

2" = 100' MD

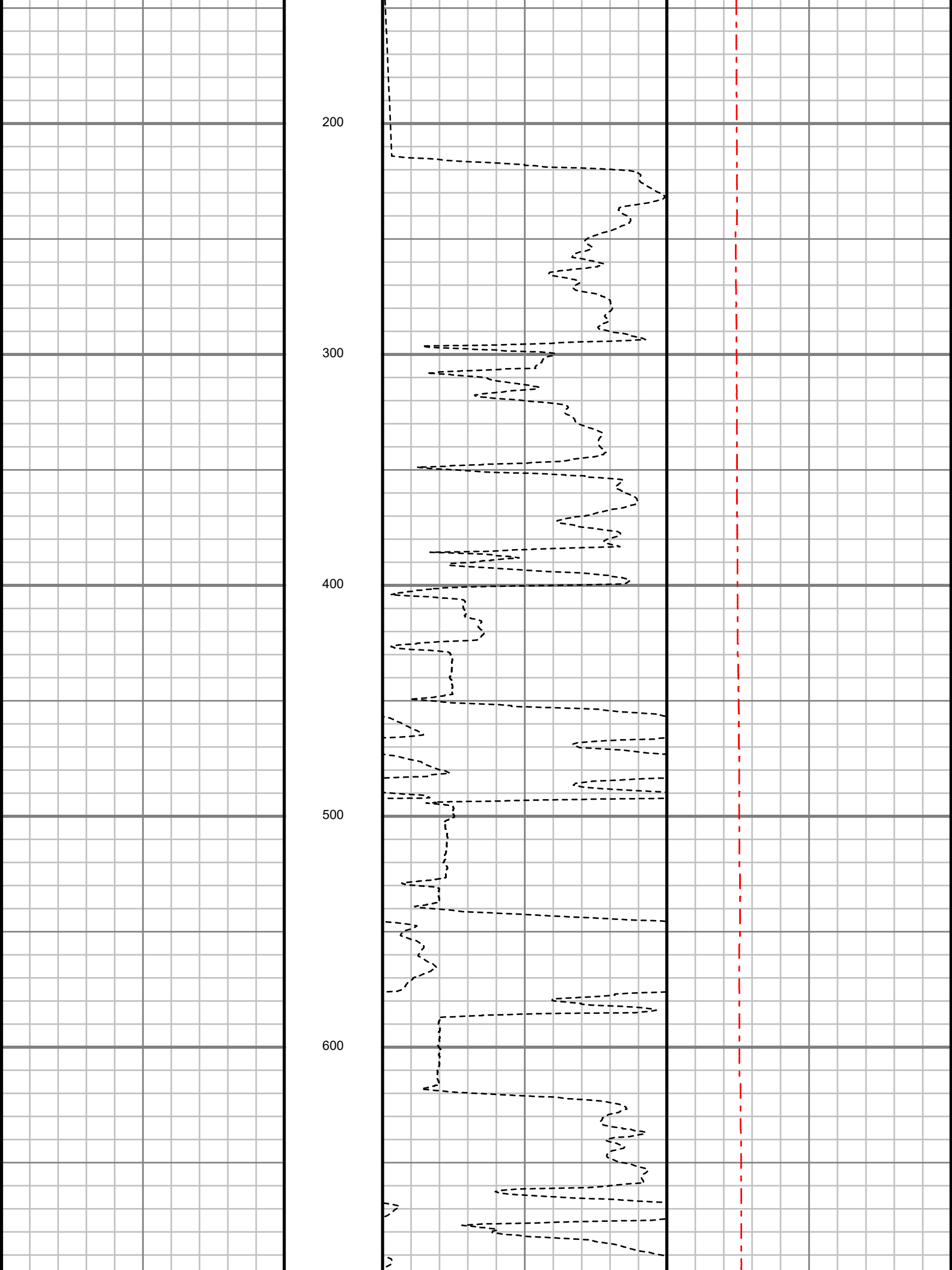
COMPANY : HIGHPOINT RESOURCES									
WELL : ANSCHUTZ EQUUS FARMS FED 5-61-35-4841B									
FIELD : WATTENBERG									
COUNTY : WELD									
STATE : COLORADO									
COUNTRY : U.S.A.									
UWI : 05-123-49225									
WELL LOCATION									
LAT:40°21'17.030"N LONG:104°11'12.360"W									
N:1374778.99 ft E:3365979.93 ft									
SEC:34									
TWP:5N									
RANGE:61W									
OTHER SERVICES									
NAD83									
DIRECTIONAL									
ROP									
DEPTH REF. : RKB									
REF. HEIGHT : 16.500 ft									
RKB to Ground Level									
GROUND LEVEL : 4479.600 ft									
G.I. to MEAN SEA LEVEL									
BOREHOLE RECORD									
DEVIATION RECORD									
HOLE SIZE in									
FROM ft									
TO ft									
INCLINATION deg									
FROM ft									
TO ft									
13.5									
0									
1011									
0									
8.75									
1011									
6235									
0 - 5									
300									
635									
6.125									
6235									
15944									
5									
0 - 0									
2694									
3078									
0									
3078									
5188									
0 - 90									
5188									
6176									
88 - 92									
6176									
15944									
CASING RECORD									
CASING SIZE in									
FROM ft									
TO ft									
9.625									
0									
1011									
7									
0									
6209									
DRILLING CO.: CADE									
RIG: 24									
LWD UNIT NO.: 282									
DISTRICT: CASPER, CASPER									
SPUD DATE: 04/18/2019									
LWD START DATE: 04/21/2019									
DEPTH: 1011 ft									
LWD END DATE: 04/28/2019									
DEPTH: 15944 ft									
TOTAL DEPTH: 15944 ft									

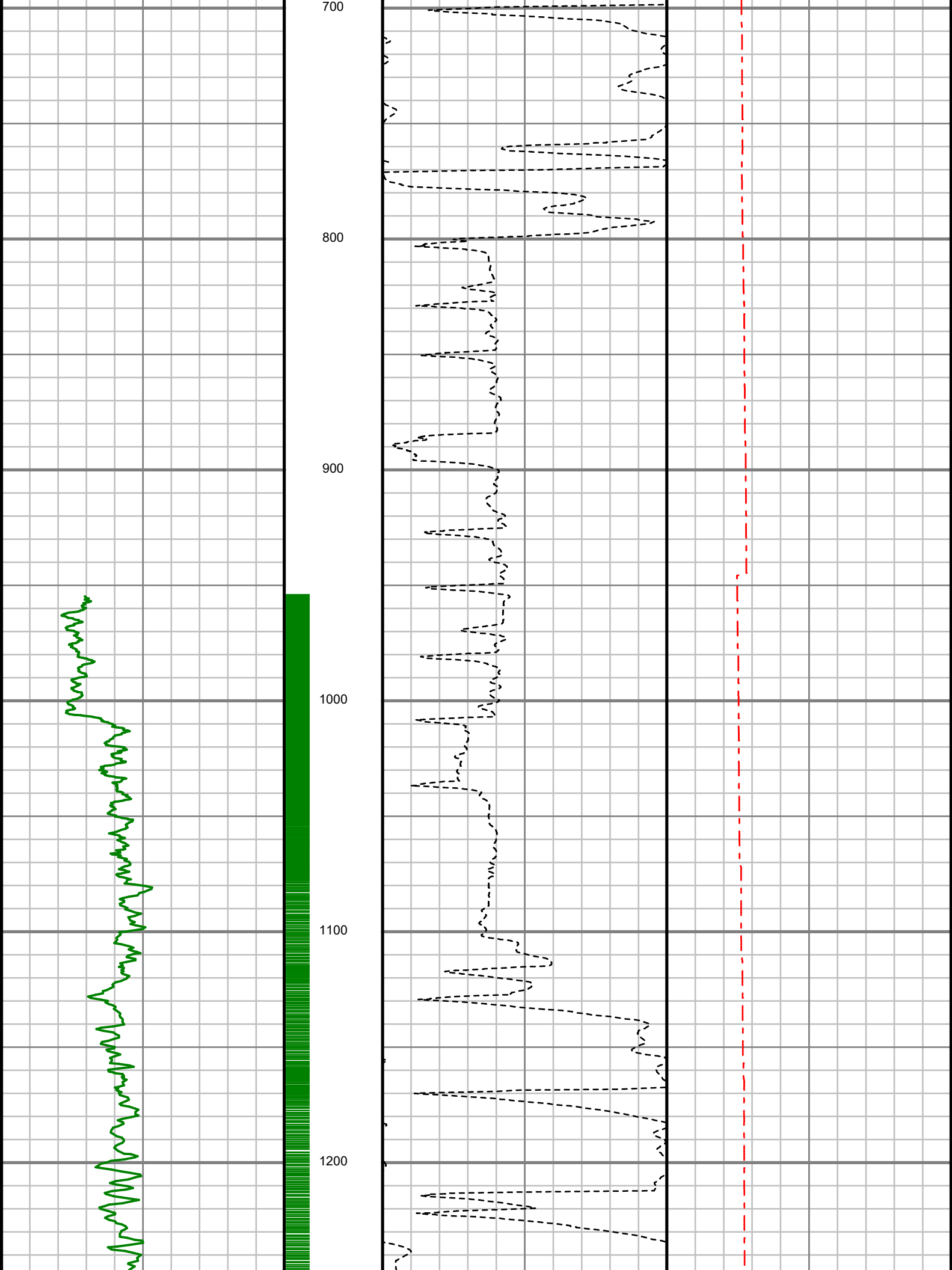
Run Data						
RUN NUMBER	RUN 1	RUN 2	RUN 3			
START DATE	04/20/2019	04/21/2019	04/24/2019			
START TIME	04:00	16:00	00:30			
END DATE	04/21/2019	04/23/2019	04/28/2019			
END TIME	16:00	09:00	20:45			
DEPTH IN (ft)	0	1007	6235			
DEPTH OUT (ft)	1007	6235	15944			
LOG TOP (ft)	-	1007	6235			
LOG BOTTOM (ft)	-	6235	15944			
HOLE SIZE (in)	13.5	8.75	6.125			
MUD DATA @ (ft)	1007	6658	14409			
MUD TYPE	WATER	WATER-BASED	WATER-BASED			
DENSITY (lb / gal)	8.345	8.6	9.2			
VISCOSITY (s / qt)	-	34	30			
pH	-	11.3	9.5			
FLUID LOSS (cm3 / 30)	-	-	-			
SALINITY (mg/L)	-	700	700			
Rm (ohmm @ deg F)	-	-	-			
Rmf (ohmm @ deg F)	-	-	-			
MAX TEMP (deg F)	84.09	156.02	218.02			
Rm @ MAX TEMP (ohmm)	-	-	-			
LWD ENGINEER #1	A. FARQUHAR	M. BAILY	M. BAILY			
LWD ENGINEER #2	M. SUTTER	A. FARQUHAR	M. SUTTER			
LWD ENGINEER #3	-	M. SUTTER	-			
LOG WITNESS #1	-	-	-			
LOG WITNESS #2	-	-	-			

Remarks
HIGHPOINT RESOURCES PRODUCTION AFE# 20360D
SCIENTIFIC DRILLING INTERNATIONAL JOB# , OP.018091
ALL REFERENCES IN THE DEPTH TRACK ARE AT BIT DEPTH.
ALL DATA IS MEMORY DATA UNLESS STATED OTHERWISE.
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO GAMMA RAY TOTAL CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO RATE OF PENETRATION CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO TOOL TEMPERATURE CURVE
RUN #2: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 128-126 / CONT = 163 / MWD EYE = 1035 / GAMMA RAY = 1341
BIT TO SENSOR OFFSETS: SURVEY = 57.41 FT. / GAMMA RAY = 53.41 FT.
RUN #3: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 78-277 / CONT = 303 / MWD EYE = 146 / GAMMA RAY = 1070
BIT TO SENSOR OFFSETS: SURVEY = 54.4 FT. / GAMMA RAY = 50.4 FT.
MNEMONICS LIST:
GR = GAMMA RAY TOTAL
ROP = RATE OF PENETRATION
T-TEMP = TOOL TEMPERATURE

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 interpretations, and we shall not, except in the case of gross or willful 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 as set out in our current price schedule.

[illegible]







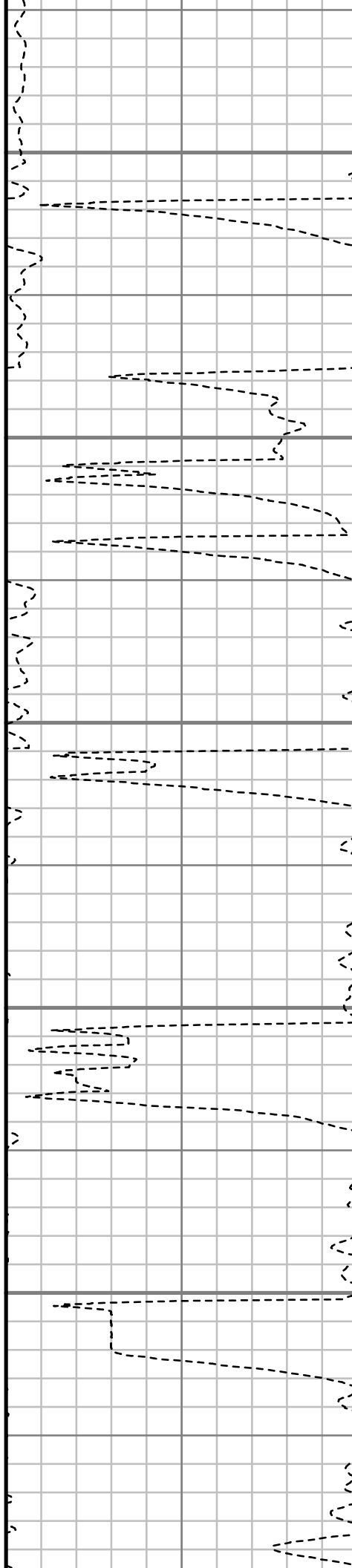
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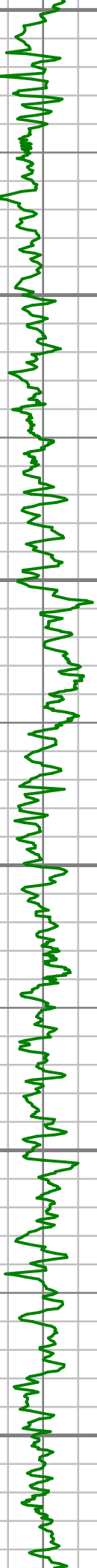
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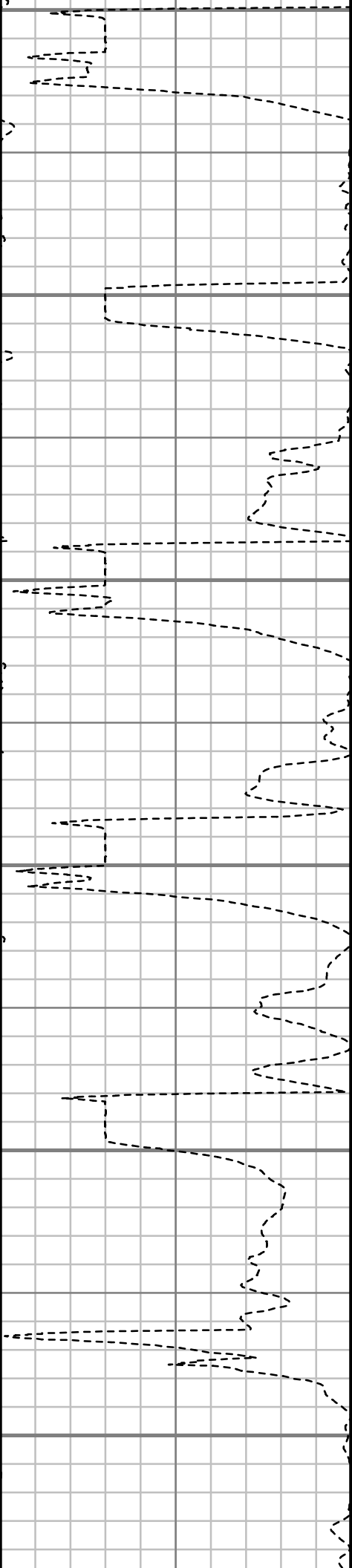
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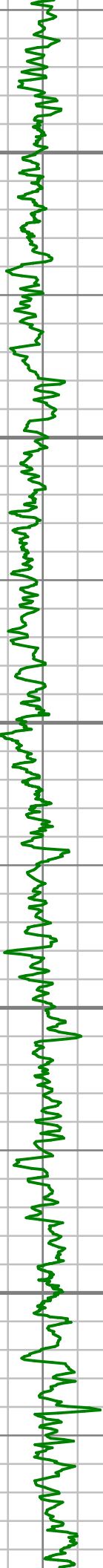
1700





1800
1900
2000
2100
2200
2300





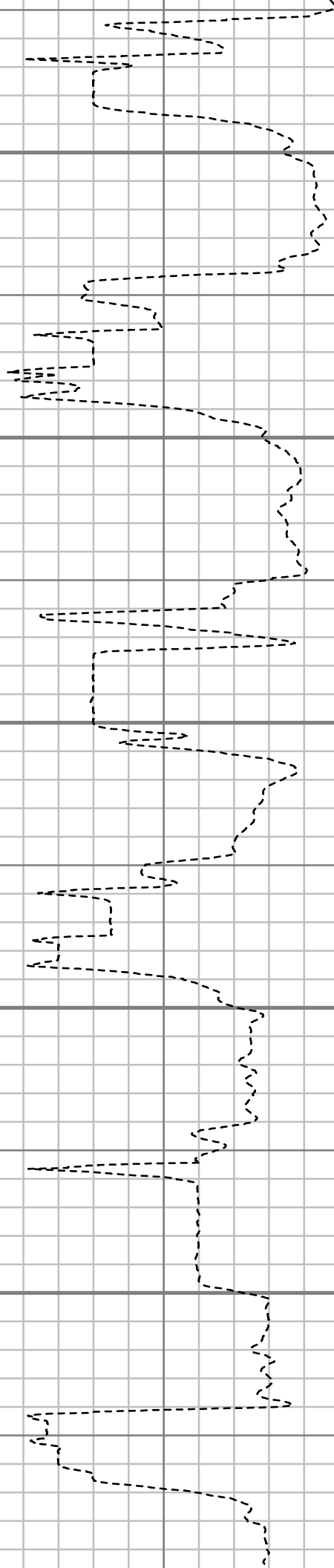
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2500

2600

2700

2800





2900

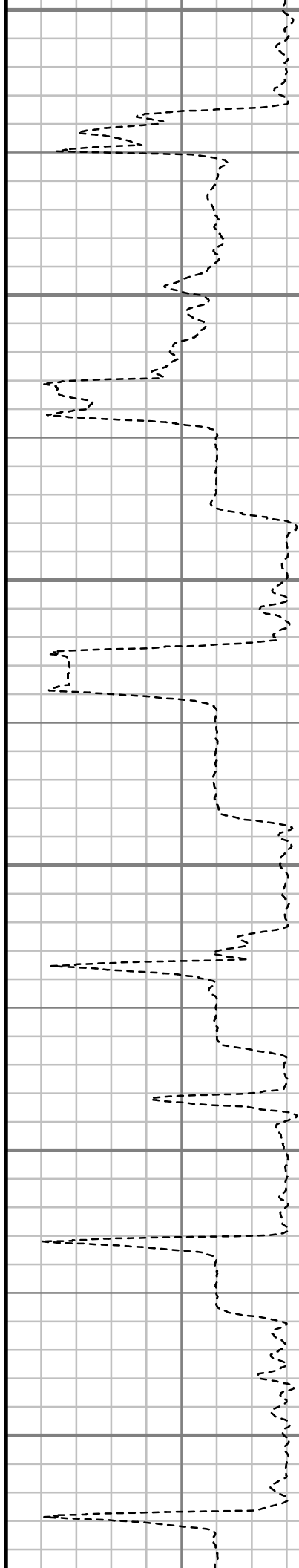
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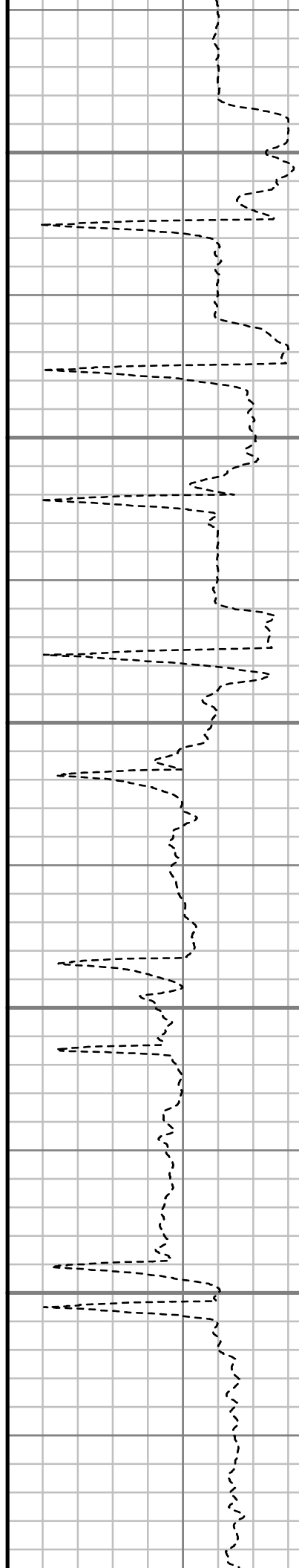
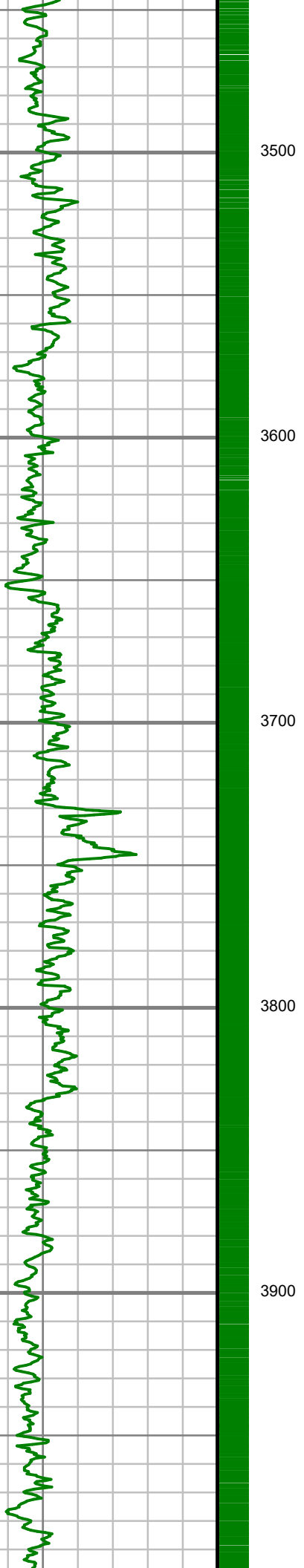
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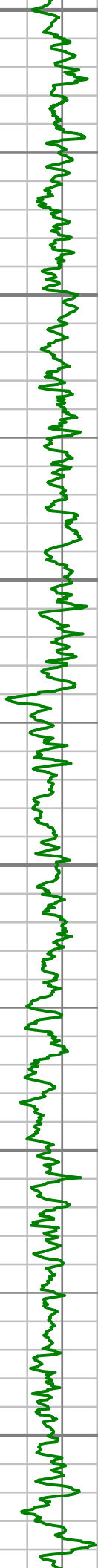
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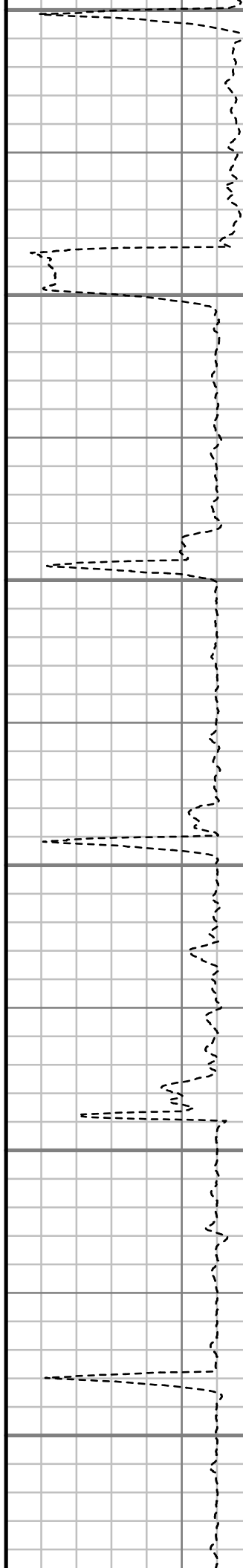
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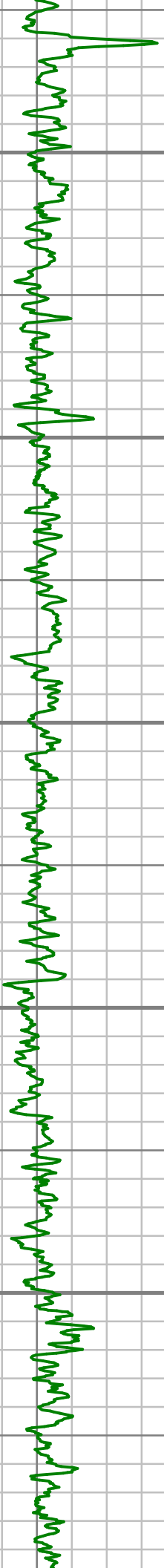






4000
4100
4200
4300
4400
4500





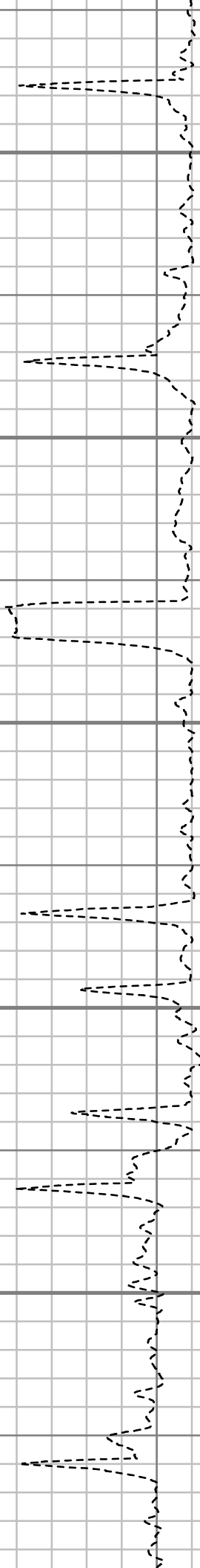
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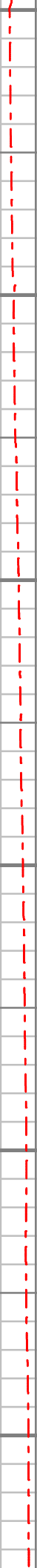
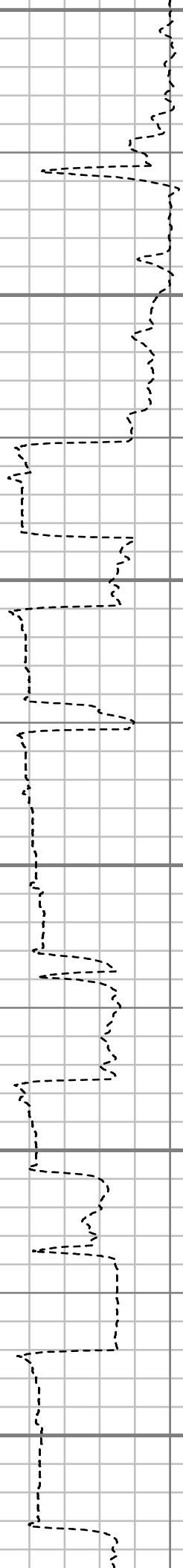
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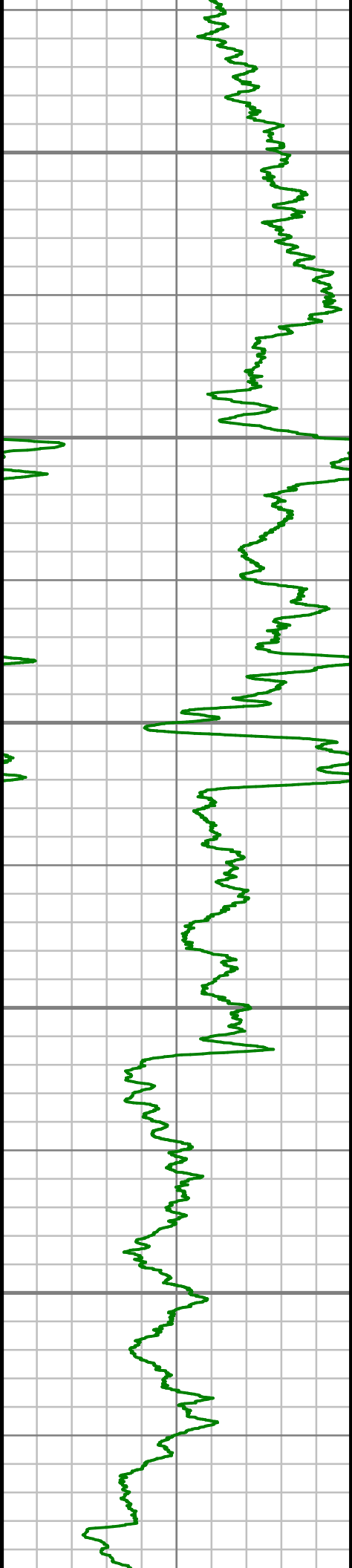
5000





5100
5200
5300
5400
5500
5600





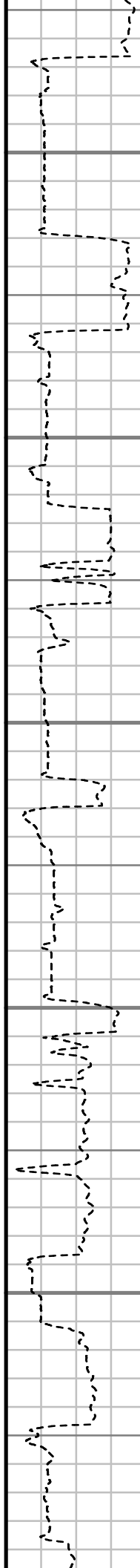
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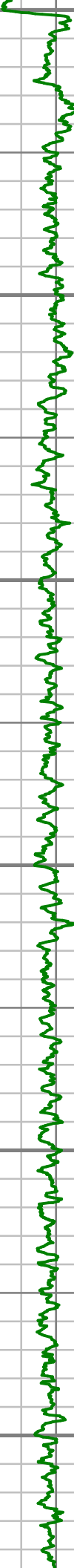
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5900

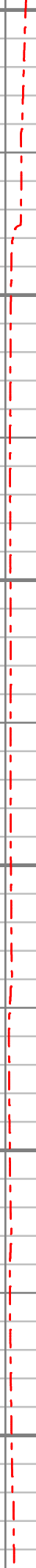
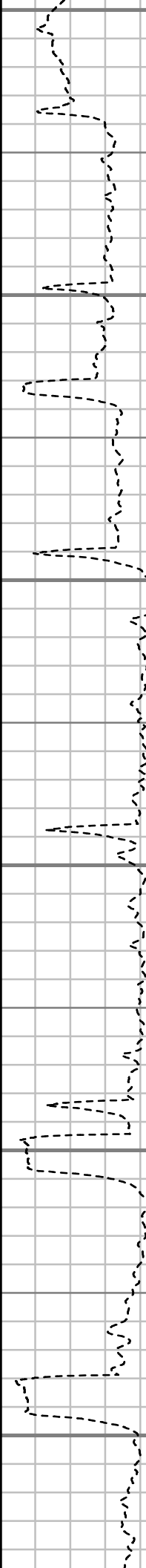
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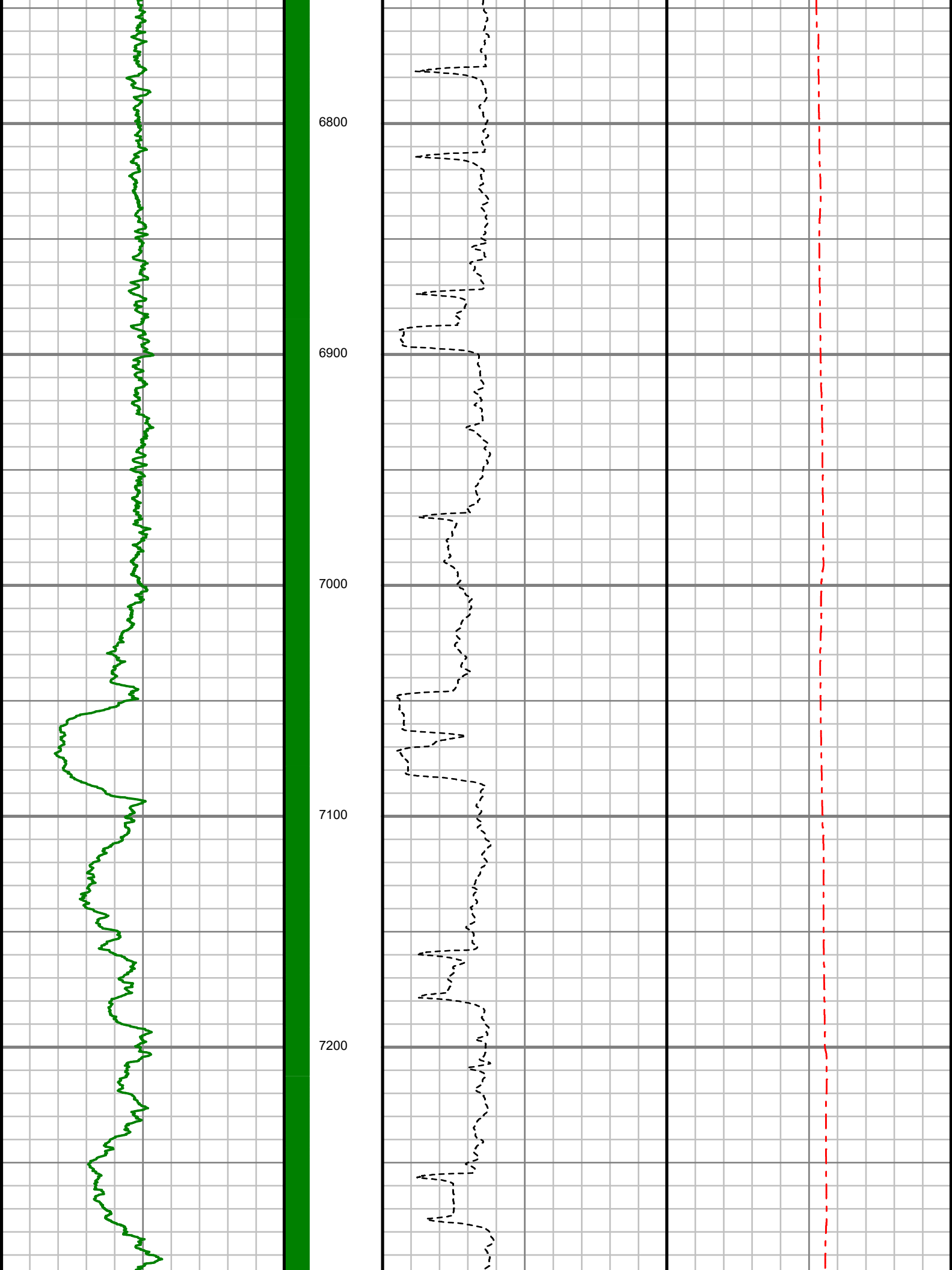
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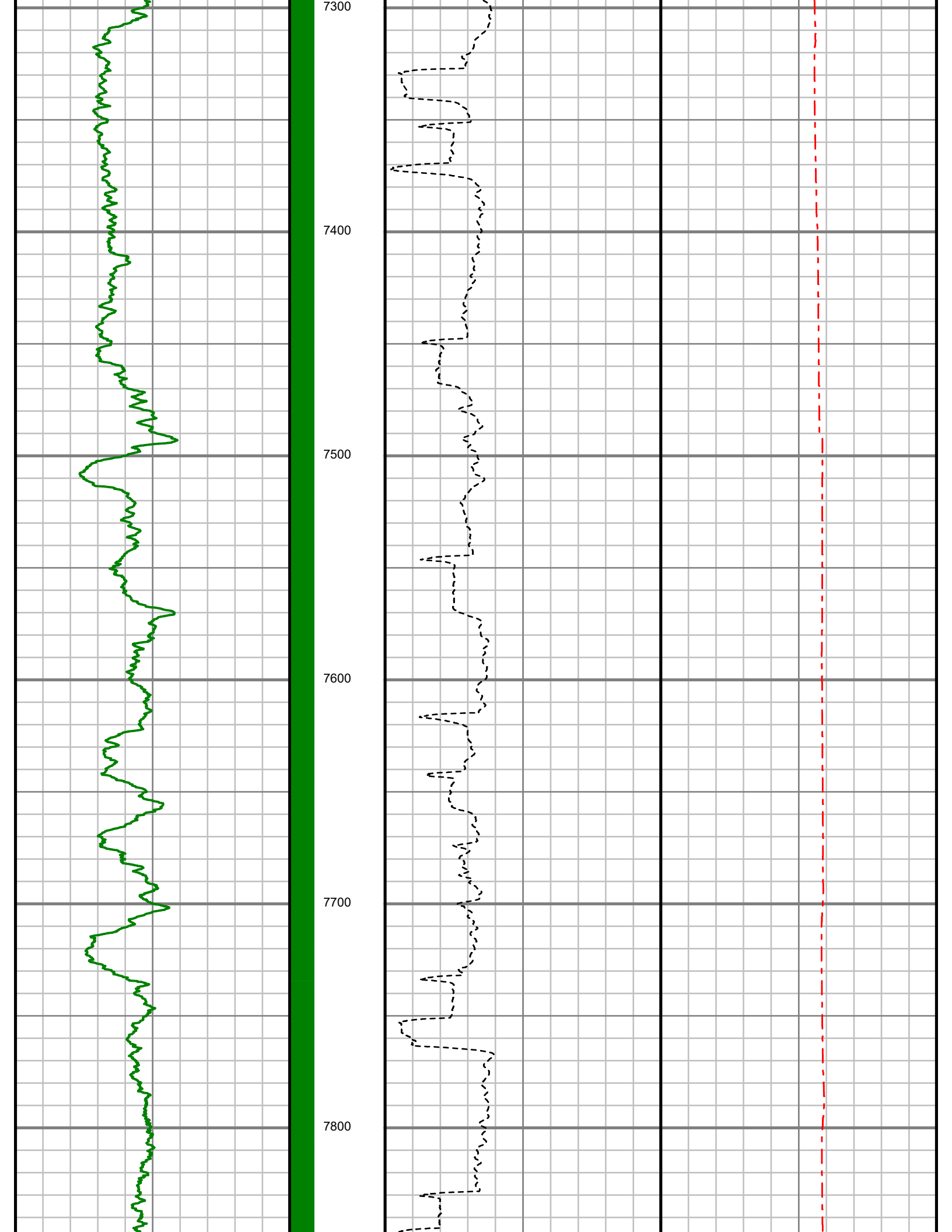


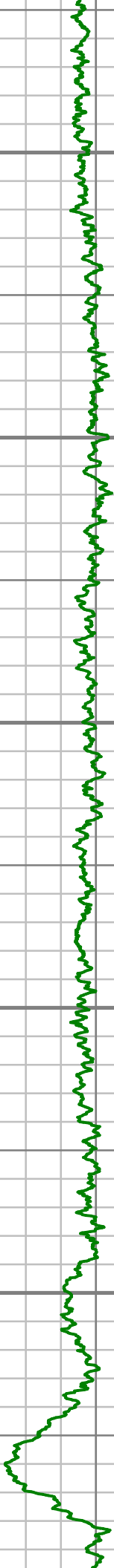


6200
6300
6400
6500
6600
6700









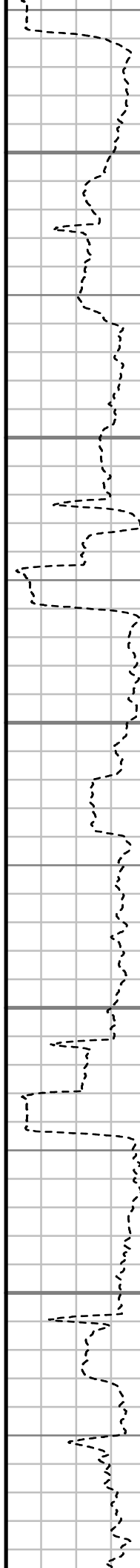
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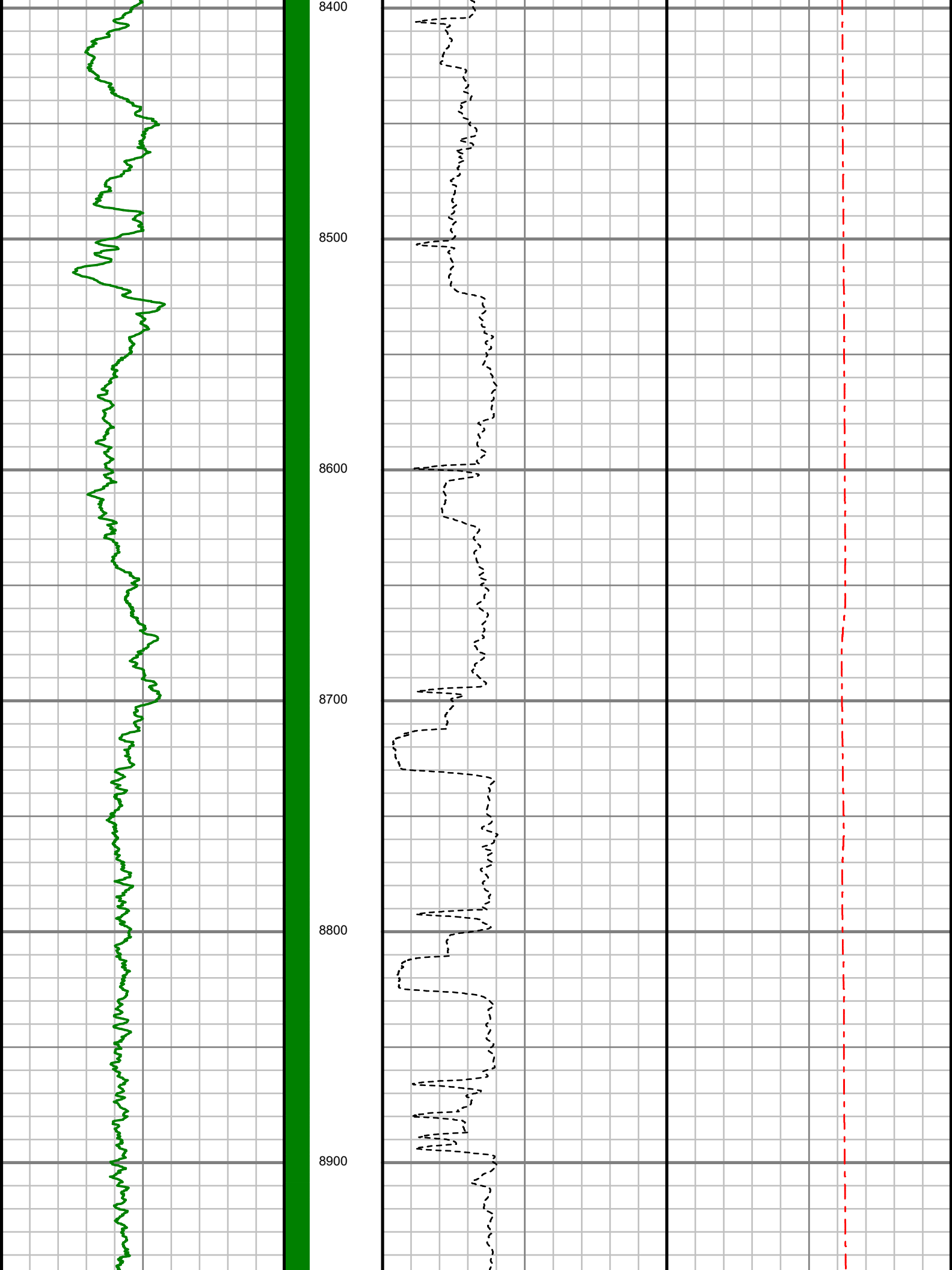
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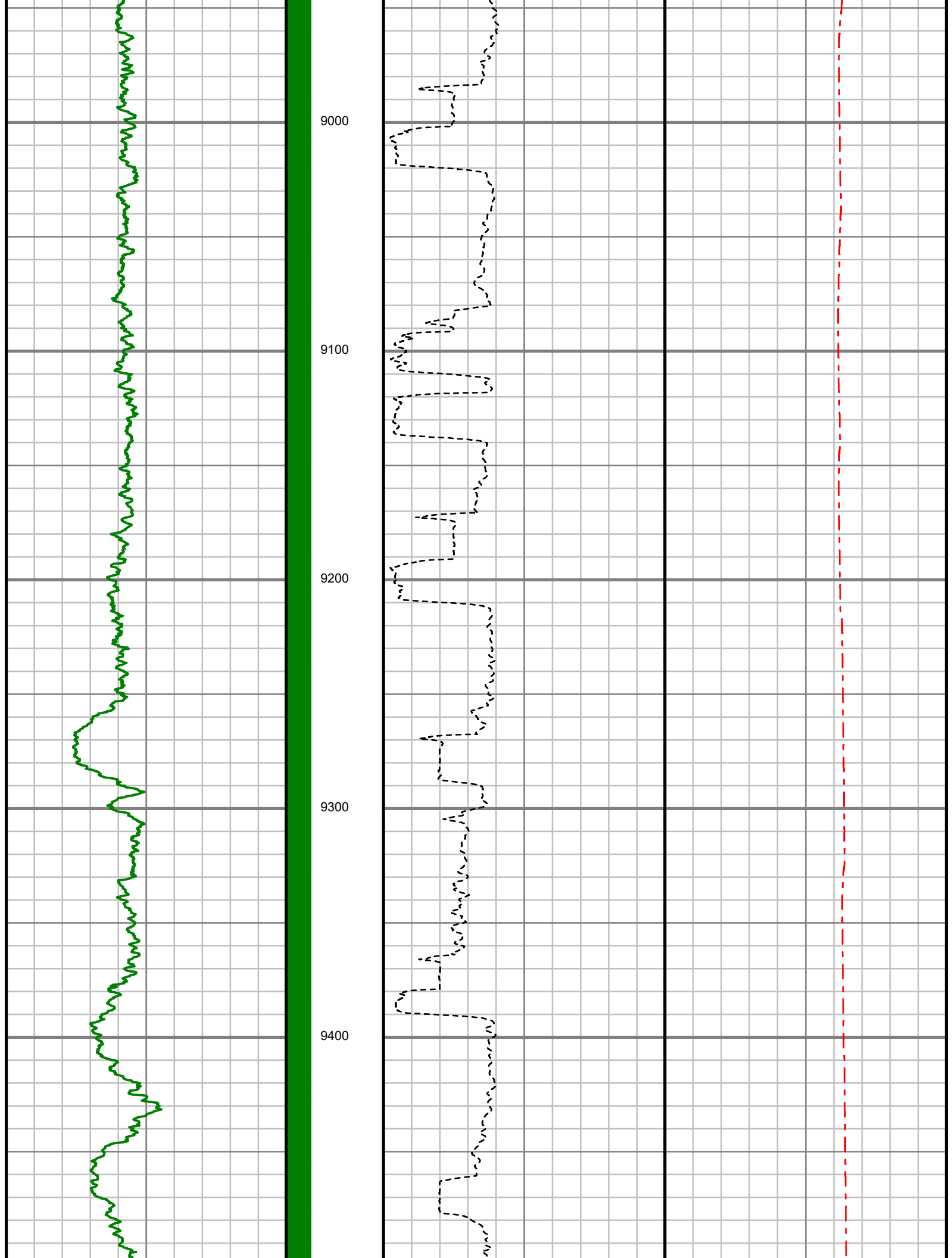
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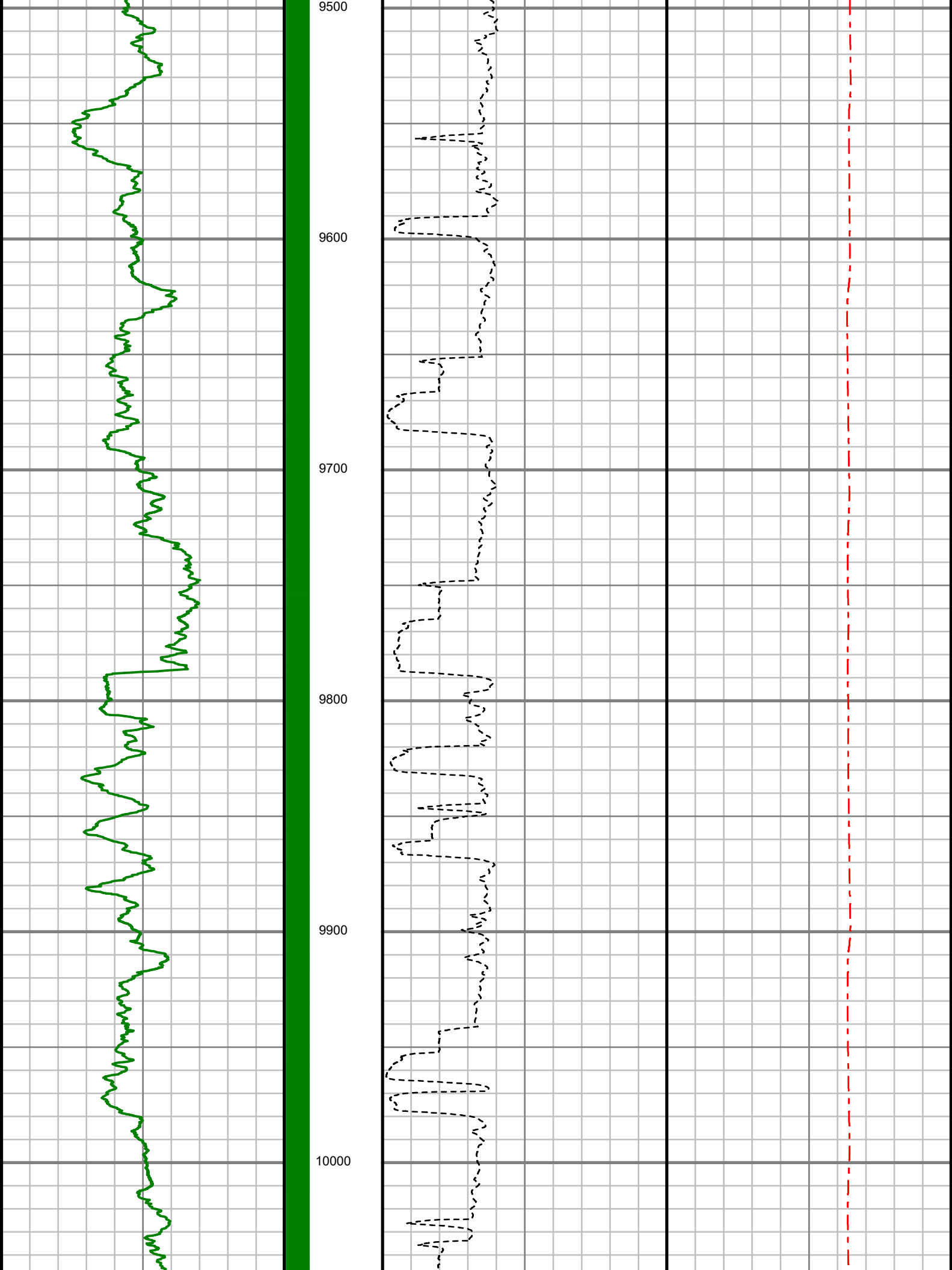
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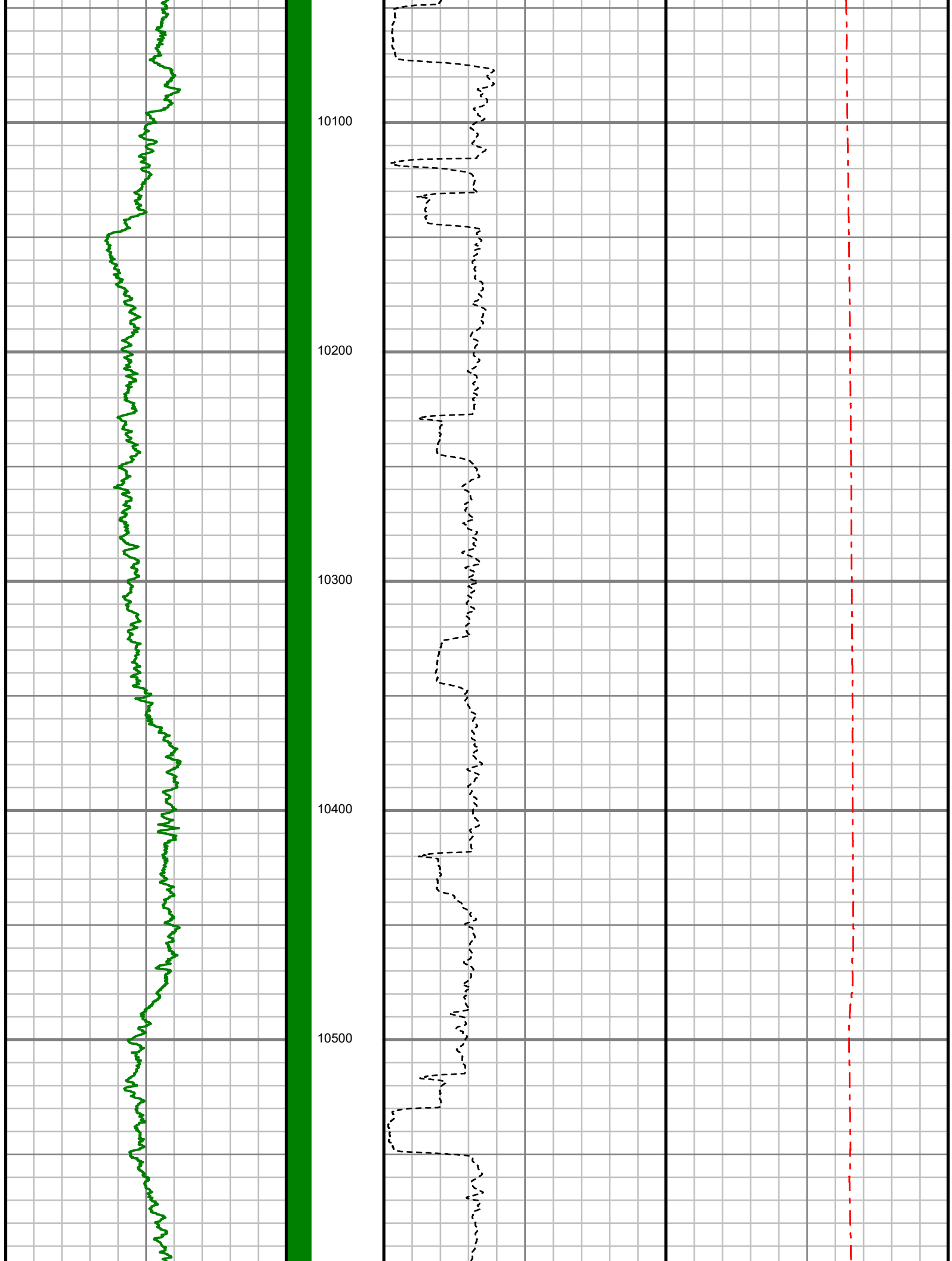
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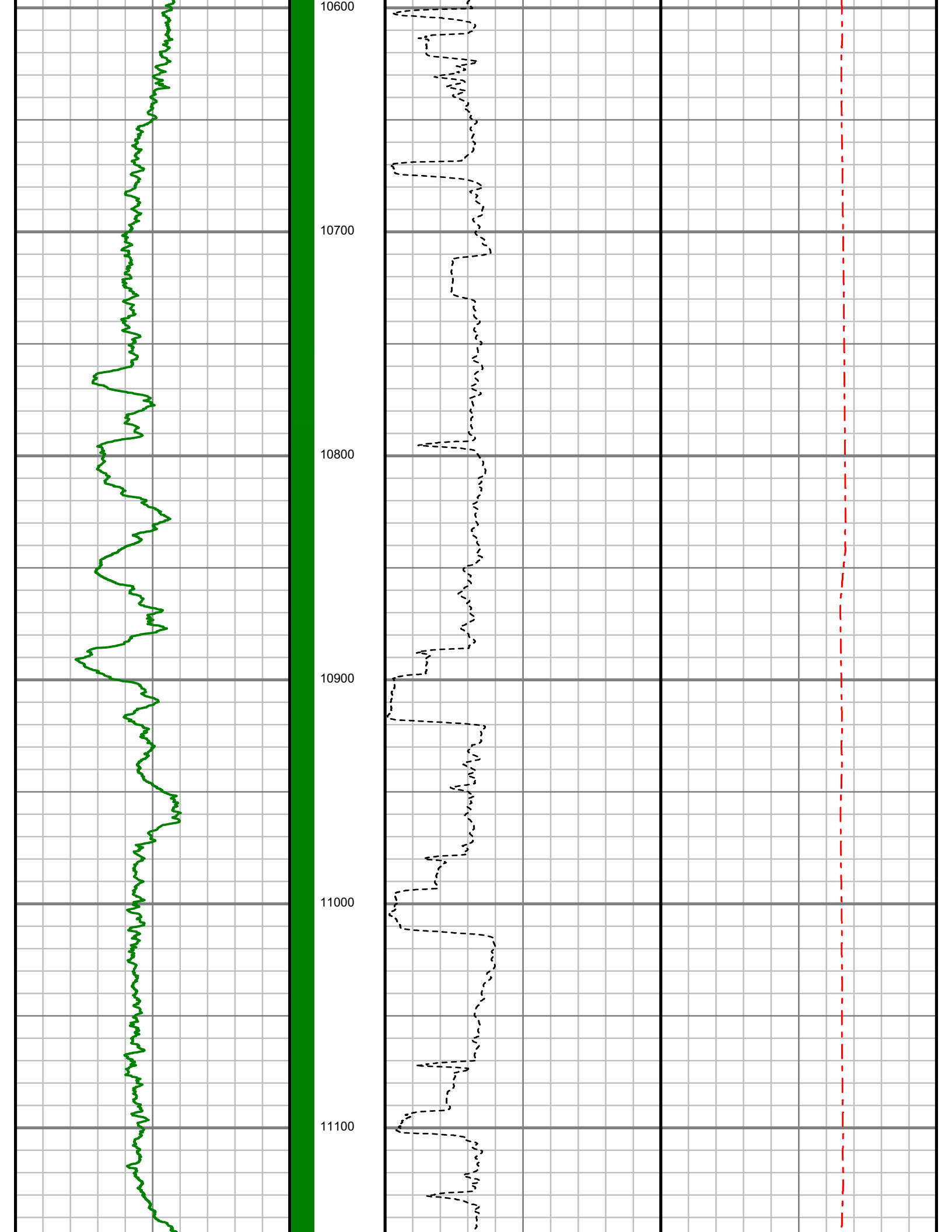


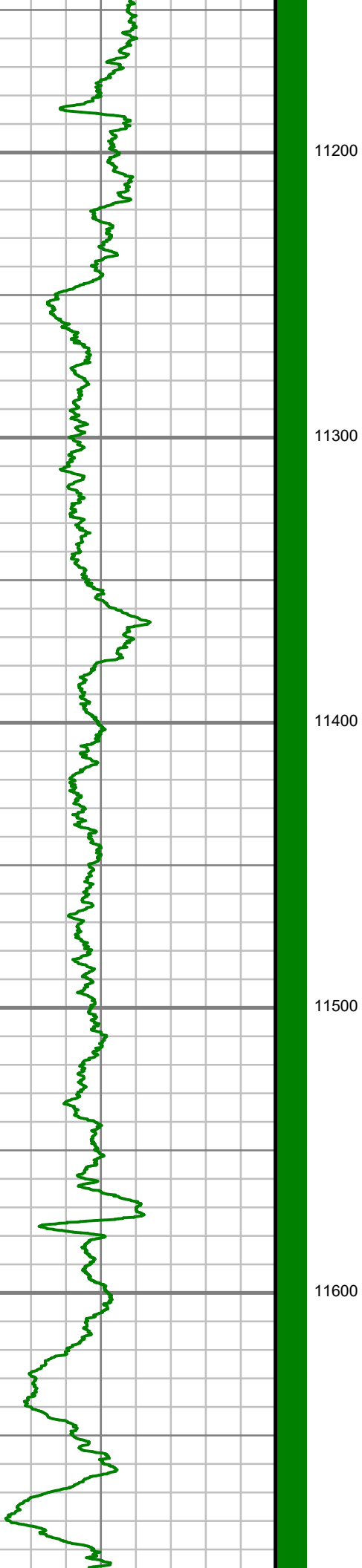












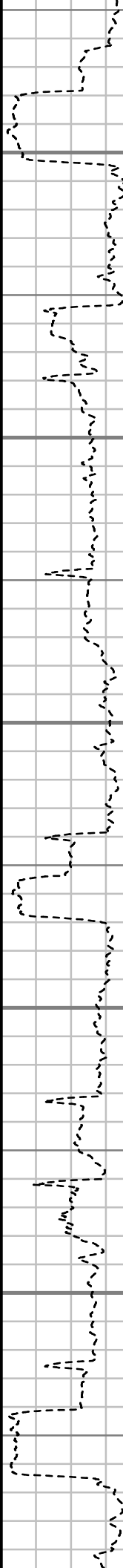
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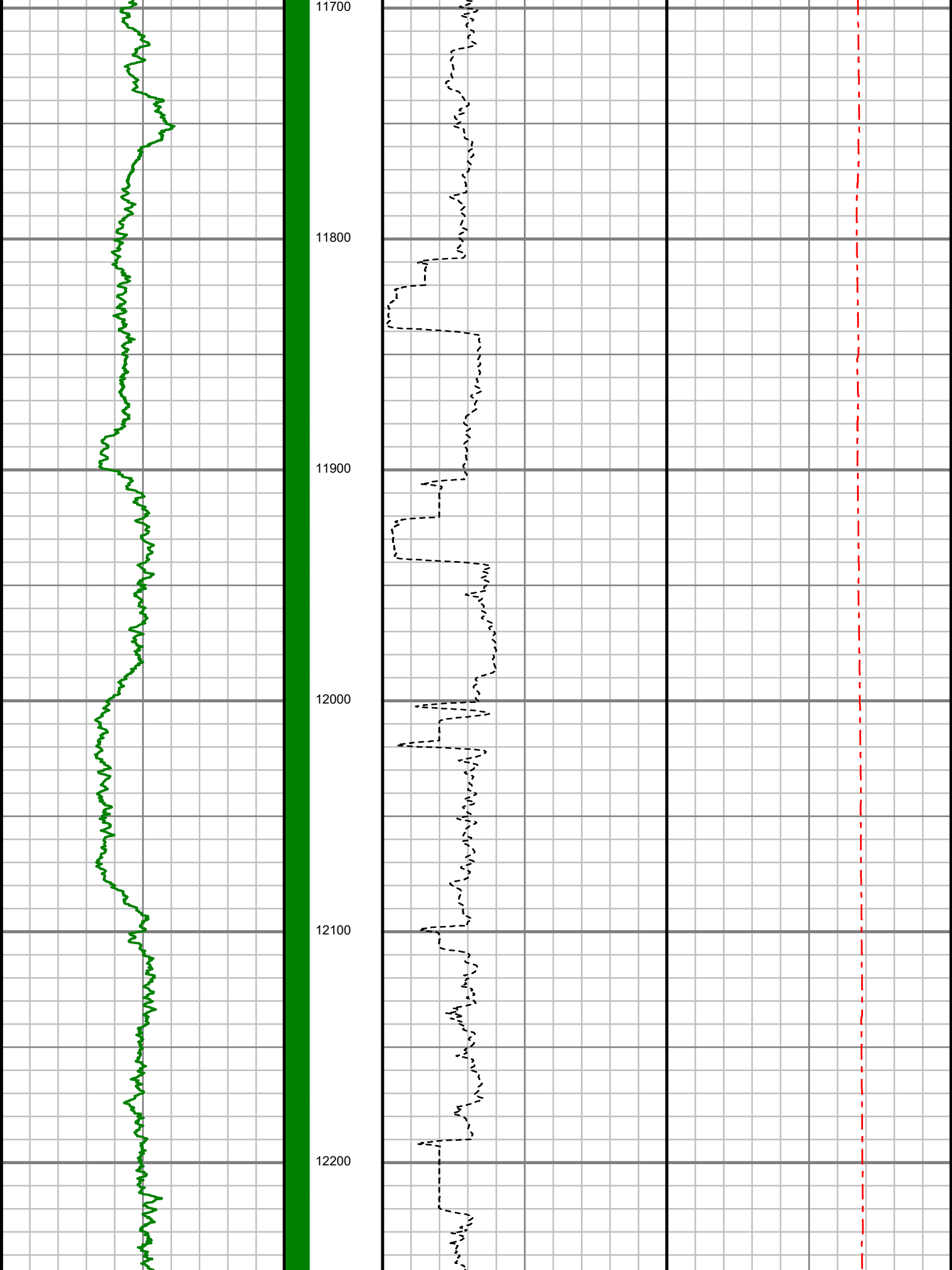
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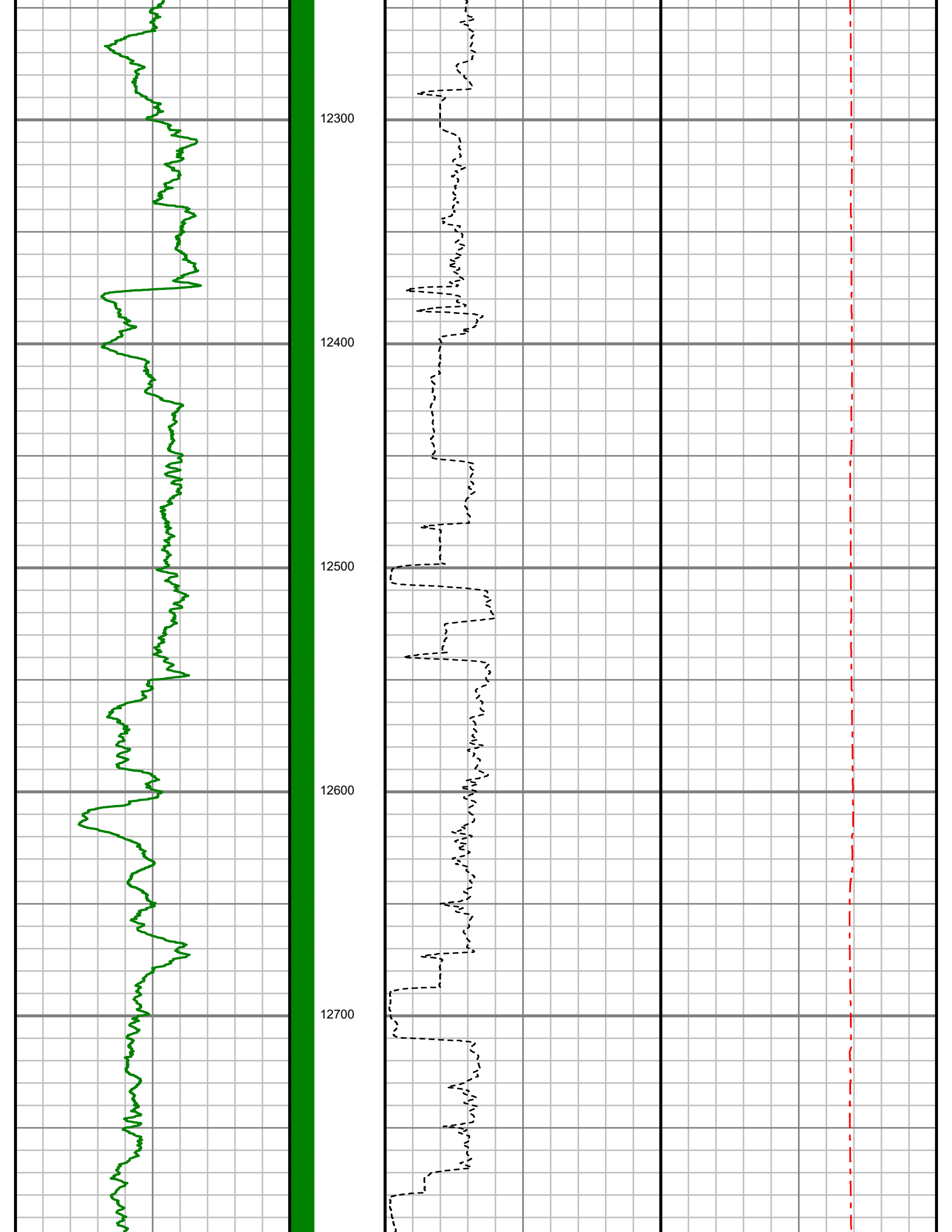
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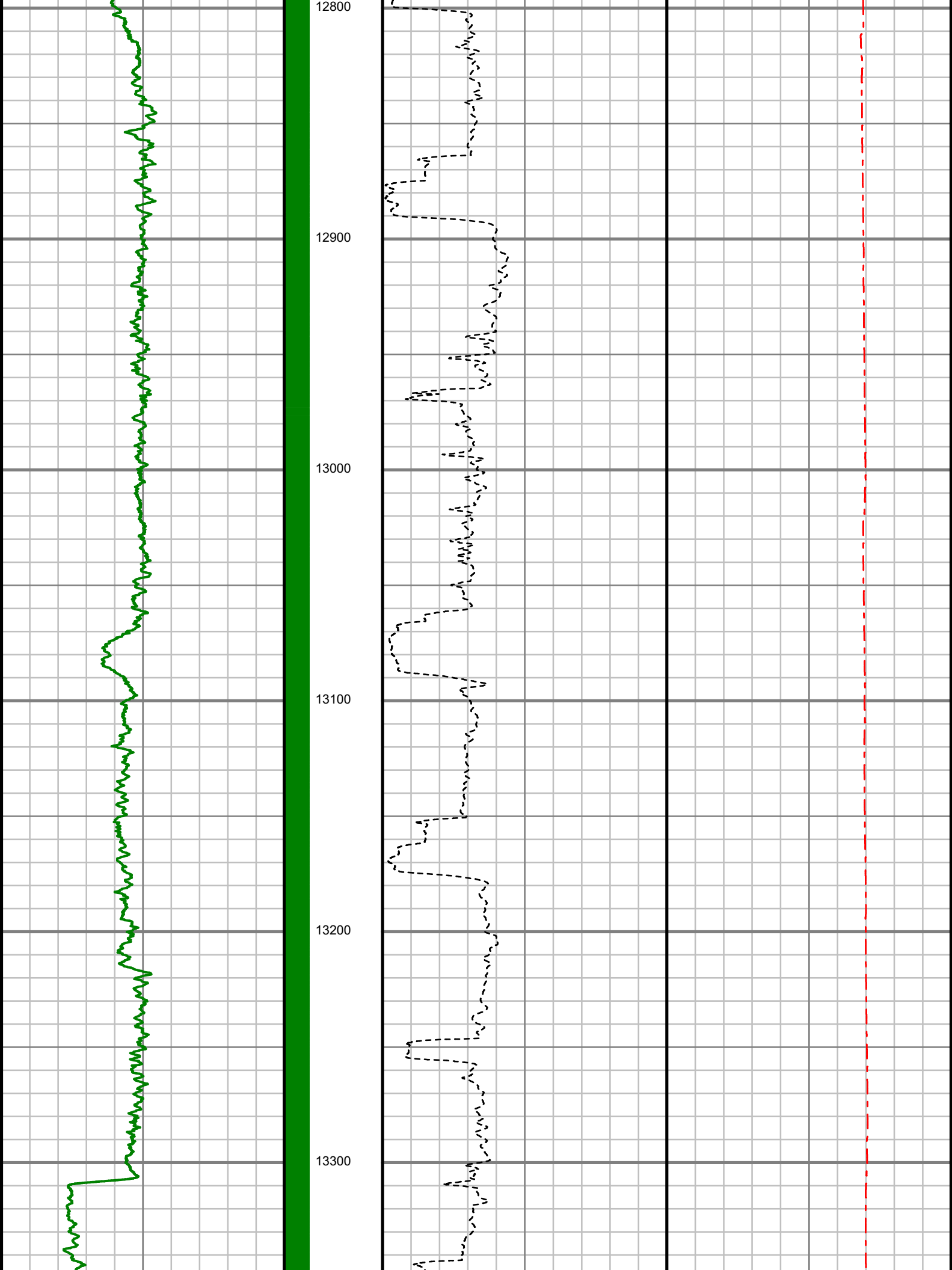
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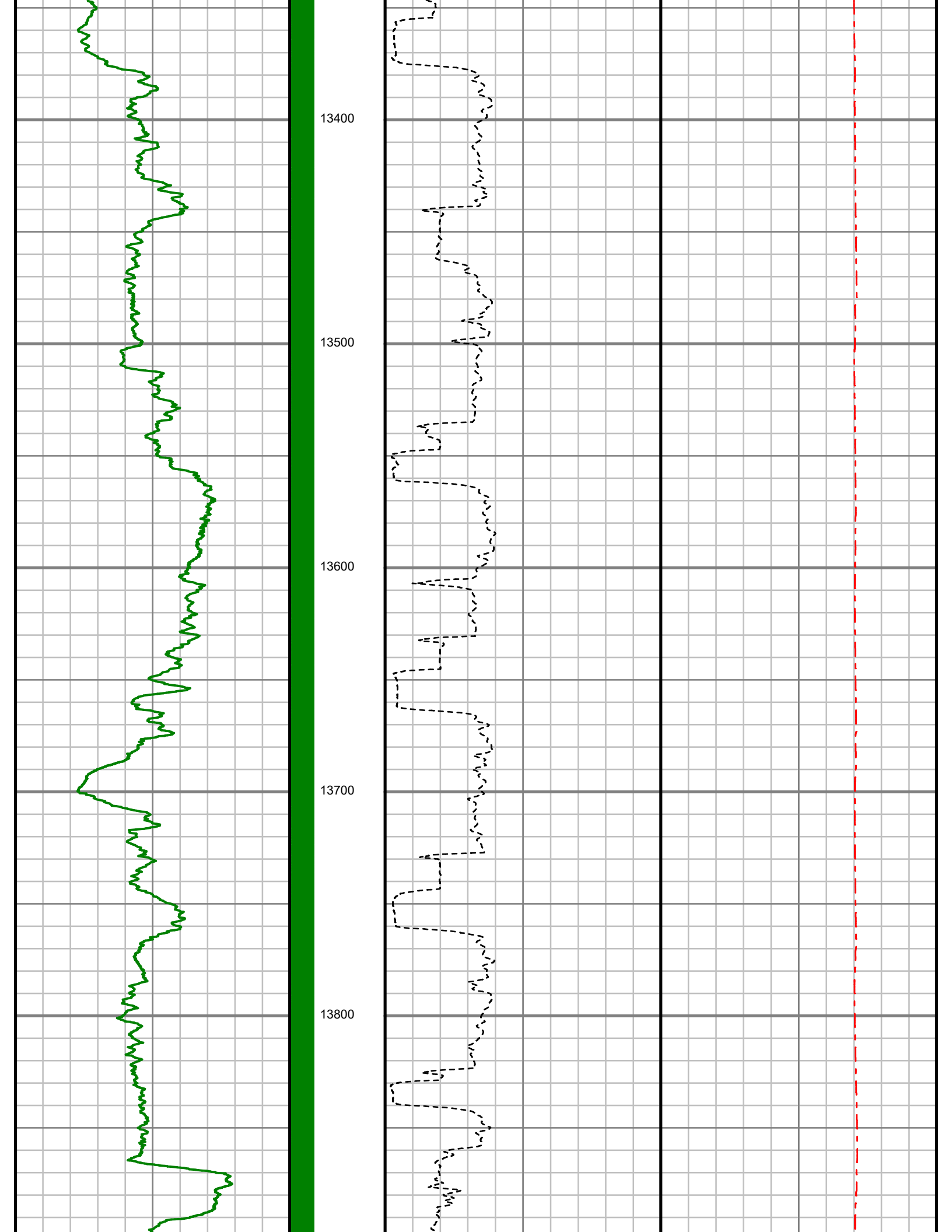
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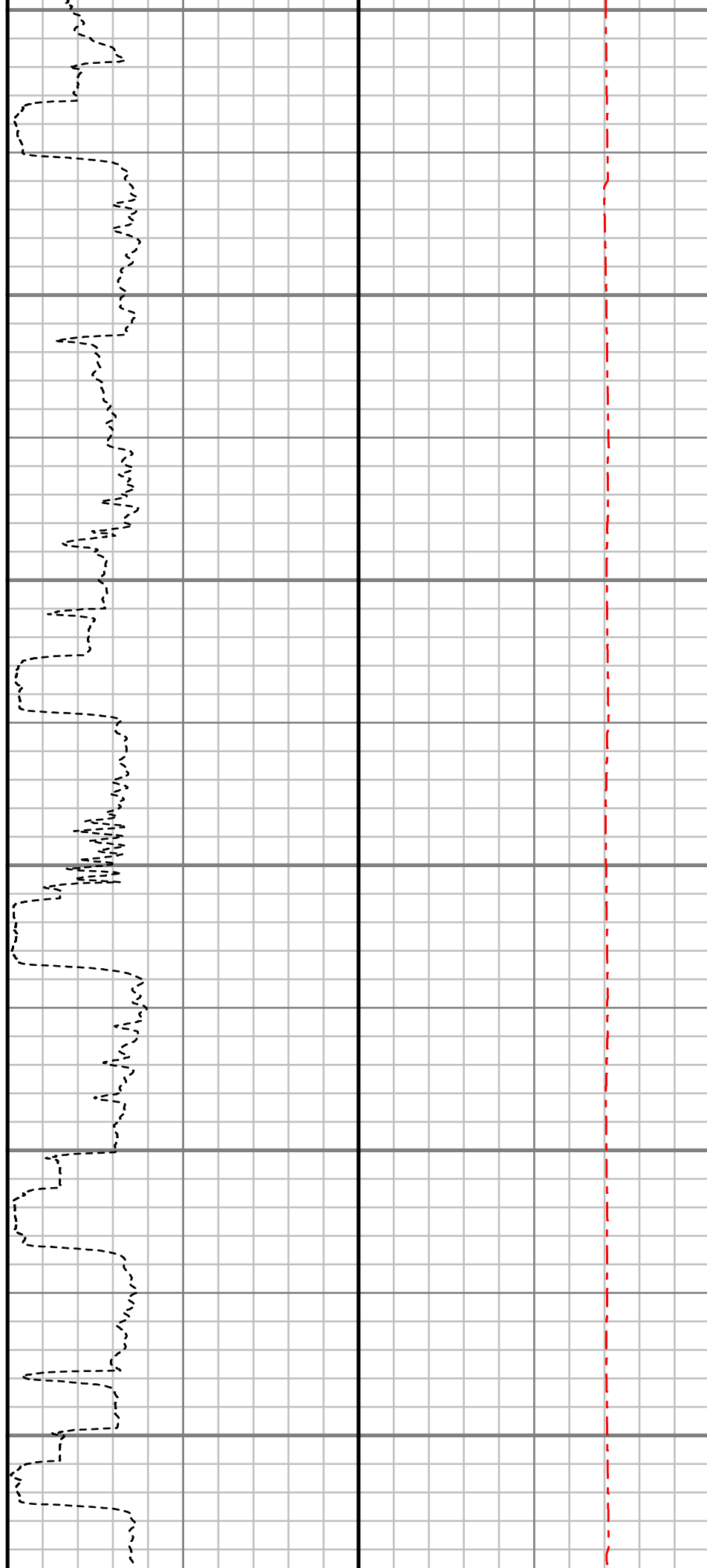
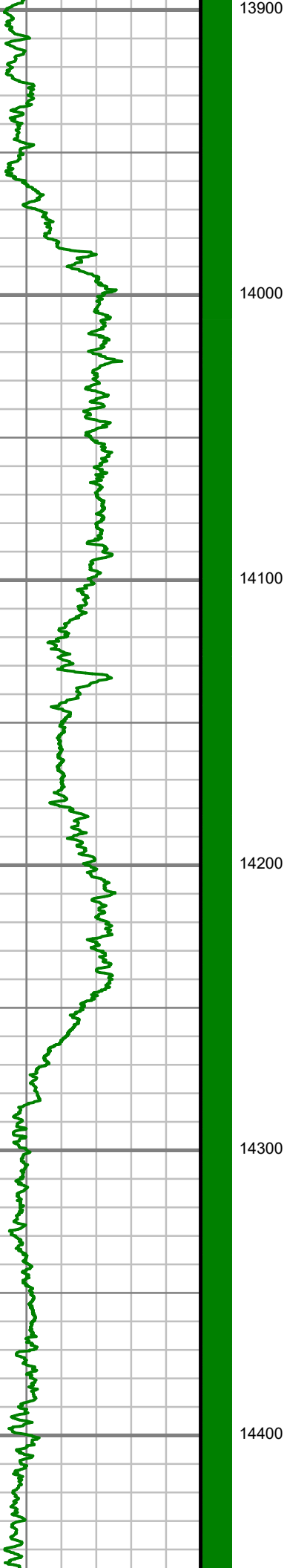


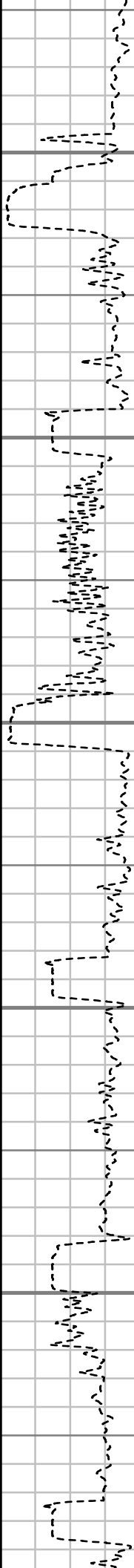
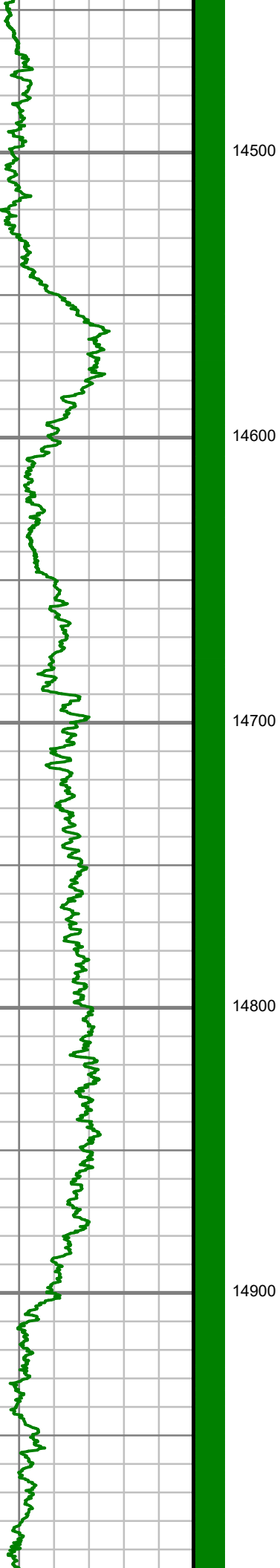


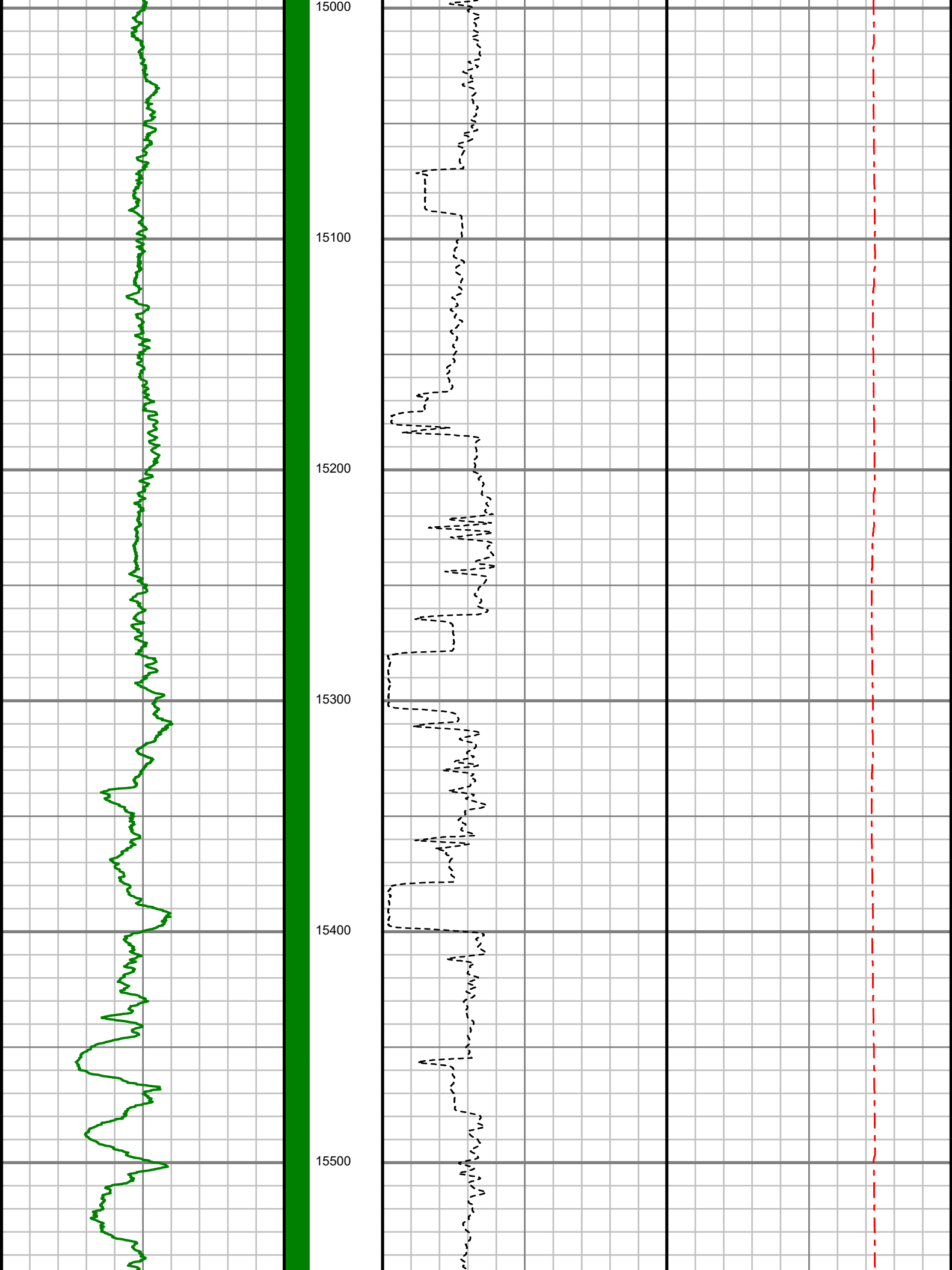


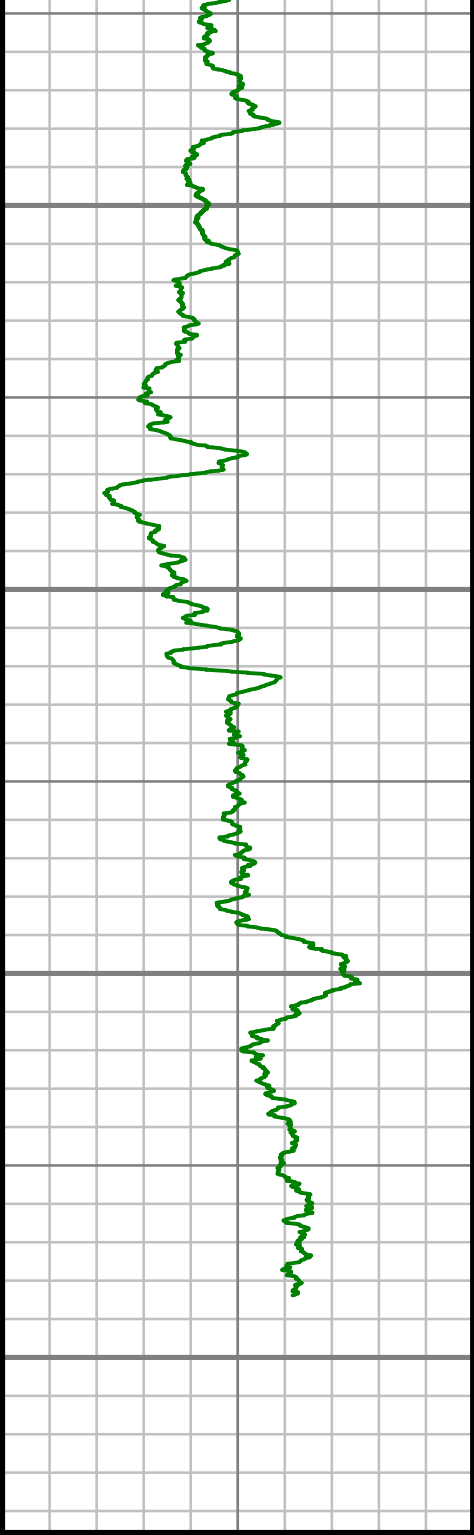












Gamma Ray Total (GR)

0 Unit = aapi 200

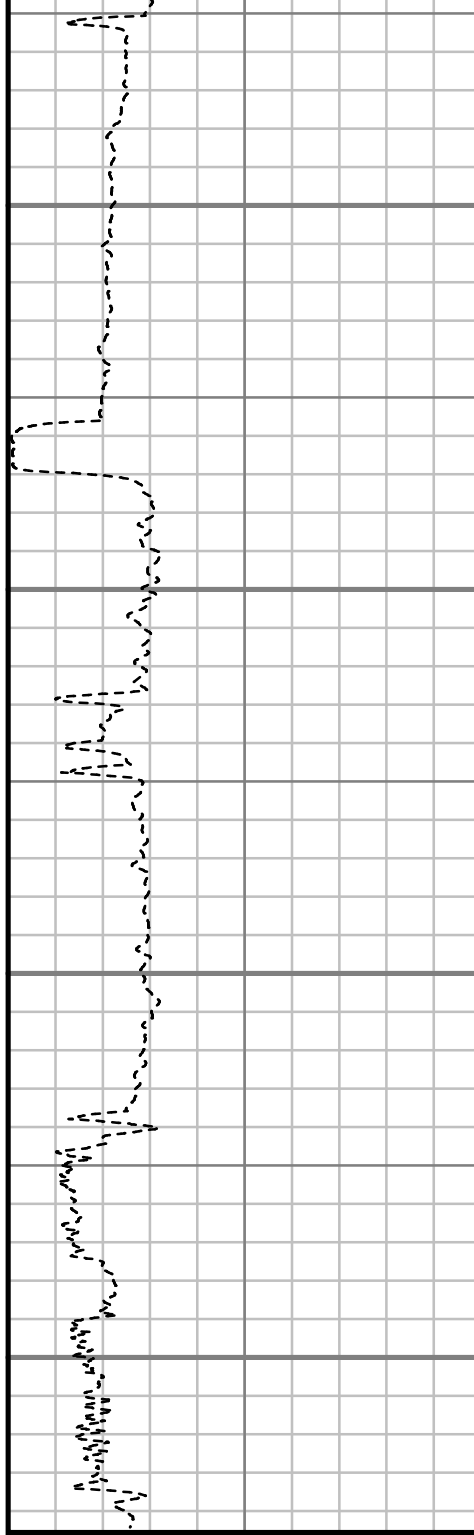
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15700

15800

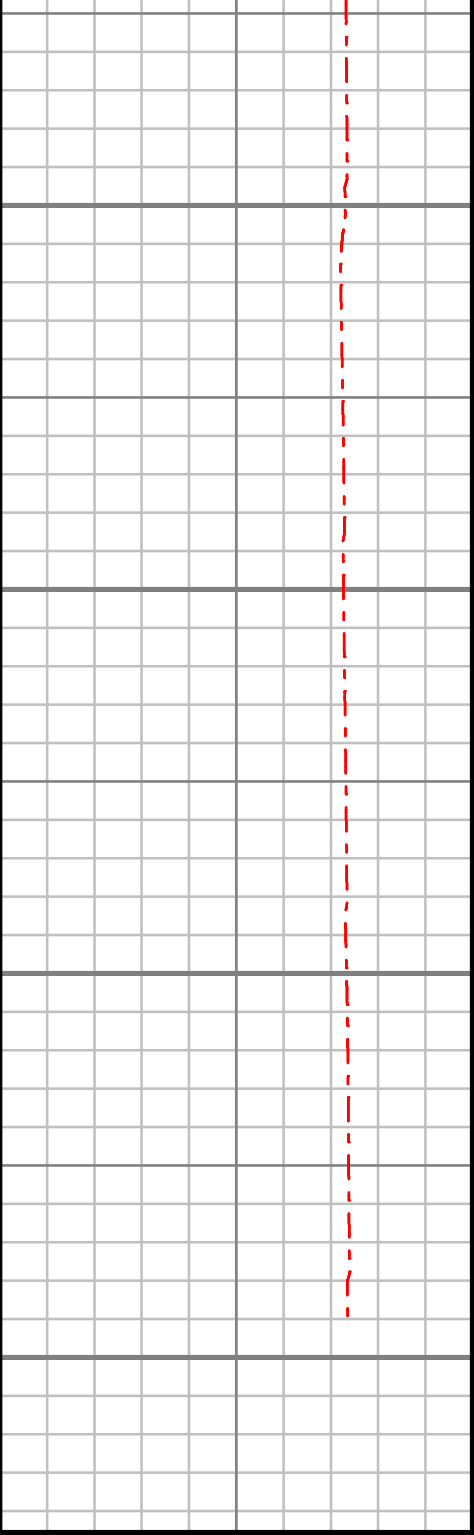
15900

MEASURED DEPTH
1500 (ft)



Rate of Penetration (ROP)

0 Unit = ft/hr 1000



Tool Temperature (T-TEMP)

0 Unit = °F 300

SURVEY REPORT

ANSCHUTZ EQUUS FARMS FED 5-61-35-4841B

COMPUTED SURVEYS

CUSTOMER HIGHPOINT RESOURCES
PROJECT ANSCHUTZ EQUUS FARMS FED
5-61-35-4841B
FIELD WATTENBERG

WELL INFORMATION

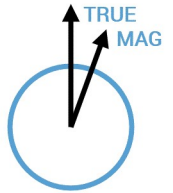
Lat/Long 40° 21' 17.03" N, 104° 11' 12.36" W
Northing 1,374,778.99 ft
Easting 3,365,979.93 ft
UWI 05-123-49225

MAP INFORMATION

North Reference True North
Grid Correction
System US State Plane 1983
Datum North American Datum 1983 (GRS 1980)
Map Zone Colorado North: 0501

VERTICAL SECTION REFERENCE

+N/-S 0 ft
+E/-W 0 ft
Proposal Direction 89.83°
Calculation Method Minimum Curvature



GEOMAGNETIC REFERENCE INFORMATION

Local Gravity: 999.110 mG [computed]

MD	MODEL	DATE	DECLINATION	MAG TO TRUE
0-15888 ft	HDGM2018	18 Apr 2019	8.10°	add 8.1°

WELL NOTES

OPERATORS

A FARQUHAR, A. FARQUHAR, M SUTTER, M. BAILY, M. SUTTER

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid
242.00	0.38	122.53	242.00	0.67	-0.43	0.67	0.16
334.00	0.45	132.70	334.00	1.18	-0.83	1.19	0.11
426.00	1.48	90.56	425.98	2.63	-1.09	2.64	1.28
553.00	3.93	80.32	552.83	8.56	-0.37	8.56	1.96
635.00	5.37	75.49	634.56	15.05	1.06	15.04	1.82
738.00	5.52	78.25	737.10	24.57	3.28	24.56	0.30
821.00	5.49	84.03	819.71	32.43	4.51	32.42	0.67
885.00	5.14	83.96	883.44	38.33	5.12	38.32	0.55
943.00	5.01	82.02	941.21	43.43	5.75	43.41	0.37
1069.00	4.80	83.38	1066.75	54.12	7.12	54.10	0.19
1160.00	5.04	85.42	1157.41	61.89	7.88	61.87	0.33
1256.00	4.85	84.91	1253.06	70.14	8.58	70.11	0.21
1352.00	4.88	85.29	1348.71	78.25	9.27	78.22	0.05
1448.00	4.05	78.77	1444.42	85.64	10.27	85.61	1.02
1544.00	4.04	71.44	1540.18	92.17	12.00	92.14	0.54
1640.00	5.47	68.09	1635.85	99.63	14.79	99.59	1.52
1736.00	5.03	66.27	1731.45	107.74	18.19	107.69	0.49
1831.00	6.21	77.40	1825.99	116.58	20.99	116.52	1.68
1927.00	5.41	69.31	1921.50	125.89	23.72	125.82	1.19

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
2023.00	5.38	76.73	2017.07	134.51	26.35	134.43	0.73
2119.00	5.45	89.43	2112.65	143.45	27.43	143.37	1.25
2215.00	4.72	86.63	2208.27	151.95	27.70	151.87	0.80
2311.00	4.60	85.77	2303.95	159.73	28.22	159.64	0.15
2407.00	4.50	91.61	2399.65	167.33	28.40	167.24	0.49
2503.00	5.19	83.36	2495.31	175.41	28.79	175.32	1.03
2598.00	4.81	88.19	2589.95	183.66	29.42	183.57	0.60
2694.00	4.11	82.15	2685.66	191.09	30.01	191.00	0.88
2790.00	3.85	74.36	2781.43	197.60	31.35	197.50	0.62
2886.00	2.90	60.61	2877.26	202.82	33.41	202.72	1.29
2982.00	2.93	58.28	2973.14	207.04	35.90	206.93	0.13
3078.00	1.80	39.42	3069.05	210.09	38.35	209.97	1.41
3173.00	0.20	338.50	3164.04	210.98	39.67	210.86	1.80
3269.00	0.09	257.43	3260.04	210.84	39.81	210.72	0.22
3365.00	0.59	247.82	3356.04	210.30	39.60	210.18	0.52
3461.00	0.46	225.37	3452.03	209.57	39.15	209.45	0.26
3557.00	0.17	246.51	3548.03	209.16	38.82	209.05	0.32
3653.00	0.33	79.26	3644.03	209.30	38.82	209.19	0.52
3749.00	0.48	84.50	3740.03	209.98	38.91	209.86	0.16
3845.00	0.71	69.07	3836.02	210.94	39.16	210.82	0.28

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
3940.00	1.16	29.19	3931.01	211.96	40.20	211.83	0.80
4036.00	0.75	338.73	4027.00	212.20	41.64	212.08	0.93
4132.00	1.41	251.66	4122.99	210.85	41.85	210.73	1.63
4228.00	1.22	245.70	4218.96	208.80	41.06	208.67	0.25
4324.00	1.18	234.26	4314.94	207.06	40.06	206.94	0.25
4420.00	1.33	233.47	4410.92	205.36	38.82	205.24	0.15
4516.00	1.38	226.49	4506.89	203.63	37.37	203.51	0.18
4612.00	1.49	213.80	4602.86	202.09	35.54	201.98	0.35
4708.00	1.02	207.09	4698.84	201.00	33.74	200.90	0.51
4804.00	0.60	314.91	4794.83	200.26	33.33	200.16	1.39
4900.00	0.53	288.85	4890.83	199.48	33.83	199.38	0.27
4996.00	0.55	259.62	4986.82	198.61	33.89	198.51	0.28
5092.00	0.32	292.25	5082.82	197.92	33.91	197.81	0.34
5188.00	0.44	297.82	5178.82	197.35	34.18	197.24	0.13
5284.00	4.83	90.20	5274.71	201.07	34.34	200.96	5.44
5380.00	16.01	81.60	5368.98	218.27	36.26	218.16	11.73
5476.00	24.29	86.33	5459.03	251.14	39.47	251.02	8.78
5571.00	27.37	89.37	5544.53	292.50	40.96	292.37	3.53
5667.00	36.88	90.92	5625.74	343.49	40.73	343.36	9.94
5763.00	46.20	89.23	5697.52	407.07	40.73	406.95	9.78

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS %/100ft
5859.00	54.74	90.56	5758.56	481.05	40.81	480.93	8.96
5955.00	71.05	89.36	5802.15	566.22	40.94	566.09	17.03
6051.00	77.89	88.60	5827.84	658.65	42.60	658.52	7.17
6146.00	83.76	88.27	5842.98	752.36	45.17	752.23	6.18
6176.00	88.66	88.56	5844.96	782.28	45.99	782.14	16.36
6270.00	89.83	87.91	5846.20	876.23	48.89	876.09	1.43
6334.00	88.99	88.80	5846.86	940.21	50.72	940.06	1.91
6430.00	89.40	89.30	5848.21	1036.19	52.32	1036.03	0.67
6526.00	89.60	88.07	5849.05	1132.16	54.52	1132.00	1.30
6622.00	89.76	89.32	5849.59	1228.14	56.71	1227.97	1.32
6718.00	90.03	89.93	5849.76	1324.14	57.33	1323.97	0.69
6814.00	90.37	89.53	5849.42	1420.14	57.79	1419.97	0.55
6909.00	90.81	90.45	5848.44	1515.13	57.81	1514.96	1.07
6991.00	94.10	93.00	5844.93	1596.99	55.35	1596.83	5.08
7005.00	94.17	93.11	5843.92	1610.93	54.60	1610.78	0.91
7102.00	89.80	91.10	5840.57	1707.77	51.05	1707.62	4.95
7197.00	88.99	90.82	5841.57	1802.75	49.45	1802.61	0.90
7293.00	87.45	91.00	5844.55	1898.68	47.93	1898.54	1.62
7389.00	90.77	90.00	5846.05	1994.65	47.09	1994.51	3.62
7485.00	90.37	89.49	5845.09	2090.64	47.52	2090.51	0.68

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS %/100ft
7581.00	89.13	89.06	5845.51	2186.63	48.73	2186.50	1.37
7677.00	87.75	89.12	5848.13	2282.59	50.26	2282.45	1.44
7772.00	88.86	89.12	5850.94	2377.54	51.72	2377.39	1.17
7868.00	90.03	89.59	5851.87	2473.53	52.80	2473.38	1.32
7964.00	89.90	88.88	5851.93	2569.52	54.08	2569.37	0.75
8060.00	90.10	90.46	5851.93	2665.52	54.63	2665.37	1.66
8156.00	89.16	89.86	5852.55	2761.51	54.37	2761.36	1.16
8251.00	91.28	90.71	5852.19	2856.50	53.90	2856.35	2.40
8347.00	90.84	90.21	5850.42	2952.48	53.13	2952.33	0.69
8443.00	90.70	89.12	5849.12	3048.47	53.70	3048.32	1.15
8539.00	91.28	89.43	5847.46	3144.45	54.91	3144.30	0.68
8635.00	88.82	88.00	5847.38	3240.42	57.07	3240.27	2.96
8731.00	89.09	88.52	5849.12	3336.37	59.98	3336.20	0.61
8826.00	89.97	91.02	5849.90	3431.36	60.36	3431.19	2.78
8922.00	90.24	94.87	5849.73	3527.20	55.43	3527.05	4.02
9018.00	90.34	95.69	5849.25	3622.76	46.60	3622.64	0.86
9063.00	89.73	97.42	5849.23	3667.45	41.46	3667.34	4.07
9114.00	90.07	95.68	5849.32	3718.10	35.64	3718.01	3.49
9210.00	89.70	90.15	5849.51	3813.92	30.77	3813.85	5.77
9306.00	90.87	91.28	5849.04	3909.91	29.58	3909.83	1.70

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
9402.00	90.40	89.08	5847.97	4005.89	29.28	4005.82	2.34
9498.00	88.86	88.26	5848.58	4101.87	31.51	4101.79	1.82
9594.00	88.22	88.55	5851.03	4197.80	34.17	4197.72	0.73
9690.00	88.42	89.01	5853.85	4293.75	36.21	4293.66	0.52
9786.00	88.93	89.48	5856.07	4389.72	37.47	4389.62	0.72
9882.00	89.19	89.15	5857.65	4485.70	38.61	4485.60	0.44
9978.00	89.23	89.96	5858.97	4581.69	39.36	4581.59	0.84
10074.00	92.28	91.57	5857.71	4677.65	38.07	4677.56	3.60
10170.00	92.29	90.31	5853.88	4773.56	36.50	4773.47	1.31
10266.00	91.91	89.46	5850.36	4869.49	36.69	4869.40	0.97
10362.00	91.48	89.66	5847.52	4965.45	37.43	4965.36	0.50
10458.00	89.60	87.50	5846.62	5061.41	39.82	5061.31	2.98
10554.00	91.68	90.26	5845.55	5157.38	41.70	5157.27	3.60
10646.00	91.71	89.99	5842.82	5249.33	41.50	5249.23	0.29
10738.00	90.17	89.83	5841.31	5341.32	41.64	5341.22	1.69
10830.00	88.25	89.17	5842.58	5433.30	42.45	5433.20	2.20
10922.00	89.60	90.12	5844.30	5525.28	43.02	5525.18	1.79
11014.00	90.37	89.29	5844.33	5617.28	43.50	5617.18	1.23
11106.00	89.29	86.86	5844.60	5709.23	46.59	5709.12	2.88
11197.00	91.34	88.44	5844.09	5800.16	50.33	5800.03	2.84

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
11289.00	91.95	89.16	5841.45	5892.10	52.26	5891.97	1.03
11381.00	92.01	88.50	5838.26	5984.03	54.13	5983.90	0.72
11472.00	91.01	89.84	5835.86	6074.99	55.45	6074.85	1.84
11564.00	89.66	87.61	5835.32	6166.97	57.50	6166.82	2.82
11656.00	89.56	89.85	5835.94	6258.94	59.54	6258.79	2.43
11752.00	87.88	89.11	5838.08	6354.91	60.41	6354.76	1.91
11848.00	88.96	90.14	5840.73	6450.87	61.04	6450.72	1.55
11944.00	91.14	91.18	5840.64	6546.85	59.93	6546.70	2.52
12040.00	91.35	90.85	5838.56	6642.81	58.23	6642.66	0.40
12136.00	91.64	90.86	5836.06	6738.76	56.79	6738.62	0.31
12232.00	90.54	90.53	5834.23	6834.73	55.62	6834.59	1.20
12328.00	90.07	91.64	5833.72	6930.71	53.80	6930.57	1.25
12424.00	89.53	90.63	5834.06	7026.68	51.90	7026.55	1.19
12520.00	89.90	88.58	5834.54	7122.67	52.56	7122.54	2.17
12616.00	88.79	87.77	5835.64	7218.62	55.62	7218.49	1.43
12712.00	88.52	90.20	5837.88	7314.58	57.31	7314.44	2.55
12807.00	90.27	92.17	5838.88	7409.54	55.34	7409.40	2.77
12903.00	91.44	92.07	5837.45	7505.45	51.78	7505.33	1.23
12999.00	89.63	90.21	5836.55	7601.41	49.87	7601.29	2.71
13095.00	93.23	91.28	5834.16	7697.35	48.62	7697.24	3.91

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
13190.00	91.51	91.40	5830.23	7792.23	46.40	7792.13	1.81
13286.00	92.45	92.77	5826.91	7888.10	42.90	7888.00	1.73
13382.00	89.70	91.50	5825.11	7983.99	39.33	7983.91	3.16
13478.00	87.88	90.51	5827.13	8079.95	37.65	8079.87	2.15
13574.00	87.95	90.70	5830.62	8175.87	36.64	8175.80	0.21
13670.00	88.72	89.73	5833.41	8271.83	36.28	8271.76	1.29
13766.00	89.60	89.16	5834.81	8367.81	37.21	8367.74	1.09
13862.00	89.09	88.81	5835.91	8463.80	38.91	8463.72	0.64
13958.00	90.97	90.14	5835.85	8559.79	39.79	8559.71	2.40
14054.00	89.80	88.17	5835.20	8655.77	41.21	8655.69	2.39
14150.00	89.30	85.28	5835.96	8751.62	46.69	8751.52	3.05
14245.00	88.59	87.23	5837.72	8846.42	52.89	8846.30	2.18
14342.00	89.09	89.24	5839.68	8943.35	55.88	8943.22	2.13
14437.00	89.70	90.87	5840.68	9038.34	55.79	9038.22	1.83
14533.00	91.38	92.95	5839.78	9134.27	52.59	9134.15	2.78
14629.00	90.84	92.74	5837.92	9230.12	47.83	9230.01	0.60
14725.00	91.14	91.12	5836.26	9326.03	44.59	9325.94	1.72
14821.00	90.77	90.53	5834.66	9422.00	43.21	9421.92	0.73
14917.00	90.67	90.44	5833.45	9517.99	42.40	9517.91	0.14
15013.00	90.40	90.07	5832.55	9613.98	41.97	9613.90	0.48

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
15109.00	89.06	89.11	5833.00	9709.98	42.66	9709.89	1.72
15205.00	87.21	86.83	5836.12	9805.87	46.06	9805.77	3.06
15254.00	87.48	87.70	5838.39	9854.76	48.40	9854.66	1.87
15301.00	88.72	91.14	5839.95	9901.73	48.87	9901.63	7.78
15397.00	91.65	90.21	5839.64	9997.71	47.74	9997.61	3.20
15493.00	91.95	89.69	5836.63	10093.66	47.83	10093.56	0.62
15588.00	92.25	89.78	5833.16	10188.59	48.27	10188.50	0.34
15684.00	91.04	89.74	5830.40	10284.55	48.68	10284.45	1.26
15780.00	91.65	88.54	5828.14	10380.52	50.12	10380.41	1.40
15876.00	91.58	88.84	5825.44	10476.46	52.31	10476.35	0.32
15888.00	91.31	89.22	5825.14	10488.46	52.52	10488.34	3.90

2" = 100' MD