

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

Cream 27-28HZ Pad

Cream State 28C-21HZ

Plan A

Plan: Rev A0 Permit

Sperry Drilling Services Proposal Report

14 October, 2014

Well Coordinates: 14,600,661.05 N, 1,734,064.40 E (40° 12' 09.11" N, 104° 39' 52.60" W)

Ground Level: 4,828.00 usft

Local Coordinate Origin:

Centered on Well Cream State 28C-21HZ

Viewing Datum:

RKB = 17' @ 4845.00usft (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 State 28C-21HZ
Wellbore: Plan A
Design: Rev A0 Permit

US ROCKIES WATTENBERG PLANNING

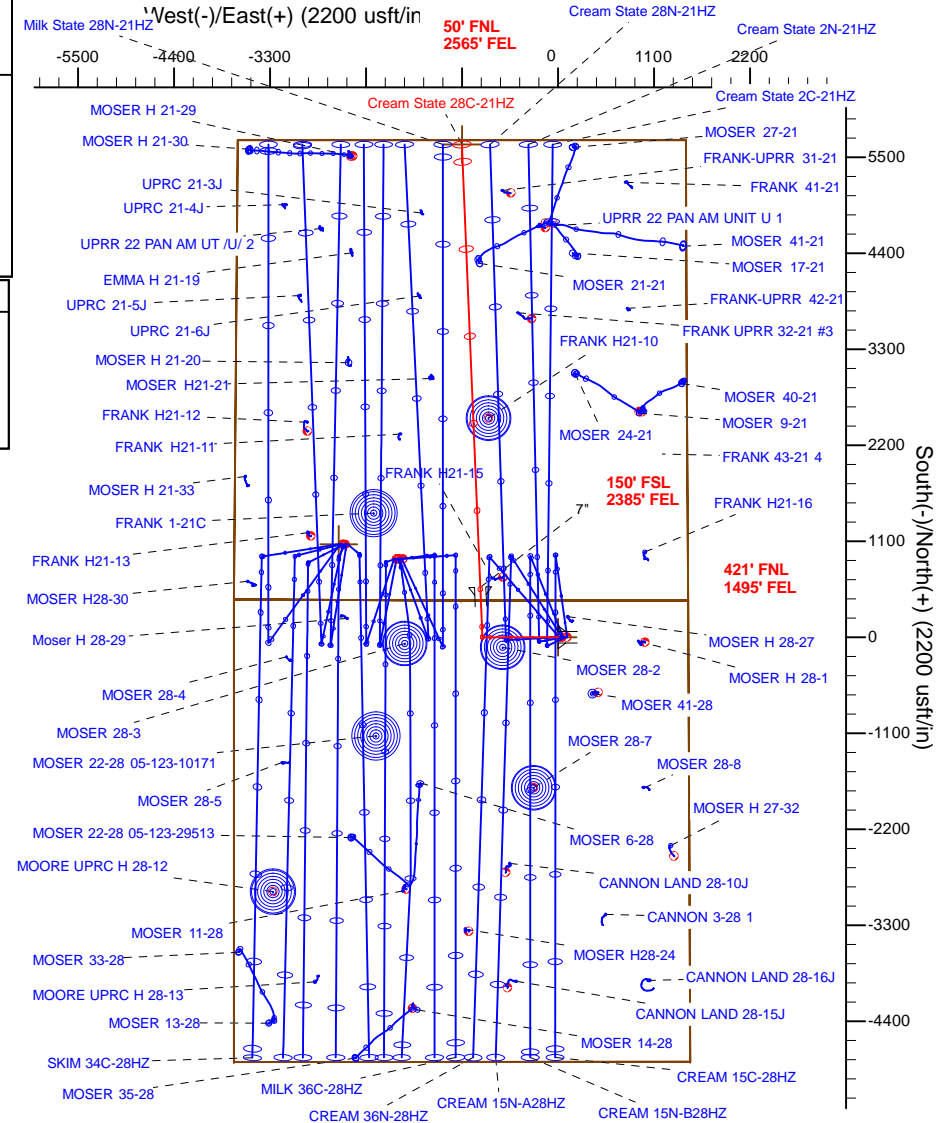
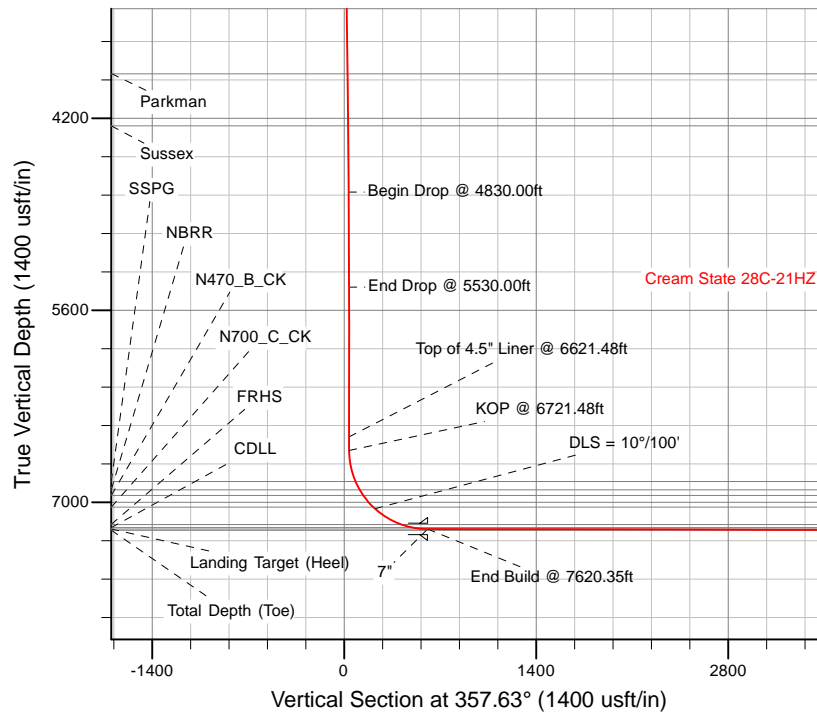
HALLIBURTON
Sperry Drilling

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	270.00	1943.06	0.00	-85.10	2.00	270.00	3.52	
4	4830.00	14.00	270.00	4737.51	0.00	-781.83	0.00	0.00	32.33	
5	5530.00	0.00	0.00	5430.56	0.00	-866.93	2.00	180.00	35.85	
6	6721.48	0.00	0.00	6622.04	0.00	-866.93	0.00	0.00	35.85	
7	7620.35	89.89	357.63	7195.00	571.34	-890.55	10.00	357.63	607.68	
8	12699.27	89.89	357.63	7205.00	5645.92	-1100.32	0.00	0.00	5686.59	Cream State 28C-21HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Polygon
Sec. 28 and 21-T3N-R65W	- - -19.00	1064.19	-2512.08	40.205452	-104.673609	
Cream State 28C-21HZ_SHL	0.00	0.00	0.00	40.202530	-104.664612	
Cream State 28C-21HZ_BHL	7205.00	5645.92	-1100.32	40.218034	-104.668554	



TVD	MD	Notes
6522.04	6621.48	Top of 4.5" Liner @ 6621.48ft
6622.04	6721.48	KOP @ 6721.48ft

WELL DETAILS: Cream State 28C-21HZ

Ground Level: 4828.00

RKB = 17' @ 4845.00usft (D Rig)

Plan: Rev A0 Permit (Cream State 28C-21HZ/Plan A)

Created By: Clint Eshelman Date: 10/14/2014
Reviewed: _____ Date: _____

Plan Report for Cream State 28C-21HZ - 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 State 28C-21HZ_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
604.00	0.00	0.00	604.00	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
1,117.00	0.00	0.00	1,117.00	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	270.00	1,300.00	0.00	-0.44	0.02	2.00	2.00	0.00	270.00
1,400.00	3.00	270.00	1,399.93	0.00	-3.93	0.16	2.00	2.00	0.00	0.00
1,500.00	5.00	270.00	1,499.68	0.00	-10.90	0.45	2.00	2.00	0.00	0.00
1,600.00	7.00	270.00	1,599.13	0.00	-21.35	0.88	2.00	2.00	0.00	0.00
1,700.00	9.00	270.00	1,698.15	0.00	-35.27	1.46	2.00	2.00	0.00	0.00
1,800.00	11.00	270.00	1,796.63	0.00	-52.63	2.18	2.00	2.00	0.00	0.00
1,900.00	13.00	270.00	1,894.44	0.00	-73.42	3.04	2.00	2.00	0.00	0.00
1,950.00	14.00	270.00	1,943.06	0.00	-85.10	3.52	2.00	2.00	0.00	0.00
End Nudge @ 1950.00ft										
2,000.00	14.00	270.00	1,991.57	0.00	-97.19	4.02	0.00	0.00	0.00	0.00
2,100.00	14.00	270.00	2,088.60	0.00	-121.38	5.02	0.00	0.00	0.00	0.00
2,200.00	14.00	270.00	2,185.63	0.00	-145.58	6.02	0.00	0.00	0.00	0.00
2,300.00	14.00	270.00	2,282.66	0.00	-169.77	7.02	0.00	0.00	0.00	0.00
2,400.00	14.00	270.00	2,379.69	0.00	-193.96	8.02	0.00	0.00	0.00	0.00
2,500.00	14.00	270.00	2,476.72	0.00	-218.15	9.02	0.00	0.00	0.00	0.00
2,600.00	14.00	270.00	2,573.75	0.00	-242.35	10.02	0.00	0.00	0.00	0.00
2,700.00	14.00	270.00	2,670.78	0.00	-266.54	11.02	0.00	0.00	0.00	0.00
2,800.00	14.00	270.00	2,767.81	0.00	-290.73	12.02	0.00	0.00	0.00	0.00
2,900.00	14.00	270.00	2,864.84	0.00	-314.92	13.02	0.00	0.00	0.00	0.00
3,000.00	14.00	270.00	2,961.87	0.00	-339.11	14.02	0.00	0.00	0.00	0.00
3,100.00	14.00	270.00	3,058.90	0.00	-363.31	15.02	0.00	0.00	0.00	0.00
3,200.00	14.00	270.00	3,155.92	0.00	-387.50	16.02	0.00	0.00	0.00	0.00
3,300.00	14.00	270.00	3,252.95	0.00	-411.69	17.02	0.00	0.00	0.00	0.00
3,400.00	14.00	270.00	3,349.98	0.00	-435.88	18.02	0.00	0.00	0.00	0.00
3,500.00	14.00	270.00	3,447.01	0.00	-460.08	19.03	0.00	0.00	0.00	0.00
3,600.00	14.00	270.00	3,544.04	0.00	-484.27	20.03	0.00	0.00	0.00	0.00
3,700.00	14.00	270.00	3,641.07	0.00	-508.46	21.03	0.00	0.00	0.00	0.00
3,800.00	14.00	270.00	3,738.10	0.00	-532.65	22.03	0.00	0.00	0.00	0.00
3,900.00	14.00	270.00	3,835.13	0.00	-556.84	23.03	0.00	0.00	0.00	0.00
3,941.09	14.00	270.00	3,875.00	0.00	-566.78	23.44	0.00	0.00	0.00	0.00
Parkman										
4,000.00	14.00	270.00	3,932.16	0.00	-581.04	24.03	0.00	0.00	0.00	0.00
4,100.00	14.00	270.00	4,029.19	0.00	-605.23	25.03	0.00	0.00	0.00	0.00
4,200.00	14.00	270.00	4,126.22	0.00	-629.42	26.03	0.00	0.00	0.00	0.00
4,300.00	14.00	270.00	4,223.25	0.00	-653.61	27.03	0.00	0.00	0.00	0.00
4,332.72	14.00	270.00	4,255.00	0.00	-661.53	27.36	0.00	0.00	0.00	0.00
Sussex										

Plan Report for Cream State 28C-21HZ - 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	270.00	4,320.28	0.00	-677.81	28.03	0.00	0.00	0.00	0.00
4,500.00	14.00	270.00	4,417.31	0.00	-702.00	29.03	0.00	0.00	0.00	0.00
4,600.00	14.00	270.00	4,514.34	0.00	-726.19	30.03	0.00	0.00	0.00	0.00
4,700.00	14.00	270.00	4,611.37	0.00	-750.38	31.03	0.00	0.00	0.00	0.00
4,800.00	14.00	270.00	4,708.40	0.00	-774.57	32.03	0.00	0.00	0.00	0.00
4,830.00	14.00	270.00	4,737.51	0.00	-781.83	32.33	0.00	0.00	0.00	0.00
Begin Drop @ 4830.00ft										
4,900.00	12.60	270.00	4,805.63	0.00	-797.93	33.00	2.00	-2.00	0.00	180.00
5,000.00	10.60	270.00	4,903.58	0.00	-818.04	33.83	2.00	-2.00	0.00	180.00
5,100.00	8.60	270.00	5,002.17	0.00	-834.72	34.52	2.00	-2.00	0.00	180.00
5,200.00	6.60	270.00	5,101.29	0.00	-847.94	35.06	2.00	-2.00	0.00	180.00
5,300.00	4.60	270.00	5,200.81	0.00	-857.70	35.47	2.00	-2.00	0.00	180.00
5,400.00	2.60	270.00	5,300.61	0.00	-863.98	35.73	2.00	-2.00	0.00	180.00
5,500.00	0.60	270.00	5,400.56	0.00	-866.77	35.84	2.00	-2.00	0.00	180.00
5,530.00	0.00	0.00	5,430.56	0.00	-866.93	35.85	2.00	-2.00	300.00	180.00
End Drop @ 5530.00ft										
5,600.00	0.00	0.00	5,500.56	0.00	-866.93	35.85	0.00	0.00	0.00	180.00
5,700.00	0.00	0.00	5,600.56	0.00	-866.93	35.85	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,700.56	0.00	-866.93	35.85	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,800.56	0.00	-866.93	35.85	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,900.56	0.00	-866.93	35.85	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,000.56	0.00	-866.93	35.85	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,100.56	0.00	-866.93	35.85	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,200.56	0.00	-866.93	35.85	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,300.56	0.00	-866.93	35.85	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,400.56	0.00	-866.93	35.85	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,500.56	0.00	-866.93	35.85	0.00	0.00	0.00	0.00
6,621.48	0.00	0.00	6,522.04	0.00	-866.93	35.85	0.00	0.00	0.00	0.00
Top of 4.5" Liner @ 6621.48ft										
6,700.00	0.00	0.00	6,600.56	0.00	-866.93	35.85	0.00	0.00	0.00	0.00
6,721.48	0.00	0.00	6,622.04	0.00	-866.93	35.85	0.00	0.00	0.00	0.00
KOP @ 6721.48ft										
6,800.00	7.85	357.63	6,700.32	5.37	-867.15	41.22	10.00	10.00	0.00	357.63
6,900.00	17.85	357.63	6,797.69	27.56	-868.07	63.44	10.00	10.00	0.00	0.00
6,954.84	23.34	357.63	6,849.00	46.83	-868.86	82.72	10.00	10.00	0.00	0.00
SSPG										
7,000.00	27.85	357.63	6,889.72	66.32	-869.67	102.22	10.00	10.00	0.00	0.00
7,022.03	30.06	357.63	6,909.00	76.97	-870.11	112.89	10.00	10.00	0.00	0.00
NBRR										
7,069.44	34.80	357.63	6,949.00	102.36	-871.16	138.30	10.00	10.00	0.00	0.00
N470_B_CK										
7,100.00	37.85	357.63	6,973.62	120.45	-871.91	156.40	10.00	10.00	0.00	0.00
7,182.64	46.12	357.63	7,035.00	175.63	-874.19	211.63	10.00	10.00	0.00	0.00
N700_C_CK										
7,200.00	47.85	357.63	7,046.84	188.31	-874.71	224.33	10.00	10.00	0.00	0.00
DLS = 10°/100'										
7,300.00	57.85	357.63	7,107.15	267.85	-878.00	303.93	10.00	10.00	0.00	0.00
7,400.00	67.85	357.63	7,152.72	356.65	-881.67	392.80	10.00	10.00	0.00	0.00
7,426.07	70.46	357.63	7,162.00	380.99	-882.68	417.17	10.00	10.00	0.00	0.00
FRHS										
7,500.00	77.85	357.63	7,182.17	452.00	-885.61	488.24	10.00	10.00	0.00	0.00
7,514.28	79.28	357.63	7,185.00	465.98	-886.19	502.23	10.00	10.00	0.00	0.00
CDLL										
7,600.00	87.85	357.63	7,194.60	551.01	-889.71	587.33	10.00	10.00	0.00	0.00
7,620.35	89.89	357.63	7,195.00	571.34	-890.55	607.68	10.00	10.00	0.00	0.00
End Build @ 7620.35ft - Landing Target (Heel) - 7"										
7,700.00	89.89	357.63	7,195.16	650.92	-893.84	687.33	0.00	0.00	0.00	0.00
7,800.00	89.89	357.63	7,195.35	750.84	-897.97	787.33	0.00	0.00	0.00	0.00

Plan Report for Cream State 28C-21HZ - 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 (°)
7,900.00	89.89	357.63	7,195.55	850.75	-902.10	887.33	0.00	0.00	0.00	0.00
8,000.00	89.89	357.63	7,195.75	950.67	-906.23	987.33	0.00	0.00	0.00	0.00
8,100.00	89.89	357.63	7,195.94	1,050.58	-910.36	1,087.33	0.00	0.00	0.00	0.00
8,200.00	89.89	357.63	7,196.14	1,150.49	-914.49	1,187.33	0.00	0.00	0.00	0.00
8,300.00	89.89	357.63	7,196.34	1,250.41	-918.62	1,287.33	0.00	0.00	0.00	0.00
8,400.00	89.89	357.63	7,196.53	1,350.32	-922.75	1,387.33	0.00	0.00	0.00	0.00
8,500.00	89.89	357.63	7,196.73	1,450.24	-926.88	1,487.33	0.00	0.00	0.00	0.00
8,600.00	89.89	357.63	7,196.93	1,550.15	-931.01	1,587.33	0.00	0.00	0.00	0.00
8,700.00	89.89	357.63	7,197.12	1,650.07	-935.14	1,687.33	0.00	0.00	0.00	0.00
8,800.00	89.89	357.63	7,197.32	1,749.98	-939.27	1,787.33	0.00	0.00	0.00	0.00
8,900.00	89.89	357.63	7,197.52	1,849.90	-943.40	1,887.32	0.00	0.00	0.00	0.00
9,000.00	89.89	357.63	7,197.72	1,949.81	-947.53	1,987.32	0.00	0.00	0.00	0.00
9,100.00	89.89	357.63	7,197.91	2,049.72	-951.66	2,087.32	0.00	0.00	0.00	0.00
9,200.00	89.89	357.63	7,198.11	2,149.64	-955.79	2,187.32	0.00	0.00	0.00	0.00
9,300.00	89.89	357.63	7,198.31	2,249.55	-959.92	2,287.32	0.00	0.00	0.00	0.00
9,400.00	89.89	357.63	7,198.50	2,349.47	-964.05	2,387.32	0.00	0.00	0.00	0.00
9,500.00	89.89	357.63	7,198.70	2,449.38	-968.18	2,487.32	0.00	0.00	0.00	0.00
9,600.00	89.89	357.63	7,198.90	2,549.30	-972.31	2,587.32	0.00	0.00	0.00	0.00
9,700.00	89.89	357.63	7,199.09	2,649.21	-976.44	2,687.32	0.00	0.00	0.00	0.00
9,800.00	89.89	357.63	7,199.29	2,749.13	-980.57	2,787.32	0.00	0.00	0.00	0.00
9,900.00	89.89	357.63	7,199.49	2,849.04	-984.70	2,887.32	0.00	0.00	0.00	0.00
10,000.00	89.89	357.63	7,199.68	2,948.95	-988.83	2,987.32	0.00	0.00	0.00	0.00
10,100.00	89.89	357.63	7,199.88	3,048.87	-992.96	3,087.32	0.00	0.00	0.00	0.00
10,200.00	89.89	357.63	7,200.08	3,148.78	-997.09	3,187.32	0.00	0.00	0.00	0.00
10,300.00	89.89	357.63	7,200.28	3,248.70	-1,001.22	3,287.32	0.00	0.00	0.00	0.00
10,400.00	89.89	357.63	7,200.47	3,348.61	-1,005.35	3,387.32	0.00	0.00	0.00	0.00
10,500.00	89.89	357.63	7,200.67	3,448.53	-1,009.48	3,487.32	0.00	0.00	0.00	0.00
10,600.00	89.89	357.63	7,200.87	3,548.44	-1,013.61	3,587.32	0.00	0.00	0.00	0.00
10,700.00	89.89	357.63	7,201.06	3,648.36	-1,017.74	3,687.32	0.00	0.00	0.00	0.00
10,800.00	89.89	357.63	7,201.26	3,748.27	-1,021.87	3,787.32	0.00	0.00	0.00	0.00
10,900.00	89.89	357.63	7,201.46	3,848.18	-1,026.00	3,887.32	0.00	0.00	0.00	0.00
11,000.00	89.89	357.63	7,201.65	3,948.10	-1,030.14	3,987.32	0.00	0.00	0.00	0.00
11,100.00	89.89	357.63	7,201.85	4,048.01	-1,034.27	4,087.32	0.00	0.00	0.00	0.00
11,200.00	89.89	357.63	7,202.05	4,147.93	-1,038.40	4,187.32	0.00	0.00	0.00	0.00
11,300.00	89.89	357.63	7,202.24	4,247.84	-1,042.53	4,287.32	0.00	0.00	0.00	0.00
11,400.00	89.89	357.63	7,202.44	4,347.76	-1,046.66	4,387.32	0.00	0.00	0.00	0.00
11,500.00	89.89	357.63	7,202.64	4,447.67	-1,050.79	4,487.32	0.00	0.00	0.00	0.00
11,600.00	89.89	357.63	7,202.84	4,547.59	-1,054.92	4,587.32	0.00	0.00	0.00	0.00
11,700.00	89.89	357.63	7,203.03	4,647.50	-1,059.05	4,687.32	0.00	0.00	0.00	0.00
11,800.00	89.89	357.63	7,203.23	4,747.42	-1,063.18	4,787.32	0.00	0.00	0.00	0.00
11,900.00	89.89	357.63	7,203.43	4,847.33	-1,067.31	4,887.32	0.00	0.00	0.00	0.00
12,000.00	89.89	357.63	7,203.62	4,947.24	-1,071.44	4,987.32	0.00	0.00	0.00	0.00
12,100.00	89.89	357.63	7,203.82	5,047.16	-1,075.57	5,087.32	0.00	0.00	0.00	0.00
12,200.00	89.89	357.63	7,204.02	5,147.07	-1,079.70	5,187.32	0.00	0.00	0.00	0.00
12,300.00	89.89	357.63	7,204.21	5,246.99	-1,083.83	5,287.32	0.00	0.00	0.00	0.00
12,400.00	89.89	357.63	7,204.41	5,346.90	-1,087.96	5,387.32	0.00	0.00	0.00	0.00
12,500.00	89.89	357.63	7,204.61	5,446.82	-1,092.09	5,487.32	0.00	0.00	0.00	0.00
12,600.00	89.89	357.63	7,204.80	5,546.73	-1,096.22	5,587.32	0.00	0.00	0.00	0.00
12,699.27	89.89	357.63	7,205.00	5,645.92	-1,100.32	5,686.59	0.00	0.00	0.00	0.00

TD Well @ 12699.27ft - Cream State 28C-21HZ_BHL

Plan Report for Cream State 28C-21HZ - 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	0.00	-85.10	End Nudge @ 1950.00ft
4,830.00	4,737.51	0.00	-781.83	Begin Drop @ 4830.00ft
5,530.00	5,430.56	0.00	-866.93	End Drop @ 5530.00ft
6,621.48	6,522.04	0.00	-866.93	Top of 4.5" Liner @ 6621.48ft
6,721.48	6,622.04	0.00	-866.93	KOP @ 6721.48ft
7,200.00	7,046.84	188.31	-874.71	DLS = 10°/100'
7,620.35	7,195.00	571.34	-890.55	End Build @ 7620.35ft
12,699.27	7,205.00	5,645.92	-1,100.32	TD Well @ 12699.27ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/_S (usft)	+E/-W (usft)	
User	No Target (Freehand)	357.63	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	7,620.35	Rev A0 Permit	MWD+IFR1
7,620.35	12,699.27	Rev A0 Permit	MWD+IFR1

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,117.00	1,117.00	9 5/8"	9-5/8	13-1/2
7,620.35	7,195.00	7"	7	8-3/4

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
604.00	604.00	Base Fox Hills		0.00	
1,117.00	1,117.00	Surface Csg Setting Depth		0.00	
3,941.09	3,875.00	Parkman		0.00	
4,332.72	4,255.00	Sussex		0.00	
6,954.84	6,849.00	SSPG		0.00	
7,022.03	6,909.00	NBRR		0.00	
7,069.44	6,949.00	N470_B_CK		0.00	
7,182.64	7,035.00	N700_C_CK		0.00	
7,426.07	7,162.00	FRHS		0.00	
7,514.28	7,185.00	CDLL		0.00	
7,620.35	7,195.00	Landing Target (Heel)		0.00	
12,699.27	7,205.00	Total Depth (Toe)		0.00	

Plan Report for Cream State 28C-21HZ - Rev A0 Permit

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
Cream State 28C-21HZ_SHL	0.00	0.00	0.00	Point
Sec. 28 and 21-T3N-R65W	-19.00	1,064.19	-2,512.08	Polygon
Cream State 28C-21HZ_BHL	7,205.00	5,645.92	-1,100.32	Point

North Reference Sheet for Cream 27-28HZ Pad - Cream State 28C-21HZ - 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' @ 4845.00usft (D Rig). Northing and Easting are relative to Cream State 28C-21HZ

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: 0.99961003

Grid Coordinates of Well: 14,600,661.05 usft N, 1,734,064.40 usft E

Geographical Coordinates of Well: 40° 12' 09.11" N, 104° 39' 52.60" W

Grid Convergence at Surface is: 0.22°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,699.27usft
the Bottom Hole Displacement is 5,752.14usft in the Direction of 348.97° (True).

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

