

# US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

Milk 4-21HZ Pad

MILK 36C-28HZ

Plan A

Plan: Rev A0 Permit

## Sperry Drilling Services Proposal Report

13 October, 2014

Well Coordinates: 14,601,551.69 N, 1,732,287.18 E (40° 12' 17.98" N, 104° 40' 15.47" W)

Ground Level: 4,837.00 usft

Local Coordinate Origin:

Centered on Well MILK 36C-28HZ

Viewing Datum:

RKB = 17 @ 4854.00usft (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: Milk 4-21HZ Pad

Well: MILK 36C-28HZ

Wellbore: Plan A

Design: Rev A0 Permit

# US ROCKIES WATTENBERG PLANNING

HALLIBURTON

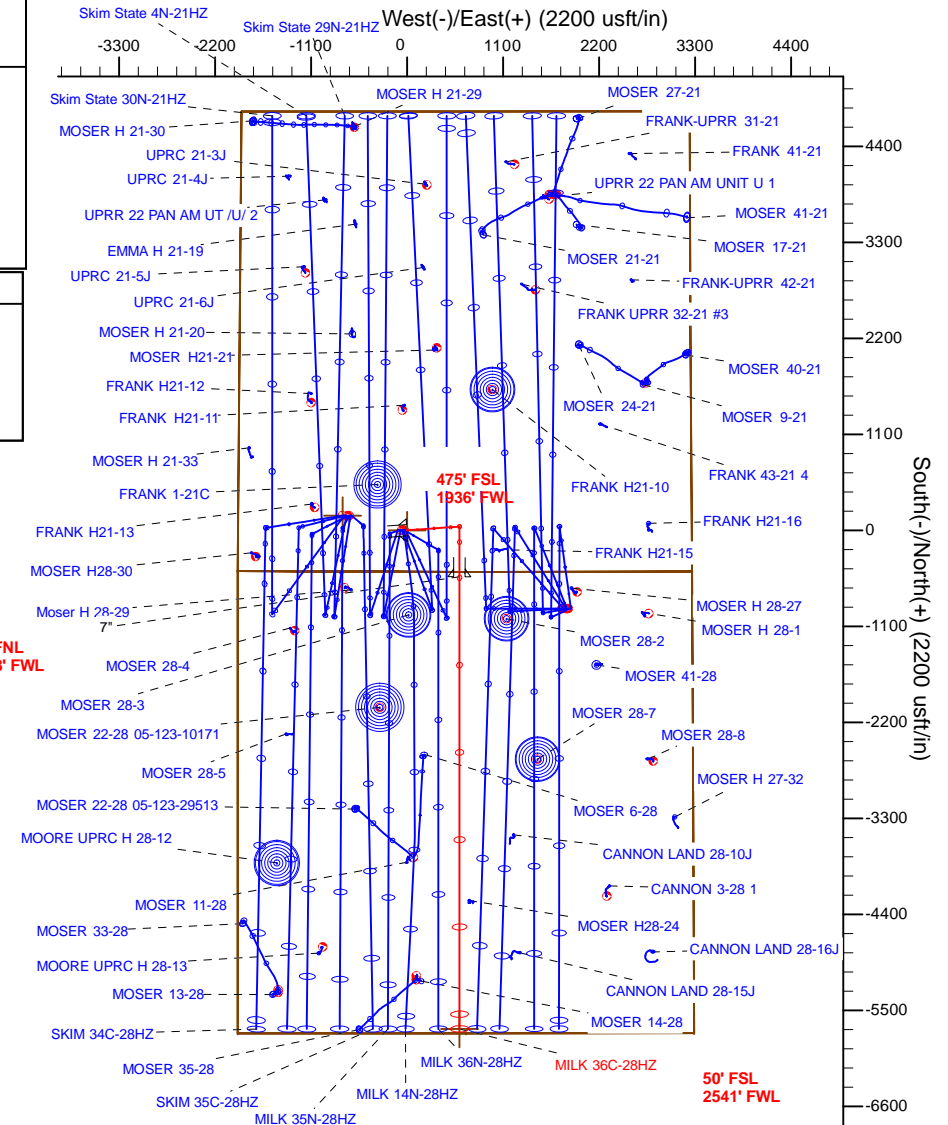
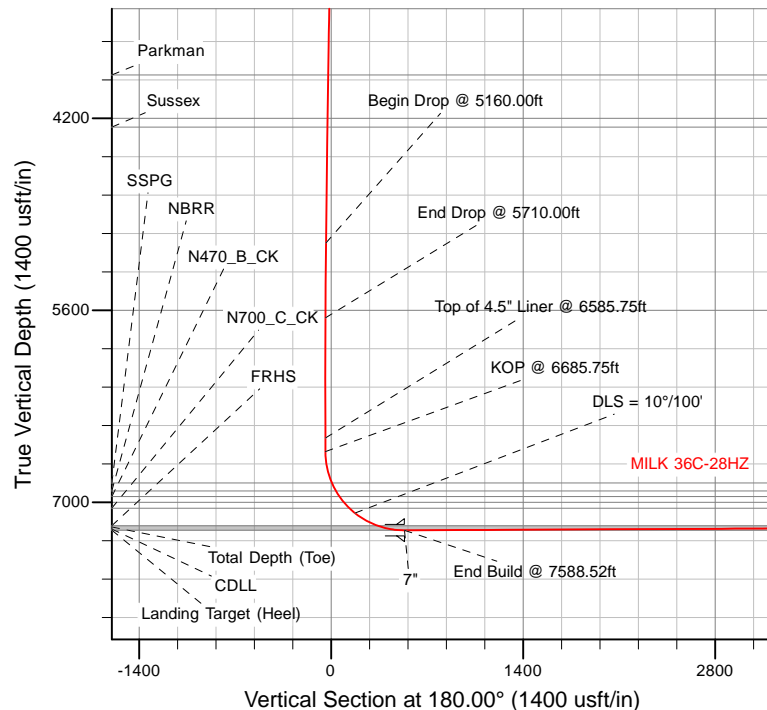
Sperry Drilling

## 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	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	
3	2550.00	11.00	86.00	2546.63	3.67	52.51	2.00	86.00	-3.67	
4	5160.00	11.00	86.00	5108.67	38.41	549.30	0.00	0.00	-38.41	
5	5710.00	0.00	0.00	5655.30	42.08	601.81	2.00	180.00	-42.08	
6	6685.75	0.00	0.00	6631.05	42.08	601.81	0.00	0.00	-42.08	
7	7588.52	90.28	180.00	7204.00	-533.64	601.79	10.00	180.00	533.64	
8	12768.55	90.28	180.00	7179.00	-5713.61	601.61	0.00	0.00	5713.61	MILK 36C-28HZ_Bhl

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Polygon
Sec. 28 and 21-T3N-R65W	--	-10.00	166.79	-738.24	40.205452	
MILK 36C-28HZ_SHL		0.00	0.00	40.204994	-104.670965	
MILK 36C-28HZ_Bhl	7179.00	-5713.61	601.61	40.189304	-104.668811	



TVD MD

6531.05 6585.75 Top of 4.5" Liner @ 6585.75ft  
6631.05 6685.75 KOP @ 6685.75ft

WELL DETAILS: MILK 36C-28HZ

Ground Level: 4837.00

RKB = 17 @ 4854.00usft (D Rig)

Plan: Rev A0 Permit (MILK 36C-28HZ/Plan A)

Created By: Clint Eshelman

Date: 10/13/2014

Reviewed:

Date:

## Plan Report for MILK 36C-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>Sec. 28 and 21-T3N-R65W - MILK 36C-28HZ_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
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
1,126.00	0.00	0.00	1,126.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>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	86.00	2,099.98	0.12	1.74	-0.12	2.00	2.00	0.00	86.00
2,200.00	4.00	86.00	2,199.84	0.49	6.96	-0.49	2.00	2.00	0.00	0.00
2,300.00	6.00	86.00	2,299.45	1.09	15.66	-1.09	2.00	2.00	0.00	0.00
2,400.00	8.00	86.00	2,398.70	1.94	27.81	-1.94	2.00	2.00	0.00	0.00
2,500.00	10.00	86.00	2,497.47	3.04	43.42	-3.04	2.00	2.00	0.00	0.00
2,550.00	11.00	86.00	2,546.63	3.67	52.51	-3.67	2.00	2.00	0.00	0.00
<b>End Budge @ 2550.00ft</b>										
2,600.00	11.00	86.00	2,595.71	4.34	62.02	-4.34	0.00	0.00	0.00	0.00
2,700.00	11.00	86.00	2,693.87	5.67	81.06	-5.67	0.00	0.00	0.00	0.00
2,800.00	11.00	86.00	2,792.03	7.00	100.09	-7.00	0.00	0.00	0.00	0.00
2,900.00	11.00	86.00	2,890.20	8.33	119.13	-8.33	0.00	0.00	0.00	0.00
3,000.00	11.00	86.00	2,988.36	9.66	138.16	-9.66	0.00	0.00	0.00	0.00
3,100.00	11.00	86.00	3,086.52	10.99	157.20	-10.99	0.00	0.00	0.00	0.00
3,200.00	11.00	86.00	3,184.69	12.32	176.23	-12.32	0.00	0.00	0.00	0.00
3,300.00	11.00	86.00	3,282.85	13.65	195.26	-13.65	0.00	0.00	0.00	0.00
3,400.00	11.00	86.00	3,381.01	14.99	214.30	-14.99	0.00	0.00	0.00	0.00
3,500.00	11.00	86.00	3,479.17	16.32	233.33	-16.32	0.00	0.00	0.00	0.00
3,600.00	11.00	86.00	3,577.34	17.65	252.37	-17.65	0.00	0.00	0.00	0.00
3,700.00	11.00	86.00	3,675.50	18.98	271.40	-18.98	0.00	0.00	0.00	0.00
3,800.00	11.00	86.00	3,773.66	20.31	290.44	-20.31	0.00	0.00	0.00	0.00
3,900.00	11.00	86.00	3,871.82	21.64	309.47	-21.64	0.00	0.00	0.00	0.00
3,912.40	11.00	86.00	3,884.00	21.81	311.83	-21.81	0.00	0.00	0.00	0.00
<b>Parkman</b>										
4,000.00	11.00	86.00	3,969.99	22.97	328.51	-22.97	0.00	0.00	0.00	0.00
4,100.00	11.00	86.00	4,068.15	24.30	347.54	-24.30	0.00	0.00	0.00	0.00
4,200.00	11.00	86.00	4,166.31	25.63	366.57	-25.63	0.00	0.00	0.00	0.00
4,299.52	11.00	86.00	4,264.00	26.96	385.52	-26.96	0.00	0.00	0.00	0.00
<b>Sussex</b>										
4,300.00	11.00	86.00	4,264.48	26.96	385.61	-26.96	0.00	0.00	0.00	0.00
4,400.00	11.00	86.00	4,362.64	28.30	404.64	-28.30	0.00	0.00	0.00	0.00
4,500.00	11.00	86.00	4,460.80	29.63	423.68	-29.63	0.00	0.00	0.00	0.00
4,600.00	11.00	86.00	4,558.96	30.96	442.71	-30.96	0.00	0.00	0.00	0.00
4,700.00	11.00	86.00	4,657.13	32.29	461.75	-32.29	0.00	0.00	0.00	0.00

## Plan Report for MILK 36C-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 (°)
4,800.00	11.00	86.00	4,755.29	33.62	480.78	-33.62	0.00	0.00	0.00	0.00
4,900.00	11.00	86.00	4,853.45	34.95	499.81	-34.95	0.00	0.00	0.00	0.00
5,000.00	11.00	86.00	4,951.61	36.28	518.85	-36.28	0.00	0.00	0.00	0.00
5,100.00	11.00	86.00	5,049.78	37.61	537.88	-37.61	0.00	0.00	0.00	0.00
5,160.00	11.00	86.00	5,108.67	38.41	549.30	-38.41	0.00	0.00	0.00	0.00
<b>Begin Drop @ 5160.00ft</b>										
5,200.00	10.20	86.00	5,147.99	38.92	556.64	-38.92	2.00	-2.00	0.00	180.00
5,300.00	8.20	86.00	5,246.70	40.04	572.59	-40.04	2.00	-2.00	0.00	180.00
5,400.00	6.20	86.00	5,345.91	40.91	585.09	-40.91	2.00	-2.00	0.00	180.00
5,500.00	4.20	86.00	5,445.49	41.55	594.14	-41.55	2.00	-2.00	0.00	180.00
5,600.00	2.20	86.00	5,545.33	41.94	599.70	-41.94	2.00	-2.00	0.00	180.00
5,700.00	0.20	86.00	5,645.30	42.08	601.79	-42.08	2.00	-2.00	0.00	180.00
5,710.00	0.00	0.00	5,655.30	42.08	601.81	-42.08	2.00	-2.00	0.00	-180.00
<b>End Drop @ 5710.00ft</b>										
5,800.00	0.00	0.00	5,745.30	42.08	601.81	-42.08	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,845.30	42.08	601.81	-42.08	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,945.30	42.08	601.81	-42.08	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,045.30	42.08	601.81	-42.08	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,145.30	42.08	601.81	-42.08	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,245.30	42.08	601.81	-42.08	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,345.30	42.08	601.81	-42.08	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,445.30	42.08	601.81	-42.08	0.00	0.00	0.00	0.00
6,585.75	0.00	0.00	6,531.05	42.08	601.81	-42.08	0.00	0.00	0.00	0.00
<b>Top of 4.5" Liner @ 6585.75ft</b>										
6,600.00	0.00	0.00	6,545.30	42.08	601.81	-42.08	0.00	0.00	0.00	0.00
6,685.75	0.00	0.00	6,631.05	42.08	601.81	-42.08	0.00	0.00	0.00	0.00
<b>KOP @ 6685.75ft</b>										
6,700.00	1.42	180.00	6,645.30	41.91	601.81	-41.91	10.00	10.00	0.00	180.00
6,800.00	11.42	180.00	6,744.55	30.73	601.81	-30.73	10.00	10.00	0.00	0.00
6,900.00	21.42	180.00	6,840.34	2.49	601.81	-2.49	10.00	10.00	0.00	0.00
6,919.10	23.33	180.00	6,858.00	-4.78	601.81	4.78	10.00	10.00	0.00	0.00
<b>SSPG</b>										
6,986.29	30.05	180.00	6,918.00	-34.95	601.81	34.95	10.00	10.00	0.00	0.00
<b>NBRR</b>										
7,000.00	31.42	180.00	6,929.78	-41.96	601.81	41.96	10.00	10.00	0.00	0.00
7,033.69	34.79	180.00	6,958.00	-60.36	601.81	60.36	10.00	10.00	0.00	0.00
<b>N470_B_CK</b>										
7,100.00	41.42	180.00	7,010.14	-101.26	601.81	101.26	10.00	10.00	0.00	0.00
7,146.90	46.11	180.00	7,044.00	-133.69	601.80	133.69	10.00	10.00	0.00	0.00
<b>N700_C_CK</b>										
7,200.00	51.42	180.00	7,078.99	-173.61	601.80	173.61	10.00	10.00	0.00	0.00
<b>DLS = 10°/100'</b>										
7,300.00	61.42	180.00	7,134.22	-256.82	601.80	256.82	10.00	10.00	0.00	0.00
7,390.31	70.46	180.00	7,171.00	-339.21	601.80	339.21	10.00	10.00	0.00	0.00
<b>FRHS</b>										
7,400.00	71.42	180.00	7,174.16	-348.36	601.80	348.36	10.00	10.00	0.00	0.00
7,478.49	79.27	180.00	7,194.00	-424.24	601.79	424.24	10.00	10.00	0.00	0.00
<b>CDLL</b>										
7,500.00	81.42	180.00	7,197.60	-445.44	601.79	445.44	10.00	10.00	0.00	0.00
7,588.52	90.28	180.00	7,204.00	-533.65	601.79	533.65	10.00	10.00	0.00	0.00
<b>End Build @ 7588.52ft - Landing Target (Heel) - 7"</b>										
7,600.00	90.28	180.00	7,203.95	-545.12	601.79	545.12	0.00	0.00	0.00	0.00
7,700.00	90.28	180.00	7,203.46	-645.12	601.79	645.12	0.00	0.00	0.00	0.00
7,800.00	90.28	180.00	7,202.98	-745.12	601.78	745.12	0.00	0.00	0.00	0.00
7,900.00	90.28	180.00	7,202.50	-845.12	601.78	845.12	0.00	0.00	0.00	0.00
8,000.00	90.28	180.00	7,202.02	-945.12	601.78	945.12	0.00	0.00	0.00	0.00
8,100.00	90.28	180.00	7,201.53	-1,045.12	601.77	1,045.12	0.00	0.00	0.00	0.00
8,200.00	90.28	180.00	7,201.05	-1,145.12	601.77	1,145.12	0.00	0.00	0.00	0.00

## Plan Report for MILK 36C-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 (°)
8,300.00	90.28	180.00	7,200.57	-1,245.12	601.77	1,245.12	0.00	0.00	0.00	0.00
8,400.00	90.28	180.00	7,200.09	-1,345.12	601.76	1,345.12	0.00	0.00	0.00	0.00
8,500.00	90.28	180.00	7,199.60	-1,445.11	601.76	1,445.11	0.00	0.00	0.00	0.00
8,600.00	90.28	180.00	7,199.12	-1,545.11	601.76	1,545.11	0.00	0.00	0.00	0.00
8,700.00	90.28	180.00	7,198.64	-1,645.11	601.75	1,645.11	0.00	0.00	0.00	0.00
8,800.00	90.28	180.00	7,198.16	-1,745.11	601.75	1,745.11	0.00	0.00	0.00	0.00
8,900.00	90.28	180.00	7,197.67	-1,845.11	601.74	1,845.11	0.00	0.00	0.00	0.00
9,000.00	90.28	180.00	7,197.19	-1,945.11	601.74	1,945.11	0.00	0.00	0.00	0.00
9,100.00	90.28	180.00	7,196.71	-2,045.11	601.74	2,045.11	0.00	0.00	0.00	0.00
9,200.00	90.28	180.00	7,196.22	-2,145.11	601.73	2,145.11	0.00	0.00	0.00	0.00
9,300.00	90.28	180.00	7,195.74	-2,245.11	601.73	2,245.11	0.00	0.00	0.00	0.00
9,400.00	90.28	180.00	7,195.26	-2,345.10	601.73	2,345.10	0.00	0.00	0.00	0.00
9,500.00	90.28	180.00	7,194.78	-2,445.10	601.72	2,445.10	0.00	0.00	0.00	0.00
9,600.00	90.28	180.00	7,194.29	-2,545.10	601.72	2,545.10	0.00	0.00	0.00	0.00
9,700.00	90.28	180.00	7,193.81	-2,645.10	601.72	2,645.10	0.00	0.00	0.00	0.00
9,800.00	90.28	180.00	7,193.33	-2,745.10	601.71	2,745.10	0.00	0.00	0.00	0.00
9,900.00	90.28	180.00	7,192.85	-2,845.10	601.71	2,845.10	0.00	0.00	0.00	0.00
10,000.00	90.28	180.00	7,192.36	-2,945.10	601.71	2,945.10	0.00	0.00	0.00	0.00
10,100.00	90.28	180.00	7,191.88	-3,045.10	601.70	3,045.10	0.00	0.00	0.00	0.00
10,200.00	90.28	180.00	7,191.40	-3,145.09	601.70	3,145.09	0.00	0.00	0.00	0.00
10,300.00	90.28	180.00	7,190.92	-3,245.09	601.70	3,245.09	0.00	0.00	0.00	0.00
10,400.00	90.28	180.00	7,190.43	-3,345.09	601.69	3,345.09	0.00	0.00	0.00	0.00
10,500.00	90.28	180.00	7,189.95	-3,445.09	601.69	3,445.09	0.00	0.00	0.00	0.00
10,600.00	90.28	180.00	7,189.47	-3,545.09	601.69	3,545.09	0.00	0.00	0.00	0.00
10,700.00	90.28	180.00	7,188.98	-3,645.09	601.68	3,645.09	0.00	0.00	0.00	0.00
10,800.00	90.28	180.00	7,188.50	-3,745.09	601.68	3,745.09	0.00	0.00	0.00	0.00
10,900.00	90.28	180.00	7,188.02	-3,845.09	601.68	3,845.09	0.00	0.00	0.00	0.00
11,000.00	90.28	180.00	7,187.54	-3,945.09	601.67	3,945.09	0.00	0.00	0.00	0.00
11,100.00	90.28	180.00	7,187.05	-4,045.08	601.67	4,045.08	0.00	0.00	0.00	0.00
11,200.00	90.28	180.00	7,186.57	-4,145.08	601.66	4,145.08	0.00	0.00	0.00	0.00
11,300.00	90.28	180.00	7,186.09	-4,245.08	601.66	4,245.08	0.00	0.00	0.00	0.00
11,400.00	90.28	180.00	7,185.61	-4,345.08	601.66	4,345.08	0.00	0.00	0.00	0.00
11,500.00	90.28	180.00	7,185.12	-4,445.08	601.65	4,445.08	0.00	0.00	0.00	0.00
11,600.00	90.28	180.00	7,184.64	-4,545.08	601.65	4,545.08	0.00	0.00	0.00	0.00
11,700.00	90.28	180.00	7,184.16	-4,645.08	601.65	4,645.08	0.00	0.00	0.00	0.00
11,800.00	90.28	180.00	7,183.68	-4,745.08	601.64	4,745.08	0.00	0.00	0.00	0.00
11,900.00	90.28	180.00	7,183.19	-4,845.07	601.64	4,845.07	0.00	0.00	0.00	0.00
12,000.00	90.28	180.00	7,182.71	-4,945.07	601.64	4,945.07	0.00	0.00	0.00	0.00
12,100.00	90.28	180.00	7,182.23	-5,045.07	601.63	5,045.07	0.00	0.00	0.00	0.00
12,200.00	90.28	180.00	7,181.74	-5,145.07	601.63	5,145.07	0.00	0.00	0.00	0.00
12,300.00	90.28	180.00	7,181.26	-5,245.07	601.63	5,245.07	0.00	0.00	0.00	0.00
12,400.00	90.28	180.00	7,180.78	-5,345.07	601.62	5,345.07	0.00	0.00	0.00	0.00
12,500.00	90.28	180.00	7,180.30	-5,445.07	601.62	5,445.07	0.00	0.00	0.00	0.00
12,600.00	90.28	180.00	7,179.81	-5,545.07	601.62	5,545.07	0.00	0.00	0.00	0.00
12,700.00	90.28	180.00	7,179.33	-5,645.07	601.61	5,645.07	0.00	0.00	0.00	0.00
12,768.54	90.28	180.00	7,179.00	-5,713.60	601.61	5,713.60	0.00	0.00	0.00	0.00

## Total Depth (Toe)

12,768.55	90.28	180.00	7,179.00	-5,713.61	601.61	5,713.61	0.02	0.00	0.00	0.00
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TD Well @ 12768.55ft - MILK 36C-28HZ\_Bhl

## Plan Report for MILK 36C-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
2,550.00	2,546.63	3.67	52.51	End Budge @ 2550.00ft
5,160.00	5,108.67	38.41	549.30	Begin Drop @ 5160.00ft
5,710.00	5,655.30	42.08	601.81	End Drop @ 5710.00ft
6,585.75	6,531.05	42.08	601.81	Top of 4.5" Liner @ 6585.75ft
6,685.75	6,631.05	42.08	601.81	KOP @ 6685.75ft
7,200.00	7,078.99	-173.61	601.80	DLS = 10°/100'
7,588.52	7,204.00	-533.65	601.79	End Build @ 7588.52ft
12,768.55	7,179.00	-5,713.61	601.61	TD Well @ 12768.55ft

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	7,588.52	Rev A0 Permit	MWD+IFR1
7,588.52	12,768.55	Rev A0 Permit	MWD+IFR1

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,126.00	1,126.00	9 5/8"	9-5/8	13-1/2
7,588.52	7,204.00	7"	7	8-3/4

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,912.40	3,884.00	Parkman		0.00	
4,299.52	4,264.00	Sussex		0.00	
6,919.10	6,858.00	SSPG		0.00	
6,986.29	6,918.00	NBRR		0.00	
7,033.69	6,958.00	N470_B_CK		0.00	
7,146.90	7,044.00	N700_C_CK		0.00	
7,390.31	7,171.00	FRHS		0.00	
7,478.49	7,194.00	CDLL		0.00	
7,588.52	7,204.00	Landing Target (Heel)		0.00	
12,768.54	7,179.00	Total Depth (Toe)		0.00	

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
MILK 36C-28HZ_Bhl	7,179.00	-5,713.61	601.61	Point
Sec. 28 and 21-T3N-R65W	-10.00	166.79	-738.24	Polygon
MILK 36C-28HZ_SHL	0.00	0.00	0.00	Point

**North Reference Sheet for Milk 4-21HZ Pad - MILK 36C-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 @ 4854.00usft (D Rig). Northing and Easting are relative to MILK 36C-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: 0.99960965

Grid Coordinates of Well: 14,601,551.69 usft N, 1,732,287.18 usft E

Geographical Coordinates of Well: 40° 12' 17.98" N, 104° 40' 15.47" W

Grid Convergence at Surface is: 0.21°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,768.55usft  
the Bottom Hole Displacement is 5,745.20usft in the Direction of 173.99° ( True).

Magnetic Convergence at surface is: -8.14° ( 11 October 2014, , IGRF2010)

