



Rig Name: Production
State/County: Colorado/Weld County
Latitude: 40.42, Longitude: -104.50
GRID North is 0.65 Degrees East of True North
VS-Azi: 0.00 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : GL

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: run1-01_ed.ut
Minimum Curvature Method
Report Date/Time: 8/14/2011 / 09:41

Vaughn Energy Services
Rifle, Colorado
866-835-8333
Garry Fowler
Lucci BC B 1-5 / 05-123-14280

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	0.33	167.44	100.00	-0.29	0.06	-0.29	0.29	167.44	0.33
200.00	0.08	213.46	200.00	-0.63	0.09	-0.63	0.63	171.92	0.29
300.00	0.16	35.90	300.00	-0.58	0.13	-0.58	0.59	167.22	0.23
400.00	0.12	332.17	400.00	-0.37	0.16	-0.37	0.40	156.69	0.15
500.00	0.19	46.85	500.00	-0.16	0.23	-0.16	0.28	125.05	0.20
600.00	0.23	42.48	600.00	0.10	0.49	0.10	0.50	78.49	0.04
700.00	0.07	331.07	700.00	0.30	0.59	0.30	0.67	63.12	0.22
800.00	0.09	295.44	800.00	0.39	0.50	0.39	0.63	52.12	0.05
900.00	0.32	97.64	900.00	0.38	0.70	0.38	0.80	61.53	0.40
1000.00	0.21	174.62	1000.00	0.17	0.99	0.17	1.01	80.53	0.34
1100.00	0.21	242.65	1100.00	-0.10	0.85	-0.10	0.86	96.40	0.23
1200.00	0.19	207.85	1199.99	-0.32	0.62	-0.32	0.70	117.77	0.12
1300.00	0.32	352.18	1299.99	-0.20	0.50	-0.20	0.54	111.33	0.48
1400.00	0.46	307.27	1399.99	0.32	0.14	0.32	0.35	24.28	0.32
1500.00	0.69	260.95	1499.99	0.47	-0.77	0.47	0.90	301.35	0.50
1600.00	0.44	271.06	1599.98	0.38	-1.75	0.38	1.79	282.29	0.27
1700.00	0.80	297.80	1699.98	0.71	-2.74	0.71	2.84	284.54	0.45
1800.00	0.80	348.07	1799.97	1.72	-3.50	1.72	3.91	296.18	0.68
1900.00	0.47	294.77	1899.96	2.58	-4.02	2.58	4.78	302.70	0.64
2000.00	0.51	10.03	1999.96	3.19	-4.31	3.19	5.36	306.47	0.60
2100.00	0.40	1.38	2099.96	3.97	-4.23	3.97	5.80	313.23	0.13
2200.00	0.27	54.52	2199.96	4.46	-4.02	4.46	6.01	317.93	0.32
2300.00	0.23	46.79	2299.95	4.73	-3.69	4.73	6.00	322.06	0.06
2400.00	0.37	2.01	2399.95	5.18	-3.53	5.18	6.27	325.73	0.26
2500.00	0.27	33.96	2499.95	5.70	-3.39	5.70	6.63	329.27	0.20
2600.00	0.14	265.78	2599.95	5.89	-3.38	5.89	6.79	330.12	0.38
2700.00	0.45	8.89	2699.95	6.26	-3.45	6.26	7.15	331.17	0.50
2800.00	0.32	290.83	2799.95	6.75	-3.65	6.75	7.67	331.60	0.49
2900.00	0.47	43.05	2899.95	7.15	-3.63	7.15	8.02	333.07	0.66
3000.00	0.18	43.83	2999.95	7.56	-3.24	7.56	8.22	336.80	0.29
3100.00	0.62	314.98	3099.94	8.06	-3.51	8.06	8.79	336.43	0.64

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	0.55	324.60	3199.94	8.83	-4.18	8.83	9.77	334.69	0.12
3300.00	1.15	344.33	3299.93	10.19	-4.73	10.19	11.24	335.12	0.66
3400.00	1.99	349.76	3399.89	12.87	-5.31	12.87	13.92	337.59	0.85
3500.00	2.08	337.79	3499.83	16.26	-6.30	16.26	17.43	338.81	0.43
3600.00	2.49	344.76	3599.75	20.03	-7.56	20.03	21.41	339.33	0.49
3700.00	2.40	358.26	3699.66	24.22	-8.19	24.22	25.57	341.31	0.58
3800.00	2.48	17.04	3799.57	28.38	-7.62	28.38	29.39	344.96	0.80
3900.00	1.99	22.52	3899.49	32.06	-6.32	32.06	32.68	348.84	0.53
4000.00	1.54	6.19	3999.44	35.00	-5.51	35.00	35.43	351.05	0.67
4100.00	0.75	357.97	4099.42	36.99	-5.39	36.99	37.38	351.71	0.80
4200.00	0.34	333.07	4199.42	37.92	-5.55	37.92	38.32	351.67	0.46
4300.00	0.73	297.96	4299.41	38.48	-6.25	38.48	38.99	350.78	0.49
4400.00	1.14	251.32	4399.40	38.46	-7.75	38.46	39.24	348.61	0.83
4500.00	1.57	281.27	4499.37	38.42	-10.03	38.42	39.70	345.37	0.82
4600.00	1.82	266.20	4599.33	38.58	-12.96	38.58	40.70	341.43	0.51
4700.00	2.07	256.49	4699.27	38.05	-16.30	38.05	41.40	336.81	0.41
4800.00	1.95	260.17	4799.21	37.34	-19.72	37.34	42.23	332.16	0.17
4900.00	1.64	264.64	4899.16	36.92	-22.82	36.92	43.40	328.28	0.34
5000.00	1.48	248.47	4999.13	36.31	-25.44	36.31	44.34	324.98	0.47
5100.00	1.04	233.22	5099.10	35.29	-27.37	35.29	44.66	322.20	0.55
5200.00	0.92	232.10	5199.09	34.25	-28.74	34.25	44.71	320.01	0.12
5300.00	0.92	216.94	5299.08	33.12	-29.85	33.12	44.59	317.97	0.24
5400.00	1.08	216.75	5399.06	31.73	-30.90	31.73	44.28	315.76	0.16
5500.00	1.14	198.87	5499.04	30.03	-31.78	30.03	43.73	313.38	0.35
5600.00	1.01	196.45	5599.02	28.25	-32.35	28.25	42.95	311.13	0.13
5700.00	1.03	199.04	5699.01	26.56	-32.89	26.56	42.28	308.92	0.05
5800.00	1.64	205.05	5798.98	24.42	-33.79	24.42	41.69	305.86	0.63
5900.00	2.37	208.61	5898.92	21.31	-35.38	21.31	41.31	301.06	0.74
6000.00	2.84	213.24	5998.82	17.43	-37.73	17.43	41.56	294.80	0.52
6100.00	2.41	228.54	6098.71	13.97	-40.66	13.97	42.99	288.96	0.82
6200.00	1.73	238.99	6198.65	11.80	-43.53	11.80	45.10	285.17	0.77
6300.00	0.83	237.09	6298.62	10.63	-45.43	10.63	46.66	283.17	0.91
6400.00	0.59	226.80	6398.61	9.89	-46.41	9.89	47.45	282.03	0.27
6500.00	0.61	226.55	6498.61	9.17	-47.17	9.17	48.05	281.00	0.02
6600.00	0.63	211.56	6598.60	8.33	-47.84	8.33	48.56	279.88	0.16
6700.00	0.93	211.76	6698.59	7.18	-48.56	7.18	49.08	278.41	0.29
HORIZONTAL DISPLACEMENT IS 49.08 FEET AT 278.41 DEGREES									