

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

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

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

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1018.00	1023.27	Fox Hills
4185.00	4346.16	Parkman
4613.00	4774.52	Sussex
7413.00	7592.07	Sharon Springs
7455.00	7642.68	Niobrara
7589.00	7831.83	Nio B
7891.00	8062.09	Nio C

WELL DETAILS: YELLOWHAMMER 34N-17HZ

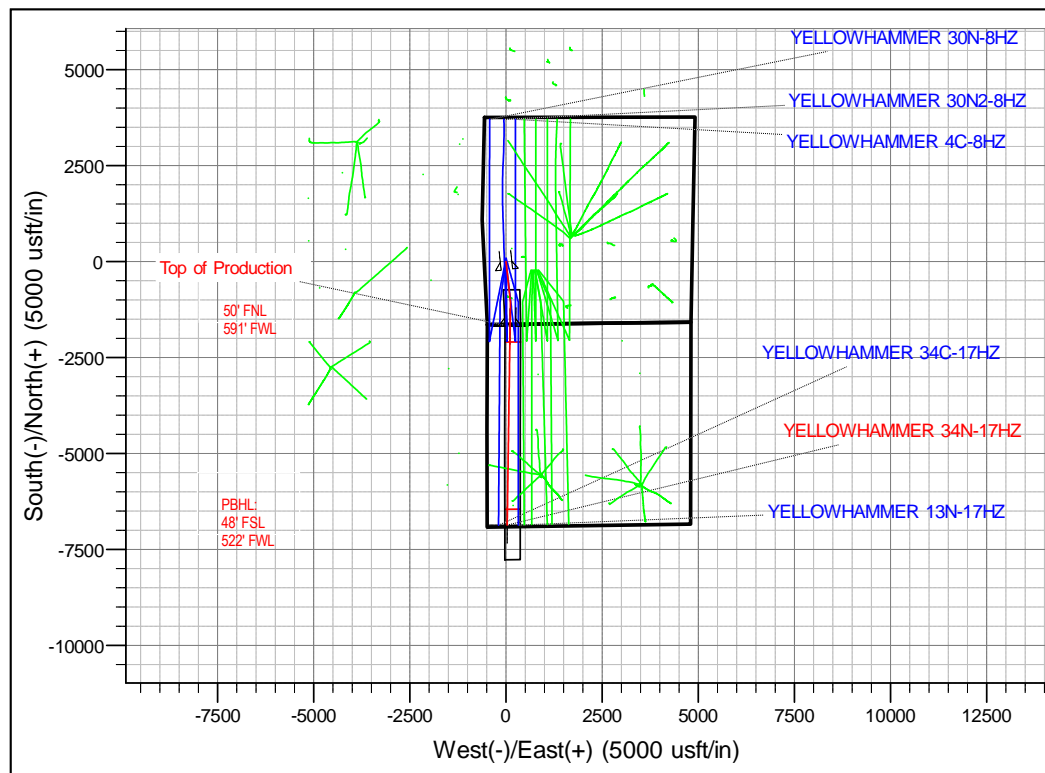
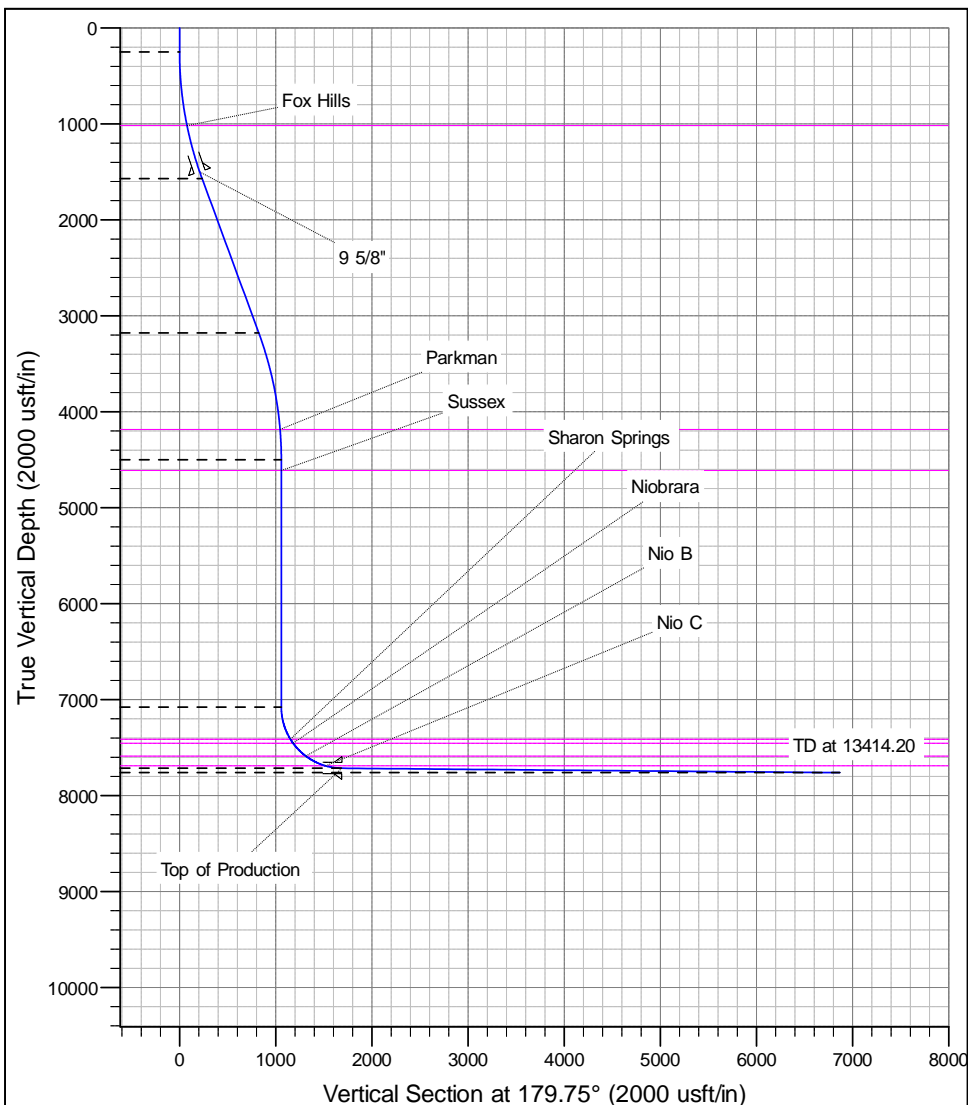
+N/-S	+E/-W	GL: 5063.00 Northing	RKB @ 5080.00usft (Original Well Elev) Easting	Latitude	Longitude	Slot
0.00	0.00	14549563.16	1630522.57	40.062689	-105.035362	

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
1599.19	20.24	173.80	1571.31	-234.43	25.48	1.50	234.54
3312.33	20.24	173.80	3178.69	-823.57	89.52	0.00	823.95
4661.52	0.00	0.00	4500.00	-1058.00	115.00	1.50	1058.49
7240.83	0.00	0.00	7079.31	-1058.00	115.00	0.00	1058.49
8235.16	89.49	180.84	7715.90	-1688.89	105.77	9.00	1689.33
13414.20	89.49	180.84	7762.00	-6867.16	30.00	0.00	6867.23

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
YELLOWHAMMER 34N-17HZ_PBHL	7762.00	-6867.16	30.00	14542695.99	1630549.84	40.043831	-105.039255



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well YELLOWHAMMER 34N-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 34N-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 34N-17HZ					
Well Position	+N-S	-89.94 usft	Northing:	14,549,563.16 usft	Latitude:	40.062689
	+E-W	-0.56 usft	Easting:	1,630,522.56 usft	Longitude:	-105.035362
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	179.75

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	
1,599.19	20.24	173.80	1,571.31	-234.43	25.48	1.50	1.50	0.00	173.80	
3,312.33	20.24	173.80	3,178.69	-823.57	89.52	0.00	0.00	0.00	0.00	
4,661.52	0.00	0.00	4,500.00	-1,058.00	115.00	1.50	-1.50	0.00	180.00	
7,240.83	0.00	0.00	7,079.31	-1,058.00	115.00	0.00	0.00	0.00	0.00	
8,235.16	89.49	180.84	7,715.90	-1,688.89	105.77	9.00	9.00	0.00	180.84	
13,414.20	89.49	180.84	7,762.00	-6,867.16	30.00	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 34N-17HZ
Wellbore: Plan A
Design: Permit Rev-1

Local Co-ordinate Reference: Well YELLOWHAMMER 34N-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	173.80	300.00	-0.33	0.04	0.33	1.50	1.50	0.00
400.00	2.25	173.80	399.96	-2.93	0.32	2.93	1.50	1.50	0.00
500.00	3.75	173.80	499.82	-8.13	0.88	8.13	1.50	1.50	0.00
600.00	5.25	173.80	599.51	-15.93	1.73	15.94	1.50	1.50	0.00
700.00	6.75	173.80	698.96	-26.32	2.86	26.33	1.50	1.50	0.00
800.00	8.25	173.80	798.10	-39.30	4.27	39.32	1.50	1.50	0.00
900.00	9.75	173.80	896.87	-54.85	5.96	54.87	1.50	1.50	0.00
1,000.00	11.25	173.80	995.19	-72.97	7.93	73.00	1.50	1.50	0.00
1,023.27	11.60	173.80	1,018.00	-77.55	8.43	77.58	1.50	1.50	0.00
Fox Hills									
1,100.00	12.75	173.80	1,093.00	-93.63	10.18	93.68	1.50	1.50	0.00
1,200.00	14.25	173.80	1,190.24	-116.84	12.70	116.90	1.50	1.50	0.00
1,300.00	15.75	173.80	1,286.83	-142.57	15.50	142.64	1.50	1.50	0.00
1,400.00	17.25	173.80	1,382.71	-170.81	18.57	170.88	1.50	1.50	0.00
1,500.00	18.75	173.80	1,477.81	-201.52	21.90	201.62	1.50	1.50	0.00
1,523.46	19.10	173.80	1,500.00	-209.09	22.73	209.19	1.50	1.50	0.00
9 5/8"									
1,599.19	20.24	173.80	1,571.31	-234.43	25.48	234.54	1.50	1.50	0.00
1,600.00	20.24	173.80	1,572.07	-234.71	25.51	234.82	0.00	0.00	0.00
1,700.00	20.24	173.80	1,665.90	-269.10	29.25	269.22	0.00	0.00	0.00
1,800.00	20.24	173.80	1,759.72	-303.49	32.99	303.63	0.00	0.00	0.00
1,900.00	20.24	173.80	1,853.55	-337.88	36.73	338.03	0.00	0.00	0.00
2,000.00	20.24	173.80	1,947.38	-372.27	40.46	372.44	0.00	0.00	0.00
2,100.00	20.24	173.80	2,041.20	-406.66	44.20	406.85	0.00	0.00	0.00
2,200.00	20.24	173.80	2,135.03	-441.05	47.94	441.25	0.00	0.00	0.00
2,300.00	20.24	173.80	2,228.85	-475.43	51.68	475.66	0.00	0.00	0.00
2,400.00	20.24	173.80	2,322.68	-509.82	55.42	510.06	0.00	0.00	0.00
2,500.00	20.24	173.80	2,416.51	-544.21	59.15	544.47	0.00	0.00	0.00
2,600.00	20.24	173.80	2,510.33	-578.60	62.89	578.87	0.00	0.00	0.00
2,700.00	20.24	173.80	2,604.16	-612.99	66.63	613.28	0.00	0.00	0.00
2,800.00	20.24	173.80	2,697.99	-647.38	70.37	647.68	0.00	0.00	0.00
2,900.00	20.24	173.80	2,791.81	-681.77	74.11	682.09	0.00	0.00	0.00
3,000.00	20.24	173.80	2,885.64	-716.16	77.84	716.49	0.00	0.00	0.00
3,100.00	20.24	173.80	2,979.47	-750.55	81.58	750.90	0.00	0.00	0.00
3,200.00	20.24	173.80	3,073.29	-784.94	85.32	785.30	0.00	0.00	0.00
3,300.00	20.24	173.80	3,167.12	-819.33	89.06	819.71	0.00	0.00	0.00
3,312.33	20.24	173.80	3,178.69	-823.57	89.52	823.95	0.00	0.00	0.00
3,400.00	18.92	173.80	3,261.29	-852.78	92.69	853.17	1.50	-1.50	0.00
3,500.00	17.42	173.80	3,356.30	-883.78	96.06	884.19	1.50	-1.50	0.00
3,600.00	15.92	173.80	3,452.09	-912.30	99.16	912.73	1.50	-1.50	0.00
3,700.00	14.42	173.80	3,548.60	-938.32	101.99	938.76	1.50	-1.50	0.00
3,800.00	12.92	173.80	3,645.76	-961.82	104.55	962.27	1.50	-1.50	0.00
3,900.00	11.42	173.80	3,743.51	-982.78	106.82	983.24	1.50	-1.50	0.00
4,000.00	9.92	173.80	3,841.78	-1,001.19	108.83	1,001.66	1.50	-1.50	0.00
4,100.00	8.42	173.80	3,940.50	-1,017.04	110.55	1,017.52	1.50	-1.50	0.00
4,200.00	6.92	173.80	4,039.60	-1,030.31	111.99	1,030.79	1.50	-1.50	0.00
4,300.00	5.42	173.80	4,139.02	-1,041.00	113.15	1,041.49	1.50	-1.50	0.00
4,346.16	4.73	173.80	4,185.00	-1,045.07	113.59	1,045.55	1.50	-1.50	0.00
Parkman									

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well YELLOWHAMMER 34N-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 34N-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)
4,400.00	3.92	173.80	4,238.68	-1,049.10	114.03	1,049.59	1.50	-1.50	0.00
4,500.00	2.42	173.80	4,338.53	-1,054.61	114.63	1,055.10	1.50	-1.50	0.00
4,600.00	0.92	173.80	4,438.48	-1,057.51	114.95	1,058.00	1.50	-1.50	0.00
4,661.52	0.00	0.00	4,500.00	-1,058.00	115.00	1,058.49	1.50	-1.50	0.00
4,700.00	0.00	0.00	4,538.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
4,774.52	0.00	0.00	4,613.00	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
Sussex									
4,800.00	0.00	0.00	4,638.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
4,900.00	0.00	0.00	4,738.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
5,000.00	0.00	0.00	4,838.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
5,100.00	0.00	0.00	4,938.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
5,200.00	0.00	0.00	5,038.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
5,300.00	0.00	0.00	5,138.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
5,400.00	0.00	0.00	5,238.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
5,500.00	0.00	0.00	5,338.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
5,600.00	0.00	0.00	5,438.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
5,700.00	0.00	0.00	5,538.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
5,800.00	0.00	0.00	5,638.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
5,900.00	0.00	0.00	5,738.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
6,000.00	0.00	0.00	5,838.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
6,100.00	0.00	0.00	5,938.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
6,200.00	0.00	0.00	6,038.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
6,300.00	0.00	0.00	6,138.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
6,400.00	0.00	0.00	6,238.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
6,500.00	0.00	0.00	6,338.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
6,600.00	0.00	0.00	6,438.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
6,700.00	0.00	0.00	6,538.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
6,800.00	0.00	0.00	6,638.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
6,900.00	0.00	0.00	6,738.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
7,000.00	0.00	0.00	6,838.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
7,100.00	0.00	0.00	6,938.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
7,200.00	0.00	0.00	7,038.48	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
7,240.83	0.00	0.00	7,079.31	-1,058.00	115.00	1,058.49	0.00	0.00	0.00
7,300.00	5.33	180.84	7,138.39	-1,060.75	114.96	1,061.24	9.00	9.00	0.00
7,400.00	14.33	180.84	7,236.82	-1,077.79	114.71	1,078.28	9.00	9.00	0.00
7,500.00	23.33	180.84	7,331.38	-1,110.02	114.24	1,110.51	9.00	9.00	0.00
7,592.07	31.61	180.84	7,413.00	-1,152.45	113.62	1,152.94	9.00	9.00	0.00
Sharon Springs									
7,600.00	32.33	180.84	7,419.72	-1,156.65	113.56	1,157.13	9.00	9.00	0.00
7,642.68	36.17	180.84	7,455.00	-1,180.66	113.21	1,181.15	9.00	9.00	0.00
Niobrara									
7,700.00	41.33	180.84	7,499.69	-1,216.52	112.68	1,217.00	9.00	9.00	0.00
7,800.00	50.33	180.84	7,569.30	-1,288.16	111.63	1,288.64	9.00	9.00	0.00
7,831.83	53.19	180.84	7,589.00	-1,313.15	111.27	1,313.62	9.00	9.00	0.00
Nio B									
7,900.00	59.33	180.84	7,626.85	-1,369.81	110.44	1,370.28	9.00	9.00	0.00
8,000.00	68.33	180.84	7,670.92	-1,459.45	109.13	1,459.91	9.00	9.00	0.00
8,062.09	73.91	180.84	7,691.00	-1,518.17	108.27	1,518.63	9.00	9.00	0.00
Nio C									
8,100.00	77.33	180.84	7,700.41	-1,554.88	107.73	1,555.34	9.00	9.00	0.00
8,200.00	86.33	180.84	7,714.62	-1,653.76	106.28	1,654.20	9.00	9.00	0.00
8,235.16	89.49	180.84	7,715.90	-1,688.88	105.77	1,689.33	9.00	9.00	0.00
Top of Production - YELLOWHAMMER 34N-17HZ_PHL									

Corporate Planning Report

Database: PLANNING
Company: US ROCKIES WATTENBERG PLANNING
Project: WELD-NAD83-UTMFT13N
Site: 1N-68W-08 YELLOWHAMMER 12-8HZ Pad
Well: YELLOWHAMMER 34N-17HZ
Wellbore: Plan A
Design: Permit Rev-1

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

Well YELLOWHAMMER 34N-17HZ
 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)
8,300.00	89.49	180.84	7,716.48	-1,753.71	104.82	1,754.16	0.00	0.00	0.00
8,400.00	89.49	180.84	7,717.37	-1,853.70	103.36	1,854.13	0.00	0.00	0.00
8,500.00	89.49	180.84	7,718.26	-1,953.68	101.89	1,954.11	0.00	0.00	0.00
8,600.00	89.49	180.84	7,719.15	-2,053.67	100.43	2,054.09	0.00	0.00	0.00
8,700.00	89.49	180.84	7,720.04	-2,153.66	98.97	2,154.07	0.00	0.00	0.00
8,800.00	89.49	180.84	7,720.93	-2,253.64	97.51	2,254.05	0.00	0.00	0.00
8,900.00	89.49	180.84	7,721.82	-2,353.63	96.04	2,354.02	0.00	0.00	0.00
9,000.00	89.49	180.84	7,722.71	-2,453.61	94.58	2,454.00	0.00	0.00	0.00
9,100.00	89.49	180.84	7,723.60	-2,553.60	93.12	2,553.98	0.00	0.00	0.00
9,200.00	89.49	180.84	7,724.49	-2,653.58	91.65	2,653.96	0.00	0.00	0.00
9,300.00	89.49	180.84	7,725.38	-2,753.57	90.19	2,753.94	0.00	0.00	0.00
9,400.00	89.49	180.84	7,726.27	-2,853.55	88.73	2,853.91	0.00	0.00	0.00
9,500.00	89.49	180.84	7,727.16	-2,953.54	87.26	2,953.89	0.00	0.00	0.00
9,600.00	89.49	180.84	7,728.05	-3,053.52	85.80	3,053.87	0.00	0.00	0.00
9,700.00	89.49	180.84	7,728.94	-3,153.51	84.34	3,153.85	0.00	0.00	0.00
9,800.00	89.49	180.84	7,729.83	-3,253.49	82.88	3,253.82	0.00	0.00	0.00
9,900.00	89.49	180.84	7,730.72	-3,353.48	81.41	3,353.80	0.00	0.00	0.00
10,000.00	89.49	180.84	7,731.61	-3,453.46	79.95	3,453.78	0.00	0.00	0.00
10,100.00	89.49	180.84	7,732.50	-3,553.45	78.49	3,553.76	0.00	0.00	0.00
10,200.00	89.49	180.84	7,733.39	-3,653.44	77.02	3,653.74	0.00	0.00	0.00
10,300.00	89.49	180.84	7,734.28	-3,753.42	75.56	3,753.71	0.00	0.00	0.00
10,400.00	89.49	180.84	7,735.17	-3,853.41	74.10	3,853.69	0.00	0.00	0.00
10,500.00	89.49	180.84	7,736.06	-3,953.39	72.63	3,953.67	0.00	0.00	0.00
10,600.00	89.49	180.84	7,736.95	-4,053.38	71.17	4,053.65	0.00	0.00	0.00
10,700.00	89.49	180.84	7,737.84	-4,153.36	69.71	4,153.63	0.00	0.00	0.00
10,800.00	89.49	180.84	7,738.73	-4,253.35	68.25	4,253.60	0.00	0.00	0.00
10,900.00	89.49	180.84	7,739.62	-4,353.33	66.78	4,353.58	0.00	0.00	0.00
11,000.00	89.49	180.84	7,740.51	-4,453.32	65.32	4,453.56	0.00	0.00	0.00
11,100.00	89.49	180.84	7,741.40	-4,553.30	63.86	4,553.54	0.00	0.00	0.00
11,200.00	89.49	180.84	7,742.29	-4,653.29	62.39	4,653.52	0.00	0.00	0.00
11,300.00	89.49	180.84	7,743.18	-4,753.27	60.93	4,753.49	0.00	0.00	0.00
11,400.00	89.49	180.84	7,744.07	-4,853.26	59.47	4,853.47	0.00	0.00	0.00
11,500.00	89.49	180.84	7,744.96	-4,953.24	58.00	4,953.45	0.00	0.00	0.00
11,600.00	89.49	180.84	7,745.85	-5,053.23	56.54	5,053.43	0.00	0.00	0.00
11,700.00	89.49	180.84	7,746.74	-5,153.22	55.08	5,153.41	0.00	0.00	0.00
11,800.00	89.49	180.84	7,747.63	-5,253.20	53.62	5,253.38	0.00	0.00	0.00
11,900.00	89.49	180.84	7,748.52	-5,353.19	52.15	5,353.36	0.00	0.00	0.00
12,000.00	89.49	180.84	7,749.41	-5,453.17	50.69	5,453.34	0.00	0.00	0.00
12,100.00	89.49	180.84	7,750.30	-5,553.16	49.23	5,553.32	0.00	0.00	0.00
12,200.00	89.49	180.84	7,751.19	-5,653.14	47.76	5,653.30	0.00	0.00	0.00
12,300.00	89.49	180.84	7,752.08	-5,753.13	46.30	5,753.27	0.00	0.00	0.00
12,400.00	89.49	180.84	7,752.97	-5,853.11	44.84	5,853.25	0.00	0.00	0.00
12,500.00	89.49	180.84	7,753.86	-5,953.10	43.37	5,953.23	0.00	0.00	0.00
12,600.00	89.49	180.84	7,754.75	-6,053.08	41.91	6,053.21	0.00	0.00	0.00
12,700.00	89.49	180.84	7,755.64	-6,153.07	40.45	6,153.19	0.00	0.00	0.00
12,800.00	89.49	180.84	7,756.53	-6,253.05	38.99	6,253.16	0.00	0.00	0.00
12,900.00	89.49	180.84	7,757.42	-6,353.04	37.52	6,353.14	0.00	0.00	0.00
13,000.00	89.49	180.84	7,758.31	-6,453.02	36.06	6,453.12	0.00	0.00	0.00
13,100.00	89.49	180.84	7,759.20	-6,553.01	34.60	6,553.10	0.00	0.00	0.00
13,200.00	89.49	180.84	7,760.09	-6,653.00	33.13	6,653.08	0.00	0.00	0.00
13,300.00	89.49	180.84	7,760.98	-6,752.98	31.67	6,753.05	0.00	0.00	0.00
13,400.00	89.49	180.84	7,761.87	-6,852.97	30.21	6,853.03	0.00	0.00	0.00
13,414.20	89.49	180.84	7,762.00	-6,867.16	30.00	6,867.23	0.00	0.00	0.00
YELLOWHAMMER 34N-17HZ_PBHL									

Corporate Planning Report

Database: PLANNING
Company: US ROCKIES WATTENBERG PLANNING
Project: WELD-NAD83-UTMFT13N
Site: 1N-68W-08 YELLOWHAMMER 12-8HZ Pad
Well: YELLOWHAMMER 34N-17HZ
Wellbore: Plan A
Design: Permit Rev-1

Local Co-ordinate Reference: Well YELLOWHAMMER 34N-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)
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Design Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
YELLOWHAMMER 34 - plan hits target center - Point	0.00	0.00	7,715.90	-1,688.88	105.77	14,547,874.23	1,630,627.66	40.058051	-105.034984
YELLOWHAMMER 34 - plan hits target center - Point	0.00	0.00	7,762.00	-6,867.16	30.00	14,542,695.98	1,630,549.84	40.043831	-105.035255

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
8,235.16	7,715.90	Top of Production	5-1/2	8-1/2

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,023.27	1,018.00	Fox Hills			
4,346.16	4,185.00	Parkman			
4,774.52	4,613.00	Sussex			
7,592.07	7,413.00	Sharon Springs			
7,642.68	7,455.00	Niobrara			
7,831.83	7,589.00	Nio B			
8,062.09	7,691.00	Nio C			