

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N  
1N-66W-13 AZUL 13-13HZ  
AZUL 13-10HZ**

**Plan A**

**Plan: Permit Rev-1**

## **Standard Planning Report**

**12 June, 2017**



Azimuths to True North  
Magnetic North: 8.01°

Magnetic Field  
Strength: 52318.0snT  
Dip Angle: 66.56°  
Date: 6/8/2017  
Model: IGRF2010

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

Well: AZUL 13-10HZ  
Wellbore: Plan A  
Design: Permit Rev-1

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1619.00	1649.63	Fox Hills
4260.00	4450.32	Parkman
4624.00	4836.33	Sussex
7120.00	7405.90	Sharon Springs
7146.00	7439.64	Niobrara
7279.00	7649.97	Nio B
7337.00	7796.44	Nio C

## WELL DETAILS: AZUL 13-10HZ

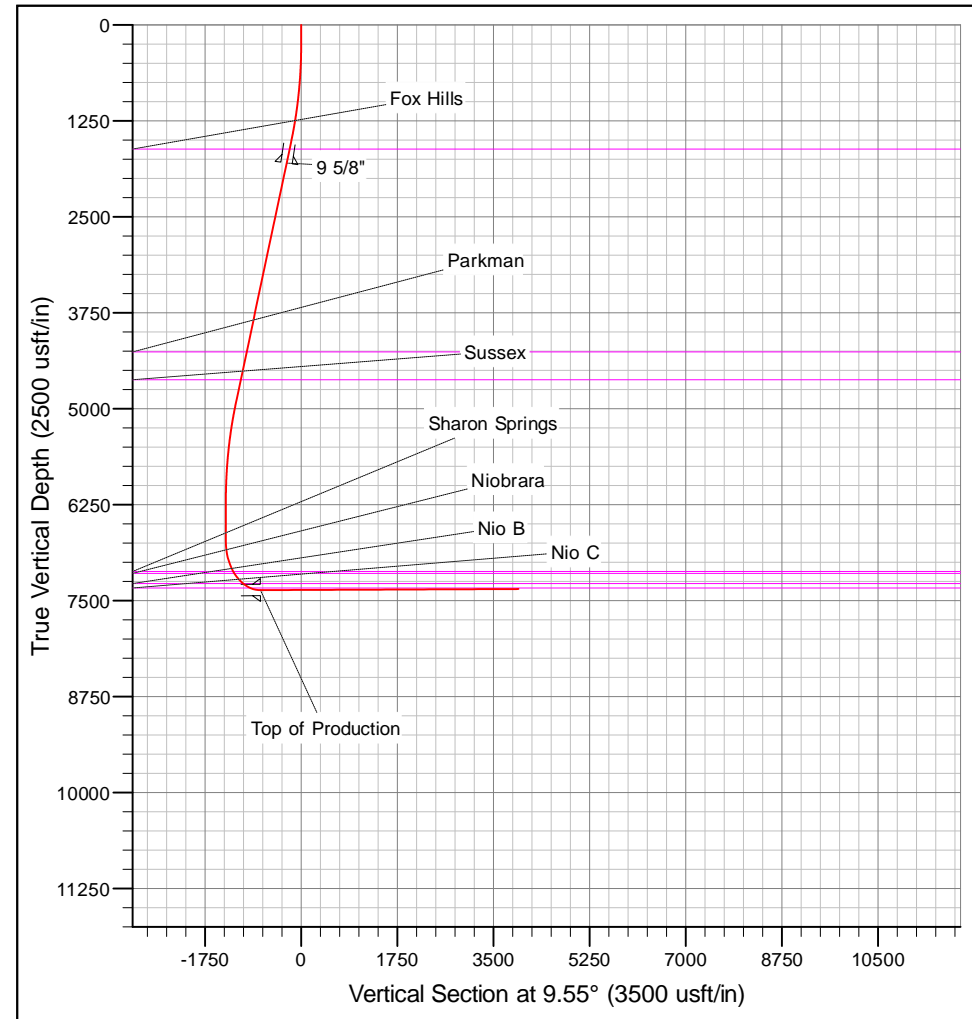
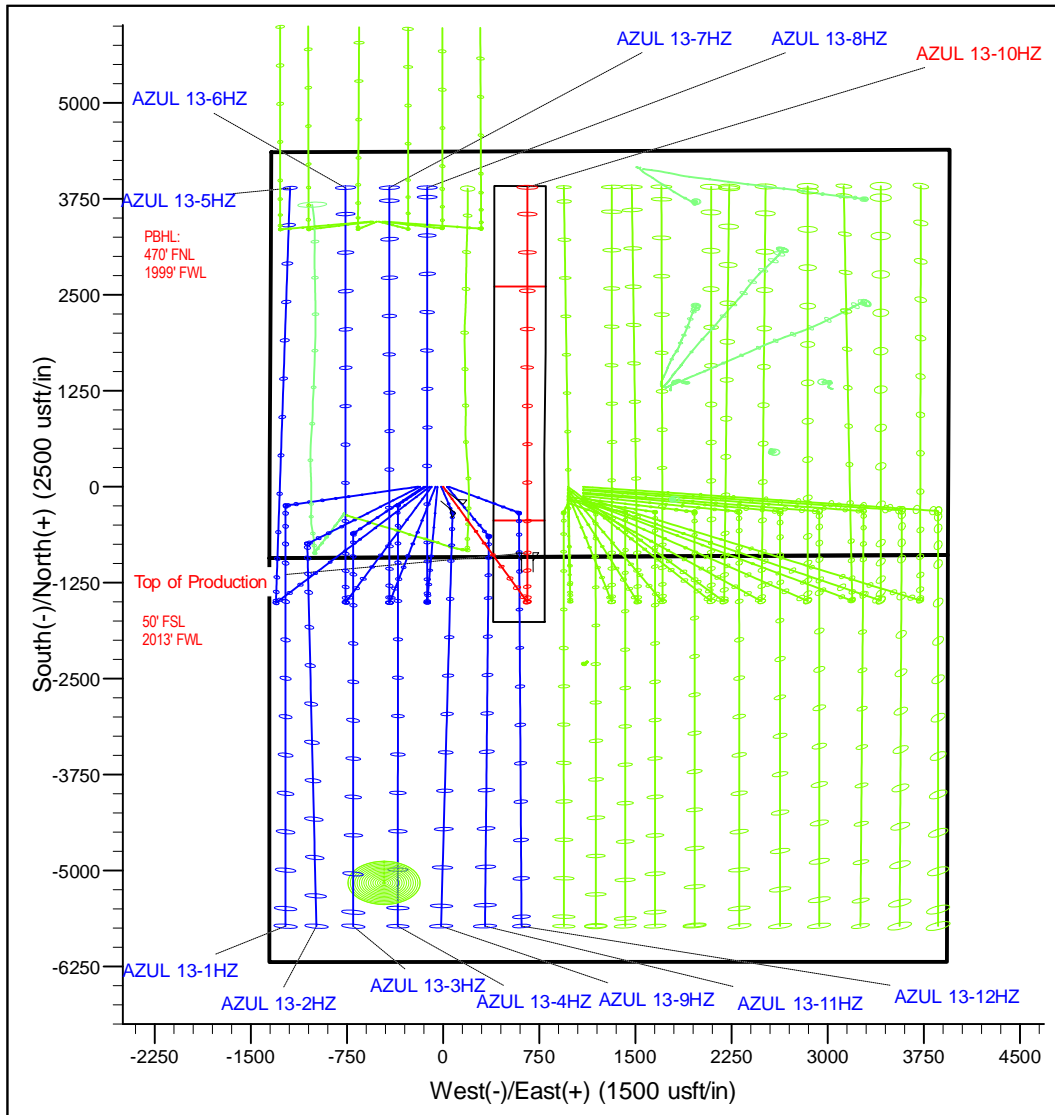
		GL: 5071.00	RKB @ 5088.00usft (D Rig)		
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14543794.00	1715947.49	40.046537	-104.730113

## DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
AZUL 13-10HZ_PBHL	7350.00	3901.03	656.34	14547697.00	1716592.00	40.057250	-104.727767

## 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
1546.08	19.44	156.38	1521.35	-199.54	87.25	1.50	-182.30
5159.39	19.44	156.38	4928.65	-1301.46	569.09	0.00	-189.00
6455.47	0.00	0.00	6200.00	-1501.00	656.34	1.50	-371.30
6982.99	0.00	0.00	6727.52	-1501.00	656.34	0.00	-371.30
7984.88	90.17	360.00	7364.13	-862.49	656.34	9.00	-741.64
12748.42	90.17	360.00	7350.00	3901.03	656.34	0.00	-955.85



# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well AZUL 13-10HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 5088.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 5088.00usft (D Rig)
<b>Site:</b>	1N-66W-13 AZUL 13-13HZ	<b>North Reference:</b>	True
<b>Well:</b>	AZUL 13-10HZ	<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 13-13HZ			
Site Position:		Northing:	14,543,795.23 usft	Latitude:	40.046542
From:	Lat/Long	Easting:	1,715,752.42 usft	Longitude:	-104.730810
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.17

Well	AZUL 13-10HZ					
Well Position	+N/-S	-1.82 usft	Northing:	14,543,794.00 usft	Latitude:	40.046537
	+E/-W	195.06 usft	Easting:	1,715,947.49 usft	Longitude:	-104.730113
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	5,071.00 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	6/8/2017	8.01	66.56	52,317.97433242

<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	9.55

<b>Plan Survey Tool Program</b>	<b>Date</b>	6/12/2017		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	12,748.42	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	
1,546.08	19.44	156.38	1,521.35	-199.54	87.25	1.50	1.50	0.00	156.38	
5,159.39	19.44	156.38	4,928.65	-1,301.46	569.09	0.00	0.00	0.00	0.00	
6,455.47	0.00	0.00	6,200.00	-1,501.00	656.34	1.50	-1.50	0.00	180.00	
6,982.99	0.00	0.00	6,727.52	-1,501.00	656.34	0.00	0.00	0.00	0.00	
7,984.88	90.17	360.00	7,364.13	-862.49	656.34	9.00	9.00	0.00	360.00	
12,748.42	90.17	360.00	7,350.00	3,901.03	656.34	0.00	0.00	0.00	0.00	AZUL 13-10HZ_PBI

# Corporate Planning Report

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<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 5088.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 5088.00usft (D Rig)
<b>Site:</b>	1N-66W-13 AZUL 13-13HZ	<b>North Reference:</b>	True
<b>Well:</b>	AZUL 13-10HZ	<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	156.38	300.00	-0.30	0.13	-0.27	1.50	1.50	0.00
400.00	2.25	156.38	399.96	-2.70	1.18	-2.47	1.50	1.50	0.00
500.00	3.75	156.38	499.82	-7.49	3.28	-6.85	1.50	1.50	0.00
600.00	5.25	156.38	599.51	-14.68	6.42	-13.41	1.50	1.50	0.00
700.00	6.75	156.38	698.96	-24.26	10.61	-22.16	1.50	1.50	0.00
800.00	8.25	156.38	798.10	-36.22	15.84	-33.09	1.50	1.50	0.00
900.00	9.75	156.38	896.87	-50.55	22.10	-46.18	1.50	1.50	0.00
1,000.00	11.25	156.38	995.19	-67.25	29.40	-61.44	1.50	1.50	0.00
1,100.00	12.75	156.38	1,093.00	-86.30	37.73	-78.84	1.50	1.50	0.00
1,200.00	14.25	156.38	1,190.24	-107.68	47.09	-98.38	1.50	1.50	0.00
1,300.00	15.75	156.38	1,286.83	-131.40	57.46	-120.04	1.50	1.50	0.00
1,400.00	17.25	156.38	1,382.71	-157.42	68.83	-143.82	1.50	1.50	0.00
1,500.00	18.75	156.38	1,477.81	-185.73	81.21	-169.68	1.50	1.50	0.00
1,546.08	19.44	156.38	1,521.35	-199.54	87.25	-182.30	1.50	1.50	0.00
1,600.00	19.44	156.38	1,572.20	-215.99	94.44	-197.32	0.00	0.00	0.00
1,649.63	19.44	156.38	1,619.00	-231.12	101.06	-211.15	0.00	0.00	0.00
Fox Hills									
1,700.00	19.44	156.38	1,666.50	-246.48	107.78	-225.18	0.00	0.00	0.00
1,800.00	19.44	156.38	1,760.79	-276.98	121.11	-253.05	0.00	0.00	0.00
1,841.58	19.44	156.38	1,800.00	-289.66	126.66	-264.63	0.00	0.00	0.00
9 5/8"									
1,900.00	19.44	156.38	1,855.09	-307.47	134.45	-280.91	0.00	0.00	0.00
2,000.00	19.44	156.38	1,949.39	-337.97	147.78	-308.77	0.00	0.00	0.00
2,100.00	19.44	156.38	2,043.69	-368.47	161.12	-336.63	0.00	0.00	0.00
2,200.00	19.44	156.38	2,137.99	-398.96	174.45	-364.49	0.00	0.00	0.00
2,300.00	19.44	156.38	2,232.29	-429.46	187.79	-392.35	0.00	0.00	0.00
2,400.00	19.44	156.38	2,326.59	-459.95	201.12	-420.21	0.00	0.00	0.00
2,500.00	19.44	156.38	2,420.88	-490.45	214.46	-448.07	0.00	0.00	0.00
2,600.00	19.44	156.38	2,515.18	-520.95	227.79	-475.93	0.00	0.00	0.00
2,700.00	19.44	156.38	2,609.48	-551.44	241.13	-503.79	0.00	0.00	0.00
2,800.00	19.44	156.38	2,703.78	-581.94	254.46	-531.65	0.00	0.00	0.00
2,900.00	19.44	156.38	2,798.08	-612.43	267.80	-559.51	0.00	0.00	0.00
3,000.00	19.44	156.38	2,892.38	-642.93	281.13	-587.37	0.00	0.00	0.00
3,100.00	19.44	156.38	2,986.67	-673.43	294.47	-615.24	0.00	0.00	0.00
3,200.00	19.44	156.38	3,080.97	-703.92	307.80	-643.10	0.00	0.00	0.00
3,300.00	19.44	156.38	3,175.27	-734.42	321.14	-670.96	0.00	0.00	0.00
3,400.00	19.44	156.38	3,269.57	-764.91	334.47	-698.82	0.00	0.00	0.00
3,500.00	19.44	156.38	3,363.87	-795.41	347.81	-726.68	0.00	0.00	0.00
3,600.00	19.44	156.38	3,458.17	-825.91	361.14	-754.54	0.00	0.00	0.00
3,700.00	19.44	156.38	3,552.46	-856.40	374.48	-782.40	0.00	0.00	0.00
3,800.00	19.44	156.38	3,646.76	-886.90	387.81	-810.26	0.00	0.00	0.00
3,900.00	19.44	156.38	3,741.06	-917.39	401.15	-838.12	0.00	0.00	0.00
4,000.00	19.44	156.38	3,835.36	-947.89	414.48	-865.98	0.00	0.00	0.00
4,100.00	19.44	156.38	3,929.66	-978.38	427.82	-893.84	0.00	0.00	0.00
4,200.00	19.44	156.38	4,023.96	-1,008.88	441.15	-921.70	0.00	0.00	0.00
4,300.00	19.44	156.38	4,118.25	-1,039.38	454.49	-949.56	0.00	0.00	0.00
4,400.00	19.44	156.38	4,212.55	-1,069.87	467.82	-977.43	0.00	0.00	0.00
4,450.32	19.44	156.38	4,260.00	-1,085.22	474.53	-991.44	0.00	0.00	0.00
Parkman									

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<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 5088.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 5088.00usft (D Rig)
<b>Site:</b>	1N-66W-13 AZUL 13-13HZ	<b>North Reference:</b>	True
<b>Well:</b>	AZUL 13-10HZ	<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)
4,500.00	19.44	156.38	4,306.85	-1,100.37	481.16	-1,005.29	0.00	0.00	0.00
4,600.00	19.44	156.38	4,401.15	-1,130.86	494.49	-1,033.15	0.00	0.00	0.00
4,700.00	19.44	156.38	4,495.45	-1,161.36	507.83	-1,061.01	0.00	0.00	0.00
4,800.00	19.44	156.38	4,589.75	-1,191.86	521.16	-1,088.87	0.00	0.00	0.00
4,836.33	19.44	156.38	4,624.00	-1,202.93	526.01	-1,098.99	0.00	0.00	0.00
Sussex									
4,900.00	19.44	156.38	4,684.04	-1,222.35	534.50	-1,116.73	0.00	0.00	0.00
5,000.00	19.44	156.38	4,778.34	-1,252.85	547.83	-1,144.59	0.00	0.00	0.00
5,100.00	19.44	156.38	4,872.64	-1,283.34	561.17	-1,172.45	0.00	0.00	0.00
5,159.39	19.44	156.38	4,928.65	-1,301.46	569.09	-1,189.00	0.00	0.00	0.00
5,200.00	18.83	156.38	4,967.01	-1,313.65	574.42	-1,200.14	1.50	-1.50	0.00
5,300.00	17.33	156.38	5,062.07	-1,342.09	586.85	-1,226.12	1.50	-1.50	0.00
5,400.00	15.83	156.38	5,157.91	-1,368.24	598.29	-1,250.01	1.50	-1.50	0.00
5,500.00	14.33	156.38	5,254.46	-1,392.08	608.71	-1,271.79	1.50	-1.50	0.00
5,600.00	12.83	156.38	5,351.66	-1,413.59	618.12	-1,291.45	1.50	-1.50	0.00
5,700.00	11.33	156.38	5,449.44	-1,432.77	626.51	-1,308.97	1.50	-1.50	0.00
5,800.00	9.83	156.38	5,547.74	-1,449.60	633.86	-1,324.34	1.50	-1.50	0.00
5,900.00	8.33	156.38	5,646.48	-1,464.06	640.19	-1,337.55	1.50	-1.50	0.00
6,000.00	6.83	156.38	5,745.61	-1,476.15	645.47	-1,348.60	1.50	-1.50	0.00
6,100.00	5.33	156.38	5,845.04	-1,485.86	649.72	-1,357.46	1.50	-1.50	0.00
6,200.00	3.83	156.38	5,944.72	-1,493.18	652.92	-1,364.15	1.50	-1.50	0.00
6,300.00	2.33	156.38	6,044.57	-1,498.10	655.07	-1,368.65	1.50	-1.50	0.00
6,400.00	0.83	156.38	6,144.53	-1,500.63	656.18	-1,370.96	1.50	-1.50	0.00
6,455.47	0.00	0.00	6,200.00	-1,501.00	656.34	-1,371.30	1.50	-1.50	0.00
6,500.00	0.00	0.00	6,244.53	-1,501.00	656.34	-1,371.30	0.00	0.00	0.00
6,600.00	0.00	0.00	6,344.53	-1,501.00	656.34	-1,371.30	0.00	0.00	0.00
6,700.00	0.00	0.00	6,444.53	-1,501.00	656.34	-1,371.30	0.00	0.00	0.00
6,800.00	0.00	0.00	6,544.53	-1,501.00	656.34	-1,371.30	0.00	0.00	0.00
6,900.00	0.00	0.00	6,644.53	-1,501.00	656.34	-1,371.30	0.00	0.00	0.00
6,982.99	0.00	0.00	6,727.52	-1,501.00	656.34	-1,371.30	0.00	0.00	0.00
7,000.00	1.53	360.00	6,744.52	-1,500.77	656.34	-1,371.08	9.00	9.00	0.00
7,100.00	10.53	360.00	6,843.87	-1,490.28	656.34	-1,360.73	9.00	9.00	0.00
7,200.00	19.53	360.00	6,940.35	-1,464.37	656.34	-1,335.18	9.00	9.00	0.00
7,300.00	28.53	360.00	7,031.59	-1,423.69	656.34	-1,295.06	9.00	9.00	0.00
7,400.00	37.53	360.00	7,115.34	-1,369.24	656.34	-1,241.36	9.00	9.00	0.00
7,405.90	38.06	360.00	7,120.00	-1,365.62	656.34	-1,237.80	9.00	9.00	0.00
Sharon Springs									
7,439.64	41.10	360.00	7,146.00	-1,344.13	656.34	-1,216.60	9.00	9.00	0.00
Niobrara									
7,500.00	46.53	360.00	7,189.54	-1,302.35	656.34	-1,175.40	9.00	9.00	0.00
7,600.00	55.53	360.00	7,252.37	-1,224.68	656.34	-1,098.81	9.00	9.00	0.00
7,649.97	60.03	360.00	7,279.00	-1,182.42	656.34	-1,057.14	9.00	9.00	0.00
Nio B									
7,700.00	64.53	360.00	7,302.27	-1,138.14	656.34	-1,013.47	9.00	9.00	0.00
7,796.44	73.21	360.00	7,337.00	-1,048.27	656.34	-924.84	9.00	9.00	0.00
Nio C									
7,800.00	73.53	360.00	7,338.02	-1,044.86	656.34	-921.48	9.00	9.00	0.00
7,900.00	82.53	360.00	7,358.74	-947.14	656.34	-825.11	9.00	9.00	0.00
7,984.88	90.17	360.00	7,364.13	-862.49	656.34	-741.64	9.00	9.00	0.00
Top of Production - AZUL 13-10HZ_PHL									
8,000.00	90.17	360.00	7,364.09	-847.37	656.34	-726.73	0.00	0.00	0.00
8,100.00	90.17	360.00	7,363.79	-747.37	656.34	-628.12	0.00	0.00	0.00
8,200.00	90.17	360.00	7,363.50	-647.37	656.34	-529.50	0.00	0.00	0.00

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<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 5088.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 5088.00usft (D Rig)
<b>Site:</b>	1N-66W-13 AZUL 13-13HZ	<b>North Reference:</b>	True
<b>Well:</b>	AZUL 13-10HZ	<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	90.17	360.00	7,363.20	-547.37	656.34	-430.89	0.00	0.00	0.00
8,400.00	90.17	360.00	7,362.90	-447.37	656.34	-332.27	0.00	0.00	0.00
8,500.00	90.17	360.00	7,362.61	-347.37	656.34	-233.66	0.00	0.00	0.00
8,600.00	90.17	360.00	7,362.31	-247.37	656.34	-135.05	0.00	0.00	0.00
8,700.00	90.17	360.00	7,362.01	-147.37	656.34	-36.43	0.00	0.00	0.00
8,800.00	90.17	360.00	7,361.72	-47.37	656.34	62.18	0.00	0.00	0.00
8,900.00	90.17	360.00	7,361.42	52.63	656.34	160.79	0.00	0.00	0.00
9,000.00	90.17	360.00	7,361.12	152.63	656.34	259.41	0.00	0.00	0.00
9,100.00	90.17	360.00	7,360.83	252.62	656.34	358.02	0.00	0.00	0.00
9,200.00	90.17	360.00	7,360.53	352.62	656.34	456.63	0.00	0.00	0.00
9,300.00	90.17	360.00	7,360.23	452.62	656.34	555.25	0.00	0.00	0.00
9,400.00	90.17	360.00	7,359.94	552.62	656.34	653.86	0.00	0.00	0.00
9,500.00	90.17	360.00	7,359.64	652.62	656.34	752.47	0.00	0.00	0.00
9,600.00	90.17	360.00	7,359.34	752.62	656.34	851.09	0.00	0.00	0.00
9,700.00	90.17	360.00	7,359.04	852.62	656.34	949.70	0.00	0.00	0.00
9,800.00	90.17	360.00	7,358.75	952.62	656.34	1,048.31	0.00	0.00	0.00
9,900.00	90.17	360.00	7,358.45	1,052.62	656.34	1,146.93	0.00	0.00	0.00
10,000.00	90.17	360.00	7,358.15	1,152.62	656.34	1,245.54	0.00	0.00	0.00
10,100.00	90.17	360.00	7,357.86	1,252.62	656.34	1,344.16	0.00	0.00	0.00
10,200.00	90.17	360.00	7,357.56	1,352.62	656.34	1,442.77	0.00	0.00	0.00
10,300.00	90.17	360.00	7,357.26	1,452.62	656.34	1,541.38	0.00	0.00	0.00
10,400.00	90.17	360.00	7,356.97	1,552.62	656.34	1,640.00	0.00	0.00	0.00
10,500.00	90.17	360.00	7,356.67	1,652.62	656.34	1,738.61	0.00	0.00	0.00
10,600.00	90.17	360.00	7,356.37	1,752.62	656.34	1,837.22	0.00	0.00	0.00
10,700.00	90.17	360.00	7,356.08	1,852.62	656.34	1,935.84	0.00	0.00	0.00
10,800.00	90.17	360.00	7,355.78	1,952.62	656.34	2,034.45	0.00	0.00	0.00
10,900.00	90.17	360.00	7,355.48	2,052.62	656.34	2,133.06	0.00	0.00	0.00
11,000.00	90.17	360.00	7,355.19	2,152.62	656.34	2,231.68	0.00	0.00	0.00
11,100.00	90.17	360.00	7,354.89	2,252.62	656.34	2,330.29	0.00	0.00	0.00
11,200.00	90.17	360.00	7,354.59	2,352.62	656.34	2,428.90	0.00	0.00	0.00
11,300.00	90.17	360.00	7,354.30	2,452.62	656.34	2,527.52	0.00	0.00	0.00
11,400.00	90.17	360.00	7,354.00	2,552.61	656.34	2,626.13	0.00	0.00	0.00
11,500.00	90.17	360.00	7,353.70	2,652.61	656.34	2,724.75	0.00	0.00	0.00
11,600.00	90.17	360.00	7,353.41	2,752.61	656.34	2,823.36	0.00	0.00	0.00
11,700.00	90.17	360.00	7,353.11	2,852.61	656.34	2,921.97	0.00	0.00	0.00
11,800.00	90.17	360.00	7,352.81	2,952.61	656.34	3,020.59	0.00	0.00	0.00
11,900.00	90.17	360.00	7,352.52	3,052.61	656.34	3,119.20	0.00	0.00	0.00
12,000.00	90.17	360.00	7,352.22	3,152.61	656.34	3,217.81	0.00	0.00	0.00
12,100.00	90.17	360.00	7,351.92	3,252.61	656.34	3,316.43	0.00	0.00	0.00
12,200.00	90.17	360.00	7,351.63	3,352.61	656.34	3,415.04	0.00	0.00	0.00
12,300.00	90.17	360.00	7,351.33	3,452.61	656.34	3,513.65	0.00	0.00	0.00
12,400.00	90.17	360.00	7,351.03	3,552.61	656.34	3,612.27	0.00	0.00	0.00
12,500.00	90.17	360.00	7,350.74	3,652.61	656.34	3,710.88	0.00	0.00	0.00
12,600.00	90.17	360.00	7,350.44	3,752.61	656.34	3,809.49	0.00	0.00	0.00
12,700.00	90.17	360.00	7,350.14	3,852.61	656.34	3,908.11	0.00	0.00	0.00
12,748.42	90.17	360.00	7,350.00	3,901.03	656.34	3,955.85	0.00	0.00	0.00
AZUL 13-10HZ_PBHL									

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well AZUL 13-10HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 5088.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 5088.00usft (D Rig)
<b>Site:</b>	1N-66W-13 AZUL 13-13HZ	<b>North Reference:</b>	True
<b>Well:</b>	AZUL 13-10HZ	<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 13-10HZ_PBHL	0.00	0.00	7,350.00	3,901.03	656.34	14,547,697.00	1,716,592.00	40.057250	-104.727768
- plan hits target center									
- Point									
AZUL 13-10HZ_PHL	0.00	0.00	7,364.13	-862.49	656.34	14,542,933.50	1,716,606.44	40.044169	-104.727768
- plan hits target center									
- Point									

Casing Points					
	Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
	(usft)	(usft)	Name	(")	(")
	1,841.58	1,800.00	9 5/8"	9-5/8	13-1/2
	7,984.88	7,364.13	Top of Production	5-1/2	7-7/8

Formations						
	Measured Depth	Vertical Depth			Dip	Dip Direction
	(usft)	(usft)	Name	Lithology	(°)	(°)
	1,649.63	1,619.00	Fox Hills			
	4,450.32	4,260.00	Parkman			
	4,836.33	4,624.00	Sussex			
	7,405.90	7,120.00	Sharon Springs			
	7,439.64	7,146.00	Niobrara			
	7,649.97	7,279.00	Nio B			
	7,796.44	7,337.00	Nio C			