

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 26-T3N-R68W

DOUTHIT 16C-27HZ

Plan A

Plan: Rev A0 Permit

Sperry Drilling Services

Proposal Report

09 April, 2014

Well Coordinates: 1,314,065.00 N, 3,150,258.86 E (40° 11' 39.31" N, 104° 57' 43.63" W)

Ground Level: 4,925.00 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 DOUTHIT 16C-27HZ

RKB = 17' @ 4942.00usft (Drilling Rig)

N

True

API - US Survey Feet - Custom

HALLIBURTON

Project: Weld County, CO (NAD 83)
Site: Sec. 26-T3N-R68W
Well: DOUTHIT 16C-27HZ
Wellbore: Plan A
Design: Rev A0 Permit

Anadarko Petroleum Corp.

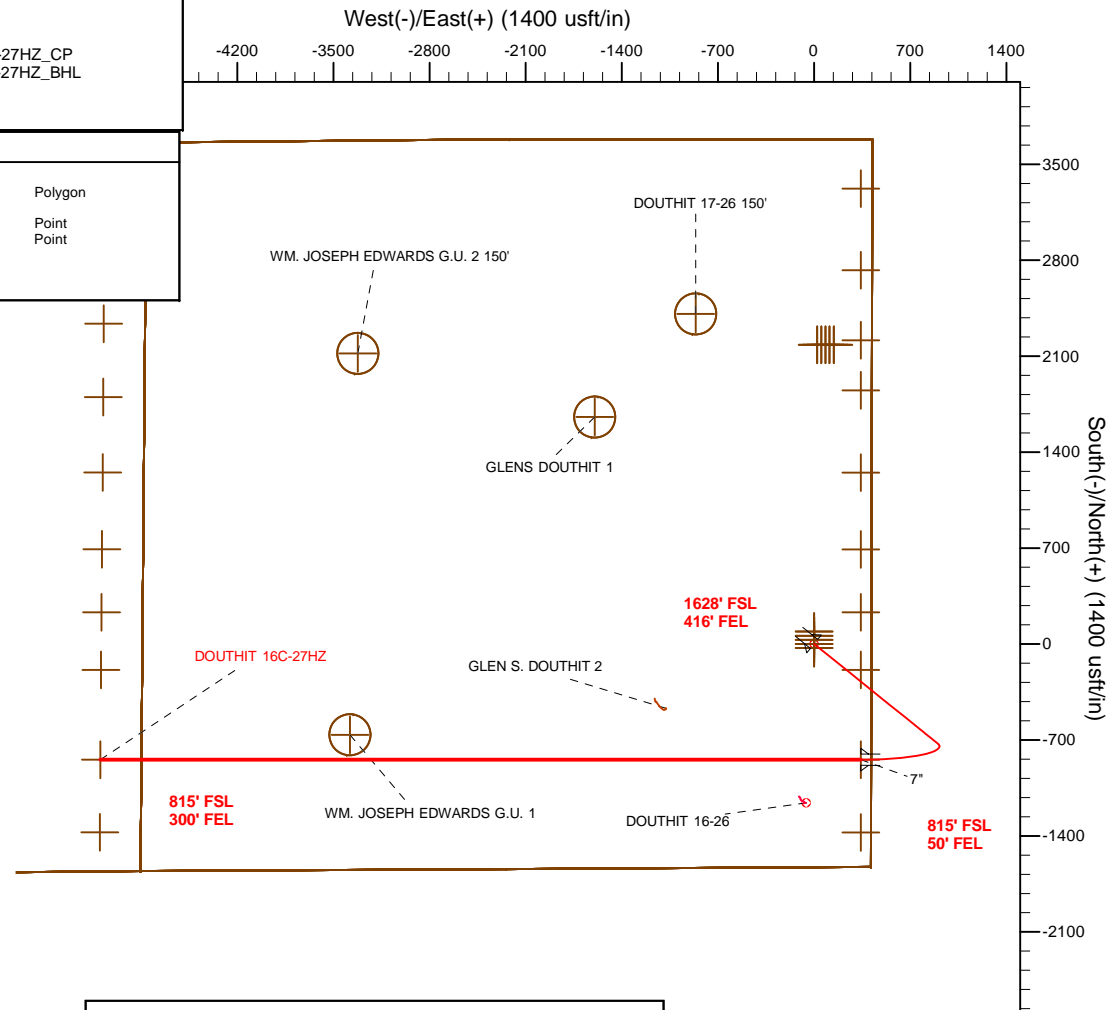
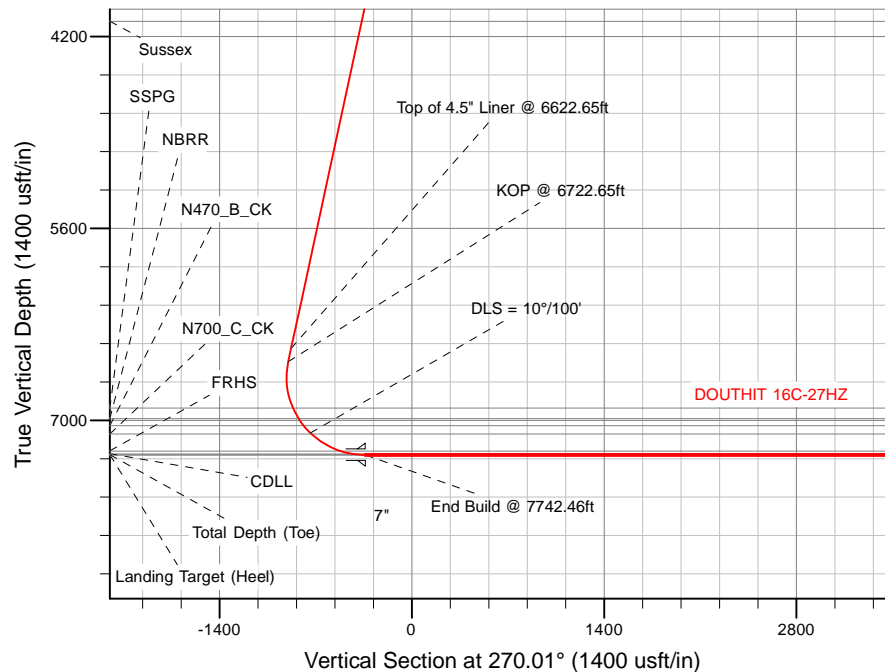
HALLIBURTON
Sperry Drilling

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	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	
3	2772.96	15.46	128.92	2763.61	-65.11	80.64	2.00	128.92	-80.66	
4	6722.65	15.46	128.92	6570.41	-726.44	899.80	0.00	0.00	-899.93	
5	7742.46	90.01	270.01	7252.00	-844.80	339.19	10.00	140.05	-339.34	DOUTHIT 16C-27HZ_CP
6	13279.47	90.01	270.01	7251.00	-844.26	-5197.81	0.00	0.00	5197.66	DOUTHIT 16C-27HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Polygon
DOUTHIT 16C-27HZ_SEC	0.00	0.00	0.00	40° 11' 39.314 N	104° 57' 43.632 W	Polygon
DOUTHIT 16C-27HZ_SHL	0.00	0.00	0.00	40° 11' 39.314 N	104° 57' 43.632 W	Polygon
DOUTHIT 16C-27HZ_BHL	7251.00	-844.26	-5197.81	40° 11' 30.966 N	104° 58' 50.610 W	Point
DOUTHIT 16C-27HZ_CP	7252.00	-844.80	339.19	40° 11' 30.966 N	104° 57' 39.261 W	Point



TVD MD

6474.03 6622.65 Top of 4.5" Liner @ 6622.65ft
6570.41 6722.65 KOP @ 6722.65ft

WELL DETAILS: DOUTHIT 16C-27HZ

Ground Level: 4925.00

RKB = 17' @ 4942.00usft (Drilling Rig)

Plan: Rev A0 Permit (DOUTHIT 16C-27HZ/Plan A)

Created By: Clint Eshelman Date: 4/9/2014
Reviewed: _____ Date: _____

Plan Report for DOUTHIT 16C-27HZ - Rev A0 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
DOUTHIT 16C-27HZ_SHL - DOUTHIT 16C-27HZ_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
1,041.00	0.00	0.00	1,041.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills Base										
1,091.00	0.00	0.00	1,091.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"										
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
Begin Nudge @ 2000.00ft										
2,100.00	2.00	128.92	2,099.98	-1.10	1.36	-1.36	2.00	2.00	0.00	128.92
2,200.00	4.00	128.92	2,199.84	-4.38	5.43	-5.43	2.00	2.00	0.00	0.00
2,300.00	6.00	128.92	2,299.45	-9.86	12.21	-12.21	2.00	2.00	0.00	0.00
2,400.00	8.00	128.92	2,398.70	-17.51	21.69	-21.70	2.00	2.00	0.00	0.00
2,500.00	10.00	128.92	2,497.47	-27.34	33.86	-33.87	2.00	2.00	0.00	0.00
2,600.00	12.00	128.92	2,595.62	-39.32	48.71	-48.72	2.00	2.00	0.00	0.00
2,700.00	14.00	128.92	2,693.06	-53.45	66.21	-66.22	2.00	2.00	0.00	0.00
2,772.96	15.46	128.92	2,763.62	-65.11	80.65	-80.66	2.00	2.00	0.00	0.00
End Nudge @ 2772.96ft										
2,800.00	15.46	128.92	2,789.68	-69.64	86.25	-86.27	0.00	0.00	0.00	0.00
2,900.00	15.46	128.92	2,886.06	-86.38	106.99	-107.01	0.00	0.00	0.00	0.00
3,000.00	15.46	128.92	2,982.44	-103.12	127.73	-127.75	0.00	0.00	0.00	0.00
3,100.00	15.46	128.92	3,078.82	-119.87	148.47	-148.49	0.00	0.00	0.00	0.00
3,200.00	15.46	128.92	3,175.21	-136.61	169.21	-169.24	0.00	0.00	0.00	0.00
3,300.00	15.46	128.92	3,271.59	-153.35	189.95	-189.98	0.00	0.00	0.00	0.00
3,400.00	15.46	128.92	3,367.97	-170.10	210.69	-210.72	0.00	0.00	0.00	0.00
3,500.00	15.46	128.92	3,464.35	-186.84	231.43	-231.46	0.00	0.00	0.00	0.00
3,600.00	15.46	128.92	3,560.73	-203.59	252.17	-252.21	0.00	0.00	0.00	0.00
3,700.00	15.46	128.92	3,657.12	-220.33	272.91	-272.95	0.00	0.00	0.00	0.00
3,722.71	15.46	128.92	3,679.00	-224.13	277.62	-277.66	0.00	0.00	0.00	0.00
Parkman										
3,800.00	15.46	128.92	3,753.50	-237.07	293.65	-293.69	0.00	0.00	0.00	0.00
3,900.00	15.46	128.92	3,849.88	-253.82	314.39	-314.44	0.00	0.00	0.00	0.00
4,000.00	15.46	128.92	3,946.26	-270.56	335.13	-335.18	0.00	0.00	0.00	0.00
4,100.00	15.46	128.92	4,042.64	-287.31	355.87	-355.92	0.00	0.00	0.00	0.00
4,148.10	15.46	128.92	4,089.00	-295.36	365.85	-365.90	0.00	0.00	0.00	0.00
Sussex										
4,200.00	15.46	128.92	4,139.03	-304.05	376.61	-376.66	0.00	0.00	0.00	0.00
4,300.00	15.46	128.92	4,235.41	-320.79	397.35	-397.41	0.00	0.00	0.00	0.00
4,400.00	15.46	128.92	4,331.79	-337.54	418.09	-418.15	0.00	0.00	0.00	0.00

Plan Report for DOUTHIT 16C-27HZ - Rev A0 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	15.46	128.92	4,428.17	-354.28	438.83	-438.89	0.00	0.00	0.00	0.00
4,600.00	15.46	128.92	4,524.55	-371.03	459.57	-459.63	0.00	0.00	0.00	0.00
4,700.00	15.46	128.92	4,620.94	-387.77	480.31	-480.38	0.00	0.00	0.00	0.00
4,800.00	15.46	128.92	4,717.32	-404.51	501.05	-501.12	0.00	0.00	0.00	0.00
4,900.00	15.46	128.92	4,813.70	-421.26	521.79	-521.86	0.00	0.00	0.00	0.00
5,000.00	15.46	128.92	4,910.08	-438.00	542.53	-542.60	0.00	0.00	0.00	0.00
5,100.00	15.46	128.92	5,006.46	-454.74	563.27	-563.35	0.00	0.00	0.00	0.00
5,200.00	15.46	128.92	5,102.85	-471.49	584.01	-584.09	0.00	0.00	0.00	0.00
5,300.00	15.46	128.92	5,199.23	-488.23	604.75	-604.83	0.00	0.00	0.00	0.00
5,400.00	15.46	128.92	5,295.61	-504.98	625.49	-625.58	0.00	0.00	0.00	0.00
5,500.00	15.46	128.92	5,391.99	-521.72	646.23	-646.32	0.00	0.00	0.00	0.00
5,600.00	15.46	128.92	5,488.38	-538.46	666.97	-667.06	0.00	0.00	0.00	0.00
5,700.00	15.46	128.92	5,584.76	-555.21	687.71	-687.80	0.00	0.00	0.00	0.00
5,800.00	15.46	128.92	5,681.14	-571.95	708.45	-708.55	0.00	0.00	0.00	0.00
5,900.00	15.46	128.92	5,777.52	-588.70	729.19	-729.29	0.00	0.00	0.00	0.00
6,000.00	15.46	128.92	5,873.90	-605.44	749.93	-750.03	0.00	0.00	0.00	0.00
6,100.00	15.46	128.92	5,970.29	-622.18	770.67	-770.77	0.00	0.00	0.00	0.00
6,200.00	15.46	128.92	6,066.67	-638.93	791.41	-791.52	0.00	0.00	0.00	0.00
6,300.00	15.46	128.92	6,163.05	-655.67	812.15	-812.26	0.00	0.00	0.00	0.00
6,400.00	15.46	128.92	6,259.43	-672.42	832.89	-833.00	0.00	0.00	0.00	0.00
6,500.00	15.46	128.92	6,355.81	-689.16	853.63	-853.75	0.00	0.00	0.00	0.00
6,600.00	15.46	128.92	6,452.20	-705.90	874.36	-874.49	0.00	0.00	0.00	0.00
6,622.65	15.46	128.92	6,474.03	-709.70	879.06	-879.19	0.00	0.00	0.00	0.00
Top of 4.5" Liner @ 6622.65ft										
6,700.00	15.46	128.92	6,548.58	-722.65	895.10	-895.23	0.00	0.00	0.00	0.00
6,722.65	15.46	128.92	6,570.41	-726.44	899.80	-899.93	0.00	0.00	0.00	0.00
KOP @ 6722.65ft										
6,800.00	10.72	156.60	6,645.80	-739.54	910.70	-910.83	10.00	-6.13	35.79	140.05
6,900.00	11.40	210.54	6,744.19	-756.63	909.36	-909.50	10.00	0.68	53.93	113.04
7,000.00	18.52	238.78	6,840.86	-773.42	890.71	-890.84	10.00	7.12	28.24	59.97
7,074.49	25.11	248.25	6,910.00	-785.43	865.87	-866.01	10.00	8.84	12.72	32.59
SSPG										
7,100.00	27.46	250.48	6,932.87	-789.40	855.30	-855.44	10.00	9.22	8.74	23.78
7,162.79	33.37	254.71	6,987.00	-798.80	824.97	-825.10	10.00	9.41	6.74	21.78
NBRR										
7,200.00	36.92	256.64	7,017.42	-804.08	804.22	-804.36	10.00	9.55	5.18	18.13
7,226.18	39.44	257.81	7,038.00	-807.66	788.43	-788.57	10.00	9.61	4.48	16.55
N470_B_CK										
7,300.00	46.58	260.54	7,091.95	-817.03	739.00	-739.15	10.00	9.68	3.70	15.63
DLs = 10°/100'										
7,310.36	47.59	260.87	7,099.00	-818.25	731.52	-731.66	10.00	9.72	3.19	13.63
N700_C_CK										
7,400.00	56.34	263.36	7,154.19	-827.83	661.65	-661.79	10.00	9.76	2.77	13.40
7,500.00	66.14	265.60	7,202.25	-836.17	574.49	-574.64	10.00	9.81	2.24	11.87
7,557.91	71.84	266.74	7,223.00	-839.78	520.58	-520.72	10.00	9.83	1.97	10.79
FRHS										
7,600.00	75.98	267.52	7,234.66	-841.80	480.20	-480.34	10.00	9.84	1.85	10.38
7,652.04	81.10	268.45	7,245.00	-843.59	429.25	-429.39	10.00	9.85	1.78	10.16
CDLL										
7,700.00	85.83	269.28	7,250.46	-844.54	381.62	-381.77	10.00	9.85	1.73	9.98
7,742.46	90.01	270.01	7,252.00	-844.80	339.19	-339.34	10.00	9.85	1.71	9.88
End Build @ 7742.46ft - Landing Target (Heel) - 7" - DOUTHIT 16C-27HZ_CP										
7,800.00	90.01	270.01	7,251.99	-844.80	281.66	-281.80	0.00	0.00	0.00	9.85
7,900.00	90.01	270.01	7,251.97	-844.79	181.66	-181.80	0.00	0.00	0.00	0.00
8,000.00	90.01	270.01	7,251.95	-844.78	81.66	-81.80	0.00	0.00	0.00	0.00
8,100.00	90.01	270.01	7,251.94	-844.77	-18.34	18.20	0.00	0.00	0.00	0.00
8,200.00	90.01	270.01	7,251.92	-844.76	-118.34	118.20	0.00	0.00	0.00	0.00
8,300.00	90.01	270.01	7,251.90	-844.75	-218.34	218.20	0.00	0.00	0.00	0.00
8,400.00	90.01	270.01	7,251.88	-844.74	-318.34	318.20	0.00	0.00	0.00	0.00

Plan Report for DOUTHIT 16C-27HZ - Rev A0 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 (°)
8,500.00	90.01	270.01	7,251.86	-844.73	-418.34	418.20	0.00	0.00	0.00	0.00
8,600.00	90.01	270.01	7,251.85	-844.72	-518.34	518.20	0.00	0.00	0.00	0.00
8,700.00	90.01	270.01	7,251.83	-844.71	-618.34	618.20	0.00	0.00	0.00	0.00
8,800.00	90.01	270.01	7,251.81	-844.70	-718.34	718.20	0.00	0.00	0.00	0.00
8,900.00	90.01	270.01	7,251.79	-844.69	-818.34	818.20	0.00	0.00	0.00	0.00
9,000.00	90.01	270.01	7,251.77	-844.68	-918.34	918.20	0.00	0.00	0.00	0.00
9,100.00	90.01	270.01	7,251.75	-844.67	-1,018.34	1,018.20	0.00	0.00	0.00	0.00
9,200.00	90.01	270.01	7,251.74	-844.66	-1,118.34	1,118.20	0.00	0.00	0.00	0.00
9,300.00	90.01	270.01	7,251.72	-844.65	-1,218.34	1,218.20	0.00	0.00	0.00	0.00
9,400.00	90.01	270.01	7,251.70	-844.64	-1,318.34	1,318.20	0.00	0.00	0.00	0.00
9,500.00	90.01	270.01	7,251.68	-844.63	-1,418.34	1,418.20	0.00	0.00	0.00	0.00
9,600.00	90.01	270.01	7,251.66	-844.62	-1,518.34	1,518.20	0.00	0.00	0.00	0.00
9,700.00	90.01	270.01	7,251.65	-844.61	-1,618.34	1,618.20	0.00	0.00	0.00	0.00
9,800.00	90.01	270.01	7,251.63	-844.60	-1,718.34	1,718.20	0.00	0.00	0.00	0.00
9,900.00	90.01	270.01	7,251.61	-844.59	-1,818.34	1,818.20	0.00	0.00	0.00	0.00
10,000.00	90.01	270.01	7,251.59	-844.58	-1,918.34	1,918.20	0.00	0.00	0.00	0.00
10,100.00	90.01	270.01	7,251.57	-844.57	-2,018.34	2,018.20	0.00	0.00	0.00	0.00
10,200.00	90.01	270.01	7,251.56	-844.56	-2,118.34	2,118.20	0.00	0.00	0.00	0.00
10,300.00	90.01	270.01	7,251.54	-844.55	-2,218.34	2,218.20	0.00	0.00	0.00	0.00
10,400.00	90.01	270.01	7,251.52	-844.54	-2,318.34	2,318.20	0.00	0.00	0.00	0.00
10,500.00	90.01	270.01	7,251.50	-844.53	-2,418.34	2,418.20	0.00	0.00	0.00	0.00
10,600.00	90.01	270.01	7,251.48	-844.52	-2,518.34	2,518.20	0.00	0.00	0.00	0.00
10,700.00	90.01	270.01	7,251.47	-844.51	-2,618.34	2,618.20	0.00	0.00	0.00	0.00
10,800.00	90.01	270.01	7,251.45	-844.50	-2,718.34	2,718.20	0.00	0.00	0.00	0.00
10,900.00	90.01	270.01	7,251.43	-844.49	-2,818.34	2,818.20	0.00	0.00	0.00	0.00
11,000.00	90.01	270.01	7,251.41	-844.48	-2,918.34	2,918.20	0.00	0.00	0.00	0.00
11,100.00	90.01	270.01	7,251.39	-844.47	-3,018.34	3,018.20	0.00	0.00	0.00	0.00
11,200.00	90.01	270.01	7,251.38	-844.46	-3,118.34	3,118.20	0.00	0.00	0.00	0.00
11,300.00	90.01	270.01	7,251.36	-844.45	-3,218.34	3,218.20	0.00	0.00	0.00	0.00
11,400.00	90.01	270.01	7,251.34	-844.44	-3,318.34	3,318.20	0.00	0.00	0.00	0.00
11,500.00	90.01	270.01	7,251.32	-844.43	-3,418.34	3,418.20	0.00	0.00	0.00	0.00
11,600.00	90.01	270.01	7,251.30	-844.42	-3,518.34	3,518.20	0.00	0.00	0.00	0.00
11,700.00	90.01	270.01	7,251.29	-844.41	-3,618.34	3,618.20	0.00	0.00	0.00	0.00
11,800.00	90.01	270.01	7,251.27	-844.40	-3,718.34	3,718.20	0.00	0.00	0.00	0.00
11,900.00	90.01	270.01	7,251.25	-844.39	-3,818.34	3,818.20	0.00	0.00	0.00	0.00
12,000.00	90.01	270.01	7,251.23	-844.38	-3,918.34	3,918.20	0.00	0.00	0.00	0.00
12,100.00	90.01	270.01	7,251.21	-844.37	-4,018.34	4,018.20	0.00	0.00	0.00	0.00
12,200.00	90.01	270.01	7,251.19	-844.36	-4,118.34	4,118.20	0.00	0.00	0.00	0.00
12,300.00	90.01	270.01	7,251.18	-844.35	-4,218.34	4,218.20	0.00	0.00	0.00	0.00
12,400.00	90.01	270.01	7,251.16	-844.34	-4,318.34	4,318.20	0.00	0.00	0.00	0.00
12,500.00	90.01	270.01	7,251.14	-844.33	-4,418.34	4,418.20	0.00	0.00	0.00	0.00
12,600.00	90.01	270.01	7,251.12	-844.32	-4,518.34	4,518.20	0.00	0.00	0.00	0.00
12,700.00	90.01	270.01	7,251.10	-844.32	-4,618.34	4,618.20	0.00	0.00	0.00	0.00
12,800.00	90.01	270.01	7,251.09	-844.31	-4,718.34	4,718.20	0.00	0.00	0.00	0.00
12,900.00	90.01	270.01	7,251.07	-844.30	-4,818.34	4,818.20	0.00	0.00	0.00	0.00
13,000.00	90.01	270.01	7,251.05	-844.29	-4,918.34	4,918.20	0.00	0.00	0.00	0.00
13,100.00	90.01	270.01	7,251.03	-844.28	-5,018.34	5,018.20	0.00	0.00	0.00	0.00
13,200.00	90.01	270.01	7,251.01	-844.27	-5,118.34	5,118.20	0.00	0.00	0.00	0.00
13,279.46	90.01	270.01	7,251.00	-844.26	-5,197.80	5,197.66	0.00	0.00	0.00	0.00
Total Depth (Toe)										
13,279.47	90.01	270.01	7,251.00	-844.26	-5,197.81	5,197.66	0.00	0.00	0.00	0.00
TD Well @ 13279.47ft - DOUTHIT 16C-27HZ_BHL										

Plan Report for DOUTHIT 16C-27HZ - Rev A0 Permit

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,000.00	2,000.00	0.00	0.00	Begin Nudge @ 2000.00ft
2,772.96	2,763.62	-65.11	80.65	End Nudge @ 2772.96ft
6,622.65	6,474.03	-709.70	879.06	Top of 4.5" Liner @ 6622.65ft
6,722.65	6,570.41	-726.44	899.80	KOP @ 6722.65ft
7,300.00	7,091.95	-817.03	739.00	DLS = 10°/100'
7,742.46	7,252.00	-844.80	339.20	End Build @ 7742.46ft
13,279.47	7,251.00	-844.26	-5,197.81	TD Well @ 13279.47ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/_S (usft)	+E/-W (usft)	
User	No Target (Freehand)	270.01	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	7,742.46	Rev A0 Permit	MWD
7,742.46	13,279.47	Rev A0 Permit	MWD

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,091.00	1,091.00	9 5/8"	9-5/8	13-1/2
7,742.46	7,252.00	7"	7	8-3/4

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,041.00	1,041.00	Fox Hills Base		0.00	
3,722.71	3,679.00	Parkman		0.00	
4,148.10	4,089.00	Sussex		0.00	
7,074.49	6,910.00	SSPG		0.00	
7,162.79	6,987.00	NBRR		0.00	
7,226.18	7,038.00	N470_B_CK		0.00	
7,310.36	7,099.00	N700_C_CK		0.00	
7,557.91	7,223.00	FRHS		0.00	
7,652.04	7,245.00	CDLL		0.00	
7,742.46	7,252.00	Landing Target (Heel)		0.00	
13,279.46	7,251.00	Total Depth (Toe)		0.00	

Plan Report for DOUTHIT 16C-27HZ - Rev A0 Permit

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
DOUTHIT 16C-27HZ_SHL	0.00	0.00	0.00	Point
DOUTHIT 16C-27HZ_SEC	0.00	0.00	0.00	Polygon
DOUTHIT 16C-27HZ_BHL	7,251.00	-844.26	-5,197.81	Point
DOUTHIT 16C-27HZ_CP	7,252.00	-844.80	339.19	Point

Directional Difficulty Index

Average Dogleg over Survey:	0.00 °/100usft	Maximum Dogleg over Survey:	0.00 °/100usft at -1.00 usft
Net Tortousity applicable to Plans:	0.00 °/100usft	Directional Difficulty Index:	6.370

Audit Info

North Reference Sheet for Sec. 26-T3N-R68W - DOUTHIT 16C-27HZ - Plan A

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' @ 4942.00usft (Drilling Rig). Northing and Easting are relative to DOUTHIT 16C-27HZ
 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: 3,000,000.00usft, False Northing: 1,000,000.00usft, Scale Reduction: 0.99995733

Grid Coordinates of Well: 1,314,065.00 usft N, 3,150,258.86 usft E
 Geographical Coordinates of Well: 40° 11' 39.31" N, 104° 57' 43.63" W
 Grid Convergence at Surface is: 0.35°

Based upon Minimum Curvature type calculations, at a Measured Depth of 13,279.47usft
 the Bottom Hole Displacement is 5,265.93usft in the Direction of 260.77° (True).
 Magnetic Convergence at surface is: -8.27° (8 April 2014, , BGGM2013)

