

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
1N-66W-13 AZUL 13-13HZ
AZUL 13-3HZ**

Plan A

Plan: Permit Rev-1

Standard Planning Report

12 June, 2017



Azimuths to True North
Magnetic North: 8.01°

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

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

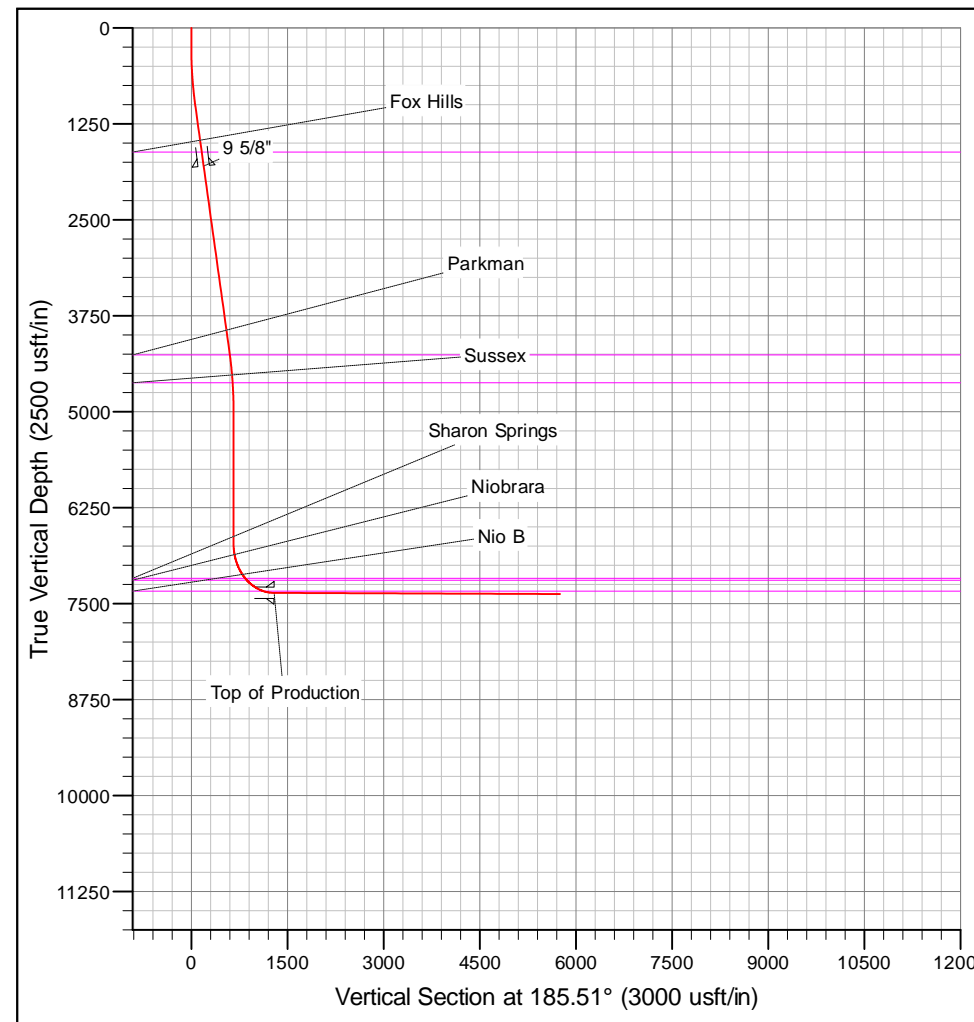
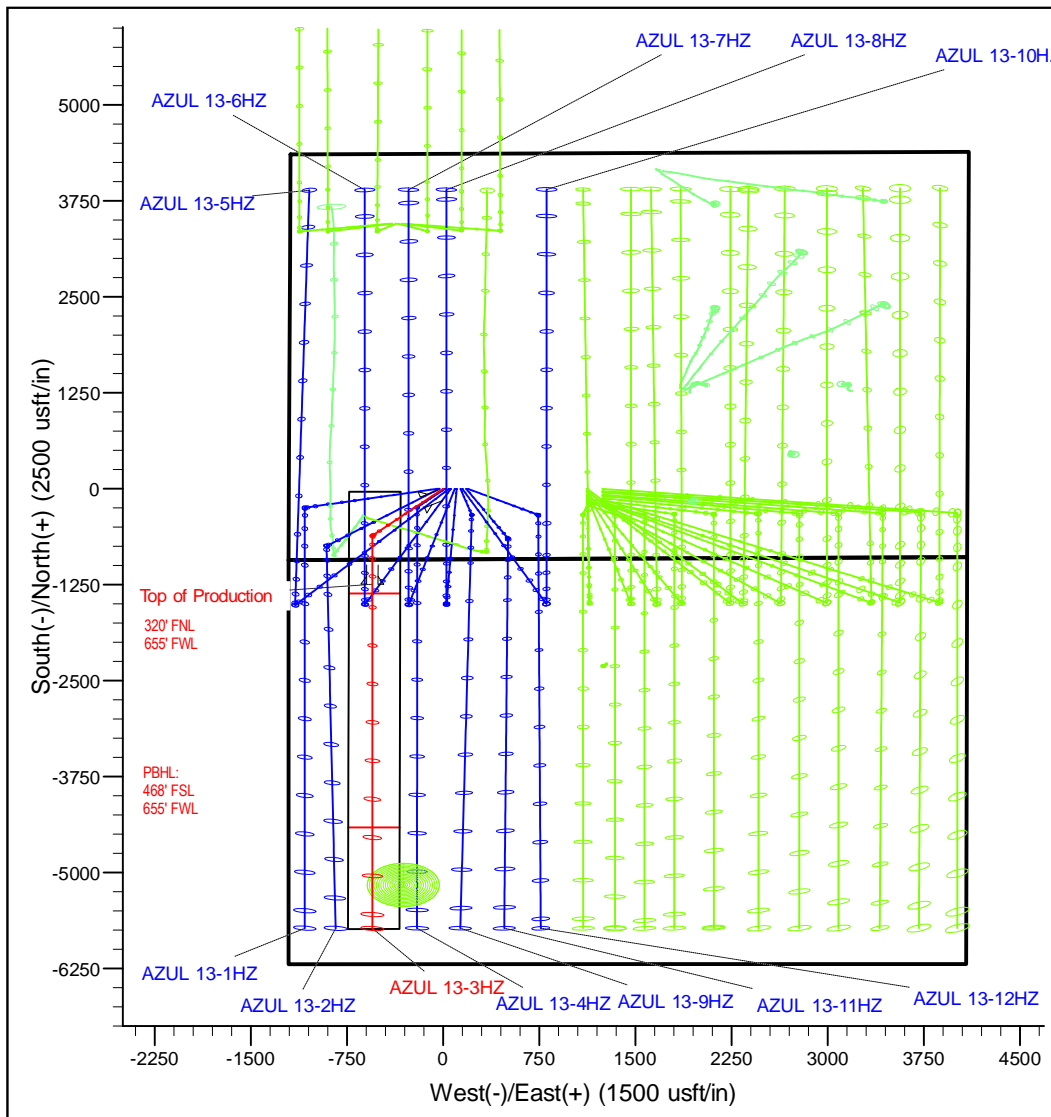
Well: AZUL 13-3HZ
Wellbore: Plan A
Design: Permit Rev-1

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1619.00	1637.03	Fox Hills
4260.00	4334.07	Parkman
4624.00	4702.17	Sussex
7170.00	7296.72	Sharon Springs
7196.00	7334.21	Niobrara
7338.00	7631.13	Nio B

WELL DETAILS: AZUL 13-3HZ					
		GL: 5071.00	RKB @ 5088.00usft (D Rig)		
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14543795.00	1715797.48	40.046541	-104.730649

DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude
AZUL 13-3HZ_PBHL	7376.00	-5725.36	-551.80	14538068.00	1715263.00	40.030818

SECTION DETAILS							
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	V Sect
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
1030.25	11.70	222.18	1024.84	-58.85	-53.32	1.50	63.69
4298.53	11.70	222.18	4225.16	-550.15	-498.48	0.00	595.43
5078.78	0.00	0.00	5000.00	-609.00	-551.80	1.50	659.13
6803.30	0.00	0.00	6724.52	-609.00	-551.80	0.00	659.13
7801.19	89.81	180.00	7361.14	-1243.51	-551.80	9.00	290.71
12283.07	89.81	180.00	7376.00	-5725.36	-551.80	0.00	751.89



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-3HZ
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 13-3HZ	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 13-3HZ					
Well Position	+N/-S	-0.36 usft	Northing:	14,543,795.00 usft	Latitude:	40.046541
	+E/-W	45.06 usft	Easting:	1,715,797.48 usft	Longitude:	-104.730649
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	52,317.92185624

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	185.51

Plan Survey Tool Program	Date	6/12/2017		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	12,283.07	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	
1,030.25	11.70	222.18	1,024.84	-58.85	-53.32	1.50	1.50	0.00	222.18	
4,298.53	11.70	222.18	4,225.16	-550.15	-498.48	0.00	0.00	0.00	0.00	
5,078.78	0.00	0.00	5,000.00	-609.00	-551.80	1.50	-1.50	0.00	180.00	
6,803.30	0.00	0.00	6,724.52	-609.00	-551.80	0.00	0.00	0.00	0.00	
7,801.19	89.81	180.00	7,361.14	-1,243.51	-551.80	9.00	9.00	0.00	180.00	
12,283.07	89.81	180.00	7,376.00	-5,725.36	-551.80	0.00	0.00	0.00	0.00	AZUL 13-3HZ_PBH

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-3HZ
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 13-3HZ	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	222.18	300.00	-0.24	-0.22	0.26	1.50	1.50	0.00
400.00	2.25	222.18	399.96	-2.18	-1.98	2.36	1.50	1.50	0.00
500.00	3.75	222.18	499.82	-6.06	-5.49	6.56	1.50	1.50	0.00
600.00	5.25	222.18	599.51	-11.87	-10.76	12.85	1.50	1.50	0.00
700.00	6.75	222.18	698.96	-19.62	-17.78	21.24	1.50	1.50	0.00
800.00	8.25	222.18	798.10	-29.29	-26.54	31.70	1.50	1.50	0.00
900.00	9.75	222.18	896.87	-40.89	-37.05	44.25	1.50	1.50	0.00
1,000.00	11.25	222.18	995.19	-54.39	-49.28	58.87	1.50	1.50	0.00
1,030.25	11.70	222.18	1,024.84	-58.85	-53.32	63.69	1.50	1.50	0.00
1,100.00	11.70	222.18	1,093.14	-69.33	-62.82	75.04	0.00	0.00	0.00
1,200.00	11.70	222.18	1,191.06	-84.37	-76.44	91.31	0.00	0.00	0.00
1,300.00	11.70	222.18	1,288.98	-99.40	-90.06	107.58	0.00	0.00	0.00
1,400.00	11.70	222.18	1,386.90	-114.43	-103.68	123.85	0.00	0.00	0.00
1,500.00	11.70	222.18	1,484.82	-129.46	-117.30	140.12	0.00	0.00	0.00
1,600.00	11.70	222.18	1,582.74	-144.50	-130.92	156.39	0.00	0.00	0.00
1,637.03	11.70	222.18	1,619.00	-150.06	-135.97	162.42	0.00	0.00	0.00
Fox Hills									
1,700.00	11.70	222.18	1,680.66	-159.53	-144.55	172.66	0.00	0.00	0.00
1,800.00	11.70	222.18	1,778.58	-174.56	-158.17	188.93	0.00	0.00	0.00
1,821.87	11.70	222.18	1,800.00	-177.85	-161.15	192.49	0.00	0.00	0.00
9 5/8"									
1,900.00	11.70	222.18	1,876.50	-189.59	-171.79	205.20	0.00	0.00	0.00
2,000.00	11.70	222.18	1,974.42	-204.63	-185.41	221.47	0.00	0.00	0.00
2,100.00	11.70	222.18	2,072.34	-219.66	-199.03	237.74	0.00	0.00	0.00
2,200.00	11.70	222.18	2,170.27	-234.69	-212.65	254.01	0.00	0.00	0.00
2,300.00	11.70	222.18	2,268.19	-249.72	-226.27	270.28	0.00	0.00	0.00
2,400.00	11.70	222.18	2,366.11	-264.76	-239.89	286.55	0.00	0.00	0.00
2,500.00	11.70	222.18	2,464.03	-279.79	-253.51	302.82	0.00	0.00	0.00
2,600.00	11.70	222.18	2,561.95	-294.82	-267.13	319.09	0.00	0.00	0.00
2,700.00	11.70	222.18	2,659.87	-309.85	-280.75	335.36	0.00	0.00	0.00
2,800.00	11.70	222.18	2,757.79	-324.89	-294.37	351.63	0.00	0.00	0.00
2,900.00	11.70	222.18	2,855.71	-339.92	-307.99	367.90	0.00	0.00	0.00
3,000.00	11.70	222.18	2,953.63	-354.95	-321.61	384.17	0.00	0.00	0.00
3,100.00	11.70	222.18	3,051.55	-369.98	-335.23	400.44	0.00	0.00	0.00
3,200.00	11.70	222.18	3,149.47	-385.02	-348.85	416.71	0.00	0.00	0.00
3,300.00	11.70	222.18	3,247.40	-400.05	-362.47	432.98	0.00	0.00	0.00
3,400.00	11.70	222.18	3,345.32	-415.08	-376.09	449.25	0.00	0.00	0.00
3,500.00	11.70	222.18	3,443.24	-430.11	-389.71	465.52	0.00	0.00	0.00
3,600.00	11.70	222.18	3,541.16	-445.14	-403.33	481.79	0.00	0.00	0.00
3,700.00	11.70	222.18	3,639.08	-460.18	-416.96	498.05	0.00	0.00	0.00
3,800.00	11.70	222.18	3,737.00	-475.21	-430.58	514.32	0.00	0.00	0.00
3,900.00	11.70	222.18	3,834.92	-490.24	-444.20	530.59	0.00	0.00	0.00
4,000.00	11.70	222.18	3,932.84	-505.27	-457.82	546.86	0.00	0.00	0.00
4,100.00	11.70	222.18	4,030.76	-520.31	-471.44	563.13	0.00	0.00	0.00
4,200.00	11.70	222.18	4,128.68	-535.34	-485.06	579.40	0.00	0.00	0.00
4,298.53	11.70	222.18	4,225.16	-550.15	-498.48	595.43	0.00	0.00	0.00
4,300.00	11.68	222.18	4,226.61	-550.37	-498.68	595.67	1.50	-1.50	0.00
4,334.07	11.17	222.18	4,260.00	-555.37	-503.21	601.09	1.50	-1.50	0.00
Parkman									

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-3HZ
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 13-3HZ	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)	
4,400.00	10.18	222.18	4,324.79	-564.42	-511.41	610.88	1.50	-1.50	0.00	
4,500.00	8.68	222.18	4,423.43	-576.57	-522.41	624.03	1.50	-1.50	0.00	
4,600.00	7.18	222.18	4,522.47	-586.79	-531.68	635.09	1.50	-1.50	0.00	
4,700.00	5.68	222.18	4,621.84	-595.09	-539.20	644.08	1.50	-1.50	0.00	
4,702.17	5.65	222.18	4,624.00	-595.25	-539.34	644.25	1.50	-1.50	0.00	
Sussex										
4,800.00	4.18	222.18	4,721.47	-601.46	-544.97	650.97	1.50	-1.50	0.00	
4,900.00	2.68	222.18	4,821.29	-605.90	-548.99	655.77	1.50	-1.50	0.00	
5,000.00	1.18	222.18	4,921.23	-608.40	-551.25	658.48	1.50	-1.50	0.00	
5,078.78	0.00	0.00	5,000.00	-609.00	-551.80	659.13	1.50	-1.50	0.00	
5,100.00	0.00	0.00	5,021.22	-609.00	-551.80	659.13	0.00	0.00	0.00	
5,200.00	0.00	0.00	5,121.22	-609.00	-551.80	659.13	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,221.22	-609.00	-551.80	659.13	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,321.22	-609.00	-551.80	659.13	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,421.22	-609.00	-551.80	659.13	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,521.22	-609.00	-551.80	659.13	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,621.22	-609.00	-551.80	659.13	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,721.22	-609.00	-551.80	659.13	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,821.22	-609.00	-551.80	659.13	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,921.22	-609.00	-551.80	659.13	0.00	0.00	0.00	
6,100.00	0.00	0.00	6,021.22	-609.00	-551.80	659.13	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,121.22	-609.00	-551.80	659.13	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,221.22	-609.00	-551.80	659.13	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,321.22	-609.00	-551.80	659.13	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,421.22	-609.00	-551.80	659.13	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,521.22	-609.00	-551.80	659.13	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,621.22	-609.00	-551.80	659.13	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,721.22	-609.00	-551.80	659.13	0.00	0.00	0.00	
6,803.30	0.00	0.00	6,724.52	-609.00	-551.80	659.13	0.00	0.00	0.00	
6,900.00	8.70	180.00	6,820.85	-616.33	-551.80	666.42	9.00	9.00	0.00	
7,000.00	17.70	180.00	6,918.11	-639.15	-551.80	689.14	9.00	9.00	0.00	
7,100.00	26.70	180.00	7,010.60	-676.90	-551.80	726.71	9.00	9.00	0.00	
7,200.00	35.70	180.00	7,096.04	-728.65	-551.80	778.23	9.00	9.00	0.00	
7,296.72	44.41	180.00	7,170.00	-790.83	-551.80	840.12	9.00	9.00	0.00	
Sharon Springs										
7,300.00	44.70	180.00	7,172.34	-793.13	-551.80	842.41	9.00	9.00	0.00	
7,334.22	47.78	180.00	7,196.00	-817.84	-551.80	867.01	9.00	9.00	0.00	
Niobrara										
7,400.00	53.70	180.00	7,237.61	-868.76	-551.80	917.69	9.00	9.00	0.00	
7,500.00	62.70	180.00	7,290.25	-953.66	-551.80	1,002.20	9.00	9.00	0.00	
7,600.00	71.70	180.00	7,328.95	-1,045.76	-551.80	1,093.87	9.00	9.00	0.00	
7,631.13	74.50	180.00	7,338.00	-1,075.54	-551.80	1,123.51	9.00	9.00	0.00	
Nio B										
7,700.00	80.70	180.00	7,352.78	-1,142.77	-551.80	1,190.44	9.00	9.00	0.00	
7,800.00	89.70	180.00	7,361.13	-1,242.32	-551.80	1,289.53	9.00	9.00	0.00	
7,801.19	89.81	180.00	7,361.14	-1,243.51	-551.80	1,290.71	9.00	9.00	0.00	
Top of Production - AZUL 13-3HZ_PHL										
7,900.00	89.81	180.00	7,361.47	-1,342.32	-551.80	1,389.06	0.00	0.00	0.00	
8,000.00	89.81	180.00	7,361.80	-1,442.32	-551.80	1,488.60	0.00	0.00	0.00	
8,100.00	89.81	180.00	7,362.13	-1,542.32	-551.80	1,588.14	0.00	0.00	0.00	
8,200.00	89.81	180.00	7,362.46	-1,642.32	-551.80	1,687.68	0.00	0.00	0.00	
8,300.00	89.81	180.00	7,362.79	-1,742.32	-551.80	1,787.22	0.00	0.00	0.00	
8,400.00	89.81	180.00	7,363.12	-1,842.32	-551.80	1,886.76	0.00	0.00	0.00	
8,500.00	89.81	180.00	7,363.46	-1,942.32	-551.80	1,986.29	0.00	0.00	0.00	

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-3HZ
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 13-3HZ	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	89.81	180.00	7,363.79	-2,042.31	-551.80	2,085.83	0.00	0.00	0.00
8,700.00	89.81	180.00	7,364.12	-2,142.31	-551.80	2,185.37	0.00	0.00	0.00
8,800.00	89.81	180.00	7,364.45	-2,242.31	-551.80	2,284.91	0.00	0.00	0.00
8,900.00	89.81	180.00	7,364.78	-2,342.31	-551.80	2,384.45	0.00	0.00	0.00
9,000.00	89.81	180.00	7,365.11	-2,442.31	-551.80	2,483.98	0.00	0.00	0.00
9,100.00	89.81	180.00	7,365.44	-2,542.31	-551.80	2,583.52	0.00	0.00	0.00
9,200.00	89.81	180.00	7,365.78	-2,642.31	-551.80	2,683.06	0.00	0.00	0.00
9,300.00	89.81	180.00	7,366.11	-2,742.31	-551.80	2,782.60	0.00	0.00	0.00
9,400.00	89.81	180.00	7,366.44	-2,842.31	-551.80	2,882.14	0.00	0.00	0.00
9,500.00	89.81	180.00	7,366.77	-2,942.31	-551.80	2,981.68	0.00	0.00	0.00
9,600.00	89.81	180.00	7,367.10	-3,042.31	-551.80	3,081.21	0.00	0.00	0.00
9,700.00	89.81	180.00	7,367.43	-3,142.31	-551.80	3,180.75	0.00	0.00	0.00
9,800.00	89.81	180.00	7,367.77	-3,242.31	-551.80	3,280.29	0.00	0.00	0.00
9,900.00	89.81	180.00	7,368.10	-3,342.31	-551.80	3,379.83	0.00	0.00	0.00
10,000.00	89.81	180.00	7,368.43	-3,442.31	-551.80	3,479.37	0.00	0.00	0.00
10,100.00	89.81	180.00	7,368.76	-3,542.31	-551.80	3,578.91	0.00	0.00	0.00
10,200.00	89.81	180.00	7,369.09	-3,642.31	-551.80	3,678.44	0.00	0.00	0.00
10,300.00	89.81	180.00	7,369.42	-3,742.31	-551.80	3,777.98	0.00	0.00	0.00
10,400.00	89.81	180.00	7,369.76	-3,842.31	-551.80	3,877.52	0.00	0.00	0.00
10,500.00	89.81	180.00	7,370.09	-3,942.30	-551.80	3,977.06	0.00	0.00	0.00
10,600.00	89.81	180.00	7,370.42	-4,042.30	-551.80	4,076.60	0.00	0.00	0.00
10,700.00	89.81	180.00	7,370.75	-4,142.30	-551.80	4,176.13	0.00	0.00	0.00
10,800.00	89.81	180.00	7,371.08	-4,242.30	-551.80	4,275.67	0.00	0.00	0.00
10,900.00	89.81	180.00	7,371.41	-4,342.30	-551.80	4,375.21	0.00	0.00	0.00
11,000.00	89.81	180.00	7,371.75	-4,442.30	-551.80	4,474.75	0.00	0.00	0.00
11,100.00	89.81	180.00	7,372.08	-4,542.30	-551.80	4,574.29	0.00	0.00	0.00
11,200.00	89.81	180.00	7,372.41	-4,642.30	-551.80	4,673.83	0.00	0.00	0.00
11,300.00	89.81	180.00	7,372.74	-4,742.30	-551.80	4,773.36	0.00	0.00	0.00
11,400.00	89.81	180.00	7,373.07	-4,842.30	-551.80	4,872.90	0.00	0.00	0.00
11,500.00	89.81	180.00	7,373.40	-4,942.30	-551.80	4,972.44	0.00	0.00	0.00
11,600.00	89.81	180.00	7,373.74	-5,042.30	-551.80	5,071.98	0.00	0.00	0.00
11,700.00	89.81	180.00	7,374.07	-5,142.30	-551.80	5,171.52	0.00	0.00	0.00
11,800.00	89.81	180.00	7,374.40	-5,242.30	-551.80	5,271.05	0.00	0.00	0.00
11,900.00	89.81	180.00	7,374.73	-5,342.30	-551.80	5,370.59	0.00	0.00	0.00
12,000.00	89.81	180.00	7,375.06	-5,442.30	-551.80	5,470.13	0.00	0.00	0.00
12,100.00	89.81	180.00	7,375.39	-5,542.30	-551.80	5,569.67	0.00	0.00	0.00
12,200.00	89.81	180.00	7,375.72	-5,642.30	-551.80	5,669.21	0.00	0.00	0.00
12,283.07	89.81	180.00	7,376.00	-5,725.36	-551.80	5,751.89	0.00	0.00	0.00
AZUL 13-3HZ_PBHL									

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 13-3HZ_PHL	0.00	0.00	7,361.14	-1,243.51	-551.80	14,542,549.83	1,715,249.44	40.043126	-104.732621
- plan hits target center									
- Point									
AZUL 13-3HZ_PBHL	0.00	0.00	7,376.00	-5,725.36	-551.80	14,538,068.00	1,715,263.00	40.030818	-104.732620
- plan hits target center									
- Point									

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-3HZ
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 13-3HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,821.87	1,800.00	9 5/8"	9-5/8	13-1/2	
7,801.19	7,361.14	Top of Production	5-1/2	7-7/8	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,637.03	1,619.00	Fox Hills				
4,334.07	4,260.00	Parkman				
4,702.17	4,624.00	Sussex				
7,296.72	7,170.00	Sharon Springs				
7,334.22	7,196.00	Niobrara				
7,631.13	7,338.00	Nio B				