

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_THOMASON 15-9HZ PAD**

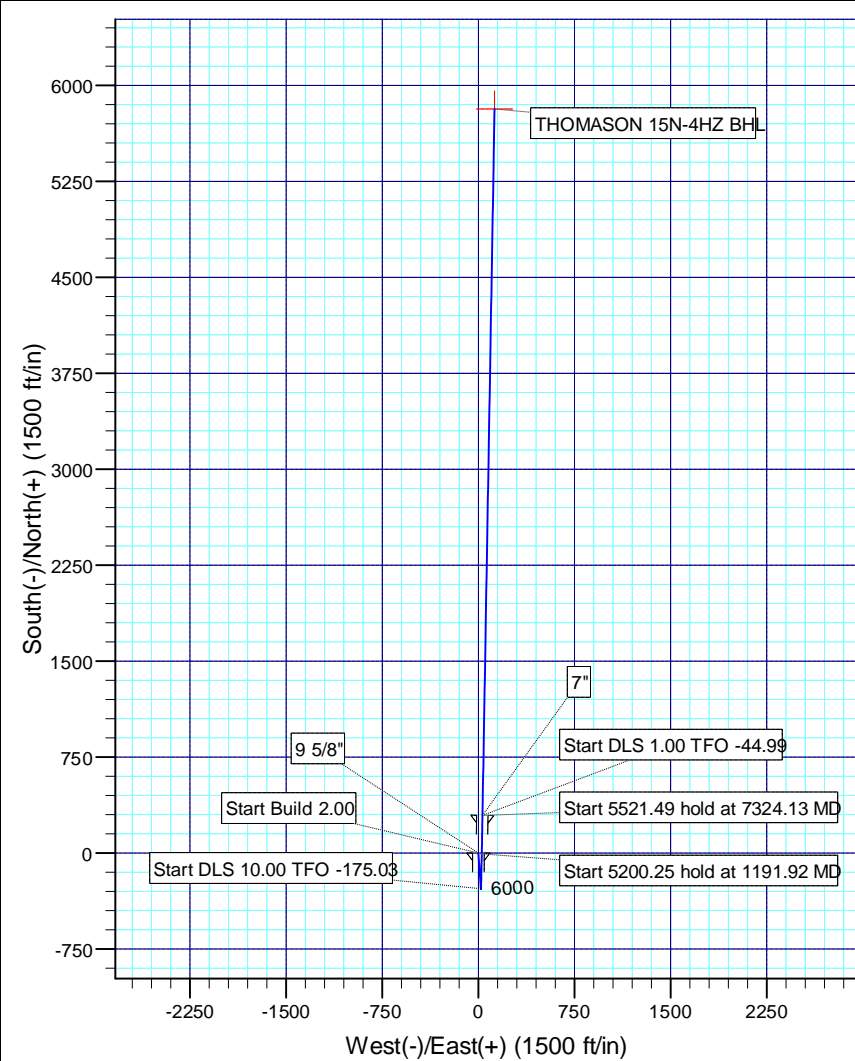
**THOMASON 15N-4HZ**

**THOMASON 15N-4HZ**

**Plan: THOMASON 15N-4HZ (wp01)**

## **Standard Planning Report**

**23 February, 2012**



PROJECT DETAILS: COLORADO NORTHERN ZONE - 83	
Site:	WELD_THOMASON 15-9HZ PAD
Well:	THOMASON 15N-4HZ
Wellbore:	THOMASON 15N-4HZ
Design:	THOMASON 15N-4HZ (wp01)
Latitude:	40.146905
Longitude:	-104.667356
GL:	4881.00
KB:	16' RKB + GL @ 4897.00ft



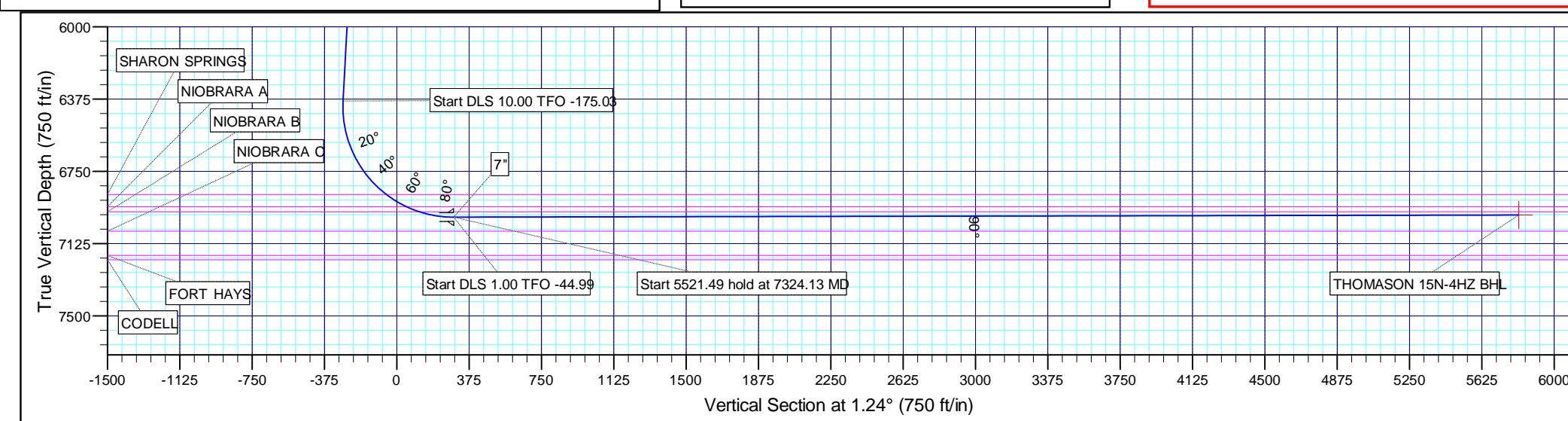
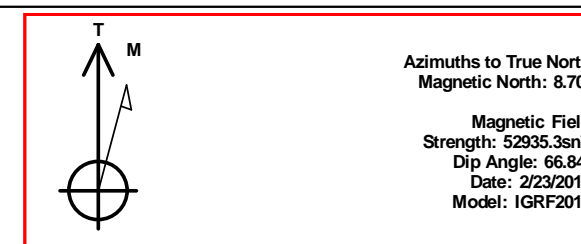
WELL DETAILS: THOMASON 15N-4HZ					
		Ground Level:		4881.00	
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1297453.73	3232762.30	40.146905	-104.667356

DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape Point
THOMASON 15N-4HZ BHL	6977.00	5815.39	126.05	40.162869	-104.666905	

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1040.00	0.00	0.00	1040.00	0.00	0.00	0.00	0.00	0.00	
3	1191.92	3.04	176.02	1191.85	-4.02	0.28	2.00	176.02	-4.01	
4	6392.17	3.04	176.02	6384.79	-279.00	19.42	0.00	0.00	-278.51	
5	7323.55	90.11	0.98	6988.00	294.13	32.00	10.00	-175.03	294.75	
6	7324.13	90.11	0.98	6988.00	294.71	32.01	1.00	-44.99	295.34	
7	12845.62	90.11	0.98	6977.00	5815.39	126.05	0.00	0.00	5816.76	THOMASON 15N-4HZ BHL

CASING DETAILS				
TVD	MD	Name	Size	
890.00	890.00	9 5/8"	9-5/8	
6988.00	7323.55	7"	7	

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3981.00	3985.00	PARKMAN
4522.00	4526.76	SUSSEX
6870.00	6948.10	SHARON SPRINGS
6933.00	7069.34	NIOBRARA A
6960.00	7142.58	NIOBRARA B



# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well THOMASON 15N-4HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	16' RKB + GL @ 4897.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	16' RKB + GL @ 4897.00ft
<b>Site:</b>	WELD_THOMASON 15-9HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	THOMASON 15N-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	THOMASON 15N-4HZ		
<b>Design:</b>	THOMASON 15N-4HZ (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 15-9HZ PAD			
Site Position:		Northing:	1,297,439.04 usft	Latitude:	40.146864
From:	Lat/Long	Easting:	3,232,788.16 usft	Longitude:	-104.667264
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.54 °

Well	THOMASON 15N-4HZ					
Well Position	+N/-S	14.93 ft	Northing:	1,297,453.73 usft	Latitude:	40.146905
	+E/-W	-25.72 ft	Easting:	3,232,762.30 usft	Longitude:	-104.667356
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,881.00 ft

<b>Wellbore</b>	THOMASON 15N-4HZ				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	2/23/2012	8.70	66.84	52,935

<b>Design</b>	THOMASON 15N-4HZ (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	1.24

<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	
1,040.00	0.00	0.00	1,040.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,191.92	3.04	176.02	1,191.85	-4.02	0.28	2.00	2.00	0.00	176.02	
6,392.17	3.04	176.02	6,384.79	-279.00	19.42	0.00	0.00	0.00	0.00	
7,323.55	90.11	0.98	6,988.00	294.13	32.00	10.00	9.35	-18.79	-175.03	
7,324.13	90.11	0.98	6,988.00	294.71	32.01	1.00	0.71	-0.71	-44.99	
12,845.62	90.11	0.98	6,977.00	5,815.39	126.05	0.00	0.00	0.00	0.00	THOMASON 15N-4H.

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well THOMASON 15N-4HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	16' RKB + GL @ 4897.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	16' RKB + GL @ 4897.00ft
<b>Site:</b>	WELD_THOMASON 15-9HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	THOMASON 15N-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	THOMASON 15N-4HZ		
<b>Design:</b>	THOMASON 15N-4HZ (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
1,040.00	0.00	0.00	1,040.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,100.00	1.20	176.02	1,100.00	-0.63	0.04	-0.63	2.00	2.00	0.00
1,191.92	3.04	176.02	1,191.85	-4.02	0.28	-4.01	2.00	2.00	0.00
Start 5200.25 hold at 1191.92 MD									
1,200.00	3.04	176.02	1,199.92	-4.44	0.31	-4.44	0.00	0.00	0.00
1,300.00	3.04	176.02	1,299.78	-9.73	0.68	-9.72	0.00	0.00	0.00
1,400.00	3.04	176.02	1,399.64	-15.02	1.05	-14.99	0.00	0.00	0.00
1,500.00	3.04	176.02	1,499.50	-20.31	1.41	-20.27	0.00	0.00	0.00
1,600.00	3.04	176.02	1,599.36	-25.60	1.78	-25.55	0.00	0.00	0.00
1,700.00	3.04	176.02	1,699.21	-30.88	2.15	-30.83	0.00	0.00	0.00
1,800.00	3.04	176.02	1,799.07	-36.17	2.52	-36.11	0.00	0.00	0.00
1,900.00	3.04	176.02	1,898.93	-41.46	2.89	-41.39	0.00	0.00	0.00
2,000.00	3.04	176.02	1,998.79	-46.75	3.25	-46.67	0.00	0.00	0.00
2,100.00	3.04	176.02	2,098.65	-52.04	3.62	-51.94	0.00	0.00	0.00
2,200.00	3.04	176.02	2,198.51	-57.32	3.99	-57.22	0.00	0.00	0.00
2,300.00	3.04	176.02	2,298.37	-62.61	4.36	-62.50	0.00	0.00	0.00
2,400.00	3.04	176.02	2,398.23	-67.90	4.73	-67.78	0.00	0.00	0.00
2,500.00	3.04	176.02	2,498.09	-73.19	5.09	-73.06	0.00	0.00	0.00
2,600.00	3.04	176.02	2,597.95	-78.47	5.46	-78.34	0.00	0.00	0.00
2,700.00	3.04	176.02	2,697.81	-83.76	5.83	-83.62	0.00	0.00	0.00
2,800.00	3.04	176.02	2,797.67	-89.05	6.20	-88.89	0.00	0.00	0.00
2,900.00	3.04	176.02	2,897.53	-94.34	6.57	-94.17	0.00	0.00	0.00
3,000.00	3.04	176.02	2,997.39	-99.63	6.93	-99.45	0.00	0.00	0.00
3,100.00	3.04	176.02	3,097.25	-104.91	7.30	-104.73	0.00	0.00	0.00
3,200.00	3.04	176.02	3,197.11	-110.20	7.67	-110.01	0.00	0.00	0.00
3,300.00	3.04	176.02	3,296.97	-115.49	8.04	-115.29	0.00	0.00	0.00
3,400.00	3.04	176.02	3,396.82	-120.78	8.41	-120.57	0.00	0.00	0.00
3,500.00	3.04	176.02	3,496.68	-126.06	8.78	-125.85	0.00	0.00	0.00
3,600.00	3.04	176.02	3,596.54	-131.35	9.14	-131.12	0.00	0.00	0.00
3,700.00	3.04	176.02	3,696.40	-136.64	9.51	-136.40	0.00	0.00	0.00
3,800.00	3.04	176.02	3,796.26	-141.93	9.88	-141.68	0.00	0.00	0.00
3,900.00	3.04	176.02	3,896.12	-147.22	10.25	-146.96	0.00	0.00	0.00
3,985.00	3.04	176.02	3,981.00	-151.71	10.56	-151.45	0.00	0.00	0.00
PARKMAN									
4,000.00	3.04	176.02	3,995.98	-152.50	10.62	-152.24	0.00	0.00	0.00
4,100.00	3.04	176.02	4,095.84	-157.79	10.98	-157.52	0.00	0.00	0.00
4,200.00	3.04	176.02	4,195.70	-163.08	11.35	-162.80	0.00	0.00	0.00
4,300.00	3.04	176.02	4,295.56	-168.37	11.72	-168.07	0.00	0.00	0.00
4,400.00	3.04	176.02	4,395.42	-173.66	12.09	-173.35	0.00	0.00	0.00
4,500.00	3.04	176.02	4,495.28	-178.94	12.46	-178.63	0.00	0.00	0.00

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well THOMASON 15N-4HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	16' RKB + GL @ 4897.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	16' RKB + GL @ 4897.00ft
<b>Site:</b>	WELD_THOMASON 15-9HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	THOMASON 15N-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	THOMASON 15N-4HZ		
<b>Design:</b>	THOMASON 15N-4HZ (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)
4,526.76	3.04	176.02	4,522.00	-180.36	12.55	-180.04	0.00	0.00	0.00
<b>SUSSEX</b>									
4,600.00	3.04	176.02	4,595.14	-184.23	12.82	-183.91	0.00	0.00	0.00
4,700.00	3.04	176.02	4,695.00	-189.52	13.19	-189.19	0.00	0.00	0.00
4,800.00	3.04	176.02	4,794.86	-194.81	13.56	-194.47	0.00	0.00	0.00
4,900.00	3.04	176.02	4,894.72	-200.09	13.93	-199.75	0.00	0.00	0.00
5,000.00	3.04	176.02	4,994.58	-205.38	14.30	-205.02	0.00	0.00	0.00
5,100.00	3.04	176.02	5,094.43	-210.67	14.66	-210.30	0.00	0.00	0.00
5,200.00	3.04	176.02	5,194.29	-215.96	15.03	-215.58	0.00	0.00	0.00
5,300.00	3.04	176.02	5,294.15	-221.25	15.40	-220.86	0.00	0.00	0.00
5,400.00	3.04	176.02	5,394.01	-226.53	15.77	-226.14	0.00	0.00	0.00
5,500.00	3.04	176.02	5,493.87	-231.82	16.14	-231.42	0.00	0.00	0.00
5,600.00	3.04	176.02	5,593.73	-237.11	16.51	-236.70	0.00	0.00	0.00
5,700.00	3.04	176.02	5,693.59	-242.40	16.87	-241.97	0.00	0.00	0.00
5,800.00	3.04	176.02	5,793.45	-247.69	17.24	-247.25	0.00	0.00	0.00
5,900.00	3.04	176.02	5,893.31	-252.97	17.61	-252.53	0.00	0.00	0.00
6,000.00	3.04	176.02	5,993.17	-258.26	17.98	-257.81	0.00	0.00	0.00
6,100.00	3.04	176.02	6,093.03	-263.55	18.35	-263.09	0.00	0.00	0.00
6,200.00	3.04	176.02	6,192.89	-268.84	18.71	-268.37	0.00	0.00	0.00
6,300.00	3.04	176.02	6,292.75	-274.12	19.08	-273.65	0.00	0.00	0.00
6,392.17	3.04	176.02	6,384.79	-279.00	19.42	-278.51	0.00	0.00	0.00
<b>Start DLS 10.00 TFO -175.03</b>									
6,400.00	2.26	174.30	6,392.61	-279.36	19.45	-278.87	10.00	-9.95	-21.97
6,500.00	7.76	2.91	6,492.37	-274.57	19.99	-274.07	10.00	5.50	-171.39
6,600.00	17.76	1.80	6,589.77	-252.53	20.82	-252.02	10.00	10.00	-1.11
6,700.00	27.76	1.48	6,681.87	-213.91	21.90	-213.38	10.00	10.00	-0.32
6,800.00	37.76	1.32	6,765.86	-159.89	23.21	-159.34	10.00	10.00	-0.16
6,900.00	47.76	1.22	6,839.20	-92.10	24.71	-91.54	10.00	10.00	-0.10
6,948.10	52.57	1.18	6,870.00	-55.19	25.48	-54.62	10.00	10.00	-0.08
<b>SHARON SPRINGS</b>									
7,000.00	57.76	1.15	6,899.64	-12.61	26.34	-12.04	10.00	10.00	-0.07
7,069.34	64.69	1.10	6,933.00	48.12	27.54	48.70	10.00	10.00	-0.06
<b>NIORARA A</b>									
7,100.00	67.76	1.09	6,945.36	76.17	28.07	76.76	10.00	10.00	-0.05
7,142.58	72.01	1.07	6,960.00	116.13	28.83	116.73	10.00	10.00	-0.05
<b>NIORARA B</b>									
7,200.00	77.76	1.04	6,974.97	171.53	29.84	172.14	10.00	10.00	-0.05
7,300.00	87.76	0.99	6,987.56	270.59	31.60	271.21	10.00	10.00	-0.05
7,323.55	90.11	0.98	6,988.00	294.13	32.00	294.76	10.00	10.00	-0.05
<b>Start DLS 1.00 TFO -44.99 - 7"</b>									
7,324.13	90.11	0.98	6,988.00	294.71	32.01	295.34	1.01	0.71	-0.71
<b>Start 5521.49 hold at 7324.13 MD</b>									
7,400.00	90.11	0.98	6,987.85	370.57	33.30	371.21	0.00	0.00	0.00
7,500.00	90.11	0.98	6,987.65	470.56	35.01	471.21	0.00	0.00	0.00
7,600.00	90.11	0.98	6,987.45	570.54	36.71	571.20	0.00	0.00	0.00
7,700.00	90.11	0.98	6,987.25	670.53	38.41	671.20	0.00	0.00	0.00
7,800.00	90.11	0.98	6,987.05	770.51	40.11	771.20	0.00	0.00	0.00
7,900.00	90.11	0.98	6,986.85	870.50	41.82	871.20	0.00	0.00	0.00
8,000.00	90.11	0.98	6,986.65	970.48	43.52	971.20	0.00	0.00	0.00
8,100.00	90.11	0.98	6,986.45	1,070.47	45.22	1,071.20	0.00	0.00	0.00
8,200.00	90.11	0.98	6,986.25	1,170.45	46.93	1,171.20	0.00	0.00	0.00
8,300.00	90.11	0.98	6,986.06	1,270.44	48.63	1,271.20	0.00	0.00	0.00
8,400.00	90.11	0.98	6,985.86	1,370.43	50.33	1,371.19	0.00	0.00	0.00

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well THOMASON 15N-4HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	16' RKB + GL @ 4897.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	16' RKB + GL @ 4897.00ft
<b>Site:</b>	WELD_THOMASON 15-9HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	THOMASON 15N-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	THOMASON 15N-4HZ		
<b>Design:</b>	THOMASON 15N-4HZ (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)
8,500.00	90.11	0.98	6,985.66	1,470.41	52.04	1,471.19	0.00	0.00	0.00
8,600.00	90.11	0.98	6,985.46	1,570.40	53.74	1,571.19	0.00	0.00	0.00
8,700.00	90.11	0.98	6,985.26	1,670.38	55.44	1,671.19	0.00	0.00	0.00
8,800.00	90.11	0.98	6,985.06	1,770.37	57.15	1,771.19	0.00	0.00	0.00
8,900.00	90.11	0.98	6,984.86	1,870.35	58.85	1,871.19	0.00	0.00	0.00
9,000.00	90.11	0.98	6,984.66	1,970.34	60.55	1,971.19	0.00	0.00	0.00
9,100.00	90.11	0.98	6,984.46	2,070.32	62.26	2,071.19	0.00	0.00	0.00
9,200.00	90.11	0.98	6,984.26	2,170.31	63.96	2,171.18	0.00	0.00	0.00
9,300.00	90.11	0.98	6,984.06	2,270.29	65.66	2,271.18	0.00	0.00	0.00
9,400.00	90.11	0.98	6,983.86	2,370.28	67.36	2,371.18	0.00	0.00	0.00
9,500.00	90.11	0.98	6,983.66	2,470.26	69.07	2,471.18	0.00	0.00	0.00
9,600.00	90.11	0.98	6,983.47	2,570.25	70.77	2,571.18	0.00	0.00	0.00
9,700.00	90.11	0.98	6,983.27	2,670.23	72.47	2,671.18	0.00	0.00	0.00
9,800.00	90.11	0.98	6,983.07	2,770.22	74.18	2,771.18	0.00	0.00	0.00
9,900.00	90.11	0.98	6,982.87	2,870.21	75.88	2,871.18	0.00	0.00	0.00
10,000.00	90.11	0.98	6,982.67	2,970.19	77.58	2,971.17	0.00	0.00	0.00
10,100.00	90.11	0.98	6,982.47	3,070.18	79.29	3,071.17	0.00	0.00	0.00
10,200.00	90.11	0.98	6,982.27	3,170.16	80.99	3,171.17	0.00	0.00	0.00
10,300.00	90.11	0.98	6,982.07	3,270.15	82.69	3,271.17	0.00	0.00	0.00
10,400.00	90.11	0.98	6,981.87	3,370.13	84.40	3,371.17	0.00	0.00	0.00
10,500.00	90.11	0.98	6,981.67	3,470.12	86.10	3,471.17	0.00	0.00	0.00
10,600.00	90.11	0.98	6,981.47	3,570.10	87.80	3,571.17	0.00	0.00	0.00
10,700.00	90.11	0.98	6,981.27	3,670.09	89.51	3,671.17	0.00	0.00	0.00
10,800.00	90.11	0.98	6,981.08	3,770.07	91.21	3,771.16	0.00	0.00	0.00
10,900.00	90.11	0.98	6,980.88	3,870.06	92.91	3,871.16	0.00	0.00	0.00
11,000.00	90.11	0.98	6,980.68	3,970.04	94.61	3,971.16	0.00	0.00	0.00
11,100.00	90.11	0.98	6,980.48	4,070.03	96.32	4,071.16	0.00	0.00	0.00
11,200.00	90.11	0.98	6,980.28	4,170.01	98.02	4,171.16	0.00	0.00	0.00
11,300.00	90.11	0.98	6,980.08	4,270.00	99.72	4,271.16	0.00	0.00	0.00
11,400.00	90.11	0.98	6,979.88	4,369.98	101.43	4,371.16	0.00	0.00	0.00
11,500.00	90.11	0.98	6,979.68	4,469.97	103.13	4,471.16	0.00	0.00	0.00
11,600.00	90.11	0.98	6,979.48	4,569.96	104.83	4,571.15	0.00	0.00	0.00
11,700.00	90.11	0.98	6,979.28	4,669.94	106.54	4,671.15	0.00	0.00	0.00
11,800.00	90.11	0.98	6,979.08	4,769.93	108.24	4,771.15	0.00	0.00	0.00
11,900.00	90.11	0.98	6,978.88	4,869.91	109.94	4,871.15	0.00	0.00	0.00
12,000.00	90.11	0.98	6,978.68	4,969.90	111.65	4,971.15	0.00	0.00	0.00
12,100.00	90.11	0.98	6,978.49	5,069.88	113.35	5,071.15	0.00	0.00	0.00
12,200.00	90.11	0.98	6,978.29	5,169.87	115.05	5,171.15	0.00	0.00	0.00
12,300.00	90.11	0.98	6,978.09	5,269.85	116.76	5,271.14	0.00	0.00	0.00
12,400.00	90.11	0.98	6,977.89	5,369.84	118.46	5,371.14	0.00	0.00	0.00
12,500.00	90.11	0.98	6,977.69	5,469.82	120.16	5,471.14	0.00	0.00	0.00
12,600.00	90.11	0.98	6,977.49	5,569.81	121.86	5,571.14	0.00	0.00	0.00
12,700.00	90.11	0.98	6,977.29	5,669.79	123.57	5,671.14	0.00	0.00	0.00
12,800.00	90.11	0.98	6,977.09	5,769.78	125.27	5,771.14	0.00	0.00	0.00
12,845.62	90.11	0.98	6,977.00	5,815.39	126.05	5,816.76	0.00	0.00	0.00
TD at 12845.62 - THOMASON 15N-4HZ BHL									

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well THOMASON 15N-4HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	16' RKB + GL @ 4897.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	16' RKB + GL @ 4897.00ft
<b>Site:</b>	WELD_THOMASON 15-9HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	THOMASON 15N-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	THOMASON 15N-4HZ		
<b>Design:</b>	THOMASON 15N-4HZ (wp01)		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
THOMASON 15N-4HZ E	0.00	0.00	6,977.00	5,815.39	126.05	1,303,270.03	3,232,833.74	40.162869	-104.666905
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth			Casing Diameter	Hole Diameter
(ft)	(ft)			(")	(")
		Name			
890.00	890.00	9 5/8"		9-5/8	13-1/2
7,323.55	6,988.00	7"		7	8-3/4

Formations					
Measured Depth	Vertical Depth			Dip	Dip Direction
(ft)	(ft)			(°)	(°)
		Name	Lithology		
3,985.00	3,981.00	PARKMAN		0.00	
4,526.76	4,522.00	SUSSEX		0.00	
6,948.10	6,870.00	SHARON SPRINGS		0.00	
7,069.34	6,933.00	NIOBRARA A		0.00	
7,142.58	6,960.00	NIOBRARA B		0.00	

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W		
		(ft)	(ft)	Comment	
1,040.00	1,040.00	0.00	0.00	Start Build 2.00	
1,191.92	1,191.85	-4.02	0.28	Start 5200.25 hold at 1191.92 MD	
6,392.17	6,384.79	-279.00	19.42	Start DLS 10.00 TFO -175.03	
7,323.55	6,988.00	294.13	32.00	Start DLS 1.00 TFO -44.99	
7,324.13	6,988.00	294.71	32.01	Start 5521.49 hold at 7324.13 MD	
12,845.62	6,977.00	5,815.39	126.05	TD at 12845.62	