

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
1N-66W-13 AZUL 13-13HZ
AZUL 13-6HZ**

Plan A

Plan: Permit Rev-1

Standard Planning Report

12 June, 2017



Azimuths to True North
Magnetic North: 8.01°

Magnetic Field
Strength: 52317.9snT
Dip Angle: 66.56°
Date: 6/8/2017
Model: IGRF2010

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

Well: AZUL 13-6HZ
Wellbore: Plan A
Design: Permit Rev-1

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1619.00	1649.76	Fox Hills
4260.00	4454.19	Parkman
4624.00	4840.72	Sussex
7180.00	7495.09	Sharon Springs
7206.00	7534.13	Niobrara
7337.00	7826.92	Nio B

WELL DETAILS: AZUL 13-6HZ

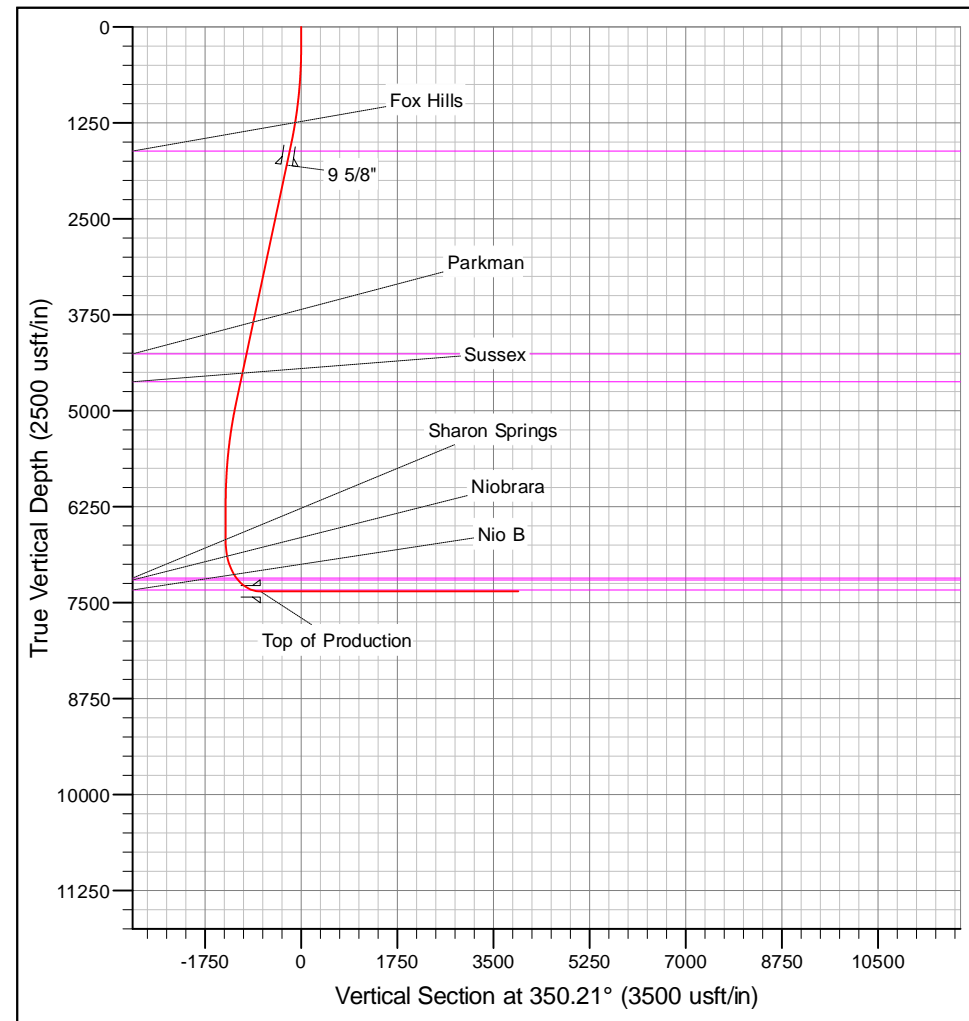
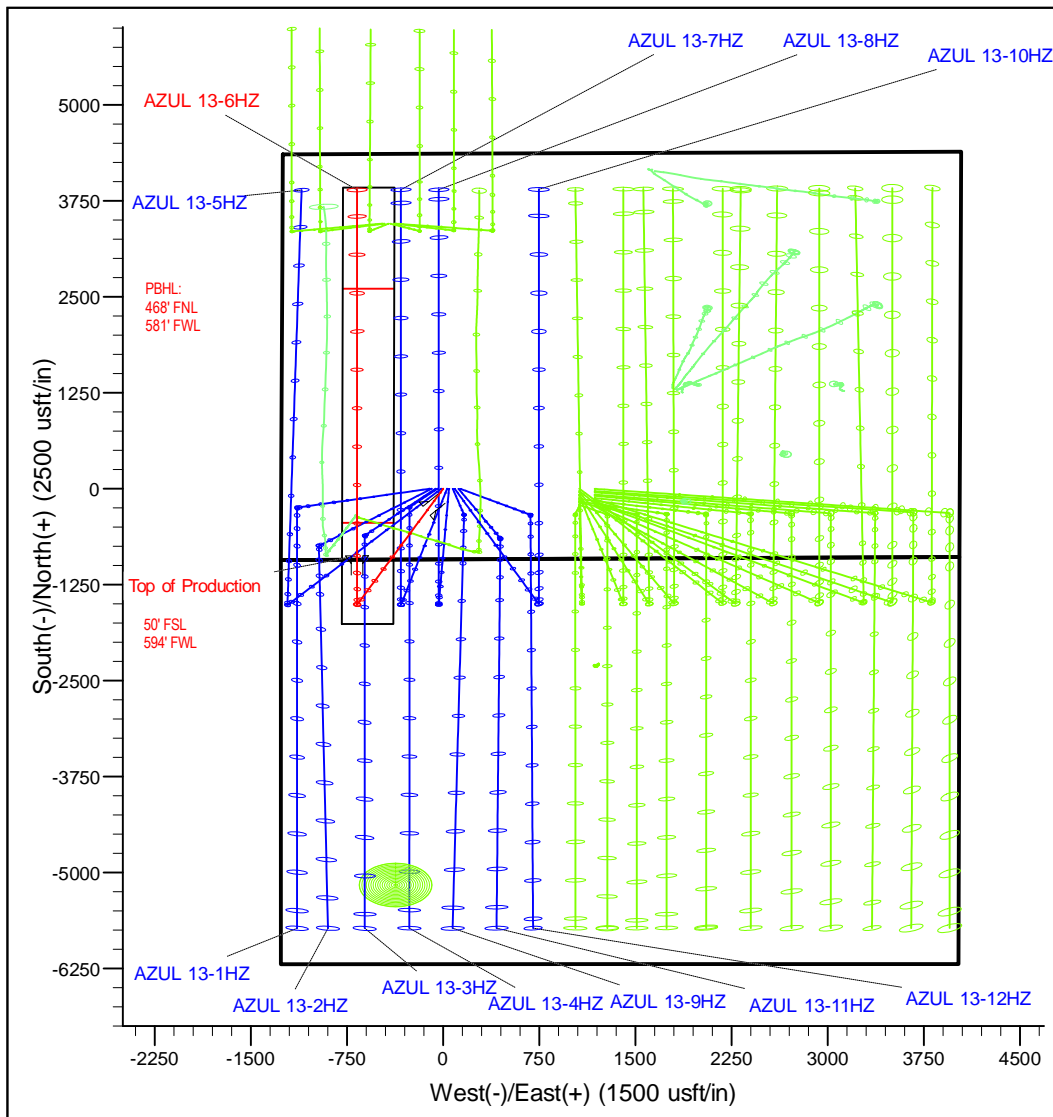
+N/-S	+E/-W	GL: 5071.00	RKB @ 5088.00usft (D Rig)	Latitude	Longitude	Slot
0.00	0.00	Northing 14543794.46	Easting 1715857.37	40.046539	-104.730435	

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
AZUL 13-6HZ_PBHL	7355.00	3893.29	-671.59	14547685.70	1715174.00	40.057231	-104.732835

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
1560.46	19.66	203.98	1534.90	-203.39	-90.46	1.50	-185.05
5149.83	19.66	203.98	4915.10	-1306.61	-581.13	0.00	-188.81
6460.29	0.00	0.00	6200.00	-1510.00	-671.59	1.50	-373.86
6978.67	0.00	0.00	6718.38	-1510.00	-671.59	0.00	-373.86
7978.67	90.00	360.00	7355.00	-873.38	-671.59	9.00	-746.51
12745.34	90.00	360.00	7355.00	3893.29	-671.59	0.00	-950.79



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-6HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 5088.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 5088.00usft (D Rig)
Site:	1N-66W-13 AZUL 13-13HZ	North Reference:	True
Well:	AZUL 13-6HZ	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 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 13-6HZ					
Well Position	+N/-S	-1.09 usft	Northing:	14,543,794.45 usft	Latitude:	40.046539
	+E/-W	104.95 usft	Easting:	1,715,857.37 usft	Longitude:	-104.730435
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	5,071.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/8/2017	8.01	66.56	52,317.94259582

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	350.21

Plan Survey Tool Program	Date	6/12/2017		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	12,745.34	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	
1,560.46	19.66	203.98	1,534.90	-203.39	-90.46	1.50	1.50	0.00	203.98	
5,149.83	19.66	203.98	4,915.10	-1,306.61	-581.13	0.00	0.00	0.00	0.00	
6,460.29	0.00	0.00	6,200.00	-1,510.00	-671.59	1.50	-1.50	0.00	180.00	
6,978.67	0.00	0.00	6,718.38	-1,510.00	-671.59	0.00	0.00	0.00	0.00	
7,978.67	90.00	360.00	7,355.00	-873.38	-671.59	9.00	9.00	0.00	360.00	
12,745.34	90.00	360.00	7,355.00	3,893.29	-671.59	0.00	0.00	0.00	0.00	AZUL 13-6HZ_PBH

Corporate Planning Report

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Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 5088.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 5088.00usft (D Rig)
Site:	1N-66W-13 AZUL 13-13HZ	North Reference:	True
Well:	AZUL 13-6HZ	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	0.75	203.98	300.00	-0.30	-0.13	-0.27	1.50	1.50	0.00
400.00	2.25	203.98	399.96	-2.69	-1.20	-2.45	1.50	1.50	0.00
500.00	3.75	203.98	499.82	-7.47	-3.32	-6.80	1.50	1.50	0.00
600.00	5.25	203.98	599.51	-14.64	-6.51	-13.32	1.50	1.50	0.00
700.00	6.75	203.98	698.96	-24.19	-10.76	-22.01	1.50	1.50	0.00
800.00	8.25	203.98	798.10	-36.12	-16.06	-32.86	1.50	1.50	0.00
900.00	9.75	203.98	896.87	-50.41	-22.42	-45.87	1.50	1.50	0.00
1,000.00	11.25	203.98	995.19	-67.06	-29.83	-61.02	1.50	1.50	0.00
1,100.00	12.75	203.98	1,093.00	-86.06	-38.28	-78.30	1.50	1.50	0.00
1,200.00	14.25	203.98	1,190.24	-107.39	-47.76	-97.71	1.50	1.50	0.00
1,300.00	15.75	203.98	1,286.83	-131.03	-58.28	-119.22	1.50	1.50	0.00
1,400.00	17.25	203.98	1,382.71	-156.98	-69.82	-142.83	1.50	1.50	0.00
1,500.00	18.75	203.98	1,477.81	-185.22	-82.38	-168.52	1.50	1.50	0.00
1,560.46	19.66	203.98	1,534.90	-203.39	-90.46	-185.05	1.50	1.50	0.00
1,600.00	19.66	203.98	1,572.14	-215.54	-95.86	-196.11	0.00	0.00	0.00
1,649.76	19.66	203.98	1,619.00	-230.84	-102.67	-210.02	0.00	0.00	0.00
Fox Hills									
1,700.00	19.66	203.98	1,666.31	-246.28	-109.53	-224.07	0.00	0.00	0.00
1,800.00	19.66	203.98	1,760.48	-277.01	-123.21	-252.04	0.00	0.00	0.00
1,841.96	19.66	203.98	1,800.00	-289.91	-128.94	-263.77	0.00	0.00	0.00
9 5/8"									
1,900.00	19.66	203.98	1,854.66	-307.75	-136.88	-280.00	0.00	0.00	0.00
2,000.00	19.66	203.98	1,948.83	-338.49	-150.55	-307.97	0.00	0.00	0.00
2,100.00	19.66	203.98	2,043.00	-369.22	-164.22	-335.93	0.00	0.00	0.00
2,200.00	19.66	203.98	2,137.17	-399.96	-177.89	-363.90	0.00	0.00	0.00
2,300.00	19.66	203.98	2,231.35	-430.69	-191.56	-391.86	0.00	0.00	0.00
2,400.00	19.66	203.98	2,325.52	-461.43	-205.23	-419.83	0.00	0.00	0.00
2,500.00	19.66	203.98	2,419.69	-492.16	-218.90	-447.79	0.00	0.00	0.00
2,600.00	19.66	203.98	2,513.86	-522.90	-232.57	-475.76	0.00	0.00	0.00
2,700.00	19.66	203.98	2,608.04	-553.64	-246.24	-503.72	0.00	0.00	0.00
2,800.00	19.66	203.98	2,702.21	-584.37	-259.91	-531.69	0.00	0.00	0.00
2,900.00	19.66	203.98	2,796.38	-615.11	-273.58	-559.65	0.00	0.00	0.00
3,000.00	19.66	203.98	2,890.55	-645.84	-287.25	-587.62	0.00	0.00	0.00
3,100.00	19.66	203.98	2,984.73	-676.58	-300.92	-615.58	0.00	0.00	0.00
3,200.00	19.66	203.98	3,078.90	-707.32	-314.59	-643.54	0.00	0.00	0.00
3,300.00	19.66	203.98	3,173.07	-738.05	-328.26	-671.51	0.00	0.00	0.00
3,400.00	19.66	203.98	3,267.24	-768.79	-341.93	-699.47	0.00	0.00	0.00
3,500.00	19.66	203.98	3,361.41	-799.52	-355.60	-727.44	0.00	0.00	0.00
3,600.00	19.66	203.98	3,455.59	-830.26	-369.27	-755.40	0.00	0.00	0.00
3,700.00	19.66	203.98	3,549.76	-860.99	-382.94	-783.37	0.00	0.00	0.00
3,800.00	19.66	203.98	3,643.93	-891.73	-396.61	-811.33	0.00	0.00	0.00
3,900.00	19.66	203.98	3,738.10	-922.47	-410.28	-839.30	0.00	0.00	0.00
4,000.00	19.66	203.98	3,832.28	-953.20	-423.95	-867.26	0.00	0.00	0.00
4,100.00	19.66	203.98	3,926.45	-983.94	-437.62	-895.23	0.00	0.00	0.00
4,200.00	19.66	203.98	4,020.62	-1,014.67	-451.29	-923.19	0.00	0.00	0.00
4,300.00	19.66	203.98	4,114.79	-1,045.41	-464.96	-951.16	0.00	0.00	0.00
4,400.00	19.66	203.98	4,208.97	-1,076.15	-478.63	-979.12	0.00	0.00	0.00
4,454.19	19.66	203.98	4,260.00	-1,092.80	-486.04	-994.28	0.00	0.00	0.00
Parkman									

Corporate Planning Report

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Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 5088.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 5088.00usft (D Rig)
Site:	1N-66W-13 AZUL 13-13HZ	North Reference:	True
Well:	AZUL 13-6HZ	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)
4,500.00	19.66	203.98	4,303.14	-1,106.88	-492.30	-1,007.09	0.00	0.00	0.00
4,600.00	19.66	203.98	4,397.31	-1,137.62	-505.97	-1,035.05	0.00	0.00	0.00
4,700.00	19.66	203.98	4,491.48	-1,168.35	-519.64	-1,063.02	0.00	0.00	0.00
4,800.00	19.66	203.98	4,585.66	-1,199.09	-533.31	-1,090.98	0.00	0.00	0.00
4,840.72	19.66	203.98	4,624.00	-1,211.60	-538.87	-1,102.37	0.00	0.00	0.00
Sussex									
4,900.00	19.66	203.98	4,679.83	-1,229.82	-546.98	-1,118.95	0.00	0.00	0.00
5,000.00	19.66	203.98	4,774.00	-1,260.56	-560.65	-1,146.91	0.00	0.00	0.00
5,100.00	19.66	203.98	4,868.17	-1,291.30	-574.32	-1,174.87	0.00	0.00	0.00
5,149.83	19.66	203.98	4,915.10	-1,306.61	-581.13	-1,188.81	0.00	0.00	0.00
5,200.00	18.90	203.98	4,962.45	-1,321.75	-587.86	-1,202.58	1.50	-1.50	0.00
5,300.00	17.40	203.98	5,057.47	-1,350.22	-600.52	-1,228.48	1.50	-1.50	0.00
5,400.00	15.90	203.98	5,153.28	-1,376.40	-612.17	-1,252.31	1.50	-1.50	0.00
5,500.00	14.40	203.98	5,249.80	-1,400.29	-622.79	-1,274.04	1.50	-1.50	0.00
5,600.00	12.90	203.98	5,346.97	-1,421.86	-632.39	-1,293.66	1.50	-1.50	0.00
5,700.00	11.40	203.98	5,444.72	-1,441.09	-640.94	-1,311.17	1.50	-1.50	0.00
5,800.00	9.90	203.98	5,543.00	-1,457.99	-648.46	-1,326.54	1.50	-1.50	0.00
5,900.00	8.40	203.98	5,641.72	-1,472.52	-654.92	-1,339.76	1.50	-1.50	0.00
6,000.00	6.90	203.98	5,740.83	-1,484.69	-660.33	-1,350.83	1.50	-1.50	0.00
6,100.00	5.40	203.98	5,840.25	-1,494.49	-664.69	-1,359.75	1.50	-1.50	0.00
6,200.00	3.90	203.98	5,939.91	-1,501.90	-667.99	-1,366.49	1.50	-1.50	0.00
6,300.00	2.40	203.98	6,039.76	-1,506.93	-670.22	-1,371.07	1.50	-1.50	0.00
6,400.00	0.90	203.98	6,139.71	-1,509.57	-671.40	-1,373.47	1.50	-1.50	0.00
6,460.29	0.00	0.00	6,200.00	-1,510.00	-671.59	-1,373.86	1.50	-1.50	0.00
6,500.00	0.00	0.00	6,239.71	-1,510.00	-671.59	-1,373.86	0.00	0.00	0.00
6,600.00	0.00	0.00	6,339.71	-1,510.00	-671.59	-1,373.86	0.00	0.00	0.00
6,700.00	0.00	0.00	6,439.71	-1,510.00	-671.59	-1,373.86	0.00	0.00	0.00
6,800.00	0.00	0.00	6,539.71	-1,510.00	-671.59	-1,373.86	0.00	0.00	0.00
6,900.00	0.00	0.00	6,639.71	-1,510.00	-671.59	-1,373.86	0.00	0.00	0.00
6,978.67	0.00	0.00	6,718.38	-1,510.00	-671.59	-1,373.86	0.00	0.00	0.00
7,000.00	1.92	360.00	6,739.71	-1,509.64	-671.59	-1,373.51	9.00	9.00	0.00
7,100.00	10.92	360.00	6,838.98	-1,498.47	-671.59	-1,362.50	9.00	9.00	0.00
7,200.00	19.92	360.00	6,935.28	-1,471.91	-671.59	-1,336.33	9.00	9.00	0.00
7,300.00	28.92	360.00	7,026.24	-1,430.61	-671.59	-1,295.63	9.00	9.00	0.00
7,400.00	37.92	360.00	7,109.62	-1,375.59	-671.59	-1,241.41	9.00	9.00	0.00
7,495.09	46.48	360.00	7,180.00	-1,311.78	-671.59	-1,178.52	9.00	9.00	0.00
Sharon Springs									
7,500.00	46.92	360.00	7,183.37	-1,308.20	-671.59	-1,175.00	9.00	9.00	0.00
7,534.13	49.99	360.00	7,206.00	-1,282.66	-671.59	-1,149.83	9.00	9.00	0.00
Niobrara									
7,600.00	55.92	360.00	7,245.66	-1,230.11	-671.59	-1,098.05	9.00	9.00	0.00
7,700.00	64.92	360.00	7,294.98	-1,143.23	-671.59	-1,012.43	9.00	9.00	0.00
7,800.00	73.92	360.00	7,330.09	-1,049.71	-671.59	-920.27	9.00	9.00	0.00
7,826.92	76.34	360.00	7,337.00	-1,023.69	-671.59	-894.63	9.00	9.00	0.00
Nio B									
7,900.00	82.92	360.00	7,350.15	-951.85	-671.59	-823.83	9.00	9.00	0.00
7,978.67	90.00	360.00	7,355.00	-873.38	-671.59	-746.50	9.00	9.00	0.00
Top of Production - AZUL 13-6HZ_PHL									
8,000.00	90.00	360.00	7,355.00	-852.05	-671.59	-725.48	0.00	0.00	0.00
8,100.00	90.00	360.00	7,355.00	-752.05	-671.59	-626.94	0.00	0.00	0.00
8,200.00	90.00	360.00	7,355.00	-652.05	-671.59	-528.40	0.00	0.00	0.00
8,300.00	90.00	360.00	7,355.00	-552.05	-671.59	-429.85	0.00	0.00	0.00
8,400.00	90.00	360.00	7,355.00	-452.05	-671.59	-331.31	0.00	0.00	0.00
8,500.00	90.00	360.00	7,355.00	-352.05	-671.59	-232.76	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-6HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 5088.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 5088.00usft (D Rig)
Site:	1N-66W-13 AZUL 13-13HZ	North Reference:	True
Well:	AZUL 13-6HZ	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)
8,600.00	90.00	360.00	7,355.00	-252.05	-671.59	-134.22	0.00	0.00	0.00
8,700.00	90.00	360.00	7,355.00	-152.05	-671.59	-35.67	0.00	0.00	0.00
8,800.00	90.00	360.00	7,355.00	-52.05	-671.59	62.87	0.00	0.00	0.00
8,900.00	90.00	360.00	7,355.00	47.95	-671.59	161.42	0.00	0.00	0.00
9,000.00	90.00	360.00	7,355.00	147.95	-671.59	259.96	0.00	0.00	0.00
9,100.00	90.00	360.00	7,355.00	247.95	-671.59	358.51	0.00	0.00	0.00
9,200.00	90.00	360.00	7,355.00	347.95	-671.59	457.05	0.00	0.00	0.00
9,300.00	90.00	360.00	7,355.00	447.95	-671.59	555.60	0.00	0.00	0.00
9,400.00	90.00	360.00	7,355.00	547.95	-671.59	654.14	0.00	0.00	0.00
9,500.00	90.00	360.00	7,355.00	647.95	-671.59	752.68	0.00	0.00	0.00
9,600.00	90.00	360.00	7,355.00	747.95	-671.59	851.23	0.00	0.00	0.00
9,700.00	90.00	360.00	7,355.00	847.95	-671.59	949.77	0.00	0.00	0.00
9,800.00	90.00	360.00	7,355.00	947.95	-671.59	1,048.32	0.00	0.00	0.00
9,900.00	90.00	360.00	7,355.00	1,047.95	-671.59	1,146.86	0.00	0.00	0.00
10,000.00	90.00	360.00	7,355.00	1,147.95	-671.59	1,245.41	0.00	0.00	0.00
10,100.00	90.00	360.00	7,355.00	1,247.95	-671.59	1,343.95	0.00	0.00	0.00
10,200.00	90.00	360.00	7,355.00	1,347.95	-671.59	1,442.50	0.00	0.00	0.00
10,300.00	90.00	360.00	7,355.00	1,447.95	-671.59	1,541.04	0.00	0.00	0.00
10,400.00	90.00	360.00	7,355.00	1,547.95	-671.59	1,639.59	0.00	0.00	0.00
10,500.00	90.00	360.00	7,355.00	1,647.95	-671.59	1,738.13	0.00	0.00	0.00
10,600.00	90.00	360.00	7,355.00	1,747.95	-671.59	1,836.67	0.00	0.00	0.00
10,700.00	90.00	360.00	7,355.00	1,847.95	-671.59	1,935.22	0.00	0.00	0.00
10,800.00	90.00	360.00	7,355.00	1,947.95	-671.59	2,033.76	0.00	0.00	0.00
10,900.00	90.00	360.00	7,355.00	2,047.95	-671.59	2,132.31	0.00	0.00	0.00
11,000.00	90.00	360.00	7,355.00	2,147.95	-671.59	2,230.85	0.00	0.00	0.00
11,100.00	90.00	360.00	7,355.00	2,247.95	-671.59	2,329.40	0.00	0.00	0.00
11,200.00	90.00	360.00	7,355.00	2,347.95	-671.59	2,427.94	0.00	0.00	0.00
11,300.00	90.00	360.00	7,355.00	2,447.95	-671.59	2,526.49	0.00	0.00	0.00
11,400.00	90.00	360.00	7,355.00	2,547.95	-671.59	2,625.03	0.00	0.00	0.00
11,500.00	90.00	360.00	7,355.00	2,647.95	-671.59	2,723.58	0.00	0.00	0.00
11,600.00	90.00	360.00	7,355.00	2,747.95	-671.59	2,822.12	0.00	0.00	0.00
11,700.00	90.00	360.00	7,355.00	2,847.95	-671.59	2,920.67	0.00	0.00	0.00
11,800.00	90.00	360.00	7,355.00	2,947.95	-671.59	3,019.21	0.00	0.00	0.00
11,900.00	90.00	360.00	7,355.00	3,047.95	-671.59	3,117.75	0.00	0.00	0.00
12,000.00	90.00	360.00	7,355.00	3,147.95	-671.59	3,216.30	0.00	0.00	0.00
12,100.00	90.00	360.00	7,355.00	3,247.95	-671.59	3,314.84	0.00	0.00	0.00
12,200.00	90.00	360.00	7,355.00	3,347.95	-671.59	3,413.39	0.00	0.00	0.00
12,300.00	90.00	360.00	7,355.00	3,447.95	-671.59	3,511.93	0.00	0.00	0.00
12,400.00	90.00	360.00	7,355.00	3,547.95	-671.59	3,610.48	0.00	0.00	0.00
12,500.00	90.00	360.00	7,355.00	3,647.95	-671.59	3,709.02	0.00	0.00	0.00
12,600.00	90.00	360.00	7,355.00	3,747.95	-671.59	3,807.57	0.00	0.00	0.00
12,700.00	90.00	360.00	7,355.00	3,847.95	-671.59	3,906.11	0.00	0.00	0.00
12,745.34	90.00	360.00	7,355.00	3,893.29	-671.59	3,950.79	0.00	0.00	0.00
AZUL 13-6HZ_PBHL									

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-6HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 5088.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 5088.00usft (D Rig)
Site:	1N-66W-13 AZUL 13-13HZ	North Reference:	True
Well:	AZUL 13-6HZ	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 13-6HZ_PBHL	0.00	0.00	7,355.00	3,893.29	-671.59	14,547,685.69	1,715,174.00	40.057231	-104.732835
- plan hits target center									
- Point									
AZUL 13-6HZ_PHL	0.00	0.00	7,355.00	-873.38	-671.59	14,542,919.05	1,715,188.43	40.044141	-104.732835
- plan hits target center									
- Point									

Casing Points					
	Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
	(usft)	(usft)	Name	(")	(")
	1,841.96	1,800.00	9 5/8"	9-5/8	13-1/2
	7,978.67	7,355.00	Top of Production	5-1/2	7-7/8

Formations						
	Measured Depth	Vertical Depth			Dip	Dip Direction
	(usft)	(usft)	Name	Lithology	(°)	(°)
	1,649.76	1,619.00	Fox Hills			
	4,454.19	4,260.00	Parkman			
	4,840.72	4,624.00	Sussex			
	7,495.09	7,180.00	Sharon Springs			
	7,534.13	7,206.00	Niobrara			
	7,826.92	7,337.00	Nio B			