

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 3-T2N-R66W

Cannon 15N-3HZ

Plan A Rev 0

Plan: Plan A Rev 0 Permit

Sperry Drilling Services

Proposal Report

16 October, 2012

Well Coordinates: 1,306,742.47 N, 3,207,621.09 E (40° 10' 22.86" N, 104° 45' 25.23" W)

Ground Level: 5,022.00 ft

Local Coordinate Origin:

Centered on Well Cannon 15N-3HZ

Viewing Datum:

RKB=17 @ 5039.00ft (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. 3-T2N-R66W
Well: Cannon 15N-3HZ
Wellbore: Plan A Rev 0
Design: Plan A Rev 0 Permit

Anadarko Petroleum Corp.

HALLIBURTON
Sperry Drilling

SECTION DETAILS

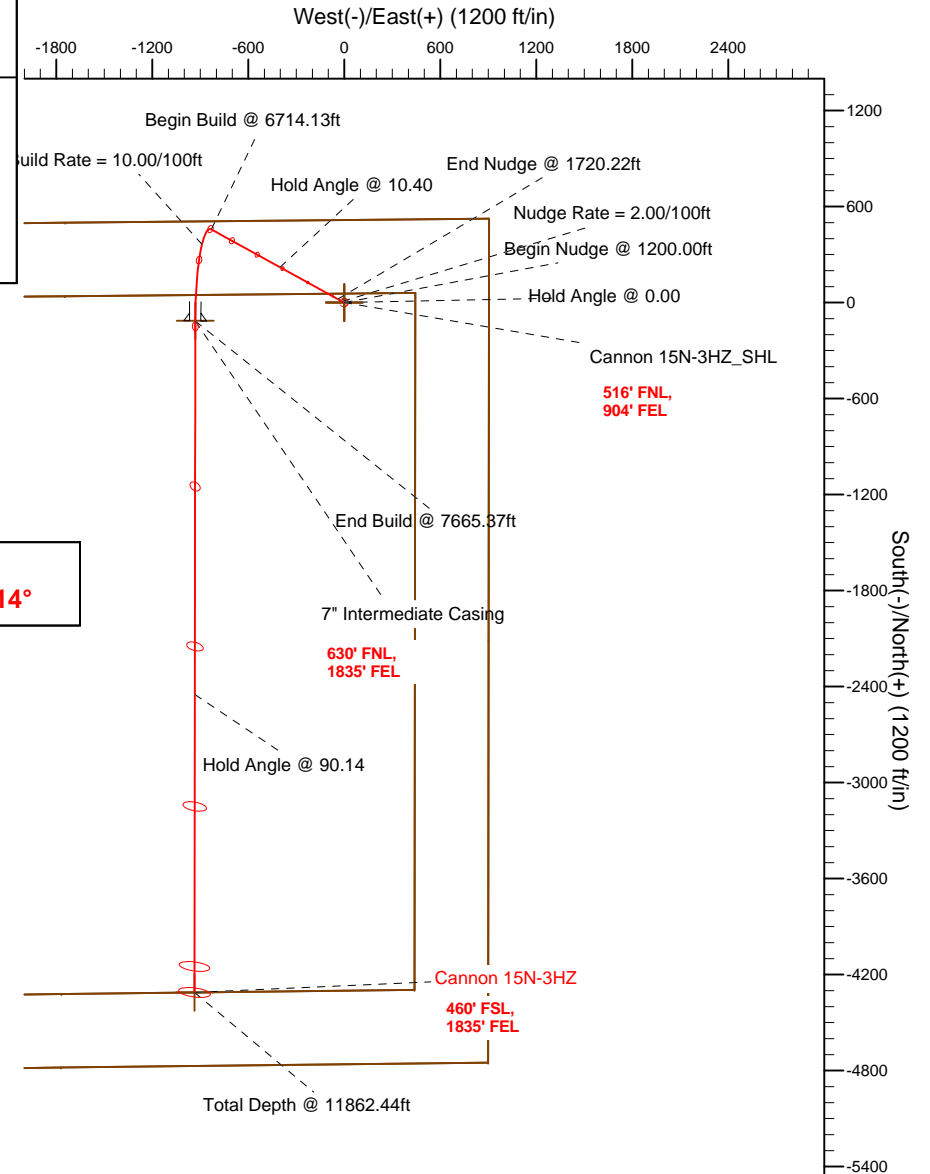
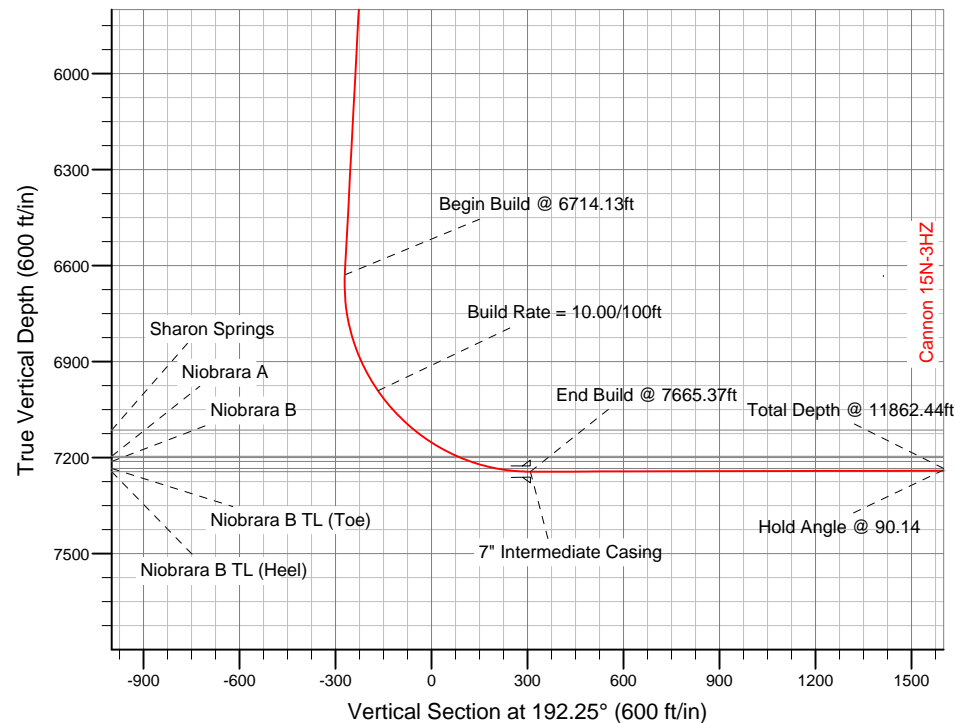
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	0.00	0.00	
3	1720.22	10.40	298.86	1717.37	22.73	-41.25	2.00	298.86	-13.46	
4	6714.13	10.40	298.86	6629.16	458.01	-831.13	0.00	0.00	-271.23	
5	7665.37	90.14	180.07	7244.00	-114.00	-931.00	10.00	-118.37	308.95	Cannon 15N-3HZ_Casing Point
6	11862.44	90.14	180.07	7234.00	-4311.06	-936.06	0.00	0.00	4411.51	Cannon 15N-3HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Cannon 15N-3HZ_Section Line	0.00	0.00	0.00	40.173016	-104.757009	Polygon
Cannon 15N-3HZ_Setback Line	0.00	0.00	0.00	40.173016	-104.757009	Polygon
Cannon 15N-3HZ_SHL	0.00	0.00	0.00	40.173016	-104.757009	Point
Cannon 15N-3HZ_BHL	7234.00	-4311.06	-936.06	40.161182	-104.760358	Point
Cannon 15N-3HZ_Casing Point	7244.00	-114.00	-931.00	40.172703	-104.760340	Point

Target Line:

7244.59' TVDkb @ 0° VS Drilling 90.14°



WELL DETAILS: Cannon 15N-3HZ

Ground Level: 5022.00 RKB=17 @ 5039.00ft (Drilling Rig)

Plan: Plan A Rev 0 Permit (Cannon 15N-3HZ/Plan A Rev 0)

Created By: Fred Hartmann

Date: 10/16/2012

Reviewed: _____

Date: _____

Plan Report for Cannon 15N-3HZ - 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
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
Hold Angle @ 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
Begin Nudge @ 1200.00ft										
1,300.00	2.00	298.86	1,299.98	0.84	-1.53	-0.50	2.00	2.00	0.00	298.86
1,400.00	4.00	298.86	1,399.84	3.37	-6.11	-1.99	2.00	2.00	0.00	0.00
1,500.00	6.00	298.86	1,499.45	7.57	-13.74	-4.49	2.00	2.00	0.00	0.00
Nudge Rate = 2.00/100ft										
1,600.00	8.00	298.86	1,598.70	13.46	-24.42	-7.97	2.00	2.00	0.00	0.00
1,700.00	10.00	298.86	1,697.47	21.01	-38.12	-12.44	2.00	2.00	0.00	0.00
1,720.22	10.40	298.86	1,717.37	22.73	-41.25	-13.46	2.00	2.00	0.00	0.00
End Nudge @ 1720.22ft										
1,800.00	10.40	298.86	1,795.83	29.69	-53.87	-17.58	0.00	0.00	0.00	0.00
1,900.00	10.40	298.86	1,894.19	38.40	-69.69	-22.74	0.00	0.00	0.00	0.00
2,000.00	10.40	298.86	1,992.55	47.12	-85.51	-27.90	0.00	0.00	0.00	0.00
2,100.00	10.40	298.86	2,090.90	55.84	-101.32	-33.07	0.00	0.00	0.00	0.00
2,200.00	10.40	298.86	2,189.26	64.55	-117.14	-38.23	0.00	0.00	0.00	0.00
2,300.00	10.40	298.86	2,287.61	73.27	-132.96	-43.39	0.00	0.00	0.00	0.00
2,400.00	10.40	298.86	2,385.97	81.99	-148.77	-48.55	0.00	0.00	0.00	0.00
2,500.00	10.40	298.86	2,484.32	90.70	-164.59	-53.71	0.00	0.00	0.00	0.00
2,600.00	10.40	298.86	2,582.68	99.42	-180.41	-58.87	0.00	0.00	0.00	0.00
2,700.00	10.40	298.86	2,681.04	108.13	-196.22	-64.04	0.00	0.00	0.00	0.00
2,800.00	10.40	298.86	2,779.39	116.85	-212.04	-69.20	0.00	0.00	0.00	0.00
2,900.00	10.40	298.86	2,877.75	125.57	-227.86	-74.36	0.00	0.00	0.00	0.00
3,000.00	10.40	298.86	2,976.10	134.28	-243.67	-79.52	0.00	0.00	0.00	0.00
3,100.00	10.40	298.86	3,074.46	143.00	-259.49	-84.68	0.00	0.00	0.00	0.00
3,200.00	10.40	298.86	3,172.81	151.72	-275.31	-89.84	0.00	0.00	0.00	0.00
3,300.00	10.40	298.86	3,271.17	160.43	-291.13	-95.01	0.00	0.00	0.00	0.00
3,380.15	10.40	298.86	3,350.00	167.42	-303.80	-99.14	0.00	0.00	0.00	0.00
Parkman										
3,400.00	10.40	298.86	3,369.53	169.15	-306.94	-100.17	0.00	0.00	0.00	0.00
3,500.00	10.40	298.86	3,467.88	177.86	-322.76	-105.33	0.00	0.00	0.00	0.00
3,600.00	10.40	298.86	3,566.24	186.58	-338.58	-110.49	0.00	0.00	0.00	0.00
3,700.00	10.40	298.86	3,664.59	195.30	-354.39	-115.65	0.00	0.00	0.00	0.00
3,800.00	10.40	298.86	3,762.95	204.01	-370.21	-120.81	0.00	0.00	0.00	0.00
3,900.00	10.40	298.86	3,861.30	212.73	-386.03	-125.98	0.00	0.00	0.00	0.00
4,000.00	10.40	298.86	3,959.66	221.45	-401.84	-131.14	0.00	0.00	0.00	0.00
Hold Angle @ 10.40										
4,100.00	10.40	298.86	4,058.02	230.16	-417.66	-136.30	0.00	0.00	0.00	0.00
4,200.00	10.40	298.86	4,156.37	238.88	-433.48	-141.46	0.00	0.00	0.00	0.00
4,300.00	10.40	298.86	4,254.73	247.59	-449.29	-146.62	0.00	0.00	0.00	0.00
4,400.00	10.40	298.86	4,353.08	256.31	-465.11	-151.78	0.00	0.00	0.00	0.00
4,500.00	10.40	298.86	4,451.44	265.03	-480.93	-156.95	0.00	0.00	0.00	0.00
4,552.42	10.40	298.86	4,503.00	269.60	-489.22	-159.65	0.00	0.00	0.00	0.00
Sussex										
4,600.00	10.40	298.86	4,549.80	273.74	-496.74	-162.11	0.00	0.00	0.00	0.00

Plan Report for Cannon 15N-3HZ - 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	10.40	298.86	4,648.15	282.46	-512.56	-167.27	0.00	0.00	0.00	0.00
4,800.00	10.40	298.86	4,746.51	291.17	-528.38	-172.43	0.00	0.00	0.00	0.00
4,900.00	10.40	298.86	4,844.86	299.89	-544.19	-177.59	0.00	0.00	0.00	0.00
5,000.00	10.40	298.86	4,943.22	308.61	-560.01	-182.75	0.00	0.00	0.00	0.00
5,100.00	10.40	298.86	5,041.57	317.32	-575.83	-187.92	0.00	0.00	0.00	0.00
5,200.00	10.40	298.86	5,139.93	326.04	-591.64	-193.08	0.00	0.00	0.00	0.00
5,300.00	10.40	298.86	5,238.29	334.76	-607.46	-198.24	0.00	0.00	0.00	0.00
5,400.00	10.40	298.86	5,336.64	343.47	-623.28	-203.40	0.00	0.00	0.00	0.00
5,500.00	10.40	298.86	5,435.00	352.19	-639.10	-208.56	0.00	0.00	0.00	0.00
5,600.00	10.40	298.86	5,533.35	360.90	-654.91	-213.72	0.00	0.00	0.00	0.00
5,700.00	10.40	298.86	5,631.71	369.62	-670.73	-218.89	0.00	0.00	0.00	0.00
5,800.00	10.40	298.86	5,730.06	378.34	-686.55	-224.05	0.00	0.00	0.00	0.00
5,900.00	10.40	298.86	5,828.42	387.05	-702.36	-229.21	0.00	0.00	0.00	0.00
6,000.00	10.40	298.86	5,926.78	395.77	-718.18	-234.37	0.00	0.00	0.00	0.00
6,100.00	10.40	298.86	6,025.13	404.49	-734.00	-239.53	0.00	0.00	0.00	0.00
6,200.00	10.40	298.86	6,123.49	413.20	-749.81	-244.69	0.00	0.00	0.00	0.00
6,300.00	10.40	298.86	6,221.84	421.92	-765.63	-249.86	0.00	0.00	0.00	0.00
6,400.00	10.40	298.86	6,320.20	430.63	-781.45	-255.02	0.00	0.00	0.00	0.00
6,500.00	10.40	298.86	6,418.55	439.35	-797.26	-260.18	0.00	0.00	0.00	0.00
6,600.00	10.40	298.86	6,516.91	448.07	-813.08	-265.34	0.00	0.00	0.00	0.00
6,700.00	10.40	298.86	6,615.27	456.78	-828.90	-270.50	0.00	0.00	0.00	0.00
6,714.13	10.40	298.86	6,629.16	458.01	-831.13	-271.23	0.00	0.00	0.00	0.00
Begin Build @ 6714.13ft										
6,800.00	9.82	248.48	6,713.86	459.07	-844.76	-269.37	10.00	-0.68	-58.66	-118.37
6,900.00	16.34	213.39	6,811.35	444.16	-860.48	-251.47	10.00	6.52	-35.10	-68.68
7,000.00	25.22	200.08	6,904.81	412.33	-875.57	-217.16	10.00	8.88	-13.31	-34.39
7,100.00	34.68	193.54	6,991.38	364.54	-889.58	-167.48	10.00	9.47	-6.54	-21.90
Build Rate = 10.00/100ft										
7,200.00	44.36	189.56	7,068.44	302.25	-902.08	-103.96	10.00	9.68	-3.98	-16.22
7,267.69	50.97	187.59	7,114.00	252.79	-909.49	-54.06	10.00	9.77	-2.92	-13.14
Sharon Springs										
7,300.00	54.14	186.77	7,133.64	227.35	-912.70	-28.51	10.00	9.80	-2.52	-11.80
7,400.00	63.96	184.60	7,185.01	142.11	-921.10	56.57	10.00	9.83	-2.17	-11.31
7,426.25	66.55	184.10	7,196.00	118.35	-922.91	80.18	10.00	9.85	-1.93	-10.19
Niobrara A										
7,470.34	70.89	183.29	7,212.00	77.35	-925.55	120.79	10.00	9.85	-1.83	-9.98
Niobrara B										
7,500.00	73.82	182.77	7,220.99	49.13	-927.04	148.69	10.00	9.86	-1.75	-9.68
7,600.00	83.68	181.11	7,240.48	-48.77	-930.33	245.06	10.00	9.87	-1.66	-9.52
7,665.37	90.14	180.07	7,244.00	-114.00	-931.00	308.95	10.00	9.87	-1.60	-9.20
End Build @ 7665.37ft - Niobrara B TL (Heel) - 7" Intermediate Casing - Cannon 15N-3HZ_Casing Point										
7,700.00	90.14	180.07	7,243.92	-148.63	-931.04	342.80	0.00	0.00	0.00	-9.14
7,800.00	90.14	180.07	7,243.68	-248.63	-931.16	440.55	0.00	0.00	0.00	0.00
7,900.00	90.14	180.07	7,243.44	-348.63	-931.28	538.30	0.00	0.00	0.00	0.00
8,000.00	90.14	180.07	7,243.20	-448.63	-931.40	636.04	0.00	0.00	0.00	0.00
8,100.00	90.14	180.07	7,242.96	-548.63	-931.52	733.79	0.00	0.00	0.00	0.00
8,200.00	90.14	180.07	7,242.73	-648.63	-931.64	831.54	0.00	0.00	0.00	0.00
8,300.00	90.14	180.07	7,242.49	-748.63	-931.76	929.29	0.00	0.00	0.00	0.00
8,400.00	90.14	180.07	7,242.25	-848.63	-931.89	1,027.04	0.00	0.00	0.00	0.00
8,500.00	90.14	180.07	7,242.01	-948.63	-932.01	1,124.79	0.00	0.00	0.00	0.00
8,600.00	90.14	180.07	7,241.77	-1,048.63	-932.13	1,222.53	0.00	0.00	0.00	0.00
8,700.00	90.14	180.07	7,241.53	-1,148.63	-932.25	1,320.28	0.00	0.00	0.00	0.00
8,800.00	90.14	180.07	7,241.30	-1,248.63	-932.37	1,418.03	0.00	0.00	0.00	0.00
8,900.00	90.14	180.07	7,241.06	-1,348.63	-932.49	1,515.78	0.00	0.00	0.00	0.00
9,000.00	90.14	180.07	7,240.82	-1,448.63	-932.61	1,613.53	0.00	0.00	0.00	0.00
9,100.00	90.14	180.07	7,240.58	-1,548.63	-932.73	1,711.27	0.00	0.00	0.00	0.00
9,200.00	90.14	180.07	7,240.34	-1,648.63	-932.85	1,809.02	0.00	0.00	0.00	0.00
9,300.00	90.14	180.07	7,240.11	-1,748.63	-932.97	1,906.77	0.00	0.00	0.00	0.00
9,400.00	90.14	180.07	7,239.87	-1,848.63	-933.09	2,004.52	0.00	0.00	0.00	0.00

Plan Report for Cannon 15N-3HZ - 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 (°)
9,500.00	90.14	180.07	7,239.63	-1,948.62	-933.21	2,102.27	0.00	0.00	0.00	0.00
9,600.00	90.14	180.07	7,239.39	-2,048.62	-933.33	2,200.02	0.00	0.00	0.00	0.00
9,700.00	90.14	180.07	7,239.15	-2,148.62	-933.45	2,297.76	0.00	0.00	0.00	0.00
9,800.00	90.14	180.07	7,238.91	-2,248.62	-933.57	2,395.51	0.00	0.00	0.00	0.00
9,900.00	90.14	180.07	7,238.68	-2,348.62	-933.69	2,493.26	0.00	0.00	0.00	0.00
10,000.00	90.14	180.07	7,238.44	-2,448.62	-933.81	2,591.01	0.00	0.00	0.00	0.00
Hold Angle @ 90.14										
10,100.00	90.14	180.07	7,238.20	-2,548.62	-933.93	2,688.76	0.00	0.00	0.00	0.00
10,200.00	90.14	180.07	7,237.96	-2,648.62	-934.05	2,786.50	0.00	0.00	0.00	0.00
10,300.00	90.14	180.07	7,237.72	-2,748.62	-934.17	2,884.25	0.00	0.00	0.00	0.00
10,400.00	90.14	180.07	7,237.48	-2,848.62	-934.29	2,982.00	0.00	0.00	0.00	0.00
10,500.00	90.14	180.07	7,237.25	-2,948.62	-934.42	3,079.75	0.00	0.00	0.00	0.00
10,600.00	90.14	180.07	7,237.01	-3,048.62	-934.54	3,177.50	0.00	0.00	0.00	0.00
10,700.00	90.14	180.07	7,236.77	-3,148.62	-934.66	3,275.24	0.00	0.00	0.00	0.00
10,800.00	90.14	180.07	7,236.53	-3,248.62	-934.78	3,372.99	0.00	0.00	0.00	0.00
10,900.00	90.14	180.07	7,236.29	-3,348.62	-934.90	3,470.74	0.00	0.00	0.00	0.00
11,000.00	90.14	180.07	7,236.05	-3,448.62	-935.02	3,568.49	0.00	0.00	0.00	0.00
11,100.00	90.14	180.07	7,235.82	-3,548.62	-935.14	3,666.24	0.00	0.00	0.00	0.00
11,200.00	90.14	180.07	7,235.58	-3,648.62	-935.26	3,763.99	0.00	0.00	0.00	0.00
11,300.00	90.14	180.07	7,235.34	-3,748.62	-935.38	3,861.73	0.00	0.00	0.00	0.00
11,400.00	90.14	180.07	7,235.10	-3,848.62	-935.50	3,959.48	0.00	0.00	0.00	0.00
11,500.00	90.14	180.07	7,234.86	-3,948.62	-935.62	4,057.23	0.00	0.00	0.00	0.00
11,600.00	90.14	180.07	7,234.63	-4,048.62	-935.74	4,154.98	0.00	0.00	0.00	0.00
11,700.00	90.14	180.07	7,234.39	-4,148.62	-935.86	4,252.73	0.00	0.00	0.00	0.00
11,800.00	90.14	180.07	7,234.15	-4,248.62	-935.98	4,350.47	0.00	0.00	0.00	0.00
11,862.43	90.14	180.07	7,234.00	-4,311.05	-936.06	4,411.50	0.00	0.00	0.00	0.00
Niobrara B TL (Toe)										
11,862.44	90.14	180.07	7,234.00	-4,311.06	-936.06	4,411.51	0.00	0.00	0.00	0.00
Total Depth @ 11862.44ft - Cannon 15N-3HZ_BHL										

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
600.00	600.00	0.00	0.00	Hold Angle @ 0.00
1,200.00	1,200.00	0.00	0.00	Begin Nudge @ 1200.00ft
1,500.00	1,499.45	7.57	-13.74	Nudge Rate = 2.00/100ft
1,720.22	1,717.37	22.73	-41.25	End Nudge @ 1720.22ft
4,000.00	3,959.66	221.45	-401.84	Hold Angle @ 10.40
6,714.13	6,629.16	458.01	-831.13	Begin Build @ 6714.13ft
7,100.00	6,991.38	364.54	-889.58	Build Rate = 10.00/100ft
7,665.37	7,244.00	-114.00	-931.00	End Build @ 7665.37ft
10,000.00	7,238.44	-2,448.62	-933.81	Hold Angle @ 90.14
11,862.44	7,234.00	-4,311.06	-936.06	Total Depth @ 11862.44ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N/-S (ft)	+E/-W (ft)	
Target	Cannon 15N-3HZ_BHL	192.25	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	7,665.37	Plan A Rev 0 Permit	MWD
7,665.37	11,862.44	Plan A Rev 0 Permit	MWD

Plan Report for Cannon 15N-3HZ - Plan A Rev 0 Permit**Casing Details**

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,665.37	7,244.00	7" Intermediate Casing	7	8-3/4

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,380.15	3,350.00	Parkman		0.00	
4,552.42	4,503.00	Sussex		0.00	
7,267.69	7,114.00	Sharon Springs		0.00	
7,426.25	7,196.00	Niobrara A		0.00	
7,470.34	7,212.00	Niobrara B		0.00	
7,665.37	7,244.00	Niobrara B TL (Heel)		0.00	
11,862.43	7,234.00	Niobrara B TL (Toe)		0.00	

Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Cannon 15N-3HZ_SHL	0.00	0.00	0.00	Point
Cannon 15N-3HZ_Casing Point	7,244.00	-114.00	-931.00	Point
Cannon 15N-3HZ_BHL	7,234.00	-4,311.06	-936.06	Point
Cannon 15N-3HZ_Setback Line	0.00	0.00	0.00	Polygon
Cannon 15N-3HZ_Section Line	0.00	0.00	0.00	Polygon

North Reference Sheet for Sec. 3-T2N-R66W - Cannon 15N-3HZ - 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 @ 5039.00ft (Drilling Rig). Northing and Easting are relative to Cannon 15N-3HZ
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: 0.99995776

Grid Coordinates of Well: 1,306,742.47 ft N, 3,207,621.09 ft E
Geographical Coordinates of Well: 40° 10' 22.86" N, 104° 45' 25.23" W
Grid Convergence at Surface is: 0.48°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,862.44ft
the Bottom Hole Displacement is 4,411.51ft in the Direction of 192.25° (True).

Magnetic Convergence at surface is: -8.23° (16 October 2012, , BGGM2012)

