



Job Number: SVGJ-110582
 Company: Exxon Mobil
 Lease/Well: PCU 296-5A1
 Location: Rio Blanco County, CO
 Rig Name: N/A
 RKB: 0'
 G.L. or M.S.L.: GL

State/Country: Colorado/USA
 Declination: 12.36°
 Grid: Grid North (Grid Conv. -1.74)
 File name: F:\SURVEY\2011SU-1\EXXONM-1\PCU296-5A1.SVY
 Date/Time: 25-Jul-11 / 17:32
 Curve Name: Surface - 14000' M.D. (Rate Gyro)

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 356.12
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth			Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
				N-S FT	E-W FT		Distance FT	Direction Deg	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
200.00	.45	323.60	200.00	.63	-.47	.66	.79	323.60	.23
400.00	2.45	350.56	399.92	5.48	-1.63	5.58	5.72	343.41	1.03
600.00	6.26	353.43	599.31	20.54	-3.58	20.73	20.85	350.10	1.91
800.00	10.17	357.50	797.22	49.02	-5.60	49.29	49.34	353.48	1.98
1000.00	12.01	355.94	993.48	87.42	-7.85	87.75	87.77	354.87	.93
1200.00	12.59	354.53	1188.89	129.87	-11.40	130.35	130.37	354.99	.33
1400.00	13.06	352.91	1383.90	174.00	-16.26	174.70	174.76	354.66	.30
1600.00	13.43	351.60	1578.58	219.40	-22.45	220.41	220.54	354.16	.24
1800.00	12.83	354.95	1773.35	264.50	-27.79	265.77	265.95	354.00	.48

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
2000.00	11.79	354.37	1968.75	306.95	-31.75	308.40	308.59	354.09	.52
2200.00	11.79	352.88	2164.53	347.56	-36.29	349.22	349.45	354.04	.15
2400.00	11.67	356.12	2360.36	388.02	-40.19	389.85	390.09	354.09	.33
2600.00	11.56	357.03	2556.26	428.21	-42.60	430.11	430.32	354.32	.11
2800.00	10.89	355.19	2752.44	467.05	-45.22	469.04	469.23	354.47	.38
3000.00	10.99	358.06	2948.80	504.93	-47.45	506.98	507.15	354.63	.28
3200.00	12.11	358.04	3144.75	544.95	-48.81	547.00	547.13	354.88	.56
3400.00	12.86	356.94	3340.02	588.14	-50.72	590.22	590.32	355.07	.39
3600.00	12.85	357.61	3535.01	632.59	-52.83	634.71	634.79	355.23	.07
3800.00	12.66	359.69	3730.07	676.72	-53.88	678.82	678.87	355.45	.25
4000.00	12.30	1.68	3925.35	719.93	-53.37	721.90	721.91	355.76	.28
4200.00	12.65	1.54	4120.62	763.12	-52.16	764.90	764.90	356.09	.18
4400.00	12.94	.50	4315.66	807.40	-51.38	809.03	809.04	356.36	.19
4600.00	13.29	.82	4510.44	852.78	-50.85	854.27	854.30	356.59	.18
4800.00	11.63	.18	4705.72	895.93	-50.46	897.29	897.35	356.78	.83
5000.00	7.98	355.52	4902.77	929.94	-51.48	931.29	931.36	356.83	1.87
5200.00	5.40	359.28	5101.39	953.20	-52.68	954.58	954.65	356.84	1.31
5400.00	2.87	7.33	5300.86	967.57	-52.16	968.89	968.98	356.91	1.29
5600.00	.46	317.72	5500.76	973.13	-52.06	974.43	974.53	356.94	1.30
5800.00	.41	174.70	5700.76	973.02	-52.54	974.34	974.43	356.91	.41
6000.00	.36	273.33	5900.76	972.34	-53.10	973.70	973.79	356.87	.29
6200.00	.73	191.83	6100.75	971.13	-53.99	972.56	972.63	356.82	.38
6400.00	1.02	183.46	6300.73	968.11	-54.36	969.57	969.63	356.79	.16
6600.00	.87	214.44	6500.70	965.08	-55.32	966.61	966.66	356.72	.26
6800.00	1.20	188.85	6700.67	961.76	-56.50	963.37	963.41	356.64	.28
7000.00	1.50	187.74	6900.62	957.09	-57.18	958.77	958.80	356.58	.15
7200.00	1.85	184.06	7100.53	951.28	-57.76	953.01	953.03	356.53	.18
7400.00	1.95	177.09	7300.42	944.66	-57.82	946.41	946.43	356.50	.13
7600.00	2.08	176.35	7500.30	937.64	-57.41	939.37	939.39	356.50	.07

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
7800.00	2.00	182.80	7700.17	930.53	-57.35	932.28	932.30	356.47	.12
8000.00	1.93	191.16	7900.05	923.74	-58.17	925.56	925.57	356.40	.15
8200.00	2.16	191.67	8099.93	916.75	-59.59	918.68	918.68	356.28	.12
8400.00	2.40	191.12	8299.77	908.95	-61.16	911.00	911.00	356.15	.12
8600.00	2.03	211.43	8499.62	901.81	-63.81	904.07	904.07	355.95	.43
8800.00	2.08	204.67	8699.49	895.49	-67.18	897.99	898.01	355.71	.12
9000.00	2.88	207.67	8899.30	887.75	-71.02	890.52	890.58	355.43	.41
9200.00	3.21	207.78	9099.02	878.34	-75.97	881.47	881.62	355.06	.17
9400.00	2.81	208.00	9298.74	869.06	-80.88	872.54	872.81	354.68	.20
9600.00	2.38	207.96	9498.54	861.06	-85.13	864.85	865.26	354.35	.22
9800.00	2.00	203.02	9698.39	854.18	-88.44	858.21	858.75	354.09	.21
10000.00	2.12	193.70	9898.26	847.38	-90.68	851.57	852.21	353.89	.18
10200.00	2.65	194.11	10098.09	839.30	-92.68	843.65	844.40	353.70	.27
10400.00	2.96	199.58	10297.85	829.95	-95.54	834.51	835.43	353.43	.20
10600.00	3.32	195.08	10497.55	819.49	-98.78	824.30	825.42	353.13	.22
10800.00	2.97	198.54	10697.25	808.99	-101.93	814.03	815.38	352.82	.20
11000.00	3.60	197.24	10896.92	798.08	-105.44	803.38	805.01	352.47	.32
11200.00	4.21	204.33	11096.45	785.39	-110.33	791.06	793.10	352.00	.39
11400.00	4.62	210.99	11295.86	771.80	-117.50	777.98	780.69	351.34	.33
11600.00	4.70	213.44	11495.20	758.05	-126.16	764.85	768.48	350.55	.11
11800.00	5.29	213.27	11694.44	743.51	-135.73	750.99	755.80	349.65	.30
12000.00	5.83	208.37	11893.50	726.86	-145.62	735.05	741.30	348.67	.36
12200.00	6.15	217.76	12092.41	709.45	-157.00	718.45	726.62	347.52	.51
12400.00	5.91	227.79	12291.31	694.07	-171.19	704.06	714.87	346.14	.54
12600.00	6.95	233.80	12490.05	680.00	-188.58	691.20	705.67	344.50	.62
12800.00	7.42	235.92	12688.48	665.62	-209.04	678.24	697.67	342.56	.27
13000.00	7.34	226.68	12886.83	649.62	-229.04	663.63	688.81	340.58	.59
13200.00	7.00	224.21	13085.27	632.12	-246.83	647.37	678.60	338.67	.23
13400.00	6.76	226.89	13283.83	615.34	-263.92	631.78	669.55	336.79	.20

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
13600.00	6.96	229.89	13482.40	599.48	-281.78	617.18	662.41	334.82	.21
13800.00	6.80	230.41	13680.96	584.13	-300.17	603.10	656.74	332.80	.09
Last Survey Depth Recorded									
14000.00	6.51	228.65	13879.61	569.10	-317.81	589.30	651.82	330.82	.18