

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

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

YELLOWHAMMER 34C-17HZ

Plan A

Plan: Permit Rev-1

Standard Planning Report

16 August, 2016



Azimuths to True North
Magnetic North: 8.28°

Magnetic Field
Strength: 52380.2snT
Dip Angle: 66.56°
Date: 8/15/2016
Model: IGRF2010

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

Well: YELLOWHAMMER 34C-17HZ
Wellbore: Plan A
Design: Permit Rev-1

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1018.00	1023.26	Fox Hills
4185.00	4253.54	Parkman
4613.00	4690.09	Sussex
7426.00	7535.54	Sharon Springs
7468.00	7581.03	Niobrara
7600.00	7736.39	Nio B
7697.00	7873.21	Nio C
7806.00	8009.96	Fort Hayes
7827.00	8180.87	Codell

WELL DETAILS: YELLOWHAMMER 34C-17HZ

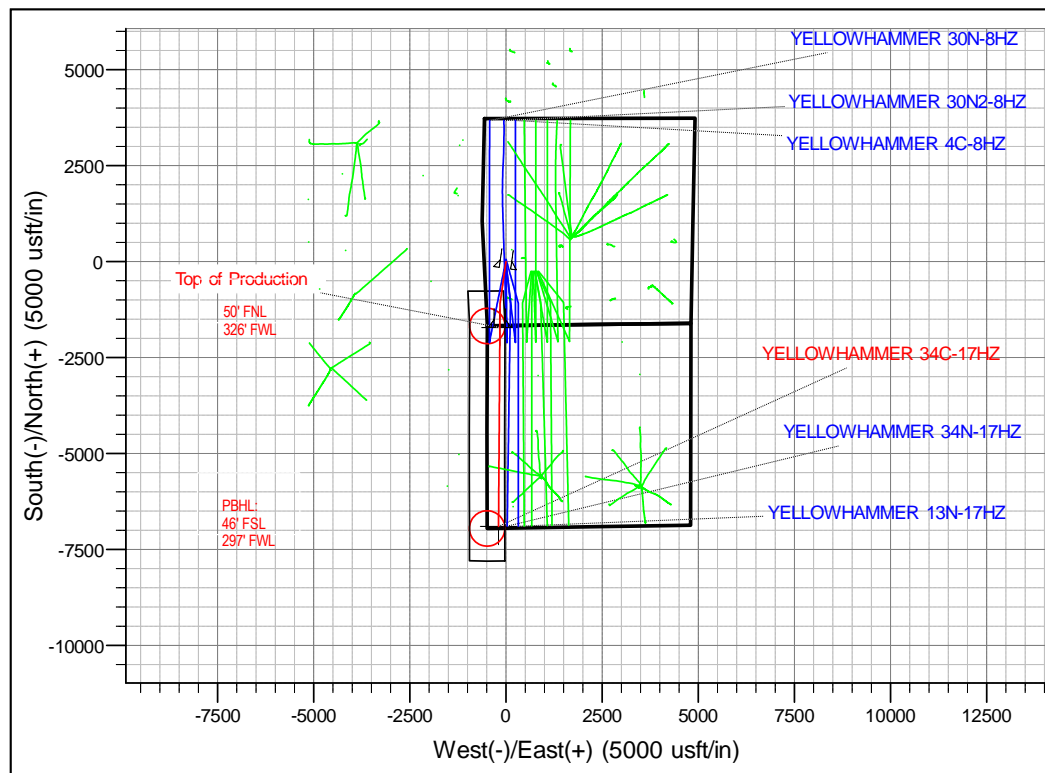
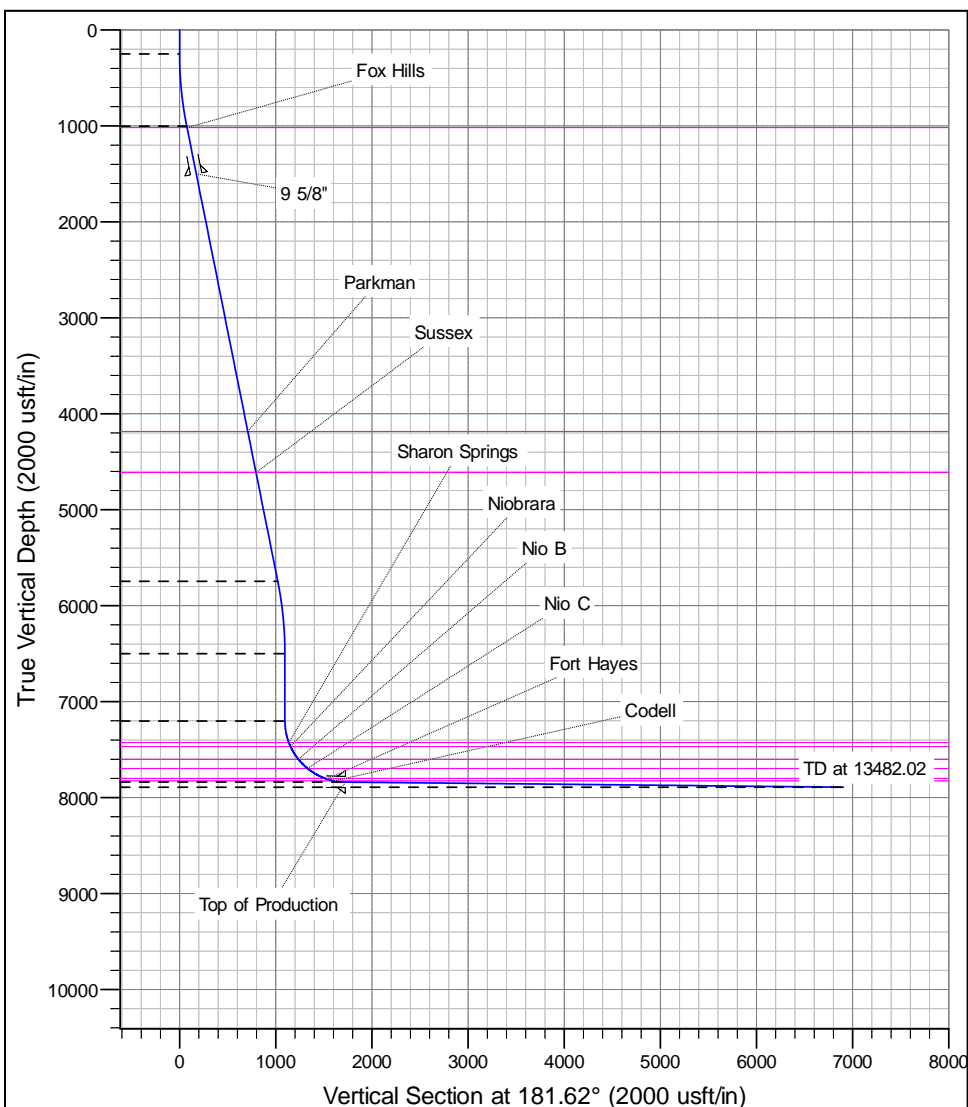
+N/-S	+E/-W	GL: 5063.00 Northing	RKB @ 5080.00usft (Original Well Elev) Easting	Latitude	Longitude	Slot
0.00	0.00	14549593.39	1630522.86	40.062772	-105.035361	

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
1007.27	11.36	188.08	1002.32	-74.08	-10.51	1.50	74.35
5847.44	11.36	188.08	5747.68	-1017.92	-144.49	0.00	1021.60
6604.71	0.00	0.00	6500.00	-1092.00	-155.00	1.50	1095.94
7307.68	0.00	0.00	7202.97	-1092.00	-155.00	0.00	1095.94
8301.24	89.42	180.39	7839.56	-1722.16	-159.34	9.00	1725.97
13482.02	89.42	180.39	7892.00	-6902.56	-195.00	0.00	6905.31

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
YELLOWHAMMER 34C-17HZ_PBHL	7892.00	-6902.56	-195.00	14542690.91	1630325.12	40.043816	-105.036058



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well YELLOWHAMMER 34C-17HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 5080.00usft (Original Well Elev)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 5080.00usft (Original Well Elev)
Site:	1N-68W-08 YELLOWHAMMER 12-8HZ Pad	North Reference:	True
Well:	YELLOWHAMMER 34C-17HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Project	WELD-NAD83-UTMFT13N		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	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 34C-17HZ					
Well Position	+N-S	-59.72 usft	Northing:	14,549,593.38 usft	Latitude:	40.062772
	+E-W	-0.28 usft	Easting:	1,630,522.86 usft	Longitude:	-105.035361
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,063.00 usft

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

Design	Permit Rev-1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
	0.00	0.00	0.00	181.62

Plan Sections										
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	
1,007.27	11.36	188.08	1,002.32	-74.08	-10.51	1.50	1.50	0.00	188.08	
5,847.44	11.36	188.08	5,747.68	-1,017.92	-144.49	0.00	0.00	0.00	0.00	
6,604.71	0.00	0.00	6,500.00	-1,092.00	-155.00	1.50	-1.50	0.00	180.00	
7,307.68	0.00	0.00	7,202.97	-1,092.00	-155.00	0.00	0.00	0.00	0.00	
8,301.24	89.42	180.39	7,839.56	-1,722.16	-159.34	9.00	9.00	0.00	180.39	
13,482.02	89.42	180.39	7,892.00	-6,902.56	-195.00	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 34C-17HZ
Wellbore: Plan A
Design: Permit Rev-1

Local Co-ordinate Reference: Well YELLOWHAMMER 34C-17HZ
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	188.08	300.00	-0.32	-0.05	0.33	1.50	1.50	0.00
400.00	2.25	188.08	399.96	-2.92	-0.41	2.93	1.50	1.50	0.00
500.00	3.75	188.08	499.82	-8.10	-1.15	8.13	1.50	1.50	0.00
600.00	5.25	188.08	599.51	-15.86	-2.25	15.92	1.50	1.50	0.00
700.00	6.75	188.08	698.96	-26.21	-3.72	26.31	1.50	1.50	0.00
800.00	8.25	188.08	798.10	-39.14	-5.56	39.28	1.50	1.50	0.00
900.00	9.75	188.08	896.87	-54.62	-7.75	54.82	1.50	1.50	0.00
1,000.00	11.25	188.08	995.19	-72.67	-10.31	72.93	1.50	1.50	0.00
1,007.27	11.36	188.08	1,002.32	-74.08	-10.51	74.35	1.50	1.50	0.00
1,023.26	11.36	188.08	1,018.00	-77.20	-10.96	77.47	0.00	0.00	0.00
Fox Hills									
1,100.00	11.36	188.08	1,093.23	-92.16	-13.08	92.49	0.00	0.00	0.00
1,200.00	11.36	188.08	1,191.27	-111.66	-15.85	112.06	0.00	0.00	0.00
1,300.00	11.36	188.08	1,289.32	-131.16	-18.62	131.63	0.00	0.00	0.00
1,400.00	11.36	188.08	1,387.36	-150.66	-21.38	151.20	0.00	0.00	0.00
1,500.00	11.36	188.08	1,485.40	-170.16	-24.15	170.78	0.00	0.00	0.00
1,514.89	11.36	188.08	1,500.00	-173.07	-24.57	173.69	0.00	0.00	0.00
9 5/8"									
1,600.00	11.36	188.08	1,583.44	-189.66	-26.92	190.35	0.00	0.00	0.00
1,700.00	11.36	188.08	1,681.48	-209.16	-29.69	209.92	0.00	0.00	0.00
1,800.00	11.36	188.08	1,779.52	-228.66	-32.46	229.49	0.00	0.00	0.00
1,900.00	11.36	188.08	1,877.56	-248.16	-35.22	249.06	0.00	0.00	0.00
2,000.00	11.36	188.08	1,975.60	-267.66	-37.99	268.63	0.00	0.00	0.00
2,100.00	11.36	188.08	2,073.64	-287.16	-40.76	288.20	0.00	0.00	0.00
2,200.00	11.36	188.08	2,171.69	-306.66	-43.53	307.77	0.00	0.00	0.00
2,300.00	11.36	188.08	2,269.73	-326.16	-46.30	327.34	0.00	0.00	0.00
2,400.00	11.36	188.08	2,367.77	-345.66	-49.06	346.91	0.00	0.00	0.00
2,500.00	11.36	188.08	2,465.81	-365.16	-51.83	366.48	0.00	0.00	0.00
2,600.00	11.36	188.08	2,563.85	-384.66	-54.60	386.05	0.00	0.00	0.00
2,700.00	11.36	188.08	2,661.89	-404.16	-57.37	405.62	0.00	0.00	0.00
2,800.00	11.36	188.08	2,759.93	-423.66	-60.14	425.19	0.00	0.00	0.00
2,900.00	11.36	188.08	2,857.97	-443.16	-62.90	444.76	0.00	0.00	0.00
3,000.00	11.36	188.08	2,956.02	-462.66	-65.67	464.33	0.00	0.00	0.00
3,100.00	11.36	188.08	3,054.06	-482.16	-68.44	483.91	0.00	0.00	0.00
3,200.00	11.36	188.08	3,152.10	-501.67	-71.21	503.48	0.00	0.00	0.00
3,300.00	11.36	188.08	3,250.14	-521.17	-73.97	523.05	0.00	0.00	0.00
3,400.00	11.36	188.08	3,348.18	-540.67	-76.74	542.62	0.00	0.00	0.00
3,500.00	11.36	188.08	3,446.22	-560.17	-79.51	562.19	0.00	0.00	0.00
3,600.00	11.36	188.08	3,544.26	-579.67	-82.28	581.76	0.00	0.00	0.00
3,700.00	11.36	188.08	3,642.30	-599.17	-85.05	601.33	0.00	0.00	0.00
3,800.00	11.36	188.08	3,740.35	-618.67	-87.81	620.90	0.00	0.00	0.00
3,900.00	11.36	188.08	3,838.39	-638.17	-90.58	640.47	0.00	0.00	0.00
4,000.00	11.36	188.08	3,936.43	-657.67	-93.35	660.04	0.00	0.00	0.00
4,100.00	11.36	188.08	4,034.47	-677.17	-96.12	679.61	0.00	0.00	0.00
4,200.00	11.36	188.08	4,132.51	-696.67	-98.89	699.18	0.00	0.00	0.00
4,253.54	11.36	188.08	4,185.00	-707.11	-100.37	709.66	0.00	0.00	0.00
Parkman									
4,300.00	11.36	188.08	4,230.55	-716.17	-101.65	718.75	0.00	0.00	0.00
4,400.00	11.36	188.08	4,328.59	-735.67	-104.42	738.32	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 34C-17HZ
Wellbore: Plan A
Design: Permit Rev-1

Local Co-ordinate Reference: Well YELLOWHAMMER 34C-17HZ
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)
4,500.00	11.36	188.08	4,426.63	-755.17	-107.19	757.89	0.00	0.00	0.00
4,600.00	11.36	188.08	4,524.68	-774.67	-109.96	777.46	0.00	0.00	0.00
4,690.09	11.36	188.08	4,613.00	-792.24	-112.45	795.10	0.00	0.00	0.00
Sussex									
4,700.00	11.36	188.08	4,622.72	-794.17	-112.73	797.04	0.00	0.00	0.00
4,800.00	11.36	188.08	4,720.76	-813.67	-115.49	816.61	0.00	0.00	0.00
4,900.00	11.36	188.08	4,818.80	-833.17	-118.26	836.18	0.00	0.00	0.00
5,000.00	11.36	188.08	4,916.84	-852.67	-121.03	855.75	0.00	0.00	0.00
5,100.00	11.36	188.08	5,014.88	-872.17	-123.80	875.32	0.00	0.00	0.00
5,200.00	11.36	188.08	5,112.92	-891.67	-126.56	894.89	0.00	0.00	0.00
5,300.00	11.36	188.08	5,210.96	-911.17	-129.33	914.46	0.00	0.00	0.00
5,400.00	11.36	188.08	5,309.00	-930.67	-132.10	934.03	0.00	0.00	0.00
5,500.00	11.36	188.08	5,407.05	-950.17	-134.87	953.60	0.00	0.00	0.00
5,600.00	11.36	188.08	5,505.09	-969.67	-137.64	973.17	0.00	0.00	0.00
5,700.00	11.36	188.08	5,603.13	-989.17	-140.40	992.74	0.00	0.00	0.00
5,800.00	11.36	188.08	5,701.17	-1,008.67	-143.17	1,012.31	0.00	0.00	0.00
5,847.44	11.36	188.08	5,747.68	-1,017.92	-144.49	1,021.60	0.00	0.00	0.00
5,900.00	10.57	188.08	5,799.28	-1,027.82	-145.89	1,031.53	1.50	-1.50	0.00
6,000.00	9.07	188.08	5,897.81	-1,044.71	-148.29	1,048.48	1.50	-1.50	0.00
6,100.00	7.57	188.08	5,996.76	-1,059.03	-150.32	1,062.86	1.50	-1.50	0.00
6,200.00	6.07	188.08	6,096.05	-1,070.79	-151.99	1,074.66	1.50	-1.50	0.00
6,300.00	4.57	188.08	6,195.61	-1,079.97	-153.29	1,083.87	1.50	-1.50	0.00
6,400.00	3.07	188.08	6,295.39	-1,086.57	-154.23	1,090.49	1.50	-1.50	0.00
6,500.00	1.57	188.08	6,395.30	-1,090.58	-154.80	1,094.52	1.50	-1.50	0.00
6,600.00	0.07	188.08	6,495.29	-1,092.00	-155.00	1,095.94	1.50	-1.50	0.00
6,604.71	0.00	0.00	6,500.00	-1,092.00	-155.00	1,095.94	1.50	-1.50	0.00
6,700.00	0.00	0.00	6,595.29	-1,092.00	-155.00	1,095.94	0.00	0.00	0.00
6,800.00	0.00	0.00	6,695.29	-1,092.00	-155.00	1,095.94	0.00	0.00	0.00
6,900.00	0.00	0.00	6,795.29	-1,092.00	-155.00	1,095.94	0.00	0.00	0.00
7,000.00	0.00	0.00	6,895.29	-1,092.00	-155.00	1,095.94	0.00	0.00	0.00
7,100.00	0.00	0.00	6,995.29	-1,092.00	-155.00	1,095.94	0.00	0.00	0.00
7,200.00	0.00	0.00	7,095.29	-1,092.00	-155.00	1,095.94	0.00	0.00	0.00
7,300.00	0.00	0.00	7,195.29	-1,092.00	-155.00	1,095.94	0.00	0.00	0.00
7,307.68	0.00	0.00	7,202.97	-1,092.00	-155.00	1,095.94	0.00	0.00	0.00
7,400.00	8.31	180.39	7,294.97	-1,098.68	-155.05	1,102.62	9.00	9.00	0.00
7,500.00	17.31	180.39	7,392.38	-1,120.83	-155.20	1,124.76	9.00	9.00	0.00
7,535.55	20.51	180.39	7,426.00	-1,132.35	-155.28	1,136.28	9.00	9.00	0.00
Sharon Springs									
7,581.03	24.60	180.39	7,468.00	-1,149.79	-155.40	1,153.72	9.00	9.00	0.00
Niobrara									
7,600.00	26.31	180.39	7,485.13	-1,157.94	-155.45	1,161.87	9.00	9.00	0.00
7,700.00	35.31	180.39	7,570.92	-1,209.10	-155.81	1,213.02	9.00	9.00	0.00
7,736.39	38.58	180.39	7,600.00	-1,230.97	-155.96	1,234.88	9.00	9.00	0.00
Nio B									
7,800.00	44.31	180.39	7,647.66	-1,273.06	-156.25	1,276.96	9.00	9.00	0.00
7,873.21	50.90	180.39	7,697.00	-1,327.09	-156.62	1,330.99	9.00	9.00	0.00
Nio C									
7,900.00	53.31	180.39	7,713.45	-1,348.23	-156.76	1,352.12	9.00	9.00	0.00
8,000.00	62.31	180.39	7,766.67	-1,432.77	-157.35	1,436.64	9.00	9.00	0.00
8,099.96	71.31	180.39	7,806.00	-1,524.55	-157.98	1,528.41	9.00	9.00	0.00
Fort Hayes									
8,100.00	71.31	180.39	7,806.01	-1,524.59	-157.98	1,528.45	9.00	9.00	0.00
8,180.87	78.59	180.39	7,827.00	-1,602.63	-158.52	1,606.47	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 34C-17HZ
Wellbore: Plan A
Design: Permit Rev-1

Local Co-ordinate Reference: Well YELLOWHAMMER 34C-17HZ
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)
Codell									
8,200.00	80.31	180.39	7,830.50	-1,621.44	-158.64	1,625.27	9.00	9.00	0.00
8,300.00	89.31	180.39	7,839.54	-1,720.93	-159.33	1,724.74	9.00	9.00	0.00
8,301.24	89.42	180.39	7,839.56	-1,722.17	-159.34	1,725.98	8.97	8.97	0.00
Top of Production - YELLOWHAMMER 34C-17HZ_PHL									
8,400.00	89.42	180.39	7,840.56	-1,820.92	-160.02	1,824.71	0.00	0.00	0.00
8,500.00	89.42	180.39	7,841.57	-1,920.91	-160.71	1,924.68	0.00	0.00	0.00
8,600.00	89.42	180.39	7,842.58	-2,020.90	-161.39	2,024.65	0.00	0.00	0.00
8,700.00	89.42	180.39	7,843.59	-2,120.90	-162.08	2,124.63	0.00	0.00	0.00
8,800.00	89.42	180.39	7,844.61	-2,220.89	-162.77	2,224.60	0.00	0.00	0.00
8,900.00	89.42	180.39	7,845.62	-2,320.88	-163.46	2,324.57	0.00	0.00	0.00
9,000.00	89.42	180.39	7,846.63	-2,420.87	-164.15	2,424.54	0.00	0.00	0.00
9,100.00	89.42	180.39	7,847.64	-2,520.87	-164.84	2,524.52	0.00	0.00	0.00
9,200.00	89.42	180.39	7,848.65	-2,620.86	-165.52	2,624.49	0.00	0.00	0.00
9,300.00	89.42	180.39	7,849.67	-2,720.85	-166.21	2,724.46	0.00	0.00	0.00
9,400.00	89.42	180.39	7,850.68	-2,820.84	-166.90	2,824.43	0.00	0.00	0.00
9,500.00	89.42	180.39	7,851.69	-2,920.84	-167.59	2,924.40	0.00	0.00	0.00
9,600.00	89.42	180.39	7,852.70	-3,020.83	-168.28	3,024.38	0.00	0.00	0.00
9,700.00	89.42	180.39	7,853.72	-3,120.82	-168.97	3,124.35	0.00	0.00	0.00
9,800.00	89.42	180.39	7,854.73	-3,220.81	-169.65	3,224.32	0.00	0.00	0.00
9,900.00	89.42	180.39	7,855.74	-3,320.81	-170.34	3,324.29	0.00	0.00	0.00
10,000.00	89.42	180.39	7,856.75	-3,420.80	-171.03	3,424.26	0.00	0.00	0.00
10,100.00	89.42	180.39	7,857.76	-3,520.79	-171.72	3,524.24	0.00	0.00	0.00
10,200.00	89.42	180.39	7,858.78	-3,620.78	-172.41	3,624.21	0.00	0.00	0.00
10,300.00	89.42	180.39	7,859.79	-3,720.78	-173.10	3,724.18	0.00	0.00	0.00
10,400.00	89.42	180.39	7,860.80	-3,820.77	-173.78	3,824.15	0.00	0.00	0.00
10,500.00	89.42	180.39	7,861.81	-3,920.76	-174.47	3,924.12	0.00	0.00	0.00
10,600.00	89.42	180.39	7,862.83	-4,020.75	-175.16	4,024.10	0.00	0.00	0.00
10,700.00	89.42	180.39	7,863.84	-4,120.75	-175.85	4,124.07	0.00	0.00	0.00
10,800.00	89.42	180.39	7,864.85	-4,220.74	-176.54	4,224.04	0.00	0.00	0.00
10,900.00	89.42	180.39	7,865.86	-4,320.73	-177.23	4,324.01	0.00	0.00	0.00
11,000.00	89.42	180.39	7,866.88	-4,420.72	-177.92	4,423.98	0.00	0.00	0.00
11,100.00	89.42	180.39	7,867.89	-4,520.72	-178.60	4,523.96	0.00	0.00	0.00
11,200.00	89.42	180.39	7,868.90	-4,620.71	-179.29	4,623.93	0.00	0.00	0.00
11,300.00	89.42	180.39	7,869.91	-4,720.70	-179.98	4,723.90	0.00	0.00	0.00
11,400.00	89.42	180.39	7,870.92	-4,820.69	-180.67	4,823.87	0.00	0.00	0.00
11,500.00	89.42	180.39	7,871.94	-4,920.69	-181.36	4,923.84	0.00	0.00	0.00
11,600.00	89.42	180.39	7,872.95	-5,020.68	-182.05	5,023.82	0.00	0.00	0.00
11,700.00	89.42	180.39	7,873.96	-5,120.67	-182.73	5,123.79	0.00	0.00	0.00
11,800.00	89.42	180.39	7,874.97	-5,220.66	-183.42	5,223.76	0.00	0.00	0.00
11,900.00	89.42	180.39	7,875.99	-5,320.66	-184.11	5,323.73	0.00	0.00	0.00
12,000.00	89.42	180.39	7,877.00	-5,420.65	-184.80	5,423.71	0.00	0.00	0.00
12,100.00	89.42	180.39	7,878.01	-5,520.64	-185.49	5,523.68	0.00	0.00	0.00
12,200.00	89.42	180.39	7,879.02	-5,620.63	-186.18	5,623.65	0.00	0.00	0.00
12,300.00	89.42	180.39	7,880.03	-5,720.63	-186.86	5,723.62	0.00	0.00	0.00
12,400.00	89.42	180.39	7,881.05	-5,820.62	-187.55	5,823.59	0.00	0.00	0.00
12,500.00	89.42	180.39	7,882.06	-5,920.61	-188.24	5,923.57	0.00	0.00	0.00
12,600.00	89.42	180.39	7,883.07	-6,020.60	-188.93	6,023.54	0.00	0.00	0.00
12,700.00	89.42	180.39	7,884.08	-6,120.60	-189.62	6,123.51	0.00	0.00	0.00
12,800.00	89.42	180.39	7,885.10	-6,220.59	-190.31	6,223.48	0.00	0.00	0.00
12,900.00	89.42	180.39	7,886.11	-6,320.58	-190.99	6,323.45	0.00	0.00	0.00
13,000.00	89.42	180.39	7,887.12	-6,420.57	-191.68	6,423.43	0.00	0.00	0.00
13,100.00	89.42	180.39	7,888.13	-6,520.57	-192.37	6,523.40	0.00	0.00	0.00
13,200.00	89.42	180.39	7,889.15	-6,620.56	-193.06	6,623.37	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well YELLOWHAMMER 34C-17HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 5080.00usft (Original Well Elev)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 5080.00usft (Original Well Elev)
Site:	1N-68W-08 YELLOWHAMMER 12-8HZ Pad	North Reference:	True
Well:	YELLOWHAMMER 34C-17HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

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)
13,300.00	89.42	180.39	7,890.16	-6,720.55	-193.75	6,723.34	0.00	0.00	0.00
13,400.00	89.42	180.39	7,891.17	-6,820.54	-194.44	6,823.31	0.00	0.00	0.00
13,482.02	89.42	180.39	7,892.00	-6,902.56	-195.00	6,905.31	0.00	0.00	0.00
YELLOWHAMMER 34C-17HZ_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 34C-17HZ_PBHL	0.00	0.00	7,839.56	-1,722.17	-159.34	14,547,871.28	1,630,362.83	40.058043	-105.035931
- plan hits target center									
- Point									
YELLOWHAMMER 34C-17HZ_PBHL	0.00	0.00	7,892.00	-6,902.56	-195.00	14,542,690.90	1,630,325.11	40.043817	-105.036058
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,514.89	1,500.00	9 5/8"	9-5/8	13-1/2	
8,301.24	7,839.56	Top of Production	5-1/2	8-1/2	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,023.26	1,018.00	Fox Hills				
4,253.54	4,185.00	Parkman				
4,690.09	4,613.00	Sussex				
7,535.55	7,426.00	Sharon Springs				
7,581.03	7,468.00	Niobrara				
7,736.39	7,600.00	Nio B				
7,873.21	7,697.00	Nio C				
8,099.96	7,806.00	Fort Hayes				
8,180.87	7,827.00	Codell				