

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N  
1N-68W-08 MAE J 14-8HZ PAD  
MAE J 8-5HZ**

## **Plan A**

### **Plan: Permit Rev-1**

SHL Lat/Long: 40.060546/-105.028601  
Survey Program: MWD+IFR

## **Standard Planning Report**

**02 November, 2018**

Project: WELD-NAD83-UTMFT13N  
 Site: 1N-68W-08 MAE J 14-8HZ PAD  
 Well: MAE J 8-5HZ  
 Wellbore: Plan A  
 Design: Permit Rev-1

# US ROCKIES WATTENBERG PLANNING

## CASING DETAILS

TVD	MD	Name	Size
1500.00	1517.37	9 5/8" Csg	9-5/8
7715.00	8206.89	Top of Production	5-1/2

## 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	1103.33	12.80	101.75	1096.25	-19.33	92.93	1.50	101.75	22.32	
4	3903.33	12.80	101.75	3826.67	-145.66	700.27	0.00	0.00	168.19	
5	4543.33	0.00	0.00	4461.36	-160.15	769.97	2.00	-180.00	184.93	
6	7080.78	0.00	0.00	6998.81	-160.15	769.97	0.00	0.00	184.93	
7	8206.89	90.09	176.65	7715.00	-876.24	811.86	8.00	176.65	901.99	
8	11394.05	90.09	176.65	7710.07	-4057.95	997.99	0.00	0.00	4088.05	MAE J 8-5HZ_target
9	11716.68	90.09	181.49	7709.57	-4380.44	1003.22	1.50	90.00	4410.55	
10	13379.66	90.09	181.49	7707.00	-6042.86	959.93	0.00	0.00	6070.70	MAE J 8-5HZ_BHL

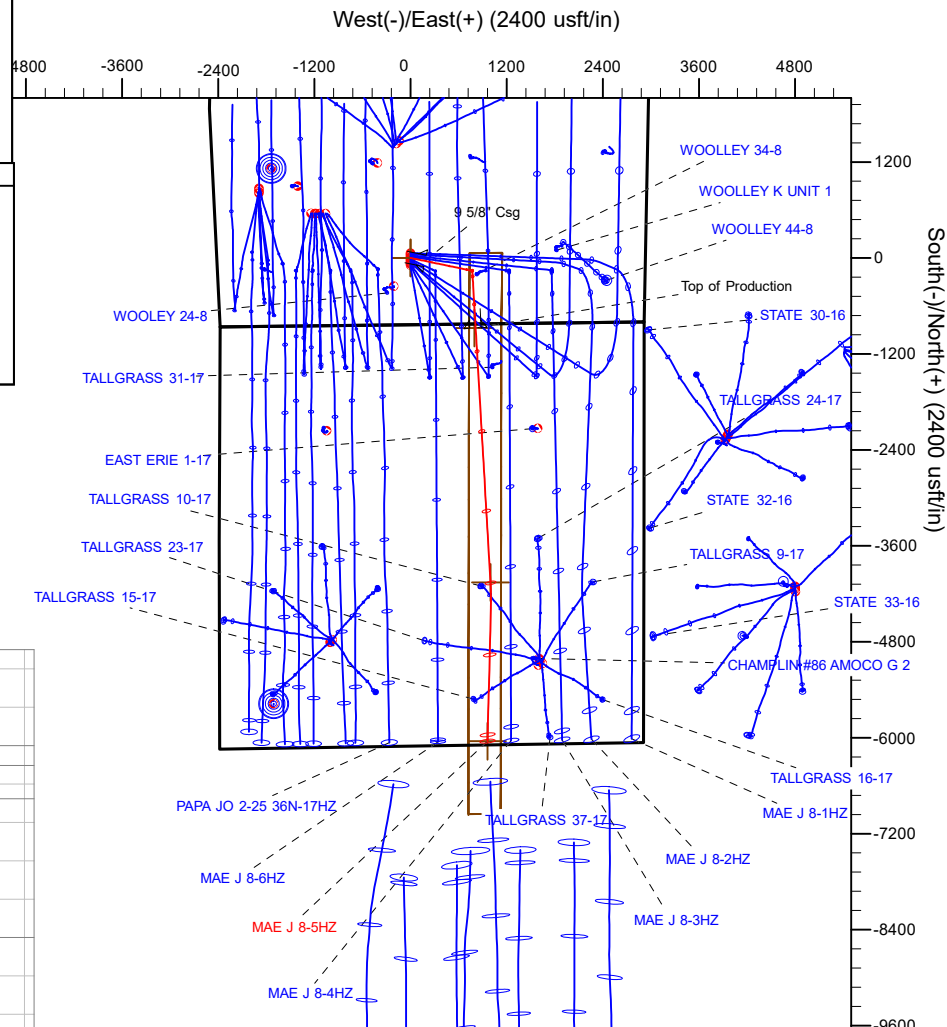
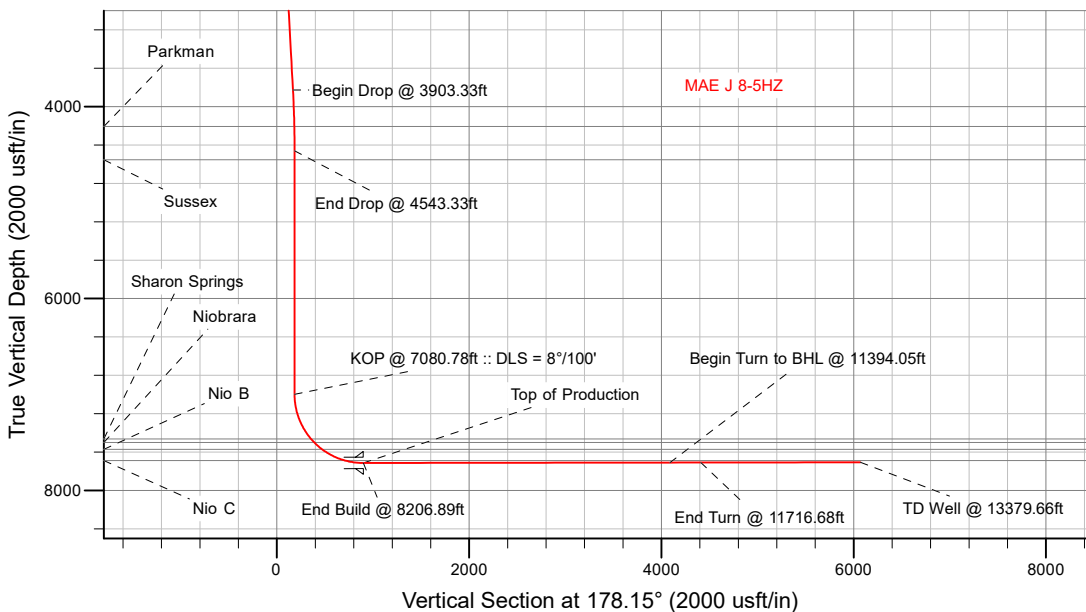
## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
MAE J 8-5HZ_SHL	0.00	0.00	0.00	40.060546	-105.028601
MAE J 8-5HZ_BHL	7707.00	-6042.86	959.93	40.043951	-105.025171

**SHL**  
836' FSL  
2417' FWL

**HEEL**  
50' FNL  
2101' FEL

**BHL**  
48' FSL  
1950' FEL



## WELL DETAILS: MAE J 8-5HZ

5083.00
RKB = 17' @ 5100.00usft (Drilling Rig)
Plan: Permit Rev-1 (MAE J 8-5HZ/Plan A)
Date: 11/6/2018

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well MAE J 8-5HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5100.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5100.00usft (Drilling Rig)
<b>Site:</b>	1N-68W-08 MAE J 14-8HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	MAE J 8-5HZ	<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)		

<b>Site</b> 1N-68W-08 MAE J 14-8HZ PAD			
<b>Site Position:</b>		<b>Northing:</b>	14,548,842.20 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,632,414.30 usft
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	40.060711
		<b>Longitude:</b>	-105.028600
		<b>Grid Convergence:</b>	-0.02 °

<b>Well</b> MAE J 8-5HZ			
<b>Well Position</b>	<b>+N-S</b>	-60.08 usft	<b>Northing:</b> 14,548,782.12 usft
	<b>+E-W</b>	-0.28 usft	<b>Easting:</b> 1,632,414.00 usft
<b>Position Uncertainty</b>		3.28 usft	<b>Wellhead Elevation:</b>
			<b>Latitude:</b> 40.060546
			<b>Longitude:</b> -105.028601
			<b>Ground Level:</b> 5,083.00 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>
	IGRF2015	10/31/2018	8.18	66.51	52,029.20314596

<b>Design</b> Permit Rev-1				
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<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	178.15

<b>Plan Survey Tool Program</b>		<b>Date</b>	11/2/2018		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	1,500.00	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:crustal field declinatio	
2	1,500.00	13,379.66	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:crustal field declinatio	

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well MAE J 8-5HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5100.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5100.00usft (Drilling Rig)
<b>Site:</b>	1N-68W-08 MAE J 14-8HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	MAE J 8-5HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

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	
1,103.33	12.80	101.75	1,096.25	-19.33	92.93	1.50	1.50	0.00	101.75	
3,903.33	12.80	101.75	3,826.67	-145.66	700.27	0.00	0.00	0.00	0.00	
4,543.33	0.00	0.00	4,461.36	-160.15	769.97	2.00	-2.00	-15.90	-180.00	
7,080.78	0.00	0.00	6,998.81	-160.15	769.97	0.00	0.00	0.00	0.00	
8,206.89	90.09	176.65	7,715.00	-876.24	811.86	8.00	8.00	15.69	176.65	
11,394.05	90.09	176.65	7,710.07	-4,057.95	997.99	0.00	0.00	0.00	0.00	MAE J 8-5HZ_target
11,716.68	90.09	181.49	7,709.57	-4,380.44	1,003.22	1.50	0.00	1.50	90.00	
13,379.67	90.09	181.49	7,707.00	-6,042.86	959.93	0.00	0.00	0.00	0.00	MAE J 8-5HZ_BHL

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well MAE J 8-5HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5100.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5100.00usft (Drilling Rig)
<b>Site:</b>	1N-68W-08 MAE J 14-8HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	MAE J 8-5HZ	<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	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	101.75	300.00	-0.07	0.32	0.08	1.50	1.50	0.00	
400.00	2.25	101.75	399.96	-0.60	2.88	0.69	1.50	1.50	0.00	
500.00	3.75	101.75	499.82	-1.67	8.01	1.92	1.50	1.50	0.00	
600.00	5.25	101.75	599.51	-3.26	15.69	3.77	1.50	1.50	0.00	
700.00	6.75	101.75	698.96	-5.39	25.92	6.23	1.50	1.50	0.00	
800.00	8.25	101.75	798.10	-8.05	38.70	9.29	1.50	1.50	0.00	
900.00	9.75	101.75	896.87	-11.24	54.02	12.97	1.50	1.50	0.00	
1,000.00	11.25	101.75	995.19	-14.95	71.86	17.26	1.50	1.50	0.00	
1,078.48	12.43	101.75	1,072.00	-18.22	87.62	21.04	1.50	1.50	0.00	
<b>Fox Hills</b>										
1,100.00	12.75	101.75	1,093.00	-19.18	92.21	22.15	1.50	1.50	0.00	
1,103.33	12.80	101.75	1,096.25	-19.33	92.93	22.32	1.50	1.50	0.00	
<b>Hold Tangent @ 1103.33ft</b>										
1,200.00	12.80	101.75	1,190.52	-23.69	113.90	27.36	0.00	0.00	0.00	
1,300.00	12.80	101.75	1,288.03	-28.20	135.59	32.57	0.00	0.00	0.00	
1,400.00	12.80	101.75	1,385.55	-32.71	157.28	37.78	0.00	0.00	0.00	
1,500.00	12.80	101.75	1,483.06	-37.23	178.97	42.98	0.00	0.00	0.00	
1,517.37	12.80	101.75	1,500.00	-38.01	182.74	43.89	0.00	0.00	0.00	
<b>9 5/8" Csg</b>										
1,600.00	12.80	101.75	1,580.58	-41.74	200.66	48.19	0.00	0.00	0.00	
1,700.00	12.80	101.75	1,678.09	-46.25	222.35	53.40	0.00	0.00	0.00	
1,800.00	12.80	101.75	1,775.61	-50.76	244.04	58.61	0.00	0.00	0.00	
1,900.00	12.80	101.75	1,873.12	-55.27	265.74	63.82	0.00	0.00	0.00	
2,000.00	12.80	101.75	1,970.64	-59.78	287.43	69.03	0.00	0.00	0.00	
2,100.00	12.80	101.75	2,068.15	-64.30	309.12	74.24	0.00	0.00	0.00	
2,200.00	12.80	101.75	2,165.67	-68.81	330.81	79.45	0.00	0.00	0.00	
2,300.00	12.80	101.75	2,263.18	-73.32	352.50	84.66	0.00	0.00	0.00	
2,400.00	12.80	101.75	2,360.70	-77.83	374.19	89.87	0.00	0.00	0.00	
2,500.00	12.80	101.75	2,458.21	-82.34	395.88	95.08	0.00	0.00	0.00	
2,600.00	12.80	101.75	2,555.73	-86.85	417.57	100.29	0.00	0.00	0.00	
2,700.00	12.80	101.75	2,653.24	-91.37	439.26	105.50	0.00	0.00	0.00	
2,800.00	12.80	101.75	2,750.76	-95.88	460.95	110.71	0.00	0.00	0.00	
2,900.00	12.80	101.75	2,848.27	-100.39	482.64	115.92	0.00	0.00	0.00	
3,000.00	12.80	101.75	2,945.79	-104.90	504.33	121.13	0.00	0.00	0.00	
3,100.00	12.80	101.75	3,043.30	-109.41	526.02	126.34	0.00	0.00	0.00	
3,200.00	12.80	101.75	3,140.82	-113.92	547.71	131.55	0.00	0.00	0.00	
3,300.00	12.80	101.75	3,238.33	-118.44	569.40	136.76	0.00	0.00	0.00	
3,400.00	12.80	101.75	3,335.85	-122.95	591.09	141.97	0.00	0.00	0.00	
3,500.00	12.80	101.75	3,433.36	-127.46	612.78	147.18	0.00	0.00	0.00	
3,600.00	12.80	101.75	3,530.88	-131.97	634.48	152.39	0.00	0.00	0.00	
3,700.00	12.80	101.75	3,628.39	-136.48	656.17	157.59	0.00	0.00	0.00	
3,800.00	12.80	101.75	3,725.91	-140.99	677.86	162.80	0.00	0.00	0.00	
3,900.00	12.80	101.75	3,823.42	-145.51	699.55	168.01	0.00	0.00	0.00	
3,903.33	12.80	101.75	3,826.67	-145.66	700.27	168.19	0.00	0.00	0.00	
<b>Begin Drop @ 3903.33ft</b>										
4,000.00	10.87	101.75	3,921.28	-149.69	719.68	172.85	2.00	-2.00	0.00	
4,100.00	8.87	101.75	4,019.79	-153.18	736.45	176.88	2.00	-2.00	0.00	
4,200.00	6.87	101.75	4,118.85	-155.97	749.85	180.10	2.00	-2.00	0.00	
4,288.64	5.09	101.75	4,207.00	-157.85	758.89	182.27	2.00	-2.00	0.00	

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well MAE J 8-5HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5100.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5100.00usft (Drilling Rig)
<b>Site:</b>	1N-68W-08 MAE J 14-8HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	MAE J 8-5HZ	<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)
<b>Parkman</b>									
4,300.00	4.87	101.75	4,218.32	-158.05	759.86	182.50	2.00	-2.00	0.00
4,400.00	2.87	101.75	4,318.09	-159.42	766.46	184.08	2.00	-2.00	0.00
4,500.00	0.87	101.75	4,418.03	-160.09	769.65	184.85	2.00	-2.00	0.00
4,543.33	0.00	0.00	4,461.36	-160.15	769.97	184.93	2.00	-2.00	-234.81
<b>End Drop @ 4543.33ft</b>									
4,600.00	0.00	0.00	4,518.03	-160.15	769.97	184.93	0.00	0.00	0.00
4,636.97	0.00	0.00	4,555.00	-160.15	769.97	184.93	0.00	0.00	0.00
<b>Sussex</b>									
4,700.00	0.00	0.00	4,618.03	-160.15	769.97	184.93	0.00	0.00	0.00
4,800.00	0.00	0.00	4,718.03	-160.15	769.97	184.93	0.00	0.00	0.00
4,900.00	0.00	0.00	4,818.03	-160.15	769.97	184.93	0.00	0.00	0.00
5,000.00	0.00	0.00	4,918.03	-160.15	769.97	184.93	0.00	0.00	0.00
5,100.00	0.00	0.00	5,018.03	-160.15	769.97	184.93	0.00	0.00	0.00
5,200.00	0.00	0.00	5,118.03	-160.15	769.97	184.93	0.00	0.00	0.00
5,300.00	0.00	0.00	5,218.03	-160.15	769.97	184.93	0.00	0.00	0.00
5,400.00	0.00	0.00	5,318.03	-160.15	769.97	184.93	0.00	0.00	0.00
5,500.00	0.00	0.00	5,418.03	-160.15	769.97	184.93	0.00	0.00	0.00
5,600.00	0.00	0.00	5,518.03	-160.15	769.97	184.93	0.00	0.00	0.00
5,700.00	0.00	0.00	5,618.03	-160.15	769.97	184.93	0.00	0.00	0.00
5,800.00	0.00	0.00	5,718.03	-160.15	769.97	184.93	0.00	0.00	0.00
5,900.00	0.00	0.00	5,818.03	-160.15	769.97	184.93	0.00	0.00	0.00
6,000.00	0.00	0.00	5,918.03	-160.15	769.97	184.93	0.00	0.00	0.00
6,100.00	0.00	0.00	6,018.03	-160.15	769.97	184.93	0.00	0.00	0.00
6,200.00	0.00	0.00	6,118.03	-160.15	769.97	184.93	0.00	0.00	0.00
6,300.00	0.00	0.00	6,218.03	-160.15	769.97	184.93	0.00	0.00	0.00
6,400.00	0.00	0.00	6,318.03	-160.15	769.97	184.93	0.00	0.00	0.00
6,500.00	0.00	0.00	6,418.03	-160.15	769.97	184.93	0.00	0.00	0.00
6,600.00	0.00	0.00	6,518.03	-160.15	769.97	184.93	0.00	0.00	0.00
6,700.00	0.00	0.00	6,618.03	-160.15	769.97	184.93	0.00	0.00	0.00
6,800.00	0.00	0.00	6,718.03	-160.15	769.97	184.93	0.00	0.00	0.00
6,900.00	0.00	0.00	6,818.03	-160.15	769.97	184.93	0.00	0.00	0.00
7,000.00	0.00	0.00	6,918.03	-160.15	769.97	184.93	0.00	0.00	0.00
7,080.78	0.00	0.00	6,998.81	-160.15	769.97	184.93	0.00	0.00	0.00
<b>KOP @ 7080.78ft :: DLS = 8°/100'</b>									
7,100.00	1.54	176.65	7,018.03	-160.41	769.99	185.19	8.00	8.00	919.11
7,200.00	9.54	176.65	7,117.48	-170.04	770.55	194.82	8.00	8.00	0.00
7,300.00	17.54	176.65	7,214.62	-193.39	771.91	218.21	8.00	8.00	0.00
7,400.00	25.54	176.65	7,307.56	-230.01	774.06	254.87	8.00	8.00	0.00
7,500.00	33.54	176.65	7,394.50	-279.18	776.93	304.12	8.00	8.00	0.00
7,588.42	40.61	176.65	7,465.00	-332.36	780.04	357.37	8.00	8.00	0.00
<b>Sharon Springs</b>									
7,600.00	41.54	176.65	7,473.73	-339.96	780.49	364.97	8.00	8.00	0.00
7,635.91	44.41	176.65	7,500.00	-364.39	781.92	389.45	8.00	8.00	0.00
<b>Niobrara</b>									
7,700.00	49.54	176.65	7,543.71	-411.15	784.65	436.26	8.00	8.00	0.00
7,746.97	53.30	176.65	7,573.00	-447.79	786.80	472.96	8.00	8.00	0.00
<b>Nio B</b>									
7,800.00	57.54	176.65	7,603.09	-491.37	789.35	516.60	8.00	8.00	0.00
7,900.00	65.54	176.65	7,650.71	-579.06	794.48	604.41	8.00	8.00	0.00
8,000.00	73.54	176.65	7,685.65	-672.52	799.94	697.99	8.00	8.00	0.00
8,008.48	74.22	176.65	7,688.00	-680.65	800.42	706.13	8.00	8.00	0.00
<b>Nio C</b>									

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well MAE J 8-5HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5100.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5100.00usft (Drilling Rig)
<b>Site:</b>	1N-68W-08 MAE J 14-8HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	MAE J 8-5HZ	<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)
8,100.00	81.54	176.65	7,707.21	-769.91	805.64	795.52	8.00	8.00	0.00
8,200.00	89.54	176.65	7,714.98	-869.36	811.46	895.10	8.00	8.00	0.00
8,206.89	90.09	176.65	7,715.00	-876.24	811.86	901.99	8.00	8.00	0.00
<b>End Build @ 8206.89ft - Top of Production</b>									
8,300.00	90.09	176.65	7,714.86	-969.19	817.30	995.07	0.00	0.00	0.00
8,400.00	90.09	176.65	7,714.71	-1,069.02	823.14	1,095.03	0.00	0.00	0.00
8,500.00	90.09	176.65	7,714.55	-1,168.85	828.98	1,195.00	0.00	0.00	0.00
8,600.00	90.09	176.65	7,714.40	-1,268.68	834.82	1,294.96	0.00	0.00	0.00
8,700.00	90.09	176.65	7,714.24	-1,368.50	840.66	1,394.93	0.00	0.00	0.00
8,800.00	90.09	176.65	7,714.09	-1,468.33	846.50	1,494.90	0.00	0.00	0.00
8,900.00	90.09	176.65	7,713.93	-1,568.16	852.34	1,594.86	0.00	0.00	0.00
9,000.00	90.09	176.65	7,713.78	-1,667.99	858.18	1,694.83	0.00	0.00	0.00
9,100.00	90.09	176.65	7,713.62	-1,767.82	864.02	1,794.79	0.00	0.00	0.00
9,200.00	90.09	176.65	7,713.47	-1,867.65	869.86	1,894.76	0.00	0.00	0.00
9,300.00	90.09	176.65	7,713.31	-1,967.48	875.70	1,994.72	0.00	0.00	0.00
9,400.00	90.09	176.65	7,713.16	-2,067.31	881.54	2,094.69	0.00	0.00	0.00
9,500.00	90.09	176.65	7,713.00	-2,167.14	887.38	2,194.66	0.00	0.00	0.00
9,600.00	90.09	176.65	7,712.85	-2,266.97	893.22	2,294.62	0.00	0.00	0.00
9,700.00	90.09	176.65	7,712.69	-2,366.80	899.06	2,394.59	0.00	0.00	0.00
9,800.00	90.09	176.65	7,712.54	-2,466.63	904.90	2,494.55	0.00	0.00	0.00
9,900.00	90.09	176.65	7,712.38	-2,566.46	910.74	2,594.52	0.00	0.00	0.00
10,000.00	90.09	176.65	7,712.23	-2,666.28	916.58	2,694.48	0.00	0.00	0.00
10,100.00	90.09	176.65	7,712.07	-2,766.11	922.42	2,794.45	0.00	0.00	0.00
10,200.00	90.09	176.65	7,711.92	-2,865.94	928.26	2,894.42	0.00	0.00	0.00
10,300.00	90.09	176.65	7,711.76	-2,965.77	934.10	2,994.38	0.00	0.00	0.00
10,400.00	90.09	176.65	7,711.61	-3,065.60	939.94	3,094.35	0.00	0.00	0.00
10,500.00	90.09	176.65	7,711.45	-3,165.43	945.78	3,194.31	0.00	0.00	0.00
10,600.00	90.09	176.65	7,711.30	-3,265.26	951.62	3,294.28	0.00	0.00	0.00
10,700.00	90.09	176.65	7,711.14	-3,365.09	957.46	3,394.24	0.00	0.00	0.00
10,800.00	90.09	176.65	7,710.99	-3,464.92	963.30	3,494.21	0.00	0.00	0.00
10,900.00	90.09	176.65	7,710.83	-3,564.75	969.14	3,594.18	0.00	0.00	0.00
11,000.00	90.09	176.65	7,710.68	-3,664.58	974.98	3,694.14	0.00	0.00	0.00
11,100.00	90.09	176.65	7,710.53	-3,764.41	980.82	3,794.11	0.00	0.00	0.00
11,200.00	90.09	176.65	7,710.37	-3,864.24	986.66	3,894.07	0.00	0.00	0.00
11,300.00	90.09	176.65	7,710.22	-3,964.06	992.50	3,994.04	0.00	0.00	0.00
11,394.05	90.09	176.65	7,710.07	-4,057.95	997.99	4,088.05	0.00	0.00	0.00
<b>Begin Turn to BHL @ 11394.05ft</b>									
11,400.00	90.09	176.74	7,710.06	-4,063.89	998.33	4,094.00	1.50	0.00	1.50
11,500.00	90.09	178.24	7,709.91	-4,163.79	1,002.71	4,194.00	1.50	0.00	1.50
11,600.00	90.09	179.74	7,709.75	-4,263.78	1,004.47	4,293.98	1.50	0.00	1.50
11,700.00	90.09	181.24	7,709.60	-4,363.77	1,003.61	4,393.89	1.50	0.00	1.50
11,716.68	90.09	181.49	7,709.57	-4,380.44	1,003.22	4,410.55	1.50	0.00	1.50
<b>End Turn @ 11716.68ft</b>									
11,800.00	90.09	181.49	7,709.44	-4,463.74	1,001.05	4,493.73	0.00	0.00	0.00
11,900.00	90.09	181.49	7,709.29	-4,563.70	998.44	4,593.56	0.00	0.00	0.00
12,000.00	90.09	181.49	7,709.13	-4,663.67	995.84	4,693.39	0.00	0.00	0.00
12,100.00	90.09	181.49	7,708.98	-4,763.63	993.24	4,793.22	0.00	0.00	0.00
12,200.00	90.09	181.49	7,708.82	-4,863.60	990.63	4,893.05	0.00	0.00	0.00
12,300.00	90.09	181.49	7,708.67	-4,963.57	988.03	4,992.88	0.00	0.00	0.00
12,400.00	90.09	181.49	7,708.51	-5,063.53	985.43	5,092.71	0.00	0.00	0.00
12,500.00	90.09	181.49	7,708.36	-5,163.50	982.83	5,192.54	0.00	0.00	0.00
12,600.00	90.09	181.49	7,708.21	-5,263.46	980.22	5,292.37	0.00	0.00	0.00
12,700.00	90.09	181.49	7,708.05	-5,363.43	977.62	5,392.20	0.00	0.00	0.00

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well MAE J 8-5HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5100.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5100.00usft (Drilling Rig)
<b>Site:</b>	1N-68W-08 MAE J 14-8HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	MAE J 8-5HZ	<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)
12,800.00	90.09	181.49	7,707.90	-5,463.40	975.02	5,492.03	0.00	0.00	0.00
12,900.00	90.09	181.49	7,707.74	-5,563.36	972.41	5,591.86	0.00	0.00	0.00
13,000.00	90.09	181.49	7,707.59	-5,663.33	969.81	5,691.69	0.00	0.00	0.00
13,100.00	90.09	181.49	7,707.43	-5,763.29	967.21	5,791.52	0.00	0.00	0.00
13,200.00	90.09	181.49	7,707.28	-5,863.26	964.61	5,891.35	0.00	0.00	0.00
13,300.00	90.09	181.49	7,707.12	-5,963.23	962.00	5,991.17	0.00	0.00	0.00
13,379.67	90.09	181.49	7,707.00	-6,042.86	959.93	6,070.70	0.00	0.00	0.00
<b>TD Well @ 13379.66ft</b>									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,517.37	1,500.00	9 5/8" Csg	9-5/8	13-1/2	
8,206.89	7,715.00	Top of Production	5-1/2	7-7/8	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,078.48	1,072.00	Fox Hills				
4,288.64	4,207.00	Parkman				
4,636.97	4,555.00	Sussex				
7,588.42	7,465.00	Sharon Springs				
7,635.91	7,500.00	Niobrara				
7,746.97	7,573.00	Nio B				
8,008.48	7,688.00	Nio C				

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	
1,103.33	1,096.25	-19.33	92.93	Hold Tangent @ 1103.33ft	
3,903.33	3,826.67	-145.66	700.27	Begin Drop @ 3903.33ft	
4,543.33	4,461.36	-160.15	769.97	End Drop @ 4543.33ft	
7,080.78	6,998.81	-160.15	769.97	KOP @ 7080.78ft :: DLS = 8°/100'	
8,206.89	7,715.00	-876.24	811.86	End Build @ 8206.89ft	
11,394.05	7,710.07	-4,057.95	997.99	Begin Turn to BHL @ 11394.05ft	
11,716.68	7,709.57	-4,380.44	1,003.22	End Turn @ 11716.68ft	
13,379.67	7,707.00	-6,042.86	959.93	TD Well @ 13379.66ft	