

# US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

3N-67W-15 Jester Pad

JESTER 40N-14HZ

Plan B

Plan: Permit Rev-2

## Sperry Drilling Services Proposal Report

26 December, 2014

Well Coordinates: 14,610,169.11 N, 1,672,435.67 E (40° 13' 44.65" N, 104° 53' 07.02" W)

Ground Level: 4,793.00 usft

Local Coordinate Origin:

Centered on Well JESTER 40N-14HZ

Viewing Datum:

RKB = 17' @ 4810.00usft (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: 3N-67W-15 Jester Pad  
Well: JESTER 40N-14HZ  
Wellbore: Plan B  
Design: Permit Rev-2

# US ROCKIES WATTENBERG PLANNING

**HALLIBURTON**  
Sperry Drilling

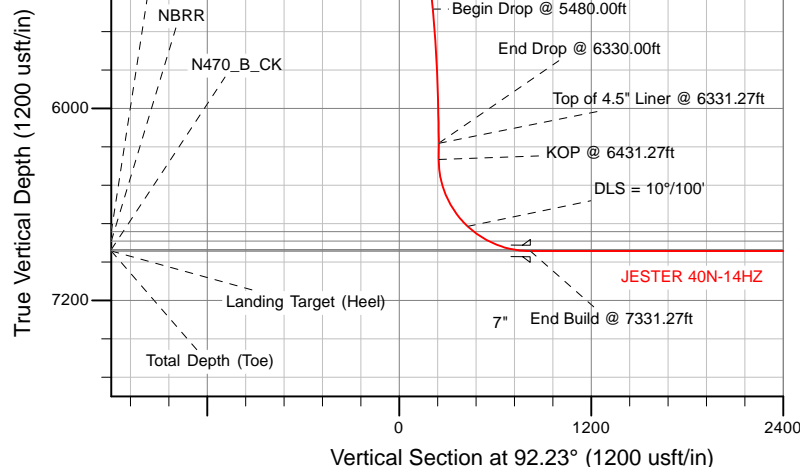
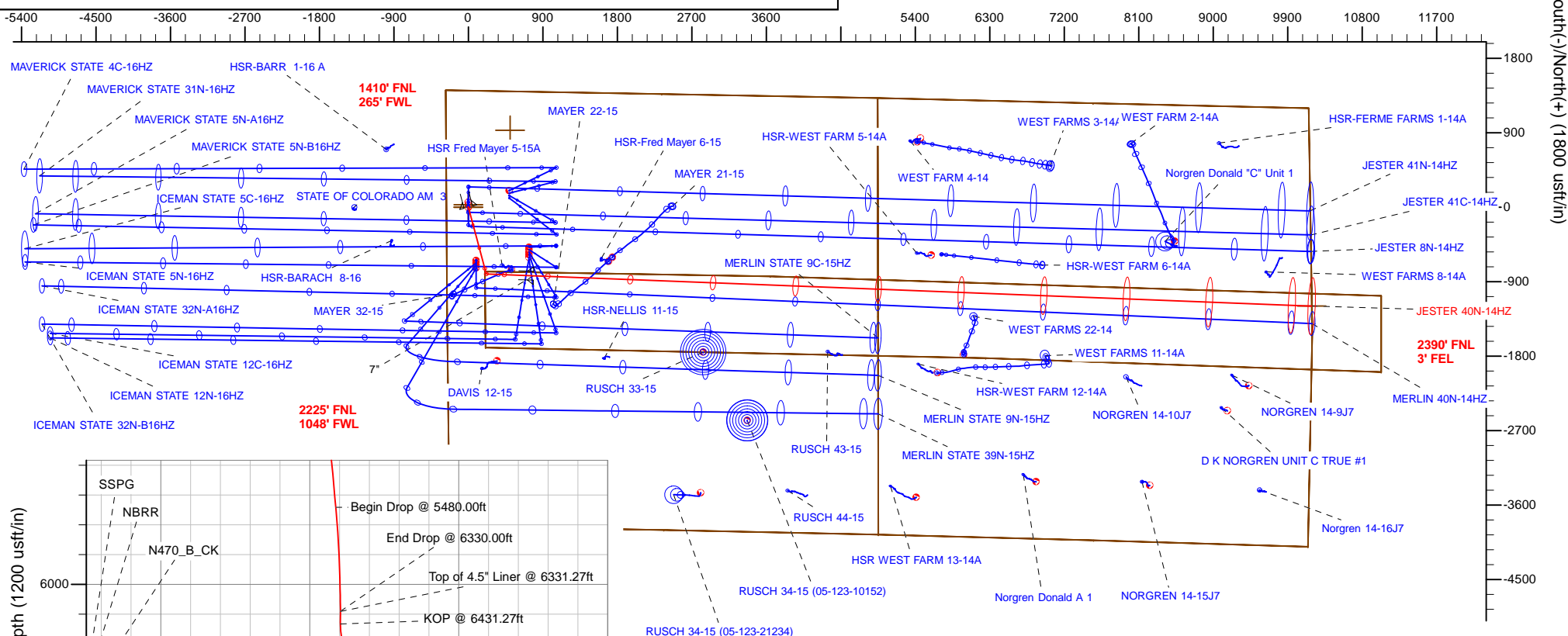
## SECTION DETAILS

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	2630.00	0.00	0.00	2630.00	0.00	0.00	0.00	0.00	0.00	
3	3480.00	17.00	165.00	3467.58	-120.91	32.40	2.00	165.00	37.08	
4	5480.00	17.00	165.00	5380.19	-685.73	183.74	0.00	0.00	210.28	
5	6330.00	0.00	0.00	6217.78	-806.64	216.14	2.00	180.00	247.36	
6	6431.27	0.00	0.00	6319.05	-806.64	216.14	0.00	0.00	247.36	
7	7331.27	90.00	92.23	6892.00	-828.92	788.66	10.00	92.23	820.32	
8	16738.92	90.00	92.23	6892.00	-1194.74	10189.20	0.00	0.00	0.00	JESTER 40N-14HZ_Bottom Hole

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Polygon
3N-R67W-Sec. 14_Section Lines	0.00	30.22	-0.28	40.229152	-104.885284	Polygon
3N-R67W-Sec. 15_Section Lines	0.00	930.79	504.34	40.231625	-104.883476	Polygon
JESTER 40N-14HZ_LD	0.00	0.00	0.00	40.229069	-104.885283	Polygon
JESTER 40N-14HZ_SHL	0.00	0.00	0.00	40.229069	-104.885283	Polygon
JESTER 40N-14HZ_Bottom Hole	6892.00	-1194.74	10189.20	40.225782	-104.848779	

West(-)/East(+) (1800 usft/in)



TVD MD

6219.05 6331.27 Top of 4.5" Liner @ 6331.27ft  
6319.05 6431.27 KOP @ 6431.27ft

WELL DETAILS: JESTER 40N-14HZ

Ground Level: 4793.00

RKB = 17' @ 4810.00usft (D Rig)

Plan: Permit Rev-2 (JESTER 40N-14HZ/Plan B)

Created By: Clint Eshelman

Reviewed:

Date: 12/23/2014

Date:

## Plan Report for JESTER 40N-14HZ - Permit Rev-2

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>JESTER 40N-14HZ_SHL - 3N-R67W-Sec. 15_Section Lines - 3N-R67W-Sec. 14_Section Lines - JESTER 40N-14HZ_LD</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
492.00	0.00	0.00	492.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Base Fox Hills</b>										
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
743.00	0.00	0.00	743.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Surface Csg Setting Depth - 9 5/8"</b>										
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
1,200.00	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
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,630.00	0.00	0.00	2,630.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Begin Nudge @ 2630.00ft</b>										
2,700.00	1.40	165.00	2,699.99	-0.83	0.22	0.25	2.00	2.00	0.00	165.00
2,800.00	3.40	165.00	2,799.90	-4.87	1.31	1.49	2.00	2.00	0.00	0.00
2,900.00	5.40	165.00	2,899.60	-12.28	3.29	3.77	2.00	2.00	0.00	0.00
3,000.00	7.40	165.00	2,998.97	-23.05	6.18	7.07	2.00	2.00	0.00	0.00
3,100.00	9.40	165.00	3,097.89	-37.16	9.96	11.39	2.00	2.00	0.00	0.00
3,200.00	11.40	165.00	3,196.25	-54.59	14.63	16.74	2.00	2.00	0.00	0.00
3,300.00	13.40	165.00	3,293.91	-75.33	20.19	23.10	2.00	2.00	0.00	0.00
3,400.00	15.40	165.00	3,390.76	-99.35	26.62	30.47	2.00	2.00	0.00	0.00
3,480.00	17.00	165.00	3,467.58	-120.91	32.40	37.08	2.00	2.00	0.00	0.00
<b>End Nudge @ 3480.00ft</b>										
3,500.00	17.00	165.00	3,486.71	-126.56	33.91	38.81	0.00	0.00	0.00	0.00
3,590.23	17.00	165.00	3,573.00	-152.04	40.74	46.63	0.00	0.00	0.00	0.00
<b>Parkman</b>										
3,600.00	17.00	165.00	3,582.34	-154.80	41.48	47.47	0.00	0.00	0.00	0.00
3,700.00	17.00	165.00	3,677.97	-183.04	49.05	56.13	0.00	0.00	0.00	0.00
3,800.00	17.00	165.00	3,773.60	-211.28	56.61	64.79	0.00	0.00	0.00	0.00
3,900.00	17.00	165.00	3,869.23	-239.52	64.18	73.45	0.00	0.00	0.00	0.00
4,000.00	17.00	165.00	3,964.86	-267.77	71.75	82.11	0.00	0.00	0.00	0.00
4,049.29	17.00	165.00	4,012.00	-281.69	75.48	86.38	0.00	0.00	0.00	0.00
<b>Sussex</b>										
4,100.00	17.00	165.00	4,060.49	-296.01	79.31	90.77	0.00	0.00	0.00	0.00
4,200.00	17.00	165.00	4,156.12	-324.25	86.88	99.43	0.00	0.00	0.00	0.00
4,300.00	17.00	165.00	4,251.75	-352.49	94.45	108.09	0.00	0.00	0.00	0.00

## Plan Report for JESTER 40N-14HZ - Permit Rev-2

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	17.00	165.00	4,347.38	-380.73	102.02	116.75	0.00	0.00	0.00	0.00
4,500.00	17.00	165.00	4,443.01	-408.97	109.58	125.41	0.00	0.00	0.00	0.00
4,600.00	17.00	165.00	4,538.64	-437.21	117.15	134.07	0.00	0.00	0.00	0.00
4,700.00	17.00	165.00	4,634.28	-465.45	124.72	142.73	0.00	0.00	0.00	0.00
4,800.00	17.00	165.00	4,729.91	-493.69	132.28	151.39	0.00	0.00	0.00	0.00
4,900.00	17.00	165.00	4,825.54	-521.93	139.85	160.05	0.00	0.00	0.00	0.00
5,000.00	17.00	165.00	4,921.17	-550.17	147.42	168.72	0.00	0.00	0.00	0.00
5,100.00	17.00	165.00	5,016.80	-578.42	154.99	177.38	0.00	0.00	0.00	0.00
5,200.00	17.00	165.00	5,112.43	-606.66	162.55	186.04	0.00	0.00	0.00	0.00
5,300.00	17.00	165.00	5,208.06	-634.90	170.12	194.70	0.00	0.00	0.00	0.00
5,400.00	17.00	165.00	5,303.69	-663.14	177.69	203.36	0.00	0.00	0.00	0.00
5,480.00	17.00	165.00	5,380.19	-685.73	183.74	210.28	0.00	0.00	0.00	0.00
<b>Begin Drop @ 5480.00ft</b>										
5,500.00	16.60	165.00	5,399.34	-691.31	185.24	212.00	2.00	-2.00	0.00	180.00
5,600.00	14.60	165.00	5,495.65	-717.29	192.20	219.96	2.00	-2.00	0.00	180.00
5,700.00	12.60	165.00	5,592.84	-740.00	198.28	226.93	2.00	-2.00	0.00	180.00
5,800.00	10.60	165.00	5,690.79	-759.42	203.49	232.88	2.00	-2.00	0.00	180.00
5,900.00	8.60	165.00	5,789.39	-775.53	207.80	237.82	2.00	-2.00	0.00	180.00
6,000.00	6.60	165.00	5,888.51	-788.30	211.23	241.74	2.00	-2.00	0.00	180.00
6,100.00	4.60	165.00	5,988.02	-797.73	213.75	244.63	2.00	-2.00	0.00	180.00
6,200.00	2.60	165.00	6,087.82	-803.79	215.38	246.49	2.00	-2.00	0.00	180.00
6,300.00	0.60	165.00	6,187.78	-806.49	216.10	247.32	2.00	-2.00	0.00	180.00
6,330.00	0.00	0.00	6,217.78	-806.64	216.14	247.36	2.00	-2.00	0.00	-180.00
<b>End Drop @ 6330.00ft</b>										
6,331.27	0.00	0.00	6,219.05	-806.64	216.14	247.36	0.00	0.00	0.00	0.00
<b>Top of 4.5" Liner @ 6331.27ft</b>										
6,400.00	0.00	0.00	6,287.78	-806.64	216.14	247.36	0.00	0.00	0.00	0.00
6,431.27	0.00	0.00	6,319.05	-806.64	216.14	247.36	0.00	0.00	0.00	0.00
<b>KOP @ 6431.27ft</b>										
6,500.00	6.87	92.23	6,387.61	-806.80	220.25	251.48	10.00	10.00	0.00	92.23
6,600.00	16.87	92.23	6,485.35	-807.60	240.79	272.03	10.00	10.00	0.00	0.00
6,700.00	26.87	92.23	6,578.03	-809.05	277.97	309.24	10.00	10.00	0.00	0.00
6,800.00	36.87	92.23	6,662.85	-811.10	330.66	361.97	10.00	10.00	0.00	0.00
6,900.00	46.87	92.23	6,737.21	-813.69	397.28	428.64	10.00	10.00	0.00	0.00
<b>DLS = 10°/100'</b>										
6,950.39	51.91	92.23	6,770.00	-815.18	435.49	466.88	10.00	10.00	0.00	0.00
<b>SSPG</b>										
7,000.00	56.87	92.23	6,798.88	-816.75	475.78	507.20	10.00	10.00	0.00	0.00
7,060.05	62.88	92.23	6,829.00	-818.77	527.66	559.12	10.00	10.00	0.00	0.00
<b>NBRR</b>										
7,100.00	66.87	92.23	6,845.96	-820.17	563.79	595.28	10.00	10.00	0.00	0.00
7,200.00	76.87	92.23	6,877.03	-823.86	658.64	690.20	10.00	10.00	0.00	0.00
7,224.05	79.28	92.23	6,882.00	-824.78	682.14	713.72	10.00	10.00	0.00	0.00
<b>N470_B_CK</b>										
7,300.00	86.87	92.23	6,891.15	-827.71	757.43	789.07	10.00	10.00	0.00	0.00
7,331.27	90.00	92.23	6,892.00	-828.92	788.66	820.32	10.00	10.00	0.00	0.00
<b>End Build @ 7331.27ft - Landing Target (Heel) - 7"</b>										
7,400.00	90.00	92.23	6,892.00	-831.60	857.34	889.05	0.00	0.00	0.00	0.00
7,500.00	90.00	92.23	6,892.00	-835.48	957.27	989.05	0.00	0.00	0.00	0.00
7,600.00	90.00	92.23	6,892.00	-839.37	1,057.19	1,089.05	0.00	0.00	0.00	0.00
7,700.00	90.00	92.23	6,892.00	-843.26	1,157.11	1,189.05	0.00	0.00	0.00	0.00
7,800.00	90.00	92.23	6,892.00	-847.15	1,257.04	1,289.05	0.00	0.00	0.00	0.00
7,900.00	90.00	92.23	6,892.00	-851.04	1,356.96	1,389.05	0.00	0.00	0.00	0.00
8,000.00	90.00	92.23	6,892.00	-854.93	1,456.89	1,489.05	0.00	0.00	0.00	0.00
8,100.00	90.00	92.23	6,892.00	-858.82	1,556.81	1,589.05	0.00	0.00	0.00	0.00
8,200.00	90.00	92.23	6,892.00	-862.70	1,656.74	1,689.05	0.00	0.00	0.00	0.00
8,300.00	90.00	92.23	6,892.00	-866.59	1,756.66	1,789.05	0.00	0.00	0.00	0.00
8,400.00	90.00	92.23	6,892.00	-870.48	1,856.59	1,889.05	0.00	0.00	0.00	0.00
8,500.00	90.00	92.23	6,892.00	-874.37	1,956.51	1,989.05	0.00	0.00	0.00	0.00

## Plan Report for JESTER 40N-14HZ - Permit Rev-2

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 (°)
8,600.00	90.00	92.23	6,892.00	-878.26	2,056.43	2,089.05	0.00	0.00	0.00	0.00
8,700.00	90.00	92.23	6,892.00	-882.15	2,156.36	2,189.05	0.00	0.00	0.00	0.00
8,800.00	90.00	92.23	6,892.00	-886.03	2,256.28	2,289.05	0.00	0.00	0.00	0.00
8,900.00	90.00	92.23	6,892.00	-889.92	2,356.21	2,389.05	0.00	0.00	0.00	0.00
9,000.00	90.00	92.23	6,892.00	-893.81	2,456.13	2,489.05	0.00	0.00	0.00	0.00
9,100.00	90.00	92.23	6,892.00	-897.70	2,556.06	2,589.05	0.00	0.00	0.00	0.00
9,200.00	90.00	92.23	6,892.00	-901.59	2,655.98	2,689.05	0.00	0.00	0.00	0.00
9,300.00	90.00	92.23	6,892.00	-905.48	2,755.90	2,789.05	0.00	0.00	0.00	0.00
9,400.00	90.00	92.23	6,892.00	-909.37	2,855.83	2,889.05	0.00	0.00	0.00	0.00
9,500.00	90.00	92.23	6,892.00	-913.25	2,955.75	2,989.05	0.00	0.00	0.00	0.00
9,600.00	90.00	92.23	6,892.00	-917.14	3,055.68	3,089.05	0.00	0.00	0.00	0.00
9,700.00	90.00	92.23	6,892.00	-921.03	3,155.60	3,189.05	0.00	0.00	0.00	0.00
9,800.00	90.00	92.23	6,892.00	-924.92	3,255.53	3,289.05	0.00	0.00	0.00	0.00
9,900.00	90.00	92.23	6,892.00	-928.81	3,355.45	3,389.05	0.00	0.00	0.00	0.00
10,000.00	90.00	92.23	6,892.00	-932.70	3,455.38	3,489.05	0.00	0.00	0.00	0.00
10,100.00	90.00	92.23	6,892.00	-936.59	3,555.30	3,589.05	0.00	0.00	0.00	0.00
10,200.00	90.00	92.23	6,892.00	-940.47	3,655.22	3,689.05	0.00	0.00	0.00	0.00
10,300.00	90.00	92.23	6,892.00	-944.36	3,755.15	3,789.05	0.00	0.00	0.00	0.00
10,400.00	90.00	92.23	6,892.00	-948.25	3,855.07	3,889.05	0.00	0.00	0.00	0.00
10,500.00	90.00	92.23	6,892.00	-952.14	3,955.00	3,989.05	0.00	0.00	0.00	0.00
10,600.00	90.00	92.23	6,892.00	-956.03	4,054.92	4,089.05	0.00	0.00	0.00	0.00
10,700.00	90.00	92.23	6,892.00	-959.92	4,154.85	4,189.05	0.00	0.00	0.00	0.00
10,800.00	90.00	92.23	6,892.00	-963.80	4,254.77	4,289.05	0.00	0.00	0.00	0.00
10,900.00	90.00	92.23	6,892.00	-967.69	4,354.69	4,389.05	0.00	0.00	0.00	0.00
11,000.00	90.00	92.23	6,892.00	-971.58	4,454.62	4,489.05	0.00	0.00	0.00	0.00
11,100.00	90.00	92.23	6,892.00	-975.47	4,554.54	4,589.05	0.00	0.00	0.00	0.00
11,200.00	90.00	92.23	6,892.00	-979.36	4,654.47	4,689.05	0.00	0.00	0.00	0.00
11,300.00	90.00	92.23	6,892.00	-983.25	4,754.39	4,789.05	0.00	0.00	0.00	0.00
11,400.00	90.00	92.23	6,892.00	-987.14	4,854.32	4,889.05	0.00	0.00	0.00	0.00
11,500.00	90.00	92.23	6,892.00	-991.02	4,954.24	4,989.05	0.00	0.00	0.00	0.00
11,600.00	90.00	92.23	6,892.00	-994.91	5,054.17	5,089.05	0.00	0.00	0.00	0.00
11,700.00	90.00	92.23	6,892.00	-998.80	5,154.09	5,189.05	0.00	0.00	0.00	0.00
11,800.00	90.00	92.23	6,892.00	-1,002.69	5,254.01	5,289.05	0.00	0.00	0.00	0.00
11,900.00	90.00	92.23	6,892.00	-1,006.58	5,353.94	5,389.05	0.00	0.00	0.00	0.00
12,000.00	90.00	92.23	6,892.00	-1,010.47	5,453.86	5,489.05	0.00	0.00	0.00	0.00
12,100.00	90.00	92.23	6,892.00	-1,014.36	5,553.79	5,589.05	0.00	0.00	0.00	0.00
12,200.00	90.00	92.23	6,892.00	-1,018.24	5,653.71	5,689.05	0.00	0.00	0.00	0.00
12,300.00	90.00	92.23	6,892.00	-1,022.13	5,753.64	5,789.05	0.00	0.00	0.00	0.00
12,400.00	90.00	92.23	6,892.00	-1,026.02	5,853.56	5,889.05	0.00	0.00	0.00	0.00
12,500.00	90.00	92.23	6,892.00	-1,029.91	5,953.48	5,989.05	0.00	0.00	0.00	0.00
12,600.00	90.00	92.23	6,892.00	-1,033.80	6,053.41	6,089.05	0.00	0.00	0.00	0.00
12,700.00	90.00	92.23	6,892.00	-1,037.69	6,153.33	6,189.05	0.00	0.00	0.00	0.00
12,800.00	90.00	92.23	6,892.00	-1,041.57	6,253.26	6,289.05	0.00	0.00	0.00	0.00
12,900.00	90.00	92.23	6,892.00	-1,045.46	6,353.18	6,389.05	0.00	0.00	0.00	0.00
13,000.00	90.00	92.23	6,892.00	-1,049.35	6,453.11	6,489.05	0.00	0.00	0.00	0.00
13,100.00	90.00	92.23	6,892.00	-1,053.24	6,553.03	6,589.05	0.00	0.00	0.00	0.00
13,200.00	90.00	92.23	6,892.00	-1,057.13	6,652.96	6,689.05	0.00	0.00	0.00	0.00
13,300.00	90.00	92.23	6,892.00	-1,061.02	6,752.88	6,789.05	0.00	0.00	0.00	0.00
13,400.00	90.00	92.23	6,892.00	-1,064.91	6,852.80	6,889.05	0.00	0.00	0.00	0.00
13,500.00	90.00	92.23	6,892.00	-1,068.79	6,952.73	6,989.05	0.00	0.00	0.00	0.00
13,600.00	90.00	92.23	6,892.00	-1,072.68	7,052.65	7,089.05	0.00	0.00	0.00	0.00
13,700.00	90.00	92.23	6,892.00	-1,076.57	7,152.58	7,189.05	0.00	0.00	0.00	0.00
13,800.00	90.00	92.23	6,892.00	-1,080.46	7,252.50	7,289.05	0.00	0.00	0.00	0.00
13,900.00	90.00	92.23	6,892.00	-1,084.35	7,352.43	7,389.05	0.00	0.00	0.00	0.00
14,000.00	90.00	92.23	6,892.00	-1,088.24	7,452.35	7,489.05	0.00	0.00	0.00	0.00
14,100.00	90.00	92.23	6,892.00	-1,092.13	7,552.27	7,589.05	0.00	0.00	0.00	0.00
14,200.00	90.00	92.23	6,892.00	-1,096.01	7,652.20	7,689.05	0.00	0.00	0.00	0.00
14,300.00	90.00	92.23	6,892.00	-1,099.90	7,752.12	7,789.05	0.00	0.00	0.00	0.00
14,400.00	90.00	92.23	6,892.00	-1,103.79	7,852.05	7,889.05	0.00	0.00	0.00	0.00
14,500.00	90.00	92.23	6,892.00	-1,107.68	7,951.97	7,989.05	0.00	0.00	0.00	0.00

## Plan Report for JESTER 40N-14HZ - Permit Rev-2

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 (°)
14,600.00	90.00	92.23	6,892.00	-1,111.57	8,051.90	8,089.05	0.00	0.00	0.00	0.00
14,700.00	90.00	92.23	6,892.00	-1,115.46	8,151.82	8,189.05	0.00	0.00	0.00	0.00
14,800.00	90.00	92.23	6,892.00	-1,119.34	8,251.75	8,289.05	0.00	0.00	0.00	0.00
14,900.00	90.00	92.23	6,892.00	-1,123.23	8,351.67	8,389.05	0.00	0.00	0.00	0.00
15,000.00	90.00	92.23	6,892.00	-1,127.12	8,451.59	8,489.05	0.00	0.00	0.00	0.00
15,100.00	90.00	92.23	6,892.00	-1,131.01	8,551.52	8,589.05	0.00	0.00	0.00	0.00
15,200.00	90.00	92.23	6,892.00	-1,134.90	8,651.44	8,689.05	0.00	0.00	0.00	0.00
15,300.00	90.00	92.23	6,892.00	-1,138.79	8,751.37	8,789.05	0.00	0.00	0.00	0.00
15,400.00	90.00	92.23	6,892.00	-1,142.68	8,851.29	8,889.05	0.00	0.00	0.00	0.00
15,500.00	90.00	92.23	6,892.00	-1,146.56	8,951.22	8,989.05	0.00	0.00	0.00	0.00
15,600.00	90.00	92.23	6,892.00	-1,150.45	9,051.14	9,089.05	0.00	0.00	0.00	0.00
15,700.00	90.00	92.23	6,892.00	-1,154.34	9,151.06	9,189.05	0.00	0.00	0.00	0.00
15,800.00	90.00	92.23	6,892.00	-1,158.23	9,250.99	9,289.05	0.00	0.00	0.00	0.00
15,900.00	90.00	92.23	6,892.00	-1,162.12	9,350.91	9,389.05	0.00	0.00	0.00	0.00
16,000.00	90.00	92.23	6,892.00	-1,166.01	9,450.84	9,489.05	0.00	0.00	0.00	0.00
16,100.00	90.00	92.23	6,892.00	-1,169.90	9,550.76	9,589.05	0.00	0.00	0.00	0.00
16,200.00	90.00	92.23	6,892.00	-1,173.78	9,650.69	9,689.05	0.00	0.00	0.00	0.00
16,300.00	90.00	92.23	6,892.00	-1,177.67	9,750.61	9,789.05	0.00	0.00	0.00	0.00
16,400.00	90.00	92.23	6,892.00	-1,181.56	9,850.54	9,889.05	0.00	0.00	0.00	0.00
16,500.00	90.00	92.23	6,892.00	-1,185.45	9,950.46	9,989.05	0.00	0.00	0.00	0.00
16,600.00	90.00	92.23	6,892.00	-1,189.34	10,050.38	10,089.05	0.00	0.00	0.00	0.00
16,700.00	90.00	92.23	6,892.00	-1,193.23	10,150.31	10,189.05	0.00	0.00	0.00	0.00
16,738.92	90.00	92.23	6,892.00	-1,194.74	10,189.20	10,227.97	0.00	0.00	0.00	0.00

TD Well @ 16738.92ft - Total Depth (Toe) - JESTER 40N-14HZ\_Bottom Hole

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,630.00	2,630.00	0.00	0.00	Begin Nudge @ 2630.00ft
3,480.00	3,467.58	-120.91	32.40	End Nudge @ 3480.00ft
5,480.00	5,380.19	-685.73	183.74	Begin Drop @ 5480.00ft
6,330.00	6,217.78	-806.64	216.14	End Drop @ 6330.00ft
6,331.27	6,219.05	-806.64	216.14	Top of 4.5" Liner @ 6331.27ft
6,431.27	6,319.05	-806.64	216.14	KOP @ 6431.27ft
6,900.00	6,737.21	-813.69	397.28	DLS = 10°/100'
7,331.27	6,892.00	-828.92	788.66	End Build @ 7331.27ft
16,738.92	6,892.00	-1,194.74	10,189.20	TD Well @ 16738.92ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/-S (usft)	+E/-W (usft)	
User	No Target (Freehand)	92.23	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	7,331.27	Permit Rev-2	MWD+IFR1
7,331.27	16,738.92	Permit Rev-2	MWD+IFR1

## Plan Report for JESTER 40N-14HZ - Permit Rev-2

**Casing Details**

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
743.00	743.00	9 5/8"	9-5/8	13-1/2
7,331.27	6,892.00	7"	7	8-3/4

**Formation Details**

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
492.00	492.00	Base Fox Hills		0.00	
743.00	743.00	Surface Csg Setting Depth		0.00	
3,590.23	3,573.00	Parkman		0.00	
4,049.29	4,012.00	Sussex		0.00	
6,950.39	6,770.00	SSPG		0.00	
7,060.05	6,829.00	NBRR		0.00	
7,224.05	6,882.00	N470_B_CK		0.00	
7,331.27	6,892.00	Landing Target (Heel)		0.00	
16,738.92	6,892.00	Total Depth (Toe)		0.00	

***Targets associated with this wellbore***

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
JESTER 40N-14HZ_SHL	0.00	0.00	0.00	Point
3N-R67W-Sec. 15_Section Lines	0.00	930.79	504.34	Polygon
JESTER 40N-14HZ_Bottom Hole	6,892.00	-1,194.74	10,189.20	Point
3N-R67W-Sec. 14_Section Lines	0.00	30.22	-0.28	Polygon
JESTER 40N-14HZ_LD	0.00	0.00	0.00	Polygon

**North Reference Sheet for 3N-67W-15 Jester Pad - JESTER 40N-14HZ - Plan B**

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' @ 4810.00usft (D Rig). Northing and Easting are relative to JESTER 40N-14HZ

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: 0.99960117

Grid Coordinates of Well: 14,610,169.11 usft N, 1,672,435.67 usft E

Geographical Coordinates of Well: 40° 13' 44.65" N, 104° 53' 07.02" W

Grid Convergence at Surface is: 0.07°

Based upon Minimum Curvature type calculations, at a Measured Depth of 16,738.92usft  
the Bottom Hole Displacement is 10,259.00usft in the Direction of 96.69° (True).

Magnetic Convergence at surface is: -8.37° (22 December 2014, , IGRF2010)

