



Company: EXXON
Lease/Well: PCU/297-11c5

Rig Name: PRODUCTION
State/County: COLORADO/RIO BLANCO

Latitude: 39.88
GRID North is 1.78 Degrees West of True North
VS-Azi: 0.00 Degrees



Depth Reference : KB = 0

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: PCU297-11c5.ut
Minimum Curvature Method
Report Date/Time: 7/1/2010 / 13:42

Vaughn Energy Services
Rifle, Colorado
970-456-2071
Surveyor: Lamar Guy
PCU 297-11c5

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	0.63	70.50	200.00	0.37	1.04	0.37	1.10	70.50	0.31
400.00	0.92	160.12	399.98	-0.77	2.62	-0.77	2.73	106.47	0.56
600.00	4.87	149.05	599.69	-9.57	7.53	-9.57	12.18	141.79	1.99
800.00	8.72	142.31	798.25	-28.85	21.17	-28.85	35.79	143.73	1.96
1000.00	10.09	139.43	995.56	-54.16	41.83	-54.16	68.44	142.32	0.72
1200.00	10.18	140.65	1192.44	-81.14	64.44	-81.14	103.61	141.55	0.12
1400.00	10.82	140.01	1389.08	-109.20	87.71	-109.20	140.06	141.23	0.33
1600.00	11.14	144.48	1585.43	-139.31	111.00	-139.31	178.12	141.45	0.45
1800.00	11.07	144.96	1781.68	-170.75	133.25	-170.75	216.59	142.03	0.05
2000.00	11.56	144.94	1977.79	-202.88	155.79	-202.88	255.80	142.48	0.24
2200.00	11.14	144.95	2173.88	-235.11	178.41	-235.11	295.14	142.81	0.21
2400.00	10.58	140.41	2370.30	-265.08	201.21	-265.08	332.79	142.80	0.51
2600.00	10.44	143.47	2566.95	-293.78	223.69	-293.78	369.25	142.71	0.29
2800.00	10.80	145.26	2763.52	-323.74	245.15	-323.74	406.09	142.87	0.25
3000.00	10.35	144.66	2960.12	-353.80	266.23	-353.80	442.78	143.04	0.23
3200.00	8.08	143.61	3157.53	-379.78	284.96	-379.78	474.80	143.12	1.14
3400.00	3.45	147.30	3356.46	-396.17	296.56	-396.17	494.88	143.18	2.32
3600.00	0.75	146.44	3556.31	-402.34	300.55	-402.34	502.20	143.24	1.35

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	0.45	101.66	3756.30	-403.60	302.04	-403.60	504.10	143.19	0.27
4000.00	0.94	105.98	3956.28	-404.20	304.36	-404.20	505.98	143.02	0.25
4200.00	0.87	132.86	4156.26	-405.69	307.05	-405.69	508.79	142.88	0.21
4400.00	0.93	138.51	4356.23	-407.95	309.25	-407.95	511.91	142.84	0.05
4600.00	0.69	127.74	4556.21	-409.90	311.27	-409.90	514.69	142.79	0.14
4800.00	1.09	120.72	4756.19	-411.61	313.86	-411.61	517.62	142.67	0.21
5000.00	0.78	118.86	4956.16	-413.23	316.68	-413.23	520.62	142.54	0.16
5200.00	1.56	115.60	5156.12	-415.07	320.33	-415.07	524.30	142.34	0.39
5400.00	1.83	118.74	5356.03	-417.78	325.59	-417.78	529.67	142.07	0.14
5600.00	1.88	119.56	5555.93	-420.94	331.25	-420.94	535.64	141.80	0.02
5800.00	2.23	128.25	5755.80	-424.96	337.15	-424.96	542.46	141.57	0.23
6000.00	3.03	123.73	5955.59	-430.30	344.59	-430.30	551.27	141.31	0.41
6200.00	2.66	117.87	6155.34	-435.40	353.08	-435.40	560.57	140.96	0.23
6400.00	3.42	116.59	6355.06	-440.23	362.51	-440.23	570.28	140.53	0.38
6600.00	3.34	117.54	6554.71	-445.59	373.00	-445.59	581.10	140.07	0.05
6800.00	3.14	115.84	6754.39	-450.67	383.08	-450.67	591.48	139.63	0.11
7000.00	3.14	119.94	6954.09	-455.78	392.75	-455.78	601.66	139.25	0.11
7200.00	2.86	108.38	7153.82	-460.08	402.23	-460.08	611.12	138.84	0.33
7400.00	2.89	114.63	7353.57	-463.76	411.54	-463.76	620.03	138.41	0.16
7600.00	3.19	117.86	7553.29	-468.46	421.05	-468.46	629.87	138.05	0.17
7800.00	2.89	119.98	7753.01	-473.58	430.34	-473.58	639.90	137.74	0.16
8000.00	3.41	126.37	7952.70	-479.64	439.50	-479.64	650.55	137.50	0.31
8200.00	2.75	129.80	8152.41	-486.24	447.98	-486.24	661.14	137.34	0.35
8400.00	2.89	131.52	8352.17	-492.65	455.44	-492.65	670.92	137.25	0.08
8600.00	2.99	134.72	8551.91	-499.66	462.93	-499.66	681.15	137.19	0.10
8800.00	2.61	138.96	8751.67	-506.77	469.62	-506.77	690.91	137.18	0.22
9000.00	2.68	149.22	8951.46	-514.22	475.00	-514.22	700.03	137.27	0.24
9200.00	2.68	157.02	9151.24	-522.54	479.22	-522.54	709.01	137.48	0.18
9400.00	2.91	159.24	9351.00	-531.59	482.84	-531.59	718.14	137.75	0.13
9600.00	2.68	148.47	9550.77	-540.32	487.09	-540.32	727.46	137.97	0.29
9800.00	2.12	134.01	9750.59	-546.88	492.20	-546.88	735.76	138.01	0.41
10000.00	2.20	125.82	9950.45	-551.71	497.98	-551.71	743.21	137.93	0.16
10200.00	2.33	125.28	10150.29	-556.30	504.42	-556.30	750.94	137.80	0.07
10400.00	1.72	136.92	10350.17	-560.85	509.79	-560.85	757.92	137.73	0.37
10600.00	1.16	142.00	10550.10	-564.64	513.10	-564.64	762.95	137.74	0.29
10800.00	1.54	159.86	10750.05	-568.76	515.27	-568.76	767.46	137.82	0.28
11000.00	1.08	158.62	10950.00	-573.03	516.88	-573.03	771.71	137.95	0.23
11200.00	2.47	203.11	11149.90	-578.76	515.87	-578.76	775.30	138.29	0.93
11400.00	2.47	202.26	11349.72	-586.73	512.54	-586.73	779.07	138.86	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
11600.00	1.58	191.22	11549.59	-593.44	510.37	-593.44	782.72	139.30	0.48
11800.00	1.46	189.83	11749.52	-598.65	509.40	-598.65	786.05	139.61	0.07
12000.00	1.25	183.83	11949.46	-603.32	508.82	-603.32	789.24	139.86	0.13
12200.00	1.00	177.07	12149.42	-607.23	508.76	-607.23	792.19	140.04	0.14
12391.00	1.45	174.57	12340.38	-611.29	509.08	-611.29	795.51	140.21	0.23