

# **US ROCKIES WATTENBERG PLANNING**

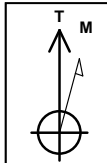
**WELD-NAD83-UTMFT13N  
3N-65W-33 CANNON 4-33HZ  
CANNON 4N-4HZ**

**Plan A**

**Plan: Permit Rev-1**

## **Standard Planning Report**

**07 November, 2016**



Azimuths to True North  
Magnetic North: 8.07°

Magnetic Field  
Strength: 52464.2snT  
Dip Angle: 66.71°  
Date: 10/27/2016  
Model: IGRF2010

SITE: 3N-65W-33 CANNON 4-33HZ

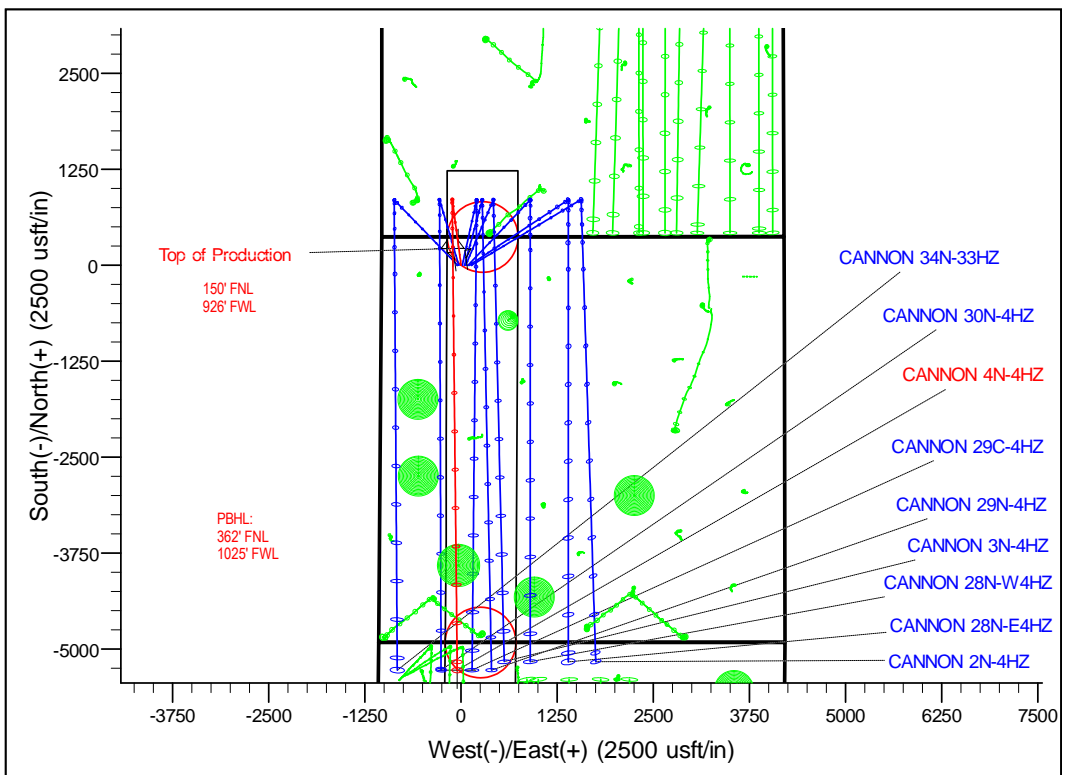
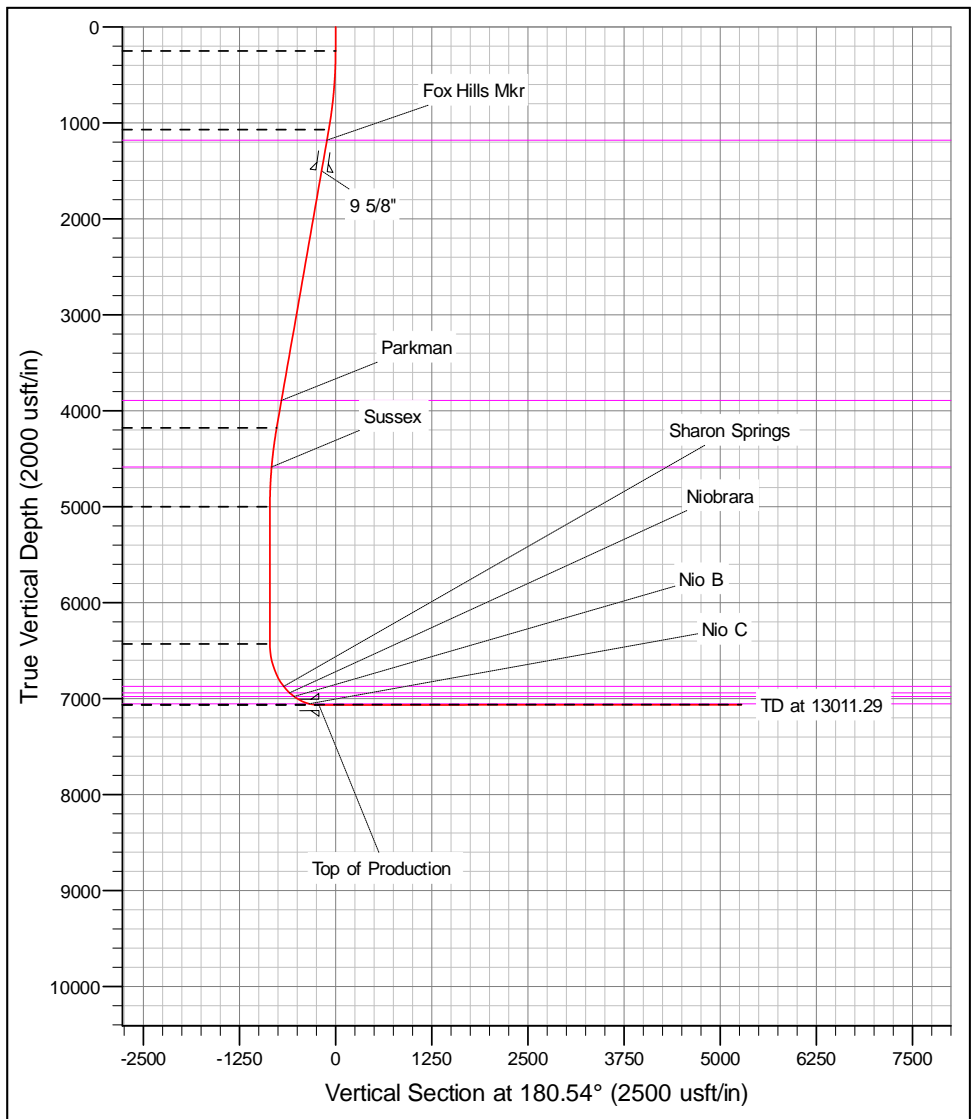
Well: CANNON 4N-4HZ  
Wellbore: Plan A  
Design: Permit Rev-1

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1182.00	1191.11	Fox Hills Mkr
3893.00	3967.03	Parkman
4586.00	4672.53	Sussex
6873.00	7007.12	Sharon Springs
6940.00	7108.55	Niobrara
6978.00	7176.98	Nio B
7054.00	7388.58	Nio C

WELL DETAILS: CANNON 4N-4HZ						
+N/-S	+E/-W	GL: 4862.00	RKB @ 4879.00usft (D Rig)	North	East	Slot
0.00	0.00	14595414.16	1731400.29	40.188149	-104.674222	

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
1077.72	12.42	352.30	1071.26	88.53	-11.97	1.50	-88.41
4259.62	12.42	352.30	4178.74	766.47	-103.68	0.00	-765.46
5087.34	0.00	0.00	5000.00	855.00	-115.65	1.50	-853.87
6517.79	0.00	0.00	6430.45	855.00	-115.65	0.00	-853.87
7518.14	90.03	179.39	7067.07	218.06	-108.83	9.00	-217.02
13011.29	90.03	179.39	7064.00	-5274.77	-50.00	0.005275.01	

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	North	East	Latitude	Longitude
CANNON 4N-4HZ_PBHL	7064.00	-5274.77	-50.00	14590139.24	1731369.65	40.173664	-104.674401



# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CANNON 4N-4HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4879.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4879.00usft (D Rig)
<b>Site:</b>	3N-65W-33 CANNON 4-33HZ	<b>North Reference:</b>	True
<b>Well:</b>	CANNON 4N-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

<b>Project</b>	WELD-NAD83-UTMFT13N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Zone 13N (108 W to 102 W)		

<b>Site</b>	3N-65W-33 CANNON 4-33HZ				
<b>Site Position:</b>		<b>Northing:</b>	14,595,414.36 usft	<b>Latitude:</b>	40.188150
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,731,355.32 usft	<b>Longitude:</b>	-104.674383
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.21 °

<b>Well</b>	CANNON 4N-4HZ					
<b>Well Position</b>	<b>+N/-S</b>	-0.36 usft	<b>Northing:</b>	14,595,414.16 usft	<b>Latitude:</b>	40.188149
	<b>+E/-W</b>	44.96 usft	<b>Easting:</b>	1,731,400.29 usft	<b>Longitude:</b>	-104.674222
<b>Position Uncertainty</b>		3.28 usft	<b>Wellhead Elevation:</b>	0.00 usft	<b>Ground Level:</b>	4,862.00 usft

<b>Wellbore</b>	Plan A				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	10/27/2016	8.07	66.71	52,464.15249955

<b>Design</b>	Permit Rev-1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	180.54

<b>Plan Survey Tool Program</b>	Date	11/7/2016			
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	13,010.75	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWI Fixed:v2:Rockies, crustal dex	

<b>Plan Sections</b>										
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	
1,077.72	12.42	352.30	1,071.26	88.53	-11.97	1.50	1.50	0.00	352.30	
4,259.62	12.42	352.30	4,178.74	766.47	-103.68	0.00	0.00	0.00	0.00	
5,087.34	0.00	0.00	5,000.00	855.00	-115.65	1.50	-1.50	0.00	180.00	
6,517.79	0.00	0.00	6,430.45	855.00	-115.65	0.00	0.00	0.00	0.00	
7,518.14	90.03	179.39	7,067.07	218.06	-108.83	9.00	9.00	0.00	179.39	
13,011.29	90.03	179.39	7,064.00	-5,274.77	-50.00	0.00	0.00	0.00	0.00	CANNON 4N-4HZ_

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CANNON 4N-4HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4879.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4879.00usft (D Rig)
<b>Site:</b>	3N-65W-33 CANNON 4-33HZ	<b>North Reference:</b>	True
<b>Well:</b>	CANNON 4N-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	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	352.30	300.00	0.32	-0.04	-0.32	1.50	1.50	0.00
400.00	2.25	352.30	399.96	2.92	-0.39	-2.91	1.50	1.50	0.00
500.00	3.75	352.30	499.82	8.10	-1.10	-8.09	1.50	1.50	0.00
600.00	5.25	352.30	599.51	15.88	-2.15	-15.86	1.50	1.50	0.00
700.00	6.75	352.30	698.96	26.24	-3.55	-26.20	1.50	1.50	0.00
800.00	8.25	352.30	798.10	39.17	-5.30	-39.12	1.50	1.50	0.00
900.00	9.75	352.30	896.87	54.67	-7.40	-54.60	1.50	1.50	0.00
1,000.00	11.25	352.30	995.19	72.73	-9.84	-72.64	1.50	1.50	0.00
1,077.72	12.42	352.30	1,071.26	88.53	-11.97	-88.41	1.50	1.50	0.00
1,100.00	12.42	352.30	1,093.02	93.27	-12.62	-93.15	0.00	0.00	0.00
1,191.11	12.42	352.30	1,182.00	112.69	-15.24	-112.54	0.00	0.00	0.00
<b>Fox Hills Mkr</b>									
1,200.00	12.42	352.30	1,190.68	114.58	-15.50	-114.43	0.00	0.00	0.00
1,300.00	12.42	352.30	1,288.34	135.89	-18.38	-135.71	0.00	0.00	0.00
1,400.00	12.42	352.30	1,386.00	157.19	-21.26	-156.98	0.00	0.00	0.00
1,500.00	12.42	352.30	1,483.66	178.50	-24.14	-178.26	0.00	0.00	0.00
1,516.73	12.42	352.30	1,500.00	182.06	-24.63	-181.82	0.00	0.00	0.00
<b>9 5/8"</b>									
1,600.00	12.42	352.30	1,581.32	199.80	-27.03	-199.54	0.00	0.00	0.00
1,700.00	12.42	352.30	1,678.98	221.11	-29.91	-220.82	0.00	0.00	0.00
1,800.00	12.42	352.30	1,776.65	242.42	-32.79	-242.10	0.00	0.00	0.00
1,900.00	12.42	352.30	1,874.31	263.72	-35.67	-263.37	0.00	0.00	0.00
2,000.00	12.42	352.30	1,971.97	285.03	-38.55	-284.65	0.00	0.00	0.00
2,100.00	12.42	352.30	2,069.63	306.34	-41.44	-305.93	0.00	0.00	0.00
2,200.00	12.42	352.30	2,167.29	327.64	-44.32	-327.21	0.00	0.00	0.00
2,300.00	12.42	352.30	2,264.95	348.95	-47.20	-348.49	0.00	0.00	0.00
2,400.00	12.42	352.30	2,362.61	370.26	-50.08	-369.76	0.00	0.00	0.00
2,500.00	12.42	352.30	2,460.27	391.56	-52.96	-391.04	0.00	0.00	0.00
2,600.00	12.42	352.30	2,557.94	412.87	-55.85	-412.32	0.00	0.00	0.00
2,700.00	12.42	352.30	2,655.60	434.18	-58.73	-433.60	0.00	0.00	0.00
2,800.00	12.42	352.30	2,753.26	455.48	-61.61	-454.88	0.00	0.00	0.00
2,900.00	12.42	352.30	2,850.92	476.79	-64.49	-476.16	0.00	0.00	0.00
3,000.00	12.42	352.30	2,948.58	498.09	-67.37	-497.43	0.00	0.00	0.00
3,100.00	12.42	352.30	3,046.24	519.40	-70.26	-518.71	0.00	0.00	0.00
3,200.00	12.42	352.30	3,143.90	540.71	-73.14	-539.99	0.00	0.00	0.00
3,300.00	12.42	352.30	3,241.57	562.01	-76.02	-561.27	0.00	0.00	0.00
3,400.00	12.42	352.30	3,339.23	583.32	-78.90	-582.55	0.00	0.00	0.00
3,500.00	12.42	352.30	3,436.89	604.63	-81.78	-603.82	0.00	0.00	0.00
3,600.00	12.42	352.30	3,534.55	625.93	-84.67	-625.10	0.00	0.00	0.00
3,700.00	12.42	352.30	3,632.21	647.24	-87.55	-646.38	0.00	0.00	0.00
3,800.00	12.42	352.30	3,729.87	668.55	-90.43	-667.66	0.00	0.00	0.00
3,900.00	12.42	352.30	3,827.53	689.85	-93.31	-688.94	0.00	0.00	0.00
3,967.04	12.42	352.30	3,893.00	704.14	-95.24	-703.20	0.00	0.00	0.00
<b>Parkman</b>									
4,000.00	12.42	352.30	3,925.19	711.16	-96.19	-710.22	0.00	0.00	0.00
4,100.00	12.42	352.30	4,022.86	732.47	-99.08	-731.49	0.00	0.00	0.00
4,200.00	12.42	352.30	4,120.52	753.77	-101.96	-752.77	0.00	0.00	0.00
4,259.62	12.42	352.30	4,178.74	766.47	-103.68	-765.46	0.00	0.00	0.00
4,300.00	11.81	352.30	4,218.22	774.87	-104.81	-773.84	1.50	-1.50	0.00

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CANNON 4N-4HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4879.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4879.00usft (D Rig)
<b>Site:</b>	3N-65W-33 CANNON 4-33HZ	<b>North Reference:</b>	True
<b>Well:</b>	CANNON 4N-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	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	10.31	352.30	4,316.36	793.88	-107.38	-792.83	1.50	-1.50	0.00	
4,500.00	8.81	352.30	4,414.97	810.34	-109.61	-809.26	1.50	-1.50	0.00	
4,600.00	7.31	352.30	4,513.98	824.23	-111.49	-823.14	1.50	-1.50	0.00	
4,672.53	6.22	352.30	4,586.00	832.70	-112.63	-831.60	1.50	-1.50	0.00	
<b>Sussex</b>										
4,700.00	5.81	352.30	4,613.32	835.55	-113.02	-834.45	1.50	-1.50	0.00	
4,800.00	4.31	352.30	4,712.93	844.29	-114.20	-843.17	1.50	-1.50	0.00	
4,900.00	2.81	352.30	4,812.73	850.45	-115.03	-849.32	1.50	-1.50	0.00	
5,000.00	1.31	352.30	4,912.67	854.01	-115.52	-852.88	1.50	-1.50	0.00	
5,087.34	0.00	0.00	5,000.00	855.00	-115.65	-853.87	1.50	-1.50	0.00	
5,100.00	0.00	0.00	5,012.66	855.00	-115.65	-853.87	0.00	0.00	0.00	
5,200.00	0.00	0.00	5,112.66	855.00	-115.65	-853.87	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,212.66	855.00	-115.65	-853.87	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,312.66	855.00	-115.65	-853.87	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,412.66	855.00	-115.65	-853.87	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,512.66	855.00	-115.65	-853.87	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,612.66	855.00	-115.65	-853.87	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,712.66	855.00	-115.65	-853.87	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,812.66	855.00	-115.65	-853.87	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,912.66	855.00	-115.65	-853.87	0.00	0.00	0.00	
6,100.00	0.00	0.00	6,012.66	855.00	-115.65	-853.87	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,112.66	855.00	-115.65	-853.87	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,212.66	855.00	-115.65	-853.87	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,312.66	855.00	-115.65	-853.87	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,412.66	855.00	-115.65	-853.87	0.00	0.00	0.00	
6,517.79	0.00	0.00	6,430.45	855.00	-115.65	-853.87	0.00	0.00	0.00	
6,600.00	7.40	179.39	6,512.43	849.70	-115.59	-848.57	9.00	9.00	0.00	
6,700.00	16.40	179.39	6,610.18	829.10	-115.37	-827.97	9.00	9.00	0.00	
6,800.00	25.40	179.39	6,703.51	793.47	-114.99	-792.34	9.00	9.00	0.00	
6,900.00	34.40	179.39	6,790.11	743.68	-114.46	-742.56	9.00	9.00	0.00	
7,000.00	43.40	179.39	6,867.85	680.95	-113.79	-679.84	9.00	9.00	0.00	
7,007.12	44.04	179.39	6,873.00	676.03	-113.73	-674.92	9.00	9.00	0.00	
<b>Sharon Springs</b>										
7,100.00	52.40	179.39	6,934.83	606.83	-112.99	-605.74	9.00	9.00	0.00	
7,108.55	53.17	179.39	6,940.00	600.03	-112.92	-598.93	9.00	9.00	0.00	
<b>Niobrara</b>										
7,176.98	59.33	179.39	6,978.00	543.16	-112.31	-542.07	9.00	9.00	0.00	
<b>Nio B</b>										
7,200.00	61.40	179.39	6,989.38	523.15	-112.10	-522.07	9.00	9.00	0.00	
7,300.00	70.40	179.39	7,030.18	431.97	-111.12	-430.90	9.00	9.00	0.00	
7,388.58	78.37	179.39	7,054.00	346.74	-110.21	-345.68	9.00	9.00	0.00	
<b>Nio C</b>										
7,400.00	79.40	179.39	7,056.20	335.53	-110.09	-334.47	9.00	9.00	0.00	
7,500.00	88.40	179.39	7,066.82	236.20	-109.02	-235.16	9.00	9.00	0.00	
7,518.14	90.03	179.39	7,067.07	218.07	-108.83	-217.02	9.00	9.00	0.00	
<b>Top of Production - CANNON 4N-4HZ_PHL</b>										
7,600.00	90.03	179.39	7,067.02	136.21	-107.95	-135.18	0.00	0.00	0.00	
7,700.00	90.03	179.39	7,066.97	36.22	-106.88	-35.20	0.00	0.00	0.00	
7,800.00	90.03	179.39	7,066.91	-63.78	-105.81	64.78	0.00	0.00	0.00	
7,900.00	90.03	179.39	7,066.85	-163.77	-104.74	164.76	0.00	0.00	0.00	
8,000.00	90.03	179.39	7,066.80	-263.77	-103.67	264.74	0.00	0.00	0.00	
8,100.00	90.03	179.39	7,066.74	-363.76	-102.60	364.72	0.00	0.00	0.00	
8,200.00	90.03	179.39	7,066.69	-463.76	-101.53	464.70	0.00	0.00	0.00	

# Corporate Planning Report

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<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4879.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4879.00usft (D Rig)
<b>Site:</b>	3N-65W-33 CANNON 4-33HZ	<b>North Reference:</b>	True
<b>Well:</b>	CANNON 4N-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	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)
8,300.00	90.03	179.39	7,066.63	-563.75	-100.46	564.68	0.00	0.00	0.00
8,400.00	90.03	179.39	7,066.58	-663.74	-99.38	664.66	0.00	0.00	0.00
8,500.00	90.03	179.39	7,066.52	-763.74	-98.31	764.64	0.00	0.00	0.00
8,600.00	90.03	179.39	7,066.46	-863.73	-97.24	864.62	0.00	0.00	0.00
8,700.00	90.03	179.39	7,066.41	-963.73	-96.17	964.59	0.00	0.00	0.00
8,800.00	90.03	179.39	7,066.35	-1,063.72	-95.10	1,064.57	0.00	0.00	0.00
8,900.00	90.03	179.39	7,066.30	-1,163.72	-94.03	1,164.55	0.00	0.00	0.00
9,000.00	90.03	179.39	7,066.24	-1,263.71	-92.96	1,264.53	0.00	0.00	0.00
9,100.00	90.03	179.39	7,066.18	-1,363.70	-91.89	1,364.51	0.00	0.00	0.00
9,200.00	90.03	179.39	7,066.13	-1,463.70	-90.82	1,464.49	0.00	0.00	0.00
9,300.00	90.03	179.39	7,066.07	-1,563.69	-89.75	1,564.47	0.00	0.00	0.00
9,400.00	90.03	179.39	7,066.02	-1,663.69	-88.67	1,664.45	0.00	0.00	0.00
9,500.00	90.03	179.39	7,065.96	-1,763.68	-87.60	1,764.43	0.00	0.00	0.00
9,600.00	90.03	179.39	7,065.91	-1,863.67	-86.53	1,864.41	0.00	0.00	0.00
9,700.00	90.03	179.39	7,065.85	-1,963.67	-85.46	1,964.39	0.00	0.00	0.00
9,800.00	90.03	179.39	7,065.79	-2,063.66	-84.39	2,064.37	0.00	0.00	0.00
9,900.00	90.03	179.39	7,065.74	-2,163.66	-83.32	2,164.35	0.00	0.00	0.00
10,000.00	90.03	179.39	7,065.68	-2,263.65	-82.25	2,264.33	0.00	0.00	0.00
10,100.00	90.03	179.39	7,065.63	-2,363.65	-81.18	2,364.31	0.00	0.00	0.00
10,200.00	90.03	179.39	7,065.57	-2,463.64	-80.11	2,464.29	0.00	0.00	0.00
10,300.00	90.03	179.39	7,065.51	-2,563.63	-79.04	2,564.27	0.00	0.00	0.00
10,400.00	90.03	179.39	7,065.46	-2,663.63	-77.97	2,664.25	0.00	0.00	0.00
10,500.00	90.03	179.39	7,065.40	-2,763.62	-76.89	2,764.23	0.00	0.00	0.00
10,600.00	90.03	179.39	7,065.35	-2,863.62	-75.82	2,864.21	0.00	0.00	0.00
10,700.00	90.03	179.39	7,065.29	-2,963.61	-74.75	2,964.19	0.00	0.00	0.00
10,800.00	90.03	179.39	7,065.24	-3,063.61	-73.68	3,064.17	0.00	0.00	0.00
10,900.00	90.03	179.39	7,065.18	-3,163.60	-72.61	3,164.15	0.00	0.00	0.00
11,000.00	90.03	179.39	7,065.12	-3,263.59	-71.54	3,264.13	0.00	0.00	0.00
11,100.00	90.03	179.39	7,065.07	-3,363.59	-70.47	3,364.11	0.00	0.00	0.00
11,200.00	90.03	179.39	7,065.01	-3,463.58	-69.40	3,464.09	0.00	0.00	0.00
11,300.00	90.03	179.39	7,064.96	-3,563.58	-68.33	3,564.06	0.00	0.00	0.00
11,400.00	90.03	179.39	7,064.90	-3,663.57	-67.26	3,664.04	0.00	0.00	0.00
11,500.00	90.03	179.39	7,064.84	-3,763.57	-66.19	3,764.02	0.00	0.00	0.00
11,600.00	90.03	179.39	7,064.79	-3,863.56	-65.11	3,864.00	0.00	0.00	0.00
11,700.00	90.03	179.39	7,064.73	-3,963.55	-64.04	3,963.98	0.00	0.00	0.00
11,800.00	90.03	179.39	7,064.68	-4,063.55	-62.97	4,063.96	0.00	0.00	0.00
11,900.00	90.03	179.39	7,064.62	-4,163.54	-61.90	4,163.94	0.00	0.00	0.00
12,000.00	90.03	179.39	7,064.56	-4,263.54	-60.83	4,263.92	0.00	0.00	0.00
12,100.00	90.03	179.39	7,064.51	-4,363.53	-59.76	4,363.90	0.00	0.00	0.00
12,200.00	90.03	179.39	7,064.45	-4,463.53	-58.69	4,463.88	0.00	0.00	0.00
12,300.00	90.03	179.39	7,064.40	-4,563.52	-57.62	4,563.86	0.00	0.00	0.00
12,400.00	90.03	179.39	7,064.34	-4,663.51	-56.55	4,663.84	0.00	0.00	0.00
12,500.00	90.03	179.39	7,064.29	-4,763.51	-55.48	4,763.82	0.00	0.00	0.00
12,600.00	90.03	179.39	7,064.23	-4,863.50	-54.40	4,863.80	0.00	0.00	0.00
12,700.00	90.03	179.39	7,064.17	-4,963.50	-53.33	4,963.78	0.00	0.00	0.00
12,800.00	90.03	179.39	7,064.12	-5,063.49	-52.26	5,063.76	0.00	0.00	0.00
12,900.00	90.03	179.39	7,064.06	-5,163.49	-51.19	5,163.74	0.00	0.00	0.00
13,000.00	90.03	179.39	7,064.01	-5,263.48	-50.12	5,263.72	0.00	0.00	0.00
13,011.29	90.03	179.39	7,064.00	-5,274.77	-50.00	5,275.01	0.00	0.00	0.00
<b>CANNON 4N-4HZ_PBHL</b>									

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CANNON 4N-4HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4879.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4879.00usft (D Rig)
<b>Site:</b>	3N-65W-33 CANNON 4-33HZ	<b>North Reference:</b>	True
<b>Well:</b>	CANNON 4N-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
CANNON 4N-4HZ_PE - plan hits target center - Point	0.00	0.00	7,064.00	-5,274.77	-50.00	14,590,139.24	1,731,369.65	40.173664	-104.674401
CANNON 4N-4HZ_PF - plan hits target center - Point	0.00	0.00	7,067.07	218.07	-108.83	14,595,631.82	1,731,290.66	40.188748	-104.674612

Casing Points					
Measured Depth	Vertical Depth		Name	Casing Diameter	Hole Diameter
(usft)	(usft)			(")	(")
1,516.73	1,500.00	9 5/8"		9-5/8	13-1/2
7,518.14	7,067.07	Top of Production		5-1/2	8-1/2

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
1,191.11	1,182.00	Fox Hills Mkr				
3,967.04	3,893.00	Parkman				
4,672.53	4,586.00	Sussex				
7,007.12	6,873.00	Sharon Springs				
7,108.55	6,940.00	Niobrara				
7,176.98	6,978.00	Nio B				
7,388.58	7,054.00	Nio C				