



PHOENIX  
TECHNOLOGY SERVICES

MD  
1:240  
Feet

MWD Gamma / ROP (5")

Client: Whiting Petroleum Corp.

Well Name: RAZOR FEDERAL #12F-0104B

API/UWID: 1

County: Weld

Permit #: 1

State: Colorado

Country: USA

Field: Wildcat

Longitude: 103° 49' 4.94 W  
Latitude: 40° 51' 16.779 N

Personnel

Company Representative  
Kenny Wilkerson

Geologist

Directional Driller(s)  
Brandon Davis  
Jon Willy

MWD Operator(s)  
Larry Seebeck  
Joe Owens

Reference Data

North Reference: True North  
Magnetic Declination: 7.44  
Grid Convergence: 0.00  
Total Mag Correction: 7.44

Comments:

Main Leg

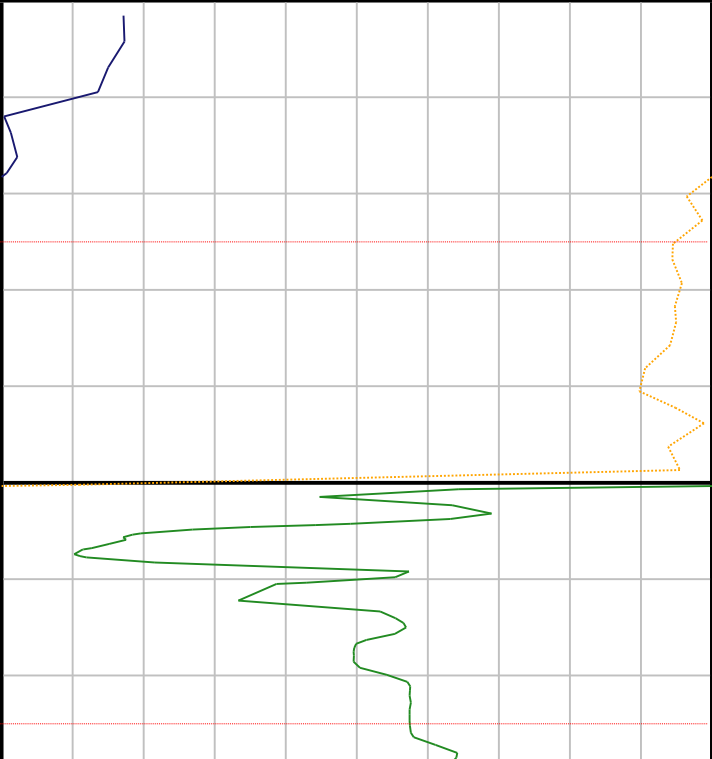
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1:240

Log

Index Scale: 1:240    Index Unit: Feet    Index Type: MD    Creation Date: August 23, 2015 05:00

ROP	ROP
0	300
ROP	ROP
300	600
ROP	ROP
600	900
ROP	ROP
900	1200



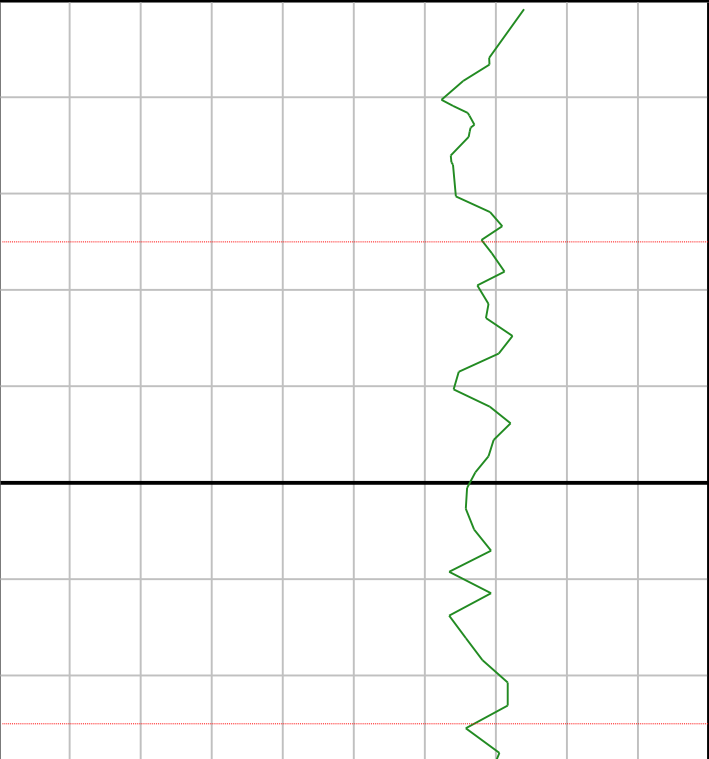
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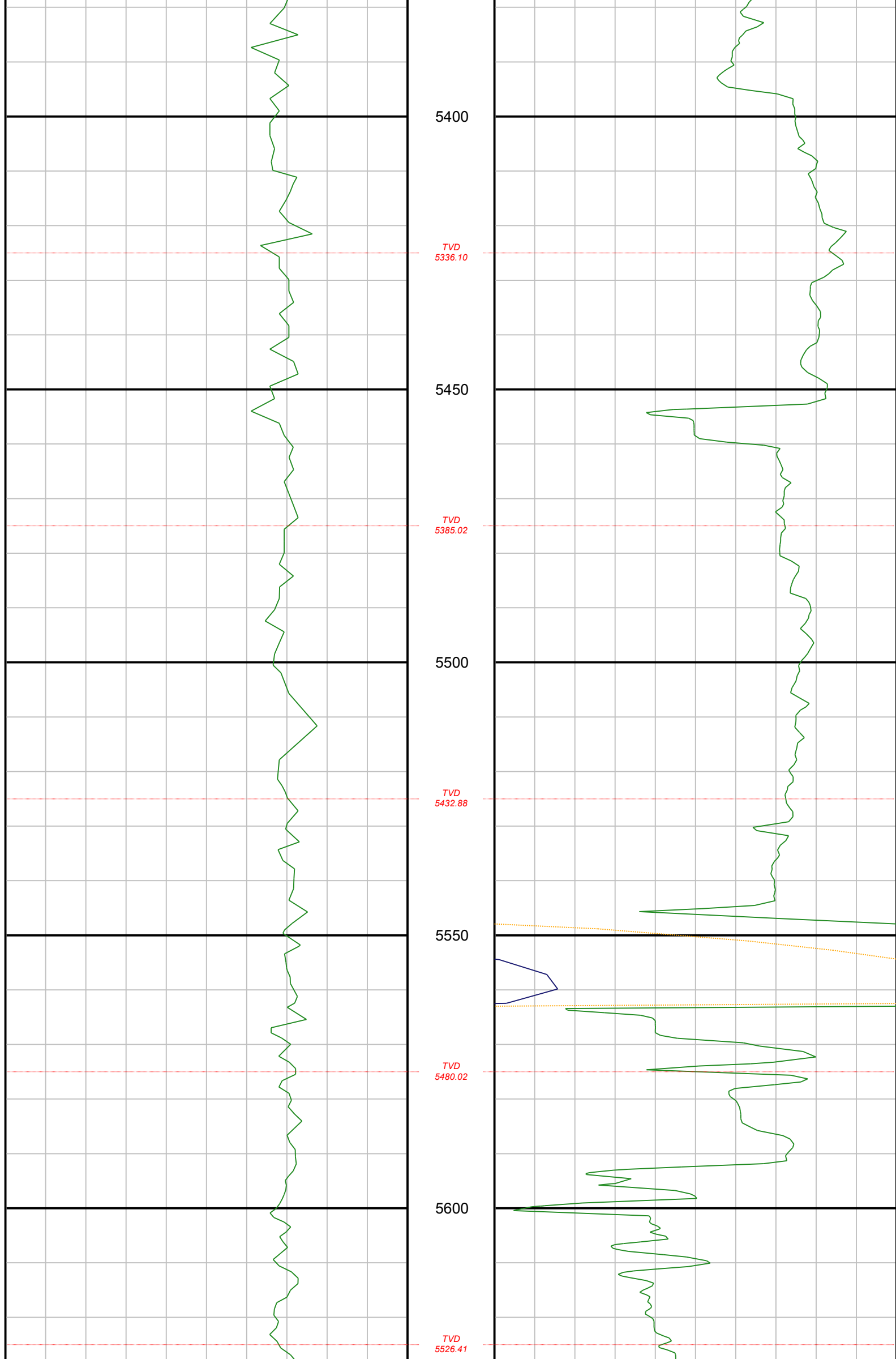
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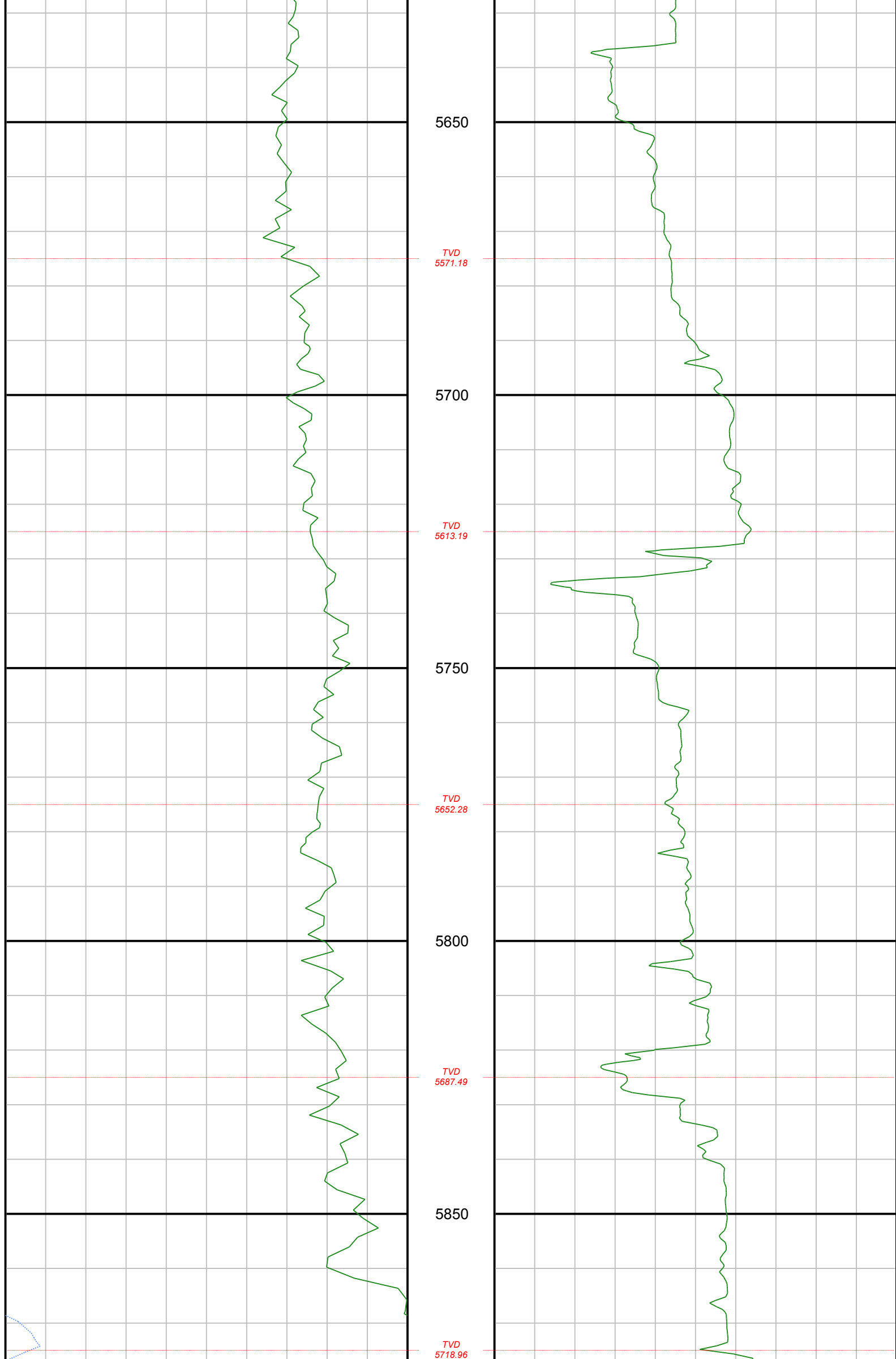
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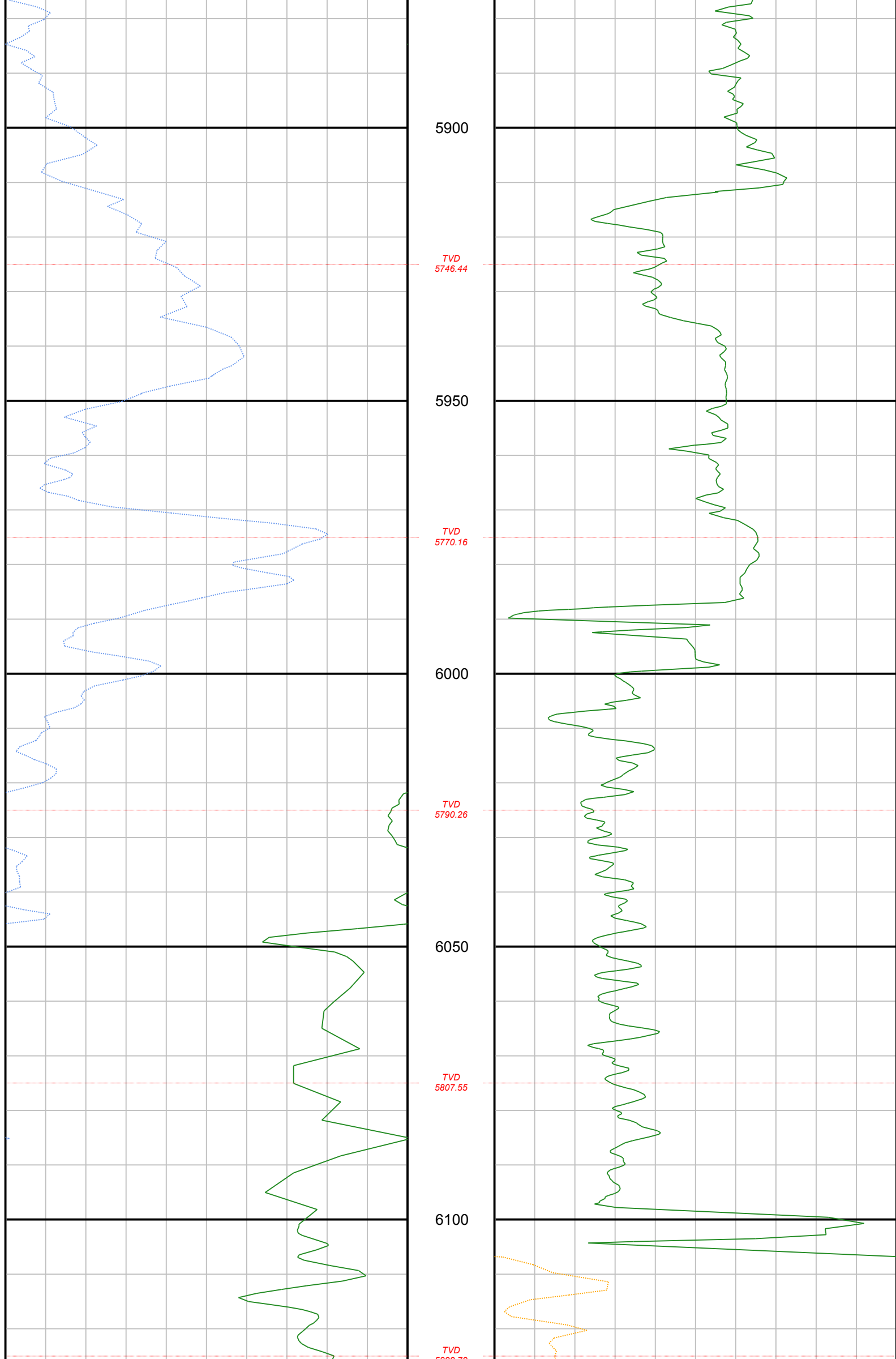
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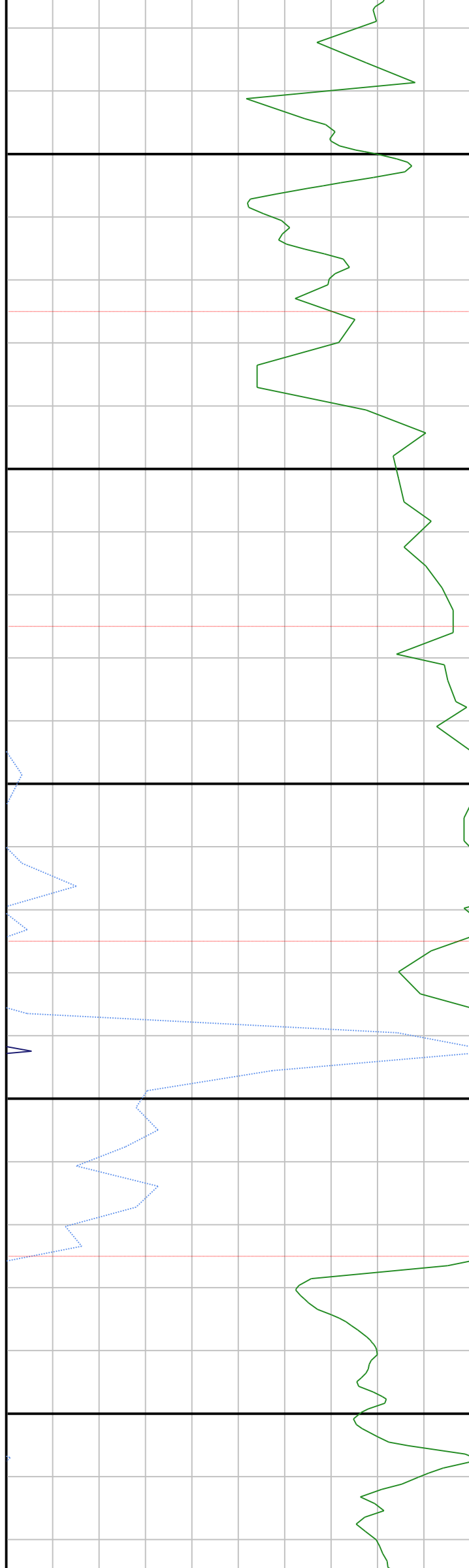
Gamma	Gama
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Gamma	Gama
200	400
Gamma	Gama
400	600
Gamma	Gama
600	800











6150

6200

6250

6300

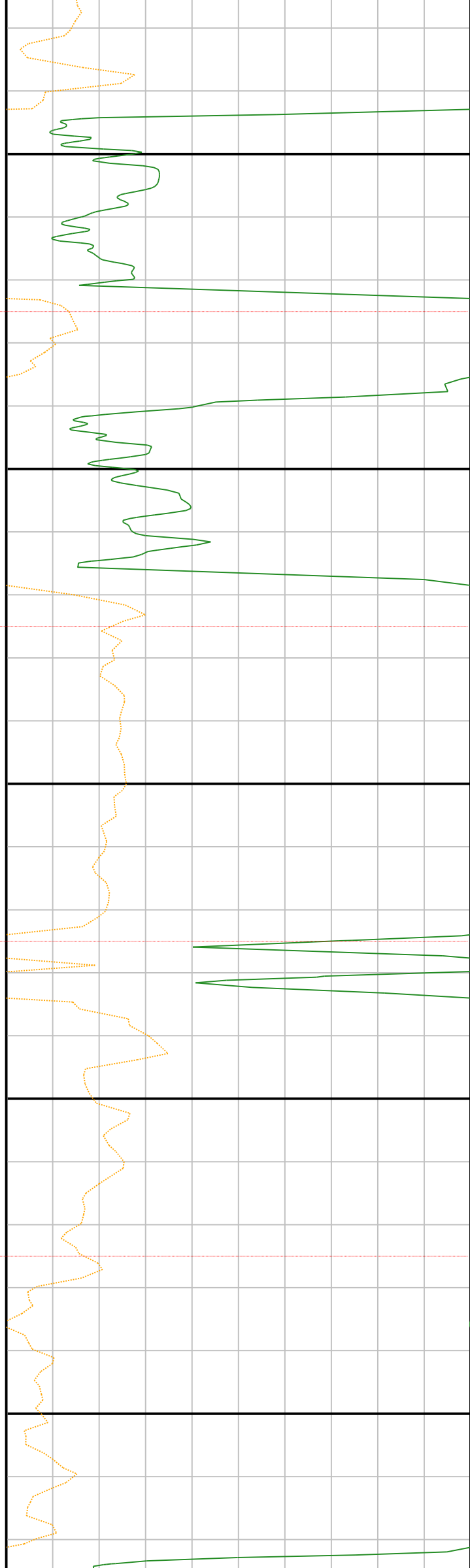
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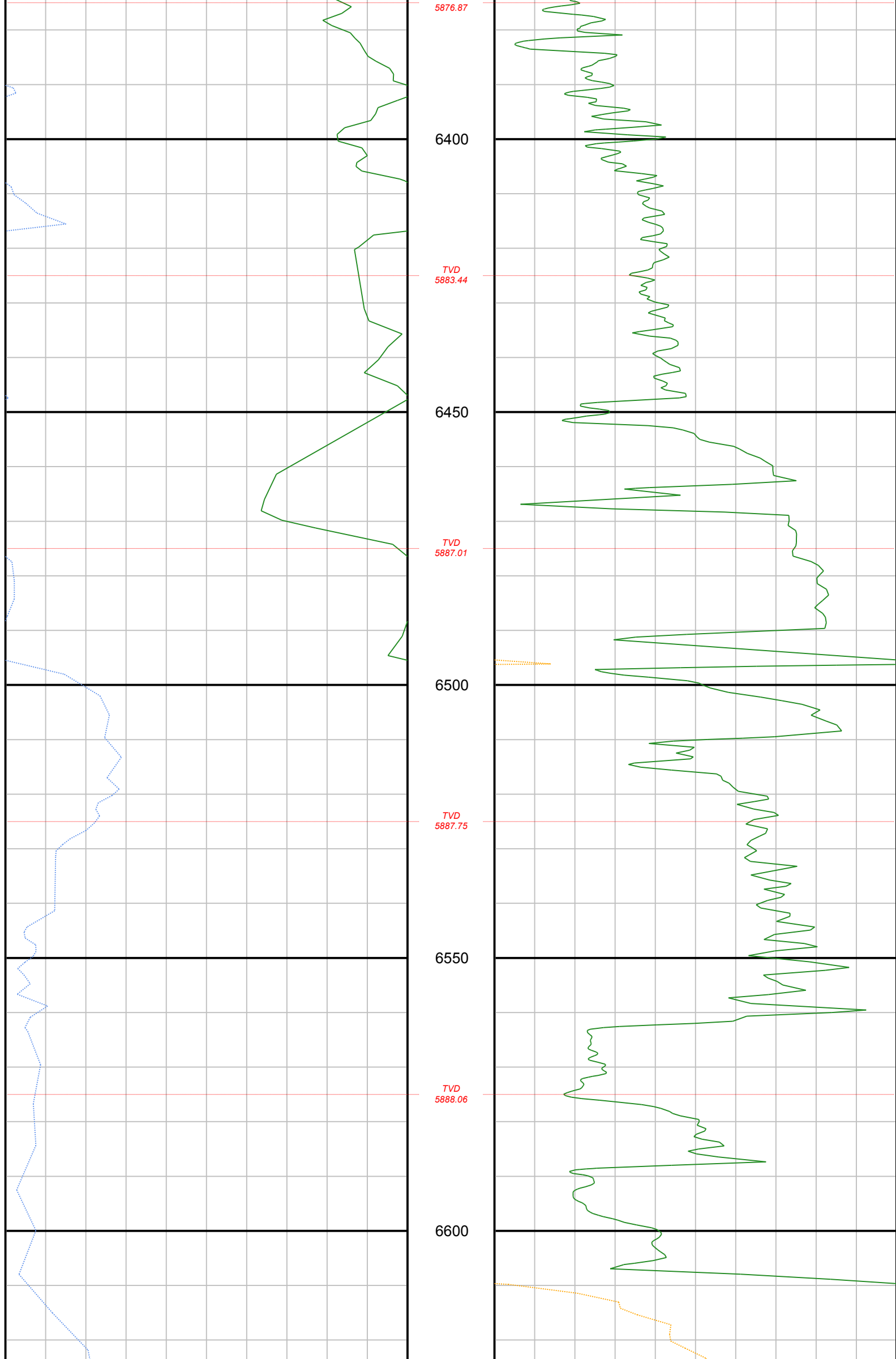
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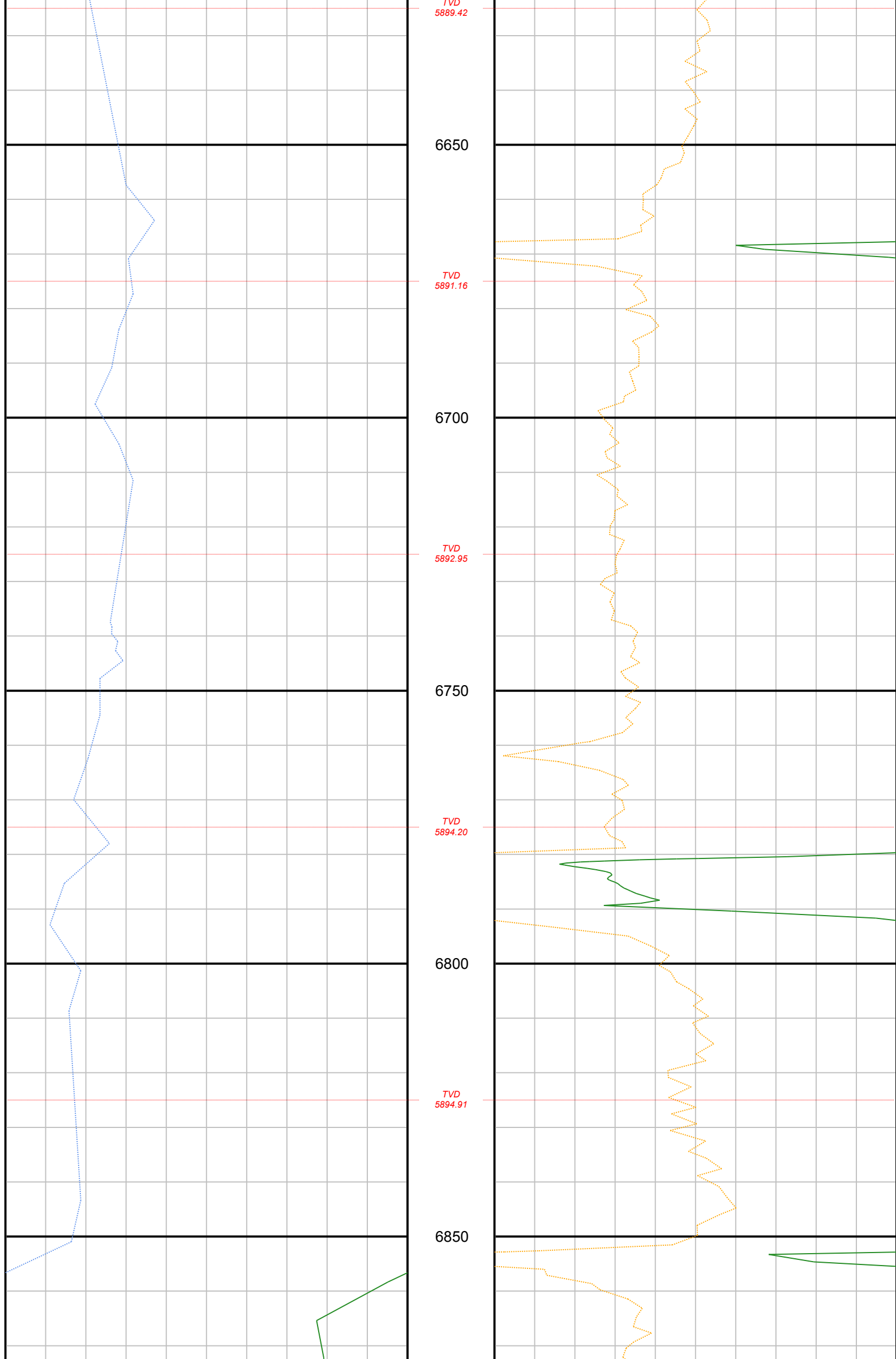
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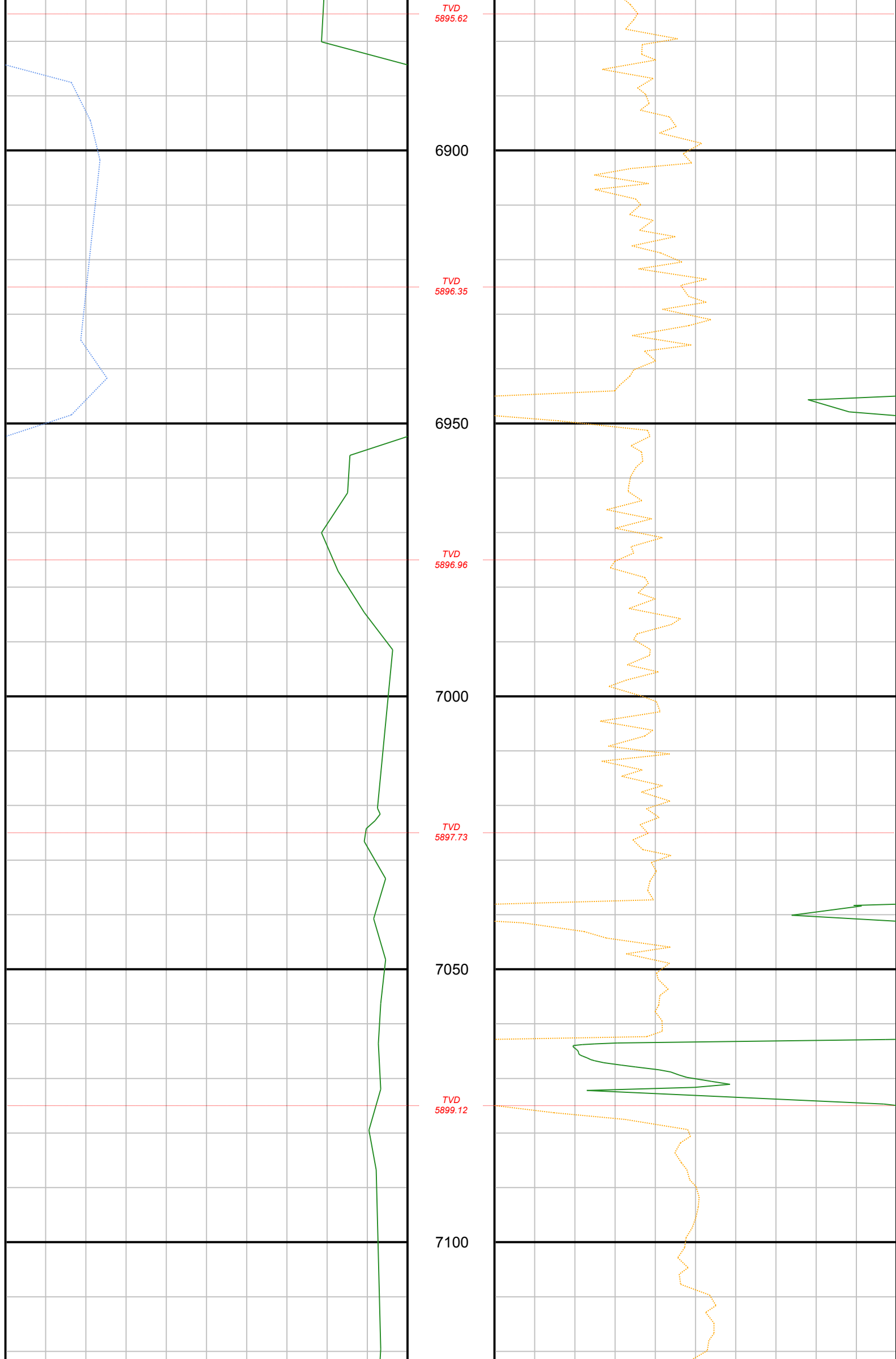
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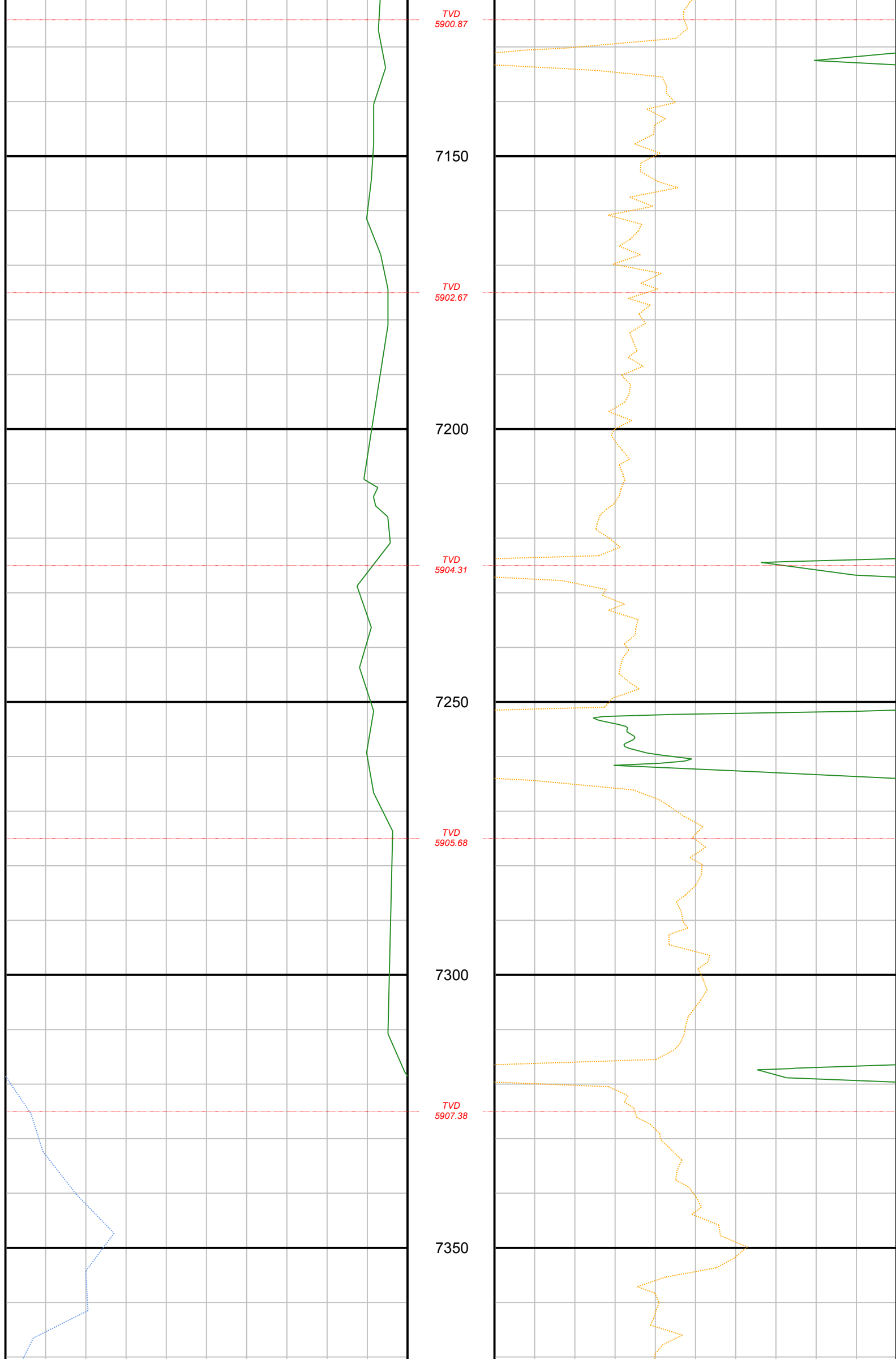


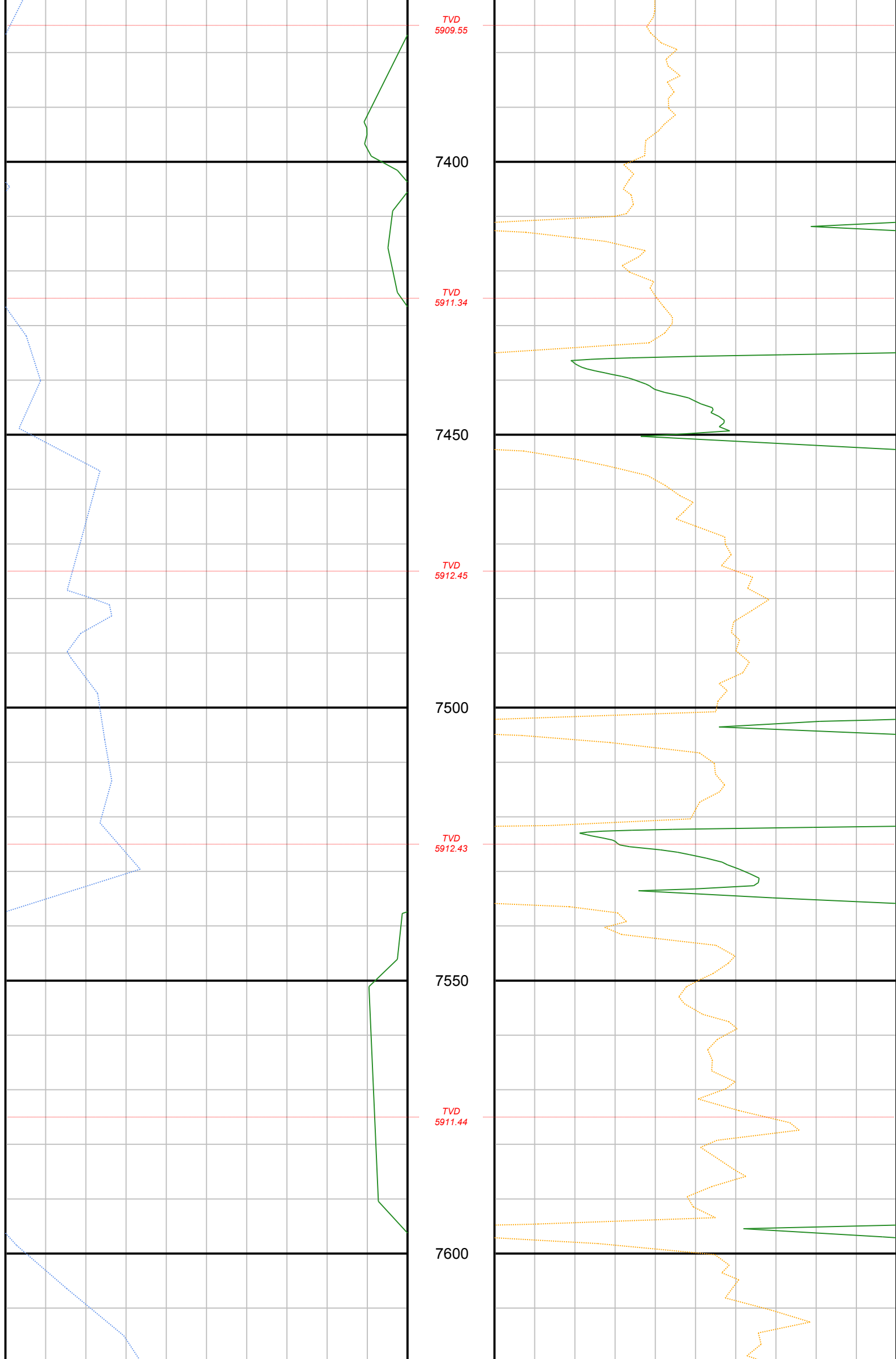


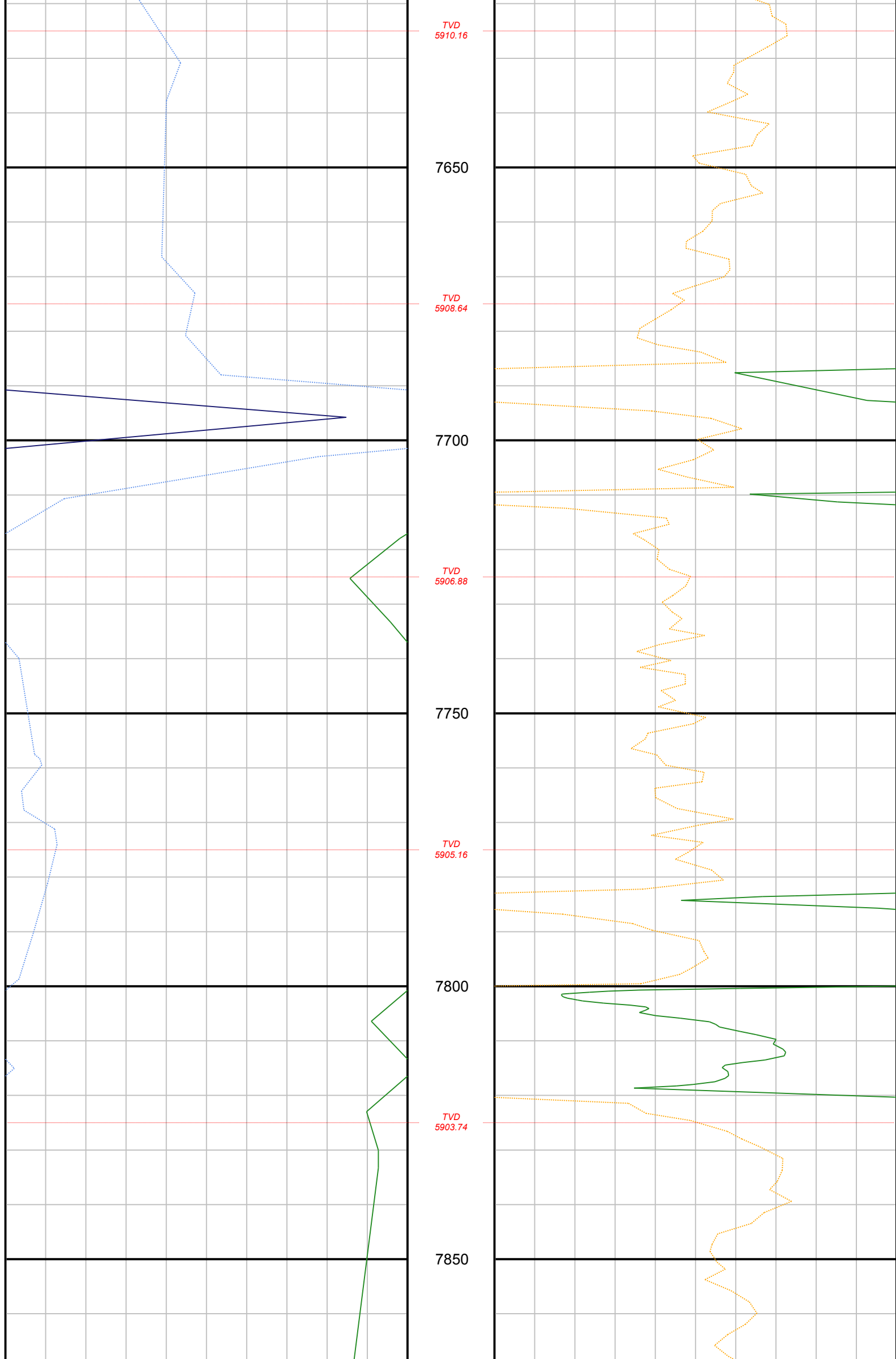


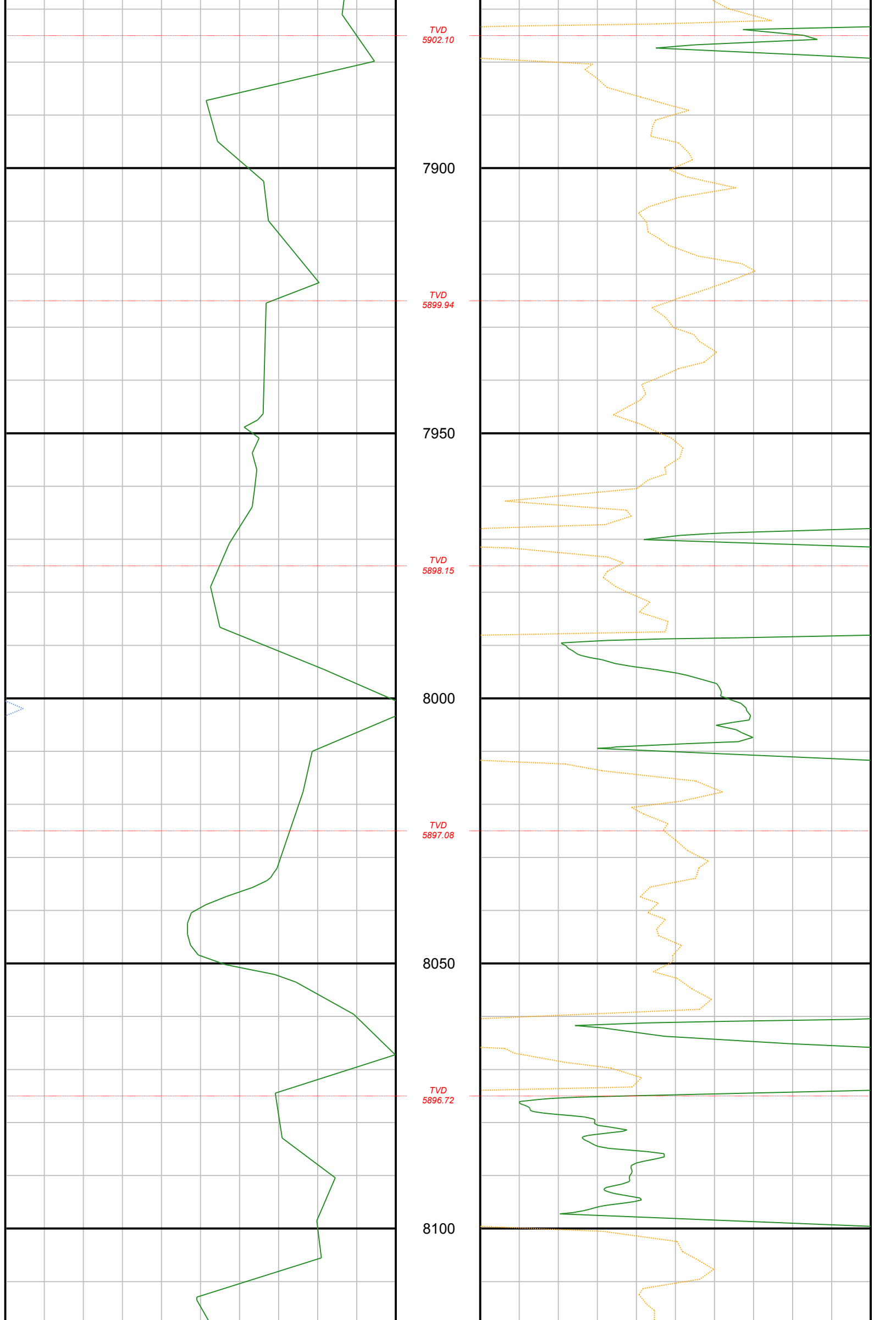


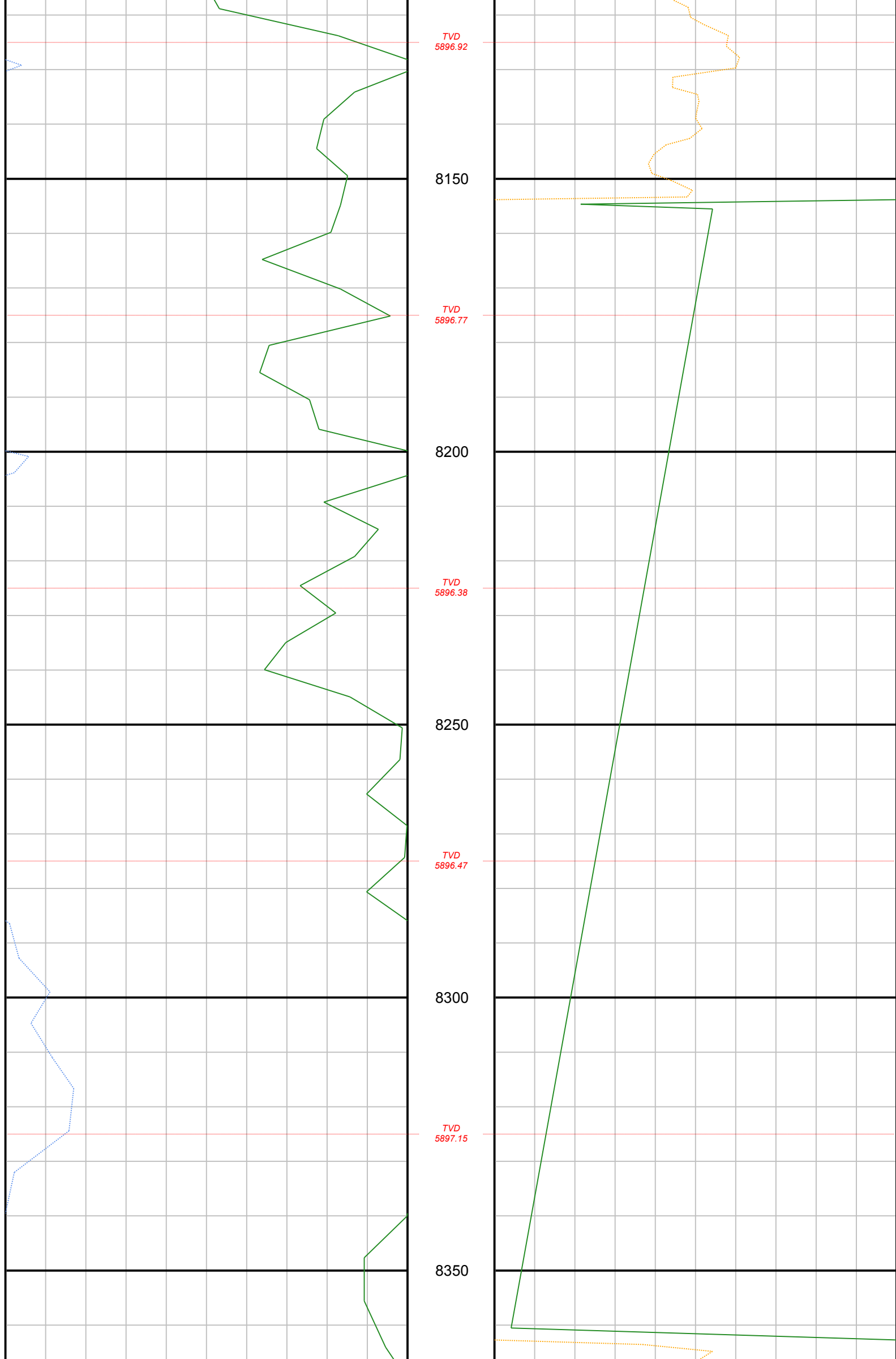


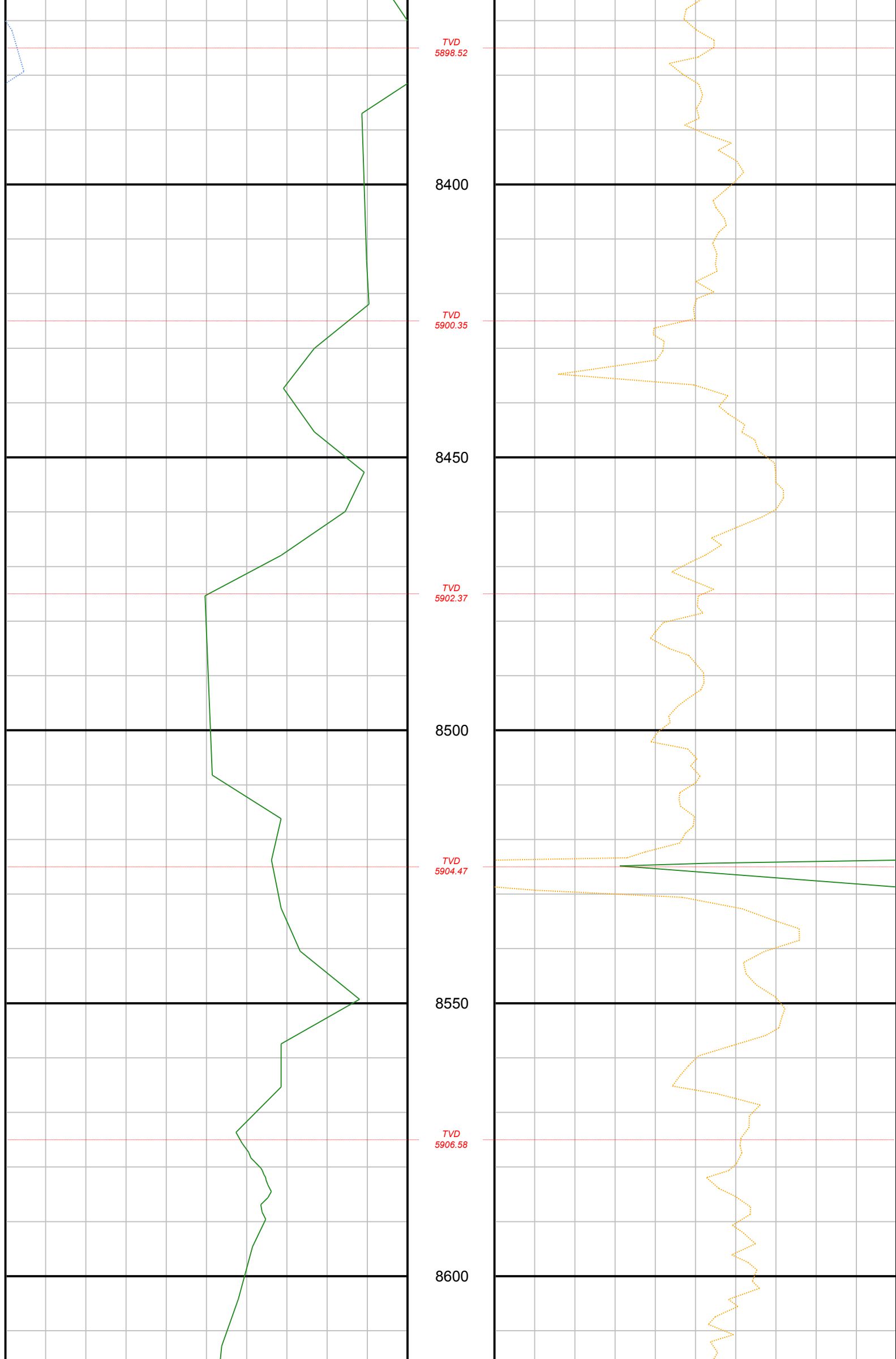


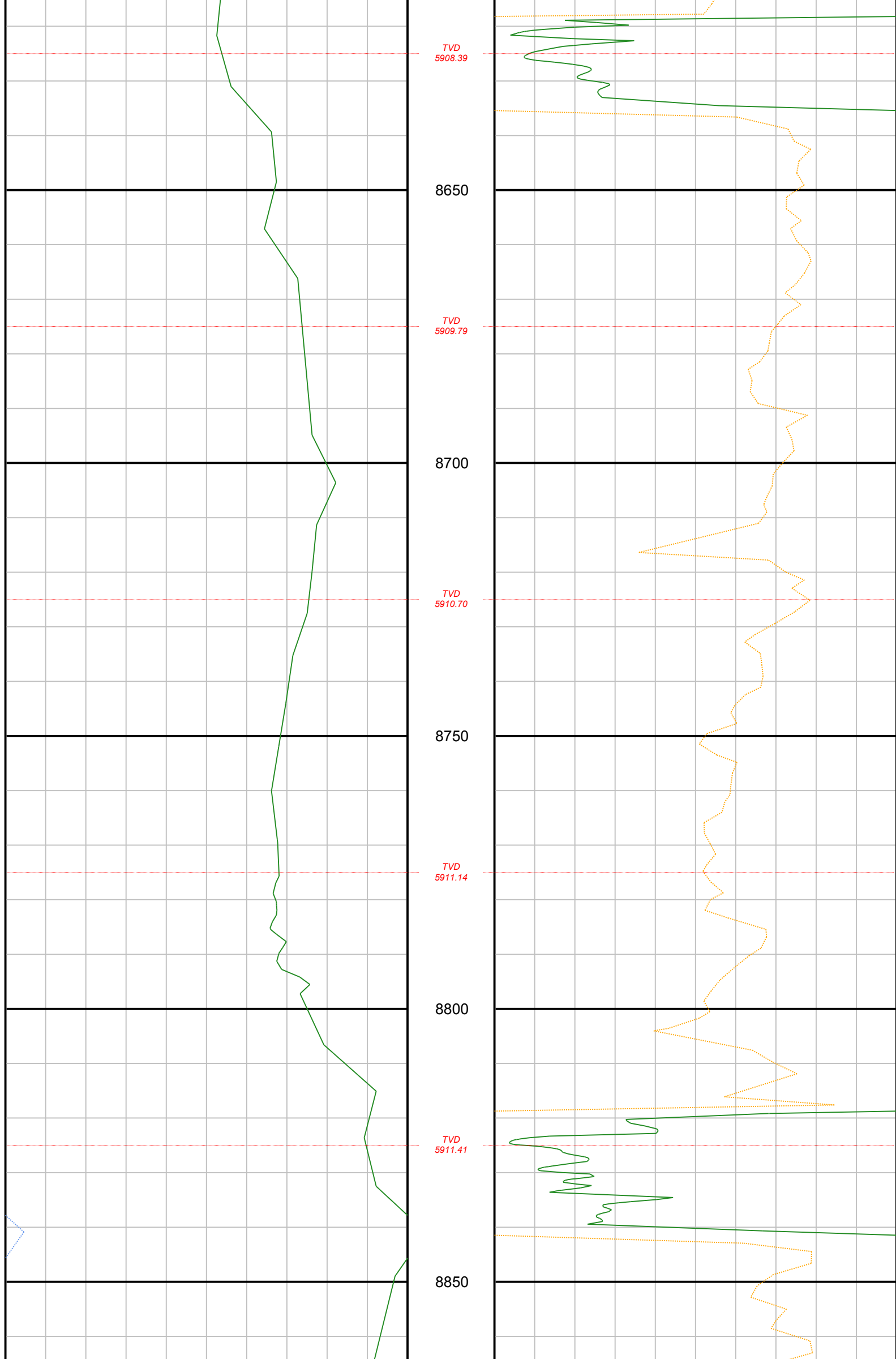


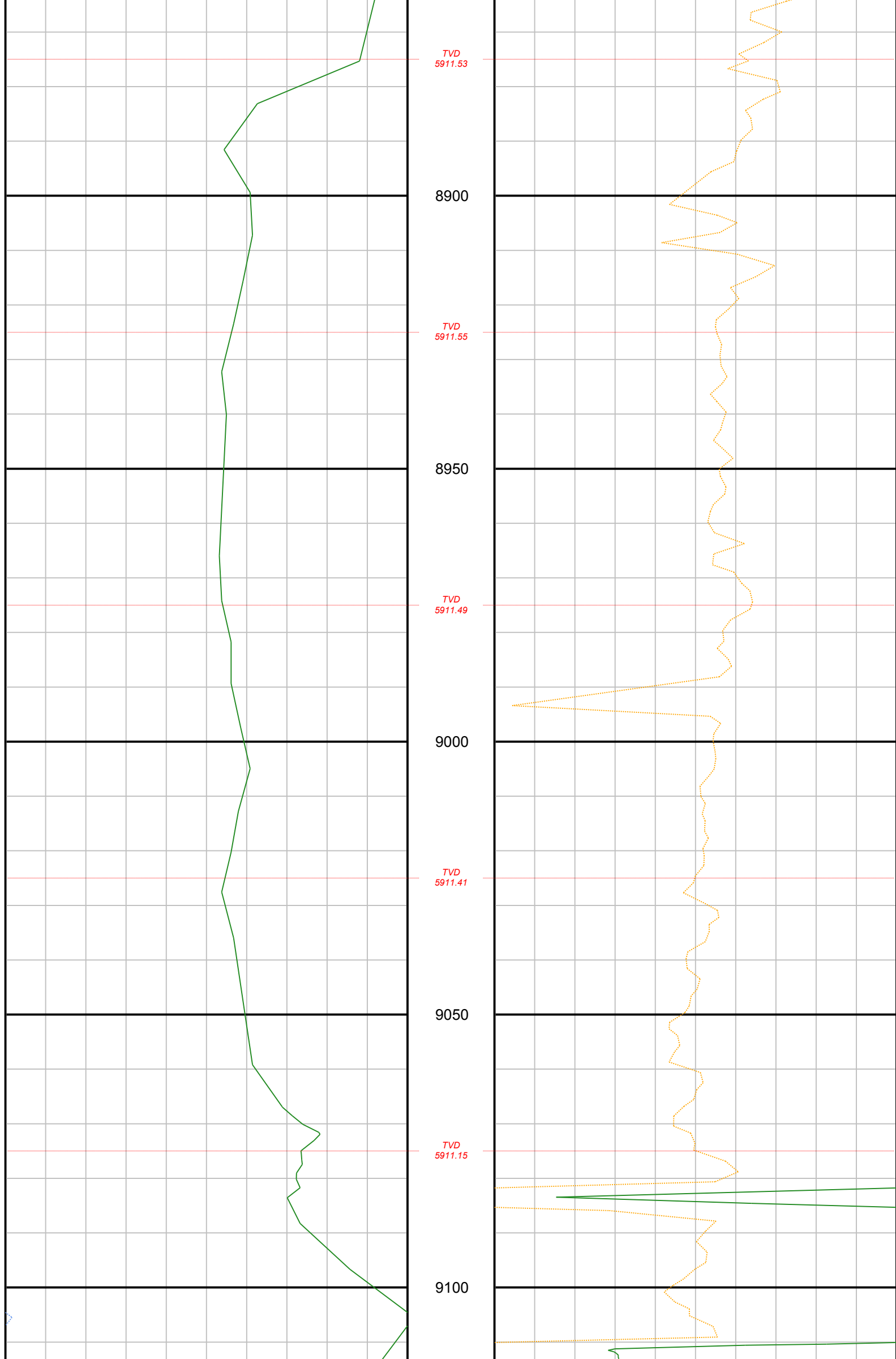




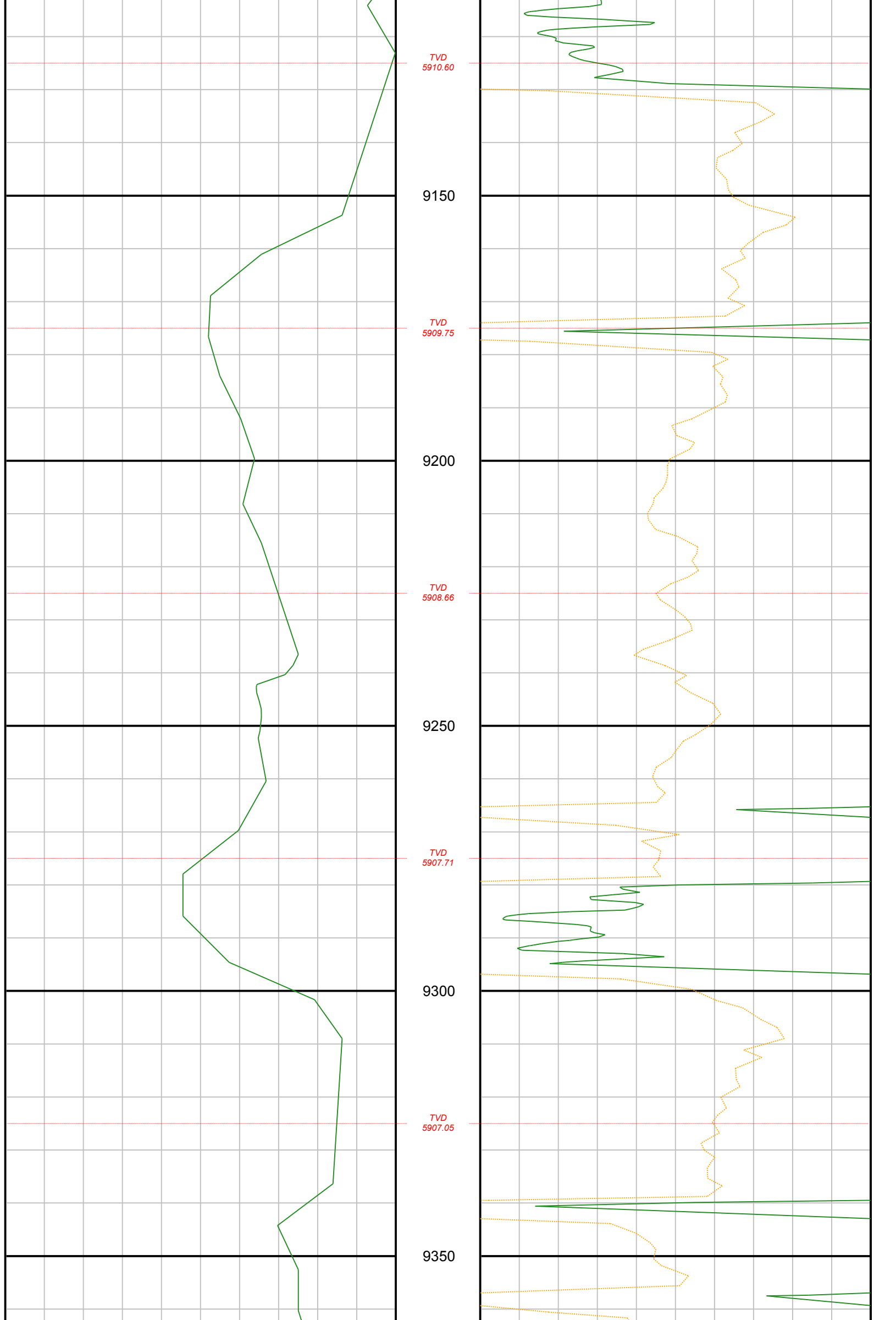


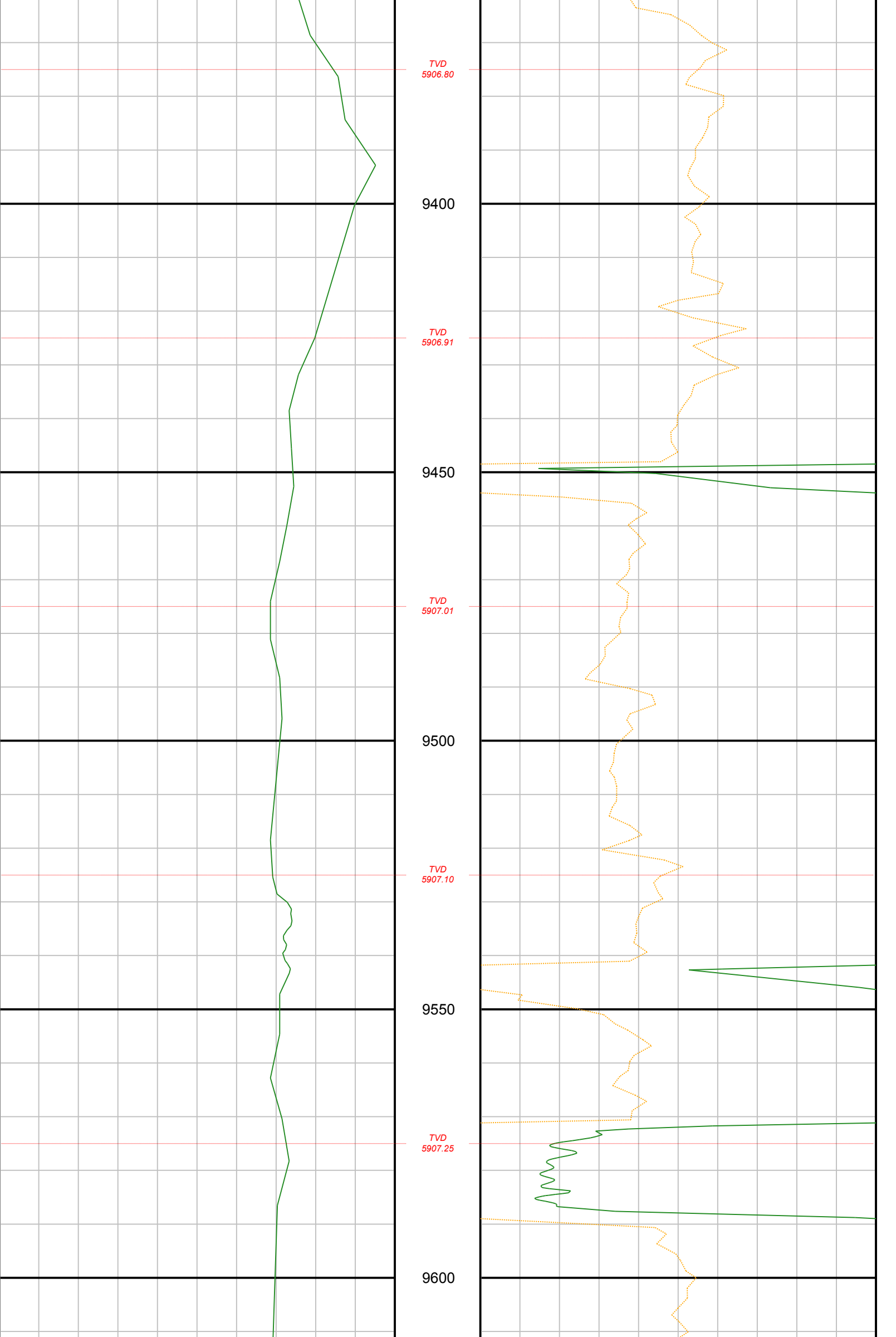


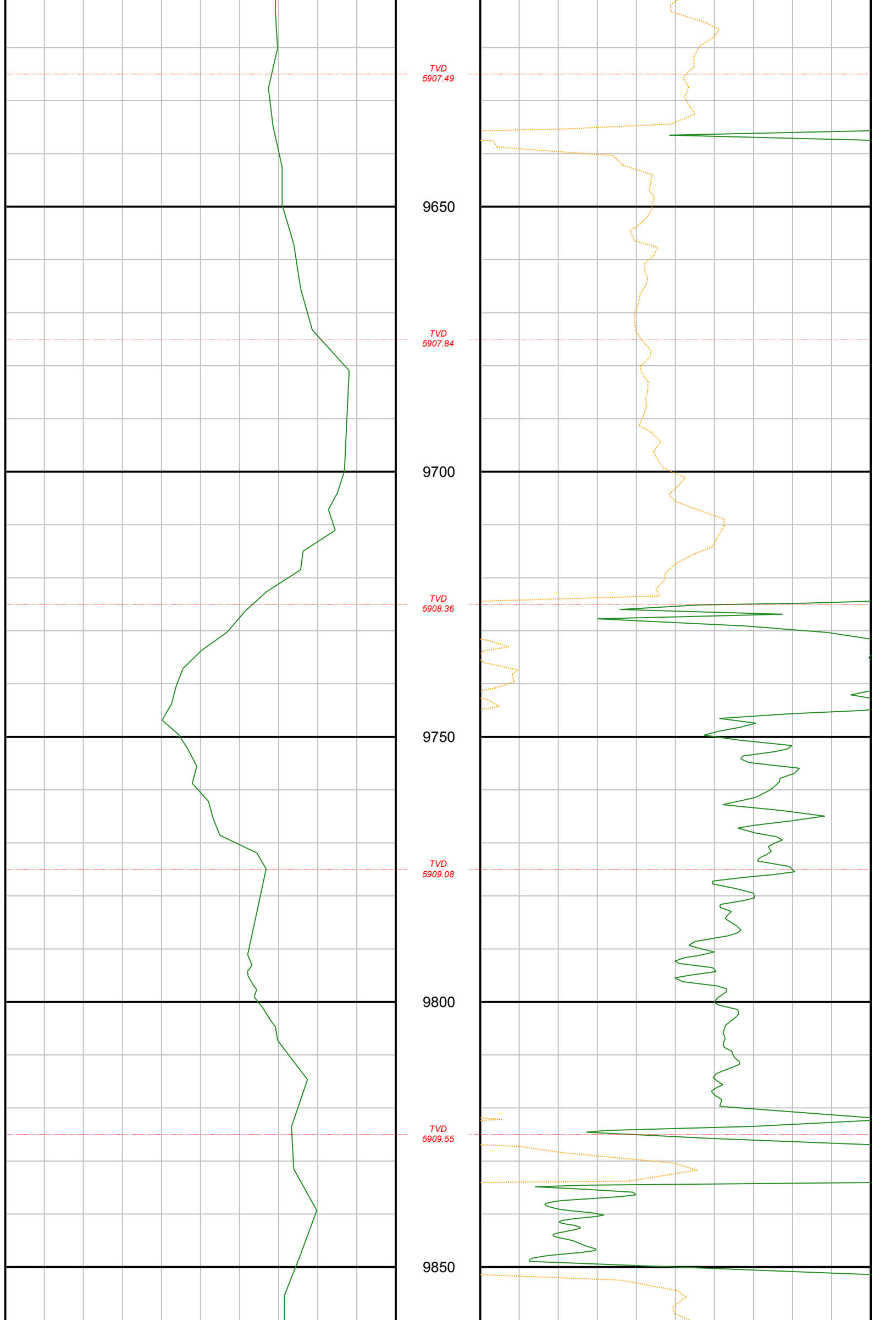


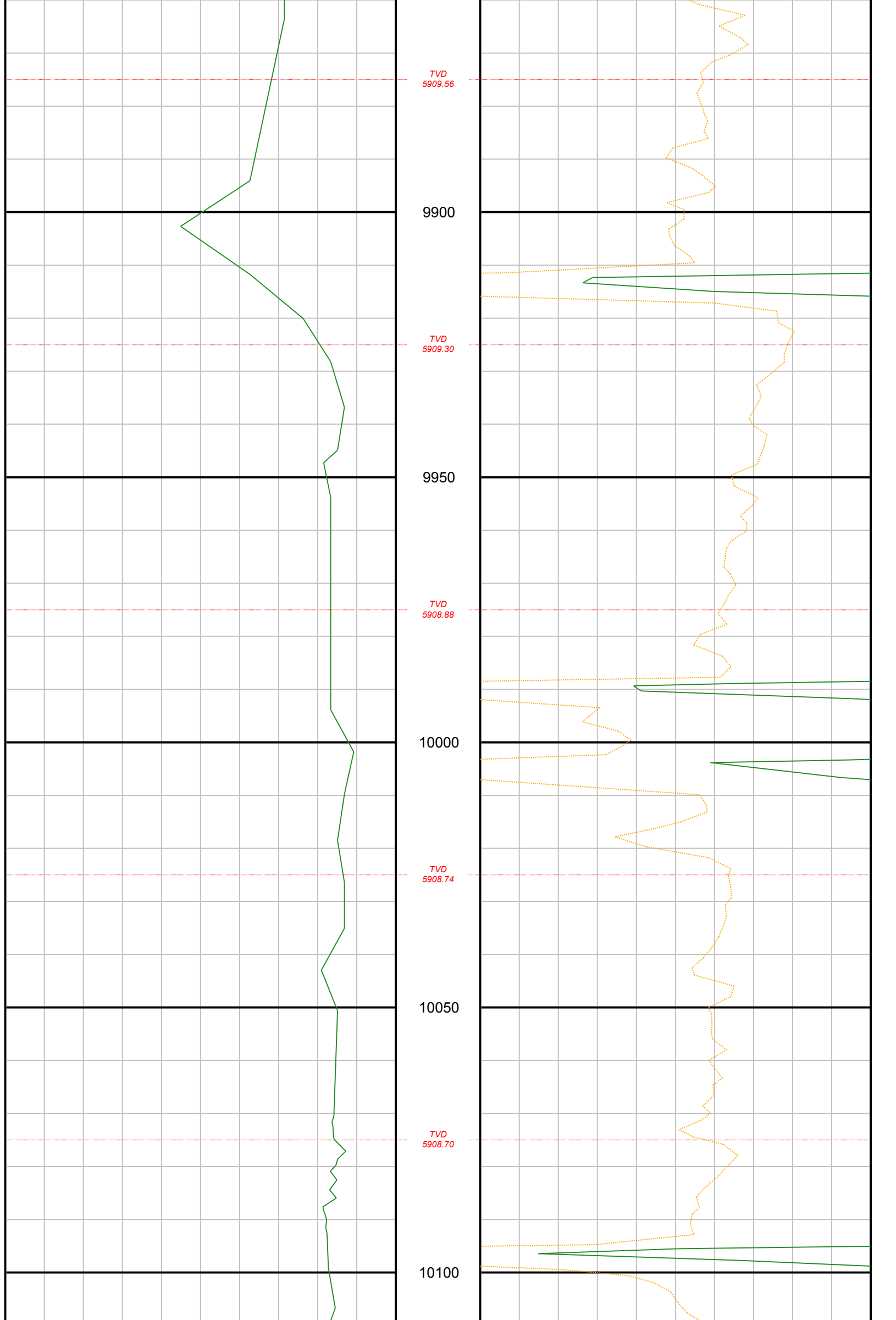


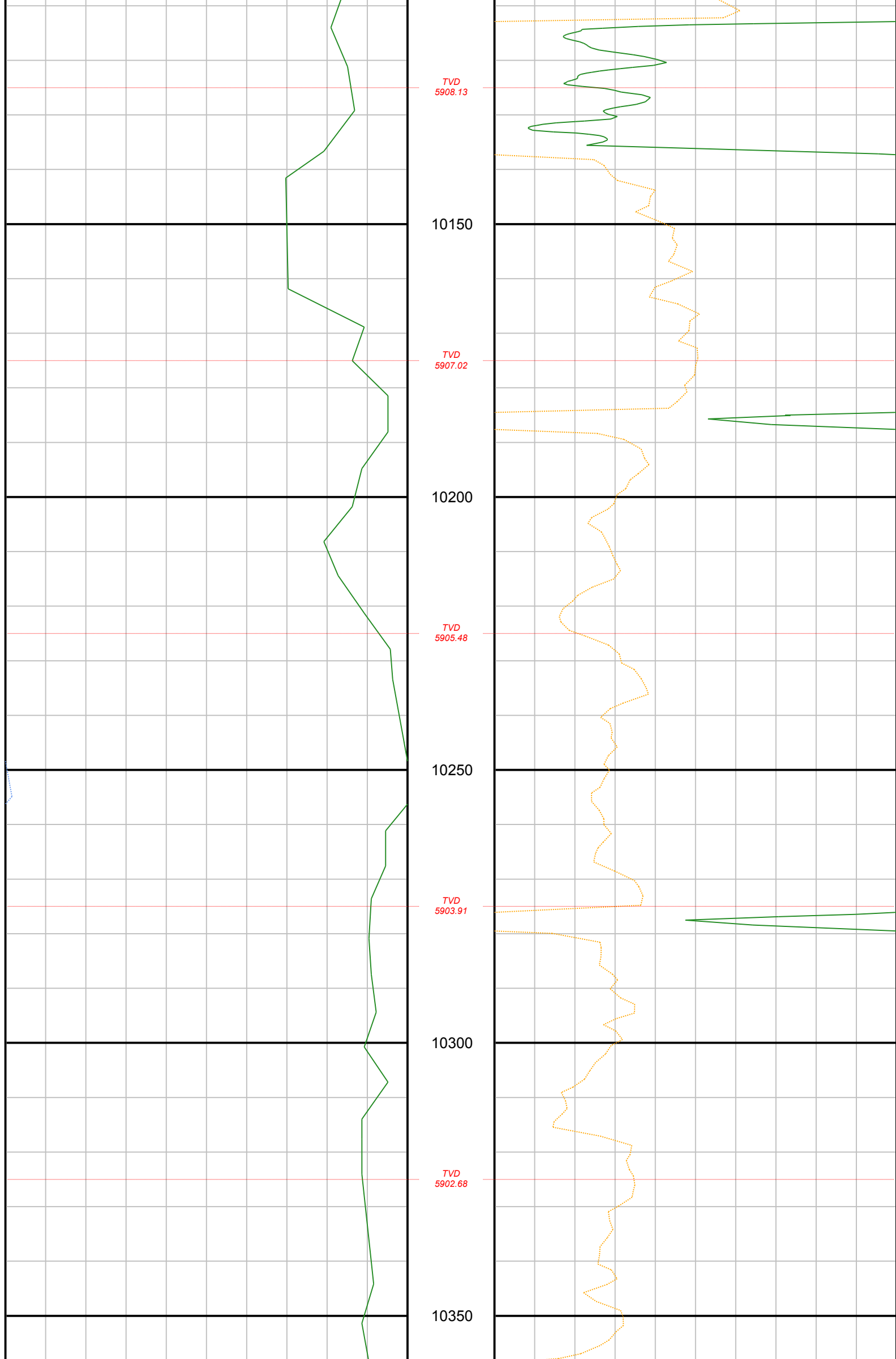


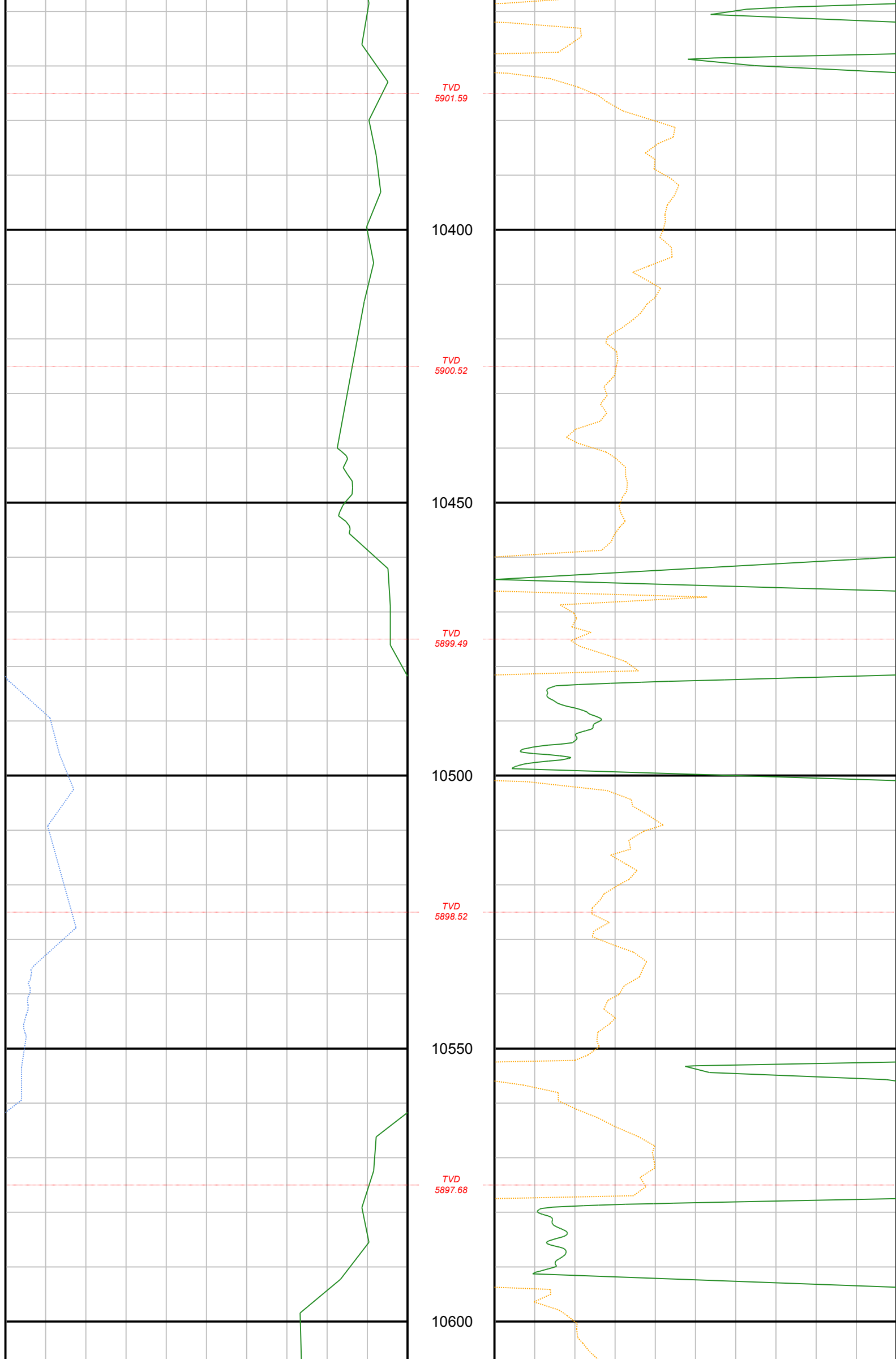


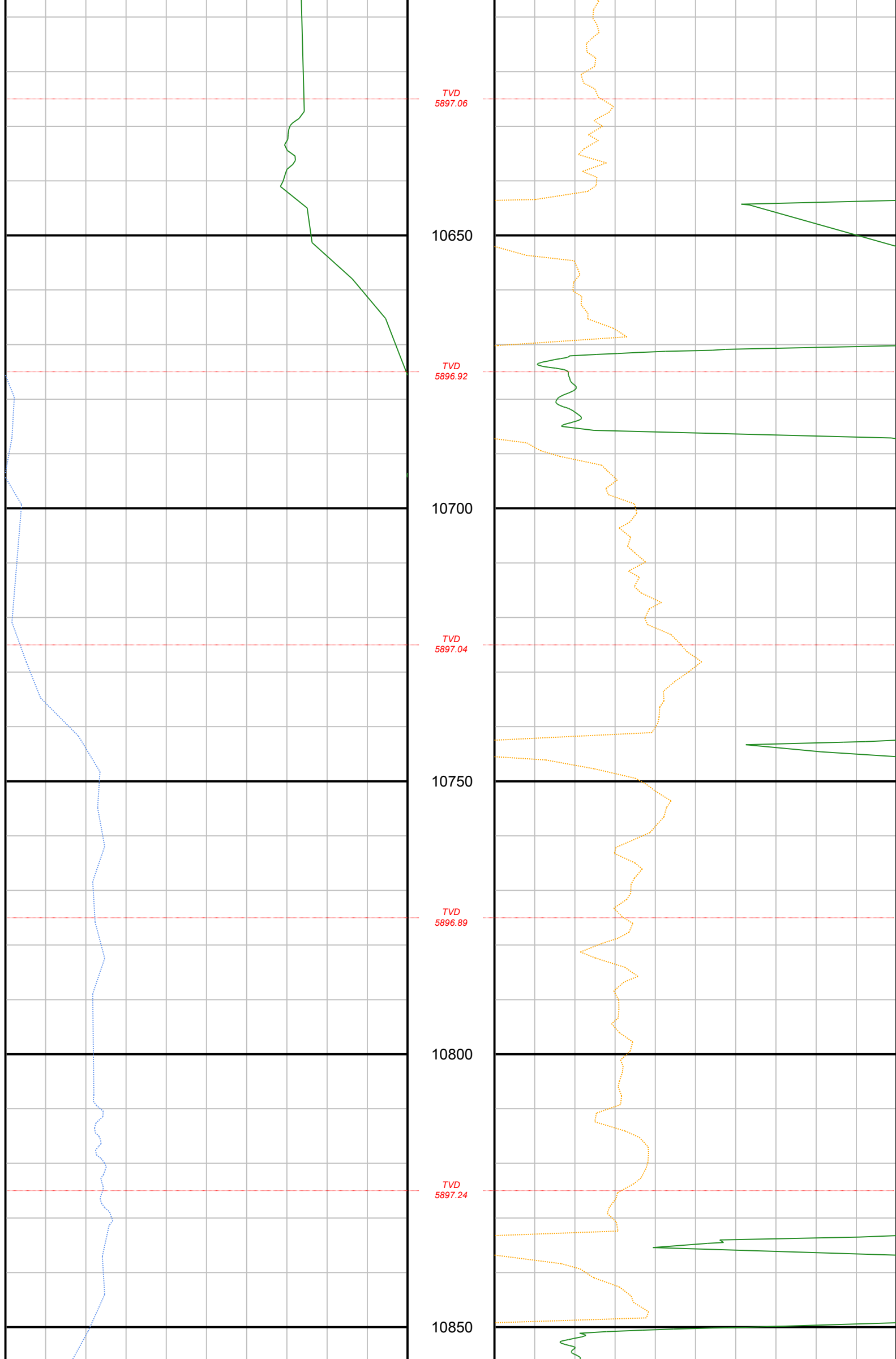


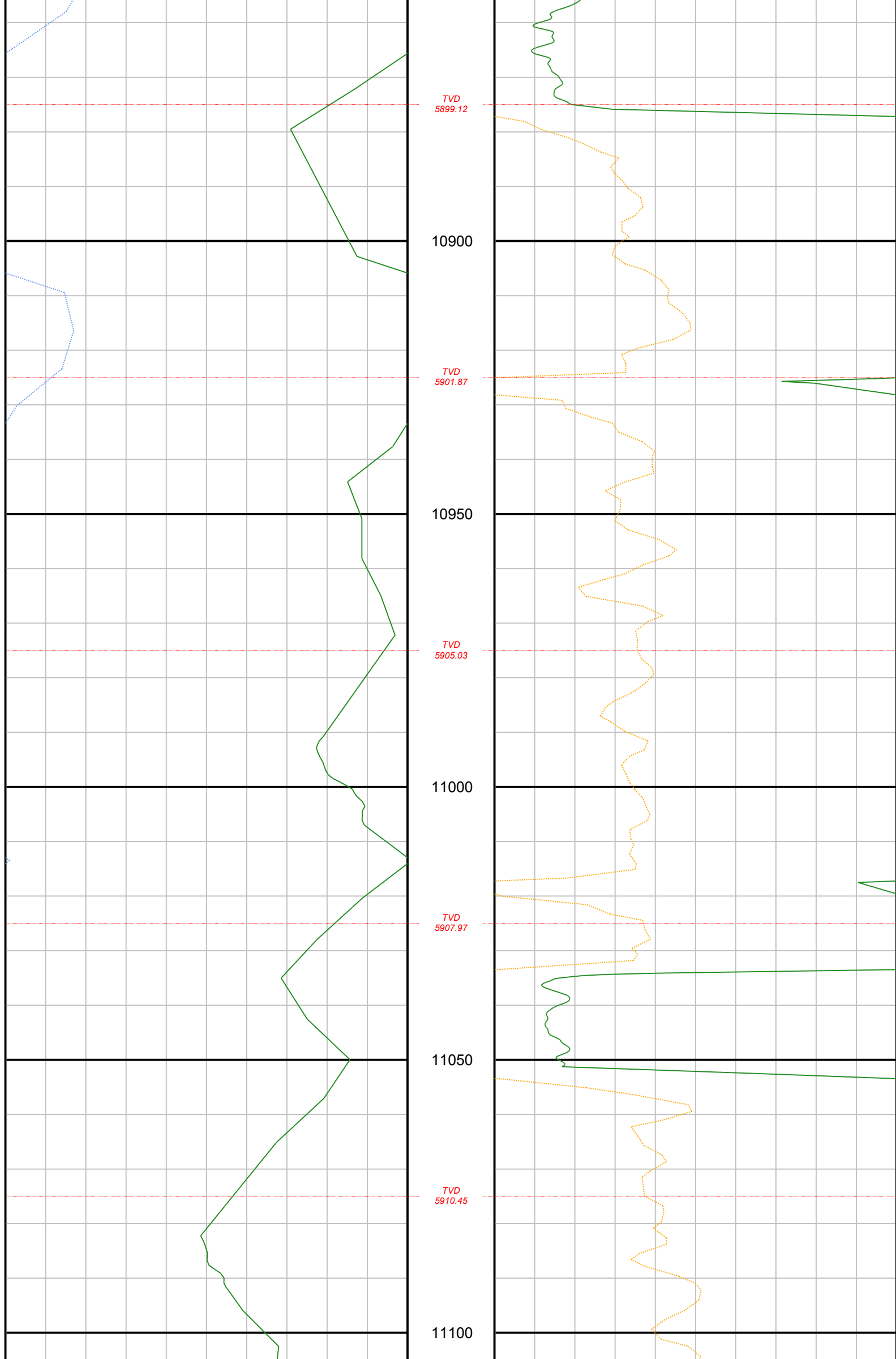




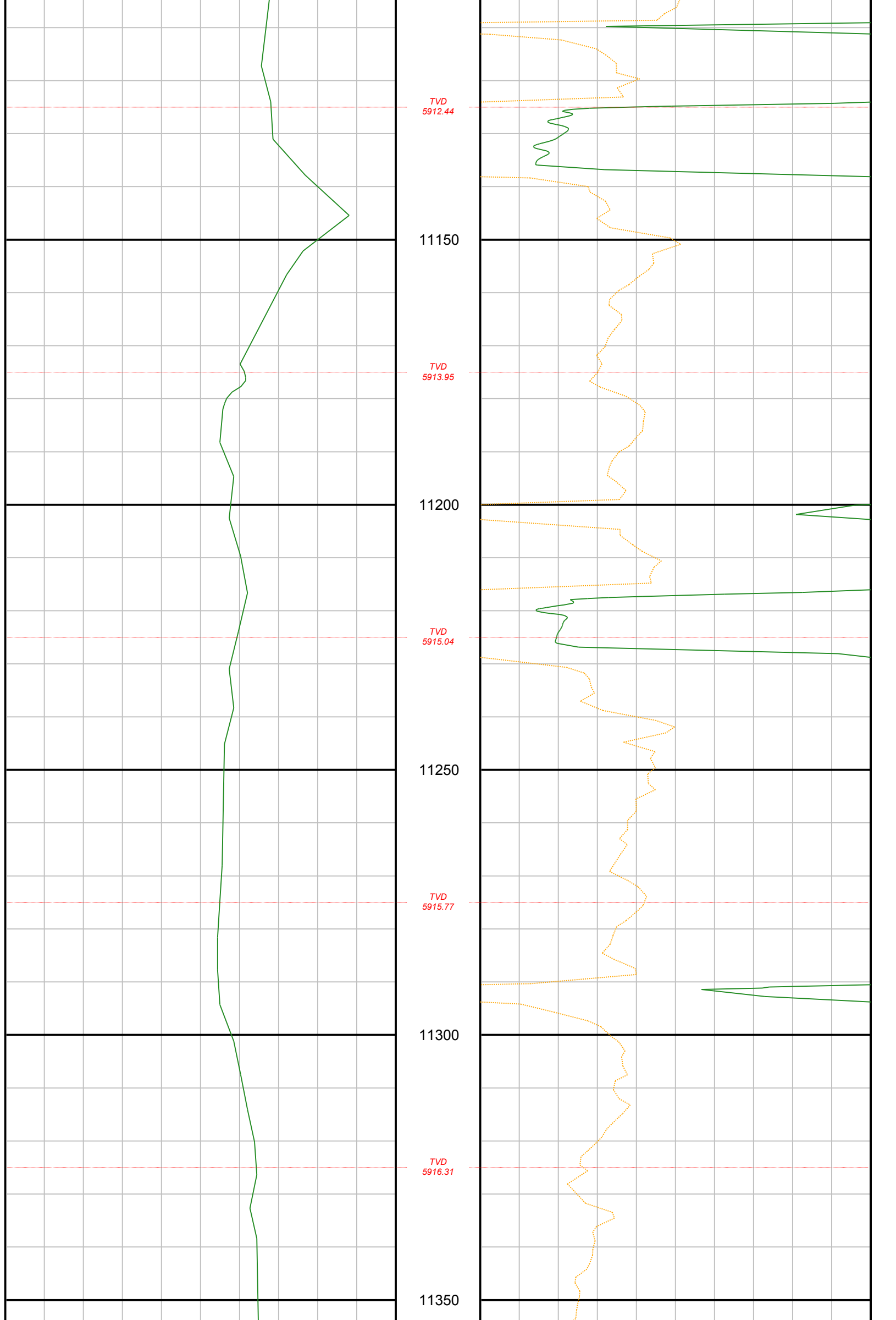


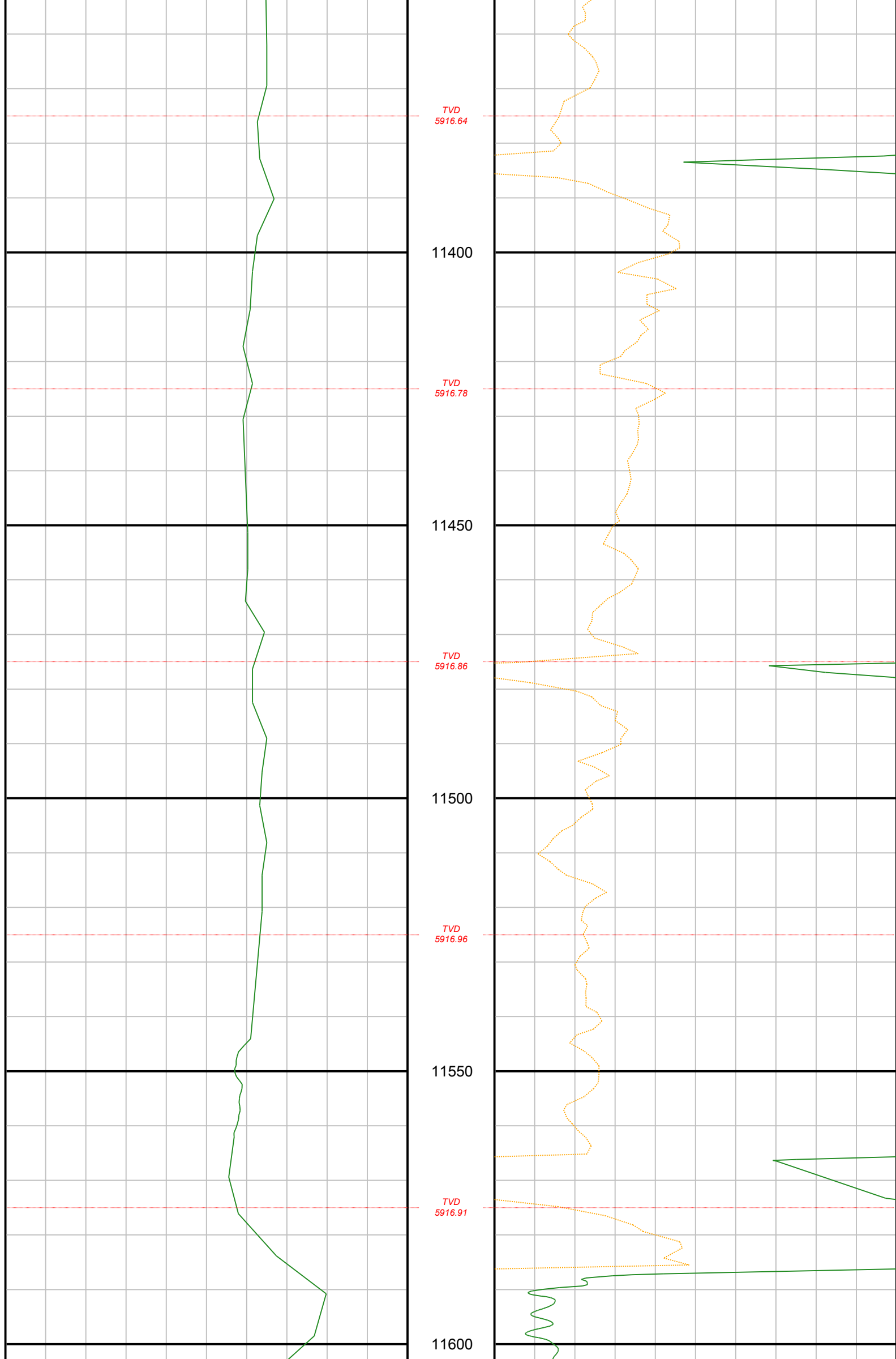


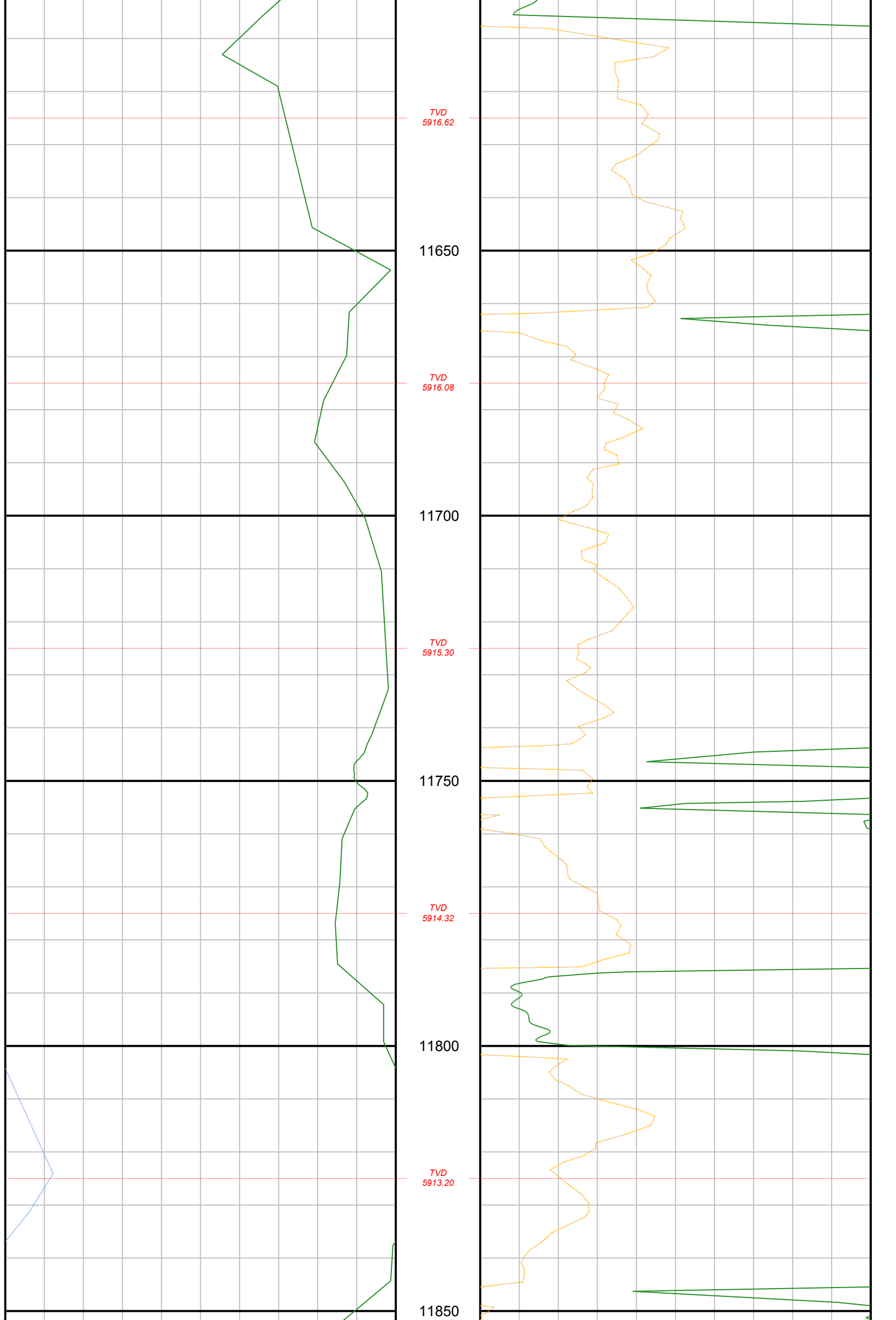


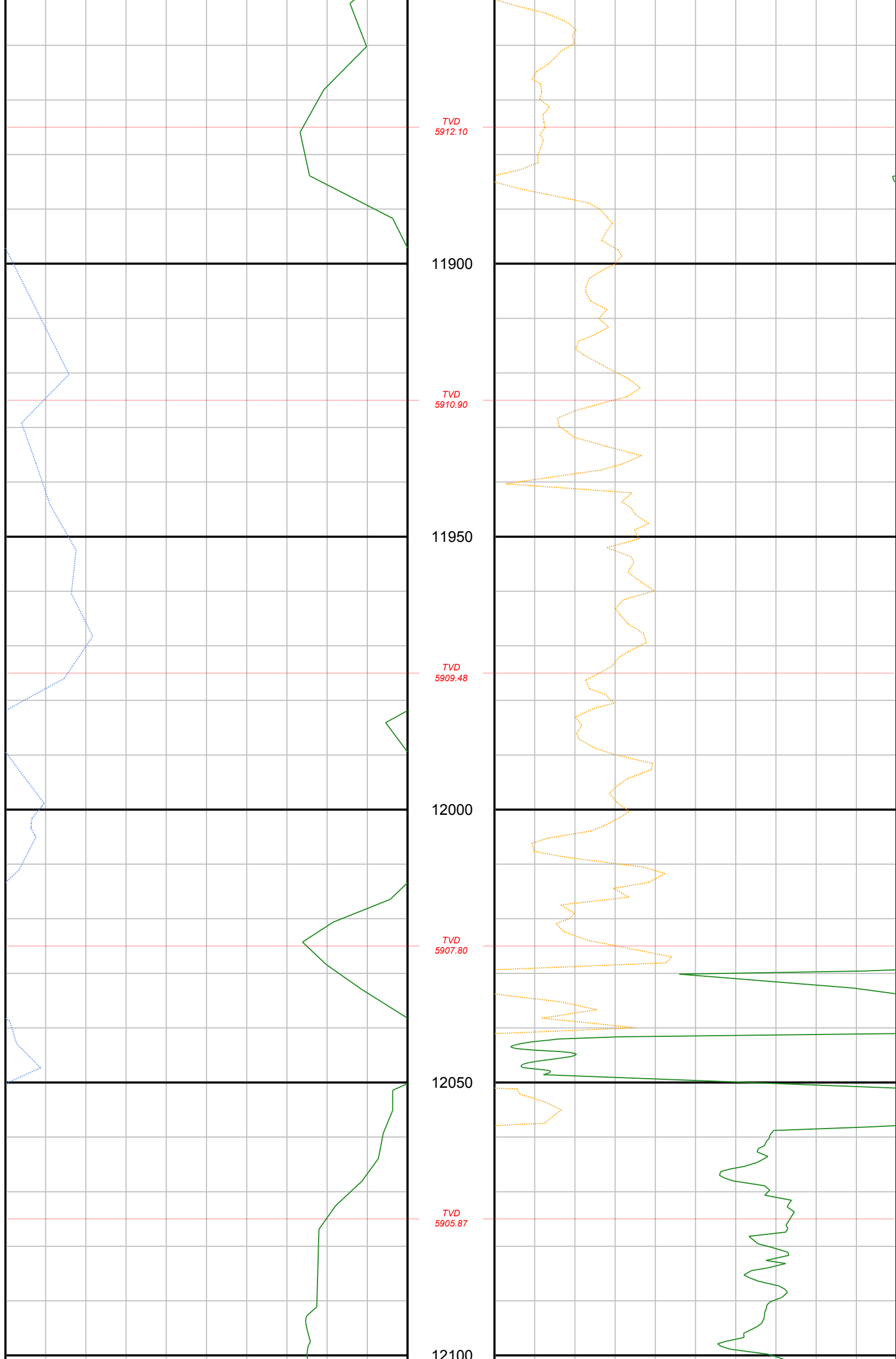


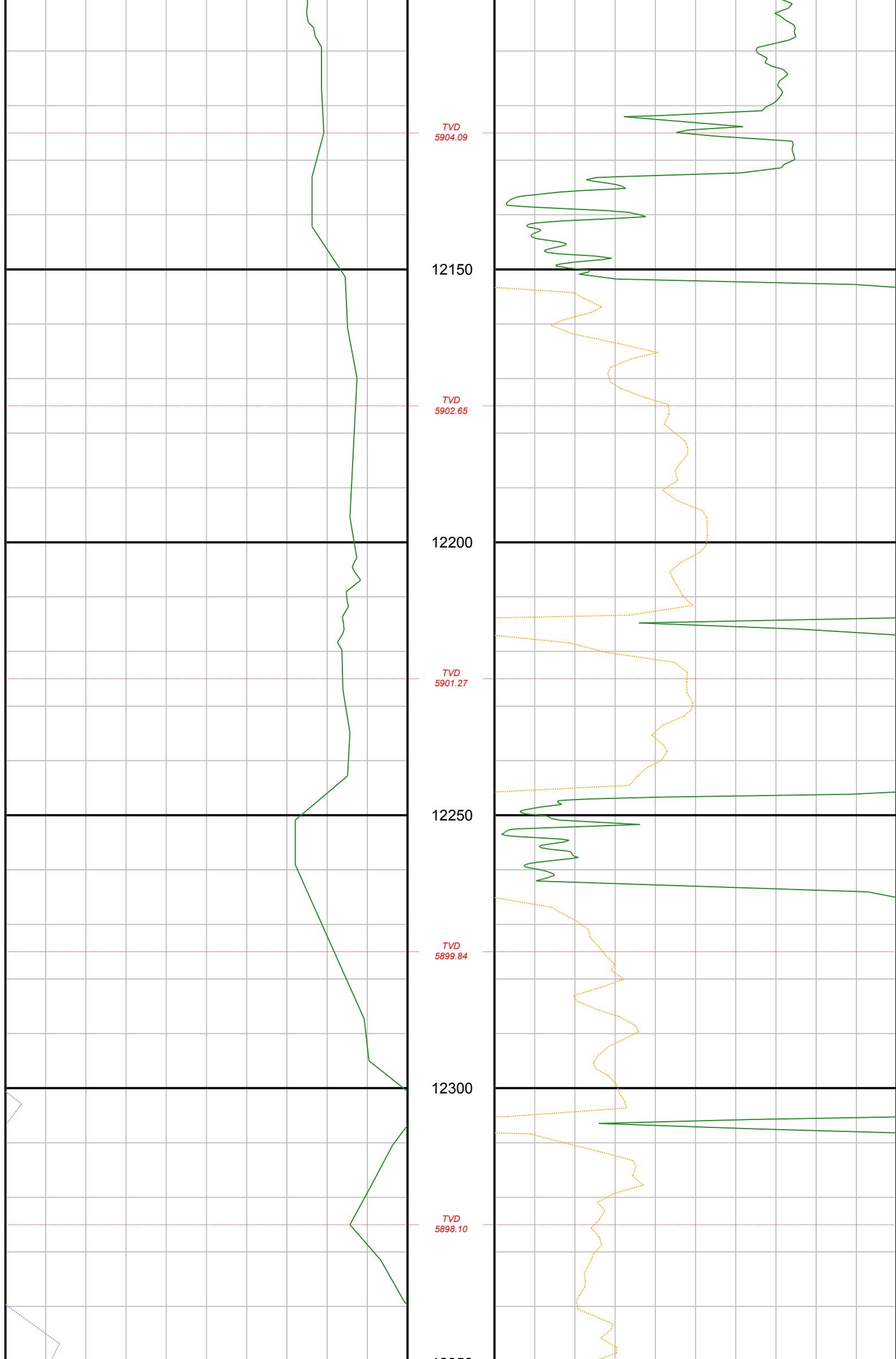


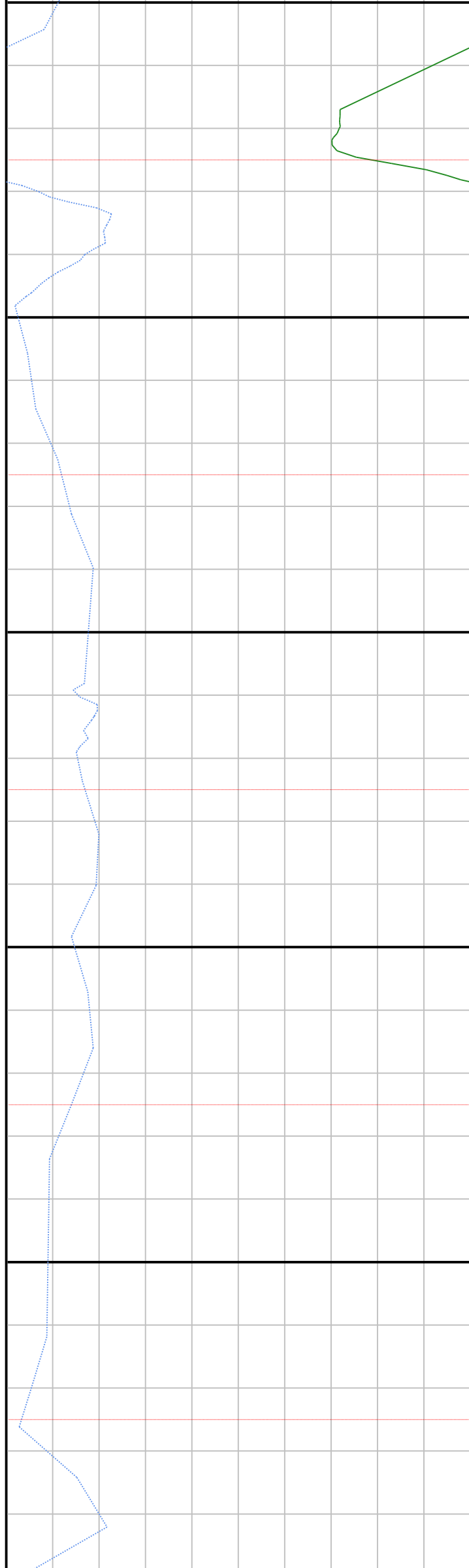




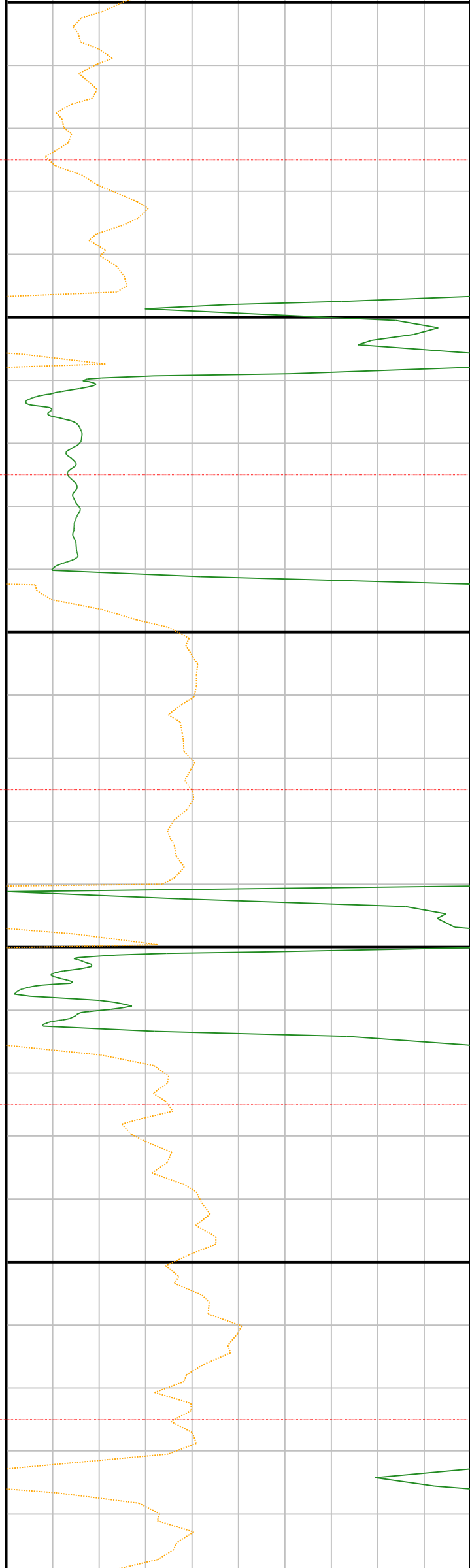


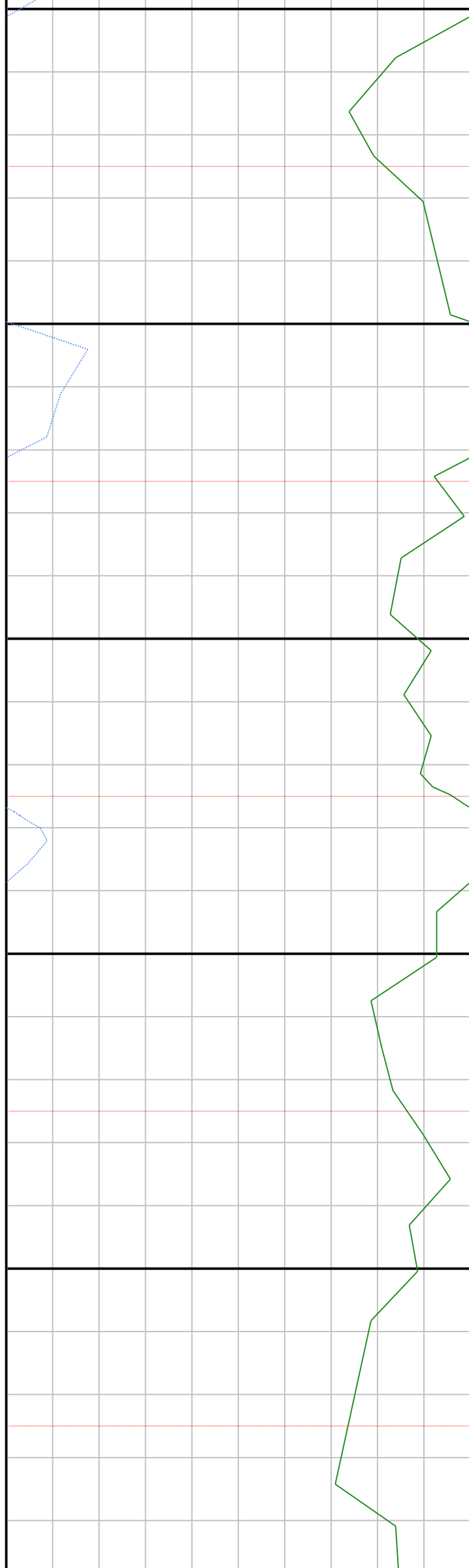






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TVD  
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12450  
TVD  
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TVD  
5895.97





12600

12650

12700

12750

12800

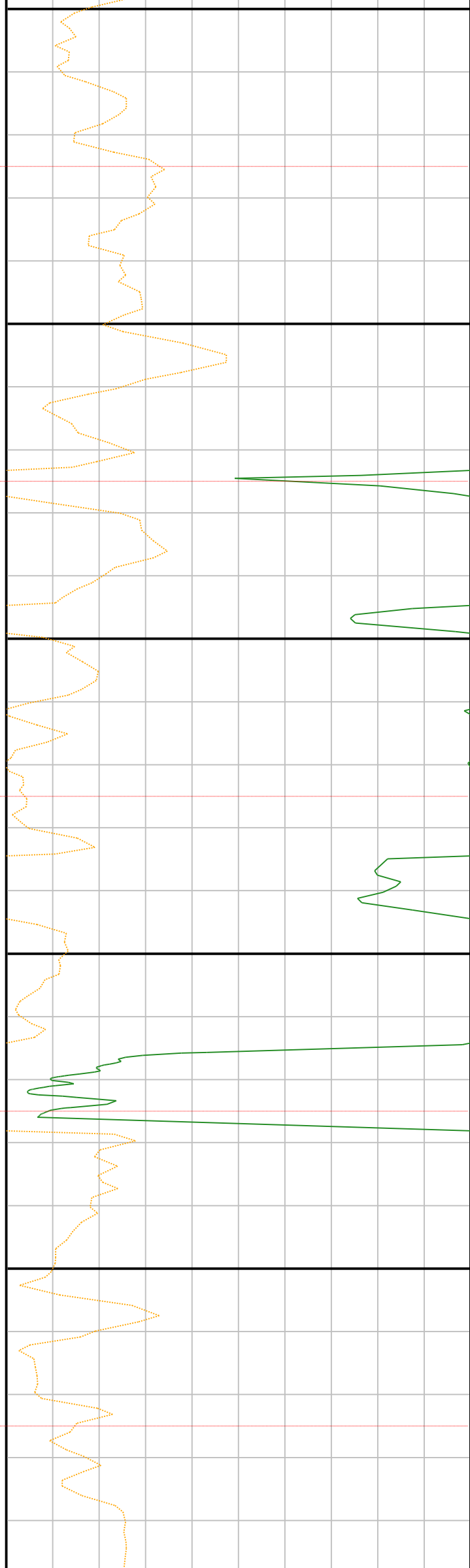
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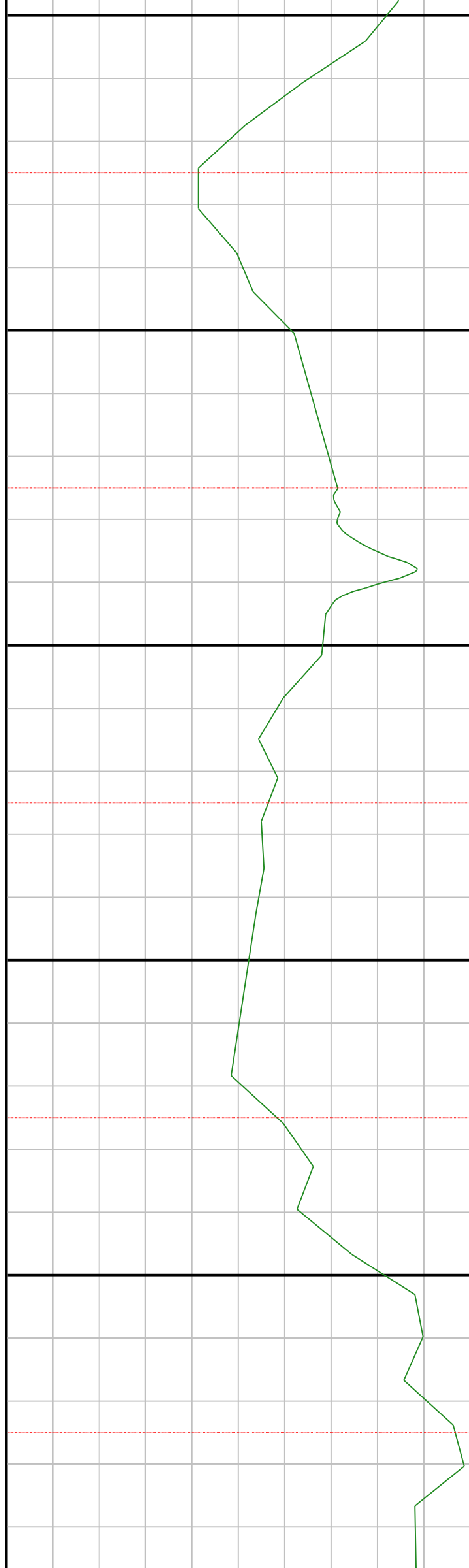
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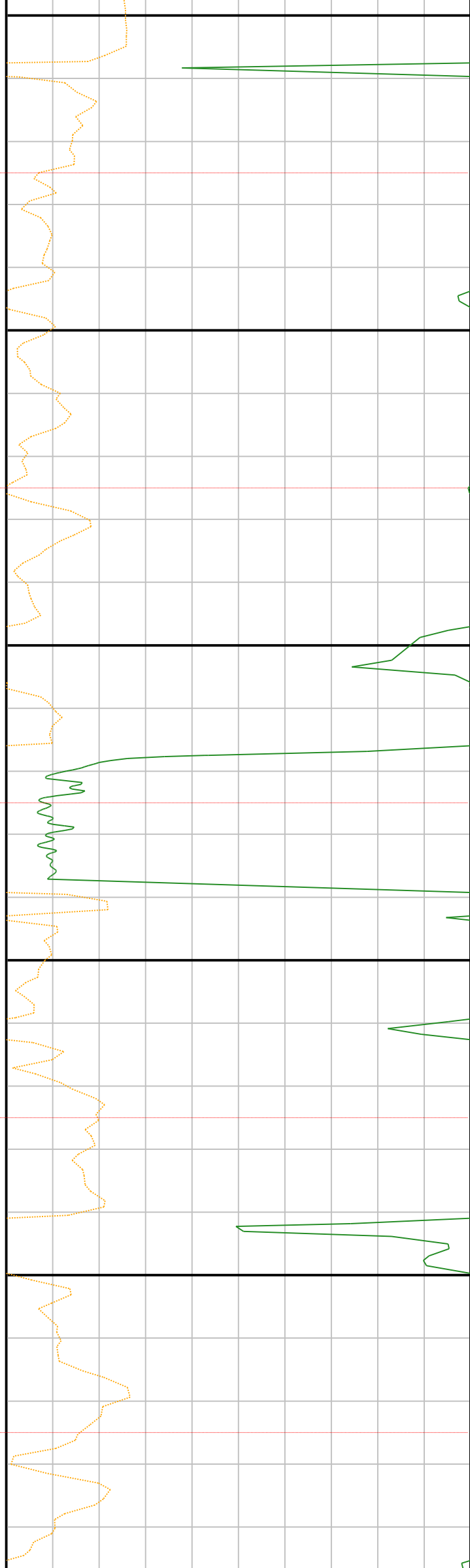
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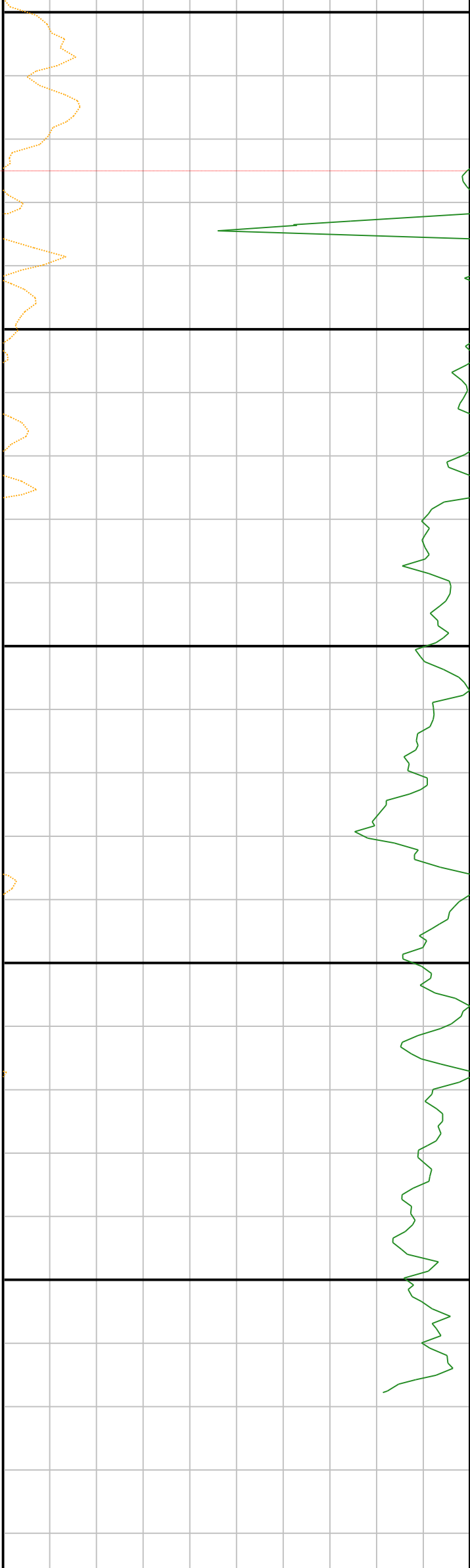
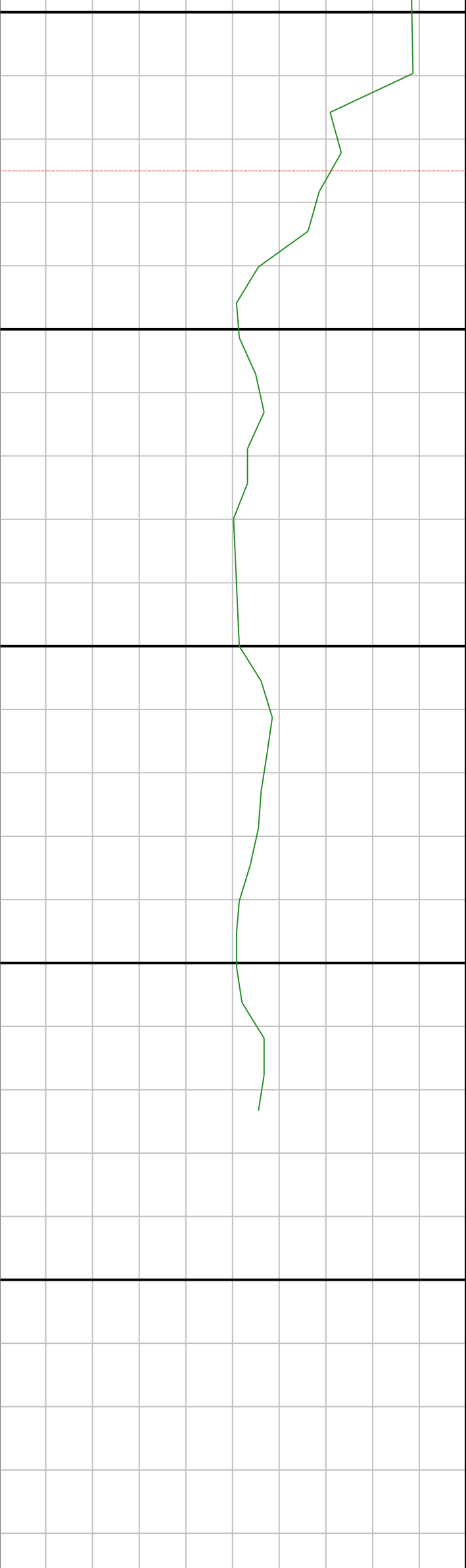
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13050

TVD  
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59	6797.00	89.27	3.31	5894.54	290.07	290.07	-304.74	1.57	0.02
60	6890.00	89.13	2.23	5895.84	382.95	382.95	-300.24	1.17	0.00
61	6983.00	89.38	2.03	5897.05	475.88	475.88	-296.79	0.34	0.00
62	7075.00	88.04	1.91	5899.12	567.80	567.80	-293.63	1.46	-0.01
63	7169.00	87.90	1.53	5902.45	661.70	661.70	-290.81	0.43	0.00
64	7262.00	88.55	1.06	5905.33	754.63	754.63	-288.71	0.86	0.01
65	7355.00	87.34	359.90	5908.67	847.56	847.56	-287.93	1.80	-0.01
66	7448.00	88.60	359.31	5911.96	940.50	940.50	-288.57	1.50	0.01
67	7540.00	91.12	358.83	5912.19	1032.48	1032.48	-290.06	2.79	0.03
68	7632.00	91.65	358.77	5909.96	1124.43	1124.43	-291.99	0.58	0.01
69	7725.00	92.15	358.70	5906.88	1217.36	1217.36	-294.04	0.54	0.01
70	7819.00	91.48	358.90	5903.90	1311.29	1311.29	-296.01	0.74	-0.01
71	7912.00	92.68	359.47	5900.53	1404.22	1404.22	-297.33	1.43	0.01
72	8005.00	91.15	359.39	5897.42	1497.16	1497.16	-298.25	1.65	-0.02
73	8098.00	89.61	0.20	5896.80	1590.15	1590.15	-298.59	1.87	-0.02
74	8191.00	90.61	0.28	5896.63	1683.15	1683.15	-298.20	1.08	0.01
75	8283.00	89.50	1.14	5896.54	1775.14	1775.14	-297.06	1.53	-0.01
76	8376.00	88.01	2.62	5898.56	1868.06	1868.06	-294.01	2.26	-0.02
77	8469.00	87.60	2.42	5902.12	1960.90	1960.90	-289.92	0.49	0.00
78	8562.00	87.57	2.23	5906.04	2053.74	2053.74	-286.15	0.21	0.00
79	8655.00	88.43	2.44	5909.28	2146.61	2146.61	-282.36	0.95	0.01
80	8747.00	89.52	3.75	5910.93	2238.46	2238.46	-277.40	1.85	0.01
81	8840.00	89.83	1.84	5911.46	2331.34	2331.34	-272.86	2.08	0.00
82	8932.00	90.06	1.89	5911.55	2423.29	2423.29	-269.87	0.26	0.00
83	9024.00	90.11	1.72	5911.41	2515.25	2515.25	-266.97	0.19	0.00
84	9116.00	90.75	0.91	5910.72	2607.22	2607.22	-264.86	1.12	0.01
85	9209.00	91.34	0.37	5909.02	2700.20	2700.20	-263.82	0.86	0.01
86	9301.00	90.78	359.60	5907.32	2792.18	2792.18	-263.85	1.03	-0.01
87	9394.00	89.83	359.11	5906.83	2885.17	2885.17	-264.89	1.15	-0.01
88	9486.00	89.92	359.21	5907.03	2977.16	2977.16	-266.24	0.15	0.00
89	9579.00	89.78	358.05	5907.27	3070.13	3070.13	-268.46	1.26	0.00
90	9671.00	89.55	357.21	5907.81	3162.05	3162.05	-272.27	0.95	0.00
91	9764.00	89.08	356.85	5908.92	3254.92	3254.92	-277.09	0.64	-0.01
92	9855.00	90.06	357.30	5909.60	3345.80	3345.80	-281.73	1.19	0.01
93	9948.00	90.56	357.57	5909.10	3438.70	3438.70	-285.89	0.61	0.01
94	10040.00	89.86	357.57	5908.76	3530.62	3530.62	-289.79	0.76	-0.01
95	10132.00	91.09	356.95	5908.00	3622.51	3622.51	-294.19	1.50	0.01
96	10224.00	92.01	356.81	5905.51	3714.34	3714.34	-299.20	1.01	0.01
97	10317.00	91.26	355.98	5902.86	3807.11	3807.11	-305.04	1.20	-0.01
98	10409.00	91.23	355.67	5900.86	3898.85	3898.85	-311.74	0.34	0.00
99	10501.00	91.12	357.67	5898.97	3990.67	3990.67	-317.08	2.18	0.00
100	10594.00	90.81	358.66	5897.41	4083.61	4083.61	-320.06	1.12	0.00
101	10686.00	89.75	359.80	5896.96	4175.59	4175.59	-321.29	1.69	-0.01
102	10778.00	90.36	1.44	5896.87	4267.58	4267.58	-320.30	1.90	0.01
103	10870.00	87.15	0.48	5898.87	4359.54	4359.54	-318.76	3.64	-0.03
104	10962.00	86.22	0.06	5904.19	4451.38	4451.38	-318.32	1.11	-0.01
105	11054.00	87.20	0.74	5909.47	4543.22	4543.22	-317.68	1.30	0.01
106	11146.00	88.24	0.98	5913.13	4635.14	4635.14	-316.30	1.16	0.01
107	11238.00	89.11	0.91	5915.25	4727.10	4727.10	-314.79	0.95	0.01
108	11422.00	89.94	2.47	5916.78	4911.01	4911.01	-309.36	0.96	0.00
109	11514.00	89.86	3.36	5916.94	5002.89	5002.89	-304.68	0.97	0.00
110	11605.00	90.36	1.61	5916.76	5093.80	5093.80	-300.74	2.00	0.01
111	11697.00	90.89	1.73	5915.76	5185.75	5185.75	-298.05	0.59	0.01
112	11789.00	91.29	1.10	5914.01	5277.71	5277.71	-295.78	0.81	0.00
113	11881.00	91.26	0.42	5911.96	5369.68	5369.68	-294.56	0.74	0.00
114	11973.00	91.76	0.44	5909.54	5461.64	5461.64	-293.87	0.54	0.01
115	12065.00	92.32	0.42	5906.26	5553.58	5553.58	-293.18	0.61	0.01
116	12157.00	91.57	359.78	5903.14	5645.53	5645.53	-293.02	1.07	-0.01
117	12249.00	91.59	359.83	5900.61	5737.49	5737.49	-293.34	0.06	0.00
118	12341.00	92.32	0.35	5897.47	5829.44	5829.44	-293.19	0.97	0.01
119	12433.00	90.42	359.97	5895.27	5921.41	5921.41	-292.93	2.11	-0.02
120	12525.00	89.44	1.04	5895.38	6013.40	6013.40	-292.12	1.58	-0.01
121	12617.00	89.02	1.16	5896.62	6105.37	6105.37	-290.36	0.47	0.00
122	12709.00	88.43	0.90	5898.66	6197.34	6197.34	-288.70	0.70	-0.01
123	12801.00	88.41	0.23	5901.20	6289.30	6289.30	-287.80	0.73	0.00
124	12893.00	87.96	359.83	5904.11	6381.25	6381.25	-287.75	0.65	0.00
125	12985.00	88.80	359.85	5906.71	6473.21	6473.21	-288.01	0.91	0.01
126	13077.00	88.60	350.76	5908.73	6565.19	6565.19	-288.32	0.15	0.00

126	13077.00	88.89	359.70	5908.73	6503.19	6503.19	-288.32	0.13	0.00
127	13169.00	88.83	359.74	5910.72	6657.17	6657.17	-288.72	0.15	0.00