

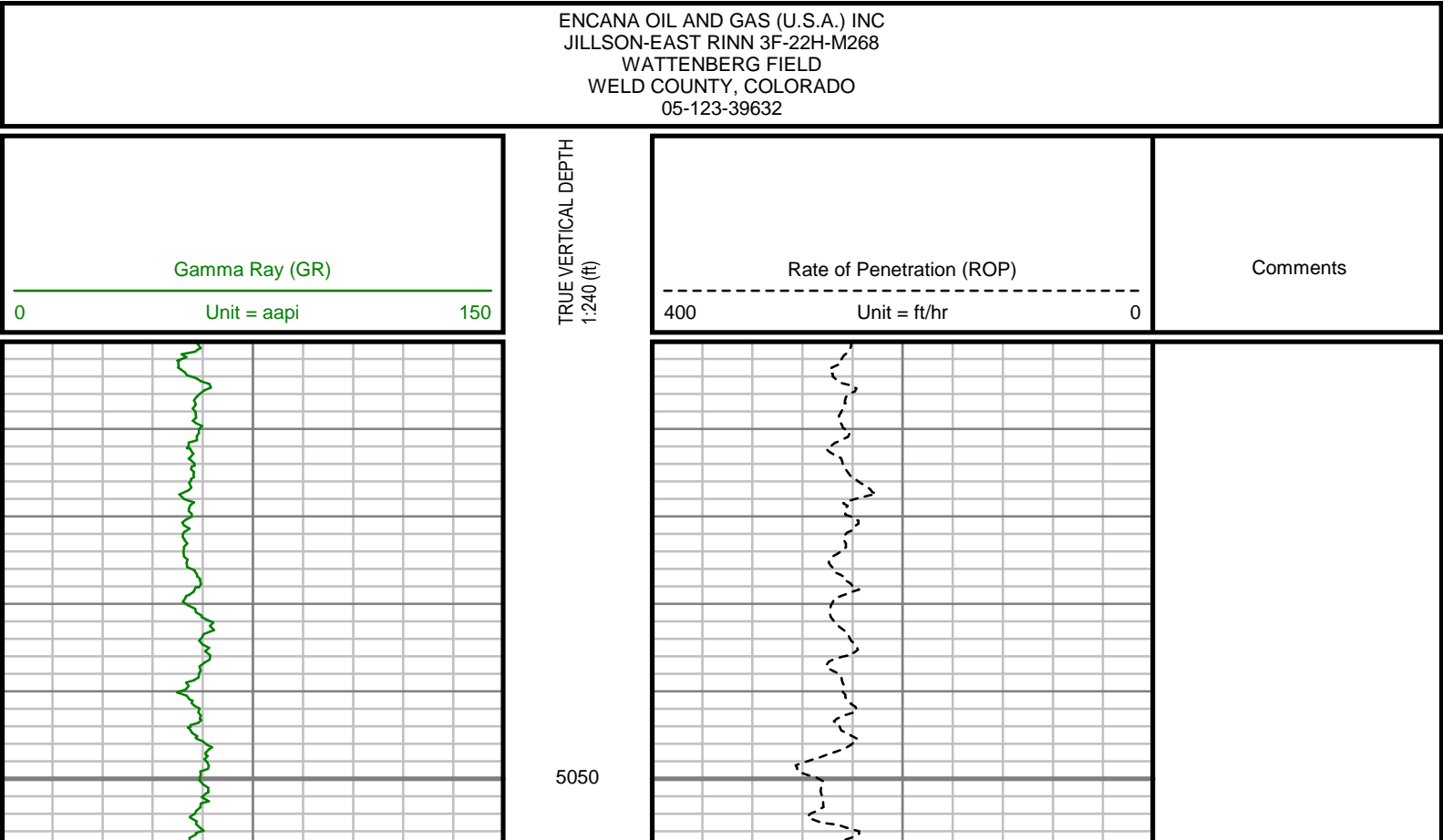
5" = 100' FEET TVD

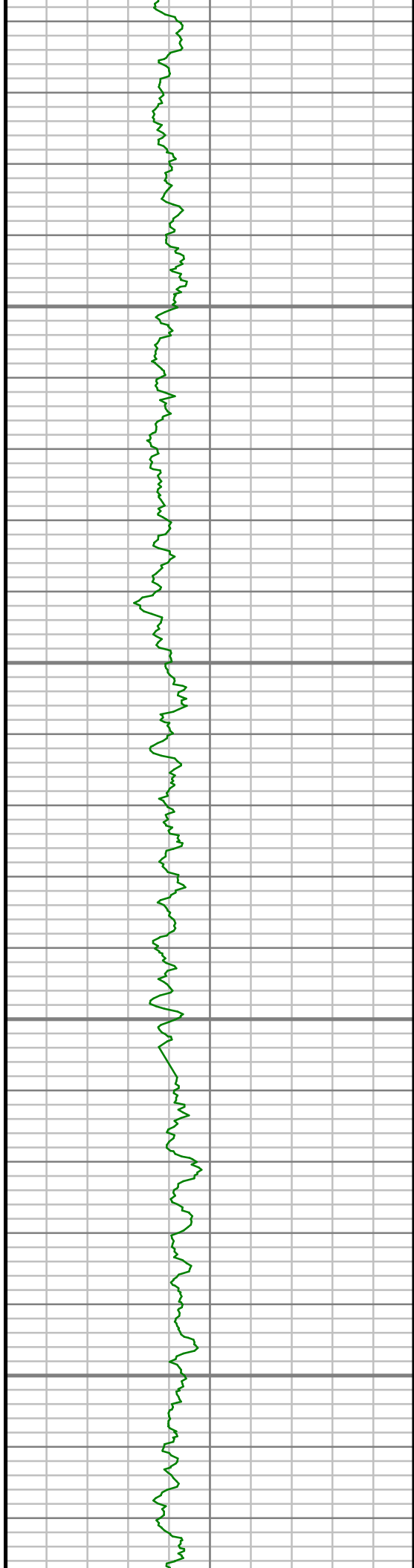
COMPANY : ENCANA OIL AND GAS (U.S.A.) INC WELL : JILLSON-EAST RINN 3F-22H-M268 FIELD : WATTENBERG COUNTY : WELD STATE : COLORADO COUNTRY : U.S.A. UWI : 05-123-39632										COMPANY : ENCANA OIL AND GAS (U.S.A.) INC WELL : JILLSON-EAST RINN 3F-22H-M268 FIELD : WATTENBERG COUNTY : WELD STATE : COLORADO COUNTRY : U.S.A. UWI : 05-123-39632									
DEPTH REF. : R.K.B. REF. HEIGHT : 13.000 ft GROUND LEVEL : 4966.000 ft										R.K.B. to Ground Level G.L. to MEAN SEA LEVEL									
BOREHOLE RECORD										DEVIATION RECORD									
HOLE SIZE in		FROM ft		TO ft		INCLINATION deg		FROM ft		TO ft									
12.25		96		870		0 - 5		0		870									
8.75		870		7830		5 - 84		870		7830									
6.25		7830		14922		84 - 93		7830		14922									
CASING RECORD																			
CASING SIZE in		FROM ft		TO ft															
9.625		0		854															
7		0		7820															
DRILLING CO. : ENSIGN RIG : 124 LWD UNIT NO. : C70-EM4#8DISTRICT : CASPER SPUD DATE : 07/17/2014 LWD START DATE : 07/20/2014 LWD END DATE : 07/27/2014										DEPTH : 5000 ft DEPTH : 14922 ft TOTAL DEPTH : 14922 ft									

Run Data						
RUN NUMBER	1	2	3			
START DATE	07/17/2014	07/18/2014	07/23/2014			
START TIME	0945	2130	1800			
END DATE	07/17/2014	07/22/2014	07/28/2014			
END TIME	2230	0430	1315			
DEPTH IN (ft)	96	870	7830			
DEPTH OUT (ft)	870	7830	14922			
LOG TOP (ft)	-	5000	7778			
LOG BOTTOM (ft)	-	7778	14870			
HOLE SIZE (in)	12.25	8.75	6.25			
MUD DATA @ (ft)	870	7830	14922			
MUD TYPE	WATER-BASED	WATER-BASED	WATER-BASED			
DENSITY (lb / gal)	9.10	10.5	10.95			
VISCOSITY (s / qt)	30	41	42			
pH	7.7	8.0	8.2			
FLUID LOSS (cm3 / 30)	-	-	-			
SALINITY (ppm)	-	-	-			
Rm (ohmm @ deg F)	-	-	-			
Rmf (ohmm @ deg F)	-	-	-			
MAX TEMP (deg F)	87	178	238			
Rm @ MAX TEMP (ohmm)	-	-	-			
LWD ENGINEER #1	J. SMITH	J. SMITH	M. SMITH			
LWD ENGINEER #2	M. SMITH	M. SMITH	T. WHEELER			
LWD ENGINEER #3	T. WHEELER	T. WHEELER	J. SMITH			
LOG WTINNESS #1	M. ROANE	M. ROANE	M. ROANE			
LOG WTINNESS #2	-	-	-			

Remarks
ENCANA OIL AND GAS (U.S.A.) INC PRODUCTION AFE# 14181165
SCIENTIFIC DRILLING INTERNATIONAL JOB# 175638
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 CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO RATE OF PENETRATION CURVE
RUN # 1: MWD / DIRECTIONAL RUN
SENSORS S/N: CONT = 1011 / MWD EYE = 0349
BIT TO SENSOR OFFSET: SURVEY = 54.33 FT.
RUN # 2: MWD/ GAMMA RAY / LOGGING RUN
SENSORS S/N: PULSER = 128-047 / CONT = 831 / MWD EYE = 0429 / GAMMA RAY = 1194
BIT TO SENSOR OFFSETS: SURVEY = 69.01 FT. / GAMMMA RAY = 55.00 FT.
RUN # 3: MWD/ GAMMA RAY / LOGGING RUN
SENSORS S/N: PULSER = 78-108 / CONT = 882 / MWD EYE = 0349 / GAMMA RAY = 1074
BIT TO SENSOR OFFSETS: SURVEY = 65.70 FT. / GAMMMA RAY = 52.49 FT.
MNEMONICS LIST:
GR = GAMMA RAY
ROP = RATE OF PENETRATION

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.



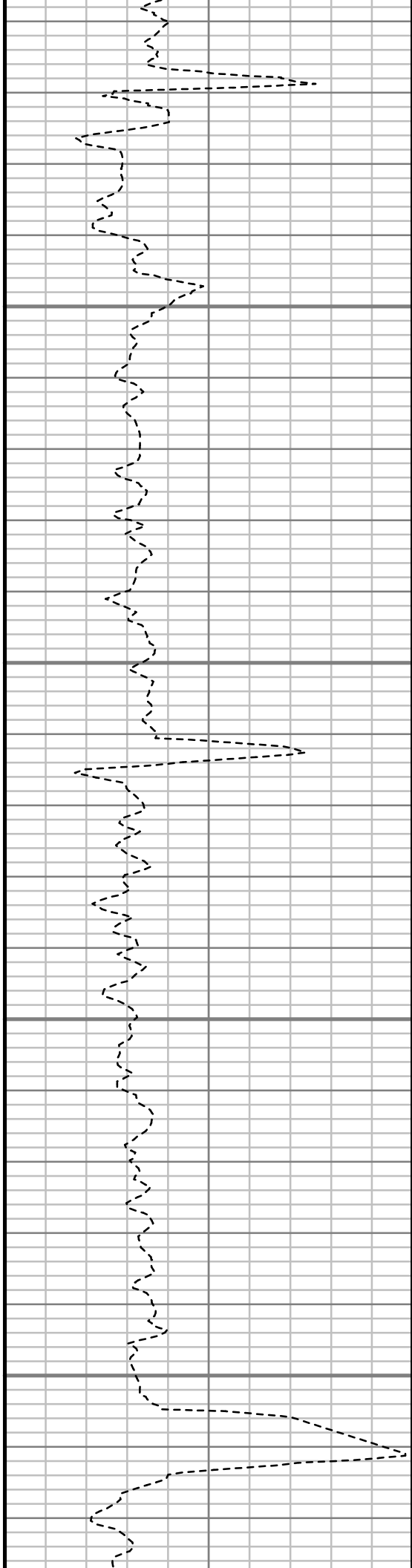


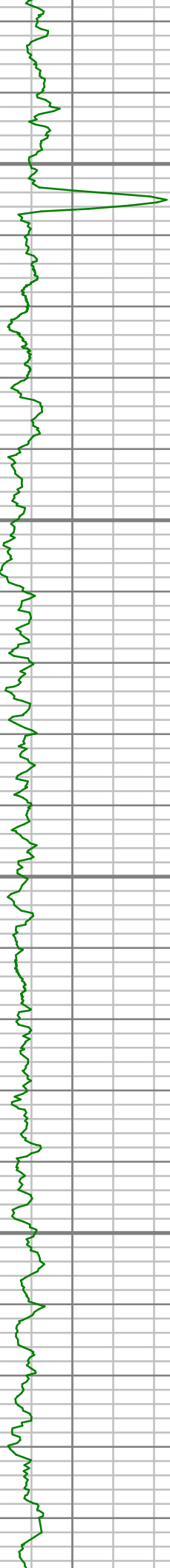
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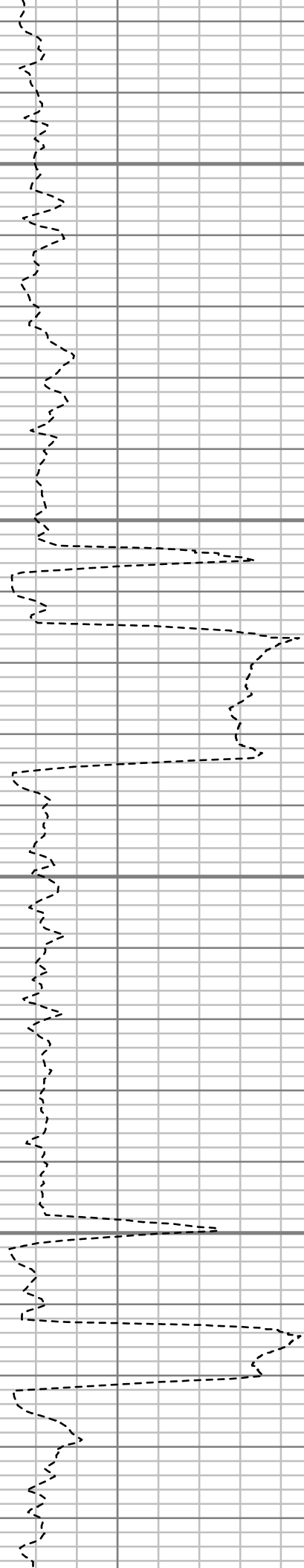


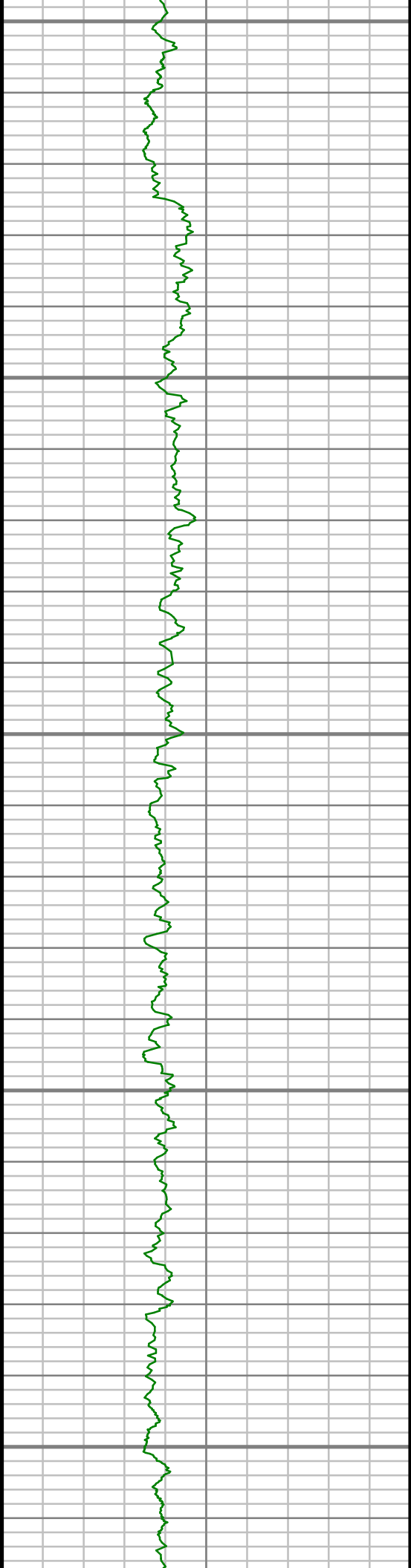
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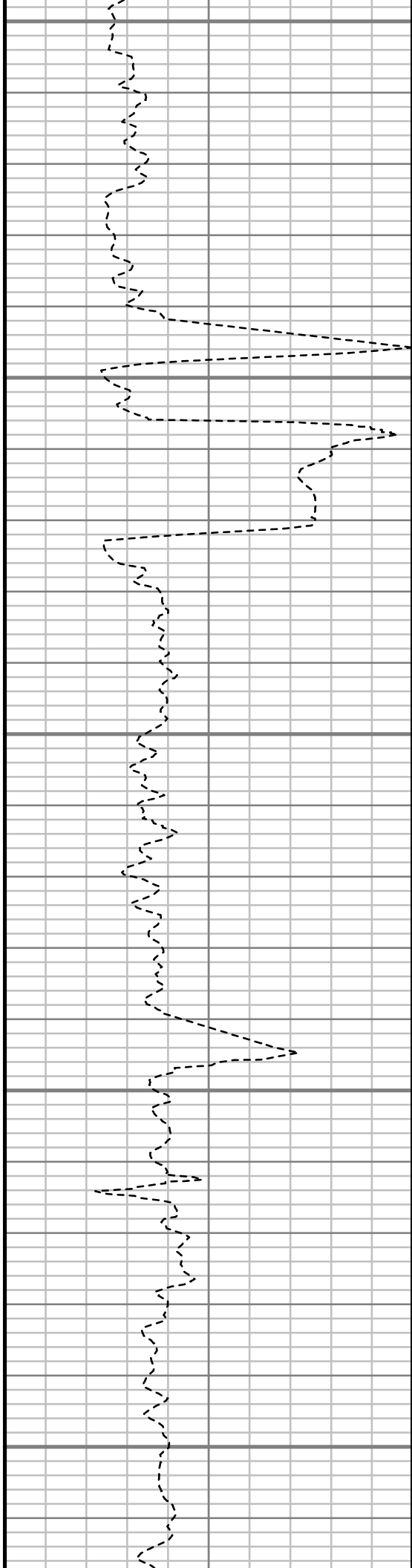
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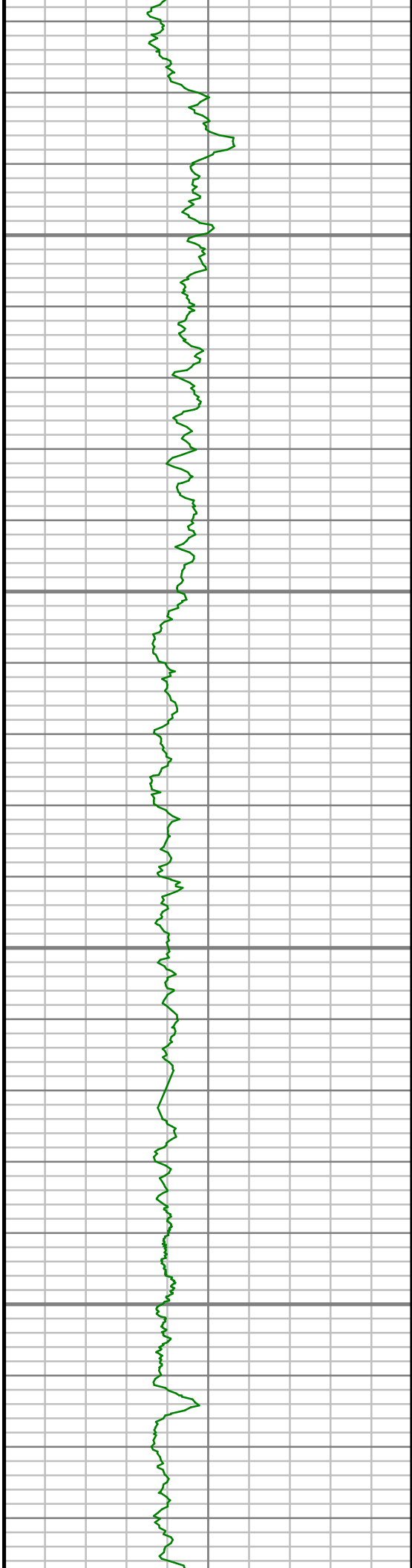
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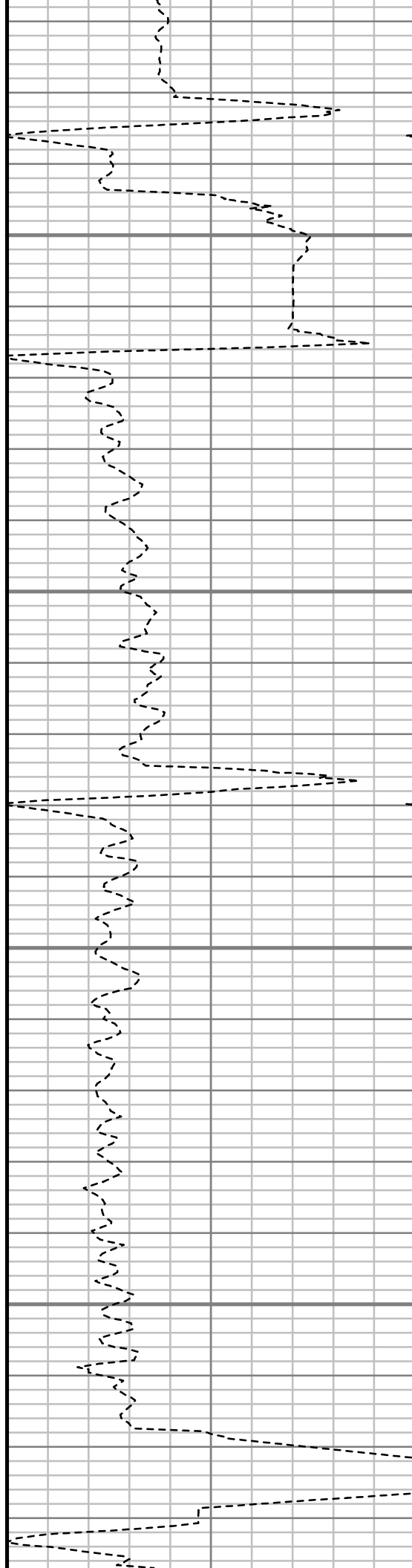


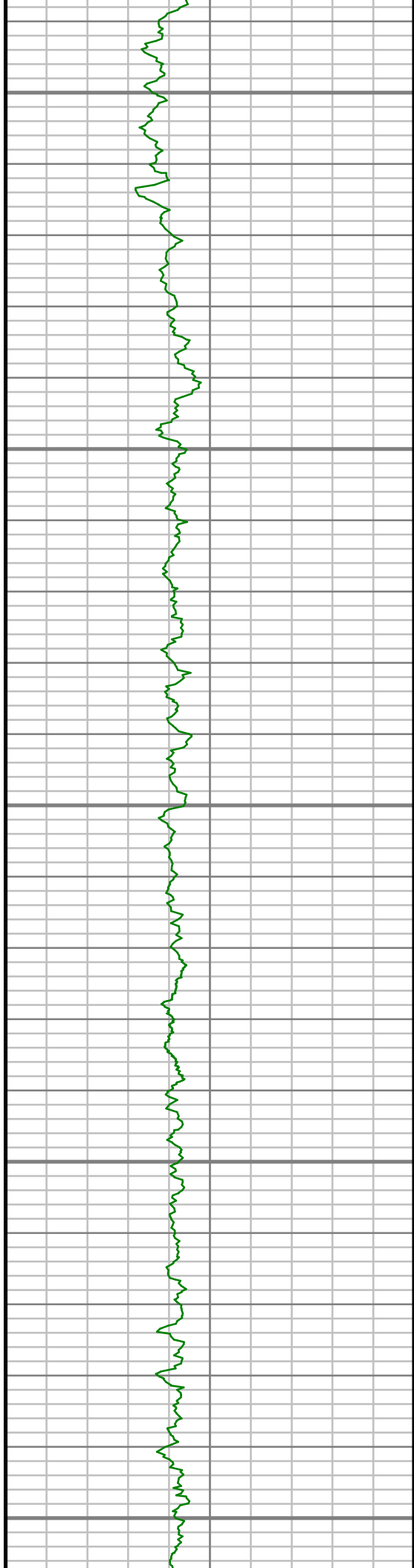
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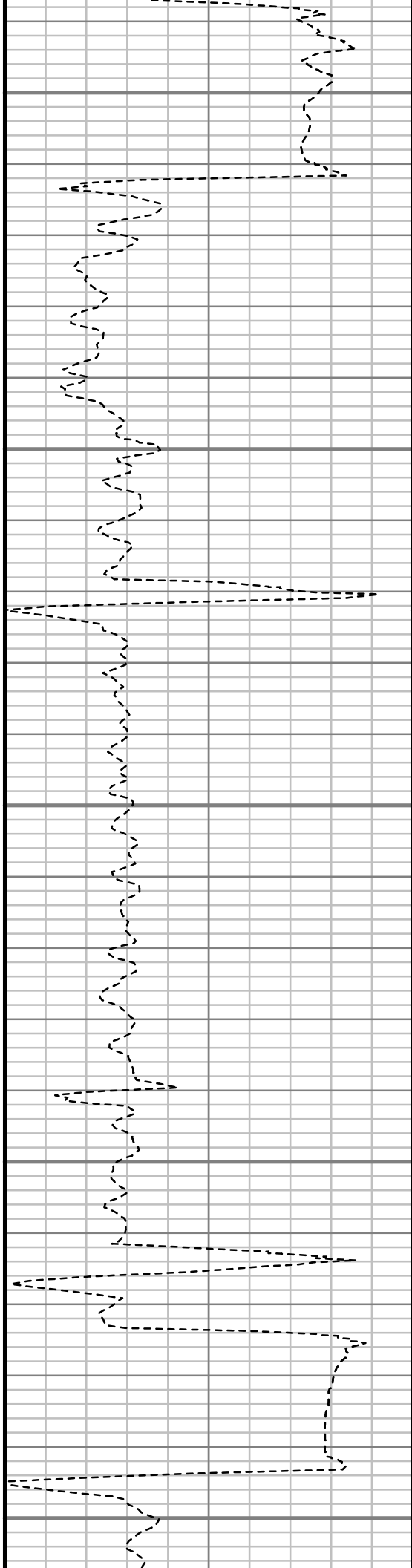
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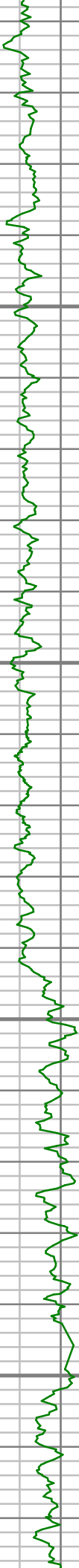
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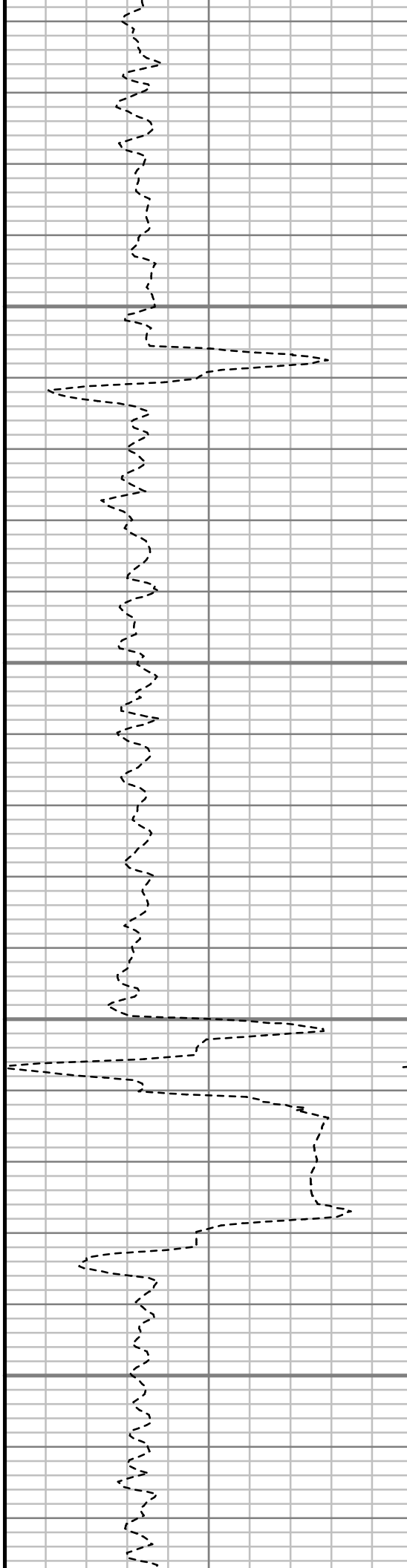


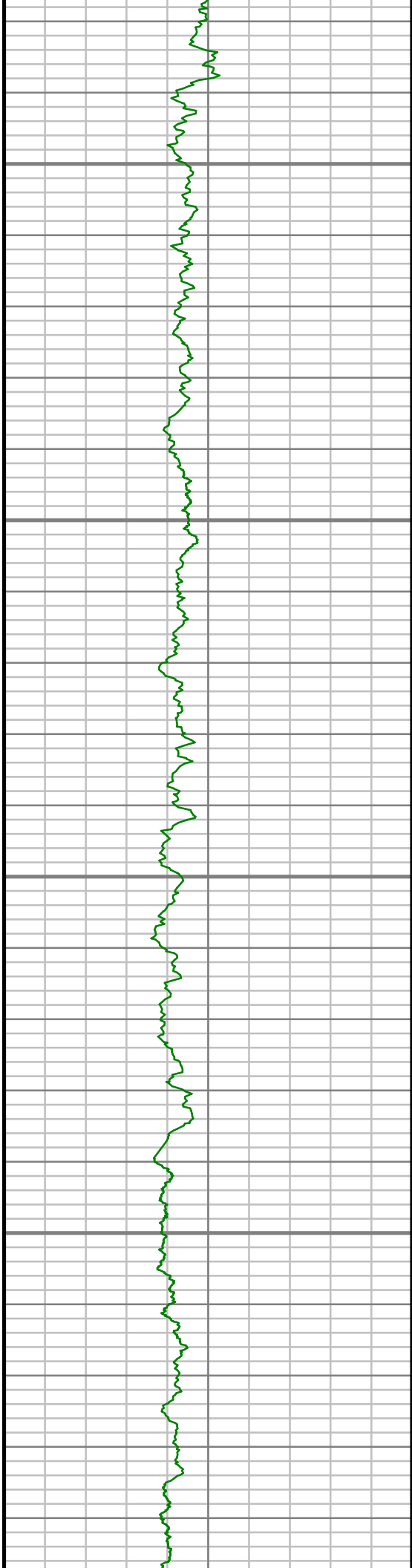
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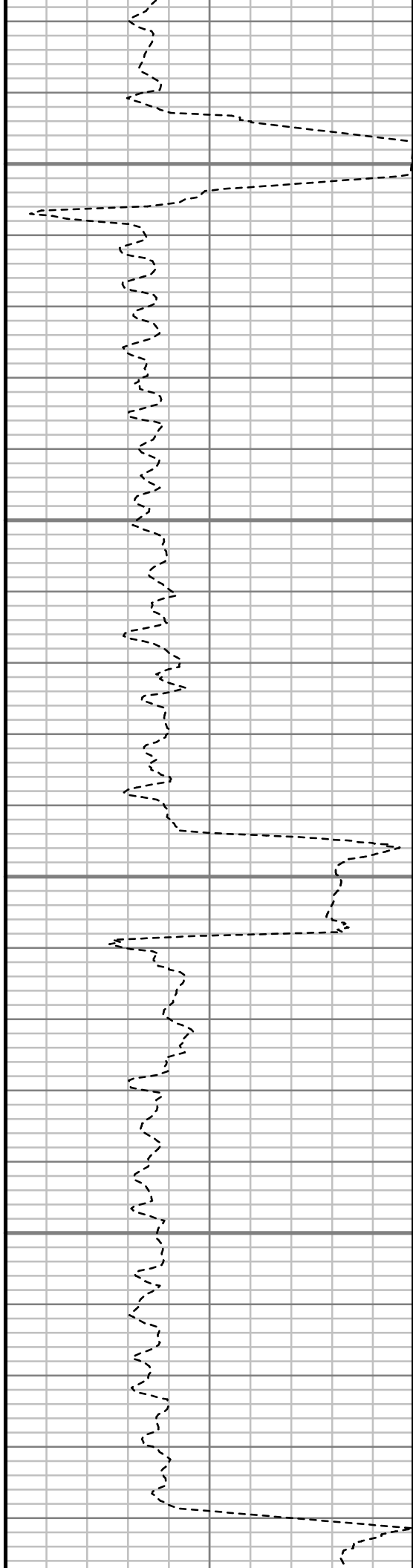


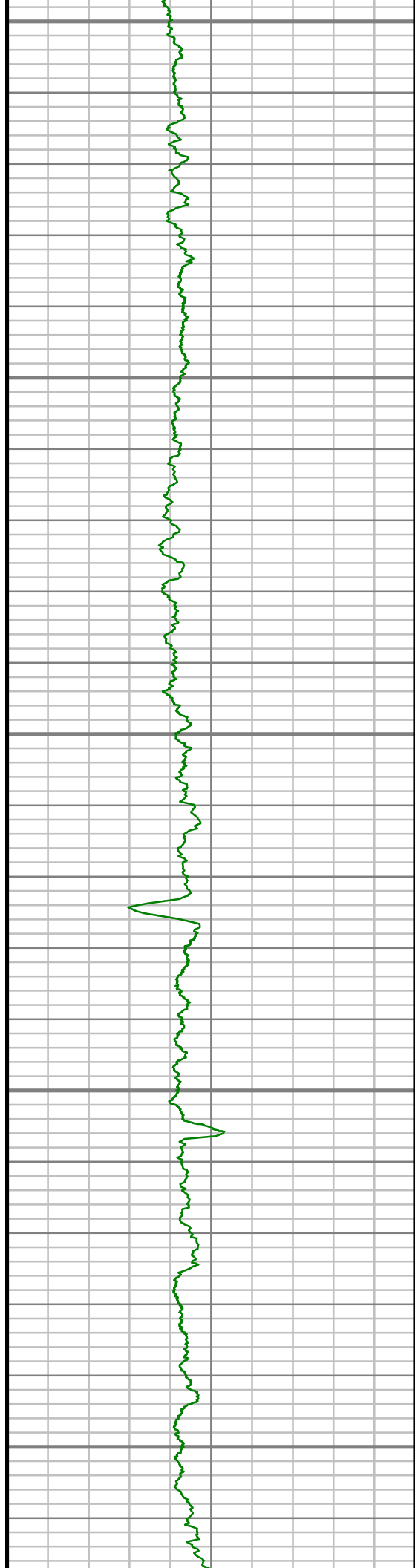
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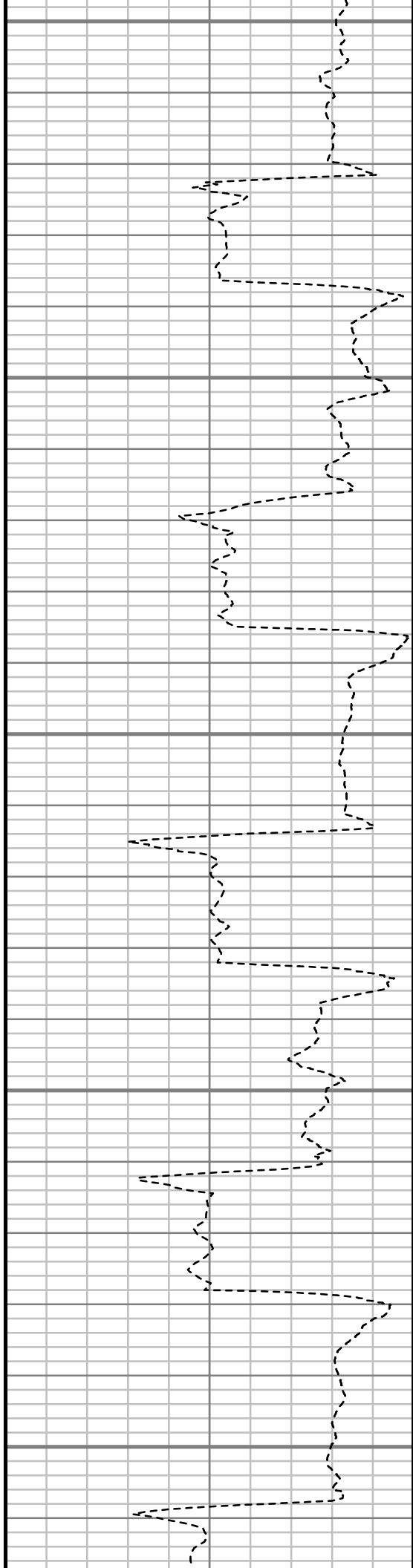
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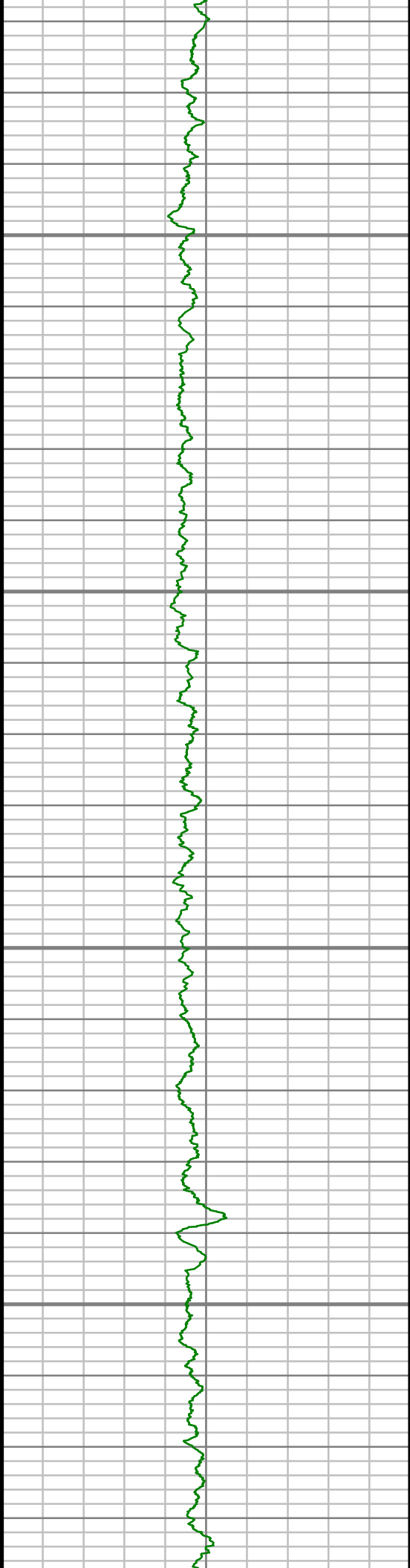
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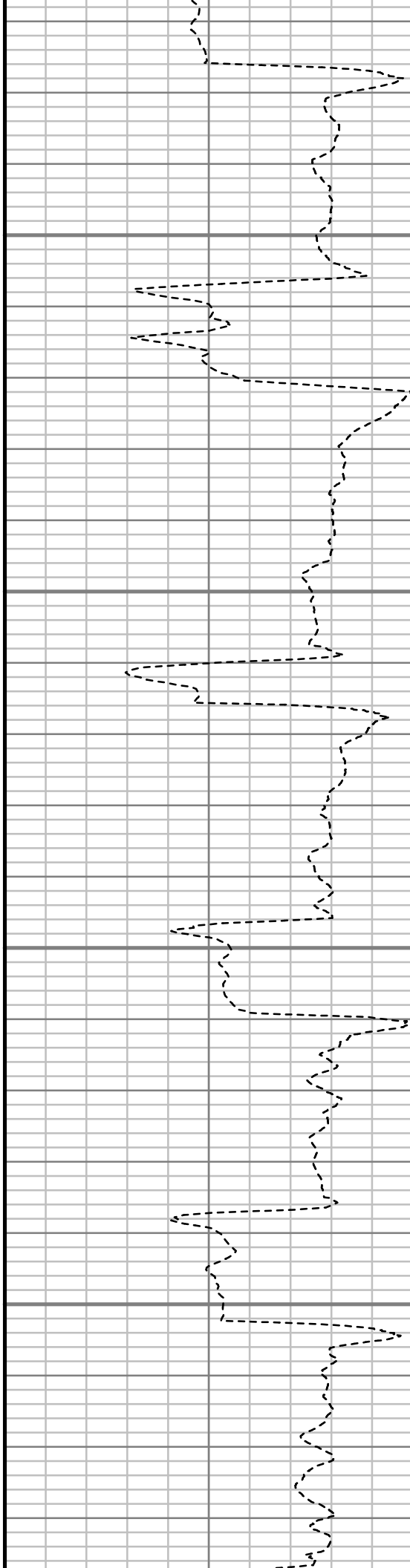


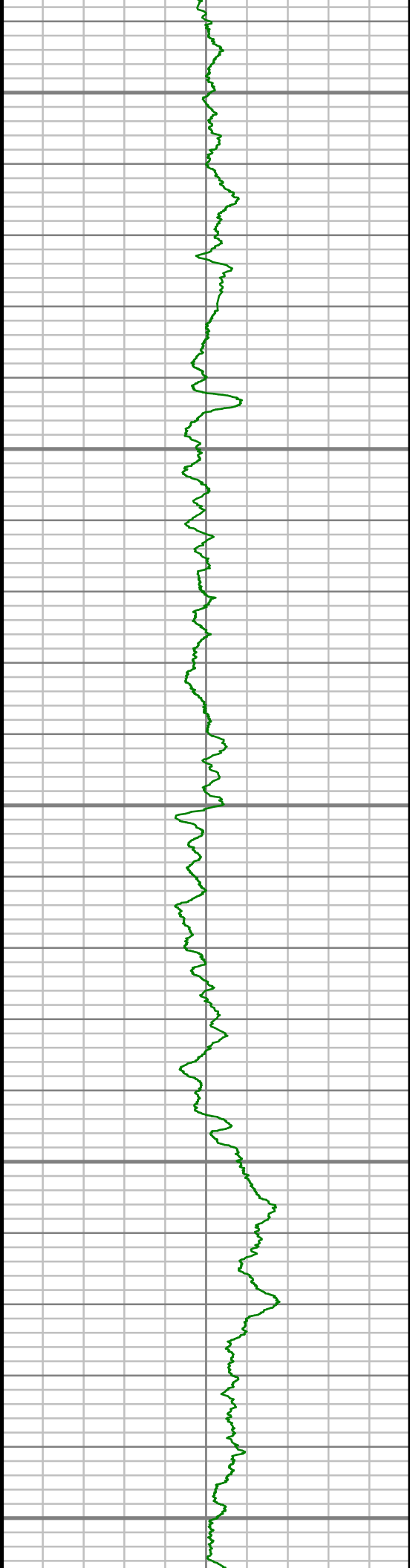
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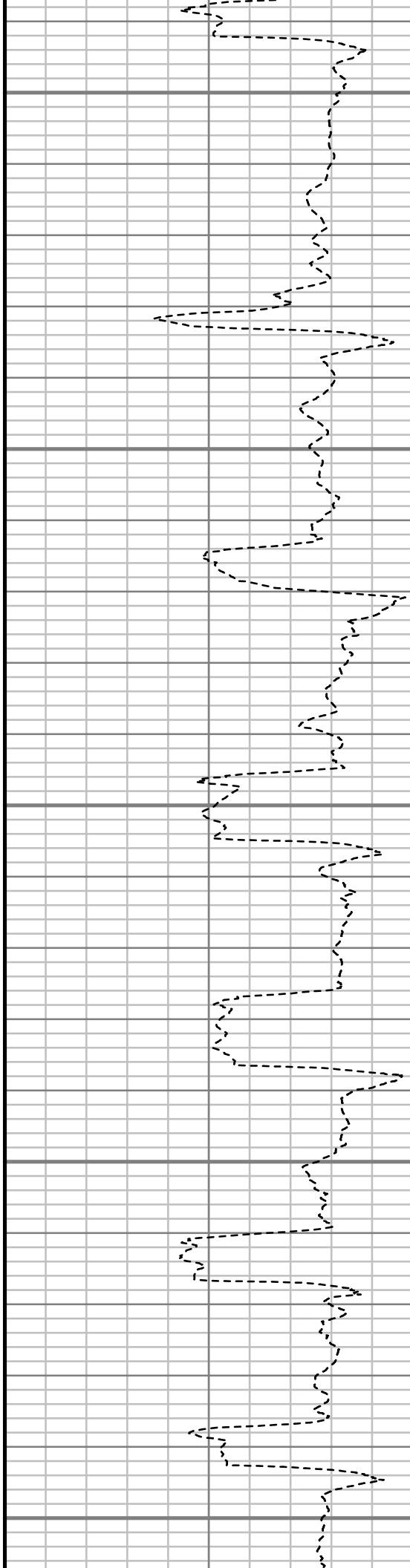
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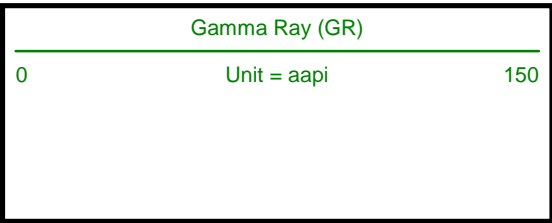
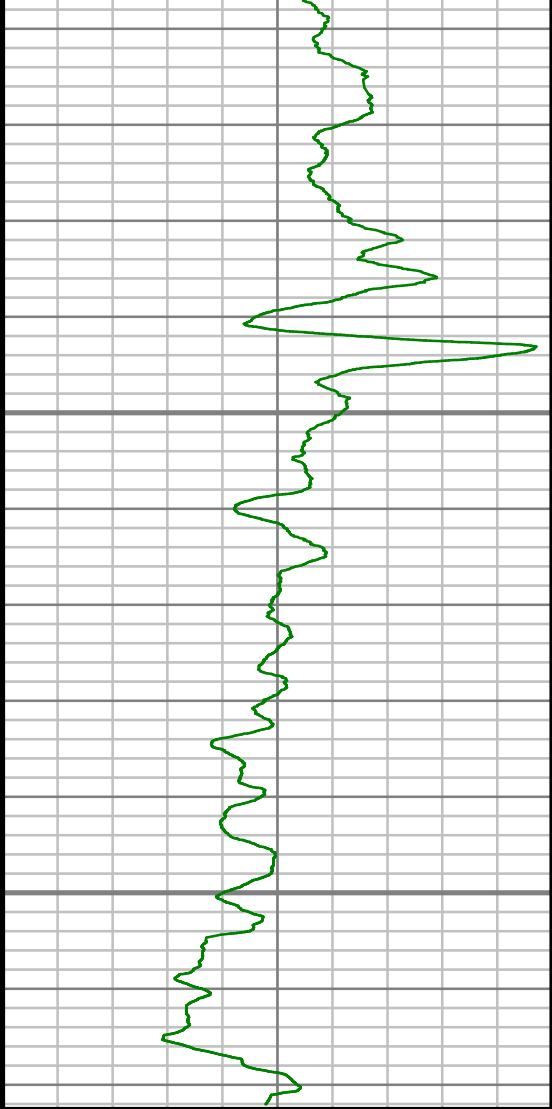
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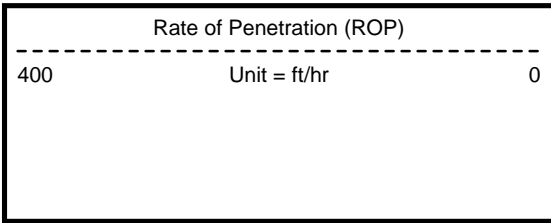
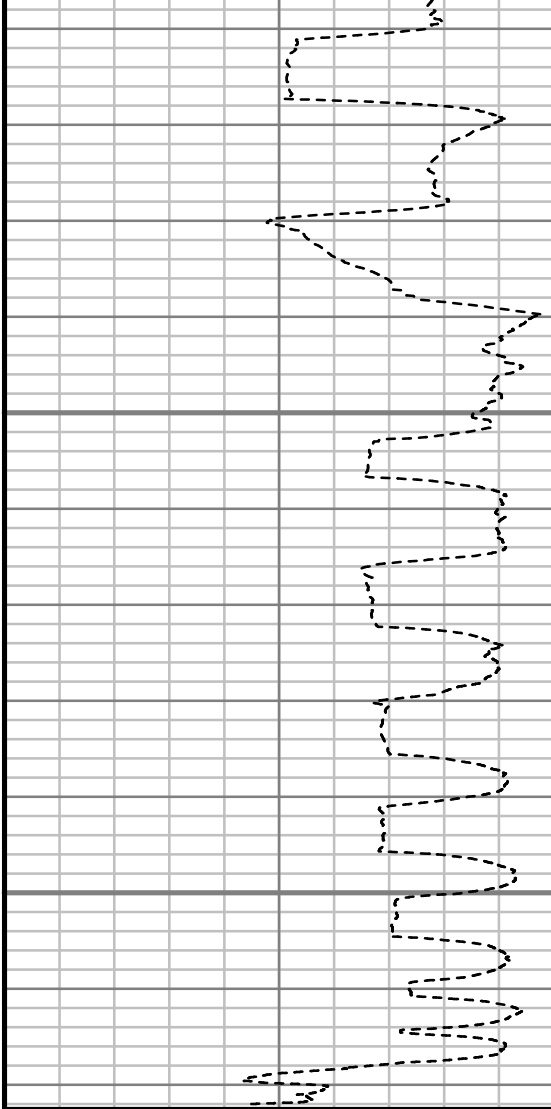




7300

7350

TRUE VERTICAL DEPTH
1240 (ft)



Comments



MWD Survey Report

Well Location	JILLSON-EAST RINN
Well Name	JILLSON-EAST RINN 3F-22H-M268
Survey Date	07/15/14
Latitude	40°7'4.465"N
Longitude	104°59'46.342"W
Btotal	52534 nT
Dip	66.67 deg
Magnetic Declination	8.63 deg
North Reference	True North
Grid Correction	None
Depth Reference	R.K.B. (13.00 ft)
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 0.00Azim (deg)
Operator(s)	J. SMITH, M. SMITH, T. WHEELER

Well Notes

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Direction	Closure Distance	DLS
ft	deg	deg	ft	ft	ft	ft	deg	ft	°/100ft
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid
336.00	0.56	256.82	335.99	-0.37	-0.37	-1.59	256.82	1.63	0.17
429.00	0.69	141.14	428.99	-0.91	-0.91	-1.67	241.50	1.91	1.13
522.00	1.69	121.42	521.97	-2.06	-2.06	-0.15	184.26	2.07	1.15
614.00	3.71	123.09	613.86	-4.39	-4.39	3.50	141.46	5.62	2.20
707.00	4.87	121.46	706.60	-8.10	-8.10	9.39	130.77	12.40	1.26
800.00	4.52	121.96	799.29	-12.10	-12.10	15.87	127.32	19.95	0.38
814.00	4.69	122.33	813.24	-12.70	-12.70	16.82	127.05	21.07	1.22
970.00	4.54	140.96	968.75	-20.90	-20.90	26.10	128.70	33.44	0.96
1156.00	5.23	149.87	1154.07	-33.96	-33.96	34.99	134.14	48.76	0.55
1342.00	4.38	138.82	1339.42	-46.63	-46.63	43.92	136.71	64.06	0.67
1527.00	4.15	124.52	1523.91	-55.74	-55.74	54.09	135.86	77.67	0.59
1713.00	5.55	121.58	1709.24	-64.27	-64.27	67.30	133.68	93.06	0.76
1899.00	4.38	121.65	1894.54	-72.71	-72.71	81.01	131.91	108.85	0.63
2084.00	4.83	133.65	2078.95	-81.79	-81.79	92.67	131.43	123.60	0.57
2270.00	4.98	142.56	2264.27	-93.61	-93.61	103.25	132.20	139.37	0.42
2456.00	2.81	138.75	2449.83	-103.46	-103.46	111.17	132.94	151.86	1.17
2642.00	3.92	148.44	2635.51	-112.31	-112.31	117.50	133.71	162.54	0.67
2827.00	4.71	142.89	2819.98	-123.76	-123.76	125.40	134.62	176.19	0.48

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Direction	Closure Distance	DLS
ft	deg	deg	ft	ft	ft	ft	deg	ft	°/100ft
3018.00	5.02	135.25	3010.29	-135.95	-135.95	136.01	134.99	192.30	0.37
3209.00	4.41	123.43	3200.65	-145.93	-145.93	148.02	134.59	207.86	0.60
3399.00	4.17	142.36	3390.13	-155.42	-155.42	158.34	134.47	221.87	0.75
3590.00	4.70	149.62	3580.56	-167.67	-167.67	166.53	135.19	236.32	0.40
3780.00	3.98	145.63	3770.01	-179.82	-179.82	174.19	135.91	250.35	0.41
3970.00	3.68	132.00	3959.59	-189.33	-189.33	182.44	136.06	262.93	0.50
4161.00	5.25	113.03	4150.02	-196.85	-196.85	195.03	135.27	277.10	1.12
4352.00	4.87	124.53	4340.28	-204.86	-204.86	209.74	134.33	293.19	0.57
4542.00	5.55	120.96	4529.49	-214.16	-214.16	224.27	133.68	310.10	0.40
4733.00	7.63	128.13	4719.22	-226.74	-226.74	242.16	133.12	331.74	1.17
4923.00	5.75	131.64	4907.92	-240.86	-240.86	259.20	132.90	353.83	1.01
5114.00	5.44	135.40	5098.01	-253.66	-253.66	272.71	132.93	372.45	0.25
5304.00	3.05	131.77	5287.48	-263.44	-263.44	282.80	132.97	386.49	1.27
5495.00	4.63	128.13	5478.05	-271.58	-271.58	292.65	132.86	399.25	0.84
5685.00	4.78	126.06	5667.40	-280.97	-280.97	305.08	132.64	414.75	0.12
5876.00	4.56	121.38	5857.77	-289.61	-289.61	317.99	132.33	430.11	0.23
6066.00	3.68	126.47	6047.28	-297.17	-297.17	329.35	132.06	443.60	0.50
6257.00	3.47	125.06	6237.91	-304.13	-304.13	339.00	131.90	455.43	0.12

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Direction	Closure Distance	DLS
ft	deg	deg	ft	ft	ft	ft	deg	ft	°/100ft
6447.00	3.32	137.11	6427.58	-311.47	-311.47	347.45	131.87	466.62	0.38
6542.00	1.33	144.14	6522.49	-314.38	-314.38	349.98	131.93	470.45	2.11
6589.00	0.57	180.72	6569.49	-315.06	-315.06	350.29	131.97	471.14	2.00
6638.00	2.24	2.65	6618.48	-314.35	-314.35	350.34	131.90	470.69	5.75
6685.00	5.08	12.25	6665.38	-311.39	-311.39	350.82	131.59	469.08	6.15
6733.00	8.05	15.43	6713.06	-306.08	-306.08	352.16	130.99	466.59	6.22
6780.00	10.57	13.76	6759.43	-298.72	-298.72	354.07	130.15	463.24	5.40
6828.00	13.11	9.10	6806.41	-289.07	-289.07	355.97	129.08	458.56	5.66
6875.00	16.13	4.74	6851.88	-277.29	-277.29	357.36	127.81	452.32	6.83
6924.00	19.92	1.65	6898.47	-262.16	-262.16	358.16	126.20	443.85	7.97
6971.00	23.87	1.00	6942.07	-244.64	-244.64	358.56	124.31	434.06	8.42
7019.00	26.33	0.38	6985.54	-224.28	-224.28	358.80	122.01	423.13	5.16
7066.00	29.94	359.28	7026.98	-202.13	-202.13	358.72	119.40	411.74	7.76
7114.00	34.54	359.22	7067.57	-176.53	-176.53	358.38	116.22	399.50	9.58
7161.00	39.87	359.98	7104.99	-148.12	-148.12	358.20	112.47	387.61	11.39
7210.00	44.07	359.34	7141.41	-115.36	-115.36	357.99	107.86	376.12	8.62
7257.00	47.43	358.79	7174.20	-81.70	-81.70	357.44	102.87	366.66	7.20
7305.00	51.72	359.93	7205.32	-45.17	-45.17	357.04	97.21	359.89	9.11

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Direction	Closure Distance	DLS
ft	deg	deg	ft	ft	ft	ft	deg	ft	°/100ft
7352.00	55.64	2.76	7233.15	-7.32	-7.32	357.95	91.17	358.03	9.66
7400.00	60.27	3.43	7258.61	33.29	33.29	360.16	84.72	361.69	9.70
7447.00	64.12	3.20	7280.53	74.79	74.79	362.56	78.34	370.19	8.21
7496.00	67.61	2.11	7300.56	119.45	119.45	364.62	71.86	383.69	7.40
7543.00	71.07	1.56	7317.14	163.40	163.40	366.03	65.94	400.84	7.45
7591.00	74.47	0.31	7331.36	209.23	209.23	366.77	60.30	422.25	7.50
7638.00	77.39	359.79	7342.79	254.81	254.81	366.81	55.21	446.63	6.31
7686.00	79.95	359.68	7352.22	301.87	301.87	366.59	50.53	474.89	5.33
7733.00	82.66	359.97	7359.32	348.33	348.33	366.45	46.45	505.59	5.80
7762.00	84.96	359.81	7362.45	377.16	377.16	366.40	44.17	525.83	7.95
7882.00	88.65	0.12	7369.13	496.95	496.95	366.32	36.40	617.38	3.09
7978.00	88.79	1.26	7371.27	592.92	592.92	367.48	31.79	697.56	1.20
8073.00	90.47	1.35	7371.89	687.89	687.89	369.64	28.25	780.92	1.77
8168.00	90.03	0.27	7371.47	782.88	782.88	370.99	25.36	866.33	1.23
8261.00	91.55	1.40	7370.19	875.85	875.85	372.35	23.03	951.72	2.03
8354.00	91.11	1.15	7368.03	968.81	968.81	374.42	21.13	1038.64	0.54
8447.00	91.14	0.74	7366.20	1061.77	1061.77	375.96	19.50	1126.37	0.44
8540.00	89.73	0.90	7365.50	1154.76	1154.76	377.29	18.09	1214.83	1.53

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Direction	Closure Distance	DLS
ft	deg	deg	ft	ft	ft	ft	deg	ft	°/100ft
8633.00	91.65	1.83	7364.38	1247.72	1247.72	379.51	16.92	1304.16	2.29
8726.00	90.94	0.92	7362.28	1340.67	1340.67	381.74	15.89	1393.96	1.24
8819.00	92.45	1.77	7359.52	1433.60	1433.60	383.92	14.99	1484.12	1.87
8911.00	92.55	0.15	7355.51	1525.50	1525.50	385.47	14.18	1573.44	1.76
9005.00	91.64	0.70	7352.07	1619.43	1619.43	386.17	13.41	1664.83	1.13
9097.00	91.88	1.32	7349.24	1711.37	1711.37	387.79	12.77	1754.76	0.72
9190.00	90.13	1.17	7347.60	1804.33	1804.33	389.82	12.19	1845.96	1.88
9283.00	90.40	1.89	7347.17	1897.30	1897.30	392.30	11.68	1937.43	0.82
9376.00	90.44	2.85	7346.49	1990.21	1990.21	396.14	11.26	2029.25	1.04
9469.00	89.36	0.13	7346.65	2083.17	2083.17	398.56	10.83	2120.95	3.14
9561.00	88.89	359.98	7348.05	2175.16	2175.16	398.65	10.39	2211.39	0.54
9654.00	89.46	358.72	7349.39	2268.14	2268.14	397.59	9.94	2302.73	1.48
9747.00	89.90	358.22	7349.91	2361.11	2361.11	395.11	9.50	2393.94	0.72
9840.00	91.18	358.02	7349.03	2454.05	2454.05	392.05	9.08	2485.17	1.39
9933.00	89.80	357.97	7348.24	2546.99	2546.99	388.79	8.68	2576.49	1.49
10026.00	89.66	357.11	7348.68	2639.90	2639.90	384.80	8.29	2667.80	0.93
10119.00	90.30	358.36	7348.70	2732.83	2732.83	381.13	7.94	2759.27	1.51
10211.00	90.91	358.57	7347.73	2824.79	2824.79	378.67	7.64	2850.05	0.69

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Direction	Closure Distance	DLS
ft	deg	deg	ft	ft	ft	ft	deg	ft	°/100ft
10304.00	89.80	359.35	7347.16	2917.77	2917.77	376.98	7.36	2942.02	1.46
10397.00	91.11	0.47	7346.42	3010.76	3010.76	376.84	7.13	3034.25	1.85
10490.00	91.38	359.14	7344.41	3103.74	3103.74	376.53	6.92	3126.49	1.46
10583.00	91.75	359.79	7341.87	3196.70	3196.70	375.66	6.70	3218.69	0.81
10676.00	90.70	0.42	7339.88	3289.67	3289.67	375.83	6.52	3311.07	1.31
10769.00	91.01	0.40	7338.49	3382.66	3382.66	376.49	6.35	3403.55	0.33
10862.00	90.67	359.89	7337.13	3475.65	3475.65	376.73	6.19	3496.01	0.65
10955.00	90.13	0.47	7336.48	3568.65	3568.65	377.01	6.03	3588.51	0.85
11050.00	89.36	1.21	7336.90	3663.63	3663.63	378.40	5.90	3683.12	1.13
11146.00	88.42	0.09	7338.75	3759.61	3759.61	379.49	5.76	3778.71	1.52
11241.00	89.43	359.39	7340.53	3854.59	3854.59	379.06	5.62	3873.18	1.29
11336.00	90.13	0.59	7340.89	3949.59	3949.59	379.05	5.48	3967.73	1.47
11431.00	91.21	359.46	7339.78	4044.58	4044.58	379.09	5.35	4062.30	1.64
11527.00	91.11	0.41	7337.84	4140.55	4140.55	378.98	5.23	4157.86	0.99
11622.00	91.71	359.07	7335.50	4235.52	4235.52	378.55	5.11	4252.41	1.55
11717.00	91.78	0.60	7332.60	4330.48	4330.48	378.28	4.99	4346.97	1.62
11813.00	90.94	1.10	7330.32	4426.44	4426.44	379.71	4.90	4442.69	1.02
11908.00	91.04	0.60	7328.68	4521.41	4521.41	381.12	4.82	4537.45	0.53

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Direction	Closure Distance	DLS
ft	deg	deg	ft	ft	ft	ft	deg	ft	°/100ft
12003.00	90.74	0.99	7327.20	4616.39	4616.39	382.44	4.74	4632.20	0.52
12099.00	89.09	359.50	7327.34	4712.38	4712.38	382.86	4.64	4727.91	2.32
12194.00	89.80	359.80	7328.26	4807.38	4807.38	382.28	4.55	4822.55	0.81
12289.00	91.28	359.70	7327.37	4902.37	4902.37	381.87	4.45	4917.22	1.56
12384.00	90.00	358.43	7326.31	4997.35	4997.35	380.33	4.35	5011.80	1.90
12480.00	90.40	359.20	7325.98	5093.32	5093.32	378.34	4.25	5107.36	0.91
12575.00	89.90	359.26	7325.73	5188.32	5188.32	377.07	4.16	5202.00	0.53
12670.00	90.54	2.31	7325.36	5283.29	5283.29	378.38	4.10	5296.83	3.28
12766.00	90.94	2.84	7324.13	5379.19	5379.19	382.69	4.07	5392.78	0.70
12861.00	91.85	1.08	7321.81	5474.10	5474.10	385.94	4.03	5487.69	2.09
12956.00	89.60	2.97	7320.62	5569.02	5569.02	389.29	4.00	5582.61	3.09
13051.00	89.63	2.16	7321.26	5663.92	5663.92	393.54	3.97	5677.58	0.85
13147.00	89.16	2.31	7322.27	5759.85	5759.85	397.28	3.95	5773.53	0.51
13242.00	88.55	2.10	7324.16	5854.76	5854.76	400.94	3.92	5868.47	0.68
13338.00	88.49	1.91	7326.64	5950.67	5950.67	404.30	3.89	5964.38	0.20
13433.00	89.19	2.23	7328.56	6045.58	6045.58	407.73	3.86	6059.32	0.81
13528.00	90.91	1.74	7328.48	6140.52	6140.52	411.03	3.83	6154.26	1.88
13624.00	91.21	2.73	7326.71	6236.43	6236.43	414.77	3.81	6250.21	1.08

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Direction	Closure Distance	DLS
ft	deg	deg	ft	ft	ft	ft	deg	ft	"/100ft
13719.00	90.87	1.85	7324.98	6331.34	6331.34	418.57	3.78	6345.16	1.00
13814.00	89.36	0.85	7324.79	6426.31	6426.31	420.80	3.75	6440.07	1.90
13910.00	89.76	0.73	7325.52	6522.30	6522.30	422.13	3.70	6535.94	0.44
14005.00	90.30	359.92	7325.46	6617.29	6617.29	422.66	3.65	6630.78	1.02
14100.00	90.00	1.98	7325.21	6712.27	6712.27	424.23	3.62	6725.67	2.20
14195.00	89.03	1.23	7326.02	6807.23	6807.23	426.89	3.59	6820.60	1.30
14291.00	90.10	2.38	7326.75	6903.18	6903.18	429.91	3.56	6916.55	1.64
14386.00	90.87	1.10	7325.95	6998.13	6998.13	432.79	3.54	7011.50	1.57
14481.00	91.14	0.02	7324.28	7093.11	7093.11	433.72	3.50	7106.36	1.17
14576.00	91.58	0.18	7322.02	7188.08	7188.08	433.89	3.45	7201.17	0.49
14672.00	91.72	359.91	7319.26	7284.04	7284.04	433.97	3.41	7296.96	0.32
14767.00	89.97	359.52	7317.87	7379.03	7379.03	433.50	3.36	7391.75	1.88
14854.00	88.92	359.45	7318.71	7466.02	7466.02	432.72	3.32	7478.55	1.20

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Direction	Closure Distance	DLS
ft	deg	deg	ft	ft	ft	ft	deg	ft	°/100ft

5" = 100' FEET TVD