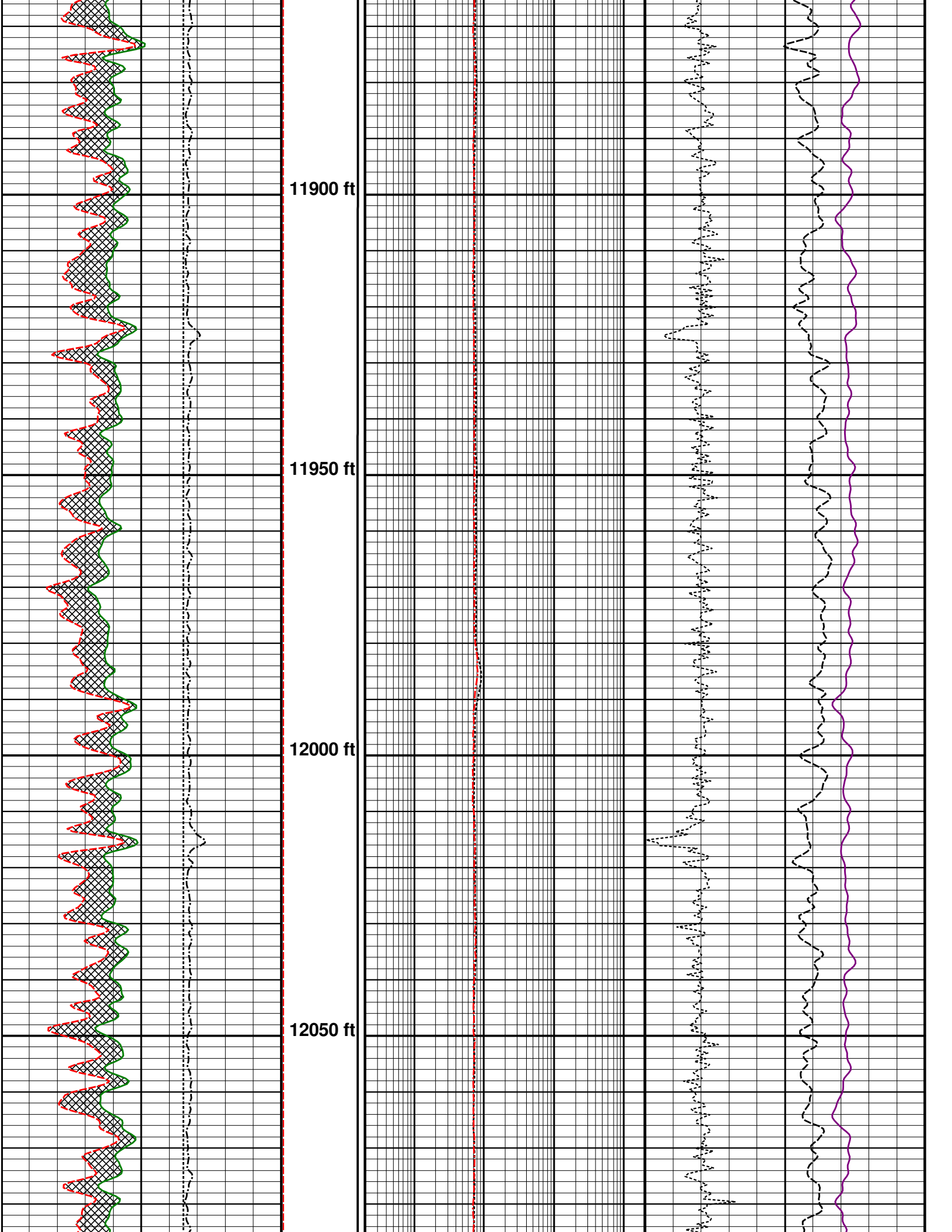
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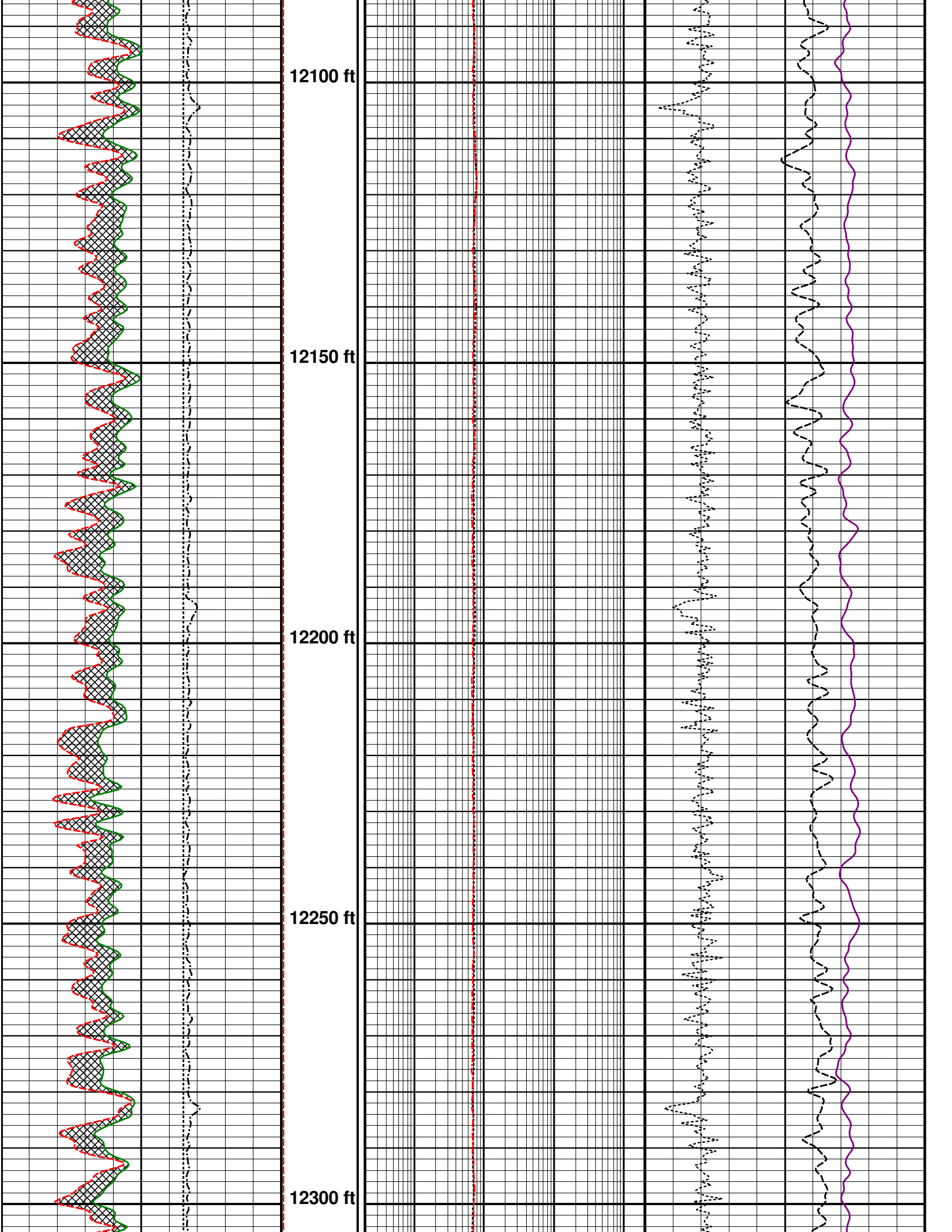
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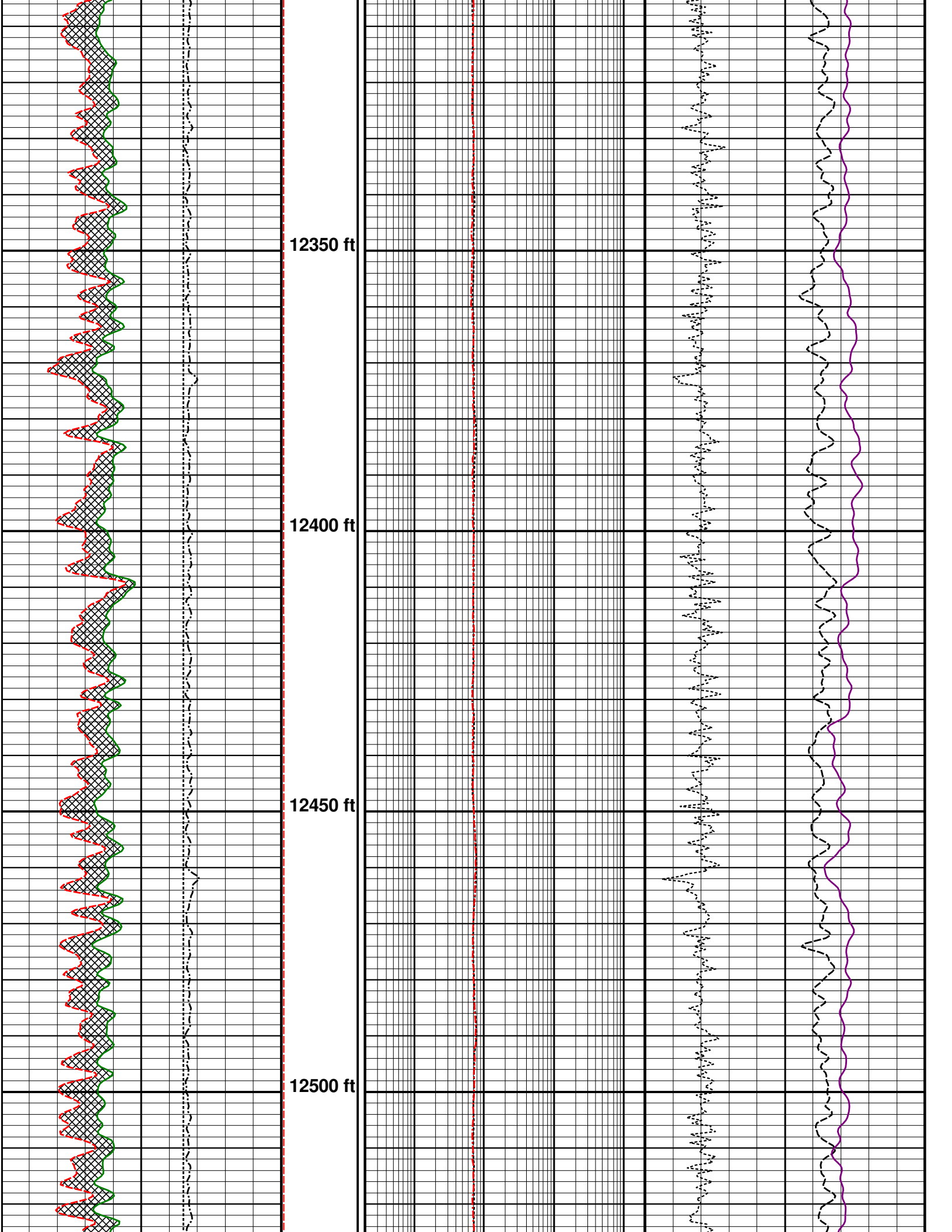
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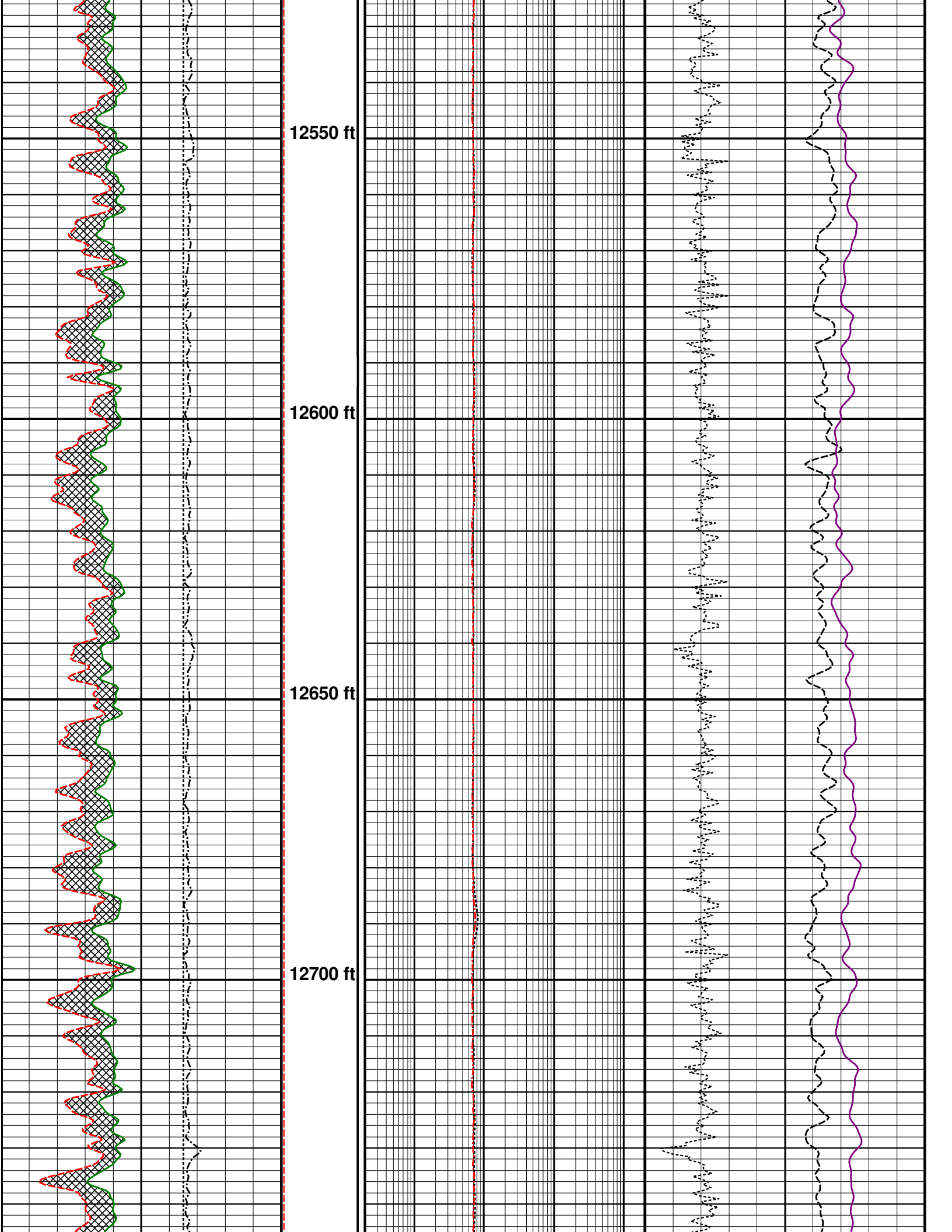
12500 ft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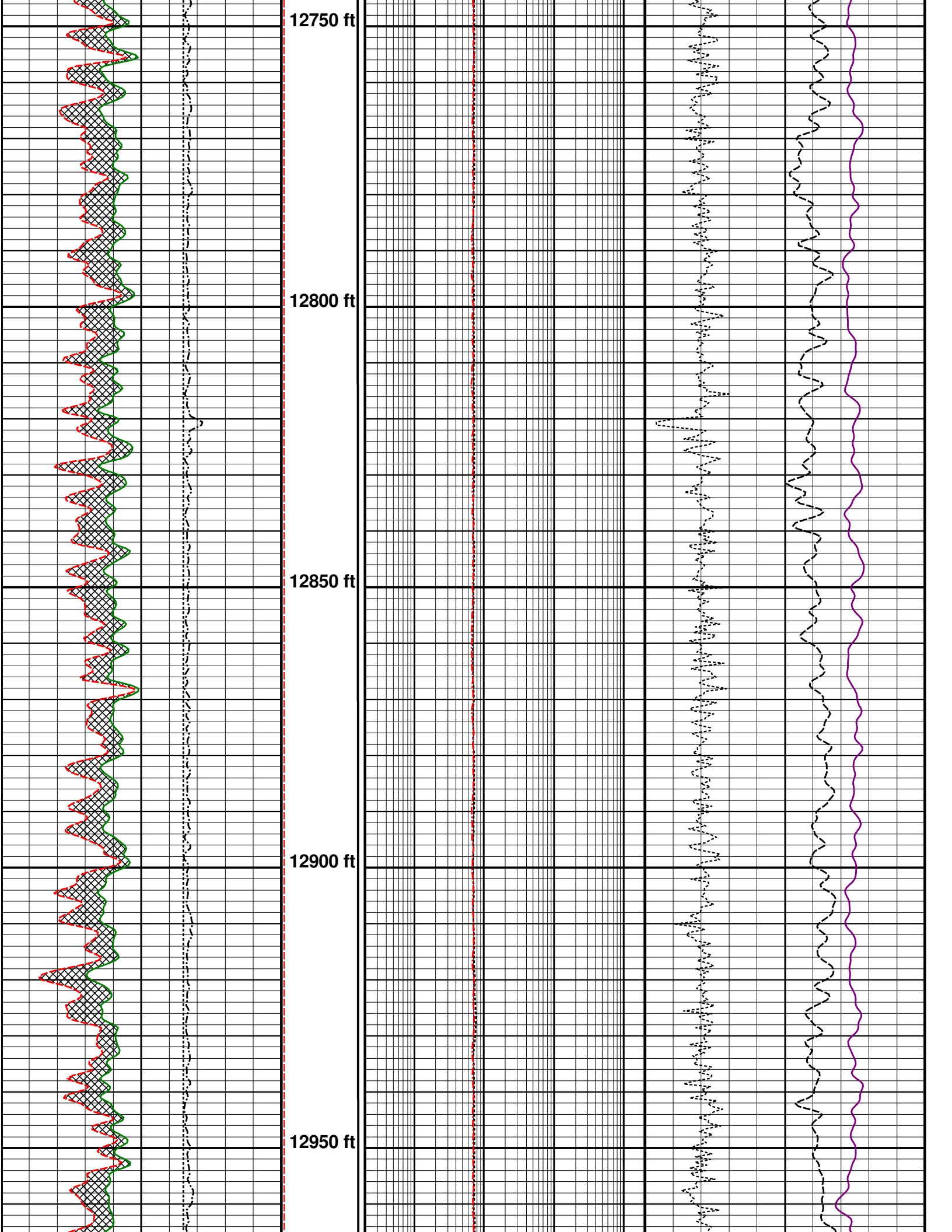
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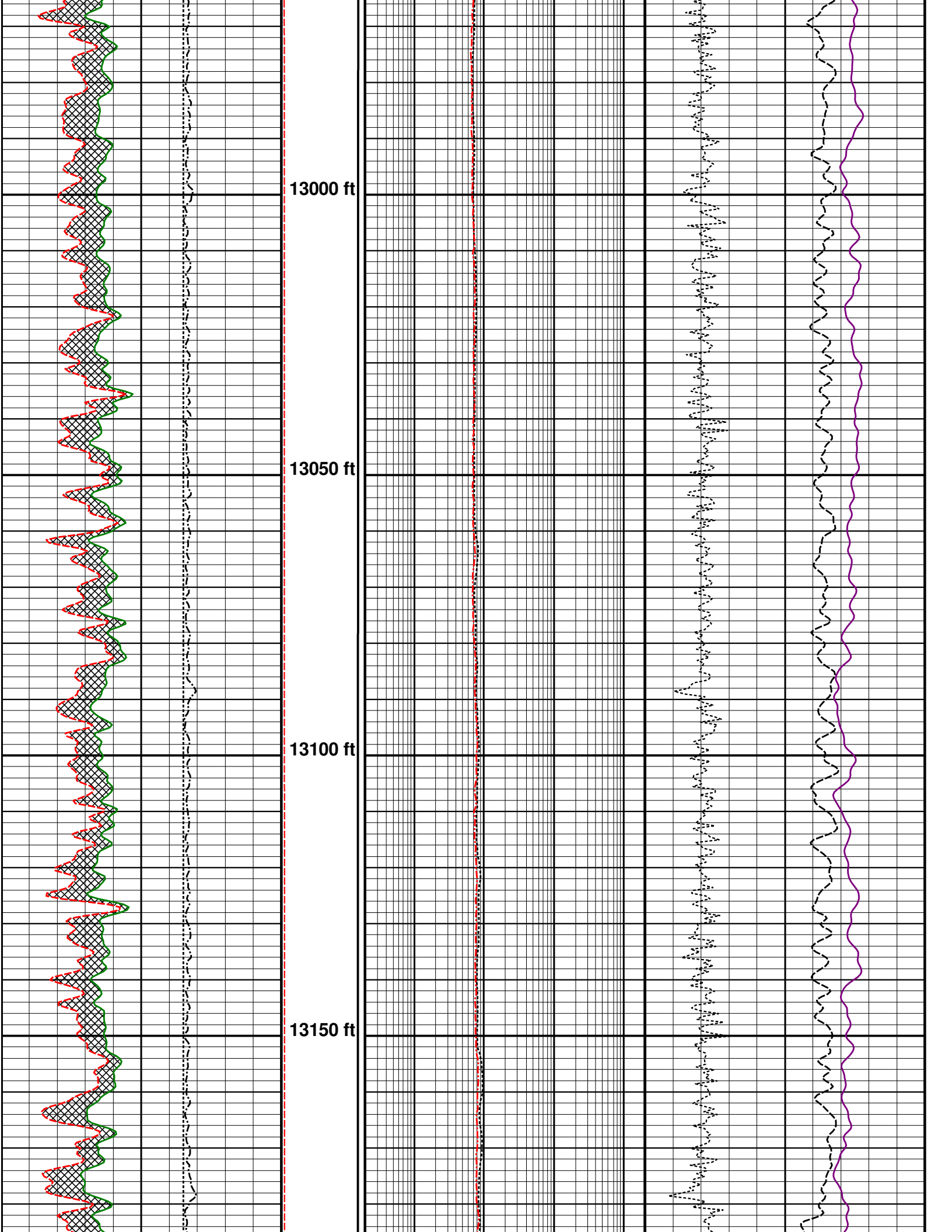
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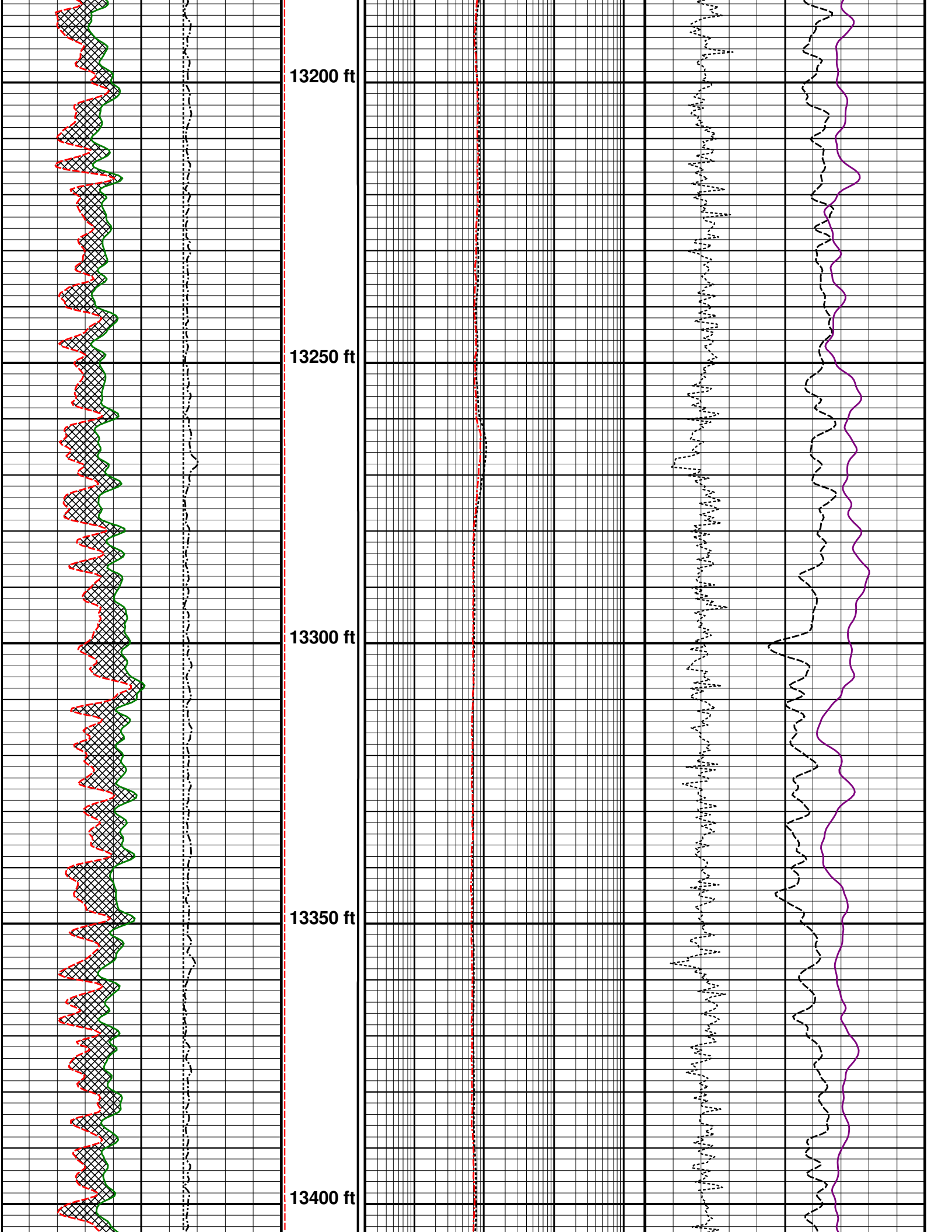
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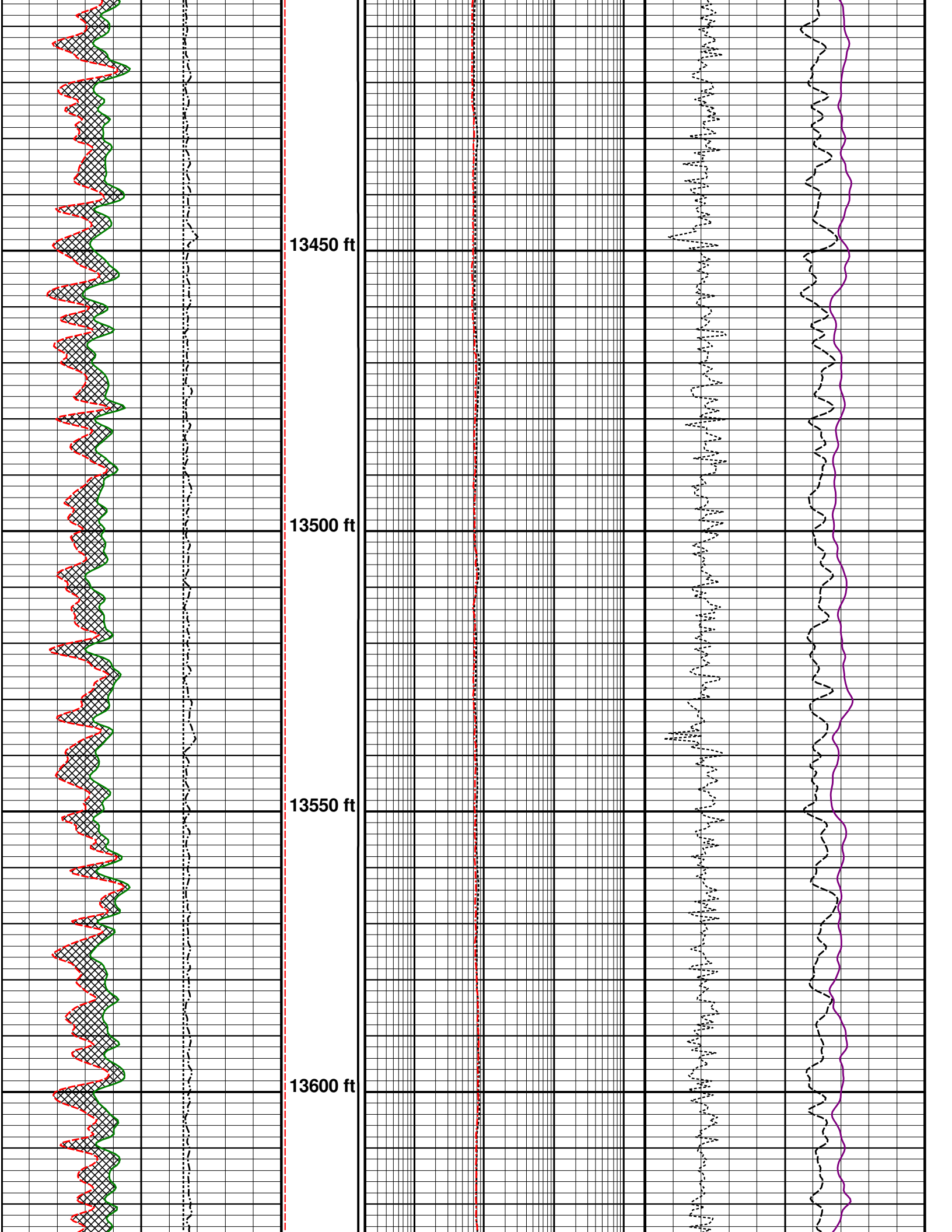
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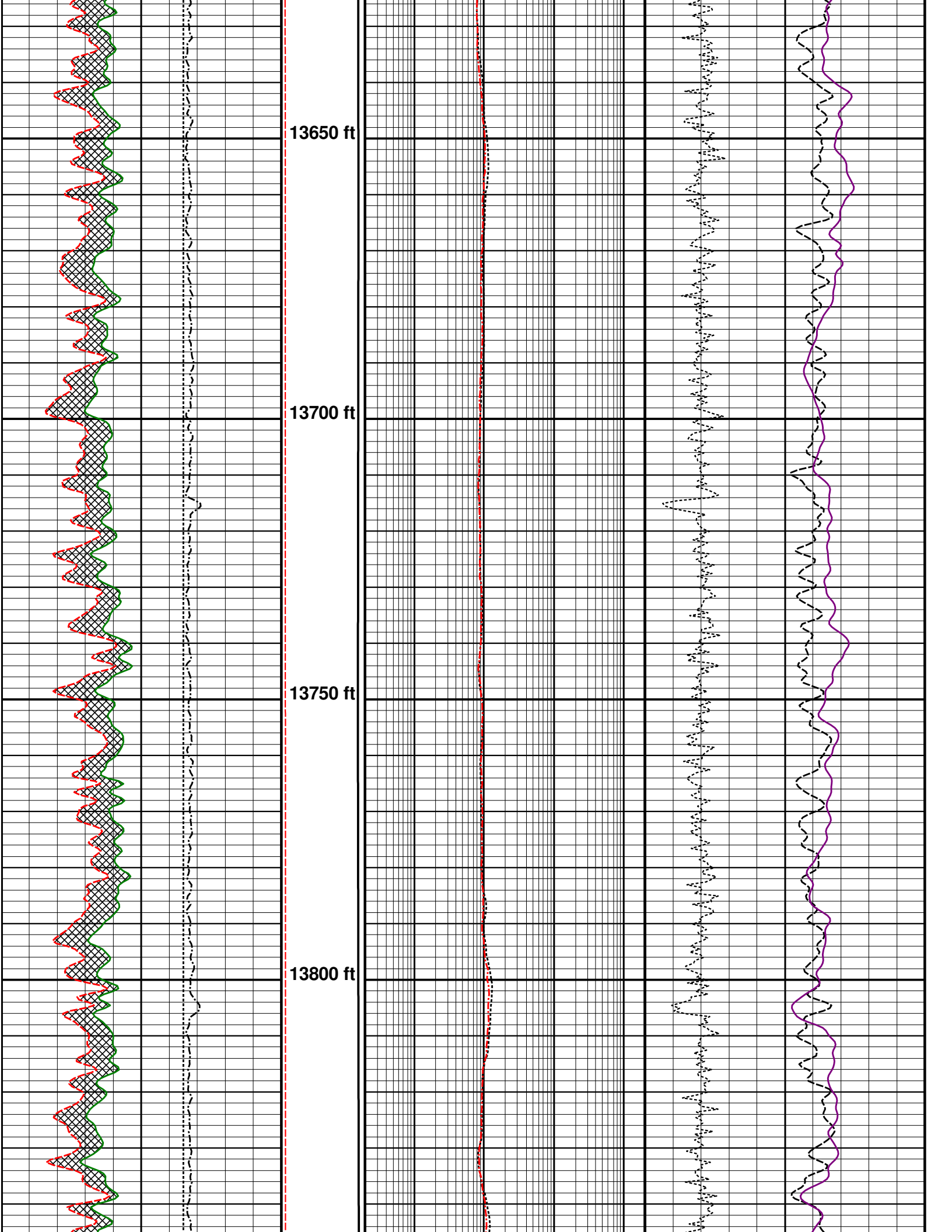
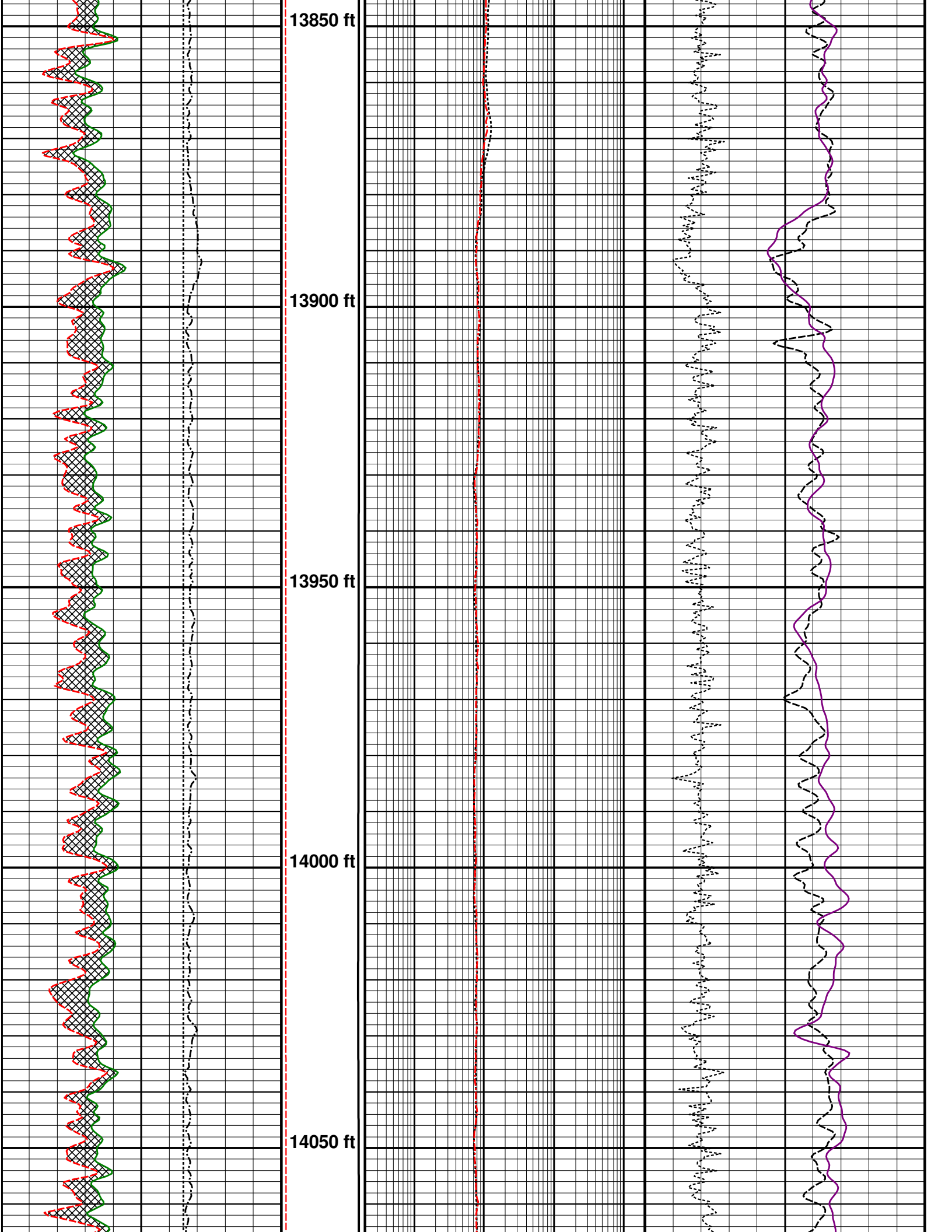
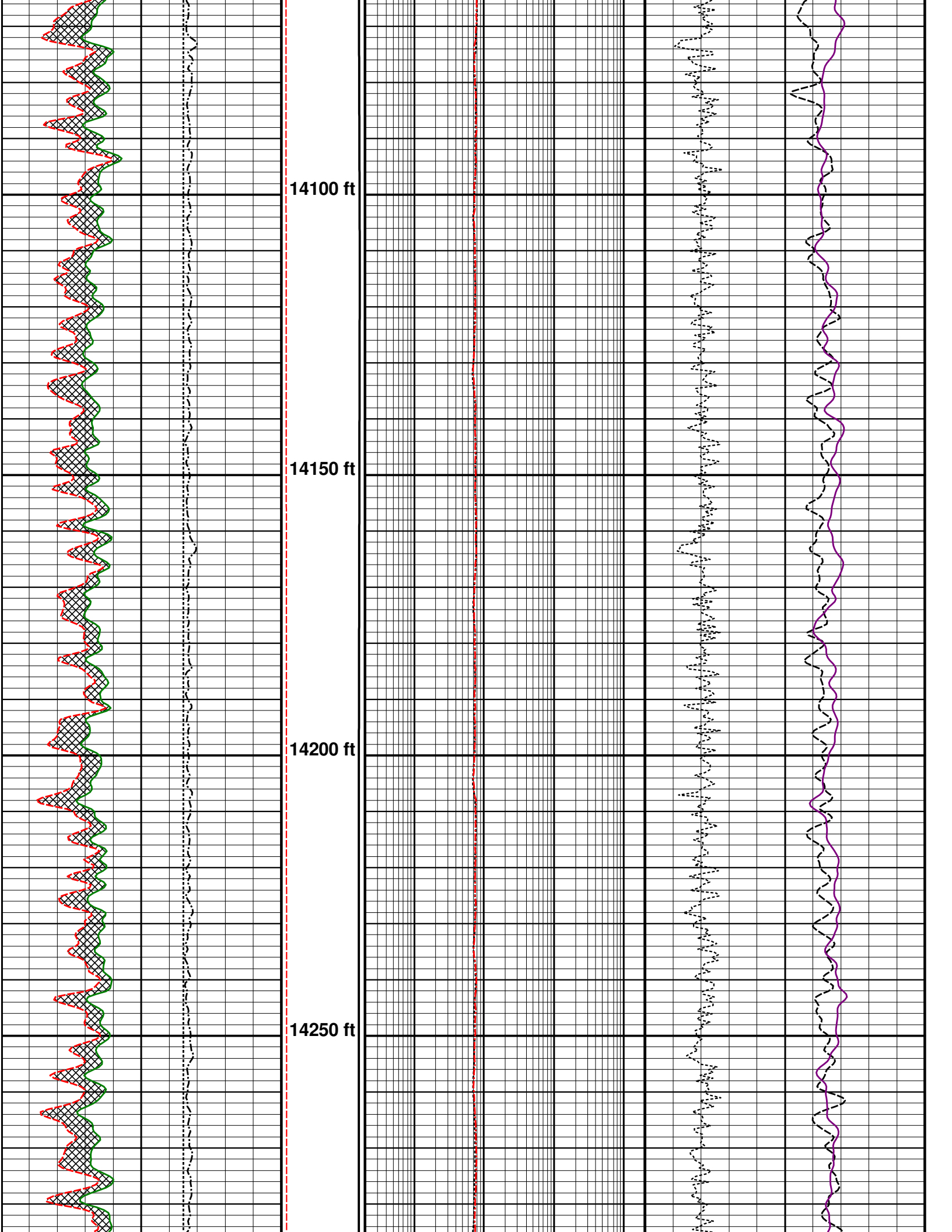
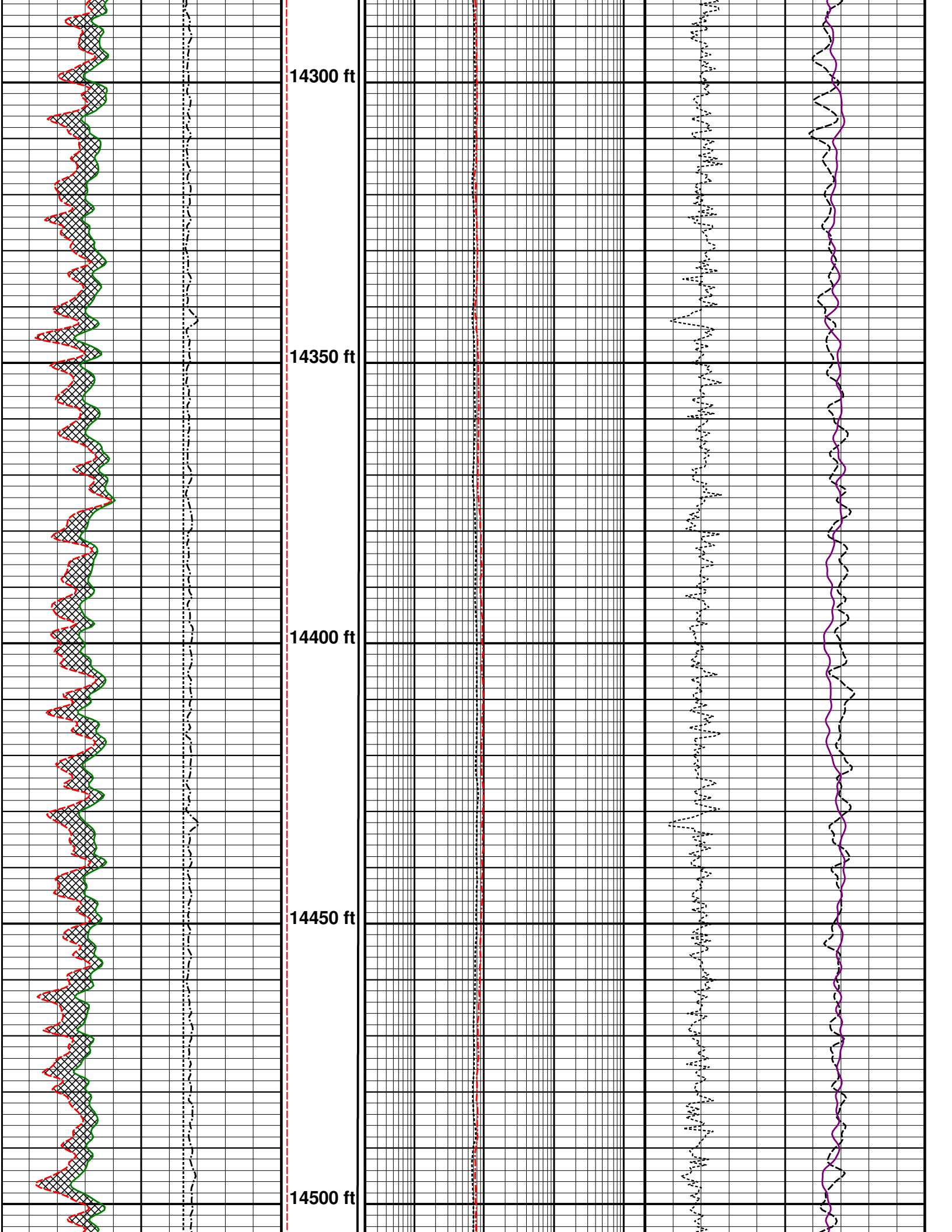
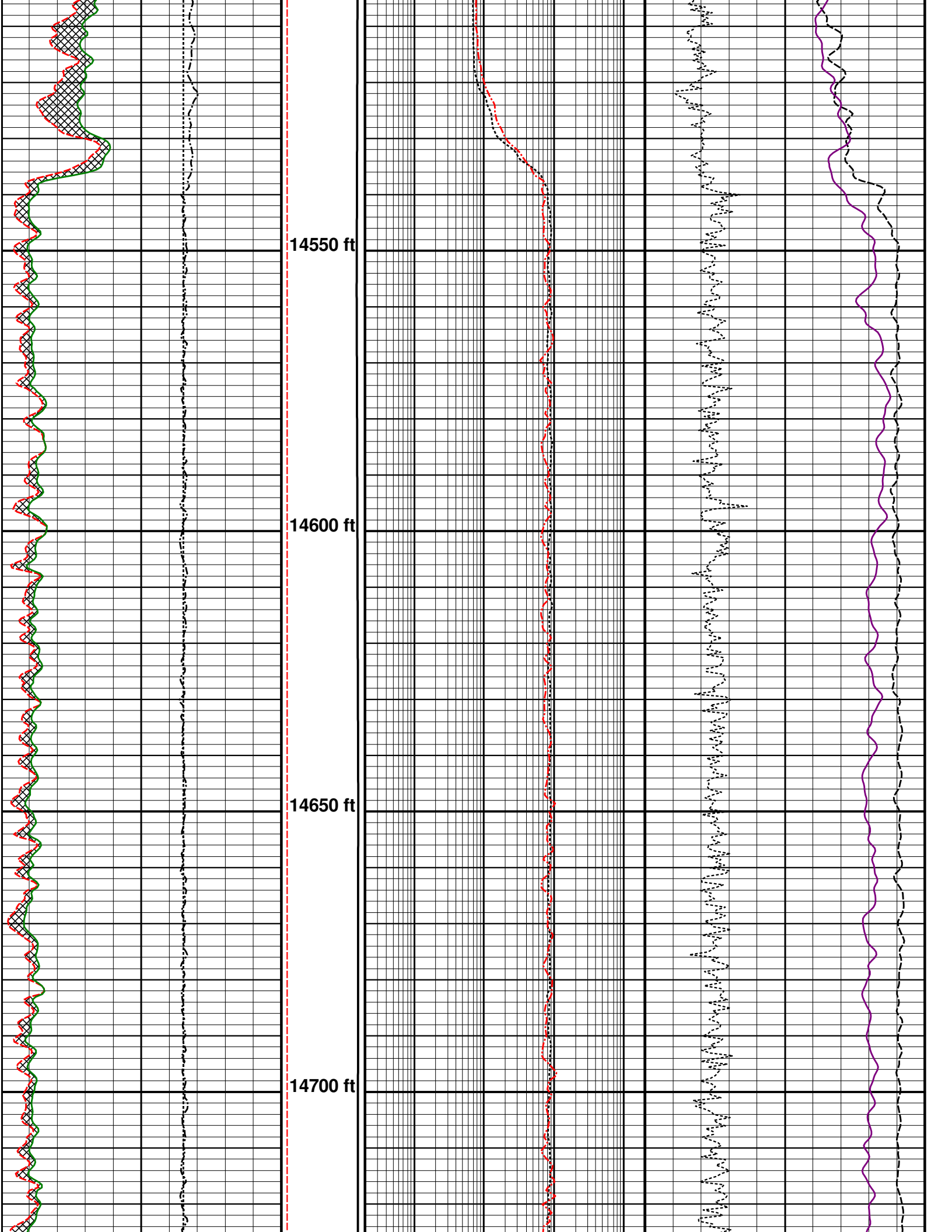
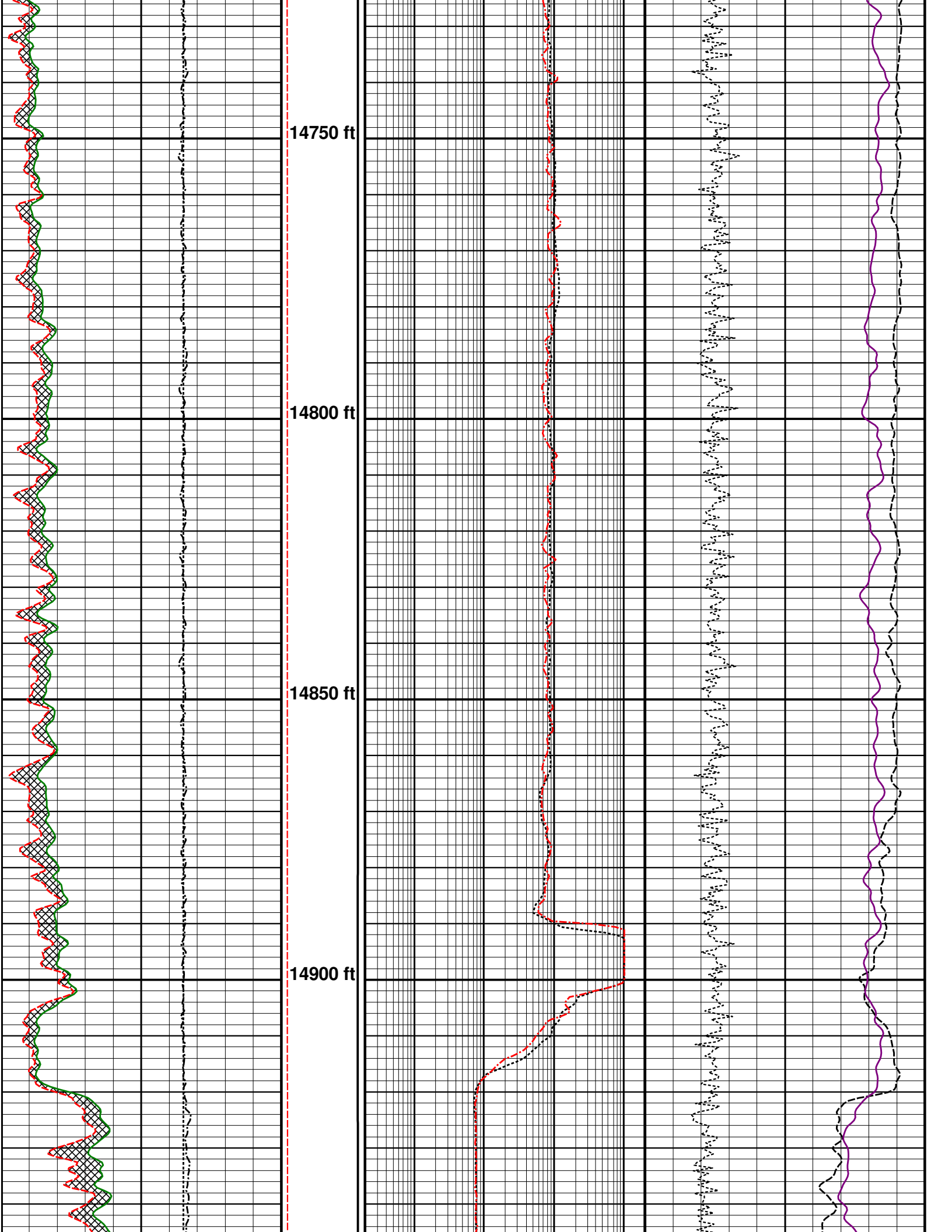

13650 ft
13700 ft
13750 ft
13800 ft

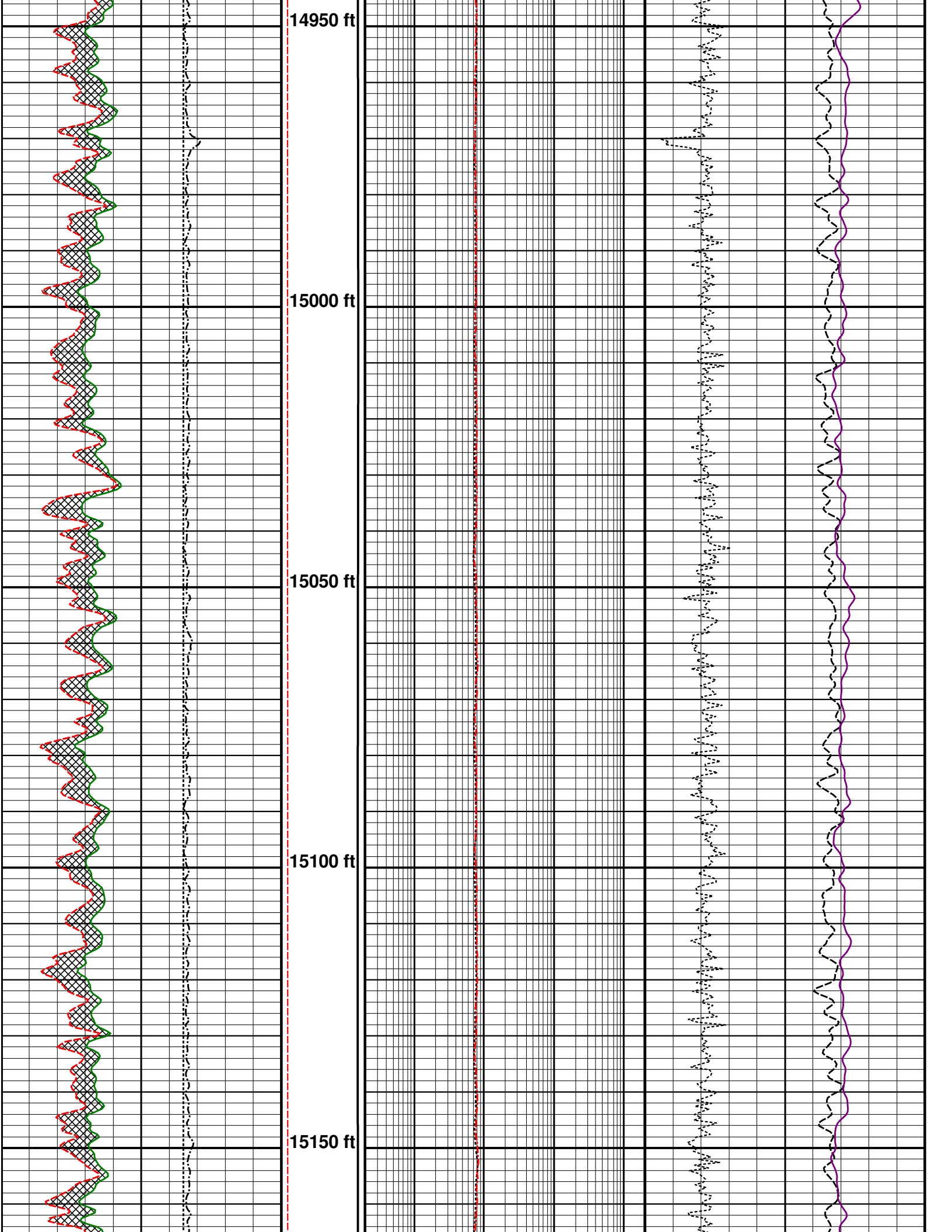

13850 ft
13900 ft
13950 ft
14000 ft
14050 ft

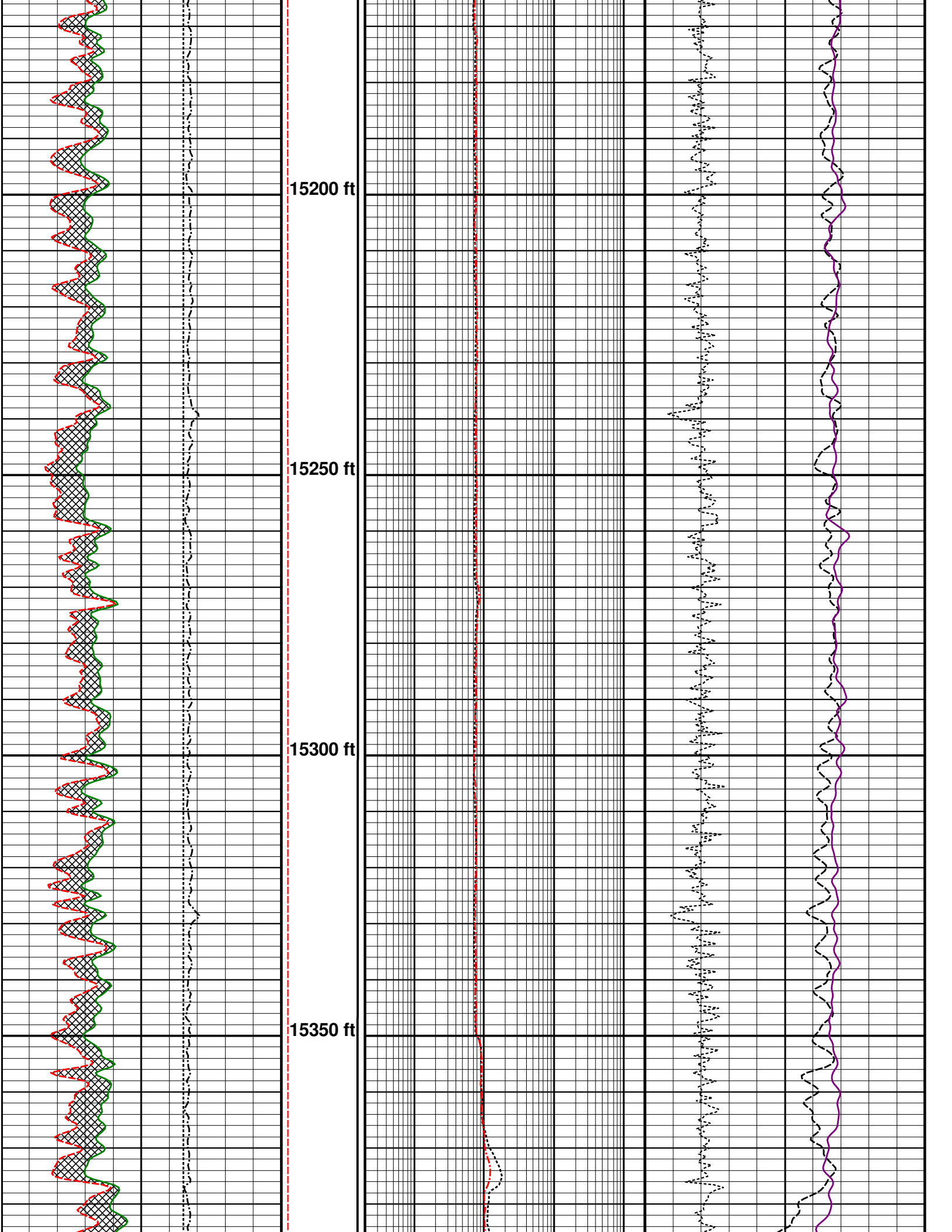

14100 ft
14150 ft
14200 ft
14250 ft

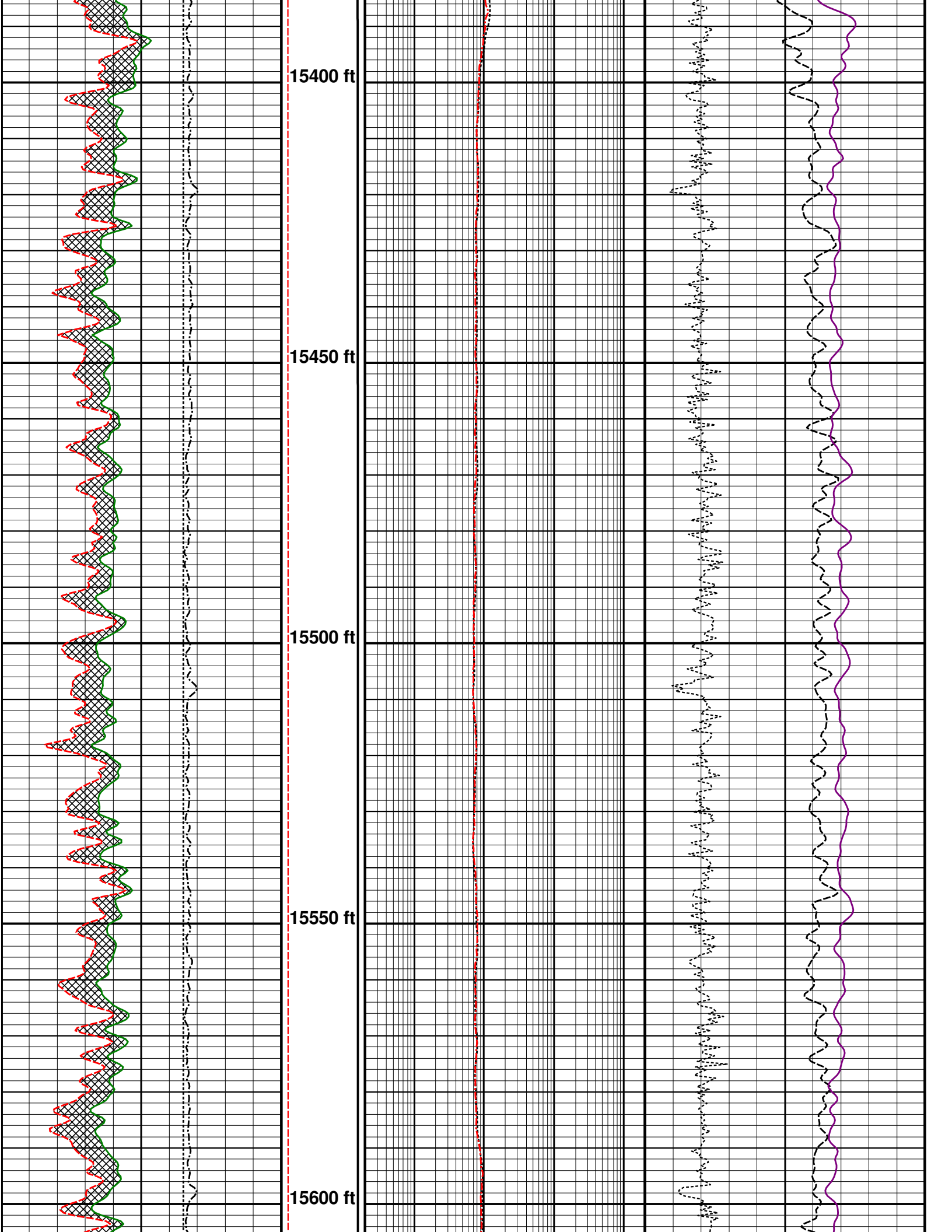

14300 ft
14350 ft
14400 ft
14450 ft
14500 ft

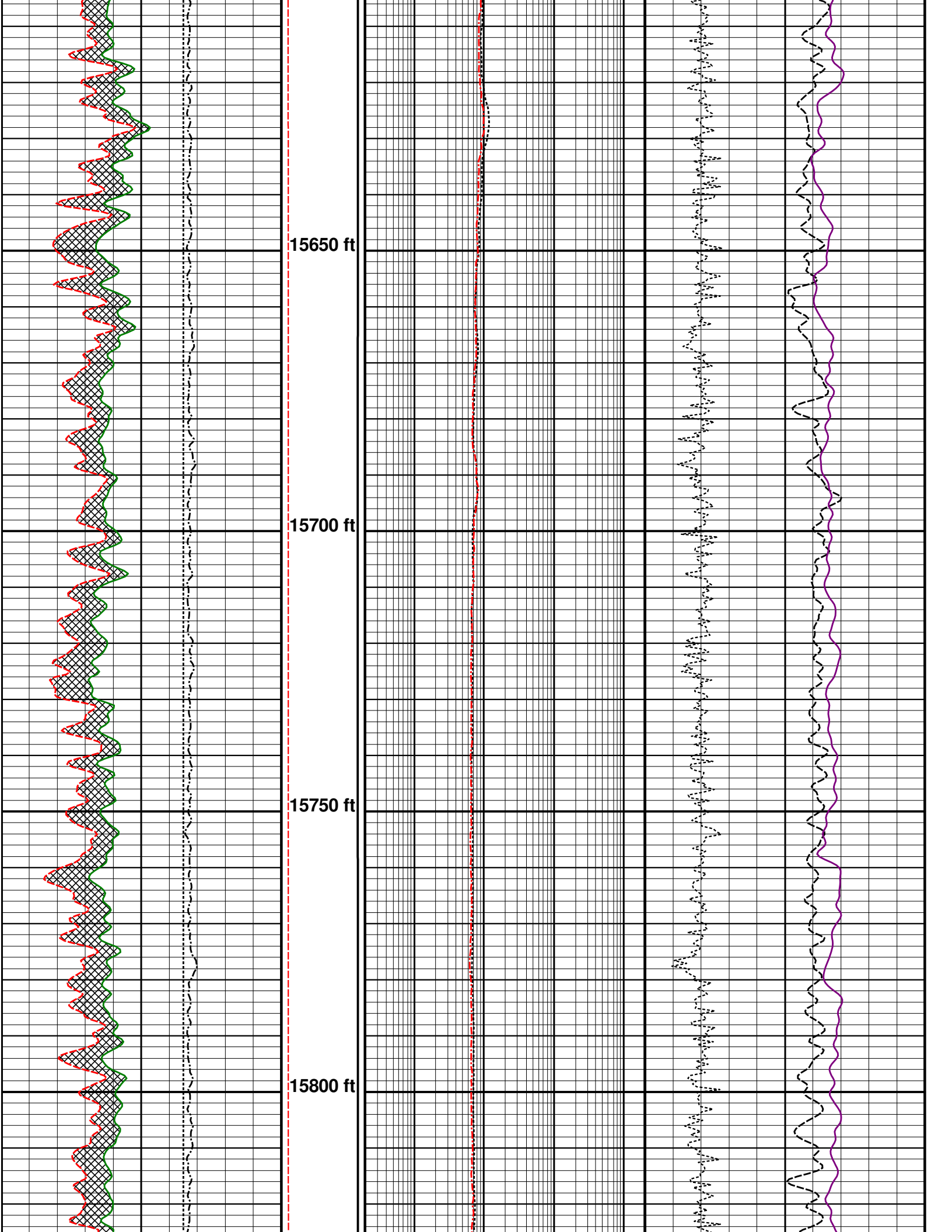

14550 ft
14600 ft
14650 ft
14700 ft

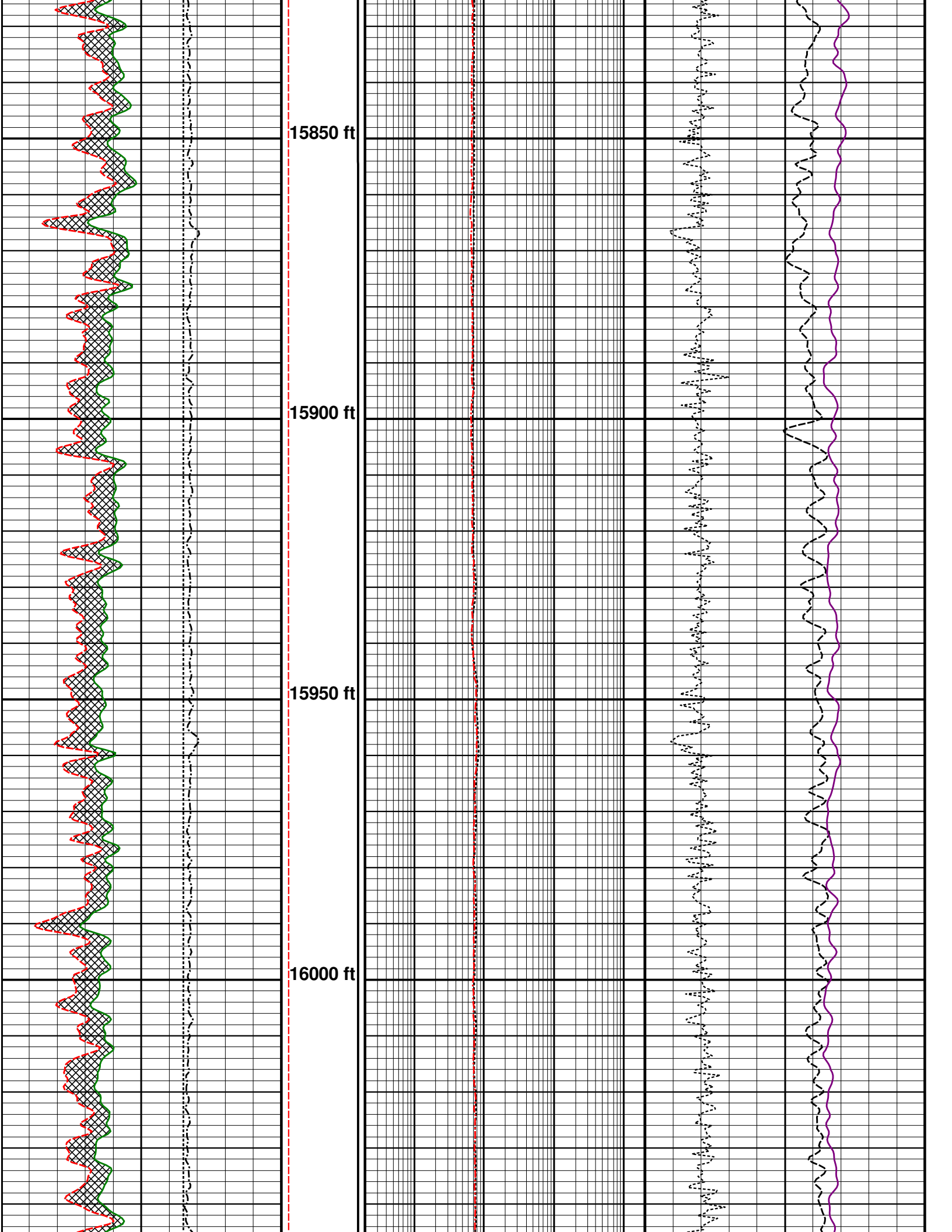

14750 ft
14800 ft
14850 ft
14900 ft

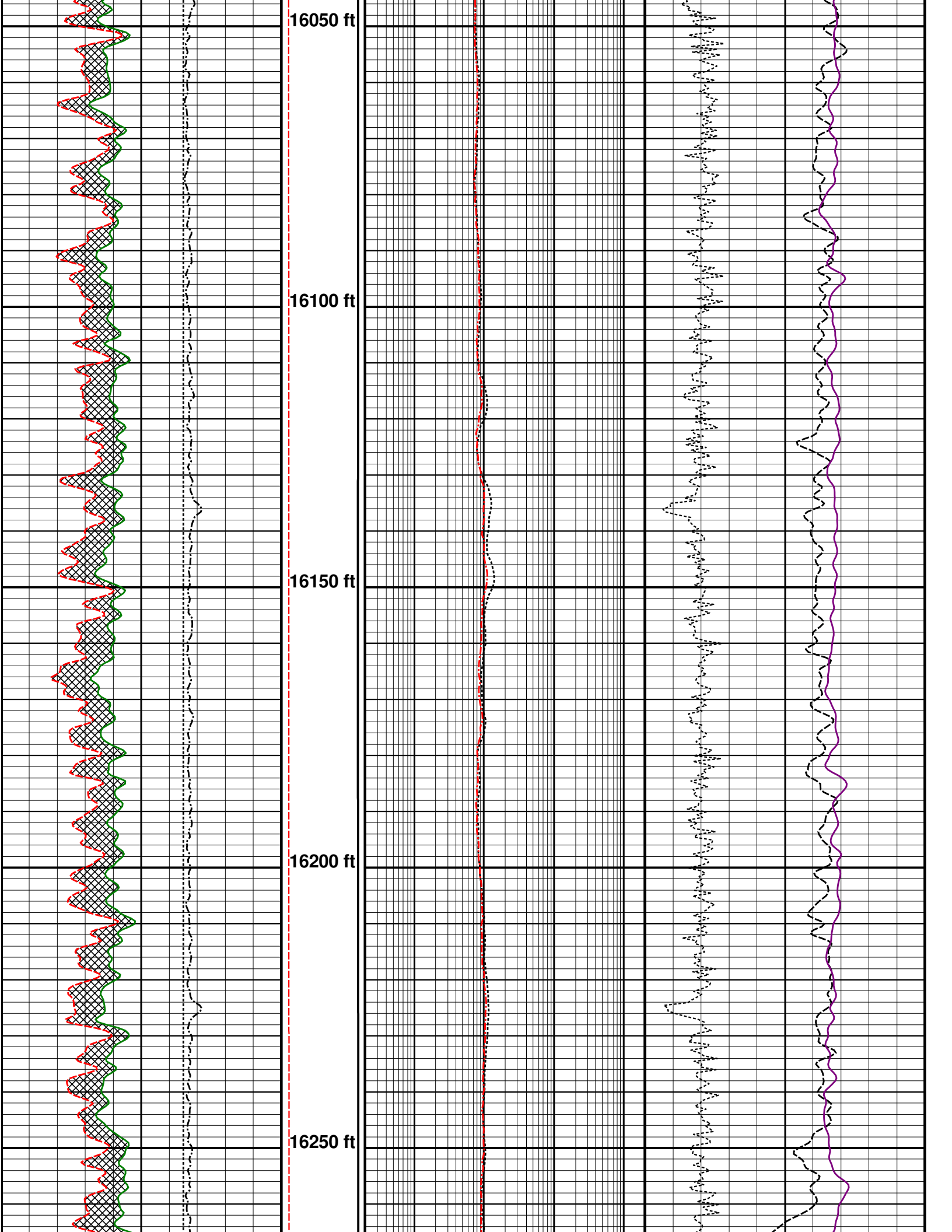

14950 ft
15000 ft
15050 ft
15100 ft
15150 ft

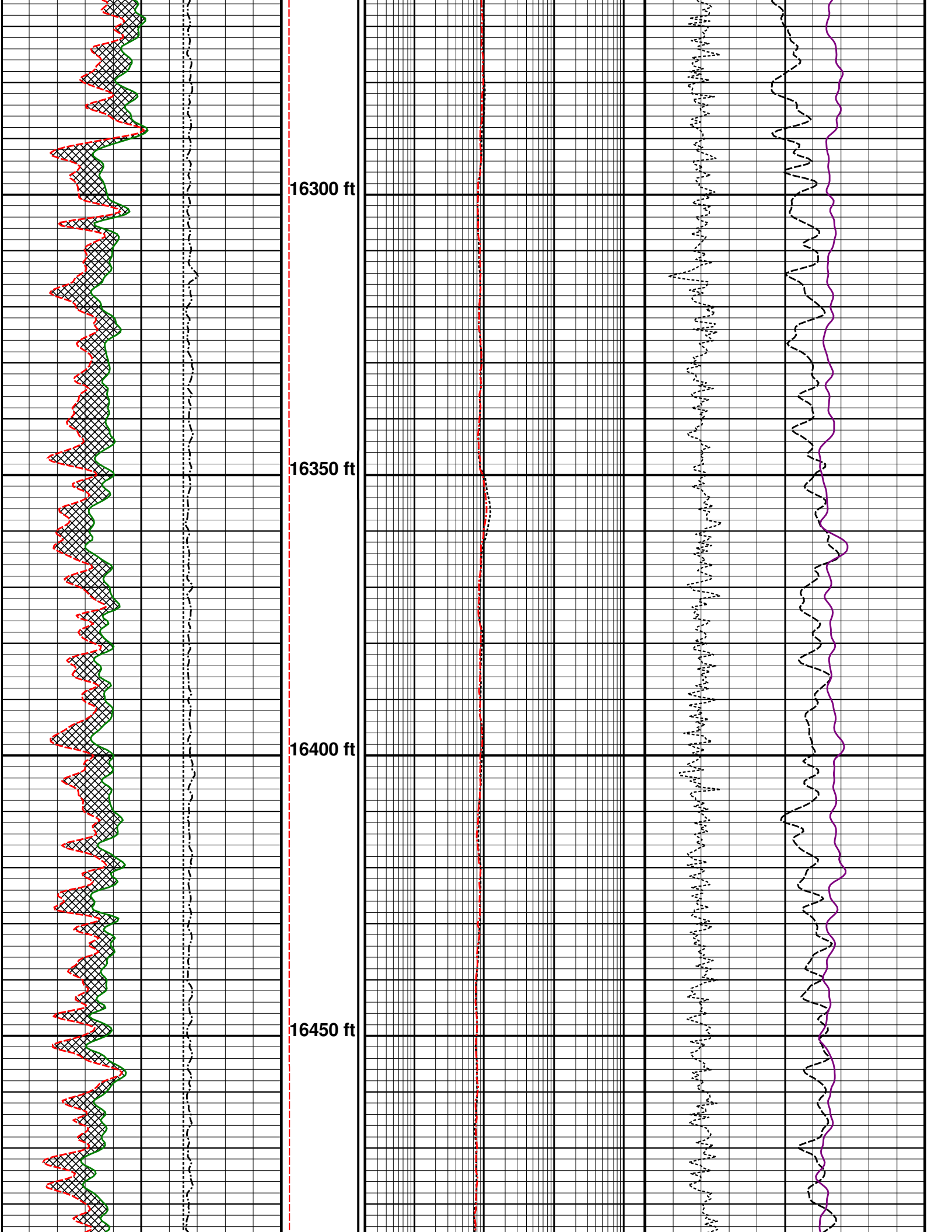

15200 ft
15250 ft
15300 ft
15350 ft

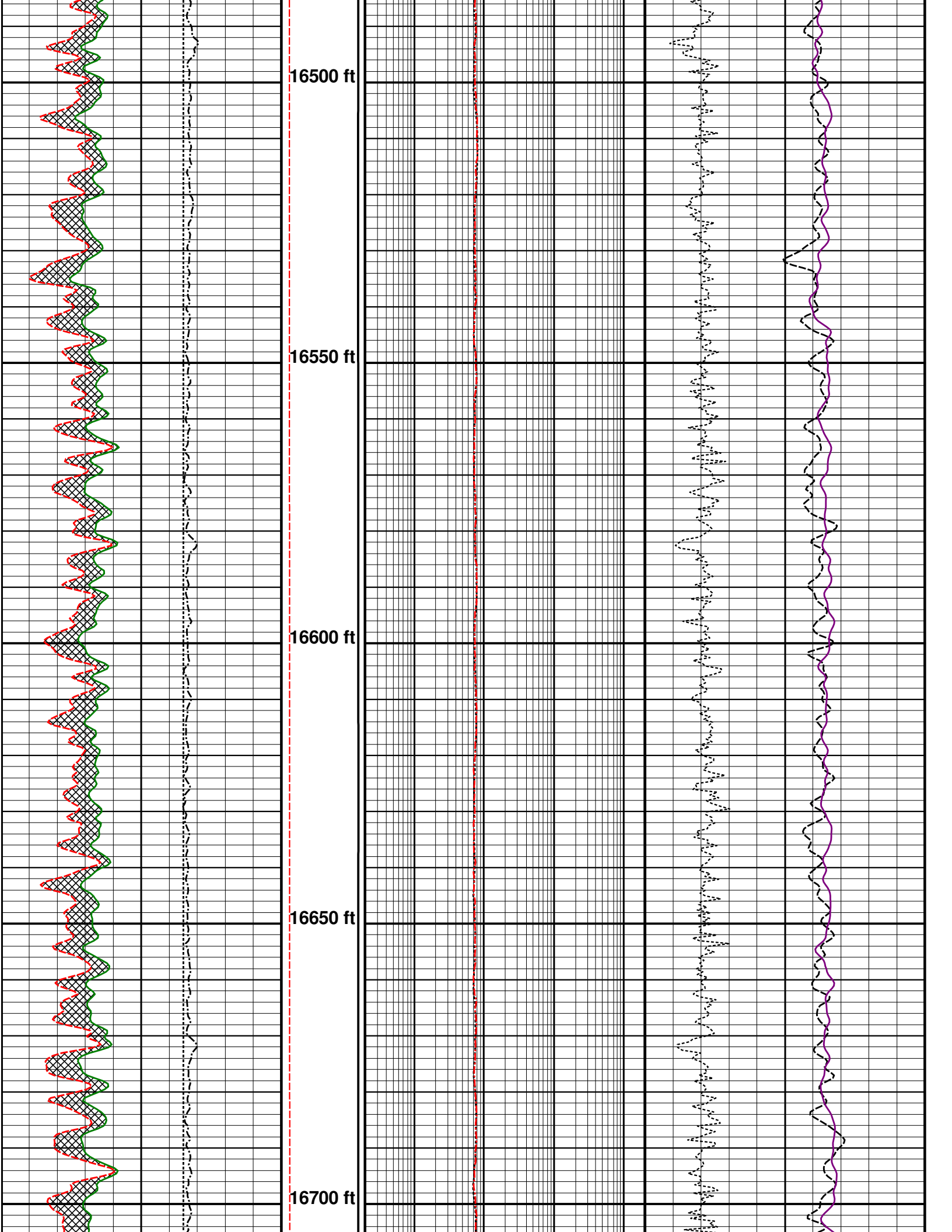

15400 ft
15450 ft
15500 ft
15550 ft
15600 ft

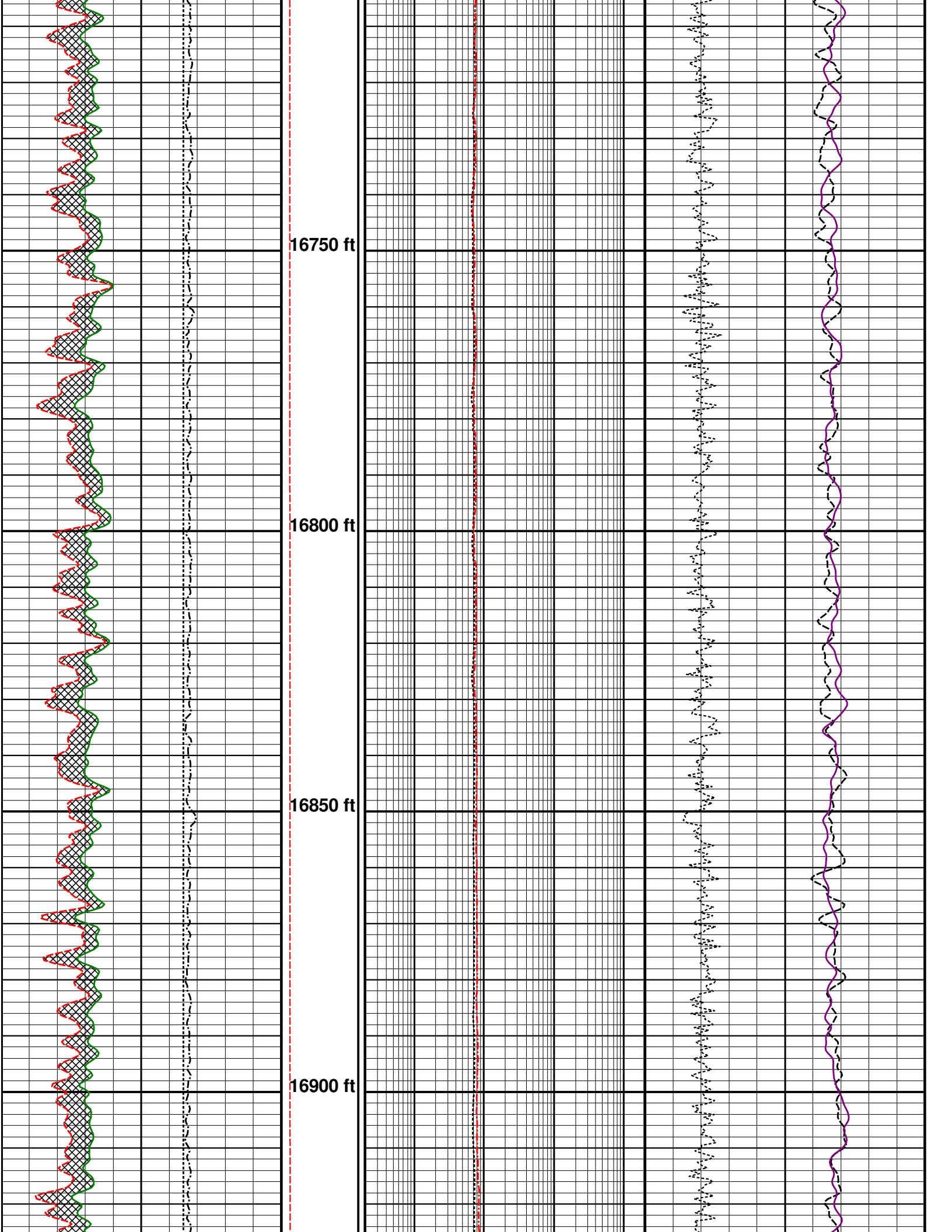

15650 ft
15700 ft
15750 ft
15800 ft

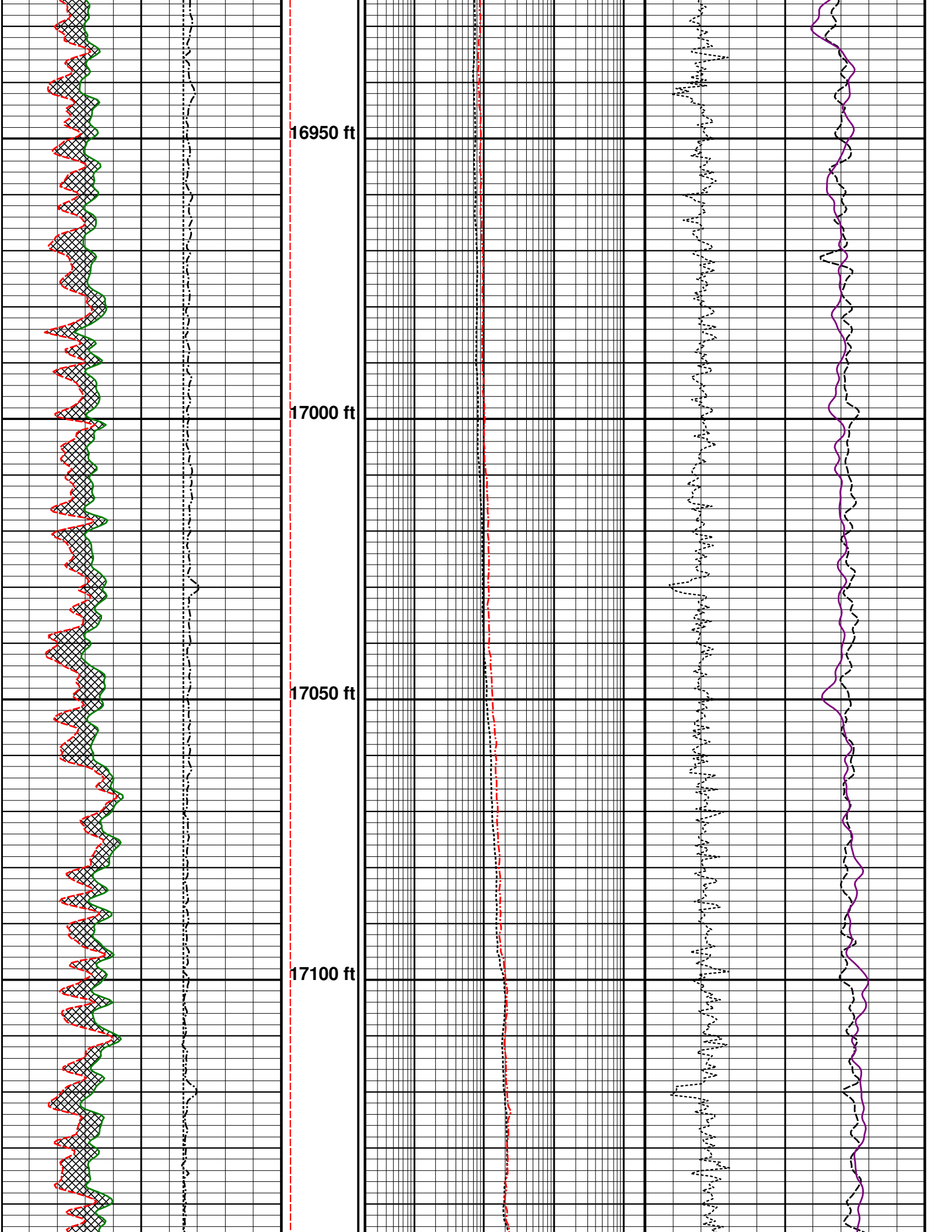

15850 ft
15900 ft
15950 ft
16000 ft

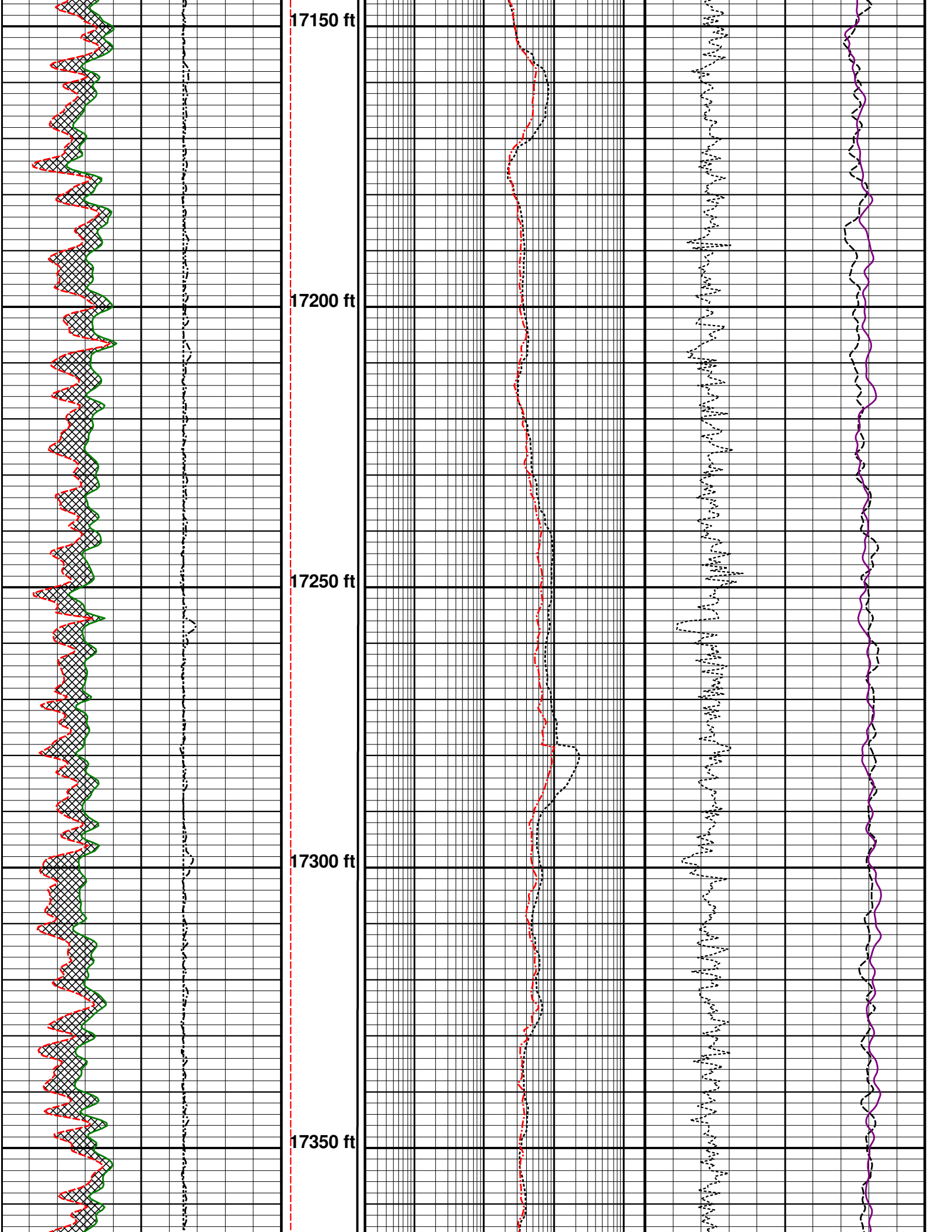

16050 ft
16100 ft
16150 ft
16200 ft
16250 ft

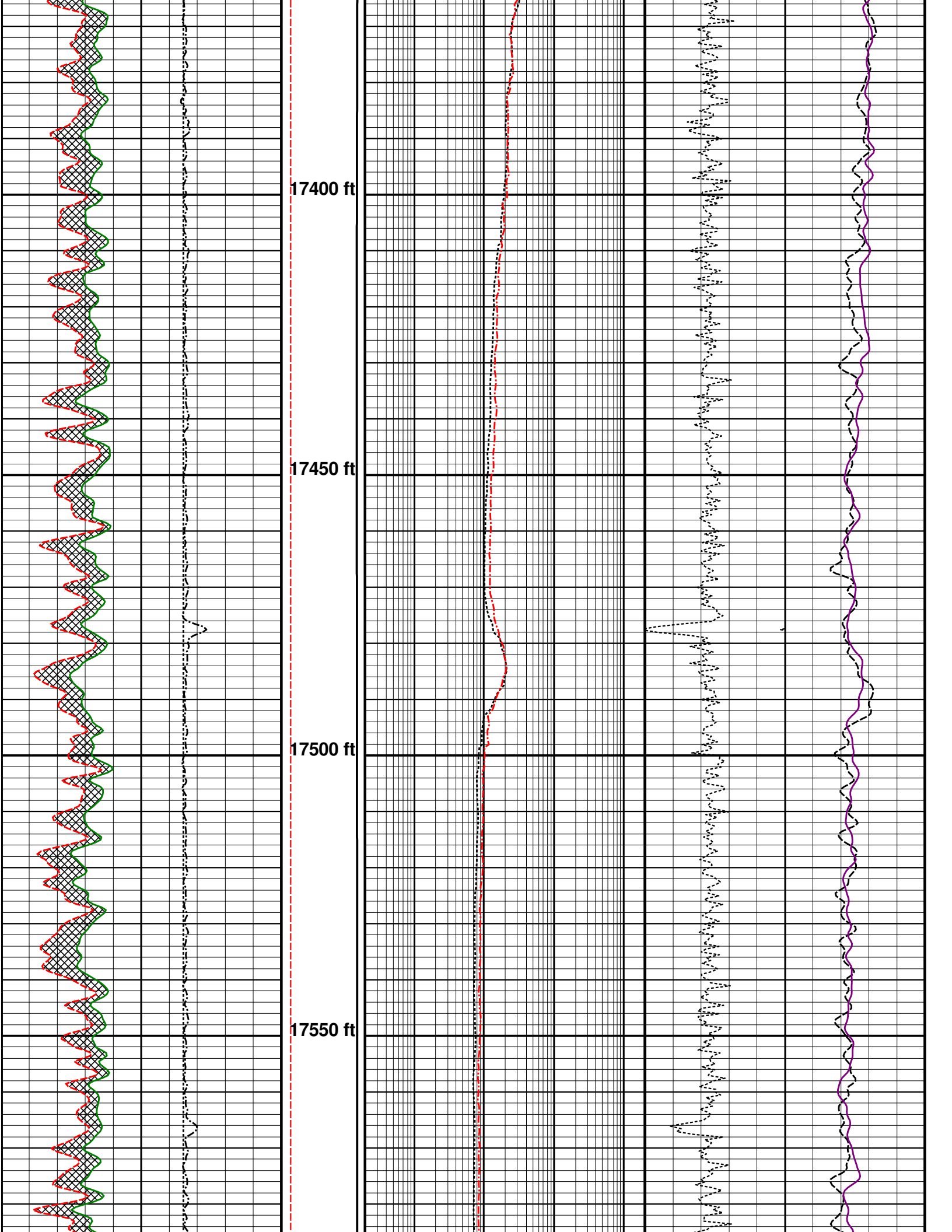

16300 ft
16350 ft
16400 ft
16450 ft

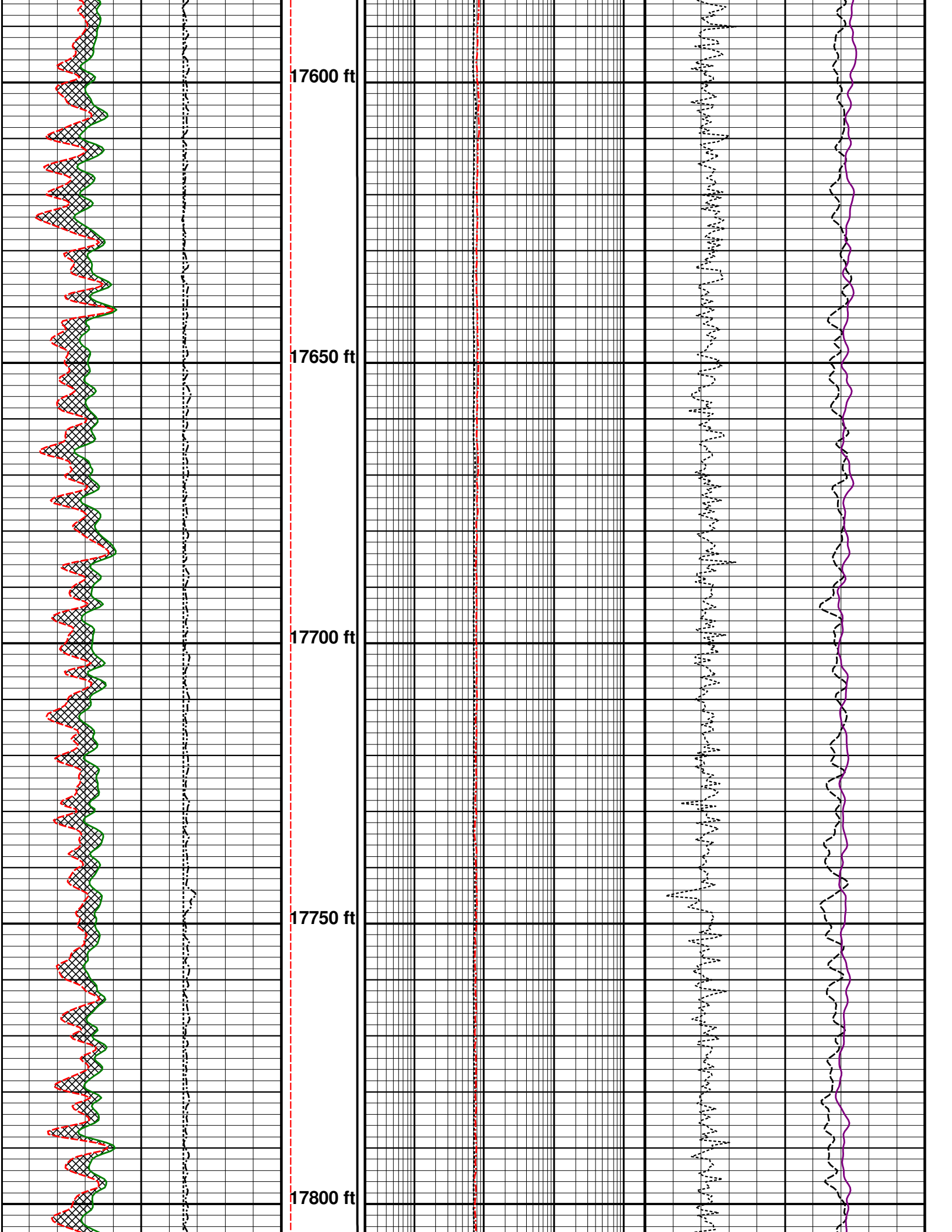

16500 ft
16550 ft
16600 ft
16650 ft
16700 ft

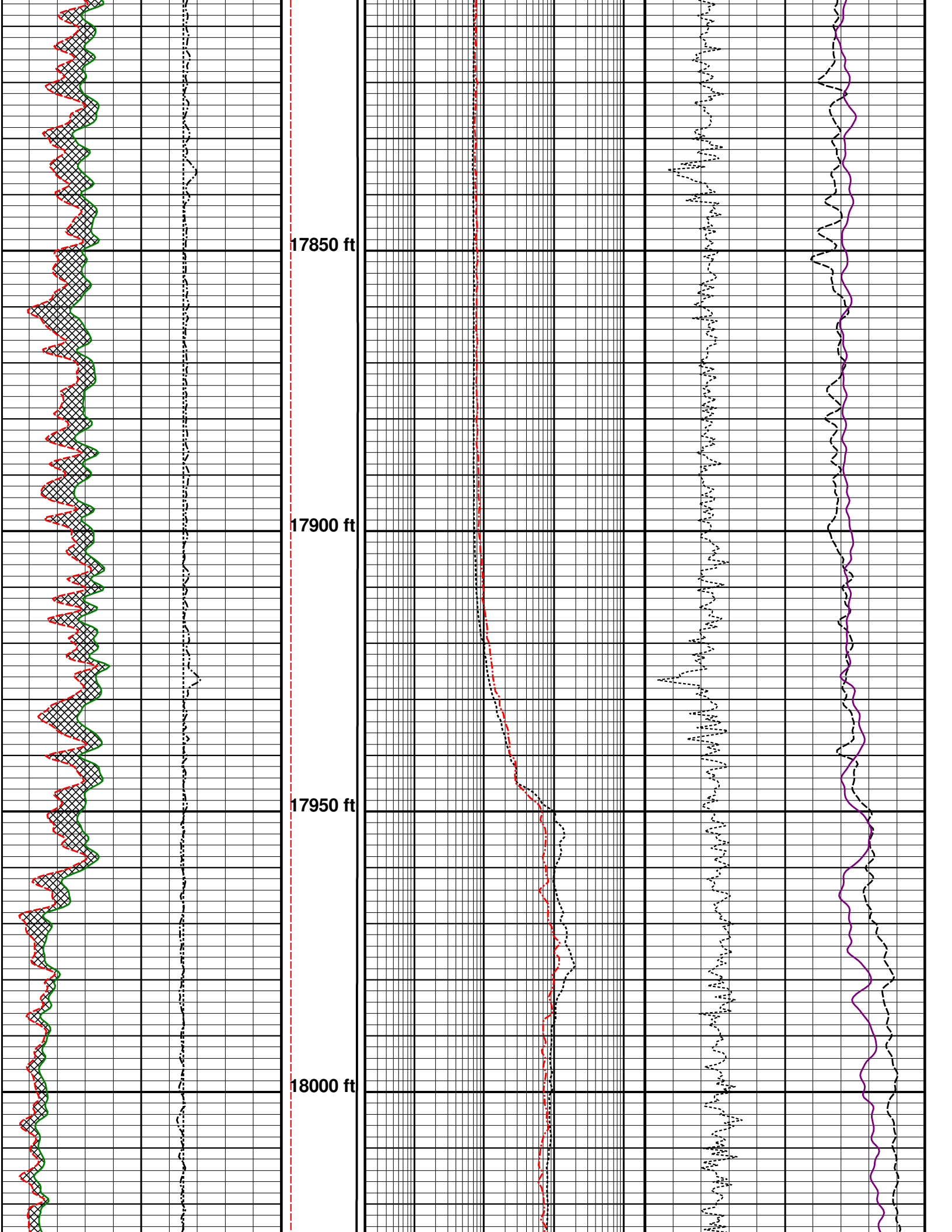

16750 ft
16800 ft
16850 ft
16900 ft

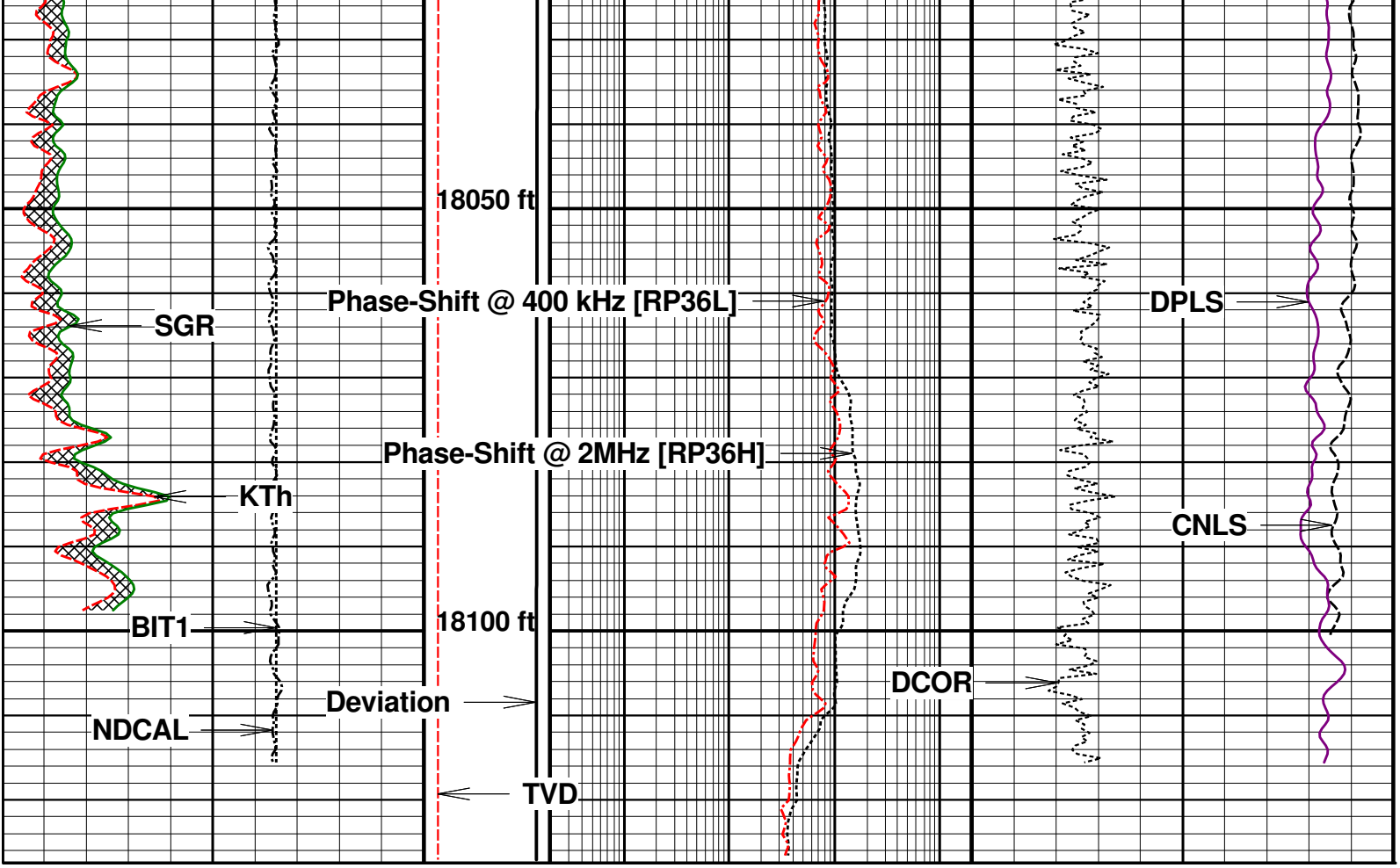

16950 ft
17000 ft
17050 ft
17100 ft


17150 ft
17200 ft
17250 ft
17300 ft
17350 ft


17400 ft
17450 ft
17500 ft
17550 ft


17600 ft
17650 ft
17700 ft
17750 ft
17800 ft


17850 ft
17900 ft
17950 ft
18000 ft



BIT1 (inch) 2 Periodic 12	Deviation (deg) 0.0 100.0	Phase-Shift @ 2MHz [RP36H] (Ohmm) 0.2 2000.0	CNLS (none) 40 Periodic 0
KTh (gAPI) 0 Periodic 300	TVD (ft) 7370 6170	Phase-Shift @ 400 kHz [RP36L] (Ohmm) 0.2 2000.0	DCOR (g/ccm) -0.05 Periodic 0.20
NDCAL (inch) 2 Periodic 12			DPLS (pu) 40 Periodic 0
SGR (gAPI) 0 Periodic 300			

Uranium

File :

Tool name : ***Telemetry3102*** *Asset :* ***008*** *Series :* ***0913*** *Source ID :*

Batterie

Array Calibration

Time

Setup

Description

Setup Version 00000

No	Value	No	Value	No	Value	No	Value	No	Value	No	Value
01:	***24000***										

File :

Tool name : **Density** Asset : **006** Series : **1481** Source ID :

Density

Density Calibration

Time Apr / 17 / 2020 10:08:05

Setup

Description 1481006_63564B_2020APR17PM

Setup Version 00046

Curve Name	pt	Raw Value	User Value	Device	Mult.	Add.
LSDensity	1	0.282331 none	2.7 g/c3	Aluminum Block	31.694210	-6.248
MSDensity	1	0.226774 none	2.7 g/c3	Aluminum Block	72.831590	-13.816
SSDensity	1	0.25171 none	2.7 g/c3	Aluminum Block	118.025800	-27.008
LSDensity	2	0.251095 none	1.71 g/c3	Concrete Block		
MSDensity	2	0.213181 none	1.71 g/c3	Concrete Block		
SSDensity	2	0.243322 none	1.71 g/c3	Concrete Block		

File :

Tool name : **Dual Neutron** Asset : **018** Series : **1473** Source ID :

Gamma

Gamma Calibration

Time Apr / 16 / 2020 12:56:09

Setup

Description 1473018_1619-93_16APR2020_RB

Setup Version 00046

Block	Raw Value	User Value	Device	Device SN	Mult.
Background	33.0624 cps				
Jig ON	339.481 cps				
Gamma	306.4186 cps (287 – 325)	250.0001 gAPI	Gamma Ray Jig	1619-93	0.815878

Gamma Primary Verification

Time Apr / 16 / 2020 12:58:19

Setup

Description 1473018_1619-93_16APR2020_RB

Setup Version 00046

Block	Device	Device SN	Raw Value	User Value
Background			34.996 cps	
Jig ON	Gamma Ray Jl	1619-93	343.359 cps	
Gamma				251.5866 gAPI (244.5 – 255.5)

Tool name : **Dual Neutron** Asset : **018** Series : **1473** Source ID :

Ratio

Compensated Neutron Calibration

Time Apr / 16 / 2020 13:25:17

Setup

Description 1473018_66468B_2020APR16_RB

Setup Version 00046

Curve Name	pt	Raw Value	User Value	Device	Mult.
Ratio	1	17.2146 none (16.15 17.85)	17 none	Neutron Ratio	0.987534

File :

Tool name : ***Spectrum Gamma*** *Asset :* ***017*** *Series :* ***1460*** *Source ID :*

Gamma

Gamma Calibration

Time

Setup

Description

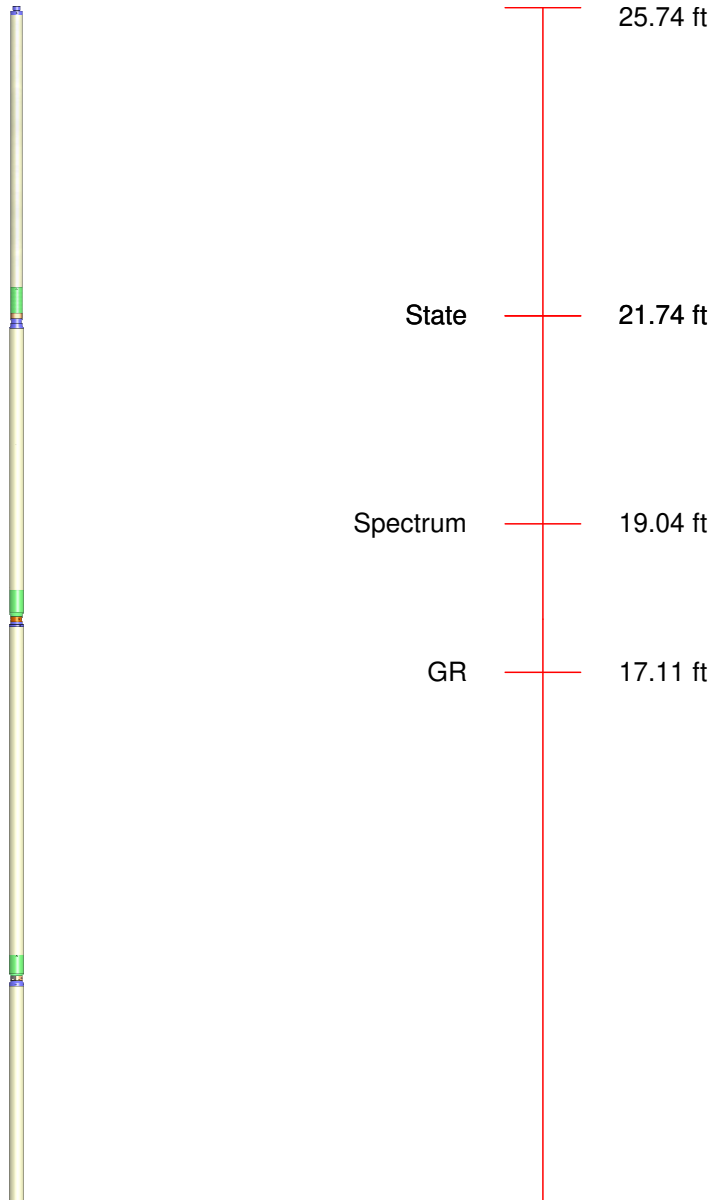
Setup Version 00000

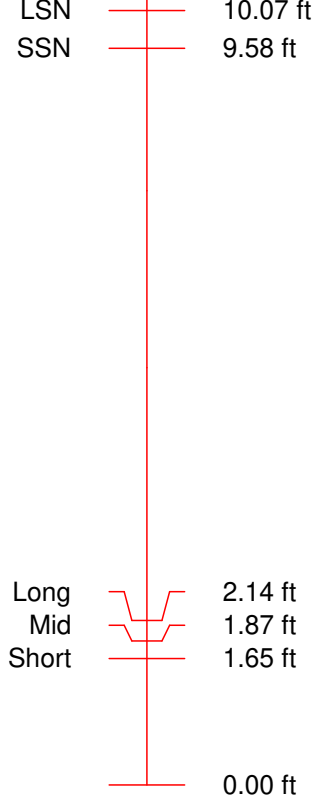
Block	Raw Value	User Value	Device	Device SN	Mult.
Background	0 cps				
Jig ON	1 cps				
Gamma	1 cps	0.189			0.189

0913 Telemetry3102
- Identifier : 0913
- Asset Number : 008
- Length : 4.003 ft
- Diameter : 1.7 inch
- Weight : 14.6 lbs
- Measure Point : 0.000 ft : State

1460 Spectrum Gamma
- Identifier : 1460
- Asset Number : 017
- Length : 3.950 ft
- Diameter : 2.0 inch
- Weight : 22.7 lbs
- Measure Point : 1.247 ft : Spectrum

1473 Dual Neutron
- Identifier : 1473
- Asset Number : 018
- Length : 10.069 ft
- Diameter : 2.0 inch
- Weight : 58.4 lbs
- Measure Point : 1.854 ft : SSN
- Measure Point : 2.343 ft : LSN
- Measure Point : 9.383 ft : GR





0813 Knuckle Joint

Identifier	: 0813
Length	: 2.297 ft
Diameter	: 1.7 inch
Weight	: 16.1 lbs

1481 Density

Identifier	: 1481
Asset Number	: 006
Length	: 5.427 ft
Diameter	: 2.0 inch
Weight	: 38.4 lbs
Measure Point	: 1.647 ft : Short
Measure Point	: 1.870 ft : Mid
Measure Point	: 2.139 ft : Long

Total Length	: 25.74 ft
Total Weight	: 150.13 lbs
Max Diameter	: 2.0 inch

CORDAX™

COMPANY:	GREAT WESTERN OPERATING COMPANY LLC
WELL:	POSTLE IC 09-142HC
FIELD:	WATTENBERG
COUNTY:	WELD
STATE:	COLORADO