

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
1N-66W-13 AZUL 14-13HZ PAD
AZUL 13-26HZ**

Plan A

Plan: Permit Rev-2

Standard Planning Report

09 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 13-26HZ
Wellbore: Plan A
Design: Permit Rev-2

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1599.00	1628.74	Fox Hills
4240.00	4565.52	Parkman
4604.00	4971.44	Sussex
7110.00	7593.64	Sharon Springs
7136.00	7627.67	Niobrara
7268.00	7839.50	Nio B
7323.00	7981.52	Nio C

WELL DETAILS: AZUL 13-26HZ

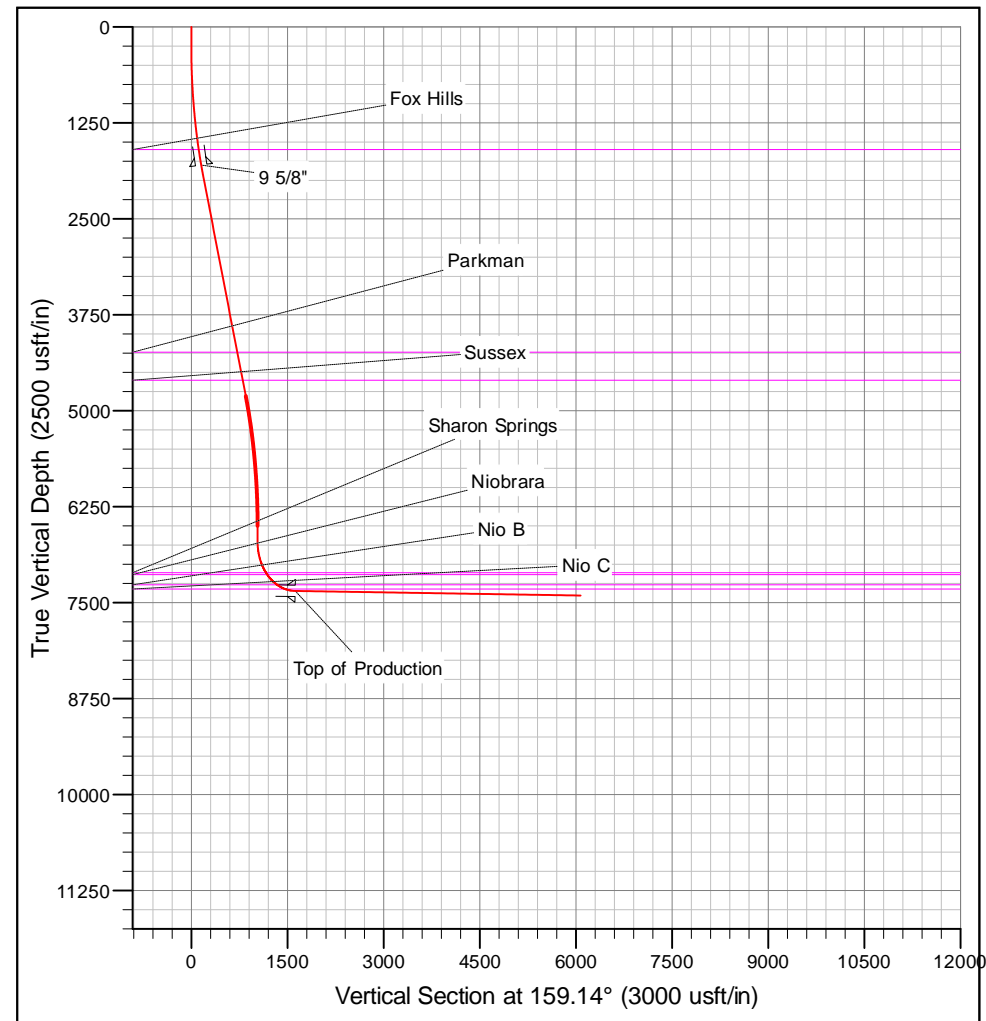
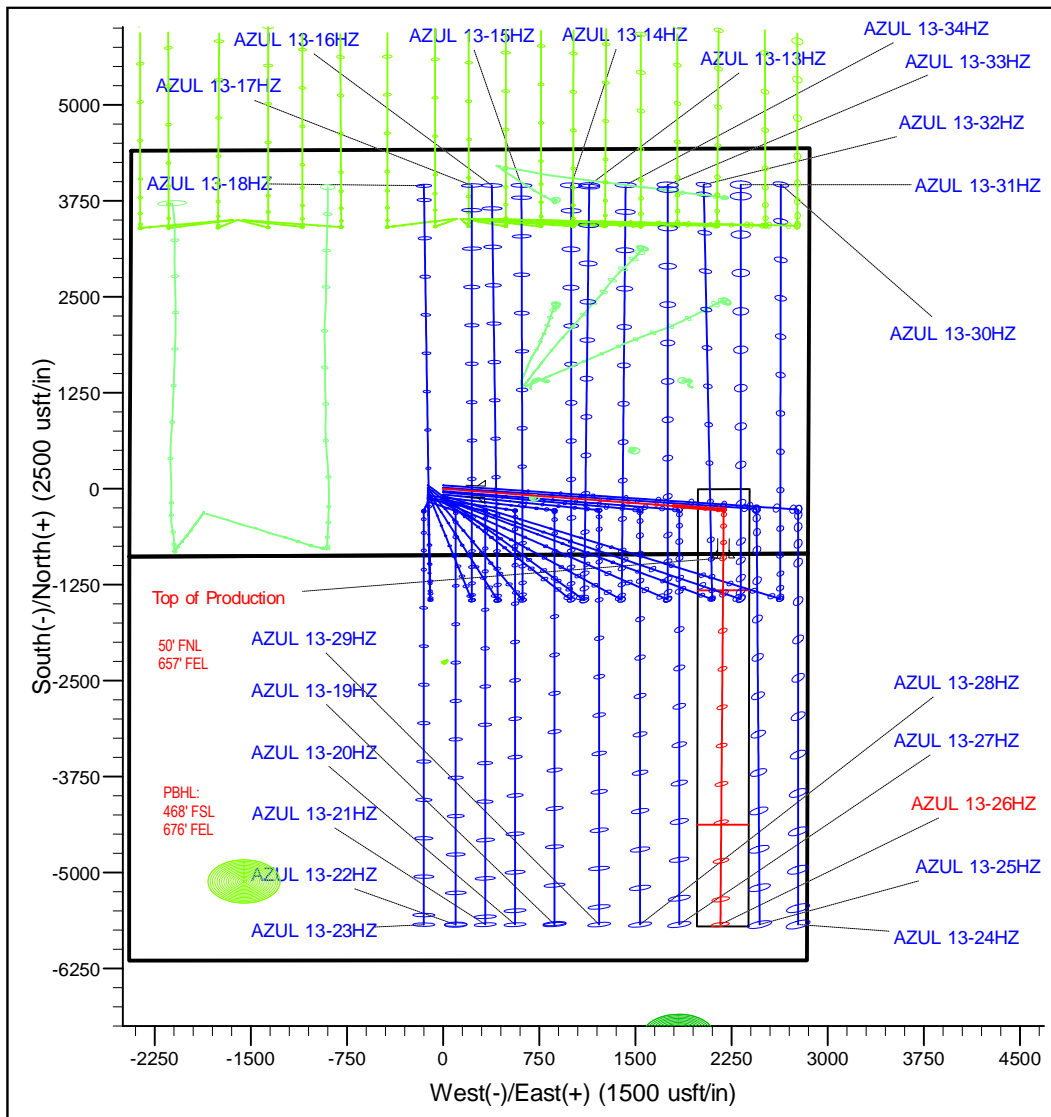
+N/-S	+E/-W	GL: 5051.00	RKB @ 5068.00usft (D Rig)	Latitude	Longitude	Slot
0.00	0.00	14543752.18	1717039.65	40.046413	-104.726211	

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
AZUL 13-26HZ_PBHL	7409.00	-5676.87	2162.91	14538081.99	1719220.00	40.030823	-104.718484

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
2500.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00
2001.22	26.27	97.11	11940.51	-48.84	391.42	1.50	185.00
5200.59	26.27	97.11	4809.49	-224.16	1796.49	0.00	849.09
6951.81	0.00	0.00	6500.00	-273.00	2187.91	1.50	034.09
7164.23	0.00	0.00	6712.42	-273.00	2187.91	0.00	034.09
8156.23	89.28	180.27	7348.99	-901.61	2185.00	9.00	620.47
12931.91	89.28	180.27	7409.00	-5676.87	2162.91	0.00	074.95



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-26HZ
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 13-26HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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 13-26HZ					
Well Position	+N-S	-45.88 usft	Northing:	14,543,752.18 usft	Latitude:	40.046413
	+E-W	119.50 usft	Easting:	1,717,039.65 usft	Longitude:	-104.726211
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	52,319.33062070

Design	Permit Rev-2			
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	159.14

Plan Survey Tool Program	Date	6/9/2017			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	1,846.04	Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWI Fixed:v2:crustal field declinat	
2	1,846.04	12,931.91	Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWI Fixed:v2:Rockies, crustal dex	

Corporate Planning Report

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Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 5068.00usft (D Rig)
Site:	1N-66W-13 AZUL 14-13HZ PAD	North Reference:	True
Well:	AZUL 13-26HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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	
2,001.22	26.27	97.11	1,940.51	-48.84	391.42	1.50	1.50	0.00	97.11	
5,200.59	26.27	97.11	4,809.49	-224.16	1,796.49	0.00	0.00	0.00	0.00	
6,951.81	0.00	0.00	6,500.00	-273.00	2,187.91	1.50	-1.50	0.00	180.00	
7,164.23	0.00	0.00	6,712.42	-273.00	2,187.91	0.00	0.00	0.00	0.00	
8,156.23	89.28	180.27	7,348.99	-901.61	2,185.00	9.00	9.00	0.00	180.27	
12,931.91	89.28	180.27	7,409.00	-5,676.87	2,162.91	0.00	0.00	0.00	0.00	AZUL 13-26HZ_PBI

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-26HZ
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 13-26HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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	97.11	300.00	-0.04	0.32	0.15	1.50	1.50	0.00
400.00	2.25	97.11	399.96	-0.36	2.92	1.38	1.50	1.50	0.00
500.00	3.75	97.11	499.82	-1.01	8.12	3.84	1.50	1.50	0.00
600.00	5.25	97.11	599.51	-1.98	15.90	7.52	1.50	1.50	0.00
700.00	6.75	97.11	698.96	-3.28	26.27	12.42	1.50	1.50	0.00
800.00	8.25	97.11	798.10	-4.89	39.22	18.54	1.50	1.50	0.00
900.00	9.75	97.11	896.87	-6.83	54.75	25.88	1.50	1.50	0.00
1,000.00	11.25	97.11	995.19	-9.09	72.83	34.42	1.50	1.50	0.00
1,100.00	12.75	97.11	1,093.00	-11.66	93.46	44.17	1.50	1.50	0.00
1,200.00	14.25	97.11	1,190.24	-14.55	116.62	55.12	1.50	1.50	0.00
1,300.00	15.75	97.11	1,286.83	-17.76	142.31	67.26	1.50	1.50	0.00
1,400.00	17.25	97.11	1,382.71	-21.27	170.49	80.58	1.50	1.50	0.00
1,500.00	18.75	97.11	1,477.81	-25.10	201.15	95.07	1.50	1.50	0.00
1,600.00	20.25	97.11	1,572.07	-29.23	234.28	110.73	1.50	1.50	0.00
1,628.74	20.68	97.11	1,599.00	-30.48	244.25	115.44	1.50	1.50	0.00
Fox Hills									
1,700.00	21.75	97.11	1,665.43	-33.67	269.84	127.53	1.50	1.50	0.00
1,800.00	23.25	97.11	1,757.81	-38.41	307.81	145.48	1.50	1.50	0.00
1,846.04	23.94	97.11	1,800.00	-40.69	326.09	154.12	1.50	1.50	0.00
9 5/8"									
1,900.00	24.75	97.11	1,849.16	-43.44	348.17	164.56	1.50	1.50	0.00
2,000.00	26.25	97.11	1,939.42	-48.77	390.89	184.75	1.50	1.50	0.00
2,001.22	26.27	97.11	1,940.51	-48.84	391.42	185.00	1.50	1.50	0.00
2,100.00	26.27	97.11	2,029.09	-54.25	434.80	205.50	0.00	0.00	0.00
2,200.00	26.27	97.11	2,118.76	-59.73	478.72	226.26	0.00	0.00	0.00
2,300.00	26.27	97.11	2,208.44	-65.21	522.64	247.02	0.00	0.00	0.00
2,400.00	26.27	97.11	2,298.11	-70.69	566.55	267.77	0.00	0.00	0.00
2,500.00	26.27	97.11	2,387.78	-76.17	610.47	288.53	0.00	0.00	0.00
2,600.00	26.27	97.11	2,477.46	-81.65	654.39	309.29	0.00	0.00	0.00
2,700.00	26.27	97.11	2,567.13	-87.13	698.30	330.05	0.00	0.00	0.00
2,800.00	26.27	97.11	2,656.80	-92.61	742.22	350.80	0.00	0.00	0.00
2,900.00	26.27	97.11	2,746.48	-98.09	786.14	371.56	0.00	0.00	0.00
3,000.00	26.27	97.11	2,836.15	-103.57	830.06	392.32	0.00	0.00	0.00
3,100.00	26.27	97.11	2,925.82	-109.05	873.97	413.07	0.00	0.00	0.00
3,200.00	26.27	97.11	3,015.50	-114.53	917.89	433.83	0.00	0.00	0.00
3,300.00	26.27	97.11	3,105.17	-120.01	961.81	454.59	0.00	0.00	0.00
3,400.00	26.27	97.11	3,194.84	-125.49	1,005.72	475.34	0.00	0.00	0.00
3,500.00	26.27	97.11	3,284.52	-130.97	1,049.64	496.10	0.00	0.00	0.00
3,600.00	26.27	97.11	3,374.19	-136.45	1,093.56	516.86	0.00	0.00	0.00
3,700.00	26.27	97.11	3,463.86	-141.93	1,137.47	537.61	0.00	0.00	0.00
3,800.00	26.27	97.11	3,553.53	-147.41	1,181.39	558.37	0.00	0.00	0.00
3,900.00	26.27	97.11	3,643.21	-152.89	1,225.31	579.13	0.00	0.00	0.00
4,000.00	26.27	97.11	3,732.88	-158.37	1,269.23	599.88	0.00	0.00	0.00
4,100.00	26.27	97.11	3,822.55	-163.85	1,313.14	620.64	0.00	0.00	0.00
4,200.00	26.27	97.11	3,912.23	-169.33	1,357.06	641.40	0.00	0.00	0.00
4,300.00	26.27	97.11	4,001.90	-174.81	1,400.98	662.15	0.00	0.00	0.00
4,400.00	26.27	97.11	4,091.57	-180.29	1,444.89	682.91	0.00	0.00	0.00
4,500.00	26.27	97.11	4,181.25	-185.77	1,488.81	703.67	0.00	0.00	0.00
4,565.52	26.27	97.11	4,240.00	-189.36	1,517.58	717.27	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 13-26HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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)
Parkman									
4,600.00	26.27	97.11	4,270.92	-191.25	1,532.73	724.43	0.00	0.00	0.00
4,700.00	26.27	97.11	4,360.59	-196.73	1,576.64	745.18	0.00	0.00	0.00
4,800.00	26.27	97.11	4,450.27	-202.21	1,620.56	765.94	0.00	0.00	0.00
4,900.00	26.27	97.11	4,539.94	-207.69	1,664.48	786.70	0.00	0.00	0.00
4,971.44	26.27	97.11	4,604.00	-211.60	1,695.85	801.52	0.00	0.00	0.00
Sussex									
5,000.00	26.27	97.11	4,629.61	-213.17	1,708.40	807.45	0.00	0.00	0.00
5,100.00	26.27	97.11	4,719.29	-218.65	1,752.31	828.21	0.00	0.00	0.00
5,200.00	26.27	97.11	4,808.96	-224.13	1,796.23	848.97	0.00	0.00	0.00
5,200.59	26.27	97.11	4,809.49	-224.16	1,796.49	849.09	0.00	0.00	0.00
5,300.00	24.78	97.11	4,899.19	-229.46	1,838.99	869.18	1.50	-1.50	0.00
5,400.00	23.28	97.11	4,990.53	-234.50	1,879.39	888.27	1.50	-1.50	0.00
5,500.00	21.78	97.11	5,082.89	-239.25	1,917.41	906.24	1.50	-1.50	0.00
5,600.00	20.28	97.11	5,176.23	-243.69	1,953.01	923.07	1.50	-1.50	0.00
5,700.00	18.78	97.11	5,270.48	-247.83	1,986.18	938.74	1.50	-1.50	0.00
5,800.00	17.28	97.11	5,365.57	-251.66	2,016.89	953.26	1.50	-1.50	0.00
5,900.00	15.78	97.11	5,461.43	-255.18	2,045.12	966.60	1.50	-1.50	0.00
6,000.00	14.28	97.11	5,558.01	-258.39	2,070.84	978.76	1.50	-1.50	0.00
6,100.00	12.78	97.11	5,655.23	-261.29	2,094.05	989.73	1.50	-1.50	0.00
6,200.00	11.28	97.11	5,753.03	-263.87	2,114.73	999.50	1.50	-1.50	0.00
6,300.00	9.78	97.11	5,851.35	-266.13	2,132.86	1,008.07	1.50	-1.50	0.00
6,400.00	8.28	97.11	5,950.11	-268.07	2,148.43	1,015.43	1.50	-1.50	0.00
6,500.00	6.78	97.11	6,049.24	-269.70	2,161.43	1,021.57	1.50	-1.50	0.00
6,600.00	5.28	97.11	6,148.69	-271.00	2,171.84	1,026.50	1.50	-1.50	0.00
6,700.00	3.78	97.11	6,248.37	-271.97	2,179.68	1,030.20	1.50	-1.50	0.00
6,800.00	2.28	97.11	6,348.23	-272.63	2,184.92	1,032.67	1.50	-1.50	0.00
6,900.00	0.78	97.11	6,448.19	-272.96	2,187.56	1,033.92	1.50	-1.50	0.00
6,951.81	0.00	0.00	6,500.00	-273.00	2,187.91	1,034.09	1.50	-1.50	0.00
7,000.00	0.00	0.00	6,548.19	-273.00	2,187.91	1,034.09	0.00	0.00	0.00
7,100.00	0.00	0.00	6,648.19	-273.00	2,187.91	1,034.09	0.00	0.00	0.00
7,164.23	0.00	0.00	6,712.42	-273.00	2,187.91	1,034.09	0.00	0.00	0.00
7,200.00	3.22	180.27	6,748.17	-274.00	2,187.91	1,035.03	9.00	9.00	0.00
7,300.00	12.22	180.27	6,847.16	-287.42	2,187.84	1,047.54	9.00	9.00	0.00
7,400.00	21.22	180.27	6,942.84	-316.16	2,187.71	1,074.35	9.00	9.00	0.00
7,500.00	30.22	180.27	7,032.84	-359.51	2,187.51	1,114.79	9.00	9.00	0.00
7,593.64	38.65	180.27	7,110.00	-412.41	2,187.27	1,164.14	9.00	9.00	0.00
Sharon Springs									
7,600.00	39.22	180.27	7,114.95	-416.41	2,187.25	1,167.86	9.00	9.00	0.00
7,627.67	41.71	180.27	7,136.00	-434.37	2,187.16	1,184.62	9.00	9.00	0.00
Niobrara									
7,700.00	48.22	180.27	7,187.15	-485.45	2,186.93	1,232.27	9.00	9.00	0.00
7,800.00	57.22	180.27	7,247.66	-564.94	2,186.56	1,306.41	9.00	9.00	0.00
7,839.50	60.77	180.27	7,268.00	-598.79	2,186.40	1,337.99	9.00	9.00	0.00
Nio B									
7,900.00	66.22	180.27	7,294.99	-652.91	2,186.15	1,388.48	9.00	9.00	0.00
7,981.52	73.56	180.27	7,323.00	-729.40	2,185.80	1,459.83	9.00	9.00	0.00
Nio C									
8,000.00	75.22	180.27	7,327.97	-747.20	2,185.72	1,476.44	9.00	9.00	0.00
8,100.00	84.22	180.27	7,345.80	-845.49	2,185.26	1,568.13	9.00	9.00	0.00
8,156.23	89.28	180.27	7,348.99	-901.61	2,185.00	1,620.48	9.00	9.00	0.00
Top of Production - AZUL 13-26HZ_PHL									
8,200.00	89.28	180.27	7,349.54	-945.38	2,184.80	1,661.30	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-26HZ
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 13-26HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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	89.28	180.27	7,350.80	-1,045.37	2,184.34	1,754.58	0.00	0.00	0.00	
8,400.00	89.28	180.27	7,352.05	-1,145.36	2,183.87	1,847.85	0.00	0.00	0.00	
8,500.00	89.28	180.27	7,353.31	-1,245.35	2,183.41	1,941.12	0.00	0.00	0.00	
8,600.00	89.28	180.27	7,354.57	-1,345.34	2,182.95	2,034.40	0.00	0.00	0.00	
8,700.00	89.28	180.27	7,355.82	-1,445.34	2,182.49	2,127.67	0.00	0.00	0.00	
8,800.00	89.28	180.27	7,357.08	-1,545.33	2,182.02	2,220.95	0.00	0.00	0.00	
8,900.00	89.28	180.27	7,358.34	-1,645.32	2,181.56	2,314.22	0.00	0.00	0.00	
9,000.00	89.28	180.27	7,359.59	-1,745.31	2,181.10	2,407.49	0.00	0.00	0.00	
9,100.00	89.28	180.27	7,360.85	-1,845.30	2,180.64	2,500.77	0.00	0.00	0.00	
9,200.00	89.28	180.27	7,362.10	-1,945.29	2,180.17	2,594.04	0.00	0.00	0.00	
9,300.00	89.28	180.27	7,363.36	-2,045.28	2,179.71	2,687.32	0.00	0.00	0.00	
9,400.00	89.28	180.27	7,364.62	-2,145.27	2,179.25	2,780.59	0.00	0.00	0.00	
9,500.00	89.28	180.27	7,365.87	-2,245.26	2,178.79	2,873.87	0.00	0.00	0.00	
9,600.00	89.28	180.27	7,367.13	-2,345.25	2,178.32	2,967.14	0.00	0.00	0.00	
9,700.00	89.28	180.27	7,368.39	-2,445.25	2,177.86	3,060.41	0.00	0.00	0.00	
9,800.00	89.28	180.27	7,369.64	-2,545.24	2,177.40	3,153.69	0.00	0.00	0.00	
9,900.00	89.28	180.27	7,370.90	-2,645.23	2,176.94	3,246.96	0.00	0.00	0.00	
10,000.00	89.28	180.27	7,372.16	-2,745.22	2,176.47	3,340.24	0.00	0.00	0.00	
10,100.00	89.28	180.27	7,373.41	-2,845.21	2,176.01	3,433.51	0.00	0.00	0.00	
10,200.00	89.28	180.27	7,374.67	-2,945.20	2,175.55	3,526.78	0.00	0.00	0.00	
10,300.00	89.28	180.27	7,375.93	-3,045.19	2,175.09	3,620.06	0.00	0.00	0.00	
10,400.00	89.28	180.27	7,377.18	-3,145.18	2,174.62	3,713.33	0.00	0.00	0.00	
10,500.00	89.28	180.27	7,378.44	-3,245.17	2,174.16	3,806.61	0.00	0.00	0.00	
10,600.00	89.28	180.27	7,379.70	-3,345.17	2,173.70	3,899.88	0.00	0.00	0.00	
10,700.00	89.28	180.27	7,380.95	-3,445.16	2,173.23	3,993.15	0.00	0.00	0.00	
10,800.00	89.28	180.27	7,382.21	-3,545.15	2,172.77	4,086.43	0.00	0.00	0.00	
10,900.00	89.28	180.27	7,383.47	-3,645.14	2,172.31	4,179.70	0.00	0.00	0.00	
11,000.00	89.28	180.27	7,384.72	-3,745.13	2,171.85	4,272.98	0.00	0.00	0.00	
11,100.00	89.28	180.27	7,385.98	-3,845.12	2,171.38	4,366.25	0.00	0.00	0.00	
11,200.00	89.28	180.27	7,387.24	-3,945.11	2,170.92	4,459.52	0.00	0.00	0.00	
11,300.00	89.28	180.27	7,388.49	-4,045.10	2,170.46	4,552.80	0.00	0.00	0.00	
11,400.00	89.28	180.27	7,389.75	-4,145.09	2,170.00	4,646.07	0.00	0.00	0.00	
11,500.00	89.28	180.27	7,391.01	-4,245.08	2,169.53	4,739.35	0.00	0.00	0.00	
11,600.00	89.28	180.27	7,392.26	-4,345.08	2,169.07	4,832.62	0.00	0.00	0.00	
11,700.00	89.28	180.27	7,393.52	-4,445.07	2,168.61	4,925.89	0.00	0.00	0.00	
11,800.00	89.28	180.27	7,394.78	-4,545.06	2,168.15	5,019.17	0.00	0.00	0.00	
11,900.00	89.28	180.27	7,396.03	-4,645.05	2,167.68	5,112.44	0.00	0.00	0.00	
12,000.00	89.28	180.27	7,397.29	-4,745.04	2,167.22	5,205.72	0.00	0.00	0.00	
12,100.00	89.28	180.27	7,398.55	-4,845.03	2,166.76	5,298.99	0.00	0.00	0.00	
12,200.00	89.28	180.27	7,399.80	-4,945.02	2,166.30	5,392.27	0.00	0.00	0.00	
12,300.00	89.28	180.27	7,401.06	-5,045.01	2,165.83	5,485.54	0.00	0.00	0.00	
12,400.00	89.28	180.27	7,402.32	-5,145.00	2,165.37	5,578.81	0.00	0.00	0.00	
12,500.00	89.28	180.27	7,403.57	-5,244.99	2,164.91	5,672.09	0.00	0.00	0.00	
12,600.00	89.28	180.27	7,404.83	-5,344.99	2,164.45	5,765.36	0.00	0.00	0.00	
12,700.00	89.28	180.27	7,406.09	-5,444.98	2,163.98	5,858.64	0.00	0.00	0.00	
12,800.00	89.28	180.27	7,407.34	-5,544.97	2,163.52	5,951.91	0.00	0.00	0.00	
12,900.00	89.28	180.27	7,408.60	-5,644.96	2,163.06	6,045.18	0.00	0.00	0.00	
12,931.91	89.28	180.27	7,409.00	-5,676.87	2,162.91	6,074.95	0.00	0.00	0.00	
AZUL 13-26HZ_PBHL										

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-26HZ
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 13-26HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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 13-26HZ_PHL	0.00	0.00	7,348.99	-901.61	2,185.00	14,542,857.29	1,719,227.41	40.043937	-104.718404
- plan hits target center									
- Point									
AZUL 13-26HZ_PBHL	0.00	0.00	7,409.00	-5,676.87	2,162.91	14,538,082.00	1,719,220.00	40.030823	-104.718485
- plan hits target center									
- Point									

Casing Points					
	Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
	1,846.04	1,800.00	9 5/8"	9-5/8	13-1/2
	8,156.23	7,348.99	Top of Production	5-1/2	7-7/8

Formations						
	Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
	1,628.74	1,599.00	Fox Hills			
	4,565.52	4,240.00	Parkman			
	4,971.44	4,604.00	Sussex			
	7,593.64	7,110.00	Sharon Springs			
	7,627.67	7,136.00	Niobrara			
	7,839.50	7,268.00	Nio B			
	7,981.52	7,323.00	Nio C			