

30-015-39851

 MURCHISON OIL & GAS, INC.

## Murchison Oil and Gas

Carbon Valley  
Carbon Valley  
Carbon Valley 25 Federal 8H  
Carbon Valley 25 Federal 8H

Survey: Carbon Valley 25 Fed 8H

## MOJO End of Well Survey

02 October, 2012

This survey is correct to the best of my knowledge and is supported by actual field data. \_\_\_\_\_ (Signature)  
Notarized this date \_\_\_\_\_ of \_\_\_\_\_, \_\_\_\_\_  
2012. \_\_\_\_\_ Notary  
SignatureCounty of CollinState of Texas



**MOJO**  
DIRECTIONAL CORPORATION

|                  |                             |                                     |                                  |
|------------------|-----------------------------|-------------------------------------|----------------------------------|
| <b>Company:</b>  | Murchison Oil and Gas       | <b>Local Co-ordinate Reference:</b> | Well Carbon Valley 25 Federal 8H |
| <b>Project:</b>  | Carbon Valley               | <b>TVD Reference:</b>               | HWD @ 3521 0usft (4)             |
| <b>Site:</b>     | Carbon Valley               | <b>MD Reference:</b>                | HWD @ 3521 0usft (4)             |
| <b>Well:</b>     | Carbon Valley 25 Federal 8H | <b>North Reference:</b>             | Grid                             |
| <b>Wellbore:</b> | Carbon Valley 25 Federal 8H | <b>Survey Calculation Method:</b>   | Minimum Curvature                |
| <b>Design:</b>   | Carbon Valley 25 Federal 8H | <b>Database:</b>                    | EDM 5000.1 Single User Db        |

|                              |                                      |                      |                |
|------------------------------|--------------------------------------|----------------------|----------------|
| <b>Project</b> Carbon Valley |                                      |                      |                |
| <b>Map System:</b>           | US State Plane 1927 (Exact solution) | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>            | NAD 1927 (NADCON CONUS)              |                      |                |
| <b>Map Zone:</b>             | New Mexico East 3001                 |                      |                |

|                              |          |                          |                   |
|------------------------------|----------|--------------------------|-------------------|
| <b>Site</b> Carbon Valley    |          |                          |                   |
| <b>Site Position:</b>        |          | <b>Northing:</b>         | 687,568.28 usft   |
| <b>From:</b>                 | Lat/Long | <b>Easting:</b>          | 533,453.51 usft   |
| <b>Position Uncertainty:</b> | 1 0 usft | <b>Slot Radius:</b>      | 15 "              |
|                              |          | <b>Latitude:</b>         | 32° 53' 24.569 N  |
|                              |          | <b>Longitude:</b>        | 104° 13' 27.664 W |
|                              |          | <b>Grid Convergence:</b> | 0.06 °            |

|                                         |       |          |                            |
|-----------------------------------------|-------|----------|----------------------------|
| <b>Well</b> Carbon Valley 25 Federal 8H |       |          |                            |
| <b>Well Position</b>                    | +N/-S | 0.0 usft | <b>Northing:</b>           |
|                                         | +E/-W | 0.0 usft | 687,568.28 usft            |
|                                         |       |          | <b>Easting:</b>            |
|                                         |       |          | 533,453.51 usft            |
| <b>Position Uncertainty</b>             |       | 1.0 usft | <b>Wellhead Elevation:</b> |
|                                         |       |          | usft                       |
|                                         |       |          | <b>Latitude:</b>           |
|                                         |       |          | 32° 53' 24.569 N           |
|                                         |       |          | <b>Longitude:</b>          |
|                                         |       |          | 104° 13' 27.664 W          |
|                                         |       |          | <b>Ground Level:</b>       |
|                                         |       |          | 3,509.0 usft               |

|                                             |            |             |                 |               |                     |
|---------------------------------------------|------------|-------------|-----------------|---------------|---------------------|
| <b>Wellbore</b> Carbon Valley 25 Federal 8H |            |             |                 |               |                     |
| <b>Magnetics</b>                            | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|                                             | IGRF2010   | 05/03/2012  | 7.85            | 60.67         | 48,871              |

|                                           |                                |                     |                     |                          |
|-------------------------------------------|--------------------------------|---------------------|---------------------|--------------------------|
| <b>Design</b> Carbon Valley 25 Federal 8H |                                |                     |                     |                          |
| <b>Audit Notes:</b>                       |                                |                     |                     |                          |
| <b>Version:</b>                           | 1.0                            | <b>Phase:</b>       | ACTUAL              | <b>Tie On Depth:</b> 0.0 |
| <b>Vertical Section:</b>                  | <b>Depth From (TVD) (usft)</b> | <b>+N/-S (usft)</b> | <b>+E/-W (usft)</b> | <b>Direction (°)</b>     |
|                                           | 0.0                            | 0 0                 | 0.0                 | 274.03                   |

|                                       |                  |                                          |                  |                    |
|---------------------------------------|------------------|------------------------------------------|------------------|--------------------|
| <b>Survey Program</b> Date 01/10/2012 |                  |                                          |                  |                    |
| <b>From (usft)</b>                    | <b>To (usft)</b> | <b>Survey (Wellbore)</b>                 | <b>Tool Name</b> | <b>Description</b> |
| 56.0                                  | 10,423.0         | Carbon Valley 25 Fed 8H (Carbon Valley 2 | MWD              | MWD - Standard     |

|           |                             |                              |                                  |
|-----------|-----------------------------|------------------------------|----------------------------------|
| Company:  | Murchison Oil and Gas       | Local Co-ordinate Reference: | Well Carbon Valley 25 Federal 8H |
| Project:  | Carbon Valley               | TVD Reference:               | HWD @ 3521.0usft (4)             |
| Site:     | Carbon Valley               | MD Reference:                | HWD @ 3521.0usft (4)             |
| Well:     | Carbon Valley 25 Federal 8H | North Reference:             | Grid                             |
| Wellbore: | Carbon Valley 25 Federal 8H | Survey Calculation Method:   | Minimum Curvature                |
| Design:   | Carbon Valley 25 Federal 8H | Database:                    | EDM 5000.1 Single User Db        |

| Survey        |            |                      |               |                 |               |               |                    |                   |                     |                        |  |
|---------------|------------|----------------------|---------------|-----------------|---------------|---------------|--------------------|-------------------|---------------------|------------------------|--|
| MD<br>(usft)  | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | Northing<br>(usft) | Easting<br>(usft) | DLeg<br>(°/100usft) | Closure Azimuth<br>(°) |  |
| 0.0           | 0.00       | 0.00                 | 0.0           | 3,521.0         | 0.0           | 0.0           | 687,568.28         | 533,453.51        | 0.00                | 0.00                   |  |
| 56.0          | 0.13       | 228.62               | 56.0          | 3,465.0         | 0.0           | 0.0           | 687,568.24         | 533,453.46        | 0.23                | 228.62                 |  |
| 87.0          | 0.27       | 43.41                | 87.0          | 3,434.0         | 0.0           | 0.0           | 687,568.27         | 533,453.48        | 1.29                | 242.95                 |  |
| 115.0         | 0.44       | 70.85                | 115.0         | 3,406.0         | 0.1           | 0.1           | 687,568.35         | 533,453.63        | 0.83                | 59.93                  |  |
| 20" Conductor |            |                      |               |                 |               |               |                    |                   |                     |                        |  |
| 117.0         | 0.45       | 71.98                | 117.0         | 3,404.0         | 0.1           | 0.1           | 687,568.35         | 533,453.64        | 0.83                | 61.06                  |  |
| 148.0         | 0.79       | 54.34                | 148.0         | 3,373.0         | 0.2           | 0.4           | 687,568.52         | 533,453.93        | 1.25                | 60.83                  |  |
| 178.0         | 0.61       | 49.26                | 178.0         | 3,343.0         | 0.5           | 0.7           | 687,568.74         | 533,454.22        | 0.63                | 57.10                  |  |
| 209.0         | 0.69       | 54.90                | 209.0         | 3,312.0         | 0.7           | 1.0           | 687,568.96         | 533,454.50        | 0.33                | 55.69                  |  |
| 239.0         | 0.80       | 55.06                | 239.0         | 3,282.0         | 0.9           | 1.3           | 687,569.18         | 533,454.82        | 0.37                | 55.51                  |  |
| 270.0         | 0.62       | 60.55                | 270.0         | 3,251.0         | 1.1           | 1.6           | 687,569.39         | 533,455.14        | 0.62                | 55.89                  |  |
| 300.0         | 0.60       | 62.07                | 300.0         | 3,221.0         | 1.3           | 1.9           | 687,569.54         | 533,455.42        | 0.09                | 56.64                  |  |
| 331.0         | 0.55       | 62.61                | 331.0         | 3,190.0         | 1.4           | 2.2           | 687,569.68         | 533,455.70        | 0.16                | 57.32                  |  |
| 361.0         | 0.63       | 61.91                | 361.0         | 3,160.0         | 1.5           | 2.5           | 687,569.83         | 533,455.97        | 0.27                | 57.84                  |  |
| 392.0         | 0.59       | 57.96                | 392.0         | 3,129.0         | 1.7           | 2.8           | 687,569.99         | 533,456.26        | 0.19                | 58.06                  |  |
| 422.0         | 0.60       | 62.36                | 422.0         | 3,099.0         | 1.9           | 3.0           | 687,570.15         | 533,456.53        | 0.16                | 58.25                  |  |
| 453.0         | 0.59       | 60.38                | 453.0         | 3,068.0         | 2.0           | 3.3           | 687,570.30         | 533,456.81        | 0.07                | 58.51                  |  |
| 483.0         | 0.66       | 65.14                | 483.0         | 3,038.0         | 2.2           | 3.6           | 687,570.45         | 533,457.10        | 0.29                | 58.85                  |  |
| 514.0         | 0.66       | 58.88                | 514.0         | 3,007.0         | 2.3           | 3.9           | 687,570.62         | 533,457.41        | 0.23                | 59.10                  |  |
| 544.0         | 0.69       | 63.09                | 544.0         | 2,977.0         | 2.5           | 4.2           | 687,570.79         | 533,457.72        | 0.19                | 59.24                  |  |
| 575.0         | 0.71       | 62.94                | 575.0         | 2,946.0         | 2.7           | 4.6           | 687,570.96         | 533,458.06        | 0.06                | 59.51                  |  |
| 605.0         | 0.73       | 71.74                | 605.0         | 2,916.0         | 2.8           | 4.9           | 687,571.11         | 533,458.41        | 0.37                | 60.03                  |  |
| 636.0         | 0.77       | 70.44                | 636.0         | 2,885.0         | 3.0           | 5.3           | 687,571.24         | 533,458.79        | 0.14                | 60.76                  |  |
| 666.0         | 0.92       | 65.85                | 666.0         | 2,855.0         | 3.1           | 5.7           | 687,571.40         | 533,459.20        | 0.55                | 61.25                  |  |
| 697.0         | 0.80       | 69.94                | 697.0         | 2,824.0         | 3.3           | 6.1           | 687,571.58         | 533,459.63        | 0.43                | 61.68                  |  |
| 727.0         | 0.95       | 79.82                | 727.0         | 2,794.0         | 3.4           | 6.6           | 687,571.69         | 533,460.07        | 0.71                | 62.52                  |  |
| 758.0         | 1.03       | 78.73                | 758.0         | 2,763.0         | 3.5           | 7.1           | 687,571.79         | 533,460.60        | 0.27                | 63.63                  |  |

|           |                             |                              |                                  |
|-----------|-----------------------------|------------------------------|----------------------------------|
| Company:  | Murchison Oil and Gas       | Local Co-ordinate Reference: | Well Carbon Valley 25 Federal 8H |
| Project:  | Carbon Valley               | TVD Reference:               | HWD @ 3521 0usft (4)             |
| Site:     | Carbon Valley               | MD Reference:                | HWD @ 3521 0usft (4)             |
| Well:     | Carbon Valley 25 Federal 8H | North Reference:             | Grid                             |
| Wellbore: | Carbon Valley 25 Federal 8H | Survey Calculation Method:   | Minimum Curvature                |
| Design:   | Carbon Valley 25 Federal 8H | Database:                    | EDM 5000 1 Single User Db        |

| Survey                |            |                      |               |                 |               |               |                    |                   |                     |                        |  |
|-----------------------|------------|----------------------|---------------|-----------------|---------------|---------------|--------------------|-------------------|---------------------|------------------------|--|
| MD<br>(usft)          | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | Northing<br>(usft) | Easting<br>(usft) | DLeg<br>(°/100usft) | Closure Azimuth<br>(°) |  |
| 788.0                 | 1.03       | 86.96                | 787.9         | 2,733.1         | 3.6           | 7.6           | 687,571.86         | 533,461.13        | 0.49                | 64.84                  |  |
| 819.0                 | 1.08       | 79.87                | 818.9         | 2,702.1         | 3.6           | 8.2           | 687,571.93         | 533,461.70        | 0.45                | 65.99                  |  |
| 849.0                 | 1.12       | 78.06                | 848.9         | 2,672.1         | 3.8           | 8.8           | 687,572.04         | 533,462.26        | 0.18                | 66.77                  |  |
| 880.0                 | 1.03       | 76.10                | 879.9         | 2,641.1         | 3.9           | 9.3           | 687,572.17         | 533,462.83        | 0.31                | 67.36                  |  |
| 910.0                 | 1.01       | 76.21                | 909.9         | 2,611.1         | 4.0           | 9.8           | 687,572.30         | 533,463.35        | 0.07                | 67.80                  |  |
| 996.0                 | 0.99       | 73.55                | 995.9         | 2,525.1         | 4.4           | 11.3          | 687,572.69         | 533,464.80        | 0.06                | 68.67                  |  |
| 1,038.0               | 1.04       | 70.41                | 1,037.9       | 2,483.1         | 4.6           | 12.0          | 687,572.92         | 533,465.51        | 0.18                | 68.86                  |  |
| 1,081.0               | 1.03       | 68.58                | 1,080.9       | 2,440.1         | 4.9           | 12.7          | 687,573.19         | 533,466.23        | 0.08                | 68.90                  |  |
| 1,092.0               | 1.02       | 65.75                | 1,091.9       | 2,429.1         | 5.0           | 12.9          | 687,573.27         | 533,466.41        | 0.47                | 68.88                  |  |
| 9 5/8" Surface Casing |            |                      |               |                 |               |               |                    |                   |                     |                        |  |
| 1,117.0               | 1.00       | 59.10                | 1,116.9       | 2,404.1         | 5.2           | 13.3          | 687,573.47         | 533,466.80        | 0.47                | 68.68                  |  |
| 1,160.0               | 0.90       | 62.00                | 1,159.9       | 2,361.1         | 5.5           | 13.9          | 687,573.82         | 533,467.42        | 0.26                | 68.29                  |  |
| 1,203.0               | 0.90       | 71.80                | 1,202.9       | 2,318.1         | 5.8           | 14.5          | 687,574.08         | 533,468.04        | 0.36                | 68.23                  |  |
| 1,246.0               | 0.80       | 92.40                | 1,245.9       | 2,275.1         | 5.9           | 15.2          | 687,574.18         | 533,468.66        | 0.74                | 68.74                  |  |
| 1,289.0               | 0.30       | 95.10                | 1,288.9       | 2,232.1         | 5.9           | 15.6          | 687,574.15         | 533,469.08        | 1.16                | 69.32                  |  |
| 1,332.0               | 0.50       | 93.50                | 1,331.9       | 2,189.1         | 5.9           | 15.9          | 687,574.13         | 533,469.38        | 0.47                | 69.75                  |  |
| 1,375.0               | 0.50       | 119.10               | 1,374.9       | 2,146.1         | 5.8           | 16.2          | 687,574.03         | 533,469.73        | 0.52                | 70.47                  |  |
| 1,418.0               | 0.30       | 179.70               | 1,417.9       | 2,103.1         | 5.5           | 16.4          | 687,573.83         | 533,469.89        | 1.02                | 71.29                  |  |
| 1,461.0               | 0.30       | 182.50               | 1,460.9       | 2,060.1         | 5.3           | 16.4          | 687,573.60         | 533,469.89        | 0.03                | 72.00                  |  |
| 1,504.0               | 0.30       | 159.60               | 1,503.9       | 2,017.1         | 5.1           | 16.4          | 687,573.38         | 533,469.92        | 0.28                | 72.72                  |  |
| 1,547.0               | 0.50       | 187.90               | 1,546.9       | 1,974.1         | 4.8           | 16.4          | 687,573.09         | 533,469.93        | 0.64                | 73.67                  |  |
| 1,590.0               | 0.40       | 147.50               | 1,589.9       | 1,931.1         | 4.5           | 16.5          | 687,572.78         | 533,469.99        | 0.75                | 74.73                  |  |
| 1,633.0               | 0.50       | 174.80               | 1,632.9       | 1,888.1         | 4.2           | 16.6          | 687,572.47         | 533,470.09        | 0.54                | 75.83                  |  |
| 1,676.0               | 0.40       | 139.30               | 1,675.9       | 1,845.1         | 3.9           | 16.7          | 687,572.17         | 533,470.20        | 0.68                | 76.89                  |  |
| 1,682.0               | 0.44       | 142.95               | 1,681.9       | 1,839.1         | 3.9           | 16.7          | 687,572.13         | 533,470.23        | 0.78                | 77.03                  |  |
| San Andres            |            |                      |               |                 |               |               |                    |                   |                     |                        |  |
| 1,719.0               | 0.70       | 155.90               | 1,718.9       | 1,802.1         | 3.5           | 16.9          | 687,571.81         | 533,470.41        | 0.78                | 78.19                  |  |

|                      |                             |                                                                                                                                                                          |                                         |                         |                       |                       |                            |                           |                             |                                |  |
|----------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|-------------------------|-----------------------|-----------------------|----------------------------|---------------------------|-----------------------------|--------------------------------|--|
| <b>Company:</b>      | Murchison Oil and Gas       | <b>Local Co-ordinate Reference:</b><br><b>TVD Reference:</b><br><b>MD Reference:</b><br><b>North Reference:</b><br><b>Survey Calculation Method:</b><br><b>Database:</b> | <b>Well Carbon Valley 25 Federal 8H</b> |                         |                       |                       |                            |                           |                             |                                |  |
| <b>Project:</b>      | Carbon Valley               |                                                                                                                                                                          | <b>HWD @ 3521.0usft (4)</b>             |                         |                       |                       |                            |                           |                             |                                |  |
| <b>Site:</b>         | Carbon Valley               |                                                                                                                                                                          | <b>HWD @ 3521.0usft (4)</b>             |                         |                       |                       |                            |                           |                             |                                |  |
| <b>Well:</b>         | Carbon Valley 25 Federal 8H |                                                                                                                                                                          | <b>Grd</b>                              |                         |                       |                       |                            |                           |                             |                                |  |
| <b>Wellbore:</b>     | Carbon Valley 25 Federal 8H |                                                                                                                                                                          | <b>Minimum Curvature</b>                |                         |                       |                       |                            |                           |                             |                                |  |
| <b>Design:</b>       | Carbon Valley 25 Federal 8H |                                                                                                                                                                          | <b>EDM 5000.1 Single User Db</b>        |                         |                       |                       |                            |                           |                             |                                |  |
| <b>Survey</b>        |                             |                                                                                                                                                                          |                                         |                         |                       |                       |                            |                           |                             |                                |  |
| <b>MD<br/>(usft)</b> | <b>Inc<br/>(°)</b>          | <b>Azi (azimuth)<br/>(°)</b>                                                                                                                                             | <b>TVD<br/>(usft)</b>                   | <b>TVDSS<br/>(usft)</b> | <b>N/S<br/>(usft)</b> | <b>E/W<br/>(usft)</b> | <b>Northing<br/>(usft)</b> | <b>Easting<br/>(usft)</b> | <b>Dleg<br/>(°/100usft)</b> | <b>Closure Azimuth<br/>(°)</b> |  |
| 1,762.0              | 0.60                        | 177.30                                                                                                                                                                   | 1,761.9                                 | 1,759.1                 | 3.1                   | 17.0                  | 687,571.35                 | 533,470.53                | 0.61                        | 79.78                          |  |
| 1,805.0              | 0.50                        | 198.70                                                                                                                                                                   | 1,804.9                                 | 1,716.1                 | 2.7                   | 17.0                  | 687,570.94                 | 533,470.48                | 0.53                        | 81.07                          |  |
| 1,848.0              | 0.60                        | 206.60                                                                                                                                                                   | 1,847.9                                 | 1,673.1                 | 2.3                   | 16.8                  | 687,570.57                 | 533,470.31                | 0.29                        | 82.25                          |  |
| 1,891.0              | 0.60                        | 215.20                                                                                                                                                                   | 1,890.9                                 | 1,630.1                 | 1.9                   | 16.6                  | 687,570.18                 | 533,470.08                | 0.21                        | 83.45                          |  |
| 1,934.0              | 0.40                        | 222.60                                                                                                                                                                   | 1,933.9                                 | 1,587.1                 | 1.6                   | 16.3                  | 687,569.89                 | 533,469.85                | 0.49                        | 84.38                          |  |
| 1,977.0              | 0.40                        | 232.50                                                                                                                                                                   | 1,976.9                                 | 1,544.1                 | 1.4                   | 16.1                  | 687,569.68                 | 533,469.63                | 0.16                        | 85.02                          |  |
| 2,020.0              | 0.40                        | 229.80                                                                                                                                                                   | 2,019.8                                 | 1,501.2                 | 1.2                   | 15.9                  | 687,569.50                 | 533,469.40                | 0.04                        | 85.62                          |  |
| 2,063.0              | 0.50                        | 235.30                                                                                                                                                                   | 2,062.8                                 | 1,458.2                 | 1.0                   | 15.6                  | 687,569.29                 | 533,469.13                | 0.25                        | 86.29                          |  |
| 2,107.0              | 0.70                        | 219.60                                                                                                                                                                   | 2,106.8                                 | 1,414.2                 | 0.7                   | 15.3                  | 687,568.98                 | 533,468.80                | 0.58                        | 87.39                          |  |
| 2,150.0              | 0.50                        | 226.30                                                                                                                                                                   | 2,149.8                                 | 1,371.2                 | 0.4                   | 15.0                  | 687,568.64                 | 533,468.50                | 0.49                        | 88.60                          |  |
| 2,193.0              | 0.60                        | 231.60                                                                                                                                                                   | 2,192.8                                 | 1,328.2                 | 0.1                   | 14.7                  | 687,568.37                 | 533,468.18                | 0.26                        | 89.63                          |  |
| 2,236.0              | 0.60                        | 223.40                                                                                                                                                                   | 2,235.8                                 | 1,285.2                 | -0.2                  | 14.3                  | 687,568.07                 | 533,467.85                | 0.20                        | 90.83                          |  |
| 2,279.0              | 0.80                        | 220.40                                                                                                                                                                   | 2,278.8                                 | 1,242.2                 | -0.6                  | 14.0                  | 687,567.68                 | 533,467.50                | 0.47                        | 92.45                          |  |
| 2,322.0              | 0.60                        | 230.70                                                                                                                                                                   | 2,321.8                                 | 1,199.2                 | -1.0                  | 13.6                  | 687,567.31                 | 533,467.14                | 0.55                        | 94.07                          |  |
| 2,365.0              | 0.70                        | 229.40                                                                                                                                                                   | 2,364.8                                 | 1,156.2                 | -1.3                  | 13.3                  | 687,566.99                 | 533,466.76                | 0.24                        | 95.53                          |  |
| 2,408.0              | 0.90                        | 235.10                                                                                                                                                                   | 2,407.8                                 | 1,113.2                 | -1.6                  | 12.8                  | 687,566.63                 | 533,466.29                | 0.50                        | 97.35                          |  |
| 2,451.0              | 0.80                        | 233.60                                                                                                                                                                   | 2,450.8                                 | 1,070.2                 | -2.0                  | 12.3                  | 687,566.26                 | 533,465.77                | 0.24                        | 99.35                          |  |
| 2,494.0              | 0.70                        | 218.40                                                                                                                                                                   | 2,493.8                                 | 1,027.2                 | -2.4                  | 11.9                  | 687,565.87                 | 533,465.36                | 0.52                        | 101.46                         |  |
| 2,537.0              | 0.90                        | 216.10                                                                                                                                                                   | 2,536.8                                 | 984.2                   | -2.9                  | 11.5                  | 687,565.40                 | 533,465.00                | 0.47                        | 104.08                         |  |
| 2,580.0              | 0.90                        | 217.40                                                                                                                                                                   | 2,579.8                                 | 941.2                   | -3.4                  | 11.1                  | 687,564.85                 | 533,464.60                | 0.05                        | 107.16                         |  |
| 2,623.0              | 0.70                        | 238.10                                                                                                                                                                   | 2,622.8                                 | 898.2                   | -3.8                  | 10.7                  | 687,564.45                 | 533,464.17                | 0.81                        | 109.76                         |  |
| 2,666.0              | 0.90                        | 265.30                                                                                                                                                                   | 2,665.8                                 | 855.2                   | -4.0                  | 10.1                  | 687,564.28                 | 533,463.61                | 0.98                        | 111.59                         |  |
| 2,709.0              | 1.00                        | 253.60                                                                                                                                                                   | 2,708.8                                 | 812.2                   | -4.1                  | 9.4                   | 687,564.15                 | 533,462.91                | 0.51                        | 113.71                         |  |
| 2,752.0              | 0.80                        | 261.30                                                                                                                                                                   | 2,751.8                                 | 769.2                   | -4.3                  | 8.7                   | 687,564.00                 | 533,462.26                | 0.54                        | 116.08                         |  |
| 2,795.0              | 0.90                        | 266.30                                                                                                                                                                   | 2,794.8                                 | 726.2                   | -4.3                  | 8.1                   | 687,563.93                 | 533,461.62                | 0.29                        | 118.19                         |  |
| 2,838.0              | 1.20                        | 254.30                                                                                                                                                                   | 2,837.8                                 | 683.2                   | -4.5                  | 7.3                   | 687,563.79                 | 533,460.85                | 0.86                        | 121.45                         |  |
| 2,881.0              | 1.10                        | 272.30                                                                                                                                                                   | 2,880.8                                 | 640.2                   | -4.6                  | 6.5                   | 687,563.68                 | 533,460.01                | 0.87                        | 125.28                         |  |

|                                              |  |                                     |  |                                  |  |
|----------------------------------------------|--|-------------------------------------|--|----------------------------------|--|
| <b>Company:</b> Murchison Oil and Gas        |  | <b>Local Co-ordinate Reference:</b> |  | Well Carbon Valley 25 Federal 8H |  |
| <b>Project:</b> Carbon Valley                |  | <b>TVD Reference:</b>               |  | HWD @ 3521 0usft (4)             |  |
| <b>Site:</b> Carbon Valley                   |  | <b>MD Reference:</b>                |  | HWD @ 3521 0usft (4)             |  |
| <b>Well:</b> Carbon Valley 25 Federal 8H     |  | <b>North Reference:</b>             |  | Grid                             |  |
| <b>Wellbore:</b> Carbon Valley 25 Federal 8H |  | <b>Survey Calculation Method:</b>   |  | Minimum Curvature                |  |
| <b>Design:</b> Carbon Valley 25 Federal 8H   |  | <b>Database:</b>                    |  | EDM 5000.1 Single User Db        |  |

| Survey           |            |                      |               |                 |               |               |                    |                   |                     |         |                |
|------------------|------------|----------------------|---------------|-----------------|---------------|---------------|--------------------|-------------------|---------------------|---------|----------------|
| MD<br>(usft)     | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | Northing<br>(usft) | Easting<br>(usft) | DLeg<br>(°/100usft) | Closure | Azimuth<br>(°) |
| 2,923.0          | 1.10       | 262.20               | 2,922.8       | 598.2           | -4.6          | 5.7           | 687,563.64         | 533,459.20        | 0.46                | 129.14  |                |
| 2,966.0          | 1.00       | 255.20               | 2,965.8       | 555.2           | -4.8          | 4.9           | 687,563.49         | 533,458.43        | 0.38                | 134.19  |                |
| 3,009.0          | 0.90       | 259.50               | 3,008.7       | 512.3           | -4.9          | 4.2           | 687,563.33         | 533,457.74        | 0.29                | 139.46  |                |
| 3,052.0          | 0.70       | 286.00               | 3,051.7       | 469.3           | -4.9          | 3.6           | 687,563.34         | 533,457.15        | 0.97                | 143.55  |                |
| 3,096.0          | 0.60       | 293.90               | 3,095.7       | 425.3           | -4.8          | 3.2           | 687,563.51         | 533,456.68        | 0.30                | 146.32  |                |
| 3,118.0          | 0.49       | 284.59               | 3,117.7       | 403.3           | -4.7          | 3.0           | 687,563.58         | 533,456.49        | 0.65                | 147.60  |                |
| <b>Glorietta</b> |            |                      |               |                 |               |               |                    |                   |                     |         |                |
| 3,139.0          | 0.40       | 271.20               | 3,138.7       | 382.3           | -4.7          | 2.8           | 687,563.60         | 533,456.33        | 0.65                | 148.88  |                |
| 3,148.0          | 0.41       | 277.51               | 3,147.7       | 373.3           | -4.7          | 2.8           | 687,563.61         | 533,456.26        | 0.52                | 149.43  |                |
| <b>Paddock</b>   |            |                      |               |                 |               |               |                    |                   |                     |         |                |
| 3,182.0          | 0.50       | 296.90               | 3,181.7       | 339.3           | -4.6          | 2.5           | 687,563.69         | 533,456.01        | 0.52                | 151.37  |                |
| 3,225.0          | 0.80       | 284.40               | 3,224.7       | 296.3           | -4.4          | 2.0           | 687,563.85         | 533,455.55        | 0.77                | 155.20  |                |
| 3,268.0          | 0.50       | 293.80               | 3,267.7       | 253.3           | -4.3          | 1.6           | 687,564.00         | 533,455.09        | 0.74                | 159.68  |                |
| 3,311.0          | 0.60       | 302.50               | 3,310.7       | 210.3           | -4.1          | 1.2           | 687,564.20         | 533,454.73        | 0.30                | 163.33  |                |
| 3,354.0          | 0.70       | 272.60               | 3,353.7       | 167.3           | -3.9          | 0.8           | 687,564.33         | 533,454.28        | 0.81                | 168.97  |                |
| 3,397.0          | 0.60       | 304.00               | 3,396.7       | 124.3           | -3.8          | 0.3           | 687,564.47         | 533,453.83        | 0.85                | 175.19  |                |
| 3,440.0          | 0.60       | 268.70               | 3,439.7       | 81.3            | -3.7          | -0.1          | 687,564.59         | 533,453.41        | 0.85                | 181.42  |                |
| 3,483.0          | 0.40       | 284.50               | 3,482.7       | 38.3            | -3.7          | -0.5          | 687,564.62         | 533,453.04        | 0.56                | 187.20  |                |
| 3,526.0          | 0.80       | 289.80               | 3,525.7       | -4.7            | -3.5          | -0.9          | 687,564.76         | 533,452.62        | 0.94                | 194.20  |                |
| 3,568.0          | 0.80       | 285.10               | 3,567.7       | -46.7           | -3.3          | -1.4          | 687,564.94         | 533,452.06        | 0.16                | 203.45  |                |
| 3,611.0          | 0.40       | 293.10               | 3,610.7       | -89.7           | -3.2          | -1.9          | 687,565.08         | 533,451.63        | 0.95                | 210.37  |                |
| 3,654.0          | 0.30       | 288.10               | 3,653.7       | -132.7          | -3.1          | -2.1          | 687,565.17         | 533,451.38        | 0.24                | 214.31  |                |
| 3,697.0          | 0.30       | 270.60               | 3,696.7       | -175.7          | -3.1          | -2.3          | 687,565.21         | 533,451.16        | 0.21                | 217.30  |                |
| 3,740.0          | 0.60       | 282.40               | 3,739.7       | -218.7          | -3.0          | -2.7          | 687,565.25         | 533,450.83        | 0.73                | 221.49  |                |
| 3,783.0          | 0.50       | 309.80               | 3,782.7       | -261.7          | -2.9          | -3.0          | 687,565.42         | 533,450.47        | 0.65                | 226.78  |                |
| 3,826.0          | 0.80       | 280.00               | 3,825.7       | -304.7          | -2.7          | -3.5          | 687,565.60         | 533,450.03        | 1.03                | 232.35  |                |
| 3,869.0          | 0.70       | 260.20               | 3,868.7       | -347.7          | -2.7          | -4.0          | 687,565.60         | 533,449.47        | 0.64                | 236.44  |                |

|           |                             |                              |                                  |
|-----------|-----------------------------|------------------------------|----------------------------------|
| Company:  | Murchison Oil and Gas       | Local Co-ordinate Reference: | Well Carbon Valley 25 Federal 8H |
| Project:  | Carbon Valley               | TVD Reference:               | HWD @ 3521 0usft (4)             |
| Site:     | Carbon Valley               | MD Reference:                | HWD @ 3521 0usft (4)             |
| Well:     | Carbon Valley 25 Federal 8H | North Reference:             | Grd                              |
| Wellbore: | Carbon Valley 25 Federal 8H | Survey Calculation Method:   | Minimum Curvature                |
| Design:   | Carbon Valley 25 Federal 8H | Database:                    | EDM 5000.1 Single User Db        |

| Survey       |            |                      |               |                  |               |               |                    |                   |                     |                        |  |
|--------------|------------|----------------------|---------------|------------------|---------------|---------------|--------------------|-------------------|---------------------|------------------------|--|
| MD<br>(usft) | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS:<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | Northing<br>(usft) | Easting<br>(usft) | DLeg<br>(°/100usft) | Closure Azimuth<br>(°) |  |
| 3,912.0      | 0.80       | 289.40               | 3,911.7       | -390.7           | -2.6          | -4.6          | 687,565.66         | 533,448.93        | 0.91                | 240.19                 |  |
| 3,955.0      | 0.70       | 281.10               | 3,954.7       | -433.7           | -2.5          | -5.1          | 687,565.81         | 533,448.39        | 0.34                | 244.22                 |  |
| 3,998.0      | 0.40       | 310.50               | 3,997.7       | -476.7           | -2.3          | -5.5          | 687,565.96         | 533,448.02        | 0.94                | 247.06                 |  |
| 4,041.0      | 0.60       | 280.30               | 4,040.7       | -519.7           | -2.2          | -5.8          | 687,566.09         | 533,447.68        | 0.75                | 249.44                 |  |
| 4,084.0      | 0.80       | 293.90               | 4,083.7       | -562.7           | -2.0          | -6.3          | 687,566.26         | 533,447.19        | 0.60                | 252.25                 |  |
| 4,127.0      | 0.40       | 292.90               | 4,126.7       | -605.7           | -1.8          | -6.7          | 687,566.44         | 533,446.77        | 0.93                | 254.69                 |  |
| 4,170.0      | 0.80       | 293.90               | 4,169.7       | -648.7           | -1.7          | -7.1          | 687,566.62         | 533,446.36        | 0.93                | 256.90                 |  |
| 4,213.0      | 0.40       | 289.50               | 4,212.7       | -691.7           | -1.5          | -7.6          | 687,566.79         | 533,445.95        | 0.94                | 258.85                 |  |
| 4,256.0      | 0.70       | 288.90               | 4,255.7       | -734.7           | -1.4          | -7.9          | 687,566.92         | 533,445.56        | 0.70                | 260.33                 |  |
| 4,299.0      | 0.30       | 293.60               | 4,298.7       | -777.7           | -1.2          | -8.3          | 687,567.05         | 533,445.20        | 0.93                | 261.60                 |  |
| 4,342.0      | 0.60       | 285.20               | 4,341.7       | -820.7           | -1.1          | -8.6          | 687,567.16         | 533,444.88        | 0.71                | 262.59                 |  |
| 4,385.0      | 0.30       | 290.50               | 4,384.7       | -863.7           | -1.0          | -8.9          | 687,567.26         | 533,444.56        | 0.70                | 263.48                 |  |
| 4,405.0      | 0.29       | 302.44               | 4,404.7       | -883.7           | -1.0          | -9.0          | 687,567.30         | 533,444.47        | 0.31                | 263.83                 |  |
| Tubb         |            |                      |               |                  |               |               |                    |                   |                     |                        |  |
| 4,428.0      | 0.30       | 316.20               | 4,427.7       | -906.7           | -0.9          | -9.1          | 687,567.38         | 533,444.38        | 0.31                | 264.36                 |  |
| 4,471.0      | 0.70       | 305.60               | 4,470.7       | -949.7           | -0.7          | -9.4          | 687,567.61         | 533,444.09        | 0.95                | 265.95                 |  |
| 4,514.0      | 0.50       | 329.60               | 4,513.7       | -992.7           | -0.4          | -9.7          | 687,567.93         | 533,443.78        | 0.74                | 267.92                 |  |
| 4,557.0      | 0.60       | 297.30               | 4,556.7       | -1,035.7         | -0.1          | -10.0         | 687,568.19         | 533,443.48        | 0.75                | 269.50                 |  |
| 4,600.0      | 0.50       | 325.70               | 4,599.7       | -1,078.7         | 0.2           | -10.3         | 687,568.45         | 533,443.18        | 0.67                | 270.94                 |  |
| 4,643.0      | 0.50       | 329.60               | 4,642.7       | -1,121.7         | 0.5           | -10.5         | 687,568.77         | 533,442.98        | 0.08                | 272.65                 |  |
| 4,686.0      | 0.40       | 285.40               | 4,685.7       | -1,164.7         | 0.7           | -10.8         | 687,568.97         | 533,442.74        | 0.82                | 273.66                 |  |
| 4,729.0      | 0.30       | 302.40               | 4,728.7       | -1,207.7         | 0.8           | -11.0         | 687,569.07         | 533,442.50        | 0.33                | 274.10                 |  |
| 4,772.0      | 0.50       | 296.30               | 4,771.7       | -1,250.7         | 0.9           | -11.3         | 687,569.21         | 533,442.23        | 0.47                | 274.73                 |  |
| 4,816.0      | 0.70       | 316.40               | 4,815.7       | -1,294.7         | 1.2           | -11.6         | 687,569.49         | 533,441.88        | 0.65                | 275.95                 |  |
| 4,858.0      | 0.20       | 306.10               | 4,857.7       | -1,336.7         | 1.4           | -11.9         | 687,569.72         | 533,441.64        | 1.20                | 276.92                 |  |
| 4,901.0      | 0.50       | 9.80                 | 4,900.7       | -1,379.7         | 1.7           | -11.9         | 687,569.95         | 533,441.61        | 1.04                | 277.99                 |  |
| 4,944.0      | 0.10       | 65.60                | 4,943.7       | -1,422.7         | 1.9           | -11.8         | 687,570.15         | 533,441.68        | 1.05                | 278.99                 |  |

|                                              |  |                                                                      |  |
|----------------------------------------------|--|----------------------------------------------------------------------|--|
| <b>Company:</b> Murchison Oil and Gas        |  | <b>Local Co-ordinate Reference:</b> Well Carbon Valley 25 Federal 8H |  |
| <b>Project:</b> Carbon Valley                |  | <b>TVD Reference:</b> HWD @ 3521 0usft (4)                           |  |
| <b>Site:</b> Carbon Valley                   |  | <b>MD Reference:</b> HWD @ 3521 0usft (4)                            |  |
| <b>Well:</b> Carbon Valley 25 Federal 8H     |  | <b>North Reference:</b> Gnd                                          |  |
| <b>Wellbore:</b> Carbon Valley 25 Federal 8H |  | <b>Survey Calculation Method:</b> Minimum Curvature                  |  |
| <b>Design:</b> Carbon Valley 25 Federal 8H   |  | <b>Database:</b> EDM 5000.1 Single User Db                           |  |

| Survey       |            |                      |               |                 |               |               |                    |                   |                     |                        |  |
|--------------|------------|----------------------|---------------|-----------------|---------------|---------------|--------------------|-------------------|---------------------|------------------------|--|
| MD<br>(usft) | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | Northing<br>(usft) | Easting<br>(usft) | DLeg<br>(°/100usft) | Closure Azimuth<br>(°) |  |
| 4,987.0      | 0.40       | 22.20                | 4,986.7       | -1,465.7        | 2.0           | -11.7         | 687,570.30         | 533,441.77        | 0.78                | 279.79                 |  |
| 5,030.0      | 0.20       | 63.50                | 5,029.7       | -1,508.7        | 2.2           | -11.6         | 687,570.48         | 533,441.89        | 0.66                | 280.72                 |  |
| 5,073.0      | 0.70       | 73.90                | 5,072.7       | -1,551.7        | 2.3           | -11.3         | 687,570.58         | 533,442.21        | 1.17                | 281.53                 |  |
| 5,116.0      | 0.80       | 54.90                | 5,115.6       | -1,594.6        | 2.5           | -10.8         | 687,570.83         | 533,442.71        | 0.62                | 283.29                 |  |
| 5,132.0      | 0.90       | 63.56                | 5,131.6       | -1,610.6        | 2.7           | -10.6         | 687,570.95         | 533,442.91        | 1.01                | 284.15                 |  |
| Abo          |            |                      |               |                 |               |               |                    |                   |                     |                        |  |
| 5,159.0      | 1.10       | 74.20                | 5,158.6       | -1,637.6        | 2.8           | -10.2         | 687,571.11         | 533,443.35        | 1.01                | 285.60                 |  |
| 5,202.0      | 1.10       | 80.40                | 5,201.6       | -1,680.6        | 3.0           | -9.3          | 687,571.29         | 533,444.16        | 0.28                | 287.88                 |  |
| 5,245.0      | 1.00       | 81.70                | 5,244.6       | -1,723.6        | 3.1           | -8.6          | 687,571.42         | 533,444.94        | 0.24                | 290.11                 |  |
| 5,289.0      | 1.00       | 78.30                | 5,288.6       | -1,767.6        | 3.3           | -7.8          | 687,571.55         | 533,445.69        | 0.13                | 292.72                 |  |
| 5,332.0      | 1.00       | 73.50                | 5,331.6       | -1,810.6        | 3.5           | -7.1          | 687,571.73         | 533,446.42        | 0.19                | 295.98                 |  |
| 5,375.0      | 1.30       | 75.20                | 5,374.6       | -1,853.6        | 3.7           | -6.3          | 687,571.96         | 533,447.25        | 0.70                | 300.50                 |  |
| 5,418.0      | 1.30       | 90.30                | 5,417.6       | -1,896.6        | 3.8           | -5.3          | 687,572.09         | 533,448.21        | 0.79                | 305.71                 |  |
| 5,461.0      | 1.10       | 73.20                | 5,460.6       | -1,939.6        | 3.9           | -4.4          | 687,572.20         | 533,449.09        | 0.95                | 311.64                 |  |
| 5,504.0      | 1.50       | 84.70                | 5,503.6       | -1,982.6        | 4.1           | -3.5          | 687,572.37         | 533,450.05        | 1.11                | 319.82                 |  |
| 5,547.0      | 1.60       | 73.90                | 5,546.6       | -2,025.6        | 4.3           | -2.3          | 687,572.59         | 533,451.18        | 0.72                | 331.72                 |  |
| 5,590.0      | 1.60       | 70.90                | 5,589.5       | -2,068.5        | 4.7           | -1.2          | 687,572.96         | 533,452.33        | 0.19                | 345.87                 |  |
| 5,633.0      | 1.70       | 75.50                | 5,632.5       | -2,111.5        | 5.0           | 0.0           | 687,573.31         | 533,453.51        | 0.39                | 0.09                   |  |
| 5,676.0      | 1.60       | 86.00                | 5,675.5       | -2,154.5        | 5.2           | 1.2           | 687,573.51         | 533,454.73        | 0.74                | 13.16                  |  |
| 5,719.0      | 1.80       | 80.20                | 5,718.5       | -2,197.5        | 5.4           | 2.5           | 687,573.67         | 533,455.99        | 0.61                | 24.77                  |  |
| 5,756.0      | 1.80       | 81.00                | 5,755.5       | -2,234.5        | 5.6           | 3.6           | 687,573.86         | 533,457.14        | 0.07                | 33.07                  |  |
| 5,811.0      | 0.30       | 221.20               | 5,810.5       | -2,289.5        | 5.6           | 4.4           | 687,573.89         | 533,457.90        | 3.71                | 38.07                  |  |
| 5,854.0      | 4.60       | 276.70               | 5,853.4       | -2,332.4        | 5.7           | 2.6           | 687,574.00         | 533,456.11        | 10.32               | 24.47                  |  |
| 5,897.0      | 9.30       | 283.70               | 5,896.1       | -2,375.1        | 6.7           | -2.5          | 687,575.03         | 533,451.02        | 11.09               | 339.78                 |  |
| 5,940.0      | 13.00      | 286.00               | 5,938.3       | -2,417.3        | 8.9           | -10.5         | 687,577.18         | 533,442.99        | 8.66                | 310.27                 |  |
| 5,985.0      | 16.80      | 285.50               | 5,981.7       | -2,460.7        | 12.0          | -21.6         | 687,580.32         | 533,431.86        | 8.45                | 299.08                 |  |
| 6,030.0      | 22.20      | 284.60               | 6,024.1       | -2,503.1        | 15.9          | -36.2         | 687,584.20         | 533,417.35        | 12.02               | 293.77                 |  |



|                  |                             |                                     |                                  |
|------------------|-----------------------------|-------------------------------------|----------------------------------|
| <b>Company:</b>  | Murchison Oil and Gas       | <b>Local Co-ordinate Reference:</b> | Well Carbon Valley 25 Federal 8H |
| <b>Project:</b>  | Carbon Valley               | <b>TVD Reference:</b>               | HWD @ 3521 0usft (4)             |
| <b>Site:</b>     | Carbon Valley               | <b>MD Reference:</b>                | HWD @ 3521 0usft (4)             |
| <b>Well:</b>     | Carbon Valley 25 Federal 8H | <b>North Reference:</b>             | Gnd                              |
| <b>Wellbore:</b> | Carbon Valley 25 Federal 8H | <b>Survey Calculation Method:</b>   | Minimum Curvature                |
| <b>Design:</b>   | Carbon Valley 25 Federal 8H | <b>Database:</b>                    | EDM 5000.1 Single User Db        |

| Survey       |            |                      |               |                 |               |               |                    |                   |                     |                        |
|--------------|------------|----------------------|---------------|-----------------|---------------|---------------|--------------------|-------------------|---------------------|------------------------|
| MD<br>(usft) | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | Northing<br>(usft) | Easting<br>(usft) | DLeg<br>(%/100usft) | Closure/Azimuth<br>(°) |
| 6,075.0      | 27.20      | 282.00               | 6,065.0       | -2,544.0        | 20.2          | -54.5         | 687,588.49         | 533,399.05        | 11.37               | 290.36                 |
| 6,120.0      | 30.50      | 280.00               | 6,104.4       | -2,583.4        | 24.3          | -75.8         | 687,592.61         | 533,377.74        | 7.64                | 287.80                 |
| 6,165.0      | 32.60      | 281.60               | 6,142.8       | -2,621.8        | 28.8          | -98.9         | 687,597.03         | 533,354.62        | 5.02                | 286.21                 |
| 6,210.0      | 37.90      | 281.10               | 6,179.5       | -2,658.5        | 33.9          | -124.3        | 687,602.13         | 533,329.16        | 11.80               | 285.23                 |
| 6,255.0      | 43.20      | 279.60               | 6,213.7       | -2,692.7        | 39.1          | -153.1        | 687,607.37         | 533,300.39        | 11.97               | 284.32                 |
| 6,299.0      | 48.28      | 277.74               | 6,244.4       | -2,723.4        | 43.8          | -184.3        | 687,612.09         | 533,269.25        | 11.94               | 283.38                 |
| Wolfcamp     |            |                      |               |                 |               |               |                    |                   |                     |                        |
| 6,300.0      | 48.40      | 277.70               | 6,245.1       | -2,724.1        | 43.9          | -185.0        | 687,612.19         | 533,268.51        | 11.94               | 283.35                 |
| 6,345.0      | 53.80      | 275.70               | 6,273.3       | -2,752.3        | 48.0          | -219.8        | 687,616.25         | 533,233.74        | 12.49               | 282.31                 |
| 6,381.0      | 57.99      | 272.94               | 6,293.5       | -2,772.5        | 50.2          | -249.5        | 687,618.48         | 533,204.02        | 13.27               | 281.38                 |
| 7"           |            |                      |               |                 |               |               |                    |                   |                     |                        |
| 6,404.0      | 60.70      | 271.30               | 6,305.2       | -2,784.2        | 50.9          | -269.3        | 687,619.21         | 533,184.25        | 13.27               | 280.71                 |
| 6,448.0      | 69.10      | 268.20               | 6,323.9       | -2,802.9        | 50.7          | -309.1        | 687,618.99         | 533,144.45        | 20.13               | 279.32                 |
| 6,491.0      | 74.50      | 273.60               | 6,337.3       | -2,816.3        | 51.4          | -349.9        | 687,619.67         | 533,103.64        | 17.32               | 278.36                 |
| 6,553.0      | 82.40      | 279.80               | 6,349.7       | -2,828.7        | 58.5          | -410.1        | 687,626.79         | 533,043.40        | 16.07               | 278.12                 |
| 6,596.0      | 89.10      | 277.40               | 6,352.9       | -2,831.9        | 64.9          | -452.5        | 687,633.19         | 533,001.02        | 16.54               | 278.16                 |
| 6,639.0      | 90.90      | 274.10               | 6,352.9       | -2,831.9        | 69.2          | -495.3        | 687,637.50         | 532,958.25        | 8.74                | 277.96                 |
| 6,682.0      | 90.60      | 273.40               | 6,352.3       | -2,831.3        | 72.0          | -538.2        | 687,640.31         | 532,915.34        | 1.77                | 277.62                 |
| 6,725.0      | 89.80      | 272.00               | 6,352.2       | -2,831.2        | 74.1          | -581.1        | 687,642.34         | 532,872.39        | 3.75                | 277.26                 |
| 6,768.0      | 89.50      | 272.00               | 6,352.5       | -2,831.5        | 75.6          | -624.1        | 687,643.84         | 532,829.42        | 0.70                | 276.90                 |
| 6,811.0      | 89.70      | 271.40               | 6,352.8       | -2,831.8        | 76.8          | -667.1        | 687,645.12         | 532,786.44        | 1.47                | 276.57                 |
| 6,854.0      | 90.30      | 271.40               | 6,352.8       | -2,831.8        | 77.9          | -710.1        | 687,646.17         | 532,743.45        | 1.40                | 276.26                 |
| 6,897.0      | 90.00      | 271.00               | 6,352.6       | -2,831.6        | 78.8          | -753.0        | 687,647.07         | 532,700.46        | 1.16                | 275.97                 |
| 6,940.0      | 90.00      | 270.60               | 6,352.6       | -2,831.6        | 79.4          | -796.0        | 687,647.67         | 532,657.47        | 0.93                | 275.70                 |
| 6,983.0      | 89.60      | 270.20               | 6,352.8       | -2,831.8        | 79.7          | -839.0        | 687,647.97         | 532,614.47        | 1.32                | 275.43                 |
| 7,026.0      | 89.50      | 270.10               | 6,353.1       | -2,832.1        | 79.8          | -882.0        | 687,648.08         | 532,571.47        | 0.33                | 275.17                 |
| 7,069.0      | 88.80      | 270.30               | 6,353.8       | -2,832.8        | 80.0          | -925.0        | 687,648.23         | 532,528.48        | 1.69                | 274.94                 |

|                                              |  |                                     |  |                                  |  |
|----------------------------------------------|--|-------------------------------------|--|----------------------------------|--|
| <b>Company:</b> Murchison Oil and Gas        |  | <b>Local Co-ordinate Reference:</b> |  | Well Carbon Valley 25 Federal 8H |  |
| <b>Project:</b> Carbon Valley                |  | <b>TVD Reference:</b>               |  | HWD @ 3521.0usft (4)             |  |
| <b>Site:</b> Carbon Valley                   |  | <b>MD Reference:</b>                |  | HWD @ 3521.0usft (4)             |  |
| <b>Well:</b> Carbon Valley 25 Federal 8H     |  | <b>North Reference:</b>             |  | Grid                             |  |
| <b>Wellbore:</b> Carbon Valley 25 Federal 8H |  | <b>Survey Calculation Method:</b>   |  | Minimum Curvature                |  |
| <b>Design:</b> Carbon Valley 25 Federal 8H   |  | <b>Database:</b>                    |  | EDM 5000.1 Single User Db        |  |

| Survey       |            |                      |               |                 |               |               |                    |                   |                     |                        |
|--------------|------------|----------------------|---------------|-----------------|---------------|---------------|--------------------|-------------------|---------------------|------------------------|
| MD<br>(usft) | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | Northing<br>(usft) | Easting<br>(usft) | DLeg<br>(°/100usft) | Closure Azimuth<br>(°) |
| 7,112.0      | 89.70      | 271.40               | 6,354.3       | -2,833.3        | 80.6          | -968.0        | 687,648.87         | 532,485.49        | 3.31                | 274.76                 |
| 7,155.0      | 89.30      | 272.10               | 6,354.7       | -2,833.7        | 81.9          | -1,011.0      | 687,650.18         | 532,442.51        | 1.87                | 274.63                 |
| 7,198.0      | 91.70      | 273.00               | 6,354.3       | -2,833.3        | 83.8          | -1,054.0      | 687,652.09         | 532,399.56        | 5.96                | 274.55                 |
| 7,242.0      | 93.10      | 273.50               | 6,352.5       | -2,831.5        | 86.3          | -1,097.8      | 687,654.59         | 532,355.67        | 3.38                | 274.50                 |
| 7,284.0      | 92.00      | 273.00               | 6,350.6       | -2,829.6        | 88.7          | -1,139.7      | 687,656.96         | 532,313.78        | 2.88                | 274.45                 |
| 7,328.0      | 91.80      | 273.40               | 6,349.2       | -2,828.2        | 91.1          | -1,183.6      | 687,659.42         | 532,269.87        | 1.02                | 274.40                 |
| 7,371.0      | 91.10      | 273.20               | 6,348.1       | -2,827.1        | 93.6          | -1,226.6      | 687,661.89         | 532,226.95        | 1.69                | 274.36                 |
| 7,413.0      | 90.10      | 272.80               | 6,347.6       | -2,826.6        | 95.8          | -1,268.5      | 687,664.09         | 532,185.01        | 2.56                | 274.32                 |
| 7,456.0      | 90.10      | 273.30               | 6,347.6       | -2,826.6        | 98.1          | -1,311.4      | 687,666.38         | 532,142.08        | 1.16                | 274.28                 |
| 7,499.0      | 90.20      | 273.20               | 6,347.4       | -2,826.4        | 100.5         | -1,354.4      | 687,668.82         | 532,099.15        | 0.33                | 274.25                 |
| 7,541.0      | 90.50      | 273.00               | 6,347.2       | -2,826.2        | 102.8         | -1,396.3      | 687,671.09         | 532,057.21        | 0.86                | 274.21                 |
| 7,584.0      | 91.80      | 273.20               | 6,346.3       | -2,825.3        | 105.1         | -1,439.2      | 687,673.41         | 532,014.28        | 3.06                | 274.18                 |
| 7,627.0      | 92.10      | 273.50               | 6,344.9       | -2,823.9        | 107.6         | -1,482.1      | 687,675.92         | 531,971.38        | 0.99                | 274.15                 |
| 7,670.0      | 90.20      | 274.00               | 6,344.0       | -2,823.0        | 110.5         | -1,525.0      | 687,678.74         | 531,928.48        | 4.57                | 274.14                 |
| 7,713.0      | 90.20      | 274.50               | 6,343.8       | -2,822.8        | 113.6         | -1,567.9      | 687,681.92         | 531,885.60        | 1.16                | 274.15                 |
| 7,756.0      | 90.30      | 274.30               | 6,343.7       | -2,822.7        | 116.9         | -1,610.8      | 687,685.22         | 531,842.73        | 0.52                | 274.15                 |
| 7,799.0      | 90.60      | 274.30               | 6,343.3       | -2,822.3        | 120.2         | -1,653.7      | 687,688.45         | 531,799.85        | 0.70                | 274.16                 |
| 7,842.0      | 90.50      | 273.60               | 6,342.9       | -2,821.9        | 123.1         | -1,696.6      | 687,691.41         | 531,756.95        | 1.64                | 274.15                 |
| 7,885.0      | 90.10      | 273.50               | 6,342.7       | -2,821.7        | 125.8         | -1,739.5      | 687,694.07         | 531,714.04        | 0.96                | 274.14                 |
| 7,928.0      | 90.30      | 273.40               | 6,342.5       | -2,821.5        | 128.4         | -1,782.4      | 687,696.66         | 531,671.12        | 0.52                | 274.12                 |
| 7,971.0      | 90.20      | 274.30               | 6,342.3       | -2,821.3        | 131.3         | -1,825.3      | 687,699.54         | 531,628.21        | 2.11                | 274.11                 |
| 8,014.0      | 89.90      | 273.90               | 6,342.3       | -2,821.3        | 134.3         | -1,868.2      | 687,702.62         | 531,585.32        | 1.16                | 274.11                 |
| 8,059.0      | 90.00      | 273.90               | 6,342.3       | -2,821.3        | 137.4         | -1,913.1      | 687,705.68         | 531,540.43        | 0.22                | 274.11                 |
| 8,102.0      | 90.20      | 273.80               | 6,342.3       | -2,821.3        | 140.3         | -1,956.0      | 687,708.57         | 531,497.52        | 0.52                | 274.10                 |
| 8,145.0      | 90.60      | 273.60               | 6,342.0       | -2,821.0        | 143.1         | -1,998.9      | 687,711.34         | 531,454.62        | 1.04                | 274.09                 |
| 8,188.0      | 90.20      | 274.30               | 6,341.7       | -2,820.7        | 146.0         | -2,041.8      | 687,714.30         | 531,411.72        | 1.87                | 274.09                 |
| 8,230.0      | 89.00      | 274.20               | 6,342.0       | -2,821.0        | 149.1         | -2,083.7      | 687,717.42         | 531,369.84        | 2.87                | 274.09                 |

|                                              |  |                                                                      |  |
|----------------------------------------------|--|----------------------------------------------------------------------|--|
| <b>Company:</b> Murchison Oil and Gas        |  | <b>Local Co-ordinate/Reference:</b> Well Carbon Valley 25 Federal 8H |  |
| <b>Project:</b> Carbon Valley                |  | <b>TVD Reference:</b> HWD @ 3521.0usft (4)                           |  |
| <b>Site:</b> Carbon Valley                   |  | <b>MD Reference:</b> HWD @ 3521.0usft (4)                            |  |
| <b>Well:</b> Carbon Valley 25 Federal 8H     |  | <b>North Reference:</b> Grid                                         |  |
| <b>Wellbore:</b> Carbon Valley 25 Federal 8H |  | <b>Survey Calculation Method:</b> Minimum Curvature                  |  |
| <b>Design:</b> Carbon Valley 25 Federal 8H   |  | <b>Database:</b> EDM 5000 1 Single User Db                           |  |

| Survey       |            |                      |               |                 |               |               |                    |                   |                     |                        |  |
|--------------|------------|----------------------|---------------|-----------------|---------------|---------------|--------------------|-------------------|---------------------|------------------------|--|
| MD<br>(usft) | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | Northing<br>(usft) | Easting<br>(usft) | DLeg<br>(°/100usft) | Closure Azimuth<br>(°) |  |
| 8,274.0      | 89.10      | 273.90               | 6,342.7       | -2,821.7        | 152.2         | -2,127.6      | 687,720.52         | 531,325.95        | 0.72                | 274.09                 |  |
| 8,317.0      | 89.90      | 274.10               | 6,343.1       | -2,822.1        | 155.2         | -2,170.4      | 687,723.52         | 531,283.06        | 1.92                | 274.09                 |  |
| 8,360.0      | 90.00      | 273.60               | 6,343.1       | -2,822.1        | 158.1         | -2,213.3      | 687,726.41         | 531,240.16        | 1.19                | 274.09                 |  |
| 8,403.0      | 89.70      | 272.80               | 6,343.2       | -2,822.2        | 160.5         | -2,256.3      | 687,728.81         | 531,197.22        | 1.99                | 274.07                 |  |
| 8,446.0      | 89.80      | 272.10               | 6,343.4       | -2,822.4        | 162.4         | -2,299.2      | 687,730.65         | 531,154.26        | 1.64                | 274.04                 |  |
| 8,489.0      | 90.20      | 272.30               | 6,343.4       | -2,822.4        | 164.0         | -2,342.2      | 687,732.30         | 531,111.30        | 1.04                | 274.01                 |  |
| 8,532.0      | 90.40      | 272.00               | 6,343.2       | -2,822.2        | 165.6         | -2,385.2      | 687,733.91         | 531,068.33        | 0.84                | 273.97                 |  |
| 8,575.0      | 90.80      | 272.40               | 6,342.7       | -2,821.7        | 167.3         | -2,428.1      | 687,735.56         | 531,025.36        | 1.32                | 273.94                 |  |
| 8,624.0      | 91.70      | 273.60               | 6,341.7       | -2,820.7        | 169.8         | -2,477.1      | 687,738.13         | 530,976.44        | 3.06                | 273.92                 |  |
| 8,661.0      | 93.30      | 275.00               | 6,340.1       | -2,819.1        | 172.6         | -2,513.9      | 687,740.90         | 530,939.58        | 5.74                | 273.93                 |  |
| 8,704.0      | 91.20      | 274.80               | 6,338.4       | -2,817.4        | 176.3         | -2,556.7      | 687,744.57         | 530,896.78        | 4.91                | 273.94                 |  |
| 8,746.0      | 90.90      | 274.40               | 6,337.6       | -2,816.6        | 179.7         | -2,598.6      | 687,747.94         | 530,854.92        | 1.19                | 273.95                 |  |
| 8,789.0      | 90.60      | 274.50               | 6,337.0       | -2,816.0        | 183.0         | -2,641.5      | 687,751.27         | 530,812.05        | 0.74                | 273.96                 |  |
| 8,832.0      | 90.70      | 275.00               | 6,336.5       | -2,815.5        | 186.6         | -2,684.3      | 687,754.83         | 530,769.20        | 1.19                | 273.98                 |  |
| 8,875.0      | 90.80      | 275.20               | 6,336.0       | -2,815.0        | 190.4         | -2,727.1      | 687,758.65         | 530,726.38        | 0.52                | 273.99                 |  |
| 8,918.0      | 91.10      | 275.50               | 6,335.3       | -2,814.3        | 194.4         | -2,769.9      | 687,762.66         | 530,683.57        | 0.99                | 274.01                 |  |
| 8,961.0      | 89.70      | 274.00               | 6,335.0       | -2,814.0        | 197.9         | -2,812.8      | 687,766.22         | 530,640.72        | 4.77                | 274.03                 |  |
| 9,004.0      | 91.50      | 274.70               | 6,334.5       | -2,813.5        | 201.2         | -2,855.7      | 687,769.48         | 530,597.85        | 4.49                | 274.03                 |  |
| 9,047.0      | 91.80      | 274.30               | 6,333.3       | -2,812.3        | 204.6         | -2,898.5      | 687,772.86         | 530,555.00        | 1.16                | 274.04                 |  |
| 9,090.0      | 92.20      | 273.90               | 6,331.8       | -2,810.8        | 207.7         | -2,941.4      | 687,775.93         | 530,512.13        | 1.32                | 274.04                 |  |
| 9,133.0      | 92.80      | 274.00               | 6,329.9       | -2,808.9        | 210.6         | -2,984.2      | 687,778.89         | 530,469.28        | 1.41                | 274.04                 |  |
| 9,176.0      | 92.60      | 273.80               | 6,327.9       | -2,806.9        | 213.5         | -3,027.1      | 687,781.81         | 530,426.43        | 0.66                | 274.03                 |  |
| 9,219.0      | 90.90      | 272.80               | 6,326.6       | -2,805.6        | 216.0         | -3,070.0      | 687,784.28         | 530,383.52        | 4.59                | 274.02                 |  |
| 9,262.0      | 91.00      | 273.00               | 6,325.9       | -2,804.9        | 218.2         | -3,112.9      | 687,786.46         | 530,340.58        | 0.52                | 274.01                 |  |
| 9,305.0      | 91.00      | 273.70               | 6,325.1       | -2,804.1        | 220.7         | -3,155.8      | 687,788.97         | 530,297.66        | 1.63                | 274.00                 |  |
| 9,348.0      | 91.00      | 273.80               | 6,324.3       | -2,803.3        | 223.5         | -3,198.7      | 687,791.78         | 530,254.76        | 0.23                | 274.00                 |  |
| 9,391.0      | 91.00      | 272.90               | 6,323.6       | -2,802.6        | 226.0         | -3,241.7      | 687,794.30         | 530,211.84        | 2.09                | 273.99                 |  |

|                  |                             |                                     |                                  |
|------------------|-----------------------------|-------------------------------------|----------------------------------|
| <b>Company:</b>  | Murchison Oil and Gas       | <b>Local Co-ordinate Reference:</b> | Well Carbon Valley 25 Federal 8H |
| <b>Project:</b>  | Carbon Valley               | <b>TVD Reference:</b>               | HWD @ 3521 0usft (4)             |
| <b>Site:</b>     | Carbon Valley               | <b>MD Reference:</b>                | HWD @ 3521 0usft (4)             |
| <b>Well:</b>     | Carbon Valley 25 Federal 8H | <b>North Reference:</b>             | Grid                             |
| <b>Wellbore:</b> | Carbon Valley 25 Federal 8H | <b>Survey Calculation Method:</b>   | Minimum Curvature                |
| <b>Design:</b>   | Carbon Valley 25 Federal 8H | <b>Database:</b>                    | EDM 5000.1 Single User Db        |

| Survey        |            |                      |               |                 |               |               |                    |                   |                      |                        |
|---------------|------------|----------------------|---------------|-----------------|---------------|---------------|--------------------|-------------------|----------------------|------------------------|
| MD<br>(usft)  | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | Northing<br>(usft) | Easting<br>(usft) | -DLeg<br>(°/100usft) | Closure/Azimuth<br>(°) |
| 9,434.0       | 90.90      | 273.30               | 6,322.9       | -2,801.9        | 228.3         | -3,284.6      | 687,796.62         | 530,168.91        | 0.96                 | 273.98                 |
| 9,477.0       | 91.50      | 274.70               | 6,322.0       | -2,801.0        | 231.3         | -3,327.5      | 687,799.62         | 530,126.02        | 3.54                 | 273.98                 |
| 9,520.0       | 91.30      | 274.60               | 6,320.9       | -2,799.9        | 234.8         | -3,370.3      | 687,803.10         | 530,083.18        | 0.52                 | 273.99                 |
| 9,563.0       | 91.70      | 274.80               | 6,319.8       | -2,798.8        | 238.3         | -3,413.2      | 687,806.63         | 530,040.34        | 1.04                 | 273.99                 |
| 9,606.0       | 93.30      | 275.20               | 6,317.9       | -2,796.9        | 242.1         | -3,456.0      | 687,810.37         | 529,997.54        | 3.84                 | 274.01                 |
| 9,649.0       | 93.70      | 275.60               | 6,315.3       | -2,794.3        | 246.1         | -3,498.7      | 687,814.41         | 529,954.81        | 1.31                 | 274.02                 |
| 9,692.0       | 93.90      | 275.80               | 6,312.5       | -2,791.5        | 250.4         | -3,541.4      | 687,818.67         | 529,912.12        | 0.66                 | 274.04                 |
| 9,735.0       | 92.30      | 275.10               | 6,310.1       | -2,789.1        | 254.5         | -3,584.1      | 687,822.75         | 529,869.38        | 4.06                 | 274.06                 |
| 9,778.0       | 92.10      | 275.30               | 6,308.5       | -2,787.5        | 258.4         | -3,626.9      | 687,826.64         | 529,826.59        | 0.66                 | 274.07                 |
| 9,821.0       | 91.80      | 275.10               | 6,307.0       | -2,786.0        | 262.3         | -3,669.7      | 687,830.54         | 529,783.79        | 0.84                 | 274.09                 |
| 9,864.0       | 91.80      | 275.10               | 6,305.7       | -2,784.7        | 266.1         | -3,712.5      | 687,834.36         | 529,740.98        | 0.00                 | 274.10                 |
| 9,907.0       | 92.50      | 276.00               | 6,304.1       | -2,783.1        | 270.2         | -3,755.3      | 687,838.51         | 529,698.21        | 2.65                 | 274.12                 |
| 9,950.0       | 92.80      | 275.60               | 6,302.1       | -2,781.1        | 274.6         | -3,798.0      | 687,842.85         | 529,655.48        | 1.16                 | 274.13                 |
| 9,993.0       | 92.60      | 275.00               | 6,300.0       | -2,779.0        | 278.5         | -3,840.8      | 687,846.82         | 529,612.71        | 1.47                 | 274.15                 |
| 10,036.0      | 92.50      | 274.90               | 6,298.1       | -2,777.1        | 282.3         | -3,883.6      | 687,850.53         | 529,569.91        | 0.33                 | 274.16                 |
| 10,079.0      | 90.70      | 274.90               | 6,296.9       | -2,775.9        | 285.9         | -3,926.4      | 687,854.20         | 529,527.09        | 4.19                 | 274.16                 |
| 10,122.0      | 90.10      | 274.20               | 6,296.6       | -2,775.6        | 289.3         | -3,969.3      | 687,857.61         | 529,484.23        | 2.14                 | 274.17                 |
| 10,165.0      | 90.20      | 272.80               | 6,296.5       | -2,775.5        | 292.0         | -4,012.2      | 687,860.24         | 529,441.31        | 3.26                 | 274.16                 |
| 10,208.0      | 89.50      | 272.90               | 6,296.6       | -2,775.6        | 294.1         | -4,055.1      | 687,862.37         | 529,398.36        | 1.64                 | 274.15                 |
| 10,251.0      | 89.10      | 273.50               | 6,297.2       | -2,776.2        | 296.5         | -4,098.1      | 687,864.77         | 529,355.43        | 1.68                 | 274.14                 |
| 10,294.0      | 89.10      | 273.20               | 6,297.8       | -2,776.8        | 299.0         | -4,141.0      | 687,867.29         | 529,312.51        | 0.70                 | 274.13                 |
| 10,380.0      | 90.40      | 272.00               | 6,298.2       | -2,777.2        | 302.9         | -4,226.9      | 687,871.19         | 529,226.60        | 2.06                 | 274.10                 |
| 10,423.0      | 90.60      | 272.60               | 6,297.8       | -2,776.8        | 304.6         | -4,269.9      | 687,872.91         | 529,183.64        | 1.47                 | 274.08                 |
| CBV 25 8H Toe |            |                      |               |                 |               |               |                    |                   |                      |                        |

|                  |                             |                                     |                                  |
|------------------|-----------------------------|-------------------------------------|----------------------------------|
| <b>Company:</b>  | Murchison Oil and Gas       | <b>Local Co-ordinate Reference:</b> | Well Carbon Valley 25 Federal 8H |
| <b>Project:</b>  | Carbon Valley               | <b>TVD Reference:</b>               | HWD @ 3521.0usft (4)             |
| <b>Site:</b>     | Carbon Valley               | <b>MD Reference:</b>                | HWD @ 3521.0usft (4)             |
| <b>Well:</b>     | Carbon Valley 25 Federal 8H | <b>North Reference:</b>             | Grid                             |
| <b>Wellbore:</b> | Carbon Valley 25 Federal 8H | <b>Survey Calculation Method:</b>   | Minimum Curvature                |
| <b>Design:</b>   | Carbon Valley 25 Federal 8H | <b>Database:</b>                    | EDM 5000.1 Single User Db        |

| Casing Points         |                       |                       |                     |                   |  |
|-----------------------|-----------------------|-----------------------|---------------------|-------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Name                  | Casing Diameter (") | Hole Diameter (") |  |
| 115.0                 | 115.0                 | 20" Conductor         | 20                  | 26                |  |
| 1,092.0               | 1,091.9               | 9 5/8" Surface Casing | 9-5/8               | 12-1/4            |  |
| 6,381.0               | 6,293.5               | 7"                    | 7                   | 7-1/2             |  |

| Formations            |                       |            |  |
|-----------------------|-----------------------|------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Name       |  |
| 1,682.0               | 1,681.9               | San Andres |  |
| 3,148.0               | 3,147.7               | Paddock    |  |
| 3,118.0               | 3,117.7               | Glorietta  |  |
| 4,405.0               | 4,404.7               | Tubb       |  |
| 5,132.0               | 5,131.6               | Abo        |  |
| 6,299.0               | 6,244.4               | Wolfcamp   |  |

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

Project: Carbon Valley  
 Site: Carbon Valley  
 Well: Carbon Valley 25 Federal 8H  
 Wellbore: Carbon Valley 25 Federal 8H  
 Design: Carbon Valley 25 Federal 8H



Azimuths to Grid North  
 True North -0.06°  
 Magnetic North 7.79°

Magnetic Field  
 Strength 48871.3nT  
 Dip Angle 60.67°  
 Date 05/03/2012  
 Model IGRF2010

#### REFERENCE INFORMATION

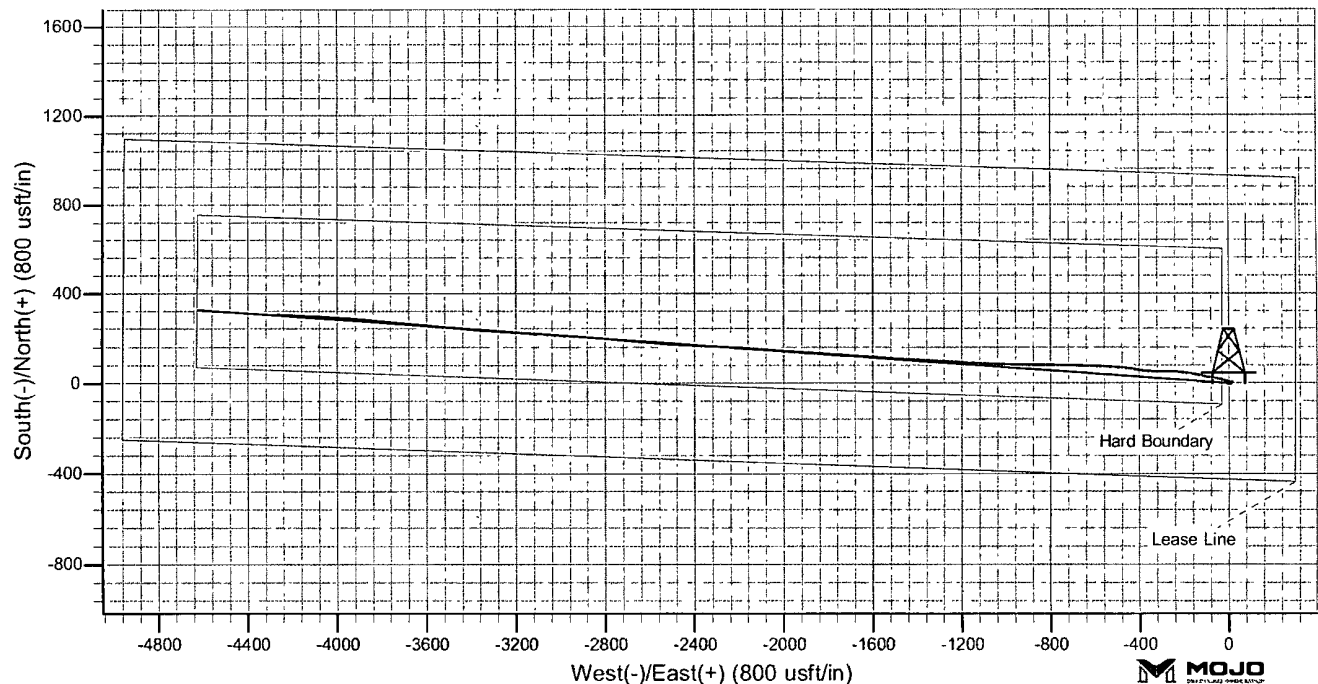
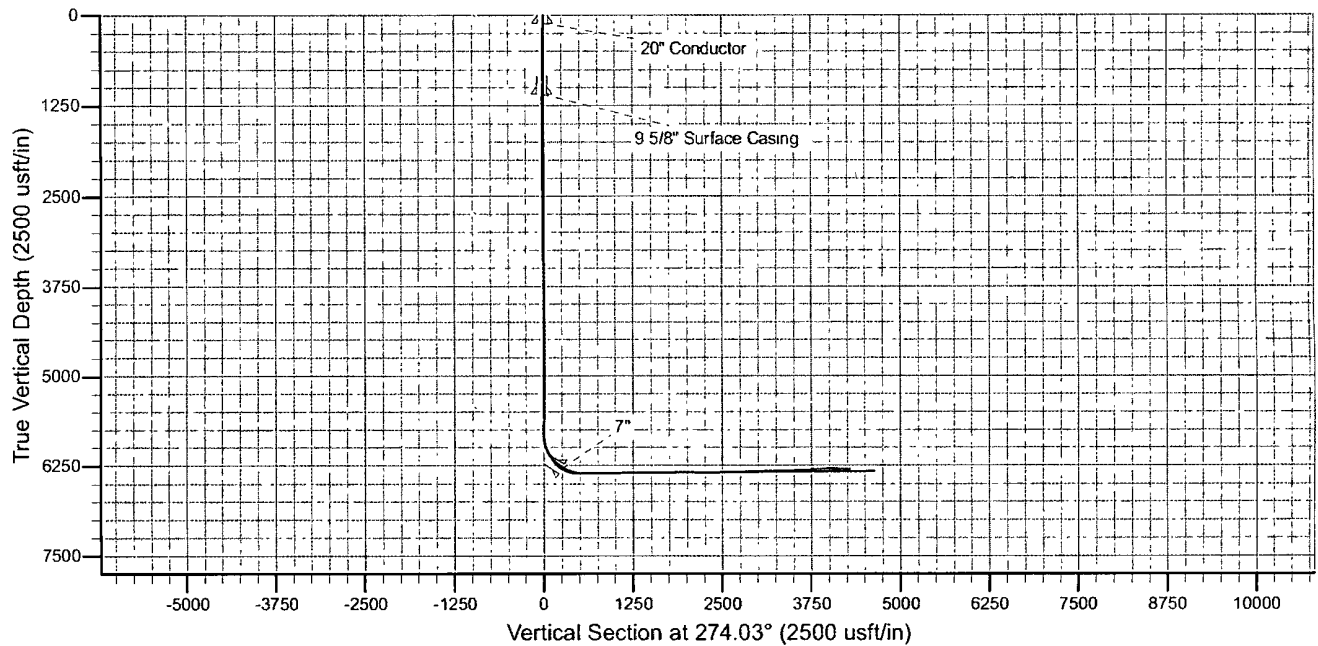
Co-ordinate (N/E) Reference: Well Carbon Valley 25 Federal 8H, Grid North  
 Vertical (TVD) Reference: HWD @ 3521.0usft (4)  
 Section (VS) Reference: Slot - (0.0N, 0.0E)  
 Measured Depth Reference: HWD @ 3521.0usft (4)  
 Calculation Method: Minimum Curvature

#### FORMATION TOP DETAILS

#### CASING DETAILS

| TVD    | MD     | Name                  | Size  |
|--------|--------|-----------------------|-------|
| 115.0  | 115.0  | 20" Conductor         | 20    |
| 1091.9 | 1092.0 | 9 5/8" Surface Casing | 9-5/8 |
| 6293.5 | 6381.0 | 7"                    | 7     |

| TVDPATH | MDPATH | Formation  | DipAngle |
|---------|--------|------------|----------|
| 1675.3  | 1682.0 | San Andres | 0.00     |
| 3111.1  | 3118.0 | Glonetta   | 0.00     |
| 3141.1  | 3148.0 | Paddock    | 0.00     |
| 4398.1  | 4405.0 | Tubb       | 0.00     |
| 5125.0  | 5132.0 | Abo        | 0.00     |
| 6237.8  | 6299.0 | Wolfcamp   | 0.00     |





Job Number: SVCO-121260  
 Company: Murchison Oil & Gas  
 Lease/Well: Carbon Valley 25 Fed 8H  
 Location: Eddy County, NM  
 Rig Name: HWD #4  
 RKB: 16'  
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA  
 Declination: 7.75°  
 Grid: East To Grid North  
 File name: F:\SURVEY\2012SU~1\MURCHI~1\CONROE\CARBON~1\25FED8H.SVY  
 Date/Time: 07-Sep-12 / 08:46  
 Curve Name: Surface - 1081' M.D. (Rate Gyro)

WINSERVE SURVEY CALCULATIONS  
 Minimum Curvature Method  
 Vertical Section Plane 274.03  
 Vertical Section Referenced to Wellhead  
 Rectangular Coordinates Referenced to Wellhead

We hereby certify that our survey data from  
 Surface MD to 1081' MD is, to the best of  
 our knowledge a true and accurate account of  
 the well bore.  
 Nik Means 9/7/12  
 MS Energy Services Date

| Measured<br>Depth<br>FT | Incl<br>Angle<br>Deg | Drift<br>Direction<br>Deg | True<br>Vertical<br>Depth | N-S<br>FT | E-W<br>FT | Vertical<br>Section<br>FT | CLOSURE        |                  | Dogleg<br>Severity<br>Deg/100 |
|-------------------------|----------------------|---------------------------|---------------------------|-----------|-----------|---------------------------|----------------|------------------|-------------------------------|
|                         |                      |                           |                           |           |           |                           | Distance<br>FT | Direction<br>Deg |                               |
| .00                     | .00                  | .00                       | .00                       | .00       | .00       | .00                       | .00            | .00              | .00                           |
| 56.00                   | .13                  | 228.68                    | 56.00                     | -.04      | -.05      | .04                       | .06            | 228.68           | .23                           |
| 87.00                   | .27                  | 43.47                     | 87.00                     | -.01      | -.02      | .02                       | .03            | 243.02           | 1.29                          |
| 117.00                  | .45                  | 72.04                     | 117.00                    | .08       | .14       | -.13                      | .16            | 61.12            | .83                           |
| 148.00                  | .79                  | 54.40                     | 148.00                    | .24       | .43       | -.41                      | .49            | 60.89            | 1.25                          |
| 178.00                  | .61                  | 49.32                     | 178.00                    | .46       | .72       | -.68                      | .85            | 57.16            | .63                           |
| 209.00                  | .69                  | 54.96                     | 208.99                    | .68       | .99       | -.94                      | 1.20           | 55.75            | .33                           |
| 239.00                  | .80                  | 55.12                     | 238.99                    | .90       | 1.31      | -1.25                     | 1.59           | 55.57            | .37                           |
| 270.00                  | .62                  | 60.61                     | 269.99                    | 1.11      | 1.64      | -1.56                     | 1.98           | 55.95            | .62                           |
| 300.00                  | .60                  | 62.13                     | 299.99                    | 1.26      | 1.92      | -1.82                     | 2.29           | 56.70            | .09                           |

| Measured<br>Depth<br>FT           | Incl<br>Angle<br>Deg | Drift<br>Direction<br>Deg | True<br>Vertical<br>Depth | N-S<br>FT | E-W<br>FT | Vertical<br>Section<br>FT | C L O S U R E  |                  | Dogleg<br>Severity<br>Deg/100 |
|-----------------------------------|----------------------|---------------------------|---------------------------|-----------|-----------|---------------------------|----------------|------------------|-------------------------------|
|                                   |                      |                           |                           |           |           |                           | Distance<br>FT | Direction<br>Deg |                               |
| 331.00                            | .55                  | 62.67                     | 330.99                    | 1.40      | 2.19      | -2.09                     | 2.60           | 57.38            | .16                           |
| 361.00                            | .63                  | 61.97                     | 360.98                    | 1.55      | 2.47      | -2.35                     | 2.91           | 57.90            | .27                           |
| 392.00                            | .59                  | 58.02                     | 391.98                    | 1.71      | 2.75      | -2.63                     | 3.24           | 58.12            | .19                           |
| 422.00                            | .60                  | 62.42                     | 421.98                    | 1.87      | 3.02      | -2.88                     | 3.55           | 58.31            | .16                           |
| 453.00                            | .59                  | 60.44                     | 452.98                    | 2.02      | 3.31      | -3.16                     | 3.87           | 58.57            | .07                           |
|                                   |                      |                           |                           |           |           |                           |                |                  |                               |
| 483.00                            | .66                  | 65.20                     | 482.98                    | 2.17      | 3.60      | -3.44                     | 4.20           | 58.91            | .29                           |
| 514.00                            | .66                  | 58.94                     | 513.97                    | 2.34      | 3.91      | -3.74                     | 4.56           | 59.16            | .23                           |
| 544.00                            | .69                  | 63.15                     | 543.97                    | 2.51      | 4.22      | -4.03                     | 4.91           | 59.30            | .19                           |
| 575.00                            | .71                  | 63.00                     | 574.97                    | 2.68      | 4.56      | -4.36                     | 5.29           | 59.57            | .06                           |
| 605.00                            | .73                  | 71.80                     | 604.97                    | 2.82      | 4.91      | -4.70                     | 5.66           | 60.09            | .37                           |
|                                   |                      |                           |                           |           |           |                           |                |                  |                               |
| 636.00                            | .77                  | 70.50                     | 635.97                    | 2.95      | 5.29      | -5.07                     | 6.06           | 60.82            | .14                           |
| 666.00                            | .92                  | 65.91                     | 665.96                    | 3.12      | 5.70      | -5.47                     | 6.50           | 61.31            | .55                           |
| 697.00                            | .80                  | 70.00                     | 696.96                    | 3.29      | 6.13      | -5.88                     | 6.96           | 61.74            | .43                           |
| 727.00                            | .95                  | 79.88                     | 726.95                    | 3.41      | 6.57      | -6.32                     | 7.40           | 62.58            | .71                           |
| 758.00                            | 1.03                 | 78.79                     | 757.95                    | 3.51      | 7.10      | -6.83                     | 7.92           | 63.69            | .27                           |
|                                   |                      |                           |                           |           |           |                           |                |                  |                               |
| 788.00                            | 1.03                 | 87.02                     | 787.95                    | 3.58      | 7.63      | -7.36                     | 8.43           | 64.90            | .49                           |
| 819.00                            | 1.08                 | 79.93                     | 818.94                    | 3.64      | 8.20      | -7.92                     | 8.97           | 66.05            | .45                           |
| 849.00                            | 1.12                 | 78.12                     | 848.93                    | 3.75      | 8.76      | -8.48                     | 9.53           | 66.83            | .18                           |
| 880.00                            | 1.03                 | 76.16                     | 879.93                    | 3.88      | 9.33      | -9.03                     | 10.10          | 67.42            | .31                           |
| 910.00                            | 1.01                 | 76.27                     | 909.92                    | 4.01      | 9.85      | -9.54                     | 10.63          | 67.86            | .07                           |
|                                   |                      |                           |                           |           |           |                           |                |                  |                               |
| 996.00                            | .99                  | 73.61                     | 995.91                    | 4.40      | 11.30     | -10.96                    | 12.12          | 68.73            | .06                           |
| 1038.00                           | 1.04                 | 70.47                     | 1037.90                   | 4.63      | 12.00     | -11.65                    | 12.87          | 68.92            | .18                           |
|                                   |                      |                           |                           |           |           |                           |                |                  |                               |
| <b>Last Survey Depth Recorded</b> |                      |                           |                           |           |           |                           |                |                  |                               |
| 1081.00                           | 1.03                 | 68.64                     | 1080.90                   | 4.90      | 12.73     | -12.36                    | 13.64          | 68.96            | .08                           |