

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N  
2N-65W-13 Swartz No1 Pad  
SWARTZ 28N-12HZ**

**Plan A**

**Plan: Permit Rev-1**

## **Standard Planning Report**

**30 July, 2015**

Project: WELD-NAD83-UTMFT13N

Site: 2N-65W-13 Swartz No1 Pad

Well: SWARTZ 28N-12HZ

Wellbore: Plan A

Design: Permit Rev-1

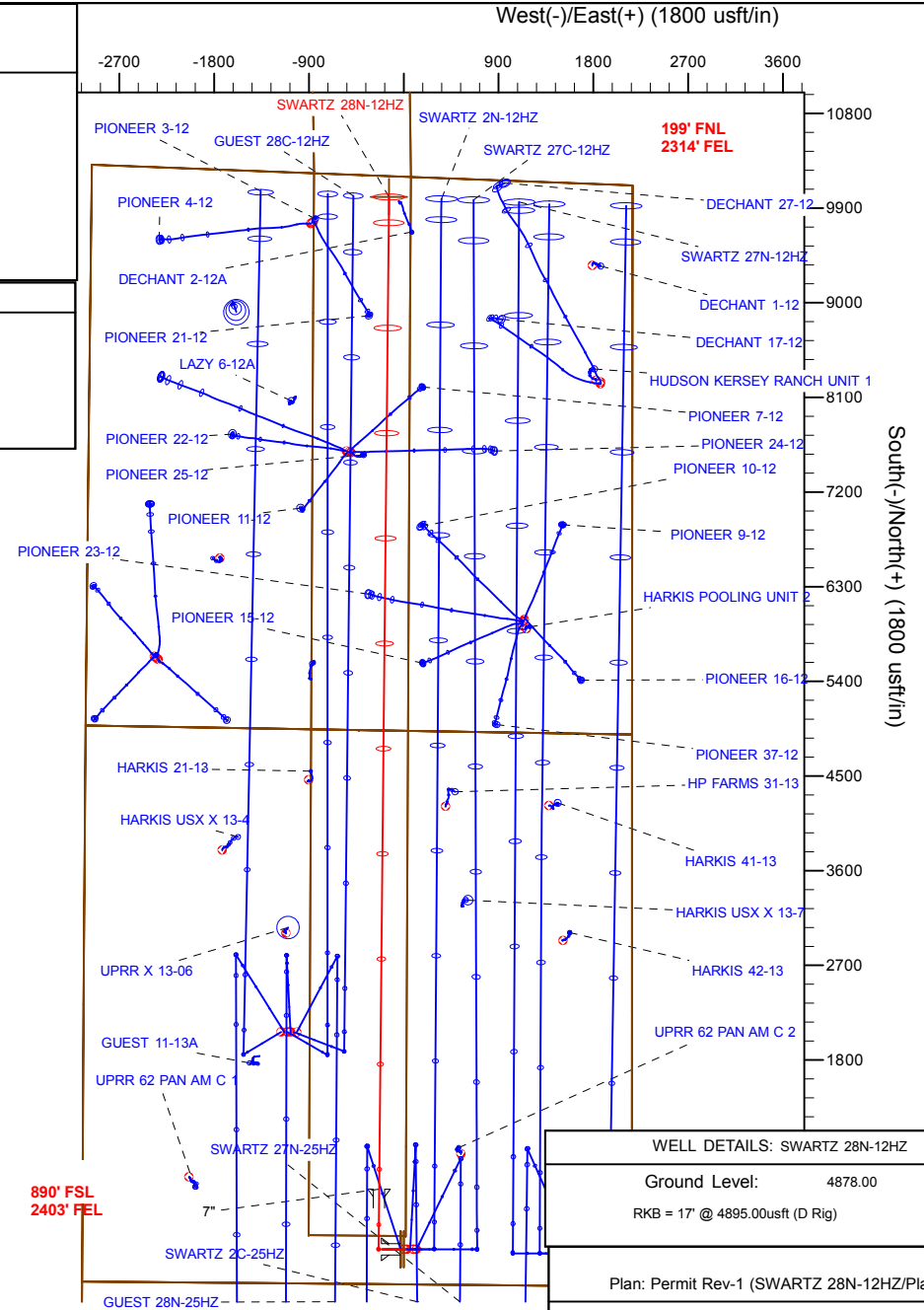
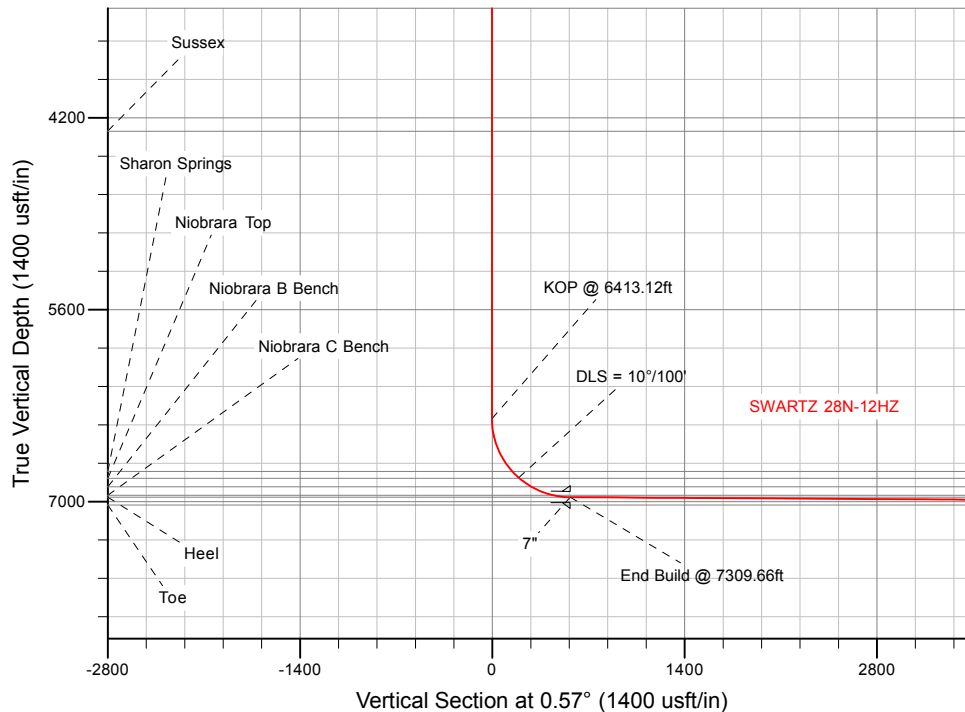
# US ROCKIES WATTENBERG PLANNING

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	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	916.67	10.00	270.00	913.29	0.00	-58.03	1.50	270.00	-0.58	
4	1716.67	10.00	270.00	1701.13	0.00	-196.95	0.00	0.00	-1.96	
5	2216.67	0.00	0.00	2198.60	0.00	-240.47	2.00	180.00	-2.39	
6	6413.12	0.00	0.00	6395.05	0.00	-240.47	0.00	0.00	-2.39	
7	7309.66	89.65	0.57	6968.00	569.47	-234.81	10.00	0.57	567.10	
8	16745.98	89.65	0.57	7025.00	10005.15	-140.99	0.00	0.00	10003.25	SWARTZ 28N-12HZ_TOE

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
SWARTZ 28N-12HZ_SHL	0.00	0.00	0.00	40.132087	-104.610687	Point
SWARTZ 28N-12HZ_TOE	7025.00	10005.15	-140.99	40.159562	-104.611192	Point



WELL DETAILS: SWARTZ 28N-12HZ

Ground Level: 4878.00

RKB = 17' @ 4895.00usft (D Rig)

Plan: Permit Rev-1 (SWARTZ 28N-12HZ/Plan A)

Created By: Clint Eshelman

Date: 7/30/2015

Reviewed: \_\_\_\_\_

Date: \_\_\_\_\_

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well SWARTZ 28N-12HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4895.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4895.00usft (D Rig)
<b>Site:</b>	2N-65W-13 Swartz No1 Pad	<b>North Reference:</b>	True
<b>Well:</b>	SWARTZ 28N-12HZ	<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)		

Site		2N-65W-13 Swartz No1 Pad			
Site Position:		Northing:	14,575,070.39 usft	Latitude:	40.132087
From:	Lat/Long	Easting:	1,749,204.01 usft	Longitude:	-104.610794
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.25 °

Well	SWARTZ 28N-12HZ					
Well Position	+N/-S	0.00 usft	Northing:	14,575,070.52 usft	Latitude:	40.132087
	+E/-W	29.91 usft	Easting:	1,749,233.92 usft	Longitude:	-104.610687
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,878.00 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	7/29/2015	8.20	66.72	52,572

<b>Design</b>	Permit Rev-1			
<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	0.57

<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	270.00	913.29	0.00	-58.03	1.50	1.50	0.00	270.00	
1,716.67	10.00	270.00	1,701.13	0.00	-196.95	0.00	0.00	0.00	0.00	
2,216.67	0.00	0.00	2,198.60	0.00	-240.47	2.00	-2.00	0.00	180.00	
6,413.12	0.00	0.00	6,395.05	0.00	-240.47	0.00	0.00	0.00	0.00	
7,309.66	89.65	0.57	6,968.00	569.47	-234.81	10.00	10.00	0.06	0.57	
16,745.98	89.65	0.57	7,025.00	10,005.15	-140.99	0.00	0.00	0.00	0.00	SWARTZ 28N-12HZ_

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well SWARTZ 28N-12HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4895.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4895.00usft (D Rig)
<b>Site:</b>	2N-65W-13 Swartz No1 Pad	<b>North Reference:</b>	True
<b>Well:</b>	SWARTZ 28N-12HZ	<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
<b>2N-R65W-Sec. 25_Section lines - 2N-R65W-Sec. 13_Section lines - 2N-R65W-Sec. 12_Section lines - 2N-R65W-Sec. 24_Section lines - SW</b>									
100.00	0.00	0.00	100.00	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
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Begin Nudge @ 250.00ft</b>									
300.00	0.75	270.00	300.00	0.00	-0.33	0.00	1.50	1.50	0.00
400.00	2.25	270.00	399.96	0.00	-2.94	-0.03	1.50	1.50	0.00
500.00	3.75	270.00	499.82	0.00	-8.18	-0.08	1.50	1.50	0.00
600.00	5.25	270.00	599.51	0.00	-16.02	-0.16	1.50	1.50	0.00
700.00	6.75	270.00	698.96	0.00	-26.48	-0.26	1.50	1.50	0.00
800.00	8.25	270.00	798.10	0.00	-39.53	-0.39	1.50	1.50	0.00
900.00	9.75	270.00	896.87	0.00	-55.17	-0.55	1.50	1.50	0.00
916.67	10.00	270.00	913.29	0.00	-58.03	-0.58	1.50	1.50	0.00
<b>End Nudge @ 916.67ft</b>									
1,000.00	10.00	270.00	995.35	0.00	-72.50	-0.72	0.00	0.00	0.00
1,100.00	10.00	270.00	1,093.84	0.00	-89.87	-0.89	0.00	0.00	0.00
1,200.00	10.00	270.00	1,192.32	0.00	-107.23	-1.07	0.00	0.00	0.00
1,300.00	10.00	270.00	1,290.80	0.00	-124.60	-1.24	0.00	0.00	0.00
1,303.25	10.00	270.00	1,294.00	0.00	-125.16	-1.25	0.00	0.00	0.00
<b>Fox Hills</b>									
1,400.00	10.00	270.00	1,389.28	0.00	-141.96	-1.41	0.00	0.00	0.00
1,500.00	10.00	270.00	1,487.76	0.00	-159.32	-1.58	0.00	0.00	0.00
1,600.00	10.00	270.00	1,586.24	0.00	-176.69	-1.76	0.00	0.00	0.00
1,700.00	10.00	270.00	1,684.72	0.00	-194.05	-1.93	0.00	0.00	0.00
1,716.67	10.00	270.00	1,701.14	0.00	-196.95	-1.96	0.00	0.00	0.00
<b>Begin Drop @ 1716.67ft</b>									
1,800.00	8.33	270.00	1,783.40	0.00	-210.22	-2.09	2.00	-2.00	0.00
1,816.77	8.00	270.00	1,800.00	0.00	-212.61	-2.12	2.00	-2.00	0.00
<b>9 5/8"</b>									
1,900.00	6.33	270.00	1,882.58	0.00	-222.99	-2.22	2.00	-2.00	0.00
2,000.00	4.33	270.00	1,982.14	0.00	-232.28	-2.31	2.00	-2.00	0.00
2,100.00	2.33	270.00	2,081.96	0.00	-238.10	-2.37	2.00	-2.00	0.00
2,200.00	0.33	270.00	2,181.93	0.00	-240.42	-2.39	2.00	-2.00	0.00
2,216.67	0.00	0.00	2,198.60	0.00	-240.47	-2.39	2.00	-2.00	0.00
<b>End Drop @ 2216.67ft</b>									
2,300.00	0.00	0.00	2,281.93	0.00	-240.47	-2.39	0.00	0.00	0.00
2,400.00	0.00	0.00	2,381.93	0.00	-240.47	-2.39	0.00	0.00	0.00
2,500.00	0.00	0.00	2,481.93	0.00	-240.47	-2.39	0.00	0.00	0.00
2,600.00	0.00	0.00	2,581.93	0.00	-240.47	-2.39	0.00	0.00	0.00
2,700.00	0.00	0.00	2,681.93	0.00	-240.47	-2.39	0.00	0.00	0.00
2,800.00	0.00	0.00	2,781.93	0.00	-240.47	-2.39	0.00	0.00	0.00
2,900.00	0.00	0.00	2,881.93	0.00	-240.47	-2.39	0.00	0.00	0.00
3,000.00	0.00	0.00	2,981.93	0.00	-240.47	-2.39	0.00	0.00	0.00
3,100.00	0.00	0.00	3,081.93	0.00	-240.47	-2.39	0.00	0.00	0.00
3,200.00	0.00	0.00	3,181.93	0.00	-240.47	-2.39	0.00	0.00	0.00
3,300.00	0.00	0.00	3,281.93	0.00	-240.47	-2.39	0.00	0.00	0.00
3,400.00	0.00	0.00	3,381.93	0.00	-240.47	-2.39	0.00	0.00	0.00
3,500.00	0.00	0.00	3,481.93	0.00	-240.47	-2.39	0.00	0.00	0.00
3,600.00	0.00	0.00	3,581.93	0.00	-240.47	-2.39	0.00	0.00	0.00
3,700.00	0.00	0.00	3,681.93	0.00	-240.47	-2.39	0.00	0.00	0.00
3,800.00	0.00	0.00	3,781.93	0.00	-240.47	-2.39	0.00	0.00	0.00
3,900.00	0.00	0.00	3,881.93	0.00	-240.47	-2.39	0.00	0.00	0.00

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well SWARTZ 28N-12HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4895.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4895.00usft (D Rig)
<b>Site:</b>	2N-65W-13 Swartz No1 Pad	<b>North Reference:</b>	True
<b>Well:</b>	SWARTZ 28N-12HZ	<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)
4,000.00	0.00	0.00	3,981.93	0.00	-240.47	-2.39	0.00	0.00	0.00
4,100.00	0.00	0.00	4,081.93	0.00	-240.47	-2.39	0.00	0.00	0.00
4,200.00	0.00	0.00	4,181.93	0.00	-240.47	-2.39	0.00	0.00	0.00
4,300.00	0.00	0.00	4,281.93	0.00	-240.47	-2.39	0.00	0.00	0.00
4,316.07	0.00	0.00	4,298.00	0.00	-240.47	-2.39	0.00	0.00	0.00
<b>Sussex</b>									
4,400.00	0.00	0.00	4,381.93	0.00	-240.47	-2.39	0.00	0.00	0.00
4,500.00	0.00	0.00	4,481.93	0.00	-240.47	-2.39	0.00	0.00	0.00
4,600.00	0.00	0.00	4,581.93	0.00	-240.47	-2.39	0.00	0.00	0.00
4,700.00	0.00	0.00	4,681.93	0.00	-240.47	-2.39	0.00	0.00	0.00
4,800.00	0.00	0.00	4,781.93	0.00	-240.47	-2.39	0.00	0.00	0.00
4,900.00	0.00	0.00	4,881.93	0.00	-240.47	-2.39	0.00	0.00	0.00
5,000.00	0.00	0.00	4,981.93	0.00	-240.47	-2.39	0.00	0.00	0.00
5,100.00	0.00	0.00	5,081.93	0.00	-240.47	-2.39	0.00	0.00	0.00
5,200.00	0.00	0.00	5,181.93	0.00	-240.47	-2.39	0.00	0.00	0.00
5,300.00	0.00	0.00	5,281.93	0.00	-240.47	-2.39	0.00	0.00	0.00
5,400.00	0.00	0.00	5,381.93	0.00	-240.47	-2.39	0.00	0.00	0.00
5,500.00	0.00	0.00	5,481.93	0.00	-240.47	-2.39	0.00	0.00	0.00
5,600.00	0.00	0.00	5,581.93	0.00	-240.47	-2.39	0.00	0.00	0.00
5,700.00	0.00	0.00	5,681.93	0.00	-240.47	-2.39	0.00	0.00	0.00
5,800.00	0.00	0.00	5,781.93	0.00	-240.47	-2.39	0.00	0.00	0.00
5,900.00	0.00	0.00	5,881.93	0.00	-240.47	-2.39	0.00	0.00	0.00
6,000.00	0.00	0.00	5,981.93	0.00	-240.47	-2.39	0.00	0.00	0.00
6,100.00	0.00	0.00	6,081.93	0.00	-240.47	-2.39	0.00	0.00	0.00
6,200.00	0.00	0.00	6,181.93	0.00	-240.47	-2.39	0.00	0.00	0.00
6,300.00	0.00	0.00	6,281.93	0.00	-240.47	-2.39	0.00	0.00	0.00
6,400.00	0.00	0.00	6,381.93	0.00	-240.47	-2.39	0.00	0.00	0.00
6,413.12	0.00	0.00	6,395.05	0.00	-240.47	-2.39	0.00	0.00	0.00
<b>KOP @ 6413.12ft</b>									
6,500.00	8.69	0.57	6,481.60	6.57	-240.41	4.18	10.00	10.00	0.00
6,600.00	18.69	0.57	6,578.64	30.21	-240.17	27.82	10.00	10.00	0.00
6,700.00	28.69	0.57	6,670.09	70.33	-239.77	67.94	10.00	10.00	0.00
6,800.00	38.69	0.57	6,753.20	125.72	-239.22	123.34	10.00	10.00	0.00
6,836.16	42.30	0.57	6,780.69	149.20	-238.99	146.82	10.00	10.00	0.00
<b>Sharon Springs</b>									
6,900.00	48.69	0.57	6,825.41	194.71	-238.54	192.32	10.00	10.00	0.00
<b>DLS = 10°/100'</b>									
6,908.05	49.49	0.57	6,830.69	200.79	-238.47	198.41	10.00	10.00	0.00
<b>Niobrara Top</b>									
7,000.00	58.69	0.57	6,884.56	275.18	-237.74	272.80	10.00	10.00	0.00
7,016.02	60.29	0.57	6,892.69	288.98	-237.60	286.60	10.00	10.00	0.00
<b>Niobrara B Bench</b>									
7,100.00	68.69	0.57	6,928.83	364.70	-236.84	362.33	10.00	10.00	0.00
7,188.80	77.57	0.57	6,954.57	449.59	-236.00	447.22	10.00	10.00	0.00
<b>Niobrara C Bench</b>									
7,200.00	78.69	0.57	6,956.88	460.55	-235.89	458.18	10.00	10.00	0.00
7,300.00	88.69	0.57	6,967.86	559.81	-234.90	557.45	10.00	10.00	0.00
7,309.66	89.65	0.57	6,968.00	569.47	-234.81	567.11	10.00	10.00	0.00
<b>End Build @ 7309.66ft - Heel - 7"</b>									
7,400.00	89.65	0.57	6,968.54	659.81	-233.91	657.45	0.00	0.00	0.00
7,500.00	89.65	0.57	6,969.15	759.80	-232.92	757.45	0.00	0.00	0.00
7,600.00	89.65	0.57	6,969.75	859.79	-231.92	857.44	0.00	0.00	0.00
7,700.00	89.65	0.57	6,970.35	959.79	-230.93	957.44	0.00	0.00	0.00

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well SWARTZ 28N-12HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4895.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4895.00usft (D Rig)
<b>Site:</b>	2N-65W-13 Swartz No1 Pad	<b>North Reference:</b>	True
<b>Well:</b>	SWARTZ 28N-12HZ	<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)
7,800.00	89.65	0.57	6,970.96	1,059.78	-229.93	1,057.44	0.00	0.00	0.00
7,900.00	89.65	0.57	6,971.56	1,159.77	-228.94	1,157.44	0.00	0.00	0.00
8,000.00	89.65	0.57	6,972.17	1,259.77	-227.95	1,257.44	0.00	0.00	0.00
8,100.00	89.65	0.57	6,972.77	1,359.76	-226.95	1,357.43	0.00	0.00	0.00
8,200.00	89.65	0.57	6,973.37	1,459.75	-225.96	1,457.43	0.00	0.00	0.00
8,300.00	89.65	0.57	6,973.98	1,559.75	-224.96	1,557.43	0.00	0.00	0.00
8,400.00	89.65	0.57	6,974.58	1,659.74	-223.97	1,657.43	0.00	0.00	0.00
8,500.00	89.65	0.57	6,975.19	1,759.73	-222.97	1,757.43	0.00	0.00	0.00
8,600.00	89.65	0.57	6,975.79	1,859.73	-221.98	1,857.43	0.00	0.00	0.00
8,700.00	89.65	0.57	6,976.40	1,959.72	-220.99	1,957.42	0.00	0.00	0.00
8,800.00	89.65	0.57	6,977.00	2,059.71	-219.99	2,057.42	0.00	0.00	0.00
8,900.00	89.65	0.57	6,977.60	2,159.71	-219.00	2,157.42	0.00	0.00	0.00
9,000.00	89.65	0.57	6,978.21	2,259.70	-218.00	2,257.42	0.00	0.00	0.00
9,100.00	89.65	0.57	6,978.81	2,359.69	-217.01	2,357.42	0.00	0.00	0.00
9,200.00	89.65	0.57	6,979.42	2,459.69	-216.01	2,457.41	0.00	0.00	0.00
9,300.00	89.65	0.57	6,980.02	2,559.68	-215.02	2,557.41	0.00	0.00	0.00
9,400.00	89.65	0.57	6,980.62	2,659.67	-214.03	2,657.41	0.00	0.00	0.00
9,500.00	89.65	0.57	6,981.23	2,759.66	-213.03	2,757.41	0.00	0.00	0.00
9,600.00	89.65	0.57	6,981.83	2,859.66	-212.04	2,857.41	0.00	0.00	0.00
9,700.00	89.65	0.57	6,982.44	2,959.65	-211.04	2,957.41	0.00	0.00	0.00
9,800.00	89.65	0.57	6,983.04	3,059.64	-210.05	3,057.40	0.00	0.00	0.00
9,900.00	89.65	0.57	6,983.64	3,159.64	-209.05	3,157.40	0.00	0.00	0.00
10,000.00	89.65	0.57	6,984.25	3,259.63	-208.06	3,257.40	0.00	0.00	0.00
10,100.00	89.65	0.57	6,984.85	3,359.62	-207.07	3,357.40	0.00	0.00	0.00
10,200.00	89.65	0.57	6,985.46	3,459.62	-206.07	3,457.40	0.00	0.00	0.00
10,300.00	89.65	0.57	6,986.06	3,559.61	-205.08	3,557.39	0.00	0.00	0.00
10,400.00	89.65	0.57	6,986.66	3,659.60	-204.08	3,657.39	0.00	0.00	0.00
10,500.00	89.65	0.57	6,987.27	3,759.60	-203.09	3,757.39	0.00	0.00	0.00
10,600.00	89.65	0.57	6,987.87	3,859.59	-202.10	3,857.39	0.00	0.00	0.00
10,700.00	89.65	0.57	6,988.48	3,959.58	-201.10	3,957.39	0.00	0.00	0.00
10,800.00	89.65	0.57	6,989.08	4,059.58	-200.11	4,057.39	0.00	0.00	0.00
10,900.00	89.65	0.57	6,989.69	4,159.57	-199.11	4,157.38	0.00	0.00	0.00
11,000.00	89.65	0.57	6,990.29	4,259.56	-198.12	4,257.38	0.00	0.00	0.00
11,100.00	89.65	0.57	6,990.89	4,359.56	-197.12	4,357.38	0.00	0.00	0.00
11,200.00	89.65	0.57	6,991.50	4,459.55	-196.13	4,457.38	0.00	0.00	0.00
11,300.00	89.65	0.57	6,992.10	4,559.54	-195.14	4,557.38	0.00	0.00	0.00
11,400.00	89.65	0.57	6,992.71	4,659.54	-194.14	4,657.37	0.00	0.00	0.00
11,500.00	89.65	0.57	6,993.31	4,759.53	-193.15	4,757.37	0.00	0.00	0.00
11,600.00	89.65	0.57	6,993.91	4,859.52	-192.15	4,857.37	0.00	0.00	0.00
11,700.00	89.65	0.57	6,994.52	4,959.52	-191.16	4,957.37	0.00	0.00	0.00
11,800.00	89.65	0.57	6,995.12	5,059.51	-190.16	5,057.37	0.00	0.00	0.00
11,900.00	89.65	0.57	6,995.73	5,159.50	-189.17	5,157.37	0.00	0.00	0.00
12,000.00	89.65	0.57	6,996.33	5,259.50	-188.18	5,257.36	0.00	0.00	0.00
12,100.00	89.65	0.57	6,996.93	5,359.49	-187.18	5,357.36	0.00	0.00	0.00
12,200.00	89.65	0.57	6,997.54	5,459.48	-186.19	5,457.36	0.00	0.00	0.00
12,300.00	89.65	0.57	6,998.14	5,559.48	-185.19	5,557.36	0.00	0.00	0.00
12,400.00	89.65	0.57	6,998.75	5,659.47	-184.20	5,657.36	0.00	0.00	0.00
12,500.00	89.65	0.57	6,999.35	5,759.46	-183.20	5,757.35	0.00	0.00	0.00
12,600.00	89.65	0.57	6,999.95	5,859.46	-182.21	5,857.35	0.00	0.00	0.00
12,700.00	89.65	0.57	7,000.56	5,959.45	-181.22	5,957.35	0.00	0.00	0.00
12,800.00	89.65	0.57	7,001.16	6,059.44	-180.22	6,057.35	0.00	0.00	0.00
12,900.00	89.65	0.57	7,001.77	6,159.43	-179.23	6,157.35	0.00	0.00	0.00
13,000.00	89.65	0.57	7,002.37	6,259.43	-178.23	6,257.35	0.00	0.00	0.00
13,100.00	89.65	0.57	7,002.98	6,359.42	-177.24	6,357.34	0.00	0.00	0.00

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well SWARTZ 28N-12HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4895.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4895.00usft (D Rig)
<b>Site:</b>	2N-65W-13 Swartz No1 Pad	<b>North Reference:</b>	True
<b>Well:</b>	SWARTZ 28N-12HZ	<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)
13,200.00	89.65	0.57	7,003.58	6,459.41	-176.25	6,457.34	0.00	0.00	0.00
13,300.00	89.65	0.57	7,004.18	6,559.41	-175.25	6,557.34	0.00	0.00	0.00
13,400.00	89.65	0.57	7,004.79	6,659.40	-174.26	6,657.34	0.00	0.00	0.00
13,500.00	89.65	0.57	7,005.39	6,759.39	-173.26	6,757.34	0.00	0.00	0.00
13,600.00	89.65	0.57	7,006.00	6,859.39	-172.27	6,857.33	0.00	0.00	0.00
13,700.00	89.65	0.57	7,006.60	6,959.38	-171.27	6,957.33	0.00	0.00	0.00
13,800.00	89.65	0.57	7,007.20	7,059.37	-170.28	7,057.33	0.00	0.00	0.00
13,900.00	89.65	0.57	7,007.81	7,159.37	-169.29	7,157.33	0.00	0.00	0.00
14,000.00	89.65	0.57	7,008.41	7,259.36	-168.29	7,257.33	0.00	0.00	0.00
14,100.00	89.65	0.57	7,009.02	7,359.35	-167.30	7,357.33	0.00	0.00	0.00
14,200.00	89.65	0.57	7,009.62	7,459.35	-166.30	7,457.32	0.00	0.00	0.00
14,300.00	89.65	0.57	7,010.22	7,559.34	-165.31	7,557.32	0.00	0.00	0.00
14,400.00	89.65	0.57	7,010.83	7,659.33	-164.31	7,657.32	0.00	0.00	0.00
14,500.00	89.65	0.57	7,011.43	7,759.33	-163.32	7,757.32	0.00	0.00	0.00
14,600.00	89.65	0.57	7,012.04	7,859.32	-162.33	7,857.32	0.00	0.00	0.00
14,700.00	89.65	0.57	7,012.64	7,959.31	-161.33	7,957.31	0.00	0.00	0.00
14,800.00	89.65	0.57	7,013.24	8,059.31	-160.34	8,057.31	0.00	0.00	0.00
14,900.00	89.65	0.57	7,013.85	8,159.30	-159.34	8,157.31	0.00	0.00	0.00
15,000.00	89.65	0.57	7,014.45	8,259.29	-158.35	8,257.31	0.00	0.00	0.00
15,100.00	89.65	0.57	7,015.06	8,359.29	-157.35	8,357.31	0.00	0.00	0.00
15,200.00	89.65	0.57	7,015.66	8,459.28	-156.36	8,457.31	0.00	0.00	0.00
15,300.00	89.65	0.57	7,016.27	8,559.27	-155.37	8,557.30	0.00	0.00	0.00
15,400.00	89.65	0.57	7,016.87	8,659.27	-154.37	8,657.30	0.00	0.00	0.00
15,500.00	89.65	0.57	7,017.47	8,759.26	-153.38	8,757.30	0.00	0.00	0.00
15,600.00	89.65	0.57	7,018.08	8,859.25	-152.38	8,857.30	0.00	0.00	0.00
15,700.00	89.65	0.57	7,018.68	8,959.25	-151.39	8,957.30	0.00	0.00	0.00
15,800.00	89.65	0.57	7,019.29	9,059.24	-150.40	9,057.29	0.00	0.00	0.00
15,900.00	89.65	0.57	7,019.89	9,159.23	-149.40	9,157.29	0.00	0.00	0.00
16,000.00	89.65	0.57	7,020.49	9,259.23	-148.41	9,257.29	0.00	0.00	0.00
16,100.00	89.65	0.57	7,021.10	9,359.22	-147.41	9,357.29	0.00	0.00	0.00
16,200.00	89.65	0.57	7,021.70	9,459.21	-146.42	9,457.29	0.00	0.00	0.00
16,300.00	89.65	0.57	7,022.31	9,559.20	-145.42	9,557.29	0.00	0.00	0.00
16,400.00	89.65	0.57	7,022.91	9,659.20	-144.43	9,657.28	0.00	0.00	0.00
16,500.00	89.65	0.57	7,023.51	9,759.19	-143.44	9,757.28	0.00	0.00	0.00
16,600.00	89.65	0.57	7,024.12	9,859.18	-142.44	9,857.28	0.00	0.00	0.00
16,700.00	89.65	0.57	7,024.72	9,959.18	-141.45	9,957.28	0.00	0.00	0.00
16,745.97	89.65	0.57	7,025.00	10,005.14	-140.99	10,003.25	0.00	0.00	0.00
Toe									
16,745.98	89.65	0.57	7,025.00	10,005.15	-140.99	10,003.25	0.02	0.00	0.00
TD Well @ 16745.98ft - SWARTZ 28N-12HZ_TOE									

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well SWARTZ 28N-12HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4895.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4895.00usft (D Rig)
<b>Site:</b>	2N-65W-13 Swartz No1 Pad	<b>North Reference:</b>	True
<b>Well:</b>	SWARTZ 28N-12HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
SWARTZ 28N-12HZ_Dri	0.00	0.00	0.00	0.00	0.00	14,575,070.52	1,749,233.92	40.132087	-104.610687
- plan hits target center									
- Polygon									
Point 1			0.00	124.94	17.22	14,575,195.54	1,749,250.59		
Point 2			0.00	133.66	-902.76	14,575,200.23	1,748,330.58		
Point 3			0.00	989.98	-898.91	14,576,056.56	1,748,330.68		
Point 4			0.00	8,907.09	-860.26	14,583,973.76	1,748,334.65		
Point 5			0.00	10,228.69	-852.60	14,585,295.38	1,748,336.53		
Point 6			0.00	11,080.22	-863.40	14,586,146.86	1,748,322.00		
Point 7			0.00	11,047.61	57.09	14,586,118.28	1,749,242.62		
Point 8			0.00	10,193.64	67.57	14,585,264.36	1,749,256.84		
Point 9			0.00	8,877.00	59.58	14,583,947.70	1,749,254.62		
Point 10			0.00	980.02	21.05	14,576,050.63	1,749,250.68		
Point 11			0.00	124.94	17.22	14,575,195.54	1,749,250.59		
SWARTZ 28N-12HZ_SF	0.00	0.00	0.00	0.00	0.00	14,575,070.52	1,749,233.92	40.132087	-104.610687
- plan hits target center									
- Point									
2N-R65W-Sec. 25_Secti	0.00	0.00	-78.00	0.00	-29.91	14,575,070.39	1,749,204.01	40.132087	-104.610794
- plan misses target center by 83.54usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1			-78.00	-5,575.96	-3,064.67	14,569,481.06	1,746,163.79		
Point 2			-78.00	-5,592.14	-413.46	14,569,476.50	1,748,815.05		
Point 3			-78.00	-5,609.35	2,238.63	14,569,470.90	1,751,467.19		
Point 4			-78.00	-8,247.40	2,259.94	14,566,832.97	1,751,500.05		
Point 5			-78.00	-10,884.05	2,281.32	14,564,196.44	1,751,532.98		
Point 6			-78.00	-10,912.19	-413.54	14,564,156.50	1,748,838.27		
Point 7			-78.00	-11,002.15	-3,033.15	14,564,055.06	1,746,219.08		
Point 8			-78.00	-8,271.55	-3,044.64	14,566,785.59	1,746,195.63		
2N-R65W-Sec. 13_Secti	0.00	0.00	-78.00	0.00	-29.91	14,575,070.39	1,749,204.01	40.132087	-104.610794
- plan misses target center by 83.54usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1			-78.00	4,980.35	-2,990.78	14,580,037.60	1,746,191.45		
Point 2			-78.00	4,936.75	-397.15	14,580,005.36	1,748,785.24		
Point 3			-78.00	4,893.27	2,196.04	14,579,973.24	1,751,378.60		
Point 4			-78.00	2,269.18	2,195.68	14,577,349.17	1,751,389.73		
Point 5			-78.00	-354.07	2,193.83	14,574,725.94	1,751,399.37		
Point 6			-78.00	-330.09	-414.94	14,574,738.49	1,748,790.52		
Point 7			-78.00	-306.12	-3,023.71	14,574,751.03	1,746,181.67		
Point 8			-78.00	2,332.94	-3,010.80	14,577,390.12	1,746,183.02		
2N-R65W-Sec. 12_Secti	0.00	0.00	-78.00	0.00	-29.91	14,575,070.39	1,749,204.01	40.132087	-104.610794
- plan misses target center by 83.54usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1			-78.00	10,311.40	-2,932.44	14,585,368.85	1,746,226.44		
Point 2			-78.00	10,213.49	-365.25	14,585,282.19	1,748,794.03		
Point 3			-78.00	10,115.80	2,202.09	14,585,195.74	1,751,361.77		
Point 4			-78.00	7,504.68	2,199.03	14,582,584.63	1,751,370.15		
Point 5			-78.00	4,893.27	2,196.04	14,579,973.24	1,751,378.60		
Point 6			-78.00	4,936.75	-397.15	14,580,005.36	1,748,785.24		
Point 7			-78.00	4,980.35	-2,990.78	14,580,037.60	1,746,191.45		
Point 8			-78.00	7,645.87	-2,961.54	14,582,703.22	1,746,209.01		
2N-R65W-Sec. 24_Secti	0.00	0.00	-78.00	0.00	-29.91	14,575,070.39	1,749,204.01	40.132087	-104.610794
- plan misses target center by 83.54usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1			-78.00	-306.12	-3,023.71	14,574,751.03	1,746,181.67		
Point 2			-78.00	-330.09	-414.94	14,574,738.49	1,748,790.52		

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well SWARTZ 28N-12HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4895.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4895.00usft (D Rig)
<b>Site:</b>	2N-65W-13 Swartz No1 Pad	<b>North Reference:</b>	True
<b>Well:</b>	SWARTZ 28N-12HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

Point 3	-78.00	-354.07	2,193.83	14,574,725.94	1,751,399.37				
Point 4	-78.00	-2,981.13	2,216.36	14,572,099.00	1,751,433.41				
Point 5	-78.00	-5,609.35	2,238.63	14,569,470.90	1,751,467.19				
Point 6	-78.00	-5,592.14	-413.46	14,569,476.50	1,748,815.05				
Point 7	-78.00	-5,575.96	-3,064.67	14,569,481.06	1,746,163.79				
Point 8	-78.00	-2,941.37	-3,043.57	14,572,115.72	1,746,173.35				
SWARTZ 28N-12HZ_TC	0.00	0.00	7,025.00	10,005.15	-140.99	14,585,074.96	1,749,049.11	40.159562	-104.611192
- plan hits target center									
- Point									

Casing Points									
Measured Depth (usft)	Vertical Depth (usft)	Name				Casing Diameter (")	Hole Diameter (")		
1,816.77	1,800.00	9 5/8"				9-5/8	13-1/2		
7,309.66	6,968.00	7"				7	8-3/4		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,303.25	1,294.00	Fox Hills		0.00		
4,316.07	4,298.00	Sussex		0.00		
6,836.16	6,780.69	Sharon Springs		0.00		
6,908.05	6,830.69	Niobrara Top		0.00		
7,016.02	6,892.69	Niobrara B Bench		0.00		
7,188.80	6,954.57	Niobrara C Bench		0.00		
7,309.66	6,968.00	Heel		0.00		
16,745.97	7,025.00	Toe		0.00		

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	0.00	-58.03	End Nudge @ 916.67ft	
1,716.67	1,701.14	0.00	-196.95	Begin Drop @ 1716.67ft	
2,216.67	2,198.60	0.00	-240.47	End Drop @ 2216.67ft	
6,413.12	6,395.05	0.00	-240.47	KOP @ 6413.12ft	
6,900.00	6,825.41	194.71	-238.54	DLS = 10°/100'	
7,309.66	6,968.00	569.47	-234.81	End Build @ 7309.66ft	
16,745.98	7,025.00	10,005.15	-140.99	TD Well @ 16745.98ft	