



Company: Exxon
Lease/Well: FRU/197-33B7

State/County: Colorado/Rio Blanco

Latitude: 39.92

GRID North is 1.79 Degrees West of True North

VS-Azi: 0.00 Degrees



Depth Reference : KB = 0 FEET

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: run1-01.ut

Minimum Curvature Method

Report Date/Time: 9/27/2010 / 08:54

Vaughn Energy Services
Rifle, Colorado
970-456-2071

Surveyor: Garry Fowler
Fru#197-33B7

Duplicate Copy
USP DR # 52420.007

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	340.91	200.00	0.45	-0.16	0.45	0.48	340.91	0.14
400.00	1.74	337.02	399.96	3.69	-1.50	3.69	3.98	337.95	0.73
600.00	5.56	338.75	599.52	15.52	-6.19	15.52	16.71	338.24	1.91
800.00	9.31	330.97	797.81	38.71	-17.56	38.71	42.51	335.60	1.94
1000.00	12.24	330.79	994.26	71.38	-35.77	71.38	79.84	333.38	1.47
1200.00	14.57	326.67	1188.80	110.92	-59.95	110.92	126.08	331.61	1.26
1400.00	14.70	327.81	1382.31	153.41	-87.30	153.41	176.51	330.36	0.16
1600.00	14.81	328.17	1575.71	196.60	-114.29	196.60	227.41	329.83	0.07
1800.00	14.90	328.58	1769.03	240.26	-141.18	240.26	278.67	329.56	0.07
2000.00	15.17	329.84	1962.18	284.83	-167.73	284.83	330.54	329.51	0.21
2200.00	14.69	329.12	2155.43	329.21	-193.88	329.21	382.06	329.50	0.26
2400.00	12.01	329.05	2350.01	368.82	-217.60	368.82	428.23	329.46	1.34
2600.00	10.53	328.65	2546.15	402.27	-237.81	402.27	467.31	329.41	0.74
2800.00	6.26	330.30	2743.96	427.36	-252.73	427.36	496.49	329.40	2.14
3000.00	2.93	329.84	2943.29	441.26	-260.70	441.26	512.51	329.42	1.66
3200.00	1.50	318.95	3143.14	447.66	-264.99	447.66	520.21	329.38	0.74
3400.00	1.08	327.49	3343.09	451.22	-267.72	451.22	524.66	329.32	0.23
3600.00	0.74	310.68	3543.06	453.64	-269.71	453.64	527.77	329.27	0.21

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
3800.00	0.48	324.51	3743.05	455.17	-271.18	455.17	529.83	329.21	0.15
4000.00	0.27	305.77	3943.05	456.12	-272.04	456.12	531.09	329.19	0.12
4200.00	0.32	302.74	4143.04	456.69	-272.88	456.69	532.01	329.14	0.03
4400.00	0.61	117.14	4343.04	456.50	-272.39	456.50	531.59	329.18	0.46
4600.00	0.96	113.52	4543.02	455.34	-269.90	455.34	529.33	329.34	0.18
4800.00	1.25	114.70	4742.99	453.77	-266.39	453.77	526.18	329.58	0.14
5000.00	1.45	113.26	4942.93	451.85	-262.08	451.85	522.36	329.89	0.10
5200.00	1.88	122.76	5142.85	449.07	-256.99	449.07	517.40	330.22	0.26
5400.00	2.05	123.63	5342.73	445.31	-251.24	445.31	511.30	330.57	0.08
5600.00	2.11	127.76	5542.60	441.08	-245.35	441.08	504.72	330.91	0.08
5800.00	2.03	130.74	5742.46	436.51	-239.76	436.51	498.02	331.22	0.07
6000.00	2.02	131.17	5942.34	431.88	-234.42	431.88	491.40	331.51	0.01
6200.00	2.02	132.74	6142.22	427.17	-229.18	427.17	484.76	331.79	0.03
6400.00	2.00	132.65	6342.09	422.41	-224.02	422.41	478.13	332.06	0.01
6600.00	1.98	132.27	6541.97	417.71	-218.90	417.71	471.59	332.34	0.01
6800.00	1.96	130.47	6741.85	413.18	-213.74	413.18	465.19	332.65	0.03
7000.00	1.92	132.79	6941.74	408.68	-208.68	408.68	458.88	332.95	0.04
7200.00	1.97	131.33	7141.62	404.13	-203.64	404.13	452.54	333.26	0.03
7400.00	2.18	133.65	7341.49	399.24	-198.31	399.24	445.78	333.59	0.11
7600.00	2.65	135.09	7541.31	393.34	-192.29	393.34	437.82	333.95	0.24
7800.00	2.24	155.24	7741.14	386.51	-187.39	386.51	429.54	334.13	0.47
8000.00	2.23	161.25	7940.98	379.28	-184.50	379.28	421.77	334.06	0.12
8200.00	2.05	160.78	8140.84	372.22	-182.08	372.22	414.37	333.93	0.09
8400.00	1.72	164.44	8340.74	365.95	-180.09	365.95	407.87	333.80	0.17
8600.00	2.44	169.60	8540.60	358.88	-178.52	358.88	400.82	333.55	0.37
8800.00	2.57	173.87	8740.41	350.24	-177.27	350.24	392.55	333.15	0.11
9000.00	2.63	175.51	8940.21	341.21	-176.44	341.21	384.13	332.66	0.05
9200.00	2.76	182.52	9139.99	331.82	-176.29	331.82	375.74	332.02	0.18
9400.00	2.24	182.79	9339.79	323.09	-176.69	323.09	368.25	331.33	0.26
9600.00	1.86	166.72	9539.67	316.03	-176.14	316.03	361.80	330.87	0.34
9800.00	1.88	159.34	9739.56	309.81	-174.24	309.81	355.44	330.65	0.12
10000.00	2.12	143.86	9939.44	303.76	-170.90	303.76	348.53	330.64	0.29
10200.00	2.28	141.16	10139.29	297.68	-166.23	297.68	340.94	330.82	0.10
10400.00	2.29	166.50	10339.14	290.69	-162.80	290.69	333.18	330.75	0.50
10600.00	2.30	175.36	10538.98	282.81	-161.54	282.81	325.69	330.26	0.18
10800.00	2.40	182.69	10738.81	274.62	-161.41	274.62	318.55	329.55	0.16
11000.00	3.76	209.46	10938.53	264.73	-164.83	264.73	311.85	328.09	0.97
11200.00	2.17	208.86	11138.26	255.71	-169.89	255.71	307.00	326.40	0.79
11400.00	1.59	209.58	11338.15	249.98	-173.08	249.98	304.05	325.30	0.29

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
11600.00	0.88	191.32	11538.10	246.07	-174.75	246.07	301.81	324.62	0.40
11800.00	0.36	181.44	11738.09	243.93	-175.07	243.93	300.25	324.33	0.26
12000.00	0.45	175.56	11938.08	242.52	-175.02	242.52	299.08	324.18	0.05
12185.00	0.76	152.05	12123.07	240.71	-174.39	240.71	297.24	324.08	0.21



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Depth=4200.0, Inc=0.3, AzG=302.7

