

## Results of Directional Survey

|             |                     |           |                                            |
|-------------|---------------------|-----------|--------------------------------------------|
| API number: | <b>30-025-41342</b> |           |                                            |
| OGRID:      |                     | Operator: | <b>DEVON ENERGY PRODUCTION COMPANY, LP</b> |
|             |                     | Property: | <b>THISTLE UNIT # 58H</b>                  |

|         |        |          |           |            |            |             |            |
|---------|--------|----------|-----------|------------|------------|-------------|------------|
| surface | ULSTR: | <b>O</b> | <b>22</b> | <b>T</b>   | <b>23S</b> | <b>R</b>    | <b>33E</b> |
|         |        |          |           | <b>150</b> | <b>FSL</b> | <b>2100</b> | <b>FEL</b> |

|              |           |                |            |             |            |            |            |
|--------------|-----------|----------------|------------|-------------|------------|------------|------------|
| BH Loc       | ULSTR:    | <b>P</b>       | <b>27</b>  | <b>T</b>    | <b>23S</b> | <b>R</b>   | <b>33E</b> |
| <b>16290</b> | <b>MD</b> | <b>11265.3</b> | <b>TVD</b> | <b>347</b>  | <b>FSL</b> | <b>592</b> | <b>FEL</b> |
|              |           |                |            | <b>4933</b> | <b>FNL</b> |            |            |

|              |           |                |            |            |            |            |            |
|--------------|-----------|----------------|------------|------------|------------|------------|------------|
| Top Perf/OH  | ULSTR:    | <b>O</b>       | <b>22</b>  | <b>T</b>   | <b>23S</b> | <b>R</b>   | <b>33E</b> |
| <b>11736</b> | <b>MD</b> | <b>11229.0</b> | <b>TVD</b> | <b>383</b> | <b>FNL</b> | <b>713</b> | <b>FEL</b> |

|              |           |                |            |             |            |            |            |
|--------------|-----------|----------------|------------|-------------|------------|------------|------------|
| Bot Perf/OH  | ULSTR:    | <b>P</b>       | <b>27</b>  | <b>T</b>    | <b>23S</b> | <b>R</b>   | <b>33E</b> |
| <b>16132</b> | <b>MD</b> | <b>11270.0</b> | <b>TVD</b> | <b>506</b>  | <b>FSL</b> | <b>590</b> | <b>FEL</b> |
|              |           |                |            | <b>4774</b> | <b>FNL</b> |            |            |

|              |              |          |         |          |
|--------------|--------------|----------|---------|----------|
|              | MD           | N/S      | E/W     | VD       |
|              | 11718        | -514.68  | 1385.91 | 11227.68 |
| TOP PERFS/OH | <b>11736</b> | -532.62  | 1386.64 | 11228.98 |
|              | 11749        | -545.57  | 1387.16 | 11229.92 |
|              | 16061        | -4854.21 | 1511.17 | 11272.18 |
| BOT PERFS/OH | <b>16132</b> | -4923.92 | 1510.12 | 11270.01 |
|              | 16231        | -5021.11 | 1508.65 | 11266.98 |

|              |              |          |         |          |
|--------------|--------------|----------|---------|----------|
| NEXT TO LAST | 16231        | -5021.11 | 1508.65 | 11266.98 |
| LAST READING | 16290        | -5083.08 | 1507.83 | 11265.27 |
| TD           | <b>16290</b> | -5083.08 | 1507.83 | 11265.27 |

|                  |      |    |      |    |
|------------------|------|----|------|----|
| Surface Location | 150  | FS | 2100 | FE |
| Projected BHL    | 4933 | FN | 592  | FE |
| Location of      |      |    |      |    |
| Top Perfs/OH     | 383  | FN | 713  | FE |
| Bottom Perfs/OH  | 4774 | FN | 590  | FE |

### SUMMARY of Subsurface Locations

|                  |              |      |    |      |    |             |
|------------------|--------------|------|----|------|----|-------------|
| Surface Location | O-22-23S-33E | 150  | FS | 2100 | FE | Vert. Depth |
|                  |              |      |    |      |    |             |
| Top Perfs/OH     | O-22-23S-33E | 383  | FN | 713  | FE | 11228.98    |
| Bottom Perfs/OH  | P-27-23S-33E | 4774 | FN | 590  | FE | 11270.01    |
|                  |              |      |    |      |    |             |
| Projected TD     | P-27-23S-33E | 4933 | FN | 592  | FE | 11265.27    |

JUL 15 2014'



## THISTLE UNIT 58H

WEST UNRESTRICTED

## Directional Survey

|                                           |                       |                                  |                                     |                            |                       |                               |                            |
|-------------------------------------------|-----------------------|----------------------------------|-------------------------------------|----------------------------|-----------------------|-------------------------------|----------------------------|
| District<br>PERMIAN BASIN                 | County<br>LEA         | Field Name<br>JOHNSON RANCH      | Project Group<br>DELAWARE BASIN     | State/Province<br>NM       |                       |                               |                            |
| Surface Legal Location<br>SEC22 T23S R33E | API/UWI<br>3002541342 | Latitude (°)<br>32° 17' 0.525" N | Longitude (°)<br>103° 33' 30.749" W | Ground Elev...<br>3,689.00 | KB - GL (ft)<br>25.00 | Orig KB Elev (ft)<br>3,714.00 | Tubing Head Elevation (ft) |

## Wellbores

|                                                    |                    |                      |                           |                                          |
|----------------------------------------------------|--------------------|----------------------|---------------------------|------------------------------------------|
| Wellbore Name<br>OH                                | Parent Wellbore    | SAP Well ID<br>33982 | Kick Off Depth (ftKB)     | Vertical Section Direction (°)<br>163.81 |
| Actual Deviation Survey<br>BAKER MWD, Proposed? No | Definitive?<br>Yes | Proposed?<br>No      | Proposed Deviation Survey |                                          |

## Deviation Survey

|                              |                               |                                |                             |                        |                        |  |
|------------------------------|-------------------------------|--------------------------------|-----------------------------|------------------------|------------------------|--|
| Date<br>12/27/2013           |                               | Description<br>BAKER MWD       |                             |                        |                        |  |
| MD Tie In (ftKB)<br>1,535.00 | TVD Tie In (ftKB)<br>1,534.97 | Inclination Tie In (°)<br>1.26 | Azimuth Tie In (°)<br>82.52 | NSTie In (ft)<br>-2.73 | EW Tie In (ft)<br>3.08 |  |

## Survey Data

| Date       | MD (ftKB) | Incl (°) | Azm (°) | TVD (ftKB) | VS (ft) | N/S (ft) | E/W (ft) | DLS<br>(°/100ft) | Survey<br>Tool | Survey Company     |
|------------|-----------|----------|---------|------------|---------|----------|----------|------------------|----------------|--------------------|
| 12/27/2... | 1,535.00  | 1.26     | 82.52   | 1,534.97   | 3.48    | -2.73    | 3.08     | 0.00             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 1,629.00  | 3.27     | 80.46   | 1,628.89   | 3.95    | -2.15    | 6.75     | 2.14             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 1,724.00  | 5.49     | 85.01   | 1,723.61   | 5.14    | -1.31    | 13.95    | 2.36             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 1,818.00  | 6.44     | 84.69   | 1,817.10   | 7.01    | -0.43    | 23.68    | 1.01             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 1,912.00  | 6.17     | 85.81   | 1,910.53   | 9.06    | 0.43     | 33.96    | 0.32             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 2,006.00  | 6.53     | 85.34   | 2,003.95   | 11.18   | 1.23     | 44.33    | 0.39             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 2,100.00  | 7.88     | 84.89   | 2,097.21   | 13.48   | 2.24     | 56.08    | 1.44             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 2,194.00  | 7.85     | 83.31   | 2,190.32   | 15.78   | 3.56     | 68.87    | 0.23             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 2,289.00  | 7.46     | 83.06   | 2,284.48   | 17.84   | 5.06     | 81.44    | 0.41             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 2,383.00  | 7.06     | 87.46   | 2,377.72   | 20.19   | 6.06     | 93.26    | 0.73             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 2,478.00  | 6.89     | 88.94   | 2,472.02   | 23.05   | 6.42     | 104.79   | 0.26             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 2,572.00  | 6.47     | 87.88   | 2,565.38   | 25.81   | 6.72     | 115.72   | 0.47             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 2,666.00  | 6.04     | 85.54   | 2,658.82   | 28.10   | 7.30     | 125.95   | 0.53             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 2,761.00  | 5.84     | 87.39   | 2,753.31   | 30.26   | 7.91     | 135.76   | 0.29             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 2,855.00  | 5.26     | 87.08   | 2,846.87   | 32.37   | 8.35     | 144.84   | 0.62             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 2,950.00  | 6.06     | 86.39   | 2,941.41   | 34.46   | 8.89     | 154.19   | 0.85             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 3,044.00  | 7.51     | 92.28   | 3,034.75   | 37.49   | 8.95     | 165.28   | 1.71             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 3,138.00  | 7.35     | 93.11   | 3,127.96   | 41.42   | 8.38     | 177.42   | 0.20             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 3,232.00  | 6.95     | 93.26   | 3,221.23   | 45.30   | 7.73     | 189.11   | 0.43             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 3,327.00  | 6.67     | 91.52   | 3,315.56   | 48.89   | 7.26     | 200.36   | 0.37             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 3,421.00  | 6.36     | 89.80   | 3,408.95   | 51.99   | 7.13     | 211.02   | 0.39             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 3,516.00  | 5.71     | 87.27   | 3,503.42   | 54.54   | 7.38     | 221.01   | 0.74             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 3,610.00  | 5.80     | 89.26   | 3,596.95   | 56.89   | 7.66     | 230.43   | 0.23             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 3,705.00  | 6.69     | 93.22   | 3,691.39   | 60.01   | 7.41     | 240.75   | 1.04             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 3,799.00  | 7.41     | 94.92   | 3,784.68   | 64.01   | 6.58     | 252.26   | 0.80             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 3,893.00  | 7.33     | 92.75   | 3,877.90   | 68.14   | 5.78     | 264.29   | 0.31             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 3,987.00  | 6.63     | 93.98   | 3,971.20   | 71.96   | 5.11     | 275.69   | 0.76             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 4,082.00  | 6.90     | 93.67   | 4,065.54   | 75.79   | 4.37     | 286.85   | 0.29             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 4,176.00  | 7.59     | 93.35   | 4,158.79   | 79.78   | 3.64     | 298.69   | 0.74             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 4,271.00  | 7.67     | 93.15   | 4,252.95   | 83.98   | 2.93     | 311.28   | 0.09             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 4,365.00  | 7.20     | 92.72   | 4,346.16   | 87.97   | 2.30     | 323.43   | 0.50             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 4,459.00  | 7.12     | 95.91   | 4,439.42   | 92.07   | 1.42     | 335.11   | 0.43             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 4,554.00  | 7.04     | 95.37   | 4,533.70   | 96.42   | 0.27     | 346.76   | 0.11             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 4,648.00  | 6.82     | 89.10   | 4,627.02   | 100.01  | -0.18    | 358.07   | 0.84             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 4,742.00  | 7.21     | 87.58   | 4,720.31   | 102.89  | 0.16     | 369.55   | 0.46             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 4,837.00  | 7.36     | 90.45   | 4,814.54   | 106.05  | 0.36     | 381.59   | 0.41             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 4,931.00  | 7.60     | 88.59   | 4,907.74   | 109.36  | 0.47     | 393.82   | 0.36             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 5,025.00  | 7.50     | 86.84   | 5,000.93   | 112.33  | 0.96     | 406.16   | 0.27             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 5,120.00  | 6.49     | 84.94   | 5,095.22   | 114.76  | 1.77     | 417.70   | 1.09             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 5,170.00  | 6.12     | 87.34   | 5,144.92   | 115.93  | 2.15     | 423.18   | 0.91             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 5,313.00  | 5.24     | 83.10   | 5,287.22   | 118.77  | 3.29     | 437.28   | 0.68             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 5,408.00  | 6.92     | 93.34   | 5,381.68   | 121.38  | 3.47     | 447.30   | 2.10             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 5,502.00  | 7.06     | 94.69   | 5,474.98   | 125.33  | 2.67     | 458.71   | 0.23             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 5,596.00  | 7.09     | 93.83   | 5,568.27   | 129.38  | 1.81     | 470.25   | 0.12             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 5,691.00  | 7.05     | 94.47   | 5,662.54   | 133.44  | 0.97     | 481.92   | 0.09             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 5,785.00  | 7.30     | 86.01   | 5,755.81   | 136.74  | 0.93     | 493.63   | 1.15             | MWD            | BAKER HUGHES INTEQ |
| 12/27/2... | 5,879.00  | 7.35     | 83.37   | 5,849.04   | 139.00  | 2.04     | 505.56   | 0.36             | MWD            | BAKER HUGHES INTEQ |



## THISTLE UNIT 58H

WEST UNRESTRICTED

## Directional Survey

|                                           |                       |                                  |                                     |                            |                       |                               |                            |
|-------------------------------------------|-----------------------|----------------------------------|-------------------------------------|----------------------------|-----------------------|-------------------------------|----------------------------|
| District<br>PERMIAN BASIN                 | County<br>LEA         | Field Name<br>JOHNSON RANCH      | Project Group<br>DELAWARE BASIN     | State/Province<br>NM       |                       |                               |                            |
| Surface Legal Location<br>SEC22 T23S R33E | API/UWI<br>3002541342 | Latitude (°)<br>32° 17' 0.525" N | Longitude (°)<br>103° 33' 30.749" W | Ground Elev...<br>3,689.00 | KB - GL (ft)<br>25.00 | Orig KB Elev (ft)<br>3,714.00 | Tubing Head Elevation (ft) |

## Survey Data

| Date        | MD (ftKB) | Incl (°) | Azm (°) | TVD (ftKB) | VS (ft) | N/S (ft) | E/W (ft) | DLS<br>(*100ft) | Survey<br>Tool | Survey Company     |
|-------------|-----------|----------|---------|------------|---------|----------|----------|-----------------|----------------|--------------------|
| 12/27/12... | 5,974.00  | 7.23     | 84.39   | 5,943.28   | 141.11  | 3.33     | 517.54   | 0.19            | MWD            | BAKER HUGHES INTEQ |
| 12/27/12... | 6,068.00  | 7.30     | 81.73   | 6,036.52   | 143.02  | 4.76     | 529.34   | 0.37            | MWD            | BAKER HUGHES INTEQ |
| 12/27/12... | 6,163.00  | 7.44     | 83.20   | 6,130.74   | 144.85  | 6.36     | 541.42   | 0.25            | MWD            | BAKER HUGHES INTEQ |
| 12/27/12... | 6,257.00  | 6.77     | 83.37   | 6,224.02   | 146.76  | 7.72     | 552.97   | 0.71            | MWD            | BAKER HUGHES INTEQ |
| 12/27/12... | 6,352.00  | 6.32     | 85.08   | 6,318.40   | 148.72  | 8.82     | 563.74   | 0.52            | MWD            | BAKER HUGHES INTEQ |
| 12/27/12... | 6,446.00  | 6.06     | 83.43   | 6,411.85   | 150.56  | 9.83     | 573.82   | 0.34            | MWD            | BAKER HUGHES INTEQ |
| 12/27/12... | 6,541.00  | 7.29     | 88.34   | 6,506.20   | 152.91  | 10.58    | 584.83   | 1.43            | MWD            | BAKER HUGHES INTEQ |
| 12/27/12... | 6,635.00  | 7.74     | 88.52   | 6,599.40   | 156.01  | 10.91    | 597.12   | 0.48            | MWD            | BAKER HUGHES INTEQ |
| 12/27/12... | 6,730.00  | 7.36     | 89.95   | 6,693.57   | 159.33  | 11.08    | 609.60   | 0.45            | MWD            | BAKER HUGHES INTEQ |
| 12/27/12... | 6,825.00  | 7.90     | 89.36   | 6,787.73   | 162.77  | 11.16    | 622.21   | 0.57            | MWD            | BAKER HUGHES INTEQ |
| 12/27/12... | 6,919.00  | 6.83     | 89.73   | 6,880.95   | 166.03  | 11.26    | 634.26   | 1.14            | MWD            | BAKER HUGHES INTEQ |
| 12/27/12... | 7,014.00  | 6.40     | 90.91   | 6,975.32   | 169.14  | 11.20    | 645.20   | 0.47            | MWD            | BAKER HUGHES INTEQ |
| 12/27/12... | 7,108.00  | 6.19     | 92.29   | 7,068.75   | 172.29  | 10.92    | 655.50   | 0.28            | MWD            | BAKER HUGHES INTEQ |
| 12/27/12... | 7,202.00  | 6.07     | 94.42   | 7,162.22   | 175.64  | 10.33    | 665.52   | 0.27            | MWD            | BAKER HUGHES INTEQ |
| 12/27/12... | 7,297.00  | 7.07     | 81.81   | 7,256.60   | 178.22  | 10.78    | 676.32   | 1.84            | MWD            | BAKER HUGHES INTEQ |
| 12/27/12... | 7,392.00  | 7.20     | 78.98   | 7,350.86   | 179.57  | 12.75    | 687.95   | 0.39            | MWD            | BAKER HUGHES INTEQ |
| 12/27/12... | 7,486.00  | 6.86     | 80.36   | 7,444.15   | 180.75  | 14.81    | 699.27   | 0.40            | MWD            | BAKER HUGHES INTEQ |
| 12/27/12... | 7,580.00  | 6.64     | 80.66   | 7,537.50   | 182.03  | 16.64    | 710.16   | 0.24            | MWD            | BAKER HUGHES INTEQ |
| 12/27/12... | 7,674.00  | 6.58     | 82.89   | 7,630.88   | 183.53  | 18.18    | 720.87   | 0.28            | MWD            | BAKER HUGHES INTEQ |
| 12/27/12... | 7,769.00  | 6.15     | 82.13   | 7,725.29   | 185.13  | 19.55    | 731.31   | 0.46            | MWD            | BAKER HUGHES INTEQ |
| 12/27/12... | 7,863.00  | 4.98     | 85.46   | 7,818.85   | 186.68  | 20.57    | 740.37   | 1.29            | MWD            | BAKER HUGHES INTEQ |
| 1/1/2014    | 7,958.00  | 6.56     | 86.34   | 7,913.36   | 188.69  | 21.24    | 749.89   | 1.67            | MWD            | BAKER HUGHES INTEQ |
| 1/1/2014    | 8,052.00  | 6.30     | 86.96   | 8,006.77   | 191.03  | 21.86    | 760.40   | 0.29            | MWD            | BAKER HUGHES INTEQ |
| 1/1/2014    | 8,147.00  | 7.75     | 95.90   | 8,101.06   | 194.62  | 21.47    | 771.98   | 1.91            | MWD            | BAKER HUGHES INTEQ |
| 1/1/2014    | 8,241.00  | 7.39     | 97.70   | 8,194.24   | 199.46  | 20.01    | 784.28   | 0.46            | MWD            | BAKER HUGHES INTEQ |
| 1/1/2014    | 8,336.00  | 7.22     | 97.11   | 8,288.47   | 204.29  | 18.46    | 796.25   | 0.20            | MWD            | BAKER HUGHES INTEQ |
| 1/1/2014    | 8,430.00  | 7.73     | 85.67   | 8,381.67   | 207.93  | 18.20    | 808.42   | 1.67            | MWD            | BAKER HUGHES INTEQ |
| 1/1/2014    | 8,524.00  | 7.54     | 86.40   | 8,474.84   | 210.57  | 19.07    | 820.88   | 0.23            | MWD            | BAKER HUGHES INTEQ |
| 1/2/2014    | 8,619.00  | 7.22     | 88.59   | 8,569.05   | 213.45  | 19.60    | 833.07   | 0.45            | MWD            | BAKER HUGHES INTEQ |
| 1/2/2014    | 8,713.00  | 6.77     | 90.76   | 8,662.35   | 216.57  | 19.68    | 844.51   | 0.56            | MWD            | BAKER HUGHES INTEQ |
| 1/2/2014    | 8,807.00  | 7.56     | 80.24   | 8,755.62   | 218.88  | 20.65    | 856.15   | 1.63            | MWD            | BAKER HUGHES INTEQ |
| 1/2/2014    | 8,902.00  | 7.25     | 78.17   | 8,849.83   | 220.04  | 22.94    | 868.17   | 0.43            | MWD            | BAKER HUGHES INTEQ |
| 1/2/2014    | 8,996.00  | 6.79     | 78.93   | 8,943.13   | 220.98  | 25.22    | 879.43   | 0.50            | MWD            | BAKER HUGHES INTEQ |
| 1/2/2014    | 9,091.00  | 6.43     | 80.51   | 9,037.50   | 222.11  | 27.18    | 890.19   | 0.42            | MWD            | BAKER HUGHES INTEQ |
| 1/2/2014    | 9,185.00  | 5.49     | 80.75   | 9,130.99   | 223.26  | 28.77    | 899.82   | 1.00            | MWD            | BAKER HUGHES INTEQ |
| 1/2/2014    | 9,279.00  | 6.73     | 84.97   | 9,224.45   | 224.87  | 29.97    | 909.75   | 1.40            | MWD            | BAKER HUGHES INTEQ |
| 1/2/2014    | 9,374.00  | 5.96     | 87.49   | 9,318.87   | 227.12  | 30.68    | 920.22   | 0.86            | MWD            | BAKER HUGHES INTEQ |
| 1/2/2014    | 9,468.00  | 6.19     | 81.01   | 9,412.34   | 228.91  | 31.68    | 930.10   | 0.77            | MWD            | BAKER HUGHES INTEQ |
| 1/2/2014    | 9,562.00  | 7.11     | 86.87   | 9,505.71   | 230.86  | 32.79    | 940.91   | 1.21            | MWD            | BAKER HUGHES INTEQ |
| 1/2/2014    | 9,657.00  | 6.56     | 87.55   | 9,600.03   | 233.47  | 33.35    | 952.21   | 0.59            | MWD            | BAKER HUGHES INTEQ |
| 1/2/2014    | 9,751.00  | 5.17     | 86.23   | 9,693.54   | 235.66  | 33.85    | 961.80   | 1.49            | MWD            | BAKER HUGHES INTEQ |
| 1/2/2014    | 9,846.00  | 5.10     | 91.03   | 9,788.16   | 237.83  | 34.06    | 970.29   | 0.46            | MWD            | BAKER HUGHES INTEQ |
| 1/2/2014    | 9,940.00  | 5.60     | 90.47   | 9,881.75   | 240.38  | 33.95    | 979.05   | 0.53            | MWD            | BAKER HUGHES INTEQ |
| 1/2/2014    | 10,035.00 | 6.08     | 83.71   | 9,976.26   | 242.58  | 34.46    | 988.69   | 0.88            | MWD            | BAKER HUGHES INTEQ |
| 1/3/2014    | 10,129.00 | 6.84     | 84.48   | 10,069.66  | 244.47  | 35.54    | 999.21   | 0.81            | MWD            | BAKER HUGHES INTEQ |
| 1/3/2014    | 10,224.00 | 6.73     | 84.16   | 10,163.99  | 246.52  | 36.65    | 1,010.38 | 0.12            | MWD            | BAKER HUGHES INTEQ |
| 1/3/2014    | 10,318.00 | 7.21     | 92.09   | 10,257.30  | 249.36  | 37.00    | 1,021.75 | 1.14            | MWD            | BAKER HUGHES INTEQ |
| 1/4/2014    | 10,413.00 | 8.52     | 98.29   | 10,351.41  | 254.14  | 35.77    | 1,034.68 | 1.64            | MWD            | BAKER HUGHES INTEQ |
| 1/4/2014    | 10,503.00 | 7.14     | 98.98   | 10,440.57  | 259.28  | 33.93    | 1,046.80 | 1.54            | MWD            | BAKER HUGHES INTEQ |
| 1/5/2014    | 10,611.00 | 7.75     | 98.12   | 10,547.65  | 265.14  | 31.86    | 1,060.64 | 0.57            | MWD            | BAKER HUGHES INTEQ |
| 1/5/2014    | 10,705.00 | 5.30     | 89.76   | 10,641.04  | 268.94  | 30.98    | 1,071.25 | 2.79            | MWD            | BAKER HUGHES INTEQ |
| 1/5/2014    | 10,768.00 | 5.43     | 83.11   | 10,703.77  | 270.22  | 31.35    | 1,077.12 | 1.01            | MWD            | BAKER HUGHES INTEQ |
| 1/5/2014    | 10,800.00 | 5.80     | 82.70   | 10,735.61  | 270.72  | 31.74    | 1,080.23 | 1.16            | MWD            | BAKER HUGHES INTEQ |
| 1/5/2014    | 10,831.00 | 8.86     | 100.34  | 10,766.36  | 272.02  | 31.51    | 1,084.13 | 12.14           | MWD            | BAKER HUGHES INTEQ |
| 1/5/2014    | 10,863.00 | 12.20    | 110.68  | 10,797.82  | 275.15  | 29.87    | 1,089.72 | 11.95           | MWD            | BAKER HUGHES INTEQ |



## THISTLE UNIT 58H

WEST UNRESTRICTED

## Directional Survey

|                                           |                       |                                  |                                     |                               |
|-------------------------------------------|-----------------------|----------------------------------|-------------------------------------|-------------------------------|
| District<br>PERMIAN BASIN                 | County<br>LEA         | Field Name<br>JOHNSON RANCH      | Project Group<br>DELAWARE BASIN     | State/Province<br>NM          |
| Surface Legal Location<br>SEC22 T23S R33E | API/UWI<br>3002541342 | Latitude (°)<br>32° 17' 0.525" N | Longitude (°)<br>103° 33' 30.749" W | Ground Elev...<br>3,689.00    |
|                                           |                       |                                  | KB - GL (ft)<br>25.00               | Orig KB Elev (ft)<br>3,714.00 |
|                                           |                       |                                  |                                     | Tubing Head Elevation (ft)    |

## Survey Data

| Date     | MD (ftKB) | Incl (°) | Azm (°) | TVD (ftKB) | VS (ft)  | N/S (ft)  | E/W (ft) | DLS<br>(°/100ft) | Survey<br>Tool | Survey Company     |
|----------|-----------|----------|---------|------------|----------|-----------|----------|------------------|----------------|--------------------|
| 1/5/2014 | 10,894.00 | 15.27    | 113.32  | 10,827.93  | 279.72   | 27.10     | 1,096.54 | 10.11            | MWD            | BAKER HUGHES INTEQ |
| 1/5/2014 | 10,926.00 | 19.17    | 112.78  | 10,858.49  | 285.71   | 23.39     | 1,105.26 | 12.20            | MWD            | BAKER HUGHES INTEQ |
| 1/5/2014 | 10,957.00 | 23.04    | 117.04  | 10,887.40  | 293.07   | 18.66     | 1,115.36 | 13.42            | MWD            | BAKER HUGHES INTEQ |
| 1/5/2014 | 10,989.00 | 26.13    | 121.63  | 10,916.50  | 302.58   | 12.12     | 1,126.94 | 11.34            | MWD            | BAKER HUGHES INTEQ |
| 1/5/2014 | 11,020.00 | 29.81    | 123.11  | 10,943.88  | 313.48   | 4.33      | 1,139.21 | 12.08            | MWD            | BAKER HUGHES INTEQ |
| 1/5/2014 | 11,052.00 | 33.81    | 124.87  | 10,971.07  | 326.44   | -5.11     | 1,153.18 | 12.83            | MWD            | BAKER HUGHES INTEQ |
| 1/5/2014 | 11,083.00 | 37.29    | 126.18  | 10,996.28  | 340.59   | -15.59    | 1,167.84 | 11.49            | MWD            | BAKER HUGHES INTEQ |
| 1/5/2014 | 11,115.00 | 41.56    | 127.42  | 11,021.00  | 356.82   | -27.77    | 1,184.10 | 13.57            | MWD            | BAKER HUGHES INTEQ |
| 1/5/2014 | 11,146.00 | 45.68    | 129.09  | 11,043.44  | 374.22   | -41.02    | 1,200.89 | 13.80            | MWD            | BAKER HUGHES INTEQ |
| 1/5/2014 | 11,178.00 | 49.86    | 130.83  | 11,064.94  | 393.90   | -56.24    | 1,219.03 | 13.67            | MWD            | BAKER HUGHES INTEQ |
| 1/5/2014 | 11,209.00 | 54.01    | 132.33  | 11,084.05  | 414.55   | -72.44    | 1,237.28 | 13.92            | MWD            | BAKER HUGHES INTEQ |
| 1/5/2014 | 11,241.00 | 56.60    | 135.83  | 11,102.27  | 437.39   | -90.74    | 1,256.17 | 12.10            | MWD            | BAKER HUGHES INTEQ |
| 1/6/2014 | 11,272.00 | 59.24    | 141.08  | 11,118.74  | 461.12   | -110.40   | 1,273.56 | 16.68            | MWD            | BAKER HUGHES INTEQ |
| 1/6/2014 | 11,303.00 | 62.11    | 144.50  | 11,133.92  | 486.35   | -131.93   | 1,289.89 | 13.35            | MWD            | BAKER HUGHES INTEQ |
| 1/6/2014 | 11,335.00 | 65.38    | 147.22  | 11,148.08  | 513.65   | -155.68   | 1,305.99 | 12.75            | MWD            | BAKER HUGHES INTEQ |
| 1/6/2014 | 11,366.00 | 69.03    | 150.65  | 11,160.09  | 541.26   | -180.16   | 1,320.72 | 15.58            | MWD            | BAKER HUGHES INTEQ |
| 1/6/2014 | 11,398.00 | 71.10    | 155.03  | 11,171.00  | 570.78   | -206.92   | 1,334.44 | 14.40            | MWD            | BAKER HUGHES INTEQ |
| 1/6/2014 | 11,429.00 | 73.30    | 159.43  | 11,180.48  | 600.09   | -234.12   | 1,345.85 | 15.26            | MWD            | BAKER HUGHES INTEQ |
| 1/6/2014 | 11,461.00 | 75.86    | 162.43  | 11,188.99  | 630.90   | -263.28   | 1,355.92 | 12.07            | MWD            | BAKER HUGHES INTEQ |
| 1/6/2014 | 11,492.00 | 78.82    | 166.83  | 11,195.79  | 661.13   | -292.43   | 1,363.93 | 16.82            | MWD            | BAKER HUGHES INTEQ |
| 1/6/2014 | 11,529.00 | 80.06    | 170.96  | 11,202.57  | 697.35   | -328.11   | 1,370.93 | 11.47            | MWD            | BAKER HUGHES INTEQ |
| 1/6/2014 | 11,561.00 | 80.79    | 173.73  | 11,207.90  | 728.55   | -359.38   | 1,375.13 | 8.84             | MWD            | BAKER HUGHES INTEQ |
| 1/7/2014 | 11,592.00 | 80.81    | 175.33  | 11,212.85  | 758.62   | -389.85   | 1,378.05 | 5.10             | MWD            | BAKER HUGHES INTEQ |
| 1/7/2014 | 11,623.00 | 82.18    | 175.88  | 11,217.44  | 788.63   | -420.41   | 1,380.40 | 4.75             | MWD            | BAKER HUGHES INTEQ |
| 1/7/2014 | 11,655.00 | 83.27    | 176.11  | 11,221.49  | 819.66   | -452.08   | 1,382.62 | 3.48             | MWD            | BAKER HUGHES INTEQ |
| 1/7/2014 | 11,686.00 | 84.39    | 177.05  | 11,224.82  | 849.71   | -482.84   | 1,384.45 | 4.71             | MWD            | BAKER HUGHES INTEQ |
| 1/7/2014 | 11,718.00 | 85.35    | 177.70  | 11,227.68  | 880.69   | -514.68   | 1,385.91 | 3.62             | MWD            | BAKER HUGHES INTEQ |
| 1/7/2014 | 11,749.00 | 86.37    | 177.70  | 11,229.92  | 910.71   | -545.57   | 1,387.16 | 3.29             | MWD            | BAKER HUGHES INTEQ |
| 1/7/2014 | 11,781.00 | 87.26    | 178.22  | 11,231.70  | 941.69   | -577.50   | 1,388.29 | 3.22             | MWD            | BAKER HUGHES INTEQ |
| 1/7/2014 | 11,812.00 | 88.55    | 177.99  | 11,232.83  | 971.71   | -608.47   | 1,389.32 | 4.23             | MWD            | BAKER HUGHES INTEQ |
| 1/7/2014 | 11,875.00 | 89.63    | 178.09  | 11,233.83  | 1,032.77 | -671.42   | 1,391.47 | 1.72             | MWD            | BAKER HUGHES INTEQ |
| 1/8/2014 | 11,938.00 | 90.00    | 178.47  | 11,234.04  | 1,093.77 | -734.39   | 1,393.36 | 0.84             | MWD            | BAKER HUGHES INTEQ |
| 1/8/2014 | 12,001.00 | 89.17    | 178.28  | 11,234.49  | 1,154.74 | -797.36   | 1,395.15 | 1.35             | MWD            | BAKER HUGHES INTEQ |
| 1/8/2014 | 12,096.00 | 89.17    | 177.54  | 11,235.87  | 1,246.87 | -892.29   | 1,398.61 | 0.78             | MWD            | BAKER HUGHES INTEQ |
| 1/8/2014 | 12,190.00 | 89.94    | 177.54  | 11,236.60  | 1,338.18 | -986.20   | 1,402.65 | 0.82             | MWD            | BAKER HUGHES INTEQ |
| 1/8/2014 | 12,284.00 | 89.23    | 177.60  | 11,237.28  | 1,429.48 | -1,080.11 | 1,406.63 | 0.76             | MWD            | BAKER HUGHES INTEQ |
| 1/8/2014 | 12,379.00 | 87.53    | 177.04  | 11,239.97  | 1,521.81 | -1,174.97 | 1,411.07 | 1.88             | MWD            | BAKER HUGHES INTEQ |
| 1/8/2014 | 12,473.00 | 89.63    | 177.74  | 11,242.30  | 1,613.15 | -1,268.83 | 1,415.35 | 2.35             | MWD            | BAKER HUGHES INTEQ |
| 1/8/2014 | 12,567.00 | 89.63    | 177.48  | 11,242.90  | 1,704.43 | -1,362.75 | 1,419.27 | 0.28             | MWD            | BAKER HUGHES INTEQ |
| 1/8/2014 | 12,662.00 | 88.90    | 177.17  | 11,244.12  | 1,796.79 | -1,457.64 | 1,423.70 | 0.83             | MWD            | BAKER HUGHES INTEQ |
| 1/8/2014 | 12,756.00 | 88.27    | 177.79  | 11,246.44  | 1,888.10 | -1,551.52 | 1,427.84 | 0.94             | MWD            | BAKER HUGHES INTEQ |
| 1/8/2014 | 12,851.00 | 87.90    | 177.66  | 11,249.62  | 1,980.26 | -1,646.39 | 1,431.61 | 0.41             | MWD            | BAKER HUGHES INTEQ |
| 1/8/2014 | 12,945.00 | 88.03    | 179.54  | 11,252.95  | 2,071.09 | -1,740.30 | 1,433.90 | 2.00             | MWD            | BAKER HUGHES INTEQ |
| 1/8/2014 | 13,040.00 | 88.98    | 179.39  | 11,255.43  | 2,162.53 | -1,835.26 | 1,434.79 | 1.01             | MWD            | BAKER HUGHES INTEQ |
| 1/8/2014 | 13,134.00 | 90.46    | 180.18  | 11,255.89  | 2,252.90 | -1,929.25 | 1,435.14 | 1.78             | MWD            | BAKER HUGHES INTEQ |
| 1/8/2014 | 13,228.00 | 91.08    | 180.28  | 11,254.63  | 2,343.05 | -2,023.25 | 1,434.76 | 0.67             | MWD            | BAKER HUGHES INTEQ |
| 1/8/2014 | 13,323.00 | 89.51    | 179.51  | 11,254.14  | 2,434.33 | -2,118.24 | 1,434.94 | 1.84             | MWD            | BAKER HUGHES INTEQ |
| 1/8/2014 | 13,417.00 | 87.04    | 179.27  | 11,256.97  | 2,524.83 | -2,212.18 | 1,435.94 | 2.64             | MWD            | BAKER HUGHES INTEQ |
| 1/8/2014 | 13,511.00 | 86.52    | 179.62  | 11,262.25  | 2,615.21 | -2,306.03 | 1,436.85 | 0.67             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 13,606.00 | 88.06    | 179.61  | 11,266.74  | 2,706.51 | -2,400.92 | 1,437.48 | 1.62             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 13,700.00 | 88.77    | 179.49  | 11,269.34  | 2,796.95 | -2,494.88 | 1,438.22 | 0.77             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 13,795.00 | 89.57    | 178.30  | 11,270.72  | 2,888.66 | -2,589.85 | 1,440.05 | 1.51             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 13,889.00 | 90.71    | 179.33  | 11,270.49  | 2,979.46 | -2,683.83 | 1,442.00 | 1.63             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 13,984.00 | 90.25    | 178.31  | 11,269.69  | 3,071.21 | -2,778.80 | 1,443.95 | 1.18             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 14,078.00 | 90.43    | 178.54  | 11,269.13  | 3,162.17 | -2,872.77 | 1,446.54 | 0.31             | MWD            | BAKER HUGHES INTEQ |



## THISTLE UNIT 58H

WEST UNRESTRICTED

## Directional Survey

|                                           |                       |                                  |                                     |                            |                       |                              |                            |
|-------------------------------------------|-----------------------|----------------------------------|-------------------------------------|----------------------------|-----------------------|------------------------------|----------------------------|
| District<br>PERMIAN BASIN                 | County<br>LEA         | Field Name<br>JOHNSON RANCH      | Project Group<br>DELAWARE BASIN     | State/Province<br>NM       |                       |                              |                            |
| Surface Legal Location<br>SEC22 T23S R33E | API/UWI<br>3002541342 | Latitude (°)<br>32° 17' 0.525" N | Longitude (°)<br>103° 33' 30.749" W | Ground Elev...<br>3,689.00 | KB - GL (ft)<br>25.00 | Ong KB Elev (ft)<br>3,714.00 | Tubing Head Elevation (ft) |

## Survey Data

| Date     | MD (ftKB) | Incl (°) | Azm (°) | TVD (ftKB) | VS (ft)  | N/S (ft)  | E/W (ft) | DLS<br>(°/100ft) | Survey<br>Tool | Survey Company     |
|----------|-----------|----------|---------|------------|----------|-----------|----------|------------------|----------------|--------------------|
| 1/9/2014 | 14,173.00 | 90.71    | 178.19  | 11,268.19  | 3,254.11 | -2,967.72 | 1,449.25 | 0.47             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 14,267.00 | 90.65    | 178.09  | 11,267.07  | 3,345.18 | -3,061.67 | 1,452.30 | 0.12             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 14,362.00 | 90.95    | 177.81  | 11,265.75  | 3,437.29 | -3,156.60 | 1,455.70 | 0.43             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 14,456.00 | 89.14    | 178.36  | 11,265.67  | 3,528.39 | -3,250.54 | 1,458.84 | 2.01             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 14,550.00 | 89.35    | 178.81  | 11,266.91  | 3,619.27 | -3,344.50 | 1,461.16 | 0.53             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 14,645.00 | 89.69    | 178.13  | 11,267.71  | 3,711.17 | -3,439.46 | 1,463.69 | 0.80             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 14,739.00 | 91.23    | 177.66  | 11,266.95  | 3,802.34 | -3,533.39 | 1,467.15 | 1.71             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 14,834.00 | 88.89    | 177.44  | 11,266.85  | 3,894.62 | -3,628.30 | 1,471.21 | 2.47             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 14,928.00 | 89.14    | 177.02  | 11,268.47  | 3,986.04 | -3,722.18 | 1,475.75 | 0.52             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 15,023.00 | 89.45    | 177.24  | 11,269.64  | 4,078.47 | -3,817.05 | 1,480.51 | 0.40             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 15,117.00 | 89.72    | 177.18  | 11,270.32  | 4,169.91 | -3,910.94 | 1,485.08 | 0.29             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 15,212.00 | 90.00    | 177.56  | 11,270.55  | 4,262.26 | -4,005.84 | 1,489.44 | 0.50             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 15,306.00 | 90.09    | 177.19  | 11,270.48  | 4,353.64 | -4,099.74 | 1,493.75 | 0.41             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 15,401.00 | 89.78    | 177.62  | 11,270.59  | 4,445.98 | -4,194.64 | 1,498.05 | 0.56             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 15,495.00 | 89.42    | 178.12  | 11,271.24  | 4,537.16 | -4,288.57 | 1,501.54 | 0.66             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 15,590.00 | 88.71    | 177.90  | 11,272.79  | 4,629.25 | -4,383.50 | 1,504.84 | 0.78             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 15,684.00 | 88.80    | 177.34  | 11,274.83  | 4,720.51 | -4,477.40 | 1,508.74 | 0.60             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 15,779.00 | 89.48    | 178.14  | 11,276.26  | 4,812.70 | -4,572.31 | 1,512.49 | 1.11             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 15,873.00 | 90.71    | 179.65  | 11,276.10  | 4,903.46 | -4,666.29 | 1,514.30 | 2.07             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 15,967.00 | 91.11    | 181.63  | 11,274.61  | 4,993.41 | -4,760.27 | 1,513.25 | 2.15             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 16,061.00 | 91.85    | 180.91  | 11,272.18  | 5,083.05 | -4,854.21 | 1,511.17 | 1.10             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 16,231.00 | 91.66    | 180.79  | 11,266.98  | 5,245.51 | -5,024.11 | 1,508.65 | 0.13             | MWD            | BAKER HUGHES INTEQ |
| 1/9/2014 | 16,290.00 | 91.66    | 180.79  | 11,265.27  | 5,301.92 | -5,083.08 | 1,507.83 | 0.00             | BIT            | BAKER HUGHES INTEQ |