

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N  
1N-67W-10 JZM 35-10HZ Pad  
JZM 3N-W3HZ**

**Plan A**

**Plan: Permit Rev-2**

## **Standard Planning Report**

**13 October, 2015**

Project: WELD-NAD83-UTMFT13N

Site: 1N-67W-10 JZM 35-10HZ Pad

Well: JZM 3N-W3HZ

Wellbore: Plan A

Design: Permit Rev-2

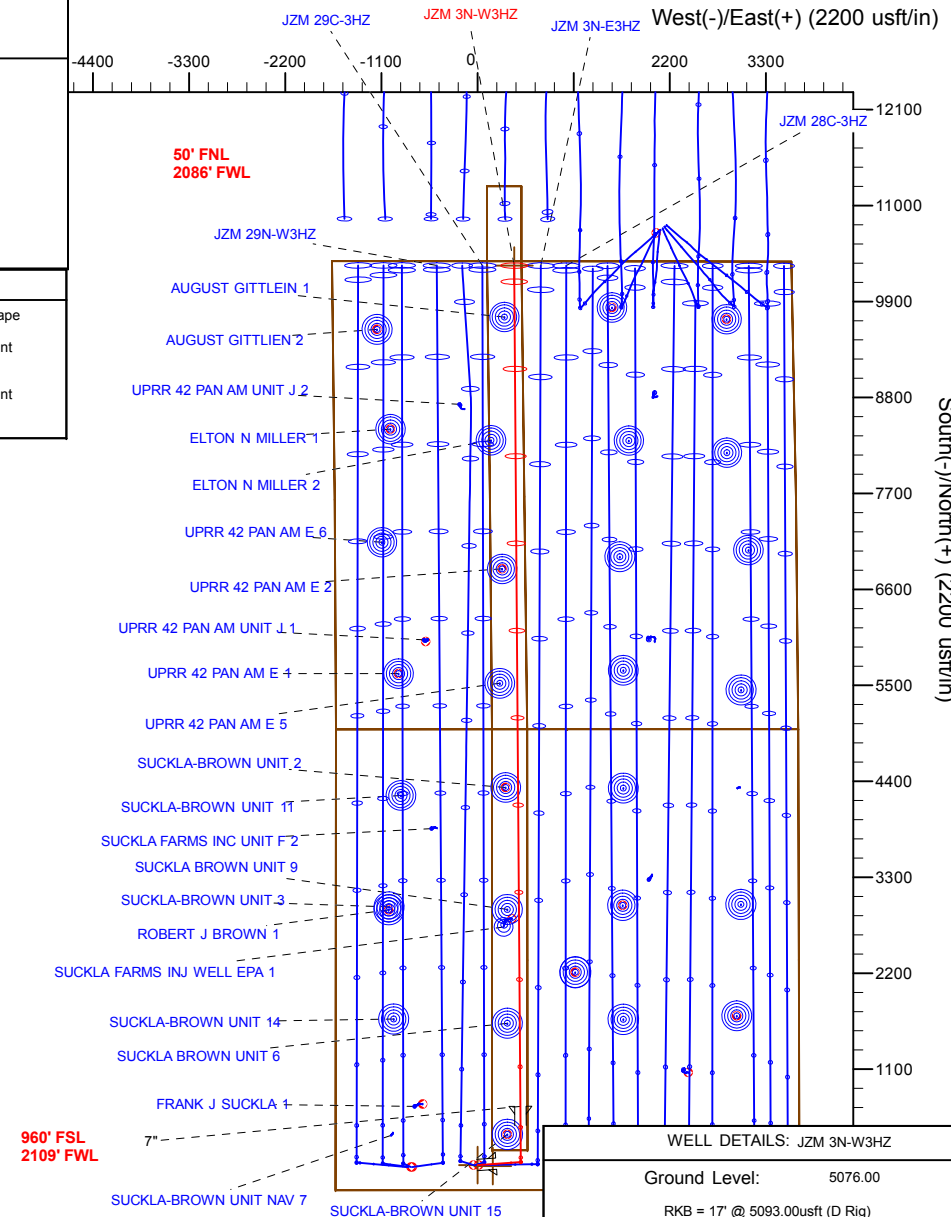
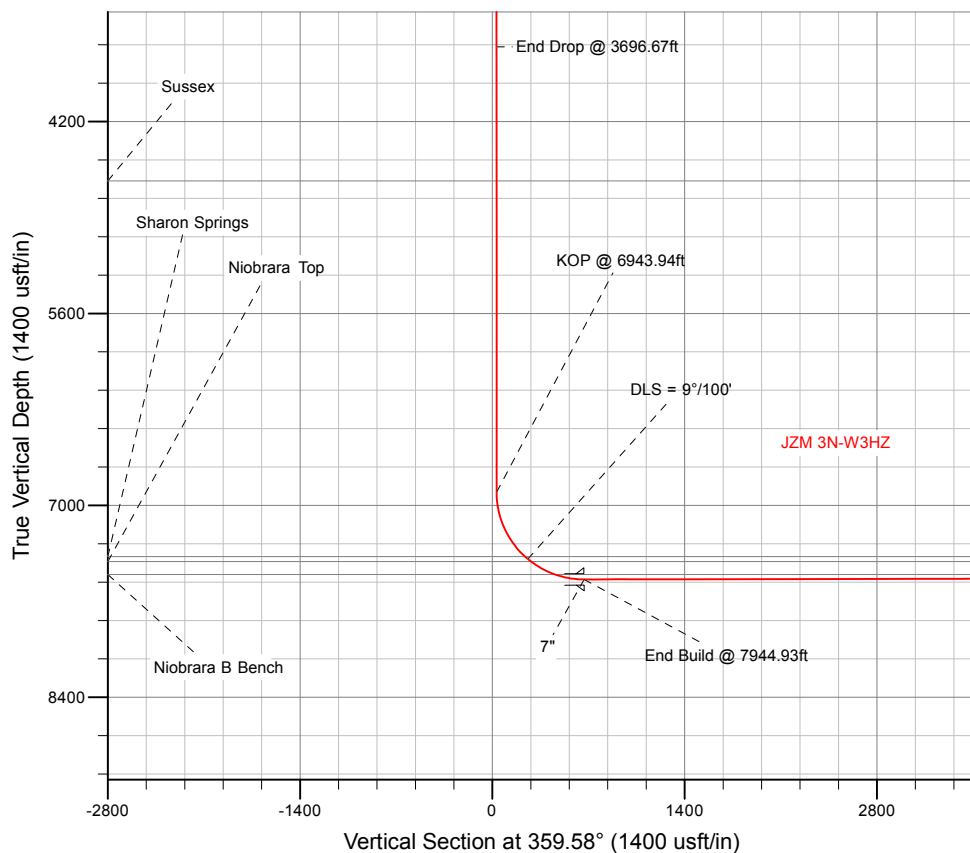
# US ROCKIES WATTENBERG PLANNING

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	916.67	10.00	86.00	913.29	4.05	57.89	1.50	86.00	3.62	
4	3196.67	10.00	86.00	3158.65	31.67	452.84	0.00	0.00	28.35	
5	3696.67	0.00	0.00	3656.11	34.70	496.26	2.00	180.00	31.06	
6	6943.94	0.00	0.00	6903.38	34.70	496.26	0.00	0.00	31.06	
7	7944.93	90.09	359.58	7540.00	672.29	491.53	9.00	359.58	668.67	
8	17584.42	90.09	359.58	7525.00	10311.51	420.08	0.00	0.00	10308.16	JZM 3N-W3HZ_TOE

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
JZM 3N-W3HZ_SHL	0.00	0.00	0.00	40.059061	-104.880513	Point
JZM 3N-W3HZ_TOE	7525.00	10311.51	420.08	40.087378	-104.879011	Point



WELL DETAILS: JZM 3N-W3HZ	
Ground Level:	5076.00
RKB = 17' @ 5093.00usft (D Rig)	
Plan: Permit Rev-2 (JZM 3N-W3HZ/Plan A)	
Created By: Clint Eshelman	Date: 10/13/2015
Reviewed:	Date:

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well JZM 3N-W3HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5093.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5093.00usft (D Rig)
<b>Site:</b>	1N-67W-10 JZM 35-10HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	JZM 3N-W3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-2		

<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> 1N-67W-10 JZM 35-10HZ Pad			
<b>Site Position:</b>		<b>Northing:</b>	14,548,251.76 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,673,980.11 usft
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	40.059031
		<b>Longitude:</b>	-104.880049
		<b>Grid Convergence:</b>	0.08 °

<b>Well</b> JZM 3N-W3HZ			
<b>Well Position</b>	<b>+N-S</b>	10.92 usft	<b>Northing:</b> 14,548,262.51 usft
	<b>+E-W</b>	-129.83 usft	<b>Easting:</b> 1,673,850.27 usft
<b>Position Uncertainty</b>		3.28 usft	<b>Wellhead Elevation:</b> 0.00 usft
			<b>Latitude:</b> 40.059061
			<b>Longitude:</b> -104.880513
			<b>Ground Level:</b> 5,076.00 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	9/10/2015	8.33	66.61	52,492

<b>Design</b> Permit Rev-2				
<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	359.58

<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	
916.67	10.00	86.00	913.29	4.05	57.89	1.50	1.50	0.00	86.00	
3,196.67	10.00	86.00	3,158.65	31.67	452.84	0.00	0.00	0.00	0.00	
3,696.67	0.00	0.00	3,656.11	34.70	496.26	2.00	-2.00	0.00	180.00	
6,943.94	0.00	0.00	6,903.38	34.70	496.26	0.00	0.00	0.00	0.00	
7,944.93	90.09	359.58	7,540.00	672.29	491.53	9.00	9.00	-0.04	359.58	
17,584.42	90.09	359.58	7,525.00	10,311.51	420.08	0.00	0.00	0.00	0.00	JZM 3N-W3HZ_TOE

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well JZM 3N-W3HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5093.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5093.00usft (D Rig)
<b>Site:</b>	1N-67W-10 JZM 35-10HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	JZM 3N-W3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-2		

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	0.00
100.00	0.00	0.00	100.00	0.00	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	0.00
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Begin Nudge @ 250.00ft</b>										
300.00	0.75	86.00	300.00	0.02	0.33	0.02	1.50	1.50	0.00	
400.00	2.25	86.00	399.96	0.21	2.94	0.18	1.50	1.50	0.00	
500.00	3.75	86.00	499.82	0.57	8.16	0.51	1.50	1.50	0.00	
600.00	5.25	86.00	599.51	1.12	15.98	1.00	1.50	1.50	0.00	
700.00	6.75	86.00	698.96	1.85	26.41	1.65	1.50	1.50	0.00	
800.00	8.25	86.00	798.10	2.76	39.43	2.47	1.50	1.50	0.00	
900.00	9.75	86.00	896.87	3.85	55.04	3.45	1.50	1.50	0.00	
916.67	10.00	86.00	913.29	4.05	57.89	3.62	1.50	1.50	0.00	
<b>End Nudge @ 916.67ft</b>										
1,000.00	10.00	86.00	995.35	5.06	72.32	4.53	0.00	0.00	0.00	
1,100.00	10.00	86.00	1,093.84	6.27	89.65	5.61	0.00	0.00	0.00	
1,200.00	10.00	86.00	1,192.32	7.48	106.97	6.70	0.00	0.00	0.00	
1,300.00	10.00	86.00	1,290.80	8.69	124.29	7.78	0.00	0.00	0.00	
1,396.67	10.00	86.00	1,386.00	9.86	141.04	8.83	0.00	0.00	0.00	
<b>Fox Hills</b>										
1,400.00	10.00	86.00	1,389.28	9.90	141.61	8.86	0.00	0.00	0.00	
1,500.00	10.00	86.00	1,487.76	11.11	158.94	9.95	0.00	0.00	0.00	
1,600.00	10.00	86.00	1,586.24	12.33	176.26	11.03	0.00	0.00	0.00	
1,700.00	10.00	86.00	1,684.72	13.54	193.58	12.12	0.00	0.00	0.00	
1,800.00	10.00	86.00	1,783.20	14.75	210.90	13.20	0.00	0.00	0.00	
1,817.06	10.00	86.00	1,800.00	14.95	213.86	13.39	0.00	0.00	0.00	
<b>9 5/8"</b>										
1,900.00	10.00	86.00	1,881.68	15.96	228.23	14.29	0.00	0.00	0.00	
2,000.00	10.00	86.00	1,980.16	17.17	245.55	15.37	0.00	0.00	0.00	
2,100.00	10.00	86.00	2,078.64	18.38	262.87	16.45	0.00	0.00	0.00	
2,200.00	10.00	86.00	2,177.12	19.59	280.19	17.54	0.00	0.00	0.00	
2,300.00	10.00	86.00	2,275.60	20.80	297.52	18.62	0.00	0.00	0.00	
2,400.00	10.00	86.00	2,374.09	22.02	314.84	19.71	0.00	0.00	0.00	
2,500.00	10.00	86.00	2,472.57	23.23	332.16	20.79	0.00	0.00	0.00	
2,600.00	10.00	86.00	2,571.05	24.44	349.48	21.88	0.00	0.00	0.00	
2,700.00	10.00	86.00	2,669.53	25.65	366.81	22.96	0.00	0.00	0.00	
2,800.00	10.00	86.00	2,768.01	26.86	384.13	24.04	0.00	0.00	0.00	
2,900.00	10.00	86.00	2,866.49	28.07	401.45	25.13	0.00	0.00	0.00	
3,000.00	10.00	86.00	2,964.97	29.28	418.77	26.21	0.00	0.00	0.00	
3,100.00	10.00	86.00	3,063.45	30.49	436.10	27.30	0.00	0.00	0.00	
3,196.67	10.00	86.00	3,158.65	31.67	452.84	28.35	0.00	0.00	0.00	
<b>Begin Drop @ 3196.67ft</b>										
3,200.00	9.93	86.00	3,161.93	31.71	453.42	28.38	2.00	-2.00	0.00	
3,300.00	7.93	86.00	3,260.71	32.79	468.91	29.35	2.00	-2.00	0.00	
3,400.00	5.93	86.00	3,359.98	33.63	480.95	30.10	2.00	-2.00	0.00	
3,500.00	3.93	86.00	3,459.60	34.23	489.53	30.64	2.00	-2.00	0.00	
3,600.00	1.93	86.00	3,559.47	34.59	494.63	30.96	2.00	-2.00	0.00	
3,696.67	0.00	0.00	3,656.12	34.70	496.26	31.06	2.00	-2.00	0.00	
<b>End Drop @ 3696.67ft</b>										
3,700.00	0.00	0.00	3,659.45	34.70	496.26	31.06	0.00	0.00	0.00	
3,800.00	0.00	0.00	3,759.45	34.70	496.26	31.06	0.00	0.00	0.00	
3,900.00	0.00	0.00	3,859.45	34.70	496.26	31.06	0.00	0.00	0.00	
4,000.00	0.00	0.00	3,959.45	34.70	496.26	31.06	0.00	0.00	0.00	

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well JZM 3N-W3HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5093.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5093.00usft (D Rig)
<b>Site:</b>	1N-67W-10 JZM 35-10HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	JZM 3N-W3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-2		

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)
4,100.00	0.00	0.00	4,059.45	34.70	496.26	31.06	0.00	0.00	0.00
4,200.00	0.00	0.00	4,159.45	34.70	496.26	31.06	0.00	0.00	0.00
4,300.00	0.00	0.00	4,259.45	34.70	496.26	31.06	0.00	0.00	0.00
4,400.00	0.00	0.00	4,359.45	34.70	496.26	31.06	0.00	0.00	0.00
4,500.00	0.00	0.00	4,459.45	34.70	496.26	31.06	0.00	0.00	0.00
4,600.00	0.00	0.00	4,559.45	34.70	496.26	31.06	0.00	0.00	0.00
4,672.55	0.00	0.00	4,632.00	34.70	496.26	31.06	0.00	0.00	0.00
<b>Sussex</b>									
4,700.00	0.00	0.00	4,659.45	34.70	496.26	31.06	0.00	0.00	0.00
4,800.00	0.00	0.00	4,759.45	34.70	496.26	31.06	0.00	0.00	0.00
4,900.00	0.00	0.00	4,859.45	34.70	496.26	31.06	0.00	0.00	0.00
5,000.00	0.00	0.00	4,959.45	34.70	496.26	31.06	0.00	0.00	0.00
5,100.00	0.00	0.00	5,059.45	34.70	496.26	31.06	0.00	0.00	0.00
5,200.00	0.00	0.00	5,159.45	34.70	496.26	31.06	0.00	0.00	0.00
5,300.00	0.00	0.00	5,259.45	34.70	496.26	31.06	0.00	0.00	0.00
5,400.00	0.00	0.00	5,359.45	34.70	496.26	31.06	0.00	0.00	0.00
5,500.00	0.00	0.00	5,459.45	34.70	496.26	31.06	0.00	0.00	0.00
5,600.00	0.00	0.00	5,559.45	34.70	496.26	31.06	0.00	0.00	0.00
5,700.00	0.00	0.00	5,659.45	34.70	496.26	31.06	0.00	0.00	0.00
5,800.00	0.00	0.00	5,759.45	34.70	496.26	31.06	0.00	0.00	0.00
5,900.00	0.00	0.00	5,859.45	34.70	496.26	31.06	0.00	0.00	0.00
6,000.00	0.00	0.00	5,959.45	34.70	496.26	31.06	0.00	0.00	0.00
6,100.00	0.00	0.00	6,059.45	34.70	496.26	31.06	0.00	0.00	0.00
6,200.00	0.00	0.00	6,159.45	34.70	496.26	31.06	0.00	0.00	0.00
6,300.00	0.00	0.00	6,259.45	34.70	496.26	31.06	0.00	0.00	0.00
6,400.00	0.00	0.00	6,359.45	34.70	496.26	31.06	0.00	0.00	0.00
6,500.00	0.00	0.00	6,459.45	34.70	496.26	31.06	0.00	0.00	0.00
6,600.00	0.00	0.00	6,559.45	34.70	496.26	31.06	0.00	0.00	0.00
6,700.00	0.00	0.00	6,659.45	34.70	496.26	31.06	0.00	0.00	0.00
6,800.00	0.00	0.00	6,759.45	34.70	496.26	31.06	0.00	0.00	0.00
6,900.00	0.00	0.00	6,859.45	34.70	496.26	31.06	0.00	0.00	0.00
6,943.94	0.00	0.00	6,903.39	34.70	496.26	31.06	0.00	0.00	0.00
<b>KOP @ 6943.94ft</b>									
7,000.00	5.05	359.58	6,959.38	37.17	496.24	33.53	9.00	9.00	0.00
7,100.00	14.05	359.58	7,057.89	53.73	496.12	50.10	9.00	9.00	0.00
7,200.00	23.05	359.58	7,152.60	85.51	495.88	81.87	9.00	9.00	0.00
7,300.00	32.05	359.58	7,241.17	131.70	495.54	128.07	9.00	9.00	0.00
7,400.00	41.05	359.58	7,321.43	191.19	495.10	187.55	9.00	9.00	0.00
7,473.01	47.62	359.58	7,373.62	242.18	494.72	238.55	9.00	9.00	0.00
<b>Sharon Springs</b>									
7,500.00	50.05	359.58	7,391.39	262.49	494.57	258.86	9.00	9.00	0.00
<b>DLS = 9°/100'</b>									
7,530.86	52.82	359.58	7,410.62	286.62	494.39	282.98	9.00	9.00	0.00
<b>Niobrara Top</b>									
7,600.00	59.05	359.58	7,449.34	343.87	493.97	340.23	9.00	9.00	0.00
7,700.00	68.05	359.58	7,493.84	433.30	493.30	429.67	9.00	9.00	0.00
7,727.33	70.51	359.58	7,503.51	458.86	493.11	455.24	9.00	9.00	0.00
<b>Niobrara B Bench</b>									
7,800.00	77.05	359.58	7,523.80	528.59	492.60	524.97	9.00	9.00	0.00
7,900.00	86.05	359.58	7,538.49	627.40	491.87	623.78	9.00	9.00	0.00
7,944.93	90.09	359.58	7,540.00	672.30	491.53	668.68	9.00	9.00	0.00
<b>End Build @ 7944.93ft - 7"</b>									
8,000.00	90.09	359.58	7,539.92	727.37	491.12	723.75	0.00	0.00	0.00

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well JZM 3N-W3HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5093.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5093.00usft (D Rig)
<b>Site:</b>	1N-67W-10 JZM 35-10HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	JZM 3N-W3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-2		

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)
8,100.00	90.09	359.58	7,539.76	827.36	490.38	823.75	0.00	0.00	0.00
8,200.00	90.09	359.58	7,539.61	927.36	489.64	923.75	0.00	0.00	0.00
8,300.00	90.09	359.58	7,539.45	1,027.36	488.90	1,023.75	0.00	0.00	0.00
8,400.00	90.09	359.58	7,539.30	1,127.35	488.16	1,123.75	0.00	0.00	0.00
8,500.00	90.09	359.58	7,539.14	1,227.35	487.42	1,223.75	0.00	0.00	0.00
8,600.00	90.09	359.58	7,538.98	1,327.35	486.68	1,323.75	0.00	0.00	0.00
8,700.00	90.09	359.58	7,538.83	1,427.35	485.94	1,423.75	0.00	0.00	0.00
8,800.00	90.09	359.58	7,538.67	1,527.34	485.19	1,523.75	0.00	0.00	0.00
8,900.00	90.09	359.58	7,538.52	1,627.34	484.45	1,623.75	0.00	0.00	0.00
9,000.00	90.09	359.58	7,538.36	1,727.34	483.71	1,723.74	0.00	0.00	0.00
9,100.00	90.09	359.58	7,538.21	1,827.33	482.97	1,823.74	0.00	0.00	0.00
9,200.00	90.09	359.58	7,538.05	1,927.33	482.23	1,923.74	0.00	0.00	0.00
9,300.00	90.09	359.58	7,537.89	2,027.33	481.49	2,023.74	0.00	0.00	0.00
9,400.00	90.09	359.58	7,537.74	2,127.33	480.75	2,123.74	0.00	0.00	0.00
9,500.00	90.09	359.58	7,537.58	2,227.32	480.01	2,223.74	0.00	0.00	0.00
9,600.00	90.09	359.58	7,537.43	2,327.32	479.26	2,323.74	0.00	0.00	0.00
9,700.00	90.09	359.58	7,537.27	2,427.32	478.52	2,423.74	0.00	0.00	0.00
9,800.00	90.09	359.58	7,537.12	2,527.31	477.78	2,523.74	0.00	0.00	0.00
9,900.00	90.09	359.58	7,536.96	2,627.31	477.04	2,623.74	0.00	0.00	0.00
10,000.00	90.09	359.58	7,536.80	2,727.31	476.30	2,723.74	0.00	0.00	0.00
10,100.00	90.09	359.58	7,536.65	2,827.31	475.56	2,823.74	0.00	0.00	0.00
10,200.00	90.09	359.58	7,536.49	2,927.30	474.82	2,923.74	0.00	0.00	0.00
10,300.00	90.09	359.58	7,536.34	3,027.30	474.08	3,023.74	0.00	0.00	0.00
10,400.00	90.09	359.58	7,536.18	3,127.30	473.33	3,123.74	0.00	0.00	0.00
10,500.00	90.09	359.58	7,536.03	3,227.29	472.59	3,223.74	0.00	0.00	0.00
10,600.00	90.09	359.58	7,535.87	3,327.29	471.85	3,323.74	0.00	0.00	0.00
10,700.00	90.09	359.58	7,535.72	3,427.29	471.11	3,423.74	0.00	0.00	0.00
10,800.00	90.09	359.58	7,535.56	3,527.29	470.37	3,523.74	0.00	0.00	0.00
10,900.00	90.09	359.58	7,535.40	3,627.28	469.63	3,623.74	0.00	0.00	0.00
11,000.00	90.09	359.58	7,535.25	3,727.28	468.89	3,723.74	0.00	0.00	0.00
11,100.00	90.09	359.58	7,535.09	3,827.28	468.15	3,823.74	0.00	0.00	0.00
11,200.00	90.09	359.58	7,534.94	3,927.27	467.40	3,923.74	0.00	0.00	0.00
11,300.00	90.09	359.58	7,534.78	4,027.27	466.66	4,023.74	0.00	0.00	0.00
11,400.00	90.09	359.58	7,534.63	4,127.27	465.92	4,123.74	0.00	0.00	0.00
11,500.00	90.09	359.58	7,534.47	4,227.27	465.18	4,223.74	0.00	0.00	0.00
11,600.00	90.09	359.58	7,534.31	4,327.26	464.44	4,323.74	0.00	0.00	0.00
11,700.00	90.09	359.58	7,534.16	4,427.26	463.70	4,423.74	0.00	0.00	0.00
11,800.00	90.09	359.58	7,534.00	4,527.26	462.96	4,523.74	0.00	0.00	0.00
11,900.00	90.09	359.58	7,533.85	4,627.25	462.22	4,623.74	0.00	0.00	0.00
12,000.00	90.09	359.58	7,533.69	4,727.25	461.47	4,723.74	0.00	0.00	0.00
12,100.00	90.09	359.58	7,533.54	4,827.25	460.73	4,823.74	0.00	0.00	0.00
12,200.00	90.09	359.58	7,533.38	4,927.25	459.99	4,923.74	0.00	0.00	0.00
12,300.00	90.09	359.58	7,533.23	5,027.24	459.25	5,023.74	0.00	0.00	0.00
12,400.00	90.09	359.58	7,533.07	5,127.24	458.51	5,123.74	0.00	0.00	0.00
12,500.00	90.09	359.58	7,532.91	5,227.24	457.77	5,223.74	0.00	0.00	0.00
12,600.00	90.09	359.58	7,532.76	5,327.23	457.03	5,323.74	0.00	0.00	0.00
12,700.00	90.09	359.58	7,532.60	5,427.23	456.29	5,423.74	0.00	0.00	0.00
12,800.00	90.09	359.58	7,532.45	5,527.23	455.54	5,523.74	0.00	0.00	0.00
12,900.00	90.09	359.58	7,532.29	5,627.23	454.80	5,623.74	0.00	0.00	0.00
13,000.00	90.09	359.58	7,532.14	5,727.22	454.06	5,723.74	0.00	0.00	0.00
13,100.00	90.09	359.58	7,531.98	5,827.22	453.32	5,823.74	0.00	0.00	0.00
13,200.00	90.09	359.58	7,531.82	5,927.22	452.58	5,923.74	0.00	0.00	0.00
13,300.00	90.09	359.58	7,531.67	6,027.21	451.84	6,023.74	0.00	0.00	0.00
13,400.00	90.09	359.58	7,531.51	6,127.21	451.10	6,123.74	0.00	0.00	0.00

# Anadarko Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well JZM 3N-W3HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5093.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5093.00usft (D Rig)
<b>Site:</b>	1N-67W-10 JZM 35-10HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	JZM 3N-W3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-2		

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)	
13,500.00	90.09	359.58	7,531.36	6,227.21	450.35	6,223.74	0.00	0.00	0.00	
13,600.00	90.09	359.58	7,531.20	6,327.21	449.61	6,323.74	0.00	0.00	0.00	
13,700.00	90.09	359.58	7,531.05	6,427.20	448.87	6,423.74	0.00	0.00	0.00	
13,800.00	90.09	359.58	7,530.89	6,527.20	448.13	6,523.74	0.00	0.00	0.00	
13,900.00	90.09	359.58	7,530.73	6,627.20	447.39	6,623.74	0.00	0.00	0.00	
14,000.00	90.09	359.58	7,530.58	6,727.19	446.65	6,723.74	0.00	0.00	0.00	
14,100.00	90.09	359.58	7,530.42	6,827.19	445.91	6,823.74	0.00	0.00	0.00	
14,200.00	90.09	359.58	7,530.27	6,927.19	445.17	6,923.74	0.00	0.00	0.00	
14,300.00	90.09	359.58	7,530.11	7,027.19	444.42	7,023.74	0.00	0.00	0.00	
14,400.00	90.09	359.58	7,529.96	7,127.18	443.68	7,123.74	0.00	0.00	0.00	
14,500.00	90.09	359.58	7,529.80	7,227.18	442.94	7,223.74	0.00	0.00	0.00	
14,600.00	90.09	359.58	7,529.65	7,327.18	442.20	7,323.74	0.00	0.00	0.00	
14,700.00	90.09	359.58	7,529.49	7,427.17	441.46	7,423.74	0.00	0.00	0.00	
14,800.00	90.09	359.58	7,529.33	7,527.17	440.72	7,523.74	0.00	0.00	0.00	
14,900.00	90.09	359.58	7,529.18	7,627.17	439.98	7,623.74	0.00	0.00	0.00	
15,000.00	90.09	359.58	7,529.02	7,727.17	439.24	7,723.74	0.00	0.00	0.00	
15,100.00	90.09	359.58	7,528.87	7,827.16	438.49	7,823.74	0.00	0.00	0.00	
15,200.00	90.09	359.58	7,528.71	7,927.16	437.75	7,923.74	0.00	0.00	0.00	
15,300.00	90.09	359.58	7,528.56	8,027.16	437.01	8,023.74	0.00	0.00	0.00	
15,400.00	90.09	359.58	7,528.40	8,127.15	436.27	8,123.74	0.00	0.00	0.00	
15,500.00	90.09	359.58	7,528.24	8,227.15	435.53	8,223.74	0.00	0.00	0.00	
15,600.00	90.09	359.58	7,528.09	8,327.15	434.79	8,323.74	0.00	0.00	0.00	
15,700.00	90.09	359.58	7,527.93	8,427.15	434.05	8,423.74	0.00	0.00	0.00	
15,800.00	90.09	359.58	7,527.78	8,527.14	433.31	8,523.74	0.00	0.00	0.00	
15,900.00	90.09	359.58	7,527.62	8,627.14	432.56	8,623.74	0.00	0.00	0.00	
16,000.00	90.09	359.58	7,527.47	8,727.14	431.82	8,723.74	0.00	0.00	0.00	
16,100.00	90.09	359.58	7,527.31	8,827.13	431.08	8,823.74	0.00	0.00	0.00	
16,200.00	90.09	359.58	7,527.15	8,927.13	430.34	8,923.74	0.00	0.00	0.00	
16,300.00	90.09	359.58	7,527.00	9,027.13	429.60	9,023.74	0.00	0.00	0.00	
16,400.00	90.09	359.58	7,526.84	9,127.13	428.86	9,123.74	0.00	0.00	0.00	
16,500.00	90.09	359.58	7,526.69	9,227.12	428.12	9,223.74	0.00	0.00	0.00	
16,600.00	90.09	359.58	7,526.53	9,327.12	427.38	9,323.74	0.00	0.00	0.00	
16,700.00	90.09	359.58	7,526.38	9,427.12	426.63	9,423.74	0.00	0.00	0.00	
16,800.00	90.09	359.58	7,526.22	9,527.11	425.89	9,523.74	0.00	0.00	0.00	
16,900.00	90.09	359.58	7,526.07	9,627.11	425.15	9,623.74	0.00	0.00	0.00	
17,000.00	90.09	359.58	7,525.91	9,727.11	424.41	9,723.74	0.00	0.00	0.00	
17,100.00	90.09	359.58	7,525.75	9,827.10	423.67	9,823.74	0.00	0.00	0.00	
17,200.00	90.09	359.58	7,525.60	9,927.10	422.93	9,923.74	0.00	0.00	0.00	
17,300.00	90.09	359.58	7,525.44	10,027.10	422.19	10,023.74	0.00	0.00	0.00	
17,400.00	90.09	359.58	7,525.29	10,127.10	421.45	10,123.73	0.00	0.00	0.00	
17,500.00	90.09	359.58	7,525.13	10,227.09	420.70	10,223.73	0.00	0.00	0.00	
17,584.42	90.09	359.58	7,525.00	10,311.51	420.08	10,308.15	0.00	0.00	0.00	
<b>TD Well @ 17584.42ft</b>										

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well JZM 3N-W3HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5093.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5093.00usft (D Rig)
<b>Site:</b>	1N-67W-10 JZM 35-10HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	JZM 3N-W3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-2		

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									
JZM 3N-W3HZ_SHL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	14,548,262.51	1,673,850.27	40.059061	-104.880513
1N-R67W-Sec. 10_Secti - plan misses target center by 1357.64usft at 13.00usft MD (13.00 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	13.00	2.95	1,357.64	14,548,267.29	1,675,207.90	40.059069	-104.875661
Point 1			13.00	4,992.86	-2,976.12	14,553,256.15	1,672,225.08		
Point 2			13.00	4,994.59	-331.69	14,553,261.43	1,674,869.51		
Point 3			13.00	4,996.25	2,313.07	14,553,266.64	1,677,514.26		
Point 4			13.00	2,354.63	2,320.05	14,550,625.03	1,677,524.79		
Point 5			13.00	-287.06	2,326.97	14,547,983.35	1,677,535.25		
Point 6			13.00	-288.46	-327.65	14,547,978.39	1,674,880.64		
Point 7			13.00	-290.97	-2,982.55	14,547,972.31	1,672,225.74		
1N-R67W-Sec. 3_Sectio - plan misses target center by 1357.64usft at 13.00usft MD (13.00 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	13.00	2.95	1,357.64	14,548,267.29	1,675,207.90	40.059069	-104.875661
Point 1			13.00	10,361.30	-3,022.88	14,558,624.52	1,672,171.12		
Point 2			13.00	10,358.07	-398.53	14,558,624.81	1,674,795.47		
Point 3			13.00	10,354.85	2,234.71	14,558,625.13	1,677,428.71		
Point 4			13.00	7,634.95	2,286.94	14,555,905.30	1,677,484.59		
Point 5			13.00	4,996.25	2,313.07	14,553,266.64	1,677,514.26		
Point 6			13.00	4,994.59	-331.69	14,553,261.43	1,674,869.51		
Point 7			13.00	4,992.86	-2,976.12	14,553,256.15	1,672,225.08		
Point 8			13.00	7,632.17	-2,992.40	14,555,895.43	1,672,205.26		
JZM 3N-W3HZ_TOE - plan hits target center - Point	0.00	0.00	7,525.00	10,311.51	420.08	14,558,574.58	1,674,256.51	40.087378	-104.879011

Casing Points					
	Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
	1,817.06	1,800.00	9 5/8"	9-5/8	13-1/2
	7,944.93	7,540.00	7"	7	8-3/4

Formations						
	Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
	1,396.67	1,386.00	Fox Hills			
	4,672.55	4,632.00	Sussex			
	7,473.01	7,373.62	Sharon Springs			
	7,530.86	7,410.62	Niobrara Top			
	7,727.33	7,503.51	Niobrara B Bench			

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well JZM 3N-W3HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5093.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5093.00usft (D Rig)
<b>Site:</b>	1N-67W-10 JZM 35-10HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	JZM 3N-W3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-2		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
250.00	250.00	0.00	0.00	Begin Nudge @ 250.00ft
916.67	913.29	4.05	57.89	End Nudge @ 916.67ft
3,196.67	3,158.65	31.67	452.84	Begin Drop @ 3196.67ft
3,696.67	3,656.12	34.70	496.26	End Drop @ 3696.67ft
6,943.94	6,903.39	34.70	496.26	KOP @ 6943.94ft
7,500.00	7,391.39	262.49	494.57	DLS = 9°/100'
7,944.93	7,540.00	672.30	491.53	End Build @ 7944.93ft
17,584.42	7,525.00	10,311.51	420.08	TD Well @ 17584.42ft