



Job Number: SVGJ-110578  
 Company: Exxon Mobil  
 Lease/Well: PCU 296-5A7  
 Location: Rio Blanco County, CO  
 Rig Name: N/A  
 RKB: 0'  
 G.L. or M.S.L.: GL

State/Country: Colorado/USA  
 Declination: 12.29°  
 Grid: Grid North (Grid Conv. -1.74)  
 File name: F:\SURVEY\2011SU~1\EXXONM~1\PCU296-5A7.SVY  
 Date/Time: 04-Aug-11 / 12:10  
 Curve Name: Surface - 13530' M.D. (Rate Gyro)

WINSERVE SURVEY CALCULATIONS  
 Minimum Curvature Method  
 Vertical Section Plane 302.80  
 Vertical Section Referenced to Wellhead  
 Rectangular Coordinates Referenced to Wellhead

| Measured<br>Depth<br>FT | Incl<br>Angle<br>Deg | Drift<br>Direction<br>Deg | True<br>Vertical<br>Depth | N-S<br>FT | E-W<br>FT | Vertical<br>Section<br>FT | C L O S U R E  |                  | Dogleg<br>Severity<br>Deg/100 |
|-------------------------|----------------------|---------------------------|---------------------------|-----------|-----------|---------------------------|----------------|------------------|-------------------------------|
|                         |                      |                           |                           |           |           |                           | Distance<br>FT | Direction<br>Deg |                               |
| .00                     | .00                  | .00                       | .00                       | .00       | .00       | .00                       | .00            | .00              | .00                           |
| 200.00                  | 2.39                 | 301.41                    | 199.94                    | 2.17      | -3.56     | 4.17                      | 4.17           | 301.41           | 1.19                          |
| 400.00                  | 6.16                 | 303.40                    | 399.35                    | 10.26     | -16.08    | 19.07                     | 19.07          | 302.53           | 1.89                          |
| 600.00                  | 9.71                 | 303.93                    | 597.40                    | 25.58     | -39.04    | 46.68                     | 46.68          | 303.24           | 1.78                          |
| 800.00                  | 12.56                | 303.95                    | 793.62                    | 47.15     | -71.08    | 85.29                     | 85.30          | 303.56           | 1.43                          |
| 1000.00                 | 12.34                | 304.31                    | 988.91                    | 71.34     | -106.77   | 128.39                    | 128.41         | 303.75           | .12                           |
| 1200.00                 | 11.89                | 302.63                    | 1184.46                   | 94.49     | -141.78   | 170.36                    | 170.38         | 303.68           | .29                           |
| 1400.00                 | 11.07                | 302.51                    | 1380.46                   | 115.92    | -175.32   | 210.17                    | 210.18         | 303.47           | .41                           |
| 1600.00                 | 11.07                | 299.48                    | 1576.74                   | 135.69    | -208.23   | 248.54                    | 248.54         | 303.09           | .29                           |
| 1800.00                 | 11.35                | 302.91                    | 1772.92                   | 155.83    | -241.47   | 287.38                    | 287.38         | 302.84           | .36                           |

| Measured<br>Depth<br>FT | Incl<br>Angle<br>Deg | Drift<br>Direction<br>Deg | True<br>Vertical<br>Depth | N-S<br>FT | E-W<br>FT | Vertical<br>Section<br>FT | C L O S U R E  |                  | Dogleg<br>Severity<br>Deg/100 |
|-------------------------|----------------------|---------------------------|---------------------------|-----------|-----------|---------------------------|----------------|------------------|-------------------------------|
|                         |                      |                           |                           |           |           |                           | Distance<br>FT | Direction<br>Deg |                               |
| 2000.00                 | 11.58                | 302.84                    | 1968.93                   | 177.41    | -274.85   | 327.14                    | 327.14         | 302.84           | .12                           |
| 2200.00                 | 10.50                | 302.43                    | 2165.23                   | 198.07    | -307.10   | 365.44                    | 365.44         | 302.82           | .54                           |
| 2400.00                 | 10.85                | 301.92                    | 2361.77                   | 217.80    | -338.46   | 402.48                    | 402.48         | 302.76           | .18                           |
| 2600.00                 | 10.66                | 301.85                    | 2558.25                   | 237.51    | -370.15   | 439.80                    | 439.80         | 302.69           | .10                           |
| 2800.00                 | 10.59                | 301.76                    | 2754.83                   | 256.95    | -401.49   | 476.67                    | 476.67         | 302.62           | .04                           |
| 3000.00                 | 11.06                | 303.07                    | 2951.27                   | 277.09    | -433.19   | 514.23                    | 514.23         | 302.60           | .27                           |
| 3200.00                 | 11.68                | 302.54                    | 3147.34                   | 298.44    | -466.34   | 553.66                    | 553.66         | 302.62           | .31                           |
| 3400.00                 | 12.63                | 302.65                    | 3342.85                   | 321.13    | -501.81   | 595.77                    | 595.77         | 302.62           | .48                           |
| 3600.00                 | 12.30                | 302.90                    | 3538.14                   | 344.50    | -538.11   | 638.93                    | 638.94         | 302.63           | .17                           |
| 3800.00                 | 11.54                | 303.06                    | 3733.83                   | 366.98    | -572.76   | 680.24                    | 680.25         | 302.65           | .38                           |
| 4000.00                 | 11.61                | 303.03                    | 3929.76                   | 388.87    | -606.40   | 720.37                    | 720.37         | 302.67           | .04                           |
| 4200.00                 | 10.96                | 302.67                    | 4125.89                   | 410.10    | -639.28   | 759.51                    | 759.51         | 302.68           | .33                           |
| 4400.00                 | 11.08                | 302.23                    | 4322.20                   | 430.61    | -671.54   | 797.74                    | 797.74         | 302.67           | .07                           |
| 4600.00                 | 11.23                | 301.89                    | 4518.42                   | 451.15    | -704.33   | 836.43                    | 836.43         | 302.64           | .08                           |
| 4800.00                 | 11.54                | 299.75                    | 4714.49                   | 471.36    | -738.24   | 875.88                    | 875.89         | 302.56           | .26                           |
| 5000.00                 | 10.84                | 295.67                    | 4910.69                   | 489.44    | -772.56   | 914.52                    | 914.55         | 302.36           | .53                           |
| 5200.00                 | 8.73                 | 299.53                    | 5107.77                   | 505.07    | -802.72   | 948.34                    | 948.39         | 302.18           | 1.10                          |
| 5400.00                 | 5.90                 | 302.05                    | 5306.12                   | 518.01    | -824.64   | 973.77                    | 973.84         | 302.14           | 1.42                          |
| 5600.00                 | 4.15                 | 306.03                    | 5505.35                   | 527.72    | -839.21   | 991.28                    | 991.34         | 302.16           | .89                           |
| 5800.00                 | 1.25                 | 323.75                    | 5705.11                   | 533.74    | -846.35   | 1000.54                   | 1000.59        | 302.24           | 1.49                          |
| 6000.00                 | 1.19                 | 237.37                    | 5905.07                   | 534.38    | -849.39   | 1003.44                   | 1003.50        | 302.18           | .84                           |
| 6200.00                 | .87                  | 198.80                    | 6105.04                   | 531.82    | -851.63   | 1003.94                   | 1004.04        | 301.98           | .37                           |
| 6400.00                 | 2.00                 | 197.41                    | 6304.98                   | 527.05    | -853.16   | 1002.65                   | 1002.83        | 301.71           | .57                           |
| 6600.00                 | 2.36                 | 204.86                    | 6504.83                   | 519.98    | -855.94   | 1001.15                   | 1001.50        | 301.28           | .23                           |
| 6800.00                 | 1.37                 | 197.23                    | 6704.73                   | 513.96    | -858.38   | 999.94                    | 1000.48        | 300.91           | .51                           |
| 7000.00                 | 2.03                 | 198.21                    | 6904.64                   | 508.32    | -860.19   | 998.41                    | 999.16         | 300.58           | .33                           |
| 7200.00                 | 3.70                 | 201.07                    | 7104.38                   | 498.93    | -863.62   | 996.20                    | 997.38         | 300.02           | .84                           |
| 7400.00                 | 3.96                 | 196.85                    | 7303.93                   | 486.30    | -867.94   | 992.99                    | 994.89         | 299.26           | .19                           |
| 7600.00                 | 2.57                 | 201.48                    | 7503.60                   | 475.51    | -871.58   | 990.21                    | 992.86         | 298.62           | .71                           |

| Measured<br>Depth<br>FT | Incl<br>Angle<br>Deg | Drift<br>Direction<br>Deg | True<br>Vertical<br>Depth | N-S<br>FT | E-W<br>FT | Vertical<br>Section<br>FT | C L O S U R E  |                  | Dogleg<br>Severity<br>Deg/100 |
|-------------------------|----------------------|---------------------------|---------------------------|-----------|-----------|---------------------------|----------------|------------------|-------------------------------|
|                         |                      |                           |                           |           |           |                           | Distance<br>FT | Direction<br>Deg |                               |
| 7800.00                 | 3.91                 | 196.29                    | 7703.28                   | 464.80    | -875.14   | 987.40                    | 990.91         | 297.97           | .69                           |
| 8000.00                 | 2.54                 | 199.23                    | 7902.96                   | 454.07    | -878.51   | 984.42                    | 988.92         | 297.33           | .69                           |
| 8200.00                 | 2.16                 | 195.71                    | 8102.79                   | 446.25    | -880.99   | 982.27                    | 987.57         | 296.86           | .20                           |
| 8400.00                 | 3.80                 | 199.72                    | 8302.51                   | 436.39    | -884.25   | 979.66                    | 986.07         | 296.27           | .83                           |
| 8600.00                 | 3.26                 | 178.67                    | 8502.14                   | 424.46    | -886.35   | 974.97                    | 982.75         | 295.59           | .70                           |
| 8800.00                 | 3.79                 | 147.63                    | 8701.78                   | 413.19    | -882.68   | 965.78                    | 974.61         | 295.08           | .98                           |
| 9000.00                 | 2.32                 | 150.16                    | 8901.49                   | 404.10    | -877.13   | 956.19                    | 965.74         | 294.74           | .74                           |
| 9200.00                 | 1.22                 | 161.94                    | 9101.39                   | 398.56    | -874.45   | 950.94                    | 961.00         | 294.50           | .58                           |
| 9400.00                 | 1.85                 | 150.41                    | 9301.32                   | 393.73    | -872.20   | 946.43                    | 956.95         | 294.30           | .35                           |
| 9600.00                 | 2.67                 | 156.77                    | 9501.16                   | 386.64    | -868.77   | 939.70                    | 950.92         | 293.99           | .43                           |
| 9800.00                 | 1.47                 | 162.94                    | 9701.03                   | 379.91    | -866.18   | 933.88                    | 945.83         | 293.68           | .61                           |
| 10000.00                | 2.63                 | 199.10                    | 9900.91                   | 373.12    | -866.93   | 930.83                    | 943.81         | 293.29           | .84                           |
| 10200.00                | 3.97                 | 196.45                    | 10100.57                  | 362.14    | -870.39   | 927.80                    | 942.72         | 292.59           | .67                           |
| 10400.00                | 3.48                 | 202.87                    | 10300.15                  | 349.91    | -874.71   | 924.80                    | 942.10         | 291.80           | .32                           |
| 10600.00                | 4.57                 | 204.60                    | 10499.65                  | 337.07    | -880.38   | 922.62                    | 942.71         | 290.95           | .55                           |
| 10800.00                | 4.80                 | 207.40                    | 10698.98                  | 322.40    | -887.55   | 920.69                    | 944.29         | 289.96           | .16                           |
| 11000.00                | 4.10                 | 204.54                    | 10898.38                  | 308.47    | -894.37   | 918.88                    | 946.07         | 289.03           | .37                           |
| 11200.00                | 3.65                 | 215.53                    | 11097.92                  | 296.78    | -901.04   | 918.15                    | 948.66         | 288.23           | .43                           |
| 11400.00                | 5.04                 | 220.13                    | 11297.35                  | 284.88    | -910.40   | 919.58                    | 953.94         | 287.38           | .72                           |
| 11600.00                | 5.00                 | 229.03                    | 11496.58                  | 272.45    | -922.65   | 923.14                    | 962.03         | 286.45           | .39                           |
| 11800.00                | 6.63                 | 228.09                    | 11695.55                  | 259.02    | -937.82   | 928.62                    | 972.94         | 285.44           | .82                           |
| 12000.00                | 7.31                 | 237.06                    | 11894.07                  | 244.39    | -957.09   | 936.89                    | 987.80         | 284.32           | .64                           |
| 12200.00                | 6.13                 | 237.62                    | 12092.69                  | 231.75    | -976.79   | 946.60                    | 1003.91        | 283.35           | .59                           |
| 12400.00                | 6.35                 | 240.47                    | 12291.51                  | 220.58    | -995.43   | 956.22                    | 1019.58        | 282.49           | .19                           |
| 12600.00                | 7.84                 | 243.73                    | 12489.97                  | 209.09    | -1017.29  | 968.37                    | 1038.55        | 281.61           | .77                           |
| 12800.00                | 6.50                 | 240.02                    | 12688.41                  | 197.40    | -1039.33  | 980.56                    | 1057.91        | 280.75           | .71                           |
| 13000.00                | 7.93                 | 240.31                    | 12886.82                  | 184.91    | -1061.12  | 992.11                    | 1077.11        | 279.89           | .72                           |
| 13200.00                | 7.03                 | 238.24                    | 13085.11                  | 171.63    | -1083.51  | 1003.74                   | 1097.02        | 279.00           | .47                           |
| 13400.00                | 6.11                 | 235.83                    | 13283.80                  | 159.21    | -1102.72  | 1013.16                   | 1114.16        | 278.22           | .48                           |

| Measured<br>Depth<br>FT    | Incl<br>Angle<br>Deg | Drift<br>Direction<br>Deg | True<br>Vertical<br>Depth | N-S<br>FT | E-W<br>FT | Vertical<br>Section<br>FT | C L O S U R E  |                  | Dogleg<br>Severity<br>Deg/100 |
|----------------------------|----------------------|---------------------------|---------------------------|-----------|-----------|---------------------------|----------------|------------------|-------------------------------|
|                            |                      |                           |                           |           |           |                           | Distance<br>FT | Direction<br>Deg |                               |
| Last Survey Depth Recorded |                      |                           |                           |           |           |                           |                |                  |                               |
| 13530.00                   | 5.75                 | 234.14                    | 13413.10                  | 151.51    | -1113.73  | 1018.24                   | 1123.98        | 277.75           | .31                           |