

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

2N-65W-21 Meguire 21-2HZ Pad

MEGUIRE 3N-16HZ

Plan A

Plan: Permit Rev-1

Sperry Drilling Services Proposal Report

23 April, 2015

Well Coordinates: 14,572,353.07 N, 1,732,539.57 E (40° 07' 29.32" N, 104° 40' 13.62" W)

Ground Level: 4,888.00 usft

Local Coordinate Origin:

Centered on Well MEGUIRE 3N-16HZ

Viewing Datum:

RKB = 17' @ 4905.00usft (D Rig)

TVDs to System:

N

North Reference:

True

Unit System:

Dec-Deg - API - US Survey Feet - Custom

Version: 5000.1 Build: 70

HALLIBURTON

Project: WELD-NAD83-UTMFT13N

Site: 2N-65W-21 Meguire 21-2HZ Pad

Well: MEGUIRE 3N-16HZ

Wellbore: Plan A

Design: Permit Rev-1

US ROCKIES WATTENBERG PLANNING

HALLIBURTON

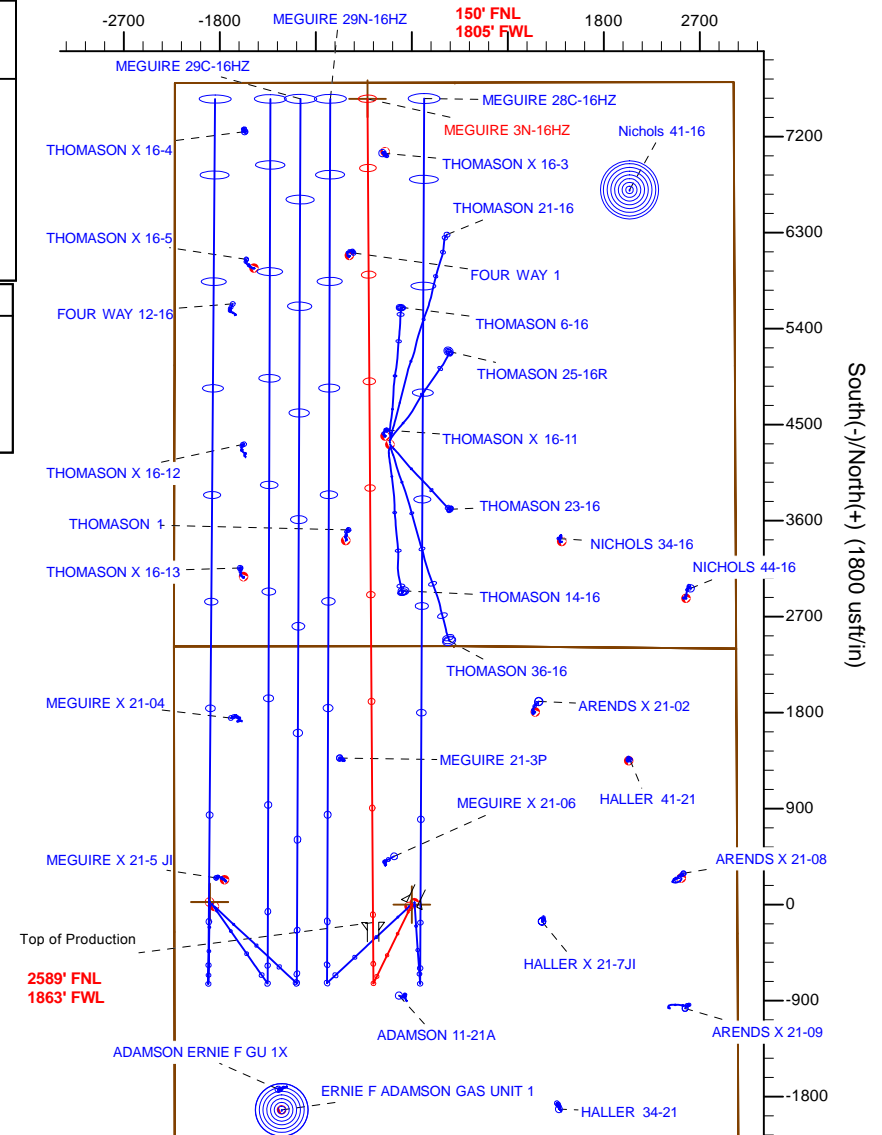
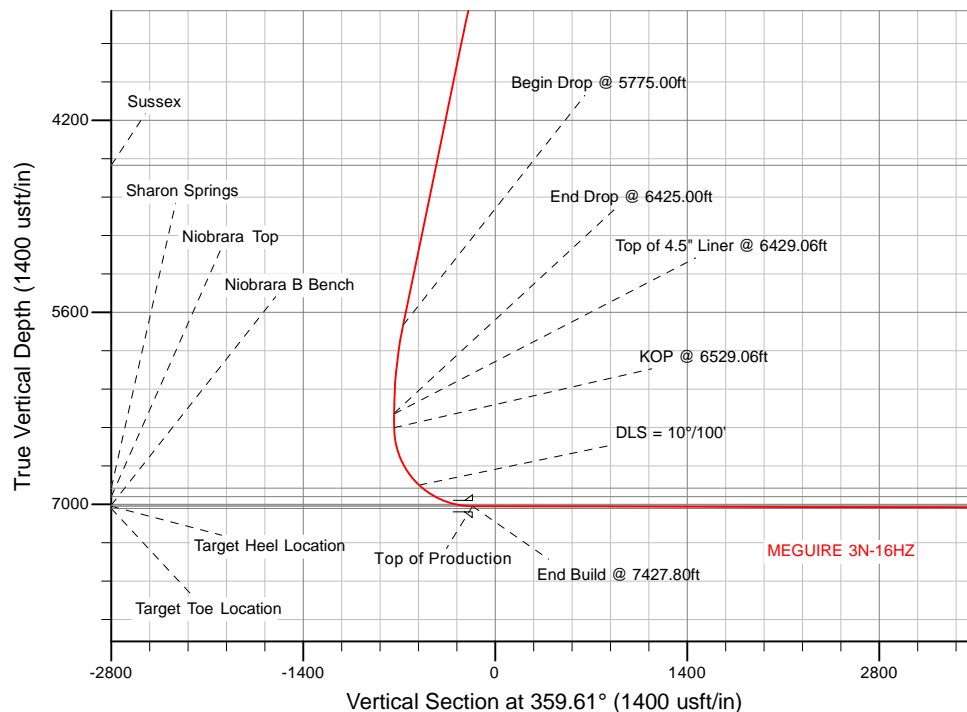
Sperry Drilling

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 | 2125.00 | 0.00 | 0.00 | 2125.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 3 | 2775.00 | 13.00 | 206.00 | 2769.44 | -65.99 | -32.19 | 2.00 | 206.00 | -65.77 | |
| 4 | 5775.00 | 13.00 | 206.00 | 5692.55 | -672.55 | -328.02 | 0.00 | 0.00 | -670.30 | |
| 5 | 6425.00 | 0.00 | 0.00 | 6336.98 | -738.54 | -360.21 | 2.00 | 180.00 | -736.07 | |
| 6 | 6529.06 | 0.00 | 0.00 | 6441.04 | -738.54 | -360.21 | 0.00 | 0.00 | -736.07 | |
| 7 | 7427.80 | 89.87 | 359.61 | 7014.00 | -166.86 | -364.07 | 10.00 | 359.61 | -164.38 | |
| 8 | 15149.92 | 89.87 | 359.61 | 7031.00 | 7555.07 | -416.17 | 0.00 | 0.00 | 7557.73 | MEGUIRE 3N-16HZ_BHL |

WELLBORE TARGET DETAILS (LAT/LONG)

| Name | TVD | +N/-S | +E/-W | Latitude | Longitude |
|---------------------|---------|---------|---------|-----------|-------------|
| MEGUIRE 3N-16HZ_SHL | 0.00 | -0.60 | 0.00 | 40.124810 | -104.670449 |
| MEGUIRE 3N-16HZ_BHL | 7031.00 | 7555.07 | -416.17 | 40.145557 | -104.671938 |



TVD MD

6441.04 6529.06 KOP @ 6529.06ft

WELL DETAILS: MEGUIRE 3N-16HZ

Ground Level: 4888.00

RKB = 17" @ 4905.00usft (D Rig)

Plan: Permit Rev-1 (MEGUIRE 3N-16HZ/Plan A)

Created By: Clint Eshelman

Date: 1/27/2015

Reviewed:

Date:

Plan Report for MEGUIRE 3N-16HZ - Permit Rev-1

| 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 |
| MEGUIRE 3N-16HZ_SHL - 2N-R65W-Sec. 16_Section Lines - 2N-R65W-Sec. 21_Section Lines | | | | | | | | | | |
| 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 |
| 1,100.00 | 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 |
| 1,357.00 | 0.00 | 0.00 | 1,357.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9 5/8" | | | | | | | | | | |
| 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 |
| 2,125.00 | 0.00 | 0.00 | 2,125.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Begin Nudge @ 2125.00ft | | | | | | | | | | |
| 2,200.00 | 1.50 | 206.00 | 2,199.99 | -0.88 | -0.43 | -0.88 | 2.00 | 2.00 | 0.00 | 206.00 |
| 2,300.00 | 3.50 | 206.00 | 2,299.89 | -4.80 | -2.34 | -4.79 | 2.00 | 2.00 | 0.00 | 0.00 |
| 2,400.00 | 5.50 | 206.00 | 2,399.58 | -11.85 | -5.78 | -11.81 | 2.00 | 2.00 | 0.00 | 0.00 |
| 2,500.00 | 7.50 | 206.00 | 2,498.93 | -22.03 | -10.74 | -21.95 | 2.00 | 2.00 | 0.00 | 0.00 |
| 2,600.00 | 9.50 | 206.00 | 2,597.83 | -35.31 | -17.22 | -35.19 | 2.00 | 2.00 | 0.00 | 0.00 |
| 2,700.00 | 11.50 | 206.00 | 2,696.15 | -51.69 | -25.21 | -51.52 | 2.00 | 2.00 | 0.00 | 0.00 |
| 2,775.00 | 13.00 | 206.00 | 2,769.44 | -65.99 | -32.19 | -65.77 | 2.00 | 2.00 | 0.00 | 0.00 |
| End Nudge @ 2775.00ft | | | | | | | | | | |
| 2,800.00 | 13.00 | 206.00 | 2,793.80 | -71.05 | -34.65 | -70.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,900.00 | 13.00 | 206.00 | 2,891.23 | -91.27 | -44.51 | -90.96 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,000.00 | 13.00 | 206.00 | 2,988.67 | -111.48 | -54.37 | -111.11 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,100.00 | 13.00 | 206.00 | 3,086.11 | -131.70 | -64.24 | -131.26 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,200.00 | 13.00 | 206.00 | 3,183.54 | -151.92 | -74.10 | -151.41 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,300.00 | 13.00 | 206.00 | 3,280.98 | -172.14 | -83.96 | -171.56 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,400.00 | 13.00 | 206.00 | 3,378.42 | -192.36 | -93.82 | -191.72 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,500.00 | 13.00 | 206.00 | 3,475.86 | -212.58 | -103.68 | -211.87 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,600.00 | 13.00 | 206.00 | 3,573.29 | -232.80 | -113.54 | -232.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,700.00 | 13.00 | 206.00 | 3,670.73 | -253.01 | -123.40 | -252.17 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,800.00 | 13.00 | 206.00 | 3,768.17 | -273.23 | -133.26 | -272.32 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,900.00 | 13.00 | 206.00 | 3,865.60 | -293.45 | -143.13 | -292.47 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,000.00 | 13.00 | 206.00 | 3,963.04 | -313.67 | -152.99 | -312.62 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,100.00 | 13.00 | 206.00 | 4,060.48 | -333.89 | -162.85 | -332.77 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,200.00 | 13.00 | 206.00 | 4,157.91 | -354.11 | -172.71 | -352.92 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,300.00 | 13.00 | 206.00 | 4,255.35 | -374.32 | -182.57 | -373.07 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,400.00 | 13.00 | 206.00 | 4,352.79 | -394.54 | -192.43 | -393.22 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,500.00 | 13.00 | 206.00 | 4,450.23 | -414.76 | -202.29 | -413.38 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,578.79 | 13.00 | 206.00 | 4,527.00 | -430.69 | -210.06 | -429.25 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sussex | | | | | | | | | | |
| 4,600.00 | 13.00 | 206.00 | 4,547.66 | -434.98 | -212.15 | -433.53 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,700.00 | 13.00 | 206.00 | 4,645.10 | -455.20 | -222.02 | -453.68 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,800.00 | 13.00 | 206.00 | 4,742.54 | -475.42 | -231.88 | -473.83 | 0.00 | 0.00 | 0.00 | 0.00 |

Plan Report for MEGUIRE 3N-16HZ - Permit Rev-1

| 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 (°) |
|---|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|----------------------|
| 4,900.00 | 13.00 | 206.00 | 4,839.97 | -495.64 | -241.74 | -493.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,000.00 | 13.00 | 206.00 | 4,937.41 | -515.85 | -251.60 | -514.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,100.00 | 13.00 | 206.00 | 5,034.85 | -536.07 | -261.46 | -534.28 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,200.00 | 13.00 | 206.00 | 5,132.28 | -556.29 | -271.32 | -554.43 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,300.00 | 13.00 | 206.00 | 5,229.72 | -576.51 | -281.18 | -574.58 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,400.00 | 13.00 | 206.00 | 5,327.16 | -596.73 | -291.04 | -594.73 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,500.00 | 13.00 | 206.00 | 5,424.60 | -616.95 | -300.90 | -614.88 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,600.00 | 13.00 | 206.00 | 5,522.03 | -637.17 | -310.77 | -635.03 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,700.00 | 13.00 | 206.00 | 5,619.47 | -657.38 | -320.63 | -655.19 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,775.00 | 13.00 | 206.00 | 5,692.55 | -672.55 | -328.02 | -670.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| Begin Drop @ 5775.00ft | | | | | | | | | | |
| 5,800.00 | 12.50 | 206.00 | 5,716.93 | -677.51 | -330.44 | -675.24 | 2.00 | -2.00 | 0.00 | -180.00 |
| 5,900.00 | 10.50 | 206.00 | 5,814.92 | -695.42 | -339.18 | -693.10 | 2.00 | -2.00 | 0.00 | 180.00 |
| 6,000.00 | 8.50 | 206.00 | 5,913.54 | -710.26 | -346.42 | -707.88 | 2.00 | -2.00 | 0.00 | 180.00 |
| 6,100.00 | 6.50 | 206.00 | 6,012.68 | -721.99 | -352.14 | -719.58 | 2.00 | -2.00 | 0.00 | 180.00 |
| 6,200.00 | 4.50 | 206.00 | 6,112.22 | -730.60 | -356.34 | -728.16 | 2.00 | -2.00 | 0.00 | 180.00 |
| 6,300.00 | 2.50 | 206.00 | 6,212.02 | -736.09 | -359.02 | -733.63 | 2.00 | -2.00 | 0.00 | 180.00 |
| 6,400.00 | 0.50 | 206.00 | 6,311.99 | -738.44 | -360.16 | -735.97 | 2.00 | -2.00 | 0.00 | 180.00 |
| 6,425.00 | 0.00 | 0.00 | 6,336.98 | -738.54 | -360.21 | -736.07 | 2.00 | -2.00 | 616.00 | 180.00 |
| End Drop @ 6425.00ft | | | | | | | | | | |
| 6,429.06 | 0.00 | 0.00 | 6,341.04 | -738.54 | -360.21 | -736.07 | 0.00 | 0.00 | 0.00 | 180.00 |
| Top of 4.5" Liner @ 6429.06ft | | | | | | | | | | |
| 6,500.00 | 0.00 | 0.00 | 6,411.98 | -738.54 | -360.21 | -736.07 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,529.06 | 0.00 | 0.00 | 6,441.04 | -738.54 | -360.21 | -736.07 | 0.00 | 0.00 | 0.00 | 0.00 |
| KOP @ 6529.06ft | | | | | | | | | | |
| 6,600.00 | 7.09 | 359.61 | 6,511.80 | -734.15 | -360.24 | -731.69 | 10.00 | 10.00 | 0.00 | 359.61 |
| 6,700.00 | 17.09 | 359.61 | 6,609.46 | -713.23 | -360.38 | -710.76 | 10.00 | 10.00 | 0.00 | 0.00 |
| 6,800.00 | 27.09 | 359.61 | 6,702.00 | -675.67 | -360.63 | -673.20 | 10.00 | 10.00 | 0.00 | 0.00 |
| 6,900.00 | 37.09 | 359.61 | 6,786.61 | -622.60 | -360.99 | -620.13 | 10.00 | 10.00 | 0.00 | 0.00 |
| 7,000.00 | 47.09 | 359.61 | 6,860.72 | -555.66 | -361.44 | -553.18 | 10.00 | 10.00 | 0.00 | 0.00 |
| DLS = 10°/100' | | | | | | | | | | |
| 7,032.26 | 50.32 | 359.61 | 6,882.00 | -531.42 | -361.61 | -528.95 | 10.00 | 10.00 | 0.00 | 0.00 |
| Sharon Springs | | | | | | | | | | |
| 7,100.00 | 57.09 | 359.61 | 6,922.08 | -476.86 | -361.98 | -474.38 | 10.00 | 10.00 | 0.00 | 0.00 |
| 7,142.88 | 61.38 | 359.61 | 6,944.00 | -440.02 | -362.22 | -437.55 | 10.00 | 10.00 | 0.00 | 0.00 |
| Niobrara Top | | | | | | | | | | |
| 7,200.00 | 67.09 | 359.61 | 6,968.82 | -388.60 | -362.57 | -386.12 | 10.00 | 10.00 | 0.00 | 0.00 |
| 7,300.00 | 77.09 | 359.61 | 6,999.53 | -293.56 | -363.21 | -291.09 | 10.00 | 10.00 | 0.00 | 0.00 |
| 7,333.69 | 80.46 | 359.61 | 7,006.08 | -260.53 | -363.44 | -258.05 | 10.00 | 10.00 | 0.00 | 0.00 |
| Niobrara B Bench | | | | | | | | | | |
| 7,400.00 | 87.09 | 359.61 | 7,013.27 | -194.64 | -363.88 | -192.16 | 10.00 | 10.00 | 0.00 | 0.00 |
| 7,427.80 | 89.87 | 359.61 | 7,014.00 | -166.86 | -364.07 | -164.37 | 10.00 | 10.00 | 0.00 | 0.00 |
| End Build @ 7427.80ft - Target Heel Location - Top of Production | | | | | | | | | | |
| 7,500.00 | 89.87 | 359.61 | 7,014.16 | -94.66 | -364.55 | -92.17 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7,600.00 | 89.87 | 359.61 | 7,014.38 | 5.34 | -365.23 | 7.83 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7,700.00 | 89.87 | 359.61 | 7,014.60 | 105.34 | -365.90 | 107.83 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7,800.00 | 89.87 | 359.61 | 7,014.82 | 205.33 | -366.58 | 207.83 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7,900.00 | 89.87 | 359.61 | 7,015.04 | 305.33 | -367.25 | 307.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,000.00 | 89.87 | 359.61 | 7,015.26 | 405.33 | -367.93 | 407.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,100.00 | 89.87 | 359.61 | 7,015.48 | 505.33 | -368.60 | 507.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,200.00 | 89.87 | 359.61 | 7,015.70 | 605.32 | -369.28 | 607.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,300.00 | 89.87 | 359.61 | 7,015.92 | 705.32 | -369.95 | 707.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,400.00 | 89.87 | 359.61 | 7,016.14 | 805.32 | -370.63 | 807.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,500.00 | 89.87 | 359.61 | 7,016.36 | 905.32 | -371.30 | 907.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,600.00 | 89.87 | 359.61 | 7,016.58 | 1,005.31 | -371.98 | 1,007.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,700.00 | 89.87 | 359.61 | 7,016.80 | 1,105.31 | -372.65 | 1,107.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,800.00 | 89.87 | 359.61 | 7,017.02 | 1,205.31 | -373.33 | 1,207.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,900.00 | 89.87 | 359.61 | 7,017.24 | 1,305.31 | -374.00 | 1,307.82 | 0.00 | 0.00 | 0.00 | 0.00 |

Plan Report for MEGUIRE 3N-16HZ - Permit Rev-1

| 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 | 89.87 | 359.61 | 7,017.46 | 1,405.30 | -374.68 | 1,407.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,100.00 | 89.87 | 359.61 | 7,017.68 | 1,505.30 | -375.35 | 1,507.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,200.00 | 89.87 | 359.61 | 7,017.90 | 1,605.30 | -376.03 | 1,607.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,300.00 | 89.87 | 359.61 | 7,018.12 | 1,705.30 | -376.70 | 1,707.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,400.00 | 89.87 | 359.61 | 7,018.34 | 1,805.29 | -377.37 | 1,807.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,500.00 | 89.87 | 359.61 | 7,018.56 | 1,905.29 | -378.05 | 1,907.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,600.00 | 89.87 | 359.61 | 7,018.78 | 2,005.29 | -378.72 | 2,007.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,700.00 | 89.87 | 359.61 | 7,019.00 | 2,105.29 | -379.40 | 2,107.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,800.00 | 89.87 | 359.61 | 7,019.22 | 2,205.28 | -380.07 | 2,207.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,900.00 | 89.87 | 359.61 | 7,019.44 | 2,305.28 | -380.75 | 2,307.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,000.00 | 89.87 | 359.61 | 7,019.66 | 2,405.28 | -381.42 | 2,407.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,100.00 | 89.87 | 359.61 | 7,019.88 | 2,505.28 | -382.10 | 2,507.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,200.00 | 89.87 | 359.61 | 7,020.10 | 2,605.27 | -382.77 | 2,607.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,300.00 | 89.87 | 359.61 | 7,020.32 | 2,705.27 | -383.45 | 2,707.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,400.00 | 89.87 | 359.61 | 7,020.54 | 2,805.27 | -384.12 | 2,807.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,500.00 | 89.87 | 359.61 | 7,020.76 | 2,905.27 | -384.80 | 2,907.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,600.00 | 89.87 | 359.61 | 7,020.98 | 3,005.26 | -385.47 | 3,007.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,700.00 | 89.87 | 359.61 | 7,021.20 | 3,105.26 | -386.15 | 3,107.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,800.00 | 89.87 | 359.61 | 7,021.42 | 3,205.26 | -386.82 | 3,207.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,900.00 | 89.87 | 359.61 | 7,021.64 | 3,305.26 | -387.50 | 3,307.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,000.00 | 89.87 | 359.61 | 7,021.86 | 3,405.25 | -388.17 | 3,407.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,100.00 | 89.87 | 359.61 | 7,022.08 | 3,505.25 | -388.84 | 3,507.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,200.00 | 89.87 | 359.61 | 7,022.31 | 3,605.25 | -389.52 | 3,607.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,300.00 | 89.87 | 359.61 | 7,022.53 | 3,705.25 | -390.19 | 3,707.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,400.00 | 89.87 | 359.61 | 7,022.75 | 3,805.24 | -390.87 | 3,807.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,500.00 | 89.87 | 359.61 | 7,022.97 | 3,905.24 | -391.54 | 3,907.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,600.00 | 89.87 | 359.61 | 7,023.19 | 4,005.24 | -392.22 | 4,007.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,700.00 | 89.87 | 359.61 | 7,023.41 | 4,105.24 | -392.89 | 4,107.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,800.00 | 89.87 | 359.61 | 7,023.63 | 4,205.23 | -393.57 | 4,207.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,900.00 | 89.87 | 359.61 | 7,023.85 | 4,305.23 | -394.24 | 4,307.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,000.00 | 89.87 | 359.61 | 7,024.07 | 4,405.23 | -394.92 | 4,407.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,100.00 | 89.87 | 359.61 | 7,024.29 | 4,505.23 | -395.59 | 4,507.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,200.00 | 89.87 | 359.61 | 7,024.51 | 4,605.22 | -396.27 | 4,607.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,300.00 | 89.87 | 359.61 | 7,024.73 | 4,705.22 | -396.94 | 4,707.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,400.00 | 89.87 | 359.61 | 7,024.95 | 4,805.22 | -397.62 | 4,807.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,500.00 | 89.87 | 359.61 | 7,025.17 | 4,905.22 | -398.29 | 4,907.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,600.00 | 89.87 | 359.61 | 7,025.39 | 5,005.21 | -398.97 | 5,007.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,700.00 | 89.87 | 359.61 | 7,025.61 | 5,105.21 | -399.64 | 5,107.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,800.00 | 89.87 | 359.61 | 7,025.83 | 5,205.21 | -400.31 | 5,207.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,900.00 | 89.87 | 359.61 | 7,026.05 | 5,305.21 | -400.99 | 5,307.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,000.00 | 89.87 | 359.61 | 7,026.27 | 5,405.20 | -401.66 | 5,407.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,100.00 | 89.87 | 359.61 | 7,026.49 | 5,505.20 | -402.34 | 5,507.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,200.00 | 89.87 | 359.61 | 7,026.71 | 5,605.20 | -403.01 | 5,607.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,300.00 | 89.87 | 359.61 | 7,026.93 | 5,705.20 | -403.69 | 5,707.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,400.00 | 89.87 | 359.61 | 7,027.15 | 5,805.19 | -404.36 | 5,807.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,500.00 | 89.87 | 359.61 | 7,027.37 | 5,905.19 | -405.04 | 5,907.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,600.00 | 89.87 | 359.61 | 7,027.59 | 6,005.19 | -405.71 | 6,007.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,700.00 | 89.87 | 359.61 | 7,027.81 | 6,105.19 | -406.39 | 6,107.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,800.00 | 89.87 | 359.61 | 7,028.03 | 6,205.18 | -407.06 | 6,207.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,900.00 | 89.87 | 359.61 | 7,028.25 | 6,305.18 | -407.74 | 6,307.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,000.00 | 89.87 | 359.61 | 7,028.47 | 6,405.18 | -408.41 | 6,407.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,100.00 | 89.87 | 359.61 | 7,028.69 | 6,505.18 | -409.09 | 6,507.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,200.00 | 89.87 | 359.61 | 7,028.91 | 6,605.17 | -409.76 | 6,607.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,300.00 | 89.87 | 359.61 | 7,029.13 | 6,705.17 | -410.44 | 6,707.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,400.00 | 89.87 | 359.61 | 7,029.35 | 6,805.17 | -411.11 | 6,807.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,500.00 | 89.87 | 359.61 | 7,029.57 | 6,905.17 | -411.78 | 6,907.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,600.00 | 89.87 | 359.61 | 7,029.79 | 7,005.16 | -412.46 | 7,007.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,700.00 | 89.87 | 359.61 | 7,030.01 | 7,105.16 | -413.13 | 7,107.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,800.00 | 89.87 | 359.61 | 7,030.23 | 7,205.16 | -413.81 | 7,207.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,900.00 | 89.87 | 359.61 | 7,030.45 | 7,305.16 | -414.48 | 7,307.81 | 0.00 | 0.00 | 0.00 | 0.00 |

Plan Report for MEGUIRE 3N-16HZ - Permit Rev-1

| 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 (°) |
|--|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|----------------------|
| 15,000.00 | 89.87 | 359.61 | 7,030.67 | 7,405.15 | -415.16 | 7,407.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 15,100.00 | 89.87 | 359.61 | 7,030.89 | 7,505.15 | -415.83 | 7,507.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 15,149.92 | 89.87 | 359.61 | 7,031.00 | 7,555.07 | -416.17 | 7,557.73 | 0.00 | 0.00 | 0.00 | 0.00 |
| TD Well @ 15149.92ft - Target Toe Location - MEGUIRE 3N-16HZ_BHL | | | | | | | | | | |

Plan Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | Comment |
|-----------------------|-----------------------|-------------------|--------------|-------------------------------|
| | | +N/-S (usft) | +E/-W (usft) | |
| 2,125.00 | 2,125.00 | 0.00 | 0.00 | Begin Nudge @ 2125.00ft |
| 2,775.00 | 2,769.44 | -65.99 | -32.19 | End Nudge @ 2775.00ft |
| 5,775.00 | 5,692.55 | -672.55 | -328.02 | Begin Drop @ 5775.00ft |
| 6,425.00 | 6,336.98 | -738.54 | -360.21 | End Drop @ 6425.00ft |
| 6,429.06 | 6,341.04 | -738.54 | -360.21 | Top of 4.5" Liner @ 6429.06ft |
| 6,529.06 | 6,441.04 | -738.54 | -360.21 | KOP @ 6529.06ft |
| 7,000.00 | 6,860.72 | -555.66 | -361.44 | DLS = 10°/100' |
| 7,427.80 | 7,014.00 | -166.86 | -364.07 | End Build @ 7427.80ft |
| 15,149.92 | 7,031.00 | 7,555.07 | -416.17 | TD Well @ 15149.92ft |

Vertical Section Information

| Angle Type | Target | Azimuth (°) | Origin Type | Origin | | Start TVD (usft) |
|------------|----------------------|-------------|-------------|--------------|--------------|------------------|
| | | | | +N/-S (usft) | +E/-W (usft) | |
| User | No Target (Freehand) | 359.61 | Slot | 0.00 | 0.00 | 0.00 |

Survey tool program

| From (usft) | To (usft) | Survey/Plan | Survey Tool |
|-------------|-----------|--------------|----------------------------------|
| 0.00 | 7,427.80 | Permit Rev-1 | APC_ISCWSA REV 2 MWD+IFR1+MSA |
| 7,427.80 | 15,149.92 | Permit Rev-1 | APC_ISCWSA REV 2 MWD+IFR1+MSA |

Casing Details

| Measured Depth (usft) | Vertical Depth (usft) | Name | Casing Diameter (") | Hole Diameter (") |
|-----------------------|-----------------------|-------------------|---------------------|-------------------|
| 1,357.00 | 1,357.00 | 9 5/8" | 9-5/8 | 13-1/2 |
| 7,427.80 | 7,014.00 | Top of Production | 5-1/2 | 7-7/8 |

Formation Details

| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|-----------------------|-----------------------|----------------------|-----------|---------|-------------------|
| 4,578.79 | 4,527.00 | Sussex | | 0.00 | |
| 7,032.26 | 6,882.00 | Sharon Springs | | 0.00 | |
| 7,142.88 | 6,944.00 | Niobrara Top | | 0.00 | |
| 7,333.69 | 7,006.08 | Niobrara B Bench | | 0.00 | |
| 7,427.80 | 7,014.00 | Target Heel Location | | 0.00 | |
| 15,149.92 | 7,031.00 | Target Toe Location | | 0.00 | |

Plan Report for MEGUIRE 3N-16HZ - Permit Rev-1

Targets associated with this wellbore

| Target Name | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Shape |
|-------------------------------|---------------|-----------------|-----------------|---------|
| MEGUIRE 3N-16HZ_SHL | 0.00 | 0.00 | 0.00 | Point |
| 2N-R65W-Sec. 16_Section Lines | -8.00 | 22.29 | -1,894.46 | Polygon |
| 2N-R65W-Sec. 21_Section Lines | -8.00 | 22.29 | -1,894.46 | Polygon |
| MEGUIRE 3N-16HZ_BHL | 7,031.00 | 7,555.07 | -416.17 | Point |

North Reference Sheet for 2N-65W-21 Meguire 21-2HZ Pad - MEGUIRE 3N-16HZ - Plan A

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' @ 4905.00usft (D Rig). Northing and Easting are relative to MEGUIRE 3N-16HZ

Coordinate System is Universal Transverse Mercator (US Survey Feet), Zone 13N (108 W to 102 W) using datum North American Datum 1983, ellipsoid

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is -105.00°, Longitude Origin:0.000000°, Latitude Origin:0.000000°

False Easting: 1,640,416.67usft, False Northing: 0.00usft, Scale Reduction: 0.99960971

Grid Coordinates of Well: 14,572,353.07 usft N, 1,732,539.57 usft E

Geographical Coordinates of Well: 40° 07' 29.32" N, 104° 40' 13.62" W

Grid Convergence at Surface is: 0.21°

Based upon Minimum Curvature type calculations, at a Measured Depth of 15,149.92usft
the Bottom Hole Displacement is 7,566.52usft in the Direction of 356.85° (True).

Magnetic Convergence at surface is: -8.09° (26 January 2015, , IGRF2010)

