



GAMMA RAY  
AZI GAMMA RAY

5" = 100' FEET MD

COMPANY : CATAMOUNT ENERGY WELL : CARPENTER 32-6-3 #2 FIELD : SAN JUAN BASIN COUNTY : LA PLATA STATE : COLORADO COUNTRY : U.S.A. UWI : 05067099140300										COMPANY : CATAMOUNT ENERGY WELL : CARPENTER 32-6-3 #2 FIELD : SAN JUAN BASIN COUNTY : LA PLATA STATE : COLORADO COUNTRY : U.S.A. UWI : 05067099140200									
WELL LOCATION LAT:37.0456608°N LONG:107.4848172°W N:1144155.18 ft E:2420736.52 ft SEC:3 TWP:32N RANGE:6W										OTHER SERVICES DIRECTIONAL ROP									
DEPTH REF. : RKB REF. HEIGHT : 16.000 ft GROUND LEVEL : 6372.000 ft										RKB 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	0	421	0 - 30							0	2819								
7.875	421	2741	30 - 60							2819	2976								
4.75	2741	4971	60 - 90							2976	3066								
4.75	3181	4817	90 - 90							3066	4971								
4.75	3088	4985	90 - 90							3181	4817								
			90 - 90							3088	4985								
CASING RECORD																			
CASING SIZE in	FROM ft	TO ft																	
8.625	0	421																	
5.5	0	2741																	
DRILLING CO. : CATAMOUNT RIG: D&J #1										DISTRICT: FARMINGTON									
LWD UNIT NO. : SPUD DATE: 3/24/2015										LWD START DATE: 4/12/2015									
LWD END DATE: 4/19/2015										LWD END DATE: 4/19/2015									
										TOTAL DEPTH : 2244 ft									

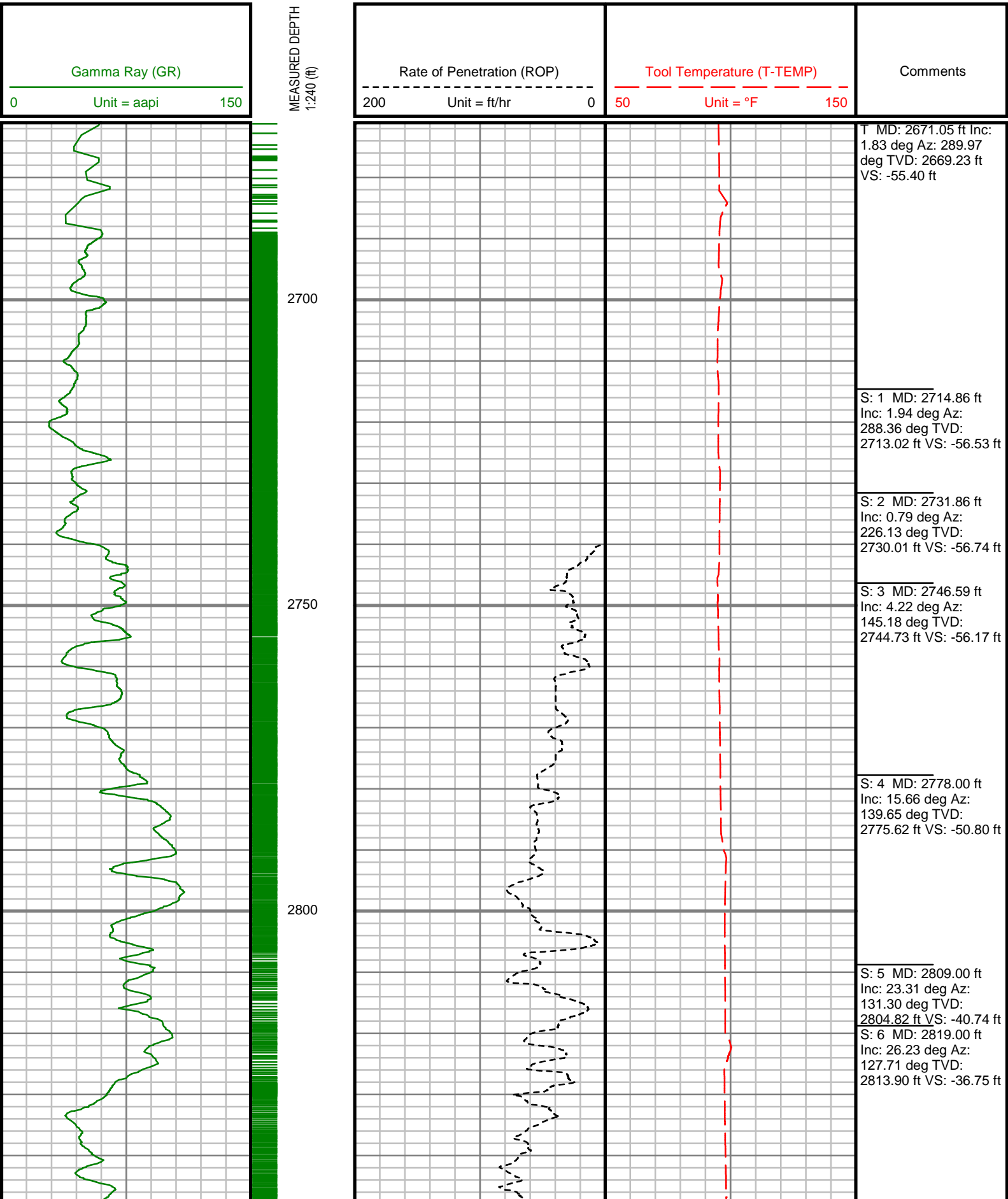
Run Data					
RUN NUMBER	1	2	3	4	
START DATE	4/12/2015	4/13/2015	4/14/2015	4/16/2015	
START TIME	0700	0300	1900	1900	
END DATE	4/13/2015	4/14/2015	4/16/2015	4/19/2015	
END TIME	0300	1900	1900	0100	
DEPTH IN (ft)	2741	3093	3181	3088	
DEPTH OUT (ft)	3093	4971	4817	4985	
LOG TOP (ft)	2690	3042	3181	3088	
LOG BOTTOM (ft)	3042	4927	4779	4947	
HOLE SIZE (in)	4.75	4.75	4.75	4.75	
MUD DATA @ (ft)	2800	3205	3208	4817	
MUD TYPE	WATER-BASED	WATER-BASED	WATER-BASED	WATER-BASED	
DENSITY (lb / gal)	9.1	9.1	8.9	8.8	
VISCOSITY (s / qt)	28	28	28	28	
pH	8.8	8.9	8.4	8.4	
FLUID LOSS (cm3 / 30)	-	-	-	-	
SALINITY (ppm)	-	-	-	-	
Rm (ohmm @ deg F)	-	-	-	-	
Rmf (ohmm @ deg F)	-	-	-	-	
MAX TEMP (deg F)	92	75	72	90	
Rm @ MAX TEMP (ohmm)	-	-	-	-	
LWD ENGINEER #1	T.RELLERGERT	T.RELLERGERT	T.RELLERGERT	T.RELLERGERT	
LWD ENGINEER #2	T.TYLER	T.TYLER	T.TYLER	T.TYLER	
LWD ENGINEER #3	-	-	J.HONE	T.HONE	
LOG WTINNESS #1	J.NICOLETTE	J.NICOLETTE	J.NICOLETTE	J.NICOLETTE	
LOG WTINNESS #2	N.REDMOND	N.REDMOND	N.REDMOND	N.REDMOND	

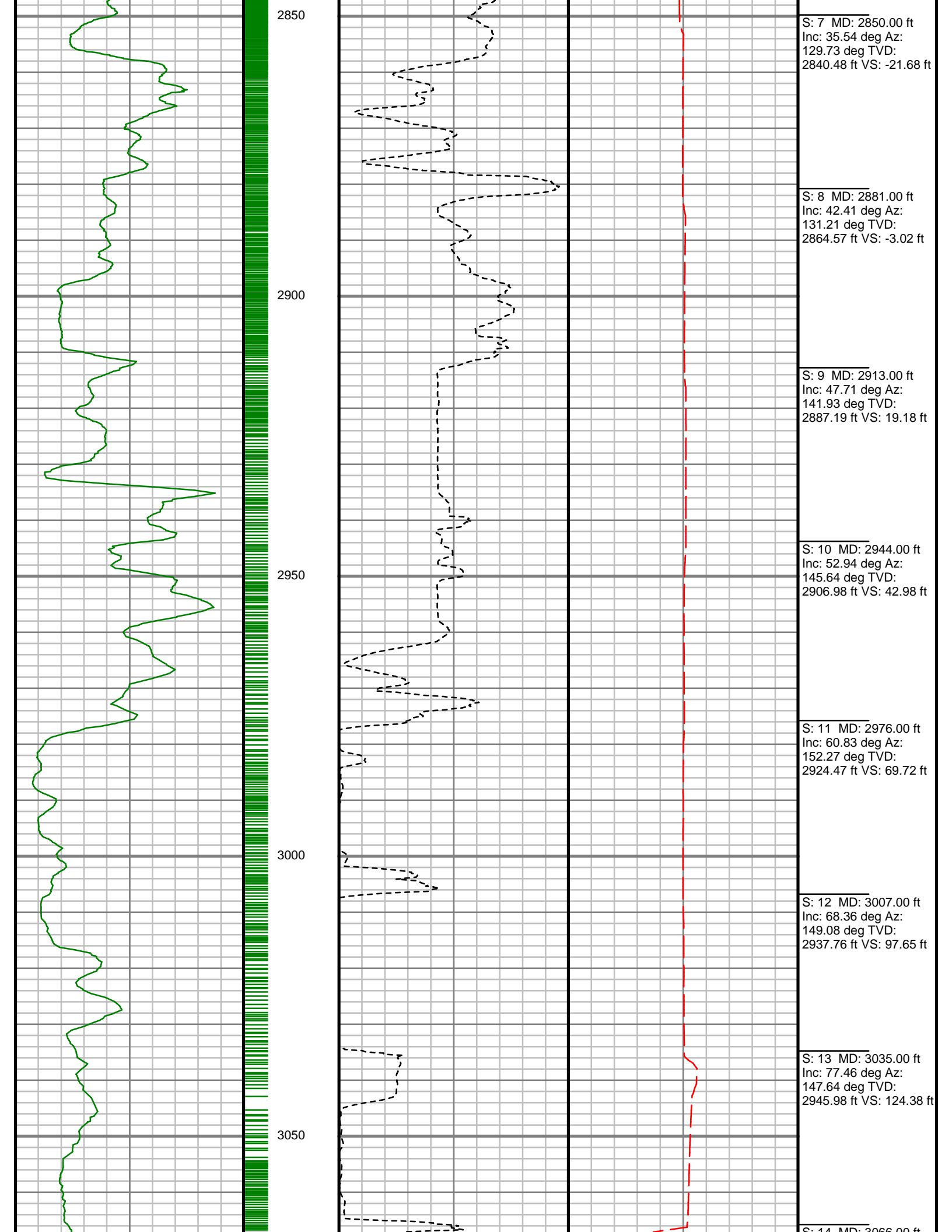
Remarks
CATAMOUNT ENERGY PRODUCTION AFE# 201405067004
SCIENTIFIC DRILLING INTERNATIONAL JOB# 271635
ALL REFERENCES IN THE DEPTH TRACK ARE AT BIT DEPTH.
ALL DATA IS MEMORY DATA UNLESS STATED OTHERWISE.
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO GAMMA RAY CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO RATE OF PENETRATION CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO TOOL TEMPERATURE CURVE
RUN #1: MWD/DIRECTIONAL RUN
SENSORS S/N: CONT = 899 / EYE = 926 / GAMMA = 019 / GYRO = 365 / GAIN = 200
BIT TO SENSOR OFFSET: SURVEY = 56.16 FT. / GAMMA = 50.87 FT. / GYRO = 34.57 FT. / GAIN INC = 24.73 FT. / GAIN GR = 22.77 FT.
RUN #2: MWD/DIRECTIONAL RUN
SENSORS S/N: CONT = 899 / EYE = 926 / GAMMA = 019 / AZI GAIN = 137
BIT TO SENSOR OFFSET: SURVEY = 49.87 FT. / GAMMA = 38.73 FT. / AZI GAIN INC = 35.34 FT. / AZI GAIN GR = 33.59 FT.
RUN #3: MWD/DIRECTIONAL RUN
SENSORS S/N: CONT = 899 / EYE = 926 / GAMMA = 019 / AZI GAIN = 137
BIT TO SENSOR OFFSET: SURVEY = 49.87 FT. / GAMMA = 38.73 FT. / AZI GAIN INC = 35.34 FT. / AZI GAIN GR = 33.59 FT.
RUN #4: MWD/DIRECTIONAL RUN
SENSORS S/N: CONT = 899 / EYE = 926 / GAMMA = 019 / AZI GAIN = 137
BIT TO SENSOR OFFSET: SURVEY = 50.19 FT. / GAMMA = 39.05 FT. / AZI GAIN INC = 35.66 FT. / AZI GAIN GR = 33.91 FT.

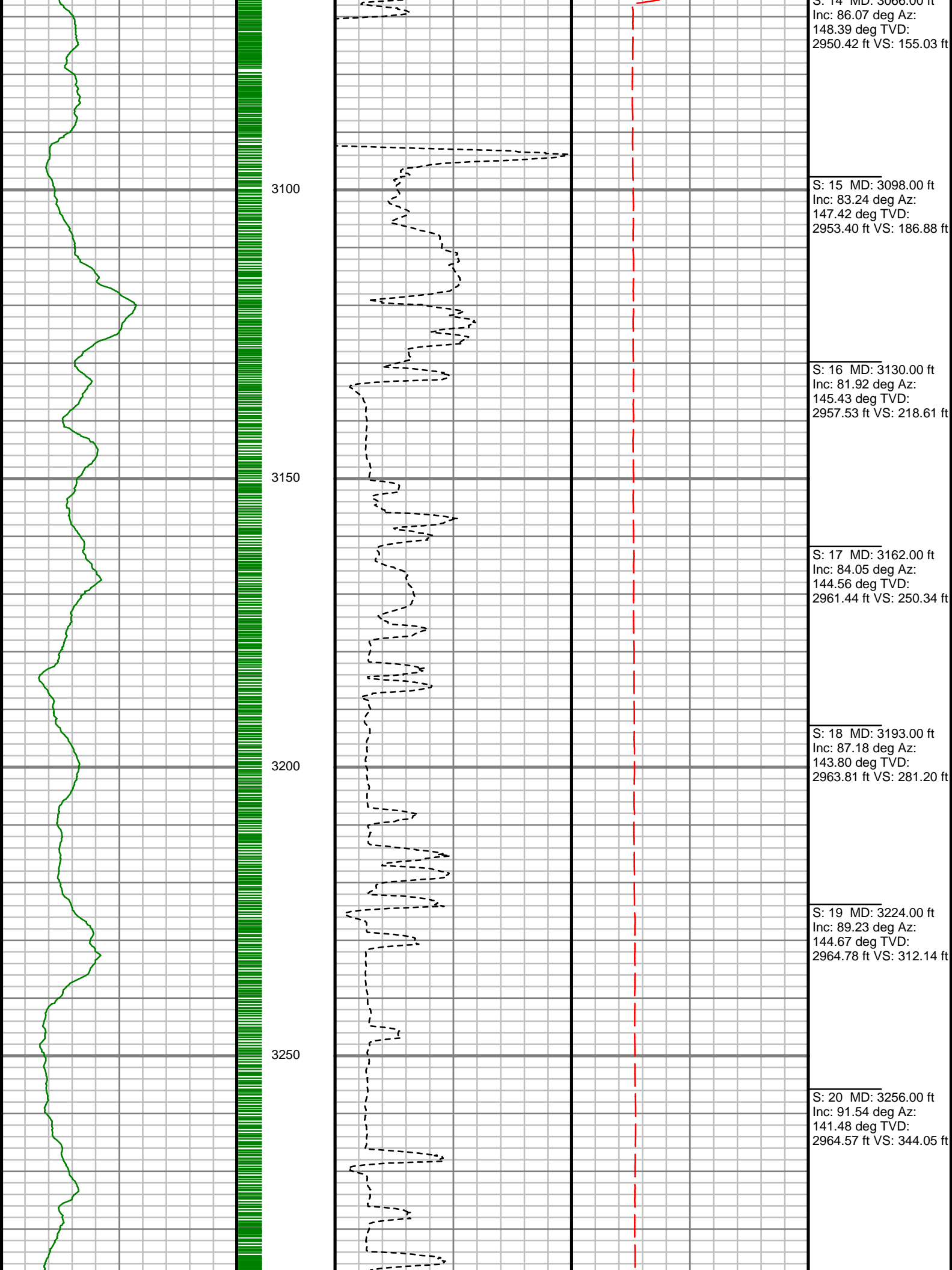
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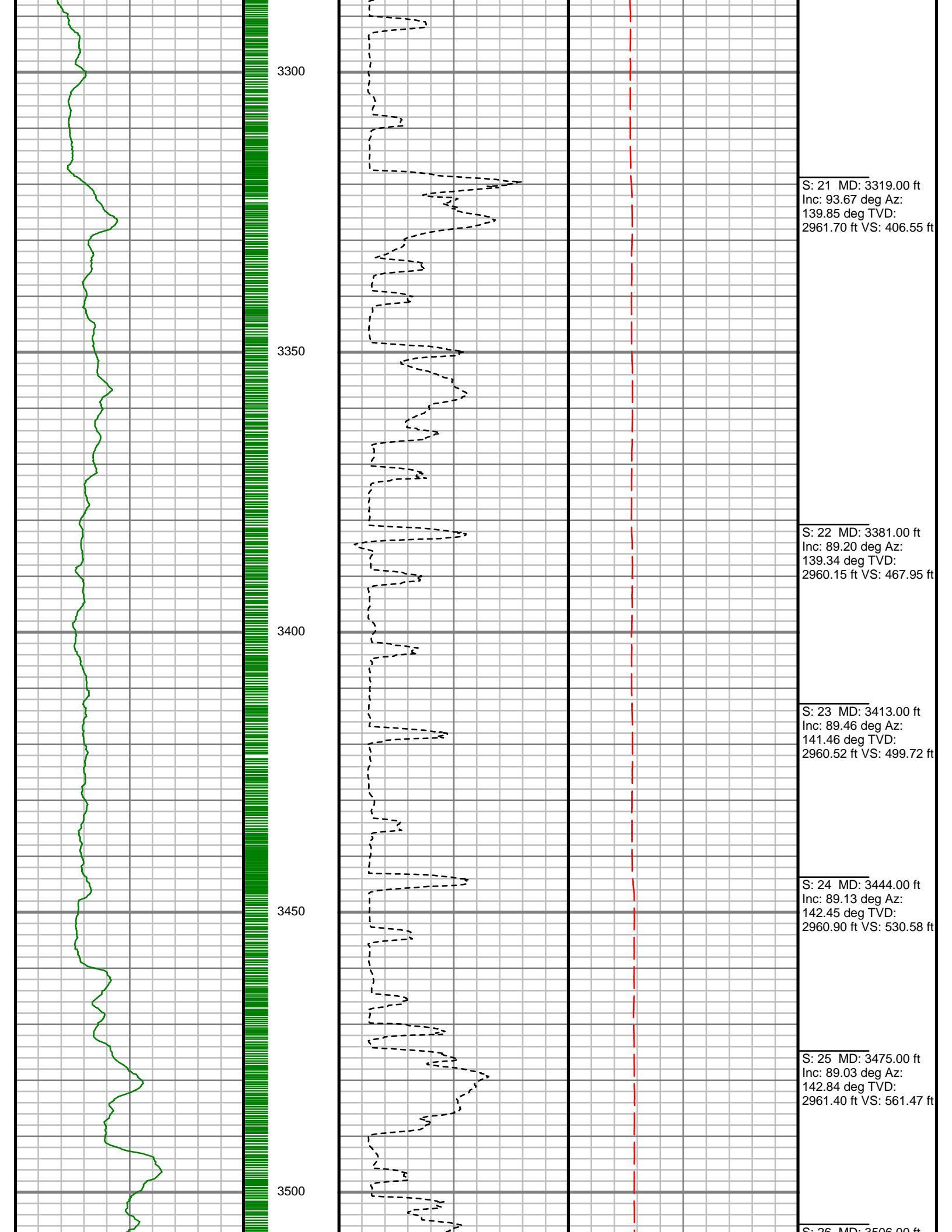
All interpretations are opinions based on electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or 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.

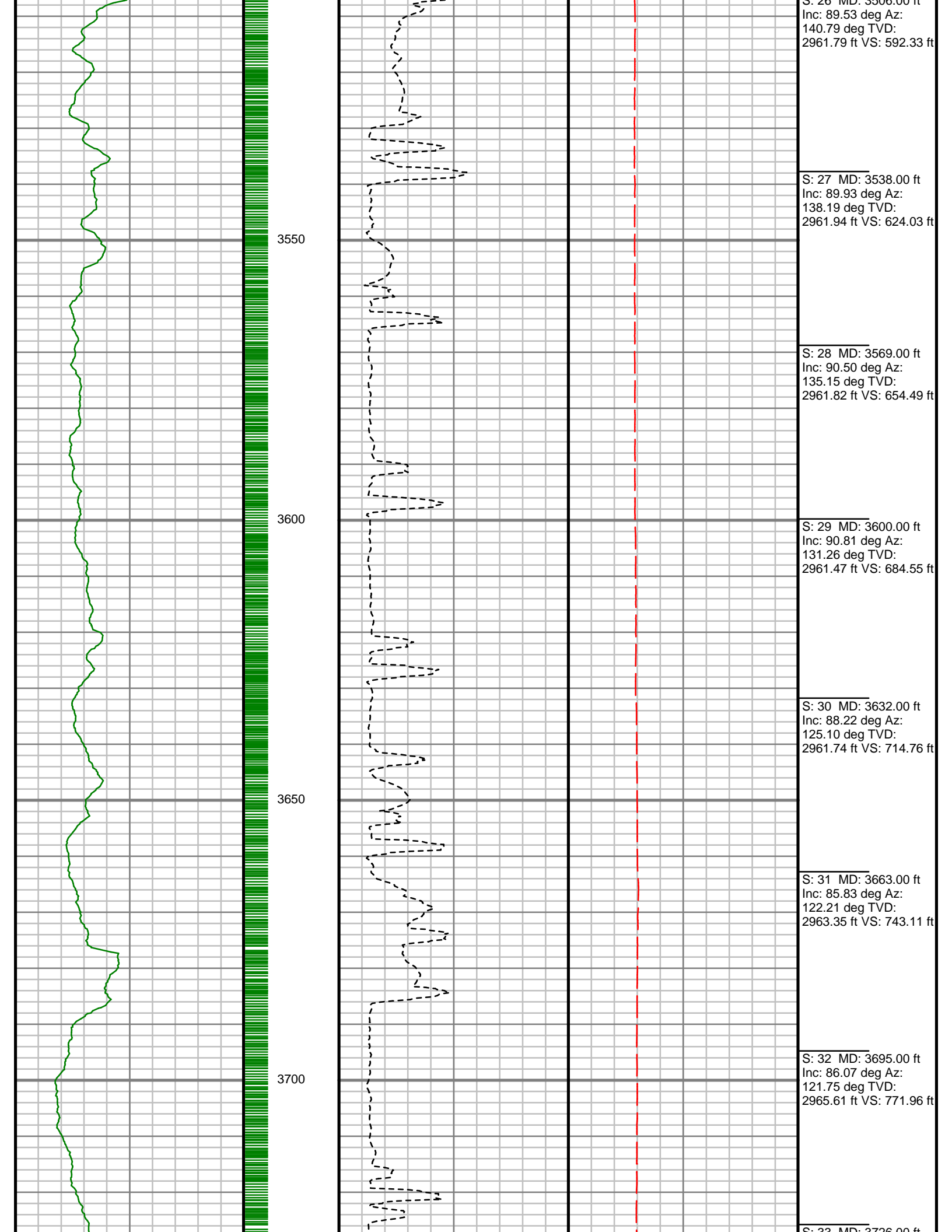
CARPENTER 32-6-3 #2 LAT 1 ST 2  
MD GAMMA PLOT  
MEMORY DATA

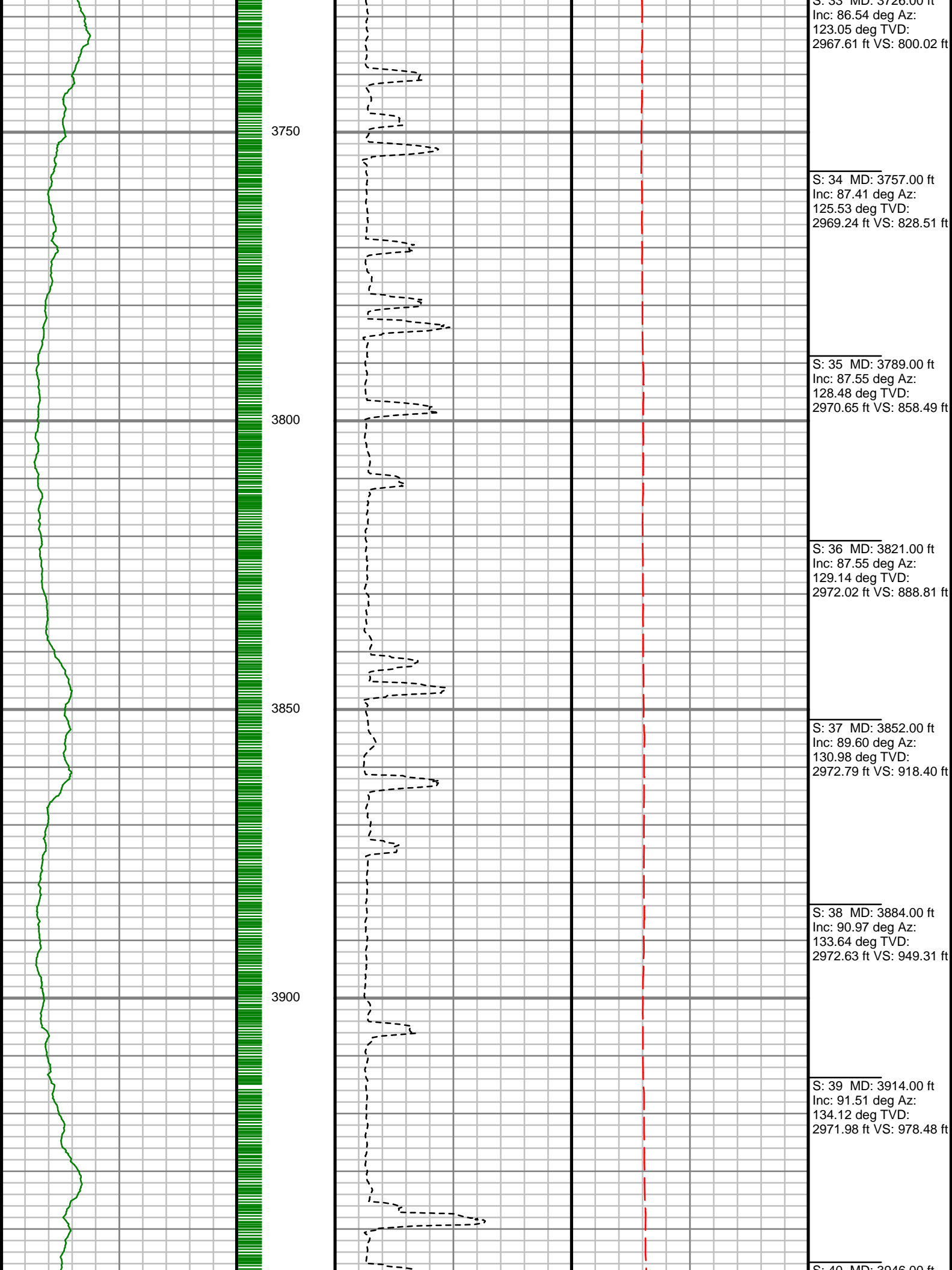




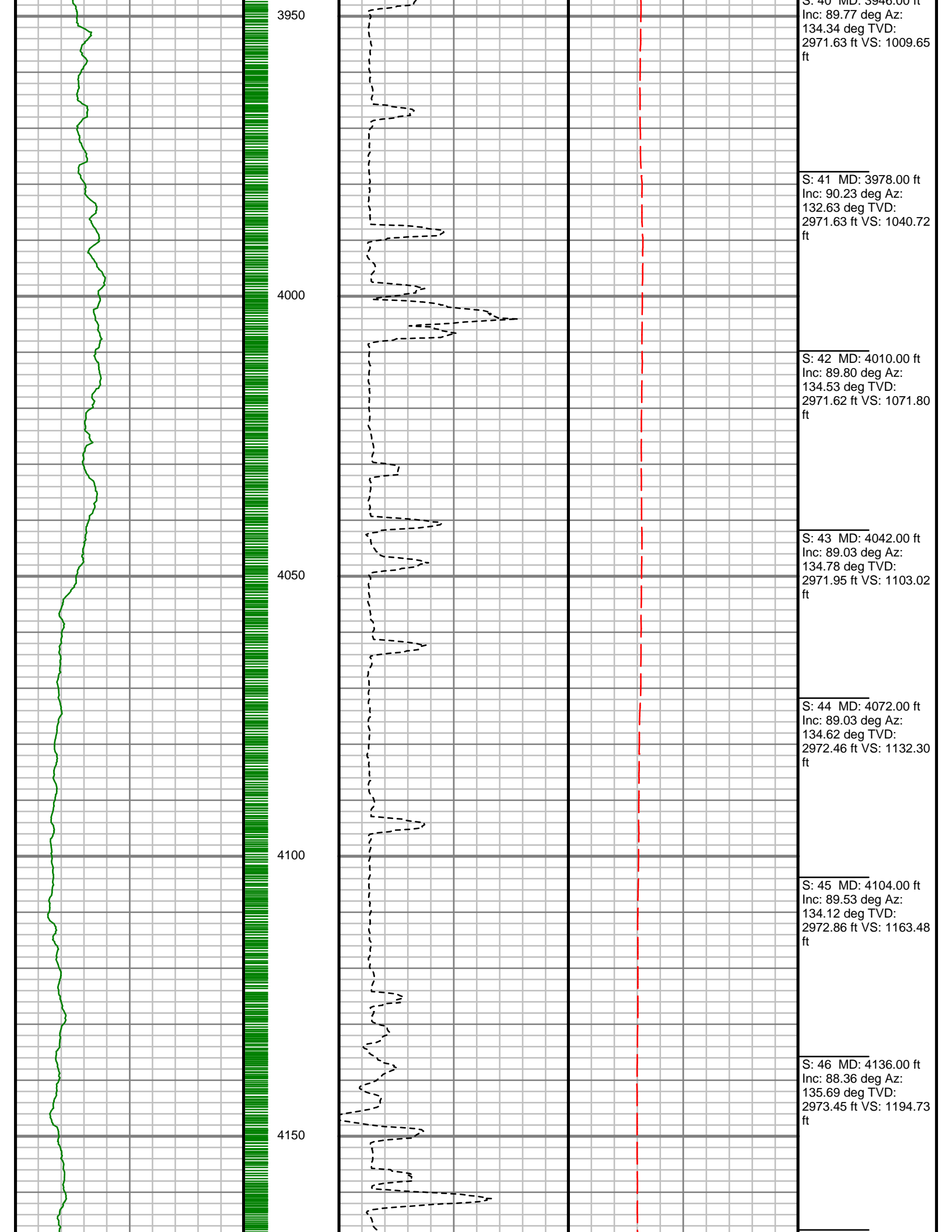


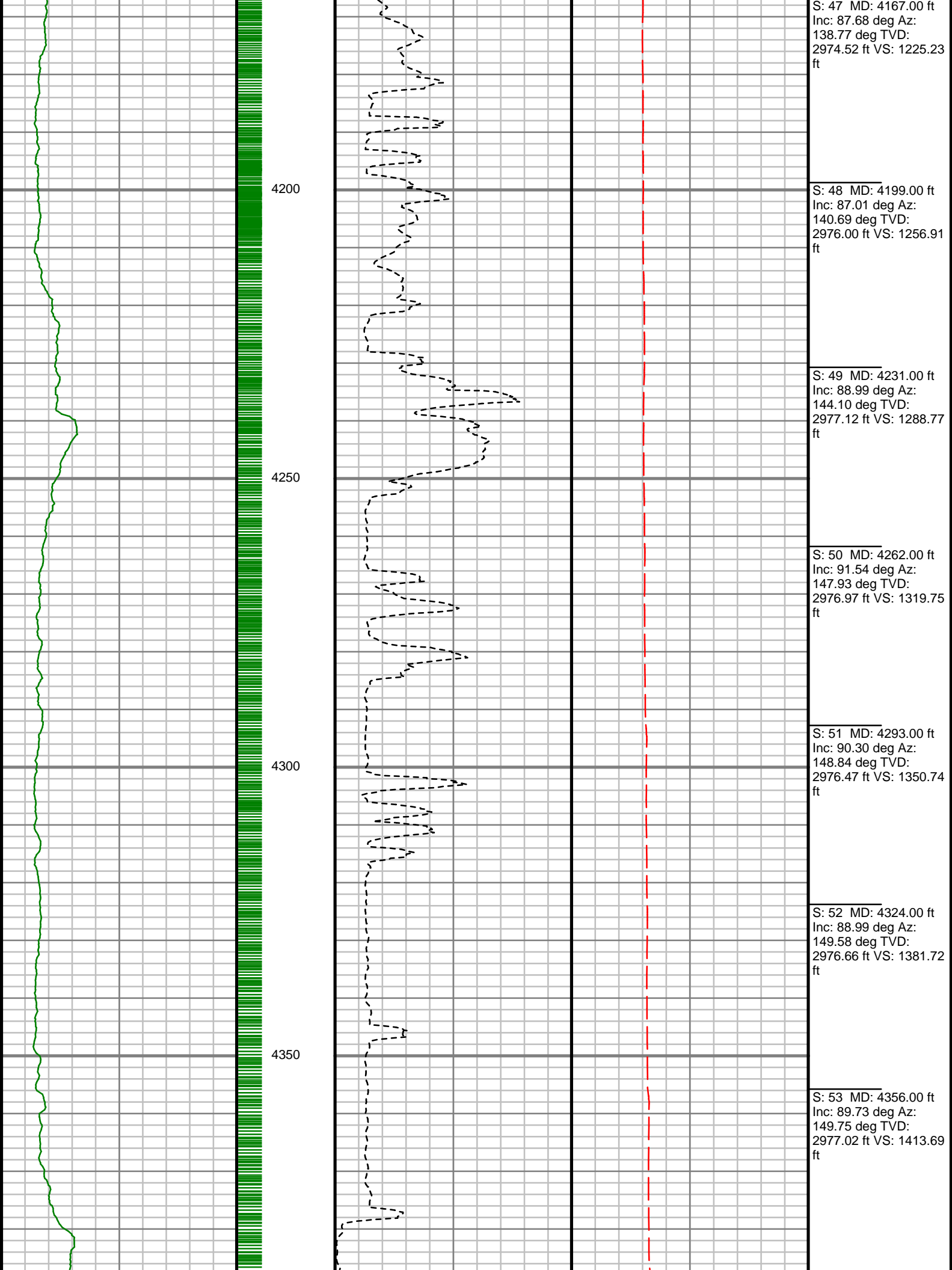


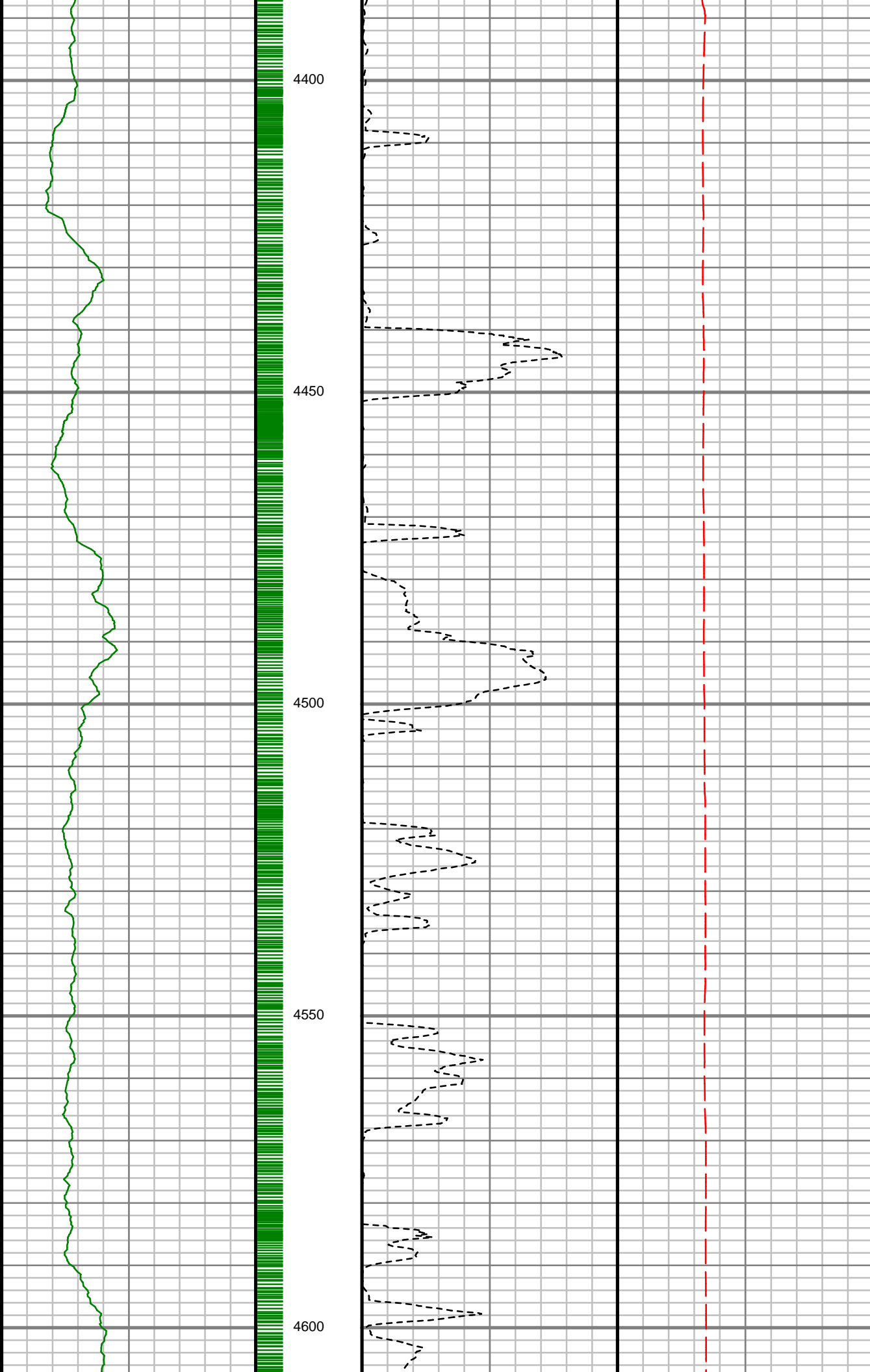












S: 54 MD: 4388.00 ft  
Inc: 90.00 deg Az:  
150.19 deg TVD:  
2977.09 ft VS: 1445.66  
ft

S: 55 MD: 4420.00 ft  
Inc: 91.21 deg Az:  
149.34 deg TVD:  
2976.76 ft VS: 1477.63  
ft

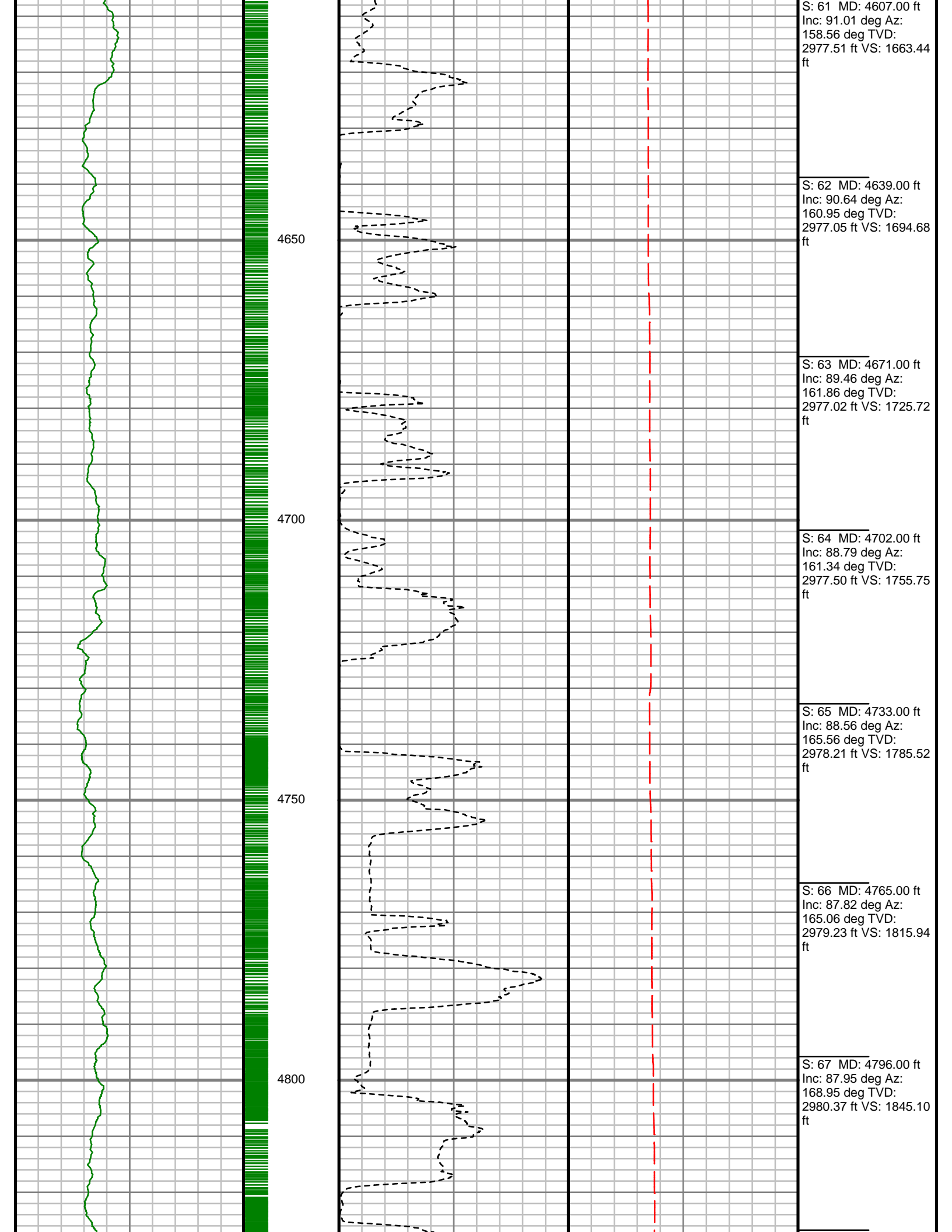
S: 56 MD: 4451.00 ft  
Inc: 89.90 deg Az:  
150.06 deg TVD:  
2976.46 ft VS: 1508.60  
ft

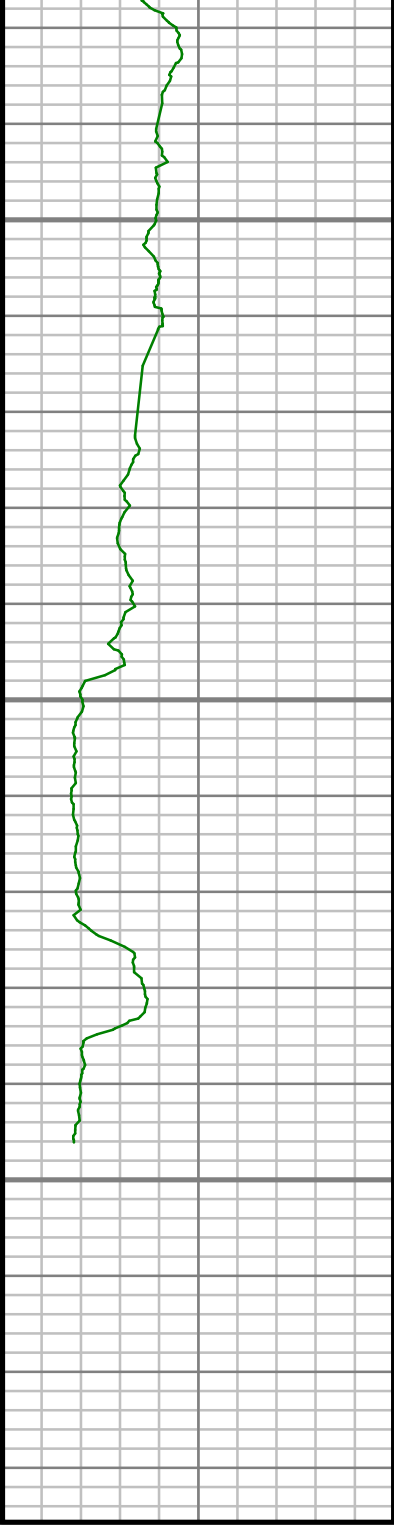
S: 57 MD: 4482.00 ft  
Inc: 90.03 deg Az:  
150.21 deg TVD:  
2976.47 ft VS: 1539.56  
ft

S: 58 MD: 4514.00 ft  
Inc: 88.59 deg Az:  
152.25 deg TVD:  
2976.86 ft VS: 1571.48  
ft

S: 59 MD: 4545.00 ft  
Inc: 89.03 deg Az:  
154.82 deg TVD:  
2977.50 ft VS: 1602.29  
ft

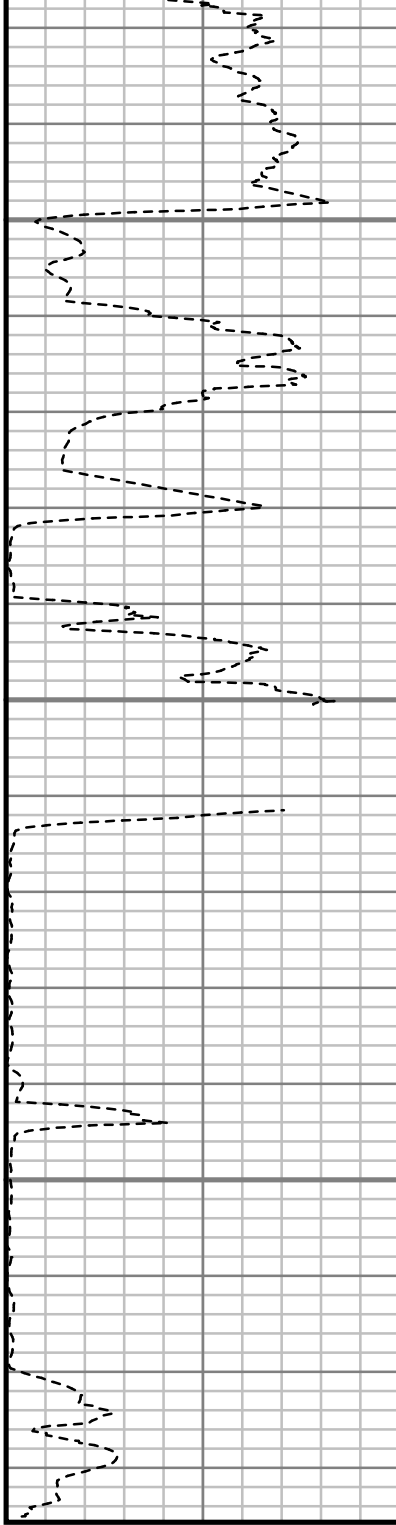
S: 60 MD: 4577.00 ft  
Inc: 90.00 deg Az:  
156.81 deg TVD:  
2977.78 ft VS: 1633.93  
ft





Gamma Ray (GR)		
0	Unit = aapi	150

MEASURED DEPTH  
1:240 (ft)



Rate of Penetration (ROP)		
200	Unit = ft/hr	0



Tool Temperature (T-TEMP)		
50	Unit = °F	150

S: 68 MD: 4827.00 ft Inc: 87.52 deg Az: 170.18 deg TVD: 2981.60 ft VS: 1873.77 ft	S: 69 MD: 4859.00 ft Inc: 87.28 deg Az: 174.59 deg TVD: 2983.05 ft VS: 1902.71 ft	S: 70 MD: 4891.00 ft Inc: 86.10 deg Az: 175.19 deg TVD: 2984.90 ft VS: 1931.03 ft	S: 71 MD: 4922.00 ft Inc: 87.35 deg Az: 177.28 deg TVD: 2986.67 ft VS: 1958.12 ft	S: 72 MD: 4933.00 ft Inc: 87.55 deg Az: 177.07 deg TVD: 2987.16 ft VS: 1967.65 ft
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Comments
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## MWD Survey Report

<b>Well Location</b>	La Plata County
<b>Well Name</b>	Carpenter 32-6-3 #2
<b>Survey Date</b>	4/16/2015
<b>Latitude</b>	37.0456608°N
<b>Longitude</b>	107.4848172°W
<b>Btotal</b>	50480 nT
<b>Dip</b>	63.68 deg
<b>Magnetic Declination</b>	9.40 deg
<b>North Reference</b>	Grid North
<b>Grid Correction</b>	1.22 deg
<b>Depth Reference</b>	RKB (16.00 ft)
<b>Calculation Method</b>	Minimum Curvature
<b>Section (VS) Ref</b>	0.00N (ft), 0.00E (ft), 147.31Azim (deg)
<b>Operator(s)</b>	T.RELLERGERT, T.TYLER

### Well Notes

<b>MD</b> ft	<b>Inc</b> deg	<b>Azim</b> deg	<b>TVD</b> ft	<b>VS</b> ft	<b>+N/-S</b> ft	<b>+E/-W</b> ft	<b>DLS</b> °/100ft
2671.05	1.83	289.97	2669.23	-55.40	9.89	-87.17	Invalid
2714.86	1.94	288.36	2713.02	-56.53	10.36	-88.53	0.27
2731.86	0.79	226.13	2730.01	-56.74	10.37	-88.89	10.09
2746.59	4.22	145.18	2744.73	-56.17	9.85	-88.65	28.32
2778.00	15.66	139.65	2775.62	-50.80	5.66	-85.23	36.50
2809.00	23.31	131.30	2804.82	-40.74	-1.59	-77.90	26.21
2819.00	26.23	127.71	2813.90	-36.75	-4.25	-74.67	32.83
2850.00	35.54	129.73	2840.48	-21.68	-14.22	-62.29	30.19
2881.00	42.41	131.21	2864.57	-3.02	-26.88	-47.48	22.38
2913.00	47.71	141.93	2887.19	19.18	-43.34	-32.03	28.88
2944.00	52.94	145.64	2906.98	42.98	-62.59	-17.97	19.23
2976.00	60.83	152.27	2924.47	69.72	-85.55	-4.23	30.12
3007.00	68.36	149.08	2937.76	97.65	-109.93	9.50	26.01
3035.00	77.46	147.64	2945.98	124.38	-132.69	23.53	32.87
3066.00	86.07	148.39	2950.42	155.03	-158.69	39.76	27.87
3098.00	83.24	147.42	2953.40	186.88	-185.68	56.69	9.33
3130.00	81.92	145.43	2957.53	218.61	-212.11	74.23	7.43
3162.00	84.05	144.56	2961.44	250.34	-238.13	92.45	7.19
3193.00	87.18	143.80	2963.81	281.20	-263.19	110.54	10.39
3224.00	89.23	144.67	2964.78	312.14	-288.33	128.65	7.17

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
3256.00	91.54	141.48	2964.57	344.05	-313.90	147.87	12.31
3319.00	93.67	139.85	2961.70	406.55	-362.57	187.76	4.26
3381.00	89.20	139.34	2960.15	467.95	-409.76	227.93	7.27
3413.00	89.46	141.46	2960.52	499.72	-434.41	248.32	6.69
3444.00	89.13	142.45	2960.90	530.58	-458.82	267.42	3.37
3475.00	89.03	142.84	2961.40	561.47	-483.46	286.23	1.31
3506.00	89.53	140.79	2961.79	592.33	-507.82	305.39	6.82
3538.00	89.93	138.19	2961.94	624.03	-532.15	326.17	8.22
3569.00	90.50	135.15	2961.82	654.49	-554.70	347.44	9.97
3600.00	90.81	131.26	2961.47	684.55	-575.92	370.03	12.60
3632.00	88.22	125.10	2961.74	714.76	-595.69	395.17	20.89
3663.00	85.83	122.21	2963.35	743.11	-612.84	420.94	12.08
3695.00	86.07	121.75	2965.61	771.96	-629.74	448.01	1.60
3726.00	86.54	123.05	2967.61	800.02	-646.32	474.13	4.43
3757.00	87.41	125.53	2969.24	828.51	-663.76	499.71	8.48
3789.00	87.55	128.48	2970.65	858.49	-683.00	525.23	9.23
3821.00	87.55	129.14	2972.02	888.81	-703.04	550.14	2.05
3852.00	89.60	130.98	2972.79	918.40	-722.98	573.86	8.88
3884.00	90.97	133.64	2972.63	949.31	-744.52	597.52	9.38
3914.00	91.51	134.12	2971.98	978.48	-765.31	619.14	2.39

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
3946.00	89.77	134.34	2971.63	1009.65	-787.63	642.07	5.49
3978.00	90.23	132.63	2971.63	1040.72	-809.65	665.28	5.56
4010.00	89.80	134.53	2971.62	1071.80	-831.71	688.47	6.09
4042.00	89.03	134.78	2971.95	1103.02	-854.19	711.23	2.54
4072.00	89.03	134.62	2972.46	1132.30	-875.29	732.55	0.51
4104.00	89.53	134.12	2972.86	1163.48	-897.67	755.42	2.22
4136.00	88.36	135.69	2973.45	1194.73	-920.25	778.08	6.12
4167.00	87.68	138.77	2974.52	1225.23	-942.99	799.12	10.16
4199.00	87.01	140.69	2976.00	1256.91	-967.38	819.78	6.36
4231.00	88.99	144.10	2977.12	1288.77	-992.72	839.29	12.29
4262.00	91.54	147.93	2976.97	1319.75	-1018.41	856.61	14.85
4293.00	90.30	148.84	2976.47	1350.74	-1044.81	872.86	4.98
4324.00	88.99	149.58	2976.66	1381.72	-1071.44	888.73	4.84
4356.00	89.73	149.75	2977.02	1413.69	-1099.05	904.89	2.37
4388.00	90.00	150.19	2977.09	1445.66	-1126.76	920.90	1.61
4420.00	91.21	149.34	2976.76	1477.63	-1154.40	937.01	4.63
4451.00	89.90	150.06	2976.46	1508.60	-1181.17	952.65	4.83
4482.00	90.03	150.21	2976.47	1539.56	-1208.05	968.09	0.64
4514.00	88.59	152.25	2976.86	1571.48	-1236.10	983.48	7.81
4545.00	89.03	154.82	2977.50	1602.29	-1263.84	997.30	8.39

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS
ft	deg	deg	ft	ft	ft	ft	°/100ft
4577.00	90.00	156.81	2977.78	1633.93	-1293.03	1010.40	6.94
4607.00	91.01	158.56	2977.51	1663.44	-1320.78	1021.79	6.74
4639.00	90.64	160.95	2977.05	1694.68	-1350.80	1032.86	7.53
4671.00	89.46	161.86	2977.02	1725.72	-1381.13	1043.07	4.66
4702.00	88.79	161.34	2977.50	1755.75	-1410.54	1052.85	2.74
4733.00	88.56	165.56	2978.21	1785.52	-1440.24	1061.68	13.63
4765.00	87.82	165.06	2979.23	1815.94	-1471.18	1069.79	2.80
4796.00	87.95	168.95	2980.37	1845.10	-1501.36	1076.75	12.55
4827.00	87.52	170.18	2981.60	1873.77	-1531.82	1082.36	4.21
4859.00	87.28	174.59	2983.05	1902.71	-1563.50	1086.60	13.78
4891.00	86.10	175.19	2984.90	1931.03	-1595.32	1089.45	4.13
4922.00	87.35	177.28	2986.67	1958.12	-1626.20	1091.48	7.82
4933.00	87.55	177.07	2987.16	1967.65	-1637.17	1092.02	2.62

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





GAMMA RAY  
AZI GAMMA RAY

5" = 100' FEET MD