

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 28-T1N-R67W

D&C FARMS 36C-33HZ

Plan A Rev 0

Plan: Plan A Rev 0 Permit

Sperry Drilling Services

Proposal Report

13 June, 2013

Well Coordinates: 1,249,588.45 N, 3,168,868.93 E (40° 01' 00.95" N, 104° 53' 49.46" W)

Ground Level: 5,011.00 ft

Local Coordinate Origin: Centered on Well D&C FARMS 36C-33HZ

Viewing Datum: RKB = 17 @ 5028.00ft (Drilling Rig)

TVDs to System: N

North Reference: True

Unit System: API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 43I

HALLIBURTON

Project: Weld County, CO (NAD 83)
 Site: Sec. 28-T1N-R67W
 Well: D&C FARMS 36C-33HZ
 Wellbore: Plan A Rev 0
 Design: Plan A Rev 0 Permit



HALLIBURTON
 Sperry Drilling

SECTION DETAILS

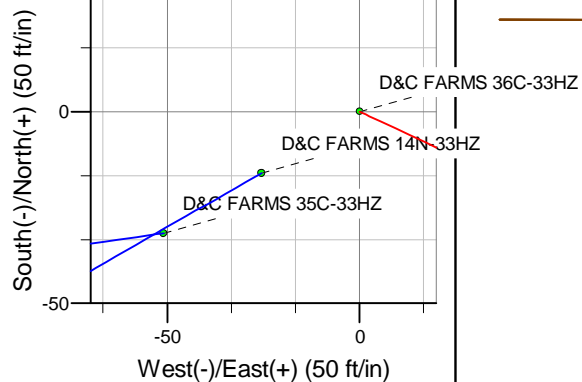
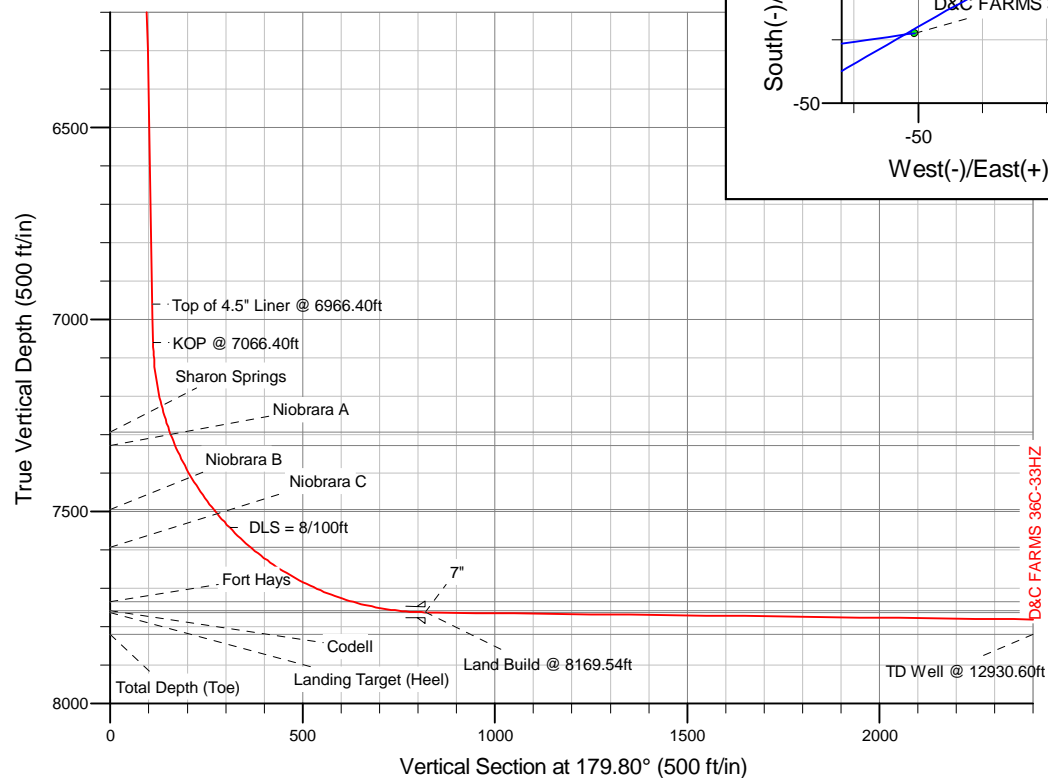
Sec	MD	Inc	Azi	TVD	+N-/S	+E-/W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.00	
3	1125.28	2.51	114.92	1125.24	-1.15	2.48	2.00	114.92	1.16	
4	7066.40	2.51	114.92	7060.68	-110.59	238.03	0.00	0.00	111.42	
5	8169.54	89.31	179.80	7763.00	-818.00	268.00	8.00	64.93	818.93	D&C FARMS 36C-33HZ_CP
6	12930.60	89.31	179.80	7820.00	-5578.68	284.64	0.00	0.00	5579.64	D&C FARMS 36C-33HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

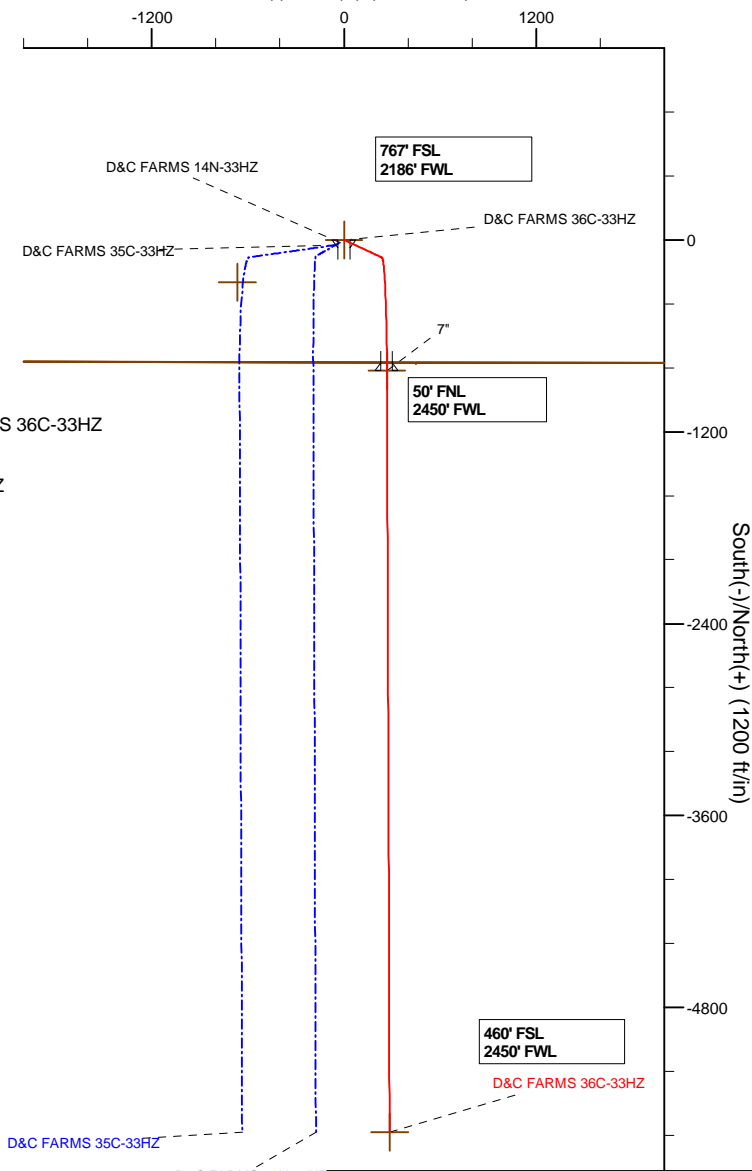
Name	TVD	+N-/S	+E-/W	Latitude	Longitude	Shape
D&C FARMS 36C-33HZ_SHL	0.00	0.00	0.00	40.016931	-104.897073	Point
D&C FARMS_SEC	3.00	-265.20	-666.35	40.016203	-104.899452	Polygon
D&C FARMS 36C-33HZ_CP	7763.00	-818.00	268.00	40.014686	-104.896116	Point
D&C FARMS 36C-33HZ_BHL	7820.00	-5578.68	284.64	40.001617	-104.896057	Point

TVD MD

6960.78 6966.40 Top of 4.5" Liner @ 6966.40ft
 7060.68 7066.40 KOP @ 7066.40ft



West(-)/East(+) (1200 ft/in)



WELL DETAILS: D&C FARMS 36C-33HZ

Ground Level: 5011.00
 RKB = 17 @ 5028.00ft (Drilling Rig)

Plan: Plan A Rev 0 Permit (D&C FARMS 36C-33HZ/Plan A Rev 0)

Created By: Fred Hartmann Date: 06/05/2013

Plan Report for D&C FARMS 36C-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
798.00	0.00	0.00	798.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"										
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
Begin Nudge @ 1000.00ft										
1,100.00	2.00	114.92	1,099.98	-0.74	1.58	0.74	2.00	2.00	0.00	114.92
1,125.28	2.51	114.92	1,125.24	-1.15	2.48	1.16	2.00	2.00	0.00	0.00
End Nudge @ 1125.28ft										
1,200.00	2.51	114.92	1,199.89	-2.53	5.45	2.55	0.00	0.00	0.00	0.00
1,300.00	2.51	114.92	1,299.79	-4.37	9.41	4.41	0.00	0.00	0.00	0.00
1,400.00	2.51	114.92	1,399.70	-6.21	13.38	6.26	0.00	0.00	0.00	0.00
1,500.00	2.51	114.92	1,499.60	-8.06	17.34	8.12	0.00	0.00	0.00	0.00
1,600.00	2.51	114.92	1,599.51	-9.90	21.31	9.97	0.00	0.00	0.00	0.00
1,700.00	2.51	114.92	1,699.41	-11.74	25.27	11.83	0.00	0.00	0.00	0.00
1,800.00	2.51	114.92	1,799.32	-13.58	29.23	13.68	0.00	0.00	0.00	0.00
1,900.00	2.51	114.92	1,899.22	-15.42	33.20	15.54	0.00	0.00	0.00	0.00
2,000.00	2.51	114.92	1,999.12	-17.27	37.16	17.40	0.00	0.00	0.00	0.00
2,100.00	2.51	114.92	2,099.03	-19.11	41.13	19.25	0.00	0.00	0.00	0.00
2,200.00	2.51	114.92	2,198.93	-20.95	45.09	21.11	0.00	0.00	0.00	0.00
2,300.00	2.51	114.92	2,298.84	-22.79	49.06	22.96	0.00	0.00	0.00	0.00
2,400.00	2.51	114.92	2,398.74	-24.63	53.02	24.82	0.00	0.00	0.00	0.00
2,500.00	2.51	114.92	2,498.65	-26.48	56.99	26.68	0.00	0.00	0.00	0.00
2,600.00	2.51	114.92	2,598.55	-28.32	60.95	28.53	0.00	0.00	0.00	0.00
2,700.00	2.51	114.92	2,698.45	-30.16	64.92	30.39	0.00	0.00	0.00	0.00
2,800.00	2.51	114.92	2,798.36	-32.00	68.88	32.24	0.00	0.00	0.00	0.00
2,900.00	2.51	114.92	2,898.26	-33.84	72.85	34.10	0.00	0.00	0.00	0.00
3,000.00	2.51	114.92	2,998.17	-35.69	76.81	35.95	0.00	0.00	0.00	0.00
3,100.00	2.51	114.92	3,098.07	-37.53	80.78	37.81	0.00	0.00	0.00	0.00
3,200.00	2.51	114.92	3,197.98	-39.37	84.74	39.67	0.00	0.00	0.00	0.00
3,300.00	2.51	114.92	3,297.88	-41.21	88.70	41.52	0.00	0.00	0.00	0.00
3,400.00	2.51	114.92	3,397.79	-43.05	92.67	43.38	0.00	0.00	0.00	0.00
3,500.00	2.51	114.92	3,497.69	-44.90	96.63	45.23	0.00	0.00	0.00	0.00
3,600.00	2.51	114.92	3,597.59	-46.74	100.60	47.09	0.00	0.00	0.00	0.00
3,700.00	2.51	114.92	3,697.50	-48.58	104.56	48.95	0.00	0.00	0.00	0.00
3,800.00	2.51	114.92	3,797.40	-50.42	108.53	50.80	0.00	0.00	0.00	0.00
3,900.00	2.51	114.92	3,897.31	-52.26	112.49	52.66	0.00	0.00	0.00	0.00
4,000.00	2.51	114.92	3,997.21	-54.11	116.46	54.51	0.00	0.00	0.00	0.00
4,100.00	2.51	114.92	4,097.12	-55.95	120.42	56.37	0.00	0.00	0.00	0.00
4,200.00	2.51	114.92	4,197.02	-57.79	124.39	58.22	0.00	0.00	0.00	0.00
4,300.00	2.51	114.92	4,296.92	-59.63	128.35	60.08	0.00	0.00	0.00	0.00
4,400.00	2.51	114.92	4,396.83	-61.47	132.32	61.94	0.00	0.00	0.00	0.00
4,500.00	2.51	114.92	4,496.73	-63.32	136.28	63.79	0.00	0.00	0.00	0.00
4,600.00	2.51	114.92	4,596.64	-65.16	140.25	65.65	0.00	0.00	0.00	0.00
4,700.00	2.51	114.92	4,696.54	-67.00	144.21	67.50	0.00	0.00	0.00	0.00
4,800.00	2.51	114.92	4,796.45	-68.84	148.18	69.36	0.00	0.00	0.00	0.00
4,844.60	2.51	114.92	4,841.00	-69.66	149.94	70.19	0.00	0.00	0.00	0.00
Sussex										
4,900.00	2.51	114.92	4,896.35	-70.68	152.14	71.22	0.00	0.00	0.00	0.00
5,000.00	2.51	114.92	4,996.26	-72.53	156.10	73.07	0.00	0.00	0.00	0.00

Plan Report for D&C FARMS 36C-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 (°)
5,100.00	2.51	114.92	5,096.16	-74.37	160.07	74.93	0.00	0.00	0.00	0.00
5,200.00	2.51	114.92	5,196.06	-76.21	164.03	76.78	0.00	0.00	0.00	0.00
5,300.00	2.51	114.92	5,295.97	-78.05	168.00	78.64	0.00	0.00	0.00	0.00
5,334.06	2.51	114.92	5,330.00	-78.68	169.35	79.27	0.00	0.00	0.00	0.00
Shannon										
5,400.00	2.51	114.92	5,395.87	-79.89	171.96	80.49	0.00	0.00	0.00	0.00
5,500.00	2.51	114.92	5,495.78	-81.74	175.93	82.35	0.00	0.00	0.00	0.00
5,600.00	2.51	114.92	5,595.68	-83.58	179.89	84.21	0.00	0.00	0.00	0.00
5,700.00	2.51	114.92	5,695.59	-85.42	183.86	86.06	0.00	0.00	0.00	0.00
5,800.00	2.51	114.92	5,795.49	-87.26	187.82	87.92	0.00	0.00	0.00	0.00
5,900.00	2.51	114.92	5,895.40	-89.10	191.79	89.77	0.00	0.00	0.00	0.00
6,000.00	2.51	114.92	5,995.30	-90.95	195.75	91.63	0.00	0.00	0.00	0.00
6,100.00	2.51	114.92	6,095.20	-92.79	199.72	93.49	0.00	0.00	0.00	0.00
6,200.00	2.51	114.92	6,195.11	-94.63	203.68	95.34	0.00	0.00	0.00	0.00
6,300.00	2.51	114.92	6,295.01	-96.47	207.65	97.20	0.00	0.00	0.00	0.00
6,400.00	2.51	114.92	6,394.92	-98.31	211.61	99.05	0.00	0.00	0.00	0.00
6,500.00	2.51	114.92	6,494.82	-100.16	215.57	100.91	0.00	0.00	0.00	0.00
6,600.00	2.51	114.92	6,594.73	-102.00	219.54	102.76	0.00	0.00	0.00	0.00
6,700.00	2.51	114.92	6,694.63	-103.84	223.50	104.62	0.00	0.00	0.00	0.00
6,800.00	2.51	114.92	6,794.53	-105.68	227.47	106.48	0.00	0.00	0.00	0.00
6,900.00	2.51	114.92	6,894.44	-107.52	231.43	108.33	0.00	0.00	0.00	0.00
6,966.40	2.51	114.92	6,960.78	-108.75	234.07	109.56	0.00	0.00	0.00	0.00
Top of 4.5" Liner @ 6966.40ft										
7,000.00	2.51	114.92	6,994.34	-109.37	235.40	110.19	0.00	0.00	0.00	0.00
7,066.40	2.51	114.92	7,060.68	-110.59	238.03	111.42	0.00	0.00	0.00	0.00
KOP @ 7066.40ft										
7,100.00	4.38	148.69	7,094.22	-112.00	239.36	112.83	8.00	5.59	100.50	64.93
7,200.00	11.96	169.05	7,193.15	-125.46	243.33	126.31	8.00	7.58	20.36	31.21
7,300.00	19.87	173.53	7,289.24	-152.57	247.22	153.43	8.00	7.91	4.48	11.01
7,304.65	20.24	173.66	7,293.61	-154.15	247.39	155.02	8.00	7.95	2.69	6.69
Sharon Springs										
7,342.76	23.28	174.54	7,329.00	-168.21	248.84	169.07	8.00	7.95	2.32	6.57
Niobrara A										
7,400.00	27.84	175.52	7,380.63	-192.80	250.96	193.67	8.00	7.97	1.72	5.75
7,500.00	35.81	176.68	7,465.53	-245.37	254.48	246.26	8.00	7.98	1.16	4.86
7,537.05	38.77	177.00	7,495.00	-267.78	255.72	268.67	8.00	7.98	0.86	3.88
Niobrara B										
7,600.00	43.80	177.46	7,542.29	-309.25	257.72	310.15	8.00	7.99	0.73	3.63
7,675.60	49.84	177.91	7,594.00	-364.31	259.93	365.21	8.00	7.99	0.60	3.28
Niobrara C										
7,700.00	51.79	178.04	7,609.42	-383.20	260.60	384.11	8.00	7.99	0.53	2.97
7,800.00	59.78	178.50	7,665.61	-465.79	263.08	466.70	8.00	7.99	0.47	2.89
7,900.00	67.77	178.90	7,709.77	-555.40	265.10	556.32	8.00	7.99	0.39	2.63
7,976.93	73.92	179.17	7,735.00	-628.03	266.32	628.95	8.00	7.99	0.36	2.45
Fort Hays										
8,000.00	75.76	179.25	7,741.03	-650.29	266.62	651.21	8.00	7.99	0.34	2.36
8,092.98	83.19	179.56	7,758.00	-741.63	267.57	742.56	8.00	7.99	0.33	2.34
Codell										
8,100.00	83.75	179.58	7,758.80	-748.61	267.62	749.54	8.00	7.99	0.32	2.29
8,169.54	89.31	179.80	7,763.00	-818.00	268.00	818.93	8.00	7.99	0.32	2.28
Land Build @ 8169.54ft - Landing Target (Heel) - 7" - D&C FARMS 36C-33HZ_CP										
8,200.00	89.31	179.80	7,763.36	-848.45	268.11	849.38	0.00	0.00	0.00	0.00
8,300.00	89.31	179.80	7,764.56	-948.44	268.46	949.37	0.00	0.00	0.00	0.00
8,400.00	89.31	179.80	7,765.76	-1,048.43	268.81	1,049.37	0.00	0.00	0.00	0.00
8,500.00	89.31	179.80	7,766.96	-1,148.43	269.15	1,149.36	0.00	0.00	0.00	0.00
8,600.00	89.31	179.80	7,768.15	-1,248.42	269.50	1,249.35	0.00	0.00	0.00	0.00
8,700.00	89.31	179.80	7,769.35	-1,348.41	269.85	1,349.35	0.00	0.00	0.00	0.00
8,800.00	89.31	179.80	7,770.55	-1,448.40	270.20	1,449.34	0.00	0.00	0.00	0.00

Plan Report for D&C FARMS 36C-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 (°)
8,900.00	89.31	179.80	7,771.75	-1,548.40	270.55	1,549.33	0.00	0.00	0.00	0.00
9,000.00	89.31	179.80	7,772.94	-1,648.39	270.90	1,649.32	0.00	0.00	0.00	0.00
9,100.00	89.31	179.80	7,774.14	-1,748.38	271.25	1,749.32	0.00	0.00	0.00	0.00
9,200.00	89.31	179.80	7,775.34	-1,848.37	271.60	1,849.31	0.00	0.00	0.00	0.00
9,300.00	89.31	179.80	7,776.53	-1,948.36	271.95	1,949.30	0.00	0.00	0.00	0.00
9,400.00	89.31	179.80	7,777.73	-2,048.36	272.30	2,049.29	0.00	0.00	0.00	0.00
9,500.00	89.31	179.80	7,778.93	-2,148.35	272.65	2,149.29	0.00	0.00	0.00	0.00
9,600.00	89.31	179.80	7,780.13	-2,248.34	273.00	2,249.28	0.00	0.00	0.00	0.00
9,700.00	89.31	179.80	7,781.32	-2,348.33	273.35	2,349.27	0.00	0.00	0.00	0.00
9,800.00	89.31	179.80	7,782.52	-2,448.33	273.70	2,449.27	0.00	0.00	0.00	0.00
9,900.00	89.31	179.80	7,783.72	-2,548.32	274.05	2,549.26	0.00	0.00	0.00	0.00
10,000.00	89.31	179.80	7,784.91	-2,648.31	274.40	2,649.25	0.00	0.00	0.00	0.00
10,100.00	89.31	179.80	7,786.11	-2,748.30	274.75	2,749.24	0.00	0.00	0.00	0.00
10,200.00	89.31	179.80	7,787.31	-2,848.29	275.10	2,849.24	0.00	0.00	0.00	0.00
10,300.00	89.31	179.80	7,788.51	-2,948.29	275.45	2,949.23	0.00	0.00	0.00	0.00
10,400.00	89.31	179.80	7,789.70	-3,048.28	275.80	3,049.22	0.00	0.00	0.00	0.00
10,500.00	89.31	179.80	7,790.90	-3,148.27	276.14	3,149.22	0.00	0.00	0.00	0.00
10,600.00	89.31	179.80	7,792.10	-3,248.26	276.49	3,249.21	0.00	0.00	0.00	0.00
10,700.00	89.31	179.80	7,793.29	-3,348.26	276.84	3,349.20	0.00	0.00	0.00	0.00
10,800.00	89.31	179.80	7,794.49	-3,448.25	277.19	3,449.19	0.00	0.00	0.00	0.00
10,900.00	89.31	179.80	7,795.69	-3,548.24	277.54	3,549.19	0.00	0.00	0.00	0.00
11,000.00	89.31	179.80	7,796.89	-3,648.23	277.89	3,649.18	0.00	0.00	0.00	0.00
11,100.00	89.31	179.80	7,798.08	-3,748.22	278.24	3,749.17	0.00	0.00	0.00	0.00
11,200.00	89.31	179.80	7,799.28	-3,848.22	278.59	3,849.17	0.00	0.00	0.00	0.00
11,300.00	89.31	179.80	7,800.48	-3,948.21	278.94	3,949.16	0.00	0.00	0.00	0.00
11,400.00	89.31	179.80	7,801.68	-4,048.20	279.29	4,049.15	0.00	0.00	0.00	0.00
11,500.00	89.31	179.80	7,802.87	-4,148.19	279.64	4,149.14	0.00	0.00	0.00	0.00
11,600.00	89.31	179.80	7,804.07	-4,248.19	279.99	4,249.14	0.00	0.00	0.00	0.00
11,700.00	89.31	179.80	7,805.27	-4,348.18	280.34	4,349.13	0.00	0.00	0.00	0.00
11,800.00	89.31	179.80	7,806.46	-4,448.17	280.69	4,449.12	0.00	0.00	0.00	0.00
11,900.00	89.31	179.80	7,807.66	-4,548.16	281.04	4,549.12	0.00	0.00	0.00	0.00
12,000.00	89.31	179.80	7,808.86	-4,648.15	281.39	4,649.11	0.00	0.00	0.00	0.00
12,100.00	89.31	179.80	7,810.06	-4,748.15	281.74	4,749.10	0.00	0.00	0.00	0.00
12,200.00	89.31	179.80	7,811.25	-4,848.14	282.09	4,849.09	0.00	0.00	0.00	0.00
12,300.00	89.31	179.80	7,812.45	-4,948.13	282.44	4,949.09	0.00	0.00	0.00	0.00
12,400.00	89.31	179.80	7,813.65	-5,048.12	282.78	5,049.08	0.00	0.00	0.00	0.00
12,500.00	89.31	179.80	7,814.84	-5,148.12	283.13	5,149.07	0.00	0.00	0.00	0.00
12,600.00	89.31	179.80	7,816.04	-5,248.11	283.48	5,249.07	0.00	0.00	0.00	0.00
12,700.00	89.31	179.80	7,817.24	-5,348.10	283.83	5,349.06	0.00	0.00	0.00	0.00
12,800.00	89.31	179.80	7,818.44	-5,448.09	284.18	5,449.05	0.00	0.00	0.00	0.00
12,900.00	89.31	179.80	7,819.63	-5,548.08	284.53	5,549.04	0.00	0.00	0.00	0.00
12,930.60	89.31	179.80	7,820.00	-5,578.68	284.64	5,579.64	0.00	0.00	0.00	0.00

TD Well @ 12930.60ft - D&C FARMS 36C-33HZ_BHL

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
1,000.00	1,000.00	0.00	0.00	Begin Nudge @ 1000.00ft
1,125.28	1,125.24	-1.15	2.48	End Nudge @ 1125.28ft
6,966.40	6,960.78	-108.75	234.07	Top of 4.5" Liner @ 6966.40ft
7,066.40	7,060.68	-110.59	238.03	KOP @ 7066.40ft
8,169.54	7,763.00	-817.99	268.00	Land Build @ 8169.54ft
12,930.60	7,820.00	-5,578.68	284.64	TD Well @ 12930.60ft

Plan Report for D&C FARMS 36C-33HZ - Plan A Rev 0 Permit

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (ft)	Origin +E/-W (ft)	Start TVD (ft)
User	No Target (Freehand)	179.80	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	12,930.60	Plan A Rev 0 Permit	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
798.00	798.00	9 5/8"	9-5/8	13-1/2
8,169.54	7,763.00	7"	7	8-3/4

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,844.60	4,841.00	Sussex		0.00	
5,334.06	5,330.00	Shannon		0.00	
7,304.65	7,293.61	Sharon Springs		0.00	
7,342.76	7,329.00	Niobrara A		0.00	
7,537.05	7,495.00	Niobrara B		0.00	
7,675.60	7,594.00	Niobrara C		0.00	
7,976.93	7,735.00	Fort Hays		0.00	
8,092.98	7,758.00	Codell		0.00	
8,169.54	7,763.00	Landing Target (Heel)		0.00	
12,930.60	7,820.00	Total Depth (Toe)		0.00	

Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
D&C FARMS_SEC	0.00	0.00	0.00	Polygon
D&C FARMS 36C-33HZ_SHL	0.00	0.00	0.00	Point
D&C FARMS 36C-33HZ_BHL	7,820.00	-5,578.68	284.64	Point
D&C FARMS 36C-33HZ_CP	7,763.00	-818.00	268.00	Point

North Reference Sheet for Sec. 28-T1N-R67W - D&C FARMS 36C-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 @ 5028.00ft (Drilling Rig). Northing and Easting are relative to D&C FARMS 36C-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: 0.99996513

Grid Coordinates of Well: 1,249,588.45 ft N, 3,168,868.93 ft E

Geographical Coordinates of Well: 40° 01' 00.95" N, 104° 53' 49.46" W

Grid Convergence at Surface is: 0.39°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,930.60ft
the Bottom Hole Displacement is 5,585.94ft in the Direction of 177.08° (True).

Magnetic Convergence at surface is: -8.28° (13 June 2013, , BGGM2013)

