

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 7-T3N-R65W

WARDELL 4G-7HZ

Plan A

Plan: Rev A0 Permit

Sperry Drilling Services

Proposal Report

10 October, 2013

Well Coordinates: 1,328,723.06 N, 3,219,699.35 E (40° 13' 59.04" N, 104° 42' 47.12" W)

Ground Level: 5,019.00 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 WARDELL 4G-7HZ

RKB = 25' @ 5044.00usft (Drilling Rig)

N

True

Dec-Deg - API - US Survey Feet - Custom

HALLIBURTON

Project: Weld County, CO (NAD 83)
Site: Sec. 7-T3N-R65W -
Well: WARDELL 4G-7HZ
Wellbore: Plan A
Design: Rev A0 Permit

Anadarko Petroleum Corp.

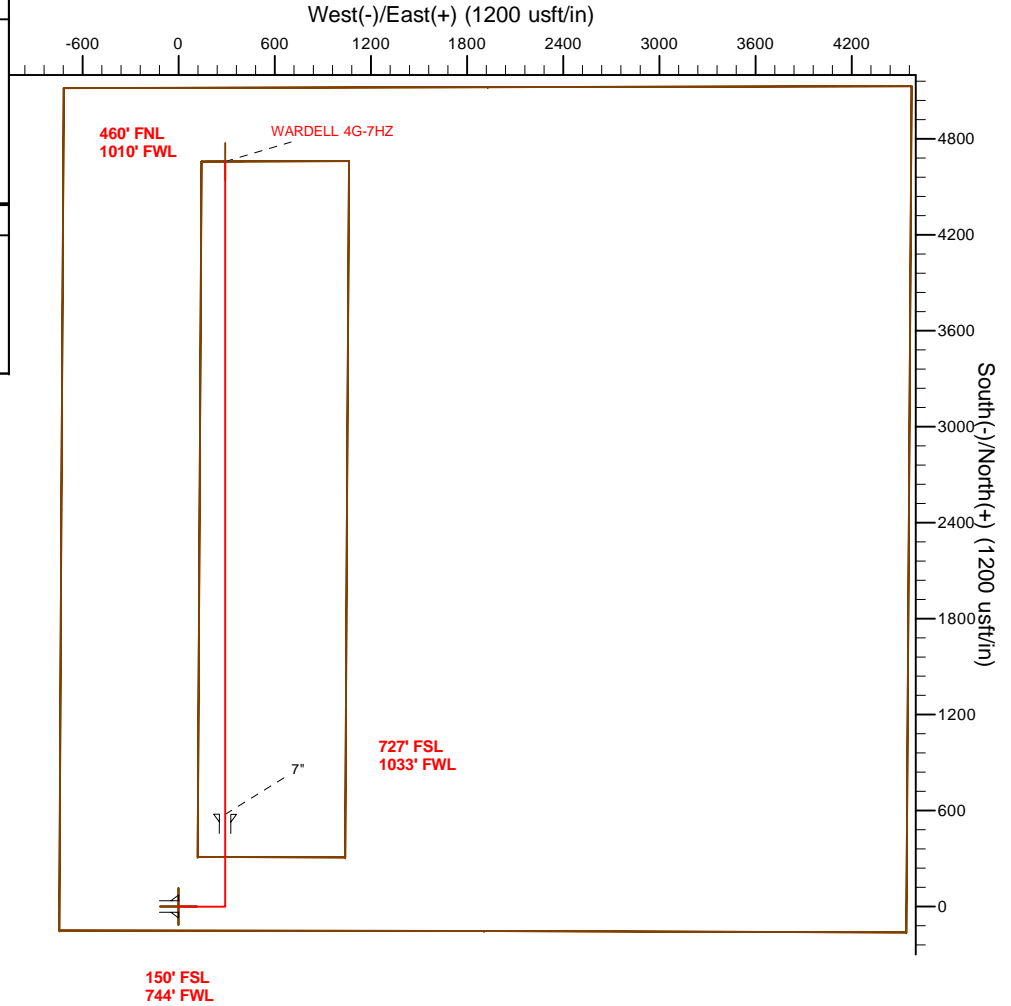
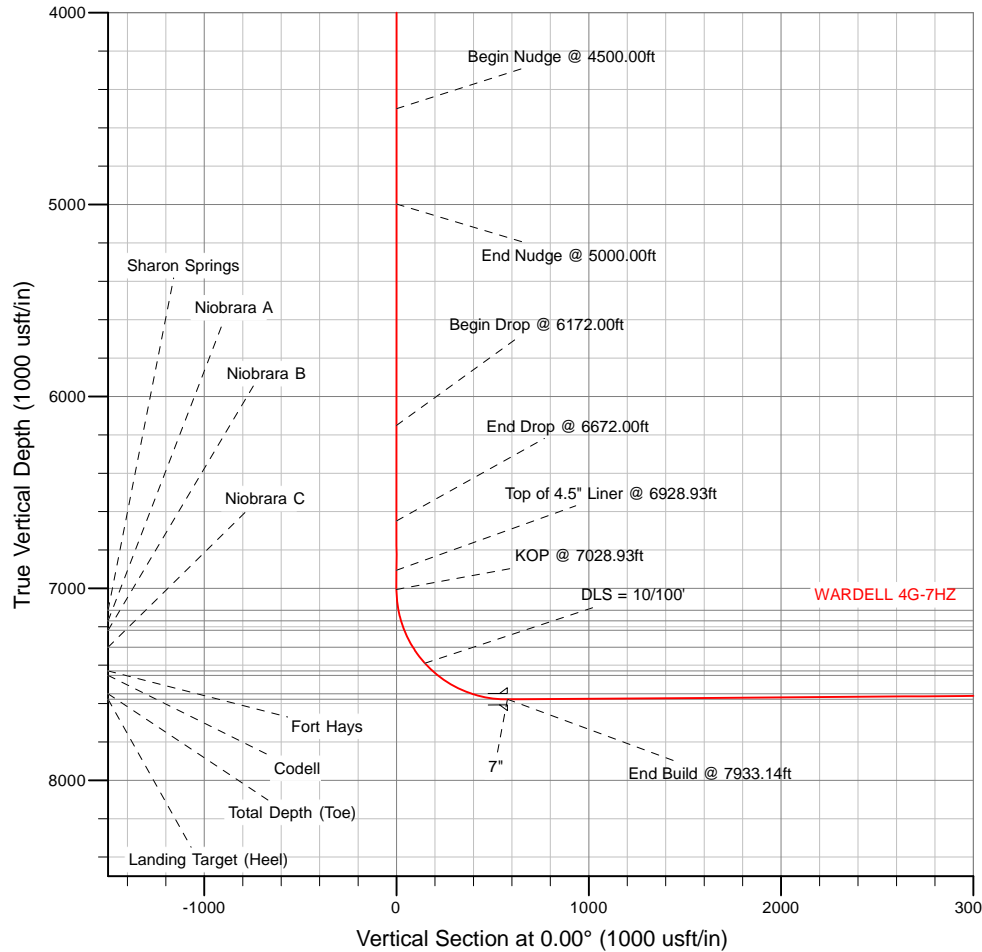
HALLIBURTON
Sperry Drilling

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	4500.00	0.00	0.00	4500.00	0.00	0.00	0.00	0.00	0.00	
3	5000.00	10.00	90.00	4997.47	0.00	43.52	2.00	90.00	0.00	
4	6172.00	10.00	90.00	6151.66	0.00	247.04	0.00	0.00	0.00	
5	6672.00	0.00	0.00	6649.13	0.00	290.56	2.00	180.00	0.00	
6	7028.93	0.00	0.00	7006.06	0.00	290.56	0.00	0.00	0.00	
7	7933.14	90.42	0.00	7579.00	577.17	290.60	10.00	0.00	577.17	
8	12015.14	90.42	0.00	7549.00	4659.05	290.88	0.00	0.00	4659.05	WARDELL 4G-7HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	
WARDELL 4G-7HZ_LD	0.00	0.00	0.00	40.233067	-104.713090	Polygon
WARDELL 4G-7HZ_SEC	0.00	0.00	0.00	40.233067	-104.713090	
WARDELL 4G-7HZ_SHL	0.00	0.00	0.00	40.233067	-104.713090	
WARDELL 4G-7HZ_BHL	7549.00	4659.05	290.88	40.245856	-104.712048	



WELL DETAILS: WARDELL 4G-7HZ

Ground Level: 5019.00
RKB = 25' @ 5044.00usft (Drilling Rig)

Plan: Rev A0 Permit (WARDELL 4G-7HZ/Plan A)

Created By: Clint Eshelman Date: 10/10/2013
Reviewed: _____ Date: _____

TVD	MD	
6906.06	6928.93	Top of 4.5" Liner @ 6928.93ft
7006.06	7028.93	KOP @ 7028.93ft

Plan Report for WARDELL 4G-7HZ - 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
WARDELL 4G-7HZ_SEC - WARDELL 4G-7HZ_SHL - WARDELL 4G-7HZ_LD										
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
1,230.00	0.00	0.00	1,230.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills Base										
1,280.00	0.00	0.00	1,280.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"										
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
3,100.00	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
3,900.00	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
4,342.00	0.00	0.00	4,342.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parkman										
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
Begin Nudge @ 4500.00ft										
4,600.00	2.00	90.00	4,599.98	0.00	1.75	0.00	2.00	2.00	0.00	90.00
4,656.08	3.12	90.00	4,656.00	0.00	4.25	0.00	2.00	2.00	0.00	0.00
Sussex										
4,700.00	4.00	90.00	4,699.84	0.00	6.98	0.00	2.00	2.00	0.00	0.00

Plan Report for WARDELL 4G-7HZ - 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 (°)
4,800.00	6.00	90.00	4,799.45	0.00	15.69	0.00	2.00	2.00	0.00	0.00
4,900.00	8.00	90.00	4,898.70	0.00	27.88	0.00	2.00	2.00	0.00	0.00
5,000.00	10.00	90.00	4,997.47	0.00	43.52	0.00	2.00	2.00	0.00	0.00
End Nudge @ 5000.00ft										
5,100.00	10.00	90.00	5,095.95	0.00	60.89	0.00	0.00	0.00	0.00	0.00
5,200.00	10.00	90.00	5,194.43	0.00	78.25	0.00	0.00	0.00	0.00	0.00
5,300.00	10.00	90.00	5,292.91	0.00	95.62	0.00	0.00	0.00	0.00	0.00
5,400.00	10.00	90.00	5,391.39	0.00	112.98	0.00	0.00	0.00	0.00	0.00
5,500.00	10.00	90.00	5,489.87	0.00	130.35	0.00	0.00	0.00	0.00	0.00
5,600.00	10.00	90.00	5,588.35	0.00	147.71	0.00	0.00	0.00	0.00	0.00
5,700.00	10.00	90.00	5,686.83	0.00	165.08	0.00	0.00	0.00	0.00	0.00
5,800.00	10.00	90.00	5,785.31	0.00	182.44	0.00	0.00	0.00	0.00	0.00
5,900.00	10.00	90.00	5,883.79	0.00	199.81	0.00	0.00	0.00	0.00	0.00
6,000.00	10.00	90.00	5,982.27	0.00	217.17	0.00	0.00	0.00	0.00	0.00
6,100.00	10.00	90.00	6,080.75	0.00	234.54	0.00	0.00	0.00	0.00	0.00
6,172.00	10.00	90.00	6,151.66	0.00	247.04	0.00	0.00	0.00	0.00	0.00
Begin Drop @ 6172.00ft										
6,200.00	9.44	90.00	6,179.26	0.00	251.77	0.00	2.00	-2.00	0.00	180.00
6,300.00	7.44	90.00	6,278.17	0.00	266.44	0.00	2.00	-2.00	0.00	180.00
6,400.00	5.44	90.00	6,377.53	0.00	277.66	0.00	2.00	-2.00	0.00	180.00
6,500.00	3.44	90.00	6,477.23	0.00	285.40	0.00	2.00	-2.00	0.00	180.00
6,600.00	1.44	90.00	6,577.13	0.00	289.66	0.00	2.00	-2.00	0.00	180.00
6,672.00	0.00	0.00	6,649.13	0.00	290.56	0.00	2.00	-2.00	0.00	-180.00
End Drop @ 6672.00ft										
6,700.00	0.00	0.00	6,677.13	0.00	290.56	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,777.13	0.00	290.56	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,877.13	0.00	290.56	0.00	0.00	0.00	0.00	0.00
6,928.93	0.00	0.00	6,906.06	0.00	290.56	0.00	0.00	0.00	0.00	0.00
Top of 4.5" Liner @ 6928.93ft										
7,000.00	0.00	0.00	6,977.13	0.00	290.56	0.00	0.00	0.00	0.00	0.00
7,028.93	0.00	0.00	7,006.06	0.00	290.56	0.00	0.00	0.00	0.00	0.00
KOP @ 7028.93ft										
7,100.00	7.11	0.00	7,076.94	4.40	290.56	4.40	10.00	10.00	0.00	0.00
7,137.52	10.86	0.00	7,114.00	10.26	290.56	10.26	10.00	10.00	0.00	0.00
Sharon Springs										
7,194.16	16.52	0.00	7,169.00	23.66	290.56	23.66	10.00	10.00	0.00	0.00
Niobrara A										
7,200.00	17.11	0.00	7,174.60	25.35	290.56	25.35	10.00	10.00	0.00	0.00
7,246.03	21.71	0.00	7,218.00	40.64	290.56	40.64	10.00	10.00	0.00	0.00
Niobrara B										
7,300.00	27.11	0.00	7,267.13	62.94	290.57	62.94	10.00	10.00	0.00	0.00
7,345.78	31.68	0.00	7,307.00	85.40	290.57	85.40	10.00	10.00	0.00	0.00
Niobrara C										
7,400.00	37.11	0.00	7,351.72	116.02	290.57	116.02	10.00	10.00	0.00	0.00
7,450.00	42.11	0.00	7,390.23	147.88	290.57	147.88	10.00	10.00	0.00	0.00
DLS = 10/100'										
7,500.00	47.11	0.00	7,425.82	182.98	290.57	182.98	10.00	10.00	0.00	0.00
7,506.18	47.72	0.00	7,430.00	187.53	290.57	187.53	10.00	10.00	0.00	0.00
Fort Hays										
7,541.60	51.27	0.00	7,453.00	214.46	290.58	214.46	10.00	10.00	0.00	0.00
Codell										
7,600.00	57.11	0.00	7,487.16	261.80	290.58	261.80	10.00	10.00	0.00	0.00
7,700.00	67.11	0.00	7,533.88	350.07	290.58	350.07	10.00	10.00	0.00	0.00
7,800.00	77.11	0.00	7,564.57	445.11	290.59	445.11	10.00	10.00	0.00	0.00
7,900.00	87.11	0.00	7,578.28	544.04	290.60	544.04	10.00	10.00	0.00	0.00
7,933.14	90.42	0.00	7,579.00	577.17	290.60	577.17	10.00	10.00	0.00	0.00
End Build @ 7933.14ft - Landing Target (Heel) - 7"										
8,000.00	90.42	0.00	7,578.51	644.03	290.60	644.03	0.00	0.00	0.00	0.00

Plan Report for WARDELL 4G-7HZ - 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 (°)
8,100.00	90.42	0.00	7,577.77	744.02	290.61	744.02	0.00	0.00	0.00	0.00
8,200.00	90.42	0.00	7,577.04	844.02	290.62	844.02	0.00	0.00	0.00	0.00
8,300.00	90.42	0.00	7,576.30	944.02	290.63	944.02	0.00	0.00	0.00	0.00
8,400.00	90.42	0.00	7,575.57	1,044.02	290.63	1,044.02	0.00	0.00	0.00	0.00
8,500.00	90.42	0.00	7,574.83	1,144.01	290.64	1,144.01	0.00	0.00	0.00	0.00
8,600.00	90.42	0.00	7,574.10	1,244.01	290.65	1,244.01	0.00	0.00	0.00	0.00
8,700.00	90.42	0.00	7,573.36	1,344.01	290.65	1,344.01	0.00	0.00	0.00	0.00
8,800.00	90.42	0.00	7,572.63	1,444.00	290.66	1,444.00	0.00	0.00	0.00	0.00
8,900.00	90.42	0.00	7,571.89	1,544.00	290.67	1,544.00	0.00	0.00	0.00	0.00
9,000.00	90.42	0.00	7,571.16	1,644.00	290.67	1,644.00	0.00	0.00	0.00	0.00
9,100.00	90.42	0.00	7,570.42	1,744.00	290.68	1,744.00	0.00	0.00	0.00	0.00
9,200.00	90.42	0.00	7,569.69	1,843.99	290.69	1,843.99	0.00	0.00	0.00	0.00
9,300.00	90.42	0.00	7,568.95	1,943.99	290.69	1,943.99	0.00	0.00	0.00	0.00
9,400.00	90.42	0.00	7,568.22	2,043.99	290.70	2,043.99	0.00	0.00	0.00	0.00
9,500.00	90.42	0.00	7,567.48	2,143.99	290.71	2,143.99	0.00	0.00	0.00	0.00
9,600.00	90.42	0.00	7,566.75	2,243.98	290.71	2,243.98	0.00	0.00	0.00	0.00
9,700.00	90.42	0.00	7,566.01	2,343.98	290.72	2,343.98	0.00	0.00	0.00	0.00
9,800.00	90.42	0.00	7,565.28	2,443.98	290.73	2,443.98	0.00	0.00	0.00	0.00
9,900.00	90.42	0.00	7,564.54	2,543.97	290.74	2,543.97	0.00	0.00	0.00	0.00
10,000.00	90.42	0.00	7,563.81	2,643.97	290.74	2,643.97	0.00	0.00	0.00	0.00
10,100.00	90.42	0.00	7,563.07	2,743.97	290.75	2,743.97	0.00	0.00	0.00	0.00
10,200.00	90.42	0.00	7,562.34	2,843.97	290.76	2,843.97	0.00	0.00	0.00	0.00
10,300.00	90.42	0.00	7,561.60	2,943.96	290.76	2,943.96	0.00	0.00	0.00	0.00
10,400.00	90.42	0.00	7,560.87	3,043.96	290.77	3,043.96	0.00	0.00	0.00	0.00
10,500.00	90.42	0.00	7,560.13	3,143.96	290.78	3,143.96	0.00	0.00	0.00	0.00
10,600.00	90.42	0.00	7,559.40	3,243.96	290.78	3,243.96	0.00	0.00	0.00	0.00
10,700.00	90.42	0.00	7,558.66	3,343.95	290.79	3,343.95	0.00	0.00	0.00	0.00
10,800.00	90.42	0.00	7,557.93	3,443.95	290.80	3,443.95	0.00	0.00	0.00	0.00
10,900.00	90.42	0.00	7,557.19	3,543.95	290.80	3,543.95	0.00	0.00	0.00	0.00
11,000.00	90.42	0.00	7,556.46	3,643.94	290.81	3,643.94	0.00	0.00	0.00	0.00
11,100.00	90.42	0.00	7,555.73	3,743.94	290.82	3,743.94	0.00	0.00	0.00	0.00
11,200.00	90.42	0.00	7,554.99	3,843.94	290.82	3,843.94	0.00	0.00	0.00	0.00
11,300.00	90.42	0.00	7,554.26	3,943.94	290.83	3,943.94	0.00	0.00	0.00	0.00
11,400.00	90.42	0.00	7,553.52	4,043.93	290.84	4,043.93	0.00	0.00	0.00	0.00
11,500.00	90.42	0.00	7,552.79	4,143.93	290.84	4,143.93	0.00	0.00	0.00	0.00
11,600.00	90.42	0.00	7,552.05	4,243.93	290.85	4,243.93	0.00	0.00	0.00	0.00
11,700.00	90.42	0.00	7,551.32	4,343.93	290.86	4,343.93	0.00	0.00	0.00	0.00
11,800.00	90.42	0.00	7,550.58	4,443.92	290.87	4,443.92	0.00	0.00	0.00	0.00
11,900.00	90.42	0.00	7,549.85	4,543.92	290.87	4,543.92	0.00	0.00	0.00	0.00
12,000.00	90.42	0.00	7,549.11	4,643.92	290.88	4,643.92	0.00	0.00	0.00	0.00
12,015.13	90.42	0.00	7,549.00	4,659.05	290.88	4,659.05	0.00	0.00	0.00	0.00
Total Depth (Toe)										
12,015.14	90.42	0.00	7,549.00	4,659.05	290.88	4,659.05	0.01	0.00	0.00	0.00
TD Well @ 12015.14ft - WARDELL 4G-7HZ_BHL										

Plan Report for WARDELL 4G-7HZ - Rev A0 Permit

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,500.00	4,500.00	0.00	0.00	Begin Nudge @ 4500.00ft
5,000.00	4,997.47	0.00	43.52	End Nudge @ 5000.00ft
6,172.00	6,151.66	0.00	247.04	Begin Drop @ 6172.00ft
6,672.00	6,649.13	0.00	290.56	End Drop @ 6672.00ft
6,928.93	6,906.06	0.00	290.56	Top of 4.5" Liner @ 6928.93ft
7,028.93	7,006.06	0.00	290.56	KOP @ 7028.93ft
7,450.00	7,390.23	147.88	290.57	DLS = 10/100'
7,933.14	7,579.00	577.17	290.60	End Build @ 7933.14ft
12,015.14	7,549.00	4,659.05	290.88	TD Well @ 12015.14ft

Vertical Section Information

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

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	7,933.14	Rev A0 Permit	MWD
7,933.14	12,015.14	Rev A0 Permit	MWD

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,280.00	1,280.00	9 5/8"	9-5/8	13-1/2
7,933.14	7,579.00	7"	7	8-3/4

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,230.00	1,230.00	Fox Hills Base		0.00	
4,342.00	4,342.00	Parkman		0.00	
4,656.08	4,656.00	Sussex		0.00	
7,137.52	7,114.00	Sharon Springs		0.00	
7,194.16	7,169.00	Niobrara A		0.00	
7,246.03	7,218.00	Niobrara B		0.00	
7,345.78	7,307.00	Niobrara C		0.00	
7,506.18	7,430.00	Fort Hays		0.00	
7,541.60	7,453.00	Codell		0.00	
7,933.14	7,579.00	Landing Target (Heel)		0.00	
12,015.13	7,549.00	Total Depth (Toe)		0.00	

Plan Report for WARDELL 4G-7HZ - Rev A0 Permit

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
WARDELL 4G-7HZ_SEC	0.00	0.00	0.00	Polygon
WARDELL 4G-7HZ_SHL	0.00	0.00	0.00	Point
WARDELL 4G-7HZ_LD	0.00	0.00	0.00	Polygon
WARDELL 4G-7HZ_BHL	7,549.00	4,659.05	290.88	Point

Directional Difficulty Index

Average Dogleg over Survey:	0.92 °/100usft	Maximum Dogleg over Survey:	10.00 °/100usft at 7,933.14 usft
Net Tortousity applicable to Plans:	0.92 °/100usft	Directional Difficulty Index:	6.043

Audit Info

North Reference Sheet for Sec. 7-T3N-R65W - WARDELL 4G-7HZ - 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 = 25' @ 5044.00usft (Drilling Rig). Northing and Easting are relative to WARDELL 4G-7HZ
 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: 0.99995689

Grid Coordinates of Well: 1,328,723.06 usft N, 3,219,699.35 usft E
 Geographical Coordinates of Well: 40° 13' 59.04" N, 104° 42' 47.12" W
 Grid Convergence at Surface is: 0.51°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,015.14usft
 the Bottom Hole Displacement is 4,668.13usft in the Direction of 3.57° (True).
 Magnetic Convergence at surface is: -8.03° (10 October 2013, , BGGM2013)

