

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

Skim 35-21HZ Pad

SKIM 35C-28HZ

Plan A

Plan: Rev A0

Sperry Drilling Services

Proposal Report

11 October, 2014

Well Coordinates: 14,601,715.04 N, 1,731,653.31 E (40° 12' 19.62" N, 104° 40' 23.64" W)

Ground Level: 4,847.00 usft

Local Coordinate Origin:

Centered on Well SKIM 35C-28HZ

Viewing Datum:

RKB = 17' @ 4864.00usft (D Rig)

TVDs to System:

N

North Reference:

True

Unit System:

API - Planning Rockies

Version: 5000.1 Build: 70

HALLIBURTON

Project: WELD-NAD83-UTMFT13N
 Site: Skim 35-21HZ Pad
 Well: SKIM 35C-28HZ
 Wellbore: Plan A
 Design: Rev A0

US ROCKIES WATTENBERG PLANNING

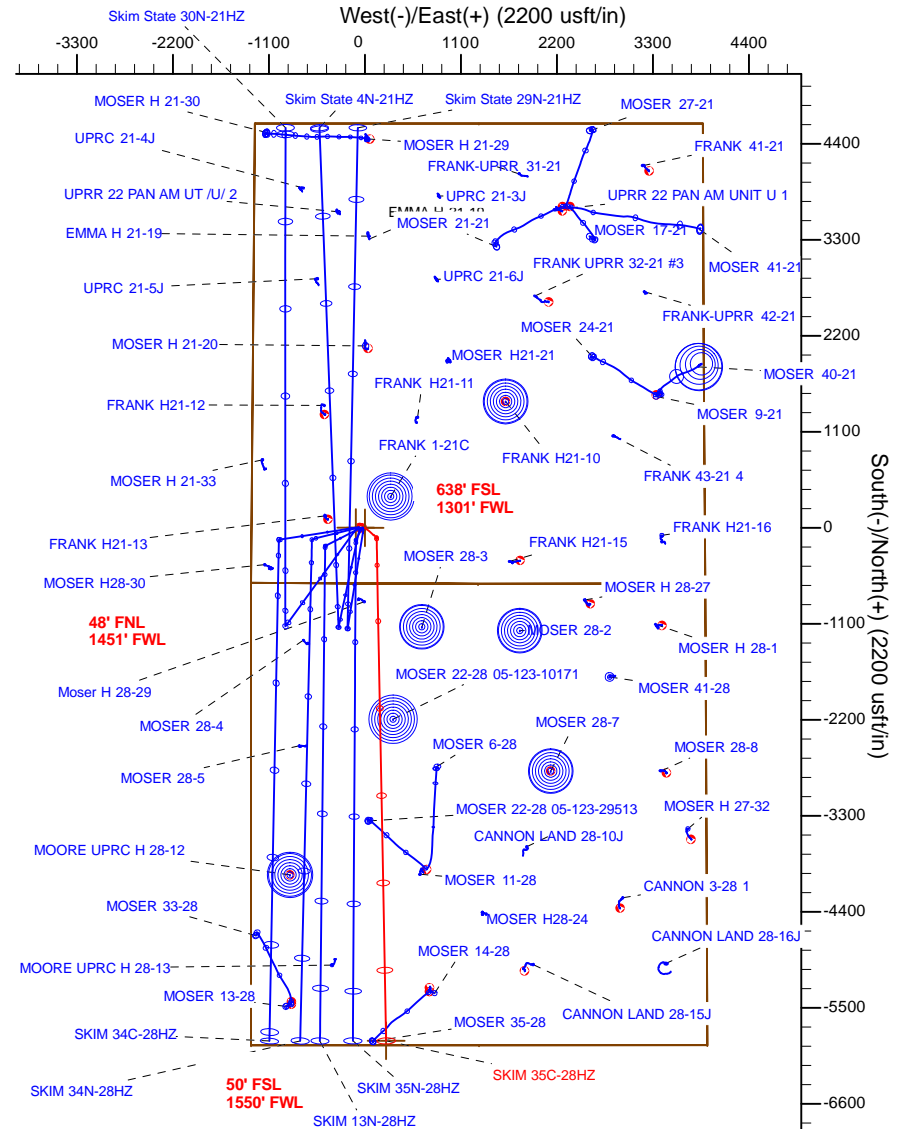
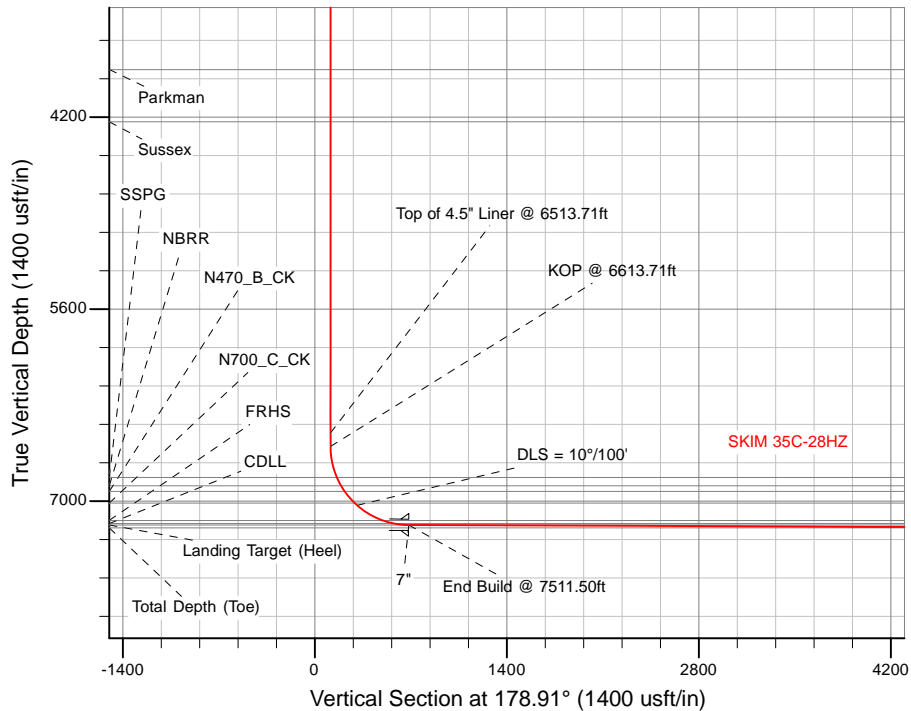


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.00	
3	1500.00	10.00	130.00	1497.47	-27.98	33.34	2.00	130.00	28.60	
4	2000.00	10.00	130.00	1989.87	-83.79	99.85	0.00	0.00	85.67	
5	2500.00	0.00	0.00	2487.33	-111.76	133.19	2.00	180.00	114.27	
6	6613.71	0.00	0.00	6601.04	-111.76	133.19	0.00	0.00	114.27	
7	7511.50	89.78	178.91	7174.00	-682.41	144.09	10.00	178.91	685.03	
8	12710.11	89.78	178.91	7194.00	-5880.03	243.37	0.00	0.00	5883.60	SKIM 35C-28HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Polygon
Sec. 28 and 21-T3N-R65W	0.00	1.09	-104.98	40.205452	-104.673609	
SKIM 35C-28HZ_SHL	0.00	0.00	0.00	40.205449	-104.673233	
SKIM 35C-28HZ_BHL	7194.00	-5880.03	243.37	40.189302	-104.672362	



TVD MD

6501.04 6513.71 Top of 4.5" Liner @ 6513.71ft
 6601.04 6613.71 KOP @ 6613.71ft

WELL DETAILS: SKIM 35C-28HZ

Ground Level: 4847.00

RKB = 17' @ 4864.00usft (D Rig)

Plan: Rev A0 (SKIM 35C-28HZ/Plan A)

Created By: Clint Eshelman Date: 10/11/2014
 Reviewed: _____ Date: _____



Plan Report for SKIM 35C-28HZ - Rev A0

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 - SKIM 35C-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
623.00	0.00	0.00	623.00	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
Begin Nudge @ 1000.00ft										
1,100.00	2.00	130.00	1,099.98	-1.12	1.34	1.15	2.00	2.00	0.00	130.00
1,136.00	2.72	130.00	1,135.95	-2.07	2.47	2.12	2.00	2.00	0.00	0.00
9 5/8"										
1,136.05	2.72	130.00	1,136.00	-2.08	2.47	2.12	2.00	2.00	0.00	0.00
Surface Csg Setting Depth										
1,200.00	4.00	130.00	1,199.84	-4.49	5.35	4.59	2.00	2.00	0.00	0.00
1,300.00	6.00	130.00	1,299.45	-10.09	12.02	10.31	2.00	2.00	0.00	0.00
1,400.00	8.00	130.00	1,398.70	-17.92	21.36	18.32	2.00	2.00	0.00	0.00
1,500.00	10.00	130.00	1,497.47	-27.98	33.34	28.60	2.00	2.00	0.00	0.00
End Nudge @ 1500.00ft										
1,600.00	10.00	130.00	1,595.95	-39.14	46.64	40.02	0.00	0.00	0.00	0.00
1,700.00	10.00	130.00	1,694.43	-50.30	59.94	51.43	0.00	0.00	0.00	0.00
1,800.00	10.00	130.00	1,792.91	-61.46	73.25	62.84	0.00	0.00	0.00	0.00
1,900.00	10.00	130.00	1,891.39	-72.62	86.55	74.26	0.00	0.00	0.00	0.00
2,000.00	10.00	130.00	1,989.87	-83.79	99.85	85.67	0.00	0.00	0.00	0.00
Begin Drop @ 2000.00ft										
2,100.00	8.00	130.00	2,088.63	-93.84	111.83	95.95	2.00	-2.00	0.00	180.00
2,200.00	6.00	130.00	2,187.88	-101.67	121.17	103.96	2.00	-2.00	0.00	180.00
2,300.00	4.00	130.00	2,287.50	-107.28	127.85	109.69	2.00	-2.00	0.00	180.00
2,400.00	2.00	130.00	2,387.35	-110.64	131.85	113.13	2.00	-2.00	0.00	180.00
2,500.00	0.00	0.00	2,487.33	-111.76	133.19	114.27	2.00	-2.00	0.00	-180.00
End Drop @ 2500.00ft										
2,600.00	0.00	0.00	2,587.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,687.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,787.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,887.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	2,987.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,087.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,187.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,287.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,387.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,487.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,587.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,687.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,787.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
3,866.67	0.00	0.00	3,854.00	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
Parkman										
3,900.00	0.00	0.00	3,887.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	3,987.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,087.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,187.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
4,246.67	0.00	0.00	4,234.00	-111.76	133.19	114.27	0.00	0.00	0.00	0.00

Plan Report for SKIM 35C-28HZ - Rev A0

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 (°)
Sussex										
4,300.00	0.00	0.00	4,287.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,387.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,487.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,587.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,687.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,787.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,887.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	4,987.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,087.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,187.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,287.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,387.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,487.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,587.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,687.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,787.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,887.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,987.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,087.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,187.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,287.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,387.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,487.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
6,513.71	0.00	0.00	6,501.04	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
Top of 4.5" Liner @ 6513.71ft										
6,600.00	0.00	0.00	6,587.33	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
6,613.71	0.00	0.00	6,601.04	-111.76	133.19	114.27	0.00	0.00	0.00	0.00
KOP @ 6613.71ft										
6,700.00	8.63	178.91	6,687.01	-118.25	133.32	120.76	10.00	10.00	0.00	178.91
6,800.00	18.63	178.91	6,784.07	-141.77	133.76	144.29	10.00	10.00	0.00	0.00
6,847.06	23.34	178.91	6,828.00	-158.62	134.09	161.14	10.00	10.00	0.00	0.00
SSPG										
6,900.00	28.63	178.91	6,875.57	-181.80	134.53	184.32	10.00	10.00	0.00	0.00
6,914.26	30.06	178.91	6,888.00	-188.78	134.66	191.31	10.00	10.00	0.00	0.00
NBRR										
6,961.66	34.80	178.91	6,928.00	-214.19	135.15	216.72	10.00	10.00	0.00	0.00
N470_B_CK										
7,000.00	38.63	178.91	6,958.73	-237.10	135.59	239.64	10.00	10.00	0.00	0.00
7,074.87	46.12	178.91	7,014.00	-287.51	136.55	290.06	10.00	10.00	0.00	0.00
N700_C_CK										
7,100.00	48.63	178.91	7,031.02	-306.00	136.90	308.55	10.00	10.00	0.00	0.00
DLS = 10°/100'										
7,200.00	58.63	178.91	7,090.24	-386.40	138.44	388.96	10.00	10.00	0.00	0.00
7,300.00	68.63	178.91	7,134.61	-475.86	140.15	478.44	10.00	10.00	0.00	0.00
7,318.30	70.46	178.91	7,141.00	-493.00	140.47	495.59	10.00	10.00	0.00	0.00
FRHS										
7,400.00	78.63	178.91	7,162.76	-571.67	141.98	574.27	10.00	10.00	0.00	0.00
7,406.50	79.28	178.91	7,164.00	-578.05	142.10	580.64	10.00	10.00	0.00	0.00
CDLL										
7,500.00	88.63	178.91	7,173.84	-670.91	143.87	673.52	10.00	10.00	0.00	0.00
7,511.50	89.78	178.91	7,174.00	-682.41	144.09	685.02	10.00	10.00	0.00	0.00
End Build @ 7511.50ft - Landing Target (Heel) - 7"										
7,600.00	89.78	178.91	7,174.34	-770.89	145.78	773.52	0.00	0.00	0.00	0.00
7,700.00	89.78	178.91	7,174.72	-870.87	147.69	873.52	0.00	0.00	0.00	0.00
7,800.00	89.78	178.91	7,175.11	-970.85	149.60	973.52	0.00	0.00	0.00	0.00
7,900.00	89.78	178.91	7,175.49	-1,070.83	151.51	1,073.52	0.00	0.00	0.00	0.00
8,000.00	89.78	178.91	7,175.88	-1,170.81	153.42	1,173.52	0.00	0.00	0.00	0.00

Plan Report for SKIM 35C-28HZ - Rev A0

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	178.91	7,176.26	-1,270.79	155.33	1,273.52	0.00	0.00	0.00	0.00
8,200.00	89.78	178.91	7,176.65	-1,370.77	157.24	1,373.52	0.00	0.00	0.00	0.00
8,300.00	89.78	178.91	7,177.03	-1,470.76	159.15	1,473.52	0.00	0.00	0.00	0.00
8,400.00	89.78	178.91	7,177.42	-1,570.74	161.06	1,573.52	0.00	0.00	0.00	0.00
8,500.00	89.78	178.91	7,177.80	-1,670.72	162.97	1,673.52	0.00	0.00	0.00	0.00
8,600.00	89.78	178.91	7,178.19	-1,770.70	164.88	1,773.52	0.00	0.00	0.00	0.00
8,700.00	89.78	178.91	7,178.57	-1,870.68	166.79	1,873.51	0.00	0.00	0.00	0.00
8,800.00	89.78	178.91	7,178.96	-1,970.66	168.70	1,973.51	0.00	0.00	0.00	0.00
8,900.00	89.78	178.91	7,179.34	-2,070.64	170.61	2,073.51	0.00	0.00	0.00	0.00
9,000.00	89.78	178.91	7,179.72	-2,170.62	172.52	2,173.51	0.00	0.00	0.00	0.00
9,100.00	89.78	178.91	7,180.11	-2,270.60	174.43	2,273.51	0.00	0.00	0.00	0.00
9,200.00	89.78	178.91	7,180.49	-2,370.59	176.34	2,373.51	0.00	0.00	0.00	0.00
9,300.00	89.78	178.91	7,180.88	-2,470.57	178.25	2,473.51	0.00	0.00	0.00	0.00
9,400.00	89.78	178.91	7,181.26	-2,570.55	180.16	2,573.51	0.00	0.00	0.00	0.00
9,500.00	89.78	178.91	7,181.65	-2,670.53	182.07	2,673.51	0.00	0.00	0.00	0.00
9,600.00	89.78	178.91	7,182.03	-2,770.51	183.98	2,773.51	0.00	0.00	0.00	0.00
9,700.00	89.78	178.91	7,182.42	-2,870.49	185.89	2,873.51	0.00	0.00	0.00	0.00
9,800.00	89.78	178.91	7,182.80	-2,970.47	187.79	2,973.51	0.00	0.00	0.00	0.00
9,900.00	89.78	178.91	7,183.19	-3,070.45	189.70	3,073.51	0.00	0.00	0.00	0.00
10,000.00	89.78	178.91	7,183.57	-3,170.43	191.61	3,173.50	0.00	0.00	0.00	0.00
10,100.00	89.78	178.91	7,183.96	-3,270.41	193.52	3,273.50	0.00	0.00	0.00	0.00
10,200.00	89.78	178.91	7,184.34	-3,370.40	195.43	3,373.50	0.00	0.00	0.00	0.00
10,300.00	89.78	178.91	7,184.73	-3,470.38	197.34	3,473.50	0.00	0.00	0.00	0.00
10,400.00	89.78	178.91	7,185.11	-3,570.36	199.25	3,573.50	0.00	0.00	0.00	0.00
10,500.00	89.78	178.91	7,185.50	-3,670.34	201.16	3,673.50	0.00	0.00	0.00	0.00
10,600.00	89.78	178.91	7,185.88	-3,770.32	203.07	3,773.50	0.00	0.00	0.00	0.00
10,700.00	89.78	178.91	7,186.27	-3,870.30	204.98	3,873.50	0.00	0.00	0.00	0.00
10,800.00	89.78	178.91	7,186.65	-3,970.28	206.89	3,973.50	0.00	0.00	0.00	0.00
10,900.00	89.78	178.91	7,187.04	-4,070.26	208.80	4,073.50	0.00	0.00	0.00	0.00
11,000.00	89.78	178.91	7,187.42	-4,170.24	210.71	4,173.50	0.00	0.00	0.00	0.00
11,100.00	89.78	178.91	7,187.80	-4,270.22	212.62	4,273.50	0.00	0.00	0.00	0.00
11,200.00	89.78	178.91	7,188.19	-4,370.21	214.53	4,373.50	0.00	0.00	0.00	0.00
11,300.00	89.78	178.91	7,188.57	-4,470.19	216.44	4,473.50	0.00	0.00	0.00	0.00
11,400.00	89.78	178.91	7,188.96	-4,570.17	218.35	4,573.49	0.00	0.00	0.00	0.00
11,500.00	89.78	178.91	7,189.34	-4,670.15	220.26	4,673.49	0.00	0.00	0.00	0.00
11,600.00	89.78	178.91	7,189.73	-4,770.13	222.17	4,773.49	0.00	0.00	0.00	0.00
11,700.00	89.78	178.91	7,190.11	-4,870.11	224.08	4,873.49	0.00	0.00	0.00	0.00
11,800.00	89.78	178.91	7,190.50	-4,970.09	225.99	4,973.49	0.00	0.00	0.00	0.00
11,900.00	89.78	178.91	7,190.88	-5,070.07	227.90	5,073.49	0.00	0.00	0.00	0.00
12,000.00	89.78	178.91	7,191.27	-5,170.05	229.81	5,173.49	0.00	0.00	0.00	0.00
12,100.00	89.78	178.91	7,191.65	-5,270.03	231.72	5,273.49	0.00	0.00	0.00	0.00
12,200.00	89.78	178.91	7,192.04	-5,370.02	233.63	5,373.49	0.00	0.00	0.00	0.00
12,300.00	89.78	178.91	7,192.42	-5,470.00	235.54	5,473.49	0.00	0.00	0.00	0.00
12,400.00	89.78	178.91	7,192.81	-5,569.98	237.45	5,573.49	0.00	0.00	0.00	0.00
12,500.00	89.78	178.91	7,193.19	-5,669.96	239.36	5,673.49	0.00	0.00	0.00	0.00
12,600.00	89.78	178.91	7,193.58	-5,769.94	241.27	5,773.49	0.00	0.00	0.00	0.00
12,700.00	89.78	178.91	7,193.96	-5,869.92	243.18	5,873.48	0.00	0.00	0.00	0.00
12,710.11	89.78	178.91	7,194.00	-5,880.03	243.37	5,883.59	0.00	0.00	0.00	0.00

TD Well @ 12710.11ft - SKIM 35C-28HZ_BHL

Plan Report for SKIM 35C-28HZ - Rev A0**Plan Annotations**

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,000.00	1,000.00	0.00	0.00	Begin Nudge @ 1000.00ft
1,500.00	1,497.47	-27.98	33.34	End Nudge @ 1500.00ft
2,000.00	1,989.87	-83.79	99.85	Begin Drop @ 2000.00ft
2,500.00	2,487.33	-111.76	133.19	End Drop @ 2500.00ft
6,513.71	6,501.04	-111.76	133.19	Top of 4.5" Liner @ 6513.71ft
6,613.71	6,601.04	-111.76	133.19	KOP @ 6613.71ft
7,100.00	7,031.02	-306.00	136.90	DLS = 10°/100'
7,511.50	7,174.00	-682.41	144.09	End Build @ 7511.50ft
12,710.11	7,194.00	-5,880.03	243.37	TD Well @ 12710.11ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/_S (usft)	+E/-W (usft)	
User	No Target (Freehand)	178.91	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	7,511.50	Rev A0	MWD+IFR1
7,511.50	12,710.11	Rev A0	MWD+IFR1

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,136.00	1,135.95	9 5/8"	9-5/8	13-1/2
7,511.50	7,174.00	7"	7	8-3/4

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
623.00	623.00	Base Fox Hills		0.00	
1,136.05	1,136.00	Surface Csg Setting Depth		0.00	
3,866.67	3,854.00	Parkman		0.00	
4,246.67	4,234.00	Sussex		0.00	
6,847.06	6,828.00	SSPG		0.00	
6,914.26	6,888.00	NBRR		0.00	
6,961.66	6,928.00	N470_B_CK		0.00	
7,074.87	7,014.00	N700_C_CK		0.00	
7,318.30	7,141.00	FRHS		0.00	
7,406.50	7,164.00	CDLL		0.00	
7,511.50	7,174.00	Landing Target (Heel)		0.00	
12,710.11	7,194.00	Total Depth (Toe)		0.00	

Plan Report for SKIM 35C-28HZ - Rev A0

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
SKIM 35C-28HZ_BHL	7,194.00	-5,880.03	243.37	Point
Sec. 28 and 21-T3N-R65W	0.00	1.09	-104.98	Polygon
SKIM 35C-28HZ_SHL	0.00	0.00	0.00	Point

North Reference Sheet for Skim 35-21HZ Pad - SKIM 35C-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' @ 4864.00usft (D Rig). Northing and Easting are relative to SKIM 35C-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: 0.99960952

Grid Coordinates of Well: 14,601,715.04 usft N, 1,731,653.31 usft E

Geographical Coordinates of Well: 40° 12' 19.62" N, 104° 40' 23.64" W

Grid Convergence at Surface is: 0.21°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,710.11usft the Bottom Hole Displacement is 5,885.06usft in the Direction of 177.63° (True).

Magnetic Convergence at surface is: -8.14° (10 October 2014, , IGRF2010)

