

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

3N-67W-15 Jester Pad

JESTER 41N-A14HZ

Plan A

Plan: Permit Rev-1

Sperry Drilling Services Proposal Report

13 May, 2015

Well Coordinates: 14,610,229.20 N, 1,672,435.31 E (40° 13' 45.24" N, 104° 53' 07.02" W)

Ground Level: 4,793.00 usft

Local Coordinate Origin:

Centered on Well JESTER 41N-A14HZ

Viewing Datum:

RKB = 17' @ 4810.00usft (D Rig)

TVDs to System:

N

North Reference:

True

Unit System:

Dec-Deg - API - US Survey Feet - Custom

Version: 5000.1 Build: 70

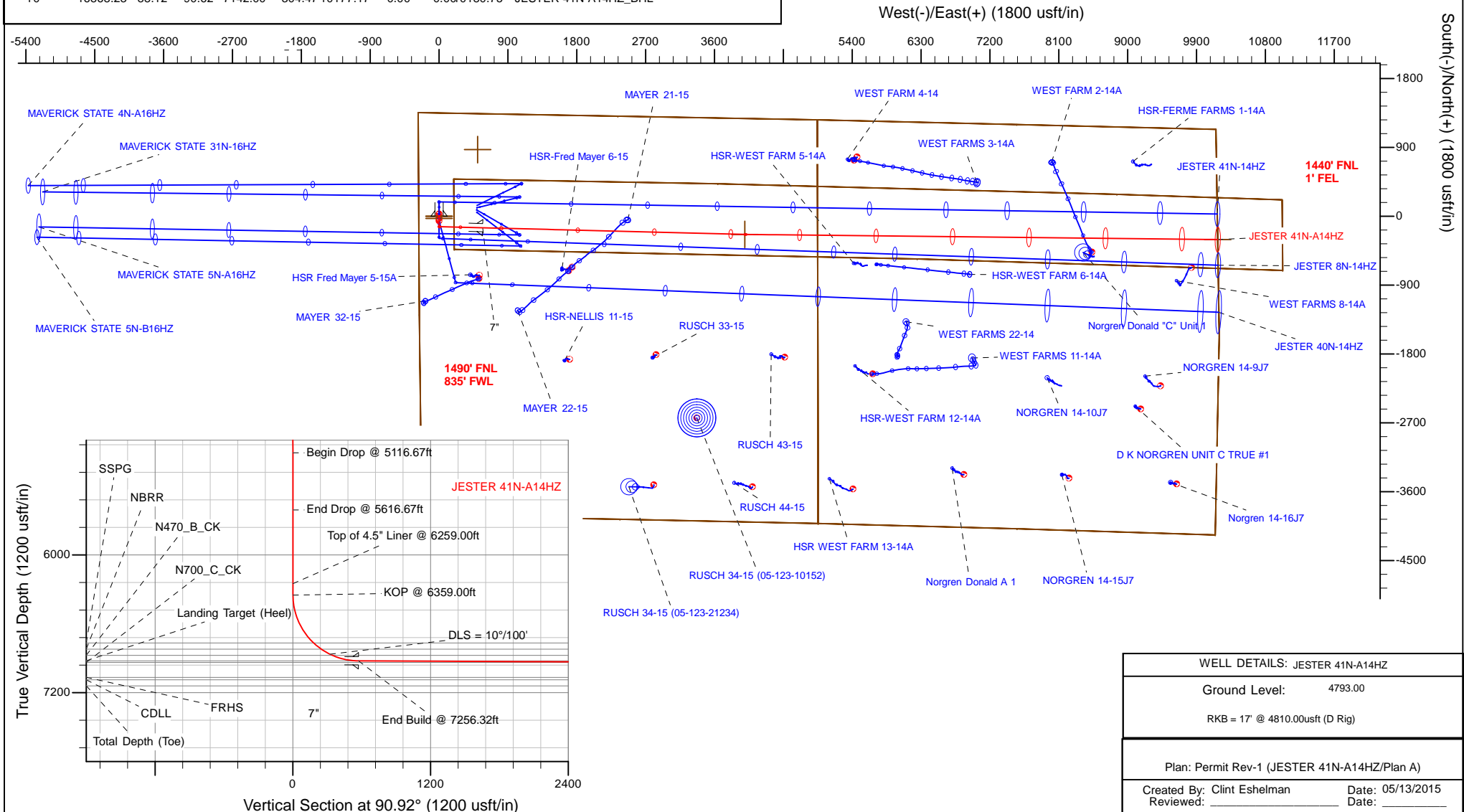
HALLIBURTON

Project: WELD-NAD83-UTMFT13N
Site: 3N-67W-15 Jester Pad
Well: JESTER 41N-A14HZ
Wellbore: Plan A
Design: Permit Rev-1

US ROCKIES WATTENBERG PLANNING

HALLIBURTON
Sperry Drilling

| SECTION DETAILS | | | | | | | | | | | WELLBORE TARGET DETAILS (LAT/LONG) | | | | | | | | | | | |
|-----------------|----------|-------|--------|---------|---------|----------|-------|---------|---------|--------------------------|------------------------------------|---------|----------|-----------|-------------|-----------|--|--|--|--|--|--|
| | | | | | | | | | | | Name | TVD | +N/-S | +E/-W | Latitude | Longitude | | | | | | |
| 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 | 4250.00 | 0.00 | 0.00 | 4250.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | | | | | | | | |
| 3 | 4916.67 | 10.00 | 180.00 | 4913.29 | -58.03 | 0.00 | 1.50 | 180.00 | 0.93 | JESTER 41N-A14HZ_SHL | 0.00 | 0.00 | 0.00 | 40.229234 | -104.885284 | | | | | | | |
| 4 | 5116.67 | 10.00 | 180.00 | 5110.25 | -92.76 | 0.00 | 0.00 | 0.00 | 1.49 | JESTER 41N-A14HZ_BHL | 7142.00 | -304.47 | 10177.17 | 40.228392 | -104.848822 | Point | | | | | | |
| 5 | 5616.67 | 0.00 | 0.00 | 5607.71 | -136.28 | 0.00 | 2.00 | 180.00 | 2.19 | JESTER 41N-A14HZ_Lat Tgt | | | | | | | | | | | | |
| 6 | 6359.00 | 0.00 | 0.00 | 6350.04 | -136.28 | 0.00 | 0.00 | 0.00 | 2.19 | | | | | | | | | | | | | |
| 7 | 7256.32 | 89.73 | 91.45 | 6923.00 | -150.75 | 570.10 | 10.00 | 91.45 | 572.44 | | | | | | | | | | | | | |
| 8 | 10682.62 | 89.73 | 91.45 | 6939.00 | -237.64 | 3995.26 | 0.00 | 0.00 | 3998.56 | | | | | | | | | | | | | |
| 9 | 10700.81 | 88.12 | 90.62 | 6939.34 | -237.97 | 4013.44 | 10.00 | -152.67 | 4016.74 | JESTER 41N-A14HZ_BHL | | | | | | | | | | | | |
| 10 | 16868.23 | 88.12 | 90.62 | 7142.00 | -304.47 | 10177.17 | 0.00 | 0.00 | 0180.75 | | | | | | | | | | | | | |
| | | | | | | | | | | | West(-)/East(+) (1800 usft/in) | | | | | | | | | | | |



| WELL DETAILS: JESTER 41N-A14HZ | |
|--|------------------|
| Ground Level: | 4793.00 |
| RKB = 17' @ 4810.00usft (D Rig) | |
| Plan: Permit Rev-1 (JESTER 41N-A14HZ/Plan A) | |
| Created By: Clint Eshelman | Date: 05/13/2015 |
| Reviewed: _____ | Date: _____ |

Plan Report for JESTER 41N-A14HZ - 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 |
| JESTER 41C-14HZ_LD - 3N-R67W-Sec. 15_Section Lines - JESTER 41N-A14HZ_SHL - 3N-R67W-Sec. 14_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 |
| 495.00 | 0.00 | 0.00 | 495.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Base Fox Hills | | | | | | | | | | |
| 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 |
| 746.00 | 0.00 | 0.00 | 746.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Surface Csg Setting Depth | | | | | | | | | | |
| 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 |
| 1,400.00 | 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 |
| 9 5/8" | | | | | | | | | | |
| 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 |
| 2,400.00 | 0.00 | 0.00 | 2,400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,500.00 | 0.00 | 0.00 | 2,500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,600.00 | 0.00 | 0.00 | 2,600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,700.00 | 0.00 | 0.00 | 2,700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,800.00 | 0.00 | 0.00 | 2,800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,900.00 | 0.00 | 0.00 | 2,900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,000.00 | 0.00 | 0.00 | 3,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,100.00 | 0.00 | 0.00 | 3,100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,200.00 | 0.00 | 0.00 | 3,200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,300.00 | 0.00 | 0.00 | 3,300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,400.00 | 0.00 | 0.00 | 3,400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,500.00 | 0.00 | 0.00 | 3,500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,576.00 | 0.00 | 0.00 | 3,576.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Parkman | | | | | | | | | | |
| 3,600.00 | 0.00 | 0.00 | 3,600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,700.00 | 0.00 | 0.00 | 3,700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,800.00 | 0.00 | 0.00 | 3,800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,900.00 | 0.00 | 0.00 | 3,900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,000.00 | 0.00 | 0.00 | 4,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,015.00 | 0.00 | 0.00 | 4,015.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sussex | | | | | | | | | | |
| 4,100.00 | 0.00 | 0.00 | 4,100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,200.00 | 0.00 | 0.00 | 4,200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,250.00 | 0.00 | 0.00 | 4,250.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Begin Nudge @ 4250.00ft | | | | | | | | | | |
| 4,300.00 | 0.75 | 180.00 | 4,300.00 | -0.33 | 0.00 | 0.01 | 1.50 | 1.50 | 0.00 | 180.00 |
| 4,400.00 | 2.25 | 180.00 | 4,399.96 | -2.94 | 0.00 | 0.05 | 1.50 | 1.50 | 0.00 | 0.00 |

Plan Report for JESTER 41N-A14HZ - 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 (°) |
|---|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|----------------------------|
| 4,500.00 | 3.75 | 180.00 | 4,499.82 | -8.18 | 0.00 | 0.13 | 1.50 | 1.50 | 0.00 | 0.00 |
| 4,600.00 | 5.25 | 180.00 | 4,599.51 | -16.02 | 0.00 | 0.26 | 1.50 | 1.50 | 0.00 | 0.00 |
| 4,700.00 | 6.75 | 180.00 | 4,698.96 | -26.48 | 0.00 | 0.43 | 1.50 | 1.50 | 0.00 | 0.00 |
| 4,800.00 | 8.25 | 180.00 | 4,798.10 | -39.53 | 0.00 | 0.63 | 1.50 | 1.50 | 0.00 | 0.00 |
| 4,900.00 | 9.75 | 180.00 | 4,896.87 | -55.17 | 0.00 | 0.89 | 1.50 | 1.50 | 0.00 | 0.00 |
| 4,916.67 | 10.00 | 180.00 | 4,913.29 | -58.03 | 0.00 | 0.93 | 1.50 | 1.50 | 0.00 | 0.00 |
| End Nudge @ 4916.67ft | | | | | | | | | | |
| 5,000.00 | 10.00 | 180.00 | 4,995.35 | -72.50 | 0.00 | 1.16 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,100.00 | 10.00 | 180.00 | 5,093.84 | -89.87 | 0.00 | 1.44 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,116.67 | 10.00 | 180.00 | 5,110.25 | -92.76 | 0.00 | 1.49 | 0.00 | 0.00 | 0.00 | 0.00 |
| Begin Drop @ 5116.67ft | | | | | | | | | | |
| 5,200.00 | 8.33 | 180.00 | 5,192.51 | -106.03 | 0.00 | 1.70 | 2.00 | -2.00 | 0.00 | 180.00 |
| 5,300.00 | 6.33 | 180.00 | 5,291.69 | -118.80 | 0.00 | 1.91 | 2.00 | -2.00 | 0.00 | 180.00 |
| 5,400.00 | 4.33 | 180.00 | 5,391.25 | -128.09 | 0.00 | 2.06 | 2.00 | -2.00 | 0.00 | 180.00 |
| 5,500.00 | 2.33 | 180.00 | 5,491.08 | -133.91 | 0.00 | 2.15 | 2.00 | -2.00 | 0.00 | 180.00 |
| 5,600.00 | 0.33 | 180.00 | 5,591.05 | -136.23 | 0.00 | 2.19 | 2.00 | -2.00 | 0.00 | 180.00 |
| 5,616.67 | 0.00 | 0.00 | 5,607.72 | -136.28 | 0.00 | 2.19 | 2.00 | -2.00 | 0.00 | 180.00 |
| End Drop @ 5616.67ft | | | | | | | | | | |
| 5,700.00 | 0.00 | 0.00 | 5,691.05 | -136.28 | 0.00 | 2.19 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,800.00 | 0.00 | 0.00 | 5,791.05 | -136.28 | 0.00 | 2.19 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,900.00 | 0.00 | 0.00 | 5,891.05 | -136.28 | 0.00 | 2.19 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,000.00 | 0.00 | 0.00 | 5,991.05 | -136.28 | 0.00 | 2.19 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,100.00 | 0.00 | 0.00 | 6,091.05 | -136.28 | 0.00 | 2.19 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,200.00 | 0.00 | 0.00 | 6,191.05 | -136.28 | 0.00 | 2.19 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,259.00 | 0.00 | 0.00 | 6,250.05 | -136.28 | 0.00 | 2.19 | 0.00 | 0.00 | 0.00 | 0.00 |
| Top of 4.5" Liner @ 6259.00ft | | | | | | | | | | |
| 6,300.00 | 0.00 | 0.00 | 6,291.05 | -136.28 | 0.00 | 2.19 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,359.00 | 0.00 | 0.00 | 6,350.05 | -136.28 | 0.00 | 2.19 | 0.00 | 0.00 | 0.00 | 0.00 |
| KOP @ 6359.00ft | | | | | | | | | | |
| 6,400.00 | 4.10 | 91.45 | 6,391.01 | -136.32 | 1.47 | 3.65 | 10.00 | 10.00 | 0.00 | 91.45 |
| 6,500.00 | 14.10 | 91.45 | 6,489.63 | -136.72 | 17.26 | 19.45 | 10.00 | 10.00 | 0.00 | 0.00 |
| 6,600.00 | 24.10 | 91.45 | 6,584.00 | -137.55 | 49.93 | 52.13 | 10.00 | 10.00 | 0.00 | 0.00 |
| 6,700.00 | 34.10 | 91.45 | 6,671.27 | -138.78 | 98.48 | 100.70 | 10.00 | 10.00 | 0.00 | 0.00 |
| 6,800.00 | 44.10 | 91.45 | 6,748.78 | -140.38 | 161.45 | 163.69 | 10.00 | 10.00 | 0.00 | 0.00 |
| 6,825.96 | 46.70 | 91.45 | 6,767.00 | -140.85 | 179.93 | 182.16 | 10.00 | 10.00 | 0.00 | 0.00 |
| SSPG | | | | | | | | | | |
| 6,900.00 | 54.10 | 91.45 | 6,814.17 | -142.29 | 236.92 | 239.17 | 10.00 | 10.00 | 0.00 | 0.00 |
| 6,911.82 | 55.28 | 91.45 | 6,821.00 | -142.54 | 246.56 | 248.82 | 10.00 | 10.00 | 0.00 | 0.00 |
| NBRR | | | | | | | | | | |
| 7,000.00 | 64.10 | 91.45 | 6,865.45 | -144.47 | 322.59 | 324.87 | 10.00 | 10.00 | 0.00 | 0.00 |
| DLS = 10°/100' | | | | | | | | | | |
| 7,022.79 | 66.38 | 91.45 | 6,875.00 | -144.99 | 343.28 | 345.56 | 10.00 | 10.00 | 0.00 | 0.00 |
| N470_B_CK | | | | | | | | | | |
| 7,100.00 | 74.10 | 91.45 | 6,901.08 | -146.83 | 415.86 | 418.16 | 10.00 | 10.00 | 0.00 | 0.00 |
| 7,200.00 | 84.10 | 91.45 | 6,919.97 | -149.32 | 513.90 | 516.23 | 10.00 | 10.00 | 0.00 | 0.00 |
| 7,256.32 | 89.73 | 91.45 | 6,923.00 | -150.75 | 570.10 | 572.44 | 10.00 | 10.00 | 0.00 | 0.00 |
| End Build @ 7256.32ft - Landing Target (Heel) - 7" | | | | | | | | | | |
| 7,300.00 | 89.73 | 91.45 | 6,923.20 | -151.85 | 613.76 | 616.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7,400.00 | 89.73 | 91.45 | 6,923.67 | -154.39 | 713.73 | 716.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7,500.00 | 89.73 | 91.45 | 6,924.13 | -156.93 | 813.70 | 816.11 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7,600.00 | 89.73 | 91.45 | 6,924.60 | -159.46 | 913.66 | 916.11 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7,700.00 | 89.73 | 91.45 | 6,925.07 | -162.00 | 1,013.63 | 1,016.10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7,800.00 | 89.73 | 91.45 | 6,925.54 | -164.53 | 1,113.60 | 1,116.10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7,900.00 | 89.73 | 91.45 | 6,926.00 | -167.07 | 1,213.56 | 1,216.09 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,000.00 | 89.73 | 91.45 | 6,926.47 | -169.61 | 1,313.53 | 1,316.08 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,100.00 | 89.73 | 91.45 | 6,926.94 | -172.14 | 1,413.50 | 1,416.08 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,200.00 | 89.73 | 91.45 | 6,927.40 | -174.68 | 1,513.46 | 1,516.07 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,300.00 | 89.73 | 91.45 | 6,927.87 | -177.21 | 1,613.43 | 1,616.07 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,400.00 | 89.73 | 91.45 | 6,928.34 | -179.75 | 1,713.40 | 1,716.06 | 0.00 | 0.00 | 0.00 | 0.00 |

Plan Report for JESTER 41N-A14HZ - 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 (°) |
|--|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|----------------------|
| 8,500.00 | 89.73 | 91.45 | 6,928.80 | -182.29 | 1,813.36 | 1,816.06 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,600.00 | 89.73 | 91.45 | 6,929.27 | -184.82 | 1,913.33 | 1,916.05 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,700.00 | 89.73 | 91.45 | 6,929.74 | -187.36 | 2,013.30 | 2,016.05 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,800.00 | 89.73 | 91.45 | 6,930.21 | -189.89 | 2,113.26 | 2,116.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,900.00 | 89.73 | 91.45 | 6,930.67 | -192.43 | 2,213.23 | 2,216.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,000.00 | 89.73 | 91.45 | 6,931.14 | -194.97 | 2,313.20 | 2,316.03 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,100.00 | 89.73 | 91.45 | 6,931.61 | -197.50 | 2,413.16 | 2,416.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,200.00 | 89.73 | 91.45 | 6,932.07 | -200.04 | 2,513.13 | 2,516.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,300.00 | 89.73 | 91.45 | 6,932.54 | -202.58 | 2,613.10 | 2,616.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,400.00 | 89.73 | 91.45 | 6,933.01 | -205.11 | 2,713.06 | 2,716.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,500.00 | 89.73 | 91.45 | 6,933.48 | -207.65 | 2,813.03 | 2,816.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,600.00 | 89.73 | 91.45 | 6,933.94 | -210.18 | 2,913.00 | 2,916.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,700.00 | 89.73 | 91.45 | 6,934.41 | -212.72 | 3,012.97 | 3,015.99 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,800.00 | 89.73 | 91.45 | 6,934.88 | -215.26 | 3,112.93 | 3,115.99 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,900.00 | 89.73 | 91.45 | 6,935.34 | -217.79 | 3,212.90 | 3,215.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,000.00 | 89.73 | 91.45 | 6,935.81 | -220.33 | 3,312.87 | 3,315.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,100.00 | 89.73 | 91.45 | 6,936.28 | -222.86 | 3,412.83 | 3,415.97 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,200.00 | 89.73 | 91.45 | 6,936.75 | -225.40 | 3,512.80 | 3,515.97 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,254.45 | 89.73 | 91.45 | 6,937.00 | -226.78 | 3,567.23 | 3,570.41 | 0.00 | 0.00 | 0.00 | 0.00 |
| N700_C_CK | | | | | | | | | | |
| 10,300.00 | 89.73 | 91.45 | 6,937.21 | -227.94 | 3,612.77 | 3,615.96 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,400.00 | 89.73 | 91.45 | 6,937.68 | -230.47 | 3,712.73 | 3,715.95 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,500.00 | 89.73 | 91.45 | 6,938.15 | -233.01 | 3,812.70 | 3,815.95 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,600.00 | 89.73 | 91.45 | 6,938.61 | -235.54 | 3,912.67 | 3,915.94 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,682.62 | 89.73 | 91.45 | 6,939.00 | -237.64 | 3,995.26 | 3,998.56 | 0.00 | 0.00 | 0.00 | 0.00 |
| Begin Nudge @ 10682.62ft - JESTER 41N-A14HZ_Lat Tgt | | | | | | | | | | |
| 10,700.00 | 88.19 | 90.66 | 6,939.32 | -237.96 | 4,012.63 | 4,015.94 | 10.00 | -8.88 | -4.59 | -152.67 |
| 10,700.81 | 88.12 | 90.62 | 6,939.34 | -237.97 | 4,013.44 | 4,016.74 | 9.95 | -8.84 | -4.57 | -152.66 |
| End Nudge @ 10700.81ft | | | | | | | | | | |
| 10,800.00 | 88.12 | 90.62 | 6,942.60 | -239.04 | 4,112.57 | 4,115.88 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,900.00 | 88.12 | 90.62 | 6,945.89 | -240.12 | 4,212.51 | 4,215.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,000.00 | 88.12 | 90.62 | 6,949.17 | -241.19 | 4,312.45 | 4,315.77 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,100.00 | 88.12 | 90.62 | 6,952.46 | -242.27 | 4,412.39 | 4,415.71 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,200.00 | 88.12 | 90.62 | 6,955.74 | -243.35 | 4,512.33 | 4,515.66 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,300.00 | 88.12 | 90.62 | 6,959.03 | -244.43 | 4,612.27 | 4,615.60 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,400.00 | 88.12 | 90.62 | 6,962.32 | -245.51 | 4,712.21 | 4,715.55 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,500.00 | 88.12 | 90.62 | 6,965.60 | -246.59 | 4,812.15 | 4,815.49 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,600.00 | 88.12 | 90.62 | 6,968.89 | -247.66 | 4,912.09 | 4,915.44 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,700.00 | 88.12 | 90.62 | 6,972.17 | -248.74 | 5,012.03 | 5,015.38 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,800.00 | 88.12 | 90.62 | 6,975.46 | -249.82 | 5,111.97 | 5,115.33 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,900.00 | 88.12 | 90.62 | 6,978.75 | -250.90 | 5,211.91 | 5,215.27 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,000.00 | 88.12 | 90.62 | 6,982.03 | -251.98 | 5,311.85 | 5,315.22 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,100.00 | 88.12 | 90.62 | 6,985.32 | -253.06 | 5,411.79 | 5,415.16 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,200.00 | 88.12 | 90.62 | 6,988.60 | -254.13 | 5,511.73 | 5,515.10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,300.00 | 88.12 | 90.62 | 6,991.89 | -255.21 | 5,611.67 | 5,615.05 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,400.00 | 88.12 | 90.62 | 6,995.18 | -256.29 | 5,711.61 | 5,714.99 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,500.00 | 88.12 | 90.62 | 6,998.46 | -257.37 | 5,811.56 | 5,814.94 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,600.00 | 88.12 | 90.62 | 7,001.75 | -258.45 | 5,911.50 | 5,914.88 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,700.00 | 88.12 | 90.62 | 7,005.03 | -259.53 | 6,011.44 | 6,014.83 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,800.00 | 88.12 | 90.62 | 7,008.32 | -260.60 | 6,111.38 | 6,114.77 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,900.00 | 88.12 | 90.62 | 7,011.61 | -261.68 | 6,211.32 | 6,214.72 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,000.00 | 88.12 | 90.62 | 7,014.89 | -262.76 | 6,311.26 | 6,314.66 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,100.00 | 88.12 | 90.62 | 7,018.18 | -263.84 | 6,411.20 | 6,414.61 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,200.00 | 88.12 | 90.62 | 7,021.46 | -264.92 | 6,511.14 | 6,514.55 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,300.00 | 88.12 | 90.62 | 7,024.75 | -265.99 | 6,611.08 | 6,614.50 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,400.00 | 88.12 | 90.62 | 7,028.04 | -267.07 | 6,711.02 | 6,714.44 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,500.00 | 88.12 | 90.62 | 7,031.32 | -268.15 | 6,810.96 | 6,814.38 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,600.00 | 88.12 | 90.62 | 7,034.61 | -269.23 | 6,910.90 | 6,914.33 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,700.00 | 88.12 | 90.62 | 7,037.89 | -270.31 | 7,010.84 | 7,014.27 | 0.00 | 0.00 | 0.00 | 0.00 |

Plan Report for JESTER 41N-A14HZ - 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 (°) |
|--|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|----------------------|
| 13,800.00 | 88.12 | 90.62 | 7,041.18 | -271.39 | 7,110.78 | 7,114.22 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13,900.00 | 88.12 | 90.62 | 7,044.47 | -272.46 | 7,210.72 | 7,214.16 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,000.00 | 88.12 | 90.62 | 7,047.75 | -273.54 | 7,310.66 | 7,314.11 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,100.00 | 88.12 | 90.62 | 7,051.04 | -274.62 | 7,410.60 | 7,414.05 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,200.00 | 88.12 | 90.62 | 7,054.32 | -275.70 | 7,510.54 | 7,514.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,300.00 | 88.12 | 90.62 | 7,057.61 | -276.78 | 7,610.48 | 7,613.94 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,400.00 | 88.12 | 90.62 | 7,060.90 | -277.86 | 7,710.42 | 7,713.89 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,500.00 | 88.12 | 90.62 | 7,064.18 | -278.93 | 7,810.36 | 7,813.83 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,585.79 | 88.12 | 90.62 | 7,067.00 | -279.86 | 7,896.09 | 7,899.57 | 0.00 | 0.00 | 0.00 | 0.00 |
| FRHS | | | | | | | | | | |
| 14,600.00 | 88.12 | 90.62 | 7,067.47 | -280.01 | 7,910.30 | 7,913.78 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,700.00 | 88.12 | 90.62 | 7,070.75 | -281.09 | 8,010.24 | 8,013.72 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,800.00 | 88.12 | 90.62 | 7,074.04 | -282.17 | 8,110.18 | 8,113.66 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14,900.00 | 88.12 | 90.62 | 7,077.32 | -283.25 | 8,210.12 | 8,213.61 | 0.00 | 0.00 | 0.00 | 0.00 |
| 15,000.00 | 88.12 | 90.62 | 7,080.61 | -284.33 | 8,310.06 | 8,313.55 | 0.00 | 0.00 | 0.00 | 0.00 |
| 15,100.00 | 88.12 | 90.62 | 7,083.90 | -285.40 | 8,410.00 | 8,413.50 | 0.00 | 0.00 | 0.00 | 0.00 |
| 15,200.00 | 88.12 | 90.62 | 7,087.18 | -286.48 | 8,509.94 | 8,513.44 | 0.00 | 0.00 | 0.00 | 0.00 |
| 15,255.30 | 88.12 | 90.62 | 7,089.00 | -287.08 | 8,565.21 | 8,568.72 | 0.00 | 0.00 | 0.00 | 0.00 |
| CDLL | | | | | | | | | | |
| 15,300.00 | 88.12 | 90.62 | 7,090.47 | -287.56 | 8,609.88 | 8,613.39 | 0.00 | 0.00 | 0.00 | 0.00 |
| 15,400.00 | 88.12 | 90.62 | 7,093.75 | -288.64 | 8,709.82 | 8,713.33 | 0.00 | 0.00 | 0.00 | 0.00 |
| 15,500.00 | 88.12 | 90.62 | 7,097.04 | -289.72 | 8,809.76 | 8,813.28 | 0.00 | 0.00 | 0.00 | 0.00 |
| 15,600.00 | 88.12 | 90.62 | 7,100.33 | -290.80 | 8,909.70 | 8,913.22 | 0.00 | 0.00 | 0.00 | 0.00 |
| 15,700.00 | 88.12 | 90.62 | 7,103.61 | -291.87 | 9,009.64 | 9,013.17 | 0.00 | 0.00 | 0.00 | 0.00 |
| 15,800.00 | 88.12 | 90.62 | 7,106.90 | -292.95 | 9,109.58 | 9,113.11 | 0.00 | 0.00 | 0.00 | 0.00 |
| 15,900.00 | 88.12 | 90.62 | 7,110.18 | -294.03 | 9,209.52 | 9,213.06 | 0.00 | 0.00 | 0.00 | 0.00 |
| 16,000.00 | 88.12 | 90.62 | 7,113.47 | -295.11 | 9,309.46 | 9,313.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 16,100.00 | 88.12 | 90.62 | 7,116.76 | -296.19 | 9,409.40 | 9,412.94 | 0.00 | 0.00 | 0.00 | 0.00 |
| 16,200.00 | 88.12 | 90.62 | 7,120.04 | -297.26 | 9,509.34 | 9,512.89 | 0.00 | 0.00 | 0.00 | 0.00 |
| 16,300.00 | 88.12 | 90.62 | 7,123.33 | -298.34 | 9,609.28 | 9,612.83 | 0.00 | 0.00 | 0.00 | 0.00 |
| 16,400.00 | 88.12 | 90.62 | 7,126.61 | -299.42 | 9,709.22 | 9,712.78 | 0.00 | 0.00 | 0.00 | 0.00 |
| 16,500.00 | 88.12 | 90.62 | 7,129.90 | -300.50 | 9,809.16 | 9,812.72 | 0.00 | 0.00 | 0.00 | 0.00 |
| 16,600.00 | 88.12 | 90.62 | 7,133.19 | -301.58 | 9,909.10 | 9,912.67 | 0.00 | 0.00 | 0.00 | 0.00 |
| 16,700.00 | 88.12 | 90.62 | 7,136.47 | -302.66 | 10,009.04 | 10,012.61 | 0.00 | 0.00 | 0.00 | 0.00 |
| 16,800.00 | 88.12 | 90.62 | 7,139.76 | -303.73 | 10,108.98 | 10,112.56 | 0.00 | 0.00 | 0.00 | 0.00 |
| 16,868.22 | 88.12 | 90.62 | 7,142.00 | -304.47 | 10,177.16 | 10,180.74 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total Depth (Toe) | | | | | | | | | | |
| 16,868.23 | 88.12 | 90.62 | 7,142.00 | -304.47 | 10,177.17 | 10,180.75 | 0.00 | 0.00 | 0.00 | 0.00 |
| TD Well @ 16868.23ft - JESTER 41N-A14HZ_BHL | | | | | | | | | | |

Plan Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | Comment |
|-----------------------|-----------------------|-------------------|--------------|-------------------------------|
| | | +N/-S (usft) | +E/-W (usft) | |
| 4,250.00 | 4,250.00 | 0.00 | 0.00 | Begin Nudge @ 4250.00ft |
| 4,916.67 | 4,913.29 | -58.03 | 0.00 | End Nudge @ 4916.67ft |
| 5,116.67 | 5,110.25 | -92.76 | 0.00 | Begin Drop @ 5116.67ft |
| 5,616.67 | 5,607.72 | -136.28 | 0.00 | End Drop @ 5616.67ft |
| 6,259.00 | 6,250.05 | -136.28 | 0.00 | Top of 4.5" Liner @ 6259.00ft |
| 6,359.00 | 6,350.05 | -136.28 | 0.00 | KOP @ 6359.00ft |
| 7,000.00 | 6,865.45 | -144.47 | 322.59 | DLS = 10°/100' |
| 7,256.32 | 6,923.00 | -150.75 | 570.10 | End Build @ 7256.32ft |
| 10,682.62 | 6,939.00 | -237.64 | 3,995.26 | Begin Nudge @ 10682.62ft |
| 10,700.81 | 6,939.34 | -237.97 | 4,013.44 | End Nudge @ 10700.81ft |
| 16,868.23 | 7,142.00 | -304.47 | 10,177.17 | TD Well @ 16868.23ft |

Plan Report for JESTER 41N-A14HZ - Permit Rev-1

Vertical Section Information

| Angle Type | Target | Azimuth (°) | Origin Type | Origin +N/-S (usft) | Origin +E/-W (usft) | Start TVD (usft) |
|---------------|----------------------|----------------|----------------|---------------------------|---------------------------|------------------------|
| User | No Target (Freehand) | 90.92 | Slot | 0.00 | 0.00 | 7,142.00 |

Survey tool program

| From (usft) | To (usft) | Survey/Plan | Survey Tool |
|----------------|--------------|--------------|----------------------------------|
| 0.00 | 7,256.32 | Permit Rev-1 | APC_ISCWSA REV 2 MWD+IFR1+MSA |
| 7,256.32 | 16,868.23 | Permit Rev-1 | APC_ISCWSA REV 2 MWD+IFR1+MSA |

Casing Details

| Measured Depth (usft) | Vertical Depth (usft) | Name | Casing Diameter (") | Hole Diameter (") |
|-----------------------------|-----------------------------|--------|---------------------------|-------------------------|
| 1,600.00 | 1,600.00 | 9 5/8" | 9-5/8 | 13-1/2 |
| 7,256.32 | 6,923.00 | 7" | 7 | 8-3/4 |

Formation Details

| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|-----------------------------|-----------------------------|---------------------------|-----------|------------|-------------------------|
| 495.00 | 495.00 | Base Fox Hills | | 0.00 | |
| 746.00 | 746.00 | Surface Csg Setting Depth | | 0.00 | |
| 3,576.00 | 3,576.00 | Parkman | | 0.00 | |
| 4,015.00 | 4,015.00 | Sussex | | 0.00 | |
| 6,825.96 | 6,767.00 | SSPG | | 0.00 | |
| 6,911.82 | 6,821.00 | NBRR | | 0.00 | |
| 7,022.79 | 6,875.00 | N470_B_CK | | 0.00 | |
| 7,256.32 | 6,923.00 | Landing Target (Heel) | | 0.00 | |
| 10,254.45 | 6,937.00 | N700_C_CK | | 0.00 | |
| 14,585.79 | 7,067.00 | FRHS | | 0.00 | |
| 15,255.30 | 7,089.00 | CDLL | | 0.00 | |
| 16,868.22 | 7,142.00 | Total Depth (Toe) | | 0.00 | |

Targets associated with this wellbore

| Target Name | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Shape |
|-------------------------------|---------------|-----------------|-----------------|---------|
| JESTER 41N-A14HZ_Lat Tgt | 6,939.00 | -237.64 | 3,995.26 | Point |
| JESTER 41C-14HZ_LD | 0.00 | 0.00 | 0.00 | Polygon |
| 3N-R67W-Sec. 15_Section Lines | 0.00 | 870.70 | 504.62 | Polygon |
| JESTER 41N-A14HZ_BHL | 7,142.00 | -304.47 | 10,177.17 | Point |
| JESTER 41N-A14HZ_SHL | 0.00 | 0.00 | 0.00 | Point |
| 3N-R67W-Sec. 14_Section Lines | 0.00 | -29.86 | 0.00 | Polygon |

North Reference Sheet for 3N-67W-15 Jester Pad - JESTER 41N-A14HZ - 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' @ 4810.00usft (D Rig). Northing and Easting are relative to JESTER 41N-A14HZ

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: 0.99960117

Grid Coordinates of Well: 14,610,229.20 usft N, 1,672,435.31 usft E

Geographical Coordinates of Well: 40° 13' 45.24" N, 104° 53' 07.02" W

Grid Convergence at Surface is: 0.07°

Based upon Minimum Curvature type calculations, at a Measured Depth of 16,868.23usft the Bottom Hole Displacement is 10,181.72usft in the Direction of 91.71° (True).

Magnetic Convergence at surface is: -8.37° (22 December 2014, , IGRF2010)

