



**A Gyrodata Directional Survey**

for

**MEWBOURNE OIL COMPANY**

Lease: FEDERAL #3H Well: BURTON 4, 4 1/2" DRILLPIPE  
Location: PATTERSON #45, EDDY COUNTY, NEW MEXICO

Job Number: MD0610GMS243

Run Date: 06 Jun 2010

Surveyor: Jason Solomon

Calculation Method: MINIMUM CURVATURE

Survey surface coordinates obtained from: Hand Held GPS  
Survey Latitude: 32.607778 deg. N Longitude: 104.071889 deg. W

Azimuth Correction:

Gyro: -0.14000 deg to Grid North

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

m2

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| MEASURED<br>DEPTH<br>feet                                                                                                                                 | INCL<br>deg. | AZIMUTH<br>deg. | DOGLE<br>SEVERITY<br>deg./<br>100 ft. | VERTICAL<br>DEPTH<br>feet | CLOSURE<br>DIST. AZIMUTH<br>feet deg. | HORIZONTAL<br>COORDINATES<br>feet |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------|---------------------------------------|---------------------------|---------------------------------------|-----------------------------------|
| 0.00                                                                                                                                                      | 0.00         | 0.00            | 0.00                                  | 0.00                      | 0.0 0.0                               | 0.00 N 0.00 E                     |
| 0 TO 7196 FT RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 4 1/2" DRILLPIPE<br>ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO PATTERSON #45 RKB OF 18 FT |              |                 |                                       |                           |                                       |                                   |
| 100.00                                                                                                                                                    | 0.64         | 357.55          | 0.64                                  | 100.00                    | 0.6 357.6                             | 0.56 N 0.02 W                     |
| 200.00                                                                                                                                                    | 0.80         | 355.94          | 0.16                                  | 199.99                    | 1.8 356.9                             | 1.81 N 0.10 W                     |
| 300.00                                                                                                                                                    | 1.19         | 357.30          | 0.39                                  | 299.97                    | 3.6 356.8                             | 3.55 N 0.20 W                     |
| 400.00                                                                                                                                                    | 1.42         | 358.86          | 0.23                                  | 399.95                    | 5.8 357.4                             | 5.82 N 0.27 W                     |
| 500.00                                                                                                                                                    | 1.78         | 5.69            | 0.41                                  | 499.91                    | 8.6 359.1                             | 8.61 N 0.14 W                     |
| 600.00                                                                                                                                                    | 2.25         | 6.35            | 0.47                                  | 599.85                    | 12.1 1.1                              | 12.10 N 0.23 E                    |
| 700.00                                                                                                                                                    | 2.73         | 11.10           | 0.52                                  | 699.75                    | 16.4 3.2                              | 16.39 N 0.91 E                    |
| 800.00                                                                                                                                                    | 2.95         | 16.67           | 0.35                                  | 799.63                    | 21.3 5.7                              | 21.19 N 2.10 E                    |
| 900.00                                                                                                                                                    | 3.04         | 24.76           | 0.43                                  | 899.49                    | 26.4 8.6                              | 26.07 N 3.95 E                    |
| 1000.00                                                                                                                                                   | 2.97         | 27.08           | 0.14                                  | 999.36                    | 31.4 11.5                             | 30.78 N 6.24 E                    |
| 1100.00                                                                                                                                                   | 2.86         | 27.21           | 0.11                                  | 1099.23                   | 36.3 13.6                             | 35.31 N 8.56 E                    |
| 1200.00                                                                                                                                                   | 2.48         | 30.04           | 0.40                                  | 1199.12                   | 40.8 15.3                             | 39.40 N 10.79 E                   |
| 1300.00                                                                                                                                                   | 1.99         | 35.41           | 0.53                                  | 1299.04                   | 44.6 16.8                             | 42.69 N 12.88 E                   |
| 1400.00                                                                                                                                                   | 1.76         | 41.38           | 0.30                                  | 1398.99                   | 47.6 18.2                             | 45.25 N 14.90 E                   |
| 1500.00                                                                                                                                                   | 1.52         | 49.89           | 0.34                                  | 1498.95                   | 50.2 19.7                             | 47.26 N 16.93 E                   |
| 1600.00                                                                                                                                                   | 1.31         | 61.18           | 0.35                                  | 1598.92                   | 52.2 21.3                             | 48.66 N 18.94 E                   |
| 1700.00                                                                                                                                                   | 1.16         | 65.92           | 0.18                                  | 1698.89                   | 53.8 22.8                             | 49.63 N 20.87 E                   |
| 1800.00                                                                                                                                                   | 1.02         | 96.82           | 0.60                                  | 1798.88                   | 54.8 24.4                             | 49.94 N 22.68 E                   |
| 1900.00                                                                                                                                                   | 0.84         | 102.60          | 0.20                                  | 1898.86                   | 55.3 26.0                             | 49.67 N 24.27 E                   |

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Job Number: MD0610GMS243

| MEASURED<br>DEPTH<br>feet | INCL<br>deg. | AZIMUTH<br>deg. | DOGLEG<br>SEVERITY<br>deg./<br>100 ft. | VERTICAL<br>DEPTH<br>feet | CLOSURE<br>DIST. AZIMUTH<br>feet deg. |      | HORIZONTAL<br>COORDINATES<br>feet |         |
|---------------------------|--------------|-----------------|----------------------------------------|---------------------------|---------------------------------------|------|-----------------------------------|---------|
| 2000.00                   | 0.39         | 139.21          | 0.58                                   | 1998.86                   | 55.3                                  | 27.1 | 49.25 N                           | 25.21 E |
| 2100.00                   | 0.06         | 18.49           | 0.42                                   | 2098.86                   | 55.3                                  | 27.4 | 49.04 N                           | 25.45 E |
| 2200.00                   | 0.34         | 24.47           | 0.28                                   | 2198.86                   | 55.6                                  | 27.4 | 49.36 N                           | 25.59 E |
| 2300.00                   | 0.42         | 22.21           | 0.08                                   | 2298.85                   | 56.3                                  | 27.4 | 49.97 N                           | 25.85 E |
| 2400.00                   | 0.31         | 35.63           | 0.14                                   | 2398.85                   | 56.9                                  | 27.4 | 50.53 N                           | 26.15 E |
| 2500.00                   | 0.34         | 106.48          | 0.38                                   | 2498.85                   | 57.2                                  | 27.7 | 50.67 N                           | 26.59 E |
| 2600.00                   | 0.44         | 95.30           | 0.13                                   | 2598.85                   | 57.4                                  | 28.3 | 50.55 N                           | 27.26 E |
| 2700.00                   | 0.56         | 92.91           | 0.12                                   | 2698.85                   | 57.8                                  | 29.1 | 50.49 N                           | 28.13 E |
| 2800.00                   | 0.23         | 144.08          | 0.45                                   | 2798.84                   | 57.9                                  | 29.7 | 50.30 N                           | 28.73 E |
| 2900.00                   | 0.45         | 183.57          | 0.31                                   | 2898.84                   | 57.5                                  | 30.1 | 49.75 N                           | 28.83 E |
| 3000.00                   | 0.72         | 181.01          | 0.27                                   | 2998.84                   | 56.6                                  | 30.6 | 48.73 N                           | 28.79 E |
| 3100.00                   | 0.75         | 185.03          | 0.06                                   | 3098.83                   | 55.5                                  | 31.2 | 47.45 N                           | 28.72 E |
| 3200.00                   | 0.68         | 177.55          | 0.12                                   | 3198.82                   | 54.4                                  | 31.8 | 46.20 N                           | 28.69 E |
| 3300.00                   | 0.69         | 180.53          | 0.04                                   | 3298.81                   | 53.4                                  | 32.5 | 45.01 N                           | 28.71 E |
| 3400.00                   | 0.67         | 179.60          | 0.02                                   | 3398.81                   | 52.4                                  | 33.2 | 43.82 N                           | 28.71 E |
| 3500.00                   | 0.64         | 187.29          | 0.09                                   | 3498.80                   | 51.4                                  | 33.9 | 42.68 N                           | 28.64 E |
| 3600.00                   | 0.60         | 199.49          | 0.14                                   | 3598.79                   | 50.4                                  | 34.3 | 41.63 N                           | 28.40 E |
| 3700.00                   | 0.46         | 204.17          | 0.15                                   | 3698.79                   | 49.5                                  | 34.5 | 40.77 N                           | 28.06 E |
| 3800.00                   | 0.47         | 219.22          | 0.12                                   | 3798.79                   | 48.7                                  | 34.6 | 40.09 N                           | 27.63 E |
| 3900.00                   | 0.38         | 264.85          | 0.34                                   | 3898.78                   | 48.1                                  | 34.2 | 39.74 N                           | 27.04 E |
| 4000.00                   | 0.34         | 267.50          | 0.04                                   | 3998.78                   | 47.7                                  | 33.6 | 39.70 N                           | 26.42 E |
| 4100.00                   | 0.41         | 270.73          | 0.07                                   | 4098.78                   | 47.3                                  | 33.0 | 39.69 N                           | 25.76 E |
| 4200.00                   | 0.40         | 272.91          | 0.02                                   | 4198.78                   | 47.0                                  | 32.2 | 39.71 N                           | 25.06 E |

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|---------------------------|--------------|-----------------|----------------------------------------|---------------------------|---------------------------------------|-----------------------------------|
| 4300.00                   | 0.62         | 276.51          | 0.22                                   | 4298.77                   | 46.6 31.3                             | 39.79 N 24.17 E                   |
| 4400.00                   | 1.00         | 280.92          | 0.38                                   | 4398.76                   | 46.0 29.6                             | 40.02 N 22.78 E                   |
| 4500.00                   | 1.01         | 280.73          | 0.01                                   | 4498.75                   | 45.5 27.6                             | 40.35 N 21.05 E                   |
| 4600.00                   | 1.00         | 273.59          | 0.13                                   | 4598.73                   | 44.9 25.5                             | 40.57 N 19.32 E                   |
| 4700.00                   | 1.17         | 270.66          | 0.18                                   | 4698.71                   | 44.2 23.2                             | 40.63 N 17.43 E                   |
| 4800.00                   | 1.40         | 266.24          | 0.25                                   | 4798.69                   | 43.3 20.5                             | 40.57 N 15.19 E                   |
| 4900.00                   | 1.46         | 265.04          | 0.07                                   | 4898.66                   | 42.3 17.5                             | 40.38 N 12.70 E                   |
| 5000.00                   | 1.42         | 268.39          | 0.09                                   | 4998.63                   | 41.5 14.2                             | 40.23 N 10.19 E                   |
| 5100.00                   | 1.32         | 272.15          | 0.13                                   | 5098.60                   | 41.0 11.0                             | 40.24 N 7.80 E                    |
| 5200.00                   | 1.15         | 277.82          | 0.21                                   | 5198.57                   | 40.8 8.0                              | 40.42 N 5.65 E                    |
| 5300.00                   | 1.05         | 282.97          | 0.14                                   | 5298.56                   | 40.9 5.3                              | 40.76 N 3.77 E                    |
| 5400.00                   | 0.97         | 282.74          | 0.08                                   | 5398.54                   | 41.2 2.9                              | 41.15 N 2.05 E                    |
| 5500.00                   | 1.06         | 294.02          | 0.22                                   | 5498.52                   | 41.7 0.5                              | 41.72 N 0.38 E                    |
| 5600.00                   | 1.07         | 297.47          | 0.06                                   | 5598.51                   | 42.5 358.3                            | 42.52 N 1.29 W                    |
| 5700.00                   | 0.97         | 295.84          | 0.10                                   | 5698.49                   | 43.4 356.2                            | 43.32 N 2.88 W                    |
| 5800.00                   | 0.70         | 290.79          | 0.28                                   | 5798.48                   | 44.1 354.5                            | 43.91 N 4.22 W                    |
| 5900.00                   | 0.65         | 291.41          | 0.05                                   | 5898.47                   | 44.7 353.2                            | 44.33 N 5.32 W                    |
| 6000.00                   | 0.72         | 280.75          | 0.15                                   | 5998.47                   | 45.1 351.8                            | 44.66 N 6.46 W                    |
| 6100.00                   | 0.58         | 273.49          | 0.16                                   | 6098.46                   | 45.4 350.4                            | 44.81 N 7.58 W                    |
| 6200.00                   | 0.64         | 236.30          | 0.39                                   | 6198.45                   | 45.3 349.1                            | 44.53 N 8.55 W                    |
| 6300.00                   | 0.73         | 248.44          | 0.17                                   | 6298.45                   | 45.0 347.7                            | 43.98 N 9.61 W                    |
| 6400.00                   | 0.99         | 220.09          | 0.49                                   | 6398.44                   | 44.4 346.0                            | 43.09 N 10.76 W                   |
| 6500.00                   | 1.16         | 220.70          | 0.17                                   | 6498.42                   | 43.3 344.0                            | 41.66 N 11.98 W                   |

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|---------------------------|--------------|-----------------|----------------------------------------|---------------------------|---------------------------------------|-----------------------------------|
| 6600.00                   | 1.46         | 213.89          | 0.34                                   | 6598.39                   | 42.0 341.5                            | 39.83 N 13.35 W                   |
| 6700.00                   | 1.29         | 209.40          | 0.20                                   | 6698.36                   | 40.5 338.9                            | 37.80 N 14.61 W                   |
| 6800.00                   | 1.04         | 211.39          | 0.25                                   | 6798.34                   | 39.3 336.5                            | 36.04 N 15.64 W                   |
| 6900.00                   | 0.55         | 228.53          | 0.54                                   | 6898.33                   | 38.6 334.8                            | 34.95 N 16.47 W                   |
| 7000.00                   | 0.18         | 289.26          | 0.49                                   | 6998.33                   | 38.6 333.9                            | 34.68 N 16.98 W                   |
| 7100.00                   | 0.18         | 69.42           | 0.34                                   | 7098.33                   | 38.7 334.0                            | 34.79 N 16.98 W                   |
| 7196.00                   | 0.25         | 117.74          | 0.20                                   | 7194.33                   | 38.5 334.4                            | 34.74 N 16.65 W                   |

Final Station Closure: Distance: 38.53 ft Az: 334.39 deg.