

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

Cream 27-28HZ Pad

CREAM 15N-B28HZ

Plan A

Plan: Rev A0 Permit

Sperry Drilling Services Proposal Report

14 October, 2014

Well Coordinates: 14,600,660.55 N, 1,734,124.16 E (40° 12' 09.10" N, 104° 39' 51.83" W)

Ground Level: 4,827.00 usft

Local Coordinate Origin:

Centered on Well CREAM 15N-B28HZ

Viewing Datum:

RKB = 17' @ 4844.00usft (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 15N-B28HZ
Wellbore: Plan A
Design: Rev A0 Permit

US ROCKIES WATTENBERG PLANNING

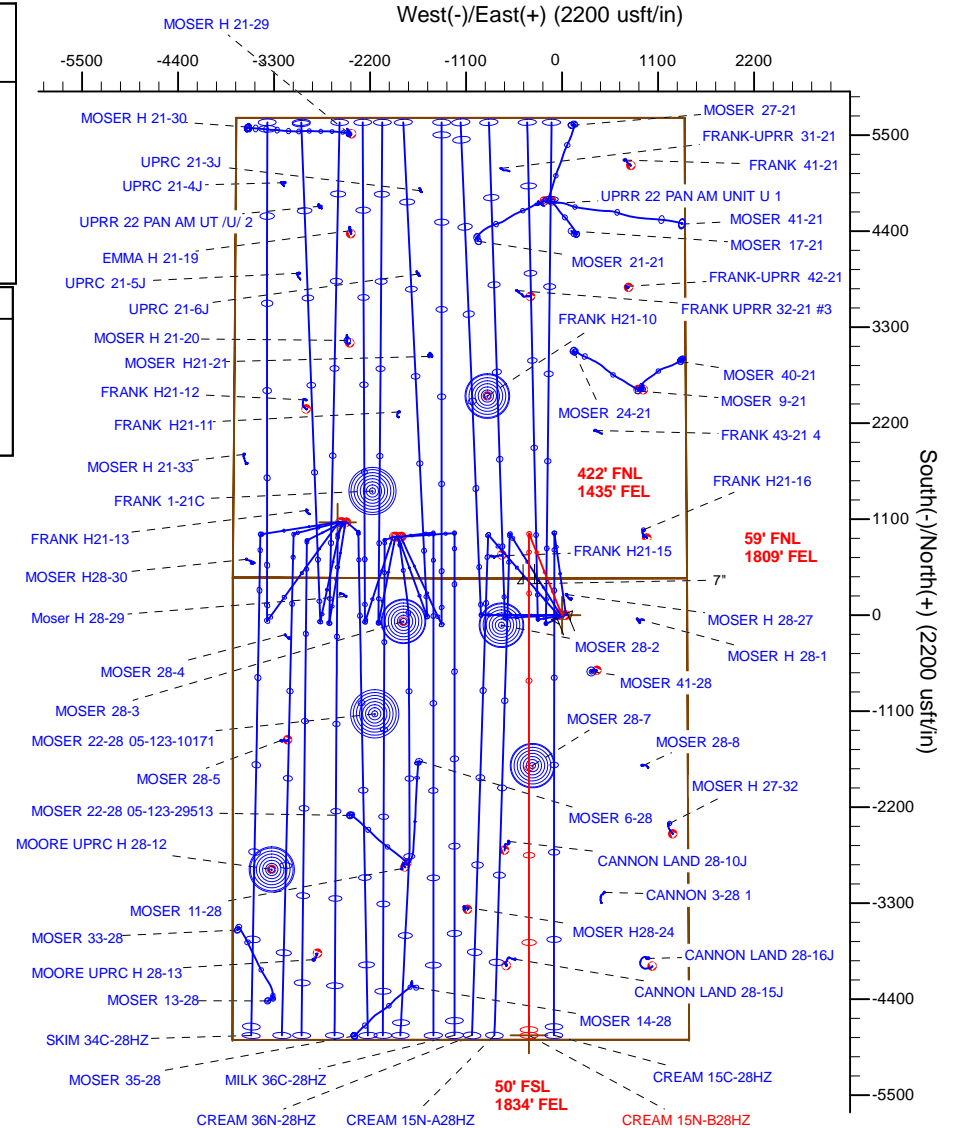
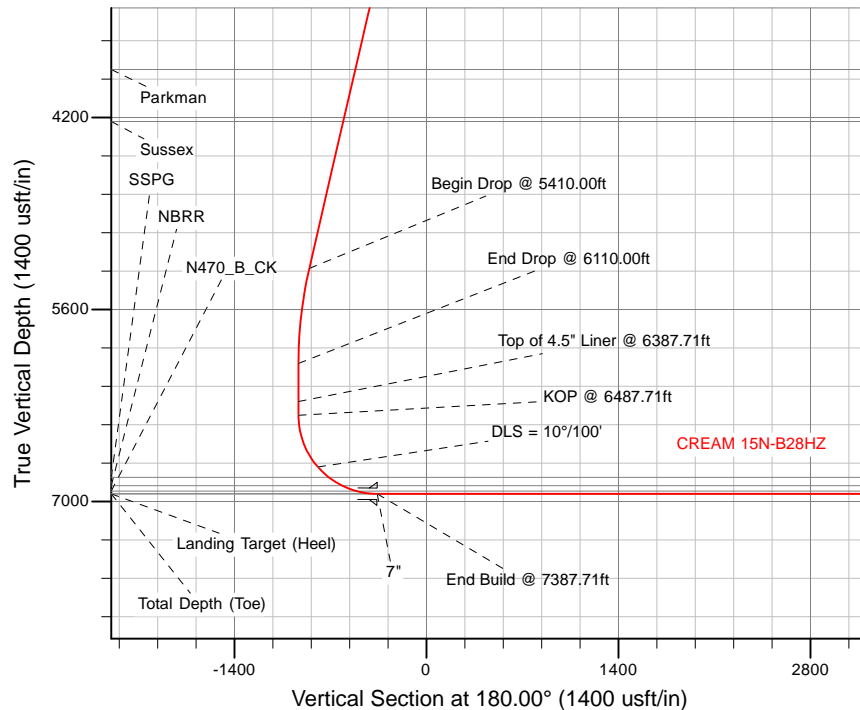
HALLIBURTON
Sperry Drilling

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	1250.00	0.00	0.00	1250.00	0.00	0.00	0.00	0.00	0.00	
3	1950.00	14.00	338.00	1943.06	78.90	-31.88	2.00	338.00	-78.90	
4	5410.00	14.00	338.00	5300.28	855.00	-345.44	0.00	0.00	-855.00	
5	6110.00	0.00	0.00	5993.33	933.90	-377.32	2.00	180.00	-933.90	
6	6487.71	0.00	0.00	6371.04	933.90	-377.32	0.00	0.00	-933.90	
7	7387.71	90.00	180.00	6944.00	360.94	-377.32	10.00	180.00	-360.94	
8	12563.89	90.00	180.00	6944.00	-4815.24	-377.31	0.00	0.00	4815.24	CREAM 15N-B28HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Polygon
Sec. 28 and 21-T3N-R65W	-20.00	1064.93	-2571.83	40.205452	-104.673609	
CREAM 15N-B28HZ_SHL	0.00	0.00	0.00	40.202528	-104.664398	
CREAM 15N-B28HZ_BHL	6944.00	-4815.24	-377.31	40.189305	-104.665749	



TVD MD

6271.04 6387.71 Top of 4.5" Liner @ 6387.71ft

6371.04 6487.71 KOP @ 6487.71ft

WELL DETAILS: CREAM 15N-B28HZ

Ground Level: 4827.00

RKB = 17' @ 4844.00usft (D Rig)

Plan: Rev A0 Permit (CREAM 15N-B28HZ/Plan A)

Created By: Clint Eshelman

Reviewed:

Date: 10/14/2014

Date:

Plan Report for CREAM 15N-B28HZ - 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
CREAM 15N-B28HZ_SHL - Sec. 28 and 21-T3N-R65W										
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
603.00	0.00	0.00	603.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Fox Hills										
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
1,116.00	0.00	0.00	1,116.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surface Csg Setting Depth - 9 5/8"										
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,250.00	0.00	0.00	1,250.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 1250.00ft										
1,300.00	1.00	338.00	1,300.00	0.40	-0.16	-0.40	2.00	2.00	0.00	338.00
1,400.00	3.00	338.00	1,399.93	3.64	-1.47	-3.64	2.00	2.00	0.00	0.00
1,500.00	5.00	338.00	1,499.68	10.11	-4.08	-10.11	2.00	2.00	0.00	0.00
1,600.00	7.00	338.00	1,599.13	19.80	-8.00	-19.80	2.00	2.00	0.00	0.00
1,700.00	9.00	338.00	1,698.15	32.70	-13.21	-32.70	2.00	2.00	0.00	0.00
1,800.00	11.00	338.00	1,796.63	48.80	-19.72	-48.80	2.00	2.00	0.00	0.00
1,900.00	13.00	338.00	1,894.44	68.08	-27.51	-68.08	2.00	2.00	0.00	0.00
1,950.00	14.00	338.00	1,943.06	78.90	-31.88	-78.90	2.00	2.00	0.00	0.00
End Nudge @ 1950.00ft										
2,000.00	14.00	338.00	1,991.57	90.12	-36.41	-90.12	0.00	0.00	0.00	0.00
2,100.00	14.00	338.00	2,088.60	112.55	-45.47	-112.55	0.00	0.00	0.00	0.00
2,200.00	14.00	338.00	2,185.63	134.98	-54.53	-134.98	0.00	0.00	0.00	0.00
2,300.00	14.00	338.00	2,282.66	157.41	-63.60	-157.41	0.00	0.00	0.00	0.00
2,400.00	14.00	338.00	2,379.69	179.84	-72.66	-179.84	0.00	0.00	0.00	0.00
2,500.00	14.00	338.00	2,476.72	202.27	-81.72	-202.27	0.00	0.00	0.00	0.00
2,600.00	14.00	338.00	2,573.75	224.70	-90.78	-224.70	0.00	0.00	0.00	0.00
2,700.00	14.00	338.00	2,670.78	247.13	-99.85	-247.13	0.00	0.00	0.00	0.00
2,800.00	14.00	338.00	2,767.81	269.56	-108.91	-269.56	0.00	0.00	0.00	0.00
2,900.00	14.00	338.00	2,864.84	291.99	-117.97	-291.99	0.00	0.00	0.00	0.00
3,000.00	14.00	338.00	2,961.87	314.42	-127.03	-314.42	0.00	0.00	0.00	0.00
3,100.00	14.00	338.00	3,058.90	336.85	-136.10	-336.85	0.00	0.00	0.00	0.00
3,200.00	14.00	338.00	3,155.92	359.28	-145.16	-359.28	0.00	0.00	0.00	0.00
3,300.00	14.00	338.00	3,252.95	381.71	-154.22	-381.71	0.00	0.00	0.00	0.00
3,400.00	14.00	338.00	3,349.98	404.14	-163.28	-404.14	0.00	0.00	0.00	0.00
3,500.00	14.00	338.00	3,447.01	426.57	-172.35	-426.57	0.00	0.00	0.00	0.00
3,600.00	14.00	338.00	3,544.04	449.01	-181.41	-449.01	0.00	0.00	0.00	0.00
3,700.00	14.00	338.00	3,641.07	471.44	-190.47	-471.44	0.00	0.00	0.00	0.00
3,800.00	14.00	338.00	3,738.10	493.87	-199.53	-493.87	0.00	0.00	0.00	0.00
3,900.00	14.00	338.00	3,835.13	516.30	-208.60	-516.30	0.00	0.00	0.00	0.00
3,915.32	14.00	338.00	3,850.00	519.73	-209.99	-519.73	0.00	0.00	0.00	0.00
Parkman										
4,000.00	14.00	338.00	3,932.16	538.73	-217.66	-538.73	0.00	0.00	0.00	0.00
4,100.00	14.00	338.00	4,029.19	561.16	-226.72	-561.16	0.00	0.00	0.00	0.00
4,200.00	14.00	338.00	4,126.22	583.59	-235.79	-583.59	0.00	0.00	0.00	0.00
4,300.00	14.00	338.00	4,223.25	606.02	-244.85	-606.02	0.00	0.00	0.00	0.00
4,306.96	14.00	338.00	4,230.00	607.58	-245.48	-607.58	0.00	0.00	0.00	0.00
Sussex										

Plan Report for CREAM 15N-B28HZ - 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 (°)
4,400.00	14.00	338.00	4,320.28	628.45	-253.91	-628.45	0.00	0.00	0.00	0.00
4,500.00	14.00	338.00	4,417.31	650.88	-262.97	-650.88	0.00	0.00	0.00	0.00
4,600.00	14.00	338.00	4,514.34	673.31	-272.04	-673.31	0.00	0.00	0.00	0.00
4,700.00	14.00	338.00	4,611.37	695.74	-281.10	-695.74	0.00	0.00	0.00	0.00
4,800.00	14.00	338.00	4,708.40	718.17	-290.16	-718.17	0.00	0.00	0.00	0.00
4,900.00	14.00	338.00	4,805.43	740.60	-299.22	-740.60	0.00	0.00	0.00	0.00
5,000.00	14.00	338.00	4,902.46	763.03	-308.29	-763.03	0.00	0.00	0.00	0.00
5,100.00	14.00	338.00	4,999.49	785.46	-317.35	-785.46	0.00	0.00	0.00	0.00
5,200.00	14.00	338.00	5,096.52	807.89	-326.41	-807.89	0.00	0.00	0.00	0.00
5,300.00	14.00	338.00	5,193.55	830.33	-335.47	-830.33	0.00	0.00	0.00	0.00
5,400.00	14.00	338.00	5,290.58	852.76	-344.54	-852.76	0.00	0.00	0.00	0.00
5,410.00	14.00	338.00	5,300.28	855.00	-345.44	-855.00	0.00	0.00	0.00	0.00
Begin Drop @ 5410.00ft										
5,500.00	12.20	338.00	5,387.93	873.91	-353.08	-873.91	2.00	-2.00	0.00	180.00
5,600.00	10.20	338.00	5,486.02	891.92	-360.36	-891.92	2.00	-2.00	0.00	180.00
5,700.00	8.20	338.00	5,584.73	906.74	-366.35	-906.74	2.00	-2.00	0.00	180.00
5,800.00	6.20	338.00	5,683.94	918.36	-371.04	-918.36	2.00	-2.00	0.00	180.00
5,900.00	4.20	338.00	5,783.52	926.77	-374.44	-926.77	2.00	-2.00	0.00	180.00
6,000.00	2.20	338.00	5,883.36	931.94	-376.53	-931.94	2.00	-2.00	0.00	180.00
6,100.00	0.20	338.00	5,983.33	933.88	-377.31	-933.88	2.00	-2.00	0.00	180.00
6,110.00	0.00	0.00	5,993.33	933.90	-377.32	-933.90	2.00	-2.00	220.00	180.00
End Drop @ 6110.00ft										
6,200.00	0.00	0.00	6,083.33	933.90	-377.32	-933.90	0.00	0.00	0.00	180.00
6,300.00	0.00	0.00	6,183.33	933.90	-377.32	-933.90	0.00	0.00	0.00	0.00
6,387.71	0.00	0.00	6,271.04	933.90	-377.32	-933.90	0.00	0.00	0.00	0.00
Top of 4.5" Liner @ 6387.71ft										
6,400.00	0.00	0.00	6,283.33	933.90	-377.32	-933.90	0.00	0.00	0.00	0.00
6,487.71	0.00	0.00	6,371.04	933.90	-377.32	-933.90	0.00	0.00	0.00	0.00
KOP @ 6487.71ft										
6,500.00	1.23	180.00	6,383.33	933.77	-377.32	-933.77	10.00	10.00	0.00	180.00
6,600.00	11.23	180.00	6,482.62	922.93	-377.32	-922.93	10.00	10.00	0.00	0.00
6,700.00	21.23	180.00	6,578.51	895.02	-377.32	-895.02	10.00	10.00	0.00	0.00
6,800.00	31.23	180.00	6,668.10	850.88	-377.32	-850.88	10.00	10.00	0.00	0.00
6,900.00	41.23	180.00	6,748.66	791.85	-377.32	-791.85	10.00	10.00	0.00	0.00
DLS = 10°/100'										
7,000.00	51.23	180.00	6,817.75	719.73	-377.32	-719.73	10.00	10.00	0.00	0.00
7,010.09	52.24	180.00	6,824.00	711.81	-377.32	-711.81	10.00	10.00	0.00	0.00
SSPG										
7,100.00	61.23	180.00	6,873.27	636.71	-377.32	-636.71	10.00	10.00	0.00	0.00
7,123.15	63.54	180.00	6,884.00	616.20	-377.32	-616.20	10.00	10.00	0.00	0.00
NBRR										
7,200.00	71.23	180.00	6,913.53	545.31	-377.32	-545.31	10.00	10.00	0.00	0.00
7,235.87	74.82	180.00	6,924.00	511.01	-377.32	-511.01	10.00	10.00	0.00	0.00
N470_B_CK										
7,300.00	81.23	180.00	6,937.30	448.31	-377.32	-448.31	10.00	10.00	0.00	0.00
7,387.71	90.00	180.00	6,944.00	360.94	-377.32	-360.94	10.00	10.00	0.00	0.00
End Build @ 7387.71ft - Landing Target (Heel) - 7"										
7,400.00	90.00	180.00	6,944.00	348.65	-377.32	-348.65	0.00	0.00	0.00	0.00
7,500.00	90.00	180.00	6,944.00	248.65	-377.32	-248.65	0.00	0.00	0.00	0.00
7,600.00	90.00	180.00	6,944.00	148.65	-377.32	-148.65	0.00	0.00	0.00	0.00
7,700.00	90.00	180.00	6,944.00	48.65	-377.32	-48.65	0.00	0.00	0.00	0.00
7,800.00	90.00	180.00	6,944.00	-51.35	-377.32	51.35	0.00	0.00	0.00	0.00
7,900.00	90.00	180.00	6,944.00	-151.35	-377.32	151.35	0.00	0.00	0.00	0.00
8,000.00	90.00	180.00	6,944.00	-251.35	-377.32	251.35	0.00	0.00	0.00	0.00
8,100.00	90.00	180.00	6,944.00	-351.35	-377.32	351.35	0.00	0.00	0.00	0.00
8,200.00	90.00	180.00	6,944.00	-451.35	-377.32	451.35	0.00	0.00	0.00	0.00
8,300.00	90.00	180.00	6,944.00	-551.35	-377.32	551.35	0.00	0.00	0.00	0.00
8,400.00	90.00	180.00	6,944.00	-651.35	-377.32	651.35	0.00	0.00	0.00	0.00
8,500.00	90.00	180.00	6,944.00	-751.35	-377.32	751.35	0.00	0.00	0.00	0.00

Plan Report for CREAM 15N-B28HZ - 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 (°)
8,600.00	90.00	180.00	6,944.00	-851.35	-377.32	851.35	0.00	0.00	0.00	0.00
8,700.00	90.00	180.00	6,944.00	-951.35	-377.32	951.35	0.00	0.00	0.00	0.00
8,800.00	90.00	180.00	6,944.00	-1,051.35	-377.32	1,051.35	0.00	0.00	0.00	0.00
8,900.00	90.00	180.00	6,944.00	-1,151.35	-377.32	1,151.35	0.00	0.00	0.00	0.00
9,000.00	90.00	180.00	6,944.00	-1,251.35	-377.32	1,251.35	0.00	0.00	0.00	0.00
9,100.00	90.00	180.00	6,944.00	-1,351.35	-377.32	1,351.35	0.00	0.00	0.00	0.00
9,200.00	90.00	180.00	6,944.00	-1,451.35	-377.32	1,451.35	0.00	0.00	0.00	0.00
9,300.00	90.00	180.00	6,944.00	-1,551.35	-377.32	1,551.35	0.00	0.00	0.00	0.00
9,400.00	90.00	180.00	6,944.00	-1,651.35	-377.32	1,651.35	0.00	0.00	0.00	0.00
9,500.00	90.00	180.00	6,944.00	-1,751.35	-377.31	1,751.35	0.00	0.00	0.00	0.00
9,600.00	90.00	180.00	6,944.00	-1,851.35	-377.31	1,851.35	0.00	0.00	0.00	0.00
9,700.00	90.00	180.00	6,944.00	-1,951.35	-377.31	1,951.35	0.00	0.00	0.00	0.00
9,800.00	90.00	180.00	6,944.00	-2,051.35	-377.31	2,051.35	0.00	0.00	0.00	0.00
9,900.00	90.00	180.00	6,944.00	-2,151.35	-377.31	2,151.35	0.00	0.00	0.00	0.00
10,000.00	90.00	180.00	6,944.00	-2,251.35	-377.31	2,251.35	0.00	0.00	0.00	0.00
10,100.00	90.00	180.00	6,944.00	-2,351.35	-377.31	2,351.35	0.00	0.00	0.00	0.00
10,200.00	90.00	180.00	6,944.00	-2,451.35	-377.31	2,451.35	0.00	0.00	0.00	0.00
10,300.00	90.00	180.00	6,944.00	-2,551.35	-377.31	2,551.35	0.00	0.00	0.00	0.00
10,400.00	90.00	180.00	6,944.00	-2,651.35	-377.31	2,651.35	0.00	0.00	0.00	0.00
10,500.00	90.00	180.00	6,944.00	-2,751.35	-377.31	2,751.35	0.00	0.00	0.00	0.00
10,600.00	90.00	180.00	6,944.00	-2,851.35	-377.31	2,851.35	0.00	0.00	0.00	0.00
10,700.00	90.00	180.00	6,944.00	-2,951.35	-377.31	2,951.35	0.00	0.00	0.00	0.00
10,800.00	90.00	180.00	6,944.00	-3,051.35	-377.31	3,051.35	0.00	0.00	0.00	0.00
10,900.00	90.00	180.00	6,944.00	-3,151.35	-377.31	3,151.35	0.00	0.00	0.00	0.00
11,000.00	90.00	180.00	6,944.00	-3,251.35	-377.31	3,251.35	0.00	0.00	0.00	0.00
11,100.00	90.00	180.00	6,944.00	-3,351.35	-377.31	3,351.35	0.00	0.00	0.00	0.00
11,200.00	90.00	180.00	6,944.00	-3,451.35	-377.31	3,451.35	0.00	0.00	0.00	0.00
11,300.00	90.00	180.00	6,944.00	-3,551.35	-377.31	3,551.35	0.00	0.00	0.00	0.00
11,400.00	90.00	180.00	6,944.00	-3,651.35	-377.31	3,651.35	0.00	0.00	0.00	0.00
11,500.00	90.00	180.00	6,944.00	-3,751.35	-377.31	3,751.35	0.00	0.00	0.00	0.00
11,600.00	90.00	180.00	6,944.00	-3,851.35	-377.31	3,851.35	0.00	0.00	0.00	0.00
11,700.00	90.00	180.00	6,944.00	-3,951.35	-377.31	3,951.35	0.00	0.00	0.00	0.00
11,800.00	90.00	180.00	6,944.00	-4,051.35	-377.31	4,051.35	0.00	0.00	0.00	0.00
11,900.00	90.00	180.00	6,944.00	-4,151.35	-377.31	4,151.35	0.00	0.00	0.00	0.00
12,000.00	90.00	180.00	6,944.00	-4,251.35	-377.31	4,251.35	0.00	0.00	0.00	0.00
12,100.00	90.00	180.00	6,944.00	-4,351.35	-377.31	4,351.35	0.00	0.00	0.00	0.00
12,200.00	90.00	180.00	6,944.00	-4,451.35	-377.31	4,451.35	0.00	0.00	0.00	0.00
12,300.00	90.00	180.00	6,944.00	-4,551.35	-377.31	4,551.35	0.00	0.00	0.00	0.00
12,400.00	90.00	180.00	6,944.00	-4,651.35	-377.31	4,651.35	0.00	0.00	0.00	0.00
12,500.00	90.00	180.00	6,944.00	-4,751.35	-377.31	4,751.35	0.00	0.00	0.00	0.00
12,563.88	90.00	180.00	6,944.00	-4,815.23	-377.31	4,815.23	0.00	0.00	0.00	0.00
Total Depth (Toe)										
12,563.89	90.00	180.00	6,944.00	-4,815.24	-377.31	4,815.24	0.00	0.00	0.00	0.00
TD Well @ 12563.89ft - CREAM 15N-B28HZ_BHL										

Plan Report for CREAM 15N-B28HZ - Rev A0 Permit

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,250.00	1,250.00	0.00	0.00	Begin Nudge @ 1250.00ft
1,950.00	1,943.06	78.90	-31.88	End Nudge @ 1950.00ft
5,410.00	5,300.28	855.00	-345.44	Begin Drop @ 5410.00ft
6,110.00	5,993.33	933.90	-377.32	End Drop @ 6110.00ft
6,387.71	6,271.04	933.90	-377.32	Top of 4.5" Liner @ 6387.71ft
6,487.71	6,371.04	933.90	-377.32	KOP @ 6487.71ft
6,900.00	6,748.66	791.85	-377.32	DLS = 10°/100'
7,387.71	6,944.00	360.94	-377.32	End Build @ 7387.71ft
12,563.89	6,944.00	-4,815.24	-377.31	TD Well @ 12563.89ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/_S (usft)	+E/-W (usft)	
User	No Target (Freehand)	180.00	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	7,387.71	Rev A0 Permit	MWD+IFR1
7,387.71	12,563.89	Rev A0 Permit	MWD+IFR1

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,116.00	1,116.00	9 5/8"	9-5/8	13-1/2
7,387.71	6,944.00	7"	7	8-3/4

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
603.00	603.00	Base Fox Hills		0.00	
1,116.00	1,116.00	Surface Csg Setting Depth		0.00	
3,915.32	3,850.00	Parkman		0.00	
4,306.96	4,230.00	Sussex		0.00	
7,010.09	6,824.00	SSPG		0.00	
7,123.15	6,884.00	NBRR		0.00	
7,235.87	6,924.00	N470_B_CK		0.00	
7,387.71	6,944.00	Landing Target (Heel)		0.00	
12,563.88	6,944.00	Total Depth (Toe)		0.00	

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
CREAM 15N-B28HZ_SHL	0.00	0.00	0.00	Point
Sec. 28 and 21-T3N-R65W	-20.00	1,064.93	-2,571.83	Polygon
CREAM 15N-B28HZ_BHL	6,944.00	-4,815.24	-377.31	Point

North Reference Sheet for Cream 27-28HZ Pad - CREAM 15N-B28HZ - 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' @ 4844.00usft (D Rig). Northing and Easting are relative to CREAM 15N-B28HZ

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: 0.99961004

Grid Coordinates of Well: 14,600,660.55 usft N, 1,734,124.16 usft E

Geographical Coordinates of Well: 40° 12' 09.10" N, 104° 39' 51.83" W

Grid Convergence at Surface is: 0.22°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,563.89usft the Bottom Hole Displacement is 4,830.00usft in the Direction of 184.48° (True).

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

