

US ROCKIES WATTENBERG PLANNING

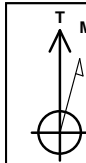
**WELD-NAD83-UTMFT13N
1N-66W-13 AZUL 14-13HZ PAD
AZUL 13-30HZ**

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 13-30HZ
Wellbore: Plan A
Design: Permit Rev-1

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1599.00	1654.60	Fox Hills
4240.00	4769.52	Parkman
4604.00	5199.44	Sussex
7117.00	7888.83	Sharon Springs
7143.00	7917.64	Niobrara
7276.00	8078.64	Nio B
7330.00	8154.71	Nio C
7462.00	8422.36	Fort Hayes
7484.00	8516.67	Codell

WELL DETAILS: AZUL 13-30HZ

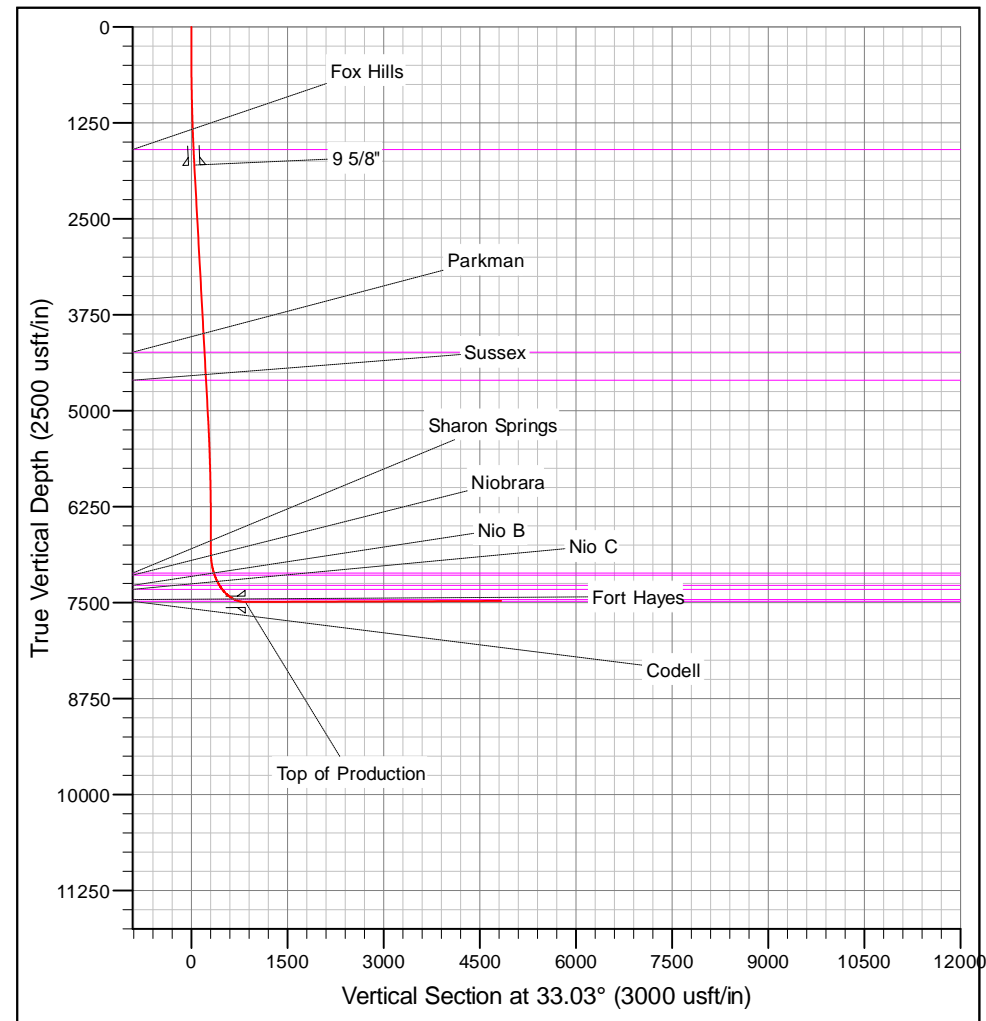
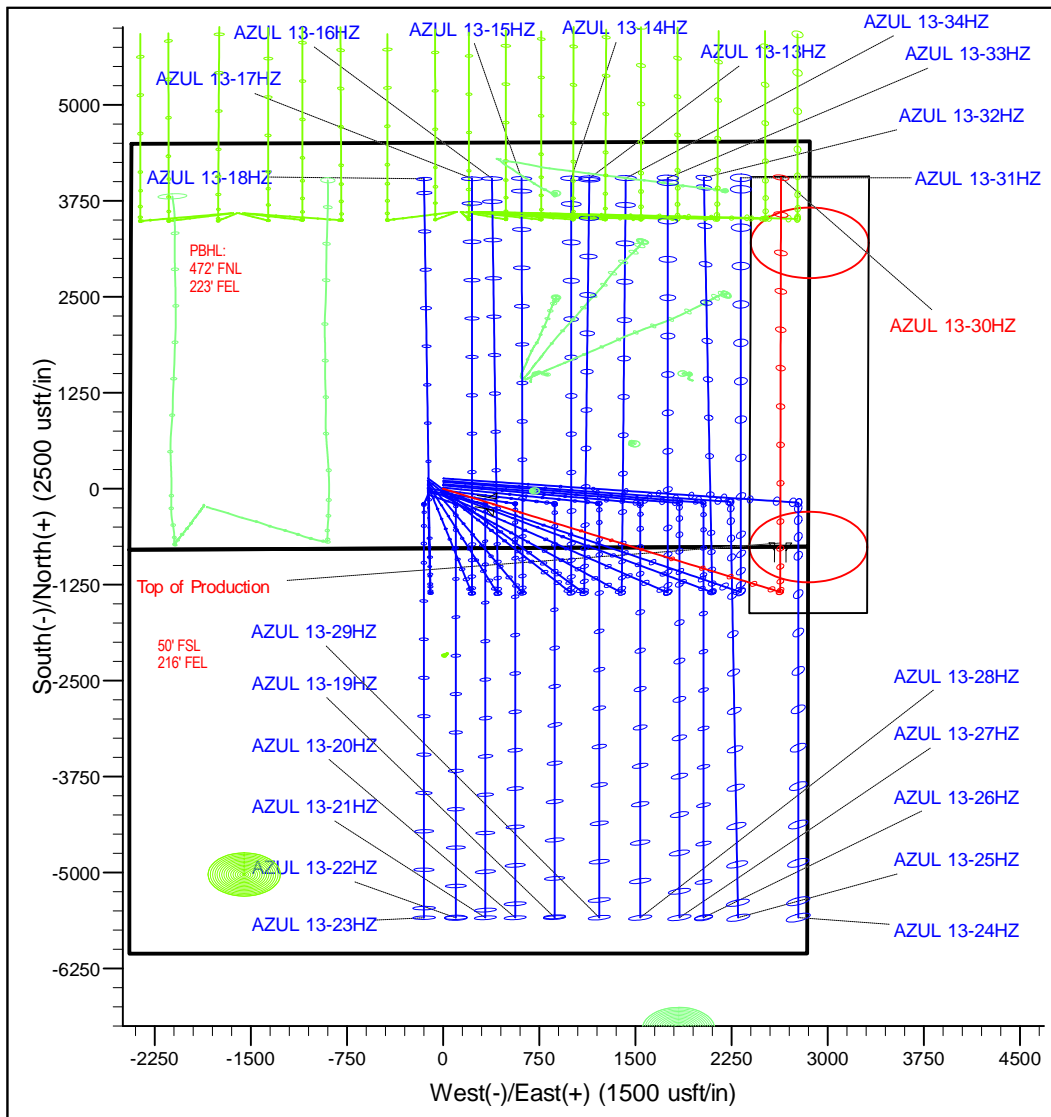
+N/-S	+E/-W	GL: 5051.00 Northing	RKB @ 5068.00usft (D Rig) Easting	Latitude	Longitude	Slot
0.00	0.00	14543662.24	1717039.09	40.046166	-104.726214	

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
AZUL 13-30HZ_PBHL	7479.00	4053.50	2635.39	14547723.82	1719662.00	40.057297	-104.716796

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	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
1857.41	32.15	117.08	1774.38	-199.99	391.07	2.00	45.50
5756.46	32.15	117.08	5075.62	-1144.62	2238.28	0.00	260.40
7363.87	0.00	0.00	6600.00	-1344.61	2629.35	2.00	305.90
7619.54	0.00	0.00	6855.67	-1344.61	2629.35	0.00	305.90
8621.32	90.16	0.06	7492.29	-706.21	2630.06	9.00	841.51
13381.05	90.16	0.06	7479.00	4053.50	2635.39	0.00	834.88



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-30HZ
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 13-30HZ	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 13-30HZ					
Well Position	+N-S	-135.83 usft	Northing:	14,543,662.23 usft	Latitude:	40.046166
	+E-W	118.66 usft	Easting:	1,717,039.08 usft	Longitude:	-104.726214
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	52,319.20039184

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	33.03	

Plan Survey Tool Program	Date	6/7/2017			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	1,887.66	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWI	
				Fixed:v2:crustal field declinat	
2	1,887.66	13,381.05	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWI	
				Fixed:v2:Rockies, crustal dex	

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Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 5068.00usft (D Rig)
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Well:	AZUL 13-30HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

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	
1,857.41	32.15	117.08	1,774.38	-199.99	391.07	2.00	2.00	0.00	117.08	
5,756.46	32.15	117.08	5,075.62	-1,144.62	2,238.28	0.00	0.00	0.00	0.00	
7,363.87	0.00	0.00	6,600.00	-1,344.61	2,629.35	2.00	-2.00	0.00	180.00	
7,619.54	0.00	0.00	6,855.67	-1,344.61	2,629.35	0.00	0.00	0.00	0.00	
8,621.32	90.16	0.06	7,492.29	-706.21	2,630.06	9.00	9.00	0.00	0.06	
13,381.05	90.16	0.06	7,479.00	4,053.50	2,635.39	0.00	0.00	0.00	0.00	AZUL 13-30HZ_PBI

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 13-30HZ	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	117.08	300.00	-0.20	0.39	0.05	2.00	2.00	0.00
400.00	3.00	117.08	399.93	-1.79	3.50	0.41	2.00	2.00	0.00
500.00	5.00	117.08	499.68	-4.96	9.71	1.13	2.00	2.00	0.00
600.00	7.00	117.08	599.13	-9.72	19.01	2.21	2.00	2.00	0.00
700.00	9.00	117.08	698.15	-16.06	31.40	3.65	2.00	2.00	0.00
800.00	11.00	117.08	796.63	-23.96	46.86	5.45	2.00	2.00	0.00
900.00	13.00	117.08	894.44	-33.43	65.37	7.61	2.00	2.00	0.00
1,000.00	15.00	117.08	991.46	-44.44	86.91	10.11	2.00	2.00	0.00
1,100.00	17.00	117.08	1,087.58	-56.99	111.45	12.97	2.00	2.00	0.00
1,200.00	19.00	117.08	1,182.68	-71.06	138.96	16.17	2.00	2.00	0.00
1,300.00	21.00	117.08	1,276.65	-86.63	169.41	19.71	2.00	2.00	0.00
1,400.00	23.00	117.08	1,369.36	-103.69	202.76	23.59	2.00	2.00	0.00
1,500.00	25.00	117.08	1,460.71	-122.21	238.97	27.80	2.00	2.00	0.00
1,600.00	27.00	117.08	1,550.59	-142.17	278.00	32.34	2.00	2.00	0.00
1,654.60	28.09	117.08	1,599.00	-153.66	300.48	34.96	2.00	2.00	0.00
Fox Hills									
1,700.00	29.00	117.08	1,638.88	-163.54	319.80	37.21	2.00	2.00	0.00
1,800.00	31.00	117.08	1,725.48	-186.30	364.31	42.38	2.00	2.00	0.00
1,857.41	32.15	117.08	1,774.38	-199.99	391.07	45.50	2.00	2.00	0.00
1,887.66	32.15	117.08	1,800.00	-207.32	405.41	47.17	0.00	0.00	0.00
9 5/8"									
1,900.00	32.15	117.08	1,810.45	-210.31	411.25	47.85	0.00	0.00	0.00
2,000.00	32.15	117.08	1,895.11	-234.54	458.63	53.36	0.00	0.00	0.00
2,100.00	32.15	117.08	1,979.78	-258.76	506.00	58.87	0.00	0.00	0.00
2,200.00	32.15	117.08	2,064.45	-282.99	553.38	64.38	0.00	0.00	0.00
2,300.00	32.15	117.08	2,149.12	-307.22	600.76	69.89	0.00	0.00	0.00
2,400.00	32.15	117.08	2,233.78	-331.44	648.13	75.40	0.00	0.00	0.00
2,500.00	32.15	117.08	2,318.45	-355.67	695.51	80.92	0.00	0.00	0.00
2,600.00	32.15	117.08	2,403.12	-379.90	742.88	86.43	0.00	0.00	0.00
2,700.00	32.15	117.08	2,487.79	-404.13	790.26	91.94	0.00	0.00	0.00
2,800.00	32.15	117.08	2,572.45	-428.35	837.63	97.45	0.00	0.00	0.00
2,900.00	32.15	117.08	2,657.12	-452.58	885.01	102.96	0.00	0.00	0.00
3,000.00	32.15	117.08	2,741.79	-476.81	932.38	108.47	0.00	0.00	0.00
3,100.00	32.15	117.08	2,826.46	-501.03	979.76	113.99	0.00	0.00	0.00
3,200.00	32.15	117.08	2,911.12	-525.26	1,027.14	119.50	0.00	0.00	0.00
3,300.00	32.15	117.08	2,995.79	-549.49	1,074.51	125.01	0.00	0.00	0.00
3,400.00	32.15	117.08	3,080.46	-573.72	1,121.89	130.52	0.00	0.00	0.00
3,500.00	32.15	117.08	3,165.13	-597.94	1,169.26	136.03	0.00	0.00	0.00
3,600.00	32.15	117.08	3,249.79	-622.17	1,216.64	141.54	0.00	0.00	0.00
3,700.00	32.15	117.08	3,334.46	-646.40	1,264.01	147.06	0.00	0.00	0.00
3,800.00	32.15	117.08	3,419.13	-670.63	1,311.39	152.57	0.00	0.00	0.00
3,900.00	32.15	117.08	3,503.80	-694.85	1,358.77	158.08	0.00	0.00	0.00
4,000.00	32.15	117.08	3,588.46	-719.08	1,406.14	163.59	0.00	0.00	0.00
4,100.00	32.15	117.08	3,673.13	-743.31	1,453.52	169.10	0.00	0.00	0.00
4,200.00	32.15	117.08	3,757.80	-767.53	1,500.89	174.61	0.00	0.00	0.00
4,300.00	32.15	117.08	3,842.47	-791.76	1,548.27	180.13	0.00	0.00	0.00
4,400.00	32.15	117.08	3,927.13	-815.99	1,595.64	185.64	0.00	0.00	0.00
4,500.00	32.15	117.08	4,011.80	-840.22	1,643.02	191.15	0.00	0.00	0.00
4,600.00	32.15	117.08	4,096.47	-864.44	1,690.40	196.66	0.00	0.00	0.00
4,700.00	32.15	117.08	4,181.14	-888.67	1,737.77	202.17	0.00	0.00	0.00

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 13-30HZ	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)
4,769.52	32.15	117.08	4,240.00	-905.51	1,770.71	206.01	0.00	0.00	0.00
Parkman									
4,800.00	32.15	117.08	4,265.80	-912.90	1,785.15	207.68	0.00	0.00	0.00
4,900.00	32.15	117.08	4,350.47	-937.12	1,832.52	213.20	0.00	0.00	0.00
5,000.00	32.15	117.08	4,435.14	-961.35	1,879.90	218.71	0.00	0.00	0.00
5,100.00	32.15	117.08	4,519.81	-985.58	1,927.27	224.22	0.00	0.00	0.00
5,199.44	32.15	117.08	4,604.00	-1,009.67	1,974.38	229.70	0.00	0.00	0.00
Sussex									
5,200.00	32.15	117.08	4,604.47	-1,009.81	1,974.65	229.73	0.00	0.00	0.00
5,300.00	32.15	117.08	4,689.14	-1,034.03	2,022.02	235.24	0.00	0.00	0.00
5,400.00	32.15	117.08	4,773.81	-1,058.26	2,069.40	240.76	0.00	0.00	0.00
5,500.00	32.15	117.08	4,858.48	-1,082.49	2,116.78	246.27	0.00	0.00	0.00
5,600.00	32.15	117.08	4,943.14	-1,106.71	2,164.15	251.78	0.00	0.00	0.00
5,700.00	32.15	117.08	5,027.81	-1,130.94	2,211.53	257.29	0.00	0.00	0.00
5,756.46	32.15	117.08	5,075.62	-1,144.62	2,238.28	260.40	0.00	0.00	0.00
5,800.00	31.28	117.08	5,112.65	-1,155.04	2,258.65	262.77	2.00	-2.00	0.00
5,900.00	29.28	117.08	5,199.01	-1,178.00	2,303.54	268.00	2.00	-2.00	0.00
6,000.00	27.28	117.08	5,287.07	-1,199.56	2,345.72	272.90	2.00	-2.00	0.00
6,100.00	25.28	117.08	5,376.73	-1,219.72	2,385.13	277.49	2.00	-2.00	0.00
6,200.00	23.28	117.08	5,467.89	-1,238.44	2,421.74	281.75	2.00	-2.00	0.00
6,300.00	21.28	117.08	5,560.42	-1,255.70	2,455.49	285.67	2.00	-2.00	0.00
6,400.00	19.28	117.08	5,654.21	-1,271.48	2,486.34	289.26	2.00	-2.00	0.00
6,500.00	17.28	117.08	5,749.16	-1,285.76	2,514.26	292.51	2.00	-2.00	0.00
6,600.00	15.28	117.08	5,845.15	-1,298.52	2,539.22	295.41	2.00	-2.00	0.00
6,700.00	13.28	117.08	5,942.06	-1,309.74	2,561.17	297.97	2.00	-2.00	0.00
6,800.00	11.28	117.08	6,039.77	-1,319.43	2,580.10	300.17	2.00	-2.00	0.00
6,900.00	9.28	117.08	6,138.16	-1,327.55	2,595.99	302.02	2.00	-2.00	0.00
7,000.00	7.28	117.08	6,237.11	-1,334.10	2,608.80	303.51	2.00	-2.00	0.00
7,100.00	5.28	117.08	6,336.50	-1,339.08	2,618.54	304.64	2.00	-2.00	0.00
7,200.00	3.28	117.08	6,436.22	-1,342.48	2,625.18	305.41	2.00	-2.00	0.00
7,300.00	1.28	117.08	6,536.14	-1,344.29	2,628.72	305.83	2.00	-2.00	0.00
7,363.87	0.00	0.00	6,600.00	-1,344.61	2,629.35	305.90	2.00	-2.00	0.00
7,400.00	0.00	0.00	6,636.13	-1,344.61	2,629.35	305.90	0.00	0.00	0.00
7,500.00	0.00	0.00	6,736.13	-1,344.61	2,629.35	305.90	0.00	0.00	0.00
7,600.00	0.00	0.00	6,836.13	-1,344.61	2,629.35	305.90	0.00	0.00	0.00
7,619.54	0.00	0.00	6,855.67	-1,344.61	2,629.35	305.90	0.00	0.00	0.00
7,700.00	7.24	0.06	6,935.92	-1,339.53	2,629.36	310.16	9.00	9.00	0.00
7,800.00	16.24	0.06	7,033.72	-1,319.20	2,629.38	327.22	9.00	9.00	0.00
7,888.83	24.24	0.06	7,117.00	-1,288.50	2,629.41	352.97	9.00	9.00	0.00
Sharon Springs									
7,900.00	25.24	0.06	7,127.15	-1,283.83	2,629.42	356.90	9.00	9.00	0.00
7,917.64	26.83	0.06	7,143.00	-1,276.08	2,629.43	363.39	9.00	9.00	0.00
Niobrara									
8,000.00	34.24	0.06	7,213.89	-1,234.27	2,629.47	398.48	9.00	9.00	0.00
8,078.64	41.32	0.06	7,276.00	-1,186.12	2,629.53	438.87	9.00	9.00	0.00
Nio B									
8,100.00	43.24	0.06	7,291.80	-1,171.75	2,629.54	450.93	9.00	9.00	0.00
8,154.71	48.17	0.06	7,330.00	-1,132.61	2,629.59	483.77	9.00	9.00	0.00
Nio C									
8,200.00	52.24	0.06	7,358.98	-1,097.82	2,629.63	512.96	9.00	9.00	0.00
8,300.00	61.24	0.06	7,413.77	-1,014.28	2,629.72	583.04	9.00	9.00	0.00
8,400.00	70.24	0.06	7,454.81	-923.21	2,629.82	659.45	9.00	9.00	0.00
8,422.36	72.25	0.06	7,462.00	-902.04	2,629.85	677.22	9.00	9.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-30HZ
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 13-30HZ	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)
Fort Hayes									
8,500.00	79.24	0.06	7,481.10	-826.83	2,629.93	740.31	9.00	9.00	0.00
8,516.67	80.74	0.06	7,484.00	-810.42	2,629.95	754.08	9.00	9.00	0.00
Codell									
8,600.00	88.24	0.06	7,491.99	-727.53	2,630.04	823.63	9.00	9.00	0.00
8,621.32	90.16	0.06	7,492.29	-706.21	2,630.06	841.51	9.00	9.00	0.00
Top of Production - AZUL 13-30HZ_PHL									
8,700.00	90.16	0.06	7,492.07	-627.53	2,630.15	907.52	0.00	0.00	0.00
8,800.00	90.16	0.06	7,491.79	-527.53	2,630.26	991.42	0.00	0.00	0.00
8,900.00	90.16	0.06	7,491.51	-427.53	2,630.38	1,075.32	0.00	0.00	0.00
9,000.00	90.16	0.06	7,491.23	-327.54	2,630.49	1,159.22	0.00	0.00	0.00
9,100.00	90.16	0.06	7,490.96	-227.54	2,630.60	1,243.12	0.00	0.00	0.00
9,200.00	90.16	0.06	7,490.68	-127.54	2,630.71	1,327.02	0.00	0.00	0.00
9,300.00	90.16	0.06	7,490.40	-27.54	2,630.82	1,410.92	0.00	0.00	0.00
9,400.00	90.16	0.06	7,490.12	72.46	2,630.94	1,494.82	0.00	0.00	0.00
9,500.00	90.16	0.06	7,489.84	172.46	2,631.05	1,578.72	0.00	0.00	0.00
9,600.00	90.16	0.06	7,489.56	272.46	2,631.16	1,662.62	0.00	0.00	0.00
9,700.00	90.16	0.06	7,489.28	372.46	2,631.27	1,746.52	0.00	0.00	0.00
9,800.00	90.16	0.06	7,489.00	472.46	2,631.38	1,830.41	0.00	0.00	0.00
9,900.00	90.16	0.06	7,488.72	572.46	2,631.50	1,914.31	0.00	0.00	0.00
10,000.00	90.16	0.06	7,488.44	672.46	2,631.61	1,998.21	0.00	0.00	0.00
10,100.00	90.16	0.06	7,488.16	772.46	2,631.72	2,082.11	0.00	0.00	0.00
10,200.00	90.16	0.06	7,487.88	872.46	2,631.83	2,166.01	0.00	0.00	0.00
10,300.00	90.16	0.06	7,487.60	972.46	2,631.94	2,249.91	0.00	0.00	0.00
10,400.00	90.16	0.06	7,487.32	1,072.46	2,632.05	2,333.81	0.00	0.00	0.00
10,500.00	90.16	0.06	7,487.05	1,172.46	2,632.17	2,417.71	0.00	0.00	0.00
10,600.00	90.16	0.06	7,486.77	1,272.46	2,632.28	2,501.61	0.00	0.00	0.00
10,700.00	90.16	0.06	7,486.49	1,372.46	2,632.39	2,585.51	0.00	0.00	0.00
10,800.00	90.16	0.06	7,486.21	1,472.46	2,632.50	2,669.41	0.00	0.00	0.00
10,900.00	90.16	0.06	7,485.93	1,572.46	2,632.61	2,753.30	0.00	0.00	0.00
11,000.00	90.16	0.06	7,485.65	1,672.46	2,632.73	2,837.20	0.00	0.00	0.00
11,100.00	90.16	0.06	7,485.37	1,772.46	2,632.84	2,921.10	0.00	0.00	0.00
11,200.00	90.16	0.06	7,485.09	1,872.46	2,632.95	3,005.00	0.00	0.00	0.00
11,300.00	90.16	0.06	7,484.81	1,972.45	2,633.06	3,088.90	0.00	0.00	0.00
11,400.00	90.16	0.06	7,484.53	2,072.45	2,633.17	3,172.80	0.00	0.00	0.00
11,500.00	90.16	0.06	7,484.25	2,172.45	2,633.29	3,256.70	0.00	0.00	0.00
11,600.00	90.16	0.06	7,483.97	2,272.45	2,633.40	3,340.60	0.00	0.00	0.00
11,700.00	90.16	0.06	7,483.69	2,372.45	2,633.51	3,424.50	0.00	0.00	0.00
11,800.00	90.16	0.06	7,483.42	2,472.45	2,633.62	3,508.40	0.00	0.00	0.00
11,900.00	90.16	0.06	7,483.14	2,572.45	2,633.73	3,592.30	0.00	0.00	0.00
12,000.00	90.16	0.06	7,482.86	2,672.45	2,633.84	3,676.20	0.00	0.00	0.00
12,100.00	90.16	0.06	7,482.58	2,772.45	2,633.96	3,760.09	0.00	0.00	0.00
12,200.00	90.16	0.06	7,482.30	2,872.45	2,634.07	3,843.99	0.00	0.00	0.00
12,300.00	90.16	0.06	7,482.02	2,972.45	2,634.18	3,927.89	0.00	0.00	0.00
12,400.00	90.16	0.06	7,481.74	3,072.45	2,634.29	4,011.79	0.00	0.00	0.00
12,500.00	90.16	0.06	7,481.46	3,172.45	2,634.40	4,095.69	0.00	0.00	0.00
12,600.00	90.16	0.06	7,481.18	3,272.45	2,634.52	4,179.59	0.00	0.00	0.00
12,700.00	90.16	0.06	7,480.90	3,372.45	2,634.63	4,263.49	0.00	0.00	0.00
12,800.00	90.16	0.06	7,480.62	3,472.45	2,634.74	4,347.39	0.00	0.00	0.00
12,900.00	90.16	0.06	7,480.34	3,572.45	2,634.85	4,431.29	0.00	0.00	0.00
13,000.00	90.16	0.06	7,480.06	3,672.45	2,634.96	4,515.19	0.00	0.00	0.00
13,100.00	90.16	0.06	7,479.79	3,772.45	2,635.08	4,599.09	0.00	0.00	0.00
13,200.00	90.16	0.06	7,479.51	3,872.45	2,635.19	4,682.98	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-30HZ
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 13-30HZ	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)
13,300.00	90.16	0.06	7,479.23	3,972.45	2,635.30	4,766.88	0.00	0.00	0.00
13,381.05	90.16	0.06	7,479.00	4,053.50	2,635.39	4,834.88	0.00	0.00	0.00
AZUL 13-30HZ_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 13-30HZ_PBHL	0.00	0.00	7,479.00	4,053.50	2,635.39	14,547,723.81	1,719,662.00	40.057297	-104.716796
- plan hits target center									
- Point									
AZUL 13-30HZ_PHL	0.00	0.00	7,492.29	-706.21	2,630.06	14,542,964.11	1,719,671.31	40.044226	-104.716817
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,887.66	1,800.00	9 5/8"	9-5/8	13-1/2	
8,621.32	7,492.29	Top of Production	5-1/2	7-7/8	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,654.60	1,599.00	Fox Hills				
4,769.52	4,240.00	Parkman				
5,199.44	4,604.00	Sussex				
7,888.83	7,117.00	Sharon Springs				
7,917.64	7,143.00	Niobrara				
8,078.64	7,276.00	Nio B				
8,154.71	7,330.00	Nio C				
8,422.36	7,462.00	Fort Hayes				
8,516.67	7,484.00	Codell				