

HOBBS OCD

JUN 04 2015

RECEIVED



## Yates Petroleum

Lea County, NM (NAD-83)  
Tangerine BRT State  
#1H

OH

Design: OH

## Standard Survey Report

13 March, 2015

30-025-40518

JUN 12 2015



# Survey Report

|           |                         |                              |                                          |
|-----------|-------------------------|------------------------------|------------------------------------------|
| Company:  | Yates Petroleum         | Local Co-ordinate Reference: | Well #1H                                 |
| Project:  | Lea County, NM (NAD-83) | TVD Reference:               | RKB @ 3685.5usft (McVay #4 - KB = 18.5') |
| Site:     | Tangerine BRT State     | MD Reference:                | RKB @ 3685.5usft (McVay #4 - KB = 18.5') |
| Well:     | #1H                     | North Reference:             | Grid                                     |
| Wellbore: | OH                      | Survey/Calculation Method:   | Minimum Curvature                        |
| Design:   | OH                      | Database:                    | Houston R5000 Database                   |

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

|                       |  |          |           |              |                 |                     |           |                   |               |                   |  |
|-----------------------|--|----------|-----------|--------------|-----------------|---------------------|-----------|-------------------|---------------|-------------------|--|
| Site                  |  |          |           |              |                 | Tangerine BRT State |           |                   |               |                   |  |
| Site Position:        |  |          | Northing: |              | 565,402.04 usft |                     | Latitude: |                   | 32° 33' 4.189 |                   |  |
| From:                 |  | Map      |           | Easting:     |                 | 816,996.16 usft     |           | Longitude:        |               | 103° 26' 19.320 W |  |
| Position Uncertainty: |  | 0.0 usft |           | Slot Radius: |                 | 13-3/16 "           |           | Grid Convergence: |               | 0.48 °            |  |

|                      |          |                     |           |                 |                            |
|----------------------|----------|---------------------|-----------|-----------------|----------------------------|
| Well                 | #1H      |                     |           |                 |                            |
| Well Position        | +N/-S    | 0.0 usft            | Northing: | 565,402.04 usft | Latitude: 32° 33' 4.189    |
|                      | +E/-W    | 0.0 usft            | Easting:  | 816,996.16 usft | Longitude: 103° 26' 19.320 |
| Position Uncertainty | 0.0 usft | Wellhead Elevation: | 0.0 usft  | Ground Level:   | 3,667.0 usft               |

|           |            |             |                    |                  |                        |
|-----------|------------|-------------|--------------------|------------------|------------------------|
| Wellbore  | OH         |             |                    |                  |                        |
| Magnetics | Model Name | Sample Date | Declination<br>(°) | Dip Angle<br>(°) | Field Strength<br>(nT) |
|           | IGRF2010   | 1/16/2015   | 7.10               | 60.42            | 48,466                 |

|                   |                            |                 |                 |                   |
|-------------------|----------------------------|-----------------|-----------------|-------------------|
| Design:           | OH                         |                 |                 |                   |
| Audit Notes:      |                            |                 |                 |                   |
| Version:          | 1.0                        | Phase:          | ACTUAL          | Tie On Depth: 0.0 |
| Vertical Section: | Depth From (TVD)<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Direction<br>(°)  |
|                   | 0.0                        | 0.0             | 0.0             | 179.54            |

| Survey Program |              | Date                                 | 3/13/2015  |                                          |  |
|----------------|--------------|--------------------------------------|------------|------------------------------------------|--|
| From<br>(usft) | To<br>(usft) | Survey (Wellbore)                    | Tool Name  | Description                              |  |
| 200.0          | 5,439.0      | Survey #1 - Gyros (OH)               | CB-GYRO-MS | Camera based gyro multishot              |  |
| 5,629.0        | 15,098.0     | Survey #2 - Crescent MWD Survey (OH) | MWD        | MWD - Standard                           |  |
| 15,156.0       | 15,156.0     | Survey #3 - PTB (OH)                 | BLIND      | Blind drilling, where no tool is applied |  |

| 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) |
| 0.0                         | 0.00               | 0.00           | 0.0                         | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 200.0                       | 0.57               | 30.31          | 200.0                       | 0.9             | 0.5             | -0.9                          | 0.29                          | 0.29                         | 0.00                        |
| 400.0                       | 0.08               | 281.56         | 400.0                       | 1.7             | 0.9             | -1.7                          | 0.30                          | -0.25                        | -54.38                      |
| 600.0                       | 0.33               | 199.44         | 600.0                       | 1.2             | 0.5             | -1.2                          | 0.16                          | 0.13                         | -41.06                      |
| 800.0                       | 0.38               | 220.63         | 800.0                       | 0.2             | -0.1            | -0.2                          | 0.07                          | 0.03                         | 10.60                       |
| 1,000.0                     | 0.35               | 180.21         | 1,000.0                     | -0.9            | -0.5            | 0.9                           | 0.13                          | -0.02                        | -20.21                      |
| 1,200.0                     | 0.41               | 201.95         | 1,200.0                     | -2.2            | -0.8            | 2.2                           | 0.08                          | 0.03                         | 10.87                       |
| 1,400.0                     | 0.40               | 221.04         | 1,400.0                     | -3.4            | -1.5            | 3.4                           | 0.07                          | -0.01                        | 9.55                        |
| 1,600.0                     | 0.14               | 131.34         | 1,600.0                     | -4.1            | -1.8            | 4.1                           | 0.21                          | -0.13                        | -44.85                      |



# Survey Report

|           |                         |                              |                                          |
|-----------|-------------------------|------------------------------|------------------------------------------|
| Company:  | Yates Petroleum         | Local Co-ordinate Reference: | Well #1H                                 |
| Project:  | Lea County, NM (NAD-83) | TVD Reference:               | RKB @ 3685.5usft (McVay #4 - KB = 18.5') |
| Site:     | Tangerine BRT State     | MD Reference:                | RKB @ 3685.5usft (McVay #4 - KB = 18.5') |
| Well:     | #1H                     | North Reference:             | Grid                                     |
| Wellbore: | OH                      | Survey Calculation Method:   | Minimum Curvature                        |
| Design:   | OH                      | Database:                    | Houston R5000 Database                   |

| 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) |
| 1,800.0               | 0.22            | 132.96      | 1,800.0               | -4.5         | -1.3         | 4.5                     | 0.04                    | 0.04                   | 0.81                  |
| 2,000.0               | 0.39            | 162.72      | 2,000.0               | -5.4         | -0.8         | 5.4                     | 0.11                    | 0.09                   | 14.88                 |
| 2,200.0               | 0.12            | 171.65      | 2,200.0               | -6.3         | -0.6         | 6.3                     | 0.14                    | -0.14                  | 4.47                  |
| 2,400.0               | 0.24            | 139.88      | 2,400.0               | -6.8         | -0.3         | 6.8                     | 0.08                    | 0.06                   | -15.89                |
| 2,600.0               | 0.17            | 39.22       | 2,600.0               | -6.9         | 0.1          | 6.9                     | 0.16                    | -0.04                  | -50.33                |
| 2,800.0               | 0.09            | 328.97      | 2,800.0               | -6.5         | 0.3          | 6.5                     | 0.08                    | -0.04                  | -35.13                |
| 3,000.0               | 0.05            | 70.52       | 3,000.0               | -6.4         | 0.3          | 6.4                     | 0.06                    | -0.02                  | 50.78                 |
| 3,200.0               | 0.46            | 64.49       | 3,200.0               | -6.0         | 1.1          | 6.0                     | 0.21                    | 0.21                   | -3.02                 |
| 3,400.0               | 0.28            | 39.31       | 3,400.0               | -5.3         | 2.1          | 5.3                     | 0.12                    | -0.09                  | -12.59                |
| 3,600.0               | 0.47            | 50.60       | 3,600.0               | -4.4         | 3.0          | 4.4                     | 0.10                    | 0.10                   | 5.65                  |
| 3,800.0               | 0.24            | 27.50       | 3,800.0               | -3.5         | 3.9          | 3.5                     | 0.13                    | -0.12                  | -11.55                |
| 4,000.0               | 0.40            | 40.43       | 3,999.9               | -2.6         | 4.5          | 2.6                     | 0.09                    | 0.08                   | 6.47                  |
| 4,200.0               | 0.32            | 238.55      | 4,199.9               | -2.3         | 4.5          | 2.4                     | 0.36                    | -0.04                  | -80.94                |
| 4,400.0               | 0.05            | 233.12      | 4,399.9               | -2.7         | 3.9          | 2.7                     | 0.14                    | -0.14                  | -2.72                 |
| 4,600.0               | 0.37            | 241.83      | 4,599.9               | -3.0         | 3.3          | 3.1                     | 0.16                    | 0.16                   | 4.36                  |
| 4,800.0               | 0.14            | 232.85      | 4,799.9               | -3.5         | 2.5          | 3.5                     | 0.12                    | -0.12                  | -4.49                 |
| 5,000.0               | 0.55            | 269.48      | 4,999.9               | -3.6         | 1.4          | 3.7                     | 0.22                    | 0.21                   | 18.32                 |
| 5,200.0               | 0.45            | 234.00      | 5,199.9               | -4.1         | -0.2         | 4.1                     | 0.16                    | -0.05                  | -17.74                |
| 5,300.0               | 0.11            | 304.90      | 5,299.9               | -4.3         | -0.6         | 4.3                     | 0.43                    | -0.34                  | 70.90                 |
| 5,439.0               | 0.30            | 288.00      | 5,438.9               | -4.1         | -1.1         | 4.1                     | 0.14                    | 0.14                   | -12.16                |
| 5,629.0               | 0.40            | 314.40      | 5,628.9               | -3.5         | -2.0         | 3.5                     | 0.10                    | 0.05                   | 13.89                 |
| 5,819.0               | 0.50            | 292.80      | 5,818.9               | -2.7         | -3.2         | 2.7                     | 0.10                    | 0.05                   | -11.37                |
| 6,009.0               | 1.00            | 292.20      | 6,008.9               | -1.7         | -5.5         | 1.7                     | 0.26                    | 0.26                   | -0.32                 |
| 6,199.0               | 0.20            | 228.80      | 6,198.9               | -1.3         | -7.3         | 1.3                     | 0.49                    | -0.42                  | -33.37                |
| 6,389.0               | 0.20            | 169.50      | 6,388.9               | -1.9         | -7.5         | 1.8                     | 0.10                    | 0.00                   | -31.21                |
| 6,580.0               | 0.30            | 156.70      | 6,579.9               | -2.7         | -7.3         | 2.6                     | 0.06                    | 0.05                   | -6.70                 |
| 6,770.0               | 0.60            | 161.20      | 6,769.9               | -4.1         | -6.7         | 4.0                     | 0.16                    | 0.16                   | 2.37                  |
| 6,960.0               | 0.80            | 110.70      | 6,959.9               | -5.5         | -5.2         | 5.4                     | 0.33                    | 0.11                   | -26.58                |
| 7,150.0               | 0.40            | 318.10      | 7,149.9               | -5.5         | -4.4         | 5.4                     | 0.62                    | -0.21                  | -80.32                |
| 7,340.0               | 0.30            | 309.10      | 7,339.9               | -4.6         | -5.2         | 4.6                     | 0.06                    | -0.05                  | -4.74                 |
| 7,529.0               | 0.30            | 292.30      | 7,528.9               | -4.1         | -6.1         | 4.1                     | 0.05                    | 0.00                   | -8.89                 |
| 7,719.0               | 0.50            | 271.00      | 7,718.9               | -3.9         | -7.3         | 3.9                     | 0.13                    | 0.11                   | -11.21                |
| 7,814.0               | 1.10            | 3.60        | 7,813.8               | -3.0         | -7.7         | 3.0                     | 1.29                    | -0.63                  | 97.47                 |
| 7,908.0               | 0.90            | 3.70        | 7,907.8               | -1.4         | -7.6         | 1.3                     | 0.21                    | -0.21                  | 0.11                  |
| 8,003.0               | 0.90            | 358.40      | 8,002.8               | 0.1          | -7.6         | -0.2                    | 0.09                    | 0.00                   | -5.58                 |
| 8,098.0               | 0.80            | 350.60      | 8,097.8               | 1.5          | -7.7         | -1.6                    | 0.16                    | -0.11                  | -8.21                 |
| 8,194.0               | 0.70            | 352.70      | 8,193.8               | 2.7          | -7.9         | -2.8                    | 0.11                    | -0.10                  | 2.19                  |
| 8,288.0               | 1.50            | 22.10       | 8,287.8               | 4.5          | -7.5         | -4.5                    | 1.02                    | 0.85                   | 31.28                 |
| 8,383.0               | 1.40            | 18.00       | 8,382.8               | 6.7          | -6.7         | -6.8                    | 0.15                    | -0.11                  | -4.32                 |
| 8,478.0               | 1.40            | 18.00       | 8,477.7               | 8.9          | -5.9         | -9.0                    | 0.00                    | 0.00                   | 0.00                  |
| 8,572.0               | 1.50            | 13.70       | 8,571.7               | 11.2         | -5.3         | -11.2                   | 0.16                    | 0.11                   | -4.57                 |
| 8,667.0               | 1.30            | 15.10       | 8,666.7               | 13.5         | -4.7         | -13.5                   | 0.21                    | -0.21                  | -1.47                 |
| 8,762.0               | 1.20            | 12.40       | 8,761.6               | 15.5         | -4.2         | -15.5                   | 0.12                    | -0.11                  | -2.84                 |



# Survey Report

|           |                         |                              |                                          |
|-----------|-------------------------|------------------------------|------------------------------------------|
| Company:  | Yates Petroleum         | Local Co-ordinate Reference: | Well #1H                                 |
| Project:  | Lea County, NM (NAD-83) | TVD Reference:               | RKB @ 3685.5usft (McVay #4 - KB = 18.5') |
| Site:     | Tangerine BRT State     | MD Reference:                | RKB @ 3685.5usft (McVay #4 - KB = 18.5') |
| Well:     | #1H                     | North Reference:             | Grid:                                    |
| Wellbore: | OH                      | Survey Calculation Method:   | Minimum Curvature                        |
| Design:   | OH                      | Database:                    | Houston R5000 Database                   |

| 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) |
| 8,857.0                                                           | 1.50            | 14.30       | 8,856.6               | 17.6        | -3.7        | -17.7                   | 0.32                    | 0.32                   | 2.00                  |
| 8,952.0                                                           | 1.10            | 28.50       | 8,951.6               | 19.6        | -3.0        | -19.7                   | 0.54                    | -0.42                  | 14.95                 |
| 9,047.0                                                           | 0.60            | 63.90       | 9,046.6               | 20.7        | -2.1        | -20.7                   | 0.74                    | -0.53                  | 37.26                 |
| 9,142.0                                                           | 0.70            | 95.00       | 9,141.6               | 20.8        | -1.1        | -20.8                   | 0.38                    | 0.11                   | 32.74                 |
| 9,237.0                                                           | 0.30            | 51.70       | 9,236.6               | 20.9        | -0.3        | -20.9                   | 0.55                    | -0.42                  | -45.58                |
| 9,332.0                                                           | 0.30            | 357.00      | 9,331.6               | 21.3        | -0.1        | -21.3                   | 0.29                    | 0.00                   | -57.58                |
| 9,427.0                                                           | 0.30            | 318.30      | 9,426.6               | 21.8        | -0.3        | -21.8                   | 0.21                    | 0.00                   | -40.74                |
| 9,522.0                                                           | 0.40            | 314.50      | 9,521.6               | 22.2        | -0.7        | -22.2                   | 0.11                    | 0.11                   | -4.00                 |
| 9,617.0                                                           | 0.40            | 309.20      | 9,616.6               | 22.6        | -1.2        | -22.6                   | 0.04                    | 0.00                   | -5.58                 |
| 9,712.0                                                           | 0.40            | 310.20      | 9,711.6               | 23.1        | -1.7        | -23.1                   | 0.01                    | 0.00                   | 1.05                  |
| 9,807.0                                                           | 0.40            | 305.60      | 9,806.6               | 23.5        | -2.2        | -23.5                   | 0.03                    | 0.00                   | -4.84                 |
| 9,940.0                                                           | 0.50            | 268.40      | 9,939.6               | 23.7        | -3.2        | -23.7                   | 0.23                    | 0.08                   | -27.97                |
| 9,993.0                                                           | 0.50            | 214.80      | 9,992.6               | 23.5        | -3.5        | -23.6                   | 0.85                    | 0.00                   | -101.13               |
| 9,996.0                                                           | 0.69            | 198.16      | 9,995.6               | 23.5        | -3.5        | -23.5                   | 8.57                    | 6.42                   | -554.71               |
| KOP: 9996.0' MD, 9995.6' TVD                                      |                 |             |                       |             |             |                         |                         |                        |                       |
| 10,024.0                                                          | 3.00            | 171.70      | 10,023.5              | 22.6        | -3.5        | -22.6                   | 8.57                    | 8.24                   | -94.49                |
| 10,056.0                                                          | 6.30            | 169.00      | 10,055.4              | 20.1        | -3.0        | -20.1                   | 10.33                   | 10.31                  | -8.44                 |
| 10,088.0                                                          | 10.40           | 170.10      | 10,087.1              | 15.5        | -2.2        | -15.5                   | 12.82                   | 12.81                  | 3.44                  |
| 10,119.0                                                          | 13.20           | 172.90      | 10,117.4              | 9.2         | -1.3        | -9.2                    | 9.22                    | -9.03                  | 9.03                  |
| 10,151.0                                                          | 16.50           | 173.40      | 10,148.4              | 1.1         | -0.3        | -1.1                    | 10.32                   | 10.31                  | 1.56                  |
| 10,182.0                                                          | 20.30           | 171.60      | 10,177.8              | -8.6        | 1.0         | 8.6                     | 12.39                   | 12.26                  | -5.81                 |
| 10,214.0                                                          | 24.70           | 169.50      | 10,207.3              | -20.7       | 3.0         | 20.7                    | 13.98                   | 13.75                  | -6.56                 |
| 10,245.0                                                          | 28.40           | 172.20      | 10,235.0              | -34.4       | 5.2         | 34.4                    | 12.55                   | 11.94                  | -8.71                 |
| 10,277.0                                                          | 32.20           | 175.40      | 10,262.7              | -50.4       | 6.9         | 50.5                    | 12.90                   | 11.88                  | 10.00                 |
| 10,309.0                                                          | 36.50           | 178.40      | 10,289.1              | -68.4       | 7.9         | 68.5                    | 14.44                   | 13.44                  | 9.38                  |
| 10,341.0                                                          | 41.00           | 180.70      | 10,314.0              | -88.5       | 8.0         | 88.5                    | 14.76                   | 14.06                  | 7.19                  |
| 10,372.0                                                          | 45.20           | 181.60      | 10,336.7              | -109.6      | 7.6         | 109.7                   | 13.69                   | 13.55                  | 2.90                  |
| 10,404.0                                                          | 49.10           | 181.40      | 10,358.4              | -133.1      | 7.0         | 133.1                   | 12.20                   | 12.19                  | -0.63                 |
| 10,436.0                                                          | 52.10           | 180.90      | 10,378.7              | -157.8      | 6.5         | 157.8                   | 9.45                    | 9.38                   | -1.56                 |
| 10,467.0                                                          | 55.00           | 180.60      | 10,397.2              | -182.7      | 6.1         | 182.8                   | 9.39                    | 9.35                   | -0.97                 |
| 10,499.0                                                          | 59.30           | 180.30      | 10,414.5              | -209.6      | 5.9         | 209.6                   | 13.46                   | 13.44                  | -0.94                 |
| 10,526.0                                                          | 62.78           | 179.34      | 10,427.6              | -233.2      | 6.0         | 233.3                   | 13.27                   | 12.90                  | -3.57                 |
| Cross 330' Hardline: 10526.0' MD, 10427.6' TVD, 62.78° INC        |                 |             |                       |             |             |                         |                         |                        |                       |
| 10,530.0                                                          | 63.30           | 179.20      | 10,429.4              | -236.8      | 6.0         | 236.8                   | 13.27                   | 12.92                  | -3.43                 |
| 10,562.0                                                          | 67.60           | 179.10      | 10,442.7              | -265.9      | 6.5         | 265.9                   | 13.44                   | 13.44                  | -0.31                 |
| 10,594.0                                                          | 72.70           | 179.10      | 10,453.5              | -296.0      | 7.0         | 296.0                   | 15.94                   | 15.94                  | 0.00                  |
| 10,625.0                                                          | 77.30           | 178.90      | 10,461.6              | -325.9      | 7.5         | 326.0                   | 14.85                   | 14.84                  | -0.65                 |
| 10,656.0                                                          | 80.90           | 178.70      | 10,467.4              | -356.3      | 8.1         | 356.4                   | 11.63                   | 11.61                  | -0.65                 |
| 10,688.0                                                          | 82.40           | 179.50      | 10,472.1              | -388.0      | 8.6         | 388.0                   | 5.30                    | 4.69                   | 2.50                  |
| 10,720.0                                                          | 83.60           | 180.30      | 10,476.0              | -419.8      | 8.7         | 419.8                   | 4.50                    | 3.75                   | 2.50                  |
| 10,730.0                                                          | 83.79           | 180.36      | 10,477.1              | -429.7      | 8.6         | 429.7                   | 2.04                    | 1.94                   | 0.65                  |
| EOC: 10730.0' MD, 10477.1' TVD, 83.79° INC, 180.36° AZ, 429.7° VS |                 |             |                       |             |             |                         |                         |                        |                       |
| 10,751.0                                                          | 84.20           | 180.50      | 10,479.3              | -450.6      | 8.4         | 450.6                   | 2.04                    | 1.94                   | 0.64                  |
| 10,783.0                                                          | 84.20           | 180.60      | 10,482.5              | -482.4      | 8.1         | 482.5                   | 0.31                    | 0.00                   | 0.31                  |



# Survey Report

|           |                         |                              |                                         |
|-----------|-------------------------|------------------------------|-----------------------------------------|
| Company:  | Yates Petroleum         | Local Co-ordinate Reference: | Well #1H                                |
| Project:  | Lea County, NM (NAD-83) | TVD Reference:               | RKB @ 3685.5usft (McVay #4 - KB = 18.5) |
| Site:     | Tangerine BRT State     | MD Reference:                | RKB @ 3685.5usft (McVay #4 - KB = 18.5) |
| Well:     | #1H                     | North Reference:             | Grid                                    |
| Wellbore: | OH                      | Survey Calculation Method:   | Minimum Curvature                       |
| Design:   | OH                      | Database:                    | Houston-R5000 Database                  |

| 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) |  |
| 10,814.0              | 84.20           | 180.60      | 10,485.6              | -513.2       | 7.8          | 513.3                   | 0.00                    | 0.00                   | 0.00                  |  |
| 10,846.0              | 84.20           | 180.40      | 10,488.9              | -545.1       | 7.5          | 545.1                   | 0.62                    | 0.00                   | -0.63                 |  |
| 10,877.0              | 84.10           | 180.40      | 10,492.0              | -575.9       | 7.3          | 576.0                   | 0.32                    | -0.32                  | 0.00                  |  |
| 10,909.0              | 85.30           | 180.00      | 10,495.0              | -607.8       | 7.2          | 607.8                   | 3.95                    | 3.75                   | -1.25                 |  |
| 10,941.0              | 87.80           | 179.90      | 10,496.9              | -639.7       | 7.2          | 639.8                   | 7.82                    | 7.81                   | -0.31                 |  |
| 10,972.0              | 89.20           | 179.90      | 10,497.7              | -670.7       | 7.3          | 670.7                   | 4.52                    | 4.52                   | 0.00                  |  |
| 11,004.0              | 89.50           | 179.90      | 10,498.1              | -702.7       | 7.4          | 702.7                   | 0.94                    | 0.94                   | 0.00                  |  |
| 11,099.0              | 89.50           | 179.90      | 10,498.9              | -797.7       | 7.5          | 797.7                   | 0.00                    | 0.00                   | 0.00                  |  |
| 11,194.0              | 89.80           | 179.80      | 10,499.5              | -892.7       | 7.8          | 892.7                   | 0.33                    | 0.32                   | -0.11                 |  |
| 11,290.0              | 89.90           | 179.70      | 10,499.7              | -988.7       | 8.2          | 988.7                   | 0.15                    | 0.10                   | -0.10                 |  |
| 11,301.3              | 89.90           | 179.66      | 10,499.8              | -1,000.0     | 8.2          | 1,000.0                 | 0.32                    | 0.00                   | -0.32                 |  |
| TL1(TBS#1H)           |                 |             |                       |              |              |                         |                         |                        |                       |  |
| 11,385.0              | 89.90           | 179.40      | 10,499.9              | -1,083.7     | 8.9          | 1,083.7                 | 0.32                    | 0.00                   | -0.32                 |  |
| 11,480.0              | 89.90           | 179.20      | 10,500.1              | -1,178.7     | 10.1         | 1,178.7                 | 0.21                    | 0.00                   | -0.21                 |  |
| 11,575.0              | 90.40           | 179.50      | 10,499.8              | -1,273.7     | 11.2         | 1,273.7                 | 0.61                    | 0.53                   | 0.32                  |  |
| 11,670.0              | 89.80           | 179.10      | 10,499.7              | -1,368.7     | 12.3         | 1,368.7                 | 0.76                    | -0.63                  | -0.42                 |  |
| 11,765.0              | 88.40           | 179.20      | 10,501.2              | -1,463.7     | 13.7         | 1,463.7                 | 1.48                    | -1.47                  | 0.11                  |  |
| 11,860.0              | 89.30           | 179.90      | 10,503.1              | -1,558.6     | 14.5         | 1,558.7                 | 1.20                    | 0.95                   | 0.74                  |  |
| 11,955.0              | 89.50           | 180.10      | 10,504.1              | -1,653.6     | 14.5         | 1,653.7                 | 0.30                    | 0.21                   | 0.21                  |  |
| 12,049.0              | 89.50           | 179.90      | 10,504.9              | -1,747.6     | 14.5         | 1,747.7                 | 0.21                    | 0.00                   | -0.21                 |  |
| 12,144.0              | 89.70           | 179.40      | 10,505.5              | -1,842.6     | 15.1         | 1,842.7                 | 0.57                    | 0.21                   | -0.53                 |  |
| 12,239.0              | 90.10           | 179.00      | 10,505.7              | -1,937.6     | 16.4         | 1,937.7                 | 0.60                    | 0.42                   | -0.42                 |  |
| 12,334.0              | 89.90           | 180.30      | 10,505.7              | -2,032.6     | 17.0         | 2,032.7                 | 1.38                    | -0.21                  | 1.37                  |  |
| 12,429.0              | 90.20           | 180.00      | 10,505.6              | -2,127.6     | 16.7         | 2,127.7                 | 0.45                    | 0.32                   | -0.32                 |  |
| 12,524.0              | 89.80           | 180.00      | 10,505.6              | -2,222.6     | 16.7         | 2,222.7                 | 0.42                    | -0.42                  | 0.00                  |  |
| 12,619.0              | 90.10           | 179.90      | 10,505.7              | -2,317.6     | 16.8         | 2,317.7                 | 0.33                    | 0.32                   | -0.11                 |  |
| 12,714.0              | 89.30           | 179.60      | 10,506.2              | -2,412.6     | 17.2         | 2,412.7                 | 0.90                    | -0.84                  | -0.32                 |  |
| 12,801.4              | 88.75           | 179.14      | 10,507.7              | -2,499.9     | 18.2         | 2,500.0                 | 0.82                    | -0.63                  | -0.53                 |  |
| TL2(TBS#1H)           |                 |             |                       |              |              |                         |                         |                        |                       |  |
| 12,809.0              | 88.70           | 179.10      | 10,507.9              | -2,507.6     | 18.3         | 2,507.6                 | 0.82                    | -0.63                  | -0.53                 |  |
| 12,904.0              | 89.20           | 178.60      | 10,509.6              | -2,602.5     | 20.2         | 2,602.6                 | 0.74                    | 0.53                   | -0.53                 |  |
| 12,999.0              | 88.60           | 178.90      | 10,511.4              | -2,697.5     | 22.3         | 2,697.6                 | 0.71                    | -0.63                  | 0.32                  |  |
| 13,093.0              | 88.80           | 179.10      | 10,513.6              | -2,791.5     | 23.9         | 2,791.6                 | 0.30                    | 0.21                   | 0.21                  |  |
| 13,188.0              | 88.40           | 180.00      | 10,515.9              | -2,886.4     | 24.7         | 2,886.5                 | 1.04                    | -0.42                  | 0.95                  |  |
| 13,282.0              | 89.30           | 180.50      | 10,517.8              | -2,980.4     | 24.3         | 2,980.5                 | 1.10                    | 0.96                   | 0.53                  |  |
| 13,369.0              | 89.20           | 180.50      | 10,518.9              | -3,067.4     | 23.5         | 3,067.5                 | 0.11                    | -0.11                  | 0.00                  |  |
| 13,464.0              | 89.80           | 180.60      | 10,519.7              | -3,162.4     | 22.6         | 3,162.5                 | 0.64                    | 0.63                   | 0.11                  |  |
| 13,558.0              | 89.50           | 180.00      | 10,520.3              | -3,256.4     | 22.1         | 3,256.5                 | 0.71                    | -0.32                  | -0.64                 |  |
| 13,653.0              | 89.40           | 179.80      | 10,521.2              | -3,351.4     | 22.3         | 3,351.5                 | 0.24                    | -0.11                  | -0.21                 |  |
| 13,748.0              | 89.30           | 180.30      | 10,522.3              | -3,446.4     | 22.2         | 3,446.4                 | 0.54                    | -0.11                  | 0.53                  |  |
| 13,842.0              | 88.80           | 178.90      | 10,523.9              | -3,540.4     | 22.8         | 3,540.4                 | 1.58                    | -0.53                  | -1.49                 |  |
| 13,937.0              | 89.00           | 178.50      | 10,525.7              | -3,635.3     | 25.0         | 3,635.4                 | 0.47                    | 0.21                   | -0.42                 |  |
| 14,032.0              | 89.10           | 178.20      | 10,527.3              | -3,730.3     | 27.7         | 3,730.4                 | 0.33                    | 0.11                   | -0.32                 |  |
| 14,127.0              | 89.30           | 178.90      | 10,528.6              | -3,825.2     | 30.1         | 3,825.3                 | 0.77                    | 0.21                   | 0.74                  |  |



# Survey Report

|           |                         |                              |                                         |
|-----------|-------------------------|------------------------------|-----------------------------------------|
| Company:  | Yates Petroleum         | Local Co-ordinate Reference: | Well #1H                                |
| Project:  | Lea County, NM (NAD-83) | TVD Reference:               | RKB @ 3685.5usft (McVay #4 - KB = 18.5) |
| Site:     | Tangerine BRT State     | MD Reference:                | RKB @ 3685.5usft (McVay #4 - KB = 18.5) |
| Well:     | #1H                     | North Reference:             | Grid                                    |
| Wellbore: | OH                      | Survey Calculation Method:   | Minimum Curvature                       |
| Design:   | OH                      | Database:                    | Houston R5000 Database                  |

| 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) |
| 14,222.0                                                                                                                     | 89.20           | 178.80      | 10,529.8              | -3,920.2     | 32.0         | 3,920.3                 | 0.15                    | -0.11                  | -0.11                 |
| 14,301.7                                                                                                                     | 89.03           | 178.30      | 10,531.1              | -3,999.8     | 34.0         | 4,000.0                 | 0.66                    | -0.21                  | -0.62                 |
| TL3(TBS#1H)                                                                                                                  |                 |             |                       |              |              |                         |                         |                        |                       |
| 14,318.0                                                                                                                     | 89.00           | 178.20      | 10,531.3              | -4,016.1     | 34.5         | 4,016.3                 | 0.66                    | -0.21                  | -0.63                 |
| 14,413.0                                                                                                                     | 88.60           | 179.30      | 10,533.3              | -4,111.1     | 36.6         | 4,111.3                 | 1.23                    | -0.42                  | 1.16                  |
| 14,507.0                                                                                                                     | 89.30           | 179.60      | 10,535.0              | -4,205.1     | 37.5         | 4,205.2                 | 0.81                    | 0.74                   | 0.32                  |
| 14,602.0                                                                                                                     | 89.10           | 179.80      | 10,536.4              | -4,300.1     | 38.0         | 4,300.2                 | 0.30                    | -0.21                  | 0.21                  |
| 14,696.0                                                                                                                     | 88.80           | 179.60      | 10,538.1              | -4,394.1     | 38.5         | 4,394.2                 | 0.38                    | -0.32                  | -0.21                 |
| 14,791.0                                                                                                                     | 89.20           | 179.90      | 10,539.8              | -4,489.0     | 38.9         | 4,489.2                 | 0.53                    | 0.42                   | 0.32                  |
| 14,886.0                                                                                                                     | 89.00           | 179.90      | 10,541.2              | -4,584.0     | 39.1         | 4,584.2                 | 0.21                    | -0.21                  | 0.00                  |
| 14,981.0                                                                                                                     | 88.80           | 180.10      | 10,543.1              | -4,679.0     | 39.1         | 4,679.2                 | 0.30                    | -0.21                  | 0.21                  |
| 15,076.0                                                                                                                     | 88.50           | 180.40      | 10,545.3              | -4,774.0     | 38.7         | 4,774.1                 | 0.45                    | -0.32                  | 0.32                  |
| 15,098.0                                                                                                                     | 88.70           | 180.40      | 10,545.8              | -4,796.0     | 38.5         | 4,796.1                 | 0.91                    | 0.91                   | 0.00                  |
| Final MWD Survey: 15098.0' MD, 10545.8' TVD                                                                                  |                 |             |                       |              |              |                         |                         |                        |                       |
| 15,156.0                                                                                                                     | 88.70           | 180.40      | 10,547.2              | -4,854.0     | 38.1         | 4,854.1                 | 0.00                    | 0.00                   | 0.00                  |
| BHL: 15156.0' MD, 10547.2' TVD, 88.70° INC, 180.40° AZ, -4854.0' +N/-S, 38.1' +E/-W, 4854.1' VS - TL4(TBS#1H) - PBHL(TBS#1H) |                 |             |                       |              |              |                         |                         |                        |                       |

| Design Annotations    |                       |                   |              |                                                                              |
|-----------------------|-----------------------|-------------------|--------------|------------------------------------------------------------------------------|
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates |              | Comment                                                                      |
|                       |                       | +N/-S (usft)      | +E/-W (usft) |                                                                              |
| 9,996.0               | 9,995.6               | 23.5              | -3.5         | KOP: 9996.0' MD, 9995.6' TVD                                                 |
| 10,526.0              | 10,427.6              | -233.2            | 6.0          | Cross 330' Hardline: 10526.0' MD, 10427.6' TVD, 62.78° INC                   |
| 10,730.0              | 10,477.1              | -429.7            | 8.6          | EOC: 10730.0' MD, 10477.1' TVD, 83.79° INC, 180.36° AZ, 429.7' VS            |
| 15,098.0              | 10,545.8              | -4,796.0          | 38.5         | Final MWD Survey: 15098.0' MD, 10545.8' TVD                                  |
| 15,156.0              | 10,547.2              | -4,854.0          | 38.1         | BHL: 15156.0' MD, 10547.2' TVD, 88.70° INC, 180.40° AZ, -4854.0' +N/-S, 38.1 |

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



Yates Petroleum  
Project: Lea County, NM (NAD-83)  
Site: Tangerine BRT State  
Well: #1H  
Wellbore: OH  
Plan: Plan #4 (#1H/OH)

### WELL DETAILS: #1H

Ground Elevation:: 3667.0  
RKB Elevation: RKB @ 3685.5usft (McVay #4 - KB = 18.5')  
Rig Name: McVay #4 - KB = 18.5'

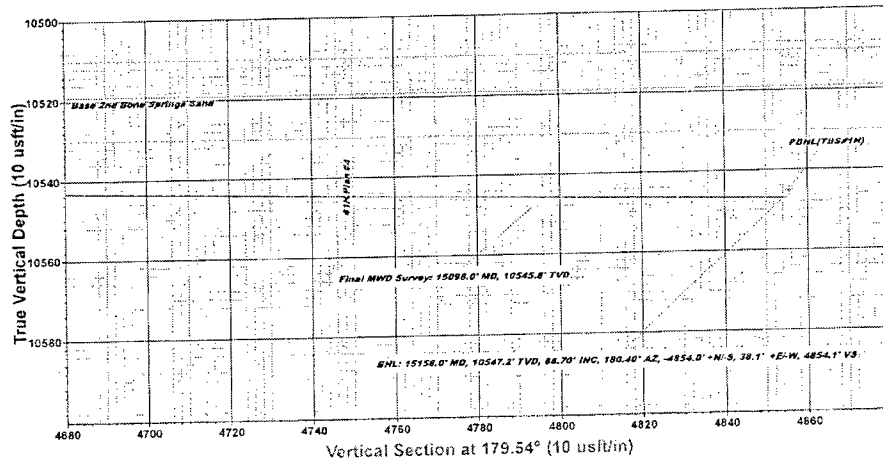
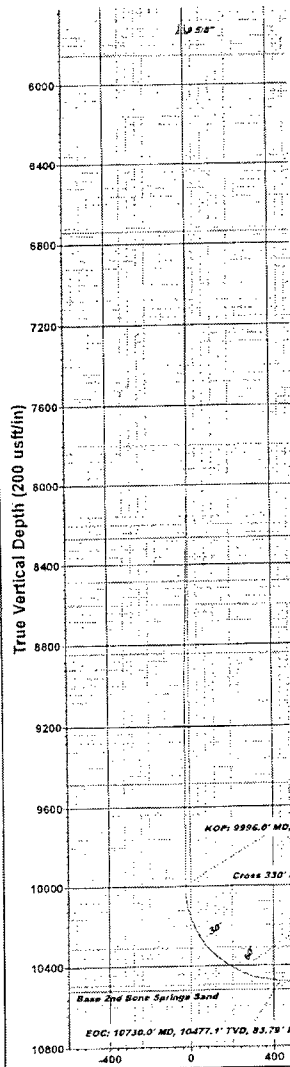
Surface Hole Location  
Northing 565402.04 Easting 816996.16 Latitude 32° 33' 4.189 N Longitude 103° 26' 19.320 W



Azimuths to Grid North  
True North: -0.48°  
Magnetic North: 6.62°  
Magnetic Field  
Strength: 48465.6snT  
Dip Angle: 60.42°  
Date: 1/16/2015  
Model: IGRF2010

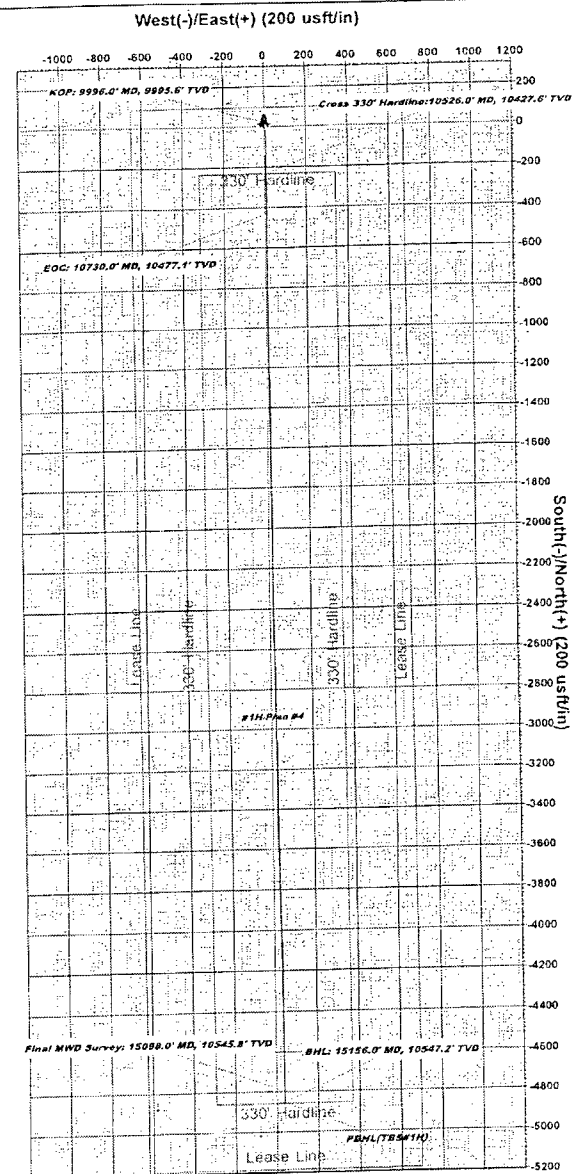
### Section Details

|    | MD      | Inc   | Azi    | TVD     | +N/-S   | +E/-W | Dleg  | TFace   | VSect  |
|----|---------|-------|--------|---------|---------|-------|-------|---------|--------|
| 1  | 10594.0 | 72.70 | 179.10 | 10453.5 | -296.0  | 7.0   | 0.00  | 0.00    | 296.0  |
| 2  | 10641.0 | 78.90 | 180.00 | 10465.1 | -341.5  | 7.3   | 13.32 | 8.12    | 341.6  |
| 3  | 10742.7 | 85.00 | 179.93 | 10479.3 | -442.1  | 7.4   | 6.00  | -0.66   | 442.2  |
| 4  | 10908.7 | 85.00 | 179.93 | 10493.8 | -607.5  | 7.6   | 0.00  | 0.00    | 607.5  |
| 5  | 11051.5 | 90.00 | 179.93 | 10500.0 | -750.2  | 7.7   | 3.50  | 0.00    | 750.2  |
| 6  | 11301.3 | 90.00 | 179.93 | 10500.0 | -1000.0 | 8.0   | 0.00  | 0.00    | 1000.0 |
| 7  | 11326.5 | 89.68 | 179.54 | 10500.1 | -1025.2 | 8.2   | 2.00  | -129.37 | 1025.2 |
| 8  | 12801.3 | 89.68 | 179.54 | 10508.3 | -2499.9 | 20.0  | 0.00  | 0.00    | 2500.0 |
| 9  | 12826.3 | 89.20 | 179.54 | 10508.5 | -2523.9 | 20.2  | 2.00  | -180.00 | 2524.0 |
| 10 | 14301.5 | 89.20 | 179.54 | 10529.2 | -3999.9 | 32.0  | 0.00  | 0.00    | 4000.0 |
| 11 | 14321.5 | 88.80 | 179.54 | 10529.5 | -4019.9 | 32.2  | 2.00  | 180.00  | 4020.0 |
| 12 | 15157.2 | 88.80 | 179.54 | 10547.0 | -4855.4 | 38.9  | 0.00  | 0.00    | 4855.6 |



Vertical Section at 179.54° (10 usf/in)

Vertical Section at 179.54° (200 usf/in)



PROJECT DETAILS: Lea County, NM (NAD-83)  
Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: New Mexico Eastern Zone  
System Datum: Mean Sea Level  
Local North: Grid

Plan: Plan #4 (#1H/OH)  
Created By: Adrian Castro Date: 11:31, March 13 2015



Crescent Directional Drilling  
7715 West Industrial Ave. Midland, Tx 79706  
Phone: 432-618-1135

HOBBS OCD

JUN 04 2015

RECEIVED



## Yates Petroleum

Lea County, NM (NAD-83)

Tangerine BRT State

#1H

OH

Design: OH

## Survey Report - Geographic

13 March, 2015



# Survey Report - Geographic

|           |                         |                              |                                          |
|-----------|-------------------------|------------------------------|------------------------------------------|
| Company:  | Yates Petroleum         | Local Co-ordinate Reference: | Well #1H                                 |
| Project:  | Lea County, NM (NAD-83) | TVD Reference:               | RKB @ 3685.5usft (McVay #4 - KB = 18.5') |
| Site:     | Tangerine BRT State     | MD Reference:                | RKB @ 3685.5usft (McVay #4 - KB = 18.5') |
| Well:     | #1H                     | North Reference:             | Grid                                     |
| Wellbore: | OH                      | Survey Calculation Method:   | Minimum Curvature                        |
| Design:   | OH                      | Database:                    | Houston R5000 Database                   |

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

|                       |                     |              |                 |                   |                   |
|-----------------------|---------------------|--------------|-----------------|-------------------|-------------------|
| Site:                 | Tangerine BRT State |              |                 |                   |                   |
| Site Position:        |                     | Northing:    | 565,402.04 usft | Latitude:         | 32° 33' 4.189 N   |
| From:                 | Map                 | Easting:     | 816,996.16 usft | Longitude:        | 103° 26' 19.320 W |
| Position Uncertainty: | 0.0 usft            | Slot Radius: | 13-3/16 "       | Grid Convergence: | 0.48 °            |

|                      |       |          |                     |                 |               |                   |
|----------------------|-------|----------|---------------------|-----------------|---------------|-------------------|
| Well                 | #1H   |          |                     |                 |               |                   |
| Well Position        | +N/-S | 0.0 usft | Northing:           | 565,402.04 usft | Latitude:     | 32° 33' 4.189 N   |
|                      | +E/-W | 0.0 usft | Easting:            | 816,996.16 usft | Longitude:    | 103° 26' 19.320 W |
| Position Uncertainty |       | 0.0 usft | Wellhead Elevation: | 0.0 usft        | Ground Level: | 3,667.0 usft      |

|           |            |             |                    |                  |                        |
|-----------|------------|-------------|--------------------|------------------|------------------------|
| Wellbore  | OH         |             |                    |                  |                        |
| Magnetics | Model Name | Sample Date | Declination<br>(°) | Dip Angle<br>(°) | Field Strength<br>(nT) |
|           | IGRF2010   | 1/16/2015   | 7.10               | 60.42            | 48,466                 |

|                   |                  |        |        |               |     |
|-------------------|------------------|--------|--------|---------------|-----|
| Design:           | OH               |        |        |               |     |
| Audit Notes:      |                  |        |        |               |     |
| Version:          | 1.0              | Phase: | ACTUAL | Tie On Depth: | 0.0 |
| Vertical Section: | Depth From (TVD) | +N/-S  | +E/-W  | Direction     |     |
|                   | (usft)           | (usft) | (usft) | (°)           |     |
|                   | 0.0              | 0.0    | 0.0    | 179.54        |     |

|                |          |                                      |            |                                          |
|----------------|----------|--------------------------------------|------------|------------------------------------------|
| Survey Program |          | Date 3/13/2015                       |            |                                          |
| From           | To       | Survey (Wellbore)                    | Tool Name  | Description                              |
| (usft)         | (usft)   |                                      |            |                                          |
| 200.0          | 5,439.0  | Survey #1 - Gyros (OH)               | CB-GYRO-MS | Camera based gyro multishot              |
| 5,629.0        | 15,098.0 | Survey #2 - Crescent MWD Survey (OH) | MWD        | MWD - Standard                           |
| 15,156.0       | 15,156.0 | Survey #3 - P.TB (OH)                | BLIND      | Blind drilling, where no tool is applied |

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude        | Longitude         |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|---------------------|--------------------|-----------------|-------------------|
| 0.0                   | 0.00            | 0.00        | 0.0                   | 0.0          | 0.0          | 565,402.04          | 816,996.16         | 32° 33' 4.189 N | 103° 26' 19.320 W |
| 200.0                 | 0.57            | 30.31       | 200.0                 | 0.9          | 0.5          | 565,402.90          | 816,996.66         | 32° 33' 4.198 N | 103° 26' 19.314 W |
| 400.0                 | 0.08            | 281.56      | 400.0                 | 1.7          | 0.9          | 565,403.78          | 816,997.03         | 32° 33' 4.207 N | 103° 26' 19.309 W |
| 600.0                 | 0.33            | 199.44      | 600.0                 | 1.2          | 0.5          | 565,403.27          | 816,996.70         | 32° 33' 4.201 N | 103° 26' 19.313 W |
| 800.0                 | 0.38            | 220.63      | 800.0                 | 0.2          | -0.1         | 565,402.22          | 816,996.07         | 32° 33' 4.191 N | 103° 26' 19.321 W |
| 1,000.0               | 0.35            | 180.21      | 1,000.0               | -0.9         | -0.5         | 565,401.11          | 816,995.64         | 32° 33' 4.180 N | 103° 26' 19.326 W |
| 1,200.0               | 0.41            | 201.95      | 1,200.0               | -2.2         | -0.8         | 565,399.83          | 816,995.37         | 32° 33' 4.168 N | 103° 26' 19.329 W |
| 1,400.0               | 0.40            | 221.04      | 1,400.0               | -3.4         | -1.5         | 565,398.64          | 816,994.64         | 32° 33' 4.156 N | 103° 26' 19.338 W |
| 1,600.0               | 0.14            | 131.34      | 1,600.0               | -4.1         | -1.8         | 565,397.96          | 816,994.37         | 32° 33' 4.149 N | 103° 26' 19.341 W |
| 1,800.0               | 0.22            | 132.96      | 1,800.0               | -4.5         | -1.3         | 565,397.53          | 816,994.83         | 32° 33' 4.145 N | 103° 26' 19.336 W |



# Survey Report - Geographic

|           |                         |                              |                                          |
|-----------|-------------------------|------------------------------|------------------------------------------|
| Company:  | Yates Petroleum         | Local Co-ordinate Reference: | Well #1H                                 |
| Project:  | Lea County, NM (NAD-83) | TVD Reference:               | RKB @ 3685.5usft (McVay #4 - KB = 18.5') |
| Site:     | Tangerine BRT State     | MD Reference:                | RKB @ 3685.5usft (McVay #4 - KB = 18.5') |
| Well:     | #1H                     | North Reference:             | Grid                                     |
| Wellbore: | OH                      | Survey Calculation Method:   | Minimum Curvature                        |
| Design:   | OH                      | Database:                    | Houston R5000 Database                   |

| Survey                      |                    |                |                             |                 |                 |                           |                          |                 |                   |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|---------------------------|--------------------------|-----------------|-------------------|
| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Map<br>Northing<br>(usft) | Map<br>Easting<br>(usft) | Latitude        | Longitude         |
| 2,000.0                     | 0.39               | 162.72         | 2,000.0                     | -5.4            | -0.8            | 565,396.62                | 816,995.32               | 32° 33' 4.136 N | 103° 26' 19.330 W |
| 2,200.0                     | 0.12               | 171.65         | 2,200.0                     | -6.3            | -0.6            | 565,395.76                | 816,995.55               | 32° 33' 4.127 N | 103° 26' 19.327 W |
| 2,400.0                     | 0.24               | 139.88         | 2,400.0                     | -6.8            | -0.3            | 565,395.24                | 816,995.85               | 32° 33' 4.122 N | 103° 26' 19.324 W |
| 2,600.0                     | 0.17               | 39.22          | 2,600.0                     | -6.9            | 0.1             | 565,395.15                | 816,996.31               | 32° 33' 4.121 N | 103° 26' 19.319 W |
| 2,800.0                     | 0.09               | 328.97         | 2,800.0                     | -6.5            | 0.3             | 565,395.51                | 816,996.41               | 32° 33' 4.125 N | 103° 26' 19.317 W |
| 3,000.0                     | 0.05               | 70.52          | 3,000.0                     | -6.4            | 0.3             | 565,395.67                | 816,996.41               | 32° 33' 4.126 N | 103° 26' 19.317 W |
| 3,200.0                     | 0.46               | 64.49          | 3,200.0                     | -6.0            | 1.1             | 565,396.05                | 816,997.22               | 32° 33' 4.130 N | 103° 26' 19.308 W |
| 3,400.0                     | 0.28               | 39.31          | 3,400.0                     | -5.3            | 2.1             | 565,396.77                | 816,998.26               | 32° 33' 4.137 N | 103° 26' 19.296 W |
| 3,600.0                     | 0.47               | 50.60          | 3,600.0                     | -4.4            | 3.0             | 565,397.67                | 816,999.20               | 32° 33' 4.146 N | 103° 26' 19.285 W |
| 3,800.0                     | 0.24               | 27.50          | 3,800.0                     | -3.5            | 3.9             | 565,398.56                | 817,000.03               | 32° 33' 4.155 N | 103° 26' 19.275 W |
| 4,000.0                     | 0.40               | 40.43          | 3,999.9                     | -2.6            | 4.5             | 565,399.47                | 817,000.67               | 32° 33' 4.163 N | 103° 26' 19.267 W |
| 4,200.0                     | 0.32               | 238.55         | 4,199.9                     | -2.3            | 4.5             | 565,399.71                | 817,000.65               | 32° 33' 4.166 N | 103° 26' 19.267 W |
| 4,400.0                     | 0.05               | 233.12         | 4,399.9                     | -2.7            | 3.9             | 565,399.36                | 817,000.10               | 32° 33' 4.163 N | 103° 26' 19.274 W |
| 4,600.0                     | 0.37               | 241.83         | 4,599.9                     | -3.0            | 3.3             | 565,399.01                | 816,999.46               | 32° 33' 4.159 N | 103° 26' 19.281 W |
| 4,800.0                     | 0.14               | 232.85         | 4,799.9                     | -3.5            | 2.5             | 565,398.55                | 816,998.70               | 32° 33' 4.155 N | 103° 26' 19.290 W |
| 5,000.0                     | 0.55               | 269.48         | 4,999.9                     | -3.6            | 1.4             | 565,398.40                | 816,997.55               | 32° 33' 4.153 N | 103° 26' 19.304 W |
| 5,200.0                     | 0.45               | 234.00         | 5,199.9                     | -4.1            | -0.2            | 565,397.93                | 816,995.95               | 32° 33' 4.149 N | 103° 26' 19.322 W |
| 5,300.0                     | 0.11               | 304.90         | 5,299.9                     | -4.3            | -0.6            | 565,397.75                | 816,995.55               | 32° 33' 4.147 N | 103° 26' 19.327 W |
| 5,439.0                     | 0.30               | 288.00         | 5,438.9                     | -4.1            | -1.1            | 565,397.94                | 816,995.10               | 32° 33' 4.149 N | 103° 26' 19.332 W |
| 5,629.0                     | 0.40               | 314.40         | 5,628.9                     | -3.5            | -2.0            | 565,398.56                | 816,994.15               | 32° 33' 4.155 N | 103° 26' 19.343 W |
| 5,819.0                     | 0.50               | 292.80         | 5,818.9                     | -2.7            | -3.2            | 565,399.34                | 816,992.91               | 32° 33' 4.163 N | 103° 26' 19.358 W |
| 6,009.0                     | 1.00               | 292.20         | 6,008.9                     | -1.7            | -5.5            | 565,400.29                | 816,990.61               | 32° 33' 4.172 N | 103° 26' 19.385 W |
| 6,199.0                     | 0.20               | 228.80         | 6,198.9                     | -1.3            | -7.3            | 565,400.70                | 816,988.83               | 32° 33' 4.177 N | 103° 26' 19.405 W |
| 6,389.0                     | 0.20               | 169.50         | 6,388.9                     | -1.9            | -7.5            | 565,400.15                | 816,988.64               | 32° 33' 4.171 N | 103° 26' 19.408 W |
| 6,580.0                     | 0.30               | 156.70         | 6,579.9                     | -2.7            | -7.3            | 565,399.37                | 816,988.90               | 32° 33' 4.163 N | 103° 26' 19.405 W |
| 6,770.0                     | 0.60               | 161.20         | 6,769.9                     | -4.1            | -6.7            | 565,397.97                | 816,989.42               | 32° 33' 4.150 N | 103° 26' 19.399 W |
| 6,960.0                     | 0.80               | 110.70         | 6,959.9                     | -5.5            | -5.2            | 565,396.56                | 816,990.98               | 32° 33' 4.136 N | 103° 26' 19.381 W |
| 7,150.0                     | 0.40               | 318.10         | 7,149.9                     | -5.5            | -4.4            | 565,396.58                | 816,991.78               | 32° 33' 4.136 N | 103° 26' 19.371 W |
| 7,340.0                     | 0.30               | 309.10         | 7,339.9                     | -4.6            | -5.2            | 565,397.39                | 816,990.95               | 32° 33' 4.144 N | 103° 26' 19.381 W |
| 7,529.0                     | 0.30               | 292.30         | 7,528.9                     | -4.1            | -6.1            | 565,397.89                | 816,990.10               | 32° 33' 4.149 N | 103° 26' 19.391 W |
| 7,719.0                     | 0.50               | 271.00         | 7,718.9                     | -3.9            | -7.3            | 565,398.09                | 816,988.82               | 32° 33' 4.151 N | 103° 26' 19.406 W |
| 7,814.0                     | 1.10               | 3.60           | 7,813.8                     | -3.0            | -7.7            | 565,399.01                | 816,988.46               | 32° 33' 4.160 N | 103° 26' 19.410 W |
| 7,908.0                     | 0.90               | 3.70           | 7,907.8                     | -1.4            | -7.6            | 565,400.65                | 816,988.56               | 32° 33' 4.176 N | 103° 26' 19.409 W |
| 8,003.0                     | 0.90               | 358.40         | 8,002.8                     | 0.1             | -7.6            | 565,402.14                | 816,988.59               | 32° 33' 4.191 N | 103° 26' 19.408 W |
| 8,098.0                     | 0.80               | 350.60         | 8,097.8                     | 1.5             | -7.7            | 565,403.54                | 816,988.46               | 32° 33' 4.205 N | 103° 26' 19.409 W |
| 8,194.0                     | 0.70               | 352.70         | 8,193.8                     | 2.7             | -7.9            | 565,404.78                | 816,988.28               | 32° 33' 4.217 N | 103° 26' 19.411 W |
| 8,288.0                     | 1.50               | 22.10          | 8,287.8                     | 4.5             | -7.5            | 565,405.49                | 816,988.67               | 32° 33' 4.234 N | 103° 26' 19.407 W |
| 8,383.0                     | 1.40               | 18.00          | 8,382.8                     | 6.7             | -6.7            | 565,408.75                | 816,989.49               | 32° 33' 4.256 N | 103° 26' 19.397 W |
| 8,478.0                     | 1.40               | 18.00          | 8,477.7                     | 8.9             | -5.9            | 565,410.95                | 816,990.21               | 32° 33' 4.278 N | 103° 26' 19.388 W |
| 8,572.0                     | 1.50               | 13.70          | 8,571.7                     | 11.2            | -5.3            | 565,413.24                | 816,990.86               | 32° 33' 4.301 N | 103° 26' 19.380 W |
| 8,667.0                     | 1.30               | 15.10          | 8,666.7                     | 13.5            | -4.7            | 565,415.49                | 816,991.43               | 32° 33' 4.323 N | 103° 26' 19.374 W |
| 8,762.0                     | 1.20               | 12.40          | 8,761.6                     | 15.5            | -4.2            | 565,417.50                | 816,991.93               | 32° 33' 4.343 N | 103° 26' 19.368 W |
| 8,857.0                     | 1.50               | 14.30          | 8,856.6                     | 17.6            | -3.7            | 565,419.68                | 816,992.45               | 32° 33' 4.364 N | 103° 26' 19.361 W |
| 8,952.0                     | 1.10               | 28.50          | 8,951.6                     | 19.6            | -3.0            | 565,421.68                | 816,993.19               | 32° 33' 4.384 N | 103° 26' 19.352 W |
| 9,047.0                     | 0.60               | 63.90          | 9,046.6                     | 20.7            | -2.1            | 565,422.70                | 816,994.07               | 32° 33' 4.394 N | 103° 26' 19.342 W |
| 9,142.0                     | 0.70               | 95.00          | 9,141.6                     | 20.8            | -1.1            | 565,422.87                | 816,995.10               | 32° 33' 4.396 N | 103° 26' 19.330 W |
| 9,237.0                     | 0.30               | 51.70          | 9,236.6                     | 20.9            | -0.3            | 565,422.98                | 816,995.87               | 32° 33' 4.396 N | 103° 26' 19.321 W |
| 9,332.0                     | 0.30               | 357.00         | 9,331.6                     | 21.3            | -0.1            | 565,423.38                | 816,996.05               | 32° 33' 4.400 N | 103° 26' 19.319 W |
| 9,427.0                     | 0.30               | 318.30         | 9,426.6                     | 21.8            | -0.3            | 565,423.81                | 816,995.87               | 32° 33' 4.405 N | 103° 26' 19.321 W |
| 9,522.0                     | 0.40               | 314.50         | 9,521.6                     | 22.2            | -0.7            | 565,424.23                | 816,995.47               | 32° 33' 4.409 N | 103° 26' 19.325 W |
| 9,617.0                     | 0.40               | 309.20         | 9,616.6                     | 22.6            | -1.2            | 565,424.67                | 816,994.98               | 32° 33' 4.413 N | 103° 26' 19.331 W |
| 9,712.0                     | 0.40               | 310.20         | 9,711.6                     | 23.1            | -1.7            | 565,425.10                | 816,994.47               | 32° 33' 4.418 N | 103° 26' 19.337 W |
| 9,807.0                     | 0.40               | 305.60         | 9,806.6                     | 23.5            | -2.2            | 565,425.50                | 816,993.94               | 32° 33' 4.422 N | 103° 26' 19.343 W |
| 9,940.0                     | 0.50               | 268.40         | 9,939.6                     | 23.7            | -3.2            | 565,425.76                | 816,992.99               | 32° 33' 4.424 N | 103° 26' 19.354 W |
| 9,993.0                     | 0.50               | 214.80         | 9,992.6                     | 23.5            | -3.5            | 565,425.56                | 816,992.62               | 32° 33' 4.422 N | 103° 26' 19.359 W |



## Survey Report - Geographic

|           |                         |                              |                                         |
|-----------|-------------------------|------------------------------|-----------------------------------------|
| Company:  | Yates Petroleum         | Local Co-ordinate Reference: | Well #1H                                |
| Project:  | Lea County, NM (NAD-83) | TVD Reference:               | RKB @ 3685.5usft (McVay #4 - KB = 18.5) |
| Site:     | Tangerne BRT State      | MD Reference:                | RKB @ 3685.5usft (McVay #4 - KB = 18.5) |
| Well:     | #1H                     | North Reference:             | Grid                                    |
| Wellbore: | OH                      | Survey Calculation Method:   | Minimum Curvature                       |
| Design:   | OH                      | Database:                    | Houston R5000 Database                  |

## Survey

| Measured<br>Depth<br>(usft)                                       | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Map<br>Northing<br>(usft) | Map<br>Easting<br>(usft) | Latitude         | Longitude         |
|-------------------------------------------------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|---------------------------|--------------------------|------------------|-------------------|
| 9,995.0                                                           | 0.69               | 198.16         | 9,995.6                     | 23.5            | -3.5            | 565,425.53                | 816,992.61               | 32° 33' 4.422 N  | 103° 26' 19.359 W |
| KOP: 9996.0' MD, 9995.6' TVD                                      |                    |                |                             |                 |                 |                           |                          |                  |                   |
| 10,024.0                                                          | 3.00               | 171.70         | 10,023.5                    | 22.6            | -3.5            | 565,424.65                | 816,992.66               | 32° 33' 4.413 N  | 103° 26' 19.358 W |
| 10,056.0                                                          | 6.30               | 169.00         | 10,055.4                    | 20.1            | -3.0            | 565,422.09                | 816,993.12               | 32° 33' 4.388 N  | 103° 26' 19.353 W |
| 10,088.0                                                          | 10.40              | 170.10         | 10,087.1                    | 15.5            | -2.2            | 565,417.52                | 816,993.95               | 32° 33' 4.343 N  | 103° 26' 19.344 W |
| 10,119.0                                                          | 13.20              | 172.90         | 10,117.4                    | 9.2             | -1.3            | 565,411.25                | 816,994.87               | 32° 33' 4.281 N  | 103° 26' 19.334 W |
| 10,151.0                                                          | 16.50              | 173.40         | 10,148.4                    | 1.1             | -0.3            | 565,403.11                | 816,995.84               | 32° 33' 4.200 N  | 103° 26' 19.323 W |
| 10,182.0                                                          | 20.30              | 171.60         | 10,177.8                    | -8.6            | 1.0             | 565,393.42                | 816,997.14               | 32° 33' 4.104 N  | 103° 26' 19.309 W |
| 10,214.0                                                          | 24.70              | 169.50         | 10,207.3                    | -20.7           | 3.0             | 565,381.34                | 816,999.17               | 32° 33' 3.984 N  | 103° 26' 19.287 W |
| 10,245.0                                                          | 28.40              | 172.20         | 10,235.0                    | -34.4           | 5.2             | 565,367.67                | 817,001.35               | 32° 33' 3.849 N  | 103° 26' 19.262 W |
| 10,277.0                                                          | 32.20              | 175.40         | 10,262.7                    | -50.4           | 6.9             | 565,351.62                | 817,003.07               | 32° 33' 3.690 N  | 103° 26' 19.244 W |
| 10,309.0                                                          | 36.50              | 178.40         | 10,289.1                    | -68.4           | 7.9             | 565,333.60                | 817,004.02               | 32° 33' 3.511 N  | 103° 26' 19.235 W |
| 10,341.0                                                          | 41.00              | 180.70         | 10,314.0                    | -88.5           | 8.0             | 565,313.58                | 817,004.15               | 32° 33' 3.313 N  | 103° 26' 19.235 W |
| 10,372.0                                                          | 45.20              | 181.60         | 10,336.7                    | -109.6          | 7.6             | 565,292.41                | 817,003.72               | 32° 33' 3.104 N  | 103° 26' 19.242 W |
| 10,404.0                                                          | 49.10              | 181.40         | 10,358.4                    | -133.1          | 7.0             | 565,268.96                | 817,003.11               | 32° 33' 2.872 N  | 103° 26' 19.251 W |
| 10,436.0                                                          | 52.10              | 180.90         | 10,378.7                    | -157.8          | 6.5             | 565,244.24                | 817,002.61               | 32° 33' 2.627 N  | 103° 26' 19.260 W |
| 10,467.0                                                          | 55.00              | 180.60         | 10,397.2                    | -182.7          | 6.1             | 565,219.31                | 817,002.29               | 32° 33' 2.381 N  | 103° 26' 19.266 W |
| 10,499.0                                                          | 59.30              | 180.30         | 10,414.5                    | -209.6          | 5.9             | 565,192.43                | 817,002.08               | 32° 33' 2.115 N  | 103° 26' 19.271 W |
| 10,526.0                                                          | 62.78              | 179.34         | 10,427.6                    | -233.2          | 6.0             | 565,168.81                | 817,002.16               | 32° 33' 1.881 N  | 103° 26' 19.272 W |
| Cross 330' Hardline: 10526.0' MD, 10427.6' TVD, 62.78° INC        |                    |                |                             |                 |                 |                           |                          |                  |                   |
| 10,530.0                                                          | 63.30              | 179.20         | 10,429.4                    | -236.8          | 6.0             | 565,165.25                | 817,002.20               | 32° 33' 1.846 N  | 103° 26' 19.272 W |
| 10,562.0                                                          | 67.60              | 179.10         | 10,442.7                    | -265.9          | 6.5             | 565,136.15                | 817,002.64               | 32° 33' 1.558 N  | 103° 26' 19.270 W |
| 10,594.0                                                          | 72.70              | 179.10         | 10,453.5                    | -296.0          | 7.0             | 565,106.06                | 817,003.11               | 32° 33' 1.260 N  | 103° 26' 19.267 W |
| 10,625.0                                                          | 77.30              | 178.90         | 10,461.6                    | -325.9          | 7.5             | 565,076.13                | 817,003.63               | 32° 33' 0.964 N  | 103° 26' 19.264 W |
| 10,656.0                                                          | 80.90              | 178.70         | 10,467.4                    | -356.3          | 8.1             | 565,045.70                | 817,004.27               | 32° 33' 0.663 N  | 103° 26' 19.260 W |
| 10,688.0                                                          | 82.40              | 179.50         | 10,472.1                    | -388.0          | 8.6             | 565,014.05                | 817,004.77               | 32° 33' 0.350 N  | 103° 26' 19.257 W |
| 10,720.0                                                          | 83.60              | 180.30         | 10,476.0                    | -419.8          | 8.7             | 564,982.29                | 817,004.82               | 32° 33' 0.035 N  | 103° 26' 19.260 W |
| 10,730.0                                                          | 83.79              | 180.36         | 10,477.1                    | -429.7          | 8.6             | 564,972.35                | 817,004.76               | 32° 32' 59.937 N | 103° 26' 19.261 W |
| EOC: 10730.0' MD, 10477.1' TVD, 83.79° INC, 180.36° AZ, 429.7° VS |                    |                |                             |                 |                 |                           |                          |                  |                   |
| 10,751.0                                                          | 84.20              | 180.50         | 10,479.3                    | -450.6          | 8.4             | 564,951.47                | 817,004.61               | 32° 32' 59.730 N | 103° 26' 19.265 W |
| 10,783.0                                                          | 84.20              | 180.60         | 10,482.5                    | -482.4          | 8.1             | 564,919.63                | 817,004.30               | 32° 32' 59.416 N | 103° 26' 19.272 W |
| 10,814.0                                                          | 84.20              | 180.60         | 10,485.6                    | -513.2          | 7.8             | 564,888.79                | 817,003.98               | 32° 32' 59.110 N | 103° 26' 19.279 W |
| 10,846.0                                                          | 84.20              | 180.40         | 10,488.9                    | -545.1          | 7.5             | 564,856.96                | 817,003.70               | 32° 32' 58.795 N | 103° 26' 19.285 W |
| 10,877.0                                                          | 84.10              | 180.40         | 10,492.0                    | -575.9          | 7.3             | 564,826.12                | 817,003.48               | 32° 32' 58.490 N | 103° 26' 19.291 W |
| 10,909.0                                                          | 85.30              | 180.00         | 10,495.0                    | -607.8          | 7.2             | 564,794.26                | 817,003.37               | 32° 32' 58.175 N | 103° 26' 19.295 W |
| 10,941.0                                                          | 87.80              | 179.90         | 10,496.9                    | -639.7          | 7.2             | 564,762.32                | 817,003.40               | 32° 32' 57.859 N | 103° 26' 19.298 W |
| 10,972.0                                                          | 89.20              | 179.90         | 10,497.7                    | -670.7          | 7.3             | 564,731.33                | 817,003.46               | 32° 32' 57.552 N | 103° 26' 19.300 W |
| 11,004.0                                                          | 89.50              | 179.90         | 10,498.1                    | -702.7          | 7.4             | 564,699.33                | 817,003.51               | 32° 32' 57.236 N | 103° 26' 19.303 W |
| 11,099.0                                                          | 89.50              | 179.90         | 10,498.9                    | -797.7          | 7.5             | 564,604.33                | 817,003.68               | 32° 32' 56.296 N | 103° 26' 19.310 W |
| 11,194.0                                                          | 89.80              | 179.80         | 10,499.5                    | -892.7          | 7.8             | 564,509.34                | 817,003.93               | 32° 32' 55.356 N | 103° 26' 19.317 W |
| 11,290.0                                                          | 89.90              | 179.70         | 10,499.7                    | -988.7          | 8.2             | 564,413.34                | 817,004.34               | 32° 32' 54.406 N | 103° 26' 19.321 W |
| 11,301.3                                                          | 89.90              | 179.66         | 10,499.8                    | -1,000.0        | 8.2             | 564,402.04                | 817,004.41               | 32° 32' 54.294 N | 103° 26' 19.321 W |
| TL1(TBS#1H)                                                       |                    |                |                             |                 |                 |                           |                          |                  |                   |
| 11,385.0                                                          | 89.90              | 179.40         | 10,499.9                    | -1,083.7        | 8.9             | 564,318.34                | 817,005.09               | 32° 32' 53.466 N | 103° 26' 19.322 W |
| 11,480.0                                                          | 89.90              | 179.20         | 10,500.1                    | -1,178.7        | 10.1            | 564,223.35                | 817,006.25               | 32° 32' 52.526 N | 103° 26' 19.317 W |
| 11,575.0                                                          | 90.40              | 179.50         | 10,499.8                    | -1,273.7        | 11.2            | 564,128.35                | 817,007.33               | 32° 32' 51.586 N | 103° 26' 19.314 W |
| 11,670.0                                                          | 89.80              | 179.10         | 10,499.7                    | -1,368.7        | 12.3            | 564,033.36                | 817,008.49               | 32° 32' 50.646 N | 103° 26' 19.310 W |
| 11,765.0                                                          | 88.40              | 179.20         | 10,501.2                    | -1,463.7        | 13.7            | 563,938.39                | 817,009.90               | 32° 32' 49.706 N | 103° 26' 19.303 W |
| 11,860.0                                                          | 89.30              | 179.90         | 10,503.1                    | -1,558.6        | 14.5            | 563,843.41                | 817,010.64               | 32° 32' 48.766 N | 103° 26' 19.303 W |
| 11,955.0                                                          | 89.50              | 180.10         | 10,504.1                    | -1,653.6        | 14.5            | 563,748.42                | 817,010.64               | 32° 32' 47.827 N | 103° 26' 19.313 W |
| 12,049.0                                                          | 89.50              | 179.90         | 10,504.9                    | -1,747.6        | 14.5            | 563,654.42                | 817,010.64               | 32° 32' 46.897 N | 103° 26' 19.322 W |
| 12,144.0                                                          | 89.70              | 179.40         | 10,505.5                    | -1,842.6        | 15.1            | 563,559.42                | 817,011.22               | 32° 32' 45.957 N | 103° 26' 19.324 W |
| 12,239.0                                                          | 90.10              | 179.00         | 10,505.7                    | -1,937.6        | 16.4            | 563,464.43                | 817,012.55               | 32° 32' 45.017 N | 103° 26' 19.318 W |
| 12,334.0                                                          | 89.90              | 180.30         | 10,505.7                    | -2,032.6        | 17.0            | 563,369.44                | 817,013.13               | 32° 32' 44.077 N | 103° 26' 19.321 W |



## Survey Report - Geographic

|           |                         |                              |                                          |
|-----------|-------------------------|------------------------------|------------------------------------------|
| Company:  | Yates Petroleum         | Local Co-ordinate Reference: | Well #1H                                 |
| Project:  | Lea County, NM (NAD-83) | TVD Reference:               | RKB @ 3685.5usft (McVay #4 - KB = 18.5') |
| Site:     | Tangerine BRT State     | MD Reference:                | RKB @ 3685.5usft (McVay #4 - KB = 18.5') |
| Well:     | #1H                     | North Reference:             | Grid                                     |
| Wellbore: | OH                      | Survey Calculation Method:   | Minimum Curvature                        |
| Design:   | OH                      | Database:                    | Houston R5000 Database                   |

## Survey

| Measured Depth (usft)                                                                                                        | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude         | Longitude         |
|------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|-----------------------|--------------|--------------|---------------------|--------------------|------------------|-------------------|
| 12,429.0                                                                                                                     | 90.20           | 180.00      | 10,505.6              | -2,127.6     | 16.7         | 563,274.44          | 817,012.88         | 32° 32' 43.137 N | 103° 26' 19.333 W |
| 12,524.0                                                                                                                     | 89.80           | 180.00      | 10,505.6              | -2,222.6     | 16.7         | 563,179.44          | 817,012.88         | 32° 32' 42.197 N | 103° 26' 19.342 W |
| 12,619.0                                                                                                                     | 90.10           | 179.90      | 10,505.7              | -2,317.6     | 16.8         | 563,084.44          | 817,012.97         | 32° 32' 41.257 N | 103° 26' 19.351 W |
| 12,714.0                                                                                                                     | 89.30           | 179.60      | 10,506.2              | -2,412.6     | 17.2         | 562,989.44          | 817,013.38         | 32° 32' 40.317 N | 103° 26' 19.355 W |
| 12,801.4                                                                                                                     | 88.75           | 179.14      | 10,507.7              | -2,499.9     | 18.2         | 562,902.11          | 817,014.34         | 32° 32' 39.453 N | 103° 26' 19.353 W |
| TL2(TBS#1H)                                                                                                                  |                 |             |                       |              |              |                     |                    |                  |                   |
| 12,809.0                                                                                                                     | 88.70           | 179.10      | 10,507.9              | -2,507.6     | 18.3         | 562,894.46          | 817,014.46         | 32° 32' 39.377 N | 103° 26' 19.352 W |
| 12,904.0                                                                                                                     | 89.20           | 178.60      | 10,509.6              | -2,602.5     | 20.2         | 562,799.50          | 817,016.36         | 32° 32' 38.437 N | 103° 26' 19.339 W |
| 12,999.0                                                                                                                     | 88.60           | 178.90      | 10,511.4              | -2,697.5     | 22.3         | 562,704.54          | 817,018.44         | 32° 32' 37.497 N | 103° 26' 19.324 W |
| 13,093.0                                                                                                                     | 88.80           | 179.10      | 10,513.6              | -2,791.5     | 23.9         | 562,610.58          | 817,020.08         | 32° 32' 36.568 N | 103° 26' 19.314 W |
| 13,188.0                                                                                                                     | 88.40           | 180.00      | 10,515.9              | -2,886.4     | 24.7         | 562,515.61          | 817,020.82         | 32° 32' 35.628 N | 103° 26' 19.315 W |
| 13,282.0                                                                                                                     | 89.30           | 180.50      | 10,517.8              | -2,980.4     | 24.3         | 562,421.63          | 817,020.41         | 32° 32' 34.698 N | 103° 26' 19.329 W |
| 13,369.0                                                                                                                     | 89.20           | 180.50      | 10,518.9              | -3,067.4     | 23.5         | 562,334.64          | 817,019.65         | 32° 32' 33.837 N | 103° 26' 19.346 W |
| 13,464.0                                                                                                                     | 89.80           | 180.60      | 10,519.7              | -3,162.4     | 22.6         | 562,239.65          | 817,018.74         | 32° 32' 32.898 N | 103° 26' 19.366 W |
| 13,558.0                                                                                                                     | 89.50           | 180.00      | 10,520.3              | -3,256.4     | 22.1         | 562,145.65          | 817,018.25         | 32° 32' 31.968 N | 103° 26' 19.381 W |
| 13,653.0                                                                                                                     | 89.40           | 179.80      | 10,521.2              | -3,351.4     | 22.3         | 562,050.66          | 817,018.41         | 32° 32' 31.028 N | 103° 26' 19.389 W |
| 13,748.0                                                                                                                     | 89.30           | 180.30      | 10,522.3              | -3,446.4     | 22.2         | 561,955.66          | 817,018.33         | 32° 32' 30.088 N | 103° 26' 19.399 W |
| 13,842.0                                                                                                                     | 88.80           | 178.90      | 10,523.9              | -3,540.4     | 22.8         | 561,861.68          | 817,018.99         | 32° 32' 29.158 N | 103° 26' 19.400 W |
| 13,937.0                                                                                                                     | 89.00           | 178.50      | 10,525.7              | -3,635.3     | 25.0         | 561,766.73          | 817,021.14         | 32° 32' 28.218 N | 103° 26' 19.385 W |
| 14,032.0                                                                                                                     | 89.10           | 178.20      | 10,527.3              | -3,730.3     | 27.7         | 561,671.78          | 817,023.88         | 32° 32' 27.278 N | 103° 26' 19.362 W |
| 14,127.0                                                                                                                     | 89.30           | 178.90      | 10,528.6              | -3,825.2     | 30.1         | 561,576.82          | 817,026.28         | 32° 32' 26.339 N | 103° 26' 19.343 W |
| 14,222.0                                                                                                                     | 89.20           | 178.80      | 10,529.8              | -3,920.2     | 32.0         | 561,481.85          | 817,028.19         | 32° 32' 25.399 N | 103° 26' 19.330 W |
| 14,301.7                                                                                                                     | 89.03           | 178.30      | 10,531.1              | -3,999.8     | 34.0         | 561,402.22          | 817,030.20         | 32° 32' 24.611 N | 103° 26' 19.314 W |
| TL3(TBS#1H)                                                                                                                  |                 |             |                       |              |              |                     |                    |                  |                   |
| 14,318.0                                                                                                                     | 89.00           | 178.20      | 10,531.3              | -4,016.1     | 34.5         | 561,385.89          | 817,030.70         | 32° 32' 24.449 N | 103° 26' 19.310 W |
| 14,413.0                                                                                                                     | 88.60           | 179.30      | 10,533.3              | -4,111.1     | 36.6         | 561,290.94          | 817,032.77         | 32° 32' 23.510 N | 103° 26' 19.295 W |
| 14,507.0                                                                                                                     | 89.30           | 179.60      | 10,535.0              | -4,205.1     | 37.5         | 561,196.96          | 817,033.67         | 32° 32' 22.580 N | 103° 26' 19.294 W |
| 14,602.0                                                                                                                     | 89.10           | 179.80      | 10,536.4              | -4,300.1     | 38.0         | 561,101.97          | 817,034.17         | 32° 32' 21.640 N | 103° 26' 19.298 W |
| 14,696.0                                                                                                                     | 88.80           | 179.60      | 10,538.1              | -4,394.1     | 38.5         | 561,007.98          | 817,034.66         | 32° 32' 20.710 N | 103° 26' 19.301 W |
| 14,791.0                                                                                                                     | 89.20           | 179.90      | 10,539.8              | -4,489.0     | 38.9         | 560,913.00          | 817,035.08         | 32° 32' 19.770 N | 103° 26' 19.305 W |
| 14,886.0                                                                                                                     | 89.00           | 179.90      | 10,541.2              | -4,584.0     | 39.1         | 560,818.01          | 817,035.24         | 32° 32' 18.830 N | 103° 26' 19.313 W |
| 14,981.0                                                                                                                     | 88.80           | 180.10      | 10,543.1              | -4,679.0     | 39.1         | 560,723.03          | 817,035.24         | 32° 32' 17.890 N | 103° 26' 19.322 W |
| 15,076.0                                                                                                                     | 88.50           | 180.40      | 10,545.3              | -4,774.0     | 38.7         | 560,628.06          | 817,034.83         | 32° 32' 16.951 N | 103° 26' 19.336 W |
| 15,098.0                                                                                                                     | 88.70           | 180.40      | 10,545.8              | -4,796.0     | 38.5         | 560,606.06          | 817,034.68         | 32° 32' 16.733 N | 103° 26' 19.340 W |
| Final MWD Survey: 15098.0' MD, 10545.8' TVD                                                                                  |                 |             |                       |              |              |                     |                    |                  |                   |
| 15,156.0                                                                                                                     | 88.70           | 180.40      | 10,547.2              | -4,854.0     | 38.1         | 560,548.08          | 817,034.27         | 32° 32' 16.159 N | 103° 26' 19.351 W |
| BHL: 15156.0' MD, 10547.2' TVD, 88.70° INC, 180.40° AZ, -4854.0' +N/-S, 38.1' +E/-W, 4854.1' VS - TL4(TBS#1H) - PBHL(TBS#1H) |                 |             |                       |              |              |                     |                    |                  |                   |

## Design Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | Comment                                                                           |
|-----------------------|-----------------------|-------------------|-----------------------------------------------------------------------------------|
| 9,996.0               | 9,995.6               | 23.5              | -3.5 KOP: 9996.0' MD, 9995.6' TVD                                                 |
| 10,526.0              | 10,427.6              | -233.2            | 6.0 Cross 330' Hardline: 10526.0' MD, 10427.6' TVD, 62.78° INC                    |
| 10,730.0              | 10,477.1              | -429.7            | 8.6 EOC: 10730.0' MD, 10477.1' TVD, 83.79° INC, 180.36° AZ, 429.7' VS             |
| 15,098.0              | 10,545.8              | -4,796.0          | 38.5 Final MWD Survey: 15098.0' MD, 10545.8' TVD                                  |
| 15,156.0              | 10,547.2              | -4,854.0          | 38.1 BHL: 15156.0' MD, 10547.2' TVD, 88.70° INC, 180.40° AZ, -4854.0' +N/-S, 38.1 |

Checked By:

Approved By:

Date: