

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 28-T1N-R67W

D&C FARMS 13C-33HZ

Plan A Rev 0

Plan: Plan A Rev 0 Permit

Sperry Drilling Services

Proposal Report

14 June, 2013

Well Coordinates: 1,249,318.90 N, 3,168,174.45 E (40° 00' 58.33" N, 104° 53' 58.41" W)

Ground Level: 5,008.00 ft

Local Coordinate Origin: Centered on Well D&C FARMS 13C-33HZ

Viewing Datum: RKB = 17' @ 5025.00ft (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 13C-33HZ
 Wellbore: Plan A Rev 0
 Design: Plan A Rev 0 Permit



HALLIBURTON
 Sperry Drilling

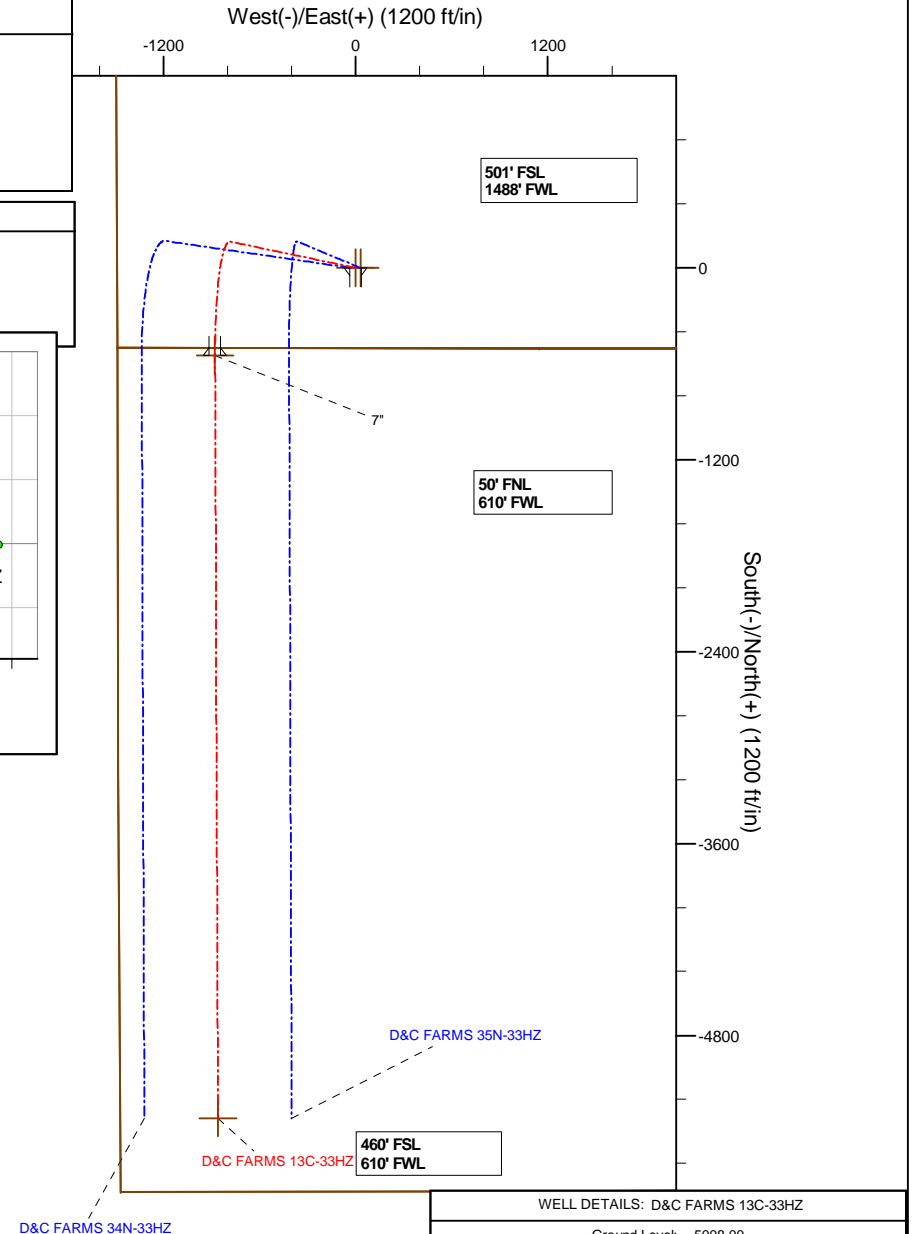
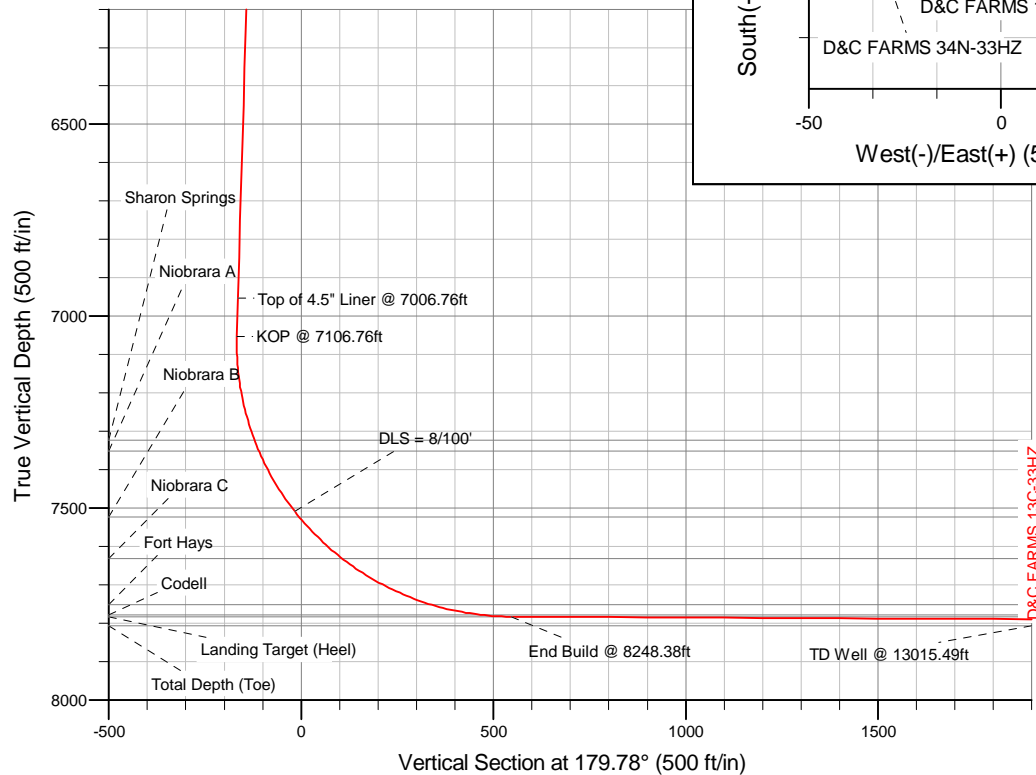
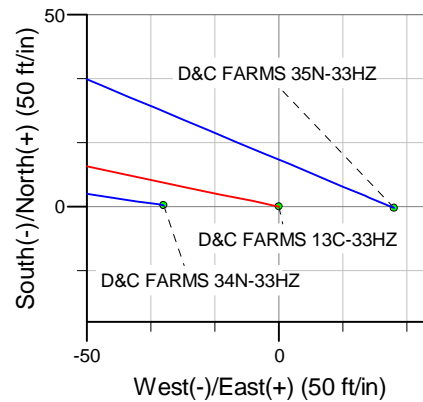
SECTION DETAILS

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	1388.64	7.77	281.81	1387.45	5.39	-25.76	2.00	281.81	-5.49	
4	7106.76	7.77	281.81	7053.04	163.70	-782.74	0.00	0.00	-166.70	
5	8248.38	89.71	179.78	7783.00	-549.00	-877.00	8.00	-101.96	545.63	D&C FARMS 13C-33HZ_CP
6	13015.49	89.71	179.78	7807.00	-5316.02	-858.96	0.00	0.00	5312.68	D&C FARMS 13C-33HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
D&C FARMS 13C-33HZ_SHL	0.00	0.00	0.00	40.016204	-104.899559	Point
D&C FARMS_SEC	0.00	-0.37	29.97	40.016203	-104.899452	Polygon
D&C FARMS 13C-33HZ_CP	7783.00	-549.00	-877.00	40.014697	-104.902690	Point
D&C FARMS 13C-33HZ_BHL	7807.00	-5316.02	-858.96	40.001611	-104.902625	Point

TVD	MD	
6953.95	7006.76	Top of 4.5" Liner @ 7006.76ft
7053.03	7106.76	KOP @ 7106.76ft



WELL DETAILS: D&C FARMS 13C-33HZ

Ground Level: 5008.00
 RKB = 17' @ 5025.00ft (Drilling Rig)

Plan: Plan A Rev 0 Permit (D&C FARMS 13C-33HZ/Plan A Rev 0)

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

Plan Report for D&C FARMS 13C-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
795.00	0.00	0.00	795.00	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	281.81	1,099.98	0.36	-1.71	-0.36	2.00	2.00	0.00	281.81
1,200.00	4.00	281.81	1,199.84	1.43	-6.83	-1.45	2.00	2.00	0.00	0.00
1,300.00	6.00	281.81	1,299.45	3.21	-15.36	-3.27	2.00	2.00	0.00	0.00
1,388.64	7.77	281.81	1,387.45	5.39	-25.76	-5.49	2.00	2.00	0.00	0.00
End Nudge @ 1388.64ft										
1,400.00	7.77	281.81	1,398.70	5.70	-27.27	-5.81	0.00	0.00	0.00	0.00
1,500.00	7.77	281.81	1,497.79	8.47	-40.51	-8.63	0.00	0.00	0.00	0.00
1,600.00	7.77	281.81	1,596.87	11.24	-53.74	-11.45	0.00	0.00	0.00	0.00
1,700.00	7.77	281.81	1,695.95	14.01	-66.98	-14.27	0.00	0.00	0.00	0.00
1,800.00	7.77	281.81	1,795.03	16.78	-80.22	-17.09	0.00	0.00	0.00	0.00
1,900.00	7.77	281.81	1,894.11	19.55	-93.46	-19.90	0.00	0.00	0.00	0.00
2,000.00	7.77	281.81	1,993.19	22.31	-106.70	-22.72	0.00	0.00	0.00	0.00
2,100.00	7.77	281.81	2,092.27	25.08	-119.93	-25.54	0.00	0.00	0.00	0.00
2,200.00	7.77	281.81	2,191.35	27.85	-133.17	-28.36	0.00	0.00	0.00	0.00
2,300.00	7.77	281.81	2,290.44	30.62	-146.41	-31.18	0.00	0.00	0.00	0.00
2,400.00	7.77	281.81	2,389.52	33.39	-159.65	-34.00	0.00	0.00	0.00	0.00
2,500.00	7.77	281.81	2,488.60	36.16	-172.89	-36.82	0.00	0.00	0.00	0.00
2,600.00	7.77	281.81	2,587.68	38.93	-186.13	-39.64	0.00	0.00	0.00	0.00
2,700.00	7.77	281.81	2,686.76	41.69	-199.36	-42.46	0.00	0.00	0.00	0.00
2,800.00	7.77	281.81	2,785.84	44.46	-212.60	-45.28	0.00	0.00	0.00	0.00
2,900.00	7.77	281.81	2,884.92	47.23	-225.84	-48.10	0.00	0.00	0.00	0.00
3,000.00	7.77	281.81	2,984.00	50.00	-239.08	-50.92	0.00	0.00	0.00	0.00
3,100.00	7.77	281.81	3,083.09	52.77	-252.32	-53.74	0.00	0.00	0.00	0.00
3,200.00	7.77	281.81	3,182.17	55.54	-265.55	-56.56	0.00	0.00	0.00	0.00
3,300.00	7.77	281.81	3,281.25	58.31	-278.79	-59.38	0.00	0.00	0.00	0.00
3,400.00	7.77	281.81	3,380.33	61.07	-292.03	-62.20	0.00	0.00	0.00	0.00
3,500.00	7.77	281.81	3,479.41	63.84	-305.27	-65.02	0.00	0.00	0.00	0.00
3,600.00	7.77	281.81	3,578.49	66.61	-318.51	-67.83	0.00	0.00	0.00	0.00
3,700.00	7.77	281.81	3,677.57	69.38	-331.74	-70.65	0.00	0.00	0.00	0.00
3,800.00	7.77	281.81	3,776.65	72.15	-344.98	-73.47	0.00	0.00	0.00	0.00
3,900.00	7.77	281.81	3,875.73	74.92	-358.22	-76.29	0.00	0.00	0.00	0.00
4,000.00	7.77	281.81	3,974.82	77.69	-371.46	-79.11	0.00	0.00	0.00	0.00
4,100.00	7.77	281.81	4,073.90	80.45	-384.70	-81.93	0.00	0.00	0.00	0.00
4,200.00	7.77	281.81	4,172.98	83.22	-397.94	-84.75	0.00	0.00	0.00	0.00
4,300.00	7.77	281.81	4,272.06	85.99	-411.17	-87.57	0.00	0.00	0.00	0.00
4,400.00	7.77	281.81	4,371.14	88.76	-424.41	-90.39	0.00	0.00	0.00	0.00
4,500.00	7.77	281.81	4,470.22	91.53	-437.65	-93.21	0.00	0.00	0.00	0.00
4,600.00	7.77	281.81	4,569.30	94.30	-450.89	-96.03	0.00	0.00	0.00	0.00
4,700.00	7.77	281.81	4,668.38	97.07	-464.13	-98.85	0.00	0.00	0.00	0.00
4,800.00	7.77	281.81	4,767.47	99.84	-477.36	-101.67	0.00	0.00	0.00	0.00
4,871.19	7.77	281.81	4,838.00	101.81	-486.79	-103.67	0.00	0.00	0.00	0.00
Sussex										
4,900.00	7.77	281.81	4,866.55	102.60	-490.60	-104.49	0.00	0.00	0.00	0.00
5,000.00	7.77	281.81	4,965.63	105.37	-503.84	-107.31	0.00	0.00	0.00	0.00

Plan Report for D&C FARMS 13C-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	7.77	281.81	5,064.71	108.14	-517.08	-110.13	0.00	0.00	0.00	0.00
5,200.00	7.77	281.81	5,163.79	110.91	-530.32	-112.95	0.00	0.00	0.00	0.00
5,300.00	7.77	281.81	5,262.87	113.68	-543.56	-115.76	0.00	0.00	0.00	0.00
5,364.72	7.77	281.81	5,327.00	115.47	-552.12	-117.59	0.00	0.00	0.00	0.00
Shannon										
5,400.00	7.77	281.81	5,361.95	116.45	-556.79	-118.58	0.00	0.00	0.00	0.00
5,500.00	7.77	281.81	5,461.03	119.22	-570.03	-121.40	0.00	0.00	0.00	0.00
5,600.00	7.77	281.81	5,560.12	121.98	-583.27	-124.22	0.00	0.00	0.00	0.00
5,700.00	7.77	281.81	5,659.20	124.75	-596.51	-127.04	0.00	0.00	0.00	0.00
5,800.00	7.77	281.81	5,758.28	127.52	-609.75	-129.86	0.00	0.00	0.00	0.00
5,900.00	7.77	281.81	5,857.36	130.29	-622.98	-132.68	0.00	0.00	0.00	0.00
6,000.00	7.77	281.81	5,956.44	133.06	-636.22	-135.50	0.00	0.00	0.00	0.00
6,100.00	7.77	281.81	6,055.52	135.83	-649.46	-138.32	0.00	0.00	0.00	0.00
6,200.00	7.77	281.81	6,154.60	138.60	-662.70	-141.14	0.00	0.00	0.00	0.00
6,300.00	7.77	281.81	6,253.68	141.36	-675.94	-143.96	0.00	0.00	0.00	0.00
6,400.00	7.77	281.81	6,352.77	144.13	-689.17	-146.78	0.00	0.00	0.00	0.00
6,500.00	7.77	281.81	6,451.85	146.90	-702.41	-149.60	0.00	0.00	0.00	0.00
6,600.00	7.77	281.81	6,550.93	149.67	-715.65	-152.42	0.00	0.00	0.00	0.00
6,700.00	7.77	281.81	6,650.01	152.44	-728.89	-155.24	0.00	0.00	0.00	0.00
6,800.00	7.77	281.81	6,749.09	155.21	-742.13	-158.06	0.00	0.00	0.00	0.00
6,900.00	7.77	281.81	6,848.17	157.98	-755.37	-160.88	0.00	0.00	0.00	0.00
7,000.00	7.77	281.81	6,947.25	160.74	-768.60	-163.69	0.00	0.00	0.00	0.00
7,006.76	7.77	281.81	6,953.95	160.93	-769.50	-163.89	0.00	0.00	0.00	0.00
Top of 4.5" Liner @ 7006.76ft										
7,100.00	7.77	281.81	7,046.33	163.51	-781.84	-166.51	0.00	0.00	0.00	0.00
7,106.76	7.77	281.81	7,053.03	163.70	-782.74	-166.70	0.00	0.00	0.00	0.00
KOP @ 7106.76ft										
7,200.00	9.58	232.05	7,145.32	160.22	-795.04	-163.27	8.00	1.93	-53.37	-101.96
7,300.00	15.75	207.99	7,242.91	143.09	-807.99	-146.19	8.00	6.18	-24.06	-52.69
7,384.65	21.91	199.13	7,323.00	117.99	-818.57	-121.13	8.00	7.27	-10.46	-29.16
Sharon Springs										
7,400.00	23.06	198.02	7,337.19	112.42	-820.44	-115.57	8.00	7.51	-7.24	-20.77
7,416.17	24.28	196.95	7,352.00	106.23	-822.39	-109.38	8.00	7.55	-6.57	-19.74
Niobrara A										
7,500.00	30.71	192.73	7,426.33	68.82	-832.14	-72.01	8.00	7.66	-5.03	-18.77
7,600.00	38.48	189.41	7,508.59	13.13	-842.88	-16.37	8.00	7.78	-3.32	-15.02
DLS = 8/100'										
7,618.60	39.94	188.92	7,523.00	1.52	-844.75	-4.77	8.00	7.82	-2.65	-12.28
Niobrara B										
7,700.00	46.33	187.07	7,582.38	-53.56	-852.43	50.29	8.00	7.85	-2.28	-11.89
7,774.54	52.20	185.69	7,631.00	-109.66	-858.67	106.37	8.00	7.88	-1.85	-10.54
Niobrara C										
7,800.00	54.21	185.27	7,646.25	-129.96	-860.61	126.65	8.00	7.89	-1.65	-9.64
7,900.00	62.11	183.80	7,698.97	-214.58	-867.27	211.24	8.00	7.90	-1.47	-9.39
8,000.00	70.02	182.53	7,739.51	-305.77	-872.28	302.41	8.00	7.92	-1.27	-8.61
8,036.13	72.89	182.10	7,751.00	-339.99	-873.66	336.63	8.00	7.92	-1.18	-8.09
Fort Hays										
8,100.00	77.95	181.38	7,767.08	-401.75	-875.53	398.39	8.00	7.92	-1.13	-7.96
8,166.89	83.25	180.65	7,778.00	-467.70	-876.69	464.34	8.00	7.93	-1.09	-7.78
Codell										
8,200.00	85.88	180.30	7,781.14	-500.67	-876.97	497.29	8.00	7.93	-1.07	-7.66
8,248.38	89.71	179.78	7,783.00	-549.00	-877.00	545.63	8.00	7.93	-1.06	-7.62
End Build @ 8248.38ft - Landing Target (Heel) - 7" - D&C FARMS 13C-33HZ_CP										
8,300.00	89.71	179.78	7,783.26	-600.62	-876.80	597.25	0.00	0.00	0.00	0.00
8,400.00	89.71	179.78	7,783.76	-700.62	-876.43	697.25	0.00	0.00	0.00	0.00
8,500.00	89.71	179.78	7,784.27	-800.62	-876.05	797.25	0.00	0.00	0.00	0.00
8,600.00	89.71	179.78	7,784.77	-900.61	-875.67	897.24	0.00	0.00	0.00	0.00
8,700.00	89.71	179.78	7,785.27	-1,000.61	-875.29	997.24	0.00	0.00	0.00	0.00

Plan Report for D&C FARMS 13C-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 (°)
8,800.00	89.71	179.78	7,785.78	-1,100.61	-874.91	1,097.24	0.00	0.00	0.00	0.00
8,900.00	89.71	179.78	7,786.28	-1,200.61	-874.53	1,197.24	0.00	0.00	0.00	0.00
9,000.00	89.71	179.78	7,786.78	-1,300.61	-874.16	1,297.24	0.00	0.00	0.00	0.00
9,100.00	89.71	179.78	7,787.29	-1,400.60	-873.78	1,397.24	0.00	0.00	0.00	0.00
9,200.00	89.71	179.78	7,787.79	-1,500.60	-873.40	1,497.24	0.00	0.00	0.00	0.00
9,300.00	89.71	179.78	7,788.29	-1,600.60	-873.02	1,597.24	0.00	0.00	0.00	0.00
9,400.00	89.71	179.78	7,788.80	-1,700.60	-872.64	1,697.23	0.00	0.00	0.00	0.00
9,500.00	89.71	179.78	7,789.30	-1,800.60	-872.26	1,797.23	0.00	0.00	0.00	0.00
9,600.00	89.71	179.78	7,789.80	-1,900.59	-871.89	1,897.23	0.00	0.00	0.00	0.00
9,700.00	89.71	179.78	7,790.31	-2,000.59	-871.51	1,997.23	0.00	0.00	0.00	0.00
9,800.00	89.71	179.78	7,790.81	-2,100.59	-871.13	2,097.23	0.00	0.00	0.00	0.00
9,900.00	89.71	179.78	7,791.32	-2,200.59	-870.75	2,197.23	0.00	0.00	0.00	0.00
10,000.00	89.71	179.78	7,791.82	-2,300.59	-870.37	2,297.23	0.00	0.00	0.00	0.00
10,100.00	89.71	179.78	7,792.32	-2,400.58	-869.99	2,397.23	0.00	0.00	0.00	0.00
10,200.00	89.71	179.78	7,792.83	-2,500.58	-869.61	2,497.22	0.00	0.00	0.00	0.00
10,300.00	89.71	179.78	7,793.33	-2,600.58	-869.24	2,597.22	0.00	0.00	0.00	0.00
10,400.00	89.71	179.78	7,793.83	-2,700.58	-868.86	2,697.22	0.00	0.00	0.00	0.00
10,500.00	89.71	179.78	7,794.34	-2,800.58	-868.48	2,797.22	0.00	0.00	0.00	0.00
10,600.00	89.71	179.78	7,794.84	-2,900.57	-868.10	2,897.22	0.00	0.00	0.00	0.00
10,700.00	89.71	179.78	7,795.34	-3,000.57	-867.72	2,997.22	0.00	0.00	0.00	0.00
10,800.00	89.71	179.78	7,795.85	-3,100.57	-867.34	3,097.22	0.00	0.00	0.00	0.00
10,900.00	89.71	179.78	7,796.35	-3,200.57	-866.97	3,197.21	0.00	0.00	0.00	0.00
11,000.00	89.71	179.78	7,796.85	-3,300.57	-866.59	3,297.21	0.00	0.00	0.00	0.00
11,100.00	89.71	179.78	7,797.36	-3,400.56	-866.21	3,397.21	0.00	0.00	0.00	0.00
11,200.00	89.71	179.78	7,797.86	-3,500.56	-865.83	3,497.21	0.00	0.00	0.00	0.00
11,300.00	89.71	179.78	7,798.36	-3,600.56	-865.45	3,597.21	0.00	0.00	0.00	0.00
11,400.00	89.71	179.78	7,798.87	-3,700.56	-865.07	3,697.21	0.00	0.00	0.00	0.00
11,500.00	89.71	179.78	7,799.37	-3,800.56	-864.70	3,797.21	0.00	0.00	0.00	0.00
11,600.00	89.71	179.78	7,799.87	-3,900.55	-864.32	3,897.21	0.00	0.00	0.00	0.00
11,700.00	89.71	179.78	7,800.38	-4,000.55	-863.94	3,997.20	0.00	0.00	0.00	0.00
11,800.00	89.71	179.78	7,800.88	-4,100.55	-863.56	4,097.20	0.00	0.00	0.00	0.00
11,900.00	89.71	179.78	7,801.38	-4,200.55	-863.18	4,197.20	0.00	0.00	0.00	0.00
12,000.00	89.71	179.78	7,801.89	-4,300.55	-862.80	4,297.20	0.00	0.00	0.00	0.00
12,100.00	89.71	179.78	7,802.39	-4,400.54	-862.42	4,397.20	0.00	0.00	0.00	0.00
12,200.00	89.71	179.78	7,802.89	-4,500.54	-862.05	4,497.20	0.00	0.00	0.00	0.00
12,300.00	89.71	179.78	7,803.40	-4,600.54	-861.67	4,597.20	0.00	0.00	0.00	0.00
12,400.00	89.71	179.78	7,803.90	-4,700.54	-861.29	4,697.20	0.00	0.00	0.00	0.00
12,500.00	89.71	179.78	7,804.40	-4,800.54	-860.91	4,797.19	0.00	0.00	0.00	0.00
12,600.00	89.71	179.78	7,804.91	-4,900.53	-860.53	4,897.19	0.00	0.00	0.00	0.00
12,700.00	89.71	179.78	7,805.41	-5,000.53	-860.15	4,997.19	0.00	0.00	0.00	0.00
12,800.00	89.71	179.78	7,805.92	-5,100.53	-859.78	5,097.19	0.00	0.00	0.00	0.00
12,900.00	89.71	179.78	7,806.42	-5,200.53	-859.40	5,197.19	0.00	0.00	0.00	0.00
13,000.00	89.71	179.78	7,806.92	-5,300.53	-859.02	5,297.19	0.00	0.00	0.00	0.00
13,015.49	89.71	179.78	7,807.00	-5,316.02	-858.96	5,312.68	0.00	0.00	0.00	0.00

TD Well @ 13015.49ft - D&C FARMS 13C-33HZ_BHL

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,000.00	1,000.00	0.00	0.00	Begin Nudge @ 1000.00ft
1,388.64	1,387.45	5.39	-25.76	End Nudge @ 1388.64ft
7,006.76	6,953.95	160.93	-769.50	Top of 4.5" Liner @ 7006.76ft
7,106.76	7,053.03	163.70	-782.74	KOP @ 7106.76ft
7,600.00	7,508.59	13.13	-842.88	DLS = 8/100'
8,248.38	7,783.00	-549.00	-877.00	End Build @ 8248.38ft
13,015.49	7,807.00	-5,316.02	-858.96	TD Well @ 13015.49ft

Plan Report for D&C FARMS 13C-33HZ - Plan A Rev 0 Permit

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N/-S (ft)	+E/-W (ft)	
User	No Target (Freehand)	179.78	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	13,015.49	Plan A Rev 0 Permit	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
795.00	795.00	9 5/8"	9-5/8	13-1/2
8,248.38	7,783.00	7"	7	8-3/4

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,871.19	4,838.00	Sussex			
5,364.72	5,327.00	Shannon			
7,384.65	7,323.00	Sharon Springs			
7,416.17	7,352.00	Niobrara A			
7,618.60	7,523.00	Niobrara B			
7,774.54	7,631.00	Niobrara C			
8,036.13	7,751.00	Fort Hays			
8,166.89	7,778.00	Codell			
8,248.38	7,783.00	Landing Target (Heel)			
13,015.49	7,807.00	Total Depth (Toe)			

Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
D&C FARMS_SEC	0.00	-0.37	29.97	Polygon
D&C FARMS 13C-33HZ_BHL	7,807.00	-5,316.02	-858.96	Point
D&C FARMS 13C-33HZ_CP	7,783.00	-549.00	-877.00	Point
D&C FARMS 13C-33HZ_SHL	0.00	0.00	0.00	Point

North Reference Sheet for Sec. 28-T1N-R67W - D&C FARMS 13C-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' @ 5025.00ft (Drilling Rig). Northing and Easting are relative to D&C FARMS 13C-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: 0.99996518

Grid Coordinates of Well: 1,249,318.90 ft N, 3,168,174.45 ft E

Geographical Coordinates of Well: 40° 00' 58.33" N, 104° 53' 58.41" W

Grid Convergence at Surface is: 0.39°

Based upon Minimum Curvature type calculations, at a Measured Depth of 13,015.49ft
the Bottom Hole Displacement is 5,384.96ft in the Direction of 189.18° (True).

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

