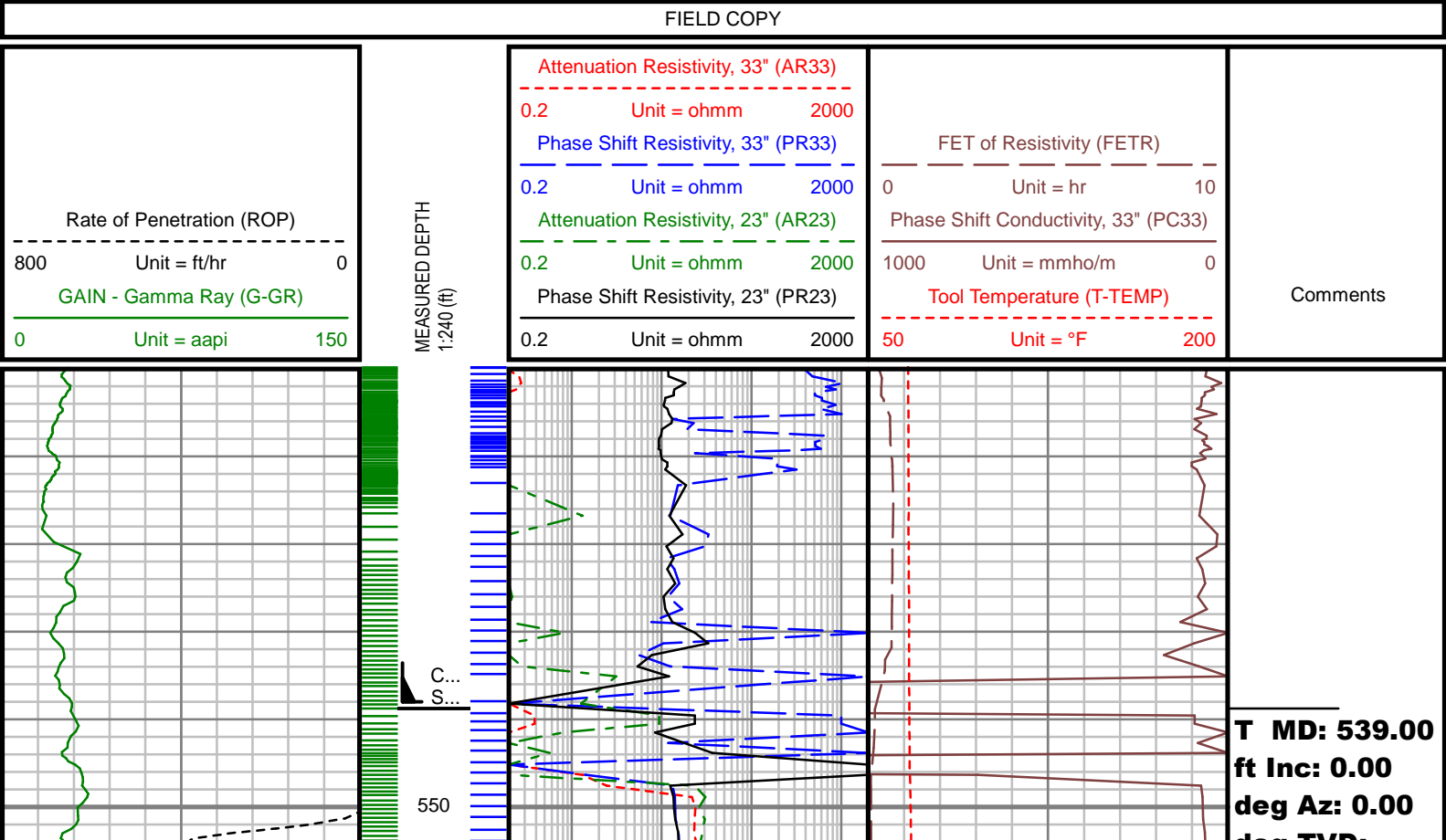
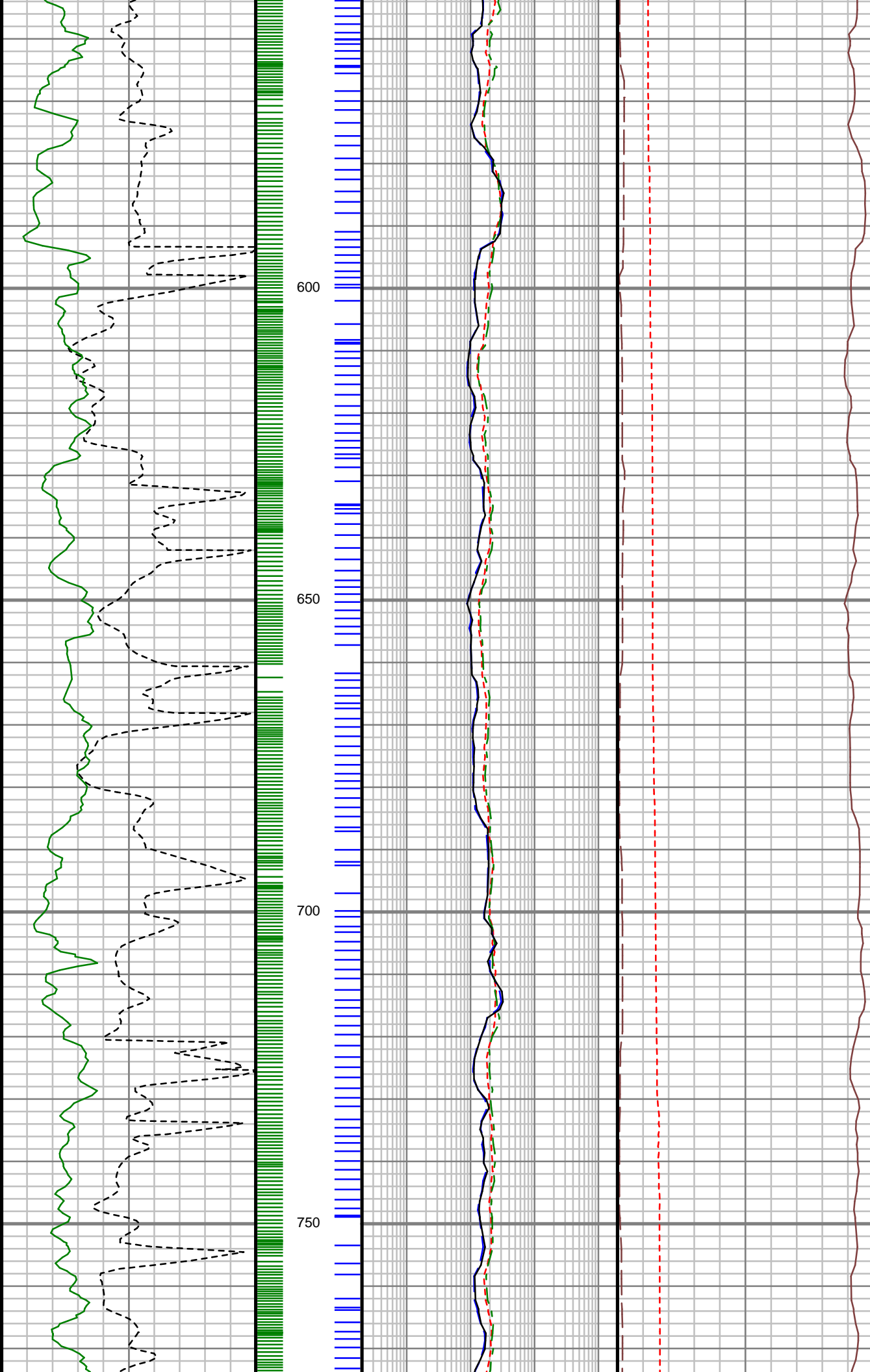




Remarks	
CATAMOUNT PRODUCTION AFE# 2017014	
SCIENTIFIC DRILLING INTERNATIONAL JOB# OP.006074	
ALL REFERENCES IN THE DEPTH TRACK ARE AT BIT DEPTH.	
ALL DATA IS MEMORY DATA UNLESS STATED OTHERWISE.	
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO GAIN - GAMMA RAY CURVE	
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO ATTENUATION RESISTIVITY, 33" CURVE	
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO PHASE SHIFT RESISTIVITY, 33" CURVE	
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO ATTENUATION RESISTIVITY, 23" CURVE	
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO PHASE SHIFT RESISTIVITY, 23" CURVE	
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO FET OF RESISTIVITY CURVE	
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO PHASE SHIFT CONDUCTIVITY, 33" CURVE	
RUN #1 : MWD/ PRT/ GAMMA RAY	
SENSORS S/N: CONTROLER= 854 / EYE=854 / GAMMA RAY=208/ PRT=358	
BIT TO SENSOR OFFSETS: SURVEY=67 / GAMMA RAY=29 / PRT=33	
MNEMONICS LIST:	
ROP = RATE OF PENETRATION	PR23 = PHASE SHIFT RESISTIVITY, 23"
G-GR = GAIN - GAMMA RAY	FETR = FET OF RESISTIVITY
AR33 = ATTENUATION RESISTIVITY, 33"	PC33 = PHASE SHIFT CONDUCTIVITY, 33"
PR33 = PHASE SHIFT RESISTIVITY, 33"	T-TEMP = TOOL TEMPERATURE
AR23 = ATTENUATION RESISTIVITY, 23"	

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.



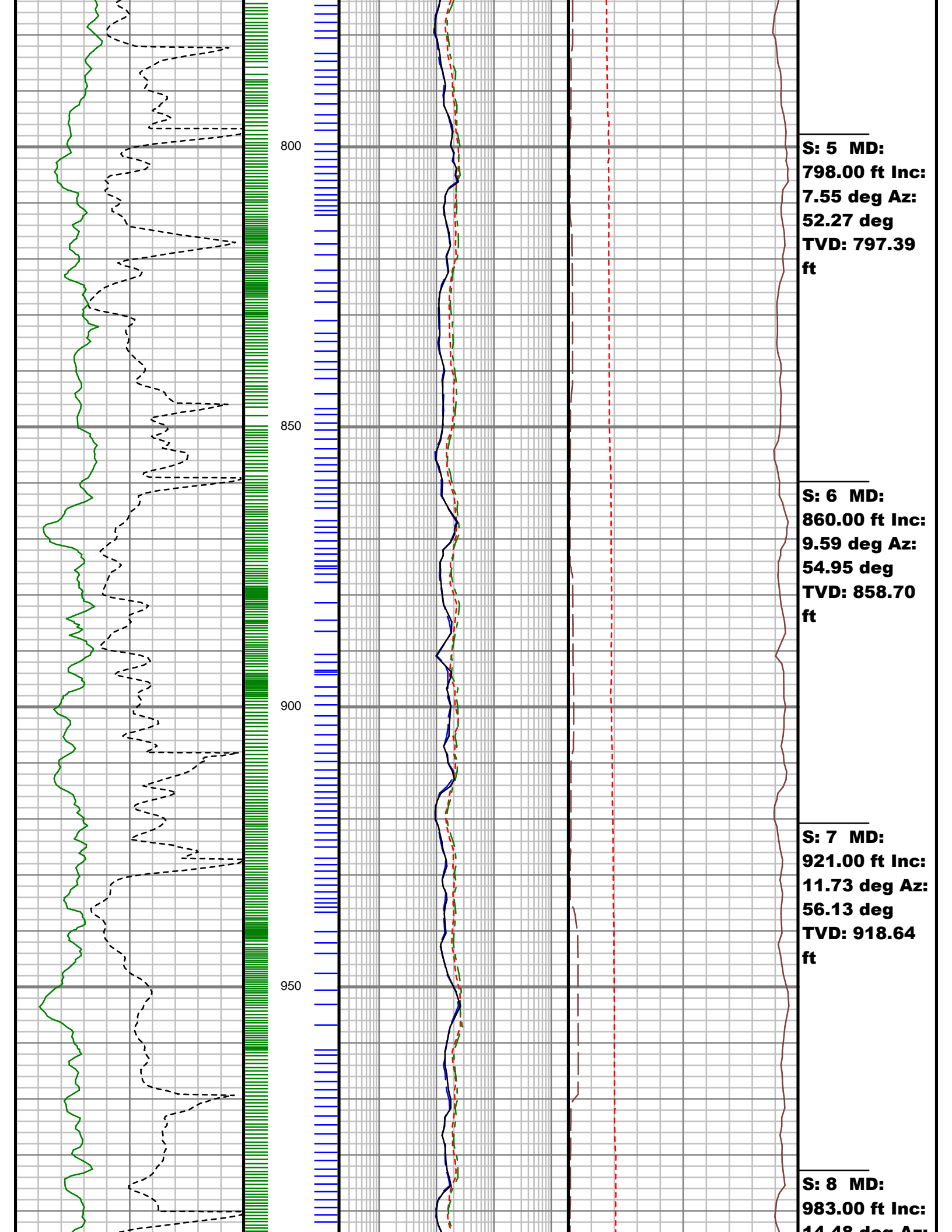


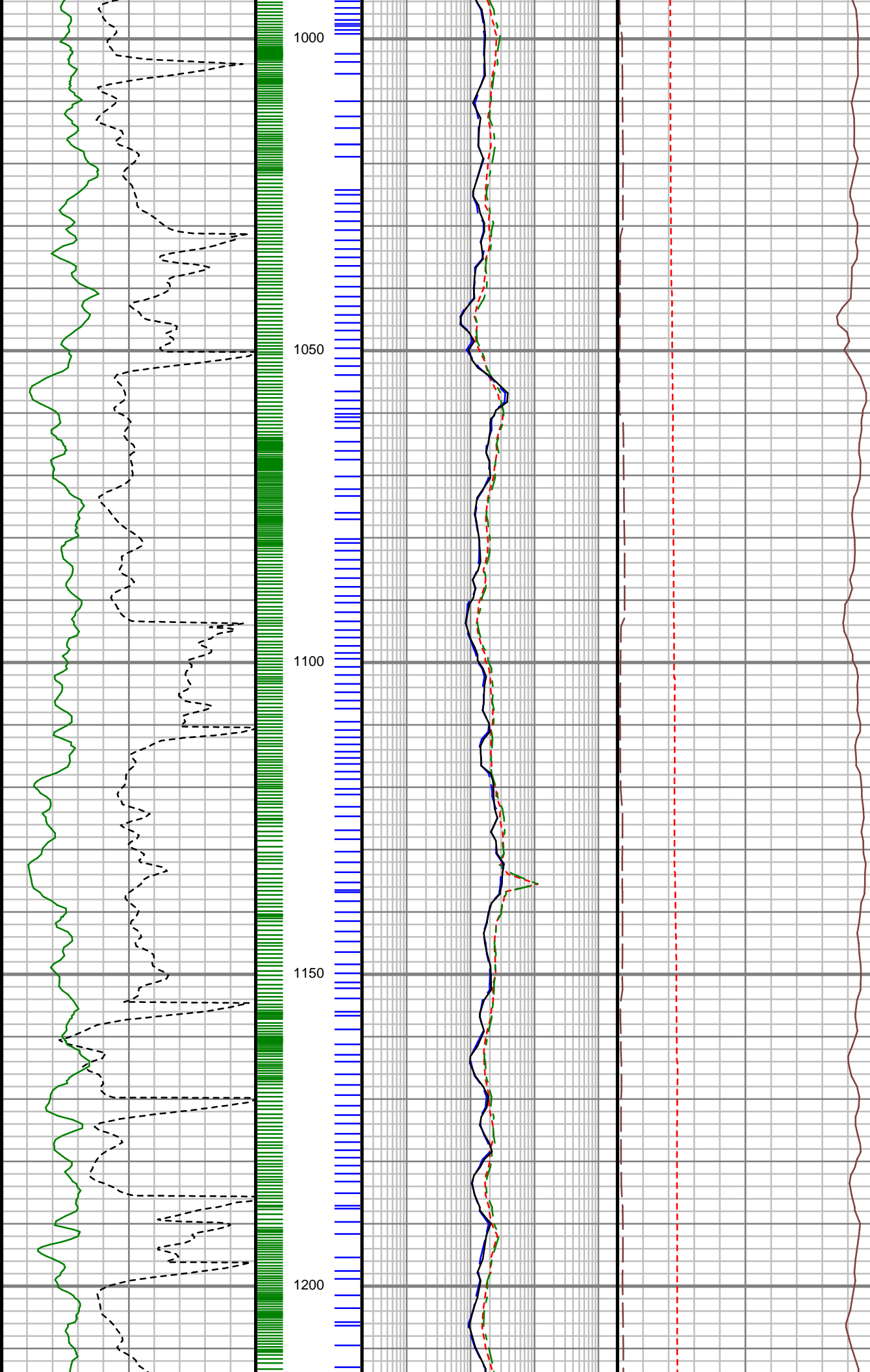
**S: 1 MD:**  
**582.00 ft Inc:**  
**0.38 deg Az:**  
**45.47 deg**  
**TVD: 582.00**  
**ft**

**S: 2 MD:**  
**613.00 ft Inc:**  
**0.24 deg Az:**  
**20.19 deg**  
**TVD: 613.00**  
**ft**

**S: 3 MD:**  
**674.00 ft Inc:**  
**3.46 deg Az:**  
**64.49 deg**  
**TVD: 673.96**  
**ft**

**S: 4 MD:**  
**735.00 ft Inc:**  
**5.18 deg Az:**  
**57.53 deg**  
**TVD: 734.78**  
**ft**

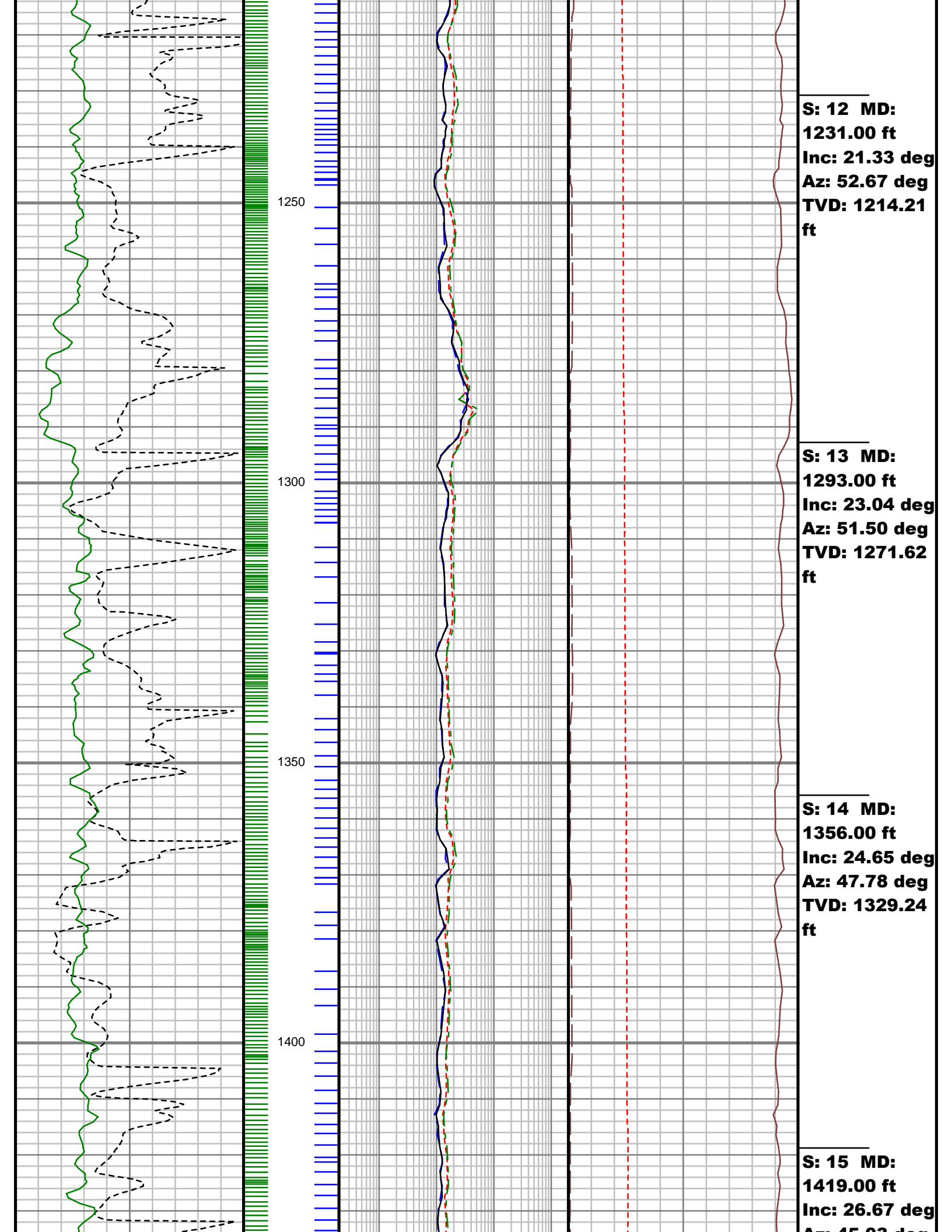


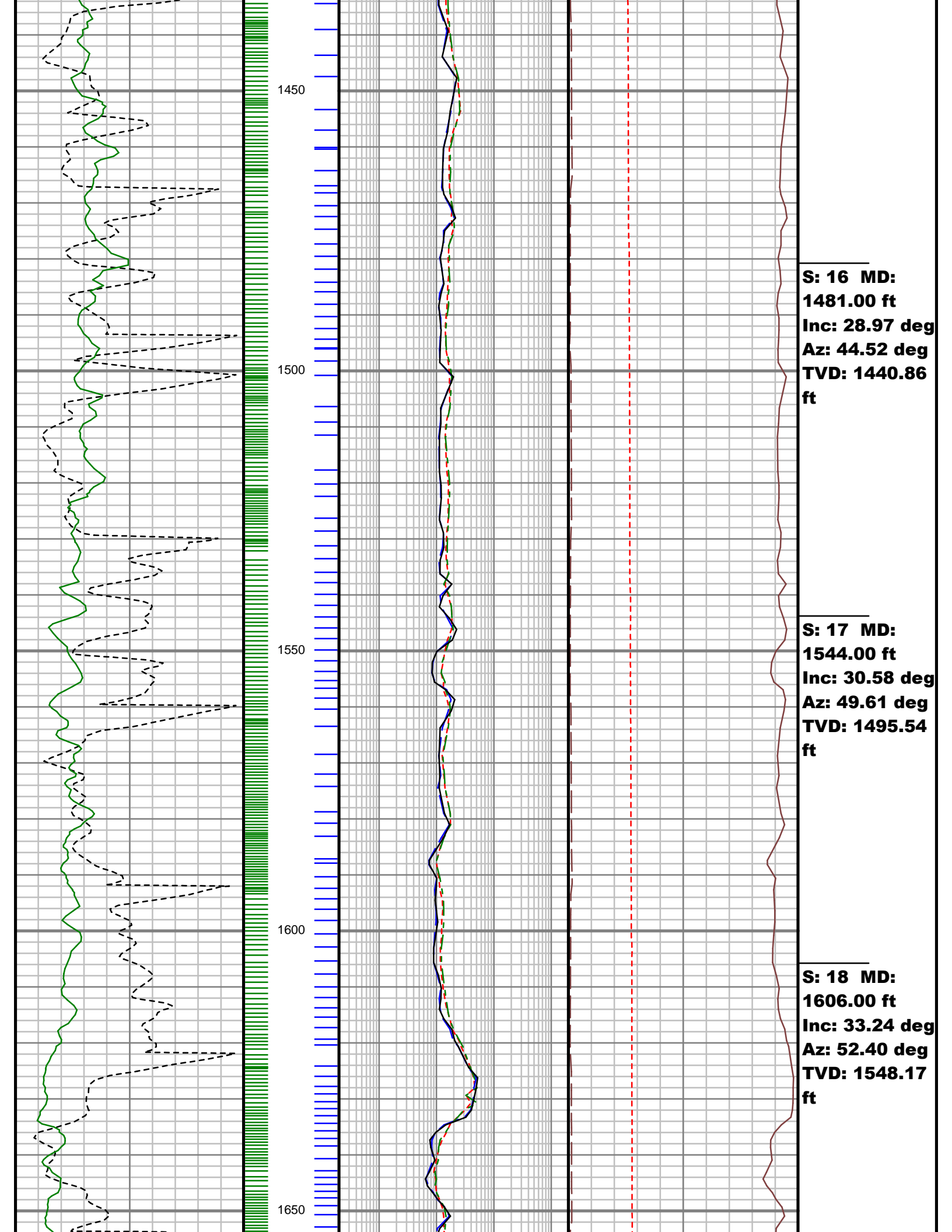


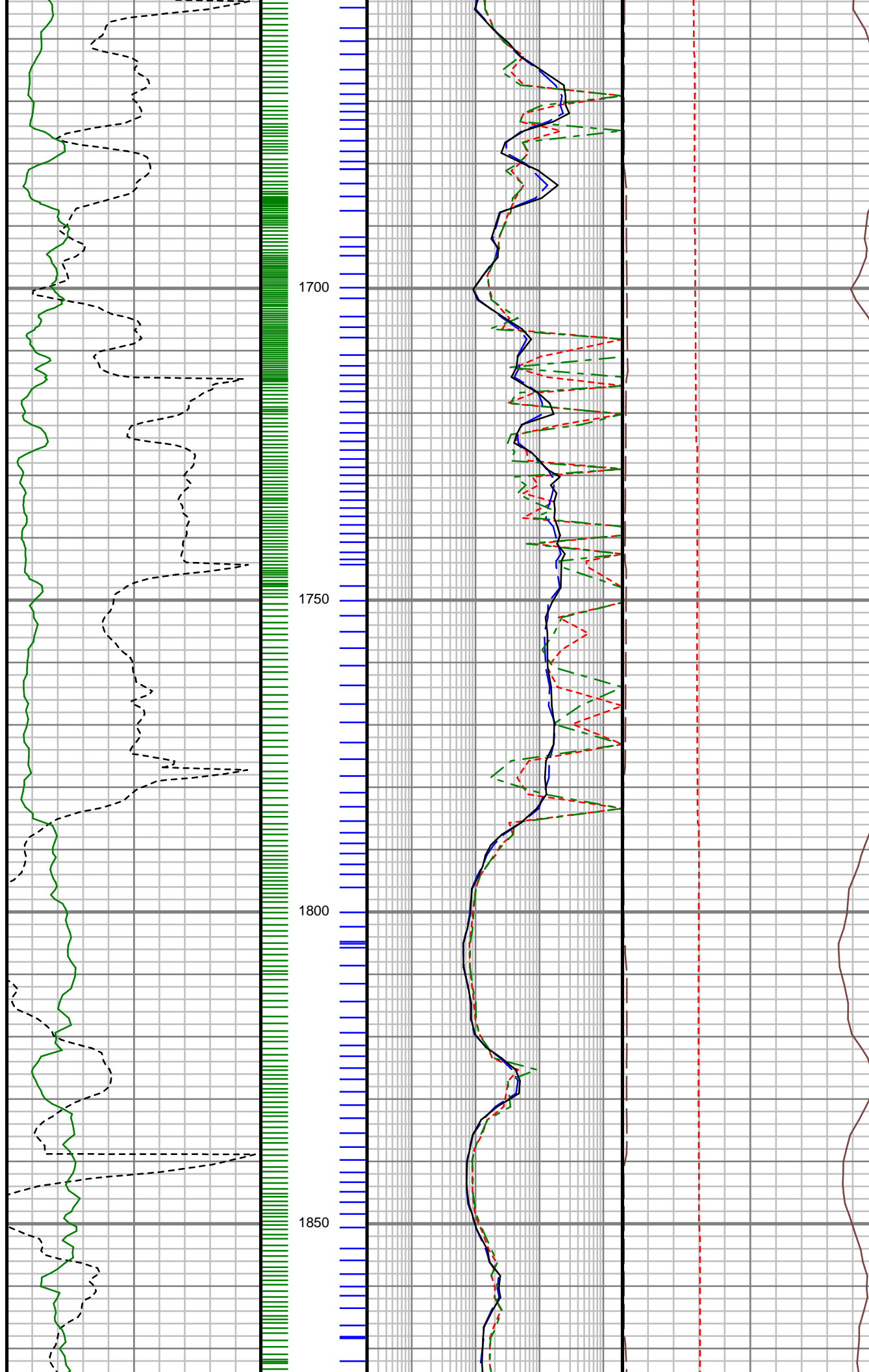
**S: 9 MD:**  
**1045.00 ft**  
**Inc: 17.25 deg**  
**Az: 55.66 deg**  
**TVD: 1038.66**  
**ft**

**S: 10 MD:**  
**1106.00 ft**  
**Inc: 19.08 deg**  
**Az: 51.90 deg**  
**TVD: 1096.62**  
**ft**

**S: 11 MD:**  
**1169.00 ft**  
**Inc: 19.42 deg**  
**Az: 49.77 deg**  
**TVD: 1156.09**  
**ft**





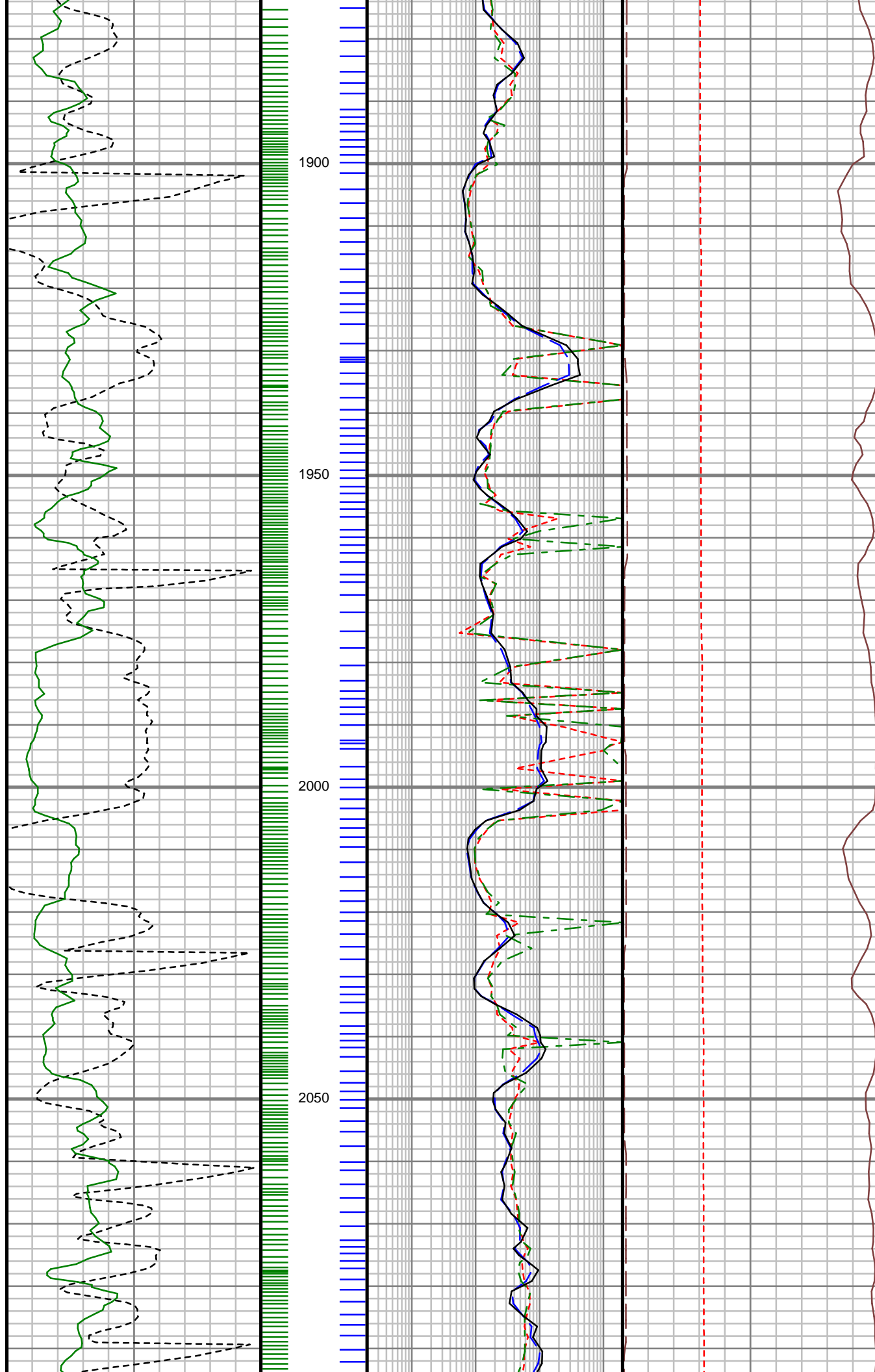


**S: 19 MD:**  
**1666.00 ft**  
**Inc: 34.65 deg**  
**Az: 52.95 deg**  
**TVD: 1597.95**  
**ft**

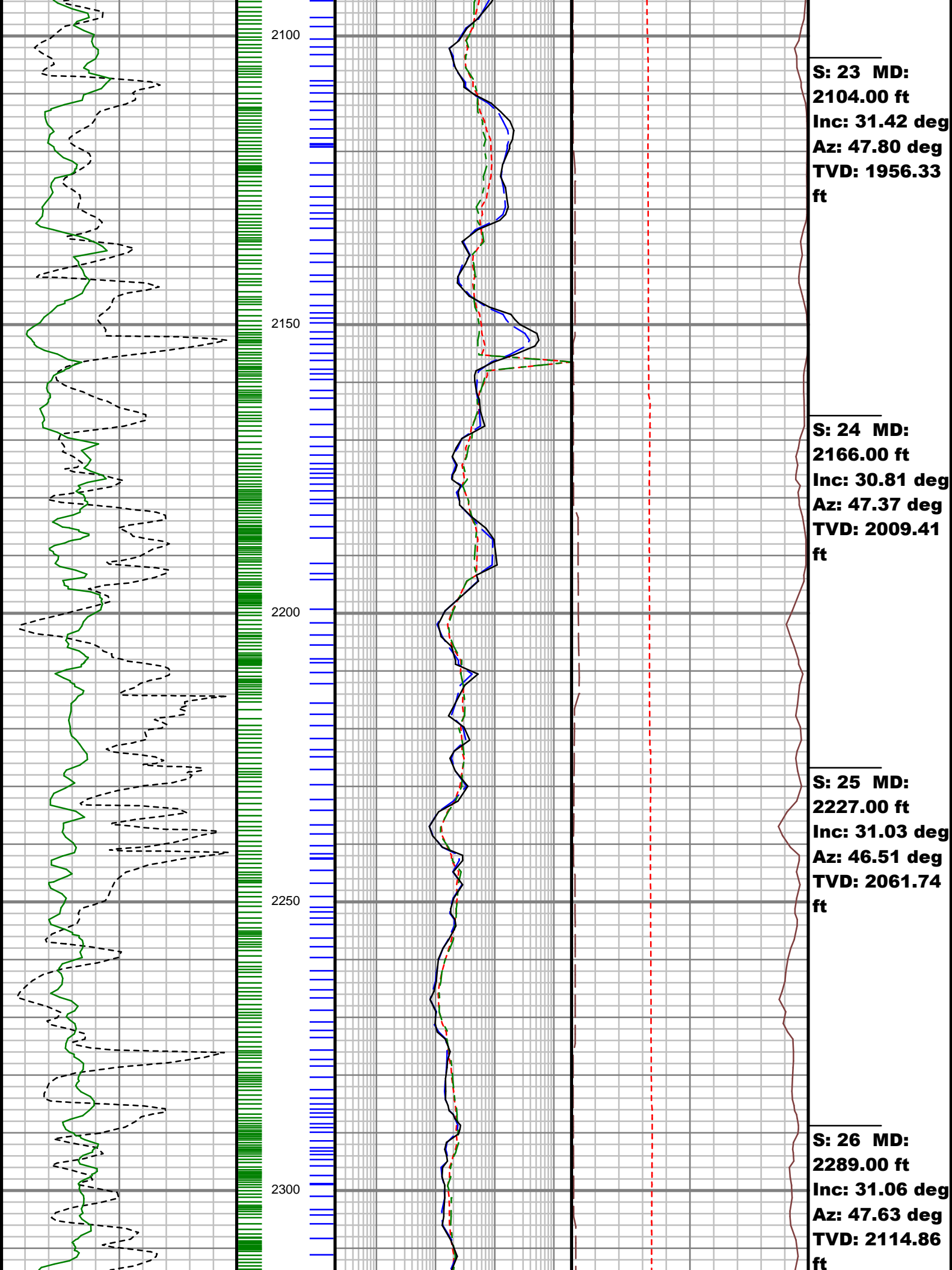
**S: 20 MD:**  
**1792.00 ft**  
**Inc: 38.06 deg**  
**Az: 53.07 deg**  
**TVD: 1699.41**  
**ft**

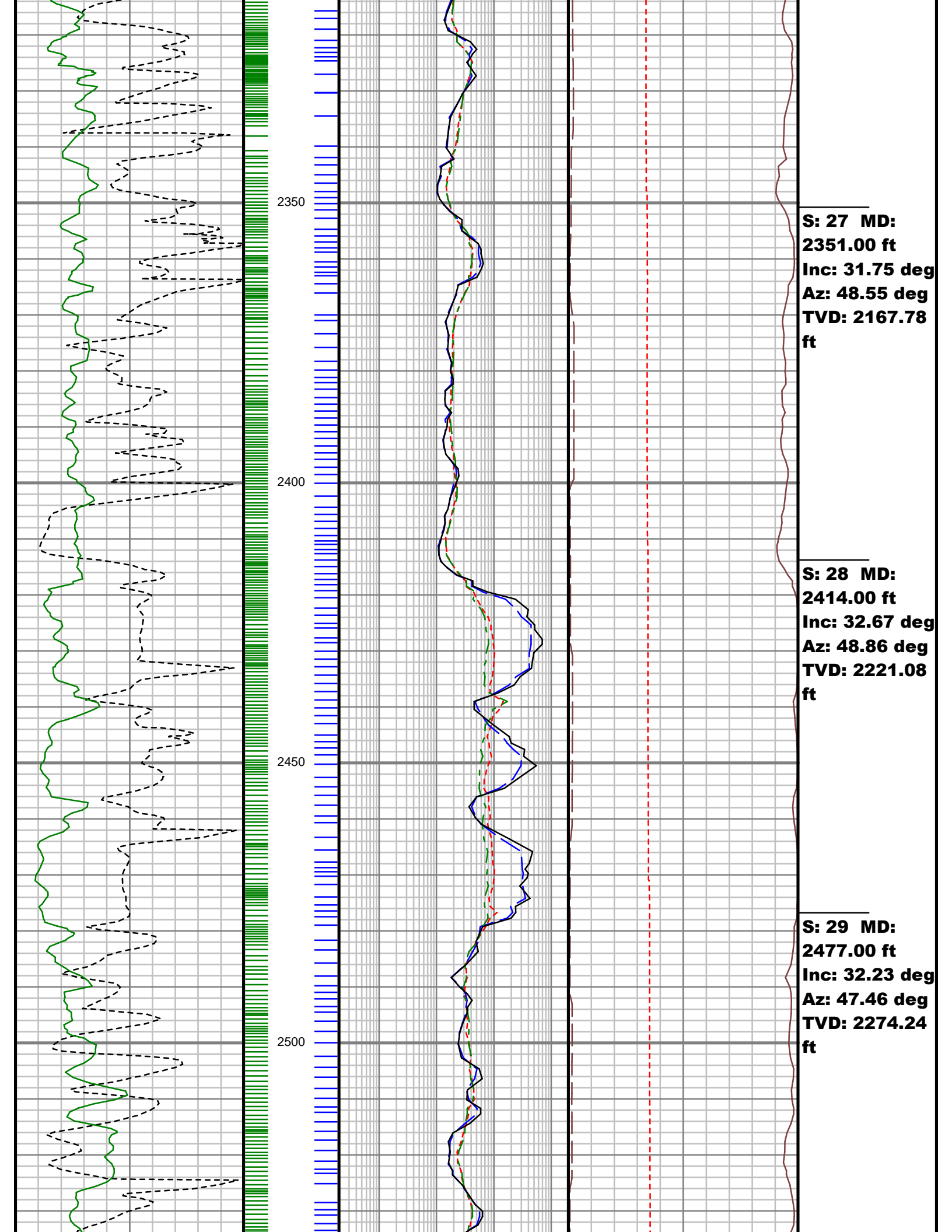
**S: 21 MD:**  
**1854.00 ft**  
**Inc: 36.47 deg**  
**Az: 49.72 deg**  
**TVD: 1748.76**  
**ft**

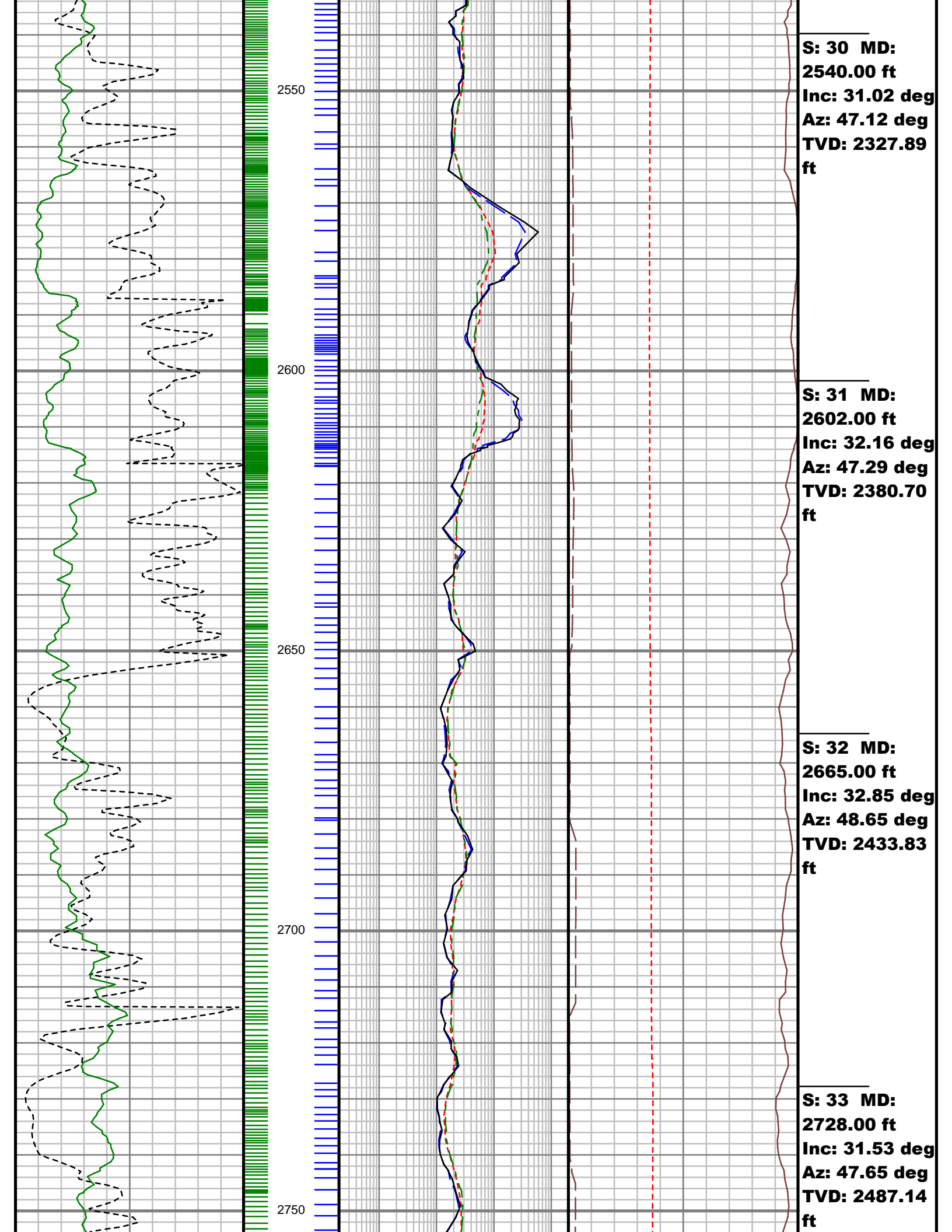


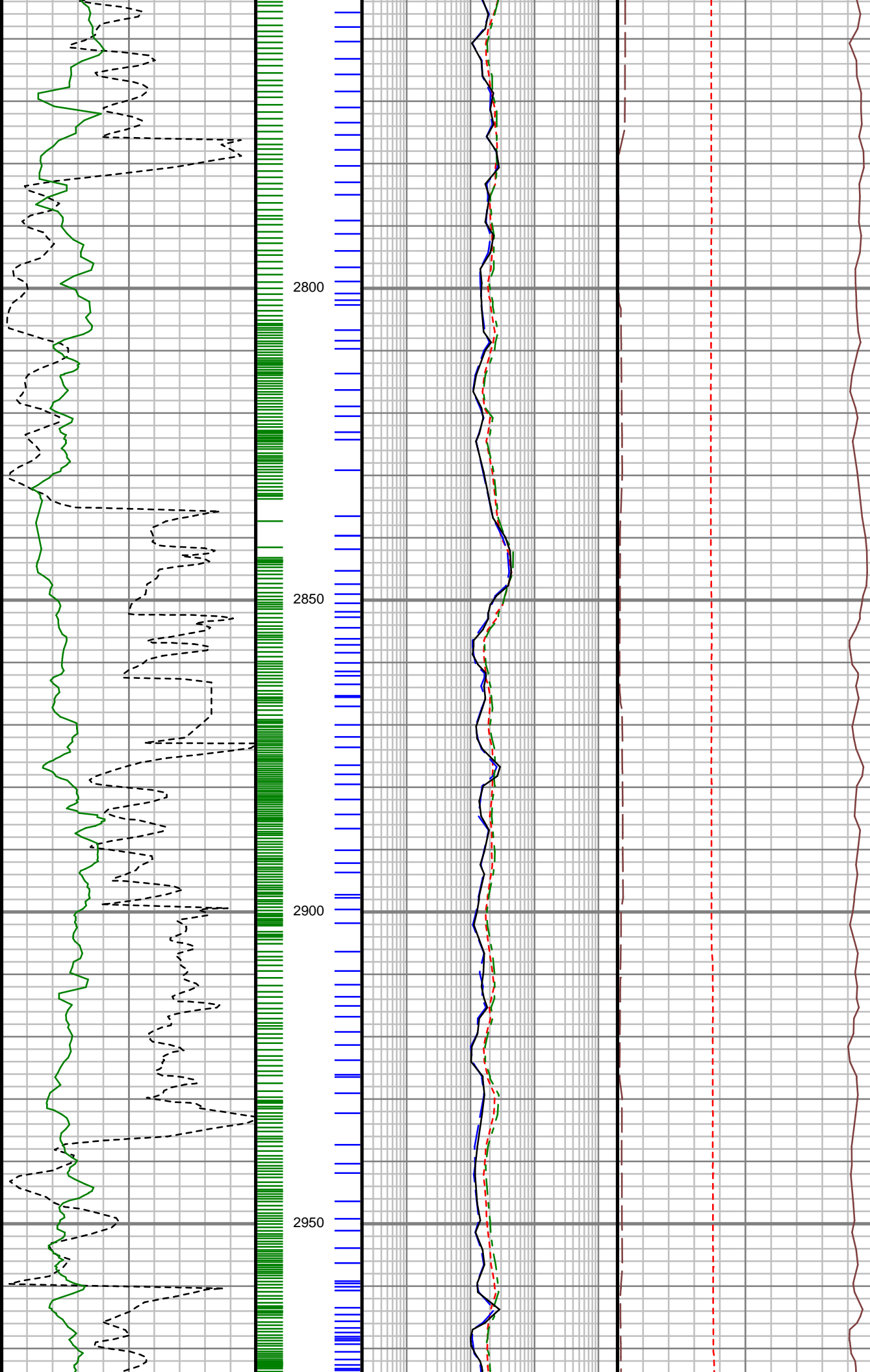


**S: 22 MD:**  
**1917.00 ft**  
**Inc: 35.00 deg**  
**Az: 50.65 deg**  
**TVD: 1799.90**  
**ft**





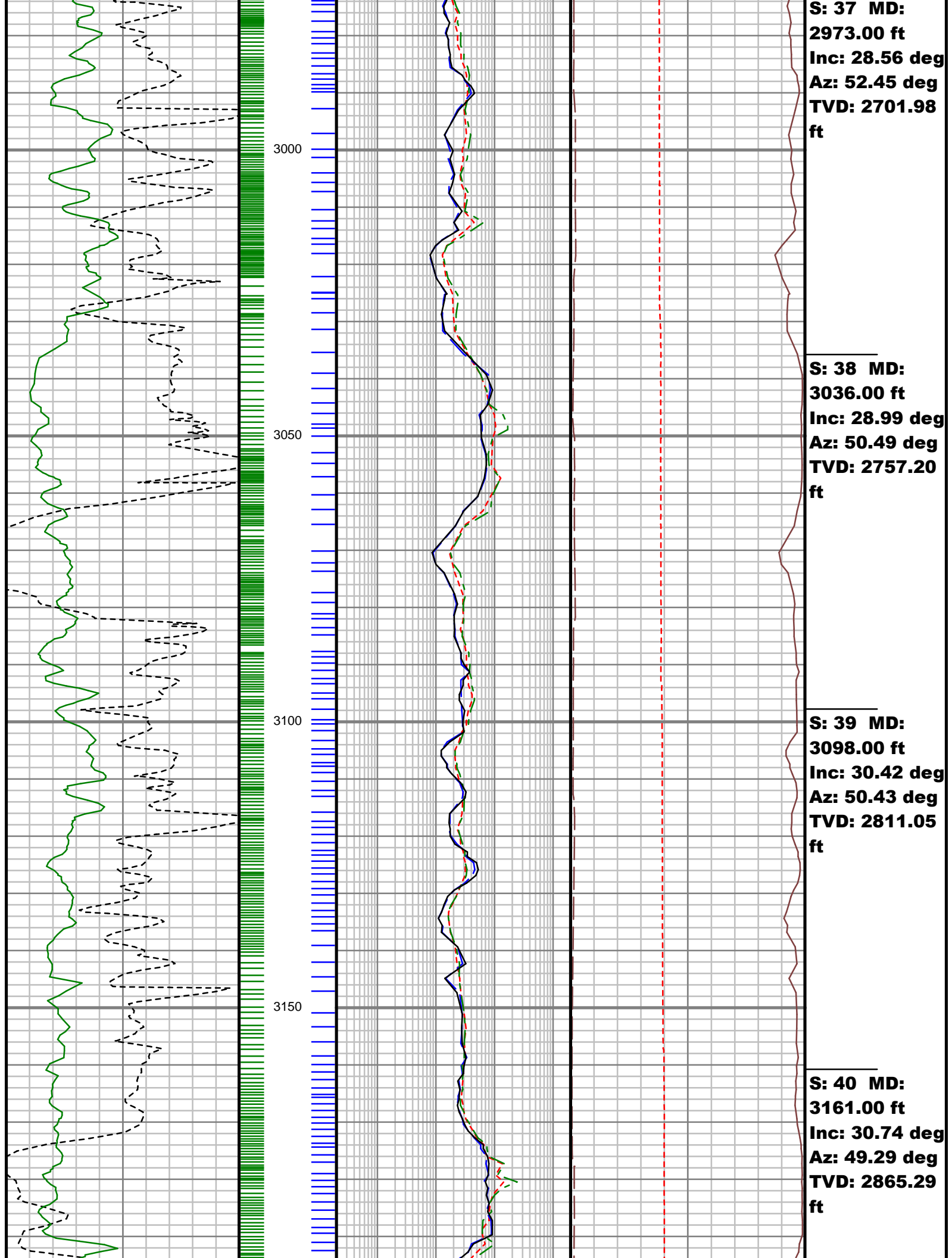


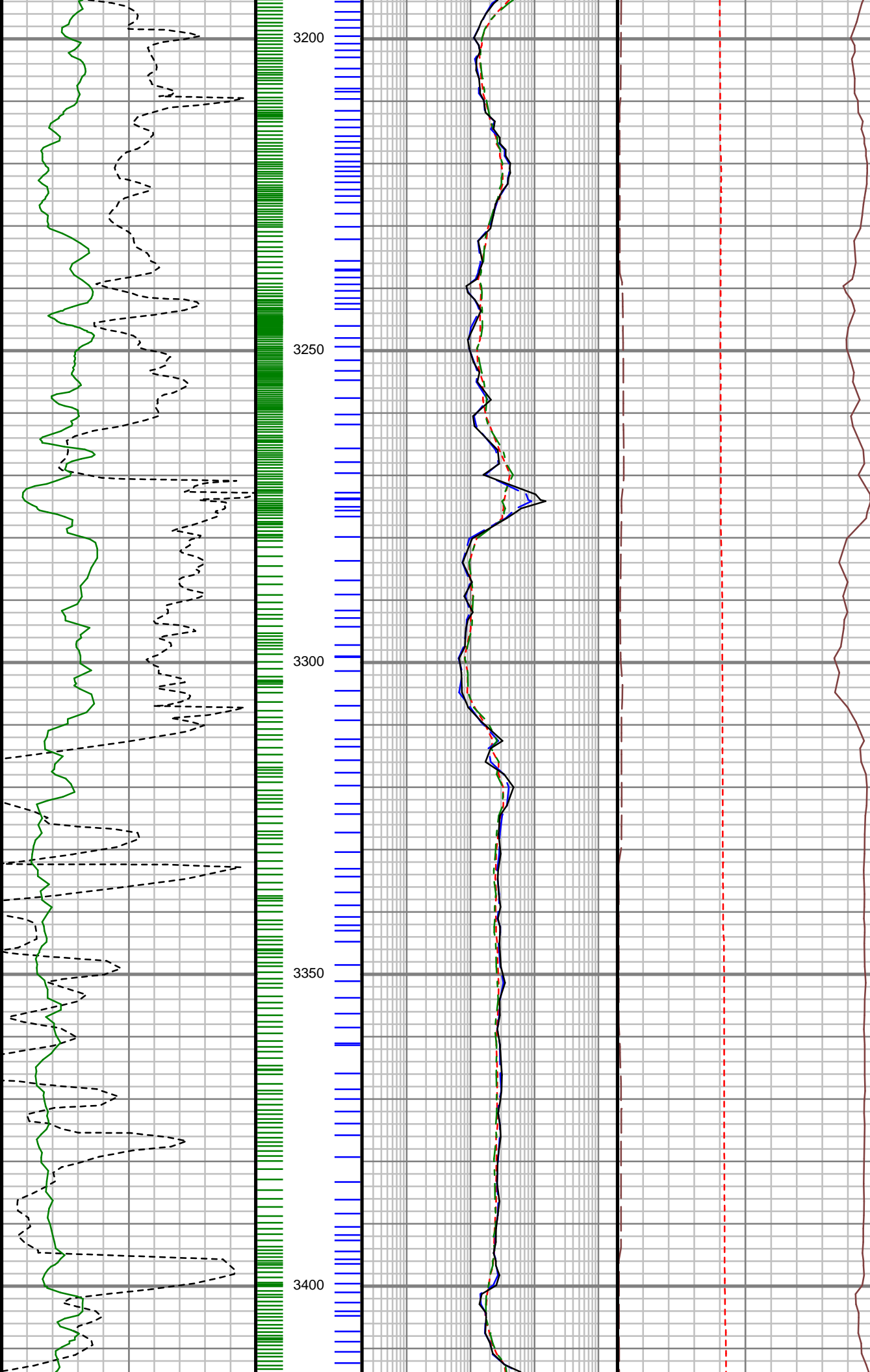


**S: 34 MD:**  
**2790.00 ft**  
**Inc: 29.43 deg**  
**Az: 45.32 deg**  
**TVD: 2540.57**  
**ft**

**S: 35 MD:**  
**2851.00 ft**  
**Inc: 27.35 deg**  
**Az: 44.42 deg**  
**TVD: 2594.23**  
**ft**

**S: 36 MD:**  
**2914.00 ft**  
**Inc: 28.02 deg**  
**Az: 50.10 deg**  
**TVD: 2650.03**  
**ft**



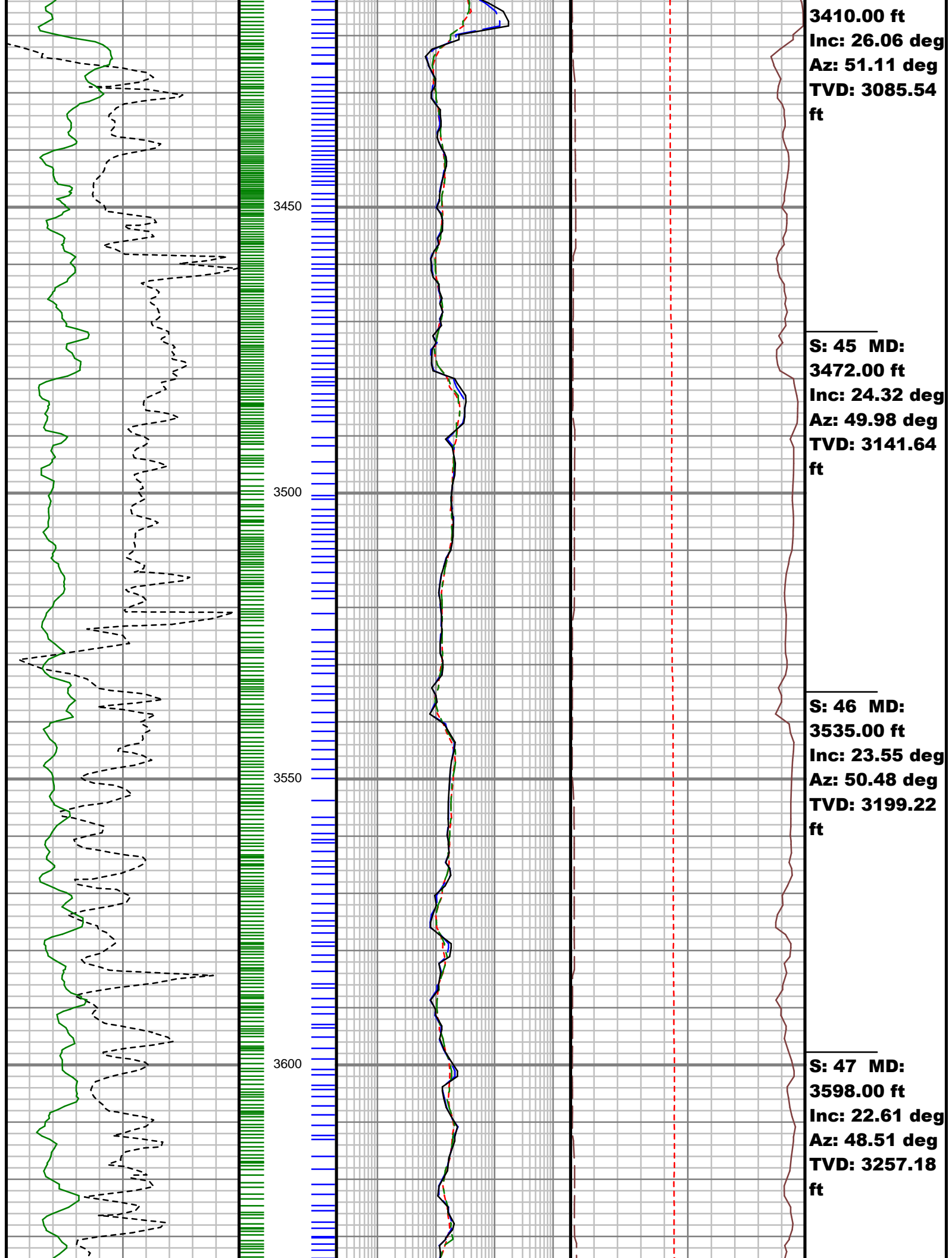


**S: 41 MD:**  
**3222.00 ft**  
**Inc: 28.91 deg**  
**Az: 46.88 deg**  
**TVD: 2918.21**  
**ft**

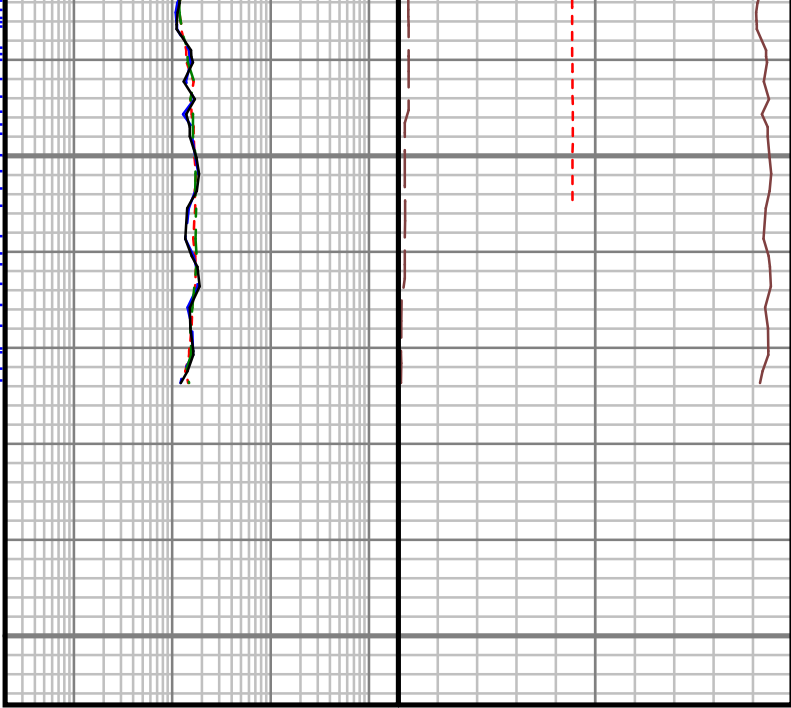
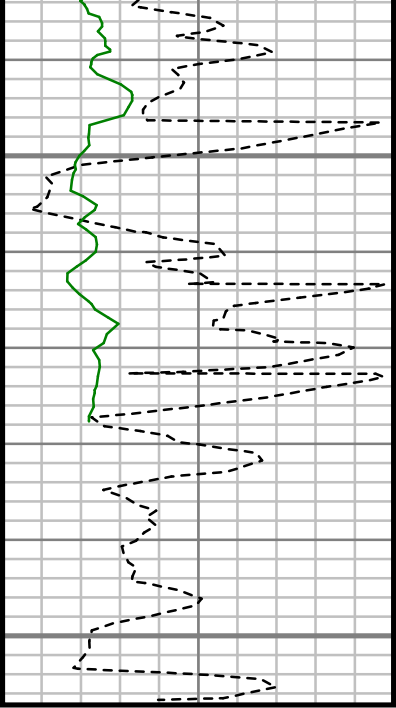
**S: 42 MD:**  
**3286.00 ft**  
**Inc: 27.14 deg**  
**Az: 48.58 deg**  
**TVD: 2974.71**  
**ft**

**S: 43 MD:**  
**3347.00 ft**  
**Inc: 26.70 deg**  
**Az: 52.08 deg**  
**TVD: 3029.10**  
**ft**

**S: 44 MD:**







**S: 48 MD:**  
**3652.00 ft**  
**Inc: 21.48 deg**  
**Az: 47.26 deg**  
**TVD: 3307.23**  
**ft**

GAIN - Gamma Ray (G-GR)		
0	Unit = aapi	150
Rate of Penetration (ROP)		
800	Unit = ft/hr	0

MEASURED DEPTH  
1:240 (ft)

Phase Shift Resistivity, 23" (PR23)		
0.2	Unit = ohmm	2000
Attenuation Resistivity, 23" (AR23)		
0.2	Unit = ohmm	2000
Phase Shift Resistivity, 33" (PR33)		
0.2	Unit = ohmm	2000
Attenuation Resistivity, 33" (AR33)		
0.2	Unit = ohmm	2000

Tool Temperature (T-TEMP)		
50	Unit = °F	200
Phase Shift Conductivity, 33" (PC33)		
1000	Unit = mmho/m	0
FET of Resistivity (FETR)		
0	Unit = hr	10

Comments
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MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS	Course Length
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft
539.00	0.00	0.00	539.00	0.00	0.00	0.00	Invalid	Invalid
582.00	0.38	45.47	582.00	0.14	0.10	0.10	0.89	43.00
613.00	0.24	20.19	613.00	0.30	0.23	0.20	0.63	31.00
674.00	3.46	64.49	673.96	2.20	1.15	1.91	5.41	61.00
735.00	5.18	57.53	734.78	6.70	3.42	5.89	2.93	61.00
798.00	7.55	52.27	797.39	13.66	7.48	11.56	3.87	63.00
860.00	9.59	54.95	858.70	22.87	12.94	19.01	3.35	62.00
921.00	11.73	56.13	918.64	34.09	19.31	28.32	3.52	61.00
983.00	14.48	56.87	979.02	48.04	27.06	40.04	4.44	62.00
1045.00	17.25	55.66	1038.66	64.87	36.48	54.12	4.50	62.00
1106.00	19.08	51.90	1096.62	83.84	47.73	69.44	3.57	61.00
1169.00	19.42	49.77	1156.09	104.60	60.85	85.54	1.24	63.00
1231.00	21.33	52.67	1214.21	126.18	74.35	102.38	3.48	62.00
1293.00	23.04	51.50	1271.62	149.57	88.75	120.85	2.85	62.00
1356.00	24.65	47.78	1329.24	175.03	105.25	140.23	3.49	63.00
1419.00	26.67	45.03	1386.03	202.25	124.07	159.97	3.73	63.00
1481.00	28.97	44.52	1440.86	231.08	144.62	180.34	3.73	62.00
1544.00	30.58	49.61	1495.54	262.31	165.89	203.26	4.76	63.00

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS	Course Length
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft
1606.00	33.24	52.40	1548.17	295.07	186.48	228.74	4.89	62.00
1666.00	34.65	52.95	1597.95	328.52	206.79	255.38	2.40	60.00
1792.00	38.06	53.07	1699.41	403.07	251.71	315.03	2.71	126.00
1854.00	36.47	49.72	1748.76	440.58	275.11	344.37	4.15	62.00
1917.00	35.00	50.65	1799.90	477.37	298.67	372.63	2.48	63.00
2104.00	31.42	47.80	1956.33	579.76	365.45	450.24	2.09	187.00
2166.00	30.81	47.37	2009.41	611.78	387.06	473.90	1.05	62.00
2227.00	31.03	46.51	2061.74	643.08	408.46	496.80	0.81	61.00
2289.00	31.06	47.63	2114.86	675.02	430.24	520.21	0.93	62.00
2351.00	31.75	48.55	2167.78	707.32	451.82	544.25	1.36	62.00
2414.00	32.67	48.86	2221.08	740.89	473.98	569.48	1.48	63.00
2477.00	32.23	47.46	2274.24	774.68	496.53	594.67	1.38	63.00
2540.00	31.02	47.12	2327.89	807.69	518.93	618.94	1.94	63.00
2602.00	32.16	47.29	2380.70	840.14	541.00	642.78	1.84	62.00
2665.00	32.85	48.65	2433.83	873.97	563.66	667.92	1.60	63.00
2728.00	31.53	47.65	2487.14	907.52	586.05	692.93	2.26	63.00
2790.00	29.43	45.32	2540.57	938.92	607.68	715.75	3.89	62.00
2851.00	27.35	44.42	2594.23	967.82	628.23	736.21	3.48	61.00

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS	Course Length
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft
2914.00	28.02	50.10	2650.03	997.03	648.06	757.70	4.33	63.00
2973.00	28.56	52.45	2701.98	1024.98	665.55	779.51	2.09	59.00
3036.00	28.99	50.49	2757.20	1055.29	684.44	803.23	1.64	63.00
3098.00	30.42	50.43	2811.05	1086.01	704.00	826.93	2.32	62.00
3161.00	30.74	49.29	2865.29	1118.06	724.66	851.43	1.05	63.00
3222.00	28.91	46.88	2918.21	1148.38	744.91	874.01	3.58	61.00
3286.00	27.14	48.58	2974.71	1178.43	765.14	896.25	3.04	64.00
3347.00	26.70	52.08	3029.10	1206.03	782.77	917.50	2.69	61.00
3410.00	26.06	51.11	3085.54	1234.01	800.15	939.43	1.22	63.00
3472.00	24.32	49.98	3141.64	1260.39	816.92	959.82	2.91	62.00
3535.00	23.55	50.48	3199.22	1285.95	833.27	979.46	1.27	63.00
3598.00	22.61	48.51	3257.18	1310.64	849.30	998.24	1.93	63.00
3652.00	21.48	47.26	3307.23	1330.90	862.89	1013.27	2.27	54.00

[illegible]

5" = 100' MD