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## **NORTHERN DELAWARE BASIN**

**LEA COUNTY, NM**

**BULLDOG**

**DOMINATOR 25 FED #709H**

**OWB**

**Design: ACTUAL WELLPATH**

## **Standard Survey Report**

**18 October, 2018**

**HOBBS OCD**  
**MAY 10 2019**  
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# Survey Report

**Company:** NORTHERN DELAWARE BASIN  
**Project:** LEA COUNTY, NM  
**Site:** BULLDOG  
**Well:** DOMINATOR 25 FED #709H  
**Wellbore:** OWB  
**Design:** ACTUAL WELLPATH

**Local Co-ordinate Reference:** Well DOMINATOR 25 FED #709H  
**TVD Reference:** RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
**MD Reference:** RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM\_Users

|                    |                                      |                      |                |
|--------------------|--------------------------------------|----------------------|----------------|
| <b>Project</b>     | LEA COUNTY, NM                       |                      |                |
| <b>Map System:</b> | US State Plane 1927 (Exact solution) | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | NAD 1927 (NADCON CONUS)              |                      |                |
| <b>Map Zone:</b>   | New Mexico East 3001                 |                      |                |

|                              |          |                          |                  |
|------------------------------|----------|--------------------------|------------------|
| <b>Site</b>                  | BULLDOG  |                          |                  |
| <b>Site Position:</b>        |          | <b>Northing:</b>         | 398,637.10 usft  |
| <b>From:</b>                 | Map      | <b>Easting:</b>          | 741,887.40 usft  |
| <b>Position Uncertainty:</b> | 0.0 usft | <b>Slot Radius:</b>      | 13-3/16 "        |
|                              |          | <b>Latitude:</b>         | 32° 5' 36.820 N  |
|                              |          | <b>Longitude:</b>        | 103° 33' 8.116 W |
|                              |          | <b>Grid Convergence:</b> | 0.42 °           |

|                             |                        |                            |                                  |
|-----------------------------|------------------------|----------------------------|----------------------------------|
| <b>Well</b>                 | DOMINATOR 25 FED #709H |                            |                                  |
| <b>Well Position</b>        | +N/-S                  | 0.0 usft                   | <b>Northing:</b> 399,180.30 usft |
|                             | +E/-W                  | 0.0 usft                   | <b>Easting:</b> 749,559.80 usft  |
| <b>Position Uncertainty</b> | 3.0 usft               | <b>Wellhead Elevation:</b> | usft                             |
|                             |                        | <b>Latitude:</b>           | 32° 5' 41.637 N                  |
|                             |                        | <b>Longitude:</b>          | 103° 31' 38.886 W                |
|                             |                        | <b>Ground Level:</b>       | 3,335.5 usft                     |

|                  |                   |                    |                       |
|------------------|-------------------|--------------------|-----------------------|
| <b>Wellbore</b>  | OWB               |                    |                       |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination</b>    |
|                  | WMM2015           | 1/30/2018          | (°) 6.88              |
|                  |                   |                    | <b>Dip Angle</b>      |
|                  |                   |                    | (°) 59.93             |
|                  |                   |                    | <b>Field Strength</b> |
|                  |                   |                    | (nT) 47,789.48464602  |

|                          |                         |               |                  |
|--------------------------|-------------------------|---------------|------------------|
| <b>Design</b>            | ACTUAL WELLPATH         |               |                  |
| <b>Audit Notes:</b>      |                         |               |                  |
| <b>Version:</b>          | 1.0                     | <b>Phase:</b> | ACTUAL           |
| <b>Vertical Section:</b> | <b>Depth From (TVD)</b> | <b>+N/-S</b>  | <b>+E/-W</b>     |
|                          | (usft)                  | (usft)        | (usft)           |
|                          | 0.0                     | 0.0           | 0.0              |
|                          |                         |               | <b>Direction</b> |
|                          |                         |               | (°) 358.82       |

|                       |                       |                          |                                            |
|-----------------------|-----------------------|--------------------------|--------------------------------------------|
| <b>Survey Program</b> | <b>Date</b> 10/8/2018 |                          |                                            |
| <b>From</b>           | <b>To</b>             | <b>Survey (Wellbore)</b> | <b>Tool Name</b>                           |
| (usft)                | (usft)                |                          |                                            |
| 100.0                 | 11,721.0              | GYRO (OWB)               | Standard Keeper 104                        |
| 11,887.0              | 17,381.0              | MWD- CURVE/LATERAL (OWB) | MWD+IFR1+MS                                |
|                       |                       |                          | <b>Description</b>                         |
|                       |                       |                          | Standard Wireline Keeper ver 1.0.4         |
|                       |                       |                          | OWSG MWD + IFR1 + Multi-Station Correction |

|                       |                    |                |                       |              |              |                         |                    |                   |                  |
|-----------------------|--------------------|----------------|-----------------------|--------------|--------------|-------------------------|--------------------|-------------------|------------------|
| <b>Survey</b>         |                    |                |                       |              |              |                         |                    |                   |                  |
| <b>Measured Depth</b> | <b>Inclination</b> | <b>Azimuth</b> | <b>Vertical Depth</b> | <b>+N/-S</b> | <b>+E/-W</b> | <b>Vertical Section</b> | <b>Dogleg Rate</b> | <b>Build Rate</b> | <b>Turn Rate</b> |
| (usft)                | (°)                | (°)            | (usft)                | (usft)       | (usft)       | (usft)                  | (°/100usft)        | (°/100usft)       | (°/100usft)      |
| 0.0                   | 0.00               | 0.00           | 0.0                   | 0.0          | 0.0          | 0.0                     | 0.00               | 0.00              | 0.00             |
| 100.0                 | 0.39               | 9.76           | 100.0                 | 0.3          | 0.1          | 0.3                     | 0.39               | 0.39              | 0.00             |
| 125.0                 | 0.41               | 11.96          | 125.0                 | 0.5          | 0.1          | 0.5                     | 0.10               | 0.08              | 8.80             |
| 150.0                 | 0.51               | 9.52           | 150.0                 | 0.7          | 0.1          | 0.7                     | 0.41               | 0.40              | -9.76            |
| 175.0                 | 0.38               | 15.77          | 175.0                 | 0.9          | 0.2          | 0.9                     | 0.55               | -0.52             | 25.00            |
| 200.0                 | 0.44               | 19.01          | 200.0                 | 1.1          | 0.2          | 1.1                     | 0.26               | 0.24              | 12.96            |
| 225.0                 | 0.45               | 16.38          | 225.0                 | 1.2          | 0.3          | 1.2                     | 0.09               | 0.04              | -10.52           |
| 250.0                 | 0.42               | 21.13          | 250.0                 | 1.4          | 0.3          | 1.4                     | 0.19               | -0.12             | 19.00            |
| 275.0                 | 0.43               | 14.92          | 275.0                 | 1.6          | 0.4          | 1.6                     | 0.19               | 0.04              | -24.84           |
| 300.0                 | 0.41               | 16.32          | 300.0                 | 1.8          | 0.4          | 1.8                     | 0.09               | -0.08             | 5.60             |



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 TVD Reference: RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
 MD Reference: RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature  
 Database: EDM\_Users

## Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 325.0                 | 0.47            | 12.23       | 325.0                 | 2.0          | 0.5          | 2.0                     | 0.27                    | 0.24                   | -16.36                |
| 350.0                 | 0.45            | 14.23       | 350.0                 | 2.2          | 0.5          | 2.2                     | 0.10                    | -0.08                  | 8.00                  |
| 375.0                 | 0.52            | 10.56       | 375.0                 | 2.4          | 0.6          | 2.4                     | 0.31                    | 0.28                   | -14.88                |
| 400.0                 | 0.47            | 9.47        | 400.0                 | 2.6          | 0.6          | 2.6                     | 0.20                    | -0.20                  | -4.36                 |
| 425.0                 | 0.44            | 6.65        | 425.0                 | 2.8          | 0.7          | 2.8                     | 0.15                    | -0.12                  | -11.28                |
| 450.0                 | 0.45            | 5.34        | 450.0                 | 3.0          | 0.7          | 3.0                     | 0.06                    | 0.04                   | -5.24                 |
| 475.0                 | 0.43            | 16.33       | 475.0                 | 3.2          | 0.7          | 3.1                     | 0.35                    | -0.08                  | 43.96                 |
| 500.0                 | 0.68            | 7.94        | 500.0                 | 3.4          | 0.8          | 3.4                     | 1.05                    | 1.00                   | -33.56                |
| 525.0                 | 0.41            | 15.08       | 525.0                 | 3.6          | 0.8          | 3.6                     | 1.11                    | -1.08                  | 28.56                 |
| 550.0                 | 0.38            | 13.90       | 550.0                 | 3.8          | 0.8          | 3.8                     | 0.12                    | -0.12                  | -4.72                 |
| 575.0                 | 0.32            | 7.59        | 575.0                 | 3.9          | 0.9          | 3.9                     | 0.28                    | -0.24                  | -25.24                |
| 600.0                 | 0.28            | 9.14        | 600.0                 | 4.1          | 0.9          | 4.1                     | 0.16                    | -0.16                  | 6.20                  |
| 625.0                 | 0.26            | 10.58       | 625.0                 | 4.2          | 0.9          | 4.2                     | 0.08                    | -0.08                  | 5.76                  |
| 650.0                 | 0.27            | 18.54       | 650.0                 | 4.3          | 0.9          | 4.3                     | 0.15                    | 0.04                   | 31.84                 |
| 675.0                 | 0.31            | 18.57       | 675.0                 | 4.4          | 1.0          | 4.4                     | 0.16                    | 0.16                   | 0.12                  |
| 700.0                 | 0.31            | 12.61       | 700.0                 | 4.6          | 1.0          | 4.5                     | 0.13                    | 0.00                   | -23.84                |
| 725.0                 | 0.18            | 22.43       | 725.0                 | 4.7          | 1.0          | 4.6                     | 0.54                    | -0.52                  | 39.28                 |
| 750.0                 | 0.21            | 23.09       | 750.0                 | 4.7          | 1.1          | 4.7                     | 0.12                    | 0.12                   | 2.64                  |
| 775.0                 | 0.17            | 31.30       | 775.0                 | 4.8          | 1.1          | 4.8                     | 0.19                    | -0.16                  | 32.84                 |
| 800.0                 | 0.16            | 33.19       | 800.0                 | 4.9          | 1.2          | 4.8                     | 0.05                    | -0.04                  | 7.56                  |
| 825.0                 | 0.11            | 44.86       | 825.0                 | 4.9          | 1.2          | 4.9                     | 0.23                    | -0.20                  | 46.68                 |
| 850.0                 | 0.09            | 79.57       | 850.0                 | 4.9          | 1.2          | 4.9                     | 0.25                    | -0.08                  | 138.84                |
| 875.0                 | 0.05            | 62.77       | 875.0                 | 4.9          | 1.3          | 4.9                     | 0.18                    | -0.16                  | -67.20                |
| 900.0                 | 0.06            | 88.22       | 900.0                 | 4.9          | 1.3          | 4.9                     | 0.10                    | 0.04                   | 101.80                |
| 925.0                 | 0.04            | 141.87      | 925.0                 | 4.9          | 1.3          | 4.9                     | 0.19                    | -0.08                  | 214.60                |
| 950.0                 | 0.08            | 134.05      | 950.0                 | 4.9          | 1.3          | 4.9                     | 0.16                    | 0.16                   | -31.28                |
| 975.0                 | 0.09            | 164.10      | 975.0                 | 4.9          | 1.3          | 4.9                     | 0.18                    | 0.04                   | 120.20                |
| 1,000.0               | 0.20            | 158.60      | 1,000.0               | 4.8          | 1.4          | 4.8                     | 0.44                    | 0.44                   | -22.00                |
| 1,025.0               | 0.08            | 127.42      | 1,025.0               | 4.8          | 1.4          | 4.8                     | 0.55                    | -0.48                  | -124.72               |
| 1,050.0               | 0.14            | 150.68      | 1,050.0               | 4.7          | 1.4          | 4.7                     | 0.29                    | 0.24                   | 93.04                 |
| 1,075.0               | 0.17            | 151.05      | 1,075.0               | 4.7          | 1.4          | 4.7                     | 0.12                    | 0.12                   | 1.48                  |
| 1,100.0               | 0.13            | 141.12      | 1,100.0               | 4.6          | 1.5          | 4.6                     | 0.19                    | -0.16                  | -39.72                |
| 1,125.0               | 0.12            | 154.09      | 1,125.0               | 4.6          | 1.5          | 4.6                     | 0.12                    | -0.04                  | 51.88                 |
| 1,150.0               | 0.15            | 148.52      | 1,150.0               | 4.5          | 1.5          | 4.5                     | 0.13                    | 0.12                   | -22.28                |
| 1,175.0               | 0.23            | 155.68      | 1,175.0               | 4.5          | 1.6          | 4.4                     | 0.33                    | 0.32                   | 28.64                 |
| 1,200.0               | 0.17            | 161.94      | 1,200.0               | 4.4          | 1.6          | 4.3                     | 0.26                    | -0.24                  | 25.04                 |
| 1,225.0               | 0.21            | 157.79      | 1,225.0               | 4.3          | 1.6          | 4.3                     | 0.17                    | 0.16                   | -16.60                |
| 1,250.0               | 0.21            | 160.80      | 1,250.0               | 4.2          | 1.7          | 4.2                     | 0.04                    | 0.00                   | 12.04                 |
| 1,275.0               | 0.25            | 148.03      | 1,275.0               | 4.1          | 1.7          | 4.1                     | 0.26                    | 0.16                   | -51.08                |
| 1,300.0               | 0.18            | 143.90      | 1,300.0               | 4.0          | 1.8          | 4.0                     | 0.29                    | -0.28                  | -16.52                |
| 1,325.0               | 0.21            | 163.88      | 1,325.0               | 4.0          | 1.8          | 3.9                     | 0.30                    | 0.12                   | 79.92                 |
| 1,350.0               | 0.10            | 181.40      | 1,350.0               | 3.9          | 1.8          | 3.9                     | 0.47                    | -0.44                  | 70.08                 |
| 1,375.0               | 0.11            | 193.32      | 1,375.0               | 3.9          | 1.8          | 3.8                     | 0.10                    | 0.04                   | 47.68                 |



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|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 1,400.0               | 0.18            | 176.52      | 1,400.0               | 3.8          | 1.8          | 3.8                     | 0.32                    | 0.28                   | -67.20                |
| 1,425.0               | 0.13            | 241.51      | 1,425.0               | 3.7          | 1.8          | 3.7                     | 0.69                    | -0.20                  | 259.96                |
| 1,450.0               | 0.16            | 225.90      | 1,450.0               | 3.7          | 1.7          | 3.7                     | 0.20                    | 0.12                   | -62.44                |
| 1,475.0               | 0.20            | 231.40      | 1,475.0               | 3.7          | 1.7          | 3.6                     | 0.17                    | 0.16                   | 22.00                 |
| 1,500.0               | 0.17            | 242.70      | 1,500.0               | 3.6          | 1.6          | 3.6                     | 0.19                    | -0.12                  | 45.20                 |
| 1,525.0               | 0.26            | 226.37      | 1,525.0               | 3.6          | 1.5          | 3.5                     | 0.43                    | 0.36                   | -65.32                |
| 1,550.0               | 0.24            | 239.35      | 1,550.0               | 3.5          | 1.4          | 3.5                     | 0.24                    | -0.08                  | 51.92                 |
| 1,575.0               | 0.25            | 220.07      | 1,575.0               | 3.4          | 1.4          | 3.4                     | 0.33                    | 0.04                   | -77.12                |
| 1,600.0               | 0.18            | 224.60      | 1,600.0               | 3.4          | 1.3          | 3.3                     | 0.29                    | -0.28                  | 18.12                 |
| 1,625.0               | 0.18            | 220.55      | 1,625.0               | 3.3          | 1.2          | 3.3                     | 0.05                    | 0.00                   | -16.20                |
| 1,650.0               | 0.20            | 230.40      | 1,650.0               | 3.2          | 1.2          | 3.2                     | 0.15                    | 0.08                   | 39.40                 |
| 1,675.0               | 0.61            | 213.92      | 1,675.0               | 3.1          | 1.1          | 3.1                     | 1.69                    | 1.64                   | -65.92                |
| 1,700.0               | 1.18            | 214.30      | 1,700.0               | 2.8          | 0.9          | 2.8                     | 2.28                    | 2.28                   | 1.52                  |
| 1,725.0               | 1.54            | 212.99      | 1,725.0               | 2.3          | 0.5          | 2.3                     | 1.45                    | 1.44                   | -5.24                 |
| 1,750.0               | 1.72            | 212.32      | 1,750.0               | 1.7          | 0.2          | 1.7                     | 0.72                    | 0.72                   | -2.68                 |
| 1,775.0               | 1.76            | 213.55      | 1,774.9               | 1.0          | -0.3         | 1.1                     | 0.22                    | 0.16                   | 4.92                  |
| 1,800.0               | 1.73            | 213.23      | 1,799.9               | 0.4          | -0.7         | 0.4                     | 0.13                    | -0.12                  | -1.28                 |
| 1,825.0               | 1.77            | 214.05      | 1,824.9               | -0.2         | -1.1         | -0.2                    | 0.19                    | 0.16                   | 3.28                  |
| 1,850.0               | 1.76            | 216.30      | 1,849.9               | -0.9         | -1.5         | -0.8                    | 0.28                    | -0.04                  | 9.00                  |
| 1,875.0               | 1.71            | 216.01      | 1,874.9               | -1.5         | -2.0         | -1.4                    | 0.20                    | -0.20                  | -1.16                 |
| 1,900.0               | 1.86            | 215.59      | 1,899.9               | -2.1         | -2.4         | -2.0                    | 0.60                    | 0.60                   | -1.68                 |
| 1,925.0               | 1.80            | 215.89      | 1,924.9               | -2.7         | -2.9         | -2.7                    | 0.24                    | -0.24                  | 1.20                  |
| 1,950.0               | 1.85            | 213.16      | 1,949.9               | -3.4         | -3.4         | -3.3                    | 0.40                    | 0.20                   | -10.92                |
| 1,975.0               | 1.82            | 214.62      | 1,974.8               | -4.1         | -3.8         | -4.0                    | 0.22                    | -0.12                  | 5.84                  |
| 2,000.0               | 1.77            | 215.41      | 1,999.8               | -4.7         | -4.3         | -4.6                    | 0.22                    | -0.20                  | 3.16                  |
| 2,025.0               | 1.70            | 217.73      | 2,024.8               | -5.3         | -4.7         | -5.2                    | 0.40                    | -0.28                  | 9.28                  |
| 2,050.0               | 1.75            | 216.56      | 2,049.8               | -5.9         | -5.2         | -5.8                    | 0.24                    | 0.20                   | -4.68                 |
| 2,075.0               | 1.74            | 217.76      | 2,074.8               | -6.5         | -5.6         | -6.4                    | 0.15                    | -0.04                  | 4.80                  |
| 2,100.0               | 1.66            | 218.80      | 2,099.8               | -7.1         | -6.1         | -7.0                    | 0.34                    | -0.32                  | 4.16                  |
| 2,125.0               | 1.69            | 219.96      | 2,124.8               | -7.7         | -6.5         | -7.5                    | 0.18                    | 0.12                   | 4.64                  |
| 2,150.0               | 1.67            | 221.85      | 2,149.8               | -8.2         | -7.0         | -8.1                    | 0.24                    | -0.08                  | 7.56                  |
| 2,175.0               | 1.61            | 221.79      | 2,174.8               | -8.8         | -7.5         | -8.6                    | 0.24                    | -0.24                  | -0.24                 |
| 2,200.0               | 1.61            | 222.20      | 2,199.8               | -9.3         | -8.0         | -9.1                    | 0.05                    | 0.00                   | 1.64                  |
| 2,225.0               | 1.61            | 223.39      | 2,224.7               | -9.8         | -8.5         | -9.6                    | 0.13                    | 0.00                   | 4.76                  |
| 2,250.0               | 1.54            | 226.76      | 2,249.7               | -10.3        | -8.9         | -10.1                   | 0.46                    | -0.28                  | 13.48                 |
| 2,275.0               | 1.66            | 222.38      | 2,274.7               | -10.8        | -9.4         | -10.6                   | 0.69                    | 0.48                   | -17.52                |
| 2,300.0               | 1.68            | 220.92      | 2,299.7               | -11.3        | -9.9         | -11.1                   | 0.19                    | 0.08                   | -5.84                 |
| 2,325.0               | 1.66            | 221.97      | 2,324.7               | -11.9        | -10.4        | -11.7                   | 0.15                    | -0.08                  | 4.20                  |
| 2,350.0               | 1.56            | 223.40      | 2,349.7               | -12.4        | -10.9        | -12.2                   | 0.43                    | -0.40                  | 5.72                  |
| 2,375.0               | 1.54            | 222.70      | 2,374.7               | -12.9        | -11.3        | -12.6                   | 0.11                    | -0.08                  | -2.80                 |
| 2,400.0               | 1.45            | 219.63      | 2,399.7               | -13.4        | -11.8        | -13.1                   | 0.48                    | -0.36                  | -12.28                |
| 2,425.0               | 1.38            | 202.87      | 2,424.7               | -13.9        | -12.1        | -13.6                   | 1.67                    | -0.28                  | -67.04                |
| 2,450.0               | 1.42            | 190.37      | 2,449.7               | -14.5        | -12.3        | -14.2                   | 1.23                    | 0.16                   | -50.00                |



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## Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 2,475.0               | 1.36            | 184.97      | 2,474.6               | -15.1        | -12.3        | -14.8                   | 0.58                    | -0.24                  | -21.60                |
| 2,500.0               | 1.34            | 182.77      | 2,499.6               | -15.7        | -12.4        | -15.4                   | 0.22                    | -0.08                  | -8.80                 |
| 2,525.0               | 1.35            | 180.87      | 2,524.6               | -16.2        | -12.4        | -16.0                   | 0.18                    | 0.04                   | -7.60                 |
| 2,550.0               | 1.25            | 178.56      | 2,549.6               | -16.8        | -12.4        | -16.6                   | 0.45                    | -0.40                  | -9.24                 |
| 2,575.0               | 1.39            | 176.64      | 2,574.6               | -17.4        | -12.4        | -17.1                   | 0.59                    | 0.56                   | -7.68                 |
| 2,600.0               | 1.34            | 172.27      | 2,599.6               | -18.0        | -12.3        | -17.7                   | 0.46                    | -0.20                  | -17.48                |
| 2,625.0               | 1.31            | 167.78      | 2,624.6               | -18.5        | -12.2        | -18.3                   | 0.43                    | -0.12                  | -17.96                |
| 2,650.0               | 1.30            | 158.95      | 2,649.6               | -19.1        | -12.0        | -18.8                   | 0.80                    | -0.04                  | -35.32                |
| 2,675.0               | 1.26            | 149.73      | 2,674.6               | -19.6        | -11.8        | -19.3                   | 0.84                    | -0.16                  | -36.88                |
| 2,700.0               | 1.25            | 141.47      | 2,699.6               | -20.0        | -11.5        | -19.8                   | 0.72                    | -0.04                  | -33.04                |
| 2,725.0               | 1.30            | 136.06      | 2,724.6               | -20.5        | -11.1        | -20.2                   | 0.52                    | 0.20                   | -21.64                |
| 2,750.0               | 1.25            | 132.27      | 2,749.6               | -20.9        | -10.7        | -20.6                   | 0.39                    | -0.20                  | -15.16                |
| 2,775.0               | 1.31            | 128.02      | 2,774.6               | -21.2        | -10.3        | -21.0                   | 0.45                    | 0.24                   | -17.00                |
| 2,800.0               | 1.27            | 127.10      | 2,799.6               | -21.6        | -9.9         | -21.3                   | 0.18                    | -0.16                  | -3.68                 |
| 2,825.0               | 1.34            | 125.78      | 2,824.6               | -21.9        | -9.4         | -21.7                   | 0.30                    | 0.28                   | -5.28                 |
| 2,850.0               | 1.40            | 121.22      | 2,849.6               | -22.2        | -8.9         | -22.0                   | 0.50                    | 0.24                   | -18.24                |
| 2,875.0               | 1.46            | 118.93      | 2,874.5               | -22.5        | -8.4         | -22.4                   | 0.27                    | 0.24                   | -5.16                 |
| 2,900.0               | 1.47            | 120.13      | 2,899.5               | -22.9        | -7.8         | -22.7                   | 0.04                    | 0.04                   | 0.80                  |
| 2,925.0               | 1.46            | 116.31      | 2,924.5               | -23.2        | -7.2         | -23.0                   | 0.39                    | -0.04                  | -15.28                |
| 2,950.0               | 1.53            | 113.84      | 2,949.5               | -23.4        | -6.7         | -23.3                   | 0.38                    | 0.28                   | -9.88                 |
| 2,975.0               | 1.51            | 111.13      | 2,974.5               | -23.7        | -6.0         | -23.6                   | 0.30                    | -0.08                  | -10.84                |
| 3,000.0               | 1.65            | 107.80      | 2,999.5               | -23.9        | -5.4         | -23.8                   | 0.67                    | 0.56                   | -13.32                |
| 3,025.0               | 1.76            | 106.56      | 3,024.5               | -24.1        | -4.7         | -24.0                   | 0.46                    | 0.44                   | -4.96                 |
| 3,050.0               | 1.87            | 104.68      | 3,049.5               | -24.4        | -3.9         | -24.3                   | 0.50                    | 0.44                   | -7.52                 |
| 3,075.0               | 1.92            | 103.71      | 3,074.5               | -24.6        | -3.1         | -24.5                   | 0.24                    | 0.20                   | -3.88                 |
| 3,100.0               | 2.10            | 103.09      | 3,099.4               | -24.8        | -2.3         | -24.7                   | 0.73                    | 0.72                   | -2.48                 |
| 3,125.0               | 2.12            | 100.33      | 3,124.4               | -24.9        | -1.4         | -24.9                   | 0.41                    | 0.08                   | -11.04                |
| 3,150.0               | 2.12            | 102.57      | 3,149.4               | -25.1        | -0.5         | -25.1                   | 0.33                    | 0.00                   | 8.96                  |
| 3,175.0               | 2.17            | 112.26      | 3,174.4               | -25.4        | 0.4          | -25.4                   | 1.46                    | 0.20                   | 38.76                 |
| 3,200.0               | 2.15            | 135.28      | 3,199.4               | -25.9        | 1.2          | -25.9                   | 3.45                    | -0.08                  | 92.08                 |
| 3,225.0               | 2.11            | 151.03      | 3,224.4               | -26.7        | 1.7          | -26.7                   | 2.34                    | -0.16                  | 63.00                 |
| 3,250.0               | 2.27            | 152.64      | 3,249.3               | -27.5        | 2.2          | -27.5                   | 0.69                    | 0.64                   | 6.44                  |
| 3,275.0               | 2.23            | 151.81      | 3,274.3               | -28.4        | 2.7          | -28.4                   | 0.21                    | -0.16                  | -3.32                 |
| 3,300.0               | 2.26            | 147.66      | 3,299.3               | -29.2        | 3.2          | -29.3                   | 0.66                    | 0.12                   | -16.60                |
| 3,325.0               | 2.45            | 142.05      | 3,324.3               | -30.0        | 3.7          | -30.1                   | 1.19                    | 0.76                   | -22.44                |
| 3,350.0               | 2.58            | 137.89      | 3,349.3               | -30.9        | 4.4          | -31.0                   | 0.90                    | 0.52                   | -16.64                |
| 3,375.0               | 2.64            | 135.86      | 3,374.2               | -31.7        | 5.2          | -31.8                   | 0.44                    | 0.24                   | -8.12                 |
| 3,400.0               | 2.66            | 133.73      | 3,399.2               | -32.5        | 6.0          | -32.6                   | 0.40                    | 0.08                   | -8.52                 |
| 3,425.0               | 2.67            | 136.04      | 3,424.2               | -33.4        | 6.9          | -33.5                   | 0.43                    | 0.04                   | 9.24                  |
| 3,450.0               | 2.67            | 136.49      | 3,449.2               | -34.2        | 7.7          | -34.3                   | 0.08                    | 0.00                   | 1.80                  |
| 3,475.0               | 2.26            | 148.61      | 3,474.1               | -35.0        | 8.3          | -35.2                   | 2.64                    | -1.64                  | 48.48                 |
| 3,500.0               | 2.05            | 170.46      | 3,499.1               | -35.9        | 8.7          | -36.1                   | 3.37                    | -0.84                  | 87.40                 |
| 3,525.0               | 1.99            | 185.61      | 3,524.1               | -36.8        | 8.7          | -36.9                   | 2.14                    | -0.24                  | 60.60                 |
| 3,550.0               | 2.06            | 189.51      | 3,549.1               | -37.6        | 8.6          | -37.8                   | 0.62                    | 0.28                   | 15.60                 |



# Survey Report

Company: NORTHERN DELAWARE BASIN  
 Project: LEA COUNTY, NM  
 Site: BULLDOG  
 Well: DOMINATOR 25 FED #709H  
 Wellbore: OWB  
 Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well DOMINATOR 25 FED #709H  
 TVD Reference: RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
 MD Reference: RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature  
 Database: EDM\_Users

## Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 3,575.0               | 2.15            | 202.92      | 3,574.1               | -38.5        | 8.3          | -38.7                   | 2.00                    | 0.36                   | 53.64                 |
| 3,600.0               | 2.74            | 219.24      | 3,599.0               | -39.4        | 7.8          | -39.6                   | 3.63                    | 2.36                   | 65.28                 |
| 3,625.0               | 2.93            | 223.52      | 3,624.0               | -40.3        | 6.9          | -40.5                   | 1.14                    | 0.76                   | 17.12                 |
| 3,650.0               | 3.01            | 223.46      | 3,649.0               | -41.3        | 6.1          | -41.4                   | 0.32                    | 0.32                   | -0.24                 |
| 3,675.0               | 3.01            | 223.26      | 3,673.9               | -42.2        | 5.2          | -42.3                   | 0.04                    | 0.00                   | -0.80                 |
| 3,700.0               | 3.02            | 223.27      | 3,698.9               | -43.2        | 4.2          | -43.3                   | 0.04                    | 0.04                   | 0.04                  |
| 3,725.0               | 3.03            | 224.02      | 3,723.9               | -44.1        | 3.3          | -44.2                   | 0.16                    | 0.04                   | 3.00                  |
| 3,750.0               | 3.03            | 223.63      | 3,748.8               | -45.1        | 2.4          | -45.1                   | 0.08                    | 0.00                   | -1.56                 |
| 3,775.0               | 3.01            | 223.76      | 3,773.8               | -46.1        | 1.5          | -46.1                   | 0.08                    | -0.08                  | 0.52                  |
| 3,800.0               | 3.03            | 224.71      | 3,798.8               | -47.0        | 0.6          | -47.0                   | 0.22                    | 0.08                   | 3.80                  |
| 3,825.0               | 3.01            | 223.73      | 3,823.7               | -47.9        | -0.3         | -47.9                   | 0.22                    | -0.08                  | -3.92                 |
| 3,850.0               | 2.90            | 225.16      | 3,848.7               | -48.9        | -1.2         | -48.8                   | 0.53                    | -0.44                  | 5.72                  |
| 3,875.0               | 2.72            | 225.43      | 3,873.7               | -49.7        | -2.1         | -49.7                   | 0.72                    | -0.72                  | 1.08                  |
| 3,900.0               | 2.29            | 225.53      | 3,898.6               | -50.5        | -2.9         | -50.4                   | 1.72                    | -1.72                  | 0.40                  |
| 3,925.0               | 1.86            | 223.78      | 3,923.6               | -51.1        | -3.5         | -51.1                   | 1.74                    | -1.72                  | -7.00                 |
| 3,950.0               | 1.63            | 220.22      | 3,948.6               | -51.7        | -4.0         | -51.6                   | 1.02                    | -0.92                  | -14.24                |
| 3,975.0               | 1.24            | 216.23      | 3,973.6               | -52.2        | -4.4         | -52.1                   | 1.61                    | -1.56                  | -15.96                |
| 4,000.0               | 0.96            | 210.65      | 3,998.6               | -52.6        | -4.7         | -52.5                   | 1.20                    | -1.12                  | -22.32                |
| 4,025.0               | 1.10            | 204.58      | 4,023.6               | -53.0        | -4.9         | -52.9                   | 0.71                    | 0.56                   | -24.28                |
| 4,050.0               | 1.04            | 202.33      | 4,048.6               | -53.4        | -5.1         | -53.3                   | 0.29                    | -0.24                  | -9.00                 |
| 4,075.0               | 1.03            | 206.00      | 4,073.6               | -53.8        | -5.3         | -53.7                   | 0.27                    | -0.04                  | 14.68                 |
| 4,100.0               | 1.11            | 202.24      | 4,098.6               | -54.3        | -5.4         | -54.1                   | 0.43                    | 0.32                   | -15.04                |
| 4,125.0               | 1.05            | 204.17      | 4,123.6               | -54.7        | -5.6         | -54.6                   | 0.28                    | -0.24                  | 7.72                  |
| 4,150.0               | 1.06            | 206.39      | 4,148.6               | -55.1        | -5.8         | -55.0                   | 0.17                    | 0.04                   | 8.88                  |
| 4,175.0               | 1.07            | 205.35      | 4,173.6               | -55.5        | -6.0         | -55.4                   | 0.09                    | 0.04                   | -4.16                 |
| 4,200.0               | 1.07            | 208.99      | 4,198.6               | -55.9        | -6.2         | -55.8                   | 0.27                    | 0.00                   | 14.56                 |
| 4,225.0               | 1.35            | 217.22      | 4,223.6               | -56.4        | -6.5         | -56.2                   | 1.32                    | 1.12                   | 32.92                 |
| 4,250.0               | 1.54            | 221.38      | 4,248.6               | -56.9        | -6.9         | -56.7                   | 0.87                    | 0.76                   | 16.64                 |
| 4,275.0               | 1.53            | 220.63      | 4,273.6               | -57.4        | -7.4         | -57.2                   | 0.09                    | -0.04                  | -3.00                 |
| 4,300.0               | 1.52            | 220.13      | 4,298.5               | -57.9        | -7.8         | -57.7                   | 0.07                    | -0.04                  | -2.00                 |
| 4,325.0               | 1.47            | 215.70      | 4,323.5               | -58.4        | -8.2         | -58.2                   | 0.50                    | -0.20                  | -17.72                |
| 4,350.0               | 1.41            | 210.39      | 4,348.5               | -58.9        | -8.6         | -58.7                   | 0.58                    | -0.24                  | -21.24                |
| 4,375.0               | 1.25            | 199.12      | 4,373.5               | -59.4        | -8.8         | -59.2                   | 1.22                    | -0.64                  | -45.08                |
| 4,400.0               | 1.29            | 183.81      | 4,398.5               | -60.0        | -8.9         | -59.8                   | 1.36                    | 0.16                   | -61.24                |
| 4,425.0               | 1.36            | 162.72      | 4,423.5               | -60.5        | -8.8         | -60.3                   | 1.96                    | 0.28                   | -84.36                |
| 4,450.0               | 1.60            | 150.03      | 4,448.5               | -61.1        | -8.6         | -60.9                   | 1.62                    | 0.96                   | -50.76                |
| 4,475.0               | 1.79            | 143.70      | 4,473.5               | -61.7        | -8.2         | -61.6                   | 1.07                    | 0.76                   | -25.32                |
| 4,500.0               | 2.10            | 140.35      | 4,498.5               | -62.4        | -7.6         | -62.2                   | 1.32                    | 1.24                   | -13.40                |
| 4,525.0               | 2.17            | 138.85      | 4,523.5               | -63.1        | -7.0         | -63.0                   | 0.36                    | 0.28                   | -6.00                 |
| 4,550.0               | 2.21            | 141.73      | 4,548.4               | -63.8        | -6.4         | -63.7                   | 0.47                    | 0.16                   | 11.52                 |
| 4,575.0               | 2.16            | 142.62      | 4,573.4               | -64.6        | -5.8         | -64.5                   | 0.24                    | -0.20                  | 3.56                  |
| 4,600.0               | 2.15            | 159.12      | 4,598.4               | -65.4        | -5.4         | -65.3                   | 2.47                    | -0.04                  | 66.00                 |
| 4,625.0               | 2.29            | 184.86      | 4,623.4               | -66.4        | -5.3         | -66.2                   | 3.99                    | 0.56                   | 102.96                |



# Survey Report

**Company:** NORTHERN DELAWARE BASIN  
**Project:** LEA COUNTY, NM  
**Site:** BULLDOG  
**Well:** DOMINATOR 25 FED #709H  
**Wellbore:** OWB  
**Design:** ACTUAL WELLPATH

**Local Co-ordinate Reference:** Well DOMINATOR 25 FED #709H  
**TVD Reference:** RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
**MD Reference:** RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM\_Users

## Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 4,650.0               | 2.36            | 183.69      | 4,648.4               | -67.4        | -5.3         | -67.2                   | 0.34                    | 0.28                   | -4.68                 |
| 4,675.0               | 2.24            | 183.13      | 4,673.3               | -68.4        | -5.4         | -68.2                   | 0.49                    | -0.48                  | -2.24                 |
| 4,700.0               | 2.26            | 182.33      | 4,698.3               | -69.3        | -5.4         | -69.2                   | 0.15                    | 0.08                   | -3.20                 |
| 4,725.0               | 2.16            | 177.52      | 4,723.3               | -70.3        | -5.4         | -70.2                   | 0.84                    | -0.40                  | -19.24                |
| 4,750.0               | 2.13            | 174.36      | 4,748.3               | -71.2        | -5.4         | -71.1                   | 0.49                    | -0.12                  | -12.64                |
| 4,775.0               | 2.10            | 172.61      | 4,773.3               | -72.2        | -5.3         | -72.0                   | 0.28                    | -0.12                  | -7.00                 |
| 4,800.0               | 2.00            | 170.22      | 4,798.3               | -73.0        | -5.1         | -72.9                   | 0.53                    | -0.40                  | -9.56                 |
| 4,825.0               | 1.90            | 172.17      | 4,823.2               | -73.9        | -5.0         | -73.8                   | 0.48                    | -0.40                  | 7.80                  |
| 4,850.0               | 1.97            | 172.07      | 4,848.2               | -74.7        | -4.9         | -74.6                   | 0.28                    | 0.28                   | -0.40                 |
| 4,875.0               | 1.94            | 172.21      | 4,873.2               | -75.6        | -4.8         | -75.4                   | 0.12                    | -0.12                  | 0.56                  |
| 4,900.0               | 1.94            | 172.22      | 4,898.2               | -76.4        | -4.7         | -76.3                   | 0.00                    | 0.00                   | 0.04                  |
| 4,925.0               | 1.92            | 172.27      | 4,923.2               | -77.2        | -4.6         | -77.1                   | 0.08                    | -0.08                  | 0.20                  |
| 4,950.0               | 2.03            | 172.43      | 4,948.2               | -78.1        | -4.4         | -78.0                   | 0.44                    | 0.44                   | 0.64                  |
| 4,975.0               | 1.91            | 172.00      | 4,973.2               | -78.9        | -4.3         | -78.8                   | 0.48                    | -0.48                  | -1.72                 |
| 5,000.0               | 1.85            | 171.45      | 4,998.1               | -79.8        | -4.2         | -79.6                   | 0.25                    | -0.24                  | -2.20                 |
| 5,025.0               | 1.70            | 172.28      | 5,023.1               | -80.5        | -4.1         | -80.4                   | 0.61                    | -0.60                  | 3.32                  |
| 5,050.0               | 1.58            | 171.92      | 5,048.1               | -81.2        | -4.0         | -81.1                   | 0.48                    | -0.48                  | -1.44                 |
| 5,075.0               | 1.60            | 172.37      | 5,073.1               | -81.9        | -3.9         | -81.8                   | 0.09                    | 0.08                   | 1.80                  |
| 5,100.0               | 1.50            | 172.22      | 5,098.1               | -82.6        | -3.8         | -82.5                   | 0.40                    | -0.40                  | -0.60                 |
| 5,125.0               | 1.41            | 173.67      | 5,123.1               | -83.2        | -3.7         | -83.1                   | 0.39                    | -0.36                  | 5.80                  |
| 5,150.0               | 1.39            | 175.29      | 5,148.1               | -83.8        | -3.7         | -83.7                   | 0.18                    | -0.08                  | 6.48                  |
| 5,175.0               | 1.32            | 174.35      | 5,173.1               | -84.4        | -3.6         | -84.3                   | 0.29                    | -0.28                  | -3.76                 |
| 5,200.0               | 1.28            | 173.57      | 5,198.1               | -85.0        | -3.6         | -84.9                   | 0.17                    | -0.16                  | -3.12                 |
| 5,225.0               | 1.25            | 174.60      | 5,223.1               | -85.5        | -3.5         | -85.4                   | 0.15                    | -0.12                  | 4.12                  |
| 5,250.0               | 1.26            | 172.98      | 5,248.1               | -86.1        | -3.4         | -86.0                   | 0.15                    | 0.04                   | -6.48                 |
| 5,275.0               | 1.27            | 174.19      | 5,273.1               | -86.6        | -3.4         | -86.5                   | 0.11                    | 0.04                   | 4.84                  |
| 5,300.0               | 1.28            | 173.18      | 5,298.0               | -87.2        | -3.3         | -87.1                   | 0.10                    | 0.04                   | -4.04                 |
| 5,325.0               | 1.20            | 173.93      | 5,323.0               | -87.7        | -3.3         | -87.6                   | 0.33                    | -0.32                  | 3.00                  |
| 5,350.0               | 1.17            | 180.28      | 5,348.0               | -88.2        | -3.2         | -88.1                   | 0.54                    | -0.12                  | 25.40                 |
| 5,375.0               | 1.33            | 205.74      | 5,373.0               | -88.7        | -3.4         | -88.7                   | 2.29                    | 0.64                   | 101.84                |
| 5,400.0               | 1.57            | 222.17      | 5,398.0               | -89.3        | -3.7         | -89.2                   | 1.91                    | 0.96                   | 65.72                 |
| 5,425.0               | 1.71            | 229.25      | 5,423.0               | -89.8        | -4.2         | -89.6                   | 0.98                    | 0.56                   | 28.32                 |
| 5,450.0               | 1.76            | 225.10      | 5,448.0               | -90.3        | -4.8         | -90.1                   | 0.54                    | 0.20                   | -16.60                |
| 5,475.0               | 1.75            | 228.66      | 5,473.0               | -90.8        | -5.3         | -90.7                   | 0.44                    | -0.04                  | 14.24                 |
| 5,500.0               | 1.77            | 225.85      | 5,498.0               | -91.3        | -5.9         | -91.2                   | 0.35                    | 0.08                   | -11.24                |
| 5,525.0               | 1.64            | 230.82      | 5,523.0               | -91.8        | -6.5         | -91.7                   | 0.79                    | -0.52                  | 19.88                 |
| 5,550.0               | 1.61            | 230.66      | 5,548.0               | -92.3        | -7.0         | -92.1                   | 0.12                    | -0.12                  | -0.64                 |
| 5,575.0               | 1.56            | 233.36      | 5,572.9               | -92.7        | -7.6         | -92.5                   | 0.36                    | -0.20                  | 10.80                 |
| 5,600.0               | 1.52            | 231.69      | 5,597.9               | -93.1        | -8.1         | -92.9                   | 0.24                    | -0.16                  | -6.68                 |
| 5,625.0               | 1.46            | 232.70      | 5,622.9               | -93.5        | -8.6         | -93.3                   | 0.26                    | -0.24                  | 4.04                  |
| 5,650.0               | 1.25            | 232.63      | 5,647.9               | -93.8        | -9.1         | -93.6                   | 0.84                    | -0.84                  | -0.28                 |
| 5,675.0               | 1.14            | 236.03      | 5,672.9               | -94.1        | -9.5         | -93.9                   | 0.52                    | -0.44                  | 13.60                 |
| 5,700.0               | 1.12            | 235.80      | 5,697.9               | -94.4        | -9.9         | -94.2                   | 0.08                    | -0.08                  | -0.52                 |



# Survey Report

**Company:** NORTHERN DELAWARE BASIN  
**Project:** LEA COUNTY, NM  
**Site:** BULLDOG  
**Well:** DOMINATOR 25 FED #709H  
**Wellbore:** OWB  
**Design:** ACTUAL WELLPATH

**Local Co-ordinate Reference:** Well DOMINATOR 25 FED #709H  
**TVD Reference:** RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
**MD Reference:** RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM\_Users

## Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Buidl Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 5,725.0               | 1.08            | 241.40      | 5,722.9               | -94.7        | -10.3        | -94.4                   | 0.45                    | -0.16                  | 22.00                 |
| 5,750.0               | 1.09            | 245.83      | 5,747.9               | -94.9        | -10.7        | -94.6                   | 0.34                    | 0.04                   | 17.72                 |
| 5,775.0               | 1.14            | 238.98      | 5,772.9               | -95.1        | -11.2        | -94.9                   | 0.57                    | 0.20                   | -27.40                |
| 5,800.0               | 1.24            | 236.66      | 5,797.9               | -95.4        | -11.6        | -95.1                   | 0.44                    | 0.40                   | -9.28                 |
| 5,825.0               | 1.53            | 225.13      | 5,822.9               | -95.8        | -12.1        | -95.5                   | 1.60                    | 1.16                   | -46.12                |
| 5,850.0               | 2.02            | 217.91      | 5,847.9               | -96.4        | -12.6        | -96.1                   | 2.15                    | 1.96                   | -28.88                |
| 5,875.0               | 2.19            | 217.09      | 5,872.9               | -97.1        | -13.1        | -96.8                   | 0.69                    | 0.68                   | -3.28                 |
| 5,900.0               | 2.19            | 217.81      | 5,897.8               | -97.8        | -13.7        | -97.5                   | 0.11                    | 0.00                   | 2.88                  |
| 5,925.0               | 2.18            | 217.51      | 5,922.8               | -98.6        | -14.3        | -98.3                   | 0.06                    | -0.04                  | -1.20                 |
| 5,950.0               | 2.27            | 215.71      | 5,947.8               | -99.4        | -14.9        | -99.0                   | 0.46                    | 0.36                   | -7.20                 |
| 5,975.0               | 2.29            | 215.95      | 5,972.8               | -100.2       | -15.5        | -99.8                   | 0.09                    | 0.08                   | 0.96                  |
| 6,000.0               | 2.20            | 216.55      | 5,997.8               | -101.0       | -16.0        | -100.6                  | 0.37                    | -0.36                  | 2.40                  |
| 6,025.0               | 2.17            | 218.11      | 6,022.7               | -101.7       | -16.6        | -101.4                  | 0.27                    | -0.12                  | 6.24                  |
| 6,050.0               | 2.05            | 215.68      | 6,047.7               | -102.5       | -17.2        | -102.1                  | 0.60                    | -0.48                  | -9.72                 |
| 6,075.0               | 2.01            | 215.70      | 6,072.7               | -103.2       | -17.7        | -102.8                  | 0.16                    | -0.16                  | 0.08                  |
| 6,100.0               | 1.94            | 215.75      | 6,097.7               | -103.9       | -18.2        | -103.5                  | 0.28                    | -0.28                  | 0.20                  |
| 6,125.0               | 1.79            | 216.67      | 6,122.7               | -104.5       | -18.7        | -104.1                  | 0.61                    | -0.60                  | 3.68                  |
| 6,150.0               | 1.86            | 215.75      | 6,147.7               | -105.2       | -19.1        | -104.8                  | 0.30                    | 0.28                   | -3.68                 |
| 6,175.0               | 1.82            | 218.28      | 6,172.7               | -105.8       | -19.6        | -105.4                  | 0.36                    | -0.16                  | 10.12                 |
| 6,200.0               | 1.84            | 211.21      | 6,197.6               | -106.5       | -20.1        | -106.0                  | 0.91                    | 0.08                   | -28.28                |
| 6,225.0               | 1.71            | 211.35      | 6,222.6               | -107.1       | -20.5        | -106.7                  | 0.52                    | -0.52                  | 0.56                  |
| 6,250.0               | 1.75            | 211.39      | 6,247.6               | -107.8       | -20.9        | -107.3                  | 0.16                    | 0.16                   | 0.16                  |
| 6,275.0               | 1.71            | 210.60      | 6,272.6               | -108.4       | -21.3        | -108.0                  | 0.19                    | -0.16                  | -3.16                 |
| 6,300.0               | 1.72            | 213.22      | 6,297.6               | -109.1       | -21.7        | -108.6                  | 0.32                    | 0.04                   | 10.48                 |
| 6,325.0               | 2.15            | 207.67      | 6,322.6               | -109.8       | -22.1        | -109.3                  | 1.87                    | 1.72                   | -22.20                |
| 6,350.0               | 2.53            | 205.68      | 6,347.6               | -110.7       | -22.5        | -110.2                  | 1.55                    | 1.52                   | -7.96                 |
| 6,375.0               | 2.50            | 206.35      | 6,372.5               | -111.7       | -23.0        | -111.2                  | 0.17                    | -0.12                  | 2.68                  |
| 6,400.0               | 2.52            | 205.83      | 6,397.5               | -112.7       | -23.5        | -112.2                  | 0.12                    | 0.08                   | -2.08                 |
| 6,425.0               | 2.55            | 206.87      | 6,422.5               | -113.7       | -24.0        | -113.2                  | 0.22                    | 0.12                   | 4.16                  |
| 6,450.0               | 2.54            | 207.59      | 6,447.5               | -114.7       | -24.5        | -114.1                  | 0.13                    | -0.04                  | 2.88                  |
| 6,475.0               | 2.54            | 206.60      | 6,472.4               | -115.6       | -25.0        | -115.1                  | 0.18                    | 0.00                   | -3.96                 |
| 6,500.0               | 2.56            | 207.56      | 6,497.4               | -116.6       | -25.5        | -116.1                  | 0.19                    | 0.08                   | 3.84                  |
| 6,525.0               | 2.55            | 206.27      | 6,522.4               | -117.6       | -26.0        | -117.1                  | 0.23                    | -0.04                  | -5.16                 |
| 6,550.0               | 2.56            | 206.53      | 6,547.4               | -118.6       | -26.5        | -118.1                  | 0.08                    | 0.04                   | 1.04                  |
| 6,575.0               | 2.57            | 205.68      | 6,572.3               | -119.6       | -27.0        | -119.0                  | 0.16                    | 0.04                   | -3.40                 |
| 6,600.0               | 2.56            | 205.59      | 6,597.3               | -120.6       | -27.5        | -120.0                  | 0.04                    | -0.04                  | -0.36                 |
| 6,625.0               | 2.52            | 206.98      | 6,622.3               | -121.6       | -28.0        | -121.0                  | 0.29                    | -0.16                  | 5.56                  |
| 6,650.0               | 2.47            | 207.32      | 6,647.3               | -122.6       | -28.5        | -122.0                  | 0.21                    | -0.20                  | 1.36                  |
| 6,675.0               | 2.50            | 206.27      | 6,672.2               | -123.6       | -29.0        | -122.9                  | 0.22                    | 0.12                   | -4.20                 |
| 6,700.0               | 2.54            | 208.22      | 6,697.2               | -124.5       | -29.5        | -123.9                  | 0.38                    | 0.16                   | 7.80                  |
| 6,725.0               | 2.53            | 207.22      | 6,722.2               | -125.5       | -30.0        | -124.9                  | 0.18                    | -0.04                  | -4.00                 |
| 6,750.0               | 2.53            | 207.60      | 6,747.2               | -126.5       | -30.5        | -125.8                  | 0.07                    | 0.00                   | 1.52                  |
| 6,775.0               | 2.55            | 207.66      | 6,772.1               | -127.5       | -31.0        | -126.8                  | 0.08                    | 0.08                   | 0.24                  |
| 6,800.0               | 2.45            | 207.67      | 6,797.1               | -128.5       | -31.5        | -127.8                  | 0.40                    | -0.40                  | 0.04                  |





# Survey Report

Company: NORTHERN DELAWARE BASIN  
 Project: LEA COUNTY, NM  
 Site: BULLDOG  
 Well: DOMINATOR 25 FED #709H  
 Wellbore: OWB  
 Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well DOMINATOR 25 FED #709H  
 TVD Reference: RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
 MD Reference: RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature  
 Database: EDM\_Users

## Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 6,825.0               | 2.47            | 208.76      | 6,822.1               | -129.4       | -32.0        | -128.7                  | 0.20                    | 0.08                   | 4.36                  |
| 6,850.0               | 2.52            | 207.27      | 6,847.1               | -130.4       | -32.5        | -129.7                  | 0.33                    | 0.20                   | -5.96                 |
| 6,875.0               | 2.43            | 208.47      | 6,872.1               | -131.3       | -33.0        | -130.6                  | 0.42                    | -0.36                  | 4.80                  |
| 6,900.0               | 2.23            | 209.47      | 6,897.0               | -132.2       | -33.5        | -131.5                  | 0.82                    | -0.80                  | 4.00                  |
| 6,925.0               | 2.26            | 207.82      | 6,922.0               | -133.1       | -34.0        | -132.3                  | 0.29                    | 0.12                   | -6.60                 |
| 6,950.0               | 2.34            | 208.57      | 6,947.0               | -133.9       | -34.5        | -133.2                  | 0.34                    | 0.32                   | 3.00                  |
| 6,975.0               | 2.17            | 207.58      | 6,972.0               | -134.8       | -34.9        | -134.1                  | 0.70                    | -0.68                  | -3.96                 |
| 7,000.0               | 2.01            | 209.26      | 6,997.0               | -135.6       | -35.4        | -134.9                  | 0.69                    | -0.64                  | 6.72                  |
| 7,025.0               | 1.95            | 208.55      | 7,021.9               | -136.4       | -35.8        | -135.6                  | 0.26                    | -0.24                  | -2.84                 |
| 7,050.0               | 1.99            | 208.18      | 7,046.9               | -137.1       | -36.2        | -136.4                  | 0.17                    | 0.16                   | -1.48                 |
| 7,075.0               | 1.94            | 209.05      | 7,071.9               | -137.9       | -36.6        | -137.1                  | 0.23                    | -0.20                  | 3.48                  |
| 7,100.0               | 1.96            | 208.97      | 7,096.9               | -138.6       | -37.0        | -137.8                  | 0.08                    | 0.08                   | -0.32                 |
| 7,125.0               | 1.85            | 210.04      | 7,121.9               | -139.3       | -37.4        | -138.5                  | 0.46                    | -0.44                  | 4.28                  |
| 7,150.0               | 1.82            | 210.45      | 7,146.9               | -140.0       | -37.8        | -139.2                  | 0.13                    | -0.12                  | 1.64                  |
| 7,175.0               | 1.81            | 215.60      | 7,171.9               | -140.7       | -38.3        | -139.9                  | 0.65                    | -0.04                  | 20.60                 |
| 7,200.0               | 1.74            | 216.54      | 7,196.8               | -141.3       | -38.7        | -140.5                  | 0.30                    | -0.28                  | 3.76                  |
| 7,225.0               | 1.82            | 213.59      | 7,221.8               | -142.0       | -39.2        | -141.1                  | 0.49                    | 0.32                   | -11.80                |
| 7,250.0               | 1.81            | 215.96      | 7,246.8               | -142.6       | -39.6        | -141.8                  | 0.30                    | -0.04                  | 9.48                  |
| 7,275.0               | 1.78            | 215.65      | 7,271.8               | -143.2       | -40.1        | -142.4                  | 0.13                    | -0.12                  | -1.24                 |
| 7,300.0               | 1.79            | 215.57      | 7,296.8               | -143.9       | -40.5        | -143.0                  | 0.04                    | 0.04                   | -0.32                 |
| 7,325.0               | 1.78            | 218.00      | 7,321.8               | -144.5       | -41.0        | -143.6                  | 0.31                    | -0.04                  | 9.72                  |
| 7,350.0               | 1.89            | 214.76      | 7,346.8               | -145.1       | -41.5        | -144.3                  | 0.60                    | 0.44                   | -12.96                |
| 7,375.0               | 1.87            | 215.96      | 7,371.8               | -145.8       | -41.9        | -144.9                  | 0.18                    | -0.08                  | 4.80                  |
| 7,400.0               | 1.89            | 218.17      | 7,396.7               | -146.5       | -42.4        | -145.6                  | 0.30                    | 0.08                   | 8.84                  |
| 7,425.0               | 1.99            | 221.19      | 7,421.7               | -147.1       | -43.0        | -146.2                  | 0.57                    | 0.40                   | 12.08                 |
| 7,450.0               | 1.92            | 222.97      | 7,446.7               | -147.8       | -43.5        | -146.8                  | 0.37                    | -0.28                  | 7.12                  |
| 7,475.0               | 1.98            | 224.63      | 7,471.7               | -148.4       | -44.1        | -147.4                  | 0.33                    | 0.24                   | 6.64                  |
| 7,500.0               | 2.04            | 225.66      | 7,496.7               | -149.0       | -44.7        | -148.0                  | 0.28                    | 0.24                   | 4.12                  |
| 7,525.0               | 2.01            | 224.06      | 7,521.7               | -149.6       | -45.4        | -148.6                  | 0.26                    | -0.12                  | -6.40                 |
| 7,550.0               | 2.06            | 224.17      | 7,546.7               | -150.3       | -46.0        | -149.3                  | 0.20                    | 0.20                   | 0.44                  |
| 7,575.0               | 2.04            | 223.48      | 7,571.6               | -150.9       | -46.6        | -149.9                  | 0.13                    | -0.08                  | -2.76                 |
| 7,600.0               | 2.03            | 225.73      | 7,596.6               | -151.5       | -47.2        | -150.5                  | 0.32                    | -0.04                  | 9.00                  |
| 7,625.0               | 1.98            | 225.97      | 7,621.6               | -152.1       | -47.9        | -151.1                  | 0.20                    | -0.20                  | 0.96                  |
| 7,650.0               | 2.05            | 224.61      | 7,646.6               | -152.8       | -48.5        | -151.7                  | 0.34                    | 0.28                   | -5.44                 |
| 7,675.0               | 2.00            | 225.04      | 7,671.6               | -153.4       | -49.1        | -152.3                  | 0.21                    | -0.20                  | 1.72                  |
| 7,700.0               | 2.11            | 224.67      | 7,696.6               | -154.0       | -49.7        | -153.0                  | 0.44                    | 0.44                   | -1.48                 |
| 7,725.0               | 2.02            | 226.23      | 7,721.5               | -154.7       | -50.4        | -153.6                  | 0.42                    | -0.36                  | 6.24                  |
| 7,750.0               | 2.03            | 227.21      | 7,746.5               | -155.3       | -51.0        | -154.2                  | 0.14                    | 0.04                   | 3.92                  |
| 7,775.0               | 2.02            | 226.21      | 7,771.5               | -155.9       | -51.7        | -154.8                  | 0.15                    | -0.04                  | -4.00                 |
| 7,800.0               | 2.00            | 227.19      | 7,796.5               | -156.5       | -52.3        | -155.4                  | 0.18                    | -0.08                  | 3.92                  |
| 7,825.0               | 1.96            | 225.66      | 7,821.5               | -157.1       | -52.9        | -155.9                  | 0.27                    | -0.16                  | -6.12                 |
| 7,850.0               | 1.96            | 225.65      | 7,846.5               | -157.7       | -53.5        | -156.5                  | 0.00                    | 0.00                   | -0.04                 |
| 7,875.0               | 1.81            | 224.19      | 7,871.5               | -158.2       | -54.1        | -157.1                  | 0.63                    | -0.60                  | -5.84                 |



# Survey Report

Company: NORTHERN DELAWARE BASIN  
 Project: LEA COUNTY, NM  
 Site: BULLDOG  
 Well: DOMINATOR 25 FED #709H  
 Wellbore: OWB  
 Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well DOMINATOR 25 FED #709H  
 TVD Reference: RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
 MD Reference: RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature  
 Database: EDM\_Users

## Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 7,900.0               | 1.71            | 222.92      | 7,896.4               | -158.8       | -54.7        | -157.6                  | 0.43                    | -0.40                  | -5.08                 |
| 7,925.0               | 1.73            | 220.45      | 7,921.4               | -159.4       | -55.1        | -158.2                  | 0.31                    | 0.08                   | -9.88                 |
| 7,950.0               | 1.69            | 221.33      | 7,946.4               | -159.9       | -55.6        | -158.7                  | 0.19                    | -0.16                  | 3.52                  |
| 7,975.0               | 1.62            | 219.02      | 7,971.4               | -160.5       | -56.1        | -159.3                  | 0.39                    | -0.28                  | -9.24                 |
| 8,000.0               | 1.61            | 216.78      | 7,996.4               | -161.0       | -56.5        | -159.8                  | 0.26                    | -0.04                  | -8.96                 |
| 8,025.0               | 1.59            | 217.99      | 8,021.4               | -161.6       | -57.0        | -160.4                  | 0.16                    | -0.08                  | 4.84                  |
| 8,050.0               | 1.61            | 213.29      | 8,046.4               | -162.1       | -57.4        | -160.9                  | 0.53                    | 0.08                   | -18.80                |
| 8,075.0               | 1.67            | 211.38      | 8,071.4               | -162.8       | -57.7        | -161.5                  | 0.32                    | 0.24                   | -7.64                 |
| 8,100.0               | 1.63            | 210.37      | 8,096.4               | -163.4       | -58.1        | -162.1                  | 0.20                    | -0.16                  | -4.04                 |
| 8,125.0               | 1.61            | 211.37      | 8,121.4               | -164.0       | -58.5        | -162.7                  | 0.14                    | -0.08                  | 4.00                  |
| 8,150.0               | 1.67            | 210.09      | 8,146.3               | -164.6       | -58.8        | -163.3                  | 0.28                    | 0.24                   | -5.12                 |
| 8,175.0               | 1.67            | 210.48      | 8,171.3               | -165.2       | -59.2        | -164.0                  | 0.05                    | 0.00                   | 1.56                  |
| 8,200.0               | 1.67            | 210.01      | 8,196.3               | -165.8       | -59.6        | -164.6                  | 0.05                    | 0.00                   | -1.88                 |
| 8,225.0               | 1.68            | 209.80      | 8,221.3               | -166.5       | -59.9        | -165.2                  | 0.05                    | 0.04                   | -0.84                 |
| 8,250.0               | 1.65            | 208.45      | 8,246.3               | -167.1       | -60.3        | -165.8                  | 0.20                    | -0.12                  | -5.40                 |
| 8,275.0               | 1.64            | 206.60      | 8,271.3               | -167.8       | -60.6        | -166.5                  | 0.22                    | -0.04                  | -7.40                 |
| 8,300.0               | 1.58            | 208.16      | 8,296.3               | -168.4       | -61.0        | -167.1                  | 0.30                    | -0.24                  | 6.24                  |
| 8,325.0               | 1.60            | 208.77      | 8,321.3               | -169.0       | -61.3        | -167.7                  | 0.17                    | 0.08                   | -5.56                 |
| 8,350.0               | 1.56            | 207.32      | 8,346.3               | -169.6       | -61.6        | -168.3                  | 0.17                    | -0.16                  | 2.20                  |
| 8,375.0               | 1.50            | 209.97      | 8,371.2               | -170.2       | -61.9        | -168.9                  | 0.37                    | -0.24                  | 10.60                 |
| 8,400.0               | 1.54            | 206.78      | 8,396.2               | -170.8       | -62.2        | -169.5                  | 0.37                    | 0.16                   | -12.76                |
| 8,425.0               | 1.47            | 207.51      | 8,421.2               | -171.4       | -62.5        | -170.0                  | 0.29                    | -0.28                  | 2.92                  |
| 8,450.0               | 1.55            | 206.13      | 8,446.2               | -171.9       | -62.8        | -170.6                  | 0.35                    | 0.32                   | -5.52                 |
| 8,475.0               | 1.54            | 205.65      | 8,471.2               | -172.6       | -63.1        | -171.2                  | 0.07                    | -0.04                  | -1.92                 |
| 8,500.0               | 1.54            | 207.10      | 8,496.2               | -173.2       | -63.4        | -171.8                  | 0.16                    | 0.00                   | 5.80                  |
| 8,525.0               | 1.50            | 208.79      | 8,521.2               | -173.7       | -63.7        | -172.4                  | 0.24                    | -0.16                  | 6.76                  |
| 8,550.0               | 1.63            | 204.62      | 8,546.2               | -174.4       | -64.0        | -173.0                  | 0.69                    | 0.52                   | -16.68                |
| 8,575.0               | 1.58            | 206.66      | 8,571.2               | -175.0       | -64.3        | -173.6                  | 0.30                    | -0.20                  | 8.16                  |
| 8,600.0               | 1.59            | 207.68      | 8,596.2               | -175.6       | -64.6        | -174.2                  | 0.12                    | 0.04                   | 4.08                  |
| 8,625.0               | 1.65            | 205.60      | 8,621.2               | -176.2       | -65.0        | -174.9                  | 0.34                    | 0.24                   | -8.32                 |
| 8,650.0               | 1.54            | 206.99      | 8,646.1               | -176.9       | -65.3        | -175.5                  | 0.47                    | -0.44                  | 5.56                  |
| 8,675.0               | 1.35            | 203.55      | 8,671.1               | -177.4       | -65.5        | -176.0                  | 0.84                    | -0.76                  | -13.76                |
| 8,700.0               | 1.19            | 206.94      | 8,696.1               | -177.9       | -65.8        | -176.5                  | 0.71                    | -0.64                  | 13.56                 |
| 8,725.0               | 1.23            | 206.06      | 8,721.1               | -178.4       | -66.0        | -177.0                  | 0.18                    | 0.16                   | -3.52                 |
| 8,750.0               | 1.15            | 207.10      | 8,746.1               | -178.9       | -66.2        | -177.5                  | 0.33                    | -0.32                  | 4.16                  |
| 8,775.0               | 1.17            | 207.14      | 8,771.1               | -179.3       | -66.5        | -177.9                  | 0.08                    | 0.08                   | 0.16                  |
| 8,800.0               | 1.25            | 209.86      | 8,796.1               | -179.8       | -66.7        | -178.4                  | 0.39                    | 0.32                   | 10.88                 |
| 8,825.0               | 1.30            | 210.76      | 8,821.1               | -180.3       | -67.0        | -178.8                  | 0.22                    | 0.20                   | 3.60                  |
| 8,850.0               | 1.22            | 210.85      | 8,846.1               | -180.7       | -67.3        | -179.3                  | 0.32                    | -0.32                  | 0.36                  |
| 8,875.0               | 1.17            | 214.20      | 8,871.1               | -181.2       | -67.6        | -179.7                  | 0.34                    | -0.20                  | 13.40                 |
| 8,900.0               | 1.17            | 217.86      | 8,896.1               | -181.6       | -67.9        | -180.1                  | 0.30                    | 0.00                   | 14.64                 |
| 8,925.0               | 1.16            | 218.91      | 8,921.1               | -182.0       | -68.2        | -180.5                  | 0.09                    | -0.04                  | 4.20                  |
| 8,950.0               | 1.18            | 222.78      | 8,946.1               | -182.4       | -68.5        | -180.9                  | 0.33                    | 0.08                   | 15.48                 |



# Survey Report

Company: NORTHERN DELAWARE BASIN  
Project: LEA COUNTY, NM  
Site: BULLDOG  
Well: DOMINATOR 25 FED #709H  
Wellbore: OWB  
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well DOMINATOR 25 FED #709H  
TVD Reference: RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
MD Reference: RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature  
Database: EDM\_Users

## Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 8,975.0               | 1.25            | 219.52      | 8,971.1               | -182.8       | -68.9        | -181.3                  | 0.39                    | 0.28                   | -13.04                |
| 9,000.0               | 1.22            | 222.52      | 8,996.1               | -183.2       | -69.2        | -181.7                  | 0.29                    | -0.12                  | 12.00                 |
| 9,025.0               | 1.30            | 225.34      | 9,021.1               | -183.6       | -69.6        | -182.1                  | 0.40                    | 0.32                   | 11.28                 |
| 9,050.0               | 1.30            | 224.09      | 9,046.1               | -184.0       | -70.0        | -182.5                  | 0.11                    | 0.00                   | -5.00                 |
| 9,075.0               | 1.28            | 227.52      | 9,071.0               | -184.4       | -70.4        | -182.9                  | 0.32                    | -0.08                  | 13.72                 |
| 9,100.0               | 1.27            | 224.52      | 9,096.0               | -184.7       | -70.8        | -183.3                  | 0.27                    | -0.04                  | -12.00                |
| 9,125.0               | 1.28            | 225.99      | 9,121.0               | -185.1       | -71.2        | -183.6                  | 0.14                    | 0.04                   | 5.88                  |
| 9,150.0               | 1.23            | 226.98      | 9,146.0               | -185.5       | -71.6        | -184.0                  | 0.22                    | -0.20                  | 3.96                  |
| 9,175.0               | 1.31            | 225.96      | 9,171.0               | -185.9       | -72.0        | -184.4                  | 0.33                    | 0.32                   | -4.08                 |
| 9,200.0               | 1.23            | 228.74      | 9,196.0               | -186.3       | -72.4        | -184.7                  | 0.40                    | -0.32                  | 11.12                 |
| 9,225.0               | 1.13            | 235.75      | 9,221.0               | -186.6       | -72.8        | -185.1                  | 0.70                    | -0.40                  | 28.04                 |
| 9,250.0               | 1.13            | 311.32      | 9,246.0               | -186.6       | -73.2        | -185.0                  | 5.54                    | 0.00                   | 302.28                |
| 9,275.0               | 1.14            | 225.32      | 9,271.0               | -186.6       | -73.6        | -185.0                  | 6.19                    | 0.04                   | -344.00               |
| 9,300.0               | 1.03            | 223.00      | 9,296.0               | -186.9       | -73.9        | -185.4                  | 0.47                    | -0.44                  | -9.28                 |
| 9,325.0               | 1.00            | 224.87      | 9,321.0               | -187.2       | -74.2        | -185.7                  | 0.18                    | -0.12                  | 7.48                  |
| 9,350.0               | 1.01            | 228.62      | 9,346.0               | -187.5       | -74.5        | -186.0                  | 0.27                    | 0.04                   | 15.00                 |
| 9,375.0               | 1.11            | 229.48      | 9,371.0               | -187.8       | -74.9        | -186.3                  | 0.41                    | 0.40                   | 3.44                  |
| 9,400.0               | 1.09            | 231.04      | 9,396.0               | -188.1       | -75.2        | -186.6                  | 0.14                    | -0.08                  | 6.24                  |
| 9,425.0               | 1.09            | 232.39      | 9,421.0               | -188.4       | -75.6        | -186.8                  | 0.10                    | 0.00                   | 5.40                  |
| 9,450.0               | 1.11            | 232.31      | 9,446.0               | -188.7       | -76.0        | -187.1                  | 0.08                    | 0.08                   | -0.32                 |
| 9,475.0               | 1.04            | 238.69      | 9,471.0               | -189.0       | -76.4        | -187.4                  | 0.55                    | -0.28                  | 25.52                 |
| 9,500.0               | 1.05            | 238.42      | 9,496.0               | -189.2       | -76.8        | -187.6                  | 0.04                    | 0.04                   | -1.08                 |
| 9,525.0               | 1.12            | 238.49      | 9,521.0               | -189.5       | -77.2        | -187.9                  | 0.28                    | 0.28                   | 0.28                  |
| 9,550.0               | 1.27            | 236.30      | 9,546.0               | -189.8       | -77.6        | -188.1                  | 0.63                    | 0.60                   | -8.76                 |
| 9,575.0               | 1.40            | 230.62      | 9,571.0               | -190.1       | -78.1        | -188.5                  | 0.74                    | 0.52                   | -22.72                |
| 9,600.0               | 1.46            | 229.74      | 9,595.9               | -190.5       | -78.6        | -188.9                  | 0.26                    | 0.24                   | -3.52                 |
| 9,625.0               | 1.44            | 230.94      | 9,620.9               | -190.9       | -79.0        | -189.3                  | 0.15                    | -0.08                  | 4.80                  |
| 9,650.0               | 1.51            | 229.20      | 9,645.9               | -191.3       | -79.5        | -189.7                  | 0.33                    | 0.28                   | -6.96                 |
| 9,675.0               | 1.50            | 228.94      | 9,670.9               | -191.8       | -80.0        | -190.1                  | 0.05                    | -0.04                  | -1.04                 |
| 9,700.0               | 1.57            | 229.03      | 9,695.9               | -192.2       | -80.5        | -190.5                  | 0.28                    | 0.28                   | 0.36                  |
| 9,725.0               | 1.65            | 224.23      | 9,720.9               | -192.7       | -81.0        | -191.0                  | 0.63                    | 0.32                   | -19.20                |
| 9,750.0               | 1.89            | 219.23      | 9,745.9               | -193.3       | -81.6        | -191.5                  | 1.14                    | 0.96                   | -20.00                |
| 9,775.0               | 1.94            | 218.85      | 9,770.9               | -193.9       | -82.1        | -192.2                  | 0.21                    | 0.20                   | -1.52                 |
| 9,800.0               | 2.07            | 219.76      | 9,795.9               | -194.6       | -82.6        | -192.8                  | 0.54                    | 0.52                   | 3.64                  |
| 9,825.0               | 2.16            | 218.71      | 9,820.8               | -195.3       | -83.2        | -193.5                  | 0.39                    | 0.36                   | -4.20                 |
| 9,850.0               | 2.33            | 219.85      | 9,845.8               | -196.1       | -83.8        | -194.3                  | 0.70                    | 0.68                   | 4.56                  |
| 9,875.0               | 2.52            | 220.48      | 9,870.8               | -196.9       | -84.5        | -195.1                  | 0.77                    | 0.76                   | 2.52                  |
| 9,900.0               | 2.60            | 224.50      | 9,895.8               | -197.7       | -85.3        | -195.9                  | 0.79                    | 0.32                   | 16.08                 |
| 9,925.0               | 2.68            | 229.14      | 9,920.7               | -198.5       | -86.1        | -196.7                  | 0.91                    | 0.32                   | 18.56                 |
| 9,950.0               | 2.62            | 229.49      | 9,945.7               | -199.2       | -87.0        | -197.4                  | 0.25                    | -0.24                  | 1.40                  |
| 9,975.0               | 2.32            | 234.69      | 9,970.7               | -199.9       | -87.8        | -198.0                  | 1.50                    | -1.20                  | 20.80                 |
| 10,000.0              | 1.98            | 239.32      | 9,995.7               | -200.4       | -88.6        | -198.5                  | 1.53                    | -1.36                  | 18.52                 |
| 10,025.0              | 1.80            | 240.58      | 10,020.7              | -200.8       | -89.3        | -198.9                  | 0.74                    | -0.72                  | 5.04                  |
| 10,050.0              | 1.76            | 242.29      | 10,045.7              | -201.2       | -90.0        | -199.3                  | 0.27                    | -0.16                  | 6.84                  |



# Survey Report

**Company:** NORTHERN DELAWARE BASIN  
**Project:** LEA COUNTY, NM  
**Site:** BULLDOG  
**Well:** DOMINATOR 25 FED #709H  
**Wellbore:** OWB  
**Design:** ACTUAL WELLPATH

**Local Co-ordinate Reference:** Well DOMINATOR 25 FED #709H  
**TVD Reference:** RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
**MD Reference:** RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM\_Users

## Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 10,075.0              | 1.51            | 246.23      | 10,070.6              | -201.5       | -90.7        | -199.6                  | 1.10                    | -1.00                  | 15.76                 |
| 10,100.0              | 1.09            | 297.92      | 10,095.6              | -201.5       | -91.2        | -199.6                  | 4.78                    | -1.68                  | 206.76                |
| 10,125.0              | 1.09            | 314.40      | 10,120.6              | -201.2       | -91.6        | -199.3                  | 1.25                    | 0.00                   | 65.92                 |
| 10,150.0              | 1.13            | 307.38      | 10,145.6              | -200.9       | -91.9        | -199.0                  | 0.57                    | 0.16                   | -28.08                |
| 10,175.0              | 1.11            | 292.23      | 10,170.6              | -200.7       | -92.3        | -198.7                  | 1.18                    | -0.08                  | -60.60                |
| 10,200.0              | 1.20            | 268.13      | 10,195.6              | -200.6       | -92.8        | -198.7                  | 1.96                    | 0.36                   | -96.40                |
| 10,225.0              | 1.11            | 260.42      | 10,220.6              | -200.7       | -93.3        | -198.7                  | 0.72                    | -0.36                  | -30.84                |
| 10,250.0              | 1.19            | 257.41      | 10,245.6              | -200.8       | -93.8        | -198.8                  | 0.40                    | 0.32                   | -12.04                |
| 10,275.0              | 0.86            | 259.70      | 10,270.6              | -200.8       | -94.3        | -198.9                  | 1.33                    | -1.32                  | 9.16                  |
| 10,300.0              | 0.42            | 4.37        | 10,295.6              | -200.8       | -94.4        | -198.8                  | 4.19                    | -1.76                  | 418.68                |
| 10,325.0              | 1.05            | 50.87       | 10,320.6              | -200.5       | -94.2        | -198.6                  | 3.28                    | 2.52                   | 186.00                |
| 10,350.0              | 1.19            | 51.03       | 10,345.6              | -200.2       | -93.9        | -198.3                  | 0.56                    | 0.56                   | 0.64                  |
| 10,375.0              | 1.18            | 48.16       | 10,370.6              | -199.9       | -93.5        | -197.9                  | 0.24                    | -0.04                  | -11.48                |
| 10,400.0              | 1.10            | 60.43       | 10,395.6              | -199.6       | -93.1        | -197.7                  | 1.03                    | -0.32                  | 49.08                 |
| 10,425.0              | 1.10            | 70.39       | 10,420.6              | -199.4       | -92.6        | -197.5                  | 0.76                    | 0.00                   | 39.84                 |
| 10,450.0              | 1.11            | 68.07       | 10,445.6              | -199.2       | -92.2        | -197.3                  | 0.18                    | 0.04                   | -9.28                 |
| 10,475.0              | 1.07            | 67.67       | 10,470.6              | -199.1       | -91.7        | -197.1                  | 0.16                    | -0.16                  | -1.60                 |
| 10,500.0              | 1.05            | 75.44       | 10,495.6              | -198.9       | -91.3        | -197.0                  | 0.58                    | -0.08                  | 31.08                 |
| 10,525.0              | 1.16            | 67.92       | 10,520.6              | -198.8       | -90.9        | -196.9                  | 0.73                    | 0.44                   | -30.08                |
| 10,550.0              | 1.03            | 66.58       | 10,545.6              | -198.6       | -90.4        | -196.7                  | 0.53                    | -0.52                  | -5.36                 |
| 10,575.0              | 1.06            | 61.41       | 10,570.6              | -198.4       | -90.0        | -196.5                  | 0.40                    | 0.12                   | -20.68                |
| 10,600.0              | 1.00            | 48.32       | 10,595.6              | -198.1       | -89.6        | -196.2                  | 0.97                    | -0.24                  | -52.36                |
| 10,625.0              | 1.04            | 43.99       | 10,620.5              | -197.8       | -89.3        | -195.9                  | 0.35                    | 0.16                   | -17.32                |
| 10,650.0              | 1.21            | 35.49       | 10,645.5              | -197.4       | -89.0        | -195.6                  | 0.95                    | 0.68                   | -34.00                |
| 10,675.0              | 1.17            | 32.65       | 10,670.5              | -197.0       | -88.7        | -195.1                  | 0.29                    | -0.16                  | -11.36                |
| 10,700.0              | 1.24            | 25.67       | 10,695.5              | -196.6       | -88.5        | -194.7                  | 0.65                    | 0.28                   | -27.92                |
| 10,725.0              | 1.10            | 17.82       | 10,720.5              | -196.1       | -88.3        | -194.2                  | 0.85                    | -0.56                  | -31.40                |
| 10,750.0              | 1.20            | 8.09        | 10,745.5              | -195.6       | -88.2        | -193.7                  | 0.88                    | 0.40                   | -38.92                |
| 10,775.0              | 1.01            | 354.30      | 10,770.5              | -195.1       | -88.1        | -193.3                  | 1.30                    | -0.76                  | -55.16                |
| 10,800.0              | 1.07            | 347.64      | 10,795.5              | -194.7       | -88.2        | -192.8                  | 0.54                    | 0.24                   | -26.64                |
| 10,825.0              | 1.01            | 352.87      | 10,820.5              | -194.2       | -88.3        | -192.4                  | 0.45                    | -0.24                  | 20.92                 |
| 10,850.0              | 1.17            | 352.35      | 10,845.5              | -193.7       | -88.4        | -191.9                  | 0.64                    | 0.64                   | -2.08                 |
| 10,875.0              | 1.17            | 353.33      | 10,870.5              | -193.2       | -88.4        | -191.4                  | 0.08                    | 0.00                   | 3.92                  |
| 10,900.0              | 1.24            | 359.08      | 10,895.5              | -192.7       | -88.5        | -190.9                  | 0.56                    | 0.28                   | 23.00                 |
| 10,925.0              | 1.28            | 359.41      | 10,920.5              | -192.2       | -88.5        | -190.3                  | 0.16                    | 0.16                   | 1.32                  |
| 10,950.0              | 1.40            | 357.13      | 10,945.5              | -191.6       | -88.5        | -189.7                  | 0.53                    | 0.48                   | -9.12                 |
| 10,975.0              | 1.40            | 355.66      | 10,970.5              | -191.0       | -88.5        | -189.1                  | 0.14                    | 0.00                   | -5.88                 |
| 11,000.0              | 1.45            | 358.13      | 10,995.5              | -190.4       | -88.5        | -188.5                  | 0.32                    | 0.20                   | 9.88                  |
| 11,025.0              | 1.42            | 357.38      | 11,020.5              | -189.7       | -88.6        | -187.9                  | 0.14                    | -0.12                  | -3.00                 |
| 11,050.0              | 1.44            | 359.41      | 11,045.5              | -189.1       | -88.6        | -187.2                  | 0.22                    | 0.08                   | 8.12                  |
| 11,075.0              | 1.46            | 359.17      | 11,070.4              | -188.5       | -88.6        | -186.6                  | 0.08                    | 0.08                   | -0.96                 |
| 11,100.0              | 1.59            | 0.27        | 11,095.4              | -187.8       | -88.6        | -185.9                  | 0.53                    | 0.52                   | 4.40                  |
| 11,125.0              | 1.60            | 359.56      | 11,120.4              | -187.1       | -88.6        | -185.2                  | 0.09                    | 0.04                   | -2.84                 |



# Survey Report

Company: NORTHERN DELAWARE BASIN  
Project: LEA COUNTY, NM  
Site: BULLDOG  
Well: DOMINATOR 25 FED #709H  
Wellbore: OWB  
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well DOMINATOR 25 FED #709H  
TVD Reference: RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
MD Reference: RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature  
Database: EDM\_Users

## Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 11,150.0              | 1.78            | 352.80      | 11,145.4              | -186.4       | -88.7        | -184.5                  | 1.07                    | 0.72                   | -27.04                |
| 11,175.0              | 1.95            | 348.05      | 11,170.4              | -185.6       | -88.8        | -183.7                  | 0.92                    | 0.68                   | -19.00                |
| 11,200.0              | 1.96            | 343.83      | 11,195.4              | -184.7       | -89.0        | -182.9                  | 0.58                    | 0.04                   | -16.88                |
| 11,225.0              | 2.02            | 343.66      | 11,220.4              | -183.9       | -89.2        | -182.0                  | 0.24                    | 0.24                   | -0.68                 |
| 11,250.0              | 2.03            | 343.13      | 11,245.4              | -183.1       | -89.5        | -181.2                  | 0.08                    | 0.04                   | -2.12                 |
| 11,275.0              | 2.05            | 344.63      | 11,270.3              | -182.2       | -89.7        | -180.3                  | 0.23                    | 0.08                   | 6.00                  |
| 11,300.0              | 1.87            | 346.45      | 11,295.3              | -181.4       | -90.0        | -179.5                  | 0.76                    | -0.72                  | 7.28                  |
| 11,325.0              | 1.82            | 349.80      | 11,320.3              | -180.6       | -90.1        | -178.7                  | 0.48                    | -0.20                  | 13.40                 |
| 11,350.0              | 1.78            | 352.68      | 11,345.3              | -179.8       | -90.2        | -177.9                  | 0.40                    | -0.16                  | 11.52                 |
| 11,375.0              | 1.87            | 353.97      | 11,370.3              | -179.0       | -90.3        | -177.1                  | 0.40                    | 0.36                   | 5.16                  |
| 11,400.0              | 1.84            | 353.24      | 11,395.3              | -178.2       | -90.4        | -176.3                  | 0.15                    | -0.12                  | -2.92                 |
| 11,425.0              | 1.89            | 352.01      | 11,420.3              | -177.4       | -90.5        | -175.5                  | 0.26                    | 0.20                   | -4.92                 |
| 11,450.0              | 1.96            | 352.68      | 11,445.2              | -176.6       | -90.6        | -174.7                  | 0.29                    | 0.28                   | 2.68                  |
| 11,475.0              | 2.02            | 352.32      | 11,470.2              | -175.7       | -90.8        | -173.8                  | 0.25                    | 0.24                   | -1.44                 |
| 11,500.0              | 2.08            | 351.50      | 11,495.2              | -174.8       | -90.9        | -172.9                  | 0.27                    | 0.24                   | -3.28                 |
| 11,525.0              | 2.11            | 350.98      | 11,520.2              | -173.9       | -91.0        | -172.0                  | 0.14                    | 0.12                   | -2.08                 |
| 11,550.0              | 2.15            | 348.00      | 11,545.2              | -173.0       | -91.2        | -171.1                  | 0.47                    | 0.16                   | -11.92                |
| 11,575.0              | 2.28            | 347.04      | 11,570.2              | -172.1       | -91.4        | -170.2                  | 0.54                    | 0.52                   | -3.84                 |
| 11,600.0              | 2.30            | 346.11      | 11,595.1              | -171.1       | -91.6        | -169.2                  | 0.17                    | 0.08                   | -3.72                 |
| 11,625.0              | 2.29            | 345.13      | 11,620.1              | -170.1       | -91.9        | -168.2                  | 0.16                    | -0.04                  | -3.92                 |
| 11,650.0              | 2.40            | 344.75      | 11,645.1              | -169.2       | -92.1        | -167.2                  | 0.44                    | 0.44                   | -1.52                 |
| 11,675.0              | 2.26            | 342.63      | 11,670.1              | -168.2       | -92.4        | -166.2                  | 0.66                    | -0.56                  | -8.48                 |
| 11,700.0              | 2.36            | 343.18      | 11,695.1              | -167.2       | -92.7        | -165.3                  | 0.41                    | 0.40                   | 2.20                  |
| 11,721.0              | 2.28            | 342.92      | 11,716.0              | -166.4       | -93.0        | -164.5                  | 0.38                    | -0.38                  | -1.24                 |
| 11,887.0              | 1.90            | 325.06      | 11,881.9              | -161.0       | -95.5        | -159.0                  | 0.45                    | -0.23                  | -10.76                |
| 11,981.0              | 2.11            | 312.96      | 11,975.9              | -158.5       | -97.7        | -156.5                  | 0.50                    | 0.22                   | -12.87                |
| 12,075.0              | 1.84            | 310.26      | 12,069.8              | -156.4       | -100.1       | -154.3                  | 0.30                    | -0.29                  | -2.87                 |
| 12,170.0              | 4.63            | 329.05      | 12,164.7              | -152.1       | -103.2       | -149.9                  | 3.10                    | 2.94                   | 19.78                 |
| 12,217.0              | 12.06           | 0.96        | 12,211.2              | -145.6       | -104.1       | -143.4                  | 18.05                   | 15.81                  | 67.89                 |
| 12,265.0              | 18.36           | 3.17        | 12,257.4              | -133.0       | -103.6       | -130.8                  | 13.18                   | 13.13                  | 4.60                  |
| 12,312.0              | 22.58           | 4.29        | 12,301.5              | -116.6       | -102.5       | -114.4                  | 9.02                    | 8.98                   | 2.38                  |
| 12,360.0              | 29.74           | 4.66        | 12,344.5              | -95.5        | -100.9       | -93.4                   | 14.92                   | 14.92                  | 0.77                  |
| 12,408.0              | 34.24           | 6.63        | 12,385.2              | -70.2        | -98.4        | -68.2                   | 9.62                    | 9.38                   | 4.10                  |
| 12,454.0              | 36.62           | 7.11        | 12,422.7              | -43.7        | -95.2        | -41.8                   | 5.21                    | 5.17                   | 1.04                  |
| 12,501.0              | 39.82           | 4.49        | 12,459.6              | -14.8        | -92.2        | -12.9                   | 7.63                    | 6.81                   | -5.57                 |
| 12,548.0              | 47.08           | 357.03      | 12,493.7              | 17.4         | -92.0        | 19.3                    | 18.89                   | 15.45                  | -15.87                |
| 12,595.0              | 54.08           | 358.98      | 12,523.6              | 53.7         | -93.2        | 55.6                    | 15.23                   | 14.89                  | 4.15                  |
| 12,644.0              | 56.77           | 0.79        | 12,551.4              | 94.0         | -93.3        | 95.9                    | 6.28                    | 5.49                   | 3.69                  |
| 12,691.0              | 58.95           | 0.89        | 12,576.4              | 133.8        | -92.7        | 135.7                   | 4.64                    | 4.64                   | 0.21                  |
| 12,739.0              | 61.60           | 1.46        | 12,600.2              | 175.5        | -91.8        | 177.4                   | 5.62                    | 5.52                   | 1.19                  |
| 12,787.0              | 63.19           | 2.40        | 12,622.4              | 218.0        | -90.4        | 219.8                   | 3.74                    | 3.31                   | 1.96                  |
| 12,833.0              | 71.57           | 4.35        | 12,640.1              | 260.4        | -87.9        | 262.1                   | 18.63                   | 18.22                  | 4.24                  |
| 12,881.0              | 80.57           | 8.99        | 12,651.7              | 306.6        | -82.4        | 308.2                   | 20.96                   | 18.75                  | 9.67                  |



# Survey Report

Company: NORTHERN DELAWARE BASIN  
Project: LEA COUNTY, NM  
Site: BULLDOG  
Well: DOMINATOR 25 FED #709H  
Wellbore: OWB  
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well DOMINATOR 25 FED #709H  
TVD Reference: RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
MD Reference: RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature  
Database: EDM\_Users

## Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 12,929.0              | 87.17           | 10.65       | 12,656.8              | 353.6        | -74.3        | 355.0                   | 14.17                   | 13.75                  | 3.46                  |
| 12,961.0              | 89.38           | 10.85       | 12,657.7              | 385.0        | -68.3        | 386.3                   | 6.93                    | 6.91                   | 0.63                  |
| 13,056.0              | 90.95           | 6.67        | 12,657.5              | 478.9        | -53.9        | 479.9                   | 4.70                    | 1.65                   | -4.40                 |
| 13,151.0              | 91.04           | 6.11        | 12,655.8              | 573.2        | -43.3        | 574.0                   | 0.60                    | 0.09                   | -0.59                 |
| 13,245.0              | 89.24           | 5.56        | 12,655.6              | 666.8        | -33.7        | 667.3                   | 2.00                    | -1.91                  | -0.59                 |
| 13,340.0              | 87.39           | 2.71        | 12,658.4              | 761.5        | -26.9        | 761.8                   | 3.58                    | -1.95                  | -3.00                 |
| 13,435.0              | 88.77           | 0.05        | 12,661.6              | 856.4        | -24.6        | 856.7                   | 3.15                    | 1.45                   | -2.80                 |
| 13,529.0              | 90.20           | 356.58      | 12,662.4              | 950.3        | -27.4        | 950.7                   | 3.99                    | 1.52                   | -3.69                 |
| 13,624.0              | 87.42           | 356.34      | 12,664.4              | 1,045.1      | -33.2        | 1,045.6                 | 2.94                    | -2.93                  | -0.25                 |
| 13,719.0              | 86.89           | 355.56      | 12,669.1              | 1,139.7      | -39.9        | 1,140.3                 | 0.99                    | -0.56                  | -0.82                 |
| 13,813.0              | 87.09           | 355.63      | 12,674.0              | 1,233.3      | -47.1        | 1,234.0                 | 0.23                    | 0.21                   | 0.07                  |
| 13,905.0              | 90.42           | 357.32      | 12,676.0              | 1,325.1      | -52.8        | 1,325.9                 | 4.06                    | 3.62                   | 1.84                  |
| 13,999.0              | 91.48           | 357.91      | 12,674.5              | 1,419.0      | -56.7        | 1,419.9                 | 1.29                    | 1.13                   | 0.63                  |
| 14,094.0              | 92.27           | 357.93      | 12,671.4              | 1,513.9      | -60.1        | 1,514.8                 | 0.83                    | 0.83                   | 0.02                  |
| 14,188.0              | 88.52           | 357.91      | 12,670.7              | 1,607.8      | -63.6        | 1,608.8                 | 3.99                    | -3.99                  | -0.02                 |
| 14,282.0              | 88.85           | 358.52      | 12,672.9              | 1,701.8      | -66.5        | 1,702.8                 | 0.74                    | 0.35                   | 0.65                  |
| 14,376.0              | 89.55           | 358.82      | 12,674.2              | 1,795.7      | -68.7        | 1,796.8                 | 0.81                    | 0.74                   | 0.32                  |
| 14,470.0              | 88.52           | 358.96      | 12,675.8              | 1,889.7      | -70.5        | 1,890.7                 | 1.11                    | -1.10                  | 0.15                  |
| 14,565.0              | 89.80           | 359.46      | 12,677.2              | 1,984.7      | -71.8        | 1,985.7                 | 1.45                    | 1.35                   | 0.53                  |
| 14,659.0              | 90.36           | 359.69      | 12,677.0              | 2,078.7      | -72.5        | 2,079.7                 | 0.64                    | 0.60                   | 0.24                  |
| 14,753.0              | 89.10           | 359.88      | 12,677.5              | 2,172.7      | -72.8        | 2,173.7                 | 1.36                    | -1.34                  | 0.20                  |
| 14,847.0              | 88.43           | 359.46      | 12,679.5              | 2,266.6      | -73.4        | 2,267.7                 | 0.84                    | -0.71                  | -0.45                 |
| 14,942.0              | 85.82           | 358.89      | 12,684.3              | 2,361.5      | -74.8        | 2,362.5                 | 2.81                    | -2.75                  | -0.60                 |
| 15,037.0              | 85.77           | 359.20      | 12,691.2              | 2,456.2      | -76.3        | 2,457.3                 | 0.33                    | -0.05                  | 0.33                  |
| 15,132.0              | 88.40           | 359.40      | 12,696.1              | 2,551.1      | -77.5        | 2,552.1                 | 2.78                    | 2.77                   | 0.21                  |
| 15,228.0              | 88.52           | 359.20      | 12,698.6              | 2,647.0      | -78.7        | 2,648.1                 | 0.24                    | 0.13                   | -0.21                 |
| 15,323.0              | 90.76           | 1.26        | 12,699.2              | 2,742.0      | -78.3        | 2,743.1                 | 3.20                    | 2.36                   | 2.17                  |
| 15,418.0              | 90.67           | 2.61        | 12,698.1              | 2,837.0      | -75.1        | 2,837.9                 | 1.42                    | -0.09                  | 1.42                  |
| 15,512.0              | 89.19           | 1.68        | 12,698.2              | 2,930.9      | -71.6        | 2,931.8                 | 1.86                    | -1.57                  | -0.99                 |
| 15,607.0              | 90.53           | 359.51      | 12,698.4              | 3,025.9      | -70.6        | 3,026.7                 | 2.68                    | 1.41                   | -2.28                 |
| 15,701.0              | 90.56           | 0.42        | 12,697.5              | 3,119.9      | -70.6        | 3,120.7                 | 0.97                    | 0.03                   | 0.97                  |
| 15,796.0              | 90.81           | 359.11      | 12,696.4              | 3,214.9      | -71.0        | 3,215.7                 | 1.40                    | 0.26                   | -1.38                 |
| 15,891.0              | 90.70           | 356.98      | 12,695.1              | 3,309.8      | -74.3        | 3,310.6                 | 2.24                    | -0.12                  | -2.24                 |
| 15,985.0              | 90.98           | 355.28      | 12,693.7              | 3,403.6      | -80.6        | 3,404.5                 | 1.83                    | 0.30                   | -1.81                 |
| 16,079.0              | 90.20           | 357.57      | 12,692.8              | 3,497.4      | -86.5        | 3,498.4                 | 2.57                    | -0.83                  | 2.44                  |
| 16,174.0              | 91.43           | 0.97        | 12,691.4              | 3,592.3      | -87.7        | 3,593.4                 | 3.81                    | 1.29                   | 3.58                  |
| 16,268.0              | 89.72           | 358.40      | 12,690.5              | 3,686.3      | -88.2        | 3,687.4                 | 3.28                    | -1.82                  | -2.73                 |
| 16,362.0              | 91.34           | 359.32      | 12,689.6              | 3,780.3      | -90.1        | 3,781.4                 | 1.98                    | 1.72                   | 0.98                  |
| 16,457.0              | 88.54           | 359.11      | 12,689.7              | 3,875.3      | -91.4        | 3,876.3                 | 2.96                    | -2.95                  | -0.22                 |
| 16,551.0              | 91.12           | 359.59      | 12,690.0              | 3,969.3      | -92.4        | 3,970.3                 | 2.79                    | 2.74                   | 0.51                  |
| 16,644.0              | 92.13           | 358.88      | 12,687.3              | 4,062.2      | -93.7        | 4,063.3                 | 1.33                    | 1.09                   | -0.76                 |
| 16,737.0              | 89.86           | 358.04      | 12,685.7              | 4,155.2      | -96.2        | 4,156.3                 | 2.60                    | -2.44                  | -0.90                 |
| 16,831.0              | 86.61           | 358.43      | 12,688.6              | 4,249.1      | -99.1        | 4,250.2                 | 3.48                    | -3.46                  | 0.41                  |
| 16,926.0              | 87.31           | 357.54      | 12,693.7              | 4,343.9      | -102.4       | 4,345.1                 | 1.19                    | 0.74                   | -0.94                 |



## Survey Report

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**Design:** ACTUAL WELLPATH

**Local Co-ordinate Reference:** Well DOMINATOR 25 FED #709H  
**TVD Reference:** RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
**MD Reference:** RKB=3335.5+29 @ 3364.5usft (NORAM 23)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM\_Users

### 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) |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| 17,019.0                    | 90.34              | 356.99         | 12,695.6                    | 4,436.7         | -106.8          | 4,438.0                       | 3.31                          | 3.26                         | -0.59                       |
| 17,114.0                    | 91.37              | 354.95         | 12,694.2                    | 4,531.5         | -113.5          | 4,532.9                       | 2.41                          | 1.08                         | -2.15                       |
| 17,208.0                    | 92.21              | 354.61         | 12,691.2                    | 4,625.0         | -122.1          | 4,626.6                       | 0.96                          | 0.89                         | -0.36                       |
| 17,302.0                    | 91.93              | 353.47         | 12,687.8                    | 4,718.5         | -131.8          | 4,720.2                       | 1.25                          | -0.30                        | -1.21                       |
| 17,381.0                    | 91.93              | 353.47         | 12,685.2                    | 4,796.9         | -140.8          | 4,798.8                       | 0.00                          | 0.00                         | 0.00                        |

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