

## Results of Directional Survey

|             |                     |           |                                            |
|-------------|---------------------|-----------|--------------------------------------------|
| API number: | <b>30-025-41695</b> |           |                                            |
| OGRID:      |                     | Operator: | <b>DEVON ENERGY PRODUCTION COMPANY, LP</b> |
|             |                     | Property: | <b>IRONHOUSE 24 STATE COM # 3H</b>         |

|              |           |               |            |                 |                 |
|--------------|-----------|---------------|------------|-----------------|-----------------|
| surface      | ULSTR:    | <b>N</b>      | <b>24</b>  | <b>T 18S</b>    | <b>R 34E</b>    |
|              |           |               |            | <b>200 FSL</b>  | <b>1980 FWL</b> |
| BH Loc       | ULSTR:    | <b>C</b>      | <b>24</b>  | <b>T 18S</b>    | <b>R 34E</b>    |
| <b>14334</b> | <b>MD</b> | <b>9571.8</b> | <b>TVD</b> | <b>323 FNL</b>  | <b>1943 FWL</b> |
|              |           |               |            | <b>4957 FSL</b> |                 |

|             |           |               |            |                |                 |
|-------------|-----------|---------------|------------|----------------|-----------------|
| Top Perf/OH | ULSTR:    | <b>N</b>      | <b>24</b>  | <b>T 18S</b>   | <b>R 34E</b>    |
| <b>9971</b> | <b>MD</b> | <b>9832.0</b> | <b>TVD</b> | <b>615 FSL</b> | <b>1984 FWL</b> |

|              |           |               |            |                 |                 |
|--------------|-----------|---------------|------------|-----------------|-----------------|
| Bot Perf/OH  | ULSTR:    | <b>C</b>      | <b>24</b>  | <b>T 18S</b>    | <b>R 34E</b>    |
| <b>14250</b> | <b>MD</b> | <b>9579.1</b> | <b>TVD</b> | <b>406 FNL</b>  | <b>1940 FWL</b> |
|              |           |               |            | <b>4874 FSL</b> |                 |

|              |              |         |        |         |
|--------------|--------------|---------|--------|---------|
|              | MD           | N/S     | E/W    | VD      |
|              | 9943         | 390.00  | 7.97   | 9819.33 |
| TOP PERFS/OH | <b>9971</b>  | 414.65  | 4.13   | 9832.04 |
|              | 9975         | 418.17  | 3.58   | 9833.86 |
|              | 14222        | 4645.66 | -40.45 | 9581.58 |
| BOT PERFS/OH | <b>14250</b> | 4673.54 | -39.70 | 9579.11 |
|              | 14279        | 4702.42 | -38.92 | 9576.56 |

|              |              |         |        |         |
|--------------|--------------|---------|--------|---------|
| NEXT TO LAST | 14279        | 4702.42 | -38.92 | 9576.56 |
| LAST READING | 14334        | 4757.19 | -37.48 | 9571.77 |
| TD           | <b>14334</b> | 4757.19 | -37.48 | 9571.77 |

|                  |         |         |
|------------------|---------|---------|
| Surface Location | 200 FS  | 1980 FW |
| Projected BHL    | 4957 FS | 1943 FW |
| Location of      |         |         |
| Top Perfs/OH     | 615 FS  | 1984 FW |
| Bottom Perfs/OH  | 4874 FS | 1940 FW |

### SUMMARY of Subsurface Locations

|                  |              |         |         |             |
|------------------|--------------|---------|---------|-------------|
| Surface Location | N-24-18S-34E | 200 FS  | 1980 FW | Vert. Depth |
| Top Perfs/OH     | N-24-18S-34E | 615 FS  | 1984 FW | 9832.04     |
| Bottom Perfs/OH  | C-24-18S-34E | 4874 FS | 1940 FW | 9579.11     |
| Projected TD     | C-24-18S-34E | 4957 FS | 1943 FW | 9571.77     |

AUG 25 2014



June 3, 2014

Devon Energy Production Co., L. P.  
333 West Sheridan Ave  
Oklahoma City, Oklahoma 73102-5010

Attn: David Cook

**Re: Ironhouse 24 State Com No. 003H**

Please find enclosed a copy of the survey from 0.00' to 9,292.00' ran on the above referenced well.

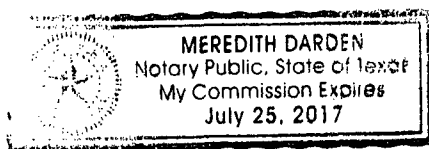
If I can be of any further service please do not hesitate to call me at 800-606-4976.

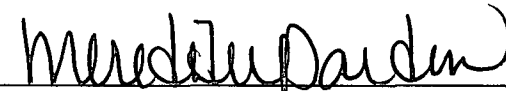
Sincerely,

  
Keith Havelka  
Operations

STATE OF TEXAS       §  
                                  §  
COUNTY OF NUECES   §

This instrument was acknowledged before me on the 3<sup>rd</sup> day of June, A.D., 2014, by Keith Havelka.



  
Meredith Darden  
Notary Public, State of Texas



Company: Devon Energy  
Lease/Well: Ironhouse 24 State Com/No. 003H



Rig Name: Cactus 126  
State/County: New Mexico/Lea  
Latitude: 32.73, Longitude: -103.52  
GRID North is 0.44 Degrees East of True North  
VS-Azi: 0.00 Degrees

Depth Reference : RKB= 25 ft

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro\_run03-01-de\_01.ut

Minimum Curvature Method

Report Date/Time: 6/3/2014 / 10:01

VES Survey International

West, Texas

(432) 563-5444

Surveyor: Javier Estrada

Ironhouse 24 State Com No. 003H / API 30-025-41695

| Measured<br>Depth<br>FT | Incl<br>Angle<br>Deg | Drift<br>Direction<br>Deg | TVD<br>FT | +N/-S<br>FT | +E/-W<br>FT | Vertical<br>Section<br>FT | Closure<br>Distance<br>FT | Closure<br>Direction<br>Deg | Dogleg<br>Severity<br>Deg/100 |
|-------------------------|----------------------|---------------------------|-----------|-------------|-------------|---------------------------|---------------------------|-----------------------------|-------------------------------|
| 0.00                    | 0.00                 | 0.00                      | 0.00      | 0.00        | 0.00        | 0.00                      | 0.00                      | 0.00                        | ****                          |
| 185.50                  | 0.39                 | 62.52                     | 185.50    | 0.29        | 0.56        | 0.29                      | 0.63                      | 62.52                       | 0.21                          |
| 277.00                  | 0.44                 | 37.97                     | 277.00    | 0.71        | 1.05        | 0.71                      | 1.26                      | 55.88                       | 0.20                          |
| 368.50                  | 0.22                 | 112.60                    | 368.50    | 0.92        | 1.42        | 0.92                      | 1.69                      | 57.16                       | 0.48                          |
| 460.00                  | 0.22                 | 121.88                    | 459.99    | 0.76        | 1.73        | 0.76                      | 1.89                      | 66.31                       | 0.04                          |
| 551.50                  | 0.25                 | 119.93                    | 551.49    | 0.57        | 2.05        | 0.57                      | 2.13                      | 74.58                       | 0.04                          |
| 643.00                  | 0.23                 | 118.89                    | 642.99    | 0.38        | 2.39        | 0.38                      | 2.42                      | 81.04                       | 0.03                          |
| 734.50                  | 0.28                 | 113.97                    | 734.49    | 0.20        | 2.75        | 0.20                      | 2.76                      | 85.88                       | 0.06                          |
| 826.00                  | 0.27                 | 120.47                    | 825.99    | 0.00        | 3.14        | 0.00                      | 3.14                      | 89.99                       | 0.04                          |
| 917.50                  | 0.21                 | 148.34                    | 917.49    | -0.25       | 3.41        | -0.25                     | 3.42                      | 94.18                       | 0.14                          |
| 1009.00                 | 0.21                 | 160.78                    | 1008.99   | -0.55       | 3.55        | -0.55                     | 3.60                      | 98.85                       | 0.05                          |
| 1100.50                 | 0.11                 | 294.99                    | 1100.49   | -0.68       | 3.53        | -0.68                     | 3.60                      | 100.88                      | 0.33                          |
| 1192.00                 | 0.04                 | 271.14                    | 1191.99   | -0.64       | 3.42        | -0.64                     | 3.48                      | 100.63                      | 0.08                          |
| 1283.50                 | 0.08                 | 308.17                    | 1283.49   | -0.60       | 3.34        | -0.60                     | 3.39                      | 100.20                      | 0.06                          |
| 1375.00                 | 0.33                 | 167.35                    | 1374.99   | -0.82       | 3.34        | -0.82                     | 3.44                      | 103.76                      | 0.44                          |
| 1466.50                 | 0.82                 | 157.74                    | 1466.48   | -1.69       | 3.65        | -1.69                     | 4.02                      | 114.81                      | 0.55                          |
| 1558.00                 | 0.08                 | 221.37                    | 1557.98   | -2.34       | 3.86        | -2.34                     | 4.52                      | 121.25                      | 0.87                          |
| 1649.50                 | 0.39                 | 228.87                    | 1649.48   | -2.59       | 3.59        | -2.59                     | 4.42                      | 125.87                      | 0.34                          |
| 1741.00                 | 0.17                 | 133.93                    | 1740.98   | -2.89       | 3.45        | -2.89                     | 4.50                      | 129.98                      | 0.48                          |

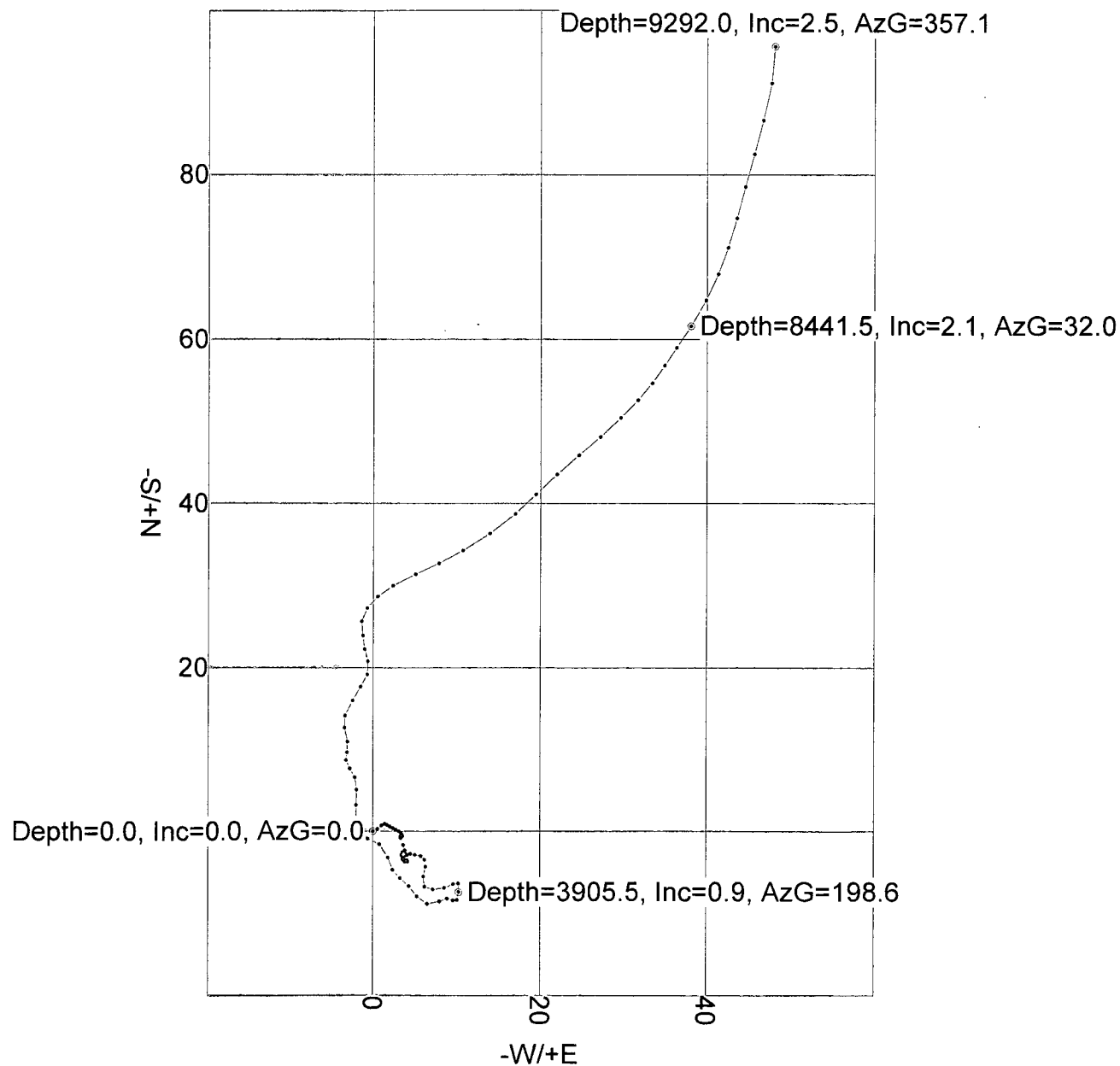
| Measured<br>Depth<br>FT | Incl<br>Angle<br>Deg | Drift<br>Direction<br>Deg | TVD<br>FT | +N/-S<br>FT | +E/-W<br>FT | Vertical<br>Section<br>FT | Closure<br>Distance<br>FT | Closure<br>Direction<br>Deg | Dogleg<br>Severity<br>Deg/100 |
|-------------------------|----------------------|---------------------------|-----------|-------------|-------------|---------------------------|---------------------------|-----------------------------|-------------------------------|
| 1832.50                 | 0.46                 | 169.65                    | 1832.48   | -3.34       | 3.61        | -3.34                     | 4.92                      | 132.80                      | 0.37                          |
| 1924.00                 | 0.23                 | 92.88                     | 1923.98   | -3.71       | 3.86        | -3.71                     | 5.35                      | 133.88                      | 0.51                          |
| 2015.50                 | 0.18                 | 69.29                     | 2015.48   | -3.67       | 4.18        | -3.67                     | 5.56                      | 131.27                      | 0.11                          |
| 2110.00                 | 0.30                 | 289.21                    | 2109.98   | -3.53       | 4.08        | -3.53                     | 5.40                      | 130.85                      | 0.49                          |
| 2204.50                 | 0.13                 | 266.34                    | 2204.47   | -3.45       | 3.74        | -3.45                     | 5.09                      | 132.73                      | 0.20                          |
| 2299.00                 | 0.03                 | 221.98                    | 2298.97   | -3.48       | 3.62        | -3.48                     | 5.02                      | 133.90                      | 0.12                          |
| 2393.50                 | 0.34                 | 6.61                      | 2393.47   | -3.22       | 3.63        | -3.22                     | 4.85                      | 131.59                      | 0.38                          |
| 2488.00                 | 0.26                 | 39.75                     | 2487.97   | -2.78       | 3.80        | -2.78                     | 4.71                      | 126.17                      | 0.20                          |
| 2582.50                 | 0.14                 | 191.90                    | 2582.47   | -2.73       | 3.92        | -2.73                     | 4.77                      | 124.85                      | 0.42                          |
| 2677.00                 | 0.13                 | 179.40                    | 2676.97   | -2.95       | 3.89        | -2.95                     | 4.89                      | 127.18                      | 0.03                          |
| 2771.50                 | 0.34                 | 51.94                     | 2771.47   | -2.89       | 4.12        | -2.89                     | 5.03                      | 125.07                      | 0.46                          |
| 2866.00                 | 0.22                 | 102.03                    | 2865.97   | -2.75       | 4.51        | -2.75                     | 5.29                      | 121.39                      | 0.28                          |
| 2960.50                 | 0.44                 | 102.11                    | 2960.47   | -2.87       | 5.04        | -2.87                     | 5.80                      | 119.61                      | 0.24                          |
| 3055.00                 | 0.43                 | 101.92                    | 3054.97   | -3.02       | 5.75        | -3.02                     | 6.49                      | 117.68                      | 0.01                          |
| 3149.50                 | 0.47                 | 164.69                    | 3149.46   | -3.47       | 6.20        | -3.47                     | 7.11                      | 119.20                      | 0.50                          |
| 3244.00                 | 0.58                 | 177.99                    | 3243.96   | -4.32       | 6.32        | -4.32                     | 7.66                      | 124.35                      | 0.17                          |
| 3338.50                 | 0.93                 | 201.72                    | 3338.45   | -5.52       | 6.05        | -5.52                     | 8.19                      | 132.33                      | 0.49                          |
| 3433.00                 | 0.83                 | 140.05                    | 3432.94   | -6.75       | 6.21        | -6.75                     | 9.17                      | 137.42                      | 0.96                          |
| 3527.50                 | 0.73                 | 73.80                     | 3527.44   | -7.11       | 7.22        | -7.11                     | 10.13                     | 134.56                      | 0.90                          |
| 3622.00                 | 0.93                 | 87.82                     | 3621.93   | -6.91       | 8.56        | -6.91                     | 11.00                     | 128.92                      | 0.30                          |
| 3716.50                 | 0.63                 | 34.39                     | 3716.42   | -6.45       | 9.62        | -6.45                     | 11.58                     | 123.85                      | 0.80                          |
| 3811.00                 | 0.55                 | 139.15                    | 3810.91   | -6.36       | 10.21       | -6.36                     | 12.03                     | 121.93                      | 0.99                          |
| 3905.50                 | 0.89                 | 198.61                    | 3905.41   | -7.41       | 10.27       | -7.41                     | 12.66                     | 125.78                      | 0.82                          |
| 4000.00                 | 0.37                 | 175.15                    | 3999.90   | -8.40       | 10.06       | -8.40                     | 13.11                     | 129.86                      | 0.61                          |
| 4094.50                 | 0.68                 | 296.43                    | 4094.40   | -8.45       | 9.59        | -8.45                     | 12.78                     | 131.41                      | 0.98                          |
| 4189.00                 | 0.24                 | 269.41                    | 4188.90   | -8.21       | 8.89        | -8.21                     | 12.10                     | 132.72                      | 0.51                          |
| 4283.50                 | 0.97                 | 242.53                    | 4283.39   | -8.58       | 7.98        | -8.58                     | 11.71                     | 137.08                      | 0.81                          |
| 4378.00                 | 0.89                 | 276.91                    | 4377.88   | -8.86       | 6.54        | -8.86                     | 11.01                     | 143.56                      | 0.59                          |
| 4472.50                 | 1.20                 | 327.64                    | 4472.37   | -7.94       | 5.29        | -7.94                     | 9.53                      | 146.33                      | 0.99                          |
| 4567.00                 | 0.72                 | 314.48                    | 4566.85   | -6.68       | 4.33        | -6.68                     | 7.96                      | 147.05                      | 0.55                          |
| 4661.50                 | 1.00                 | 310.55                    | 4661.34   | -5.73       | 3.28        | -5.73                     | 6.60                      | 150.22                      | 0.30                          |
| 4756.00                 | 0.65                 | 330.24                    | 4755.83   | -4.72       | 2.38        | -4.72                     | 5.29                      | 153.24                      | 0.48                          |
| 4850.50                 | 1.34                 | 343.82                    | 4850.32   | -3.20       | 1.81        | -3.20                     | 3.67                      | 150.51                      | 0.77                          |
| 4945.00                 | 1.08                 | 307.20                    | 4944.80   | -1.60       | 0.79        | -1.60                     | 1.79                      | 153.64                      | 0.84                          |
| 5039.50                 | 0.89                 | 279.49                    | 5039.28   | -0.94       | -0.64       | -0.94                     | 1.14                      | 213.98                      | 0.53                          |
| 5134.00                 | 0.77                 | 335.47                    | 5133.78   | -0.24       | -1.62       | -0.24                     | 1.64                      | 261.52                      | 0.83                          |
| 5228.50                 | 1.11                 | 349.88                    | 5228.26   | 1.24        | -2.05       | 1.24                      | 2.40                      | 301.21                      | 0.43                          |
| 5323.00                 | 1.29                 | 7.66                      | 5322.74   | 3.20        | -2.07       | 3.20                      | 3.81                      | 327.08                      | 0.43                          |
| 5417.50                 | 1.02                 | 353.36                    | 5417.22   | 5.09        | -2.03       | 5.09                      | 5.48                      | 338.29                      | 0.41                          |

| Measured<br>Depth<br>FT | Incl<br>Angle<br>Deg | Drift<br>Direction<br>Deg | TVD<br>FT | +N/-S<br>FT | +E/-W<br>FT | Vertical<br>Section<br>FT | Closure<br>Distance<br>FT | Closure<br>Direction<br>Deg | Dogleg<br>Severity<br>Deg/100 |
|-------------------------|----------------------|---------------------------|-----------|-------------|-------------|---------------------------|---------------------------|-----------------------------|-------------------------------|
| 5512.00                 | 0.80                 | 351.40                    | 5511.71   | 6.58        | -2.22       | 6.58                      | 6.95                      | 341.34                      | 0.24                          |
| 5606.50                 | 0.82                 | 310.09                    | 5606.20   | 7.67        | -2.84       | 7.67                      | 8.18                      | 339.69                      | 0.61                          |
| 5701.00                 | 0.72                 | 5.19                      | 5700.69   | 8.70        | -3.30       | 8.70                      | 9.31                      | 339.21                      | 0.76                          |
| 5795.50                 | 0.43                 | 9.32                      | 5795.19   | 9.64        | -3.19       | 9.64                      | 10.16                     | 341.69                      | 0.31                          |
| 5890.00                 | 1.18                 | 0.32                      | 5889.68   | 10.97       | -3.13       | 10.97                     | 11.40                     | 344.08                      | 0.80                          |
| 5984.50                 | 0.97                 | 333.58                    | 5984.16   | 12.66       | -3.48       | 12.66                     | 13.13                     | 344.62                      | 0.57                          |
| 6079.00                 | 1.05                 | 26.79                     | 6078.65   | 14.15       | -3.45       | 14.15                     | 14.56                     | 346.30                      | 0.96                          |
| 6173.50                 | 1.44                 | 27.42                     | 6173.13   | 15.97       | -2.51       | 15.97                     | 16.17                     | 351.06                      | 0.41                          |
| 6268.00                 | 0.93                 | 32.80                     | 6267.61   | 17.67       | -1.55       | 17.67                     | 17.74                     | 354.98                      | 0.55                          |
| 6362.50                 | 1.16                 | 25.05                     | 6362.09   | 19.18       | -0.73       | 19.18                     | 19.20                     | 357.82                      | 0.28                          |
| 6457.00                 | 0.96                 | 335.35                    | 6456.58   | 20.77       | -0.66       | 20.77                     | 20.78                     | 358.19                      | 0.96                          |
| 6551.50                 | 0.93                 | 354.38                    | 6551.07   | 22.25       | -1.06       | 22.25                     | 22.27                     | 357.27                      | 0.33                          |
| 6646.00                 | 1.10                 | 351.79                    | 6645.55   | 23.90       | -1.26       | 23.90                     | 23.93                     | 356.97                      | 0.18                          |
| 6740.50                 | 1.02                 | 358.27                    | 6740.03   | 25.63       | -1.42       | 25.63                     | 25.67                     | 356.83                      | 0.15                          |
| 6835.00                 | 1.29                 | 40.51                     | 6834.52   | 27.28       | -0.75       | 27.28                     | 27.29                     | 358.42                      | 0.92                          |
| 6929.50                 | 1.03                 | 46.17                     | 6929.00   | 28.68       | 0.55        | 28.68                     | 28.69                     | 1.10                        | 0.30                          |
| 7024.00                 | 1.72                 | 59.48                     | 7023.47   | 29.99       | 2.39        | 29.99                     | 30.09                     | 4.56                        | 0.80                          |
| 7118.50                 | 1.94                 | 65.18                     | 7117.92   | 31.39       | 5.07        | 31.39                     | 31.79                     | 9.18                        | 0.30                          |
| 7213.00                 | 1.80                 | 63.63                     | 7212.37   | 32.72       | 7.85        | 32.72                     | 33.65                     | 13.50                       | 0.16                          |
| 7307.50                 | 2.13                 | 59.36                     | 7306.82   | 34.27       | 10.69       | 34.27                     | 35.90                     | 17.32                       | 0.39                          |
| 7402.00                 | 2.54                 | 55.37                     | 7401.24   | 36.36       | 13.92       | 36.36                     | 38.93                     | 20.96                       | 0.46                          |
| 7496.50                 | 2.18                 | 48.44                     | 7495.66   | 38.74       | 16.99       | 38.74                     | 42.30                     | 23.68                       | 0.48                          |
| 7591.00                 | 1.96                 | 43.86                     | 7590.10   | 41.10       | 19.46       | 41.10                     | 45.47                     | 25.34                       | 0.29                          |
| 7685.50                 | 2.32                 | 47.72                     | 7684.53   | 43.55       | 22.00       | 43.55                     | 48.79                     | 26.80                       | 0.41                          |
| 7780.00                 | 1.94                 | 49.24                     | 7778.96   | 45.88       | 24.62       | 45.88                     | 52.07                     | 28.22                       | 0.41                          |
| 7874.50                 | 2.15                 | 48.91                     | 7873.40   | 48.09       | 27.17       | 48.09                     | 55.23                     | 29.46                       | 0.23                          |
| 7969.00                 | 1.98                 | 44.03                     | 7967.84   | 50.43       | 29.64       | 50.43                     | 58.50                     | 30.44                       | 0.26                          |
| 8063.50                 | 1.63                 | 44.13                     | 8062.29   | 52.58       | 31.72       | 52.58                     | 61.40                     | 31.10                       | 0.37                          |
| 8158.00                 | 1.66                 | 35.64                     | 8156.76   | 54.66       | 33.45       | 54.66                     | 64.08                     | 31.47                       | 0.26                          |
| 8252.50                 | 1.51                 | 33.42                     | 8251.22   | 56.81       | 34.93       | 56.81                     | 66.69                     | 31.59                       | 0.16                          |
| 8347.00                 | 1.65                 | 33.77                     | 8345.68   | 58.98       | 36.38       | 58.98                     | 69.30                     | 31.67                       | 0.15                          |
| 8441.50                 | 2.14                 | 32.04                     | 8440.13   | 61.61       | 38.07       | 61.61                     | 72.42                     | 31.71                       | 0.51                          |
| 8536.00                 | 2.23                 | 27.76                     | 8534.56   | 64.72       | 39.86       | 64.72                     | 76.01                     | 31.63                       | 0.20                          |
| 8630.50                 | 2.03                 | 21.20                     | 8629.00   | 67.91       | 41.32       | 67.91                     | 79.49                     | 31.32                       | 0.33                          |
| 8725.00                 | 2.13                 | 18.30                     | 8723.44   | 71.14       | 42.48       | 71.14                     | 82.85                     | 30.84                       | 0.15                          |
| 8819.50                 | 2.40                 | 15.35                     | 8817.86   | 74.71       | 43.55       | 74.71                     | 86.48                     | 30.24                       | 0.32                          |
| 8914.00                 | 2.42                 | 14.87                     | 8912.28   | 78.55       | 44.59       | 78.55                     | 90.32                     | 29.58                       | 0.03                          |
| 9008.50                 | 2.56                 | 15.08                     | 9006.69   | 82.51       | 45.65       | 82.51                     | 94.30                     | 28.95                       | 0.15                          |
| 9103.00                 | 2.60                 | 13.73                     | 9101.09   | 86.63       | 46.71       | 86.63                     | 98.42                     | 28.33                       | 0.08                          |

| Measured<br>Depth<br>FT | Incl<br>Angle<br>Deg | Drift<br>Direction<br>Deg | TVD<br>FT | +N/-S<br>FT | +E/-W<br>FT | Vertical<br>Section<br>FT | Closure<br>Distance<br>FT | Closure<br>Direction<br>Deg | Dogleg<br>Severity<br>Deg/100 |
|-------------------------|----------------------|---------------------------|-----------|-------------|-------------|---------------------------|---------------------------|-----------------------------|-------------------------------|
| 9197.50                 | 2.98                 | 11.55                     | 9195.48   | 91.12       | 47.71       | 91.12                     | 102.85                    | 27.63                       | 0.42                          |
| 9292.00                 | 2.53                 | 357.13                    | 9289.87   | 95.61       | 48.09       | 95.61                     | 107.03                    | 26.70                       | 0.87                          |



VES Survey International  
West, Texas  
(432) 563-5444  
Surveyor: Javier Estrada  
Ironhouse 24 State Com No. 003H / API 30-025-41695



VES Survey Date: 05/24/2014



## IRONHOUSE 24 STATE COM 3H

WEST UNRESTRICTED

## Directional Survey

|                                            |                       |                                  |                                     |                            |                       |                               |                            |
|--------------------------------------------|-----------------------|----------------------------------|-------------------------------------|----------------------------|-----------------------|-------------------------------|----------------------------|
| District<br>DELAWARE BASIN                 | County<br>LEA         | Field Name<br>MESCALERO ESCARPE  | Project Group<br>DELAWARE BASIN REG | State/Province<br>NM       |                       |                               |                            |
| Surface Legal Location<br>SEC 24 T18S R34E | API/UWI<br>3002541695 | Latitude (")<br>32° 44' 20.69" N | Longitude (")<br>103° 28' 18.16" W  | Ground Elev...<br>3,576.20 | KB - GL (ft)<br>25.00 | Orig KB Elev (ft)<br>3,601.20 | Tubing Head Elevation (ft) |

## Wellbores

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

## Deviation Survey

|                   |                   |                         |                    |               |                |
|-------------------|-------------------|-------------------------|--------------------|---------------|----------------|
| Date<br>5/12/2014 |                   | Description<br>GYRO/MWD |                    |               |                |
| MD Tie In (ftKB)  | TVD Tie In (ftKB) | Inclination Tie In (°)  | Azimuth Tie In (°) | NSTie In (ft) | EW Tie In (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          |
|-----------|-----------|----------|---------|------------|---------|----------|----------|------------------|----------------|-------------------------|
| 5/25/2014 | 185.50    | 0.39     | 62.52   | 185.50     | 0.29    | 0.29     | 0.56     | 0.21             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 277.00    | 0.44     | 37.97   | 277.00     | 0.70    | 0.71     | 1.05     | 0.20             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 368.50    | 0.22     | 112.60  | 368.49     | 0.91    | 0.92     | 1.43     | 0.48             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 460.00    | 0.22     | 121.88  | 459.99     | 0.75    | 0.76     | 1.74     | 0.04             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 551.50    | 0.25     | 119.93  | 551.49     | 0.55    | 0.57     | 2.06     | 0.03             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 643.00    | 0.23     | 118.89  | 642.99     | 0.36    | 0.38     | 2.40     | 0.02             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 734.50    | 0.28     | 113.97  | 734.49     | 0.18    | 0.20     | 2.76     | 0.06             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 826.00    | 0.27     | 120.47  | 825.99     | -0.02   | 0.00     | 3.15     | 0.04             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 917.50    | 0.21     | 148.34  | 917.49     | -0.28   | -0.25    | 3.43     | 0.14             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 1,009.00  | 0.21     | 160.78  | 1,008.99   | -0.58   | -0.55    | 3.57     | 0.05             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 1,100.50  | 0.11     | 294.99  | 1,100.49   | -0.70   | -0.67    | 3.55     | 0.32             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 1,192.00  | 0.04     | 271.14  | 1,191.99   | -0.66   | -0.64    | 3.43     | 0.08             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 1,283.50  | 0.08     | 308.17  | 1,283.49   | -0.62   | -0.60    | 3.35     | 0.06             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 1,375.00  | 0.33     | 167.35  | 1,374.99   | -0.84   | -0.81    | 3.36     | 0.43             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 1,466.50  | 0.82     | 157.74  | 1,466.48   | -1.71   | -1.68    | 3.67     | 0.54             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 1,558.00  | 0.08     | 221.37  | 1,557.98   | -2.36   | -2.33    | 3.87     | 0.86             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 1,649.50  | 0.39     | 228.87  | 1,649.48   | -2.61   | -2.58    | 3.59     | 0.34             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 1,741.00  | 0.17     | 133.93  | 1,740.98   | -2.91   | -2.88    | 3.46     | 0.48             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 1,832.50  | 0.46     | 169.65  | 1,832.48   | -3.37   | -3.34    | 3.62     | 0.37             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 1,924.00  | 0.23     | 92.88   | 1,923.98   | -3.74   | -3.71    | 3.87     | 0.51             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 2,015.50  | 0.18     | 69.29   | 2,015.48   | -3.70   | -3.67    | 4.19     | 0.11             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 2,110.00  | 0.30     | 289.21  | 2,109.98   | -3.57   | -3.53    | 4.09     | 0.48             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 2,204.50  | 0.13     | 266.34  | 2,204.47   | -3.49   | -3.46    | 3.75     | 0.20             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 2,299.00  | 0.03     | 221.98  | 2,298.97   | -3.51   | -3.48    | 3.63     | 0.12             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 2,393.50  | 0.34     | 6.61    | 2,393.47   | -3.25   | -3.22    | 3.65     | 0.39             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 2,488.00  | 0.26     | 39.75   | 2,487.97   | -2.81   | -2.78    | 3.81     | 0.20             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 2,582.50  | 0.14     | 191.90  | 2,582.47   | -2.76   | -2.73    | 3.93     | 0.41             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 2,677.00  | 0.13     | 179.40  | 2,676.97   | -2.98   | -2.95    | 3.91     | 0.03             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 2,771.50  | 0.34     | 51.94   | 2,771.47   | -2.92   | -2.88    | 4.13     | 0.46             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 2,866.00  | 0.22     | 102.03  | 2,865.97   | -2.78   | -2.75    | 4.53     | 0.28             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 2,960.50  | 0.44     | 102.11  | 2,960.47   | -2.90   | -2.86    | 5.06     | 0.23             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 3,055.00  | 0.43     | 101.92  | 3,054.97   | -3.06   | -3.01    | 5.76     | 0.01             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 3,149.50  | 0.47     | 164.69  | 3,149.46   | -3.51   | -3.46    | 6.21     | 0.50             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 3,244.00  | 0.58     | 177.99  | 3,243.96   | -4.36   | -4.31    | 6.33     | 0.17             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 3,338.50  | 0.93     | 201.72  | 3,338.45   | -5.55   | -5.50    | 6.06     | 0.49             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 3,433.00  | 0.83     | 140.05  | 3,432.94   | -6.79   | -6.74    | 6.22     | 0.96             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 3,527.50  | 0.73     | 73.80   | 3,527.44   | -7.15   | -7.09    | 7.23     | 0.91             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 3,622.00  | 0.93     | 87.82   | 3,621.93   | -6.97   | -6.90    | 8.58     | 0.30             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 3,716.50  | 0.63     | 34.39   | 3,716.42   | -6.52   | -6.44    | 9.64     | 0.79             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 3,811.00  | 0.55     | 139.15  | 3,810.91   | -6.44   | -6.35    | 10.23    | 0.99             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 3,905.50  | 0.89     | 198.61  | 3,905.41   | -7.47   | -7.39    | 10.29    | 0.82             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 4,000.00  | 0.37     | 175.15  | 3,999.90   | -8.47   | -8.39    | 10.08    | 0.60             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 4,094.50  | 0.68     | 296.43  | 4,094.40   | -8.52   | -8.45    | 9.61     | 0.98             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 4,189.00  | 0.24     | 269.41  | 4,188.90   | -8.27   | -8.20    | 8.91     | 0.51             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 4,283.50  | 0.97     | 242.53  | 4,283.39   | -8.63   | -8.57    | 8.00     | 0.81             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 4,378.00  | 0.89     | 276.91  | 4,377.88   | -8.90   | -8.85    | 6.56     | 0.59             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 4,472.50  | 1.20     | 327.64  | 4,472.37   | -7.97   | -7.93    | 5.30     | 0.99             | GYRO           | VAUHG N ENERGY SERVICES |





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## Survey Data

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|-----------|-----------|----------|---------|------------|---------|----------|----------|------------------|----------------|-------------------------|
| 5/25/2014 | 4,567.00  | 0.72     | 314.48  | 4,566.85   | -6.71   | -6.67    | 4.35     | 0.56             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 4,661.50  | 1.00     | 310.55  | 4,661.34   | -5.75   | -5.72    | 3.30     | 0.30             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 4,756.00  | 0.65     | 330.24  | 4,755.83   | -4.74   | -4.72    | 2.41     | 0.47             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 4,850.50  | 1.34     | 343.82  | 4,850.32   | -3.21   | -3.19    | 1.83     | 0.77             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 4,945.00  | 1.08     | 307.20  | 4,944.80   | -1.60   | -1.59    | 0.81     | 0.85             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 5,039.50  | 0.89     | 279.49  | 5,039.28   | -0.93   | -0.93    | -0.62    | 0.54             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 5,134.00  | 0.77     | 335.47  | 5,133.78   | -0.22   | -0.24    | -1.61    | 0.83             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 5,228.50  | 1.11     | 349.88  | 5,228.26   | 1.26    | 1.24     | -2.03    | 0.44             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 5,323.00  | 1.29     | 7.66    | 5,322.74   | 3.21    | 3.20     | -2.05    | 0.44             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 5,417.50  | 1.02     | 353.36  | 5,417.22   | 5.10    | 5.09     | -2.01    | 0.42             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 5,512.00  | 0.80     | 351.40  | 5,511.71   | 6.59    | 6.58     | -2.20    | 0.24             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 5,606.50  | 0.82     | 310.09  | 5,606.20   | 7.69    | 7.66     | -2.82    | 0.61             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 5,701.00  | 0.72     | 5.19    | 5,700.70   | 8.72    | 8.69     | -3.28    | 0.76             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 5,795.50  | 0.43     | 9.32    | 5,795.19   | 9.66    | 9.63     | -3.17    | 0.31             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 5,890.00  | 1.18     | 0.32    | 5,889.68   | 10.98   | 10.95    | -3.11    | 0.80             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 5,984.50  | 0.97     | 333.58  | 5,984.16   | 12.67   | 12.64    | -3.46    | 0.57             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 6,079.00  | 1.05     | 26.79   | 6,078.65   | 14.16   | 14.13    | -3.42    | 0.96             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 6,173.50  | 1.44     | 27.42   | 6,173.13   | 15.98   | 15.96    | -2.49    | 0.41             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 6,268.00  | 0.93     | 32.80   | 6,267.61   | 17.67   | 17.66    | -1.52    | 0.55             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 6,362.50  | 1.16     | 25.05   | 6,362.09   | 19.17   | 19.17    | -0.70    | 0.29             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 6,457.00  | 0.96     | 335.35  | 6,456.58   | 20.76   | 20.76    | -0.63    | 0.96             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 6,551.50  | 0.93     | 354.38  | 6,551.07   | 22.25   | 22.24    | -1.03    | 0.33             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 6,646.00  | 1.10     | 351.79  | 6,645.55   | 23.91   | 23.90    | -1.24    | 0.19             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 6,740.50  | 1.02     | 358.27  | 6,740.03   | 25.65   | 25.64    | -1.39    | 0.15             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 6,835.00  | 1.29     | 40.51   | 6,834.52   | 27.29   | 27.29    | -0.73    | 0.92             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 6,929.50  | 1.03     | 46.17   | 6,929.00   | 28.68   | 28.68    | 0.58     | 0.30             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 7,024.00  | 1.72     | 59.48   | 7,023.47   | 29.97   | 29.99    | 2.41     | 0.80             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 7,118.50  | 1.94     | 65.18   | 7,117.92   | 31.34   | 31.38    | 5.08     | 0.30             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 7,213.00  | 1.80     | 63.63   | 7,212.37   | 32.65   | 32.72    | 7.87     | 0.16             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 7,307.50  | 2.13     | 59.36   | 7,306.82   | 34.18   | 34.27    | 10.71    | 0.38             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 7,402.00  | 2.54     | 55.37   | 7,401.24   | 36.24   | 36.35    | 13.94    | 0.47             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 7,496.50  | 2.18     | 48.44   | 7,495.66   | 38.60   | 38.74    | 17.01    | 0.49             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 7,591.00  | 1.96     | 43.86   | 7,590.10   | 40.94   | 41.09    | 19.47    | 0.29             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 7,685.50  | 2.32     | 47.72   | 7,684.53   | 43.37   | 43.55    | 22.01    | 0.41             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 7,780.00  | 1.94     | 49.24   | 7,778.96   | 45.68   | 45.88    | 24.63    | 0.41             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 7,874.50  | 2.15     | 48.91   | 7,873.40   | 47.87   | 48.09    | 27.18    | 0.22             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 7,969.00  | 1.98     | 44.03   | 7,967.84   | 50.19   | 50.43    | 29.65    | 0.26             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 8,063.50  | 1.63     | 44.13   | 8,062.30   | 52.31   | 52.56    | 31.72    | 0.37             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 8,158.00  | 1.66     | 35.64   | 8,156.76   | 54.37   | 54.64    | 33.46    | 0.26             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 8,252.50  | 1.51     | 33.42   | 8,251.22   | 56.51   | 56.79    | 34.94    | 0.17             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 8,347.00  | 1.65     | 33.77   | 8,345.68   | 58.67   | 58.96    | 36.38    | 0.15             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 8,441.50  | 2.14     | 32.04   | 8,440.13   | 61.28   | 61.59    | 38.07    | 0.52             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 8,536.00  | 2.23     | 27.76   | 8,534.56   | 64.39   | 64.71    | 39.87    | 0.20             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 8,630.50  | 2.03     | 21.20   | 8,629.00   | 67.57   | 67.90    | 41.33    | 0.33             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 8,725.00  | 2.13     | 18.30   | 8,723.44   | 70.79   | 71.13    | 42.49    | 0.15             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 8,819.50  | 2.40     | 15.35   | 8,817.86   | 74.35   | 74.70    | 43.56    | 0.31             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 8,914.00  | 2.42     | 14.87   | 8,912.28   | 78.18   | 78.54    | 44.60    | 0.03             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 9,008.50  | 2.56     | 15.08   | 9,006.69   | 82.14   | 82.50    | 45.66    | 0.15             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 9,103.00  | 2.60     | 13.73   | 9,101.09   | 86.25   | 86.62    | 46.71    | 0.08             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 9,197.50  | 2.98     | 11.55   | 9,195.48   | 90.73   | 91.11    | 47.72    | 0.42             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 9,292.00  | 2.53     | 357.13  | 9,289.87   | 95.22   | 95.60    | 48.10    | 0.87             | GYRO           | VAUHG N ENERGY SERVICES |
| 5/25/2014 | 9,376.00  | 2.20     | 9.90    | 9,373.80   | 98.65   | 99.04    | 48.29    | 0.74             | MWD            | LEAM DRILLING SYSTEMS   |
| 5/25/2014 | 9,439.00  | 2.60     | 7.10    | 9,436.75   | 101.26  | 101.65   | 48.67    | 0.66             | MWD            | LEAM DRILLING SYSTEMS   |
| 5/25/2014 | 9,470.00  | 6.20     | 0.80    | 9,467.65   | 103.63  | 104.03   | 48.78    | 11.70            | MWD            | LEAM DRILLING SYSTEMS   |
| 5/25/2014 | 9,501.00  | 11.20    | 358.70  | 9,498.28   | 108.32  | 108.71   | 48.74    | 16.16            | MWD            | LEAM DRILLING SYSTEMS   |



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| Surface Legal Location<br>SEC 24 T18S R34E | API/UWI<br>3002541695 | Latitude (°)<br>32° 44' 20.69" N | Longitude (°)<br>103° 28' 18.16" W  | Ground Elev...<br>3,576.20 | KB - GL (ft)<br>25.00 | Orig KB Elev (ft)<br>3,601.20 | 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        |
|-----------|-----------|----------|---------|------------|----------|----------|----------|------------------|----------------|-----------------------|
| 5/25/2014 | 9,533.00  | 17.10    | 357.60  | 9,529.30   | 116.13   | 116.53   | 48.47    | 18.46            | MWD            | LEAM DRILLING SYSTEMS |
| 5/25/2014 | 9,565.00  | 22.70    | 355.50  | 9,559.38   | 127.00   | 127.39   | 47.79    | 17.64            | MWD            | LEAM DRILLING SYSTEMS |
| 5/25/2014 | 9,596.00  | 28.90    | 352.50  | 9,587.27   | 140.42   | 140.79   | 46.34    | 20.43            | MWD            | LEAM DRILLING SYSTEMS |
| 5/25/2014 | 9,628.00  | 33.80    | 351.30  | 9,614.60   | 156.91   | 157.27   | 43.98    | 15.44            | MWD            | LEAM DRILLING SYSTEMS |
| 5/25/2014 | 9,659.00  | 37.40    | 350.60  | 9,639.80   | 174.75   | 175.09   | 41.14    | 11.69            | MWD            | LEAM DRILLING SYSTEMS |
| 5/25/2014 | 9,691.00  | 40.90    | 350.20  | 9,664.61   | 194.70   | 195.00   | 37.77    | 10.97            | MWD            | LEAM DRILLING SYSTEMS |
| 5/25/2014 | 9,723.00  | 44.40    | 349.70  | 9,688.14   | 216.07   | 216.35   | 33.98    | 10.99            | MWD            | LEAM DRILLING SYSTEMS |
| 5/25/2014 | 9,754.00  | 47.00    | 349.90  | 9,709.79   | 237.93   | 238.18   | 30.05    | 8.40             | MWD            | LEAM DRILLING SYSTEMS |
| 5/25/2014 | 9,786.00  | 50.10    | 350.70  | 9,730.97   | 261.60   | 261.82   | 26.02    | 9.87             | MWD            | LEAM DRILLING SYSTEMS |
| 5/25/2014 | 9,817.00  | 52.30    | 351.60  | 9,750.40   | 285.50   | 285.69   | 22.30    | 7.45             | MWD            | LEAM DRILLING SYSTEMS |
| 5/25/2014 | 9,849.00  | 54.30    | 352.30  | 9,769.52   | 310.93   | 311.09   | 18.71    | 6.49             | MWD            | LEAM DRILLING SYSTEMS |
| 5/25/2014 | 9,881.00  | 56.70    | 352.50  | 9,787.64   | 337.10   | 337.23   | 15.23    | 7.52             | MWD            | LEAM DRILLING SYSTEMS |
| 5/25/2014 | 9,912.00  | 59.30    | 352.30  | 9,804.07   | 363.18   | 363.29   | 11.75    | 8.40             | MWD            | LEAM DRILLING SYSTEMS |
| 5/25/2014 | 9,943.00  | 61.70    | 351.60  | 9,819.33   | 389.93   | 390.00   | 7.97     | 7.99             | MWD            | LEAM DRILLING SYSTEMS |
| 5/25/2014 | 9,975.00  | 64.30    | 350.70  | 9,833.86   | 418.13   | 418.17   | 3.58     | 8.50             | MWD            | LEAM DRILLING SYSTEMS |
| 5/25/2014 | 10,006.00 | 68.50    | 350.60  | 9,846.27   | 446.19   | 446.19   | -1.03    | 13.55            | MWD            | LEAM DRILLING SYSTEMS |
| 5/25/2014 | 10,038.00 | 74.00    | 350.60  | 9,856.55   | 476.11   | 476.08   | -5.98    | 17.19            | MWD            | LEAM DRILLING SYSTEMS |
| 5/25/2014 | 10,070.00 | 79.60    | 350.90  | 9,863.85   | 506.89   | 506.82   | -10.99   | 17.52            | MWD            | LEAM DRILLING SYSTEMS |
| 5/25/2014 | 10,094.00 | 84.00    | 350.60  | 9,867.28   | 530.36   | 530.26   | -14.80   | 18.38            | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 10,126.00 | 89.00    | 351.10  | 9,869.23   | 561.92   | 561.78   | -19.88   | 15.70            | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 10,157.00 | 91.80    | 353.00  | 9,869.01   | 592.65   | 592.48   | -24.17   | 10.92            | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 10,251.00 | 93.40    | 355.50  | 9,864.75   | 686.14   | 685.90   | -33.58   | 3.16             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 10,346.00 | 94.00    | 356.70  | 9,858.62   | 780.77   | 780.48   | -40.02   | 1.41             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 10,441.00 | 94.50    | 358.50  | 9,851.58   | 875.45   | 875.13   | -43.99   | 1.96             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 10,535.00 | 94.80    | 359.00  | 9,843.96   | 969.13   | 968.80   | -46.04   | 0.62             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 10,630.00 | 94.40    | 359.90  | 9,836.34   | 1,063.83 | 1,063.48 | -46.95   | 1.03             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 10,725.00 | 93.80    | 1.60    | 9,829.54   | 1,158.56 | 1,158.23 | -45.70   | 1.89             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 10,819.00 | 94.00    | 1.30    | 9,823.15   | 1,252.29 | 1,251.98 | -43.33   | 0.38             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 10,914.00 | 93.60    | 1.50    | 9,816.85   | 1,347.03 | 1,346.74 | -41.02   | 0.47             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 11,009.00 | 94.00    | 2.30    | 9,810.56   | 1,441.74 | 1,441.48 | -37.87   | 0.94             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 11,104.00 | 93.10    | 0.90    | 9,804.68   | 1,536.49 | 1,536.26 | -35.23   | 1.75             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 11,198.00 | 92.80    | 0.90    | 9,799.84   | 1,630.34 | 1,630.12 | -33.75   | 0.32             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 11,293.00 | 92.50    | 359.70  | 9,795.45   | 1,725.23 | 1,725.02 | -33.25   | 1.30             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 11,387.00 | 93.60    | 358.70  | 9,790.44   | 1,819.09 | 1,818.87 | -34.56   | 1.58             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 11,482.00 | 95.10    | 358.00  | 9,783.24   | 1,913.79 | 1,913.56 | -37.29   | 1.74             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 11,576.00 | 95.30    | 358.50  | 9,774.72   | 2,007.38 | 2,007.13 | -40.15   | 0.57             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 11,671.00 | 94.40    | 359.20  | 9,766.69   | 2,102.03 | 2,101.77 | -42.05   | 1.20             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 11,765.00 | 94.40    | 359.20  | 9,759.48   | 2,195.76 | 2,195.48 | -43.36   | 0.00             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 11,860.00 | 94.50    | 0.10    | 9,752.10   | 2,290.47 | 2,290.19 | -43.94   | 0.95             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 11,954.00 | 94.40    | 0.40    | 9,744.81   | 2,384.18 | 2,383.91 | -43.53   | 0.34             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 12,049.00 | 94.40    | 0.90    | 9,737.52   | 2,478.88 | 2,478.62 | -42.45   | 0.52             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 12,143.00 | 93.60    | 0.90    | 9,730.97   | 2,572.62 | 2,572.38 | -40.98   | 0.85             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 12,238.00 | 93.40    | 0.80    | 9,725.17   | 2,667.42 | 2,667.19 | -39.57   | 0.24             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 12,332.00 | 93.20    | 0.20    | 9,719.75   | 2,761.25 | 2,761.03 | -38.76   | 0.67             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 12,426.00 | 93.60    | 359.00  | 9,714.18   | 2,855.08 | 2,854.86 | -39.41   | 1.34             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 12,521.00 | 93.80    | 358.50  | 9,708.05   | 2,949.88 | 2,949.64 | -41.48   | 0.57             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 12,617.00 | 94.40    | 358.10  | 9,701.19   | 3,045.61 | 3,045.35 | -44.32   | 0.75             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 12,711.00 | 93.60    | 359.00  | 9,694.63   | 3,139.36 | 3,139.09 | -46.69   | 1.28             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 12,806.00 | 93.80    | 358.80  | 9,688.50   | 3,234.16 | 3,233.87 | -48.51   | 0.30             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 12,901.00 | 93.80    | 359.70  | 9,682.20   | 3,328.95 | 3,328.66 | -49.75   | 0.95             | MWD            | LEAM DRILLING SYSTEMS |
| 5/31/2014 | 12,994.00 | 93.60    | 359.90  | 9,676.20   | 3,421.75 | 3,421.46 | -50.08   | 0.30             | MWD            | LEAM DRILLING SYSTEMS |
| 6/2/2014  | 13,088.00 | 94.60    | 0.10    | 9,669.48   | 3,515.51 | 3,515.22 | -50.08   | 1.08             | MWD            | LEAM DRILLING SYSTEMS |
| 6/2/2014  | 13,182.00 | 94.70    | 359.90  | 9,661.86   | 3,609.20 | 3,608.91 | -50.08   | 0.24             | MWD            | LEAM DRILLING SYSTEMS |
| 6/2/2014  | 13,276.00 | 94.40    | 0.10    | 9,654.40   | 3,702.90 | 3,702.61 | -50.08   | 0.38             | MWD            | LEAM DRILLING SYSTEMS |
| 6/4/2014  | 13,370.00 | 93.70    | 359.90  | 9,647.76   | 3,796.66 | 3,796.38 | -50.08   | 0.77             | MWD            | LEAM DRILLING SYSTEMS |



## Directional Survey

|                                            |                       |                                  |                                     |                            |                       |                               |                            |
|--------------------------------------------|-----------------------|----------------------------------|-------------------------------------|----------------------------|-----------------------|-------------------------------|----------------------------|
| District<br>DELAWARE BASIN                 | County<br>LEA         | Field Name<br>MESCALERO ESCARPE  | Project Group<br>DELAWARE BASIN REG | State/Province<br>NM       |                       |                               |                            |
| Surface Legal Location<br>SEC 24 T18S R34E | API/UWI<br>3002541695 | Latitude (°)<br>32° 44' 20.69" N | Longitude (°)<br>103° 28' 18.16" W  | Ground Elev...<br>3,576.20 | KB - GL (ft)<br>25.00 | Orig KB Elev (ft)<br>3,601.20 | 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        |
|----------|-----------|----------|---------|------------|----------|----------|----------|------------------|----------------|-----------------------|
| 6/4/2014 | 13,464.00 | 94.00    | 359.50  | 9,641.45   | 3,890.45 | 3,890.17 | -50.57   | 0.53             | MWD            | LEAM DRILLING SYSTEMS |
| 6/4/2014 | 13,559.00 | 94.20    | 0.10    | 9,634.66   | 3,985.20 | 3,984.92 | -50.90   | 0.66             | MWD            | LEAM DRILLING SYSTEMS |
| 6/4/2014 | 13,654.00 | 94.10    | 0.20    | 9,627.78   | 4,079.95 | 4,079.67 | -50.65   | 0.15             | MWD            | LEAM DRILLING SYSTEMS |
| 6/4/2014 | 13,749.00 | 94.70    | 0.10    | 9,620.50   | 4,174.66 | 4,174.39 | -50.40   | 0.64             | MWD            | LEAM DRILLING SYSTEMS |
| 6/4/2014 | 13,844.00 | 94.60    | 0.80    | 9,612.79   | 4,269.34 | 4,269.07 | -49.66   | 0.74             | MWD            | LEAM DRILLING SYSTEMS |
| 6/4/2014 | 13,938.00 | 94.30    | 1.30    | 9,605.50   | 4,363.02 | 4,362.78 | -47.94   | 0.62             | MWD            | LEAM DRILLING SYSTEMS |
| 6/4/2014 | 14,033.00 | 94.70    | 1.30    | 9,598.05   | 4,457.68 | 4,457.46 | -45.79   | 0.42             | MWD            | LEAM DRILLING SYSTEMS |
| 6/4/2014 | 14,128.00 | 95.10    | 1.80    | 9,589.93   | 4,552.28 | 4,552.08 | -43.23   | 0.67             | MWD            | LEAM DRILLING SYSTEMS |
| 6/4/2014 | 14,222.00 | 95.10    | 1.60    | 9,581.58   | 4,645.84 | 4,645.66 | -40.45   | 0.21             | MWD            | LEAM DRILLING SYSTEMS |
| 6/4/2014 | 14,279.00 | 95.00    | 1.50    | 9,576.56   | 4,702.58 | 4,702.42 | -38.92   | 0.25             | MWD            | LEAM DRILLING SYSTEMS |
| 6/5/2014 | 14,334.00 | 95.00    | 1.50    | 9,571.77   | 4,757.34 | 4,757.19 | -37.48   | 0.00             | BIT            | LEAM DRILLING SYSTEMS |