

# **Cimarex Energy Co.**

**Eddy County (NM83E)**

**Sec 27-T25S-R26E**

**Chosa Draw "27" Fed Com #2H**

**Lateral #2 Sidetrack #1**

**Survey: Sidetrack Surveys**

## **Standard Survey Report**

**21 July, 2009**

# Great White Directional Services

## Survey Report

|                                          |                                                                      |
|------------------------------------------|----------------------------------------------------------------------|
| <b>Company:</b> Cimarex Energy Co.       | <b>Local Co-ordinate Reference:</b> Well Chosa Draw "27" Fed Com #2H |
| <b>Project:</b> Eddy County (NM83E)      | <b>TVD Reference:</b> WELL @ 0.0ft (Original Well Elev)              |
| <b>Site:</b> Sec 27-T25S-R26E            | <b>MD Reference:</b> WELL @ 0.0ft (Original Well Elev)               |
| <b>Well:</b> Chosa Draw "27" Fed Com #2H | <b>North Reference:</b> Grid                                         |
| <b>Wellbore:</b> Lateral #2 Sidetrack #1 | <b>Survey Calculation Method:</b> Minimum Curvature                  |
| <b>Design:</b> Lateral #2 Sidetrack #1   | <b>Database:</b> EDM 2003.16 Single User Db                          |

|                                             |                                     |
|---------------------------------------------|-------------------------------------|
| <b>Project:</b> Eddy County (NM83E)         | <b>System Datum:</b> Mean Sea Level |
| <b>Map System:</b> US State Plane 1983      |                                     |
| <b>Geo Datum:</b> North American Datum 1983 |                                     |
| <b>Map Zone:</b> New Mexico Eastern Zone    |                                     |

|                                     |                               |                                     |
|-------------------------------------|-------------------------------|-------------------------------------|
| <b>Site:</b> Sec 27-T25S-R26E       | <b>Northing:</b> 398,100.70ft | <b>Latitude:</b> 32° 5' 40.000 N    |
| <b>Site Position:</b>               | <b>Easting:</b> 559,691.10ft  | <b>Longitude:</b> 104° 16' 26.634 W |
| <b>From:</b> Map                    | <b>Slot Radius:</b> "         | <b>Grid Convergence:</b> 0.03 °     |
| <b>Position Uncertainty:</b> 0.0 ft |                               |                                     |

|                                          |                                |                                     |
|------------------------------------------|--------------------------------|-------------------------------------|
| <b>Well:</b> Chosa Draw "27" Fed Com #2H | <b>Northing:</b> 402,923.30 ft | <b>Latitude:</b> 32° 6' 27.727 N    |
| <b>Well Position</b> +N/-S 0.0 ft        | <b>Easting:</b> 559,397.30 ft  | <b>Longitude:</b> 104° 16' 30.019 W |
| +E/-W 0.0 ft                             | <b>Wellhead Elevation:</b> ft  | <b>Ground Level:</b> 0.0 ft         |
| <b>Position Uncertainty</b> 0.0 ft       |                                |                                     |

**Wellbore:** Lateral #2 Sidetrack #1

| Magnetics: | Model Name | Sample Date | Declination<br>(°) | Dip Angle<br>(°) | Field Strength<br>(nT) |
|------------|------------|-------------|--------------------|------------------|------------------------|
|            | IGRF200510 | 2009/07/15  | 8.11               | 60.02            | 48,712                 |

**Design:** Lateral #2 Sidetrack #1

**Audit Notes:**

|                     |                      |                          |
|---------------------|----------------------|--------------------------|
| <b>Version:</b> 1.0 | <b>Phase:</b> ACTUAL | <b>Tie On Depth:</b> 0.0 |
|---------------------|----------------------|--------------------------|

| Vertical Section: | Depth From (TVD)<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Direction<br>(°) |
|-------------------|--------------------------|---------------|---------------|------------------|
|                   | 0.0                      | 0.0           | 0.0           | 164.76           |

**Survey Program** Date: 2009/07/21

| From<br>(ft) | To<br>(ft) | Survey (Wellbore)                           | Tool Name | Description    |
|--------------|------------|---------------------------------------------|-----------|----------------|
| 1,664.0      | 3,937.0    | Sidetrack Surveys (Lateral #2 Sidetrack #1) | MWD       | MWD - Standard |

**Survey**

| Measured<br>Depth<br>(ft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Vertical<br>Section<br>(ft) | Dogleg<br>Rate<br>(°/100ft) | Build<br>Rate<br>(°/100ft) | Turn<br>Rate<br>(°/100ft) |
|---------------------------|--------------------|----------------|---------------------------|---------------|---------------|-----------------------------|-----------------------------|----------------------------|---------------------------|
| 1,600.0                   | 2.39               | 93.22          | 1,599.4                   | -26.0         | -7.2          | 23.2                        | 0.00                        | 0.00                       | 0.00                      |
| 1,664.0                   | 8.30               | 161.10         | 1,663.1                   | -30.5         | -4.4          | 28.3                        | 12.07                       | 9.23                       | 106.06                    |
| 1,695.0                   | 16.70              | 168.60         | 1,693.4                   | -37.0         | -2.7          | 35.0                        | 27.54                       | 27.10                      | 24.19                     |
| 1,724.0                   | 26.40              | 167.40         | 1,720.3                   | -47.4         | -0.5          | 45.6                        | 33.48                       | 33.45                      | -4.14                     |
| 1,756.0                   | 35.10              | 165.40         | 1,747.8                   | -63.3         | 3.4           | 61.9                        | 27.37                       | 27.19                      | -6.25                     |
| 1,787.0                   | 41.60              | 165.20         | 1,772.1                   | -81.9         | 8.2           | 81.1                        | 20.97                       | 20.97                      | -0.65                     |
| 1,819.0                   | 46.70              | 163.10         | 1,795.0                   | -103.3        | 14.3          | 103.4                       | 16.58                       | 15.94                      | -6.56                     |
| 1,851.0                   | 51.40              | 162.30         | 1,816.0                   | -126.4        | 21.5          | 127.6                       | 14.81                       | 14.69                      | -2.50                     |
| 1,883.0                   | 61.00              | 165.20         | 1,833.8                   | -151.9        | 28.9          | 154.1                       | 30.93                       | 30.00                      | 9.06                      |
| 1,914.0                   | 72.50              | 166.90         | 1,846.0                   | -179.5        | 35.8          | 182.6                       | 37.44                       | 37.10                      | 5.48                      |
| 1,946.0                   | 85.00              | 170.80         | 1,852.2                   | -210.2        | 41.8          | 213.8                       | 40.84                       | 39.06                      | 12.19                     |
| 1,978.0                   | 90.30              | 171.60         | 1,853.5                   | -241.8        | 46.7          | 245.5                       | 16.75                       | 16.56                      | 2.50                      |
| 2,009.0                   | 91.10              | 170.90         | 1,853.2                   | -272.4        | 51.4          | 276.3                       | 3.43                        | 2.58                       | -2.26                     |

# Great White Directional Services

## Survey Report

**Company:** Cimarex Energy Co.  
**Project:** Eddy County (NM83E)  
**Site:** Sec 27-T25S-R26E  
**Well:** Chosa Draw "27" Fed Com #2H  
**Wellbore:** Lateral #2 Sidetrack #1  
**Design:** Lateral #2 Sidetrack #1

**Local Co-ordinate Reference:** Well Chosa Draw "27" Fed Com #2H  
**TVD Reference:** WELL @ 0.0ft (Original Well Elev)  
**MD Reference:** WELL @ 0.0ft (Original Well Elev)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Single User Db

### Survey

| Measured Depth (ft)        | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|----------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 2,041.0                    | 91.10           | 170.20      | 1,852.6             | -304.0     | 56.7       | 308.2                 | 2.19                  | 0.00                 | -2.19               |
| 2,072.0                    | 89.70           | 168.80      | 1,852.3             | -334.4     | 62.3       | 339.1                 | 6.39                  | -4.52                | -4.52               |
| 2,104.0                    | 89.60           | 168.70      | 1,852.5             | -365.8     | 68.6       | 371.0                 | 0.44                  | -0.31                | -0.31               |
| 2,135.0                    | 89.20           | 168.10      | 1,852.9             | -396.2     | 74.8       | 401.9                 | 2.33                  | -1.29                | -1.94               |
| 2,166.0                    | 89.10           | 167.90      | 1,853.3             | -426.5     | 81.2       | 432.9                 | 0.72                  | -0.32                | -0.65               |
| 2,198.0                    | 89.60           | 165.80      | 1,853.7             | -457.7     | 88.5       | 464.8                 | 6.75                  | 1.56                 | -6.56               |
| 2,229.0                    | 89.60           | 164.80      | 1,853.9             | -487.7     | 96.4       | 495.8                 | 3.23                  | 0.00                 | -3.23               |
| 2,261.0                    | 90.10           | 163.30      | 1,854.0             | -518.4     | 105.2      | 527.8                 | 4.94                  | 1.56                 | -4.69               |
| 2,292.0                    | 90.30           | 163.30      | 1,853.9             | -548.1     | 114.1      | 558.8                 | 0.65                  | 0.65                 | 0.00                |
| 2,324.0                    | 90.50           | 163.20      | 1,853.6             | -578.8     | 123.3      | 590.8                 | 0.70                  | 0.62                 | -0.31               |
| 2,355.0                    | 90.70           | 163.00      | 1,853.3             | -608.4     | 132.3      | 621.8                 | 0.91                  | 0.65                 | -0.65               |
| 2,387.0                    | 90.90           | 163.20      | 1,852.9             | -639.0     | 141.6      | 653.8                 | 0.88                  | 0.62                 | 0.62                |
| 2,418.0                    | 90.70           | 162.90      | 1,852.4             | -668.7     | 150.6      | 684.8                 | 1.16                  | -0.65                | -0.97               |
| 2,449.0                    | 89.90           | 161.90      | 1,852.3             | -698.2     | 160.0      | 715.7                 | 4.13                  | -2.58                | -3.23               |
| <b>Tie onto OH</b>         |                 |             |                     |            |            |                       |                       |                      |                     |
| 2,511.0                    | 87.60           | 169.20      | 1,853.6             | -758.2     | 175.5      | 777.7                 | 12.34                 | -3.71                | 11.77               |
| <b>First ST MWD Survey</b> |                 |             |                     |            |            |                       |                       |                      |                     |
| 2,543.0                    | 88.10           | 173.90      | 1,854.8             | -789.8     | 180.2      | 809.4                 | 14.76                 | 1.56                 | 14.69               |
| 2,575.0                    | 87.40           | 174.40      | 1,856.1             | -821.6     | 183.4      | 841.0                 | 2.69                  | -2.19                | 1.56                |
| 2,607.0                    | 87.80           | 174.10      | 1,857.4             | -853.5     | 186.6      | 872.5                 | 1.56                  | 1.25                 | -0.94               |
| 2,638.0                    | 88.90           | 173.20      | 1,858.3             | -884.2     | 190.1      | 903.1                 | 4.58                  | 3.55                 | -2.90               |
| 2,670.0                    | 89.30           | 172.60      | 1,858.8             | -916.0     | 194.0      | 934.8                 | 2.25                  | 1.25                 | -1.87               |
| 2,702.0                    | 90.10           | 172.30      | 1,859.0             | -947.7     | 198.2      | 966.5                 | 2.67                  | 2.50                 | -0.94               |
| 2,734.0                    | 90.10           | 171.80      | 1,858.9             | -979.4     | 202.7      | 998.2                 | 1.56                  | 0.00                 | -1.56               |
| 2,766.0                    | 91.10           | 171.00      | 1,858.6             | -1,011.1   | 207.4      | 1,030.0               | 4.00                  | 3.12                 | -2.50               |
| 2,798.0                    | 91.60           | 170.80      | 1,857.8             | -1,042.6   | 212.5      | 1,061.8               | 1.68                  | 1.56                 | -0.62               |
| 2,830.0                    | 92.00           | 170.60      | 1,856.8             | -1,074.2   | 217.7      | 1,093.6               | 1.40                  | 1.25                 | -0.62               |
| 2,861.0                    | 92.20           | 170.20      | 1,855.7             | -1,104.7   | 222.8      | 1,124.5               | 1.44                  | 0.65                 | -1.29               |
| 2,892.0                    | 92.60           | 169.80      | 1,854.4             | -1,135.3   | 228.2      | 1,155.3               | 1.82                  | 1.29                 | -1.29               |
| 2,924.0                    | 92.80           | 169.30      | 1,852.9             | -1,166.7   | 234.0      | 1,187.2               | 1.68                  | 0.62                 | -1.56               |
| 2,956.0                    | 90.90           | 168.70      | 1,851.9             | -1,198.1   | 240.1      | 1,219.1               | 6.23                  | -5.94                | -1.87               |
| 2,988.0                    | 91.00           | 168.60      | 1,851.3             | -1,229.4   | 246.4      | 1,251.0               | 0.44                  | 0.31                 | -0.31               |
| 3,019.0                    | 90.90           | 168.90      | 1,850.8             | -1,259.8   | 252.5      | 1,281.9               | 1.02                  | -0.32                | 0.97                |
| 3,051.0                    | 90.90           | 168.90      | 1,850.3             | -1,291.2   | 258.6      | 1,313.8               | 0.00                  | 0.00                 | 0.00                |
| 3,083.0                    | 91.20           | 168.80      | 1,849.7             | -1,322.6   | 264.8      | 1,345.7               | 0.99                  | 0.94                 | -0.31               |
| 3,114.0                    | 91.00           | 167.30      | 1,849.1             | -1,353.0   | 271.2      | 1,376.7               | 4.88                  | -0.65                | -4.84               |
| 3,146.0                    | 90.10           | 163.70      | 1,848.8             | -1,383.9   | 279.2      | 1,408.7               | 11.60                 | -2.81                | -11.25              |
| 3,176.0                    | 89.20           | 160.60      | 1,849.0             | -1,412.5   | 288.4      | 1,438.6               | 10.76                 | -3.00                | -10.33              |
| 3,207.0                    | 89.50           | 159.40      | 1,849.4             | -1,441.6   | 299.0      | 1,469.5               | 3.99                  | 0.97                 | -3.87               |
| 3,238.0                    | 89.20           | 158.00      | 1,849.7             | -1,470.5   | 310.3      | 1,500.3               | 4.62                  | -0.97                | -4.52               |
| 3,270.0                    | 89.30           | 155.40      | 1,850.1             | -1,499.9   | 322.9      | 1,532.0               | 8.13                  | 0.31                 | -8.12               |
| 3,333.0                    | 92.80           | 156.50      | 1,849.0             | -1,557.4   | 348.6      | 1,594.3               | 5.82                  | 5.56                 | 1.75                |
| 3,359.0                    | 93.00           | 155.90      | 1,847.7             | -1,581.1   | 359.1      | 1,619.9               | 2.43                  | 0.77                 | -2.31               |
| 3,389.0                    | 93.20           | 155.60      | 1,846.0             | -1,608.5   | 371.4      | 1,649.5               | 1.20                  | 0.67                 | -1.00               |
| 3,418.0                    | 93.80           | 155.40      | 1,844.3             | -1,634.8   | 383.4      | 1,678.1               | 2.18                  | 2.07                 | -0.69               |
| 3,448.0                    | 94.10           | 155.10      | 1,842.2             | -1,662.0   | 395.9      | 1,707.6               | 1.41                  | 1.00                 | -1.00               |
| 3,478.0                    | 92.00           | 154.90      | 1,840.6             | -1,689.1   | 408.6      | 1,737.1               | 7.03                  | -7.00                | -0.67               |
| 3,507.0                    | 91.70           | 154.70      | 1,839.7             | -1,715.4   | 420.9      | 1,765.7               | 1.24                  | -1.03                | -0.69               |
| 3,538.0                    | 89.80           | 155.40      | 1,839.3             | -1,743.5   | 434.0      | 1,796.2               | 6.53                  | -6.13                | 2.26                |
| 3,567.0                    | 89.80           | 155.50      | 1,839.4             | -1,769.8   | 446.0      | 1,824.8               | 0.34                  | 0.00                 | 0.34                |
| 3,595.0                    | 89.50           | 154.90      | 1,839.5             | -1,795.3   | 457.8      | 1,852.5               | 2.40                  | -1.07                | -2.14               |
| 3,626.0                    | 89.70           | 154.80      | 1,839.8             | -1,823.3   | 471.0      | 1,883.0               | 0.72                  | 0.65                 | -0.32               |
| 3,655.0                    | 89.20           | 155.80      | 1,840.0             | -1,849.7   | 483.1      | 1,911.6               | 3.86                  | -1.72                | 3.45                |
| 3,685.0                    | 88.70           | 155.20      | 1,840.6             | -1,877.0   | 495.5      | 1,941.2               | 2.60                  | -1.67                | -2.00               |

# Great White Directional Services

## Survey Report

|                  |                             |                                     |                                   |
|------------------|-----------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>  | Cimarex Energy Co.          | <b>Local Co-ordinate Reference:</b> | Well Chosa Draw "27" Fed Com #2H  |
| <b>Project:</b>  | Eddy County (NM83E)         | <b>TVD Reference:</b>               | WELL @ 0.0ft (Original Well Elev) |
| <b>Site:</b>     | Sec 27-T25S-R26E            | <b>MD Reference:</b>                | WELL @ 0.0ft (Original Well Elev) |
| <b>Well:</b>     | Chosa Draw "27" Fed Com #2H | <b>North Reference:</b>             | Grid                              |
| <b>Wellbore:</b> | Lateral #2 Sidetrack #1     | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Design:</b>   | Lateral #2 Sidetrack #1     | <b>Database:</b>                    | EDM 2003.16 Single User Db        |

### Survey

| Measured Depth (ft)       | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/S (ft) | +E/W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---------------------------|-----------------|-------------|---------------------|-----------|-----------|-----------------------|-----------------------|----------------------|---------------------|
| 3,714.0                   | 88.20           | 154.40      | 1,841.4             | -1,903.2  | 507.9     | 1,969.8               | 3.25                  | -1.72                | -2.76               |
| 3,740.0                   | 89.10           | 156.00      | 1,842.0             | -1,926.8  | 518.8     | 1,995.4               | 7.06                  | 3.46                 | 6.15                |
| 3,775.0                   | 88.90           | 158.10      | 1,842.6             | -1,959.0  | 532.4     | 2,030.1               | 6.03                  | -0.57                | 6.00                |
| 3,808.0                   | 88.60           | 158.40      | 1,843.3             | -1,989.6  | 544.6     | 2,062.8               | 1.29                  | -0.91                | 0.91                |
| 3,834.0                   | 87.50           | 161.30      | 1,844.2             | -2,014.0  | 553.6     | 2,088.7               | 11.92                 | -4.23                | 11.15               |
| 3,865.0                   | 87.90           | 161.30      | 1,845.4             | -2,043.4  | 563.5     | 2,119.6               | 1.29                  | 1.29                 | 0.00                |
| 3,896.0                   | 88.10           | 161.50      | 1,846.5             | -2,072.7  | 573.4     | 2,150.6               | 0.91                  | 0.65                 | 0.65                |
| <b>Last ST MWD Survey</b> |                 |             |                     |           |           |                       |                       |                      |                     |
| 3,937.0                   | 88.10           | 161.50      | 1,847.9             | -2,111.6  | 586.4     | 2,191.5               | 0.00                  | 0.00                 | 0.00                |
| <b>Proj to TD</b>         |                 |             |                     |           |           |                       |                       |                      |                     |

### Survey Annotations

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |           | Comment             |
|---------------------|---------------------|-------------------|-----------|---------------------|
|                     |                     | +N/S (ft)         | +E/W (ft) |                     |
| 2,449.0             | 1,852.3             | -698.2            | 160.0     | Tie onto OH         |
| 2,511.0             | 1,853.6             | -758.2            | 175.5     | First ST MWD Survey |
| 3,896.0             | 1,846.5             | -2,072.7          | 573.4     | Last ST MWD Survey  |
| 3,937.0             | 1,847.9             | -2,111.6          | 586.4     | Proj to TD          |

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

# **Cimarex Energy Co.**

**Eddy County (NM83E)**

**Sec 27-T25S-R26E**

**Chosa Draw "27" Fed Com #2H**

**Lateral #2 ST #2**

**Survey: Sidetrack #2**

## **Standard Survey Report**

**21 July, 2009**

# Great White Directional Services

## Survey Report

|                  |                             |                                     |                                   |
|------------------|-----------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>  | Cimarex Energy Co           | <b>Local Co-ordinate Reference:</b> | Well Chosa Draw "27" Fed Com #2H  |
| <b>Project:</b>  | Eddy County (NM83E)         | <b>TVD Reference:</b>               | WELL @ 0.0ft (Original Well Elev) |
| <b>Site:</b>     | Sec 27-T25S-R26E            | <b>MD Reference:</b>                | WELL @ 0.0ft (Original Well Elev) |
| <b>Well:</b>     | Chosa Draw "27" Fed Com #2H | <b>North Reference:</b>             | Grid                              |
| <b>Wellbore:</b> | Lateral #2 ST #2            | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Design:</b>   | Lateral #2 ST #2            | <b>Database:</b>                    | EDM 2003.16 Single User Db        |

|                    |                           |                      |                |
|--------------------|---------------------------|----------------------|----------------|
| <b>Project:</b>    | Eddy County (NM83E)       | <b>System Datum:</b> | Mean Sea Level |
| <b>Map System:</b> | US State Plane 1983       |                      |                |
| <b>Geo Datum:</b>  | North American Datum 1983 |                      |                |
| <b>Map Zone:</b>   | New Mexico Eastern Zone   |                      |                |

|                              |                  |                          |                   |
|------------------------------|------------------|--------------------------|-------------------|
| <b>Site:</b>                 | Sec 27-T25S-R26E |                          |                   |
| <b>Site Position:</b>        |                  | <b>Northing:</b>         | 398,100.70ft      |
| <b>From:</b>                 | Map              | <b>Easting:</b>          | 559,691.10ft      |
| <b>Position Uncertainty:</b> | 0.0 ft           | <b>Slot Radius:</b>      | "                 |
|                              |                  | <b>Latitude:</b>         | 32° 5' 40.000 N   |
|                              |                  | <b>Longitude:</b>        | 104° 16' 26.634 W |
|                              |                  | <b>Grid Convergence:</b> | 0.03°             |

|                             |                             |                            |                  |                      |                   |                   |
|-----------------------------|-----------------------------|----------------------------|------------------|----------------------|-------------------|-------------------|
| <b>Well</b>                 | Chosa Draw "27" Fed Com #2H |                            |                  |                      |                   |                   |
| <b>Well Position</b>        | <b>+N/-S</b>                | 0.0 ft                     | <b>Northing:</b> | 402,923.30 ft        | <b>Latitude:</b>  | 32° 6' 27.727 N   |
|                             | <b>+E/-W</b>                | 0.0 ft                     | <b>Easting:</b>  | 559,397.30 ft        | <b>Longitude:</b> | 104° 16' 30.019 W |
| <b>Position Uncertainty</b> | 0.0 ft                      | <b>Wellhead Elevation:</b> | ft               | <b>Ground Level:</b> | 0.0 ft            |                   |

|           |                  |             |                    |                  |                        |
|-----------|------------------|-------------|--------------------|------------------|------------------------|
| Wellbore  | Lateral #2 ST #2 |             |                    |                  |                        |
| Magnetics | Model Name       | Sample Date | Declination<br>(°) | Dip Angle<br>(°) | Field Strength<br>(nT) |
|           | IGRF200510       | 2009/07/16  | 8.11               | 60.02            | 48,712                 |

|                   |                  |        |        |               |     |
|-------------------|------------------|--------|--------|---------------|-----|
| Design:           | Lateral #2 ST #2 |        |        |               |     |
| Audit Notes:      |                  |        |        |               |     |
| Version:          | 1.0              | Phase: | ACTUAL | Tie On Depth: | 0.0 |
| Vertical Section: | Depth From (TVD) | +N/-S  | +E/-W  | Direction     |     |
|                   | (ft)             | (ft)   | (ft)   | (°)           |     |
|                   | 0.0              | 0.0    | 0.0    | 164.76        |     |

|                |            |                                 |           |                |
|----------------|------------|---------------------------------|-----------|----------------|
| Survey Program |            | Date 2009/07/21                 |           |                |
| From<br>(ft)   | To<br>(ft) | Survey (Wellbore)               | Tool Name | Description    |
| 1,664.0        | 3,990.0    | Sidetrack #2 (Lateral #2 ST #2) | MWD       | MWD - Standard |

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 1,600.0             | 2.39            | 93.22       | 1,599.4             | -26.0      | -7.2       | 23.2                  | 0.00                  | 0.00                 | 0.00                |
| 1,664.0             | 8.30            | 161.10      | 1,663.1             | -30.5      | -4.4       | 28.3                  | 12.07                 | 9.23                 | 106.06              |
| 1,695.0             | 16.70           | 168.60      | 1,693.4             | -37.0      | -2.7       | 35.0                  | 27.54                 | 27.10                | 24.19               |
| 1,724.0             | 26.40           | 167.40      | 1,720.3             | -47.4      | -0.5       | 45.6                  | 33.48                 | 33.45                | -4.14               |
| 1,756.0             | 35.10           | 165.40      | 1,747.8             | -63.3      | 3.4        | 61.9                  | 27.37                 | 27.19                | -6.25               |
| 1,787.0             | 41.60           | 165.20      | 1,772.1             | -81.9      | 8.2        | 81.1                  | 20.97                 | 20.97                | -0.65               |
| 1,819.0             | 46.70           | 163.10      | 1,795.0             | -103.3     | 14.3       | 103.4                 | 16.58                 | 15.94                | -6.56               |
| 1,851.0             | 51.40           | 162.30      | 1,816.0             | -126.4     | 21.5       | 127.6                 | 14.81                 | 14.69                | -2.50               |
| 1,883.0             | 61.00           | 165.20      | 1,833.8             | -151.9     | 28.9       | 154.1                 | 30.93                 | 30.00                | 9.06                |
| 1,914.0             | 72.50           | 166.90      | 1,846.0             | -179.5     | 35.8       | 182.6                 | 37.44                 | 37.10                | 5.48                |
| 1,946.0             | 85.00           | 170.80      | 1,852.2             | -210.2     | 41.8       | 213.8                 | 40.84                 | 39.06                | 12.19               |
| 1,978.0             | 90.30           | 171.60      | 1,853.5             | -241.8     | 46.7       | 245.5                 | 16.75                 | 16.56                | 2.50                |
| 2,009.0             | 91.10           | 170.90      | 1,853.2             | -272.4     | 51.4       | 276.3                 | 3.43                  | 2.58                 | -2.26               |

# Great White Directional Services

## Survey Report

Company: Cimarex Energy Co.  
Project: Eddy County (NM83E)  
Site: Sec 27-T25S-R26E  
Well: Chosa Draw "27" Fed Com #2H  
Wellbore: Lateral #2 ST #2  
Design: Lateral #2 ST #2

Local Co-ordinate Reference: Well Chosa Draw "27" Fed Com #2H  
TVD Reference: WELL @ 0.0ft (Original Well Elev)  
MD Reference: WELL @ 0.0ft (Original Well Elev)  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature  
Database: EDM 2003.16 Single User Db

| Survey                |                 |             |                     |           |           |                       |                       |                      |                     |  |
|-----------------------|-----------------|-------------|---------------------|-----------|-----------|-----------------------|-----------------------|----------------------|---------------------|--|
| Measured Depth (ft)   | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N-S (ft) | +E-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |  |
| 2,041.0               | 91.10           | 170.20      | 1,852.6             | -304.0    | 56.7      | 308.2                 | 2.19                  | 0.00                 | -2.19               |  |
| 2,072.0               | 89.70           | 168.80      | 1,852.3             | -334.4    | 62.3      | 339.1                 | 6.39                  | -4.52                | -4.52               |  |
| 2,104.0               | 89.60           | 168.70      | 1,852.5             | -365.8    | 68.6      | 371.0                 | 0.44                  | -0.31                | -0.31               |  |
| 2,135.0               | 89.20           | 168.10      | 1,852.9             | -396.2    | 74.8      | 401.9                 | 2.33                  | -1.29                | -1.94               |  |
| 2,166.0               | 89.10           | 167.90      | 1,853.3             | -426.5    | 81.2      | 432.9                 | 0.72                  | -0.32                | -0.65               |  |
| 2,198.0               | 89.60           | 165.80      | 1,853.7             | -457.7    | 88.5      | 464.8                 | 6.75                  | 1.56                 | -6.56               |  |
| 2,229.0               | 89.60           | 164.80      | 1,853.9             | -487.7    | 96.4      | 495.8                 | 3.23                  | 0.00                 | -3.23               |  |
| 2,261.0               | 90.10           | 163.30      | 1,854.0             | -518.4    | 105.2     | 527.8                 | 4.94                  | 1.56                 | -4.69               |  |
| 2,292.0               | 90.30           | 163.30      | 1,853.9             | -548.1    | 114.1     | 558.8                 | 0.65                  | 0.65                 | 0.00                |  |
| 2,324.0               | 90.50           | 163.20      | 1,853.6             | -578.8    | 123.3     | 590.8                 | 0.70                  | 0.62                 | -0.31               |  |
| 2,355.0               | 90.70           | 163.00      | 1,853.3             | -608.4    | 132.3     | 621.8                 | 0.91                  | 0.65                 | -0.65               |  |
| 2,387.0               | 90.90           | 163.20      | 1,852.9             | -639.0    | 141.6     | 653.8                 | 0.88                  | 0.62                 | 0.62                |  |
| 2,418.0               | 90.70           | 162.90      | 1,852.4             | -668.7    | 150.6     | 684.8                 | 1.16                  | -0.65                | -0.97               |  |
| 2,449.0               | 89.90           | 161.90      | 1,852.3             | -698.2    | 160.0     | 715.7                 | 4.13                  | -2.58                | -3.23               |  |
| 2,511.0               | 87.60           | 169.20      | 1,853.6             | -758.2    | 175.5     | 777.7                 | 12.34                 | -3.71                | 11.77               |  |
| 2,543.0               | 88.10           | 173.90      | 1,854.8             | -789.8    | 180.2     | 809.4                 | 14.76                 | 1.56                 | 14.69               |  |
| 2,575.0               | 87.40           | 174.40      | 1,856.1             | -821.6    | 183.4     | 841.0                 | 2.69                  | -2.19                | 1.56                |  |
| 2,607.0               | 87.80           | 174.10      | 1,857.4             | -853.5    | 186.6     | 872.5                 | 1.56                  | 1.25                 | -0.94               |  |
| 2,638.0               | 88.90           | 173.20      | 1,858.3             | -884.2    | 190.1     | 903.1                 | 4.58                  | 3.55                 | -2.90               |  |
| 2,670.0               | 89.30           | 172.60      | 1,858.8             | -916.0    | 194.0     | 934.8                 | 2.25                  | 1.25                 | -1.87               |  |
| 2,702.0               | 90.10           | 172.30      | 1,859.0             | -947.7    | 198.2     | 966.5                 | 2.67                  | 2.50                 | -0.94               |  |
| 2,734.0               | 90.10           | 171.80      | 1,858.9             | -979.4    | 202.7     | 998.2                 | 1.56                  | 0.00                 | -1.56               |  |
| 2,766.0               | 91.10           | 171.00      | 1,858.6             | -1,011.1  | 207.4     | 1,030.0               | 4.00                  | 3.12                 | -2.50               |  |
| 2,798.0               | 91.60           | 170.80      | 1,857.8             | -1,042.6  | 212.5     | 1,061.8               | 1.68                  | 1.56                 | -0.62               |  |
| 2,830.0               | 92.00           | 170.60      | 1,856.8             | -1,074.2  | 217.7     | 1,093.6               | 1.40                  | 1.25                 | -0.62               |  |
| 2,861.0               | 92.20           | 170.20      | 1,855.7             | -1,104.7  | 222.8     | 1,124.5               | 1.44                  | 0.65                 | -1.29               |  |
| 2,892.0               | 92.60           | 169.80      | 1,854.4             | -1,135.3  | 228.2     | 1,155.3               | 1.82                  | 1.29                 | -1.29               |  |
| 2,924.0               | 92.80           | 169.30      | 1,852.9             | -1,166.7  | 234.0     | 1,187.2               | 1.68                  | 0.62                 | -1.56               |  |
| 2,956.0               | 90.90           | 168.70      | 1,851.9             | -1,198.1  | 240.1     | 1,219.1               | 6.23                  | -5.94                | -1.87               |  |
| 2,988.0               | 91.00           | 168.60      | 1,851.3             | -1,229.4  | 246.4     | 1,251.0               | 0.44                  | 0.31                 | -0.31               |  |
| 3,019.0               | 90.90           | 168.90      | 1,850.8             | -1,259.8  | 252.5     | 1,281.9               | 1.02                  | -0.32                | 0.97                |  |
| 3,051.0               | 90.90           | 168.90      | 1,850.3             | -1,291.2  | 258.6     | 1,313.8               | 0.00                  | 0.00                 | 0.00                |  |
| 3,083.0               | 91.20           | 168.80      | 1,849.7             | -1,322.6  | 264.8     | 1,345.7               | 0.99                  | 0.94                 | -0.31               |  |
| 3,114.0               | 91.00           | 167.30      | 1,849.1             | -1,353.0  | 271.2     | 1,376.7               | 4.88                  | -0.65                | -4.84               |  |
| 3,146.0               | 90.10           | 163.70      | 1,848.8             | -1,383.9  | 279.2     | 1,408.7               | 11.60                 | -2.81                | -11.25              |  |
| 3,176.0               | 89.20           | 160.60      | 1,849.0             | -1,412.5  | 288.4     | 1,438.6               | 10.76                 | -3.00                | -10.33              |  |
| 3,207.0               | 89.50           | 159.40      | 1,849.4             | -1,441.6  | 299.0     | 1,469.5               | 3.99                  | 0.97                 | -3.87               |  |
| 3,238.0               | 89.20           | 158.00      | 1,849.7             | -1,470.5  | 310.3     | 1,500.3               | 4.62                  | -0.97                | -4.52               |  |
| Tie onto ST#1         |                 |             |                     |           |           |                       |                       |                      |                     |  |
| 3,269.0               | 89.20           | 159.18      | 1,850.2             | -1,499.3  | 321.6     | 1,531.2               | 3.79                  | 0.00                 | 3.79                |  |
| First ST#2 MWD Survey |                 |             |                     |           |           |                       |                       |                      |                     |  |
| 3,296.0               | 89.20           | 160.20      | 1,850.5             | -1,524.7  | 331.0     | 1,558.0               | 3.79                  | 0.00                 | 3.79                |  |
| 3,328.0               | 90.30           | 163.80      | 1,850.7             | -1,555.1  | 340.9     | 1,590.0               | 11.76                 | 3.44                 | 11.25               |  |
| 3,360.0               | 91.60           | 164.10      | 1,850.1             | -1,585.8  | 349.7     | 1,622.0               | 4.17                  | 4.06                 | 0.94                |  |
| 3,392.0               | 90.90           | 163.90      | 1,849.4             | -1,616.6  | 358.5     | 1,654.0               | 2.27                  | -2.19                | -0.62               |  |
| 3,424.0               | 89.90           | 162.80      | 1,849.2             | -1,647.3  | 367.7     | 1,686.0               | 4.65                  | -3.12                | -3.44               |  |
| 3,456.0               | 86.20           | 161.60      | 1,850.3             | -1,677.7  | 377.5     | 1,717.9               | 12.15                 | -11.56               | -3.75               |  |
| 3,487.0               | 85.60           | 160.90      | 1,852.5             | -1,707.0  | 387.4     | 1,748.8               | 2.97                  | -1.94                | -2.26               |  |
| 3,519.0               | 85.50           | 159.60      | 1,855.0             | -1,737.0  | 398.2     | 1,780.6               | 4.06                  | -0.31                | -4.06               |  |
| 3,550.0               | 85.80           | 159.60      | 1,857.4             | -1,766.0  | 409.0     | 1,811.4               | 0.97                  | 0.97                 | 0.00                |  |
| 3,582.0               | 87.90           | 160.30      | 1,859.1             | -1,796.0  | 419.9     | 1,843.2               | 6.92                  | 6.56                 | 2.19                |  |
| 3,613.0               | 88.40           | 160.00      | 1,860.1             | -1,825.1  | 430.4     | 1,874.1               | 1.88                  | 1.61                 | -0.97               |  |
| 3,645.0               | 88.80           | 159.60      | 1,860.9             | -1,855.2  | 441.5     | 1,906.0               | 1.77                  | 1.25                 | -1.25               |  |
| 3,676.0               | 88.60           | 159.40      | 1,861.6             | -1,884.2  | 452.3     | 1,936.8               | 0.91                  | -0.65                | -0.65               |  |

# Great White Directional Services

## Survey Report

|                                          |                                                                      |
|------------------------------------------|----------------------------------------------------------------------|
| <b>Company:</b> Cimarex Energy Co.       | <b>Local Co-ordinate Reference:</b> Well Chosa Draw "27" Fed Com #2H |
| <b>Project:</b> Eddy County (NM83E)      | <b>TVD Reference:</b> WELL @ 0.0ft (Original Well Elev)              |
| <b>Site:</b> Sec 27-T25S-R26E            | <b>MD Reference:</b> WELL @ 0.0ft (Original Well Elev)               |
| <b>Well:</b> Chosa Draw "27" Fed Com #2H | <b>North Reference:</b> Grid                                         |
| <b>Wellbore:</b> Lateral #2 ST #2        | <b>Survey Calculation Method:</b> Minimum Curvature                  |
| <b>Design:</b> Lateral #2 ST #2          | <b>Database:</b> EDM 2003.16 Single User Db                          |

### Survey

| Measured Depth<br>(ft)      | Inclination<br>(°) | Azimuth<br>(°) | Vertical Depth<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Vertical Section<br>(ft) | Dogleg Rate<br>(°/100ft) | Build Rate<br>(°/100ft) | Turn Rate<br>(°/100ft) |
|-----------------------------|--------------------|----------------|------------------------|---------------|---------------|--------------------------|--------------------------|-------------------------|------------------------|
| 3,709.0                     | 87.40              | 159.40         | 1,862.8                | -1,915.1      | 463.9         | 1,969.7                  | 3.64                     | -3.64                   | 0.00                   |
| 3,740.0                     | 87.40              | 159.20         | 1,864.2                | -1,944.0      | 474.9         | 2,000.5                  | 0.64                     | 0.00                    | -0.65                  |
| 3,771.0                     | 87.90              | 159.40         | 1,865.4                | -1,973.0      | 485.8         | 2,031.3                  | 1.74                     | 1.61                    | -0.65                  |
| 3,801.0                     | 87.70              | 159.20         | 1,866.6                | -2,001.0      | 496.4         | 2,061.2                  | 0.94                     | -0.67                   | -0.67                  |
| 3,833.0                     | 87.90              | 159.30         | 1,867.8                | -2,030.9      | 507.8         | 2,093.0                  | 0.70                     | 0.62                    | 0.31                   |
| 3,865.0                     | 89.80              | 159.10         | 1,868.5                | -2,060.8      | 519.1         | 2,124.8                  | 5.97                     | 5.94                    | -0.62                  |
| 3,896.0                     | 90.10              | 159.00         | 1,868.5                | -2,089.8      | 530.2         | 2,155.7                  | 1.02                     | 0.97                    | -0.32                  |
| 3,927.0                     | 90.50              | 158.60         | 1,868.3                | -2,118.7      | 541.4         | 2,186.5                  | 1.82                     | 1.29                    | -1.29                  |
| 3,949.0                     | 91.80              | 158.40         | 1,867.9                | -2,139.2      | 549.5         | 2,208.4                  | 5.98                     | 5.91                    | -0.91                  |
| <b>Last ST#2 MWD Survey</b> |                    |                |                        |               |               |                          |                          |                         |                        |
| 3,990.0                     | 91.80              | 158.40         | 1,866.6                | -2,177.3      | 564.6         | 2,249.1                  | 0.00                     | 0.00                    | 0.00                   |
| <b>Proj to TD</b>           |                    |                |                        |               |               |                          |                          |                         |                        |

### Survey Annotations

| Measured Depth<br>(ft) | Vertical Depth<br>(ft) | Local Coordinates |               | Comment               |
|------------------------|------------------------|-------------------|---------------|-----------------------|
|                        |                        | +N/-S<br>(ft)     | +E/-W<br>(ft) |                       |
| 3,238.0                | 1,849.7                | -1,470.5          | 310.3         | Tie onto ST#1         |
| 3,269.0                | 1,850.2                | -1,499.3          | 321.6         | First ST#2 MWD Survey |
| 3,949.0                | 1,867.9                | -2,139.2          | 549.5         | Last ST#2 MWD Survey  |
| 3,990.0                | 1,866.6                | -2,177.3          | 564.6         | Proj to TD            |

|                   |                    |             |
|-------------------|--------------------|-------------|
| Checked By: _____ | Approved By: _____ | Date: _____ |
|-------------------|--------------------|-------------|

# Cimarex Energy Co.

Project Eddy County (NM83E)  
Site Sec 27-T2S-R26E  
Well Chosa Draw "27" Fed Com #2H  
Wellbore Lateral #2  
Design 07-09-09  
Plan Version

## WELL DETAILS: Chosa Draw "27" Fed Com #2H

+N/-S +E/-W Northing Easting Latitude Longitude  
0.0 0.0 402923.30 559397.30 32° 6' 27.727 N 104° 16' 30.019 W  
GL: 3251.0' KB ELEV: 3271.0'



### PLAN DETAILS

| MD     | Inc   | Azi    | TVD    | +N/-S   | +E/-W      | DLeg  | TFace  | VSec               | Target |
|--------|-------|--------|--------|---------|------------|-------|--------|--------------------|--------|
| 1651.0 | 2.23  | 91.13  | 1650.3 | -26.1   | -5.10.00   | 0.00  | 23.9   |                    |        |
| 1971.4 | 89.72 | 164.76 | 1854.0 | -222.0  | 56.1 27.81 | 73.65 | 228.9  |                    |        |
| 4003.4 | 89.72 | 164.77 | 1864.0 | -2182.5 | 590.0 0.00 | 0.00  | 2260.9 | CD 27 Fed #2H PBHL |        |

### WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

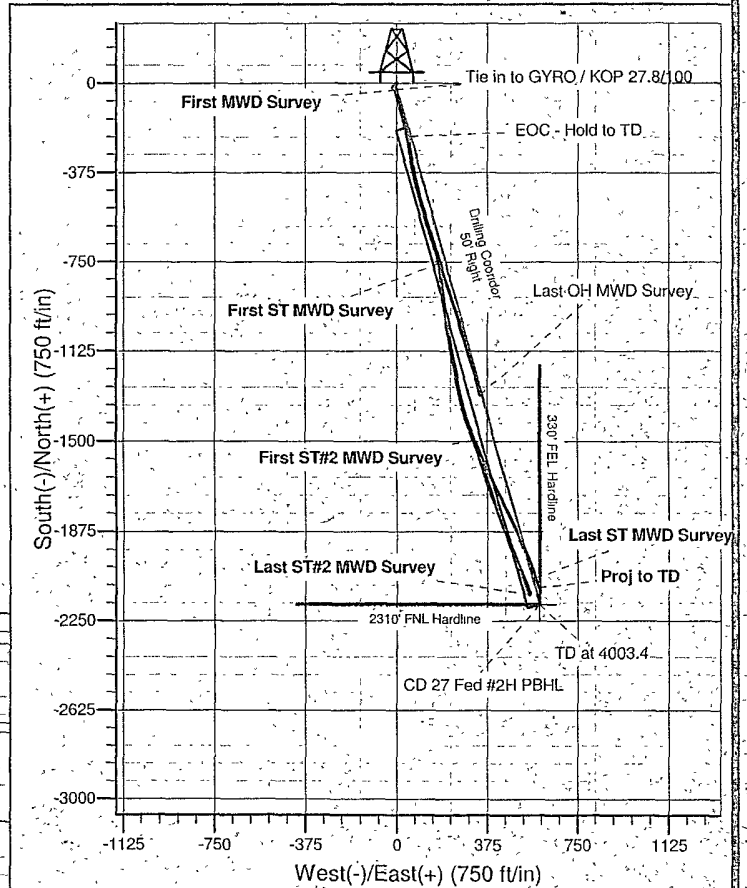
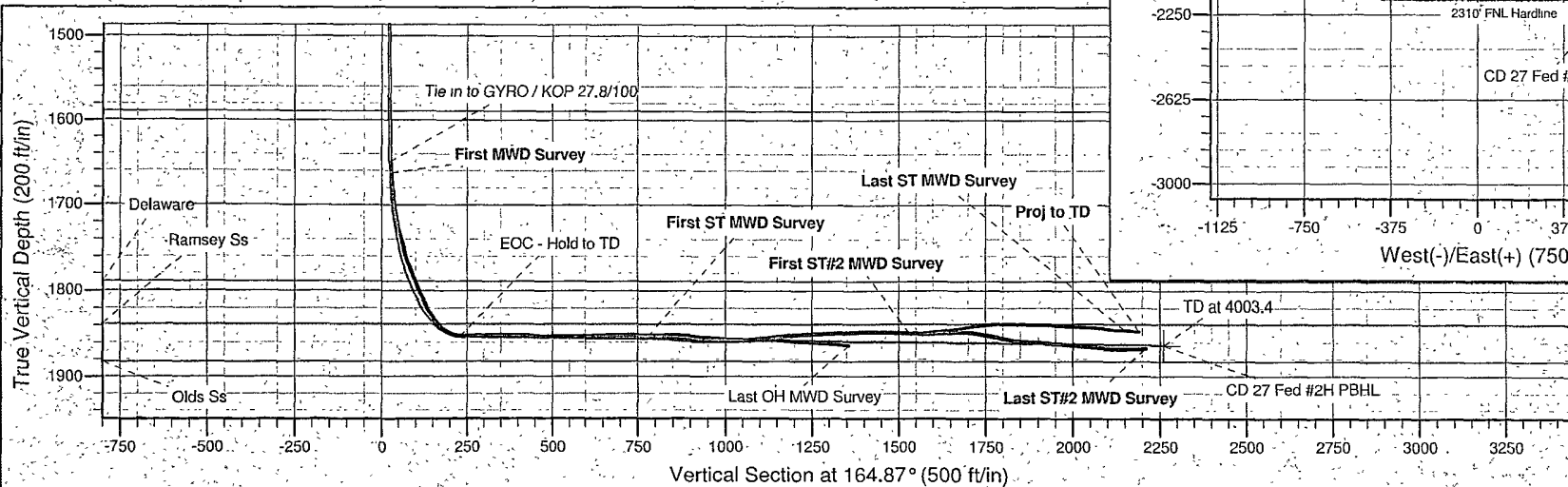
| Name               | TVD    | +N/-S   | +E/-W | Northing  | Easting   | Shape                            |
|--------------------|--------|---------|-------|-----------|-----------|----------------------------------|
| CD 27 Fed #2H PBHL | 1864.0 | -2182.5 | 590.0 | 400740.77 | 559987.34 | Point                            |
| Drilling Cooridor  | 1864.0 | -2182.5 | 590.0 | 400740.77 | 559987.34 | Rectangle (Sides: L2069.9 W50.0) |

### ANNOTATIONS

| TVD    | MD     | Annotation                    |
|--------|--------|-------------------------------|
| 1650.3 | 1651.0 | Tie in to GYRO / KOP 27.8/100 |
| 1854.0 | 1971.4 | EOC - Hold to TD              |
| 1863.8 | 4003.4 | TD at 4003.4                  |

### FORMATION TOP DETAILS

| TVD    | Path   | Formation |
|--------|--------|-----------|
| 996.0  | 996.3  | Olds Ss   |
| 1589.0 | 1589.6 | Top Salt  |
| 1790.0 | 1805.4 | Base Salt |
| 1839.0 | 1893.3 | Delaware  |
|        |        | Ramsey Ss |

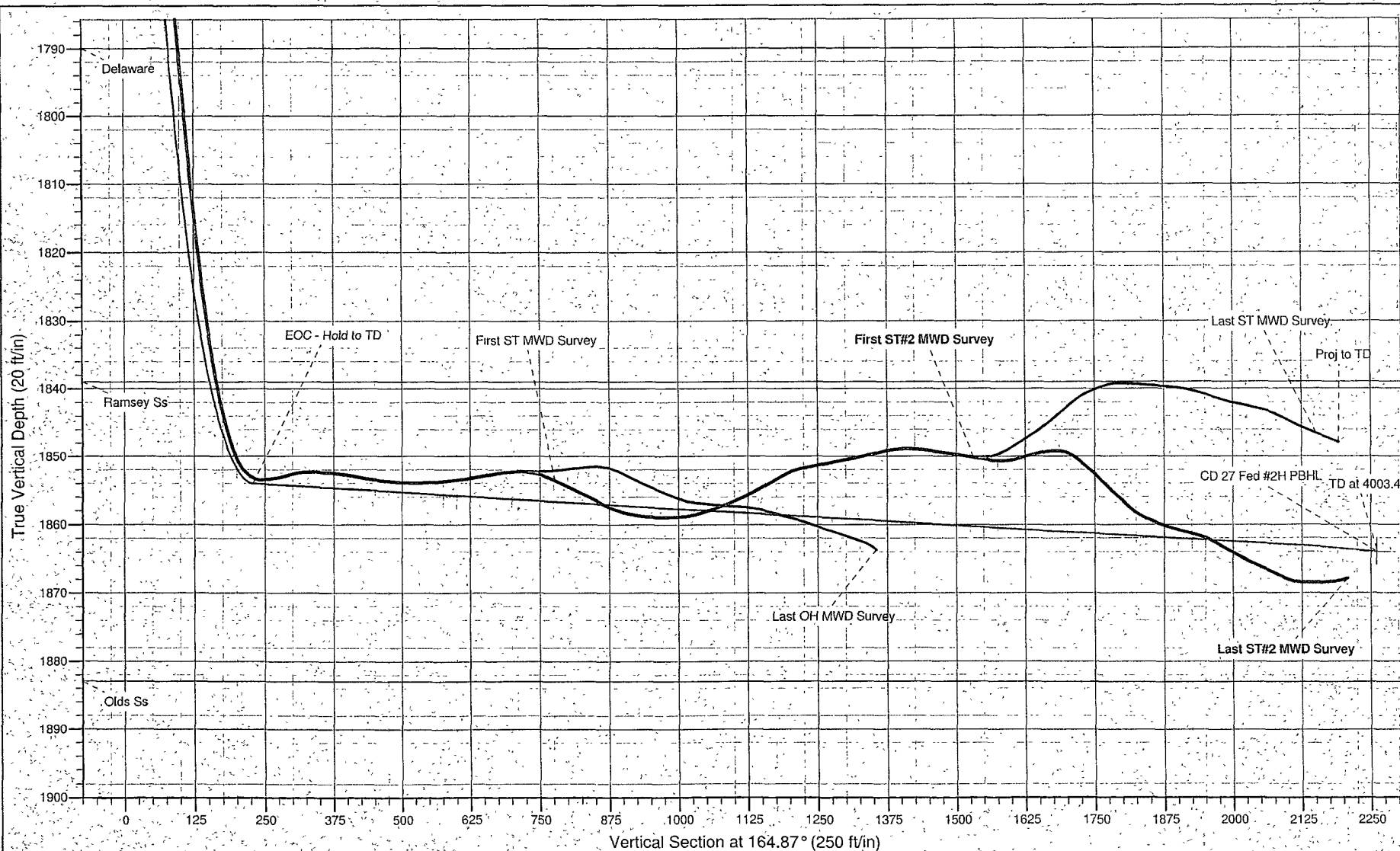


# Cimarex Energy Co.

Project: Eddy County (NM83E)  
 Site: Sec 27-125S-R22E  
 Well: Chass Draw "27" Fed Com #2H  
 Wellbore: Lateral #2  
 Design: 07-09-09  
 Plan Version:

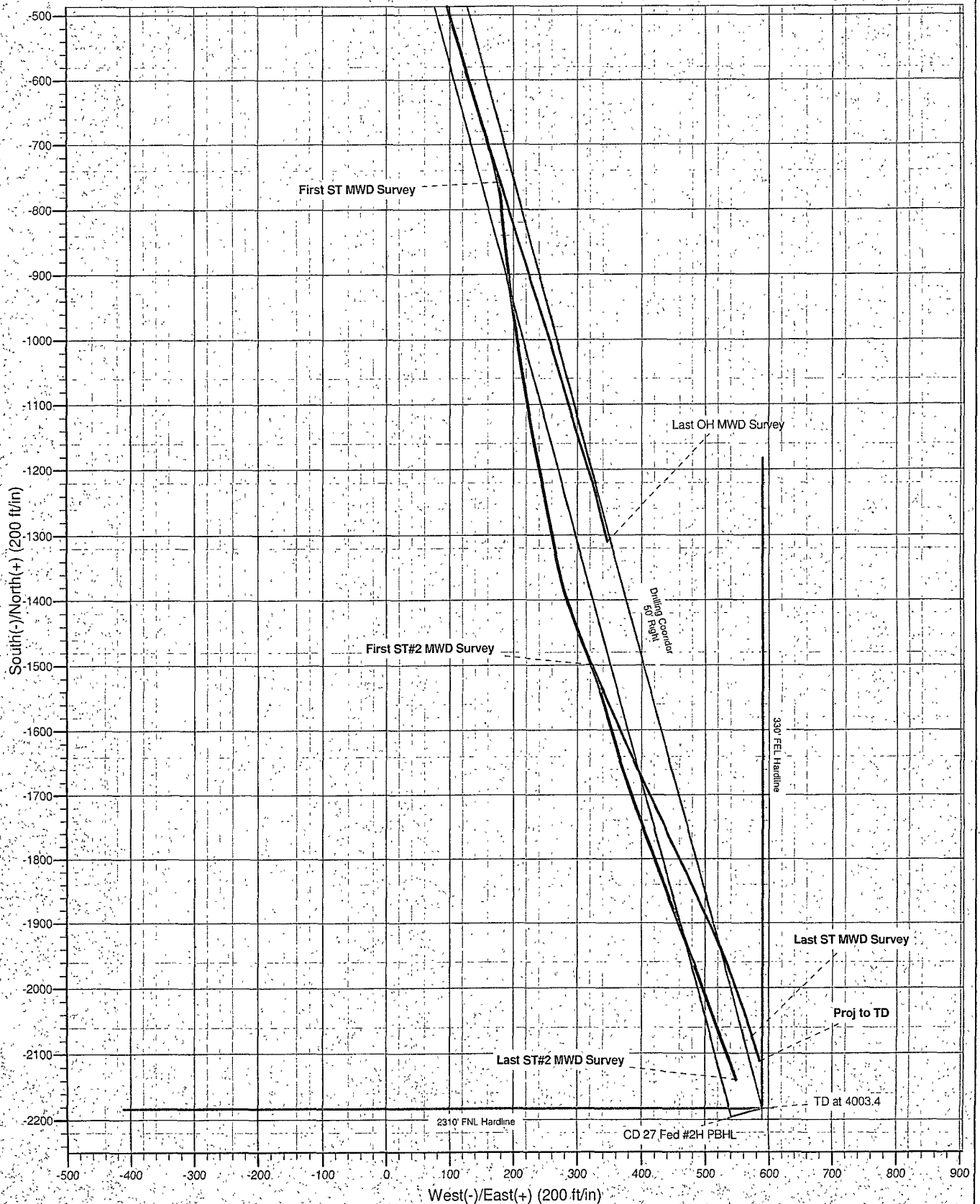


Azimuths to Grid North  
 Total Correction: 8.10°  
 Magnetic Field  
 Strength: 48727.1nT  
 Dip Angle: 60.02°  
 Date: 2009/05/19  
 Model: IGRF200510



# Cimarex Energy Co.

Project Eddy County (NM23E)  
Site Sec 27 T25S R26E  
Well: Chosa Draw #27 Fed Corn #2H  
Wellbore Lateral #2  
Design 07-09-09  
Plan Version



WINDOW @ 1670

# DOWN HOLE WELL PROFILE

|            |                       |                |               |
|------------|-----------------------|----------------|---------------|
| WELL NAME  | chosa draw 27 fed #2h | DATE           | 7/18/09       |
| SUPERVISOR | lee mermis            | TOOL HAND      | s. pennington |
| PHONE #    |                       | PHONE #        |               |
| RIG #      | KEY RIG 880           | FIELD TICKET # | 10912         |

## ELEVATIONS

|                           |         |              |                |               |      |
|---------------------------|---------|--------------|----------------|---------------|------|
| KB ELEV                   | GL ELEV | KB TO THF    | KB TO SCF      | RIG KBD       | PBTD |
|                           |         |              |                | 19            |      |
| CASING / OPEN HOLE LAYOUT | OD (IN) | LANDED DEPTH | WEIGHT (LB/FT) | TOP OF (FTKB) |      |
| CASING DESCRIPTION        | 5 1/2   |              | 17             |               |      |
| WINDOW DESCRIPTION        |         |              |                |               |      |
| OPEN HOLE DESCRIPTION     | 4 3/4   |              | JUNCTION @     |               |      |

## DESCRIPTION

| BOTTOM @ | DESCRIPTION                                     | LENGTH | ID    | OD    |
|----------|-------------------------------------------------|--------|-------|-------|
| 3640.00  | 2 7/8" EUE Peak Pump Out Plug                   | 0.78   | 0.750 | 3.675 |
| 3639.22  | 2 Jts 2 7/8" EUE 6.5# L-80 1-2                  | 64.59  | 2.441 | 2.875 |
| 3574.63  | 4-5/8" x 2-7/8" Peak Centralizer                | 0.58   | 2.375 | 4.625 |
| 3574.05  | 5.50" x 2-7/8" Peak Hydro Pak Anchor            | 3.87   | 2.375 | 4.500 |
| 3570.18  | 9 Jts 2 7/8" EUE 6.5# L-80 3-11                 | 287.34 | 2.441 | 2.875 |
| 3282.84  | 4-5/8" x 2-7/8" Peak Centralizer                | 0.58   | 2.375 | 4.625 |
| 3282.26  | 5.50" x 2-7/8" Peak Iso Pak Open Hole Packer #1 | 4.53   | 2.375 | 4.500 |
| 3277.73  | 1 Jts 2 7/8" EUE 6.5# L-80 12                   | 32.78  | 2.441 | 2.875 |
| 3244.95  | 4-5/8" x 2-7/8" Peak Centralizer                | 0.58   | 2.375 | 4.625 |
| 3244.37  | 5.50" x 2-7/8" Peak Iso Pak Open Hole Packer #2 | 4.53   | 2.375 | 4.500 |
| 3239.84  | 6 Jts 2 7/8" EUE 6.5# L-80 13-18                | 193.72 | 2.441 | 2.875 |
| 3046.12  | Strata Port #1 w/ 1.063" ID                     | 3.02   | 1.313 | 4.000 |
| 3043.10  | 5 Jts 2 7/8" EUE 6.5# L-80 19-23                | 160.98 | 2.441 | 2.875 |
| 2882.12  | 4-5/8" x 2-7/8" Peak Centralizer                | 0.58   | 2.375 | 4.625 |
| 2881.54  | 5.50" x 2-7/8" Peak Iso Pak Open Hole Packer #3 | 4.53   | 2.375 | 4.500 |
| 2877.01  | 5 Jts 2 7/8" EUE 6.5# L-80 24-28                | 159.39 | 2.441 | 2.875 |
| 2717.62  | Strata Port #2 w/ 1.313" ID                     | 3.02   | 1.563 | 4.000 |
| 2714.60  | 4 Jts 2 7/8" EUE 6.5# L-80 29-32                | 129.04 | 2.441 | 2.875 |
| 2585.56  | 4-5/8" x 2-7/8" Peak Centralizer                | 0.58   | 2.375 | 4.625 |
| 2584.98  | 5.50" x 2-7/8" Peak Iso Pak Open Hole Packer #4 | 4.53   | 2.375 | 4.500 |
| 2580.45  | 4 Jts 2 7/8" EUE 6.5# L-80 33-36                | 129.27 | 2.441 | 2.875 |
| 2451.18  | 4-5/8" x 2-7/8" Peak Centralizer                | 0.58   | 2.375 | 4.625 |
| 2450.60  | 5.50" x 2-7/8" Peak Iso Pak Open Hole Packer #5 | 4.53   | 2.375 | 4.500 |
| 2446.07  | 3 Jts 2 7/8" EUE 6.5# L-80 37-39                | 97.43  | 2.441 | 2.875 |
| 2348.64  | Strata Port #3 w/ 1.563" ID                     | 3.02   | 1.813 | 4.000 |
| 2345.62  | 4 Jts 2 7/8" EUE 6.5# L-80 40-43                | 129.87 | 2.441 | 2.875 |
| 2215.75  | 4-5/8" x 2-7/8" Peak Centralizer                | 0.58   | 2.375 | 4.625 |
| 2215.17  | 5.50" x 2-7/8" Peak Iso Pak Open Hole Packer #6 | 4.53   | 2.375 | 4.500 |
| 2210.64  | 3 Jts 2 7/8" EUE 6.5# L-80 44-46                | 96.58  | 2.441 | 2.875 |
| 2114.06  | Strata Port #4 w/ 1.813" ID                     | 3.02   | 2.063 | 4.000 |
| 2111.04  | 3 Jts 2 7/8" EUE 6.5# L-80 47-49                | 97.16  | 2.441 | 2.875 |
| 2013.88  | 4-5/8" x 2-7/8" Peak Centralizer                | 0.58   | 2.375 | 4.625 |
| 2013.30  | 5.50" x 2-7/8" Peak Iso Pak Open Hole Packer #7 | 4.53   | 2.375 | 4.500 |
| 2008.77  | XO 2 7/8" eue L-80 pin X 2 7/8" Ultra-FX box    | 1.21   | 2.441 | 3.150 |
|          |                                                 | 315.22 | 2.441 | 0.000 |

STRATA=PORT#4  
@2114.01  
2 PINS X 820= 1640 PSI  
BALL 2 25

STRATA-PORT #3  
2 PINS X 820= 1640 PSI  
@2348.00  
BALL 2 00

STRATA-PORT #2  
2 PINS X 820= 1640 PSI  
@2717.00  
BALL 1.75