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MAY 09 2019

DISTRICT II-ARTESIA O.C.D.

COMPANY: Cimarex  
FIELD: Eddy County, NM (NAD 83)  
WELL NAME: Medwick 32 Federal Com #4H  
WELLBORE NAME: OWB  
Survey Name: AWB  
Extraction Date: 06/05/2018

Calculation Method: Minimum Curvature  
Datum Name: RKB  
LAT Reference: Well

Slot EW Map (us/ft): 578125.660  
Slot NS Map (us/ft): 363391.020  
Surface Latitude Map: 31° 59' 56.351 N  
Surface Longitude Map: 104° 12' 52.771 W  
Bottom Hole MD (us/ft): 14543.00  
Bottom Hole TVD (us/ft): 7407.64  
Bottom Hole EW Map (us/ft): 577981.851  
Bottom Hole NS Map (us/ft): 370874.683

GL Elevation: 3208.10  
KB Elevation: 3234.10

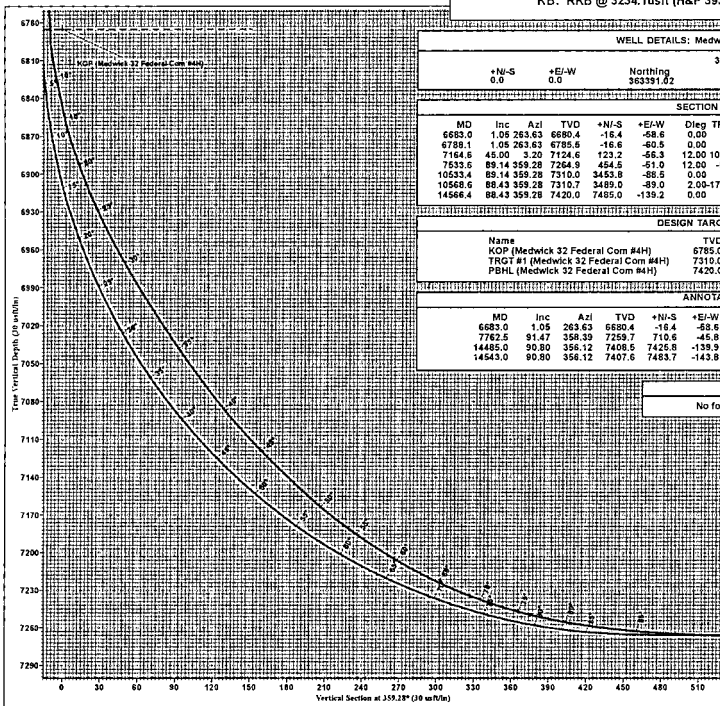
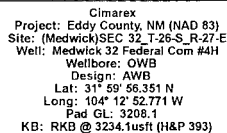
MAGNETIC CALCULATION DATE.....: 24-May-2018  
Map-Zone: New Mexico Eastern Zone  
North Reference: Grid  
Total Correction: 7.07  
Magnetic dip: 59.74  
Magnetic field strength: 47641.24  
Geo Datum: North American Datum 1983  
VSDIR: 359.28

| Measured<br>Depth<br>(ft) | Incl. | Azim.  | TVD<br>(ft) | NS<br>(ft) | EW<br>(ft) | Vertical<br>Section<br>(ft) | Dogleg<br>Rate<br>(dega/100ft) | Easting  | Northing |
|---------------------------|-------|--------|-------------|------------|------------|-----------------------------|--------------------------------|----------|----------|
| 0                         | 0     | 0      | 0           | 0          | 0          | 0                           | 0                              | 578125.7 | 363391   |
| 198                       | 0.31  | 49.48  | 198         | 0.35       | 0.41       | 0.34                        | 0.16                           | 578126.1 | 363391.4 |
| 328                       | 0.62  | 13.57  | 327.99      | 1.26       | 0.84       | 1.25                        | 0.32                           | 578126.5 | 363392.3 |
| 511                       | 0.61  | 19.21  | 510.98      | 3.14       | 1.39       | 3.12                        | 0.03                           | 578127.1 | 363394.2 |
| 693                       | 1.34  | 19.85  | 692.96      | 6.06       | 2.43       | 6.03                        | 0.4                            | 578128.1 | 363397.1 |
| 783                       | 2.12  | 356.48 | 782.92      | 8.71       | 2.69       | 8.68                        | 1.15                           | 578128.3 | 363399.7 |
| 843                       | 2.04  | 347.41 | 842.88      | 10.86      | 2.39       | 10.83                       | 0.56                           | 578128   | 363401.9 |
| 937                       | 1.89  | 350.3  | 936.82      | 14.02      | 1.76       | 14                          | 0.19                           | 578127.4 | 363405   |
| 1126                      | 2.36  | 11.92  | 1125.69     | 20.9       | 2.04       | 20.87                       | 0.49                           | 578127.7 | 363411.9 |
| 1221                      | 2.32  | 23.39  | 1220.62     | 24.58      | 3.21       | 24.54                       | 0.49                           | 578128.9 | 363415.6 |
| 1315                      | 2.88  | 43.16  | 1314.52     | 28.05      | 5.58       | 27.98                       | 1.12                           | 578131.2 | 363419.1 |
| 1504                      | 2.43  | 61.41  | 1503.32     | 33.43      | 12.34      | 33.27                       | 0.5                            | 578138   | 363424.4 |
| 1599                      | 1.69  | 73.7   | 1598.26     | 34.79      | 15.46      | 34.59                       | 0.9                            | 578141.1 | 363425.8 |
| 1693                      | 1.06  | 115.46 | 1692.23     | 34.8       | 17.57      | 34.58                       | 1.22                           | 578143.2 | 363425.8 |
| 1787                      | 1.09  | 197.87 | 1786.22     | 33.58      | 18.08      | 33.35                       | 1.51                           | 578143.7 | 363424.6 |
| 1855                      | 0.96  | 222.86 | 1854.21     | 32.54      | 17.5       | 32.32                       | 0.68                           | 578143.2 | 363423.6 |
| 1969                      | 1.29  | 236.29 | 1968.19     | 31.13      | 15.78      | 30.93                       | 0.37                           | 578141.4 | 363422.2 |
| 2063                      | 1.34  | 236.98 | 2062.16     | 29.95      | 13.98      | 29.77                       | 0.06                           | 578139.6 | 363421   |
| 2158                      | 1.49  | 239.67 | 2157.14     | 28.72      | 11.98      | 28.56                       | 0.17                           | 578137.6 | 363419.7 |
| 2252                      | 1.54  | 240.39 | 2251.1      | 27.48      | 9.83       | 27.35                       | 0.06                           | 578135.5 | 363418.5 |
| 2346                      | 1.7   | 234.5  | 2345.06     | 26.04      | 7.6        | 25.94                       | 0.25                           | 578133.3 | 363417.1 |
| 2441                      | 1.7   | 235.43 | 2440.02     | 24.42      | 5.29       | 24.36                       | 0.03                           | 578130.9 | 363415.4 |
| 2630                      | 2.15  | 228.89 | 2628.92     | 20.5       | 0.31       | 20.5                        | 0.26                           | 578126   | 363411.5 |
| 2819                      | 2.16  | 228.82 | 2817.78     | 15.83      | -5.04      | 15.89                       | 0.01                           | 578120.6 | 363406.8 |
| 2913                      | 2.36  | 231.15 | 2911.71     | 13.45      | -7.88      | 13.54                       | 0.23                           | 578117.8 | 363404.5 |
| 3008                      | 2.35  | 229.22 | 3006.63     | 10.95      | -10.88     | 11.08                       | 0.08                           | 578114.8 | 363402   |
| 3102                      | 2.38  | 231.01 | 3100.55     | 8.46       | -13.86     | 8.63                        | 0.08                           | 578111.8 | 363399.5 |

| Measured<br>Depth<br>(ft) | Incl. | Azim.  | TVD<br>(ft) | NS<br>(ft) | EW<br>(ft) | Vertical<br>Section<br>(ft) | Dogleg<br>Rate<br>(dega/100ft) | Easting  | Northing                                       |
|---------------------------|-------|--------|-------------|------------|------------|-----------------------------|--------------------------------|----------|------------------------------------------------|
| 3291                      | 2.57  | 232.44 | 3289.37     | 3.41       | -20.27     | 3.66                        | 0.11                           | 578105.4 | 363394.4                                       |
| 3386                      | 2.57  | 234.92 | 3384.28     | 0.88       | -23.7      | 1.18                        | 0.12                           | 578102   | 363391.9                                       |
| 3480                      | 1.53  | 240.76 | 3478.22     | -0.94      | -26.52     | -0.61                       | 1.13                           | 578099.1 | 363390.1                                       |
| 3574                      | 1.01  | 253.59 | 3572.19     | -1.79      | -28.41     | -1.43                       | 0.63                           | 578097.3 | 363389.2                                       |
| 3763                      | 1.24  | 244.3  | 3761.16     | -3.14      | -31.85     | -2.74                       | 0.15                           | 578093.8 | 363387.9                                       |
| 3858                      | 1.39  | 241.63 | 3856.13     | -4.14      | -33.79     | -3.71                       | 0.17                           | 578091.9 | 363386.9                                       |
| 3952                      | 1.53  | 235.36 | 3950.1      | -5.39      | -35.82     | -4.94                       | 0.23                           | 578089.8 | 363385.6                                       |
| 4047                      | 1.74  | 222.13 | 4045.06     | -7.18      | -37.84     | -6.71                       | 0.45                           | 578087.8 | 363383.8                                       |
| 4140                      | 1.67  | 225.82 | 4138.02     | -9.17      | -39.75     | -8.67                       | 0.14                           | 578085.9 | 363381.8                                       |
| 4236                      | 1.6   | 227.03 | 4233.98     | -11.06     | -41.74     | -10.54                      | 0.08                           | 578083.9 | 363380                                         |
| 4330                      | 1.69  | 228.63 | 4327.94     | -12.87     | -43.74     | -12.32                      | 0.11                           | 578081.9 | 363378.1                                       |
| 4519                      | 1.83  | 232.99 | 4516.85     | -16.53     | -48.24     | -15.92                      | 0.1                            | 578077.4 | 363374.5                                       |
| 4707                      | 0.63  | 78.5   | 4704.83     | -18.13     | -49.62     | -17.51                      | 1.28                           | 578076   | 363372.9                                       |
| 4802                      | 0.69  | 91.78  | 4799.82     | -18.05     | -48.54     | -17.44                      | 0.17                           | 578077.1 | 363373                                         |
| 4897                      | 1.02  | 60.36  | 4894.81     | -17.65     | -47.23     | -17.05                      | 0.59                           | 578078.4 | 363373.4                                       |
| 4991                      | 1.45  | 50.98  | 4988.79     | -16.48     | -45.58     | -15.91                      | 0.5                            | 578080.1 | 363374.5                                       |
| 5179                      | 1.18  | 62.24  | 5176.74     | -14.08     | -42.02     | -13.56                      | 0.2                            | 578083.6 | 363376.9                                       |
| 5274                      | 0.93  | 70.68  | 5271.72     | -13.37     | -40.43     | -12.86                      | 0.31                           | 578085.2 | 363377.6                                       |
| 5462                      | 0.54  | 121.83 | 5459.71     | -13.34     | -38.24     | -12.85                      | 0.39                           | 578087.4 | 363377.7                                       |
| 5557                      | 0.72  | 293.15 | 5554.71     | -13.34     | -38.41     | -12.85                      | 1.32                           | 578087.3 | 363377.7                                       |
| 5651                      | 1.71  | 279.72 | 5648.69     | -12.87     | -40.33     | -12.36                      | 1.09                           | 578085.3 | 363378.2                                       |
| 5745                      | 2.22  | 277.49 | 5742.63     | -12.39     | -43.52     | -11.85                      | 0.55                           | 578082.1 | 363378.6                                       |
| 5840                      | 1.51  | 263.63 | 5837.58     | -12.29     | -46.59     | -11.71                      | 0.88                           | 578079.1 | 363378.7                                       |
| 5935                      | 0.62  | 254.64 | 5932.56     | -12.57     | -48.33     | -11.96                      | 0.95                           | 578077.3 | 363378.5                                       |
| 6029                      | 0.78  | 230.79 | 6026.56     | -13.11     | -49.31     | -12.49                      | 0.35                           | 578076.3 | 363377.9                                       |
| 6123                      | 1.36  | 211.73 | 6120.54     | -14.46     | -50.39     | -13.83                      | 0.72                           | 578075.3 | 363376.6                                       |
| 6217                      | 1.19  | 199.03 | 6214.52     | -16.33     | -51.3      | -15.69                      | 0.35                           | 578074.4 | 363374.7                                       |
| 6312                      | 0.48  | 283.57 | 6309.51     | -17.17     | -52.01     | -16.52                      | 1.31                           | 578073.7 | 363373.8                                       |
| 6406                      | 1.5   | 288.78 | 6403.49     | -16.68     | -53.56     | -16.01                      | 1.09                           | 578072.1 | 363374.3                                       |
| 6501                      | 0.91  | 270.89 | 6498.47     | -16.27     | -55.49     | -15.57                      | 0.73                           | 578070.2 | 363374.7                                       |
| 6683                      | 1.05  | 263.63 | 6680.44     | -16.43     | -58.59     | -15.7                       | 0.1                            | 578067.1 | 363374.6 TIE ON                                |
| 6799                      | 6.47  | 350.46 | 6796.19     | -10.1      | -60.73     | -9.34                       | 5.6                            | 578064.9 | 363380.9                                       |
| 6816                      | 8.61  | 351.36 | 6813.04     | -7.9       | -61.08     | -7.13                       | 12.61                          | 578064.6 | 363383.1                                       |
| 6864                      | 15.66 | 358.25 | 6859.94     | 2.14       | -61.82     | 2.92                        | 14.97                          | 578063.8 | 363393.2                                       |
| 6911                      | 21.69 | 0.56   | 6904.45     | 17.18      | -61.93     | 17.96                       | 12.92                          | 578063.7 | 363408.2                                       |
| 6958                      | 27.6  | 1.64   | 6947.15     | 36.77      | -61.53     | 37.54                       | 12.61                          | 578064.1 | 363427.8                                       |
| 7005                      | 31.85 | 4.18   | 6987.96     | 60.03      | -60.32     | 60.78                       | 9.43                           | 578065.3 | 363451.1                                       |
| 7053                      | 34.29 | 4.1    | 7028.18     | 86.15      | -58.43     | 86.88                       | 5.08                           | 578067.2 | 363477.2                                       |
| 7100                      | 37.19 | 5.35   | 7066.32     | 113.51     | -56.15     | 114.2                       | 6.36                           | 578069.5 | 363504.5                                       |
| 7131                      | 40.74 | 5.8    | 7090.42     | 132.91     | -54.26     | 133.58                      | 11.49                          | 578071.4 | 363523.9                                       |
| 7162                      | 44.42 | 5.25   | 7113.24     | 153.78     | -52.24     | 154.42                      | 11.93                          | 578073.4 | 363544.8                                       |
| 7194                      | 46.77 | 4.83   | 7135.63     | 176.55     | -50.24     | 177.17                      | 7.4                            | 578075.4 | 363567.6                                       |
| 7226                      | 48.7  | 3.84   | 7157.15     | 200.16     | -48.45     | 200.76                      | 6.45                           | 578077.2 | 363591.2                                       |
| 7257                      | 53.18 | 3.45   | 7176.68     | 224.18     | -46.92     | 224.75                      | 14.48                          | 578078.7 | 363615.2                                       |
| 7288                      | 57.23 | 3.6    | 7194.37     | 249.58     | -45.36     | 250.13                      | 13.07                          | 578080.3 | 363640.6                                       |
| 7335                      | 63.23 | 2.8    | 7217.7      | 290.3      | -43.09     | 290.82                      | 12.85                          | 578082.6 | 363681.3                                       |
| 7385                      | 70.12 | 0.54   | 7237.48     | 336.16     | -41.77     | 336.66                      | 14.39                          | 578083.9 | 363727.2                                       |
| 7429                      | 77.05 | 359.57 | 7249.91     | 378.34     | -41.74     | 378.84                      | 15.89                          | 578083.9 | 363769.4                                       |
| 7477                      | 82.55 | 359.16 | 7258.41     | 425.56     | -42.27     | 426.06                      | 11.49                          | 578083.4 | 363816.6                                       |
| 7572                      | 89.26 | 359.79 | 7265.19     | 520.26     | -43.13     | 520.76                      | 7.09                           | 578082.5 | 363911.3                                       |
| 7632                      | 92.5  | 359.54 | 7264.27     | 580.24     | -43.48     | 580.75                      | 5.42                           | 578082.2 | 363971.3                                       |
| 7726                      | 91.77 | 358.72 | 7260.76     | 674.17     | -44.91     | 674.68                      | 1.17                           | 578080.8 | 364065.2                                       |
| 7762.5                    | 91.47 | 358.39 | 7259.73     | 710.64     | -45.83     | 711.16                      | 1.22                           | 578079.8 | 364101.7 FTP @ 7762.5' MD, 330' FSL, 1723' FWL |
| 7821                      | 90.99 | 357.86 | 7258.48     | 769.1      | -47.74     | 769.63                      | 1.22                           | 578077.9 | 364160.1                                       |
| 7915                      | 91.55 | 357.5  | 7256.39     | 862.99     | -51.55     | 863.57                      | 0.71                           | 578074.1 | 364254                                         |
| 8010                      | 87.19 | 356.63 | 7257.44     | 957.84     | -56.41     | 958.47                      | 4.68                           | 578069.3 | 364348.9                                       |
| 8104                      | 87.51 | 355.87 | 7261.78     | 1051.54    | -62.55     | 1052.24                     | 0.88                           | 578063.1 | 364442.6                                       |
| 8199                      | 86.93 | 357.24 | 7266.39     | 1146.25    | -68.25     | 1147.02                     | 1.56                           | 578057.4 | 364537.3                                       |
| 8293                      | 87.42 | 358.88 | 7271.02     | 1240.08    | -71.43     | 1240.88                     | 1.82                           | 578054.2 | 364631.1                                       |
| 8387                      | 88.6  | 358.99 | 7274.29     | 1334.01    | -73.18     | 1334.82                     | 1.26                           | 578052.5 | 364725                                         |
| 8481                      | 90    | 358.54 | 7275.44     | 1427.97    | -75.2      | 1428.81                     | 1.56                           | 578050.5 | 364819                                         |
| 8576                      | 90.67 | 357.75 | 7274.88     | 1522.92    | -78.28     | 1523.79                     | 1.09                           | 578047.4 | 364913.9                                       |

| Measured<br>Depth<br>(ft) | Incl. | Azim.  | TVD<br>(ft) | NS<br>(ft) | EW<br>(ft) | Vertical<br>Section<br>(ft) | Dogleg<br>Rate<br>(dega/100ft) | Easting  | Northing |
|---------------------------|-------|--------|-------------|------------|------------|-----------------------------|--------------------------------|----------|----------|
| 8670                      | 89.1  | 358.89 | 7275.07     | 1616.88    | -81.03     | 1617.77                     | 2.06                           | 578044.6 | 365007.9 |
| 8764                      | 88.47 | 0.55   | 7277.06     | 1710.85    | -81.49     | 1711.74                     | 1.89                           | 578044.2 | 365101.9 |
| 8859                      | 89.44 | 0.62   | 7278.8      | 1805.83    | -80.52     | 1806.7                      | 1.02                           | 578045.1 | 365196.8 |
| 8954                      | 90.81 | 0.32   | 7278.59     | 1900.82    | -79.74     | 1901.68                     | 1.48                           | 578045.9 | 365291.8 |
| 9048                      | 89.33 | 359.37 | 7278.47     | 1994.82    | -80        | 1995.67                     | 1.87                           | 578045.7 | 365385.8 |
| 9143                      | 89.03 | 359.3  | 7279.83     | 2089.8     | -81.1      | 2090.66                     | 0.32                           | 578044.6 | 365480.8 |
| 9237                      | 87.35 | 359.47 | 7282.8      | 2183.75    | -82.11     | 2184.61                     | 1.8                            | 578043.6 | 365574.8 |
| 9332                      | 87.67 | 359.25 | 7286.93     | 2278.65    | -83.17     | 2279.52                     | 0.41                           | 578042.5 | 365669.7 |
| 9426                      | 88.85 | 358.75 | 7289.78     | 2372.59    | -84.81     | 2373.47                     | 1.36                           | 578040.9 | 365763.6 |
| 9520                      | 90.08 | 358.09 | 7290.66     | 2466.55    | -87.4      | 2467.45                     | 1.48                           | 578038.3 | 365857.6 |
| 9615                      | 87.79 | 358.54 | 7292.43     | 2561.49    | -90.19     | 2562.42                     | 2.46                           | 578035.5 | 365952.5 |
| 9709                      | 88.4  | 358.23 | 7295.55     | 2655.4     | -92.84     | 2656.35                     | 0.73                           | 578032.8 | 366046.4 |
| 9804                      | 89.77 | 358.24 | 7297.07     | 2750.34    | -95.77     | 2751.32                     | 1.44                           | 578029.9 | 366141.4 |
| 9898                      | 90.01 | 359.11 | 7297.25     | 2844.31    | -97.94     | 2845.32                     | 0.96                           | 578027.7 | 366235.3 |
| 9992                      | 88.82 | 1.3    | 7298.21     | 2938.3     | -97.6      | 2939.29                     | 2.65                           | 578028.1 | 366329.3 |
| 10086                     | 90.02 | 1.43   | 7299.16     | 3032.26    | -95.36     | 3033.22                     | 1.28                           | 578030.3 | 366423.3 |
| 10181                     | 89.98 | 359.99 | 7299.16     | 3127.25    | -94.19     | 3128.19                     | 1.52                           | 578031.5 | 366518.3 |
| 10275                     | 90.95 | 359.47 | 7298.4      | 3221.25    | -94.63     | 3222.18                     | 1.17                           | 578031   | 366612.3 |
| 10369                     | 91.98 | 359.18 | 7295.99     | 3315.21    | -95.74     | 3316.15                     | 1.14                           | 578029.9 | 366706.2 |
| 10464                     | 90.5  | 359.83 | 7293.94     | 3410.18    | -96.56     | 3411.13                     | 1.7                            | 578029.1 | 366801.2 |
| 10558                     | 90.21 | 0.42   | 7293.36     | 3504.18    | -96.35     | 3505.11                     | 0.7                            | 578029.3 | 366895.2 |
| 10652                     | 90.61 | 0.41   | 7292.68     | 3598.17    | -95.67     | 3599.09                     | 0.43                           | 578030   | 366989.2 |
| 10747                     | 88.71 | 1.84   | 7293.25     | 3693.15    | -93.81     | 3694.03                     | 2.5                            | 578031.9 | 367084.2 |
| 10841                     | 86.58 | 2.75   | 7297.11     | 3786.99    | -90.05     | 3787.82                     | 2.46                           | 578035.6 | 367178   |
| 10935                     | 87.3  | 2.12   | 7302.13     | 3880.77    | -86.06     | 3881.54                     | 1.02                           | 578039.6 | 367271.8 |
| 11030                     | 88.17 | 1.39   | 7305.88     | 3975.65    | -83.15     | 3976.38                     | 1.2                            | 578042.5 | 367366.7 |
| 11124                     | 88.33 | 1.16   | 7308.75     | 4069.58    | -81.06     | 4070.28                     | 0.3                            | 578044.6 | 367460.6 |
| 11218                     | 87.44 | 1.64   | 7312.22     | 4163.48    | -78.77     | 4164.15                     | 1.08                           | 578046.9 | 367554.5 |
| 11313                     | 88.87 | 0.38   | 7315.28     | 4258.42    | -77.09     | 4259.05                     | 2.01                           | 578048.6 | 367649.4 |
| 11407                     | 89.02 | 0.15   | 7317.01     | 4352.4     | -76.66     | 4353.02                     | 0.29                           | 578049   | 367743.4 |
| 11501                     | 89.62 | 359.52 | 7318.13     | 4446.39    | -76.93     | 4447.01                     | 0.93                           | 578048.7 | 367837.4 |
| 11596                     | 89.78 | 359.64 | 7318.62     | 4541.39    | -77.63     | 4542                        | 0.21                           | 578048   | 367932.4 |
| 11690                     | 91.05 | 0.73   | 7317.94     | 4635.38    | -77.32     | 4635.99                     | 1.78                           | 578048.3 | 368026.4 |
| 11784                     | 87.11 | 1.36   | 7319.45     | 4729.33    | -75.61     | 4729.91                     | 4.24                           | 578050.1 | 368120.4 |
| 11879                     | 86.45 | 0.69   | 7324.79     | 4824.17    | -73.91     | 4824.72                     | 0.99                           | 578051.7 | 368215.2 |
| 11973                     | 87.51 | 358.86 | 7329.74     | 4918.03    | -74.28     | 4918.58                     | 2.25                           | 578051.4 | 368309.1 |
| 12068                     | 87.7  | 355.98 | 7333.71     | 5012.84    | -78.55     | 5013.43                     | 3.04                           | 578047.1 | 368403.9 |
| 12162                     | 90.29 | 356.17 | 7335.36     | 5106.6     | -84.99     | 5107.26                     | 2.76                           | 578040.7 | 368497.6 |
| 12256                     | 92.83 | 355.27 | 7332.8      | 5200.29    | -92        | 5201.04                     | 2.87                           | 578033.7 | 368591.3 |
| 12348                     | 91.01 | 355.74 | 7329.72     | 5291.96    | -99.2      | 5292.78                     | 2.04                           | 578026.5 | 368683   |
| 12442                     | 87.69 | 355.46 | 7330.79     | 5385.66    | -106.41    | 5386.57                     | 3.54                           | 578019.2 | 368776.7 |
| 12536                     | 87.08 | 357.27 | 7335.07     | 5479.37    | -112.37    | 5480.35                     | 2.03                           | 578013.3 | 368870.4 |
| 12631                     | 85.72 | 358.65 | 7341.04     | 5574.12    | -115.74    | 5575.13                     | 2.04                           | 578009.9 | 368965.1 |
| 12725                     | 86.88 | 358.61 | 7347.11     | 5667.89    | -117.99    | 5668.93                     | 1.23                           | 578007.7 | 369058.9 |
| 12819                     | 88.45 | 358.33 | 7350.94     | 5761.78    | -120.49    | 5762.84                     | 1.7                            | 578005.2 | 369152.8 |
| 12913                     | 86.78 | 358.93 | 7354.85     | 5855.67    | -122.74    | 5856.75                     | 1.89                           | 578002.9 | 369246.7 |
| 13008                     | 85.97 | 0.44   | 7360.85     | 5950.47    | -123.26    | 5951.55                     | 1.8                            | 578002.4 | 369341.5 |
| 13105                     | 87.28 | 0.41   | 7366.56     | 6047.3     | -122.54    | 6048.36                     | 1.35                           | 578003.1 | 369438.3 |
| 13199                     | 89.12 | 0.3    | 7369.52     | 6141.24    | -121.96    | 6142.29                     | 1.96                           | 578003.7 | 369532.3 |
| 13293                     | 87.15 | 0.64   | 7372.58     | 6235.19    | -121.19    | 6236.22                     | 2.13                           | 578004.5 | 369626.2 |
| 13388                     | 87.6  | 0.67   | 7376.93     | 6330.08    | -120.1     | 6331.09                     | 0.47                           | 578005.6 | 369721.1 |
| 13482                     | 89.8  | 0.46   | 7379.06     | 6424.05    | -119.18    | 6425.04                     | 2.35                           | 578006.5 | 369815.1 |
| 13577                     | 87.04 | 0.36   | 7381.68     | 6519       | -118.5     | 6519.97                     | 2.91                           | 578007.2 | 369910   |
| 13671                     | 87.3  | 1.02   | 7386.32     | 6612.88    | -117.37    | 6613.83                     | 0.75                           | 578008.3 | 370003.9 |
| 13766                     | 88.87 | 0.96   | 7389.49     | 6707.81    | -115.73    | 6708.73                     | 1.65                           | 578009.9 | 370098.8 |
| 13860                     | 87.51 | 0.39   | 7392.46     | 6801.75    | -114.62    | 6802.65                     | 1.57                           | 578011   | 370192.8 |
| 13955                     | 86.84 | 359.13 | 7397.15     | 6896.63    | -115.02    | 6897.53                     | 1.5                            | 578010.6 | 370287.7 |
| 14049                     | 87.88 | 358.28 | 7401.48     | 6990.51    | -117.14    | 6991.43                     | 1.43                           | 578008.5 | 370381.5 |
| 14144                     | 89.44 | 357.36 | 7403.7      | 7085.41    | -120.75    | 7086.36                     | 1.91                           | 578004.9 | 370476.4 |
| 14239                     | 88.38 | 357.3  | 7405.5      | 7180.29    | -125.18    | 7181.29                     | 1.12                           | 578000.5 | 370571.3 |
| 14333                     | 88.8  | 356.75 | 7407.82     | 7274.13    | -130.05    | 7275.19                     | 0.74                           | 577995.6 | 370665.2 |
| 14428                     | 89.97 | 356.07 | 7408.84     | 7368.94    | -136       | 7370.06                     | 1.42                           | 577989.7 | 370760   |

| Measured<br>Depth<br>(ft) | Incl. | Azim.  | TVD<br>(ft) | NS<br>(ft) | EW<br>(ft) | Vertical<br>Section<br>(ft) | Dogleg<br>Rate<br>(dega/100ft) | Easting  | Northing |                           |
|---------------------------|-------|--------|-------------|------------|------------|-----------------------------|--------------------------------|----------|----------|---------------------------|
| 14485                     | 90.8  | 356.12 | 7408.45     | 7425.8     | -139.88    | 7426.97                     | 1.46                           | 577985.8 | 370816.8 | LAST SVY                  |
| 14543                     | 90.8  | 356.12 | 7407.64     | 7483.66    | -143.81    | 7484.88                     | 0                              | 577981.9 | 370874.7 | PTB @ 331' FNL, 1710' FWL |

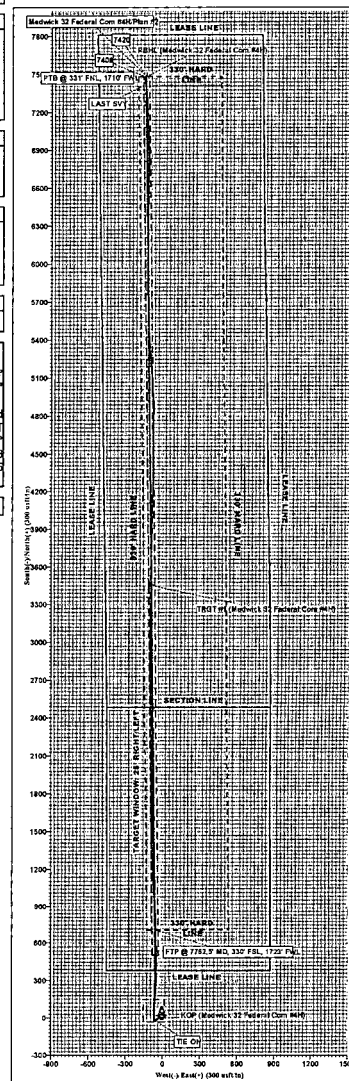
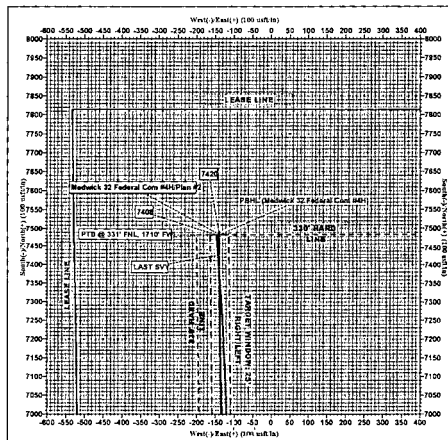
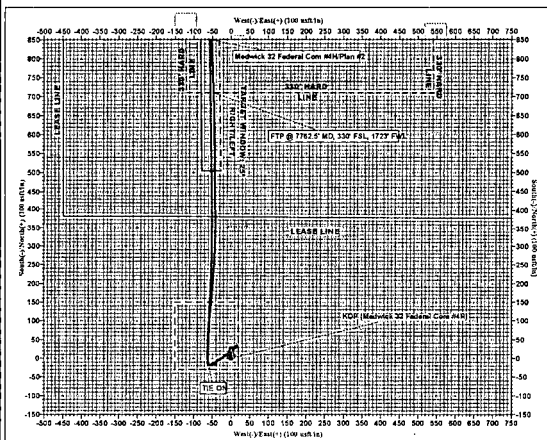


| WELL DETAILS: Medwicks 32 Federal Cam #4H |       |        |        |           |        |           |         |                                     |                                  |                  |  |
|-------------------------------------------|-------|--------|--------|-----------|--------|-----------|---------|-------------------------------------|----------------------------------|------------------|--|
| *N-S                                      |       | *E-W   |        | Northing  |        | Easting   |         | Latitude                            |                                  | Longitude        |  |
| 0+0                                       |       | 0+0    |        | 363391.02 |        | 370812.56 |         | 31° 18' 56.361 N                    |                                  | 104° 1' 52.771 W |  |
| SECTION DETAILS                           |       |        |        |           |        |           |         |                                     |                                  |                  |  |
| MD                                        | Inc   | Azi    | TVD    | *N-S      | *E-W   | GRD       | TFace   | Vsect                               | Annotation                       |                  |  |
| 6953.0                                    | 1.05  | 263.63 | 6180.4 | -18.4     | -58.6  | 0.00      | 0.00    | -12.7                               | TIE OH - 106' + 106' @ 6953.0 MD |                  |  |
| 6788.1                                    | 0.00  | 263.63 | 6180.4 | -18.4     | -58.6  | 0.00      | 0.00    | 0.0                                 | COP - DLS 12.00 TFD 100.00       |                  |  |
| 7164.6                                    | 45.00 | 32.7   | 7292.6 | 123.2     | -66.2  | 12.00     | 100.00  | 65.9                                | BLO - DLS 12.00 TFD -6.61        |                  |  |
| 7533.6                                    | 89.14 | 359.28 | 7264.9 | 484.8     | -89.0  | 12.00     | -65.1   | 459.1                               | EOT - 299.9' hold at 7533.6 MD   |                  |  |
| 10523.4                                   | 89.14 | 359.28 | 7310.2 | 545.8     | -89.0  | 0.00      | 0.00    | 144.7                               | Start DLS 2.00 TFD -178.68       |                  |  |
| 10568.6                                   | 88.43 | 359.28 | 7367.7 | 549.0     | -89.0  | 2.00      | -179.68 | 486.9                               | Bore - 299.9' hold at 10568.6 MD |                  |  |
| 14566.4                                   | 88.43 | 359.28 | 7420.0 | 7495.0    | -119.2 | 0.00      | 0.00    | 7495.1                              | TD at 14566.4                    |                  |  |
| DESIGN TARGET DETAILS                     |       |        |        |           |        |           |         |                                     |                                  |                  |  |
| Name                                      |       |        |        | MD        |        | *N-S      |         | *E-W                                |                                  | Northing         |  |
| COP (Medwicks 32 Federal Cam #4H)         |       |        |        | 6785.0    |        | 0.0       |         | 0.0                                 |                                  | 363391.02        |  |
| TIECT #1 (Medwicks 32 Federal Cam #4H)    |       |        |        | 7315.8    |        | 3453.8    |         | -88.5                               |                                  | 578021.71        |  |
| PBHL (Medwicks 32 Federal Cam #4H)        |       |        |        | 7420.0    |        | 7485.0    |         | -139.2                              |                                  | 577986.44        |  |
| ANNOTATIONS                               |       |        |        |           |        |           |         |                                     |                                  |                  |  |
| MD                                        | Inc   | Azi    | TVD    | *N-S      | *E-W   | Vsect     | Usec    | Annotation                          |                                  |                  |  |
| 6982.0                                    | 1.05  | 263.63 | 6180.4 | -18.4     | -58.6  | -15.7     | 171.1   | TIE OH                              |                                  |                  |  |
| 7762.5                                    | 91.47 | 358.39 | 7259.7 | 710.6     | -45.8  | 711.2     | 900.3   | PTB @ 7762.5 MD, 330 FSL, 1723 FWL  |                                  |                  |  |
| 14485.0                                   | 90.80 | 56.00  | 1427.2 | 7465.8    | -119.2 | 7465.7    | 7465.7  | PTB @ 14485.0 MD, 330 FSL, 1723 FWL |                                  |                  |  |
| 14643.0                                   | 90.80 | 56.00  | 1407.6 | 7407.6    | -143.8 | 7448.4    | 9003.7  | PTB @ 14643.0 MD, 330 FSL, 1723 FWL |                                  |                  |  |



Azimuths to Grid North  
True North: -0.06°  
Magnetic North: 7.07°  
Magnetic Field  
Strength: 47641.2nT  
Dip Angle: 59.74°  
Date: 05/24/2018  
Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 7.07°



**TARGET WINDOW: 10' ABOVE/BELOW**

