



**Gruy Petroleum Management Co.  
New Mexico  
Eddy County  
Exxon Fed Com # 3 A - MWD Surveys**

**Sperry-Sun**

**Survey Report**

**8 September, 2003**

Data Source: Information from Location

Survey Ref: svy6880

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SEP 06 2004

OCD-ARTESIA

**HALLIBURTON**

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## Survey Report for Exxon Fed Com # 3 A

### Data Source: Information from Location

| Measured<br>Depth<br>(ft) | Incl.<br>(Deg) | Azim.<br>(Deg) | Station<br>TVD<br>(ft) | Coordinates<br>Northings<br>(ft) | Eastings<br>(ft) | Vertical<br>Section<br>(ft) | Dogleg<br>Rate<br>(°/100ft) | Comment |
|---------------------------|----------------|----------------|------------------------|----------------------------------|------------------|-----------------------------|-----------------------------|---------|
| <b>Gyro Surveys</b>       |                |                |                        |                                  |                  |                             |                             |         |
| 0.00                      | 0.000          | 0.000          | 0.00                   | 0.00 N                           | 0.00 E           | 0.00                        |                             |         |
| 100.00                    | 0.380          | 45.090         | 100.00                 | 0.23 N                           | 0.23 E           | -0.31                       | 0.38                        |         |
| 200.00                    | 0.620          | 314.240        | 200.00                 | 0.85 N                           | 0.08 E           | -0.45                       | 0.73                        |         |
| 300.00                    | 1.280          | 308.290        | 299.98                 | 1.92 N                           | 1.18 W           | 0.20                        | 0.67                        |         |
| 400.00                    | 2.080          | 305.300        | 399.94                 | 3.66 N                           | 3.54 W           | 1.53                        | 0.80                        |         |
| 500.00                    | 2.250          | 305.290        | 499.87                 | 5.84 N                           | 6.62 W           | 3.31                        | 0.17                        |         |
| 600.00                    | 2.290          | 303.320        | 599.79                 | 8.07 N                           | 9.90 W           | 5.24                        | 0.09                        |         |
| 700.00                    | 2.650          | 303.640        | 699.70                 | 10.45 N                          | 13.49 W          | 7.39                        | 0.36                        |         |
| 800.00                    | 3.000          | 300.490        | 799.57                 | 13.06 N                          | 17.67 W          | 9.96                        | 0.38                        |         |
| 900.00                    | 3.040          | 298.880        | 899.44                 | 15.67 N                          | 22.25 W          | 12.89                       | 0.09                        |         |
| 1000.00                   | 3.170          | 299.620        | 999.29                 | 18.31 N                          | 26.97 W          | 15.93                       | 0.14                        |         |
| 1100.00                   | 2.850          | 297.040        | 1099.15                | 20.81 N                          | 31.59 W          | 18.95                       | 0.35                        |         |
| 1200.00                   | 3.030          | 296.360        | 1199.02                | 23.11 N                          | 36.17 W          | 22.01                       | 0.18                        |         |
| 1300.00                   | 2.810          | 297.830        | 1298.89                | 25.43 N                          | 40.71 W          | 25.03                       | 0.23                        |         |
| 1400.00                   | 2.810          | 297.990        | 1398.77                | 27.73 N                          | 45.04 W          | 27.88                       | 0.01                        |         |
| 1500.00                   | 2.520          | 200.480        | 1498.70                | 26.82 N                          | 47.97 W          | 30.91                       | 4.01                        |         |
| 1600.00                   | 2.540          | 300.210        | 1598.64                | 25.87 N                          | 50.66 W          | 33.74                       | 3.87                        |         |
| 1700.00                   | 2.610          | 298.760        | 1698.54                | 28.08 N                          | 54.57 W          | 36.25                       | 0.10                        |         |
| 1800.00                   | 2.830          | 297.540        | 1798.43                | 30.32 N                          | 58.76 W          | 38.99                       | 0.23                        |         |
| 1900.00                   | 3.010          | 296.560        | 1898.30                | 32.63 N                          | 63.29 W          | 42.01                       | 0.19                        |         |
| 2000.00                   | 2.840          | 297.500        | 1998.17                | 34.95 N                          | 67.84 W          | 45.04                       | 0.18                        |         |
| 2100.00                   | 2.670          | 297.050        | 2098.05                | 37.15 N                          | 72.11 W          | 47.88                       | 0.17                        |         |
| 2200.00                   | 2.530          | 296.520        | 2197.95                | 39.20 N                          | 76.16 W          | 50.58                       | 0.14                        |         |
| 2300.00                   | 2.360          | 296.680        | 2297.86                | 41.11 N                          | 79.97 W          | 53.14                       | 0.17                        |         |
| 2400.00                   | 2.200          | 293.900        | 2397.78                | 42.81 N                          | 83.57 W          | 55.59                       | 0.19                        |         |
| 2500.00                   | 2.040          | 294.240        | 2497.71                | 44.32 N                          | 86.95 W          | 57.94                       | 0.16                        |         |
| 2600.00                   | 1.800          | 291.360        | 2597.65                | 45.62 N                          | 90.03 W          | 60.12                       | 0.26                        |         |
| 2700.00                   | 1.860          | 287.610        | 2697.60                | 46.69 N                          | 93.04 W          | 62.33                       | 0.13                        |         |
| 2800.00                   | 1.680          | 291.090        | 2797.56                | 47.70 N                          | 95.96 W          | 64.48                       | 0.21                        |         |
| 2900.00                   | 1.650          | 287.640        | 2897.51                | 48.67 N                          | 98.70 W          | 66.50                       | 0.10                        |         |
| 3000.00                   | 1.500          | 291.940        | 2997.48                | 49.59 N                          | 101.28 W         | 68.40                       | 0.19                        |         |
| 3100.00                   | 1.480          | 287.950        | 3097.44                | 50.48 N                          | 103.72 W         | 70.19                       | 0.11                        |         |
| 3200.00                   | 0.980          | 297.310        | 3197.42                | 51.27 N                          | 105.71 W         | 71.62                       | 0.54                        |         |
| 3300.00                   | 1.050          | 291.040        | 3297.40                | 51.99 N                          | 107.33 W         | 72.74                       | 0.13                        |         |
| 3400.00                   | 0.780          | 291.980        | 3397.39                | 52.58 N                          | 108.81 W         | 73.81                       | 0.27                        |         |
| 3500.00                   | 0.790          | 279.980        | 3497.38                | 52.95 N                          | 110.12 W         | 74.81                       | 0.16                        |         |
| 3600.00                   | 0.670          | 279.670        | 3597.37                | 53.17 N                          | 111.38 W         | 75.84                       | 0.12                        |         |
| 3700.00                   | 0.770          | 265.790        | 3697.36                | 53.22 N                          | 112.63 W         | 76.93                       | 0.20                        |         |
| 3800.00                   | 0.640          | 270.900        | 3797.36                | 53.18 N                          | 113.85 W         | 78.05                       | 0.14                        |         |
| 3900.00                   | 0.710          | 256.820        | 3897.35                | 53.04 N                          | 115.02 W         | 79.14                       | 0.18                        |         |

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| Measured Depth (ft) | Incl. (Deg) | Azim. (Deg) | Station TVD (ft) | Coordinates Northings (ft) | Eastings (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Comment                     |
|---------------------|-------------|-------------|------------------|----------------------------|---------------|-----------------------|-----------------------|-----------------------------|
| 4000.00             | 0.640       | 251.470     | 3997.34          | 52.72 N                    | 116.15 W      | 80.30                 | 0.09                  |                             |
| 4100.00             | 0.490       | 224.460     | 4097.34          | 52.24 N                    | 116.98 W      | 81.26                 | 0.30                  |                             |
| 4200.00             | 0.610       | 223.790     | 4197.33          | 51.55 N                    | 117.65 W      | 82.16                 | 0.12                  |                             |
| 4300.00             | 0.660       | 201.680     | 4297.33          | 50.63 N                    | 118.23 W      | 83.09                 | 0.25                  |                             |
| 4400.00             | 0.790       | 205.970     | 4397.32          | 49.48 N                    | 118.74 W      | 84.07                 | 0.14                  |                             |
| 4500.00             | 0.890       | 210.900     | 4497.31          | 48.19 N                    | 119.44 W      | 85.27                 | 0.12                  |                             |
| 4600.00             | 1.030       | 203.860     | 4597.29          | 46.70 N                    | 120.20 W      | 86.62                 | 0.18                  |                             |
| 4700.00             | 1.140       | 191.120     | 4697.28          | 44.91 N                    | 120.76 W      | 87.92                 | 0.26                  |                             |
| 4800.00             | 1.080       | 180.690     | 4797.26          | 42.99 N                    | 120.96 W      | 88.96                 | 0.21                  |                             |
| 4900.00             | 1.360       | 174.470     | 4897.24          | 40.86 N                    | 120.86 W      | 89.82                 | 0.31                  |                             |
| 5000.00             | 1.510       | 175.670     | 4997.20          | 38.37 N                    | 120.65 W      | 90.74                 | 0.15                  |                             |
| 5100.00             | 1.700       | 172.620     | 5097.17          | 35.58 N                    | 120.36 W      | 91.73                 | 0.21                  |                             |
| 5200.00             | 1.960       | 175.400     | 5197.11          | 32.41 N                    | 120.03 W      | 92.86                 | 0.27                  |                             |
| 5300.00             | 2.190       | 174.090     | 5297.05          | 28.80 N                    | 119.69 W      | 94.17                 | 0.23                  |                             |
| 5400.00             | 2.420       | 179.270     | 5396.97          | 24.79 N                    | 119.47 W      | 95.76                 | 0.31                  |                             |
| 5500.00             | 2.520       | 181.590     | 5496.87          | 20.48 N                    | 119.51 W      | 97.72                 | 0.14                  |                             |
| 5600.00             | 2.120       | 178.700     | 5596.79          | 16.44 N                    | 119.52 W      | 99.55                 | 0.42                  |                             |
| 5700.00             | 2.130       | 179.550     | 5696.72          | 12.73 N                    | 119.47 W      | 101.16                | 0.03                  |                             |
| 5800.00             | 1.790       | 161.820     | 5796.67          | 9.39 N                     | 118.97 W      | 102.20                | 0.69                  |                             |
| 5900.00             | 1.090       | 128.220     | 5896.64          | 7.31 N                     | 117.73 W      | 102.03                | 1.07                  |                             |
| 6000.00             | 1.210       | 104.530     | 5996.62          | 6.46 N                     | 115.96 W      | 100.83                | 0.49                  |                             |
| 6100.00             | 1.330       | 97.140      | 6096.59          | 6.05 N                     | 113.79 W      | 99.06                 | 0.20                  |                             |
| 6200.00             | 1.390       | 82.130      | 6196.56          | 6.07 N                     | 111.44 W      | 96.95                 | 0.36                  |                             |
| 6300.00             | 1.390       | 84.700      | 6296.53          | 6.35 N                     | 109.03 W      | 94.67                 | 0.06                  |                             |
| 6400.00             | 1.410       | 89.820      | 6396.50          | 6.47 N                     | 106.59 W      | 92.44                 | 0.13                  |                             |
| 6500.00             | 1.140       | 85.020      | 6496.48          | 6.56 N                     | 104.37 W      | 90.41                 | 0.29                  |                             |
| 6600.00             | 0.940       | 69.470      | 6596.46          | 6.93 N                     | 102.61 W      | 88.67                 | 0.34                  |                             |
| 6700.00             | 1.070       | 120.590     | 6696.45          | 6.74 N                     | 101.04 W      | 87.35                 | 0.88                  |                             |
| 6800.00             | 1.020       | 134.030     | 6796.43          | 5.65 N                     | 99.59 W       | 86.55                 | 0.25                  |                             |
| 6900.00             | 0.980       | 147.500     | 6896.42          | 4.31 N                     | 98.49 W       | 86.16                 | 0.24                  |                             |
| 7000.00             | 1.190       | 148.770     | 6996.40          | 2.70 N                     | 97.49 W       | 85.99                 | 0.21                  |                             |
| 7100.00             | 1.420       | 160.780     | 7096.37          | 0.64 N                     | 96.55 W       | 86.06                 | 0.36                  |                             |
| 7200.00             | 1.950       | 170.090     | 7196.33          | 2.20 S                     | 95.85 W       | 86.71                 | 0.59                  |                             |
| 7300.00             | 2.590       | 174.810     | 7296.25          | 6.13 S                     | 95.35 W       | 88.02                 | 0.67                  |                             |
| 7400.00             | 3.030       | 163.120     | 7396.13          | 10.91 S                    | 94.38 W       | 89.29                 | 0.72                  |                             |
| 7500.00             | 3.080       | 163.250     | 7495.99          | 16.01 S                    | 92.84 W       | 90.19                 | 0.05                  |                             |
| 7600.00             | 3.540       | 169.320     | 7595.82          | 21.62 S                    | 91.49 W       | 91.50                 | 0.58                  |                             |
| 7700.00             | 4.370       | 164.780     | 7695.58          | 28.33 S                    | 89.92 W       | 93.09                 | 0.89                  | Last Gyro Survey @ 7700' md |

**MWD Surveys**

|         |       |         |         |         |         |       |      |                           |
|---------|-------|---------|---------|---------|---------|-------|------|---------------------------|
| 7733.00 | 4.660 | 161.230 | 7728.48 | 30.81 S | 89.16 W | 93.52 | 1.22 | 1st MWD Survey @ 7733' md |
| 7765.00 | 4.700 | 165.100 | 7760.38 | 33.31 S | 88.40 W | 93.96 | 0.99 |                           |
| 7796.00 | 4.610 | 174.070 | 7791.27 | 35.77 S | 87.95 W | 94.66 | 2.36 |                           |
| 7828.00 | 4.890 | 185.920 | 7823.16 | 38.41 S | 87.95 W | 95.84 | 3.18 |                           |
| 7860.00 | 4.790 | 196.190 | 7855.05 | 41.05 S | 88.47 W | 97.48 | 2.72 |                           |

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|---------------------------|----------------|----------------|------------------------|----------------------------------|------------------|-----------------------------|-----------------------------|---------|
| 7892.00                   | 4.790          | 199.800        | 7886.94                | 43.59 S                          | 89.29 W          | 99.36                       | 0.94                        |         |
| 7923.00                   | 4.480          | 192.500        | 7917.84                | 45.99 S                          | 89.99 W          | 101.06                      | 2.15                        |         |
| 7955.00                   | 4.490          | 195.580        | 7949.74                | 48.41 S                          | 90.60 W          | 102.69                      | 0.75                        |         |
| 7987.00                   | 4.310          | 195.170        | 7981.65                | 50.78 S                          | 91.25 W          | 104.33                      | 0.57                        |         |
| 8018.00                   | 4.510          | 209.400        | 8012.56                | 52.97 S                          | 92.15 W          | 106.11                      | 3.58                        |         |
| 8050.00                   | 4.650          | 214.120        | 8044.45                | 55.14 S                          | 93.50 W          | 108.29                      | 1.26                        |         |
| 8082.00                   | 4.610          | 225.440        | 8076.35                | 57.11 S                          | 95.14 W          | 110.64                      | 2.85                        |         |
| 8114.00                   | 4.890          | 228.610        | 8108.24                | 58.92 S                          | 97.08 W          | 113.18                      | 1.20                        |         |
| 8145.00                   | 5.110          | 232.920        | 8139.12                | 60.62 S                          | 99.18 W          | 115.82                      | 1.40                        |         |
| 8177.00                   | 5.850          | 235.050        | 8170.98                | 62.42 S                          | 101.65 W         | 118.83                      | 2.40                        |         |
| 8209.00                   | 5.810          | 235.200        | 8202.81                | 64.28 S                          | 104.32 W         | 122.05                      | 0.13                        |         |
| 8241.00                   | 5.880          | 231.820        | 8234.64                | 66.21 S                          | 106.93 W         | 125.26                      | 1.10                        |         |
| 8272.00                   | 6.290          | 236.230        | 8265.47                | 68.14 S                          | 109.59 W         | 128.50                      | 2.00                        |         |
| 8304.00                   | 6.750          | 237.380        | 8297.26                | 70.13 S                          | 112.64 W         | 132.11                      | 1.49                        |         |
| 8335.00                   | 7.430          | 241.450        | 8328.02                | 72.07 S                          | 115.93 W         | 135.92                      | 2.73                        |         |
| 8367.00                   | 8.040          | 243.060        | 8359.73                | 74.07 S                          | 119.74 W         | 140.23                      | 2.02                        |         |
| 8399.00                   | 8.970          | 244.750        | 8391.38                | 76.15 S                          | 123.99 W         | 144.96                      | 3.01                        |         |
| 8430.00                   | 9.750          | 244.350        | 8421.97                | 78.32 S                          | 128.55 W         | 150.00                      | 2.52                        |         |
| 8462.00                   | 10.490         | 246.120        | 8453.47                | 80.67 S                          | 133.65 W         | 155.62                      | 2.51                        |         |
| 8494.00                   | 11.000         | 246.990        | 8484.91                | 83.04 S                          | 139.13 W         | 161.58                      | 1.67                        |         |
| 8526.00                   | 11.590         | 246.980        | 8516.29                | 85.49 S                          | 144.90 W         | 167.83                      | 1.84                        |         |
| 8558.00                   | 12.080         | 245.900        | 8547.61                | 88.12 S                          | 150.91 W         | 174.39                      | 1.68                        |         |
| 8590.00                   | 12.870         | 247.120        | 8578.85                | 90.87 S                          | 157.25 W         | 181.29                      | 2.60                        |         |
| 8621.00                   | 13.600         | 246.350        | 8609.03                | 93.67 S                          | 163.77 W         | 188.37                      | 2.42                        |         |
| 8653.00                   | 13.880         | 243.780        | 8640.11                | 96.88 S                          | 170.66 W         | 195.97                      | 2.10                        |         |
| 8685.00                   | 14.330         | 241.770        | 8671.15                | 100.45 S                         | 177.59 W         | 203.77                      | 2.08                        |         |
| 8717.00                   | 15.100         | 243.660        | 8702.10                | 104.17 S                         | 184.82 W         | 211.89                      | 2.84                        |         |
| 8749.00                   | 15.510         | 244.320        | 8732.96                | 107.87 S                         | 192.41 W         | 220.34                      | 1.39                        |         |
| 8780.00                   | 15.390         | 245.820        | 8762.84                | 111.35 S                         | 199.90 W         | 228.59                      | 1.35                        |         |
| 8812.00                   | 15.420         | 245.650        | 8793.70                | 114.85 S                         | 207.65 W         | 237.09                      | 0.17                        |         |
| 8844.00                   | 16.140         | 247.790        | 8824.49                | 118.28 S                         | 215.64 W         | 245.77                      | 2.89                        |         |
| 8875.00                   | 16.450         | 247.820        | 8854.24                | 121.57 S                         | 223.69 W         | 254.44                      | 1.00                        |         |
| 8907.00                   | 16.600         | 249.120        | 8884.92                | 124.91 S                         | 232.16 W         | 263.51                      | 1.25                        |         |
| 8939.00                   | 16.490         | 248.750        | 8915.60                | 128.18 S                         | 240.66 W         | 272.58                      | 0.48                        |         |
| 8971.00                   | 16.740         | 250.140        | 8946.26                | 131.40 S                         | 249.23 W         | 281.68                      | 1.47                        |         |
| 9003.00                   | 16.530         | 250.260        | 8976.92                | 134.50 S                         | 257.85 W         | 290.78                      | 0.66                        |         |
| 9034.00                   | 16.740         | 250.400        | 9006.62                | 137.49 S                         | 266.21 W         | 299.59                      | 0.69                        |         |
| 9066.00                   | 17.340         | 250.080        | 9037.22                | 140.66 S                         | 275.03 W         | 308.90                      | 1.90                        |         |
| 9098.00                   | 17.540         | 247.420        | 9067.75                | 144.13 S                         | 283.97 W         | 318.45                      | 2.57                        |         |
| 9130.00                   | 19.080         | 246.710        | 9098.13                | 148.05 S                         | 293.22 W         | 328.48                      | 4.86                        |         |
| 9161.00                   | 19.870         | 245.190        | 9127.35                | 152.27 S                         | 302.66 W         | 338.80                      | 3.03                        |         |
| 9193.00                   | 20.200         | 244.110        | 9157.42                | 156.96 S                         | 312.57 W         | 349.76                      | 1.55                        |         |
| 9225.00                   | 19.830         | 243.420        | 9187.49                | 161.80 S                         | 322.39 W         | 360.71                      | 1.37                        |         |
| 9257.00                   | 20.480         | 243.700        | 9217.53                | 166.71 S                         | 332.26 W         | 371.74                      | 2.05                        |         |
| 9289.00                   | 21.120         | 242.870        | 9247.44                | 171.82 S                         | 342.41 W         | 383.10                      | 2.20                        |         |

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|---------------------------|----------------|----------------|------------------------|----------------------------------|------------------|-----------------------------|-----------------------------|---------|
| 9321.00                   | 21.720         | 242.610        | 9277.23                | 177.17 S                         | 352.80 W         | 394.79                      | 1.90                        |         |
| 9353.00                   | 21.760         | 242.110        | 9306.95                | 182.67 S                         | 363.30 W         | 406.64                      | 0.59                        |         |
| 9384.00                   | 21.640         | 242.570        | 9335.76                | 187.99 S                         | 373.45 W         | 418.10                      | 0.67                        |         |
| 9416.00                   | 21.290         | 242.630        | 9365.54                | 193.38 S                         | 383.85 W         | 429.81                      | 1.10                        |         |
| 9448.00                   | 20.700         | 241.670        | 9395.41                | 198.74 S                         | 393.99 W         | 441.27                      | 2.13                        |         |
| 9480.00                   | 20.540         | 242.380        | 9425.36                | 204.02 S                         | 403.94 W         | 452.54                      | 0.93                        |         |
| 9512.00                   | 20.180         | 242.590        | 9455.36                | 209.17 S                         | 413.81 W         | 463.67                      | 1.15                        |         |
| 9543.00                   | 19.760         | 242.680        | 9484.50                | 214.03 S                         | 423.22 W         | 474.25                      | 1.36                        |         |
| 9575.00                   | 19.720         | 243.040        | 9514.62                | 218.96 S                         | 432.83 W         | 485.06                      | 0.40                        |         |
| 9609.00                   | 19.940         | 242.620        | 9546.60                | 224.23 S                         | 443.09 W         | 496.59                      | 0.77                        |         |
| 9641.00                   | 20.120         | 241.810        | 9576.67                | 229.34 S                         | 452.79 W         | 507.55                      | 1.03                        |         |
| 9673.00                   | 19.730         | 242.580        | 9606.75                | 234.43 S                         | 462.44 W         | 518.45                      | 1.47                        |         |
| 9705.00                   | 19.210         | 245.130        | 9636.92                | 239.13 S                         | 472.01 W         | 529.12                      | 3.11                        |         |
| 9736.00                   | 18.680         | 245.660        | 9666.24                | 243.32 S                         | 481.16 W         | 539.18                      | 1.80                        |         |
| 9768.00                   | 18.890         | 245.870        | 9696.54                | 247.55 S                         | 490.55 W         | 549.47                      | 0.69                        |         |
| 9800.00                   | 18.840         | 245.080        | 9726.82                | 251.84 S                         | 499.97 W         | 559.81                      | 0.81                        |         |
| 9832.00                   | 19.500         | 244.960        | 9757.04                | 256.28 S                         | 509.49 W         | 570.32                      | 2.07                        |         |
| 9864.00                   | 20.150         | 244.560        | 9787.15                | 260.91 S                         | 519.31 W         | 581.17                      | 2.08                        |         |
| 9896.00                   | 21.030         | 244.180        | 9817.10                | 265.78 S                         | 529.45 W         | 592.42                      | 2.78                        |         |
| 9927.00                   | 20.910         | 244.770        | 9846.05                | 270.56 S                         | 539.47 W         | 603.51                      | 0.78                        |         |
| 9959.00                   | 19.620         | 244.400        | 9876.07                | 275.31 S                         | 549.48 W         | 614.59                      | 4.05                        |         |
| 9991.00                   | 18.750         | 245.220        | 9906.29                | 279.79 S                         | 558.99 W         | 625.10                      | 2.85                        |         |
| 10023.00                  | 17.630         | 243.870        | 9936.69                | 284.08 S                         | 568.01 W         | 635.09                      | 3.74                        |         |
| 10055.00                  | 18.210         | 242.990        | 9967.14                | 288.49 S                         | 576.82 W         | 644.94                      | 2.00                        |         |
| 10087.00                  | 19.170         | 241.940        | 9997.45                | 293.23 S                         | 585.91 W         | 655.19                      | 3.18                        |         |
| 10118.00                  | 20.350         | 240.330        | 10026.63               | 298.29 S                         | 595.08 W         | 665.66                      | 4.19                        |         |
| 10150.00                  | 20.810         | 241.130        | 10056.58               | 303.79 S                         | 604.90 W         | 676.89                      | 1.68                        |         |
| 10182.00                  | 21.320         | 241.950        | 10086.45               | 309.27 S                         | 615.01 W         | 688.39                      | 1.84                        |         |
| 10214.00                  | 21.550         | 242.780        | 10116.23               | 314.69 S                         | 625.37 W         | 700.08                      | 1.19                        |         |
| 10245.00                  | 20.860         | 242.280        | 10145.13               | 319.87 S                         | 635.32 W         | 711.29                      | 2.30                        |         |
| 10277.00                  | 21.050         | 242.160        | 10175.02               | 325.20 S                         | 645.44 W         | 722.74                      | 0.61                        |         |
| 10308.00                  | 21.000         | 241.540        | 10203.95               | 330.45 S                         | 655.25 W         | 733.85                      | 0.74                        |         |
| 10340.00                  | 21.640         | 242.810        | 10233.76               | 335.87 S                         | 665.54 W         | 745.48                      | 2.47                        |         |
| 10372.00                  | 20.910         | 242.020        | 10263.58               | 341.25 S                         | 675.83 W         | 757.09                      | 2.45                        |         |
| 10404.00                  | 21.560         | 240.550        | 10293.41               | 346.82 S                         | 685.99 W         | 768.67                      | 2.63                        |         |
| 10435.00                  | 22.750         | 241.640        | 10322.12               | 352.47 S                         | 696.23 W         | 780.35                      | 4.06                        |         |
| 10467.00                  | 23.900         | 241.770        | 10351.50               | 358.47 S                         | 707.38 W         | 793.02                      | 3.60                        |         |
| 10498.00                  | 24.400         | 243.120        | 10379.79               | 364.34 S                         | 718.63 W         | 805.70                      | 2.40                        |         |
| 10530.00                  | 23.950         | 244.940        | 10408.99               | 370.08 S                         | 730.41 W         | 818.80                      | 2.72                        |         |
| 10562.00                  | 22.890         | 246.030        | 10438.35               | 375.36 S                         | 741.98 W         | 831.51                      | 3.58                        |         |
| 10594.00                  | 22.430         | 247.240        | 10467.88               | 380.25 S                         | 753.29 W         | 843.82                      | 2.05                        |         |
| 10625.00                  | 22.170         | 247.200        | 10496.56               | 384.80 S                         | 764.14 W         | 855.56                      | 0.84                        |         |
| 10657.00                  | 22.780         | 245.050        | 10526.13               | 389.76 S                         | 775.32 W         | 867.77                      | 3.20                        |         |
| 10689.00                  | 23.830         | 245.500        | 10555.52               | 395.05 S                         | 786.82 W         | 880.43                      | 3.33                        |         |
| 10720.00                  | 24.070         | 245.280        | 10583.85               | 400.29 S                         | 798.26 W         | 893.00                      | 0.83                        |         |

Survey Report for Exxon Fed Com # 3 A  
Data Source: Information from Location

| Measured Depth (ft) | Incl. (Deg) | Azim. (Deg) | Station TVD (ft) | Coordinates Northings (ft) | Eastings (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Comment                      |
|---------------------|-------------|-------------|------------------|----------------------------|---------------|-----------------------|-----------------------|------------------------------|
| 10752.00            | 23.900      | 244.790     | 10613.09         | 405.78 S                   | 810.06 W      | 906.01                | 0.82                  |                              |
| 10784.00            | 23.630      | 243.830     | 10642.37         | 411.37 S                   | 821.68 W      | 918.90                | 1.47                  |                              |
| 10816.00            | 23.300      | 242.730     | 10671.73         | 417.10 S                   | 833.06 W      | 931.64                | 1.71                  |                              |
| 10848.00            | 22.660      | 240.620     | 10701.19         | 423.02 S                   | 844.06 W      | 944.13                | 3.26                  |                              |
| 10879.00            | 22.080      | 239.310     | 10729.86         | 428.93 S                   | 854.27 W      | 955.90                | 2.47                  |                              |
| 10911.00            | 22.700      | 238.170     | 10759.44         | 435.25 S                   | 864.69 W      | 968.05                | 2.37                  |                              |
| 10943.00            | 23.020      | 238.590     | 10788.93         | 441.77 S                   | 875.27 W      | 980.43                | 1.12                  |                              |
| 10975.00            | 22.870      | 238.560     | 10818.40         | 448.27 S                   | 885.92 W      | 992.86                | 0.47                  |                              |
| 11007.00            | 23.550      | 238.530     | 10847.81         | 454.85 S                   | 896.68 W      | 1005.43               | 2.13                  |                              |
| 11038.00            | 23.760      | 238.390     | 10876.20         | 461.36 S                   | 907.28 W      | 1017.82               | 0.70                  |                              |
| 11070.00            | 23.400      | 238.570     | 10905.53         | 468.05 S                   | 918.19 W      | 1030.57               | 1.15                  |                              |
| 11102.00            | 22.560      | 238.410     | 10934.99         | 474.58 S                   | 928.84 W      | 1043.02               | 2.63                  |                              |
| 11134.00            | 21.860      | 238.710     | 10964.62         | 480.89 S                   | 939.16 W      | 1055.07               | 2.22                  |                              |
| 11166.00            | 21.610      | 238.850     | 10994.34         | 487.03 S                   | 949.29 W      | 1066.88               | 0.80                  |                              |
| 11197.00            | 21.280      | 238.850     | 11023.20         | 492.90 S                   | 958.99 W      | 1078.18               | 1.06                  |                              |
| 11229.00            | 20.770      | 238.470     | 11053.06         | 498.87 S                   | 968.80 W      | 1089.62               | 1.65                  |                              |
| 11261.00            | 20.480      | 238.750     | 11083.01         | 504.74 S                   | 978.42 W      | 1100.86               | 0.96                  |                              |
| 11293.00            | 19.750      | 238.280     | 11113.06         | 510.49 S                   | 987.81 W      | 1111.82               | 2.34                  |                              |
| 11324.00            | 19.450      | 239.850     | 11142.27         | 515.83 S                   | 996.73 W      | 1122.19               | 1.96                  |                              |
| 11356.00            | 19.420      | 242.640     | 11172.44         | 520.95 S                   | 1006.06 W     | 1132.82               | 2.90                  |                              |
| 11388.00            | 19.170      | 244.710     | 11202.65         | 525.64 S                   | 1015.53 W     | 1143.40               | 2.28                  |                              |
| 11420.00            | 19.600      | 244.730     | 11232.83         | 530.18 S                   | 1025.14 W     | 1154.02               | 1.34                  |                              |
| 11451.00            | 19.860      | 245.610     | 11262.01         | 534.57 S                   | 1034.63 W     | 1164.48               | 1.27                  |                              |
| 11483.00            | 20.210      | 245.850     | 11292.08         | 539.08 S                   | 1044.63 W     | 1175.43               | 1.12                  |                              |
| 11515.00            | 20.310      | 246.200     | 11322.10         | 543.58 S                   | 1054.75 W     | 1186.50               | 0.49                  |                              |
| 11547.00            | 20.210      | 246.450     | 11352.12         | 548.03 S                   | 1064.90 W     | 1197.57               | 0.41                  |                              |
| 11579.00            | 19.840      | 246.380     | 11382.18         | 552.42 S                   | 1074.94 W     | 1208.51               | 1.16                  |                              |
| 11610.00            | 19.220      | 247.500     | 11411.40         | 556.48 S                   | 1084.48 W     | 1218.85               | 2.34                  |                              |
| 11642.00            | 18.370      | 248.540     | 11441.69         | 560.34 S                   | 1094.04 W     | 1229.13               | 2.86                  |                              |
| 11674.00            | 18.370      | 250.410     | 11472.06         | 563.87 S                   | 1103.48 W     | 1239.16               | 1.84                  |                              |
| 11706.00            | 18.290      | 251.140     | 11502.44         | 567.19 S                   | 1112.98 W     | 1249.14               | 0.76                  |                              |
| 11738.00            | 18.540      | 248.340     | 11532.80         | 570.69 S                   | 1122.46 W     | 1259.18               | 2.87                  |                              |
| 11769.00            | 19.060      | 248.540     | 11562.15         | 574.36 S                   | 1131.76 W     | 1269.13               | 1.69                  |                              |
| 11801.00            | 19.340      | 248.700     | 11592.37         | 578.19 S                   | 1141.55 W     | 1279.61               | 0.89                  |                              |
| 11833.00            | 18.990      | 248.700     | 11622.59         | 582.01 S                   | 1151.34 W     | 1290.08               | 1.09                  |                              |
| 11865.00            | 18.460      | 250.880     | 11652.90         | 585.56 S                   | 1160.98 W     | 1300.28               | 2.74                  |                              |
| 11897.00            | 17.930      | 253.160     | 11683.30         | 588.65 S                   | 1170.48 W     | 1310.16               | 2.77                  | Last MWD Survey @ 11897' md  |
| 11954.00            | 17.930      | 253.160     | 11737.53         | 593.73 S                   | 1187.28 W     | 1327.46               | 0.00                  | Projection to TD @ 11954' md |

All data is in Feet (US) unless otherwise stated. Directions and coordinates are relative to Grid North. Vertical depths are relative to RKB. Northings and Eastings are relative to Wellhead.

The Dogleg Severity is in Degrees per 100 feet.

Vertical Section is from Wellhead and calculated along an Azimuth of 243.430° (Grid).

Coordinate System is NAD27 New Mexico State Planes, Eastern Zone.

Grid Convergence at Surface is 0.014°. Magnetic Convergence at Surface is -8.819° (08-Sep-03)

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**Survey Report for Exxon Fed Com # 3 A**  
**Data Source: Information from Location**

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Based upon Minimum Curvature type calculations, at a Measured Depth of 11954.00ft.,  
The Bottom Hole Displacement is 1327.46ft., in the Direction of 243.431° (Grid).

**Comments**

| Measured<br>Depth<br>(ft) | Station Coordinates |                   |                  | Comment                      |
|---------------------------|---------------------|-------------------|------------------|------------------------------|
|                           | TVD<br>(ft)         | Northings<br>(ft) | Eastings<br>(ft) |                              |
| 7700.00                   | 7695.58             | 28.33 S           | 89.92 W          | Last Gyro Survey @ 7700' md  |
| 7733.00                   | 7728.48             | 30.81 S           | 89.16 W          | 1st MWD Survey @ 7733' md    |
| 11897.00                  | 11683.30            | 588.65 S          | 1170.48 W        | Last MWD Survey @ 11897' md  |
| 11954.00                  | 11737.53            | 593.73 S          | 1187.28 W        | Projection to TD @ 11954' md |

New Mexico  
Eddy County  
Sec. 17-T24S-R26E  
Exxon Fed Com # 3 A



Scale: 1 inch = 500ft

Eastings

-1500

-1000

-500

0

Last Gyro Survey @ 7700' md  
1st MWD Survey @ 7733' md

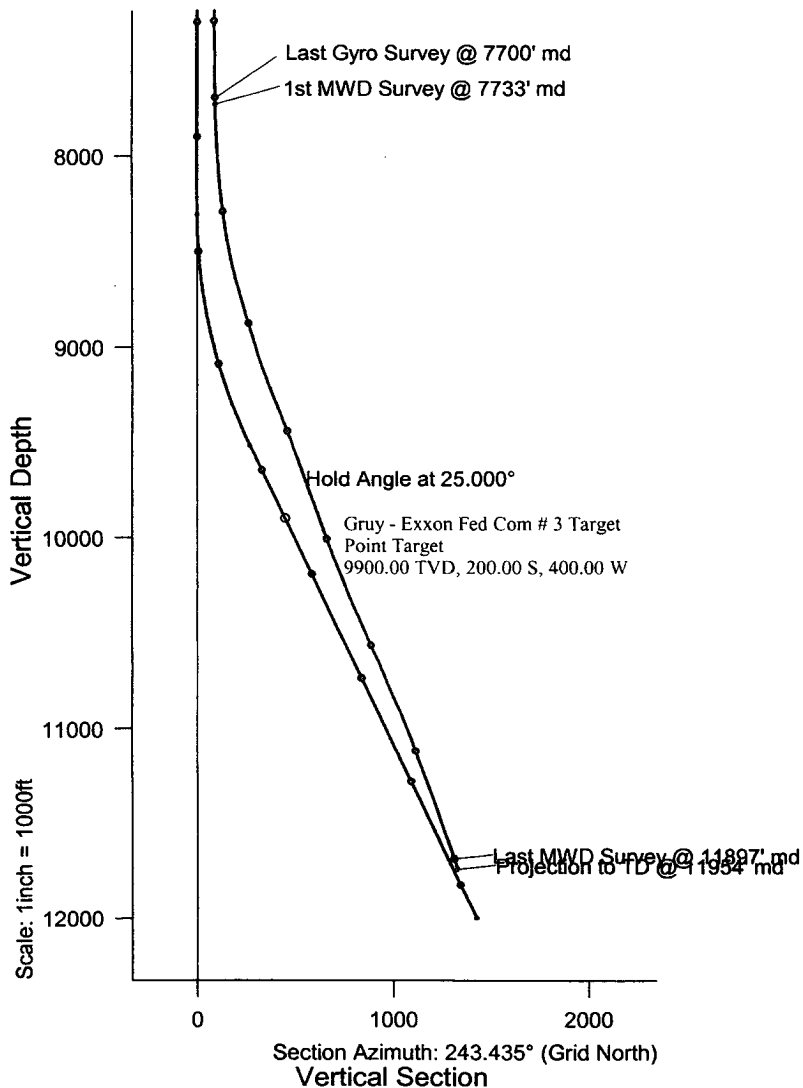
Gruy - Exxon Fed Com # 3 Target  
9900.00 TVD, 200.00 S, 400.00 W

Last MWD Survey @ 11897' md  
Projection to TD @ 11954' md

0

-500

Northings  
Scale: 1 inch = 500ft



Prepared by:  
Admin

Date/Time:  
8 September, 2003 - 14:08

Checked:

Approved: