

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 6-T1N-R65W

PARAGON 24C-31HZ

Plan B

Plan: Plan B0 Permit

Sperry Drilling Services

Proposal Report

04 September, 2013

Well Coordinates: 1,270,967.85 N, 3,224,315.19 E (40° 04' 27.89" N, 104° 41' 54.34" W)

Ground Level: 4,975.00 ft

Local Coordinate Origin:

Centered on Well PARAGON 24C-31HZ

Viewing Datum:

RKB = 17' @ 4992.00ft (Drilling Rig)

TVDs to System:

N

North Reference:

True

Unit System:

API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 431

HALLIBURTON

Project: Weld County, CO (NAD 83)
 Site: Sec. 6-T1N-R65W
 Well: PARAGON 24C-31HZ
 Wellbore: Plan B
 Design: Plan B0 Permit

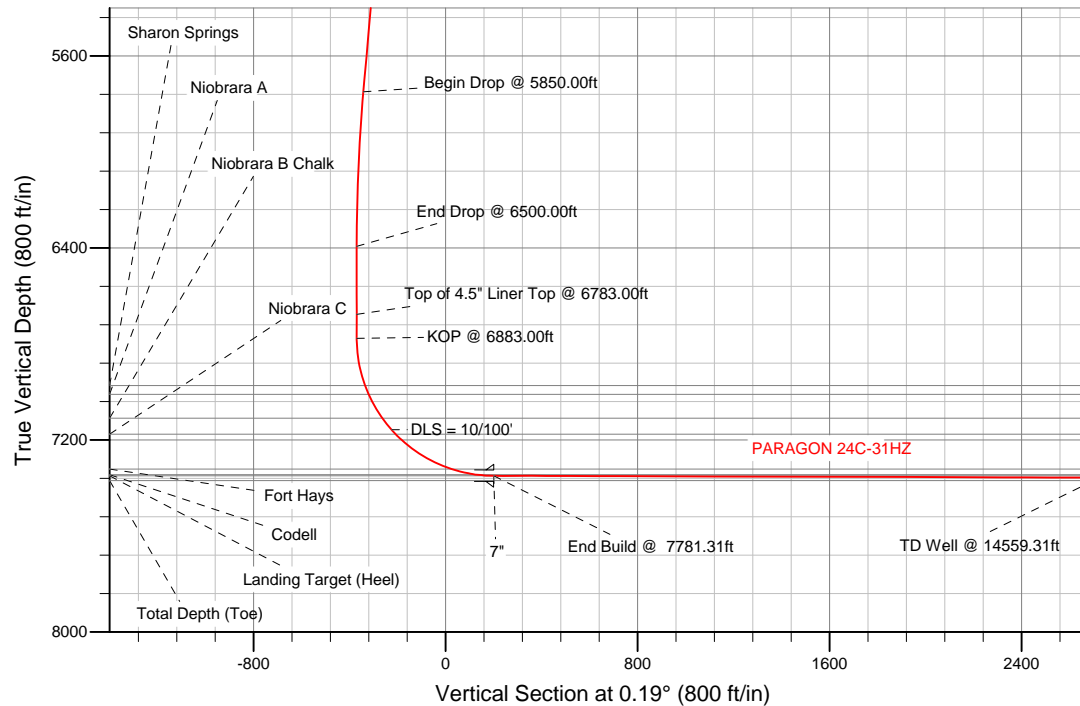


SECTION DETAILS

| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | DLeg | TFace | VSec | Target |
|-----|----------|-------|--------|---------|---------|---------|-------|--------|---------|----------------------|
| 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2 | 1500.00 | 0.00 | 0.00 | 1500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 3 | 2150.00 | 13.00 | 248.00 | 2144.44 | -27.51 | -68.08 | 2.00 | 248.00 | -27.73 | |
| 4 | 5850.00 | 13.00 | 248.00 | 5749.61 | -339.30 | -839.79 | 0.00 | 0.00 | -342.08 | |
| 5 | 6500.00 | 0.00 | 0.00 | 6394.04 | -366.80 | -907.87 | 2.00 | 180.00 | -369.81 | |
| 6 | 6883.00 | 0.00 | 0.00 | 6777.04 | -366.80 | -907.87 | 0.00 | 0.00 | -369.81 | |
| 7 | 7781.31 | 89.83 | 0.19 | 7350.00 | 204.46 | -905.96 | 10.00 | 0.19 | 201.46 | |
| 8 | 14559.31 | 89.83 | 0.19 | 7370.00 | 6982.40 | -883.27 | 0.00 | 0.00 | 6979.43 | Paragon 24C-31HZ_BHL |

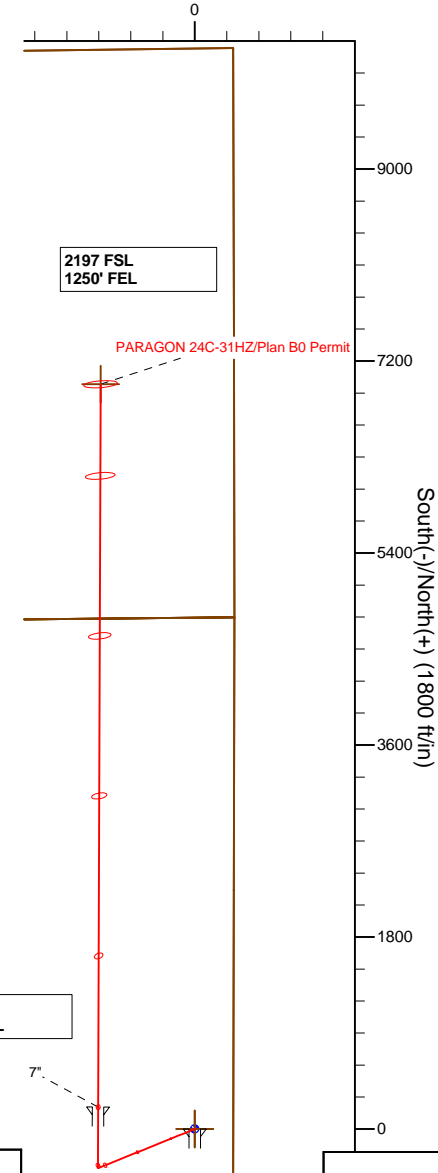
WELLBORE TARGET DETAILS (LAT/LONG)

| Name | TVD | +N/-S | +E/-W | Latitude | Longitude | Shape |
|----------------------|---------|---------|---------|-----------|-------------|---------|
| Thomason_Section | -25.00 | 0.00 | 0.00 | 40.074414 | -104.698428 | Polygon |
| Paragon 24C-31HZ_SHL | 0.00 | 0.00 | 0.00 | 40.074414 | -104.698428 | Point |
| Paragon 24C-31HZ_BHL | 7370.00 | 6982.40 | -883.27 | 40.093581 | -104.701585 | Point |



| TVD | MD | |
|---------|---------|-----------------------------------|
| 6677.04 | 6783.00 | Top of 4.5" Liner Top @ 6783.00ft |
| 6777.04 | 6883.00 | KOP @ 6883.00ft |

West(-)/East(+) (1800 ft/in)



South(-)/North(+) (1800 ft/in)

1800

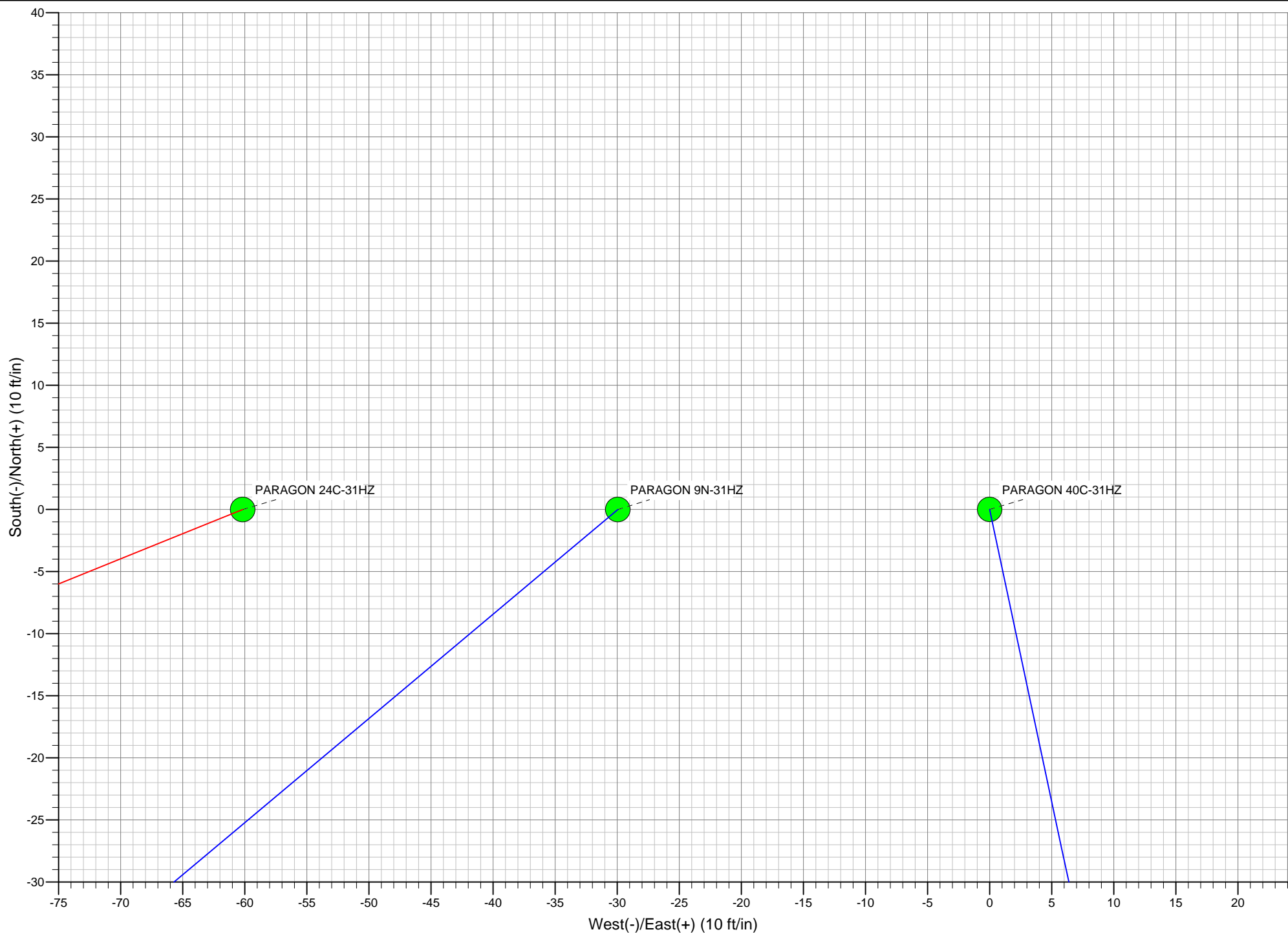
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WELL DETAILS: PARAGON 24C-31HZ

Ground Level: 4975.00
 RKB = 17' @ 4992.00ft (Drilling Rig)

Plan: Plan B0 Permit (PARAGON 24C-31HZ/Plan B)

Created By: Clint Eshelman Date: 09/04/2013



Plan Report for PARAGON 24C-31HZ - Plan B0 Permit

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | Toolface Azimuth (°) |
|--|--------------------|----------------|---------------------------|---------------|---------------|-----------------------------|-----------------------------|----------------------------|---------------------------|----------------------------|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paragon 24C-31HZ_SHL - Thomason Section | | | | | | | | | | |
| 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 |
| 1,025.00 | 0.00 | 0.00 | 1,025.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fox Hills Base | | | | | | | | | | |
| 1,075.00 | 0.00 | 0.00 | 1,075.00 | 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 |
| Begin Nudge @ 1500.00ft | | | | | | | | | | |
| 1,600.00 | 2.00 | 248.00 | 1,599.98 | -0.65 | -1.62 | -0.66 | 2.00 | 2.00 | 0.00 | 248.00 |
| 1,700.00 | 4.00 | 248.00 | 1,699.84 | -2.61 | -6.47 | -2.64 | 2.00 | 2.00 | 0.00 | 0.00 |
| 1,800.00 | 6.00 | 248.00 | 1,799.45 | -5.88 | -14.55 | -5.93 | 2.00 | 2.00 | 0.00 | 0.00 |
| 1,900.00 | 8.00 | 248.00 | 1,898.70 | -10.44 | -25.85 | -10.53 | 2.00 | 2.00 | 0.00 | 0.00 |
| 2,000.00 | 10.00 | 248.00 | 1,997.47 | -16.30 | -40.35 | -16.44 | 2.00 | 2.00 | 0.00 | 0.00 |
| 2,100.00 | 12.00 | 248.00 | 2,095.62 | -23.45 | -58.04 | -23.64 | 2.00 | 2.00 | 0.00 | 0.00 |
| 2,150.00 | 13.00 | 248.00 | 2,144.44 | -27.51 | -68.08 | -27.73 | 2.00 | 2.00 | 0.00 | 0.00 |
| End Nudge @ 2150.00ft | | | | | | | | | | |
| 2,200.00 | 13.00 | 248.00 | 2,193.16 | -31.72 | -78.51 | -31.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,300.00 | 13.00 | 248.00 | 2,290.59 | -40.15 | -99.36 | -40.47 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,400.00 | 13.00 | 248.00 | 2,388.03 | -48.57 | -120.22 | -48.97 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,500.00 | 13.00 | 248.00 | 2,485.47 | -57.00 | -141.08 | -57.47 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,600.00 | 13.00 | 248.00 | 2,582.90 | -65.43 | -161.93 | -65.96 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,700.00 | 13.00 | 248.00 | 2,680.34 | -73.85 | -182.79 | -74.46 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,800.00 | 13.00 | 248.00 | 2,777.78 | -82.28 | -203.65 | -82.95 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,900.00 | 13.00 | 248.00 | 2,875.21 | -90.71 | -224.51 | -91.45 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,000.00 | 13.00 | 248.00 | 2,972.65 | -99.13 | -245.36 | -99.95 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,100.00 | 13.00 | 248.00 | 3,070.09 | -107.56 | -266.22 | -108.44 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,200.00 | 13.00 | 248.00 | 3,167.53 | -115.99 | -287.08 | -116.94 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,300.00 | 13.00 | 248.00 | 3,264.96 | -124.41 | -307.93 | -125.43 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,400.00 | 13.00 | 248.00 | 3,362.40 | -132.84 | -328.79 | -133.93 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,500.00 | 13.00 | 248.00 | 3,459.84 | -141.27 | -349.65 | -142.43 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,600.00 | 13.00 | 248.00 | 3,557.27 | -149.69 | -370.51 | -150.92 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,700.00 | 13.00 | 248.00 | 3,654.71 | -158.12 | -391.36 | -159.42 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,800.00 | 13.00 | 248.00 | 3,752.15 | -166.55 | -412.22 | -167.91 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,900.00 | 13.00 | 248.00 | 3,849.58 | -174.97 | -433.08 | -176.41 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,000.00 | 13.00 | 248.00 | 3,947.02 | -183.40 | -453.93 | -184.91 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,100.00 | 13.00 | 248.00 | 4,044.46 | -191.83 | -474.79 | -193.40 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,200.00 | 13.00 | 248.00 | 4,141.90 | -200.25 | -495.65 | -201.90 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,300.00 | 13.00 | 248.00 | 4,239.33 | -208.68 | -516.51 | -210.39 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,400.00 | 13.00 | 248.00 | 4,336.77 | -217.11 | -537.36 | -218.89 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,500.00 | 13.00 | 248.00 | 4,434.21 | -225.54 | -558.22 | -227.39 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,600.00 | 13.00 | 248.00 | 4,531.64 | -233.96 | -579.08 | -235.88 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,615.76 | 13.00 | 248.00 | 4,547.00 | -235.29 | -582.36 | -237.22 | 0.00 | 0.00 | 0.00 | 0.00 |
| Parkman | | | | | | | | | | |
| 4,700.00 | 13.00 | 248.00 | 4,629.08 | -242.39 | -599.93 | -244.38 | 0.00 | 0.00 | 0.00 | 0.00 |

Plan Report for PARAGON 24C-31HZ - Plan B0 Permit

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N-S (ft) | +E-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | Toolface Azimuth (°) |
|---|-----------------|-------------|---------------------|-----------|-----------|-----------------------|-----------------------|----------------------|---------------------|----------------------|
| 4,800.00 | 13.00 | 248.00 | 4,726.52 | -250.82 | -620.79 | -252.87 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,900.00 | 13.00 | 248.00 | 4,823.95 | -259.24 | -641.65 | -261.37 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,000.00 | 13.00 | 248.00 | 4,921.39 | -267.67 | -662.51 | -269.86 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,100.00 | 13.00 | 248.00 | 5,018.83 | -276.10 | -683.36 | -278.36 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,200.00 | 13.00 | 248.00 | 5,116.27 | -284.52 | -704.22 | -286.86 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,291.07 | 13.00 | 248.00 | 5,205.00 | -292.20 | -723.21 | -294.59 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sussex | | | | | | | | | | |
| 5,300.00 | 13.00 | 248.00 | 5,213.70 | -292.95 | -725.08 | -295.35 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,400.00 | 13.00 | 248.00 | 5,311.14 | -301.38 | -745.93 | -303.85 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,500.00 | 13.00 | 248.00 | 5,408.58 | -309.80 | -766.79 | -312.34 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,600.00 | 13.00 | 248.00 | 5,506.01 | -318.23 | -787.65 | -320.84 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,700.00 | 13.00 | 248.00 | 5,603.45 | -326.66 | -808.50 | -329.34 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,800.00 | 13.00 | 248.00 | 5,700.89 | -335.08 | -829.36 | -337.83 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,850.00 | 13.00 | 248.00 | 5,749.61 | -339.30 | -839.79 | -342.08 | 0.00 | 0.00 | 0.00 | 0.00 |
| Begin Drop @ 5850.00ft | | | | | | | | | | |
| 5,900.00 | 12.00 | 248.00 | 5,798.42 | -343.35 | -849.82 | -346.17 | 2.00 | -2.00 | 0.00 | 180.00 |
| 6,000.00 | 10.00 | 248.00 | 5,896.58 | -350.50 | -867.51 | -353.37 | 2.00 | -2.00 | 0.00 | 180.00 |
| 6,100.00 | 8.00 | 248.00 | 5,995.34 | -356.36 | -882.02 | -359.28 | 2.00 | -2.00 | 0.00 | 180.00 |
| 6,200.00 | 6.00 | 248.00 | 6,094.59 | -360.92 | -893.32 | -363.88 | 2.00 | -2.00 | 0.00 | 180.00 |
| 6,300.00 | 4.00 | 248.00 | 6,194.21 | -364.19 | -901.40 | -367.18 | 2.00 | -2.00 | 0.00 | 180.00 |
| 6,400.00 | 2.00 | 248.00 | 6,294.06 | -366.15 | -906.25 | -369.15 | 2.00 | -2.00 | 0.00 | 180.00 |
| 6,500.00 | 0.00 | 0.00 | 6,394.04 | -366.80 | -907.87 | -369.81 | 2.00 | -2.00 | 112.00 | 180.00 |
| End Drop @ 6500.00ft | | | | | | | | | | |
| 6,600.00 | 0.00 | 0.00 | 6,494.04 | -366.80 | -907.87 | -369.81 | 0.00 | 0.00 | 0.00 | 180.00 |
| 6,700.00 | 0.00 | 0.00 | 6,594.04 | -366.80 | -907.87 | -369.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,783.00 | 0.00 | 0.00 | 6,677.04 | -366.80 | -907.87 | -369.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| Top of 4.5" Liner Top @ 6783.00ft | | | | | | | | | | |
| 6,800.00 | 0.00 | 0.00 | 6,694.04 | -366.80 | -907.87 | -369.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,883.00 | 0.00 | 0.00 | 6,777.04 | -366.80 | -907.87 | -369.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| KOP @ 6883.00ft | | | | | | | | | | |
| 6,900.00 | 1.70 | 0.19 | 6,794.04 | -366.55 | -907.87 | -369.56 | 10.00 | 10.00 | 0.00 | 0.19 |
| 7,000.00 | 11.70 | 0.19 | 6,893.23 | -354.90 | -907.83 | -357.91 | 10.00 | 10.00 | 0.00 | 0.00 |
| 7,084.06 | 20.11 | 0.19 | 6,974.00 | -331.89 | -907.75 | -334.90 | 10.00 | 10.00 | 0.00 | 0.00 |
| Sharon Springs | | | | | | | | | | |
| 7,100.00 | 21.70 | 0.19 | 6,988.89 | -326.20 | -907.73 | -329.21 | 10.00 | 10.00 | 0.00 | 0.00 |
| 7,124.00 | 24.10 | 0.19 | 7,011.00 | -316.86 | -907.70 | -319.87 | 10.00 | 10.00 | 0.00 | 0.00 |
| Niobrara A | | | | | | | | | | |
| 7,200.00 | 31.70 | 0.19 | 7,078.12 | -281.32 | -907.58 | -284.33 | 10.00 | 10.00 | 0.00 | 0.00 |
| 7,238.29 | 35.53 | 0.19 | 7,110.00 | -260.13 | -907.51 | -263.14 | 10.00 | 10.00 | 0.00 | 0.00 |
| Niobrara B Chalk | | | | | | | | | | |
| 7,300.00 | 41.70 | 0.19 | 7,158.19 | -221.64 | -907.38 | -224.65 | 10.00 | 10.00 | 0.00 | 0.00 |
| DLS = 10/100' | | | | | | | | | | |
| 7,324.32 | 44.13 | 0.19 | 7,176.00 | -205.08 | -907.33 | -208.09 | 10.00 | 10.00 | 0.00 | 0.00 |
| Niobrara C | | | | | | | | | | |
| 7,400.00 | 51.70 | 0.19 | 7,226.69 | -148.95 | -907.14 | -151.96 | 10.00 | 10.00 | 0.00 | 0.00 |
| 7,500.00 | 61.70 | 0.19 | 7,281.52 | -65.48 | -906.86 | -68.49 | 10.00 | 10.00 | 0.00 | 0.00 |
| 7,600.00 | 71.70 | 0.19 | 7,321.02 | 26.25 | -906.55 | 23.24 | 10.00 | 10.00 | 0.00 | 0.00 |
| 7,603.13 | 72.01 | 0.19 | 7,322.00 | 29.23 | -906.54 | 26.22 | 10.00 | 10.00 | 0.00 | 0.00 |
| Fort Hays | | | | | | | | | | |
| 7,700.00 | 81.70 | 0.19 | 7,344.00 | 123.44 | -906.23 | 120.44 | 10.00 | 10.00 | 0.00 | 0.00 |
| 7,707.24 | 82.42 | 0.19 | 7,345.00 | 130.61 | -906.20 | 127.61 | 10.00 | 10.00 | 0.00 | 0.00 |
| Codell | | | | | | | | | | |
| 7,781.31 | 89.83 | 0.19 | 7,350.00 | 204.46 | -905.96 | 201.46 | 10.00 | 10.00 | 0.00 | 0.00 |
| End Build @ 7781.31ft - Landing Target (Heel) - 7" | | | | | | | | | | |
| 7,800.00 | 89.83 | 0.19 | 7,350.05 | 223.15 | -905.89 | 220.15 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7,900.00 | 89.83 | 0.19 | 7,350.35 | 323.15 | -905.56 | 320.15 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,000.00 | 89.83 | 0.19 | 7,350.64 | 423.15 | -905.22 | 420.15 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,100.00 | 89.83 | 0.19 | 7,350.94 | 523.15 | -904.89 | 520.15 | 0.00 | 0.00 | 0.00 | 0.00 |

Plan Report for PARAGON 24C-31HZ - Plan B0 Permit

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N-S (ft) | +E-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | Toolface Azimuth (°) |
|---------------------|-----------------|-------------|---------------------|-----------|-----------|-----------------------|-----------------------|----------------------|---------------------|----------------------|
| 8,200.00 | 89.83 | 0.19 | 7,351.23 | 623.15 | -904.55 | 620.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,300.00 | 89.83 | 0.19 | 7,351.53 | 723.15 | -904.22 | 720.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,400.00 | 89.83 | 0.19 | 7,351.82 | 823.15 | -903.88 | 820.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,500.00 | 89.83 | 0.19 | 7,352.12 | 923.14 | -903.55 | 920.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,600.00 | 89.83 | 0.19 | 7,352.42 | 1,023.14 | -903.22 | 1,020.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,700.00 | 89.83 | 0.19 | 7,352.71 | 1,123.14 | -902.88 | 1,120.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,800.00 | 89.83 | 0.19 | 7,353.01 | 1,223.14 | -902.55 | 1,220.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,900.00 | 89.83 | 0.19 | 7,353.30 | 1,323.14 | -902.21 | 1,320.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,000.00 | 89.83 | 0.19 | 7,353.60 | 1,423.14 | -901.88 | 1,420.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,100.00 | 89.83 | 0.19 | 7,353.89 | 1,523.14 | -901.54 | 1,520.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,200.00 | 89.83 | 0.19 | 7,354.19 | 1,623.14 | -901.21 | 1,620.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,300.00 | 89.83 | 0.19 | 7,354.48 | 1,723.14 | -900.87 | 1,720.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,400.00 | 89.83 | 0.19 | 7,354.78 | 1,823.14 | -900.54 | 1,820.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,500.00 | 89.83 | 0.19 | 7,355.07 | 1,923.13 | -900.20 | 1,920.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,600.00 | 89.83 | 0.19 | 7,355.37 | 2,023.13 | -899.87 | 2,020.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,700.00 | 89.83 | 0.19 | 7,355.66 | 2,123.13 | -899.53 | 2,120.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,800.00 | 89.83 | 0.19 | 7,355.96 | 2,223.13 | -899.20 | 2,220.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,900.00 | 89.83 | 0.19 | 7,356.25 | 2,323.13 | -898.86 | 2,320.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,000.00 | 89.83 | 0.19 | 7,356.55 | 2,423.13 | -898.53 | 2,420.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,100.00 | 89.83 | 0.19 | 7,356.84 | 2,523.13 | -898.19 | 2,520.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,200.00 | 89.83 | 0.19 | 7,357.14 | 2,623.13 | -897.86 | 2,620.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,300.00 | 89.83 | 0.19 | 7,357.43 | 2,723.13 | -897.52 | 2,720.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,400.00 | 89.83 | 0.19 | 7,357.73 | 2,823.13 | -897.19 | 2,820.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,500.00 | 89.83 | 0.19 | 7,358.02 | 2,923.12 | -896.85 | 2,920.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,600.00 | 89.83 | 0.19 | 7,358.32 | 3,023.12 | -896.52 | 3,020.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,700.00 | 89.83 | 0.19 | 7,358.61 | 3,123.12 | -896.19 | 3,120.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,800.00 | 89.83 | 0.19 | 7,358.91 | 3,223.12 | -895.85 | 3,220.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,900.00 | 89.83 | 0.19 | 7,359.20 | 3,323.12 | -895.52 | 3,320.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,000.00 | 89.83 | 0.19 | 7,359.50 | 3,423.12 | -895.18 | 3,420.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,100.00 | 89.83 | 0.19 | 7,359.79 | 3,523.12 | -894.85 | 3,520.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,200.00 | 89.83 | 0.19 | 7,360.09 | 3,623.12 | -894.51 | 3,620.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,300.00 | 89.83 | 0.19 | 7,360.38 | 3,723.12 | -894.18 | 3,720.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,400.00 | 89.83 | 0.19 | 7,360.68 | 3,823.12 | -893.84 | 3,820.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,500.00 | 89.83 | 0.19 | 7,360.97 | 3,923.11 | -893.51 | 3,920.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,600.00 | 89.83 | 0.19 | 7,361.27 | 4,023.11 | -893.17 | 4,020.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,700.00 | 89.83 | 0.19 | 7,361.56 | 4,123.11 | -892.84 | 4,120.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,800.00 | 89.83 | 0.19 | 7,361.86 | 4,223.11 | -892.50 | 4,220.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,900.00 | 89.83 | 0.19 | 7,362.15 | 4,323.11 | -892.17 | 4,320.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,000.00 | 89.83 | 0.19 | 7,362.45 | 4,423.11 | -891.83 | 4,420.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,100.00 | 89.83 | 0.19 | 7,362.74 | 4,523.11 | -891.50 | 4,520.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,200.00 | 89.83 | 0.19 | 7,363.04 | 4,623.11 | -891.16 | 4,620.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,300.00 | 89.83 | 0.19 | 7,363.33 | 4,723.11 | -890.83 | 4,720.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,400.00 | 89.83 | 0.19 | 7,363.63 | 4,823.11 | -890.49 | 4,820.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,500.00 | 89.83 | 0.19 | 7,363.92 | 4,923.10 | -890.16 | 4,920.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,600.00 | 89.83 | 0.19 | 7,364.22 | 5,023.10 | -889.82 | 5,020.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,700.00 | 89.83 | 0.19 | 7,364.51 | 5,123.10 | -889.49 | 5,120.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,800.00 | 89.83 | 0.19 | 7,364.81 | 5,223.10 | -889.15 | 5,220.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,900.00 | 89.83 | 0.19 | 7,365.10 | 5,323.10 | -888.82 | 5,320.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,000.00 | 89.83 | 0.19 | 7,365.40 | 5,423.10 | -888.49 | 5,420.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,100.00 | 89.83 | 0.19 | 7,365.69 | 5,523.10 | -888.15 | 5,520.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,200.00 | 89.83 | 0.19 | 7,365.99 | 5,623.10 | -887.82 | 5,620.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,300.00 | 89.83 | 0.19 | 7,366.28 | 5,723.10 | -887.48 | 5,720.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,400.00 | 89.83 | 0.19 | 7,366.58 | 5,823.10 | -887.15 | 5,820.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,500.00 | 89.83 | 0.19 | 7,366.87 | 5,923.09 | -886.81 | 5,920.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,600.00 | 89.83 | 0.19 | 7,367.17 | 6,023.09 | -886.48 | 6,020.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,700.00 | 89.83 | 0.19 | 7,367.46 | 6,123.09 | -886.14 | 6,120.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,800.00 | 89.83 | 0.19 | 7,367.76 | 6,223.09 | -885.81 | 6,220.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,900.00 | 89.83 | 0.19 | 7,368.05 | 6,323.09 | -885.47 | 6,320.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,000.00 | 89.83 | 0.19 | 7,368.35 | 6,423.09 | -885.14 | 6,420.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,100.00 | 89.83 | 0.19 | 7,368.64 | 6,523.09 | -884.80 | 6,520.12 | 0.00 | 0.00 | 0.00 | 0.00 |

Plan Report for PARAGON 24C-31HZ - Plan B0 Permit

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | Toolface Azimuth (°) |
|---|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|----------------------|
| 14,200.00 | 89.83 | 0.19 | 7,368.94 | 6,623.09 | -884.47 | 6,620.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,300.00 | 89.83 | 0.19 | 7,369.23 | 6,723.09 | -884.13 | 6,720.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,400.00 | 89.83 | 0.19 | 7,369.53 | 6,823.09 | -883.80 | 6,820.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,500.00 | 89.83 | 0.19 | 7,369.82 | 6,923.09 | -883.46 | 6,920.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,559.31 | 89.83 | 0.19 | 7,370.00 | 6,982.39 | -883.27 | 6,979.43 | 0.00 | 0.00 | 0.00 | 0.00 |
| TD Well @ 14559.31ft - Total Depth (Toe) - Paragon 24C-31HZ_BHL | | | | | | | | | | |

Plan Annotations

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates | | Comment |
|---------------------|---------------------|-------------------|------------|-----------------------------------|
| | | +N/-S (ft) | +E/-W (ft) | |
| 1,500.00 | 1,500.00 | 0.00 | 0.00 | Begin Nudge @ 1500.00ft |
| 2,150.00 | 2,144.44 | -27.51 | -68.08 | End Nudge @ 2150.00ft |
| 5,850.00 | 5,749.61 | -339.30 | -839.79 | Begin Drop @ 5850.00ft |
| 6,500.00 | 6,394.04 | -366.80 | -907.87 | End Drop @ 6500.00ft |
| 6,783.00 | 6,677.04 | -366.80 | -907.87 | Top of 4.5" Liner Top @ 6783.00ft |
| 6,883.00 | 6,777.04 | -366.80 | -907.87 | KOP @ 6883.00ft |
| 7,300.00 | 7,158.19 | -221.64 | -907.38 | DLS = 10/100' |
| 7,781.31 | 7,350.00 | 204.46 | -905.96 | End Build @ 7781.31ft |
| 14,559.31 | 7,370.00 | 6,982.39 | -883.27 | TD Well @ 14559.31ft |

Vertical Section Information

| Angle Type | Target | Azimuth (°) | Origin Type | Origin | | Start TVD (ft) |
|------------|----------------------|-------------|-------------|------------|------------|----------------|
| | | | | +N/-S (ft) | +E/-W (ft) | |
| User | No Target (Freehand) | 0.19 | Slot | 0.00 | 0.00 | 0.00 |

Survey tool program

| From (ft) | To (ft) | Survey/Plan | Survey Tool |
|-----------|-----------|----------------|-------------|
| 0.00 | 7,781.31 | Plan B0 Permit | MWD |
| 7,781.31 | 14,559.31 | Plan B0 Permit | MWD |

Casing Details

| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (") | Hole Diameter (") |
|---------------------|---------------------|--------|---------------------|-------------------|
| 1,075.00 | 1,075.00 | 9 5/8" | 9-5/8 | 13-1/2 |
| 7,781.31 | 7,350.00 | 7" | 7 | 8-3/4 |

Plan Report for PARAGON 24C-31HZ - Plan B0 Permit

Formation Details

| Measured Depth (ft) | Vertical Depth (ft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|---------------------|---------------------|-----------------------|-----------|---------|-------------------|
| 1,025.00 | 1,025.00 | Fox Hills Base | | 0.00 | |
| 4,615.76 | 4,547.00 | Parkman | | 0.00 | |
| 5,291.07 | 5,205.00 | Sussex | | 0.00 | |
| 7,084.06 | 6,974.00 | Sharon Springs | | 0.00 | |
| 7,124.00 | 7,011.00 | Niobrara A | | 0.00 | |
| 7,238.29 | 7,110.00 | Niobrara B Chalk | | 0.00 | |
| 7,324.32 | 7,176.00 | Niobrara C | | 0.00 | |
| 7,603.13 | 7,322.00 | Fort Hays | | 0.00 | |
| 7,707.24 | 7,345.00 | Codell | | 0.00 | |
| 7,781.31 | 7,350.00 | Landing Target (Heel) | | 0.00 | |
| 14,559.31 | 7,370.00 | Total Depth (Toe) | | 0.00 | |

Targets associated with this wellbore

| Target Name | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Shape |
|----------------------|----------|------------|------------|---------|
| Thomason_Section | -25.00 | 0.00 | 0.00 | Polygon |
| Paragon 24C-31HZ_BHL | 7,370.00 | 6,982.40 | -883.27 | Point |
| Paragon 24C-31HZ_SHL | 0.00 | 0.00 | 0.00 | Point |

North Reference Sheet for Sec. 6-T1N-R65W - PARAGON 24C-31HZ - 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' @ 4992.00ft (Drilling Rig). Northing and Easting are relative to PARAGON 24C-31HZ

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: 3,000,000.00ft, False Northing: 1,000,000.00ft, Scale Reduction: 0.99996156

Grid Coordinates of Well: 1,270,967.85 ft N, 3,224,315.19 ft E

Geographical Coordinates of Well: 40° 04' 27.89" N, 104° 41' 54.34" W

Grid Convergence at Surface is: 0.52°

Based upon Minimum Curvature type calculations, at a Measured Depth of 14,559.31ft
the Bottom Hole Displacement is 7,038.04ft in the Direction of 352.79° (True).

Magnetic Convergence at surface is: -8.02° (28 August 2013, , BGGM2013)

