

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_Buffalo & Badger 4E-15HZ Pad**

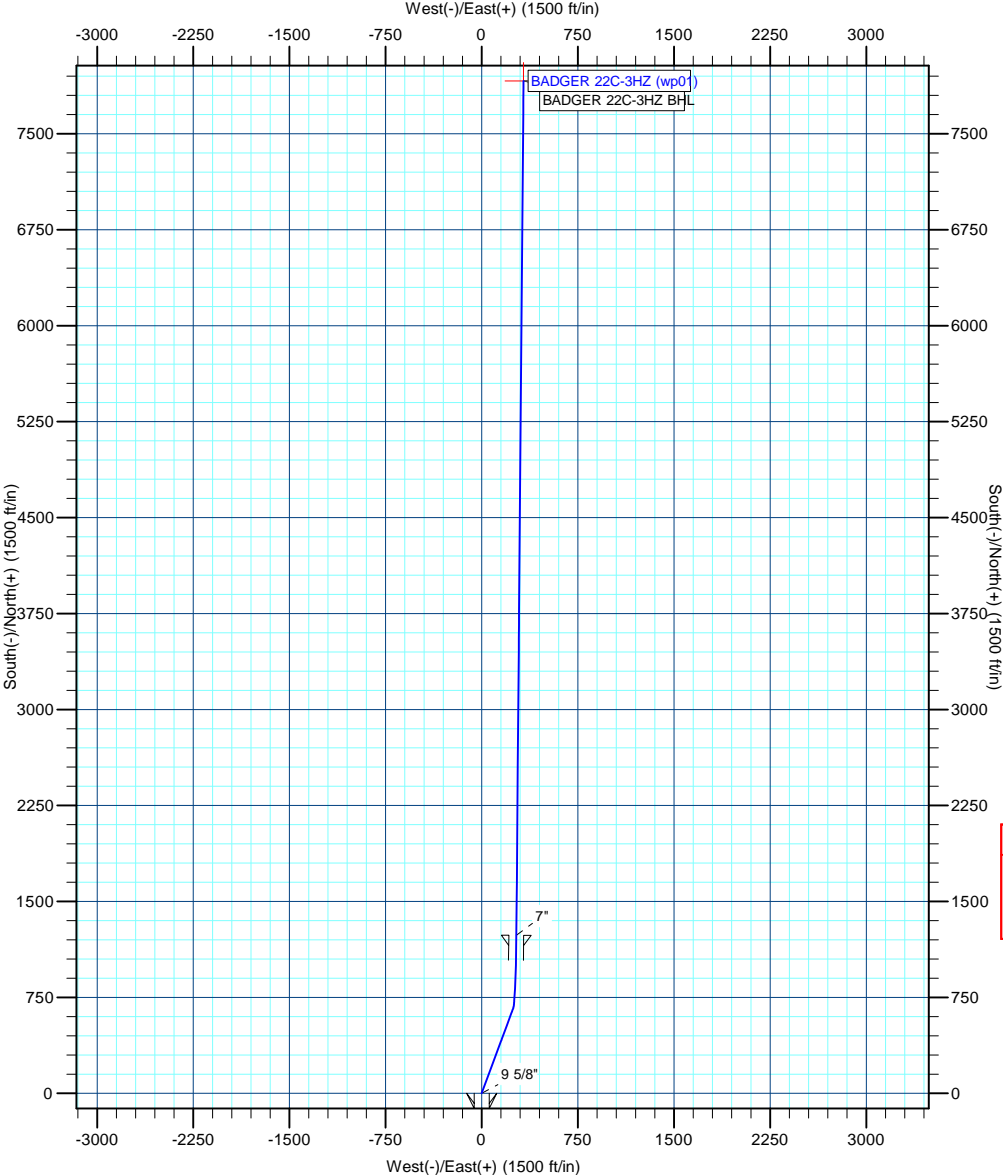
**BADGER 22C-3HZ**

**BADGER 22C-3HZ**

**Plan: BADGER 22C-3HZ (wp01)**

## **Standard Planning Report**

**16 July, 2012**



T

M

Azimuths to True North

Magnetic North: 8.81°

Magnetic Field

Strength: 52809.0snT

Dip Angle: 66.70°

Date: 7/16/2012

Model: IGRF2010



Project: COLORADO NORTHERN ZONE - 83

Site: WELD Buffalo & Badger 4E-15HZ Pad

Well: BADGER 22C-3HZ

Wellbore: BADGER 22C-3HZ

Section:

SHL:

Design: BADGER 22C-3HZ (wp01)

Latitude: 40.057354

Longitude: -104.994740

GL: 5132.00

KB: gl + rkb @ 5149.00ft

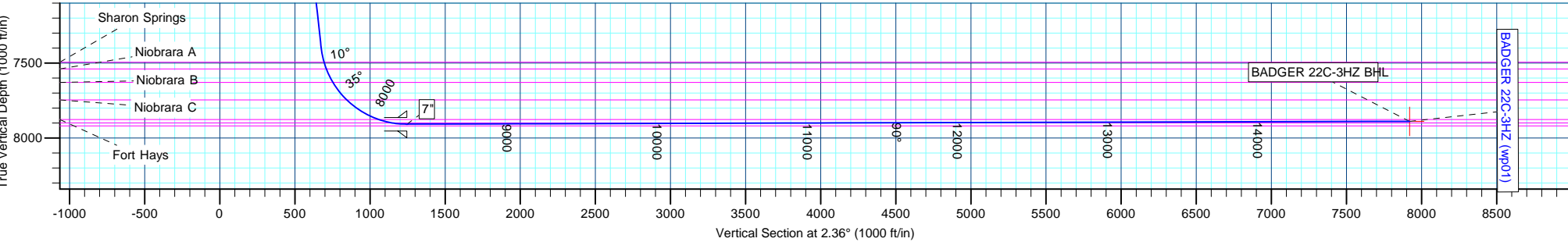
WELL DETAILS: BADGER 22C-3HZ						
+N/-S	+E/-W	Northing	Ground Level: Easting	5132.00 Latitude	Longitude	Slot
0.00	0.00	1264142.37	3141430.59	40.057354	-104.994740	

SECTION DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.00
1324.29	6.49	20.35	1323.60	17.19	6.38	2.00	20.35	17.44
7436.10	6.49	20.35	7396.29	664.47	246.46	0.00	0.00	674.07
8275.12	90.00	0.48	7908.00	1234.00	271.00	10.00	-19.99	1244.13
8291.44	90.16	0.48	7907.98	1250.32	271.14	1.00	-1.18	1260.44
14953.85	90.16	0.48	7889.00	7912.48	326.56	0.00	0.00	7919.21

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
BADGER 22C-3HZ BHL	7889.00	7912.48	326.56	40.079075	-104.993573	Point

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
4311.00	4330.93	Parkman
4757.00	4779.81	Sussex
5227.00	5252.84	Shannon
7494.00	7535.87	Sharon Springs
7539.00	7583.35	Niobrara A
7629.00	7683.55	Niobrara B
7746.00	7833.23	Niobrara C
7877.00	8085.71	Fort Hays
7899.00	8173.39	Codell

CASING DETAILS			
TVD	MD	Name	Size
900.00	900.00	9 5/8"	9-5/8
7908.00	8275.12	7"	7



# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well BADGER 22C-3HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	gl + rkb @ 5149.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	gl + rkb @ 5149.00ft
<b>Site:</b>	WELD_Buffalo & Badger 4E-15HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	BADGER 22C-3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BADGER 22C-3HZ		
<b>Design:</b>	BADGER 22C-3HZ (wp01)		

<b>Project</b>	COLORADO NORTHERN ZONE - 83		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

<b>Site</b>	WELD_Buffalo & Badger 4E-15HZ Pad			
<b>Site Position:</b>		<b>Northing:</b>	1,264,141.85 usft	<b>Latitude:</b> 40.057353
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,141,400.65 usft	<b>Longitude:</b> -104.994847
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b> 0.33 °

Well	BADGER 22C-3HZ				
Well Position	+N/-S	0.35 ft	Northing:	1,264,142.37 usft	Latitude: 40.057354
	+E/-W	29.95 ft	Easting:	3,141,430.59 usft	Longitude: -104.994740
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level: 5,132.00 ft

<b>Wellbore</b>	BADGER 22C-3HZ				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	7/16/2012	8.81	66.70	52,809

<b>Design</b>	BADGER 22C-3HZ (wp01)			
<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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	2.36

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	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	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,324.29	6.49	20.35	1,323.60	17.19	6.38	2.00	2.00	0.00	20.35	
7,436.10	6.49	20.35	7,396.29	664.47	246.46	0.00	0.00	0.00	0.00	
8,275.12	90.00	0.48	7,908.00	1,234.00	271.00	10.00	9.95	-2.37	-19.99	
8,291.44	90.16	0.48	7,907.98	1,250.32	271.14	1.00	1.00	-0.02	-1.18	
14,953.85	90.16	0.48	7,889.00	7,912.48	326.56	0.00	0.00	0.00	0.00	BADGER 22C-3HZ B

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well BADGER 22C-3HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	gl + rkb @ 5149.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	gl + rkb @ 5149.00ft
<b>Site:</b>	WELD_Buffalo & Badger 4E-15HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	BADGER 22C-3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BADGER 22C-3HZ		
<b>Design:</b>	BADGER 22C-3HZ (wp01)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	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
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,100.00	2.00	20.35	1,099.98	1.64	0.61	1.66	2.00	2.00	0.00
1,200.00	4.00	20.35	1,199.84	6.54	2.43	6.64	2.00	2.00	0.00
1,300.00	6.00	20.35	1,299.45	14.71	5.46	14.93	2.00	2.00	0.00
1,324.29	6.49	20.35	1,323.60	17.19	6.38	17.44	2.00	2.00	0.00
Start 6111.81 hold at 1324.29 MD									
1,400.00	6.49	20.35	1,398.82	25.21	9.35	25.57	0.00	0.00	0.00
1,500.00	6.49	20.35	1,498.18	35.80	13.28	36.32	0.00	0.00	0.00
1,600.00	6.49	20.35	1,597.54	46.39	17.21	47.06	0.00	0.00	0.00
1,700.00	6.49	20.35	1,696.90	56.98	21.13	57.80	0.00	0.00	0.00
1,800.00	6.49	20.35	1,796.26	67.57	25.06	68.55	0.00	0.00	0.00
1,900.00	6.49	20.35	1,895.62	78.16	28.99	79.29	0.00	0.00	0.00
2,000.00	6.49	20.35	1,994.98	88.75	32.92	90.03	0.00	0.00	0.00
2,100.00	6.49	20.35	2,094.34	99.34	36.85	100.78	0.00	0.00	0.00
2,200.00	6.49	20.35	2,193.70	109.93	40.78	111.52	0.00	0.00	0.00
2,300.00	6.49	20.35	2,293.06	120.52	44.70	122.27	0.00	0.00	0.00
2,400.00	6.49	20.35	2,392.42	131.11	48.63	133.01	0.00	0.00	0.00
2,500.00	6.49	20.35	2,491.78	141.71	52.56	143.75	0.00	0.00	0.00
2,600.00	6.49	20.35	2,591.14	152.30	56.49	154.50	0.00	0.00	0.00
2,700.00	6.49	20.35	2,690.50	162.89	60.42	165.24	0.00	0.00	0.00
2,800.00	6.49	20.35	2,789.86	173.48	64.34	175.98	0.00	0.00	0.00
2,900.00	6.49	20.35	2,889.22	184.07	68.27	186.73	0.00	0.00	0.00
3,000.00	6.49	20.35	2,988.58	194.66	72.20	197.47	0.00	0.00	0.00
3,100.00	6.49	20.35	3,087.94	205.25	76.13	208.21	0.00	0.00	0.00
3,200.00	6.49	20.35	3,187.30	215.84	80.06	218.96	0.00	0.00	0.00
3,300.00	6.49	20.35	3,286.66	226.43	83.98	229.70	0.00	0.00	0.00
3,400.00	6.49	20.35	3,386.02	237.02	87.91	240.44	0.00	0.00	0.00
3,500.00	6.49	20.35	3,485.38	247.61	91.84	251.19	0.00	0.00	0.00
3,600.00	6.49	20.35	3,584.74	258.20	95.77	261.93	0.00	0.00	0.00
3,700.00	6.49	20.35	3,684.10	268.79	99.70	272.68	0.00	0.00	0.00
3,800.00	6.49	20.35	3,783.46	279.38	103.63	283.42	0.00	0.00	0.00
3,900.00	6.49	20.35	3,882.82	289.97	107.55	294.16	0.00	0.00	0.00
4,000.00	6.49	20.35	3,982.18	300.56	111.48	304.91	0.00	0.00	0.00
4,100.00	6.49	20.35	4,081.54	311.16	115.41	315.65	0.00	0.00	0.00
4,200.00	6.49	20.35	4,180.90	321.75	119.34	326.39	0.00	0.00	0.00
4,300.00	6.49	20.35	4,280.26	332.34	123.27	337.14	0.00	0.00	0.00
4,330.93	6.49	20.35	4,311.00	335.61	124.48	340.46	0.00	0.00	0.00
Parkman									
4,400.00	6.49	20.35	4,379.62	342.93	127.19	347.88	0.00	0.00	0.00
4,500.00	6.49	20.35	4,478.98	353.52	131.12	358.62	0.00	0.00	0.00
4,600.00	6.49	20.35	4,578.34	364.11	135.05	369.37	0.00	0.00	0.00
4,700.00	6.49	20.35	4,677.70	374.70	138.98	380.11	0.00	0.00	0.00

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well BADGER 22C-3HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	gl + rkb @ 5149.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	gl + rkb @ 5149.00ft
<b>Site:</b>	WELD_Buffalo & Badger 4E-15HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	BADGER 22C-3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BADGER 22C-3HZ		
<b>Design:</b>	BADGER 22C-3HZ (wp01)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,779.81	6.49	20.35	4,757.00	383.15	142.11	388.69	0.00	0.00	0.00
<b>Sussex</b>									
4,800.00	6.49	20.35	4,777.06	385.29	142.91	390.86	0.00	0.00	0.00
4,900.00	6.49	20.35	4,876.42	395.88	146.83	401.60	0.00	0.00	0.00
5,000.00	6.49	20.35	4,975.78	406.47	150.76	412.34	0.00	0.00	0.00
5,100.00	6.49	20.35	5,075.14	417.06	154.69	423.09	0.00	0.00	0.00
5,200.00	6.49	20.35	5,174.50	427.65	158.62	433.83	0.00	0.00	0.00
5,252.84	6.49	20.35	5,227.00	433.25	160.69	439.51	0.00	0.00	0.00
<b>Shannon</b>									
5,300.00	6.49	20.35	5,273.86	438.24	162.55	444.57	0.00	0.00	0.00
5,400.00	6.49	20.35	5,373.22	448.83	166.48	455.32	0.00	0.00	0.00
5,500.00	6.49	20.35	5,472.58	459.42	170.40	466.06	0.00	0.00	0.00
5,600.00	6.49	20.35	5,571.94	470.01	174.33	476.80	0.00	0.00	0.00
5,700.00	6.49	20.35	5,671.30	480.61	178.26	487.55	0.00	0.00	0.00
5,800.00	6.49	20.35	5,770.66	491.20	182.19	498.29	0.00	0.00	0.00
5,900.00	6.49	20.35	5,870.02	501.79	186.12	509.03	0.00	0.00	0.00
6,000.00	6.49	20.35	5,969.38	512.38	190.04	519.78	0.00	0.00	0.00
6,100.00	6.49	20.35	6,068.74	522.97	193.97	530.52	0.00	0.00	0.00
6,200.00	6.49	20.35	6,168.10	533.56	197.90	541.27	0.00	0.00	0.00
6,300.00	6.49	20.35	6,267.46	544.15	201.83	552.01	0.00	0.00	0.00
6,400.00	6.49	20.35	6,366.82	554.74	205.76	562.75	0.00	0.00	0.00
6,500.00	6.49	20.35	6,466.18	565.33	209.68	573.50	0.00	0.00	0.00
6,600.00	6.49	20.35	6,565.54	575.92	213.61	584.24	0.00	0.00	0.00
6,700.00	6.49	20.35	6,664.90	586.51	217.54	594.98	0.00	0.00	0.00
6,800.00	6.49	20.35	6,764.26	597.10	221.47	605.73	0.00	0.00	0.00
6,900.00	6.49	20.35	6,863.62	607.69	225.40	616.47	0.00	0.00	0.00
7,000.00	6.49	20.35	6,962.98	618.28	229.33	627.21	0.00	0.00	0.00
7,100.00	6.49	20.35	7,062.34	628.87	233.25	637.96	0.00	0.00	0.00
7,200.00	6.49	20.35	7,161.70	639.46	237.18	648.70	0.00	0.00	0.00
7,300.00	6.49	20.35	7,261.06	650.06	241.11	659.44	0.00	0.00	0.00
7,400.00	6.49	20.35	7,360.42	660.65	245.04	670.19	0.00	0.00	0.00
7,436.10	6.49	20.35	7,396.29	664.47	246.46	674.07	0.00	0.00	0.00
<b>Start DLS 10.00 TFO -19.99</b>									
7,500.00	12.68	10.37	7,459.27	674.76	248.98	684.46	10.00	9.69	-15.62
7,535.87	16.22	8.11	7,494.00	683.60	250.39	693.34	10.00	9.88	-6.29
<b>Sharon Springs</b>									
7,583.35	20.94	6.28	7,539.00	698.61	252.26	708.41	10.00	9.93	-3.86
<b>Niobrara A</b>									
7,600.00	22.59	5.81	7,554.46	704.74	252.90	714.57	10.00	9.95	-2.81
7,683.55	30.91	4.18	7,629.00	742.18	256.10	752.11	10.00	9.96	-1.95
<b>Niobrara B</b>									
7,700.00	32.56	3.95	7,642.99	750.81	256.71	760.76	10.00	9.97	-1.40
7,800.00	42.53	2.89	7,722.18	811.57	260.28	821.61	10.00	9.98	-1.06
7,833.23	45.85	2.63	7,746.00	834.70	261.39	844.77	10.00	9.98	-0.80
<b>Niobrara C</b>									
7,900.00	52.52	2.18	7,789.62	885.16	263.50	895.28	10.00	9.99	-0.68
8,000.00	62.51	1.63	7,843.26	969.36	266.28	979.52	10.00	9.99	-0.55
8,085.71	71.07	1.24	7,877.00	1,048.04	268.24	1,058.21	10.00	9.99	-0.46
<b>Fort Hays</b>									
8,100.00	72.50	1.18	7,881.47	1,061.61	268.53	1,071.78	10.00	9.99	-0.43
8,173.39	79.84	0.88	7,899.00	1,132.81	269.80	1,142.98	10.00	9.99	-0.41
<b>Codell</b>									
8,200.00	82.49	0.77	7,903.09	1,159.10	270.18	1,169.26	10.00	9.99	-0.40

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well BADGER 22C-3HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	gl + rkb @ 5149.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	gl + rkb @ 5149.00ft
<b>Site:</b>	WELD_Buffalo & Badger 4E-15HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	BADGER 22C-3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BADGER 22C-3HZ		
<b>Design:</b>	BADGER 22C-3HZ (wp01)		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,275.12	90.00	0.48	7,908.00	1,234.00	271.00	1,244.13	10.00	9.99	-0.39	
Start DLS 1.00 TFO -1.18 - 7"										
8,291.44	90.16	0.48	7,907.98	1,250.32	271.14	1,260.44	1.00	1.00	-0.02	
Start 6662.41 hold at 8291.44 MD										
8,300.00	90.16	0.48	7,907.95	1,258.88	271.21	1,268.99	0.00	0.00	0.00	
8,400.00	90.16	0.48	7,907.67	1,358.88	272.04	1,368.94	0.00	0.00	0.00	
8,500.00	90.16	0.48	7,907.38	1,458.87	272.87	1,468.89	0.00	0.00	0.00	
8,600.00	90.16	0.48	7,907.10	1,558.87	273.70	1,568.83	0.00	0.00	0.00	
8,700.00	90.16	0.48	7,906.81	1,658.87	274.54	1,668.78	0.00	0.00	0.00	
8,800.00	90.16	0.48	7,906.53	1,758.86	275.37	1,768.72	0.00	0.00	0.00	
8,900.00	90.16	0.48	7,906.24	1,858.86	276.20	1,868.67	0.00	0.00	0.00	
9,000.00	90.16	0.48	7,905.96	1,958.85	277.03	1,968.61	0.00	0.00	0.00	
9,100.00	90.16	0.48	7,905.67	2,058.85	277.86	2,068.56	0.00	0.00	0.00	
9,200.00	90.16	0.48	7,905.39	2,158.85	278.69	2,168.50	0.00	0.00	0.00	
9,300.00	90.16	0.48	7,905.10	2,258.84	279.53	2,268.45	0.00	0.00	0.00	
9,400.00	90.16	0.48	7,904.82	2,358.84	280.36	2,368.39	0.00	0.00	0.00	
9,500.00	90.16	0.48	7,904.53	2,458.84	281.19	2,468.34	0.00	0.00	0.00	
9,600.00	90.16	0.48	7,904.25	2,558.83	282.02	2,568.28	0.00	0.00	0.00	
9,700.00	90.16	0.48	7,903.96	2,658.83	282.85	2,668.23	0.00	0.00	0.00	
9,800.00	90.16	0.48	7,903.68	2,758.82	283.69	2,768.18	0.00	0.00	0.00	
9,900.00	90.16	0.48	7,903.40	2,858.82	284.52	2,868.12	0.00	0.00	0.00	
10,000.00	90.16	0.48	7,903.11	2,958.82	285.35	2,968.07	0.00	0.00	0.00	
10,100.00	90.16	0.48	7,902.83	3,058.81	286.18	3,068.01	0.00	0.00	0.00	
10,200.00	90.16	0.48	7,902.54	3,158.81	287.01	3,167.96	0.00	0.00	0.00	
10,300.00	90.16	0.48	7,902.26	3,258.80	287.85	3,267.90	0.00	0.00	0.00	
10,400.00	90.16	0.48	7,901.97	3,358.80	288.68	3,367.85	0.00	0.00	0.00	
10,500.00	90.16	0.48	7,901.69	3,458.80	289.51	3,467.79	0.00	0.00	0.00	
10,600.00	90.16	0.48	7,901.40	3,558.79	290.34	3,567.74	0.00	0.00	0.00	
10,700.00	90.16	0.48	7,901.12	3,658.79	291.17	3,667.68	0.00	0.00	0.00	
10,800.00	90.16	0.48	7,900.83	3,758.78	292.00	3,767.63	0.00	0.00	0.00	
10,900.00	90.16	0.48	7,900.55	3,858.78	292.84	3,867.57	0.00	0.00	0.00	
11,000.00	90.16	0.48	7,900.26	3,958.78	293.67	3,967.52	0.00	0.00	0.00	
11,100.00	90.16	0.48	7,899.98	4,058.77	294.50	4,067.47	0.00	0.00	0.00	
11,200.00	90.16	0.48	7,899.69	4,158.77	295.33	4,167.41	0.00	0.00	0.00	
11,300.00	90.16	0.48	7,899.41	4,258.77	296.16	4,267.36	0.00	0.00	0.00	
11,400.00	90.16	0.48	7,899.12	4,358.76	297.00	4,367.30	0.00	0.00	0.00	
11,500.00	90.16	0.48	7,898.84	4,458.76	297.83	4,467.25	0.00	0.00	0.00	
11,600.00	90.16	0.48	7,898.55	4,558.75	298.66	4,567.19	0.00	0.00	0.00	
11,700.00	90.16	0.48	7,898.27	4,658.75	299.49	4,667.14	0.00	0.00	0.00	
11,800.00	90.16	0.48	7,897.98	4,758.75	300.32	4,767.08	0.00	0.00	0.00	
11,900.00	90.16	0.48	7,897.70	4,858.74	301.16	4,867.03	0.00	0.00	0.00	
12,000.00	90.16	0.48	7,897.41	4,958.74	301.99	4,966.97	0.00	0.00	0.00	
12,100.00	90.16	0.48	7,897.13	5,058.73	302.82	5,066.92	0.00	0.00	0.00	
12,200.00	90.16	0.48	7,896.84	5,158.73	303.65	5,166.86	0.00	0.00	0.00	
12,300.00	90.16	0.48	7,896.56	5,258.73	304.48	5,266.81	0.00	0.00	0.00	
12,400.00	90.16	0.48	7,896.27	5,358.72	305.32	5,366.76	0.00	0.00	0.00	
12,500.00	90.16	0.48	7,895.99	5,458.72	306.15	5,466.70	0.00	0.00	0.00	
12,600.00	90.16	0.48	7,895.70	5,558.72	306.98	5,566.65	0.00	0.00	0.00	
12,700.00	90.16	0.48	7,895.42	5,658.71	307.81	5,666.59	0.00	0.00	0.00	
12,800.00	90.16	0.48	7,895.14	5,758.71	308.64	5,766.54	0.00	0.00	0.00	
12,900.00	90.16	0.48	7,894.85	5,858.70	309.47	5,866.48	0.00	0.00	0.00	
13,000.00	90.16	0.48	7,894.57	5,958.70	310.31	5,966.43	0.00	0.00	0.00	
13,100.00	90.16	0.48	7,894.28	6,058.70	311.14	6,066.37	0.00	0.00	0.00	

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well BADGER 22C-3HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	gl + rkb @ 5149.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	gl + rkb @ 5149.00ft
<b>Site:</b>	WELD_Buffalo & Badger 4E-15HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	BADGER 22C-3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BADGER 22C-3HZ		
<b>Design:</b>	BADGER 22C-3HZ (wp01)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,200.00	90.16	0.48	7,894.00	6,158.69	311.97	6,166.32	0.00	0.00	0.00
13,300.00	90.16	0.48	7,893.71	6,258.69	312.80	6,266.26	0.00	0.00	0.00
13,400.00	90.16	0.48	7,893.43	6,358.68	313.63	6,366.21	0.00	0.00	0.00
13,500.00	90.16	0.48	7,893.14	6,458.68	314.47	6,466.15	0.00	0.00	0.00
13,600.00	90.16	0.48	7,892.86	6,558.68	315.30	6,566.10	0.00	0.00	0.00
13,700.00	90.16	0.48	7,892.57	6,658.67	316.13	6,666.05	0.00	0.00	0.00
13,800.00	90.16	0.48	7,892.29	6,758.67	316.96	6,765.99	0.00	0.00	0.00
13,900.00	90.16	0.48	7,892.00	6,858.67	317.79	6,865.94	0.00	0.00	0.00
14,000.00	90.16	0.48	7,891.72	6,958.66	318.63	6,965.88	0.00	0.00	0.00
14,100.00	90.16	0.48	7,891.43	7,058.66	319.46	7,065.83	0.00	0.00	0.00
14,200.00	90.16	0.48	7,891.15	7,158.65	320.29	7,165.77	0.00	0.00	0.00
14,300.00	90.16	0.48	7,890.86	7,258.65	321.12	7,265.72	0.00	0.00	0.00
14,400.00	90.16	0.48	7,890.58	7,358.65	321.95	7,365.66	0.00	0.00	0.00
14,500.00	90.16	0.48	7,890.29	7,458.64	322.79	7,465.61	0.00	0.00	0.00
14,600.00	90.16	0.48	7,890.01	7,558.64	323.62	7,565.55	0.00	0.00	0.00
14,700.00	90.16	0.48	7,889.72	7,658.63	324.45	7,665.50	0.00	0.00	0.00
14,800.00	90.16	0.48	7,889.44	7,758.63	325.28	7,765.44	0.00	0.00	0.00
14,900.00	90.16	0.48	7,889.15	7,858.63	326.11	7,865.39	0.00	0.00	0.00
14,953.85	90.16	0.48	7,889.00	7,912.48	326.56	7,919.21	0.00	0.00	0.00
TD at 14953.85 - BADGER 22C-3HZ BHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BADGER 22C-3HZ BHL	0.00	0.00	7,889.00	7,912.48	326.56	1,272,056.57	3,141,712.07	40.079075	-104.993573
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
900.00	900.00	9 5/8"	9-5/8	12-1/4	
8,275.12	7,908.00	7"	7	8-3/4	

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well BADGER 22C-3HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	gl + rkb @ 5149.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	gl + rkb @ 5149.00ft
<b>Site:</b>	WELD_Buffalo & Badger 4E-15HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	BADGER 22C-3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BADGER 22C-3HZ		
<b>Design:</b>	BADGER 22C-3HZ (wp01)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,330.93	4,311.00	Parkman				
4,779.81	4,757.00	Sussex				
5,252.84	5,227.00	Shannon				
7,535.87	7,494.00	Sharon Springs				
7,583.35	7,539.00	Niobrara A				
7,683.55	7,629.00	Niobrara B				
7,833.23	7,746.00	Niobrara C				
8,085.71	7,877.00	Fort Hays				
8,173.39	7,899.00	Codell				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,000.00	1,000.00	0.00	0.00	Start Build 2.00	
1,324.29	1,323.60	17.19	6.38	Start 6111.81 hold at 1324.29 MD	
7,436.10	7,396.29	664.47	246.46	Start DLS 10.00 TFO -19.99	
8,275.12	7,908.00	1,234.00	271.00	Start DLS 1.00 TFO -1.18	
8,291.44	7,907.98	1,250.32	271.14	Start 6662.41 hold at 8291.44 MD	
14,953.85	7,889.00	7,912.48	326.56	TD at 14953.85	