

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 23-T2N-R66W

Turkey Springs 1N-14HZ

Plan A Rev 0

Plan: Plan A Rev 0 Permit

Sperry Drilling Services

Proposal Report

28 November, 2012

Well Coordinates: 1,291,187.58 N, 3,213,039.20 E (40° 07' 48.69" N, 104° 44' 17.16" W)

Ground Level: 5,102.00 ft

Local Coordinate Origin: Centered on Well Turkey Springs 1N-14HZ

Viewing Datum: RKB=17 @ 5119.00ft (Drilling Rig)

TVDs to System: N

North Reference: True

Unit System: API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 43I

HALLIBURTON

Project: Weld County, CO (NAD 83)
Site: Sec. 23-T2N-R66W
Well: Turkey Springs 1N-14HZ
Wellbore: Plan A Rev 0
Design: Plan A Rev 0 Permit

Anadarko Petroleum Corp.

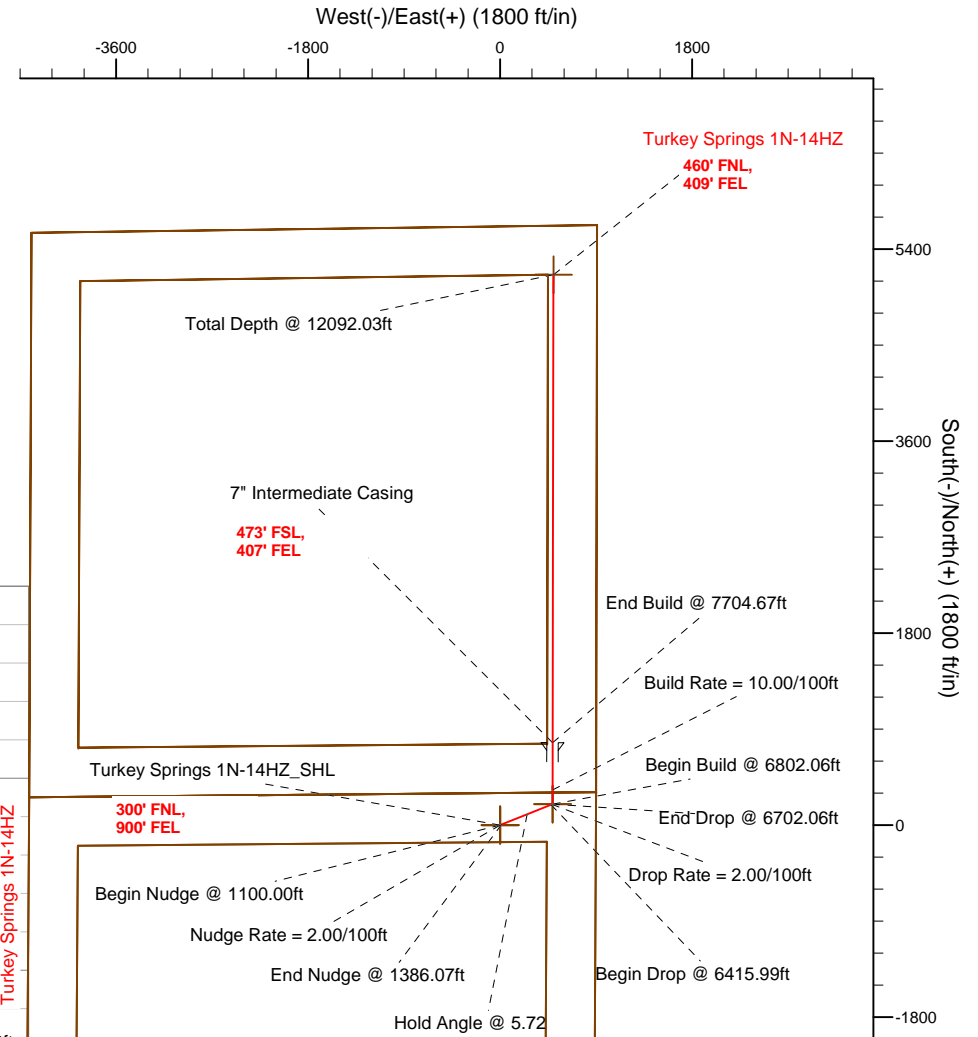
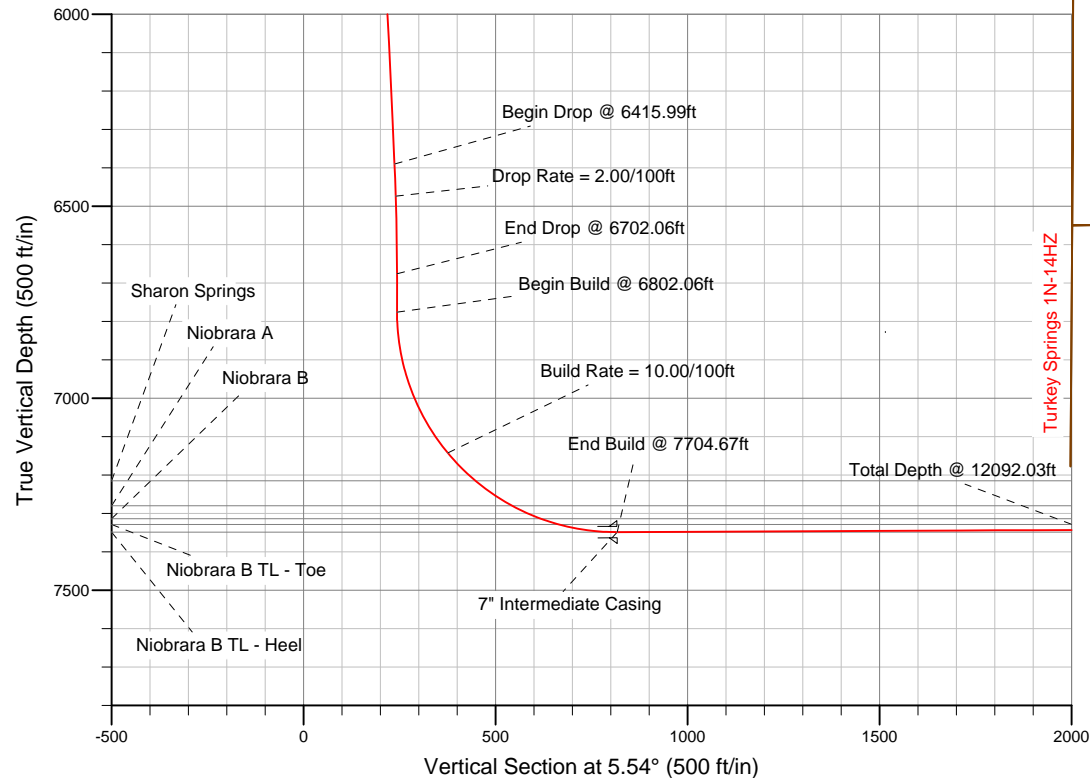
HALLIBURTON
Sperry Drilling

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 | 1100.00 | 0.00 | 0.00 | 1100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 3 | 1386.07 | 5.72 | 68.18 | 1385.59 | 5.30 | 13.25 | 2.00 | 68.18 | 6.56 | |
| 4 | 6415.99 | 5.72 | 68.18 | 6390.46 | 191.70 | 478.75 | 0.00 | 0.00 | 237.02 | |
| 5 | 6702.06 | 0.00 | 0.00 | 6676.05 | 197.00 | 492.00 | 2.00 | 180.00 | 243.57 | Turkey Springs 1N-14HZ_DPtgt |
| 6 | 6802.06 | 0.00 | 0.00 | 6776.05 | 197.00 | 492.00 | 0.00 | 0.00 | 243.57 | Turkey Springs 1N-14HZ_DPtgt2 |
| 7 | 7704.67 | 90.26 | 0.10 | 7349.00 | 772.57 | 492.98 | 10.00 | 0.10 | 816.55 | |
| 8 | 12092.03 | 90.26 | 0.10 | 7329.00 | 5159.88 | 500.43 | 0.00 | 0.00 | 5184.09 | Turkey Springs 1N-14HZ_BHL |

WELLBORE TARGET DETAILS (LAT/LONG)

| Name | TVD | +N/-S | +E/-W | Latitude | Longitude | Shape |
|-------------------------------|---------|---------|--------|-----------|-------------|---------|
| Turkey Springs 1N-14HZ_SB22 | 0.00 | 0.00 | 0.00 | 40.130191 | -104.738099 | Polygon |
| Turkey Springs 1N-14HZ_SB23 | 0.00 | 0.00 | 0.00 | 40.130191 | -104.738099 | Polygon |
| Turkey Springs 1N-14HZ_Sec22 | 0.00 | 0.00 | 0.00 | 40.130191 | -104.738099 | Polygon |
| Turkey Springs 1N-14HZ_Sec23 | 0.00 | 0.00 | 0.00 | 40.130191 | -104.738099 | Polygon |
| Turkey Springs 1N-14HZ_SHL | 0.00 | 0.00 | 0.00 | 40.130191 | -104.738099 | Point |
| Turkey Springs 1N-14HZ_DPtgt | 6676.05 | 197.00 | 492.00 | 40.130732 | -104.736340 | Point |
| Turkey Springs 1N-14HZ_DPtgt2 | 6776.05 | 197.00 | 492.00 | 40.130732 | -104.736340 | Point |
| Turkey Springs 1N-14HZ_BHL | 7329.00 | 5159.88 | 500.43 | 40.144355 | -104.736309 | Point |



WELL DETAILS: Turkey Springs 1N-14HZ

Ground Level 5102.00 RKB=17 @ 5119.00ft (Drilling Rig)

Plan: Plan A Rev 0 Permit (Turkey Springs 1N-14HZ/Plan A Rev 0)

Created By: Fred Hartmann Date: 12/14/2012
Reviewed: _____ Date: _____

Plan Report for Turkey Springs 1N-14HZ - Plan A Rev 0 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 |
| Turkey Springs 1N-14HZ_SB22 - Turkey Springs 1N-14HZ_SB23 - Turkey Springs 1N-14HZ_SHL - Turkey Springs 1N-14HZ_Sec2 | | | | | | | | | | |
| 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 |
| Begin Nudge @ 1100.00ft | | | | | | | | | | |
| 1,200.00 | 2.00 | 68.18 | 1,199.98 | 0.65 | 1.62 | 0.80 | 2.00 | 2.00 | 0.00 | 68.18 |
| Nudge Rate = 2.00/100ft | | | | | | | | | | |
| 1,300.00 | 4.00 | 68.18 | 1,299.84 | 2.59 | 6.48 | 3.21 | 2.00 | 2.00 | 0.00 | 0.00 |
| 1,386.07 | 5.72 | 68.18 | 1,385.59 | 5.30 | 13.25 | 6.56 | 2.00 | 2.00 | 0.00 | 0.00 |
| End Nudge @ 1386.07ft | | | | | | | | | | |
| 1,400.00 | 5.72 | 68.18 | 1,399.46 | 5.82 | 14.54 | 7.20 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,500.00 | 5.72 | 68.18 | 1,498.96 | 9.53 | 23.79 | 11.78 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,600.00 | 5.72 | 68.18 | 1,598.46 | 13.23 | 33.05 | 16.36 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,700.00 | 5.72 | 68.18 | 1,697.96 | 16.94 | 42.30 | 20.94 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,800.00 | 5.72 | 68.18 | 1,797.46 | 20.64 | 51.56 | 25.52 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,900.00 | 5.72 | 68.18 | 1,896.96 | 24.35 | 60.81 | 30.11 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,000.00 | 5.72 | 68.18 | 1,996.47 | 28.05 | 70.07 | 34.69 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,100.00 | 5.72 | 68.18 | 2,095.97 | 31.76 | 79.32 | 39.27 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,200.00 | 5.72 | 68.18 | 2,195.47 | 35.47 | 88.58 | 43.85 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,300.00 | 5.72 | 68.18 | 2,294.97 | 39.17 | 97.83 | 48.43 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,400.00 | 5.72 | 68.18 | 2,394.47 | 42.88 | 107.08 | 53.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,500.00 | 5.72 | 68.18 | 2,493.98 | 46.58 | 116.34 | 57.60 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,600.00 | 5.72 | 68.18 | 2,593.48 | 50.29 | 125.59 | 62.18 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,700.00 | 5.72 | 68.18 | 2,692.98 | 53.99 | 134.85 | 66.76 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,800.00 | 5.72 | 68.18 | 2,792.48 | 57.70 | 144.10 | 71.34 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,900.00 | 5.72 | 68.18 | 2,891.98 | 61.41 | 153.36 | 75.92 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,000.00 | 5.72 | 68.18 | 2,991.49 | 65.11 | 162.61 | 80.50 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,100.00 | 5.72 | 68.18 | 3,090.99 | 68.82 | 171.87 | 85.09 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,200.00 | 5.72 | 68.18 | 3,190.49 | 72.52 | 181.12 | 89.67 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,300.00 | 5.72 | 68.18 | 3,289.99 | 76.23 | 190.38 | 94.25 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,400.00 | 5.72 | 68.18 | 3,389.49 | 79.93 | 199.63 | 98.83 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,500.00 | 5.72 | 68.18 | 3,488.99 | 83.64 | 208.89 | 103.41 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,600.00 | 5.72 | 68.18 | 3,588.50 | 87.34 | 218.14 | 107.99 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,700.00 | 5.72 | 68.18 | 3,688.00 | 91.05 | 227.40 | 112.58 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,800.00 | 5.72 | 68.18 | 3,787.50 | 94.76 | 236.65 | 117.16 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,900.00 | 5.72 | 68.18 | 3,887.00 | 98.46 | 245.90 | 121.74 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,000.00 | 5.72 | 68.18 | 3,986.50 | 102.17 | 255.16 | 126.32 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hold Angle @ 5.72 | | | | | | | | | | |
| 4,100.00 | 5.72 | 68.18 | 4,086.01 | 105.87 | 264.41 | 130.90 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,200.00 | 5.72 | 68.18 | 4,185.51 | 109.58 | 273.67 | 135.49 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,234.67 | 5.72 | 68.18 | 4,220.00 | 110.86 | 276.88 | 137.07 | 0.00 | 0.00 | 0.00 | 0.00 |
| Parkman | | | | | | | | | | |
| 4,300.00 | 5.72 | 68.18 | 4,285.01 | 113.28 | 282.92 | 140.07 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,400.00 | 5.72 | 68.18 | 4,384.51 | 116.99 | 292.18 | 144.65 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,500.00 | 5.72 | 68.18 | 4,484.01 | 120.70 | 301.43 | 149.23 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,600.00 | 5.72 | 68.18 | 4,583.51 | 124.40 | 310.69 | 153.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,627.62 | 5.72 | 68.18 | 4,611.00 | 125.42 | 313.24 | 155.08 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sussex | | | | | | | | | | |

Plan Report for Turkey Springs 1N-14HZ - Plan A Rev 0 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 (°) |
|--|-----------------|-------------|---------------------|-----------|-----------|-----------------------|-----------------------|----------------------|---------------------|----------------------|
| 4,700.00 | 5.72 | 68.18 | 4,683.02 | 128.11 | 319.94 | 158.39 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,800.00 | 5.72 | 68.18 | 4,782.52 | 131.81 | 329.20 | 162.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,900.00 | 5.72 | 68.18 | 4,882.02 | 135.52 | 338.45 | 167.56 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,000.00 | 5.72 | 68.18 | 4,981.52 | 139.22 | 347.71 | 172.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,100.00 | 5.72 | 68.18 | 5,081.02 | 142.93 | 356.96 | 176.72 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,200.00 | 5.72 | 68.18 | 5,180.53 | 146.64 | 366.22 | 181.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,300.00 | 5.72 | 68.18 | 5,280.03 | 150.34 | 375.47 | 185.88 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,400.00 | 5.72 | 68.18 | 5,379.53 | 154.05 | 384.73 | 190.47 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,500.00 | 5.72 | 68.18 | 5,479.03 | 157.75 | 393.98 | 195.05 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,600.00 | 5.72 | 68.18 | 5,578.53 | 161.46 | 403.23 | 199.63 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,700.00 | 5.72 | 68.18 | 5,678.04 | 165.16 | 412.49 | 204.21 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,800.00 | 5.72 | 68.18 | 5,777.54 | 168.87 | 421.74 | 208.79 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,900.00 | 5.72 | 68.18 | 5,877.04 | 172.57 | 431.00 | 213.37 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,000.00 | 5.72 | 68.18 | 5,976.54 | 176.28 | 440.25 | 217.96 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,100.00 | 5.72 | 68.18 | 6,076.04 | 179.99 | 449.51 | 222.54 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,200.00 | 5.72 | 68.18 | 6,175.54 | 183.69 | 458.76 | 227.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,300.00 | 5.72 | 68.18 | 6,275.05 | 187.40 | 468.02 | 231.70 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,400.00 | 5.72 | 68.18 | 6,374.55 | 191.10 | 477.27 | 236.28 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,415.99 | 5.72 | 68.18 | 6,390.46 | 191.70 | 478.75 | 237.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| Begin Drop @ 6415.99ft | | | | | | | | | | |
| 6,500.00 | 4.04 | 68.18 | 6,474.16 | 194.35 | 485.39 | 240.30 | 2.00 | -2.00 | 0.00 | 180.00 |
| Drop Rate = 2.00/100ft | | | | | | | | | | |
| 6,600.00 | 2.04 | 68.18 | 6,574.01 | 196.32 | 490.31 | 242.74 | 2.00 | -2.00 | 0.00 | -180.00 |
| 6,700.00 | 0.04 | 68.18 | 6,673.99 | 197.00 | 492.00 | 243.57 | 2.00 | -2.00 | 0.00 | 180.00 |
| 6,702.06 | 0.00 | 68.18 | 6,676.05 | 197.00 | 492.00 | 243.57 | 2.00 | -2.00 | 0.00 | 180.00 |
| End Drop @ 6702.06ft - Turkey Springs 1N-14HZ_DPtgt | | | | | | | | | | |
| 6,800.00 | 0.00 | 0.00 | 6,773.99 | 197.00 | 492.00 | 243.57 | 0.00 | 0.00 | 0.00 | -180.00 |
| 6,802.06 | 0.00 | 0.00 | 6,776.05 | 197.00 | 492.00 | 243.57 | 0.00 | 0.00 | 0.00 | 0.00 |
| Begin Build @ 6802.06ft - Turkey Springs 1N-14HZ_DPtgt2 | | | | | | | | | | |
| 6,900.00 | 9.79 | 0.10 | 6,873.52 | 205.35 | 492.01 | 251.89 | 10.00 | 10.00 | 0.00 | 0.10 |
| 7,000.00 | 19.79 | 0.10 | 6,970.08 | 230.85 | 492.06 | 277.28 | 10.00 | 10.00 | 0.00 | 0.00 |
| 7,100.00 | 29.79 | 0.10 | 7,060.75 | 272.74 | 492.13 | 318.97 | 10.00 | 10.00 | 0.00 | 0.00 |
| 7,200.00 | 39.79 | 0.10 | 7,142.76 | 329.73 | 492.23 | 375.70 | 10.00 | 10.00 | 0.00 | 0.00 |
| Build Rate = 10.00/100ft | | | | | | | | | | |
| 7,300.00 | 49.79 | 0.10 | 7,213.64 | 400.09 | 492.35 | 445.75 | 10.00 | 10.00 | 0.00 | 0.00 |
| 7,302.12 | 50.01 | 0.10 | 7,215.00 | 401.71 | 492.35 | 447.37 | 10.00 | 10.00 | 0.00 | 0.00 |
| Sharon Springs | | | | | | | | | | |
| 7,400.00 | 59.79 | 0.10 | 7,271.21 | 481.70 | 492.48 | 526.99 | 10.00 | 10.00 | 0.00 | 0.00 |
| 7,417.95 | 61.59 | 0.10 | 7,280.00 | 497.35 | 492.51 | 542.57 | 10.00 | 10.00 | 0.00 | 0.00 |
| Niobrara A | | | | | | | | | | |
| 7,500.00 | 69.79 | 0.10 | 7,313.75 | 572.06 | 492.64 | 616.95 | 10.00 | 10.00 | 0.00 | 0.00 |
| 7,500.73 | 69.87 | 0.10 | 7,314.00 | 572.75 | 492.64 | 617.63 | 10.00 | 10.00 | 0.00 | 0.00 |
| Niobrara B | | | | | | | | | | |
| 7,600.00 | 79.79 | 0.10 | 7,339.94 | 668.44 | 492.80 | 712.89 | 10.00 | 10.00 | 0.00 | 0.00 |
| 7,699.07 | 89.70 | 0.10 | 7,349.00 | 766.97 | 492.97 | 810.97 | 10.00 | 10.00 | 0.00 | 0.00 |
| Niobrara B TL - Heel | | | | | | | | | | |
| 7,700.00 | 89.79 | 0.10 | 7,349.00 | 767.90 | 492.97 | 811.90 | 10.00 | 10.00 | 0.00 | 0.00 |
| 7,704.67 | 90.26 | 0.10 | 7,349.00 | 772.57 | 492.98 | 816.55 | 10.00 | 10.00 | 0.00 | 0.00 |
| End Build @ 7704.67ft - 7" Intermediate Casing | | | | | | | | | | |
| 7,800.00 | 90.26 | 0.10 | 7,348.57 | 867.90 | 493.14 | 911.45 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7,900.00 | 90.26 | 0.10 | 7,348.11 | 967.90 | 493.31 | 1,011.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,000.00 | 90.26 | 0.10 | 7,347.66 | 1,067.90 | 493.48 | 1,110.55 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,100.00 | 90.26 | 0.10 | 7,347.20 | 1,167.90 | 493.65 | 1,210.09 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,200.00 | 90.26 | 0.10 | 7,346.74 | 1,267.89 | 493.82 | 1,309.64 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,300.00 | 90.26 | 0.10 | 7,346.29 | 1,367.89 | 493.99 | 1,409.19 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,400.00 | 90.26 | 0.10 | 7,345.83 | 1,467.89 | 494.16 | 1,508.74 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,500.00 | 90.26 | 0.10 | 7,345.38 | 1,567.89 | 494.33 | 1,608.29 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,600.00 | 90.26 | 0.10 | 7,344.92 | 1,667.89 | 494.50 | 1,707.84 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,700.00 | 90.26 | 0.10 | 7,344.46 | 1,767.89 | 494.67 | 1,807.38 | 0.00 | 0.00 | 0.00 | 0.00 |

Plan Report for Turkey Springs 1N-14HZ - Plan A Rev 0 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 (°) |
|-----------------------------------|-----------------|-------------|---------------------|-----------|-----------|-----------------------|-----------------------|----------------------|---------------------|----------------------|
| 8,800.00 | 90.26 | 0.10 | 7,344.01 | 1,867.89 | 494.84 | 1,906.93 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8,900.00 | 90.26 | 0.10 | 7,343.55 | 1,967.89 | 495.01 | 2,006.48 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,000.00 | 90.26 | 0.10 | 7,343.10 | 2,067.88 | 495.18 | 2,106.03 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,100.00 | 90.26 | 0.10 | 7,342.64 | 2,167.88 | 495.35 | 2,205.58 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,200.00 | 90.26 | 0.10 | 7,342.18 | 2,267.88 | 495.52 | 2,305.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,300.00 | 90.26 | 0.10 | 7,341.73 | 2,367.88 | 495.69 | 2,404.67 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,400.00 | 90.26 | 0.10 | 7,341.27 | 2,467.88 | 495.86 | 2,504.22 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,500.00 | 90.26 | 0.10 | 7,340.82 | 2,567.88 | 496.03 | 2,603.77 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,600.00 | 90.26 | 0.10 | 7,340.36 | 2,667.88 | 496.20 | 2,703.32 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,700.00 | 90.26 | 0.10 | 7,339.91 | 2,767.88 | 496.37 | 2,802.87 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,800.00 | 90.26 | 0.10 | 7,339.45 | 2,867.88 | 496.54 | 2,902.41 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9,900.00 | 90.26 | 0.10 | 7,338.99 | 2,967.87 | 496.71 | 3,001.96 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,000.00 | 90.26 | 0.10 | 7,338.54 | 3,067.87 | 496.88 | 3,101.51 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,100.00 | 90.26 | 0.10 | 7,338.08 | 3,167.87 | 497.05 | 3,201.06 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,200.00 | 90.26 | 0.10 | 7,337.63 | 3,267.87 | 497.22 | 3,300.61 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,300.00 | 90.26 | 0.10 | 7,337.17 | 3,367.87 | 497.39 | 3,400.16 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,400.00 | 90.26 | 0.10 | 7,336.71 | 3,467.87 | 497.56 | 3,499.70 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,500.00 | 90.26 | 0.10 | 7,336.26 | 3,567.87 | 497.73 | 3,599.25 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,600.00 | 90.26 | 0.10 | 7,335.80 | 3,667.87 | 497.90 | 3,698.80 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,700.00 | 90.26 | 0.10 | 7,335.35 | 3,767.86 | 498.07 | 3,798.35 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,800.00 | 90.26 | 0.10 | 7,334.89 | 3,867.86 | 498.24 | 3,897.90 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10,900.00 | 90.26 | 0.10 | 7,334.43 | 3,967.86 | 498.41 | 3,997.44 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,000.00 | 90.26 | 0.10 | 7,333.98 | 4,067.86 | 498.58 | 4,096.99 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,100.00 | 90.26 | 0.10 | 7,333.52 | 4,167.86 | 498.75 | 4,196.54 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,200.00 | 90.26 | 0.10 | 7,333.07 | 4,267.86 | 498.92 | 4,296.09 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,300.00 | 90.26 | 0.10 | 7,332.61 | 4,367.86 | 499.09 | 4,395.64 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,400.00 | 90.26 | 0.10 | 7,332.15 | 4,467.86 | 499.26 | 4,495.19 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,500.00 | 90.26 | 0.10 | 7,331.70 | 4,567.86 | 499.43 | 4,594.73 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,600.00 | 90.26 | 0.10 | 7,331.24 | 4,667.85 | 499.60 | 4,694.28 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,700.00 | 90.26 | 0.10 | 7,330.79 | 4,767.85 | 499.77 | 4,793.83 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,800.00 | 90.26 | 0.10 | 7,330.33 | 4,867.85 | 499.94 | 4,893.38 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11,900.00 | 90.26 | 0.10 | 7,329.88 | 4,967.85 | 500.11 | 4,992.93 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,000.00 | 90.26 | 0.10 | 7,329.42 | 5,067.85 | 500.28 | 5,092.47 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12,092.02 | 90.26 | 0.10 | 7,329.00 | 5,159.87 | 500.43 | 5,184.08 | 0.00 | 0.00 | 0.00 | 0.00 |
| Niobrara B TL - Toe | | | | | | | | | | |
| 12,092.03 | 90.26 | 0.10 | 7,329.00 | 5,159.88 | 500.43 | 5,184.09 | 0.00 | 0.00 | 0.00 | 0.00 |
| Turkey Springs 1N-14HZ_BHL | | | | | | | | | | |

Plan Annotations

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates | | Comment |
|---------------------|---------------------|-------------------|-----------|--------------------------|
| | | +N-S (ft) | +E-W (ft) | |
| 1,100.00 | 1,100.00 | 0.00 | 0.00 | Begin Nudge @ 1100.00ft |
| 1,200.00 | 1,199.98 | 0.65 | 1.62 | Nudge Rate = 2.00/100ft |
| 1,386.07 | 1,385.59 | 5.30 | 13.25 | End Nudge @ 1386.07ft |
| 4,000.00 | 3,986.50 | 102.17 | 255.16 | Hold Angle @ 5.72 |
| 6,415.99 | 6,390.46 | 191.70 | 478.75 | Begin Drop @ 6415.99ft |
| 6,500.00 | 6,474.16 | 194.35 | 485.39 | Drop Rate = 2.00/100ft |
| 6,702.06 | 6,676.05 | 197.00 | 492.00 | End Drop @ 6702.06ft |
| 6,802.06 | 6,776.05 | 197.00 | 492.00 | Begin Build @ 6802.06ft |
| 7,200.00 | 7,142.76 | 329.73 | 492.23 | Build Rate = 10.00/100ft |
| 7,704.67 | 7,349.00 | 772.57 | 492.98 | End Build @ 7704.67ft |
| 12,092.03 | 7,329.00 | 5,159.88 | 500.43 | Total Depth @ 12092.03ft |

Plan Report for Turkey Springs 1N-14HZ - Plan A Rev 0 Permit

Vertical Section Information

| Angle Type | Target | Azimuth (°) | Origin Type | Origin +N/_S (ft) | Origin +E/-W (ft) | Start TVD (ft) |
|---------------|-------------------------------|----------------|----------------|-------------------------|-------------------------|----------------------|
| Target | Turkey Springs 1N-14HZ_BHL | 5.54 | Slot | 0.00 | 0.00 | 0.00 |

Survey tool program

| From (ft) | To (ft) | Survey/Plan | Survey Tool |
|--------------|------------|---------------------|-------------|
| 0.00 | 12,092.03 | Plan A Rev 0 Permit | MWD |

Casing Details

| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (") | Hole Diameter (") |
|---------------------------|---------------------------|------------------------|---------------------------|-------------------------|
| 7,704.67 | 7,349.00 | 7" Intermediate Casing | 7 | 8-3/4 |

Formation Details

| Measured Depth (ft) | Vertical Depth (ft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|---------------------------|---------------------------|----------------------|-----------|------------|-------------------------|
| 4,234.67 | 4,220.00 | Parkman | | 0.00 | |
| 4,627.62 | 4,611.00 | Sussex | | 0.00 | |
| 7,302.12 | 7,215.00 | Sharon Springs | | 0.00 | |
| 7,417.95 | 7,280.00 | Niobrara A | | 0.00 | |
| 7,500.73 | 7,314.00 | Niobrara B | | 0.00 | |
| 7,699.07 | 7,349.00 | Niobrara B TL - Heel | | 0.00 | |
| 12,092.02 | 7,329.00 | Niobrara B TL - Toe | | 0.00 | |

Targets associated with this wellbore

| Target Name | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Shape |
|-------------------------------|-------------|---------------|---------------|---------|
| Turkey Springs 1N-14HZ_Sec23 | 0.00 | 0.00 | 0.00 | Polygon |
| Turkey Springs 1N-14HZ_SHL | 0.00 | 0.00 | 0.00 | Point |
| Turkey Springs 1N-14HZ_DPtgt | 6,676.05 | 197.00 | 492.00 | Point |
| Turkey Springs 1N-14HZ_Sec22 | 0.00 | 0.00 | 0.00 | Polygon |
| Turkey Springs 1N-14HZ_DPtgt2 | 6,776.05 | 197.00 | 492.00 | Point |
| Turkey Springs 1N-14HZ_BHL | 7,329.00 | 5,159.88 | 500.43 | Point |
| Turkey Springs 1N-14HZ_SB23 | 0.00 | 0.00 | 0.00 | Polygon |
| Turkey Springs 1N-14HZ_SB22 | 0.00 | 0.00 | 0.00 | Polygon |

North Reference Sheet for Sec. 23-T2N-R66W - Turkey Springs 1N-14HZ - Plan A Rev 0

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 @ 5119.00ft (Drilling Rig). Northing and Easting are relative to Turkey Springs 1N-14HZ
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: 0.99995905

Grid Coordinates of Well: 1,291,187.58 ft N, 3,213,039.20 ft E
Geographical Coordinates of Well: 40° 07' 48.69" N, 104° 44' 17.16" W
Grid Convergence at Surface is: 0.49°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,092.03ft
the Bottom Hole Displacement is 5,184.09ft in the Direction of 5.54° (True).

Magnetic Convergence at surface is: -8.19° (26 November 2012, , BGGM2012)

