

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
1N-67W-10 JZM 35-10HZ Pad
JZM 29N-E3HZ**

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 29N-E3HZ

Wellbore: Plan A

Design: Permit Rev-2

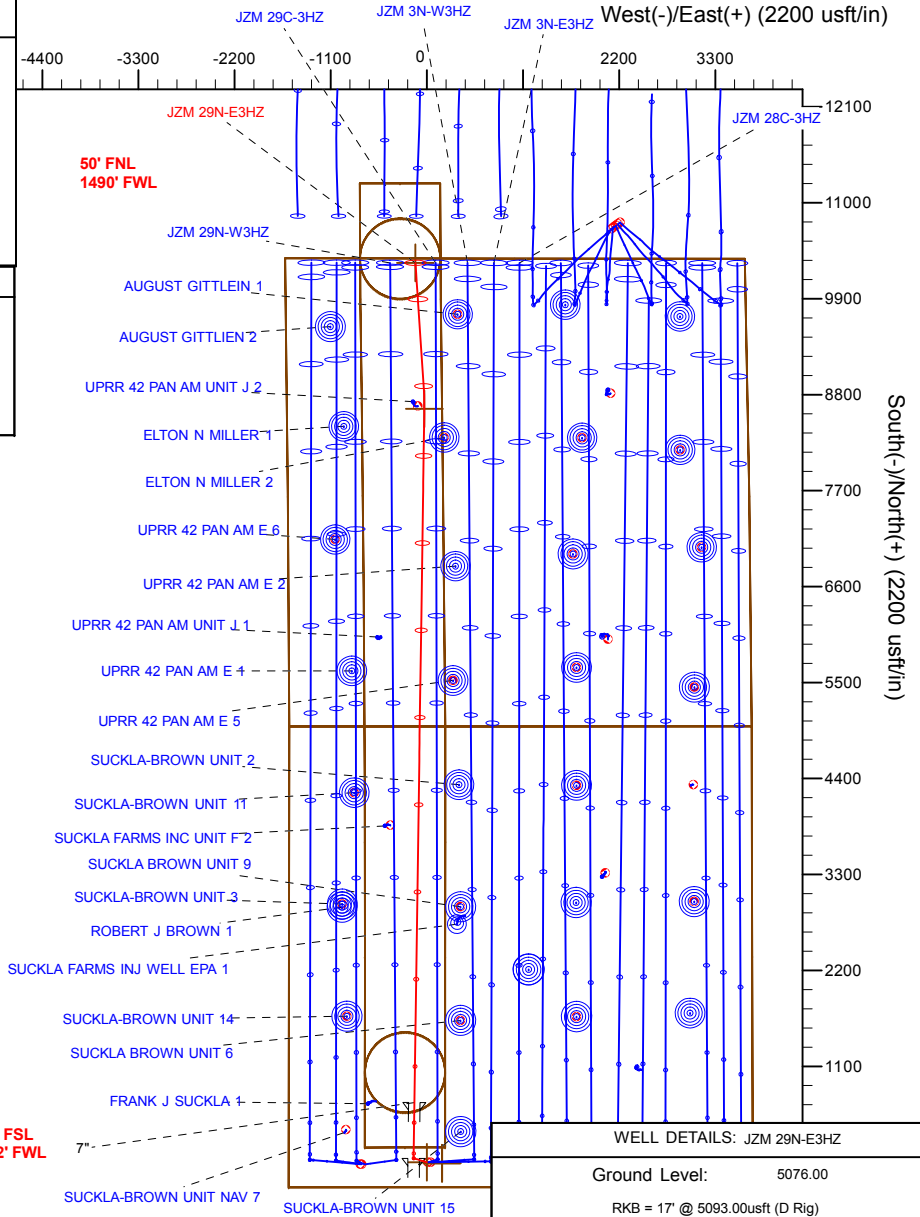
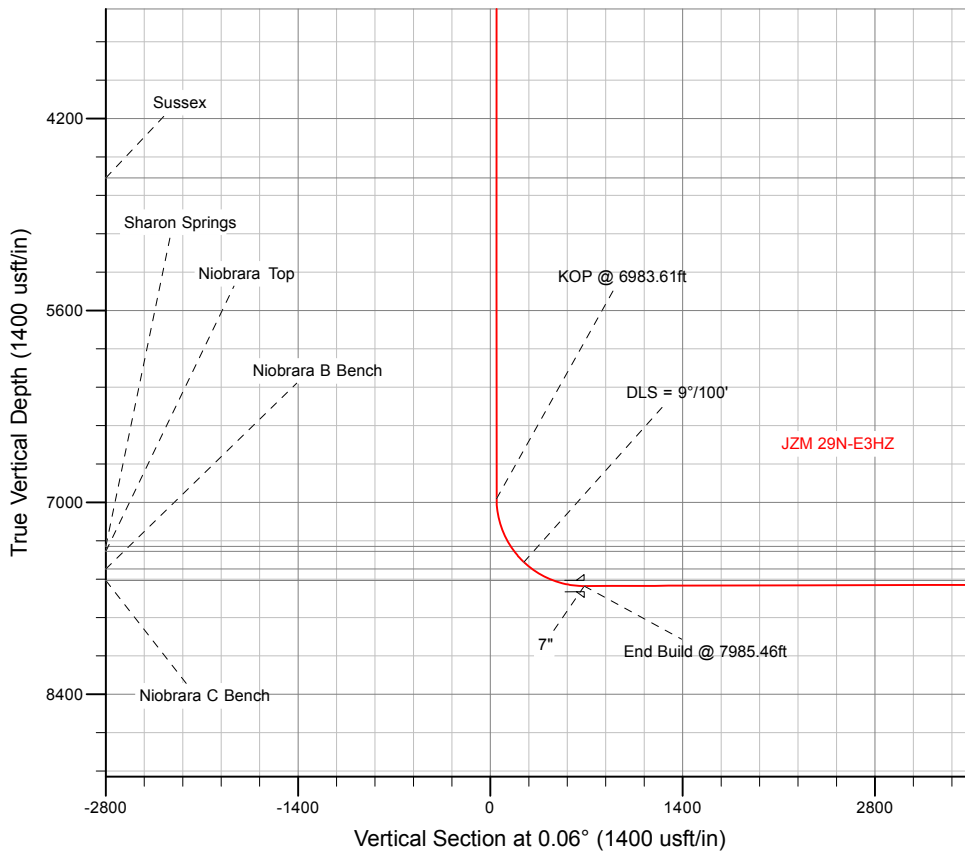
US ROCKIES WATTENBERG PLANNING

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	850.00	9.00	287.00	847.54	13.75	-44.97	1.50	287.00	13.70	
4	1330.00	9.00	287.00	1321.63	35.70	-116.78	0.00	0.00	35.58	
5	1780.00	0.00	0.00	1769.78	46.02	-150.51	2.00	180.00	45.86	
6	6983.61	0.00	0.00	6973.39	46.02	-150.51	0.00	0.00	45.86	
7	7985.46	90.17	0.81	7610.00	684.42	-141.45	9.00	0.81	684.27	
8	15939.76	90.17	0.81	7586.87	8637.89	-28.59	0.00	0.00	8637.86	JZM 29N-E3HZ_Lateral Target
9	16170.70	90.17	356.19	7586.20	8868.69	-34.62	2.00	-90.00	8868.64	
10	17617.08	90.17	356.19	7582.00	10311.87	-130.62	0.00	0.00	10311.73	JZM 29N-E3HZ_Toe

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
JZM 29N-E3HZ_SHL	0.00	0.00	0.00	40.059062	-104.880674	Point
JZM 29N-E3HZ_Toe	7582.00	10311.87	-130.62	40.087380	-104.881141	Point



WELL DETAILS: JZM 29N-E3HZ	
Ground Level:	5076.00
RKB = 17' @ 5093.00usft (D Rig)	
Plan: Permit Rev-2 (JZM 29N-E3HZ/Plan A)	
Created By: Clint Eshelman	Date: 10/13/2015
Reviewed:	Date:

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well JZM 29N-E3HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5093.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5093.00usft (D Rig)
Site:	1N-67W-10 JZM 35-10HZ Pad	North Reference:	True
Well:	JZM 29N-E3HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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

Well JZM 29N-E3HZ			
Well Position	+N-S	11.29 usft	Northing: 14,548,262.82 usft
	+E-W	-174.88 usft	Easting: 1,673,805.22 usft
Position Uncertainty		3.28 usft	Wellhead Elevation: 0.00 usft
			Latitude: 40.059062
			Longitude: -104.880674
			Ground Level: 5,076.00 usft

Wellbore Plan A					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/10/2015	8.33	66.61	52,492

Design Permit Rev-2				
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	0.06

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	
850.00	9.00	287.00	847.54	13.75	-44.97	1.50	1.50	0.00	287.00	
1,330.00	9.00	287.00	1,321.63	35.70	-116.78	0.00	0.00	0.00	0.00	
1,780.00	0.00	0.00	1,769.78	46.02	-150.51	2.00	-2.00	0.00	180.00	
6,983.61	0.00	0.00	6,973.39	46.02	-150.51	0.00	0.00	0.00	0.00	
7,985.46	90.17	0.81	7,610.01	684.42	-141.45	9.00	9.00	0.08	0.81	
15,939.76	90.17	0.81	7,586.87	8,637.89	-28.59	0.00	0.00	0.00	0.00	JZM 29N-E3HZ_Leter
16,170.70	90.17	356.19	7,586.20	8,868.69	-34.62	2.00	0.00	-2.00	-90.00	
17,617.08	90.17	356.19	7,582.00	10,311.87	-130.62	0.00	0.00	0.00	0.00	JZM 29N-E3HZ_Toe

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well JZM 29N-E3HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5093.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5093.00usft (D Rig)
Site:	1N-67W-10 JZM 35-10HZ Pad	North Reference:	True
Well:	JZM 29N-E3HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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
Begin Nudge @ 250.00ft										
300.00	0.75	287.00	300.00	0.10	-0.31	0.10	1.50	1.50	0.00	
400.00	2.25	287.00	399.96	0.86	-2.82	0.86	1.50	1.50	0.00	
500.00	3.75	287.00	499.82	2.39	-7.82	2.38	1.50	1.50	0.00	
600.00	5.25	287.00	599.51	4.68	-15.32	4.67	1.50	1.50	0.00	
700.00	6.75	287.00	698.96	7.74	-25.32	7.71	1.50	1.50	0.00	
800.00	8.25	287.00	798.10	11.56	-37.80	11.52	1.50	1.50	0.00	
850.00	9.00	287.00	847.54	13.75	-44.97	13.70	1.50	1.50	0.00	
End Nudge @ 850.00ft										
900.00	9.00	287.00	896.92	16.04	-52.45	15.98	0.00	0.00	0.00	
1,000.00	9.00	287.00	995.69	20.61	-67.41	20.54	0.00	0.00	0.00	
1,100.00	9.00	287.00	1,094.46	25.18	-82.37	25.10	0.00	0.00	0.00	
1,200.00	9.00	287.00	1,193.23	29.76	-97.33	29.66	0.00	0.00	0.00	
1,300.00	9.00	287.00	1,292.00	34.33	-112.29	34.21	0.00	0.00	0.00	
1,330.00	9.00	287.00	1,321.63	35.70	-116.78	35.58	0.00	0.00	0.00	
Begin Drop @ 1330.00ft										
1,395.06	7.70	287.00	1,386.00	38.47	-125.81	38.33	2.00	-2.00	0.00	
Fox Hills										
1,400.00	7.60	287.00	1,390.89	38.66	-126.44	38.53	2.00	-2.00	0.00	
1,500.00	5.60	287.00	1,490.22	42.02	-137.43	41.87	2.00	-2.00	0.00	
1,600.00	3.60	287.00	1,589.90	44.36	-145.10	44.21	2.00	-2.00	0.00	
1,700.00	1.60	287.00	1,689.79	45.69	-149.44	45.53	2.00	-2.00	0.00	
1,780.00	0.00	0.00	1,769.78	46.02	-150.51	45.86	2.00	-2.00	0.00	
End Drop @ 1780.00ft										
1,800.00	0.00	0.00	1,789.78	46.02	-150.51	45.86	0.00	0.00	0.00	
1,810.22	0.00	0.00	1,800.00	46.02	-150.51	45.86	0.00	0.00	0.00	
9 5/8"										
1,900.00	0.00	0.00	1,889.78	46.02	-150.51	45.86	0.00	0.00	0.00	
2,000.00	0.00	0.00	1,989.78	46.02	-150.51	45.86	0.00	0.00	0.00	
2,100.00	0.00	0.00	2,089.78	46.02	-150.51	45.86	0.00	0.00	0.00	
2,200.00	0.00	0.00	2,189.78	46.02	-150.51	45.86	0.00	0.00	0.00	
2,300.00	0.00	0.00	2,289.78	46.02	-150.51	45.86	0.00	0.00	0.00	
2,400.00	0.00	0.00	2,389.78	46.02	-150.51	45.86	0.00	0.00	0.00	
2,500.00	0.00	0.00	2,489.78	46.02	-150.51	45.86	0.00	0.00	0.00	
2,600.00	0.00	0.00	2,589.78	46.02	-150.51	45.86	0.00	0.00	0.00	
2,700.00	0.00	0.00	2,689.78	46.02	-150.51	45.86	0.00	0.00	0.00	
2,800.00	0.00	0.00	2,789.78	46.02	-150.51	45.86	0.00	0.00	0.00	
2,900.00	0.00	0.00	2,889.78	46.02	-150.51	45.86	0.00	0.00	0.00	
3,000.00	0.00	0.00	2,989.78	46.02	-150.51	45.86	0.00	0.00	0.00	
3,100.00	0.00	0.00	3,089.78	46.02	-150.51	45.86	0.00	0.00	0.00	
3,200.00	0.00	0.00	3,189.78	46.02	-150.51	45.86	0.00	0.00	0.00	
3,300.00	0.00	0.00	3,289.78	46.02	-150.51	45.86	0.00	0.00	0.00	
3,400.00	0.00	0.00	3,389.78	46.02	-150.51	45.86	0.00	0.00	0.00	
3,500.00	0.00	0.00	3,489.78	46.02	-150.51	45.86	0.00	0.00	0.00	
3,600.00	0.00	0.00	3,589.78	46.02	-150.51	45.86	0.00	0.00	0.00	
3,700.00	0.00	0.00	3,689.78	46.02	-150.51	45.86	0.00	0.00	0.00	
3,800.00	0.00	0.00	3,789.78	46.02	-150.51	45.86	0.00	0.00	0.00	
3,900.00	0.00	0.00	3,889.78	46.02	-150.51	45.86	0.00	0.00	0.00	
4,000.00	0.00	0.00	3,989.78	46.02	-150.51	45.86	0.00	0.00	0.00	

Anadarko Planning Report

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Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5093.00usft (D Rig)
Site:	1N-67W-10 JZM 35-10HZ Pad	North Reference:	True
Well:	JZM 29N-E3HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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	4,089.78	46.02	-150.51	45.86	0.00	0.00	0.00	
4,200.00	0.00	0.00	4,189.78	46.02	-150.51	45.86	0.00	0.00	0.00	
4,300.00	0.00	0.00	4,289.78	46.02	-150.51	45.86	0.00	0.00	0.00	
4,400.00	0.00	0.00	4,389.78	46.02	-150.51	45.86	0.00	0.00	0.00	
4,500.00	0.00	0.00	4,489.78	46.02	-150.51	45.86	0.00	0.00	0.00	
4,600.00	0.00	0.00	4,589.78	46.02	-150.51	45.86	0.00	0.00	0.00	
4,642.22	0.00	0.00	4,632.00	46.02	-150.51	45.86	0.00	0.00	0.00	
Sussex										
4,700.00	0.00	0.00	4,689.78	46.02	-150.51	45.86	0.00	0.00	0.00	
4,800.00	0.00	0.00	4,789.78	46.02	-150.51	45.86	0.00	0.00	0.00	
4,900.00	0.00	0.00	4,889.78	46.02	-150.51	45.86	0.00	0.00	0.00	
5,000.00	0.00	0.00	4,989.78	46.02	-150.51	45.86	0.00	0.00	0.00	
5,100.00	0.00	0.00	5,089.78	46.02	-150.51	45.86	0.00	0.00	0.00	
5,200.00	0.00	0.00	5,189.78	46.02	-150.51	45.86	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,289.78	46.02	-150.51	45.86	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,389.78	46.02	-150.51	45.86	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,489.78	46.02	-150.51	45.86	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,589.78	46.02	-150.51	45.86	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,689.78	46.02	-150.51	45.86	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,789.78	46.02	-150.51	45.86	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,889.78	46.02	-150.51	45.86	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,989.78	46.02	-150.51	45.86	0.00	0.00	0.00	
6,100.00	0.00	0.00	6,089.78	46.02	-150.51	45.86	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,189.78	46.02	-150.51	45.86	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,289.78	46.02	-150.51	45.86	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,389.78	46.02	-150.51	45.86	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,489.78	46.02	-150.51	45.86	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,589.78	46.02	-150.51	45.86	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,689.78	46.02	-150.51	45.86	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,789.78	46.02	-150.51	45.86	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,889.78	46.02	-150.51	45.86	0.00	0.00	0.00	
6,983.61	0.00	0.00	6,973.39	46.02	-150.51	45.86	0.00	0.00	0.00	
KOP @ 6983.61ft										
7,000.00	1.48	0.81	6,989.78	46.23	-150.51	46.07	9.00	9.00	0.00	
7,100.00	10.48	0.81	7,089.13	56.62	-150.36	56.47	9.00	9.00	0.00	
7,200.00	19.48	0.81	7,185.64	82.43	-149.99	82.28	9.00	9.00	0.00	
7,300.00	28.48	0.81	7,276.91	123.02	-149.42	122.87	9.00	9.00	0.00	
7,350.90	33.06	0.81	7,320.64	149.05	-149.05	148.89	9.00	9.00	0.00	
Sharon Springs										
7,396.13	37.13	0.81	7,357.64	175.04	-148.68	174.89	9.00	9.00	0.00	
Niobrara Top										
7,400.00	37.48	0.81	7,360.72	177.39	-148.64	177.23	9.00	9.00	0.00	
7,500.00	46.48	0.81	7,434.99	244.19	-147.70	244.04	9.00	9.00	0.00	
DLS = 9°/100'										
7,579.41	53.62	0.81	7,485.94	305.02	-146.83	304.87	9.00	9.00	0.00	
Niobrara B Bench										
7,600.00	55.48	0.81	7,497.89	321.79	-146.60	321.64	9.00	9.00	0.00	
7,700.00	64.48	0.81	7,547.87	408.28	-145.37	408.12	9.00	9.00	0.00	
7,757.45	69.65	0.81	7,570.25	461.16	-144.62	461.00	9.00	9.00	0.00	
Niobrara C Bench										
7,800.00	73.48	0.81	7,583.71	501.51	-144.05	501.36	9.00	9.00	0.00	
7,900.00	82.48	0.81	7,604.53	599.21	-142.66	599.06	9.00	9.00	0.00	
7,985.46	90.17	0.81	7,610.01	684.42	-141.45	684.27	9.00	9.00	0.00	

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well JZM 29N-E3HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5093.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5093.00usft (D Rig)
Site:	1N-67W-10 JZM 35-10HZ Pad	North Reference:	True
Well:	JZM 29N-E3HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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)	
End Build @ 7985.46ft - 7"										
8,000.00	90.17	0.81	7,609.96	698.96	-141.24	698.81	0.00	0.00	0.00	
8,100.00	90.17	0.81	7,609.67	798.95	-139.82	798.80	0.00	0.00	0.00	
8,200.00	90.17	0.81	7,609.38	898.94	-138.41	898.79	0.00	0.00	0.00	
8,300.00	90.17	0.81	7,609.09	998.93	-136.99	998.78	0.00	0.00	0.00	
8,400.00	90.17	0.81	7,608.80	1,098.92	-135.57	1,098.77	0.00	0.00	0.00	
8,500.00	90.17	0.81	7,608.51	1,198.91	-134.15	1,198.77	0.00	0.00	0.00	
8,600.00	90.17	0.81	7,608.22	1,298.90	-132.73	1,298.76	0.00	0.00	0.00	
8,700.00	90.17	0.81	7,607.93	1,398.89	-131.31	1,398.75	0.00	0.00	0.00	
8,800.00	90.17	0.81	7,607.64	1,498.88	-129.89	1,498.74	0.00	0.00	0.00	
8,900.00	90.17	0.81	7,607.35	1,598.86	-128.47	1,598.73	0.00	0.00	0.00	
9,000.00	90.17	0.81	7,607.05	1,698.85	-127.05	1,698.72	0.00	0.00	0.00	
9,100.00	90.17	0.81	7,606.76	1,798.84	-125.64	1,798.71	0.00	0.00	0.00	
9,200.00	90.17	0.81	7,606.47	1,898.83	-124.22	1,898.70	0.00	0.00	0.00	
9,300.00	90.17	0.81	7,606.18	1,998.82	-122.80	1,998.69	0.00	0.00	0.00	
9,400.00	90.17	0.81	7,605.89	2,098.81	-121.38	2,098.68	0.00	0.00	0.00	
9,500.00	90.17	0.81	7,605.60	2,198.80	-119.96	2,198.68	0.00	0.00	0.00	
9,600.00	90.17	0.81	7,605.31	2,298.79	-118.54	2,298.67	0.00	0.00	0.00	
9,700.00	90.17	0.81	7,605.02	2,398.78	-117.12	2,398.66	0.00	0.00	0.00	
9,800.00	90.17	0.81	7,604.73	2,498.77	-115.70	2,498.65	0.00	0.00	0.00	
9,900.00	90.17	0.81	7,604.44	2,598.76	-114.29	2,598.64	0.00	0.00	0.00	
10,000.00	90.17	0.81	7,604.15	2,698.75	-112.87	2,698.63	0.00	0.00	0.00	
10,100.00	90.17	0.81	7,603.85	2,798.74	-111.45	2,798.62	0.00	0.00	0.00	
10,200.00	90.17	0.81	7,603.56	2,898.73	-110.03	2,898.61	0.00	0.00	0.00	
10,300.00	90.17	0.81	7,603.27	2,998.72	-108.61	2,998.60	0.00	0.00	0.00	
10,400.00	90.17	0.81	7,602.98	3,098.71	-107.19	3,098.59	0.00	0.00	0.00	
10,500.00	90.17	0.81	7,602.69	3,198.70	-105.77	3,198.58	0.00	0.00	0.00	
10,600.00	90.17	0.81	7,602.40	3,298.69	-104.35	3,298.58	0.00	0.00	0.00	
10,700.00	90.17	0.81	7,602.11	3,398.68	-102.93	3,398.57	0.00	0.00	0.00	
10,800.00	90.17	0.81	7,601.82	3,498.67	-101.52	3,498.56	0.00	0.00	0.00	
10,900.00	90.17	0.81	7,601.53	3,598.66	-100.10	3,598.55	0.00	0.00	0.00	
11,000.00	90.17	0.81	7,601.24	3,698.64	-98.68	3,698.54	0.00	0.00	0.00	
11,100.00	90.17	0.81	7,600.95	3,798.63	-97.26	3,798.53	0.00	0.00	0.00	
11,200.00	90.17	0.81	7,600.66	3,898.62	-95.84	3,898.52	0.00	0.00	0.00	
11,300.00	90.17	0.81	7,600.36	3,998.61	-94.42	3,998.51	0.00	0.00	0.00	
11,400.00	90.17	0.81	7,600.07	4,098.60	-93.00	4,098.50	0.00	0.00	0.00	
11,500.00	90.17	0.81	7,599.78	4,198.59	-91.58	4,198.49	0.00	0.00	0.00	
11,600.00	90.17	0.81	7,599.49	4,298.58	-90.16	4,298.48	0.00	0.00	0.00	
11,700.00	90.17	0.81	7,599.20	4,398.57	-88.75	4,398.48	0.00	0.00	0.00	
11,800.00	90.17	0.81	7,598.91	4,498.56	-87.33	4,498.47	0.00	0.00	0.00	
11,900.00	90.17	0.81	7,598.62	4,598.55	-85.91	4,598.46	0.00	0.00	0.00	
12,000.00	90.17	0.81	7,598.33	4,698.54	-84.49	4,698.45	0.00	0.00	0.00	
12,100.00	90.17	0.81	7,598.04	4,798.53	-83.07	4,798.44	0.00	0.00	0.00	
12,200.00	90.17	0.81	7,597.75	4,898.52	-81.65	4,898.43	0.00	0.00	0.00	
12,300.00	90.17	0.81	7,597.46	4,998.51	-80.23	4,998.42	0.00	0.00	0.00	
12,400.00	90.17	0.81	7,597.17	5,098.50	-78.81	5,098.41	0.00	0.00	0.00	
12,500.00	90.17	0.81	7,596.87	5,198.49	-77.39	5,198.40	0.00	0.00	0.00	
12,600.00	90.17	0.81	7,596.58	5,298.48	-75.98	5,298.39	0.00	0.00	0.00	
12,700.00	90.17	0.81	7,596.29	5,398.47	-74.56	5,398.39	0.00	0.00	0.00	
12,800.00	90.17	0.81	7,596.00	5,498.46	-73.14	5,498.38	0.00	0.00	0.00	
12,900.00	90.17	0.81	7,595.71	5,598.45	-71.72	5,598.37	0.00	0.00	0.00	
13,000.00	90.17	0.81	7,595.42	5,698.43	-70.30	5,698.36	0.00	0.00	0.00	
13,100.00	90.17	0.81	7,595.13	5,798.42	-68.88	5,798.35	0.00	0.00	0.00	

Anadarko Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well JZM 29N-E3HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5093.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5093.00usft (D Rig)
Site:	1N-67W-10 JZM 35-10HZ Pad	North Reference:	True
Well:	JZM 29N-E3HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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)	
13,200.00	90.17	0.81	7,594.84	5,898.41	-67.46	5,898.34	0.00	0.00	0.00	
13,300.00	90.17	0.81	7,594.55	5,998.40	-66.04	5,998.33	0.00	0.00	0.00	
13,400.00	90.17	0.81	7,594.26	6,098.39	-64.63	6,098.32	0.00	0.00	0.00	
13,500.00	90.17	0.81	7,593.97	6,198.38	-63.21	6,198.31	0.00	0.00	0.00	
13,600.00	90.17	0.81	7,593.68	6,298.37	-61.79	6,298.30	0.00	0.00	0.00	
13,700.00	90.17	0.81	7,593.38	6,398.36	-60.37	6,398.29	0.00	0.00	0.00	
13,800.00	90.17	0.81	7,593.09	6,498.35	-58.95	6,498.29	0.00	0.00	0.00	
13,900.00	90.17	0.81	7,592.80	6,598.34	-57.53	6,598.28	0.00	0.00	0.00	
14,000.00	90.17	0.81	7,592.51	6,698.33	-56.11	6,698.27	0.00	0.00	0.00	
14,100.00	90.17	0.81	7,592.22	6,798.32	-54.69	6,798.26	0.00	0.00	0.00	
14,200.00	90.17	0.81	7,591.93	6,898.31	-53.27	6,898.25	0.00	0.00	0.00	
14,300.00	90.17	0.81	7,591.64	6,998.30	-51.86	6,998.24	0.00	0.00	0.00	
14,400.00	90.17	0.81	7,591.35	7,098.29	-50.44	7,098.23	0.00	0.00	0.00	
14,500.00	90.17	0.81	7,591.06	7,198.28	-49.02	7,198.22	0.00	0.00	0.00	
14,600.00	90.17	0.81	7,590.77	7,298.27	-47.60	7,298.21	0.00	0.00	0.00	
14,700.00	90.17	0.81	7,590.48	7,398.26	-46.18	7,398.20	0.00	0.00	0.00	
14,800.00	90.17	0.81	7,590.19	7,498.25	-44.76	7,498.20	0.00	0.00	0.00	
14,900.00	90.17	0.81	7,589.89	7,598.24	-43.34	7,598.19	0.00	0.00	0.00	
15,000.00	90.17	0.81	7,589.60	7,698.23	-41.92	7,698.18	0.00	0.00	0.00	
15,100.00	90.17	0.81	7,589.31	7,798.21	-40.50	7,798.17	0.00	0.00	0.00	
15,200.00	90.17	0.81	7,589.02	7,898.20	-39.09	7,898.16	0.00	0.00	0.00	
15,300.00	90.17	0.81	7,588.73	7,998.19	-37.67	7,998.15	0.00	0.00	0.00	
15,400.00	90.17	0.81	7,588.44	8,098.18	-36.25	8,098.14	0.00	0.00	0.00	
15,500.00	90.17	0.81	7,588.15	8,198.17	-34.83	8,198.13	0.00	0.00	0.00	
15,600.00	90.17	0.81	7,587.86	8,298.16	-33.41	8,298.12	0.00	0.00	0.00	
15,700.00	90.17	0.81	7,587.57	8,398.15	-31.99	8,398.11	0.00	0.00	0.00	
15,800.00	90.17	0.81	7,587.28	8,498.14	-30.57	8,498.10	0.00	0.00	0.00	
15,900.00	90.17	0.81	7,586.99	8,598.13	-29.15	8,598.10	0.00	0.00	0.00	
15,939.76	90.17	0.81	7,586.87	8,637.89	-28.59	8,637.85	0.00	0.00	0.00	
Turn to BHL @ 15939.76ft										
16,000.00	90.17	359.61	7,586.69	8,698.12	-28.37	8,698.09	2.00	0.00	-2.00	
16,100.00	90.17	357.61	7,586.40	8,798.09	-30.80	8,798.05	2.00	0.00	-2.00	
16,170.70	90.17	356.19	7,586.20	8,868.68	-34.62	8,868.64	2.00	0.00	-2.00	
End Turn @ 16170.70ft										
16,200.00	90.17	356.19	7,586.11	8,897.92	-36.56	8,897.88	0.00	0.00	0.00	
16,300.00	90.17	356.19	7,585.82	8,997.70	-43.20	8,997.65	0.00	0.00	0.00	
16,400.00	90.17	356.19	7,585.53	9,097.48	-49.84	9,097.42	0.00	0.00	0.00	
16,500.00	90.17	356.19	7,585.24	9,197.26	-56.48	9,197.19	0.00	0.00	0.00	
16,600.00	90.17	356.19	7,584.95	9,297.04	-63.11	9,296.96	0.00	0.00	0.00	
16,700.00	90.17	356.19	7,584.66	9,396.81	-69.75	9,396.74	0.00	0.00	0.00	
16,800.00	90.17	356.19	7,584.37	9,496.59	-76.39	9,496.51	0.00	0.00	0.00	
16,900.00	90.17	356.19	7,584.08	9,596.37	-83.03	9,596.28	0.00	0.00	0.00	
17,000.00	90.17	356.19	7,583.79	9,696.15	-89.66	9,696.05	0.00	0.00	0.00	
17,100.00	90.17	356.19	7,583.50	9,795.93	-96.30	9,795.82	0.00	0.00	0.00	
17,200.00	90.17	356.19	7,583.21	9,895.71	-102.94	9,895.60	0.00	0.00	0.00	
17,300.00	90.17	356.19	7,582.92	9,995.49	-109.58	9,995.37	0.00	0.00	0.00	
17,400.00	90.17	356.19	7,582.63	10,095.27	-116.21	10,095.14	0.00	0.00	0.00	
17,500.00	90.17	356.19	7,582.34	10,195.05	-122.85	10,194.91	0.00	0.00	0.00	
17,600.00	90.17	356.19	7,582.05	10,294.83	-129.49	10,294.69	0.00	0.00	0.00	
17,617.08	90.17	356.19	7,582.00	10,311.87	-130.62	10,311.73	0.00	0.00	0.00	
TD Well @ 17617.08ft										

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well JZM 29N-E3HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5093.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5093.00usft (D Rig)
Site:	1N-67W-10 JZM 35-10HZ Pad	North Reference:	True
Well:	JZM 29N-E3HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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 29N-E3HZ_SHL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	14,548,262.82	1,673,805.22	40.059062	-104.880674	
1N-R67W-Sec. 10_Secti - plan misses target center by 1402.69usft at 13.00usft MD (13.00 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	13.00	2.59	1,402.69	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	1,672,225.09			
Point 2			13.00	4,994.59	-331.69	14,553,261.43	1,674,869.52			
Point 3			13.00	4,996.25	2,313.07	14,553,266.63	1,677,514.27			
Point 4			13.00	2,354.63	2,320.05	14,550,625.02	1,677,524.79			
Point 5			13.00	-287.06	2,326.97	14,547,983.34	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	14,547,972.32	1,672,225.74			
1N-R67W-Sec. 3_Sectio - plan misses target center by 1402.69usft at 13.00usft MD (13.00 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	13.00	2.59	1,402.69	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	1,672,171.14			
Point 2			13.00	10,358.07	-398.53	14,558,624.81	1,674,795.49			
Point 3			13.00	10,354.85	2,234.71	14,558,625.12	1,677,428.73			
Point 4			13.00	7,634.95	2,286.94	14,555,905.29	1,677,484.60			
Point 5			13.00	4,996.25	2,313.07	14,553,266.63	1,677,514.27			
Point 6			13.00	4,994.59	-331.69	14,553,261.43	1,674,869.52			
Point 7			13.00	4,992.86	-2,976.12	14,553,256.15	1,672,225.09			
Point 8			13.00	7,632.17	-2,992.40	14,555,895.44	1,672,205.27			
JZM 29N-E3HZ_Toe - plan hits target center - Point	0.00	0.00	7,582.00	10,311.87	-130.62	14,558,574.50	1,673,660.78	40.087380	-104.881141	
JZM 29N-E3HZ_Lateral - plan hits target center - Point	0.00	0.00	7,586.87	8,637.89	-28.59	14,556,900.66	1,673,765.05	40.082783	-104.880776	

Casing Points						
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")		
1,810.22	1,800.00	9 5/8"	9-5/8	13-1/2		
7,985.46	7,610.01	7"	7	8-3/4		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,395.06	1,386.00	Fox Hills				
4,642.22	4,632.00	Sussex				
7,350.90	7,320.64	Sharon Springs				
7,396.13	7,357.64	Niobrara Top				
7,579.41	7,485.94	Niobrara B Bench				
7,757.45	7,570.25	Niobrara C Bench				

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well JZM 29N-E3HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5093.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5093.00usft (D Rig)
Site:	1N-67W-10 JZM 35-10HZ Pad	North Reference:	True
Well:	JZM 29N-E3HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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
850.00	847.54	13.75	-44.97	End Nudge @ 850.00ft
1,330.00	1,321.63	35.70	-116.78	Begin Drop @ 1330.00ft
1,780.00	1,769.78	46.02	-150.51	End Drop @ 1780.00ft
6,983.61	6,973.39	46.02	-150.51	KOP @ 6983.61ft
7,500.00	7,434.99	244.19	-147.70	DLS = 9°/100'
7,985.46	7,610.01	684.42	-141.45	End Build @ 7985.46ft
15,939.76	7,586.87	8,637.89	-28.59	Turn to BHL @ 15939.76ft
16,170.70	7,586.20	8,868.68	-34.62	End Turn @ 16170.70ft
17,617.08	7,582.00	10,311.87	-130.62	TD Well @ 17617.08ft