

# Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 13-T3N-R66W

Maverick 1C-13HZ

Plan A Rev 0

Plan: Plan A Rev 0 Permit

## Sperry Drilling Services

# Proposal Report

24 September, 2012

Well Coordinates: 1,323,546.48 N, 3,217,400.86 E (40° 13' 08.09" N, 104° 43' 17.35" W)

Ground Level: 5,047.00 ft

Local Coordinate Origin:	Centered on Well Maverick 1C-13HZ
Viewing Datum:	RKB=17 @ 5064.00ft (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. 13-T3N-R66W  
 Well: Maverick 1C-13HZ  
 Wellbore: Plan A Rev 0  
 Design: Plan A Rev 0 Permit

# Anadarko Petroleum Corp.



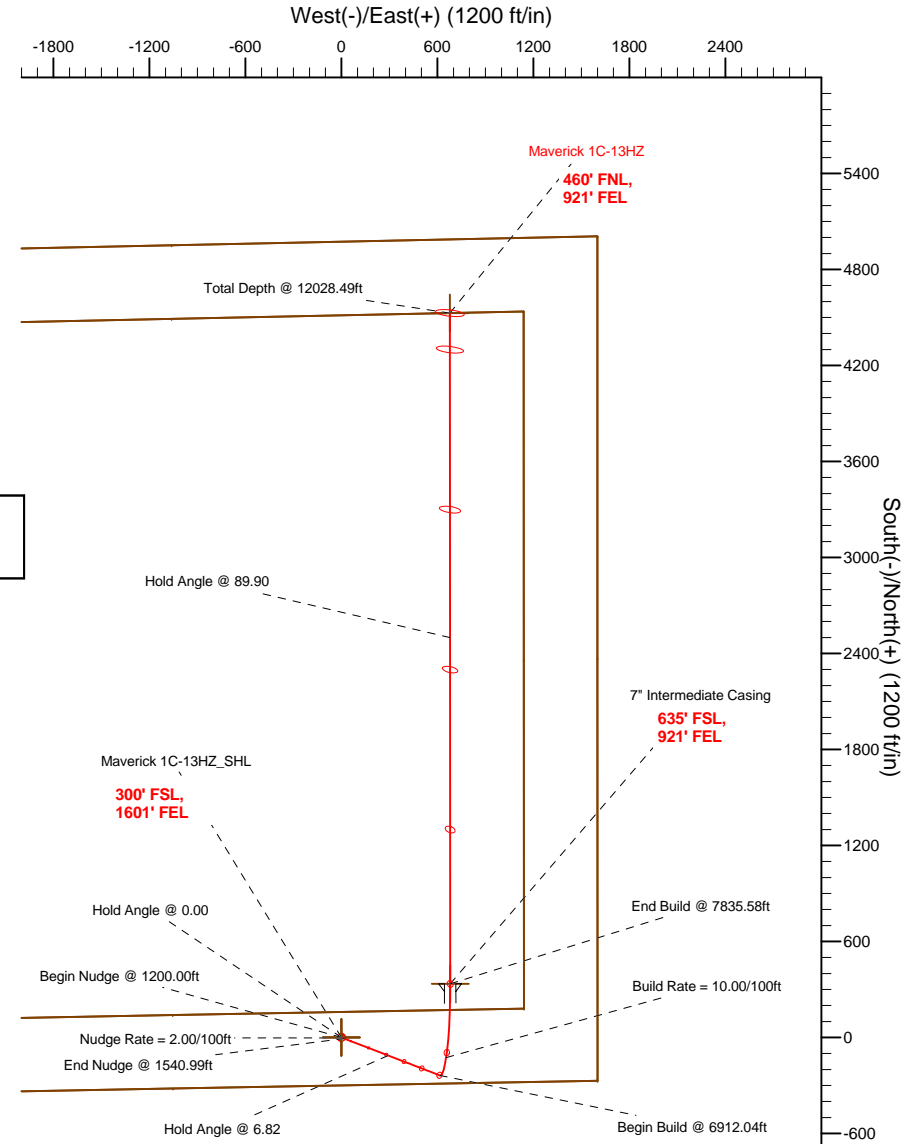
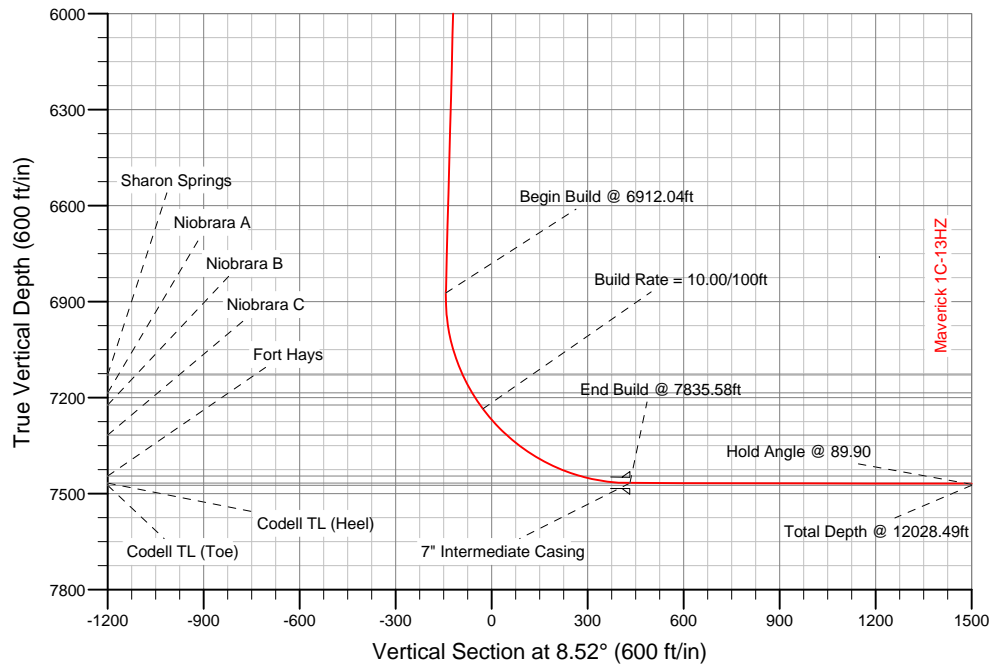
### SECTION DETAILS

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	1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	0.00	0.00	
3	1540.99	6.82	111.06	1540.19	-7.29	18.92	2.00	111.06	-4.40	
4	6912.04	6.82	111.06	6873.24	-236.51	614.10	0.00	0.00	-142.93	
5	7835.58	89.90	359.98	7467.00	335.00	680.00	10.00	-110.96	432.03	Maverick 1C-13HZ_Casing Point
6	12028.49	89.90	359.98	7474.00	4527.91	678.21	0.00	0.00	4578.42	Maverick 1C-13HZ_BHL

### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Maverick 1C-13HZ_Section Line	0.00	0.00	0.00	40.218913	-104.721485	Polygon
Maverick 1C-13HZ_Setback Line	0.00	0.00	0.00	40.218913	-104.721485	Polygon
Maverick 1C-13HZ_SHL	0.00	0.00	0.00	40.218913	-104.721485	Point
Maverick 1C-13HZ_Casing Point	7467.00	335.00	680.00	40.219833	-104.719050	Point
Maverick 1C-13HZ_BHL	7474.00	4527.91	678.21	40.231342	-104.719056	Point

**Target Line:**  
**7466.01' TVDkb @ 0° VS Drilling 89.90°**



WELL DETAILS: Maverick 1C-13HZ	
Ground Level: 5047.00	RKB=17 @ 5064.00ft (Drilling Rig)
Plan: Plan A Rev 0 Permit (Maverick 1C-13HZ/Plan A Rev 0)	
Created By: Fred Hartmann	Date: 09/21/2012
Reviewed: _____	Date: _____

**Plan Report for Maverick 1C-13HZ - 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>Maverick 1C-13HZ_SHL - Maverick 1C-13HZ_Section Line - Maverick 1C-13HZ_Setback Line</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
775.00	0.00	0.00	775.00	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
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Begin Nudge @ 1200.00ft</b>										
1,300.00	2.00	111.06	1,299.98	-0.63	1.63	-0.38	2.00	2.00	0.00	111.06
1,400.00	4.00	111.06	1,399.84	-2.51	6.51	-1.52	2.00	2.00	0.00	0.00
<b>Nudge Rate = 2.00/100ft</b>										
1,500.00	6.00	111.06	1,499.45	-5.64	14.65	-3.41	2.00	2.00	0.00	0.00
1,540.99	6.82	111.06	1,540.19	-7.28	18.92	-4.40	2.00	2.00	0.00	0.00
<b>End Nudge @ 1540.99ft</b>										
1,600.00	6.82	111.06	1,598.78	-9.80	25.45	-5.92	0.00	0.00	0.00	0.00
1,700.00	6.82	111.06	1,698.07	-14.07	36.54	-8.50	0.00	0.00	0.00	0.00
1,800.00	6.82	111.06	1,797.36	-18.34	47.62	-11.08	0.00	0.00	0.00	0.00
1,900.00	6.82	111.06	1,896.66	-22.61	58.70	-13.66	0.00	0.00	0.00	0.00
2,000.00	6.82	111.06	1,995.95	-26.87	69.78	-16.24	0.00	0.00	0.00	0.00
2,100.00	6.82	111.06	2,095.24	-31.14	80.86	-18.82	0.00	0.00	0.00	0.00
2,200.00	6.82	111.06	2,194.53	-35.41	91.94	-21.40	0.00	0.00	0.00	0.00
2,300.00	6.82	111.06	2,293.82	-39.68	103.02	-23.98	0.00	0.00	0.00	0.00
2,400.00	6.82	111.06	2,393.12	-43.95	114.11	-26.56	0.00	0.00	0.00	0.00
2,500.00	6.82	111.06	2,492.41	-48.21	125.19	-29.14	0.00	0.00	0.00	0.00
2,600.00	6.82	111.06	2,591.70	-52.48	136.27	-31.72	0.00	0.00	0.00	0.00
2,700.00	6.82	111.06	2,690.99	-56.75	147.35	-34.30	0.00	0.00	0.00	0.00
2,800.00	6.82	111.06	2,790.29	-61.02	158.43	-36.88	0.00	0.00	0.00	0.00
2,900.00	6.82	111.06	2,889.58	-65.29	169.51	-39.45	0.00	0.00	0.00	0.00
3,000.00	6.82	111.06	2,988.87	-69.55	180.59	-42.03	0.00	0.00	0.00	0.00
3,100.00	6.82	111.06	3,088.16	-73.82	191.67	-44.61	0.00	0.00	0.00	0.00
3,200.00	6.82	111.06	3,187.46	-78.09	202.76	-47.19	0.00	0.00	0.00	0.00
3,300.00	6.82	111.06	3,286.75	-82.36	213.84	-49.77	0.00	0.00	0.00	0.00
3,400.00	6.82	111.06	3,386.04	-86.62	224.92	-52.35	0.00	0.00	0.00	0.00
3,500.00	6.82	111.06	3,485.33	-90.89	236.00	-54.93	0.00	0.00	0.00	0.00
3,600.00	6.82	111.06	3,584.63	-95.16	247.08	-57.51	0.00	0.00	0.00	0.00
3,700.00	6.82	111.06	3,683.92	-99.43	258.16	-60.09	0.00	0.00	0.00	0.00
3,800.00	6.82	111.06	3,783.21	-103.70	269.24	-62.67	0.00	0.00	0.00	0.00
3,900.00	6.82	111.06	3,882.50	-107.96	280.33	-65.25	0.00	0.00	0.00	0.00
4,000.00	6.82	111.06	3,981.80	-112.23	291.41	-67.83	0.00	0.00	0.00	0.00
<b>Hold Angle @ 6.82</b>										
4,071.71	6.82	111.06	4,053.00	-115.29	299.35	-69.68	0.00	0.00	0.00	0.00
<b>Parkman</b>										
4,100.00	6.82	111.06	4,081.09	-116.50	302.49	-70.41	0.00	0.00	0.00	0.00
4,200.00	6.82	111.06	4,180.38	-120.77	313.57	-72.98	0.00	0.00	0.00	0.00
4,300.00	6.82	111.06	4,279.67	-125.03	324.65	-75.56	0.00	0.00	0.00	0.00
4,400.00	6.82	111.06	4,378.97	-129.30	335.73	-78.14	0.00	0.00	0.00	0.00
4,500.00	6.82	111.06	4,478.26	-133.57	346.81	-80.72	0.00	0.00	0.00	0.00
4,586.35	6.82	111.06	4,564.00	-137.26	356.38	-82.95	0.00	0.00	0.00	0.00

**Plan Report for Maverick 1C-13HZ - 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 (°)
<b>Sussex</b>										
4,600.00	6.82	111.06	4,577.55	-137.84	357.89	-83.30	0.00	0.00	0.00	0.00
4,700.00	6.82	111.06	4,676.84	-142.11	368.98	-85.88	0.00	0.00	0.00	0.00
4,800.00	6.82	111.06	4,776.14	-146.37	380.06	-88.46	0.00	0.00	0.00	0.00
4,900.00	6.82	111.06	4,875.43	-150.64	391.14	-91.04	0.00	0.00	0.00	0.00
5,000.00	6.82	111.06	4,974.72	-154.91	402.22	-93.62	0.00	0.00	0.00	0.00
5,100.00	6.82	111.06	5,074.01	-159.18	413.30	-96.20	0.00	0.00	0.00	0.00
5,200.00	6.82	111.06	5,173.31	-163.45	424.38	-98.78	0.00	0.00	0.00	0.00
5,300.00	6.82	111.06	5,272.60	-167.71	435.46	-101.36	0.00	0.00	0.00	0.00
5,400.00	6.82	111.06	5,371.89	-171.98	446.55	-103.94	0.00	0.00	0.00	0.00
5,500.00	6.82	111.06	5,471.18	-176.25	457.63	-106.51	0.00	0.00	0.00	0.00
5,600.00	6.82	111.06	5,570.48	-180.52	468.71	-109.09	0.00	0.00	0.00	0.00
5,700.00	6.82	111.06	5,669.77	-184.78	479.79	-111.67	0.00	0.00	0.00	0.00
5,800.00	6.82	111.06	5,769.06	-189.05	490.87	-114.25	0.00	0.00	0.00	0.00
5,900.00	6.82	111.06	5,868.35	-193.32	501.95	-116.83	0.00	0.00	0.00	0.00
6,000.00	6.82	111.06	5,967.65	-197.59	513.03	-119.41	0.00	0.00	0.00	0.00
6,100.00	6.82	111.06	6,066.94	-201.86	524.11	-121.99	0.00	0.00	0.00	0.00
6,200.00	6.82	111.06	6,166.23	-206.12	535.20	-124.57	0.00	0.00	0.00	0.00
6,300.00	6.82	111.06	6,265.52	-210.39	546.28	-127.15	0.00	0.00	0.00	0.00
6,400.00	6.82	111.06	6,364.82	-214.66	557.36	-129.73	0.00	0.00	0.00	0.00
6,500.00	6.82	111.06	6,464.11	-218.93	568.44	-132.31	0.00	0.00	0.00	0.00
6,600.00	6.82	111.06	6,563.40	-223.19	579.52	-134.89	0.00	0.00	0.00	0.00
6,700.00	6.82	111.06	6,662.69	-227.46	590.60	-137.47	0.00	0.00	0.00	0.00
6,800.00	6.82	111.06	6,761.99	-231.73	601.68	-140.04	0.00	0.00	0.00	0.00
6,900.00	6.82	111.06	6,861.28	-236.00	612.77	-142.62	0.00	0.00	0.00	0.00
6,912.04	6.82	111.06	6,873.23	-236.51	614.10	-142.93	0.00	0.00	0.00	0.00
<b>Begin Build @ 6912.04ft</b>										
7,000.00	8.98	44.88	6,960.51	-233.52	623.84	-138.53	10.00	2.46	-75.24	-110.96
7,100.00	17.51	20.68	7,057.83	-213.86	634.68	-117.49	10.00	8.53	-24.21	-45.27
7,176.34	24.76	13.96	7,129.00	-187.57	642.61	-90.30	10.00	9.50	-8.79	-21.63
<b>Sharon Springs</b>										
7,200.00	27.05	12.59	7,150.28	-177.51	644.98	-80.00	10.00	9.67	-5.82	-15.35
7,239.70	30.91	10.70	7,185.00	-158.67	648.84	-60.80	10.00	9.73	-4.74	-14.11
<b>Niobrara A</b>										
7,285.09	35.36	9.01	7,223.00	-134.23	653.06	-36.01	10.00	9.79	-3.73	-12.46
<b>Niobrara B</b>										
7,300.00	36.82	8.54	7,235.05	-125.55	654.40	-27.22	10.00	9.82	-3.20	-11.05
<b>Build Rate = 10.00/100ft</b>										
7,400.00	46.68	6.00	7,309.57	-59.56	662.68	39.26	10.00	9.86	-2.53	-10.66
7,410.95	47.76	5.78	7,317.00	-51.57	663.50	47.28	10.00	9.89	-2.06	-8.77
<b>Niobrara C</b>										
7,500.00	56.58	4.19	7,371.56	18.43	669.55	117.41	10.00	9.90	-1.79	-8.61
7,600.00	66.50	2.75	7,419.16	106.08	674.80	204.87	10.00	9.92	-1.44	-7.63
7,676.75	74.12	1.78	7,445.00	178.24	677.64	276.65	10.00	9.93	-1.25	-6.95
<b>Fort Hays</b>										
7,700.00	76.43	1.51	7,450.91	200.71	678.29	298.97	10.00	9.93	-1.19	-6.62
7,800.00	86.37	0.37	7,465.84	299.44	679.89	396.86	10.00	9.94	-1.14	-6.55
7,835.58	89.90	359.98	7,467.00	335.00	680.00	432.03	10.00	9.94	-1.11	-6.38
<b>End Build @ 7835.58ft - Codell TL (Heel) - 7" Intermediate Casing - Maverick 1C-13HZ_Casing Point</b>										
7,900.00	89.90	359.98	7,467.11	399.42	679.97	495.74	0.00	0.00	0.00	-6.37
8,000.00	89.90	359.98	7,467.27	499.42	679.93	594.63	0.00	0.00	0.00	0.00
8,100.00	89.90	359.98	7,467.44	599.42	679.89	693.52	0.00	0.00	0.00	0.00
8,200.00	89.90	359.98	7,467.61	699.42	679.84	792.41	0.00	0.00	0.00	0.00
8,300.00	89.90	359.98	7,467.78	799.42	679.80	891.30	0.00	0.00	0.00	0.00
8,400.00	89.90	359.98	7,467.94	899.42	679.76	990.19	0.00	0.00	0.00	0.00
8,500.00	89.90	359.98	7,468.11	999.42	679.72	1,089.08	0.00	0.00	0.00	0.00
8,600.00	89.90	359.98	7,468.28	1,099.42	679.67	1,187.97	0.00	0.00	0.00	0.00
8,700.00	89.90	359.98	7,468.44	1,199.42	679.63	1,286.86	0.00	0.00	0.00	0.00

**Plan Report for Maverick 1C-13HZ - 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 (°)
8,800.00	89.90	359.98	7,468.61	1,299.42	679.59	1,385.75	0.00	0.00	0.00	0.00
8,900.00	89.90	359.98	7,468.78	1,399.42	679.55	1,484.64	0.00	0.00	0.00	0.00
9,000.00	89.90	359.98	7,468.94	1,499.42	679.50	1,583.53	0.00	0.00	0.00	0.00
9,100.00	89.90	359.98	7,469.11	1,599.42	679.46	1,682.42	0.00	0.00	0.00	0.00
9,200.00	89.90	359.98	7,469.28	1,699.42	679.42	1,781.31	0.00	0.00	0.00	0.00
9,300.00	89.90	359.98	7,469.44	1,799.42	679.38	1,880.20	0.00	0.00	0.00	0.00
9,400.00	89.90	359.98	7,469.61	1,899.42	679.33	1,979.09	0.00	0.00	0.00	0.00
9,500.00	89.90	359.98	7,469.78	1,999.42	679.29	2,077.98	0.00	0.00	0.00	0.00
9,600.00	89.90	359.98	7,469.95	2,099.42	679.25	2,176.87	0.00	0.00	0.00	0.00
9,700.00	89.90	359.98	7,470.11	2,199.42	679.21	2,275.76	0.00	0.00	0.00	0.00
9,800.00	89.90	359.98	7,470.28	2,299.42	679.16	2,374.65	0.00	0.00	0.00	0.00
9,900.00	89.90	359.98	7,470.45	2,399.42	679.12	2,473.55	0.00	0.00	0.00	0.00
10,000.00	89.90	359.98	7,470.61	2,499.42	679.08	2,572.44	0.00	0.00	0.00	0.00
<b>Hold Angle @ 89.90</b>										
10,100.00	89.90	359.98	7,470.78	2,599.42	679.04	2,671.33	0.00	0.00	0.00	0.00
10,200.00	89.90	359.98	7,470.95	2,699.42	678.99	2,770.22	0.00	0.00	0.00	0.00
10,300.00	89.90	359.98	7,471.11	2,799.42	678.95	2,869.11	0.00	0.00	0.00	0.00
10,400.00	89.90	359.98	7,471.28	2,899.42	678.91	2,968.00	0.00	0.00	0.00	0.00
10,500.00	89.90	359.98	7,471.45	2,999.42	678.86	3,066.89	0.00	0.00	0.00	0.00
10,600.00	89.90	359.98	7,471.62	3,099.42	678.82	3,165.78	0.00	0.00	0.00	0.00
10,700.00	89.90	359.98	7,471.78	3,199.42	678.78	3,264.67	0.00	0.00	0.00	0.00
10,800.00	89.90	359.98	7,471.95	3,299.42	678.74	3,363.56	0.00	0.00	0.00	0.00
10,900.00	89.90	359.98	7,472.12	3,399.42	678.69	3,462.45	0.00	0.00	0.00	0.00
11,000.00	89.90	359.98	7,472.28	3,499.41	678.65	3,561.34	0.00	0.00	0.00	0.00
11,100.00	89.90	359.98	7,472.45	3,599.41	678.61	3,660.23	0.00	0.00	0.00	0.00
11,200.00	89.90	359.98	7,472.62	3,699.41	678.57	3,759.12	0.00	0.00	0.00	0.00
11,300.00	89.90	359.98	7,472.78	3,799.41	678.52	3,858.01	0.00	0.00	0.00	0.00
11,400.00	89.90	359.98	7,472.95	3,899.41	678.48	3,956.90	0.00	0.00	0.00	0.00
11,500.00	89.90	359.98	7,473.12	3,999.41	678.44	4,055.79	0.00	0.00	0.00	0.00
11,600.00	89.90	359.98	7,473.28	4,099.41	678.40	4,154.68	0.00	0.00	0.00	0.00
11,700.00	89.90	359.98	7,473.45	4,199.41	678.35	4,253.57	0.00	0.00	0.00	0.00
11,800.00	89.90	359.98	7,473.62	4,299.41	678.31	4,352.46	0.00	0.00	0.00	0.00
11,900.00	89.90	359.98	7,473.79	4,399.41	678.27	4,451.35	0.00	0.00	0.00	0.00
12,000.00	89.90	359.98	7,473.95	4,499.41	678.23	4,550.24	0.00	0.00	0.00	0.00
12,028.48	89.90	359.98	7,474.00	4,527.89	678.21	4,578.41	0.00	0.00	0.00	0.00
<b>Codell TL (Toe)</b>										
12,028.49	89.90	359.98	7,474.00	4,527.90	678.21	4,578.41	0.00	0.00	0.00	0.00
<b>Total Depth @ 12028.49ft - Maverick 1C-13HZ_BHL</b>										

**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
1,400.00	1,399.84	-2.51	6.51	Nudge Rate = 2.00/100ft
1,540.99	1,540.19	-7.28	18.92	End Nudge @ 1540.99ft
4,000.00	3,981.80	-112.23	291.41	Hold Angle @ 6.82
6,912.04	6,873.23	-236.51	614.10	Begin Build @ 6912.04ft
7,300.00	7,235.05	-125.55	654.40	Build Rate = 10.00/100ft
7,835.58	7,467.00	335.00	680.00	End Build @ 7835.58ft
10,000.00	7,470.61	2,499.42	679.08	Hold Angle @ 89.90
12,028.49	7,474.00	4,527.90	678.21	Total Depth @ 12028.49ft

**Plan Report for Maverick 1C-13HZ - 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	Maverick 1C-13HZ_BHL	8.52	Slot	0.00	0.00	7,474.00

**Survey tool program**

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	12,028.49	Plan A Rev 0 Permit	MWD

**Casing Details**

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,835.58	7,467.00	7" Intermediate Casing	7	8-3/4

**Formation Details**

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
775.00	775.00	Fox Hills		0.00	
4,071.71	4,053.00	Parkman		0.00	
4,586.35	4,564.00	Sussex		0.00	
7,176.34	7,129.00	Sharon Springs		0.00	
7,239.70	7,185.00	Niobrara A		0.00	
7,285.09	7,223.00	Niobrara B		0.00	
7,410.95	7,317.00	Niobrara C		0.00	
7,676.75	7,445.00	Fort Hays		0.00	
7,835.58	7,467.00	Codell TL (Heel)		0.00	
12,028.48	7,474.00	Codell TL (Toe)		0.00	

**Targets associated with this wellbore**

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Maverick 1C-13HZ_SHL	0.00	0.00	0.00	Point
Maverick 1C-13HZ_Setback Line	0.00	0.00	0.00	Point
Maverick 1C-13HZ_Section Line	0.00	0.00	0.00	Point
Maverick 1C-13HZ_Casing Point	7,467.00	335.00	680.00	Point
Maverick 1C-13HZ_BHL	7,474.00	4,527.91	678.21	Point

**North Reference Sheet for Sec. 13-T3N-R66W - Maverick 1C-13HZ - 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 @ 5064.00ft (Drilling Rig). Northing and Easting are relative to Maverick 1C-13HZ  
 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: 0.99995700

Grid Coordinates of Well: 1,323,546.48 ft N, 3,217,400.86 ft E  
 Geographical Coordinates of Well: 40° 13' 08.09" N, 104° 43' 17.35" W  
 Grid Convergence at Surface is: 0.50°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,028.49ft  
 the Bottom Hole Displacement is 4,578.41ft in the Direction of 8.52° (True).

Magnetic Convergence at surface is: -8.20° (24 September 2012, , BGGM2012)

