

US ROCKIES WATTENBERG PLANNING

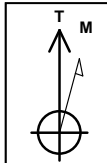
**WELD-NAD83-UTMFT13N
3N-65W-29 RW 15-29HZ Pad
RW 1N-5HZ**

Plan A

Plan: Permit Rev-1

Standard Planning Report

12 December, 2016



Azimuths to True North
Magnetic North: 8.06°

Magnetic Field
Strength: 52452.7snT
Dip Angle: 66.70°
Date: 12/6/2016
Model: IGRF2010

SITE: 3N-65W-29 RW 15-29HZ Pad

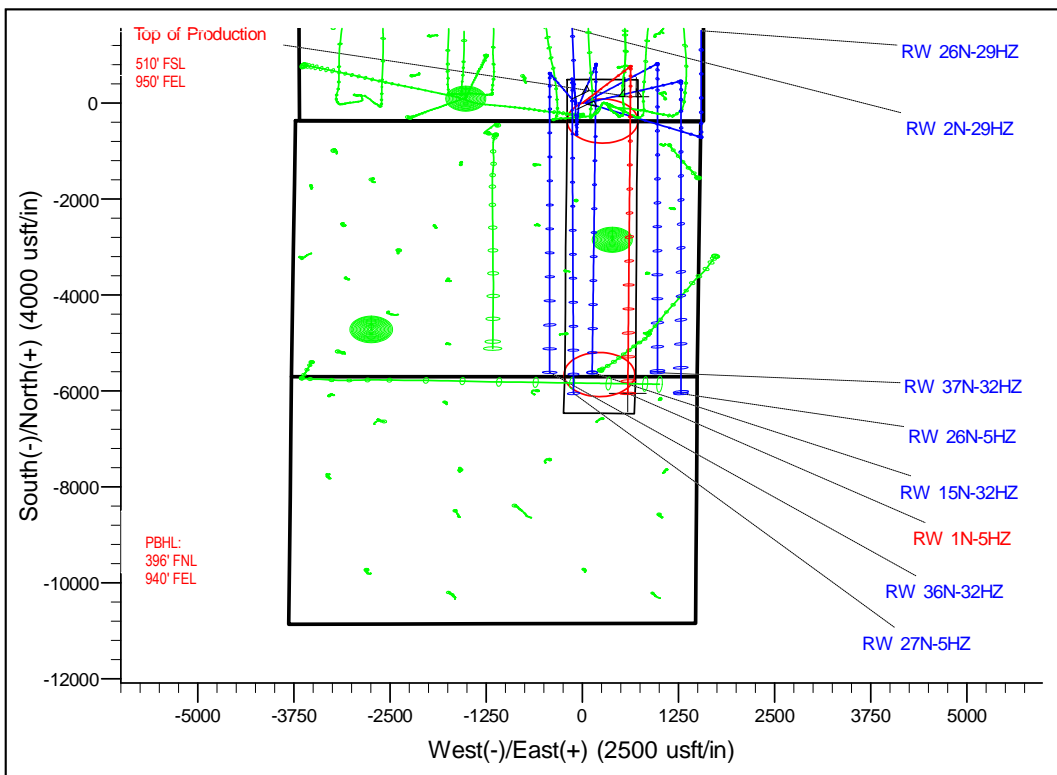
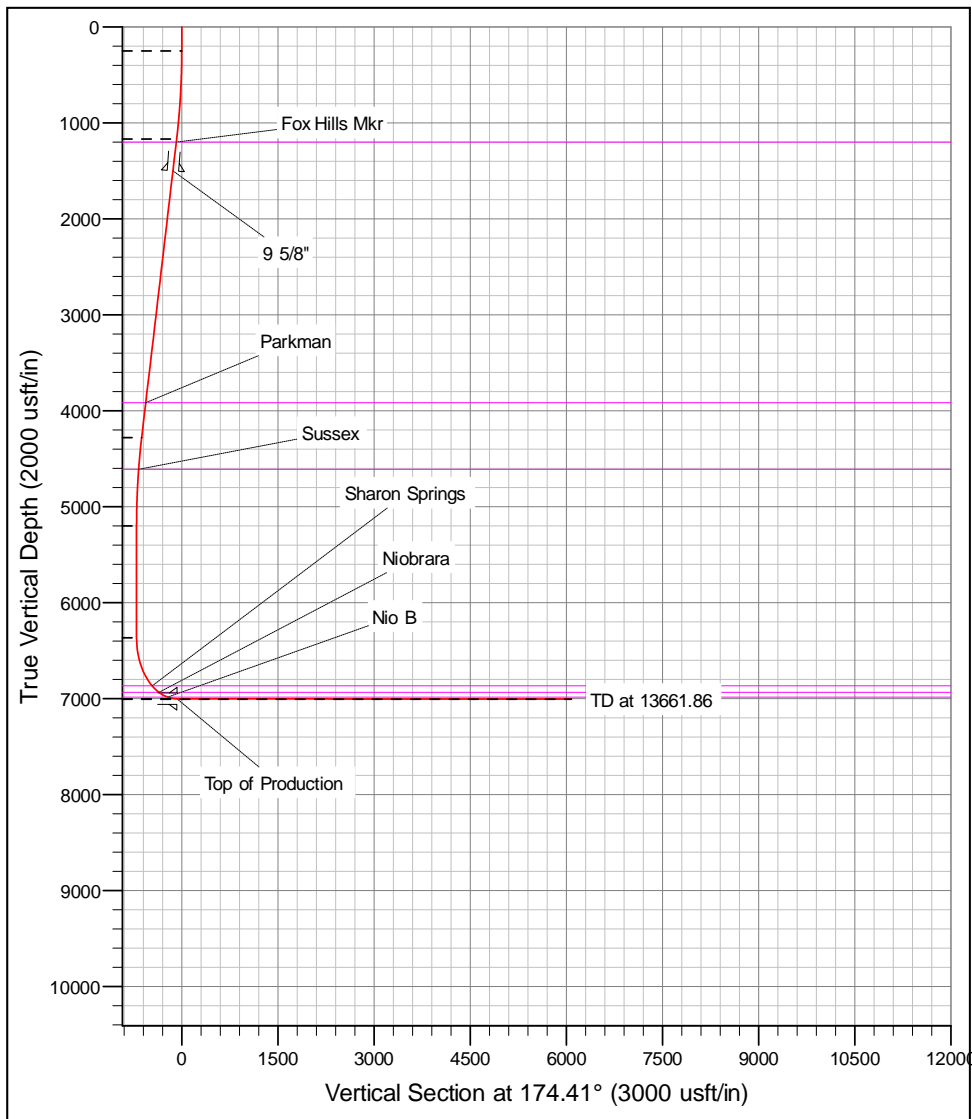
Well: RW 1N-5HZ
Wellbore: Plan A
Design: Permit Rev-1

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1202.00	1212.10	Fox Hills Mkr
3918.00	4010.13	Parkman
4611.00	4720.84	Sussex
6868.00	7056.44	Sharon Springs
6935.00	7181.94	Niobrara
6985.00	7327.61	Nio B

WELL DETAILS: RW 1N-5HZ						
+N/-S	+E/-W	GL: 4867.00	RKB @ 4884.00usft (D Rig)			
0.00	0.00	Northing	Easting	Latitude	Longitude	Slot
		14596147.97	1728791.11	40.190190	-104.683555	

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
1177.20	13.91	39.29	1168.12	86.67	70.91	1.50	-79.35
4385.00	13.91	39.29	4281.88	683.42	559.16	0.00	-625.68
5312.20	0.00	0.00	5200.00	770.09	630.07	1.50	-705.03
6478.34	0.00	0.00	6366.14	770.09	630.07	0.00	-705.03
7478.01	89.97	180.32	7002.76	133.82	626.55	9.00	-72.13
13661.86	89.97	180.32	7006.00	-6049.94	592.33	0.00	6078.87

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
RW 1N-5HZ_PBHL	7006.00	-6049.94	592.33	14590100.18	1729405.00	40.173576	-104.681435



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RW 1N-5HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4884.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4884.00usft (D Rig)
Site:	3N-65W-29 RW 15-29HZ Pad	North Reference:	True
Well:	RW 1N-5HZ	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-29 RW 15-29HZ Pad		
Site Position:		Northing:	14,596,148.74 usft
From:	Lat/Long	Easting:	1,728,701.18 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	40.190193
		Longitude:	-104.683877
		Grid Convergence:	0.20 °

Well	RW 1N-5HZ					
Well Position	+N-S	-1.09 usft	Northing:	14,596,147.97 usft	Latitude:	40.190190
	+E-W	89.93 usft	Easting:	1,728,791.11 usft	Longitude:	-104.683555
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	4,867.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/6/2016	8.07	66.70	52,452.74036511

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	174.41

Plan Survey Tool Program	Date	12/12/2016			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	13,661.86	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	
1,177.20	13.91	39.29	1,168.12	86.67	70.91	1.50	1.50	0.00	39.29	
4,385.00	13.91	39.29	4,281.88	683.42	559.16	0.00	0.00	0.00	0.00	
5,312.20	0.00	0.00	5,200.00	770.09	630.07	1.50	-1.50	0.00	180.00	
6,478.34	0.00	0.00	6,366.14	770.09	630.07	0.00	0.00	0.00	0.00	
7,478.01	89.97	180.32	7,002.76	133.82	626.55	9.00	9.00	0.00	180.32	
13,661.86	89.97	180.32	7,006.00	-6,049.94	592.33	0.00	0.00	0.00	0.00	RW 1N-5HZ_PBHL

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RW 1N-5HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4884.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4884.00usft (D Rig)
Site:	3N-65W-29 RW 15-29HZ Pad	North Reference:	True
Well:	RW 1N-5HZ	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	39.29	300.00	0.25	0.21	-0.23	1.50	1.50	0.00
400.00	2.25	39.29	399.96	2.28	1.86	-2.09	1.50	1.50	0.00
500.00	3.75	39.29	499.82	6.33	5.18	-5.79	1.50	1.50	0.00
600.00	5.25	39.29	599.51	12.40	10.15	-11.35	1.50	1.50	0.00
700.00	6.75	39.29	698.96	20.49	16.77	-18.76	1.50	1.50	0.00
800.00	8.25	39.29	798.10	30.59	25.03	-28.01	1.50	1.50	0.00
900.00	9.75	39.29	896.87	42.70	34.94	-39.09	1.50	1.50	0.00
1,000.00	11.25	39.29	995.19	56.80	46.48	-52.01	1.50	1.50	0.00
1,100.00	12.75	39.29	1,093.00	72.90	59.64	-66.74	1.50	1.50	0.00
1,177.20	13.91	39.29	1,168.12	86.67	70.91	-79.35	1.50	1.50	0.00
1,200.00	13.91	39.29	1,190.25	90.91	74.38	-83.23	0.00	0.00	0.00
1,212.10	13.91	39.29	1,202.00	93.16	76.22	-85.29	0.00	0.00	0.00
Fox Hills Mkr									
1,300.00	13.91	39.29	1,287.32	109.51	89.60	-100.26	0.00	0.00	0.00
1,400.00	13.91	39.29	1,384.39	128.12	104.82	-117.29	0.00	0.00	0.00
1,500.00	13.91	39.29	1,481.46	146.72	120.04	-134.33	0.00	0.00	0.00
1,519.10	13.91	39.29	1,500.00	150.27	122.95	-137.58	0.00	0.00	0.00
9 5/8"									
1,600.00	13.91	39.29	1,578.53	165.32	135.26	-151.36	0.00	0.00	0.00
1,700.00	13.91	39.29	1,675.59	183.93	150.49	-168.39	0.00	0.00	0.00
1,800.00	13.91	39.29	1,772.66	202.53	165.71	-185.42	0.00	0.00	0.00
1,900.00	13.91	39.29	1,869.73	221.13	180.93	-202.45	0.00	0.00	0.00
2,000.00	13.91	39.29	1,966.80	239.74	196.15	-219.48	0.00	0.00	0.00
2,100.00	13.91	39.29	2,063.87	258.34	211.37	-236.51	0.00	0.00	0.00
2,200.00	13.91	39.29	2,160.94	276.94	226.59	-253.55	0.00	0.00	0.00
2,300.00	13.91	39.29	2,258.00	295.55	241.81	-270.58	0.00	0.00	0.00
2,400.00	13.91	39.29	2,355.07	314.15	257.03	-287.61	0.00	0.00	0.00
2,500.00	13.91	39.29	2,452.14	332.75	272.25	-304.64	0.00	0.00	0.00
2,600.00	13.91	39.29	2,549.21	351.36	287.47	-321.67	0.00	0.00	0.00
2,700.00	13.91	39.29	2,646.28	369.96	302.69	-338.70	0.00	0.00	0.00
2,800.00	13.91	39.29	2,743.35	388.56	317.91	-355.74	0.00	0.00	0.00
2,900.00	13.91	39.29	2,840.41	407.17	333.13	-372.77	0.00	0.00	0.00
3,000.00	13.91	39.29	2,937.48	425.77	348.35	-389.80	0.00	0.00	0.00
3,100.00	13.91	39.29	3,034.55	444.37	363.58	-406.83	0.00	0.00	0.00
3,200.00	13.91	39.29	3,131.62	462.97	378.80	-423.86	0.00	0.00	0.00
3,300.00	13.91	39.29	3,228.69	481.58	394.02	-440.89	0.00	0.00	0.00
3,400.00	13.91	39.29	3,325.76	500.18	409.24	-457.92	0.00	0.00	0.00
3,500.00	13.91	39.29	3,422.82	518.78	424.46	-474.96	0.00	0.00	0.00
3,600.00	13.91	39.29	3,519.89	537.39	439.68	-491.99	0.00	0.00	0.00
3,700.00	13.91	39.29	3,616.96	555.99	454.90	-509.02	0.00	0.00	0.00
3,800.00	13.91	39.29	3,714.03	574.59	470.12	-526.05	0.00	0.00	0.00
3,900.00	13.91	39.29	3,811.10	593.20	485.34	-543.08	0.00	0.00	0.00
4,000.00	13.91	39.29	3,908.16	611.80	500.56	-560.11	0.00	0.00	0.00
4,010.13	13.91	39.29	3,918.00	613.68	502.10	-561.84	0.00	0.00	0.00
Parkman									
4,100.00	13.91	39.29	4,005.23	630.40	515.78	-577.14	0.00	0.00	0.00
4,200.00	13.91	39.29	4,102.30	649.01	531.00	-594.18	0.00	0.00	0.00
4,300.00	13.91	39.29	4,199.37	667.61	546.22	-611.21	0.00	0.00	0.00
4,385.00	13.91	39.29	4,281.88	683.42	559.16	-625.68	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RW 1N-5HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4884.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4884.00usft (D Rig)
Site:	3N-65W-29 RW 15-29HZ Pad	North Reference:	True
Well:	RW 1N-5HZ	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)	
4,400.00	13.68	39.29	4,296.45	686.19	561.43	-628.22	1.50	-1.50	0.00	
4,500.00	12.18	39.29	4,393.91	703.51	575.60	-644.08	1.50	-1.50	0.00	
4,600.00	10.68	39.29	4,491.92	718.85	588.15	-658.12	1.50	-1.50	0.00	
4,700.00	9.18	39.29	4,590.42	732.20	599.07	-670.34	1.50	-1.50	0.00	
4,720.84	8.87	39.29	4,611.00	734.73	601.14	-672.66	1.50	-1.50	0.00	
Sussex										
4,800.00	7.68	39.29	4,689.33	743.55	608.36	-680.74	1.50	-1.50	0.00	
4,900.00	6.18	39.29	4,788.60	752.90	616.00	-689.29	1.50	-1.50	0.00	
5,000.00	4.68	39.29	4,888.15	760.22	622.00	-696.00	1.50	-1.50	0.00	
5,100.00	3.18	39.29	4,987.91	765.53	626.34	-700.86	1.50	-1.50	0.00	
5,200.00	1.68	39.29	5,087.82	768.82	629.03	-703.87	1.50	-1.50	0.00	
5,300.00	0.18	39.29	5,187.80	770.08	630.06	-705.02	1.50	-1.50	0.00	
5,312.20	0.00	0.00	5,200.00	770.09	630.07	-705.03	1.50	-1.50	0.00	
5,400.00	0.00	0.00	5,287.80	770.09	630.07	-705.03	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,387.80	770.09	630.07	-705.03	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,487.80	770.09	630.07	-705.03	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,587.80	770.09	630.07	-705.03	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,687.80	770.09	630.07	-705.03	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,787.80	770.09	630.07	-705.03	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,887.80	770.09	630.07	-705.03	0.00	0.00	0.00	
6,100.00	0.00	0.00	5,987.80	770.09	630.07	-705.03	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,087.80	770.09	630.07	-705.03	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,187.80	770.09	630.07	-705.03	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,287.80	770.09	630.07	-705.03	0.00	0.00	0.00	
6,478.34	0.00	0.00	6,366.14	770.09	630.07	-705.03	0.00	0.00	0.00	
6,500.00	1.95	180.32	6,387.79	769.72	630.07	-704.67	9.00	9.00	0.00	
6,600.00	10.95	180.32	6,487.06	758.50	630.01	-693.51	9.00	9.00	0.00	
6,700.00	19.95	180.32	6,583.35	731.89	629.86	-667.04	9.00	9.00	0.00	
6,800.00	28.95	180.32	6,674.29	690.55	629.63	-625.91	9.00	9.00	0.00	
6,900.00	37.95	180.32	6,757.64	635.49	629.33	-571.14	9.00	9.00	0.00	
7,000.00	46.95	180.32	6,831.35	568.06	628.96	-504.07	9.00	9.00	0.00	
7,056.44	52.03	180.32	6,868.00	525.17	628.72	-461.41	9.00	9.00	0.00	
Sharon Springs										
7,100.00	55.95	180.32	6,893.61	489.94	628.52	-426.36	9.00	9.00	0.00	
7,181.94	63.32	180.32	6,935.00	419.29	628.13	-356.08	9.00	9.00	0.00	
Niobrara										
7,200.00	64.95	180.32	6,942.88	403.04	628.04	-339.92	9.00	9.00	0.00	
7,300.00	73.95	180.32	6,977.94	309.50	627.52	-246.88	9.00	9.00	0.00	
7,327.61	76.43	180.32	6,985.00	282.81	627.38	-220.33	9.00	9.00	0.00	
Nio B										
7,400.00	82.95	180.32	6,997.95	211.63	626.98	-149.53	9.00	9.00	0.00	
7,478.01	89.97	180.32	7,002.76	133.82	626.55	-72.13	9.00	9.00	0.00	
Top of Production - RW 1N-5HZ_PHL										
7,500.00	89.97	180.32	7,002.77	111.83	626.43	-50.25	0.00	0.00	0.00	
7,600.00	89.97	180.32	7,002.83	11.83	625.88	49.21	0.00	0.00	0.00	
7,700.00	89.97	180.32	7,002.88	-88.17	625.32	148.68	0.00	0.00	0.00	
7,800.00	89.97	180.32	7,002.93	-188.17	624.77	248.15	0.00	0.00	0.00	
7,900.00	89.97	180.32	7,002.98	-288.17	624.22	347.62	0.00	0.00	0.00	
8,000.00	89.97	180.32	7,003.04	-388.17	623.66	447.09	0.00	0.00	0.00	
8,100.00	89.97	180.32	7,003.09	-488.16	623.11	546.56	0.00	0.00	0.00	
8,200.00	89.97	180.32	7,003.14	-588.16	622.56	646.03	0.00	0.00	0.00	
8,300.00	89.97	180.32	7,003.19	-688.16	622.00	745.50	0.00	0.00	0.00	
8,400.00	89.97	180.32	7,003.25	-788.16	621.45	844.96	0.00	0.00	0.00	
8,500.00	89.97	180.32	7,003.30	-888.16	620.90	944.43	0.00	0.00	0.00	

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RW 1N-5HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4884.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4884.00usft (D Rig)
Site:	3N-65W-29 RW 15-29HZ Pad	North Reference:	True
Well:	RW 1N-5HZ	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	89.97	180.32	7,003.35	-988.16	620.34	1,043.90	0.00	0.00	0.00
8,700.00	89.97	180.32	7,003.40	-1,088.16	619.79	1,143.37	0.00	0.00	0.00
8,800.00	89.97	180.32	7,003.45	-1,188.15	619.24	1,242.84	0.00	0.00	0.00
8,900.00	89.97	180.32	7,003.51	-1,288.15	618.68	1,342.31	0.00	0.00	0.00
9,000.00	89.97	180.32	7,003.56	-1,388.15	618.13	1,441.78	0.00	0.00	0.00
9,100.00	89.97	180.32	7,003.61	-1,488.15	617.58	1,541.24	0.00	0.00	0.00
9,200.00	89.97	180.32	7,003.66	-1,588.15	617.02	1,640.71	0.00	0.00	0.00
9,300.00	89.97	180.32	7,003.72	-1,688.15	616.47	1,740.18	0.00	0.00	0.00
9,400.00	89.97	180.32	7,003.77	-1,788.14	615.92	1,839.65	0.00	0.00	0.00
9,500.00	89.97	180.32	7,003.82	-1,888.14	615.36	1,939.12	0.00	0.00	0.00
9,600.00	89.97	180.32	7,003.87	-1,988.14	614.81	2,038.59	0.00	0.00	0.00
9,700.00	89.97	180.32	7,003.93	-2,088.14	614.26	2,138.06	0.00	0.00	0.00
9,800.00	89.97	180.32	7,003.98	-2,188.14	613.70	2,237.53	0.00	0.00	0.00
9,900.00	89.97	180.32	7,004.03	-2,288.14	613.15	2,336.99	0.00	0.00	0.00
10,000.00	89.97	180.32	7,004.08	-2,388.14	612.60	2,436.46	0.00	0.00	0.00
10,100.00	89.97	180.32	7,004.14	-2,488.13	612.04	2,535.93	0.00	0.00	0.00
10,200.00	89.97	180.32	7,004.19	-2,588.13	611.49	2,635.40	0.00	0.00	0.00
10,300.00	89.97	180.32	7,004.24	-2,688.13	610.94	2,734.87	0.00	0.00	0.00
10,400.00	89.97	180.32	7,004.29	-2,788.13	610.38	2,834.34	0.00	0.00	0.00
10,500.00	89.97	180.32	7,004.34	-2,888.13	609.83	2,933.81	0.00	0.00	0.00
10,600.00	89.97	180.32	7,004.40	-2,988.13	609.28	3,033.27	0.00	0.00	0.00
10,700.00	89.97	180.32	7,004.45	-3,088.12	608.72	3,132.74	0.00	0.00	0.00
10,800.00	89.97	180.32	7,004.50	-3,188.12	608.17	3,232.21	0.00	0.00	0.00
10,900.00	89.97	180.32	7,004.55	-3,288.12	607.62	3,331.68	0.00	0.00	0.00
11,000.00	89.97	180.32	7,004.61	-3,388.12	607.06	3,431.15	0.00	0.00	0.00
11,100.00	89.97	180.32	7,004.66	-3,488.12	606.51	3,530.62	0.00	0.00	0.00
11,200.00	89.97	180.32	7,004.71	-3,588.12	605.96	3,630.09	0.00	0.00	0.00
11,300.00	89.97	180.32	7,004.76	-3,688.12	605.40	3,729.56	0.00	0.00	0.00
11,400.00	89.97	180.32	7,004.82	-3,788.11	604.85	3,829.02	0.00	0.00	0.00
11,500.00	89.97	180.32	7,004.87	-3,888.11	604.30	3,928.49	0.00	0.00	0.00
11,600.00	89.97	180.32	7,004.92	-3,988.11	603.74	4,027.96	0.00	0.00	0.00
11,700.00	89.97	180.32	7,004.97	-4,088.11	603.19	4,127.43	0.00	0.00	0.00
11,800.00	89.97	180.32	7,005.03	-4,188.11	602.63	4,226.90	0.00	0.00	0.00
11,900.00	89.97	180.32	7,005.08	-4,288.11	602.08	4,326.37	0.00	0.00	0.00
12,000.00	89.97	180.32	7,005.13	-4,388.10	601.53	4,425.84	0.00	0.00	0.00
12,100.00	89.97	180.32	7,005.18	-4,488.10	600.97	4,525.31	0.00	0.00	0.00
12,200.00	89.97	180.32	7,005.23	-4,588.10	600.42	4,624.77	0.00	0.00	0.00
12,300.00	89.97	180.32	7,005.29	-4,688.10	599.87	4,724.24	0.00	0.00	0.00
12,400.00	89.97	180.32	7,005.34	-4,788.10	599.31	4,823.71	0.00	0.00	0.00
12,500.00	89.97	180.32	7,005.39	-4,888.10	598.76	4,923.18	0.00	0.00	0.00
12,600.00	89.97	180.32	7,005.44	-4,988.10	598.21	5,022.65	0.00	0.00	0.00
12,700.00	89.97	180.32	7,005.50	-5,088.09	597.65	5,122.12	0.00	0.00	0.00
12,800.00	89.97	180.32	7,005.55	-5,188.09	597.10	5,221.59	0.00	0.00	0.00
12,900.00	89.97	180.32	7,005.60	-5,288.09	596.55	5,321.05	0.00	0.00	0.00
13,000.00	89.97	180.32	7,005.65	-5,388.09	595.99	5,420.52	0.00	0.00	0.00
13,100.00	89.97	180.32	7,005.71	-5,488.09	595.44	5,519.99	0.00	0.00	0.00
13,200.00	89.97	180.32	7,005.76	-5,588.09	594.89	5,619.46	0.00	0.00	0.00
13,300.00	89.97	180.32	7,005.81	-5,688.08	594.33	5,718.93	0.00	0.00	0.00
13,400.00	89.97	180.32	7,005.86	-5,788.08	593.78	5,818.40	0.00	0.00	0.00
13,500.00	89.97	180.32	7,005.92	-5,888.08	593.23	5,917.87	0.00	0.00	0.00
13,600.00	89.97	180.32	7,005.97	-5,988.08	592.67	6,017.34	0.00	0.00	0.00
13,661.86	89.97	180.32	7,006.00	-6,049.94	592.33	6,078.87	0.00	0.00	0.00
RW 1N-5HZ_PBHL									

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RW 1N-5HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4884.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4884.00usft (D Rig)
Site:	3N-65W-29 RW 15-29HZ Pad	North Reference:	True
Well:	RW 1N-5HZ	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									
RW 1N-5HZ_PHL - plan hits target center - Point	0.00	0.00	7,002.76	133.82	626.55	14,596,284.01	1,729,417.18	40.190558	-104.681312
RW 1N-5HZ_PBHL - plan hits target center - Point	0.00	0.00	7,006.00	-6,049.94	592.33	14,590,100.17	1,729,405.00	40.173576	-104.681435

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(usft)	(usft)			(")	(")
1,519.10	1,500.00	9 5/8"		9-5/8	13-1/2
7,478.01	7,002.76	Top of Production		5-1/2	8-1/2

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
1,212.10	1,202.00	Fox Hills Mkr				
4,010.13	3,918.00	Parkman				
4,720.84	4,611.00	Sussex				
7,056.44	6,868.00	Sharon Springs				
7,181.94	6,935.00	Niobrara				
7,327.61	6,985.00	Nio B				