

# **SandRidge Energy**

**North Park Basin**

**T7N-R80W-S9**

**Castle 0780 7-17H20**

**Wellbore #1**

**Plan: Design #1**

## **Standard Survey Report**

**13 September, 2017**

# SandRidge Energy

## Survey Report

|                  |                     |                                     |  |
|------------------|---------------------|-------------------------------------|--|
| <b>Company:</b>  | SandRidge Energy    | <b>Local Co-ordinate Reference:</b> | Well Castle 0780 7-17H20               |
| <b>Project:</b>  | North Park Basin    | <b>TVD Reference:</b>               | WELL @ 8136.0usft (Original Well Elev) |
| <b>Site:</b>     | T7N-R80W-S9         | <b>MD Reference:</b>                | WELL @ 8136.0usft (Original Well Elev) |
| <b>Well:</b>     | Castle 0780 7-17H20 | <b>North Reference:</b>             | Grid                                   |
| <b>Wellbore:</b> | Wellbore #1         | <b>Survey Calculation Method:</b>   | Minimum Curvature                      |
| <b>Design:</b>   | Design #1           | <b>Database:</b>                    | EDMProd                                |

|                    |                           |                      |                |
|--------------------|---------------------------|----------------------|----------------|
| <b>Project</b>     | North Park Basin          |                      |                |
| <b>Map System:</b> | US State Plane 1983       | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | North American Datum 1983 |                      |                |
| <b>Map Zone:</b>   | Colorado Northern Zone    |                      |                |

|                              |             |                          |                   |
|------------------------------|-------------|--------------------------|-------------------|
| <b>Site</b>                  | T7N-R80W-S9 |                          |                   |
| <b>Site Position:</b>        |             | <b>Northing:</b>         | 1,457,270.18 usft |
| <b>From:</b>                 | Map         | <b>Easting:</b>          | 2,753,429.57 usft |
| <b>Position Uncertainty:</b> | 0.0 usft    | <b>Slot Radius:</b>      | 13-3/16 "         |
|                              |             | <b>Latitude:</b>         | 40° 35' 6.782 N   |
|                              |             | <b>Longitude:</b>        | 106° 23' 15.932 W |
|                              |             | <b>Grid Convergence:</b> | -0.57 °           |

|                             |                     |                            |                   |
|-----------------------------|---------------------|----------------------------|-------------------|
| <b>Well</b>                 | Castle 0780 7-17H20 |                            |                   |
| <b>Well Position</b>        | <b>+N/-S</b>        | 0.0 usft                   | <b>Northing:</b>  |
|                             | <b>+E/-W</b>        | 0.0 usft                   | <b>Easting:</b>   |
| <b>Position Uncertainty</b> | 0.0 usft            | <b>Wellhead Elevation:</b> | 0.0 usft          |
|                             |                     | <b>Latitude:</b>           | 40° 35' 8.230 N   |
|                             |                     | <b>Longitude:</b>          | 106° 23' 14.930 W |
|                             |                     | <b>Ground Level:</b>       | 8,118.0 usft      |

|                  |                   |                    |                       |
|------------------|-------------------|--------------------|-----------------------|
| <b>Wellbore</b>  | Wellbore #1       |                    |                       |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination</b>    |
|                  |                   |                    | (°)                   |
|                  | IGRF200510        | 12/31/2009         | 9.88                  |
|                  |                   |                    | <b>Dip Angle</b>      |
|                  |                   |                    | (°)                   |
|                  |                   |                    | 66.98                 |
|                  |                   |                    | <b>Field Strength</b> |
|                  |                   |                    | (nT)                  |
|                  |                   |                    | 53,192                |

|                          |                         |              |                      |
|--------------------------|-------------------------|--------------|----------------------|
| <b>Design</b>            | Design #1               |              |                      |
| <b>Audit Notes:</b>      |                         |              |                      |
| <b>Version:</b>          | <b>Phase:</b>           | PROTOTYPE    | <b>Tie On Depth:</b> |
|                          |                         |              | 0.0                  |
| <b>Vertical Section:</b> | <b>Depth From (TVD)</b> | <b>+N/-S</b> | <b>+E/-W</b>         |
|                          | (usft)                  | (usft)       | (usft)               |
|                          | 0.0                     | 0.0          | 0.0                  |
|                          |                         |              | <b>Direction</b>     |
|                          |                         |              | (°)                  |
|                          |                         |              | 186.96               |

|                            |             |                          |                  |                               |
|----------------------------|-------------|--------------------------|------------------|-------------------------------|
| <b>Survey Tool Program</b> | <b>Date</b> | 9/13/2017                |                  |                               |
| <b>From</b>                | <b>To</b>   | <b>Survey (Wellbore)</b> | <b>Tool Name</b> | <b>Description</b>            |
| (usft)                     | (usft)      |                          |                  |                               |
| 0.0                        | 18,366.1    | Design #1 (Wellbore #1)  | Sperry MWD       | Fixed:v2:standard declination |

|                       |                    |                |                 |               |               |                 |                    |                    |                    |
|-----------------------|--------------------|----------------|-----------------|---------------|---------------|-----------------|--------------------|--------------------|--------------------|
| <b>Planned Survey</b> |                    |                |                 |               |               |                 |                    |                    |                    |
| <b>Measured</b>       | <b>Inclination</b> | <b>Azimuth</b> | <b>Vertical</b> | <b>+N/-S</b>  | <b>+E/-W</b>  | <b>Vertical</b> | <b>Dogleg</b>      | <b>Build</b>       | <b>Turn</b>        |
| <b>Depth</b>          | <b>(°)</b>         | <b>(°)</b>     | <b>Depth</b>    | <b>(usft)</b> | <b>(usft)</b> | <b>Section</b>  | <b>Rate</b>        | <b>Rate</b>        | <b>Rate</b>        |
| <b>(usft)</b>         |                    |                | <b>(usft)</b>   |               |               | <b>(usft)</b>   | <b>(°/100usft)</b> | <b>(°/100usft)</b> | <b>(°/100usft)</b> |
| 0.0                   | 0.00               | 0.00           | 0.0             | 0.0           | 0.0           | 0.0             | 0.00               | 0.00               | 0.00               |
| 100.0                 | 0.00               | 0.00           | 100.0           | 0.0           | 0.0           | 0.0             | 0.00               | 0.00               | 0.00               |
| 200.0                 | 0.00               | 0.00           | 200.0           | 0.0           | 0.0           | 0.0             | 0.00               | 0.00               | 0.00               |
| 300.0                 | 0.00               | 0.00           | 300.0           | 0.0           | 0.0           | 0.0             | 0.00               | 0.00               | 0.00               |
| 400.0                 | 0.00               | 0.00           | 400.0           | 0.0           | 0.0           | 0.0             | 0.00               | 0.00               | 0.00               |
| 500.0                 | 0.00               | 0.00           | 500.0           | 0.0           | 0.0           | 0.0             | 0.00               | 0.00               | 0.00               |
| 600.0                 | 0.00               | 0.00           | 600.0           | 0.0           | 0.0           | 0.0             | 0.00               | 0.00               | 0.00               |
| 700.0                 | 0.00               | 0.00           | 700.0           | 0.0           | 0.0           | 0.0             | 0.00               | 0.00               | 0.00               |
| 800.0                 | 0.00               | 0.00           | 800.0           | 0.0           | 0.0           | 0.0             | 0.00               | 0.00               | 0.00               |
| 900.0                 | 0.00               | 0.00           | 900.0           | 0.0           | 0.0           | 0.0             | 0.00               | 0.00               | 0.00               |

# SandRidge Energy

## Survey Report

|                  |                     |                                     |  |
|------------------|---------------------|-------------------------------------|--|
| <b>Company:</b>  | SandRidge Energy    | <b>Local Co-ordinate Reference:</b> | Well Castle 0780 7-17H20               |
| <b>Project:</b>  | North Park Basin    | <b>TVD Reference:</b>               | WELL @ 8136.0usft (Original Well Elev) |
| <b>Site:</b>     | T7N-R80W-S9         | <b>MD Reference:</b>                | WELL @ 8136.0usft (Original Well Elev) |
| <b>Well:</b>     | Castle 0780 7-17H20 | <b>North Reference:</b>             | Grid                                   |
| <b>Wellbore:</b> | Wellbore #1         | <b>Survey Calculation Method:</b>   | Minimum Curvature                      |
| <b>Design:</b>   | Design #1           | <b>Database:</b>                    | EDMProd                                |

### Planned Survey

| Measured Depth (usft)                 | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---------------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 1,000.0                               | 0.00            | 0.00        | 1,000.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,100.0                               | 0.00            | 0.00        | 1,100.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,200.0                               | 0.00            | 0.00        | 1,200.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,300.0                               | 0.00            | 0.00        | 1,300.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,400.0                               | 0.00            | 0.00        | 1,400.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,500.0                               | 0.00            | 0.00        | 1,500.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,600.0                               | 0.00            | 0.00        | 1,600.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,700.0                               | 0.00            | 0.00        | 1,700.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,800.0                               | 0.00            | 0.00        | 1,800.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,900.0                               | 0.00            | 0.00        | 1,900.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,000.0                               | 0.00            | 0.00        | 2,000.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,100.0                               | 0.00            | 0.00        | 2,100.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,200.0                               | 0.00            | 0.00        | 2,200.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,300.0                               | 0.00            | 0.00        | 2,300.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,400.0                               | 0.00            | 0.00        | 2,400.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,500.0                               | 0.00            | 0.00        | 2,500.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,600.0                               | 0.00            | 0.00        | 2,600.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,700.0                               | 0.00            | 0.00        | 2,700.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,800.0                               | 0.00            | 0.00        | 2,800.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| <b>Start Build 2.00</b>               |                 |             |                       |              |              |                         |                         |                        |                       |
| 2,900.0                               | 2.00            | 280.01      | 2,900.0               | 0.3          | -1.7         | -0.1                    | 2.00                    | 2.00                   | 0.00                  |
| 3,000.0                               | 4.00            | 280.01      | 2,999.8               | 1.2          | -6.9         | -0.4                    | 2.00                    | 2.00                   | 0.00                  |
| 3,100.0                               | 6.00            | 280.01      | 3,099.5               | 2.7          | -15.5        | -0.8                    | 2.00                    | 2.00                   | 0.00                  |
| 3,200.0                               | 8.00            | 280.01      | 3,198.7               | 4.8          | -27.5        | -1.5                    | 2.00                    | 2.00                   | 0.00                  |
| 3,300.0                               | 10.00           | 280.01      | 3,297.5               | 7.6          | -42.9        | -2.3                    | 2.00                    | 2.00                   | 0.00                  |
| 3,400.0                               | 12.00           | 280.01      | 3,395.6               | 10.9         | -61.6        | -3.3                    | 2.00                    | 2.00                   | 0.00                  |
| 3,463.1                               | 13.26           | 280.01      | 3,457.2               | 13.3         | -75.2        | -4.1                    | 2.00                    | 2.00                   | 0.00                  |
| <b>Start 3429.5 hold at 3463.1 MD</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 3,500.0                               | 13.26           | 280.01      | 3,493.1               | 14.7         | -83.6        | -4.5                    | 0.00                    | 0.00                   | 0.00                  |
| 3,600.0                               | 13.26           | 280.01      | 3,590.4               | 18.7         | -106.2       | -5.7                    | 0.00                    | 0.00                   | 0.00                  |
| 3,700.0                               | 13.26           | 280.01      | 3,687.8               | 22.7         | -128.8       | -6.9                    | 0.00                    | 0.00                   | 0.00                  |
| 3,800.0                               | 13.26           | 280.01      | 3,785.1               | 26.7         | -151.3       | -8.2                    | 0.00                    | 0.00                   | 0.00                  |
| 3,900.0                               | 13.26           | 280.01      | 3,882.4               | 30.7         | -173.9       | -9.4                    | 0.00                    | 0.00                   | 0.00                  |
| 4,000.0                               | 13.26           | 280.01      | 3,979.8               | 34.7         | -196.5       | -10.6                   | 0.00                    | 0.00                   | 0.00                  |
| 4,100.0                               | 13.26           | 280.01      | 4,077.1               | 38.7         | -219.1       | -11.8                   | 0.00                    | 0.00                   | 0.00                  |
| 4,200.0                               | 13.26           | 280.01      | 4,174.4               | 42.7         | -241.7       | -13.0                   | 0.00                    | 0.00                   | 0.00                  |
| 4,300.0                               | 13.26           | 280.01      | 4,271.8               | 46.6         | -264.3       | -14.3                   | 0.00                    | 0.00                   | 0.00                  |
| 4,400.0                               | 13.26           | 280.01      | 4,369.1               | 50.6         | -286.9       | -15.5                   | 0.00                    | 0.00                   | 0.00                  |
| 4,500.0                               | 13.26           | 280.01      | 4,466.4               | 54.6         | -309.5       | -16.7                   | 0.00                    | 0.00                   | 0.00                  |
| 4,600.0                               | 13.26           | 280.01      | 4,563.8               | 58.6         | -332.1       | -17.9                   | 0.00                    | 0.00                   | 0.00                  |
| 4,700.0                               | 13.26           | 280.01      | 4,661.1               | 62.6         | -354.7       | -19.1                   | 0.00                    | 0.00                   | 0.00                  |
| 4,800.0                               | 13.26           | 280.01      | 4,758.4               | 66.6         | -377.3       | -20.3                   | 0.00                    | 0.00                   | 0.00                  |
| 4,900.0                               | 13.26           | 280.01      | 4,855.8               | 70.6         | -399.9       | -21.6                   | 0.00                    | 0.00                   | 0.00                  |
| 5,000.0                               | 13.26           | 280.01      | 4,953.1               | 74.5         | -422.4       | -22.8                   | 0.00                    | 0.00                   | 0.00                  |

# SandRidge Energy

## Survey Report

|                  |                     |                                     |  |
|------------------|---------------------|-------------------------------------|--|
| <b>Company:</b>  | SandRidge Energy    | <b>Local Co-ordinate Reference:</b> | Well Castle 0780 7-17H20               |
| <b>Project:</b>  | North Park Basin    | <b>TVD Reference:</b>               | WELL @ 8136.0usft (Original Well Elev) |
| <b>Site:</b>     | T7N-R80W-S9         | <b>MD Reference:</b>                | WELL @ 8136.0usft (Original Well Elev) |
| <b>Well:</b>     | Castle 0780 7-17H20 | <b>North Reference:</b>             | Grid                                   |
| <b>Wellbore:</b> | Wellbore #1         | <b>Survey Calculation Method:</b>   | Minimum Curvature                      |
| <b>Design:</b>   | Design #1           | <b>Database:</b>                    | EDMPProd                               |

### Planned Survey

| Measured Depth (usft)                 | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---------------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 5,100.0                               | 13.26           | 280.01      | 5,050.4               | 78.5         | -445.0       | -24.0                   | 0.00                    | 0.00                   | 0.00                  |
| 5,200.0                               | 13.26           | 280.01      | 5,147.8               | 82.5         | -467.6       | -25.2                   | 0.00                    | 0.00                   | 0.00                  |
| 5,300.0                               | 13.26           | 280.01      | 5,245.1               | 86.5         | -490.2       | -26.4                   | 0.00                    | 0.00                   | 0.00                  |
| 5,400.0                               | 13.26           | 280.01      | 5,342.4               | 90.5         | -512.8       | -27.7                   | 0.00                    | 0.00                   | 0.00                  |
| 5,500.0                               | 13.26           | 280.01      | 5,439.8               | 94.5         | -535.4       | -28.9                   | 0.00                    | 0.00                   | 0.00                  |
| 5,600.0                               | 13.26           | 280.01      | 5,537.1               | 98.5         | -558.0       | -30.1                   | 0.00                    | 0.00                   | 0.00                  |
| 5,700.0                               | 13.26           | 280.01      | 5,634.4               | 102.5        | -580.6       | -31.3                   | 0.00                    | 0.00                   | 0.00                  |
| 5,800.0                               | 13.26           | 280.01      | 5,731.8               | 106.4        | -603.2       | -32.5                   | 0.00                    | 0.00                   | 0.00                  |
| 5,900.0                               | 13.26           | 280.01      | 5,829.1               | 110.4        | -625.8       | -33.7                   | 0.00                    | 0.00                   | 0.00                  |
| 6,000.0                               | 13.26           | 280.01      | 5,926.4               | 114.4        | -648.4       | -35.0                   | 0.00                    | 0.00                   | 0.00                  |
| 6,100.0                               | 13.26           | 280.01      | 6,023.8               | 118.4        | -670.9       | -36.2                   | 0.00                    | 0.00                   | 0.00                  |
| 6,200.0                               | 13.26           | 280.01      | 6,121.1               | 122.4        | -693.5       | -37.4                   | 0.00                    | 0.00                   | 0.00                  |
| 6,300.0                               | 13.26           | 280.01      | 6,218.4               | 126.4        | -716.1       | -38.6                   | 0.00                    | 0.00                   | 0.00                  |
| 6,400.0                               | 13.26           | 280.01      | 6,315.8               | 130.4        | -738.7       | -39.8                   | 0.00                    | 0.00                   | 0.00                  |
| 6,500.0                               | 13.26           | 280.01      | 6,413.1               | 134.3        | -761.3       | -41.1                   | 0.00                    | 0.00                   | 0.00                  |
| 6,600.0                               | 13.26           | 280.01      | 6,510.4               | 138.3        | -783.9       | -42.3                   | 0.00                    | 0.00                   | 0.00                  |
| 6,700.0                               | 13.26           | 280.01      | 6,607.8               | 142.3        | -806.5       | -43.5                   | 0.00                    | 0.00                   | 0.00                  |
| 6,800.0                               | 13.26           | 280.01      | 6,705.1               | 146.3        | -829.1       | -44.7                   | 0.00                    | 0.00                   | 0.00                  |
| 6,892.6                               | 13.26           | 280.01      | 6,795.2               | 150.0        | -850.0       | -45.8                   | 0.00                    | 0.00                   | 0.00                  |
| <b>Start DLS 8.00 TFO -72.80</b>      |                 |             |                       |              |              |                         |                         |                        |                       |
| 6,900.0                               | 13.45           | 277.56      | 6,802.4               | 150.3        | -851.7       | -45.9                   | 8.00                    | 2.52                   | -32.87                |
| 7,000.0                               | 17.77           | 252.13      | 6,898.8               | 147.1        | -877.8       | -39.6                   | 8.00                    | 4.33                   | -25.44                |
| 7,100.0                               | 24.02           | 237.92      | 6,992.3               | 131.6        | -909.6       | -20.3                   | 8.00                    | 6.24                   | -14.21                |
| 7,200.0                               | 31.04           | 229.56      | 7,080.9               | 104.0        | -946.5       | 11.5                    | 8.00                    | 7.02                   | -8.36                 |
| 7,300.0                               | 38.42           | 224.10      | 7,163.1               | 64.9         | -987.9       | 55.3                    | 8.00                    | 7.38                   | -5.46                 |
| 7,315.3                               | 39.57           | 223.42      | 7,175.0               | 57.9         | -994.5       | 63.1                    | 8.00                    | 7.50                   | -4.43                 |
| <b>Niobrara</b>                       |                 |             |                       |              |              |                         |                         |                        |                       |
| 7,400.0                               | 45.98           | 220.19      | 7,237.1               | 15.0         | -1,032.8     | 110.3                   | 8.00                    | 7.57                   | -3.82                 |
| 7,500.0                               | 53.64           | 217.17      | 7,301.6               | -44.6        | -1,080.4     | 175.3                   | 8.00                    | 7.66                   | -3.02                 |
| 7,582.4                               | 60.00           | 215.10      | 7,346.7               | -100.3       | -1,121.0     | 235.5                   | 8.00                    | 7.72                   | -2.51                 |
| <b>Start 150.0 hold at 7582.4 MD</b>  |                 |             |                       |              |              |                         |                         |                        |                       |
| 7,600.0                               | 60.00           | 215.10      | 7,355.5               | -112.8       | -1,129.7     | 248.9                   | 0.00                    | 0.00                   | 0.00                  |
| 7,700.0                               | 60.00           | 215.10      | 7,405.5               | -183.6       | -1,179.5     | 325.3                   | 0.00                    | 0.00                   | 0.00                  |
| 7,732.4                               | 60.00           | 215.10      | 7,421.7               | -206.6       | -1,195.6     | 350.0                   | 0.00                    | 0.00                   | 0.00                  |
| <b>Start DLS 10.00 TFO -54.57</b>     |                 |             |                       |              |              |                         |                         |                        |                       |
| 7,800.0                               | 64.06           | 208.98      | 7,453.4               | -257.2       | -1,227.2     | 404.1                   | 10.00                   | 6.01                   | -9.05                 |
| 7,900.0                               | 70.50           | 200.67      | 7,492.1               | -340.8       | -1,265.8     | 491.8                   | 10.00                   | 6.43                   | -8.31                 |
| 8,000.0                               | 77.28           | 193.01      | 7,519.8               | -432.7       | -1,293.5     | 586.3                   | 10.00                   | 6.78                   | -7.66                 |
| 8,100.0                               | 84.27           | 185.76      | 7,535.9               | -529.9       | -1,309.5     | 684.8                   | 10.00                   | 6.99                   | -7.25                 |
| 8,181.0                               | 90.00           | 180.03      | 7,539.9               | -610.7       | -1,313.6     | 765.4                   | 10.00                   | 7.08                   | -7.08                 |
| 8,181.2                               | 90.00           | 180.03      | 7,539.9               | -610.9       | -1,313.6     | 765.6                   | 0.00                    | 0.00                   | 0.00                  |
| <b>Start 9954.8 hold at 8181.2 MD</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 8,200.0                               | 90.00           | 180.03      | 7,539.9               | -629.7       | -1,313.6     | 784.3                   | 0.00                    | 0.00                   | 0.00                  |
| 8,300.0                               | 90.00           | 180.03      | 7,539.9               | -729.7       | -1,313.6     | 883.5                   | 0.00                    | 0.00                   | 0.00                  |

# SandRidge Energy

## Survey Report

|                  |                     |                                     |  |
|------------------|---------------------|-------------------------------------|--|
| <b>Company:</b>  | SandRidge Energy    | <b>Local Co-ordinate Reference:</b> | Well Castle 0780 7-17H20               |
| <b>Project:</b>  | North Park Basin    | <b>TVD Reference:</b>               | WELL @ 8136.0usft (Original Well Elev) |
| <b>Site:</b>     | T7N-R80W-S9         | <b>MD Reference:</b>                | WELL @ 8136.0usft (Original Well Elev) |
| <b>Well:</b>     | Castle 0780 7-17H20 | <b>North Reference:</b>             | Grid                                   |
| <b>Wellbore:</b> | Wellbore #1         | <b>Survey Calculation Method:</b>   | Minimum Curvature                      |
| <b>Design:</b>   | Design #1           | <b>Database:</b>                    | EDMPProd                               |

### Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 8,400.0               | 90.00           | 180.03      | 7,539.9               | -829.7       | -1,313.7     | 982.8                   | 0.00                    | 0.00                   | 0.00                  |
| 8,500.0               | 90.00           | 180.03      | 7,539.9               | -929.7       | -1,313.7     | 1,082.1                 | 0.00                    | 0.00                   | 0.00                  |
| 8,600.0               | 90.00           | 180.03      | 7,539.9               | -1,029.7     | -1,313.8     | 1,181.4                 | 0.00                    | 0.00                   | 0.00                  |
| 8,700.0               | 90.00           | 180.03      | 7,539.9               | -1,129.7     | -1,313.8     | 1,280.6                 | 0.00                    | 0.00                   | 0.00                  |
| 8,800.0               | 90.00           | 180.03      | 7,539.9               | -1,229.7     | -1,313.9     | 1,379.9                 | 0.00                    | 0.00                   | 0.00                  |
| 8,900.0               | 90.00           | 180.03      | 7,539.9               | -1,329.7     | -1,313.9     | 1,479.2                 | 0.00                    | 0.00                   | 0.00                  |
| 9,000.0               | 90.00           | 180.03      | 7,539.9               | -1,429.7     | -1,314.0     | 1,578.4                 | 0.00                    | 0.00                   | 0.00                  |
| 9,100.0               | 90.00           | 180.03      | 7,539.9               | -1,529.7     | -1,314.0     | 1,677.7                 | 0.00                    | 0.00                   | 0.00                  |
| 9,200.0               | 90.00           | 180.03      | 7,539.9               | -1,629.7     | -1,314.1     | 1,777.0                 | 0.00                    | 0.00                   | 0.00                  |
| 9,300.0               | 90.00           | 180.03      | 7,539.9               | -1,729.7     | -1,314.1     | 1,876.2                 | 0.00                    | 0.00                   | 0.00                  |
| 9,400.0               | 90.00           | 180.03      | 7,539.9               | -1,829.7     | -1,314.2     | 1,975.5                 | 0.00                    | 0.00                   | 0.00                  |
| 9,500.0               | 90.00           | 180.03      | 7,539.9               | -1,929.7     | -1,314.2     | 2,074.8                 | 0.00                    | 0.00                   | 0.00                  |
| 9,600.0               | 90.00           | 180.03      | 7,539.9               | -2,029.7     | -1,314.3     | 2,174.0                 | 0.00                    | 0.00                   | 0.00                  |
| 9,700.0               | 90.00           | 180.03      | 7,539.9               | -2,129.7     | -1,314.3     | 2,273.3                 | 0.00                    | 0.00                   | 0.00                  |
| 9,800.0               | 90.00           | 180.03      | 7,539.9               | -2,229.7     | -1,314.4     | 2,372.6                 | 0.00                    | 0.00                   | 0.00                  |
| 9,900.0               | 90.00           | 180.03      | 7,539.9               | -2,329.7     | -1,314.4     | 2,471.8                 | 0.00                    | 0.00                   | 0.00                  |
| 10,000.0              | 90.00           | 180.03      | 7,539.9               | -2,429.7     | -1,314.5     | 2,571.1                 | 0.00                    | 0.00                   | 0.00                  |
| 10,100.0              | 90.00           | 180.03      | 7,539.9               | -2,529.7     | -1,314.5     | 2,670.4                 | 0.00                    | 0.00                   | 0.00                  |
| 10,200.0              | 90.00           | 180.03      | 7,539.9               | -2,629.7     | -1,314.6     | 2,769.6                 | 0.00                    | 0.00                   | 0.00                  |
| 10,300.0              | 90.00           | 180.03      | 7,539.9               | -2,729.7     | -1,314.6     | 2,868.9                 | 0.00                    | 0.00                   | 0.00                  |
| 10,400.0              | 90.00           | 180.03      | 7,539.9               | -2,829.7     | -1,314.7     | 2,968.2                 | 0.00                    | 0.00                   | 0.00                  |
| 10,500.0              | 90.00           | 180.03      | 7,539.9               | -2,929.7     | -1,314.7     | 3,067.5                 | 0.00                    | 0.00                   | 0.00                  |
| 10,600.0              | 90.00           | 180.03      | 7,539.9               | -3,029.7     | -1,314.8     | 3,166.7                 | 0.00                    | 0.00                   | 0.00                  |
| 10,700.0              | 90.00           | 180.03      | 7,539.9               | -3,129.7     | -1,314.8     | 3,266.0                 | 0.00                    | 0.00                   | 0.00                  |
| 10,800.0              | 90.00           | 180.03      | 7,539.9               | -3,229.7     | -1,314.9     | 3,365.3                 | 0.00                    | 0.00                   | 0.00                  |
| 10,900.0              | 90.00           | 180.03      | 7,539.9               | -3,329.7     | -1,314.9     | 3,464.5                 | 0.00                    | 0.00                   | 0.00                  |
| 11,000.0              | 90.00           | 180.03      | 7,539.9               | -3,429.7     | -1,315.0     | 3,563.8                 | 0.00                    | 0.00                   | 0.00                  |
| 11,100.0              | 90.00           | 180.03      | 7,539.9               | -3,529.7     | -1,315.0     | 3,663.1                 | 0.00                    | 0.00                   | 0.00                  |
| 11,200.0              | 90.00           | 180.03      | 7,539.9               | -3,629.7     | -1,315.1     | 3,762.3                 | 0.00                    | 0.00                   | 0.00                  |
| 11,300.0              | 90.00           | 180.03      | 7,539.9               | -3,729.7     | -1,315.1     | 3,861.6                 | 0.00                    | 0.00                   | 0.00                  |
| 11,400.0              | 90.00           | 180.03      | 7,539.9               | -3,829.7     | -1,315.2     | 3,960.9                 | 0.00                    | 0.00                   | 0.00                  |
| 11,500.0              | 90.00           | 180.03      | 7,539.9               | -3,929.7     | -1,315.2     | 4,060.1                 | 0.00                    | 0.00                   | 0.00                  |
| 11,600.0              | 90.00           | 180.03      | 7,539.9               | -4,029.7     | -1,315.3     | 4,159.4                 | 0.00                    | 0.00                   | 0.00                  |
| 11,700.0              | 90.00           | 180.03      | 7,539.9               | -4,129.7     | -1,315.3     | 4,258.7                 | 0.00                    | 0.00                   | 0.00                  |
| 11,800.0              | 90.00           | 180.03      | 7,539.9               | -4,229.7     | -1,315.4     | 4,357.9                 | 0.00                    | 0.00                   | 0.00                  |
| 11,900.0              | 90.00           | 180.03      | 7,539.9               | -4,329.7     | -1,315.4     | 4,457.2                 | 0.00                    | 0.00                   | 0.00                  |
| 12,000.0              | 90.00           | 180.03      | 7,539.9               | -4,429.7     | -1,315.5     | 4,556.5                 | 0.00                    | 0.00                   | 0.00                  |
| 12,100.0              | 90.00           | 180.03      | 7,539.9               | -4,529.7     | -1,315.5     | 4,655.7                 | 0.00                    | 0.00                   | 0.00                  |
| 12,200.0              | 90.00           | 180.03      | 7,539.9               | -4,629.7     | -1,315.6     | 4,755.0                 | 0.00                    | 0.00                   | 0.00                  |
| 12,300.0              | 90.00           | 180.03      | 7,539.9               | -4,729.7     | -1,315.6     | 4,854.3                 | 0.00                    | 0.00                   | 0.00                  |
| 12,400.0              | 90.00           | 180.03      | 7,539.9               | -4,829.7     | -1,315.7     | 4,953.5                 | 0.00                    | 0.00                   | 0.00                  |
| 12,500.0              | 90.00           | 180.03      | 7,539.9               | -4,929.7     | -1,315.7     | 5,052.8                 | 0.00                    | 0.00                   | 0.00                  |
| 12,600.0              | 90.00           | 180.03      | 7,539.9               | -5,029.7     | -1,315.8     | 5,152.1                 | 0.00                    | 0.00                   | 0.00                  |
| 12,700.0              | 90.00           | 180.03      | 7,539.9               | -5,129.7     | -1,315.8     | 5,251.4                 | 0.00                    | 0.00                   | 0.00                  |

# SandRidge Energy

## Survey Report

|                  |                     |                                     |  |
|------------------|---------------------|-------------------------------------|--|
| <b>Company:</b>  | SandRidge Energy    | <b>Local Co-ordinate Reference:</b> | Well Castle 0780 7-17H20               |
| <b>Project:</b>  | North Park Basin    | <b>TVD Reference:</b>               | WELL @ 8136.0usft (Original Well Elev) |
| <b>Site:</b>     | T7N-R80W-S9         | <b>MD Reference:</b>                | WELL @ 8136.0usft (Original Well Elev) |
| <b>Well:</b>     | Castle 0780 7-17H20 | <b>North Reference:</b>             | Grid                                   |
| <b>Wellbore:</b> | Wellbore #1         | <b>Survey Calculation Method:</b>   | Minimum Curvature                      |
| <b>Design:</b>   | Design #1           | <b>Database:</b>                    | EDMProd                                |

### Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 12,800.0              | 90.00           | 180.03      | 7,539.9               | -5,229.7     | -1,315.9     | 5,350.6                 | 0.00                    | 0.00                   | 0.00                  |
| 12,900.0              | 90.00           | 180.03      | 7,539.9               | -5,329.7     | -1,315.9     | 5,449.9                 | 0.00                    | 0.00                   | 0.00                  |
| 13,000.0              | 90.00           | 180.03      | 7,539.9               | -5,429.7     | -1,316.0     | 5,549.2                 | 0.00                    | 0.00                   | 0.00                  |
| 13,100.0              | 90.00           | 180.03      | 7,539.9               | -5,529.7     | -1,316.0     | 5,648.4                 | 0.00                    | 0.00                   | 0.00                  |
| 13,200.0              | 90.00           | 180.03      | 7,539.9               | -5,629.7     | -1,316.1     | 5,747.7                 | 0.00                    | 0.00                   | 0.00                  |
| 13,300.0              | 90.00           | 180.03      | 7,539.9               | -5,729.7     | -1,316.1     | 5,847.0                 | 0.00                    | 0.00                   | 0.00                  |
| 13,400.0              | 90.00           | 180.03      | 7,539.9               | -5,829.7     | -1,316.2     | 5,946.2                 | 0.00                    | 0.00                   | 0.00                  |
| 13,500.0              | 90.00           | 180.03      | 7,539.9               | -5,929.7     | -1,316.2     | 6,045.5                 | 0.00                    | 0.00                   | 0.00                  |
| 13,600.0              | 90.00           | 180.03      | 7,539.9               | -6,029.7     | -1,316.3     | 6,144.8                 | 0.00                    | 0.00                   | 0.00                  |
| 13,700.0              | 90.00           | 180.03      | 7,539.9               | -6,129.7     | -1,316.3     | 6,244.0                 | 0.00                    | 0.00                   | 0.00                  |
| 13,800.0              | 90.00           | 180.03      | 7,539.9               | -6,229.7     | -1,316.4     | 6,343.3                 | 0.00                    | 0.00                   | 0.00                  |
| 13,900.0              | 90.00           | 180.03      | 7,539.9               | -6,329.7     | -1,316.4     | 6,442.6                 | 0.00                    | 0.00                   | 0.00                  |
| 14,000.0              | 90.00           | 180.03      | 7,539.9               | -6,429.7     | -1,316.5     | 6,541.8                 | 0.00                    | 0.00                   | 0.00                  |
| 14,100.0              | 90.00           | 180.03      | 7,539.9               | -6,529.7     | -1,316.5     | 6,641.1                 | 0.00                    | 0.00                   | 0.00                  |
| 14,200.0              | 90.00           | 180.03      | 7,539.9               | -6,629.7     | -1,316.6     | 6,740.4                 | 0.00                    | 0.00                   | 0.00                  |
| 14,300.0              | 90.00           | 180.03      | 7,539.9               | -6,729.7     | -1,316.6     | 6,839.6                 | 0.00                    | 0.00                   | 0.00                  |
| 14,400.0              | 90.00           | 180.03      | 7,539.9               | -6,829.7     | -1,316.7     | 6,938.9                 | 0.00                    | 0.00                   | 0.00                  |
| 14,500.0              | 90.00           | 180.03      | 7,539.9               | -6,929.7     | -1,316.7     | 7,038.2                 | 0.00                    | 0.00                   | 0.00                  |
| 14,600.0              | 90.00           | 180.03      | 7,539.9               | -7,029.7     | -1,316.8     | 7,137.5                 | 0.00                    | 0.00                   | 0.00                  |
| 14,700.0              | 90.00           | 180.03      | 7,539.9               | -7,129.7     | -1,316.8     | 7,236.7                 | 0.00                    | 0.00                   | 0.00                  |
| 14,800.0              | 90.00           | 180.03      | 7,539.9               | -7,229.7     | -1,316.9     | 7,336.0                 | 0.00                    | 0.00                   | 0.00                  |
| 14,900.0              | 90.00           | 180.03      | 7,539.9               | -7,329.7     | -1,316.9     | 7,435.3                 | 0.00                    | 0.00                   | 0.00                  |
| 15,000.0              | 90.00           | 180.03      | 7,539.9               | -7,429.7     | -1,317.0     | 7,534.5                 | 0.00                    | 0.00                   | 0.00                  |
| 15,100.0              | 90.00           | 180.03      | 7,539.9               | -7,529.7     | -1,317.0     | 7,633.8                 | 0.00                    | 0.00                   | 0.00                  |
| 15,200.0              | 90.00           | 180.03      | 7,539.9               | -7,629.7     | -1,317.1     | 7,733.1                 | 0.00                    | 0.00                   | 0.00                  |
| 15,300.0              | 90.00           | 180.03      | 7,539.9               | -7,729.7     | -1,317.1     | 7,832.3                 | 0.00                    | 0.00                   | 0.00                  |
| 15,400.0              | 90.00           | 180.03      | 7,539.9               | -7,829.7     | -1,317.2     | 7,931.6                 | 0.00                    | 0.00                   | 0.00                  |
| 15,500.0              | 90.00           | 180.03      | 7,539.9               | -7,929.7     | -1,317.2     | 8,030.9                 | 0.00                    | 0.00                   | 0.00                  |
| 15,600.0              | 90.00           | 180.03      | 7,539.9               | -8,029.7     | -1,317.3     | 8,130.1                 | 0.00                    | 0.00                   | 0.00                  |
| 15,700.0              | 90.00           | 180.03      | 7,539.9               | -8,129.7     | -1,317.3     | 8,229.4                 | 0.00                    | 0.00                   | 0.00                  |
| 15,800.0              | 90.00           | 180.03      | 7,539.9               | -8,229.7     | -1,317.4     | 8,328.7                 | 0.00                    | 0.00                   | 0.00                  |
| 15,900.0              | 90.00           | 180.03      | 7,539.9               | -8,329.7     | -1,317.4     | 8,427.9                 | 0.00                    | 0.00                   | 0.00                  |
| 16,000.0              | 90.00           | 180.03      | 7,539.9               | -8,429.7     | -1,317.5     | 8,527.2                 | 0.00                    | 0.00                   | 0.00                  |
| 16,100.0              | 90.00           | 180.03      | 7,539.9               | -8,529.7     | -1,317.5     | 8,626.5                 | 0.00                    | 0.00                   | 0.00                  |
| 16,200.0              | 90.00           | 180.03      | 7,539.9               | -8,629.7     | -1,317.6     | 8,725.7                 | 0.00                    | 0.00                   | 0.00                  |
| 16,300.0              | 90.00           | 180.03      | 7,539.9               | -8,729.7     | -1,317.6     | 8,825.0                 | 0.00                    | 0.00                   | 0.00                  |
| 16,400.0              | 90.00           | 180.03      | 7,539.9               | -8,829.7     | -1,317.7     | 8,924.3                 | 0.00                    | 0.00                   | 0.00                  |
| 16,500.0              | 90.00           | 180.03      | 7,539.9               | -8,929.7     | -1,317.7     | 9,023.6                 | 0.00                    | 0.00                   | 0.00                  |
| 16,600.0              | 90.00           | 180.03      | 7,539.9               | -9,029.7     | -1,317.8     | 9,122.8                 | 0.00                    | 0.00                   | 0.00                  |
| 16,700.0              | 90.00           | 180.03      | 7,539.9               | -9,129.7     | -1,317.8     | 9,222.1                 | 0.00                    | 0.00                   | 0.00                  |
| 16,800.0              | 90.00           | 180.03      | 7,539.9               | -9,229.7     | -1,317.9     | 9,321.4                 | 0.00                    | 0.00                   | 0.00                  |
| 16,900.0              | 90.00           | 180.03      | 7,539.9               | -9,329.7     | -1,317.9     | 9,420.6                 | 0.00                    | 0.00                   | 0.00                  |
| 17,000.0              | 90.00           | 180.03      | 7,539.9               | -9,429.7     | -1,318.0     | 9,519.9                 | 0.00                    | 0.00                   | 0.00                  |

# SandRidge Energy

## Survey Report

|                  |                     |                                     |  |
|------------------|---------------------|-------------------------------------|--|
| <b>Company:</b>  | SandRidge Energy    | <b>Local Co-ordinate Reference:</b> | Well Castle 0780 7-17H20               |
| <b>Project:</b>  | North Park Basin    | <b>TVD Reference:</b>               | WELL @ 8136.0usft (Original Well Elev) |
| <b>Site:</b>     | T7N-R80W-S9         | <b>MD Reference:</b>                | WELL @ 8136.0usft (Original Well Elev) |
| <b>Well:</b>     | Castle 0780 7-17H20 | <b>North Reference:</b>             | Grid                                   |
| <b>Wellbore:</b> | Wellbore #1         | <b>Survey Calculation Method:</b>   | Minimum Curvature                      |
| <b>Design:</b>   | Design #1           | <b>Database:</b>                    | EDMProd                                |

### Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 17,100.0              | 90.00           | 180.03      | 7,539.9               | -9,529.7     | -1,318.0     | 9,619.2                 | 0.00                    | 0.00                   | 0.00                  |
| 17,200.0              | 90.00           | 180.03      | 7,539.9               | -9,629.7     | -1,318.1     | 9,718.4                 | 0.00                    | 0.00                   | 0.00                  |
| 17,300.0              | 90.00           | 180.03      | 7,539.9               | -9,729.7     | -1,318.1     | 9,817.7                 | 0.00                    | 0.00                   | 0.00                  |
| 17,400.0              | 90.00           | 180.03      | 7,539.9               | -9,829.7     | -1,318.2     | 9,917.0                 | 0.00                    | 0.00                   | 0.00                  |
| 17,500.0              | 90.00           | 180.03      | 7,539.9               | -9,929.7     | -1,318.2     | 10,016.2                | 0.00                    | 0.00                   | 0.00                  |
| 17,600.0              | 90.00           | 180.03      | 7,539.9               | -10,029.7    | -1,318.3     | 10,115.5                | 0.00                    | 0.00                   | 0.00                  |
| 17,700.0              | 90.00           | 180.03      | 7,539.9               | -10,129.7    | -1,318.3     | 10,214.8                | 0.00                    | 0.00                   | 0.00                  |
| 17,800.0              | 90.00           | 180.03      | 7,539.9               | -10,229.7    | -1,318.4     | 10,314.0                | 0.00                    | 0.00                   | 0.00                  |
| 17,900.0              | 90.00           | 180.03      | 7,539.9               | -10,329.7    | -1,318.4     | 10,413.3                | 0.00                    | 0.00                   | 0.00                  |
| 18,000.0              | 90.00           | 180.03      | 7,539.9               | -10,429.7    | -1,318.5     | 10,512.6                | 0.00                    | 0.00                   | 0.00                  |
| 18,100.0              | 90.00           | 180.03      | 7,539.9               | -10,529.7    | -1,318.5     | 10,611.8                | 0.00                    | 0.00                   | 0.00                  |
| 18,136.0              | 90.00           | 180.03      | 7,539.9               | -10,565.7    | -1,318.5     | 10,647.6                | 0.00                    | 0.00                   | 0.00                  |
| TD at 18136.0         |                 |             |                       |              |              |                         |                         |                        |                       |
| 18,200.0              | 90.00           | 180.03      | 7,539.9               | -10,629.7    | -1,318.6     | 10,711.1                | 0.00                    | 0.00                   | 0.00                  |
| 18,300.0              | 90.00           | 180.03      | 7,539.9               | -10,729.7    | -1,318.6     | 10,810.4                | 0.00                    | 0.00                   | 0.00                  |
| 18,366.1              | 90.00           | 180.03      | 7,539.9               | -10,795.8    | -1,318.7     | 10,876.0                | 0.00                    | 0.00                   | 0.00                  |

### Design Targets

#### Target Name

| - hit/miss target  | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude         | Longitude         |
|--|---------------|--------------|------------|--------------|--------------|-----------------|----------------|------------------|-------------------|
| - Shape  |               |              |            |              |              |                 |                |                  |                   |
| Castle 7   | 0.00          | 360.00       | 7,540.0    | -10,795.8    | -1,318.7     | 1,446,620.15    | 2,752,189.73   | 40° 33' 21.424 N | 106° 23' 30.613 W |
| - plan misses target center by 0.1usft at 18366.1usft MD (7539.9 TVD, -10795.8 N, -1318.7 E) |               |              |            |              |              |                 |                |                  |                   |
| - Point  |               |              |            |              |              |                 |                |                  |                   |

### Formations

| Measured Depth (usft) | Vertical Depth (usft) | Name     | Lithology | Dip (°) | Dip Direction (°) |
|-----------------------|-----------------------|----------|-----------|---------|-------------------|
| 7,315.3               | 7,175.0               | Niobrara |           | 0.00    |                   |

### Plan Annotations

| Measured Depth (usft) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Comment                        |
|-----------------------|-----------------------|--------------|--------------|--------------------------------|
| 2800                  | 2800                  | 0            | 0            | Start Build 2.00               |
| 3463                  | 3457                  | 13           | -75          | Start 3429.5 hold at 3463.1 MD |
| 6893                  | 6795                  | 150          | -850         | Start DLS 8.00 TFO -72.80      |
| 7582                  | 7347                  | -100         | -1121        | Start 150.0 hold at 7582.4 MD  |
| 7732                  | 7422                  | -207         | -1196        | Start DLS 10.00 TFO -54.57     |
| 8181                  | 7540                  | -611         | -1314        | Start 9954.8 hold at 8181.2 MD |
| 18,136                | 7540                  | -10,566      | -1319        | TD at 18136.0                  |

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_