



September 11, 2018

Devon Energy Production Company, LP  
Well: Alley Cat 17 Fed Com 211H  
County/Parish: Lea County, NM

LEAM MWD: (OH) from 0' MD – 15,418' MD  
Projection; 15,470' MD

This Borehole Survey taken between 08/25/18 and 09/08/18 had been conducted and calculated according to the highest professional standards and complies with all known State and Federal requirements.

Reviewed and Approved:

Date: September 11, 2018



## Survey Certification Form

State of New Mexico

Lea County

I, Randy W. Rakowitz, certify that; I am employed by LEAM Drilling Services, that I did on the day(s) of 08/25/2018 through 09/08/2018, conduct or supervise the taking of MWD Survey from a depth of 0' MD to 15,470' MD; that the data is true, correct, complete and within the limitations of the tools as set forth by LEAM Drilling Services, that I am authorized and qualified to make this report; that this survey was conducted at the request of Devon Energy Production Company, LP for the Alley Cat 17 Fed Com 211H in Lea County, New Mexico; and that I reviewed this report and find that it conforms to the principals and procedures as set forth by LEAM Drilling Services.

A handwritten signature in black ink, appearing to read 'Randy W. Rakowitz', is written over a solid horizontal line.

Randy W. Rakowitz  
MWD Operations Coordinator

# LEAM Drilling Services

## Survey Report

|                  |                           |                                     |                                     |
|------------------|---------------------------|-------------------------------------|-------------------------------------|
| <b>Company:</b>  | Devon Energy              | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17 Fed Com 211H      |
| <b>Project:</b>  | Lea County, NM (NAD-83)   | <b>TVD Reference:</b>               | 3602.1' GE + 23.5' KB @ 3625.60usft |
| <b>Site:</b>     | Alley Cat                 | <b>MD Reference:</b>                | 3602.1' GE + 23.5' KB @ 3625.60usft |
| <b>Well:</b>     | Alley Cat 17 Fed Com 211H | <b>North Reference:</b>             | Grid                                |
| <b>Wellbore:</b> | OH                        | <b>Survey Calculation Method:</b>   | Minimum Curvature                   |
| <b>Design:</b>   | OH                        | <b>Database:</b>                    | EDM 5000.1 Multi User Db            |

|                    |                           |                      |                |
|--------------------|---------------------------|----------------------|----------------|
| <b>Project</b>     | Lea County, NM (NAD-83)   |                      |                |
| <b>Map System:</b> | US State Plane 1983       | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | North American Datum 1983 |                      |                |
| <b>Map Zone:</b>   | New Mexico Eastern Zone   |                      |                |

|                              |           |                          |                    |
|------------------------------|-----------|--------------------------|--------------------|
| <b>Site</b>                  | Alley Cat |                          |                    |
| <b>Site Position:</b>        |           | <b>Northing:</b>         | 478,360.18 usft    |
| <b>From:</b>                 | Map       | <b>Easting:</b>          | 738,690.91 usft    |
| <b>Position Uncertainty:</b> | 0.00 usft | <b>Slot Radius:</b>      | 13-3/16 "          |
|                              |           | <b>Latitude:</b>         | 32° 18' 48.4852 N  |
|                              |           | <b>Longitude:</b>        | 103° 41' 40.2275 W |
|                              |           | <b>Grid Convergence:</b> | 0.34 °             |

|                             |                           |                            |                                  |
|-----------------------------|---------------------------|----------------------------|----------------------------------|
| <b>Well</b>                 | Alley Cat 17 Fed Com 211H |                            |                                  |
| <b>Well Position</b>        | +N/-S                     | 0.00 usft                  | <b>Northing:</b> 477,481.70 usft |
|                             | +E/-W                     | 0.00 usft                  | <b>Easting:</b> 736,207.13 usft  |
| <b>Position Uncertainty</b> | 0.00 usft                 | <b>Wellhead Elevation:</b> | 0.00 usft                        |
|                             |                           | <b>Latitude:</b>           | 32° 18' 39.9379 N                |
|                             |                           | <b>Longitude:</b>          | 103° 42' 9.2299 W                |
|                             |                           | <b>Ground Level:</b>       | 3,602.10 usft                    |

|                  |                   |                    |                       |
|------------------|-------------------|--------------------|-----------------------|
| <b>Wellbore</b>  | OH                |                    |                       |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination</b>    |
|                  | HDGM              | 8/9/2018           | 6.87                  |
|                  |                   |                    | <b>Dip Angle</b>      |
|                  |                   |                    | 60.07                 |
|                  |                   |                    | <b>Field Strength</b> |
|                  |                   |                    | 48,067                |

|                          |                         |                      |                  |
|--------------------------|-------------------------|----------------------|------------------|
| <b>Design</b>            | OH                      |                      |                  |
| <b>Audit Notes:</b>      |                         |                      |                  |
| <b>Version:</b>          | 1.0                     | <b>Phase:</b>        | ACTUAL           |
|                          |                         | <b>Tie On Depth:</b> | 0.00             |
| <b>Vertical Section:</b> | <b>Depth From (TVD)</b> | <b>+N/-S</b>         | <b>+E/-W</b>     |
|                          | (usft)                  | (usft)               | (usft)           |
|                          | 0.00                    | 0.00                 | 0.00             |
|                          |                         |                      | <b>Direction</b> |
|                          |                         |                      | (°)              |
|                          |                         |                      | 179.62           |

|                       |                       |                          |                    |
|-----------------------|-----------------------|--------------------------|--------------------|
| <b>Survey Program</b> | <b>Date</b> 9/19/2018 |                          |                    |
| <b>From</b>           | <b>To</b>             | <b>Survey (Wellbore)</b> | <b>Tool Name</b>   |
| (usft)                | (usft)                |                          |                    |
| 136.00                | 15,418.00             | Survey #1 (OH)           | LEAM MWD+HDGM      |
| 15,470.00             | 15,470.00             | Survey #2 (OH)           | Project            |
|                       |                       |                          | <b>Description</b> |
|                       |                       |                          | MWD+HDGM           |
|                       |                       |                          | Projection         |

|                 |                    |                |                 |               |               |                 |                    |                    |                    |  |
|-----------------|--------------------|----------------|-----------------|---------------|---------------|-----------------|--------------------|--------------------|--------------------|--|
| <b>Survey</b>   |                    |                |                 |               |               |                 |                    |                    |                    |  |
| <b>Measured</b> | <b>Inclination</b> | <b>Azimuth</b> | <b>Vertical</b> | <b>+N/-S</b>  | <b>+E/-W</b>  | <b>Vertical</b> | <b>Dogleg</b>      | <b>Build</b>       | <b>Turn</b>        |  |
| <b>Depth</b>    | <b>(°)</b>         | <b>(°)</b>     | <b>Depth</b>    | <b>(usft)</b> | <b>(usft)</b> | <b>Section</b>  | <b>Rate</b>        | <b>Rate</b>        | <b>Rate</b>        |  |
| <b>(usft)</b>   |                    |                | <b>(usft)</b>   |               |               | <b>(usft)</b>   | <b>(°/100usft)</b> | <b>(°/100usft)</b> | <b>(°/100usft)</b> |  |
| 0.00            | 0.00               | 0.00           | 0.00            | 0.00          | 0.00          | 0.00            | 0.00               | 0.00               | 0.00               |  |
| 136.00          | 0.30               | 38.90          | 136.00          | 0.28          | 0.22          | -0.28           | 0.22               | 0.22               | 0.00               |  |
| 225.00          | 0.20               | 34.80          | 225.00          | 0.59          | 0.46          | -0.58           | 0.11               | -0.11              | -4.61              |  |
| 326.00          | 0.20               | 323.10         | 326.00          | 0.87          | 0.45          | -0.87           | 0.23               | 0.00               | -70.99             |  |
| 416.00          | 0.10               | 2.80           | 416.00          | 1.08          | 0.36          | -1.07           | 0.15               | -0.11              | 44.11              |  |
| 508.00          | 0.30               | 329.60         | 508.00          | 1.36          | 0.24          | -1.36           | 0.24               | 0.22               | -36.09             |  |
| 598.00          | 0.20               | 359.30         | 598.00          | 1.72          | 0.12          | -1.72           | 0.18               | -0.11              | 33.00              |  |
| 689.00          | 0.30               | 329.30         | 689.00          | 2.09          | 0.00          | -2.09           | 0.18               | 0.11               | -32.97             |  |
| 782.00          | 0.40               | 356.00         | 781.99          | 2.62          | -0.15         | -2.62           | 0.20               | 0.11               | 28.71              |  |
| 873.00          | 0.40               | 333.30         | 872.99          | 3.22          | -0.31         | -3.22           | 0.17               | 0.00               | -24.95             |  |

# LEAM Drilling Services

## Survey Report

|                  |                           |                                     |                                     |
|------------------|---------------------------|-------------------------------------|-------------------------------------|
| <b>Company:</b>  | Devon Energy              | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17 Fed Com 211H      |
| <b>Project:</b>  | Lea County, NM (NAD-83)   | <b>TVD Reference:</b>               | 3602.1' GE + 23.5' KB @ 3625.60usft |
| <b>Site:</b>     | Alley Cat                 | <b>MD Reference:</b>                | 3602.1' GE + 23.5' KB @ 3625.60usft |
| <b>Well:</b>     | Alley Cat 17 Fed Com 211H | <b>North Reference:</b>             | Grid                                |
| <b>Wellbore:</b> | OH                        | <b>Survey Calculation Method:</b>   | Minimum Curvature                   |
| <b>Design:</b>   | OH                        | <b>Database:</b>                    | EDM 5000.1 Multi User Db            |

| 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) |
| 963.00                | 0.50            | 350.50      | 962.99                | 3.89         | -0.52        | -3.89                   | 0.19                    | 0.11                   | 19.11                 |
| 1,006.00              | 0.40            | 328.40      | 1,005.99              | 4.20         | -0.63        | -4.21                   | 0.46                    | -0.23                  | -51.40                |
| 1,144.00              | 0.20            | 299.00      | 1,143.99              | 4.73         | -1.09        | -4.74                   | 0.18                    | -0.14                  | -21.30                |
| 1,237.00              | 0.20            | 274.20      | 1,236.99              | 4.82         | -1.39        | -4.83                   | 0.09                    | 0.00                   | -26.67                |
| 1,328.00              | 0.10            | 302.40      | 1,327.98              | 4.87         | -1.62        | -4.88                   | 0.13                    | -0.11                  | 30.99                 |
| 1,419.00              | 0.10            | 299.60      | 1,418.98              | 4.96         | -1.76        | -4.97                   | 0.01                    | 0.00                   | -3.08                 |
| 1,510.00              | 0.20            | 303.60      | 1,509.98              | 5.08         | -1.96        | -5.10                   | 0.11                    | 0.11                   | 4.40                  |
| 1,604.00              | 0.20            | 294.50      | 1,603.98              | 5.24         | -2.24        | -5.26                   | 0.03                    | 0.00                   | -9.68                 |
| 1,700.00              | 0.20            | 288.80      | 1,699.98              | 5.37         | -2.55        | -5.38                   | 0.02                    | 0.00                   | -5.94                 |
| 1,794.00              | 0.10            | 248.10      | 1,793.98              | 5.39         | -2.79        | -5.41                   | 0.15                    | -0.11                  | -43.30                |
| 1,888.00              | 0.10            | 265.10      | 1,887.98              | 5.35         | -2.94        | -5.37                   | 0.03                    | 0.00                   | 18.09                 |
| 1,983.00              | 0.00            | 306.40      | 1,982.98              | 5.34         | -3.03        | -5.36                   | 0.11                    | -0.11                  | 0.00                  |
| 2,079.00              | 0.20            | 188.60      | 2,078.98              | 5.18         | -3.05        | -5.20                   | 0.21                    | 0.21                   | 0.00                  |
| 2,174.00              | 0.10            | 152.80      | 2,173.98              | 4.94         | -3.04        | -4.96                   | 0.14                    | -0.11                  | -37.68                |
| 2,269.00              | 0.20            | 163.90      | 2,268.98              | 4.71         | -2.95        | -4.73                   | 0.11                    | 0.11                   | 11.68                 |
| 2,364.00              | 0.20            | 204.50      | 2,363.98              | 4.40         | -2.98        | -4.42                   | 0.15                    | 0.00                   | 42.74                 |
| 2,459.00              | 0.30            | 198.10      | 2,458.98              | 4.01         | -3.12        | -4.03                   | 0.11                    | 0.11                   | -6.74                 |
| 2,554.00              | 0.30            | 175.60      | 2,553.98              | 3.52         | -3.18        | -3.55                   | 0.12                    | 0.00                   | -23.68                |
| 2,649.00              | 0.10            | 171.60      | 2,648.98              | 3.19         | -3.15        | -3.22                   | 0.21                    | -0.21                  | -4.21                 |
| 2,743.00              | 0.20            | 219.60      | 2,742.98              | 2.99         | -3.24        | -3.01                   | 0.16                    | 0.11                   | 51.06                 |
| 2,837.00              | 0.20            | 198.00      | 2,836.98              | 2.70         | -3.40        | -2.73                   | 0.08                    | 0.00                   | -22.98                |
| 2,932.00              | 0.10            | 190.60      | 2,931.98              | 2.47         | -3.46        | -2.49                   | 0.11                    | -0.11                  | -7.79                 |
| 3,026.00              | 0.10            | 159.60      | 3,025.98              | 2.31         | -3.45        | -2.33                   | 0.06                    | 0.00                   | -32.98                |
| 3,120.00              | 0.00            | 214.70      | 3,119.98              | 2.23         | -3.42        | -2.25                   | 0.11                    | -0.11                  | 0.00                  |
| 3,214.00              | 0.10            | 112.90      | 3,213.98              | 2.20         | -3.35        | -2.22                   | 0.11                    | 0.11                   | 0.00                  |
| 3,309.00              | 0.20            | 47.50       | 3,308.98              | 2.28         | -3.15        | -2.30                   | 0.19                    | 0.11                   | -68.84                |
| 3,404.00              | 0.10            | 142.50      | 3,403.98              | 2.33         | -2.98        | -2.34                   | 0.24                    | -0.11                  | 100.00                |
| 3,499.00              | 0.20            | 175.10      | 3,498.98              | 2.09         | -2.91        | -2.11                   | 0.13                    | 0.11                   | 34.32                 |
| 3,593.00              | 0.20            | 218.30      | 3,592.98              | 1.80         | -3.00        | -1.82                   | 0.16                    | 0.00                   | 45.96                 |
| 3,688.00              | 0.10            | 228.40      | 3,687.98              | 1.62         | -3.16        | -1.64                   | 0.11                    | -0.11                  | 10.63                 |
| 3,783.00              | 0.10            | 197.80      | 3,782.98              | 1.48         | -3.25        | -1.50                   | 0.06                    | 0.00                   | -32.21                |
| 3,877.00              | 0.40            | 156.30      | 3,876.97              | 1.10         | -3.14        | -1.13                   | 0.35                    | 0.32                   | -44.15                |
| 3,972.00              | 0.60            | 145.90      | 3,971.97              | 0.39         | -2.73        | -0.41                   | 0.23                    | 0.21                   | -10.95                |
| 4,067.00              | 0.60            | 141.50      | 4,066.97              | -0.41        | -2.14        | 0.40                    | 0.05                    | 0.00                   | -4.63                 |
| 4,162.00              | 0.80            | 139.80      | 4,161.96              | -1.31        | -1.41        | 1.30                    | 0.21                    | 0.21                   | -1.79                 |
| 4,256.00              | 1.10            | 135.20      | 4,255.95              | -2.45        | -0.35        | 2.45                    | 0.33                    | 0.32                   | -4.89                 |
| 4,351.00              | 1.50            | 142.90      | 4,350.92              | -4.09        | 1.05         | 4.10                    | 0.46                    | 0.42                   | 8.11                  |
| 4,446.00              | 1.10            | 138.00      | 4,445.90              | -5.76        | 2.41         | 5.77                    | 0.44                    | -0.42                  | -5.16                 |
| 4,541.00              | 0.50            | 126.40      | 4,540.89              | -6.68        | 3.35         | 6.70                    | 0.65                    | -0.63                  | -12.21                |
| 4,635.00              | 0.20            | 73.20       | 4,634.88              | -6.88        | 3.84         | 6.90                    | 0.44                    | -0.32                  | -56.60                |
| 4,726.00              | 0.30            | 98.80       | 4,725.88              | -6.87        | 4.23         | 6.90                    | 0.16                    | 0.11                   | 28.13                 |
| 4,823.00              | 0.20            | 95.70       | 4,822.88              | -6.92        | 4.64         | 6.95                    | 0.10                    | -0.10                  | -3.20                 |
| 4,917.00              | 0.20            | 114.50      | 4,916.88              | -7.01        | 4.96         | 7.04                    | 0.07                    | 0.00                   | 20.00                 |

# LEAM Drilling Services

## Survey Report

|                  |                           |                                     |                                     |
|------------------|---------------------------|-------------------------------------|-------------------------------------|
| <b>Company:</b>  | Devon Energy              | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17 Fed Com 211H      |
| <b>Project:</b>  | Lea County, NM (NAD-83)   | <b>TVD Reference:</b>               | 3602.1' GE + 23.5' KB @ 3625.60usft |
| <b>Site:</b>     | Alley Cat                 | <b>MD Reference:</b>                | 3602.1' GE + 23.5' KB @ 3625.60usft |
| <b>Well:</b>     | Alley Cat 17 Fed Com 211H | <b>North Reference:</b>             | Grid                                |
| <b>Wellbore:</b> | OH                        | <b>Survey Calculation Method:</b>   | Minimum Curvature                   |
| <b>Design:</b>   | OH                        | <b>Database:</b>                    | EDM 5000.1 Multi User Db            |

| 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) |
| 5,012.00              | 0.20            | 332.80      | 5,011.88              | -6.93        | 5.03         | 6.96                    | 0.40                    | 0.00                   | -149.16               |
| 5,106.00              | 0.40            | 325.40      | 5,105.88              | -6.51        | 4.77         | 6.54                    | 0.22                    | 0.21                   | -7.87                 |
| 5,200.00              | 0.40            | 328.00      | 5,199.88              | -5.96        | 4.41         | 5.99                    | 0.02                    | 0.00                   | 2.77                  |
| 5,295.00              | 0.40            | 334.00      | 5,294.88              | -5.39        | 4.09         | 5.41                    | 0.04                    | 0.00                   | 6.32                  |
| 5,389.00              | 0.40            | 333.00      | 5,388.87              | -4.80        | 3.80         | 4.82                    | 0.01                    | 0.00                   | -1.06                 |
| 5,484.00              | 0.60            | 321.90      | 5,483.87              | -4.11        | 3.34         | 4.13                    | 0.23                    | 0.21                   | -11.68                |
| 5,578.00              | 0.80            | 327.90      | 5,577.86              | -3.17        | 2.69         | 3.19                    | 0.23                    | 0.21                   | 6.38                  |
| 5,673.00              | 1.20            | 328.90      | 5,672.85              | -1.75        | 1.82         | 1.77                    | 0.42                    | 0.42                   | 1.05                  |
| 5,767.00              | 1.90            | 333.00      | 5,766.81              | 0.48         | 0.61         | -0.47                   | 0.75                    | 0.74                   | 4.36                  |
| 5,862.00              | 2.50            | 334.70      | 5,861.74              | 3.75         | -1.00        | -3.76                   | 0.64                    | 0.63                   | 1.79                  |
| 5,957.00              | 2.40            | 335.60      | 5,956.66              | 7.44         | -2.70        | -7.46                   | 0.11                    | -0.11                  | 0.95                  |
| 5,987.00              | 2.40            | 336.30      | 5,986.63              | 8.58         | -3.21        | -8.61                   | 0.10                    | 0.00                   | 2.33                  |
| 6,055.00              | 2.40            | 340.50      | 6,054.57              | 11.23        | -4.26        | -11.26                  | 0.26                    | 0.00                   | 6.18                  |
| 6,150.00              | 3.30            | 344.60      | 6,149.45              | 15.74        | -5.65        | -15.78                  | 0.97                    | 0.95                   | 4.32                  |
| 6,245.00              | 4.90            | 333.10      | 6,244.21              | 22.00        | -8.21        | -22.05                  | 1.89                    | 1.68                   | -12.11                |
| 6,339.00              | 6.00            | 328.40      | 6,337.78              | 29.76        | -12.60       | -29.84                  | 1.26                    | 1.17                   | -5.00                 |
| 6,433.00              | 5.60            | 328.20      | 6,431.30              | 37.84        | -17.60       | -37.96                  | 0.43                    | -0.43                  | -0.21                 |
| 6,529.00              | 5.90            | 325.90      | 6,526.82              | 45.91        | -22.83       | -46.06                  | 0.39                    | 0.31                   | -2.40                 |
| 6,623.00              | 6.10            | 326.10      | 6,620.30              | 54.06        | -28.32       | -54.24                  | 0.21                    | 0.21                   | 0.21                  |
| 6,718.00              | 5.70            | 326.50      | 6,714.80              | 62.18        | -33.74       | -62.40                  | 0.42                    | -0.42                  | 0.42                  |
| 6,813.00              | 5.30            | 325.90      | 6,809.36              | 69.75        | -38.81       | -70.00                  | 0.43                    | -0.42                  | -0.63                 |
| 6,908.00              | 5.50            | 321.90      | 6,903.94              | 76.96        | -44.08       | -77.25                  | 0.45                    | 0.21                   | -4.21                 |
| 7,001.00              | 5.00            | 323.50      | 6,996.55              | 83.73        | -49.24       | -84.05                  | 0.56                    | -0.54                  | 1.72                  |
| 7,095.00              | 5.50            | 321.90      | 7,090.16              | 90.57        | -54.45       | -90.93                  | 0.55                    | 0.53                   | -1.70                 |
| 7,190.00              | 5.30            | 321.40      | 7,184.73              | 97.58        | -60.00       | -97.97                  | 0.22                    | -0.21                  | -0.53                 |
| 7,285.00              | 4.90            | 324.20      | 7,279.36              | 104.30       | -65.11       | -104.73                 | 0.50                    | -0.42                  | 2.95                  |
| 7,379.00              | 5.40            | 329.60      | 7,372.98              | 111.37       | -69.70       | -111.83                 | 0.74                    | 0.53                   | 5.74                  |
| 7,473.00              | 5.50            | 333.10      | 7,466.55              | 119.20       | -73.97       | -119.69                 | 0.37                    | 0.11                   | 3.72                  |
| 7,568.00              | 5.10            | 335.80      | 7,561.15              | 127.11       | -77.76       | -127.63                 | 0.50                    | -0.42                  | 2.84                  |
| 7,662.00              | 5.50            | 332.80      | 7,654.75              | 134.93       | -81.54       | -135.47                 | 0.52                    | 0.43                   | -3.19                 |
| 7,758.00              | 4.90            | 332.60      | 7,750.35              | 142.66       | -85.53       | -143.23                 | 0.63                    | -0.63                  | -0.21                 |
| 7,852.00              | 5.30            | 330.10      | 7,843.98              | 149.99       | -89.54       | -150.58                 | 0.49                    | 0.43                   | -2.66                 |
| 7,947.00              | 4.70            | 329.10      | 7,938.62              | 157.13       | -93.72       | -157.75                 | 0.64                    | -0.63                  | -1.05                 |
| 8,042.00              | 4.40            | 326.80      | 8,033.32              | 163.52       | -97.72       | -164.17                 | 0.37                    | -0.32                  | -2.42                 |
| 8,137.00              | 5.00            | 322.60      | 8,128.00              | 169.86       | -102.23      | -170.53                 | 0.73                    | 0.63                   | -4.42                 |
| 8,231.00              | 5.50            | 323.80      | 8,221.60              | 176.75       | -107.38      | -177.46                 | 0.54                    | 0.53                   | 1.28                  |
| 8,326.00              | 4.70            | 329.30      | 8,316.23              | 183.77       | -112.05      | -184.51                 | 0.99                    | -0.84                  | 5.79                  |
| 8,421.00              | 5.30            | 327.30      | 8,410.86              | 190.81       | -116.41      | -191.58                 | 0.66                    | 0.63                   | -2.11                 |
| 8,516.00              | 4.60            | 327.20      | 8,505.51              | 197.70       | -120.84      | -198.50                 | 0.74                    | -0.74                  | -0.11                 |
| 8,610.00              | 4.80            | 325.20      | 8,599.19              | 204.10       | -125.13      | -204.93                 | 0.28                    | 0.21                   | -2.13                 |
| 8,705.00              | 5.00            | 327.00      | 8,693.85              | 210.84       | -129.65      | -211.69                 | 0.27                    | 0.21                   | 1.89                  |
| 8,799.00              | 4.00            | 327.50      | 8,787.55              | 217.04       | -133.65      | -217.92                 | 1.06                    | -1.06                  | 0.53                  |
| 8,893.00              | 3.50            | 323.10      | 8,881.35              | 222.10       | -137.13      | -223.00                 | 0.61                    | -0.53                  | -4.68                 |

# LEAM Drilling Services

## Survey Report

|                  |                           |                                     |                                     |
|------------------|---------------------------|-------------------------------------|-------------------------------------|
| <b>Company:</b>  | Devon Energy              | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17 Fed Com 211H      |
| <b>Project:</b>  | Lea County, NM (NAD-83)   | <b>TVD Reference:</b>               | 3602.1' GE + 23.5' KB @ 3625.60usft |
| <b>Site:</b>     | Alley Cat                 | <b>MD Reference:</b>                | 3602.1' GE + 23.5' KB @ 3625.60usft |
| <b>Well:</b>     | Alley Cat 17 Fed Com 211H | <b>North Reference:</b>             | Grid                                |
| <b>Wellbore:</b> | OH                        | <b>Survey Calculation Method:</b>   | Minimum Curvature                   |
| <b>Design:</b>   | OH                        | <b>Database:</b>                    | EDM 5000.1 Multi User Db            |

### 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) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 8,989.00              | 4.90            | 331.50      | 8,977.09              | 228.04       | -140.85      | -228.97                 | 1.59                    | 1.46                   | 8.75                  |
| 9,083.00              | 4.00            | 339.60      | 9,070.81              | 234.65       | -143.90      | -235.60                 | 1.17                    | -0.96                  | 8.62                  |
| 9,178.00              | 3.30            | 340.50      | 9,165.62              | 240.33       | -145.97      | -241.29                 | 0.74                    | -0.74                  | 0.95                  |
| 9,273.00              | 2.00            | 334.40      | 9,260.51              | 244.40       | -147.60      | -245.38                 | 1.40                    | -1.37                  | -6.42                 |
| 9,368.00              | 0.80            | 12.50       | 9,355.49              | 246.54       | -148.17      | -247.52                 | 1.53                    | -1.26                  | 40.11                 |
| 9,462.00              | 1.80            | 92.80       | 9,449.47              | 247.11       | -146.56      | -248.08                 | 1.96                    | 1.06                   | 85.43                 |
| 9,556.00              | 2.60            | 94.60       | 9,543.40              | 246.87       | -142.96      | -247.81                 | 0.85                    | 0.85                   | 1.91                  |
| 9,651.00              | 1.20            | 105.00      | 9,638.34              | 246.44       | -139.85      | -247.36                 | 1.51                    | -1.47                  | 10.95                 |
| 9,746.00              | 0.80            | 208.20      | 9,733.33              | 245.60       | -139.20      | -246.52                 | 1.67                    | -0.42                  | 108.63                |
| 9,841.00              | 1.10            | 195.30      | 9,828.32              | 244.13       | -139.76      | -245.06                 | 0.39                    | 0.32                   | -13.58                |
| 9,940.00              | 3.70            | 195.70      | 9,927.22              | 240.14       | -140.87      | -241.07                 | 2.63                    | 2.63                   | 0.40                  |
| 10,036.00             | 15.70           | 189.20      | 10,021.68             | 224.28       | -143.80      | -225.23                 | 12.53                   | 12.50                  | -6.77                 |
| 10,083.00             | 21.60           | 187.60      | 10,066.19             | 209.41       | -145.96      | -210.38                 | 12.60                   | 12.55                  | -3.40                 |
| 10,130.00             | 28.50           | 187.40      | 10,108.75             | 189.69       | -148.55      | -190.68                 | 14.68                   | 14.68                  | -0.43                 |
| 10,177.00             | 33.20           | 186.90      | 10,149.09             | 165.79       | -151.54      | -166.79                 | 10.01                   | 10.00                  | -1.06                 |
| 10,225.00             | 36.50           | 186.40      | 10,188.47             | 138.55       | -154.71      | -139.57                 | 6.90                    | 6.88                   | -1.04                 |
| 10,272.00             | 39.70           | 185.10      | 10,225.45             | 109.70       | -157.61      | -110.74                 | 7.02                    | 6.81                   | -2.77                 |
| 10,320.00             | 41.00           | 183.20      | 10,262.03             | 78.70        | -159.85      | -79.76                  | 3.73                    | 2.71                   | -3.96                 |
| 10,367.00             | 41.60           | 180.70      | 10,297.35             | 47.71        | -160.90      | -48.77                  | 3.74                    | 1.28                   | -5.32                 |
| 10,415.00             | 46.10           | 177.60      | 10,331.96             | 14.47        | -160.37      | -15.54                  | 10.39                   | 9.38                   | -6.46                 |
| 10,462.00             | 52.40           | 178.40      | 10,362.62             | -21.09       | -159.14      | 20.04                   | 13.47                   | 13.40                  | 1.70                  |
| 10,509.00             | 57.80           | 180.40      | 10,389.50             | -59.62       | -158.76      | 58.57                   | 12.01                   | 11.49                  | 4.26                  |
| 10,556.00             | 62.00           | 180.90      | 10,413.07             | -100.27      | -159.22      | 99.21                   | 8.98                    | 8.94                   | 1.06                  |
| 10,604.00             | 65.50           | 181.60      | 10,434.30             | -143.30      | -160.17      | 142.24                  | 7.41                    | 7.29                   | 1.46                  |
| 10,651.00             | 68.90           | 183.20      | 10,452.51             | -186.58      | -161.99      | 185.51                  | 7.89                    | 7.23                   | 3.40                  |
| 10,698.00             | 72.90           | 184.60      | 10,467.89             | -230.88      | -165.01      | 229.78                  | 8.96                    | 8.51                   | 2.98                  |
| 10,745.00             | 78.20           | 183.90      | 10,479.61             | -276.25      | -168.38      | 275.13                  | 11.37                   | 11.28                  | -1.49                 |
| 10,792.00             | 82.00           | 182.50      | 10,487.69             | -322.47      | -170.96      | 321.33                  | 8.60                    | 8.09                   | -2.98                 |
| 10,839.00             | 84.50           | 179.90      | 10,493.21             | -369.13      | -171.94      | 367.98                  | 7.65                    | 5.32                   | -5.53                 |
| 10,914.00             | 90.00           | 174.90      | 10,496.81             | -443.91      | -168.54      | 442.79                  | 9.90                    | 7.33                   | -6.67                 |
| 11,008.00             | 90.40           | 175.60      | 10,496.48             | -537.59      | -160.75      | 536.51                  | 0.86                    | 0.43                   | 0.74                  |
| 11,103.00             | 90.70           | 176.30      | 10,495.57             | -632.35      | -154.04      | 631.31                  | 0.80                    | 0.32                   | 0.74                  |
| 11,197.00             | 91.20           | 177.60      | 10,494.01             | -726.20      | -149.04      | 725.19                  | 1.48                    | 0.53                   | 1.38                  |
| 11,291.00             | 91.90           | 178.60      | 10,491.47             | -820.11      | -145.93      | 819.12                  | 1.30                    | 0.74                   | 1.06                  |
| 11,386.00             | 91.50           | 179.90      | 10,488.65             | -915.06      | -144.68      | 914.08                  | 1.43                    | -0.42                  | 1.37                  |
| 11,480.00             | 91.30           | 180.90      | 10,486.36             | -1,009.03    | -145.34      | 1,008.04                | 1.08                    | -0.21                  | 1.06                  |
| 11,575.00             | 89.80           | 181.30      | 10,485.44             | -1,104.00    | -147.16      | 1,103.00                | 1.63                    | -1.58                  | 0.42                  |
| 11,670.00             | 89.90           | 182.10      | 10,485.69             | -1,198.96    | -149.98      | 1,197.94                | 0.85                    | 0.11                   | 0.84                  |
| 11,764.00             | 88.60           | 182.50      | 10,486.92             | -1,292.87    | -153.75      | 1,291.82                | 1.45                    | -1.38                  | 0.43                  |
| 11,859.00             | 88.70           | 183.00      | 10,489.16             | -1,387.74    | -158.31      | 1,386.66                | 0.54                    | 0.11                   | 0.53                  |
| 11,954.00             | 88.50           | 181.60      | 10,491.48             | -1,482.63    | -162.12      | 1,481.52                | 1.49                    | -0.21                  | -1.47                 |
| 12,048.00             | 88.70           | 181.40      | 10,493.78             | -1,576.57    | -164.58      | 1,575.44                | 0.30                    | 0.21                   | -0.21                 |
| 12,142.00             | 88.90           | 181.40      | 10,495.75             | -1,670.52    | -166.88      | 1,669.38                | 0.21                    | 0.21                   | 0.00                  |
| 12,237.00             | 88.50           | 179.70      | 10,497.90             | -1,765.49    | -167.79      | 1,764.34                | 1.84                    | -0.42                  | -1.79                 |

# LEAM Drilling Services

## Survey Report

|                  |                           |                                     |                                     |
|------------------|---------------------------|-------------------------------------|-------------------------------------|
| <b>Company:</b>  | Devon Energy              | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17 Fed Com 211H      |
| <b>Project:</b>  | Lea County, NM (NAD-83)   | <b>TVD Reference:</b>               | 3602.1' GE + 23.5' KB @ 3625.60usft |
| <b>Site:</b>     | Alley Cat                 | <b>MD Reference:</b>                | 3602.1' GE + 23.5' KB @ 3625.60usft |
| <b>Well:</b>     | Alley Cat 17 Fed Com 211H | <b>North Reference:</b>             | Grid                                |
| <b>Wellbore:</b> | OH                        | <b>Survey Calculation Method:</b>   | Minimum Curvature                   |
| <b>Design:</b>   | OH                        | <b>Database:</b>                    | EDM 5000.1 Multi User Db            |

### 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) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 12,332.00             | 88.80           | 179.70      | 10,500.14             | -1,860.46    | -167.29      | 1,859.31                | 0.32                    | 0.32                   | 0.00                  |
| 12,426.00             | 89.30           | 180.40      | 10,501.70             | -1,954.45    | -167.37      | 1,953.29                | 0.92                    | 0.53                   | 0.74                  |
| 12,520.00             | 89.20           | 181.10      | 10,502.93             | -2,048.43    | -168.60      | 2,047.27                | 0.75                    | -0.11                  | 0.74                  |
| 12,614.00             | 89.70           | 179.90      | 10,503.83             | -2,142.42    | -169.42      | 2,141.25                | 1.38                    | 0.53                   | -1.28                 |
| 12,709.00             | 90.30           | 178.80      | 10,503.83             | -2,237.41    | -168.35      | 2,236.25                | 1.32                    | 0.63                   | -1.16                 |
| 12,804.00             | 90.70           | 178.60      | 10,503.00             | -2,332.38    | -166.19      | 2,331.23                | 0.47                    | 0.42                   | -0.21                 |
| 12,899.00             | 90.30           | 179.30      | 10,502.18             | -2,427.36    | -164.45      | 2,426.22                | 0.85                    | -0.42                  | 0.74                  |
| 12,994.00             | 90.10           | 179.90      | 10,501.84             | -2,522.36    | -163.79      | 2,521.22                | 0.67                    | -0.21                  | 0.63                  |
| 13,088.00             | 90.00           | 179.50      | 10,501.76             | -2,616.36    | -163.29      | 2,615.22                | 0.44                    | -0.11                  | -0.43                 |
| 13,183.00             | 89.60           | 179.90      | 10,502.09             | -2,711.36    | -162.80      | 2,710.22                | 0.60                    | -0.42                  | 0.42                  |
| 13,278.00             | 89.60           | 180.00      | 10,502.76             | -2,806.35    | -162.71      | 2,805.21                | 0.11                    | 0.00                   | 0.11                  |
| 13,372.00             | 90.00           | 178.80      | 10,503.08             | -2,900.35    | -161.73      | 2,899.21                | 1.35                    | 0.43                   | -1.28                 |
| 13,467.00             | 90.50           | 178.10      | 10,502.67             | -2,995.31    | -159.16      | 2,994.19                | 0.91                    | 0.53                   | -0.74                 |
| 13,562.00             | 90.70           | 177.70      | 10,501.68             | -3,090.24    | -155.68      | 3,089.14                | 0.47                    | 0.21                   | -0.42                 |
| 13,657.00             | 90.10           | 178.10      | 10,501.01             | -3,185.17    | -152.20      | 3,184.09                | 0.76                    | -0.63                  | 0.42                  |
| 13,752.00             | 90.50           | 177.00      | 10,500.51             | -3,280.08    | -148.14      | 3,279.03                | 1.23                    | 0.42                   | -1.16                 |
| 13,847.00             | 90.40           | 177.00      | 10,499.77             | -3,374.95    | -143.17      | 3,373.93                | 0.11                    | -0.11                  | 0.00                  |
| 13,939.00             | 90.20           | 177.60      | 10,499.29             | -3,466.85    | -138.83      | 3,465.85                | 0.69                    | -0.22                  | 0.65                  |
| 14,033.00             | 89.80           | 177.60      | 10,499.29             | -3,560.76    | -134.90      | 3,559.79                | 0.43                    | -0.43                  | 0.00                  |
| 14,128.00             | 90.20           | 177.90      | 10,499.29             | -3,655.69    | -131.17      | 3,654.74                | 0.53                    | 0.42                   | 0.32                  |
| 14,221.00             | 90.00           | 177.60      | 10,499.12             | -3,748.62    | -127.52      | 3,747.69                | 0.39                    | -0.22                  | -0.32                 |
| 14,316.00             | 91.80           | 178.80      | 10,497.63             | -3,843.55    | -124.53      | 3,842.64                | 2.28                    | 1.89                   | 1.26                  |
| 14,411.00             | 91.90           | 179.00      | 10,494.57             | -3,938.49    | -122.71      | 3,937.59                | 0.24                    | 0.11                   | 0.21                  |
| 14,505.00             | 91.70           | 179.50      | 10,491.61             | -4,032.43    | -121.48      | 4,031.54                | 0.57                    | -0.21                  | 0.53                  |
| 14,600.00             | 91.40           | 179.50      | 10,489.04             | -4,127.39    | -120.65      | 4,126.50                | 0.32                    | -0.32                  | 0.00                  |
| 14,695.00             | 90.80           | 179.70      | 10,487.22             | -4,222.37    | -119.99      | 4,221.48                | 0.67                    | -0.63                  | 0.21                  |
| 14,789.00             | 90.60           | 180.40      | 10,486.07             | -4,316.37    | -120.07      | 4,315.47                | 0.77                    | -0.21                  | 0.74                  |
| 14,883.00             | 90.30           | 180.90      | 10,485.33             | -4,410.36    | -121.14      | 4,409.46                | 0.62                    | -0.32                  | 0.53                  |
| 14,976.00             | 90.40           | 181.30      | 10,484.76             | -4,503.34    | -122.92      | 4,502.42                | 0.44                    | 0.11                   | 0.43                  |
| 15,071.00             | 90.30           | 181.30      | 10,484.18             | -4,598.31    | -125.08      | 4,597.38                | 0.11                    | -0.11                  | 0.00                  |
| 15,166.00             | 90.00           | 181.60      | 10,483.94             | -4,693.28    | -127.48      | 4,692.33                | 0.45                    | -0.32                  | 0.32                  |
| 15,261.00             | 89.70           | 181.40      | 10,484.18             | -4,788.25    | -129.97      | 4,787.28                | 0.38                    | -0.32                  | -0.21                 |
| 15,356.00             | 90.00           | 181.30      | 10,484.43             | -4,883.22    | -132.20      | 4,882.24                | 0.33                    | 0.32                   | -0.11                 |
| 15,418.00             | 90.10           | 182.00      | 10,484.38             | -4,945.19    | -133.99      | 4,944.20                | 1.14                    | 0.16                   | 1.13                  |
| 15,470.00             | 90.10           | 182.00      | 10,484.29             | -4,997.16    | -135.80      | 4,996.15                | 0.00                    | 0.00                   | 0.00                  |

Projection