

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N  
3N-65W-29 RW 15-29HZ Pad  
RW 27N-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 27N-5HZ  
Wellbore: Plan A  
Design: Permit Rev-1

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1205.00	1209.52	Fox Hills Mkr
3921.00	3944.22	Parkman
4614.00	4641.94	Sussex
6874.00	6989.79	Sharon Springs
6941.00	7126.73	Niobrara
6984.00	7280.59	Nio B

#### WELL DETAILS: RW 27N-5HZ

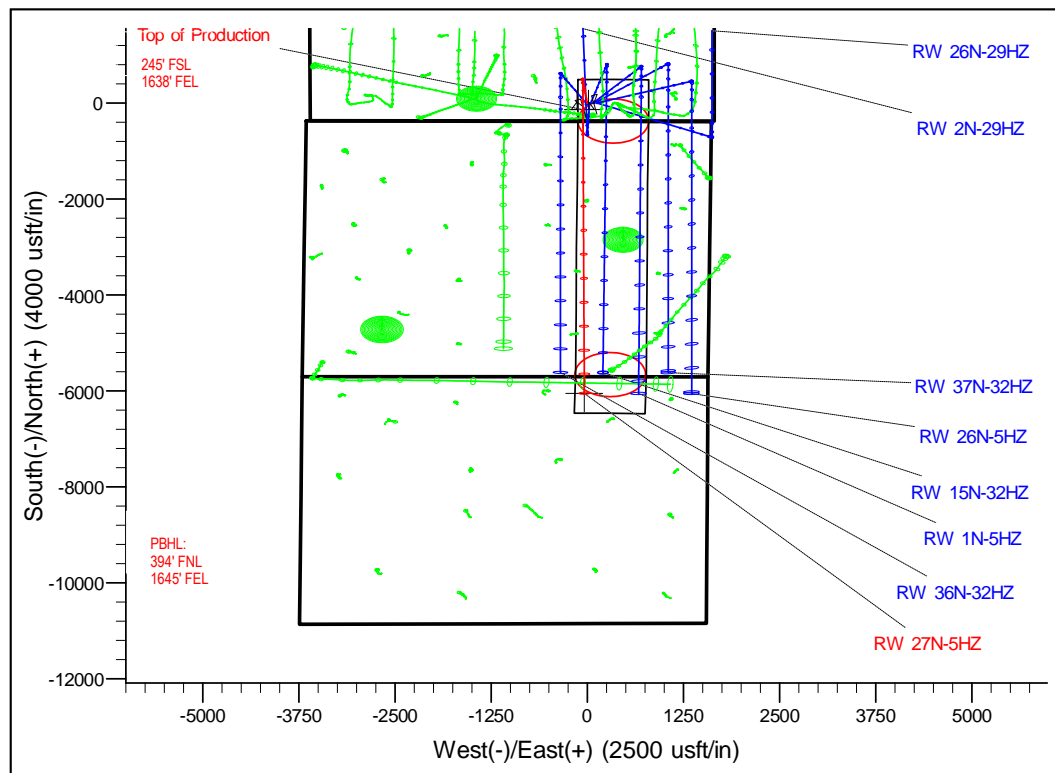
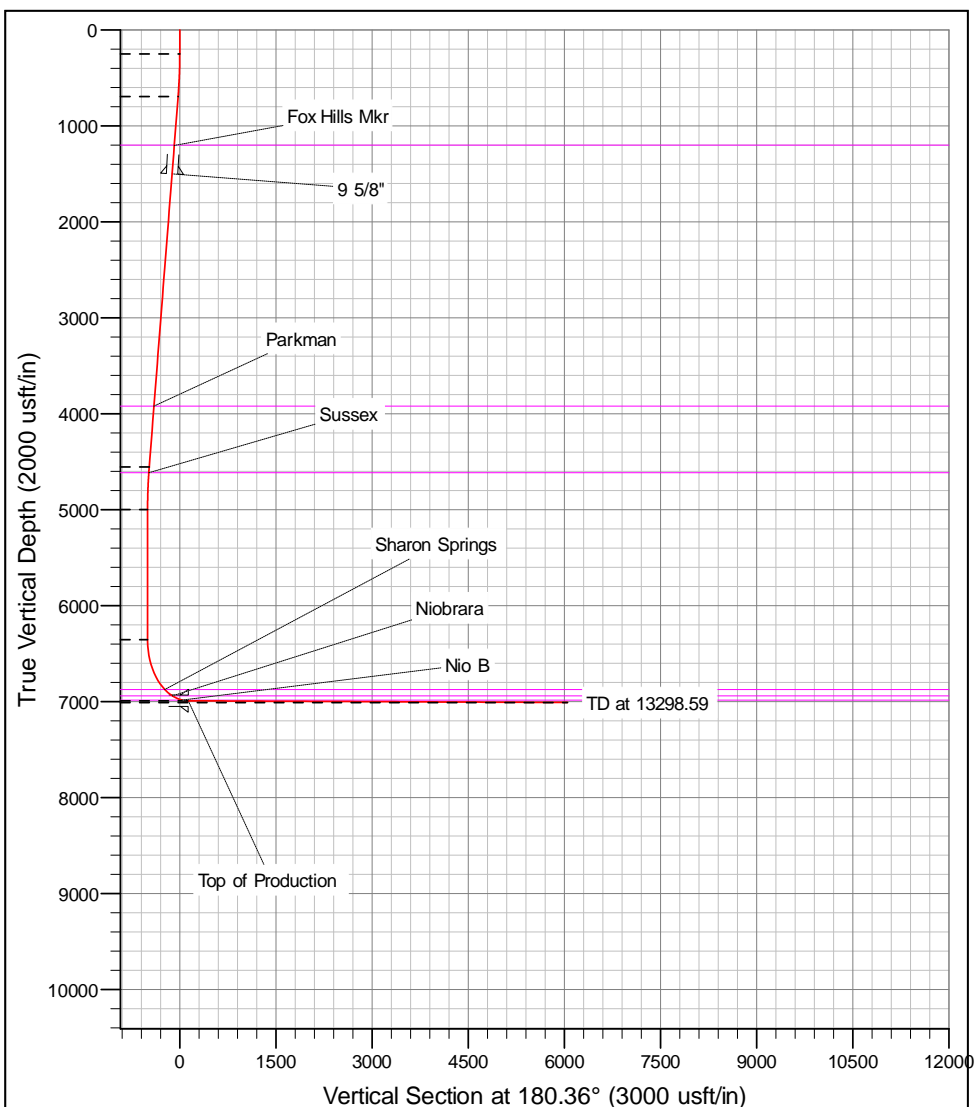
+N/-S	+E/-W	GL: 4867.00 Northing	RKB @ 4887.00usft (D Rig) Easting	Latitude	Longitude	Slot
0.00	0.00	14596148.43	1728716.26	40.190192	-104.683823	

#### 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
696.91	6.70	353.50	695.89	25.95	-2.96	1.50	-25.93
4581.69	6.70	353.50	4554.11	476.51	-54.32	0.00	-476.16
5028.60	0.00	0.00	5000.00	502.46	-57.28	1.50	-502.09
6384.43	0.00	0.00	6355.83	502.46	-57.28	0.00	-502.09
7382.54	89.83	179.83	6992.45	-132.27	-55.39	9.00	132.61
13298.59	89.83	179.83	7010.00	-6048.26	-37.80	0.00	6048.38

#### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
RW 27N-5HZ_PBHL	7010.00	-6048.26	-37.80	14590100.07	1728700.00	40.173583	-104.683958



# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well RW 27N-5HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4887.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4887.00usft (D Rig)
<b>Site:</b>	3N-65W-29 RW 15-29HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	RW 27N-5HZ	<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)		

Site		3N-65W-29 RW 15-29HZ Pad			
Site Position:		Northing:	14,596,148.74 usft	Latitude:	40.190193
From:	Lat/Long	Easting:	1,728,701.18 usft	Longitude:	-104.683877
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.20 °

Well	RW 27N-5HZ					
Well Position	+N/-S	-0.36 usft	Northing:	14,596,148.43 usft	Latitude:	40.190192
	+E/-W	15.08 usft	Easting:	1,728,716.26 usft	Longitude:	-104.683823
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	4,867.00 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	12/6/2016	8.07	66.70	52,452.68984828

<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	180.36

<b>Plan Survey Tool Program</b>	<b>Date</b>	12/12/2016		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	13,298.59	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWI Fixed:v2:Rockies, crustal dex

<b>Plan Sections</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	<b>TFO (°)</b>	<b>Target</b>
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	
696.91	6.70	353.50	695.89	25.95	-2.96	1.50	1.50	0.00	353.50	
4,581.69	6.70	353.50	4,554.11	476.51	-54.32	0.00	0.00	0.00	0.00	
5,028.60	0.00	0.00	5,000.00	502.46	-57.28	1.50	-1.50	0.00	180.00	
6,384.43	0.00	0.00	6,355.83	502.46	-57.28	0.00	0.00	0.00	0.00	
7,382.54	89.83	179.83	6,992.45	-132.27	-55.39	9.00	9.00	0.00	179.83	
13,298.59	89.83	179.83	7,010.00	-6,048.26	-37.80	0.00	0.00	0.00	0.00	RW 27N-5HZ_PBH

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well RW 27N-5HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4887.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4887.00usft (D Rig)
<b>Site:</b>	3N-65W-29 RW 15-29HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	RW 27N-5HZ	<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	353.50	300.00	0.33	-0.04	-0.32	1.50	1.50	0.00
400.00	2.25	353.50	399.96	2.93	-0.33	-2.92	1.50	1.50	0.00
500.00	3.75	353.50	499.82	8.13	-0.93	-8.12	1.50	1.50	0.00
600.00	5.25	353.50	599.51	15.92	-1.81	-15.91	1.50	1.50	0.00
696.91	6.70	353.50	695.89	25.95	-2.96	-25.93	1.50	1.50	0.00
700.00	6.70	353.50	698.96	26.30	-3.00	-26.29	0.00	0.00	0.00
800.00	6.70	353.50	798.28	37.90	-4.32	-37.88	0.00	0.00	0.00
900.00	6.70	353.50	897.59	49.50	-5.64	-49.47	0.00	0.00	0.00
1,000.00	6.70	353.50	996.91	61.10	-6.97	-61.06	0.00	0.00	0.00
1,100.00	6.70	353.50	1,096.23	72.70	-8.29	-72.64	0.00	0.00	0.00
1,200.00	6.70	353.50	1,195.54	84.30	-9.61	-84.23	0.00	0.00	0.00
1,209.52	6.70	353.50	1,205.00	85.40	-9.74	-85.34	0.00	0.00	0.00
Fox Hills Mkr									
1,300.00	6.70	353.50	1,294.86	95.89	-10.93	-95.82	0.00	0.00	0.00
1,400.00	6.70	353.50	1,394.17	107.49	-12.25	-107.41	0.00	0.00	0.00
1,500.00	6.70	353.50	1,493.49	119.09	-13.58	-119.00	0.00	0.00	0.00
1,506.55	6.70	353.50	1,500.00	119.85	-13.66	-119.76	0.00	0.00	0.00
9 5/8"									
1,600.00	6.70	353.50	1,592.81	130.69	-14.90	-130.59	0.00	0.00	0.00
1,700.00	6.70	353.50	1,692.12	142.29	-16.22	-142.18	0.00	0.00	0.00
1,800.00	6.70	353.50	1,791.44	153.89	-17.54	-153.77	0.00	0.00	0.00
1,900.00	6.70	353.50	1,890.76	165.48	-18.87	-165.36	0.00	0.00	0.00
2,000.00	6.70	353.50	1,990.07	177.08	-20.19	-176.95	0.00	0.00	0.00
2,100.00	6.70	353.50	2,089.39	188.68	-21.51	-188.54	0.00	0.00	0.00
2,200.00	6.70	353.50	2,188.70	200.28	-22.83	-200.13	0.00	0.00	0.00
2,300.00	6.70	353.50	2,288.02	211.88	-24.15	-211.72	0.00	0.00	0.00
2,400.00	6.70	353.50	2,387.34	223.48	-25.48	-223.31	0.00	0.00	0.00
2,500.00	6.70	353.50	2,486.65	235.07	-26.80	-234.90	0.00	0.00	0.00
2,600.00	6.70	353.50	2,585.97	246.67	-28.12	-246.49	0.00	0.00	0.00
2,700.00	6.70	353.50	2,685.29	258.27	-29.44	-258.08	0.00	0.00	0.00
2,800.00	6.70	353.50	2,784.60	269.87	-30.77	-269.67	0.00	0.00	0.00
2,900.00	6.70	353.50	2,883.92	281.47	-32.09	-281.26	0.00	0.00	0.00
3,000.00	6.70	353.50	2,983.24	293.07	-33.41	-292.85	0.00	0.00	0.00
3,100.00	6.70	353.50	3,082.55	304.66	-34.73	-304.44	0.00	0.00	0.00
3,200.00	6.70	353.50	3,181.87	316.26	-36.05	-316.03	0.00	0.00	0.00
3,300.00	6.70	353.50	3,281.18	327.86	-37.38	-327.62	0.00	0.00	0.00
3,400.00	6.70	353.50	3,380.50	339.46	-38.70	-339.21	0.00	0.00	0.00
3,500.00	6.70	353.50	3,479.82	351.06	-40.02	-350.80	0.00	0.00	0.00
3,600.00	6.70	353.50	3,579.13	362.65	-41.34	-362.39	0.00	0.00	0.00
3,700.00	6.70	353.50	3,678.45	374.25	-42.67	-373.98	0.00	0.00	0.00
3,800.00	6.70	353.50	3,777.77	385.85	-43.99	-385.57	0.00	0.00	0.00
3,900.00	6.70	353.50	3,877.08	397.45	-45.31	-397.16	0.00	0.00	0.00
3,944.22	6.70	353.50	3,921.00	402.58	-45.89	-402.28	0.00	0.00	0.00
Parkman									
4,000.00	6.70	353.50	3,976.40	409.05	-46.63	-408.75	0.00	0.00	0.00
4,100.00	6.70	353.50	4,075.71	420.65	-47.95	-420.34	0.00	0.00	0.00
4,200.00	6.70	353.50	4,175.03	432.24	-49.28	-431.93	0.00	0.00	0.00
4,300.00	6.70	353.50	4,274.35	443.84	-50.60	-443.52	0.00	0.00	0.00
4,400.00	6.70	353.50	4,373.66	455.44	-51.92	-455.11	0.00	0.00	0.00

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well RW 27N-5HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4887.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4887.00usft (D Rig)
<b>Site:</b>	3N-65W-29 RW 15-29HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	RW 27N-5HZ	<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	6.70	353.50	4,472.98	467.04	-53.24	-466.70	0.00	0.00	0.00
4,581.69	6.70	353.50	4,554.11	476.51	-54.32	-476.16	0.00	0.00	0.00
4,600.00	6.43	353.50	4,572.30	478.59	-54.56	-478.24	1.50	-1.50	0.00
4,641.94	5.80	353.50	4,614.00	483.03	-55.07	-482.68	1.50	-1.50	0.00
<b>Sussex</b>									
4,700.00	4.93	353.50	4,671.81	488.43	-55.68	-488.07	1.50	-1.50	0.00
4,800.00	3.43	353.50	4,771.54	495.67	-56.51	-495.30	1.50	-1.50	0.00
4,900.00	1.93	353.50	4,871.43	500.31	-57.04	-499.94	1.50	-1.50	0.00
5,000.00	0.43	353.50	4,971.40	502.35	-57.27	-501.99	1.50	-1.50	0.00
5,028.60	0.00	0.00	5,000.00	502.46	-57.28	-502.09	1.50	-1.50	0.00
5,100.00	0.00	0.00	5,071.40	502.46	-57.28	-502.09	0.00	0.00	0.00
5,200.00	0.00	0.00	5,171.40	502.46	-57.28	-502.09	0.00	0.00	0.00
5,300.00	0.00	0.00	5,271.40	502.46	-57.28	-502.09	0.00	0.00	0.00
5,400.00	0.00	0.00	5,371.40	502.46	-57.28	-502.09	0.00	0.00	0.00
5,500.00	0.00	0.00	5,471.40	502.46	-57.28	-502.09	0.00	0.00	0.00
5,600.00	0.00	0.00	5,571.40	502.46	-57.28	-502.09	0.00	0.00	0.00
5,700.00	0.00	0.00	5,671.40	502.46	-57.28	-502.09	0.00	0.00	0.00
5,800.00	0.00	0.00	5,771.40	502.46	-57.28	-502.09	0.00	0.00	0.00
5,900.00	0.00	0.00	5,871.40	502.46	-57.28	-502.09	0.00	0.00	0.00
6,000.00	0.00	0.00	5,971.40	502.46	-57.28	-502.09	0.00	0.00	0.00
6,100.00	0.00	0.00	6,071.40	502.46	-57.28	-502.09	0.00	0.00	0.00
6,200.00	0.00	0.00	6,171.40	502.46	-57.28	-502.09	0.00	0.00	0.00
6,300.00	0.00	0.00	6,271.40	502.46	-57.28	-502.09	0.00	0.00	0.00
6,384.43	0.00	0.00	6,355.83	502.46	-57.28	-502.09	0.00	0.00	0.00
6,400.00	1.40	179.83	6,371.40	502.27	-57.28	-501.90	9.00	9.00	0.00
6,500.00	10.40	179.83	6,470.77	492.00	-57.25	-491.63	9.00	9.00	0.00
6,600.00	19.40	179.83	6,567.31	466.31	-57.17	-465.94	9.00	9.00	0.00
6,700.00	28.40	179.83	6,658.64	425.83	-57.05	-425.47	9.00	9.00	0.00
6,800.00	37.40	179.83	6,742.51	371.57	-56.89	-371.21	9.00	9.00	0.00
6,900.00	46.40	179.83	6,816.86	304.85	-56.69	-304.49	9.00	9.00	0.00
6,989.79	54.48	179.83	6,874.00	235.69	-56.49	-235.33	9.00	9.00	0.00
<b>Sharon Springs</b>									
7,000.00	55.40	179.83	6,879.86	227.33	-56.46	-226.97	9.00	9.00	0.00
7,100.00	64.40	179.83	6,929.96	140.90	-56.21	-140.55	9.00	9.00	0.00
7,126.73	66.81	179.83	6,941.00	116.56	-56.13	-116.21	9.00	9.00	0.00
<b>Niobrara</b>									
7,200.00	73.40	179.83	6,965.92	47.70	-55.93	-47.35	9.00	9.00	0.00
7,280.59	80.65	179.83	6,984.00	-30.78	-55.70	31.13	9.00	9.00	0.00
<b>Nio B</b>									
7,300.00	82.40	179.83	6,986.86	-49.98	-55.64	50.32	9.00	9.00	0.00
7,382.54	89.83	179.83	6,992.45	-132.27	-55.39	132.61	9.00	9.00	0.00
<b>Top of Production - RW 27N-5HZ_PHL</b>									
7,400.00	89.83	179.83	6,992.50	-149.73	-55.34	150.07	0.00	0.00	0.00
7,500.00	89.83	179.83	6,992.80	-249.73	-55.04	250.07	0.00	0.00	0.00
7,600.00	89.83	179.83	6,993.09	-349.73	-54.75	350.06	0.00	0.00	0.00
7,700.00	89.83	179.83	6,993.39	-449.73	-54.45	450.06	0.00	0.00	0.00
7,800.00	89.83	179.83	6,993.69	-549.73	-54.15	550.05	0.00	0.00	0.00
7,900.00	89.83	179.83	6,993.98	-649.73	-53.86	650.05	0.00	0.00	0.00
8,000.00	89.83	179.83	6,994.28	-749.72	-53.56	750.04	0.00	0.00	0.00
8,100.00	89.83	179.83	6,994.58	-849.72	-53.26	850.04	0.00	0.00	0.00
8,200.00	89.83	179.83	6,994.87	-949.72	-52.96	950.04	0.00	0.00	0.00
8,300.00	89.83	179.83	6,995.17	-1,049.72	-52.67	1,050.03	0.00	0.00	0.00
8,400.00	89.83	179.83	6,995.47	-1,149.72	-52.37	1,150.03	0.00	0.00	0.00
8,500.00	89.83	179.83	6,995.76	-1,249.72	-52.07	1,250.02	0.00	0.00	0.00

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well RW 27N-5HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4887.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4887.00usft (D Rig)
<b>Site:</b>	3N-65W-29 RW 15-29HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	RW 27N-5HZ	<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)
8,600.00	89.83	179.83	6,996.06	-1,349.72	-51.77	1,350.02	0.00	0.00	0.00
8,700.00	89.83	179.83	6,996.36	-1,449.72	-51.48	1,450.01	0.00	0.00	0.00
8,800.00	89.83	179.83	6,996.65	-1,549.72	-51.18	1,550.01	0.00	0.00	0.00
8,900.00	89.83	179.83	6,996.95	-1,649.72	-50.88	1,650.00	0.00	0.00	0.00
9,000.00	89.83	179.83	6,997.25	-1,749.72	-50.58	1,750.00	0.00	0.00	0.00
9,100.00	89.83	179.83	6,997.54	-1,849.71	-50.29	1,849.99	0.00	0.00	0.00
9,200.00	89.83	179.83	6,997.84	-1,949.71	-49.99	1,949.99	0.00	0.00	0.00
9,300.00	89.83	179.83	6,998.14	-2,049.71	-49.69	2,049.98	0.00	0.00	0.00
9,400.00	89.83	179.83	6,998.43	-2,149.71	-49.40	2,149.98	0.00	0.00	0.00
9,500.00	89.83	179.83	6,998.73	-2,249.71	-49.10	2,249.97	0.00	0.00	0.00
9,600.00	89.83	179.83	6,999.03	-2,349.71	-48.80	2,349.97	0.00	0.00	0.00
9,700.00	89.83	179.83	6,999.32	-2,449.71	-48.50	2,449.96	0.00	0.00	0.00
9,800.00	89.83	179.83	6,999.62	-2,549.71	-48.21	2,549.96	0.00	0.00	0.00
9,900.00	89.83	179.83	6,999.92	-2,649.71	-47.91	2,649.96	0.00	0.00	0.00
10,000.00	89.83	179.83	7,000.21	-2,749.71	-47.61	2,749.95	0.00	0.00	0.00
10,100.00	89.83	179.83	7,000.51	-2,849.71	-47.31	2,849.95	0.00	0.00	0.00
10,200.00	89.83	179.83	7,000.81	-2,949.71	-47.02	2,949.94	0.00	0.00	0.00
10,300.00	89.83	179.83	7,001.10	-3,049.70	-46.72	3,049.94	0.00	0.00	0.00
10,400.00	89.83	179.83	7,001.40	-3,149.70	-46.42	3,149.93	0.00	0.00	0.00
10,500.00	89.83	179.83	7,001.70	-3,249.70	-46.13	3,249.93	0.00	0.00	0.00
10,600.00	89.83	179.83	7,001.99	-3,349.70	-45.83	3,349.92	0.00	0.00	0.00
10,700.00	89.83	179.83	7,002.29	-3,449.70	-45.53	3,449.92	0.00	0.00	0.00
10,800.00	89.83	179.83	7,002.59	-3,549.70	-45.23	3,549.91	0.00	0.00	0.00
10,900.00	89.83	179.83	7,002.88	-3,649.70	-44.94	3,649.91	0.00	0.00	0.00
11,000.00	89.83	179.83	7,003.18	-3,749.70	-44.64	3,749.90	0.00	0.00	0.00
11,100.00	89.83	179.83	7,003.48	-3,849.70	-44.34	3,849.90	0.00	0.00	0.00
11,200.00	89.83	179.83	7,003.77	-3,949.70	-44.04	3,949.89	0.00	0.00	0.00
11,300.00	89.83	179.83	7,004.07	-4,049.70	-43.75	4,049.89	0.00	0.00	0.00
11,400.00	89.83	179.83	7,004.37	-4,149.69	-43.45	4,149.89	0.00	0.00	0.00
11,500.00	89.83	179.83	7,004.66	-4,249.69	-43.15	4,249.88	0.00	0.00	0.00
11,600.00	89.83	179.83	7,004.96	-4,349.69	-42.85	4,349.88	0.00	0.00	0.00
11,700.00	89.83	179.83	7,005.26	-4,449.69	-42.56	4,449.87	0.00	0.00	0.00
11,800.00	89.83	179.83	7,005.55	-4,549.69	-42.26	4,549.87	0.00	0.00	0.00
11,900.00	89.83	179.83	7,005.85	-4,649.69	-41.96	4,649.86	0.00	0.00	0.00
12,000.00	89.83	179.83	7,006.15	-4,749.69	-41.67	4,749.86	0.00	0.00	0.00
12,100.00	89.83	179.83	7,006.44	-4,849.69	-41.37	4,849.85	0.00	0.00	0.00
12,200.00	89.83	179.83	7,006.74	-4,949.69	-41.07	4,949.85	0.00	0.00	0.00
12,300.00	89.83	179.83	7,007.04	-5,049.69	-40.77	5,049.84	0.00	0.00	0.00
12,400.00	89.83	179.83	7,007.33	-5,149.69	-40.48	5,149.84	0.00	0.00	0.00
12,500.00	89.83	179.83	7,007.63	-5,249.68	-40.18	5,249.83	0.00	0.00	0.00
12,600.00	89.83	179.83	7,007.93	-5,349.68	-39.88	5,349.83	0.00	0.00	0.00
12,700.00	89.83	179.83	7,008.22	-5,449.68	-39.58	5,449.82	0.00	0.00	0.00
12,800.00	89.83	179.83	7,008.52	-5,549.68	-39.29	5,549.82	0.00	0.00	0.00
12,900.00	89.83	179.83	7,008.82	-5,649.68	-38.99	5,649.81	0.00	0.00	0.00
13,000.00	89.83	179.83	7,009.11	-5,749.68	-38.69	5,749.81	0.00	0.00	0.00
13,100.00	89.83	179.83	7,009.41	-5,849.68	-38.39	5,849.81	0.00	0.00	0.00
13,200.00	89.83	179.83	7,009.71	-5,949.68	-38.10	5,949.80	0.00	0.00	0.00
13,298.59	89.83	179.83	7,010.00	-6,048.26	-37.80	6,048.38	0.00	0.00	0.00
RW 27N-5HZ_PBHL									

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well RW 27N-5HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4887.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4887.00usft (D Rig)
<b>Site:</b>	3N-65W-29 RW 15-29HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	RW 27N-5HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
RW 27N-5HZ_PHL	0.00	0.00	6,992.45	-132.27	-55.39	14,596,015.96	1,728,661.34	40.189829	-104.684022
- plan hits target center									
- Point									
RW 27N-5HZ_PBHL	0.00	0.00	7,010.00	-6,048.26	-37.80	14,590,100.07	1,728,699.99	40.173583	-104.683959
- plan hits target center									
- Point									

Casing Points					
	Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
	1,506.55	1,500.00	9 5/8"	9-5/8	13-1/2
	7,382.54	6,992.45	Top of Production	5-1/2	8-1/2

Formations						
	Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
	1,209.52	1,205.00	Fox Hills Mkr			
	3,944.22	3,921.00	Parkman			
	4,641.94	4,614.00	Sussex			
	6,989.79	6,874.00	Sharon Springs			
	7,126.73	6,941.00	Niobrara			
	7,280.59	6,984.00	Nio B			