

Company: Exxon
 Lease/Well: PCU/296-6A10

Rig Name: Production
 State/County: Colorado/Rio Blanco

Latitude: 39.90
 GRID North is 1.74 Degrees West of True North
 VS-Azi: 0.00 Degrees



Depth Reference : GL

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: run1-01.ut
 Minimum Curvature Method
 Report Date/Time: 2/17/2011 / 10:45

Vaughn Energy Services
 Rifle, Colorado 970-456-2071
 Surveyor: Garry Fowler
 North Seeking Rate Gyro
 PCU 296-6A10 API#05-103-11474

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	****
200.00	0.27	311.95	200.00	0.32	-0.35	0.32	0.47	311.95	0.13
400.00	3.39	12.09	399.88	6.41	0.54	6.41	6.44	4.79	1.63
600.00	7.98	4.32	598.84	26.05	2.82	26.05	26.20	6.18	2.32
800.00	11.15	0.24	796.04	59.25	3.95	59.25	59.38	3.81	1.62
1000.00	14.76	359.29	990.91	104.08	3.71	104.08	104.15	2.04	1.81
1200.00	14.34	359.64	1184.50	154.33	3.24	154.33	154.37	1.20	0.21
1400.00	14.33	354.09	1378.28	203.73	0.53	203.73	203.73	0.15	0.69
1600.00	14.41	352.09	1572.02	253.00	-5.44	253.00	253.06	358.77	0.25
1800.00	14.97	356.40	1765.49	303.44	-10.48	303.44	303.62	358.02	0.61
2000.00	14.45	359.72	1958.93	354.18	-12.22	354.18	354.39	358.02	0.50
2200.00	14.43	359.11	2152.62	404.04	-12.73	404.04	404.24	358.20	0.08
2400.00	14.39	2.59	2346.33	453.78	-12.00	453.78	453.94	358.49	0.43
2600.00	13.91	1.89	2540.26	502.64	-10.08	502.64	502.74	358.85	0.25
2800.00	12.91	0.32	2734.80	549.01	-9.16	549.01	549.08	359.04	0.53
3000.00	12.45	0.05	2929.93	592.91	-9.02	592.91	592.98	359.13	0.23
3200.00	14.01	359.46	3124.61	638.68	-9.23	638.68	638.74	359.17	0.78
3400.00	13.59	359.48	3318.84	686.39	-9.67	686.39	686.45	359.19	0.21
3600.00	12.46	1.64	3513.69	731.45	-9.26	731.45	731.51	359.27	0.62
3800.00	9.14	359.23	3710.12	768.90	-8.86	768.90	768.95	359.34	1.67
4000.00	7.23	358.35	3908.08	797.37	-9.44	797.37	797.43	359.32	0.96

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
4200.00	5.53	358.05	4106.83	819.58	-10.13	819.58	819.64	359.29	0.85
4400.00	3.26	350.43	4306.23	834.82	-11.40	834.82	834.90	359.22	1.17
4600.00	2.88	342.47	4505.94	845.23	-13.86	845.23	845.34	359.06	0.28
4800.00	2.19	343.00	4705.75	853.68	-16.50	853.68	853.84	358.89	0.34
5000.00	1.61	338.82	4905.64	859.96	-18.63	859.96	860.16	358.76	0.30
5200.00	1.28	326.07	5105.57	864.43	-20.89	864.43	864.68	358.62	0.23
5400.00	1.03	310.23	5305.53	867.44	-23.50	867.44	867.76	358.45	0.20
5600.00	0.67	279.02	5505.51	868.78	-26.04	868.78	869.17	358.28	0.28
5800.00	0.65	264.38	5705.50	868.86	-28.32	868.86	869.32	358.13	0.09
6000.00	0.61	242.53	5905.49	868.25	-30.39	868.25	868.78	358.00	0.12
6200.00	0.50	186.60	6105.48	866.89	-31.45	866.89	867.46	357.92	0.27
6400.00	0.52	160.49	6305.47	865.17	-31.24	865.17	865.74	357.93	0.12
6600.00	0.98	137.18	6505.45	863.07	-29.78	863.07	863.58	358.02	0.27
6800.00	1.66	121.15	6705.40	860.32	-26.14	860.32	860.71	358.26	0.39
7000.00	1.57	143.95	6905.32	856.60	-22.04	856.60	856.88	358.53	0.32
7200.00	2.25	145.16	7105.21	851.16	-18.19	851.16	851.35	358.78	0.34
7400.00	2.43	143.84	7305.04	844.52	-13.45	844.52	844.62	359.09	0.09
7600.00	2.69	147.06	7504.84	837.16	-8.39	837.16	837.20	359.43	0.15
7800.00	2.72	146.49	7704.62	829.27	-3.22	829.27	829.27	359.78	0.02
8000.00	2.73	161.49	7904.40	820.79	0.91	820.79	820.79	0.06	0.36
8200.00	2.76	169.50	8104.17	811.55	3.30	811.55	811.56	0.23	0.19
8400.00	2.66	179.01	8303.95	802.19	4.25	802.19	802.20	0.30	0.23
8600.00	2.68	186.47	8503.73	792.90	3.80	792.90	792.91	0.27	0.17
8800.00	2.84	201.07	8703.50	783.62	1.50	783.62	783.62	0.11	0.36
9000.00	3.20	210.70	8903.22	774.20	-3.13	774.20	774.21	359.77	0.31
9200.00	3.44	212.86	9102.89	764.36	-9.24	764.36	764.42	359.31	0.13
9400.00	3.47	214.72	9302.53	754.35	-15.94	754.35	754.52	358.79	0.06
9600.00	4.07	214.86	9502.09	743.56	-23.44	743.56	743.93	358.19	0.30
9800.00	5.41	215.21	9701.40	730.03	-32.93	730.03	730.77	357.42	0.67
10000.00	5.26	218.89	9900.54	715.18	-44.13	715.18	716.54	356.47	0.19
10200.00	5.28	215.26	10099.69	700.52	-55.21	700.52	702.69	355.49	0.17
10400.00	5.19	221.46	10298.86	686.22	-66.51	686.22	689.44	354.46	0.29
10600.00	4.34	224.95	10498.16	674.08	-77.85	674.08	678.56	353.41	0.45
10800.00	3.66	222.71	10697.68	664.03	-87.53	664.03	669.78	352.49	0.35
11000.00	3.40	220.31	10897.30	654.82	-95.70	654.82	661.77	351.69	0.15
11200.00	3.30	215.45	11096.95	645.61	-102.87	645.61	653.75	350.95	0.15
11400.00	3.22	215.67	11296.63	636.36	-109.48	636.36	645.71	350.24	0.04
11600.00	3.41	215.51	11496.30	626.97	-116.21	626.97	637.64	349.50	0.09
11800.00	3.85	213.08	11695.90	616.50	-123.32	616.50	628.71	348.69	0.24
12000.00	4.78	234.57	11895.34	606.04	-133.79	606.04	620.63	347.55	0.93
12200.00	4.91	243.73	12094.63	597.42	-148.25	597.42	615.54	346.06	0.39
12400.00	4.46	241.79	12293.96	589.95	-162.78	589.95	612.00	344.57	0.24

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
12600.00	3.54	217.43	12493.48	581.37	-173.39	581.37	606.67	343.39	0.96
12800.00	3.31	216.37	12693.12	571.80	-180.58	571.80	599.64	342.47	0.12
13000.00	3.47	224.93	12892.78	562.86	-188.28	562.86	593.52	341.50	0.26
13200.00	3.40	221.01	13092.42	554.11	-196.44	554.11	587.90	340.48	0.12
13400.00	2.45	222.18	13292.15	546.47	-203.20	546.47	583.02	339.60	0.47
13600.00	2.56	224.79	13491.96	540.12	-209.23	540.12	579.23	338.82	0.08
13662.00	2.61	216.01	13553.90	537.99	-211.04	537.99	577.91	338.58	0.64