

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N**

**1N-67W-14 Norden 15-14HZ Pad**

**NORDEN 26N-14HZ**

**Plan A**

**Plan: Permit Rev-1**

## **Standard Planning Report**

**11 November, 2015**

Project: WELD-NAD83-UTMFT13N  
 Site: 1N-67W-14 Norden 15-14HZ Pad  
 Well: NORDEN 26N-14HZ  
 Wellbore: Plan A  
 Design: Permit Rev-1

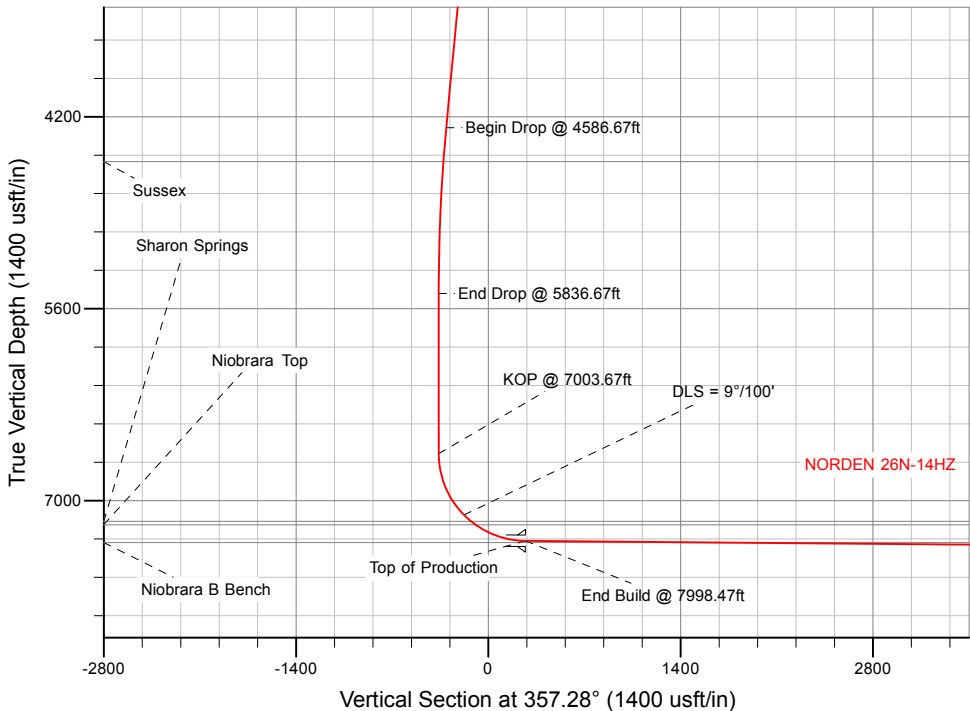
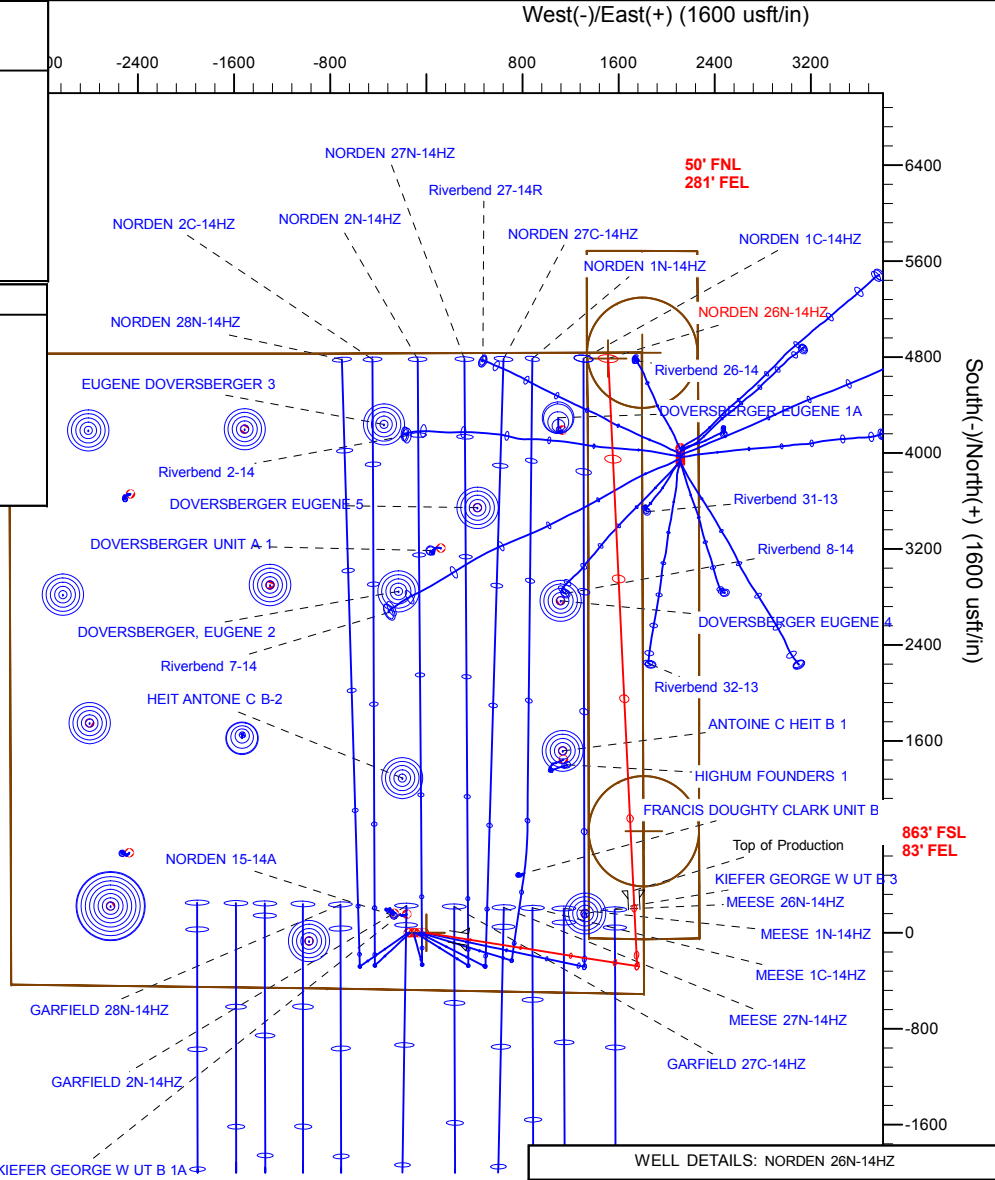
# US ROCKIES WATTENBERG PLANNING

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	1866.67	25.00	99.00	1814.28	-55.98	353.47	1.50	99.00	-72.70	
4	4586.67	25.00	99.00	4279.44	-235.81	1488.84	0.00	0.00	-306.20	
5	5836.67	0.00	0.00	5490.15	-277.80	1753.94	2.00	-180.00	-360.72	
6	7003.92	0.00	0.00	6657.40	-277.80	1753.94	0.00	0.00	-360.72	
7	7998.47	89.51	357.28	7294.00	352.66	1724.02	9.00	357.28	270.45	
8	12438.78	89.51	357.28	7332.00	4787.82	1513.51	0.00	0.00	4710.60	NORDEN 26N-14HZ_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
NORDEN 26N-14HZ_SHL	0.00	0.00	0.00	40.045020	-104.854945	Point
NORDEN 26N-14HZ_BHL	7332.00	4787.82	1513.51	40.058168	-104.849536	Point



WELL DETAILS: NORDEN 26N-14HZ	
Ground Level:	4951.00
RKB = 17' @ 4968.00usft (Drilling Rig)	
Plan: Permit Rev-1 (NORDEN 26N-14HZ/Plan A)	
Created By: Clint Eshelman	Date: 11/11/2015
Reviewed: _____	Date: _____

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well NORDEN 26N-14HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4968.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4968.00usft (Drilling Rig)
<b>Site:</b>	1N-67W-14 Norden 15-14HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	NORDEN 26N-14HZ	<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-67W-14 Norden 15-14HZ Pad			
<b>Site Position:</b>		<b>Northing:</b>	14,543,161.05 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,680,863.04 usft
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	40.045023
		<b>Longitude:</b>	-104.855480
		<b>Grid Convergence:</b>	0.09 °

<b>Well</b> NORDEN 26N-14HZ			
<b>Well Position</b>	<b>+N-S</b>	-1.09 usft	<b>Northing:</b> 14,543,160.20 usft
	<b>+E-W</b>	149.73 usft	<b>Easting:</b> 1,681,012.77 usft
<b>Position Uncertainty</b>		3.28 usft	<b>Wellhead Elevation:</b> 0.00 usft
			<b>Latitude:</b> 40.045020
			<b>Longitude:</b> -104.854945
			<b>Ground Level:</b> 4,951.00 usft

<b>Wellbore</b> Plan A					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/10/2015	8.29	66.60	52,471

<b>Design</b> Permit Rev-1				
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	357.28

<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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,866.67	25.00	99.00	1,814.28	-55.98	353.47	1.50	1.50	0.00	99.00	
4,586.67	25.00	99.00	4,279.44	-235.81	1,488.84	0.00	0.00	0.00	0.00	
5,836.67	0.00	0.00	5,490.15	-277.80	1,753.94	2.00	-2.00	-7.92	-180.00	
7,003.92	0.00	0.00	6,657.40	-277.80	1,753.94	0.00	0.00	0.00	0.00	
7,998.47	89.51	357.28	7,294.00	352.66	1,724.02	9.00	9.00	-0.27	357.28	
12,438.78	89.51	357.28	7,332.00	4,787.82	1,513.51	0.00	0.00	0.00	0.00	NORDEN 26N-14HZ_

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well NORDEN 26N-14HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4968.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4968.00usft (Drilling Rig)
<b>Site:</b>	1N-67W-14 Norden 15-14HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	NORDEN 26N-14HZ	<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
<b>Begin Nudge @ 200.00ft</b>										
300.00	1.50	99.00	299.99	-0.20	1.29	-0.27	1.50	1.50	0.00	0.00
400.00	3.00	99.00	399.91	-0.82	5.17	-1.06	1.50	1.50	0.00	0.00
500.00	4.50	99.00	499.69	-1.84	11.63	-2.39	1.50	1.50	0.00	0.00
600.00	6.00	99.00	599.27	-3.27	20.67	-4.25	1.50	1.50	0.00	0.00
700.00	7.50	99.00	698.57	-5.11	32.28	-6.64	1.50	1.50	0.00	0.00
800.00	9.00	99.00	797.54	-7.36	46.45	-9.55	1.50	1.50	0.00	0.00
900.00	10.50	99.00	896.09	-10.01	63.17	-12.99	1.50	1.50	0.00	0.00
1,000.00	12.00	99.00	994.16	-13.06	82.44	-16.96	1.50	1.50	0.00	0.00
1,100.00	13.50	99.00	1,091.70	-16.51	104.24	-21.44	1.50	1.50	0.00	0.00
1,200.00	15.00	99.00	1,188.62	-20.36	128.55	-26.44	1.50	1.50	0.00	0.00
1,300.00	16.50	99.00	1,284.86	-24.61	155.36	-31.95	1.50	1.50	0.00	0.00
1,342.98	17.14	99.00	1,326.00	-26.55	167.65	-34.48	1.50	1.50	0.00	0.00
<b>Fox Hills</b>										
1,400.00	18.00	99.00	1,380.36	-29.25	184.65	-37.98	1.50	1.50	0.00	0.00
1,500.00	19.50	99.00	1,475.05	-34.27	216.40	-44.50	1.50	1.50	0.00	0.00
1,600.00	21.00	99.00	1,568.86	-39.69	250.58	-51.53	1.50	1.50	0.00	0.00
1,700.00	22.50	99.00	1,661.74	-45.48	287.18	-59.06	1.50	1.50	0.00	0.00
1,800.00	24.00	99.00	1,753.62	-51.66	326.17	-67.08	1.50	1.50	0.00	0.00
1,850.92	24.76	99.00	1,800.00	-54.95	346.93	-71.35	1.50	1.50	0.00	0.00
<b>9 5/8"</b>										
1,866.67	25.00	99.00	1,814.29	-55.98	353.47	-72.70	1.50	1.50	0.00	0.00
<b>End Nudge @ 1866.67ft</b>										
1,900.00	25.00	99.00	1,844.49	-58.19	367.39	-75.56	0.00	0.00	0.00	0.00
2,000.00	25.00	99.00	1,935.12	-64.80	409.13	-84.14	0.00	0.00	0.00	0.00
2,100.00	25.00	99.00	2,025.75	-71.41	450.87	-92.73	0.00	0.00	0.00	0.00
2,200.00	25.00	99.00	2,116.39	-78.02	492.61	-101.31	0.00	0.00	0.00	0.00
2,300.00	25.00	99.00	2,207.02	-84.63	534.35	-109.90	0.00	0.00	0.00	0.00
2,400.00	25.00	99.00	2,297.65	-91.24	576.09	-118.48	0.00	0.00	0.00	0.00
2,500.00	25.00	99.00	2,388.28	-97.86	617.83	-127.06	0.00	0.00	0.00	0.00
2,600.00	25.00	99.00	2,478.91	-104.47	659.58	-135.65	0.00	0.00	0.00	0.00
2,700.00	25.00	99.00	2,569.54	-111.08	701.32	-144.23	0.00	0.00	0.00	0.00
2,800.00	25.00	99.00	2,660.17	-117.69	743.06	-152.82	0.00	0.00	0.00	0.00
2,900.00	25.00	99.00	2,750.80	-124.30	784.80	-161.40	0.00	0.00	0.00	0.00
3,000.00	25.00	99.00	2,841.43	-130.91	826.54	-169.99	0.00	0.00	0.00	0.00
3,100.00	25.00	99.00	2,932.06	-137.52	868.28	-178.57	0.00	0.00	0.00	0.00
3,200.00	25.00	99.00	3,022.69	-144.13	910.03	-187.16	0.00	0.00	0.00	0.00
3,300.00	25.00	99.00	3,113.32	-150.75	951.77	-195.74	0.00	0.00	0.00	0.00
3,400.00	25.00	99.00	3,203.95	-157.36	993.51	-204.33	0.00	0.00	0.00	0.00
3,500.00	25.00	99.00	3,294.59	-163.97	1,035.25	-212.91	0.00	0.00	0.00	0.00
3,600.00	25.00	99.00	3,385.22	-170.58	1,076.99	-221.50	0.00	0.00	0.00	0.00
3,700.00	25.00	99.00	3,475.85	-177.19	1,118.73	-230.08	0.00	0.00	0.00	0.00
3,800.00	25.00	99.00	3,566.48	-183.80	1,160.47	-238.66	0.00	0.00	0.00	0.00
3,900.00	25.00	99.00	3,657.11	-190.41	1,202.22	-247.25	0.00	0.00	0.00	0.00
4,000.00	25.00	99.00	3,747.74	-197.02	1,243.96	-255.83	0.00	0.00	0.00	0.00
4,100.00	25.00	99.00	3,838.37	-203.63	1,285.70	-264.42	0.00	0.00	0.00	0.00
4,200.00	25.00	99.00	3,929.00	-210.25	1,327.44	-273.00	0.00	0.00	0.00	0.00
4,300.00	25.00	99.00	4,019.63	-216.86	1,369.18	-281.59	0.00	0.00	0.00	0.00
4,400.00	25.00	99.00	4,110.26	-223.47	1,410.92	-290.17	0.00	0.00	0.00	0.00
4,500.00	25.00	99.00	4,200.89	-230.08	1,452.67	-298.76	0.00	0.00	0.00	0.00
4,586.67	25.00	99.00	4,279.44	-235.81	1,488.84	-306.20	0.00	0.00	0.00	0.00

# Anadarko Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well NORDEN 26N-14HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4968.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4968.00usft (Drilling Rig)
<b>Site:</b>	1N-67W-14 Norden 15-14HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	NORDEN 26N-14HZ	<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>Begin Drop @ 4586.67ft</b>									
4,600.00	24.73	99.00	4,291.54	-236.69	1,494.38	-307.34	2.00	-2.00	0.00
4,700.00	22.73	99.00	4,383.08	-242.98	1,534.13	-315.51	2.00	-2.00	0.00
4,800.00	20.73	99.00	4,475.96	-248.77	1,570.70	-323.03	2.00	-2.00	0.00
4,855.44	19.62	99.00	4,528.00	-251.77	1,589.59	-326.92	2.00	-2.00	0.00
<b>Sussex</b>									
4,900.00	18.73	99.00	4,570.09	-254.06	1,604.05	-329.89	2.00	-2.00	0.00
5,000.00	16.73	99.00	4,665.33	-258.82	1,634.13	-336.08	2.00	-2.00	0.00
5,100.00	14.73	99.00	4,761.58	-263.06	1,660.91	-341.58	2.00	-2.00	0.00
5,200.00	12.73	99.00	4,858.71	-266.78	1,684.36	-346.41	2.00	-2.00	0.00
5,300.00	10.73	99.00	4,956.62	-269.96	1,704.44	-350.54	2.00	-2.00	0.00
5,400.00	8.73	99.00	5,055.17	-272.60	1,721.14	-353.97	2.00	-2.00	0.00
5,500.00	6.73	99.00	5,154.26	-274.71	1,734.43	-356.70	2.00	-2.00	0.00
5,600.00	4.73	99.00	5,253.75	-276.27	1,744.29	-358.73	2.00	-2.00	0.00
5,700.00	2.73	99.00	5,353.54	-277.29	1,750.73	-360.06	2.00	-2.00	0.00
5,800.00	0.73	99.00	5,453.49	-277.76	1,753.71	-360.67	2.00	-2.00	0.00
5,836.67	0.00	0.00	5,490.16	-277.80	1,753.94	-360.72	2.00	-2.00	-269.98
<b>End Drop @ 5836.67ft</b>									
5,900.00	0.00	0.00	5,553.49	-277.80	1,753.94	-360.72	0.00	0.00	0.00
6,000.00	0.00	0.00	5,653.49	-277.80	1,753.94	-360.72	0.00	0.00	0.00
6,100.00	0.00	0.00	5,753.49	-277.80	1,753.94	-360.72	0.00	0.00	0.00
6,200.00	0.00	0.00	5,853.49	-277.80	1,753.94	-360.72	0.00	0.00	0.00
6,300.00	0.00	0.00	5,953.49	-277.80	1,753.94	-360.72	0.00	0.00	0.00
6,400.00	0.00	0.00	6,053.49	-277.80	1,753.94	-360.72	0.00	0.00	0.00
6,500.00	0.00	0.00	6,153.49	-277.80	1,753.94	-360.72	0.00	0.00	0.00
6,600.00	0.00	0.00	6,253.49	-277.80	1,753.94	-360.72	0.00	0.00	0.00
6,700.00	0.00	0.00	6,353.49	-277.80	1,753.94	-360.72	0.00	0.00	0.00
6,800.00	0.00	0.00	6,453.49	-277.80	1,753.94	-360.72	0.00	0.00	0.00
6,900.00	0.00	0.00	6,553.49	-277.80	1,753.94	-360.72	0.00	0.00	0.00
7,000.00	0.00	0.00	6,653.49	-277.80	1,753.94	-360.72	0.00	0.00	0.00
7,003.67	0.00	0.00	6,657.16	-277.80	1,753.94	-360.72	0.00	0.00	0.00
<b>KOP @ 7003.67ft</b>									
7,003.92	0.00	0.00	6,657.40	-277.80	1,753.94	-360.72	0.00	0.00	0.00
7,100.00	8.65	357.28	6,753.12	-270.57	1,753.60	-353.48	9.00	9.00	-2.83
7,200.00	17.65	357.28	6,850.40	-247.87	1,752.52	-330.76	9.00	9.00	0.00
7,300.00	26.65	357.28	6,942.93	-210.25	1,750.74	-293.10	9.00	9.00	0.00
7,400.00	35.65	357.28	7,028.42	-158.64	1,748.29	-241.43	9.00	9.00	0.00
7,500.00	44.65	357.28	7,104.78	-94.30	1,745.24	-177.02	9.00	9.00	0.00
<b>DLS = 9°/100'</b>									
7,569.24	50.88	357.28	7,151.30	-43.13	1,742.81	-125.78	9.00	9.00	0.00
<b>Sharon Springs</b>									
7,600.00	53.65	357.28	7,170.13	-18.83	1,741.65	-101.46	9.00	9.00	0.00
7,610.53	54.60	357.28	7,176.30	-10.30	1,741.25	-92.92	9.00	9.00	0.00
<b>Niobrara Top</b>									
7,700.00	62.65	357.28	7,222.85	65.93	1,737.63	-16.60	9.00	9.00	0.00
7,800.00	71.65	357.28	7,261.64	157.88	1,733.27	75.45	9.00	9.00	0.00
7,900.00	80.65	357.28	7,285.56	254.77	1,728.67	172.45	9.00	9.00	0.00
7,998.47	89.51	357.28	7,294.00	352.67	1,724.02	270.45	9.00	9.00	0.00
<b>End Build @ 7998.47ft - Top of Production</b>									
8,000.00	89.51	357.28	7,294.01	354.19	1,723.95	271.98	0.00	0.00	0.00
8,100.00	89.51	357.28	7,294.87	454.08	1,719.21	371.98	0.00	0.00	0.00
8,200.00	89.51	357.28	7,295.72	553.96	1,714.47	471.98	0.00	0.00	0.00
8,300.00	89.51	357.28	7,296.58	653.85	1,709.73	571.97	0.00	0.00	0.00

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well NORDEN 26N-14HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4968.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4968.00usft (Drilling Rig)
<b>Site:</b>	1N-67W-14 Norden 15-14HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	NORDEN 26N-14HZ	<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)
8,400.00	89.51	357.28	7,297.44	753.73	1,704.98	671.97	0.00	0.00	0.00
8,500.00	89.51	357.28	7,298.29	853.61	1,700.24	771.97	0.00	0.00	0.00
8,600.00	89.51	357.28	7,299.15	953.50	1,695.50	871.96	0.00	0.00	0.00
8,700.00	89.51	357.28	7,300.00	1,053.38	1,690.76	971.96	0.00	0.00	0.00
8,800.00	89.51	357.28	7,300.86	1,153.27	1,686.02	1,071.96	0.00	0.00	0.00
8,900.00	89.51	357.28	7,301.71	1,253.15	1,681.28	1,171.95	0.00	0.00	0.00
9,000.00	89.51	357.28	7,302.57	1,353.03	1,676.54	1,271.95	0.00	0.00	0.00
9,100.00	89.51	357.28	7,303.43	1,452.92	1,671.80	1,371.94	0.00	0.00	0.00
9,200.00	89.51	357.28	7,304.28	1,552.80	1,667.06	1,471.94	0.00	0.00	0.00
9,300.00	89.51	357.28	7,305.14	1,652.68	1,662.32	1,571.94	0.00	0.00	0.00
9,400.00	89.51	357.28	7,305.99	1,752.57	1,657.58	1,671.93	0.00	0.00	0.00
9,500.00	89.51	357.28	7,306.85	1,852.45	1,652.84	1,771.93	0.00	0.00	0.00
9,552.68	89.51	357.28	7,307.30	1,905.07	1,650.34	1,824.61	0.00	0.00	0.00
<b>Niobrara B Bench</b>									
9,600.00	89.51	357.28	7,307.71	1,952.34	1,648.09	1,871.93	0.00	0.00	0.00
9,700.00	89.51	357.28	7,308.56	2,052.22	1,643.35	1,971.92	0.00	0.00	0.00
9,800.00	89.51	357.28	7,309.42	2,152.10	1,638.61	2,071.92	0.00	0.00	0.00
9,900.00	89.51	357.28	7,310.27	2,251.99	1,633.87	2,171.92	0.00	0.00	0.00
10,000.00	89.51	357.28	7,311.13	2,351.87	1,629.13	2,271.91	0.00	0.00	0.00
10,100.00	89.51	357.28	7,311.98	2,451.76	1,624.39	2,371.91	0.00	0.00	0.00
10,200.00	89.51	357.28	7,312.84	2,551.64	1,619.65	2,471.90	0.00	0.00	0.00
10,300.00	89.51	357.28	7,313.70	2,651.52	1,614.91	2,571.90	0.00	0.00	0.00
10,400.00	89.51	357.28	7,314.55	2,751.41	1,610.17	2,671.90	0.00	0.00	0.00
10,500.00	89.51	357.28	7,315.41	2,851.29	1,605.43	2,771.89	0.00	0.00	0.00
10,600.00	89.51	357.28	7,316.26	2,951.18	1,600.69	2,871.89	0.00	0.00	0.00
10,700.00	89.51	357.28	7,317.12	3,051.06	1,595.94	2,971.89	0.00	0.00	0.00
10,800.00	89.51	357.28	7,317.98	3,150.94	1,591.20	3,071.88	0.00	0.00	0.00
10,900.00	89.51	357.28	7,318.83	3,250.83	1,586.46	3,171.88	0.00	0.00	0.00
11,000.00	89.51	357.28	7,319.69	3,350.71	1,581.72	3,271.88	0.00	0.00	0.00
11,100.00	89.51	357.28	7,320.54	3,450.59	1,576.98	3,371.87	0.00	0.00	0.00
11,200.00	89.51	357.28	7,321.40	3,550.48	1,572.24	3,471.87	0.00	0.00	0.00
11,300.00	89.51	357.28	7,322.25	3,650.36	1,567.50	3,571.86	0.00	0.00	0.00
11,400.00	89.51	357.28	7,323.11	3,750.25	1,562.76	3,671.86	0.00	0.00	0.00
11,500.00	89.51	357.28	7,323.97	3,850.13	1,558.02	3,771.86	0.00	0.00	0.00
11,600.00	89.51	357.28	7,324.82	3,950.01	1,553.28	3,871.85	0.00	0.00	0.00
11,700.00	89.51	357.28	7,325.68	4,049.90	1,548.54	3,971.85	0.00	0.00	0.00
11,800.00	89.51	357.28	7,326.53	4,149.78	1,543.80	4,071.85	0.00	0.00	0.00
11,900.00	89.51	357.28	7,327.39	4,249.67	1,539.05	4,171.84	0.00	0.00	0.00
12,000.00	89.51	357.28	7,328.24	4,349.55	1,534.31	4,271.84	0.00	0.00	0.00
12,100.00	89.51	357.28	7,329.10	4,449.43	1,529.57	4,371.83	0.00	0.00	0.00
12,200.00	89.51	357.28	7,329.96	4,549.32	1,524.83	4,471.83	0.00	0.00	0.00
12,300.00	89.51	357.28	7,330.81	4,649.20	1,520.09	4,571.83	0.00	0.00	0.00
12,400.00	89.51	357.28	7,331.67	4,749.09	1,515.35	4,671.82	0.00	0.00	0.00
12,438.78	89.51	357.28	7,332.00	4,787.82	1,513.51	4,710.60	0.00	0.00	0.00
<b>TD Well @ 12438.78ft</b>									

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well NORDEN 26N-14HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4968.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4968.00usft (Drilling Rig)
<b>Site:</b>	1N-67W-14 Norden 15-14HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	NORDEN 26N-14HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

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										
NORDEN 26N-14HZ_Sf - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	14,543,160.20	1,681,012.77	40.045020	-104.854945	
NORDEN 26N-14HZ_46 - plan misses target center by 1998.59usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Circle (radius 460.00)	0.00	0.00	0.00	847.05	1,810.21	14,544,010.20	1,682,821.60	40.047346	-104.848477	
NORDEN 26N-14HZ_46 - plan misses target center by 5159.88usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Circle (radius 460.00)	0.00	0.00	0.00	4,836.78	1,797.21	14,547,999.90	1,682,802.10	40.058303	-104.848522	
NORDEN 26N-14HZ_Hz - plan hits target center - Polygon	0.00	0.00	0.00	0.00	0.00	14,543,160.20	1,681,012.77	40.045020	-104.854945	
Point 1			0.00	5,686.23	1,335.49	14,548,848.60	1,682,339.00			
Point 2			0.00	5,685.28	1,795.49	14,548,848.40	1,682,799.00			
Point 3			0.00	5,684.43	2,255.49	14,548,848.29	1,683,259.00			
Point 4			0.00	3,127.30	2,270.52	14,546,291.19	1,683,278.19			
Point 5			0.00	1,747.00	2,271.38	14,544,910.90	1,683,281.30			
Point 6			0.00	850.70	2,270.11	14,544,014.59	1,683,281.49			
Point 7			0.00	390.70	2,272.07	14,543,554.60	1,683,284.20			
Point 8			0.00	-46.11	2,273.95	14,543,117.79	1,683,286.79			
Point 9			0.00	-52.86	1,813.94	14,543,110.29	1,682,826.80			
Point 10			0.00	-44.61	1,353.96	14,543,117.79	1,682,366.80			
Point 11			0.00	395.10	1,352.07	14,543,557.50	1,682,364.20			
Point 12			0.00	2,662.81	1,347.47	14,545,825.20	1,682,355.90			
Point 13			0.00	3,051.50	1,350.00	14,546,213.89	1,682,357.80			
Point 14			0.00	4,373.52	1,342.75	14,547,535.90	1,682,348.40			
Point 15			0.00	4,833.53	1,337.20	14,547,995.90	1,682,342.10			
Point 16			0.00	5,686.23	1,335.49	14,548,848.60	1,682,339.00			
1N-R67W-Sec. 14_Secti - plan misses target center by 6048.18usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	-39.00	-5,412.12	-2,699.63	14,537,743.70	1,678,321.96	40.030157	-104.864589	
Point 1			-39.00	10,240.97	-771.13	14,547,983.39	1,677,534.15			
Point 2			-39.00	10,241.68	1,854.89	14,547,988.38	1,680,160.17			
Point 3			-39.00	10,251.55	4,492.80	14,548,002.55	1,682,798.06			
Point 4			-39.00	4,901.92	4,512.15	14,542,652.95	1,682,826.12			
Point 5			-39.00	4,948.86	1,873.61	14,542,695.60	1,680,187.51			
Point 6			-39.00	4,981.70	-753.18	14,542,724.16	1,677,560.67			
Point 7			-39.00	7,611.26	-762.09	14,545,353.70	1,677,547.47			
NORDEN 26N-14HZ_Bf - plan hits target center - Point	0.00	0.00	7,332.00	4,787.82	1,513.51	14,547,950.47	1,682,518.48	40.058168	-104.849536	

Casing Points						
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")		
1,850.92	1,800.00	9 5/8"	9-5/8	13-1/2		
7,998.47	7,294.00	Top of Production	5-1/2	7-7/8		

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well NORDEN 26N-14HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4968.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4968.00usft (Drilling Rig)
<b>Site:</b>	1N-67W-14 Norden 15-14HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	NORDEN 26N-14HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,342.98	1,326.00	Fox Hills			
4,855.44	4,528.00	Sussex			
7,569.24	7,151.30	Sharon Springs			
7,610.53	7,176.30	Niobrara Top			
9,552.68	7,307.30	Niobrara B Bench			

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
200.00	200.00	0.00	0.00		Begin Nudge @ 200.00ft
1,866.67	1,814.29	-55.98	353.47		End Nudge @ 1866.67ft
4,586.67	4,279.44	-235.81	1,488.84		Begin Drop @ 4586.67ft
5,836.67	5,490.16	-277.80	1,753.94		End Drop @ 5836.67ft
7,003.67	6,657.16	-277.80	1,753.94		KOP @ 7003.67ft
7,500.00	7,104.78	-94.30	1,745.24		DLS = 9°/100'
7,998.47	7,294.00	352.67	1,724.02		End Build @ 7998.47ft
12,438.78	7,332.00	4,787.82	1,513.51		TD Well @ 12438.78ft