



Company: Exxon
Lease/Well: PCU/296-6A9

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_ed.ut
Minimum Curvature Method
Report Date/Time: 2/17/2011 / 11:43

Vaughn Energy Services
Rifle, Colorado 970-456-2071
Surveyor: Garry Fowler
North Seeking Rate Gyro
PCU 296-6A9 API# 05-103-11483

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	0.39	255.35	200.00	-0.17	-0.66	-0.17	0.68	255.35	0.20
400.00	1.83	29.38	399.97	2.44	0.25	2.44	2.45	5.83	1.06
600.00	8.07	37.67	599.12	16.35	10.41	16.35	19.38	32.48	3.13
800.00	11.71	34.97	796.12	44.11	30.63	44.11	53.71	34.78	1.83
1000.00	15.58	29.29	990.45	84.18	55.41	84.18	100.78	33.36	2.04
1200.00	16.81	29.68	1182.51	132.73	82.87	132.73	156.48	31.98	0.62
1400.00	16.70	29.78	1374.02	182.79	111.47	182.79	214.10	31.37	0.06
1600.00	16.34	30.44	1565.76	231.99	139.99	231.99	270.96	31.11	0.20
1800.00	17.42	31.08	1757.14	281.89	169.70	281.89	329.03	31.05	0.55
2000.00	17.76	31.79	1947.79	333.47	201.23	333.47	389.48	31.11	0.20
2200.00	17.73	31.81	2138.27	385.28	233.35	385.28	450.43	31.20	0.01
2400.00	17.35	31.90	2328.97	436.48	265.16	436.48	510.71	31.28	0.19
2600.00	16.61	31.86	2520.25	486.08	296.01	486.08	569.11	31.34	0.37
2800.00	16.40	32.80	2712.01	534.08	326.38	534.08	625.92	31.43	0.17
3000.00	17.51	30.70	2903.32	583.68	357.04	583.68	684.22	31.45	0.63
3200.00	19.18	29.68	3093.15	638.10	388.67	638.10	747.15	31.35	0.85
3400.00	18.90	30.01	3282.20	694.70	421.14	694.70	812.39	31.22	0.15
3600.00	18.94	32.28	3471.40	750.20	454.67	750.20	877.22	31.22	0.37
3800.00	19.21	31.03	3660.42	805.83	488.97	805.83	942.57	31.25	0.25
4000.00	18.44	31.51	3849.72	860.99	522.46	860.99	1007.11	31.25	0.39

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4200.00	18.82	31.67	4039.24	915.41	555.94	915.41	1071.00	31.27	0.19
4400.00	19.07	30.69	4228.41	970.97	589.55	970.97	1135.94	31.27	0.20
4600.00	19.08	30.78	4417.42	1027.15	622.95	1027.15	1201.29	31.24	0.02
4800.00	19.17	30.08	4606.39	1083.65	656.13	1083.65	1266.81	31.19	0.12
5000.00	18.53	31.24	4795.66	1139.23	689.07	1139.23	1331.42	31.17	0.37
5200.00	12.82	33.20	4988.14	1185.01	717.73	1185.01	1385.42	31.20	2.87
5400.00	9.66	34.38	5184.28	1217.43	739.36	1217.43	1424.36	31.27	1.58
5600.00	6.51	37.22	5382.27	1240.31	755.69	1240.31	1452.39	31.35	1.59
5800.00	3.14	46.59	5581.54	1253.11	766.53	1253.11	1468.96	31.45	1.72
6000.00	0.10	235.83	5781.44	1256.78	770.37	1256.78	1474.09	31.51	1.62
6200.00	0.15	232.62	5981.44	1256.52	770.01	1256.52	1473.69	31.50	0.03
6400.00	0.35	228.51	6181.44	1255.95	769.35	1255.95	1472.86	31.49	0.10
6600.00	0.52	227.10	6381.43	1254.93	768.22	1254.93	1471.40	31.47	0.09
6800.00	0.66	222.78	6581.42	1253.47	766.78	1253.47	1469.40	31.46	0.07
7000.00	0.84	212.01	6781.41	1251.39	765.23	1251.39	1466.82	31.45	0.12
7200.00	2.19	146.85	6981.34	1246.95	766.54	1246.95	1463.72	31.58	0.99
7400.00	2.36	149.51	7181.18	1240.21	770.71	1240.21	1460.18	31.86	0.10
7600.00	3.00	149.78	7380.96	1232.14	775.43	1232.14	1455.84	32.18	0.32
7800.00	3.01	152.24	7580.69	1222.97	780.52	1222.97	1450.81	32.55	0.06
8000.00	3.02	171.60	7780.42	1213.11	783.73	1213.11	1444.25	32.86	0.51
8200.00	2.68	172.60	7980.17	1203.25	785.11	1203.25	1436.74	33.12	0.17
8400.00	2.55	174.93	8179.96	1194.19	786.10	1194.19	1429.70	33.36	0.08
8600.00	2.45	177.87	8379.77	1185.47	786.65	1185.47	1422.73	33.57	0.08
8800.00	2.38	179.89	8579.59	1177.05	786.82	1177.05	1415.81	33.76	0.06
9000.00	2.29	177.17	8779.43	1168.91	787.02	1168.91	1409.17	33.95	0.07
9200.00	2.32	178.94	8979.27	1160.88	787.30	1160.88	1402.67	34.14	0.04
9400.00	2.68	177.67	9179.08	1152.17	787.56	1152.17	1395.62	34.35	0.18
9600.00	2.79	176.68	9378.85	1142.64	788.03	1142.64	1388.03	34.59	0.06
9800.00	2.91	178.04	9578.60	1132.72	788.49	1132.72	1380.13	34.84	0.07
10000.00	3.35	178.19	9778.30	1121.80	788.85	1121.80	1371.39	35.11	0.22
10200.00	3.94	185.33	9977.90	1109.12	788.39	1109.12	1360.78	35.41	0.37
10400.00	4.82	186.41	10177.31	1093.94	786.82	1093.94	1347.51	35.73	0.44
10600.00	4.72	190.93	10376.62	1077.51	784.32	1077.51	1332.73	36.05	0.19
10800.00	4.55	200.36	10575.97	1062.00	780.00	1062.00	1317.67	36.30	0.39
11000.00	4.03	212.69	10775.41	1048.65	773.44	1048.65	1303.03	36.41	0.53
11200.00	4.10	212.97	10974.91	1036.73	765.75	1036.73	1288.87	36.45	0.04
11400.00	4.61	213.59	11174.33	1024.02	757.41	1024.02	1273.69	36.49	0.26
11600.00	4.91	222.58	11373.64	1011.02	747.17	1011.02	1257.15	36.47	0.40
11800.00	4.92	225.46	11572.91	998.70	735.26	998.70	1240.17	36.36	0.12
12000.00	4.92	226.89	11772.17	986.83	722.89	986.83	1223.28	36.22	0.06
12200.00	5.56	228.61	11971.33	974.56	709.36	974.56	1205.39	36.05	0.33
12400.00	6.66	227.86	12170.19	960.37	693.49	960.37	1184.58	35.83	0.55

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12600.00	6.41	226.67	12368.90	944.93	676.77	944.93	1162.29	35.61	0.14
12800.00	6.23	223.60	12567.68	929.42	661.17	929.42	1140.60	35.43	0.19
13000.00	5.73	222.47	12766.59	914.20	646.95	914.20	1119.96	35.29	0.26
13200.00	5.29	223.33	12965.67	900.13	633.88	900.13	1100.93	35.15	0.22
13400.00	5.13	228.52	13164.84	887.49	620.85	887.49	1083.10	34.97	0.25
13600.00	4.30	227.17	13364.16	876.47	608.65	876.47	1067.07	34.78	0.42
13800.00	4.14	227.14	13563.62	866.46	597.85	866.46	1052.70	34.61	0.08
13814.00	4.06	226.85	13577.59	865.78	597.12	865.78	1051.72	34.59	0.58