

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_Buffalo & Badger 4C-15HZ Pad

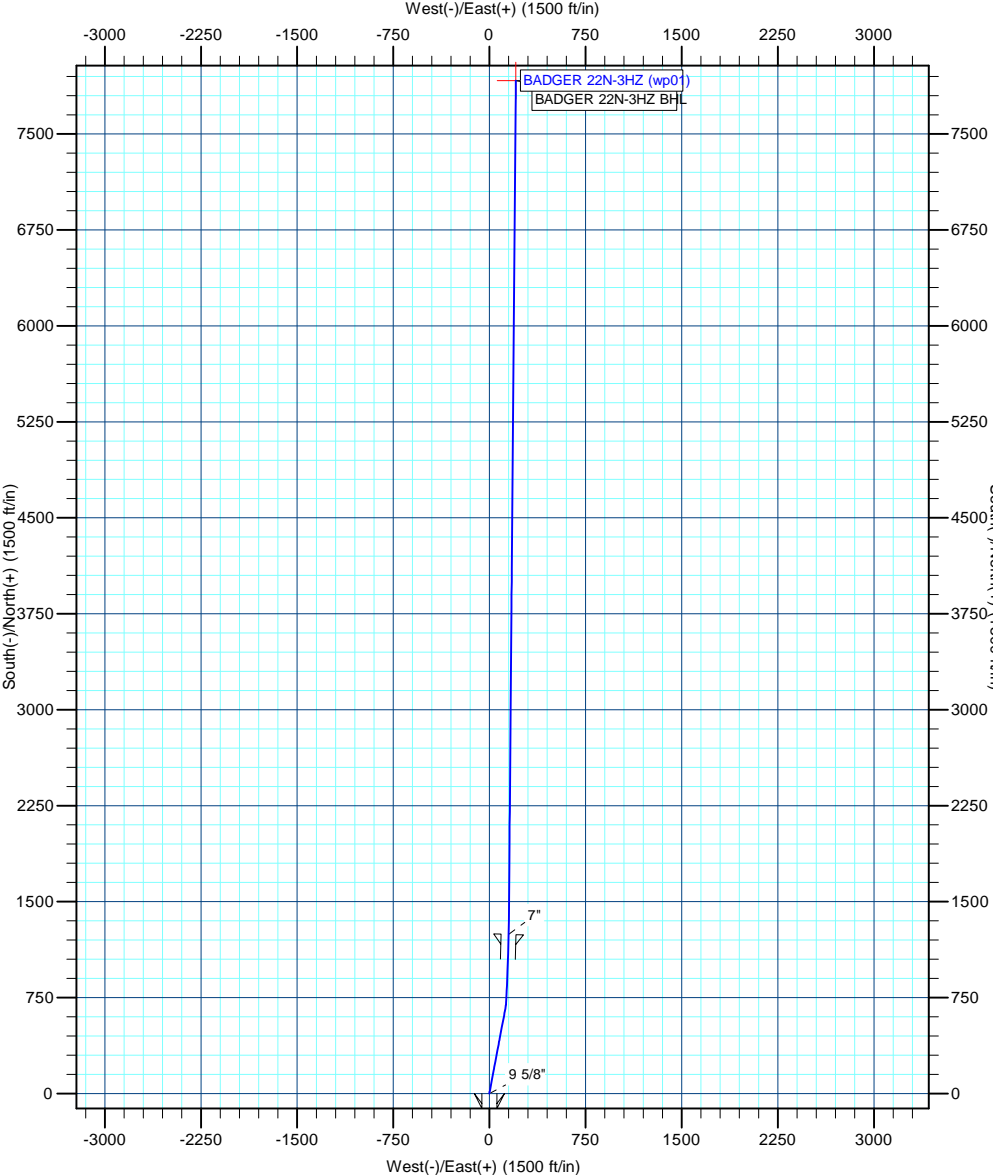
BADGER 22N-3HZ

BADGER 22N-3HZ

Plan: BADGER 22N-3HZ (wp01)

Standard Planning Report

13 July, 2012



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Azimuths to True North

Magnetic North: 8.81°

Magnetic Field

Strength: 52809.8snT

Dip Angle: 66.70°

Date: 7/13/2012

Model: IGRF2010



Project: COLORADO NORTHERN ZONE - 83

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

Well: BADGER 22N-3HZ

Wellbore: BADGER 22N-3HZ

Section:

SHL:

Design: BADGER 22N-3HZ (wp01)

Latitude: 40.057343

Longitude: -104.995490

GL: 5138.00

KB: gl + rkb @ 5155.00ft

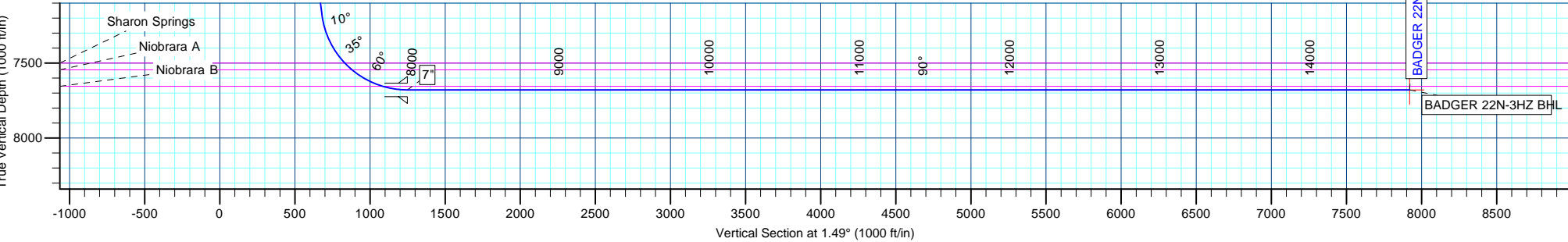
WELL DETAILS: BADGER 22N-3HZ						
+N/-S	+E/-W	Northing	Ground Level: Easting	5138.00 Latitude	Longitude	Slot
0.00	0.00	1264137.17	3141220.68	40.057343	-104.995490	

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
1326.17	6.52	10.65	1325.47	18.23	3.43	2.00	10.65	18.31
7209.18	6.52	10.65	7170.39	675.09	126.91	0.00	0.00	678.17
8044.79	90.00	1.49	7679.00	1244.00	151.00	10.00	-9.21	1247.51
8147.34	90.00	0.47	7679.00	1346.53	152.76	1.00	-90.00	1350.06
14717.51	90.00	0.47	7679.00	7916.49	206.51	0.00	0.00	7919.18

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
BADGER 22N-3HZ BHL	7679.00	7916.49	206.51	40.079075	-104.994752	Point

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
4317.00	4337.20	Parkman
4763.00	4786.11	Sussex
5233.00	5259.17	Shannon
7500.00	7579.14	Sharon Springs
7545.00	7644.82	Niobrara A
7655.00	7878.35	Niobrara B

CASING DETAILS			
TVD	MD	Name	Size
900.00	900.00	9 5/8"	9-5/8
7679.00	8044.79	7"	7



Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well BADGER 22N-3HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	gl + rkb @ 5155.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	gl + rkb @ 5155.00ft
Site:	WELD_Buffalo & Badger 4C-15HZ Pad	North Reference:	True
Well:	BADGER 22N-3HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	BADGER 22N-3HZ		
Design:	BADGER 22N-3HZ (wp01)		

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

Site		WELD_Buffalo & Badger 4C-15HZ Pad			
Site Position:		Northing:	1,264,133.85 usft	Latitude:	40.057339
From:	Lat/Long	Easting:	3,140,890.95 usft	Longitude:	-104.996668
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.33 °

Well		BADGER 22N-3HZ				
Well Position	+N/-S	1.44 ft	Northing:	1,264,137.16 usft	Latitude:	40.057343
	+E/-W	329.74 ft	Easting:	3,141,220.68 usft	Longitude:	-104.995490
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,138.00 ft

Wellbore	BADGER 22N-3HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/13/2012	8.81	66.70	52,810

Design	BADGER 22N-3HZ (wp01)			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	1.49

Plan Sections										
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	
1,326.17	6.52	10.65	1,325.47	18.23	3.43	2.00	2.00	0.00	10.65	
7,209.18	6.52	10.65	7,170.39	675.09	126.91	0.00	0.00	0.00	0.00	
8,044.79	90.00	1.49	7,679.00	1,244.00	151.00	10.00	9.99	-1.10	-9.21	
8,147.34	90.00	0.47	7,679.00	1,346.53	152.76	1.00	0.00	-1.00	-90.00	
14,717.51	90.00	0.47	7,679.00	7,916.49	206.51	0.00	0.00	0.00	0.00	BADGER 22N-3HZ B

Anadarko Petroleum Corp

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Company:	US ROCKIES REGION PLANNING	TVD Reference:	gl + rkb @ 5155.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	gl + rkb @ 5155.00ft
Site:	WELD_Buffalo & Badger 4C-15HZ Pad	North Reference:	True
Well:	BADGER 22N-3HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	BADGER 22N-3HZ		
Design:	BADGER 22N-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	10.65	1,099.98	1.72	0.32	1.72	2.00	2.00	0.00
1,200.00	4.00	10.65	1,199.84	6.86	1.29	6.89	2.00	2.00	0.00
1,300.00	6.00	10.65	1,299.45	15.42	2.90	15.49	2.00	2.00	0.00
1,326.17	6.52	10.65	1,325.47	18.23	3.43	18.31	2.00	2.00	0.00
Start 5883.01 hold at 1326.17 MD									
1,400.00	6.52	10.65	1,398.82	26.47	4.98	26.59	0.00	0.00	0.00
1,500.00	6.52	10.65	1,498.17	37.64	7.08	37.81	0.00	0.00	0.00
1,600.00	6.52	10.65	1,597.52	48.80	9.17	49.03	0.00	0.00	0.00
1,700.00	6.52	10.65	1,696.88	59.97	11.27	60.24	0.00	0.00	0.00
1,800.00	6.52	10.65	1,796.23	71.13	13.37	71.46	0.00	0.00	0.00
1,900.00	6.52	10.65	1,895.58	82.30	15.47	82.67	0.00	0.00	0.00
2,000.00	6.52	10.65	1,994.93	93.46	17.57	93.89	0.00	0.00	0.00
2,100.00	6.52	10.65	2,094.29	104.63	19.67	105.11	0.00	0.00	0.00
2,200.00	6.52	10.65	2,193.64	115.80	21.77	116.32	0.00	0.00	0.00
2,300.00	6.52	10.65	2,292.99	126.96	23.87	127.54	0.00	0.00	0.00
2,400.00	6.52	10.65	2,392.34	138.13	25.97	138.76	0.00	0.00	0.00
2,500.00	6.52	10.65	2,491.70	149.29	28.06	149.97	0.00	0.00	0.00
2,600.00	6.52	10.65	2,591.05	160.46	30.16	161.19	0.00	0.00	0.00
2,700.00	6.52	10.65	2,690.40	171.62	32.26	172.41	0.00	0.00	0.00
2,800.00	6.52	10.65	2,789.75	182.79	34.36	183.62	0.00	0.00	0.00
2,900.00	6.52	10.65	2,889.11	193.95	36.46	194.84	0.00	0.00	0.00
3,000.00	6.52	10.65	2,988.46	205.12	38.56	206.05	0.00	0.00	0.00
3,100.00	6.52	10.65	3,087.81	216.28	40.66	217.27	0.00	0.00	0.00
3,200.00	6.52	10.65	3,187.16	227.45	42.76	228.49	0.00	0.00	0.00
3,300.00	6.52	10.65	3,286.52	238.61	44.86	239.70	0.00	0.00	0.00
3,400.00	6.52	10.65	3,385.87	249.78	46.95	250.92	0.00	0.00	0.00
3,500.00	6.52	10.65	3,485.22	260.95	49.05	262.14	0.00	0.00	0.00
3,600.00	6.52	10.65	3,584.57	272.11	51.15	273.35	0.00	0.00	0.00
3,700.00	6.52	10.65	3,683.93	283.28	53.25	284.57	0.00	0.00	0.00
3,800.00	6.52	10.65	3,783.28	294.44	55.35	295.79	0.00	0.00	0.00
3,900.00	6.52	10.65	3,882.63	305.61	57.45	307.00	0.00	0.00	0.00
4,000.00	6.52	10.65	3,981.98	316.77	59.55	318.22	0.00	0.00	0.00
4,100.00	6.52	10.65	4,081.34	327.94	61.65	329.43	0.00	0.00	0.00
4,200.00	6.52	10.65	4,180.69	339.10	63.75	340.65	0.00	0.00	0.00
4,300.00	6.52	10.65	4,280.04	350.27	65.84	351.87	0.00	0.00	0.00
4,337.20	6.52	10.65	4,317.00	354.42	66.63	356.04	0.00	0.00	0.00
Parkman									
4,400.00	6.52	10.65	4,379.39	361.43	67.94	363.08	0.00	0.00	0.00
4,500.00	6.52	10.65	4,478.75	372.60	70.04	374.30	0.00	0.00	0.00
4,600.00	6.52	10.65	4,578.10	383.77	72.14	385.52	0.00	0.00	0.00
4,700.00	6.52	10.65	4,677.45	394.93	74.24	396.73	0.00	0.00	0.00

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Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well BADGER 22N-3HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	gl + rkb @ 5155.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	gl + rkb @ 5155.00ft
Site:	WELD_Buffalo & Badger 4C-15HZ Pad	North Reference:	True
Well:	BADGER 22N-3HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	BADGER 22N-3HZ		
Design:	BADGER 22N-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)
4,786.11	6.52	10.65	4,763.00	404.54	76.05	406.39	0.00	0.00	0.00
Sussex									
4,800.00	6.52	10.65	4,776.80	406.10	76.34	407.95	0.00	0.00	0.00
4,900.00	6.52	10.65	4,876.16	417.26	78.44	419.17	0.00	0.00	0.00
5,000.00	6.52	10.65	4,975.51	428.43	80.54	430.38	0.00	0.00	0.00
5,100.00	6.52	10.65	5,074.86	439.59	82.64	441.60	0.00	0.00	0.00
5,200.00	6.52	10.65	5,174.21	450.76	84.73	452.81	0.00	0.00	0.00
5,259.17	6.52	10.65	5,233.00	457.36	85.98	459.45	0.00	0.00	0.00
Shannon									
5,300.00	6.52	10.65	5,273.57	461.92	86.83	464.03	0.00	0.00	0.00
5,400.00	6.52	10.65	5,372.92	473.09	88.93	475.25	0.00	0.00	0.00
5,500.00	6.52	10.65	5,472.27	484.25	91.03	486.46	0.00	0.00	0.00
5,600.00	6.52	10.65	5,571.62	495.42	93.13	497.68	0.00	0.00	0.00
5,700.00	6.52	10.65	5,670.98	506.58	95.23	508.90	0.00	0.00	0.00
5,800.00	6.52	10.65	5,770.33	517.75	97.33	520.11	0.00	0.00	0.00
5,900.00	6.52	10.65	5,869.68	528.92	99.43	531.33	0.00	0.00	0.00
6,000.00	6.52	10.65	5,969.03	540.08	101.53	542.54	0.00	0.00	0.00
6,100.00	6.52	10.65	6,068.39	551.25	103.62	553.76	0.00	0.00	0.00
6,200.00	6.52	10.65	6,167.74	562.41	105.72	564.98	0.00	0.00	0.00
6,300.00	6.52	10.65	6,267.09	573.58	107.82	576.19	0.00	0.00	0.00
6,400.00	6.52	10.65	6,366.45	584.74	109.92	587.41	0.00	0.00	0.00
6,500.00	6.52	10.65	6,465.80	595.91	112.02	598.63	0.00	0.00	0.00
6,600.00	6.52	10.65	6,565.15	607.07	114.12	609.84	0.00	0.00	0.00
6,700.00	6.52	10.65	6,664.50	618.24	116.22	621.06	0.00	0.00	0.00
6,800.00	6.52	10.65	6,763.86	629.40	118.32	632.28	0.00	0.00	0.00
6,900.00	6.52	10.65	6,863.21	640.57	120.42	643.49	0.00	0.00	0.00
7,000.00	6.52	10.65	6,962.56	651.74	122.51	654.71	0.00	0.00	0.00
7,100.00	6.52	10.65	7,061.91	662.90	124.61	665.92	0.00	0.00	0.00
7,209.18	6.52	10.65	7,170.39	675.09	126.91	678.17	0.00	0.00	0.00
Start DLS 10.00 TFO -9.21									
7,250.00	10.57	7.09	7,210.74	681.09	127.80	684.19	10.00	9.92	-8.72
7,300.00	15.56	5.24	7,259.44	692.32	128.98	695.45	10.00	9.97	-3.69
7,350.00	20.55	4.28	7,306.96	707.76	130.24	710.92	10.00	9.98	-1.93
7,400.00	25.54	3.68	7,352.96	727.28	131.59	730.46	10.00	9.99	-1.20
7,450.00	30.54	3.26	7,397.07	750.73	133.00	753.95	10.00	9.99	-0.83
7,500.00	35.53	2.95	7,438.98	777.94	134.48	781.19	10.00	9.99	-0.62
7,550.00	40.53	2.71	7,478.35	808.70	135.99	811.97	10.00	10.00	-0.48
7,579.14	43.45	2.59	7,500.00	828.17	136.90	831.46	10.00	10.00	-0.41
Sharon Springs									
7,600.00	45.53	2.52	7,514.88	842.78	137.55	846.08	10.00	10.00	-0.37
7,644.82	50.01	2.37	7,545.00	875.93	138.96	879.25	10.00	10.00	-0.33
Niobrara A									
7,650.00	50.53	2.35	7,548.31	879.91	139.12	883.23	10.00	10.00	-0.31
7,700.00	55.53	2.21	7,578.37	919.81	140.71	923.16	10.00	10.00	-0.29
7,750.00	60.53	2.08	7,604.84	962.18	142.30	965.56	10.00	10.00	-0.25
7,800.00	65.53	1.97	7,627.51	1,006.70	143.87	1,010.11	10.00	10.00	-0.23
7,850.00	70.52	1.86	7,646.21	1,053.03	145.42	1,056.46	10.00	10.00	-0.21
7,878.35	73.36	1.81	7,655.00	1,079.96	146.28	1,083.41	10.00	10.00	-0.20
Niobrara B									
7,900.00	75.52	1.76	7,660.81	1,100.81	146.93	1,104.27	10.00	10.00	-0.20
7,950.00	80.52	1.67	7,671.18	1,149.68	148.40	1,153.16	10.00	10.00	-0.19
8,000.00	85.52	1.58	7,677.25	1,199.28	149.80	1,202.77	10.00	10.00	-0.18
8,044.79	90.00	1.49	7,679.00	1,244.00	151.00	1,247.52	10.00	10.00	-0.18

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Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well BADGER 22N-3HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	gl + rkb @ 5155.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	gl + rkb @ 5155.00ft
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Well:	BADGER 22N-3HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	BADGER 22N-3HZ		
Design:	BADGER 22N-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)	
Start DLS 1.00 TFO -90.00 - 7"										
8,100.00	90.00	0.94	7,679.00	1,299.20	152.17	1,302.73	1.00	0.00	-1.00	
8,147.34	90.00	0.47	7,679.00	1,346.53	152.76	1,350.06	1.00	0.00	-1.00	
Start 6570.17 hold at 8147.34 MD										
8,200.00	90.00	0.47	7,679.00	1,399.20	153.19	1,402.72	0.00	0.00	0.00	
8,300.00	90.00	0.47	7,679.00	1,499.19	154.01	1,502.70	0.00	0.00	0.00	
8,400.00	90.00	0.47	7,679.00	1,599.19	154.82	1,602.68	0.00	0.00	0.00	
8,500.00	90.00	0.47	7,679.00	1,699.19	155.64	1,702.67	0.00	0.00	0.00	
8,600.00	90.00	0.47	7,679.00	1,799.18	156.46	1,802.65	0.00	0.00	0.00	
8,700.00	90.00	0.47	7,679.00	1,899.18	157.28	1,902.64	0.00	0.00	0.00	
8,800.00	90.00	0.47	7,679.00	1,999.18	158.10	2,002.62	0.00	0.00	0.00	
8,900.00	90.00	0.47	7,679.00	2,099.17	158.92	2,102.60	0.00	0.00	0.00	
9,000.00	90.00	0.47	7,679.00	2,199.17	159.73	2,202.59	0.00	0.00	0.00	
9,100.00	90.00	0.47	7,679.00	2,299.17	160.55	2,302.57	0.00	0.00	0.00	
9,200.00	90.00	0.47	7,679.00	2,399.16	161.37	2,402.56	0.00	0.00	0.00	
9,300.00	90.00	0.47	7,679.00	2,499.16	162.19	2,502.54	0.00	0.00	0.00	
9,400.00	90.00	0.47	7,679.00	2,599.16	163.01	2,602.52	0.00	0.00	0.00	
9,500.00	90.00	0.47	7,679.00	2,699.15	163.82	2,702.51	0.00	0.00	0.00	
9,600.00	90.00	0.47	7,679.00	2,799.15	164.64	2,802.49	0.00	0.00	0.00	
9,700.00	90.00	0.47	7,679.00	2,899.15	165.46	2,902.48	0.00	0.00	0.00	
9,800.00	90.00	0.47	7,679.00	2,999.14	166.28	3,002.46	0.00	0.00	0.00	
9,900.00	90.00	0.47	7,679.00	3,099.14	167.10	3,102.44	0.00	0.00	0.00	
10,000.00	90.00	0.47	7,679.00	3,199.14	167.92	3,202.43	0.00	0.00	0.00	
10,100.00	90.00	0.47	7,679.00	3,299.13	168.73	3,302.41	0.00	0.00	0.00	
10,200.00	90.00	0.47	7,679.00	3,399.13	169.55	3,402.39	0.00	0.00	0.00	
10,300.00	90.00	0.47	7,679.00	3,499.13	170.37	3,502.38	0.00	0.00	0.00	
10,400.00	90.00	0.47	7,679.00	3,599.12	171.19	3,602.36	0.00	0.00	0.00	
10,500.00	90.00	0.47	7,679.00	3,699.12	172.01	3,702.35	0.00	0.00	0.00	
10,600.00	90.00	0.47	7,679.00	3,799.12	172.82	3,802.33	0.00	0.00	0.00	
10,700.00	90.00	0.47	7,679.00	3,899.11	173.64	3,902.31	0.00	0.00	0.00	
10,800.00	90.00	0.47	7,679.00	3,999.11	174.46	4,002.30	0.00	0.00	0.00	
10,900.00	90.00	0.47	7,679.00	4,099.11	175.28	4,102.28	0.00	0.00	0.00	
11,000.00	90.00	0.47	7,679.00	4,199.10	176.10	4,202.27	0.00	0.00	0.00	
11,100.00	90.00	0.47	7,679.00	4,299.10	176.92	4,302.25	0.00	0.00	0.00	
11,200.00	90.00	0.47	7,679.00	4,399.10	177.73	4,402.23	0.00	0.00	0.00	
11,300.00	90.00	0.47	7,679.00	4,499.09	178.55	4,502.22	0.00	0.00	0.00	
11,400.00	90.00	0.47	7,679.00	4,599.09	179.37	4,602.20	0.00	0.00	0.00	
11,500.00	90.00	0.47	7,679.00	4,699.09	180.19	4,702.19	0.00	0.00	0.00	
11,600.00	90.00	0.47	7,679.00	4,799.08	181.01	4,802.17	0.00	0.00	0.00	
11,700.00	90.00	0.47	7,679.00	4,899.08	181.82	4,902.15	0.00	0.00	0.00	
11,800.00	90.00	0.47	7,679.00	4,999.08	182.64	5,002.14	0.00	0.00	0.00	
11,900.00	90.00	0.47	7,679.00	5,099.07	183.46	5,102.12	0.00	0.00	0.00	
12,000.00	90.00	0.47	7,679.00	5,199.07	184.28	5,202.11	0.00	0.00	0.00	
12,100.00	90.00	0.47	7,679.00	5,299.07	185.10	5,302.09	0.00	0.00	0.00	
12,200.00	90.00	0.47	7,679.00	5,399.06	185.92	5,402.07	0.00	0.00	0.00	
12,300.00	90.00	0.47	7,679.00	5,499.06	186.73	5,502.06	0.00	0.00	0.00	
12,400.00	90.00	0.47	7,679.00	5,599.06	187.55	5,602.04	0.00	0.00	0.00	
12,500.00	90.00	0.47	7,679.00	5,699.05	188.37	5,702.03	0.00	0.00	0.00	
12,600.00	90.00	0.47	7,679.00	5,799.05	189.19	5,802.01	0.00	0.00	0.00	
12,700.00	90.00	0.47	7,679.00	5,899.05	190.01	5,901.99	0.00	0.00	0.00	
12,800.00	90.00	0.47	7,679.00	5,999.04	190.82	6,001.98	0.00	0.00	0.00	
12,900.00	90.00	0.47	7,679.00	6,099.04	191.64	6,101.96	0.00	0.00	0.00	
13,000.00	90.00	0.47	7,679.00	6,199.04	192.46	6,201.95	0.00	0.00	0.00	
13,100.00	90.00	0.47	7,679.00	6,299.03	193.28	6,301.93	0.00	0.00	0.00	

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well BADGER 22N-3HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	gl + rkb @ 5155.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	gl + rkb @ 5155.00ft
Site:	WELD_Buffalo & Badger 4C-15HZ Pad	North Reference:	True
Well:	BADGER 22N-3HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	BADGER 22N-3HZ		
Design:	BADGER 22N-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	90.00	0.47	7,679.00	6,399.03	194.10	6,401.91	0.00	0.00	0.00
13,300.00	90.00	0.47	7,679.00	6,499.03	194.92	6,501.90	0.00	0.00	0.00
13,400.00	90.00	0.47	7,679.00	6,599.02	195.73	6,601.88	0.00	0.00	0.00
13,500.00	90.00	0.47	7,679.00	6,699.02	196.55	6,701.87	0.00	0.00	0.00
13,600.00	90.00	0.47	7,679.00	6,799.02	197.37	6,801.85	0.00	0.00	0.00
13,700.00	90.00	0.47	7,679.00	6,899.01	198.19	6,901.83	0.00	0.00	0.00
13,800.00	90.00	0.47	7,679.00	6,999.01	199.01	7,001.82	0.00	0.00	0.00
13,900.00	90.00	0.47	7,679.00	7,099.01	199.83	7,101.80	0.00	0.00	0.00
14,000.00	90.00	0.47	7,679.00	7,199.00	200.64	7,201.79	0.00	0.00	0.00
14,100.00	90.00	0.47	7,679.00	7,299.00	201.46	7,301.77	0.00	0.00	0.00
14,200.00	90.00	0.47	7,679.00	7,399.00	202.28	7,401.75	0.00	0.00	0.00
14,300.00	90.00	0.47	7,679.00	7,498.99	203.10	7,501.74	0.00	0.00	0.00
14,400.00	90.00	0.47	7,679.00	7,598.99	203.92	7,601.72	0.00	0.00	0.00
14,500.00	90.00	0.47	7,679.00	7,698.99	204.73	7,701.71	0.00	0.00	0.00
14,600.00	90.00	0.47	7,679.00	7,798.98	205.55	7,801.69	0.00	0.00	0.00
14,700.00	90.00	0.47	7,679.00	7,898.98	206.37	7,901.67	0.00	0.00	0.00
14,717.51	90.00	0.47	7,679.00	7,916.49	206.51	7,919.18	0.00	0.00	0.00
TD at 14717.51 - BADGER 22N-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 22N-3HZ BHL	0.00	0.00	7,679.00	7,916.49	206.51	1,272,054.68	3,141,382.15	40.079075	-104.994752
- 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	
8,044.79	7,679.00	7"	7	8-3/4	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,337.20	4,317.00	Parkman				
4,786.11	4,763.00	Sussex				
5,259.17	5,233.00	Shannon				
7,579.14	7,500.00	Sharon Springs				
7,644.82	7,545.00	Niobrara A				
7,878.35	7,655.00	Niobrara B				

Anadarko Petroleum Corp

Planning Report

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Company:	US ROCKIES REGION PLANNING	TVD Reference:	gl + rkb @ 5155.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	gl + rkb @ 5155.00ft
Site:	WELD_Buffalo & Badger 4C-15HZ Pad	North Reference:	True
Well:	BADGER 22N-3HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	BADGER 22N-3HZ		
Design:	BADGER 22N-3HZ (wp01)		

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
1,326.17	1,325.47	18.23	3.43	Start 5883.01 hold at 1326.17 MD
7,209.18	7,170.39	675.09	126.91	Start DLS 10.00 TFO -9.21
8,044.79	7,679.00	1,244.00	151.00	Start DLS 1.00 TFO -90.00
8,147.34	7,679.00	1,346.53	152.76	Start 6570.17 hold at 8147.34 MD
14,717.51	7,679.00	7,916.49	206.51	TD at 14717.51