

# US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

Skim 35-21HZ Pad

Skim State 30N-21HZ

Plan A

Plan: Rev A0 Permit

## Sperry Drilling Services Proposal Report

11 October, 2014

Well Coordinates: 14,601,715.43 N, 1,731,563.40 E (40° 12' 19.62" N, 104° 40' 24.80" W)

Ground Level: 4,848.00 usft

Local Coordinate Origin:

Centered on Well Skim State 30N-21HZ

Viewing Datum:

RKB = 17' @ 4865.00usft (D Rig)

TVDs to System:

N

North Reference:

True

Unit System:

API - Planning Rockies

Version: 5000.1 Build: 70

**HALLIBURTON**

			WELL DETAILS: Skim State 30N-21HZ
			Ground Level: 4848.00
			RKB = 17" @ 4865.00usft (D Rig)
			Plan: Rev A0 Permit (Skim State 30N-21HZ/Plan A)
			Created By: Clint Eshelman Date: 10/11/2014
			Reviewed: _____ Date: _____

## Plan Report for Skim State 30N-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
<b>Skim State 30N-21HZ_SHL</b>										
1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Sec. 28 and 21-T3N-R65W</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
624.00	0.00	0.00	624.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Base Fox Hills</b>										
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
1,137.00	0.00	0.00	1,137.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Surface Csg Setting Depth - 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
<b>Begin Nudge @ 1400.00ft</b>										
1,500.00	2.00	216.00	1,499.98	-1.41	-1.03	-1.41	2.00	2.00	0.00	216.00
1,600.00	4.00	216.00	1,599.84	-5.65	-4.10	-5.65	2.00	2.00	0.00	0.00
1,700.00	6.00	216.00	1,699.45	-12.70	-9.22	-12.70	2.00	2.00	0.00	0.00
1,800.00	8.00	216.00	1,798.70	-22.56	-16.39	-22.56	2.00	2.00	0.00	0.00
1,900.00	10.00	216.00	1,897.47	-35.21	-25.58	-35.21	2.00	2.00	0.00	0.00
2,000.00	12.00	216.00	1,995.62	-50.65	-36.80	-50.65	2.00	2.00	0.00	0.00
2,100.00	14.00	216.00	2,093.06	-68.85	-50.02	-68.85	2.00	2.00	0.00	0.00
2,200.00	16.00	216.00	2,189.64	-89.78	-65.23	-89.78	2.00	2.00	0.00	0.00
2,300.00	18.00	216.00	2,285.27	-113.44	-82.42	-113.44	2.00	2.00	0.00	0.00
2,400.00	20.00	216.00	2,379.82	-139.77	-101.55	-139.77	2.00	2.00	0.00	0.00
<b>End Nudge @ 2400.00ft</b>										
2,500.00	20.00	216.00	2,473.78	-167.44	-121.65	-167.44	0.00	0.00	0.00	0.00
2,600.00	20.00	216.00	2,567.75	-195.11	-141.76	-195.11	0.00	0.00	0.00	0.00
2,700.00	20.00	216.00	2,661.72	-222.78	-161.86	-222.78	0.00	0.00	0.00	0.00
2,800.00	20.00	216.00	2,755.69	-250.45	-181.96	-250.45	0.00	0.00	0.00	0.00
2,900.00	20.00	216.00	2,849.66	-278.12	-202.07	-278.12	0.00	0.00	0.00	0.00
3,000.00	20.00	216.00	2,943.63	-305.79	-222.17	-305.79	0.00	0.00	0.00	0.00
3,100.00	20.00	216.00	3,037.60	-333.46	-242.28	-333.46	0.00	0.00	0.00	0.00
3,200.00	20.00	216.00	3,131.57	-361.13	-262.38	-361.13	0.00	0.00	0.00	0.00
3,300.00	20.00	216.00	3,225.54	-388.80	-282.48	-388.80	0.00	0.00	0.00	0.00
3,400.00	20.00	216.00	3,319.51	-416.47	-302.59	-416.47	0.00	0.00	0.00	0.00
3,500.00	20.00	216.00	3,413.48	-444.14	-322.69	-444.14	0.00	0.00	0.00	0.00
3,600.00	20.00	216.00	3,507.45	-471.81	-342.79	-471.81	0.00	0.00	0.00	0.00
3,700.00	20.00	216.00	3,601.42	-499.48	-362.90	-499.48	0.00	0.00	0.00	0.00
3,800.00	20.00	216.00	3,695.39	-527.15	-383.00	-527.15	0.00	0.00	0.00	0.00
3,900.00	20.00	216.00	3,789.35	-554.82	-403.10	-554.82	0.00	0.00	0.00	0.00
4,000.00	20.00	216.00	3,883.32	-582.49	-423.21	-582.49	0.00	0.00	0.00	0.00
4,018.80	20.00	216.00	3,900.99	-587.70	-426.99	-587.70	0.00	0.00	0.00	0.00
<b>Parkman</b>										
4,100.00	20.00	216.00	3,977.29	-610.16	-443.31	-610.16	0.00	0.00	0.00	0.00
4,200.00	20.00	216.00	4,071.26	-637.83	-463.41	-637.83	0.00	0.00	0.00	0.00
4,300.00	20.00	216.00	4,165.23	-665.50	-483.52	-665.50	0.00	0.00	0.00	0.00
4,400.00	20.00	216.00	4,259.20	-693.17	-503.62	-693.17	0.00	0.00	0.00	0.00
4,423.19	20.00	216.00	4,280.99	-699.59	-508.28	-699.59	0.00	0.00	0.00	0.00
<b>Sussex</b>										

## Plan Report for Skim State 30N-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 (°)
4,500.00	20.00	216.00	4,353.17	-720.84	-523.72	-720.84	0.00	0.00	0.00	0.00
4,600.00	20.00	216.00	4,447.14	-748.51	-543.83	-748.51	0.00	0.00	0.00	0.00
4,700.00	20.00	216.00	4,541.11	-776.18	-563.93	-776.18	0.00	0.00	0.00	0.00
4,800.00	20.00	216.00	4,635.08	-803.85	-584.03	-803.85	0.00	0.00	0.00	0.00
4,900.00	20.00	216.00	4,729.05	-831.52	-604.14	-831.52	0.00	0.00	0.00	0.00
5,000.00	20.00	216.00	4,823.02	-859.19	-624.24	-859.19	0.00	0.00	0.00	0.00
5,100.00	20.00	216.00	4,916.99	-886.86	-644.34	-886.86	0.00	0.00	0.00	0.00
5,200.00	20.00	216.00	5,010.95	-914.53	-664.45	-914.53	0.00	0.00	0.00	0.00
5,300.00	20.00	216.00	5,104.92	-942.20	-684.55	-942.20	0.00	0.00	0.00	0.00
5,400.00	20.00	216.00	5,198.89	-969.87	-704.65	-969.87	0.00	0.00	0.00	0.00
5,477.00	20.00	216.00	5,271.25	-991.18	-720.13	-991.18	0.00	0.00	0.00	0.00
<b>Begin Drop @ 5477.00ft</b>										
5,500.00	19.54	216.00	5,292.89	-997.47	-724.71	-997.47	2.00	-2.00	0.00	180.00
5,600.00	17.54	216.00	5,387.70	-1,023.20	-743.40	-1,023.20	2.00	-2.00	0.00	180.00
5,700.00	15.54	216.00	5,483.56	-1,046.23	-760.13	-1,046.23	2.00	-2.00	0.00	180.00
5,800.00	13.54	216.00	5,580.35	-1,066.54	-774.88	-1,066.54	2.00	-2.00	0.00	180.00
5,900.00	11.54	216.00	5,677.96	-1,084.10	-787.64	-1,084.10	2.00	-2.00	0.00	180.00
6,000.00	9.54	216.00	5,776.27	-1,098.90	-798.40	-1,098.90	2.00	-2.00	0.00	180.00
6,100.00	7.54	216.00	5,875.15	-1,110.91	-807.12	-1,110.91	2.00	-2.00	0.00	180.00
6,200.00	5.54	216.00	5,974.50	-1,120.13	-813.82	-1,120.13	2.00	-2.00	0.00	180.00
6,300.00	3.54	216.00	6,074.18	-1,126.53	-818.47	-1,126.53	2.00	-2.00	0.00	180.00
6,400.00	1.54	216.00	6,174.07	-1,130.11	-821.08	-1,130.11	2.00	-2.00	0.00	180.00
6,477.00	0.00	0.00	6,251.07	-1,130.95	-821.68	-1,130.95	2.00	-2.00	187.01	180.00
<b>End Drop @ 6477.00ft</b>										
6,500.00	0.00	0.00	6,274.07	-1,130.95	-821.68	-1,130.95	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,374.07	-1,130.95	-821.68	-1,130.95	0.00	0.00	0.00	0.00
6,633.99	0.00	0.00	6,408.06	-1,130.95	-821.68	-1,130.95	0.00	0.00	0.00	0.00
<b>Set 4.5" Liner @ 6633.99ft</b>										
6,700.00	0.00	0.00	6,474.07	-1,130.95	-821.68	-1,130.95	0.00	0.00	0.00	0.00
6,733.99	0.00	0.00	6,508.06	-1,130.95	-821.68	-1,130.95	0.00	0.00	0.00	0.00
<b>KOP @ 6733.99ft</b>										
6,800.00	6.60	0.00	6,573.92	-1,127.15	-821.68	-1,127.15	10.00	10.00	0.01	0.00
6,900.00	16.60	0.00	6,671.75	-1,107.07	-821.68	-1,107.07	10.00	10.00	0.00	0.00
7,000.00	26.60	0.00	6,764.61	-1,070.30	-821.68	-1,070.30	10.00	10.00	0.00	0.00
7,100.00	36.60	0.00	6,849.67	-1,017.97	-821.68	-1,017.97	10.00	10.00	0.00	0.00
7,132.22	39.82	0.00	6,874.99	-998.04	-821.67	-998.04	10.00	10.00	0.00	0.00
<b>SSPG</b>										
7,200.00	46.60	0.00	6,924.36	-951.66	-821.67	-951.66	10.00	10.00	0.00	0.00
<b>DLS = 10°/100'</b>										
7,215.70	48.17	0.00	6,934.99	-940.10	-821.67	-940.10	10.00	10.00	0.00	0.00
<b>NBRR</b>										
7,279.81	54.58	0.00	6,974.99	-890.04	-821.67	-890.04	10.00	10.00	0.00	0.00
<b>N470_B_CK</b>										
7,300.00	56.60	0.00	6,986.39	-873.38	-821.67	-873.38	10.00	10.00	0.00	0.00
7,400.00	66.60	0.00	7,033.89	-785.53	-821.66	-785.53	10.00	10.00	0.00	0.00
7,482.06	74.81	0.00	7,060.99	-708.14	-821.65	-708.14	10.00	10.00	0.00	0.00
<b>N700_C_CK</b>										
7,500.00	76.60	0.00	7,065.42	-690.76	-821.65	-690.76	10.00	10.00	0.00	0.00
7,600.00	86.60	0.00	7,080.00	-591.96	-821.65	-591.96	10.00	10.00	0.00	0.00
7,637.33	90.33	0.00	7,081.00	-554.65	-821.64	-554.65	10.00	10.00	0.00	0.00
<b>End Build @ 7637.33ft - Landing Target (Heel) - 7"</b>										
7,700.00	90.33	0.00	7,080.63	-491.98	-821.64	-491.98	0.00	0.00	0.00	0.00
7,800.00	90.33	0.00	7,080.05	-391.98	-821.63	-391.98	0.00	0.00	0.00	0.00
7,900.00	90.33	0.00	7,079.47	-291.98	-821.63	-291.98	0.00	0.00	0.00	0.00
8,000.00	90.33	0.00	7,078.88	-191.99	-821.62	-191.99	0.00	0.00	0.00	0.00
8,100.00	90.33	0.00	7,078.30	-91.99	-821.61	-91.99	0.00	0.00	0.00	0.00
8,200.00	90.33	0.00	7,077.71	8.01	-821.61	8.01	0.00	0.00	0.00	0.00
8,300.00	90.33	0.00	7,077.13	108.01	-821.60	108.01	0.00	0.00	0.00	0.00

## Plan Report for Skim State 30N-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 (°)
8,400.00	90.33	0.00	7,076.55	208.01	-821.59	208.01	0.00	0.00	0.00	0.00
8,500.00	90.33	0.00	7,075.96	308.01	-821.59	308.01	0.00	0.00	0.00	0.00
8,600.00	90.33	0.00	7,075.38	408.00	-821.58	408.00	0.00	0.00	0.00	0.00
8,700.00	90.33	0.00	7,074.79	508.00	-821.57	508.00	0.00	0.00	0.00	0.00
8,800.00	90.33	0.00	7,074.21	608.00	-821.56	608.00	0.00	0.00	0.00	0.00
8,900.00	90.33	0.00	7,073.63	708.00	-821.56	708.00	0.00	0.00	0.00	0.00
9,000.00	90.33	0.00	7,073.04	808.00	-821.55	808.00	0.00	0.00	0.00	0.00
9,100.00	90.33	0.00	7,072.46	907.99	-821.54	907.99	0.00	0.00	0.00	0.00
9,200.00	90.33	0.00	7,071.87	1,007.99	-821.54	1,007.99	0.00	0.00	0.00	0.00
9,300.00	90.33	0.00	7,071.29	1,107.99	-821.53	1,107.99	0.00	0.00	0.00	0.00
9,400.00	90.33	0.00	7,070.71	1,207.99	-821.52	1,207.99	0.00	0.00	0.00	0.00
9,500.00	90.33	0.00	7,070.12	1,307.99	-821.52	1,307.99	0.00	0.00	0.00	0.00
9,600.00	90.33	0.00	7,069.54	1,407.99	-821.51	1,407.99	0.00	0.00	0.00	0.00
9,700.00	90.33	0.00	7,068.95	1,507.98	-821.50	1,507.98	0.00	0.00	0.00	0.00
9,800.00	90.33	0.00	7,068.37	1,607.98	-821.50	1,607.98	0.00	0.00	0.00	0.00
9,900.00	90.33	0.00	7,067.79	1,707.98	-821.49	1,707.98	0.00	0.00	0.00	0.00
10,000.00	90.33	0.00	7,067.20	1,807.98	-821.48	1,807.98	0.00	0.00	0.00	0.00
10,100.00	90.33	0.00	7,066.62	1,907.98	-821.48	1,907.98	0.00	0.00	0.00	0.00
10,200.00	90.33	0.00	7,066.03	2,007.98	-821.47	2,007.98	0.00	0.00	0.00	0.00
10,300.00	90.33	0.00	7,065.45	2,107.97	-821.46	2,107.97	0.00	0.00	0.00	0.00
10,400.00	90.33	0.00	7,064.86	2,207.97	-821.45	2,207.97	0.00	0.00	0.00	0.00
10,500.00	90.33	0.00	7,064.28	2,307.97	-821.45	2,307.97	0.00	0.00	0.00	0.00
10,600.00	90.33	0.00	7,063.70	2,407.97	-821.44	2,407.97	0.00	0.00	0.00	0.00
10,700.00	90.33	0.00	7,063.11	2,507.97	-821.43	2,507.97	0.00	0.00	0.00	0.00
10,800.00	90.33	0.00	7,062.53	2,607.97	-821.43	2,607.97	0.00	0.00	0.00	0.00
10,900.00	90.33	0.00	7,061.94	2,707.96	-821.42	2,707.96	0.00	0.00	0.00	0.00
11,000.00	90.33	0.00	7,061.36	2,807.96	-821.41	2,807.96	0.00	0.00	0.00	0.00
11,100.00	90.33	0.00	7,060.78	2,907.96	-821.41	2,907.96	0.00	0.00	0.00	0.00
11,200.00	90.33	0.00	7,060.19	3,007.96	-821.40	3,007.96	0.00	0.00	0.00	0.00
11,300.00	90.33	0.00	7,059.61	3,107.96	-821.39	3,107.96	0.00	0.00	0.00	0.00
11,400.00	90.33	0.00	7,059.02	3,207.96	-821.39	3,207.96	0.00	0.00	0.00	0.00
11,500.00	90.33	0.00	7,058.44	3,307.95	-821.38	3,307.95	0.00	0.00	0.00	0.00
11,600.00	90.33	0.00	7,057.86	3,407.95	-821.37	3,407.95	0.00	0.00	0.00	0.00
11,700.00	90.33	0.00	7,057.27	3,507.95	-821.37	3,507.95	0.00	0.00	0.00	0.00
11,800.00	90.33	0.00	7,056.69	3,607.95	-821.36	3,607.95	0.00	0.00	0.00	0.00
11,900.00	90.33	0.00	7,056.10	3,707.95	-821.35	3,707.95	0.00	0.00	0.00	0.00
12,000.00	90.33	0.00	7,055.52	3,807.95	-821.35	3,807.95	0.00	0.00	0.00	0.00
12,100.00	90.33	0.00	7,054.94	3,907.94	-821.34	3,907.94	0.00	0.00	0.00	0.00
12,200.00	90.33	0.00	7,054.35	4,007.94	-821.33	4,007.94	0.00	0.00	0.00	0.00
12,300.00	90.33	0.00	7,053.77	4,107.94	-821.32	4,107.94	0.00	0.00	0.00	0.00
12,400.00	90.33	0.00	7,053.18	4,207.94	-821.32	4,207.94	0.00	0.00	0.00	0.00
12,500.00	90.33	0.00	7,052.60	4,307.94	-821.31	4,307.94	0.00	0.00	0.00	0.00
12,600.00	90.33	0.00	7,052.02	4,407.94	-821.30	4,407.94	0.00	0.00	0.00	0.00
12,700.00	90.33	0.00	7,051.43	4,507.93	-821.30	4,507.93	0.00	0.00	0.00	0.00
12,773.90	90.33	0.00	7,051.00	4,581.83	-821.29	4,581.83	0.00	0.00	0.00	0.00
<b>Total Depth (Toe)</b>										
12,773.91	90.33	0.00	7,051.00	4,581.84	-821.29	4,581.84	0.00	0.00	0.00	0.00
<b>TD Well @ 12773.91ft - Skim State 30N-21HZ_BHL</b>										

## Plan Report for Skim State 30N-21HZ - 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	-139.77	-101.55	End Nudge @ 2400.00ft
5,477.00	5,271.25	-991.18	-720.13	Begin Drop @ 5477.00ft
6,477.00	6,251.07	-1,130.95	-821.68	End Drop @ 6477.00ft
6,633.99	6,408.06	-1,130.95	-821.68	Set 4.5" Liner @ 6633.99ft
6,733.99	6,508.06	-1,130.95	-821.68	KOP @ 6733.99ft
7,200.00	6,924.36	-951.66	-821.67	DLS = 10°/100'
7,637.33	7,081.00	-554.65	-821.64	End Build @ 7637.33ft
12,773.91	7,051.00	4,581.84	-821.29	TD Well @ 12773.91ft

Vertical Section Information

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

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	7,637.33	Rev A0 Permit	MWD+IFR1
7,637.33	12,773.91	Rev A0 Permit	MWD+IFR1

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,137.00	1,137.00	9 5/8"	9-5/8	13-1/2
7,637.33	7,081.00	7"	7	8-3/4

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
624.00	624.00	Base Fox Hills		0.00	
1,137.00	1,137.00	Surface Csg Setting Depth		0.00	
4,018.80	3,900.99	Parkman		0.00	
4,423.19	4,280.99	Sussex		0.00	
7,132.22	6,874.99	SSPG		0.00	
7,215.70	6,934.99	NBRR		0.00	
7,279.81	6,974.99	N470_B_CK		0.00	
7,482.06	7,060.99	N700_C_CK		0.00	
7,637.33	7,081.00	Landing Target (Heel)		0.00	
12,773.90	7,051.00	Total Depth (Toe)		0.00	

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
Skim State 30N-21HZ_SHL	0.00	0.00	0.00	Point
Sec. 28 and 21-T3N-R65W	1.00	0.36	-15.08	Polygon
Skim State 30N-21HZ_BHL	7,051.00	4,581.84	-821.29	Point

**North Reference Sheet for Skim 35-21HZ Pad - Skim State 30N-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' @ 4865.00usft (D Rig). Northing and Easting are relative to Skim State 30N-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: 0.99960950

Grid Coordinates of Well: 14,601,715.43 usft N, 1,731,563.40 usft E

Geographical Coordinates of Well: 40° 12' 19.62" N, 104° 40' 24.80" W

Grid Convergence at Surface is: 0.21°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,773.91usft  
the Bottom Hole Displacement is 4,654.87usft in the Direction of 349.84° ( True).

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

