

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

Green Pad

Green 3N-8HZ

Plan A

Plan: Permit Rev-1

Sperry Drilling Services Proposal Report

27 October, 2014

Well Coordinates: 14,553,212.29 N, 1,726,061.31 E (40° 04' 20.32" N, 104° 41' 37.89" W)

Ground Level: 4,971.00 usft

Local Coordinate Origin:

Centered on Well Green 3N-8HZ

Viewing Datum:

RKB = 17' @ 4988.00usft (D Rig)

TVDs to System:

N

North Reference:

True

Unit System:

Dec-Deg - API - US Survey Feet - Custom

Version: 5000.1 Build: 70

HALLIBURTON

Project: WELD-NAD83-UTMFT13N

Site: Green Pad

Well: Green 3N-8HZ

Wellbore: Plan A

Design: Permit Rev-1

US ROCKIES WATTENBERG PLANNING

HALLIBURTON

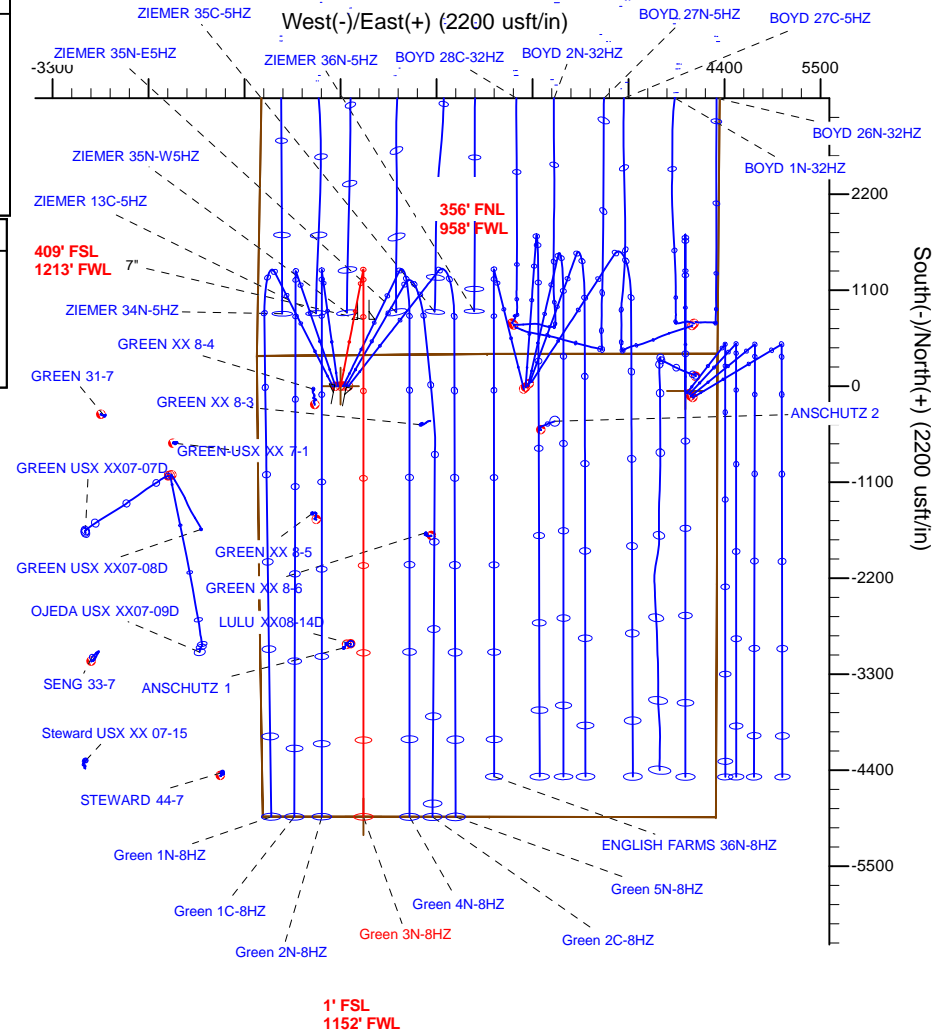
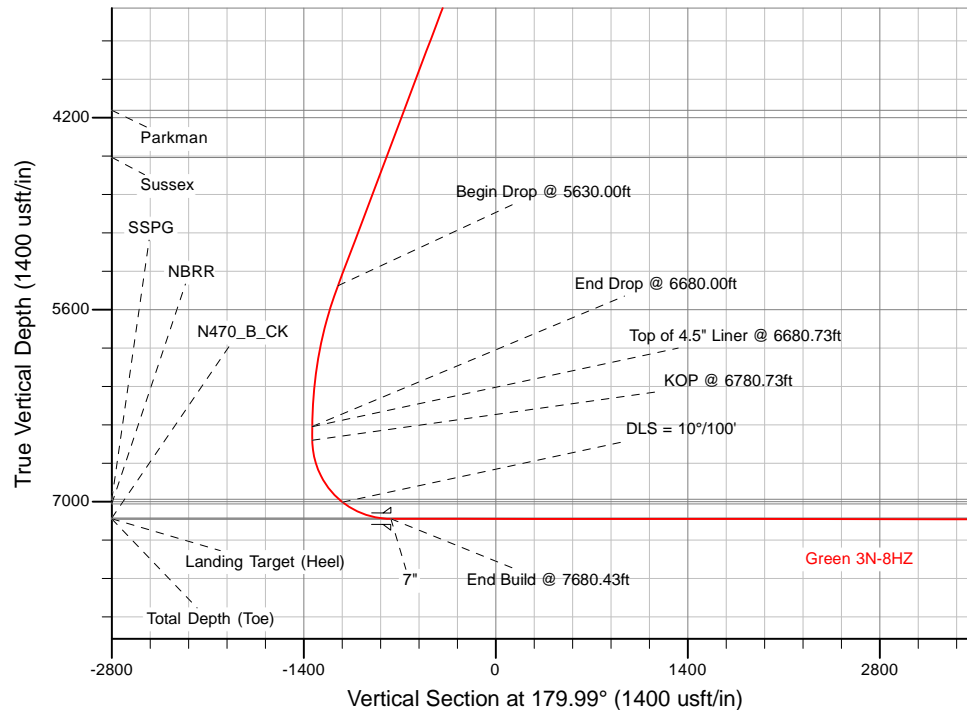
Sperry Drilling

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	1840.00	0.00	0.00	1840.00	0.00	0.00	0.00	0.00	0.00	
3	2890.00	21.00	11.00	2866.65	186.78	36.31	2.00	11.00	-186.78	
4	5630.00	21.00	11.00	5424.66	1150.67	223.67	0.00	0.00	-1150.63	
5	6680.00	0.00	0.00	6451.31	1337.45	259.97	2.00	180.00	-1337.41	
6	6780.73	0.00	0.00	6552.04	1337.45	259.97	0.00	0.00	-1337.41	
7	7680.43	89.97	179.99	7125.00	764.80	260.07	10.00	179.99	-764.75	
8	13379.42	89.97	179.99	7128.00	-4934.20	261.06	0.00	0.00	4934.24	Green 3N-8HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Polygon
Green 3N-8HZ_SHL	0.00	0.00	0.00	40.072311	-104.693859	Polygon Polygon
1N-R65W-Sec. 8 Section lines	7.00	-4320.42	8027.92	40.060443	-104.665168	
1N-R65W-Sec. 5 Section Lines	39.00	-54.31	3950.19	40.072161	-104.679739	
Green 3N-8HZ_BHL	7128.00	-4934.20	261.06	40.058761	-104.692926	



TVD MD		WELL DETAILS: Green 3N-8HZ	
6452.04 6680.73		Ground Level: 4971.00	
6552.04 6780.73		RKB = 17' @ 4988.00usft (D Rig)	
Top of 4.5" Liner @ 6680.73ft		Plan: Permit Rev-1 (Green 3N-8HZ/Plan A)	
KOP @ 6780.73ft		Created By: Clint Eshelman	Date: 10/27/2014
		Reviewed: _____	Date: _____

Plan Report for Green 3N-8HZ - Permit Rev-1

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
Green 3N-8HZ_SHL										
7.00	0.00	0.00	7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1N-R65W-Sec. 8_Section lines										
39.00	0.00	0.00	39.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1N-R65W-Sec. 5_Section Lines										
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
1,021.00	0.00	0.00	1,021.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Fox Hills										
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
1,497.00	0.00	0.00	1,497.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surface Csg Setting Depth - 9 5/8"										
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
1,840.00	0.00	0.00	1,840.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 1840.00ft										
1,900.00	1.20	11.00	1,900.00	0.62	0.12	-0.62	2.00	2.00	0.00	11.00
2,000.00	3.20	11.00	1,999.92	4.38	0.85	-4.38	2.00	2.00	0.00	0.00
2,100.00	5.20	11.00	2,099.64	11.57	2.25	-11.57	2.00	2.00	0.00	0.00
2,200.00	7.20	11.00	2,199.05	22.17	4.31	-22.17	2.00	2.00	0.00	0.00
2,300.00	9.20	11.00	2,298.03	36.17	7.03	-36.17	2.00	2.00	0.00	0.00
2,400.00	11.20	11.00	2,396.44	53.56	10.41	-53.56	2.00	2.00	0.00	0.00
2,500.00	13.20	11.00	2,494.18	74.30	14.44	-74.30	2.00	2.00	0.00	0.00
2,600.00	15.20	11.00	2,591.12	98.38	19.12	-98.38	2.00	2.00	0.00	0.00
2,700.00	17.20	11.00	2,687.14	125.76	24.45	-125.76	2.00	2.00	0.00	0.00
2,800.00	19.20	11.00	2,782.13	156.42	30.41	-156.42	2.00	2.00	0.00	0.00
2,890.00	21.00	11.00	2,866.65	186.78	36.31	-186.78	2.00	2.00	0.00	0.00
End Nudge @ 2890.00ft										
2,900.00	21.00	11.00	2,875.98	190.30	36.99	-190.29	0.00	0.00	0.00	0.00
3,000.00	21.00	11.00	2,969.34	225.48	43.83	-225.47	0.00	0.00	0.00	0.00
3,100.00	21.00	11.00	3,062.70	260.66	50.67	-260.65	0.00	0.00	0.00	0.00
3,200.00	21.00	11.00	3,156.06	295.84	57.50	-295.83	0.00	0.00	0.00	0.00
3,300.00	21.00	11.00	3,249.42	331.01	64.34	-331.00	0.00	0.00	0.00	0.00
3,400.00	21.00	11.00	3,342.77	366.19	71.18	-366.18	0.00	0.00	0.00	0.00
3,500.00	21.00	11.00	3,436.13	401.37	78.02	-401.36	0.00	0.00	0.00	0.00
3,600.00	21.00	11.00	3,529.49	436.55	84.86	-436.53	0.00	0.00	0.00	0.00
3,700.00	21.00	11.00	3,622.85	471.73	91.69	-471.71	0.00	0.00	0.00	0.00
3,800.00	21.00	11.00	3,716.21	506.91	98.53	-506.89	0.00	0.00	0.00	0.00
3,900.00	21.00	11.00	3,809.56	542.08	105.37	-542.07	0.00	0.00	0.00	0.00
4,000.00	21.00	11.00	3,902.92	577.26	112.21	-577.24	0.00	0.00	0.00	0.00
4,100.00	21.00	11.00	3,996.28	612.44	119.05	-612.42	0.00	0.00	0.00	0.00
4,200.00	21.00	11.00	4,089.64	647.62	125.88	-647.60	0.00	0.00	0.00	0.00
4,259.30	21.00	11.00	4,145.00	668.48	129.94	-668.46	0.00	0.00	0.00	0.00
Parkman										

Plan Report for Green 3N-8HZ - Permit Rev-1

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 (°)
4,300.00	21.00	11.00	4,183.00	682.80	132.72	-682.77	0.00	0.00	0.00	0.00
4,400.00	21.00	11.00	4,276.35	717.98	139.56	-717.95	0.00	0.00	0.00	0.00
4,500.00	21.00	11.00	4,369.71	753.15	146.40	-753.13	0.00	0.00	0.00	0.00
4,600.00	21.00	11.00	4,463.07	788.33	153.24	-788.31	0.00	0.00	0.00	0.00
4,628.84	21.00	11.00	4,490.00	798.48	155.21	-798.45	0.00	0.00	0.00	0.00
Sussex										
4,700.00	21.00	11.00	4,556.43	823.51	160.07	-823.48	0.00	0.00	0.00	0.00
4,800.00	21.00	11.00	4,649.79	858.69	166.91	-858.66	0.00	0.00	0.00	0.00
4,900.00	21.00	11.00	4,743.15	893.87	173.75	-893.84	0.00	0.00	0.00	0.00
5,000.00	21.00	11.00	4,836.50	929.05	180.59	-929.01	0.00	0.00	0.00	0.00
5,100.00	21.00	11.00	4,929.86	964.22	187.43	-964.19	0.00	0.00	0.00	0.00
5,200.00	21.00	11.00	5,023.22	999.40	194.26	-999.37	0.00	0.00	0.00	0.00
5,300.00	21.00	11.00	5,116.58	1,034.58	201.10	-1,034.55	0.00	0.00	0.00	0.00
5,400.00	21.00	11.00	5,209.94	1,069.76	207.94	-1,069.72	0.00	0.00	0.00	0.00
5,500.00	21.00	11.00	5,303.29	1,104.94	214.78	-1,104.90	0.00	0.00	0.00	0.00
5,600.00	21.00	11.00	5,396.65	1,140.12	221.62	-1,140.08	0.00	0.00	0.00	0.00
5,630.00	21.00	11.00	5,424.66	1,150.67	223.67	-1,150.63	0.00	0.00	0.00	0.00
Begin Drop @ 5630.00ft										
5,700.00	19.60	11.00	5,490.31	1,174.51	228.30	-1,174.47	2.00	-2.00	0.00	180.00
5,800.00	17.60	11.00	5,585.08	1,205.82	234.39	-1,205.78	2.00	-2.00	0.00	180.00
5,900.00	15.60	11.00	5,680.91	1,233.86	239.84	-1,233.82	2.00	-2.00	0.00	-180.00
6,000.00	13.60	11.00	5,777.67	1,258.60	244.65	-1,258.56	2.00	-2.00	0.00	-180.00
6,100.00	11.60	11.00	5,875.26	1,280.01	248.81	-1,279.97	2.00	-2.00	0.00	180.00
6,200.00	9.60	11.00	5,973.55	1,298.07	252.32	-1,298.03	2.00	-2.00	0.00	180.00
6,300.00	7.60	11.00	6,072.42	1,312.75	255.17	-1,312.70	2.00	-2.00	0.00	180.00
6,400.00	5.60	11.00	6,171.75	1,324.03	257.37	-1,323.99	2.00	-2.00	0.00	180.00
6,500.00	3.60	11.00	6,271.43	1,331.90	258.90	-1,331.86	2.00	-2.00	0.00	180.00
6,600.00	1.60	11.00	6,371.32	1,336.36	259.76	-1,336.31	2.00	-2.00	0.00	180.00
6,680.00	0.00	0.00	6,451.31	1,337.45	259.97	-1,337.41	2.00	-2.00	-13.75	-180.00
End Drop @ 6680.00ft										
6,680.73	0.00	0.00	6,452.04	1,337.45	259.97	-1,337.41	0.00	0.00	0.00	180.00
Top of 4.5" Liner @ 6680.73ft										
6,700.00	0.00	0.00	6,471.31	1,337.45	259.97	-1,337.41	0.00	0.00	0.00	0.00
6,780.73	0.00	0.00	6,552.04	1,337.45	259.97	-1,337.41	0.00	0.00	0.00	0.00
KOP @ 6780.73ft										
6,800.00	1.93	179.99	6,571.30	1,337.13	259.97	-1,337.08	10.00	10.00	0.00	179.99
6,900.00	11.93	179.99	6,670.45	1,325.08	259.98	-1,325.04	10.00	10.00	0.00	0.00
7,000.00	21.93	179.99	6,765.99	1,296.00	259.98	-1,295.96	10.00	10.00	0.00	0.00
7,100.00	31.93	179.99	6,855.04	1,250.78	259.99	-1,250.73	10.00	10.00	0.00	0.00
7,200.00	41.93	179.99	6,934.88	1,190.77	260.00	-1,190.73	10.00	10.00	0.00	0.00
7,267.00	48.63	179.99	6,982.00	1,143.19	260.01	-1,143.15	10.00	10.00	0.00	0.00
SSPG										
7,300.00	51.93	179.99	7,003.08	1,117.82	260.01	-1,117.77	10.00	10.00	0.00	0.00
DLS = 10°/100'										
7,319.76	53.90	179.99	7,015.00	1,102.05	260.02	-1,102.01	10.00	10.00	0.00	0.00
NBRR										
7,400.00	61.93	179.99	7,057.59	1,034.13	260.03	-1,034.08	10.00	10.00	0.00	0.00
7,500.00	71.93	179.99	7,096.73	942.24	260.04	-942.20	10.00	10.00	0.00	0.00
7,597.77	81.70	179.99	7,119.00	847.16	260.06	-847.12	10.00	10.00	0.00	0.00
N470_B_CK										
7,600.00	81.93	179.99	7,119.32	844.96	260.06	-844.91	10.00	10.00	0.00	0.00
7,680.43	89.97	179.99	7,125.00	764.79	260.07	-764.75	10.00	10.00	0.00	0.00
End Build @ 7680.43ft - Landing Target (Heel) - 7"										
7,700.00	89.97	179.99	7,125.01	745.22	260.08	-745.18	0.00	0.00	0.00	0.00
7,800.00	89.97	179.99	7,125.06	645.22	260.09	-645.18	0.00	0.00	0.00	0.00
7,900.00	89.97	179.99	7,125.11	545.22	260.11	-545.18	0.00	0.00	0.00	0.00
8,000.00	89.97	179.99	7,125.16	445.22	260.13	-445.18	0.00	0.00	0.00	0.00
8,100.00	89.97	179.99	7,125.22	345.22	260.15	-345.18	0.00	0.00	0.00	0.00

Plan Report for Green 3N-8HZ - Permit Rev-1

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 (°)
8,200.00	89.97	179.99	7,125.27	245.22	260.16	-245.18	0.00	0.00	0.00	0.00
8,300.00	89.97	179.99	7,125.32	145.22	260.18	-145.18	0.00	0.00	0.00	0.00
8,400.00	89.97	179.99	7,125.37	45.22	260.20	-45.18	0.00	0.00	0.00	0.00
8,500.00	89.97	179.99	7,125.43	-54.78	260.22	54.82	0.00	0.00	0.00	0.00
8,600.00	89.97	179.99	7,125.48	-154.78	260.23	154.82	0.00	0.00	0.00	0.00
8,700.00	89.97	179.99	7,125.53	-254.78	260.25	254.82	0.00	0.00	0.00	0.00
8,800.00	89.97	179.99	7,125.59	-354.78	260.27	354.82	0.00	0.00	0.00	0.00
8,900.00	89.97	179.99	7,125.64	-454.78	260.29	454.82	0.00	0.00	0.00	0.00
9,000.00	89.97	179.99	7,125.69	-554.78	260.30	554.82	0.00	0.00	0.00	0.00
9,100.00	89.97	179.99	7,125.74	-654.78	260.32	654.82	0.00	0.00	0.00	0.00
9,200.00	89.97	179.99	7,125.80	-754.78	260.34	754.82	0.00	0.00	0.00	0.00
9,300.00	89.97	179.99	7,125.85	-854.78	260.35	854.82	0.00	0.00	0.00	0.00
9,400.00	89.97	179.99	7,125.90	-954.78	260.37	954.82	0.00	0.00	0.00	0.00
9,500.00	89.97	179.99	7,125.95	-1,054.78	260.39	1,054.82	0.00	0.00	0.00	0.00
9,600.00	89.97	179.99	7,126.01	-1,154.78	260.41	1,154.82	0.00	0.00	0.00	0.00
9,700.00	89.97	179.99	7,126.06	-1,254.78	260.42	1,254.82	0.00	0.00	0.00	0.00
9,800.00	89.97	179.99	7,126.11	-1,354.78	260.44	1,354.82	0.00	0.00	0.00	0.00
9,900.00	89.97	179.99	7,126.17	-1,454.78	260.46	1,454.82	0.00	0.00	0.00	0.00
10,000.00	89.97	179.99	7,126.22	-1,554.78	260.48	1,554.82	0.00	0.00	0.00	0.00
10,100.00	89.97	179.99	7,126.27	-1,654.78	260.49	1,654.82	0.00	0.00	0.00	0.00
10,200.00	89.97	179.99	7,126.32	-1,754.78	260.51	1,754.82	0.00	0.00	0.00	0.00
10,300.00	89.97	179.99	7,126.38	-1,854.78	260.53	1,854.82	0.00	0.00	0.00	0.00
10,400.00	89.97	179.99	7,126.43	-1,954.78	260.55	1,954.82	0.00	0.00	0.00	0.00
10,500.00	89.97	179.99	7,126.48	-2,054.78	260.56	2,054.82	0.00	0.00	0.00	0.00
10,600.00	89.97	179.99	7,126.53	-2,154.78	260.58	2,154.82	0.00	0.00	0.00	0.00
10,700.00	89.97	179.99	7,126.59	-2,254.78	260.60	2,254.82	0.00	0.00	0.00	0.00
10,800.00	89.97	179.99	7,126.64	-2,354.78	260.61	2,354.82	0.00	0.00	0.00	0.00
10,900.00	89.97	179.99	7,126.69	-2,454.78	260.63	2,454.82	0.00	0.00	0.00	0.00
11,000.00	89.97	179.99	7,126.75	-2,554.78	260.65	2,554.82	0.00	0.00	0.00	0.00
11,100.00	89.97	179.99	7,126.80	-2,654.78	260.67	2,654.82	0.00	0.00	0.00	0.00
11,200.00	89.97	179.99	7,126.85	-2,754.78	260.68	2,754.82	0.00	0.00	0.00	0.00
11,300.00	89.97	179.99	7,126.90	-2,854.78	260.70	2,854.82	0.00	0.00	0.00	0.00
11,400.00	89.97	179.99	7,126.96	-2,954.78	260.72	2,954.82	0.00	0.00	0.00	0.00
11,500.00	89.97	179.99	7,127.01	-3,054.78	260.74	3,054.82	0.00	0.00	0.00	0.00
11,600.00	89.97	179.99	7,127.06	-3,154.78	260.75	3,154.82	0.00	0.00	0.00	0.00
11,700.00	89.97	179.99	7,127.11	-3,254.78	260.77	3,254.82	0.00	0.00	0.00	0.00
11,800.00	89.97	179.99	7,127.17	-3,354.78	260.79	3,354.82	0.00	0.00	0.00	0.00
11,900.00	89.97	179.99	7,127.22	-3,454.78	260.81	3,454.82	0.00	0.00	0.00	0.00
12,000.00	89.97	179.99	7,127.27	-3,554.78	260.82	3,554.82	0.00	0.00	0.00	0.00
12,100.00	89.97	179.99	7,127.33	-3,654.78	260.84	3,654.82	0.00	0.00	0.00	0.00
12,200.00	89.97	179.99	7,127.38	-3,754.78	260.86	3,754.82	0.00	0.00	0.00	0.00
12,300.00	89.97	179.99	7,127.43	-3,854.78	260.87	3,854.82	0.00	0.00	0.00	0.00
12,400.00	89.97	179.99	7,127.48	-3,954.78	260.89	3,954.82	0.00	0.00	0.00	0.00
12,500.00	89.97	179.99	7,127.54	-4,054.78	260.91	4,054.82	0.00	0.00	0.00	0.00
12,600.00	89.97	179.99	7,127.59	-4,154.78	260.93	4,154.82	0.00	0.00	0.00	0.00
12,700.00	89.97	179.99	7,127.64	-4,254.78	260.94	4,254.82	0.00	0.00	0.00	0.00
12,800.00	89.97	179.99	7,127.69	-4,354.78	260.96	4,354.82	0.00	0.00	0.00	0.00
12,900.00	89.97	179.99	7,127.75	-4,454.78	260.98	4,454.82	0.00	0.00	0.00	0.00
13,000.00	89.97	179.99	7,127.80	-4,554.78	261.00	4,554.82	0.00	0.00	0.00	0.00
13,100.00	89.97	179.99	7,127.85	-4,654.78	261.01	4,654.82	0.00	0.00	0.00	0.00
13,200.00	89.97	179.99	7,127.91	-4,754.78	261.03	4,754.82	0.00	0.00	0.00	0.00
13,300.00	89.97	179.99	7,127.96	-4,854.78	261.05	4,854.82	0.00	0.00	0.00	0.00
13,379.42	89.97	179.99	7,128.00	-4,934.20	261.06	4,934.24	0.00	0.00	0.00	0.00

TD Well @ 13379.42ft - Green 3N-8HZ_BHL

Plan Report for Green 3N-8HZ - Permit Rev-1

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,840.00	1,840.00	0.00	0.00	Begin Nudge @ 1840.00ft
2,890.00	2,866.65	186.78	36.31	End Nudge @ 2890.00ft
5,630.00	5,424.66	1,150.67	223.67	Begin Drop @ 5630.00ft
6,680.00	6,451.31	1,337.45	259.97	End Drop @ 6680.00ft
6,680.73	6,452.04	1,337.45	259.97	Top of 4.5" Liner @ 6680.73ft
6,780.73	6,552.04	1,337.45	259.97	KOP @ 6780.73ft
7,300.00	7,003.08	1,117.82	260.01	DLS = 10°/100'
7,680.43	7,125.00	764.79	260.07	End Build @ 7680.43ft
13,379.42	7,128.00	-4,934.20	261.06	TD Well @ 13379.42ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/_S (usft)	+E/-W (usft)	
User	No Target (Freehand)	179.99	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	7,680.43	Permit Rev-1	MWD+IFR1
7,680.43	13,379.42	Permit Rev-1	MWD+IFR1

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,497.00	1,497.00	9 5/8"	9-5/8	13-1/2
7,680.43	7,125.00	7"	7	8-3/4

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,021.00	1,021.00	Base Fox Hills		0.00	
1,497.00	1,497.00	Surface Csg Setting Depth		0.00	
4,259.30	4,145.00	Parkman		0.00	
4,628.84	4,490.00	Sussex		0.00	
7,267.00	6,982.00	SSPG		0.00	
7,319.76	7,015.00	NBRR		0.00	
7,597.77	7,119.00	N470_B_CK		0.00	
7,680.43	7,125.00	Landing Target (Heel)		0.00	
13,379.42	7,128.00	Total Depth (Toe)		0.00	

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
Green 3N-8HZ_SHL	0.00	0.00	0.00	Point
Green 3N-8HZ_BHL	7,128.00	-4,934.20	261.06	Point
1N-R65W-Sec. 5_Section Lines	39.00	-54.31	3,950.19	Polygon
1N-R65W-Sec. 8_Section lines	7.00	-4,320.42	8,027.92	Polygon

North Reference Sheet for Green Pad - Green 3N-8HZ - 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' @ 4988.00usft (D Rig). Northing and Easting are relative to Green 3N-8HZ

Coordinate System is Universal Transverse Mercator (US Survey Feet), Zone 13N (108 W to 102 W) using datum North American Datum 1983, ellipsoid

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is -105.00°, Longitude Origin:0.000000°, Latitude Origin:0.000000°

False Easting: 1,640,416.67usft, False Northing: 0.00usft, Scale Reduction: 0.99960839

Grid Coordinates of Well: 14,553,212.29 usft N, 1,726,061.31 usft E

Geographical Coordinates of Well: 40° 04' 20.32" N, 104° 41' 37.89" W

Grid Convergence at Surface is: 0.20°

Based upon Minimum Curvature type calculations, at a Measured Depth of 13,379.42usft
the Bottom Hole Displacement is 4,941.10usft in the Direction of 176.97° (True).

Magnetic Convergence at surface is: -8.15° (23 October 2014, , IGRF2010)

