

# US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

1N-66W-08 FL Greens Federal Pad

FL GREENS FEDERAL 35N-8HZ

Plan A

Plan: Permit Rev-1

## Sperry Drilling Services Proposal Report

22 April, 2015

Well Coordinates: 14,552,327.82 N, 1,694,717.81 E (40° 04' 12.45" N, 104° 48' 21.25" W)

Ground Level: 4,923.00 usft

Local Coordinate Origin: Centered on Well FL GREENS FEDERAL 35N-8HZ

Viewing Datum: RKB = 17' @ 4940.00usft (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: 1N-66W-08 FL Greens Federal Pad  
 Well: FL GREENS FEDERAL 35N-8HZ  
 Wellbore: Plan A  
 Design: Permit Rev-1

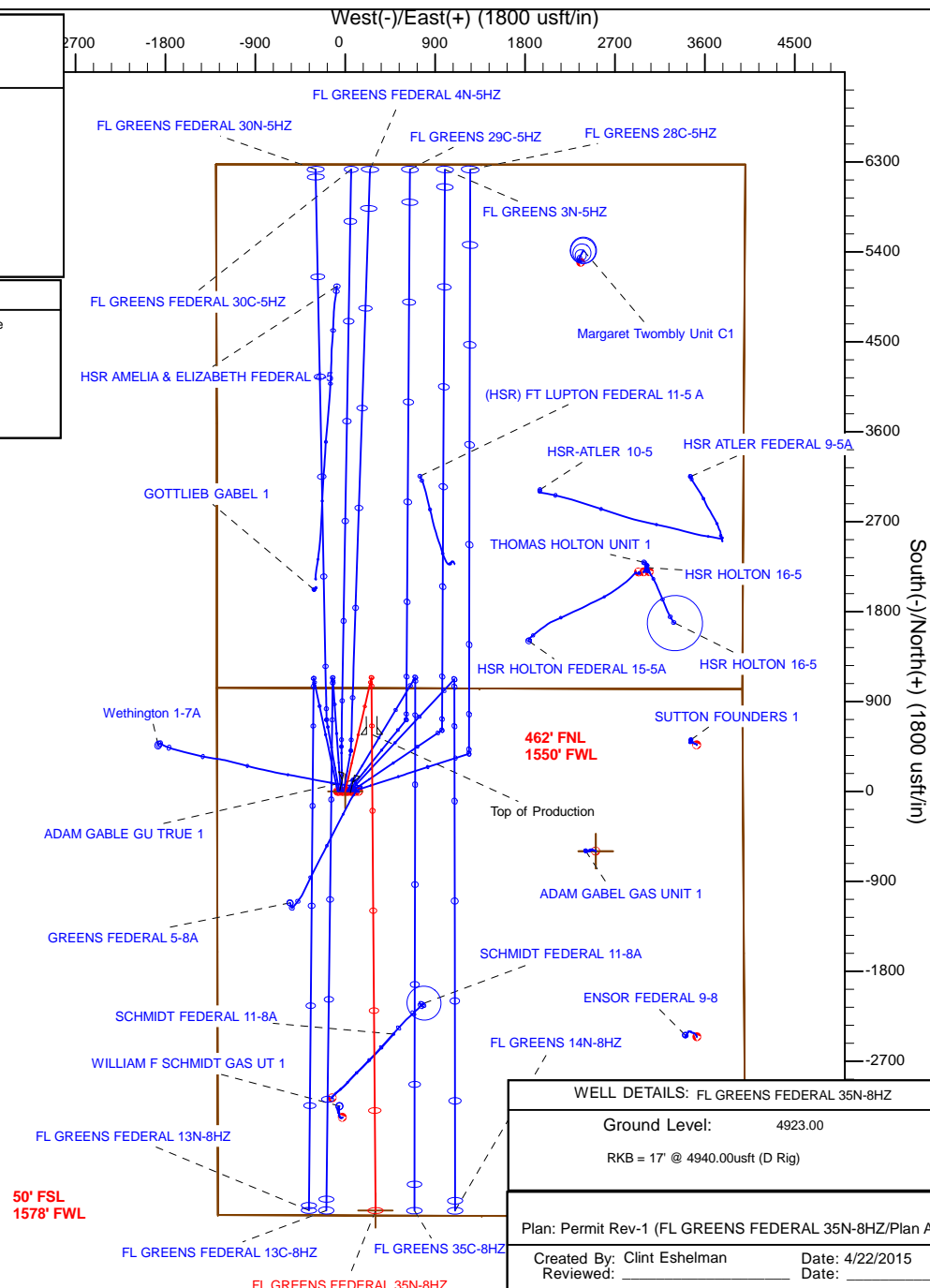
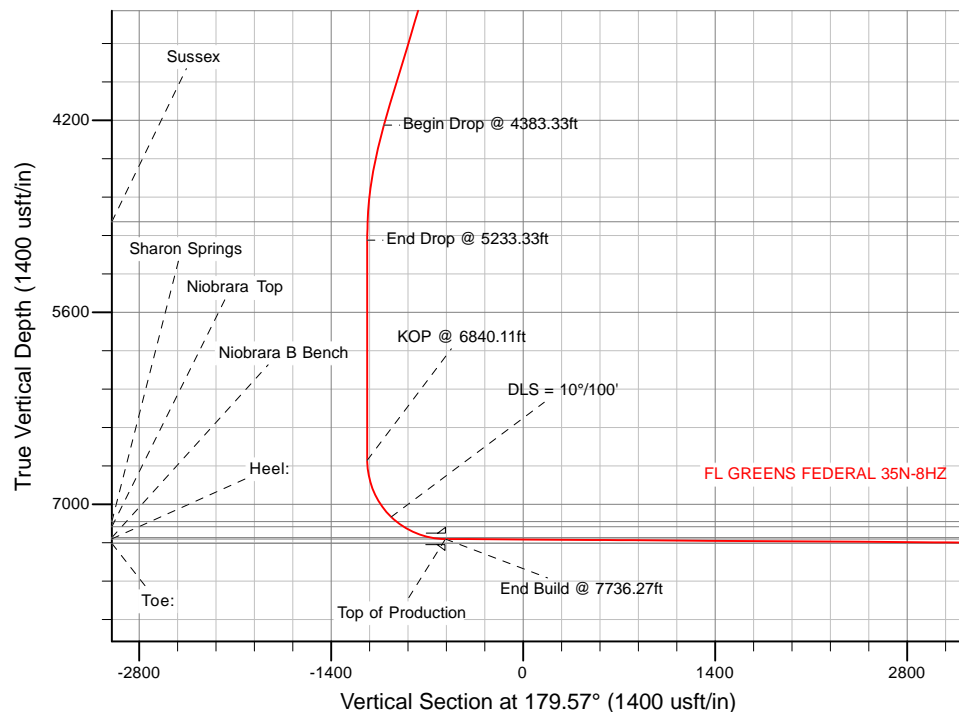


#### SECTION DETAILS

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	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	1383.33	17.00	13.00	1366.78	162.63	37.55	1.50	13.00	-162.34	
4	4383.33	17.00	13.00	4235.69	1017.26	234.85	0.00	0.00	-1015.47	
5	5233.33	0.00	0.00	5073.28	1139.23	263.01	2.00	180.00	-1137.22	
6	6840.11	0.00	0.00	6680.06	1139.23	263.01	0.00	0.00	-1137.22	
7	7736.27	89.62	179.57	7253.00	570.14	267.31	10.00	179.57	-568.11	
8	12501.60	89.62	179.57	7285.00	-4194.96	303.31	0.00	0.00	4197.11	FL GREENS FEDERAL 35N-8HZ_BHL

#### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
FL GREENS FEDERAL 35N-8HZ_SHL	0.00	0.00	0.00	40.070124	-104.805904	Point
FL GREENS FEDERAL 35N-8HZ_BHL	7285.00	-4194.96	303.31	40.058604	-104.804820	Point



WELL DETAILS: FL GREENS FEDERAL 35N-8HZ

Ground Level: 4923.00

RKB = 17" @ 4940.00usft (D Rig)

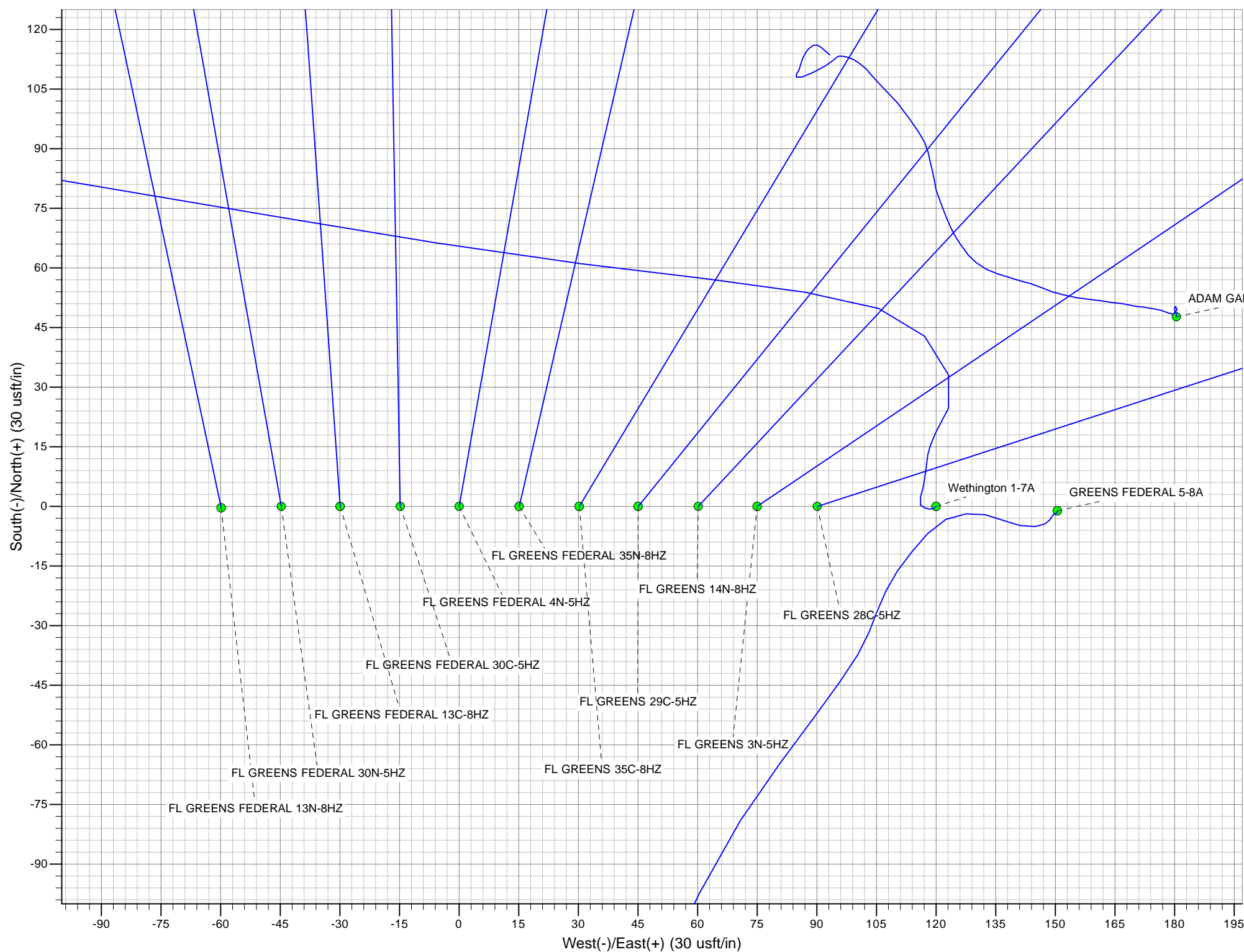
Plan: Permit Rev-1 (FL GREENS FEDERAL 35N-8HZ/Plan A)

Created By: Clint Eshelman

Date: 4/22/2015

Reviewed: \_\_\_\_\_

Date: \_\_\_\_\_



## Plan Report for FL GREENS FEDERAL 35N-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
<b>1N-R66W-Sec. 5_Section Lines - FL GREENS 35N-8HZ_SHL - 1N-R66W-Sec. 8_Section Lines</b>										
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
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Begin Nudge @ 250.00ft</b>										
300.00	0.75	13.00	300.00	0.32	0.07	-0.32	1.50	1.50	0.00	13.00
400.00	2.25	13.00	399.96	2.87	0.66	-2.86	1.50	1.50	0.00	0.00
500.00	3.75	13.00	499.82	7.97	1.84	-7.95	1.50	1.50	0.00	0.00
600.00	5.25	13.00	599.51	15.61	3.60	-15.59	1.50	1.50	0.00	0.00
700.00	6.75	13.00	698.96	25.80	5.96	-25.75	1.50	1.50	0.00	0.00
800.00	8.25	13.00	798.10	38.52	8.89	-38.45	1.50	1.50	0.00	0.00
900.00	9.75	13.00	896.87	53.76	12.41	-53.66	1.50	1.50	0.00	0.00
1,000.00	11.25	13.00	995.19	71.51	16.51	-71.39	1.50	1.50	0.00	0.00
1,100.00	12.75	13.00	1,093.00	91.77	21.19	-91.61	1.50	1.50	0.00	0.00
1,200.00	14.25	13.00	1,190.24	114.52	26.44	-114.32	1.50	1.50	0.00	0.00
1,300.00	15.75	13.00	1,286.83	139.73	32.26	-139.49	1.50	1.50	0.00	0.00
1,383.33	17.00	13.00	1,366.77	162.62	37.54	-162.34	1.50	1.50	0.00	0.00
<b>End Nudge @ 1383.33ft</b>										
1,388.79	17.00	13.00	1,372.00	164.18	37.90	-163.89	0.00	0.00	0.00	0.00
<b>Fox Hills</b>										
1,400.00	17.00	13.00	1,382.72	167.37	38.64	-167.08	0.00	0.00	0.00	0.00
1,415.00	17.00	13.00	1,397.06	171.65	39.63	-171.34	0.00	0.00	0.00	0.00
<b>9 5/8"</b>										
1,500.00	17.00	13.00	1,478.35	195.86	45.22	-195.52	0.00	0.00	0.00	0.00
1,600.00	17.00	13.00	1,573.98	224.35	51.80	-223.95	0.00	0.00	0.00	0.00
1,700.00	17.00	13.00	1,669.61	252.84	58.37	-252.39	0.00	0.00	0.00	0.00
1,800.00	17.00	13.00	1,765.24	281.33	64.95	-280.83	0.00	0.00	0.00	0.00
1,900.00	17.00	13.00	1,860.87	309.81	71.53	-309.27	0.00	0.00	0.00	0.00
2,000.00	17.00	13.00	1,956.50	338.30	78.10	-337.71	0.00	0.00	0.00	0.00
2,100.00	17.00	13.00	2,052.13	366.79	84.68	-366.14	0.00	0.00	0.00	0.00
2,200.00	17.00	13.00	2,147.76	395.28	91.26	-394.58	0.00	0.00	0.00	0.00
2,300.00	17.00	13.00	2,243.39	423.76	97.83	-423.02	0.00	0.00	0.00	0.00
2,400.00	17.00	13.00	2,339.02	452.25	104.41	-451.46	0.00	0.00	0.00	0.00
2,500.00	17.00	13.00	2,434.65	480.74	110.99	-479.89	0.00	0.00	0.00	0.00
2,600.00	17.00	13.00	2,530.28	509.23	117.56	-508.33	0.00	0.00	0.00	0.00
2,700.00	17.00	13.00	2,625.91	537.72	124.14	-536.77	0.00	0.00	0.00	0.00
2,800.00	17.00	13.00	2,721.54	566.20	130.72	-565.21	0.00	0.00	0.00	0.00
2,900.00	17.00	13.00	2,817.17	594.69	137.30	-593.64	0.00	0.00	0.00	0.00
3,000.00	17.00	13.00	2,912.80	623.18	143.87	-622.08	0.00	0.00	0.00	0.00
3,100.00	17.00	13.00	3,008.43	651.67	150.45	-650.52	0.00	0.00	0.00	0.00
3,200.00	17.00	13.00	3,104.06	680.15	157.03	-678.96	0.00	0.00	0.00	0.00
3,300.00	17.00	13.00	3,199.70	708.64	163.60	-707.39	0.00	0.00	0.00	0.00
3,400.00	17.00	13.00	3,295.33	737.13	170.18	-735.83	0.00	0.00	0.00	0.00
3,500.00	17.00	13.00	3,390.96	765.62	176.76	-764.27	0.00	0.00	0.00	0.00
3,600.00	17.00	13.00	3,486.59	794.11	183.33	-792.71	0.00	0.00	0.00	0.00
3,700.00	17.00	13.00	3,582.22	822.59	189.91	-821.15	0.00	0.00	0.00	0.00
3,800.00	17.00	13.00	3,677.85	851.08	196.49	-849.58	0.00	0.00	0.00	0.00
3,900.00	17.00	13.00	3,773.48	879.57	203.06	-878.02	0.00	0.00	0.00	0.00
4,000.00	17.00	13.00	3,869.11	908.06	209.64	-906.46	0.00	0.00	0.00	0.00
4,100.00	17.00	13.00	3,964.74	936.55	216.22	-934.90	0.00	0.00	0.00	0.00
4,200.00	17.00	13.00	4,060.37	965.03	222.80	-963.33	0.00	0.00	0.00	0.00
4,300.00	17.00	13.00	4,156.00	993.52	229.37	-991.77	0.00	0.00	0.00	0.00
4,383.33	17.00	13.00	4,235.69	1,017.26	234.85	-1,015.47	0.00	0.00	0.00	0.00
<b>Begin Drop @ 4383.33ft</b>										
4,400.00	16.67	13.00	4,251.64	1,021.96	235.94	-1,020.16	2.00	-2.00	0.00	-180.00
4,500.00	14.67	13.00	4,347.92	1,048.27	242.01	-1,046.43	2.00	-2.00	0.00	180.00
4,600.00	12.67	13.00	4,445.09	1,071.29	247.33	-1,069.41	2.00	-2.00	0.00	180.00

## Plan Report for FL GREENS FEDERAL 35N-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 (°)
4,700.00	10.67	13.00	4,543.02	1,091.00	251.88	-1,089.08	2.00	-2.00	0.00	-180.00
4,800.00	8.67	13.00	4,641.59	1,107.36	255.65	-1,105.41	2.00	-2.00	0.00	180.00
4,900.00	6.67	13.00	4,740.69	1,120.36	258.65	-1,118.38	2.00	-2.00	0.00	180.00
5,000.00	4.67	13.00	4,840.20	1,129.98	260.88	-1,127.99	2.00	-2.00	0.00	180.00
5,099.01	2.69	13.00	4,939.00	1,136.16	262.30	-1,134.16	2.00	-2.00	0.00	-180.00
<b>Sussex</b>										
5,100.00	2.67	13.00	4,939.99	1,136.21	262.31	-1,134.21	2.00	-2.00	0.00	180.00
5,200.00	0.67	13.00	5,039.94	1,139.04	262.97	-1,137.04	2.00	-2.00	0.00	180.00
5,233.33	0.00	13.00	5,073.27	1,139.23	263.01	-1,137.22	2.00	-2.00	0.00	-180.00
<b>End Drop @ 5233.33ft</b>										
5,300.00	0.00	0.00	5,139.94	1,139.23	263.01	-1,137.22	0.00	0.00	0.00	-180.00
5,400.00	0.00	0.00	5,239.94	1,139.23	263.01	-1,137.22	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,339.94	1,139.23	263.01	-1,137.22	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,439.94	1,139.23	263.01	-1,137.22	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,539.94	1,139.23	263.01	-1,137.22	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,639.94	1,139.23	263.01	-1,137.22	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,739.94	1,139.23	263.01	-1,137.22	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,839.94	1,139.23	263.01	-1,137.22	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	5,939.94	1,139.23	263.01	-1,137.22	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,039.94	1,139.23	263.01	-1,137.22	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,139.94	1,139.23	263.01	-1,137.22	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,239.94	1,139.23	263.01	-1,137.22	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,339.94	1,139.23	263.01	-1,137.22	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,439.94	1,139.23	263.01	-1,137.22	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,539.94	1,139.23	263.01	-1,137.22	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,639.94	1,139.23	263.01	-1,137.22	0.00	0.00	0.00	0.00
6,840.11	0.00	0.00	6,680.05	1,139.23	263.01	-1,137.22	0.00	0.00	0.00	0.00
<b>KOP @ 6840.11ft</b>										
6,900.00	5.99	179.57	6,739.83	1,136.10	263.04	-1,134.10	10.00	10.00	0.00	179.57
7,000.00	15.99	179.57	6,837.87	1,117.07	263.18	-1,115.06	10.00	10.00	0.00	0.00
7,100.00	25.99	179.57	6,931.12	1,081.29	263.45	-1,079.29	10.00	10.00	0.00	0.00
7,200.00	35.99	179.57	7,016.74	1,029.87	263.84	-1,027.87	10.00	10.00	0.00	0.00
7,300.00	45.99	179.57	7,092.13	964.37	264.33	-962.36	10.00	10.00	0.00	0.00
<b>DLS = 10°/100'</b>										
7,351.02	51.09	179.57	7,125.90	926.15	264.62	-924.14	10.00	10.00	0.00	0.00
<b>Sharon Springs</b>										
7,400.00	55.99	179.57	7,155.00	886.77	264.92	-884.75	10.00	10.00	0.00	0.00
7,416.26	57.61	179.57	7,163.90	873.16	265.02	-871.15	10.00	10.00	0.00	0.00
<b>Niobrara Top</b>										
7,500.00	65.99	179.57	7,203.43	799.43	265.58	-797.41	10.00	10.00	0.00	0.00
7,600.00	75.99	179.57	7,235.97	705.01	266.29	-702.99	10.00	10.00	0.00	0.00
7,630.93	79.08	179.57	7,242.64	674.81	266.52	-672.79	10.00	10.00	0.00	0.00
<b>Niobrara B Bench</b>										
7,700.00	85.99	179.57	7,251.61	606.37	267.04	-604.35	10.00	10.00	0.00	0.00
7,736.27	89.62	179.57	7,253.00	570.13	267.31	-568.11	10.00	10.00	0.00	0.00
<b>End Build @ 7736.27ft - Heel: - Top of Production</b>										
7,800.00	89.62	179.57	7,253.43	506.40	267.79	-504.38	0.00	0.00	0.00	0.00
7,900.00	89.62	179.57	7,254.10	406.41	268.55	-404.38	0.00	0.00	0.00	0.00
8,000.00	89.62	179.57	7,254.77	306.42	269.30	-304.39	0.00	0.00	0.00	0.00
8,100.00	89.62	179.57	7,255.44	206.42	270.06	-204.39	0.00	0.00	0.00	0.00
8,200.00	89.62	179.57	7,256.11	106.43	270.82	-104.39	0.00	0.00	0.00	0.00
8,300.00	89.62	179.57	7,256.79	6.43	271.57	-4.39	0.00	0.00	0.00	0.00
8,400.00	89.62	179.57	7,257.46	-93.56	272.33	95.61	0.00	0.00	0.00	0.00
8,500.00	89.62	179.57	7,258.13	-193.56	273.08	195.60	0.00	0.00	0.00	0.00
8,600.00	89.62	179.57	7,258.80	-293.55	273.84	295.60	0.00	0.00	0.00	0.00
8,700.00	89.62	179.57	7,259.47	-393.55	274.59	395.60	0.00	0.00	0.00	0.00
8,800.00	89.62	179.57	7,260.14	-493.54	275.35	495.60	0.00	0.00	0.00	0.00
8,900.00	89.62	179.57	7,260.81	-593.54	276.10	595.59	0.00	0.00	0.00	0.00
9,000.00	89.62	179.57	7,261.49	-693.53	276.86	695.59	0.00	0.00	0.00	0.00

## Plan Report for FL GREENS FEDERAL 35N-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 (°)
9,100.00	89.62	179.57	7,262.16	-793.53	277.62	795.59	0.00	0.00	0.00	0.00
9,200.00	89.62	179.57	7,262.83	-893.52	278.37	895.59	0.00	0.00	0.00	0.00
9,300.00	89.62	179.57	7,263.50	-993.52	279.13	995.59	0.00	0.00	0.00	0.00
9,400.00	89.62	179.57	7,264.17	-1,093.51	279.88	1,095.58	0.00	0.00	0.00	0.00
9,500.00	89.62	179.57	7,264.84	-1,193.51	280.64	1,195.58	0.00	0.00	0.00	0.00
9,600.00	89.62	179.57	7,265.52	-1,293.50	281.39	1,295.58	0.00	0.00	0.00	0.00
9,700.00	89.62	179.57	7,266.19	-1,393.50	282.15	1,395.58	0.00	0.00	0.00	0.00
9,800.00	89.62	179.57	7,266.86	-1,493.49	282.90	1,495.57	0.00	0.00	0.00	0.00
9,900.00	89.62	179.57	7,267.53	-1,593.49	283.66	1,595.57	0.00	0.00	0.00	0.00
10,000.00	89.62	179.57	7,268.20	-1,693.48	284.41	1,695.57	0.00	0.00	0.00	0.00
10,100.00	89.62	179.57	7,268.87	-1,793.48	285.17	1,795.57	0.00	0.00	0.00	0.00
10,200.00	89.62	179.57	7,269.54	-1,893.47	285.93	1,895.56	0.00	0.00	0.00	0.00
10,300.00	89.62	179.57	7,270.22	-1,993.47	286.68	1,995.56	0.00	0.00	0.00	0.00
10,400.00	89.62	179.57	7,270.89	-2,093.46	287.44	2,095.56	0.00	0.00	0.00	0.00
10,500.00	89.62	179.57	7,271.56	-2,193.46	288.19	2,195.56	0.00	0.00	0.00	0.00
10,600.00	89.62	179.57	7,272.23	-2,293.45	288.95	2,295.56	0.00	0.00	0.00	0.00
10,700.00	89.62	179.57	7,272.90	-2,393.45	289.70	2,395.55	0.00	0.00	0.00	0.00
10,800.00	89.62	179.57	7,273.57	-2,493.44	290.46	2,495.55	0.00	0.00	0.00	0.00
10,900.00	89.62	179.57	7,274.24	-2,593.44	291.21	2,595.55	0.00	0.00	0.00	0.00
11,000.00	89.62	179.57	7,274.92	-2,693.43	291.97	2,695.55	0.00	0.00	0.00	0.00
11,100.00	89.62	179.57	7,275.59	-2,793.43	292.73	2,795.54	0.00	0.00	0.00	0.00
11,200.00	89.62	179.57	7,276.26	-2,893.42	293.48	2,895.54	0.00	0.00	0.00	0.00
11,300.00	89.62	179.57	7,276.93	-2,993.42	294.24	2,995.54	0.00	0.00	0.00	0.00
11,400.00	89.62	179.57	7,277.60	-3,093.41	294.99	3,095.54	0.00	0.00	0.00	0.00
11,500.00	89.62	179.57	7,278.27	-3,193.41	295.75	3,195.54	0.00	0.00	0.00	0.00
11,600.00	89.62	179.57	7,278.95	-3,293.40	296.50	3,295.53	0.00	0.00	0.00	0.00
11,700.00	89.62	179.57	7,279.62	-3,393.40	297.26	3,395.53	0.00	0.00	0.00	0.00
11,800.00	89.62	179.57	7,280.29	-3,493.39	298.01	3,495.53	0.00	0.00	0.00	0.00
11,900.00	89.62	179.57	7,280.96	-3,593.39	298.77	3,595.53	0.00	0.00	0.00	0.00
12,000.00	89.62	179.57	7,281.63	-3,693.38	299.53	3,695.52	0.00	0.00	0.00	0.00
12,100.00	89.62	179.57	7,282.30	-3,793.38	300.28	3,795.52	0.00	0.00	0.00	0.00
12,200.00	89.62	179.57	7,282.97	-3,893.37	301.04	3,895.52	0.00	0.00	0.00	0.00
12,300.00	89.62	179.57	7,283.65	-3,993.37	301.79	3,995.52	0.00	0.00	0.00	0.00
12,400.00	89.62	179.57	7,284.32	-4,093.36	302.55	4,095.52	0.00	0.00	0.00	0.00
12,500.00	89.62	179.57	7,284.99	-4,193.35	303.30	4,195.51	0.00	0.00	0.00	0.00
12,501.60	89.62	179.57	7,285.00	-4,194.95	303.31	4,197.11	0.00	0.00	0.00	0.00

TD Well @ 12501.60ft - Toe: - FL GREENS 35N-8HZ\_BHL

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
250.00	250.00	0.00	0.00	Begin Nudge @ 250.00ft
1,383.33	1,366.77	162.62	37.54	End Nudge @ 1383.33ft
4,383.33	4,235.69	1,017.26	234.85	Begin Drop @ 4383.33ft
5,233.33	5,073.27	1,139.23	263.01	End Drop @ 5233.33ft
6,840.11	6,680.05	1,139.23	263.01	KOP @ 6840.11ft
7,300.00	7,092.13	964.37	264.33	DLS = 10°/100'
7,736.27	7,253.00	570.13	267.31	End Build @ 7736.27ft
12,501.60	7,285.00	-4,194.95	303.31	TD Well @ 12501.60ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (usft)	+E/-W (usft)	Start TVD (usft)
User	No Target (Freehand)	179.57	Slot	0.00	0.00	0.00

**Plan Report for FL GREENS FEDERAL 35N-8HZ - Permit Rev-1****Survey tool program**

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	7,736.27	Permit Rev-1	APC_ISCWSA REV 2 MWD+IFR1
7,736.27	12,501.60	Permit Rev-1	APC_ISCWSA REV 2 MWD+IFR1

**Casing Details**

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,415.00	1,397.06	9 5/8"	9-5/8	13-1/2
7,736.27	7,253.00	Top of Production	5-1/2	7-7/8

**Formation Details**

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,388.79	1,372.00	Fox Hills		0.00	
5,099.01	4,939.00	Sussex		0.00	
7,351.02	7,125.90	Sharon Springs		0.00	
7,416.26	7,163.90	Niobrara Top		0.00	
7,630.93	7,242.64	Niobrara B Bench		0.00	
7,736.27	7,253.00	Heel:		0.00	
12,501.60	7,285.00	Toe:		0.00	

**Targets associated with this wellbore**

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
1N-R66W-Sec. 5_Section Lines	-7.00	-597.80	2,508.72	Polygon
FL GREENS 35N-8HZ_SHL	0.00	0.00	0.00	Point
FL GREENS 35N-8HZ_BHL	7,285.00	-4,194.96	303.31	Point
1N-R66W-Sec. 8_Section Lines	-7.00	-597.80	2,508.72	Polygon

## North Reference Sheet for 1N-66W-08 FL Greens Federal Pad - FL GREENS FEDERAL 35N-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' @ 4940.00usft (D Rig). Northing and Easting are relative to FL GREENS FEDERAL 35N-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: 0.99960337

Grid Coordinates of Well: 14,552,327.82 usft N, 1,694,717.81 usft E

Geographical Coordinates of Well: 40° 04' 12.45" N, 104° 48' 21.25" W

Grid Convergence at Surface is: 0.12°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,501.60usft  
the Bottom Hole Displacement is 4,205.91usft in the Direction of 175.86° (True).

Magnetic Convergence at surface is: -8.22° (16 April 2015, IGRF2010)

