

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_WARDELL 3 PAD

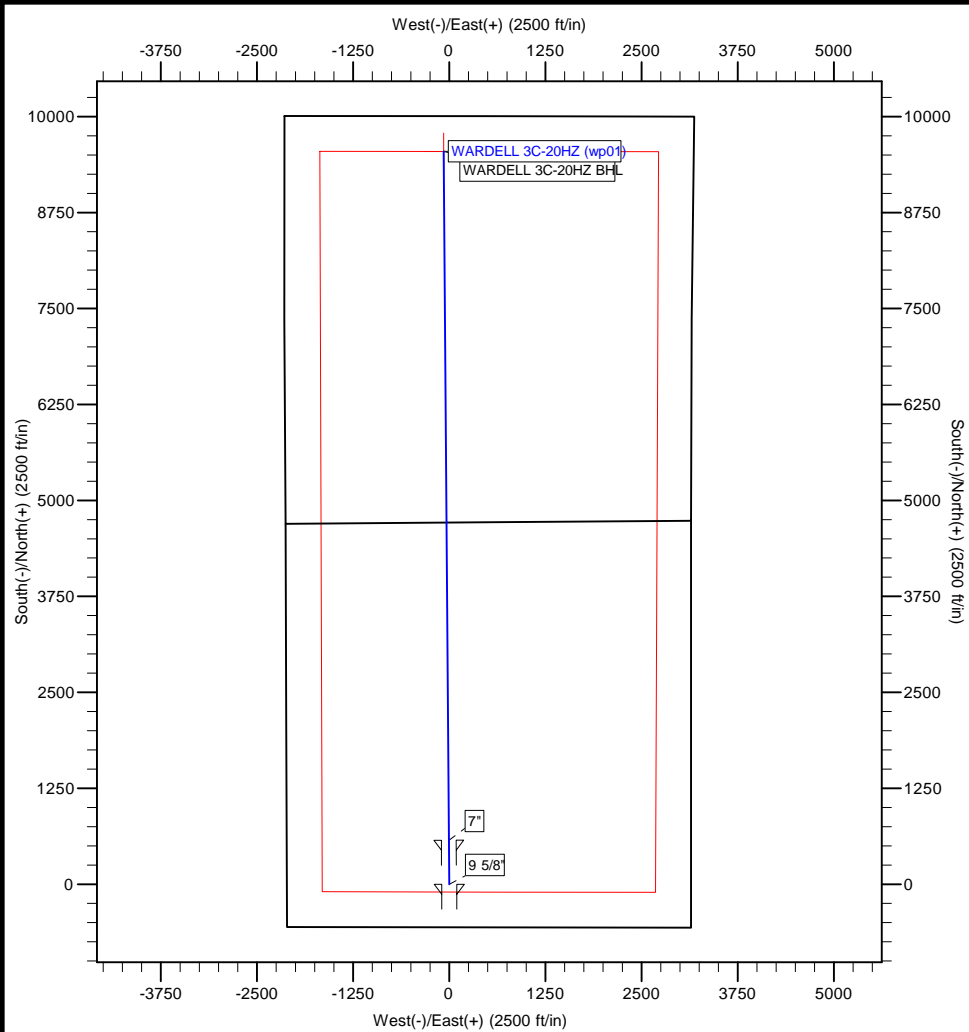
WARDELL 3C-20HZ

WARDELL 3C-20HZ

Plan: WARDELL 3C-20HZ (wp01)

Standard Planning Report

29 November, 2011



Project: COLORADO NORTHERN ZONE - 83
Site: WELD WARDELL 3 PAD
Well: WARDELL 3C-20HZ
Wellbore: WARDELL 3C-20HZ
Section:
SHL:
Design: WARDELL 3C-20HZ (wp01)
Latitude: 40.190717
Longitude: -104.689164
GL: 4879.00
KB: GL + RKB @ 4896.00ft

WELL DETAILS: WARDELL 3C-20HZ

+N/-S	+E/-W	Northing	Ground Level: Easting	4879.00 Latitude 40.190717	Longitude -104.689164	Slot
0.00	0.00	1313356.45	3226520.20			

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
6672.04	0.00	0.00	6672.04	0.00	0.00	0.00	0.00	0.00
7571.98	89.99	359.57	7245.00	572.88	-4.29	10.00	359.57	572.90
16544.34	89.99	359.57	7246.00	9544.99	-71.49	0.00	0.00	9545.26

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

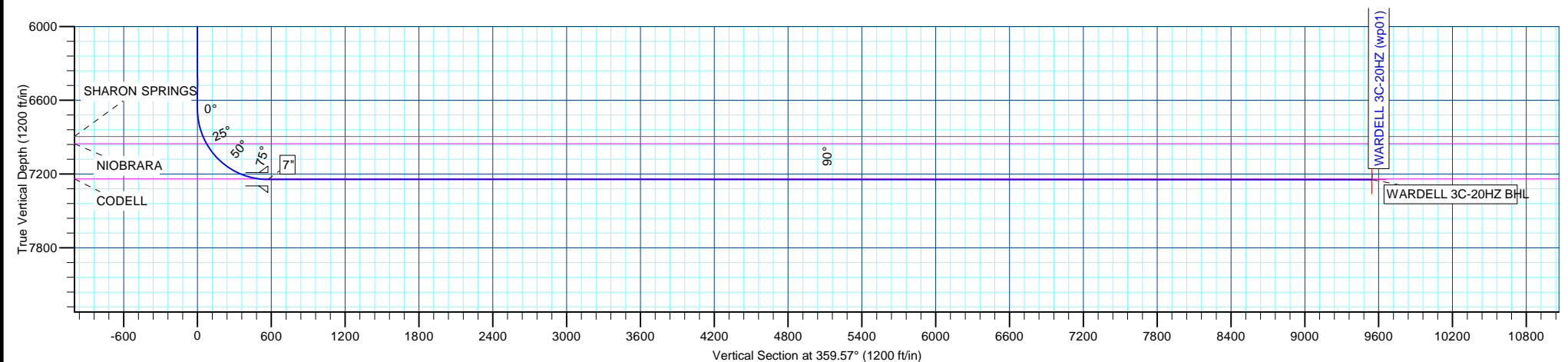
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
WARDELL 3C-20HZ BHL	7246.00	9544.99	-71.49	40.216919	-104.689420	Point

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3408.00	3408.00	PARKMAN
4130.00	4130.00	SUSSEX
4817.00	4817.00	SHANNON
6896.00	6902.14	SHARON SPRINGS
6954.00	6966.84	NIOBRARA
7240.00	7496.30	CODELL

CASING DETAILS

TVD	MD	Name	Size
1000.00	1000.00	9 5/8"	9-5/8
7245.00	7571.98	7"	7



Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well WARDELL 3C-20HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL + RKB @ 4896.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL + RKB @ 4896.00ft
Site:	WELD_WARDELL 3 PAD	North Reference:	True
Well:	WARDELL 3C-20HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	WARDELL 3C-20HZ		
Design:	WARDELL 3C-20HZ (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_WARDELL 3 PAD			
Site Position:		Northing:	1,313,356.25 usft	Latitude:	40.190716
From:	Lat/Long	Easting:	3,226,536.12 usft	Longitude:	-104.689107
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.52 °

Well	WARDELL 3C-20HZ					
Well Position	+N/-S	0.34 ft	Northing:	1,313,356.45 usft	Latitude:	40.190717
	+E/-W	-15.92 ft	Easting:	3,226,520.20 usft	Longitude:	-104.689164
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,879.00 ft

Wellbore	WARDELL 3C-20HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/29/2011	8.74	66.88	52,981

Design	WARDELL 3C-20HZ (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	359.57

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	
6,672.04	0.00	0.00	6,672.04	0.00	0.00	0.00	0.00	0.00	0.00	
7,571.98	89.99	359.57	7,245.00	572.88	-4.29	10.00	10.00	0.00	359.57	
16,544.34	89.99	359.57	7,246.00	9,544.99	-71.49	0.00	0.00	0.00	0.00	WARDELL 3C-20HZ I

Anadarko Petroleum Corp

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Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL + RKB @ 4896.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL + RKB @ 4896.00ft
Site:	WELD_WARDELL 3 PAD	North Reference:	True
Well:	WARDELL 3C-20HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	WARDELL 3C-20HZ		
Design:	WARDELL 3C-20HZ (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
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
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
3,408.00	0.00	0.00	3,408.00	0.00	0.00	0.00	0.00	0.00	0.00
PARKMAN									
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
4,130.00	0.00	0.00	4,130.00	0.00	0.00	0.00	0.00	0.00	0.00
SUSSEX									
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
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

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Wellbore:	WARDELL 3C-20HZ		
Design:	WARDELL 3C-20HZ (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
4,817.00	0.00	0.00	4,817.00	0.00	0.00	0.00	0.00	0.00	0.00
SHANNON									
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
6,672.04	0.00	0.00	6,672.04	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 10.00									
6,700.00	2.80	359.57	6,699.99	0.68	-0.01	0.68	10.00	10.00	0.00
6,800.00	12.80	359.57	6,798.94	14.23	-0.11	14.23	10.00	10.00	0.00
6,900.00	22.80	359.57	6,894.03	44.75	-0.34	44.75	10.00	10.00	0.00
6,902.14	23.01	359.57	6,896.00	45.58	-0.34	45.58	10.00	10.00	0.00
SHARON SPRINGS									
6,966.84	29.48	359.57	6,954.00	74.18	-0.56	74.18	10.00	10.00	0.00
NIORARA									
7,000.00	32.80	359.57	6,982.38	91.32	-0.68	91.33	10.00	10.00	0.00
7,100.00	42.80	359.57	7,061.30	152.53	-1.14	152.53	10.00	10.00	0.00
7,200.00	52.80	359.57	7,128.39	226.51	-1.70	226.52	10.00	10.00	0.00
7,300.00	62.80	359.57	7,181.62	311.02	-2.33	311.02	10.00	10.00	0.00
7,400.00	72.80	359.57	7,219.36	403.48	-3.02	403.49	10.00	10.00	0.00
7,496.30	82.43	359.57	7,240.00	497.42	-3.73	497.44	10.00	10.00	0.00
CODELL									
7,500.00	82.80	359.57	7,240.48	501.09	-3.75	501.11	10.00	10.00	0.00
7,571.98	89.99	359.57	7,245.00	572.88	-4.29	572.90	10.00	10.00	0.00
Start 8972.37 hold at 7571.98 MD - 7"									
7,600.00	89.99	359.57	7,245.00	600.90	-4.50	600.92	0.00	0.00	0.00
7,700.00	89.99	359.57	7,245.01	700.90	-5.25	700.92	0.00	0.00	0.00
7,800.00	89.99	359.57	7,245.02	800.89	-6.00	800.92	0.00	0.00	0.00
7,900.00	89.99	359.57	7,245.04	900.89	-6.75	900.92	0.00	0.00	0.00
8,000.00	89.99	359.57	7,245.05	1,000.89	-7.50	1,000.92	0.00	0.00	0.00
8,100.00	89.99	359.57	7,245.06	1,100.89	-8.25	1,100.92	0.00	0.00	0.00
8,200.00	89.99	359.57	7,245.07	1,200.88	-8.99	1,200.92	0.00	0.00	0.00
8,300.00	89.99	359.57	7,245.08	1,300.88	-9.74	1,300.92	0.00	0.00	0.00
8,400.00	89.99	359.57	7,245.09	1,400.88	-10.49	1,400.92	0.00	0.00	0.00
8,500.00	89.99	359.57	7,245.10	1,500.88	-11.24	1,500.92	0.00	0.00	0.00
8,600.00	89.99	359.57	7,245.11	1,600.87	-11.99	1,600.92	0.00	0.00	0.00
8,700.00	89.99	359.57	7,245.12	1,700.87	-12.74	1,700.92	0.00	0.00	0.00
8,800.00	89.99	359.57	7,245.14	1,800.87	-13.49	1,800.92	0.00	0.00	0.00

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Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL + RKB @ 4896.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL + RKB @ 4896.00ft
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Wellbore:	WARDELL 3C-20HZ		
Design:	WARDELL 3C-20HZ (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)
8,900.00	89.99	359.57	7,245.15	1,900.86	-14.24	1,900.92	0.00	0.00	0.00
9,000.00	89.99	359.57	7,245.16	2,000.86	-14.99	2,000.92	0.00	0.00	0.00
9,100.00	89.99	359.57	7,245.17	2,100.86	-15.74	2,100.92	0.00	0.00	0.00
9,200.00	89.99	359.57	7,245.18	2,200.86	-16.48	2,200.92	0.00	0.00	0.00
9,300.00	89.99	359.57	7,245.19	2,300.85	-17.23	2,300.92	0.00	0.00	0.00
9,400.00	89.99	359.57	7,245.20	2,400.85	-17.98	2,400.92	0.00	0.00	0.00
9,500.00	89.99	359.57	7,245.21	2,500.85	-18.73	2,500.92	0.00	0.00	0.00
9,600.00	89.99	359.57	7,245.23	2,600.84	-19.48	2,600.92	0.00	0.00	0.00
9,700.00	89.99	359.57	7,245.24	2,700.84	-20.23	2,700.92	0.00	0.00	0.00
9,800.00	89.99	359.57	7,245.25	2,800.84	-20.98	2,800.92	0.00	0.00	0.00
9,900.00	89.99	359.57	7,245.26	2,900.84	-21.73	2,900.92	0.00	0.00	0.00
10,000.00	89.99	359.57	7,245.27	3,000.83	-22.48	3,000.92	0.00	0.00	0.00
10,100.00	89.99	359.57	7,245.28	3,100.83	-23.23	3,100.92	0.00	0.00	0.00
10,200.00	89.99	359.57	7,245.29	3,200.83	-23.97	3,200.92	0.00	0.00	0.00
10,300.00	89.99	359.57	7,245.30	3,300.82	-24.72	3,300.92	0.00	0.00	0.00
10,400.00	89.99	359.57	7,245.31	3,400.82	-25.47	3,400.92	0.00	0.00	0.00
10,500.00	89.99	359.57	7,245.33	3,500.82	-26.22	3,500.92	0.00	0.00	0.00
10,600.00	89.99	359.57	7,245.34	3,600.82	-26.97	3,600.92	0.00	0.00	0.00
10,700.00	89.99	359.57	7,245.35	3,700.81	-27.72	3,700.92	0.00	0.00	0.00
10,800.00	89.99	359.57	7,245.36	3,800.81	-28.47	3,800.92	0.00	0.00	0.00
10,900.00	89.99	359.57	7,245.37	3,900.81	-29.22	3,900.92	0.00	0.00	0.00
11,000.00	89.99	359.57	7,245.38	4,000.80	-29.97	4,000.92	0.00	0.00	0.00
11,100.00	89.99	359.57	7,245.39	4,100.80	-30.71	4,100.92	0.00	0.00	0.00
11,200.00	89.99	359.57	7,245.40	4,200.80	-31.46	4,200.92	0.00	0.00	0.00
11,300.00	89.99	359.57	7,245.42	4,300.80	-32.21	4,300.92	0.00	0.00	0.00
11,400.00	89.99	359.57	7,245.43	4,400.79	-32.96	4,400.92	0.00	0.00	0.00
11,500.00	89.99	359.57	7,245.44	4,500.79	-33.71	4,500.92	0.00	0.00	0.00
11,600.00	89.99	359.57	7,245.45	4,600.79	-34.46	4,600.92	0.00	0.00	0.00
11,700.00	89.99	359.57	7,245.46	4,700.79	-35.21	4,700.92	0.00	0.00	0.00
11,800.00	89.99	359.57	7,245.47	4,800.78	-35.96	4,800.92	0.00	0.00	0.00
11,900.00	89.99	359.57	7,245.48	4,900.78	-36.71	4,900.92	0.00	0.00	0.00
12,000.00	89.99	359.57	7,245.49	5,000.78	-37.46	5,000.92	0.00	0.00	0.00
12,100.00	89.99	359.57	7,245.50	5,100.77	-38.20	5,100.92	0.00	0.00	0.00
12,200.00	89.99	359.57	7,245.52	5,200.77	-38.95	5,200.92	0.00	0.00	0.00
12,300.00	89.99	359.57	7,245.53	5,300.77	-39.70	5,300.92	0.00	0.00	0.00
12,400.00	89.99	359.57	7,245.54	5,400.77	-40.45	5,400.92	0.00	0.00	0.00
12,500.00	89.99	359.57	7,245.55	5,500.76	-41.20	5,500.92	0.00	0.00	0.00
12,600.00	89.99	359.57	7,245.56	5,600.76	-41.95	5,600.92	0.00	0.00	0.00
12,700.00	89.99	359.57	7,245.57	5,700.76	-42.70	5,700.92	0.00	0.00	0.00
12,800.00	89.99	359.57	7,245.58	5,800.75	-43.45	5,800.92	0.00	0.00	0.00
12,900.00	89.99	359.57	7,245.59	5,900.75	-44.20	5,900.92	0.00	0.00	0.00
13,000.00	89.99	359.57	7,245.60	6,000.75	-44.95	6,000.92	0.00	0.00	0.00
13,100.00	89.99	359.57	7,245.62	6,100.75	-45.69	6,100.92	0.00	0.00	0.00
13,200.00	89.99	359.57	7,245.63	6,200.74	-46.44	6,200.92	0.00	0.00	0.00
13,300.00	89.99	359.57	7,245.64	6,300.74	-47.19	6,300.92	0.00	0.00	0.00
13,400.00	89.99	359.57	7,245.65	6,400.74	-47.94	6,400.92	0.00	0.00	0.00
13,500.00	89.99	359.57	7,245.66	6,500.73	-48.69	6,500.92	0.00	0.00	0.00
13,600.00	89.99	359.57	7,245.67	6,600.73	-49.44	6,600.92	0.00	0.00	0.00
13,700.00	89.99	359.57	7,245.68	6,700.73	-50.19	6,700.92	0.00	0.00	0.00
13,800.00	89.99	359.57	7,245.69	6,800.73	-50.94	6,800.92	0.00	0.00	0.00
13,900.00	89.99	359.57	7,245.71	6,900.72	-51.69	6,900.92	0.00	0.00	0.00
14,000.00	89.99	359.57	7,245.72	7,000.72	-52.43	7,000.92	0.00	0.00	0.00
14,100.00	89.99	359.57	7,245.73	7,100.72	-53.18	7,100.92	0.00	0.00	0.00
14,200.00	89.99	359.57	7,245.74	7,200.72	-53.93	7,200.92	0.00	0.00	0.00

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well WARDELL 3C-20HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL + RKB @ 4896.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL + RKB @ 4896.00ft
Site:	WELD_WARDELL 3 PAD	North Reference:	True
Well:	WARDELL 3C-20HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	WARDELL 3C-20HZ		
Design:	WARDELL 3C-20HZ (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)
14,300.00	89.99	359.57	7,245.75	7,300.71	-54.68	7,300.92	0.00	0.00	0.00
14,400.00	89.99	359.57	7,245.76	7,400.71	-55.43	7,400.92	0.00	0.00	0.00
14,500.00	89.99	359.57	7,245.77	7,500.71	-56.18	7,500.92	0.00	0.00	0.00
14,600.00	89.99	359.57	7,245.78	7,600.70	-56.93	7,600.92	0.00	0.00	0.00
14,700.00	89.99	359.57	7,245.79	7,700.70	-57.68	7,700.92	0.00	0.00	0.00
14,800.00	89.99	359.57	7,245.81	7,800.70	-58.43	7,800.92	0.00	0.00	0.00
14,900.00	89.99	359.57	7,245.82	7,900.70	-59.18	7,900.92	0.00	0.00	0.00
15,000.00	89.99	359.57	7,245.83	8,000.69	-59.92	8,000.92	0.00	0.00	0.00
15,100.00	89.99	359.57	7,245.84	8,100.69	-60.67	8,100.92	0.00	0.00	0.00
15,200.00	89.99	359.57	7,245.85	8,200.69	-61.42	8,200.92	0.00	0.00	0.00
15,300.00	89.99	359.57	7,245.86	8,300.68	-62.17	8,300.92	0.00	0.00	0.00
15,400.00	89.99	359.57	7,245.87	8,400.68	-62.92	8,400.92	0.00	0.00	0.00
15,500.00	89.99	359.57	7,245.88	8,500.68	-63.67	8,500.92	0.00	0.00	0.00
15,600.00	89.99	359.57	7,245.89	8,600.68	-64.42	8,600.92	0.00	0.00	0.00
15,700.00	89.99	359.57	7,245.91	8,700.67	-65.17	8,700.92	0.00	0.00	0.00
15,800.00	89.99	359.57	7,245.92	8,800.67	-65.92	8,800.92	0.00	0.00	0.00
15,900.00	89.99	359.57	7,245.93	8,900.67	-66.67	8,900.92	0.00	0.00	0.00
16,000.00	89.99	359.57	7,245.94	9,000.66	-67.41	9,000.92	0.00	0.00	0.00
16,100.00	89.99	359.57	7,245.95	9,100.66	-68.16	9,100.92	0.00	0.00	0.00
16,200.00	89.99	359.57	7,245.96	9,200.66	-68.91	9,200.92	0.00	0.00	0.00
16,300.00	89.99	359.57	7,245.97	9,300.66	-69.66	9,300.92	0.00	0.00	0.00
16,400.00	89.99	359.57	7,245.98	9,400.65	-70.41	9,400.92	0.00	0.00	0.00
16,500.00	89.99	359.57	7,246.00	9,500.65	-71.16	9,500.92	0.00	0.00	0.00
16,544.34	89.99	359.57	7,246.00	9,544.99	-71.49	9,545.26	0.00	0.00	0.00
TD at 16544.34 - WARDELL 3C-20HZ BHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
WARDELL 3C-20HZ BH	0.00	0.00	7,246.00	9,544.99	-71.49	1,322,900.37	3,226,361.43	40.216919	-104.689420
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
1,000.00	1,000.00	9 5/8"	9-5/8	12-1/4	
7,571.98	7,245.00	7"	7	8-3/4	

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well WARDELL 3C-20HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL + RKB @ 4896.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL + RKB @ 4896.00ft
Site:	WELD_WARDELL 3 PAD	North Reference:	True
Well:	WARDELL 3C-20HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	WARDELL 3C-20HZ		
Design:	WARDELL 3C-20HZ (wp01)		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,408.00	3,408.00	PARKMAN		0.00	
4,130.00	4,130.00	SUSSEX		0.00	
4,817.00	4,817.00	SHANNON		0.00	
6,902.14	6,896.00	SHARON SPRINGS		0.00	
6,966.84	6,954.00	NIOBRARA		0.00	
7,496.30	7,240.00	CODELL		0.00	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
6,672.04	6,672.04	0.00	0.00	Start Build 10.00	
7,571.98	7,245.00	572.88	-4.29	Start 8972.37 hold at 7571.98 MD	
16,544.34	7,246.00	9,544.99	-71.49	TD at 16544.34	