

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 23-T3N-R68W

Benson Farms 33N-23HZ

Plan B

Plan: Rev B0 Permit

Sperry Drilling Services

Proposal Report

18 February, 2014

Well Coordinates: 1,318,516.31 N, 3,150,571.23 E (40° 12' 23.28" N, 104° 57' 39.26" W)

Ground Level: 4,961.00 usft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Geodetic Scale Factor Applied

Version: 5000.1 Build: 70

Centered on Well Benson Farms 33N-23HZ

RKB+GL @ 4978.00usft (Drilling Rig)

N

True

Dec-Deg - API - US Survey Feet - Custom

HALLIBURTON

Project: Weld County, CO (NAD 83)
Site: Sec. 23-T3N-R68W
Well: Benson Farms 33N-23HZ
Wellbore: Plan B
Design: Rev B0 Permit

Anadarko Petroleum Corp.

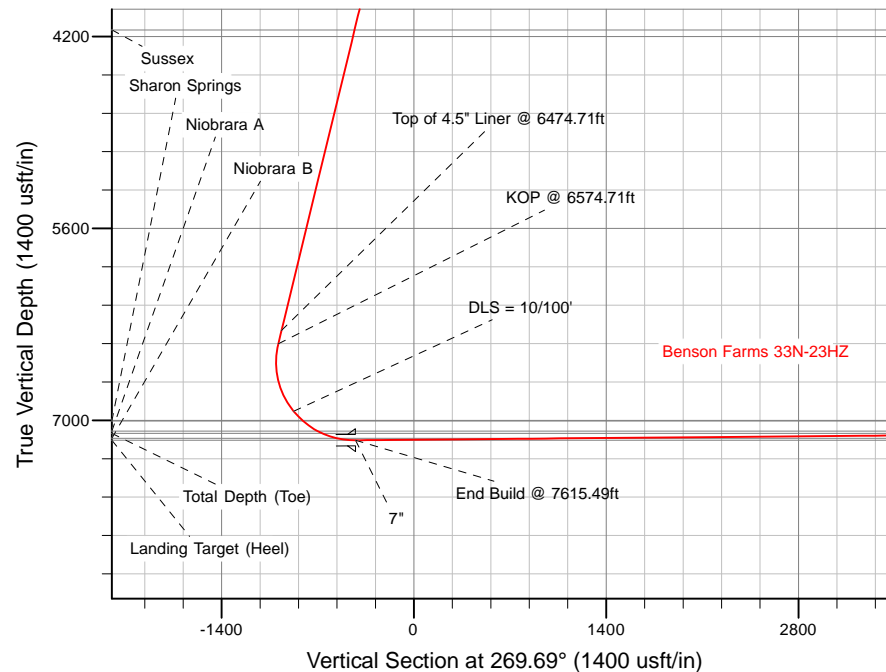
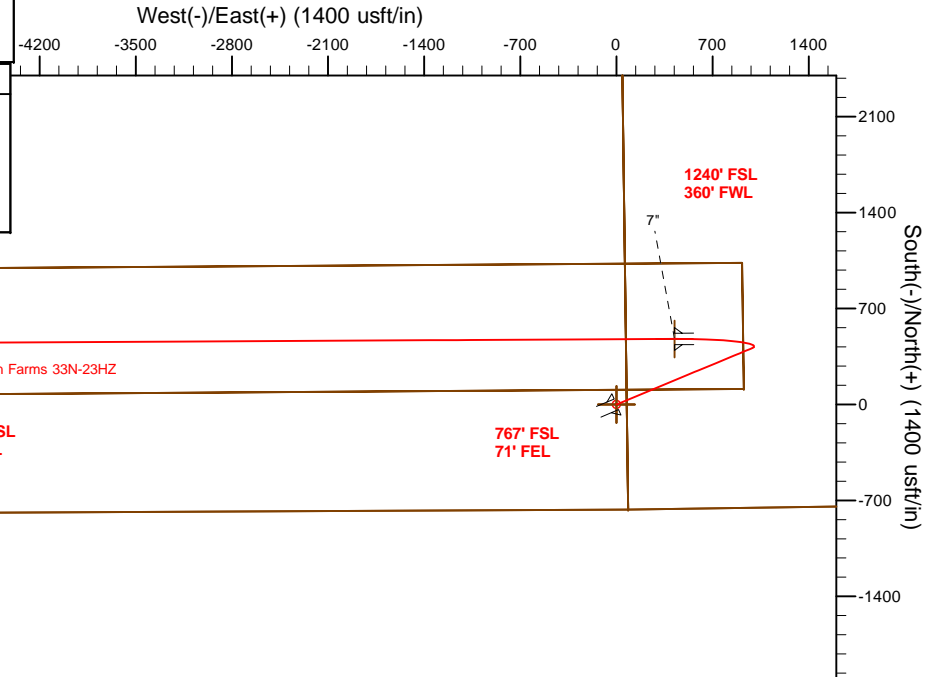
HALLIBURTON
Sperry Drilling

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	
3	2734.40	14.69	67.39	2726.38	35.99	86.42	2.00	67.39	-86.62	
4	6574.71	14.69	67.39	6441.20	410.32	985.32	0.00	0.00	-987.53	
5	7615.49	90.51	269.69	7145.00	477.99	422.88	10.00	-156.97	-425.46	Benson Farms 33N-23HZ_CP
6	13195.62	90.51	269.69	7095.00	448.29	-5156.94	0.00	0.00	5154.44	Benson Farms 33N-23HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	
Benson Farms 33N-23HZ_LD	0.00	0.00	0.00	40° 12' 23.284 N	104° 57' 39.258 W	Polygon
Benson Farms 33N-23HZ_SEC	0.00	0.00	0.00	40° 12' 23.284 N	104° 57' 39.258 W	Polygon
Benson Farms 33N-23HZ_SHL	0.00	0.00	0.00	40° 12' 23.284 N	104° 57' 39.258 W	Polygon
Benson Farms 33N-23HZ_BHL	7095.00	448.29	-5156.94	40° 12' 27.709 N	104° 58' 45.725 W	Point
Benson Farms 33N-23HZ_CP	7145.00	477.99	422.88	40° 12' 28.008 N	104° 57' 33.808 W	Point



TVD MD

6344.46 6474.71 Top of 4.5" Liner @ 6474.71ft
6441.20 6574.71 KOP @ 6574.71ft

WELL DETAILS: Benson Farms 33N-23HZ

Ground Level: 4961.00

RKB+GL @ 4978.00usft (Drilling Rig)

Plan: Rev B0 Permit (Benson Farms 33N-23HZ/Plan B)

Created By: Clint Eshelman Date: 2/18/2014
Reviewed: _____ Date: _____

Plan Report for Benson Farms 33N-23HZ - Rev B0 Permit

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	Toolface Azimuth (°)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benson Farms 33N-23HZ_LD - Benson Farms 33N-23HZ_SHL - Benson Farms 33N-23HZ_SEC										
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
1,061.00	0.00	0.00	1,061.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills Marker										
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,111.00	0.00	0.00	1,111.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"										
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
Begin Nudge @ 2000.00 ft										
2,100.00	2.00	67.39	2,099.98	0.67	1.61	-1.61	2.00	2.00	0.00	67.39
2,200.00	4.00	67.39	2,199.84	2.68	6.44	-6.46	2.00	2.00	0.00	0.00
2,300.00	6.00	67.39	2,299.45	6.03	14.49	-14.52	2.00	2.00	0.00	0.00
2,400.00	8.00	67.39	2,398.70	10.72	25.74	-25.80	2.00	2.00	0.00	0.00
2,500.00	10.00	67.39	2,497.47	16.73	40.18	-40.27	2.00	2.00	0.00	0.00
2,600.00	12.00	67.39	2,595.62	24.07	57.79	-57.92	2.00	2.00	0.00	0.00
2,700.00	14.00	67.39	2,693.06	32.71	78.56	-78.73	2.00	2.00	0.00	0.00
2,734.40	14.69	67.39	2,726.38	35.99	86.42	-86.62	2.00	2.00	0.00	0.00
End Nudge @ 2734.40ft										
2,800.00	14.69	67.39	2,789.84	42.38	101.78	-102.01	0.00	0.00	0.00	0.00
2,900.00	14.69	67.39	2,886.57	52.13	125.19	-125.47	0.00	0.00	0.00	0.00
3,000.00	14.69	67.39	2,983.30	61.88	148.59	-148.93	0.00	0.00	0.00	0.00
3,100.00	14.69	67.39	3,080.04	71.63	172.00	-172.39	0.00	0.00	0.00	0.00
3,200.00	14.69	67.39	3,176.77	81.37	195.41	-195.84	0.00	0.00	0.00	0.00
3,300.00	14.69	67.39	3,273.50	91.12	218.81	-219.30	0.00	0.00	0.00	0.00
3,400.00	14.69	67.39	3,370.23	100.87	242.22	-242.76	0.00	0.00	0.00	0.00
3,500.00	14.69	67.39	3,466.96	110.62	265.63	-266.22	0.00	0.00	0.00	0.00
3,600.00	14.69	67.39	3,563.70	120.36	289.04	-289.68	0.00	0.00	0.00	0.00
3,700.00	14.69	67.39	3,660.43	130.11	312.44	-313.14	0.00	0.00	0.00	0.00
3,732.64	14.69	67.39	3,692.00	133.29	320.08	-320.80	0.00	0.00	0.00	0.00
Parkman										
3,800.00	14.69	67.39	3,757.16	139.86	335.85	-336.60	0.00	0.00	0.00	0.00
3,900.00	14.69	67.39	3,853.89	149.61	359.26	-360.06	0.00	0.00	0.00	0.00
4,000.00	14.69	67.39	3,950.62	159.35	382.66	-383.52	0.00	0.00	0.00	0.00
4,100.00	14.69	67.39	4,047.36	169.10	406.07	-406.98	0.00	0.00	0.00	0.00
4,200.00	14.69	67.39	4,144.09	178.85	429.48	-430.44	0.00	0.00	0.00	0.00
4,208.18	14.69	67.39	4,152.00	179.64	431.39	-432.36	0.00	0.00	0.00	0.00
Sussex										
4,300.00	14.69	67.39	4,240.82	188.59	452.88	-453.90	0.00	0.00	0.00	0.00
4,400.00	14.69	67.39	4,337.55	198.34	476.29	-477.36	0.00	0.00	0.00	0.00

Plan Report for Benson Farms 33N-23HZ - Rev B0 Permit

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	Toolface Azimuth (°)
4,500.00	14.69	67.39	4,434.28	208.09	499.70	-500.82	0.00	0.00	0.00	0.00
4,600.00	14.69	67.39	4,531.02	217.84	523.10	-524.28	0.00	0.00	0.00	0.00
4,700.00	14.69	67.39	4,627.75	227.58	546.51	-547.74	0.00	0.00	0.00	0.00
4,800.00	14.69	67.39	4,724.48	237.33	569.92	-571.19	0.00	0.00	0.00	0.00
4,900.00	14.69	67.39	4,821.21	247.08	593.33	-594.65	0.00	0.00	0.00	0.00
5,000.00	14.69	67.39	4,917.95	256.83	616.73	-618.11	0.00	0.00	0.00	0.00
5,100.00	14.69	67.39	5,014.68	266.57	640.14	-641.57	0.00	0.00	0.00	0.00
5,200.00	14.69	67.39	5,111.41	276.32	663.55	-665.03	0.00	0.00	0.00	0.00
5,300.00	14.69	67.39	5,208.14	286.07	686.95	-688.49	0.00	0.00	0.00	0.00
5,400.00	14.69	67.39	5,304.87	295.82	710.36	-711.95	0.00	0.00	0.00	0.00
5,500.00	14.69	67.39	5,401.61	305.56	733.77	-735.41	0.00	0.00	0.00	0.00
5,600.00	14.69	67.39	5,498.34	315.31	757.17	-758.87	0.00	0.00	0.00	0.00
5,700.00	14.69	67.39	5,595.07	325.06	780.58	-782.33	0.00	0.00	0.00	0.00
5,800.00	14.69	67.39	5,691.80	334.81	803.99	-805.79	0.00	0.00	0.00	0.00
5,900.00	14.69	67.39	5,788.53	344.55	827.40	-829.25	0.00	0.00	0.00	0.00
6,000.00	14.69	67.39	5,885.27	354.30	850.80	-852.71	0.00	0.00	0.00	0.00
6,100.00	14.69	67.39	5,982.00	364.05	874.21	-876.17	0.00	0.00	0.00	0.00
6,200.00	14.69	67.39	6,078.73	373.79	897.62	-899.63	0.00	0.00	0.00	0.00
6,300.00	14.69	67.39	6,175.46	383.54	921.02	-923.08	0.00	0.00	0.00	0.00
6,400.00	14.69	67.39	6,272.20	393.29	944.43	-946.54	0.00	0.00	0.00	0.00
6,474.71	14.69	67.39	6,344.46	400.57	961.92	-964.07	0.00	0.00	0.00	0.00
Top of 4.5" Liner @ 6474.71ft										
6,500.00	14.69	67.39	6,368.93	403.04	967.84	-970.00	0.00	0.00	0.00	0.00
6,574.71	14.69	67.39	6,441.20	410.32	985.32	-987.53	0.00	0.00	0.00	0.00
KOP @ 6574.71ft										
6,600.00	12.40	62.78	6,465.78	412.79	990.70	-992.92	10.00	-9.05	-18.23	-156.97
6,700.00	5.79	10.05	6,564.61	422.69	1,001.15	-1,003.43	10.00	-6.61	-52.73	-152.48
6,800.00	10.61	301.90	6,663.75	432.55	994.20	-996.53	10.00	4.82	-68.15	-100.25
6,900.00	19.77	285.85	6,760.20	442.05	970.05	-972.43	10.00	9.16	-16.06	-32.60
7,000.00	29.47	279.91	6,851.01	450.93	929.44	-931.87	10.00	9.70	-5.94	-17.05
7,100.00	39.31	276.74	6,933.43	458.90	873.61	-876.08	10.00	9.84	-3.17	-11.63
DLS = 10/100'										
7,200.00	49.21	274.68	7,004.96	465.72	804.24	-806.75	10.00	9.90	-2.06	-9.01
7,200.06	49.21	274.68	7,005.00	465.73	804.19	-806.70	0.00	0.00	0.00	-3.22
Sharon Springs										
7,300.00	59.14	273.16	7,063.42	471.19	723.45	-725.99	10.01	9.93	-1.52	-7.53
7,329.72	62.09	272.77	7,078.00	472.53	697.60	-700.14	10.00	9.93	-1.31	-6.64
Niobrara A										
7,400.00	69.08	271.93	7,107.04	475.14	633.69	-636.25	10.00	9.94	-1.20	-6.45
7,482.99	77.33	271.03	7,131.00	477.18	554.34	-556.91	10.00	9.95	-1.08	-6.10
Niobrara B										
7,500.00	79.02	270.85	7,134.49	477.45	537.69	-540.27	10.00	9.95	-1.04	-5.84
7,600.00	88.97	269.85	7,144.93	478.05	438.37	-440.95	10.00	9.95	-1.01	-5.80
7,615.49	90.51	269.70	7,145.00	477.99	422.88	-425.46	10.00	9.95	-0.99	-5.69
End Build @ 7615.49ft - Landing Target (Heel) - 7" - Benson Farms 33N-23HZ_CP										
7,700.00	90.51	269.69	7,144.24	477.54	338.37	-340.95	0.00	0.00	0.00	-5.69
7,800.00	90.51	269.69	7,143.35	477.01	238.38	-240.96	0.00	0.00	0.00	0.00
7,900.00	90.51	269.69	7,142.45	476.48	138.38	-140.96	0.00	0.00	0.00	0.00
8,000.00	90.51	269.69	7,141.55	475.95	38.39	-40.96	0.00	0.00	0.00	0.00
8,100.00	90.51	269.69	7,140.66	475.41	-61.60	59.03	0.00	0.00	0.00	0.00
8,200.00	90.51	269.69	7,139.76	474.88	-161.60	159.03	0.00	0.00	0.00	0.00
8,300.00	90.51	269.69	7,138.87	474.35	-261.59	259.02	0.00	0.00	0.00	0.00
8,400.00	90.51	269.69	7,137.97	473.82	-361.59	359.02	0.00	0.00	0.00	0.00
8,500.00	90.51	269.69	7,137.07	473.28	-461.58	459.02	0.00	0.00	0.00	0.00
8,600.00	90.51	269.69	7,136.18	472.75	-561.58	559.01	0.00	0.00	0.00	0.00
8,700.00	90.51	269.69	7,135.28	472.22	-661.57	659.01	0.00	0.00	0.00	0.00
8,800.00	90.51	269.69	7,134.39	471.69	-761.57	759.00	0.00	0.00	0.00	0.00
8,900.00	90.51	269.69	7,133.49	471.16	-861.56	859.00	0.00	0.00	0.00	0.00
9,000.00	90.51	269.69	7,132.59	470.62	-961.56	959.00	0.00	0.00	0.00	0.00

Plan Report for Benson Farms 33N-23HZ - Rev B0 Permit

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	Toolface Azimuth (°)
9,100.00	90.51	269.69	7,131.70	470.09	-1,061.55	1,058.99	0.00	0.00	0.00	0.00
9,200.00	90.51	269.69	7,130.80	469.56	-1,161.54	1,158.99	0.00	0.00	0.00	0.00
9,300.00	90.51	269.69	7,129.91	469.03	-1,261.54	1,258.98	0.00	0.00	0.00	0.00
9,400.00	90.51	269.69	7,129.01	468.49	-1,361.53	1,358.98	0.00	0.00	0.00	0.00
9,500.00	90.51	269.69	7,128.11	467.96	-1,461.53	1,458.98	0.00	0.00	0.00	0.00
9,600.00	90.51	269.69	7,127.22	467.43	-1,561.52	1,558.97	0.00	0.00	0.00	0.00
9,700.00	90.51	269.69	7,126.32	466.90	-1,661.52	1,658.97	0.00	0.00	0.00	0.00
9,800.00	90.51	269.69	7,125.43	466.36	-1,761.51	1,758.96	0.00	0.00	0.00	0.00
9,900.00	90.51	269.69	7,124.53	465.83	-1,861.51	1,858.96	0.00	0.00	0.00	0.00
10,000.00	90.51	269.69	7,123.63	465.30	-1,961.50	1,958.96	0.00	0.00	0.00	0.00
10,100.00	90.51	269.69	7,122.74	464.77	-2,061.50	2,058.95	0.00	0.00	0.00	0.00
10,200.00	90.51	269.69	7,121.84	464.24	-2,161.49	2,158.95	0.00	0.00	0.00	0.00
10,300.00	90.51	269.69	7,120.95	463.70	-2,261.48	2,258.94	0.00	0.00	0.00	0.00
10,400.00	90.51	269.69	7,120.05	463.17	-2,361.48	2,358.94	0.00	0.00	0.00	0.00
10,500.00	90.51	269.69	7,119.15	462.64	-2,461.47	2,458.93	0.00	0.00	0.00	0.00
10,600.00	90.51	269.69	7,118.26	462.11	-2,561.47	2,558.93	0.00	0.00	0.00	0.00
10,700.00	90.51	269.69	7,117.36	461.57	-2,661.46	2,658.93	0.00	0.00	0.00	0.00
10,800.00	90.51	269.69	7,116.47	461.04	-2,761.46	2,758.92	0.00	0.00	0.00	0.00
10,900.00	90.51	269.69	7,115.57	460.51	-2,861.45	2,858.92	0.00	0.00	0.00	0.00
11,000.00	90.51	269.69	7,114.67	459.98	-2,961.45	2,958.91	0.00	0.00	0.00	0.00
11,100.00	90.51	269.69	7,113.78	459.44	-3,061.44	3,058.91	0.00	0.00	0.00	0.00
11,200.00	90.51	269.69	7,112.88	458.91	-3,161.44	3,158.91	0.00	0.00	0.00	0.00
11,300.00	90.51	269.69	7,111.99	458.38	-3,261.43	3,258.90	0.00	0.00	0.00	0.00
11,400.00	90.51	269.69	7,111.09	457.85	-3,361.43	3,358.90	0.00	0.00	0.00	0.00
11,500.00	90.51	269.69	7,110.19	457.32	-3,461.42	3,458.89	0.00	0.00	0.00	0.00
11,600.00	90.51	269.69	7,109.30	456.78	-3,561.41	3,558.89	0.00	0.00	0.00	0.00
11,700.00	90.51	269.69	7,108.40	456.25	-3,661.41	3,658.89	0.00	0.00	0.00	0.00
11,800.00	90.51	269.69	7,107.51	455.72	-3,761.40	3,758.88	0.00	0.00	0.00	0.00
11,900.00	90.51	269.69	7,106.61	455.19	-3,861.40	3,858.88	0.00	0.00	0.00	0.00
12,000.00	90.51	269.69	7,105.71	454.65	-3,961.39	3,958.87	0.00	0.00	0.00	0.00
12,100.00	90.51	269.69	7,104.82	454.12	-4,061.39	4,058.87	0.00	0.00	0.00	0.00
12,200.00	90.51	269.69	7,103.92	453.59	-4,161.38	4,158.87	0.00	0.00	0.00	0.00
12,300.00	90.51	269.69	7,103.03	453.06	-4,261.38	4,258.86	0.00	0.00	0.00	0.00
12,400.00	90.51	269.69	7,102.13	452.52	-4,361.37	4,358.86	0.00	0.00	0.00	0.00
12,500.00	90.51	269.69	7,101.23	451.99	-4,461.37	4,458.85	0.00	0.00	0.00	0.00
12,600.00	90.51	269.69	7,100.34	451.46	-4,561.36	4,558.85	0.00	0.00	0.00	0.00
12,700.00	90.51	269.69	7,099.44	450.93	-4,661.35	4,658.85	0.00	0.00	0.00	0.00
12,800.00	90.51	269.69	7,098.54	450.40	-4,761.35	4,758.84	0.00	0.00	0.00	0.00
12,900.00	90.51	269.69	7,097.65	449.86	-4,861.34	4,858.84	0.00	0.00	0.00	0.00
13,000.00	90.51	269.69	7,096.75	449.33	-4,961.34	4,958.83	0.00	0.00	0.00	0.00
13,100.00	90.51	269.69	7,095.86	448.80	-5,061.33	5,058.83	0.00	0.00	0.00	0.00
13,195.61	90.51	269.69	7,095.00	448.29	-5,156.94	5,154.44	0.00	0.00	0.00	0.00
Total Depth (Toe)										
13,195.62	90.51	269.69	7,095.00	448.29	-5,156.94	5,154.44	0.00	0.00	0.00	0.00
TD Well @ 13195.62ft - Benson Farms 33N-23HZ BHL										

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
2,000.00	2,000.00	0.00	0.00	Begin Nudge @ 2000.00 ft
2,734.40	2,726.38	35.99	86.42	End Nudge @ 2734.40ft
6,474.71	6,344.46	400.57	961.92	Top of 4.5" Liner @ 6474.71ft
6,574.71	6,441.20	410.32	985.32	KOP @ 6574.71ft
7,100.00	6,933.43	458.90	873.61	DLS = 10/100'
7,615.49	7,145.00	477.99	422.88	End Build @ 7615.49ft
13,195.62	7,095.00	448.29	-5,156.94	TD Well @ 13195.62ft

Plan Report for Benson Farms 33N-23HZ - Rev B0 Permit

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (usft)	Origin +E/-W (usft)	Start TVD (usft)
User	No Target (Freehand)	269.69	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	7,615.49	Rev B0 Permit	MWD
7,615.49	13,195.62	Rev B0 Permit	MWD

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,111.00	1,111.00	9 5/8"	9-5/8	13-1/2
7,615.49	7,145.00	7"	7	8-3/4

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,061.00	1,061.00	Fox Hills Marker		0.00	
3,732.64	3,692.00	Parkman		0.00	
4,208.18	4,152.00	Sussex		0.00	
7,200.06	7,005.00	Sharon Springs		0.00	
7,329.72	7,078.00	Niobrara A		0.00	
7,482.99	7,131.00	Niobrara B		0.00	
7,615.49	7,145.00	Landing Target (Heel)		0.00	
13,195.61	7,095.00	Total Depth (Toe)		0.00	

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
Benson Farms 33N-23HZ_LD	0.00	0.00	0.00	Polygon
Benson Farms 33N-23HZ_SHL	0.00	0.00	0.00	Point
Benson Farms 33N-23HZ_SEC	0.00	0.00	0.00	Point
Benson Farms 33N-23HZ_BHL	7,095.00	448.29	-5,156.94	Point
Benson Farms 33N-23HZ_CP	7,145.00	477.99	422.88	Point

Directional Difficulty Index

Average Dogleg over Survey:	0.90 °/100usft	Maximum Dogleg over Survey:	10.00 °/100usft at 7,615.49 usft
Net Tortousity applicable to Plans:	0.90 °/100usft	Directional Difficulty Index:	6.372

Plan Report for Benson Farms 33N-23HZ - Rev B0 Permit

Audit Info

North Reference Sheet for Sec. 23-T3N-R68W - Benson Farms 33N-23HZ - Plan B

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference.
Vertical Depths are relative to RKB+GL @ 4978.00usft (Drilling Rig). Northing and Easting are relative to Benson Farms 33N-23HZ
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: 3,000,000.00usft, False Northing: 1,000,000.00usft, Scale Reduction: 0.99995714

Grid Coordinates of Well: 1,318,516.31 usft N, 3,150,571.23 usft E
Geographical Coordinates of Well: 40° 12' 23.28" N, 104° 57' 39.26" W
Grid Convergence at Surface is: 0.35°

Based upon Minimum Curvature type calculations, at a Measured Depth of 13,195.62usft
the Bottom Hole Displacement is 5,176.39usft in the Direction of 274.97° (True).
Magnetic Convergence at surface is: -8.28° (18 February 2014, , BGGM2013)

