

US ROCKIES WATTENBERG PLANNING

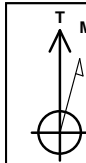
**WELD-NAD83-UTMFT13N
1N-66W-13 AZUL 14-13HZ PAD
AZUL 13-33HZ**

Plan A

Plan: Permit Rev-1

Standard Planning Report

07 June, 2017



Azimuths to True North
Magnetic North: 8.01°

Magnetic Field
Strength: 52319.1nT
Dip Angle: 66.56°
Date: 6/5/2017
Model: IGRF2010

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

Well: AZUL 13-33HZ
Wellbore: Plan A
Design: Permit Rev-1

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1599.00	1650.64	Fox Hills
4240.00	4534.18	Parkman
4604.00	4931.60	Sussex
7113.00	7539.29	Sharon Springs
7139.00	7567.60	Niobrara
7275.00	7728.06	Nio B
7330.00	7802.56	Nio C
7481.00	8099.06	Fort Hayes
7503.00	8195.05	Codell

WELL DETAILS: AZUL 13-33HZ

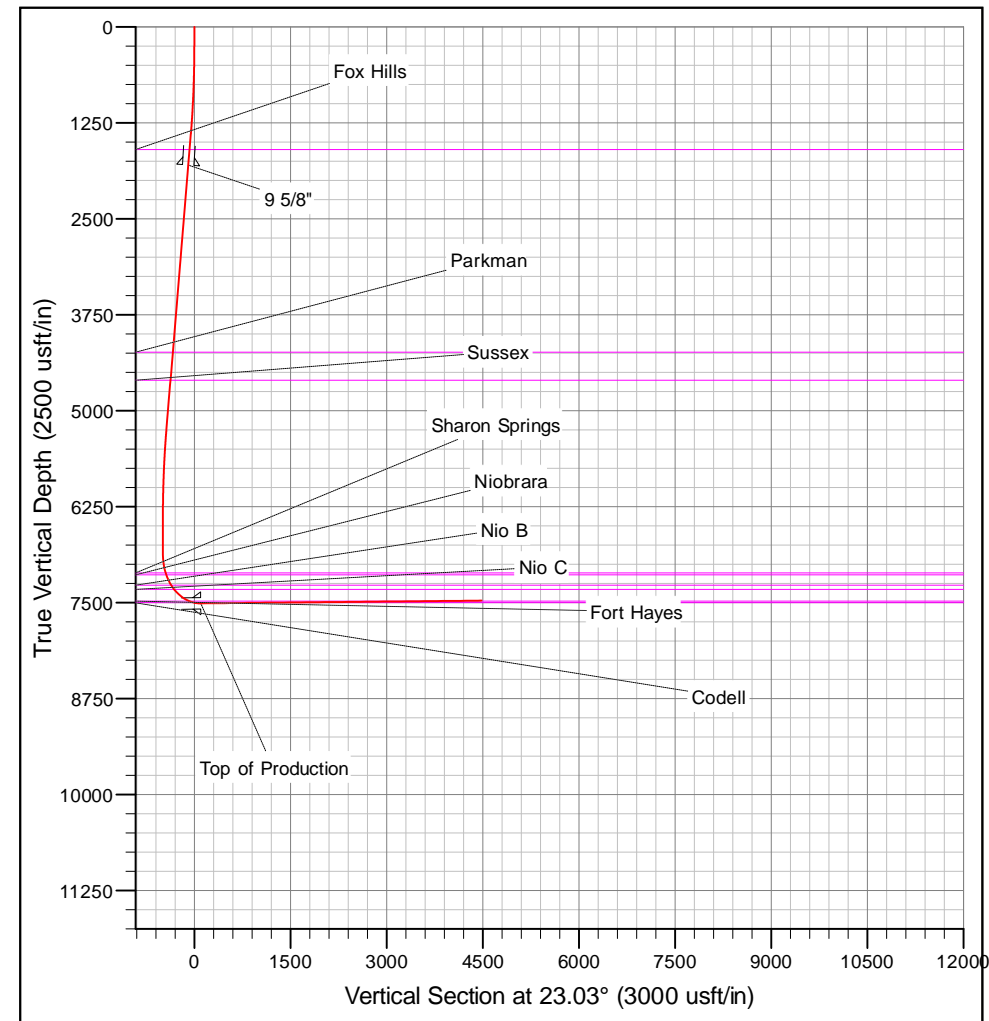
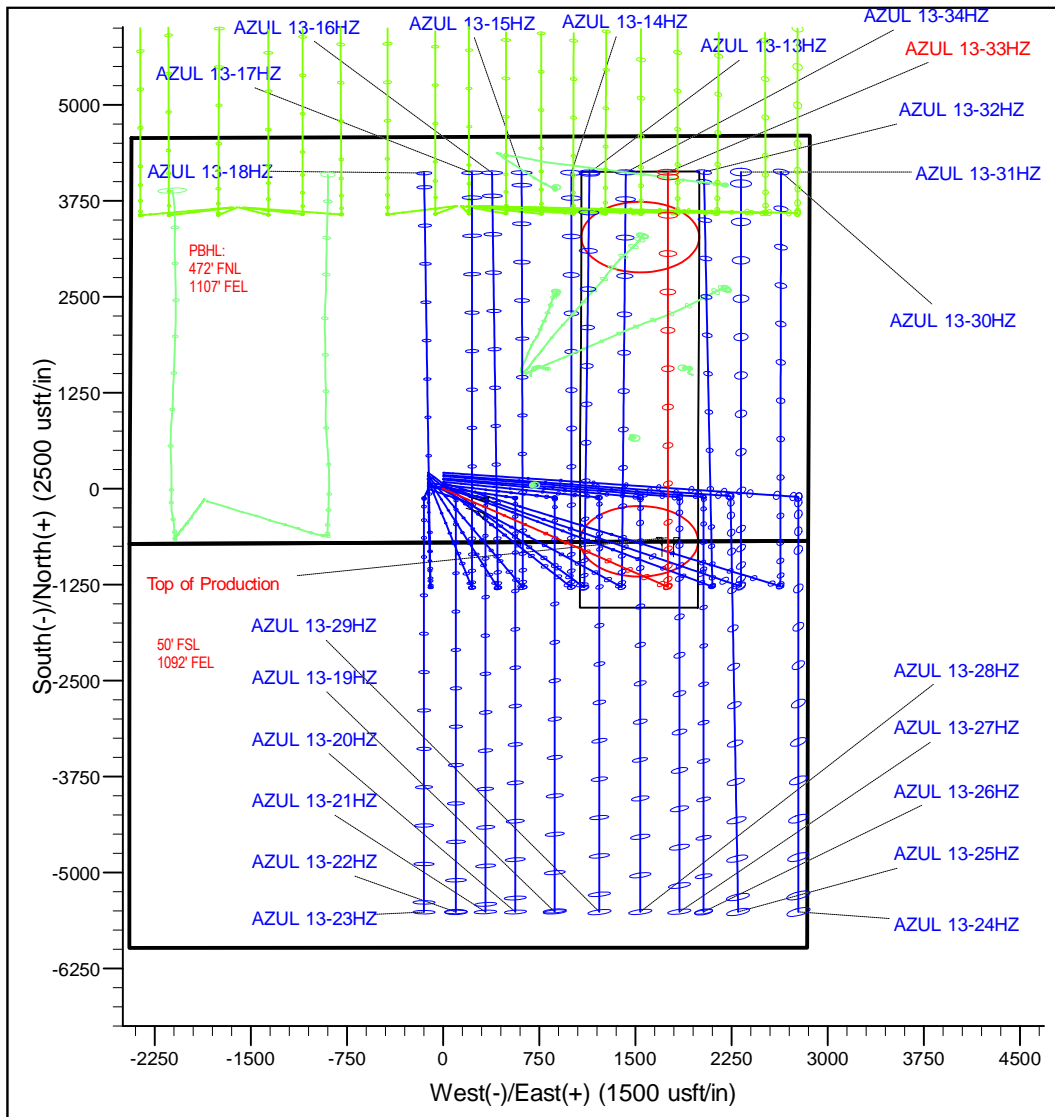
+N/-S	+E/-W	GL: 5051.00	RKB @ 5068.00usft (D Rig)	Latitude	Longitude	Slot
0.00	0.00	14543587.22	1717038.76	40.045960	-104.726216	

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
AZUL 13-33HZ_PBHL	7475.00	4123.10	1752.93	14547715.69	1718779.00	40.057282	-104.719951

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
1433.38	23.67	126.09	1400.01	-141.95	194.71	2.00	-54.46
5636.92	23.67	126.09	5249.99	-1136.05	1558.22	0.00	-435.82
6820.30	0.00	0.00	6400.00	-1278.00	1752.93	2.00	-490.28
7294.42	0.00	0.00	6874.12	-1278.00	1752.93	0.00	-490.28
8299.19	90.43	0.00	7510.72	-636.60	1752.93	9.00	99.99
13059.03	90.43	0.00	7475.00	4123.10	1752.93	0.00	480.26



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-33HZ
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 13-33HZ	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 13-33HZ					
Well Position	+N/-S	-210.84 usft	Northing:	14,543,587.22 usft	Latitude:	40.045960
	+E/-W	118.10 usft	Easting:	1,717,038.75 usft	Longitude:	-104.726216
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	52,319.09183040

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	23.03

Plan Survey Tool Program	Date	6/7/2017		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	13,059.03	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	
1,433.38	23.67	126.09	1,400.01	-141.95	194.71	2.00	2.00	0.00	126.09	
5,636.92	23.67	126.09	5,249.99	-1,136.05	1,558.22	0.00	0.00	0.00	0.00	
6,820.30	0.00	0.00	6,400.00	-1,278.00	1,752.93	2.00	-2.00	0.00	180.00	
7,294.42	0.00	0.00	6,874.12	-1,278.00	1,752.93	0.00	0.00	0.00	0.00	
8,299.19	90.43	0.00	7,510.72	-636.60	1,752.93	9.00	9.00	0.00	0.00	
13,059.03	90.43	0.00	7,475.00	4,123.10	1,752.93	0.00	0.00	0.00	0.00	AZUL 13-33HZ_PBI

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-33HZ
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 13-33HZ	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	126.09	300.00	-0.26	0.35	-0.10	2.00	2.00	0.00
400.00	3.00	126.09	399.93	-2.31	3.17	-0.89	2.00	2.00	0.00
500.00	5.00	126.09	499.68	-6.42	8.81	-2.46	2.00	2.00	0.00
600.00	7.00	126.09	599.13	-12.58	17.25	-4.83	2.00	2.00	0.00
700.00	9.00	126.09	698.15	-20.78	28.50	-7.97	2.00	2.00	0.00
800.00	11.00	126.09	796.63	-31.01	42.53	-11.90	2.00	2.00	0.00
900.00	13.00	126.09	894.44	-43.26	59.33	-16.59	2.00	2.00	0.00
1,000.00	15.00	126.09	991.46	-57.51	78.88	-22.06	2.00	2.00	0.00
1,100.00	17.00	126.09	1,087.58	-73.74	101.15	-28.29	2.00	2.00	0.00
1,200.00	19.00	126.09	1,182.68	-91.95	126.12	-35.27	2.00	2.00	0.00
1,300.00	21.00	126.09	1,276.65	-112.10	153.75	-43.00	2.00	2.00	0.00
1,400.00	23.00	126.09	1,369.36	-134.16	184.02	-51.47	2.00	2.00	0.00
1,433.38	23.67	126.09	1,400.01	-141.95	194.71	-54.46	2.00	2.00	0.00
1,500.00	23.67	126.09	1,461.03	-157.71	216.32	-60.50	0.00	0.00	0.00
1,600.00	23.67	126.09	1,552.62	-181.36	248.75	-69.57	0.00	0.00	0.00
1,650.64	23.67	126.09	1,599.00	-193.33	265.18	-74.17	0.00	0.00	0.00
Fox Hills									
1,700.00	23.67	126.09	1,644.21	-205.01	281.19	-78.65	0.00	0.00	0.00
1,800.00	23.67	126.09	1,735.80	-228.65	313.63	-87.72	0.00	0.00	0.00
1,870.10	23.67	126.09	1,800.00	-245.23	336.37	-94.08	0.00	0.00	0.00
9 5/8"									
1,900.00	23.67	126.09	1,827.38	-252.30	346.06	-96.79	0.00	0.00	0.00
2,000.00	23.67	126.09	1,918.97	-275.95	378.50	-105.86	0.00	0.00	0.00
2,100.00	23.67	126.09	2,010.56	-299.60	410.94	-114.94	0.00	0.00	0.00
2,200.00	23.67	126.09	2,102.15	-323.25	443.38	-124.01	0.00	0.00	0.00
2,300.00	23.67	126.09	2,193.74	-346.90	475.81	-133.08	0.00	0.00	0.00
2,400.00	23.67	126.09	2,285.33	-370.55	508.25	-142.15	0.00	0.00	0.00
2,500.00	23.67	126.09	2,376.92	-394.20	540.69	-151.22	0.00	0.00	0.00
2,600.00	23.67	126.09	2,468.51	-417.85	573.13	-160.30	0.00	0.00	0.00
2,700.00	23.67	126.09	2,560.10	-441.50	605.56	-169.37	0.00	0.00	0.00
2,800.00	23.67	126.09	2,651.69	-465.14	638.00	-178.44	0.00	0.00	0.00
2,900.00	23.67	126.09	2,743.27	-488.79	670.44	-187.51	0.00	0.00	0.00
3,000.00	23.67	126.09	2,834.86	-512.44	702.88	-196.59	0.00	0.00	0.00
3,100.00	23.67	126.09	2,926.45	-536.09	735.31	-205.66	0.00	0.00	0.00
3,200.00	23.67	126.09	3,018.04	-559.74	767.75	-214.73	0.00	0.00	0.00
3,300.00	23.67	126.09	3,109.63	-583.39	800.19	-223.80	0.00	0.00	0.00
3,400.00	23.67	126.09	3,201.22	-607.04	832.63	-232.88	0.00	0.00	0.00
3,500.00	23.67	126.09	3,292.81	-630.69	865.06	-241.95	0.00	0.00	0.00
3,600.00	23.67	126.09	3,384.40	-654.34	897.50	-251.02	0.00	0.00	0.00
3,700.00	23.67	126.09	3,475.99	-677.99	929.94	-260.09	0.00	0.00	0.00
3,800.00	23.67	126.09	3,567.57	-701.63	962.38	-269.17	0.00	0.00	0.00
3,900.00	23.67	126.09	3,659.16	-725.28	994.81	-278.24	0.00	0.00	0.00
4,000.00	23.67	126.09	3,750.75	-748.93	1,027.25	-287.31	0.00	0.00	0.00
4,100.00	23.67	126.09	3,842.34	-772.58	1,059.69	-296.38	0.00	0.00	0.00
4,200.00	23.67	126.09	3,933.93	-796.23	1,092.13	-305.46	0.00	0.00	0.00
4,300.00	23.67	126.09	4,025.52	-819.88	1,124.56	-314.53	0.00	0.00	0.00
4,400.00	23.67	126.09	4,117.11	-843.53	1,157.00	-323.60	0.00	0.00	0.00
4,500.00	23.67	126.09	4,208.70	-867.18	1,189.44	-332.67	0.00	0.00	0.00
4,534.18	23.67	126.09	4,240.00	-875.26	1,200.52	-335.77	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 13-33HZ	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)
Parkman									
4,600.00	23.67	126.09	4,300.29	-890.83	1,221.88	-341.75	0.00	0.00	0.00
4,700.00	23.67	126.09	4,391.88	-914.48	1,254.31	-350.82	0.00	0.00	0.00
4,800.00	23.67	126.09	4,483.46	-938.12	1,286.75	-359.89	0.00	0.00	0.00
4,900.00	23.67	126.09	4,575.05	-961.77	1,319.19	-368.96	0.00	0.00	0.00
4,931.61	23.67	126.09	4,604.00	-969.25	1,329.44	-371.83	0.00	0.00	0.00
Sussex									
5,000.00	23.67	126.09	4,666.64	-985.42	1,351.63	-378.03	0.00	0.00	0.00
5,100.00	23.67	126.09	4,758.23	-1,009.07	1,384.06	-387.11	0.00	0.00	0.00
5,200.00	23.67	126.09	4,849.82	-1,032.72	1,416.50	-396.18	0.00	0.00	0.00
5,300.00	23.67	126.09	4,941.41	-1,056.37	1,448.94	-405.25	0.00	0.00	0.00
5,400.00	23.67	126.09	5,033.00	-1,080.02	1,481.37	-414.32	0.00	0.00	0.00
5,500.00	23.67	126.09	5,124.59	-1,103.67	1,513.81	-423.40	0.00	0.00	0.00
5,600.00	23.67	126.09	5,216.18	-1,127.32	1,546.25	-432.47	0.00	0.00	0.00
5,636.92	23.67	126.09	5,249.99	-1,136.05	1,558.22	-435.82	0.00	0.00	0.00
5,700.00	22.41	126.09	5,308.04	-1,150.59	1,578.17	-441.40	2.00	-2.00	0.00
5,800.00	20.41	126.09	5,401.14	-1,172.09	1,607.66	-449.65	2.00	-2.00	0.00
5,900.00	18.41	126.09	5,495.45	-1,191.66	1,634.51	-457.15	2.00	-2.00	0.00
6,000.00	16.41	126.09	5,590.87	-1,209.28	1,658.68	-463.91	2.00	-2.00	0.00
6,100.00	14.41	126.09	5,687.27	-1,224.93	1,680.14	-469.92	2.00	-2.00	0.00
6,200.00	12.41	126.09	5,784.54	-1,238.59	1,698.88	-475.16	2.00	-2.00	0.00
6,300.00	10.41	126.09	5,882.56	-1,250.24	1,714.86	-479.63	2.00	-2.00	0.00
6,400.00	8.41	126.09	5,981.21	-1,259.87	1,728.06	-483.32	2.00	-2.00	0.00
6,500.00	6.41	126.09	6,080.37	-1,267.46	1,738.48	-486.23	2.00	-2.00	0.00
6,600.00	4.41	126.09	6,179.92	-1,273.01	1,746.09	-488.36	2.00	-2.00	0.00
6,700.00	2.41	126.09	6,279.74	-1,276.51	1,750.89	-489.70	2.00	-2.00	0.00
6,800.00	0.41	126.09	6,379.70	-1,277.96	1,752.87	-490.26	2.00	-2.00	0.00
6,820.30	0.00	0.00	6,400.00	-1,278.00	1,752.93	-490.28	2.00	-2.00	0.00
6,900.00	0.00	0.00	6,479.70	-1,278.00	1,752.93	-490.28	0.00	0.00	0.00
7,000.00	0.00	0.00	6,579.70	-1,278.00	1,752.93	-490.28	0.00	0.00	0.00
7,100.00	0.00	0.00	6,679.70	-1,278.00	1,752.93	-490.28	0.00	0.00	0.00
7,200.00	0.00	0.00	6,779.70	-1,278.00	1,752.93	-490.28	0.00	0.00	0.00
7,294.42	0.00	0.00	6,874.12	-1,278.00	1,752.93	-490.28	0.00	0.00	0.00
7,300.00	0.50	0.00	6,879.70	-1,277.98	1,752.93	-490.25	9.00	9.00	0.00
7,400.00	9.50	0.00	6,979.22	-1,269.26	1,752.93	-482.24	9.00	9.00	0.00
7,500.00	18.50	0.00	7,076.15	-1,245.09	1,752.93	-459.99	9.00	9.00	0.00
7,539.29	22.04	0.00	7,113.00	-1,231.48	1,752.93	-447.47	9.00	9.00	0.00
Sharon Springs									
7,567.60	24.59	0.00	7,139.00	-1,220.28	1,752.93	-437.16	9.00	9.00	0.00
Niobrara									
7,600.00	27.50	0.00	7,168.10	-1,206.06	1,752.93	-424.07	9.00	9.00	0.00
7,700.00	36.50	0.00	7,252.82	-1,153.12	1,752.93	-375.35	9.00	9.00	0.00
7,728.06	39.03	0.00	7,275.00	-1,135.93	1,752.93	-359.53	9.00	9.00	0.00
Nio B									
7,800.00	45.50	0.00	7,328.21	-1,087.57	1,752.93	-315.03	9.00	9.00	0.00
7,802.56	45.73	0.00	7,330.00	-1,085.74	1,752.93	-313.34	9.00	9.00	0.00
Nio C									
7,900.00	54.50	0.00	7,392.42	-1,011.04	1,752.93	-244.60	9.00	9.00	0.00
8,000.00	63.50	0.00	7,443.87	-925.41	1,752.93	-165.80	9.00	9.00	0.00
8,099.06	72.42	0.00	7,481.00	-833.69	1,752.93	-81.38	9.00	9.00	0.00
Fort Hayes									
8,100.00	72.50	0.00	7,481.28	-832.79	1,752.93	-80.56	9.00	9.00	0.00
8,195.05	81.06	0.00	7,503.00	-740.35	1,752.93	4.52	9.00	9.00	0.00

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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 13-33HZ	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)	
Codell										
8,200.00	81.50	0.00	7,503.75	-735.45	1,752.93	9.02	9.00	9.00	0.00	
8,299.19	90.43	0.00	7,510.72	-636.61	1,752.93	99.99	9.00	9.00	0.00	
Top of Production - AZUL 13-33HZ_PHL										
8,300.00	90.43	0.00	7,510.72	-635.80	1,752.93	100.73	0.05	0.05	0.00	
8,400.00	90.43	0.00	7,509.97	-535.80	1,752.93	192.76	0.00	0.00	0.00	
8,500.00	90.43	0.00	7,509.22	-435.80	1,752.93	284.78	0.00	0.00	0.00	
8,600.00	90.43	0.00	7,508.46	-335.81	1,752.93	376.81	0.00	0.00	0.00	
8,700.00	90.43	0.00	7,507.71	-235.81	1,752.93	468.83	0.00	0.00	0.00	
8,800.00	90.43	0.00	7,506.96	-135.81	1,752.93	560.86	0.00	0.00	0.00	
8,900.00	90.43	0.00	7,506.21	-35.81	1,752.93	652.89	0.00	0.00	0.00	
9,000.00	90.43	0.00	7,505.46	64.18	1,752.93	744.91	0.00	0.00	0.00	
9,100.00	90.43	0.00	7,504.71	164.18	1,752.93	836.94	0.00	0.00	0.00	
9,200.00	90.43	0.00	7,503.96	264.18	1,752.93	928.96	0.00	0.00	0.00	
9,300.00	90.43	0.00	7,503.21	364.17	1,752.93	1,020.99	0.00	0.00	0.00	
9,400.00	90.43	0.00	7,502.46	464.17	1,752.93	1,113.01	0.00	0.00	0.00	
9,500.00	90.43	0.00	7,501.71	564.17	1,752.93	1,205.04	0.00	0.00	0.00	
9,600.00	90.43	0.00	7,500.96	664.17	1,752.93	1,297.06	0.00	0.00	0.00	
9,700.00	90.43	0.00	7,500.21	764.16	1,752.93	1,389.09	0.00	0.00	0.00	
9,800.00	90.43	0.00	7,499.46	864.16	1,752.93	1,481.12	0.00	0.00	0.00	
9,900.00	90.43	0.00	7,498.71	964.16	1,752.93	1,573.14	0.00	0.00	0.00	
10,000.00	90.43	0.00	7,497.96	1,064.15	1,752.93	1,665.17	0.00	0.00	0.00	
10,100.00	90.43	0.00	7,497.21	1,164.15	1,752.93	1,757.19	0.00	0.00	0.00	
10,200.00	90.43	0.00	7,496.46	1,264.15	1,752.93	1,849.22	0.00	0.00	0.00	
10,300.00	90.43	0.00	7,495.71	1,364.15	1,752.93	1,941.24	0.00	0.00	0.00	
10,400.00	90.43	0.00	7,494.96	1,464.14	1,752.93	2,033.27	0.00	0.00	0.00	
10,500.00	90.43	0.00	7,494.21	1,564.14	1,752.93	2,125.30	0.00	0.00	0.00	
10,600.00	90.43	0.00	7,493.45	1,664.14	1,752.93	2,217.32	0.00	0.00	0.00	
10,700.00	90.43	0.00	7,492.70	1,764.14	1,752.93	2,309.35	0.00	0.00	0.00	
10,800.00	90.43	0.00	7,491.95	1,864.13	1,752.93	2,401.37	0.00	0.00	0.00	
10,900.00	90.43	0.00	7,491.20	1,964.13	1,752.93	2,493.40	0.00	0.00	0.00	
11,000.00	90.43	0.00	7,490.45	2,064.13	1,752.93	2,585.42	0.00	0.00	0.00	
11,100.00	90.43	0.00	7,489.70	2,164.12	1,752.93	2,677.45	0.00	0.00	0.00	
11,200.00	90.43	0.00	7,488.95	2,264.12	1,752.93	2,769.47	0.00	0.00	0.00	
11,300.00	90.43	0.00	7,488.20	2,364.12	1,752.93	2,861.50	0.00	0.00	0.00	
11,400.00	90.43	0.00	7,487.45	2,464.12	1,752.93	2,953.53	0.00	0.00	0.00	
11,500.00	90.43	0.00	7,486.70	2,564.11	1,752.93	3,045.55	0.00	0.00	0.00	
11,600.00	90.43	0.00	7,485.95	2,664.11	1,752.93	3,137.58	0.00	0.00	0.00	
11,700.00	90.43	0.00	7,485.20	2,764.11	1,752.93	3,229.60	0.00	0.00	0.00	
11,800.00	90.43	0.00	7,484.45	2,864.10	1,752.93	3,321.63	0.00	0.00	0.00	
11,900.00	90.43	0.00	7,483.70	2,964.10	1,752.93	3,413.65	0.00	0.00	0.00	
12,000.00	90.43	0.00	7,482.95	3,064.10	1,752.93	3,505.68	0.00	0.00	0.00	
12,100.00	90.43	0.00	7,482.20	3,164.10	1,752.93	3,597.70	0.00	0.00	0.00	
12,200.00	90.43	0.00	7,481.45	3,264.09	1,752.93	3,689.73	0.00	0.00	0.00	
12,300.00	90.43	0.00	7,480.70	3,364.09	1,752.93	3,781.76	0.00	0.00	0.00	
12,400.00	90.43	0.00	7,479.95	3,464.09	1,752.93	3,873.78	0.00	0.00	0.00	
12,500.00	90.43	0.00	7,479.20	3,564.08	1,752.93	3,965.81	0.00	0.00	0.00	
12,600.00	90.43	0.00	7,478.45	3,664.08	1,752.93	4,057.83	0.00	0.00	0.00	
12,700.00	90.43	0.00	7,477.69	3,764.08	1,752.93	4,149.86	0.00	0.00	0.00	
12,800.00	90.43	0.00	7,476.94	3,864.08	1,752.93	4,241.88	0.00	0.00	0.00	
12,900.00	90.43	0.00	7,476.19	3,964.07	1,752.93	4,333.91	0.00	0.00	0.00	
13,000.00	90.43	0.00	7,475.44	4,064.07	1,752.93	4,425.93	0.00	0.00	0.00	
13,059.03	90.43	0.00	7,475.00	4,123.10	1,752.93	4,480.26	0.00	0.00	0.00	

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well AZUL 13-33HZ
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 13-33HZ	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)
AZUL 13-33HZ_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 13-33HZ_PBHL	0.00	0.00	7,475.00	4,123.10	1,752.93	14,547,715.69	1,718,779.00	40.057283	-104.719952
- plan hits target center									
- Point									
AZUL 13-33HZ_PHL	0.00	0.00	7,510.72	-636.61	1,752.93	14,542,956.00	1,718,793.63	40.044212	-104.719953
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,870.10	1,800.00	9 5/8"	9-5/8	13-1/2	
8,299.19	7,510.72	Top of Production	5-1/2	7-7/8	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,650.64	1,599.00	Fox Hills				
4,534.18	4,240.00	Parkman				
4,931.61	4,604.00	Sussex				
7,539.29	7,113.00	Sharon Springs				
7,567.60	7,139.00	Niobrara				
7,728.06	7,275.00	Nio B				
7,802.56	7,330.00	Nio C				
8,099.06	7,481.00	Fort Hayes				
8,195.05	7,503.00	Codell				