



Directional Survey

NM OIL CONSERVATION  
ARTESIA DISTRICT

JUL 24 2015

Well Name: MERLYN 27-22 FED 2H

RECEIVED

|                                              |           |                               |         |                                   |         |                                     |          |                                                |             |                                          |  |                       |  |
|----------------------------------------------|-----------|-------------------------------|---------|-----------------------------------|---------|-------------------------------------|----------|------------------------------------------------|-------------|------------------------------------------|--|-----------------------|--|
| Sub-Division<br>DELAWARE BASIN               |           | Region<br>DELAWARE BASIN WEST |         | Field Name<br>LOST TANK           |         | County<br>EDDY                      |          | State/Province<br>NM                           |             |                                          |  |                       |  |
| Surface Legal Location<br>SEC34 T21S R31E    |           | API/UWI<br>3001542386         |         | Latitude (°)<br>32° 26' 22.579" N |         | Longitude (°)<br>103° 46' 19.444" W |          | Orig KB Elevation (ft)<br>3,492.20             |             | Ground Elev MSL (ft)<br>3,464.20         |  | KB - GL (ft)<br>28.00 |  |
| Wellbores                                    |           |                               |         |                                   |         |                                     |          |                                                |             |                                          |  |                       |  |
| Wellbore Name<br>OH                          |           | Parent Wellbore<br>OH         |         |                                   |         | SAP Well ID<br>37645                |          |                                                |             | Vertical Section Direction (°)<br>359.61 |  |                       |  |
| Kick Offs & Key Depths                       |           |                               |         |                                   |         |                                     |          |                                                |             |                                          |  |                       |  |
| Date<br>1/20/2015                            |           |                               |         | Type<br>Kick Off                  |         |                                     |          | Top Depth (ftKB)<br>7,253.0                    |             |                                          |  |                       |  |
| Actual Deviation Survey<br>MWD, Proposed? No |           |                               |         | Definitive?<br>Yes                |         | Proposed?<br>No                     |          | Proposed Deviation Survey<br>MWD, Proposed? No |             |                                          |  |                       |  |
| Deviation Survey                             |           |                               |         |                                   |         |                                     |          |                                                |             |                                          |  |                       |  |
| Date<br>1/10/2015                            |           | Description<br>MWD            |         |                                   |         |                                     |          |                                                |             |                                          |  |                       |  |
| MD Tie In (ftKB)                             |           | TVD Tie In (ftKB)             |         | Inclination Tie In (°)            |         | Azimuth Tie In (°)                  |          | NSTie In (ft)                                  |             | EWTie In (ft)                            |  |                       |  |
| Survey Data                                  |           |                               |         |                                   |         |                                     |          |                                                |             |                                          |  |                       |  |
| Date                                         | MD (ftKB) | Incl (°)                      | Azm (°) | TVD (ftKB)                        | VS (ft) | N/S (ft)                            | E/W (ft) | DLS (°/100ft)                                  | Survey Tool | Survey Company                           |  |                       |  |
| 1/10/2015                                    | 0.00      | 0.00                          | 0.00    | 0.00                              | 0.00    | 0.00                                | 0.00     | 0.00                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/10/2015                                    | 196.00    | 0.31                          | 152.98  | 196.00                            | -0.47   | -0.47                               | 0.24     | 0.16                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/10/2015                                    | 286.00    | 0.40                          | 168.05  | 286.00                            | -1.00   | -1.00                               | -0.42    | 0.14                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/10/2015                                    | 387.00    | 0.22                          | 154.25  | 387.00                            | -1.52   | -1.52                               | 0.57     | 0.19                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/11/2015                                    | 509.00    | 0.48                          | 61.27   | 508.99                            | -1.49   | -1.48                               | 1.12     | 0.44                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 662.00    | 1.01                          | 59.95   | 661.98                            | -0.52   | -0.50                               | 2.85     | 0.35                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 755.00    | 1.19                          | 25.76   | 754.96                            | 0.75    | 0.78                                | 3.98     | 0.72                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 849.00    | 1.41                          | 23.39   | 848.94                            | 2.69    | 2.72                                | 4.87     | 0.24                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 942.00    | 1.32                          | 34.99   | 941.91                            | 4.61    | 4.65                                | 5.93     | 0.31                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 1,034.00  | 1.32                          | 46.76   | 1,033.89                          | 6.19    | 6.24                                | 7.31     | 0.29                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 1,126.00  | 1.41                          | 39.25   | 1,125.86                          | 7.79    | 7.85                                | 8.80     | 0.22                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 1,219.00  | 1.58                          | 48.78   | 1,218.83                          | 9.51    | 9.58                                | 10.49    | 0.32                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 1,318.00  | 1.80                          | 52.57   | 1,317.79                          | 11.34   | 11.42                               | 12.75    | 0.25                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 1,405.00  | 1.80                          | 50.28   | 1,404.75                          | 13.02   | 13.13                               | 14.89    | 0.08                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 1,500.00  | 1.71                          | 52.18   | 1,499.70                          | 14.83   | 14.95                               | 17.15    | 0.11                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 1,594.00  | 2.02                          | 60.48   | 1,593.65                          | 16.49   | 16.62                               | 19.70    | 0.44                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 1,690.00  | 2.42                          | 63.87   | 1,689.58                          | 18.19   | 18.35                               | 23.00    | 0.44                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 1,785.00  | 2.81                          | 69.97   | 1,784.48                          | 19.85   | 20.03                               | 26.98    | 0.50                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 1,880.00  | 3.30                          | 70.89   | 1,879.35                          | 21.51   | 21.72                               | 31.76    | 0.52                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 1,974.00  | 3.60                          | 69.97   | 1,973.17                          | 23.37   | 23.62                               | 37.09    | 0.32                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 2,068.00  | 3.91                          | 69.66   | 2,066.97                          | 25.45   | 25.75                               | 42.86    | 0.33                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 2,163.00  | 4.09                          | 64.87   | 2,161.74                          | 27.98   | 28.31                               | 48.97    | 0.40                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 2,258.00  | 4.22                          | 63.68   | 2,256.49                          | 30.92   | 31.30                               | 55.17    | 0.16                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 2,353.00  | 4.61                          | 62.59   | 2,351.21                          | 34.19   | 34.61                               | 61.69    | 0.42                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 2,447.00  | 5.10                          | 61.27   | 2,444.87                          | 37.89   | 38.35                               | 68.71    | 0.53                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 2,543.00  | 5.80                          | 59.38   | 2,540.44                          | 42.35   | 42.88                               | 76.62    | 0.75                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 2,637.00  | 5.89                          | 57.66   | 2,633.95                          | 47.30   | 47.87                               | 84.78    | 0.21                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 2,732.00  | 6.20                          | 54.98   | 2,728.42                          | 52.79   | 53.43                               | 93.10    | 0.44                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 2,827.00  | 5.71                          | 54.98   | 2,822.91                          | 58.39   | 59.08                               | 101.18   | 0.52                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 2,921.00  | 5.89                          | 56.56   | 2,916.43                          | 63.68   | 64.42                               | 109.03   | 0.26                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 3,016.00  | 6.02                          | 61.27   | 3,010.92                          | 68.70   | 69.50                               | 117.47   | 0.53                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 3,110.00  | 5.71                          | 63.99   | 3,104.42                          | 73.06   | 73.92                               | 125.99   | 0.44                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 3,205.00  | 5.40                          | 61.18   | 3,198.98                          | 77.24   | 78.15                               | 134.16   | 0.43                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 3,300.00  | 6.02                          | 61.97   | 3,293.51                          | 81.68   | 82.65                               | 142.47   | 0.66                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 3,394.00  | 6.81                          | 63.68   | 3,386.92                          | 86.40   | 87.44                               | 151.82   | 0.86                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 3,488.00  | 7.12                          | 64.78   | 3,480.22                          | 91.28   | 92.39                               | 162.08   | 0.36                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 3,584.00  | 6.90                          | 64.25   | 3,575.50                          | 96.25   | 97.43                               | 172.66   | 0.24                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 3,679.00  | 7.29                          | 64.56   | 3,669.78                          | 101.25  | 102.50                              | 183.24   | 0.41                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 3,773.00  | 7.38                          | 63.46   | 3,763.01                          | 106.43  | 107.76                              | 194.03   | 0.18                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 3,868.00  | 6.90                          | 62.06   | 3,857.27                          | 111.76  | 113.16                              | 204.53   | 0.54                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 3,962.00  | 6.11                          | 62.67   | 3,950.66                          | 116.64  | 118.10                              | 213.96   | 0.84                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 4,014.00  | 5.58                          | 64.25   | 4,002.39                          | 118.98  | 120.47                              | 218.69   | 1.07                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 4,136.00  | 4.61                          | 67.07   | 4,123.91                          | 123.40  | 124.95                              | 228.55   | 0.82                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 4,231.00  | 3.78                          | 67.38   | 4,218.66                          | 126.04  | 127.65                              | 234.96   | 0.87                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 4,326.00  | 3.52                          | 70.19   | 4,313.46                          | 128.20  | 129.84                              | 240.59   | 0.33                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 4,421.00  | 3.30                          | 66.36   | 4,408.29                          | 130.25  | 131.92                              | 245.84   | 0.33                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 4,517.00  | 2.81                          | 68.08   | 4,504.16                          | 132.20  | 133.91                              | 250.56   | 0.52                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 4,612.00  | 2.68                          | 71.29   | 4,599.05                          | 133.75  | 135.49                              | 254.82   | 0.21                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 4,706.00  | 2.59                          | 68.47   | 4,692.95                          | 135.21  | 136.98                              | 258.88   | 0.17                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 4,800.00  | 2.29                          | 72.38   | 4,786.86                          | 136.53  | 138.32                              | 262.64   | 0.36                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 4,896.00  | 2.11                          | 72.17   | 4,882.79                          | 137.63  | 139.45                              | 266.15   | 0.19                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 4,992.00  | 1.71                          | 76.78   | 4,978.74                          | 138.48  | 140.32                              | 269.23   | 0.45                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 5,087.00  | 1.41                          | 64.56   | 5,073.71                          | 139.29  | 141.14                              | 271.67   | 0.47                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 5,182.00  | 1.19                          | 70.36   | 5,168.68                          | 140.11  | 141.98                              | 273.65   | 0.27                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 5,275.00  | 1.19                          | 66.98   | 5,261.66                          | 140.80  | 142.68                              | 275.45   | 0.08                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 5,369.00  | 1.01                          | 65.75   | 5,355.64                          | 141.51  | 143.40                              | 277.10   | 0.19                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 5,465.00  | 1.19                          | 30.37   | 5,451.63                          | 142.71  | 144.61                              | 278.38   | 0.72                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 5,560.00  | 0.79                          | 48.57   | 5,546.61                          | 143.99  | 145.89                              | 279.37   | 0.53                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 5,655.00  | 0.79                          | 59.38   | 5,641.60                          | 144.75  | 146.66                              | 280.42   | 0.16                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 5,749.00  | 0.79                          | 48.17   | 5,735.59                          | 145.50  | 147.42                              | 281.46   | 0.16                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 5,848.00  | 0.70                          | 40.48   | 5,834.59                          | 146.41  | 148.34                              | 282.36   | 0.14                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 5,937.00  | 0.62                          | 31.16   | 5,923.58                          | 147.23  | 149.16                              | 282.97   | 0.15                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 6,032.00  | 0.48                          | 26.68   | 6,018.58                          | 148.02  | 149.96                              | 283.41   | 0.15                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 6,126.00  | 0.62                          | 42.46   | 6,112.57                          | 148.75  | 150.68                              | 283.93   | 0.22                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 6,222.00  | 0.48                          | 78.58   | 6,208.57                          | 149.21  | 151.15                              | 284.68   | 0.38                                           | MWD         | EXTREME                                  |  |                       |  |
| 1/13/2015                                    | 6,316.00  | 0.40                          | 57.88   | 6,302.56                          | 149.45  | 151.40                              | 285.34   | 0.19                                           | MWD         | EXTREME                                  |  |                       |  |

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Directional Survey

Well Name: MERLYN 27-22 FED 2H

| Sub-Division              |           | Region              |         | Field Name        |          |                    |          | County                 |             | State/Province       |  |
|---------------------------|-----------|---------------------|---------|-------------------|----------|--------------------|----------|------------------------|-------------|----------------------|--|
| DELAWARE BASIN            |           | DELAWARE BASIN WEST |         | LOST TANK         |          |                    |          | EDDY                   |             | NM                   |  |
| Surface Legal Location    |           | AP/UWI              |         | Latitude (°)      |          | Longitude (°)      |          | Orig KB Elevation (ft) |             | Ground Elev MSL (ft) |  |
| SEC34 T21S R31E           |           | 3001542386          |         | 32° 26' 22.579" N |          | 103° 46' 19.444" W |          | 3,492.20               |             | 3,464.20             |  |
|                           |           |                     |         |                   |          |                    |          |                        |             | KB - GL (ft)         |  |
|                           |           |                     |         |                   |          |                    |          |                        |             | 28.00                |  |
| Survey Data               |           |                     |         |                   |          |                    |          |                        |             |                      |  |
| Date                      | MD (ftKB) | Incl (°)            | Azm (°) | TVD (ftKB)        | VS (ft)  | N/S (ft)           | E/W (ft) | DLS (°/100ft)          | Survey Tool | Survey Company       |  |
| 1/13/2015                 | 6,411.00  | 0.70                | 49.49   | 6,397.56          | 150.00   | 151.95             | 286.06   | 0.33                   | MWD         | EXTREME              |  |
| 1/13/2015                 | 6,506.00  | 1.01                | 67.86   | 6,492.55          | 150.69   | 152.64             | 287.28   | 0.43                   | MWD         | EXTREME              |  |
| 1/13/2015                 | 6,600.00  | 1.32                | 102.36  | 6,586.53          | 150.75   | 152.73             | 289.10   | 0.80                   | MWD         | EXTREME              |  |
| 1/13/2015                 | 6,696.00  | 1.01                | 120.37  | 6,682.51          | 150.08   | 152.06             | 290.91   | 0.50                   | MWD         | EXTREME              |  |
| 1/13/2015                 | 6,791.00  | 0.40                | 162.65  | 6,777.50          | 149.33   | 151.32             | 291.73   | 0.80                   | MWD         | EXTREME              |  |
| 1/13/2015                 | 6,886.00  | 0.48                | 254.36  | 6,872.50          | 148.91   | 150.90             | 291.45   | 0.67                   | MWD         | EXTREME              |  |
| 1/13/2015                 | 6,980.00  | 0.62                | 245.88  | 6,966.50          | 148.60   | 150.58             | 290.61   | 0.17                   | MWD         | EXTREME              |  |
| 1/13/2015                 | 7,075.00  | 0.79                | 268.38  | 7,061.49          | 148.38   | 150.35             | 289.48   | 0.34                   | MWD         | EXTREME              |  |
| 1/13/2015                 | 7,159.00  | 1.10                | 267.68  | 7,145.48          | 148.34   | 150.31             | 288.10   | 0.37                   | MWD         | EXTREME              |  |
| 1/13/2015                 | 7,219.00  | 1.20                | 271.30  | 7,205.47          | 148.34   | 150.30             | 286.90   | 0.21                   | MWD         | EXTREME              |  |
| 1/20/2015                 | 7,251.00  | 1.50                | 298.60  | 7,237.46          | 148.55   | 150.50             | 286.19   | 2.19                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,282.00  | 2.60                | 332.00  | 7,268.44          | 149.37   | 151.32             | 285.51   | 5.10                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,283.00  | 2.60                | 332.30  | 7,269.44          | 149.41   | 151.36             | 285.48   | 1.36                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,314.00  | 4.70                | 346.00  | 7,300.37          | 151.27   | 153.21             | 284.85   | 7.29                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,346.00  | 6.50                | 353.10  | 7,332.22          | 154.35   | 156.29             | 284.32   | 6.02                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,378.00  | 8.40                | 358.70  | 7,363.95          | 158.48   | 160.42             | 284.05   | 6.35                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,409.00  | 10.10               | 2.70    | 7,394.55          | 163.46   | 165.40             | 284.12   | 5.86                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,441.00  | 12.20               | 4.20    | 7,425.94          | 169.63   | 171.58             | 284.50   | 6.62                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,473.00  | 14.80               | 4.50    | 7,457.05          | 177.08   | 179.02             | 285.07   | 8.13                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,504.00  | 17.10               | 4.30    | 7,486.86          | 185.57   | 187.52             | 285.72   | 7.42                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,536.00  | 19.80               | 4.70    | 7,517.21          | 195.66   | 197.61             | 286.52   | 8.45                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,568.00  | 22.60               | 4.00    | 7,547.04          | 207.19   | 209.15             | 287.39   | 8.79                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,599.00  | 25.80               | 3.80    | 7,575.31          | 219.86   | 221.83             | 288.26   | 10.33                  | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,630.00  | 29.20               | 3.40    | 7,602.81          | 234.14   | 236.11             | 289.15   | 10.98                  | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,662.00  | 32.20               | 3.80    | 7,630.32          | 250.43   | 252.41             | 290.18   | 9.40                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,694.00  | 35.30               | 4.30    | 7,656.92          | 268.15   | 270.14             | 291.44   | 9.73                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,725.00  | 38.90               | 4.90    | 7,681.64          | 286.78   | 288.78             | 292.94   | 11.67                  | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,757.00  | 42.20               | 5.60    | 7,705.96          | 307.48   | 309.49             | 294.85   | 10.41                  | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,788.00  | 45.40               | 5.40    | 7,728.33          | 328.82   | 330.85             | 296.90   | 10.33                  | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,820.00  | 49.10               | 4.50    | 7,750.05          | 352.21   | 354.25             | 298.93   | 11.75                  | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,852.00  | 52.50               | 2.90    | 7,770.27          | 376.94   | 379.00             | 300.52   | 11.31                  | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,883.00  | 56.00               | 2.40    | 7,788.38          | 402.06   | 404.12             | 301.68   | 11.37                  | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,915.00  | 59.70               | 1.90    | 7,805.40          | 429.12   | 431.19             | 302.69   | 11.64                  | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,946.00  | 63.10               | 1.70    | 7,820.24          | 456.32   | 458.39             | 303.55   | 10.98                  | MWD         | LEAM                 |  |
| 1/20/2015                 | 7,977.00  | 66.00               | 1.20    | 7,833.56          | 484.29   | 486.37             | 304.25   | 9.47                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 8,010.00  | 69.20               | 1.00    | 7,846.13          | 514.79   | 516.87             | 304.84   | 9.71                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 8,041.00  | 72.50               | 1.70    | 7,856.30          | 544.05   | 546.15             | 305.53   | 10.86                  | MWD         | LEAM                 |  |
| 1/20/2015                 | 8,072.00  | 75.80               | 1.30    | 7,864.77          | 573.85   | 575.95             | 306.31   | 10.72                  | MWD         | LEAM                 |  |
| 1/20/2015                 | 8,104.00  | 79.60               | 1.30    | 7,871.58          | 605.10   | 607.20             | 307.02   | 11.88                  | MWD         | LEAM                 |  |
| 1/20/2015                 | 8,136.00  | 82.80               | 1.30    | 7,876.48          | 636.71   | 638.82             | 307.74   | 10.00                  | MWD         | LEAM                 |  |
| 1/20/2015                 | 8,168.00  | 85.90               | 0.60    | 7,879.63          | 668.54   | 670.65             | 308.26   | 9.93                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 8,191.00  | 88.10               | 0.60    | 7,880.83          | 691.50   | 693.62             | 308.50   | 9.57                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 8,286.00  | 91.50               | 358.50  | 7,881.16          | 786.48   | 788.59             | 307.76   | 4.21                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 8,381.00  | 91.80               | 358.70  | 7,878.43          | 881.43   | 883.53             | 305.44   | 0.38                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 8,475.00  | 90.60               | 358.90  | 7,876.46          | 975.40   | 977.48             | 303.47   | 1.29                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 8,570.00  | 91.10               | 358.70  | 7,875.05          | 1,070.37 | 1,072.45           | 301.48   | 0.57                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 8,665.00  | 92.10               | 358.50  | 7,872.40          | 1,165.32 | 1,167.39           | 299.16   | 1.07                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 8,760.00  | 91.40               | 358.40  | 7,869.50          | 1,260.26 | 1,262.31           | 296.59   | 0.74                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 8,855.00  | 92.20               | 358.40  | 7,866.51          | 1,355.19 | 1,357.22           | 293.94   | 0.84                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 8,949.00  | 91.50               | 358.00  | 7,863.48          | 1,449.11 | 1,451.12           | 290.99   | 0.86                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 9,044.00  | 90.00               | 356.90  | 7,862.23          | 1,544.03 | 1,546.02           | 286.76   | 1.96                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 9,138.00  | 89.60               | 357.50  | 7,862.56          | 1,637.95 | 1,639.90           | 282.17   | 0.77                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 9,233.00  | 90.60               | 358.00  | 7,862.40          | 1,732.89 | 1,734.83           | 278.44   | 1.18                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 9,328.00  | 89.90               | 358.70  | 7,861.98          | 1,827.87 | 1,829.79           | 275.71   | 1.04                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 9,423.00  | 90.00               | 358.50  | 7,862.07          | 1,922.85 | 1,924.76           | 273.39   | 0.24                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 9,517.00  | 91.00               | 359.60  | 7,861.25          | 2,016.84 | 2,018.74           | 271.83   | 1.58                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 9,610.00  | 90.00               | 359.20  | 7,860.43          | 2,109.84 | 2,111.73           | 270.85   | 1.16                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 9,705.00  | 90.00               | 358.40  | 7,860.43          | 2,204.83 | 2,206.71           | 268.86   | 0.84                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 9,800.00  | 90.30               | 357.80  | 7,860.18          | 2,299.79 | 2,301.66           | 265.71   | 0.71                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 9,895.00  | 90.50               | 357.80  | 7,859.52          | 2,394.74 | 2,396.58           | 262.07   | 0.21                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 9,990.00  | 90.80               | 357.80  | 7,858.44          | 2,489.69 | 2,491.51           | 258.42   | 0.32                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 10,085.00 | 92.30               | 358.00  | 7,855.87          | 2,584.61 | 2,586.41           | 254.94   | 1.59                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 10,179.00 | 90.80               | 356.20  | 7,853.33          | 2,678.48 | 2,680.25           | 250.19   | 2.49                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 10,274.00 | 90.50               | 355.20  | 7,852.25          | 2,773.25 | 2,774.97           | 243.06   | 1.10                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 10,369.00 | 91.10               | 355.70  | 7,850.93          | 2,867.99 | 2,869.66           | 235.53   | 0.82                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 10,464.00 | 91.00               | 355.70  | 7,849.19          | 2,962.75 | 2,964.38           | 228.41   | 0.11                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 10,559.00 | 91.10               | 356.40  | 7,847.45          | 3,057.55 | 3,059.14           | 221.86   | 0.74                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 10,654.00 | 90.30               | 356.80  | 7,846.29          | 3,152.42 | 3,153.96           | 216.23   | 0.94                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 10,749.00 | 90.80               | 357.10  | 7,845.37          | 3,247.31 | 3,248.82           | 211.18   | 0.61                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 10,843.00 | 89.10               | 355.70  | 7,845.46          | 3,341.15 | 3,342.63           | 205.27   | 2.34                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 10,939.00 | 90.30               | 356.10  | 7,845.96          | 3,436.95 | 3,438.38           | 198.41   | 1.32                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 11,034.00 | 90.40               | 356.90  | 7,845.38          | 3,531.81 | 3,533.20           | 192.61   | 0.85                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 11,129.00 | 89.50               | 357.10  | 7,845.46          | 3,626.71 | 3,628.07           | 187.64   | 0.97                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 11,224.00 | 90.70               | 357.10  | 7,845.29          | 3,721.62 | 3,722.95           | 182.83   | 1.26                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 11,319.00 | 89.30               | 358.70  | 7,845.29          | 3,816.57 | 3,817.88           | 179.35   | 2.24                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 11,413.00 | 90.80               | 0.60    | 7,845.21          | 3,910.56 | 3,911.87           | 178.78   | 2.58                   | MWD         | LEAM                 |  |
| 1/20/2015                 | 11,507.00 | 90.00               | 0.80    | 7,844.56          | 4,004.54 | 4,005.86           | 179.93   | 0.88                   | MWD         | LEAM                 |  |
| Page 2/3                  |           |                     |         |                   |          |                    |          |                        |             |                      |  |
| Report Printed: 7/23/2015 |           |                     |         |                   |          |                    |          |                        |             |                      |  |

Directional Survey



Well Name: MERLYN 27-22 FED 2H

|                        |                     |                   |                    |                        |                      |              |
|------------------------|---------------------|-------------------|--------------------|------------------------|----------------------|--------------|
| Sub-Division           | Region              | Field Name        | County             | State/Province         |                      |              |
| DELAWARE BASIN         | DELAWARE BASIN WEST | LOST TANK         | EDDY               | NM                     |                      |              |
| Surface Legal Location | API/UWI             | Latitude (°)      | Longitude (°)      | Orig KB Elevation (ft) | Ground Elev MSL (ft) | KB - GL (ft) |
| SEC34 T21S R31E        | 3001542386          | 32° 26' 22.579" N | 103° 46' 19.444" W | 3,492.20               | 3,464.20             | 28.00        |

| Survey Data |           |          |         |            |           |           |          |               |             |                |  |
|-------------|-----------|----------|---------|------------|-----------|-----------|----------|---------------|-------------|----------------|--|
| Date        | MD (ftKB) | Incl (°) | Azm (°) | TVD (ftKB) | VS (ft)   | N/S (ft)  | E/W (ft) | DLS (°/100ft) | Survey Tool | Survey Company |  |
| 1/20/2015   | 11,603.00 | 89.20    | 359.60  | 7,845.23   | 4,100.53  | 4,101.85  | 180.26   | 1.50          | MWD         | LEAM           |  |
| 1/20/2015   | 11,698.00 | 90.20    | 1.90    | 7,845.72   | 4,195.50  | 4,196.84  | 181.50   | 2.64          | MWD         | LEAM           |  |
| 1/20/2015   | 11,793.00 | 90.90    | 2.60    | 7,844.81   | 4,290.40  | 4,291.76  | 185.23   | 1.04          | MWD         | LEAM           |  |
| 1/20/2015   | 11,887.00 | 89.10    | 359.80  | 7,844.81   | 4,384.35  | 4,385.72  | 187.20   | 3.54          | MWD         | LEAM           |  |
| 1/20/2015   | 11,983.00 | 88.90    | 359.40  | 7,846.49   | 4,480.33  | 4,481.71  | 186.53   | 0.47          | MWD         | LEAM           |  |
| 1/20/2015   | 12,078.00 | 89.90    | 1.50    | 7,847.48   | 4,575.31  | 4,576.69  | 187.28   | 2.45          | MWD         | LEAM           |  |
| 1/20/2015   | 12,173.00 | 88.50    | 359.60  | 7,848.81   | 4,670.28  | 4,671.67  | 188.19   | 2.48          | MWD         | LEAM           |  |
| 1/20/2015   | 12,267.00 | 88.40    | 359.90  | 7,851.35   | 4,764.25  | 4,765.64  | 187.78   | 0.34          | MWD         | LEAM           |  |
| 1/20/2015   | 12,361.00 | 88.40    | 359.10  | 7,853.98   | 4,858.21  | 4,859.59  | 186.96   | 0.85          | MWD         | LEAM           |  |
| 1/20/2015   | 12,457.00 | 88.50    | 358.80  | 7,856.57   | 4,954.17  | 4,955.54  | 185.20   | 0.33          | MWD         | LEAM           |  |
| 1/20/2015   | 12,552.00 | 89.90    | 358.40  | 7,857.90   | 5,049.14  | 5,050.50  | 182.88   | 1.53          | MWD         | LEAM           |  |
| 1/20/2015   | 12,647.00 | 90.60    | 358.50  | 7,857.48   | 5,144.12  | 5,145.47  | 180.31   | 0.74          | MWD         | LEAM           |  |
| 1/20/2015   | 12,741.00 | 90.30    | 357.50  | 7,856.75   | 5,238.08  | 5,239.40  | 177.03   | 1.11          | MWD         | LEAM           |  |
| 1/20/2015   | 12,836.00 | 90.40    | 356.20  | 7,856.17   | 5,332.96  | 5,334.26  | 171.81   | 1.37          | MWD         | LEAM           |  |
| 1/20/2015   | 12,930.00 | 90.80    | 355.90  | 7,855.18   | 5,426.78  | 5,428.03  | 165.34   | 0.53          | MWD         | LEAM           |  |
| 1/20/2015   | 13,025.00 | 91.70    | 356.80  | 7,853.11   | 5,521.60  | 5,522.81  | 159.29   | 1.34          | MWD         | LEAM           |  |
| 1/20/2015   | 13,120.00 | 92.40    | 357.60  | 7,849.71   | 5,616.45  | 5,617.64  | 154.65   | 1.12          | MWD         | LEAM           |  |
| 1/20/2015   | 13,214.00 | 92.30    | 358.20  | 7,845.86   | 5,710.33  | 5,711.49  | 151.21   | 0.65          | MWD         | LEAM           |  |
| 1/20/2015   | 13,308.00 | 91.50    | 357.80  | 7,842.74   | 5,804.24  | 5,805.38  | 147.93   | 0.95          | MWD         | LEAM           |  |
| 1/20/2015   | 13,402.00 | 90.10    | 356.40  | 7,841.43   | 5,898.14  | 5,899.25  | 143.18   | 2.11          | MWD         | LEAM           |  |
| 1/20/2015   | 13,497.00 | 89.00    | 354.80  | 7,842.17   | 5,992.90  | 5,993.96  | 135.89   | 2.04          | MWD         | LEAM           |  |
| 1/20/2015   | 13,592.00 | 89.00    | 353.40  | 7,843.83   | 6,087.44  | 6,088.44  | 126.12   | 1.47          | MWD         | LEAM           |  |
| 1/20/2015   | 13,687.00 | 90.50    | 355.20  | 7,844.25   | 6,182.03  | 6,182.96  | 116.69   | 2.47          | MWD         | LEAM           |  |
| 1/20/2015   | 13,781.00 | 91.20    | 356.20  | 7,842.85   | 6,275.80  | 6,276.69  | 109.64   | 1.30          | MWD         | LEAM           |  |
| 1/20/2015   | 13,876.00 | 91.80    | 357.10  | 7,840.37   | 6,370.64  | 6,371.49  | 104.09   | 1.14          | MWD         | LEAM           |  |
| 1/20/2015   | 13,971.00 | 90.10    | 356.20  | 7,838.79   | 6,465.49  | 6,466.31  | 98.54    | 2.02          | MWD         | LEAM           |  |
| 1/20/2015   | 14,066.00 | 89.30    | 355.90  | 7,839.29   | 6,560.31  | 6,561.08  | 92.00    | 0.90          | MWD         | LEAM           |  |
| 1/20/2015   | 14,161.00 | 89.80    | 356.10  | 7,840.03   | 6,655.11  | 6,655.85  | 85.37    | 0.57          | MWD         | LEAM           |  |
| 1/20/2015   | 14,256.00 | 89.30    | 356.20  | 7,840.78   | 6,749.94  | 6,750.63  | 78.99    | 0.54          | MWD         | LEAM           |  |
| 1/20/2015   | 14,351.00 | 89.20    | 356.40  | 7,842.02   | 6,844.77  | 6,845.43  | 72.86    | 0.24          | MWD         | LEAM           |  |
| 1/20/2015   | 14,446.00 | 89.20    | 355.70  | 7,843.35   | 6,939.58  | 6,940.19  | 66.32    | 0.74          | MWD         | LEAM           |  |
| 1/20/2015   | 14,540.00 | 89.90    | 358.70  | 7,844.09   | 7,033.48  | 7,034.06  | 61.73    | 3.28          | MWD         | LEAM           |  |
| 1/20/2015   | 14,635.00 | 89.80    | 358.90  | 7,844.34   | 7,128.47  | 7,129.04  | 59.74    | 0.24          | MWD         | LEAM           |  |
| 1/20/2015   | 14,730.00 | 88.80    | 359.80  | 7,845.50   | 7,223.46  | 7,224.03  | 58.66    | 1.42          | MWD         | LEAM           |  |
| 1/20/2015   | 14,825.00 | 88.20    | 359.10  | 7,847.98   | 7,318.43  | 7,318.99  | 57.75    | 0.97          | MWD         | LEAM           |  |
| 1/20/2015   | 14,919.00 | 88.20    | 359.10  | 7,850.94   | 7,412.38  | 7,412.93  | 56.27    | 0.00          | MWD         | LEAM           |  |
| 1/20/2015   | 15,014.00 | 87.90    | 359.60  | 7,854.17   | 7,507.32  | 7,507.87  | 55.20    | 0.61          | MWD         | LEAM           |  |
| 1/20/2015   | 15,093.00 | 88.30    | 359.20  | 7,856.79   | 7,586.28  | 7,586.82  | 54.37    | 0.72          | MWD         | LEAM           |  |
| 1/20/2015   | 15,180.00 | 88.80    | 358.90  | 7,858.99   | 7,673.24  | 7,673.78  | 52.93    | 0.67          | MWD         | LEAM           |  |
| 1/20/2015   | 15,275.00 | 89.50    | 358.70  | 7,860.40   | 7,768.22  | 7,768.75  | 50.94    | 0.77          | MWD         | LEAM           |  |
| 1/20/2015   | 15,370.00 | 89.80    | 358.90  | 7,860.98   | 7,863.21  | 7,863.73  | 48.95    | 0.38          | MWD         | LEAM           |  |
| 1/20/2015   | 15,465.00 | 90.20    | 359.40  | 7,860.98   | 7,958.21  | 7,958.72  | 47.54    | 0.67          | MWD         | LEAM           |  |
| 1/20/2015   | 15,560.00 | 90.30    | 359.60  | 7,860.57   | 8,053.21  | 8,053.71  | 46.71    | 0.24          | MWD         | LEAM           |  |
| 1/20/2015   | 15,655.00 | 90.90    | 0.30    | 7,859.57   | 8,148.20  | 8,148.70  | 46.63    | 0.97          | MWD         | LEAM           |  |
| 1/20/2015   | 15,750.00 | 90.50    | 0.10    | 7,858.41   | 8,243.19  | 8,243.70  | 46.96    | 0.47          | MWD         | LEAM           |  |
| 1/20/2015   | 15,845.00 | 89.30    | 359.40  | 7,858.58   | 8,338.18  | 8,338.69  | 46.55    | 1.46          | MWD         | LEAM           |  |
| 1/20/2015   | 15,939.00 | 88.90    | 359.40  | 7,860.05   | 8,432.17  | 8,432.68  | 45.56    | 0.43          | MWD         | LEAM           |  |
| 1/20/2015   | 16,034.00 | 88.70    | 359.40  | 7,862.04   | 8,527.15  | 8,527.65  | 44.57    | 0.21          | MWD         | LEAM           |  |
| 1/20/2015   | 16,129.00 | 87.70    | 359.40  | 7,865.03   | 8,622.10  | 8,622.60  | 43.57    | 1.05          | MWD         | LEAM           |  |
| 1/20/2015   | 16,224.00 | 87.20    | 358.50  | 7,869.25   | 8,717.00  | 8,717.49  | 41.83    | 1.08          | MWD         | LEAM           |  |
| 1/20/2015   | 16,319.00 | 87.50    | 358.20  | 7,873.64   | 8,811.87  | 8,812.34  | 39.10    | 0.45          | MWD         | LEAM           |  |
| 1/20/2015   | 16,413.00 | 87.50    | 357.50  | 7,877.74   | 8,905.74  | 8,906.19  | 35.58    | 0.74          | MWD         | LEAM           |  |
| 1/20/2015   | 16,508.00 | 87.80    | 357.80  | 7,881.64   | 9,000.60  | 9,001.03  | 31.69    | 0.45          | MWD         | LEAM           |  |
| 1/20/2015   | 16,508.00 | 87.80    | 357.80  | 7,881.64   | 9,000.60  | 9,001.03  | 31.69    | 0.45          | MWD         | LEAM           |  |
| 1/20/2015   | 16,602.00 | 87.40    | 358.00  | 7,885.58   | 9,094.48  | 9,094.88  | 28.24    | 0.48          | MWD         | LEAM           |  |
| 1/20/2015   | 16,697.00 | 88.30    | 358.50  | 7,889.14   | 9,189.39  | 9,189.77  | 25.35    | 1.08          | MWD         | LEAM           |  |
| 1/20/2015   | 16,792.00 | 87.80    | 358.70  | 7,892.37   | 9,284.31  | 9,284.69  | 23.03    | 0.57          | MWD         | LEAM           |  |
| 1/20/2015   | 16,887.00 | 87.30    | 359.10  | 7,896.43   | 9,379.22  | 9,379.58  | 21.20    | 0.67          | MWD         | LEAM           |  |
| 1/20/2015   | 16,981.00 | 87.20    | 359.60  | 7,900.94   | 9,473.11  | 9,473.47  | 20.14    | 0.54          | MWD         | LEAM           |  |
| 1/20/2015   | 17,076.00 | 87.00    | 359.90  | 7,905.75   | 9,567.99  | 9,568.34  | 19.72    | 0.38          | MWD         | LEAM           |  |
| 1/20/2015   | 17,170.00 | 86.90    | 0.50    | 7,910.75   | 9,661.85  | 9,662.21  | 20.05    | 0.65          | MWD         | LEAM           |  |
| 1/20/2015   | 17,265.00 | 86.40    | 1.00    | 7,916.30   | 9,756.67  | 9,757.04  | 21.29    | 0.74          | MWD         | LEAM           |  |
| 1/20/2015   | 17,360.00 | 86.30    | 1.70    | 7,922.35   | 9,851.43  | 9,851.82  | 23.53    | 0.74          | MWD         | LEAM           |  |
| 1/20/2015   | 17,455.00 | 86.90    | 2.60    | 7,927.99   | 9,946.17  | 9,946.58  | 27.08    | 1.14          | MWD         | LEAM           |  |
| 1/20/2015   | 17,550.00 | 88.20    | 4.20    | 7,932.05   | 10,040.87 | 10,041.33 | 32.71    | 2.17          | MWD         | LEAM           |  |
| 1/20/2015   | 17,645.00 | 87.80    | 4.20    | 7,935.36   | 10,135.51 | 10,136.01 | 39.67    | 0.42          | MWD         | LEAM           |  |
| 1/20/2015   | 17,739.00 | 87.70    | 4.20    | 7,939.05   | 10,229.13 | 10,229.69 | 46.55    | 0.11          | MWD         | LEAM           |  |
| 1/20/2015   | 17,834.00 | 87.70    | 4.90    | 7,942.87   | 10,323.70 | 10,324.31 | 54.08    | 0.74          | MWD         | LEAM           |  |
| 1/20/2015   | 17,929.00 | 87.10    | 5.40    | 7,947.17   | 10,418.16 | 10,418.83 | 62.60    | 0.82          | MWD         | LEAM           |  |
| 1/20/2015   | 18,024.00 | 86.20    | 5.60    | 7,952.73   | 10,512.50 | 10,513.23 | 71.69    | 0.97          | MWD         | LEAM           |  |
| 1/20/2015   | 18,119.00 | 85.60    | 5.90    | 7,959.52   | 10,606.71 | 10,607.51 | 81.18    | 0.71          | MWD         | LEAM           |  |
| 1/20/2015   | 18,151.00 | 85.20    | 6.30    | 7,962.08   | 10,638.40 | 10,639.23 | 84.57    | 1.76          | MWD         | LEAM           |  |
| 1/20/2015   | 18,213.00 | 85.20    | 6.30    | 7,967.27   | 10,699.77 | 10,700.63 | 91.35    | 0.00          | BIT         | LEAM           |  |