

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 14-T3N-R66W

Ferge 29N-14HZ

Plan A Rev 0

Plan: Plan A Rev 0 Permit

Sperry Drilling Services

Proposal Report

23 July, 2012

Well Coordinates: 1,323,360.78 N, 3,209,509.59 E (40° 13' 06.92" N, 104° 44' 59.09" W)

Ground Level: 4,913.00 ft

Local Coordinate Origin:

Centered on Well Ferge 29N-14HZ

Viewing Datum:

RKB=16 @ 4929.00ft (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. 14-T3N-R66W
 Well: Ferge 29N-14HZ
 Wellbore: Plan A Rev 0
 Design: Plan A Rev 0 Permit

Anadarko Petroleum Corp.

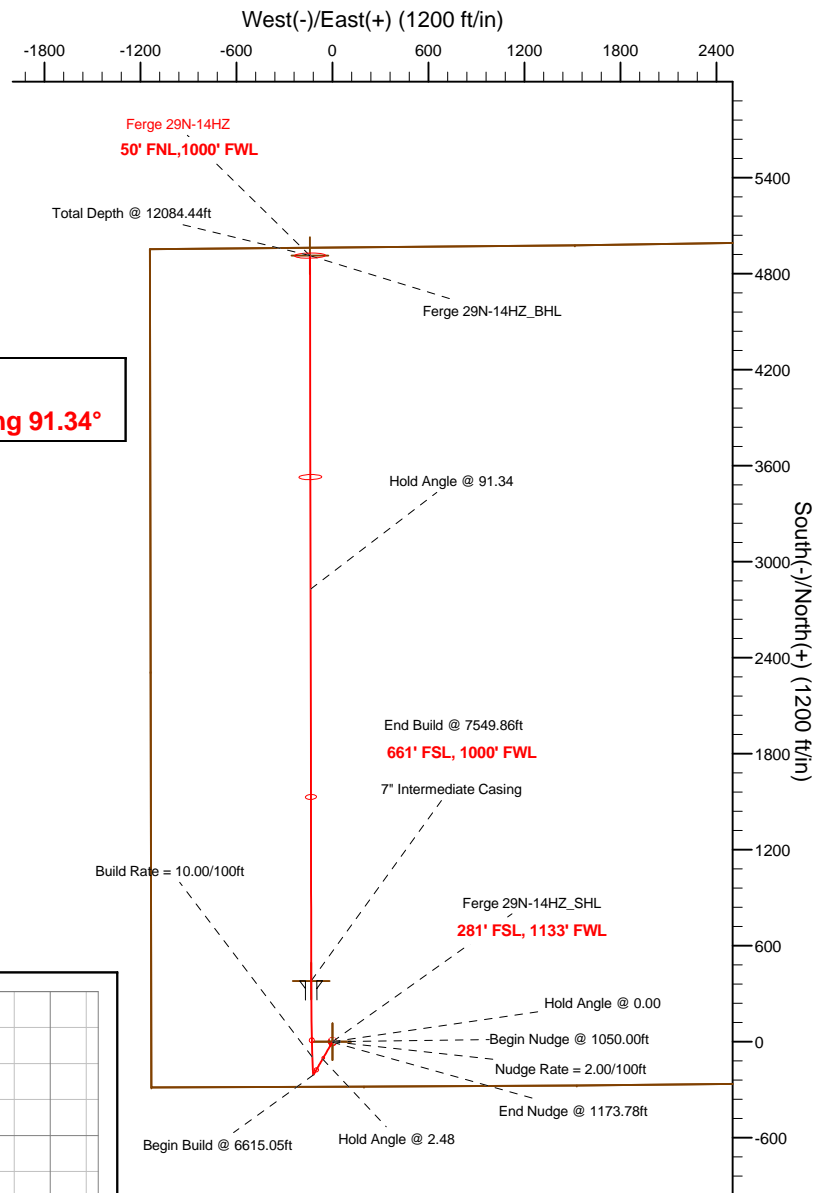
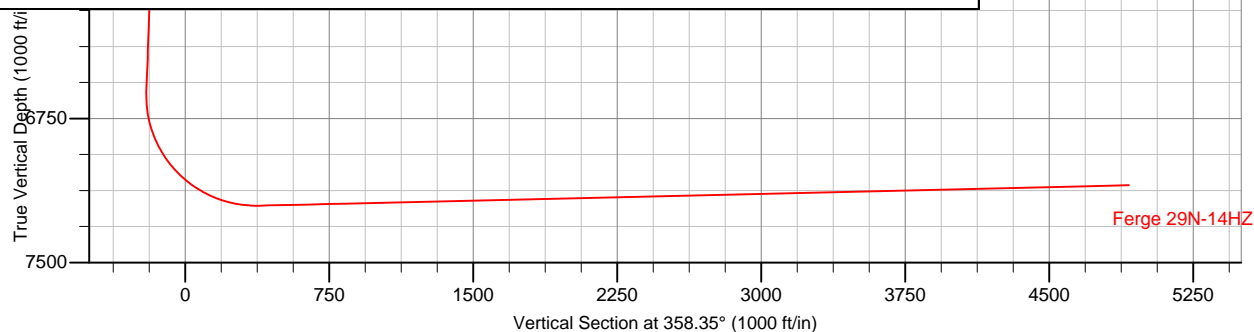
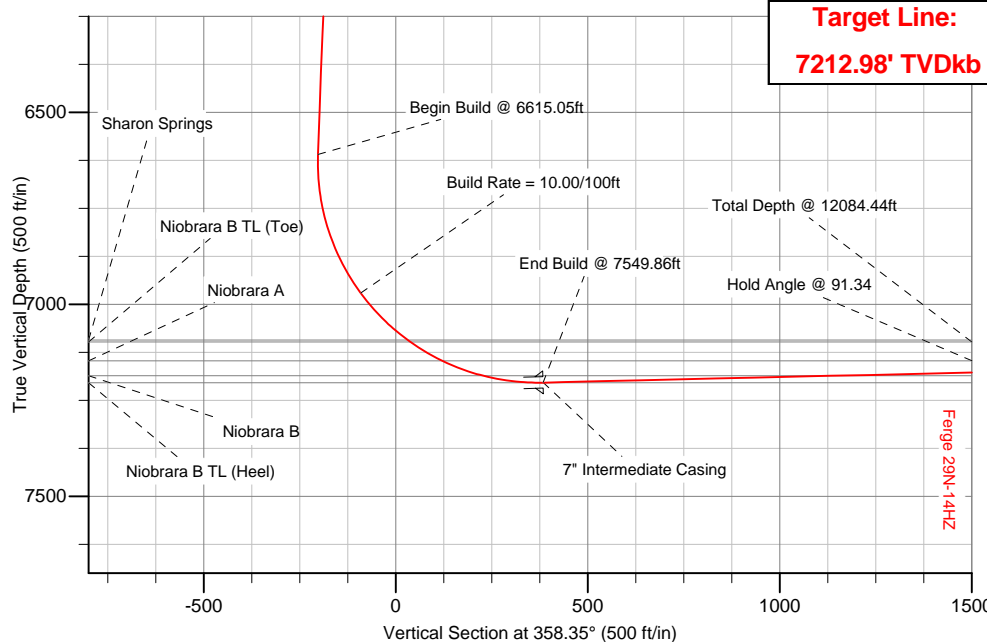
HALLIBURTON
 Sperry Drilling

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	1050.00	0.00	0.00	1050.00	0.00	0.00	0.00	0.00	0.00	
3	1173.78	2.48	209.97	1173.74	-2.32	-1.34	2.00	209.97	-2.28	
4	6615.05	2.48	209.97	6609.93	-205.92	-118.75	0.00	0.00	-202.42	
5	7549.86	91.34	359.90	7204.00	380.00	-133.00	10.00	149.87	383.67	Ferge 29N-14HZ_Casing Point
6	12084.44	91.34	359.90	7098.00	4913.34	-141.28	0.00	0.00	4915.37	Ferge 29N-14HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Ferge 29N-14HZ_Section Lines	0.00	0.00	0.00	40.218590	-104.749748	Polygon
Ferge 29N-14HZ_SHL	0.00	0.00	0.00	40.218590	-104.749748	Point
Ferge 29N-14HZ_BHL	7098.00	4913.34	-141.28	40.232077	-104.750254	Point
Ferge 29N-14HZ_Casing Point	7204.00	380.00	-133.00	40.219633	-104.750224	Point



WELL DETAILS: Ferge 29N-14HZ

Ground Level: 4913.00 RKB=16 @ 4929.00ft (Drilling Rig)

Plan: Plan A Rev 0 Permit (Ferge 29N-14HZ/Plan A Rev 0)

Created By: Fred Hartmann Date: 07/23/2012
 Reviewed: _____ Date: _____

Plan Report for Ferge 29N-14HZ - 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
Ferge 29N-14HZ_SHL - Ferge 29N-14HZ_Section Lines										
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										
699.00	0.00	0.00	699.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills										
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
1,050.00	0.00	0.00	1,050.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 1050.00ft										
1,100.00	1.00	209.97	1,100.00	-0.38	-0.22	-0.37	2.00	2.00	0.00	209.97
Nudge Rate = 2.00/100ft										
1,173.78	2.48	209.97	1,173.74	-2.32	-1.34	-2.28	2.00	2.00	0.00	0.00
End Nudge @ 1173.78ft										
1,200.00	2.48	209.97	1,199.94	-3.30	-1.90	-3.24	0.00	0.00	0.00	0.00
1,300.00	2.48	209.97	1,299.84	-7.04	-4.06	-6.92	0.00	0.00	0.00	0.00
1,400.00	2.48	209.97	1,399.75	-10.78	-6.22	-10.60	0.00	0.00	0.00	0.00
1,500.00	2.48	209.97	1,499.66	-14.52	-8.37	-14.28	0.00	0.00	0.00	0.00
1,600.00	2.48	209.97	1,599.56	-18.26	-10.53	-17.95	0.00	0.00	0.00	0.00
1,700.00	2.48	209.97	1,699.47	-22.01	-12.69	-21.63	0.00	0.00	0.00	0.00
1,800.00	2.48	209.97	1,799.38	-25.75	-14.85	-25.31	0.00	0.00	0.00	0.00
1,900.00	2.48	209.97	1,899.28	-29.49	-17.01	-28.99	0.00	0.00	0.00	0.00
2,000.00	2.48	209.97	1,999.19	-33.23	-19.16	-32.67	0.00	0.00	0.00	0.00
2,100.00	2.48	209.97	2,099.10	-36.97	-21.32	-36.35	0.00	0.00	0.00	0.00
2,200.00	2.48	209.97	2,199.00	-40.72	-23.48	-40.02	0.00	0.00	0.00	0.00
2,300.00	2.48	209.97	2,298.91	-44.46	-25.64	-43.70	0.00	0.00	0.00	0.00
2,400.00	2.48	209.97	2,398.82	-48.20	-27.80	-47.38	0.00	0.00	0.00	0.00
2,500.00	2.48	209.97	2,498.72	-51.94	-29.95	-51.06	0.00	0.00	0.00	0.00
2,600.00	2.48	209.97	2,598.63	-55.68	-32.11	-54.74	0.00	0.00	0.00	0.00
2,700.00	2.48	209.97	2,698.54	-59.43	-34.27	-58.42	0.00	0.00	0.00	0.00
2,800.00	2.48	209.97	2,798.44	-63.17	-36.43	-62.09	0.00	0.00	0.00	0.00
2,900.00	2.48	209.97	2,898.35	-66.91	-38.58	-65.77	0.00	0.00	0.00	0.00
3,000.00	2.48	209.97	2,998.26	-70.65	-40.74	-69.45	0.00	0.00	0.00	0.00
3,100.00	2.48	209.97	3,098.16	-74.39	-42.90	-73.13	0.00	0.00	0.00	0.00
3,200.00	2.48	209.97	3,198.07	-78.14	-45.06	-76.81	0.00	0.00	0.00	0.00
3,300.00	2.48	209.97	3,297.98	-81.88	-47.22	-80.49	0.00	0.00	0.00	0.00
3,400.00	2.48	209.97	3,397.88	-85.62	-49.37	-84.16	0.00	0.00	0.00	0.00
3,500.00	2.48	209.97	3,497.79	-89.36	-51.53	-87.84	0.00	0.00	0.00	0.00
3,600.00	2.48	209.97	3,597.70	-93.10	-53.69	-91.52	0.00	0.00	0.00	0.00
3,700.00	2.48	209.97	3,697.60	-96.84	-55.85	-95.20	0.00	0.00	0.00	0.00
3,800.00	2.48	209.97	3,797.51	-100.59	-58.01	-98.88	0.00	0.00	0.00	0.00
3,900.00	2.48	209.97	3,897.42	-104.33	-60.16	-102.56	0.00	0.00	0.00	0.00
3,982.66	2.48	209.97	3,980.00	-107.42	-61.95	-105.60	0.00	0.00	0.00	0.00
Parkman										
4,000.00	2.48	209.97	3,997.32	-108.07	-62.32	-106.23	0.00	0.00	0.00	0.00
Hold Angle @ 2.48										
4,100.00	2.48	209.97	4,097.23	-111.81	-64.48	-109.91	0.00	0.00	0.00	0.00
4,200.00	2.48	209.97	4,197.14	-115.55	-66.64	-113.59	0.00	0.00	0.00	0.00
4,300.00	2.48	209.97	4,297.04	-119.30	-68.79	-117.27	0.00	0.00	0.00	0.00
4,400.00	2.48	209.97	4,396.95	-123.04	-70.95	-120.95	0.00	0.00	0.00	0.00
4,500.00	2.48	209.97	4,496.86	-126.78	-73.11	-124.63	0.00	0.00	0.00	0.00

Plan Report for Ferge 29N-14HZ - 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 (°)
4,518.16	2.48	209.97	4,515.00	-127.46	-73.50	-125.29	0.00	0.00	0.00	0.00
Sussex										
4,600.00	2.48	209.97	4,596.76	-130.52	-75.27	-128.30	0.00	0.00	0.00	0.00
4,700.00	2.48	209.97	4,696.67	-134.26	-77.43	-131.98	0.00	0.00	0.00	0.00
4,800.00	2.48	209.97	4,796.58	-138.01	-79.58	-135.66	0.00	0.00	0.00	0.00
4,900.00	2.48	209.97	4,896.48	-141.75	-81.74	-139.34	0.00	0.00	0.00	0.00
5,000.00	2.48	209.97	4,996.39	-145.49	-83.90	-143.02	0.00	0.00	0.00	0.00
5,100.00	2.48	209.97	5,096.30	-149.23	-86.06	-146.70	0.00	0.00	0.00	0.00
5,200.00	2.48	209.97	5,196.20	-152.97	-88.22	-150.37	0.00	0.00	0.00	0.00
5,300.00	2.48	209.97	5,296.11	-156.71	-90.37	-154.05	0.00	0.00	0.00	0.00
5,400.00	2.48	209.97	5,396.02	-160.46	-92.53	-157.73	0.00	0.00	0.00	0.00
5,500.00	2.48	209.97	5,495.92	-164.20	-94.69	-161.41	0.00	0.00	0.00	0.00
5,600.00	2.48	209.97	5,595.83	-167.94	-96.85	-165.09	0.00	0.00	0.00	0.00
5,700.00	2.48	209.97	5,695.74	-171.68	-99.00	-168.77	0.00	0.00	0.00	0.00
5,800.00	2.48	209.97	5,795.64	-175.42	-101.16	-172.44	0.00	0.00	0.00	0.00
5,900.00	2.48	209.97	5,895.55	-179.17	-103.32	-176.12	0.00	0.00	0.00	0.00
6,000.00	2.48	209.97	5,995.46	-182.91	-105.48	-179.80	0.00	0.00	0.00	0.00
6,100.00	2.48	209.97	6,095.36	-186.65	-107.64	-183.48	0.00	0.00	0.00	0.00
6,200.00	2.48	209.97	6,195.27	-190.39	-109.79	-187.16	0.00	0.00	0.00	0.00
6,300.00	2.48	209.97	6,295.18	-194.13	-111.95	-190.84	0.00	0.00	0.00	0.00
6,400.00	2.48	209.97	6,395.08	-197.88	-114.11	-194.51	0.00	0.00	0.00	0.00
6,500.00	2.48	209.97	6,494.99	-201.62	-116.27	-198.19	0.00	0.00	0.00	0.00
6,600.00	2.48	209.97	6,594.90	-205.36	-118.42	-201.87	0.00	0.00	0.00	0.00
6,615.05	2.48	209.97	6,609.93	-205.92	-118.75	-202.42	0.00	0.00	0.00	0.00
Begin Build @ 6615.05ft										
6,700.00	6.47	348.85	6,694.73	-202.81	-120.60	-199.26	10.00	4.71	163.48	149.87
6,800.00	16.40	355.64	6,792.62	-183.15	-122.76	-179.55	10.00	9.93	6.79	11.09
6,900.00	26.38	357.36	6,885.62	-146.79	-124.87	-143.14	10.00	9.98	1.72	4.40
7,000.00	36.37	358.18	6,970.89	-94.83	-126.84	-91.14	10.00	9.99	0.82	2.80
Build Rate = 10.00/100ft										
7,100.00	46.37	358.68	7,045.84	-28.84	-128.62	-25.14	10.00	9.99	0.50	2.10
7,173.48	53.71	358.95	7,093.00	27.43	-129.77	31.15	10.00	10.00	0.37	1.72
Sharon Springs										
7,200.00	56.36	359.04	7,108.20	49.16	-130.15	52.88	10.00	10.00	0.32	1.54
7,278.33	64.19	359.27	7,147.00	117.12	-131.15	120.84	10.00	10.00	0.29	1.49
Niobrara A										
7,300.00	66.36	359.32	7,156.06	136.80	-131.39	140.52	10.00	10.00	0.26	1.38
7,391.82	75.54	359.55	7,186.00	223.49	-132.24	227.20	10.00	10.00	0.24	1.36
Niobrara B										
7,400.00	76.36	359.56	7,187.99	231.43	-132.31	235.14	10.00	10.00	0.23	1.28
7,500.00	86.35	359.79	7,203.00	330.17	-132.86	333.85	10.00	10.00	0.22	1.28
7,549.86	91.34	359.90	7,204.00	380.00	-133.00	383.67	10.00	10.00	0.22	1.24
End Build @ 7549.86ft - Niobrara B TL (Heel) - 7" Intermediate Casing - Ferge 29N-14HZ_Casing Point										
7,600.00	91.34	359.90	7,202.83	430.13	-133.09	433.78	0.00	0.00	0.00	1.24
7,700.00	91.34	359.90	7,200.49	530.10	-133.27	533.71	0.00	0.00	0.00	0.00
7,800.00	91.34	359.90	7,198.15	630.07	-133.46	633.65	0.00	0.00	0.00	0.00
7,900.00	91.34	359.90	7,195.82	730.05	-133.64	733.58	0.00	0.00	0.00	0.00
8,000.00	91.34	359.90	7,193.48	830.02	-133.82	833.52	0.00	0.00	0.00	0.00
8,100.00	91.34	359.90	7,191.14	929.99	-134.00	933.46	0.00	0.00	0.00	0.00
8,200.00	91.34	359.90	7,188.80	1,029.96	-134.19	1,033.39	0.00	0.00	0.00	0.00
8,300.00	91.34	359.90	7,186.46	1,129.94	-134.37	1,133.33	0.00	0.00	0.00	0.00
8,400.00	91.34	359.90	7,184.13	1,229.91	-134.55	1,233.27	0.00	0.00	0.00	0.00
8,500.00	91.34	359.90	7,181.79	1,329.88	-134.74	1,333.20	0.00	0.00	0.00	0.00
8,600.00	91.34	359.90	7,179.45	1,429.85	-134.92	1,433.14	0.00	0.00	0.00	0.00
8,700.00	91.34	359.90	7,177.11	1,529.83	-135.10	1,533.08	0.00	0.00	0.00	0.00
8,800.00	91.34	359.90	7,174.78	1,629.80	-135.28	1,633.01	0.00	0.00	0.00	0.00
8,900.00	91.34	359.90	7,172.44	1,729.77	-135.47	1,732.95	0.00	0.00	0.00	0.00
9,000.00	91.34	359.90	7,170.10	1,829.74	-135.65	1,832.89	0.00	0.00	0.00	0.00

Plan Report for Ferge 29N-14HZ - 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 (°)
9,100.00	91.34	359.90	7,167.76	1,929.72	-135.83	1,932.82	0.00	0.00	0.00	0.00
9,200.00	91.34	359.90	7,165.43	2,029.69	-136.01	2,032.76	0.00	0.00	0.00	0.00
9,300.00	91.34	359.90	7,163.09	2,129.66	-136.20	2,132.70	0.00	0.00	0.00	0.00
9,400.00	91.34	359.90	7,160.75	2,229.63	-136.38	2,232.63	0.00	0.00	0.00	0.00
9,500.00	91.34	359.90	7,158.41	2,329.61	-136.56	2,332.57	0.00	0.00	0.00	0.00
9,600.00	91.34	359.90	7,156.08	2,429.58	-136.74	2,432.50	0.00	0.00	0.00	0.00
9,700.00	91.34	359.90	7,153.74	2,529.55	-136.93	2,532.44	0.00	0.00	0.00	0.00
9,800.00	91.34	359.90	7,151.40	2,629.52	-137.11	2,632.38	0.00	0.00	0.00	0.00
9,900.00	91.34	359.90	7,149.06	2,729.50	-137.29	2,732.31	0.00	0.00	0.00	0.00
10,000.00	91.34	359.90	7,146.73	2,829.47	-137.47	2,832.25	0.00	0.00	0.00	0.00
Hold Angle @ 91.34										
10,100.00	91.34	359.90	7,144.39	2,929.44	-137.66	2,932.19	0.00	0.00	0.00	0.00
10,200.00	91.34	359.90	7,142.05	3,029.41	-137.84	3,032.12	0.00	0.00	0.00	0.00
10,300.00	91.34	359.90	7,139.71	3,129.39	-138.02	3,132.06	0.00	0.00	0.00	0.00
10,400.00	91.34	359.90	7,137.38	3,229.36	-138.21	3,232.00	0.00	0.00	0.00	0.00
10,500.00	91.34	359.90	7,135.04	3,329.33	-138.39	3,331.93	0.00	0.00	0.00	0.00
10,600.00	91.34	359.90	7,132.70	3,429.30	-138.57	3,431.87	0.00	0.00	0.00	0.00
10,700.00	91.34	359.90	7,130.36	3,529.28	-138.75	3,531.81	0.00	0.00	0.00	0.00
10,800.00	91.34	359.90	7,128.02	3,629.25	-138.94	3,631.74	0.00	0.00	0.00	0.00
10,900.00	91.34	359.90	7,125.69	3,729.22	-139.12	3,731.68	0.00	0.00	0.00	0.00
11,000.00	91.34	359.90	7,123.35	3,829.19	-139.30	3,831.61	0.00	0.00	0.00	0.00
11,100.00	91.34	359.90	7,121.01	3,929.17	-139.48	3,931.55	0.00	0.00	0.00	0.00
11,200.00	91.34	359.90	7,118.67	4,029.14	-139.67	4,031.49	0.00	0.00	0.00	0.00
11,300.00	91.34	359.90	7,116.34	4,129.11	-139.85	4,131.42	0.00	0.00	0.00	0.00
11,400.00	91.34	359.90	7,114.00	4,229.08	-140.03	4,231.36	0.00	0.00	0.00	0.00
11,500.00	91.34	359.90	7,111.66	4,329.06	-140.21	4,331.30	0.00	0.00	0.00	0.00
11,600.00	91.34	359.90	7,109.32	4,429.03	-140.40	4,431.23	0.00	0.00	0.00	0.00
11,700.00	91.34	359.90	7,106.99	4,529.00	-140.58	4,531.17	0.00	0.00	0.00	0.00
11,800.00	91.34	359.90	7,104.65	4,628.97	-140.76	4,631.11	0.00	0.00	0.00	0.00
11,900.00	91.34	359.90	7,102.31	4,728.95	-140.94	4,731.04	0.00	0.00	0.00	0.00
12,000.00	91.34	359.90	7,099.97	4,828.92	-141.13	4,830.98	0.00	0.00	0.00	0.00
12,084.44	91.34	359.90	7,098.00	4,913.33	-141.28	4,915.37	0.00	0.00	0.00	0.00
Total Depth @ 12084.44ft - Niobrara B TL (Toe) - Ferge 29N-14HZ_BHL										

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
600.00	600.00	0.00	0.00	Hold Angle @ 0.00
1,050.00	1,050.00	0.00	0.00	Begin Nudge @ 1050.00ft
1,100.00	1,100.00	-0.38	-0.22	Nudge Rate = 2.00/100ft
1,173.78	1,173.74	-2.32	-1.34	End Nudge @ 1173.78ft
4,000.00	3,997.32	-108.07	-62.32	Hold Angle @ 2.48
6,615.05	6,609.93	-205.92	-118.75	Begin Build @ 6615.05ft
7,000.00	6,970.89	-94.83	-126.84	Build Rate = 10.00/100ft
7,549.86	7,204.00	380.00	-133.00	End Build @ 7549.86ft
10,000.00	7,146.73	2,829.47	-137.47	Hold Angle @ 91.34
12,084.44	7,098.00	4,913.33	-141.28	Total Depth @ 12084.44ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (ft)	+E/-W (ft)	Start TVD (ft)
Target	Ferge 29N-14HZ_BHL	358.35	Slot	0.00	0.00	7,098.00

Plan Report for Ferge 29N-14HZ - Plan A Rev 0 Permit

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	12,084.44	Plan A Rev 0 Permit	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,549.86	7,204.00	7" Intermediate Casing	7	8-3/4

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
699.00	699.00	Fox Hills		0.00	
3,982.66	3,980.00	Parkman		0.00	
4,518.16	4,515.00	Sussex		0.00	
7,173.48	7,093.00	Sharon Springs		0.00	
7,278.33	7,147.00	Niobrara A		0.00	
7,391.82	7,186.00	Niobrara B		0.00	
7,549.86	7,204.00	Niobrara B TL (Heel)		0.00	
12,084.44	7,098.00	Niobrara B TL (Toe)		0.00	

Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Ferge 29N-14HZ_Section Lines	0.00	0.00	0.00	Polygon
Ferge 29N-14HZ_SHL	0.00	0.00	0.00	Point
Ferge 29N-14HZ_Casing Point	7,204.00	380.00	-133.00	Point
Ferge 29N-14HZ_BHL	7,098.00	4,913.34	-141.28	Point

North Reference Sheet for Sec. 14-T3N-R66W - Ferge 29N-14HZ - 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=16 @ 4929.00ft (Drilling Rig). Northing and Easting are relative to Ferge 29N-14HZ

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: 0.99995700

Grid Coordinates of Well: 1,323,360.783247 ft N, 3,209,509.586252 ft E

Geographical Coordinates of Well: 40° 13' 06.92" N, 104° 44' 59.09" W

Grid Convergence at Surface is: 0.48°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,084.44ft
the Bottom Hole Displacement is 4,915.37ft in the Direction of 358.35° (True).

Magnetic Convergence at surface is: -8.20° (23 July 2012, , BGGM2011)

