

MALLARD EXPLORATION

WELD COUNTY

SEC 22-T8N-R60W

BLUE TEAL FED 15-3-6HN

ORIGINAL WELLBORE

Plan: PROPOSAL 1

Standard Planning Report

09 September, 2020



Project: WELD COUNTY
Site: SEC 22-T8N-R60W
Well: BLUE TEAL FED 15-3-6HN
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL 1

PROJECT DETAILS: WELD COUNTY

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone

System Datum: Mean Sea Level



Azimuths to True North
Magnetic North: 7.60°

Magnetic Field
Strength: 52254.6nT
Dip Angle: 66.99°
Date: 7/6/2020
Model: IGRF2020

WELL DETAILS: BLUE TEAL FED 15-3-6HN

| +N/-S | +E/-W | Northing | Easting | 4892.00 | Latitude | Longitude | Slot |
|-------|-------|------------|------------|---------|-------------|--------------|------|
| 0.00 | 0.00 | 1484207.57 | 3395201.09 | | 40.653832°N | 104.075624°W | |

SECTION DETAILS

| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | TFace | VSect | Target |
|-----|----------|-------|--------|---------|----------|---------|-------|--------|----------|------------------|
| 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2 | 600.00 | 0.00 | 0.00 | 600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 3 | 729.81 | 2.60 | 332.48 | 729.77 | 2.61 | -1.36 | 2.00 | 332.48 | 2.59 | |
| 4 | 5800.21 | 2.60 | 332.48 | 5794.96 | 206.30 | -107.48 | 0.00 | 0.00 | 205.27 | |
| 5 | 6677.41 | 90.00 | 1.09 | 6345.00 | 778.93 | -108.49 | 10.00 | 28.64 | 777.86 | BTfED 6HN - LP |
| 6 | 18697.16 | 90.00 | 1.09 | 6345.00 | 12796.48 | 121.19 | 0.00 | 0.00 | 12797.05 | BTfED 6HN - PBHL |

FORMATION TOP DETAILS

| TVDPath | MDPath | Formation |
|---------|---------|--------------------------------|
| 444.00 | 444.00 | Fox Hills Base |
| 1447.00 | 1447.78 | Pierre Shale Top |
| 3305.00 | 3307.69 | Richard Sandstone |
| 3420.00 | 3422.81 | Parkman Sandstone |
| 4196.00 | 4199.61 | Sussex Sandstone |
| 4634.00 | 4638.06 | Shannon Sandstone |
| 5397.00 | 5401.84 | TeePee Buttes |
| 6072.00 | 6093.03 | Sharon Springs |
| 6112.00 | 6141.29 | Niobrara Top |
| 6246.00 | 6335.51 | Niobrara B2 Chalk Top |
| 6311.00 | 6479.02 | Niobrara C Chalk Target Top |
| 6345.00 | 6677.41 | Niobrara C Chalk Target Center |

ANNOTATIONS

| MD | Inc | Azi | TVD | +N/-S | +E/-W | VSect | Departure | Annotation |
|----------|-------|--------|---------|----------|---------|----------|-----------|-----------------------------------|
| 600.00 | 0.00 | 0.00 | 600.00 | 0.00 | 0.00 | 0.00 | 0.00 | Start Build 2.00 |
| 729.81 | 2.60 | 332.48 | 729.77 | 2.61 | -1.36 | 2.59 | 2.94 | Start 5070.39 hold at 729.81 MD |
| 5800.21 | 2.60 | 332.48 | 5794.96 | 206.30 | -107.48 | 205.27 | 232.62 | Start DLS 10.00 TFO 28.64 |
| 6677.41 | 90.00 | 1.09 | 6345.00 | 778.93 | -108.49 | 777.86 | 805.55 | Start 12019.74 hold at 6677.41 MD |
| 18697.16 | 90.00 | 1.09 | 6345.00 | 12796.48 | 121.19 | 12797.05 | 12825.29 | TD at 18697.16 |

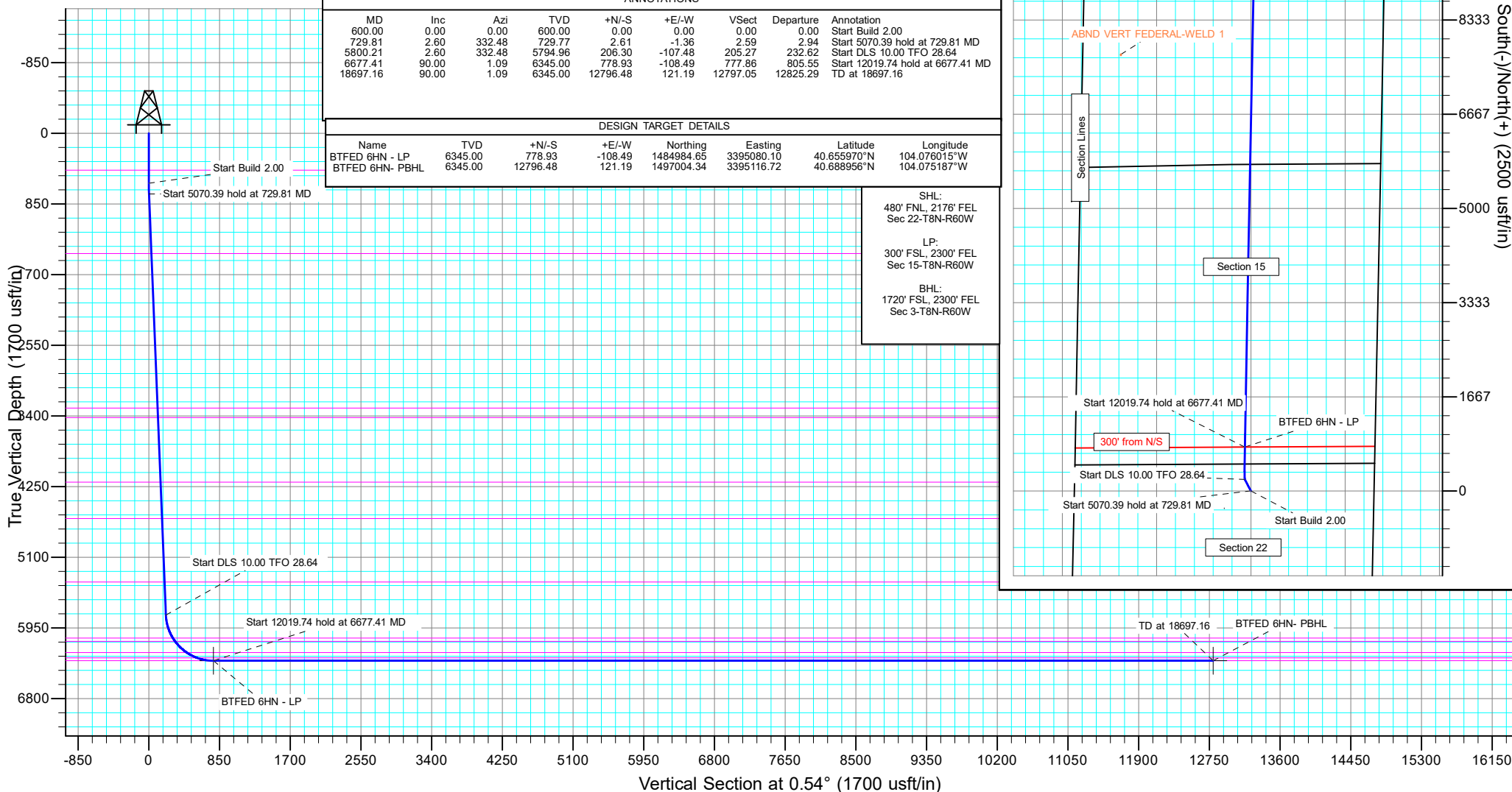
DESIGN TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
|------------------|---------|----------|---------|------------|------------|-------------|--------------|
| BTfED 6HN - LP | 6345.00 | 778.93 | -108.49 | 1484984.65 | 3395080.10 | 40.655970°N | 104.076015°W |
| BTfED 6HN - PBHL | 6345.00 | 12796.48 | 121.19 | 1497004.34 | 3395116.72 | 40.688956°N | 104.075187°W |

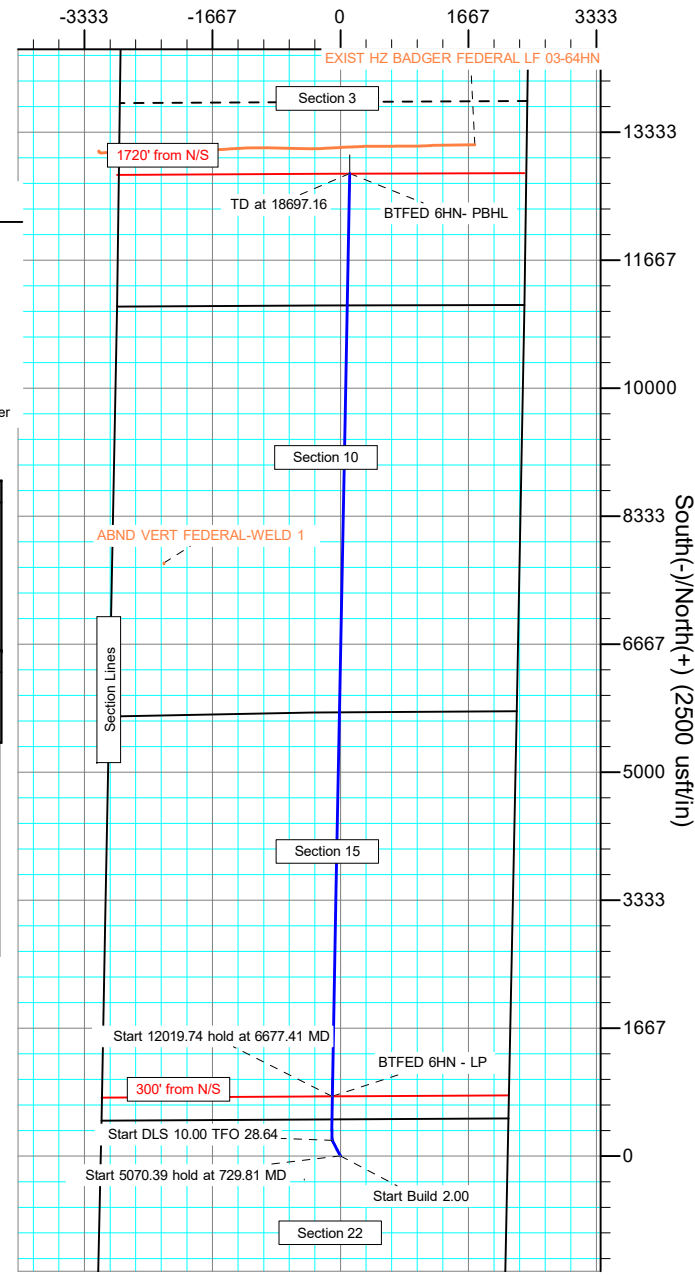
SHL:
480' FNL, 2176' FEL
Sec 22-T8N-R60W

LP:
300' FSL, 2300' FEL
Sec 15-T8N-R60W

BHL:
1720' FSL, 2300' FEL
Sec 3-T8N-R60W



West(-)/East(+) (2500 usft/in)



Planning Report

| | | | |
|------------------|----------------------------|-------------------------------------|-----------------------------|
| Database: | EDM 5000.16 Single User Db | Local Co-ordinate Reference: | Well BLUE TEAL FED 15-3-6HN |
| Company: | MALLARD EXPLORATION | TVD Reference: | KB 27' @ 4919.00usft |
| Project: | WELD COUNTY | MD Reference: | KB 27' @ 4919.00usft |
| Site: | SEC 22-T8N-R60W | North Reference: | True |
| Well: | BLUE TEAL FED 15-3-6HN | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL 1 | | |

| | | | |
|--------------------|---------------------------|----------------------|----------------|
| Project | WELD COUNTY | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Northern Zone | | |

| | | | | | | |
|-----------------------|----------|-----------------|--------------|--------------|------------|--------------|
| Site | | SEC 22-T8N-R60W | | | | |
| Site Position: | | Northing: | 1,488,376.93 | usft | Latitude: | 40.665181°N |
| From: | Lat/Long | Easting: | 3,397,319.63 | usft | Longitude: | 104.067747°W |
| Position Uncertainty: | | 0.00 | usft | Slot Radius: | 13.200 | in |

| Well | | BLUE TEAL FED 15-3-6HN | | | | |
|----------------------|-------|------------------------|---------------------|-------------------|---------------|---------------|
| Well Position | +N/-S | 0.00 usft | Northing: | 1,484,207.57 usft | Latitude: | 40.653832°N |
| | +E/-W | 0.00 usft | Easting: | 3,395,201.08 usft | Longitude: | 104.075624°W |
| Position Uncertainty | | 0.00 usft | Wellhead Elevation: | usft | Ground Level: | 4,892.00 usft |
| Grid Convergence: | | 0.92 ° | | | | |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | ORIGINAL WELLBORE | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2020 | 7/6/2020 | 7.60 | 66.99 | 52,254.56566094 |

| | | | | |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|
| Design | PROPOSAL 1 | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PROTOTYPE | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |
| | 0.00 | 0.00 | 0.00 | 0.54 |

| | | | | |
|---------------------------------|------------------------|--------------------------|---------------------------|----------------|
| Plan Survey Tool Program | Date | 9/9/2020 | | |
| Depth From (usft) | Depth To (usft) | Survey (Wellbore) | Tool Name | Remarks |
| 1 | 0.00 | 18,697.16 | PROPOSAL 1 (ORIGINAL WELL | MWD |
| | | | OWSG MWD - Standard | |

| | | | | | | | | | | |
|------------------------------|------------------------|--------------------|------------------------------|---------------------|---------------------|------------------------------|-----------------------------|----------------------------|----------------|------------------|
| Plan Sections | | | | | | | | | | |
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | TFO (°) | Target |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 600.00 | 0.00 | 0.00 | 600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 729.81 | 2.60 | 332.48 | 729.77 | 2.61 | -1.36 | 2.00 | 2.00 | 0.00 | 332.48 | |
| 5,800.21 | 2.60 | 332.48 | 5,794.96 | 206.30 | -107.48 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 6,677.41 | 90.00 | 1.09 | 6,345.00 | 778.93 | -108.49 | 10.00 | 9.96 | 3.26 | 28.64 | BT FED 6HN - LP |
| 18,697.16 | 90.00 | 1.09 | 6,345.00 | 12,796.48 | 121.19 | 0.00 | 0.00 | 0.00 | 0.00 | BT FED 6HN- PBHL |

Planning Report

| | | | |
|------------------|----------------------------|-------------------------------------|-----------------------------|
| Database: | EDM 5000.16 Single User Db | Local Co-ordinate Reference: | Well BLUE TEAL FED 15-3-6HN |
| Company: | MALLARD EXPLORATION | TVD Reference: | KB 27' @ 4919.00usft |
| Project: | WELD COUNTY | MD Reference: | KB 27' @ 4919.00usft |
| Site: | SEC 22-T8N-R60W | North Reference: | True |
| Well: | BLUE TEAL FED 15-3-6HN | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL 1 | | |

| Planned Survey | | | | | | | | | |
|---------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-----------------------|----------------------|---------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 100.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 200.00 | 0.00 | 0.00 | 200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 300.00 | 0.00 | 0.00 | 300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 400.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 444.00 | 0.00 | 0.00 | 444.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fox Hills Base | | | | | | | | | |
| 500.00 | 0.00 | 0.00 | 500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 600.00 | 0.00 | 0.00 | 600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Start Build 2.00 | | | | | | | | | |
| 700.00 | 2.00 | 332.48 | 699.98 | 1.55 | -0.81 | 1.54 | 2.00 | 2.00 | 0.00 |
| 729.81 | 2.60 | 332.48 | 729.77 | 2.61 | -1.36 | 2.59 | 2.00 | 2.00 | 0.00 |
| Start 5070.39 hold at 729.81 MD | | | | | | | | | |
| 800.00 | 2.60 | 332.48 | 799.88 | 5.43 | -2.83 | 5.40 | 0.00 | 0.00 | 0.00 |
| 900.00 | 2.60 | 332.48 | 899.78 | 9.44 | -4.92 | 9.40 | 0.00 | 0.00 | 0.00 |
| 1,000.00 | 2.60 | 332.48 | 999.68 | 13.46 | -7.01 | 13.40 | 0.00 | 0.00 | 0.00 |
| 1,100.00 | 2.60 | 332.48 | 1,099.58 | 17.48 | -9.11 | 17.39 | 0.00 | 0.00 | 0.00 |
| 1,200.00 | 2.60 | 332.48 | 1,199.47 | 21.50 | -11.20 | 21.39 | 0.00 | 0.00 | 0.00 |
| 1,300.00 | 2.60 | 332.48 | 1,299.37 | 25.51 | -13.29 | 25.39 | 0.00 | 0.00 | 0.00 |
| 1,400.00 | 2.60 | 332.48 | 1,399.27 | 29.53 | -15.39 | 29.38 | 0.00 | 0.00 | 0.00 |
| 1,447.78 | 2.60 | 332.48 | 1,447.00 | 31.45 | -16.39 | 31.29 | 0.00 | 0.00 | 0.00 |
| Pierre Shale Top | | | | | | | | | |
| 1,500.00 | 2.60 | 332.48 | 1,499.17 | 33.55 | -17.48 | 33.38 | 0.00 | 0.00 | 0.00 |
| 1,600.00 | 2.60 | 332.48 | 1,599.06 | 37.57 | -19.57 | 37.38 | 0.00 | 0.00 | 0.00 |
| 1,700.00 | 2.60 | 332.48 | 1,698.96 | 41.58 | -21.66 | 41.38 | 0.00 | 0.00 | 0.00 |
| 1,800.00 | 2.60 | 332.48 | 1,798.86 | 45.60 | -23.76 | 45.37 | 0.00 | 0.00 | 0.00 |
| 1,900.00 | 2.60 | 332.48 | 1,898.75 | 49.62 | -25.85 | 49.37 | 0.00 | 0.00 | 0.00 |
| 2,000.00 | 2.60 | 332.48 | 1,998.65 | 53.63 | -27.94 | 53.37 | 0.00 | 0.00 | 0.00 |
| 2,100.00 | 2.60 | 332.48 | 2,098.55 | 57.65 | -30.04 | 57.36 | 0.00 | 0.00 | 0.00 |
| 2,200.00 | 2.60 | 332.48 | 2,198.45 | 61.67 | -32.13 | 61.36 | 0.00 | 0.00 | 0.00 |
| 2,300.00 | 2.60 | 332.48 | 2,298.34 | 65.69 | -34.22 | 65.36 | 0.00 | 0.00 | 0.00 |
| 2,400.00 | 2.60 | 332.48 | 2,398.24 | 69.70 | -36.32 | 69.36 | 0.00 | 0.00 | 0.00 |
| 2,500.00 | 2.60 | 332.48 | 2,498.14 | 73.72 | -38.41 | 73.35 | 0.00 | 0.00 | 0.00 |
| 2,600.00 | 2.60 | 332.48 | 2,598.04 | 77.74 | -40.50 | 77.35 | 0.00 | 0.00 | 0.00 |
| 2,700.00 | 2.60 | 332.48 | 2,697.93 | 81.76 | -42.59 | 81.35 | 0.00 | 0.00 | 0.00 |
| 2,800.00 | 2.60 | 332.48 | 2,797.83 | 85.77 | -44.69 | 85.35 | 0.00 | 0.00 | 0.00 |
| 2,900.00 | 2.60 | 332.48 | 2,897.73 | 89.79 | -46.78 | 89.34 | 0.00 | 0.00 | 0.00 |
| 3,000.00 | 2.60 | 332.48 | 2,997.63 | 93.81 | -48.87 | 93.34 | 0.00 | 0.00 | 0.00 |
| 3,100.00 | 2.60 | 332.48 | 3,097.52 | 97.82 | -50.97 | 97.34 | 0.00 | 0.00 | 0.00 |
| 3,200.00 | 2.60 | 332.48 | 3,197.42 | 101.84 | -53.06 | 101.33 | 0.00 | 0.00 | 0.00 |
| 3,300.00 | 2.60 | 332.48 | 3,297.32 | 105.86 | -55.15 | 105.33 | 0.00 | 0.00 | 0.00 |
| 3,307.69 | 2.60 | 332.48 | 3,305.00 | 106.17 | -55.31 | 105.64 | 0.00 | 0.00 | 0.00 |
| Richard Sandstone | | | | | | | | | |
| 3,400.00 | 2.60 | 332.48 | 3,397.21 | 109.88 | -57.25 | 109.33 | 0.00 | 0.00 | 0.00 |
| 3,422.81 | 2.60 | 332.48 | 3,420.00 | 110.79 | -57.72 | 110.24 | 0.00 | 0.00 | 0.00 |
| Parkman Sandstone | | | | | | | | | |
| 3,500.00 | 2.60 | 332.48 | 3,497.11 | 113.89 | -59.34 | 113.33 | 0.00 | 0.00 | 0.00 |
| 3,600.00 | 2.60 | 332.48 | 3,597.01 | 117.91 | -61.43 | 117.32 | 0.00 | 0.00 | 0.00 |
| 3,700.00 | 2.60 | 332.48 | 3,696.91 | 121.93 | -63.52 | 121.32 | 0.00 | 0.00 | 0.00 |
| 3,800.00 | 2.60 | 332.48 | 3,796.80 | 125.95 | -65.62 | 125.32 | 0.00 | 0.00 | 0.00 |
| 3,900.00 | 2.60 | 332.48 | 3,896.70 | 129.96 | -67.71 | 129.32 | 0.00 | 0.00 | 0.00 |
| 4,000.00 | 2.60 | 332.48 | 3,996.60 | 133.98 | -69.80 | 133.31 | 0.00 | 0.00 | 0.00 |
| 4,100.00 | 2.60 | 332.48 | 4,096.50 | 138.00 | -71.90 | 137.31 | 0.00 | 0.00 | 0.00 |

Planning Report

| | | | |
|------------------|----------------------------|-------------------------------------|-----------------------------|
| Database: | EDM 5000.16 Single User Db | Local Co-ordinate Reference: | Well BLUE TEAL FED 15-3-6HN |
| Company: | MALLARD EXPLORATION | TVD Reference: | KB 27' @ 4919.00usft |
| Project: | WELD COUNTY | MD Reference: | KB 27' @ 4919.00usft |
| Site: | SEC 22-T8N-R60W | North Reference: | True |
| Well: | BLUE TEAL FED 15-3-6HN | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL 1 | | |

| Planned Survey | | | | | | | | | |
|---|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-----------------------|----------------------|---------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 4,199.61 | 2.60 | 332.48 | 4,196.00 | 142.00 | -73.98 | 141.29 | 0.00 | 0.00 | 0.00 |
| Sussex Sandstone | | | | | | | | | |
| 4,200.00 | 2.60 | 332.48 | 4,196.39 | 142.01 | -73.99 | 141.31 | 0.00 | 0.00 | 0.00 |
| 4,300.00 | 2.60 | 332.48 | 4,296.29 | 146.03 | -76.08 | 145.30 | 0.00 | 0.00 | 0.00 |
| 4,400.00 | 2.60 | 332.48 | 4,396.19 | 150.05 | -78.18 | 149.30 | 0.00 | 0.00 | 0.00 |
| 4,500.00 | 2.60 | 332.48 | 4,496.09 | 154.07 | -80.27 | 153.30 | 0.00 | 0.00 | 0.00 |
| 4,600.00 | 2.60 | 332.48 | 4,595.98 | 158.08 | -82.36 | 157.30 | 0.00 | 0.00 | 0.00 |
| 4,638.06 | 2.60 | 332.48 | 4,634.00 | 159.61 | -83.16 | 158.82 | 0.00 | 0.00 | 0.00 |
| Shannon Sandstone | | | | | | | | | |
| 4,700.00 | 2.60 | 332.48 | 4,695.88 | 162.10 | -84.45 | 161.29 | 0.00 | 0.00 | 0.00 |
| 4,800.00 | 2.60 | 332.48 | 4,795.78 | 166.12 | -86.55 | 165.29 | 0.00 | 0.00 | 0.00 |
| 4,900.00 | 2.60 | 332.48 | 4,895.68 | 170.14 | -88.64 | 169.29 | 0.00 | 0.00 | 0.00 |
| 5,000.00 | 2.60 | 332.48 | 4,995.57 | 174.15 | -90.73 | 173.29 | 0.00 | 0.00 | 0.00 |
| 5,100.00 | 2.60 | 332.48 | 5,095.47 | 178.17 | -92.83 | 177.28 | 0.00 | 0.00 | 0.00 |
| 5,200.00 | 2.60 | 332.48 | 5,195.37 | 182.19 | -94.92 | 181.28 | 0.00 | 0.00 | 0.00 |
| 5,300.00 | 2.60 | 332.48 | 5,295.26 | 186.20 | -97.01 | 185.28 | 0.00 | 0.00 | 0.00 |
| 5,400.00 | 2.60 | 332.48 | 5,395.16 | 190.22 | -99.10 | 189.27 | 0.00 | 0.00 | 0.00 |
| 5,401.84 | 2.60 | 332.48 | 5,397.00 | 190.30 | -99.14 | 189.35 | 0.00 | 0.00 | 0.00 |
| TeePee Buttes | | | | | | | | | |
| 5,500.00 | 2.60 | 332.48 | 5,495.06 | 194.24 | -101.20 | 193.27 | 0.00 | 0.00 | 0.00 |
| 5,600.00 | 2.60 | 332.48 | 5,594.96 | 198.26 | -103.29 | 197.27 | 0.00 | 0.00 | 0.00 |
| 5,700.00 | 2.60 | 332.48 | 5,694.85 | 202.27 | -105.38 | 201.27 | 0.00 | 0.00 | 0.00 |
| 5,800.21 | 2.60 | 332.48 | 5,794.96 | 206.30 | -107.48 | 205.27 | 0.00 | 0.00 | 0.00 |
| Start DLS 10.00 TFO 28.64 | | | | | | | | | |
| 5,850.00 | 7.36 | 351.42 | 5,844.55 | 210.46 | -108.48 | 209.42 | 10.00 | 9.57 | 38.04 |
| 5,900.00 | 12.32 | 355.39 | 5,893.80 | 218.95 | -109.39 | 217.90 | 10.00 | 9.91 | 7.93 |
| 5,950.00 | 17.30 | 357.10 | 5,942.12 | 231.70 | -110.19 | 230.64 | 10.00 | 9.96 | 3.42 |
| 6,000.00 | 22.29 | 358.06 | 5,989.15 | 248.61 | -110.89 | 247.55 | 10.00 | 9.98 | 1.92 |
| 6,050.00 | 27.28 | 358.68 | 6,034.53 | 269.56 | -111.48 | 268.49 | 10.00 | 9.99 | 1.25 |
| 6,093.03 | 31.58 | 359.07 | 6,072.00 | 290.70 | -111.89 | 289.62 | 10.00 | 9.99 | 0.90 |
| Sharon Springs | | | | | | | | | |
| 6,100.00 | 32.28 | 359.12 | 6,077.92 | 294.38 | -111.94 | 293.31 | 10.00 | 9.99 | 0.78 |
| 6,141.29 | 36.41 | 359.41 | 6,112.00 | 317.67 | -112.24 | 316.59 | 10.00 | 9.99 | 0.68 |
| Niobrara Top | | | | | | | | | |
| 6,150.00 | 37.28 | 359.46 | 6,118.97 | 322.89 | -112.29 | 321.81 | 10.00 | 9.99 | 0.60 |
| 6,200.00 | 42.27 | 359.73 | 6,157.39 | 354.87 | -112.51 | 353.79 | 10.00 | 9.99 | 0.53 |
| 6,250.00 | 47.27 | 359.95 | 6,192.87 | 390.07 | -112.61 | 388.99 | 10.00 | 10.00 | 0.44 |
| 6,300.00 | 52.27 | 0.13 | 6,225.15 | 428.23 | -112.58 | 427.15 | 10.00 | 10.00 | 0.37 |
| 6,335.51 | 55.82 | 0.25 | 6,246.00 | 456.97 | -112.49 | 455.89 | 10.00 | 10.00 | 0.33 |
| Niobrara B2 Chalk Top | | | | | | | | | |
| 6,350.00 | 57.27 | 0.29 | 6,253.99 | 469.06 | -112.43 | 467.98 | 10.00 | 10.00 | 0.31 |
| 6,400.00 | 62.27 | 0.44 | 6,279.16 | 512.25 | -112.15 | 511.16 | 10.00 | 10.00 | 0.29 |
| 6,450.00 | 67.26 | 0.57 | 6,300.47 | 557.46 | -111.75 | 556.37 | 10.00 | 10.00 | 0.27 |
| 6,479.02 | 70.16 | 0.65 | 6,311.00 | 584.49 | -111.46 | 583.41 | 10.00 | 10.00 | 0.25 |
| Niobrara C Chalk Target Top | | | | | | | | | |
| 6,500.00 | 72.26 | 0.70 | 6,317.76 | 604.35 | -111.23 | 603.27 | 10.00 | 10.00 | 0.24 |
| 6,550.00 | 77.26 | 0.81 | 6,330.89 | 652.58 | -110.59 | 651.50 | 10.00 | 10.00 | 0.23 |
| 6,600.00 | 82.26 | 0.93 | 6,339.78 | 701.76 | -109.85 | 700.69 | 10.00 | 10.00 | 0.22 |
| 6,650.00 | 87.26 | 1.04 | 6,344.34 | 751.53 | -109.00 | 750.46 | 10.00 | 10.00 | 0.22 |
| 6,677.41 | 90.00 | 1.09 | 6,345.00 | 778.93 | -108.49 | 777.86 | 10.00 | 10.00 | 0.22 |
| Start 12019.74 hold at 6677.41 MD - Niobrara C Chalk Target Center | | | | | | | | | |
| 6,700.00 | 90.00 | 1.09 | 6,345.00 | 801.51 | -108.05 | 800.45 | 0.00 | 0.00 | 0.00 |
| 6,800.00 | 90.00 | 1.09 | 6,345.00 | 901.49 | -106.14 | 900.44 | 0.00 | 0.00 | 0.00 |

Planning Report

| | | | |
|------------------|----------------------------|-------------------------------------|-----------------------------|
| Database: | EDM 5000.16 Single User Db | Local Co-ordinate Reference: | Well BLUE TEAL FED 15-3-6HN |
| Company: | MALLARD EXPLORATION | TVD Reference: | KB 27' @ 4919.00usft |
| Project: | WELD COUNTY | MD Reference: | KB 27' @ 4919.00usft |
| Site: | SEC 22-T8N-R60W | North Reference: | True |
| Well: | BLUE TEAL FED 15-3-6HN | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL 1 | | |

| Planned Survey | | | | | | | | | | |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-----------------------|----------------------|---------------------|--|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | |
| 6,900.00 | 90.00 | 1.09 | 6,345.00 | 1,001.47 | -104.23 | 1,000.44 | 0.00 | 0.00 | 0.00 | |
| 7,000.00 | 90.00 | 1.09 | 6,345.00 | 1,101.45 | -102.32 | 1,100.43 | 0.00 | 0.00 | 0.00 | |
| 7,100.00 | 90.00 | 1.09 | 6,345.00 | 1,201.43 | -100.41 | 1,200.43 | 0.00 | 0.00 | 0.00 | |
| 7,200.00 | 90.00 | 1.09 | 6,345.00 | 1,301.42 | -98.50 | 1,300.43 | 0.00 | 0.00 | 0.00 | |
| 7,300.00 | 90.00 | 1.09 | 6,345.00 | 1,401.40 | -96.59 | 1,400.42 | 0.00 | 0.00 | 0.00 | |
| 7,400.00 | 90.00 | 1.09 | 6,345.00 | 1,501.38 | -94.68 | 1,500.42 | 0.00 | 0.00 | 0.00 | |
| 7,500.00 | 90.00 | 1.09 | 6,345.00 | 1,601.36 | -92.77 | 1,600.41 | 0.00 | 0.00 | 0.00 | |
| 7,600.00 | 90.00 | 1.09 | 6,345.00 | 1,701.34 | -90.86 | 1,700.41 | 0.00 | 0.00 | 0.00 | |
| 7,700.00 | 90.00 | 1.09 | 6,345.00 | 1,801.33 | -88.95 | 1,800.40 | 0.00 | 0.00 | 0.00 | |
| 7,800.00 | 90.00 | 1.09 | 6,345.00 | 1,901.31 | -87.04 | 1,900.40 | 0.00 | 0.00 | 0.00 | |
| 7,900.00 | 90.00 | 1.09 | 6,345.00 | 2,001.29 | -85.13 | 2,000.39 | 0.00 | 0.00 | 0.00 | |
| 8,000.00 | 90.00 | 1.09 | 6,345.00 | 2,101.27 | -83.22 | 2,100.39 | 0.00 | 0.00 | 0.00 | |
| 8,100.00 | 90.00 | 1.09 | 6,345.00 | 2,201.25 | -81.31 | 2,200.38 | 0.00 | 0.00 | 0.00 | |
| 8,200.00 | 90.00 | 1.09 | 6,345.00 | 2,301.23 | -79.40 | 2,300.38 | 0.00 | 0.00 | 0.00 | |
| 8,300.00 | 90.00 | 1.09 | 6,345.00 | 2,401.22 | -77.49 | 2,400.37 | 0.00 | 0.00 | 0.00 | |
| 8,400.00 | 90.00 | 1.09 | 6,345.00 | 2,501.20 | -75.58 | 2,500.37 | 0.00 | 0.00 | 0.00 | |
| 8,500.00 | 90.00 | 1.09 | 6,345.00 | 2,601.18 | -73.67 | 2,600.37 | 0.00 | 0.00 | 0.00 | |
| 8,600.00 | 90.00 | 1.09 | 6,345.00 | 2,701.16 | -71.76 | 2,700.36 | 0.00 | 0.00 | 0.00 | |
| 8,700.00 | 90.00 | 1.09 | 6,345.00 | 2,801.14 | -69.85 | 2,800.36 | 0.00 | 0.00 | 0.00 | |
| 8,800.00 | 90.00 | 1.09 | 6,345.00 | 2,901.12 | -67.94 | 2,900.35 | 0.00 | 0.00 | 0.00 | |
| 8,900.00 | 90.00 | 1.09 | 6,345.00 | 3,001.11 | -66.03 | 3,000.35 | 0.00 | 0.00 | 0.00 | |
| 9,000.00 | 90.00 | 1.09 | 6,345.00 | 3,101.09 | -64.12 | 3,100.34 | 0.00 | 0.00 | 0.00 | |
| 9,100.00 | 90.00 | 1.09 | 6,345.00 | 3,201.07 | -62.21 | 3,200.34 | 0.00 | 0.00 | 0.00 | |
| 9,200.00 | 90.00 | 1.09 | 6,345.00 | 3,301.05 | -60.29 | 3,300.33 | 0.00 | 0.00 | 0.00 | |
| 9,300.00 | 90.00 | 1.09 | 6,345.00 | 3,401.03 | -58.38 | 3,400.33 | 0.00 | 0.00 | 0.00 | |
| 9,400.00 | 90.00 | 1.09 | 6,345.00 | 3,501.02 | -56.47 | 3,500.32 | 0.00 | 0.00 | 0.00 | |
| 9,500.00 | 90.00 | 1.09 | 6,345.00 | 3,601.00 | -54.56 | 3,600.32 | 0.00 | 0.00 | 0.00 | |
| 9,600.00 | 90.00 | 1.09 | 6,345.00 | 3,700.98 | -52.65 | 3,700.31 | 0.00 | 0.00 | 0.00 | |
| 9,700.00 | 90.00 | 1.09 | 6,345.00 | 3,800.96 | -50.74 | 3,800.31 | 0.00 | 0.00 | 0.00 | |
| 9,800.00 | 90.00 | 1.09 | 6,345.00 | 3,900.94 | -48.83 | 3,900.30 | 0.00 | 0.00 | 0.00 | |
| 9,900.00 | 90.00 | 1.09 | 6,345.00 | 4,000.92 | -46.92 | 4,000.30 | 0.00 | 0.00 | 0.00 | |
| 10,000.00 | 90.00 | 1.09 | 6,345.00 | 4,100.91 | -45.01 | 4,100.30 | 0.00 | 0.00 | 0.00 | |
| 10,100.00 | 90.00 | 1.09 | 6,345.00 | 4,200.89 | -43.10 | 4,200.29 | 0.00 | 0.00 | 0.00 | |
| 10,200.00 | 90.00 | 1.09 | 6,345.00 | 4,300.87 | -41.19 | 4,300.29 | 0.00 | 0.00 | 0.00 | |
| 10,300.00 | 90.00 | 1.09 | 6,345.00 | 4,400.85 | -39.28 | 4,400.28 | 0.00 | 0.00 | 0.00 | |
| 10,400.00 | 90.00 | 1.09 | 6,345.00 | 4,500.83 | -37.37 | 4,500.28 | 0.00 | 0.00 | 0.00 | |
| 10,500.00 | 90.00 | 1.09 | 6,345.00 | 4,600.81 | -35.46 | 4,600.27 | 0.00 | 0.00 | 0.00 | |
| 10,600.00 | 90.00 | 1.09 | 6,345.00 | 4,700.80 | -33.55 | 4,700.27 | 0.00 | 0.00 | 0.00 | |
| 10,700.00 | 90.00 | 1.09 | 6,345.00 | 4,800.78 | -31.64 | 4,800.26 | 0.00 | 0.00 | 0.00 | |
| 10,800.00 | 90.00 | 1.09 | 6,345.00 | 4,900.76 | -29.73 | 4,900.26 | 0.00 | 0.00 | 0.00 | |
| 10,900.00 | 90.00 | 1.09 | 6,345.00 | 5,000.74 | -27.82 | 5,000.25 | 0.00 | 0.00 | 0.00 | |
| 11,000.00 | 90.00 | 1.09 | 6,345.00 | 5,100.72 | -25.91 | 5,100.25 | 0.00 | 0.00 | 0.00 | |
| 11,100.00 | 90.00 | 1.09 | 6,345.00 | 5,200.70 | -24.00 | 5,200.24 | 0.00 | 0.00 | 0.00 | |
| 11,200.00 | 90.00 | 1.09 | 6,345.00 | 5,300.69 | -22.09 | 5,300.24 | 0.00 | 0.00 | 0.00 | |
| 11,300.00 | 90.00 | 1.09 | 6,345.00 | 5,400.67 | -20.18 | 5,400.24 | 0.00 | 0.00 | 0.00 | |
| 11,400.00 | 90.00 | 1.09 | 6,345.00 | 5,500.65 | -18.27 | 5,500.23 | 0.00 | 0.00 | 0.00 | |
| 11,500.00 | 90.00 | 1.09 | 6,345.00 | 5,600.63 | -16.36 | 5,600.23 | 0.00 | 0.00 | 0.00 | |
| 11,600.00 | 90.00 | 1.09 | 6,345.00 | 5,700.61 | -14.45 | 5,700.22 | 0.00 | 0.00 | 0.00 | |
| 11,700.00 | 90.00 | 1.09 | 6,345.00 | 5,800.60 | -12.53 | 5,800.22 | 0.00 | 0.00 | 0.00 | |
| 11,800.00 | 90.00 | 1.09 | 6,345.00 | 5,900.58 | -10.62 | 5,900.21 | 0.00 | 0.00 | 0.00 | |
| 11,900.00 | 90.00 | 1.09 | 6,345.00 | 6,000.56 | -8.71 | 6,000.21 | 0.00 | 0.00 | 0.00 | |
| 12,000.00 | 90.00 | 1.09 | 6,345.00 | 6,100.54 | -6.80 | 6,100.20 | 0.00 | 0.00 | 0.00 | |
| 12,100.00 | 90.00 | 1.09 | 6,345.00 | 6,200.52 | -4.89 | 6,200.20 | 0.00 | 0.00 | 0.00 | |
| 12,200.00 | 90.00 | 1.09 | 6,345.00 | 6,300.50 | -2.98 | 6,300.19 | 0.00 | 0.00 | 0.00 | |

Planning Report

| | | | |
|------------------|----------------------------|-------------------------------------|-----------------------------|
| Database: | EDM 5000.16 Single User Db | Local Co-ordinate Reference: | Well BLUE TEAL FED 15-3-6HN |
| Company: | MALLARD EXPLORATION | TVD Reference: | KB 27' @ 4919.00usft |
| Project: | WELD COUNTY | MD Reference: | KB 27' @ 4919.00usft |
| Site: | SEC 22-T8N-R60W | North Reference: | True |
| Well: | BLUE TEAL FED 15-3-6HN | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL 1 | | |

| Planned Survey | | | | | | | | | |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-----------------------|----------------------|---------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 12,300.00 | 90.00 | 1.09 | 6,345.00 | 6,400.49 | -1.07 | 6,400.19 | 0.00 | 0.00 | 0.00 |
| 12,400.00 | 90.00 | 1.09 | 6,345.00 | 6,500.47 | 0.84 | 6,500.18 | 0.00 | 0.00 | 0.00 |
| 12,500.00 | 90.00 | 1.09 | 6,345.00 | 6,600.45 | 2.75 | 6,600.18 | 0.00 | 0.00 | 0.00 |
| 12,600.00 | 90.00 | 1.09 | 6,345.00 | 6,700.43 | 4.66 | 6,700.17 | 0.00 | 0.00 | 0.00 |
| 12,700.00 | 90.00 | 1.09 | 6,345.00 | 6,800.41 | 6.57 | 6,800.17 | 0.00 | 0.00 | 0.00 |
| 12,800.00 | 90.00 | 1.09 | 6,345.00 | 6,900.39 | 8.48 | 6,900.17 | 0.00 | 0.00 | 0.00 |
| 12,900.00 | 90.00 | 1.09 | 6,345.00 | 7,000.38 | 10.39 | 7,000.16 | 0.00 | 0.00 | 0.00 |
| 13,000.00 | 90.00 | 1.09 | 6,345.00 | 7,100.36 | 12.30 | 7,100.16 | 0.00 | 0.00 | 0.00 |
| 13,100.00 | 90.00 | 1.09 | 6,345.00 | 7,200.34 | 14.21 | 7,200.15 | 0.00 | 0.00 | 0.00 |
| 13,200.00 | 90.00 | 1.09 | 6,345.00 | 7,300.32 | 16.12 | 7,300.15 | 0.00 | 0.00 | 0.00 |
| 13,300.00 | 90.00 | 1.09 | 6,345.00 | 7,400.30 | 18.03 | 7,400.14 | 0.00 | 0.00 | 0.00 |
| 13,400.00 | 90.00 | 1.09 | 6,345.00 | 7,500.29 | 19.94 | 7,500.14 | 0.00 | 0.00 | 0.00 |
| 13,500.00 | 90.00 | 1.09 | 6,345.00 | 7,600.27 | 21.85 | 7,600.13 | 0.00 | 0.00 | 0.00 |
| 13,600.00 | 90.00 | 1.09 | 6,345.00 | 7,700.25 | 23.76 | 7,700.13 | 0.00 | 0.00 | 0.00 |
| 13,700.00 | 90.00 | 1.09 | 6,345.00 | 7,800.23 | 25.67 | 7,800.12 | 0.00 | 0.00 | 0.00 |
| 13,800.00 | 90.00 | 1.09 | 6,345.00 | 7,900.21 | 27.58 | 7,900.12 | 0.00 | 0.00 | 0.00 |
| 13,900.00 | 90.00 | 1.09 | 6,345.00 | 8,000.19 | 29.49 | 8,000.11 | 0.00 | 0.00 | 0.00 |
| 14,000.00 | 90.00 | 1.09 | 6,345.00 | 8,100.18 | 31.40 | 8,100.11 | 0.00 | 0.00 | 0.00 |
| 14,100.00 | 90.00 | 1.09 | 6,345.00 | 8,200.16 | 33.31 | 8,200.11 | 0.00 | 0.00 | 0.00 |
| 14,200.00 | 90.00 | 1.09 | 6,345.00 | 8,300.14 | 35.23 | 8,300.10 | 0.00 | 0.00 | 0.00 |
| 14,300.00 | 90.00 | 1.09 | 6,345.00 | 8,400.12 | 37.14 | 8,400.10 | 0.00 | 0.00 | 0.00 |
| 14,400.00 | 90.00 | 1.09 | 6,345.00 | 8,500.10 | 39.05 | 8,500.09 | 0.00 | 0.00 | 0.00 |
| 14,500.00 | 90.00 | 1.09 | 6,345.00 | 8,600.08 | 40.96 | 8,600.09 | 0.00 | 0.00 | 0.00 |
| 14,600.00 | 90.00 | 1.09 | 6,345.00 | 8,700.07 | 42.87 | 8,700.08 | 0.00 | 0.00 | 0.00 |
| 14,700.00 | 90.00 | 1.09 | 6,345.00 | 8,800.05 | 44.78 | 8,800.08 | 0.00 | 0.00 | 0.00 |
| 14,800.00 | 90.00 | 1.09 | 6,345.00 | 8,900.03 | 46.69 | 8,900.07 | 0.00 | 0.00 | 0.00 |
| 14,900.00 | 90.00 | 1.09 | 6,345.00 | 9,000.01 | 48.60 | 9,000.07 | 0.00 | 0.00 | 0.00 |
| 15,000.00 | 90.00 | 1.09 | 6,345.00 | 9,099.99 | 50.51 | 9,100.06 | 0.00 | 0.00 | 0.00 |
| 15,100.00 | 90.00 | 1.09 | 6,345.00 | 9,199.98 | 52.42 | 9,200.06 | 0.00 | 0.00 | 0.00 |
| 15,200.00 | 90.00 | 1.09 | 6,345.00 | 9,299.96 | 54.33 | 9,300.05 | 0.00 | 0.00 | 0.00 |
| 15,300.00 | 90.00 | 1.09 | 6,345.00 | 9,399.94 | 56.24 | 9,400.05 | 0.00 | 0.00 | 0.00 |
| 15,400.00 | 90.00 | 1.09 | 6,345.00 | 9,499.92 | 58.15 | 9,500.04 | 0.00 | 0.00 | 0.00 |
| 15,500.00 | 90.00 | 1.09 | 6,345.00 | 9,599.90 | 60.06 | 9,600.04 | 0.00 | 0.00 | 0.00 |
| 15,600.00 | 90.00 | 1.09 | 6,345.00 | 9,699.88 | 61.97 | 9,700.04 | 0.00 | 0.00 | 0.00 |
| 15,700.00 | 90.00 | 1.09 | 6,345.00 | 9,799.87 | 63.88 | 9,800.03 | 0.00 | 0.00 | 0.00 |
| 15,800.00 | 90.00 | 1.09 | 6,345.00 | 9,899.85 | 65.79 | 9,900.03 | 0.00 | 0.00 | 0.00 |
| 15,900.00 | 90.00 | 1.09 | 6,345.00 | 9,999.83 | 67.70 | 10,000.02 | 0.00 | 0.00 | 0.00 |
| 16,000.00 | 90.00 | 1.09 | 6,345.00 | 10,099.81 | 69.61 | 10,100.02 | 0.00 | 0.00 | 0.00 |
| 16,100.00 | 90.00 | 1.09 | 6,345.00 | 10,199.79 | 71.52 | 10,200.01 | 0.00 | 0.00 | 0.00 |
| 16,200.00 | 90.00 | 1.09 | 6,345.00 | 10,299.77 | 73.43 | 10,300.01 | 0.00 | 0.00 | 0.00 |
| 16,300.00 | 90.00 | 1.09 | 6,345.00 | 10,399.76 | 75.34 | 10,400.00 | 0.00 | 0.00 | 0.00 |
| 16,400.00 | 90.00 | 1.09 | 6,345.00 | 10,499.74 | 77.25 | 10,500.00 | 0.00 | 0.00 | 0.00 |
| 16,500.00 | 90.00 | 1.09 | 6,345.00 | 10,599.72 | 79.16 | 10,599.99 | 0.00 | 0.00 | 0.00 |
| 16,600.00 | 90.00 | 1.09 | 6,345.00 | 10,699.70 | 81.07 | 10,699.99 | 0.00 | 0.00 | 0.00 |
| 16,700.00 | 90.00 | 1.09 | 6,345.00 | 10,799.68 | 82.99 | 10,799.98 | 0.00 | 0.00 | 0.00 |
| 16,800.00 | 90.00 | 1.09 | 6,345.00 | 10,899.66 | 84.90 | 10,899.98 | 0.00 | 0.00 | 0.00 |
| 16,900.00 | 90.00 | 1.09 | 6,345.00 | 10,999.65 | 86.81 | 10,999.98 | 0.00 | 0.00 | 0.00 |
| 17,000.00 | 90.00 | 1.09 | 6,345.00 | 11,099.63 | 88.72 | 11,099.97 | 0.00 | 0.00 | 0.00 |
| 17,100.00 | 90.00 | 1.09 | 6,345.00 | 11,199.61 | 90.63 | 11,199.97 | 0.00 | 0.00 | 0.00 |
| 17,200.00 | 90.00 | 1.09 | 6,345.00 | 11,299.59 | 92.54 | 11,299.96 | 0.00 | 0.00 | 0.00 |
| 17,300.00 | 90.00 | 1.09 | 6,345.00 | 11,399.57 | 94.45 | 11,399.96 | 0.00 | 0.00 | 0.00 |
| 17,400.00 | 90.00 | 1.09 | 6,345.00 | 11,499.56 | 96.36 | 11,499.95 | 0.00 | 0.00 | 0.00 |
| 17,500.00 | 90.00 | 1.09 | 6,345.00 | 11,599.54 | 98.27 | 11,599.95 | 0.00 | 0.00 | 0.00 |
| 17,600.00 | 90.00 | 1.09 | 6,345.00 | 11,699.52 | 100.18 | 11,699.94 | 0.00 | 0.00 | 0.00 |

Planning Report

| | | | |
|------------------|----------------------------|-------------------------------------|-----------------------------|
| Database: | EDM 5000.16 Single User Db | Local Co-ordinate Reference: | Well BLUE TEAL FED 15-3-6HN |
| Company: | MALLARD EXPLORATION | TVD Reference: | KB 27' @ 4919.00usft |
| Project: | WELD COUNTY | MD Reference: | KB 27' @ 4919.00usft |
| Site: | SEC 22-T8N-R60W | North Reference: | True |
| Well: | BLUE TEAL FED 15-3-6HN | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL 1 | | |

| Planned Survey | | | | | | | | | | |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-----------------------|----------------------|---------------------|--|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | |
| 17,700.00 | 90.00 | 1.09 | 6,345.00 | 11,799.50 | 102.09 | 11,799.94 | 0.00 | 0.00 | 0.00 | |
| 17,800.00 | 90.00 | 1.09 | 6,345.00 | 11,899.48 | 104.00 | 11,899.93 | 0.00 | 0.00 | 0.00 | |
| 17,900.00 | 90.00 | 1.09 | 6,345.00 | 11,999.46 | 105.91 | 11,999.93 | 0.00 | 0.00 | 0.00 | |
| 18,000.00 | 90.00 | 1.09 | 6,345.00 | 12,099.45 | 107.82 | 12,099.92 | 0.00 | 0.00 | 0.00 | |
| 18,100.00 | 90.00 | 1.09 | 6,345.00 | 12,199.43 | 109.73 | 12,199.92 | 0.00 | 0.00 | 0.00 | |
| 18,200.00 | 90.00 | 1.09 | 6,345.00 | 12,299.41 | 111.64 | 12,299.92 | 0.00 | 0.00 | 0.00 | |
| 18,300.00 | 90.00 | 1.09 | 6,345.00 | 12,399.39 | 113.55 | 12,399.91 | 0.00 | 0.00 | 0.00 | |
| 18,400.00 | 90.00 | 1.09 | 6,345.00 | 12,499.37 | 115.46 | 12,499.91 | 0.00 | 0.00 | 0.00 | |
| 18,500.00 | 90.00 | 1.09 | 6,345.00 | 12,599.35 | 117.37 | 12,599.90 | 0.00 | 0.00 | 0.00 | |
| 18,600.00 | 90.00 | 1.09 | 6,345.00 | 12,699.34 | 119.28 | 12,699.90 | 0.00 | 0.00 | 0.00 | |
| 18,697.16 | 90.00 | 1.09 | 6,345.00 | 12,796.48 | 121.19 | 12,797.05 | 0.00 | 0.00 | 0.00 | |
| TD at 18697.16 | | | | | | | | | | |

| Design Targets | | | | | | | | | | |
|---------------------------|---------------|--------------|------------|--------------|--------------|-----------------|----------------|-------------|--------------|--|
| Target Name | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude | |
| - hit/miss target | | | | | | | | | | |
| - Shape | | | | | | | | | | |
| BTFED 6HN - LP | 0.00 | 0.00 | 6,345.00 | 778.93 | -108.49 | 1,484,984.66 | 3,395,080.10 | 40.655970°N | 104.076015°W | |
| - plan hits target center | | | | | | | | | | |
| - Point | | | | | | | | | | |
| BTFED 6HN- PBHL | 0.00 | 0.00 | 6,345.00 | 12,796.48 | 121.19 | 1,497,004.35 | 3,395,116.72 | 40.688956°N | 104.075187°W | |
| - plan hits target center | | | | | | | | | | |
| - Point | | | | | | | | | | |

| Formations | | | | | | |
|-----------------------|-----------------------|--------------------------------|-----------|---------|-------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) | |
| 444.00 | 444.00 | Fox Hills Base | | | | |
| 1,447.78 | 1,447.00 | Pierre Shale Top | | | | |
| 3,307.69 | 3,305.00 | Richard Sandstone | | | | |
| 3,422.81 | 3,420.00 | Parkman Sandstone | | | | |
| 4,199.61 | 4,196.00 | Sussex Sandstone | | | | |
| 4,638.06 | 4,634.00 | Shannon Sandstone | | | | |
| 5,401.84 | 5,397.00 | TeePee Buttes | | | | |
| 6,093.03 | 6,072.00 | Sharon Springs | | | | |
| 6,141.29 | 6,112.00 | Niobrara Top | | | | |
| 6,335.51 | 6,246.00 | Niobrara B2 Chalk Top | | | | |
| 6,479.02 | 6,311.00 | Niobrara C Chalk Target Top | | | | |
| 6,677.41 | 6,345.00 | Niobrara C Chalk Target Center | | | | |

Planning Report

| | | | |
|------------------|----------------------------|-------------------------------------|-----------------------------|
| Database: | EDM 5000.16 Single User Db | Local Co-ordinate Reference: | Well BLUE TEAL FED 15-3-6HN |
| Company: | MALLARD EXPLORATION | TVD Reference: | KB 27' @ 4919.00usft |
| Project: | WELD COUNTY | MD Reference: | KB 27' @ 4919.00usft |
| Site: | SEC 22-T8N-R60W | North Reference: | True |
| Well: | BLUE TEAL FED 15-3-6HN | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL 1 | | |

| Plan Annotations | | | | |
|-----------------------------|-----------------------------|-------------------|-----------------|-----------------------------------|
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | Comment |
| | | +N/-S (usft) | +E/-W (usft) | |
| 600.00 | 600.00 | 0.00 | 0.00 | Start Build 2.00 |
| 729.81 | 729.77 | 2.61 | -1.36 | Start 5070.39 hold at 729.81 MD |
| 5,800.21 | 5,794.96 | 206.30 | -107.48 | Start DLS 10.00 TFO 28.64 |
| 6,677.41 | 6,345.00 | 778.93 | -108.49 | Start 12019.74 hold at 6677.41 MD |
| 18,697.16 | 6,345.00 | 12,796.48 | 121.19 | TD at 18697.16 |