

# US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

Bat Pad

BAT 28C-9HZ

Plan A

Plan: Permit Rev-1

## Sperry Drilling Services Proposal Report

29 October, 2014

Well Coordinates: 14,548,915.90 N, 1,733,040.23 E (40° 03' 37.60" N, 104° 40' 08.29" W)

Ground Level: 4,930.00 usft

Local Coordinate Origin:

Centered on Well BAT 28C-9HZ

Viewing Datum:

RKB = 17' @ 4947.00usft (D Rig)

TVDs to System:

N

North Reference:

True

Unit System:

Dec-Deg - API - US Survey Feet - Custom

Version: 5000.1 Build: 70

**HALLIBURTON**

## Plan Report for BAT 28C-9HZ - 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-R65W-Sec. 9_Section lines - BAT 28C-9HZ_SHL</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
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
943.00	0.00	0.00	943.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Base Fox Hills</b>										
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
1,300.00	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
1,475.00	0.00	0.00	1,475.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Surface Csg Setting Depth - 9 5/8"</b>										
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
3,085.00	0.00	0.00	3,085.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Begin Nudge @ 3085.00ft</b>										
3,100.00	0.30	211.00	3,100.00	-0.03	-0.02	-0.03	2.00	2.00	0.00	211.00
3,200.00	2.30	211.00	3,199.97	-1.98	-1.19	-1.98	2.00	2.00	0.00	0.00
3,300.00	4.30	211.00	3,299.80	-6.91	-4.15	-6.92	2.00	2.00	0.00	0.00
3,400.00	6.30	211.00	3,399.37	-14.83	-8.91	-14.84	2.00	2.00	0.00	0.00
3,500.00	8.30	211.00	3,498.55	-25.72	-15.45	-25.73	2.00	2.00	0.00	0.00
3,600.00	10.30	211.00	3,597.23	-39.57	-23.78	-39.59	2.00	2.00	0.00	0.00
3,700.00	12.30	211.00	3,695.29	-56.37	-33.87	-56.40	2.00	2.00	0.00	0.00
3,800.00	14.30	211.00	3,792.60	-76.09	-45.72	-76.12	2.00	2.00	0.00	0.00
3,900.00	16.30	211.00	3,889.05	-98.70	-59.31	-98.75	2.00	2.00	0.00	0.00
3,985.00	18.00	211.00	3,970.27	-120.19	-72.21	-120.25	2.00	2.00	0.00	0.00
<b>End Nudge @ 3985.00ft</b>										
4,000.00	18.00	211.00	3,984.53	-124.16	-74.60	-124.22	0.00	0.00	0.00	0.00
4,036.24	18.00	211.00	4,019.00	-133.76	-80.37	-133.83	0.00	0.00	0.00	0.00
<b>Parkman</b>										
4,100.00	18.00	211.00	4,079.64	-150.65	-90.52	-150.73	0.00	0.00	0.00	0.00
4,200.00	18.00	211.00	4,174.75	-177.13	-106.43	-177.23	0.00	0.00	0.00	0.00
4,300.00	18.00	211.00	4,269.85	-203.62	-122.35	-203.73	0.00	0.00	0.00	0.00
4,400.00	18.00	211.00	4,364.96	-230.11	-138.26	-230.23	0.00	0.00	0.00	0.00
4,430.54	18.00	211.00	4,394.00	-238.20	-143.12	-238.32	0.00	0.00	0.00	0.00

Project: WELD-NAD83-UTMFT13N

Site: Bat Pad

Well: BAT 28C-9HZ

Wellbore: Plan A

Design: Permit Rev-1

# US ROCKIES WATTENBERG PLANNING

HALLIBURTON

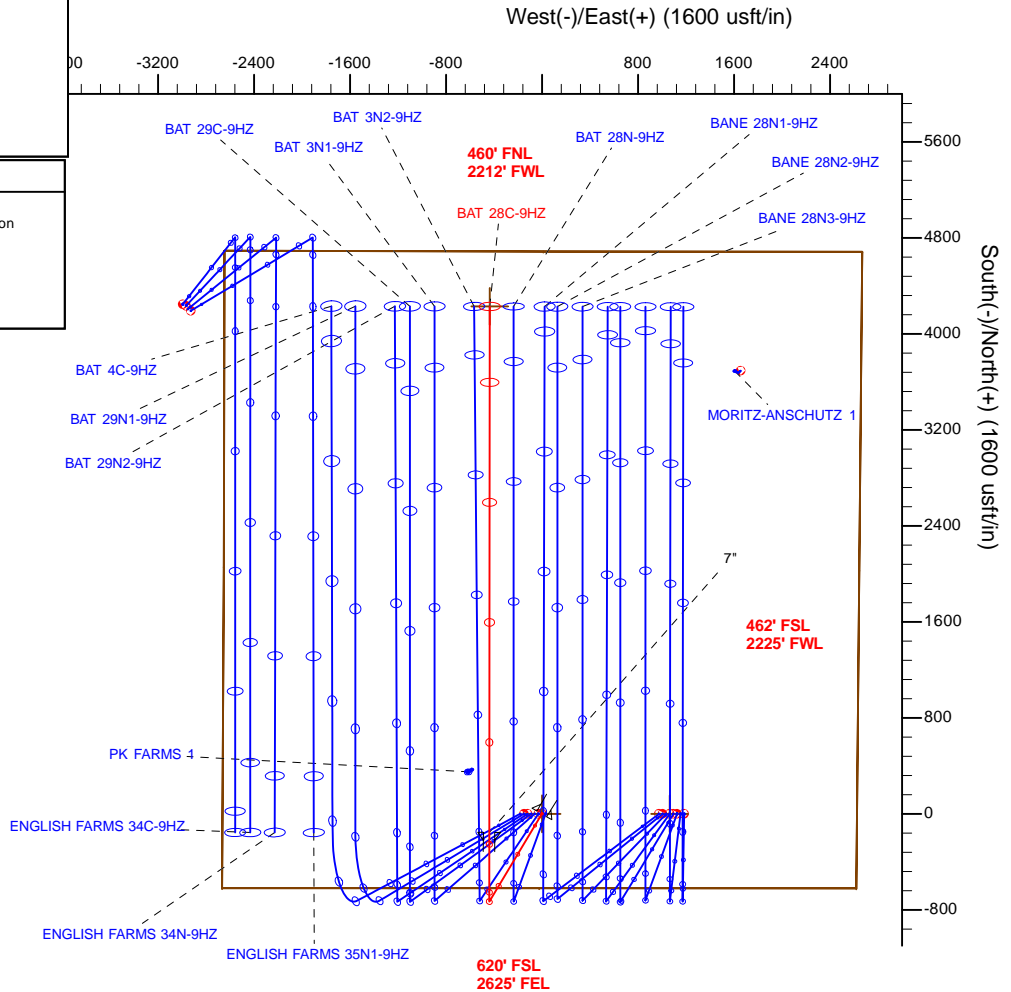
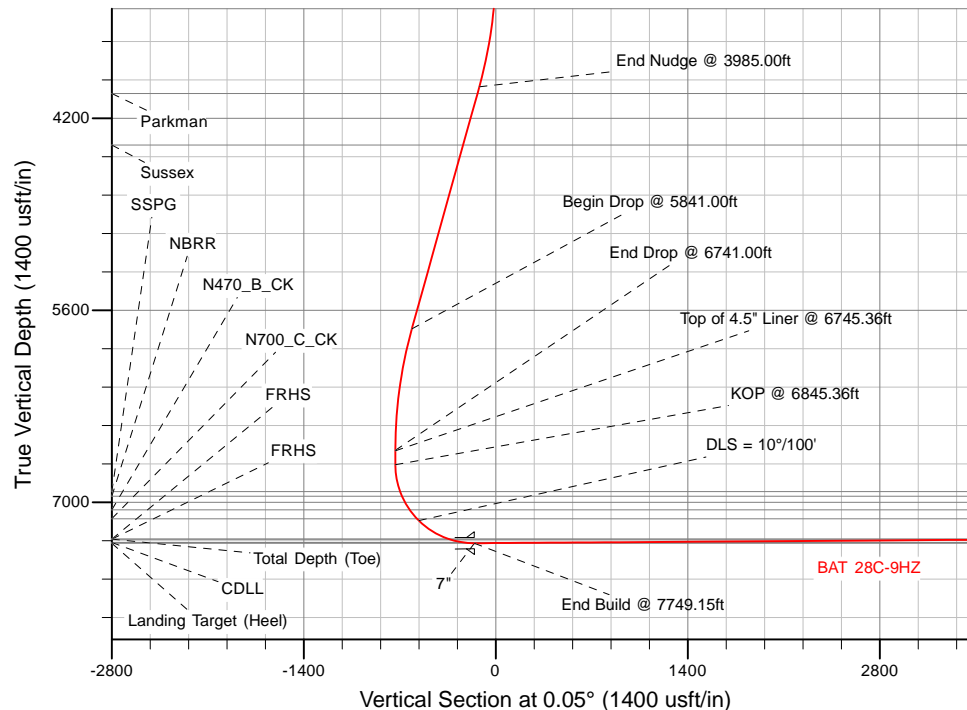
Sperry Drilling

## 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	3085.00	0.00	0.00	3085.00	0.00	0.00	0.00	0.00	0.00	
3	3985.00	18.00	211.00	3970.27	-120.19	-72.21	2.00	211.00	-120.25	
4	5841.00	18.00	211.00	5735.43	-611.80	-367.61	0.00	0.00	-612.12	
5	6741.00	0.00	0.00	6620.70	-731.99	-439.82	2.00	180.00	-732.37	
6	6845.36	0.00	0.00	6725.06	-731.99	-439.82	0.00	0.00	-732.37	
7	7749.15	90.38	0.05	7298.00	-155.24	-439.36	10.00	0.05	-155.62	
8	12132.62	90.38	0.05	7269.00	4228.13	-435.87	0.00	0.00	4227.75	BAT 28C-9HZ_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Polygon
1N-R65W-Sec. 9 Section lines	-34.00	-0.34	1063.82	40.060443	-104.665168	
BAT 28C-9HZ_SHL	0.00	0.00	0.00	40.060444	-104.668970	
BAT 28C-9HZ_BHL	7269.00	4228.13	-435.87	40.072055	-104.670528	



WELL DETAILS: BAT 28C-9HZ		
Ground Level: 4930.00		
RKB = 17' @ 4947.00usft (D Rig)		
Plan: Permit Rev-1 (BAT 28C-9HZ/Plan A)		
Created By: Clint Eshelman		Date: 10/29/2014
Reviewed:		Date:

TVD	MD	
6625.06	6745.36	Top of 4.5" Liner @ 6745.36ft
6725.06	6845.36	KOP @ 6845.36ft

## Plan Report for BAT 28C-9HZ - 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 (°)
<b>Sussex</b>										
4,500.00	18.00	211.00	4,460.06	-256.60	-154.18	-256.73	0.00	0.00	0.00	0.00
4,600.00	18.00	211.00	4,555.17	-283.09	-170.10	-283.23	0.00	0.00	0.00	0.00
4,700.00	18.00	211.00	4,650.27	-309.57	-186.01	-309.74	0.00	0.00	0.00	0.00
4,800.00	18.00	211.00	4,745.38	-336.06	-201.93	-336.24	0.00	0.00	0.00	0.00
4,900.00	18.00	211.00	4,840.49	-362.55	-217.84	-362.74	0.00	0.00	0.00	0.00
5,000.00	18.00	211.00	4,935.59	-389.04	-233.76	-389.24	0.00	0.00	0.00	0.00
5,100.00	18.00	211.00	5,030.70	-415.53	-249.67	-415.74	0.00	0.00	0.00	0.00
5,200.00	18.00	211.00	5,125.80	-442.01	-265.59	-442.25	0.00	0.00	0.00	0.00
5,300.00	18.00	211.00	5,220.91	-468.50	-281.50	-468.75	0.00	0.00	0.00	0.00
5,400.00	18.00	211.00	5,316.01	-494.99	-297.42	-495.25	0.00	0.00	0.00	0.00
5,500.00	18.00	211.00	5,411.12	-521.48	-313.34	-521.75	0.00	0.00	0.00	0.00
5,600.00	18.00	211.00	5,506.22	-547.97	-329.25	-548.25	0.00	0.00	0.00	0.00
5,700.00	18.00	211.00	5,601.33	-574.45	-345.17	-574.75	0.00	0.00	0.00	0.00
5,800.00	18.00	211.00	5,696.44	-600.94	-361.08	-601.26	0.00	0.00	0.00	0.00
5,841.00	18.00	211.00	5,735.43	-611.80	-367.61	-612.12	0.00	0.00	0.00	0.00
<b>Begin Drop @ 5841.00ft</b>										
5,900.00	16.82	211.00	5,791.73	-626.93	-376.70	-627.26	2.00	-2.00	0.00	-180.00
6,000.00	14.82	211.00	5,887.93	-650.30	-390.74	-650.64	2.00	-2.00	0.00	180.00
6,100.00	12.82	211.00	5,985.03	-670.77	-403.04	-671.13	2.00	-2.00	0.00	180.00
6,200.00	10.82	211.00	6,082.91	-688.33	-413.59	-688.69	2.00	-2.00	0.00	180.00
6,300.00	8.82	211.00	6,181.44	-702.95	-422.37	-703.32	2.00	-2.00	0.00	180.00
6,400.00	6.82	211.00	6,280.50	-714.61	-429.38	-714.99	2.00	-2.00	0.00	180.00
6,500.00	4.82	211.00	6,379.98	-723.30	-434.60	-723.68	2.00	-2.00	0.00	180.00
6,600.00	2.82	211.00	6,479.75	-729.01	-438.04	-729.40	2.00	-2.00	0.00	180.00
6,700.00	0.82	211.00	6,579.70	-731.74	-439.67	-732.12	2.00	-2.00	0.00	180.00
6,741.00	0.00	0.00	6,620.70	-731.99	-439.82	-732.37	2.00	-2.00	0.00	180.00
<b>End Drop @ 6741.00ft</b>										
6,745.36	0.00	0.00	6,625.06	-731.99	-439.82	-732.37	0.00	0.00	0.00	0.00
<b>Top of 4.5" Liner @ 6745.36ft</b>										
6,800.00	0.00	0.00	6,679.70	-731.99	-439.82	-732.37	0.00	0.00	0.00	0.00
6,845.36	0.00	0.00	6,725.06	-731.99	-439.82	-732.37	0.00	0.00	0.00	0.00
<b>KOP @ 6845.36ft</b>										
6,900.00	5.46	0.05	6,779.62	-729.38	-439.82	-729.77	10.00	10.00	0.00	0.05
7,000.00	15.46	0.05	6,877.83	-711.25	-439.81	-711.63	10.00	10.00	0.00	0.00
7,046.40	20.10	0.05	6,922.00	-697.08	-439.79	-697.46	10.00	10.00	0.00	0.00
<b>SSPG</b>										
7,081.97	23.66	0.05	6,955.00	-683.82	-439.78	-684.21	10.00	10.00	0.00	0.00
<b>NBRR</b>										
7,100.00	25.46	0.05	6,971.40	-676.33	-439.78	-676.71	10.00	10.00	0.00	0.00
7,196.96	35.16	0.05	7,055.00	-627.45	-439.74	-627.83	10.00	10.00	0.00	0.00
<b>N470_B_CK</b>										
7,200.00	35.46	0.05	7,057.48	-625.69	-439.74	-626.08	10.00	10.00	0.00	0.00
7,282.49	43.71	0.05	7,121.00	-573.17	-439.70	-573.55	10.00	10.00	0.00	0.00
<b>N700_C_CK</b>										
7,300.00	45.46	0.05	7,133.47	-560.88	-439.69	-561.26	10.00	10.00	0.00	0.00
<b>DLS = 10°/100'</b>										
7,400.00	55.46	0.05	7,197.04	-483.85	-439.62	-484.24	10.00	10.00	0.00	0.00
7,500.00	65.46	0.05	7,246.28	-396.96	-439.56	-397.34	10.00	10.00	0.00	0.00
7,562.24	71.69	0.05	7,269.00	-339.05	-439.51	-339.43	10.00	10.00	0.00	0.00
<b>FRHS</b>										
7,600.00	75.46	0.05	7,279.68	-302.84	-439.48	-303.22	10.00	10.00	0.00	0.00
7,669.49	82.41	0.05	7,293.00	-234.68	-439.43	-235.06	10.00	10.00	0.00	0.00
<b>CDLL</b>										
7,700.00	85.46	0.05	7,296.22	-204.34	-439.40	-204.73	10.00	10.00	0.00	0.00
7,749.15	90.38	0.05	7,298.00	-155.24	-439.36	-155.62	10.00	10.00	0.00	0.00
<b>End Build @ 7749.15ft - Landing Target (Heel) - 7"</b>										
7,800.00	90.38	0.05	7,297.67	-104.39	-439.32	-104.77	0.00	0.00	0.00	0.00

## Plan Report for BAT 28C-9HZ - 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 (°)
7,900.00	90.38	0.05	7,297.01	-4.39	-439.24	-4.78	0.00	0.00	0.00	0.00
8,000.00	90.38	0.05	7,296.34	95.60	-439.16	95.22	0.00	0.00	0.00	0.00
8,100.00	90.38	0.05	7,295.68	195.60	-439.08	195.22	0.00	0.00	0.00	0.00
8,200.00	90.38	0.05	7,295.02	295.60	-439.00	295.22	0.00	0.00	0.00	0.00
8,300.00	90.38	0.05	7,294.36	395.60	-438.92	395.21	0.00	0.00	0.00	0.00
8,400.00	90.38	0.05	7,293.70	495.60	-438.84	495.21	0.00	0.00	0.00	0.00
8,500.00	90.38	0.05	7,293.04	595.59	-438.76	595.21	0.00	0.00	0.00	0.00
8,600.00	90.38	0.05	7,292.37	695.59	-438.68	695.21	0.00	0.00	0.00	0.00
8,700.00	90.38	0.05	7,291.71	795.59	-438.60	795.21	0.00	0.00	0.00	0.00
8,800.00	90.38	0.05	7,291.05	895.59	-438.52	895.20	0.00	0.00	0.00	0.00
8,900.00	90.38	0.05	7,290.39	995.58	-438.44	995.20	0.00	0.00	0.00	0.00
9,000.00	90.38	0.05	7,289.73	1,095.58	-438.36	1,095.20	0.00	0.00	0.00	0.00
9,100.00	90.38	0.05	7,289.07	1,195.58	-438.28	1,195.20	0.00	0.00	0.00	0.00
9,200.00	90.38	0.05	7,288.40	1,295.58	-438.21	1,295.19	0.00	0.00	0.00	0.00
9,300.00	90.38	0.05	7,287.74	1,395.58	-438.13	1,395.19	0.00	0.00	0.00	0.00
9,400.00	90.38	0.05	7,287.08	1,495.57	-438.05	1,495.19	0.00	0.00	0.00	0.00
9,500.00	90.38	0.05	7,286.42	1,595.57	-437.97	1,595.19	0.00	0.00	0.00	0.00
9,600.00	90.38	0.05	7,285.76	1,695.57	-437.89	1,695.19	0.00	0.00	0.00	0.00
9,700.00	90.38	0.05	7,285.10	1,795.57	-437.81	1,795.18	0.00	0.00	0.00	0.00
9,800.00	90.38	0.05	7,284.43	1,895.56	-437.73	1,895.18	0.00	0.00	0.00	0.00
9,900.00	90.38	0.05	7,283.77	1,995.56	-437.65	1,995.18	0.00	0.00	0.00	0.00
10,000.00	90.38	0.05	7,283.11	2,095.56	-437.57	2,095.18	0.00	0.00	0.00	0.00
10,100.00	90.38	0.05	7,282.45	2,195.56	-437.49	2,195.18	0.00	0.00	0.00	0.00
10,200.00	90.38	0.05	7,281.79	2,295.56	-437.41	2,295.17	0.00	0.00	0.00	0.00
10,300.00	90.38	0.05	7,281.13	2,395.55	-437.33	2,395.17	0.00	0.00	0.00	0.00
10,400.00	90.38	0.05	7,280.46	2,495.55	-437.25	2,495.17	0.00	0.00	0.00	0.00
10,500.00	90.38	0.05	7,279.80	2,595.55	-437.17	2,595.17	0.00	0.00	0.00	0.00
10,600.00	90.38	0.05	7,279.14	2,695.55	-437.09	2,695.16	0.00	0.00	0.00	0.00
10,700.00	90.38	0.05	7,278.48	2,795.54	-437.01	2,795.16	0.00	0.00	0.00	0.00
10,800.00	90.38	0.05	7,277.82	2,895.54	-436.93	2,895.16	0.00	0.00	0.00	0.00
10,900.00	90.38	0.05	7,277.16	2,995.54	-436.85	2,995.16	0.00	0.00	0.00	0.00
11,000.00	90.38	0.05	7,276.49	3,095.54	-436.77	3,095.16	0.00	0.00	0.00	0.00
11,100.00	90.38	0.05	7,275.83	3,195.54	-436.69	3,195.15	0.00	0.00	0.00	0.00
11,200.00	90.38	0.05	7,275.17	3,295.53	-436.61	3,295.15	0.00	0.00	0.00	0.00
11,300.00	90.38	0.05	7,274.51	3,395.53	-436.53	3,395.15	0.00	0.00	0.00	0.00
11,400.00	90.38	0.05	7,273.85	3,495.53	-436.45	3,495.15	0.00	0.00	0.00	0.00
11,500.00	90.38	0.05	7,273.19	3,595.53	-436.37	3,595.14	0.00	0.00	0.00	0.00
11,600.00	90.38	0.05	7,272.52	3,695.52	-436.29	3,695.14	0.00	0.00	0.00	0.00
11,700.00	90.38	0.05	7,271.86	3,795.52	-436.21	3,795.14	0.00	0.00	0.00	0.00
11,800.00	90.38	0.05	7,271.20	3,895.52	-436.13	3,895.14	0.00	0.00	0.00	0.00
11,900.00	90.38	0.05	7,270.54	3,995.52	-436.05	3,995.14	0.00	0.00	0.00	0.00
12,000.00	90.38	0.05	7,269.88	4,095.52	-435.97	4,095.13	0.00	0.00	0.00	0.00
12,100.00	90.38	0.05	7,269.22	4,195.51	-435.89	4,195.13	0.00	0.00	0.00	0.00
12,132.61	90.38	0.05	7,269.00	4,228.12	-435.87	4,227.74	0.00	0.00	0.00	0.00
Total Depth (Toe)										
12,132.62	90.38	0.05	7,269.00	4,228.13	-435.87	4,227.75	0.02	0.00	0.00	0.00
TD Well @ 12132.62ft - BAT 28C-9HZ_BHL										

## Plan Report for BAT 28C-9HZ - Permit Rev-1

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,085.00	3,085.00	0.00	0.00	Begin Nudge @ 3085.00ft
3,985.00	3,970.27	-120.19	-72.21	End Nudge @ 3985.00ft
5,841.00	5,735.43	-611.80	-367.61	Begin Drop @ 5841.00ft
6,741.00	6,620.70	-731.99	-439.82	End Drop @ 6741.00ft
6,745.36	6,625.06	-731.99	-439.82	Top of 4.5" Liner @ 6745.36ft
6,845.36	6,725.06	-731.99	-439.82	KOP @ 6845.36ft
7,300.00	7,133.47	-560.88	-439.69	DLS = 10°/100'
7,749.15	7,298.00	-155.24	-439.36	End Build @ 7749.15ft
12,132.62	7,269.00	4,228.13	-435.87	TD Well @ 12132.62ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/-S (usft)	+E/-W (usft)	
User	No Target (Freehand)	0.05	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	7,749.15	Permit Rev-1	MWD+IFR1
7,749.15	12,132.62	Permit Rev-1	MWD+IFR1

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,475.00	1,475.00	9 5/8"	9-5/8	13-1/2
7,749.15	7,298.00	7"	7	8-3/4

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
943.00	943.00	Base Fox Hills		0.00	
1,475.00	1,475.00	Surface Csg Setting Depth		0.00	
4,036.24	4,019.00	Parkman		0.00	
4,430.54	4,394.00	Sussex		0.00	
7,046.40	6,922.00	SSPG		0.00	
7,081.97	6,955.00	NBRR		0.00	
7,196.96	7,055.00	N470_B_CK		0.00	
7,282.49	7,121.00	N700_C_CK		0.00	
7,562.24	7,269.00	FRHS		0.00	
7,669.49	7,293.00	CDLL		0.00	
7,749.15	7,298.00	Landing Target (Heel)		0.00	
12,132.61	7,269.00	Total Depth (Toe)		0.00	

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Plan Report for BAT 28C-9HZ - Permit Rev-1

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*Targets associated with this wellbore*

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
1N-R65W-Sec. 9_Section lines	-34.00	-0.34	1,063.82	Polygon
BAT 28C-9HZ_SHL	0.00	0.00	0.00	Point
BAT 28C-9HZ_BHL	7,269.00	4,228.13	-435.87	Point

**North Reference Sheet for Bat Pad - BAT 28C-9HZ - 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' @ 4947.00usft (D Rig). Northing and Easting are relative to BAT 28C-9HZ

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: 0.99960981

Grid Coordinates of Well: 14,548,915.90 usft N, 1,733,040.23 usft E

Geographical Coordinates of Well: 40° 03' 37.60" N, 104° 40' 08.29" W

Grid Convergence at Surface is: 0.21°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,132.62usft  
the Bottom Hole Displacement is 4,250.53usft in the Direction of 354.11° (True).

Magnetic Convergence at surface is: -8.12° (20 October 2014, , IGRF2010)

