

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

1N-65W-09 Bane Pad

BANE 2N3-9HZ

Plan B

Plan: Permit Rev-2

Sperry Drilling Services Proposal Report

23 December, 2014

Well Coordinates: 14,548,919.74 N, 1,734,165.05 E (40° 03' 37.59" N, 104° 39' 53.82" W)

Ground Level: 4,964.00 usft

Local Coordinate Origin:

Centered on Well BANE 2N3-9HZ

Viewing Datum:

RKB = 17' @ 4981.00usft (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: 1N-65W-09 Bane Pad
Well: BANE 2N3-9HZ
Wellbore: Plan B
Design: Permit Rev-2

US ROCKIES WATTENBERG PLANNING

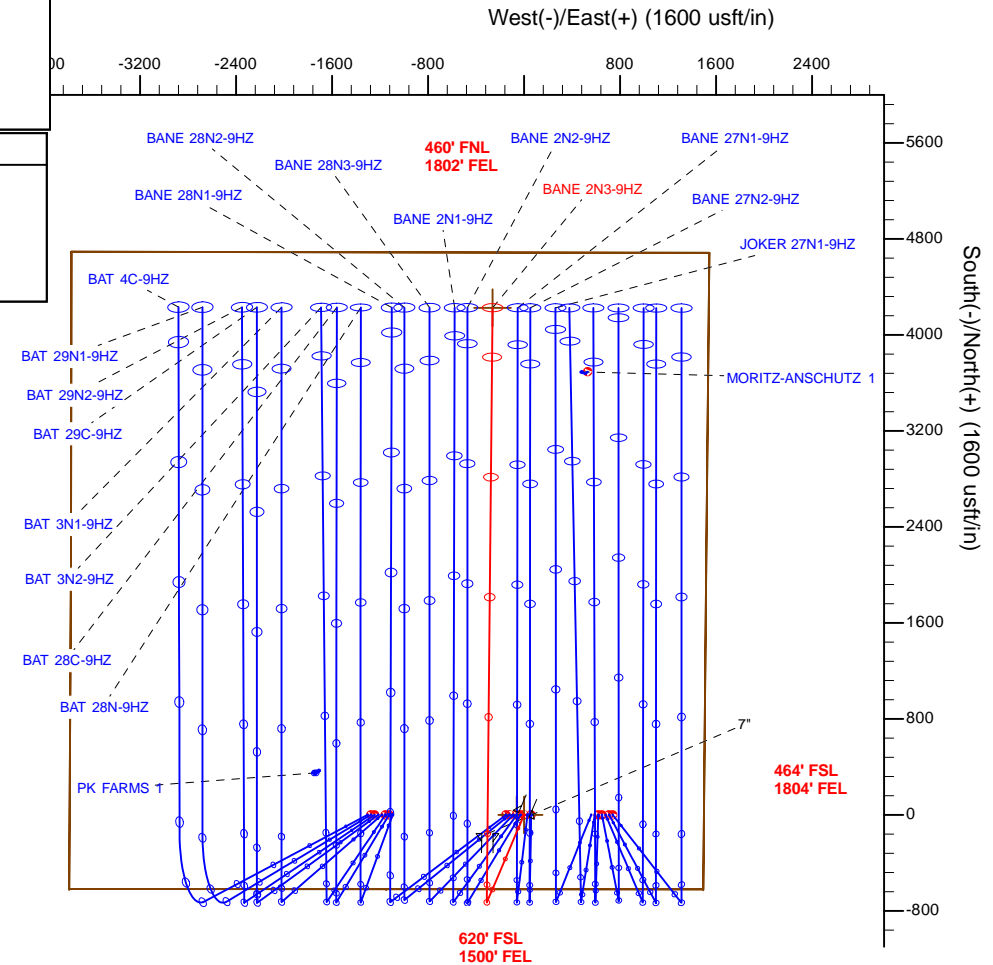
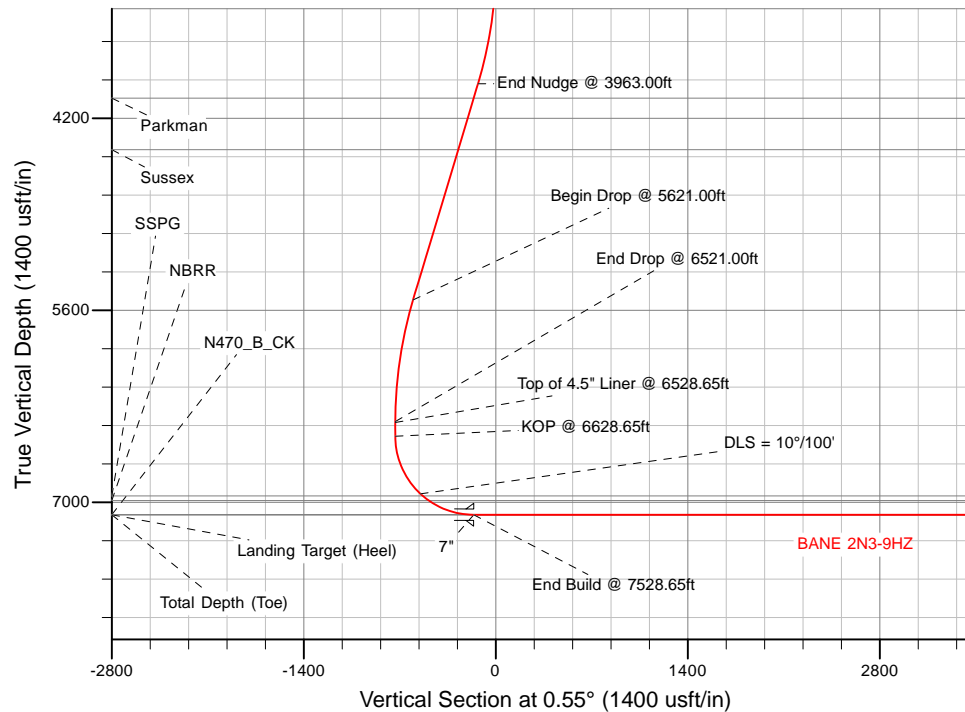
HALLIBURTON
Sperry Drilling

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	3063.00	0.00	0.00	3063.00	0.00	0.00	0.00	0.00	0.00	
3	3963.00	18.00	203.00	3948.27	-129.07	-54.79	2.00	203.00	-129.59	
4	5621.00	18.00	203.00	5525.12	-600.69	-254.98	0.00	0.00	-603.11	
5	6521.00	0.00	0.00	6410.39	-729.75	-309.76	2.00	180.00	-732.69	
6	6628.65	0.00	0.00	6518.04	-729.75	-309.76	0.00	0.00	-732.69	
7	7528.65	90.00	0.55	7091.00	-156.82	-304.29	10.00	0.55	-159.74	
8	11911.98	90.00	0.55	7091.00	4226.31	-262.42	0.00	0.00	4223.59	BANE 2N3-9HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Polygon
1N-R65W-Sec. 9 Section lines	0.00	0.00	-61.00	40.060443	-104.665168	
BANE 2N3-9HZ_SHL	0.00	0.00	0.00	40.060443	-104.664950	
BANE 2N3-9HZ_BHL	7091.00	4226.31	-262.42	40.072049	-104.665888	



WELL DETAILS: BANE 2N3-9HZ		
Ground Level: 4964.00		
RKB = 17' @ 4981.00usft (D Rig)		
Plan: Permit Rev-2 (BANE 2N3-9HZ/Plan B)		
Created By: Clint Eshelman		Date: 12/23/2014
Reviewed:		Date:

TVD	MD	
6418.04	6528.65	Top of 4.5" Liner @ 6528.65ft
6518.04	6628.65	KOP @ 6628.65ft

Plan Report for BANE 2N3-9HZ - 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
1N-R65W-Sec. 9_Section lines - BANE 2N3-9HZ_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
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
977.00	0.00	0.00	977.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Fox Hills										
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
1,509.00	0.00	0.00	1,509.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surface Csg Setting Depth - 9 5/8"										
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
3,063.00	0.00	0.00	3,063.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 3063.00ft										
3,100.00	0.74	203.00	3,100.00	-0.22	-0.09	-0.22	2.00	2.00	0.00	203.00
3,200.00	2.74	203.00	3,199.95	-3.01	-1.28	-3.03	2.00	2.00	0.00	0.00
3,300.00	4.74	203.00	3,299.73	-9.02	-3.83	-9.06	2.00	2.00	0.00	0.00
3,400.00	6.74	203.00	3,399.22	-18.22	-7.74	-18.30	2.00	2.00	0.00	0.00
3,500.00	8.74	203.00	3,498.31	-30.62	-13.00	-30.74	2.00	2.00	0.00	0.00
3,600.00	10.74	203.00	3,596.86	-46.19	-19.61	-46.38	2.00	2.00	0.00	0.00
3,700.00	12.74	203.00	3,694.76	-64.92	-27.56	-65.18	2.00	2.00	0.00	0.00
3,800.00	14.74	203.00	3,791.90	-86.78	-36.84	-87.13	2.00	2.00	0.00	0.00
3,900.00	16.74	203.00	3,888.14	-111.75	-47.44	-112.20	2.00	2.00	0.00	0.00
3,963.00	18.00	203.00	3,948.27	-129.07	-54.79	-129.59	2.00	2.00	0.00	0.00
End Nudge @ 3963.00ft										
4,000.00	18.00	203.00	3,983.46	-139.59	-59.25	-140.15	0.00	0.00	0.00	0.00
4,073.12	18.00	203.00	4,053.00	-160.39	-68.08	-161.04	0.00	0.00	0.00	0.00
Parkman										
4,100.00	18.00	203.00	4,078.56	-168.04	-71.33	-168.71	0.00	0.00	0.00	0.00
4,200.00	18.00	203.00	4,173.67	-196.48	-83.40	-197.27	0.00	0.00	0.00	0.00
4,300.00	18.00	203.00	4,268.77	-224.93	-95.48	-225.83	0.00	0.00	0.00	0.00
4,400.00	18.00	203.00	4,363.88	-253.37	-107.55	-254.39	0.00	0.00	0.00	0.00
4,467.42	18.00	203.00	4,428.00	-272.55	-115.69	-273.65	0.00	0.00	0.00	0.00

Plan Report for BANE 2N3-9HZ - 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 (°)
Sussex										
4,500.00	18.00	203.00	4,458.99	-281.82	-119.62	-282.95	0.00	0.00	0.00	0.00
4,600.00	18.00	203.00	4,554.09	-310.26	-131.70	-311.51	0.00	0.00	0.00	0.00
4,700.00	18.00	203.00	4,649.20	-338.71	-143.77	-340.07	0.00	0.00	0.00	0.00
4,800.00	18.00	203.00	4,744.30	-367.15	-155.85	-368.63	0.00	0.00	0.00	0.00
4,900.00	18.00	203.00	4,839.41	-395.60	-167.92	-397.19	0.00	0.00	0.00	0.00
5,000.00	18.00	203.00	4,934.51	-424.04	-180.00	-425.75	0.00	0.00	0.00	0.00
5,100.00	18.00	203.00	5,029.62	-452.49	-192.07	-454.31	0.00	0.00	0.00	0.00
5,200.00	18.00	203.00	5,124.73	-480.93	-204.14	-482.87	0.00	0.00	0.00	0.00
5,300.00	18.00	203.00	5,219.83	-509.38	-216.22	-511.43	0.00	0.00	0.00	0.00
5,400.00	18.00	203.00	5,314.94	-537.82	-228.29	-539.99	0.00	0.00	0.00	0.00
5,500.00	18.00	203.00	5,410.04	-566.27	-240.37	-568.55	0.00	0.00	0.00	0.00
5,600.00	18.00	203.00	5,505.15	-594.71	-252.44	-597.11	0.00	0.00	0.00	0.00
5,621.00	18.00	203.00	5,525.12	-600.69	-254.98	-603.11	0.00	0.00	0.00	0.00
Begin Drop @ 5621.00ft										
5,700.00	16.42	203.00	5,600.58	-622.20	-264.11	-624.71	2.00	-2.00	0.00	180.00
5,800.00	14.42	203.00	5,696.98	-646.68	-274.50	-649.28	2.00	-2.00	0.00	180.00
5,900.00	12.42	203.00	5,794.24	-668.04	-283.57	-670.73	2.00	-2.00	0.00	180.00
6,000.00	10.42	203.00	5,892.26	-686.26	-291.30	-689.03	2.00	-2.00	0.00	180.00
6,100.00	8.42	203.00	5,990.90	-701.33	-297.70	-704.16	2.00	-2.00	0.00	180.00
6,200.00	6.42	203.00	6,090.06	-713.22	-302.74	-716.09	2.00	-2.00	0.00	180.00
6,300.00	4.42	203.00	6,189.61	-721.91	-306.43	-724.82	2.00	-2.00	0.00	180.00
6,400.00	2.42	203.00	6,289.42	-727.40	-308.76	-730.33	2.00	-2.00	0.00	180.00
6,500.00	0.42	203.00	6,389.39	-729.68	-309.73	-732.62	2.00	-2.00	0.00	180.00
6,521.00	0.00	0.00	6,410.39	-729.75	-309.76	-732.69	2.00	-2.00	747.62	180.00
End Drop @ 6521.00ft										
6,528.65	0.00	0.00	6,418.04	-729.75	-309.76	-732.69	0.00	0.00	0.00	180.00
Top of 4.5" Liner @ 6528.65ft										
6,600.00	0.00	0.00	6,489.39	-729.75	-309.76	-732.69	0.00	0.00	0.00	0.00
6,628.65	0.00	0.00	6,518.04	-729.75	-309.76	-732.69	0.00	0.00	0.00	0.00
KOP @ 6628.65ft										
6,700.00	7.13	0.55	6,589.20	-725.32	-309.72	-728.26	10.00	10.00	0.00	0.55
6,800.00	17.13	0.55	6,686.85	-704.32	-309.52	-707.26	10.00	10.00	0.00	0.00
6,900.00	27.13	0.55	6,779.36	-666.69	-309.16	-669.63	10.00	10.00	0.00	0.00
7,000.00	37.13	0.55	6,863.93	-613.57	-308.65	-616.51	10.00	10.00	0.00	0.00
7,100.00	47.13	0.55	6,937.99	-546.57	-308.01	-549.50	10.00	10.00	0.00	0.00
DLS = 10°/100'										
7,124.08	49.54	0.55	6,954.00	-528.58	-307.84	-531.51	10.00	10.00	0.00	0.00
SSPG										
7,177.99	54.93	0.55	6,987.00	-485.98	-307.43	-488.91	10.00	10.00	0.00	0.00
NBRR										
7,200.00	57.13	0.55	6,999.30	-467.73	-307.26	-470.66	10.00	10.00	0.00	0.00
7,300.00	67.13	0.55	7,045.98	-379.44	-306.42	-382.37	10.00	10.00	0.00	0.00
7,400.00	77.13	0.55	7,076.61	-284.39	-305.51	-287.31	10.00	10.00	0.00	0.00
7,494.85	86.62	0.55	7,090.00	-190.60	-304.61	-193.51	10.00	10.00	0.00	0.00
N470_B_CK										
7,500.00	87.13	0.55	7,090.28	-185.46	-304.56	-188.37	10.00	10.00	0.00	0.00
7,528.65	90.00	0.55	7,091.00	-156.82	-304.29	-159.74	10.00	10.00	0.00	0.00
End Build @ 7528.65ft - Landing Target (Heel) - 7"										
7,600.00	90.00	0.55	7,091.00	-85.48	-303.61	-88.39	0.00	0.00	0.00	0.00
7,700.00	90.00	0.55	7,091.00	14.52	-302.65	11.61	0.00	0.00	0.00	0.00
7,800.00	90.00	0.55	7,091.00	114.52	-301.70	111.61	0.00	0.00	0.00	0.00
7,900.00	90.00	0.55	7,091.00	214.51	-300.74	211.61	0.00	0.00	0.00	0.00
8,000.00	90.00	0.55	7,091.00	314.51	-299.79	311.61	0.00	0.00	0.00	0.00
8,100.00	90.00	0.55	7,091.00	414.50	-298.83	411.61	0.00	0.00	0.00	0.00
8,200.00	90.00	0.55	7,091.00	514.50	-297.88	511.61	0.00	0.00	0.00	0.00
8,300.00	90.00	0.55	7,091.00	614.49	-296.92	611.61	0.00	0.00	0.00	0.00
8,400.00	90.00	0.55	7,091.00	714.49	-295.96	711.61	0.00	0.00	0.00	0.00
8,500.00	90.00	0.55	7,091.00	814.48	-295.01	811.61	0.00	0.00	0.00	0.00

Plan Report for BANE 2N3-9HZ - 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	0.55	7,091.00	914.48	-294.05	911.61	0.00	0.00	0.00	0.00
8,700.00	90.00	0.55	7,091.00	1,014.47	-293.10	1,011.61	0.00	0.00	0.00	0.00
8,800.00	90.00	0.55	7,091.00	1,114.47	-292.14	1,111.61	0.00	0.00	0.00	0.00
8,900.00	90.00	0.55	7,091.00	1,214.47	-291.19	1,211.61	0.00	0.00	0.00	0.00
9,000.00	90.00	0.55	7,091.00	1,314.46	-290.23	1,311.61	0.00	0.00	0.00	0.00
9,100.00	90.00	0.55	7,091.00	1,414.46	-289.28	1,411.61	0.00	0.00	0.00	0.00
9,200.00	90.00	0.55	7,091.00	1,514.45	-288.32	1,511.61	0.00	0.00	0.00	0.00
9,300.00	90.00	0.55	7,091.00	1,614.45	-287.37	1,611.61	0.00	0.00	0.00	0.00
9,400.00	90.00	0.55	7,091.00	1,714.44	-286.41	1,711.61	0.00	0.00	0.00	0.00
9,500.00	90.00	0.55	7,091.00	1,814.44	-285.46	1,811.61	0.00	0.00	0.00	0.00
9,600.00	90.00	0.55	7,091.00	1,914.43	-284.50	1,911.61	0.00	0.00	0.00	0.00
9,700.00	90.00	0.55	7,091.00	2,014.43	-283.55	2,011.61	0.00	0.00	0.00	0.00
9,800.00	90.00	0.55	7,091.00	2,114.42	-282.59	2,111.61	0.00	0.00	0.00	0.00
9,900.00	90.00	0.55	7,091.00	2,214.42	-281.64	2,211.61	0.00	0.00	0.00	0.00
10,000.00	90.00	0.55	7,091.00	2,314.41	-280.68	2,311.61	0.00	0.00	0.00	0.00
10,100.00	90.00	0.55	7,091.00	2,414.41	-279.72	2,411.61	0.00	0.00	0.00	0.00
10,200.00	90.00	0.55	7,091.00	2,514.41	-278.77	2,511.61	0.00	0.00	0.00	0.00
10,300.00	90.00	0.55	7,091.00	2,614.40	-277.81	2,611.61	0.00	0.00	0.00	0.00
10,400.00	90.00	0.55	7,091.00	2,714.40	-276.86	2,711.61	0.00	0.00	0.00	0.00
10,500.00	90.00	0.55	7,091.00	2,814.39	-275.90	2,811.61	0.00	0.00	0.00	0.00
10,600.00	90.00	0.55	7,091.00	2,914.39	-274.95	2,911.61	0.00	0.00	0.00	0.00
10,700.00	90.00	0.55	7,091.00	3,014.38	-273.99	3,011.61	0.00	0.00	0.00	0.00
10,800.00	90.00	0.55	7,091.00	3,114.38	-273.04	3,111.61	0.00	0.00	0.00	0.00
10,900.00	90.00	0.55	7,091.00	3,214.37	-272.08	3,211.61	0.00	0.00	0.00	0.00
11,000.00	90.00	0.55	7,091.00	3,314.37	-271.13	3,311.61	0.00	0.00	0.00	0.00
11,100.00	90.00	0.55	7,091.00	3,414.36	-270.17	3,411.61	0.00	0.00	0.00	0.00
11,200.00	90.00	0.55	7,091.00	3,514.36	-269.22	3,511.61	0.00	0.00	0.00	0.00
11,300.00	90.00	0.55	7,091.00	3,614.36	-268.26	3,611.61	0.00	0.00	0.00	0.00
11,400.00	90.00	0.55	7,091.00	3,714.35	-267.31	3,711.61	0.00	0.00	0.00	0.00
11,500.00	90.00	0.55	7,091.00	3,814.35	-266.35	3,811.61	0.00	0.00	0.00	0.00
11,600.00	90.00	0.55	7,091.00	3,914.34	-265.40	3,911.61	0.00	0.00	0.00	0.00
11,700.00	90.00	0.55	7,091.00	4,014.34	-264.44	4,011.61	0.00	0.00	0.00	0.00
11,800.00	90.00	0.55	7,091.00	4,114.33	-263.48	4,111.61	0.00	0.00	0.00	0.00
11,900.00	90.00	0.55	7,091.00	4,214.33	-262.53	4,211.61	0.00	0.00	0.00	0.00
11,911.97	90.00	0.55	7,091.00	4,226.30	-262.42	4,223.58	0.00	0.00	0.00	0.00
Total Depth (Toe)										
11,911.98	90.00	0.55	7,091.00	4,226.31	-262.42	4,223.59	0.00	0.00	0.00	0.00
TD Well @ 11911.98ft - BANE 2N3-9HZ_BHL										

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,063.00	3,063.00	0.00	0.00	Begin Nudge @ 3063.00ft
3,963.00	3,948.27	-129.07	-54.79	End Nudge @ 3963.00ft
5,621.00	5,525.12	-600.69	-254.98	Begin Drop @ 5621.00ft
6,521.00	6,410.39	-729.75	-309.76	End Drop @ 6521.00ft
6,528.65	6,418.04	-729.75	-309.76	Top of 4.5" Liner @ 6528.65ft
6,628.65	6,518.04	-729.75	-309.76	KOP @ 6628.65ft
7,100.00	6,937.99	-546.57	-308.01	DLS = 10°/100'
7,528.65	7,091.00	-156.82	-304.29	End Build @ 7528.65ft
11,911.98	7,091.00	4,226.31	-262.42	TD Well @ 11911.98ft

Plan Report for BANE 2N3-9HZ - Permit Rev-2

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (usft)	Origin +E/-W (usft)	Start TVD (usft)
User	No Target (Freehand)	0.55	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	7,528.65	Permit Rev-2	MWD+IFR1
7,528.65	11,911.98	Permit Rev-2	MWD+IFR1

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,509.00	1,509.00	9 5/8"	9-5/8	13-1/2
7,528.65	7,091.00	7"	7	8-3/4

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
977.00	977.00	Base Fox Hills		0.00	
1,509.00	1,509.00	Surface Csg Setting Depth		0.00	
4,073.12	4,053.00	Parkman		0.00	
4,467.42	4,428.00	Sussex		0.00	
7,124.08	6,954.00	SSPG		0.00	
7,177.99	6,987.00	NBRR		0.00	
7,494.85	7,090.00	N470_B_CK		0.00	
7,528.65	7,091.00	Landing Target (Heel)		0.00	
11,911.97	7,091.00	Total Depth (Toe)		0.00	

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
1N-R65W-Sec. 9_Section lines	0.00	0.00	-61.00	Polygon
BANE 2N3-9HZ_SHL	0.00	0.00	0.00	Point
BANE 2N3-9HZ_BHL	7,091.00	4,226.31	-262.42	Point

North Reference Sheet for 1N-65W-09 Bane Pad - BANE 2N3-9HZ - 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' @ 4981.00usft (D Rig). Northing and Easting are relative to BANE 2N3-9HZ

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: 0.99961005

Grid Coordinates of Well: 14,548,919.74 usft N, 1,734,165.05 usft E

Geographical Coordinates of Well: 40° 03' 37.59" N, 104° 39' 53.82" W

Grid Convergence at Surface is: 0.22°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,911.98usft the Bottom Hole Displacement is 4,234.44usft in the Direction of 356.45° (True).

Magnetic Convergence at surface is: -8.12° (16 October 2014, , IGRF2010)

