

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_Raymond 2-29HZ Pad

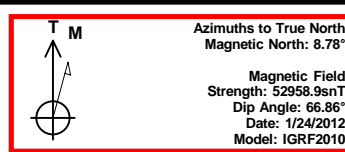
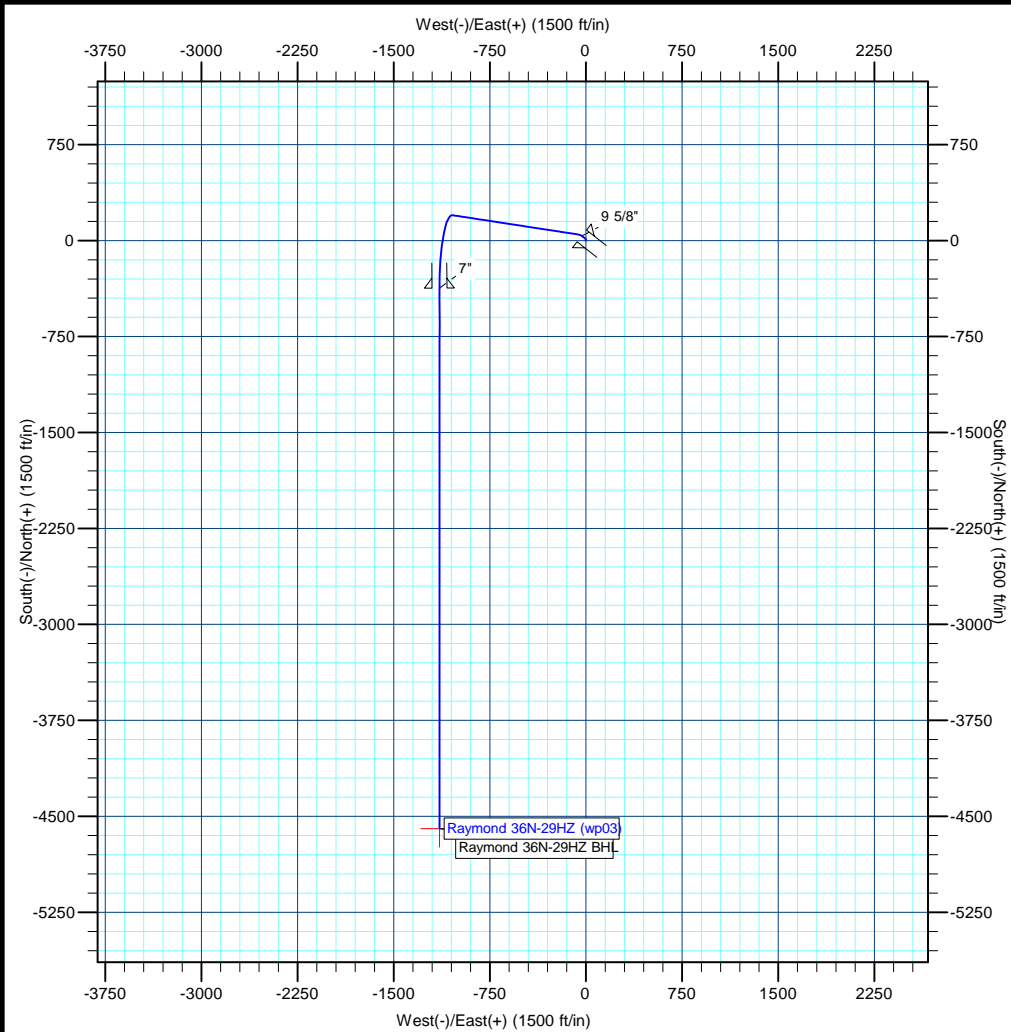
Raymond 36N-29HZ

Raymond 36N-29HZ

Plan: Raymond 36N-29HZ (wp03)

Standard Planning Report

19 March, 2012



Project: COLORADO NORTHERN ZONE - 83
Site: WELD Raymond 2-29HZ Pad
Well: Raymond 36N-29HZ
Wellbore: Raymond 36N-29HZ
Section:
SHL:
Design: Raymond 36N-29HZ (wp03)
Latitude: 40.202415
Longitude: -104.797090
GL: 4922.00
KB: gl +rkb @ 4939.00ft

WELL DETAILS: Raymond 36N-29HZ

+N/-S	+E/-W	Northing	Ground Level: Easting	4922.00 Latitude	Longitude	Slot
0.00	0.00	1317360.35	3196336.22	40.202415	-104.797090	

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect
0.00	0.00	0.00	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
450.00	5.00	308.65	449.68	10.90	0.00	2.00	0.00	-10.58
900.00	5.00	308.65	897.97	35.40	-30.63	0.00	0.00	-26.96
1225.02	10.34	278.74	1220.08	48.69	-70.57	2.00	-52.25	-30.22
6682.28	10.34	278.74	6588.66	197.63	-1039.00	0.00	0.00	58.93
7594.80	89.68	180.00	7168.00	-372.00	-1142.92	10.00	-98.66	636.79
7601.04	89.62	180.00	7168.04	-378.24	-1142.92	1.00	179.99	642.85
1819.38	89.62	180.00	7196.00	-4596.49	-1142.92	0.00	0.00	4736.45

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

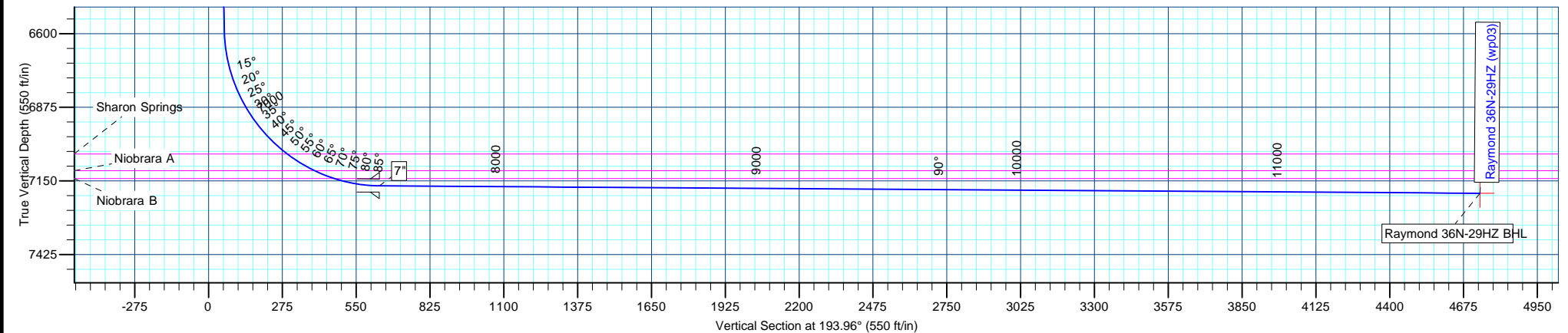
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Raymond 36N-29HZ BHL	7196.00	-4596.49	-1142.92	40.189797	-104.801181	Point

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3124.00	3160.39	Parkman
4351.00	4407.66	Sussex
7049.00	7218.89	Sharon Springs
7112.00	7340.49	Niobrara A
7141.00	7419.97	Niobrara B

CASING DETAILS

TVD	MD	Name	Size
900.00	902.04	9 5/8"	9-5/8
7168.00	7594.80	7"	7



Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well Raymond 36N-29HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	gl +rkb @ 4939.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	gl +rkb @ 4939.00ft
Site:	WELD_Raymond 2-29HZ Pad	North Reference:	True
Well:	Raymond 36N-29HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Raymond 36N-29HZ		
Design:	Raymond 36N-29HZ (wp03)		

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_Raymond 2-29HZ Pad			
Site Position:		Northing:	1,317,360.37 usft	Latitude:	40.202415
From:	Lat/Long	Easting:	3,196,336.22 usft	Longitude:	-104.797090
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.45 °

Well		Raymond 36N-29HZ				
Well Position	+N/-S	-0.02 ft	Northing:	1,317,360.35 usft	Latitude:	40.202415
	+E/-W	0.00 ft	Easting:	3,196,336.22 usft	Longitude:	-104.797090
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,922.00 ft

Wellbore	Raymond 36N-29HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/24/2012	8.78	66.86	52,959

Design	Raymond 36N-29HZ (wp03)			
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	193.96

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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
450.00	5.00	308.65	449.68	10.90	0.00	2.00	2.00	0.00	0.00	
900.00	5.00	308.65	897.97	35.40	-30.63	0.00	0.00	0.00	0.00	
1,225.02	10.34	278.74	1,220.08	48.69	-70.57	2.00	1.64	-9.20	-52.25	
6,682.28	10.34	278.74	6,588.66	197.63	-1,039.00	0.00	0.00	0.00	0.00	
7,594.80	89.68	180.00	7,168.00	-372.00	-1,142.92	10.00	8.69	-10.82	-98.66	
7,601.04	89.62	180.00	7,168.04	-378.24	-1,142.92	1.00	-1.00	0.00	179.99	
11,819.39	89.62	180.00	7,196.00	-4,596.49	-1,142.92	0.00	0.00	0.00	0.00	Raymond 36N-29HZ I

Anadarko Petroleum Corp

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	gl +rkb @ 4939.00ft
Site:	WELD_Raymond 2-29HZ Pad	North Reference:	True
Well:	Raymond 36N-29HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Raymond 36N-29HZ		
Design:	Raymond 36N-29HZ (wp03)		

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
Start Build 2.00									
300.00	2.00	0.00	299.98	1.75	0.00	-1.69	2.00	2.00	0.00
400.00	4.00	0.00	399.84	6.98	0.00	-6.77	2.00	2.00	0.00
450.00	5.00	308.65	449.68	10.90	0.00	-10.58	8.00	2.00	-102.70
Start 450.00 hold at 450.00 MD									
500.00	5.00	308.65	499.49	13.62	-3.40	-12.40	0.00	0.00	0.00
600.00	5.00	308.65	599.11	19.07	-10.21	-16.04	0.00	0.00	0.00
700.00	5.00	308.65	698.73	24.51	-17.02	-19.68	0.00	0.00	0.00
800.00	5.00	308.65	798.35	29.95	-23.82	-23.32	0.00	0.00	0.00
900.00	5.00	308.65	897.97	35.40	-30.63	-26.96	0.00	0.00	0.00
Start DLS 2.00 TFO -52.25									
902.04	5.03	308.28	900.00	35.51	-30.77	-27.03	2.00	1.23	-18.06
9 5/8"									
1,000.00	6.42	294.37	997.48	40.43	-39.13	-29.79	2.00	1.43	-14.21
1,100.00	8.09	285.58	1,096.67	44.62	-51.00	-31.00	2.00	1.67	-8.79
1,200.00	9.88	279.86	1,195.45	47.98	-66.24	-30.58	2.00	1.79	-5.71
1,225.02	10.34	278.74	1,220.08	48.69	-70.57	-30.22	2.00	1.84	-4.47
Start 5457.26 hold at 1225.02 MD									
1,300.00	10.34	278.74	1,293.84	50.74	-83.88	-29.00	0.00	0.00	0.00
1,400.00	10.34	278.74	1,392.21	53.47	-101.62	-27.37	0.00	0.00	0.00
1,500.00	10.34	278.74	1,490.59	56.20	-119.37	-25.73	0.00	0.00	0.00
1,600.00	10.34	278.74	1,588.96	58.93	-137.12	-24.10	0.00	0.00	0.00
1,700.00	10.34	278.74	1,687.34	61.65	-154.86	-22.46	0.00	0.00	0.00
1,800.00	10.34	278.74	1,785.71	64.38	-172.61	-20.83	0.00	0.00	0.00
1,900.00	10.34	278.74	1,884.09	67.11	-190.35	-19.20	0.00	0.00	0.00
2,000.00	10.34	278.74	1,982.46	69.84	-208.10	-17.56	0.00	0.00	0.00
2,100.00	10.34	278.74	2,080.84	72.57	-225.84	-15.93	0.00	0.00	0.00
2,200.00	10.34	278.74	2,179.21	75.30	-243.59	-14.30	0.00	0.00	0.00
2,300.00	10.34	278.74	2,277.59	78.03	-261.33	-12.66	0.00	0.00	0.00
2,400.00	10.34	278.74	2,375.96	80.76	-279.08	-11.03	0.00	0.00	0.00
2,500.00	10.34	278.74	2,474.34	83.49	-296.83	-9.40	0.00	0.00	0.00
2,600.00	10.34	278.74	2,572.71	86.22	-314.57	-7.76	0.00	0.00	0.00
2,700.00	10.34	278.74	2,671.09	88.95	-332.32	-6.13	0.00	0.00	0.00
2,800.00	10.34	278.74	2,769.46	91.67	-350.06	-4.49	0.00	0.00	0.00
2,900.00	10.34	278.74	2,867.84	94.40	-367.81	-2.86	0.00	0.00	0.00
3,000.00	10.34	278.74	2,966.21	97.13	-385.55	-1.23	0.00	0.00	0.00
3,100.00	10.34	278.74	3,064.59	99.86	-403.30	0.41	0.00	0.00	0.00
3,160.39	10.34	278.74	3,124.00	101.51	-414.02	1.39	0.00	0.00	0.00
Parkman									
3,200.00	10.34	278.74	3,162.96	102.59	-421.05	2.04	0.00	0.00	0.00
3,300.00	10.34	278.74	3,261.34	105.32	-438.79	3.67	0.00	0.00	0.00
3,400.00	10.34	278.74	3,359.71	108.05	-456.54	5.31	0.00	0.00	0.00
3,500.00	10.34	278.74	3,458.09	110.78	-474.28	6.94	0.00	0.00	0.00
3,600.00	10.34	278.74	3,556.46	113.51	-492.03	8.57	0.00	0.00	0.00
3,700.00	10.34	278.74	3,654.84	116.24	-509.77	10.21	0.00	0.00	0.00
3,800.00	10.34	278.74	3,753.21	118.97	-527.52	11.84	0.00	0.00	0.00
3,900.00	10.34	278.74	3,851.59	121.69	-545.27	13.48	0.00	0.00	0.00
4,000.00	10.34	278.74	3,949.96	124.42	-563.01	15.11	0.00	0.00	0.00
4,100.00	10.34	278.74	4,048.34	127.15	-580.76	16.74	0.00	0.00	0.00
4,200.00	10.34	278.74	4,146.71	129.88	-598.50	18.38	0.00	0.00	0.00

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well Raymond 36N-29HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	gl +rkb @ 4939.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	gl +rkb @ 4939.00ft
Site:	WELD_Raymond 2-29HZ Pad	North Reference:	True
Well:	Raymond 36N-29HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Raymond 36N-29HZ		
Design:	Raymond 36N-29HZ (wp03)		

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)
4,300.00	10.34	278.74	4,245.09	132.61	-616.25	20.01	0.00	0.00	0.00
4,400.00	10.34	278.74	4,343.46	135.34	-633.99	21.64	0.00	0.00	0.00
4,407.66	10.34	278.74	4,351.00	135.55	-635.35	21.77	0.00	0.00	0.00
Sussex									
4,500.00	10.34	278.74	4,441.84	138.07	-651.74	23.28	0.00	0.00	0.00
4,600.00	10.34	278.74	4,540.21	140.80	-669.48	24.91	0.00	0.00	0.00
4,700.00	10.34	278.74	4,638.59	143.53	-687.23	26.54	0.00	0.00	0.00
4,800.00	10.34	278.74	4,736.96	146.26	-704.98	28.18	0.00	0.00	0.00
4,900.00	10.34	278.74	4,835.34	148.99	-722.72	29.81	0.00	0.00	0.00
5,000.00	10.34	278.74	4,933.71	151.71	-740.47	31.45	0.00	0.00	0.00
5,100.00	10.34	278.74	5,032.09	154.44	-758.21	33.08	0.00	0.00	0.00
5,200.00	10.34	278.74	5,130.46	157.17	-775.96	34.71	0.00	0.00	0.00
5,300.00	10.34	278.74	5,228.84	159.90	-793.70	36.35	0.00	0.00	0.00
5,400.00	10.34	278.74	5,327.21	162.63	-811.45	37.98	0.00	0.00	0.00
5,500.00	10.34	278.74	5,425.59	165.36	-829.20	39.61	0.00	0.00	0.00
5,600.00	10.34	278.74	5,523.96	168.09	-846.94	41.25	0.00	0.00	0.00
5,700.00	10.34	278.74	5,622.34	170.82	-864.69	42.88	0.00	0.00	0.00
5,800.00	10.34	278.74	5,720.71	173.55	-882.43	44.51	0.00	0.00	0.00
5,900.00	10.34	278.74	5,819.09	176.28	-900.18	46.15	0.00	0.00	0.00
6,000.00	10.34	278.74	5,917.46	179.01	-917.92	47.78	0.00	0.00	0.00
6,100.00	10.34	278.74	6,015.84	181.73	-935.67	49.42	0.00	0.00	0.00
6,200.00	10.34	278.74	6,114.21	184.46	-953.42	51.05	0.00	0.00	0.00
6,300.00	10.34	278.74	6,212.59	187.19	-971.16	52.68	0.00	0.00	0.00
6,400.00	10.34	278.74	6,310.96	189.92	-988.91	54.32	0.00	0.00	0.00
6,500.00	10.34	278.74	6,409.34	192.65	-1,006.65	55.95	0.00	0.00	0.00
6,600.00	10.34	278.74	6,507.71	195.38	-1,024.40	57.58	0.00	0.00	0.00
6,682.28	10.34	278.74	6,588.66	197.63	-1,039.00	58.93	0.00	0.00	0.00
Start DLS 10.00 TFO -98.66									
6,700.00	10.23	268.83	6,606.09	197.84	-1,042.14	59.48	10.00	-0.66	-55.96
6,800.00	14.40	224.56	6,703.98	188.77	-1,059.79	72.54	10.00	4.18	-44.27
6,900.00	22.54	205.70	6,798.83	162.57	-1,076.87	102.08	10.00	8.14	-18.86
7,000.00	31.73	196.90	6,887.76	120.04	-1,092.87	147.22	10.00	9.19	-8.79
7,100.00	41.26	191.81	6,968.08	62.45	-1,107.30	206.59	10.00	9.54	-5.10
7,200.00	50.95	188.36	7,037.34	-8.42	-1,119.72	278.37	10.00	9.69	-3.45
7,218.89	52.79	187.81	7,049.00	-23.13	-1,121.81	293.14	10.00	9.74	-2.87
Sharon Springs									
7,300.00	60.72	185.75	7,093.44	-90.44	-1,129.75	360.38	10.00	9.77	-2.55
7,340.49	64.68	184.84	7,112.00	-126.26	-1,133.07	395.94	10.00	9.80	-2.25
Niobrara A									
7,400.00	70.52	183.60	7,134.67	-181.11	-1,137.10	450.14	10.00	9.81	-2.08
7,419.97	72.49	183.21	7,141.00	-200.01	-1,138.22	468.76	10.00	9.82	-1.97
Niobrara B									
7,500.00	80.35	181.70	7,159.78	-277.67	-1,141.53	544.92	10.00	9.83	-1.88
7,594.80	89.68	180.00	7,168.00	-372.00	-1,142.92	636.79	10.00	9.84	-1.79
Start DLS 1.00 TFO 179.99 - 7"									
7,600.00	89.63	180.00	7,168.03	-377.20	-1,142.92	641.84	1.00	-1.00	0.00
7,601.04	89.62	180.00	7,168.04	-378.24	-1,142.92	642.85	1.00	-1.00	0.00
Start 4218.34 hold at 7601.04 MD									
7,700.00	89.62	180.00	7,168.69	-477.19	-1,142.92	738.88	0.00	0.00	0.00
7,800.00	89.62	180.00	7,169.36	-577.19	-1,142.92	835.93	0.00	0.00	0.00
7,900.00	89.62	180.00	7,170.02	-677.19	-1,142.92	932.97	0.00	0.00	0.00
8,000.00	89.62	180.00	7,170.68	-777.19	-1,142.92	1,030.01	0.00	0.00	0.00
8,100.00	89.62	180.00	7,171.35	-877.19	-1,142.92	1,127.05	0.00	0.00	0.00

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Database:	edmp	Local Co-ordinate Reference:	Well Raymond 36N-29HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	gl +rkb @ 4939.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	gl +rkb @ 4939.00ft
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Well:	Raymond 36N-29HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Raymond 36N-29HZ		
Design:	Raymond 36N-29HZ (wp03)		

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)	
8,200.00	89.62	180.00	7,172.01	-977.18	-1,142.92	1,224.10	0.00	0.00	0.00	
8,300.00	89.62	180.00	7,172.67	-1,077.18	-1,142.92	1,321.14	0.00	0.00	0.00	
8,400.00	89.62	180.00	7,173.33	-1,177.18	-1,142.92	1,418.18	0.00	0.00	0.00	
8,500.00	89.62	180.00	7,174.00	-1,277.18	-1,142.92	1,515.23	0.00	0.00	0.00	
8,600.00	89.62	180.00	7,174.66	-1,377.17	-1,142.92	1,612.27	0.00	0.00	0.00	
8,700.00	89.62	180.00	7,175.32	-1,477.17	-1,142.92	1,709.31	0.00	0.00	0.00	
8,800.00	89.62	180.00	7,175.99	-1,577.17	-1,142.92	1,806.35	0.00	0.00	0.00	
8,900.00	89.62	180.00	7,176.65	-1,677.17	-1,142.92	1,903.40	0.00	0.00	0.00	
9,000.00	89.62	180.00	7,177.31	-1,777.17	-1,142.92	2,000.44	0.00	0.00	0.00	
9,100.00	89.62	180.00	7,177.97	-1,877.16	-1,142.92	2,097.48	0.00	0.00	0.00	
9,200.00	89.62	180.00	7,178.64	-1,977.16	-1,142.92	2,194.53	0.00	0.00	0.00	
9,300.00	89.62	180.00	7,179.30	-2,077.16	-1,142.92	2,291.57	0.00	0.00	0.00	
9,400.00	89.62	180.00	7,179.96	-2,177.16	-1,142.92	2,388.61	0.00	0.00	0.00	
9,500.00	89.62	180.00	7,180.63	-2,277.15	-1,142.92	2,485.65	0.00	0.00	0.00	
9,600.00	89.62	180.00	7,181.29	-2,377.15	-1,142.92	2,582.70	0.00	0.00	0.00	
9,700.00	89.62	180.00	7,181.95	-2,477.15	-1,142.92	2,679.74	0.00	0.00	0.00	
9,800.00	89.62	180.00	7,182.61	-2,577.15	-1,142.92	2,776.78	0.00	0.00	0.00	
9,900.00	89.62	180.00	7,183.28	-2,677.15	-1,142.92	2,873.83	0.00	0.00	0.00	
10,000.00	89.62	180.00	7,183.94	-2,777.14	-1,142.92	2,970.87	0.00	0.00	0.00	
10,100.00	89.62	180.00	7,184.60	-2,877.14	-1,142.92	3,067.91	0.00	0.00	0.00	
10,200.00	89.62	180.00	7,185.27	-2,977.14	-1,142.92	3,164.95	0.00	0.00	0.00	
10,300.00	89.62	180.00	7,185.93	-3,077.14	-1,142.92	3,262.00	0.00	0.00	0.00	
10,400.00	89.62	180.00	7,186.59	-3,177.13	-1,142.92	3,359.04	0.00	0.00	0.00	
10,500.00	89.62	180.00	7,187.25	-3,277.13	-1,142.92	3,456.08	0.00	0.00	0.00	
10,600.00	89.62	180.00	7,187.92	-3,377.13	-1,142.92	3,553.13	0.00	0.00	0.00	
10,700.00	89.62	180.00	7,188.58	-3,477.13	-1,142.92	3,650.17	0.00	0.00	0.00	
10,800.00	89.62	180.00	7,189.24	-3,577.13	-1,142.92	3,747.21	0.00	0.00	0.00	
10,900.00	89.62	180.00	7,189.91	-3,677.12	-1,142.92	3,844.25	0.00	0.00	0.00	
11,000.00	89.62	180.00	7,190.57	-3,777.12	-1,142.92	3,941.30	0.00	0.00	0.00	
11,100.00	89.62	180.00	7,191.23	-3,877.12	-1,142.92	4,038.34	0.00	0.00	0.00	
11,200.00	89.62	180.00	7,191.89	-3,977.12	-1,142.92	4,135.38	0.00	0.00	0.00	
11,300.00	89.62	180.00	7,192.56	-4,077.12	-1,142.92	4,232.43	0.00	0.00	0.00	
11,400.00	89.62	180.00	7,193.22	-4,177.11	-1,142.92	4,329.47	0.00	0.00	0.00	
11,500.00	89.62	180.00	7,193.88	-4,277.11	-1,142.92	4,426.51	0.00	0.00	0.00	
11,600.00	89.62	180.00	7,194.55	-4,377.11	-1,142.92	4,523.55	0.00	0.00	0.00	
11,700.00	89.62	180.00	7,195.21	-4,477.11	-1,142.92	4,620.60	0.00	0.00	0.00	
11,800.00	89.62	180.00	7,195.87	-4,577.10	-1,142.92	4,717.64	0.00	0.00	0.00	
11,819.39	89.62	180.00	7,196.00	-4,596.49	-1,142.92	4,736.45	0.00	0.00	0.00	
TD at 11819.38 - Raymond 36N-29HZ 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										
Raymond 36N-29HZ BH	0.00	0.00	7,196.00	-4,596.49	-1,142.92	1,312,754.96	3,195,229.77	40.189797	-104.801181	
- plan hits target center										
- Point										

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well Raymond 36N-29HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	gl +rkb @ 4939.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	gl +rkb @ 4939.00ft
Site:	WELD_Raymond 2-29HZ Pad	North Reference:	True
Well:	Raymond 36N-29HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Raymond 36N-29HZ		
Design:	Raymond 36N-29HZ (wp03)		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
902.04	900.00	9 5/8"	9-5/8	12-1/4	
7,594.80	7,168.00	7"	7	8-3/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,160.39	3,124.00	Parkman			
4,407.66	4,351.00	Sussex			
7,218.89	7,049.00	Sharon Springs			
7,340.49	7,112.00	Niobrara A			
7,419.97	7,141.00	Niobrara B			

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
200.00	200.00	0.00	0.00	Start Build 2.00	
450.00	449.68	10.90	0.00	Start 450.00 hold at 450.00 MD	
900.00	897.97	35.40	-30.63	Start DLS 2.00 TFO -52.25	
1,225.02	1,220.08	48.69	-70.57	Start 5457.26 hold at 1225.02 MD	
6,682.28	6,588.66	197.63	-1,039.00	Start DLS 10.00 TFO -98.66	
7,594.80	7,168.00	-372.00	-1,142.92	Start DLS 1.00 TFO 179.99	
7,601.04	7,168.04	-378.24	-1,142.92	Start 4218.34 hold at 7601.04 MD	
11,819.39	7,196.00	-4,596.49	-1,142.92	TD at 11819.38	