

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N  
3N-65W-33 CANNON 1-33HZ  
CANNON 1N-9HZ**

**Plan A**

**Plan: Permit Rev-1**

## **Standard Planning Report**

**16 November, 2016**

Azimuths to True North  
 Magnetic North: 8.07°  
 Magnetic Field  
 Strength: 52465.8snT  
 Dip Angle: 66.71°  
 Date: 10/26/2016  
 Model: IGRF2010

SITE: 3N-65W-33 CANNON 1-33HZ  
 Well: CANNON 1N-9HZ  
 Wellbore: Plan A  
 Design: Permit Rev-1

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1155.00	1163.13	Fox Hills Mkr
3827.00	3890.97	Parkman
4520.00	4598.46	Sussex
6832.00	6979.29	Sharon Springs
6899.00	7032.07	Niobrara
6940.00	7158.03	Nio B
7009.00	7357.96	Nio C

WELL DETAILS: CANNON 1N-9HZ

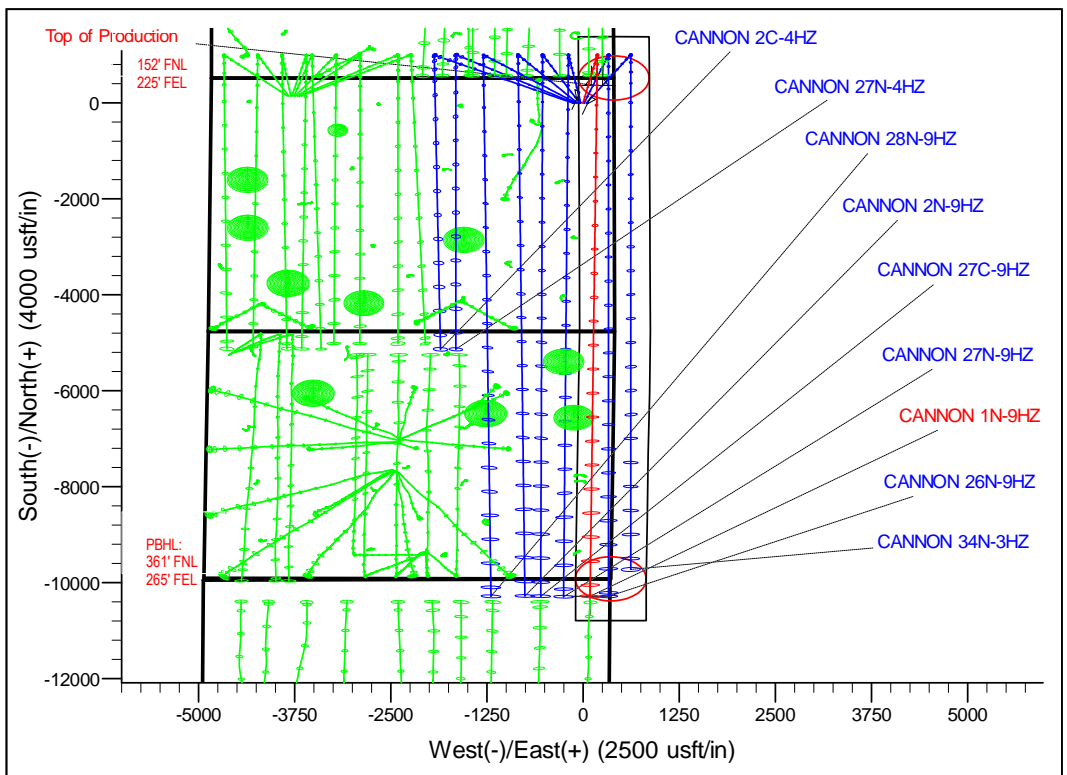
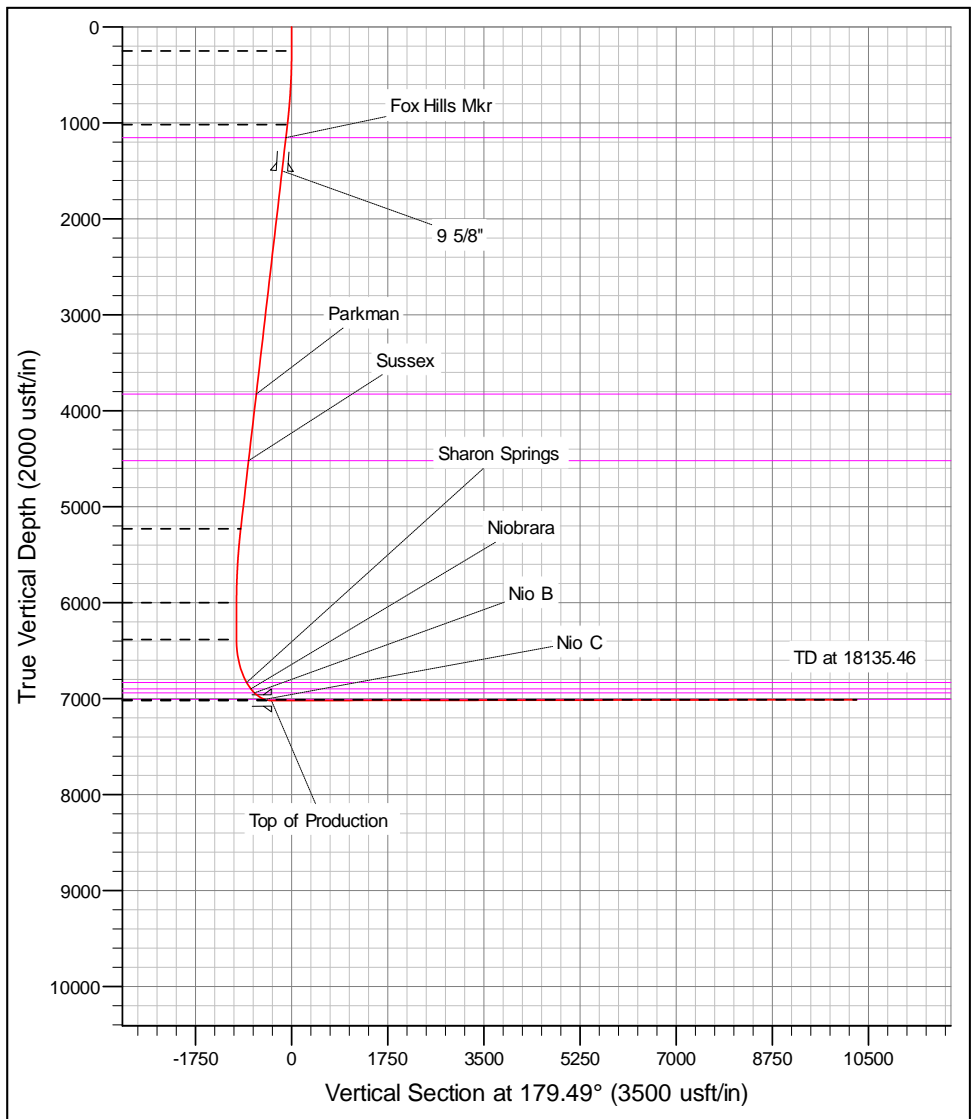
+N/-S	+E/-W	GL: 4835.00	RKB @ 4852.00usft (D Rig)	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00			14595279.09	1735200.21	40.187739	-104.660618	

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
1024.20	11.61	10.47	1018.91	76.89	14.21	1.50	-76.76
5324.41	11.61	10.47	5231.09	928.11	171.50	0.00	-926.54
6098.61	0.00	0.00	6000.00	1005.00	185.71	1.50	-1003.30
6483.28	0.00	0.00	6384.68	1005.00	185.71	0.00	-1003.30
7483.84	90.05	180.48	7021.30	367.85	180.42	9.00	-366.22
18135.46	90.05	180.48	7012.00	-10283.40	92.00	0.00	0283.81

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
CANNON 1N-9HZ_PBHL	7012.00	-10283.40	92.00	14584996.12	1735331.52	40.159500	-104.660289



# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CANNON 1N-9HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4852.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4852.00usft (D Rig)
<b>Site:</b>	3N-65W-33 CANNON 1-33HZ	<b>North Reference:</b>	True
<b>Well:</b>	CANNON 1N-9HZ	<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 1-33HZ		
<b>Site Position:</b>		<b>Northing:</b>	14,595,280.03 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,735,065.31 usft
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	40.187743
		<b>Longitude:</b>	-104.661101
		<b>Grid Convergence:</b>	0.22 °

<b>Well</b>	CANNON 1N-9HZ					
<b>Well Position</b>	<b>+N-S</b>	-1.46 usft	<b>Northing:</b>	14,595,279.08 usft	<b>Latitude:</b>	40.187739
	<b>+E-W</b>	134.89 usft	<b>Easting:</b>	1,735,200.21 usft	<b>Longitude:</b>	-104.660618
<b>Position Uncertainty</b>		3.28 usft	<b>Wellhead Elevation:</b>	0.00 usft	<b>Ground Level:</b>	4,835.00 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	10/26/2016	8.07	66.71	52,465.82819325

<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	179.49

<b>Plan Survey Tool Program</b>	Date	11/16/2016		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	18,135.41	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	
1,024.20	11.61	10.47	1,018.91	76.89	14.21	1.50	1.50	0.00	10.47	
5,324.41	11.61	10.47	5,231.09	928.11	171.50	0.00	0.00	0.00	0.00	
6,098.61	0.00	0.00	6,000.00	1,005.00	185.71	1.50	-1.50	0.00	180.00	
6,483.28	0.00	0.00	6,384.68	1,005.00	185.71	0.00	0.00	0.00	0.00	
7,483.84	90.05	180.48	7,021.30	367.85	180.42	9.00	9.00	0.00	180.48	
18,135.46	90.05	180.48	7,012.00	-10,283.40	92.00	0.00	0.00	0.00	0.00	CANNON 1N-9HZ_

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CANNON 1N-9HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4852.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4852.00usft (D Rig)
<b>Site:</b>	3N-65W-33 CANNON 1-33HZ	<b>North Reference:</b>	True
<b>Well:</b>	CANNON 1N-9HZ	<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	10.47	300.00	0.32	0.06	-0.32	1.50	1.50	0.00
400.00	2.25	10.47	399.96	2.90	0.54	-2.89	1.50	1.50	0.00
500.00	3.75	10.47	499.82	8.04	1.49	-8.03	1.50	1.50	0.00
600.00	5.25	10.47	599.51	15.76	2.91	-15.73	1.50	1.50	0.00
700.00	6.75	10.47	698.96	26.04	4.81	-25.99	1.50	1.50	0.00
800.00	8.25	10.47	798.10	38.87	7.18	-38.80	1.50	1.50	0.00
900.00	9.75	10.47	896.87	54.25	10.03	-54.16	1.50	1.50	0.00
1,000.00	11.25	10.47	995.19	72.17	13.34	-72.05	1.50	1.50	0.00
1,024.20	11.61	10.47	1,018.91	76.89	14.21	-76.76	1.50	1.50	0.00
1,100.00	11.61	10.47	1,093.16	91.89	16.98	-91.74	0.00	0.00	0.00
1,163.13	11.61	10.47	1,155.00	104.39	19.29	-104.21	0.00	0.00	0.00
<b>Fox Hills Mkr</b>									
1,200.00	11.61	10.47	1,191.11	111.69	20.64	-111.50	0.00	0.00	0.00
1,300.00	11.61	10.47	1,289.06	131.48	24.30	-131.26	0.00	0.00	0.00
1,400.00	11.61	10.47	1,387.02	151.28	27.95	-151.02	0.00	0.00	0.00
1,500.00	11.61	10.47	1,484.97	171.07	31.61	-170.78	0.00	0.00	0.00
1,515.34	11.61	10.47	1,500.00	174.11	32.17	-173.82	0.00	0.00	0.00
<b>9 5/8"</b>									
1,600.00	11.61	10.47	1,582.92	190.87	35.27	-190.55	0.00	0.00	0.00
1,700.00	11.61	10.47	1,680.88	210.66	38.93	-210.31	0.00	0.00	0.00
1,800.00	11.61	10.47	1,778.83	230.46	42.59	-230.07	0.00	0.00	0.00
1,900.00	11.61	10.47	1,876.78	250.25	46.24	-249.83	0.00	0.00	0.00
2,000.00	11.61	10.47	1,974.74	270.05	49.90	-269.59	0.00	0.00	0.00
2,100.00	11.61	10.47	2,072.69	289.84	53.56	-289.35	0.00	0.00	0.00
2,200.00	11.61	10.47	2,170.64	309.64	57.22	-309.11	0.00	0.00	0.00
2,300.00	11.61	10.47	2,268.59	329.43	60.87	-328.87	0.00	0.00	0.00
2,400.00	11.61	10.47	2,366.55	349.23	64.53	-348.64	0.00	0.00	0.00
2,500.00	11.61	10.47	2,464.50	369.02	68.19	-368.40	0.00	0.00	0.00
2,600.00	11.61	10.47	2,562.45	388.82	71.85	-388.16	0.00	0.00	0.00
2,700.00	11.61	10.47	2,660.41	408.61	75.51	-407.92	0.00	0.00	0.00
2,800.00	11.61	10.47	2,758.36	428.41	79.16	-427.68	0.00	0.00	0.00
2,900.00	11.61	10.47	2,856.31	448.20	82.82	-447.44	0.00	0.00	0.00
3,000.00	11.61	10.47	2,954.26	468.00	86.48	-467.20	0.00	0.00	0.00
3,100.00	11.61	10.47	3,052.22	487.79	90.14	-486.97	0.00	0.00	0.00
3,200.00	11.61	10.47	3,150.17	507.59	93.79	-506.73	0.00	0.00	0.00
3,300.00	11.61	10.47	3,248.12	527.38	97.45	-526.49	0.00	0.00	0.00
3,400.00	11.61	10.47	3,346.08	547.18	101.11	-546.25	0.00	0.00	0.00
3,500.00	11.61	10.47	3,444.03	566.97	104.77	-566.01	0.00	0.00	0.00
3,600.00	11.61	10.47	3,541.98	586.77	108.43	-585.77	0.00	0.00	0.00
3,700.00	11.61	10.47	3,639.94	606.56	112.08	-605.53	0.00	0.00	0.00
3,800.00	11.61	10.47	3,737.89	626.36	115.74	-625.30	0.00	0.00	0.00
3,890.97	11.61	10.47	3,827.00	644.36	119.07	-643.27	0.00	0.00	0.00
<b>Parkman</b>									
3,900.00	11.61	10.47	3,835.84	646.15	119.40	-645.06	0.00	0.00	0.00
4,000.00	11.61	10.47	3,933.79	665.95	123.06	-664.82	0.00	0.00	0.00
4,100.00	11.61	10.47	4,031.75	685.74	126.72	-684.58	0.00	0.00	0.00
4,200.00	11.61	10.47	4,129.70	705.54	130.37	-704.34	0.00	0.00	0.00
4,300.00	11.61	10.47	4,227.65	725.33	134.03	-724.10	0.00	0.00	0.00
4,400.00	11.61	10.47	4,325.61	745.13	137.69	-743.86	0.00	0.00	0.00

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CANNON 1N-9HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4852.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4852.00usft (D Rig)
<b>Site:</b>	3N-65W-33 CANNON 1-33HZ	<b>North Reference:</b>	True
<b>Well:</b>	CANNON 1N-9HZ	<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)	
4,500.00	11.61	10.47	4,423.56	764.92	141.35	-763.63	0.00	0.00	0.00	
4,598.46	11.61	10.47	4,520.00	784.41	144.95	-783.08	0.00	0.00	0.00	
<b>Sussex</b>										
4,600.00	11.61	10.47	4,521.51	784.72	145.00	-783.39	0.00	0.00	0.00	
4,700.00	11.61	10.47	4,619.47	804.51	148.66	-803.15	0.00	0.00	0.00	
4,800.00	11.61	10.47	4,717.42	824.30	152.32	-822.91	0.00	0.00	0.00	
4,900.00	11.61	10.47	4,815.37	844.10	155.98	-842.67	0.00	0.00	0.00	
5,000.00	11.61	10.47	4,913.32	863.89	159.64	-862.43	0.00	0.00	0.00	
5,100.00	11.61	10.47	5,011.28	883.69	163.29	-882.19	0.00	0.00	0.00	
5,200.00	11.61	10.47	5,109.23	903.48	166.95	-901.95	0.00	0.00	0.00	
5,300.00	11.61	10.47	5,207.18	923.28	170.61	-921.72	0.00	0.00	0.00	
5,324.41	11.61	10.47	5,231.09	928.11	171.50	-926.54	0.00	0.00	0.00	
5,400.00	10.48	10.47	5,305.28	942.35	174.13	-940.76	1.50	-1.50	0.00	
5,500.00	8.98	10.47	5,403.84	958.97	177.20	-957.35	1.50	-1.50	0.00	
5,600.00	7.48	10.47	5,502.81	973.04	179.81	-971.40	1.50	-1.50	0.00	
5,700.00	5.98	10.47	5,602.12	984.57	181.93	-982.90	1.50	-1.50	0.00	
5,800.00	4.48	10.47	5,701.70	993.53	183.59	-991.85	1.50	-1.50	0.00	
5,900.00	2.98	10.47	5,801.48	999.92	184.77	-998.23	1.50	-1.50	0.00	
6,000.00	1.48	10.47	5,901.40	1,003.75	185.48	-1,002.05	1.50	-1.50	0.00	
6,098.61	0.00	0.00	6,000.00	1,005.00	185.71	-1,003.30	1.50	-1.50	0.00	
6,100.00	0.00	0.00	6,001.39	1,005.00	185.71	-1,003.30	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,101.39	1,005.00	185.71	-1,003.30	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,201.39	1,005.00	185.71	-1,003.30	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,301.39	1,005.00	185.71	-1,003.30	0.00	0.00	0.00	
6,483.28	0.00	0.00	6,384.68	1,005.00	185.71	-1,003.30	0.00	0.00	0.00	
6,500.00	1.50	180.48	6,401.39	1,004.78	185.71	-1,003.08	9.00	9.00	0.00	
6,600.00	10.50	180.48	6,500.74	994.33	185.62	-992.63	9.00	9.00	0.00	
6,700.00	19.50	180.48	6,597.23	968.47	185.41	-966.77	9.00	9.00	0.00	
6,800.00	28.50	180.48	6,688.49	927.83	185.07	-926.14	9.00	9.00	0.00	
6,900.00	37.50	180.48	6,772.27	873.42	184.62	-871.73	9.00	9.00	0.00	
6,979.29	44.64	180.48	6,832.00	821.36	184.19	-819.68	9.00	9.00	0.00	
<b>Sharon Springs</b>										
7,000.00	46.50	180.48	6,846.50	806.57	184.06	-804.89	9.00	9.00	0.00	
7,082.07	53.89	180.48	6,899.00	743.56	183.54	-741.89	9.00	9.00	0.00	
<b>Niobrara</b>										
7,100.00	55.50	180.48	6,909.36	728.93	183.42	-727.26	9.00	9.00	0.00	
7,158.03	60.73	180.48	6,940.00	679.68	183.01	-678.01	9.00	9.00	0.00	
<b>Nio B</b>										
7,200.00	64.50	180.48	6,959.30	642.42	182.70	-640.76	9.00	9.00	0.00	
7,300.00	73.50	180.48	6,995.09	549.16	181.93	-547.51	9.00	9.00	0.00	
7,357.96	78.72	180.48	7,009.00	492.91	181.46	-491.27	9.00	9.00	0.00	
<b>Nio C</b>										
7,400.00	82.50	180.48	7,015.86	451.44	181.11	-449.81	9.00	9.00	0.00	
7,483.84	90.05	180.48	7,021.30	367.84	180.42	-366.22	9.00	9.00	0.00	
<b>Top of Production - CANNON 1N-9HZ_PHL</b>										
7,500.00	90.05	180.48	7,021.28	351.69	180.29	-350.06	0.00	0.00	0.00	
7,600.00	90.05	180.48	7,021.19	251.69	179.46	-250.07	0.00	0.00	0.00	
7,700.00	90.05	180.48	7,021.11	151.69	178.63	-150.09	0.00	0.00	0.00	
7,800.00	90.05	180.48	7,021.02	51.70	177.80	-50.10	0.00	0.00	0.00	
7,900.00	90.05	180.48	7,020.93	-48.30	176.97	49.88	0.00	0.00	0.00	
8,000.00	90.05	180.48	7,020.85	-148.30	176.14	149.87	0.00	0.00	0.00	
8,100.00	90.05	180.48	7,020.76	-248.29	175.31	249.85	0.00	0.00	0.00	
8,200.00	90.05	180.48	7,020.67	-348.29	174.48	349.84	0.00	0.00	0.00	

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CANNON 1N-9HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4852.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4852.00usft (D Rig)
<b>Site:</b>	3N-65W-33 CANNON 1-33HZ	<b>North Reference:</b>	True
<b>Well:</b>	CANNON 1N-9HZ	<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	90.05	180.48	7,020.58	-448.29	173.65	449.82	0.00	0.00	0.00
8,400.00	90.05	180.48	7,020.50	-548.28	172.82	549.81	0.00	0.00	0.00
8,500.00	90.05	180.48	7,020.41	-648.28	171.99	649.79	0.00	0.00	0.00
8,600.00	90.05	180.48	7,020.32	-748.28	171.16	749.78	0.00	0.00	0.00
8,700.00	90.05	180.48	7,020.23	-848.27	170.33	849.76	0.00	0.00	0.00
8,800.00	90.05	180.48	7,020.15	-948.27	169.50	949.75	0.00	0.00	0.00
8,900.00	90.05	180.48	7,020.06	-1,048.27	168.66	1,049.73	0.00	0.00	0.00
9,000.00	90.05	180.48	7,019.97	-1,148.26	167.83	1,149.72	0.00	0.00	0.00
9,100.00	90.05	180.48	7,019.89	-1,248.26	167.00	1,249.70	0.00	0.00	0.00
9,200.00	90.05	180.48	7,019.80	-1,348.26	166.17	1,349.69	0.00	0.00	0.00
9,300.00	90.05	180.48	7,019.71	-1,448.25	165.34	1,449.67	0.00	0.00	0.00
9,400.00	90.05	180.48	7,019.62	-1,548.25	164.51	1,549.66	0.00	0.00	0.00
9,500.00	90.05	180.48	7,019.54	-1,648.25	163.68	1,649.64	0.00	0.00	0.00
9,600.00	90.05	180.48	7,019.45	-1,748.24	162.85	1,749.63	0.00	0.00	0.00
9,700.00	90.05	180.48	7,019.36	-1,848.24	162.02	1,849.61	0.00	0.00	0.00
9,800.00	90.05	180.48	7,019.27	-1,948.23	161.19	1,949.60	0.00	0.00	0.00
9,900.00	90.05	180.48	7,019.19	-2,048.23	160.36	2,049.58	0.00	0.00	0.00
10,000.00	90.05	180.48	7,019.10	-2,148.23	159.53	2,149.57	0.00	0.00	0.00
10,100.00	90.05	180.48	7,019.01	-2,248.22	158.70	2,249.55	0.00	0.00	0.00
10,200.00	90.05	180.48	7,018.93	-2,348.22	157.87	2,349.54	0.00	0.00	0.00
10,300.00	90.05	180.48	7,018.84	-2,448.22	157.04	2,449.52	0.00	0.00	0.00
10,400.00	90.05	180.48	7,018.75	-2,548.21	156.21	2,549.51	0.00	0.00	0.00
10,500.00	90.05	180.48	7,018.66	-2,648.21	155.38	2,649.49	0.00	0.00	0.00
10,600.00	90.05	180.48	7,018.58	-2,748.21	154.55	2,749.48	0.00	0.00	0.00
10,700.00	90.05	180.48	7,018.49	-2,848.20	153.72	2,849.46	0.00	0.00	0.00
10,800.00	90.05	180.48	7,018.40	-2,948.20	152.89	2,949.45	0.00	0.00	0.00
10,900.00	90.05	180.48	7,018.31	-3,048.20	152.06	3,049.43	0.00	0.00	0.00
11,000.00	90.05	180.48	7,018.23	-3,148.19	151.23	3,149.42	0.00	0.00	0.00
11,100.00	90.05	180.48	7,018.14	-3,248.19	150.40	3,249.40	0.00	0.00	0.00
11,200.00	90.05	180.48	7,018.05	-3,348.19	149.57	3,349.39	0.00	0.00	0.00
11,300.00	90.05	180.48	7,017.97	-3,448.18	148.74	3,449.38	0.00	0.00	0.00
11,400.00	90.05	180.48	7,017.88	-3,548.18	147.91	3,549.36	0.00	0.00	0.00
11,500.00	90.05	180.48	7,017.79	-3,648.18	147.08	3,649.35	0.00	0.00	0.00
11,600.00	90.05	180.48	7,017.70	-3,748.17	146.25	3,749.33	0.00	0.00	0.00
11,700.00	90.05	180.48	7,017.62	-3,848.17	145.42	3,849.32	0.00	0.00	0.00
11,800.00	90.05	180.48	7,017.53	-3,948.16	144.59	3,949.30	0.00	0.00	0.00
11,900.00	90.05	180.48	7,017.44	-4,048.16	143.76	4,049.29	0.00	0.00	0.00
12,000.00	90.05	180.48	7,017.35	-4,148.16	142.93	4,149.27	0.00	0.00	0.00
12,100.00	90.05	180.48	7,017.27	-4,248.15	142.10	4,249.26	0.00	0.00	0.00
12,200.00	90.05	180.48	7,017.18	-4,348.15	141.27	4,349.24	0.00	0.00	0.00
12,300.00	90.05	180.48	7,017.09	-4,448.15	140.44	4,449.23	0.00	0.00	0.00
12,400.00	90.05	180.48	7,017.01	-4,548.14	139.61	4,549.21	0.00	0.00	0.00
12,500.00	90.05	180.48	7,016.92	-4,648.14	138.78	4,649.20	0.00	0.00	0.00
12,600.00	90.05	180.48	7,016.83	-4,748.14	137.95	4,749.18	0.00	0.00	0.00
12,700.00	90.05	180.48	7,016.74	-4,848.13	137.12	4,849.17	0.00	0.00	0.00
12,800.00	90.05	180.48	7,016.66	-4,948.13	136.29	4,949.15	0.00	0.00	0.00
12,900.00	90.05	180.48	7,016.57	-5,048.13	135.46	5,049.14	0.00	0.00	0.00
13,000.00	90.05	180.48	7,016.48	-5,148.12	134.63	5,149.12	0.00	0.00	0.00
13,100.00	90.05	180.48	7,016.39	-5,248.12	133.80	5,249.11	0.00	0.00	0.00
13,200.00	90.05	180.48	7,016.31	-5,348.12	132.97	5,349.09	0.00	0.00	0.00
13,300.00	90.05	180.48	7,016.22	-5,448.11	132.14	5,449.08	0.00	0.00	0.00
13,400.00	90.05	180.48	7,016.13	-5,548.11	131.31	5,549.06	0.00	0.00	0.00
13,500.00	90.05	180.48	7,016.05	-5,648.11	130.48	5,649.05	0.00	0.00	0.00
13,600.00	90.05	180.48	7,015.96	-5,748.10	129.65	5,749.03	0.00	0.00	0.00

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CANNON 1N-9HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4852.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4852.00usft (D Rig)
<b>Site:</b>	3N-65W-33 CANNON 1-33HZ	<b>North Reference:</b>	True
<b>Well:</b>	CANNON 1N-9HZ	<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)	
13,700.00	90.05	180.48	7,015.87	-5,848.10	128.82	5,849.02	0.00	0.00	0.00	
13,800.00	90.05	180.48	7,015.78	-5,948.10	127.99	5,949.00	0.00	0.00	0.00	
13,900.00	90.05	180.48	7,015.70	-6,048.09	127.16	6,048.99	0.00	0.00	0.00	
14,000.00	90.05	180.48	7,015.61	-6,148.09	126.33	6,148.97	0.00	0.00	0.00	
14,100.00	90.05	180.48	7,015.52	-6,248.08	125.50	6,248.96	0.00	0.00	0.00	
14,200.00	90.05	180.48	7,015.43	-6,348.08	124.67	6,348.94	0.00	0.00	0.00	
14,300.00	90.05	180.48	7,015.35	-6,448.08	123.84	6,448.93	0.00	0.00	0.00	
14,400.00	90.05	180.48	7,015.26	-6,548.07	123.01	6,548.91	0.00	0.00	0.00	
14,500.00	90.05	180.48	7,015.17	-6,648.07	122.18	6,648.90	0.00	0.00	0.00	
14,600.00	90.05	180.48	7,015.09	-6,748.07	121.35	6,748.88	0.00	0.00	0.00	
14,700.00	90.05	180.48	7,015.00	-6,848.06	120.52	6,848.87	0.00	0.00	0.00	
14,800.00	90.05	180.48	7,014.91	-6,948.06	119.69	6,948.85	0.00	0.00	0.00	
14,900.00	90.05	180.48	7,014.82	-7,048.06	118.86	7,048.84	0.00	0.00	0.00	
15,000.00	90.05	180.48	7,014.74	-7,148.05	118.03	7,148.82	0.00	0.00	0.00	
15,100.00	90.05	180.48	7,014.65	-7,248.05	117.20	7,248.81	0.00	0.00	0.00	
15,200.00	90.05	180.48	7,014.56	-7,348.05	116.37	7,348.79	0.00	0.00	0.00	
15,300.00	90.05	180.48	7,014.47	-7,448.04	115.54	7,448.78	0.00	0.00	0.00	
15,400.00	90.05	180.48	7,014.39	-7,548.04	114.71	7,548.76	0.00	0.00	0.00	
15,500.00	90.05	180.48	7,014.30	-7,648.04	113.88	7,648.75	0.00	0.00	0.00	
15,600.00	90.05	180.48	7,014.21	-7,748.03	113.05	7,748.73	0.00	0.00	0.00	
15,700.00	90.05	180.48	7,014.13	-7,848.03	112.22	7,848.72	0.00	0.00	0.00	
15,800.00	90.05	180.48	7,014.04	-7,948.03	111.39	7,948.70	0.00	0.00	0.00	
15,900.00	90.05	180.48	7,013.95	-8,048.02	110.56	8,048.69	0.00	0.00	0.00	
16,000.00	90.05	180.48	7,013.86	-8,148.02	109.73	8,148.67	0.00	0.00	0.00	
16,100.00	90.05	180.48	7,013.78	-8,248.02	108.90	8,248.66	0.00	0.00	0.00	
16,200.00	90.05	180.48	7,013.69	-8,348.01	108.07	8,348.64	0.00	0.00	0.00	
16,300.00	90.05	180.48	7,013.60	-8,448.01	107.24	8,448.63	0.00	0.00	0.00	
16,400.00	90.05	180.48	7,013.51	-8,548.00	106.41	8,548.61	0.00	0.00	0.00	
16,500.00	90.05	180.48	7,013.43	-8,648.00	105.58	8,648.60	0.00	0.00	0.00	
16,600.00	90.05	180.48	7,013.34	-8,748.00	104.75	8,748.58	0.00	0.00	0.00	
16,700.00	90.05	180.48	7,013.25	-8,847.99	103.92	8,848.57	0.00	0.00	0.00	
16,800.00	90.05	180.48	7,013.17	-8,947.99	103.09	8,948.56	0.00	0.00	0.00	
16,900.00	90.05	180.48	7,013.08	-9,047.99	102.26	9,048.54	0.00	0.00	0.00	
17,000.00	90.05	180.48	7,012.99	-9,147.98	101.43	9,148.53	0.00	0.00	0.00	
17,100.00	90.05	180.48	7,012.90	-9,247.98	100.60	9,248.51	0.00	0.00	0.00	
17,200.00	90.05	180.48	7,012.82	-9,347.98	99.77	9,348.50	0.00	0.00	0.00	
17,300.00	90.05	180.48	7,012.73	-9,447.97	98.94	9,448.48	0.00	0.00	0.00	
17,400.00	90.05	180.48	7,012.64	-9,547.97	98.11	9,548.47	0.00	0.00	0.00	
17,500.00	90.05	180.48	7,012.55	-9,647.97	97.28	9,648.45	0.00	0.00	0.00	
17,600.00	90.05	180.48	7,012.47	-9,747.96	96.44	9,748.44	0.00	0.00	0.00	
17,700.00	90.05	180.48	7,012.38	-9,847.96	95.61	9,848.42	0.00	0.00	0.00	
17,800.00	90.05	180.48	7,012.29	-9,947.96	94.78	9,948.41	0.00	0.00	0.00	
17,900.00	90.05	180.48	7,012.21	-10,047.95	93.95	10,048.39	0.00	0.00	0.00	
18,000.00	90.05	180.48	7,012.12	-10,147.95	93.12	10,148.38	0.00	0.00	0.00	
18,100.00	90.05	180.48	7,012.03	-10,247.95	92.29	10,248.36	0.00	0.00	0.00	
18,135.46	90.05	180.48	7,012.00	-10,283.40	92.00	10,283.81	0.00	0.00	0.00	
<b>CANNON 1N-9HZ_PBHL</b>										

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CANNON 1N-9HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4852.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4852.00usft (D Rig)
<b>Site:</b>	3N-65W-33 CANNON 1-33HZ	<b>North Reference:</b>	True
<b>Well:</b>	CANNON 1N-9HZ	<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 1N-9HZ_PE - plan hits target center - Point	0.00	0.00	7,012.00	-10,283.40	92.00	14,584,996.11	1,735,331.52	40.159500	-104.660289
CANNON 1N-9HZ_PF - plan hits target center - Point	0.00	0.00	7,021.30	367.84	180.42	14,595,647.62	1,735,379.22	40.188749	-104.659972

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,515.34	1,500.00	9 5/8"	9-5/8	12-1/4	
7,483.84	7,021.30	Top of Production	5-1/2	8-1/2	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,163.13	1,155.00	Fox Hills Mkr				
3,890.97	3,827.00	Parkman				
4,598.46	4,520.00	Sussex				
6,979.29	6,832.00	Sharon Springs				
7,082.07	6,899.00	Niobrara				
7,158.03	6,940.00	Nio B				
7,357.96	7,009.00	Nio C				