

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_WARDELL 3 PAD

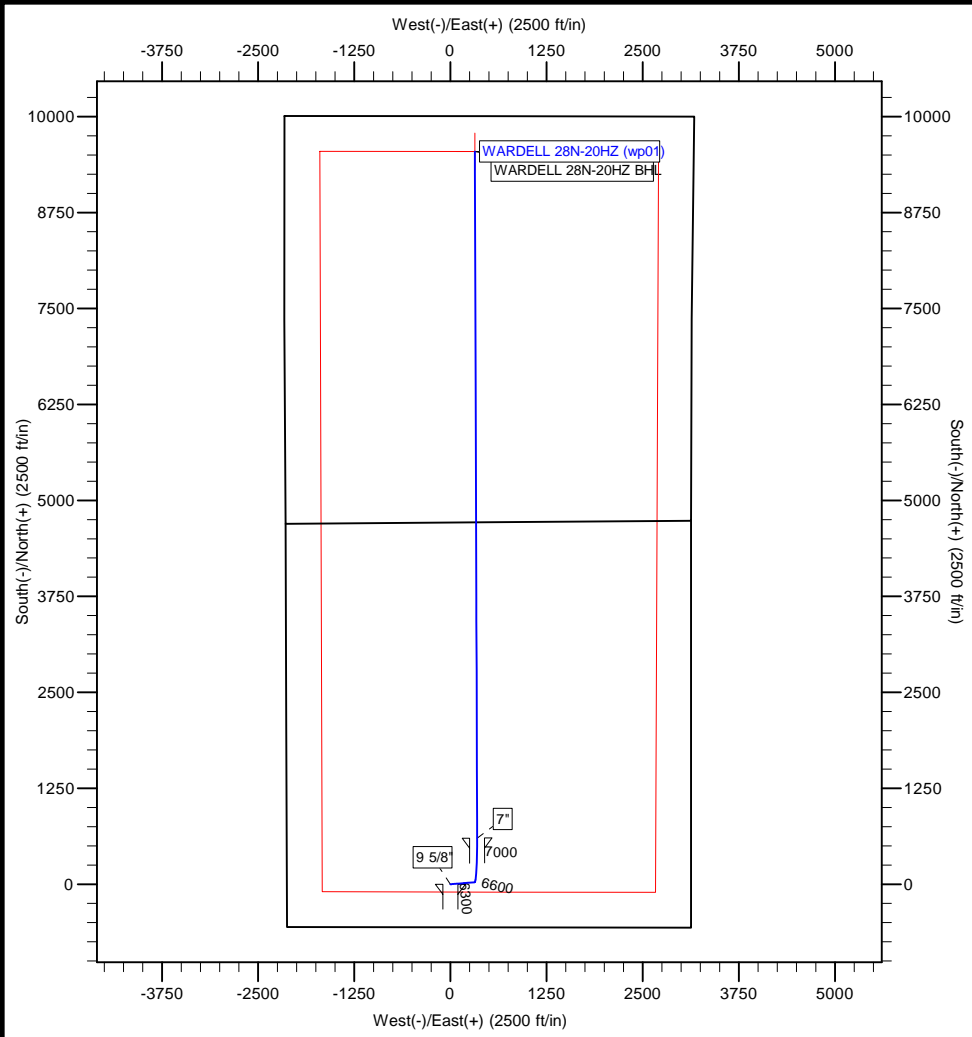
WARDELL 28N-20HZ

WARDELL 28N-20HZ

Plan: WARDELL 28N-20HZ (wp01)

Standard Planning Report

29 November, 2011



Azimuths to True North
 Magnetic North: 8.74°
 Magnetic Field
 Strength: 52980.9snT
 Dip Angle: 66.88°
 Date: 11/29/2011
 Model: IGRF2010



Project: COLORADO NORTHERN ZONE - 83
Site: WELD WARDELL 3 PAD
Well: WARDELL 28N-20HZ
Wellbore: WARDELL 28N-20HZ
Section:
SHL:
Design: WARDELL 28N-20HZ (wp01)
Latitude: 40.190716
Longitude: -104.689107
GL: 4879.00
KB: GL + RKB @ 4896.00ft

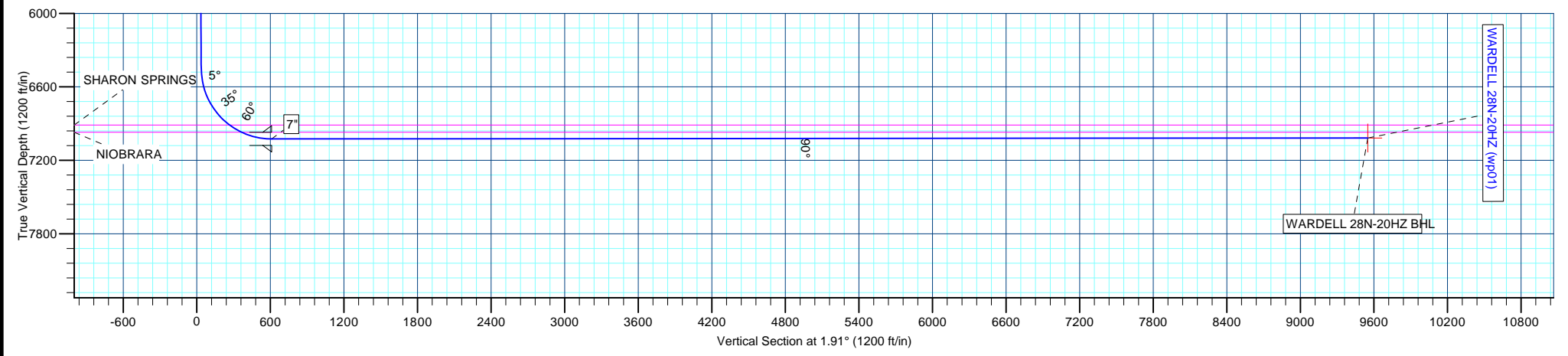
WELL DETAILS: WARDELL 28N-20HZ						
+N/-S	+E/-W	Northing	Ground Level: Easting	4879.00 Latitude	Longitude	Slot
0.00	0.00	1313356.25	3226536.12	40.190716	-104.689107	

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	
1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	0.00	0.00	
1271.53	3.43	85.20	1271.42	0.43	5.12	2.00	85.20	0.60	
6466.23	3.43	85.20	6456.82	26.46	314.86	0.00	0.00	36.91	
7363.95	90.05	359.81	7026.00	600.00	347.00	10.00	-85.39	611.21	
7364.29	90.05	359.81	7026.00	600.34	347.00	1.00	20.06	611.55	
16308.62	90.05	359.81	7018.00	9544.61	317.52	0.00	0.00	9549.89	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)							
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape	
WARDELL 28N-20HZ BHL	7018.00	9544.61	317.52	40.216917	-104.687970	Point	

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3391.00	3394.91	PARKMAN
4113.00	4118.20	SUSSEX
4800.00	4806.44	SHANNON
6913.00	6997.09	SHARON SPRINGS
6971.00	7110.14	NIORRARA

CASING DETAILS			
TVD	MD	Name	Size
1000.00	1000.00	9 5/8"	9-5/8
7026.00	7363.95	7"	7



Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well WARDELL 28N-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 28N-20HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	WARDELL 28N-20HZ		
Design:	WARDELL 28N-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 28N-20HZ					
Well Position	+N/-S	0.00 ft	Northing:	1,313,356.25 usft	Latitude:	40.190716
	+E/-W	0.00 ft	Easting:	3,226,536.12 usft	Longitude:	-104.689107
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,879.00 ft

Wellbore	WARDELL 28N-20HZ				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2010	11/29/2011	(°)	(°)	(nT)
			8.74	66.88	52,981

Design	WARDELL 28N-20HZ (wp01)				
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	1.91	

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	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,271.53	3.43	85.20	1,271.42	0.43	5.12	2.00	2.00	0.00	85.20	
6,466.23	3.43	85.20	6,456.82	26.46	314.86	0.00	0.00	0.00	0.00	
7,363.95	90.05	359.81	7,026.00	600.00	347.00	10.00	9.65	-9.51	-85.39	
7,364.29	90.05	359.81	7,026.00	600.34	347.00	1.00	0.94	0.34	20.06	
16,308.62	90.05	359.81	7,018.00	9,544.61	317.52	0.00	0.00	0.00	0.00	WARDELL 28N-20HZ

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well WARDELL 28N-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 28N-20HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	WARDELL 28N-20HZ		
Design:	WARDELL 28N-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	
Start Build 2.00										
1,200.00	2.00	85.20	1,199.98	0.15	1.74	0.20	2.00	2.00	0.00	
1,271.53	3.43	85.20	1,271.42	0.43	5.12	0.60	2.00	2.00	0.00	
Start 5194.70 hold at 1271.53 MD										
1,300.00	3.43	85.20	1,299.85	0.57	6.81	0.80	0.00	0.00	0.00	
1,400.00	3.43	85.20	1,399.67	1.07	12.78	1.50	0.00	0.00	0.00	
1,500.00	3.43	85.20	1,499.49	1.57	18.74	2.20	0.00	0.00	0.00	
1,600.00	3.43	85.20	1,599.31	2.08	24.70	2.90	0.00	0.00	0.00	
1,700.00	3.43	85.20	1,699.13	2.58	30.66	3.59	0.00	0.00	0.00	
1,800.00	3.43	85.20	1,798.95	3.08	36.63	4.29	0.00	0.00	0.00	
1,900.00	3.43	85.20	1,898.77	3.58	42.59	4.99	0.00	0.00	0.00	
2,000.00	3.43	85.20	1,998.59	4.08	48.55	5.69	0.00	0.00	0.00	
2,100.00	3.43	85.20	2,098.41	4.58	54.52	6.39	0.00	0.00	0.00	
2,200.00	3.43	85.20	2,198.23	5.08	60.48	7.09	0.00	0.00	0.00	
2,300.00	3.43	85.20	2,298.05	5.58	66.44	7.79	0.00	0.00	0.00	
2,400.00	3.43	85.20	2,397.88	6.08	72.40	8.49	0.00	0.00	0.00	
2,500.00	3.43	85.20	2,497.70	6.59	78.37	9.19	0.00	0.00	0.00	
2,600.00	3.43	85.20	2,597.52	7.09	84.33	9.89	0.00	0.00	0.00	
2,700.00	3.43	85.20	2,697.34	7.59	90.29	10.59	0.00	0.00	0.00	
2,800.00	3.43	85.20	2,797.16	8.09	96.25	11.28	0.00	0.00	0.00	
2,900.00	3.43	85.20	2,896.98	8.59	102.22	11.98	0.00	0.00	0.00	
3,000.00	3.43	85.20	2,996.80	9.09	108.18	12.68	0.00	0.00	0.00	
3,100.00	3.43	85.20	3,096.62	9.59	114.14	13.38	0.00	0.00	0.00	
3,200.00	3.43	85.20	3,196.44	10.09	120.11	14.08	0.00	0.00	0.00	
3,300.00	3.43	85.20	3,296.26	10.59	126.07	14.78	0.00	0.00	0.00	
3,394.91	3.43	85.20	3,391.00	11.07	131.73	15.44	0.00	0.00	0.00	
PARKMAN										
3,400.00	3.43	85.20	3,396.08	11.09	132.03	15.48	0.00	0.00	0.00	
3,500.00	3.43	85.20	3,495.90	11.60	137.99	16.18	0.00	0.00	0.00	
3,600.00	3.43	85.20	3,595.73	12.10	143.96	16.88	0.00	0.00	0.00	
3,700.00	3.43	85.20	3,695.55	12.60	149.92	17.58	0.00	0.00	0.00	
3,800.00	3.43	85.20	3,795.37	13.10	155.88	18.27	0.00	0.00	0.00	
3,900.00	3.43	85.20	3,895.19	13.60	161.85	18.97	0.00	0.00	0.00	
4,000.00	3.43	85.20	3,995.01	14.10	167.81	19.67	0.00	0.00	0.00	
4,100.00	3.43	85.20	4,094.83	14.60	173.77	20.37	0.00	0.00	0.00	
4,118.20	3.43	85.20	4,113.00	14.69	174.86	20.50	0.00	0.00	0.00	
SUSSEX										
4,200.00	3.43	85.20	4,194.65	15.10	179.73	21.07	0.00	0.00	0.00	
4,300.00	3.43	85.20	4,294.47	15.60	185.70	21.77	0.00	0.00	0.00	
4,400.00	3.43	85.20	4,394.29	16.11	191.66	22.47	0.00	0.00	0.00	
4,500.00	3.43	85.20	4,494.11	16.61	197.62	23.17	0.00	0.00	0.00	

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well WARDELL 28N-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 28N-20HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	WARDELL 28N-20HZ		
Design:	WARDELL 28N-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)
4,600.00	3.43	85.20	4,593.93	17.11	203.58	23.87	0.00	0.00	0.00
4,700.00	3.43	85.20	4,693.75	17.61	209.55	24.57	0.00	0.00	0.00
4,800.00	3.43	85.20	4,793.57	18.11	215.51	25.27	0.00	0.00	0.00
4,806.44	3.43	85.20	4,800.00	18.14	215.89	25.31	0.00	0.00	0.00
SHANNON									
4,900.00	3.43	85.20	4,893.40	18.61	221.47	25.96	0.00	0.00	0.00
5,000.00	3.43	85.20	4,993.22	19.11	227.44	26.66	0.00	0.00	0.00
5,100.00	3.43	85.20	5,093.04	19.61	233.40	27.36	0.00	0.00	0.00
5,200.00	3.43	85.20	5,192.86	20.11	239.36	28.06	0.00	0.00	0.00
5,300.00	3.43	85.20	5,292.68	20.62	245.32	28.76	0.00	0.00	0.00
5,400.00	3.43	85.20	5,392.50	21.12	251.29	29.46	0.00	0.00	0.00
5,500.00	3.43	85.20	5,492.32	21.62	257.25	30.16	0.00	0.00	0.00
5,600.00	3.43	85.20	5,592.14	22.12	263.21	30.86	0.00	0.00	0.00
5,700.00	3.43	85.20	5,691.96	22.62	269.18	31.56	0.00	0.00	0.00
5,800.00	3.43	85.20	5,791.78	23.12	275.14	32.26	0.00	0.00	0.00
5,900.00	3.43	85.20	5,891.60	23.62	281.10	32.95	0.00	0.00	0.00
6,000.00	3.43	85.20	5,991.42	24.12	287.06	33.65	0.00	0.00	0.00
6,100.00	3.43	85.20	6,091.25	24.62	293.03	34.35	0.00	0.00	0.00
6,200.00	3.43	85.20	6,191.07	25.12	298.99	35.05	0.00	0.00	0.00
6,300.00	3.43	85.20	6,290.89	25.63	304.95	35.75	0.00	0.00	0.00
6,400.00	3.43	85.20	6,390.71	26.13	310.91	36.45	0.00	0.00	0.00
6,466.23	3.43	85.20	6,456.82	26.46	314.86	36.91	0.00	0.00	0.00
Start DLS 10.00 TFO -85.39									
6,500.00	5.00	42.86	6,490.50	27.62	316.87	38.14	10.00	4.65	-125.35
6,600.00	14.07	13.61	6,589.07	42.67	322.71	53.37	10.00	9.06	-29.25
6,700.00	23.89	7.57	6,683.52	74.63	328.25	85.50	10.00	9.82	-6.04
6,800.00	33.81	4.93	6,771.01	122.54	333.32	133.55	10.00	9.92	-2.64
6,900.00	43.76	3.39	6,848.87	184.93	337.77	196.06	10.00	9.95	-1.54
WARDELL 28N-20HZ heel									
6,997.09	53.44	2.35	6,913.00	257.58	341.37	268.79	10.00	9.97	-1.07
SHARON SPRINGS									
7,000.00	53.73	2.33	6,914.73	259.92	341.46	271.13	10.00	9.97	-0.92
7,100.00	63.70	1.50	6,966.59	345.23	344.28	356.48	10.00	9.98	-0.82
7,110.14	64.72	1.43	6,971.00	354.35	344.52	365.61	10.00	9.98	-0.74
NIOBRARA									
7,200.00	73.68	0.82	7,002.88	438.26	346.15	449.52	10.00	9.98	-0.68
7,300.00	83.66	0.19	7,022.49	536.18	347.00	547.42	10.00	9.98	-0.62
7,363.95	90.05	359.81	7,026.00	600.00	347.00	611.21	10.00	9.98	-0.60
7"									
7,364.29	90.05	359.81	7,026.00	600.34	347.00	611.55	1.00	0.94	0.34
Start 8944.32 hold at 7364.29 MD									
7,400.00	90.05	359.81	7,025.97	636.05	346.88	647.23	0.00	0.00	0.00
7,500.00	90.05	359.81	7,025.88	736.05	346.55	747.16	0.00	0.00	0.00
7,600.00	90.05	359.81	7,025.79	836.05	346.22	847.10	0.00	0.00	0.00
7,700.00	90.05	359.81	7,025.70	936.05	345.89	947.03	0.00	0.00	0.00
7,800.00	90.05	359.81	7,025.61	1,036.05	345.56	1,046.96	0.00	0.00	0.00
7,900.00	90.05	359.81	7,025.52	1,136.05	345.23	1,146.90	0.00	0.00	0.00
8,000.00	90.05	359.81	7,025.43	1,236.05	344.90	1,246.83	0.00	0.00	0.00
8,100.00	90.05	359.81	7,025.34	1,336.05	344.57	1,346.76	0.00	0.00	0.00
8,200.00	90.05	359.81	7,025.25	1,436.05	344.24	1,446.70	0.00	0.00	0.00
8,300.00	90.05	359.81	7,025.16	1,536.04	343.92	1,546.63	0.00	0.00	0.00
8,400.00	90.05	359.81	7,025.07	1,636.04	343.59	1,646.56	0.00	0.00	0.00
8,500.00	90.05	359.81	7,024.98	1,736.04	343.26	1,746.50	0.00	0.00	0.00

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well WARDELL 28N-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 28N-20HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	WARDELL 28N-20HZ		
Design:	WARDELL 28N-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)
8,600.00	90.05	359.81	7,024.89	1,836.04	342.93	1,846.43	0.00	0.00	0.00
8,700.00	90.05	359.81	7,024.81	1,936.04	342.60	1,946.36	0.00	0.00	0.00
8,800.00	90.05	359.81	7,024.72	2,036.04	342.27	2,046.30	0.00	0.00	0.00
8,900.00	90.05	359.81	7,024.63	2,136.04	341.94	2,146.23	0.00	0.00	0.00
9,000.00	90.05	359.81	7,024.54	2,236.04	341.61	2,246.16	0.00	0.00	0.00
9,100.00	90.05	359.81	7,024.45	2,336.04	341.28	2,346.10	0.00	0.00	0.00
9,200.00	90.05	359.81	7,024.36	2,436.04	340.95	2,446.03	0.00	0.00	0.00
9,300.00	90.05	359.81	7,024.27	2,536.04	340.62	2,545.96	0.00	0.00	0.00
9,400.00	90.05	359.81	7,024.18	2,636.04	340.29	2,645.89	0.00	0.00	0.00
9,500.00	90.05	359.81	7,024.09	2,736.04	339.96	2,745.83	0.00	0.00	0.00
9,600.00	90.05	359.81	7,024.00	2,836.04	339.63	2,845.76	0.00	0.00	0.00
9,700.00	90.05	359.81	7,023.91	2,936.04	339.30	2,945.69	0.00	0.00	0.00
9,800.00	90.05	359.81	7,023.82	3,036.04	338.97	3,045.63	0.00	0.00	0.00
9,900.00	90.05	359.81	7,023.73	3,136.04	338.64	3,145.56	0.00	0.00	0.00
10,000.00	90.05	359.81	7,023.64	3,236.03	338.31	3,245.49	0.00	0.00	0.00
10,100.00	90.05	359.81	7,023.55	3,336.03	337.98	3,345.43	0.00	0.00	0.00
10,200.00	90.05	359.81	7,023.46	3,436.03	337.65	3,445.36	0.00	0.00	0.00
10,300.00	90.05	359.81	7,023.37	3,536.03	337.32	3,545.29	0.00	0.00	0.00
10,400.00	90.05	359.81	7,023.28	3,636.03	336.99	3,645.23	0.00	0.00	0.00
10,500.00	90.05	359.81	7,023.20	3,736.03	336.66	3,745.16	0.00	0.00	0.00
10,600.00	90.05	359.81	7,023.11	3,836.03	336.34	3,845.09	0.00	0.00	0.00
10,700.00	90.05	359.81	7,023.02	3,936.03	336.01	3,945.03	0.00	0.00	0.00
10,800.00	90.05	359.81	7,022.93	4,036.03	335.68	4,044.96	0.00	0.00	0.00
10,900.00	90.05	359.81	7,022.84	4,136.03	335.35	4,144.89	0.00	0.00	0.00
11,000.00	90.05	359.81	7,022.75	4,236.03	335.02	4,244.83	0.00	0.00	0.00
11,100.00	90.05	359.81	7,022.66	4,336.03	334.69	4,344.76	0.00	0.00	0.00
11,200.00	90.05	359.81	7,022.57	4,436.03	334.36	4,444.69	0.00	0.00	0.00
11,300.00	90.05	359.81	7,022.48	4,536.03	334.03	4,544.63	0.00	0.00	0.00
11,400.00	90.05	359.81	7,022.39	4,636.03	333.70	4,644.56	0.00	0.00	0.00
11,500.00	90.05	359.81	7,022.30	4,736.03	333.37	4,744.49	0.00	0.00	0.00
11,600.00	90.05	359.81	7,022.21	4,836.03	333.04	4,844.42	0.00	0.00	0.00
11,700.00	90.05	359.81	7,022.12	4,936.02	332.71	4,944.36	0.00	0.00	0.00
11,800.00	90.05	359.81	7,022.03	5,036.02	332.38	5,044.29	0.00	0.00	0.00
11,900.00	90.05	359.81	7,021.94	5,136.02	332.05	5,144.22	0.00	0.00	0.00
12,000.00	90.05	359.81	7,021.85	5,236.02	331.72	5,244.16	0.00	0.00	0.00
12,100.00	90.05	359.81	7,021.76	5,336.02	331.39	5,344.09	0.00	0.00	0.00
12,200.00	90.05	359.81	7,021.67	5,436.02	331.06	5,444.02	0.00	0.00	0.00
12,300.00	90.05	359.81	7,021.59	5,536.02	330.73	5,543.96	0.00	0.00	0.00
12,400.00	90.05	359.81	7,021.50	5,636.02	330.40	5,643.89	0.00	0.00	0.00
12,500.00	90.05	359.81	7,021.41	5,736.02	330.07	5,743.82	0.00	0.00	0.00
12,600.00	90.05	359.81	7,021.32	5,836.02	329.74	5,843.76	0.00	0.00	0.00
12,700.00	90.05	359.81	7,021.23	5,936.02	329.41	5,943.69	0.00	0.00	0.00
12,800.00	90.05	359.81	7,021.14	6,036.02	329.09	6,043.62	0.00	0.00	0.00
12,900.00	90.05	359.81	7,021.05	6,136.02	328.76	6,143.56	0.00	0.00	0.00
13,000.00	90.05	359.81	7,020.96	6,236.02	328.43	6,243.49	0.00	0.00	0.00
13,100.00	90.05	359.81	7,020.87	6,336.02	328.10	6,343.42	0.00	0.00	0.00
13,200.00	90.05	359.81	7,020.78	6,436.02	327.77	6,443.36	0.00	0.00	0.00
13,300.00	90.05	359.81	7,020.69	6,536.02	327.44	6,543.29	0.00	0.00	0.00
13,400.00	90.05	359.81	7,020.60	6,636.01	327.11	6,643.22	0.00	0.00	0.00
13,500.00	90.05	359.81	7,020.51	6,736.01	326.78	6,743.16	0.00	0.00	0.00
13,600.00	90.05	359.81	7,020.42	6,836.01	326.45	6,843.09	0.00	0.00	0.00
13,700.00	90.05	359.81	7,020.33	6,936.01	326.12	6,943.02	0.00	0.00	0.00
13,800.00	90.05	359.81	7,020.24	7,036.01	325.79	7,042.95	0.00	0.00	0.00
13,900.00	90.05	359.81	7,020.15	7,136.01	325.46	7,142.89	0.00	0.00	0.00

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well WARDELL 28N-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 28N-20HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	WARDELL 28N-20HZ		
Design:	WARDELL 28N-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)
14,000.00	90.05	359.81	7,020.06	7,236.01	325.13	7,242.82	0.00	0.00	0.00
14,100.00	90.05	359.81	7,019.98	7,336.01	324.80	7,342.75	0.00	0.00	0.00
14,200.00	90.05	359.81	7,019.89	7,436.01	324.47	7,442.69	0.00	0.00	0.00
14,300.00	90.05	359.81	7,019.80	7,536.01	324.14	7,542.62	0.00	0.00	0.00
14,400.00	90.05	359.81	7,019.71	7,636.01	323.81	7,642.55	0.00	0.00	0.00
14,500.00	90.05	359.81	7,019.62	7,736.01	323.48	7,742.49	0.00	0.00	0.00
14,600.00	90.05	359.81	7,019.53	7,836.01	323.15	7,842.42	0.00	0.00	0.00
14,700.00	90.05	359.81	7,019.44	7,936.01	322.82	7,942.35	0.00	0.00	0.00
14,800.00	90.05	359.81	7,019.35	8,036.01	322.49	8,042.29	0.00	0.00	0.00
14,900.00	90.05	359.81	7,019.26	8,136.01	322.16	8,142.22	0.00	0.00	0.00
15,000.00	90.05	359.81	7,019.17	8,236.01	321.83	8,242.15	0.00	0.00	0.00
15,100.00	90.05	359.81	7,019.08	8,336.01	321.51	8,342.09	0.00	0.00	0.00
15,200.00	90.05	359.81	7,018.99	8,436.00	321.18	8,442.02	0.00	0.00	0.00
15,300.00	90.05	359.81	7,018.90	8,536.00	320.85	8,541.95	0.00	0.00	0.00
15,400.00	90.05	359.81	7,018.81	8,636.00	320.52	8,641.89	0.00	0.00	0.00
15,500.00	90.05	359.81	7,018.72	8,736.00	320.19	8,741.82	0.00	0.00	0.00
15,600.00	90.05	359.81	7,018.63	8,836.00	319.86	8,841.75	0.00	0.00	0.00
15,700.00	90.05	359.81	7,018.54	8,936.00	319.53	8,941.68	0.00	0.00	0.00
15,800.00	90.05	359.81	7,018.46	9,036.00	319.20	9,041.62	0.00	0.00	0.00
15,900.00	90.05	359.81	7,018.37	9,136.00	318.87	9,141.55	0.00	0.00	0.00
16,000.00	90.05	359.81	7,018.28	9,236.00	318.54	9,241.48	0.00	0.00	0.00
16,100.00	90.05	359.81	7,018.19	9,336.00	318.21	9,341.42	0.00	0.00	0.00
16,200.00	90.05	359.81	7,018.10	9,436.00	317.88	9,441.35	0.00	0.00	0.00
16,300.00	90.05	359.81	7,018.01	9,536.00	317.55	9,541.28	0.00	0.00	0.00
16,308.62	90.05	359.81	7,018.00	9,544.61	317.52	9,549.89	0.00	0.00	0.00
TD at 16308.62 - WARDELL 28N-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 28N-20HZ B - hit/miss target - Shape - Point	0.00	0.00	7,018.00	9,544.61	317.52	1,322,903.35	3,226,766.35	40.216917	-104.687970

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	
7,363.95	7,026.00	7"	7	8-3/4	

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well WARDELL 28N-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 28N-20HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	WARDELL 28N-20HZ		
Design:	WARDELL 28N-20HZ (wp01)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,394.91	3,391.00	PARKMAN		0.00		
4,118.20	4,113.00	SUSSEX		0.00		
4,806.44	4,800.00	SHANNON		0.00		
6,997.09	6,913.00	SHARON SPRINGS		0.00		
7,110.14	6,971.00	NIOBRARA		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,100.00	1,100.00	0.00	0.00	Start Build 2.00	
1,271.53	1,271.42	0.43	5.12	Start 5194.70 hold at 1271.53 MD	
6,466.23	6,456.82	26.46	314.86	Start DLS 10.00 TFO -85.39	
7,364.29	7,026.00	600.34	347.00	Start 8944.32 hold at 7364.29 MD	
16,308.62	7,018.00	9,544.61	317.52	TD at 16308.62	