

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
1N-66W-13 AZUL 14-13HZ PAD
AZUL 13-31HZ**

Plan A

Plan: Permit Rev-1

Standard Planning Report

07 June, 2017



Azimuths to True North
Magnetic North: 8.01°

Magnetic Field
Strength: 52319.2snT
Dip Angle: 66.56°
Date: 6/5/2017
Model: IGRF2010

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

Well: AZUL 13-31HZ
Wellbore: Plan A
Design: Permit Rev-1

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1599.00	1654.60	Fox Hills
4240.00	4683.85	Parkman
4604.00	5101.41	Sussex
7112.00	7798.04	Sharon Springs
7138.00	7836.65	Niobrara
7268.00	8115.13	Nio B

WELL DETAILS: AZUL 13-31HZ

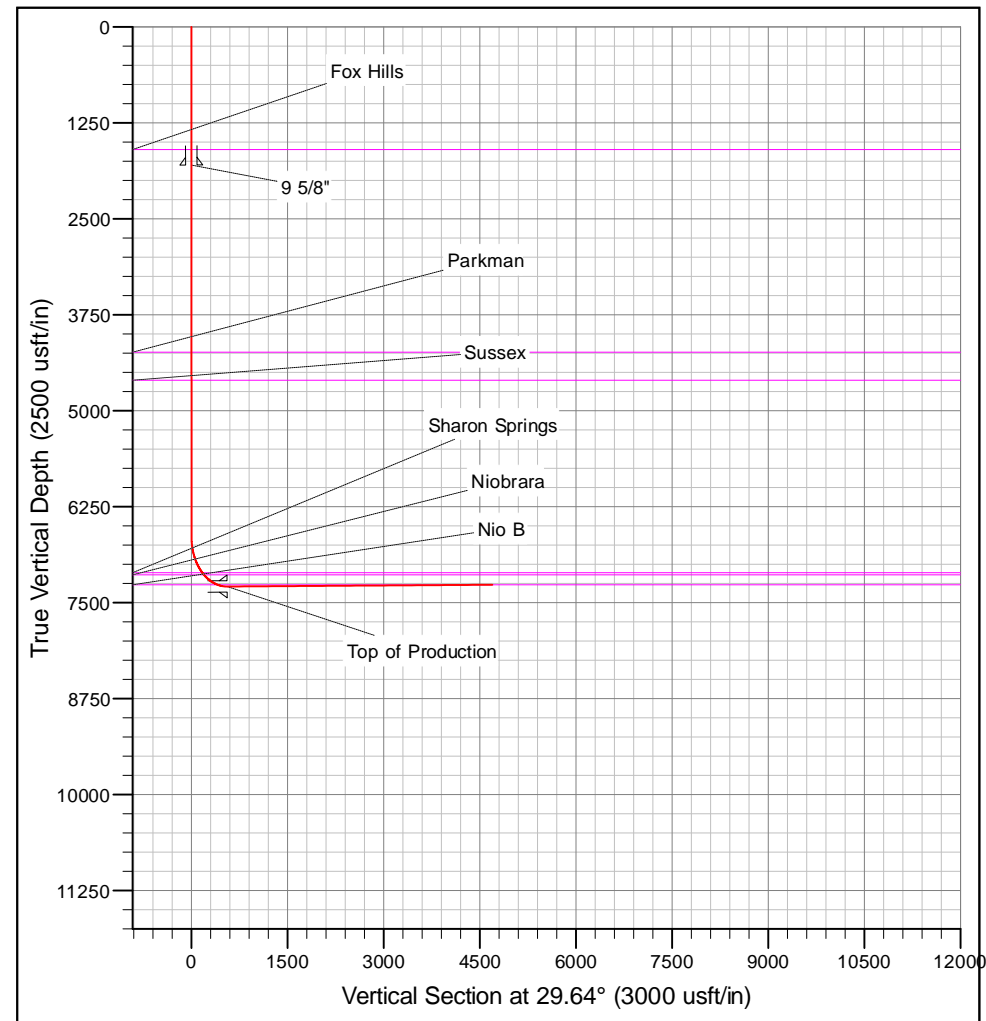
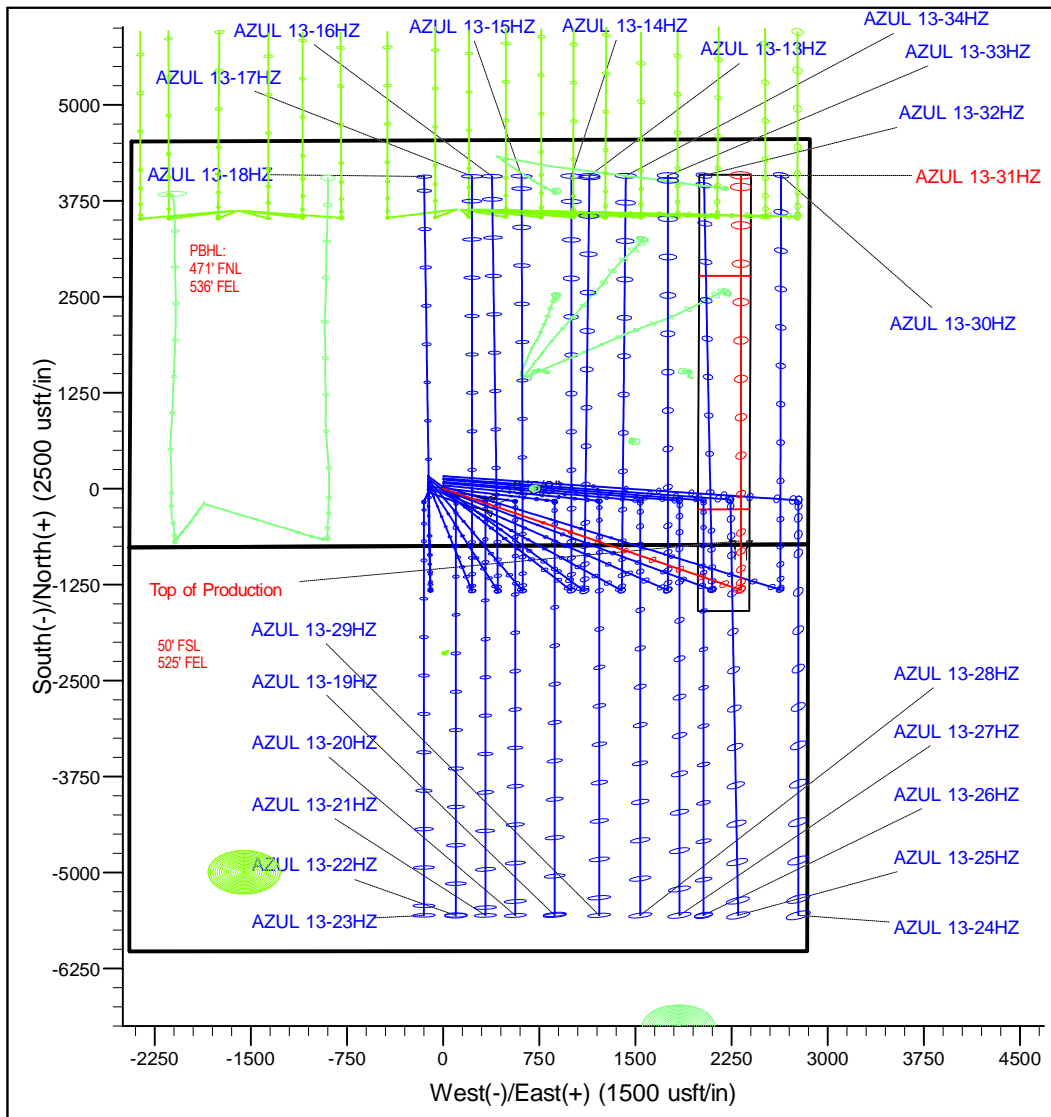
+N/-S	+E/-W	GL: 5051.00	RKB @ 5068.00usft (D Rig)	Latitude	Longitude	Slot
0.00	0.00	14543632.01	1717038.90	40.046083	-104.726215	

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
AZUL 13-31HZ_PBHL	7268.00	4082.41	2322.66	14547721.54	1719349.00	40.057294	-104.717914

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
1717.01	29.34	119.55	1653.73	-181.25	-319.67	2.00	0.55
5666.12	29.34	119.55	5096.27	-1135.63	2002.99	0.00	3.44
7133.13	0.00	0.00	6500.00	-1316.88	2322.66	2.00	3.98
7287.78	0.00	0.00	6654.65	-1316.88	2322.66	0.00	3.98
8290.89	90.28	0.00	7291.26	-677.15	2322.66	9.00	560.02
13050.50	90.28	0.00	7268.00	4082.41	2322.66	0.00	696.89



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-31HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 5068.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 5068.00usft (D Rig)
Site:	1N-66W-13 AZUL 14-13HZ PAD	North Reference:	True
Well:	AZUL 13-31HZ	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-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 13-31HZ					
Well Position	+N/-S	-166.05 usft	Northing:	14,543,632.01 usft	Latitude:	40.046083
	+E/-W	118.38 usft	Easting:	1,717,038.90 usft	Longitude:	-104.726215
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	5,051.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/5/2017	8.01	66.56	52,319.15663136

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	29.64

Plan Survey Tool Program	Date	6/7/2017		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	13,050.50	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWI Fixed:v2:crustal field declinat

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	
1,717.01	29.34	119.55	1,653.73	-181.25	319.67	2.00	2.00	0.00	119.55	
5,666.12	29.34	119.55	5,096.27	-1,135.63	2,002.99	0.00	0.00	0.00	0.00	
7,133.13	0.00	0.00	6,500.00	-1,316.88	2,322.66	2.00	-2.00	0.00	180.00	
7,287.78	0.00	0.00	6,654.65	-1,316.88	2,322.66	0.00	0.00	0.00	0.00	
8,290.89	90.28	0.00	7,291.26	-677.15	2,322.66	9.00	9.00	0.00	0.00	
13,050.50	90.28	0.00	7,268.00	4,082.41	2,322.66	0.00	0.00	0.00	0.00	AZUL 13-31HZ_PBI

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-31HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 5068.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 5068.00usft (D Rig)
Site:	1N-66W-13 AZUL 14-13HZ PAD	North Reference:	True
Well:	AZUL 13-31HZ	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)
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	1.00	119.55	300.00	-0.22	0.38	0.00	2.00	2.00	0.00
400.00	3.00	119.55	399.93	-1.94	3.42	0.01	2.00	2.00	0.00
500.00	5.00	119.55	499.68	-5.38	9.48	0.02	2.00	2.00	0.00
600.00	7.00	119.55	599.13	-10.53	18.58	0.03	2.00	2.00	0.00
700.00	9.00	119.55	698.15	-17.40	30.68	0.05	2.00	2.00	0.00
800.00	11.00	119.55	796.63	-25.96	45.79	0.08	2.00	2.00	0.00
900.00	13.00	119.55	894.44	-36.21	63.87	0.11	2.00	2.00	0.00
1,000.00	15.00	119.55	991.46	-48.15	84.92	0.15	2.00	2.00	0.00
1,100.00	17.00	119.55	1,087.58	-61.74	108.89	0.19	2.00	2.00	0.00
1,200.00	19.00	119.55	1,182.68	-76.98	135.77	0.23	2.00	2.00	0.00
1,300.00	21.00	119.55	1,276.65	-93.85	165.52	0.28	2.00	2.00	0.00
1,400.00	23.00	119.55	1,369.36	-112.32	198.11	0.34	2.00	2.00	0.00
1,500.00	25.00	119.55	1,460.71	-132.38	233.49	0.40	2.00	2.00	0.00
1,600.00	27.00	119.55	1,550.59	-154.00	271.62	0.47	2.00	2.00	0.00
1,654.60	28.09	119.55	1,599.00	-166.46	293.59	0.50	2.00	2.00	0.00
Fox Hills									
1,700.00	29.00	119.55	1,638.88	-177.16	312.46	0.54	2.00	2.00	0.00
1,717.01	29.34	119.55	1,653.73	-181.25	319.67	0.55	2.00	2.00	0.00
1,800.00	29.34	119.55	1,726.07	-201.30	355.05	0.61	0.00	0.00	0.00
1,884.80	29.34	119.55	1,800.00	-221.80	391.20	0.67	0.00	0.00	0.00
9 5/8"									
1,900.00	29.34	119.55	1,813.25	-225.47	397.67	0.68	0.00	0.00	0.00
2,000.00	29.34	119.55	1,900.42	-249.64	440.30	0.76	0.00	0.00	0.00
2,100.00	29.34	119.55	1,987.59	-273.80	482.92	0.83	0.00	0.00	0.00
2,200.00	29.34	119.55	2,074.76	-297.97	525.55	0.90	0.00	0.00	0.00
2,300.00	29.34	119.55	2,161.94	-322.14	568.17	0.97	0.00	0.00	0.00
2,400.00	29.34	119.55	2,249.11	-346.30	610.80	1.05	0.00	0.00	0.00
2,500.00	29.34	119.55	2,336.28	-370.47	653.42	1.12	0.00	0.00	0.00
2,600.00	29.34	119.55	2,423.45	-394.64	696.05	1.19	0.00	0.00	0.00
2,700.00	29.34	119.55	2,510.63	-418.81	738.67	1.27	0.00	0.00	0.00
2,800.00	29.34	119.55	2,597.80	-442.97	781.30	1.34	0.00	0.00	0.00
2,900.00	29.34	119.55	2,684.97	-467.14	823.92	1.41	0.00	0.00	0.00
3,000.00	29.34	119.55	2,772.14	-491.31	866.55	1.49	0.00	0.00	0.00
3,100.00	29.34	119.55	2,859.32	-515.48	909.17	1.56	0.00	0.00	0.00
3,200.00	29.34	119.55	2,946.49	-539.64	951.80	1.63	0.00	0.00	0.00
3,300.00	29.34	119.55	3,033.66	-563.81	994.42	1.71	0.00	0.00	0.00
3,400.00	29.34	119.55	3,120.83	-587.98	1,037.05	1.78	0.00	0.00	0.00
3,500.00	29.34	119.55	3,208.01	-612.14	1,079.67	1.85	0.00	0.00	0.00
3,600.00	29.34	119.55	3,295.18	-636.31	1,122.30	1.92	0.00	0.00	0.00
3,700.00	29.34	119.55	3,382.35	-660.48	1,164.92	2.00	0.00	0.00	0.00
3,800.00	29.34	119.55	3,469.52	-684.65	1,207.55	2.07	0.00	0.00	0.00
3,900.00	29.34	119.55	3,556.70	-708.81	1,250.18	2.14	0.00	0.00	0.00
4,000.00	29.34	119.55	3,643.87	-732.98	1,292.80	2.22	0.00	0.00	0.00
4,100.00	29.34	119.55	3,731.04	-757.15	1,335.43	2.29	0.00	0.00	0.00
4,200.00	29.34	119.55	3,818.21	-781.31	1,378.05	2.36	0.00	0.00	0.00
4,300.00	29.34	119.55	3,905.39	-805.48	1,420.68	2.44	0.00	0.00	0.00
4,400.00	29.34	119.55	3,992.56	-829.65	1,463.30	2.51	0.00	0.00	0.00
4,500.00	29.34	119.55	4,079.73	-853.82	1,505.93	2.58	0.00	0.00	0.00
4,600.00	29.34	119.55	4,166.90	-877.98	1,548.55	2.66	0.00	0.00	0.00

Corporate Planning Report

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Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 5068.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 5068.00usft (D Rig)
Site:	1N-66W-13 AZUL 14-13HZ PAD	North Reference:	True
Well:	AZUL 13-31HZ	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)
4,683.85	29.34	119.55	4,240.00	-898.25	1,584.29	2.72	0.00	0.00	0.00
Parkman									
4,700.00	29.34	119.55	4,254.08	-902.15	1,591.18	2.73	0.00	0.00	0.00
4,800.00	29.34	119.55	4,341.25	-926.32	1,633.80	2.80	0.00	0.00	0.00
4,900.00	29.34	119.55	4,428.42	-950.48	1,676.43	2.88	0.00	0.00	0.00
5,000.00	29.34	119.55	4,515.59	-974.65	1,719.05	2.95	0.00	0.00	0.00
5,100.00	29.34	119.55	4,602.77	-998.82	1,761.68	3.02	0.00	0.00	0.00
5,101.41	29.34	119.55	4,604.00	-999.16	1,762.28	3.02	0.00	0.00	0.00
Sussex									
5,200.00	29.34	119.55	4,689.94	-1,022.99	1,804.30	3.09	0.00	0.00	0.00
5,300.00	29.34	119.55	4,777.11	-1,047.15	1,846.93	3.17	0.00	0.00	0.00
5,400.00	29.34	119.55	4,864.28	-1,071.32	1,889.55	3.24	0.00	0.00	0.00
5,500.00	29.34	119.55	4,951.46	-1,095.49	1,932.18	3.31	0.00	0.00	0.00
5,600.00	29.34	119.55	5,038.63	-1,119.65	1,974.80	3.39	0.00	0.00	0.00
5,666.12	29.34	119.55	5,096.27	-1,135.63	2,002.99	3.44	0.00	0.00	0.00
5,700.00	28.66	119.55	5,125.90	-1,143.74	2,017.28	3.46	2.00	-2.00	0.00
5,800.00	26.66	119.55	5,214.46	-1,166.63	2,057.66	3.53	2.00	-2.00	0.00
5,900.00	24.66	119.55	5,304.60	-1,187.99	2,095.33	3.59	2.00	-2.00	0.00
6,000.00	22.66	119.55	5,396.18	-1,207.79	2,130.24	3.65	2.00	-2.00	0.00
6,100.00	20.66	119.55	5,489.12	-1,225.99	2,162.35	3.71	2.00	-2.00	0.00
6,200.00	18.66	119.55	5,583.28	-1,242.59	2,191.62	3.76	2.00	-2.00	0.00
6,300.00	16.66	119.55	5,678.56	-1,257.55	2,218.02	3.80	2.00	-2.00	0.00
6,400.00	14.66	119.55	5,774.84	-1,270.86	2,241.50	3.84	2.00	-2.00	0.00
6,500.00	12.66	119.55	5,872.01	-1,282.51	2,262.05	3.88	2.00	-2.00	0.00
6,600.00	10.66	119.55	5,969.94	-1,292.48	2,279.63	3.91	2.00	-2.00	0.00
6,700.00	8.66	119.55	6,068.52	-1,300.76	2,294.23	3.93	2.00	-2.00	0.00
6,800.00	6.66	119.55	6,167.62	-1,307.34	2,305.83	3.95	2.00	-2.00	0.00
6,900.00	4.66	119.55	6,267.13	-1,312.20	2,314.41	3.97	2.00	-2.00	0.00
7,000.00	2.66	119.55	6,366.92	-1,315.35	2,319.97	3.98	2.00	-2.00	0.00
7,100.00	0.66	119.55	6,466.87	-1,316.79	2,322.49	3.98	2.00	-2.00	0.00
7,133.13	0.00	0.00	6,500.00	-1,316.88	2,322.66	3.98	2.00	-2.00	0.00
7,200.00	0.00	0.00	6,566.87	-1,316.88	2,322.66	3.98	0.00	0.00	0.00
7,287.78	0.00	0.00	6,654.65	-1,316.88	2,322.66	3.98	0.00	0.00	0.00
7,300.00	1.10	0.00	6,666.87	-1,316.76	2,322.66	4.09	9.00	9.00	0.00
7,400.00	10.10	0.00	6,766.29	-1,307.01	2,322.66	12.56	9.00	9.00	0.00
7,500.00	19.10	0.00	6,862.96	-1,281.83	2,322.66	34.44	9.00	9.00	0.00
7,600.00	28.10	0.00	6,954.50	-1,241.84	2,322.66	69.21	9.00	9.00	0.00
7,700.00	37.10	0.00	7,038.66	-1,188.02	2,322.66	115.99	9.00	9.00	0.00
7,798.04	45.92	0.00	7,112.00	-1,123.11	2,322.66	172.41	9.00	9.00	0.00
Sharon Springs									
7,800.00	46.10	0.00	7,113.36	-1,121.70	2,322.66	173.63	9.00	9.00	0.00
7,836.65	49.40	0.00	7,138.00	-1,094.57	2,322.66	197.21	9.00	9.00	0.00
Niobrara									
7,900.00	55.10	0.00	7,176.77	-1,044.50	2,322.66	240.73	9.00	9.00	0.00
8,000.00	64.10	0.00	7,227.32	-958.34	2,322.66	315.62	9.00	9.00	0.00
8,100.00	73.10	0.00	7,263.77	-865.33	2,322.66	396.46	9.00	9.00	0.00
8,115.13	74.46	0.00	7,268.00	-850.80	2,322.66	409.09	9.00	9.00	0.00
Nio B									
8,200.00	82.10	0.00	7,285.23	-767.76	2,322.66	481.26	9.00	9.00	0.00
8,290.40	90.24	0.00	7,291.26	-677.64	2,322.66	559.59	9.00	9.00	0.00
Top of Production									
8,290.89	90.28	0.00	7,291.26	-677.15	2,322.66	560.02	9.00	9.00	0.00
AZUL 13-31HZ_PHL									

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-31HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 5068.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 5068.00usft (D Rig)
Site:	1N-66W-13 AZUL 14-13HZ PAD	North Reference:	True
Well:	AZUL 13-31HZ	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)
8,300.00	90.28	0.00	7,291.22	-668.04	2,322.66	567.94	0.00	0.00	0.00
8,400.00	90.28	0.00	7,290.73	-568.04	2,322.66	654.85	0.00	0.00	0.00
8,500.00	90.28	0.00	7,290.24	-468.04	2,322.66	741.77	0.00	0.00	0.00
8,600.00	90.28	0.00	7,289.75	-368.04	2,322.66	828.69	0.00	0.00	0.00
8,700.00	90.28	0.00	7,289.26	-268.04	2,322.66	915.60	0.00	0.00	0.00
8,800.00	90.28	0.00	7,288.77	-168.05	2,322.66	1,002.52	0.00	0.00	0.00
8,900.00	90.28	0.00	7,288.28	-68.05	2,322.66	1,089.43	0.00	0.00	0.00
9,000.00	90.28	0.00	7,287.79	31.95	2,322.66	1,176.35	0.00	0.00	0.00
9,100.00	90.28	0.00	7,287.31	131.95	2,322.66	1,263.27	0.00	0.00	0.00
9,200.00	90.28	0.00	7,286.82	231.95	2,322.66	1,350.18	0.00	0.00	0.00
9,300.00	90.28	0.00	7,286.33	331.95	2,322.66	1,437.10	0.00	0.00	0.00
9,400.00	90.28	0.00	7,285.84	431.95	2,322.66	1,524.01	0.00	0.00	0.00
9,500.00	90.28	0.00	7,285.35	531.95	2,322.66	1,610.93	0.00	0.00	0.00
9,600.00	90.28	0.00	7,284.86	631.94	2,322.66	1,697.85	0.00	0.00	0.00
9,700.00	90.28	0.00	7,284.37	731.94	2,322.66	1,784.76	0.00	0.00	0.00
9,800.00	90.28	0.00	7,283.89	831.94	2,322.66	1,871.68	0.00	0.00	0.00
9,900.00	90.28	0.00	7,283.40	931.94	2,322.66	1,958.60	0.00	0.00	0.00
10,000.00	90.28	0.00	7,282.91	1,031.94	2,322.66	2,045.51	0.00	0.00	0.00
10,100.00	90.28	0.00	7,282.42	1,131.94	2,322.66	2,132.43	0.00	0.00	0.00
10,200.00	90.28	0.00	7,281.93	1,231.94	2,322.66	2,219.34	0.00	0.00	0.00
10,300.00	90.28	0.00	7,281.44	1,331.94	2,322.66	2,306.26	0.00	0.00	0.00
10,400.00	90.28	0.00	7,280.95	1,431.93	2,322.66	2,393.18	0.00	0.00	0.00
10,500.00	90.28	0.00	7,280.46	1,531.93	2,322.66	2,480.09	0.00	0.00	0.00
10,600.00	90.28	0.00	7,279.98	1,631.93	2,322.66	2,567.01	0.00	0.00	0.00
10,700.00	90.28	0.00	7,279.49	1,731.93	2,322.66	2,653.92	0.00	0.00	0.00
10,800.00	90.28	0.00	7,279.00	1,831.93	2,322.66	2,740.84	0.00	0.00	0.00
10,900.00	90.28	0.00	7,278.51	1,931.93	2,322.66	2,827.76	0.00	0.00	0.00
11,000.00	90.28	0.00	7,278.02	2,031.93	2,322.66	2,914.67	0.00	0.00	0.00
11,100.00	90.28	0.00	7,277.53	2,131.93	2,322.66	3,001.59	0.00	0.00	0.00
11,200.00	90.28	0.00	7,277.04	2,231.93	2,322.66	3,088.51	0.00	0.00	0.00
11,300.00	90.28	0.00	7,276.55	2,331.92	2,322.66	3,175.42	0.00	0.00	0.00
11,400.00	90.28	0.00	7,276.07	2,431.92	2,322.66	3,262.34	0.00	0.00	0.00
11,500.00	90.28	0.00	7,275.58	2,531.92	2,322.66	3,349.25	0.00	0.00	0.00
11,600.00	90.28	0.00	7,275.09	2,631.92	2,322.66	3,436.17	0.00	0.00	0.00
11,700.00	90.28	0.00	7,274.60	2,731.92	2,322.66	3,523.09	0.00	0.00	0.00
11,800.00	90.28	0.00	7,274.11	2,831.92	2,322.66	3,610.00	0.00	0.00	0.00
11,900.00	90.28	0.00	7,273.62	2,931.92	2,322.66	3,696.92	0.00	0.00	0.00
12,000.00	90.28	0.00	7,273.13	3,031.92	2,322.66	3,783.83	0.00	0.00	0.00
12,100.00	90.28	0.00	7,272.65	3,131.91	2,322.66	3,870.75	0.00	0.00	0.00
12,200.00	90.28	0.00	7,272.16	3,231.91	2,322.66	3,957.67	0.00	0.00	0.00
12,300.00	90.28	0.00	7,271.67	3,331.91	2,322.66	4,044.58	0.00	0.00	0.00
12,400.00	90.28	0.00	7,271.18	3,431.91	2,322.66	4,131.50	0.00	0.00	0.00
12,500.00	90.28	0.00	7,270.69	3,531.91	2,322.66	4,218.42	0.00	0.00	0.00
12,600.00	90.28	0.00	7,270.20	3,631.91	2,322.66	4,305.33	0.00	0.00	0.00
12,700.00	90.28	0.00	7,269.71	3,731.91	2,322.66	4,392.25	0.00	0.00	0.00
12,800.00	90.28	0.00	7,269.22	3,831.91	2,322.66	4,479.16	0.00	0.00	0.00
12,900.00	90.28	0.00	7,268.74	3,931.91	2,322.66	4,566.08	0.00	0.00	0.00
13,000.00	90.28	0.00	7,268.25	4,031.90	2,322.66	4,653.00	0.00	0.00	0.00
13,050.50	90.28	0.00	7,268.00	4,082.41	2,322.66	4,696.89	0.00	0.00	0.00
AZUL 13-31HZ_PBHL									

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-31HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 5068.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 5068.00usft (D Rig)
Site:	1N-66W-13 AZUL 14-13HZ PAD	North Reference:	True
Well:	AZUL 13-31HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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 13-31HZ_PBHL	0.00	0.00	7,268.00	4,082.41	2,322.66	14,547,721.53	1,719,348.99	40.057294	-104.717915
- plan hits target center									
- Point									
AZUL 13-31HZ_PHL	0.00	0.00	7,291.26	-677.15	2,322.66	14,542,962.00	1,719,363.63	40.044223	-104.717916
- plan hits target center									
- Point									

Casing Points					
	Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
	(usft)	(usft)	Name	(")	(")
	1,884.80	1,800.00	9 5/8"	9-5/8	13-1/2
	8,290.40	7,291.26	Top of Production	5-1/2	7-7/8

Formations						
	Measured Depth	Vertical Depth			Dip	Dip Direction
	(usft)	(usft)	Name	Lithology	(°)	(°)
	1,654.60	1,599.00	Fox Hills			
	4,683.85	4,240.00	Parkman			
	5,101.41	4,604.00	Sussex			
	7,798.04	7,112.00	Sharon Springs			
	7,836.65	7,138.00	Niobrara			
	8,115.13	7,268.00	Nio B			