

# **US ROCKIES WATTENBERG PLANNING**

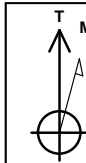
**WELD-NAD83-UTMFT13N  
1N-66W-13 AZUL 14-13HZ PAD  
AZUL 13-14HZ**

**Plan A**

**Plan: Permit Rev-1**

## **Standard Planning Report**

**07 June, 2017**



Azimuths to True North  
Magnetic North: 8.01°

Magnetic Field  
Strength: 52319.3snT  
Dip Angle: 66.56°  
Date: 6/5/2017  
Model: IGRF2010

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

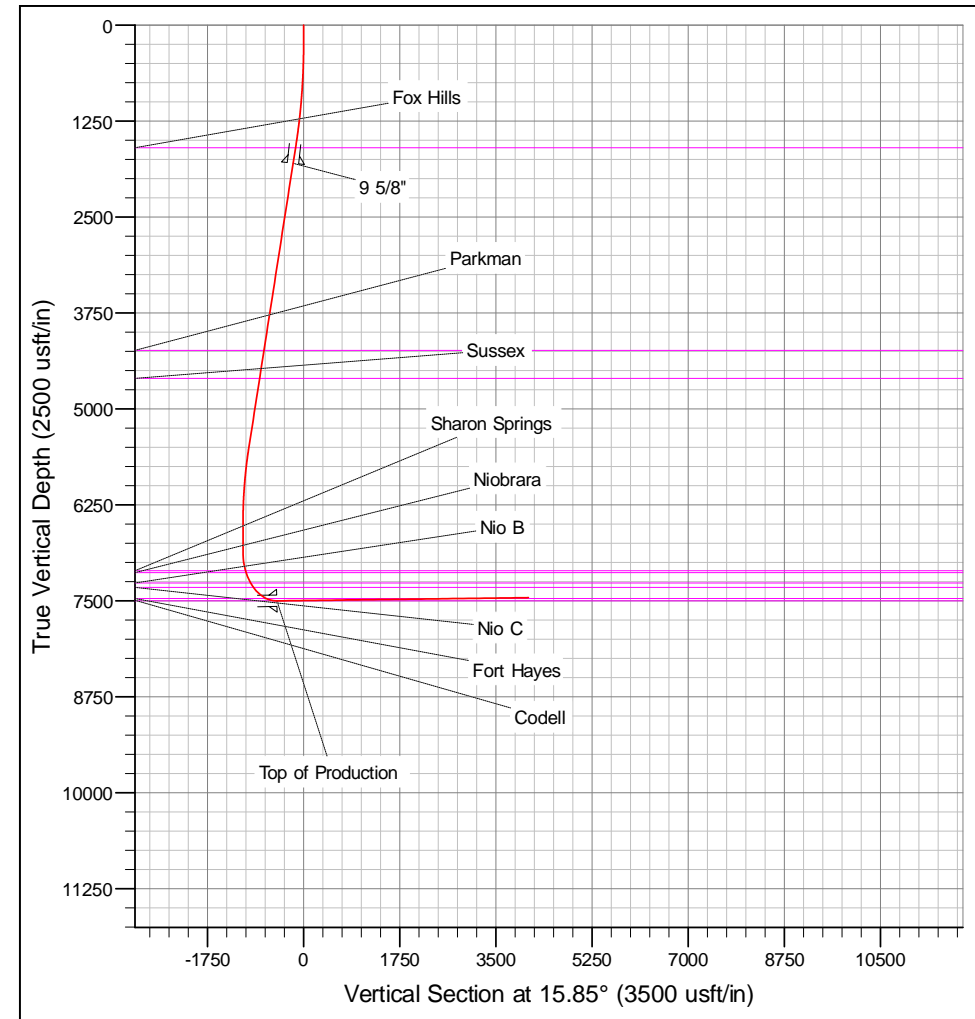
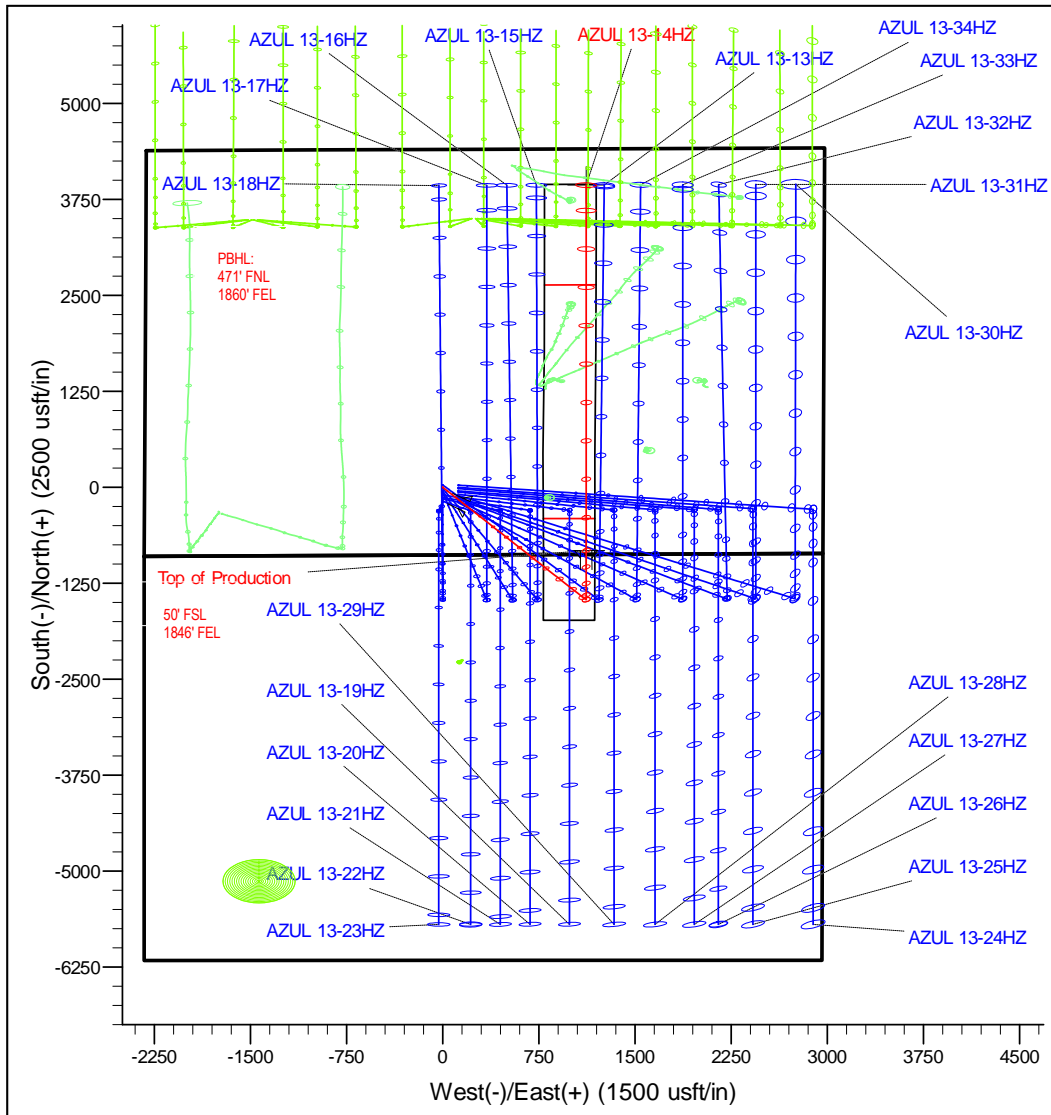
Well: AZUL 13-14HZ  
Wellbore: Plan A  
Design: Permit Rev-1

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1599.00	1628.63	Fox Hills
4240.00	4438.49	Parkman
4604.00	4825.77	Sussex
7108.00	7414.86	Sharon Springs
7134.00	7443.26	Niobrara
7269.00	7603.22	Nio B
7326.00	7681.08	Nio C
7472.00	7970.69	Fort Hayes
7494.00	8067.21	Codell

WELL DETAILS: AZUL 13-14HZ					
		GL: 5051.00	RKB @ 5068.00usft (D Rig)		
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14543767.84	1716919.82	40.046457	-104.726639

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
AZUL 13-14HZ_PBL	7460.00	3937.75	1118.28	14547709.00	1718026.00	40.057271	-104.722643

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Diag	V Sct		
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		
1580.97	19.96	142.64	1554.20	-182.46	139.28	1.50	-137.47		
5802.31	19.96	142.64	5521.85	-1328.15	1013.82	0.00	1000.67		
6800.53	0.00	0.00	6900.00	-1465.00	1118.28	2.00	1103.77		
7165.48	0.00	0.00	6864.95	-1465.00	1118.28	0.00	1103.77		
8171.04	90.50	360.00	7501.54	-822.82	1118.28	9.00	-486.03		
12931.79	90.50	360.00	7460.00	3937.75	1118.28	0.00	4093.46		



# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well AZUL 13-14HZ
<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 13-14HZ	<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 13-14HZ					
Well Position	+N/-S	-29.86 usft	Northing:	14,543,767.83 usft	Latitude:	40.046457
	+E/-W	-0.28 usft	Easting:	1,716,919.82 usft	Longitude:	-104.726639
Position Uncertainty		3.28 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	52,319.31018925

<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	15.85

<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	12,931.79	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	
1,580.97	19.96	142.64	1,554.20	-182.46	139.28	1.50	1.50	0.00	142.64	
5,802.31	19.96	142.64	5,521.85	-1,328.15	1,013.82	0.00	0.00	0.00	0.00	
6,800.53	0.00	0.00	6,500.00	-1,465.00	1,118.28	2.00	-2.00	0.00	180.00	
7,165.48	0.00	0.00	6,864.95	-1,465.00	1,118.28	0.00	0.00	0.00	0.00	
8,171.04	90.50	360.00	7,501.55	-822.82	1,118.28	9.00	9.00	0.00	360.00	
12,931.79	90.50	360.00	7,460.00	3,937.75	1,118.28	0.00	0.00	0.00	0.00	AZUL 13-14HZ_PBI

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well AZUL 13-14HZ
<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 13-14HZ	<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	142.64	300.00	-0.26	0.20	-0.20	1.50	1.50	0.00
400.00	2.25	142.64	399.96	-2.34	1.79	-1.76	1.50	1.50	0.00
500.00	3.75	142.64	499.82	-6.50	4.96	-4.90	1.50	1.50	0.00
600.00	5.25	142.64	599.51	-12.74	9.72	-9.60	1.50	1.50	0.00
700.00	6.75	142.64	698.96	-21.05	16.06	-15.86	1.50	1.50	0.00
800.00	8.25	142.64	798.10	-31.42	23.98	-23.67	1.50	1.50	0.00
900.00	9.75	142.64	896.87	-43.86	33.48	-33.04	1.50	1.50	0.00
1,000.00	11.25	142.64	995.19	-58.34	44.53	-43.96	1.50	1.50	0.00
1,100.00	12.75	142.64	1,093.00	-74.87	57.15	-56.41	1.50	1.50	0.00
1,200.00	14.25	142.64	1,190.24	-93.42	71.31	-70.39	1.50	1.50	0.00
1,300.00	15.75	142.64	1,286.83	-113.99	87.02	-85.89	1.50	1.50	0.00
1,400.00	17.25	142.64	1,382.71	-136.57	104.25	-102.90	1.50	1.50	0.00
1,500.00	18.75	142.64	1,477.81	-161.13	123.00	-121.40	1.50	1.50	0.00
1,580.97	19.96	142.64	1,554.20	-182.46	139.28	-137.47	1.50	1.50	0.00
1,600.00	19.96	142.64	1,572.09	-187.63	143.22	-141.37	0.00	0.00	0.00
1,628.63	19.96	142.64	1,599.00	-195.40	149.16	-147.22	0.00	0.00	0.00
Fox Hills									
1,700.00	19.96	142.64	1,666.08	-214.77	163.94	-161.81	0.00	0.00	0.00
1,800.00	19.96	142.64	1,760.07	-241.91	184.66	-182.26	0.00	0.00	0.00
1,842.49	19.96	142.64	1,800.00	-253.44	193.46	-190.95	0.00	0.00	0.00
9 5/8"									
1,900.00	19.96	142.64	1,854.06	-269.05	205.38	-202.71	0.00	0.00	0.00
2,000.00	19.96	142.64	1,948.05	-296.19	226.09	-223.16	0.00	0.00	0.00
2,100.00	19.96	142.64	2,042.04	-323.33	246.81	-243.61	0.00	0.00	0.00
2,200.00	19.96	142.64	2,136.03	-350.47	267.53	-264.06	0.00	0.00	0.00
2,300.00	19.96	142.64	2,230.02	-377.61	288.24	-284.50	0.00	0.00	0.00
2,400.00	19.96	142.64	2,324.01	-404.75	308.96	-304.95	0.00	0.00	0.00
2,500.00	19.96	142.64	2,418.00	-431.89	329.68	-325.40	0.00	0.00	0.00
2,600.00	19.96	142.64	2,511.99	-459.03	350.39	-345.85	0.00	0.00	0.00
2,700.00	19.96	142.64	2,605.98	-486.17	371.11	-366.30	0.00	0.00	0.00
2,800.00	19.96	142.64	2,699.97	-513.31	391.83	-386.75	0.00	0.00	0.00
2,900.00	19.96	142.64	2,793.96	-540.46	412.55	-407.20	0.00	0.00	0.00
3,000.00	19.96	142.64	2,887.95	-567.60	433.26	-427.64	0.00	0.00	0.00
3,100.00	19.96	142.64	2,981.94	-594.74	453.98	-448.09	0.00	0.00	0.00
3,200.00	19.96	142.64	3,075.93	-621.88	474.70	-468.54	0.00	0.00	0.00
3,300.00	19.96	142.64	3,169.92	-649.02	495.41	-488.99	0.00	0.00	0.00
3,400.00	19.96	142.64	3,263.91	-676.16	516.13	-509.44	0.00	0.00	0.00
3,500.00	19.96	142.64	3,357.90	-703.30	536.85	-529.89	0.00	0.00	0.00
3,600.00	19.96	142.64	3,451.89	-730.44	557.57	-550.33	0.00	0.00	0.00
3,700.00	19.96	142.64	3,545.89	-757.58	578.28	-570.78	0.00	0.00	0.00
3,800.00	19.96	142.64	3,639.88	-784.72	599.00	-591.23	0.00	0.00	0.00
3,900.00	19.96	142.64	3,733.87	-811.86	619.72	-611.68	0.00	0.00	0.00
4,000.00	19.96	142.64	3,827.86	-839.00	640.43	-632.13	0.00	0.00	0.00
4,100.00	19.96	142.64	3,921.85	-866.14	661.15	-652.58	0.00	0.00	0.00
4,200.00	19.96	142.64	4,015.84	-893.28	681.87	-673.02	0.00	0.00	0.00
4,300.00	19.96	142.64	4,109.83	-920.42	702.59	-693.47	0.00	0.00	0.00
4,400.00	19.96	142.64	4,203.82	-947.56	723.30	-713.92	0.00	0.00	0.00
4,438.50	19.96	142.64	4,240.00	-958.01	731.28	-721.79	0.00	0.00	0.00
Parkman									

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well AZUL 13-14HZ
<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 13-14HZ	<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	19.96	142.64	4,297.81	-974.70	744.02	-734.37	0.00	0.00	0.00	
4,600.00	19.96	142.64	4,391.80	-1,001.84	764.74	-754.82	0.00	0.00	0.00	
4,700.00	19.96	142.64	4,485.79	-1,028.98	785.45	-775.27	0.00	0.00	0.00	
4,800.00	19.96	142.64	4,579.78	-1,056.12	806.17	-795.71	0.00	0.00	0.00	
4,825.77	19.96	142.64	4,604.00	-1,063.12	811.51	-800.98	0.00	0.00	0.00	
<b>Sussex</b>										
4,900.00	19.96	142.64	4,673.77	-1,083.26	826.89	-816.16	0.00	0.00	0.00	
5,000.00	19.96	142.64	4,767.76	-1,110.40	847.60	-836.61	0.00	0.00	0.00	
5,100.00	19.96	142.64	4,861.75	-1,137.54	868.32	-857.06	0.00	0.00	0.00	
5,200.00	19.96	142.64	4,955.74	-1,164.68	889.04	-877.51	0.00	0.00	0.00	
5,300.00	19.96	142.64	5,049.73	-1,191.82	909.76	-897.96	0.00	0.00	0.00	
5,400.00	19.96	142.64	5,143.72	-1,218.96	930.47	-918.40	0.00	0.00	0.00	
5,500.00	19.96	142.64	5,237.71	-1,246.10	951.19	-938.85	0.00	0.00	0.00	
5,600.00	19.96	142.64	5,331.70	-1,273.24	971.91	-959.30	0.00	0.00	0.00	
5,700.00	19.96	142.64	5,425.69	-1,300.39	992.62	-979.75	0.00	0.00	0.00	
5,800.00	19.96	142.64	5,519.68	-1,327.53	1,013.34	-1,000.20	0.00	0.00	0.00	
5,802.31	19.96	142.64	5,521.85	-1,328.15	1,013.82	-1,000.67	0.00	0.00	0.00	
5,900.00	18.01	142.64	5,614.23	-1,353.42	1,033.10	-1,019.70	2.00	-2.00	0.00	
6,000.00	16.01	142.64	5,709.85	-1,376.67	1,050.85	-1,037.22	2.00	-2.00	0.00	
6,100.00	14.01	142.64	5,806.43	-1,397.26	1,066.57	-1,052.73	2.00	-2.00	0.00	
6,200.00	12.01	142.64	5,903.86	-1,415.15	1,080.23	-1,066.22	2.00	-2.00	0.00	
6,300.00	10.01	142.64	6,002.01	-1,430.33	1,091.82	-1,077.65	2.00	-2.00	0.00	
6,400.00	8.01	142.64	6,100.77	-1,442.78	1,101.32	-1,087.03	2.00	-2.00	0.00	
6,500.00	6.01	142.64	6,200.02	-1,452.48	1,108.72	-1,094.34	2.00	-2.00	0.00	
6,600.00	4.01	142.64	6,299.63	-1,459.42	1,114.02	-1,099.57	2.00	-2.00	0.00	
6,700.00	2.01	142.64	6,399.49	-1,463.60	1,117.21	-1,102.72	2.00	-2.00	0.00	
6,800.00	0.01	142.64	6,499.47	-1,465.00	1,118.28	-1,103.77	2.00	-2.00	0.00	
6,800.53	0.00	0.00	6,500.00	-1,465.00	1,118.28	-1,103.78	2.00	-2.00	0.00	
6,900.00	0.00	0.00	6,599.47	-1,465.00	1,118.28	-1,103.78	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,699.47	-1,465.00	1,118.28	-1,103.78	0.00	0.00	0.00	
7,100.00	0.00	0.00	6,799.47	-1,465.00	1,118.28	-1,103.78	0.00	0.00	0.00	
7,165.48	0.00	0.00	6,864.95	-1,465.00	1,118.28	-1,103.78	0.00	0.00	0.00	
7,200.00	3.11	360.00	6,899.45	-1,464.06	1,118.28	-1,102.87	9.00	9.00	0.00	
7,300.00	12.11	360.00	6,998.47	-1,450.84	1,118.28	-1,090.15	9.00	9.00	0.00	
7,400.00	21.11	360.00	7,094.20	-1,422.29	1,118.28	-1,062.69	9.00	9.00	0.00	
7,414.86	22.44	360.00	7,108.00	-1,416.78	1,118.28	-1,057.39	9.00	9.00	0.00	
<b>Sharon Springs</b>										
7,443.26	25.00	360.00	7,134.00	-1,405.35	1,118.28	-1,046.40	9.00	9.00	0.00	
<b>Niobrara</b>										
7,500.00	30.11	360.00	7,184.29	-1,379.12	1,118.28	-1,021.16	9.00	9.00	0.00	
7,600.00	39.11	360.00	7,266.51	-1,322.38	1,118.28	-966.58	9.00	9.00	0.00	
7,603.22	39.40	360.00	7,269.00	-1,320.34	1,118.28	-964.62	9.00	9.00	0.00	
<b>Nio B</b>										
7,681.08	46.40	360.00	7,326.00	-1,267.38	1,118.28	-913.67	9.00	9.00	0.00	
<b>Nio C</b>										
7,700.00	48.11	360.00	7,338.84	-1,253.48	1,118.28	-900.30	9.00	9.00	0.00	
7,800.00	57.11	360.00	7,399.51	-1,174.11	1,118.28	-823.95	9.00	9.00	0.00	
7,900.00	66.11	360.00	7,447.01	-1,086.23	1,118.28	-739.42	9.00	9.00	0.00	
7,970.69	72.47	360.00	7,472.00	-1,020.15	1,118.28	-675.84	9.00	9.00	0.00	
<b>Fort Hayes</b>										
8,000.00	75.11	360.00	7,480.18	-992.00	1,118.28	-648.77	9.00	9.00	0.00	
8,067.21	81.16	360.00	7,494.00	-926.26	1,118.28	-585.53	9.00	9.00	0.00	
<b>Codell</b>										

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well AZUL 13-14HZ
<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 13-14HZ	<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)
8,100.00	84.11	360.00	7,498.20	-893.75	1,118.28	-554.25	9.00	9.00	0.00
8,171.04	90.50	360.00	7,501.55	-822.82	1,118.28	-486.02	9.00	9.00	0.00
Top of Production - AZUL 13-14HZ_PHL									
8,200.00	90.50	360.00	7,501.29	-793.86	1,118.28	-458.17	0.00	0.00	0.00
8,300.00	90.50	360.00	7,500.42	-693.87	1,118.28	-361.97	0.00	0.00	0.00
8,400.00	90.50	360.00	7,499.55	-593.87	1,118.28	-265.78	0.00	0.00	0.00
8,500.00	90.50	360.00	7,498.67	-493.87	1,118.28	-169.59	0.00	0.00	0.00
8,600.00	90.50	360.00	7,497.80	-393.88	1,118.28	-73.40	0.00	0.00	0.00
8,700.00	90.50	360.00	7,496.93	-293.88	1,118.28	22.80	0.00	0.00	0.00
8,800.00	90.50	360.00	7,496.06	-193.89	1,118.28	118.99	0.00	0.00	0.00
8,900.00	90.50	360.00	7,495.18	-93.89	1,118.28	215.18	0.00	0.00	0.00
9,000.00	90.50	360.00	7,494.31	6.11	1,118.28	311.37	0.00	0.00	0.00
9,100.00	90.50	360.00	7,493.44	106.10	1,118.28	407.57	0.00	0.00	0.00
9,200.00	90.50	360.00	7,492.57	206.10	1,118.28	503.76	0.00	0.00	0.00
9,300.00	90.50	360.00	7,491.69	306.10	1,118.28	599.95	0.00	0.00	0.00
9,400.00	90.50	360.00	7,490.82	406.09	1,118.28	696.14	0.00	0.00	0.00
9,500.00	90.50	360.00	7,489.95	506.09	1,118.28	792.33	0.00	0.00	0.00
9,600.00	90.50	360.00	7,489.08	606.08	1,118.28	888.53	0.00	0.00	0.00
9,700.00	90.50	360.00	7,488.20	706.08	1,118.28	984.72	0.00	0.00	0.00
9,800.00	90.50	360.00	7,487.33	806.08	1,118.28	1,080.91	0.00	0.00	0.00
9,900.00	90.50	360.00	7,486.46	906.07	1,118.28	1,177.10	0.00	0.00	0.00
10,000.00	90.50	360.00	7,485.58	1,006.07	1,118.28	1,273.30	0.00	0.00	0.00
10,100.00	90.50	360.00	7,484.71	1,106.07	1,118.28	1,369.49	0.00	0.00	0.00
10,200.00	90.50	360.00	7,483.84	1,206.06	1,118.28	1,465.68	0.00	0.00	0.00
10,300.00	90.50	360.00	7,482.97	1,306.06	1,118.28	1,561.87	0.00	0.00	0.00
10,400.00	90.50	360.00	7,482.09	1,406.05	1,118.28	1,658.07	0.00	0.00	0.00
10,500.00	90.50	360.00	7,481.22	1,506.05	1,118.28	1,754.26	0.00	0.00	0.00
10,600.00	90.50	360.00	7,480.35	1,606.05	1,118.28	1,850.45	0.00	0.00	0.00
10,700.00	90.50	360.00	7,479.48	1,706.04	1,118.28	1,946.64	0.00	0.00	0.00
10,800.00	90.50	360.00	7,478.60	1,806.04	1,118.28	2,042.84	0.00	0.00	0.00
10,900.00	90.50	360.00	7,477.73	1,906.03	1,118.28	2,139.03	0.00	0.00	0.00
11,000.00	90.50	360.00	7,476.86	2,006.03	1,118.28	2,235.22	0.00	0.00	0.00
11,100.00	90.50	360.00	7,475.99	2,106.03	1,118.28	2,331.41	0.00	0.00	0.00
11,200.00	90.50	360.00	7,475.11	2,206.02	1,118.28	2,427.61	0.00	0.00	0.00
11,300.00	90.50	360.00	7,474.24	2,306.02	1,118.28	2,523.80	0.00	0.00	0.00
11,400.00	90.50	360.00	7,473.37	2,406.02	1,118.28	2,619.99	0.00	0.00	0.00
11,500.00	90.50	360.00	7,472.49	2,506.01	1,118.28	2,716.18	0.00	0.00	0.00
11,600.00	90.50	360.00	7,471.62	2,606.01	1,118.28	2,812.38	0.00	0.00	0.00
11,700.00	90.50	360.00	7,470.75	2,706.00	1,118.28	2,908.57	0.00	0.00	0.00
11,800.00	90.50	360.00	7,469.88	2,806.00	1,118.28	3,004.76	0.00	0.00	0.00
11,900.00	90.50	360.00	7,469.00	2,906.00	1,118.28	3,100.95	0.00	0.00	0.00
12,000.00	90.50	360.00	7,468.13	3,005.99	1,118.28	3,197.15	0.00	0.00	0.00
12,100.00	90.50	360.00	7,467.26	3,105.99	1,118.28	3,293.34	0.00	0.00	0.00
12,200.00	90.50	360.00	7,466.39	3,205.99	1,118.28	3,389.53	0.00	0.00	0.00
12,300.00	90.50	360.00	7,465.51	3,305.98	1,118.28	3,485.72	0.00	0.00	0.00
12,400.00	90.50	360.00	7,464.64	3,405.98	1,118.28	3,581.92	0.00	0.00	0.00
12,500.00	90.50	360.00	7,463.77	3,505.97	1,118.28	3,678.11	0.00	0.00	0.00
12,600.00	90.50	360.00	7,462.90	3,605.97	1,118.28	3,774.30	0.00	0.00	0.00
12,700.00	90.50	360.00	7,462.02	3,705.97	1,118.28	3,870.49	0.00	0.00	0.00
12,800.00	90.50	360.00	7,461.15	3,805.96	1,118.28	3,966.69	0.00	0.00	0.00
12,900.00	90.50	360.00	7,460.28	3,905.96	1,118.28	4,062.88	0.00	0.00	0.00
12,931.79	90.50	360.00	7,460.00	3,937.75	1,118.28	4,093.46	0.00	0.00	0.00
AZUL 13-14HZ_PBHL									

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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 13-14HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

## 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									
AZUL 13-14HZ_PBHL	0.00	0.00	7,460.00	3,937.75	1,118.28	14,547,709.00	1,718,026.00	40.057271	-104.722643
- plan hits target center									
- Point									
AZUL 13-14HZ_PHL	0.00	0.00	7,501.55	-822.82	1,118.28	14,542,948.45	1,718,040.62	40.044197	-104.722644
- plan hits target center									
- Point									

## Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,842.49	1,800.00	9 5/8"	9-5/8	13-1/2
8,171.04	7,501.55	Top of Production	5-1/2	7-7/8

## Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,628.63	1,599.00	Fox Hills			
4,438.50	4,240.00	Parkman			
4,825.77	4,604.00	Sussex			
7,414.86	7,108.00	Sharon Springs			
7,443.26	7,134.00	Niobrara			
7,603.22	7,269.00	Nio B			
7,681.08	7,326.00	Nio C			
7,970.69	7,472.00	Fort Hayes			
8,067.21	7,494.00	Codell			