

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_Thomason 13N-15HZ

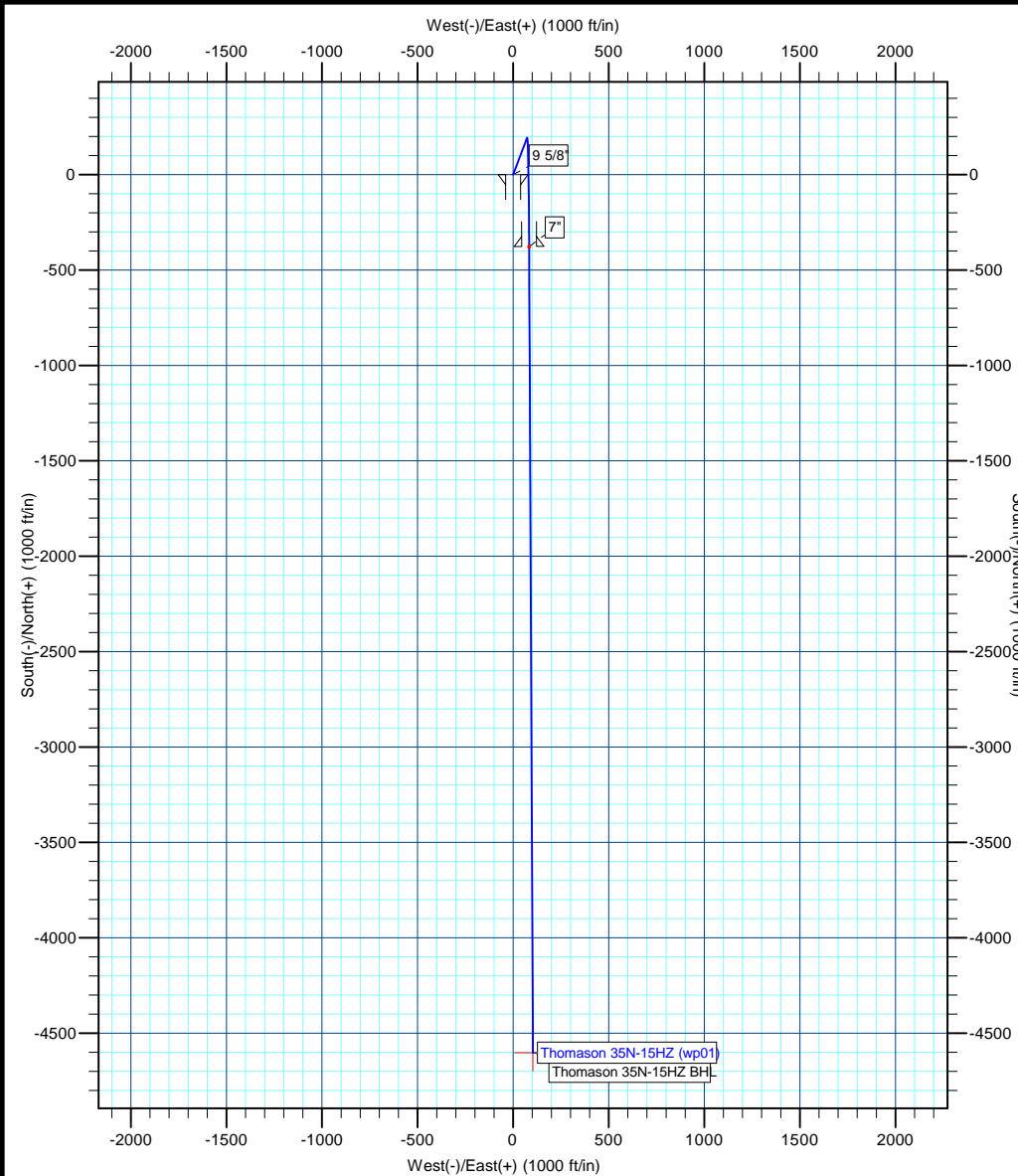
Thomason 35N-15HZ

Thomason 35N-15HZ

Plan: Thomason 35N-15HZ (wp01)

Standard Planning Report

02 April, 2012



Azimuths to True North
Magnetic North: 8.68°

Magnetic Field
Strength: 52924.7snT
Dip Angle: 66.84°
Date: 4/2/2012
Model: IGRF2010



Project: COLORADO NORTHERN ZONE - 83
Site: WELD_Thomason 13N-15HZ
Well: Thomason 35N-15HZ
Wellbore: Thomason 35N-15HZ
Section:
SHL:
Design: Thomason 35N-15HZ (wp01)
Latitude: 40.145292
Longitude: -104.655211
GL: 4863.00
KB: gl + rkb @ 4880.00ft

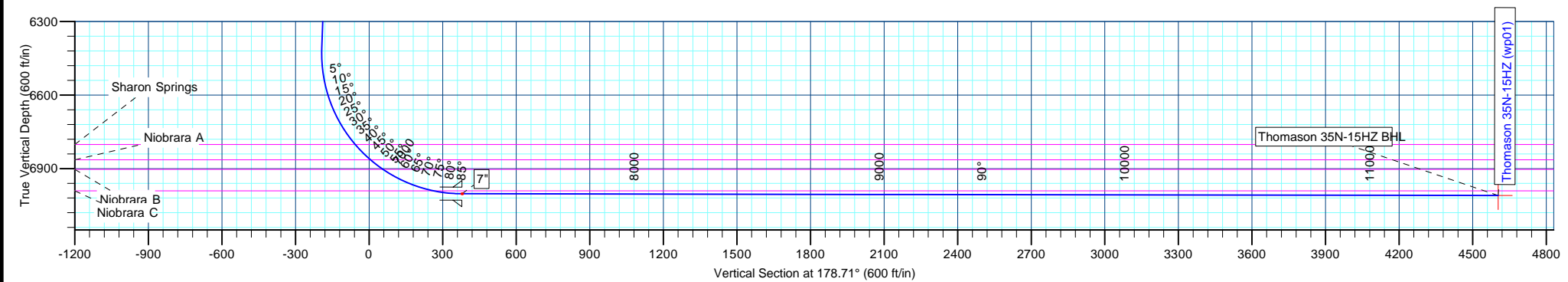
WELL DETAILS: Thomason 35N-15HZ						
+N/-S	+E/-W	Northing	Ground Level: Easting	4863.00 Latitude	Longitude	Slot
0.00	0.00	1296898.27	3236162.88	40.145292	-104.655211	

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
850.00	0.00	0.00	850.00	0.00	0.00	0.00	0.00	0.00
958.24	2.16	20.69	958.21	1.91	0.72	2.00	20.69	-1.90
6413.80	2.16	20.69	6409.88	194.69	73.55	0.00	0.00	-192.98
7333.15	89.91	179.75	7003.00	-377.00	84.00	10.00	159.05	378.80
7335.48	89.91	179.73	7003.00	-379.33	84.01	1.00	-109.53	381.12
11559.23	89.91	179.73	7010.00	-4603.03	103.74	0.00	0.00	4604.20

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Thomason 35N-15HZ BHL	7010.00	-4603.03	103.74	40.132656	-104.654840	Point

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3865.00	3867.10	Parkman
4448.00	4450.52	Sussex
6802.00	6838.80	Sharon Springs
6864.00	6926.35	Niobrara A
6903.00	6990.36	Niobrara B
6991.00	7216.54	Niobrara C

CASING DETAILS			
TVD	MD	Name	Size
700.00	700.00	9 5/8"	9-5/8
7003.00	7333.15	7"	7



Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well Thomason 35N-15HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	gl + rkb @ 4880.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	gl + rkb @ 4880.00ft
Site:	WELD_Thomason 13N-15HZ	North Reference:	True
Well:	Thomason 35N-15HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Thomason 35N-15HZ		
Design:	Thomason 35N-15HZ (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_Thomason 13N-15HZ			
Site Position:		Northing:	1,296,898.00 usft	Latitude: 40.145292
From:	Lat/Long	Easting:	3,236,132.97 usft	Longitude: -104.655318
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence: 0.55 °

Well	Thomason 35N-15HZ			
Well Position	+N/-S	-0.02 ft	Northing:	1,296,898.27 usft
	+E/-W	29.91 ft	Easting:	3,236,162.88 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	Ground Level: 4,863.00 ft

Wellbore	Thomason 35N-15HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/2/2012	8.68	66.84	52,925

Design	Thomason 35N-15HZ (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	178.71

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	
850.00	0.00	0.00	850.00	0.00	0.00	0.00	0.00	0.00	0.00	
958.24	2.16	20.69	958.21	1.91	0.72	2.00	2.00	0.00	20.69	
6,413.80	2.16	20.69	6,409.88	194.69	73.55	0.00	0.00	0.00	0.00	
7,333.15	89.91	179.75	7,003.00	-377.00	84.00	10.00	9.54	17.30	159.05	
7,335.48	89.91	179.73	7,003.00	-379.33	84.01	1.00	-0.33	-0.94	-109.53	
11,559.23	89.91	179.73	7,010.00	-4,603.03	103.74	0.00	0.00	0.00	0.00	Thomason 35N-15HZ

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well Thomason 35N-15HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	gl + rkb @ 4880.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	gl + rkb @ 4880.00ft
Site:	WELD_Thomason 13N-15HZ	North Reference:	True
Well:	Thomason 35N-15HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Thomason 35N-15HZ		
Design:	Thomason 35N-15HZ (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
9 5/8"									
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
850.00	0.00	0.00	850.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
900.00	1.00	20.69	900.00	0.41	0.15	-0.40	2.00	2.00	0.00
958.24	2.16	20.69	958.21	1.91	0.72	-1.90	2.00	2.00	0.00
Start 5455.56 hold at 958.24 MD									
1,000.00	2.16	20.69	999.94	3.39	1.28	-3.36	0.00	0.00	0.00
1,100.00	2.16	20.69	1,099.87	6.92	2.61	-6.86	0.00	0.00	0.00
1,200.00	2.16	20.69	1,199.80	10.46	3.95	-10.36	0.00	0.00	0.00
1,300.00	2.16	20.69	1,299.73	13.99	5.28	-13.87	0.00	0.00	0.00
1,400.00	2.16	20.69	1,399.66	17.52	6.62	-17.37	0.00	0.00	0.00
1,500.00	2.16	20.69	1,499.59	21.06	7.95	-20.87	0.00	0.00	0.00
1,600.00	2.16	20.69	1,599.52	24.59	9.29	-24.37	0.00	0.00	0.00
1,700.00	2.16	20.69	1,699.44	28.12	10.62	-27.88	0.00	0.00	0.00
1,800.00	2.16	20.69	1,799.37	31.66	11.96	-31.38	0.00	0.00	0.00
1,900.00	2.16	20.69	1,899.30	35.19	13.29	-34.88	0.00	0.00	0.00
2,000.00	2.16	20.69	1,999.23	38.72	14.63	-38.39	0.00	0.00	0.00
2,100.00	2.16	20.69	2,099.16	42.26	15.96	-41.89	0.00	0.00	0.00
2,200.00	2.16	20.69	2,199.09	45.79	17.30	-45.39	0.00	0.00	0.00
2,300.00	2.16	20.69	2,299.02	49.33	18.63	-48.89	0.00	0.00	0.00
2,400.00	2.16	20.69	2,398.95	52.86	19.97	-52.40	0.00	0.00	0.00
2,500.00	2.16	20.69	2,498.87	56.39	21.30	-55.90	0.00	0.00	0.00
2,600.00	2.16	20.69	2,598.80	59.93	22.64	-59.40	0.00	0.00	0.00
2,700.00	2.16	20.69	2,698.73	63.46	23.97	-62.90	0.00	0.00	0.00
2,800.00	2.16	20.69	2,798.66	66.99	25.31	-66.41	0.00	0.00	0.00
2,900.00	2.16	20.69	2,898.59	70.53	26.64	-69.91	0.00	0.00	0.00
3,000.00	2.16	20.69	2,998.52	74.06	27.98	-73.41	0.00	0.00	0.00
3,100.00	2.16	20.69	3,098.45	77.59	29.31	-76.91	0.00	0.00	0.00
3,200.00	2.16	20.69	3,198.37	81.13	30.65	-80.42	0.00	0.00	0.00
3,300.00	2.16	20.69	3,298.30	84.66	31.98	-83.92	0.00	0.00	0.00
3,400.00	2.16	20.69	3,398.23	88.20	33.32	-87.42	0.00	0.00	0.00
3,500.00	2.16	20.69	3,498.16	91.73	34.65	-90.92	0.00	0.00	0.00
3,600.00	2.16	20.69	3,598.09	95.26	35.99	-94.43	0.00	0.00	0.00
3,700.00	2.16	20.69	3,698.02	98.80	37.32	-97.93	0.00	0.00	0.00
3,800.00	2.16	20.69	3,797.95	102.33	38.66	-101.43	0.00	0.00	0.00
3,867.10	2.16	20.69	3,865.00	104.70	39.55	-103.78	0.00	0.00	0.00
Parkman									
3,900.00	2.16	20.69	3,897.87	105.86	39.99	-104.94	0.00	0.00	0.00
4,000.00	2.16	20.69	3,997.80	109.40	41.33	-108.44	0.00	0.00	0.00
4,100.00	2.16	20.69	4,097.73	112.93	42.66	-111.94	0.00	0.00	0.00
4,200.00	2.16	20.69	4,197.66	116.46	44.00	-115.44	0.00	0.00	0.00
4,300.00	2.16	20.69	4,297.59	120.00	45.33	-118.95	0.00	0.00	0.00
4,400.00	2.16	20.69	4,397.52	123.53	46.67	-122.45	0.00	0.00	0.00
4,450.52	2.16	20.69	4,448.00	125.32	47.34	-124.22	0.00	0.00	0.00
Sussex									

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well Thomason 35N-15HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	gl + rkb @ 4880.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	gl + rkb @ 4880.00ft
Site:	WELD_Thomason 13N-15HZ	North Reference:	True
Well:	Thomason 35N-15HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Thomason 35N-15HZ		
Design:	Thomason 35N-15HZ (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)
4,500.00	2.16	20.69	4,497.45	127.07	48.00	-125.95	0.00	0.00	0.00
4,600.00	2.16	20.69	4,597.38	130.60	49.34	-129.45	0.00	0.00	0.00
4,700.00	2.16	20.69	4,697.30	134.13	50.67	-132.96	0.00	0.00	0.00
4,800.00	2.16	20.69	4,797.23	137.67	52.01	-136.46	0.00	0.00	0.00
4,900.00	2.16	20.69	4,897.16	141.20	53.34	-139.96	0.00	0.00	0.00
5,000.00	2.16	20.69	4,997.09	144.73	54.68	-143.46	0.00	0.00	0.00
5,100.00	2.16	20.69	5,097.02	148.27	56.01	-146.97	0.00	0.00	0.00
5,200.00	2.16	20.69	5,196.95	151.80	57.35	-150.47	0.00	0.00	0.00
5,300.00	2.16	20.69	5,296.88	155.33	58.68	-153.97	0.00	0.00	0.00
5,400.00	2.16	20.69	5,396.80	158.87	60.01	-157.48	0.00	0.00	0.00
5,500.00	2.16	20.69	5,496.73	162.40	61.35	-160.98	0.00	0.00	0.00
5,600.00	2.16	20.69	5,596.66	165.93	62.68	-164.48	0.00	0.00	0.00
5,700.00	2.16	20.69	5,696.59	169.47	64.02	-167.98	0.00	0.00	0.00
5,800.00	2.16	20.69	5,796.52	173.00	65.35	-171.49	0.00	0.00	0.00
5,900.00	2.16	20.69	5,896.45	176.54	66.69	-174.99	0.00	0.00	0.00
6,000.00	2.16	20.69	5,996.38	180.07	68.02	-178.49	0.00	0.00	0.00
6,100.00	2.16	20.69	6,096.30	183.60	69.36	-181.99	0.00	0.00	0.00
6,200.00	2.16	20.69	6,196.23	187.14	70.69	-185.50	0.00	0.00	0.00
6,300.00	2.16	20.69	6,296.16	190.67	72.03	-189.00	0.00	0.00	0.00
6,400.00	2.16	20.69	6,396.09	194.20	73.36	-192.50	0.00	0.00	0.00
6,413.80	2.16	20.69	6,409.88	194.69	73.55	-192.98	0.00	0.00	0.00
Start DLS 10.00 TFO 159.05									
6,500.00	6.64	173.09	6,495.92	191.26	74.73	-189.53	10.00	5.20	176.80
6,600.00	16.62	177.16	6,593.75	171.19	76.13	-169.43	10.00	9.97	4.07
6,700.00	26.61	178.21	6,686.60	134.43	77.54	-132.65	10.00	9.99	1.05
6,800.00	36.61	178.71	6,771.66	82.10	78.92	-80.31	10.00	10.00	0.50
6,838.80	40.48	178.85	6,802.00	57.94	79.43	-56.13	10.00	10.00	0.35
Sharon Springs									
6,900.00	46.60	179.02	6,846.34	15.80	80.21	-13.99	10.00	10.00	0.29
6,926.35	49.24	179.09	6,864.00	-3.75	80.53	5.57	10.00	10.00	0.25
Niobrara A									
6,990.36	55.64	179.23	6,903.00	-54.46	81.27	56.28	10.00	10.00	0.22
Niobrara B									
7,000.00	56.60	179.25	6,908.37	-62.46	81.38	64.28	10.00	10.00	0.20
7,100.00	66.60	179.42	6,955.87	-150.31	82.40	152.13	10.00	10.00	0.18
7,200.00	76.60	179.57	6,987.40	-245.07	83.23	246.88	10.00	10.00	0.15
7,216.54	78.25	179.59	6,991.00	-261.22	83.34	263.03	10.00	10.00	0.14
Niobrara C									
7,300.00	86.60	179.71	7,001.99	-343.87	83.85	345.67	10.00	10.00	0.14
7,333.15	89.91	179.75	7,003.00	-377.00	84.00	378.80	10.00	10.00	0.14
Start DLS 1.00 TFO -109.53 - 7"									
7,335.48	89.91	179.73	7,003.00	-379.33	84.01	381.12	1.00	-0.33	-0.94
Start 4223.75 hold at 7335.48 MD									
7,400.00	89.91	179.73	7,003.11	-443.85	84.31	445.64	0.00	0.00	0.00
7,500.00	89.91	179.73	7,003.28	-543.85	84.78	545.62	0.00	0.00	0.00
7,600.00	89.91	179.73	7,003.44	-643.85	85.25	645.60	0.00	0.00	0.00
7,700.00	89.91	179.73	7,003.61	-743.85	85.71	745.59	0.00	0.00	0.00
7,800.00	89.91	179.73	7,003.77	-843.84	86.18	845.57	0.00	0.00	0.00
7,900.00	89.91	179.73	7,003.94	-943.84	86.65	945.56	0.00	0.00	0.00
8,000.00	89.91	179.73	7,004.10	-1,043.84	87.11	1,045.54	0.00	0.00	0.00
8,100.00	89.91	179.73	7,004.27	-1,143.84	87.58	1,145.52	0.00	0.00	0.00
8,200.00	89.91	179.73	7,004.44	-1,243.84	88.05	1,245.51	0.00	0.00	0.00
8,300.00	89.91	179.73	7,004.60	-1,343.84	88.51	1,345.49	0.00	0.00	0.00

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well Thomason 35N-15HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	gl + rkb @ 4880.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	gl + rkb @ 4880.00ft
Site:	WELD_Thomason 13N-15HZ	North Reference:	True
Well:	Thomason 35N-15HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Thomason 35N-15HZ		
Design:	Thomason 35N-15HZ (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)	
8,400.00	89.91	179.73	7,004.77	-1,443.84	88.98	1,445.48	0.00	0.00	0.00	
8,500.00	89.91	179.73	7,004.93	-1,543.84	89.45	1,545.46	0.00	0.00	0.00	
8,600.00	89.91	179.73	7,005.10	-1,643.83	89.92	1,645.44	0.00	0.00	0.00	
8,700.00	89.91	179.73	7,005.26	-1,743.83	90.38	1,745.43	0.00	0.00	0.00	
8,800.00	89.91	179.73	7,005.43	-1,843.83	90.85	1,845.41	0.00	0.00	0.00	
8,900.00	89.91	179.73	7,005.60	-1,943.83	91.32	1,945.40	0.00	0.00	0.00	
9,000.00	89.91	179.73	7,005.76	-2,043.83	91.78	2,045.38	0.00	0.00	0.00	
9,100.00	89.91	179.73	7,005.93	-2,143.83	92.25	2,145.36	0.00	0.00	0.00	
9,200.00	89.91	179.73	7,006.09	-2,243.83	92.72	2,245.35	0.00	0.00	0.00	
9,300.00	89.91	179.73	7,006.26	-2,343.83	93.18	2,345.33	0.00	0.00	0.00	
9,400.00	89.91	179.73	7,006.42	-2,443.82	93.65	2,445.31	0.00	0.00	0.00	
9,500.00	89.91	179.73	7,006.59	-2,543.82	94.12	2,545.30	0.00	0.00	0.00	
9,600.00	89.91	179.73	7,006.75	-2,643.82	94.59	2,645.28	0.00	0.00	0.00	
9,700.00	89.91	179.73	7,006.92	-2,743.82	95.05	2,745.27	0.00	0.00	0.00	
9,800.00	89.91	179.73	7,007.09	-2,843.82	95.52	2,845.25	0.00	0.00	0.00	
9,900.00	89.91	179.73	7,007.25	-2,943.82	95.99	2,945.23	0.00	0.00	0.00	
10,000.00	89.91	179.73	7,007.42	-3,043.82	96.45	3,045.22	0.00	0.00	0.00	
10,100.00	89.91	179.73	7,007.58	-3,143.82	96.92	3,145.20	0.00	0.00	0.00	
10,200.00	89.91	179.73	7,007.75	-3,243.82	97.39	3,245.19	0.00	0.00	0.00	
10,300.00	89.91	179.73	7,007.91	-3,343.81	97.85	3,345.17	0.00	0.00	0.00	
10,400.00	89.91	179.73	7,008.08	-3,443.81	98.32	3,445.15	0.00	0.00	0.00	
10,500.00	89.91	179.73	7,008.25	-3,543.81	98.79	3,545.14	0.00	0.00	0.00	
10,600.00	89.91	179.73	7,008.41	-3,643.81	99.26	3,645.12	0.00	0.00	0.00	
10,700.00	89.91	179.73	7,008.58	-3,743.81	99.72	3,745.11	0.00	0.00	0.00	
10,800.00	89.91	179.73	7,008.74	-3,843.81	100.19	3,845.09	0.00	0.00	0.00	
10,900.00	89.91	179.73	7,008.91	-3,943.81	100.66	3,945.07	0.00	0.00	0.00	
11,000.00	89.91	179.73	7,009.07	-4,043.81	101.12	4,045.06	0.00	0.00	0.00	
11,100.00	89.91	179.73	7,009.24	-4,143.80	101.59	4,145.04	0.00	0.00	0.00	
11,200.00	89.91	179.73	7,009.41	-4,243.80	102.06	4,245.03	0.00	0.00	0.00	
11,300.00	89.91	179.73	7,009.57	-4,343.80	102.52	4,345.01	0.00	0.00	0.00	
11,400.00	89.91	179.73	7,009.74	-4,443.80	102.99	4,444.99	0.00	0.00	0.00	
11,500.00	89.91	179.73	7,009.90	-4,543.80	103.46	4,544.98	0.00	0.00	0.00	
11,559.23	89.91	179.73	7,010.00	-4,603.03	103.74	4,604.20	0.00	0.00	0.00	
TD at 11559.23 - Thomason 35N-15HZ BHL										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Thomason 35N-15HZ BI	0.00	0.00	7,010.00	-4,603.03	103.74	1,292,296.45	3,236,310.46	40.132656	-104.654840
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
700.00	700.00	9 5/8"	9-5/8	12-1/4	
7,333.15	7,003.00	7"	7	8-3/4	

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well Thomason 35N-15HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	gl + rkb @ 4880.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	gl + rkb @ 4880.00ft
Site:	WELD_Thomason 13N-15HZ	North Reference:	True
Well:	Thomason 35N-15HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Thomason 35N-15HZ		
Design:	Thomason 35N-15HZ (wp01)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,867.10	3,865.00	Parkman				
4,450.52	4,448.00	Sussex				
6,838.80	6,802.00	Sharon Springs				
6,926.35	6,864.00	Niobrara A				
6,990.36	6,903.00	Niobrara B				
7,216.54	6,991.00	Niobrara C				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
850.00	850.00	0.00	0.00	Start Build 2.00	
958.24	958.21	1.91	0.72	Start 5455.56 hold at 958.24 MD	
6,413.80	6,409.88	194.69	73.55	Start DLS 10.00 TFO 159.05	
7,333.15	7,003.00	-377.00	84.00	Start DLS 1.00 TFO -109.53	
7,335.48	7,003.00	-379.33	84.01	Start 4223.75 hold at 7335.48 MD	
11,559.23	7,010.00	-4,603.03	103.74	TD at 11559.23	