

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
1N-67W-10 JZM 35-10HZ Pad
JZM 3N-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 3N-E3HZ

Wellbore: Plan A

Design: Permit Rev-2

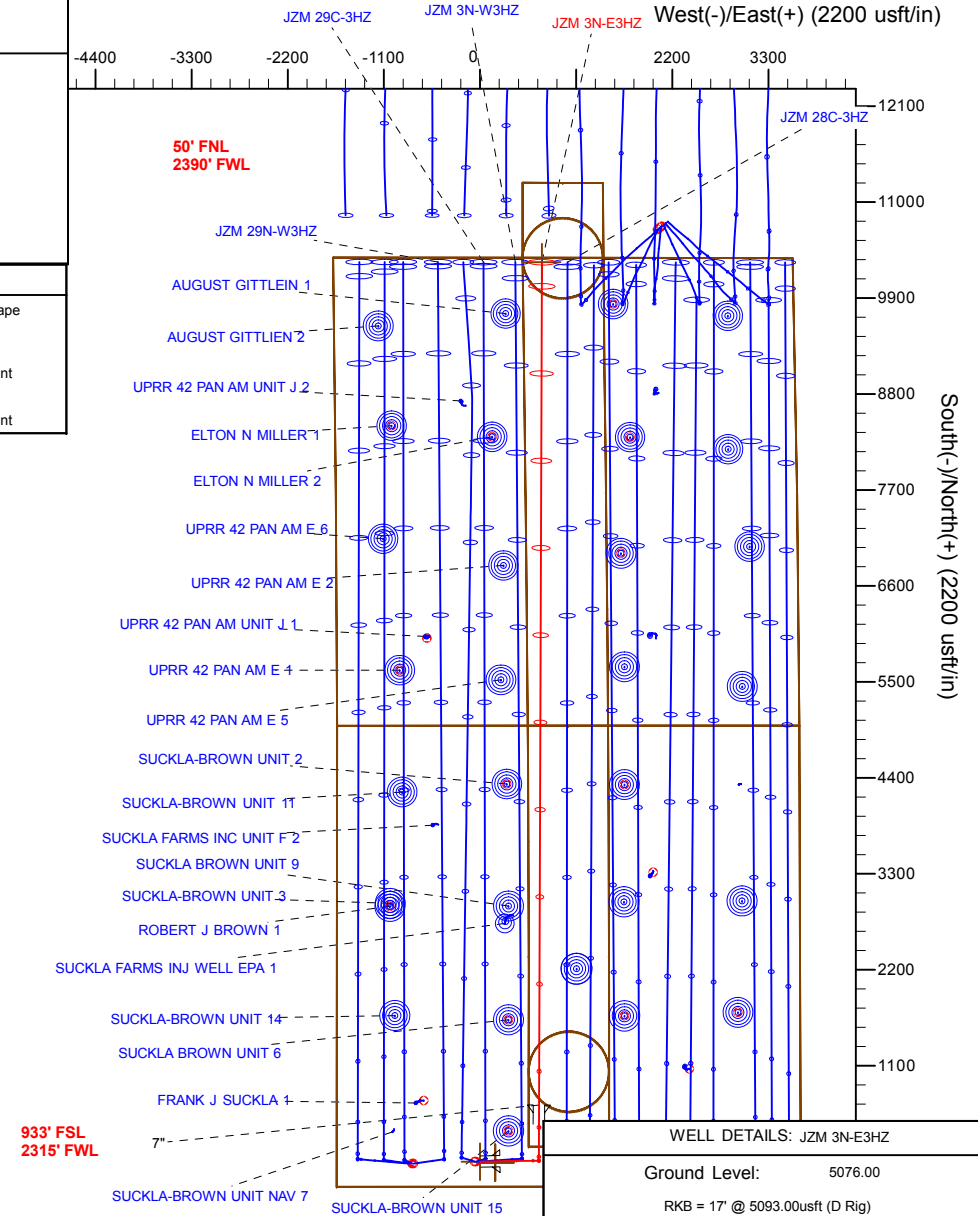
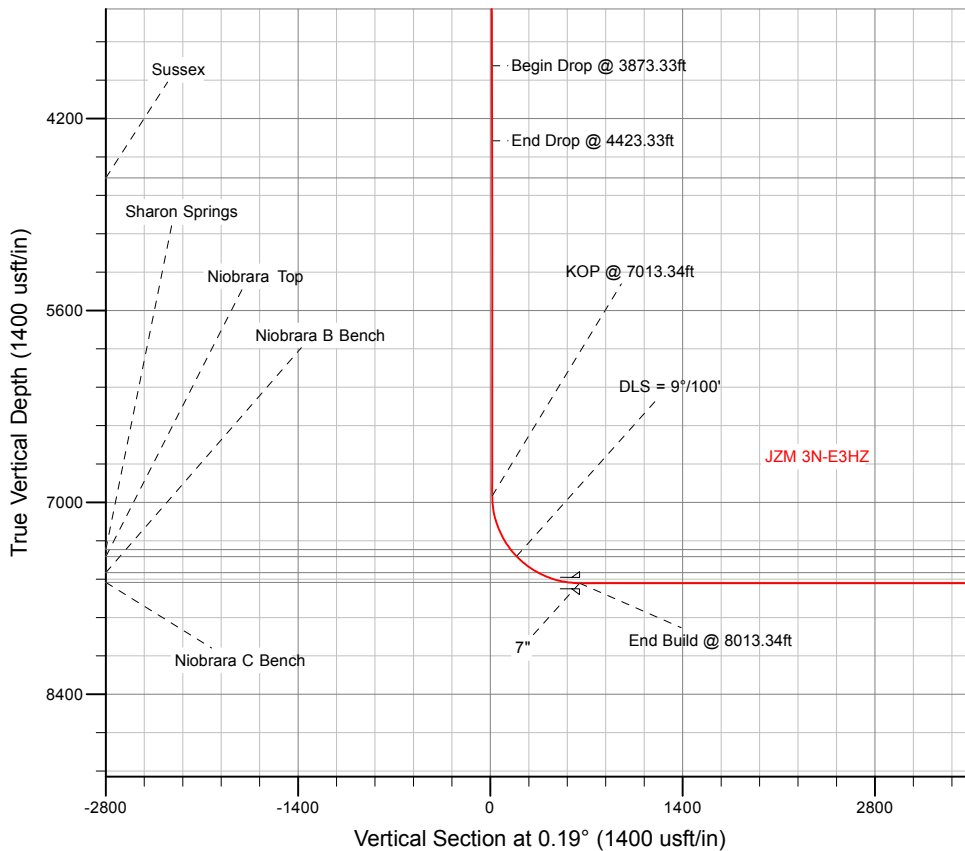
US ROCKIES WATTENBERG PLANNING

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	983.33	11.00	89.00	978.84	1.22	70.17	1.50	89.00	1.46	
4	3873.33	11.00	89.00	3815.74	10.85	621.52	0.00	0.00	12.91	
5	4423.33	0.00	0.00	4362.37	11.77	674.15	2.00	-180.00	14.00	
6	7013.34	0.00	0.00	6952.38	11.77	674.15	0.00	0.00	14.00	
7	8013.34	90.00	0.19	7589.00	648.38	676.30	9.00	0.19	650.62	
8	17676.17	90.00	0.19	7589.00	10311.15	709.02	0.00	0.00	10313.45	JZM 3N-E3HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
JZM 3N-E3HZ_SHL	0.00	0.00	0.00	40.059061	-104.880459	Point
JZM 3N-E3HZ_BHL	7589.00	10311.15	709.02	40.087377	-104.877924	Point



WELL DETAILS: JZM 3N-E3HZ

Ground Level: 5076.00

RKB = 17' @ 5093.00usft (D Rig)

Plan: Permit Rev-2 (JZM 3N-E3HZ/Plan A)

Created By: Clint Eshelman Date: 10/13/2015

Reviewed: _____ Date: _____

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well JZM 3N-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 3N-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	Latitude:	40.059031
From:	Lat/Long	Easting:	1,673,980.11 usft	Longitude:	-104.880049
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.08 °

Well	JZM 3N-E3HZ					
Well Position	+N-S	10.92 usft	Northing:	14,548,262.53 usft	Latitude:	40.059061
	+E-W	-114.72 usft	Easting:	1,673,865.38 usft	Longitude:	-104.880459
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	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	0.19

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	
983.33	11.00	89.00	978.84	1.22	70.17	1.50	1.50	0.00	89.00	
3,873.33	11.00	89.00	3,815.74	10.85	621.52	0.00	0.00	0.00	0.00	
4,423.33	0.00	0.00	4,362.37	11.77	674.15	2.00	-2.00	-16.18	-180.00	
7,013.34	0.00	0.00	6,952.38	11.77	674.15	0.00	0.00	0.00	0.00	
8,013.34	90.00	0.19	7,589.00	648.38	676.30	9.00	9.00	0.02	0.19	
17,676.17	90.00	0.19	7,589.00	10,311.15	709.02	0.00	0.00	0.00	0.00	JZM 3N-E3HZ_BHL

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well JZM 3N-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 3N-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	89.00	300.00	0.01	0.33	0.01	1.50	1.50	0.00	
400.00	2.25	89.00	399.96	0.05	2.94	0.06	1.50	1.50	0.00	
500.00	3.75	89.00	499.82	0.14	8.18	0.17	1.50	1.50	0.00	
600.00	5.25	89.00	599.51	0.28	16.02	0.33	1.50	1.50	0.00	
700.00	6.75	89.00	698.96	0.46	26.47	0.55	1.50	1.50	0.00	
800.00	8.25	89.00	798.10	0.69	39.52	0.82	1.50	1.50	0.00	
900.00	9.75	89.00	896.87	0.96	55.16	1.15	1.50	1.50	0.00	
983.33	11.00	89.00	978.83	1.22	70.17	1.46	1.50	1.50	0.00	
End Nudge @ 983.33ft										
1,000.00	11.00	89.00	995.20	1.28	73.35	1.52	0.00	0.00	0.00	
1,100.00	11.00	89.00	1,093.36	1.61	92.43	1.92	0.00	0.00	0.00	
1,200.00	11.00	89.00	1,191.52	1.95	111.50	2.32	0.00	0.00	0.00	
1,300.00	11.00	89.00	1,289.69	2.28	130.58	2.71	0.00	0.00	0.00	
1,398.12	11.00	89.00	1,386.00	2.61	149.30	3.10	0.00	0.00	0.00	
Fox Hills										
1,400.00	11.00	89.00	1,387.85	2.61	149.66	3.11	0.00	0.00	0.00	
1,500.00	11.00	89.00	1,486.01	2.95	168.74	3.50	0.00	0.00	0.00	
1,600.00	11.00	89.00	1,584.17	3.28	187.82	3.90	0.00	0.00	0.00	
1,700.00	11.00	89.00	1,682.34	3.61	206.89	4.30	0.00	0.00	0.00	
1,800.00	11.00	89.00	1,780.50	3.94	225.97	4.69	0.00	0.00	0.00	
1,819.87	11.00	89.00	1,800.00	4.01	229.76	4.77	0.00	0.00	0.00	
9 5/8"										
1,900.00	11.00	89.00	1,878.66	4.28	245.05	5.09	0.00	0.00	0.00	
2,000.00	11.00	89.00	1,976.82	4.61	264.13	5.49	0.00	0.00	0.00	
2,100.00	11.00	89.00	2,074.99	4.94	283.21	5.88	0.00	0.00	0.00	
2,200.00	11.00	89.00	2,173.15	5.28	302.28	6.28	0.00	0.00	0.00	
2,300.00	11.00	89.00	2,271.31	5.61	321.36	6.68	0.00	0.00	0.00	
2,400.00	11.00	89.00	2,369.48	5.94	340.44	7.07	0.00	0.00	0.00	
2,500.00	11.00	89.00	2,467.64	6.28	359.52	7.47	0.00	0.00	0.00	
2,600.00	11.00	89.00	2,565.80	6.61	378.60	7.86	0.00	0.00	0.00	
2,700.00	11.00	89.00	2,663.96	6.94	397.67	8.26	0.00	0.00	0.00	
2,800.00	11.00	89.00	2,762.13	7.27	416.75	8.66	0.00	0.00	0.00	
2,900.00	11.00	89.00	2,860.29	7.61	435.83	9.05	0.00	0.00	0.00	
3,000.00	11.00	89.00	2,958.45	7.94	454.91	9.45	0.00	0.00	0.00	
3,100.00	11.00	89.00	3,056.61	8.27	473.99	9.85	0.00	0.00	0.00	
3,200.00	11.00	89.00	3,154.78	8.61	493.06	10.24	0.00	0.00	0.00	
3,300.00	11.00	89.00	3,252.94	8.94	512.14	10.64	0.00	0.00	0.00	
3,400.00	11.00	89.00	3,351.10	9.27	531.22	11.03	0.00	0.00	0.00	
3,500.00	11.00	89.00	3,449.27	9.61	550.30	11.43	0.00	0.00	0.00	
3,600.00	11.00	89.00	3,547.43	9.94	569.38	11.83	0.00	0.00	0.00	
3,700.00	11.00	89.00	3,645.59	10.27	588.45	12.22	0.00	0.00	0.00	
3,800.00	11.00	89.00	3,743.75	10.60	607.53	12.62	0.00	0.00	0.00	
3,873.33	11.00	89.00	3,815.74	10.85	621.52	12.91	0.00	0.00	0.00	
Begin Drop @ 3873.33ft										
3,900.00	10.47	89.00	3,841.94	10.94	626.49	13.01	2.00	-2.00	0.00	
4,000.00	8.47	89.00	3,940.57	11.22	642.93	13.35	2.00	-2.00	0.00	
4,100.00	6.47	89.00	4,039.72	11.45	655.92	13.62	2.00	-2.00	0.00	
4,200.00	4.47	89.00	4,139.26	11.62	665.45	13.82	2.00	-2.00	0.00	
4,300.00	2.47	89.00	4,239.07	11.72	671.49	13.95	2.00	-2.00	0.00	

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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 3N-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)
4,400.00	0.47	89.00	4,339.03	11.77	674.05	14.00	2.00	-2.00	0.00
4,423.33	0.00	87.96	4,362.36	11.77	674.15	14.00	2.00	-2.00	-4.45
End Drop @ 4423.33ft									
4,500.00	0.00	0.00	4,439.03	11.77	674.15	14.00	0.00	0.00	-114.73
4,600.00	0.00	0.00	4,539.03	11.77	674.15	14.00	0.00	0.00	0.00
4,692.97	0.00	0.00	4,632.00	11.77	674.15	14.00	0.00	0.00	0.00
Sussex									
4,700.00	0.00	0.00	4,639.03	11.77	674.15	14.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,739.03	11.77	674.15	14.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,839.03	11.77	674.15	14.00	0.00	0.00	0.00
5,000.00	0.00	0.00	4,939.03	11.77	674.15	14.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,039.03	11.77	674.15	14.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,139.03	11.77	674.15	14.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,239.03	11.77	674.15	14.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,339.03	11.77	674.15	14.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,439.03	11.77	674.15	14.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,539.03	11.77	674.15	14.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,639.03	11.77	674.15	14.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,739.03	11.77	674.15	14.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,839.03	11.77	674.15	14.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,939.03	11.77	674.15	14.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,039.03	11.77	674.15	14.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,139.03	11.77	674.15	14.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,239.03	11.77	674.15	14.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,339.03	11.77	674.15	14.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,439.03	11.77	674.15	14.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,539.03	11.77	674.15	14.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,639.03	11.77	674.15	14.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,739.03	11.77	674.15	14.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,839.03	11.77	674.15	14.00	0.00	0.00	0.00
7,000.00	0.00	0.00	6,939.03	11.77	674.15	14.00	0.00	0.00	0.00
7,013.34	0.00	0.00	6,952.37	11.77	674.15	14.00	0.00	0.00	0.00
KOP @ 7013.34ft									
7,100.00	7.80	0.19	7,038.77	17.66	674.17	19.89	9.00	9.00	0.22
7,200.00	16.80	0.19	7,136.37	38.94	674.24	41.17	9.00	9.00	0.00
7,300.00	25.80	0.19	7,229.44	75.22	674.36	77.46	9.00	9.00	0.00
7,400.00	34.80	0.19	7,315.70	125.62	674.53	127.86	9.00	9.00	0.00
7,436.43	38.08	0.19	7,345.00	147.26	674.61	149.49	9.00	9.00	0.00
Sharon Springs									
7,500.00	43.80	0.19	7,393.00	188.89	674.75	191.13	9.00	9.00	0.00
DLS = 9°/100'									
7,504.20	44.18	0.19	7,396.02	191.81	674.76	194.04	9.00	9.00	0.00
Niobrara Top									
7,600.00	52.80	0.19	7,459.46	263.48	675.00	265.71	9.00	9.00	0.00
7,697.60	61.58	0.19	7,512.29	345.43	675.28	347.66	9.00	9.00	0.00
Niobrara B Bench									
7,700.00	61.80	0.19	7,513.43	347.54	675.29	349.78	9.00	9.00	0.00
7,800.00	70.80	0.19	7,553.58	439.01	675.60	441.25	9.00	9.00	0.00
7,900.00	79.80	0.19	7,578.93	535.64	675.92	537.88	9.00	9.00	0.00
7,930.15	82.51	0.19	7,583.57	565.43	676.02	567.66	9.00	9.00	0.00
Niobrara C Bench									
8,000.00	88.80	0.19	7,588.86	635.04	676.26	637.28	9.00	9.00	0.00
8,013.34	90.00	0.19	7,589.00	648.38	676.30	650.62	9.00	9.00	0.00

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well JZM 3N-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 3N-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 @ 8013.34ft - 7"									
8,100.00	90.00	0.19	7,589.00	735.04	676.60	737.28	0.00	0.00	0.00
8,200.00	90.00	0.19	7,589.00	835.04	676.94	837.28	0.00	0.00	0.00
8,300.00	90.00	0.19	7,589.00	935.04	677.27	937.28	0.00	0.00	0.00
8,400.00	90.00	0.19	7,589.00	1,035.04	677.61	1,037.28	0.00	0.00	0.00
8,500.00	90.00	0.19	7,589.00	1,135.04	677.95	1,137.28	0.00	0.00	0.00
8,600.00	90.00	0.19	7,589.00	1,235.04	678.29	1,237.28	0.00	0.00	0.00
8,700.00	90.00	0.19	7,589.00	1,335.04	678.63	1,337.28	0.00	0.00	0.00
8,800.00	90.00	0.19	7,589.00	1,435.04	678.97	1,437.28	0.00	0.00	0.00
8,900.00	90.00	0.19	7,589.00	1,535.04	679.31	1,537.28	0.00	0.00	0.00
9,000.00	90.00	0.19	7,589.00	1,635.03	679.64	1,637.28	0.00	0.00	0.00
9,100.00	90.00	0.19	7,589.00	1,735.03	679.98	1,737.28	0.00	0.00	0.00
9,200.00	90.00	0.19	7,589.00	1,835.03	680.32	1,837.28	0.00	0.00	0.00
9,300.00	90.00	0.19	7,589.00	1,935.03	680.66	1,937.28	0.00	0.00	0.00
9,400.00	90.00	0.19	7,589.00	2,035.03	681.00	2,037.28	0.00	0.00	0.00
9,500.00	90.00	0.19	7,589.00	2,135.03	681.34	2,137.28	0.00	0.00	0.00
9,600.00	90.00	0.19	7,589.00	2,235.03	681.68	2,237.28	0.00	0.00	0.00
9,700.00	90.00	0.19	7,589.00	2,335.03	682.01	2,337.28	0.00	0.00	0.00
9,800.00	90.00	0.19	7,589.00	2,435.03	682.35	2,437.28	0.00	0.00	0.00
9,900.00	90.00	0.19	7,589.00	2,535.03	682.69	2,537.28	0.00	0.00	0.00
10,000.00	90.00	0.19	7,589.00	2,635.03	683.03	2,637.28	0.00	0.00	0.00
10,100.00	90.00	0.19	7,589.00	2,735.03	683.37	2,737.28	0.00	0.00	0.00
10,200.00	90.00	0.19	7,589.00	2,835.03	683.71	2,837.28	0.00	0.00	0.00
10,300.00	90.00	0.19	7,589.00	2,935.03	684.05	2,937.28	0.00	0.00	0.00
10,400.00	90.00	0.19	7,589.00	3,035.03	684.38	3,037.28	0.00	0.00	0.00
10,500.00	90.00	0.19	7,589.00	3,135.03	684.72	3,137.28	0.00	0.00	0.00
10,600.00	90.00	0.19	7,589.00	3,235.03	685.06	3,237.28	0.00	0.00	0.00
10,700.00	90.00	0.19	7,589.00	3,335.02	685.40	3,337.28	0.00	0.00	0.00
10,800.00	90.00	0.19	7,589.00	3,435.02	685.74	3,437.28	0.00	0.00	0.00
10,900.00	90.00	0.19	7,589.00	3,535.02	686.08	3,537.28	0.00	0.00	0.00
11,000.00	90.00	0.19	7,589.00	3,635.02	686.42	3,637.28	0.00	0.00	0.00
11,100.00	90.00	0.19	7,589.00	3,735.02	686.76	3,737.28	0.00	0.00	0.00
11,200.00	90.00	0.19	7,589.00	3,835.02	687.09	3,837.28	0.00	0.00	0.00
11,300.00	90.00	0.19	7,589.00	3,935.02	687.43	3,937.28	0.00	0.00	0.00
11,400.00	90.00	0.19	7,589.00	4,035.02	687.77	4,037.28	0.00	0.00	0.00
11,500.00	90.00	0.19	7,589.00	4,135.02	688.11	4,137.28	0.00	0.00	0.00
11,600.00	90.00	0.19	7,589.00	4,235.02	688.45	4,237.28	0.00	0.00	0.00
11,700.00	90.00	0.19	7,589.00	4,335.02	688.79	4,337.28	0.00	0.00	0.00
11,800.00	90.00	0.19	7,589.00	4,435.02	689.13	4,437.28	0.00	0.00	0.00
11,900.00	90.00	0.19	7,589.00	4,535.02	689.46	4,537.28	0.00	0.00	0.00
12,000.00	90.00	0.19	7,589.00	4,635.02	689.80	4,637.28	0.00	0.00	0.00
12,100.00	90.00	0.19	7,589.00	4,735.02	690.14	4,737.28	0.00	0.00	0.00
12,200.00	90.00	0.19	7,589.00	4,835.02	690.48	4,837.28	0.00	0.00	0.00
12,300.00	90.00	0.19	7,589.00	4,935.02	690.82	4,937.28	0.00	0.00	0.00
12,400.00	90.00	0.19	7,589.00	5,035.02	691.16	5,037.28	0.00	0.00	0.00
12,500.00	90.00	0.19	7,589.00	5,135.01	691.50	5,137.28	0.00	0.00	0.00
12,600.00	90.00	0.19	7,589.00	5,235.01	691.83	5,237.28	0.00	0.00	0.00
12,700.00	90.00	0.19	7,589.00	5,335.01	692.17	5,337.28	0.00	0.00	0.00
12,800.00	90.00	0.19	7,589.00	5,435.01	692.51	5,437.28	0.00	0.00	0.00
12,900.00	90.00	0.19	7,589.00	5,535.01	692.85	5,537.28	0.00	0.00	0.00
13,000.00	90.00	0.19	7,589.00	5,635.01	693.19	5,637.28	0.00	0.00	0.00
13,100.00	90.00	0.19	7,589.00	5,735.01	693.53	5,737.28	0.00	0.00	0.00
13,200.00	90.00	0.19	7,589.00	5,835.01	693.87	5,837.28	0.00	0.00	0.00

Anadarko Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well JZM 3N-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 3N-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)
13,300.00	90.00	0.19	7,589.00	5,935.01	694.20	5,937.28	0.00	0.00	0.00
13,400.00	90.00	0.19	7,589.00	6,035.01	694.54	6,037.28	0.00	0.00	0.00
13,500.00	90.00	0.19	7,589.00	6,135.01	694.88	6,137.28	0.00	0.00	0.00
13,600.00	90.00	0.19	7,589.00	6,235.01	695.22	6,237.28	0.00	0.00	0.00
13,700.00	90.00	0.19	7,589.00	6,335.01	695.56	6,337.28	0.00	0.00	0.00
13,800.00	90.00	0.19	7,589.00	6,435.01	695.90	6,437.28	0.00	0.00	0.00
13,900.00	90.00	0.19	7,589.00	6,535.01	696.24	6,537.28	0.00	0.00	0.00
14,000.00	90.00	0.19	7,589.00	6,635.01	696.57	6,637.28	0.00	0.00	0.00
14,100.00	90.00	0.19	7,589.00	6,735.01	696.91	6,737.28	0.00	0.00	0.00
14,200.00	90.00	0.19	7,589.00	6,835.00	697.25	6,837.28	0.00	0.00	0.00
14,300.00	90.00	0.19	7,589.00	6,935.00	697.59	6,937.28	0.00	0.00	0.00
14,400.00	90.00	0.19	7,589.00	7,035.00	697.93	7,037.28	0.00	0.00	0.00
14,500.00	90.00	0.19	7,589.00	7,135.00	698.27	7,137.28	0.00	0.00	0.00
14,600.00	90.00	0.19	7,589.00	7,235.00	698.61	7,237.28	0.00	0.00	0.00
14,700.00	90.00	0.19	7,589.00	7,335.00	698.94	7,337.28	0.00	0.00	0.00
14,800.00	90.00	0.19	7,589.00	7,435.00	699.28	7,437.28	0.00	0.00	0.00
14,900.00	90.00	0.19	7,589.00	7,535.00	699.62	7,537.28	0.00	0.00	0.00
15,000.00	90.00	0.19	7,589.00	7,635.00	699.96	7,637.28	0.00	0.00	0.00
15,100.00	90.00	0.19	7,589.00	7,735.00	700.30	7,737.28	0.00	0.00	0.00
15,200.00	90.00	0.19	7,589.00	7,835.00	700.64	7,837.28	0.00	0.00	0.00
15,300.00	90.00	0.19	7,589.00	7,935.00	700.98	7,937.28	0.00	0.00	0.00
15,400.00	90.00	0.19	7,589.00	8,035.00	701.31	8,037.28	0.00	0.00	0.00
15,500.00	90.00	0.19	7,589.00	8,135.00	701.65	8,137.28	0.00	0.00	0.00
15,600.00	90.00	0.19	7,589.00	8,235.00	701.99	8,237.28	0.00	0.00	0.00
15,700.00	90.00	0.19	7,589.00	8,335.00	702.33	8,337.28	0.00	0.00	0.00
15,800.00	90.00	0.19	7,589.00	8,435.00	702.67	8,437.28	0.00	0.00	0.00
15,900.00	90.00	0.19	7,589.00	8,535.00	703.01	8,537.28	0.00	0.00	0.00
16,000.00	90.00	0.19	7,589.00	8,634.99	703.35	8,637.28	0.00	0.00	0.00
16,100.00	90.00	0.19	7,589.00	8,734.99	703.68	8,737.28	0.00	0.00	0.00
16,200.00	90.00	0.19	7,589.00	8,834.99	704.02	8,837.28	0.00	0.00	0.00
16,300.00	90.00	0.19	7,589.00	8,934.99	704.36	8,937.28	0.00	0.00	0.00
16,400.00	90.00	0.19	7,589.00	9,034.99	704.70	9,037.28	0.00	0.00	0.00
16,500.00	90.00	0.19	7,589.00	9,134.99	705.04	9,137.28	0.00	0.00	0.00
16,600.00	90.00	0.19	7,589.00	9,234.99	705.38	9,237.28	0.00	0.00	0.00
16,700.00	90.00	0.19	7,589.00	9,334.99	705.72	9,337.28	0.00	0.00	0.00
16,800.00	90.00	0.19	7,589.00	9,434.99	706.05	9,437.28	0.00	0.00	0.00
16,900.00	90.00	0.19	7,589.00	9,534.99	706.39	9,537.28	0.00	0.00	0.00
17,000.00	90.00	0.19	7,589.00	9,634.99	706.73	9,637.28	0.00	0.00	0.00
17,100.00	90.00	0.19	7,589.00	9,734.99	707.07	9,737.28	0.00	0.00	0.00
17,200.00	90.00	0.19	7,589.00	9,834.99	707.41	9,837.28	0.00	0.00	0.00
17,300.00	90.00	0.19	7,589.00	9,934.99	707.75	9,937.28	0.00	0.00	0.00
17,400.00	90.00	0.19	7,589.00	10,034.99	708.09	10,037.28	0.00	0.00	0.00
17,500.00	90.00	0.19	7,589.00	10,134.99	708.42	10,137.28	0.00	0.00	0.00
17,600.00	90.00	0.19	7,589.00	10,234.99	708.76	10,237.28	0.00	0.00	0.00
17,676.17	90.00	0.19	7,589.00	10,311.15	709.02	10,313.45	0.00	0.00	0.00
TD Well @ 17676.17ft									

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well JZM 3N-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 3N-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 3N-E3HZ_SHL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	14,548,262.53	1,673,865.38	40.059061	-104.880459	
1N-R67W-Sec. 10_Secti - plan misses target center by 1342.53usft at 13.00usft MD (13.00 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	13.00	2.95	1,342.53	14,548,267.29	1,675,207.90	40.059069	-104.875661	
Point 1			13.00	4,992.86	-2,976.12	14,553,256.14	1,672,225.08			
Point 2			13.00	4,994.59	-331.69	14,553,261.43	1,674,869.50			
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 1342.53usft at 13.00usft MD (13.00 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	13.00	2.95	1,342.53	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	1,672,171.11			
Point 2			13.00	10,358.07	-398.53	14,558,624.81	1,674,795.46			
Point 3			13.00	10,354.85	2,234.71	14,558,625.13	1,677,428.70			
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	1,674,869.50			
Point 7			13.00	4,992.86	-2,976.12	14,553,256.14	1,672,225.08			
Point 8			13.00	7,632.17	-2,992.40	14,555,895.43	1,672,205.25			
JZM 3N-E3HZ_BHL - plan hits target center - Point	0.00	0.00	7,589.00	10,311.15	709.02	14,558,574.63	1,674,560.55	40.087377	-104.877924	

Casing Points						
	Measured Depth (usft)	Vertical Depth (usft)		Name	Casing Diameter (")	Hole Diameter (")
	1,819.87	1,800.00	9 5/8"		9-5/8	13-1/2
	8,013.34	7,589.00	7"		7	8-3/4

Formations						
	Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
	1,398.12	1,386.00	Fox Hills			
	4,692.97	4,632.00	Sussex			
	7,436.43	7,345.00	Sharon Springs			
	7,504.20	7,396.02	Niobrara Top			
	7,697.60	7,512.29	Niobrara B Bench			
	7,930.15	7,583.57	Niobrara C Bench			

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well JZM 3N-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 3N-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
983.33	978.83	1.22	70.17	End Nudge @ 983.33ft
3,873.33	3,815.74	10.85	621.52	Begin Drop @ 3873.33ft
4,423.33	4,362.36	11.77	674.15	End Drop @ 4423.33ft
7,013.34	6,952.37	11.77	674.15	KOP @ 7013.34ft
7,500.00	7,393.00	188.89	674.75	DLS = 9°/100'
8,013.34	7,589.00	648.38	676.30	End Build @ 8013.34ft
17,676.17	7,589.00	10,311.15	709.02	TD Well @ 17676.17ft