

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_RATTLER PAD 2

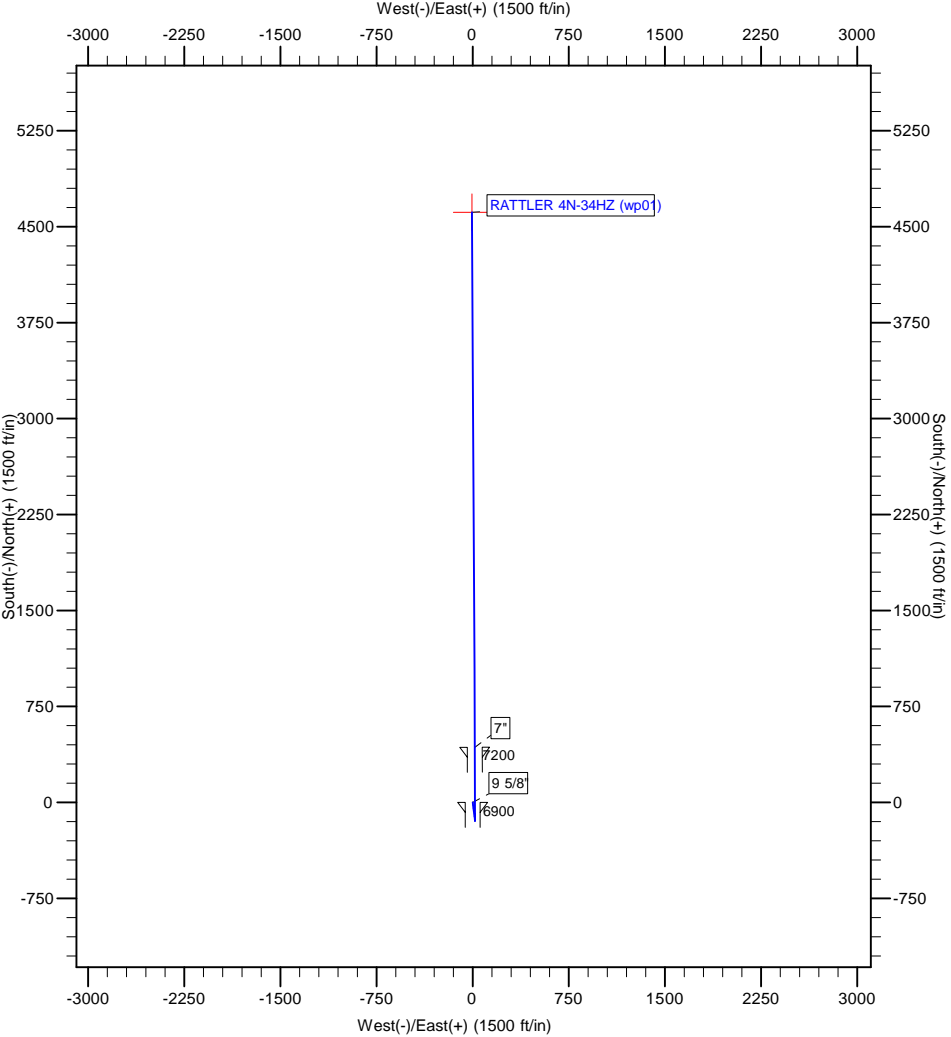
RATTLER 4N-34HZ

RATTLER 4N-34HZ

Plan: RATTLER 4N-34HZ (wp01)

Standard Planning Report

24 October, 2011



Azimuths to True North
Magnetic North: 8.80°

Magnetic Field
Strength: 52973.4snT
Dip Angle: 66.86°
Date: 10/24/2011
Model: IGRF2010



Project: COLORADO NORTHERN ZONE - 83
Site: WELD_RATTLER PAD 2
Well: RATTLER 4N-34HZ
Wellbore: RATTLER 4N-34HZ
Section:
SHL:
Design: RATTLER 4N-34HZ (wp01)
Latitude: 40.174882
Longitude: -104.770968
GL: 4967.00
KB: RKB + gl @ 4984.00ft

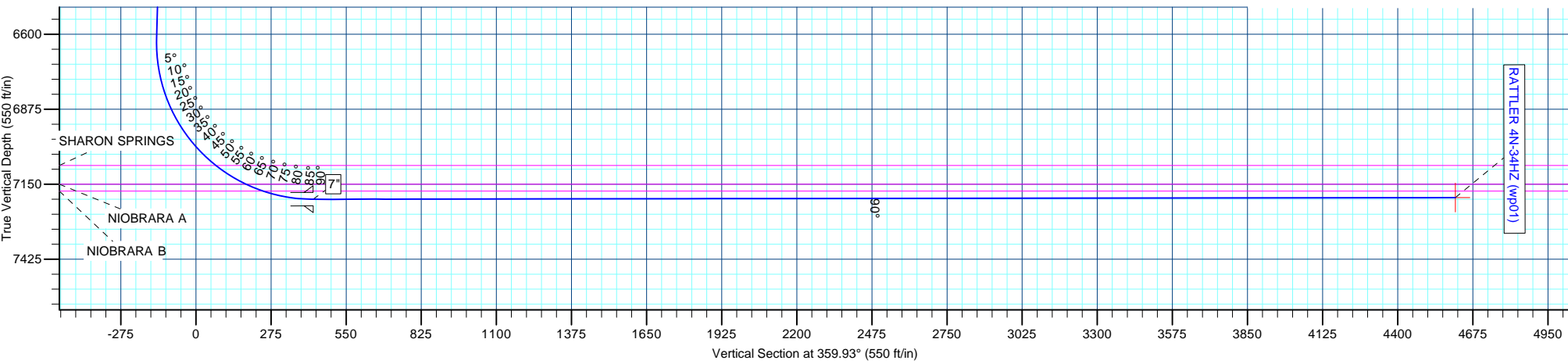
WELL DETAILS: RATTLER 4N-34HZ						
+N/-S	+E/-W	Northing	Ground Level: Easting	4967.00 Latitude	Longitude	Slot
0.00	0.00	1307389.82	3203714.89	40.174882	-104.770968	

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
1050.00	0.00	0.00	1050.00	0.00	0.00	0.00	0.00	0.00
1124.98	1.50	172.72	1124.97	-0.97	0.12	2.00	172.72	-0.97
6619.05	1.50	172.72	6617.16	-143.60	18.34	0.00	0.00	-143.62
7534.77	90.08	359.68	7205.00	430.00	17.00	10.00	-173.04	429.98
7535.82	90.08	359.69	7205.00	431.05	16.99	1.00	93.24	431.03
11716.30	90.08	359.69	7199.00	4611.46	-5.59	0.00	0.00	4611.47

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
RATTLER 4N-34HZ BHL	7199.00	4611.46	-5.59	40.187541	-104.770988	Point

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
2606.00	2606.52	PARKMAN
4409.00	4410.13	SUSSEX
7081.00	7149.83	SHARON SPRINGS
7150.00	7280.83	NIOBRARA A
7175.00	7347.71	NIOBRARA B

CASING DETAILS			
TVD	MD	Name	Size
900.00	900.00	9 5/8"	9-5/8
7205.00	7534.77	7"	7



Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well RATTLER 4N-34HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	RKB + gl @ 4984.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	RKB + gl @ 4984.00ft
Site:	WELD_RATTLER PAD 2	North Reference:	True
Well:	RATTLER 4N-34HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	RATTLER 4N-34HZ		
Design:	RATTLER 4N-34HZ (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_RATTLER PAD 2			
Site Position:		Northing:	1,307,389.22 usft	Latitude:	40.174881
From:	Lat/Long	Easting:	3,203,684.99 usft	Longitude:	-104.771075
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.47 °

Well	RATTLER 4N-34HZ					
Well Position	+N/-S	0.36 ft	Northing:	1,307,389.82 usft	Latitude:	40.174882
	+E/-W	29.90 ft	Easting:	3,203,714.89 usft	Longitude:	-104.770968
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,967.00 ft

Wellbore	RATTLER 4N-34HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/24/2011	8.80	66.86	52,973

Design	RATTLER 4N-34HZ (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	359.93

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	
1,050.00	0.00	0.00	1,050.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,124.98	1.50	172.72	1,124.97	-0.97	0.12	2.00	2.00	0.00	172.72	
6,619.05	1.50	172.72	6,617.16	-143.60	18.34	0.00	0.00	0.00	0.00	
7,534.77	90.08	359.68	7,205.00	430.00	17.00	10.00	9.67	-18.90	-173.04	
7,535.82	90.08	359.69	7,205.00	431.05	16.99	1.00	-0.06	1.00	93.24	
11,716.30	90.08	359.69	7,199.00	4,611.46	-5.59	0.00	0.00	0.00	0.00	RATTLER 4N-34HZ E

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well RATTLER 4N-34HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	RKB + gl @ 4984.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	RKB + gl @ 4984.00ft
Site:	WELD_RATTLER PAD 2	North Reference:	True
Well:	RATTLER 4N-34HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	RATTLER 4N-34HZ		
Design:	RATTLER 4N-34HZ (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
1,050.00	0.00	0.00	1,050.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,100.00	1.00	172.72	1,100.00	-0.43	0.06	-0.43	2.00	2.00	0.00
1,124.98	1.50	172.72	1,124.97	-0.97	0.12	-0.97	2.00	2.00	0.00
Start 5494.07 hold at 1124.98 MD									
1,200.00	1.50	172.72	1,199.97	-2.92	0.37	-2.92	0.00	0.00	0.00
1,300.00	1.50	172.72	1,299.93	-5.52	0.70	-5.52	0.00	0.00	0.00
1,400.00	1.50	172.72	1,399.90	-8.11	1.04	-8.11	0.00	0.00	0.00
1,500.00	1.50	172.72	1,499.86	-10.71	1.37	-10.71	0.00	0.00	0.00
1,600.00	1.50	172.72	1,599.83	-13.30	1.70	-13.31	0.00	0.00	0.00
1,700.00	1.50	172.72	1,699.79	-15.90	2.03	-15.90	0.00	0.00	0.00
1,800.00	1.50	172.72	1,799.76	-18.50	2.36	-18.50	0.00	0.00	0.00
1,900.00	1.50	172.72	1,899.73	-21.09	2.69	-21.10	0.00	0.00	0.00
2,000.00	1.50	172.72	1,999.69	-23.69	3.02	-23.69	0.00	0.00	0.00
2,100.00	1.50	172.72	2,099.66	-26.28	3.36	-26.29	0.00	0.00	0.00
2,200.00	1.50	172.72	2,199.62	-28.88	3.69	-28.88	0.00	0.00	0.00
2,300.00	1.50	172.72	2,299.59	-31.48	4.02	-31.48	0.00	0.00	0.00
2,400.00	1.50	172.72	2,399.55	-34.07	4.35	-34.08	0.00	0.00	0.00
2,500.00	1.50	172.72	2,499.52	-36.67	4.68	-36.67	0.00	0.00	0.00
2,600.00	1.50	172.72	2,599.49	-39.26	5.01	-39.27	0.00	0.00	0.00
2,606.52	1.50	172.72	2,606.00	-39.43	5.04	-39.44	0.00	0.00	0.00
PARKMAN									
2,700.00	1.50	172.72	2,699.45	-41.86	5.35	-41.87	0.00	0.00	0.00
2,800.00	1.50	172.72	2,799.42	-44.46	5.68	-44.46	0.00	0.00	0.00
2,900.00	1.50	172.72	2,899.38	-47.05	6.01	-47.06	0.00	0.00	0.00
3,000.00	1.50	172.72	2,999.35	-49.65	6.34	-49.65	0.00	0.00	0.00
3,100.00	1.50	172.72	3,099.32	-52.24	6.67	-52.25	0.00	0.00	0.00
3,200.00	1.50	172.72	3,199.28	-54.84	7.00	-54.85	0.00	0.00	0.00
3,300.00	1.50	172.72	3,299.25	-57.44	7.33	-57.44	0.00	0.00	0.00
3,400.00	1.50	172.72	3,399.21	-60.03	7.67	-60.04	0.00	0.00	0.00
3,500.00	1.50	172.72	3,499.18	-62.63	8.00	-62.64	0.00	0.00	0.00
3,600.00	1.50	172.72	3,599.14	-65.22	8.33	-65.23	0.00	0.00	0.00
3,700.00	1.50	172.72	3,699.11	-67.82	8.66	-67.83	0.00	0.00	0.00
3,800.00	1.50	172.72	3,799.08	-70.41	8.99	-70.43	0.00	0.00	0.00
3,900.00	1.50	172.72	3,899.04	-73.01	9.32	-73.02	0.00	0.00	0.00
4,000.00	1.50	172.72	3,999.01	-75.61	9.65	-75.62	0.00	0.00	0.00
4,100.00	1.50	172.72	4,098.97	-78.20	9.99	-78.21	0.00	0.00	0.00
4,200.00	1.50	172.72	4,198.94	-80.80	10.32	-80.81	0.00	0.00	0.00
4,300.00	1.50	172.72	4,298.90	-83.39	10.65	-83.41	0.00	0.00	0.00
4,400.00	1.50	172.72	4,398.87	-85.99	10.98	-86.00	0.00	0.00	0.00
4,410.13	1.50	172.72	4,409.00	-86.25	11.01	-86.27	0.00	0.00	0.00

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well RATTLER 4N-34HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	RKB + gl @ 4984.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	RKB + gl @ 4984.00ft
Site:	WELD_RATTLER PAD 2	North Reference:	True
Well:	RATTLER 4N-34HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	RATTLER 4N-34HZ		
Design:	RATTLER 4N-34HZ (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)
SUSSEX									
4,500.00	1.50	172.72	4,498.84	-88.59	11.31	-88.60	0.00	0.00	0.00
4,600.00	1.50	172.72	4,598.80	-91.18	11.64	-91.20	0.00	0.00	0.00
4,700.00	1.50	172.72	4,698.77	-93.78	11.98	-93.79	0.00	0.00	0.00
4,800.00	1.50	172.72	4,798.73	-96.37	12.31	-96.39	0.00	0.00	0.00
4,900.00	1.50	172.72	4,898.70	-98.97	12.64	-98.99	0.00	0.00	0.00
5,000.00	1.50	172.72	4,998.66	-101.57	12.97	-101.58	0.00	0.00	0.00
5,100.00	1.50	172.72	5,098.63	-104.16	13.30	-104.18	0.00	0.00	0.00
5,200.00	1.50	172.72	5,198.60	-106.76	13.63	-106.77	0.00	0.00	0.00
5,300.00	1.50	172.72	5,298.56	-109.35	13.96	-109.37	0.00	0.00	0.00
5,400.00	1.50	172.72	5,398.53	-111.95	14.30	-111.97	0.00	0.00	0.00
5,500.00	1.50	172.72	5,498.49	-114.55	14.63	-114.56	0.00	0.00	0.00
5,600.00	1.50	172.72	5,598.46	-117.14	14.96	-117.16	0.00	0.00	0.00
5,700.00	1.50	172.72	5,698.42	-119.74	15.29	-119.76	0.00	0.00	0.00
5,800.00	1.50	172.72	5,798.39	-122.33	15.62	-122.35	0.00	0.00	0.00
5,900.00	1.50	172.72	5,898.36	-124.93	15.95	-124.95	0.00	0.00	0.00
6,000.00	1.50	172.72	5,998.32	-127.53	16.28	-127.54	0.00	0.00	0.00
6,100.00	1.50	172.72	6,098.29	-130.12	16.62	-130.14	0.00	0.00	0.00
6,200.00	1.50	172.72	6,198.25	-132.72	16.95	-132.74	0.00	0.00	0.00
6,300.00	1.50	172.72	6,298.22	-135.31	17.28	-135.33	0.00	0.00	0.00
6,400.00	1.50	172.72	6,398.18	-137.91	17.61	-137.93	0.00	0.00	0.00
6,500.00	1.50	172.72	6,498.15	-140.50	17.94	-140.53	0.00	0.00	0.00
6,600.00	1.50	172.72	6,598.12	-143.10	18.27	-143.12	0.00	0.00	0.00
6,619.05	1.50	172.72	6,617.16	-143.60	18.34	-143.62	0.00	0.00	0.00
Start DLS 10.00 TFO -173.04									
6,700.00	6.61	1.25	6,697.96	-139.98	18.57	-140.01	10.00	6.31	-211.83
6,800.00	16.61	0.29	6,795.79	-119.89	18.77	-119.91	10.00	10.00	-0.96
6,900.00	26.61	0.04	6,888.65	-83.11	18.86	-83.13	10.00	10.00	-0.25
7,000.00	36.61	359.92	6,973.71	-30.77	18.84	-30.79	10.00	10.00	-0.12
7,100.00	46.61	359.85	7,048.38	35.55	18.70	35.53	10.00	10.00	-0.07
7,149.83	51.59	359.82	7,081.00	73.20	18.60	73.18	10.00	10.00	-0.06
SHARON SPRINGS									
7,200.00	56.61	359.80	7,110.41	113.82	18.46	113.80	10.00	10.00	-0.05
7,280.83	64.69	359.77	7,150.00	184.22	18.20	184.20	10.00	10.00	-0.04
NIOBRARA A									
7,300.00	66.61	359.76	7,157.90	201.68	18.12	201.66	10.00	10.00	-0.04
7,347.71	71.38	359.74	7,175.00	246.20	17.93	246.18	10.00	10.00	-0.04
NIOBRARA B									
7,400.00	76.61	359.72	7,189.42	296.45	17.70	296.43	10.00	10.00	-0.03
7,500.00	86.61	359.69	7,204.00	395.25	17.19	395.23	10.00	10.00	-0.03
7,534.77	90.08	359.68	7,205.00	430.00	17.00	429.98	10.00	10.00	-0.03
Start DLS 1.00 TFO 93.24 - 7"									
7,535.82	90.08	359.69	7,205.00	431.05	16.99	431.03	1.00	-0.06	1.00
Start 4180.48 hold at 7535.82 MD									
7,564.77	90.08	359.69	7,204.96	460.00	16.84	459.98	0.00	0.00	0.00
RATTLER 4N-34HZ heel									
7,600.00	90.08	359.69	7,204.91	495.23	16.65	495.21	0.00	0.00	0.00
7,700.00	90.08	359.69	7,204.76	595.23	16.11	595.21	0.00	0.00	0.00
7,800.00	90.08	359.69	7,204.62	695.23	15.57	695.21	0.00	0.00	0.00
7,900.00	90.08	359.69	7,204.48	795.23	15.03	795.21	0.00	0.00	0.00
8,000.00	90.08	359.69	7,204.33	895.23	14.49	895.21	0.00	0.00	0.00
8,100.00	90.08	359.69	7,204.19	995.22	13.95	995.21	0.00	0.00	0.00
8,200.00	90.08	359.69	7,204.05	1,095.22	13.41	1,095.21	0.00	0.00	0.00

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Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well RATTLER 4N-34HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	RKB + gl @ 4984.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	RKB + gl @ 4984.00ft
Site:	WELD_RATTLER PAD 2	North Reference:	True
Well:	RATTLER 4N-34HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	RATTLER 4N-34HZ		
Design:	RATTLER 4N-34HZ (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)
8,300.00	90.08	359.69	7,203.90	1,195.22	12.87	1,195.21	0.00	0.00	0.00
8,400.00	90.08	359.69	7,203.76	1,295.22	12.33	1,295.20	0.00	0.00	0.00
8,500.00	90.08	359.69	7,203.62	1,395.22	11.79	1,395.20	0.00	0.00	0.00
8,600.00	90.08	359.69	7,203.47	1,495.22	11.25	1,495.20	0.00	0.00	0.00
8,700.00	90.08	359.69	7,203.33	1,595.22	10.71	1,595.20	0.00	0.00	0.00
8,800.00	90.08	359.69	7,203.18	1,695.21	10.17	1,695.20	0.00	0.00	0.00
8,900.00	90.08	359.69	7,203.04	1,795.21	9.63	1,795.20	0.00	0.00	0.00
9,000.00	90.08	359.69	7,202.90	1,895.21	9.09	1,895.20	0.00	0.00	0.00
9,100.00	90.08	359.69	7,202.75	1,995.21	8.54	1,995.20	0.00	0.00	0.00
9,200.00	90.08	359.69	7,202.61	2,095.21	8.00	2,095.20	0.00	0.00	0.00
9,300.00	90.08	359.69	7,202.47	2,195.21	7.46	2,195.20	0.00	0.00	0.00
9,400.00	90.08	359.69	7,202.32	2,295.20	6.92	2,295.19	0.00	0.00	0.00
9,500.00	90.08	359.69	7,202.18	2,395.20	6.38	2,395.19	0.00	0.00	0.00
9,600.00	90.08	359.69	7,202.04	2,495.20	5.84	2,495.19	0.00	0.00	0.00
9,700.00	90.08	359.69	7,201.89	2,595.20	5.30	2,595.19	0.00	0.00	0.00
9,800.00	90.08	359.69	7,201.75	2,695.20	4.76	2,695.19	0.00	0.00	0.00
9,900.00	90.08	359.69	7,201.61	2,795.20	4.22	2,795.19	0.00	0.00	0.00
10,000.00	90.08	359.69	7,201.46	2,895.20	3.68	2,895.19	0.00	0.00	0.00
10,100.00	90.08	359.69	7,201.32	2,995.19	3.14	2,995.19	0.00	0.00	0.00
10,200.00	90.08	359.69	7,201.18	3,095.19	2.60	3,095.19	0.00	0.00	0.00
10,300.00	90.08	359.69	7,201.03	3,195.19	2.06	3,195.19	0.00	0.00	0.00
10,400.00	90.08	359.69	7,200.89	3,295.19	1.52	3,295.18	0.00	0.00	0.00
10,500.00	90.08	359.69	7,200.75	3,395.19	0.98	3,395.18	0.00	0.00	0.00
10,600.00	90.08	359.69	7,200.60	3,495.19	0.44	3,495.18	0.00	0.00	0.00
10,700.00	90.08	359.69	7,200.46	3,595.18	-0.10	3,595.18	0.00	0.00	0.00
10,800.00	90.08	359.69	7,200.31	3,695.18	-0.64	3,695.18	0.00	0.00	0.00
10,900.00	90.08	359.69	7,200.17	3,795.18	-1.18	3,795.18	0.00	0.00	0.00
11,000.00	90.08	359.69	7,200.03	3,895.18	-1.72	3,895.18	0.00	0.00	0.00
11,100.00	90.08	359.69	7,199.88	3,995.18	-2.26	3,995.18	0.00	0.00	0.00
11,200.00	90.08	359.69	7,199.74	4,095.18	-2.80	4,095.18	0.00	0.00	0.00
11,300.00	90.08	359.69	7,199.60	4,195.17	-3.34	4,195.18	0.00	0.00	0.00
11,400.00	90.08	359.69	7,199.45	4,295.17	-3.88	4,295.17	0.00	0.00	0.00
11,500.00	90.08	359.69	7,199.31	4,395.17	-4.42	4,395.17	0.00	0.00	0.00
11,600.00	90.08	359.69	7,199.17	4,495.17	-4.96	4,495.17	0.00	0.00	0.00
11,700.00	90.08	359.69	7,199.02	4,595.17	-5.50	4,595.17	0.00	0.00	0.00
11,716.30	90.08	359.69	7,199.00	4,611.46	-5.59	4,611.47	0.00	0.00	0.00
TD at 11716.30 - RATTLER 4N-34HZ BHL									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
RATTLER 4N-34HZ BHL - plan hits target center - Point	0.00	0.00	7,199.00	4,611.46	-5.59	1,312,001.08	3,203,671.39	40.187541	-104.770988

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well RATTLER 4N-34HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	RKB + gl @ 4984.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	RKB + gl @ 4984.00ft
Site:	WELD_RATTLER PAD 2	North Reference:	True
Well:	RATTLER 4N-34HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	RATTLER 4N-34HZ		
Design:	RATTLER 4N-34HZ (wp01)		

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	
7,534.77	7,205.00	7"	7	8-3/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,606.52	2,606.00	PARKMAN		0.00	
4,410.13	4,409.00	SUSSEX		0.00	
7,149.83	7,081.00	SHARON SPRINGS		0.00	
7,280.83	7,150.00	NIOBRARA A		0.00	
7,347.71	7,175.00	NIOBRARA B		0.00	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,050.00	1,050.00	0.00	0.00	Start Build 2.00	
1,124.98	1,124.97	-0.97	0.12	Start 5494.07 hold at 1124.98 MD	
6,619.05	6,617.16	-143.60	18.34	Start DLS 10.00 TFO -173.04	
7,534.77	7,205.00	430.00	17.00	Start DLS 1.00 TFO 93.24	
7,535.82	7,205.00	431.05	16.99	Start 4180.48 hold at 7535.82 MD	
11,716.30	7,199.00	4,611.46	-5.59	TD at 11716.30	