

# US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

1N-65W-08 English Farms 34C-9HZ Pad

ENGLISH FARMS 13N-9HZ

Plan B

Plan: Permit Rev-1

## Sperry Drilling Services Proposal Report

06 January, 2015

Well Coordinates: 14,553,164.73 N, 1,730,032.39 E (40° 04' 19.71" N, 104° 40' 46.79" W)

Ground Level: 4,932.00 usft

Local Coordinate Origin:

Centered on Well ENGLISH FARMS 13N-9HZ

Viewing Datum:

RKB = 17' @ 4949.00usft (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-08 English Farms 34C-9HZ Pad  
Well: ENGLISH FARMS 13N-9HZ  
Wellbore: Plan B  
Design: Permit Rev-1

# US ROCKIES WATTENBERG PLANNING

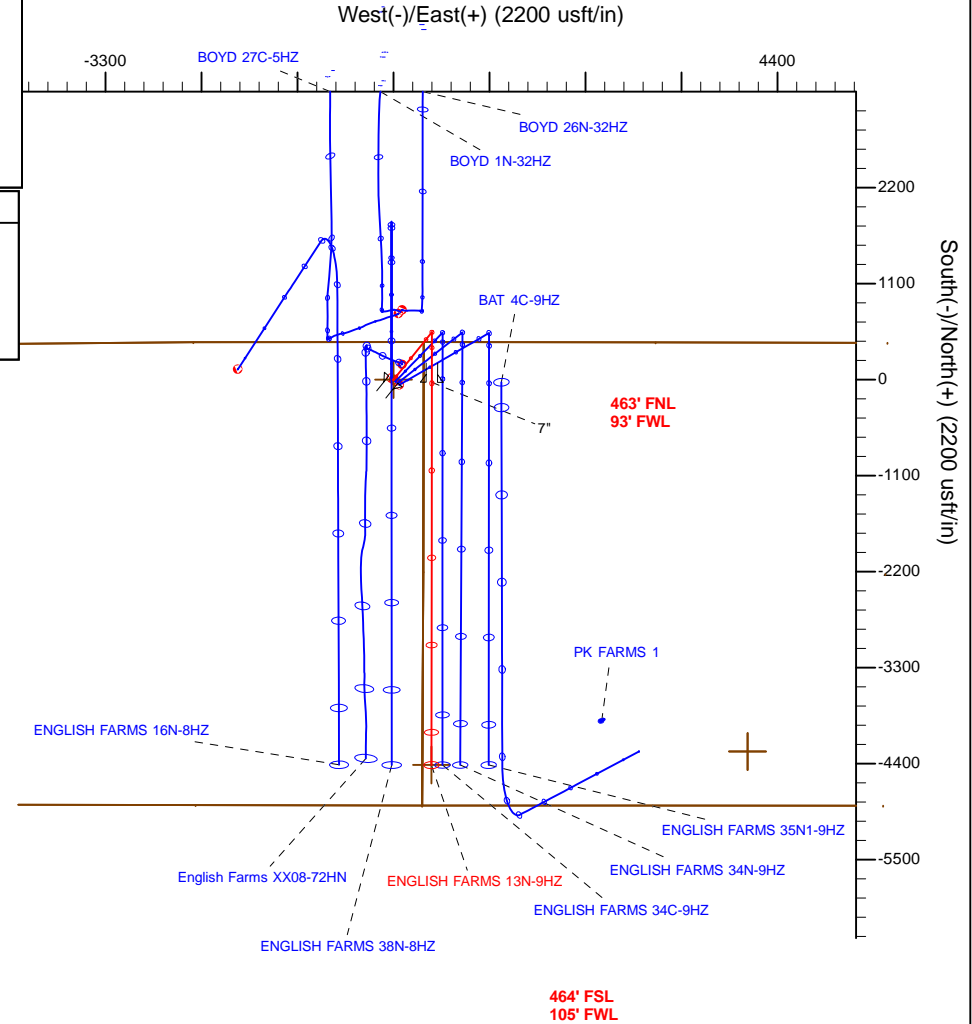
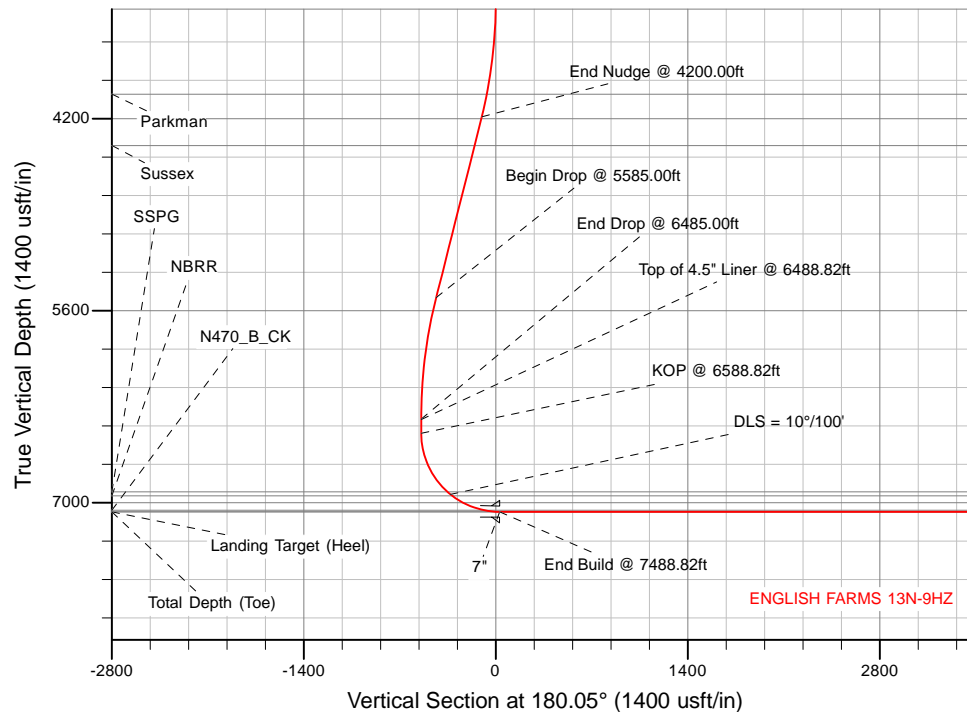
**HALLIBURTON**  
Sperry Drilling

## 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	3330.00	0.00	0.00	3330.00	0.00	0.00	0.00	0.00	0.00	
3	4230.00	18.00	39.00	4215.27	108.97	88.24	2.00	39.00	-109.04	
4	5585.00	18.00	39.00	5503.95	434.37	351.75	0.00	0.00	-434.68	
5	6485.00	0.00	0.00	6389.22	543.34	439.99	2.00	180.00	-543.72	
6	6588.82	0.00	0.00	6493.04	543.34	439.99	0.00	0.00	-543.72	
7	7488.82	90.00	180.05	7066.00	-29.62	439.45	10.00	180.05	29.24	
8	11874.49	90.00	180.05	7066.00	-4415.29	435.38	0.00	0.00	4414.91	ENGLISH FARMS 13N-9HZ_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
ENGLISH FARMS 13N-9HZ_SHL	0.00	0.00	0.00	40.072142	-104.679665
ENGLISH FARMS 13N-9HZ_BHL	7066.00	-4415.29	435.38	40.060017	-104.678109



TVD MD

6393.04 6488.82 Top of 4.5" Liner @ 6488.82ft  
6493.04 6588.82 KOP @ 6588.82ft

WELL DETAILS: ENGLISH FARMS 13N-9HZ

Ground Level: 4932.00

RKB = 17' @ 4949.00usft (D Rig)

Plan: Permit Rev-1 (ENGLISH FARMS 13N-9HZ/Plan B)

Created By: Clint Eshelman

Date: 1/06/2014

Reviewed:

Date:

## Plan Report for ENGLISH FARMS 13N-9HZ - Permit Rev-1

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>ENGLISH FARMS 13N-9HZ_SHL - 1N-R65W-Sec. 9_Section lines - 1N-R65W-Sec. 8_Section lines</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
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
1,200.00	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
1,477.00	0.00	0.00	1,477.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>9 5/8"</b>										
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
<b>Begin Nudge @ 3300.00ft</b>										
3,330.00	0.00	0.00	3,330.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	1.40	39.00	3,399.99	0.66	0.54	-0.67	2.00	2.00	0.00	39.00
3,500.00	3.40	39.00	3,499.90	3.92	3.17	-3.92	2.00	2.00	0.00	0.00
3,600.00	5.40	39.00	3,599.60	9.88	8.00	-9.89	2.00	2.00	0.00	0.00
3,700.00	7.40	39.00	3,698.97	18.54	15.02	-18.56	2.00	2.00	0.00	0.00
3,800.00	9.40	39.00	3,797.89	29.90	24.21	-29.92	2.00	2.00	0.00	0.00
3,900.00	11.40	39.00	3,896.25	43.92	35.57	-43.95	2.00	2.00	0.00	0.00
4,000.00	13.40	39.00	3,993.91	60.61	49.08	-60.65	2.00	2.00	0.00	0.00
4,027.88	13.96	39.00	4,021.00	65.73	53.23	-65.78	2.00	2.00	0.00	0.00
<b>Parkman</b>										
4,100.00	15.40	39.00	4,090.76	79.94	64.73	-79.99	2.00	2.00	0.00	0.00
4,200.00	17.40	39.00	4,186.69	101.88	82.50	-101.95	2.00	2.00	0.00	0.00
<b>End Nudge @ 4200.00ft</b>										
4,230.00	18.00	39.00	4,215.27	108.97	88.24	-109.04	2.00	2.00	0.00	0.00
4,300.00	18.00	39.00	4,281.84	125.78	101.85	-125.87	0.00	0.00	0.00	0.00
4,400.00	18.00	39.00	4,376.95	149.79	121.30	-149.90	0.00	0.00	0.00	0.00
4,420.03	18.00	39.00	4,396.00	154.60	125.19	-154.71	0.00	0.00	0.00	0.00
<b>Sussex</b>										
4,500.00	18.00	39.00	4,472.05	173.81	140.75	-173.93	0.00	0.00	0.00	0.00
4,600.00	18.00	39.00	4,567.16	197.82	160.19	-197.96	0.00	0.00	0.00	0.00

## Plan Report for ENGLISH FARMS 13N-9HZ - Permit Rev-1

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 (°)
4,700.00	18.00	39.00	4,662.27	221.84	179.64	-221.99	0.00	0.00	0.00	0.00
4,800.00	18.00	39.00	4,757.37	245.85	199.09	-246.03	0.00	0.00	0.00	0.00
4,900.00	18.00	39.00	4,852.48	269.87	218.53	-270.06	0.00	0.00	0.00	0.00
5,000.00	18.00	39.00	4,947.58	293.88	237.98	-294.09	0.00	0.00	0.00	0.00
5,100.00	18.00	39.00	5,042.69	317.90	257.43	-318.12	0.00	0.00	0.00	0.00
5,200.00	18.00	39.00	5,137.79	341.91	276.88	-342.15	0.00	0.00	0.00	0.00
5,300.00	18.00	39.00	5,232.90	365.93	296.32	-366.19	0.00	0.00	0.00	0.00
5,400.00	18.00	39.00	5,328.00	389.94	315.77	-390.22	0.00	0.00	0.00	0.00
5,500.00	18.00	39.00	5,423.11	413.96	335.22	-414.25	0.00	0.00	0.00	0.00
5,585.00	18.00	39.00	5,503.95	434.37	351.75	-434.68	0.00	0.00	0.00	0.00
<b>Begin Drop @ 5585.00ft</b>										
5,600.00	17.70	39.00	5,518.23	437.94	354.64	-438.25	2.00	-2.00	0.00	-180.00
5,700.00	15.70	39.00	5,614.01	460.27	372.72	-460.60	2.00	-2.00	0.00	180.00
5,800.00	13.70	39.00	5,710.73	479.99	388.69	-480.33	2.00	-2.00	0.00	180.00
5,900.00	11.70	39.00	5,808.28	497.08	402.53	-497.43	2.00	-2.00	0.00	180.00
6,000.00	9.70	39.00	5,906.53	511.51	414.21	-511.87	2.00	-2.00	0.00	180.00
6,100.00	7.70	39.00	6,005.38	523.26	423.73	-523.63	2.00	-2.00	0.00	-180.00
6,200.00	5.70	39.00	6,104.69	532.33	431.07	-532.70	2.00	-2.00	0.00	180.00
6,300.00	3.70	39.00	6,204.35	538.70	436.23	-539.08	2.00	-2.00	0.00	180.00
6,400.00	1.70	39.00	6,304.23	542.36	439.19	-542.74	2.00	-2.00	0.00	180.00
6,485.00	0.00	0.00	6,389.22	543.34	439.99	-543.72	2.00	-2.00	-45.88	-180.00
<b>End Drop @ 6485.00ft</b>										
6,488.82	0.00	0.00	6,393.04	543.34	439.99	-543.72	0.00	0.00	0.00	180.00
<b>Top of 4.5" Liner @ 6488.82ft</b>										
6,500.00	0.00	0.00	6,404.22	543.34	439.99	-543.72	0.00	0.00	0.00	0.00
6,588.82	0.00	0.00	6,493.04	543.34	439.99	-543.72	0.00	0.00	0.00	0.00
<b>KOP @ 6588.82ft</b>										
6,600.00	1.12	180.05	6,504.22	543.23	439.99	-543.61	10.00	10.00	0.00	180.05
6,700.00	11.12	180.05	6,603.52	532.58	439.98	-532.97	10.00	10.00	0.00	0.00
6,800.00	21.12	180.05	6,699.47	504.86	439.95	-505.24	10.00	10.00	0.00	0.00
6,900.00	31.12	180.05	6,789.14	460.89	439.91	-461.27	10.00	10.00	0.00	0.00
7,000.00	41.12	180.05	6,869.82	402.02	439.85	-402.40	10.00	10.00	0.00	0.00
7,070.57	48.18	180.05	6,920.00	352.46	439.81	-352.84	10.00	10.00	0.00	0.00
<b>SSPG</b>										
7,100.00	51.12	180.05	6,939.05	330.04	439.79	-330.42	10.00	10.00	0.00	0.00
<b>DLS = 10°/100'</b>										
7,116.13	52.73	180.05	6,949.00	317.34	439.78	-317.72	10.00	10.00	0.00	0.00
<b>NBRR</b>										
7,200.00	61.12	180.05	6,994.73	247.12	439.71	-247.51	10.00	10.00	0.00	0.00
7,300.00	71.12	180.05	7,035.16	155.80	439.63	-156.18	10.00	10.00	0.00	0.00
7,371.37	78.25	180.05	7,054.00	87.01	439.56	-87.39	10.00	10.00	0.00	0.00
<b>N470_B_CK</b>										
7,400.00	81.12	180.05	7,059.13	58.84	439.54	-59.23	10.00	10.00	0.00	0.00
7,488.82	90.00	180.05	7,066.00	-29.62	439.45	29.24	10.00	10.00	0.00	0.00
<b>End Build @ 7488.82ft - Landing Target (Heel) - 7"</b>										
7,500.00	90.00	180.05	7,066.00	-40.80	439.44	40.42	0.00	0.00	0.00	0.00
7,600.00	90.00	180.05	7,066.00	-140.80	439.35	140.42	0.00	0.00	0.00	0.00
7,700.00	90.00	180.05	7,066.00	-240.80	439.26	240.42	0.00	0.00	0.00	0.00
7,800.00	90.00	180.05	7,066.00	-340.80	439.16	340.42	0.00	0.00	0.00	0.00
7,900.00	90.00	180.05	7,066.00	-440.80	439.07	440.42	0.00	0.00	0.00	0.00
8,000.00	90.00	180.05	7,066.00	-540.80	438.98	540.42	0.00	0.00	0.00	0.00
8,100.00	90.00	180.05	7,066.00	-640.80	438.89	640.42	0.00	0.00	0.00	0.00
8,200.00	90.00	180.05	7,066.00	-740.80	438.79	740.42	0.00	0.00	0.00	0.00
8,300.00	90.00	180.05	7,066.00	-840.80	438.70	840.42	0.00	0.00	0.00	0.00
8,400.00	90.00	180.05	7,066.00	-940.80	438.61	940.42	0.00	0.00	0.00	0.00
8,500.00	90.00	180.05	7,066.00	-1,040.80	438.51	1,040.42	0.00	0.00	0.00	0.00
8,600.00	90.00	180.05	7,066.00	-1,140.80	438.42	1,140.42	0.00	0.00	0.00	0.00
8,700.00	90.00	180.05	7,066.00	-1,240.80	438.33	1,240.42	0.00	0.00	0.00	0.00

## Plan Report for ENGLISH FARMS 13N-9HZ - Permit Rev-1

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 (°)
8,800.00	90.00	180.05	7,066.00	-1,340.80	438.23	1,340.42	0.00	0.00	0.00	0.00
8,900.00	90.00	180.05	7,066.00	-1,440.80	438.14	1,440.42	0.00	0.00	0.00	0.00
9,000.00	90.00	180.05	7,066.00	-1,540.80	438.05	1,540.42	0.00	0.00	0.00	0.00
9,100.00	90.00	180.05	7,066.00	-1,640.80	437.96	1,640.42	0.00	0.00	0.00	0.00
9,200.00	90.00	180.05	7,066.00	-1,740.80	437.86	1,740.42	0.00	0.00	0.00	0.00
9,300.00	90.00	180.05	7,066.00	-1,840.80	437.77	1,840.42	0.00	0.00	0.00	0.00
9,400.00	90.00	180.05	7,066.00	-1,940.80	437.68	1,940.42	0.00	0.00	0.00	0.00
9,500.00	90.00	180.05	7,066.00	-2,040.80	437.58	2,040.42	0.00	0.00	0.00	0.00
9,600.00	90.00	180.05	7,066.00	-2,140.80	437.49	2,140.42	0.00	0.00	0.00	0.00
9,700.00	90.00	180.05	7,066.00	-2,240.80	437.40	2,240.42	0.00	0.00	0.00	0.00
9,800.00	90.00	180.05	7,066.00	-2,340.80	437.31	2,340.42	0.00	0.00	0.00	0.00
9,900.00	90.00	180.05	7,066.00	-2,440.80	437.21	2,440.42	0.00	0.00	0.00	0.00
10,000.00	90.00	180.05	7,066.00	-2,540.80	437.12	2,540.42	0.00	0.00	0.00	0.00
10,100.00	90.00	180.05	7,066.00	-2,640.80	437.03	2,640.42	0.00	0.00	0.00	0.00
10,200.00	90.00	180.05	7,066.00	-2,740.80	436.93	2,740.42	0.00	0.00	0.00	0.00
10,300.00	90.00	180.05	7,066.00	-2,840.80	436.84	2,840.42	0.00	0.00	0.00	0.00
10,400.00	90.00	180.05	7,066.00	-2,940.80	436.75	2,940.42	0.00	0.00	0.00	0.00
10,500.00	90.00	180.05	7,066.00	-3,040.80	436.66	3,040.42	0.00	0.00	0.00	0.00
10,600.00	90.00	180.05	7,066.00	-3,140.80	436.56	3,140.42	0.00	0.00	0.00	0.00
10,700.00	90.00	180.05	7,066.00	-3,240.80	436.47	3,240.42	0.00	0.00	0.00	0.00
10,800.00	90.00	180.05	7,066.00	-3,340.80	436.38	3,340.42	0.00	0.00	0.00	0.00
10,900.00	90.00	180.05	7,066.00	-3,440.80	436.28	3,440.42	0.00	0.00	0.00	0.00
11,000.00	90.00	180.05	7,066.00	-3,540.80	436.19	3,540.42	0.00	0.00	0.00	0.00
11,100.00	90.00	180.05	7,066.00	-3,640.80	436.10	3,640.42	0.00	0.00	0.00	0.00
11,200.00	90.00	180.05	7,066.00	-3,740.80	436.01	3,740.42	0.00	0.00	0.00	0.00
11,300.00	90.00	180.05	7,066.00	-3,840.80	435.91	3,840.42	0.00	0.00	0.00	0.00
11,400.00	90.00	180.05	7,066.00	-3,940.80	435.82	3,940.42	0.00	0.00	0.00	0.00
11,500.00	90.00	180.05	7,066.00	-4,040.80	435.73	4,040.42	0.00	0.00	0.00	0.00
11,600.00	90.00	180.05	7,066.00	-4,140.80	435.63	4,140.42	0.00	0.00	0.00	0.00
11,700.00	90.00	180.05	7,066.00	-4,240.80	435.54	4,240.42	0.00	0.00	0.00	0.00
11,800.00	90.00	180.05	7,066.00	-4,340.80	435.45	4,340.42	0.00	0.00	0.00	0.00
11,874.49	90.00	180.05	7,066.00	-4,415.29	435.38	4,414.91	0.00	0.00	0.00	0.00

TD Well @ 11874.49ft - Total Depth (Toe) - ENGLISH FARMS 13N-9HZ\_BHL

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
3,300.00	3,300.00	0.00	0.00	Begin Nudge @ 3300.00ft
4,200.00	4,186.69	101.88	82.50	End Nudge @ 4200.00ft
5,585.00	5,503.95	434.37	351.75	Begin Drop @ 5585.00ft
6,485.00	6,389.22	543.34	439.99	End Drop @ 6485.00ft
6,488.82	6,393.04	543.34	439.99	Top of 4.5" Liner @ 6488.82ft
6,588.82	6,493.04	543.34	439.99	KOP @ 6588.82ft
7,100.00	6,939.05	330.04	439.79	DLS = 10°/100'
7,488.82	7,066.00	-29.62	439.45	End Build @ 7488.82ft
11,874.49	7,066.00	-4,415.29	435.38	TD Well @ 11874.49ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (usft)	+E/-W (usft)	Start TVD (usft)
User	No Target (Freehand)	180.05	Slot	0.00	0.00	0.00

## Plan Report for ENGLISH FARMS 13N-9HZ - Permit Rev-1

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	7,488.82	Permit Rev-1	MWD+IFR1
7,488.82	11,874.49	Permit Rev-1	MWD+IFR1

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,477.00	1,477.00	9 5/8"	9-5/8	13-1/2
7,488.82	7,066.00	7"	7	8-3/4

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,027.88	4,021.00	Parkman		0.00	
4,420.03	4,396.00	Sussex		0.00	
7,070.57	6,920.00	SSPG		0.00	
7,116.13	6,949.00	NBRR		0.00	
7,371.37	7,054.00	N470_B_CK		0.00	
7,488.82	7,066.00	Landing Target (Heel)		0.00	
11,874.49	7,066.00	Total Depth (Toe)		0.00	

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
ENGLISH FARMS 13N-9HZ_SHL	0.00	0.00	0.00	Point
1N-R65W-Sec. 9_Section lines	-32.00	-4,259.84	4,056.35	Polygon
ENGLISH FARMS 13N-9HZ_BHL	7,066.00	-4,415.29	435.38	Point
1N-R65W-Sec. 8_Section lines	-32.00	-4,259.84	4,056.35	Polygon

## North Reference Sheet for 1N-65W-08 English Farms 34C-9HZ Pad - ENGLISH FARMS 13N-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' @ 4949.00usft (D Rig). Northing and Easting are relative to ENGLISH FARMS 13N-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: 0.99960918

Grid Coordinates of Well: 14,553,164.73 usft N, 1,730,032.39 usft E

Geographical Coordinates of Well: 40° 04' 19.71" N, 104° 40' 46.79" W

Grid Convergence at Surface is: 0.21°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,874.49usft the Bottom Hole Displacement is 4,436.70usft in the Direction of 174.37° (True).

Magnetic Convergence at surface is: -8.13° (21 October 2014, , IGRF2010)

