

# Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 28-T1N-R67W

Howard 29N-28HZ

Plan A 0

Plan: Plan A 0-Permit

## Sperry Drilling Services

# Proposal Report

29 May, 2013

Well Coordinates: 1,249,065.34 N, 3,168,541.13 E (40° 00' 55.80" N, 104° 53' 53.72" W)

Ground Level: 5,020.00 ft

Local Coordinate Origin:	Centered on Well Howard 29N-28HZ
Viewing Datum:	RKB=17 @ 5037.00ft (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. 28-T1N-R67W  
 Well: Howard 29N-28HZ  
 Wellbore: Plan A 0  
 Design: Plan A 0-Permit



SECTION DETAILS

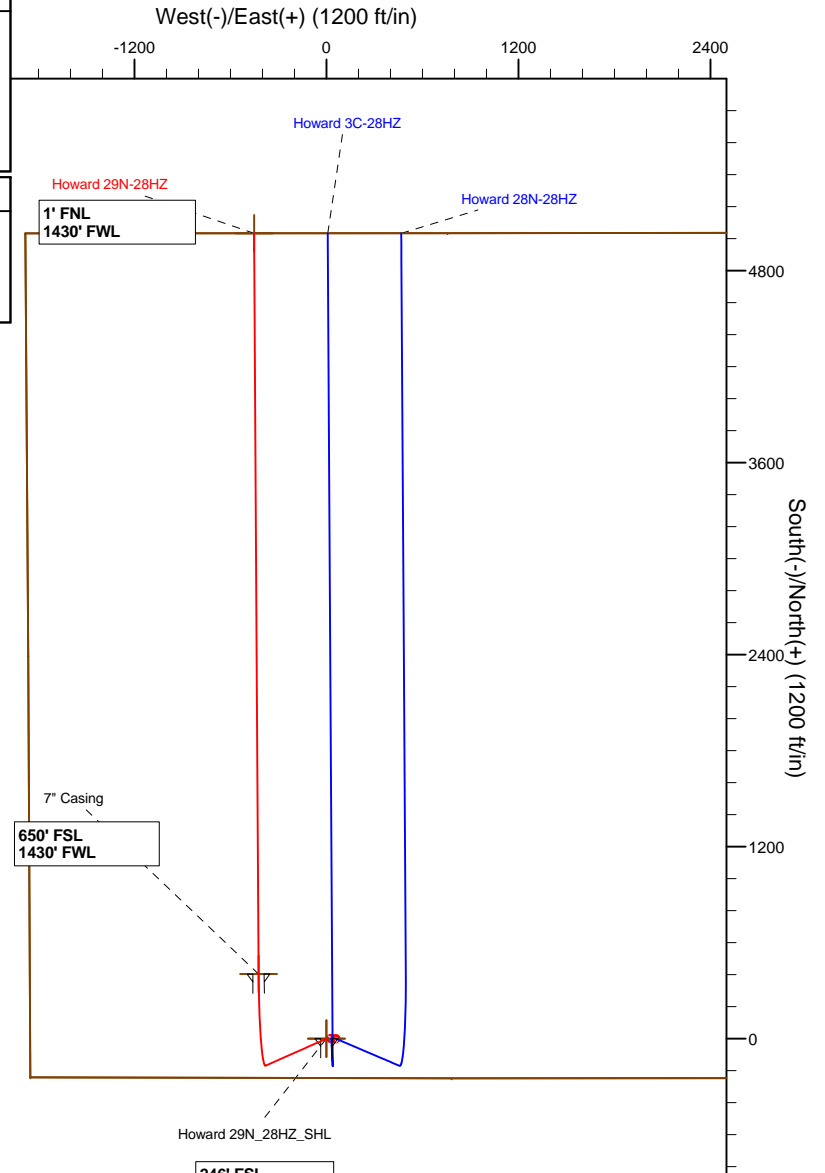
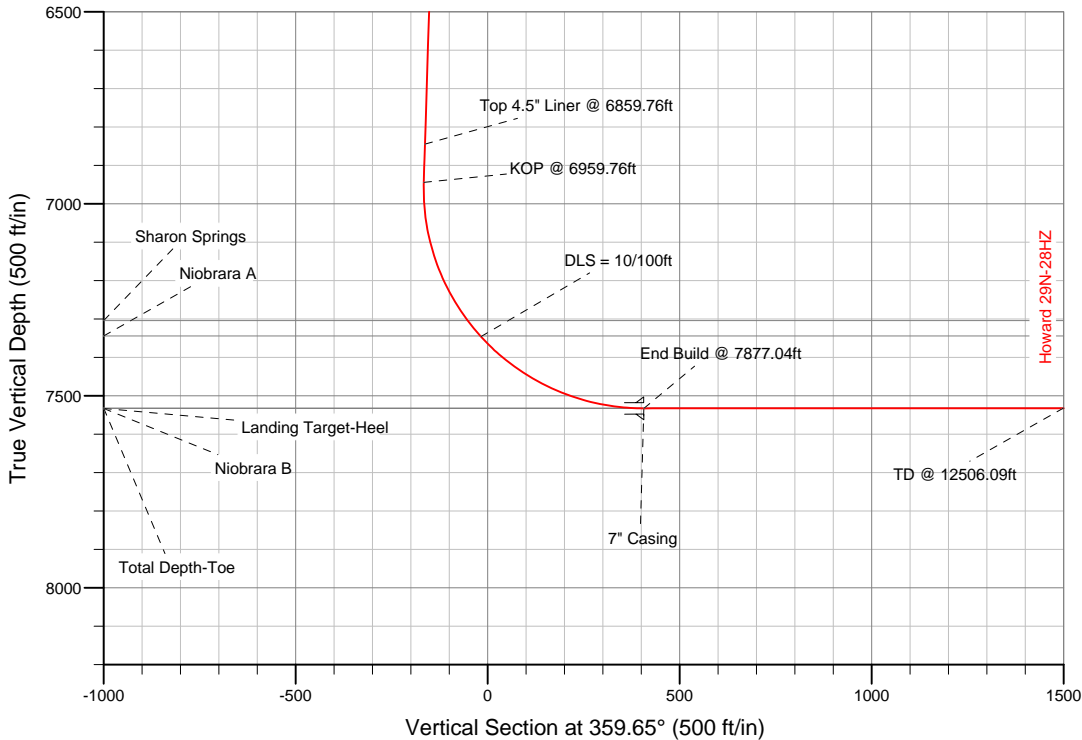
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	0.00	0.00	
3	1514.68	4.29	246.08	1514.48	-3.26	-7.35	2.00	246.08	-3.22	
4	6959.76	4.29	246.08	6944.28	-168.57	-379.98	0.00	0.00	-166.24	
5	7877.04	90.01	359.65	7533.00	404.00	-424.00	10.00	113.51	406.58	Howard 29N_28HZ_CP
6	12506.09	90.01	359.65	7532.00	5032.96	-452.27	0.00	0.00	5035.63	Howard 29N-28HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Howard_SEC	0.00	0.00	0.00	40.015501	-104.898256	Polygon
Howard 29N_28HZ_SHL	0.00	-0.04	0.00	40.015501	-104.898256	Point
Howard 29N-28HZ_BHL	7532.00	5032.96	-452.27	40.029317	-104.899871	Point
Howard 29N_28HZ_CP	7533.00	404.00	-424.00	40.016610	-104.899770	Point

MD TVD

6859.76 6844.56 Top 4.5" Liner @ 6859.76ft  
 6959.76 6944.28 KOP @ 6959.76ft



WELL DETAILS: Howard 29N-28HZ

Ground Level: 5020.00  
 RKB=17 @ 5037.00ft (Drilling Rig)

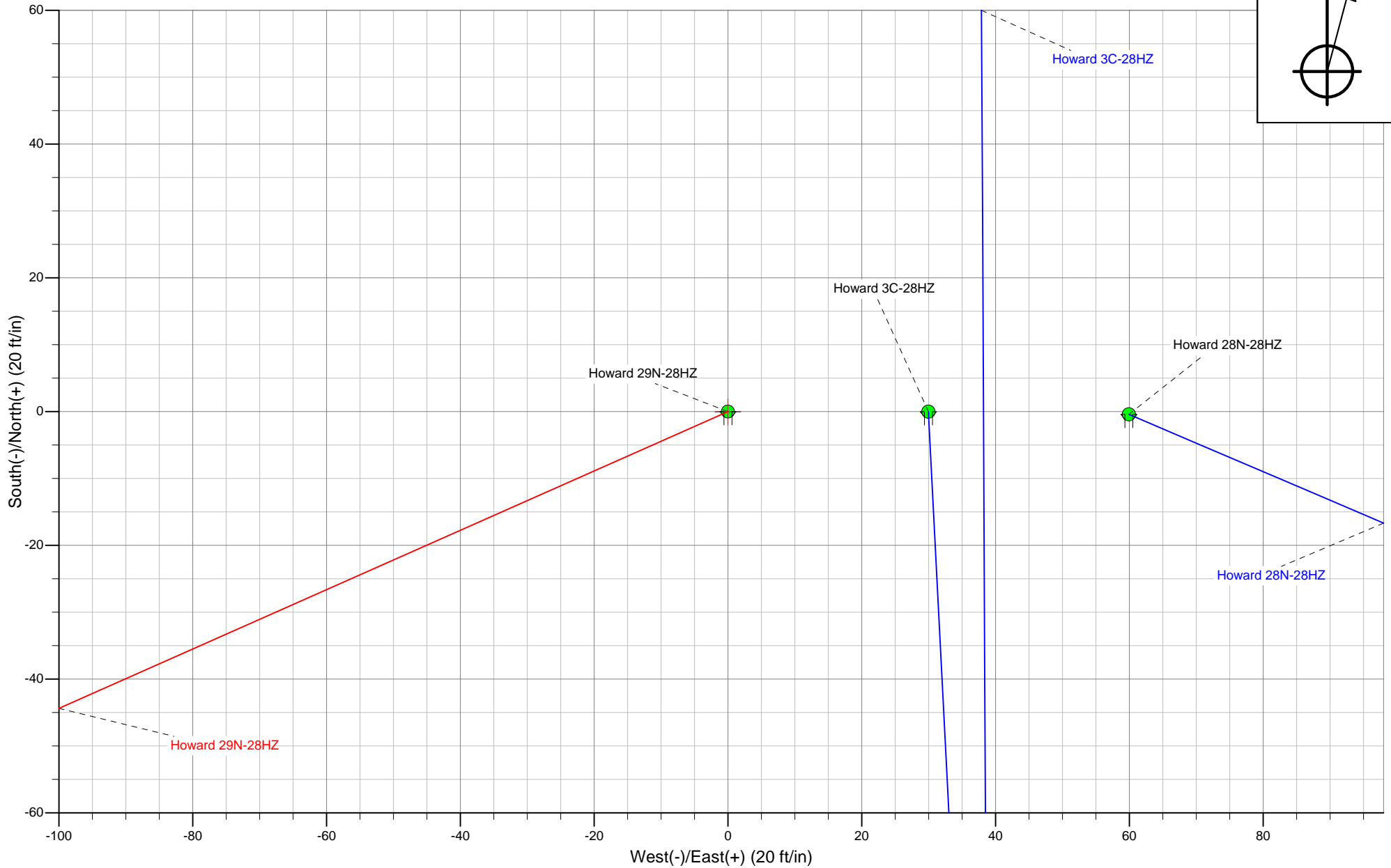
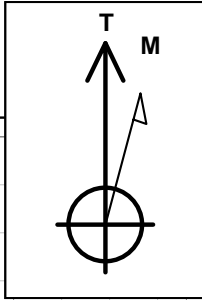
Plan: Plan A 0-Permit (Howard 29N-28HZ/Plan A 0)

Created By: Fred Hartmann Date: 05/30/2013

Project: Weld County, CO (NAD 83)  
Site: Sec. 28-T1N-R67W  
Well: Howard 29N-28HZ  
Plan A 0  
Plan A 0-Permit



**HALLIBURTON**  
Sperry Drilling



**Plan Report for Howard 29N-28HZ - Plan A 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
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
1,179.00	0.00	0.00	1,179.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>9 5/8" Casing</b>										
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Begin Nudge @ 1300.00ft.</b>										
1,400.00	2.00	246.08	1,399.98	-0.71	-1.60	-0.70	2.00	2.00	0.00	246.08
1,500.00	4.00	246.08	1,499.84	-2.83	-6.38	-2.79	2.00	2.00	0.00	0.00
1,514.68	4.29	246.08	1,514.48	-3.26	-7.35	-3.22	2.00	2.00	0.00	0.00
<b>End Nudge @ 1514.68ft.</b>										
1,600.00	4.29	246.08	1,599.56	-5.85	-13.19	-5.77	0.00	0.00	0.00	0.00
1,700.00	4.29	246.08	1,699.28	-8.89	-20.03	-8.76	0.00	0.00	0.00	0.00
1,800.00	4.29	246.08	1,799.00	-11.92	-26.88	-11.76	0.00	0.00	0.00	0.00
1,900.00	4.29	246.08	1,898.72	-14.96	-33.72	-14.75	0.00	0.00	0.00	0.00
2,000.00	4.29	246.08	1,998.44	-17.99	-40.56	-17.75	0.00	0.00	0.00	0.00
2,100.00	4.29	246.08	2,098.16	-21.03	-47.41	-20.74	0.00	0.00	0.00	0.00
2,200.00	4.29	246.08	2,197.88	-24.07	-54.25	-23.73	0.00	0.00	0.00	0.00
2,300.00	4.29	246.08	2,297.60	-27.10	-61.09	-26.73	0.00	0.00	0.00	0.00
2,400.00	4.29	246.08	2,397.31	-30.14	-67.94	-29.72	0.00	0.00	0.00	0.00
2,500.00	4.29	246.08	2,497.03	-33.17	-74.78	-32.72	0.00	0.00	0.00	0.00
2,600.00	4.29	246.08	2,596.75	-36.21	-81.62	-35.71	0.00	0.00	0.00	0.00
2,700.00	4.29	246.08	2,696.47	-39.25	-88.47	-38.70	0.00	0.00	0.00	0.00
2,800.00	4.29	246.08	2,796.19	-42.28	-95.31	-41.70	0.00	0.00	0.00	0.00
2,900.00	4.29	246.08	2,895.91	-45.32	-102.15	-44.69	0.00	0.00	0.00	0.00
3,000.00	4.29	246.08	2,995.63	-48.35	-109.00	-47.69	0.00	0.00	0.00	0.00
3,100.00	4.29	246.08	3,095.35	-51.39	-115.84	-50.68	0.00	0.00	0.00	0.00
3,200.00	4.29	246.08	3,195.07	-54.42	-122.68	-53.67	0.00	0.00	0.00	0.00
3,300.00	4.29	246.08	3,294.79	-57.46	-129.53	-56.67	0.00	0.00	0.00	0.00
3,400.00	4.29	246.08	3,394.51	-60.50	-136.37	-59.66	0.00	0.00	0.00	0.00
3,500.00	4.29	246.08	3,494.23	-63.53	-143.21	-62.66	0.00	0.00	0.00	0.00
3,600.00	4.29	246.08	3,593.95	-66.57	-150.06	-65.65	0.00	0.00	0.00	0.00
3,700.00	4.29	246.08	3,693.67	-69.60	-156.90	-68.64	0.00	0.00	0.00	0.00
3,800.00	4.29	246.08	3,793.39	-72.64	-163.74	-71.64	0.00	0.00	0.00	0.00
3,900.00	4.29	246.08	3,893.10	-75.68	-170.59	-74.63	0.00	0.00	0.00	0.00
4,000.00	4.29	246.08	3,992.82	-78.71	-177.43	-77.63	0.00	0.00	0.00	0.00
4,100.00	4.29	246.08	4,092.54	-81.75	-184.28	-80.62	0.00	0.00	0.00	0.00
4,200.00	4.29	246.08	4,192.26	-84.78	-191.12	-83.61	0.00	0.00	0.00	0.00
4,300.00	4.29	246.08	4,291.98	-87.82	-197.96	-86.61	0.00	0.00	0.00	0.00
4,400.00	4.29	246.08	4,391.70	-90.86	-204.81	-89.60	0.00	0.00	0.00	0.00
4,500.00	4.29	246.08	4,491.42	-93.89	-211.65	-92.60	0.00	0.00	0.00	0.00
4,600.00	4.29	246.08	4,591.14	-96.93	-218.49	-95.59	0.00	0.00	0.00	0.00
4,700.00	4.29	246.08	4,690.86	-99.96	-225.34	-98.58	0.00	0.00	0.00	0.00
4,800.00	4.29	246.08	4,790.58	-103.00	-232.18	-101.58	0.00	0.00	0.00	0.00
4,826.50	4.29	246.08	4,817.00	-103.80	-233.99	-102.37	0.00	0.00	0.00	0.00
<b>Sussex</b>										
4,900.00	4.29	246.08	4,890.30	-106.03	-239.02	-104.57	0.00	0.00	0.00	0.00
5,000.00	4.29	246.08	4,990.02	-109.07	-245.87	-107.57	0.00	0.00	0.00	0.00

**Plan Report for Howard 29N-28HZ - Plan A 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)	Tooface Azimuth (°)
5,100.00	4.29	246.08	5,089.74	-112.11	-252.71	-110.56	0.00	0.00	0.00	0.00
5,200.00	4.29	246.08	5,189.46	-115.14	-259.55	-113.55	0.00	0.00	0.00	0.00
5,300.00	4.29	246.08	5,289.18	-118.18	-266.40	-116.55	0.00	0.00	0.00	0.00
5,400.00	4.29	246.08	5,388.90	-121.21	-273.24	-119.54	0.00	0.00	0.00	0.00
5,500.00	4.29	246.08	5,488.61	-124.25	-280.08	-122.54	0.00	0.00	0.00	0.00
5,600.00	4.29	246.08	5,588.33	-127.29	-286.93	-125.53	0.00	0.00	0.00	0.00
5,700.00	4.29	246.08	5,688.05	-130.32	-293.77	-128.52	0.00	0.00	0.00	0.00
5,800.00	4.29	246.08	5,787.77	-133.36	-300.61	-131.52	0.00	0.00	0.00	0.00
5,900.00	4.29	246.08	5,887.49	-136.39	-307.46	-134.51	0.00	0.00	0.00	0.00
6,000.00	4.29	246.08	5,987.21	-139.43	-314.30	-137.51	0.00	0.00	0.00	0.00
6,100.00	4.29	246.08	6,086.93	-142.46	-321.15	-140.50	0.00	0.00	0.00	0.00
6,200.00	4.29	246.08	6,186.65	-145.50	-327.99	-143.49	0.00	0.00	0.00	0.00
6,300.00	4.29	246.08	6,286.37	-148.54	-334.83	-146.49	0.00	0.00	0.00	0.00
6,400.00	4.29	246.08	6,386.09	-151.57	-341.68	-149.48	0.00	0.00	0.00	0.00
6,500.00	4.29	246.08	6,485.81	-154.61	-348.52	-152.48	0.00	0.00	0.00	0.00
6,600.00	4.29	246.08	6,585.53	-157.64	-355.36	-155.47	0.00	0.00	0.00	0.00
6,700.00	4.29	246.08	6,685.25	-160.68	-362.21	-158.46	0.00	0.00	0.00	0.00
6,800.00	4.29	246.08	6,784.97	-163.72	-369.05	-161.46	0.00	0.00	0.00	0.00
6,859.76	4.29	246.08	6,844.56	-165.53	-373.14	-163.25	0.00	0.00	0.00	0.00
<b>Top 4.5" Liner @ 6859.76ft</b>										
6,900.00	4.29	246.08	6,884.69	-166.75	-375.89	-164.45	0.00	0.00	0.00	0.00
6,959.76	4.29	246.08	6,944.28	-168.57	-379.98	-166.24	0.00	0.00	0.00	0.00
<b>KOP @ 6959.76ft</b>										
7,000.00	4.56	300.07	6,984.41	-168.38	-382.75	-166.03	10.00	0.67	134.17	113.51
7,100.00	12.91	342.18	7,083.24	-155.71	-389.62	-153.33	10.00	8.35	42.12	59.66
7,200.00	22.64	350.15	7,178.37	-126.04	-396.35	-123.62	10.00	9.72	7.97	17.89
7,300.00	32.52	353.45	7,266.90	-80.26	-402.72	-77.80	10.00	9.89	3.30	10.28
7,345.17	37.01	354.41	7,304.00	-54.65	-405.43	-52.18	10.00	9.93	2.12	7.34
<b>Sharon Springs</b>										
7,397.09	42.17	355.29	7,344.00	-21.71	-408.39	-19.22	10.00	9.94	1.70	6.55
<b>Niobrara A</b>										
7,400.00	42.46	355.34	7,346.15	-19.76	-408.55	-17.26	10.00	9.95	1.51	5.87
<b>DLS = 10/100ft</b>										
7,500.00	52.41	356.61	7,413.71	53.62	-413.65	56.14	10.00	9.96	1.28	5.84
7,600.00	62.38	357.59	7,467.53	137.65	-417.86	140.20	10.00	9.97	0.97	4.97
7,700.00	72.35	358.39	7,505.97	229.77	-421.07	232.34	10.00	9.97	0.81	4.44
7,800.00	82.33	359.12	7,527.86	327.19	-423.18	329.77	10.00	9.98	0.72	4.13
7,877.04	90.01	359.65	7,533.00	404.00	-424.00	406.58	10.00	9.98	0.69	3.97
<b>End Build @ 7877.04ft - Niobrara B - Landing Target-Heel - 7" Casing - Howard 29N_28HZ_CP</b>										
7,900.00	90.01	359.65	7,533.00	426.96	-424.14	429.54	0.00	0.00	0.00	3.94
8,000.00	90.01	359.65	7,532.97	526.95	-424.75	529.54	0.00	0.00	0.00	0.00
8,100.00	90.01	359.65	7,532.95	626.95	-425.36	629.54	0.00	0.00	0.00	0.00
8,200.00	90.01	359.65	7,532.93	726.95	-425.97	729.54	0.00	0.00	0.00	0.00
8,300.00	90.01	359.65	7,532.91	826.95	-426.58	829.54	0.00	0.00	0.00	0.00
8,400.00	90.01	359.65	7,532.89	926.95	-427.19	929.54	0.00	0.00	0.00	0.00
8,500.00	90.01	359.65	7,532.87	1,026.95	-427.80	1,029.54	0.00	0.00	0.00	0.00
8,600.00	90.01	359.65	7,532.84	1,126.94	-428.42	1,129.54	0.00	0.00	0.00	0.00
8,700.00	90.01	359.65	7,532.82	1,226.94	-429.03	1,229.54	0.00	0.00	0.00	0.00
8,800.00	90.01	359.65	7,532.80	1,326.94	-429.64	1,329.54	0.00	0.00	0.00	0.00
8,900.00	90.01	359.65	7,532.78	1,426.94	-430.25	1,429.54	0.00	0.00	0.00	0.00
9,000.00	90.01	359.65	7,532.76	1,526.94	-430.86	1,529.54	0.00	0.00	0.00	0.00
9,100.00	90.01	359.65	7,532.74	1,626.93	-431.47	1,629.54	0.00	0.00	0.00	0.00
9,200.00	90.01	359.65	7,532.71	1,726.93	-432.08	1,729.54	0.00	0.00	0.00	0.00
9,300.00	90.01	359.65	7,532.69	1,826.93	-432.69	1,829.54	0.00	0.00	0.00	0.00
9,400.00	90.01	359.65	7,532.67	1,926.93	-433.30	1,929.54	0.00	0.00	0.00	0.00
9,500.00	90.01	359.65	7,532.65	2,026.93	-433.91	2,029.54	0.00	0.00	0.00	0.00
9,600.00	90.01	359.65	7,532.63	2,126.92	-434.52	2,129.54	0.00	0.00	0.00	0.00
9,700.00	90.01	359.65	7,532.61	2,226.92	-435.13	2,229.54	0.00	0.00	0.00	0.00
9,800.00	90.01	359.65	7,532.58	2,326.92	-435.74	2,329.54	0.00	0.00	0.00	0.00

**Plan Report for Howard 29N-28HZ - Plan A 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)	Tooface Azimuth (°)
9,900.00	90.01	359.65	7,532.56	2,426.92	-436.35	2,429.54	0.00	0.00	0.00	0.00
10,000.00	90.01	359.65	7,532.54	2,526.92	-436.96	2,529.54	0.00	0.00	0.00	0.00
10,100.00	90.01	359.65	7,532.52	2,626.92	-437.58	2,629.54	0.00	0.00	0.00	0.00
10,200.00	90.01	359.65	7,532.50	2,726.91	-438.19	2,729.54	0.00	0.00	0.00	0.00
10,300.00	90.01	359.65	7,532.48	2,826.91	-438.80	2,829.54	0.00	0.00	0.00	0.00
10,400.00	90.01	359.65	7,532.45	2,926.91	-439.41	2,929.54	0.00	0.00	0.00	0.00
10,500.00	90.01	359.65	7,532.43	3,026.91	-440.02	3,029.54	0.00	0.00	0.00	0.00
10,600.00	90.01	359.65	7,532.41	3,126.91	-440.63	3,129.54	0.00	0.00	0.00	0.00
10,700.00	90.01	359.65	7,532.39	3,226.90	-441.24	3,229.54	0.00	0.00	0.00	0.00
10,800.00	90.01	359.65	7,532.37	3,326.90	-441.85	3,329.54	0.00	0.00	0.00	0.00
10,900.00	90.01	359.65	7,532.35	3,426.90	-442.46	3,429.54	0.00	0.00	0.00	0.00
11,000.00	90.01	359.65	7,532.33	3,526.90	-443.07	3,529.54	0.00	0.00	0.00	0.00
11,100.00	90.01	359.65	7,532.30	3,626.90	-443.68	3,629.54	0.00	0.00	0.00	0.00
11,200.00	90.01	359.65	7,532.28	3,726.89	-444.29	3,729.54	0.00	0.00	0.00	0.00
11,300.00	90.01	359.65	7,532.26	3,826.89	-444.90	3,829.54	0.00	0.00	0.00	0.00
11,400.00	90.01	359.65	7,532.24	3,926.89	-445.51	3,929.54	0.00	0.00	0.00	0.00
11,500.00	90.01	359.65	7,532.22	4,026.89	-446.13	4,029.54	0.00	0.00	0.00	0.00
11,600.00	90.01	359.65	7,532.20	4,126.89	-446.74	4,129.54	0.00	0.00	0.00	0.00
11,700.00	90.01	359.65	7,532.17	4,226.89	-447.35	4,229.54	0.00	0.00	0.00	0.00
11,800.00	90.01	359.65	7,532.15	4,326.88	-447.96	4,329.54	0.00	0.00	0.00	0.00
11,900.00	90.01	359.65	7,532.13	4,426.88	-448.57	4,429.54	0.00	0.00	0.00	0.00
12,000.00	90.01	359.65	7,532.11	4,526.88	-449.18	4,529.54	0.00	0.00	0.00	0.00
12,100.00	90.01	359.65	7,532.09	4,626.88	-449.79	4,629.54	0.00	0.00	0.00	0.00
12,200.00	90.01	359.65	7,532.07	4,726.88	-450.40	4,729.54	0.00	0.00	0.00	0.00
12,300.00	90.01	359.65	7,532.04	4,826.87	-451.01	4,829.54	0.00	0.00	0.00	0.00
12,400.00	90.01	359.65	7,532.02	4,926.87	-451.62	4,929.54	0.00	0.00	0.00	0.00
12,500.00	90.01	359.65	7,532.00	5,026.87	-452.23	5,029.54	0.00	0.00	0.00	0.00
12,506.08	90.01	359.65	7,532.00	5,032.95	-452.27	5,035.62	0.00	0.00	0.00	0.00
<b>Total Depth-Toe</b>										
12,506.09	90.01	359.65	7,532.00	5,032.96	-452.27	5,035.63	0.00	0.00	0.00	0.00
<b>Howard 29N-28HZ_BHL</b>										

**Plan Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N-S (ft)	+E-W (ft)	
1,300.00	1,300.00	0.00	0.00	Begin Nudge @ 1300.00ft.
1,514.68	1,514.48	-3.26	-7.35	End Nudge @ 1514.68ft.
6,859.76	6,844.56	-165.53	-373.14	Top 4.5" Liner @ 6859.76ft
6,959.76	6,944.28	-168.57	-379.98	KOP @ 6959.76ft
7,400.00	7,346.15	-19.76	-408.55	DLS = 10/100ft
7,877.04	7,533.00	404.00	-424.00	End Build @ 7877.04ft
12,506.09	7,532.00	5,032.96	-452.27	TD @ 12506.09ft

**Vertical Section Information**

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N_S (ft)	+E-W (ft)	
User	No Target (Freehand)	359.65	Slot	0.00	0.00	0.00

**Survey tool program**

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	12,506.09	Plan A 0-Permit	MWD

**Plan Report for Howard 29N-28HZ - Plan A 0-Permit****Casing Details**

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
1,179.00	1,179.00	9 5/8" Casing	9-5/8	13-1/2
7,877.04	7,533.00	7" Casing	7	8-3/4

**Formation Details**

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,826.50	4,817.00	Sussex		0.00	
7,345.17	7,304.00	Sharon Springs		0.00	
7,397.09	7,344.00	Niobrara A		0.00	
7,877.04	7,533.00	Niobrara B		0.00	
7,877.04	7,533.00	Landing Target-Heel		0.00	
12,506.08	7,532.00	Total Depth-Toe		0.00	

***Targets associated with this wellbore***

Target Name	TVD (ft)	+N-S (ft)	+E-W (ft)	Shape
Howard 29N_28HZ_CP	7,533.00	404.00	-424.00	Point
Howard_SEC	0.00	0.00	0.00	Polygon
Howard 29N-28HZ_BHL	7,532.00	5,032.96	-452.27	Point
Howard 29N_28HZ_SHL	0.00	-0.04	0.00	Point

**North Reference Sheet for Sec. 28-T1N-R67W - Howard 29N-28HZ - Plan A 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 @ 5037.00ft (Drilling Rig). Northing and Easting are relative to Howard 29N-28HZ  
 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: 0.99996523

Grid Coordinates of Well: 1,249,065.34 ft N, 3,168,541.13 ft E  
 Geographical Coordinates of Well: 40° 00' 55.80" N, 104° 53' 53.72" W  
 Grid Convergence at Surface is: 0.39°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,506.09ft  
 the Bottom Hole Displacement is 5,053.24ft in the Direction of 354.87° (True).

Magnetic Convergence at surface is: -8.30° (29 May 2013, , BGGM2012)

