

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 21-T1N-R67W

Howard 29N-33HZ

Plan A Rev 0

Plan: Plan A Rev 0 Permit

Sperry Drilling Services

Proposal Report

28 December, 2012

Well Coordinates: 1,254,377.84 N, 3,168,140.19 E (40° 01' 48.33" N, 104° 53' 58.41" W)

Ground Level: 5,025.00 ft

Local Coordinate Origin:

Centered on Well Howard 29N-33HZ

Viewing Datum:

RKB=17 @ 5042.00ft (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. 21-T1N-R67W

Well: Howard 29N-33HZ

Wellbore: Plan A Rev 0

Design: Plan A Rev 0 Permit

Anadarko Petroleum Corp.

HALLIBURTON

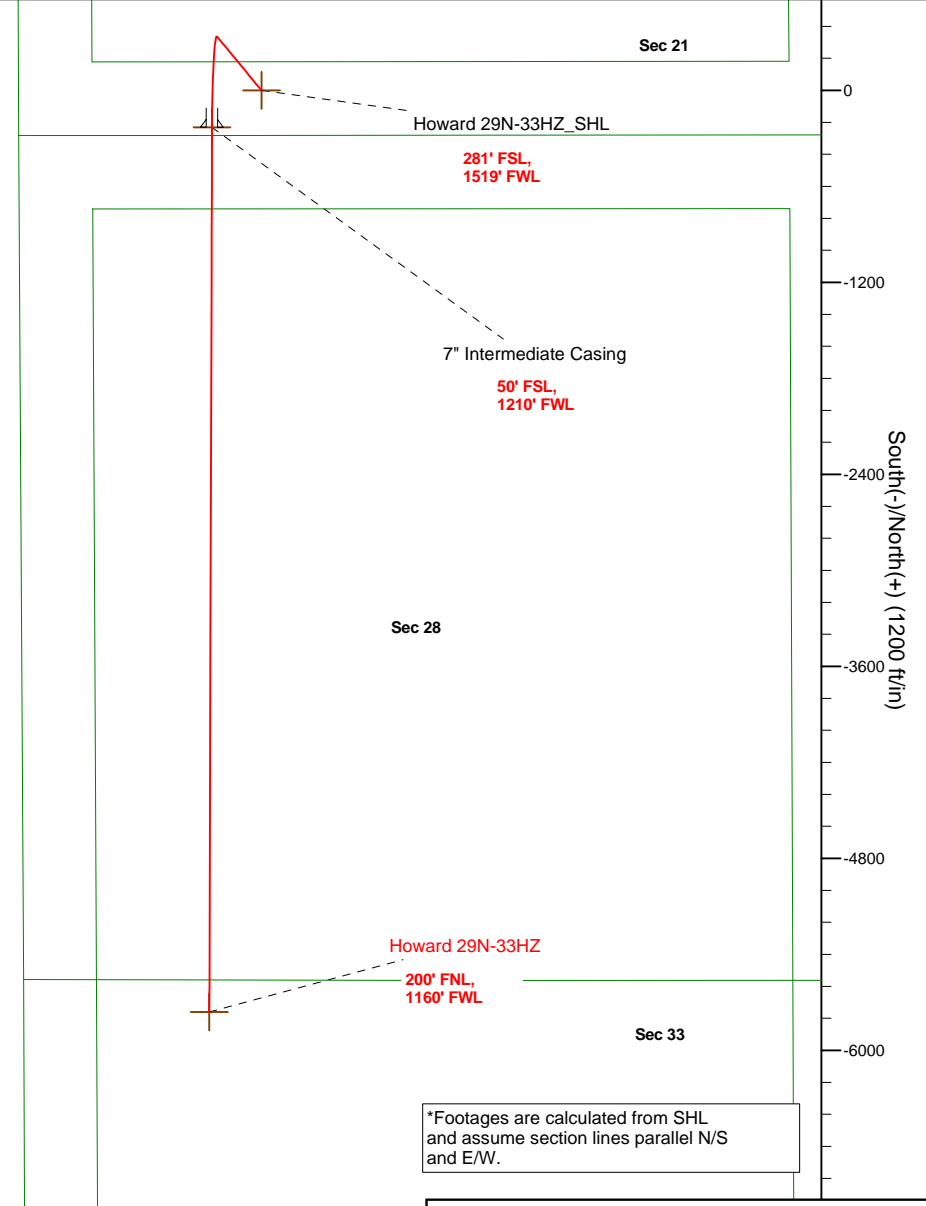
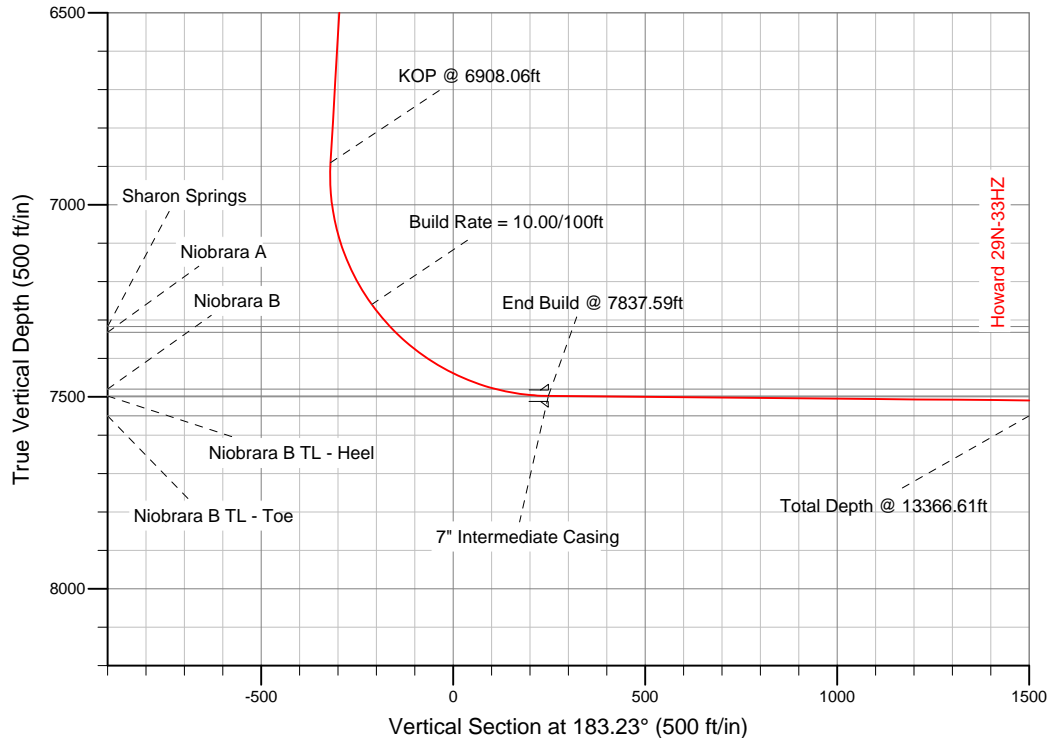
Sperry Drilling

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	1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	0.00	0.00	
3	1526.98	4.54	320.47	1526.74	6.93	-5.72	2.00	320.47	-6.60	
4	6908.06	4.54	320.47	6890.94	335.42	-276.81	0.00	0.00	-319.27	
5	7837.59	89.46	180.17	7498.00	-231.00	-309.00	10.00	-140.24	248.07	Howard 29N-33HZ_CP
6	13366.61	89.46	180.17	7550.00	-5759.75	-325.48	0.00	0.00	5768.94	Howard 29N-33HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Howard 29N-33HZ_SHL	0.00	0.00	0.00	40.030092	-104.899559	Point
Howard 29N-33HZ_CP	7498.00	-231.00	-309.00	40.029458	-104.900662	Point
Howard 29N-33HZ_BHL	7550.00	-5759.75	-325.48	40.014281	-104.900721	Point



*Footages are calculated from SHL and assume section lines parallel N/S and E/W.

WELL DETAILS: Howard 29N-33HZ

Ground Level: 5025.00 RKB=17 @ 5042.00ft (Drilling Rig)

Plan: Plan A Rev 0 Permit (Howard 29N-33HZ/Plan A Rev 0)

Created By: Fred Hartmann Date: 12/28/2012
Reviewed: _____ Date: _____

Plan Report for Howard 29N-33HZ - 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
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
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 1300.00ft										
1,400.00	2.00	320.47	1,399.98	1.35	-1.11	-1.28	2.00	2.00	0.00	320.47
1,500.00	4.00	320.47	1,499.84	5.38	-4.44	-5.12	2.00	2.00	0.00	0.00
1,526.98	4.54	320.47	1,526.74	6.93	-5.72	-6.60	2.00	2.00	0.00	0.00
End Nudge @ 1526.98ft										
1,600.00	4.54	320.47	1,599.53	11.39	-9.40	-10.84	0.00	0.00	0.00	0.00
1,700.00	4.54	320.47	1,699.22	17.49	-14.44	-16.65	0.00	0.00	0.00	0.00
1,800.00	4.54	320.47	1,798.91	23.60	-19.47	-22.46	0.00	0.00	0.00	0.00
1,900.00	4.54	320.47	1,898.59	29.70	-24.51	-28.27	0.00	0.00	0.00	0.00
2,000.00	4.54	320.47	1,998.28	35.81	-29.55	-34.08	0.00	0.00	0.00	0.00
2,100.00	4.54	320.47	2,097.96	41.91	-34.59	-39.89	0.00	0.00	0.00	0.00
2,200.00	4.54	320.47	2,197.65	48.02	-39.63	-45.70	0.00	0.00	0.00	0.00
2,300.00	4.54	320.47	2,297.34	54.12	-44.66	-51.51	0.00	0.00	0.00	0.00
2,400.00	4.54	320.47	2,397.02	60.23	-49.70	-57.32	0.00	0.00	0.00	0.00
2,500.00	4.54	320.47	2,496.71	66.33	-54.74	-63.14	0.00	0.00	0.00	0.00
2,600.00	4.54	320.47	2,596.40	72.43	-59.78	-68.95	0.00	0.00	0.00	0.00
2,700.00	4.54	320.47	2,696.08	78.54	-64.82	-74.76	0.00	0.00	0.00	0.00
2,800.00	4.54	320.47	2,795.77	84.64	-69.85	-80.57	0.00	0.00	0.00	0.00
2,900.00	4.54	320.47	2,895.46	90.75	-74.89	-86.38	0.00	0.00	0.00	0.00
3,000.00	4.54	320.47	2,995.14	96.85	-79.93	-92.19	0.00	0.00	0.00	0.00
3,100.00	4.54	320.47	3,094.83	102.96	-84.97	-98.00	0.00	0.00	0.00	0.00
3,200.00	4.54	320.47	3,194.51	109.06	-90.00	-103.81	0.00	0.00	0.00	0.00
3,300.00	4.54	320.47	3,294.20	115.17	-95.04	-109.62	0.00	0.00	0.00	0.00
3,400.00	4.54	320.47	3,393.89	121.27	-100.08	-115.43	0.00	0.00	0.00	0.00
3,500.00	4.54	320.47	3,493.57	127.37	-105.12	-121.24	0.00	0.00	0.00	0.00
3,600.00	4.54	320.47	3,593.26	133.48	-110.16	-127.05	0.00	0.00	0.00	0.00
3,700.00	4.54	320.47	3,692.95	139.58	-115.19	-132.86	0.00	0.00	0.00	0.00
3,800.00	4.54	320.47	3,792.63	145.69	-120.23	-138.67	0.00	0.00	0.00	0.00
3,900.00	4.54	320.47	3,892.32	151.79	-125.27	-144.48	0.00	0.00	0.00	0.00
4,000.00	4.54	320.47	3,992.00	157.90	-130.31	-150.29	0.00	0.00	0.00	0.00
4,100.00	4.54	320.47	4,091.69	164.00	-135.34	-156.10	0.00	0.00	0.00	0.00
4,200.00	4.54	320.47	4,191.38	170.11	-140.38	-161.91	0.00	0.00	0.00	0.00
4,300.00	4.54	320.47	4,291.06	176.21	-145.42	-167.73	0.00	0.00	0.00	0.00
4,400.00	4.54	320.47	4,390.75	182.31	-150.46	-173.54	0.00	0.00	0.00	0.00
4,500.00	4.54	320.47	4,490.44	188.42	-155.50	-179.35	0.00	0.00	0.00	0.00
4,600.00	4.54	320.47	4,590.12	194.52	-160.53	-185.16	0.00	0.00	0.00	0.00
4,700.00	4.54	320.47	4,689.81	200.63	-165.57	-190.97	0.00	0.00	0.00	0.00
4,800.00	4.54	320.47	4,789.49	206.73	-170.61	-196.78	0.00	0.00	0.00	0.00
4,832.61	4.54	320.47	4,822.00	208.72	-172.25	-198.67	0.00	0.00	0.00	0.00
Sussex										
4,900.00	4.54	320.47	4,889.18	212.84	-175.65	-202.59	0.00	0.00	0.00	0.00
5,000.00	4.54	320.47	4,988.87	218.94	-180.68	-208.40	0.00	0.00	0.00	0.00
5,100.00	4.54	320.47	5,088.55	225.05	-185.72	-214.21	0.00	0.00	0.00	0.00
5,200.00	4.54	320.47	5,188.24	231.15	-190.76	-220.02	0.00	0.00	0.00	0.00

Plan Report for Howard 29N-33HZ - 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 (°)
5,300.00	4.54	320.47	5,287.93	237.26	-195.80	-225.83	0.00	0.00	0.00	0.00
5,400.00	4.54	320.47	5,387.61	243.36	-200.84	-231.64	0.00	0.00	0.00	0.00
5,500.00	4.54	320.47	5,487.30	249.46	-205.87	-237.45	0.00	0.00	0.00	0.00
5,600.00	4.54	320.47	5,586.98	255.57	-210.91	-243.26	0.00	0.00	0.00	0.00
5,700.00	4.54	320.47	5,686.67	261.67	-215.95	-249.07	0.00	0.00	0.00	0.00
5,800.00	4.54	320.47	5,786.36	267.78	-220.99	-254.88	0.00	0.00	0.00	0.00
5,900.00	4.54	320.47	5,886.04	273.88	-226.03	-260.69	0.00	0.00	0.00	0.00
6,000.00	4.54	320.47	5,985.73	279.99	-231.06	-266.50	0.00	0.00	0.00	0.00
6,100.00	4.54	320.47	6,085.42	286.09	-236.10	-272.31	0.00	0.00	0.00	0.00
6,200.00	4.54	320.47	6,185.10	292.20	-241.14	-278.13	0.00	0.00	0.00	0.00
6,300.00	4.54	320.47	6,284.79	298.30	-246.18	-283.94	0.00	0.00	0.00	0.00
6,400.00	4.54	320.47	6,384.48	304.40	-251.21	-289.75	0.00	0.00	0.00	0.00
6,500.00	4.54	320.47	6,484.16	310.51	-256.25	-295.56	0.00	0.00	0.00	0.00
6,600.00	4.54	320.47	6,583.85	316.61	-261.29	-301.37	0.00	0.00	0.00	0.00
6,700.00	4.54	320.47	6,683.53	322.72	-266.33	-307.18	0.00	0.00	0.00	0.00
6,800.00	4.54	320.47	6,783.22	328.82	-271.37	-312.99	0.00	0.00	0.00	0.00
6,900.00	4.54	320.47	6,882.91	334.93	-276.40	-318.80	0.00	0.00	0.00	0.00
6,908.06	4.54	320.47	6,890.94	335.42	-276.81	-319.27	0.00	0.00	0.00	0.00
KOP @ 6908.06ft										
7,000.00	6.40	207.03	6,982.65	333.66	-281.46	-317.25	10.00	2.02	-123.38	-140.24
7,100.00	15.96	190.35	7,080.66	315.13	-286.48	-298.46	10.00	9.57	-16.68	-27.03
7,200.00	25.85	186.15	7,173.96	279.84	-291.30	-262.95	10.00	9.89	-4.20	-10.61
7,300.00	35.80	184.17	7,259.73	228.85	-295.77	-211.80	10.00	9.95	-1.97	-6.67
Build Rate = 10.00/100ft										
7,374.28	43.21	183.24	7,317.00	181.73	-298.79	-164.59	10.00	9.97	-1.26	-4.96
Sharon Springs										
7,395.22	45.30	183.02	7,332.00	167.14	-299.59	-149.97	10.00	9.97	-1.04	-4.24
Niobrara A										
7,400.00	45.77	182.97	7,335.35	163.74	-299.77	-146.56	10.00	9.97	-0.99	-4.08
7,500.00	55.75	182.12	7,398.52	86.46	-303.16	-69.21	10.00	9.98	-0.85	-4.05
7,600.00	65.73	181.45	7,447.33	-0.63	-305.85	17.89	10.00	9.98	-0.67	-3.51
7,698.79	75.60	180.89	7,480.00	-93.72	-307.74	110.94	10.00	9.99	-0.57	-3.18
Niobrara B										
7,700.00	75.72	180.88	7,480.30	-94.89	-307.76	112.10	10.00	9.99	-0.54	-3.00
7,800.00	85.71	180.36	7,496.42	-193.45	-308.83	210.56	10.00	9.99	-0.52	-2.99
7,837.59	89.46	180.17	7,498.00	-231.00	-309.00	248.07	10.00	9.99	-0.51	-2.91
End Build @ 7837.59ft - Niobrara B TL - Heel - 7" Intermediate Casing - Howard 29N-33HZ_CP										
7,900.00	89.46	180.17	7,498.59	-293.41	-309.19	310.38	0.00	0.00	0.00	-2.90
8,000.00	89.46	180.17	7,499.53	-393.40	-309.48	410.23	0.00	0.00	0.00	0.00
8,100.00	89.46	180.17	7,500.47	-493.40	-309.78	510.09	0.00	0.00	0.00	0.00
8,200.00	89.46	180.17	7,501.41	-593.39	-310.08	609.94	0.00	0.00	0.00	0.00
8,300.00	89.46	180.17	7,502.35	-693.39	-310.38	709.79	0.00	0.00	0.00	0.00
8,400.00	89.46	180.17	7,503.29	-793.38	-310.68	809.65	0.00	0.00	0.00	0.00
8,500.00	89.46	180.17	7,504.23	-893.38	-310.97	909.50	0.00	0.00	0.00	0.00
8,600.00	89.46	180.17	7,505.17	-993.37	-311.27	1,009.35	0.00	0.00	0.00	0.00
8,700.00	89.46	180.17	7,506.11	-1,093.37	-311.57	1,109.20	0.00	0.00	0.00	0.00
8,800.00	89.46	180.17	7,507.05	-1,193.36	-311.87	1,209.06	0.00	0.00	0.00	0.00
8,900.00	89.46	180.17	7,507.99	-1,293.36	-312.17	1,308.91	0.00	0.00	0.00	0.00
9,000.00	89.46	180.17	7,508.93	-1,393.35	-312.47	1,408.76	0.00	0.00	0.00	0.00
9,100.00	89.46	180.17	7,509.87	-1,493.35	-312.76	1,508.61	0.00	0.00	0.00	0.00
9,200.00	89.46	180.17	7,510.81	-1,593.34	-313.06	1,608.47	0.00	0.00	0.00	0.00
9,300.00	89.46	180.17	7,511.75	-1,693.34	-313.36	1,708.32	0.00	0.00	0.00	0.00
9,400.00	89.46	180.17	7,512.69	-1,793.33	-313.66	1,808.17	0.00	0.00	0.00	0.00
9,500.00	89.46	180.17	7,513.63	-1,893.33	-313.96	1,908.02	0.00	0.00	0.00	0.00
9,600.00	89.46	180.17	7,514.58	-1,993.32	-314.25	2,007.88	0.00	0.00	0.00	0.00
9,700.00	89.46	180.17	7,515.52	-2,093.32	-314.55	2,107.73	0.00	0.00	0.00	0.00
9,800.00	89.46	180.17	7,516.46	-2,193.31	-314.85	2,207.58	0.00	0.00	0.00	0.00
9,900.00	89.46	180.17	7,517.40	-2,293.31	-315.15	2,307.44	0.00	0.00	0.00	0.00
10,000.00	89.46	180.17	7,518.34	-2,393.30	-315.45	2,407.29	0.00	0.00	0.00	0.00

Plan Report for Howard 29N-33HZ - 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 (°)
10,100.00	89.46	180.17	7,519.28	-2,493.30	-315.74	2,507.14	0.00	0.00	0.00	0.00
10,200.00	89.46	180.17	7,520.22	-2,593.29	-316.04	2,606.99	0.00	0.00	0.00	0.00
10,300.00	89.46	180.17	7,521.16	-2,693.29	-316.34	2,706.85	0.00	0.00	0.00	0.00
10,400.00	89.46	180.17	7,522.10	-2,793.28	-316.64	2,806.70	0.00	0.00	0.00	0.00
10,500.00	89.46	180.17	7,523.04	-2,893.28	-316.94	2,906.55	0.00	0.00	0.00	0.00
10,600.00	89.46	180.17	7,523.98	-2,993.27	-317.23	3,006.40	0.00	0.00	0.00	0.00
10,700.00	89.46	180.17	7,524.92	-3,093.27	-317.53	3,106.26	0.00	0.00	0.00	0.00
10,800.00	89.46	180.17	7,525.86	-3,193.26	-317.83	3,206.11	0.00	0.00	0.00	0.00
10,900.00	89.46	180.17	7,526.80	-3,293.26	-318.13	3,305.96	0.00	0.00	0.00	0.00
11,000.00	89.46	180.17	7,527.74	-3,393.25	-318.43	3,405.81	0.00	0.00	0.00	0.00
11,100.00	89.46	180.17	7,528.68	-3,493.25	-318.73	3,505.67	0.00	0.00	0.00	0.00
11,200.00	89.46	180.17	7,529.62	-3,593.24	-319.02	3,605.52	0.00	0.00	0.00	0.00
11,300.00	89.46	180.17	7,530.56	-3,693.24	-319.32	3,705.37	0.00	0.00	0.00	0.00
11,400.00	89.46	180.17	7,531.50	-3,793.23	-319.62	3,805.23	0.00	0.00	0.00	0.00
11,500.00	89.46	180.17	7,532.44	-3,893.23	-319.92	3,905.08	0.00	0.00	0.00	0.00
11,600.00	89.46	180.17	7,533.39	-3,993.23	-320.22	4,004.93	0.00	0.00	0.00	0.00
11,700.00	89.46	180.17	7,534.33	-4,093.22	-320.51	4,104.78	0.00	0.00	0.00	0.00
11,800.00	89.46	180.17	7,535.27	-4,193.22	-320.81	4,204.64	0.00	0.00	0.00	0.00
11,900.00	89.46	180.17	7,536.21	-4,293.21	-321.11	4,304.49	0.00	0.00	0.00	0.00
12,000.00	89.46	180.17	7,537.15	-4,393.21	-321.41	4,404.34	0.00	0.00	0.00	0.00
12,100.00	89.46	180.17	7,538.09	-4,493.20	-321.71	4,504.19	0.00	0.00	0.00	0.00
12,200.00	89.46	180.17	7,539.03	-4,593.20	-322.00	4,604.05	0.00	0.00	0.00	0.00
12,300.00	89.46	180.17	7,539.97	-4,693.19	-322.30	4,703.90	0.00	0.00	0.00	0.00
12,400.00	89.46	180.17	7,540.91	-4,793.19	-322.60	4,803.75	0.00	0.00	0.00	0.00
12,500.00	89.46	180.17	7,541.85	-4,893.18	-322.90	4,903.61	0.00	0.00	0.00	0.00
12,600.00	89.46	180.17	7,542.79	-4,993.18	-323.20	5,003.46	0.00	0.00	0.00	0.00
12,700.00	89.46	180.17	7,543.73	-5,093.17	-323.49	5,103.31	0.00	0.00	0.00	0.00
12,800.00	89.46	180.17	7,544.67	-5,193.17	-323.79	5,203.16	0.00	0.00	0.00	0.00
12,900.00	89.46	180.17	7,545.61	-5,293.16	-324.09	5,303.02	0.00	0.00	0.00	0.00
13,000.00	89.46	180.17	7,546.55	-5,393.16	-324.39	5,402.87	0.00	0.00	0.00	0.00
13,100.00	89.46	180.17	7,547.49	-5,493.15	-324.69	5,502.72	0.00	0.00	0.00	0.00
13,200.00	89.46	180.17	7,548.43	-5,593.15	-324.99	5,602.57	0.00	0.00	0.00	0.00
13,300.00	89.46	180.17	7,549.37	-5,693.14	-325.28	5,702.43	0.00	0.00	0.00	0.00
13,366.60	89.46	180.17	7,550.00	-5,759.74	-325.48	5,768.93	0.00	0.00	0.00	0.00
Niobrara B TL - Toe										
13,366.61	89.46	180.17	7,550.00	-5,759.75	-325.48	5,768.94	0.00	0.00	0.00	0.00
Total Depth @ 13366.61ft - Howard 29N-33HZ_BHL										

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
1,526.98	1,526.74	6.93	-5.72	End Nudge @ 1526.98ft
6,908.06	6,890.94	335.42	-276.81	KOP @ 6908.06ft
7,300.00	7,259.73	228.85	-295.77	Build Rate = 10.00/100ft
7,837.59	7,498.00	-231.00	-309.00	End Build @ 7837.59ft
13,366.61	7,550.00	-5,759.75	-325.48	Total Depth @ 13366.61ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N/-S (ft)	+E/-W (ft)	
Target	Howard 29N-33HZ_BHL	183.23	Slot	0.00	0.00	0.00

Plan Report for Howard 29N-33HZ - Plan A Rev 0 Permit**Survey tool program**

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	7,837.59	Plan A Rev 0 Permit	MWD
7,837.59	13,366.61	Plan A Rev 0 Permit	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,837.59	7,498.00	7" Intermediate Casing	7	8-3/4

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,832.61	4,822.00	Sussex		0.00	
7,374.28	7,317.00	Sharon Springs		0.00	
7,395.22	7,332.00	Niobrara A		0.00	
7,698.79	7,480.00	Niobrara B		0.00	
7,837.59	7,498.00	Niobrara B TL - Heel		0.00	
13,366.60	7,550.00	Niobrara B TL - Toe		0.00	

Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Howard 29N-33HZ_BHL	7,550.00	-5,759.75	-325.48	Point
Howard 29N-33HZ_SHL	0.00	0.00	0.00	Point
Howard 29N-33HZ_CP	7,498.00	-231.00	-309.00	Point

North Reference Sheet for Sec. 21-T1N-R67W - Howard 29N-33HZ - 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 @ 5042.00ft (Drilling Rig). Northing and Easting are relative to Howard 29N-33HZ

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: 0.99996422

Grid Coordinates of Well: 1,254,377.84 ft N, 3,168,140.19 ft E

Geographical Coordinates of Well: 40° 01' 48.33" N, 104° 53' 58.41" W

Grid Convergence at Surface is: 0.39°

Based upon Minimum Curvature type calculations, at a Measured Depth of 13,366.61ft
the Bottom Hole Displacement is 5,768.94ft in the Direction of 183.23° (True).

Magnetic Convergence at surface is: -8.36° (27 December 2012, , BGGM2012)

