

# Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 3-T5N-R67W

Shurview 33C-3HZ

Plan A Rev 0

Plan: Plan A Rev 0 Permit

## Sperry Drilling Services Proposal Report

29 June, 2012

Well Coordinates: 1,398,954.00 N, 3,174,583.25 E (40° 25' 36.61" N, 104° 52' 22.44" W)

Ground Level: 4,888.00 ft

Local Coordinate Origin:

Centered on Well Shurview 33C-3HZ

Viewing Datum:

RKB=17ft @ 4905.00ft (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. 3-T5N-R67W  
 Well: Shurview 33C-3HZ  
 Wellbore: Plan A Rev 0  
 Design: Plan A Rev 0 Permit

# Anadarko Petroleum Corp.

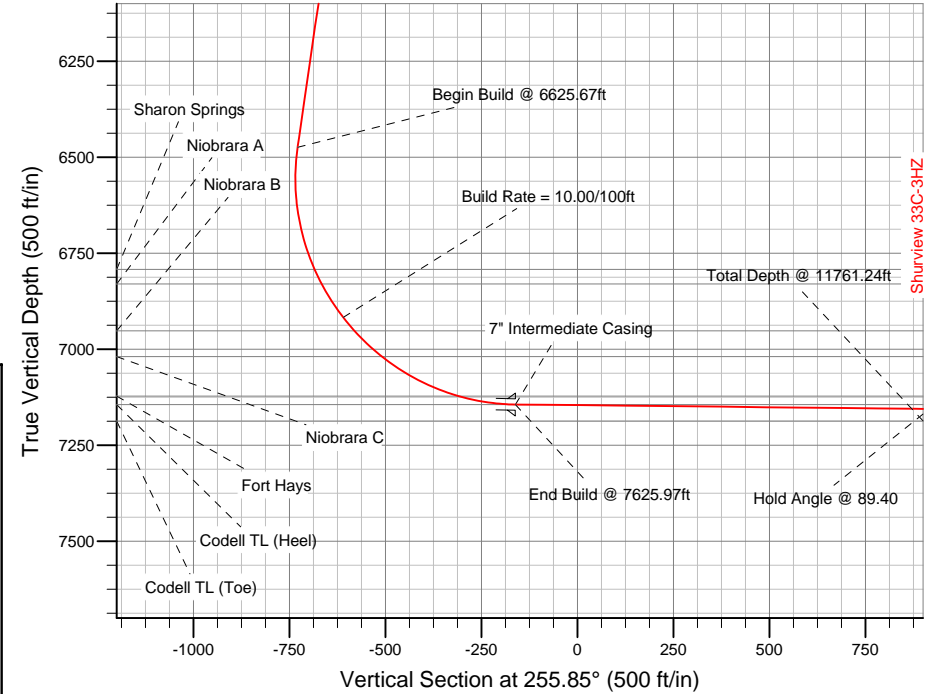
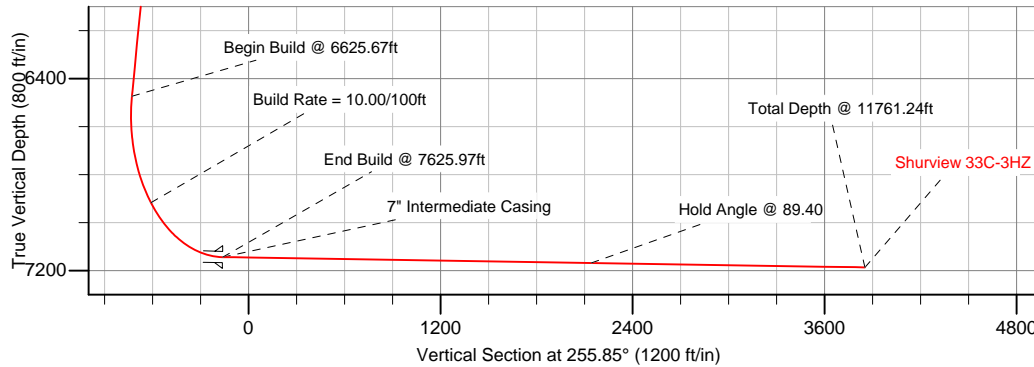
**HALLIBURTON**  
 Sperry Drilling

## 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	1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	0.00	0.00	
3	1802.96	14.06	130.45	1795.92	-55.67	65.30	2.00	130.45	-49.71	
4	6625.67	14.06	130.45	6474.17	-815.72	956.85	0.00	0.00	-728.36	
5	7625.97	89.40	269.78	7144.00	-926.00	400.00	10.00	138.57	-161.45	Shurview 33C-3HZ_Casing Point
6	11761.24	89.40	269.78	7187.00	-941.82	-3735.02	0.00	0.00	3851.94	Shurview 33C-3HZ_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Shurview 33C-3HZ_Section Lines	0.00	0.00	0.00	40.426836	-104.872900	Polygon
Shurview 33C-3HZ_Setback Lines	0.00	0.00	0.00	40.426836	-104.872900	Polygon
Shurview 33C-3HZ_SHL	0.00	0.00	0.00	40.426836	-104.872900	Point
Shurview 33C-3HZ_Casing Point	7144.00	-926.00	400.00	40.424294	-104.871463	Point
Shurview 33C-3HZ_BHL	7187.00	-941.82	-3735.02	40.424250	-104.886315	Point

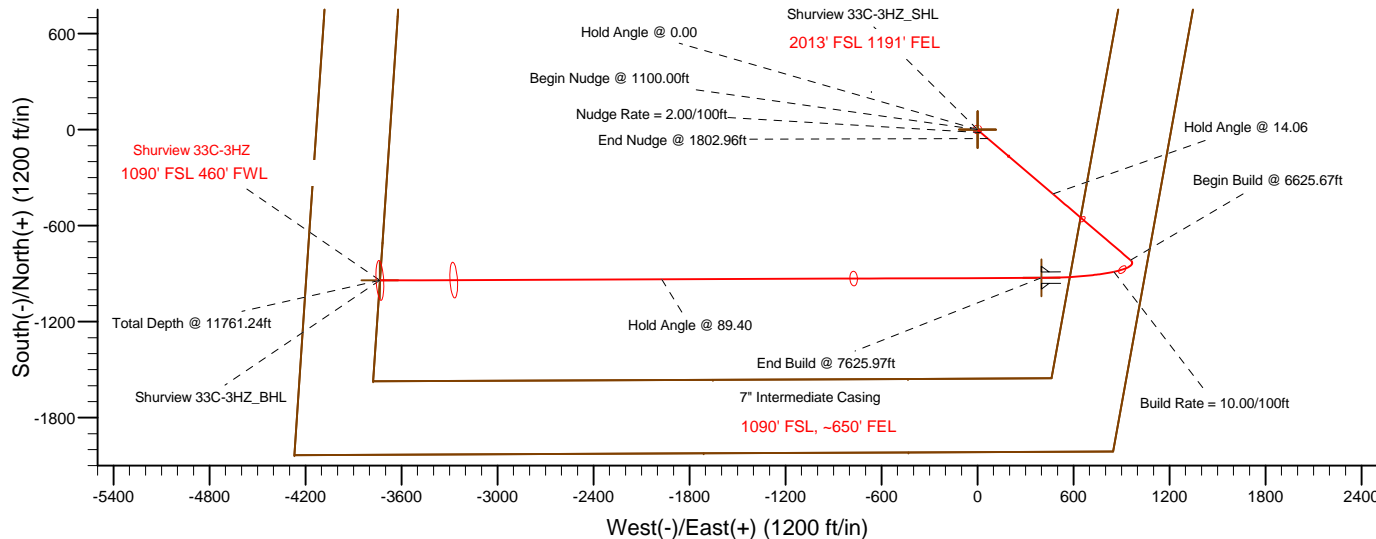


## CASING DETAILS

TVD	MD	Name	Size
7144.00	6625.97	Intermediate Casing	7

Northings	Eastings
1,398,030.89	3,174,989.78

**Target Line:**  
**7146.66' TVDkb @ 0° VS Drilling 89.40°**



## WELL DETAILS: Shurview 33C-3HZ

Ground Level: 4888.00 RKB=17ft @ 4905.00ft (Drilling Rig)

Plan: Plan A Rev 0 Permit (Shurview 33C-3HZ/Plan A Rev 0)

Created By: Fred Hartmann Date: 06/28/2012  
 Reviewed: Date:

**Plan Report for Shurview 33C-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
<b>Tie-On to Surface @ 0.00ft - Shurview 33C-3HZ_SHL - Shurview 33C-3HZ_Section Lines - Shurview 33C-3HZ_Setback Lines</b>										
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
<b>Hold Angle @ 0.00</b>										
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
717.00	0.00	0.00	717.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Fox Hills</b>										
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
<b>Begin Nudge @ 1100.00ft</b>										
1,200.00	2.00	130.45	1,199.98	-1.13	1.33	-1.01	2.00	2.00	0.00	130.45
1,300.00	4.00	130.45	1,299.84	-4.53	5.31	-4.04	2.00	2.00	0.00	0.00
1,400.00	6.00	130.45	1,399.45	-10.18	11.94	-9.09	2.00	2.00	0.00	0.00
1,500.00	8.00	130.45	1,498.70	-18.09	21.22	-16.15	2.00	2.00	0.00	0.00
<b>Nudge Rate = 2.00/100ft</b>										
1,600.00	10.00	130.45	1,597.47	-28.24	33.12	-25.21	2.00	2.00	0.00	0.00
1,700.00	12.00	130.45	1,695.62	-40.61	47.64	-36.26	2.00	2.00	0.00	0.00
1,800.00	14.00	130.45	1,793.06	-55.21	64.76	-49.29	2.00	2.00	0.00	0.00
1,802.96	14.06	130.45	1,795.93	-55.67	65.30	-49.71	2.00	2.00	0.00	0.00
<b>End Nudge @ 1802.96ft</b>										
1,900.00	14.06	130.45	1,890.06	-70.97	83.24	-63.37	0.00	0.00	0.00	0.00
2,000.00	14.06	130.45	1,987.06	-86.73	101.73	-77.44	0.00	0.00	0.00	0.00
2,100.00	14.06	130.45	2,084.07	-102.48	120.22	-91.51	0.00	0.00	0.00	0.00
2,200.00	14.06	130.45	2,181.07	-118.24	138.70	-105.58	0.00	0.00	0.00	0.00
2,300.00	14.06	130.45	2,278.08	-134.00	157.19	-119.65	0.00	0.00	0.00	0.00
2,400.00	14.06	130.45	2,375.08	-149.76	175.68	-133.73	0.00	0.00	0.00	0.00
2,500.00	14.06	130.45	2,472.09	-165.52	194.16	-147.80	0.00	0.00	0.00	0.00
2,600.00	14.06	130.45	2,569.09	-181.28	212.65	-161.87	0.00	0.00	0.00	0.00
2,700.00	14.06	130.45	2,666.10	-197.04	231.13	-175.94	0.00	0.00	0.00	0.00
2,800.00	14.06	130.45	2,763.10	-212.80	249.62	-190.01	0.00	0.00	0.00	0.00
2,900.00	14.06	130.45	2,860.11	-228.56	268.11	-204.08	0.00	0.00	0.00	0.00
3,000.00	14.06	130.45	2,957.11	-244.32	286.59	-218.16	0.00	0.00	0.00	0.00
3,100.00	14.06	130.45	3,054.11	-260.08	305.08	-232.23	0.00	0.00	0.00	0.00
3,200.00	14.06	130.45	3,151.12	-275.84	323.57	-246.30	0.00	0.00	0.00	0.00
3,300.00	14.06	130.45	3,248.12	-291.60	342.05	-260.37	0.00	0.00	0.00	0.00
3,400.00	14.06	130.45	3,345.13	-307.36	360.54	-274.44	0.00	0.00	0.00	0.00
3,500.00	14.06	130.45	3,442.13	-323.12	379.03	-288.52	0.00	0.00	0.00	0.00
3,585.43	14.06	130.45	3,525.00	-336.58	394.82	-300.54	0.00	0.00	0.00	0.00
<b>Parkman</b>										
3,600.00	14.06	130.45	3,539.14	-338.88	397.51	-302.59	0.00	0.00	0.00	0.00
3,700.00	14.06	130.45	3,636.14	-354.64	416.00	-316.66	0.00	0.00	0.00	0.00
3,800.00	14.06	130.45	3,733.15	-370.40	434.48	-330.73	0.00	0.00	0.00	0.00
3,900.00	14.06	130.45	3,830.15	-386.16	452.97	-344.80	0.00	0.00	0.00	0.00
4,000.00	14.06	130.45	3,927.16	-401.92	471.46	-358.88	0.00	0.00	0.00	0.00
<b>Hold Angle @ 14.06</b>										
4,100.00	14.06	130.45	4,024.16	-417.68	489.94	-372.95	0.00	0.00	0.00	0.00
4,200.00	14.06	130.45	4,121.17	-433.44	508.43	-387.02	0.00	0.00	0.00	0.00
4,289.52	14.06	130.45	4,208.00	-447.55	524.98	-399.62	0.00	0.00	0.00	0.00
<b>Sussex</b>										
4,300.00	14.06	130.45	4,218.17	-449.20	526.92	-401.09	0.00	0.00	0.00	0.00
4,400.00	14.06	130.45	4,315.17	-464.96	545.40	-415.16	0.00	0.00	0.00	0.00

**Plan Report for Shurview 33C-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 (°)
4,500.00	14.06	130.45	4,412.18	-480.72	563.89	-429.24	0.00	0.00	0.00	0.00
4,600.00	14.06	130.45	4,509.18	-496.48	582.38	-443.31	0.00	0.00	0.00	0.00
4,700.00	14.06	130.45	4,606.19	-512.24	600.86	-457.38	0.00	0.00	0.00	0.00
4,800.00	14.06	130.45	4,703.19	-528.00	619.35	-471.45	0.00	0.00	0.00	0.00
4,900.00	14.06	130.45	4,800.20	-543.76	637.83	-485.52	0.00	0.00	0.00	0.00
5,000.00	14.06	130.45	4,897.20	-559.52	656.32	-499.60	0.00	0.00	0.00	0.00
5,100.00	14.06	130.45	4,994.21	-575.28	674.81	-513.67	0.00	0.00	0.00	0.00
5,200.00	14.06	130.45	5,091.21	-591.04	693.29	-527.74	0.00	0.00	0.00	0.00
5,300.00	14.06	130.45	5,188.22	-606.80	711.78	-541.81	0.00	0.00	0.00	0.00
5,400.00	14.06	130.45	5,285.22	-622.56	730.27	-555.88	0.00	0.00	0.00	0.00
5,500.00	14.06	130.45	5,382.22	-638.32	748.75	-569.95	0.00	0.00	0.00	0.00
5,600.00	14.06	130.45	5,479.23	-654.08	767.24	-584.03	0.00	0.00	0.00	0.00
5,700.00	14.06	130.45	5,576.23	-669.83	785.73	-598.10	0.00	0.00	0.00	0.00
5,800.00	14.06	130.45	5,673.24	-685.59	804.21	-612.17	0.00	0.00	0.00	0.00
5,900.00	14.06	130.45	5,770.24	-701.35	822.70	-626.24	0.00	0.00	0.00	0.00
6,000.00	14.06	130.45	5,867.25	-717.11	841.19	-640.31	0.00	0.00	0.00	0.00
6,100.00	14.06	130.45	5,964.25	-732.87	859.67	-654.39	0.00	0.00	0.00	0.00
6,200.00	14.06	130.45	6,061.26	-748.63	878.16	-668.46	0.00	0.00	0.00	0.00
6,300.00	14.06	130.45	6,158.26	-764.39	896.64	-682.53	0.00	0.00	0.00	0.00
6,400.00	14.06	130.45	6,255.27	-780.15	915.13	-696.60	0.00	0.00	0.00	0.00
6,500.00	14.06	130.45	6,352.27	-795.91	933.62	-710.67	0.00	0.00	0.00	0.00
6,600.00	14.06	130.45	6,449.27	-811.67	952.10	-724.75	0.00	0.00	0.00	0.00
6,625.67	14.06	130.45	6,474.18	-815.72	956.85	-728.36	0.00	0.00	0.00	0.00
<b>Begin Build @ 6625.67ft</b>										
6,700.00	9.78	160.70	6,546.95	-827.55	965.82	-734.16	10.00	-5.75	40.70	138.57
6,800.00	11.46	216.44	6,645.48	-843.61	962.72	-727.23	10.00	1.68	55.75	108.92
6,900.00	19.11	241.84	6,741.97	-859.36	942.33	-703.61	10.00	7.65	25.40	53.98
6,953.79	23.94	248.36	6,792.00	-867.55	924.41	-684.23	10.00	8.97	12.11	29.40
<b>Sharon Springs</b>										
6,996.04	27.87	251.94	6,830.00	-873.78	907.04	-665.87	10.00	9.29	8.47	23.34
<b>Niobrara A</b>										
7,000.00	28.24	252.22	6,833.50	-874.35	905.27	-664.01	10.00	9.40	7.27	20.12
7,100.00	37.78	257.75	6,917.27	-888.11	852.67	-609.64	10.00	9.55	5.53	19.86
<b>Build Rate = 10.00/100ft</b>										
7,145.33	42.17	259.52	6,952.00	-893.82	824.13	-580.57	10.00	9.68	3.90	15.21
<b>Niobrara B</b>										
7,200.00	47.50	261.29	6,990.76	-900.22	786.13	-542.16	10.00	9.74	3.24	13.85
7,243.61	51.76	262.50	7,019.00	-904.89	753.25	-509.13	10.00	9.77	2.77	12.59
<b>Niobrara C</b>										
7,300.00	57.29	263.87	7,051.72	-910.31	707.66	-463.61	10.00	9.80	2.43	11.81
7,400.00	67.12	265.94	7,098.30	-918.09	619.66	-376.38	10.00	9.83	2.06	11.01
7,471.55	74.17	267.23	7,122.00	-922.09	552.32	-310.10	10.00	9.85	1.81	10.05
<b>Fort Hays</b>										
7,500.00	76.97	267.72	7,129.09	-923.31	524.80	-283.11	10.00	9.86	1.71	9.62
7,600.00	86.84	269.36	7,143.15	-925.81	425.95	-186.66	10.00	9.87	1.64	9.50
7,625.97	89.40	269.78	7,144.00	-926.00	400.00	-161.45	10.00	9.87	1.61	9.26
<b>End Build @ 7625.97ft - Codell TL (Heel) - 7" Intermediate Casing - Shurview 33C-3HZ_Casing Point</b>										
7,700.00	89.40	269.78	7,144.77	-926.28	325.97	-89.60	0.00	0.00	0.00	9.25
7,800.00	89.40	269.78	7,145.81	-926.67	225.98	7.46	0.00	0.00	0.00	0.00
7,900.00	89.40	269.78	7,146.85	-927.05	125.98	104.51	0.00	0.00	0.00	0.00
8,000.00	89.40	269.78	7,147.89	-927.43	25.99	201.56	0.00	0.00	0.00	0.00
8,100.00	89.40	269.78	7,148.93	-927.81	-74.00	298.61	0.00	0.00	0.00	0.00
8,200.00	89.40	269.78	7,149.97	-928.20	-174.00	395.67	0.00	0.00	0.00	0.00
8,300.00	89.40	269.78	7,151.01	-928.58	-273.99	492.72	0.00	0.00	0.00	0.00
8,400.00	89.40	269.78	7,152.05	-928.96	-373.99	589.77	0.00	0.00	0.00	0.00
8,500.00	89.40	269.78	7,153.09	-929.34	-473.98	686.82	0.00	0.00	0.00	0.00
8,600.00	89.40	269.78	7,154.13	-929.73	-573.97	783.88	0.00	0.00	0.00	0.00
8,700.00	89.40	269.78	7,155.17	-930.11	-673.97	880.93	0.00	0.00	0.00	0.00
8,800.00	89.40	269.78	7,156.21	-930.49	-773.96	977.98	0.00	0.00	0.00	0.00

**Plan Report for Shurview 33C-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 (°)
8,900.00	89.40	269.78	7,157.25	-930.87	-873.95	1,075.03	0.00	0.00	0.00	0.00
9,000.00	89.40	269.78	7,158.29	-931.26	-973.95	1,172.08	0.00	0.00	0.00	0.00
9,100.00	89.40	269.78	7,159.33	-931.64	-1,073.94	1,269.14	0.00	0.00	0.00	0.00
9,200.00	89.40	269.78	7,160.37	-932.02	-1,173.94	1,366.19	0.00	0.00	0.00	0.00
9,300.00	89.40	269.78	7,161.41	-932.41	-1,273.93	1,463.24	0.00	0.00	0.00	0.00
9,400.00	89.40	269.78	7,162.45	-932.79	-1,373.92	1,560.29	0.00	0.00	0.00	0.00
9,500.00	89.40	269.78	7,163.49	-933.17	-1,473.92	1,657.35	0.00	0.00	0.00	0.00
9,600.00	89.40	269.78	7,164.53	-933.55	-1,573.91	1,754.40	0.00	0.00	0.00	0.00
9,700.00	89.40	269.78	7,165.57	-933.94	-1,673.91	1,851.45	0.00	0.00	0.00	0.00
9,800.00	89.40	269.78	7,166.61	-934.32	-1,773.90	1,948.50	0.00	0.00	0.00	0.00
9,900.00	89.40	269.78	7,167.65	-934.70	-1,873.89	2,045.56	0.00	0.00	0.00	0.00
10,000.00	89.40	269.78	7,168.69	-935.08	-1,973.89	2,142.61	0.00	0.00	0.00	0.00
<b>Hold Angle @ 89.40</b>										
10,100.00	89.40	269.78	7,169.73	-935.47	-2,073.88	2,239.66	0.00	0.00	0.00	0.00
10,200.00	89.40	269.78	7,170.77	-935.85	-2,173.87	2,336.71	0.00	0.00	0.00	0.00
10,300.00	89.40	269.78	7,171.81	-936.23	-2,273.87	2,433.77	0.00	0.00	0.00	0.00
10,400.00	89.40	269.78	7,172.85	-936.61	-2,373.86	2,530.82	0.00	0.00	0.00	0.00
10,500.00	89.40	269.78	7,173.89	-937.00	-2,473.86	2,627.87	0.00	0.00	0.00	0.00
10,600.00	89.40	269.78	7,174.92	-937.38	-2,573.85	2,724.92	0.00	0.00	0.00	0.00
10,700.00	89.40	269.78	7,175.96	-937.76	-2,673.84	2,821.98	0.00	0.00	0.00	0.00
10,800.00	89.40	269.78	7,177.00	-938.14	-2,773.84	2,919.03	0.00	0.00	0.00	0.00
10,900.00	89.40	269.78	7,178.04	-938.53	-2,873.83	3,016.08	0.00	0.00	0.00	0.00
11,000.00	89.40	269.78	7,179.08	-938.91	-2,973.83	3,113.13	0.00	0.00	0.00	0.00
11,100.00	89.40	269.78	7,180.12	-939.29	-3,073.82	3,210.18	0.00	0.00	0.00	0.00
11,200.00	89.40	269.78	7,181.16	-939.68	-3,173.81	3,307.24	0.00	0.00	0.00	0.00
11,300.00	89.40	269.78	7,182.20	-940.06	-3,273.81	3,404.29	0.00	0.00	0.00	0.00
11,400.00	89.40	269.78	7,183.24	-940.44	-3,373.80	3,501.34	0.00	0.00	0.00	0.00
11,500.00	89.40	269.78	7,184.28	-940.82	-3,473.79	3,598.39	0.00	0.00	0.00	0.00
11,600.00	89.40	269.78	7,185.32	-941.21	-3,573.79	3,695.45	0.00	0.00	0.00	0.00
11,700.00	89.40	269.78	7,186.36	-941.59	-3,673.78	3,792.50	0.00	0.00	0.00	0.00
11,761.24	89.40	269.78	7,187.00	-941.82	-3,735.02	3,851.93	0.00	0.00	0.00	0.00
<b>Total Depth @ 11761.24ft - Shurview 33C-3HZ_BHL</b>										

**Plan Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
0.00	0.00	0.00	0.00	Tie-On to Surface @ 0.00ft
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
1,500.00	1,498.70	-18.09	21.22	Nudge Rate = 2.00/100ft
1,802.96	1,795.93	-55.67	65.30	End Nudge @ 1802.96ft
4,000.00	3,927.16	-401.92	471.46	Hold Angle @ 14.06
6,625.67	6,474.18	-815.72	956.85	Begin Build @ 6625.67ft
7,100.00	6,917.27	-888.11	852.67	Build Rate = 10.00/100ft
7,625.97	7,144.00	-926.00	400.00	End Build @ 7625.97ft
10,000.00	7,168.69	-935.08	-1,973.89	Hold Angle @ 89.40
11,761.24	7,187.00	-941.82	-3,735.02	Total Depth @ 11761.24ft

**Vertical Section Information**

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (ft)	+E/-W (ft)	Start TVD (ft)
Target	Shurview 33C-3HZ_BHL	255.85	Slot	0.00	0.00	7,187.00

## Plan Report for Shurview 33C-3HZ - Plan A Rev 0 Permit

### Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	11,761.24	Plan A Rev 0 Permit	MWD

### Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,625.97	7,144.00	7" Intermediate Casing	7	8-3/4

### Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
717.00	717.00	Fox Hills		0.00	
3,585.43	3,525.00	Parkman		0.00	
4,289.52	4,208.00	Sussex		0.00	
6,953.79	6,792.00	Sharon Springs		0.00	
6,996.04	6,830.00	Niobrara A		0.00	
7,145.33	6,952.00	Niobrara B		0.00	
7,243.61	7,019.00	Niobrara C		0.00	
7,471.55	7,122.00	Fort Hays		0.00	
7,625.97	7,144.00	Codell TL (Heel)		0.00	
11,761.24	7,187.00	Codell TL (Toe)		0.00	

### **Targets associated with this wellbore**

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Shurview 33C-3HZ_BHL	7,187.00	-941.82	-3,735.02	Point
Shurview 33C-3HZ_Casing Point	7,144.00	-926.00	400.00	Point
Shurview 33C-3HZ_SHL	0.00	0.00	0.00	Point
Shurview 33C-3HZ_Setback Lines	0.00	0.00	0.00	Polygon
Shurview 33C-3HZ_Section Lines	0.00	0.00	0.00	Polygon

## North Reference Sheet for Sec. 3-T5N-R67W - Shurview 33C-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=17ft @ 4905.00ft (Drilling Rig). Northing and Easting are relative to Shurview 33C-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: 3,000,000.000644ft, False Northing: 1,000,000.001308ft, Scale Reduction: 0.99996156

Grid Coordinates of Well: 1,398,954.004325 ft N, 3,174,583.252597 ft E

Geographical Coordinates of Well: 40° 25' 36.61" N, 104° 52' 22.44" W

Grid Convergence at Surface is: 0.41°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,761.24ft  
the Bottom Hole Displacement is 3,851.93ft in the Direction of 255.85° (True).

Magnetic Convergence at surface is: -8.37° (29 June 2012, , BGGM2011)

