

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
3N-65W-33 CANNON 4-33HZ
CANNON 34N-33HZ**

Plan A

Plan: Permit Rev-1

Standard Planning Report

07 November, 2016



Azimuths to True North
 Magnetic North: 8.07°
 Magnetic Field
 Strength: 52464.1snT
 Dip Angle: 66.71°
 Date: 10/27/2016
 Model: IGRF2010

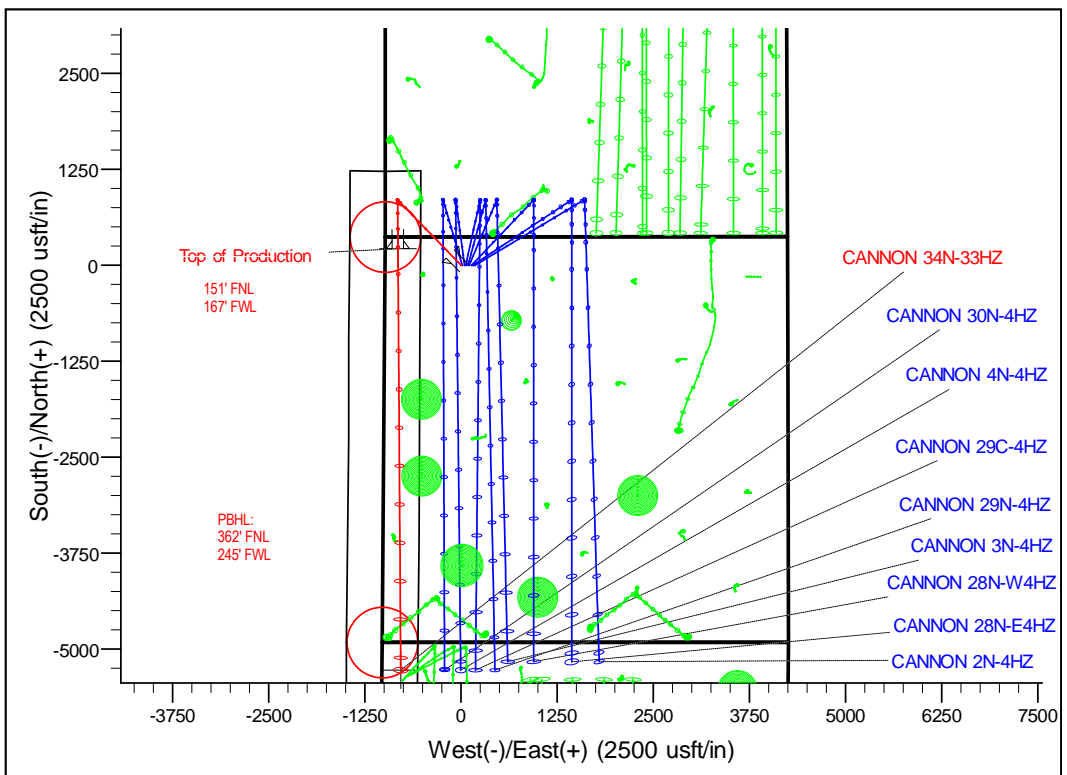
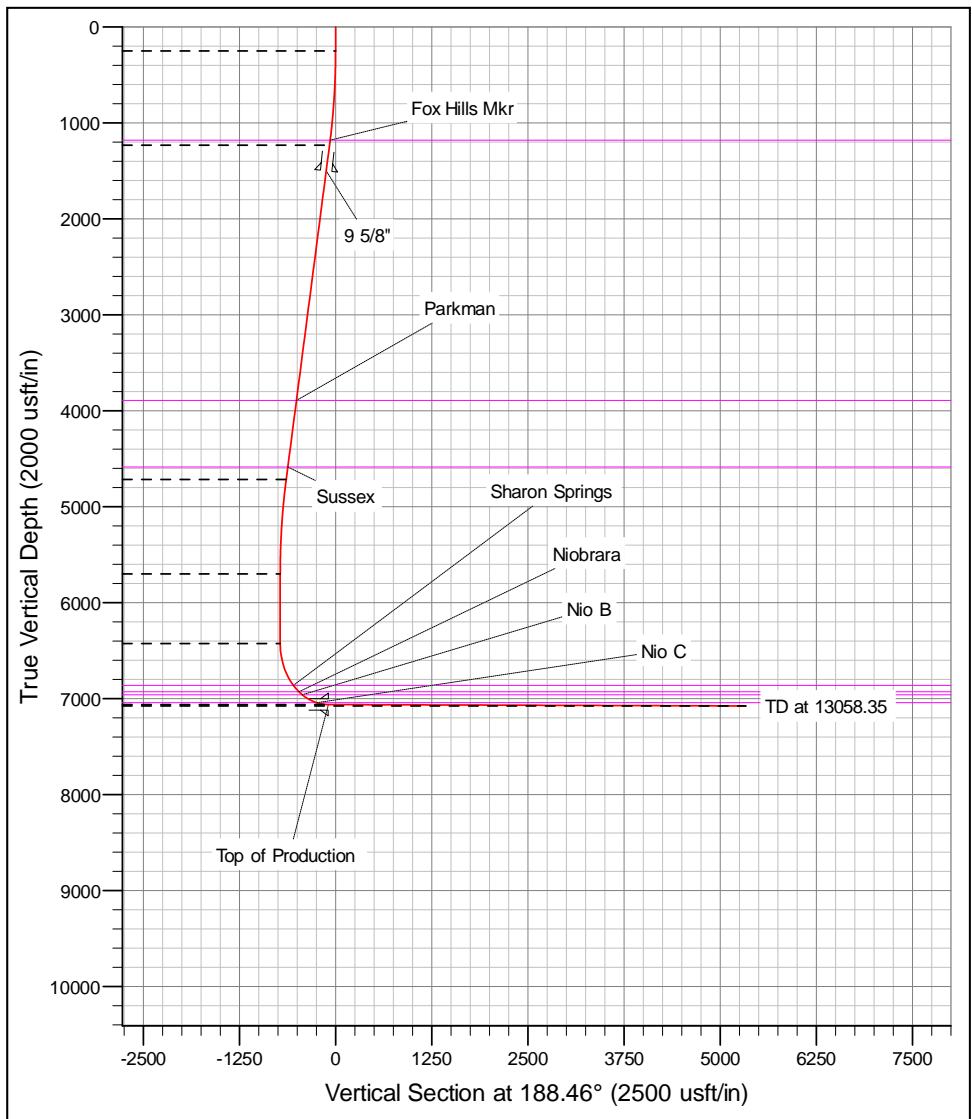
SITE: 3N-65W-33 CANNON 4-33HZ
 Well: CANNON 34N-33HZ
 Wellbore: Plan A
 Design: Permit Rev-1

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1182.00	1191.50	Fox Hills Mkr
3893.00	3996.82	Parkman
4586.00	4713.95	Sussex
6862.00	7049.98	Sharon Springs
6923.00	7149.65	Niobrara
6960.00	7203.18	Nio B
7044.00	7415.32	Nio C

WELL DETAILS: CANNON 34N-33HZ						
+N/-S	+E/-W	GL: 4862.00	RKB @ 4879.00usft (D Rig)			
		Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	14595414.36	1731355.33	40.188150	-104.674383	

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
1243.75	14.91	315.89	1232.58	92.29	-89.48	1.50	-78.12
4849.95	14.91	315.89	4717.42	758.30	-735.20	0.00	-641.89
5843.70	0.00	0.00	5700.00	850.59	-824.68	1.50	-720.01
6569.71	0.00	0.00	6426.01	850.59	-824.68	0.00	-720.01
7568.04	89.85	179.63	7062.63	215.65	-820.53	9.00	-92.59
13058.35	89.85	179.63	7077.00	-5274.52	-784.68	0.00	5332.56

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
CANNON 34N-33HZ_PBHL	7077.00	-5274.52	-784.68	14590137.00	1730590.00	40.173666	-104.67192



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well CANNON 34N-33HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4879.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4879.00usft (D Rig)
Site:	3N-65W-33 CANNON 4-33HZ	North Reference:	True
Well:	CANNON 34N-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	3N-65W-33 CANNON 4-33HZ				
Site Position:		Northing:	14,595,414.36 usft	Latitude:	40.188150
From:	Lat/Long	Easting:	1,731,355.32 usft	Longitude:	-104.674383
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.21 °

Well	CANNON 34N-33HZ					
Well Position	+N/-S	0.00 usft	Northing:	14,595,414.36 usft	Latitude:	40.188150
	+E/-W	0.00 usft	Easting:	1,731,355.32 usft	Longitude:	-104.674383
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,862.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/27/2016	8.07	66.71	52,464.13663042

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	188.46

Plan Survey Tool Program	Date	11/7/2016			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	13,058.35	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	0.00
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,243.75	14.91	315.89	1,232.58	92.29	-89.48	1.50	1.50	0.00	315.89	
4,849.95	14.91	315.89	4,717.42	758.30	-735.20	0.00	0.00	0.00	0.00	
5,843.70	0.00	0.00	5,700.00	850.59	-824.68	1.50	-1.50	0.00	180.00	
6,569.71	0.00	0.00	6,426.01	850.59	-824.68	0.00	0.00	0.00	0.00	
7,568.04	89.85	179.63	7,062.63	215.65	-820.53	9.00	9.00	0.00	179.63	
13,058.35	89.85	179.63	7,077.00	-5,274.52	-784.68	0.00	0.00	0.00	0.00	CANNON 34N-33HZ

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well CANNON 34N-33HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4879.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4879.00usft (D Rig)
Site:	3N-65W-33 CANNON 4-33HZ	North Reference:	True
Well:	CANNON 34N-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	0.75	315.89	300.00	0.23	-0.23	-0.20	1.50	1.50	0.00
400.00	2.25	315.89	399.96	2.11	-2.05	-1.79	1.50	1.50	0.00
500.00	3.75	315.89	499.82	5.87	-5.69	-4.97	1.50	1.50	0.00
600.00	5.25	315.89	599.51	11.50	-11.15	-9.74	1.50	1.50	0.00
700.00	6.75	315.89	698.96	19.01	-18.43	-16.09	1.50	1.50	0.00
800.00	8.25	315.89	798.10	28.38	-27.52	-24.02	1.50	1.50	0.00
900.00	9.75	315.89	896.87	39.61	-38.40	-33.53	1.50	1.50	0.00
1,000.00	11.25	315.89	995.19	52.69	-51.09	-44.60	1.50	1.50	0.00
1,100.00	12.75	315.89	1,093.00	67.62	-65.56	-57.24	1.50	1.50	0.00
1,191.50	14.12	315.89	1,182.00	82.89	-80.36	-70.16	1.50	1.50	0.00
Fox Hills Mkr									
1,200.00	14.25	315.89	1,190.24	84.38	-81.81	-71.43	1.50	1.50	0.00
1,243.75	14.91	315.89	1,232.58	92.29	-89.48	-78.12	1.50	1.50	0.00
1,300.00	14.91	315.89	1,286.93	102.68	-99.55	-86.91	0.00	0.00	0.00
1,400.00	14.91	315.89	1,383.57	121.14	-117.45	-102.55	0.00	0.00	0.00
1,500.00	14.91	315.89	1,480.20	139.61	-135.36	-118.18	0.00	0.00	0.00
1,520.49	14.91	315.89	1,500.00	143.40	-139.03	-121.38	0.00	0.00	0.00
9 5/8"									
1,600.00	14.91	315.89	1,576.84	158.08	-153.27	-133.81	0.00	0.00	0.00
1,700.00	14.91	315.89	1,673.47	176.55	-171.17	-149.45	0.00	0.00	0.00
1,800.00	14.91	315.89	1,770.11	195.02	-189.08	-165.08	0.00	0.00	0.00
1,900.00	14.91	315.89	1,866.74	213.49	-206.98	-180.71	0.00	0.00	0.00
2,000.00	14.91	315.89	1,963.38	231.96	-224.89	-196.35	0.00	0.00	0.00
2,100.00	14.91	315.89	2,060.01	250.42	-242.80	-211.98	0.00	0.00	0.00
2,200.00	14.91	315.89	2,156.65	268.89	-260.70	-227.61	0.00	0.00	0.00
2,300.00	14.91	315.89	2,253.28	287.36	-278.61	-243.25	0.00	0.00	0.00
2,400.00	14.91	315.89	2,349.92	305.83	-296.51	-258.88	0.00	0.00	0.00
2,500.00	14.91	315.89	2,446.55	324.30	-314.42	-274.51	0.00	0.00	0.00
2,600.00	14.91	315.89	2,543.19	342.77	-332.33	-290.15	0.00	0.00	0.00
2,700.00	14.91	315.89	2,639.82	361.24	-350.23	-305.78	0.00	0.00	0.00
2,800.00	14.91	315.89	2,736.46	379.71	-368.14	-321.41	0.00	0.00	0.00
2,900.00	14.91	315.89	2,833.09	398.17	-386.04	-337.05	0.00	0.00	0.00
3,000.00	14.91	315.89	2,929.73	416.64	-403.95	-352.68	0.00	0.00	0.00
3,100.00	14.91	315.89	3,026.36	435.11	-421.86	-368.31	0.00	0.00	0.00
3,200.00	14.91	315.89	3,123.00	453.58	-439.76	-383.95	0.00	0.00	0.00
3,300.00	14.91	315.89	3,219.63	472.05	-457.67	-399.58	0.00	0.00	0.00
3,400.00	14.91	315.89	3,316.27	490.52	-475.58	-415.21	0.00	0.00	0.00
3,500.00	14.91	315.89	3,412.90	508.99	-493.48	-430.85	0.00	0.00	0.00
3,600.00	14.91	315.89	3,509.53	527.45	-511.39	-446.48	0.00	0.00	0.00
3,700.00	14.91	315.89	3,606.17	545.92	-529.29	-462.11	0.00	0.00	0.00
3,800.00	14.91	315.89	3,702.80	564.39	-547.20	-477.75	0.00	0.00	0.00
3,900.00	14.91	315.89	3,799.44	582.86	-565.11	-493.38	0.00	0.00	0.00
3,996.82	14.91	315.89	3,893.00	600.74	-582.44	-508.51	0.00	0.00	0.00
Parkman									
4,000.00	14.91	315.89	3,896.07	601.33	-583.01	-509.01	0.00	0.00	0.00
4,100.00	14.91	315.89	3,992.71	619.80	-600.92	-524.65	0.00	0.00	0.00
4,200.00	14.91	315.89	4,089.34	638.27	-618.82	-540.28	0.00	0.00	0.00
4,300.00	14.91	315.89	4,185.98	656.73	-636.73	-555.91	0.00	0.00	0.00
4,400.00	14.91	315.89	4,282.61	675.20	-654.64	-571.55	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well CANNON 34N-33HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4879.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4879.00usft (D Rig)
Site:	3N-65W-33 CANNON 4-33HZ	North Reference:	True
Well:	CANNON 34N-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)
4,500.00	14.91	315.89	4,379.25	693.67	-672.54	-587.18	0.00	0.00	0.00
4,600.00	14.91	315.89	4,475.88	712.14	-690.45	-602.81	0.00	0.00	0.00
4,700.00	14.91	315.89	4,572.52	730.61	-708.35	-618.45	0.00	0.00	0.00
4,713.95	14.91	315.89	4,586.00	733.19	-710.85	-620.63	0.00	0.00	0.00
Sussex									
4,800.00	14.91	315.89	4,669.15	749.08	-726.26	-634.08	0.00	0.00	0.00
4,849.95	14.91	315.89	4,717.42	758.30	-735.20	-641.89	0.00	0.00	0.00
4,900.00	14.16	315.89	4,765.87	767.32	-743.95	-649.52	1.50	-1.50	0.00
5,000.00	12.66	315.89	4,863.14	783.96	-760.08	-663.61	1.50	-1.50	0.00
5,100.00	11.16	315.89	4,960.99	798.77	-774.44	-676.15	1.50	-1.50	0.00
5,200.00	9.66	315.89	5,059.34	811.74	-787.01	-687.12	1.50	-1.50	0.00
5,300.00	8.16	315.89	5,158.13	822.86	-797.79	-696.53	1.50	-1.50	0.00
5,400.00	6.66	315.89	5,257.30	832.11	-806.76	-704.36	1.50	-1.50	0.00
5,500.00	5.16	315.89	5,356.76	839.50	-813.92	-710.62	1.50	-1.50	0.00
5,600.00	3.66	315.89	5,456.46	845.01	-819.27	-715.28	1.50	-1.50	0.00
5,700.00	2.16	315.89	5,556.33	848.65	-822.80	-718.36	1.50	-1.50	0.00
5,800.00	0.66	315.89	5,656.30	850.41	-824.51	-719.85	1.50	-1.50	0.00
5,843.70	0.00	0.00	5,700.00	850.59	-824.68	-720.01	1.50	-1.50	0.00
5,900.00	0.00	0.00	5,756.30	850.59	-824.68	-720.01	0.00	0.00	0.00
6,000.00	0.00	0.00	5,856.30	850.59	-824.68	-720.01	0.00	0.00	0.00
6,100.00	0.00	0.00	5,956.30	850.59	-824.68	-720.01	0.00	0.00	0.00
6,200.00	0.00	0.00	6,056.30	850.59	-824.68	-720.01	0.00	0.00	0.00
6,300.00	0.00	0.00	6,156.30	850.59	-824.68	-720.01	0.00	0.00	0.00
6,400.00	0.00	0.00	6,256.30	850.59	-824.68	-720.01	0.00	0.00	0.00
6,500.00	0.00	0.00	6,356.30	850.59	-824.68	-720.01	0.00	0.00	0.00
6,569.71	0.00	0.00	6,426.01	850.59	-824.68	-720.01	0.00	0.00	0.00
6,600.00	2.73	179.63	6,456.29	849.87	-824.68	-719.29	9.00	9.00	0.00
6,700.00	11.73	179.63	6,555.39	837.30	-824.59	-706.88	9.00	9.00	0.00
6,800.00	20.73	179.63	6,651.31	809.39	-824.41	-679.30	9.00	9.00	0.00
6,900.00	29.73	179.63	6,741.68	766.82	-824.13	-637.23	9.00	9.00	0.00
7,000.00	38.73	179.63	6,824.28	710.63	-823.77	-581.70	9.00	9.00	0.00
7,049.98	43.22	179.63	6,862.00	677.87	-823.55	-549.33	9.00	9.00	0.00
Sharon Springs									
7,100.00	47.73	179.63	6,897.07	642.21	-823.32	-514.10	9.00	9.00	0.00
7,149.65	52.19	179.63	6,929.00	604.21	-823.07	-476.55	9.00	9.00	0.00
Niobrara									
7,200.00	56.73	179.63	6,958.26	563.25	-822.80	-436.07	9.00	9.00	0.00
7,203.18	57.01	179.63	6,960.00	560.59	-822.79	-433.44	9.00	9.00	0.00
Nio B									
7,300.00	65.73	179.63	7,006.35	475.69	-822.23	-349.55	9.00	9.00	0.00
7,400.00	74.73	179.63	7,040.14	381.69	-821.62	-256.66	9.00	9.00	0.00
7,415.32	76.11	179.63	7,044.00	366.86	-821.52	-242.00	9.00	9.00	0.00
Nio C									
7,500.00	83.73	179.63	7,058.82	283.55	-820.98	-159.68	9.00	9.00	0.00
7,568.04	89.85	179.63	7,062.63	215.65	-820.53	-92.59	9.00	9.00	0.00
Top of Production - CANNON 34N-33HZ_PHL									
7,600.00	89.85	179.63	7,062.71	183.69	-820.32	-61.01	0.00	0.00	0.00
7,700.00	89.85	179.63	7,062.97	83.70	-819.67	37.80	0.00	0.00	0.00
7,800.00	89.85	179.63	7,063.23	-16.30	-819.02	136.62	0.00	0.00	0.00
7,900.00	89.85	179.63	7,063.50	-116.30	-818.37	235.43	0.00	0.00	0.00
8,000.00	89.85	179.63	7,063.76	-216.30	-817.71	334.24	0.00	0.00	0.00
8,100.00	89.85	179.63	7,064.02	-316.29	-817.06	433.06	0.00	0.00	0.00
8,200.00	89.85	179.63	7,064.28	-416.29	-816.41	531.87	0.00	0.00	0.00

Corporate Planning Report

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Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4879.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4879.00usft (D Rig)
Site:	3N-65W-33 CANNON 4-33HZ	North Reference:	True
Well:	CANNON 34N-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)
8,300.00	89.85	179.63	7,064.54	-516.29	-815.75	630.68	0.00	0.00	0.00
8,400.00	89.85	179.63	7,064.80	-616.29	-815.10	729.50	0.00	0.00	0.00
8,500.00	89.85	179.63	7,065.07	-716.28	-814.45	828.31	0.00	0.00	0.00
8,600.00	89.85	179.63	7,065.33	-816.28	-813.79	927.12	0.00	0.00	0.00
8,700.00	89.85	179.63	7,065.59	-916.28	-813.14	1,025.94	0.00	0.00	0.00
8,800.00	89.85	179.63	7,065.85	-1,016.28	-812.49	1,124.75	0.00	0.00	0.00
8,900.00	89.85	179.63	7,066.11	-1,116.27	-811.83	1,223.56	0.00	0.00	0.00
9,000.00	89.85	179.63	7,066.38	-1,216.27	-811.18	1,322.38	0.00	0.00	0.00
9,100.00	89.85	179.63	7,066.64	-1,316.27	-810.53	1,421.19	0.00	0.00	0.00
9,200.00	89.85	179.63	7,066.90	-1,416.27	-809.87	1,520.00	0.00	0.00	0.00
9,300.00	89.85	179.63	7,067.16	-1,516.26	-809.22	1,618.82	0.00	0.00	0.00
9,400.00	89.85	179.63	7,067.42	-1,616.26	-808.57	1,717.63	0.00	0.00	0.00
9,500.00	89.85	179.63	7,067.68	-1,716.26	-807.92	1,816.44	0.00	0.00	0.00
9,600.00	89.85	179.63	7,067.95	-1,816.26	-807.26	1,915.26	0.00	0.00	0.00
9,700.00	89.85	179.63	7,068.21	-1,916.25	-806.61	2,014.07	0.00	0.00	0.00
9,800.00	89.85	179.63	7,068.47	-2,016.25	-805.96	2,112.88	0.00	0.00	0.00
9,900.00	89.85	179.63	7,068.73	-2,116.25	-805.30	2,211.70	0.00	0.00	0.00
10,000.00	89.85	179.63	7,068.99	-2,216.25	-804.65	2,310.51	0.00	0.00	0.00
10,100.00	89.85	179.63	7,069.26	-2,316.24	-804.00	2,409.32	0.00	0.00	0.00
10,200.00	89.85	179.63	7,069.52	-2,416.24	-803.34	2,508.14	0.00	0.00	0.00
10,300.00	89.85	179.63	7,069.78	-2,516.24	-802.69	2,606.95	0.00	0.00	0.00
10,400.00	89.85	179.63	7,070.04	-2,616.24	-802.04	2,705.76	0.00	0.00	0.00
10,500.00	89.85	179.63	7,070.30	-2,716.23	-801.38	2,804.58	0.00	0.00	0.00
10,600.00	89.85	179.63	7,070.56	-2,816.23	-800.73	2,903.39	0.00	0.00	0.00
10,700.00	89.85	179.63	7,070.83	-2,916.23	-800.08	3,002.20	0.00	0.00	0.00
10,800.00	89.85	179.63	7,071.09	-3,016.23	-799.43	3,101.02	0.00	0.00	0.00
10,900.00	89.85	179.63	7,071.35	-3,116.22	-798.77	3,199.83	0.00	0.00	0.00
11,000.00	89.85	179.63	7,071.61	-3,216.22	-798.12	3,298.64	0.00	0.00	0.00
11,100.00	89.85	179.63	7,071.87	-3,316.22	-797.47	3,397.46	0.00	0.00	0.00
11,200.00	89.85	179.63	7,072.14	-3,416.22	-796.81	3,496.27	0.00	0.00	0.00
11,300.00	89.85	179.63	7,072.40	-3,516.21	-796.16	3,595.08	0.00	0.00	0.00
11,400.00	89.85	179.63	7,072.66	-3,616.21	-795.51	3,693.90	0.00	0.00	0.00
11,500.00	89.85	179.63	7,072.92	-3,716.21	-794.85	3,792.71	0.00	0.00	0.00
11,600.00	89.85	179.63	7,073.18	-3,816.21	-794.20	3,891.52	0.00	0.00	0.00
11,700.00	89.85	179.63	7,073.44	-3,916.20	-793.55	3,990.34	0.00	0.00	0.00
11,800.00	89.85	179.63	7,073.71	-4,016.20	-792.89	4,089.15	0.00	0.00	0.00
11,900.00	89.85	179.63	7,073.97	-4,116.20	-792.24	4,187.96	0.00	0.00	0.00
12,000.00	89.85	179.63	7,074.23	-4,216.20	-791.59	4,286.78	0.00	0.00	0.00
12,100.00	89.85	179.63	7,074.49	-4,316.19	-790.93	4,385.59	0.00	0.00	0.00
12,200.00	89.85	179.63	7,074.75	-4,416.19	-790.28	4,484.40	0.00	0.00	0.00
12,300.00	89.85	179.63	7,075.01	-4,516.19	-789.63	4,583.22	0.00	0.00	0.00
12,400.00	89.85	179.63	7,075.28	-4,616.19	-788.98	4,682.03	0.00	0.00	0.00
12,500.00	89.85	179.63	7,075.54	-4,716.18	-788.32	4,780.84	0.00	0.00	0.00
12,600.00	89.85	179.63	7,075.80	-4,816.18	-787.67	4,879.66	0.00	0.00	0.00
12,700.00	89.85	179.63	7,076.06	-4,916.18	-787.02	4,978.47	0.00	0.00	0.00
12,800.00	89.85	179.63	7,076.32	-5,016.18	-786.36	5,077.28	0.00	0.00	0.00
12,900.00	89.85	179.63	7,076.59	-5,116.17	-785.71	5,176.10	0.00	0.00	0.00
13,000.00	89.85	179.63	7,076.85	-5,216.17	-785.06	5,274.91	0.00	0.00	0.00
13,058.35	89.85	179.63	7,077.00	-5,274.52	-784.68	5,332.56	0.00	0.00	0.00
CANNON 34N-33HZ_PBHL									

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well CANNON 34N-33HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4879.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4879.00usft (D Rig)
Site:	3N-65W-33 CANNON 4-33HZ	North Reference:	True
Well:	CANNON 34N-33HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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 34N-33HZ_ - plan hits target center - Point	0.00	0.00	7,062.63	215.65	-820.53	14,595,627.00	1,730,534.01	40.188742	-104.677321
CANNON 34N-33HZ_ - plan hits target center - Point	0.00	0.00	7,077.00	-5,274.52	-784.68	14,590,137.00	1,730,590.00	40.173666	-104.677192

Casing Points					
Measured Depth	Vertical Depth		Name	Casing Diameter	Hole Diameter
(usft)	(usft)			(")	(")
1,520.49	1,500.00	9 5/8"		9-5/8	13-1/2
7,568.04	7,062.63	Top of Production		5-1/2	8-1/2

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
1,191.50	1,182.00	Fox Hills Mkr				
3,996.82	3,893.00	Parkman				
4,713.95	4,586.00	Sussex				
7,049.98	6,862.00	Sharon Springs				
7,149.65	6,929.00	Niobrara				
7,203.18	6,960.00	Nio B				
7,415.32	7,044.00	Nio C				