

US ROCKIES REGION PLANNING

COLORADO NORTHERN CWP - 83

Phase 1 Pad 4

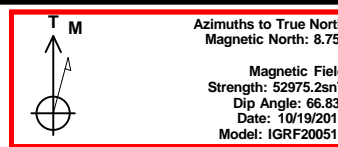
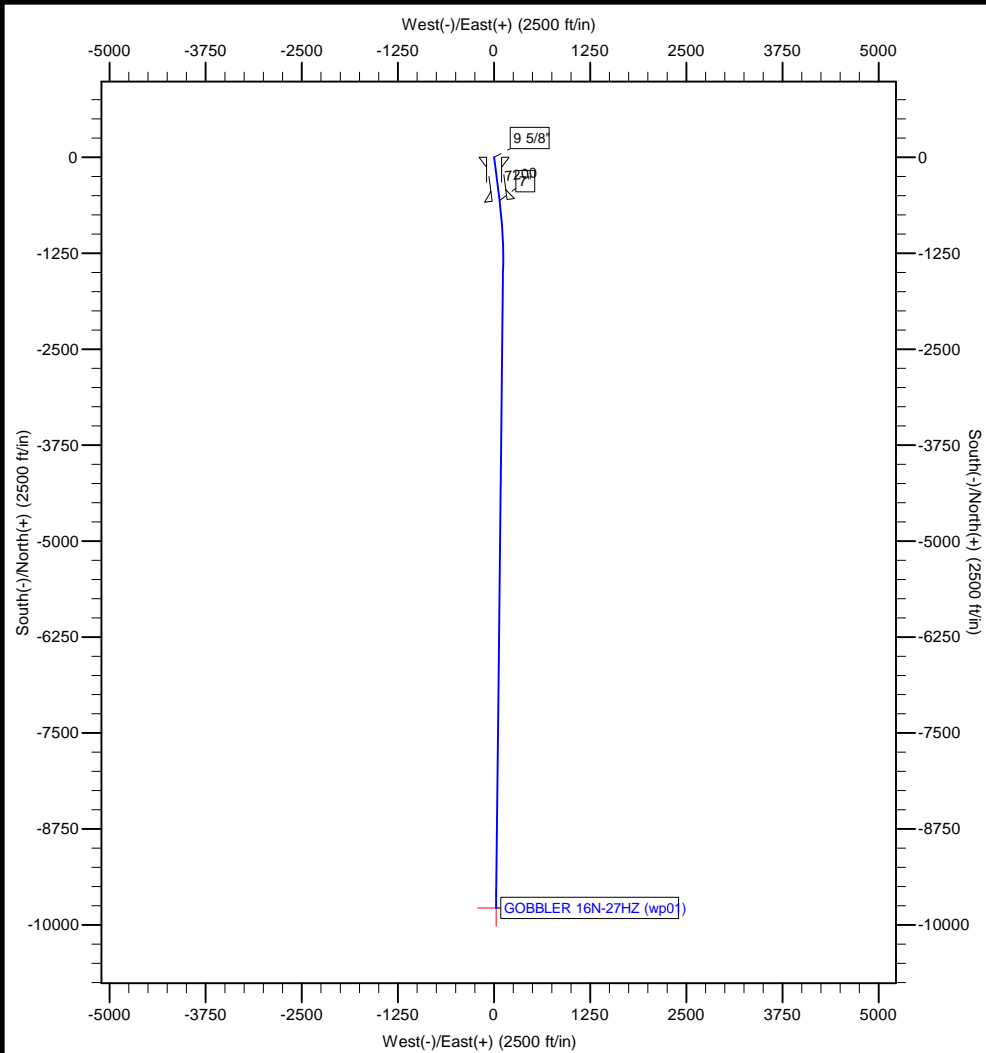
GOBBLER 16N-27HZ

GOBBLER 16N-27HZ

Plan: GOBBLER 16N-27HZ (wp01)

Standard Planning Report

20 October, 2011



Project: COLORADO NORTHERN CWP - 83
Site: Phase 1 Pad 4
Well: GOBBLER 16N-27HZ
Wellbore: GOBBLER 16N-27HZ
Section:
SHL:
Design: GOBBLER 16N-27HZ (wp01)
Latitude: 40.130084
Longitude: -104.756255
GL: 5077.01
KB: 17' RKB + 5077' GL @ 5094.01ft

WELL DETAILS: GOBBLER 16N-27HZ

+N/-S	+E/-W	Northing	Ground Level: Easting	5077.01 Latitude	40.130084 Longitude	Slot
0.00	0.00	1291105.50	3207962.95			

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
6756.40	0.00	0.00	6756.40	0.00	0.00	0.00	0.00	0.00
7652.12	89.62	172.78	7329.01	-564.36	71.48	10.01	172.78	564.55
8436.86	90.05	180.62	7331.26	-1347.19	116.62	1.00	86.91	1347.49
16870.70	90.05	180.62	7324.01	-9780.53	25.74	0.00	0.00	9780.57

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

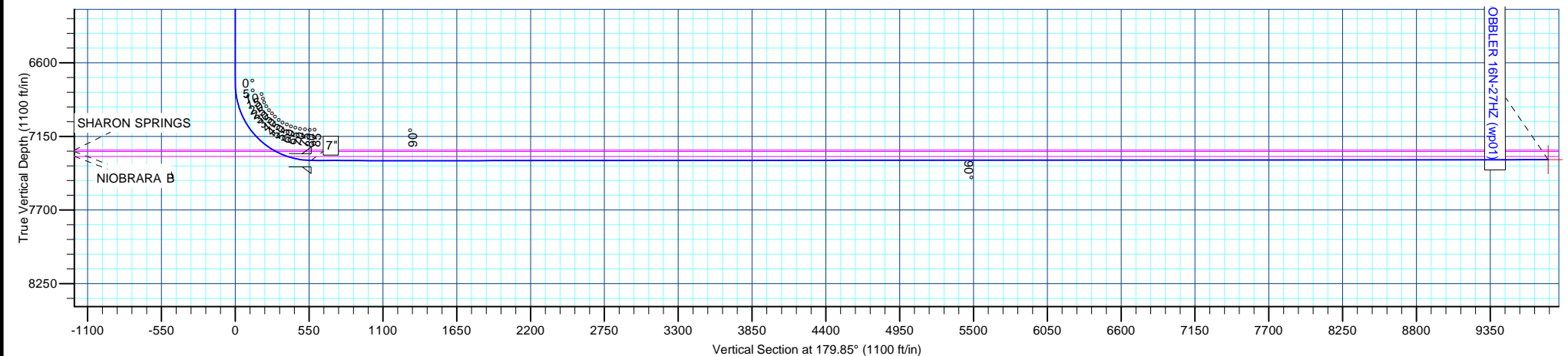
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
GOBBLER 16N-27HZ BHL	7324.01	-9780.53	25.74	40.103235	-104.756163	Point

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4288.00	4288.00	PARKMAN
4787.00	4787.00	SUSSEX
7252.00	7355.43	SHARON SPRINGS
7263.00	7378.18	NIOBRARA A
7299.00	7469.62	NIOBRARA B

CASING DETAILS

TVD	MD	Name	Size
900.00	900.00	9 5/8"	9-5/8
7329.01	7652.12	7"	7



Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well GOBBLER 16N-27HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	17' RKB + 5077' GL @ 5094.01ft
Project:	COLORADO NORTHERN CWP - 83	MD Reference:	17' RKB + 5077' GL @ 5094.01ft
Site:	Phase 1 Pad 4	North Reference:	True
Well:	GOBBLER 16N-27HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	GOBBLER 16N-27HZ		
Design:	GOBBLER 16N-27HZ (wp01)		

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

Site		Phase 1 Pad 4			
Site Position:		Northing:	1,291,105.50 usft	Latitude:	40.130084
From:	Lat/Long	Easting:	3,207,962.95 usft	Longitude:	-104.756255
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.48 °

Well	GOBBLER 16N-27HZ					
Well Position	+N/-S	-0.01 ft	Northing:	1,291,105.50 usft	Latitude:	40.130084
	+E/-W	0.00 ft	Easting:	3,207,962.95 usft	Longitude:	-104.756255
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,077.01 ft

Wellbore	GOBBLER 16N-27HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	10/19/2011	8.75	66.83	52,975

Design	GOBBLER 16N-27HZ (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	179.85

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	
6,756.40	0.00	0.00	6,756.40	0.00	0.00	0.00	0.00	0.00	0.00	
7,652.12	89.62	172.78	7,329.01	-564.36	71.48	10.01	10.01	19.29	172.78	
8,436.86	90.05	180.62	7,331.26	-1,347.19	116.62	1.00	0.05	1.00	86.91	
16,870.70	90.05	180.62	7,324.01	-9,780.53	25.74	0.00	0.00	0.00	0.00	GOBBLER 16N-27HZ

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well GOBBLER 16N-27HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	17' RKB + 5077' GL @ 5094.01ft
Project:	COLORADO NORTHERN CWP - 83	MD Reference:	17' RKB + 5077' GL @ 5094.01ft
Site:	Phase 1 Pad 4	North Reference:	True
Well:	GOBBLER 16N-27HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	GOBBLER 16N-27HZ		
Design:	GOBBLER 16N-27HZ (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
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,288.00	0.00	0.00	4,288.00	0.00	0.00	0.00	0.00	0.00	0.00
PARKMAN									
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,787.00	0.00	0.00	4,787.00	0.00	0.00	0.00	0.00	0.00	0.00
SUSSEX									

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Planning Report

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Project:	COLORADO NORTHERN CWP - 83	MD Reference:	17' RKB + 5077' GL @ 5094.01ft
Site:	Phase 1 Pad 4	North Reference:	True
Well:	GOBBLER 16N-27HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	GOBBLER 16N-27HZ		
Design:	GOBBLER 16N-27HZ (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)
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,756.40	0.00	0.00	6,756.40	0.00	0.00	0.00	0.00	0.00	0.00
Start DLS 10.01 TFO 172.78									
6,800.00	4.36	172.78	6,799.96	-1.65	0.21	1.65	10.01	10.01	0.00
6,900.00	14.37	172.78	6,898.50	-17.77	2.25	17.78	10.01	10.01	0.00
7,000.00	24.37	172.78	6,992.72	-50.63	6.41	50.65	10.01	10.01	0.00
7,100.00	34.38	172.78	7,079.75	-99.24	12.57	99.27	10.01	10.01	0.00
7,200.00	44.39	172.78	7,156.94	-162.10	20.53	162.16	10.01	10.01	0.00
7,300.00	54.39	172.78	7,221.95	-237.32	30.06	237.40	10.01	10.01	0.00
7,355.44	59.94	172.78	7,252.00	-283.51	35.91	283.61	10.01	10.01	0.00
SHARON SPRINGS									
7,378.18	62.21	172.78	7,263.00	-303.26	38.41	303.36	10.01	10.01	0.00
NIOBRARA A									
7,400.00	64.40	172.78	7,272.80	-322.60	40.86	322.71	10.01	10.01	0.00
7,469.62	71.36	172.78	7,299.00	-386.54	48.96	386.67	10.01	10.01	0.00
NIOBRARA B									
7,500.00	74.40	172.78	7,307.94	-415.35	52.61	415.48	10.01	10.01	0.00
7,600.00	84.41	172.78	7,326.30	-512.74	64.94	512.91	10.01	10.01	0.00
7,652.12	89.62	172.78	7,329.01	-564.35	71.48	564.54	10.01	10.01	0.00
7"									
7,652.12	89.62	172.78	7,329.01	-564.36	71.48	564.55	10.01	10.01	0.00
Start DLS 1.00 TFO 86.91									
7,700.00	89.65	173.26	7,329.32	-611.88	77.30	612.08	1.00	0.05	1.00
7,800.00	89.70	174.26	7,329.88	-711.29	88.17	711.52	1.00	0.05	1.00
7,900.00	89.76	175.26	7,330.35	-810.87	97.31	811.12	1.00	0.05	1.00
8,000.00	89.81	176.26	7,330.73	-910.59	104.71	910.86	1.00	0.05	1.00
8,100.00	89.87	177.25	7,331.01	-1,010.43	110.37	1,010.71	1.00	0.05	1.00
8,200.00	89.92	178.25	7,331.19	-1,110.35	114.29	1,110.65	1.00	0.05	1.00
8,300.00	89.97	179.25	7,331.28	-1,210.32	116.47	1,210.63	1.00	0.05	1.00
8,400.00	90.03	180.25	7,331.28	-1,310.32	116.90	1,310.62	1.00	0.05	1.00
8,436.86	90.05	180.62	7,331.26	-1,347.19	116.62	1,347.49	1.00	0.05	1.00
Start 8433.8 hold at 8436.8 MD									
8,500.00	90.05	180.62	7,331.20	-1,410.32	115.94	1,410.62	0.00	0.00	0.00
8,600.00	90.05	180.62	7,331.12	-1,510.31	114.87	1,510.61	0.00	0.00	0.00

Anadarko Petroleum Corp

Planning Report

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Company:	US ROCKIES REGION PLANNING	TVD Reference:	17' RKB + 5077' GL @ 5094.01ft
Project:	COLORADO NORTHERN CWP - 83	MD Reference:	17' RKB + 5077' GL @ 5094.01ft
Site:	Phase 1 Pad 4	North Reference:	True
Well:	GOBBLER 16N-27HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	GOBBLER 16N-27HZ		
Design:	GOBBLER 16N-27HZ (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)
8,700.00	90.05	180.62	7,331.03	-1,610.31	113.79	1,610.60	0.00	0.00	0.00
8,800.00	90.05	180.62	7,330.94	-1,710.30	112.71	1,710.59	0.00	0.00	0.00
8,900.00	90.05	180.62	7,330.86	-1,810.29	111.63	1,810.58	0.00	0.00	0.00
9,000.00	90.05	180.62	7,330.77	-1,910.29	110.55	1,910.57	0.00	0.00	0.00
9,100.00	90.05	180.62	7,330.69	-2,010.28	109.48	2,010.56	0.00	0.00	0.00
9,200.00	90.05	180.62	7,330.60	-2,110.28	108.40	2,110.55	0.00	0.00	0.00
9,300.00	90.05	180.62	7,330.52	-2,210.27	107.32	2,210.55	0.00	0.00	0.00
9,400.00	90.05	180.62	7,330.43	-2,310.26	106.24	2,310.54	0.00	0.00	0.00
9,500.00	90.05	180.62	7,330.34	-2,410.26	105.17	2,410.53	0.00	0.00	0.00
9,600.00	90.05	180.62	7,330.26	-2,510.25	104.09	2,510.52	0.00	0.00	0.00
9,700.00	90.05	180.62	7,330.17	-2,610.25	103.01	2,610.51	0.00	0.00	0.00
9,800.00	90.05	180.62	7,330.09	-2,710.24	101.93	2,710.50	0.00	0.00	0.00
9,900.00	90.05	180.62	7,330.00	-2,810.24	100.86	2,810.49	0.00	0.00	0.00
10,000.00	90.05	180.62	7,329.91	-2,910.23	99.78	2,910.48	0.00	0.00	0.00
10,100.00	90.05	180.62	7,329.83	-3,010.22	98.70	3,010.47	0.00	0.00	0.00
10,200.00	90.05	180.62	7,329.74	-3,110.22	97.62	3,110.46	0.00	0.00	0.00
10,300.00	90.05	180.62	7,329.66	-3,210.21	96.55	3,210.45	0.00	0.00	0.00
10,400.00	90.05	180.62	7,329.57	-3,310.21	95.47	3,310.45	0.00	0.00	0.00
10,500.00	90.05	180.62	7,329.48	-3,410.20	94.39	3,410.44	0.00	0.00	0.00
10,600.00	90.05	180.62	7,329.40	-3,510.19	93.31	3,510.43	0.00	0.00	0.00
10,700.00	90.05	180.62	7,329.31	-3,610.19	92.23	3,610.42	0.00	0.00	0.00
10,800.00	90.05	180.62	7,329.23	-3,710.18	91.16	3,710.41	0.00	0.00	0.00
10,900.00	90.05	180.62	7,329.14	-3,810.18	90.08	3,810.40	0.00	0.00	0.00
11,000.00	90.05	180.62	7,329.06	-3,910.17	89.00	3,910.39	0.00	0.00	0.00
11,100.00	90.05	180.62	7,328.97	-4,010.17	87.92	4,010.38	0.00	0.00	0.00
11,200.00	90.05	180.62	7,328.88	-4,110.16	86.85	4,110.37	0.00	0.00	0.00
11,300.00	90.05	180.62	7,328.80	-4,210.15	85.77	4,210.36	0.00	0.00	0.00
11,400.00	90.05	180.62	7,328.71	-4,310.15	84.69	4,310.36	0.00	0.00	0.00
11,500.00	90.05	180.62	7,328.63	-4,410.14	83.61	4,410.35	0.00	0.00	0.00
11,600.00	90.05	180.62	7,328.54	-4,510.14	82.54	4,510.34	0.00	0.00	0.00
11,700.00	90.05	180.62	7,328.45	-4,610.13	81.46	4,610.33	0.00	0.00	0.00
11,800.00	90.05	180.62	7,328.37	-4,710.12	80.38	4,710.32	0.00	0.00	0.00
11,900.00	90.05	180.62	7,328.28	-4,810.12	79.30	4,810.31	0.00	0.00	0.00
12,000.00	90.05	180.62	7,328.20	-4,910.11	78.23	4,910.30	0.00	0.00	0.00
12,100.00	90.05	180.62	7,328.11	-5,010.11	77.15	5,010.29	0.00	0.00	0.00
12,200.00	90.05	180.62	7,328.03	-5,110.10	76.07	5,110.28	0.00	0.00	0.00
12,300.00	90.05	180.62	7,327.94	-5,210.10	74.99	5,210.27	0.00	0.00	0.00
12,400.00	90.05	180.62	7,327.85	-5,310.09	73.91	5,310.27	0.00	0.00	0.00
12,500.00	90.05	180.62	7,327.77	-5,410.08	72.84	5,410.26	0.00	0.00	0.00
12,600.00	90.05	180.62	7,327.68	-5,510.08	71.76	5,510.25	0.00	0.00	0.00
12,700.00	90.05	180.62	7,327.60	-5,610.07	70.68	5,610.24	0.00	0.00	0.00
12,800.00	90.05	180.62	7,327.51	-5,710.07	69.60	5,710.23	0.00	0.00	0.00
12,900.00	90.05	180.62	7,327.42	-5,810.06	68.53	5,810.22	0.00	0.00	0.00
13,000.00	90.05	180.62	7,327.34	-5,910.05	67.45	5,910.21	0.00	0.00	0.00
13,100.00	90.05	180.62	7,327.25	-6,010.05	66.37	6,010.20	0.00	0.00	0.00
13,200.00	90.05	180.62	7,327.17	-6,110.04	65.29	6,110.19	0.00	0.00	0.00
13,300.00	90.05	180.62	7,327.08	-6,210.04	64.22	6,210.18	0.00	0.00	0.00
13,400.00	90.05	180.62	7,326.99	-6,310.03	63.14	6,310.18	0.00	0.00	0.00
13,500.00	90.05	180.62	7,326.91	-6,410.02	62.06	6,410.17	0.00	0.00	0.00
13,600.00	90.05	180.62	7,326.82	-6,510.02	60.98	6,510.16	0.00	0.00	0.00
13,700.00	90.05	180.62	7,326.74	-6,610.01	59.90	6,610.15	0.00	0.00	0.00
13,800.00	90.05	180.62	7,326.65	-6,710.01	58.83	6,710.14	0.00	0.00	0.00
13,900.00	90.05	180.62	7,326.57	-6,810.00	57.75	6,810.13	0.00	0.00	0.00
14,000.00	90.05	180.62	7,326.48	-6,910.00	56.67	6,910.12	0.00	0.00	0.00

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well GOBBLER 16N-27HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	17' RKB + 5077' GL @ 5094.01ft
Project:	COLORADO NORTHERN CWP - 83	MD Reference:	17' RKB + 5077' GL @ 5094.01ft
Site:	Phase 1 Pad 4	North Reference:	True
Well:	GOBBLER 16N-27HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	GOBBLER 16N-27HZ		
Design:	GOBBLER 16N-27HZ (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)	
14,100.00	90.05	180.62	7,326.39	-7,009.99	55.59	7,010.11	0.00	0.00	0.00	
14,200.00	90.05	180.62	7,326.31	-7,109.98	54.52	7,110.10	0.00	0.00	0.00	
14,300.00	90.05	180.62	7,326.22	-7,209.98	53.44	7,210.09	0.00	0.00	0.00	
14,400.00	90.05	180.62	7,326.14	-7,309.97	52.36	7,310.08	0.00	0.00	0.00	
14,500.00	90.05	180.62	7,326.05	-7,409.97	51.28	7,410.08	0.00	0.00	0.00	
14,600.00	90.05	180.62	7,325.96	-7,509.96	50.21	7,510.07	0.00	0.00	0.00	
14,700.00	90.05	180.62	7,325.88	-7,609.95	49.13	7,610.06	0.00	0.00	0.00	
14,800.00	90.05	180.62	7,325.79	-7,709.95	48.05	7,710.05	0.00	0.00	0.00	
14,900.00	90.05	180.62	7,325.71	-7,809.94	46.97	7,810.04	0.00	0.00	0.00	
15,000.00	90.05	180.62	7,325.62	-7,909.94	45.90	7,910.03	0.00	0.00	0.00	
15,100.00	90.05	180.62	7,325.54	-8,009.93	44.82	8,010.02	0.00	0.00	0.00	
15,200.00	90.05	180.62	7,325.45	-8,109.93	43.74	8,110.01	0.00	0.00	0.00	
15,300.00	90.05	180.62	7,325.36	-8,209.92	42.66	8,210.00	0.00	0.00	0.00	
15,400.00	90.05	180.62	7,325.28	-8,309.91	41.58	8,309.99	0.00	0.00	0.00	
15,500.00	90.05	180.62	7,325.19	-8,409.91	40.51	8,409.99	0.00	0.00	0.00	
15,600.00	90.05	180.62	7,325.11	-8,509.90	39.43	8,509.98	0.00	0.00	0.00	
15,700.00	90.05	180.62	7,325.02	-8,609.90	38.35	8,609.97	0.00	0.00	0.00	
15,800.00	90.05	180.62	7,324.93	-8,709.89	37.27	8,709.96	0.00	0.00	0.00	
15,900.00	90.05	180.62	7,324.85	-8,809.88	36.20	8,809.95	0.00	0.00	0.00	
16,000.00	90.05	180.62	7,324.76	-8,909.88	35.12	8,909.94	0.00	0.00	0.00	
16,100.00	90.05	180.62	7,324.68	-9,009.87	34.04	9,009.93	0.00	0.00	0.00	
16,200.00	90.05	180.62	7,324.59	-9,109.87	32.96	9,109.92	0.00	0.00	0.00	
16,300.00	90.05	180.62	7,324.50	-9,209.86	31.89	9,209.91	0.00	0.00	0.00	
16,400.00	90.05	180.62	7,324.42	-9,309.86	30.81	9,309.90	0.00	0.00	0.00	
16,500.00	90.05	180.62	7,324.33	-9,409.85	29.73	9,409.90	0.00	0.00	0.00	
16,600.00	90.05	180.62	7,324.25	-9,509.84	28.65	9,509.89	0.00	0.00	0.00	
16,700.00	90.05	180.62	7,324.16	-9,609.84	27.57	9,609.88	0.00	0.00	0.00	
16,800.00	90.05	180.62	7,324.08	-9,709.83	26.50	9,709.87	0.00	0.00	0.00	
16,870.70	90.05	180.62	7,324.01	-9,780.53	25.74	9,780.57	0.00	0.00	0.00	
TD at 16870.7 - GOBBLER 16N-27HZ BHL										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
GOBBLER 16N-27HZ B	0.00	0.00	7,324.01	-9,780.53	25.74	1,281,325.54	3,208,070.72	40.103235	-104.756163
- hit/miss target									
- Shape									
- 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	
7,652.12	7,329.01	7"	7	8-3/4	

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well GOBBLER 16N-27HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	17' RKB + 5077' GL @ 5094.01ft
Project:	COLORADO NORTHERN CWP - 83	MD Reference:	17' RKB + 5077' GL @ 5094.01ft
Site:	Phase 1 Pad 4	North Reference:	True
Well:	GOBBLER 16N-27HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	GOBBLER 16N-27HZ		
Design:	GOBBLER 16N-27HZ (wp01)		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,288.00	4,288.00	PARKMAN		0.00	
4,787.00	4,787.00	SUSSEX		0.00	
7,355.44	7,252.00	SHARON SPRINGS		0.00	
7,378.18	7,263.00	NIOBRARA A		0.00	
7,469.62	7,299.00	NIOBRARA B		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
6,756.40	6,756.40	0.00	0.00	Start DLS 10.01 TFO 172.78
7,652.12	7,329.01	-564.36	71.48	Start DLS 1.00 TFO 86.91
8,436.86	7,331.26	-1,347.19	116.62	Start 8433.8 hold at 8436.8 MD
16,870.70	7,324.01	-9,780.53	25.74	TD at 16870.7