

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 22 T2N-R66W

Gobbler 37N-27HZ

Plan A Rev 0

Plan: Plan A Rev 0 Permit

Sperry Drilling Services

Proposal Report

09 October, 2012

Well Coordinates: 1,286,739.87 N, 3,206,661.30 E (40° 07' 05.27" N, 104° 45' 39.74" W)

Ground Level: 5,048.00 ft

Local Coordinate Origin:	Centered on Well Gobbler 37N-27HZ
Viewing Datum:	RKB=17 @ 5065.00ft (Drilling Rig)
TVDs to System:	N
North Reference:	True
Unit System:	API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 431

HALLIBURTON

Project: Weld County, CO (NAD 83)
 Site: Sec. 22 T2N-R66W
 Well: Gobbler 37N-27HZ
 Wellbore: Plan A Rev 0
 Design: Plan A Rev 0 Permit

Anadarko Petroleum Corp.



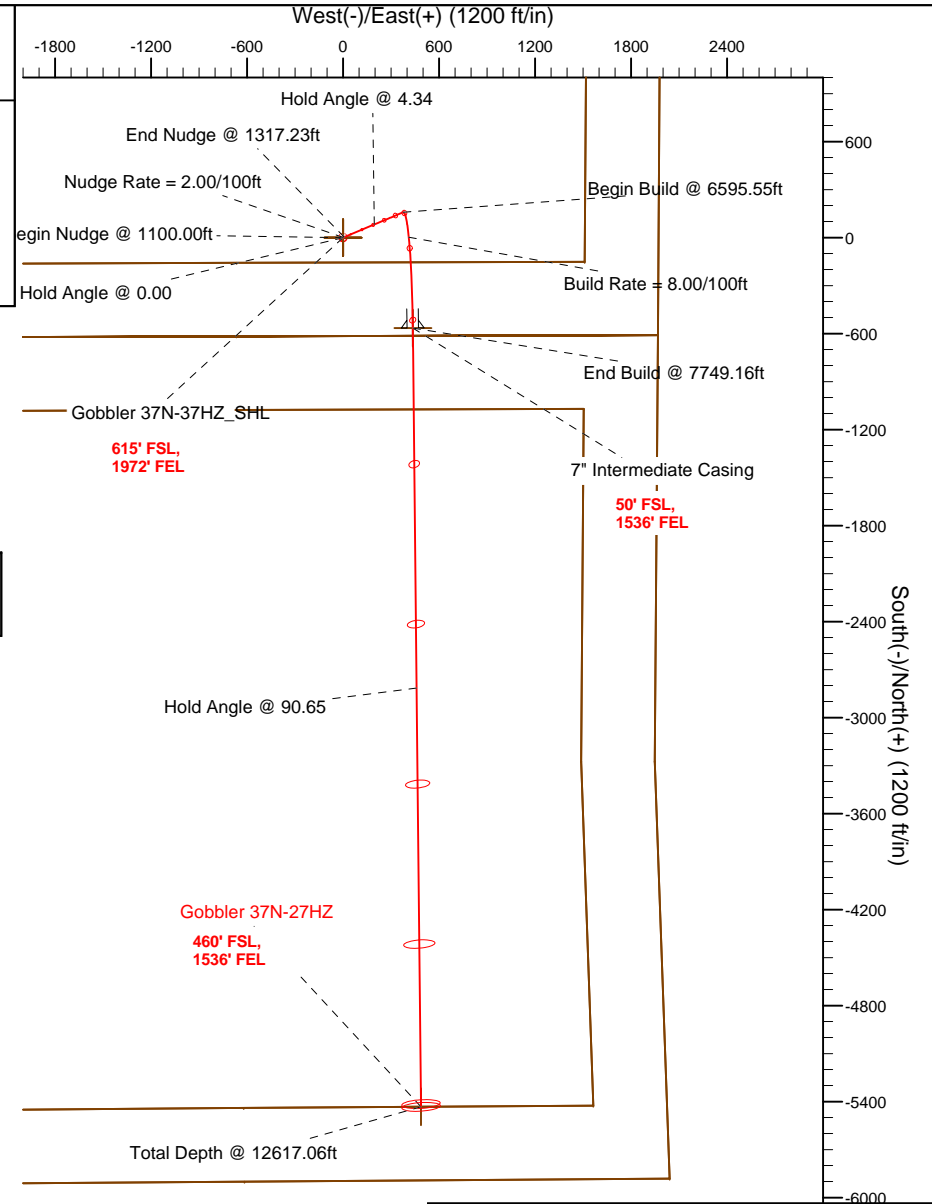
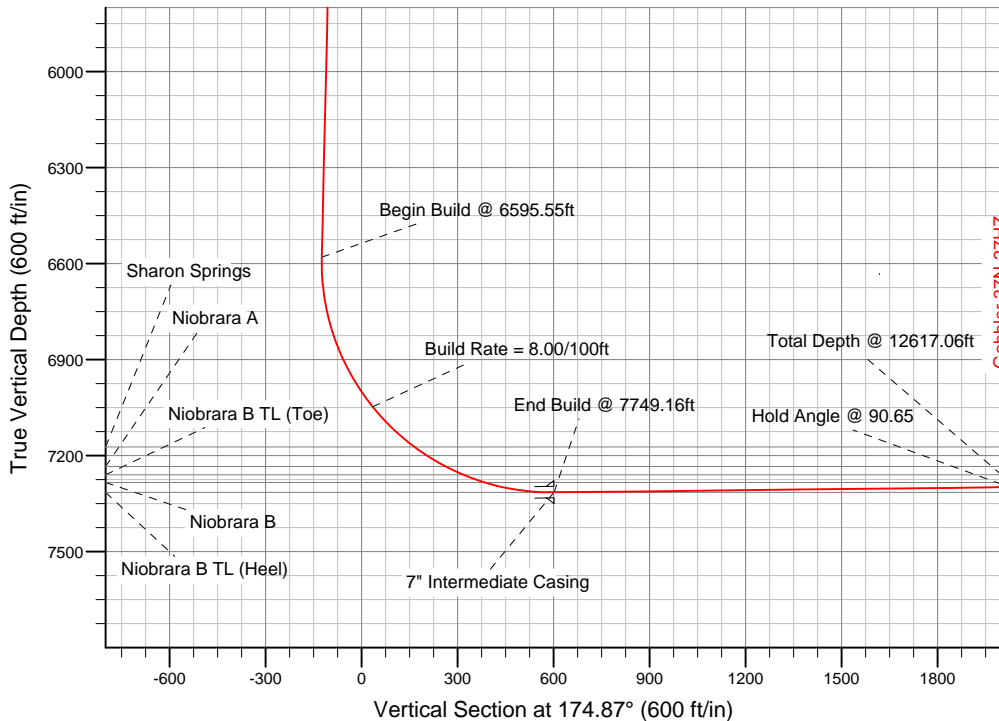
SECTION DETAILS

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	1317.23	4.34	67.16	1317.02	3.19	7.59	2.00	67.16	-2.50	
4	6595.55	4.34	67.16	6580.18	158.38	376.10	0.00	0.00	-124.15	
5	7749.16	90.65	179.40	7315.00	-565.00	436.00	8.00	112.13	601.70	Gobbler 37N-37HZ_Casing Point
6	12617.06	90.65	179.40	7260.00	-5432.32	487.31	0.00	0.00	5454.14	Gobbler 37N-37HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Gobbler 37N-37HZ_22 Setback Line	0.00	0.00	0.00	40.118130	-104.761040	Polygon
Gobbler 37N-37HZ_27 Setback Line	0.00	0.00	0.00	40.118130	-104.761040	Polygon
Gobbler 37N-37HZ_Sec 22/27 Line	0.00	0.00	0.00	40.118130	-104.761040	Polygon
Gobbler 37N-37HZ_Section Line	0.00	0.00	0.00	40.118130	-104.761040	Polygon
Gobbler 37N-37HZ_SHL	0.00	0.00	0.00	40.118130	-104.761040	Point
Gobbler 37N-37HZ_BHL	7260.00	-5432.32	487.31	40.103218	-104.759298	Point
Gobbler 37N-37HZ_Casing Point	7315.00	-565.00	436.00	40.116579	-104.759481	Point

Target Line:
7321.63' TVDkb @ 0' VS Drilling 90.65°



WELL DETAILS: Gobbler 37N-27HZ

Ground Level: 5048.00 RKB=17 @ 5065.00ft (Drilling Rig)

Plan: Plan A Rev 0 Permit (Gobbler 37N-27HZ/Plan A Rev 0)

Created By: Fred Hartmann Date: 10/08/2012
 Reviewed: _____ Date: _____

Plan Report for Gobbler 37N-27HZ - 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
Begin Nudge @ 1100.00ft										
1,200.00	2.00	67.16	1,199.98	0.68	1.61	-0.53	2.00	2.00	0.00	67.16
Nudge Rate = 2.00/100ft										
1,300.00	4.00	67.16	1,299.84	2.71	6.43	-2.12	2.00	2.00	0.00	0.00
1,317.23	4.34	67.16	1,317.02	3.19	7.59	-2.50	2.00	2.00	0.00	0.00
End Nudge @ 1317.23ft										
1,400.00	4.34	67.16	1,399.55	5.63	13.37	-4.41	0.00	0.00	0.00	0.00
1,500.00	4.34	67.16	1,499.27	8.57	20.35	-6.72	0.00	0.00	0.00	0.00
1,600.00	4.34	67.16	1,598.98	11.51	27.33	-9.02	0.00	0.00	0.00	0.00
1,700.00	4.34	67.16	1,698.69	14.45	34.31	-11.33	0.00	0.00	0.00	0.00
1,800.00	4.34	67.16	1,798.40	17.39	41.29	-13.63	0.00	0.00	0.00	0.00
1,900.00	4.34	67.16	1,898.12	20.33	48.27	-15.93	0.00	0.00	0.00	0.00
2,000.00	4.34	67.16	1,997.83	23.27	55.26	-18.24	0.00	0.00	0.00	0.00
2,100.00	4.34	67.16	2,097.54	26.21	62.24	-20.54	0.00	0.00	0.00	0.00
2,200.00	4.34	67.16	2,197.26	29.15	69.22	-22.85	0.00	0.00	0.00	0.00
2,300.00	4.34	67.16	2,296.97	32.09	76.20	-25.15	0.00	0.00	0.00	0.00
2,400.00	4.34	67.16	2,396.68	35.03	83.18	-27.46	0.00	0.00	0.00	0.00
2,500.00	4.34	67.16	2,496.39	37.97	90.16	-29.76	0.00	0.00	0.00	0.00
2,600.00	4.34	67.16	2,596.11	40.91	97.15	-32.07	0.00	0.00	0.00	0.00
2,700.00	4.34	67.16	2,695.82	43.85	104.13	-34.37	0.00	0.00	0.00	0.00
2,800.00	4.34	67.16	2,795.53	46.79	111.11	-36.68	0.00	0.00	0.00	0.00
2,900.00	4.34	67.16	2,895.24	49.73	118.09	-38.98	0.00	0.00	0.00	0.00
3,000.00	4.34	67.16	2,994.96	52.67	125.07	-41.28	0.00	0.00	0.00	0.00
3,100.00	4.34	67.16	3,094.67	55.61	132.05	-43.59	0.00	0.00	0.00	0.00
3,200.00	4.34	67.16	3,194.38	58.55	139.04	-45.89	0.00	0.00	0.00	0.00
3,300.00	4.34	67.16	3,294.09	61.49	146.02	-48.20	0.00	0.00	0.00	0.00
3,400.00	4.34	67.16	3,393.81	64.43	153.00	-50.50	0.00	0.00	0.00	0.00
3,500.00	4.34	67.16	3,493.52	67.37	159.98	-52.81	0.00	0.00	0.00	0.00
3,600.00	4.34	67.16	3,593.23	70.31	166.96	-55.11	0.00	0.00	0.00	0.00
3,700.00	4.34	67.16	3,692.94	73.25	173.94	-57.42	0.00	0.00	0.00	0.00
3,800.00	4.34	67.16	3,792.66	76.19	180.93	-59.72	0.00	0.00	0.00	0.00
3,900.00	4.34	67.16	3,892.37	79.13	187.91	-62.03	0.00	0.00	0.00	0.00
4,000.00	4.34	67.16	3,992.08	82.07	194.89	-64.33	0.00	0.00	0.00	0.00
Hold Angle @ 4.34										
4,100.00	4.34	67.16	4,091.80	85.01	201.87	-66.64	0.00	0.00	0.00	0.00
4,200.00	4.34	67.16	4,191.51	87.95	208.85	-68.94	0.00	0.00	0.00	0.00
4,204.50	4.34	67.16	4,196.00	88.08	209.17	-69.04	0.00	0.00	0.00	0.00
Parkman										
4,300.00	4.34	67.16	4,291.22	90.89	215.83	-71.24	0.00	0.00	0.00	0.00
4,400.00	4.34	67.16	4,390.93	93.83	222.82	-73.55	0.00	0.00	0.00	0.00
4,500.00	4.34	67.16	4,490.65	96.77	229.80	-75.85	0.00	0.00	0.00	0.00
4,591.62	4.34	67.16	4,582.00	99.47	236.19	-77.96	0.00	0.00	0.00	0.00
Sussex										
4,600.00	4.34	67.16	4,590.36	99.71	236.78	-78.16	0.00	0.00	0.00	0.00

Plan Report for Gobbler 37N-27HZ - 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	4.34	67.16	4,690.07	102.65	243.76	-80.46	0.00	0.00	0.00	0.00
4,800.00	4.34	67.16	4,789.78	105.59	250.74	-82.77	0.00	0.00	0.00	0.00
4,900.00	4.34	67.16	4,889.50	108.53	257.72	-85.07	0.00	0.00	0.00	0.00
5,000.00	4.34	67.16	4,989.21	111.47	264.71	-87.38	0.00	0.00	0.00	0.00
5,100.00	4.34	67.16	5,088.92	114.41	271.69	-89.68	0.00	0.00	0.00	0.00
5,200.00	4.34	67.16	5,188.63	117.35	278.67	-91.99	0.00	0.00	0.00	0.00
5,300.00	4.34	67.16	5,288.35	120.29	285.65	-94.29	0.00	0.00	0.00	0.00
5,400.00	4.34	67.16	5,388.06	123.23	292.63	-96.59	0.00	0.00	0.00	0.00
5,500.00	4.34	67.16	5,487.77	126.17	299.61	-98.90	0.00	0.00	0.00	0.00
5,600.00	4.34	67.16	5,587.49	129.11	306.60	-101.20	0.00	0.00	0.00	0.00
5,700.00	4.34	67.16	5,687.20	132.05	313.58	-103.51	0.00	0.00	0.00	0.00
5,800.00	4.34	67.16	5,786.91	134.99	320.56	-105.81	0.00	0.00	0.00	0.00
5,900.00	4.34	67.16	5,886.62	137.93	327.54	-108.12	0.00	0.00	0.00	0.00
6,000.00	4.34	67.16	5,986.34	140.87	334.52	-110.42	0.00	0.00	0.00	0.00
6,100.00	4.34	67.16	6,086.05	143.81	341.50	-112.73	0.00	0.00	0.00	0.00
6,200.00	4.34	67.16	6,185.76	146.75	348.49	-115.03	0.00	0.00	0.00	0.00
6,300.00	4.34	67.16	6,285.47	149.69	355.47	-117.34	0.00	0.00	0.00	0.00
6,400.00	4.34	67.16	6,385.19	152.63	362.45	-119.64	0.00	0.00	0.00	0.00
6,500.00	4.34	67.16	6,484.90	155.57	369.43	-121.94	0.00	0.00	0.00	0.00
6,595.55	4.34	67.16	6,580.17	158.38	376.10	-124.15	0.00	0.00	0.00	0.00
Begin Build @ 6595.55ft										
6,600.00	4.22	71.64	6,584.61	158.50	376.41	-124.24	8.00	-2.72	100.69	112.13
6,700.00	7.82	148.56	6,684.17	153.84	383.47	-118.97	8.00	3.60	76.92	107.66
6,800.00	15.25	164.39	6,782.11	135.34	390.57	-99.91	8.00	7.42	15.83	31.03
6,900.00	23.05	169.83	6,876.51	103.36	397.57	-67.42	8.00	7.81	5.44	15.48
7,000.00	30.95	172.61	6,965.54	58.51	404.35	-22.15	8.00	7.90	2.78	10.32
7,100.00	38.89	174.35	7,047.47	1.67	410.75	35.03	8.00	7.94	1.73	7.84
Build Rate = 8.00/100ft										
7,200.00	46.85	175.57	7,120.70	-66.04	416.67	103.01	8.00	7.96	1.22	6.42
7,281.58	53.35	176.35	7,173.00	-128.44	421.06	165.54	8.00	7.97	0.96	5.52
Sharon Springs										
7,300.00	54.82	176.51	7,183.81	-143.33	421.99	180.46	8.00	7.97	0.86	5.02
7,396.59	62.52	177.25	7,234.00	-225.65	426.45	262.85	8.00	7.97	0.77	4.93
Niobrara A										
7,400.00	62.79	177.28	7,235.57	-228.67	426.60	265.87	8.00	7.97	0.71	4.54
7,500.00	70.77	177.94	7,274.96	-320.42	430.41	357.59	8.00	7.98	0.67	4.53
7,529.13	73.09	178.13	7,284.00	-348.09	431.36	385.24	8.00	7.98	0.62	4.26
Niobrara B										
7,600.00	78.74	178.55	7,301.24	-416.78	433.35	453.83	8.00	7.98	0.60	4.21
7,700.00	86.72	179.12	7,313.87	-515.87	435.36	552.71	8.00	7.98	0.57	4.10
7,749.16	90.65	179.40	7,315.00	-565.00	436.00	601.70	8.00	7.98	0.56	4.03
End Build @ 7749.16ft - Niobrara B TL (Heel) - 7" Intermediate Casing - Gobbler 37N-37HZ_Casing Point										
7,800.00	90.65	179.40	7,314.43	-615.84	436.54	652.38	0.00	0.00	0.00	4.02
7,900.00	90.65	179.40	7,313.30	-715.83	437.59	752.06	0.00	0.00	0.00	0.00
8,000.00	90.65	179.40	7,312.17	-815.81	438.64	851.74	0.00	0.00	0.00	0.00
8,100.00	90.65	179.40	7,311.04	-915.80	439.70	951.43	0.00	0.00	0.00	0.00
8,200.00	90.65	179.40	7,309.91	-1,015.79	440.75	1,051.11	0.00	0.00	0.00	0.00
8,300.00	90.65	179.40	7,308.78	-1,115.78	441.81	1,150.79	0.00	0.00	0.00	0.00
8,400.00	90.65	179.40	7,307.65	-1,215.77	442.86	1,250.47	0.00	0.00	0.00	0.00
8,500.00	90.65	179.40	7,306.52	-1,315.76	443.91	1,350.16	0.00	0.00	0.00	0.00
8,600.00	90.65	179.40	7,305.39	-1,415.74	444.97	1,449.84	0.00	0.00	0.00	0.00
8,700.00	90.65	179.40	7,304.26	-1,515.73	446.02	1,549.52	0.00	0.00	0.00	0.00
8,800.00	90.65	179.40	7,303.13	-1,615.72	447.08	1,649.20	0.00	0.00	0.00	0.00
8,900.00	90.65	179.40	7,302.00	-1,715.71	448.13	1,748.88	0.00	0.00	0.00	0.00
9,000.00	90.65	179.40	7,300.87	-1,815.70	449.18	1,848.57	0.00	0.00	0.00	0.00
9,100.00	90.65	179.40	7,299.74	-1,915.68	450.24	1,948.25	0.00	0.00	0.00	0.00
9,200.00	90.65	179.40	7,298.61	-2,015.67	451.29	2,047.93	0.00	0.00	0.00	0.00
9,300.00	90.65	179.40	7,297.48	-2,115.66	452.35	2,147.61	0.00	0.00	0.00	0.00
9,400.00	90.65	179.40	7,296.35	-2,215.65	453.40	2,247.30	0.00	0.00	0.00	0.00

Plan Report for Gobbler 37N-27HZ - 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)	Toothface Azimuth (°)
9,500.00	90.65	179.40	7,295.22	-2,315.64	454.45	2,346.98	0.00	0.00	0.00	0.00
9,600.00	90.65	179.40	7,294.09	-2,415.62	455.51	2,446.66	0.00	0.00	0.00	0.00
9,700.00	90.65	179.40	7,292.96	-2,515.61	456.56	2,546.34	0.00	0.00	0.00	0.00
9,800.00	90.65	179.40	7,291.83	-2,615.60	457.62	2,646.03	0.00	0.00	0.00	0.00
9,900.00	90.65	179.40	7,290.70	-2,715.59	458.67	2,745.71	0.00	0.00	0.00	0.00
10,000.00	90.65	179.40	7,289.57	-2,815.58	459.72	2,845.39	0.00	0.00	0.00	0.00
Hold Angle @ 90.65										
10,100.00	90.65	179.40	7,288.44	-2,915.56	460.78	2,945.07	0.00	0.00	0.00	0.00
10,200.00	90.65	179.40	7,287.31	-3,015.55	461.83	3,044.75	0.00	0.00	0.00	0.00
10,300.00	90.65	179.40	7,286.18	-3,115.54	462.89	3,144.44	0.00	0.00	0.00	0.00
10,400.00	90.65	179.40	7,285.05	-3,215.53	463.94	3,244.12	0.00	0.00	0.00	0.00
10,500.00	90.65	179.40	7,283.92	-3,315.52	464.99	3,343.80	0.00	0.00	0.00	0.00
10,600.00	90.65	179.40	7,282.79	-3,415.50	466.05	3,443.48	0.00	0.00	0.00	0.00
10,700.00	90.65	179.40	7,281.66	-3,515.49	467.10	3,543.17	0.00	0.00	0.00	0.00
10,800.00	90.65	179.40	7,280.53	-3,615.48	468.16	3,642.85	0.00	0.00	0.00	0.00
10,900.00	90.65	179.40	7,279.40	-3,715.47	469.21	3,742.53	0.00	0.00	0.00	0.00
11,000.00	90.65	179.40	7,278.27	-3,815.46	470.26	3,842.21	0.00	0.00	0.00	0.00
11,100.00	90.65	179.40	7,277.14	-3,915.44	471.32	3,941.90	0.00	0.00	0.00	0.00
11,200.00	90.65	179.40	7,276.01	-4,015.43	472.37	4,041.58	0.00	0.00	0.00	0.00
11,300.00	90.65	179.40	7,274.88	-4,115.42	473.43	4,141.26	0.00	0.00	0.00	0.00
11,400.00	90.65	179.40	7,273.75	-4,215.41	474.48	4,240.94	0.00	0.00	0.00	0.00
11,500.00	90.65	179.40	7,272.62	-4,315.40	475.53	4,340.63	0.00	0.00	0.00	0.00
11,600.00	90.65	179.40	7,271.49	-4,415.39	476.59	4,440.31	0.00	0.00	0.00	0.00
11,700.00	90.65	179.40	7,270.36	-4,515.37	477.64	4,539.99	0.00	0.00	0.00	0.00
11,800.00	90.65	179.40	7,269.23	-4,615.36	478.70	4,639.67	0.00	0.00	0.00	0.00
11,900.00	90.65	179.40	7,268.10	-4,715.35	479.75	4,739.35	0.00	0.00	0.00	0.00
12,000.00	90.65	179.40	7,266.97	-4,815.34	480.80	4,839.04	0.00	0.00	0.00	0.00
12,100.00	90.65	179.40	7,265.84	-4,915.33	481.86	4,938.72	0.00	0.00	0.00	0.00
12,200.00	90.65	179.40	7,264.71	-5,015.31	482.91	5,038.40	0.00	0.00	0.00	0.00
12,300.00	90.65	179.40	7,263.58	-5,115.30	483.97	5,138.08	0.00	0.00	0.00	0.00
12,400.00	90.65	179.40	7,262.45	-5,215.29	485.02	5,237.77	0.00	0.00	0.00	0.00
12,500.00	90.65	179.40	7,261.32	-5,315.28	486.07	5,337.45	0.00	0.00	0.00	0.00
12,600.00	90.65	179.40	7,260.19	-5,415.27	487.13	5,437.13	0.00	0.00	0.00	0.00
12,617.05	90.65	179.40	7,260.00	-5,432.31	487.31	5,454.13	0.00	0.00	0.00	0.00
Niobrara B TL (Toe)										
12,617.06	90.65	179.40	7,260.00	-5,432.32	487.31	5,454.14	0.00	0.00	0.00	0.00
Gobbler 37N-37HZ_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
1,100.00	1,100.00	0.00	0.00	Begin Nudge @ 1100.00ft
1,200.00	1,199.98	0.68	1.61	Nudge Rate = 2.00/100ft
1,317.23	1,317.02	3.19	7.59	End Nudge @ 1317.23ft
4,000.00	3,992.08	82.07	194.89	Hold Angle @ 4.34
6,595.55	6,580.17	158.38	376.10	Begin Build @ 6595.55ft
7,100.00	7,047.47	1.67	410.75	Build Rate = 8.00/100ft
7,749.16	7,315.00	-565.00	436.00	End Build @ 7749.16ft
10,000.00	7,289.57	-2,815.58	459.72	Hold Angle @ 90.65
12,617.06	7,260.00	-5,432.32	487.31	Total Depth @ 12617.06ft

Plan Report for Gobbler 37N-27HZ - 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	Gobbler 37N-37HZ_BHL	174.87	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	7,749.16	Plan A Rev 0 Permit	MWD
7,749.16	12,617.06	Plan A Rev 0 Permit	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,749.16	7,315.00	7" Intermediate Casing	7	8-3/4

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,204.50	4,196.00	Parkman		0.00	
4,591.62	4,582.00	Sussex		0.00	
7,281.58	7,173.00	Sharon Springs		0.00	
7,396.59	7,234.00	Niobrara A		0.00	
7,529.13	7,284.00	Niobrara B		0.00	
7,749.16	7,315.00	Niobrara B TL (Heel)		0.00	
12,617.05	7,260.00	Niobrara B TL (Toe)		0.00	

Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Gobbler 37N-37HZ_Casing Point	7,315.00	-565.00	436.00	Point
Gobbler 37N-37HZ_Sec 22/27 Line	0.00	0.00	0.00	Point
Gobbler 37N-37HZ_SHL	0.00	0.00	0.00	Point
Gobbler 37N-37HZ_BHL	7,260.00	-5,432.32	487.31	Point
Gobbler 37N-37HZ_22 Setback Line	0.00	0.00	0.00	Point
Gobbler 37N-37HZ_Section Line	0.00	0.00	0.00	Point
Gobbler 37N-37HZ_27 Setback Line	0.00	0.00	0.00	Point

North Reference Sheet for Sec. 22 T2N-R66W - Gobbler 37N-27HZ - 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 @ 5065.00ft (Drilling Rig). Northing and Easting are relative to Gobbler 37N-27HZ
 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: 0.99995951

Grid Coordinates of Well: 1,286,739.87 ft N, 3,206,661.30 ft E
 Geographical Coordinates of Well: 40° 07' 05.27" N, 104° 45' 39.74" W
 Grid Convergence at Surface is: 0.48°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,617.06ft
 the Bottom Hole Displacement is 5,454.14ft in the Direction of 174.87° (True).

Magnetic Convergence at surface is: -8.23° (9 October 2012, , BGGM2012)

