

# US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

Cream 27-28HZ Pad

CREAM 15C-28HZ

Plan A

Plan: Rev A0 Permit

## Sperry Drilling Services Proposal Report

14 October, 2014

Well Coordinates: 14,600,660.35 N, 1,734,169.39 E (40° 12' 09.10" N, 104° 39' 51.25" W)

Ground Level: 4,825.00 usft

Local Coordinate Origin:

Centered on Well CREAM 15C-28HZ

Viewing Datum:

RKB = 17' @ 4842.00usft (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: Cream 27-28HZ Pad  
Well: CREAM 15C-28HZ  
Wellbore: Plan A  
Design: Rev A0 Permit

# US ROCKIES WATTENBERG PLANNING

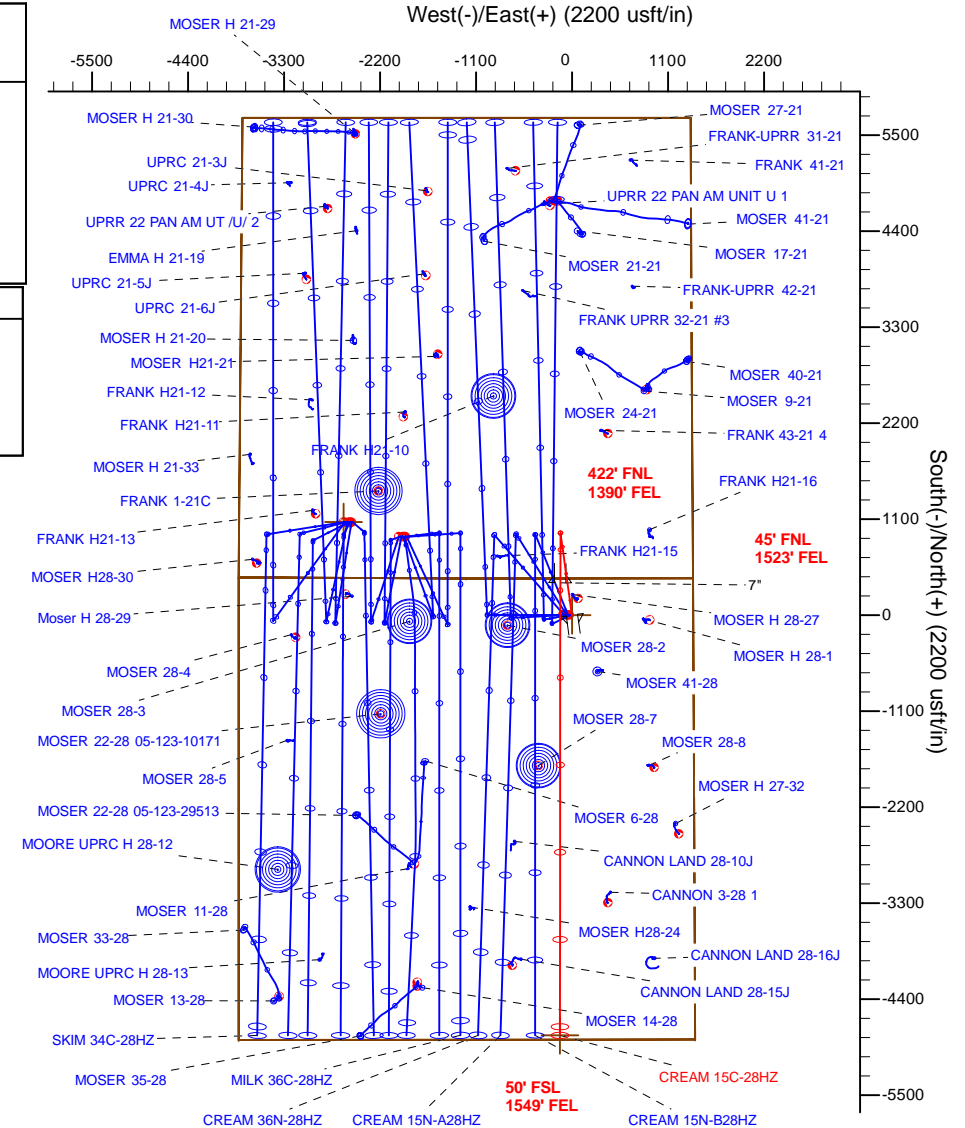
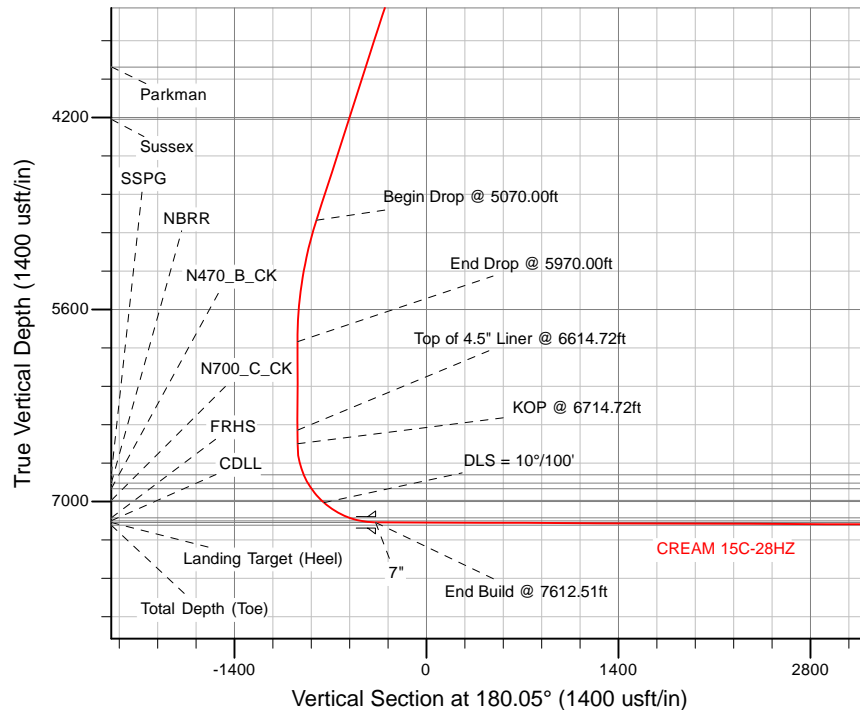
**HALLIBURTON**  
Sperry Drilling

## 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	2900.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	
3	2900.00	18.00	352.00	2885.27	138.85	-19.51	2.00	352.00	-138.83	
4	5070.00	18.00	352.00	4949.06	802.89	-112.84	0.00	0.00	-802.79	
5	5970.00	0.00	0.00	5834.33	941.74	-132.35	2.00	180.00	-941.62	
6	6714.72	0.00	0.00	6579.05	941.74	-132.35	0.00	0.00	-941.62	
7	7612.51	89.78	180.05	7152.00	370.99	-132.88	10.00	180.05	-370.87	
8	12798.42	89.78	180.05	7172.00	-4814.88	-137.69	0.00	0.00	4814.99	CREAM 15C-28HZ_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Polygon
Sec. 28 and 21-T3N-R65W	-22.00	1065.30	-2617.06	40.205452	-104.673609	
CREAM 15C-28HZ_SHL	0.00	0.00	0.00	40.202527	-104.664236	
CREAM 15C-28HZ_BHL	7172.00	-4814.88	-137.69	40.189305	-104.664729	



TVD MD

6479.05 6614.72 Top of 4.5" Liner @ 6614.72ft

6579.05 6714.72 KOP @ 6714.72ft

WELL DETAILS: CREAM 15C-28HZ

Ground Level: 4825.00

RKB = 17' @ 4842.00usft (D Rig)

Plan: Rev A0 Permit (CREAM 15C-28HZ/Plan A)

Created By: Clint Eshelman

Reviewed:

Date: 10/14/2014

Date:

## Plan Report for CREAM 15C-28HZ - 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
<b>CREAM 15C-28HZ_SHL - Sec. 28 and 21-T3N-R65W</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
601.00	0.00	0.00	601.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Base Fox Hills</b>										
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
1,114.00	0.00	0.00	1,114.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Surface Csg Setting Depth - 9 5/8"</b>										
1,200.00	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
<b>Begin Nudge @ 2000.00ft</b>										
2,100.00	2.00	352.00	2,099.98	1.73	-0.24	-1.73	2.00	2.00	0.00	352.00
2,200.00	4.00	352.00	2,199.84	6.91	-0.97	-6.91	2.00	2.00	0.00	0.00
2,300.00	6.00	352.00	2,299.45	15.54	-2.18	-15.54	2.00	2.00	0.00	0.00
2,400.00	8.00	352.00	2,398.70	27.61	-3.88	-27.61	2.00	2.00	0.00	0.00
2,500.00	10.00	352.00	2,497.47	43.10	-6.06	-43.09	2.00	2.00	0.00	0.00
2,600.00	12.00	352.00	2,595.62	61.99	-8.71	-61.99	2.00	2.00	0.00	0.00
2,700.00	14.00	352.00	2,693.06	84.27	-11.84	-84.26	2.00	2.00	0.00	0.00
2,800.00	16.00	352.00	2,789.64	109.90	-15.45	-109.88	2.00	2.00	0.00	0.00
2,900.00	18.00	352.00	2,885.27	138.85	-19.51	-138.83	2.00	2.00	0.00	0.00
<b>End Nudge @ 2900.00ft</b>										
3,000.00	18.00	352.00	2,980.37	169.45	-23.81	-169.43	0.00	0.00	0.00	0.00
3,100.00	18.00	352.00	3,075.48	200.05	-28.12	-200.03	0.00	0.00	0.00	0.00
3,200.00	18.00	352.00	3,170.59	230.65	-32.42	-230.62	0.00	0.00	0.00	0.00
3,300.00	18.00	352.00	3,265.69	261.25	-36.72	-261.22	0.00	0.00	0.00	0.00
3,400.00	18.00	352.00	3,360.80	291.85	-41.02	-291.82	0.00	0.00	0.00	0.00
3,500.00	18.00	352.00	3,455.90	322.45	-45.32	-322.41	0.00	0.00	0.00	0.00
3,600.00	18.00	352.00	3,551.01	353.05	-49.62	-353.01	0.00	0.00	0.00	0.00
3,700.00	18.00	352.00	3,646.11	383.66	-53.92	-383.61	0.00	0.00	0.00	0.00
3,800.00	18.00	352.00	3,741.22	414.26	-58.22	-414.21	0.00	0.00	0.00	0.00
3,895.45	18.00	352.00	3,832.00	443.47	-62.33	-443.41	0.00	0.00	0.00	0.00
<b>Parkman</b>										
3,900.00	18.00	352.00	3,836.32	444.86	-62.52	-444.80	0.00	0.00	0.00	0.00
4,000.00	18.00	352.00	3,931.43	475.46	-66.82	-475.40	0.00	0.00	0.00	0.00
4,100.00	18.00	352.00	4,026.54	506.06	-71.12	-506.00	0.00	0.00	0.00	0.00
4,200.00	18.00	352.00	4,121.64	536.66	-75.42	-536.59	0.00	0.00	0.00	0.00
4,295.01	18.00	352.00	4,212.00	565.73	-79.51	-565.66	0.00	0.00	0.00	0.00
<b>Sussex</b>										
4,300.00	18.00	352.00	4,216.75	567.26	-79.72	-567.19	0.00	0.00	0.00	0.00
4,400.00	18.00	352.00	4,311.85	597.86	-84.02	-597.79	0.00	0.00	0.00	0.00
4,500.00	18.00	352.00	4,406.96	628.46	-88.32	-628.39	0.00	0.00	0.00	0.00

## Plan Report for CREAM 15C-28HZ - 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 (°)
4,600.00	18.00	352.00	4,502.06	659.06	-92.63	-658.98	0.00	0.00	0.00	0.00
4,700.00	18.00	352.00	4,597.17	689.67	-96.93	-689.58	0.00	0.00	0.00	0.00
4,800.00	18.00	352.00	4,692.28	720.27	-101.23	-720.18	0.00	0.00	0.00	0.00
4,900.00	18.00	352.00	4,787.38	750.87	-105.53	-750.78	0.00	0.00	0.00	0.00
5,000.00	18.00	352.00	4,882.49	781.47	-109.83	-781.37	0.00	0.00	0.00	0.00
5,070.00	18.00	352.00	4,949.06	802.89	-112.84	-802.79	0.00	0.00	0.00	0.00
<b>Begin Drop @ 5070.00ft</b>										
5,100.00	17.40	352.00	4,977.64	811.92	-114.11	-811.82	2.00	-2.00	0.00	180.00
5,200.00	15.40	352.00	5,073.57	839.88	-118.04	-839.78	2.00	-2.00	0.00	180.00
5,300.00	13.40	352.00	5,170.42	864.51	-121.50	-864.40	2.00	-2.00	0.00	180.00
5,400.00	11.40	352.00	5,268.08	885.77	-124.49	-885.66	2.00	-2.00	0.00	180.00
5,500.00	9.40	352.00	5,366.44	903.64	-127.00	-903.53	2.00	-2.00	0.00	180.00
5,600.00	7.40	352.00	5,465.36	918.11	-129.03	-918.00	2.00	-2.00	0.00	180.00
5,700.00	5.40	352.00	5,564.73	929.15	-130.58	-929.03	2.00	-2.00	0.00	180.00
5,800.00	3.40	352.00	5,664.43	936.74	-131.65	-936.63	2.00	-2.00	0.00	180.00
5,900.00	1.40	352.00	5,764.34	940.89	-132.23	-940.77	2.00	-2.00	0.00	180.00
5,970.00	0.00	0.00	5,834.33	941.74	-132.35	-941.62	2.00	-2.00	11.43	180.00
<b>End Drop @ 5970.00ft</b>										
6,000.00	0.00	0.00	5,864.33	941.74	-132.35	-941.62	0.00	0.00	0.00	180.00
6,100.00	0.00	0.00	5,964.33	941.74	-132.35	-941.62	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,064.33	941.74	-132.35	-941.62	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,164.33	941.74	-132.35	-941.62	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,264.33	941.74	-132.35	-941.62	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,364.33	941.74	-132.35	-941.62	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,464.33	941.74	-132.35	-941.62	0.00	0.00	0.00	0.00
6,614.72	0.00	0.00	6,479.05	941.74	-132.35	-941.62	0.00	0.00	0.00	0.00
<b>Top of 4.5" Liner @ 6614.72ft</b>										
6,700.00	0.00	0.00	6,564.33	941.74	-132.35	-941.62	0.00	0.00	0.00	0.00
6,714.72	0.00	0.00	6,579.05	941.74	-132.35	-941.62	0.00	0.00	0.00	0.00
<b>KOP @ 6714.72ft</b>										
6,800.00	8.53	180.05	6,664.02	935.40	-132.36	-935.29	10.00	10.00	0.00	180.05
6,900.00	18.53	180.05	6,761.12	912.04	-132.38	-911.92	10.00	10.00	0.00	0.00
6,948.07	23.33	180.05	6,806.00	894.87	-132.40	-894.76	10.00	10.00	0.00	0.00
<b>SSPG</b>										
7,000.00	28.53	180.05	6,852.69	872.17	-132.42	-872.06	10.00	10.00	0.00	0.00
7,015.26	30.05	180.05	6,866.00	864.70	-132.42	-864.59	10.00	10.00	0.00	0.00
<b>NBRR</b>										
7,062.67	34.79	180.05	6,906.00	839.29	-132.45	-839.18	10.00	10.00	0.00	0.00
<b>N470_B_CK</b>										
7,100.00	38.53	180.05	6,935.94	817.01	-132.47	-816.89	10.00	10.00	0.00	0.00
7,175.87	46.12	180.05	6,992.00	765.96	-132.52	-765.84	10.00	10.00	0.00	0.00
<b>N700_C_CK</b>										
7,200.00	48.53	180.05	7,008.36	748.22	-132.53	-748.11	10.00	10.00	0.00	0.00
<b>DLS = 10°/100'</b>										
7,300.00	58.53	180.05	7,067.72	667.91	-132.61	-667.79	10.00	10.00	0.00	0.00
7,400.00	68.53	180.05	7,112.24	578.51	-132.69	-578.39	10.00	10.00	0.00	0.00
7,419.29	70.46	180.05	7,119.00	560.44	-132.71	-560.33	10.00	10.00	0.00	0.00
<b>FRHS</b>										
7,500.00	78.53	180.05	7,140.56	482.73	-132.78	-482.62	10.00	10.00	0.00	0.00
7,507.48	79.28	180.05	7,142.00	475.40	-132.78	-475.28	10.00	10.00	0.00	0.00
<b>CDLL</b>										
7,600.00	88.53	180.05	7,151.82	383.50	-132.87	-383.38	10.00	10.00	0.00	0.00
7,612.51	89.78	180.05	7,152.00	370.99	-132.88	-370.87	10.00	10.00	0.00	0.00
<b>End Build @ 7612.51ft - Landing Target (Heel) - 7"</b>										
7,700.00	89.78	180.05	7,152.34	283.50	-132.96	-283.38	0.00	0.00	0.00	0.00
7,800.00	89.78	180.05	7,152.73	183.50	-133.06	-183.39	0.00	0.00	0.00	0.00
7,900.00	89.78	180.05	7,153.11	83.50	-133.15	-83.39	0.00	0.00	0.00	0.00
8,000.00	89.78	180.05	7,153.50	-16.50	-133.24	16.61	0.00	0.00	0.00	0.00

## Plan Report for CREAM 15C-28HZ - 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	89.78	180.05	7,153.88	-116.50	-133.33	116.61	0.00	0.00	0.00	0.00
8,200.00	89.78	180.05	7,154.27	-216.50	-133.43	216.61	0.00	0.00	0.00	0.00
8,300.00	89.78	180.05	7,154.65	-316.49	-133.52	316.61	0.00	0.00	0.00	0.00
8,400.00	89.78	180.05	7,155.04	-416.49	-133.61	416.61	0.00	0.00	0.00	0.00
8,500.00	89.78	180.05	7,155.43	-516.49	-133.70	516.61	0.00	0.00	0.00	0.00
8,600.00	89.78	180.05	7,155.81	-616.49	-133.80	616.61	0.00	0.00	0.00	0.00
8,700.00	89.78	180.05	7,156.20	-716.49	-133.89	716.61	0.00	0.00	0.00	0.00
8,800.00	89.78	180.05	7,156.58	-816.49	-133.98	816.61	0.00	0.00	0.00	0.00
8,900.00	89.78	180.05	7,156.97	-916.49	-134.07	916.61	0.00	0.00	0.00	0.00
9,000.00	89.78	180.05	7,157.35	-1,016.49	-134.17	1,016.61	0.00	0.00	0.00	0.00
9,100.00	89.78	180.05	7,157.74	-1,116.49	-134.26	1,116.61	0.00	0.00	0.00	0.00
9,200.00	89.78	180.05	7,158.12	-1,216.49	-134.35	1,216.60	0.00	0.00	0.00	0.00
9,300.00	89.78	180.05	7,158.51	-1,316.49	-134.45	1,316.60	0.00	0.00	0.00	0.00
9,400.00	89.78	180.05	7,158.90	-1,416.49	-134.54	1,416.60	0.00	0.00	0.00	0.00
9,500.00	89.78	180.05	7,159.28	-1,516.49	-134.63	1,516.60	0.00	0.00	0.00	0.00
9,600.00	89.78	180.05	7,159.67	-1,616.48	-134.72	1,616.60	0.00	0.00	0.00	0.00
9,700.00	89.78	180.05	7,160.05	-1,716.48	-134.82	1,716.60	0.00	0.00	0.00	0.00
9,800.00	89.78	180.05	7,160.44	-1,816.48	-134.91	1,816.60	0.00	0.00	0.00	0.00
9,900.00	89.78	180.05	7,160.82	-1,916.48	-135.00	1,916.60	0.00	0.00	0.00	0.00
10,000.00	89.78	180.05	7,161.21	-2,016.48	-135.09	2,016.60	0.00	0.00	0.00	0.00
10,100.00	89.78	180.05	7,161.59	-2,116.48	-135.19	2,116.60	0.00	0.00	0.00	0.00
10,200.00	89.78	180.05	7,161.98	-2,216.48	-135.28	2,216.60	0.00	0.00	0.00	0.00
10,300.00	89.78	180.05	7,162.37	-2,316.48	-135.37	2,316.60	0.00	0.00	0.00	0.00
10,400.00	89.78	180.05	7,162.75	-2,416.48	-135.47	2,416.60	0.00	0.00	0.00	0.00
10,500.00	89.78	180.05	7,163.14	-2,516.48	-135.56	2,516.59	0.00	0.00	0.00	0.00
10,600.00	89.78	180.05	7,163.52	-2,616.48	-135.65	2,616.59	0.00	0.00	0.00	0.00
10,700.00	89.78	180.05	7,163.91	-2,716.48	-135.74	2,716.59	0.00	0.00	0.00	0.00
10,800.00	89.78	180.05	7,164.29	-2,816.48	-135.84	2,816.59	0.00	0.00	0.00	0.00
10,900.00	89.78	180.05	7,164.68	-2,916.47	-135.93	2,916.59	0.00	0.00	0.00	0.00
11,000.00	89.78	180.05	7,165.07	-3,016.47	-136.02	3,016.59	0.00	0.00	0.00	0.00
11,100.00	89.78	180.05	7,165.45	-3,116.47	-136.11	3,116.59	0.00	0.00	0.00	0.00
11,200.00	89.78	180.05	7,165.84	-3,216.47	-136.21	3,216.59	0.00	0.00	0.00	0.00
11,300.00	89.78	180.05	7,166.22	-3,316.47	-136.30	3,316.59	0.00	0.00	0.00	0.00
11,400.00	89.78	180.05	7,166.61	-3,416.47	-136.39	3,416.59	0.00	0.00	0.00	0.00
11,500.00	89.78	180.05	7,166.99	-3,516.47	-136.48	3,516.59	0.00	0.00	0.00	0.00
11,600.00	89.78	180.05	7,167.38	-3,616.47	-136.58	3,616.59	0.00	0.00	0.00	0.00
11,700.00	89.78	180.05	7,167.76	-3,716.47	-136.67	3,716.59	0.00	0.00	0.00	0.00
11,800.00	89.78	180.05	7,168.15	-3,816.47	-136.76	3,816.59	0.00	0.00	0.00	0.00
11,900.00	89.78	180.05	7,168.54	-3,916.47	-136.86	3,916.58	0.00	0.00	0.00	0.00
12,000.00	89.78	180.05	7,168.92	-4,016.47	-136.95	4,016.58	0.00	0.00	0.00	0.00
12,100.00	89.78	180.05	7,169.31	-4,116.46	-137.04	4,116.58	0.00	0.00	0.00	0.00
12,200.00	89.78	180.05	7,169.69	-4,216.46	-137.13	4,216.58	0.00	0.00	0.00	0.00
12,300.00	89.78	180.05	7,170.08	-4,316.46	-137.23	4,316.58	0.00	0.00	0.00	0.00
12,400.00	89.78	180.05	7,170.46	-4,416.46	-137.32	4,416.58	0.00	0.00	0.00	0.00
12,500.00	89.78	180.05	7,170.85	-4,516.46	-137.41	4,516.58	0.00	0.00	0.00	0.00
12,600.00	89.78	180.05	7,171.23	-4,616.46	-137.50	4,616.58	0.00	0.00	0.00	0.00
12,700.00	89.78	180.05	7,171.62	-4,716.46	-137.60	4,716.58	0.00	0.00	0.00	0.00
12,798.42	89.78	180.05	7,172.00	-4,814.88	-137.69	4,814.99	0.00	0.00	0.00	0.00

TD Well @ 12798.42ft - Total Depth (Toe) - CREAM 15C-28HZ\_BHL

## Plan Report for CREAM 15C-28HZ - 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
2,900.00	2,885.27	138.85	-19.51	End Nudge @ 2900.00ft
5,070.00	4,949.06	802.89	-112.84	Begin Drop @ 5070.00ft
5,970.00	5,834.33	941.74	-132.35	End Drop @ 5970.00ft
6,614.72	6,479.05	941.74	-132.35	Top of 4.5" Liner @ 6614.72ft
6,714.72	6,579.05	941.74	-132.35	KOP @ 6714.72ft
7,200.00	7,008.36	748.22	-132.53	DLS = 10°/100'
7,612.51	7,152.00	370.99	-132.88	End Build @ 7612.51ft
12,798.42	7,172.00	-4,814.88	-137.69	TD Well @ 12798.42ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/-S (usft)	+E/-W (usft)	
User	No Target (Freehand)	180.05	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	7,612.51	Rev A0 Permit	MWD+IFR1
7,612.51	12,798.42	Rev A0 Permit	MWD+IFR1

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,114.00	1,114.00	9 5/8"	9-5/8	13-1/2
7,612.51	7,152.00	7"	7	8-3/4

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
601.00	601.00	Base Fox Hills		0.00	
1,114.00	1,114.00	Surface Csg Setting Depth		0.00	
3,895.45	3,832.00	Parkman		0.00	
4,295.01	4,212.00	Sussex		0.00	
6,948.07	6,806.00	SSPG		0.00	
7,015.26	6,866.00	NBRR		0.00	
7,062.67	6,906.00	N470_B_CK		0.00	
7,175.87	6,992.00	N700_C_CK		0.00	
7,419.29	7,119.00	FRHS		0.00	
7,507.48	7,142.00	CDLL		0.00	
7,612.51	7,152.00	Landing Target (Heel)		0.00	
12,798.42	7,172.00	Total Depth (Toe)		0.00	

**Plan Report for CREAM 15C-28HZ - Rev A0 Permit**

*Targets associated with this wellbore*

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
CREAM 15C-28HZ_SHL	0.00	0.00	0.00	Point
CREAM 15C-28HZ_BHL	7,172.00	-4,814.88	-137.69	Point
Sec. 28 and 21-T3N-R65W	-22.00	1,065.30	-2,617.06	Polygon

**North Reference Sheet for Cream 27-28HZ Pad - CREAM 15C-28HZ - 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' @ 4842.00usft (D Rig). Northing and Easting are relative to CREAM 15C-28HZ

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: 0.99961005

Grid Coordinates of Well: 14,600,660.35 usft N, 1,734,169.39 usft E

Geographical Coordinates of Well: 40° 12' 09.10" N, 104° 39' 51.25" W

Grid Convergence at Surface is: 0.22°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,798.42usft  
the Bottom Hole Displacement is 4,816.84usft in the Direction of 181.64° ( True).

Magnetic Convergence at surface is: -8.13° (13 October 2014, , IGRF2010)

