


<div> <div> <div>BAKER HUGHES</div> <div>a GE company</div> </div> <div>  </div> </div>			LWD MEMORY LOG		
<div> <div>Scale:</div> <div>1:240 TVD</div> </div>			<div> <div>Company: Noble Energy</div> <div>Well: Dorothy State LG16-748</div> <div>Field: Wattenberg</div> <div>Driller's Depth</div> <div>Country: Weld</div> <div>State: Colorado</div> <div>Country: United States</div> </div>		
<div> <div>Status:</div> <div>Final Print</div> </div>			<div> <div>Surface Location:</div> <div>Latitude: 040° 41' 06.216" N</div> <div>Longitude: 103° 58' 38.532" W</div> <div>Other Services:</div> </div>		
<div> <div>API No:</div> <div>05-123-47705-0000</div> </div>			<div> <div>SEC:</div> <div>4 TWN: 8N RGE: 59W</div> <div>Directional</div> </div>		
<div> <div>Job ID:</div> <div>109418441</div> </div>			<div> <div>Elevation:</div> <div>0.00 ft</div> <div>Elev. KB: N/A</div> </div>		
<div> <div>Permanent Datum (P.D.):</div> <div>Mean Sea Level</div> </div>			<div> <div>Elev. DF:</div> <div>4876.00 ft</div> </div>		
<div> <div>Log Measured From:</div> <div>Rig Floor</div> </div>			<div> <div>Above P.D.</div> <div>4876.00 ft</div> <div>Elev. GL: 4846.00 ft</div> </div>		
<div> <div>Dates</div> <div>Interval Drilled</div> </div>			<div> <div>Magnetic Field Reference</div> </div>		
<div> <div>Date From:</div> <div>2018-12-09</div> </div>			<div> <div>Top: (ft)</div> <div>1955.00</div> </div>		
<div> <div>Date To:</div> <div>2018-12-12</div> </div>			<div> <div>Bottom: (ft)</div> <div>16939.36</div> </div>		
<div> <div>Spud Date:</div> <div>2018-12-07</div> </div>			<div> <div>Azi Reference North: Grid</div> <div>66.99</div> </div>		
<div> <div>Total Magnetic Field Strength: (nT)</div> <div>52339</div> </div>			<div> <div>Dip Angle: (deg)</div> <div>66.99</div> </div>		
<div> <div>Mag to Reference North Correction: (deg)</div> <div>6.91</div> </div>			<div> <div>Borehole Record</div> </div>		
<div> <div>Hole Size (in)</div> <div>From (ft)</div> <div>To (ft)</div> </div>			<div> <div>Casing Record</div> </div>		
<div> <div>13.500</div> <div>30.00</div> <div>1955.00</div> </div>			<div> <div>Size (in)</div> <div>Weight (lb/ft)</div> <div>From (ft)</div> <div>To (ft)</div> </div>		
<div> <div>8.500</div> <div>1950.00</div> <div>16940.00</div> </div>			<div> <div>9.625</div> <div>36.00</div> <div>30.00</div> <div>1945.00</div> </div>		
<div> <div>Mud Record</div> </div>			<div> <div>Deviation Record</div> </div>		
<div> <div>Type</div> <div>From (ft)</div> <div>To (ft)</div> </div>			<div> <div>Hole Size (in)</div> <div>Interval (ft)</div> <div>Inc   Az (Start)</div> <div>Inc   Az (End)</div> </div>		
<div> <div>Oil Based Mud</div> <div>1955.00</div> <div>16939.36</div> </div>			<div> <div>8.500</div> <div>14984.36</div> <div>0.90   121.04</div> <div>14.48   279.38</div> </div>		
<div> <div>Acquisition System</div> <div>Software Version</div> </div>			<div> <div>Other</div> </div>		
<div> <div>Baker Hughes Cadence</div> <div>RT 4.2</div> <div>4.2.8155.1</div> </div>			<div> <div>Rig: H&amp;P 321</div> <div>Contractor: Helmerich &amp; Payne Drilling Co</div> <div>District: RMA</div> <div>Unit: D&amp;E</div> </div>		

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Log Run Summary												
Run No	Bit Run No.	Bit Size (in)	Bit Type	Bit Gauge Length (in)	Assembly Type	Logged Interval		Bit Depth Interval		Date / Time		Circ. Hours (h)
						Top (ft)	Bottom (ft)	From (ft)	To (ft)	Start Logging	End Logging	
1	1	8.500	PDC	3.50	AutoTrak Curve	1955.00	16926.00	1955.50	16939.00	2018-12-09 02:56	2018-12-11 19:25	58.01

Crew												
Name			Arrive Wellsite	Depart Wellsite	Name			Arrive Wellsite	Depart Wellsite	Name		
Tien Bui			2018-12-07	2018-12-13								

Mud Properties Record												
Date / Time	Run No.	Measured Depth (ft)	Mud Type	Density (ppg)	Viscosity (cP)	pH	Fluid Loss (cm3)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)	
2018-12-08 15:02	1	1955.00	Oil Based Mud	9.2	10	N/A	20.0	80.5/19.5	Active Pit	24000	0.00	
2018-12-09 10:49	1	4335.00	Oil Based Mud	9.2	9	N/A	18.7	81.6/18.4	Active Pit	25000	0.00	
2018-12-10 05:23	1	8378.00	Oil Based Mud	9.3	12	N/A	20.0	84.4/15.6	Active Pit	24000	0.00	
2018-12-11 05:29	1	13678.00	Oil Based Mud	9.4	12	N/A	20.0	84.5/15.5	Active Pit	23500	0.00	

Equipment and Service Data												
Run No.	Tool			Serial Number	Measurement			Sensor Offset (ft)	Bit Offset (ft)	Max O.D. (in)	Min I.D. (in)	
1	ATC_SU			14316009	Near Bit VSS			5.93	6.78	7.000	4.330	
1	ATC_SU			14316009	Near Bit Inclination			5.93	6.78	7.000	4.330	
1	ATC_MWD			12141354	Gamma (single)			2.70	12.95	7.000	3.250	
1	ATC_MWD			12141354	Directional (mag)			12.27	22.52	7.000	3.250	

Service and Tool Mnemonics												
Mnemonic	Name				Description							
ATC_SU	ATC_SU				Auto Trak Curve Steering Unit							
ATC_MWD	ATC_MWD				Auto Trak Curve MWD							
ATC_LCPM	ATC_LCPM				Auto Trak Curve LCPM							

Comments												
<div> <div>1</div> <div>Depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes. Due to lack of control by Baker Hughes logging engineers, depth calibrations and measurements could not be independently verified.</div> </div>												
<div> <div>2</div> <div>Baker Hughes LWD Run 1 utilized 6 ¾ inch NaviGamma service (Gamma Ray and Directional) behind an 8 1/2 inch bit and rotary steerable assembly from 1955 to 16940 feet MD (1955 to 6xxx feet TVD).</div> </div>												
<div> <div>3</div> <div>The Gamma Ray Apparent (GRAM) data is presented 0 to 300 API, per the customer's request.</div> </div>												

Remarks												
Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark								

Curve Mnemonics												
Presented Curves					Description						Units	
ROPA					Depth Averaged ROP 3 ft Average						ft/h	
WOBA					Weight On Bit, Average 1 ft Average						klb	
GRAM					Gamma Ray - Apparent - Memory 0.5 ft Average						API	
TCDM					Directional Real-Time Survey Temperature						degF	



Company  
Well

Interval

Created

Noble Energy  
Dorothy State LG16-748

Date From: 2018-12-09 01:01  
Date To: 2018-12-12 07:59

Top: 1955.00 ft  
Bottom: 16939.36 ft

2018-12-12 12:30:35

Gamma Ray - Apparent 0.5 ft Average GRAM  
0 300

API

TVD 1:240 feet

Depth Averaged ROP 3 ft Average ROPA  
1000 0  
ft/h

Weight On Bit, Average 1 ft Average WOBA  
0 50  
klb  
Downhole Temperature TCDM  
0 300  
degF

9 5/8" Casing

2000

2100

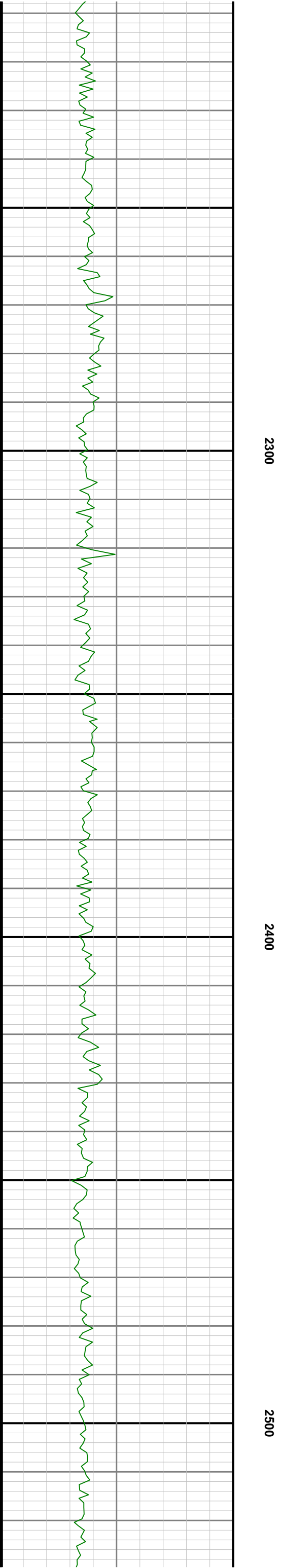
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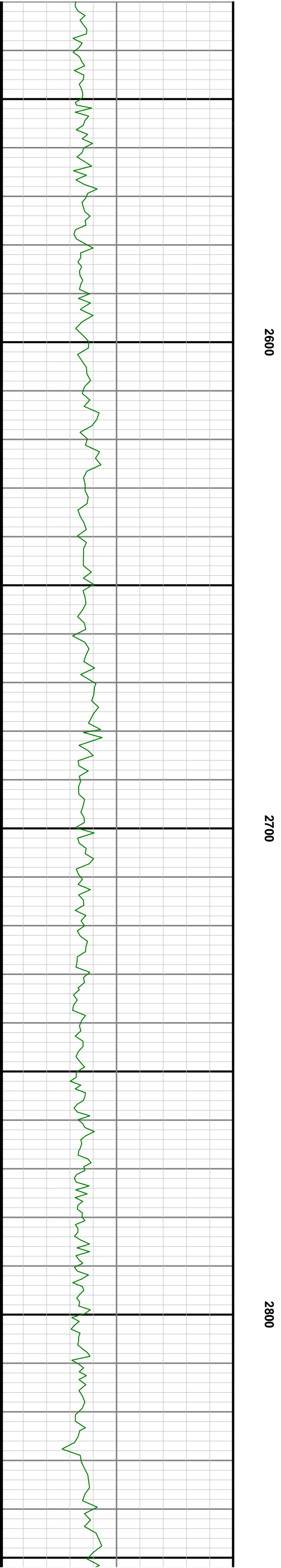
GRAM

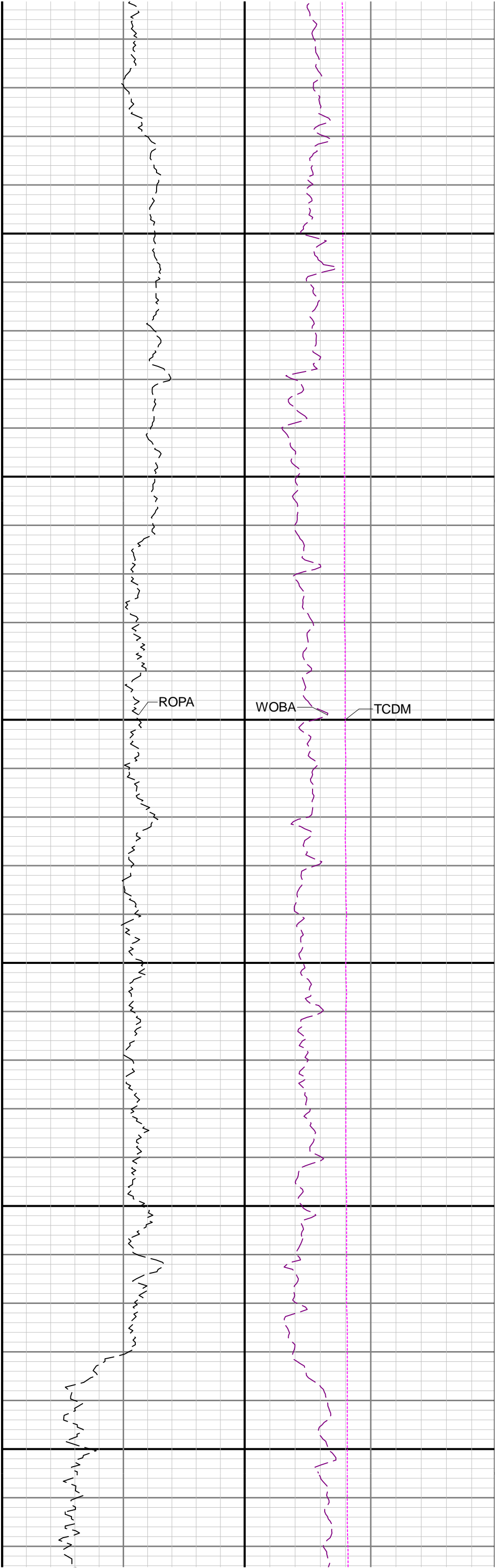
ROPA

WOBA

TCDM



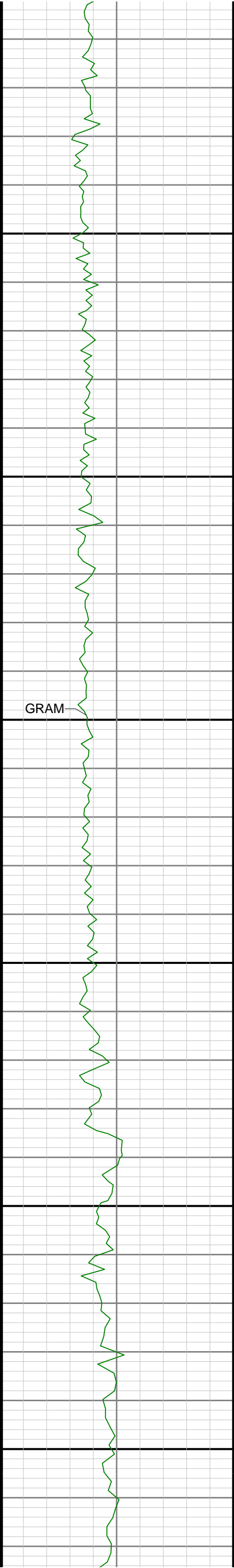




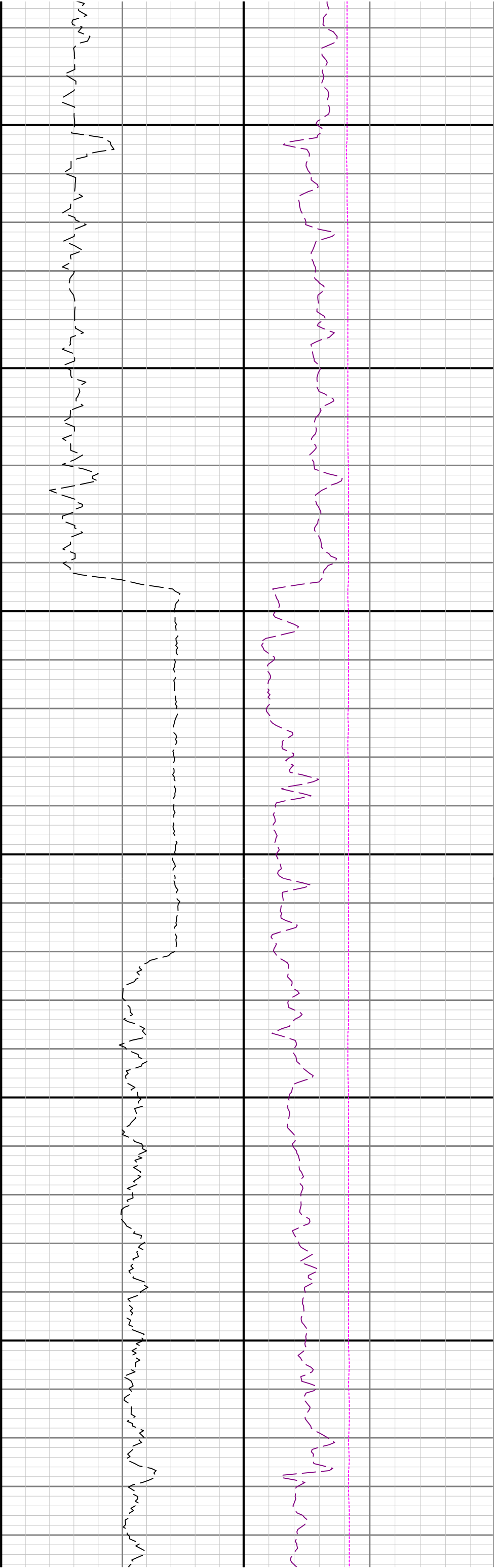
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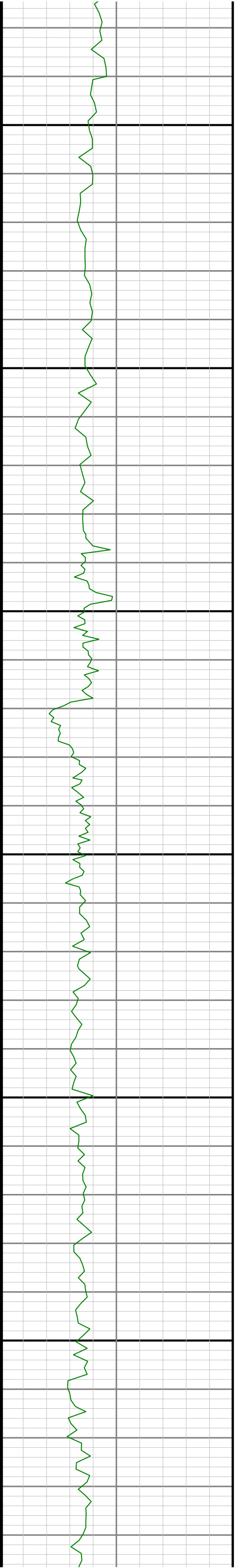
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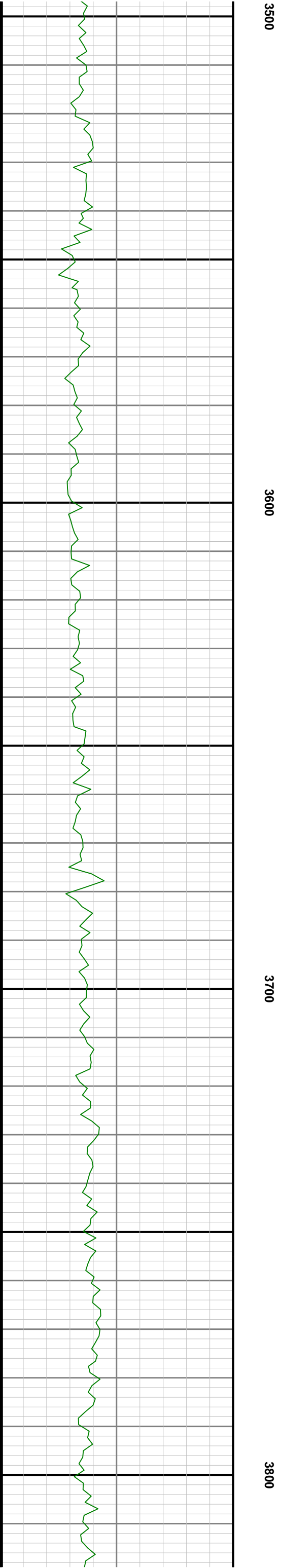
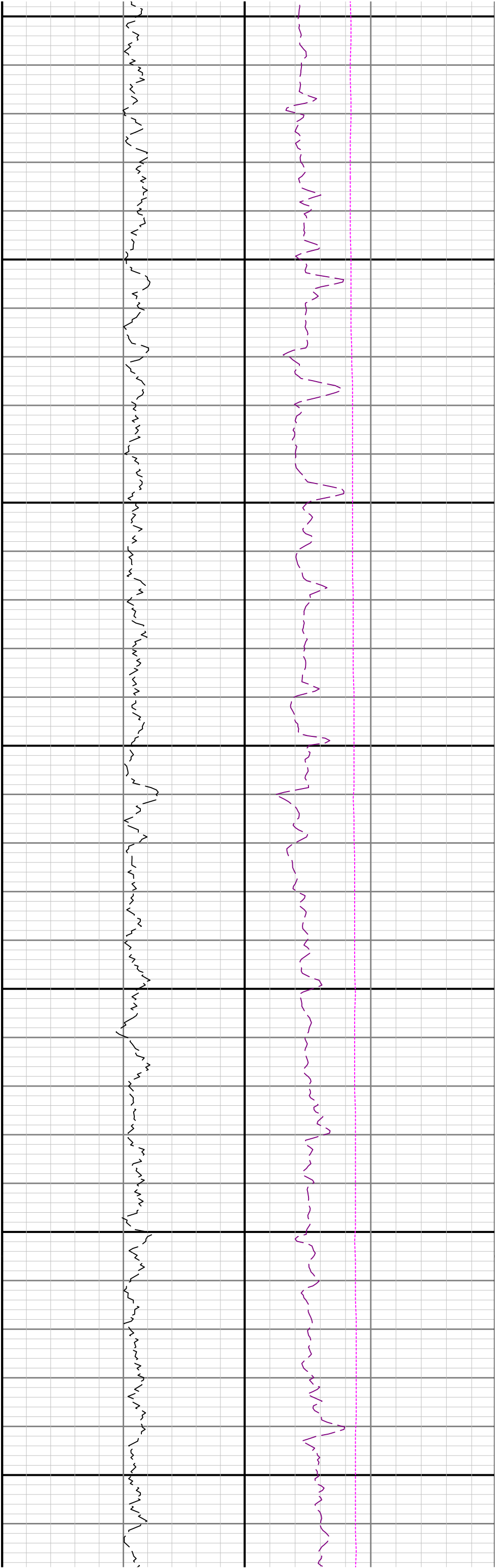


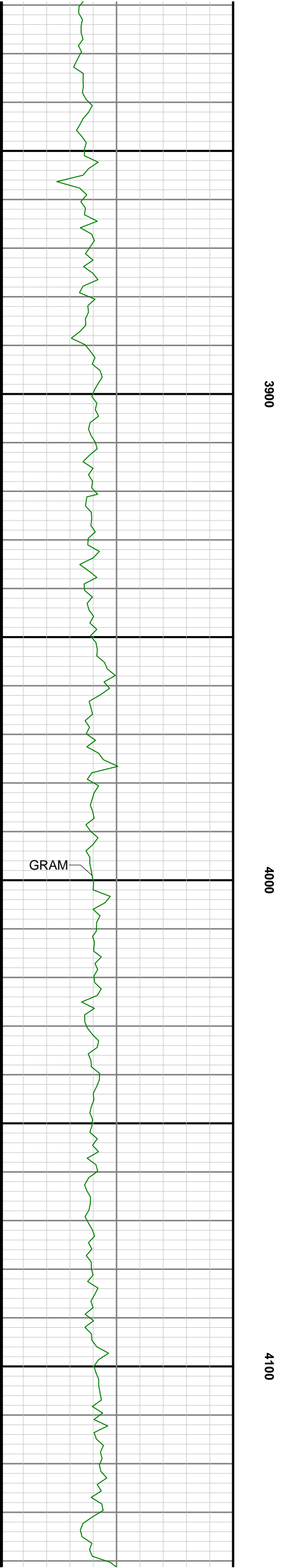
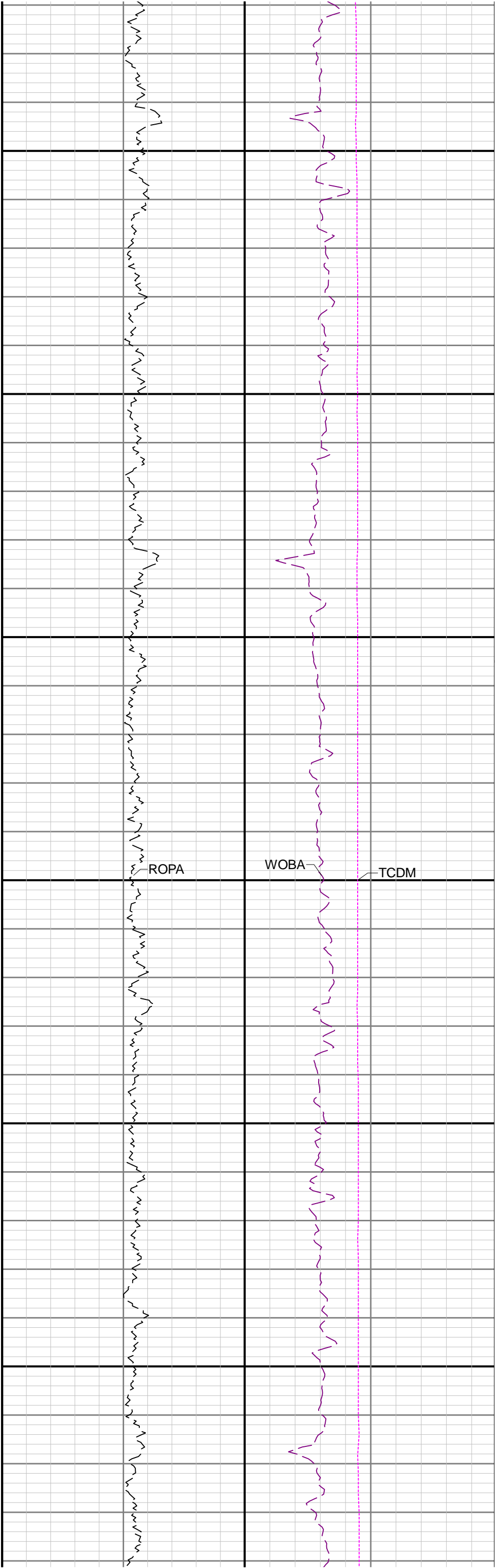
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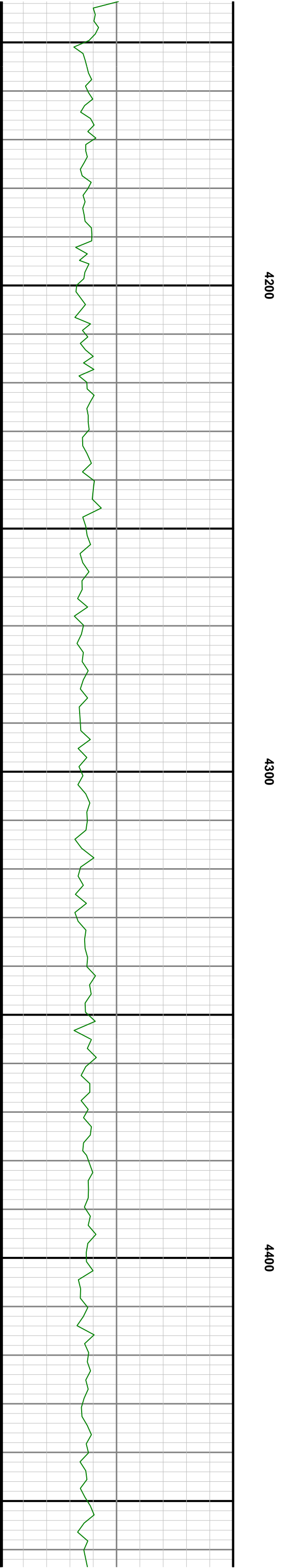
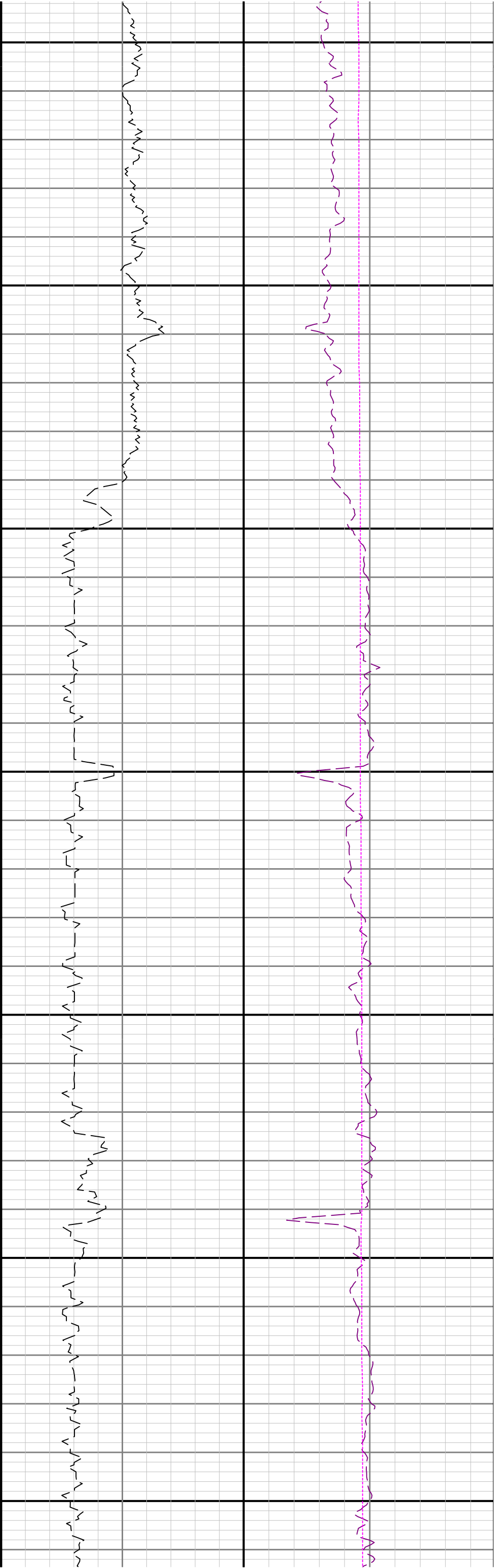
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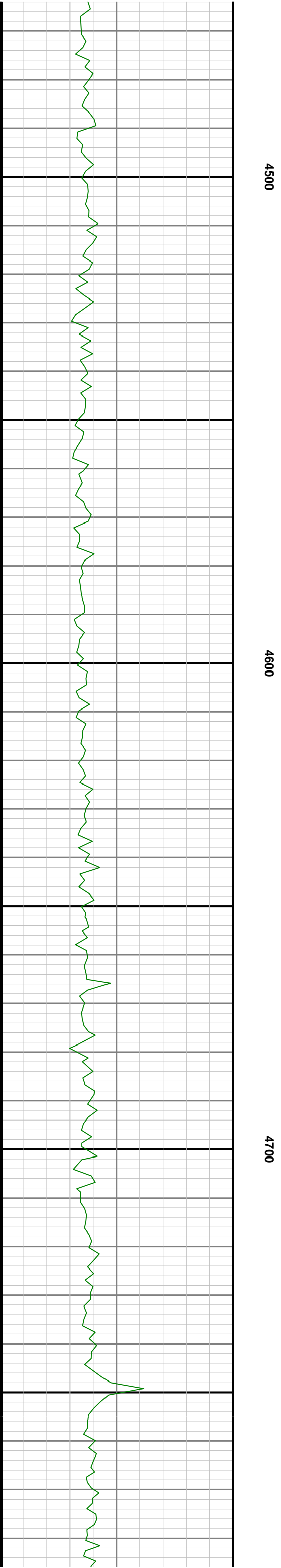
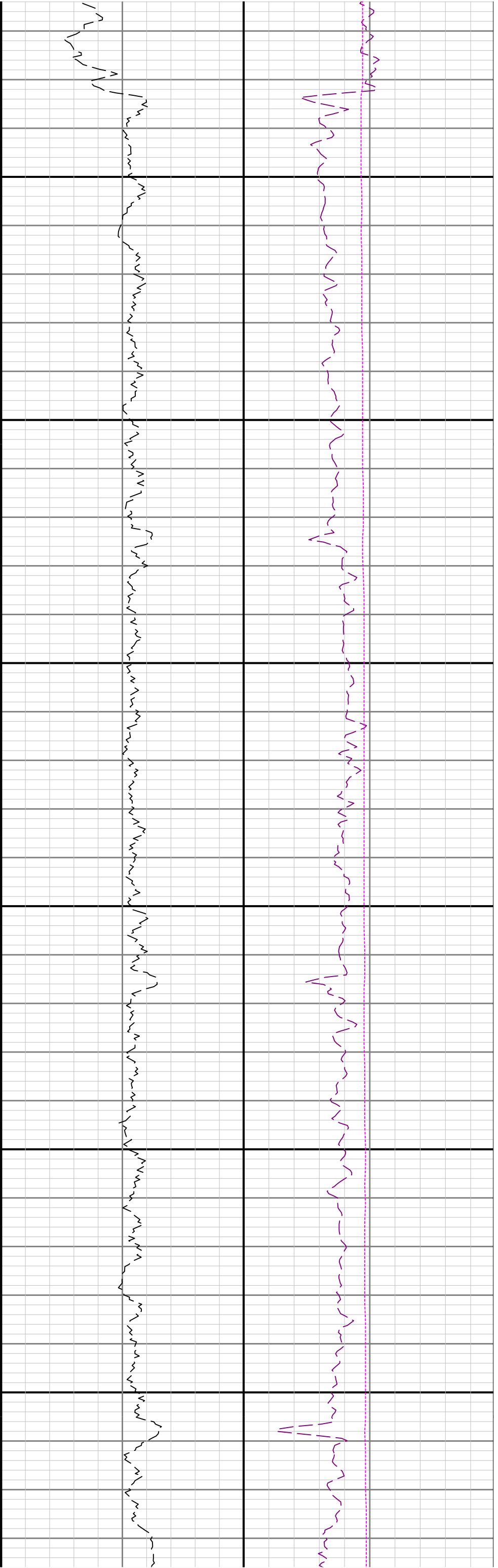


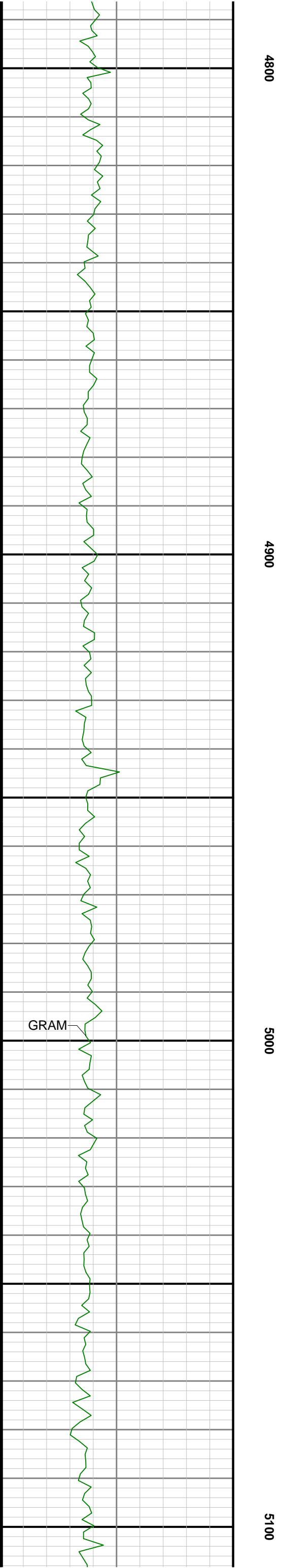
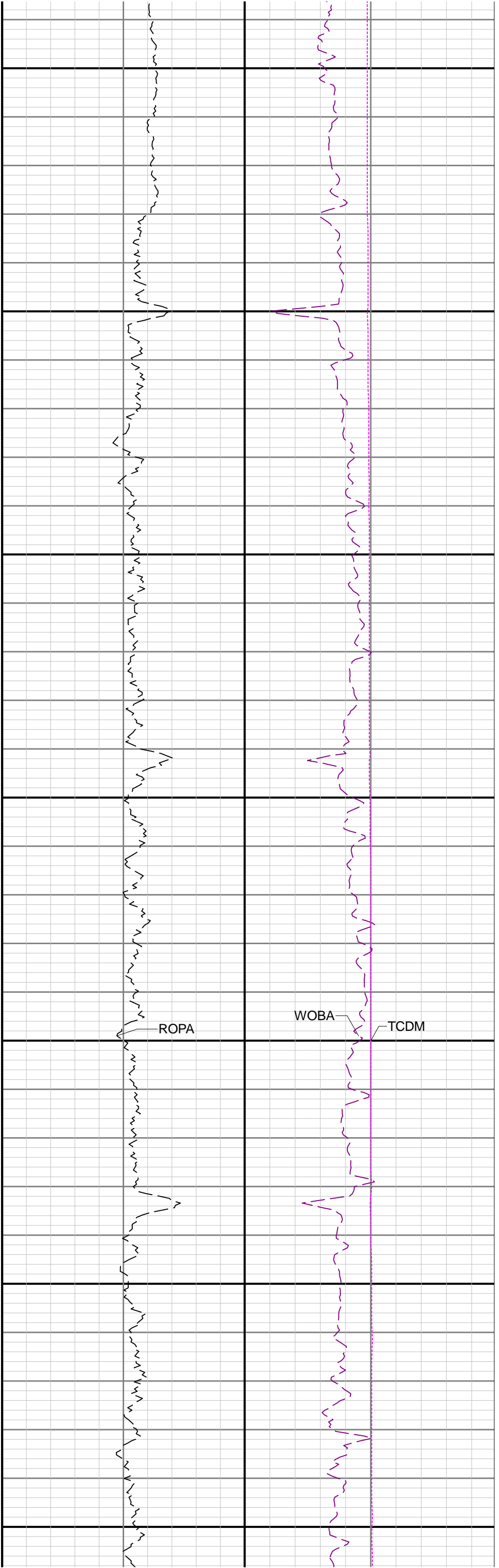


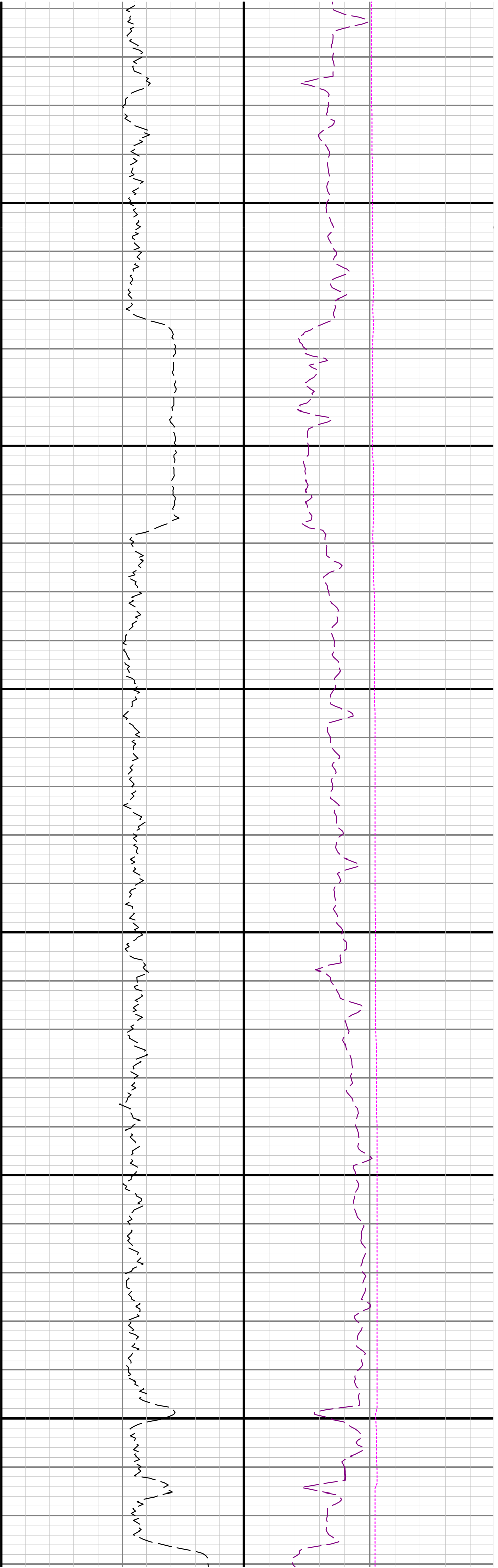








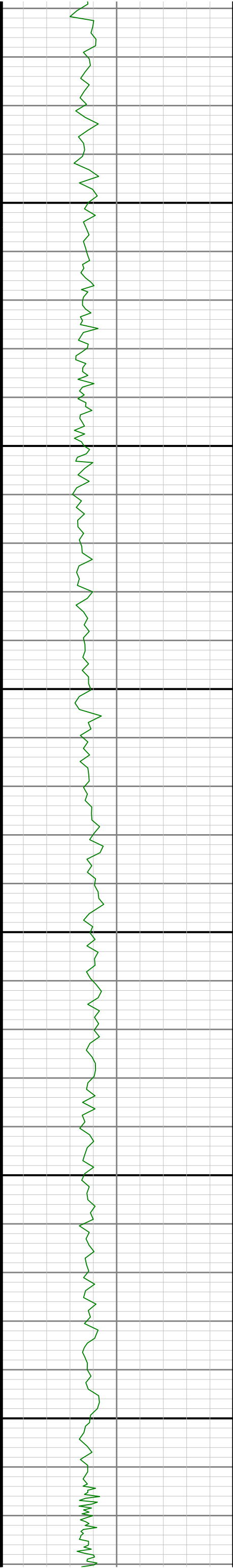


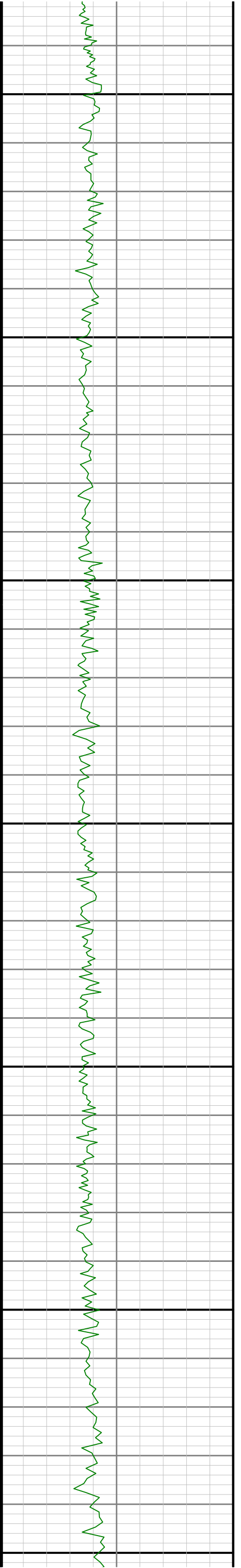
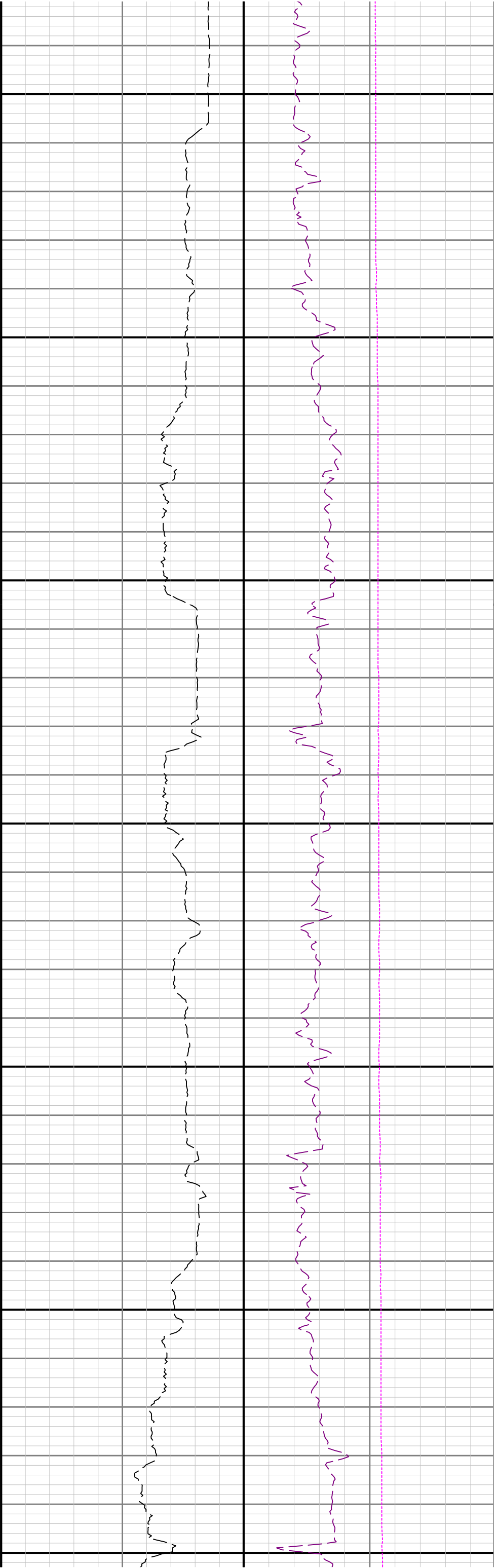


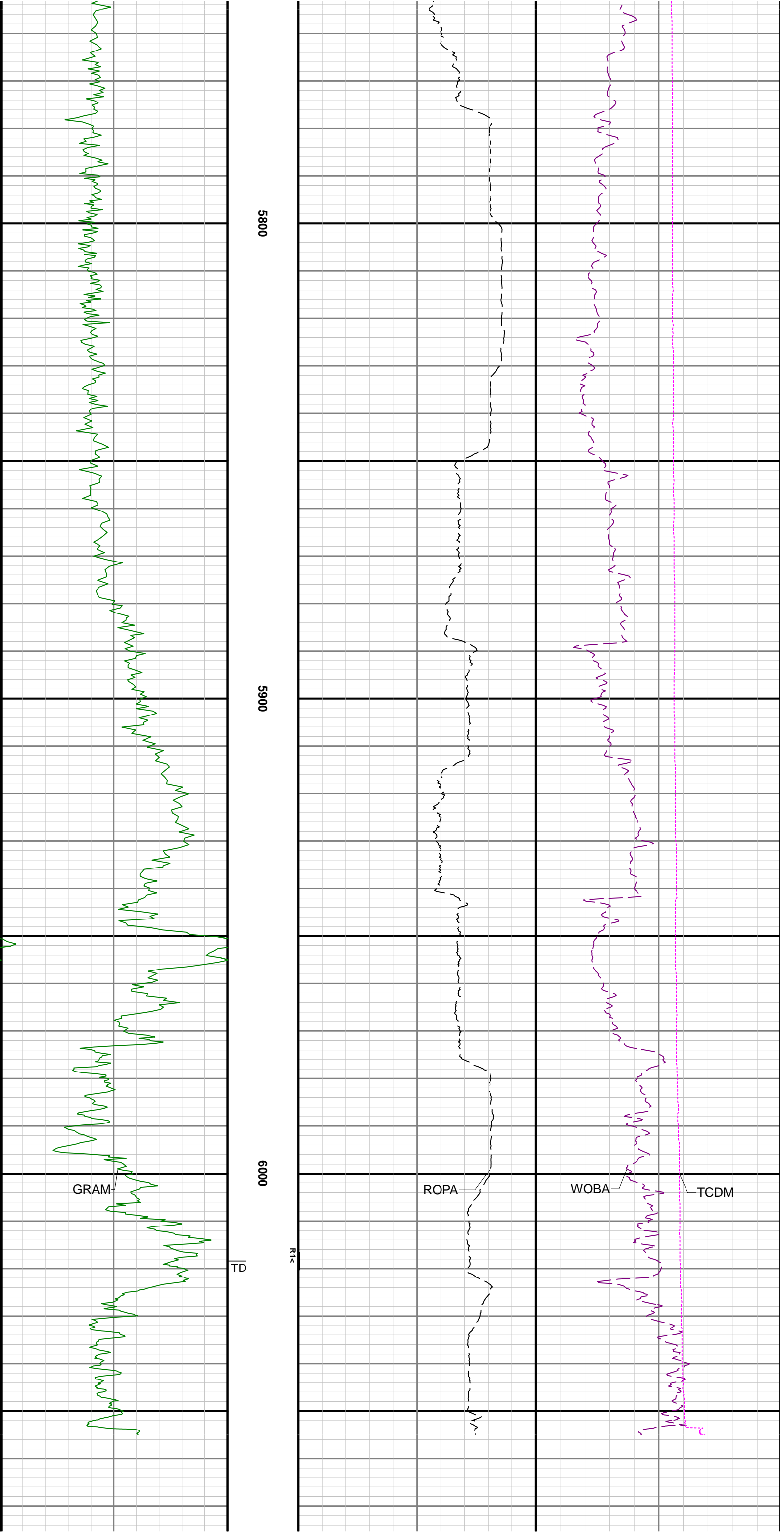
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5300

5400







Gamma Ray - Apparent 0.5 ft Average GRAM	TVD 1:240 feet	Depth Averaged ROP 3 ft Average ROPA	Weight On Bit, Average 1 ft Average WOBA
0 300 API		1000 0 ft/h	0 50 klb Downhole Temperature TCDM 0 300 degF

## Directional Survey Summary

Latitude:	040° 41' 06.216" N	Longitude:	103° 58' 38.532" W
North Reference:	Grid	Drill Depth Zero:	Rig Floor
Vertical Datum is:	Mean Sea Level	Vertical Datum to DDZ: (ft)	4876.00
Vertical Section North: (ft)	0.00	Vertical Section East: (ft)	0.00
Vertical Section Azimuth: (deg)	184.63		
Grid Convergence: (deg)	-0.98	Magnetic Declination: (deg)	7.89
Total Correction: (deg)	6.91	TVD Calculation Method:	Minimum Curvature
Magnetic Correction:	On	Local Magnetic Field: (nT)	52339
Local Magnetic Dip Angle: (deg)	66.00	Local Gravity Field: (m/s²)	9.801

Tie-In / Projection	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	Temperature (degF)	North (ft)	East (ft)	True Vertical Depth (ft)	TVD Subsea (ft)	Vertical Section (ft)	Course Length (ft)	Dog Leg Severity (deg/100ft)	Build Rate (deg/100ft)	Turn Rate (deg/100ft)
Tie-In	0.00	0.00	0.00	N/A	0.00	0.00	0.00	-4876.00	0.00	0.00	0.00	0.00	0.00
	83.00	0.12	245.72	N/A	-0.04	-0.08	83.00	-4793.00	0.04	83.00	0.14	0.14	-137.69
	181.00	0.35	325.09	N/A	0.17	-0.34	181.00	-4695.00	-0.14	98.00	0.36	0.23	80.99
	273.00	0.41	12.01	N/A	0.72	-0.44	273.00	-4603.00	-0.68	92.00	0.33	0.07	51.00
	368.00	0.25	275.77	N/A	1.07	-0.57	368.00	-4508.00	-1.02	95.00	0.53	-0.17	-101.31
	462.00	0.48	270.79	N/A	1.10	-1.17	461.99	-4414.01	-1.00	94.00	0.25	0.24	-5.30
	557.00	0.17	168.15	N/A	0.97	-1.54	556.99	-4319.01	-0.84	95.00	0.57	-0.33	-108.04
	651.00	0.40	186.98	N/A	0.50	-1.55	650.99	-4225.01	-0.38	94.00	0.26	0.24	20.03
	746.00	0.44	213.71	N/A	-0.13	-1.79	745.99	-4130.01	0.27	95.00	0.21	0.04	28.14
	840.00	0.23	233.93	N/A	-0.54	-2.15	839.99	-4036.01	0.71	94.00	0.25	-0.22	21.51
	935.00	0.16	34.28	N/A	-0.54	-2.22	934.99	-3941.01	0.72	95.00	0.40	-0.07	168.79
	1029.00	0.22	81.23	N/A	-0.41	-1.97	1028.99	-3847.01	0.56	94.00	0.17	0.06	49.95
	1124.00	0.22	126.38	N/A	-0.49	-1.65	1123.99	-3752.01	0.62	95.00	0.18	0.00	47.53
	1218.00	0.28	93.74	N/A	-0.61	-1.27	1217.99	-3658.01	0.71	94.00	0.16	0.06	-34.72
	1312.00	0.23	106.96	N/A	-0.68	-0.86	1311.98	-3564.02	0.75	94.00	0.08	-0.05	14.06
	1407.00	0.15	175.85	N/A	-0.86	-0.67	1406.98	-3469.02	0.91	95.00	0.24	-0.08	72.52
	1501.00	0.28	192.54	N/A	-1.20	-0.71	1500.98	-3375.02	1.26	94.00	0.15	0.14	17.76
	1596.00	0.23	205.69	N/A	-1.60	-0.84	1595.98	-3280.02	1.67	95.00	0.08	-0.05	13.84
	1690.00	0.27	128.98	N/A	-1.91	-0.75	1689.98	-3186.02	1.97	94.00	0.33	0.04	-81.61
	1784.00	1.35	116.63	N/A	-2.55	0.41	1783.97	-3092.03	2.51	94.00	1.16	1.15	-13.14
	1879.00	1.19	119.32	N/A	-3.53	2.27	1878.95	-2997.05	3.34	95.00	0.18	-0.17	2.83
	1942.00	0.90	121.04	N/A	-4.11	3.26	1941.94	-2934.06	3.83	63.00	0.46	-0.46	2.73
	1979.00	0.61	140.11	90.5	-4.41	3.64	1978.93	-2897.07	4.10	37.00	1.03	-0.78	51.54
	2074.00	2.22	267.57	96.0	-4.88	2.12	2073.91	-2802.09	4.69	95.00	2.77	1.69	134.17
	2168.00	4.28	291.89	98.7	-3.64	-2.95	2167.76	-2708.24	3.87	94.00	2.59	2.19	25.87
	2263.00	6.70	294.64	98.7	-0.01	-11.28	2262.32	-2613.68	0.92	95.00	2.56	2.55	2.89
	2357.00	9.04	291.80	101.4	5.02	-23.12	2355.43	-2520.57	-3.13	94.00	2.52	2.49	-3.02
	2452.00	11.21	294.07	106.8	11.56	-38.48	2448.94	-2427.06	-8.41	95.00	2.32	2.28	2.39
	2546.00	12.93	297.01	109.5	20.06	-56.20	2540.86	-2335.14	-15.46	94.00	1.94	1.83	3.13
	2641.00	15.16	295.72	112.2	30.28	-76.86	2633.02	-2242.98	-23.98	95.00	2.37	2.35	-1.36
	2735.00	16.07	286.03	114.9	39.21	-100.44	2723.56	-2152.44	-30.97	94.00	2.93	0.97	-10.31
	2830.00	15.85	268.52	114.9	42.50	-126.06	2814.95	-2061.05	-32.19	95.00	5.06	-0.23	-18.43
	2925.00	13.42	256.07	117.6	39.51	-149.74	2906.89	-1969.11	-27.30	95.00	4.17	-2.56	-13.11
	3019.00	14.15	260.34	117.6	34.96	-171.66	2998.18	-1877.82	-20.99	94.00	1.33	0.78	4.54
	3114.00	14.27	263.14	120.3	31.61	-194.73	3090.27	-1785.73	-15.79	95.00	0.73	0.13	2.95
	3208.00	14.65	266.05	123.0	29.41	-218.09	3181.30	-1694.70	-11.71	94.00	0.87	0.40	3.10
	3302.00	14.79	261.31	123.0	26.78	-241.81	3272.22	-1603.78	-7.17	94.00	1.29	0.15	-5.04
	3396.00	14.73	258.78	125.7	22.64	-265.39	3363.12	-1512.88	-1.14	94.00	0.69	-0.06	-2.69
	3491.00	14.73	259.24	125.7	18.04	-289.10	3454.99	-1421.01	5.36	95.00	0.12	0.00	0.48
	3586.00	14.64	258.64	125.7	13.42	-312.74	3546.89	-1329.11	11.87	95.00	0.19	-0.09	-0.63
	3680.00	14.78	264.07	128.4	9.84	-336.31	3637.81	-1238.19	17.34	94.00	1.47	0.15	5.78
	3775.00	14.74	268.45	131.1	8.26	-360.45	3729.68	-1146.32	20.86	95.00	1.18	-0.04	4.61
	3869.00	14.83	272.87	133.8	8.54	-384.42	3820.57	-1055.43	22.52	94.00	1.20	0.10	4.70
	3964.00	14.56	273.36	133.8	9.85	-408.48	3912.46	-963.54	23.16	95.00	0.31	-0.28	0.52
	4058.00	14.76	277.99	133.8	12.20	-432.14	4003.41	-872.59	22.72	94.00	1.26	0.21	4.93
	4153.00	14.63	280.26	136.5	16.02	-455.92	4095.30	-780.70	20.83	95.00	0.62	-0.14	2.39
	4248.00	14.75	279.25	136.5	20.10	-479.67	4187.20	-688.80	18.68	95.00	0.30	0.13	-1.06
	4342.00	14.76	277.46	139.2	23.58	-503.35	4278.10	-597.90	17.13	94.00	0.49	0.01	-1.90
	4437.00	14.64	276.16	141.9	26.44	-527.29	4369.99	-506.01	16.21	95.00	0.37	-0.13	-1.37
	4531.00	14.64	284.21	101.4	30.63	-550.61	4460.94	-415.06	13.91	94.00	2.16	0.00	8.56
	4626.00	14.62	287.39	139.2	37.16	-573.69	4552.87	-323.13	9.27	95.00	0.85	-0.02	3.35
	4721.00	14.61	288.01	144.6	44.45	-596.53	4644.79	-231.21	3.85	95.00	0.17	-0.01	0.65
	4815.00	14.65	288.90	144.6	51.97	-619.05	4735.74	-140.26	-1.83	94.00	0.24	0.04	0.95
	4910.00	14.53	287.83	144.6	59.51	-641.76	4827.68	-48.32	-7.51	95.00	0.31	-0.13	-1.13
	5005.00	14.55	284.32	147.3	66.11	-664.67	4919.64	43.64	-12.24	95.00	0.93	0.02	-3.69
	5099.00	14.48	279.38	150.0	70.94	-687.70	5010.64	134.64	-15.20	94.00	1.32	-0.07	-5.26
	5194.00	14.53	275.77	155.4	74.08	-711.28	5102.62	226.62	-16.42	95.00	0.95	0.05	-3.80
	5289.00	14.63	278.22	155.4	76.99	-735.01	5194.56	318.56	-17.41	95.00	0.66	0.11	2.58
	5383.00	14.54	275.82	155.4	79.88	-758.50	5285.53	409.53	-18.40	94.00	0.65	-0.10	-2.55
	5478.00	14.64	274.91	158.1	82.12	-782.32	5377.47	501.47	-18.70	95.00	0.26	0.11	-0.96
	5572.00	14.65	247.79	158.1	78.64	-805.19	5468.52	592.52	-13.39	94.00	7.23	0.01	-28.85
	5667.00	18.95	213.97	160.8	61.26	-824.99	5559.66	683.66	5.54	95.00	11.04	4.51	-35.60
	5761.00	25.18	211.38	163.5	31.50	-843.95	5646.73	770.73	36.73	94.00	6.71	6.63	-2.76
	5856.00	32.73	208.71	163.5	-8.34	-866.84	5729.80	853.80	78.29	95.00	8.06	7.95	-2.81
	5951.00	39.18	203.30	166.2	-58.49	-891.08	5806.68	930.68	130.23	95.00	7.56	6.79	-5.69
	6045.00	49.33	195.80	168.9	-120.27	-912.60	5873.96	997.96	193.54	94.00	12.13	10.80	-7.98
	6140.00	58.34	191.36	168.9	-194.75	-930.42	5929.98	1053.98	269.22	95.00	10.20	9.48	-4.67
	6234.00	62.31	188.91	174.3	-275.13	-944.75	5976.52	1100.52	350.49	94.00	4.79	4.22	-2.61
	6329.00	70.24	186.29	177.0	-361.27	-956.18	6014.72	1138.72	437.27	95.00	8.72	8.35	-2.76
	6423.00	78.75	184.25	179.7	-451.38	-964.46	6039.82	1163.82	527.76	94.00	9.29	9.05	-2.17
	6518.00	87.29	182.91	182.5	-545.40	-970.34	6051.36	1175.36	621.95	95.00	9.10	8.99	-1.41
	6612.00	90.15	186.74	182.5	-639.02	-978.24	6053.46	1177.46	715.90	94.00	5.08	3.04	4.07
	6707.00	89.85	185.90	182.5	-733.44	-988.70	6053.46	1177.46	810.85	95.00	0.94	-0.32	-0.88
	6801.00	90.12	179.97	252.7	-827.27	-993.51	6053.48	1177.48	904.77	94.00	6.32	0.29	-6.31
	6896.00	90.06	181.61	185.2	-922.26	-994.82	6053.33	1177.33	999.55	95.00	1.73	-0.06	1.73
	6990.00	89.94	178.39	187.9	-1016.25	-994.82	6053.33	1177.33	1093.23	94.00	3.43	-0.13	-3.43
	7085.00	89.97	177.03	190.6	-1111.17	-991.02	6053.41	1177.41	1187.54	95.00	1.43	0.03	-1.43
	7179.00	90.00	175.78	147.3	-1204.98	-985.13	6053.43	1177.43	1280.57	94.00	1.33	0.03	-1.33
	7274.00	90.68	179.10	190.6	-1299.87	-980.89	6052.87	1176.87	1374.81	95.00	3.57	0.72	3.49
	7368.00	89.97	179.59	193.3	-1393.86	-979.81	6052.34	1176.34	1468.41	94.00	0.92	-0.76	0.52
	7463.00	90.52	181.20	196.0	-1488.86	-980.47	6051.93	1175.93	1563.14	95.00	1.79	0.58	1.69
	7558.00	89.82	184.02	198.7	-1583.75	-984.79	6051.65	1175.65	1658.07	95.00	3.06	-0.74	2.97
	7652.00	89.82	181.53	198.7	-1677.63	-989.34	6051.94	1175.94	1752.02	94.00	2.65	0.00	-2.65
	7746.00	89.88	179.18	160.8	-1771.62	-989.92	6052.19	1176.19	1845.75	94.00	2.50	0.06	-2.50

		7841.00	89.57	174.93	201.4	-1866.47	-985.04	6052.65	1176.65	1939.90	95.00	4.49	-0.33	-4.47
		7936.00	89.54	169.24	204.1	-1960.53	-971.97	6053.38	1177.38	2032.59	95.00	5.99	-0.03	-5.99
		8030.00	89.72	167.42	201.4	-2052.58	-952.96	6053.99	1177.99	2122.80	94.00	1.95	0.19	-1.94
		8125.00	89.82	171.62	198.7	-2145.97	-935.68	6054.37	1178.37	2214.50	95.00	4.42	0.11	4.42
		8220.00	89.78	173.97	201.4	-2240.21	-923.77	6054.70	1178.70	2307.47	95.00	2.47	-0.04	2.47
		8314.00	89.94	177.54	201.4	-2333.94	-916.81	6054.93	1178.93	2400.33	94.00	3.80	0.17	3.80
		8408.00	90.06	179.45	204.1	-2427.90	-914.34	6054.93	1178.93	2493.79	94.00	2.04	0.13	2.03
		8503.00	89.82	181.38	206.8	-2522.90	-915.03	6055.03	1179.03	2588.53	95.00	2.05	-0.25	2.03
		8598.00	90.09	179.27	204.1	-2617.89	-915.57	6055.11	1179.11	2683.25	95.00	2.24	0.28	-2.22
		8692.00	90.15	178.74	206.8	-2711.88	-913.93	6054.91	1178.91	2776.80	94.00	0.57	0.06	-0.56
		8787.00	90.25	177.60	209.5	-2806.82	-910.90	6054.58	1178.58	2871.19	95.00	1.20	0.11	-1.20
		8881.00	90.40	181.36	212.2	-2900.80	-910.05	6054.05	1178.05	2964.80	94.00	4.00	0.16	4.00
		8976.00	90.18	186.04	212.2	-2995.58	-916.18	6053.57	1177.57	3059.76	95.00	4.93	-0.23	4.93
		9071.00	90.18	185.45	212.2	-3090.10	-925.69	6053.27	1177.27	3154.74	95.00	0.62	0.00	-0.62
		9165.00	90.40	184.54	212.2	-3183.74	-933.87	6052.79	1176.79	3248.73	94.00	1.00	0.23	-0.97
		9260.00	90.37	188.84	214.9	-3278.07	-944.94	6052.15	1176.15	3343.65	95.00	4.53	-0.03	4.53
		9354.00	90.18	188.25	212.2	-3371.02	-958.90	6051.70	1175.70	3437.43	94.00	0.66	-0.20	-0.63
		9449.00	90.28	182.96	212.2	-3465.53	-968.18	6051.32	1175.32	3532.38	95.00	5.57	0.11	-5.57
		9543.00	89.94	182.92	214.9	-3559.41	-973.00	6051.14	1175.14	3626.34	94.00	0.36	-0.36	-0.04
		9638.00	90.25	180.71	214.9	-3654.36	-976.01	6050.98	1174.98	3721.22	95.00	2.35	0.33	-2.33
		9732.00	90.34	181.19	217.6	-3748.34	-977.57	6050.50	1174.50	3815.02	94.00	0.52	0.10	0.51
		9827.00	90.25	179.79	220.3	-3843.34	-978.38	6050.01	1174.01	3909.77	95.00	1.48	-0.09	-1.47
		9921.00	90.18	175.88	223.0	-3937.25	-974.83	6049.66	1173.66	4003.09	94.00	4.16	-0.07	-4.16
		10015.00	90.28	177.60	220.3	-4031.09	-969.48	6049.28	1173.28	4096.20	94.00	1.83	0.11	1.83
		10110.00	90.12	178.15	223.0	-4126.03	-965.96	6048.95	1172.95	4190.54	95.00	0.60	-0.17	0.58
		10205.00	90.22	180.29	225.7	-4221.01	-964.67	6048.66	1172.66	4285.11	95.00	2.26	0.11	2.25
		10299.00	90.31	181.70	225.7	-4314.99	-966.30	6048.23	1172.23	4378.91	94.00	1.50	0.10	1.50
		10394.00	90.31	181.85	228.4	-4409.95	-969.24	6047.72	1171.72	4473.79	95.00	0.16	0.00	0.16
		10488.00	90.46	181.29	228.4	-4503.91	-971.82	6047.08	1171.08	4567.66	94.00	0.62	0.16	-0.60
		10583.00	90.40	178.15	228.4	-4598.89	-971.35	6046.37	1170.37	4662.30	95.00	3.31	-0.06	-3.31
		10677.00	90.18	175.73	228.4	-4692.75	-966.34	6045.90	1169.90	4755.44	94.00	2.59	-0.23	-2.57
		10772.00	90.18	174.97	228.4	-4787.44	-958.63	6045.60	1169.60	4849.20	95.00	0.80	0.00	-0.80
		10866.00	90.28	175.05	231.1	-4881.08	-950.46	6045.22	1169.22	4941.87	94.00	0.14	0.11	0.09
		10961.00	90.25	175.66	231.1	-4975.77	-942.76	6044.78	1168.78	5035.63	95.00	0.64	-0.03	0.64
		11055.00	90.18	174.95	233.8	-5069.45	-935.07	6044.43	1168.43	5128.39	94.00	0.76	-0.07	-0.76
		11150.00	90.25	174.27	233.8	-5164.03	-926.15	6044.07	1168.07	5221.94	95.00	0.72	0.07	-0.72
		11245.00	90.22	176.25	355.5	-5258.70	-918.30	6043.68	1167.68	5315.66	95.00	2.08	-0.03	2.08
		11339.00	90.34	178.89	236.5	-5352.61	-914.31	6043.22	1167.22	5408.94	94.00	2.81	0.13	2.81
		11434.00	90.18	181.12	236.5	-5447.60	-914.32	6042.79	1166.79	5503.63	95.00	2.35	-0.17	2.35
		11528.00	90.31	181.08	236.5	-5541.58	-916.13	6042.39	1166.39	5597.45	94.00	0.14	0.14	-0.04
		11623.00	90.25	181.27	239.2	-5636.56	-918.07	6041.92	1165.92	5692.27	95.00	0.21	-0.06	0.20
		11717.00	90.40	181.07	239.2	-5730.54	-919.99	6041.39	1165.39	5786.10	94.00	0.27	0.16	-0.21
		11812.00	90.37	183.47	241.9	-5825.45	-923.75	6040.75	1164.75	5881.01	95.00	2.53	-0.03	2.53
		11906.00	90.25	183.74	239.2	-5919.27	-929.67	6040.24	1164.24	5974.99	94.00	0.31	-0.13	0.29
		12000.00	90.15	180.71	301.4	-6013.18	-933.31	6039.92	1163.92	6068.90	94.00	3.23	-0.11	-3.22
		12095.00	90.12	178.05	241.9	-6108.17	-932.29	6039.69	1163.69	6163.49	95.00	2.80	-0.03	-2.80
		12189.00	90.22	175.84	244.6	-6202.03	-927.28	6039.41	1163.41	6256.64	94.00	2.35	0.11	-2.35
		12284.00	90.25	175.87	244.6	-6296.78	-920.41	6039.02	1163.02	6350.53	95.00	0.04	0.03	0.03
		12379.00	90.22	176.85	244.6	-6391.59	-914.38	6038.63	1162.63	6444.54	95.00	1.03	-0.03	1.03
		12473.00	90.22	175.68	241.9	-6485.38	-908.26	6038.27	1162.27	6537.54	94.00	1.24	0.00	-1.24
		12567.00	90.25	178.13	244.6	-6579.24	-903.18	6037.89	1161.89	6630.68	94.00	2.61	0.03	2.61
		12662.00	90.25	179.06	244.6	-6674.21	-900.85	6037.47	1161.47	6725.15	95.00	0.98	0.00	0.98
		12756.00	90.00	176.77	244.6	-6768.14	-897.43	6037.27	1161.27	6818.50	94.00	2.45	-0.27	-2.44
		12851.00	90.31	178.47	247.3	-6863.05	-893.49	6037.01	1161.01	6912.78	95.00	1.82	0.33	1.79
		12945.00	90.18	181.09	247.3	-6957.04	-893.13	6036.61	1160.61	7006.44	94.00	2.79	-0.14	2.79
		13040.00	90.28	181.73	247.3	-7052.01	-895.46	6036.23	1160.23	7101.28	95.00	0.68	0.11	0.67
		13134.00	90.22	181.30	247.3	-7145.98	-897.95	6035.82	1159.82	7195.14	94.00	0.46	-0.06	-0.46
		13228.00	90.31	181.54	247.3	-7239.95	-900.28	6035.38	1159.38	7289.00	94.00	0.27	0.10	0.26
		13323.00	90.34	182.33	247.3	-7334.89	-903.49	6034.84	1158.84	7383.89	95.00	0.83	0.03	0.83
		13417.00	90.22	182.25	247.3	-7428.82	-907.24	6034.38	1158.38	7477.81	94.00	0.15	-0.13	-0.09
		13512.00	90.22	186.01	247.3	-7523.55	-914.08	6034.02	1158.02	7572.79	95.00	3.96	0.00	3.96
		13607.00	90.28	188.63	247.3	-7617.77	-926.19	6033.60	1157.60	7667.67	95.00	2.76	0.06	2.76
		13701.00	90.31	184.85	244.6	-7711.10	-937.22	6033.12	1157.12	7761.59	94.00	4.02	0.03	-4.02
		13795.00	90.28	182.65	241.9	-7804.89	-943.36	6032.64	1156.64	7855.57	94.00	2.34	-0.03	-2.34
		13890.00	90.34	179.80	241.9	-7899.86	-945.39	6032.12	1156.12	7950.40	95.00	3.00	0.06	-3.00
		13984.00	90.12	176.36	247.3	-7993.79	-942.25	6031.74	1155.74	8043.77	94.00	3.67	-0.23	-3.66
		14079.00	90.28	173.05	247.3	-8088.37	-933.48	6031.41	1155.41	8137.33	95.00	3.49	0.17	-3.48
		14173.00	90.18	175.51	247.3	-8181.90	-924.11	6031.04	1155.04	8229.79	94.00	2.62	-0.11	2.62
		14268.00	90.28	177.45	247.3	-8276.71	-918.28	6030.65	1154.65	8323.83	95.00	2.04	0.11	2.04
		14362.00	90.22	179.93	250.0	-8370.68	-916.13	6030.24	1154.24	8417.32	94.00	2.64	-0.06	2.64
		14457.00	90.25	180.47	250.0	-8465.68	-916.46	6029.85	1153.85	8512.03	95.00	0.57	0.03	0.57
		14551.00	90.25	179.62	250.0	-8559.68	-916.54	6029.44	1153.44	8605.73	94.00	0.90	0.00	-0.90
		14646.00	90.18	178.56	250.0	-8654.66	-915.03	6029.09	1153.09	8700.28	95.00	1.12	-0.07	-1.12
		14741.00	90.31	176.54	250.0	-8749.57	-910.97	6028.68	1152.68	8794.55	95.00	2.13	0.14	-2.13
		14835.00	90.18	176.85	250.0	-8843.41	-905.55	6028.28	1152.28	8887.65	94.00	0.36	-0.14	0.33
		14930.00	90.18	178.42	252.7	-8938.33	-901.63	6027.98	1151.98	8981.94	95.00	1.65	0.00	1.65
		15024.00	90.31	179.58	252.7	-9032.31	-899.99	6027.58	1151.58	9075.49	94.00	1.24	0.14	1.23
		15119.00	90.37	183.34	252.7	-9127.26	-902.41	6027.02	1151.02	9170.32	95.00	3.96	0.06	3.96
		15214.00	90.40	185.68	252.7	-9221.96	-909.88	6026.38	1150.38	9265.31	95.00	2.46	0.03	2.46
		15308.00	90.31	185.51	252.7	-9315.51	-919.04	6025.79	1149.79	9359.30	94.00	0.20	-0.10	-0.18
		15403.00	90.22	181.55	252.7	-9410.31	-924.89	6025.35	1149.35	9454.26	95.00	4.17	-0.09	-4.17
		15497.00	90.34	177.27	250.0	-9504.28	-92							