

1 : 1200 / 1 : 240

WELL INFORMATION					
MWD Run Number	100	200	300	400	
Date run completed	09-Jul-11	10-Jul-11	13-Jul-11	17-Jul-11	
Rig Bit Number	1	2	3	4	
Bit Size (in)	8.750	8.750	8.750	6.130	
Tool Nominal OD (in)	6.750	6.750	6.750	4.750	
Log Start Depth (MD, ft)	485.00	4,908.00	5,290.00	6,960.00	
Log End Depth (MD, ft)	4,908.00	5,290.00	6,960.00	11,000.00	
Drill or Wipe	Drill	Drill	Drill	Drill	
Drill/Wipe Start Date and Time	07-Jul-11 03:30	09-Jul-11 19:15	10-Jul-11 20:24	15-Jul-11 02:37	
Drill/Wipe End Date and Time	09-Jul-11 11:52	10-Jul-11 09:35	13-Jul-11 05:30	17-Jul-11 12:15	
Min Inc (deg) @ Depth (MD, ft)	.09 @ 640.00	9.88 @ 5,202.00	8.72 @ 5,290.00	88.43 @ 8,216.00	
Max Inc (deg) @ Depth (MD, ft)	24.43 @ 3,616.00	13.61 @ 4,885.00	88.52 @ 6,922.00	92.01 @ 9,423.00	
Bit TFA(in2) / Bit Type	.75 / PDC	.86 / PDC	.92 / Tricone	.46 / PDC	
Flow Rate (gpm)	430.00	430.00	430.00	240.00	
Max AV (fpm) / CV (fpm) @ MWD	N/A / N/A	N/A / N/A	331.9 / 315.7	437.6 / 248.4	
Fluid Type	Fresh Water Gel	Fresh Water Gel	Fresh Water Gel	Fresh Water Gel	
Density (ppg) / Viscosity (spqt)	N/A / N/A	N/A / N/A	9.60 / 43.00	8.80 / 36.00	
Filtrate CL (ppm)	N/A	N/A	1,400.00	1,000.00	
pH / Fluid Loss (mptm)	N/A / N/A	N/A / N/A	8.50 / 0	8.40 / 0	
PV (cP) / YP (lbf2)	N/A / N/A	N/A / N/A	15 / 18.00	9 / 8.00	
% Solids / % Sand	N/A / N/A	N/A / N/A	9.5 / 0.20	2.9 / 0.25	
% Oil / Oil:Water Ratio	N/A / N/A	N/A / N/A	N/A / N/A	N/A / N/A	
Rm @ Measured Temp (degF)	N/A @ N/A	N/A @ N/A	N/A @ N/A	N/A @ N/A	
Rmf @ Measured Temp (degF)	N/A @ N/A	N/A @ N/A	N/A @ N/A	N/A @ N/A	
Rmc @ Measured Temp (degF)	N/A @ N/A	N/A @ N/A	N/A @ N/A	N/A @ N/A	
Mud Temp (deg F) @	115.10 / 10M	116.00 / 10M	120.05 / 10M	222.00 / 10M	

Max Tool Temp (degF) / Source	117.10 / PCM	143.60 / PCM	169.65 / HCIM	209.20 / PCM	
Rm @ Max Tool Temp (degF)	N/A @ 117.10	N/A @ 143.60	N/A @ 169.65	N/A @ 209.20	
Lead MWD Engineer	Bogdan Cristian	Bogdan Cristian	Bogdan Cristian	Bogdan Cristian	
Customer Representative	Ray Hoffman	Ray Hoffman	Ray Hoffman	Ray Hoffman	

SENSOR INFORMATION

Downhole Processor Information

Tool Type	PCM	PCM	HCIM	PCM	
Software Version	5.76	5.76	88.47	5.76	
Sub Serial Number	11342301	11342301	11222074	11675321	
Insert Serial Number	11227547	11227547	136648	11227547	
Date and Time Initialized	06-Jul-11 13:39	06-Jul-11 13:39	10-Jul-11 16:19	14-Jul-11 11:53	
Date and Time Read	09-Jul-11 15:09	10-Jul-11 14:13	13-Jul-11 19:47	17-Jul-11 21:43	
ECMB SW Version	N/A	N/A	N/A	N/A	

Directional Sensor Information

Tool Type	PCDC	PCDC	PCDC	PCDC	
Distance From Bit (ft)	55.00	55.00	33.00	40.84	
Software Version	6.21	6.21	6.21	6.21	
Sub Serial Number	11342301	11342301	11677158	11675321	
Sonde Serial Number	11478177	11478177	11297618	11478177	
Sensor ID Number	N/A	N/A	N/A	N/A	
Toolface Offset (deg)	357.86	194.21	332.00	55.27	

Gamma Ray Sensor Information

Tool Type	N/A	N/A	DGR	PCG	
Distance From Bit (ft)	N/A	N/A	52.77	45.42	
Recorded Sample Period (sec)	N/A	N/A	12	10	
Software Version	N/A	N/A	N/A	8.15	
Sub Serial Number	N/A	N/A	11064912	11675321	
Insert/Sonde Serial Number	N/A	N/A	11321776	11579774	

Resistivity Sensor Information

Tool Type	N/A	N/A	EWR-P4	N/A	
Distance From Bit (ft)	N/A	N/A	42.88	N/A	
Recorded Sample Period (sec)	N/A	N/A	12	N/A	
Software Version	N/A	N/A	1.50	N/A	
Sub Serial Number	N/A	N/A	10505915	N/A	
Receiver Insert Serial Number	N/A	N/A	112991	N/A	
Transmitter Insert Serial Number	N/A	N/A	230091	N/A	
Receiver Orientation	N/A	N/A	Down	N/A	

Pulser Controller Sensor Information

Tool Type	PCM	PCM	PCM	PCM	
Software Version	5.76	5.76	8.04	5.76	
PIC Software Version	1.30	1.30	N/A	1.30	
Sub/HOC Serial Number	11342301	11342301	11608311	11675321	
Insert/Probe/Module SN	11227547	11227547	10809549	11227547	
Battery Serial Number	N/A	N/A	N/A	N/A	
Valve Insert SN	N/A	N/A	N/A	N/A	
DC Insert Serial Number	N/A	N/A	N/A	N/A	
Choke Size (32nd)	N/A	N/A	N/A	N/A	
Driver Current (amps)	N/A	N/A	N/A	N/A	
Driver SMI Current (amps)	N/A	N/A	N/A	N/A	

Boot Strap Version	4,130.00	4,130.00	N/A	4,130.00	
DDSr-DGR Sensor Information					
Tool Type	N/A	N/A	DDSr-DGR	N/A	
Distance From Bit (ft)	N/A	N/A	0	N/A	
Recorded Sample Period (sec)	N/A	N/A	12	N/A	
Software Version	N/A	N/A	10.72	N/A	
Sub Serial Number	N/A	N/A	11064912	N/A	
Insert Serial Number	N/A	N/A	11383702	N/A	
Sensor ID Number	N/A	N/A	7024	N/A	

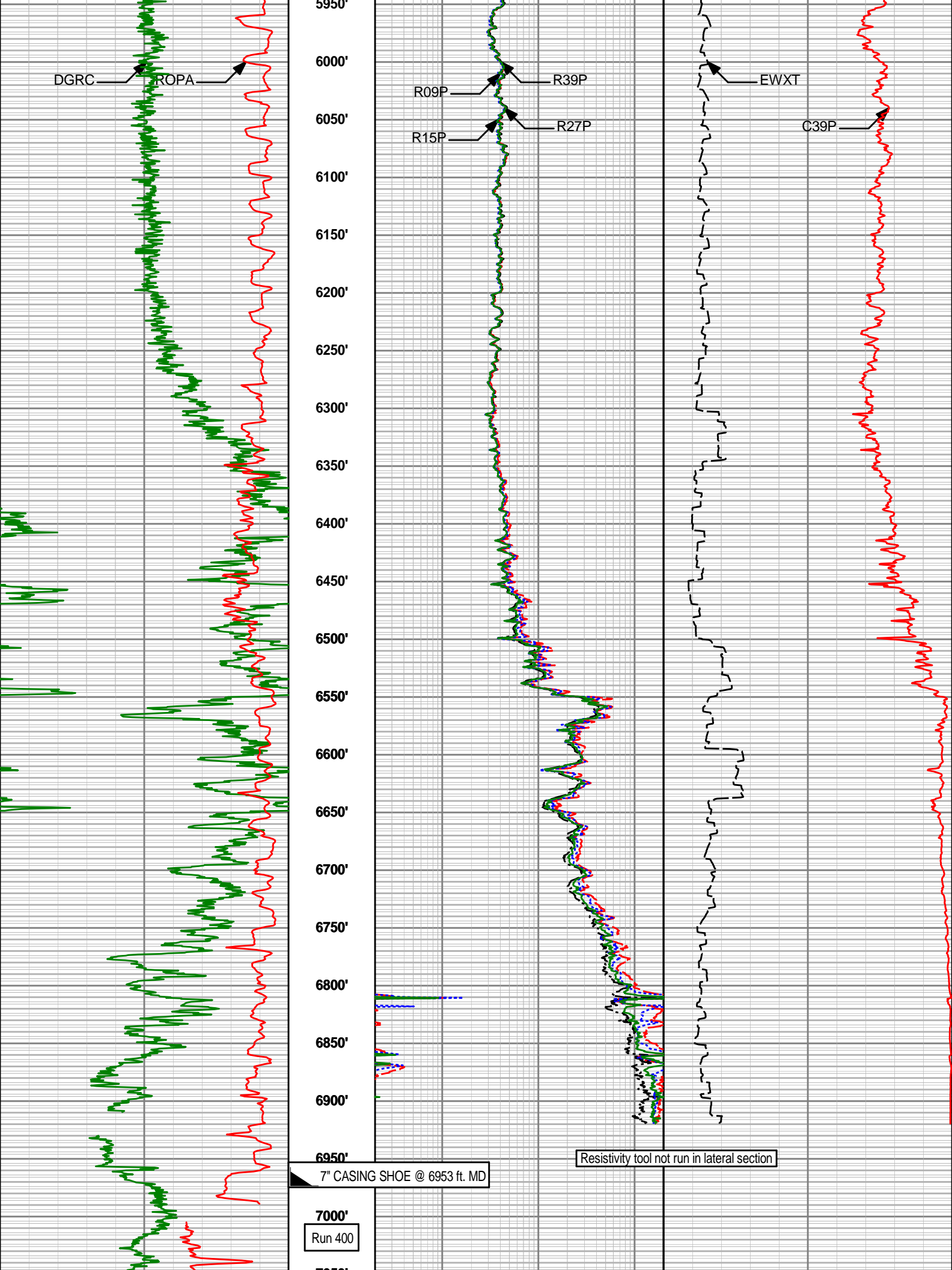
REMARKS					
<p>1. All depths are measured bit depths, referenced to the Driller's pipe tally and are measured from the Kelly Bushing, unless otherwise specified.</p> <p>2. No depth corrections have been made for pipe stretch or compression.</p> <p>3. Critical annular velocities are calculated using the "Power Law" model for water based fluids and the "Bingham Plastic" model for oil and synthetic based fluids.</p> <p>4. All data presented is recorded data unless otherwise specified</p> <p>5. The following smoothing parameters have been applied to the data:</p> <p>ROPA (Average Rate of Penetration):</p> <p style="padding-left: 40px;">Interval Resolution: 0.5 ft</p> <p style="padding-left: 40px;">Interval Distance: 1.2 ft</p> <p style="padding-left: 40px;">Gap Fill : 3.0 ft</p> <p>All other data:</p> <p style="padding-left: 40px;">Interval Resolution: 0.5 ft</p> <p style="padding-left: 40px;">Interval Distance: 0.6 ft</p> <p style="padding-left: 40px;">Gap Fill: 3.0 ft</p> <p>6. INSITE version 7.2.4 Build 03</p>					

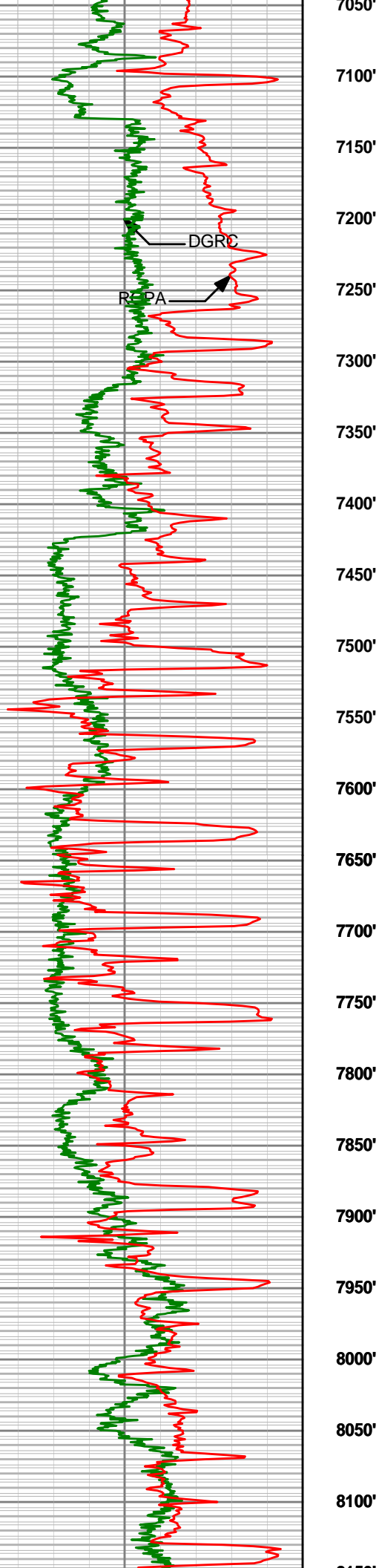
WARRANTY					
<p>HALLIBURTON WILL USE ITS BEST EFFORTS TO FURNISH CUSTOMERS WITH ACCURATE INFORMATION AND INTERPRETATIONS THAT ARE PART OF, AND INCIDENT TO, THE SERVICES PROVIDED. HOWEVER, HALLIBURTON CANNOT AND DOES NOT WARRANT THE ACCURACY OR CORRECTNESS OF SUCH INFORMATION AND INTERPRETATIONS. UNDER NO CIRCUMSTANCES SHOULD ANY SUCH INFORMATION OR INTERPRETATION BE RELIED UPON AS THE SOLE BASIS FOR ANY DRILLING, COMPLETION, PRODUCTION, OR FINANCIAL DECISION OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING VENTURE, DRILLING RIG OR ITS CREW OR ANY OTHER THIRD PARTY. THE CUSTOMER HAS FULL RESPONSIBILITY FOR ALL DRILLING, COMPLETION AND PRODUCTION OPERATION. HALLIBURTON MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE SERVICES RENDERED. IN NO EVENT WILL HALLIBURTON BE LIABLE FOR FAILURE TO OBTAIN ANY PARTICULAR RESULTS OR FOR ANY DAMAGES, INCLUDING, BUT NOT LIMITED TO, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES, RESULTING FROM THE USE OF ANY INFORMATION OR INTERPRETATION PROVIDED BY HALLIBURTON.</p>					

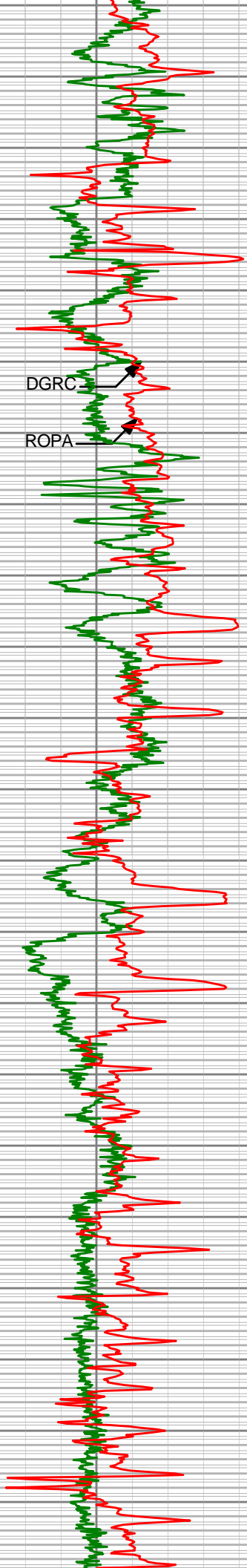
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MD Detail Log 1:1200

		39in Phase Resistivity (R39P)		
		<div><div>0.2</div><div>ohm-m</div><div>200</div></div>		
		27in Phase Resistivity (R27P)		
		<div><div>0.2</div><div>ohm-m</div><div>200</div></div>		
ROP Avg (ROPA) feet per hr		15in Phase Resistivity (R15P)		Form Expos Time-EWR (EWXT)
<div><div>500</div><div></div><div>0</div></div>		<div><div>0.2</div><div>ohm-m</div><div>200</div></div>		<div><div>0</div><div>hours</div><div>10</div></div>
Cnts CG (DGRCC)	Depth	9in Phase Resistivity (R09P)		39in Phase Conductivity (C39P)
<div><div>0</div><div>api</div><div>200</div></div>		<div><div>0.2</div><div>ohm-m</div><div>200</div></div>		<div><div>1000</div><div>mmho/m</div><div>0</div></div>
<div> <div>Run 300</div> </div>				







8150'

8200'

8250'

8300'

8350'

8400'

8450'

8500'

8550'

8600'

8650'

8700'

8750'

8800'

8850'

8900'

8950'

9000'

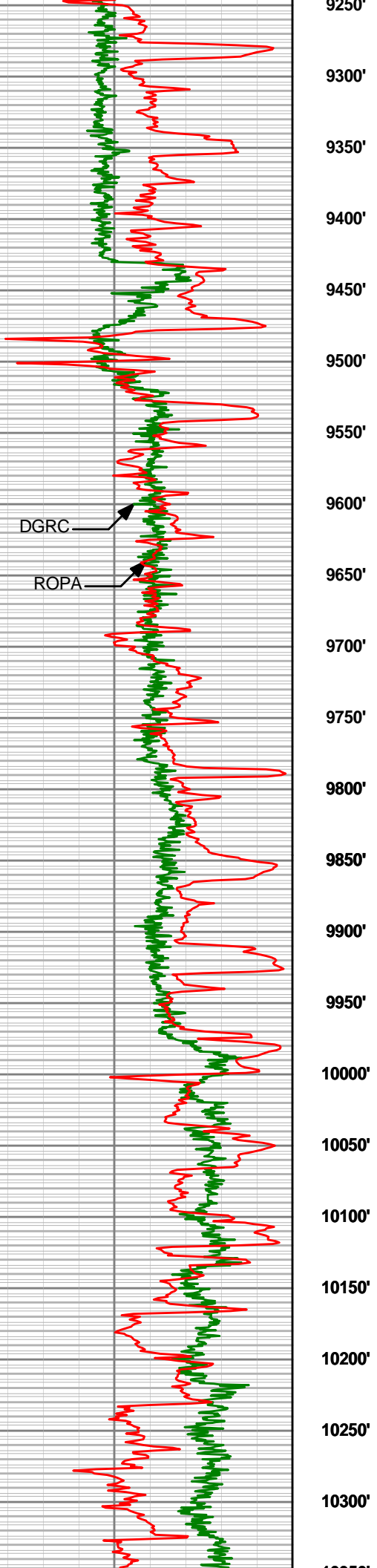
9050'

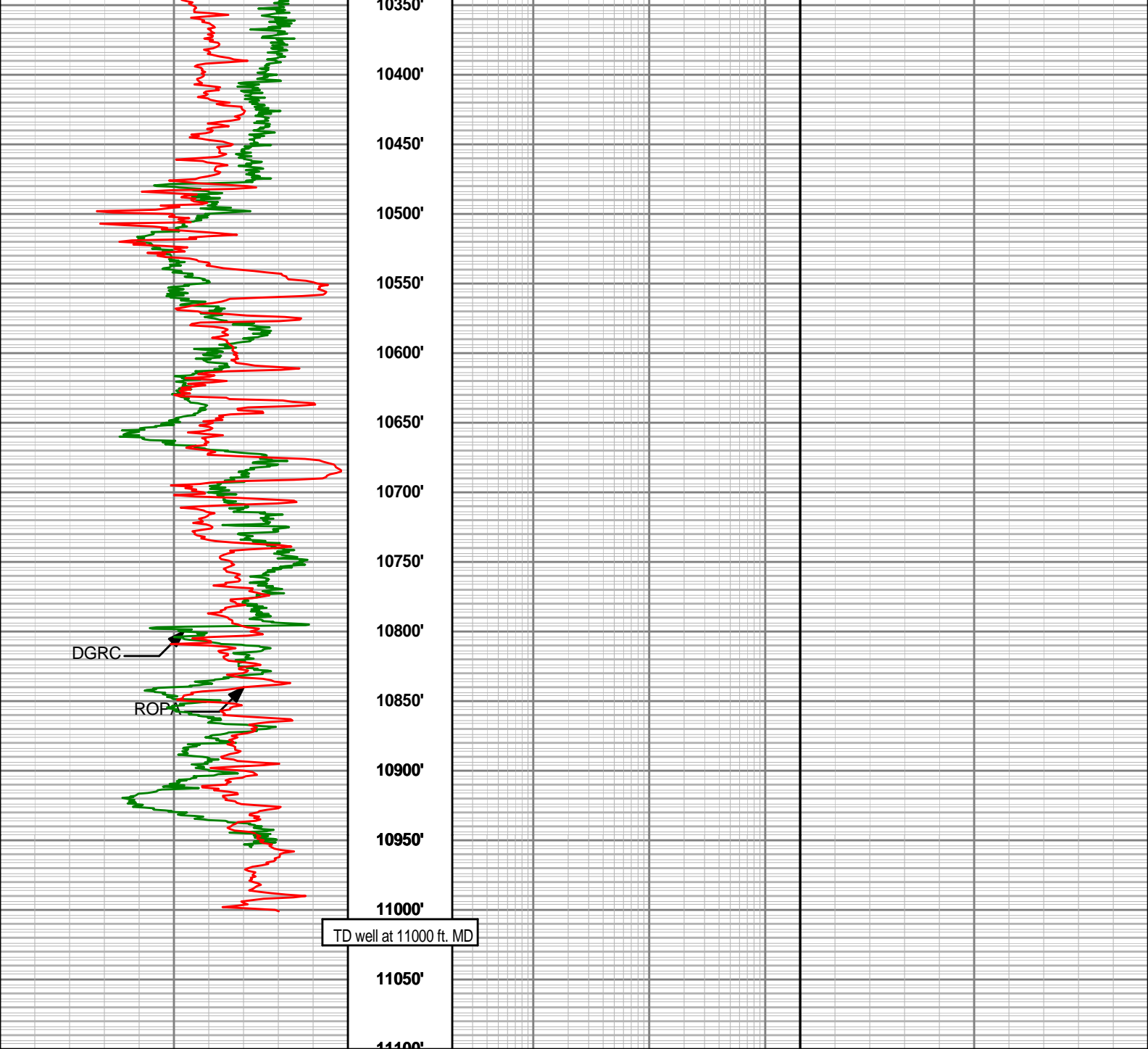
9100'

9150'

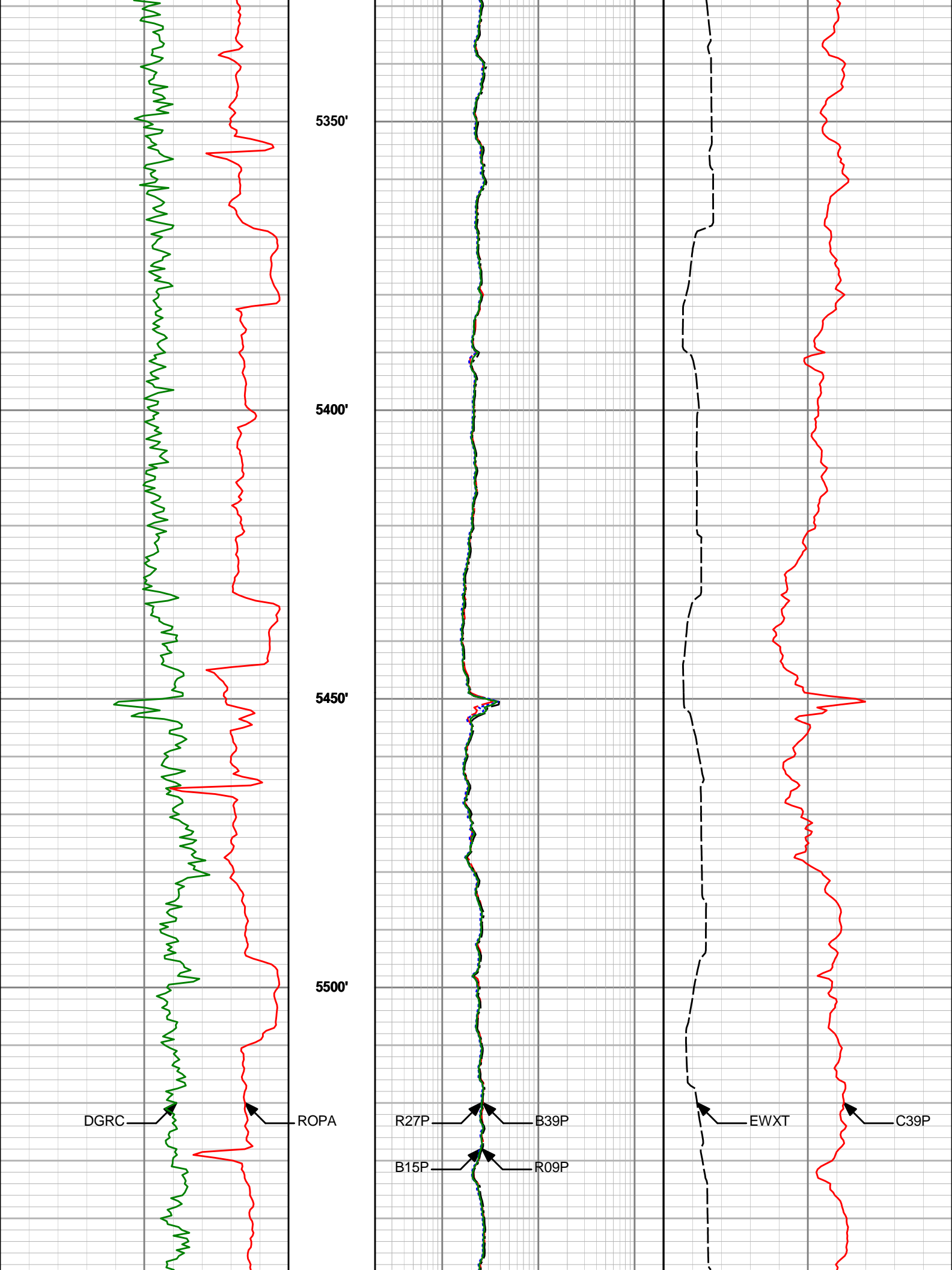
9200'

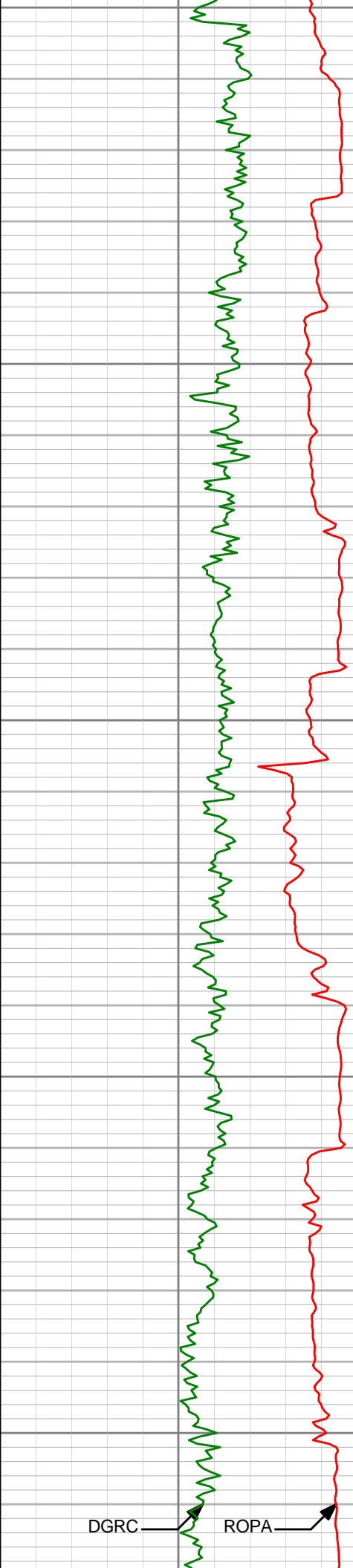
9250'





Cnts CG (DGRCC)	Depth	9in Phase Resistivity (R09P)	39in Phase Conductivity (C39P)
0 api200		0.2ohm-m200	1000mmho/m0
ROP Avg (ROPA)		15in Phase Resistivity (R15P)	Form Expos Time-EWR (EWXT)
500 feet per hr0		0.2ohm-m200	0hours10
		27in Phase Resistivity (R27P)	
		0.2ohm-m200	
		39in Phase Resistivity (R39P)	
		0.2ohm-m200	





5550'

5600'

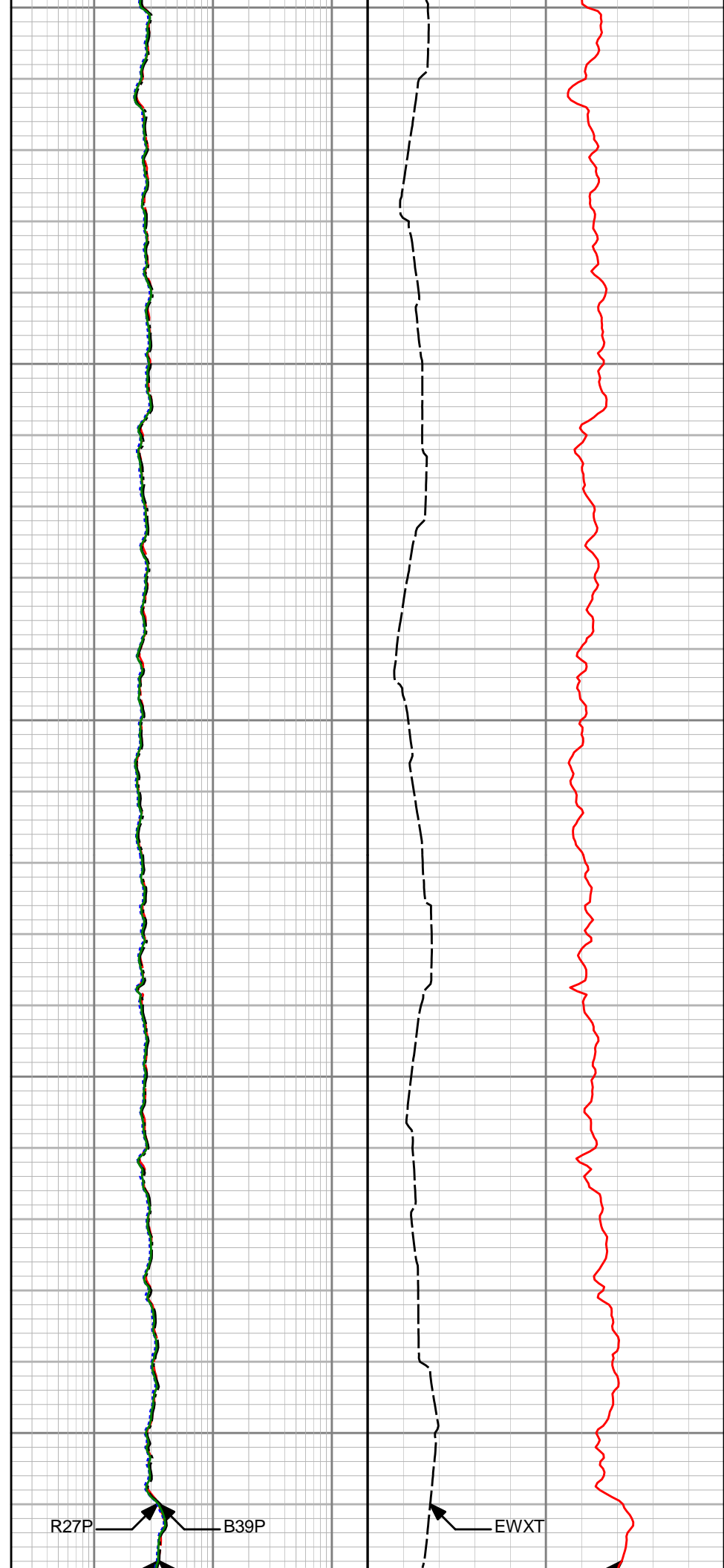
5650'

5700'

5750'

DGRC

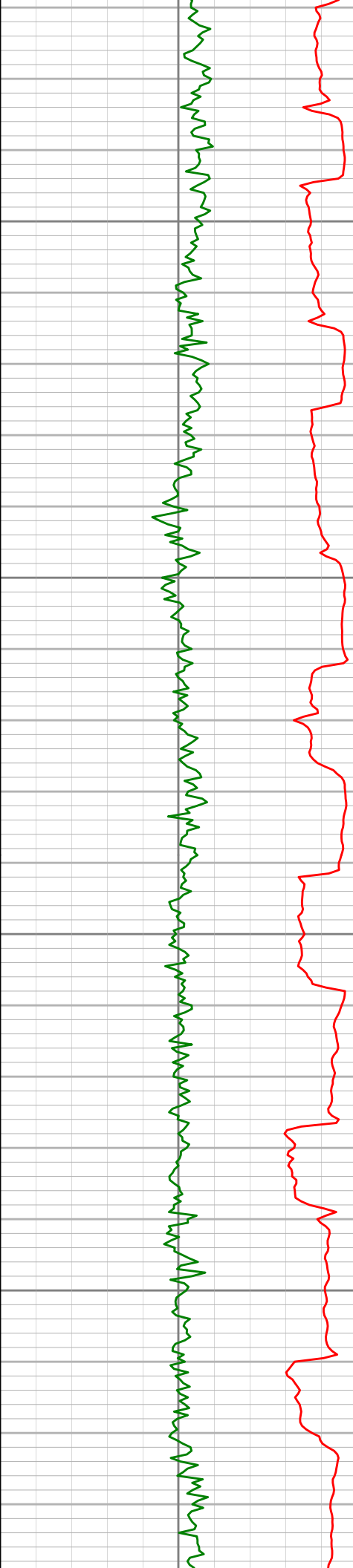
ROPA



R27P

B39P

EWXT



5800'

5850'

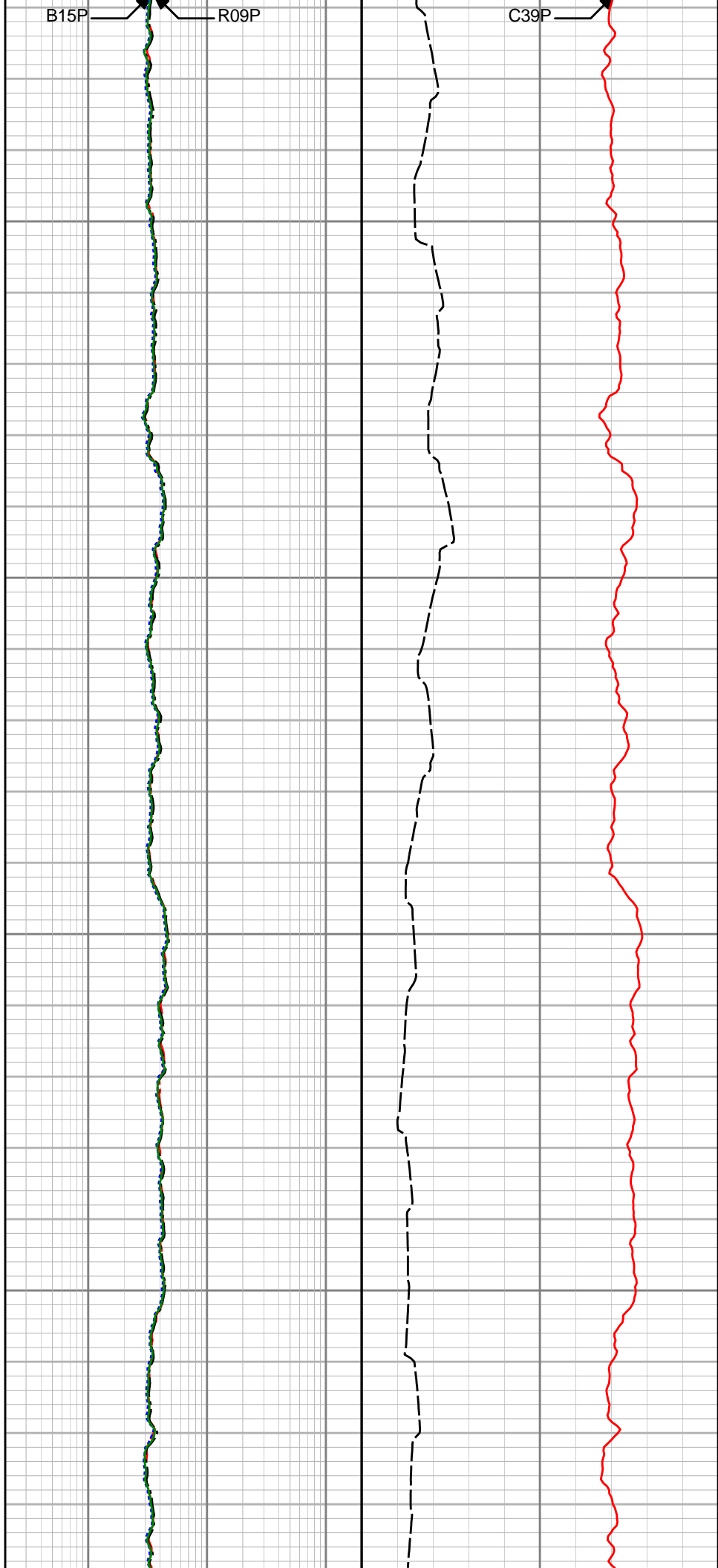
5900'

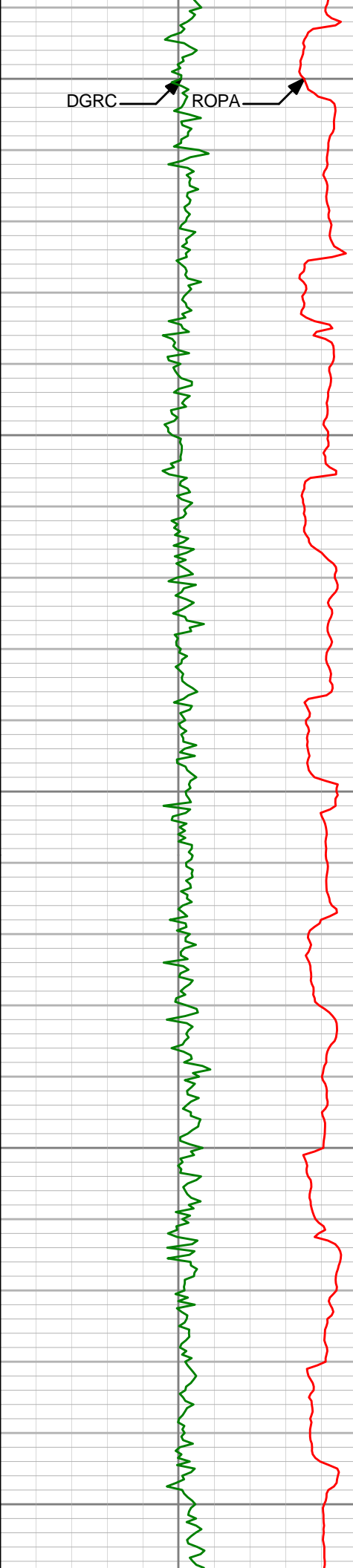
5950'

B15P

R09P

C39P





DGRC

ROPA

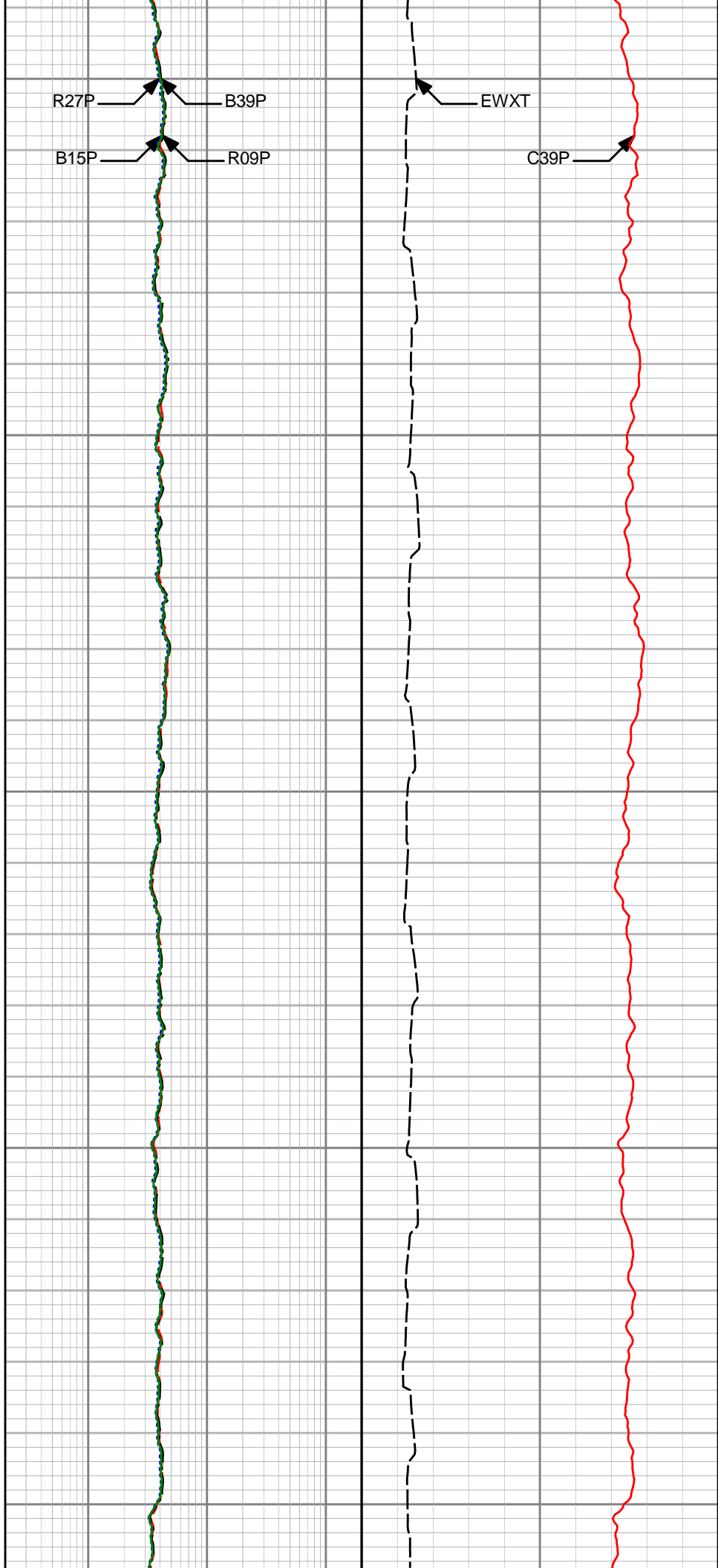
6000'

6050'

6100'

6150'

6200'



R27P

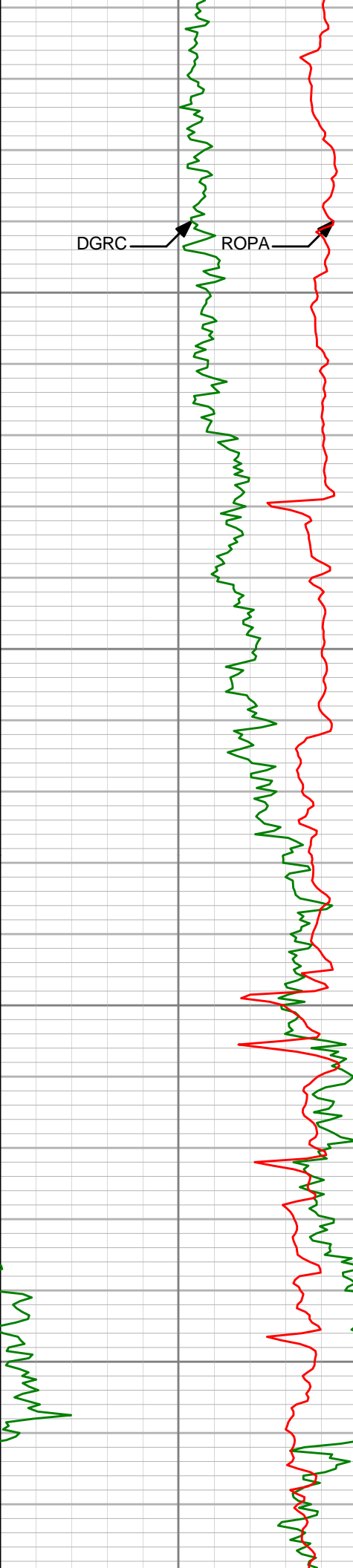
B39P

EWXT

B15P

R09P

C39P

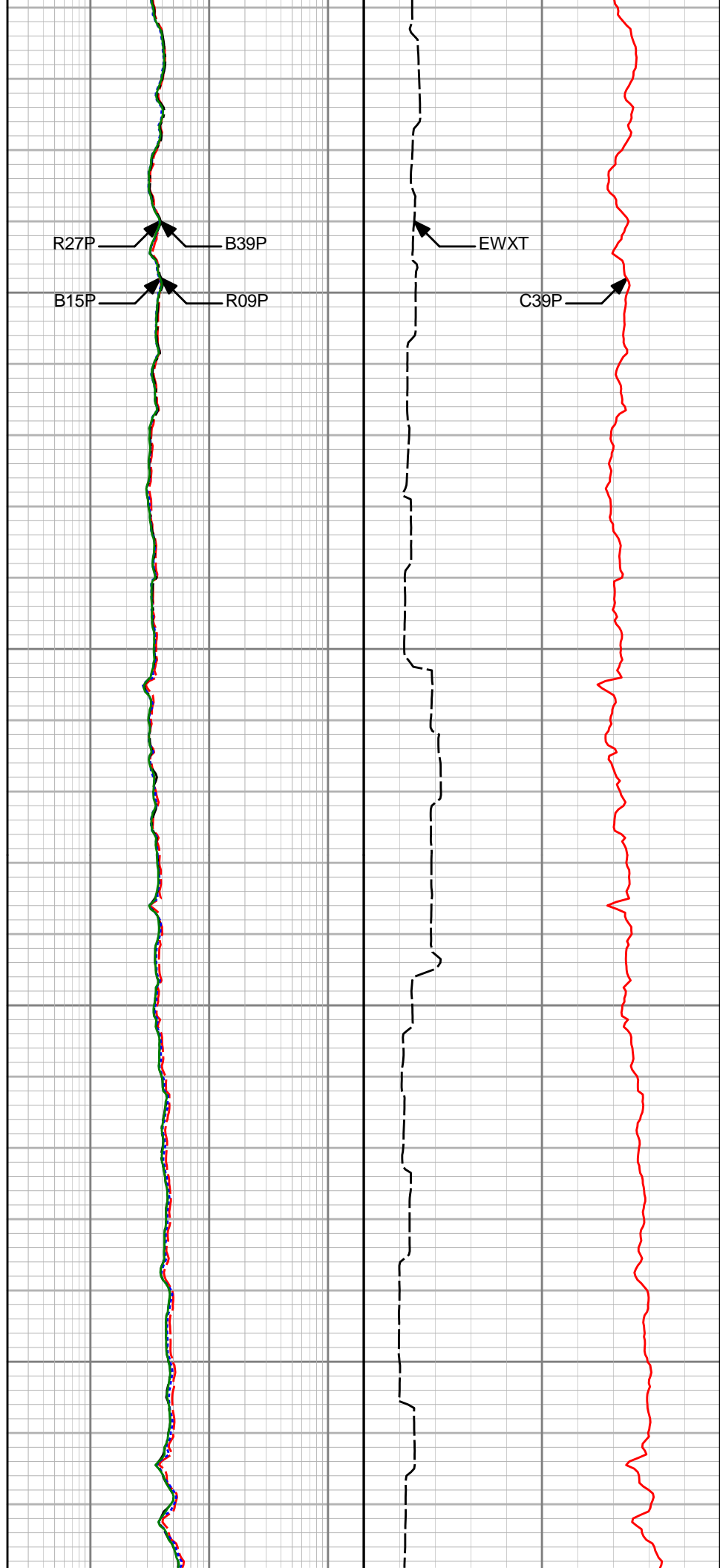


6250'

6300'

6350'

6400'



R27P

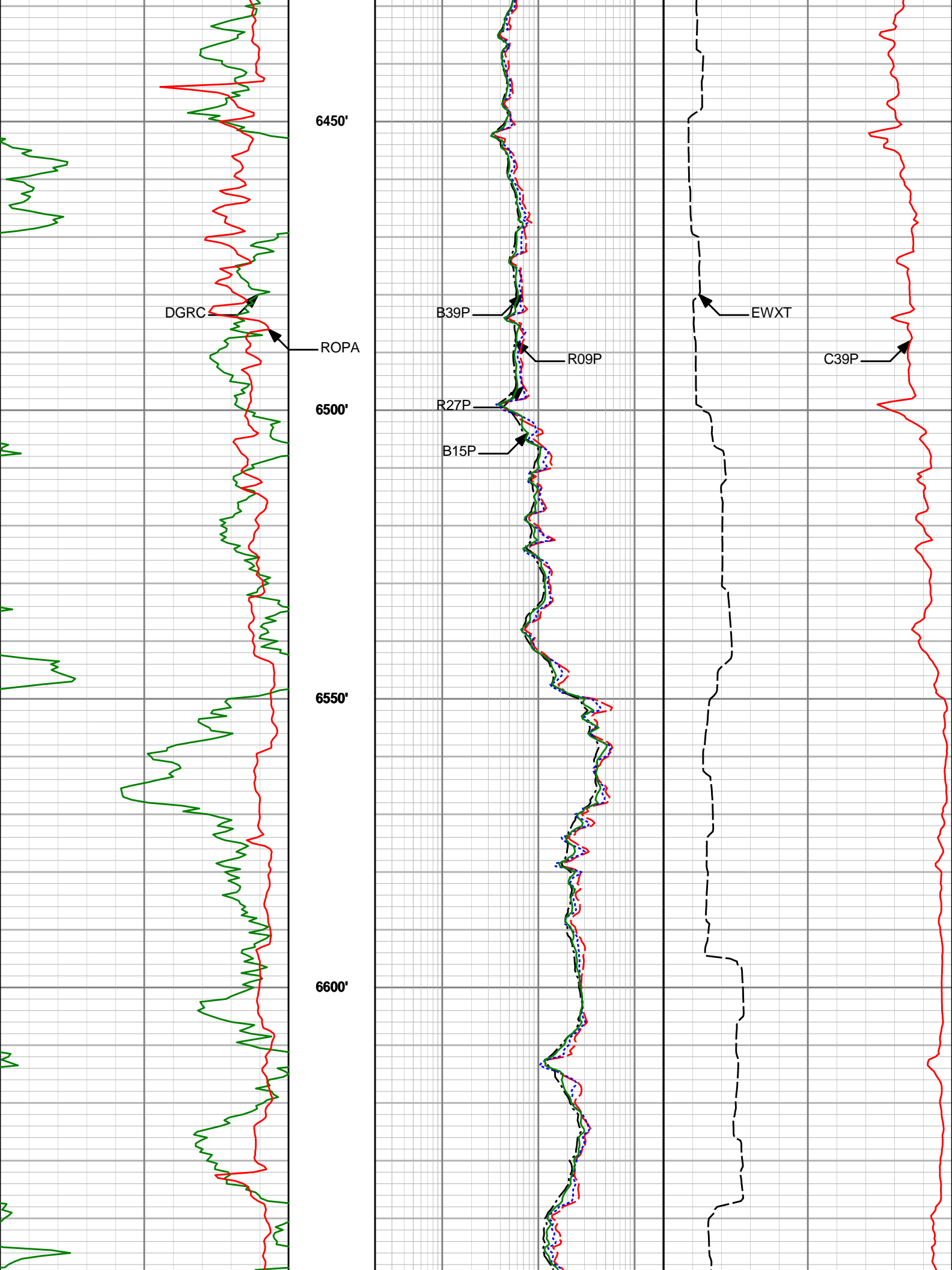
B39P

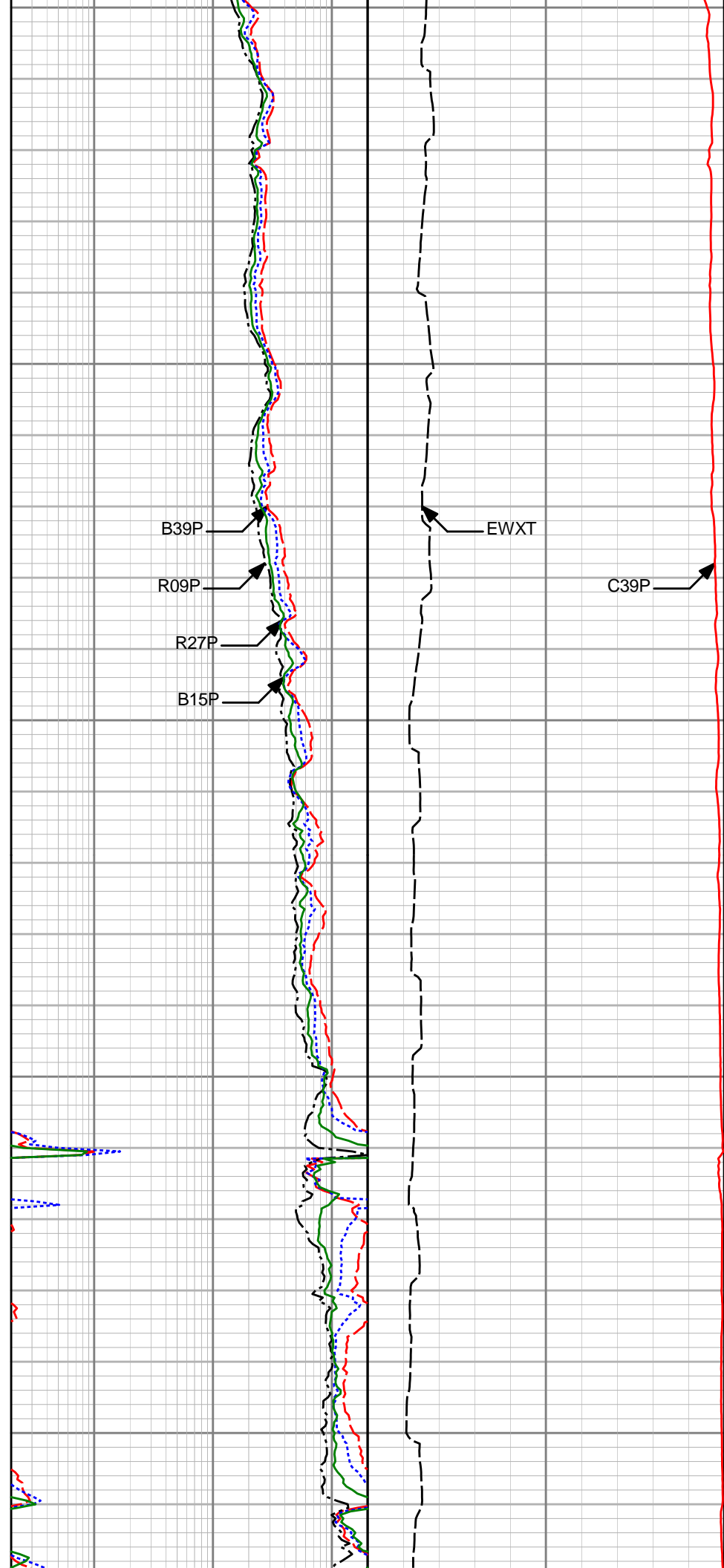
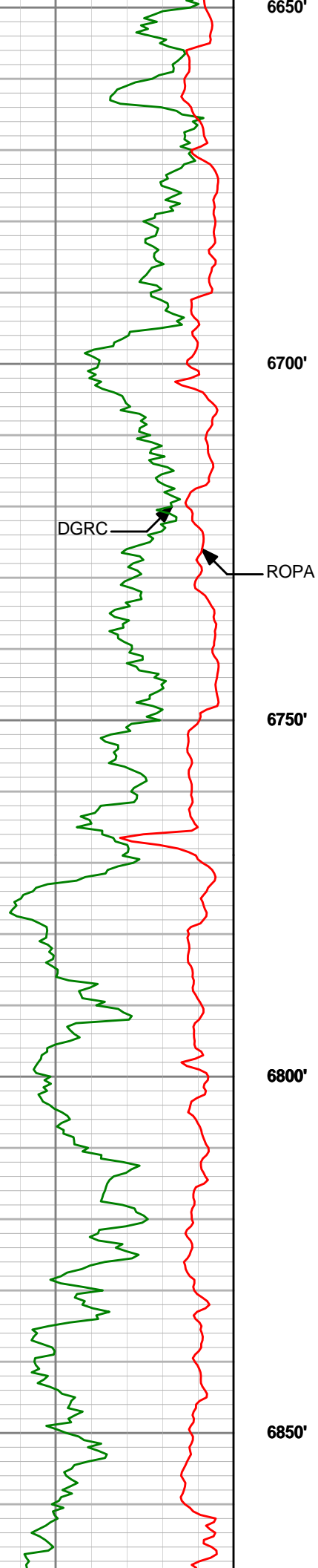
B15P

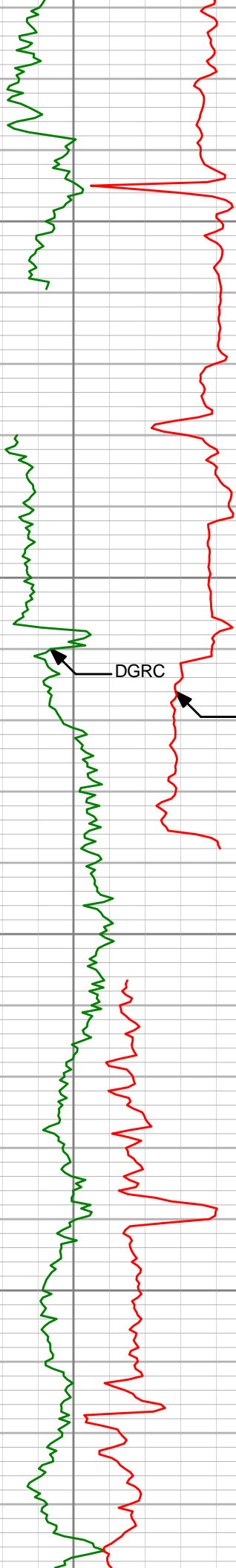
R09P

EWXT

C39P







6900'

6950'

7000'

7050'

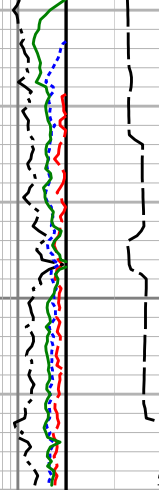
7" CASING SHOE @ 6953 ft. MD

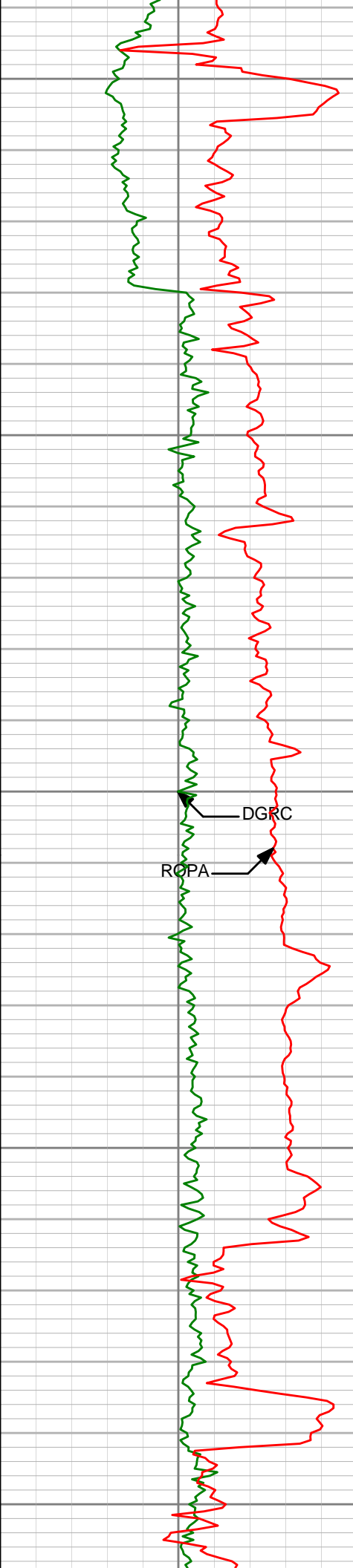
Run 400

DGRC

ROPA

Resistivity tool not run in lateral section





7100'

7150'

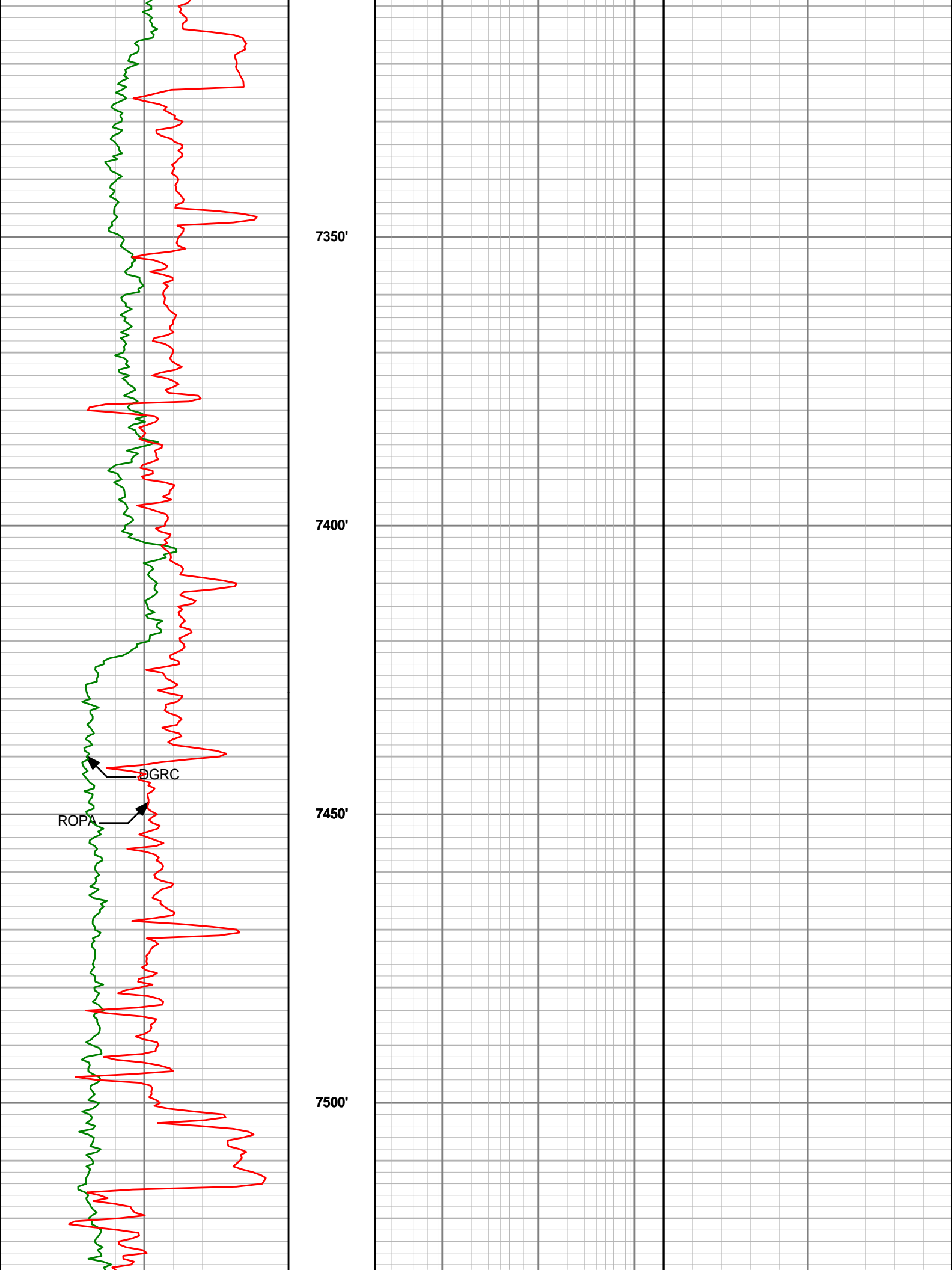
7200'

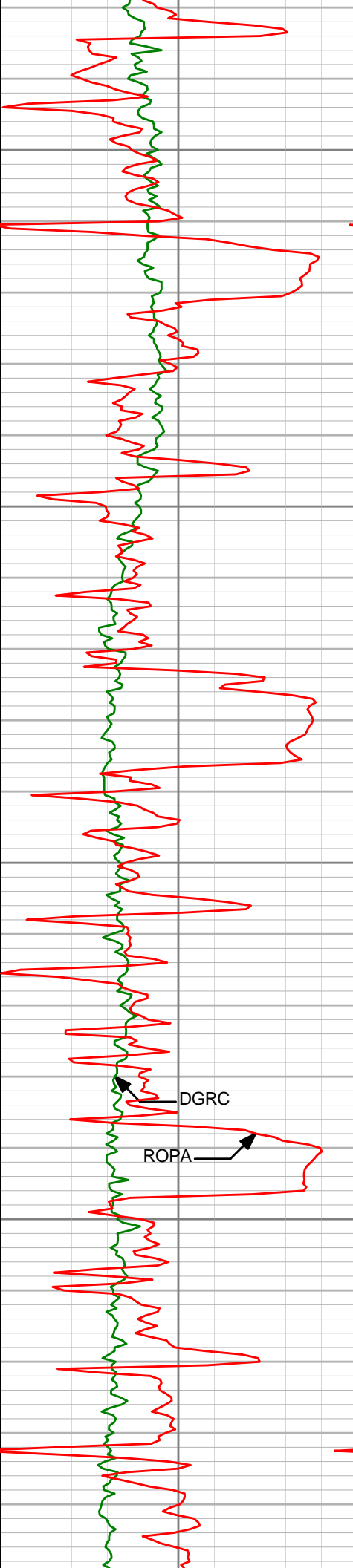
7250'

7300'

DGRC

ROPA





7550'

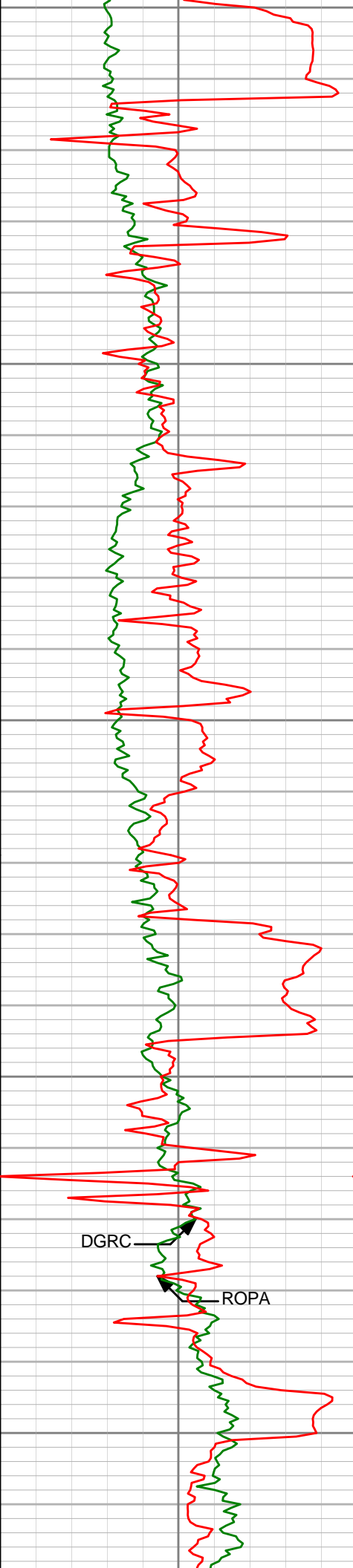
7600'

7650'

DGRC

ROPA

7700'



7750'

7800'

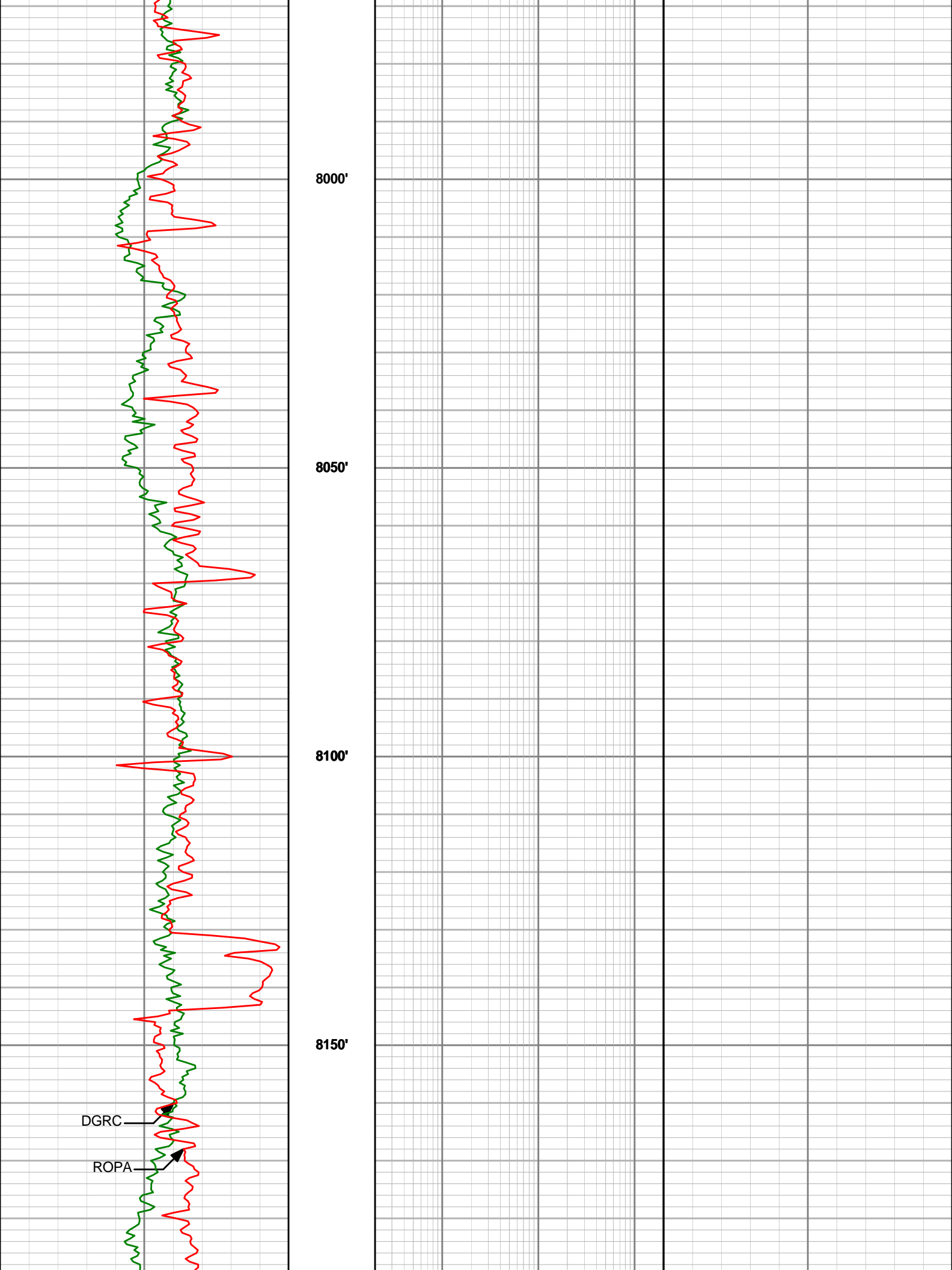
7850'

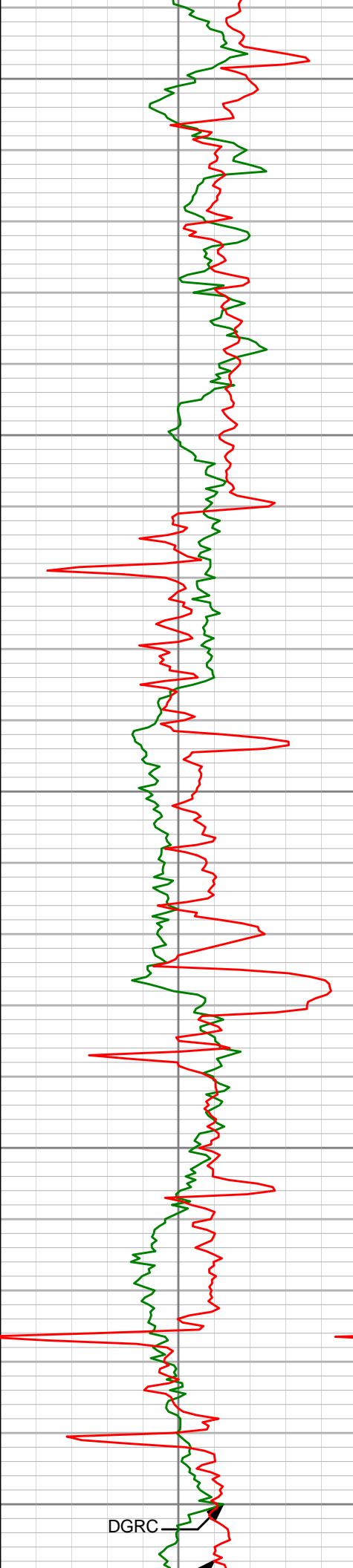
7900'

7950'

DGRC

ROPA





8200'

8250'

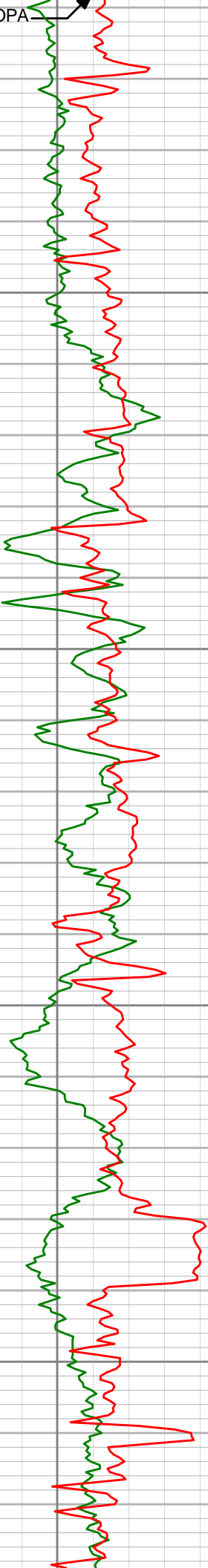
8300'

8350'

8400'

DGRC

ROPA

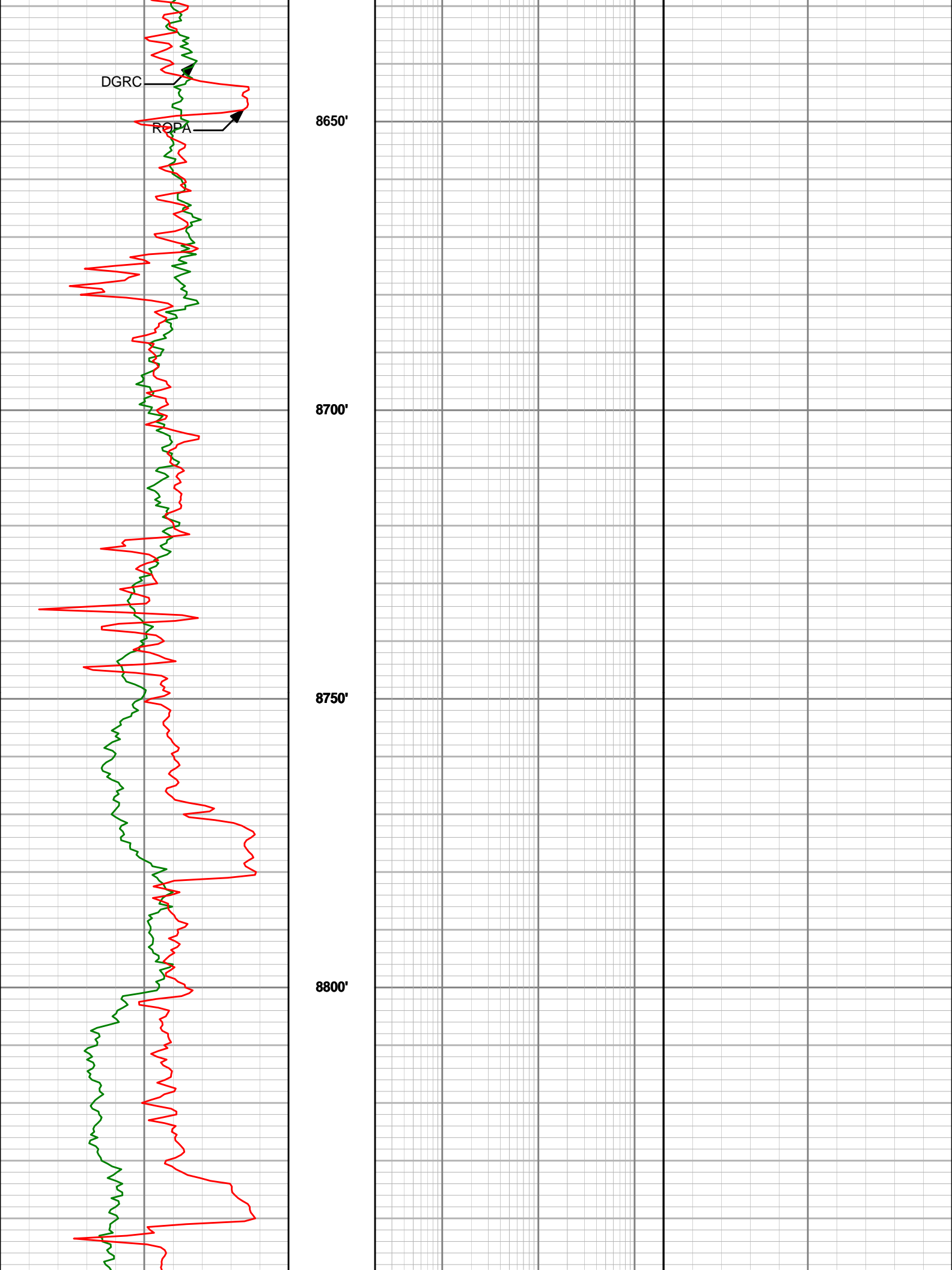


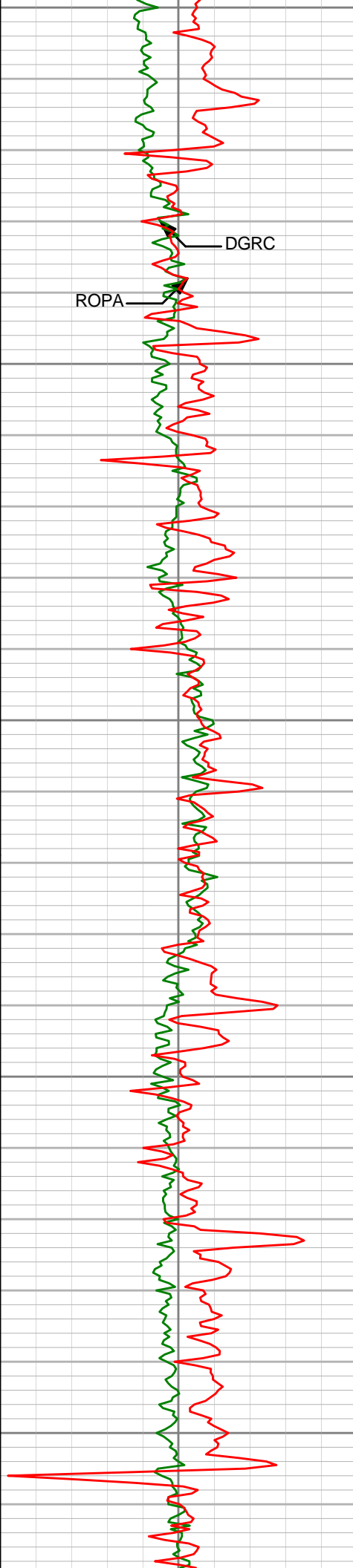
8450'

8500'

8550'

8600'





8850'

8900'

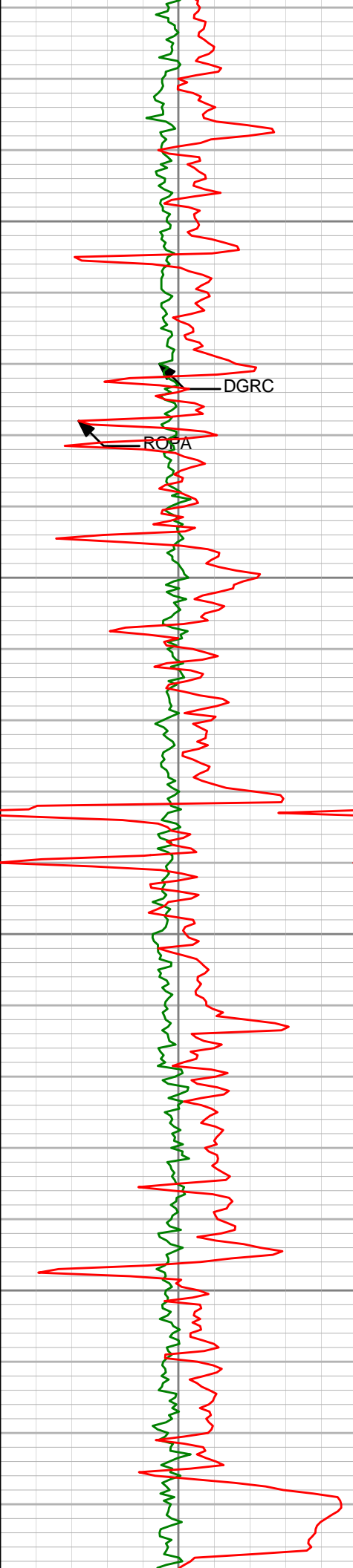
8950'

9000'

9050'

DGRC

ROPA

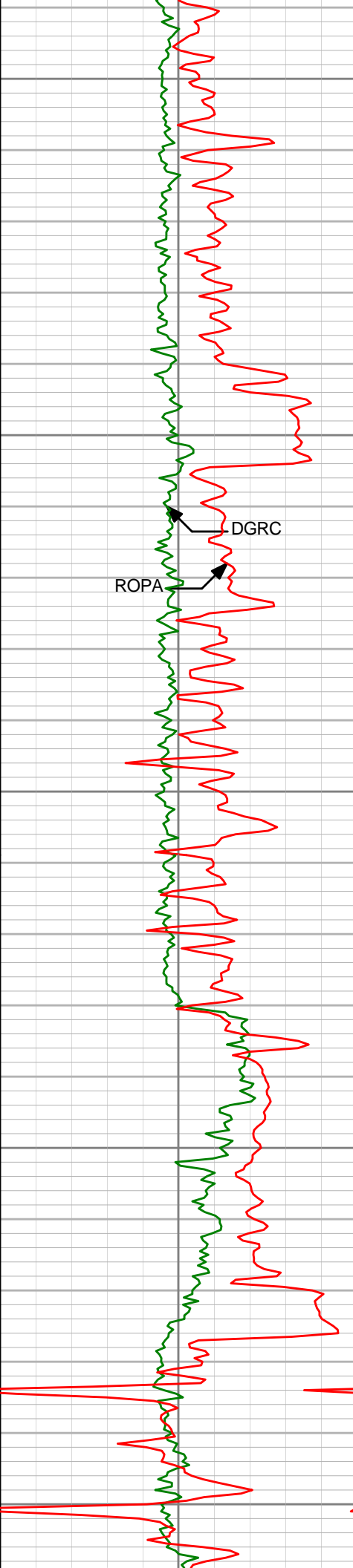


9100'

9150'

9200'

9250'



9300'

9350'

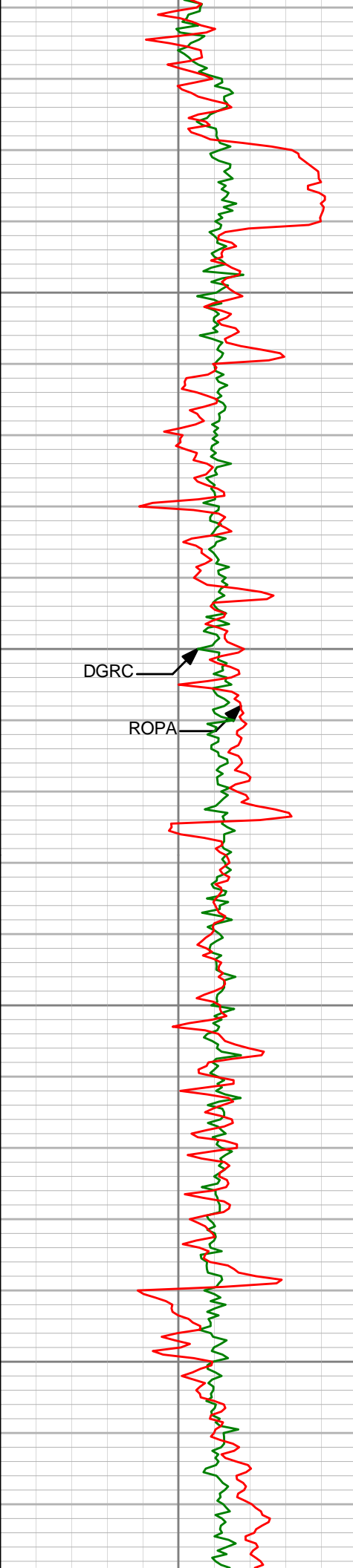
9400'

9450'

9500'

DGRC

ROPA



9550'

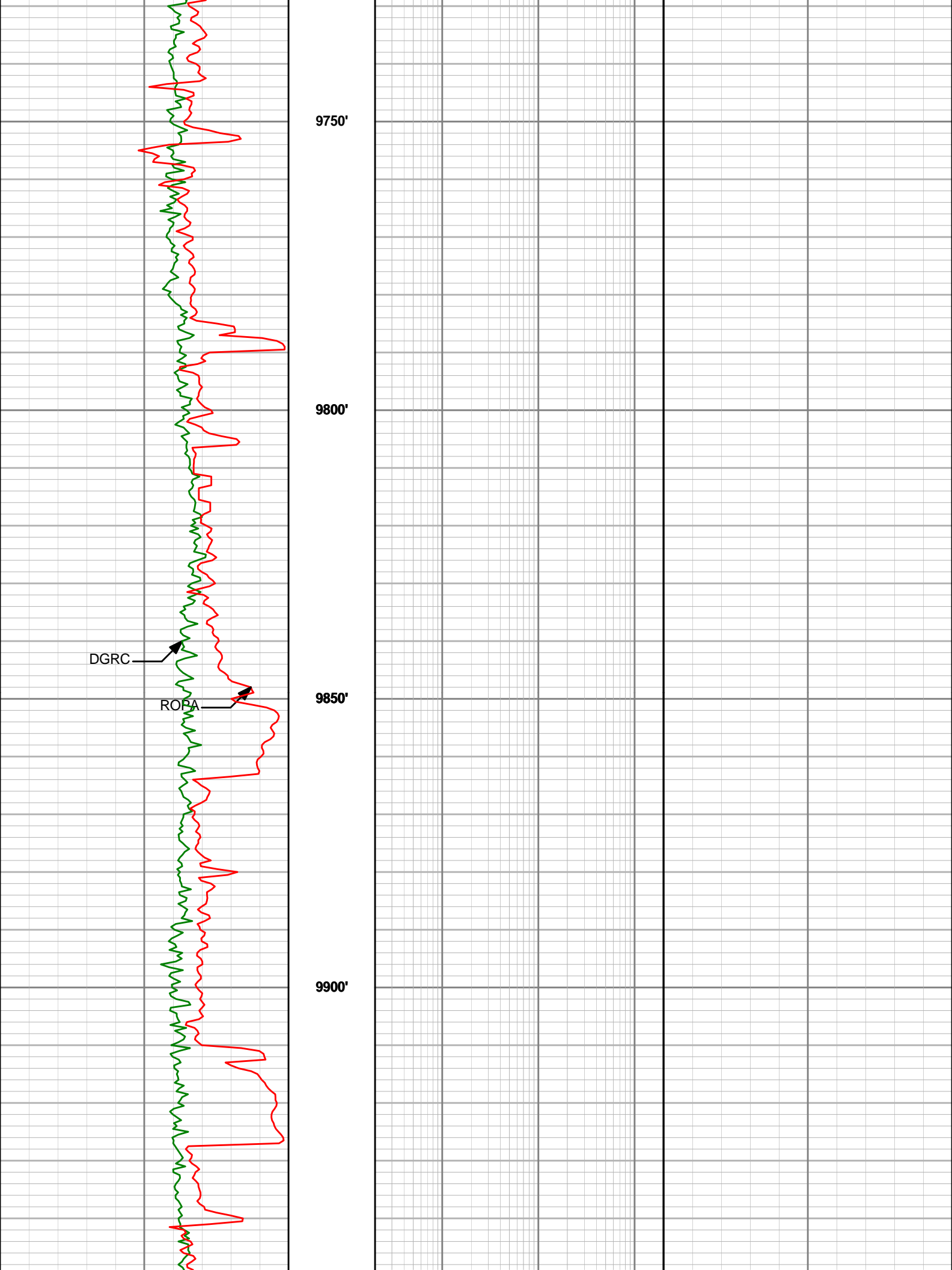
9600'

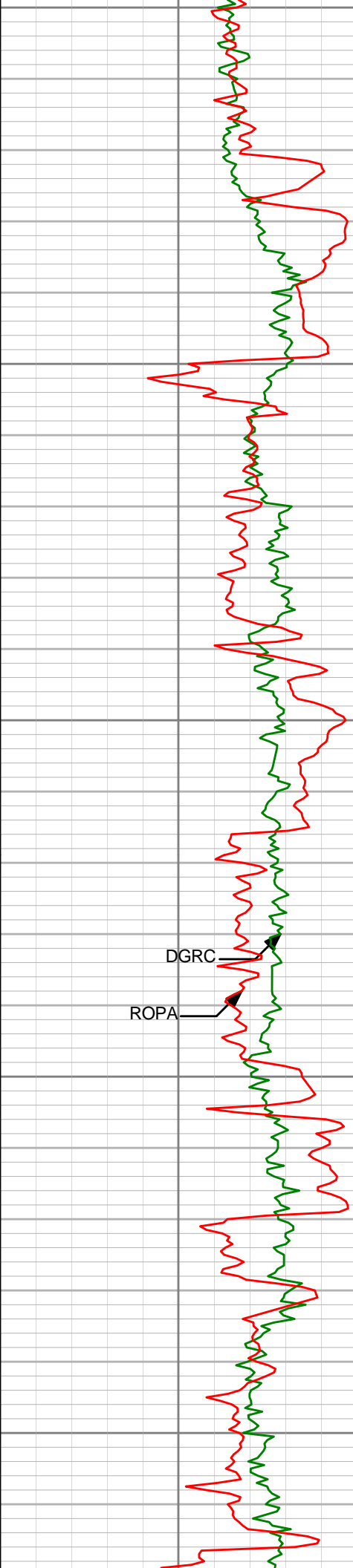
DGRC

ROPA

9650'

9700'





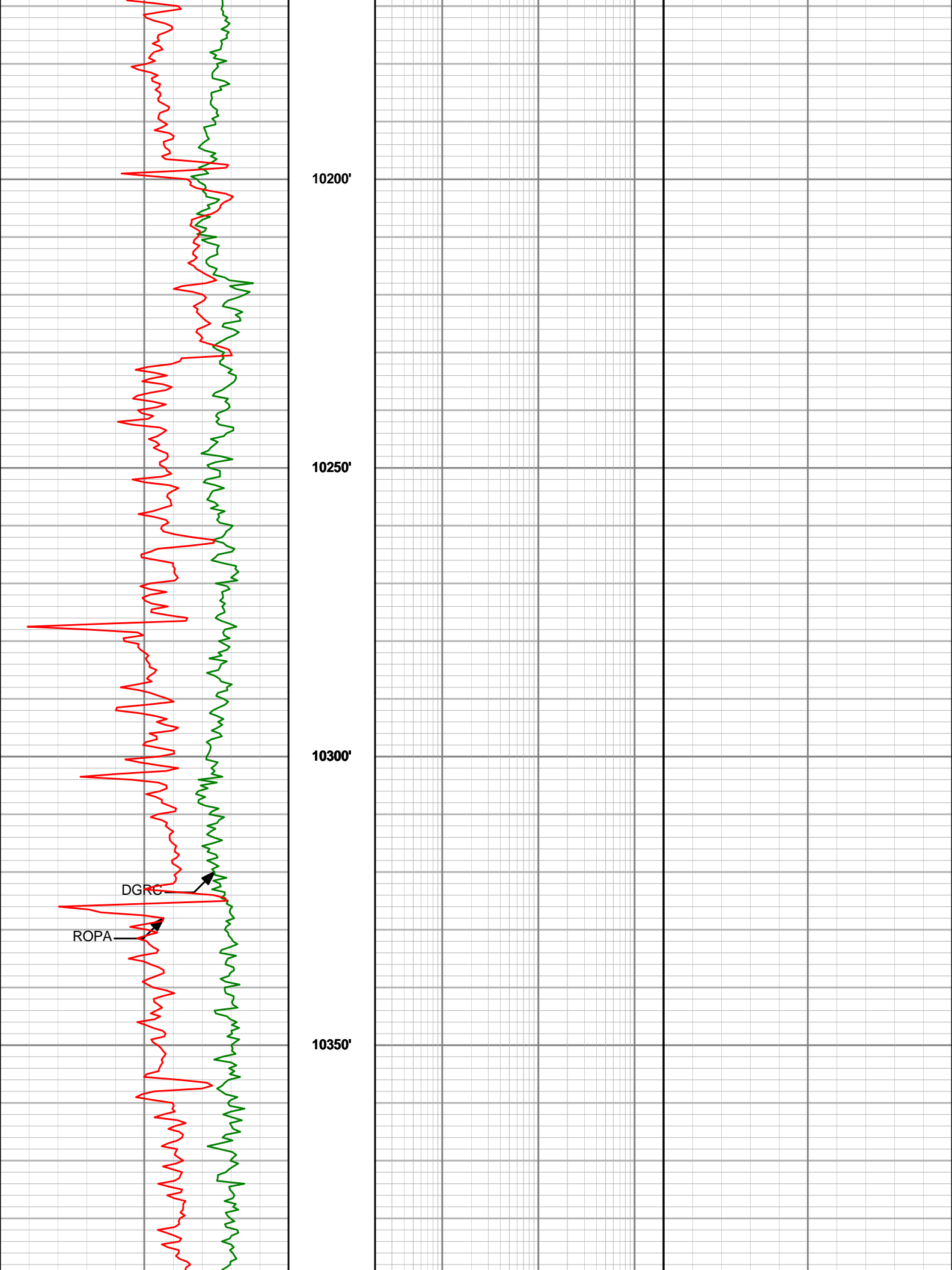
9950'

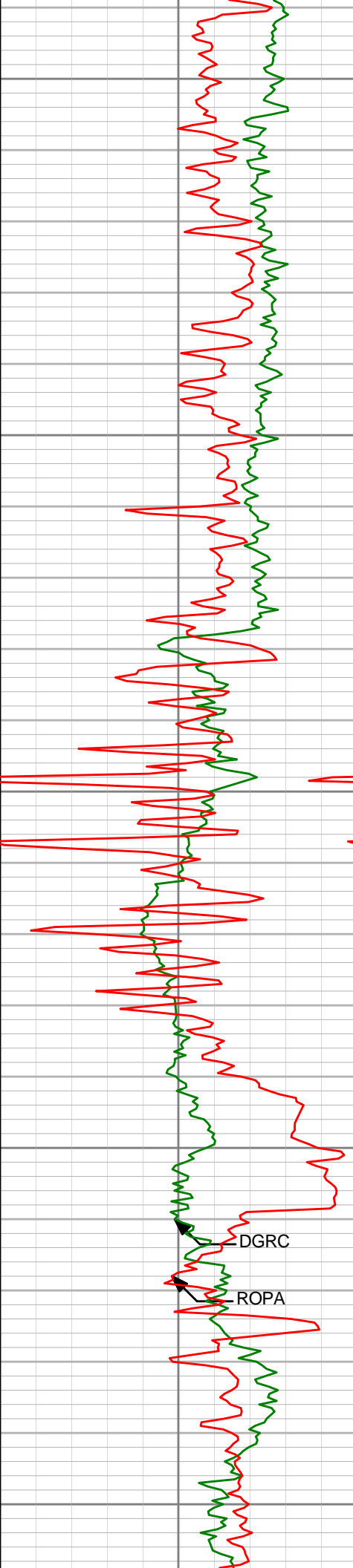
10000'

10050'

10100'

10150'





10400'

10450'

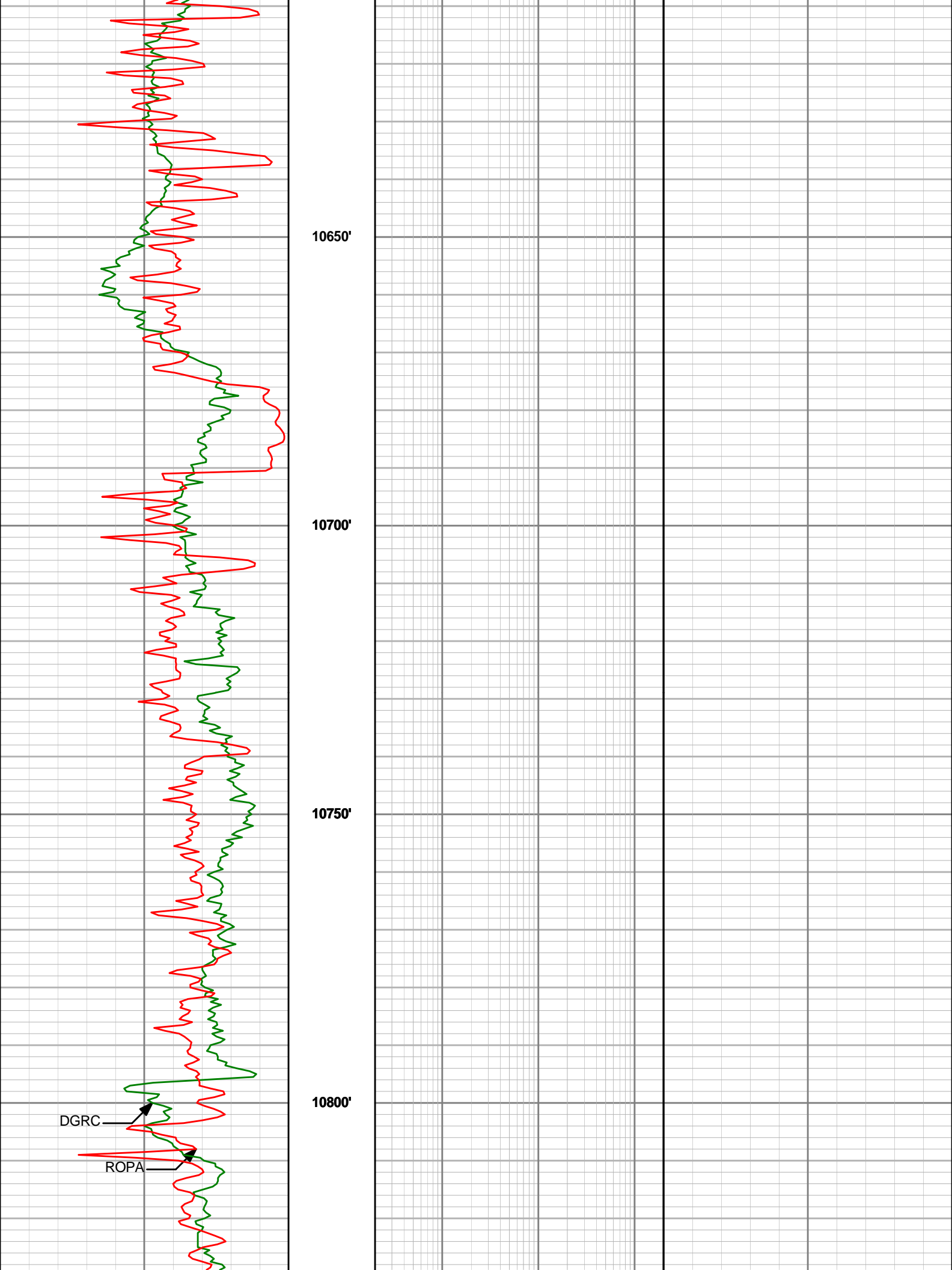
10500'

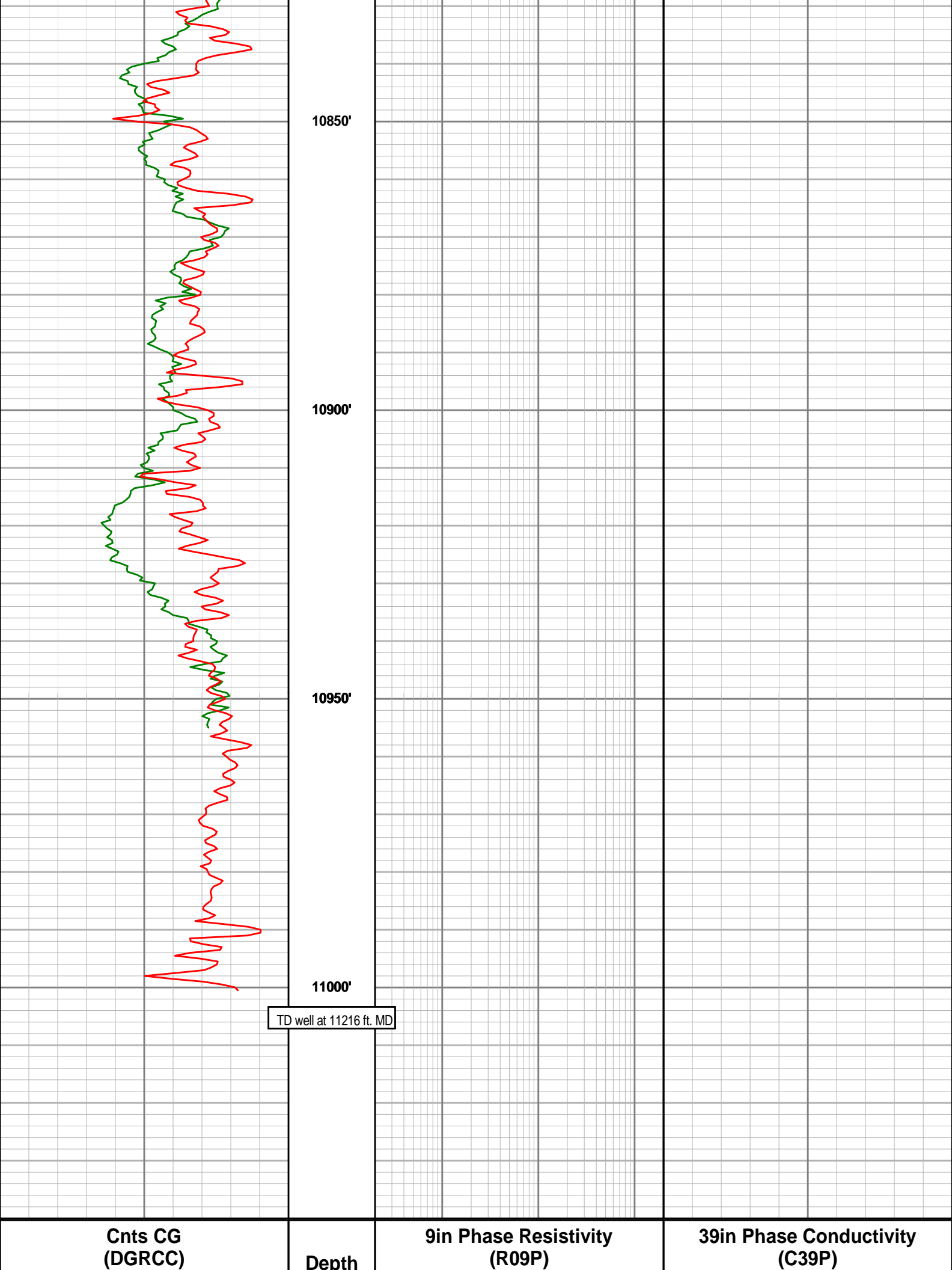
10550'

10600'

DGRC

ROPA





Cnts CG
(DGRCC)

Depth

9in Phase Resistivity
(R09P)

39in Phase Conductivity
(C39P)

0	api	200	0.2	ohm-m	200	1000	mmho/m	0
ROP Avg (ROPA)			15in Phase Resistivity BC (R15P)			Form Expos Time-EWR (EWXT)		
500	feet per hr	0	0.2	ohm-m	200	0	hours	10
			27in Phase Resistivity (R27P)					
			0.2ohm-m200					
			39in Phase Resistivity BC (R39P)					
			0.2ohm-m200					



HALLIBURTON

DIRECTIONAL SURVEY REPORT

Bonanza Creek Energy, Inc.

North Platte 44-11-28HZ

Wattenburg

Weld CO

USA

CA-MJ-0008289470

Survey at 11000 ft. MD it's a projection to the bit.

Measured Depth (feet)	Inclination (degrees)	Direction (degrees)	Vertical Depth (feet)	Latitude (feet)	Departure (feet)	Vertical Section (feet)	Dogleg (deg/100ft)
0.00	0.00	0.00	0.00	0.00 N	0.00 E	0.00	TIE-IN
549.00	0.31	182.09	549.00	1.48 S	0.05 W	-1.18	0.06
640.00	0.09	305.26	640.00	1.69 S	0.12 W	-1.31	0.40
732.00	0.40	192.76	732.00	1.97 S	0.25 W	-1.47	0.48
824.00	0.31	191.53	823.99	2.52 S	0.37 W	-1.85	0.10
916.00	0.25	179.24	915.99	2.97 S	0.42 W	-2.19	0.09
1007.00	0.18	310.14	1006.99	3.07 S	0.53 W	-2.21	0.43
1099.00	0.25	271.60	1098.99	2.97 S	0.84 W	-1.94	0.17
1190.00	0.39	64.43	1189.99	2.83 S	0.77 W	-1.87	0.69
1282.00	0.28	318.28	1281.99	2.52 S	0.64 W	-1.70	0.59
1376.00	0.61	330.50	1375.99	1.91 S	1.04 W	-0.97	0.36
1468.00	0.75	331.28	1467.98	0.96 S	1.57 W	0.12	0.16
1561.00	0.68	343.54	1560.97	0.10 N	2.02 W	1.25	0.18
1653.00	0.50	324.35	1652.97	0.96 N	2.41 W	2.16	0.29
1746.00	0.68	311.59	1745.96	1.65 N	3.06 W	3.11	0.23
1839.00	0.62	328.60	1838.96	2.45 N	3.73 W	4.15	0.21
1933.00	0.87	287.05	1932.95	3.09 N	4.68 W	5.22	0.61
1994.00	1.20	300.39	1993.94	3.55 N	5.67 W	6.16	0.67
2056.00	2.60	312.82	2055.91	4.83 N	7.26 W	8.13	2.33
2118.00	3.27	321.33	2117.82	7.17 N	9.39 W	11.27	1.29
2180.00	4.14	339.06	2179.70	10.64 N	11.30 W	15.20	2.30
2238.00	4.76	349.95	2237.52	14.96 N	12.47 W	19.41	1.80
2299.00	5.77	357.77	2298.27	20.52 N	13.03 W	24.28	2.03
2361.00	6.47	3.37	2359.91	27.12 N	12.94 W	29.63	1.48
2423.00	7.32	9.19	2421.46	34.50 N	12.11 W	35.19	1.77
2485.00	8.23	13.21	2482.90	42.71 N	10.46 W	40.97	1.71
2546.00	9.46	17.27	2543.17	51.75 N	7.98 W	46.93	2.26
2608.00	10.99	22.17	2604.18	62.09 N	4.23 W	53.24	2.84
2670.00	12.16	23.56	2664.92	73.55 N	0.61 E	59.84	1.95
2732.00	13.45	24.74	2725.38	86.08 N	6.23 E	66.86	2.11
2793.00	14.32	24.61	2784.60	99.38 N	12.35 E	74.24	1.44
2855.00	15.42	23.06	2844.52	113.94 N	18.77 E	82.46	1.88
2919.00	15.35	18.23	2906.23	129.81 N	24.75 E	92.01	2.00
2982.00	14.58	17.92	2967.09	145.28 N	29.80 E	101.76	1.22
3044.00	14.47	21.96	3027.11	159.89 N	35.10 E	110.67	1.65
3108.00	14.07	26.35	3089.14	174.28 N	41.54 E	118.74	1.80
3171.00	13.98	25.73	3150.26	187.99 N	48.24 E	126.12	0.29
3234.00	14.37	22.79	3211.34	202.05 N	54.57 E	133.99	1.30

3298.00	14.53	22.33	3273.32	216.80 N	60.70 E	142.53	0.30
3361.00	17.87	20.35	3333.81	233.18 N	67.07 E	152.28	5.38
3425.00	21.06	22.80	3394.14	253.00 N	74.94 E	163.97	5.15
3488.00	23.11	23.18	3452.52	274.80 N	84.20 E	176.49	3.25
3552.00	23.84	22.65	3511.22	298.28 N	94.12 E	190.00	1.20
3616.00	24.43	21.92	3569.62	322.50 N	104.05 E	204.12	1.03
3679.00	23.59	21.88	3627.17	346.29 N	113.61 E	218.09	1.33
3742.00	21.40	22.09	3685.37	368.64 N	122.63 E	231.20	3.48
3806.00	20.56	21.42	3745.13	389.92 N	131.12 E	243.73	1.36
3870.00	20.16	20.96	3805.13	410.68 N	139.17 E	256.10	0.68
3932.00	19.23	20.98	3863.50	430.19 N	146.65 E	267.76	1.49
3996.00	17.84	21.61	3924.18	449.14 N	154.03 E	279.03	2.19
4059.00	16.54	22.18	3984.37	466.42 N	160.97 E	289.18	2.08
4123.00	16.48	21.32	4045.73	483.32 N	167.71 E	299.13	0.39
4186.00	17.08	21.74	4106.05	500.24 N	174.39 E	309.14	0.97
4250.00	17.97	23.21	4167.07	518.04 N	181.76 E	319.48	1.55
4313.00	17.18	24.86	4227.13	535.42 N	189.50 E	329.25	1.48
4377.00	16.65	26.14	4288.36	552.23 N	197.52 E	338.40	1.02
4440.00	15.68	30.01	4348.88	567.70 N	205.75 E	346.33	2.30
4504.00	15.37	30.49	4410.54	582.50 N	214.38 E	353.48	0.52
4567.00	15.48	30.15	4471.27	596.97 N	222.84 E	360.46	0.23
4631.00	14.70	28.59	4533.06	611.48 N	231.02 E	367.64	1.38
4694.00	13.90	26.24	4594.11	625.29 N	238.19 E	374.82	1.56
4758.00	14.28	25.54	4656.18	639.31 N	244.99 E	382.38	0.64
4821.00	14.38	23.64	4717.23	653.48 N	251.47 E	390.25	0.76
4885.00	13.61	22.45	4779.33	667.72 N	257.54 E	398.42	1.27
4948.00	12.99	21.78	4840.64	681.15 N	263.00 E	406.27	1.02
5012.00	11.97	20.11	4903.12	694.06 N	267.95 E	413.99	1.69
5075.00	10.83	18.25	4964.88	705.81 N	272.05 E	421.25	1.90
5139.00	10.19	16.64	5027.81	716.94 N	275.55 E	428.35	1.10
5202.00	9.88	13.90	5089.84	727.52 N	278.44 E	435.34	0.91
5290.00	8.72	12.13	5176.69	741.37 N	281.66 E	444.83	1.36
5334.00	9.34	10.04	5220.14	748.14 N	282.98 E	449.61	1.60
5398.00	10.56	14.24	5283.18	758.94 N	285.33 E	457.10	2.22
5461.00	11.81	15.81	5344.98	770.74 N	288.50 E	464.93	2.04
5525.00	13.01	14.33	5407.49	784.02 N	292.07 E	473.74	1.94
5588.00	14.59	15.07	5468.67	798.55 N	295.89 E	483.44	2.52
5652.00	15.60	11.47	5530.46	814.77 N	299.69 E	494.52	2.15
5715.00	17.43	9.58	5590.86	832.37 N	302.95 E	507.06	3.04
5747.00	18.13	8.38	5621.33	842.02 N	304.47 E	514.08	2.46
5779.00	18.99	4.59	5651.67	852.14 N	305.61 E	521.71	4.64
5811.00	19.74	1.35	5681.86	862.73 N	306.16 E	530.06	4.08
5842.00	20.43	358.23	5710.97	873.38 N	306.12 E	538.80	4.12
5874.00	21.62	354.94	5740.84	884.83 N	305.42 E	548.57	5.22
5906.00	22.62	350.92	5770.49	896.78 N	303.93 E	559.20	5.67
5938.00	24.07	348.04	5799.87	909.24 N	301.61 E	570.74	5.76
5969.00	25.86	345.53	5827.97	921.97 N	298.61 E	582.88	6.72
6001.00	28.13	343.34	5856.49	935.95 N	294.70 E	596.57	7.74
6033.00	30.39	341.98	5884.40	950.88 N	290.04 E	611.46	7.39
6065.00	32.40	339.74	5911.72	966.62 N	284.56 E	627.49	7.25
6096.00	34.38	338.34	5937.60	982.55 N	278.45 E	644.04	6.84
6128.00	36.54	337.12	5963.66	999.72 N	271.42 E	662.14	7.11
6160.00	38.72	336.89	5989.01	1017.71 N	263.78 E	681.24	6.84
6192.00	40.89	336.19	6013.59	1036.50 N	255.63 E	701.30	6.91
6223.00	42.73	335.58	6036.69	1055.36 N	247.18 E	721.59	6.09
6255.00	44.92	335.18	6059.78	1075.50 N	237.95 E	743.38	6.90
6287.00	47.33	335.34	6081.96	1096.45 N	228.30 E	766.07	7.54
6319.00	49.97	334.97	6103.09	1118.25 N	218.21 E	789.71	8.29
6350.00	52.09	334.71	6122.59	1140.06 N	207.96 E	813.45	6.88
6382.00	53.66	333.51	6141.90	1163.01 N	196.81 E	838.64	5.74
6414.00	55.46	331.37	6160.46	1186.12 N	184.75 E	864.48	7.82
6446.00	58.34	330.67	6177.93	1209.56 N	171.76 E	891.13	9.19
6477.00	61.20	330.44	6193.54	1232.89 N	158.59 E	917.79	9.23
6509.00	63.37	328.81	6208.42	1257.32 N	144.27 E	946.02	8.16
6541.00	65.29	327.42	6222.29	1281.81 N	129.03 E	974.81	7.15
6573.00	67.30	326.55	6235.15	1306.37 N	113.07 E	1004.09	6.76
6604.00	69.37	326.20	6246.60	1330.36 N	97.11 E	1032.89	6.77
6636.00	71.00	325.02	6257.45	1355.20 N	80.11 E	1062.99	6.15
6668.00	73.02	324.03	6267.33	1379.98 N	62.45 E	1093.42	6.97
6700.00	75.14	323.48	6276.11	1404.80 N	44.25 E	1124.18	6.83
6731.00	77.17	322.52	6283.53	1428.83 N	26.14 E	1154.26	7.20
6763.00	78.68	322.14	6290.22	1453.60 N	7.01 E	1185.52	4.87
6795.00	80.00	320.26	6296.14	1478.11 N	12.69 W	1216.90	7.10
6827.00	81.88	319.26	6301.18	1502.23 N	33.10 W	1248.37	6.62

6859.00	83.56	318.32	6305.23	1526.11 N	54.01 W	1279.93	6.02
6890.00	85.74	317.38	6308.12	1548.99 N	74.72 W	1310.56	7.62
6922.00	88.52	317.47	6309.73	1572.52 N	96.34 W	1342.24	8.70
6993.00	91.08	317.39	6309.98	1624.81 N	144.37 W	1412.63	3.61
7024.00	91.63	317.54	6309.24	1647.64 N	165.32 W	1443.36	1.85
7086.00	91.60	317.26	6307.49	1693.26 N	207.27 W	1504.80	0.44
7148.00	91.11	317.47	6306.02	1738.86 N	249.25 W	1566.25	0.86
7210.00	91.66	317.93	6304.52	1784.71 N	290.97 W	1627.74	1.17
7241.00	91.05	317.79	6303.79	1807.69 N	311.76 W	1658.49	2.04
7272.00	90.59	317.46	6303.34	1830.58 N	332.65 W	1689.24	1.82
7303.00	90.06	316.56	6303.17	1853.26 N	353.79 W	1719.94	3.36
7334.00	89.26	316.54	6303.35	1875.76 N	375.11 W	1750.61	2.59
7365.00	89.44	316.27	6303.70	1898.22 N	396.48 W	1781.27	1.05
7396.00	89.69	316.06	6303.94	1920.58 N	417.95 W	1811.91	1.06
7458.00	90.28	315.88	6303.95	1965.15 N	461.04 W	1873.15	0.99
7520.00	90.03	315.84	6303.79	2009.65 N	504.22 W	1934.38	0.40
7582.00	90.43	316.15	6303.54	2054.25 N	547.29 W	1995.63	0.82
7644.00	90.15	315.63	6303.22	2098.76 N	590.44 W	2056.86	0.96
7708.00	90.31	314.64	6302.96	2144.12 N	635.59 W	2119.93	1.56
7772.00	89.60	314.30	6303.01	2188.95 N	681.26 W	2182.86	1.23
7835.00	90.65	314.31	6302.88	2232.96 N	726.35 W	2244.79	1.67
7899.00	89.75	313.53	6302.66	2277.35 N	772.44 W	2307.61	1.86
7962.00	89.04	313.03	6303.32	2320.54 N	818.30 W	2369.31	1.37
8026.00	89.60	312.67	6304.08	2364.06 N	865.22 W	2431.89	1.03
8089.00	89.97	312.68	6304.31	2406.77 N	911.54 W	2493.46	0.59
8153.00	88.67	313.01	6305.07	2450.29 N	958.45 W	2556.04	2.09
8216.00	88.43	312.97	6306.67	2493.23 N	1004.52 W	2617.66	0.40
8280.00	88.49	312.92	6308.39	2536.82 N	1051.35 W	2680.24	0.13
8343.00	89.66	313.46	6309.41	2579.93 N	1097.28 W	2741.91	2.05
8407.00	90.34	313.44	6309.41	2623.94 N	1143.74 W	2804.64	1.06
8470.00	90.43	312.92	6308.99	2667.05 N	1189.68 W	2866.32	0.84
8534.00	91.29	312.67	6308.03	2710.53 N	1236.64 W	2928.88	1.40
8597.00	90.28	313.30	6307.16	2753.47 N	1282.72 W	2990.51	1.90
8661.00	90.34	314.14	6306.82	2797.71 N	1328.97 W	3053.29	1.32
8724.00	90.83	313.98	6306.17	2841.51 N	1374.24 W	3115.16	0.83
8788.00	90.40	314.88	6305.48	2886.32 N	1419.94 W	3178.09	1.57
8851.00	89.60	314.68	6305.48	2930.69 N	1464.66 W	3240.10	1.31
8915.00	90.25	314.97	6305.57	2975.81 N	1510.05 W	3303.11	1.11
8978.00	88.92	313.71	6306.03	3019.84 N	1555.10 W	3365.04	2.91
9042.00	89.97	313.69	6306.65	3064.05 N	1601.37 W	3427.81	1.64
9105.00	90.12	313.85	6306.60	3107.63 N	1646.86 W	3489.62	0.36
9169.00	89.41	313.11	6306.86	3151.67 N	1693.30 W	3552.35	1.60
9233.00	89.75	313.35	6307.32	3195.51 N	1739.93 W	3615.02	0.64
9296.00	89.75	314.83	6307.59	3239.34 N	1785.18 W	3676.89	2.35
9360.00	90.22	315.95	6307.61	3284.90 N	1830.13 W	3740.01	1.89
9423.00	92.01	316.50	6306.39	3330.38 N	1873.70 W	3802.27	2.97
9487.00	91.20	316.62	6304.60	3376.83 N	1917.69 W	3865.56	1.27
9550.00	90.03	315.94	6303.92	3422.36 N	1961.23 W	3927.84	2.15
9614.00	90.12	314.95	6303.83	3467.96 N	2006.13 W	3990.97	1.55
9677.00	90.25	313.87	6303.63	3512.05 N	2051.13 W	4052.91	1.73
9741.00	90.12	312.75	6303.42	3555.95 N	2097.70 W	4115.60	1.77
9804.00	90.25	312.84	6303.22	3598.75 N	2143.93 W	4177.20	0.25
9868.00	89.88	313.05	6303.15	3642.36 N	2190.77 W	4239.80	0.66
9932.00	90.03	313.43	6303.20	3686.20 N	2237.40 W	4302.48	0.64
9995.00	90.68	314.21	6302.81	3729.82 N	2282.85 W	4364.30	1.61
10059.00	90.25	315.83	6302.29	3775.09 N	2328.08 W	4427.34	2.62
10122.00	89.23	317.10	6302.58	3820.76 N	2371.47 W	4489.65	2.58
10186.00	90.34	317.25	6302.82	3867.70 N	2414.98 W	4553.07	1.75
10249.00	90.86	317.05	6302.16	3913.89 N	2457.82 W	4615.49	0.89
10313.00	89.72	317.04	6301.83	3960.73 N	2501.43 W	4678.88	1.78
10376.00	90.43	317.62	6301.75	4007.05 N	2544.13 W	4741.33	1.45
10440.00	90.77	317.58	6301.08	4054.31 N	2587.28 W	4804.80	0.53
10503.00	91.17	317.42	6300.01	4100.75 N	2629.84 W	4867.27	0.68
10566.00	90.22	317.52	6299.25	4147.17 N	2672.42 W	4929.73	1.53
10630.00	90.62	317.54	6298.78	4194.38 N	2715.63 W	4993.20	0.63
10693.00	90.09	316.07	6298.39	4240.30 N	2758.75 W	5055.56	2.47
10757.00	90.59	315.77	6298.01	4286.28 N	2803.27 W	5118.77	0.90
10820.00	90.80	315.87	6297.25	4331.46 N	2847.18 W	5180.98	0.38
10884.00	91.39	315.71	6296.03	4377.32 N	2891.80 W	5244.15	0.95
10957.00	91.91	315.65	6293.92	4429.53 N	2942.78 W	5316.18	0.72
11000.00	91.91	315.65	6292.49	4460.26 N	2972.82 W	5358.59	0.01

SURVEY COORDINATES RELATIVE TO WELL SYSTEM REFERENCE POINT
TVD VALUES GIVEN RELATIVE TO DRILLING MEASUREMENT POINT

VERTICAL SECTION RELATIVE TO WELL HEAD
VERTICAL SECTION IS COMPUTED ALONG A DIRECTION OF 324.92 DEGREES (TRUE)
A TOTAL CORRECTION OF 8.65 DEG FROM MAGNETIC NORTH TO TRUE NORTH HAS BEEN APPLIED

HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.
HORIZONTAL DISPLACEMENT(CLOSURE) AT 11000.00 FEET
IS 5360.18 FEET ALONG 326.32 DEGREES (TRUE)

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