

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

Cream 27-28HZ Pad

CREAM 36N-28HZ

Plan A

Plan: Rev A0 Permit

Sperry Drilling Services Proposal Report

14 October, 2014

Well Coordinates: 14,600,660.74 N, 1,734,079.20 E (40° 12' 09.10" N, 104° 39' 52.41" W)

Ground Level: 4,828.00 usft

Local Coordinate Origin:

Centered on Well CREAM 36N-28HZ

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 36N-28HZ

Wellbore: Plan A

Design: Rev A0 Permit

US ROCKIES WATTENBERG PLANNING

HALLIBURTON

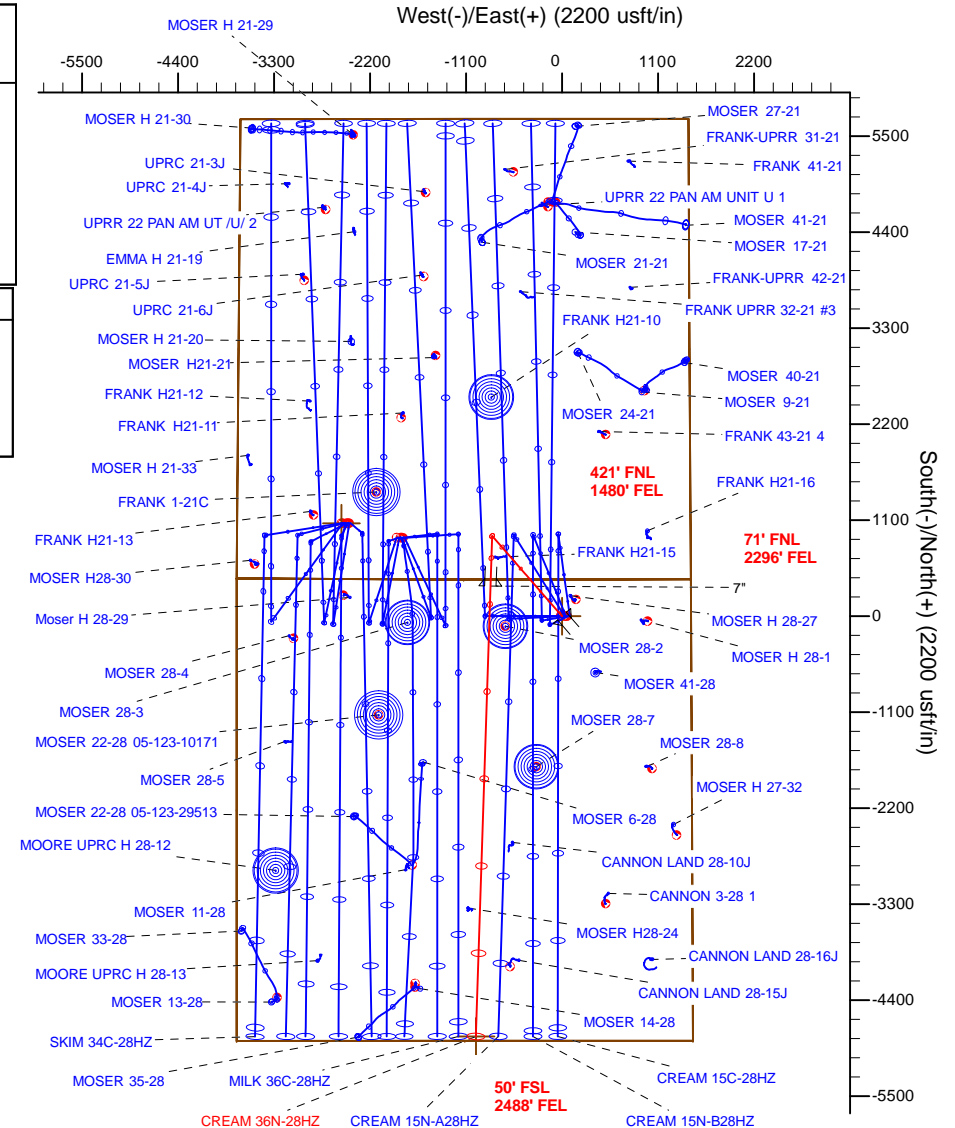
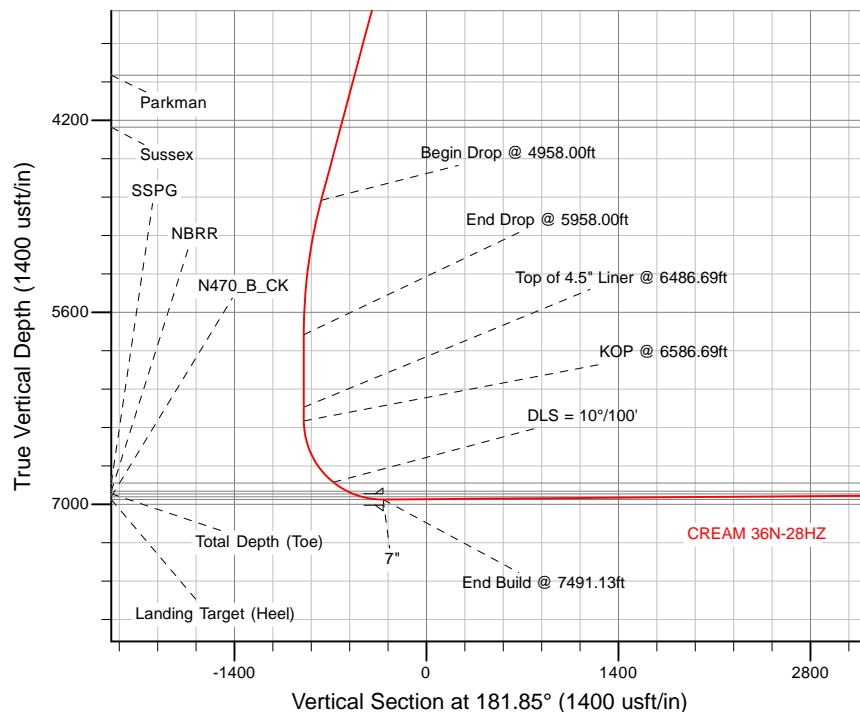
Sperry Drilling

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	1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	0.00	0.00	
3	2400.00	20.00	319.00	2379.82	130.39	-113.35	2.00	319.00	-126.66	
4	4958.00	20.00	319.00	4783.55	790.68	-687.32	0.00	0.00	-768.07	
5	5958.00	0.00	0.00	5763.36	921.07	-800.67	2.00	180.00	-894.74	
6	6586.69	0.00	0.00	6392.05	921.07	-800.67	0.00	0.00	-894.74	
7	7491.13	90.44	181.85	6965.00	343.97	-819.33	10.00	181.85	-317.34	
8	12653.90	90.44	181.85	6925.00	-4815.95	-986.14	0.00	0.00	4845.27	CREAM 36N-28HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Polygon
Sec. 28 and 21-T3N-R65W	-19.00	1064.56	-2526.87	40.205452	-104.673609	
CREAM 36N-28HZ_SHL	0.00	0.00	0.00	40.202529	-104.664559	
CREAM 36N-28HZ_BHL	6925.00	-4815.95	-986.14	40.189304	-104.668090	



TVD MD

6292.05 6486.69 Top of 4.5" Liner @ 6486.69ft

6392.05 6586.69 KOP @ 6586.69ft

WELL DETAILS: CREAM 36N-28HZ

Ground Level: 4828.00

RKB = 17' @ 4845.00usft (D Rig)

Plan: Rev A0 Permit (CREAM 36N-28HZ/Plan A)

Created By: Clint Eshelman

Reviewed:

Date: 10/14/2014

Date:

Plan Report for CREAM 36N-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
Sec. 28 and 21-T3N-R65W - CREAM 36N-28HZ_SHL										
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
1,300.00	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
Begin Nudge @ 1400.00ft										
1,500.00	2.00	319.00	1,499.98	1.32	-1.14	-1.28	2.00	2.00	0.00	319.00
1,600.00	4.00	319.00	1,599.84	5.27	-4.58	-5.12	2.00	2.00	0.00	0.00
1,700.00	6.00	319.00	1,699.45	11.84	-10.30	-11.51	2.00	2.00	0.00	0.00
1,800.00	8.00	319.00	1,798.70	21.04	-18.29	-20.44	2.00	2.00	0.00	0.00
1,900.00	10.00	319.00	1,897.47	32.85	-28.55	-31.91	2.00	2.00	0.00	0.00
2,000.00	12.00	319.00	1,995.62	47.25	-41.07	-45.90	2.00	2.00	0.00	0.00
2,100.00	14.00	319.00	2,093.06	64.22	-55.83	-62.39	2.00	2.00	0.00	0.00
2,200.00	16.00	319.00	2,189.64	83.76	-72.81	-81.36	2.00	2.00	0.00	0.00
2,300.00	18.00	319.00	2,285.27	105.82	-91.99	-102.80	2.00	2.00	0.00	0.00
2,400.00	20.00	319.00	2,379.82	130.39	-113.35	-126.66	2.00	2.00	0.00	0.00
End Nudge @ 2400.00ft										
2,500.00	20.00	319.00	2,473.78	156.20	-135.78	-151.74	0.00	0.00	0.00	0.00
2,600.00	20.00	319.00	2,567.75	182.01	-158.22	-176.81	0.00	0.00	0.00	0.00
2,700.00	20.00	319.00	2,661.72	207.83	-180.66	-201.89	0.00	0.00	0.00	0.00
2,800.00	20.00	319.00	2,755.69	233.64	-203.10	-226.96	0.00	0.00	0.00	0.00
2,900.00	20.00	319.00	2,849.66	259.45	-225.54	-252.04	0.00	0.00	0.00	0.00
3,000.00	20.00	319.00	2,943.63	285.27	-247.98	-277.11	0.00	0.00	0.00	0.00
3,100.00	20.00	319.00	3,037.60	311.08	-270.42	-302.19	0.00	0.00	0.00	0.00
3,200.00	20.00	319.00	3,131.57	336.89	-292.85	-327.26	0.00	0.00	0.00	0.00
3,300.00	20.00	319.00	3,225.54	362.70	-315.29	-352.34	0.00	0.00	0.00	0.00
3,400.00	20.00	319.00	3,319.51	388.52	-337.73	-377.41	0.00	0.00	0.00	0.00
3,500.00	20.00	319.00	3,413.48	414.33	-360.17	-402.48	0.00	0.00	0.00	0.00
3,600.00	20.00	319.00	3,507.45	440.14	-382.61	-427.56	0.00	0.00	0.00	0.00
3,700.00	20.00	319.00	3,601.42	465.95	-405.05	-452.63	0.00	0.00	0.00	0.00
3,800.00	20.00	319.00	3,695.39	491.77	-427.49	-477.71	0.00	0.00	0.00	0.00
3,900.00	20.00	319.00	3,789.35	517.58	-449.92	-502.78	0.00	0.00	0.00	0.00
3,986.89	20.00	319.00	3,871.00	540.01	-469.42	-524.57	0.00	0.00	0.00	0.00
Parkman										
4,000.00	20.00	319.00	3,883.32	543.39	-472.36	-527.86	0.00	0.00	0.00	0.00
4,100.00	20.00	319.00	3,977.29	569.20	-494.80	-552.93	0.00	0.00	0.00	0.00
4,200.00	20.00	319.00	4,071.26	595.02	-517.24	-578.01	0.00	0.00	0.00	0.00
4,300.00	20.00	319.00	4,165.23	620.83	-539.68	-603.08	0.00	0.00	0.00	0.00
4,391.27	20.00	319.00	4,251.00	644.39	-560.16	-625.97	0.00	0.00	0.00	0.00
Sussex										
4,400.00	20.00	319.00	4,259.20	646.64	-562.12	-628.16	0.00	0.00	0.00	0.00
4,500.00	20.00	319.00	4,353.17	672.45	-584.56	-653.23	0.00	0.00	0.00	0.00

Plan Report for CREAM 36N-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	20.00	319.00	4,447.14	698.27	-606.99	-678.31	0.00	0.00	0.00	0.00
4,700.00	20.00	319.00	4,541.11	724.08	-629.43	-703.38	0.00	0.00	0.00	0.00
4,800.00	20.00	319.00	4,635.08	749.89	-651.87	-728.46	0.00	0.00	0.00	0.00
4,900.00	20.00	319.00	4,729.05	775.70	-674.31	-753.53	0.00	0.00	0.00	0.00
4,958.00	20.00	319.00	4,783.55	790.68	-687.32	-768.07	0.00	0.00	0.00	0.00
Begin Drop @ 4958.00ft										
5,000.00	19.16	319.00	4,823.12	801.30	-696.56	-778.39	2.00	-2.00	0.00	180.00
5,100.00	17.16	319.00	4,918.13	824.82	-717.00	-801.24	2.00	-2.00	0.00	180.00
5,200.00	15.16	319.00	5,014.18	845.82	-735.26	-821.65	2.00	-2.00	0.00	180.00
5,300.00	13.16	319.00	5,111.14	864.28	-751.31	-839.58	2.00	-2.00	0.00	180.00
5,400.00	11.16	319.00	5,208.89	880.18	-765.13	-855.02	2.00	-2.00	0.00	180.00
5,500.00	9.16	319.00	5,307.31	893.49	-776.70	-867.95	2.00	-2.00	0.00	180.00
5,600.00	7.16	319.00	5,406.30	904.21	-786.01	-878.36	2.00	-2.00	0.00	180.00
5,700.00	5.16	319.00	5,505.71	912.30	-793.05	-886.23	2.00	-2.00	0.00	180.00
5,800.00	3.16	319.00	5,605.44	917.78	-797.81	-891.54	2.00	-2.00	0.00	180.00
5,900.00	1.16	319.00	5,705.37	920.62	-800.28	-894.31	2.00	-2.00	0.00	180.00
5,958.00	0.00	0.00	5,763.36	921.07	-800.67	-894.74	2.00	-2.00	70.69	180.00
End Drop @ 5958.00ft										
6,000.00	0.00	0.00	5,805.36	921.07	-800.67	-894.74	0.00	0.00	0.00	180.00
6,100.00	0.00	0.00	5,905.36	921.07	-800.67	-894.74	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,005.36	921.07	-800.67	-894.74	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,105.36	921.07	-800.67	-894.74	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,205.36	921.07	-800.67	-894.74	0.00	0.00	0.00	0.00
6,486.69	0.00	0.00	6,292.05	921.07	-800.67	-894.74	0.00	0.00	0.00	0.00
Top of 4.5" Liner @ 6486.69ft										
6,500.00	0.00	0.00	6,305.36	921.07	-800.67	-894.74	0.00	0.00	0.00	0.00
6,586.69	0.00	0.00	6,392.05	921.07	-800.67	-894.74	0.00	0.00	0.00	0.00
KOP @ 6586.69ft										
6,600.00	1.33	181.85	6,405.36	920.91	-800.67	-894.58	10.00	10.00	0.00	181.85
6,700.00	11.33	181.85	6,504.63	909.90	-801.03	-883.57	10.00	10.00	0.00	0.00
6,800.00	21.33	181.85	6,600.47	881.83	-801.94	-855.49	10.00	10.00	0.00	0.00
6,900.00	31.33	181.85	6,689.98	837.56	-803.37	-811.19	10.00	10.00	0.00	0.00
7,000.00	41.33	181.85	6,770.44	778.42	-805.28	-752.02	10.00	10.00	0.00	0.00
7,100.00	51.33	181.85	6,839.40	706.22	-807.62	-679.78	10.00	10.00	0.00	0.00
DLS = 10°/100'										
7,109.05	52.24	181.85	6,845.00	699.11	-807.85	-672.67	10.00	10.00	0.00	0.00
SSPG										
7,200.00	61.33	181.85	6,894.77	623.14	-810.30	-596.66	10.00	10.00	0.00	0.00
7,222.11	63.54	181.85	6,905.00	603.55	-810.93	-577.06	10.00	10.00	0.00	0.00
NBRR										
7,300.00	71.33	181.85	6,934.87	531.71	-813.26	-505.18	10.00	10.00	0.00	0.00
7,334.81	74.81	181.85	6,945.00	498.44	-814.33	-471.89	10.00	10.00	0.00	0.00
N470_B_CK										
7,400.00	81.33	181.85	6,958.47	434.72	-816.39	-408.14	10.00	10.00	0.00	0.00
7,491.13	90.44	181.85	6,965.00	343.97	-819.33	-317.34	10.00	10.00	0.00	0.00
End Build @ 7491.13ft - Landing Target (Heel) - 7"										
7,500.00	90.44	181.85	6,964.93	335.10	-819.61	-308.47	0.00	0.00	0.00	0.00
7,600.00	90.44	181.85	6,964.15	235.16	-822.84	-208.47	0.00	0.00	0.00	0.00
7,700.00	90.44	181.85	6,963.38	135.21	-826.07	-108.48	0.00	0.00	0.00	0.00
7,800.00	90.44	181.85	6,962.60	35.27	-829.31	-8.48	0.00	0.00	0.00	0.00
7,900.00	90.44	181.85	6,961.83	-64.68	-832.54	91.52	0.00	0.00	0.00	0.00
8,000.00	90.44	181.85	6,961.05	-164.62	-835.77	191.52	0.00	0.00	0.00	0.00
8,100.00	90.44	181.85	6,960.28	-264.56	-839.00	291.51	0.00	0.00	0.00	0.00
8,200.00	90.44	181.85	6,959.50	-364.51	-842.23	391.51	0.00	0.00	0.00	0.00
8,300.00	90.44	181.85	6,958.73	-464.45	-845.46	491.51	0.00	0.00	0.00	0.00
8,400.00	90.44	181.85	6,957.95	-564.40	-848.69	591.50	0.00	0.00	0.00	0.00
8,500.00	90.44	181.85	6,957.18	-664.34	-851.92	691.50	0.00	0.00	0.00	0.00
8,600.00	90.44	181.85	6,956.41	-764.29	-855.15	791.50	0.00	0.00	0.00	0.00
8,700.00	90.44	181.85	6,955.63	-864.23	-858.39	891.49	0.00	0.00	0.00	0.00

Plan Report for CREAM 36N-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 (°)
8,800.00	90.44	181.85	6,954.86	-964.18	-861.62	991.49	0.00	0.00	0.00	0.00
8,900.00	90.44	181.85	6,954.08	-1,064.12	-864.85	1,091.49	0.00	0.00	0.00	0.00
9,000.00	90.44	181.85	6,953.31	-1,164.07	-868.08	1,191.49	0.00	0.00	0.00	0.00
9,100.00	90.44	181.85	6,952.53	-1,264.01	-871.31	1,291.48	0.00	0.00	0.00	0.00
9,200.00	90.44	181.85	6,951.76	-1,363.96	-874.54	1,391.48	0.00	0.00	0.00	0.00
9,300.00	90.44	181.85	6,950.98	-1,463.90	-877.77	1,491.48	0.00	0.00	0.00	0.00
9,400.00	90.44	181.85	6,950.21	-1,563.85	-881.00	1,591.47	0.00	0.00	0.00	0.00
9,500.00	90.44	181.85	6,949.43	-1,663.79	-884.23	1,691.47	0.00	0.00	0.00	0.00
9,600.00	90.44	181.85	6,948.66	-1,763.74	-887.46	1,791.47	0.00	0.00	0.00	0.00
9,700.00	90.44	181.85	6,947.88	-1,863.68	-890.70	1,891.46	0.00	0.00	0.00	0.00
9,800.00	90.44	181.85	6,947.11	-1,963.63	-893.93	1,991.46	0.00	0.00	0.00	0.00
9,900.00	90.44	181.85	6,946.33	-2,063.57	-897.16	2,091.46	0.00	0.00	0.00	0.00
10,000.00	90.44	181.85	6,945.56	-2,163.52	-900.39	2,191.46	0.00	0.00	0.00	0.00
10,100.00	90.44	181.85	6,944.78	-2,263.46	-903.62	2,291.45	0.00	0.00	0.00	0.00
10,200.00	90.44	181.85	6,944.01	-2,363.41	-906.85	2,391.45	0.00	0.00	0.00	0.00
10,300.00	90.44	181.85	6,943.24	-2,463.35	-910.08	2,491.45	0.00	0.00	0.00	0.00
10,400.00	90.44	181.85	6,942.46	-2,563.29	-913.31	2,591.44	0.00	0.00	0.00	0.00
10,500.00	90.44	181.85	6,941.69	-2,663.24	-916.54	2,691.44	0.00	0.00	0.00	0.00
10,600.00	90.44	181.85	6,940.91	-2,763.18	-919.77	2,791.44	0.00	0.00	0.00	0.00
10,700.00	90.44	181.85	6,940.14	-2,863.13	-923.01	2,891.43	0.00	0.00	0.00	0.00
10,800.00	90.44	181.85	6,939.36	-2,963.07	-926.24	2,991.43	0.00	0.00	0.00	0.00
10,900.00	90.44	181.85	6,938.59	-3,063.02	-929.47	3,091.43	0.00	0.00	0.00	0.00
11,000.00	90.44	181.85	6,937.81	-3,162.96	-932.70	3,191.43	0.00	0.00	0.00	0.00
11,100.00	90.44	181.85	6,937.04	-3,262.91	-935.93	3,291.42	0.00	0.00	0.00	0.00
11,200.00	90.44	181.85	6,936.26	-3,362.85	-939.16	3,391.42	0.00	0.00	0.00	0.00
11,300.00	90.44	181.85	6,935.49	-3,462.80	-942.39	3,491.42	0.00	0.00	0.00	0.00
11,400.00	90.44	181.85	6,934.71	-3,562.74	-945.62	3,591.41	0.00	0.00	0.00	0.00
11,500.00	90.44	181.85	6,933.94	-3,662.69	-948.85	3,691.41	0.00	0.00	0.00	0.00
11,600.00	90.44	181.85	6,933.16	-3,762.63	-952.09	3,791.41	0.00	0.00	0.00	0.00
11,700.00	90.44	181.85	6,932.39	-3,862.58	-955.32	3,891.40	0.00	0.00	0.00	0.00
11,800.00	90.44	181.85	6,931.62	-3,962.52	-958.55	3,991.40	0.00	0.00	0.00	0.00
11,900.00	90.44	181.85	6,930.84	-4,062.47	-961.78	4,091.40	0.00	0.00	0.00	0.00
12,000.00	90.44	181.85	6,930.07	-4,162.41	-965.01	4,191.40	0.00	0.00	0.00	0.00
12,100.00	90.44	181.85	6,929.29	-4,262.36	-968.24	4,291.39	0.00	0.00	0.00	0.00
12,200.00	90.44	181.85	6,928.52	-4,362.30	-971.47	4,391.39	0.00	0.00	0.00	0.00
12,300.00	90.44	181.85	6,927.74	-4,462.25	-974.70	4,491.39	0.00	0.00	0.00	0.00
12,400.00	90.44	181.85	6,926.97	-4,562.19	-977.93	4,591.38	0.00	0.00	0.00	0.00
12,500.00	90.44	181.85	6,926.19	-4,662.14	-981.16	4,691.38	0.00	0.00	0.00	0.00
12,600.00	90.44	181.85	6,925.42	-4,762.08	-984.40	4,791.38	0.00	0.00	0.00	0.00
12,653.89	90.44	181.85	6,925.00	-4,815.94	-986.14	4,845.27	0.00	0.00	0.00	0.00
Total Depth (Toe)										
12,653.90	90.44	181.85	6,925.00	-4,815.95	-986.14	4,845.27	0.00	0.00	0.00	0.00
TD Well @ 12653.90ft - CREAM 36N-28HZ_BHL										

Plan Report for CREAM 36N-28HZ - Rev A0 Permit

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,400.00	1,400.00	0.00	0.00	Begin Nudge @ 1400.00ft
2,400.00	2,379.82	130.39	-113.35	End Nudge @ 2400.00ft
4,958.00	4,783.55	790.68	-687.32	Begin Drop @ 4958.00ft
5,958.00	5,763.36	921.07	-800.67	End Drop @ 5958.00ft
6,486.69	6,292.05	921.07	-800.67	Top of 4.5" Liner @ 6486.69ft
6,586.69	6,392.05	921.07	-800.67	KOP @ 6586.69ft
7,100.00	6,839.40	706.22	-807.62	DLS = 10°/100'
7,491.13	6,965.00	343.97	-819.33	End Build @ 7491.13ft
12,653.90	6,925.00	-4,815.95	-986.14	TD Well @ 12653.90ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/-S (usft)	+E/-W (usft)	
User	No Target (Freehand)	181.85	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	7,491.13	Rev A0 Permit	MWD+IFR1
7,491.13	12,653.90	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
7,491.13	6,965.00	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	
3,986.89	3,871.00	Parkman		0.00	
4,391.27	4,251.00	Sussex		0.00	
7,109.05	6,845.00	SSPG		0.00	
7,222.11	6,905.00	NBRR		0.00	
7,334.81	6,945.00	N470_B_CK		0.00	
7,491.13	6,965.00	Landing Target (Heel)		0.00	
12,653.89	6,925.00	Total Depth (Toe)		0.00	

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
Sec. 28 and 21-T3N-R65W	-19.00	1,064.56	-2,526.87	Polygon
CREAM 36N-28HZ_SHL	0.00	0.00	0.00	Point
CREAM 36N-28HZ_BHL	6,925.00	-4,815.95	-986.14	Point

North Reference Sheet for Cream 27-28HZ Pad - CREAM 36N-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' @ 4845.00usft (D Rig). Northing and Easting are relative to CREAM 36N-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: 0.99961003

Grid Coordinates of Well: 14,600,660.74 usft N, 1,734,079.20 usft E

Geographical Coordinates of Well: 40° 12' 09.10" N, 104° 39' 52.41" W

Grid Convergence at Surface is: 0.22°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,653.90usft
the Bottom Hole Displacement is 4,915.87usft in the Direction of 191.57° (True).

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

