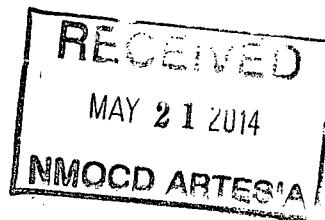


30.015.11969



## Yates Petroleum Corp.

Eddy County, NM (NAD83 NME)

Thomas AJJ

#7H

WB1/Job #1410260

Survey: Phoenix MWD Survey

## Phoenix Final Survey Report

05 March, 2014



|                  |                             |                                     |                                  |
|------------------|-----------------------------|-------------------------------------|----------------------------------|
| <b>Company:</b>  | Yates Petroleum Corp.       | <b>Local Co-ordinate Reference:</b> | Well #7H.                        |
| <b>Project:</b>  | Eddy County, NM (NAD83 NME) | <b>TVD Reference:</b>               | KB @ 3545.50usft (Silver Oak 11) |
| <b>Site:</b>     | Thomas AJJ                  | <b>MD Reference:</b>                | KB @ 3545.50usft (Silver Oak 11) |
| <b>Well:</b>     | #7H                         | <b>North Reference:</b>             | Grid                             |
| <b>Wellbore:</b> | WB1/Job #1410260            | <b>Survey Calculation Method:</b>   | Minimum Curvature                |
| <b>Design:</b>   | Surveys (Silver Oak 11)     | <b>Database:</b>                    | GCR-DB                           |

|                                            |                           |                      |                |
|--------------------------------------------|---------------------------|----------------------|----------------|
| <b>Project</b> Eddy County, NM (NAD83 NME) |                           |                      |                |
| <b>Map System:</b>                         | US State Plane 1983       | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>                          | North American Datum 1983 |                      |                |
| <b>Map Zone:</b>                           | New Mexico Eastern Zone   |                      |                |

|                              |           |                     |                 |                          |                     |
|------------------------------|-----------|---------------------|-----------------|--------------------------|---------------------|
| <b>Site</b>                  |           | Thomas AJJ          |                 |                          |                     |
| <b>Site Position:</b>        |           | <b>Northing:</b>    | 608,408.90 usft | <b>Latitude:</b>         | 32° 40' 20.82818 N  |
| <b>From:</b>                 | Map       | <b>Easting:</b>     | 490,430.90 usft | <b>Longitude:</b>        | 104° 29' 55.58360 W |
| <b>Position Uncertainty:</b> | 0.00 usft | <b>Slot Radius:</b> | 13-3/16"        | <b>Grid Convergence:</b> | -0.09 °             |

|                             |              |           |                            |                 |                                       |
|-----------------------------|--------------|-----------|----------------------------|-----------------|---------------------------------------|
| <b>Well</b>                 | #7H          |           |                            |                 |                                       |
| <b>Well Position</b>        | <b>+N/-S</b> | 0.00 usft | <b>Northing:</b>           | 608,408.90 usft | <b>Latitude:</b> 32° 40' 20.82818 N   |
|                             | <b>+E/-W</b> | 0.00 usft | <b>Easting:</b>            | 490,430.90 usft | <b>Longitude:</b> 104° 29' 55.58360 W |
| <b>Position Uncertainty</b> |              | 0.00 usft | <b>Wellhead Elevation:</b> | usft            | <b>Ground Level:</b> 3,527.00 usft    |

|           |             |                  |                    |                  |                        |
|-----------|-------------|------------------|--------------------|------------------|------------------------|
| Wellbore  |             | WB1/Job #1410260 |                    |                  |                        |
| Magnetics | Model Name  | Sample Date      | Declination<br>(°) | Dip Angle<br>(°) | Field Strength<br>(nT) |
|           | IGRF2010_14 | 02/11/14         | 7.72               | 60.38            | 48,516                 |

|                   |  |                         |        |        |        |               |  |           |
|-------------------|--|-------------------------|--------|--------|--------|---------------|--|-----------|
| Design            |  | Surveys (Silver Oak 11) |        |        |        |               |  |           |
| Audit Notes:      |  |                         |        |        |        |               |  |           |
| Version:          |  | 1.0                     | Phase: |        | ACTUAL | Tie On Depth: |  | 0.00      |
| Vertical Section: |  | Depth From (TVD)        |        | +N/-S  |        | +E/-W         |  | Direction |
|                   |  | (usft)                  |        | (usft) |        | (usft)        |  | (°)       |
|                   |  | 0.00                    |        | 0.00   |        | 0.00          |  | 272.70    |

| Survey Program |              | Date                                | 03/05/14   |                             |  |
|----------------|--------------|-------------------------------------|------------|-----------------------------|--|
| From<br>(usft) | To<br>(usft) | Survey (Wellbore)                   | Tool Name  | Description                 |  |
| 100.00         | 900.00       | Gyro Survey (WB1/Job #1410260)      | CB-GYRO-MS | Camera based gyro multishot |  |
| 1,038.00       | 6,893.00     | Phoenix MWD Survey (WB1/Job #141026 | MWD        | MWD - Standard              |  |

| Survey                          |            |                      |               |               |               |                  |                     |
|---------------------------------|------------|----------------------|---------------|---------------|---------------|------------------|---------------------|
| MD<br>(usft)                    | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) |
| 900.00                          | 1.77       | 136.56               | 899.90        | -6.18         | 6.52          | -6.81            | 0.00                |
| <b>Tie-on to Gyro</b>           |            |                      |               |               |               |                  |                     |
| 1,038.00                        | 1.50       | 153.00               | 1,037.84      | -9.33         | 8.81          | -9.24            | 0.39                |
| <b>First Phoenix MWD Survey</b> |            |                      |               |               |               |                  |                     |
| 1,132.00                        | 1.70       | 155.00               | 1,131.81      | -11.69        | 9.96          | -10.50           | 0.22                |
| 1,225.00                        | 0.30       | 214.70               | 1,224.79      | -13.14        | 10.40         | -11.01           | 1.69                |
| 1,319.00                        | 0.30       | 222.30               | 1,318.79      | -13.53        | 10.10         | -10.72           | 0.04                |
| 1,506.00                        | 0.10       | 244.20               | 1,505.79      | -13.96        | 9.62          | -10.27           | 0.11                |
| 1,693.00                        | 0.30       | 271.50               | 1,692.79      | -14.02        | 8.98          | -9.63            | 0.12                |
| 1,708.00                        | 0.20       | 284.10               | 1,707.79      | -14.01        | 8.92          | -9.57            | 0.76                |
| 1,756.00                        | 0.30       | 316.20               | 1,755.79      | -13.90        | 8.75          | -9.39            | 0.35                |



Phoenix Technology Services  
Phoenix Final Survey Report



|           |                             |                              |                                  |
|-----------|-----------------------------|------------------------------|----------------------------------|
| Company:  | Yates Petroleum Corp.       | Local Co-ordinate Reference: | Well #7H                         |
| Project:  | Eddy County, NM (NAD83 NME) | TVD Reference:               | KB @ 3545.50usft (Silver Oak 11) |
| Site:     | Thomas AJJ                  | MD Reference:                | KB @ 3545.50usft (Silver Oak 11) |
| Well:     | #7H                         | North Reference:             | Grid                             |
| Wellbore: | WB1/Job #1410260            | Survey Calculation Method:   | Minimum Curvature                |
| Design:   | Surveys (Silver Oak 11)     | Database:                    | GCR DB                           |

| Survey                          |            |                      |               |               |               |                  |                     |
|---------------------------------|------------|----------------------|---------------|---------------|---------------|------------------|---------------------|
| MD<br>(usft)                    | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) |
| 1,787.00                        | 2.60       | 288.40               | 1,786.77      | -13.62        | 8.03          | -8.66            | 7.54                |
| 1,818.00                        | 9.80       | 283.10               | 1,817.57      | -12.80        | 4.78          | -5.38            | 23.27               |
| 1,849.00                        | 16.80      | 281.30               | 1,847.72      | -11.32        | -2.19         | 1.65             | 22.62               |
| 1,880.00                        | 22.80      | 284.10               | 1,876.88      | -8.98         | -12.41        | 11.98            | 19.59               |
| 1,912.00                        | 26.50      | 284.90               | 1,905.96      | -5.63         | -25.33        | 25.04            | 11.61               |
| 1,943.00                        | 29.60      | 286.50               | 1,933.31      | -1.68         | -39.36        | 39.24            | 10.29               |
| 1,974.00                        | 33.00      | 285.50               | 1,959.80      | 2.75          | -54.84        | 54.91            | 11.09               |
| 2,005.00                        | 35.70      | 285.60               | 1,985.39      | 7.44          | -71.69        | 71.96            | 8.71                |
| 2,036.00                        | 38.90      | 286.50               | 2,010.04      | 12.64         | -89.74        | 90.23            | 10.47               |
| 2,067.00                        | 43.00      | 290.00               | 2,033.46      | 19.03         | -109.02       | 109.79           | 15.15               |
| 2,098.00                        | 47.00      | 293.50               | 2,055.38      | 27.17         | -129.36       | 130.49           | 15.17               |
| 2,130.00                        | 51.00      | 293.80               | 2,076.37      | 36.85         | -151.47       | 153.04           | 12.52               |
| 2,161.00                        | 51.30      | 292.90               | 2,095.81      | 46.42         | -173.64       | 175.63           | 2.46                |
| 2,192.00                        | 51.70      | 290.90               | 2,115.11      | 55.47         | -196.15       | 198.54           | 5.21                |
| 2,224.00                        | 53.20      | 289.50               | 2,134.61      | 64.23         | -219.96       | 222.74           | 5.83                |
| 2,255.00                        | 55.00      | 289.70               | 2,152.79      | 72.65         | -243.61       | 246.76           | 5.83                |
| 2,285.00                        | 57.00      | 289.00               | 2,169.57      | 80.89         | -267.08       | 270.59           | 6.94                |
| 2,316.00                        | 59.00      | 289.20               | 2,185.99      | 89.49         | -291.92       | 295.81           | 6.47                |
| 2,347.00                        | 62.20      | 288.20               | 2,201.21      | 98.14         | -317.50       | 321.77           | 10.70               |
| 2,379.00                        | 64.40      | 287.60               | 2,215.59      | 106.93        | -344.70       | 349.35           | 7.08                |
| 2,410.00                        | 67.70      | 286.40               | 2,228.17      | 115.21        | -371.79       | 376.80           | 11.22               |
| 2,441.00                        | 70.90      | 285.50               | 2,239.12      | 123.17        | -399.67       | 405.03           | 10.67               |
| 2,473.00                        | 73.40      | 285.00               | 2,248.93      | 131.18        | -429.05       | 434.76           | 7.95                |
| 2,504.00                        | 76.30      | 284.30               | 2,257.03      | 138.75        | -458.00       | 464.03           | 9.61                |
| 2,535.00                        | 78.60      | 284.20               | 2,263.77      | 146.20        | -487.33       | 493.67           | 7.43                |
| 2,566.00                        | 81.10      | 284.00               | 2,269.23      | 153.63        | -516.92       | 523.58           | 8.09                |
| 2,598.00                        | 83.30      | 283.00               | 2,273.57      | 161.03        | -547.75       | 554.72           | 7.54                |
| 2,629.00                        | 84.50      | 281.30               | 2,276.87      | 167.52        | -577.88       | 585.13           | 6.69                |
| 2,644.44                        | 85.63      | 279.93               | 2,278.20      | 170.35        | -593.00       | 600.36           | 11.45               |
| 2644.44 MD, 330' Crossing Point |            |                      |               |               |               |                  |                     |
| 2,655.00                        | 86.40      | 279.00               | 2,278.93      | 172.08        | -603.39       | 610.82           | 11.45               |
| 2,686.00                        | 88.50      | 277.10               | 2,280.31      | 176.42        | -634.05       | 641.65           | 9.13                |
| 2,748.00                        | 90.70      | 277.10               | 2,280.74      | 184.08        | -695.57       | 703.47           | 3.55                |
| 2,842.00                        | 91.70      | 277.10               | 2,278.78      | 195.70        | -788.83       | 797.17           | 1.06                |
| 2,935.00                        | 91.00      | 274.60               | 2,276.58      | 205.17        | -881.31       | 889.99           | 2.79                |
| 3,029.00                        | 91.20      | 272.40               | 2,274.78      | 210.91        | -975.11       | 983.96           | 2.35                |
| 3,123.00                        | 91.20      | 270.60               | 2,272.81      | 213.37        | -1,069.05     | 1,077.92         | 1.91                |
| 3,216.00                        | 91.10      | 270.50               | 2,270.94      | 214.26        | -1,162.03     | 1,170.83         | 0.15                |
| 3,310.00                        | 90.90      | 270.30               | 2,269.30      | 214.92        | -1,256.01     | 1,264.74         | 0.30                |
| 3,403.00                        | 90.60      | 269.50               | 2,268.09      | 214.76        | -1,349.00     | 1,357.62         | 0.92                |
| 3,497.00                        | 90.60      | 269.70               | 2,267.10      | 214.10        | -1,443.00     | 1,451.48         | 0.21                |
| 3,590.00                        | 90.30      | 268.90               | 2,266.37      | 212.96        | -1,535.99     | 1,544.31         | 0.92                |
| 3,684.00                        | 90.20      | 268.90               | 2,265.96      | 211.16        | -1,629.97     | 1,638.10         | 0.11                |
| 3,777.00                        | 92.80      | 270.90               | 2,263.53      | 211.00        | -1,722.92     | 1,730.95         | 3.53                |



# Phoenix Technology Services

## Phoenix Final Survey Report



|                  |                             |                                     |                                  |
|------------------|-----------------------------|-------------------------------------|----------------------------------|
| <b>Company:</b>  | Yates Petroleum Corp.       | <b>Local Co-ordinate Reference:</b> | Well #7H                         |
| <b>Project:</b>  | Eddy County, NM (NAD83 NME) | <b>TVD Reference:</b>               | KB @ 3545.50usft (Silver Oak 11) |
| <b>Site:</b>     | Thomas AJJ                  | <b>MD Reference:</b>                | KB @ 3545.50usft (Silver Oak 11) |
| <b>Well:</b>     | #7H                         | <b>North Reference:</b>             | Grid                             |
| <b>Wellbore:</b> | WB1/Job #1410260            | <b>Survey Calculation Method:</b>   | Minimum Curvature                |
| <b>Design:</b>   | Surveys (Silver Oak 11)     | <b>Database:</b>                    | GCR DB                           |

| Survey                  |            |                      |               |               |               |                  |                     |  |
|-------------------------|------------|----------------------|---------------|---------------|---------------|------------------|---------------------|--|
| MD<br>(usft)            | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) |  |
| 3,871.00                | 93.20      | 272.40               | 2,258.61      | 213.70        | -1,816.75     | 1,824.80         | 1.65                |  |
| 3,964.00                | 92.00      | 271.70               | 2,254.39      | 217.02        | -1,909.59     | 1,917.70         | 1.49                |  |
| 4,058.00                | 92.00      | 271.80               | 2,251.11      | 219.89        | -2,003.49     | 2,011.63         | 0.11                |  |
| 4,151.00                | 91.40      | 271.00               | 2,248.35      | 222.16        | -2,096.42     | 2,104.56         | 1.07                |  |
| 4,245.00                | 91.10      | 270.80               | 2,246.30      | 223.64        | -2,190.39     | 2,198.49         | 0.38                |  |
| 4,339.00                | 90.60      | 270.80               | 2,244.90      | 224.95        | -2,284.37     | 2,292.43         | 0.53                |  |
| 4,433.00                | 91.30      | 270.60               | 2,243.35      | 226.10        | -2,378.35     | 2,386.36         | 0.77                |  |
| 4,526.00                | 91.30      | 271.00               | 2,241.24      | 227.40        | -2,471.32     | 2,479.28         | 0.43                |  |
| 4,620.00                | 91.30      | 271.00               | 2,239.10      | 229.04        | -2,565.28     | 2,573.22         | 0.00                |  |
| 4,714.00                | 91.10      | 271.40               | 2,237.13      | 231.00        | -2,659.24     | 2,667.17         | 0.48                |  |
| 4,808.00                | 90.60      | 271.30               | 2,235.74      | 233.22        | -2,753.20     | 2,761.13         | 0.54                |  |
| 4,902.00                | 91.70      | 271.20               | 2,233.85      | 235.27        | -2,847.16     | 2,855.08         | 1.18                |  |
| 4,995.00                | 92.90      | 269.30               | 2,230.12      | 235.67        | -2,940.07     | 2,947.91         | 2.41                |  |
| 5,089.00                | 92.60      | 268.70               | 2,225.61      | 234.04        | -3,033.95     | 3,041.61         | 0.71                |  |
| 5,182.00                | 92.30      | 268.80               | 2,221.64      | 232.01        | -3,126.84     | 3,134.30         | 0.34                |  |
| 5,276.00                | 92.30      | 269.20               | 2,217.86      | 230.37        | -3,220.75     | 3,228.03         | 0.43                |  |
| 5,370.00                | 92.30      | 269.60               | 2,214.09      | 229.39        | -3,314.67     | 3,321.80         | 0.43                |  |
| 5,463.00                | 91.70      | 269.00               | 2,210.84      | 228.25        | -3,407.61     | 3,414.58         | 0.91                |  |
| 5,557.00                | 91.30      | 268.10               | 2,208.38      | 225.87        | -3,501.54     | 3,508.30         | 1.05                |  |
| 5,651.00                | 91.70      | 270.20               | 2,205.92      | 224.48        | -3,595.50     | 3,602.08         | 2.27                |  |
| 5,744.00                | 91.40      | 269.80               | 2,203.41      | 224.48        | -3,688.46     | 3,694.94         | 0.54                |  |
| 5,837.00                | 91.30      | 269.50               | 2,201.22      | 223.91        | -3,781.43     | 3,787.78         | 0.34                |  |
| 5,931.00                | 91.90      | 271.20               | 2,198.59      | 224.48        | -3,875.39     | 3,881.66         | 1.92                |  |
| 6,025.00                | 91.90      | 271.60               | 2,195.47      | 226.78        | -3,969.31     | 3,975.59         | 0.43                |  |
| 6,118.00                | 91.30      | 271.80               | 2,192.88      | 229.54        | -4,062.23     | 4,068.54         | 0.68                |  |
| 6,212.00                | 91.30      | 272.00               | 2,190.75      | 232.65        | -4,156.16     | 4,162.50         | 0.21                |  |
| 6,305.00                | 90.90      | 270.00               | 2,188.96      | 234.28        | -4,249.12     | 4,255.44         | 2.19                |  |
| 6,399.00                | 90.60      | 269.70               | 2,187.73      | 234.03        | -4,343.11     | 4,349.32         | 0.45                |  |
| 6,492.00                | 90.40      | 269.10               | 2,186.92      | 233.06        | -4,436.11     | 4,442.16         | 0.68                |  |
| 6,586.00                | 91.10      | 269.70               | 2,185.69      | 232.07        | -4,530.09     | 4,535.99         | 0.98                |  |
| 6,680.00                | 91.40      | 269.90               | 2,183.64      | 231.74        | -4,624.07     | 4,629.85         | 0.38                |  |
| 6,773.00                | 92.00      | 270.10               | 2,180.88      | 231.74        | -4,717.03     | 4,722.71         | 0.68                |  |
| 6,822.00                | 92.40      | 270.40               | 2,179.00      | 231.96        | -4,765.99     | 4,771.63         | 1.02                |  |
| Last Phoenix MWD Survey |            |                      |               |               |               |                  |                     |  |
| 6,893.00                | 92.40      | 270.40               | 2,176.02      | 232.45        | -4,836.93     | 4,842.51         | 0.00                |  |
| Projection to TD        |            |                      |               |               |               |                  |                     |  |



# Phoenix Technology Services

## Phoenix Final Survey Report



|           |                             |                              |                                  |
|-----------|-----------------------------|------------------------------|----------------------------------|
| Company:  | Yates Petroleum Corp.       | Local Co-ordinate Reference: | Well #7H                         |
| Project:  | Eddy County, NM (NAD83 NME) | TVD Reference:               | KB @ 3545.50usft (Silver Oak 11) |
| Site:     | Thomas A.JJ.                | MD Reference:                | KB @ 3545.50usft (Silver Oak 11) |
| Well:     | #7H                         | North Reference:             | Grid                             |
| Wellbore: | WB1/Job #1410260            | Survey Calculation Method:   | Minimum Curvature                |
| Design:   | Surveys (Silver Oak 11)     | Database:                    | GCR DB                           |

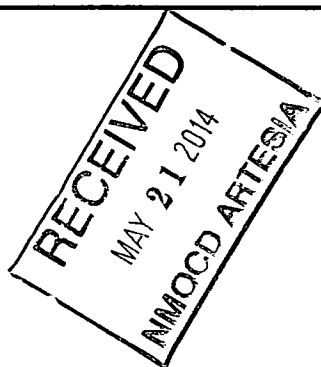
| Survey Annotations    |                       |                   |              |                                 |
|-----------------------|-----------------------|-------------------|--------------|---------------------------------|
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates |              | Comment                         |
|                       |                       | +N/-S (usft)      | +E/-W (usft) |                                 |
| 900.00                | 899.90                | -6.18             | 6.52         | Tie-on to Gyro                  |
| 1,038.00              | 1,037.84              | -9.33             | 8.81         | First Phoenix MWD Suvey         |
| 2,644.44              | 2,278.20              | 170.35            | -593.00      | 2644.44 MD, 330' Crossing Point |
| 6,822.00              | 2,179.00              | 231.96            | -4,765.99    | Last Phoenix MWD Suvey          |
| 6,893.00              | 2,176.02              | 232.45            | -4,836.93    | Projection to TD                |

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



Job Number: SVMO-140240  
 Company: Yates Petroleum Corporation  
 Lease/Well: Thomas AJJ 7H  
 Location: Eddy County, NM  
 Rig Name: Silver Oak #11  
 RKB: 18.5'  
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA  
 Declination: 7.81°  
 Grid: East To Grid North  
 File name: S:\2014SU~1\YATES\MO\THOMAS~1\7H.SVY  
 Date/Time: 25-Feb-14 / 12:30  
 Curve Name: Surface - 900' M.D. (Rate Gyro)

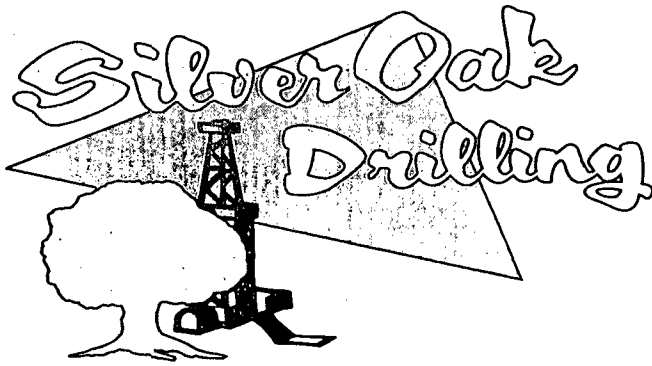


### MS SURVEY

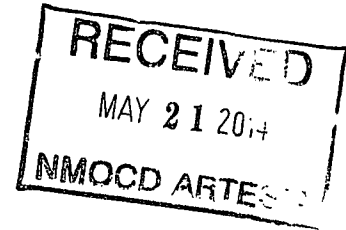
WINSERVE SURVEY CALCULATIONS  
 Minimum Curvature Method  
 Vertical Section Plane 272.70  
 Vertical Section Referenced to Wellhead  
 Rectangular Coordinates Referenced to Wellhead

We hereby certify that our survey data from  
 Surface MD to 900' MD is, to the best of  
 our knowledge a true and accurate account of the  
 well bore.  
 Clayton Smith 2/25/14  
 MS Energy Services Date

| Measured<br>Depth<br>FT    | Incl<br>Angle<br>Deg | Drift<br>Direction<br>Deg | True<br>Vertical<br>Depth | N-S<br>FT | E-W<br>FT | Vertical<br>Section<br>FT | CLOSURE        |                  | Dogleg<br>Severity<br>Deg/100 |
|----------------------------|----------------------|---------------------------|---------------------------|-----------|-----------|---------------------------|----------------|------------------|-------------------------------|
|                            |                      |                           |                           |           |           |                           | Distance<br>FT | Direction<br>Deg |                               |
| .00                        | .00                  | .00                       | .00                       | .00       | .00       | .00                       | .00            | .00              | .00                           |
| 100.00                     | .07                  | 236.60                    | 100.00                    | -.03      | -.05      | .05                       | .06            | 236.60           | .07                           |
| 200.00                     | .09                  | 64.20                     | 200.00                    | -.03      | -.03      | .03                       | .05            | 223.41           | .16                           |
| 300.00                     | .16                  | 66.41                     | 300.00                    | .06       | .17       | -.16                      | .18            | 71.20            | .07                           |
| 400.00                     | .11                  | 75.80                     | 400.00                    | .14       | .39       | -.38                      | .41            | 70.65            | .05                           |
| 500.00                     | .32                  | 147.80                    | 500.00                    | -.08      | .63       | -.63                      | .63            | 96.91            | .30                           |
| 600.00                     | .94                  | 132.94                    | 599.99                    | -.87      | 1.38      | -1.42                     | 1.63           | 122.28           | .64                           |
| 700.00                     | 1.26                 | 135.97                    | 699.97                    | -2.22     | 2.74      | -2.85                     | 3.53           | 128.98           | .33                           |
| 800.00                     | 1.62                 | 136.31                    | 799.94                    | -4.03     | 4.48      | -4.67                     | 6.03           | 131.97           | .36                           |
| Last Survey Depth Recorded |                      |                           |                           |           |           |                           |                |                  |                               |
| 900.00                     | 1.77                 | 136.56                    | 899.90                    | -6.18     | 6.52      | -6.81                     | 8.98           | 133.44           | .15                           |



PO Box 1370  
Artesia, NM 88211-1370  
(505) 748-1288



March 6, 2014

Yates Petroleum Corporation  
105 S. 4th  
Artesia, NM 88211-1395

RE: Thomas AJJ #7H  
1500' FSL & 150' FEL  
Sec. 8, T19S, R25E  
Eddy County, New Mexico

Dear Sir,

The attached is the Deviation Survey for the above captioned well.

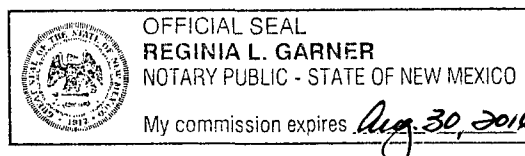
Very truly yours,

A handwritten signature in cursive script, appearing to read "Eddie C. LaRue".

Eddie C. LaRue  
Operations Manager

State of New Mexico }  
County of Eddy }

The foregoing was acknowledged before me this 6<sup>th</sup> day of March, 2014.

A handwritten signature in cursive script, appearing to read "Regina L. Garner".  
\_\_\_\_\_  
Notary Public

Thomas AJJ #7H

| Depth | Incl(deg) | Azm(deg) | TVD(ftKB) |
|-------|-----------|----------|-----------|
| 249   | 0.30      | 0.00     | 0.00      |
| 434   | 0.20      | 0.00     | 0.00      |
| 660   | 1.00      | 0.00     | 0.00      |
| 862   | 1.60      | 0.00     | 0.00      |
| 1038  | 1.50      | 153.00   | 1037.84   |
| 1132  | 1.70      | 155.00   | 1131.81   |
| 1225  | 0.30      | 214.70   | 0.00      |
| 1318  | 0.30      | 222.30   | 0.00      |
| 1506  | 0.10      | 244.20   | 0.00      |
| 1708  | 0.20      | 284.10   | 1708.00   |
| 1756  | 0.30      | 316.20   | 1756.00   |
| 1787  | 2.60      | 288.40   | 1786.98   |
| 1818  | 9.80      | 283.10   | 1817.78   |
| 1849  | 16.80     | 281.30   | 1847.93   |
| 1880  | 22.80     | 284.10   | 1877.09   |
| 1912  | 26.50     | 284.90   | 1906.17   |
| 1943  | 29.60     | 286.50   | 1933.52   |
| 1974  | 33.00     | 285.50   | 1960.01   |
| 2005  | 35.70     | 285.60   | 1985.60   |
| 2036  | 38.90     | 286.50   | 2010.25   |
| 2067  | 43.00     | 290.00   | 2033.67   |
| 2098  | 47.00     | 293.50   | 2055.59   |
| 2130  | 51.00     | 293.80   | 2076.58   |
| 2161  | 51.30     | 292.90   | 2096.02   |
| 2192  | 51.70     | 290.90   | 2115.32   |
| 2224  | 53.20     | 289.50   | 2134.82   |
| 2285  | 57.00     | 289.00   | 2169.72   |
| 2316  | 59.00     | 289.20   | 2186.14   |
| 2347  | 62.20     | 288.20   | 2201.36   |
| 2379  | 64.40     | 287.60   | 2215.74   |
| 2410  | 67.70     | 286.40   | 2228.32   |
| 2441  | 70.90     | 285.50   | 2239.28   |
| 2472  | 73.40     | 285.00   | 2248.78   |
| 2503  | 76.30     | 284.30   | 2256.88   |
| 2534  | 78.60     | 284.20   | 2263.62   |
| 2566  | 81.10     | 284.00   | 2269.25   |
| 2597  | 83.30     | 283.00   | 2273.46   |
| 2628  | 84.50     | 281.30   | 2276.76   |
| 2748  | 90.70     | 277.10   | 2281.78   |
| 2842  | 91.70     | 277.10   | 2279.81   |
| 2935  | 91.00     | 274.60   | 2277.62   |
| 3029  | 91.20     | 272.40   | 2275.82   |
| 3216  | 91.10     | 270.50   | 2272.06   |

| Depth | Incl(deg) | Azm(deg) | TVD(ftKB) |
|-------|-----------|----------|-----------|
| 3310  | 90.90     | 270.30   | 2270.42   |
| 3403  | 90.60     | 269.50   | 2269.20   |
| 3497  | 90.60     | 269.70   | 2268.22   |
| 3590  | 90.30     | 268.90   | 2267.49   |
| 3684  | 90.20     | 268.90   | 2267.08   |
| 3777  | 92.80     | 270.90   | 2264.65   |
| 3871  | 93.20     | 272.40   | 2259.73   |
| 3964  | 92.00     | 271.70   | 2255.51   |
| 4058  | 92.00     | 271.80   | 2252.23   |
| 4151  | 91.40     | 271.00   | 2249.47   |
| 4245  | 91.10     | 270.80   | 2249.47   |
| 4339  | 90.60     | 270.80   | 2246.68   |
| 4433  | 91.30     | 270.60   | 2245.12   |
| 4526  | 91.30     | 271.00   | 2243.01   |
| 4714  | 91.10     | 271.40   | 2239.07   |
| 4808  | 90.60     | 271.30   | 2237.68   |
| 4902  | 91.70     | 271.20   | 2235.79   |
| 4995  | 92.90     | 269.30   | 2232.06   |
| 5089  | 92.60     | 268.70   | 2227.55   |
| 5182  | 92.30     | 268.80   | 2223.57   |
| 5276  | 92.30     | 269.20   | 2219.80   |
| 5370  | 92.30     | 269.60   | 2216.03   |
| 5463  | 91.70     | 269.00   | 2212.78   |
| 5557  | 91.30     | 268.10   | 2210.32   |
| 5651  | 91.70     | 270.20   | 2207.86   |
| 5744  | 91.40     | 269.90   | 2205.35   |
| 5837  | 91.30     | 269.50   | 2203.16   |
| 5931  | 91.90     | 271.20   | 2200.53   |
| 6025  | 91.90     | 271.60   | 2197.41   |
| 6118  | 91.30     | 271.80   | 2194.82   |
| 6212  | 91.30     | 272.00   | 2192.68   |
| 6305  | 90.90     | 270.00   | 2190.90   |
| 6399  | 90.60     | 269.70   | 2189.67   |
| 6492  | 90.40     | 269.10   | 2188.86   |
| 6586  | 91.10     | 269.70   | 2187.63   |
| 6680  | 91.40     | 269.90   | 2185.58   |
| 6773  | 92.00     | 270.10   | 2182.82   |
| 6822  | 92.40     | 270.40   | 2180.94   |

# EOF



Project: Eddy County, NM (NAD83 NME)  
Site: Thomas AJJ  
Well: #7H  
Wellbore: WB1/Job #1410260  
Design: Plan #2 02-25-14  
Rig: Silver Oak 11



Azimuths to Grid North  
True North: 0.09°  
Magnetic North: 7.81°  
Magnetic Field  
Strength: 48516.4nT  
Dip Angle: 60.38°  
Date: 02/11/2014  
Model: IGRF2010\_14

#### WELL DETAILS

| +N-S | +E-W | Northing  | Ground Level | Easting   | Latitude           | Longitude           |
|------|------|-----------|--------------|-----------|--------------------|---------------------|
| 0.00 | 0.00 | 608408.90 | 3527.00      | 490430.90 | 32° 40' 20.82818 N | 104° 29' 55.58360 W |

#### SECTION DETAILS

| Sec | MD      | Inc   | Azi    | TVD     | +N-S   | +E-W     | Dleg  | TFace  | Vsect   | Target              | Annotation                       |
|-----|---------|-------|--------|---------|--------|----------|-------|--------|---------|---------------------|----------------------------------|
| 1   | 1708.00 | 0.20  | 284.10 | 1707.79 | -14.01 | 8.92     | 0.00  | 0.00   | -9.57   |                     | Tie-on to Current Survey         |
| 2   | 1780.00 | 0.20  | 284.10 | 1779.79 | -13.95 | 8.67     | 0.00  | 0.00   | -9.32   |                     | Projection to Bt                 |
| 3   | 1811.75 | 0.20  | 284.10 | 1811.54 | -13.92 | 8.57     | 0.00  | 0.00   | -9.21   |                     | KOP: 11.951100' Build            |
| 4   | 2575.42 | 91.49 | 287.30 | 2289.00 | 132.22 | -460.97  | 11.95 | 3.20   | 466.69  |                     | Begin 3 1/2" Turn                |
| 5   | 3146.96 | 91.49 | 270.15 | 2274.04 | 218.56 | -1023.60 | 3.00  | -89.78 | 1032.77 |                     | LP, Hold 91.49° Inc, 270.15° Azm |
| 6   | 6962.66 | 91.49 | 270.15 | 2175.00 | 228.40 | -4838.00 | 0.00  | 0.00   | 4843.39 | PBHL-Thomas AJJ #7H | TD at 6962.66                    |

#### DESIGN TARGET DETAILS

| Name                    | TVD     | +N-S   | +E-W     | Northing  | Easting   | Latitude           | Longitude           | Shape |
|-------------------------|---------|--------|----------|-----------|-----------|--------------------|---------------------|-------|
| PBHL-Thomas AJJ #7H     | 2175.00 | 228.40 | -4838.00 | 608637.30 | 485592.90 | 32° 40' 23.01009 N | 104° 30' 52.19028 W | Point |
| plan hits target center |         |        |          |           |           |                    |                     |       |

Map System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone Name: New Mexico Eastern Zone

Local Origin: Well #7H, Grid North

Latitude: 32° 40' 20.82818 N  
Longitude: 104° 29' 55.58360 W

Grid East: 490430.90  
Grid North: 608408.90  
Scale Factor: 1.000

Geomagnetic Model: IGRF2010\_14  
Sample Date: 11-Feb-14

Magnetic Declination: 7.72°  
Dip Angle from Horizontal: 60.38°  
Magnetic Field Strength: 48516

To convert a Magnetic Direction to a Grid Direction, Add 7.81°  
To convert a Magnetic Direction to a True Direction, Add 7.72° East  
To convert a True Direction to a Grid Direction, Add 0.09°

#### FORMATION TOP DETAILS

| TVDPath | MDPath  | Formation                    | DipAngle | DipDir |
|---------|---------|------------------------------|----------|--------|
| 2078.18 | 2094.86 | Glorieta                     | -1.48    | 272.39 |
| 2175.99 | 2226.74 | Yeso                         | -1.48    | 272.39 |
| 2288.76 | 2543.31 | TL 2300' TVD @ 0 VZ, 90° Inc | -1.48    | 272.39 |

#### CASING DETAILS

| TVD     | MD      | Name                | Size  |
|---------|---------|---------------------|-------|
| 1000.00 |         | 9 5/8" Surface      | 9-5/8 |
| 2288.00 | 2575.47 | 5 1/2" Production 1 | 5-1/2 |
| 2175.29 | 6951.57 | 5 1/2" Production 2 | 5-1/2 |

#### LEGEND

— #6, WB1, Inc Surveys V0  
— #3, WB1, Inc Surveys V0  
— #7H, WB1/Job #1410260, Surveys (Silver Oak 11) V0  
— Plan #2 02-25-14

