



Job Number: SVMO-141749  
 Company: Mewbourne Oil & Gas  
 Lease/Well: Perro Loco 22 B30B Fed 1H  
 Location: Lea County, NM  
 Rig Name: Patterson #75  
 RKB: 22'  
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA  
 Declination: 6.65°  
 Grid: East To Grid North  
 File name: S:\2014SU~1\MEWBOU~1\MO\PERROL~1\22B30B1H.SVY  
 Date/Time: 31-Dec-14 / 12:48  
 Curve Name: Surface - 10563' M.D. (Rate Gyro)

30-025-42288

HOBBS OGD

MAR 24 2015

RECEIVED

# MS Survey

WINSERVE SURVEY CALCULATIONS  
 Minimum Curvature Method  
 Vertical Section Plane 359.66  
 Vertical Section Referenced to Wellhead  
 Rectangular Coordinates Referenced to Wellhead

We hereby certify that our survey data from  
 Surface MD to 10563' MD is, to the best of  
 our knowledge a true and accurate account of  
 the well bore.  
Harley Patterson 12/30/14  
 MS Energy Services Date

| 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 | CLOSURE<br>Distance<br>FT | Direction<br>Deg | Dogleg<br>Severity<br>Deg/100 |
|-------------------------|----------------------|---------------------------|---------------------------|-----------|-----------|---------------------------|---------------------------|------------------|-------------------------------|
| .00                     | .00                  | .00                       | .00                       | .00       | .00       | .00                       | .00                       | .00              | .00                           |
| 100.00                  | .30                  | 122.19                    | 100.00                    | -.14      | .22       | -.14                      | .26                       | 122.19           | .30                           |
| 200.00                  | .45                  | 191.51                    | 200.00                    | -.66      | .36       | -.67                      | .76                       | 151.21           | .44                           |
| 300.00                  | .44                  | 177.96                    | 299.99                    | -1.43     | .30       | -1.43                     | 1.46                      | 168.17           | .11                           |
| 400.00                  | .37                  | 184.91                    | 399.99                    | -2.14     | .29       | -2.14                     | 2.16                      | 172.38           | .09                           |
| 500.00                  | .40                  | 212.07                    | 499.99                    | -2.76     | .07       | -2.76                     | 2.76                      | 178.48           | .18                           |
| 600.00                  | .48                  | 224.17                    | 599.99                    | -3.35     | -.40      | -3.35                     | 3.38                      | 186.87           | .12                           |
| 700.00                  | .54                  | 248.77                    | 699.98                    | -3.82     | -1.14     | -3.82                     | 3.99                      | 196.54           | .23                           |
| 800.00                  | .52                  | 275.13                    | 799.98                    | -3.95     | -2.03     | -3.94                     | 4.44                      | 207.14           | .24                           |
| 900.00                  | .47                  | 290.77                    | 899.98                    | -3.77     | -2.86     | -3.75                     | 4.73                      | 217.23           | .14                           |
| 1000.00                 | 1.14                 | 319.55                    | 999.97                    | -2.86     | -3.89     | -2.84                     | 4.83                      | 233.64           | .76                           |
| 1100.00                 | 1.39                 | 310.75                    | 1099.94                   | -1.32     | -5.45     | -1.28                     | 5.61                      | 256.44           | .32                           |
| 1200.00                 | 1.48                 | 293.17                    | 1199.91                   | -.02      | -7.56     | .03                       | 7.56                      | 269.88           | .45                           |

MAR 31 2015

| 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 |                               |
| 1300.00                 | 1.59                 | 283.55                    | 1299.87                   | .82       | -10.10    | .88                       | 10.13          | 274.63           | .28                           |
| 1400.00                 | 2.12                 | 294.43                    | 1399.82                   | 1.91      | -13.13    | 1.99                      | 13.27          | 278.27           | .63                           |
| 1500.00                 | 1.81                 | 293.25                    | 1499.76                   | 3.30      | -16.26    | 3.39                      | 16.60          | 281.46           | .31                           |
| 1600.00                 | 1.69                 | 261.19                    | 1599.72                   | 3.69      | -19.17    | 3.81                      | 19.53          | 280.90           | .97                           |
| 1700.00                 | 1.77                 | 265.09                    | 1699.67                   | 3.34      | -22.17    | 3.47                      | 22.42          | 278.56           | .14                           |
| 1800.00                 | .99                  | 294.27                    | 1799.64                   | 3.56      | -24.50    | 3.70                      | 24.75          | 278.27           | 1.03                          |
| 1900.00                 | .88                  | 330.26                    | 1899.63                   | 4.58      | -25.66    | 4.73                      | 26.07          | 280.12           | .59                           |
| 2000.00                 | 1.14                 | 336.24                    | 1999.62                   | 6.16      | -26.45    | 6.31                      | 27.15          | 283.11           | .28                           |
| 2100.00                 | .69                  | 331.75                    | 2099.60                   | 7.60      | -27.13    | 7.76                      | 28.18          | 285.65           | .46                           |
| 2200.00                 | 1.38                 | 329.79                    | 2199.59                   | 9.17      | -28.02    | 9.34                      | 29.48          | 288.12           | .69                           |
| 2300.00                 | .98                  | 349.74                    | 2299.57                   | 11.05     | -28.78    | 11.22                     | 30.83          | 291.01           | .57                           |
| 2400.00                 | 1.10                 | 355.25                    | 2399.55                   | 12.85     | -29.01    | 13.02                     | 31.73          | 293.89           | .16                           |
| 2500.00                 | 1.21                 | 343.47                    | 2499.53                   | 14.82     | -29.39    | 14.99                     | 32.92          | 296.76           | .26                           |
| 2600.00                 | 1.46                 | 7.15                      | 2599.50                   | 17.09     | -29.53    | 17.27                     | 34.12          | 300.06           | .60                           |
| 2700.00                 | 1.64                 | 5.79                      | 2699.47                   | 19.78     | -29.23    | 19.96                     | 35.30          | 304.09           | .18                           |
| 2800.00                 | 1.78                 | 14.84                     | 2799.42                   | 22.71     | -28.69    | 22.88                     | 36.59          | 308.36           | .30                           |
| 2900.00                 | 2.36                 | 21.64                     | 2899.36                   | 26.12     | -27.53    | 26.29                     | 37.95          | 313.50           | .63                           |
| 3000.00                 | 2.86                 | 22.17                     | 2999.25                   | 30.35     | -25.83    | 30.50                     | 39.85          | 319.60           | .50                           |
| 3100.00                 | 3.68                 | 36.90                     | 3099.09                   | 35.22     | -22.96    | 35.36                     | 42.05          | 326.90           | 1.17                          |
| 3200.00                 | 4.26                 | 42.97                     | 3198.85                   | 40.51     | -18.50    | 40.62                     | 44.53          | 335.45           | .72                           |
| 3300.00                 | 4.56                 | 40.59                     | 3298.55                   | 46.24     | -13.39    | 46.32                     | 48.14          | 343.86           | .35                           |
| 3400.00                 | 5.25                 | 42.88                     | 3398.19                   | 52.62     | -7.69     | 52.66                     | 53.17          | 351.69           | .72                           |
| 3500.00                 | 5.26                 | 44.96                     | 3497.77                   | 59.21     | -1.33     | 59.22                     | 59.23          | 358.71           | .19                           |
| 3600.00                 | 5.00                 | 46.94                     | 3597.37                   | 65.43     | 5.09      | 65.40                     | 65.63          | 4.45             | .31                           |
| 3700.00                 | 4.83                 | 49.33                     | 3697.00                   | 71.15     | 11.47     | 71.08                     | 72.07          | 9.15             | .27                           |
| 3800.00                 | 4.73                 | 49.74                     | 3796.65                   | 76.56     | 17.81     | 76.45                     | 78.60          | 13.09            | .11                           |
| 3900.00                 | 3.65                 | 53.75                     | 3896.38                   | 81.10     | 23.52     | 80.96                     | 84.45          | 16.17            | 1.12                          |
| 4000.00                 | 3.79                 | 59.09                     | 3996.17                   | 84.68     | 28.92     | 84.51                     | 89.49          | 18.86            | .37                           |
| 4100.00                 | 3.70                 | 59.89                     | 4095.96                   | 88.00     | 34.55     | 87.79                     | 94.54          | 21.43            | .10                           |
| 4200.00                 | 4.92                 | 51.56                     | 4195.67                   | 92.29     | 40.70     | 92.04                     | 100.86         | 23.80            | 1.37                          |
| 4300.00                 | 5.32                 | 50.56                     | 4295.28                   | 97.90     | 47.64     | 97.61                     | 108.87         | 25.95            | .41                           |
| 4400.00                 | 5.24                 | 54.68                     | 4394.85                   | 103.48    | 54.94     | 103.15                    | 117.16         | 27.97            | .39                           |
| 4500.00                 | 4.18                 | 47.90                     | 4494.51                   | 108.57    | 61.37     | 108.20                    | 124.71         | 29.48            | 1.20                          |
| 4600.00                 | 4.70                 | 53.57                     | 4594.21                   | 113.44    | 67.37     | 113.04                    | 131.94         | 30.71            | .68                           |

| 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 | CLOSURE        |                  | Dogleg<br>Severity<br>Deg/100 |
|-------------------------|----------------------|---------------------------|---------------------------|-----------|-----------|---------------------------|----------------|------------------|-------------------------------|
|                         |                      |                           |                           |           |           |                           | Distance<br>FT | Direction<br>Deg |                               |
| 4700.00                 | 4.77                 | 61.34                     | 4693.87                   | 117.87    | 74.32     | 117.43                    | 139.34         | 32.23            | .64                           |
| 4800.00                 | 4.13                 | 66.52                     | 4793.57                   | 121.30    | 81.27     | 120.81                    | 146.01         | 33.82            | .76                           |
| 4900.00                 | 3.78                 | 69.94                     | 4893.33                   | 123.86    | 87.67     | 123.34                    | 151.75         | 35.29            | .42                           |
| 5000.00                 | 3.27                 | 66.91                     | 4993.14                   | 126.11    | 93.39     | 125.56                    | 156.93         | 36.52            | .54                           |
| 5100.00                 | 2.99                 | 72.84                     | 5092.99                   | 128.00    | 98.51     | 127.41                    | 161.52         | 37.58            | .43                           |
| 5200.00                 | 2.71                 | 86.30                     | 5192.87                   | 128.92    | 103.36    | 128.31                    | 165.24         | 38.72            | .72                           |
| 5300.00                 | 3.43                 | 95.13                     | 5292.73                   | 128.81    | 108.70    | 128.16                    | 168.54         | 40.16            | .86                           |
| 5400.00                 | 3.99                 | 103.29                    | 5392.52                   | 127.74    | 115.06    | 127.05                    | 171.92         | 42.01            | .77                           |
| 5500.00                 | 3.18                 | 102.92                    | 5492.32                   | 126.32    | 121.15    | 125.60                    | 175.03         | 43.80            | .81                           |
| 5600.00                 | 2.32                 | 93.63                     | 5592.21                   | 125.57    | 125.87    | 124.82                    | 177.80         | 45.07            | .97                           |
| 5700.00                 | 1.31                 | 91.19                     | 5692.16                   | 125.42    | 129.04    | 124.65                    | 179.95         | 45.81            | 1.01                          |
| 5800.00                 | 1.24                 | 87.58                     | 5792.13                   | 125.44    | 131.26    | 124.66                    | 181.56         | 46.30            | .11                           |
| 5900.00                 | .51                  | 25.51                     | 5892.12                   | 125.89    | 132.53    | 125.10                    | 182.79         | 46.47            | 1.10                          |
| 6000.00                 | .17                  | 39.61                     | 5992.12                   | 126.40    | 132.82    | 125.61                    | 183.36         | 46.42            | .35                           |
| 6100.00                 | .20                  | 345.72                    | 6092.12                   | 126.69    | 132.87    | 125.90                    | 183.59         | 46.36            | .17                           |
| 6200.00                 | .19                  | 258.78                    | 6192.12                   | 126.83    | 132.67    | 126.04                    | 183.53         | 46.29            | .27                           |
| 6300.00                 | .19                  | 179.24                    | 6292.12                   | 126.63    | 132.50    | 125.84                    | 183.28         | 46.30            | .24                           |
| 6400.00                 | .51                  | 203.42                    | 6392.12                   | 126.05    | 132.33    | 125.27                    | 182.76         | 46.39            | .35                           |
| 6500.00                 | .34                  | 164.13                    | 6492.11                   | 125.36    | 132.23    | 124.57                    | 182.21         | 46.53            | .33                           |
| 6600.00                 | .24                  | 170.81                    | 6592.11                   | 124.87    | 132.35    | 124.08                    | 181.96         | 46.67            | .11                           |
| 6700.00                 | .29                  | 61.02                     | 6692.11                   | 124.78    | 132.60    | 123.99                    | 182.08         | 46.74            | .43                           |
| 6800.00                 | .20                  | 58.07                     | 6792.11                   | 125.00    | 132.97    | 124.21                    | 182.50         | 46.77            | .09                           |
| 6900.00                 | .07                  | 269.76                    | 6892.11                   | 125.09    | 133.06    | 124.30                    | 182.63         | 46.77            | .26                           |
| 7000.00                 | .17                  | 299.08                    | 6992.11                   | 125.16    | 132.87    | 124.37                    | 182.54         | 46.71            | .11                           |
| 7100.00                 | .12                  | 247.92                    | 7092.11                   | 125.19    | 132.64    | 124.41                    | 182.39         | 46.65            | .13                           |
| 7200.00                 | .28                  | 55.50                     | 7192.11                   | 125.29    | 132.75    | 124.50                    | 182.54         | 46.65            | .40                           |
| 7300.00                 | .13                  | 163.74                    | 7292.11                   | 125.32    | 132.98    | 124.53                    | 182.73         | 46.70            | .34                           |
| 7400.00                 | .15                  | 356.56                    | 7392.11                   | 125.34    | 133.00    | 124.55                    | 182.76         | 46.70            | .28                           |
| 7500.00                 | .09                  | 336.75                    | 7492.11                   | 125.55    | 132.97    | 124.76                    | 182.87         | 46.64            | .07                           |
| 7600.00                 | .26                  | 177.02                    | 7592.11                   | 125.39    | 132.95    | 124.60                    | 182.75         | 46.67            | .35                           |
| 7700.00                 | .22                  | 207.00                    | 7692.11                   | 125.00    | 132.87    | 124.20                    | 182.42         | 46.75            | .13                           |
| 7800.00                 | .18                  | 236.22                    | 7792.11                   | 124.74    | 132.65    | 123.95                    | 182.09         | 46.76            | .11                           |
| 7900.00                 | .16                  | 232.06                    | 7892.11                   | 124.56    | 132.41    | 123.78                    | 181.79         | 46.75            | .02                           |
| 8000.00                 | .14                  | 158.80                    | 7992.11                   | 124.36    | 132.35    | 123.58                    | 181.61         | 46.78            | .18                           |

| 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 |                               |
| 8100.00                    | .13                  | 174.06                    | 8092.11                   | 124.14    | 132.40    | 123.35                    | 181.50         | 46.85            | .04                           |
| 8200.00                    | .26                  | 204.61                    | 8192.10                   | 123.82    | 132.32    | 123.03                    | 181.22         | 46.90            | .16                           |
| 8300.00                    | .30                  | 164.01                    | 8292.10                   | 123.36    | 132.30    | 122.57                    | 180.89         | 47.00            | .20                           |
| 8400.00                    | .07                  | 99.29                     | 8392.10                   | 123.10    | 132.43    | 122.31                    | 180.81         | 47.09            | .28                           |
| 8500.00                    | .03                  | 14.00                     | 8492.10                   | 123.11    | 132.50    | 122.33                    | 180.87         | 47.10            | .07                           |
|                            |                      |                           |                           |           |           |                           |                |                  |                               |
| 8600.00                    | .10                  | 178.76                    | 8592.10                   | 123.05    | 132.50    | 122.26                    | 180.83         | 47.12            | .13                           |
| 8700.00                    | .59                  | 208.28                    | 8692.10                   | 122.51    | 132.26    | 121.72                    | 180.28         | 47.19            | .51                           |
| 8800.00                    | .29                  | 193.89                    | 8792.10                   | 121.81    | 131.96    | 121.03                    | 179.59         | 47.29            | .32                           |
| 8900.00                    | .59                  | 227.14                    | 8892.10                   | 121.22    | 131.52    | 120.43                    | 178.86         | 47.33            | .38                           |
| 9000.00                    | .51                  | 225.50                    | 8992.09                   | 120.55    | 130.82    | 119.78                    | 177.90         | 47.34            | .08                           |
|                            |                      |                           |                           |           |           |                           |                |                  |                               |
| 9100.00                    | .45                  | 228.23                    | 9092.09                   | 119.98    | 130.21    | 119.21                    | 177.06         | 47.34            | .06                           |
| 9200.00                    | .73                  | 214.42                    | 9192.08                   | 119.19    | 129.56    | 118.42                    | 176.05         | 47.39            | .31                           |
| 9300.00                    | .43                  | 225.39                    | 9292.08                   | 118.41    | 128.93    | 117.64                    | 175.05         | 47.44            | .32                           |
| 9400.00                    | .47                  | 165.22                    | 9392.07                   | 117.75    | 128.77    | 116.98                    | 174.49         | 47.56            | .45                           |
| 9500.00                    | .34                  | 195.64                    | 9492.07                   | 117.06    | 128.80    | 116.30                    | 174.05         | 47.73            | .25                           |
|                            |                      |                           |                           |           |           |                           |                |                  |                               |
| 9600.00                    | 1.04                 | 176.65                    | 9592.06                   | 115.87    | 128.77    | 115.10                    | 173.23         | 48.02            | .73                           |
| 9700.00                    | .87                  | 177.04                    | 9692.05                   | 114.21    | 128.86    | 113.44                    | 172.19         | 48.45            | .17                           |
| 9800.00                    | .37                  | 69.43                     | 9792.05                   | 113.56    | 129.20    | 112.79                    | 172.02         | 48.69            | 1.04                          |
| 9900.00                    | .07                  | 4.84                      | 9892.05                   | 113.74    | 129.51    | 112.97                    | 172.36         | 48.71            | .35                           |
| 10000.00                   | .20                  | 88.70                     | 9992.04                   | 113.80    | 129.69    | 113.03                    | 172.54         | 48.73            | .20                           |
|                            |                      |                           |                           |           |           |                           |                |                  |                               |
| 10100.00                   | .20                  | 47.34                     | 10092.04                  | 113.92    | 129.99    | 113.15                    | 172.85         | 48.77            | .14                           |
| 10200.00                   | .01                  | 260.85                    | 10192.04                  | 114.04    | 130.11    | 113.27                    | 173.02         | 48.77            | .21                           |
| 10300.00                   | .24                  | 198.96                    | 10292.04                  | 113.84    | 130.04    | 113.07                    | 172.83         | 48.80            | .24                           |
| 10400.00                   | .50                  | 143.33                    | 10392.04                  | 113.29    | 130.23    | 112.52                    | 172.61         | 48.98            | .41                           |
| 10500.00                   | .50                  | 137.32                    | 10492.04                  | 112.62    | 130.79    | 111.84                    | 172.59         | 49.27            | .05                           |
|                            |                      |                           |                           |           |           |                           |                |                  |                               |
| Last Survey Depth Recorded |                      |                           |                           |           |           |                           |                |                  |                               |
| 10563.00                   | .46                  | 175.96                    | 10555.04                  | 112.17    | 130.99    | 111.39                    | 172.45         | 49.43            | .51                           |