

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N  
1N-66W-13 AZUL 14-13HZ PAD  
AZUL 13-21HZ**

**Plan A**

**Plan: Permit Rev-1**

## **Standard Planning Report**

**07 June, 2017**



Azimuths to True North  
Magnetic North: 8.01°

Magnetic Field  
Strength: 52319.1snT  
Dip Angle: 66.56°  
Date: 6/5/2017  
Model: IGRF2010

SITE: 1N-66W-13 AZUL 14-13HZ PAD

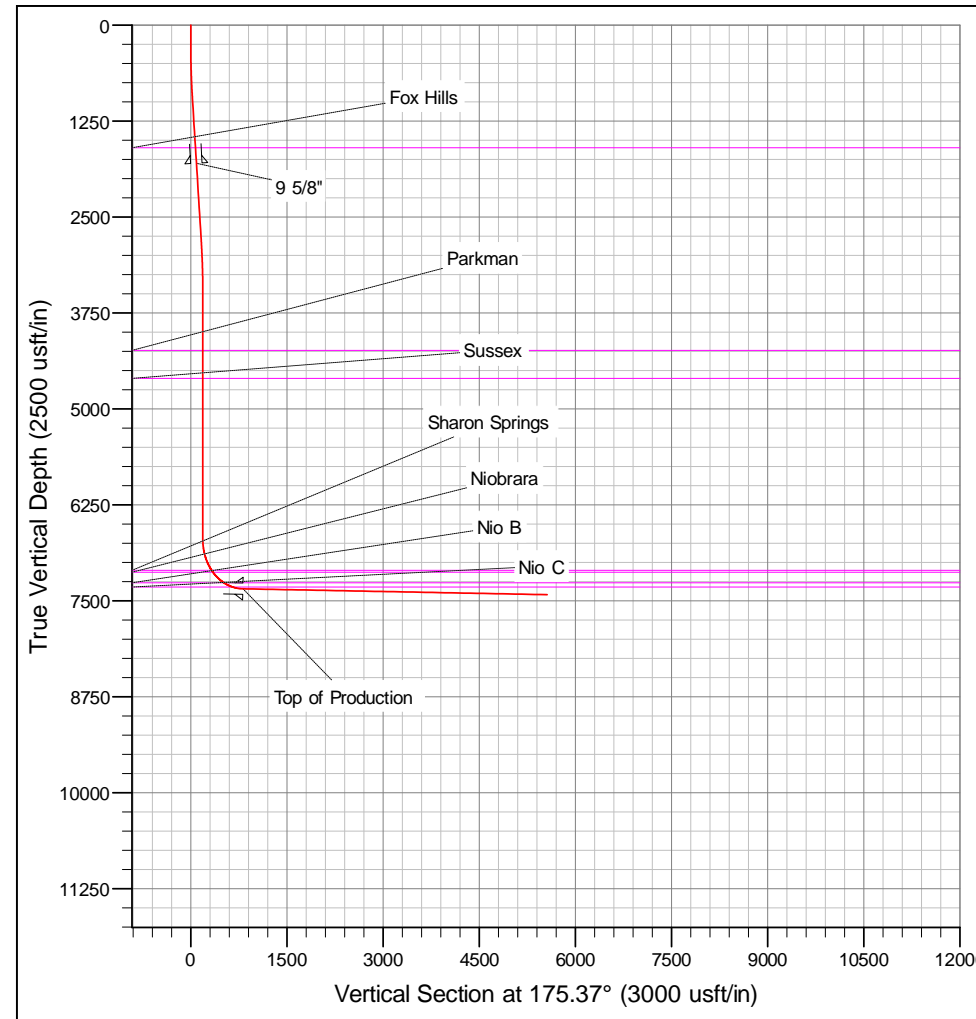
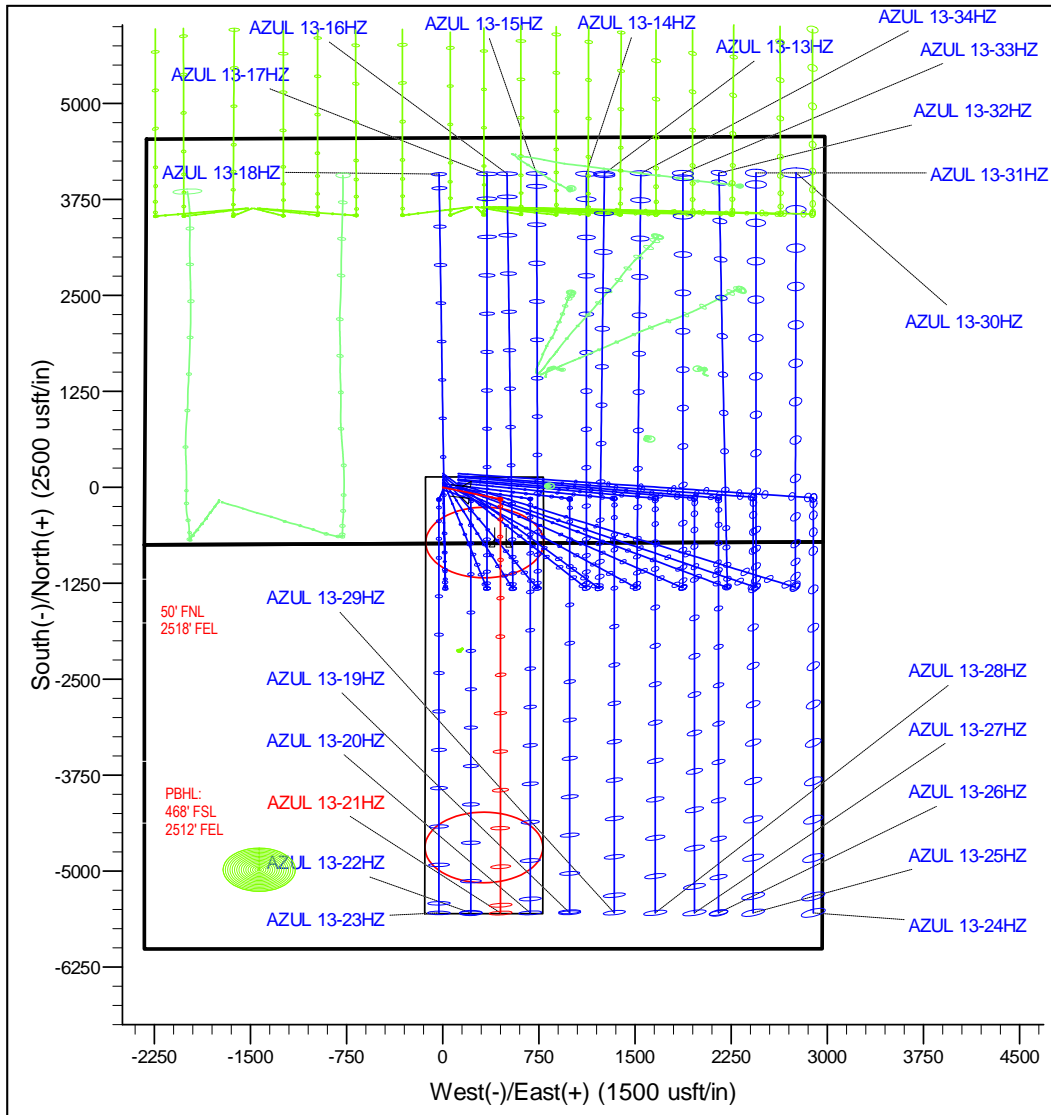
Well: AZUL 13-21HZ  
Wellbore: Plan A  
Design: Permit Rev-1

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1599.00	1614.17	Fox Hills
4240.00	4279.87	Parkman
4604.00	4643.87	Sussex
7104.00	7175.26	Sharon Springs
7130.00	7209.21	Niobrara
7265.00	7426.10	Nio B
7321.00	7574.01	Nio C

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
AZUL 13-21HZ_PBL	7421.00	-5543.21	449.11	14538076.00	1717385.00	40.030822	-104.725040

WELL DETAILS: AZUL 13-21HZ					
	GL: 5051.00	RKB @ 5068.00usft (D Rig)			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14543617.80	1716918.88	40.046045	-104.726644
					Slot

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Diag	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		
954.39	10.57	108.81	950.41	-20.88	61.30	1.50	25.77		
2835.47	10.57	108.81	2799.59	-132.12	387.81	0.00	163.00		
3539.87	0.00	0.00	3500.00	-153.00	449.11	1.50	188.77		
6747.83	0.00	0.00	6707.96	-153.00	449.11	0.00	188.77		
7737.61	89.08	180.00	7344.50	-779.40	449.11	9.00	813.12		
12502.03	89.08	180.00	7421.00	-5543.21	449.11	0.00	5561.37		



# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well AZUL 13-21HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 5068.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 5068.00usft (D Rig)
<b>Site:</b>	1N-66W-13 AZUL 14-13HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	AZUL 13-21HZ	<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-66W-13 AZUL 14-13HZ PAD											
Site Position:						Northing:			14,543,797.69 usft			Latitude:			40.046539		
From:			Lat/Long			Easting:			1,716,920.01 usft			Longitude:			-104.726638		
Position Uncertainty:			0.00 usft			Slot Radius:			13-3/16 "			Grid Convergence:			0.18 °		

Well	AZUL 13-21HZ					
Well Position	+N/-S	-179.89 usft	Northing:	14,543,617.80 usft	Latitude:	40.046045
	+E/-W	-1.68 usft	Easting:	1,716,918.88 usft	Longitude:	-104.726644
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	5,051.00 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	6/5/2017	8.01	66.56	52,319.09296514

<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	175.37

<b>Plan Survey Tool Program</b>	<b>Date</b>	6/7/2017		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	12,502.03	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWI Fixed:v2:crustal field declinat

<b>Plan Sections</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	<b>TFO (°)</b>	<b>Target</b>
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	
954.39	10.57	108.81	950.41	-20.88	61.30	1.50	1.50	0.00	108.81	
2,835.47	10.57	108.81	2,799.59	-132.12	387.81	0.00	0.00	0.00	0.00	
3,539.87	0.00	0.00	3,500.00	-153.00	449.11	1.50	-1.50	0.00	180.00	
6,747.83	0.00	0.00	6,707.96	-153.00	449.11	0.00	0.00	0.00	0.00	
7,737.61	89.08	180.00	7,344.50	-779.40	449.11	9.00	9.00	0.00	180.00	
12,502.03	89.08	180.00	7,421.00	-5,543.21	449.11	0.00	0.00	0.00	0.00	AZUL 13-21HZ_PBI

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well AZUL 13-21HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 5068.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 5068.00usft (D Rig)
<b>Site:</b>	1N-66W-13 AZUL 14-13HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	AZUL 13-21HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	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)
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	108.81	300.00	-0.11	0.31	0.13	1.50	1.50	0.00
400.00	2.25	108.81	399.96	-0.95	2.79	1.17	1.50	1.50	0.00
500.00	3.75	108.81	499.82	-2.64	7.74	3.25	1.50	1.50	0.00
600.00	5.25	108.81	599.51	-5.17	15.17	6.38	1.50	1.50	0.00
700.00	6.75	108.81	698.96	-8.54	25.06	10.53	1.50	1.50	0.00
800.00	8.25	108.81	798.10	-12.75	37.42	15.73	1.50	1.50	0.00
900.00	9.75	108.81	896.87	-17.79	52.22	21.95	1.50	1.50	0.00
954.39	10.57	108.81	950.41	-20.88	61.30	25.77	1.50	1.50	0.00
1,000.00	10.57	108.81	995.24	-23.58	69.22	29.09	0.00	0.00	0.00
1,100.00	10.57	108.81	1,093.55	-29.49	86.58	36.39	0.00	0.00	0.00
1,200.00	10.57	108.81	1,191.85	-35.41	103.93	43.69	0.00	0.00	0.00
1,300.00	10.57	108.81	1,290.15	-41.32	121.29	50.98	0.00	0.00	0.00
1,400.00	10.57	108.81	1,388.46	-47.23	138.65	58.28	0.00	0.00	0.00
1,500.00	10.57	108.81	1,486.76	-53.15	156.01	65.57	0.00	0.00	0.00
1,600.00	10.57	108.81	1,585.07	-59.06	173.36	72.87	0.00	0.00	0.00
1,614.17	10.57	108.81	1,599.00	-59.90	175.82	73.90	0.00	0.00	0.00
Fox Hills									
1,700.00	10.57	108.81	1,683.37	-64.97	190.72	80.16	0.00	0.00	0.00
1,800.00	10.57	108.81	1,781.68	-70.89	208.08	87.46	0.00	0.00	0.00
1,818.64	10.57	108.81	1,800.00	-71.99	211.31	88.82	0.00	0.00	0.00
9 5/8"									
1,900.00	10.57	108.81	1,879.98	-76.80	225.43	94.75	0.00	0.00	0.00
2,000.00	10.57	108.81	1,978.29	-82.71	242.79	102.05	0.00	0.00	0.00
2,100.00	10.57	108.81	2,076.59	-88.63	260.15	109.34	0.00	0.00	0.00
2,200.00	10.57	108.81	2,174.89	-94.54	277.51	116.64	0.00	0.00	0.00
2,300.00	10.57	108.81	2,273.20	-100.45	294.86	123.94	0.00	0.00	0.00
2,400.00	10.57	108.81	2,371.50	-106.37	312.22	131.23	0.00	0.00	0.00
2,500.00	10.57	108.81	2,469.81	-112.28	329.58	138.53	0.00	0.00	0.00
2,600.00	10.57	108.81	2,568.11	-118.19	346.93	145.82	0.00	0.00	0.00
2,700.00	10.57	108.81	2,666.42	-124.10	364.29	153.12	0.00	0.00	0.00
2,800.00	10.57	108.81	2,764.72	-130.02	381.65	160.41	0.00	0.00	0.00
2,835.47	10.57	108.81	2,799.59	-132.12	387.81	163.00	0.00	0.00	0.00
2,900.00	9.60	108.81	2,863.12	-135.76	398.50	167.49	1.50	-1.50	0.00
3,000.00	8.10	108.81	2,961.93	-140.72	413.06	173.61	1.50	-1.50	0.00
3,100.00	6.60	108.81	3,061.11	-144.84	425.16	178.70	1.50	-1.50	0.00
3,200.00	5.10	108.81	3,160.58	-148.13	434.81	182.76	1.50	-1.50	0.00
3,300.00	3.60	108.81	3,260.29	-150.57	441.98	185.77	1.50	-1.50	0.00
3,400.00	2.10	108.81	3,360.17	-152.17	446.69	187.75	1.50	-1.50	0.00
3,500.00	0.60	108.81	3,460.14	-152.93	448.91	188.69	1.50	-1.50	0.00
3,539.87	0.00	0.00	3,500.00	-153.00	449.11	188.77	1.50	-1.50	0.00
3,600.00	0.00	0.00	3,560.13	-153.00	449.11	188.77	0.00	0.00	0.00
3,700.00	0.00	0.00	3,660.13	-153.00	449.11	188.77	0.00	0.00	0.00
3,800.00	0.00	0.00	3,760.13	-153.00	449.11	188.77	0.00	0.00	0.00
3,900.00	0.00	0.00	3,860.13	-153.00	449.11	188.77	0.00	0.00	0.00
4,000.00	0.00	0.00	3,960.13	-153.00	449.11	188.77	0.00	0.00	0.00
4,100.00	0.00	0.00	4,060.13	-153.00	449.11	188.77	0.00	0.00	0.00
4,200.00	0.00	0.00	4,160.13	-153.00	449.11	188.77	0.00	0.00	0.00
4,279.87	0.00	0.00	4,240.00	-153.00	449.11	188.77	0.00	0.00	0.00
Parkman									

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well AZUL 13-21HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 5068.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 5068.00usft (D Rig)
<b>Site:</b>	1N-66W-13 AZUL 14-13HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	AZUL 13-21HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	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)
4,300.00	0.00	0.00	4,260.13	-153.00	449.11	188.77	0.00	0.00	0.00
4,400.00	0.00	0.00	4,360.13	-153.00	449.11	188.77	0.00	0.00	0.00
4,500.00	0.00	0.00	4,460.13	-153.00	449.11	188.77	0.00	0.00	0.00
4,600.00	0.00	0.00	4,560.13	-153.00	449.11	188.77	0.00	0.00	0.00
4,643.87	0.00	0.00	4,604.00	-153.00	449.11	188.77	0.00	0.00	0.00
<b>Sussex</b>									
4,700.00	0.00	0.00	4,660.13	-153.00	449.11	188.77	0.00	0.00	0.00
4,800.00	0.00	0.00	4,760.13	-153.00	449.11	188.77	0.00	0.00	0.00
4,900.00	0.00	0.00	4,860.13	-153.00	449.11	188.77	0.00	0.00	0.00
5,000.00	0.00	0.00	4,960.13	-153.00	449.11	188.77	0.00	0.00	0.00
5,100.00	0.00	0.00	5,060.13	-153.00	449.11	188.77	0.00	0.00	0.00
5,200.00	0.00	0.00	5,160.13	-153.00	449.11	188.77	0.00	0.00	0.00
5,300.00	0.00	0.00	5,260.13	-153.00	449.11	188.77	0.00	0.00	0.00
5,400.00	0.00	0.00	5,360.13	-153.00	449.11	188.77	0.00	0.00	0.00
5,500.00	0.00	0.00	5,460.13	-153.00	449.11	188.77	0.00	0.00	0.00
5,600.00	0.00	0.00	5,560.13	-153.00	449.11	188.77	0.00	0.00	0.00
5,700.00	0.00	0.00	5,660.13	-153.00	449.11	188.77	0.00	0.00	0.00
5,800.00	0.00	0.00	5,760.13	-153.00	449.11	188.77	0.00	0.00	0.00
5,900.00	0.00	0.00	5,860.13	-153.00	449.11	188.77	0.00	0.00	0.00
6,000.00	0.00	0.00	5,960.13	-153.00	449.11	188.77	0.00	0.00	0.00
6,100.00	0.00	0.00	6,060.13	-153.00	449.11	188.77	0.00	0.00	0.00
6,200.00	0.00	0.00	6,160.13	-153.00	449.11	188.77	0.00	0.00	0.00
6,300.00	0.00	0.00	6,260.13	-153.00	449.11	188.77	0.00	0.00	0.00
6,400.00	0.00	0.00	6,360.13	-153.00	449.11	188.77	0.00	0.00	0.00
6,500.00	0.00	0.00	6,460.13	-153.00	449.11	188.77	0.00	0.00	0.00
6,600.00	0.00	0.00	6,560.13	-153.00	449.11	188.77	0.00	0.00	0.00
6,700.00	0.00	0.00	6,660.13	-153.00	449.11	188.77	0.00	0.00	0.00
6,747.83	0.00	0.00	6,707.96	-153.00	449.11	188.77	0.00	0.00	0.00
6,800.00	4.70	180.00	6,760.08	-155.14	449.11	190.90	9.00	9.00	0.00
6,900.00	13.70	180.00	6,858.69	-171.10	449.11	206.81	9.00	9.00	0.00
7,000.00	22.70	180.00	6,953.59	-202.29	449.11	237.90	9.00	9.00	0.00
7,100.00	31.70	180.00	7,042.45	-247.95	449.11	283.41	9.00	9.00	0.00
7,175.26	38.47	180.00	7,104.00	-291.18	449.11	326.50	9.00	9.00	0.00
<b>Sharon Springs</b>									
7,200.00	40.70	180.00	7,123.06	-306.94	449.11	342.21	9.00	9.00	0.00
7,209.21	41.52	180.00	7,130.00	-313.00	449.11	348.24	9.00	9.00	0.00
<b>Niobrara</b>									
7,300.00	49.70	180.00	7,193.46	-377.82	449.11	412.86	9.00	9.00	0.00
7,400.00	58.70	180.00	7,251.90	-458.84	449.11	493.61	9.00	9.00	0.00
7,426.10	61.04	180.00	7,265.00	-481.41	449.11	516.10	9.00	9.00	0.00
<b>Nio B</b>									
7,500.00	67.70	180.00	7,296.95	-548.00	449.11	582.48	9.00	9.00	0.00
7,574.01	74.36	180.00	7,321.00	-617.95	449.11	652.20	9.00	9.00	0.00
<b>Nio C</b>									
7,600.00	76.70	180.00	7,327.50	-643.12	449.11	677.28	9.00	9.00	0.00
7,700.00	85.70	180.00	7,342.79	-741.84	449.11	775.68	9.00	9.00	0.00
7,737.61	89.08	180.00	7,344.50	-779.40	449.11	813.12	9.00	9.00	0.00
<b>Top of Production - AZUL 13-21HZ_PHL</b>									
7,800.00	89.08	180.00	7,345.50	-841.78	449.11	875.30	0.00	0.00	0.00
7,900.00	89.08	180.00	7,347.11	-941.77	449.11	974.96	0.00	0.00	0.00
8,000.00	89.08	180.00	7,348.71	-1,041.76	449.11	1,074.62	0.00	0.00	0.00
8,100.00	89.08	180.00	7,350.32	-1,141.74	449.11	1,174.28	0.00	0.00	0.00
8,200.00	89.08	180.00	7,351.93	-1,241.73	449.11	1,273.94	0.00	0.00	0.00

# Corporate Planning Report

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<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 5068.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 5068.00usft (D Rig)
<b>Site:</b>	1N-66W-13 AZUL 14-13HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	AZUL 13-21HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	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)	
8,300.00	89.08	180.00	7,353.53	-1,341.72	449.11	1,373.60	0.00	0.00	0.00	
8,400.00	89.08	180.00	7,355.14	-1,441.71	449.11	1,473.27	0.00	0.00	0.00	
8,500.00	89.08	180.00	7,356.74	-1,541.69	449.11	1,572.93	0.00	0.00	0.00	
8,600.00	89.08	180.00	7,358.35	-1,641.68	449.11	1,672.59	0.00	0.00	0.00	
8,700.00	89.08	180.00	7,359.95	-1,741.67	449.11	1,772.25	0.00	0.00	0.00	
8,800.00	89.08	180.00	7,361.56	-1,841.65	449.11	1,871.91	0.00	0.00	0.00	
8,900.00	89.08	180.00	7,363.16	-1,941.64	449.11	1,971.57	0.00	0.00	0.00	
9,000.00	89.08	180.00	7,364.77	-2,041.63	449.11	2,071.23	0.00	0.00	0.00	
9,100.00	89.08	180.00	7,366.38	-2,141.62	449.11	2,170.89	0.00	0.00	0.00	
9,200.00	89.08	180.00	7,367.98	-2,241.60	449.11	2,270.55	0.00	0.00	0.00	
9,300.00	89.08	180.00	7,369.59	-2,341.59	449.11	2,370.21	0.00	0.00	0.00	
9,400.00	89.08	180.00	7,371.19	-2,441.58	449.11	2,469.87	0.00	0.00	0.00	
9,500.00	89.08	180.00	7,372.80	-2,541.56	449.11	2,569.53	0.00	0.00	0.00	
9,600.00	89.08	180.00	7,374.40	-2,641.55	449.11	2,669.19	0.00	0.00	0.00	
9,700.00	89.08	180.00	7,376.01	-2,741.54	449.11	2,768.85	0.00	0.00	0.00	
9,800.00	89.08	180.00	7,377.62	-2,841.53	449.11	2,868.51	0.00	0.00	0.00	
9,900.00	89.08	180.00	7,379.22	-2,941.51	449.11	2,968.17	0.00	0.00	0.00	
10,000.00	89.08	180.00	7,380.83	-3,041.50	449.11	3,067.83	0.00	0.00	0.00	
10,100.00	89.08	180.00	7,382.43	-3,141.49	449.11	3,167.49	0.00	0.00	0.00	
10,200.00	89.08	180.00	7,384.04	-3,241.47	449.11	3,267.16	0.00	0.00	0.00	
10,300.00	89.08	180.00	7,385.64	-3,341.46	449.11	3,366.82	0.00	0.00	0.00	
10,400.00	89.08	180.00	7,387.25	-3,441.45	449.11	3,466.48	0.00	0.00	0.00	
10,500.00	89.08	180.00	7,388.85	-3,541.44	449.11	3,566.14	0.00	0.00	0.00	
10,600.00	89.08	180.00	7,390.46	-3,641.42	449.11	3,665.80	0.00	0.00	0.00	
10,700.00	89.08	180.00	7,392.07	-3,741.41	449.11	3,765.46	0.00	0.00	0.00	
10,800.00	89.08	180.00	7,393.67	-3,841.40	449.11	3,865.12	0.00	0.00	0.00	
10,900.00	89.08	180.00	7,395.28	-3,941.38	449.11	3,964.78	0.00	0.00	0.00	
11,000.00	89.08	180.00	7,396.88	-4,041.37	449.11	4,064.44	0.00	0.00	0.00	
11,100.00	89.08	180.00	7,398.49	-4,141.36	449.11	4,164.10	0.00	0.00	0.00	
11,200.00	89.08	180.00	7,400.09	-4,241.35	449.11	4,263.76	0.00	0.00	0.00	
11,300.00	89.08	180.00	7,401.70	-4,341.33	449.11	4,363.42	0.00	0.00	0.00	
11,400.00	89.08	180.00	7,403.31	-4,441.32	449.11	4,463.08	0.00	0.00	0.00	
11,500.00	89.08	180.00	7,404.91	-4,541.31	449.11	4,562.74	0.00	0.00	0.00	
11,600.00	89.08	180.00	7,406.52	-4,641.29	449.11	4,662.40	0.00	0.00	0.00	
11,700.00	89.08	180.00	7,408.12	-4,741.28	449.11	4,762.06	0.00	0.00	0.00	
11,800.00	89.08	180.00	7,409.73	-4,841.27	449.11	4,861.72	0.00	0.00	0.00	
11,900.00	89.08	180.00	7,411.33	-4,941.26	449.11	4,961.38	0.00	0.00	0.00	
12,000.00	89.08	180.00	7,412.94	-5,041.24	449.11	5,061.04	0.00	0.00	0.00	
12,100.00	89.08	180.00	7,414.54	-5,141.23	449.11	5,160.71	0.00	0.00	0.00	
12,200.00	89.08	180.00	7,416.15	-5,241.22	449.11	5,260.37	0.00	0.00	0.00	
12,300.00	89.08	180.00	7,417.76	-5,341.20	449.11	5,360.03	0.00	0.00	0.00	
12,400.00	89.08	180.00	7,419.36	-5,441.19	449.11	5,459.69	0.00	0.00	0.00	
12,500.00	89.08	180.00	7,420.97	-5,541.18	449.11	5,559.35	0.00	0.00	0.00	
12,502.03	89.08	180.00	7,421.00	-5,543.21	449.11	5,561.37	0.00	0.00	0.00	
AZUL 13-21HZ_PBHL										

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well AZUL 13-21HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 5068.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 5068.00usft (D Rig)
<b>Site:</b>	1N-66W-13 AZUL 14-13HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	AZUL 13-21HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
AZUL 13-21HZ_PHL	0.00	0.00	7,344.50	-779.40	449.11	14,542,839.78	1,717,370.38	40.043905	-104.725040
- plan hits target center									
- Point									
AZUL 13-21HZ_PBHL	0.00	0.00	7,421.00	-5,543.21	449.11	14,538,076.00	1,717,385.00	40.030823	-104.725040
- plan hits target center									
- Point									

Casing Points					
	Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
	(usft)	(usft)	Name	(")	(")
	1,818.64	1,800.00	9 5/8"	9-5/8	13-1/2
	7,737.61	7,344.50	Top of Production	5-1/2	7-7/8

Formations						
	Measured Depth	Vertical Depth			Dip	Dip Direction
	(usft)	(usft)	Name	Lithology	(°)	(°)
	1,614.17	1,599.00	Fox Hills			
	4,279.87	4,240.00	Parkman			
	4,643.87	4,604.00	Sussex			
	7,175.26	7,104.00	Sharon Springs			
	7,209.21	7,130.00	Niobrara			
	7,426.10	7,265.00	Nio B			
	7,574.01	7,321.00	Nio C			