



Company: NOBLE ENERGY
 Lease/Well: DINNER/1-1
 Location:
 Rig Name: PRODUCTION
 State/County: COLORADO/WELD
 Latitude: 40.34
 GRID North is 0.58 Degrees East of True North
 VS-Azi: 0.00 Degrees

FIELD COPY ONLY (NOT DEFINITIVE)

DEPTH REFERENCE : GL = 0'

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: dinner1-1raw.ut
 Minimum Curvature Method
 Report Date/Time: 4/2/2011 / 15:17

Vaughn Energy Services
 Rifle, Colorado
 970 456 2071
 Surveyor: S.Anderson
 Dinner 1-1 API# 05-123-10899

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N-S FT	+E-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.09	317.18	100.00	0.06	-0.05	0.06	0.08	317.18	0.09
200.00	0.05	327.65	200.00	0.15	-0.13	0.15	0.20	319.54	0.04
300.00	0.31	115.56	300.00	0.08	0.09	0.08	0.12	48.18	0.35
400.00	0.14	201.21	400.00	-0.15	0.29	-0.15	0.32	117.70	0.33
500.00	0.18	233.97	500.00	-0.35	0.12	-0.35	0.37	161.87	0.10
600.00	0.02	117.44	600.00	-0.45	0.00	-0.45	0.45	179.57	0.19
700.00	0.31	178.83	700.00	-0.73	0.02	-0.73	0.73	178.17	0.30
800.00	0.51	208.69	800.00	-1.40	-0.19	-1.40	1.41	187.57	0.29
900.00	0.58	225.56	899.99	-2.14	-0.76	-2.14	2.27	199.53	0.17
1000.00	0.57	232.29	999.99	-2.79	-1.51	-2.79	3.18	208.36	0.07
1100.00	0.66	225.64	1099.98	-3.50	-2.31	-3.50	4.20	213.45	0.12
1200.00	0.54	231.95	1199.97	-4.20	-3.10	-4.20	5.22	216.44	0.14
1300.00	0.64	239.23	1299.97	-4.78	-3.96	-4.78	6.20	219.63	0.13
1400.00	0.68	256.88	1399.96	-5.20	-5.02	-5.20	7.23	223.99	0.21
1500.00	0.63	256.42	1499.96	-5.47	-6.14	-5.47	8.22	228.31	0.05
1600.00	0.59	265.91	1599.95	-5.63	-7.19	-5.63	9.13	231.93	0.11
1700.00	0.80	256.24	1699.94	-5.83	-8.38	-5.83	10.21	235.16	0.23
1800.00	0.59	262.47	1799.94	-6.07	-9.57	-6.07	11.33	237.62	0.22
1900.00	0.63	261.19	1899.93	-6.22	-10.62	-6.22	12.31	239.65	0.04
2000.00	0.71	257.14	1999.92	-6.44	-11.77	-6.44	13.41	241.31	0.09
2100.00	0.41	306.67	2099.92	-6.36	-12.66	-6.36	14.17	243.31	0.54
2200.00	0.52	303.89	2199.92	-5.90	-13.32	-5.90	14.57	246.12	0.11
2300.00	0.82	336.26	2299.91	-4.99	-13.98	-4.99	14.85	250.35	0.47
2400.00	0.49	351.91	2399.90	-3.92	-14.33	-3.92	14.85	254.71	0.38
2500.00	0.33	8.79	2499.90	-3.22	-14.35	-3.22	14.70	257.36	0.20
2600.00	0.47	10.25	2599.90	-2.53	-14.23	-2.53	14.45	259.91	0.14
2700.00	0.34	7.01	2699.89	-1.84	-14.12	-1.84	14.24	262.59	0.13
2800.00	0.25	4.76	2799.89	-1.33	-14.07	-1.33	14.13	264.62	0.09
2900.00	0.47	18.17	2899.89	-0.72	-13.92	-0.72	13.94	267.04	0.23
3000.00	0.20	5.80	2999.89	-0.16	-13.78	-0.16	13.78	269.31	0.28
3100.00	0.21	2.66	3099.89	0.19	-13.75	0.19	13.75	270.77	0.02

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
3200.00	0.17	44.80	3199.89	0.47	-13.64	0.47	13.65	271.97	0.14
3300.00	0.46	79.63	3299.89	0.64	-13.14	0.64	13.16	272.80	0.34
3400.00	0.51	99.83	3399.88	0.64	-12.31	0.64	12.33	272.98	0.18
3500.00	0.52	101.68	3499.88	0.47	-11.43	0.47	11.44	272.37	0.02
3600.00	0.30	112.27	3599.88	0.28	-10.75	0.28	10.75	271.51	0.23
3700.00	0.62	131.99	3699.87	-0.18	-10.11	-0.18	10.11	269.00	0.35
3800.00	0.64	140.51	3799.87	-0.97	-9.35	-0.97	9.40	264.09	0.10
3900.00	0.85	163.65	3899.86	-2.11	-8.79	-2.11	9.04	256.51	0.36
4000.00	0.54	179.97	3999.85	-3.29	-8.58	-3.29	9.19	249.03	0.36
4100.00	0.61	200.18	4099.85	-4.26	-8.76	-4.26	9.74	244.06	0.21
4200.00	0.33	215.18	4199.84	-5.00	-9.11	-5.00	10.40	241.25	0.30
4300.00	0.52	245.74	4299.84	-5.43	-9.70	-5.43	11.11	240.78	0.29
4400.00	0.35	264.92	4399.84	-5.64	-10.42	-5.64	11.85	241.58	0.22
4500.00	0.37	285.34	4499.84	-5.58	-11.04	-5.58	12.37	243.19	0.13
4600.00	0.19	291.90	4599.83	-5.43	-11.51	-5.43	12.73	244.73	0.18
4700.00	0.27	312.23	4699.83	-5.21	-11.84	-5.21	12.94	246.24	0.12
4800.00	0.48	280.33	4799.83	-4.98	-12.43	-4.98	13.39	248.17	0.29
4900.00	0.22	275.56	4899.83	-4.88	-13.03	-4.88	13.92	249.46	0.26
5000.00	0.33	290.86	4999.83	-4.76	-13.50	-4.76	14.31	250.56	0.13
5100.00	0.11	301.16	5099.83	-4.61	-13.85	-4.61	14.60	251.59	0.22
5200.00	0.14	316.10	5199.83	-4.47	-14.02	-4.47	14.71	252.30	0.04
5300.00	0.22	316.84	5299.83	-4.24	-14.23	-4.24	14.85	253.39	0.08
5400.00	0.38	307.56	5399.83	-3.90	-14.63	-3.90	15.14	255.07	0.17
5500.00	0.88	306.61	5499.82	-3.24	-15.51	-3.24	15.84	258.19	0.50
5600.00	0.77	280.24	5599.81	-2.67	-16.78	-2.67	16.99	260.97	0.39
5700.00	2.04	279.50	5699.78	-2.25	-19.19	-2.25	19.32	263.31	1.27
5800.00	2.36	280.87	5799.70	-1.57	-22.97	-1.57	23.02	266.09	0.32
5900.00	2.22	296.01	5899.63	-0.34	-26.72	-0.34	26.73	269.28	0.62
6000.00	1.24	317.50	5999.58	1.31	-29.19	1.31	29.22	272.57	1.15
6100.00	1.98	345.77	6099.54	3.78	-30.35	3.78	30.58	277.10	1.06
6200.00	1.05	345.86	6199.50	6.34	-31.00	6.34	31.64	281.56	0.93
6300.00	0.83	356.74	6299.49	7.95	-31.26	7.95	32.25	284.26	0.28
6400.00	1.75	22.40	6399.47	10.08	-30.72	10.08	32.33	288.17	1.06
6500.00	1.74	44.98	6499.42	12.56	-29.07	12.56	31.67	293.38	0.68
6600.00	1.85	48.72	6599.37	14.70	-26.78	14.70	30.55	298.77	0.16
6700.00	1.54	58.39	6699.33	16.47	-24.42	16.47	29.46	304.01	0.42
6800.00	1.37	59.85	6799.30	17.78	-22.24	17.78	28.47	308.64	0.17
6853.00	1.29	67.72	6852.28	18.33	-21.14	18.33	27.98	310.92	0.38

<div> HORIZONTAL DISPLACEMENT IS 27.98 FEET AT 310.92 DEGREES </div>
