

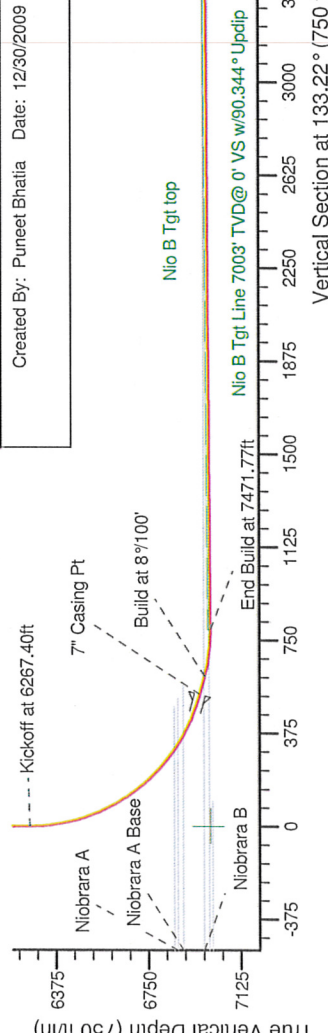
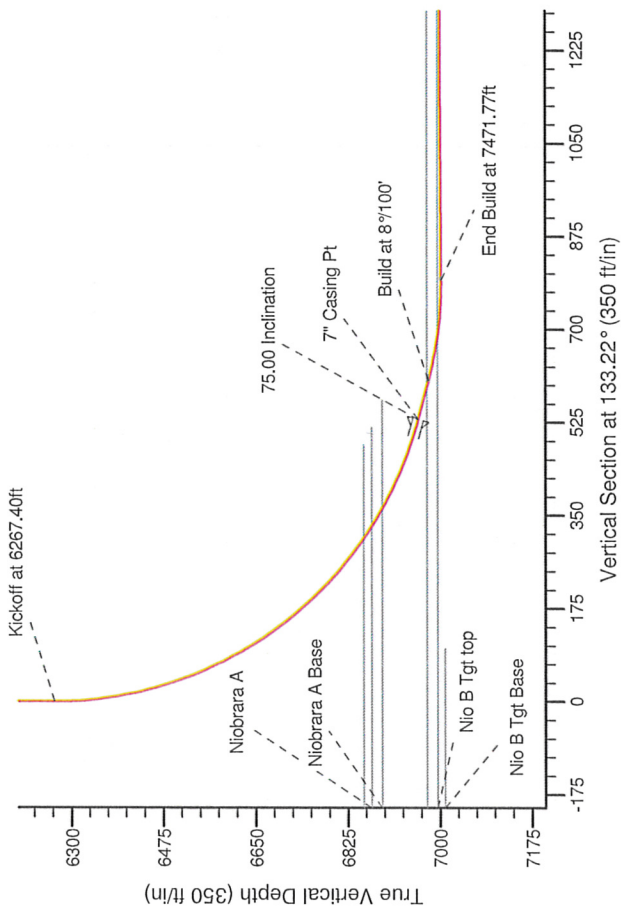
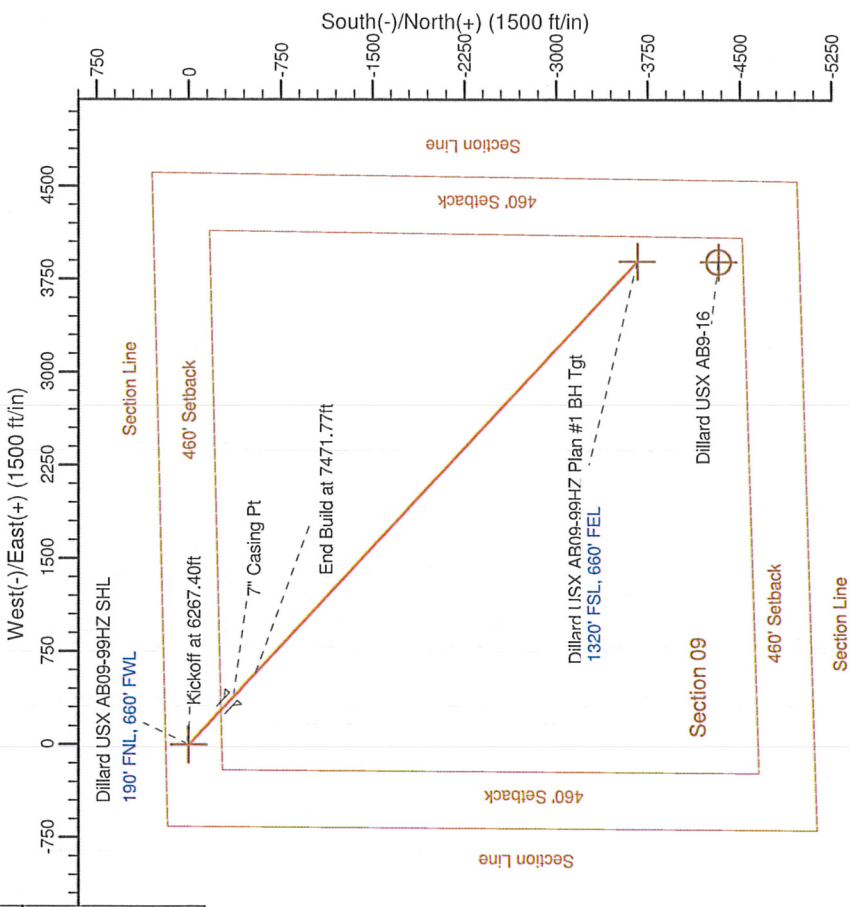
Project: Weld County, CO (Nad 83, North Zone)
Site: Sec. 9-T7N-R64W
Well: Dillard UX AB09-99HZ
Wellbore: Wellbore #1
Design: Plan #1 Proposal

Noble Energy (Rockies)

HALLIBURTON

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	6267.40	0.00	0.00	6267.40	0.00	0.00	0.00	0.00	0.00	
3	7204.90	75.00	133.22	6959.19	-363.51	386.83	8.00	133.22	530.83	
4	7275.90	75.00	133.22	6978.60	-413.12	439.63	8.00	0.00	603.28	
5	7471.77	90.35	133.22	7003.00	-543.05	577.89	8.00	0.00	793.01	
6	12027.68	90.35	133.22	6975.18	-3662.91	3897.83	0.00	0.00	5348.83	Dillard UX AB09-99HZ Plan #1 BH Tgt



Plan: Plan #1 Proposal (Dillard UX AB09-99HZ Wellbore #1)

Created By: Puneet Bhatia Date: 12/30/2009

WELL DETAILS: Dillard UX AB09-99HZ

Ground Level: 4918.00
Northing: 1460695.33
Easting: 3260661.58
Latitude: 40° 35' 39.192 N
Longitude: 104° 33' 40.968 W

Noble Energy (Rockies)

Weld County, CO (Nad 83, North Zone)

Sec. 9-T7N-R64W

Dillard USX AB09-99HZ

Wellbore #1

Plan: Plan #1 Proposal

Sperry Drilling Services

Proposal Report

30 December, 2009

Well Coordinates: 1,460,695.33 N, 3,260,661.58 E (40° 35' 39.19" N, 104° 33' 40.97" W)

Ground Level: 4,918.00 ft

Local Coordinate Origin:

Centered on Well Dillard USX AB09-99HZ

Viewing Datum:

RKB - 13' @ 4931.00ft (Original Well Elev)

TVDs to System:

N

North Reference:

Grid

Unit System:

API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 431

HALLIBURTON

Plan Report for Dillard USX AB09-99HZ - Plan #1 Proposal

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
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,011.00	0.00	0.00	3,011.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre Silt										
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,813.00	0.00	0.00	3,813.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parkman										
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,620.00	0.00	0.00	4,620.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sussex										
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Plan Report for Dillard USX AB09-99HZ - Plan #1 Proposal

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 (°)
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,205.00	0.00	0.00	5,205.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shannon										
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,185.00	0.00	0.00	6,185.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Teepee Buttes										
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,267.40	0.00	0.00	6,267.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kickoff at 6267.40ft										
6,300.00	2.61	133.22	6,299.99	-0.50	0.54	0.74	8.00	8.00	0.00	133.22
6,400.00	10.61	133.22	6,399.24	-8.38	8.92	12.24	8.00	8.00	0.00	0.00
6,500.00	18.61	133.22	6,495.93	-25.63	27.28	37.44	8.00	8.00	0.00	0.00
6,600.00	26.61	133.22	6,588.17	-51.94	55.27	75.85	8.00	8.00	0.00	0.00
6,700.00	34.61	133.22	6,674.17	-86.78	92.35	126.73	8.00	8.00	0.00	0.00
6,800.00	42.61	133.22	6,752.25	-129.47	137.78	189.07	8.00	8.00	0.00	0.00
6,900.00	50.61	133.22	6,820.89	-179.20	190.70	261.68	8.00	8.00	0.00	0.00
6,958.27	55.27	133.22	6,856.00	-211.03	224.57	308.17	8.00	8.00	0.00	0.00
Niobrara										
6,985.34	57.44	133.22	6,871.00	-226.46	240.99	330.70	8.00	8.00	0.00	0.00
Niobrara A										
7,000.00	58.61	133.22	6,878.76	-234.98	250.05	343.14	8.00	8.00	0.00	0.00
7,024.17	60.54	133.22	6,891.00	-249.25	265.24	363.97	8.00	8.00	0.00	0.00
Niobrara A Base										
7,100.00	66.61	133.22	6,924.73	-295.73	314.70	431.85	8.00	8.00	0.00	0.00
7,200.00	74.61	133.22	6,957.91	-360.27	383.39	526.10	8.00	8.00	0.00	0.00
7,204.90	75.00	133.22	6,959.19	-363.51	386.83	530.83	8.00	8.00	0.00	0.00
75.00 Inclination - 7" Casing Pt										
7,269.84	75.00	133.22	6,976.00	-406.46	432.54	593.55	0.00	0.00	0.00	0.00
Niobrara B										
7,279.90	75.00	133.22	6,978.60	-413.12	439.63	603.28	0.00	0.00	0.00	0.00
Build at 8°/100'										
7,300.00	76.61	133.22	6,983.53	-426.46	453.82	622.76	8.00	8.00	0.00	0.00
7,367.12	81.98	133.22	6,996.00	-471.61	501.87	688.69	8.00	8.00	0.00	0.00
Nio B Tgt top										
7,400.00	84.61	133.22	6,999.84	-493.97	525.66	721.34	8.00	8.00	0.00	0.00
7,471.77	90.35	133.22	7,003.00	-543.05	577.89	793.01	8.00	8.00	0.00	0.00
End Build at 7471.77ft										
7,500.00	90.35	133.22	7,002.82	-562.38	598.46	821.24	0.00	0.00	0.00	0.00
7,600.00	90.35	133.22	7,002.21	-630.86	671.33	921.24	0.00	0.00	0.00	0.00
7,700.00	90.35	133.22	7,001.60	-699.34	744.20	1,021.24	0.00	0.00	0.00	0.00
7,800.00	90.35	133.22	7,000.99	-767.82	817.08	1,121.24	0.00	0.00	0.00	0.00
7,900.00	90.35	133.22	7,000.38	-836.30	889.95	1,221.23	0.00	0.00	0.00	0.00
8,000.00	90.35	133.22	6,999.77	-904.78	962.82	1,321.23	0.00	0.00	0.00	0.00
8,100.00	90.35	133.22	6,999.16	-973.26	1,035.69	1,421.23	0.00	0.00	0.00	0.00
8,200.00	90.35	133.22	6,998.55	-1,041.74	1,108.56	1,521.23	0.00	0.00	0.00	0.00
8,300.00	90.35	133.22	6,997.94	-1,110.22	1,181.43	1,621.23	0.00	0.00	0.00	0.00
8,400.00	90.35	133.22	6,997.33	-1,178.70	1,254.30	1,721.22	0.00	0.00	0.00	0.00
8,500.00	90.35	133.22	6,996.72	-1,247.18	1,327.17	1,821.22	0.00	0.00	0.00	0.00
8,600.00	90.35	133.22	6,996.11	-1,315.66	1,400.04	1,921.22	0.00	0.00	0.00	0.00
8,700.00	90.35	133.22	6,995.50	-1,384.14	1,472.92	2,021.22	0.00	0.00	0.00	0.00

Plan Report for Dillard USX AB09-99HZ - Plan #1 Proposal

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 (°)
8,800.00	90.35	133.22	6,994.89	-1,452.62	1,545.79	2,121.22	0.00	0.00	0.00	0.00
8,900.00	90.35	133.22	6,994.28	-1,521.09	1,618.66	2,221.22	0.00	0.00	0.00	0.00
9,000.00	90.35	133.22	6,993.66	-1,589.57	1,691.53	2,321.21	0.00	0.00	0.00	0.00
9,100.00	90.35	133.22	6,993.05	-1,658.05	1,764.40	2,421.21	0.00	0.00	0.00	0.00
9,200.00	90.35	133.22	6,992.44	-1,726.53	1,837.27	2,521.21	0.00	0.00	0.00	0.00
9,300.00	90.35	133.22	6,991.83	-1,795.01	1,910.14	2,621.21	0.00	0.00	0.00	0.00
9,400.00	90.35	133.22	6,991.22	-1,863.49	1,983.01	2,721.21	0.00	0.00	0.00	0.00
9,500.00	90.35	133.22	6,990.61	-1,931.97	2,055.89	2,821.20	0.00	0.00	0.00	0.00
9,600.00	90.35	133.22	6,990.00	-2,000.45	2,128.76	2,921.20	0.00	0.00	0.00	0.00
9,700.00	90.35	133.22	6,989.39	-2,068.93	2,201.63	3,021.20	0.00	0.00	0.00	0.00
9,800.00	90.35	133.22	6,988.78	-2,137.41	2,274.50	3,121.20	0.00	0.00	0.00	0.00
9,900.00	90.35	133.22	6,988.17	-2,205.89	2,347.37	3,221.20	0.00	0.00	0.00	0.00
10,000.00	90.35	133.22	6,987.56	-2,274.37	2,420.24	3,321.19	0.00	0.00	0.00	0.00
10,100.00	90.35	133.22	6,986.95	-2,342.85	2,493.11	3,421.19	0.00	0.00	0.00	0.00
10,200.00	90.35	133.22	6,986.34	-2,411.33	2,565.98	3,521.19	0.00	0.00	0.00	0.00
10,300.00	90.35	133.22	6,985.73	-2,479.81	2,638.85	3,621.19	0.00	0.00	0.00	0.00
10,400.00	90.35	133.22	6,985.12	-2,548.29	2,711.73	3,721.19	0.00	0.00	0.00	0.00
10,500.00	90.35	133.22	6,984.51	-2,616.76	2,784.60	3,821.19	0.00	0.00	0.00	0.00
10,600.00	90.35	133.22	6,983.90	-2,685.24	2,857.47	3,921.18	0.00	0.00	0.00	0.00
10,700.00	90.35	133.22	6,983.29	-2,753.72	2,930.34	4,021.18	0.00	0.00	0.00	0.00
10,800.00	90.35	133.22	6,982.68	-2,822.20	3,003.21	4,121.18	0.00	0.00	0.00	0.00
10,900.00	90.35	133.22	6,982.06	-2,890.68	3,076.08	4,221.18	0.00	0.00	0.00	0.00
11,000.00	90.35	133.22	6,981.45	-2,959.16	3,148.95	4,321.18	0.00	0.00	0.00	0.00
11,100.00	90.35	133.22	6,980.84	-3,027.64	3,221.82	4,421.17	0.00	0.00	0.00	0.00
11,200.00	90.35	133.22	6,980.23	-3,096.12	3,294.69	4,521.17	0.00	0.00	0.00	0.00
11,300.00	90.35	133.22	6,979.62	-3,164.60	3,367.57	4,621.17	0.00	0.00	0.00	0.00
11,400.00	90.35	133.22	6,979.01	-3,233.08	3,440.44	4,721.17	0.00	0.00	0.00	0.00
11,500.00	90.35	133.22	6,978.40	-3,301.56	3,513.31	4,821.17	0.00	0.00	0.00	0.00
11,600.00	90.35	133.22	6,977.79	-3,370.04	3,586.18	4,921.16	0.00	0.00	0.00	0.00
11,700.00	90.35	133.22	6,977.18	-3,438.52	3,659.05	5,021.16	0.00	0.00	0.00	0.00
11,800.00	90.35	133.22	6,976.57	-3,507.00	3,731.92	5,121.16	0.00	0.00	0.00	0.00
11,900.00	90.35	133.22	6,975.96	-3,575.48	3,804.79	5,221.16	0.00	0.00	0.00	0.00
12,000.00	90.35	133.22	6,975.35	-3,643.95	3,877.66	5,321.16	0.00	0.00	0.00	0.00
12,027.68	90.35	133.22	6,975.18	-3,662.91	3,897.83	5,348.83	0.00	0.00	0.00	0.00

Dillard USX AB09-99HZ Plan #1 BH Tgt

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
6,267.40	6,267.40	0.00	0.00	Kickoff at 6267.40ft
7,204.90	6,959.19	-363.51	386.83	75.00 Inclination
7,279.90	6,978.60	-413.12	439.63	Build at 8°/100'
7,471.77	7,003.00	-543.05	577.89	End Build at 7471.77ft
12,027.68	6,975.18	-3,662.91	3,897.83	Total Depth = 12027.68ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	+N/-S (ft)	+E/-W (ft)	Start TVD (ft)
TD	No Target (Freehand)	133.22	Slot	0.00	0.00	0.00

Plan Report for Dillard USX AB09-99HZ - Plan #1 Proposal

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	12,027.63	Plan #1 Proposal	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,204.90	6,959.19	7" Casing Pt	7	12-1/4

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	7,010.00	Nio B Tgt Base		0.00	
3,011.00	3,011.00	Pierre Silt		0.00	
3,813.00	3,813.00	Parkman		0.00	
4,620.00	4,620.00	Sussex		0.00	
5,205.00	5,205.00	Shannon		0.00	
6,185.00	6,185.00	Teepee Buttes		0.00	
6,958.27	6,856.00	Niobrara		0.00	
6,985.34	6,871.00	Niobrara A		0.00	
7,024.17	6,891.00	Niobrara A Base		0.00	
7,269.84	6,976.00	Niobrara B		0.00	
7,367.12	6,996.00	Nio B Tgt top		0.00	

Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Dillard USX AB09-99HZ Plan #1 BH Tgt	6,975.18	-3,662.91	3,897.83	Point
Dillard USX AB09-99HZ Nio B Tgt Line	7,003.00	0.00	0.00	Polygon
Dillard USX AB9-16	4,918.00	-4,323.32	3,893.08	Circle

North Reference Sheet for Sec. 9-T7N-R64W - Dillard USX AB09-99HZ - Wellbore #1

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to RKB - 13' @ 4931.00ft (Original Well Elev). Northing and Easting are relative to Dillard USX AB09-99HZ

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° 0' 0.000 E°, Latitude Origin: 40° 47' 0.000 N°

False Easting: 3,000,000.00ft, False Northing: 1,000,000.00ft, Scale Reduction: 0.99997478

Grid Coordinates of Well: 1,460,695.33 ft N, 3,260,661.58 ft E

Geographical Coordinates of Well: 40° 35' 39.19" N, 104° 33' 40.97" W

Grid Convergence at Surface is: 0.61°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,027.68ft

the Bottom Hole Displacement is 5,348.83ft in the Direction of 133.22° (Grid).

Magnetic Convergence at surface is: -8.33° (24 November 2009, , BGGM2008)

