

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

3N-67W-15 Jester Pad

JESTER 41N-14HZ

Plan A

Plan: Permit Rev-2

Sperry Drilling Services Proposal Report

26 December, 2014

Well Coordinates: 14,610,259.06 N, 1,672,434.99 E (40° 13' 45.54" N, 104° 53' 07.03" W)

Ground Level: 4,793.00 usft

Local Coordinate Origin:

Centered on Well JESTER 41N-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

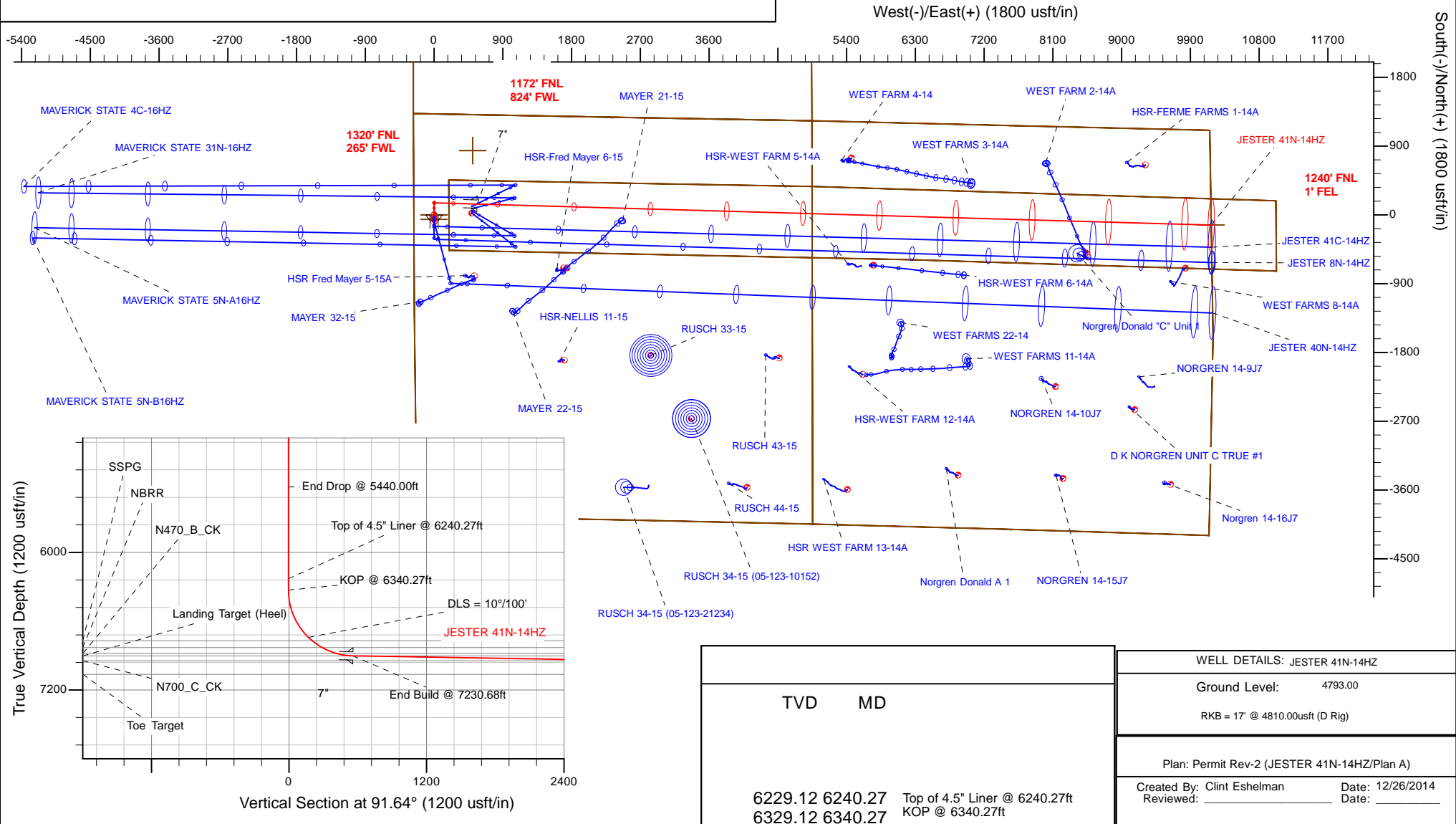
HALLIBURTON

Project: WELD-NAD83-UTMFT13N
Site: 3N-67W-15 Jester Pad
Well: JESTER 41N-14HZ
Wellbore: Plan A
Design: Permit Rev-2

US ROCKIES WATTENBERG PLANNING

HALLIBURTON
Sperry Drilling

SECTION DETAILS											WELLBORE TARGET DETAILS (LAT/LONG)					
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target	Name	TVD	+N/-S	+E/-W	Latitude	Longitude
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		3N-R67W-Sec. 10_Section Lines	0.00	840.84	504.90	40.231625	-104.883476
2	4040.00	0.00	0.00	4040.00	0.00	0.00	0.00	0.00	0.00		3N-R67W-Sec. 14_Section Lines	0.00	-59.72	0.28	40.229152	-104.885284
3	4540.00	10.00	0.00	4537.47	43.52	0.00	0.00	0.00	-1.25		3N-R67W-Sec. 15_Section Lines	0.00	840.84	504.90	40.231625	-104.883476
4	4940.00	10.00	0.00	4931.39	112.98	0.00	0.00	0.00	-3.23		JESTER 41N-14HZ_LD	0.00	0.00	0.00	40.229316	-104.885285
5	5440.00	0.00	0.00	5428.85	156.50	0.00	2.00	180.00	-4.48		JESTER 41N-14HZ_SHL	0.00	0.00	0.00	40.229316	-104.885285
6	6340.27	0.00	0.00	6329.12	156.50	0.00	0.00	0.00	-4.48		JESTER 41N-14HZ_BHL	7063.00	-134.11	10172.58	40.228942	-104.848839
7	7230.68	89.04	91.64	6902.00	140.42	563.13	10.00	91.64	558.88							
8	16845.39	89.04	91.64	7063.00	-134.11	10172.58	0.00	0.00	0172.25	JESTER 41N-14HZ_BHL						



Plan Report for JESTER 41N-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
3N-R67W-Sec. 15_Section Lines - JESTER 41N-14HZ_SHL - 3N-R67W-Sec. 14_Section Lines - JESTER 41N-14HZ_LD - 3N-R67W-Sec. 10_Section L										
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
Base Fox Hills										
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
Surface Csg Setting Depth - 9 5/8"										
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
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,573.00	0.00	0.00	3,573.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parkman										
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,012.00	0.00	0.00	4,012.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sussex										
4,040.00	0.00	0.00	4,040.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 4040.00ft										
4,100.00	1.20	0.00	4,100.00	0.63	0.00	-0.02	2.00	2.00	0.00	0.00
4,200.00	3.20	0.00	4,199.92	4.47	0.00	-0.13	2.00	2.00	0.00	0.00
4,300.00	5.20	0.00	4,299.64	11.79	0.00	-0.34	2.00	2.00	0.00	0.00
4,400.00	7.20	0.00	4,399.05	22.59	0.00	-0.65	2.00	2.00	0.00	0.00
4,500.00	9.20	0.00	4,498.03	36.85	0.00	-1.05	2.00	2.00	0.00	0.00
4,540.00	10.00	0.00	4,537.47	43.52	0.00	-1.25	2.00	2.00	0.00	0.00

Plan Report for JESTER 41N-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 (°)
End Nudge @ 4540.00ft										
4,600.00	10.00	0.00	4,596.55	53.94	0.00	-1.54	0.00	0.00	0.00	0.00
4,700.00	10.00	0.00	4,695.03	71.31	0.00	-2.04	0.00	0.00	0.00	0.00
4,800.00	10.00	0.00	4,793.52	88.67	0.00	-2.54	0.00	0.00	0.00	0.00
4,900.00	10.00	0.00	4,892.00	106.04	0.00	-3.03	0.00	0.00	0.00	0.00
4,940.00	10.00	0.00	4,931.39	112.98	0.00	-3.23	0.00	0.00	0.00	0.00
Begin Drop @ 4940.00ft										
5,000.00	8.80	0.00	4,990.58	122.78	0.00	-3.51	2.00	-2.00	0.00	180.00
5,100.00	6.80	0.00	5,089.65	136.35	0.00	-3.90	2.00	-2.00	0.00	180.00
5,200.00	4.80	0.00	5,189.13	146.46	0.00	-4.19	2.00	-2.00	0.00	180.00
5,300.00	2.80	0.00	5,288.91	153.08	0.00	-4.38	2.00	-2.00	0.00	180.00
5,400.00	0.80	0.00	5,388.86	156.23	0.00	-4.47	2.00	-2.00	0.00	180.00
5,440.00	0.00	0.00	5,428.85	156.50	0.00	-4.48	2.00	-2.00	0.00	-180.00
End Drop @ 5440.00ft										
5,500.00	0.00	0.00	5,488.85	156.50	0.00	-4.48	0.00	0.00	0.00	180.00
5,600.00	0.00	0.00	5,588.85	156.50	0.00	-4.48	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,688.85	156.50	0.00	-4.48	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,788.85	156.50	0.00	-4.48	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,888.85	156.50	0.00	-4.48	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,988.85	156.50	0.00	-4.48	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,088.85	156.50	0.00	-4.48	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,188.85	156.50	0.00	-4.48	0.00	0.00	0.00	0.00
6,240.27	0.00	0.00	6,229.12	156.50	0.00	-4.48	0.00	0.00	0.00	0.00
Top of 4.5" Liner @ 6240.27ft										
6,300.00	0.00	0.00	6,288.85	156.50	0.00	-4.48	0.00	0.00	0.00	0.00
6,340.27	0.00	0.00	6,329.12	156.50	0.00	-4.48	0.00	0.00	0.00	0.00
KOP @ 6340.27ft										
6,400.00	5.97	91.64	6,388.75	156.42	3.11	-1.37	10.00	10.00	0.00	91.64
6,500.00	15.97	91.64	6,486.79	155.87	22.11	17.64	10.00	10.00	0.00	0.00
6,600.00	25.97	91.64	6,580.05	154.85	57.84	53.39	10.00	10.00	0.00	0.00
6,700.00	35.97	91.64	6,665.68	153.38	109.22	104.79	10.00	10.00	0.00	0.00
6,800.00	45.97	91.64	6,741.09	151.51	174.68	170.27	10.00	10.00	0.00	0.00
DLS = 10°/100'										
6,843.34	50.31	91.64	6,770.00	150.59	206.94	202.54	10.00	10.00	0.00	0.00
SSPG										
6,900.00	55.97	91.64	6,803.98	149.30	252.24	247.86	10.00	10.00	0.00	0.00
6,947.71	60.74	91.64	6,829.00	148.14	292.83	288.47	10.00	10.00	0.00	0.00
NBRR										
7,000.00	65.97	91.64	6,852.44	146.80	339.53	335.19	10.00	10.00	0.00	0.00
7,088.13	74.79	91.64	6,882.00	144.44	422.42	418.12	10.00	10.00	0.00	0.00
N470_B_CK										
7,100.00	75.97	91.64	6,885.00	144.11	433.91	429.61	10.00	10.00	0.00	0.00
7,200.00	85.97	91.64	6,900.67	141.29	532.50	528.24	10.00	10.00	0.00	0.00
7,230.68	89.04	91.64	6,902.00	140.42	563.14	558.89	10.00	10.00	0.00	0.00
End Build @ 7230.68ft - Landing Target (Heel) - 7"										
7,300.00	89.04	91.64	6,903.16	138.44	632.42	628.20	0.00	0.00	0.00	0.00
7,400.00	89.04	91.64	6,904.84	135.58	732.37	728.19	0.00	0.00	0.00	0.00
7,500.00	89.04	91.64	6,906.51	132.73	832.31	828.17	0.00	0.00	0.00	0.00
7,600.00	89.04	91.64	6,908.19	129.87	932.26	928.16	0.00	0.00	0.00	0.00
7,700.00	89.04	91.64	6,909.86	127.02	1,032.20	1,028.14	0.00	0.00	0.00	0.00
7,800.00	89.04	91.64	6,911.53	124.16	1,132.15	1,128.13	0.00	0.00	0.00	0.00
7,900.00	89.04	91.64	6,913.21	121.31	1,232.09	1,228.12	0.00	0.00	0.00	0.00
8,000.00	89.04	91.64	6,914.88	118.45	1,332.04	1,328.10	0.00	0.00	0.00	0.00
8,100.00	89.04	91.64	6,916.56	115.60	1,431.98	1,428.09	0.00	0.00	0.00	0.00
8,200.00	89.04	91.64	6,918.23	112.74	1,531.93	1,528.07	0.00	0.00	0.00	0.00
8,300.00	89.04	91.64	6,919.91	109.89	1,631.87	1,628.06	0.00	0.00	0.00	0.00
8,400.00	89.04	91.64	6,921.58	107.03	1,731.82	1,728.05	0.00	0.00	0.00	0.00
8,500.00	89.04	91.64	6,923.26	104.17	1,831.76	1,828.03	0.00	0.00	0.00	0.00

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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	89.04	91.64	6,924.93	101.32	1,931.71	1,928.02	0.00	0.00	0.00	0.00
8,700.00	89.04	91.64	6,926.61	98.46	2,031.65	2,028.00	0.00	0.00	0.00	0.00
8,800.00	89.04	91.64	6,928.28	95.61	2,131.60	2,127.99	0.00	0.00	0.00	0.00
8,900.00	89.04	91.64	6,929.95	92.75	2,231.54	2,227.98	0.00	0.00	0.00	0.00
9,000.00	89.04	91.64	6,931.63	89.90	2,331.49	2,327.96	0.00	0.00	0.00	0.00
9,100.00	89.04	91.64	6,933.30	87.04	2,431.43	2,427.95	0.00	0.00	0.00	0.00
9,200.00	89.04	91.64	6,934.98	84.19	2,531.38	2,527.93	0.00	0.00	0.00	0.00
9,300.00	89.04	91.64	6,936.65	81.33	2,631.32	2,627.92	0.00	0.00	0.00	0.00
9,400.00	89.04	91.64	6,938.33	78.48	2,731.27	2,727.90	0.00	0.00	0.00	0.00
9,500.00	89.04	91.64	6,940.00	75.62	2,831.21	2,827.89	0.00	0.00	0.00	0.00
9,600.00	89.04	91.64	6,941.68	72.77	2,931.16	2,927.88	0.00	0.00	0.00	0.00
9,700.00	89.04	91.64	6,943.35	69.91	3,031.11	3,027.86	0.00	0.00	0.00	0.00
9,798.52	89.04	91.64	6,945.00	67.10	3,129.57	3,126.37	0.00	0.00	0.00	0.00
N700_C_CK										
9,800.00	89.04	91.64	6,945.02	67.06	3,131.05	3,127.85	0.00	0.00	0.00	0.00
9,900.00	89.04	91.64	6,946.70	64.20	3,231.00	3,227.83	0.00	0.00	0.00	0.00
10,000.00	89.04	91.64	6,948.37	61.35	3,330.94	3,327.82	0.00	0.00	0.00	0.00
10,100.00	89.04	91.64	6,950.05	58.49	3,430.89	3,427.81	0.00	0.00	0.00	0.00
10,200.00	89.04	91.64	6,951.72	55.64	3,530.83	3,527.79	0.00	0.00	0.00	0.00
10,300.00	89.04	91.64	6,953.40	52.78	3,630.78	3,627.78	0.00	0.00	0.00	0.00
10,400.00	89.04	91.64	6,955.07	49.93	3,730.72	3,727.76	0.00	0.00	0.00	0.00
10,500.00	89.04	91.64	6,956.75	47.07	3,830.67	3,827.75	0.00	0.00	0.00	0.00
10,600.00	89.04	91.64	6,958.42	44.21	3,930.61	3,927.74	0.00	0.00	0.00	0.00
10,700.00	89.04	91.64	6,960.10	41.36	4,030.56	4,027.72	0.00	0.00	0.00	0.00
10,800.00	89.04	91.64	6,961.77	38.50	4,130.50	4,127.71	0.00	0.00	0.00	0.00
10,900.00	89.04	91.64	6,963.44	35.65	4,230.45	4,227.69	0.00	0.00	0.00	0.00
11,000.00	89.04	91.64	6,965.12	32.79	4,330.39	4,327.68	0.00	0.00	0.00	0.00
11,100.00	89.04	91.64	6,966.79	29.94	4,430.34	4,427.67	0.00	0.00	0.00	0.00
11,200.00	89.04	91.64	6,968.47	27.08	4,530.28	4,527.65	0.00	0.00	0.00	0.00
11,300.00	89.04	91.64	6,970.14	24.23	4,630.23	4,627.64	0.00	0.00	0.00	0.00
11,400.00	89.04	91.64	6,971.82	21.37	4,730.17	4,727.62	0.00	0.00	0.00	0.00
11,500.00	89.04	91.64	6,973.49	18.52	4,830.12	4,827.61	0.00	0.00	0.00	0.00
11,600.00	89.04	91.64	6,975.17	15.66	4,930.06	4,927.60	0.00	0.00	0.00	0.00
11,700.00	89.04	91.64	6,976.84	12.81	5,030.01	5,027.58	0.00	0.00	0.00	0.00
11,800.00	89.04	91.64	6,978.51	9.95	5,129.95	5,127.57	0.00	0.00	0.00	0.00
11,900.00	89.04	91.64	6,980.19	7.10	5,229.90	5,227.55	0.00	0.00	0.00	0.00
12,000.00	89.04	91.64	6,981.86	4.24	5,329.85	5,327.54	0.00	0.00	0.00	0.00
12,100.00	89.04	91.64	6,983.54	1.39	5,429.79	5,427.53	0.00	0.00	0.00	0.00
12,200.00	89.04	91.64	6,985.21	-1.47	5,529.74	5,527.51	0.00	0.00	0.00	0.00
12,300.00	89.04	91.64	6,986.89	-4.32	5,629.68	5,627.50	0.00	0.00	0.00	0.00
12,400.00	89.04	91.64	6,988.56	-7.18	5,729.63	5,727.48	0.00	0.00	0.00	0.00
12,500.00	89.04	91.64	6,990.24	-10.03	5,829.57	5,827.47	0.00	0.00	0.00	0.00
12,600.00	89.04	91.64	6,991.91	-12.89	5,929.52	5,927.46	0.00	0.00	0.00	0.00
12,700.00	89.04	91.64	6,993.59	-15.74	6,029.46	6,027.44	0.00	0.00	0.00	0.00
12,800.00	89.04	91.64	6,995.26	-18.60	6,129.41	6,127.43	0.00	0.00	0.00	0.00
12,900.00	89.04	91.64	6,996.93	-21.46	6,229.35	6,227.41	0.00	0.00	0.00	0.00
13,000.00	89.04	91.64	6,998.61	-24.31	6,329.30	6,327.40	0.00	0.00	0.00	0.00
13,100.00	89.04	91.64	7,000.28	-27.17	6,429.24	6,427.39	0.00	0.00	0.00	0.00
13,200.00	89.04	91.64	7,001.96	-30.02	6,529.19	6,527.37	0.00	0.00	0.00	0.00
13,300.00	89.04	91.64	7,003.63	-32.88	6,629.13	6,627.36	0.00	0.00	0.00	0.00
13,400.00	89.04	91.64	7,005.31	-35.73	6,729.08	6,727.34	0.00	0.00	0.00	0.00
13,500.00	89.04	91.64	7,006.98	-38.59	6,829.02	6,827.33	0.00	0.00	0.00	0.00
13,600.00	89.04	91.64	7,008.66	-41.44	6,928.97	6,927.32	0.00	0.00	0.00	0.00
13,700.00	89.04	91.64	7,010.33	-44.30	7,028.91	7,027.30	0.00	0.00	0.00	0.00
13,800.00	89.04	91.64	7,012.00	-47.15	7,128.86	7,127.29	0.00	0.00	0.00	0.00
13,900.00	89.04	91.64	7,013.68	-50.01	7,228.80	7,227.27	0.00	0.00	0.00	0.00
14,000.00	89.04	91.64	7,015.35	-52.86	7,328.75	7,327.26	0.00	0.00	0.00	0.00
14,100.00	89.04	91.64	7,017.03	-55.72	7,428.69	7,427.25	0.00	0.00	0.00	0.00
14,200.00	89.04	91.64	7,018.70	-58.57	7,528.64	7,527.23	0.00	0.00	0.00	0.00
14,300.00	89.04	91.64	7,020.38	-61.43	7,628.58	7,627.22	0.00	0.00	0.00	0.00

Plan Report for JESTER 41N-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 (°)
14,400.00	89.04	91.64	7,022.05	-64.28	7,728.53	7,727.20	0.00	0.00	0.00	0.00
14,500.00	89.04	91.64	7,023.73	-67.14	7,828.48	7,827.19	0.00	0.00	0.00	0.00
14,600.00	89.04	91.64	7,025.40	-69.99	7,928.42	7,927.18	0.00	0.00	0.00	0.00
14,700.00	89.04	91.64	7,027.08	-72.85	8,028.37	8,027.16	0.00	0.00	0.00	0.00
14,800.00	89.04	91.64	7,028.75	-75.70	8,128.31	8,127.15	0.00	0.00	0.00	0.00
14,900.00	89.04	91.64	7,030.42	-78.56	8,228.26	8,227.13	0.00	0.00	0.00	0.00
15,000.00	89.04	91.64	7,032.10	-81.42	8,328.20	8,327.12	0.00	0.00	0.00	0.00
15,100.00	89.04	91.64	7,033.77	-84.27	8,428.15	8,427.11	0.00	0.00	0.00	0.00
15,200.00	89.04	91.64	7,035.45	-87.13	8,528.09	8,527.09	0.00	0.00	0.00	0.00
15,300.00	89.04	91.64	7,037.12	-89.98	8,628.04	8,627.08	0.00	0.00	0.00	0.00
15,400.00	89.04	91.64	7,038.80	-92.84	8,727.98	8,727.06	0.00	0.00	0.00	0.00
15,500.00	89.04	91.64	7,040.47	-95.69	8,827.93	8,827.05	0.00	0.00	0.00	0.00
15,600.00	89.04	91.64	7,042.15	-98.55	8,927.87	8,927.04	0.00	0.00	0.00	0.00
15,700.00	89.04	91.64	7,043.82	-101.40	9,027.82	9,027.02	0.00	0.00	0.00	0.00
15,800.00	89.04	91.64	7,045.49	-104.26	9,127.76	9,127.01	0.00	0.00	0.00	0.00
15,900.00	89.04	91.64	7,047.17	-107.11	9,227.71	9,226.99	0.00	0.00	0.00	0.00
16,000.00	89.04	91.64	7,048.84	-109.97	9,327.65	9,326.98	0.00	0.00	0.00	0.00
16,100.00	89.04	91.64	7,050.52	-112.82	9,427.60	9,426.97	0.00	0.00	0.00	0.00
16,200.00	89.04	91.64	7,052.19	-115.68	9,527.54	9,526.95	0.00	0.00	0.00	0.00
16,300.00	89.04	91.64	7,053.87	-118.53	9,627.49	9,626.94	0.00	0.00	0.00	0.00
16,400.00	89.04	91.64	7,055.54	-121.39	9,727.43	9,726.92	0.00	0.00	0.00	0.00
16,500.00	89.04	91.64	7,057.22	-124.24	9,827.38	9,826.91	0.00	0.00	0.00	0.00
16,600.00	89.04	91.64	7,058.89	-127.10	9,927.32	9,926.90	0.00	0.00	0.00	0.00
16,700.00	89.04	91.64	7,060.57	-129.95	10,027.27	10,026.88	0.00	0.00	0.00	0.00
16,800.00	89.04	91.64	7,062.24	-132.81	10,127.21	10,126.87	0.00	0.00	0.00	0.00
16,845.39	89.04	91.64	7,063.00	-134.11	10,172.58	10,172.25	0.00	0.00	0.00	0.00

TD Well @ 16845.39ft - Toe Target - JESTER 41N-14HZ_BHL

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
4,040.00	4,040.00	0.00	0.00	Begin Nudge @ 4040.00ft
4,540.00	4,537.47	43.52	0.00	End Nudge @ 4540.00ft
4,940.00	4,931.39	112.98	0.00	Begin Drop @ 4940.00ft
5,440.00	5,428.85	156.50	0.00	End Drop @ 5440.00ft
6,240.27	6,229.12	156.50	0.00	Top of 4.5" Liner @ 6240.27ft
6,340.27	6,329.12	156.50	0.00	KOP @ 6340.27ft
6,800.00	6,741.09	151.51	174.68	DLS = 10°/100'
7,230.68	6,902.00	140.42	563.14	End Build @ 7230.68ft
16,845.39	7,063.00	-134.11	10,172.58	TD Well @ 16845.39ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (usft)	+E/-W (usft)	Start TVD (usft)
User	No Target (Freehand)	91.64	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	7,230.68	Permit Rev-2	MWD+IFR1
7,230.68	16,845.39	Permit Rev-2	MWD+IFR1

Plan Report for JESTER 41N-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
7,230.68	6,902.00	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	
3,573.00	3,573.00	Parkman		0.00	
4,012.00	4,012.00	Sussex		0.00	
6,843.34	6,770.00	SSPG		0.00	
6,947.71	6,829.00	NBRR		0.00	
7,088.13	6,882.00	N470_B_CK		0.00	
7,230.68	6,902.00	Landing Target (Heel)		0.00	
9,798.52	6,945.00	N700_C_CK		0.00	
16,845.39	7,063.00	Toe Target		0.00	

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
3N-R67W-Sec. 15_Section Lines	0.00	840.84	504.90	Polygon
JESTER 41N-14HZ_SHL	0.00	0.00	0.00	Point
JESTER 41N-14HZ_BHL	7,063.00	-134.11	10,172.58	Point
3N-R67W-Sec. 14_Section Lines	0.00	-59.72	0.28	Polygon
JESTER 41N-14HZ_LD	0.00	0.00	0.00	Polygon
3N-R67W-Sec. 10_Section Lines	0.00	840.84	504.90	Polygon

North Reference Sheet for 3N-67W-15 Jester Pad - JESTER 41N-14HZ - 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' @ 4810.00usft (D Rig). Northing and Easting are relative to JESTER 41N-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: 14,610,259.06 usft N, 1,672,434.99 usft E

Geographical Coordinates of Well: 40° 13' 45.54" N, 104° 53' 07.03" W

Grid Convergence at Surface is: 0.07°

Based upon Minimum Curvature type calculations, at a Measured Depth of 16,845.39usft
the Bottom Hole Displacement is 10,173.46usft in the Direction of 90.76° (True).

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

