



## **Cimarex Energy Co.**

**Eddy County (NM83E)**

**Sec 16 - T26S - R26E**

**Jumping Spring 16 State Com #1**

**Wellbore #1**

**Plan: Plan #1**

## **Standard Planning Report**

**01 February, 2011**



# Great White Directional Services Planning Report

|           |                                |                              |                                     |
|-----------|--------------------------------|------------------------------|-------------------------------------|
| Database: | EDM 5000.1 Single User Db      | Local Co-ordinate Reference: | Well Jumping Spring 16 State Com #1 |
| Company:  | Cimarex Energy Co.             | TVD Reference:               | WELL @ 0.0usft (Original Well Elev) |
| Project:  | Eddy County (NM83E)            | MD Reference:                | WELL @ 0.0usft (Original Well Elev) |
| Site:     | Sec 16 - T26S - R26E           | North Reference:             | Grid                                |
| Well:     | Jumping Spring 16 State Com #1 | Survey Calculation Method:   | Minimum Curvature                   |
| Wellbore: | Wellbore #1                    |                              |                                     |
| Design:   | Plan #1                        |                              |                                     |

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

|                       |                      |              |            |                   |            |                  |
|-----------------------|----------------------|--------------|------------|-------------------|------------|------------------|
| Site                  | Sec 16 - T26S - R26E |              |            |                   |            |                  |
| Site Position:        | From:                | Map          | Northings: | 378,297.60 usft   | Latitude:  | 32° 2' 24.057 N  |
|                       |                      |              | Easting:   | 551,505.80 usft   | Longitude: | 104° 18' 1.661 W |
| Position Uncertainty: | 0.0 usft             | Slot Radius: | 13-3/16 "  | Grid Convergence: | 0.02 °     |                  |

|                      |                                |                     |            |                 |            |                   |
|----------------------|--------------------------------|---------------------|------------|-----------------|------------|-------------------|
| Well                 | Jumping Spring 16 State Com #1 |                     |            |                 |            |                   |
| Well Position        | +N/-S                          | 2,522.1 usft        | Northings: | 380,819.70 usft | Latitude:  | 32° 2' 49.007 N   |
|                      | +E/-W                          | 2,803.6 usft        | Easting:   | 554,309.40 usft | Longitude: | 104° 17' 29.276 W |
| Position Uncertainty | 0.0 usft                       | Wellhead Elevation: |            | Ground Level:   | 0.0 usft   |                   |

|           |             |             |             |           |                |
|-----------|-------------|-------------|-------------|-----------|----------------|
| Wellbore  | Wellbore #1 |             |             |           |                |
| Magnetics | Model Name  | Sample Date | Declination | Dip Angle | Field Strength |
|           | IGRF200510  | 11/23/10    | (°)         | (°)       | (nT)           |
|           |             |             | 7.96        | 59.93     | 48,545         |

|                   |                  |        |               |           |
|-------------------|------------------|--------|---------------|-----------|
| Design            | Plan #1          |        |               |           |
| Audit Notes:      |                  |        |               |           |
| Version:          | Phase:           | PLAN   | Tie On Depth: | 0.0       |
| Vertical Section: | Depth From (TVD) | +N/-S  | +E/-W         | Direction |
|                   | (usft)           | (usft) | (usft)        | (°)       |
|                   | 0.0              | 0.0    | 0.0           | 273.83    |

| Plan Sections         |                 |             |                       |              |              |                         |                        |                       |         |                      |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|------------------------|-----------------------|---------|----------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target               |
| 0.0                   | 0.00            | 0.00        | 0.0                   | 0.0          | 0.0          | 0.00                    | 0.00                   | 0.00                  | 0.00    |                      |
| 9,068.5               | 0.00            | 0.00        | 9,068.5               | 0.0          | 0.0          | 0.00                    | 0.00                   | 0.00                  | 0.00    |                      |
| 9,521.5               | 90.60           | 273.83      | 9,355.0               | 19.3         | -288.8       | 20.00                   | 20.00                  | 0.00                  | 273.83  |                      |
| 13,227.5              | 90.60           | 273.83      | 9,316.2               | 266.9        | -3,986.3     | 0.00                    | 0.00                   | 0.00                  | 0.00    | Jumping Spring #1 Pf |



# Great White Directional Services Planning Report

|           |                                |                              |                                      |
|-----------|--------------------------------|------------------------------|--------------------------------------|
| Database: | EDM 5000.1 Single User Db      | Local Co-ordinate Reference: | Well Jumping Spring, 16 State Com #1 |
| Company:  | Cimarex Energy Co.             | TVD Reference:               | WELL @ 0.0usft (Original Well Elev)  |
| Project:  | Eddy County (NM83E)            | MD Reference:                | WELL @ 0.0usft (Original Well Elev)  |
| Site:     | Sec 16 - T26S - R26E           | North Reference:             | Grid                                 |
| Well:     | Jumping Spring 16 State Com #1 | Survey Calculation Method:   | Minimum Curvature                    |
| Wellbore: | Wellbore #1                    |                              |                                      |
| Design:   | Plan #1                        |                              |                                      |

| Planned Survey              |                    |                |                             |                 |                 |                               |                               |                              |                             |  |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|--|
| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Vertical<br>Section<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |  |
| 9,068.5                     | 0.00               | 0.00           | 9,068.5                     | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |  |
| 9,075.0                     | 1.30               | 273.83         | 9,075.0                     | 0.0             | -0.1            | 0.1                           | 20.00                         | 20.00                        | 0.00                        |  |
| 9,100.0                     | 6.30               | 273.83         | 9,099.9                     | 0.1             | -1.7            | 1.7                           | 20.00                         | 20.00                        | 0.00                        |  |
| 9,122.3                     | 10.76              | 273.83         | 9,122.0                     | 0.3             | -5.0            | 5.0                           | 20.00                         | 20.00                        | 0.00                        |  |
| Wolfcamp C                  |                    |                |                             |                 |                 |                               |                               |                              |                             |  |
| 9,125.0                     | 11.30              | 273.83         | 9,124.6                     | 0.4             | -5.5            | 5.6                           | 20.00                         | 20.00                        | 0.00                        |  |
| 9,150.0                     | 16.30              | 273.83         | 9,148.9                     | 0.8             | -11.5           | 11.5                          | 20.00                         | 20.00                        | 0.00                        |  |
| 9,175.0                     | 21.30              | 273.83         | 9,172.6                     | 1.3             | -19.5           | 19.6                          | 20.00                         | 20.00                        | 0.00                        |  |
| 9,200.0                     | 26.30              | 273.83         | 9,195.4                     | 2.0             | -29.6           | 29.7                          | 20.00                         | 20.00                        | 0.00                        |  |
| 9,225.0                     | 31.30              | 273.83         | 9,217.3                     | 2.8             | -41.6           | 41.7                          | 20.00                         | 20.00                        | 0.00                        |  |
| 9,250.0                     | 36.30              | 273.83         | 9,238.1                     | 3.7             | -55.5           | 55.6                          | 20.00                         | 20.00                        | 0.00                        |  |
| 9,270.3                     | 40.35              | 273.83         | 9,254.0                     | 4.6             | -68.0           | 68.2                          | 20.00                         | 20.00                        | 0.00                        |  |
| Wolfcamp D                  |                    |                |                             |                 |                 |                               |                               |                              |                             |  |
| 9,275.0                     | 41.30              | 273.83         | 9,257.6                     | 4.8             | -71.1           | 71.3                          | 20.00                         | 20.00                        | 0.00                        |  |
| 9,300.0                     | 46.30              | 273.83         | 9,275.6                     | 5.9             | -88.4           | 88.6                          | 20.00                         | 20.00                        | 0.00                        |  |
| 9,325.0                     | 51.30              | 273.83         | 9,292.1                     | 7.2             | -107.1          | 107.4                         | 20.00                         | 20.00                        | 0.00                        |  |
| 9,350.0                     | 56.30              | 273.83         | 9,306.8                     | 8.5             | -127.2          | 127.5                         | 20.00                         | 20.00                        | 0.00                        |  |
| 9,375.0                     | 61.30              | 273.83         | 9,319.8                     | 9.9             | -148.6          | 148.9                         | 20.00                         | 20.00                        | 0.00                        |  |
| 9,400.0                     | 66.30              | 273.83         | 9,330.8                     | 11.4            | -170.9          | 171.3                         | 20.00                         | 20.00                        | 0.00                        |  |
| 9,425.0                     | 71.30              | 273.83         | 9,339.9                     | 13.0            | -194.2          | 194.6                         | 20.00                         | 20.00                        | 0.00                        |  |
| 9,450.0                     | 76.30              | 273.83         | 9,346.8                     | 14.6            | -218.1          | 218.6                         | 20.00                         | 20.00                        | 0.00                        |  |
| 9,475.0                     | 81.30              | 273.83         | 9,351.7                     | 16.2            | -242.6          | 243.1                         | 20.00                         | 20.00                        | 0.00                        |  |
| 9,500.0                     | 86.30              | 273.83         | 9,354.4                     | 17.9            | -267.4          | 268.0                         | 20.00                         | 20.00                        | 0.00                        |  |
| 9,521.0                     | 90.50              | 273.83         | 9,355.0                     | 19.3            | -288.3          | 289.0                         | 20.00                         | 20.00                        | 0.00                        |  |
| EOC - Hold to TD            |                    |                |                             |                 |                 |                               |                               |                              |                             |  |
| 9,521.5                     | 90.60              | 273.83         | 9,355.0                     | 19.3            | -288.8          | 289.5                         | 20.00                         | 20.00                        | 0.00                        |  |
| 9,600.0                     | 90.60              | 273.83         | 9,354.1                     | 24.6            | -367.2          | 368.0                         | 0.00                          | 0.00                         | 0.00                        |  |
| 9,700.0                     | 90.60              | 273.83         | 9,353.1                     | 31.3            | -466.9          | 468.0                         | 0.00                          | 0.00                         | 0.00                        |  |
| 9,800.0                     | 90.60              | 273.83         | 9,352.0                     | 37.9            | -566.7          | 568.0                         | 0.00                          | 0.00                         | 0.00                        |  |
| 9,900.0                     | 90.60              | 273.83         | 9,351.0                     | 44.6            | -666.5          | 668.0                         | 0.00                          | 0.00                         | 0.00                        |  |
| 10,000.0                    | 90.60              | 273.83         | 9,350.0                     | 51.3            | -766.2          | 768.0                         | 0.00                          | 0.00                         | 0.00                        |  |
| 10,100.0                    | 90.60              | 273.83         | 9,348.9                     | 58.0            | -866.0          | 867.9                         | 0.00                          | 0.00                         | 0.00                        |  |
| 10,200.0                    | 90.60              | 273.83         | 9,347.9                     | 64.7            | -965.8          | 967.9                         | 0.00                          | 0.00                         | 0.00                        |  |
| 10,300.0                    | 90.60              | 273.83         | 9,346.8                     | 71.3            | -1,065.6        | 1,067.9                       | 0.00                          | 0.00                         | 0.00                        |  |
| 10,400.0                    | 90.60              | 273.83         | 9,345.8                     | 78.0            | -1,165.3        | 1,167.9                       | 0.00                          | 0.00                         | 0.00                        |  |
| 10,500.0                    | 90.60              | 273.83         | 9,344.7                     | 84.7            | -1,265.1        | 1,267.9                       | 0.00                          | 0.00                         | 0.00                        |  |
| 10,600.0                    | 90.60              | 273.83         | 9,343.7                     | 91.4            | -1,364.9        | 1,367.9                       | 0.00                          | 0.00                         | 0.00                        |  |
| 10,700.0                    | 90.60              | 273.83         | 9,342.6                     | 98.1            | -1,464.6        | 1,467.9                       | 0.00                          | 0.00                         | 0.00                        |  |
| 10,800.0                    | 90.60              | 273.83         | 9,341.6                     | 104.7           | -1,564.4        | 1,567.9                       | 0.00                          | 0.00                         | 0.00                        |  |
| 10,900.0                    | 90.60              | 273.83         | 9,340.5                     | 111.4           | -1,664.2        | 1,667.9                       | 0.00                          | 0.00                         | 0.00                        |  |
| 11,000.0                    | 90.60              | 273.83         | 9,339.5                     | 118.1           | -1,763.9        | 1,767.9                       | 0.00                          | 0.00                         | 0.00                        |  |
| 11,100.0                    | 90.60              | 273.83         | 9,338.4                     | 124.8           | -1,863.7        | 1,867.9                       | 0.00                          | 0.00                         | 0.00                        |  |
| 11,200.0                    | 90.60              | 273.83         | 9,337.4                     | 131.4           | -1,963.5        | 1,967.9                       | 0.00                          | 0.00                         | 0.00                        |  |
| 11,300.0                    | 90.60              | 273.83         | 9,336.3                     | 138.1           | -2,063.3        | 2,067.9                       | 0.00                          | 0.00                         | 0.00                        |  |
| 11,400.0                    | 90.60              | 273.83         | 9,335.3                     | 144.8           | -2,163.0        | 2,167.9                       | 0.00                          | 0.00                         | 0.00                        |  |
| 11,500.0                    | 90.60              | 273.83         | 9,334.2                     | 151.5           | -2,262.8        | 2,267.9                       | 0.00                          | 0.00                         | 0.00                        |  |
| 11,600.0                    | 90.60              | 273.83         | 9,333.2                     | 158.2           | -2,362.6        | 2,367.9                       | 0.00                          | 0.00                         | 0.00                        |  |
| 11,700.0                    | 90.60              | 273.83         | 9,332.2                     | 164.8           | -2,462.3        | 2,467.9                       | 0.00                          | 0.00                         | 0.00                        |  |
| 11,800.0                    | 90.60              | 273.83         | 9,331.1                     | 171.5           | -2,562.1        | 2,567.9                       | 0.00                          | 0.00                         | 0.00                        |  |
| 11,900.0                    | 90.60              | 273.83         | 9,330.1                     | 178.2           | -2,661.9        | 2,667.8                       | 0.00                          | 0.00                         | 0.00                        |  |
| 12,000.0                    | 90.60              | 273.83         | 9,329.0                     | 184.9           | -2,761.7        | 2,767.8                       | 0.00                          | 0.00                         | 0.00                        |  |
| 12,100.0                    | 90.60              | 273.83         | 9,328.0                     | 191.6           | -2,861.4        | 2,867.8                       | 0.00                          | 0.00                         | 0.00                        |  |
| 12,200.0                    | 90.60              | 273.83         | 9,326.9                     | 198.2           | -2,961.2        | 2,967.8                       | 0.00                          | 0.00                         | 0.00                        |  |



# Great White Directional Services Planning Report

|           |                                |                              |                                     |
|-----------|--------------------------------|------------------------------|-------------------------------------|
| Database: | EDM 5000.1 Single User Db      | Local Co-ordinate Reference: | Well Jumping Spring 16 State Com #1 |
| Company:  | Cimarex Energy Co.             | TVD Reference:               | WELL @ 0.0usft (Original Well Elev) |
| Project:  | Eddy County (NM83E)            | MD Reference:                | WELL @ 0.0usft (Original Well Elev) |
| Site:     | Sec 16 - T26S - R26E           | North Reference:             | Grid                                |
| Well:     | Jumping Spring 16 State Com #1 | Survey Calculation Method:   | Minimum Curvature                   |
| Wellbore: | Wellbore #1                    |                              |                                     |
| Design:   | Plan #1                        |                              |                                     |

## Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Bulld Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 12,300.0              | 90.60           | 273.83      | 9,325.9               | 204.9        | -3,061.0     | 3,067.8                 | 0.00                    | 0.00                   | 0.00                  |
| 12,400.0              | 90.60           | 273.83      | 9,324.8               | 211.6        | -3,160.7     | 3,167.8                 | 0.00                    | 0.00                   | 0.00                  |
| 12,500.0              | 90.60           | 273.83      | 9,323.8               | 218.3        | -3,260.5     | 3,267.8                 | 0.00                    | 0.00                   | 0.00                  |
| 12,600.0              | 90.60           | 273.83      | 9,322.7               | 225.0        | -3,360.3     | 3,367.8                 | 0.00                    | 0.00                   | 0.00                  |
| 12,700.0              | 90.60           | 273.83      | 9,321.7               | 231.6        | -3,460.1     | 3,467.8                 | 0.00                    | 0.00                   | 0.00                  |
| 12,800.0              | 90.60           | 273.83      | 9,320.6               | 238.3        | -3,559.8     | 3,567.8                 | 0.00                    | 0.00                   | 0.00                  |
| 12,900.0              | 90.60           | 273.83      | 9,319.6               | 245.0        | -3,659.6     | 3,667.8                 | 0.00                    | 0.00                   | 0.00                  |
| 13,000.0              | 90.60           | 273.83      | 9,318.5               | 251.7        | -3,759.4     | 3,767.8                 | 0.00                    | 0.00                   | 0.00                  |
| 13,100.0              | 90.60           | 273.83      | 9,317.5               | 258.4        | -3,859.1     | 3,867.8                 | 0.00                    | 0.00                   | 0.00                  |
| 13,200.0              | 90.60           | 273.83      | 9,316.4               | 265.0        | -3,958.9     | 3,967.8                 | 0.00                    | 0.00                   | 0.00                  |
| 13,227.0              | 90.60           | 273.83      | 9,316.2               | 266.8        | -3,985.9     | 3,994.8                 | 0.00                    | 0.00                   | 0.00                  |
| TD @ 13227.5          |                 |             |                       |              |              |                         |                         |                        |                       |
| 13,227.5              | 90.60           | 273.83      | 9,316.2               | 266.9        | -3,986.3     | 3,995.2                 | 0.00                    | 0.00                   | 0.00                  |

## Design Targets

| Target Name                                                                               | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude        | Longitude         |
|-------------------------------------------------------------------------------------------|---------------|--------------|------------|--------------|--------------|-----------------|----------------|-----------------|-------------------|
| Jumping Spring #1 PBH                                                                     | 0.00          | 0.00         | 9,315.0    | 267.0        | -3,986.3     | 381,086.67      | 550,323.08     | 32° 2' 51.662 N | 104° 18' 15.593 W |
| - plan misses target center by 1.2usft at 13227.5usft MD (9316.2 TVD, 266.9 N, -3986.3 E) |               |              |            |              |              |                 |                |                 |                   |
| - Point                                                                                   |               |              |            |              |              |                 |                |                 |                   |

## Formations

| Measured Depth (usft) | Vertical Depth (usft) | Name                  | Lithology | Dip (°) | Dip Direction (°) |
|-----------------------|-----------------------|-----------------------|-----------|---------|-------------------|
| 1,038.0               | 1,038.0               | Top Salt              |           | 0.00    |                   |
| 1,595.0               | 1,595.0               | Base Salt             |           | 0.00    |                   |
| 1,793.0               | 1,793.0               | Delaware              |           | 0.00    |                   |
| 2,819.0               | 2,819.0               | Cherry Canyon         |           | 0.00    |                   |
| 3,850.0               | 3,850.0               | Brushy Canyon         |           | 0.00    |                   |
| 5,339.0               | 5,339.0               | Bone Spring           |           | 0.00    |                   |
| 5,479.0               | 5,479.0               | Bone Spring "A" Shale |           | 0.00    |                   |
| 5,796.0               | 5,796.0               | Bone Spring "C" Shale |           | 0.00    |                   |
| 6,248.0               | 6,248.0               | 1st Bone Spring Ss    |           | 0.00    |                   |
| 6,799.0               | 6,799.0               | 2nd Bone Spring Ss    |           | 0.00    |                   |
| 7,551.0               | 7,551.0               | 2nd Lower BS Ss Lower |           | 0.00    |                   |
| 8,072.0               | 8,072.0               | 3rd Bone Spring Ss    |           | 0.00    |                   |
| 8,400.0               | 8,400.0               | Wolfcamp              |           | 0.00    |                   |
| 8,973.0               | 8,973.0               | Wolfcamp B            |           | 0.00    |                   |
| 9,122.3               | 9,122.0               | Wolfcamp C            |           | 0.00    |                   |
| 9,270.3               | 9,254.0               | Wolfcamp D            |           | 0.00    |                   |



# Great White Directional Services Planning Report

|           |                                |                              |                                     |
|-----------|--------------------------------|------------------------------|-------------------------------------|
| Database: | EDM 5000.1 Single User Db      | Local Co-ordinate Reference: | Well Jumping Spring 16 State Com #1 |
| Company:  | Cimarex Energy Co.             | TVD Reference:               | WELL @ 0.0usft (Original Well Elev) |
| Project:  | Eddy County (NM83E)            | MD Reference:                | WELL @ 0.0usft (Original Well Elev) |
| Site:     | Sec 16 - T26S - R26E           | North Reference:             | Grid                                |
| Well:     | Jumping Spring 16 State Com #1 | Survey Calculation Method:   | Minimum Curvature                   |
| Wellbore: | Wellbore #1                    |                              |                                     |
| Design:   | Plan #1                        |                              |                                     |

## Plan Annotations

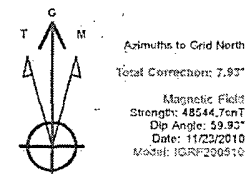
| Measured<br>Depth<br>(usft) | Vertical<br>Depth<br>(usft) | Local Coordinates |                 | Comment                  |
|-----------------------------|-----------------------------|-------------------|-----------------|--------------------------|
|                             |                             | +N/-S<br>(usft)   | +E/-W<br>(usft) |                          |
| 9,068.0                     | 9,068.0                     | 0.0               | 0.0             | KOP 20/100 DLS @ 273 AZI |
| 9,521.0                     | 9,355.0                     | 19.3              | -288.3          | EOC - Hold to TD         |
| 13,227.0                    | 9,316.2                     | 266.8             | -3,985.9        | TD @ 13227.5             |



Project: Eddy County (NM83E)  
Site: Sec 16 - T26S - R26E  
Well: Jumping Spring 16 State Com #1  
Wellbore: Wellbore #1  
Design: Plan #1

# WELL DETAILS: Jumping Spring 16 State Com #1

| +N-S                     | +E-W | Northing  | Easting   | Latitude        | Longitude         |
|--------------------------|------|-----------|-----------|-----------------|-------------------|
| 0.0                      | 0.0  | 380819.70 | 554309.40 | 32° 2' 49.007 N | 104° 17' 29.276 W |
| SHL: 990' FNL / 660' FEL |      |           |           |                 |                   |
| BHL: 760' FNL / 660' FWL |      |           |           |                 |                   |



## WELLBORE TARGET DETAILS

| Name                   | TVD    | +N-S  | +E-W    | Northing  | Easting   |
|------------------------|--------|-------|---------|-----------|-----------|
| Jumping Spring #1 PBHL | 9315.0 | 267.0 | -3986.3 | 381086.67 | 550323.06 |

## PLAN DETAILS

| MD, Inc        | Azi    | TVD    | +N-S  | +E-W    | Deg   | TFace  | Vsect  | Target                 |
|----------------|--------|--------|-------|---------|-------|--------|--------|------------------------|
| 0.00,0.00      | 0.00   | 0.0    | 0.0   | 0.0     | 0.00  | 0.00   | 0.0    |                        |
| 9068.5, 0.00   | 0.00   | 9068.5 | 0.0   | 0.0     | 0.00  | 0.00   | 0.0    |                        |
| 9521.5, 90.60  | 273.83 | 9355.0 | 19.3  | -288.8  | 20.00 | 273.83 | 289.5  |                        |
| 14227.5, 90.60 | 273.83 | 9316.2 | 266.9 | -3986.3 | 0.00  | 0.00   | 3995.2 | Jumping Spring #1 PBHL |

## ANNOTATIONS

| TVD MD          | Inc   | Azi    | +N-S  | +E-W    | VSD@departure | Annotation               |
|-----------------|-------|--------|-------|---------|---------------|--------------------------|
| 9068.0, 9068.0  | 0.00  | 0.00   | 0.0   | 0.0     | 0.0           | KOP 20/100 DLS @ 273 AZI |
| 9355.0, 9521.0  | 90.50 | 273.83 | 19.3  | -288.8  | 289.0         | EOC - Hold to TD         |
| 9316.2, 13227.0 | 90.60 | 273.83 | 266.8 | -3985.9 | 3994.8        | TD @ 13227.5             |

## FORMATION TOP DETAILS

| TVDPath | MDPath | Formation             |
|---------|--------|-----------------------|
| 1038.0  | 1038.0 | Top Salt              |
| 1595.0  | 1595.0 | Base Salt             |
| 1793.0  | 1793.0 | Delaware              |
| 2819.0  | 2819.0 | Cherry Canyon         |
| 3850.0  | 3850.0 | Brushy Canyon         |
| 5339.0  | 5339.0 | Bone Spring           |
| 5479.0  | 5479.0 | Bone Spring "A" Shale |
| 5796.0  | 5796.0 | Bone Spring "C" Shale |
| 6248.0  | 6248.0 | 1st Bone Spring Ss    |
| 6799.0  | 6799.0 | 2nd Bone Spring Ss    |
| 7551.0  | 7551.0 | 2nd Lower BS Ss Lower |
| 8072.0  | 8072.0 | 3rd Bone Spring Ss    |
| 8400.0  | 8400.0 | Wolfcamp              |
| 8973.0  | 8973.0 | Wolfcamp B            |
| 9122.0  | 9122.0 | Wolfcamp C            |
| 9254.0  | 9270.3 | Wolfcamp D            |

