

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N  
3N-67W-33 BABCOCK 6-4HZ Pad  
BABCOCK 23N-33HZ**

**Plan A**

**Plan: Permit Rev-2**

## **Standard Planning Report**

**15 April, 2016**



Azimuths to True North  
Magnetic North: 8.27°

Magnetic Field  
Strength: 52490.2snT  
Dip Angle: 66.68°  
Date: 4/4/2016  
Model: IGRF2010

SITE: 3N-67W-33 BABCOCK 6-4HZ Pad

Well: BABCOCK 23N-33HZ  
Wellbore: Plan A  
Design: Permit Rev-2

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
975.00	979.43	Fox Hills
4576.00	4681.40	Sussex
7071.00	7240.01	Sharon Springs
7157.00	7393.40	Niobrara
7205.00	7525.48	Nio B

#### WELL DETAILS: BABCOCK 23N-33HZ

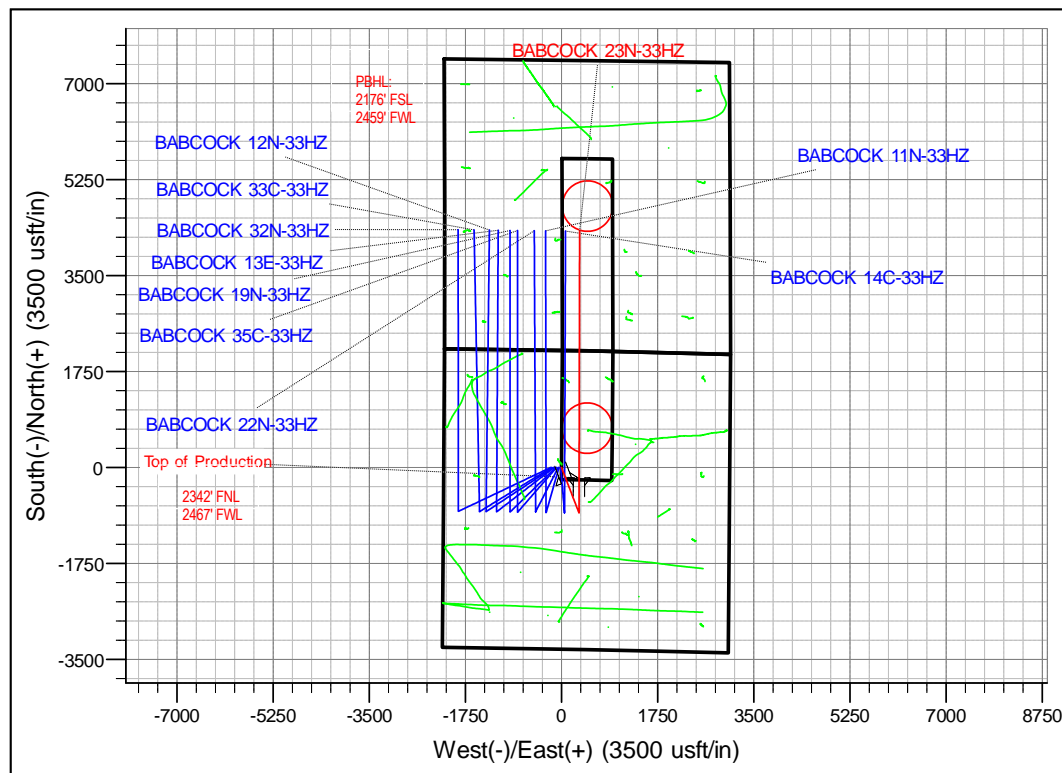
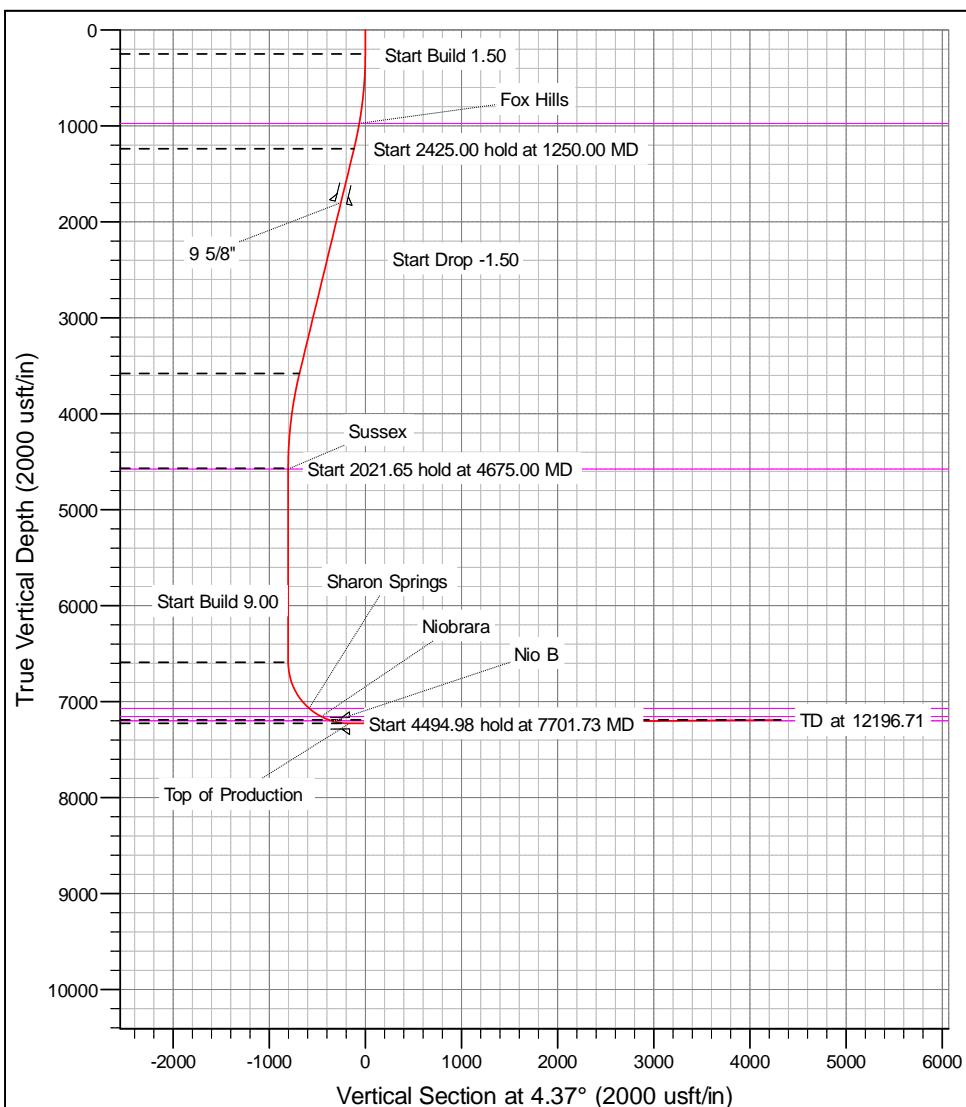
+N/-S	+E/-W	GL: 4887.00 Northing	RKB @ 4904.00usft (D Rig) Easting	Latitude 40.169181	Longitude -104.896729	Slot
0.00	0.00	14588356.79	1669266.31			

#### SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	Vsect
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
1250.00	15.00	159.00	1238.62	-121.51	46.64	1.50	-117.60
3675.00	15.00	158.00	3580.99	-707.46	271.57	0.00	-684.70
4675.00	0.00	0.00	4569.60	-828.97	318.21	1.50	-802.30
6696.65	0.00	0.00	6591.25	-828.97	318.21	0.00	-802.30
7701.73	90.46	0.12	7227.85	-187.27	319.60	9.00	-162.36
12196.71	90.46	0.12	7192.00	4307.55	329.31	0.00	4320.12

#### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BABCOCK 23N-33HZ_PBHL	7192.00	4307.55	329.31	14592664.72	1669590.61	40.181010	-104.895550	Point
BABCOCK 23N-33HZ_PHL	7227.85	-187.27	319.60	14588169.89	1669586.12	40.168667	-104.895585	Point



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## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well BABCOCK 23N-33HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4904.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4904.00usft (D Rig)
<b>Site:</b>	3N-67W-33 BABCOCK 6-4HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	BABCOCK 23N-33HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-2		

<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						3N-67W-33 BABCOCK 6-4HZ Pad											
Site Position:						Northing:			14,588,357.65 usft			Latitude:			40.169184		
From:			Lat/Long			Easting:			1,669,071.31 usft			Longitude:			-104.897427		
Position Uncertainty:			0.00 usft			Slot Radius:			13-3/16 "			Grid Convergence:			0.07		

Well	BABCOCK 23N-33HZ					
Well Position	+N/-S	-1.09 usft	Northing:	14,588,356.78 usft	Latitude:	40.169181
	+E/-W	194.99 usft	Easting:	1,669,266.31 usft	Longitude:	-104.896729
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,887.00 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	4/4/2016	8.27	66.68	52,490

<b>Design</b>	Permit Rev-2			
<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	4.37

<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	
1,250.00	15.00	159.00	1,238.62	-121.51	46.64	1.50	1.50	0.00	159.00	
3,675.00	15.00	159.00	3,580.99	-707.46	271.57	0.00	0.00	0.00	0.00	
4,675.00	0.00	0.00	4,569.60	-828.97	318.21	1.50	-1.50	0.00	180.00	
6,696.65	0.00	0.00	6,591.25	-828.97	318.21	0.00	0.00	0.00	0.00	
7,701.73	90.46	0.12	7,227.85	-187.27	319.60	9.00	9.00	0.00	0.12	
12,196.71	90.46	0.12	7,192.00	4,307.55	329.31	0.00	0.00	0.00	0.00	BABCOCK 23N-33H

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## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well BABCOCK 23N-33HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4904.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4904.00usft (D Rig)
<b>Site:</b>	3N-67W-33 BABCOCK 6-4HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	BABCOCK 23N-33HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	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
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
300.00	0.75	159.00	300.00	-0.31	0.12	-0.30	1.50	1.50	0.00
400.00	2.25	159.00	399.96	-2.75	1.06	-2.66	1.50	1.50	0.00
500.00	3.75	159.00	499.82	-7.64	2.93	-7.39	1.50	1.50	0.00
600.00	5.25	159.00	599.51	-14.96	5.74	-14.48	1.50	1.50	0.00
700.00	6.75	159.00	698.96	-24.72	9.49	-23.92	1.50	1.50	0.00
800.00	8.25	159.00	798.10	-36.90	14.17	-35.72	1.50	1.50	0.00
900.00	9.75	159.00	896.87	-51.51	19.77	-49.85	1.50	1.50	0.00
979.43	10.94	159.00	975.00	-64.82	24.88	-62.74	1.50	1.50	0.00
Fox Hills									
1,000.00	11.25	159.00	995.19	-68.52	26.30	-66.32	1.50	1.50	0.00
1,100.00	12.75	159.00	1,093.00	-87.93	33.75	-85.10	1.50	1.50	0.00
1,200.00	14.25	159.00	1,190.24	-109.72	42.12	-106.19	1.50	1.50	0.00
1,250.00	15.00	159.00	1,238.62	-121.51	46.64	-117.60	1.50	1.50	0.00
1,300.00	15.00	159.00	1,286.91	-133.59	51.28	-129.29	0.00	0.00	0.00
1,400.00	15.00	159.00	1,383.50	-157.75	60.56	-152.68	0.00	0.00	0.00
1,500.00	15.00	159.00	1,480.10	-181.92	69.83	-176.06	0.00	0.00	0.00
1,600.00	15.00	159.00	1,576.69	-206.08	79.11	-199.45	0.00	0.00	0.00
1,700.00	15.00	159.00	1,673.28	-230.24	88.38	-222.83	0.00	0.00	0.00
1,800.00	15.00	159.00	1,769.88	-254.40	97.66	-246.22	0.00	0.00	0.00
1,831.19	15.00	159.00	1,800.00	-261.94	100.55	-253.51	0.00	0.00	0.00
9 5/8"									
1,900.00	15.00	159.00	1,866.47	-278.57	106.93	-269.61	0.00	0.00	0.00
2,000.00	15.00	159.00	1,963.06	-302.73	116.21	-292.99	0.00	0.00	0.00
2,100.00	15.00	159.00	2,059.65	-326.89	125.48	-316.38	0.00	0.00	0.00
2,200.00	15.00	159.00	2,156.25	-351.06	134.76	-339.76	0.00	0.00	0.00
2,300.00	15.00	159.00	2,252.84	-375.22	144.03	-363.15	0.00	0.00	0.00
2,400.00	15.00	159.00	2,349.43	-399.38	153.31	-386.53	0.00	0.00	0.00
2,500.00	15.00	159.00	2,446.02	-423.54	162.58	-409.92	0.00	0.00	0.00
2,600.00	15.00	159.00	2,542.62	-447.71	171.86	-433.30	0.00	0.00	0.00
2,700.00	15.00	159.00	2,639.21	-471.87	181.13	-456.69	0.00	0.00	0.00
2,800.00	15.00	159.00	2,735.80	-496.03	190.41	-480.08	0.00	0.00	0.00
2,900.00	15.00	159.00	2,832.39	-520.20	199.68	-503.46	0.00	0.00	0.00
3,000.00	15.00	159.00	2,928.99	-544.36	208.96	-526.85	0.00	0.00	0.00
3,100.00	15.00	159.00	3,025.58	-568.52	218.23	-550.23	0.00	0.00	0.00
3,200.00	15.00	159.00	3,122.17	-592.68	227.51	-573.62	0.00	0.00	0.00
3,300.00	15.00	159.00	3,218.76	-616.85	236.79	-597.00	0.00	0.00	0.00
3,400.00	15.00	159.00	3,315.36	-641.01	246.06	-620.39	0.00	0.00	0.00
3,500.00	15.00	159.00	3,411.95	-665.17	255.34	-643.77	0.00	0.00	0.00
3,600.00	15.00	159.00	3,508.54	-689.34	264.61	-667.16	0.00	0.00	0.00
3,675.00	15.00	159.00	3,580.99	-707.46	271.57	-684.70	0.00	0.00	0.00
3,700.00	14.63	159.00	3,605.16	-713.42	273.86	-690.47	1.50	-1.50	0.00
3,800.00	13.13	159.00	3,702.23	-735.81	282.45	-712.14	1.50	-1.50	0.00
3,900.00	11.63	159.00	3,799.91	-755.82	290.13	-731.50	1.50	-1.50	0.00
4,000.00	10.13	159.00	3,898.11	-773.43	296.89	-748.55	1.50	-1.50	0.00
4,100.00	8.63	159.00	3,996.77	-788.64	302.73	-763.27	1.50	-1.50	0.00
4,200.00	7.13	159.00	4,095.83	-801.43	307.64	-775.65	1.50	-1.50	0.00
4,300.00	5.63	159.00	4,195.20	-811.80	311.62	-785.68	1.50	-1.50	0.00
4,400.00	4.13	159.00	4,294.84	-819.73	314.66	-793.36	1.50	-1.50	0.00
4,500.00	2.63	159.00	4,394.66	-825.22	316.77	-798.68	1.50	-1.50	0.00
4,600.00	1.13	159.00	4,494.61	-828.28	317.95	-801.63	1.50	-1.50	0.00

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## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well BABCOCK 23N-33HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4904.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4904.00usft (D Rig)
<b>Site:</b>	3N-67W-33 BABCOCK 6-4HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	BABCOCK 23N-33HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	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)
4,675.00	0.00	0.00	4,569.60	-828.97	318.21	-802.30	1.50	-1.50	0.00
4,681.40	0.00	0.00	4,576.00	-828.97	318.21	-802.30	0.00	0.00	0.00
<b>Sussex</b>									
4,700.00	0.00	0.00	4,594.60	-828.97	318.21	-802.30	0.00	0.00	0.00
4,800.00	0.00	0.00	4,694.60	-828.97	318.21	-802.30	0.00	0.00	0.00
4,900.00	0.00	0.00	4,794.60	-828.97	318.21	-802.30	0.00	0.00	0.00
5,000.00	0.00	0.00	4,894.60	-828.97	318.21	-802.30	0.00	0.00	0.00
5,100.00	0.00	0.00	4,994.60	-828.97	318.21	-802.30	0.00	0.00	0.00
5,200.00	0.00	0.00	5,094.60	-828.97	318.21	-802.30	0.00	0.00	0.00
5,300.00	0.00	0.00	5,194.60	-828.97	318.21	-802.30	0.00	0.00	0.00
5,400.00	0.00	0.00	5,294.60	-828.97	318.21	-802.30	0.00	0.00	0.00
5,500.00	0.00	0.00	5,394.60	-828.97	318.21	-802.30	0.00	0.00	0.00
5,600.00	0.00	0.00	5,494.60	-828.97	318.21	-802.30	0.00	0.00	0.00
5,700.00	0.00	0.00	5,594.60	-828.97	318.21	-802.30	0.00	0.00	0.00
5,800.00	0.00	0.00	5,694.60	-828.97	318.21	-802.30	0.00	0.00	0.00
5,900.00	0.00	0.00	5,794.60	-828.97	318.21	-802.30	0.00	0.00	0.00
6,000.00	0.00	0.00	5,894.60	-828.97	318.21	-802.30	0.00	0.00	0.00
6,100.00	0.00	0.00	5,994.60	-828.97	318.21	-802.30	0.00	0.00	0.00
6,200.00	0.00	0.00	6,094.60	-828.97	318.21	-802.30	0.00	0.00	0.00
6,300.00	0.00	0.00	6,194.60	-828.97	318.21	-802.30	0.00	0.00	0.00
6,400.00	0.00	0.00	6,294.60	-828.97	318.21	-802.30	0.00	0.00	0.00
6,500.00	0.00	0.00	6,394.60	-828.97	318.21	-802.30	0.00	0.00	0.00
6,600.00	0.00	0.00	6,494.60	-828.97	318.21	-802.30	0.00	0.00	0.00
6,696.65	0.00	0.00	6,591.25	-828.97	318.21	-802.30	0.00	0.00	0.00
6,700.00	0.30	0.12	6,594.60	-828.96	318.21	-802.29	9.00	9.00	0.00
6,800.00	9.30	0.12	6,694.15	-820.60	318.23	-793.95	9.00	9.00	0.00
6,900.00	18.30	0.12	6,791.16	-796.77	318.28	-770.19	9.00	9.00	0.00
7,000.00	27.30	0.12	6,883.25	-758.05	318.36	-731.58	9.00	9.00	0.00
7,100.00	36.30	0.12	6,968.15	-705.41	318.48	-679.08	9.00	9.00	0.00
7,200.00	45.30	0.12	7,043.77	-640.13	318.62	-613.98	9.00	9.00	0.00
7,240.01	48.90	0.12	7,071.00	-610.83	318.68	-584.76	9.00	9.00	0.00
<b>Sharon Springs</b>									
7,300.00	54.30	0.12	7,108.25	-563.83	318.78	-537.89	9.00	9.00	0.00
7,393.40	62.71	0.12	7,157.00	-484.26	318.96	-458.54	9.00	9.00	0.00
<b>Niobrara</b>									
7,400.00	63.30	0.12	7,160.00	-478.38	318.97	-452.67	9.00	9.00	0.00
7,500.00	72.30	0.12	7,197.74	-385.89	319.17	-360.43	9.00	9.00	0.00
7,525.48	74.59	0.12	7,205.00	-361.46	319.22	-336.08	9.00	9.00	0.00
<b>Nio B</b>									
7,600.00	81.30	0.12	7,220.55	-288.63	319.38	-263.44	9.00	9.00	0.00
7,700.00	90.30	0.12	7,227.86	-189.00	319.59	-164.09	9.00	9.00	0.00
7,701.73	90.46	0.12	7,227.85	-187.27	319.60	-162.36	8.99	8.99	0.00
<b>Top of Production - BABCOCK 23N-33HZ_PHL</b>									
7,800.00	90.46	0.12	7,227.07	-89.00	319.81	-64.37	0.00	0.00	0.00
7,900.00	90.46	0.12	7,226.27	10.99	320.03	35.36	0.00	0.00	0.00
8,000.00	90.46	0.12	7,225.47	110.99	320.24	135.08	0.00	0.00	0.00
8,100.00	90.46	0.12	7,224.68	210.99	320.46	234.80	0.00	0.00	0.00
8,200.00	90.46	0.12	7,223.88	310.98	320.67	334.52	0.00	0.00	0.00
8,300.00	90.46	0.12	7,223.08	410.98	320.89	434.24	0.00	0.00	0.00
8,400.00	90.46	0.12	7,222.28	510.98	321.11	533.97	0.00	0.00	0.00
8,500.00	90.46	0.12	7,221.49	610.97	321.32	633.69	0.00	0.00	0.00
8,600.00	90.46	0.12	7,220.69	710.97	321.54	733.41	0.00	0.00	0.00
8,700.00	90.46	0.12	7,219.89	810.97	321.75	833.13	0.00	0.00	0.00

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well BABCOCK 23N-33HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4904.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4904.00usft (D Rig)
<b>Site:</b>	3N-67W-33 BABCOCK 6-4HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	BABCOCK 23N-33HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	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)
8,800.00	90.46	0.12	7,219.09	910.96	321.97	932.86	0.00	0.00	0.00
8,900.00	90.46	0.12	7,218.29	1,010.96	322.19	1,032.58	0.00	0.00	0.00
9,000.00	90.46	0.12	7,217.50	1,110.96	322.40	1,132.30	0.00	0.00	0.00
9,100.00	90.46	0.12	7,216.70	1,210.95	322.62	1,232.02	0.00	0.00	0.00
9,200.00	90.46	0.12	7,215.90	1,310.95	322.83	1,331.74	0.00	0.00	0.00
9,300.00	90.46	0.12	7,215.10	1,410.95	323.05	1,431.47	0.00	0.00	0.00
9,400.00	90.46	0.12	7,214.31	1,510.94	323.27	1,531.19	0.00	0.00	0.00
9,500.00	90.46	0.12	7,213.51	1,610.94	323.48	1,630.91	0.00	0.00	0.00
9,600.00	90.46	0.12	7,212.71	1,710.94	323.70	1,730.63	0.00	0.00	0.00
9,700.00	90.46	0.12	7,211.91	1,810.93	323.91	1,830.35	0.00	0.00	0.00
9,800.00	90.46	0.12	7,211.12	1,910.93	324.13	1,930.08	0.00	0.00	0.00
9,900.00	90.46	0.12	7,210.32	2,010.93	324.35	2,029.80	0.00	0.00	0.00
10,000.00	90.46	0.12	7,209.52	2,110.92	324.56	2,129.52	0.00	0.00	0.00
10,100.00	90.46	0.12	7,208.72	2,210.92	324.78	2,229.24	0.00	0.00	0.00
10,200.00	90.46	0.12	7,207.93	2,310.92	324.99	2,328.96	0.00	0.00	0.00
10,300.00	90.46	0.12	7,207.13	2,410.91	325.21	2,428.69	0.00	0.00	0.00
10,400.00	90.46	0.12	7,206.33	2,510.91	325.43	2,528.41	0.00	0.00	0.00
10,500.00	90.46	0.12	7,205.53	2,610.91	325.64	2,628.13	0.00	0.00	0.00
10,600.00	90.46	0.12	7,204.74	2,710.90	325.86	2,727.85	0.00	0.00	0.00
10,700.00	90.46	0.12	7,203.94	2,810.90	326.07	2,827.58	0.00	0.00	0.00
10,800.00	90.46	0.12	7,203.14	2,910.89	326.29	2,927.30	0.00	0.00	0.00
10,900.00	90.46	0.12	7,202.34	3,010.89	326.51	3,027.02	0.00	0.00	0.00
11,000.00	90.46	0.12	7,201.55	3,110.89	326.72	3,126.74	0.00	0.00	0.00
11,100.00	90.46	0.12	7,200.75	3,210.88	326.94	3,226.46	0.00	0.00	0.00
11,200.00	90.46	0.12	7,199.95	3,310.88	327.15	3,326.19	0.00	0.00	0.00
11,300.00	90.46	0.12	7,199.15	3,410.88	327.37	3,425.91	0.00	0.00	0.00
11,400.00	90.46	0.12	7,198.35	3,510.87	327.59	3,525.63	0.00	0.00	0.00
11,500.00	90.46	0.12	7,197.56	3,610.87	327.80	3,625.35	0.00	0.00	0.00
11,600.00	90.46	0.12	7,196.76	3,710.87	328.02	3,725.07	0.00	0.00	0.00
11,700.00	90.46	0.12	7,195.96	3,810.86	328.23	3,824.80	0.00	0.00	0.00
11,800.00	90.46	0.12	7,195.16	3,910.86	328.45	3,924.52	0.00	0.00	0.00
11,900.00	90.46	0.12	7,194.37	4,010.86	328.67	4,024.24	0.00	0.00	0.00
12,000.00	90.46	0.12	7,193.57	4,110.85	328.88	4,123.96	0.00	0.00	0.00
12,100.00	90.46	0.12	7,192.77	4,210.85	329.10	4,223.69	0.00	0.00	0.00
12,196.71	90.46	0.12	7,192.00	4,307.55	329.31	4,320.12	0.00	0.00	0.00
BABCOCK 23N-33HZ_PBHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BABCOCK 23N-33HZ - hit/miss target - Shape - Point	0.00	0.00	7,192.00	4,307.55	329.31	14,592,664.72	1,669,590.60	40.181010	-104.895550
BABCOCK 23N-33HZ - plan hits target center - Point	0.00	0.00	7,227.85	-187.27	319.60	14,588,169.88	1,669,586.12	40.168667	-104.895585

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well BABCOCK 23N-33HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4904.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4904.00usft (D Rig)
<b>Site:</b>	3N-67W-33 BABCOCK 6-4HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	BABCOCK 23N-33HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-2		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,831.19	1,800.00	9 5/8"	9-5/8	13-1/2	
7,701.73	7,227.85	Top of Production	5-1/2	7-7/8	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
979.43	975.00	Fox Hills				
4,681.40	4,576.00	Sussex				
7,240.01	7,071.00	Sharon Springs				
7,393.40	7,157.00	Niobrara				
7,525.48	7,205.00	Nio B				