

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 36-T4N-R66W

Dejane State 2N-36HZ

Plan B

Plan: Rev B0 Permit

Sperry Drilling Services

Proposal Report

17 March, 2014

Well Coordinates: 1,339,778.91 N, 3,216,898.61 E (40° 15' 48.54" N, 104° 43' 21.99" W)

Ground Level: 4,864.00 usft

Local Coordinate Origin:

Centered on Well Dejane State 2N-36HZ

Viewing Datum:

RKB = 17' @ 4881.00usft (Drilling Rig)

TVDs to System:

N

North Reference:

True

Unit System:

Dec-Deg - API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 5000.1 Build: 70

HALLIBURTON

Project: Weld County, CO (NAD 83)
 Site: Sec. 36-T4N-R66W
 Well: DeJane State 2N-36HZ
 Wellbore: Plan B
 Design: Rev B0 Permit

Anadarko Petroleum Corp.



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 | 2340.00 | 0.00 | 0.00 | 2340.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 3 | 3700.47 | 27.21 | 192.09 | 3649.91 | -309.98 | -66.42 | 2.00 | 192.09 | -310.42 | |
| 4 | 6666.79 | 27.21 | 192.09 | 6287.98 | -1636.21 | -350.62 | 0.00 | 0.00 | -1638.55 | |
| 5 | 7832.23 | 89.95 | 0.39 | 7113.00 | -1123.86 | -433.16 | 10.00 | 166.89 | -1126.78 | DeJane State 2N-36HZ_CP |
| 6 | 13066.66 | 89.95 | 0.39 | 7118.00 | 4110.44 | -397.91 | 0.00 | 0.00 | 4107.64 | DeJane State 2N-36HZ_BHL |

WELLBORE TARGET DETAILS (LAT/LONG)

| Name | TVD | +N/-S | +E/-W | Latitude | Longitude | |
|--------------------------|---------|----------|---------|-----------|-------------|---------|
| DeJane State 2N-36HZ_LD | 0.00 | 0.00 | 0.00 | 40.263483 | -104.722774 | |
| DeJane State 2N-36HZ_SEC | 0.00 | 0.00 | 0.00 | 40.263483 | -104.722774 | Polygon |
| DeJane State 2N-36HZ_SHL | 0.00 | 0.00 | 0.00 | 40.263483 | -104.722774 | |
| DeJane State 2N-36HZ_CP | 7113.00 | -1123.86 | -433.16 | 40.260398 | -104.724326 | |
| DeJane State 2N-36HZ_BHL | 7118.00 | 4110.44 | -397.91 | 40.274766 | -104.724200 | Point |

WELL DETAILS: DeJane State 2N-36HZ

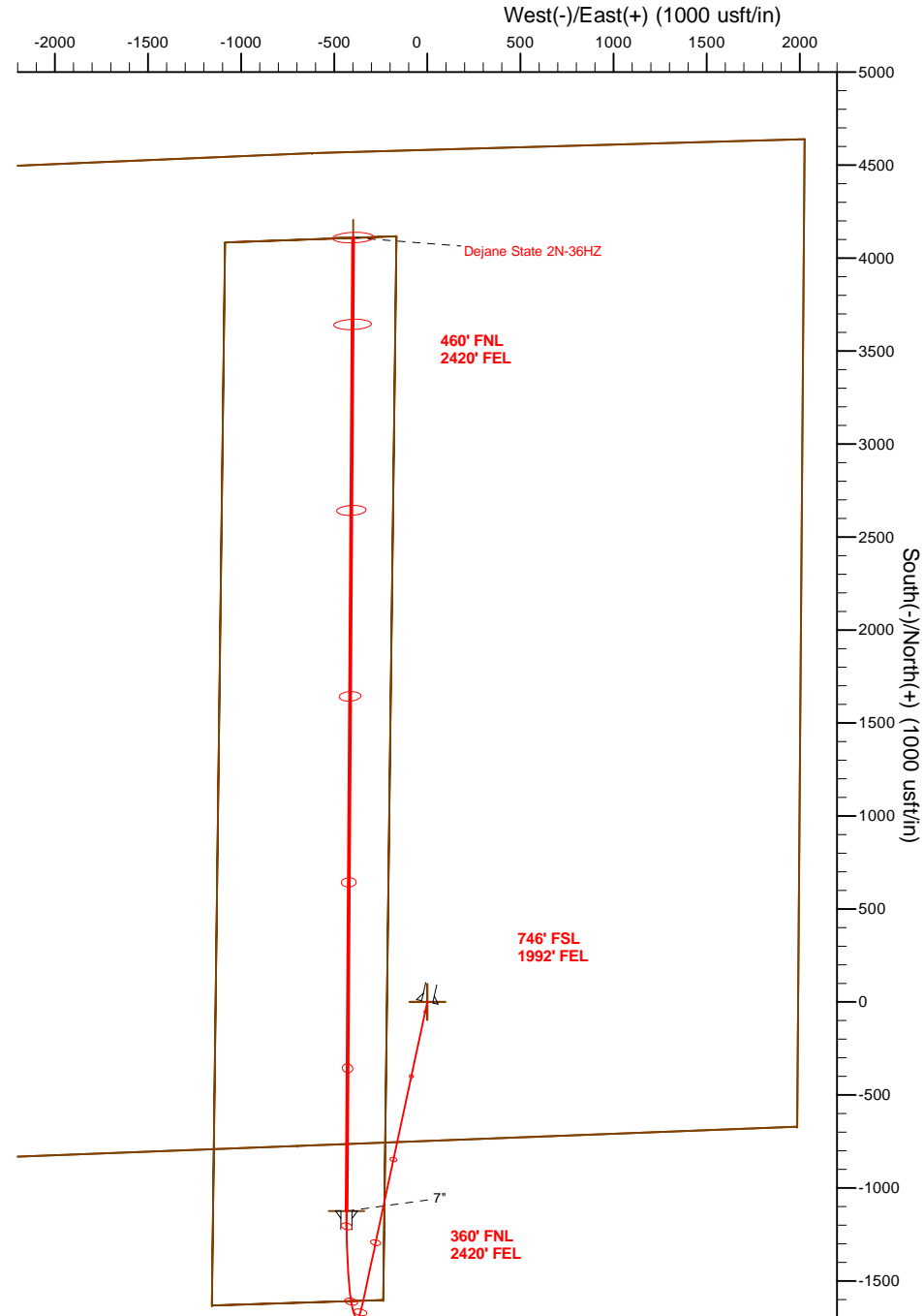
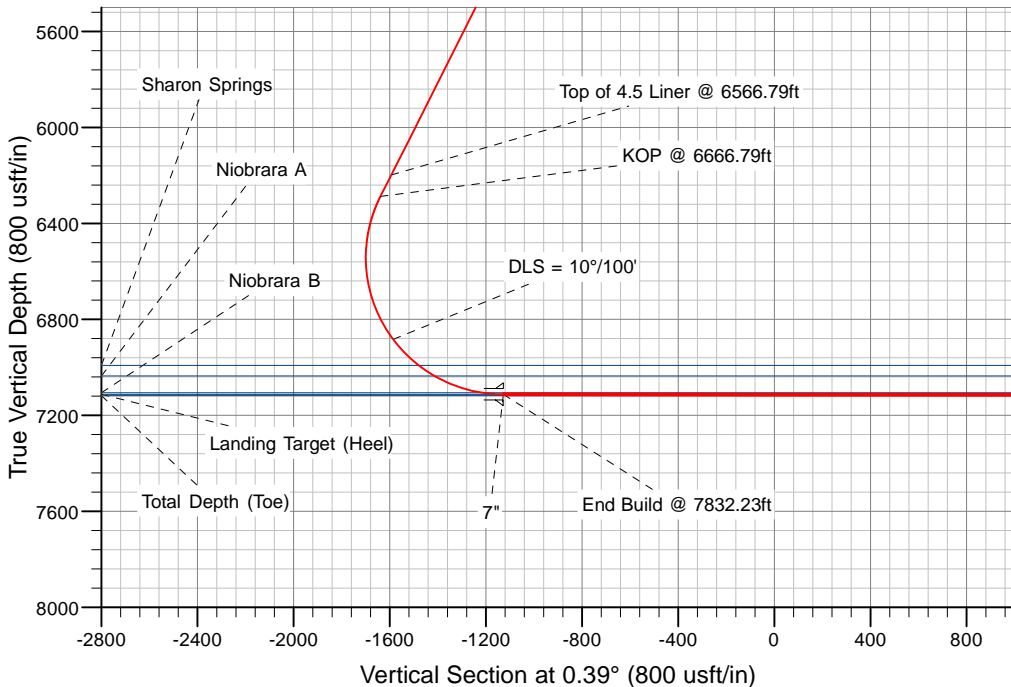
Ground Level: 4864.00

RKB = 17' @ 4881.00usft (Drilling Rig)

Plan: Rev B0 Permit (DeJane State 2N-36HZ/Plan B)

Created By: Clint Eshelman Date: 3/17/2014
 Reviewed: _____ Date: _____

6199.04 6566.79 Top of 4.5 Liner @ 6566.79ft
 6287.98 6666.79 KOP @ 6666.79ft



Plan Report for Dejene State 2N-36HZ - Rev B0 Permit

| 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) | Toolface Azimuth (°) |
|--|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|----------------------------|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dejene State 2N-36HZ_SHL - Dejene State 2N-36HZ_SEC - Dejene State 2N-36HZ_LD | | | | | | | | | | |
| 100.00 | 0.00 | 0.00 | 100.00 | 0.00 | 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 | 0.00 |
| 300.00 | 0.00 | 0.00 | 300.00 | 0.00 | 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 | 0.00 |
| 500.00 | 0.00 | 0.00 | 500.00 | 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 | 0.00 |
| 700.00 | 0.00 | 0.00 | 700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 800.00 | 0.00 | 0.00 | 800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 900.00 | 0.00 | 0.00 | 900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,000.00 | 0.00 | 0.00 | 1,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,037.00 | 0.00 | 0.00 | 1,037.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fox Hills Marker | | | | | | | | | | |
| 1,087.00 | 0.00 | 0.00 | 1,087.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9 5/8" | | | | | | | | | | |
| 1,100.00 | 0.00 | 0.00 | 1,100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,200.00 | 0.00 | 0.00 | 1,200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,300.00 | 0.00 | 0.00 | 1,300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,400.00 | 0.00 | 0.00 | 1,400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,500.00 | 0.00 | 0.00 | 1,500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,600.00 | 0.00 | 0.00 | 1,600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,700.00 | 0.00 | 0.00 | 1,700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,800.00 | 0.00 | 0.00 | 1,800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,900.00 | 0.00 | 0.00 | 1,900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,000.00 | 0.00 | 0.00 | 2,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,100.00 | 0.00 | 0.00 | 2,100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,200.00 | 0.00 | 0.00 | 2,200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,300.00 | 0.00 | 0.00 | 2,300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,340.00 | 0.00 | 0.00 | 2,340.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Begin Nudge @ 2340.00ft | | | | | | | | | | |
| 2,400.00 | 1.20 | 192.09 | 2,400.00 | -0.61 | -0.13 | -0.62 | 2.00 | 2.00 | 0.00 | 192.09 |
| 2,500.00 | 3.20 | 192.09 | 2,499.92 | -4.37 | -0.94 | -4.37 | 2.00 | 2.00 | 0.00 | 0.00 |
| 2,600.00 | 5.20 | 192.09 | 2,599.64 | -11.53 | -2.47 | -11.55 | 2.00 | 2.00 | 0.00 | 0.00 |
| 2,700.00 | 7.20 | 192.09 | 2,699.05 | -22.09 | -4.73 | -22.12 | 2.00 | 2.00 | 0.00 | 0.00 |
| 2,800.00 | 9.20 | 192.09 | 2,798.03 | -36.03 | -7.72 | -36.09 | 2.00 | 2.00 | 0.00 | 0.00 |
| 2,900.00 | 11.20 | 192.09 | 2,896.44 | -53.35 | -11.43 | -53.42 | 2.00 | 2.00 | 0.00 | 0.00 |
| 3,000.00 | 13.20 | 192.09 | 2,994.18 | -74.01 | -15.86 | -74.12 | 2.00 | 2.00 | 0.00 | 0.00 |
| 3,100.00 | 15.20 | 192.09 | 3,091.12 | -98.00 | -21.00 | -98.14 | 2.00 | 2.00 | 0.00 | 0.00 |
| 3,200.00 | 17.20 | 192.09 | 3,187.14 | -125.27 | -26.84 | -125.45 | 2.00 | 2.00 | 0.00 | 0.00 |
| 3,300.00 | 19.20 | 192.09 | 3,282.13 | -155.81 | -33.39 | -156.04 | 2.00 | 2.00 | 0.00 | 0.00 |
| 3,400.00 | 21.20 | 192.09 | 3,375.98 | -189.57 | -40.62 | -189.85 | 2.00 | 2.00 | 0.00 | 0.00 |
| 3,500.00 | 23.20 | 192.09 | 3,468.56 | -226.52 | -48.54 | -226.84 | 2.00 | 2.00 | 0.00 | 0.00 |
| 3,600.00 | 25.20 | 192.09 | 3,559.77 | -266.60 | -57.13 | -266.98 | 2.00 | 2.00 | 0.00 | 0.00 |
| 3,700.00 | 27.20 | 192.09 | 3,649.49 | -309.77 | -66.38 | -310.21 | 2.00 | 2.00 | 0.00 | 0.00 |
| 3,700.47 | 27.21 | 192.09 | 3,649.91 | -309.98 | -66.42 | -310.42 | 2.00 | 2.00 | 0.00 | 0.00 |
| End Nudge @ 3700.47ft | | | | | | | | | | |
| 3,800.00 | 27.21 | 192.09 | 3,738.42 | -354.48 | -75.96 | -354.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,898.47 | 27.21 | 192.09 | 3,826.00 | -398.50 | -85.39 | -399.08 | 0.00 | 0.00 | 0.00 | 0.00 |
| Parkman | | | | | | | | | | |
| 3,900.00 | 27.21 | 192.09 | 3,827.36 | -399.19 | -85.54 | -399.76 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,000.00 | 27.21 | 192.09 | 3,916.29 | -443.90 | -95.12 | -444.53 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,100.00 | 27.21 | 192.09 | 4,005.23 | -488.60 | -104.70 | -489.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,200.00 | 27.21 | 192.09 | 4,094.16 | -533.31 | -114.28 | -534.08 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,300.00 | 27.21 | 192.09 | 4,183.09 | -578.02 | -123.86 | -578.85 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,397.72 | 27.21 | 192.09 | 4,270.00 | -621.71 | -133.22 | -622.61 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sussex | | | | | | | | | | |

Plan Report for DeJane State 2N-36HZ - Rev B0 Permit

| 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) | Toolface Azimuth (°) |
|---|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|----------------------|
| 4,400.00 | 27.21 | 192.09 | 4,272.03 | -622.73 | -133.44 | -623.63 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,500.00 | 27.21 | 192.09 | 4,360.96 | -667.44 | -143.02 | -668.40 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,600.00 | 27.21 | 192.09 | 4,449.90 | -712.15 | -152.60 | -713.17 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,700.00 | 27.21 | 192.09 | 4,538.83 | -756.86 | -162.18 | -757.95 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,800.00 | 27.21 | 192.09 | 4,627.76 | -801.57 | -171.77 | -802.72 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,900.00 | 27.21 | 192.09 | 4,716.70 | -846.28 | -181.35 | -847.50 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,000.00 | 27.21 | 192.09 | 4,805.63 | -890.99 | -190.93 | -892.27 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,100.00 | 27.21 | 192.09 | 4,894.57 | -935.70 | -200.51 | -937.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,200.00 | 27.21 | 192.09 | 4,983.50 | -980.41 | -210.09 | -981.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,300.00 | 27.21 | 192.09 | 5,072.43 | -1,025.12 | -219.67 | -1,026.59 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,400.00 | 27.21 | 192.09 | 5,161.37 | -1,069.83 | -229.25 | -1,071.36 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,500.00 | 27.21 | 192.09 | 5,250.30 | -1,114.54 | -238.83 | -1,116.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,600.00 | 27.21 | 192.09 | 5,339.24 | -1,159.25 | -248.41 | -1,160.91 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,700.00 | 27.21 | 192.09 | 5,428.17 | -1,203.96 | -257.99 | -1,205.68 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,800.00 | 27.21 | 192.09 | 5,517.11 | -1,248.67 | -267.57 | -1,250.46 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,900.00 | 27.21 | 192.09 | 5,606.04 | -1,293.38 | -277.15 | -1,295.23 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,000.00 | 27.21 | 192.09 | 5,694.97 | -1,338.09 | -286.73 | -1,340.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,100.00 | 27.21 | 192.09 | 5,783.91 | -1,382.79 | -296.31 | -1,384.78 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,200.00 | 27.21 | 192.09 | 5,872.84 | -1,427.50 | -305.89 | -1,429.55 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,300.00 | 27.21 | 192.09 | 5,961.78 | -1,472.21 | -315.47 | -1,474.33 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,400.00 | 27.21 | 192.09 | 6,050.71 | -1,516.92 | -325.06 | -1,519.10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,500.00 | 27.21 | 192.09 | 6,139.64 | -1,561.63 | -334.64 | -1,563.87 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,566.79 | 27.21 | 192.09 | 6,199.04 | -1,591.49 | -341.03 | -1,593.78 | 0.00 | 0.00 | 0.00 | 0.00 |
| Top of 4.5 Liner @ 6566.79ft | | | | | | | | | | |
| 6,600.00 | 27.21 | 192.09 | 6,228.58 | -1,606.34 | -344.22 | -1,608.65 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,666.79 | 27.21 | 192.09 | 6,287.98 | -1,636.20 | -350.62 | -1,638.55 | 0.00 | 0.00 | 0.00 | 0.00 |
| KOP @ 6666.79ft | | | | | | | | | | |
| 6,700.00 | 23.99 | 193.95 | 6,317.92 | -1,650.18 | -353.83 | -1,652.55 | 10.00 | -9.70 | 5.58 | 166.89 |
| 6,800.00 | 14.53 | 204.12 | 6,412.25 | -1,681.44 | -363.88 | -1,683.88 | 10.00 | -9.46 | 10.17 | 165.22 |
| 6,900.00 | 6.79 | 241.48 | 6,510.55 | -1,695.75 | -374.23 | -1,698.26 | 10.00 | -7.74 | 37.36 | 155.58 |
| 7,000.00 | 8.97 | 319.04 | 6,609.84 | -1,692.68 | -384.57 | -1,695.25 | 10.00 | 2.18 | 77.56 | 118.74 |
| 7,100.00 | 17.72 | 341.34 | 6,707.10 | -1,672.32 | -394.57 | -1,674.96 | 10.00 | 8.75 | 22.30 | 41.70 |
| 7,200.00 | 27.33 | 348.75 | 6,799.38 | -1,635.29 | -403.94 | -1,638.00 | 10.00 | 9.61 | 7.41 | 19.92 |
| 7,300.00 | 37.13 | 352.48 | 6,883.87 | -1,582.72 | -412.40 | -1,585.49 | 10.00 | 9.80 | 3.73 | 13.06 |
| DLS = 10°/100' | | | | | | | | | | |
| 7,400.00 | 47.01 | 354.81 | 6,958.02 | -1,516.20 | -419.67 | -1,519.02 | 10.00 | 9.88 | 2.34 | 9.89 |
| 7,452.46 | 52.21 | 355.75 | 6,992.00 | -1,476.39 | -422.95 | -1,479.23 | 10.00 | 9.91 | 1.79 | 8.15 |
| Sharon Springs | | | | | | | | | | |
| 7,500.00 | 56.92 | 356.50 | 7,019.55 | -1,437.76 | -425.56 | -1,440.62 | 10.00 | 9.92 | 1.56 | 7.54 |
| 7,531.47 | 60.05 | 356.95 | 7,036.00 | -1,410.97 | -427.09 | -1,413.85 | 10.00 | 9.93 | 1.43 | 7.11 |
| Niobrara A | | | | | | | | | | |
| 7,600.00 | 66.85 | 357.84 | 7,066.61 | -1,349.77 | -429.86 | -1,352.66 | 10.00 | 9.93 | 1.30 | 6.88 |
| 7,700.00 | 76.79 | 358.99 | 7,097.77 | -1,254.92 | -432.46 | -1,257.83 | 10.00 | 9.94 | 1.15 | 6.48 |
| 7,742.88 | 81.06 | 359.45 | 7,106.00 | -1,212.84 | -433.03 | -1,215.76 | 10.00 | 9.94 | 1.08 | 6.12 |
| Niobrara B | | | | | | | | | | |
| 7,800.00 | 86.74 | 0.05 | 7,112.07 | -1,156.08 | -433.28 | -1,159.00 | 10.00 | 9.95 | 1.05 | 6.03 |
| 7,832.23 | 89.95 | 0.39 | 7,113.00 | -1,123.86 | -433.16 | -1,126.78 | 10.00 | 9.95 | 1.04 | 5.96 |
| End Build @ 7832.23ft - Landing Target (Heel) - 7" - DeJane State 2N-36HZ_CP | | | | | | | | | | |
| 7,900.00 | 89.95 | 0.39 | 7,113.06 | -1,056.10 | -432.70 | -1,059.02 | 0.00 | 0.00 | 0.00 | 5.95 |
| 8,000.00 | 89.95 | 0.39 | 7,113.16 | -956.10 | -432.03 | -959.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,100.00 | 89.95 | 0.39 | 7,113.26 | -856.10 | -431.35 | -859.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,200.00 | 89.95 | 0.39 | 7,113.35 | -756.10 | -430.68 | -759.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,300.00 | 89.95 | 0.39 | 7,113.45 | -656.10 | -430.01 | -659.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,400.00 | 89.95 | 0.39 | 7,113.54 | -556.11 | -429.33 | -559.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,500.00 | 89.95 | 0.39 | 7,113.64 | -456.11 | -428.66 | -459.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,600.00 | 89.95 | 0.39 | 7,113.73 | -356.11 | -427.99 | -359.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,700.00 | 89.95 | 0.39 | 7,113.83 | -256.11 | -427.31 | -259.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,800.00 | 89.95 | 0.39 | 7,113.92 | -156.12 | -426.64 | -159.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,900.00 | 89.95 | 0.39 | 7,114.02 | -56.12 | -425.97 | -59.02 | 0.00 | 0.00 | 0.00 | 0.00 |

Plan Report for DeJane State 2N-36HZ - Rev B0 Permit

| 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) | Toolface Azimuth (°) |
|--|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|----------------------|
| 9,000.00 | 89.95 | 0.39 | 7,114.12 | 43.88 | -425.29 | 40.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,100.00 | 89.95 | 0.39 | 7,114.21 | 143.88 | -424.62 | 140.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,200.00 | 89.95 | 0.39 | 7,114.31 | 243.87 | -423.95 | 240.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,300.00 | 89.95 | 0.39 | 7,114.40 | 343.87 | -423.27 | 340.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,400.00 | 89.95 | 0.39 | 7,114.50 | 443.87 | -422.60 | 440.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,500.00 | 89.95 | 0.39 | 7,114.59 | 543.87 | -421.93 | 540.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,600.00 | 89.95 | 0.39 | 7,114.69 | 643.87 | -421.25 | 640.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,700.00 | 89.95 | 0.39 | 7,114.78 | 743.86 | -420.58 | 740.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,800.00 | 89.95 | 0.39 | 7,114.88 | 843.86 | -419.91 | 840.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,900.00 | 89.95 | 0.39 | 7,114.98 | 943.86 | -419.23 | 940.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,000.00 | 89.95 | 0.39 | 7,115.07 | 1,043.86 | -418.56 | 1,040.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,100.00 | 89.95 | 0.39 | 7,115.17 | 1,143.85 | -417.88 | 1,140.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,200.00 | 89.95 | 0.39 | 7,115.26 | 1,243.85 | -417.21 | 1,240.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,300.00 | 89.95 | 0.39 | 7,115.36 | 1,343.85 | -416.54 | 1,340.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,400.00 | 89.95 | 0.39 | 7,115.45 | 1,443.85 | -415.86 | 1,440.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,500.00 | 89.95 | 0.39 | 7,115.55 | 1,543.84 | -415.19 | 1,540.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,600.00 | 89.95 | 0.39 | 7,115.64 | 1,643.84 | -414.52 | 1,640.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,700.00 | 89.95 | 0.39 | 7,115.74 | 1,743.84 | -413.84 | 1,740.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,800.00 | 89.95 | 0.39 | 7,115.83 | 1,843.84 | -413.17 | 1,840.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,900.00 | 89.95 | 0.39 | 7,115.93 | 1,943.84 | -412.50 | 1,940.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,000.00 | 89.95 | 0.39 | 7,116.03 | 2,043.83 | -411.82 | 2,040.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,100.00 | 89.95 | 0.39 | 7,116.12 | 2,143.83 | -411.15 | 2,140.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,200.00 | 89.95 | 0.39 | 7,116.22 | 2,243.83 | -410.48 | 2,240.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,300.00 | 89.95 | 0.39 | 7,116.31 | 2,343.83 | -409.80 | 2,340.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,400.00 | 89.95 | 0.39 | 7,116.41 | 2,443.82 | -409.13 | 2,440.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,500.00 | 89.95 | 0.39 | 7,116.50 | 2,543.82 | -408.46 | 2,540.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,600.00 | 89.95 | 0.39 | 7,116.60 | 2,643.82 | -407.78 | 2,640.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,700.00 | 89.95 | 0.39 | 7,116.69 | 2,743.82 | -407.11 | 2,740.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,800.00 | 89.95 | 0.39 | 7,116.79 | 2,843.81 | -406.44 | 2,840.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,900.00 | 89.95 | 0.39 | 7,116.89 | 2,943.81 | -405.76 | 2,940.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,000.00 | 89.95 | 0.39 | 7,116.98 | 3,043.81 | -405.09 | 3,040.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,100.00 | 89.95 | 0.39 | 7,117.08 | 3,143.81 | -404.42 | 3,140.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,200.00 | 89.95 | 0.39 | 7,117.17 | 3,243.81 | -403.74 | 3,240.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,300.00 | 89.95 | 0.39 | 7,117.27 | 3,343.80 | -403.07 | 3,340.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,400.00 | 89.95 | 0.39 | 7,117.36 | 3,443.80 | -402.40 | 3,440.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,500.00 | 89.95 | 0.39 | 7,117.46 | 3,543.80 | -401.72 | 3,540.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,600.00 | 89.95 | 0.39 | 7,117.55 | 3,643.80 | -401.05 | 3,640.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,700.00 | 89.95 | 0.39 | 7,117.65 | 3,743.79 | -400.38 | 3,740.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,800.00 | 89.95 | 0.39 | 7,117.75 | 3,843.79 | -399.70 | 3,840.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,900.00 | 89.95 | 0.39 | 7,117.84 | 3,943.79 | -399.03 | 3,940.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,000.00 | 89.95 | 0.39 | 7,117.94 | 4,043.79 | -398.36 | 4,040.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,066.65 | 89.95 | 0.39 | 7,118.00 | 4,110.44 | -397.91 | 4,107.63 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total Depth (Toe) | | | | | | | | | | |
| 13,066.66 | 89.95 | 0.39 | 7,118.00 | 4,110.44 | -397.91 | 4,107.64 | 0.00 | 0.00 | 0.00 | 0.00 |
| TD Well @ 13066.66ft - DeJane State 2N-36HZ_BHL | | | | | | | | | | |

Plan Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | Comment |
|-----------------------|-----------------------|-------------------|--------------|------------------------------|
| | | +N/-S (usft) | +E/-W (usft) | |
| 2,340.00 | 2,340.00 | 0.00 | 0.00 | Begin Nudge @ 2340.00ft |
| 3,700.47 | 3,649.91 | -309.98 | -66.42 | End Nudge @ 3700.47ft |
| 6,566.79 | 6,199.04 | -1,591.49 | -341.03 | Top of 4.5 Liner @ 6566.79ft |
| 6,666.79 | 6,287.98 | -1,636.20 | -350.62 | KOP @ 6666.79ft |
| 7,300.00 | 6,883.87 | -1,582.72 | -412.40 | DLS = 10°/100' |
| 7,832.23 | 7,113.00 | -1,123.86 | -433.16 | End Build @ 7832.23ft |
| 13,066.66 | 7,118.00 | 4,110.44 | -397.91 | TD Well @ 13066.66ft |

Plan Report for DeJane State 2N-36HZ - Rev B0 Permit**Vertical Section Information**

| Angle Type | Target | Azimuth (°) | Origin Type | Origin +N/_S (usft) | Origin +E/-W (usft) | Start TVD (usft) |
|---------------|----------------------|----------------|----------------|---------------------------|---------------------------|------------------------|
| User | No Target (Freehand) | 0.39 | Slot | 0.00 | 0.00 | 0.00 |

Survey tool program

| From (usft) | To (usft) | Survey/Plan | Survey Tool |
|----------------|--------------|---------------|-------------|
| 0.00 | 7,832.23 | Rev B0 Permit | MWD |
| 7,832.23 | 13,066.66 | Rev B0 Permit | MWD |

Casing Details

| Measured Depth (usft) | Vertical Depth (usft) | Name | Casing Diameter (") | Hole Diameter (") |
|-----------------------------|-----------------------------|--------|---------------------------|-------------------------|
| 1,087.00 | 1,087.00 | 9 5/8" | 9-5/8 | 13-1/2 |
| 7,832.23 | 7,113.00 | 7" | 7 | 8-3/4 |

Formation Details

| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|-----------------------------|-----------------------------|-----------------------|-----------|------------|-------------------------|
| 1,037.00 | 1,037.00 | Fox Hills Marker | | 0.00 | |
| 3,898.47 | 3,826.00 | Parkman | | 0.00 | |
| 4,397.72 | 4,270.00 | Sussex | | 0.00 | |
| 7,452.46 | 6,992.00 | Sharon Springs | | 0.00 | |
| 7,531.47 | 7,036.00 | Niobrara A | | 0.00 | |
| 7,742.88 | 7,106.00 | Niobrara B | | 0.00 | |
| 7,832.23 | 7,113.00 | Landing Target (Heel) | | 0.00 | |
| 13,066.65 | 7,118.00 | Total Depth (Toe) | | 0.00 | |

Targets associated with this wellbore

| Target Name | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Shape |
|--------------------------|---------------|-----------------|-----------------|---------|
| DeJane State 2N-36HZ_SHL | 0.00 | 0.00 | 0.00 | Point |
| DeJane State 2N-36HZ_SEC | 0.00 | 0.00 | 0.00 | Polygon |
| DeJane State 2N-36HZ_LD | 0.00 | 0.00 | 0.00 | Polygon |
| DeJane State 2N-36HZ_CP | 7,113.00 | -1,123.86 | -433.16 | Point |
| DeJane State 2N-36HZ_BHL | 7,118.00 | 4,110.44 | -397.91 | Point |

Directional Difficulty Index

| | | | |
|------------------------------------|----------------|-------------------------------|----------------------------------|
| Average Dogleg over Survey: | 0.99 °/100usft | Maximum Dogleg over Survey: | 10.00 °/100usft at 7,524.43 usft |
| Net Tortosity applicable to Plans: | 0.99 °/100usft | Directional Difficulty Index: | 6.436 |

Plan Report for DeJane State 2N-36HZ - Rev B0 Permit

Audit Info

North Reference Sheet for Sec. 36-T4N-R66W - DeJane State 2N-36HZ - Plan B

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference.
Vertical Depths are relative to RKB = 17' @ 4881.00usft (Drilling Rig). Northing and Easting are relative to DeJane State 2N-36HZ
Coordinate System is US State Plane 1983, Colorado Northern Zone using datum North American Datum 1983, ellipsoid GRS 1980
Projection method is Lambert Conformal Conic (2 parallel)
Central Meridian is -105.50°, Longitude Origin:0.000000°, Latitude Origin:40.783333°
False Easting: 3,000,000.00usft, False Northing: 1,000,000.00usft, Scale Reduction: 0.99995687

Grid Coordinates of Well: 1,339,778.91 usft N, 3,216,898.61 usft E
Geographical Coordinates of Well: 40° 15' 48.54" N, 104° 43' 21.99" W
Grid Convergence at Surface is: 0.50°

Based upon Minimum Curvature type calculations, at a Measured Depth of 13,066.66usft
the Bottom Hole Displacement is 4,129.66usft in the Direction of 354.47° (True).

Magnetic Convergence at surface is: -8.02° (23 December 2013, , BGGM2013)

Magnetic Model: BGGM2013
Date: 23-Dec-13
Declination: 8.53°
Inclination/Dip: 66.85°
Field Strength: 52722

Grid North is 0.50° East of True North (Grid Convergence)
Magnetic North is 8.53° East of True North (Magnetic Declination)
Magnetic North is 8.02° East of Grid North (Magnetic Convergence)

To convert a True Direction to a Grid Direction, Subtract 0.50°
To convert a Magnetic Direction to a True Direction, Add 8.53° East
To convert a Magnetic Direction to a Grid Direction, Add 8.02°