

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_BUFFALO & BADGER 29-15HZ PAD

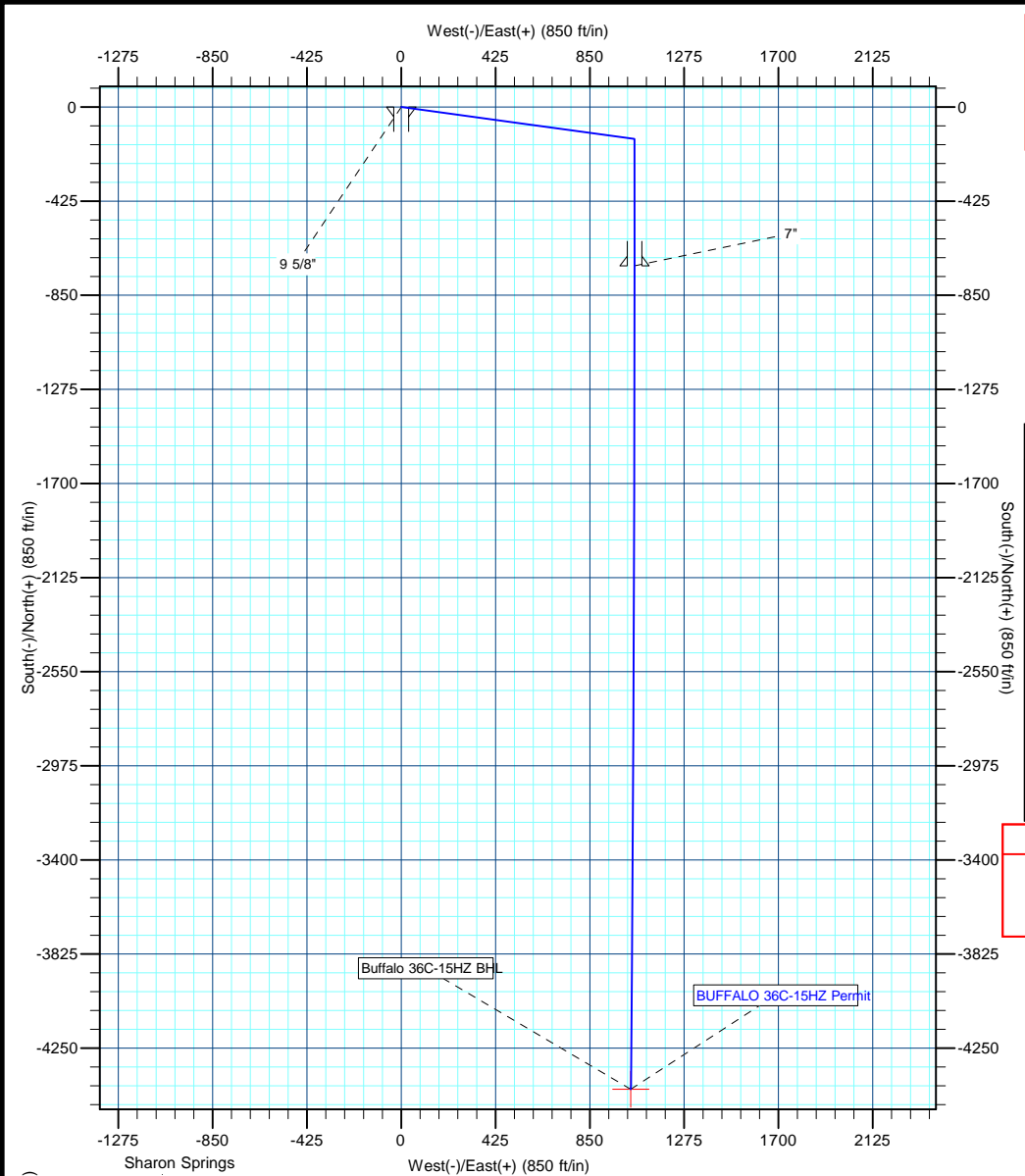
WELD_BUFFALO 36C-15HZ

BUFFALO 36C-15HZ

Plan: BUFFALO 36C-15HZ 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: WELD_BUFFALO 36C-15HZ

Wellbore: BUFFALO 36C-15HZ

Section:

SHL:

Design: BUFFALO 36C-15HZ Permit

Latitude: 40.057365

Longitude: -104.993989

GL: 5125.00

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

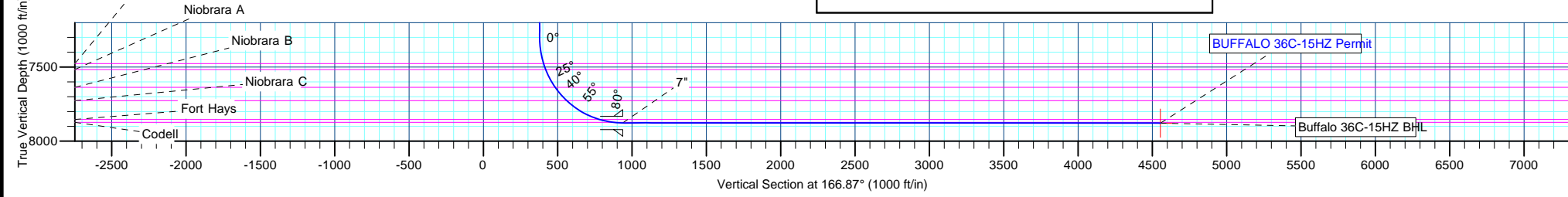
WELL DETAILS: WELD_BUFFALO 36C-15HZ						
+N/-S	+E/-W	Northing	Ground Level: Easting	5125.00 Latitude	Longitude	Slot
0.00	0.00	1264147.58	3141640.79	40.057365	-104.993989	

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
1519.75	10.39	97.80	1516.90	-6.38	46.58	2.00	97.80	16.80
6877.94	10.39	97.80	6787.15	-137.66	1004.42	0.00	0.00	362.20
7397.68	0.00	0.00	7304.05	-144.04	1051.00	2.00	180.00	379.00
8297.69	90.00	180.00	7877.01	-717.00	1051.00	10.00	180.00	936.98
12016.13	89.94	180.51	7879.00	-4435.40	1034.48	0.01	96.87	4554.44

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Buffalo 36C-15HZ BHL	7879.00	-4435.40	1034.48	40.045189	-104.990294	Point

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
4304.00	4353.35	Parkman
4762.00	4819.00	Sussex
5250.00	5315.14	Shannon
7477.00	7573.37	Sharon Springs
7517.00	7615.87	Niobrara A
7637.00	7752.97	Niobrara B
7727.00	7873.46	Niobrara C
7854.00	8134.76	Fort Hays
7873.00	8229.87	Codell

CASING DETAILS			
TVD	MD	Name	Size
900.00	900.00	9 5/8"	9-5/8
7877.01	8297.69	7"	7



Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well WELD_BUFFALO 36C-15HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	17' RKB + 5125' GL @ 5142.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	17' RKB + 5125' GL @ 5142.00ft
Site:	WELD_BUFFALO & BADGER 29-15HZ PAD	North Reference:	True
Well:	WELD_BUFFALO 36C-15HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	BUFFALO 36C-15HZ		
Design:	BUFFALO 36C-15HZ Permit		

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 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	WELD_BUFFALO 36C-15HZ					
Well Position	+N/-S	0.72 ft	Northing:	1,264,147.58 usft	Latitude:	40.057365
	+E/-W	30.23 ft	Easting:	3,141,640.79 usft	Longitude:	-104.993989
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,125.00 ft

Wellbore	BUFFALO 36C-15HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/16/2012	8.81	66.70	52,809

Design	BUFFALO 36C-15HZ Permit			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	166.87

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	
1,519.75	10.39	97.80	1,516.90	-6.38	46.58	2.00	2.00	0.00	97.80	
6,877.94	10.39	97.80	6,787.15	-137.66	1,004.42	0.00	0.00	0.00	0.00	
7,397.68	0.00	0.00	7,304.05	-144.04	1,051.00	2.00	-2.00	0.00	180.00	
8,297.69	90.00	180.00	7,877.01	-717.00	1,051.00	10.00	10.00	0.00	180.00	
12,016.13	89.94	180.51	7,879.00	-4,435.40	1,034.48	0.01	0.00	0.01	96.87	Buffalo 36C-15HZ BH

Anadarko Petroleum Corp

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	17' RKB + 5125' GL @ 5142.00ft
Site:	WELD_BUFFALO & BADGER 29-15HZ PAD	North Reference:	True
Well:	WELD_BUFFALO 36C-15HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	BUFFALO 36C-15HZ		
Design:	BUFFALO 36C-15HZ 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	97.80	1,099.98	-0.24	1.73	0.62	2.00	2.00	0.00
1,200.00	4.00	97.80	1,199.84	-0.95	6.91	2.49	2.00	2.00	0.00
1,300.00	6.00	97.80	1,299.45	-2.13	15.55	5.61	2.00	2.00	0.00
1,400.00	8.00	97.80	1,398.70	-3.79	27.62	9.96	2.00	2.00	0.00
1,500.00	10.00	97.80	1,497.47	-5.91	43.12	15.55	2.00	2.00	0.00
1,519.75	10.39	97.80	1,516.90	-6.38	46.58	16.80	2.00	2.00	0.00
Start 5358.19 hold at 1519.75 MD									
1,600.00	10.39	97.80	1,595.84	-8.35	60.93	21.97	0.00	0.00	0.00
1,700.00	10.39	97.80	1,694.20	-10.80	78.81	28.42	0.00	0.00	0.00
1,800.00	10.39	97.80	1,792.55	-13.25	96.68	34.86	0.00	0.00	0.00
1,900.00	10.39	97.80	1,890.91	-15.70	114.56	41.31	0.00	0.00	0.00
2,000.00	10.39	97.80	1,989.27	-18.15	132.43	47.76	0.00	0.00	0.00
2,100.00	10.39	97.80	2,087.63	-20.60	150.31	54.20	0.00	0.00	0.00
2,200.00	10.39	97.80	2,185.99	-23.05	168.19	60.65	0.00	0.00	0.00
2,300.00	10.39	97.80	2,284.35	-25.50	186.06	67.09	0.00	0.00	0.00
2,400.00	10.39	97.80	2,382.71	-27.95	203.94	73.54	0.00	0.00	0.00
2,500.00	10.39	97.80	2,481.07	-30.40	221.81	79.99	0.00	0.00	0.00
2,600.00	10.39	97.80	2,579.42	-32.85	239.69	86.43	0.00	0.00	0.00
2,700.00	10.39	97.80	2,677.78	-35.30	257.57	92.88	0.00	0.00	0.00
2,800.00	10.39	97.80	2,776.14	-37.75	275.44	99.33	0.00	0.00	0.00
2,900.00	10.39	97.80	2,874.50	-40.20	293.32	105.77	0.00	0.00	0.00
3,000.00	10.39	97.80	2,972.86	-42.65	311.19	112.22	0.00	0.00	0.00
3,100.00	10.39	97.80	3,071.22	-45.10	329.07	118.66	0.00	0.00	0.00
3,200.00	10.39	97.80	3,169.58	-47.55	346.95	125.11	0.00	0.00	0.00
3,300.00	10.39	97.80	3,267.94	-50.00	364.82	131.56	0.00	0.00	0.00
3,400.00	10.39	97.80	3,366.29	-52.45	382.70	138.00	0.00	0.00	0.00
3,500.00	10.39	97.80	3,464.65	-54.90	400.57	144.45	0.00	0.00	0.00
3,600.00	10.39	97.80	3,563.01	-57.35	418.45	150.90	0.00	0.00	0.00
3,700.00	10.39	97.80	3,661.37	-59.80	436.33	157.34	0.00	0.00	0.00
3,800.00	10.39	97.80	3,759.73	-62.25	454.20	163.79	0.00	0.00	0.00
3,900.00	10.39	97.80	3,858.09	-64.70	472.08	170.23	0.00	0.00	0.00
4,000.00	10.39	97.80	3,956.45	-67.15	489.95	176.68	0.00	0.00	0.00
4,100.00	10.39	97.80	4,054.81	-69.60	507.83	183.13	0.00	0.00	0.00
4,200.00	10.39	97.80	4,153.16	-72.05	525.71	189.57	0.00	0.00	0.00
4,300.00	10.39	97.80	4,251.52	-74.50	543.58	196.02	0.00	0.00	0.00
4,353.35	10.39	97.80	4,304.00	-75.81	553.12	199.46	0.00	0.00	0.00
Parkman									
4,400.00	10.39	97.80	4,349.88	-76.95	561.46	202.47	0.00	0.00	0.00
4,500.00	10.39	97.80	4,448.24	-79.40	579.34	208.91	0.00	0.00	0.00
4,600.00	10.39	97.80	4,546.60	-81.85	597.21	215.36	0.00	0.00	0.00
4,700.00	10.39	97.80	4,644.96	-84.30	615.09	221.80	0.00	0.00	0.00

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well WELD_BUFFALO 36C-15HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	17' RKB + 5125' GL @ 5142.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	17' RKB + 5125' GL @ 5142.00ft
Site:	WELD_BUFFALO & BADGER 29-15HZ PAD	North Reference:	True
Well:	WELD_BUFFALO 36C-15HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	BUFFALO 36C-15HZ		
Design:	BUFFALO 36C-15HZ 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	10.39	97.80	4,743.32	-86.75	632.96	228.25	0.00	0.00	0.00
4,819.00	10.39	97.80	4,762.00	-87.21	636.36	229.47	0.00	0.00	0.00
Sussex									
4,900.00	10.39	97.80	4,841.68	-89.20	650.84	234.70	0.00	0.00	0.00
5,000.00	10.39	97.80	4,940.03	-91.65	668.72	241.14	0.00	0.00	0.00
5,100.00	10.39	97.80	5,038.39	-94.10	686.59	247.59	0.00	0.00	0.00
5,200.00	10.39	97.80	5,136.75	-96.55	704.47	254.04	0.00	0.00	0.00
5,300.00	10.39	97.80	5,235.11	-99.00	722.34	260.48	0.00	0.00	0.00
5,315.14	10.39	97.80	5,250.00	-99.37	725.05	261.46	0.00	0.00	0.00
Shannon									
5,400.00	10.39	97.80	5,333.47	-101.45	740.22	266.93	0.00	0.00	0.00
5,500.00	10.39	97.80	5,431.83	-103.90	758.10	273.37	0.00	0.00	0.00
5,600.00	10.39	97.80	5,530.19	-106.35	775.97	279.82	0.00	0.00	0.00
5,700.00	10.39	97.80	5,628.55	-108.80	793.85	286.27	0.00	0.00	0.00
5,800.00	10.39	97.80	5,726.90	-111.25	811.72	292.71	0.00	0.00	0.00
5,900.00	10.39	97.80	5,825.26	-113.70	829.60	299.16	0.00	0.00	0.00
6,000.00	10.39	97.80	5,923.62	-116.15	847.48	305.60	0.00	0.00	0.00
6,100.00	10.39	97.80	6,021.98	-118.60	865.35	312.05	0.00	0.00	0.00
6,200.00	10.39	97.80	6,120.34	-121.05	883.23	318.50	0.00	0.00	0.00
6,300.00	10.39	97.80	6,218.70	-123.50	901.10	324.94	0.00	0.00	0.00
6,400.00	10.39	97.80	6,317.06	-125.95	918.98	331.39	0.00	0.00	0.00
6,500.00	10.39	97.80	6,415.42	-128.40	936.86	337.84	0.00	0.00	0.00
6,600.00	10.39	97.80	6,513.77	-130.85	954.73	344.28	0.00	0.00	0.00
6,700.00	10.39	97.80	6,612.13	-133.30	972.61	350.73	0.00	0.00	0.00
6,800.00	10.39	97.80	6,710.49	-135.75	990.48	357.17	0.00	0.00	0.00
6,877.94	10.39	97.80	6,787.15	-137.66	1,004.42	362.20	0.00	0.00	0.00
Start Drop -2.00									
6,900.00	9.95	97.80	6,808.87	-138.18	1,008.28	363.59	2.00	-2.00	0.00
7,000.00	7.95	97.80	6,907.64	-140.30	1,023.70	369.15	2.00	-2.00	0.00
7,100.00	5.95	97.80	7,006.90	-141.94	1,035.69	373.48	2.00	-2.00	0.00
7,200.00	3.95	97.80	7,106.52	-143.11	1,044.25	376.56	2.00	-2.00	0.00
7,300.00	1.95	97.80	7,206.38	-143.81	1,049.35	378.40	2.00	-2.00	0.00
7,397.68	0.00	0.00	7,304.05	-144.04	1,051.00	379.00	2.00	-2.00	0.00
Start Build 10.00									
7,400.00	0.23	180.00	7,306.37	-144.04	1,051.00	379.00	10.00	10.00	0.00
7,450.00	5.23	180.00	7,356.29	-146.43	1,051.00	381.32	10.00	10.00	0.00
7,500.00	10.23	180.00	7,405.82	-153.15	1,051.00	387.87	10.00	10.00	0.00
7,550.00	15.23	180.00	7,454.58	-164.17	1,051.00	398.60	10.00	10.00	0.00
7,573.37	17.57	180.00	7,477.00	-170.77	1,051.00	405.02	10.00	10.00	0.00
Sharon Springs									
7,600.00	20.23	180.00	7,502.19	-179.39	1,051.00	413.42	10.00	10.00	0.00
7,615.87	21.82	180.00	7,517.00	-185.08	1,051.00	418.97	10.00	10.00	0.00
Niobrara A									
7,650.00	25.23	180.00	7,548.29	-198.70	1,051.00	432.23	10.00	10.00	0.00
7,700.00	30.23	180.00	7,592.53	-221.96	1,051.00	454.88	10.00	10.00	0.00
7,750.00	35.23	180.00	7,634.58	-248.99	1,051.00	481.20	10.00	10.00	0.00
7,752.97	35.53	180.00	7,637.00	-250.71	1,051.00	482.88	10.00	10.00	0.00
Niobrara B									
7,800.00	40.23	180.00	7,674.11	-279.58	1,051.00	510.99	10.00	10.00	0.00
7,850.00	45.23	180.00	7,710.83	-313.50	1,051.00	544.02	10.00	10.00	0.00
7,873.46	47.58	180.00	7,727.00	-330.48	1,051.00	560.57	10.00	10.00	0.00
Niobrara C									
7,900.00	50.23	180.00	7,744.45	-350.48	1,051.00	580.04	10.00	10.00	0.00

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Wellbore:	BUFFALO 36C-15HZ		
Design:	BUFFALO 36C-15HZ 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)
7,950.00	55.23	180.00	7,774.71	-390.26	1,051.00	618.78	10.00	10.00	0.00
8,000.00	60.23	180.00	7,801.40	-432.53	1,051.00	659.94	10.00	10.00	0.00
8,050.00	65.23	180.00	7,824.30	-476.96	1,051.00	703.21	10.00	10.00	0.00
8,100.00	70.23	180.00	7,843.24	-523.21	1,051.00	748.26	10.00	10.00	0.00
8,134.76	73.71	180.00	7,854.00	-556.26	1,051.00	780.44	10.00	10.00	0.00
Fort Hays									
8,150.00	75.23	180.00	7,858.08	-570.94	1,051.00	794.74	10.00	10.00	0.00
8,200.00	80.23	180.00	7,868.70	-619.79	1,051.00	842.31	10.00	10.00	0.00
8,229.87	83.22	180.00	7,873.00	-649.34	1,051.00	871.09	10.00	10.00	0.00
Codell									
8,250.00	85.23	180.00	7,875.03	-669.37	1,051.00	890.59	10.00	10.00	0.00
8,297.69	90.00	180.00	7,877.01	-717.00	1,051.00	936.98	10.00	10.00	0.00
Start DLS 0.01 TFO 96.87 - 7"									
8,300.00	90.00	180.00	7,877.01	-719.31	1,051.00	939.23	0.01	0.00	0.01
8,400.00	90.00	180.01	7,877.01	-819.31	1,050.99	1,036.62	0.01	0.00	0.01
8,500.00	90.00	180.03	7,877.02	-919.31	1,050.95	1,133.99	0.01	0.00	0.01
8,600.00	90.00	180.04	7,877.02	-1,019.31	1,050.89	1,231.37	0.01	0.00	0.01
8,700.00	89.99	180.06	7,877.03	-1,119.31	1,050.81	1,328.73	0.01	0.00	0.01
8,800.00	89.99	180.07	7,877.05	-1,219.31	1,050.70	1,426.10	0.01	0.00	0.01
8,900.00	89.99	180.08	7,877.06	-1,319.31	1,050.57	1,523.45	0.01	0.00	0.01
9,000.00	89.99	180.10	7,877.08	-1,419.31	1,050.41	1,620.80	0.01	0.00	0.01
9,100.00	89.99	180.11	7,877.10	-1,519.31	1,050.23	1,718.15	0.01	0.00	0.01
9,200.00	89.99	180.12	7,877.13	-1,619.31	1,050.03	1,815.49	0.01	0.00	0.01
9,300.00	89.98	180.14	7,877.15	-1,719.31	1,049.80	1,912.82	0.01	0.00	0.01
9,400.00	89.98	180.15	7,877.18	-1,819.31	1,049.55	2,010.15	0.01	0.00	0.01
9,500.00	89.98	180.16	7,877.22	-1,919.31	1,049.27	2,107.47	0.01	0.00	0.01
9,600.00	89.98	180.18	7,877.25	-2,019.31	1,048.97	2,204.79	0.01	0.00	0.01
9,700.00	89.98	180.19	7,877.29	-2,119.31	1,048.65	2,302.11	0.01	0.00	0.01
9,800.00	89.98	180.21	7,877.33	-2,219.31	1,048.30	2,399.41	0.01	0.00	0.01
9,900.00	89.97	180.22	7,877.38	-2,319.31	1,047.93	2,496.71	0.01	0.00	0.01
10,000.00	89.97	180.23	7,877.43	-2,419.31	1,047.54	2,594.01	0.01	0.00	0.01
10,100.00	89.97	180.25	7,877.48	-2,519.31	1,047.12	2,691.30	0.01	0.00	0.01
10,200.00	89.97	180.26	7,877.53	-2,619.31	1,046.68	2,788.58	0.01	0.00	0.01
10,300.00	89.97	180.27	7,877.59	-2,719.31	1,046.21	2,885.86	0.01	0.00	0.01
10,400.00	89.97	180.29	7,877.65	-2,819.30	1,045.72	2,983.14	0.01	0.00	0.01
10,500.00	89.96	180.30	7,877.71	-2,919.30	1,045.21	3,080.41	0.01	0.00	0.01
10,600.00	89.96	180.32	7,877.77	-3,019.30	1,044.67	3,177.67	0.01	0.00	0.01
10,700.00	89.96	180.33	7,877.84	-3,119.30	1,044.11	3,274.93	0.01	0.00	0.01
10,800.00	89.96	180.34	7,877.91	-3,219.30	1,043.52	3,372.18	0.01	0.00	0.01
10,900.00	89.96	180.36	7,877.98	-3,319.30	1,042.91	3,469.42	0.01	0.00	0.01
11,000.00	89.96	180.37	7,878.06	-3,419.29	1,042.28	3,566.66	0.01	0.00	0.01
11,100.00	89.95	180.38	7,878.14	-3,519.29	1,041.62	3,663.90	0.01	0.00	0.01
11,200.00	89.95	180.40	7,878.22	-3,619.29	1,040.94	3,761.13	0.01	0.00	0.01
11,300.00	89.95	180.41	7,878.31	-3,719.29	1,040.23	3,858.35	0.01	0.00	0.01
11,400.00	89.95	180.42	7,878.40	-3,819.28	1,039.50	3,955.57	0.01	0.00	0.01
11,500.00	89.95	180.44	7,878.49	-3,919.28	1,038.75	4,052.78	0.01	0.00	0.01
11,600.00	89.95	180.45	7,878.58	-4,019.28	1,037.97	4,149.99	0.01	0.00	0.01
11,700.00	89.94	180.47	7,878.68	-4,119.27	1,037.17	4,247.19	0.01	0.00	0.01
11,800.00	89.94	180.48	7,878.78	-4,219.27	1,036.35	4,344.38	0.01	0.00	0.01
11,900.00	89.94	180.49	7,878.88	-4,319.27	1,035.50	4,441.57	0.01	0.00	0.01
12,000.00	89.94	180.51	7,878.98	-4,419.26	1,034.63	4,538.76	0.01	0.00	0.01
12,016.13	89.94	180.51	7,879.00	-4,435.40	1,034.48	4,554.44	0.01	0.00	0.01
TD at 12016.13 - Buffalo 36C-15HZ BHL									

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well WELD_BUFFALO 36C-15HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	17' RKB + 5125' GL @ 5142.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	17' RKB + 5125' GL @ 5142.00ft
Site:	WELD_BUFFALO & BADGER 29-15HZ PAD	North Reference:	True
Well:	WELD_BUFFALO 36C-15HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	BUFFALO 36C-15HZ		
Design:	BUFFALO 36C-15HZ Permit		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
Buffalo 36C-15HZ BHL	0.00	0.00	7,879.00	-4,435.40	1,034.48	1,259,718.16	3,142,700.56	40.045189	-104.990294
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(")	(")
900.00	900.00	9 5/8"		9-5/8	12-1/4
8,297.69	7,877.01	7"		7	8-3/4

Formations						
Measured Depth	Vertical Depth	Name		Lithology	Dip	Dip Direction
(ft)	(ft)				(°)	(°)
4,353.35	4,304.00	Parkman				
4,819.00	4,762.00	Sussex				
5,315.14	5,250.00	Shannon				
7,573.37	7,477.00	Sharon Springs				
7,615.87	7,517.00	Niobrara A				
7,752.97	7,637.00	Niobrara B				
7,873.46	7,727.00	Niobrara C				
8,134.76	7,854.00	Fort Hays				
8,229.87	7,873.00	Codell				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
(ft)	(ft)	(ft)	(ft)		
1,000.00	1,000.00	0.00	0.00	Start Build 2.00	
1,519.75	1,516.90	-6.38	46.58	Start 5358.19 hold at 1519.75 MD	
6,877.94	6,787.15	-137.66	1,004.42	Start Drop -2.00	
7,397.68	7,304.05	-144.04	1,051.00	Start Build 10.00	
8,297.69	7,877.01	-717.00	1,051.00	Start DLS 0.01 TFO 96.87	
12,016.13	7,879.00	-4,435.40	1,034.48	TD at 12016.13	