

GyroTracer Directional:

Date: 11/8/2017
 Operator : David England
 API : 05-123-24493
 Well: Howard USX A 9-16
 Field : Noble Energy INC
 Tool Type And Number: 1213
 Well Total Depth: 7267
 Bottom Depth : 7000.00
 Latitude : 40.49
 Longitude : 104.55
 Grid Offset : 0.62

**Starting Point Coordinates (in local grid):**

Northing: 0.00 Easting: 0.00 Altitude: 4840.00

Description:

Azimuth measured in degrees and referenced to local grid

Inclination measured from Vertical

Length measured in feet

Temperature measured in Fahrenheit degrees

Start Time: 11/8/2017 10:45

End Time: 11/8/2017 12:13

Depth	Inclination	Azimuth	Closure Direction	True Depth	Coordinates		Dogleg Severity	Closure Distance
					+N/-S	+E/-W		
0.00	0.00	0.00	0.00	-4840.00	0.00	0.00	0.00	0.00
100.00	0.63	146.74	147.17	-4740.01	-0.93	0.60	0.63	1.11
200.00	0.61	157.72	151.49	-4640.01	-1.80	0.98	0.12	2.05
300.00	0.41	162.54	154.42	-4540.02	-2.60	1.24	0.18	2.88
400.00	0.12	154.66	155.32	-4440.02	-3.04	1.40	0.26	3.34
500.00	0.07	42.03	153.15	-4340.02	-3.04	1.54	0.22	3.41
600.00	0.09	87.48	148.73	-4240.02	-3.02	1.83	0.07	3.53
700.00	0.45	148.81	146.26	-4140.02	-3.41	2.28	0.39	4.10
800.00	0.29	172.66	149.30	-4040.03	-4.18	2.48	0.19	4.86
900.00	0.25	97.39	149.67	-3940.03	-4.31	2.52	0.33	4.99
1000.00	0.78	144.55	147.02	-3840.03	-4.90	3.18	0.58	5.84
1100.00	0.36	83.63	143.43	-3740.04	-5.17	3.83	0.65	6.43
1200.00	0.34	22.10	138.20	-3640.04	-4.81	4.30	0.40	6.46
1300.00	0.46	319.50	134.51	-3540.04	-4.07	4.14	0.43	5.81
1400.00	0.55	280.14	138.84	-3440.05	-3.74	3.27	0.33	4.97
1500.00	0.70	244.79	150.36	-3340.05	-4.00	2.27	0.36	4.60
1600.00	0.57	209.97	163.25	-3240.06	-4.80	1.44	0.36	5.01
1700.00	0.54	185.47	169.08	-3140.06	-5.77	1.11	0.23	5.87
1800.00	0.24	199.79	169.87	-3040.07	-6.55	1.17	0.36	6.65
1900.00	0.26	157.25	171.17	-2940.07	-6.94	1.08	0.20	7.02
2000.00	0.09	294.67	174.26	-2840.07	-7.10	0.71	0.32	7.13
2100.00	0.05	298.93	174.82	-2740.07	-7.04	0.64	0.05	7.07
2200.00	0.97	172.57	174.89	-2640.07	-7.77	0.69	1.01	7.81

2300.00	1.03	165.06	173.43	-2540.09	-9.51	1.09	0.10	9.57
2400.00	0.98	164.90	171.89	-2440.10	-11.09	1.58	0.04	11.20
2500.00	0.91	160.38	170.81	-2340.12	-12.78	2.07	0.09	12.94
2600.00	1.45	140.01	167.72	-2240.14	-14.66	3.19	0.61	15.00
2700.00	1.34	126.94	163.04	-2140.17	-16.13	4.92	0.24	16.87
2800.00	1.52	123.34	158.05	-2040.21	-17.70	7.14	0.18	19.09
2900.00	1.00	124.44	154.60	-1940.23	-18.79	8.92	0.57	20.80
3000.00	0.76	196.00	157.05	-1840.24	-20.44	8.65	1.00	22.19
3100.00	0.71	212.53	159.25	-1740.25	-21.65	8.20	0.24	23.15
3200.00	0.78	202.11	161.61	-1640.26	-22.90	7.61	0.14	24.13
3300.00	1.20	195.63	164.01	-1540.28	-24.73	7.09	0.44	25.72
3400.00	0.94	209.14	166.63	-1440.30	-26.43	6.28	0.25	27.17
3500.00	0.03	93.43	167.59	-1340.30	-26.81	5.90	0.84	27.45
3600.00	0.32	27.05	167.14	-1240.30	-26.51	6.05	0.29	27.20
3700.00	0.31	356.28	166.62	-1140.30	-26.14	6.22	0.20	26.86
3800.00	0.25	318.71	166.69	-1040.30	-25.80	6.10	0.20	26.52
3900.00	0.63	354.89	166.99	-940.31	-25.32	5.85	0.49	25.99
4000.00	0.77	357.07	166.59	-840.31	-24.12	5.75	0.15	24.80
4100.00	0.69	326.24	167.01	-740.32	-23.07	5.32	0.42	23.68
4200.00	0.60	304.12	168.64	-640.33	-22.45	4.51	0.24	22.90
4300.00	1.13	307.26	171.45	-540.34	-21.67	3.26	0.49	21.91
4400.00	0.95	330.22	174.37	-440.36	-20.16	1.99	0.46	20.26
4500.00	0.95	303.81	177.00	-340.37	-18.84	0.99	0.43	18.87
4600.00	1.52	321.69	182.65	-240.40	-17.08	-0.79	0.64	17.10
4700.00	1.34	319.43	189.03	-140.44	-14.85	-2.36	0.29	15.04
4800.00	1.26	323.79	196.26	-40.47	-12.99	-3.79	0.12	13.54
4900.00	0.67	339.80	202.22	59.52	-11.53	-4.71	0.67	12.46
5000.00	0.58	313.76	206.27	159.51	-10.66	-5.26	0.35	11.89
5100.00	0.68	348.21	210.83	259.50	-9.56	-5.71	0.38	11.13
5200.00	0.45	336.45	214.90	359.50	-8.59	-5.99	0.23	10.47
5300.00	1.00	329.64	222.72	459.49	-7.39	-6.82	0.53	10.06
5400.00	1.14	321.11	232.76	559.47	-5.93	-7.80	0.20	9.80
5500.00	1.85	325.26	249.20	659.43	-3.64	-9.59	0.69	10.26
5600.00	1.38	321.84	263.34	759.39	-1.32	-11.29	0.44	11.36
5700.00	1.05	315.53	270.49	859.37	0.11	-12.55	0.40	12.55
5800.00	0.70	307.67	274.82	959.36	1.15	-13.70	0.39	13.75
5900.00	0.58	273.13	275.59	1059.35	1.44	-14.67	0.35	14.74
6000.00	0.39	252.87	275.53	1159.35	1.49	-15.36	0.22	15.43
6100.00	0.32	256.72	274.82	1259.35	1.35	-15.99	0.12	16.05
6200.00	0.48	253.51	273.66	1359.34	1.06	-16.62	0.16	16.65
6300.00	0.35	232.31	272.64	1459.34	0.79	-17.10	0.17	17.12
6400.00	0.59	226.10	271.44	1559.34	0.45	-17.76	0.21	17.77
6500.00	0.49	258.24	270.06	1659.33	0.02	-18.56	0.34	18.56
6600.00	1.03	246.16	268.48	1759.33	-0.52	-19.52	0.63	19.52
6700.00	1.31	238.27	266.91	1859.31	-1.14	-21.03	0.34	21.07
6800.00	1.46	259.98	266.16	1959.29	-1.56	-23.26	0.43	23.32
6900.00	1.71	267.85	266.01	2059.24	-1.83	-26.26	0.31	26.33
7000.00	1.74	261.22	266.03	2159.19	-2.03	-29.33	0.22	29.40



Temp
0.00
62.57
62.58
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62.68
62.74
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67.04
67.54
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83.32
92.18
93.25
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111.86
113.15
114.46
115.72
117.17
118.78
120.32
121.90
133.32
134.80
136.36
137.95
139.56
141.08
142.55
143.99
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156.67
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159.79
161.31
163.07
164.88
176.78
178.13
179.54
181.02
182.67
184.32
186.12
187.95
189.91
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206.67
208.48
210.37
213.02