

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N**

**1N-68W-08 YELLOWHAMMER 12-8HZ Pad**

**YELLOWHAMMER 30N-8HZ**

**Plan A**

**Plan: Permit Rev-1**

## **Standard Planning Report**

**16 August, 2016**



Azimuths to True North  
Magnetic North: 8.28°

Magnetic Field  
Strength: 52380.3snT  
Dip Angle: 66.56°  
Date: 8/15/2016  
Model: IGRF2010

SITE: 1N-68W-08 YELLOWHAMMER 12-8HZ Pad

Well: YELLOWHAMMER 30N-8HZ  
Wellbore: Plan A  
Design: Permit Rev-1

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1018.00	1023.27	Fox Hills
4185.00	4532.15	Parkman
4613.00	4679.05	Sussex
7412.00	7878.25	Sharon Springs
7453.00	7927.43	Niobrara
7592.00	8123.22	Nio B
7693.00	8351.93	Nio C

#### WELL DETAILS: YELLOWHAMMER 30N-8HZ

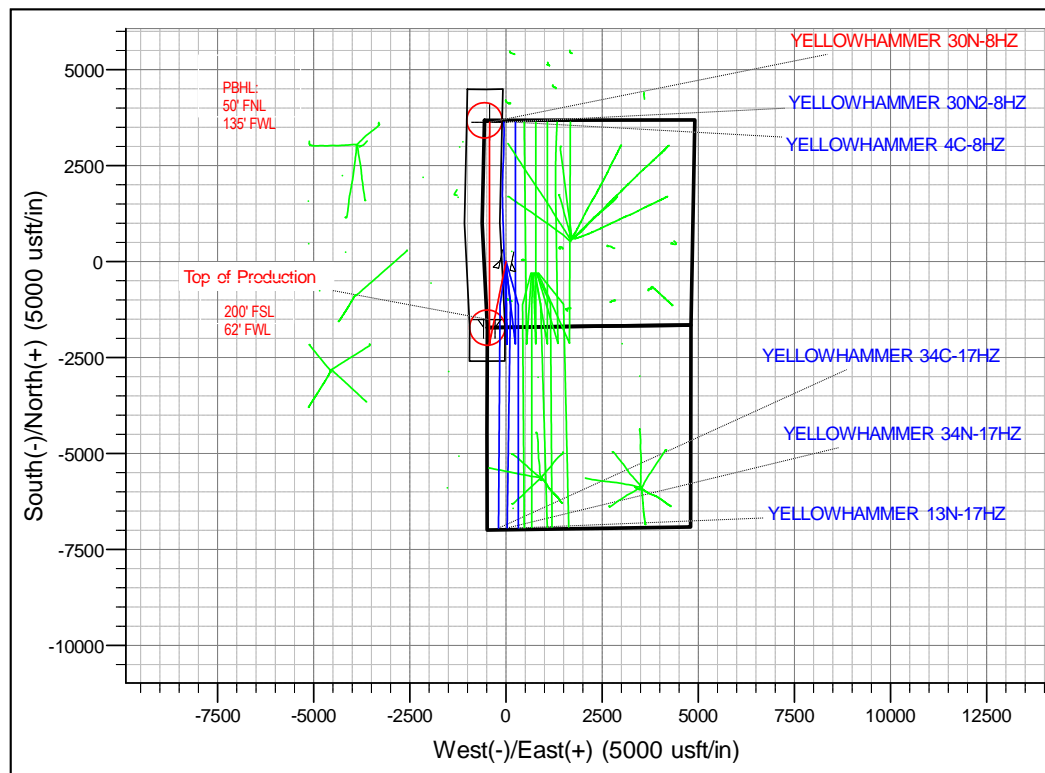
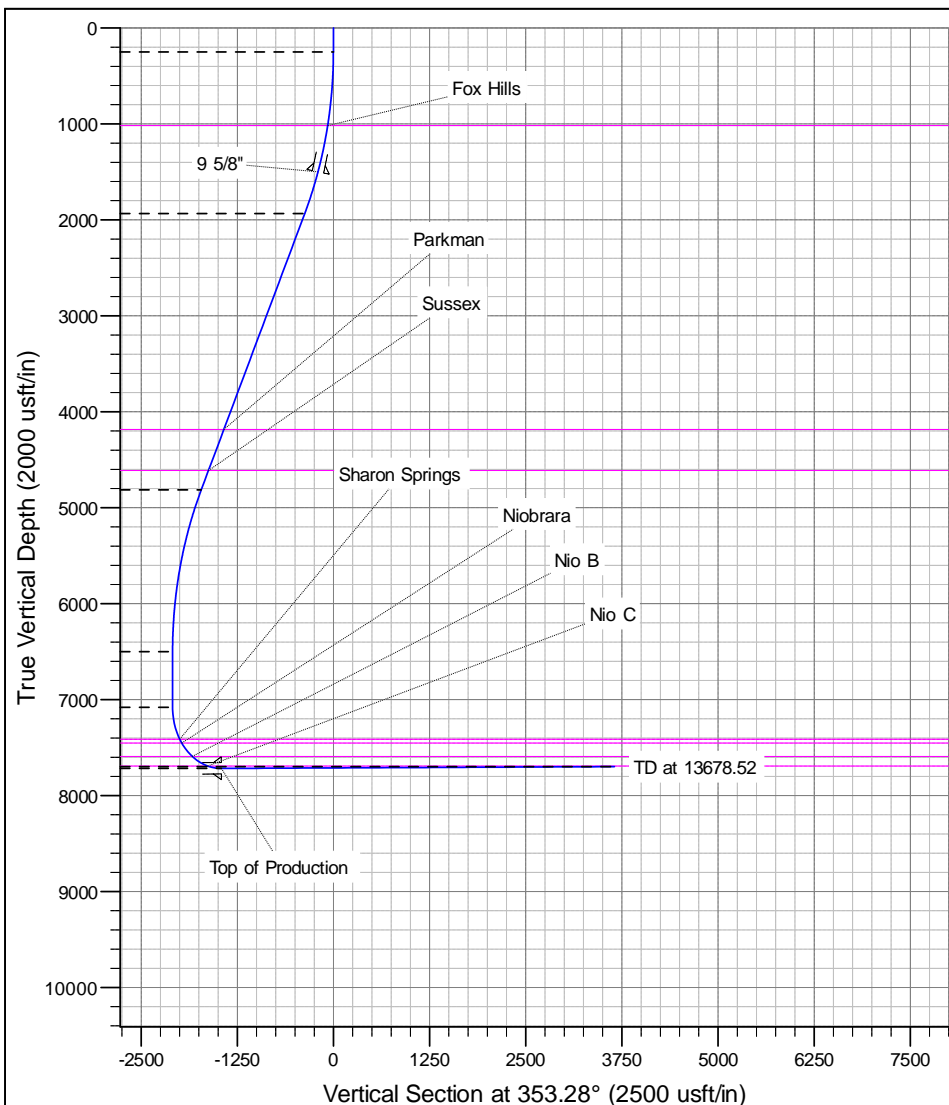
+N/-S	+E/-W	GL: 5063.00	RKB @ 5080.00usft (Original Well Elev)			Slot
0.00	0.00	Northing 14549638.18	Easting 1630523.16	Latitude 40.062895	Longitude -105.035360	

#### SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	Vsect
0.00	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
1994.91	26.17	191.35	1934.85	-384.01	-77.05	1.50	-372.36
5204.29	26.17	191.35	4815.15	-1771.99	-355.55	0.00	-1718.20
6949.20	0.00	0.00	6500.00	-2156.00	-432.60	1.50	-2090.56
7530.45	0.00	0.00	7081.24	-2156.00	-432.60	0.00	-2090.56
8532.78	90.21	0.05	7717.86	-1517.05	-432.05	9.00	-1456.06
13678.52	90.21	0.05	7699.00	3628.66	-427.60	0.00	3653.76

#### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
YELLOWHAMMER 30N-8HZ, PBHL	7699.00	3628.66	-427.60	14553267.00	1630097.00	40.072860	-105.036888



# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well YELLOWHAMMER 30N-8HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 5080.00usft (Original Well Elev)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 5080.00usft (Original Well Elev)
<b>Site:</b>	1N-68W-08 YELLOWHAMMER 12-8HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	YELLOWHAMMER 30N-8HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

<b>Project</b>	WELD-NAD83-UTMFT13N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Zone 13N (108 W to 102 W)		

Site						1N-68W-08 YELLOWHAMMER 12-8HZ Pad											
Site Position:						Northing:			14,549,653.10 usft			Latitude:			40.062936		
From:			Lat/Long			Easting:			1,630,523.16 usft			Longitude:			-105.035360		
Position Uncertainty:			0.00 usft			Slot Radius:			13-3/16 "			Grid Convergence:			-0.02 °		

Well	YELLOWHAMMER 30N-8HZ					
Well Position	+N-S	-14.93 usft	Northing:	14,549,638.17 usft	Latitude:	40.062895
	+E-W	0.00 usft	Easting:	1,630,523.15 usft	Longitude:	-105.035360
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,063.00 usft

<b>Wellbore</b>	Plan A				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	8/15/2016	8.28	66.56	52,380

<b>Design</b>	Permit Rev-1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N-S (usft)</b>	<b>+E-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	353.28

<b>Plan Sections</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	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	
1,994.91	26.17	191.35	1,934.85	-384.01	-77.05	1.50	1.50	0.00	191.35	
5,204.29	26.17	191.35	4,815.15	-1,771.99	-355.55	0.00	0.00	0.00	0.00	
6,949.20	0.00	0.00	6,500.00	-2,156.00	-432.60	1.50	-1.50	0.00	180.00	
7,530.45	0.00	0.00	7,081.24	-2,156.00	-432.60	0.00	0.00	0.00	0.00	
8,532.78	90.21	0.05	7,717.86	-1,517.05	-432.05	9.00	9.00	0.00	0.05	
13,678.52	90.21	0.05	7,699.00	3,628.66	-427.60	0.00	0.00	0.00	0.00	YELLOWHAMMER

# Corporate Planning Report

Database: PLANNING  
Company: US ROCKIES WATTENBERG PLANNING  
Project: WELD-NAD83-UTMFT13N  
Site: 1N-68W-08 YELLOWHAMMER 12-8HZ Pad  
Well: YELLOWHAMMER 30N-8HZ  
Wellbore: Plan A  
Design: Permit Rev-1

Local Co-ordinate Reference: Well YELLOWHAMMER 30N-8HZ  
TVD Reference: RKB @ 5080.00usft (Original Well Elev)  
MD Reference: RKB @ 5080.00usft (Original Well Elev)  
North Reference: True  
Survey Calculation Method: Minimum Curvature

Planned Survey									
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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	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
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.75	191.35	300.00	-0.32	-0.06	-0.31	1.50	1.50	0.00
400.00	2.25	191.35	399.96	-2.89	-0.58	-2.80	1.50	1.50	0.00
500.00	3.75	191.35	499.82	-8.02	-1.61	-7.78	1.50	1.50	0.00
600.00	5.25	191.35	599.51	-15.71	-3.15	-15.23	1.50	1.50	0.00
700.00	6.75	191.35	698.96	-25.96	-5.21	-25.17	1.50	1.50	0.00
800.00	8.25	191.35	798.10	-38.76	-7.78	-37.58	1.50	1.50	0.00
900.00	9.75	191.35	896.87	-54.09	-10.85	-52.45	1.50	1.50	0.00
1,000.00	11.25	191.35	995.19	-71.96	-14.44	-69.78	1.50	1.50	0.00
1,023.27	11.60	191.35	1,018.00	-76.48	-15.35	-74.16	1.50	1.50	0.00
Fox Hills									
1,100.00	12.75	191.35	1,093.00	-92.34	-18.53	-89.54	1.50	1.50	0.00
1,200.00	14.25	191.35	1,190.24	-115.23	-23.12	-111.73	1.50	1.50	0.00
1,300.00	15.75	191.35	1,286.83	-140.61	-28.21	-136.34	1.50	1.50	0.00
1,400.00	17.25	191.35	1,382.71	-168.45	-33.80	-163.34	1.50	1.50	0.00
1,500.00	18.75	191.35	1,477.81	-198.75	-39.88	-192.72	1.50	1.50	0.00
1,523.46	19.10	191.35	1,500.00	-206.21	-41.38	-199.95	1.50	1.50	0.00
9 5/8"									
1,600.00	20.25	191.35	1,572.07	-231.48	-46.45	-224.45	1.50	1.50	0.00
1,700.00	21.75	191.35	1,665.43	-266.61	-53.50	-258.52	1.50	1.50	0.00
1,800.00	23.25	191.35	1,757.81	-304.13	-61.02	-294.90	1.50	1.50	0.00
1,900.00	24.75	191.35	1,849.16	-344.01	-69.03	-333.57	1.50	1.50	0.00
1,994.91	26.17	191.35	1,934.85	-384.01	-77.05	-372.36	1.50	1.50	0.00
2,000.00	26.17	191.35	1,939.42	-386.22	-77.49	-374.49	0.00	0.00	0.00
2,100.00	26.17	191.35	2,029.17	-429.46	-86.17	-416.43	0.00	0.00	0.00
2,200.00	26.17	191.35	2,118.91	-472.71	-94.85	-458.36	0.00	0.00	0.00
2,300.00	26.17	191.35	2,208.66	-515.96	-103.53	-500.30	0.00	0.00	0.00
2,400.00	26.17	191.35	2,298.40	-559.21	-112.20	-542.23	0.00	0.00	0.00
2,500.00	26.17	191.35	2,388.15	-602.45	-120.88	-584.17	0.00	0.00	0.00
2,600.00	26.17	191.35	2,477.90	-645.70	-129.56	-626.10	0.00	0.00	0.00
2,700.00	26.17	191.35	2,567.64	-688.95	-138.24	-668.04	0.00	0.00	0.00
2,800.00	26.17	191.35	2,657.39	-732.19	-146.91	-709.97	0.00	0.00	0.00
2,900.00	26.17	191.35	2,747.14	-775.44	-155.59	-751.90	0.00	0.00	0.00
3,000.00	26.17	191.35	2,836.88	-818.69	-164.27	-793.84	0.00	0.00	0.00
3,100.00	26.17	191.35	2,926.63	-861.94	-172.95	-835.77	0.00	0.00	0.00
3,200.00	26.17	191.35	3,016.37	-905.18	-181.62	-877.71	0.00	0.00	0.00
3,300.00	26.17	191.35	3,106.12	-948.43	-190.30	-919.64	0.00	0.00	0.00
3,400.00	26.17	191.35	3,195.87	-991.68	-198.98	-961.58	0.00	0.00	0.00
3,500.00	26.17	191.35	3,285.61	-1,034.93	-207.66	-1,003.51	0.00	0.00	0.00
3,600.00	26.17	191.35	3,375.36	-1,078.17	-216.33	-1,045.45	0.00	0.00	0.00
3,700.00	26.17	191.35	3,465.10	-1,121.42	-225.01	-1,087.38	0.00	0.00	0.00
3,800.00	26.17	191.35	3,554.85	-1,164.67	-233.69	-1,129.32	0.00	0.00	0.00
3,900.00	26.17	191.35	3,644.60	-1,207.91	-242.37	-1,171.25	0.00	0.00	0.00
4,000.00	26.17	191.35	3,734.34	-1,251.16	-251.04	-1,213.18	0.00	0.00	0.00
4,100.00	26.17	191.35	3,824.09	-1,294.41	-259.72	-1,255.12	0.00	0.00	0.00
4,200.00	26.17	191.35	3,913.84	-1,337.66	-268.40	-1,297.05	0.00	0.00	0.00
4,300.00	26.17	191.35	4,003.58	-1,380.90	-277.08	-1,338.99	0.00	0.00	0.00
4,400.00	26.17	191.35	4,093.33	-1,424.15	-285.75	-1,380.92	0.00	0.00	0.00
4,500.00	26.17	191.35	4,183.07	-1,467.40	-294.43	-1,422.86	0.00	0.00	0.00
4,502.15	26.17	191.35	4,185.00	-1,468.33	-294.62	-1,423.76	0.00	0.00	0.00

# Corporate Planning Report

**Database:** PLANNING  
**Company:** US ROCKIES WATTENBERG PLANNING  
**Project:** WELD-NAD83-UTMFT13N  
**Site:** 1N-68W-08 YELLOWHAMMER 12-8HZ Pad  
**Well:** YELLOWHAMMER 30N-8HZ  
**Wellbore:** Plan A  
**Design:** Permit Rev-1

**Local Co-ordinate Reference:**  
**TVD Reference:**  
**MD Reference:**  
**North Reference:**  
**Survey Calculation Method:**

Well YELLOWHAMMER 30N-8HZ  
 RKB @ 5080.00usft (Original Well Elev)  
 RKB @ 5080.00usft (Original Well Elev)  
 True  
 Minimum Curvature

Planned Survey									
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)
<b>Parkman</b>									
4,600.00	26.17	191.35	4,272.82	-1,510.65	-303.11	-1,464.79	0.00	0.00	0.00
4,700.00	26.17	191.35	4,362.57	-1,553.89	-311.79	-1,506.73	0.00	0.00	0.00
4,800.00	26.17	191.35	4,452.31	-1,597.14	-320.47	-1,548.66	0.00	0.00	0.00
4,900.00	26.17	191.35	4,542.06	-1,640.39	-329.14	-1,590.60	0.00	0.00	0.00
4,979.05	26.17	191.35	4,613.00	-1,674.57	-336.00	-1,623.74	0.00	0.00	0.00
<b>Sussex</b>									
5,000.00	26.17	191.35	4,631.80	-1,683.63	-337.82	-1,632.53	0.00	0.00	0.00
5,100.00	26.17	191.35	4,721.55	-1,726.88	-346.50	-1,674.47	0.00	0.00	0.00
5,200.00	26.17	191.35	4,811.30	-1,770.13	-355.18	-1,716.40	0.00	0.00	0.00
5,204.29	26.17	191.35	4,815.15	-1,771.99	-355.55	-1,718.20	0.00	0.00	0.00
5,300.00	24.74	191.35	4,901.56	-1,812.32	-363.64	-1,757.31	1.50	-1.50	0.00
5,400.00	23.24	191.35	4,992.92	-1,852.18	-371.64	-1,795.96	1.50	-1.50	0.00
5,500.00	21.74	191.35	5,085.32	-1,889.68	-379.16	-1,832.32	1.50	-1.50	0.00
5,600.00	20.24	191.35	5,178.68	-1,924.79	-386.21	-1,866.37	1.50	-1.50	0.00
5,700.00	18.74	191.35	5,272.95	-1,957.50	-392.77	-1,898.08	1.50	-1.50	0.00
5,800.00	17.24	191.35	5,368.06	-1,987.78	-398.85	-1,927.44	1.50	-1.50	0.00
5,900.00	15.74	191.35	5,463.94	-2,015.60	-404.43	-1,954.42	1.50	-1.50	0.00
6,000.00	14.24	191.35	5,560.54	-2,040.96	-409.52	-1,979.01	1.50	-1.50	0.00
6,100.00	12.74	191.35	5,657.78	-2,063.83	-414.11	-2,001.18	1.50	-1.50	0.00
6,200.00	11.24	191.35	5,755.59	-2,084.19	-418.19	-2,020.93	1.50	-1.50	0.00
6,300.00	9.74	191.35	5,853.92	-2,102.04	-421.77	-2,038.23	1.50	-1.50	0.00
6,400.00	8.24	191.35	5,952.69	-2,117.36	-424.85	-2,053.09	1.50	-1.50	0.00
6,500.00	6.74	191.35	6,051.83	-2,130.13	-427.41	-2,065.48	1.50	-1.50	0.00
6,600.00	5.24	191.35	6,151.29	-2,140.36	-429.46	-2,075.39	1.50	-1.50	0.00
6,700.00	3.74	191.35	6,250.98	-2,148.03	-431.00	-2,082.83	1.50	-1.50	0.00
6,800.00	2.24	191.35	6,350.84	-2,153.14	-432.03	-2,087.79	1.50	-1.50	0.00
6,900.00	0.74	191.35	6,450.80	-2,155.69	-432.54	-2,090.26	1.50	-1.50	0.00
6,949.20	0.00	0.00	6,500.00	-2,156.00	-432.60	-2,090.56	1.50	-1.50	0.00
7,000.00	0.00	0.00	6,550.80	-2,156.00	-432.60	-2,090.56	0.00	0.00	0.00
7,100.00	0.00	0.00	6,650.80	-2,156.00	-432.60	-2,090.56	0.00	0.00	0.00
7,200.00	0.00	0.00	6,750.80	-2,156.00	-432.60	-2,090.56	0.00	0.00	0.00
7,300.00	0.00	0.00	6,850.80	-2,156.00	-432.60	-2,090.56	0.00	0.00	0.00
7,400.00	0.00	0.00	6,950.80	-2,156.00	-432.60	-2,090.56	0.00	0.00	0.00
7,500.00	0.00	0.00	7,050.80	-2,156.00	-432.60	-2,090.56	0.00	0.00	0.00
7,530.45	0.00	0.00	7,081.24	-2,156.00	-432.60	-2,090.56	0.00	0.00	0.00
7,600.00	6.26	0.05	7,150.66	-2,152.20	-432.60	-2,086.79	9.00	9.00	0.00
7,700.00	15.26	0.05	7,248.80	-2,133.55	-432.58	-2,068.27	9.00	9.00	0.00
7,800.00	24.26	0.05	7,342.82	-2,099.78	-432.55	-2,034.73	9.00	9.00	0.00
7,878.25	31.30	0.05	7,412.00	-2,063.33	-432.52	-1,998.54	9.00	9.00	0.00
<b>Sharon Springs</b>									
7,900.00	33.26	0.05	7,430.39	-2,051.72	-432.51	-1,987.00	9.00	9.00	0.00
7,927.43	35.73	0.05	7,453.00	-2,036.18	-432.50	-1,971.57	9.00	9.00	0.00
<b>Niobrara</b>									
8,000.00	42.26	0.05	7,509.37	-1,990.54	-432.46	-1,926.26	9.00	9.00	0.00
8,100.00	51.26	0.05	7,577.80	-1,917.77	-432.39	-1,853.99	9.00	9.00	0.00
8,123.22	53.35	0.05	7,592.00	-1,899.40	-432.38	-1,835.75	9.00	9.00	0.00
<b>Nio B</b>									
8,200.00	60.26	0.05	7,634.01	-1,835.19	-432.32	-1,771.98	9.00	9.00	0.00
8,300.00	69.26	0.05	7,676.61	-1,744.83	-432.24	-1,682.25	9.00	9.00	0.00
8,351.93	73.93	0.05	7,693.00	-1,695.56	-432.20	-1,633.33	9.00	9.00	0.00
<b>Nio C</b>									
8,400.00	78.26	0.05	7,704.55	-1,648.92	-432.16	-1,587.01	9.00	9.00	0.00

# Corporate Planning Report

**Database:** PLANNING  
**Company:** US ROCKIES WATTENBERG PLANNING  
**Project:** WELD-NAD83-UTMFT13N  
**Site:** 1N-68W-08 YELLOWHAMMER 12-8HZ Pad  
**Well:** YELLOWHAMMER 30N-8HZ  
**Wellbore:** Plan A  
**Design:** Permit Rev-1

**Local Co-ordinate Reference:**  
**TVD Reference:**  
**MD Reference:**  
**North Reference:**  
**Survey Calculation Method:**

Well YELLOWHAMMER 30N-8HZ  
 RKB @ 5080.00usft (Original Well Elev)  
 RKB @ 5080.00usft (Original Well Elev)  
 True  
 Minimum Curvature

Planned Survey										
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)	
8,500.00	87.26	0.05	7,717.14	-1,549.81	-432.08	-1,488.60	9.00	9.00	0.00	
8,532.78	90.21	0.05	7,717.86	-1,517.05	-432.05	-1,456.06	9.00	9.00	0.00	
Top of Production - YELLOWHAMMER 30N-8HZ_PHL										
8,600.00	90.21	0.05	7,717.61	-1,449.83	-431.99	-1,389.31	0.00	0.00	0.00	
8,700.00	90.21	0.05	7,717.25	-1,349.83	-431.90	-1,290.01	0.00	0.00	0.00	
8,800.00	90.21	0.05	7,716.88	-1,249.83	-431.82	-1,190.70	0.00	0.00	0.00	
8,900.00	90.21	0.05	7,716.51	-1,149.83	-431.73	-1,091.40	0.00	0.00	0.00	
9,000.00	90.21	0.05	7,716.15	-1,049.83	-431.64	-992.10	0.00	0.00	0.00	
9,100.00	90.21	0.05	7,715.78	-949.83	-431.56	-892.80	0.00	0.00	0.00	
9,200.00	90.21	0.05	7,715.41	-849.83	-431.47	-793.50	0.00	0.00	0.00	
9,300.00	90.21	0.05	7,715.05	-749.83	-431.38	-694.19	0.00	0.00	0.00	
9,400.00	90.21	0.05	7,714.68	-649.83	-431.30	-594.89	0.00	0.00	0.00	
9,500.00	90.21	0.05	7,714.32	-549.83	-431.21	-495.59	0.00	0.00	0.00	
9,600.00	90.21	0.05	7,713.95	-449.83	-431.12	-396.29	0.00	0.00	0.00	
9,700.00	90.21	0.05	7,713.58	-349.83	-431.04	-296.99	0.00	0.00	0.00	
9,800.00	90.21	0.05	7,713.22	-249.84	-430.95	-197.68	0.00	0.00	0.00	
9,900.00	90.21	0.05	7,712.85	-149.84	-430.87	-98.38	0.00	0.00	0.00	
10,000.00	90.21	0.05	7,712.48	-49.84	-430.78	0.92	0.00	0.00	0.00	
10,100.00	90.21	0.05	7,712.12	50.16	-430.69	100.22	0.00	0.00	0.00	
10,200.00	90.21	0.05	7,711.75	150.16	-430.61	199.52	0.00	0.00	0.00	
10,300.00	90.21	0.05	7,711.38	250.16	-430.52	298.83	0.00	0.00	0.00	
10,400.00	90.21	0.05	7,711.02	350.16	-430.43	398.13	0.00	0.00	0.00	
10,500.00	90.21	0.05	7,710.65	450.16	-430.35	497.43	0.00	0.00	0.00	
10,600.00	90.21	0.05	7,710.28	550.16	-430.26	596.73	0.00	0.00	0.00	
10,700.00	90.21	0.05	7,709.92	650.16	-430.17	696.03	0.00	0.00	0.00	
10,800.00	90.21	0.05	7,709.55	750.16	-430.09	795.34	0.00	0.00	0.00	
10,900.00	90.21	0.05	7,709.18	850.16	-430.00	894.64	0.00	0.00	0.00	
11,000.00	90.21	0.05	7,708.82	950.16	-429.91	993.94	0.00	0.00	0.00	
11,100.00	90.21	0.05	7,708.45	1,050.16	-429.83	1,093.24	0.00	0.00	0.00	
11,200.00	90.21	0.05	7,708.08	1,150.15	-429.74	1,192.54	0.00	0.00	0.00	
11,300.00	90.21	0.05	7,707.72	1,250.15	-429.65	1,291.85	0.00	0.00	0.00	
11,400.00	90.21	0.05	7,707.35	1,350.15	-429.57	1,391.15	0.00	0.00	0.00	
11,500.00	90.21	0.05	7,706.98	1,450.15	-429.48	1,490.45	0.00	0.00	0.00	
11,600.00	90.21	0.05	7,706.62	1,550.15	-429.40	1,589.75	0.00	0.00	0.00	
11,700.00	90.21	0.05	7,706.25	1,650.15	-429.31	1,689.05	0.00	0.00	0.00	
11,800.00	90.21	0.05	7,705.89	1,750.15	-429.22	1,788.36	0.00	0.00	0.00	
11,900.00	90.21	0.05	7,705.52	1,850.15	-429.14	1,887.66	0.00	0.00	0.00	
12,000.00	90.21	0.05	7,705.15	1,950.15	-429.05	1,986.96	0.00	0.00	0.00	
12,100.00	90.21	0.05	7,704.79	2,050.15	-428.96	2,086.26	0.00	0.00	0.00	
12,200.00	90.21	0.05	7,704.42	2,150.15	-428.88	2,185.56	0.00	0.00	0.00	
12,300.00	90.21	0.05	7,704.05	2,250.15	-428.79	2,284.87	0.00	0.00	0.00	
12,400.00	90.21	0.05	7,703.69	2,350.15	-428.70	2,384.17	0.00	0.00	0.00	
12,500.00	90.21	0.05	7,703.32	2,450.15	-428.62	2,483.47	0.00	0.00	0.00	
12,600.00	90.21	0.05	7,702.95	2,550.14	-428.53	2,582.77	0.00	0.00	0.00	
12,700.00	90.21	0.05	7,702.59	2,650.14	-428.44	2,682.07	0.00	0.00	0.00	
12,800.00	90.21	0.05	7,702.22	2,750.14	-428.36	2,781.38	0.00	0.00	0.00	
12,900.00	90.21	0.05	7,701.85	2,850.14	-428.27	2,880.68	0.00	0.00	0.00	
13,000.00	90.21	0.05	7,701.49	2,950.14	-428.18	2,979.98	0.00	0.00	0.00	
13,100.00	90.21	0.05	7,701.12	3,050.14	-428.10	3,079.28	0.00	0.00	0.00	
13,200.00	90.21	0.05	7,700.75	3,150.14	-428.01	3,178.58	0.00	0.00	0.00	
13,300.00	90.21	0.05	7,700.39	3,250.14	-427.93	3,277.89	0.00	0.00	0.00	
13,400.00	90.21	0.05	7,700.02	3,350.14	-427.84	3,377.19	0.00	0.00	0.00	
13,500.00	90.21	0.05	7,699.65	3,450.14	-427.75	3,476.49	0.00	0.00	0.00	

# Corporate Planning Report

**Database:** PLANNING  
**Company:** US ROCKIES WATTENBERG PLANNING  
**Project:** WELD-NAD83-UTMFT13N  
**Site:** 1N-68W-08 YELLOWHAMMER 12-8HZ Pad  
**Well:** YELLOWHAMMER 30N-8HZ  
**Wellbore:** Plan A  
**Design:** Permit Rev-1

**Local Co-ordinate Reference:** Well YELLOWHAMMER 30N-8HZ  
**TVD Reference:** RKB @ 5080.00usft (Original Well Elev)  
**MD Reference:** RKB @ 5080.00usft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

## Planned Survey

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)
13,600.00	90.21	0.05	7,699.29	3,550.14	-427.67	3,575.79	0.00	0.00	0.00
13,678.52	90.21	0.05	7,699.00	3,628.66	-427.60	3,653.76	0.00	0.00	0.00
YELLOWHAMMER 30N-8HZ_PBHL									

## Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
YELLOWHAMMER 30N-8HZ - plan hits target center - Point	0.00	0.00	7,699.00	3,628.66	-427.60	14,553,267.00	1,630,097.00	40.072860	-105.036889
YELLOWHAMMER 30N-8HZ - plan hits target center - Point	0.00	0.00	7,717.86	-1,517.05	-432.05	14,548,121.30	1,630,090.50	40.058729	-105.036904

## Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,523.46	1,500.00	9 5/8"	9-5/8	13-1/2
8,532.78	7,717.86	Top of Production	7	8-1/2

## Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,023.27	1,018.00	Fox Hills			
4,502.15	4,185.00	Parkman			
4,979.05	4,613.00	Sussex			
7,878.25	7,412.00	Sharon Springs			
7,927.43	7,453.00	Niobrara			
8,123.22	7,592.00	Nio B			
8,351.93	7,693.00	Nio C			