

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_BUFFALO & BADGER 29-15HZ PAD**

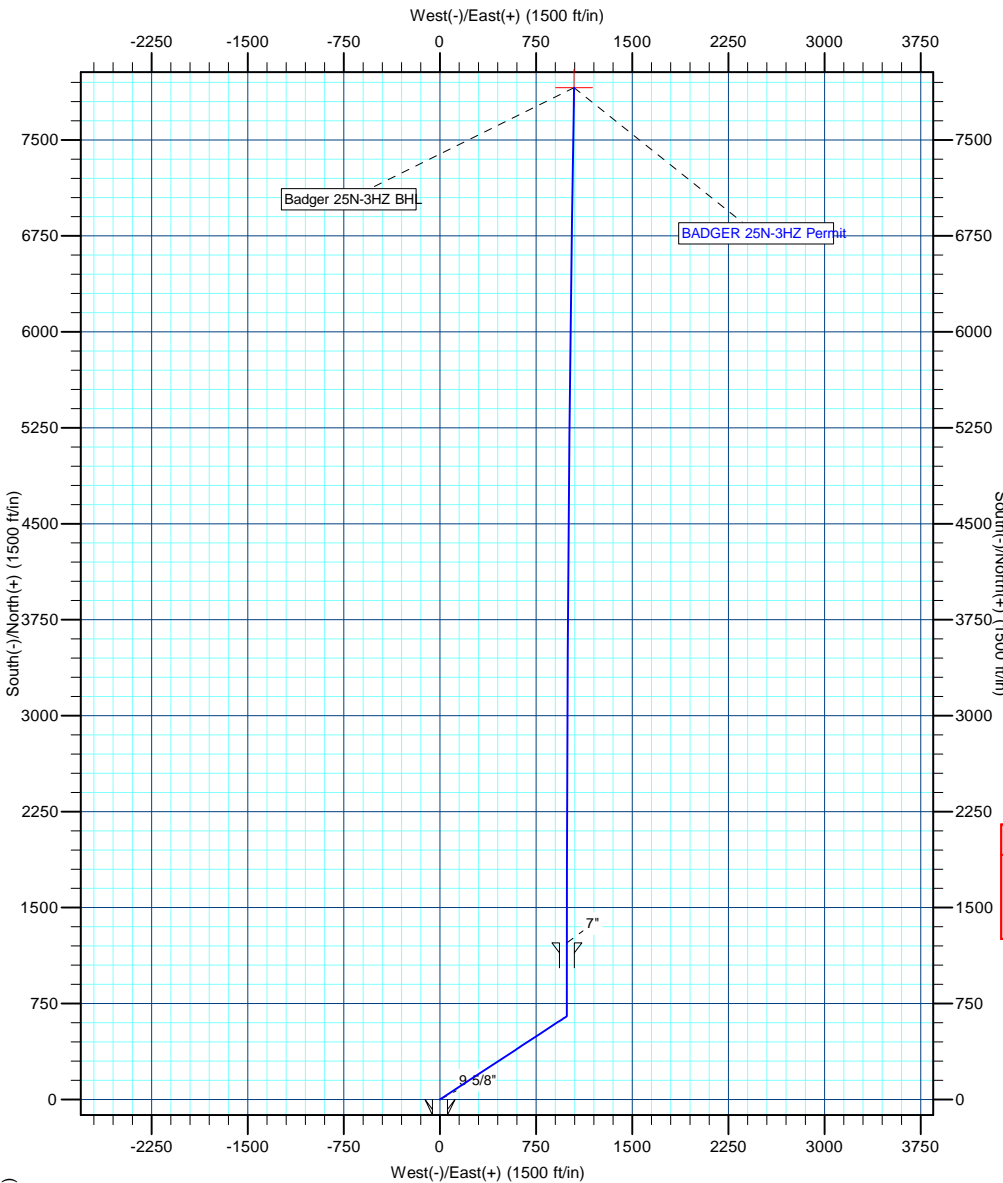
**BADGER 25N-3HZ**

**BADGER 25N-3HZ**

**Plan: BADGER 25N-3HZ Permit**

## **Standard Planning Report**

**16 July, 2012**



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Azimuths to True North

Magnetic North: 8.81°

Magnetic Field

Strength: 52809.2snT

Dip Angle: 66.70°

Date: 7/16/2012

Model: IGRF2010



Project: COLORADO NORTHERN ZONE - 83

Site: WELD\_BUFFALO & BADGER 29-15HZ PAD

Well: BADGER 25N-3HZ

Wellbore: BADGER 25N-3HZ

Section:

SHL:

Design: BADGER 25N-3HZ Permit

Latitude: 40.057368

Longitude: -104.993775

GL: 5125.00

KB: 17' RKB + 5125' GL @ 5142.00ft

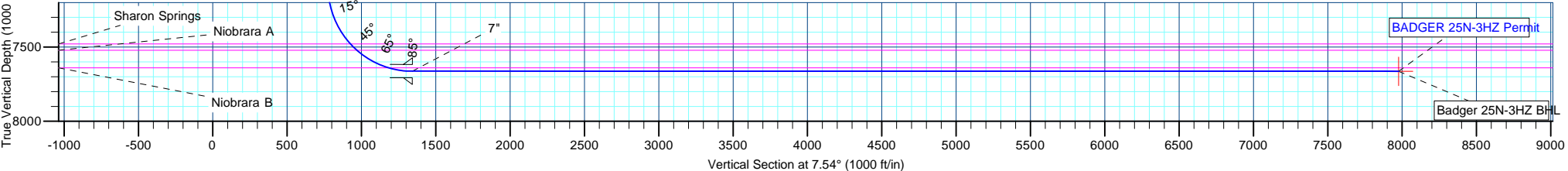
WELL DETAILS: BADGER 25N-3HZ						
+N/-S	+E/-W	Northing	Ground Level: Easting	5125.00 Latitude	Longitude	Slot
0.00	0.00	1264149.02	3141700.68	40.057368	-104.993775	

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
1610.66	12.21	56.70	1606.05	35.60	54.19	2.00	56.70	42.40
6602.59	12.21	56.70	6484.99	615.44	936.81	0.00	0.00	733.04
7213.25	0.00	0.00	7091.04	651.04	991.00	2.00	180.00	775.44
8113.25	90.00	0.00	7664.00	1224.00	991.00	10.00	0.00	1343.45
14796.59	90.00	0.95	7664.00	7907.03	1046.56	0.01	90.00	7975.99

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Badger 25N-3HZ BHL	7664.00	7907.03	1046.56	40.079074	-104.990035	Point

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
4304.00	4371.09	Parkman
4750.00	4827.42	Sussex
5064.00	5148.69	Shannon
7479.00	7639.44	Sharon Springs
7522.00	7701.03	Niobrara A
7640.00	7946.83	Niobrara B

CASING DETAILS			
TVD	MD	Name	Size
900.00	900.00	9 5/8"	9-5/8
7664.00	8113.25	7"	7



# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well BADGER 25N-3HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	17' RKB + 5125' GL @ 5142.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	17' RKB + 5125' GL @ 5142.00ft
<b>Site:</b>	WELD_BUFFALO & BADGER 29-15HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	BADGER 25N-3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BADGER 25N-3HZ		
<b>Design:</b>	BADGER 25N-3HZ Permit		

<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		

Site		WELD_BUFFALO & BADGER 29-15HZ PAD			
Site Position:		Northing:	1,264,146.69 usft	Latitude:	40.057363
From:	Lat/Long	Easting:	3,141,610.56 usft	Longitude:	-104.994097
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.33 °

Well	BADGER 25N-3HZ					
Well Position	+N/-S	1.81 ft	Northing:	1,264,149.02 usft	Latitude:	40.057368
	+E/-W	90.13 ft	Easting:	3,141,700.68 usft	Longitude:	-104.993775
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,125.00 ft

<b>Wellbore</b>	BADGER 25N-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 25N-3HZ Permit			
<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	7.54

<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	
1,610.66	12.21	56.70	1,606.05	35.60	54.19	2.00	2.00	0.00	56.70	
6,602.59	12.21	56.70	6,484.99	615.44	936.81	0.00	0.00	0.00	0.00	
7,213.25	0.00	0.00	7,091.04	651.04	991.00	2.00	-2.00	0.00	180.00	
8,113.25	90.00	0.00	7,664.00	1,224.00	991.00	10.00	10.00	0.00	0.00	
14,796.59	90.00	0.95	7,664.00	7,907.03	1,046.56	0.01	0.00	0.01	90.00	Badger 25N-3HZ BHL

# Anadarko Petroleum Corp

## Planning Report

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<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	17' RKB + 5125' GL @ 5142.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	17' RKB + 5125' GL @ 5142.00ft
<b>Site:</b>	WELD_BUFFALO & BADGER 29-15HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	BADGER 25N-3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BADGER 25N-3HZ		
<b>Design:</b>	BADGER 25N-3HZ Permit		

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	56.70	1,099.98	0.96	1.46	1.14	2.00	2.00	0.00
1,200.00	4.00	56.70	1,199.84	3.83	5.83	4.56	2.00	2.00	0.00
1,300.00	6.00	56.70	1,299.45	8.62	13.12	10.26	2.00	2.00	0.00
1,400.00	8.00	56.70	1,398.70	15.31	23.30	18.23	2.00	2.00	0.00
1,500.00	10.00	56.70	1,497.47	23.90	36.38	28.46	2.00	2.00	0.00
1,600.00	12.00	56.70	1,595.62	34.37	52.32	40.94	2.00	2.00	0.00
1,610.66	12.21	56.70	1,606.05	35.60	54.19	42.40	2.00	2.00	0.00
Start 4991.93 hold at 1610.66 MD									
1,700.00	12.21	56.70	1,693.36	45.98	69.99	54.76	0.00	0.00	0.00
1,800.00	12.21	56.70	1,791.10	57.59	87.67	68.60	0.00	0.00	0.00
1,900.00	12.21	56.70	1,888.84	69.21	105.35	82.43	0.00	0.00	0.00
2,000.00	12.21	56.70	1,986.57	80.82	123.03	96.27	0.00	0.00	0.00
2,100.00	12.21	56.70	2,084.31	92.44	140.71	110.10	0.00	0.00	0.00
2,200.00	12.21	56.70	2,182.05	104.06	158.39	123.94	0.00	0.00	0.00
2,300.00	12.21	56.70	2,279.78	115.67	176.07	137.77	0.00	0.00	0.00
2,400.00	12.21	56.70	2,377.52	127.29	193.75	151.61	0.00	0.00	0.00
2,500.00	12.21	56.70	2,475.26	138.90	211.43	165.44	0.00	0.00	0.00
2,600.00	12.21	56.70	2,572.99	150.52	229.11	179.28	0.00	0.00	0.00
2,700.00	12.21	56.70	2,670.73	162.13	246.80	193.11	0.00	0.00	0.00
2,800.00	12.21	56.70	2,768.47	173.75	264.48	206.95	0.00	0.00	0.00
2,900.00	12.21	56.70	2,866.20	185.36	282.16	220.78	0.00	0.00	0.00
3,000.00	12.21	56.70	2,963.94	196.98	299.84	234.62	0.00	0.00	0.00
3,100.00	12.21	56.70	3,061.68	208.60	317.52	248.45	0.00	0.00	0.00
3,200.00	12.21	56.70	3,159.41	220.21	335.20	262.29	0.00	0.00	0.00
3,300.00	12.21	56.70	3,257.15	231.83	352.88	276.12	0.00	0.00	0.00
3,400.00	12.21	56.70	3,354.89	243.44	370.56	289.96	0.00	0.00	0.00
3,500.00	12.21	56.70	3,452.62	255.06	388.24	303.80	0.00	0.00	0.00
3,600.00	12.21	56.70	3,550.36	266.67	405.92	317.63	0.00	0.00	0.00
3,700.00	12.21	56.70	3,648.10	278.29	423.60	331.47	0.00	0.00	0.00
3,800.00	12.21	56.70	3,745.83	289.90	441.29	345.30	0.00	0.00	0.00
3,900.00	12.21	56.70	3,843.57	301.52	458.97	359.14	0.00	0.00	0.00
4,000.00	12.21	56.70	3,941.31	313.13	476.65	372.97	0.00	0.00	0.00
4,100.00	12.21	56.70	4,039.05	324.75	494.33	386.81	0.00	0.00	0.00
4,200.00	12.21	56.70	4,136.78	336.37	512.01	400.64	0.00	0.00	0.00
4,300.00	12.21	56.70	4,234.52	347.98	529.69	414.48	0.00	0.00	0.00
4,371.09	12.21	56.70	4,304.00	356.24	542.26	424.31	0.00	0.00	0.00
Parkman									
4,400.00	12.21	56.70	4,332.26	359.60	547.37	428.31	0.00	0.00	0.00
4,500.00	12.21	56.70	4,429.99	371.21	565.05	442.15	0.00	0.00	0.00
4,600.00	12.21	56.70	4,527.73	382.83	582.73	455.98	0.00	0.00	0.00
4,700.00	12.21	56.70	4,625.47	394.44	600.41	469.82	0.00	0.00	0.00

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<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	17' RKB + 5125' GL @ 5142.00ft
<b>Site:</b>	WELD_BUFFALO & BADGER 29-15HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	BADGER 25N-3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BADGER 25N-3HZ		
<b>Design:</b>	BADGER 25N-3HZ Permit		

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)
4,800.00	12.21	56.70	4,723.20	406.06	618.10	483.65	0.00	0.00	0.00
4,827.42	12.21	56.70	4,750.00	409.24	622.94	487.44	0.00	0.00	0.00
<b>Sussex</b>									
4,900.00	12.21	56.70	4,820.94	417.67	635.78	497.49	0.00	0.00	0.00
5,000.00	12.21	56.70	4,918.68	429.29	653.46	511.32	0.00	0.00	0.00
5,100.00	12.21	56.70	5,016.41	440.91	671.14	525.16	0.00	0.00	0.00
5,148.69	12.21	56.70	5,064.00	446.56	679.75	531.89	0.00	0.00	0.00
<b>Shannon</b>									
5,200.00	12.21	56.70	5,114.15	452.52	688.82	538.99	0.00	0.00	0.00
5,300.00	12.21	56.70	5,211.89	464.14	706.50	552.83	0.00	0.00	0.00
5,400.00	12.21	56.70	5,309.62	475.75	724.18	566.66	0.00	0.00	0.00
5,500.00	12.21	56.70	5,407.36	487.37	741.86	580.50	0.00	0.00	0.00
5,600.00	12.21	56.70	5,505.10	498.98	759.54	594.33	0.00	0.00	0.00
5,700.00	12.21	56.70	5,602.83	510.60	777.22	608.17	0.00	0.00	0.00
5,800.00	12.21	56.70	5,700.57	522.21	794.90	622.00	0.00	0.00	0.00
5,900.00	12.21	56.70	5,798.31	533.83	812.59	635.84	0.00	0.00	0.00
6,000.00	12.21	56.70	5,896.04	545.45	830.27	649.67	0.00	0.00	0.00
6,100.00	12.21	56.70	5,993.78	557.06	847.95	663.51	0.00	0.00	0.00
6,200.00	12.21	56.70	6,091.52	568.68	865.63	677.34	0.00	0.00	0.00
6,300.00	12.21	56.70	6,189.25	580.29	883.31	691.18	0.00	0.00	0.00
6,400.00	12.21	56.70	6,286.99	591.91	900.99	705.01	0.00	0.00	0.00
6,500.00	12.21	56.70	6,384.73	603.52	918.67	718.85	0.00	0.00	0.00
6,602.59	12.21	56.70	6,484.99	615.44	936.81	733.04	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
6,700.00	10.26	56.70	6,580.53	625.86	952.68	745.46	2.00	-2.00	0.00
6,800.00	8.26	56.70	6,679.22	634.70	966.13	755.99	2.00	-2.00	0.00
6,900.00	6.26	56.70	6,778.41	641.65	976.70	764.26	2.00	-2.00	0.00
7,000.00	4.26	56.70	6,877.99	646.68	984.37	770.26	2.00	-2.00	0.00
7,100.00	2.26	56.70	6,977.82	649.81	989.13	773.98	2.00	-2.00	0.00
7,200.00	0.26	56.70	7,077.79	651.02	990.97	775.42	2.00	-2.00	0.00
7,213.25	0.00	0.00	7,091.04	651.04	991.00	775.44	2.00	-2.00	0.00
<b>Start Build 10.00</b>									
7,250.00	3.68	0.00	7,127.77	652.22	991.00	776.61	10.00	10.00	0.00
7,300.00	8.67	0.00	7,177.46	657.59	991.00	781.94	10.00	10.00	0.00
7,350.00	13.67	0.00	7,226.50	667.28	991.00	791.55	10.00	10.00	0.00
7,400.00	18.67	0.00	7,274.50	681.21	991.00	805.35	10.00	10.00	0.00
7,450.00	23.67	0.00	7,321.11	699.26	991.00	823.25	10.00	10.00	0.00
7,500.00	28.67	0.00	7,365.97	721.31	991.00	845.11	10.00	10.00	0.00
7,550.00	33.67	0.00	7,408.73	747.18	991.00	870.76	10.00	10.00	0.00
7,600.00	38.67	0.00	7,449.08	776.69	991.00	900.01	10.00	10.00	0.00
7,639.44	42.62	0.00	7,479.00	802.37	991.00	925.47	10.00	10.00	0.00
<b>Sharon Springs</b>									
7,650.00	43.67	0.00	7,486.71	809.60	991.00	932.63	10.00	10.00	0.00
7,700.00	48.67	0.00	7,521.32	845.66	991.00	968.38	10.00	10.00	0.00
7,701.03	48.78	0.00	7,522.00	846.43	991.00	969.15	10.00	10.00	0.00
<b>Niobrara A</b>									
7,750.00	53.67	0.00	7,552.66	884.60	991.00	1,006.98	10.00	10.00	0.00
7,800.00	58.67	0.00	7,580.48	926.12	991.00	1,048.15	10.00	10.00	0.00
7,850.00	63.67	0.00	7,604.58	969.91	991.00	1,091.56	10.00	10.00	0.00
7,900.00	68.67	0.00	7,624.77	1,015.64	991.00	1,136.89	10.00	10.00	0.00
7,946.83	73.36	0.00	7,640.00	1,059.91	991.00	1,180.78	10.00	10.00	0.00
<b>Niobrara B</b>									
7,950.00	73.67	0.00	7,640.90	1,062.95	991.00	1,183.79	10.00	10.00	0.00

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<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	17' RKB + 5125' GL @ 5142.00ft
<b>Site:</b>	WELD_BUFFALO & BADGER 29-15HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	BADGER 25N-3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BADGER 25N-3HZ		
<b>Design:</b>	BADGER 25N-3HZ Permit		

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)
8,000.00	78.67	0.00	7,652.84	1,111.48	991.00	1,231.91	10.00	10.00	0.00
8,050.00	83.67	0.00	7,660.51	1,160.88	991.00	1,280.87	10.00	10.00	0.00
8,100.00	88.67	0.00	7,663.85	1,210.75	991.00	1,330.31	10.00	10.00	0.00
8,113.25	90.00	0.00	7,664.00	1,224.00	991.00	1,343.45	10.00	10.00	0.00
Start DLS 0.01 TFO 90.00 - 7"									
8,200.00	90.00	0.01	7,664.00	1,310.75	991.01	1,429.45	0.01	0.00	0.01
8,300.00	90.00	0.03	7,664.00	1,410.75	991.04	1,528.59	0.01	0.00	0.01
8,400.00	90.00	0.04	7,664.00	1,510.75	991.10	1,627.73	0.01	0.00	0.01
8,500.00	90.00	0.06	7,664.00	1,610.75	991.19	1,726.88	0.01	0.00	0.01
8,600.00	90.00	0.07	7,664.00	1,710.75	991.29	1,826.03	0.01	0.00	0.01
8,700.00	90.00	0.08	7,664.00	1,810.75	991.43	1,925.18	0.01	0.00	0.01
8,800.00	90.00	0.10	7,664.00	1,910.75	991.59	2,024.34	0.01	0.00	0.01
8,900.00	90.00	0.11	7,664.00	2,010.75	991.77	2,123.50	0.01	0.00	0.01
9,000.00	90.00	0.13	7,664.00	2,110.75	991.98	2,222.66	0.01	0.00	0.01
9,100.00	90.00	0.14	7,664.00	2,210.75	992.21	2,321.82	0.01	0.00	0.01
9,200.00	90.00	0.15	7,664.00	2,310.75	992.47	2,420.99	0.01	0.00	0.01
9,300.00	90.00	0.17	7,664.00	2,410.75	992.75	2,520.17	0.01	0.00	0.01
9,400.00	90.00	0.18	7,664.00	2,510.75	993.06	2,619.34	0.01	0.00	0.01
9,500.00	90.00	0.20	7,664.00	2,610.74	993.39	2,718.52	0.01	0.00	0.01
9,600.00	90.00	0.21	7,664.00	2,710.74	993.75	2,817.70	0.01	0.00	0.01
9,700.00	90.00	0.23	7,664.00	2,810.74	994.13	2,916.89	0.01	0.00	0.01
9,800.00	90.00	0.24	7,664.00	2,910.74	994.54	3,016.07	0.01	0.00	0.01
9,900.00	90.00	0.25	7,664.00	3,010.74	994.97	3,115.26	0.01	0.00	0.01
10,000.00	90.00	0.27	7,664.00	3,110.74	995.43	3,214.46	0.01	0.00	0.01
10,100.00	90.00	0.28	7,664.00	3,210.74	995.91	3,313.66	0.01	0.00	0.01
10,200.00	90.00	0.30	7,664.00	3,310.74	996.42	3,412.86	0.01	0.00	0.01
10,300.00	90.00	0.31	7,664.00	3,410.74	996.95	3,512.06	0.01	0.00	0.01
10,400.00	90.00	0.33	7,664.00	3,510.73	997.50	3,611.27	0.01	0.00	0.01
10,500.00	90.00	0.34	7,664.00	3,610.73	998.09	3,710.48	0.01	0.00	0.01
10,600.00	90.00	0.35	7,664.00	3,710.73	998.69	3,809.69	0.01	0.00	0.01
10,700.00	90.00	0.37	7,664.00	3,810.73	999.32	3,908.91	0.01	0.00	0.01
10,800.00	90.00	0.38	7,664.00	3,910.73	999.98	4,008.13	0.01	0.00	0.01
10,900.00	90.00	0.40	7,664.00	4,010.73	1,000.66	4,107.35	0.01	0.00	0.01
11,000.00	90.00	0.41	7,664.00	4,110.72	1,001.37	4,206.57	0.01	0.00	0.01
11,100.00	90.00	0.43	7,664.00	4,210.72	1,002.10	4,305.80	0.01	0.00	0.01
11,200.00	90.00	0.44	7,664.00	4,310.72	1,002.85	4,405.04	0.01	0.00	0.01
11,300.00	90.00	0.45	7,664.00	4,410.71	1,003.63	4,504.27	0.01	0.00	0.01
11,400.00	90.00	0.47	7,664.00	4,510.71	1,004.44	4,603.51	0.01	0.00	0.01
11,500.00	90.00	0.48	7,664.00	4,610.71	1,005.27	4,702.75	0.01	0.00	0.01
11,600.00	90.00	0.50	7,664.00	4,710.70	1,006.12	4,801.99	0.01	0.00	0.01
11,700.00	90.00	0.51	7,664.00	4,810.70	1,007.00	4,901.24	0.01	0.00	0.01
11,800.00	90.00	0.53	7,664.00	4,910.70	1,007.91	5,000.49	0.01	0.00	0.01
11,900.00	90.00	0.54	7,664.00	5,010.69	1,008.84	5,099.74	0.01	0.00	0.01
12,000.00	90.00	0.55	7,664.00	5,110.69	1,009.79	5,199.00	0.01	0.00	0.01
12,100.00	90.00	0.57	7,664.00	5,210.68	1,010.77	5,298.26	0.01	0.00	0.01
12,200.00	90.00	0.58	7,664.00	5,310.68	1,011.78	5,397.52	0.01	0.00	0.01
12,300.00	90.00	0.60	7,664.00	5,410.67	1,012.80	5,496.79	0.01	0.00	0.01
12,400.00	90.00	0.61	7,664.00	5,510.67	1,013.86	5,596.05	0.01	0.00	0.01
12,500.00	90.00	0.63	7,664.00	5,610.66	1,014.94	5,695.32	0.01	0.00	0.01
12,600.00	90.00	0.64	7,664.00	5,710.65	1,016.04	5,794.60	0.01	0.00	0.01
12,700.00	90.00	0.65	7,664.00	5,810.65	1,017.17	5,893.88	0.01	0.00	0.01
12,800.00	90.00	0.67	7,664.00	5,910.64	1,018.32	5,993.16	0.01	0.00	0.01
12,900.00	90.00	0.68	7,664.00	6,010.63	1,019.50	6,092.44	0.01	0.00	0.01
13,000.00	90.00	0.70	7,664.00	6,110.63	1,020.71	6,191.73	0.01	0.00	0.01

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well BADGER 25N-3HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	17' RKB + 5125' GL @ 5142.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	17' RKB + 5125' GL @ 5142.00ft
<b>Site:</b>	WELD_BUFFALO & BADGER 29-15HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	BADGER 25N-3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BADGER 25N-3HZ		
<b>Design:</b>	BADGER 25N-3HZ Permit		

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)
13,100.00	90.00	0.71	7,664.00	6,210.62	1,021.93	6,291.01	0.01	0.00	0.01
13,200.00	90.00	0.73	7,664.00	6,310.61	1,023.19	6,390.31	0.01	0.00	0.01
13,300.00	90.00	0.74	7,664.00	6,410.60	1,024.46	6,489.60	0.01	0.00	0.01
13,400.00	90.00	0.75	7,664.00	6,510.59	1,025.77	6,588.90	0.01	0.00	0.01
13,500.00	90.00	0.77	7,664.00	6,610.59	1,027.09	6,688.20	0.01	0.00	0.01
13,600.00	90.00	0.78	7,664.00	6,710.58	1,028.45	6,787.50	0.01	0.00	0.01
13,700.00	90.00	0.80	7,664.00	6,810.57	1,029.82	6,886.81	0.01	0.00	0.01
13,800.00	90.00	0.81	7,664.00	6,910.56	1,031.23	6,986.12	0.01	0.00	0.01
13,900.00	90.00	0.82	7,664.00	7,010.55	1,032.65	7,085.43	0.01	0.00	0.01
14,000.00	90.00	0.84	7,664.00	7,110.54	1,034.11	7,184.75	0.01	0.00	0.01
14,100.00	90.00	0.85	7,664.00	7,210.53	1,035.58	7,284.07	0.01	0.00	0.01
14,200.00	90.00	0.87	7,664.00	7,310.51	1,037.09	7,383.39	0.01	0.00	0.01
14,300.00	90.00	0.88	7,664.00	7,410.50	1,038.61	7,482.71	0.01	0.00	0.01
14,400.00	90.00	0.90	7,664.00	7,510.49	1,040.16	7,582.04	0.01	0.00	0.01
14,500.00	90.00	0.91	7,664.00	7,610.48	1,041.74	7,681.37	0.01	0.00	0.01
14,600.00	90.00	0.92	7,664.00	7,710.47	1,043.34	7,780.70	0.01	0.00	0.01
14,700.00	90.00	0.94	7,664.00	7,810.45	1,044.97	7,880.04	0.01	0.00	0.01
14,796.59	90.00	0.95	7,664.00	7,907.03	1,046.56	7,975.99	0.01	0.00	0.01
TD at 14796.59 - Badger 25N-3HZ BHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Badger 25N-3HZ BHL	0.00	0.00	7,664.00	7,907.03	1,046.56	1,272,061.88	3,142,702.09	40.079074	-104.990035
- 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	
8,113.25	7,664.00	7"		7	8-3/4	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,371.09	4,304.00	Parkman				
4,827.42	4,750.00	Sussex				
5,148.69	5,064.00	Shannon				
7,639.44	7,479.00	Sharon Springs				
7,701.03	7,522.00	Niobrara A				
7,946.83	7,640.00	Niobrara B				

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well BADGER 25N-3HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	17' RKB + 5125' GL @ 5142.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	17' RKB + 5125' GL @ 5142.00ft
<b>Site:</b>	WELD_BUFFALO & BADGER 29-15HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	BADGER 25N-3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BADGER 25N-3HZ		
<b>Design:</b>	BADGER 25N-3HZ Permit		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,000.00	1,000.00	0.00	0.00	Start Build 2.00
1,610.66	1,606.05	35.60	54.19	Start 4991.93 hold at 1610.66 MD
6,602.59	6,484.99	615.44	936.81	Start Drop -2.00
7,213.25	7,091.04	651.04	991.00	Start Build 10.00
8,113.25	7,664.00	1,224.00	991.00	Start DLS 0.01 TFO 90.00
14,796.59	7,664.00	7,907.03	1,046.56	TD at 14796.59