

US ROCKIES WATTENBERG PLANNING

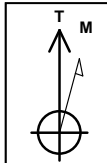
**WELD-NAD83-UTMFT13N
3N-65W-33 CANNON 4-33HZ
CANNON 2N-4HZ**

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

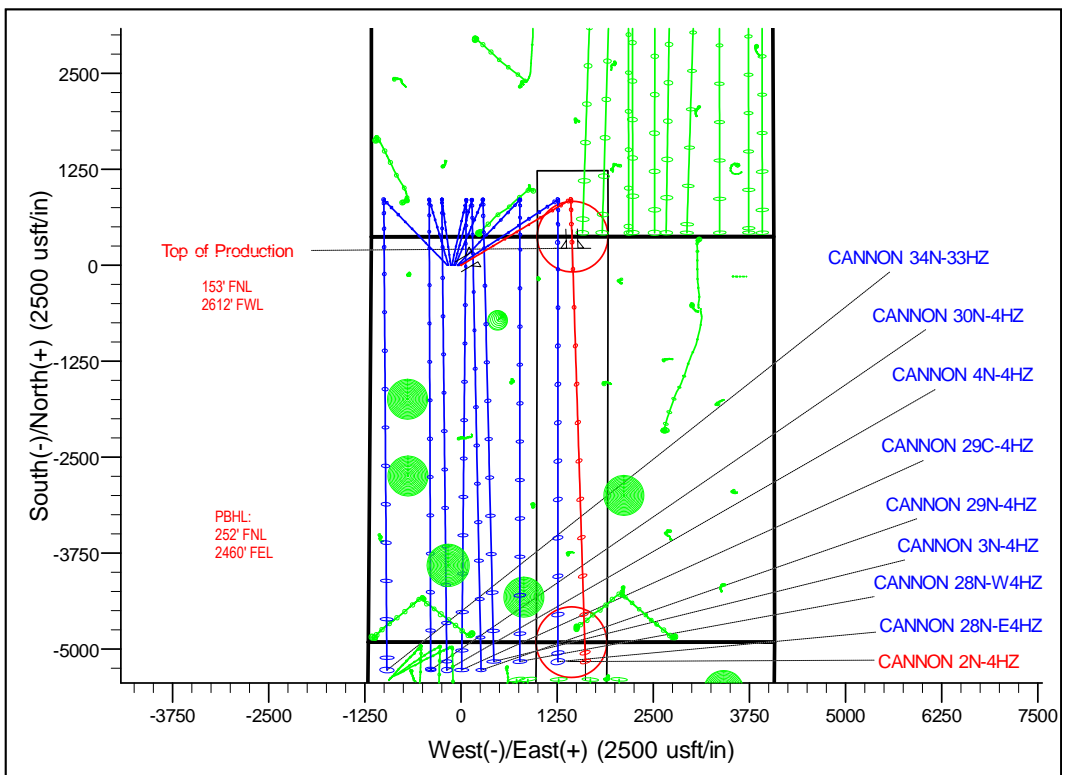
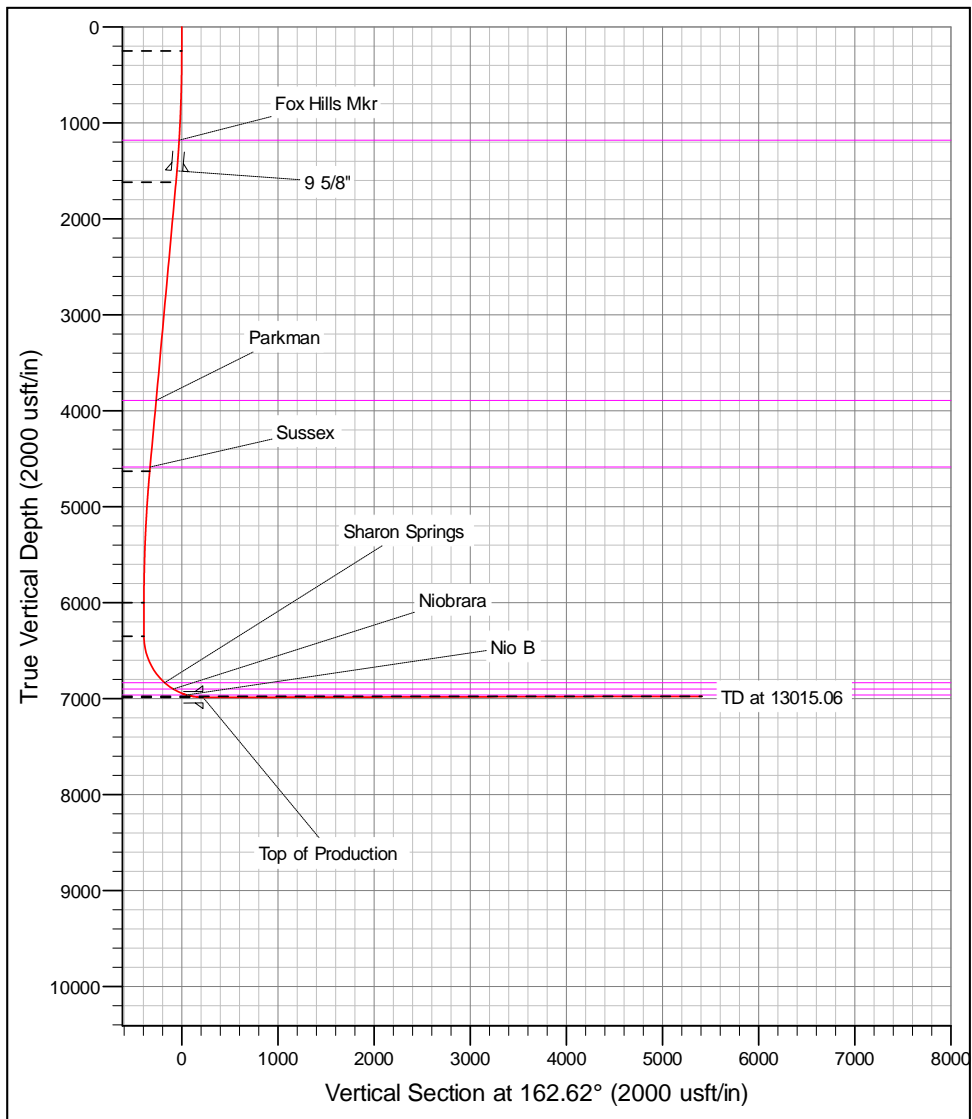
Well: CANNON 2N-4HZ
Wellbore: Plan A
Design: Permit Rev-1

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1182.00	1191.50	Fox Hills Mkr
3893.00	4086.03	Parkman
4586.00	4828.37	Sussex
6834.00	7176.16	Sharon Springs
6901.00	7281.95	Niobrara
6962.00	7447.05	Nio B

WELL DETAILS: CANNON 2N-4HZ						
+N/-S	+E/-W	GL: 4862.00	RKB @ 4879.00usft (D Rig)			
		Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	14595413.20	1731535.19	40.188145	-104.673739	

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
1650.43	21.01	58.96	1619.26	130.89	217.51	1.50	-59.95
4876.29	21.01	58.96	4630.74	727.11	1208.34	0.00	-333.03
6276.72	0.00	0.00	6000.00	858.00	1425.85	1.50	-392.98
6627.50	0.00	0.00	6350.78	858.00	1425.85	0.00	-392.98
7628.61	90.10	178.19	6987.40	220.59	1445.96	9.00	221.35
13015.06	90.10	178.19	6978.00	-5163.17	1615.85	0.005410.11	

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
CANNON 2N-4HZ_PBHL	6978.00	-5163.17	1615.85	14590256.00	1733170.00	40.173966	-104.667955



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well CANNON 2N-4HZ
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 2N-4HZ	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
From:	Lat/Long	Easting:	1,731,355.32 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	40.188150
		Longitude:	-104.674383
		Grid Convergence:	0.21 °

Well	CANNON 2N-4HZ		
Well Position	+N-S	-1.82 usft	Northing: 14,595,413.19 usft
	+E-W	179.86 usft	Easting: 1,731,535.19 usft
Position Uncertainty		3.28 usft	Wellhead Elevation: 0.00 usft
			Latitude: 40.188145
			Longitude: -104.673739
			Ground Level: 4,862.00 usft

Wellbore	Plan A		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	10/27/2016	8.07
			Dip Angle (°)
			66.71
			Field Strength (nT)
			52,464.19958158

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)
	0.00	0.00	0.00
			Direction (°)
			162.62

Plan Survey Tool Program	Date	11/7/2016		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	13,015.06	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWI
				Fixed:v2:Rockies, crustal dex

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	
1,650.43	21.01	58.96	1,619.26	130.89	217.51	1.50	1.50	0.00	58.96	
4,876.29	21.01	58.96	4,630.74	727.11	1,208.34	0.00	0.00	0.00	0.00	
6,276.72	0.00	0.00	6,000.00	858.00	1,425.85	1.50	-1.50	0.00	180.00	
6,627.50	0.00	0.00	6,350.78	858.00	1,425.85	0.00	0.00	0.00	0.00	
7,628.61	90.10	178.19	6,987.40	220.59	1,445.96	9.00	9.00	0.00	178.19	
13,015.06	90.10	178.19	6,978.00	-5,163.17	1,615.85	0.00	0.00	0.00	0.00	CANNON 2N-4HZ_

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well CANNON 2N-4HZ
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 2N-4HZ	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	58.96	300.00	0.17	0.28	-0.08	1.50	1.50	0.00
400.00	2.25	58.96	399.96	1.52	2.52	-0.70	1.50	1.50	0.00
500.00	3.75	58.96	499.82	4.22	7.01	-1.93	1.50	1.50	0.00
600.00	5.25	58.96	599.51	8.26	13.73	-3.78	1.50	1.50	0.00
700.00	6.75	58.96	698.96	13.65	22.69	-6.25	1.50	1.50	0.00
800.00	8.25	58.96	798.10	20.38	33.87	-9.33	1.50	1.50	0.00
900.00	9.75	58.96	896.87	28.45	47.27	-13.03	1.50	1.50	0.00
1,000.00	11.25	58.96	995.19	37.84	62.89	-17.33	1.50	1.50	0.00
1,100.00	12.75	58.96	1,093.00	48.56	80.70	-22.24	1.50	1.50	0.00
1,191.50	14.12	58.96	1,182.00	59.52	98.92	-27.26	1.50	1.50	0.00
Fox Hills Mkr									
1,200.00	14.25	58.96	1,190.24	60.60	100.70	-27.75	1.50	1.50	0.00
1,300.00	15.75	58.96	1,286.83	73.94	122.88	-33.87	1.50	1.50	0.00
1,400.00	17.25	58.96	1,382.71	88.59	147.21	-40.57	1.50	1.50	0.00
1,500.00	18.75	58.96	1,477.81	104.52	173.69	-47.87	1.50	1.50	0.00
1,523.46	19.10	58.96	1,500.00	108.44	180.21	-49.67	1.50	1.50	0.00
9 5/8"									
1,600.00	20.25	58.96	1,572.07	121.73	202.29	-55.75	1.50	1.50	0.00
1,650.43	21.01	58.96	1,619.26	130.89	217.51	-59.95	1.50	1.50	0.00
1,700.00	21.01	58.96	1,665.54	140.05	232.74	-64.14	0.00	0.00	0.00
1,800.00	21.01	58.96	1,758.90	158.53	263.45	-72.61	0.00	0.00	0.00
1,900.00	21.01	58.96	1,852.25	177.02	294.17	-81.08	0.00	0.00	0.00
2,000.00	21.01	58.96	1,945.60	195.50	324.88	-89.54	0.00	0.00	0.00
2,100.00	21.01	58.96	2,038.96	213.98	355.60	-98.01	0.00	0.00	0.00
2,200.00	21.01	58.96	2,132.31	232.46	386.31	-106.47	0.00	0.00	0.00
2,300.00	21.01	58.96	2,225.67	250.95	417.03	-114.94	0.00	0.00	0.00
2,400.00	21.01	58.96	2,319.02	269.43	447.74	-123.40	0.00	0.00	0.00
2,500.00	21.01	58.96	2,412.37	287.91	478.46	-131.87	0.00	0.00	0.00
2,600.00	21.01	58.96	2,505.73	306.39	509.17	-140.33	0.00	0.00	0.00
2,700.00	21.01	58.96	2,599.08	324.88	539.89	-148.80	0.00	0.00	0.00
2,800.00	21.01	58.96	2,692.44	343.36	570.60	-157.26	0.00	0.00	0.00
2,900.00	21.01	58.96	2,785.79	361.84	601.32	-165.73	0.00	0.00	0.00
3,000.00	21.01	58.96	2,879.14	380.32	632.03	-174.19	0.00	0.00	0.00
3,100.00	21.01	58.96	2,972.50	398.81	662.75	-182.66	0.00	0.00	0.00
3,200.00	21.01	58.96	3,065.85	417.29	693.46	-191.12	0.00	0.00	0.00
3,300.00	21.01	58.96	3,159.21	435.77	724.18	-199.59	0.00	0.00	0.00
3,400.00	21.01	58.96	3,252.56	454.26	754.89	-208.06	0.00	0.00	0.00
3,500.00	21.01	58.96	3,345.91	472.74	785.61	-216.52	0.00	0.00	0.00
3,600.00	21.01	58.96	3,439.27	491.22	816.32	-224.99	0.00	0.00	0.00
3,700.00	21.01	58.96	3,532.62	509.70	847.04	-233.45	0.00	0.00	0.00
3,800.00	21.01	58.96	3,625.98	528.19	877.75	-241.92	0.00	0.00	0.00
3,900.00	21.01	58.96	3,719.33	546.67	908.47	-250.38	0.00	0.00	0.00
4,000.00	21.01	58.96	3,812.69	565.15	939.18	-258.85	0.00	0.00	0.00
4,086.03	21.01	58.96	3,893.00	581.05	965.61	-266.13	0.00	0.00	0.00
Parkman									
4,100.00	21.01	58.96	3,906.04	583.63	969.90	-267.31	0.00	0.00	0.00
4,200.00	21.01	58.96	3,999.39	602.12	1,000.61	-275.78	0.00	0.00	0.00
4,300.00	21.01	58.96	4,092.75	620.60	1,031.33	-284.24	0.00	0.00	0.00
4,400.00	21.01	58.96	4,186.10	639.08	1,062.04	-292.71	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well CANNON 2N-4HZ
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 2N-4HZ	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	21.01	58.96	4,279.46	657.56	1,092.76	-301.17	0.00	0.00	0.00	
4,600.00	21.01	58.96	4,372.81	676.05	1,123.47	-309.64	0.00	0.00	0.00	
4,700.00	21.01	58.96	4,466.16	694.53	1,154.19	-318.10	0.00	0.00	0.00	
4,800.00	21.01	58.96	4,559.52	713.01	1,184.90	-326.57	0.00	0.00	0.00	
4,828.37	21.01	58.96	4,586.00	718.26	1,193.62	-328.97	0.00	0.00	0.00	
Sussex										
4,876.29	21.01	58.96	4,630.74	727.11	1,208.34	-333.03	0.00	0.00	0.00	
4,900.00	20.65	58.96	4,652.90	731.46	1,215.56	-335.02	1.50	-1.50	0.00	
5,000.00	19.15	58.96	4,746.92	749.01	1,244.73	-343.06	1.50	-1.50	0.00	
5,100.00	17.65	58.96	4,841.81	765.28	1,271.77	-350.51	1.50	-1.50	0.00	
5,200.00	16.15	58.96	4,937.49	780.27	1,296.68	-357.38	1.50	-1.50	0.00	
5,300.00	14.65	58.96	5,033.89	793.97	1,319.43	-363.65	1.50	-1.50	0.00	
5,400.00	13.15	58.96	5,130.96	806.35	1,340.02	-369.32	1.50	-1.50	0.00	
5,500.00	11.65	58.96	5,228.63	817.42	1,358.42	-374.39	1.50	-1.50	0.00	
5,600.00	10.15	58.96	5,326.82	827.17	1,374.62	-378.86	1.50	-1.50	0.00	
5,700.00	8.65	58.96	5,425.47	835.59	1,388.62	-382.71	1.50	-1.50	0.00	
5,800.00	7.15	58.96	5,524.52	842.68	1,400.39	-385.96	1.50	-1.50	0.00	
5,900.00	5.65	58.96	5,623.89	848.43	1,409.95	-388.59	1.50	-1.50	0.00	
6,000.00	4.15	58.96	5,723.53	852.83	1,417.27	-390.61	1.50	-1.50	0.00	
6,100.00	2.65	58.96	5,823.35	855.89	1,422.35	-392.01	1.50	-1.50	0.00	
6,200.00	1.15	58.96	5,923.29	857.60	1,425.19	-392.79	1.50	-1.50	0.00	
6,276.72	0.00	0.00	6,000.00	858.00	1,425.85	-392.98	1.50	-1.50	0.00	
6,300.00	0.00	0.00	6,023.28	858.00	1,425.85	-392.98	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,123.28	858.00	1,425.85	-392.98	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,223.28	858.00	1,425.85	-392.98	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,323.28	858.00	1,425.85	-392.98	0.00	0.00	0.00	
6,627.50	0.00	0.00	6,350.78	858.00	1,425.85	-392.98	0.00	0.00	0.00	
6,700.00	6.53	178.19	6,423.13	853.88	1,425.98	-389.00	9.00	9.00	0.00	
6,800.00	15.53	178.19	6,521.18	834.78	1,426.58	-370.60	9.00	9.00	0.00	
6,900.00	24.53	178.19	6,615.04	800.59	1,427.66	-337.65	9.00	9.00	0.00	
7,000.00	33.53	178.19	6,702.39	752.15	1,429.19	-290.96	9.00	9.00	0.00	
7,100.00	42.53	178.19	6,781.08	690.64	1,431.13	-231.68	9.00	9.00	0.00	
7,176.16	49.38	178.19	6,834.00	635.96	1,432.86	-178.98	9.00	9.00	0.00	
Sharon Springs										
7,200.00	51.53	178.19	6,849.18	617.59	1,433.44	-161.27	9.00	9.00	0.00	
7,291.95	59.80	178.19	6,901.00	541.76	1,435.83	-88.19	9.00	9.00	0.00	
Niobrara										
7,300.00	60.53	178.19	6,905.01	534.78	1,436.05	-81.47	9.00	9.00	0.00	
7,400.00	69.53	178.19	6,947.18	444.27	1,438.91	5.77	9.00	9.00	0.00	
7,447.05	73.76	178.19	6,962.00	399.65	1,440.31	48.78	9.00	9.00	0.00	
Nio B										
7,500.00	78.53	178.19	6,974.68	348.28	1,441.93	98.28	9.00	9.00	0.00	
7,600.00	87.53	178.19	6,986.81	249.17	1,445.06	193.80	9.00	9.00	0.00	
7,628.61	90.10	178.19	6,987.40	220.59	1,445.96	221.35	9.00	9.00	0.00	
Top of Production - CANNON 2N-4HZ_PHL										
7,700.00	90.10	178.19	6,987.28	149.23	1,448.22	290.12	0.00	0.00	0.00	
7,800.00	90.10	178.19	6,987.10	49.28	1,451.37	386.45	0.00	0.00	0.00	
7,900.00	90.10	178.19	6,986.93	-50.67	1,454.52	482.78	0.00	0.00	0.00	
8,000.00	90.10	178.19	6,986.75	-150.62	1,457.68	579.11	0.00	0.00	0.00	
8,100.00	90.10	178.19	6,986.58	-250.57	1,460.83	675.44	0.00	0.00	0.00	
8,200.00	90.10	178.19	6,986.40	-350.52	1,463.98	771.77	0.00	0.00	0.00	
8,300.00	90.10	178.19	6,986.23	-450.47	1,467.14	868.10	0.00	0.00	0.00	
8,400.00	90.10	178.19	6,986.05	-550.42	1,470.29	964.43	0.00	0.00	0.00	
8,500.00	90.10	178.19	6,985.88	-650.37	1,473.45	1,060.76	0.00	0.00	0.00	

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well CANNON 2N-4HZ
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 2N-4HZ	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)	
8,600.00	90.10	178.19	6,985.71	-750.32	1,476.60	1,157.09	0.00	0.00	0.00	
8,700.00	90.10	178.19	6,985.53	-850.27	1,479.75	1,253.42	0.00	0.00	0.00	
8,800.00	90.10	178.19	6,985.36	-950.22	1,482.91	1,349.75	0.00	0.00	0.00	
8,900.00	90.10	178.19	6,985.18	-1,050.17	1,486.06	1,446.08	0.00	0.00	0.00	
9,000.00	90.10	178.19	6,985.01	-1,150.12	1,489.22	1,542.41	0.00	0.00	0.00	
9,100.00	90.10	178.19	6,984.83	-1,250.07	1,492.37	1,638.74	0.00	0.00	0.00	
9,200.00	90.10	178.19	6,984.66	-1,350.02	1,495.52	1,735.07	0.00	0.00	0.00	
9,300.00	90.10	178.19	6,984.48	-1,449.97	1,498.68	1,831.40	0.00	0.00	0.00	
9,400.00	90.10	178.19	6,984.31	-1,549.92	1,501.83	1,927.73	0.00	0.00	0.00	
9,500.00	90.10	178.19	6,984.14	-1,649.87	1,504.99	2,024.06	0.00	0.00	0.00	
9,600.00	90.10	178.19	6,983.96	-1,749.82	1,508.14	2,120.39	0.00	0.00	0.00	
9,700.00	90.10	178.19	6,983.79	-1,849.77	1,511.29	2,216.72	0.00	0.00	0.00	
9,800.00	90.10	178.19	6,983.61	-1,949.72	1,514.45	2,313.05	0.00	0.00	0.00	
9,900.00	90.10	178.19	6,983.44	-2,049.67	1,517.60	2,409.38	0.00	0.00	0.00	
10,000.00	90.10	178.19	6,983.26	-2,149.62	1,520.76	2,505.71	0.00	0.00	0.00	
10,100.00	90.10	178.19	6,983.09	-2,249.57	1,523.91	2,602.04	0.00	0.00	0.00	
10,200.00	90.10	178.19	6,982.91	-2,349.52	1,527.06	2,698.37	0.00	0.00	0.00	
10,300.00	90.10	178.19	6,982.74	-2,449.47	1,530.22	2,794.70	0.00	0.00	0.00	
10,400.00	90.10	178.19	6,982.56	-2,549.42	1,533.37	2,891.03	0.00	0.00	0.00	
10,500.00	90.10	178.19	6,982.39	-2,649.37	1,536.52	2,987.36	0.00	0.00	0.00	
10,600.00	90.10	178.19	6,982.22	-2,749.32	1,539.68	3,083.69	0.00	0.00	0.00	
10,700.00	90.10	178.19	6,982.04	-2,849.27	1,542.83	3,180.02	0.00	0.00	0.00	
10,800.00	90.10	178.19	6,981.87	-2,949.22	1,545.99	3,276.35	0.00	0.00	0.00	
10,900.00	90.10	178.19	6,981.69	-3,049.17	1,549.14	3,372.68	0.00	0.00	0.00	
11,000.00	90.10	178.19	6,981.52	-3,149.12	1,552.29	3,469.01	0.00	0.00	0.00	
11,100.00	90.10	178.19	6,981.34	-3,249.07	1,555.45	3,565.34	0.00	0.00	0.00	
11,200.00	90.10	178.19	6,981.17	-3,349.02	1,558.60	3,661.67	0.00	0.00	0.00	
11,300.00	90.10	178.19	6,980.99	-3,448.97	1,561.76	3,758.00	0.00	0.00	0.00	
11,400.00	90.10	178.19	6,980.82	-3,548.92	1,564.91	3,854.33	0.00	0.00	0.00	
11,500.00	90.10	178.19	6,980.64	-3,648.87	1,568.06	3,950.66	0.00	0.00	0.00	
11,600.00	90.10	178.19	6,980.47	-3,748.82	1,571.22	4,046.99	0.00	0.00	0.00	
11,700.00	90.10	178.19	6,980.30	-3,848.77	1,574.37	4,143.32	0.00	0.00	0.00	
11,800.00	90.10	178.19	6,980.12	-3,948.72	1,577.53	4,239.65	0.00	0.00	0.00	
11,900.00	90.10	178.19	6,979.95	-4,048.67	1,580.68	4,335.98	0.00	0.00	0.00	
12,000.00	90.10	178.19	6,979.77	-4,148.62	1,583.83	4,432.31	0.00	0.00	0.00	
12,100.00	90.10	178.19	6,979.60	-4,248.57	1,586.99	4,528.64	0.00	0.00	0.00	
12,200.00	90.10	178.19	6,979.42	-4,348.52	1,590.14	4,624.97	0.00	0.00	0.00	
12,300.00	90.10	178.19	6,979.25	-4,448.47	1,593.30	4,721.30	0.00	0.00	0.00	
12,400.00	90.10	178.19	6,979.07	-4,548.42	1,596.45	4,817.63	0.00	0.00	0.00	
12,500.00	90.10	178.19	6,978.90	-4,648.37	1,599.60	4,913.96	0.00	0.00	0.00	
12,600.00	90.10	178.19	6,978.72	-4,748.32	1,602.76	5,010.29	0.00	0.00	0.00	
12,700.00	90.10	178.19	6,978.55	-4,848.27	1,605.91	5,106.62	0.00	0.00	0.00	
12,800.00	90.10	178.19	6,978.38	-4,948.22	1,609.06	5,202.95	0.00	0.00	0.00	
12,900.00	90.10	178.19	6,978.20	-5,048.17	1,612.22	5,299.28	0.00	0.00	0.00	
13,000.00	90.10	178.19	6,978.03	-5,148.12	1,615.37	5,395.61	0.00	0.00	0.00	
13,015.06	90.10	178.19	6,978.00	-5,163.17	1,615.85	5,410.11	0.00	0.00	0.00	
CANNON 2N-4HZ_PBHL										

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well CANNON 2N-4HZ
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 2N-4HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
CANNON 2N-4HZ_PE - hit/miss target center - Point	0.00	0.00	6,978.00	-5,163.17	1,615.85	14,590,256.00	1,733,170.00	40.173966	-104.667955
CANNON 2N-4HZ_PF - plan hits target center - Point	0.00	0.00	6,987.40	220.59	1,445.96	14,595,639.09	1,732,980.33	40.188751	-104.668562

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,523.46	1,500.00	9 5/8"	9-5/8	13-1/2	
7,628.61	6,987.40	Top of Production	5-1/2	8-1/2	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,191.50	1,182.00	Fox Hills Mkr				
4,086.03	3,893.00	Parkman				
4,828.37	4,586.00	Sussex				
7,176.16	6,834.00	Sharon Springs				
7,291.95	6,901.00	Niobrara				
7,447.05	6,962.00	Nio B				