

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_Thomason 16-9HZ Pad**

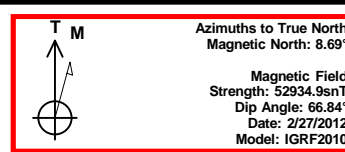
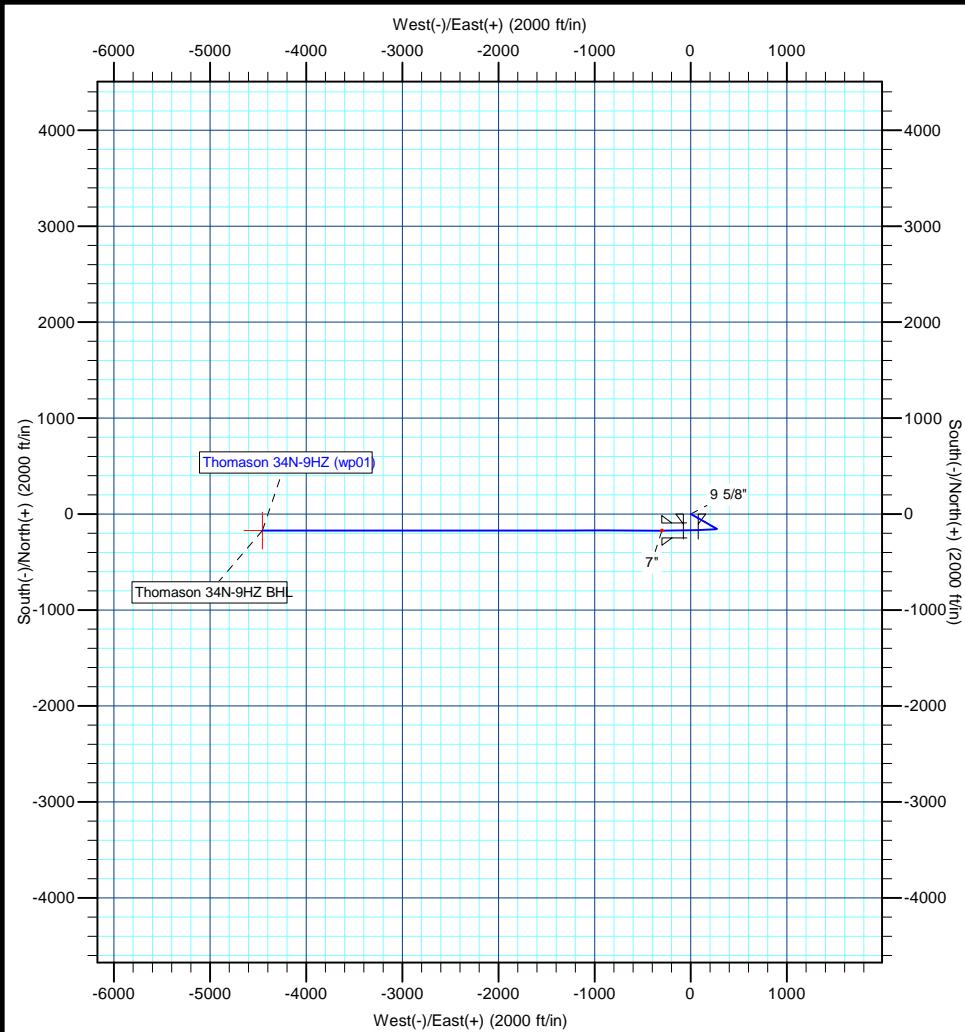
**Thomason 34N-9HZ**

**Thomason 34N-9HZ**

**Plan: Thomason 34N-9HZ (wp01)**

## **Standard Planning Report**

**27 February, 2012**



Project: COLORADO NORTHERN ZONE - 83

Site: WELD Thomason 16-9HZ Pad

Well: Thomason 34N-9HZ

Wellbore: Thomason 34N-9HZ

Section:

SHL:

Design: Thomason 34N-9HZ (wp01)

Latitude: 40.146712

Longitude: -104.660808

GL: 4870.00

KB: gl + rkb @ 4886.00ft

#### WELL DETAILS: Thomason 34N-9HZ

+N/-S	+E/-W	Northing	Ground Level: Easting	4870.00 Latitude	Longitude	Slot
0.00	0.00	1297400.67	3234593.37	40.146712	-104.660808	

#### 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
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.00
1169.71	3.39	119.82	1169.61	-2.50	4.36	2.00	119.82	-4.26
6359.07	3.39	119.82	6349.87	-155.26	270.92	0.00	0.00	-264.69
7287.23	89.87	270.00	6952.00	-172.98	-300.00	10.00	150.14	306.49
7288.16	89.86	270.00	6952.00	-172.98	-300.93	1.00	180.00	307.41
1442.49	89.86	270.00	6962.00	-172.98	-4455.24	0.00	0.00	4458.60

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

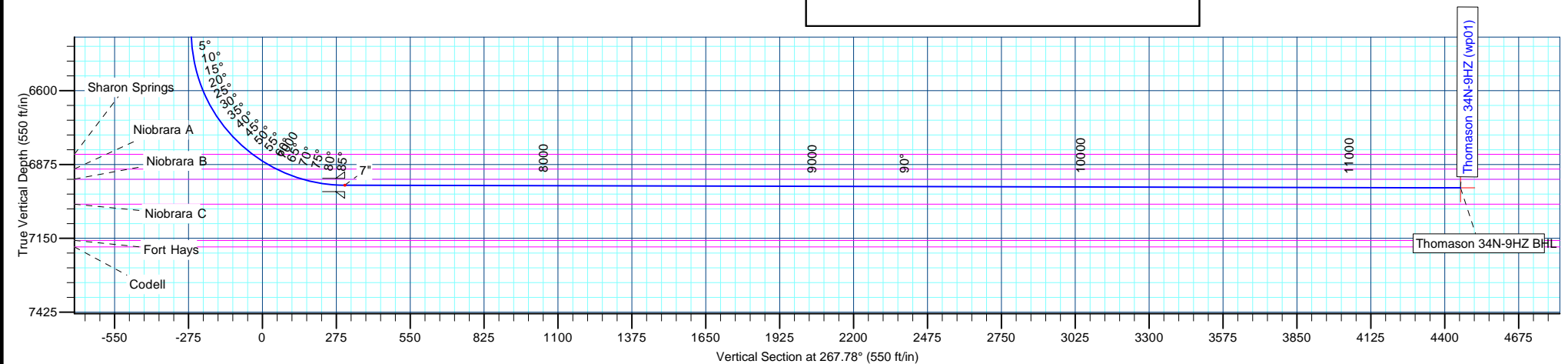
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Thomason 34N-9HZ BHL	6962.00	-172.98	-4455.24	40.146236	-104.676745	Point

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3887.00	3891.87	Parkman
4470.00	4475.90	Sussex
6837.00	6919.06	Sharon Springs
6892.00	7023.90	Niobrara A
6930.00	7129.19	Niobrara B

#### CASING DETAILS

TVD	MD	Name	Size
890.00	890.00	9 5/8"	9-5/8
6952.00	7287.23	7"	7



# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Thomason 34N-9HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	gl + rkb @ 4886.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	gl + rkb @ 4886.00ft
<b>Site:</b>	WELD_Thomason 16-9HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	Thomason 34N-9HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Thomason 34N-9HZ		
<b>Design:</b>	Thomason 34N-9HZ (wp01)		

<b>Project</b>	COLORADO NORTHERN ZONE - 83		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

Site		WELD_Thomason 16-9HZ Pad			
Site Position:		Northing:	1,297,429.20 usft	Latitude:	40.146790
From:	Lat/Long	Easting:	3,234,603.45 usft	Longitude:	-104.660771
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.54 °

Well	Thomason 34N-9HZ					
Well Position	+N/-S	-28.43 ft	Northing:	1,297,400.67 usft	Latitude:	40.146712
	+E/-W	-10.34 ft	Easting:	3,234,593.38 usft	Longitude:	-104.660808
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,870.00 ft

<b>Wellbore</b>	Thomason 34N-9HZ				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	2/27/2012	8.69	66.84	52,935

<b>Design</b>	Thomason 34N-9HZ (wp01)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	267.78

<b>Plan Sections</b>										
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	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,169.71	3.39	119.82	1,169.61	-2.50	4.36	2.00	2.00	0.00	119.82	
6,359.07	3.39	119.82	6,349.87	-155.26	270.92	0.00	0.00	0.00	0.00	
7,287.23	89.87	270.00	6,952.00	-172.98	-300.00	10.00	9.32	16.18	150.14	
7,288.16	89.86	270.00	6,952.00	-172.98	-300.93	1.00	-1.00	0.00	180.00	
11,442.49	89.86	270.00	6,962.00	-172.98	-4,455.24	0.00	0.00	0.00	0.00	Thomason 34N-9HZ f

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Thomason 34N-9HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	gl + rkb @ 4886.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	gl + rkb @ 4886.00ft
<b>Site:</b>	WELD_Thomason 16-9HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	Thomason 34N-9HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Thomason 34N-9HZ		
<b>Design:</b>	Thomason 34N-9HZ (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
890.00	0.00	0.00	890.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
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
1,100.00	2.00	119.82	1,099.98	-0.87	1.51	-1.48	2.00	2.00	0.00
1,169.71	3.39	119.82	1,169.61	-2.50	4.36	-4.26	2.00	2.00	0.00
1,200.00	3.39	119.82	1,199.85	-3.39	5.92	-5.78	0.00	0.00	0.00
1,300.00	3.39	119.82	1,299.67	-6.33	11.05	-10.80	0.00	0.00	0.00
1,400.00	3.39	119.82	1,399.50	-9.28	16.19	-15.82	0.00	0.00	0.00
1,500.00	3.39	119.82	1,499.32	-12.22	21.33	-20.84	0.00	0.00	0.00
1,600.00	3.39	119.82	1,599.15	-15.17	26.46	-25.85	0.00	0.00	0.00
1,700.00	3.39	119.82	1,698.97	-18.11	31.60	-30.87	0.00	0.00	0.00
1,800.00	3.39	119.82	1,798.80	-21.05	36.74	-35.89	0.00	0.00	0.00
1,900.00	3.39	119.82	1,898.62	-24.00	41.87	-40.91	0.00	0.00	0.00
2,000.00	3.39	119.82	1,998.44	-26.94	47.01	-45.93	0.00	0.00	0.00
2,100.00	3.39	119.82	2,098.27	-29.88	52.15	-50.95	0.00	0.00	0.00
2,200.00	3.39	119.82	2,198.09	-32.83	57.28	-55.97	0.00	0.00	0.00
2,300.00	3.39	119.82	2,297.92	-35.77	62.42	-60.98	0.00	0.00	0.00
2,400.00	3.39	119.82	2,397.74	-38.72	67.56	-66.00	0.00	0.00	0.00
2,500.00	3.39	119.82	2,497.57	-41.66	72.69	-71.02	0.00	0.00	0.00
2,600.00	3.39	119.82	2,597.39	-44.60	77.83	-76.04	0.00	0.00	0.00
2,700.00	3.39	119.82	2,697.22	-47.55	82.96	-81.06	0.00	0.00	0.00
2,800.00	3.39	119.82	2,797.04	-50.49	88.10	-86.08	0.00	0.00	0.00
2,900.00	3.39	119.82	2,896.87	-53.44	93.24	-91.09	0.00	0.00	0.00
3,000.00	3.39	119.82	2,996.69	-56.38	98.37	-96.11	0.00	0.00	0.00
3,100.00	3.39	119.82	3,096.51	-59.32	103.51	-101.13	0.00	0.00	0.00
3,200.00	3.39	119.82	3,196.34	-62.27	108.65	-106.15	0.00	0.00	0.00
3,300.00	3.39	119.82	3,296.16	-65.21	113.78	-111.17	0.00	0.00	0.00
3,400.00	3.39	119.82	3,395.99	-68.15	118.92	-116.19	0.00	0.00	0.00
3,500.00	3.39	119.82	3,495.81	-71.10	124.06	-121.21	0.00	0.00	0.00
3,600.00	3.39	119.82	3,595.64	-74.04	129.19	-126.22	0.00	0.00	0.00
3,700.00	3.39	119.82	3,695.46	-76.99	134.33	-131.24	0.00	0.00	0.00
3,800.00	3.39	119.82	3,795.29	-79.93	139.47	-136.26	0.00	0.00	0.00
3,891.87	3.39	119.82	3,887.00	-82.63	144.19	-140.87	0.00	0.00	0.00
Parkman									
3,900.00	3.39	119.82	3,895.11	-82.87	144.60	-141.28	0.00	0.00	0.00
4,000.00	3.39	119.82	3,994.94	-85.82	149.74	-146.30	0.00	0.00	0.00
4,100.00	3.39	119.82	4,094.76	-88.76	154.88	-151.32	0.00	0.00	0.00
4,200.00	3.39	119.82	4,194.59	-91.70	160.01	-156.34	0.00	0.00	0.00
4,300.00	3.39	119.82	4,294.41	-94.65	165.15	-161.35	0.00	0.00	0.00
4,400.00	3.39	119.82	4,394.23	-97.59	170.29	-166.37	0.00	0.00	0.00
4,475.90	3.39	119.82	4,470.00	-99.83	174.19	-170.18	0.00	0.00	0.00
Sussex									
4,500.00	3.39	119.82	4,494.06	-100.54	175.42	-171.39	0.00	0.00	0.00

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## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Thomason 34N-9HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	gl + rkb @ 4886.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	gl + rkb @ 4886.00ft
<b>Site:</b>	WELD_Thomason 16-9HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	Thomason 34N-9HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Thomason 34N-9HZ		
<b>Design:</b>	Thomason 34N-9HZ (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	3.39	119.82	4,593.88	-103.48	180.56	-176.41	0.00	0.00	0.00
4,700.00	3.39	119.82	4,693.71	-106.42	185.70	-181.43	0.00	0.00	0.00
4,800.00	3.39	119.82	4,793.53	-109.37	190.83	-186.45	0.00	0.00	0.00
4,900.00	3.39	119.82	4,893.36	-112.31	195.97	-191.47	0.00	0.00	0.00
5,000.00	3.39	119.82	4,993.18	-115.26	201.11	-196.48	0.00	0.00	0.00
5,100.00	3.39	119.82	5,093.01	-118.20	206.24	-201.50	0.00	0.00	0.00
5,200.00	3.39	119.82	5,192.83	-121.14	211.38	-206.52	0.00	0.00	0.00
5,300.00	3.39	119.82	5,292.66	-124.09	216.52	-211.54	0.00	0.00	0.00
5,400.00	3.39	119.82	5,392.48	-127.03	221.65	-216.56	0.00	0.00	0.00
5,500.00	3.39	119.82	5,492.31	-129.97	226.79	-221.58	0.00	0.00	0.00
5,600.00	3.39	119.82	5,592.13	-132.92	231.93	-226.60	0.00	0.00	0.00
5,700.00	3.39	119.82	5,691.95	-135.86	237.06	-231.61	0.00	0.00	0.00
5,800.00	3.39	119.82	5,791.78	-138.81	242.20	-236.63	0.00	0.00	0.00
5,900.00	3.39	119.82	5,891.60	-141.75	247.34	-241.65	0.00	0.00	0.00
6,000.00	3.39	119.82	5,991.43	-144.69	252.47	-246.67	0.00	0.00	0.00
6,100.00	3.39	119.82	6,091.25	-147.64	257.61	-251.69	0.00	0.00	0.00
6,200.00	3.39	119.82	6,191.08	-150.58	262.75	-256.71	0.00	0.00	0.00
6,300.00	3.39	119.82	6,290.90	-153.52	267.88	-261.72	0.00	0.00	0.00
6,359.07	3.39	119.82	6,349.87	-155.26	270.92	-264.69	0.00	0.00	0.00
6,400.00	2.04	214.22	6,390.77	-156.47	271.56	-265.28	10.00	-3.30	230.66
6,500.00	11.27	261.50	6,490.02	-159.40	260.86	-254.48	10.00	9.23	47.28
6,600.00	21.21	265.65	6,585.91	-162.22	233.08	-226.62	10.00	9.94	4.15
6,700.00	31.19	267.21	6,675.53	-164.86	189.07	-182.53	10.00	9.98	1.57
6,800.00	41.18	268.07	6,756.14	-167.23	130.16	-123.57	10.00	9.99	0.86
6,900.00	51.17	268.64	6,825.30	-169.27	58.14	-51.53	10.00	9.99	0.57
6,919.06	53.07	268.73	6,837.00	-169.61	43.10	-36.49	10.00	9.99	0.47
<b>Sharon Springs</b>									
7,000.00	61.16	269.07	6,880.91	-170.90	-24.81	31.42	10.00	9.99	0.42
7,023.90	63.55	269.16	6,892.00	-171.23	-45.98	52.58	10.00	9.99	0.38
<b>Niobrara A</b>									
7,100.00	71.16	269.43	6,921.28	-172.09	-116.15	122.74	10.00	9.99	0.35
7,129.19	74.07	269.52	6,930.00	-172.34	-144.00	150.58	10.00	10.00	0.32
<b>Niobrara B</b>									
7,200.00	81.15	269.74	6,945.18	-172.79	-213.12	219.66	10.00	10.00	0.31
7,287.23	89.87	270.00	6,952.00	-172.98	-300.00	306.48	10.00	10.00	0.30
<b>7"</b>									
7,288.16	89.86	270.00	6,952.00	-172.98	-300.93	307.41	0.95	-0.95	0.00
7,300.00	89.86	270.00	6,952.03	-172.98	-312.77	319.24	0.00	0.00	0.00
7,400.00	89.86	270.00	6,952.27	-172.98	-412.77	419.17	0.00	0.00	0.00
7,500.00	89.86	270.00	6,952.51	-172.98	-512.77	519.09	0.00	0.00	0.00
7,600.00	89.86	270.00	6,952.75	-172.98	-612.76	619.01	0.00	0.00	0.00
7,700.00	89.86	270.00	6,952.99	-172.98	-712.76	718.94	0.00	0.00	0.00
7,800.00	89.86	270.00	6,953.23	-172.98	-812.76	818.86	0.00	0.00	0.00
7,900.00	89.86	270.00	6,953.47	-172.98	-912.76	918.79	0.00	0.00	0.00
8,000.00	89.86	270.00	6,953.72	-172.98	-1,012.76	1,018.71	0.00	0.00	0.00
8,100.00	89.86	270.00	6,953.96	-172.98	-1,112.76	1,118.64	0.00	0.00	0.00
8,200.00	89.86	270.00	6,954.20	-172.98	-1,212.76	1,218.56	0.00	0.00	0.00
8,300.00	89.86	270.00	6,954.44	-172.98	-1,312.76	1,318.49	0.00	0.00	0.00
8,400.00	89.86	270.00	6,954.68	-172.98	-1,412.76	1,418.41	0.00	0.00	0.00
8,500.00	89.86	270.00	6,954.92	-172.98	-1,512.76	1,518.33	0.00	0.00	0.00
8,600.00	89.86	270.00	6,955.16	-172.98	-1,612.76	1,618.26	0.00	0.00	0.00
8,700.00	89.86	270.00	6,955.40	-172.98	-1,712.76	1,718.18	0.00	0.00	0.00
8,800.00	89.86	270.00	6,955.64	-172.98	-1,812.76	1,818.11	0.00	0.00	0.00
8,900.00	89.86	270.00	6,955.88	-172.98	-1,912.76	1,918.03	0.00	0.00	0.00

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Thomason 34N-9HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	gl + rkb @ 4886.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	gl + rkb @ 4886.00ft
<b>Site:</b>	WELD_Thomason 16-9HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	Thomason 34N-9HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Thomason 34N-9HZ		
<b>Design:</b>	Thomason 34N-9HZ (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)
9,000.00	89.86	270.00	6,956.12	-172.98	-2,012.76	2,017.96	0.00	0.00	0.00
9,100.00	89.86	270.00	6,956.36	-172.98	-2,112.76	2,117.88	0.00	0.00	0.00
9,200.00	89.86	270.00	6,956.60	-172.98	-2,212.76	2,217.81	0.00	0.00	0.00
9,300.00	89.86	270.00	6,956.84	-172.98	-2,312.76	2,317.73	0.00	0.00	0.00
9,400.00	89.86	270.00	6,957.08	-172.98	-2,412.76	2,417.65	0.00	0.00	0.00
9,500.00	89.86	270.00	6,957.33	-172.98	-2,512.76	2,517.58	0.00	0.00	0.00
9,600.00	89.86	270.00	6,957.57	-172.98	-2,612.76	2,617.50	0.00	0.00	0.00
9,700.00	89.86	270.00	6,957.81	-172.98	-2,712.76	2,717.43	0.00	0.00	0.00
9,800.00	89.86	270.00	6,958.05	-172.98	-2,812.76	2,817.35	0.00	0.00	0.00
9,900.00	89.86	270.00	6,958.29	-172.98	-2,912.76	2,917.28	0.00	0.00	0.00
10,000.00	89.86	270.00	6,958.53	-172.98	-3,012.76	3,017.20	0.00	0.00	0.00
10,100.00	89.86	270.00	6,958.77	-172.98	-3,112.76	3,117.13	0.00	0.00	0.00
10,200.00	89.86	270.00	6,959.01	-172.98	-3,212.76	3,217.05	0.00	0.00	0.00
10,300.00	89.86	270.00	6,959.25	-172.98	-3,312.76	3,316.97	0.00	0.00	0.00
10,400.00	89.86	270.00	6,959.49	-172.98	-3,412.76	3,416.90	0.00	0.00	0.00
10,500.00	89.86	270.00	6,959.73	-172.98	-3,512.76	3,516.82	0.00	0.00	0.00
10,600.00	89.86	270.00	6,959.97	-172.98	-3,612.76	3,616.75	0.00	0.00	0.00
10,700.00	89.86	270.00	6,960.21	-172.98	-3,712.76	3,716.67	0.00	0.00	0.00
10,800.00	89.86	270.00	6,960.45	-172.98	-3,812.76	3,816.60	0.00	0.00	0.00
10,900.00	89.86	270.00	6,960.69	-172.98	-3,912.76	3,916.52	0.00	0.00	0.00
11,000.00	89.86	270.00	6,960.94	-172.98	-4,012.76	4,016.45	0.00	0.00	0.00
11,100.00	89.86	270.00	6,961.18	-172.98	-4,112.75	4,116.37	0.00	0.00	0.00
11,200.00	89.86	270.00	6,961.42	-172.98	-4,212.75	4,216.29	0.00	0.00	0.00
11,300.00	89.86	270.00	6,961.66	-172.98	-4,312.75	4,316.22	0.00	0.00	0.00
11,400.00	89.86	270.00	6,961.90	-172.98	-4,412.75	4,416.14	0.00	0.00	0.00
11,442.49	89.86	270.00	6,962.00	-172.98	-4,455.24	4,458.60	0.00	0.00	0.00
Thomason 34N-9HZ BHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Thomason 34N-9HZ BH	0.00	0.00	6,962.00	-172.98	-4,455.24	1,297,185.53	3,230,139.98	40.146236	-104.676745
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
890.00	890.00	9 5/8"	9-5/8	12-1/4	
7,287.23	6,952.00	7"	7	8-3/4	

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Thomason 34N-9HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	gl + rkb @ 4886.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	gl + rkb @ 4886.00ft
<b>Site:</b>	WELD_Thomason 16-9HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	Thomason 34N-9HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Thomason 34N-9HZ		
<b>Design:</b>	Thomason 34N-9HZ (wp01)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,891.87	3,887.00	Parkman				
4,475.90	4,470.00	Sussex				
6,919.06	6,837.00	Sharon Springs				
7,023.90	6,892.00	Niobrara A				
7,129.19	6,930.00	Niobrara B				