

# US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N  
2N-65W-13 Guest East Pad  
GUEST 28N-25HZ

Plan A

Plan: Permit Rev-2

## Sperry Drilling Services

### Proposal Report

04 June, 2015

Well Coordinates: 14,577,130.83 N, 1,748,209.49 E (40° 08' 15.93" N, 104° 36' 51.55" W)

Ground Level: 4,872.00 usft

Local Coordinate Origin:

Centered on Well GUEST 28N-25HZ

Viewing Datum:

GL 4872 & KB 17 @ 4889.00usft (ASSUMED)

TVDs to System:

N

North Reference:

True

Unit System:

Dec-Deg - API - US Survey Feet - Custom

Version: 5000.1 Build: 73

**HALLIBURTON**

Project: WELD-NAD83-UTMFT13N

Site: 2N-65W-13 Guest East Pad

Well: GUEST 28N-25HZ

Wellbore: Plan A

Design: Permit Rev-2

# US ROCKIES WATTENBERG PLANNING

HALLIBURTON

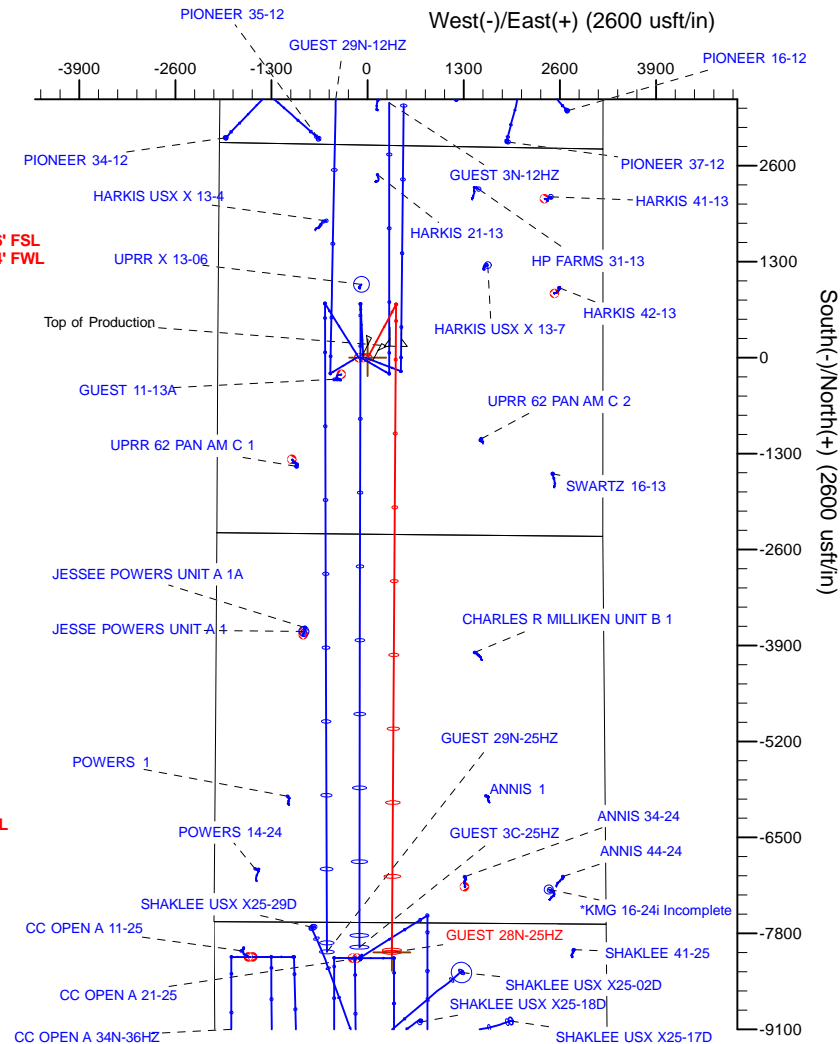
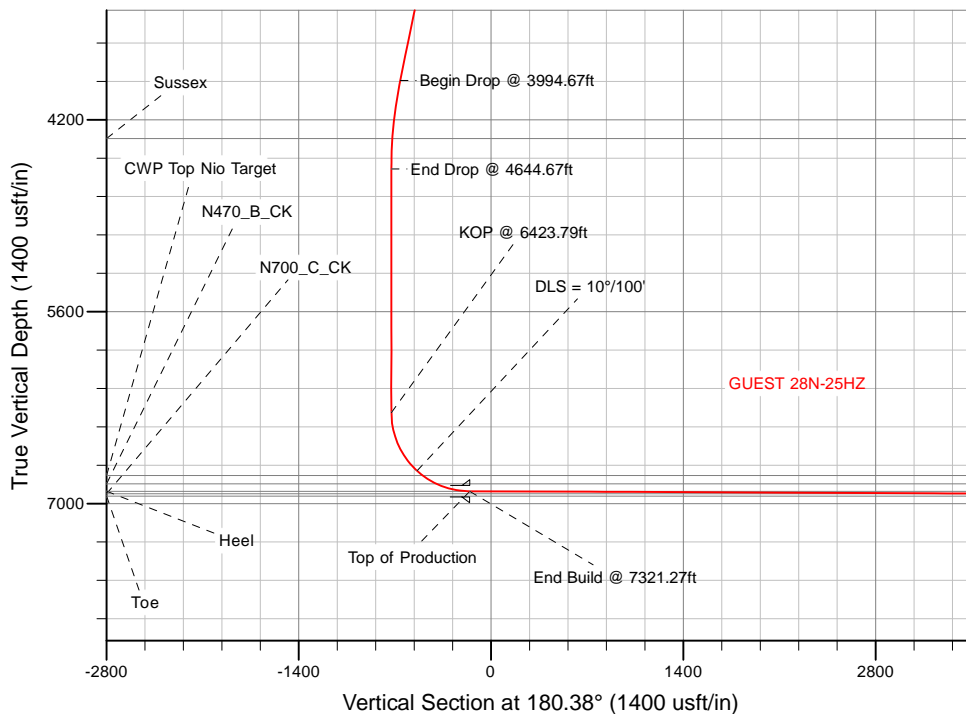
Sperry Drilling

### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	1116.67	13.00	28.00	1109.25	86.44	45.96	1.50	28.00	-86.74	
4	3994.67	13.00	28.00	3913.49	658.07	349.90	0.00	0.00	-660.37	
5	4644.67	0.00	0.00	4557.92	722.90	384.37	2.00	180.00	-725.43	
6	6423.79	0.00	0.00	6337.04	722.90	384.37	0.00	0.00	-725.43	
7	7321.27	89.75	180.38	6910.00	152.47	380.63	10.00	180.38	-154.99	
8	15529.43	89.75	180.38	6946.00	-8055.43	326.82	0.00	0.00	8053.09	GUEST 28N-25HZ_BHL

### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape Point
GUEST 28N-25HZ_SHL	0.00	0.00	0.00	40.137757	-104.614320	Point
GUEST 28N-25HZ_BHL	6946.00	-8055.43	326.82	40.115636	-104.613151	Point



ANNOTATIONS		
TVD	MD	Annotation
250.00	250.00	Begin Nudge @ 250.00ft
1109.25	1116.67	End Nudge @ 1116.67ft
3913.49	3994.67	Begin Drop @ 3994.67ft
4557.93	4644.67	End Drop @ 4644.67ft
6337.05	6423.79	KOP @ 6423.79ft
6760.29	6900.00	DLS = 10°/100'
6910.00	7321.27	End Build @ 7321.27ft
6946.00	15529.43	TD Well @ 15529.43ft

WELL DETAILS: GUEST 28N-25HZ	
Ground Level:	4872.00
GL 4872 & KB 17 @ 4889.00usft (ASSUMED)	
Plan: Permit Rev-2 (GUEST 28N-25HZ/Plan A)	
Created By: Clint Eshelman	Date: 6/4/2015
Reviewed:	Date:



Plan Report for GUEST 28N-25HZ - 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>GUEST 28N-25HZ_SHL</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
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Begin Nudge @ 250.00ft</b>										
300.00	0.75	28.00	300.00	0.29	0.15	-0.29	1.50	1.50	0.00	28.00
400.00	2.25	28.00	399.96	2.60	1.38	-2.61	1.50	1.50	0.00	0.00
500.00	3.75	28.00	499.82	7.22	3.84	-7.25	1.50	1.50	0.00	0.00
600.00	5.25	28.00	599.51	14.15	7.52	-14.20	1.50	1.50	0.00	0.00
700.00	6.75	28.00	698.96	23.38	12.43	-23.46	1.50	1.50	0.00	0.00
800.00	8.25	28.00	798.10	34.90	18.56	-35.02	1.50	1.50	0.00	0.00
900.00	9.75	28.00	896.87	48.71	25.90	-48.88	1.50	1.50	0.00	0.00
1,000.00	11.25	28.00	995.19	64.80	34.46	-65.03	1.50	1.50	0.00	0.00
1,100.00	12.75	28.00	1,093.00	83.16	44.22	-83.45	1.50	1.50	0.00	0.00
1,116.67	13.00	28.00	1,109.25	86.44	45.96	-86.74	1.50	1.50	0.00	0.00
<b>End Nudge @ 1116.67ft</b>										
1,200.00	13.00	28.00	1,190.45	102.99	54.76	-103.35	0.00	0.00	0.00	0.00
1,283.70	13.00	28.00	1,272.00	119.62	63.60	-120.03	0.00	0.00	0.00	0.00
<b>Fox Hills Marker</b>										
1,300.00	13.00	28.00	1,287.88	122.85	65.32	-123.28	0.00	0.00	0.00	0.00
1,400.00	13.00	28.00	1,385.32	142.72	75.88	-143.22	0.00	0.00	0.00	0.00
1,500.00	13.00	28.00	1,482.76	162.58	86.44	-163.15	0.00	0.00	0.00	0.00
1,600.00	13.00	28.00	1,580.20	182.44	97.00	-183.08	0.00	0.00	0.00	0.00
1,700.00	13.00	28.00	1,677.63	202.30	107.57	-203.01	0.00	0.00	0.00	0.00
1,800.00	13.00	28.00	1,775.07	222.16	118.13	-222.94	0.00	0.00	0.00	0.00
1,825.59	13.00	28.00	1,800.00	227.25	120.83	-228.04	0.00	0.00	0.00	0.00
<b>9 5/8"</b>										
1,900.00	13.00	28.00	1,872.51	242.03	128.69	-242.87	0.00	0.00	0.00	0.00
2,000.00	13.00	28.00	1,969.94	261.89	139.25	-262.81	0.00	0.00	0.00	0.00
2,100.00	13.00	28.00	2,067.38	281.75	149.81	-282.74	0.00	0.00	0.00	0.00
2,200.00	13.00	28.00	2,164.82	301.61	160.37	-302.67	0.00	0.00	0.00	0.00
2,300.00	13.00	28.00	2,262.25	321.47	170.93	-322.60	0.00	0.00	0.00	0.00
2,400.00	13.00	28.00	2,359.69	341.34	181.49	-342.53	0.00	0.00	0.00	0.00
2,500.00	13.00	28.00	2,457.13	361.20	192.05	-362.46	0.00	0.00	0.00	0.00
2,600.00	13.00	28.00	2,554.57	381.06	202.61	-382.39	0.00	0.00	0.00	0.00
2,700.00	13.00	28.00	2,652.00	400.92	213.17	-402.33	0.00	0.00	0.00	0.00
2,800.00	13.00	28.00	2,749.44	420.78	223.73	-422.26	0.00	0.00	0.00	0.00
2,900.00	13.00	28.00	2,846.88	440.65	234.30	-442.19	0.00	0.00	0.00	0.00
3,000.00	13.00	28.00	2,944.31	460.51	244.86	-462.12	0.00	0.00	0.00	0.00
3,100.00	13.00	28.00	3,041.75	480.37	255.42	-482.05	0.00	0.00	0.00	0.00
3,200.00	13.00	28.00	3,139.19	500.23	265.98	-501.98	0.00	0.00	0.00	0.00
3,300.00	13.00	28.00	3,236.62	520.09	276.54	-521.92	0.00	0.00	0.00	0.00
3,400.00	13.00	28.00	3,334.06	539.96	287.10	-541.85	0.00	0.00	0.00	0.00
3,500.00	13.00	28.00	3,431.50	559.82	297.66	-561.78	0.00	0.00	0.00	0.00
3,600.00	13.00	28.00	3,528.94	579.68	308.22	-581.71	0.00	0.00	0.00	0.00
3,700.00	13.00	28.00	3,626.37	599.54	318.78	-601.64	0.00	0.00	0.00	0.00
3,800.00	13.00	28.00	3,723.81	619.40	329.34	-621.57	0.00	0.00	0.00	0.00
3,900.00	13.00	28.00	3,821.25	639.27	339.90	-641.51	0.00	0.00	0.00	0.00
3,994.67	13.00	28.00	3,913.49	658.07	349.90	-660.37	0.00	0.00	0.00	0.00
<b>Begin Drop @ 3994.67ft</b>										
4,000.00	12.89	28.00	3,918.68	659.12	350.46	-661.43	2.00	-2.00	0.00	-180.00
4,100.00	10.89	28.00	4,016.53	677.32	360.14	-679.69	2.00	-2.00	0.00	180.00
4,200.00	8.89	28.00	4,115.04	692.49	368.20	-694.92	2.00	-2.00	0.00	180.00
4,300.00	6.89	28.00	4,214.09	704.61	374.65	-707.08	2.00	-2.00	0.00	180.00
4,400.00	4.89	28.00	4,313.55	713.68	379.47	-716.18	2.00	-2.00	0.00	180.00
4,423.52	4.42	28.00	4,337.00	715.37	380.37	-717.87	2.00	-2.00	0.00	180.00



Plan Report for GUEST 28N-25HZ - 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 (°)
<b>Sussex</b>										
4,500.00	2.89	28.00	4,413.32	719.67	382.66	-722.20	2.00	-2.00	0.00	-180.00
4,600.00	0.89	28.00	4,513.26	722.59	384.21	-725.12	2.00	-2.00	0.00	180.00
4,644.67	0.00	0.00	4,557.93	722.90	384.37	-725.43	2.00	-2.00	0.00	-180.00
<b>End Drop @ 4644.67ft</b>										
4,700.00	0.00	0.00	4,613.26	722.90	384.37	-725.43	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,713.26	722.90	384.37	-725.43	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,813.26	722.90	384.37	-725.43	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	4,913.26	722.90	384.37	-725.43	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,013.26	722.90	384.37	-725.43	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,113.26	722.90	384.37	-725.43	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,213.26	722.90	384.37	-725.43	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,313.26	722.90	384.37	-725.43	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,413.26	722.90	384.37	-725.43	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,513.26	722.90	384.37	-725.43	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,613.26	722.90	384.37	-725.43	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,713.26	722.90	384.37	-725.43	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,813.26	722.90	384.37	-725.43	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,913.26	722.90	384.37	-725.43	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,013.26	722.90	384.37	-725.43	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,113.26	722.90	384.37	-725.43	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,213.26	722.90	384.37	-725.43	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,313.26	722.90	384.37	-725.43	0.00	0.00	0.00	0.00
6,423.79	0.00	0.00	6,337.05	722.90	384.37	-725.43	0.00	0.00	0.00	0.00
<b>KOP @ 6423.79ft</b>										
6,500.00	7.62	180.38	6,413.03	717.84	384.34	-720.37	10.00	10.00	0.00	180.38
6,600.00	17.62	180.38	6,510.49	696.01	384.20	-698.55	10.00	10.00	0.00	0.00
6,700.00	27.62	180.38	6,602.68	657.60	383.94	-660.13	10.00	10.00	0.00	0.00
6,800.00	37.62	180.38	6,686.80	603.76	383.59	-606.29	10.00	10.00	0.00	0.00
6,900.00	47.62	180.38	6,760.29	536.13	383.15	-538.66	10.00	10.00	0.00	0.00
<b>DLS = 10°/100'</b>										
6,956.07	53.23	180.38	6,796.00	492.93	382.86	-495.46	10.00	10.00	0.00	0.00
<b>CWP Top Nio Target</b>										
7,000.00	57.62	180.38	6,820.92	456.77	382.63	-459.30	10.00	10.00	0.00	0.00
7,073.03	64.92	180.38	6,856.00	392.78	382.21	-395.30	10.00	10.00	0.00	0.00
<b>N470_B_CK</b>										
7,100.00	67.62	180.38	6,866.85	368.09	382.05	-370.61	10.00	10.00	0.00	0.00
7,200.00	77.62	180.38	6,896.68	272.78	381.42	-275.30	10.00	10.00	0.00	0.00
7,300.00	87.62	180.38	6,909.51	173.73	380.77	-176.25	10.00	10.00	0.00	0.00
7,321.27	89.75	180.38	6,910.00	152.47	380.63	-154.99	10.00	10.00	0.00	0.00
<b>End Build @ 7321.27ft - Heel - Top of Production</b>										
7,400.00	89.75	180.38	6,910.34	73.74	380.12	-76.26	0.00	0.00	0.00	0.00
7,500.00	89.75	180.38	6,910.78	-26.26	379.46	23.74	0.00	0.00	0.00	0.00
7,600.00	89.75	180.38	6,911.22	-126.25	378.80	123.74	0.00	0.00	0.00	0.00
7,700.00	89.75	180.38	6,911.66	-226.25	378.15	223.74	0.00	0.00	0.00	0.00
7,800.00	89.75	180.38	6,912.10	-326.25	377.49	323.74	0.00	0.00	0.00	0.00
7,900.00	89.75	180.38	6,912.53	-426.24	376.84	423.73	0.00	0.00	0.00	0.00
8,000.00	89.75	180.38	6,912.97	-526.24	376.18	523.73	0.00	0.00	0.00	0.00
8,100.00	89.75	180.38	6,913.41	-626.24	375.53	623.73	0.00	0.00	0.00	0.00
8,200.00	89.75	180.38	6,913.85	-726.23	374.87	723.73	0.00	0.00	0.00	0.00
8,300.00	89.75	180.38	6,914.29	-826.23	374.22	823.73	0.00	0.00	0.00	0.00
8,400.00	89.75	180.38	6,914.73	-926.23	373.56	923.73	0.00	0.00	0.00	0.00
8,500.00	89.75	180.38	6,915.17	-1,026.22	372.90	1,023.73	0.00	0.00	0.00	0.00
8,600.00	89.75	180.38	6,915.61	-1,126.22	372.25	1,123.73	0.00	0.00	0.00	0.00
8,700.00	89.75	180.38	6,916.04	-1,226.22	371.59	1,223.73	0.00	0.00	0.00	0.00
8,800.00	89.75	180.38	6,916.48	-1,326.21	370.94	1,323.73	0.00	0.00	0.00	0.00
8,900.00	89.75	180.38	6,916.92	-1,426.21	370.28	1,423.72	0.00	0.00	0.00	0.00
9,000.00	89.75	180.38	6,917.36	-1,526.21	369.63	1,523.72	0.00	0.00	0.00	0.00
9,100.00	89.75	180.38	6,917.80	-1,626.21	368.97	1,623.72	0.00	0.00	0.00	0.00

## Plan Report for GUEST 28N-25HZ - 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 (°)
9,200.00	89.75	180.38	6,918.24	-1,726.20	368.32	1,723.72	0.00	0.00	0.00	0.00
9,300.00	89.75	180.38	6,918.68	-1,826.20	367.66	1,823.72	0.00	0.00	0.00	0.00
9,400.00	89.75	180.38	6,919.11	-1,926.20	367.00	1,923.72	0.00	0.00	0.00	0.00
9,500.00	89.75	180.38	6,919.55	-2,026.19	366.35	2,023.72	0.00	0.00	0.00	0.00
9,600.00	89.75	180.38	6,919.99	-2,126.19	365.69	2,123.72	0.00	0.00	0.00	0.00
9,700.00	89.75	180.38	6,920.43	-2,226.19	365.04	2,223.72	0.00	0.00	0.00	0.00
9,800.00	89.75	180.38	6,920.87	-2,326.18	364.38	2,323.72	0.00	0.00	0.00	0.00
9,900.00	89.75	180.38	6,921.31	-2,426.18	363.73	2,423.71	0.00	0.00	0.00	0.00
10,000.00	89.75	180.38	6,921.75	-2,526.18	363.07	2,523.71	0.00	0.00	0.00	0.00
10,100.00	89.75	180.38	6,922.18	-2,626.17	362.42	2,623.71	0.00	0.00	0.00	0.00
10,200.00	89.75	180.38	6,922.62	-2,726.17	361.76	2,723.71	0.00	0.00	0.00	0.00
10,300.00	89.75	180.38	6,923.06	-2,826.17	361.10	2,823.71	0.00	0.00	0.00	0.00
10,400.00	89.75	180.38	6,923.50	-2,926.17	360.45	2,923.71	0.00	0.00	0.00	0.00
10,500.00	89.75	180.38	6,923.94	-3,026.16	359.79	3,023.71	0.00	0.00	0.00	0.00
10,600.00	89.75	180.38	6,924.38	-3,126.16	359.14	3,123.71	0.00	0.00	0.00	0.00
10,700.00	89.75	180.38	6,924.82	-3,226.16	358.48	3,223.71	0.00	0.00	0.00	0.00
10,800.00	89.75	180.38	6,925.26	-3,326.15	357.83	3,323.71	0.00	0.00	0.00	0.00
10,900.00	89.75	180.38	6,925.69	-3,426.15	357.17	3,423.71	0.00	0.00	0.00	0.00
11,000.00	89.75	180.38	6,926.13	-3,526.15	356.51	3,523.70	0.00	0.00	0.00	0.00
11,100.00	89.75	180.38	6,926.57	-3,626.14	355.86	3,623.70	0.00	0.00	0.00	0.00
11,200.00	89.75	180.38	6,927.01	-3,726.14	355.20	3,723.70	0.00	0.00	0.00	0.00
11,300.00	89.75	180.38	6,927.45	-3,826.14	354.55	3,823.70	0.00	0.00	0.00	0.00
11,400.00	89.75	180.38	6,927.89	-3,926.13	353.89	3,923.70	0.00	0.00	0.00	0.00
11,425.76	89.75	180.38	6,928.00	-3,951.90	353.72	3,949.46	0.00	0.00	0.00	0.00
<b>N700_C_CK</b>										
11,500.00	89.75	180.38	6,928.33	-4,026.13	353.24	4,023.70	0.00	0.00	0.00	0.00
11,600.00	89.75	180.38	6,928.76	-4,126.13	352.58	4,123.70	0.00	0.00	0.00	0.00
11,700.00	89.75	180.38	6,929.20	-4,226.12	351.93	4,223.70	0.00	0.00	0.00	0.00
11,800.00	89.75	180.38	6,929.64	-4,326.12	351.27	4,323.70	0.00	0.00	0.00	0.00
11,900.00	89.75	180.38	6,930.08	-4,426.12	350.61	4,423.70	0.00	0.00	0.00	0.00
12,000.00	89.75	180.38	6,930.52	-4,526.12	349.96	4,523.69	0.00	0.00	0.00	0.00
12,100.00	89.75	180.38	6,930.96	-4,626.11	349.30	4,623.69	0.00	0.00	0.00	0.00
12,200.00	89.75	180.38	6,931.40	-4,726.11	348.65	4,723.69	0.00	0.00	0.00	0.00
12,300.00	89.75	180.38	6,931.83	-4,826.11	347.99	4,823.69	0.00	0.00	0.00	0.00
12,400.00	89.75	180.38	6,932.27	-4,926.10	347.34	4,923.69	0.00	0.00	0.00	0.00
12,500.00	89.75	180.38	6,932.71	-5,026.10	346.68	5,023.69	0.00	0.00	0.00	0.00
12,600.00	89.75	180.38	6,933.15	-5,126.10	346.03	5,123.69	0.00	0.00	0.00	0.00
12,700.00	89.75	180.38	6,933.59	-5,226.09	345.37	5,223.69	0.00	0.00	0.00	0.00
12,800.00	89.75	180.38	6,934.03	-5,326.09	344.71	5,323.69	0.00	0.00	0.00	0.00
12,900.00	89.75	180.38	6,934.47	-5,426.09	344.06	5,423.69	0.00	0.00	0.00	0.00
13,000.00	89.75	180.38	6,934.91	-5,526.08	343.40	5,523.69	0.00	0.00	0.00	0.00
13,100.00	89.75	180.38	6,935.34	-5,626.08	342.75	5,623.68	0.00	0.00	0.00	0.00
13,200.00	89.75	180.38	6,935.78	-5,726.08	342.09	5,723.68	0.00	0.00	0.00	0.00
13,300.00	89.75	180.38	6,936.22	-5,826.07	341.44	5,823.68	0.00	0.00	0.00	0.00
13,400.00	89.75	180.38	6,936.66	-5,926.07	340.78	5,923.68	0.00	0.00	0.00	0.00
13,500.00	89.75	180.38	6,937.10	-6,026.07	340.13	6,023.68	0.00	0.00	0.00	0.00
13,600.00	89.75	180.38	6,937.54	-6,126.07	339.47	6,123.68	0.00	0.00	0.00	0.00
13,700.00	89.75	180.38	6,937.98	-6,226.06	338.81	6,223.68	0.00	0.00	0.00	0.00
13,800.00	89.75	180.38	6,938.41	-6,326.06	338.16	6,323.68	0.00	0.00	0.00	0.00
13,900.00	89.75	180.38	6,938.85	-6,426.06	337.50	6,423.68	0.00	0.00	0.00	0.00
14,000.00	89.75	180.38	6,939.29	-6,526.05	336.85	6,523.68	0.00	0.00	0.00	0.00
14,100.00	89.75	180.38	6,939.73	-6,626.05	336.19	6,623.67	0.00	0.00	0.00	0.00
14,200.00	89.75	180.38	6,940.17	-6,726.05	335.54	6,723.67	0.00	0.00	0.00	0.00
14,300.00	89.75	180.38	6,940.61	-6,826.04	334.88	6,823.67	0.00	0.00	0.00	0.00
14,400.00	89.75	180.38	6,941.05	-6,926.04	334.23	6,923.67	0.00	0.00	0.00	0.00
14,500.00	89.75	180.38	6,941.48	-7,026.04	333.57	7,023.67	0.00	0.00	0.00	0.00
14,600.00	89.75	180.38	6,941.92	-7,126.03	332.91	7,123.67	0.00	0.00	0.00	0.00
14,700.00	89.75	180.38	6,942.36	-7,226.03	332.26	7,223.67	0.00	0.00	0.00	0.00
14,800.00	89.75	180.38	6,942.80	-7,326.03	331.60	7,323.67	0.00	0.00	0.00	0.00



Plan Report for GUEST 28N-25HZ - 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 (°)
14,900.00	89.75	180.38	6,943.24	-7,426.03	330.95	7,423.67	0.00	0.00	0.00	0.00
15,000.00	89.75	180.38	6,943.68	-7,526.02	330.29	7,523.67	0.00	0.00	0.00	0.00
15,100.00	89.75	180.38	6,944.12	-7,626.02	329.64	7,623.66	0.00	0.00	0.00	0.00
15,200.00	89.75	180.38	6,944.56	-7,726.02	328.98	7,723.66	0.00	0.00	0.00	0.00
15,300.00	89.75	180.38	6,944.99	-7,826.01	328.33	7,823.66	0.00	0.00	0.00	0.00
15,400.00	89.75	180.38	6,945.43	-7,926.01	327.67	7,923.66	0.00	0.00	0.00	0.00
15,500.00	89.75	180.38	6,945.87	-8,026.01	327.01	8,023.66	0.00	0.00	0.00	0.00
15,529.42	89.75	180.38	6,946.00	-8,055.43	326.82	8,053.08	0.00	0.00	0.00	0.00
<b>Toe</b>										
15,529.43	89.75	180.38	6,946.00	-8,055.43	326.82	8,053.09	0.01	0.00	0.00	0.00
<b>TD Well @ 15529.43ft - GUEST 28N-25HZ_BHL</b>										

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
250.00	250.00	0.00	0.00	Begin Nudge @ 250.00ft
1,116.67	1,109.25	86.44	45.96	End Nudge @ 1116.67ft
3,994.67	3,913.49	658.07	349.90	Begin Drop @ 3994.67ft
4,644.67	4,557.93	722.90	384.37	End Drop @ 4644.67ft
6,423.79	6,337.05	722.90	384.37	KOP @ 6423.79ft
6,900.00	6,760.29	536.13	383.15	DLS = 10°/100'
7,321.27	6,910.00	152.47	380.63	End Build @ 7321.27ft
15,529.43	6,946.00	-8,055.43	326.82	TD Well @ 15529.43ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (usft)	Origin +E/-W (usft)	Start TVD (usft)
User	No Target (Freehand)	180.38	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	7,321.27	Permit Rev-2	APC_ISCWSA REV 2 MWD+IFR1
7,321.27	15,529.43	Permit Rev-2	APC_ISCWSA REV 2 MWD+IFR1

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,825.59	1,800.00	9 5/8"	9-5/8	13-1/2
7,321.27	6,910.00	Top of Production	5-1/2	7-7/8

**Plan Report for GUEST 28N-25HZ - Permit Rev-2****Formation Details**

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,283.70	1,272.00	Fox Hills Marker		0.00	
4,423.52	4,337.00	Sussex		0.00	
6,956.07	6,796.00	CWP Top Nio Target		0.00	
7,073.03	6,856.00	N470_B_CK		0.00	
7,321.27	6,910.00	Heel		0.00	
11,425.76	6,928.00	N700_C_CK		0.00	
15,529.42	6,946.00	Toe		0.00	

***Targets associated with this wellbore***

Target Name	TVD (usft)	+N-S (usft)	+E-W (usft)	Shape
GUEST 28N-25HZ_SHL	0.00	0.00	0.00	Point
GUEST 28N-25HZ_BHL	6,946.00	-8,055.43	326.82	Point

**Directional Difficulty Index**

Average Dogleg over Survey:	0.72 °/100usft	Maximum Dogleg over Survey:	10.00 °/100usft at 7,310.97 usft
Net Tortosity applicable to Plans:	0.72 °/100usft	Directional Difficulty Index:	6.479

**Audit Info**

**North Reference Sheet for 2N-65W-13 Guest East Pad - GUEST 28N-25HZ - 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 GL 4872 & KB 17 @ 4889.00usft (ASSUMED). Northing and Easting are relative to GUEST 28N-25HZ

Coordinate System is Universal Transverse Mercator (US Survey Feet), Zone 13N (108 W to 102 W) using datum North American Datum 1983, ellipsoid GRS 1980

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: 0.99961329

Grid Coordinates of Well: 14,577,130.83 usft N, 1,748,209.49 usft E

Geographical Coordinates of Well: 40° 08' 15.93" N, 104° 36' 51.55" W

Grid Convergence at Surface is: 0.25°

Based upon Minimum Curvature type calculations, at a Measured Depth of 15,529.43usft the Bottom Hole Displacement is 8,062.06usft in the Direction of 177.68° ( True).

Magnetic Convergence at surface is: -8.05° (12 November 2014, , IGRF2010)

