

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_THOMASON 15-9HZ PAD

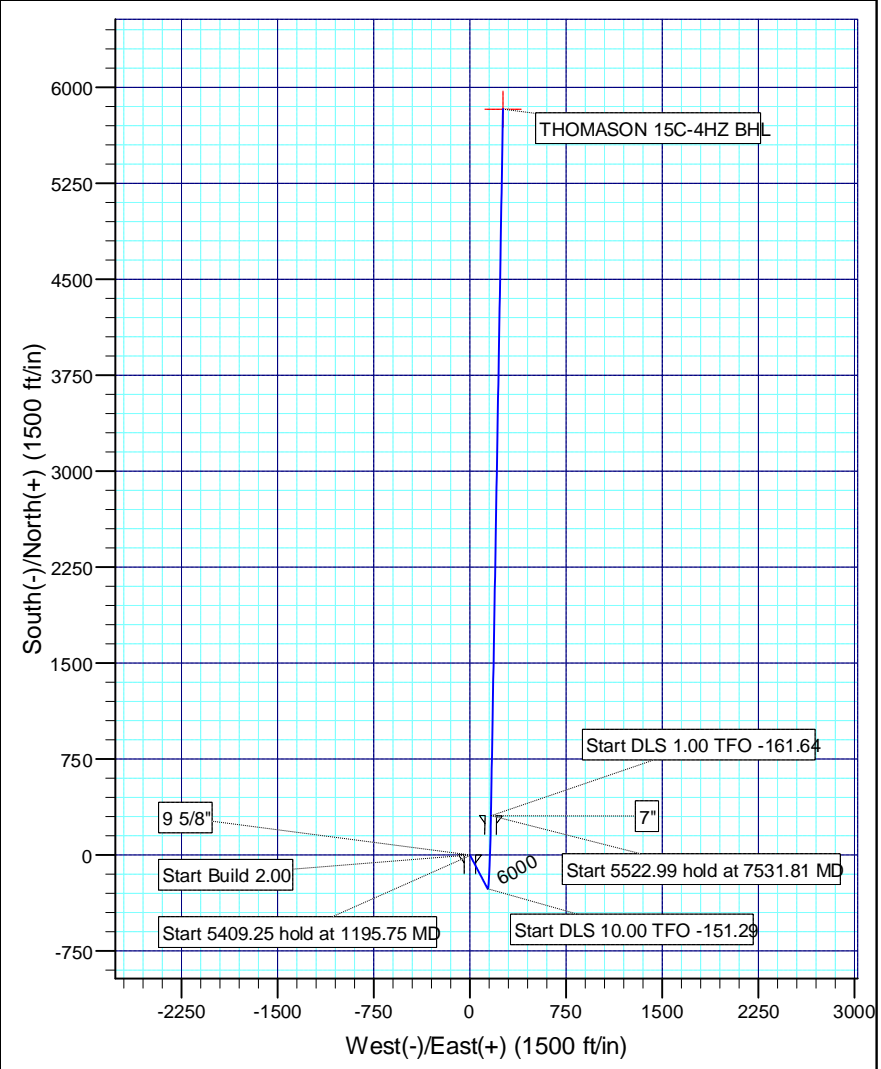
THOMASON 15C-4HZ

THOMASON 15C-4HZ

Plan: THOMASON 15C-4HZ (wp01)

Standard Planning Report

29 February, 2012



PROJECT DETAILS: COLORADO NORTHERN - 83

Site: WELD THOMASON 15-9HZ PAD
 Well: THOMASON 15C-4HZ
 Wellbore: THOMASON 15C-4HZ
 Design: THOMASON 15C-4HZ (wp01)
 Latitude: 40.146864
 Longitude: -104.667264
 GL: 4881.00
 KB: 16' RKB + GL @ 4897.00ft



WELL DETAILS: THOMASON 15C-4HZ

Ground Level: 4881.00
 +N/-S 0.00 +E/-W 0.00 Northing 1297439.03 Easting 3232788.15 Latitude 40.146864 Longitude -104.667264

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
THOMASON 15C-4HZ BHL	7210.00	5829.61	258.24	40.162867	-104.666340	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	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	1195.75	3.11	152.30	1195.67	-3.75	1.97	2.00	152.30	-3.66	
4	6605.00	3.11	152.30	6596.93	-264.00	138.60	0.00	0.00	-257.61	
5	7531.05	89.87	0.98	7197.00	306.68	164.00	10.00	-151.29	313.64	
6	7531.81	89.87	0.98	7197.00	307.44	164.01	1.00	-161.64	314.40	
7	13054.80	89.87	0.98	7210.00	5829.61	258.24	0.00	0.00	5835.32	THOMASON 15C-4HZ BHL

CASING DETAILS

TVD	MD	Name	Size
890.00	890.00	9 5/8"	9-5/8
7197.00	7531.05	7"	7

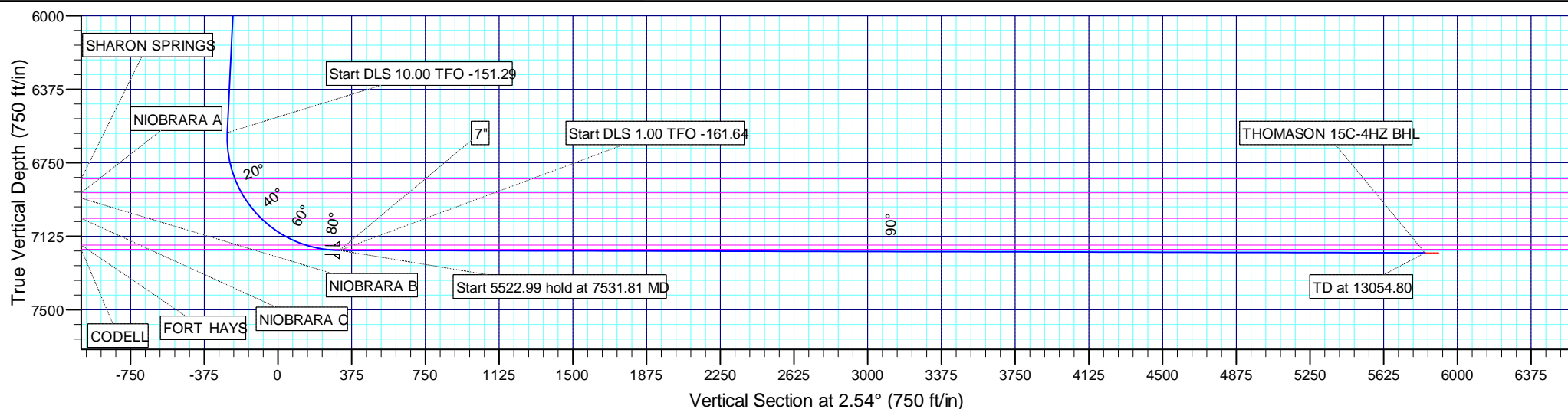
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3956.00	3960.16	PARKMAN
4313.00	4317.69	SUSSEX
6833.00	6846.08	SHARON SPRINGS
6903.00	6923.56	NIOBRARA A
6931.00	6956.16	NIOBRARA B
7034.00	7089.10	NIOBRARA C
7170.00	7355.70	FORT HAYS
7192.00	7456.56	CODELL



Azimuths to True North
 Magnetic North: 8.70°

Magnetic Field
 Strength: 52935.3snT
 Dip Angle: 66.84°
 Date: 2/23/2012
 Model: IGRF2010



Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well THOMASON 15C-4HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	16' RKB + GL @ 4897.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	16' RKB + GL @ 4897.00ft
Site:	WELD_THOMASON 15-9HZ PAD	North Reference:	True
Well:	THOMASON 15C-4HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	THOMASON 15C-4HZ		
Design:	THOMASON 15C-4HZ (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 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 15C-4HZ					
Well Position	+N/-S	-0.01 ft	Northing:	1,297,439.03 usft	Latitude:	40.146864
	+E/-W	0.00 ft	Easting:	3,232,788.16 usft	Longitude:	-104.667264
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,881.00 ft

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

Design	THOMASON 15C-4HZ (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	2.54

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	
1,040.00	0.00	0.00	1,040.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,195.75	3.11	152.30	1,195.67	-3.75	1.97	2.00	2.00	0.00	152.30	
6,605.00	3.11	152.30	6,596.93	-264.00	138.60	0.00	0.00	0.00	0.00	
7,531.05	89.87	0.98	7,197.00	306.68	164.00	10.00	9.37	-16.34	-151.29	
7,531.81	89.87	0.98	7,197.00	307.44	164.01	1.00	-0.95	-0.31	-161.64	
13,054.80	89.87	0.98	7,210.00	5,829.61	258.24	0.00	0.00	0.00	0.00	THOMASON 15C-4H.

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well THOMASON 15C-4HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	16' RKB + GL @ 4897.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	16' RKB + GL @ 4897.00ft
Site:	WELD_THOMASON 15-9HZ PAD	North Reference:	True
Well:	THOMASON 15C-4HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	THOMASON 15C-4HZ		
Design:	THOMASON 15C-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	152.30	1,100.00	-0.56	0.29	-0.54	2.00	2.00	0.00
1,195.75	3.11	152.30	1,195.67	-3.75	1.97	-3.66	2.00	2.00	0.00
Start 5409.25 hold at 1195.75 MD									
1,200.00	3.11	152.30	1,199.92	-3.95	2.07	-3.86	0.00	0.00	0.00
1,300.00	3.11	152.30	1,299.77	-8.76	4.60	-8.55	0.00	0.00	0.00
1,400.00	3.11	152.30	1,399.62	-13.57	7.13	-13.25	0.00	0.00	0.00
1,500.00	3.11	152.30	1,499.47	-18.39	9.65	-17.94	0.00	0.00	0.00
1,600.00	3.11	152.30	1,599.33	-23.20	12.18	-22.64	0.00	0.00	0.00
1,700.00	3.11	152.30	1,699.18	-28.01	14.70	-27.33	0.00	0.00	0.00
1,800.00	3.11	152.30	1,799.03	-32.82	17.23	-32.03	0.00	0.00	0.00
1,900.00	3.11	152.30	1,898.88	-37.63	19.76	-36.72	0.00	0.00	0.00
2,000.00	3.11	152.30	1,998.74	-42.44	22.28	-41.41	0.00	0.00	0.00
2,100.00	3.11	152.30	2,098.59	-47.25	24.81	-46.11	0.00	0.00	0.00
2,200.00	3.11	152.30	2,198.44	-52.06	27.33	-50.80	0.00	0.00	0.00
2,300.00	3.11	152.30	2,298.29	-56.88	29.86	-55.50	0.00	0.00	0.00
2,400.00	3.11	152.30	2,398.14	-61.69	32.39	-60.19	0.00	0.00	0.00
2,500.00	3.11	152.30	2,498.00	-66.50	34.91	-64.89	0.00	0.00	0.00
2,600.00	3.11	152.30	2,597.85	-71.31	37.44	-69.58	0.00	0.00	0.00
2,700.00	3.11	152.30	2,697.70	-76.12	39.96	-74.28	0.00	0.00	0.00
2,800.00	3.11	152.30	2,797.55	-80.93	42.49	-78.97	0.00	0.00	0.00
2,900.00	3.11	152.30	2,897.41	-85.74	45.01	-83.67	0.00	0.00	0.00
3,000.00	3.11	152.30	2,997.26	-90.55	47.54	-88.36	0.00	0.00	0.00
3,100.00	3.11	152.30	3,097.11	-95.37	50.07	-93.06	0.00	0.00	0.00
3,200.00	3.11	152.30	3,196.96	-100.18	52.59	-97.75	0.00	0.00	0.00
3,300.00	3.11	152.30	3,296.81	-104.99	55.12	-102.45	0.00	0.00	0.00
3,400.00	3.11	152.30	3,396.67	-109.80	57.64	-107.14	0.00	0.00	0.00
3,500.00	3.11	152.30	3,496.52	-114.61	60.17	-111.84	0.00	0.00	0.00
3,600.00	3.11	152.30	3,596.37	-119.42	62.70	-116.53	0.00	0.00	0.00
3,700.00	3.11	152.30	3,696.22	-124.23	65.22	-121.23	0.00	0.00	0.00
3,800.00	3.11	152.30	3,796.08	-129.04	67.75	-125.92	0.00	0.00	0.00
3,900.00	3.11	152.30	3,895.93	-133.86	70.27	-130.62	0.00	0.00	0.00
3,960.16	3.11	152.30	3,956.00	-136.75	71.79	-133.44	0.00	0.00	0.00
PARKMAN									
4,000.00	3.11	152.30	3,995.78	-138.67	72.80	-135.31	0.00	0.00	0.00
4,100.00	3.11	152.30	4,095.63	-143.48	75.33	-140.00	0.00	0.00	0.00
4,200.00	3.11	152.30	4,195.48	-148.29	77.85	-144.70	0.00	0.00	0.00
4,300.00	3.11	152.30	4,295.34	-153.10	80.38	-149.39	0.00	0.00	0.00
4,317.69	3.11	152.30	4,313.00	-153.95	80.82	-150.22	0.00	0.00	0.00
SUSSEX									

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well THOMASON 15C-4HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	16' RKB + GL @ 4897.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	16' RKB + GL @ 4897.00ft
Site:	WELD_THOMASON 15-9HZ PAD	North Reference:	True
Well:	THOMASON 15C-4HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	THOMASON 15C-4HZ		
Design:	THOMASON 15C-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)
4,400.00	3.11	152.30	4,395.19	-157.91	82.90	-154.09	0.00	0.00	0.00
4,500.00	3.11	152.30	4,495.04	-162.72	85.43	-158.78	0.00	0.00	0.00
4,600.00	3.11	152.30	4,594.89	-167.53	87.95	-163.48	0.00	0.00	0.00
4,700.00	3.11	152.30	4,694.75	-172.35	90.48	-168.17	0.00	0.00	0.00
4,800.00	3.11	152.30	4,794.60	-177.16	93.01	-172.87	0.00	0.00	0.00
4,900.00	3.11	152.30	4,894.45	-181.97	95.53	-177.56	0.00	0.00	0.00
5,000.00	3.11	152.30	4,994.30	-186.78	98.06	-182.26	0.00	0.00	0.00
5,100.00	3.11	152.30	5,094.15	-191.59	100.58	-186.95	0.00	0.00	0.00
5,200.00	3.11	152.30	5,194.01	-196.40	103.11	-191.65	0.00	0.00	0.00
5,300.00	3.11	152.30	5,293.86	-201.21	105.64	-196.34	0.00	0.00	0.00
5,400.00	3.11	152.30	5,393.71	-206.02	108.16	-201.04	0.00	0.00	0.00
5,500.00	3.11	152.30	5,493.56	-210.84	110.69	-205.73	0.00	0.00	0.00
5,600.00	3.11	152.30	5,593.42	-215.65	113.21	-210.43	0.00	0.00	0.00
5,700.00	3.11	152.30	5,693.27	-220.46	115.74	-215.12	0.00	0.00	0.00
5,800.00	3.11	152.30	5,793.12	-225.27	118.27	-219.82	0.00	0.00	0.00
5,900.00	3.11	152.30	5,892.97	-230.08	120.79	-224.51	0.00	0.00	0.00
6,000.00	3.11	152.30	5,992.83	-234.89	123.32	-229.21	0.00	0.00	0.00
6,100.00	3.11	152.30	6,092.68	-239.70	125.84	-233.90	0.00	0.00	0.00
6,200.00	3.11	152.30	6,192.53	-244.51	128.37	-238.59	0.00	0.00	0.00
6,300.00	3.11	152.30	6,292.38	-249.33	130.89	-243.29	0.00	0.00	0.00
6,400.00	3.11	152.30	6,392.23	-254.14	133.42	-247.98	0.00	0.00	0.00
6,500.00	3.11	152.30	6,492.09	-258.95	135.95	-252.68	0.00	0.00	0.00
6,600.00	3.11	152.30	6,591.94	-263.76	138.47	-257.37	0.00	0.00	0.00
6,605.00	3.11	152.30	6,596.93	-264.00	138.60	-257.61	0.00	0.00	0.00
Start DLS 10.00 TFO -151.29									
6,700.00	6.93	13.38	6,691.73	-260.70	141.13	-254.20	10.00	4.02	-146.23
6,800.00	16.83	5.93	6,789.47	-240.38	144.03	-233.77	10.00	9.90	-7.45
6,846.08	21.43	4.79	6,833.00	-225.35	145.42	-218.69	10.00	9.97	-2.47
SHARON SPRINGS									
6,900.00	26.81	3.94	6,882.19	-203.39	147.08	-196.68	10.00	9.98	-1.58
6,923.56	29.16	3.66	6,903.00	-192.36	147.81	-185.63	10.00	9.98	-1.19
NIOBRARA A									
6,956.16	32.41	3.33	6,931.00	-175.71	148.83	-168.95	10.00	9.99	-1.00
NIOBRARA B									
7,000.00	36.79	2.98	6,967.07	-150.86	150.19	-144.06	10.00	9.99	-0.81
7,089.10	45.70	2.44	7,034.00	-92.24	152.94	-85.38	10.00	9.99	-0.61
NIOBRARA C									
7,100.00	46.79	2.38	7,041.54	-84.37	153.27	-77.51	10.00	9.99	-0.50
7,200.00	56.78	1.96	7,103.33	-5.96	156.22	0.96	10.00	9.99	-0.43
7,300.00	66.78	1.62	7,150.56	82.00	158.96	88.95	10.00	10.00	-0.34
7,355.70	72.34	1.45	7,170.00	134.15	160.35	141.11	10.00	10.00	-0.30
FORT HAYS									
7,400.00	76.77	1.33	7,181.79	176.83	161.39	183.80	10.00	10.00	-0.28
7,456.56	82.43	1.18	7,192.00	232.42	162.60	239.39	10.00	10.00	-0.27
CODELL									
7,500.00	86.77	1.06	7,196.09	275.65	163.45	282.61	10.00	10.00	-0.26
7,531.05	89.87	0.98	7,197.00	306.68	164.00	313.64	10.00	10.00	-0.26
Start DLS 1.00 TFO -161.64 - 7"									
7,531.81	89.87	0.98	7,197.00	307.44	164.01	314.40	0.98	-0.93	-0.31
Start 5522.99 hold at 7531.81 MD									
7,600.00	89.87	0.98	7,197.16	375.62	165.18	382.56	0.00	0.00	0.00
7,700.00	89.87	0.98	7,197.40	475.60	166.88	482.52	0.00	0.00	0.00
7,800.00	89.87	0.98	7,197.63	575.59	168.59	582.49	0.00	0.00	0.00

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well THOMASON 15C-4HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	16' RKB + GL @ 4897.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	16' RKB + GL @ 4897.00ft
Site:	WELD_THOMASON 15-9HZ PAD	North Reference:	True
Well:	THOMASON 15C-4HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	THOMASON 15C-4HZ		
Design:	THOMASON 15C-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)
7,900.00	89.87	0.98	7,197.87	675.57	170.29	682.45	0.00	0.00	0.00
8,000.00	89.87	0.98	7,198.10	775.56	172.00	782.41	0.00	0.00	0.00
8,100.00	89.87	0.98	7,198.34	875.54	173.71	882.37	0.00	0.00	0.00
8,200.00	89.87	0.98	7,198.57	975.53	175.41	982.34	0.00	0.00	0.00
8,300.00	89.87	0.98	7,198.81	1,075.51	177.12	1,082.30	0.00	0.00	0.00
8,400.00	89.87	0.98	7,199.05	1,175.50	178.83	1,182.26	0.00	0.00	0.00
8,500.00	89.87	0.98	7,199.28	1,275.49	180.53	1,282.22	0.00	0.00	0.00
8,600.00	89.87	0.98	7,199.52	1,375.47	182.24	1,382.19	0.00	0.00	0.00
8,700.00	89.87	0.98	7,199.75	1,475.46	183.94	1,482.15	0.00	0.00	0.00
8,800.00	89.87	0.98	7,199.99	1,575.44	185.65	1,582.11	0.00	0.00	0.00
8,900.00	89.87	0.98	7,200.22	1,675.43	187.36	1,682.08	0.00	0.00	0.00
9,000.00	89.87	0.98	7,200.46	1,775.41	189.06	1,782.04	0.00	0.00	0.00
9,100.00	89.87	0.98	7,200.69	1,875.40	190.77	1,882.00	0.00	0.00	0.00
9,200.00	89.87	0.98	7,200.93	1,975.38	192.48	1,981.96	0.00	0.00	0.00
9,300.00	89.87	0.98	7,201.16	2,075.37	194.18	2,081.93	0.00	0.00	0.00
9,400.00	89.87	0.98	7,201.40	2,175.35	195.89	2,181.89	0.00	0.00	0.00
9,500.00	89.87	0.98	7,201.63	2,275.34	197.59	2,281.85	0.00	0.00	0.00
9,600.00	89.87	0.98	7,201.87	2,375.32	199.30	2,381.81	0.00	0.00	0.00
9,700.00	89.87	0.98	7,202.10	2,475.31	201.01	2,481.78	0.00	0.00	0.00
9,800.00	89.87	0.98	7,202.34	2,575.29	202.71	2,581.74	0.00	0.00	0.00
9,900.00	89.87	0.98	7,202.58	2,675.28	204.42	2,681.70	0.00	0.00	0.00
10,000.00	89.87	0.98	7,202.81	2,775.26	206.12	2,781.67	0.00	0.00	0.00
10,100.00	89.87	0.98	7,203.05	2,875.25	207.83	2,881.63	0.00	0.00	0.00
10,200.00	89.87	0.98	7,203.28	2,975.23	209.54	2,981.59	0.00	0.00	0.00
10,300.00	89.87	0.98	7,203.52	3,075.22	211.24	3,081.55	0.00	0.00	0.00
10,400.00	89.87	0.98	7,203.75	3,175.20	212.95	3,181.52	0.00	0.00	0.00
10,500.00	89.87	0.98	7,203.99	3,275.19	214.66	3,281.48	0.00	0.00	0.00
10,600.00	89.87	0.98	7,204.22	3,375.17	216.36	3,381.44	0.00	0.00	0.00
10,700.00	89.87	0.98	7,204.46	3,475.16	218.07	3,481.40	0.00	0.00	0.00
10,800.00	89.87	0.98	7,204.69	3,575.14	219.77	3,581.37	0.00	0.00	0.00
10,900.00	89.87	0.98	7,204.93	3,675.13	221.48	3,681.33	0.00	0.00	0.00
11,000.00	89.87	0.98	7,205.16	3,775.11	223.19	3,781.29	0.00	0.00	0.00
11,100.00	89.87	0.98	7,205.40	3,875.10	224.89	3,881.26	0.00	0.00	0.00
11,200.00	89.87	0.98	7,205.63	3,975.08	226.60	3,981.22	0.00	0.00	0.00
11,300.00	89.87	0.98	7,205.87	4,075.07	228.30	4,081.18	0.00	0.00	0.00
11,400.00	89.87	0.98	7,206.11	4,175.05	230.01	4,181.14	0.00	0.00	0.00
11,500.00	89.87	0.98	7,206.34	4,275.04	231.72	4,281.11	0.00	0.00	0.00
11,600.00	89.87	0.98	7,206.58	4,375.03	233.42	4,381.07	0.00	0.00	0.00
11,700.00	89.87	0.98	7,206.81	4,475.01	235.13	4,481.03	0.00	0.00	0.00
11,800.00	89.87	0.98	7,207.05	4,575.00	236.84	4,580.99	0.00	0.00	0.00
11,900.00	89.87	0.98	7,207.28	4,674.98	238.54	4,680.96	0.00	0.00	0.00
12,000.00	89.87	0.98	7,207.52	4,774.97	240.25	4,780.92	0.00	0.00	0.00
12,100.00	89.87	0.98	7,207.75	4,874.95	241.95	4,880.88	0.00	0.00	0.00
12,200.00	89.87	0.98	7,207.99	4,974.94	243.66	4,980.85	0.00	0.00	0.00
12,300.00	89.87	0.98	7,208.22	5,074.92	245.37	5,080.81	0.00	0.00	0.00
12,400.00	89.87	0.98	7,208.46	5,174.91	247.07	5,180.77	0.00	0.00	0.00
12,500.00	89.87	0.98	7,208.69	5,274.89	248.78	5,280.73	0.00	0.00	0.00
12,600.00	89.87	0.98	7,208.93	5,374.88	250.48	5,380.70	0.00	0.00	0.00
12,700.00	89.87	0.98	7,209.17	5,474.86	252.19	5,480.66	0.00	0.00	0.00
12,800.00	89.87	0.98	7,209.40	5,574.85	253.90	5,580.62	0.00	0.00	0.00
12,900.00	89.87	0.98	7,209.64	5,674.83	255.60	5,680.58	0.00	0.00	0.00
13,000.00	89.87	0.98	7,209.87	5,774.82	257.31	5,780.55	0.00	0.00	0.00
13,054.80	89.87	0.98	7,210.00	5,829.61	258.24	5,835.32	0.00	0.00	0.00

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well THOMASON 15C-4HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	16' RKB + GL @ 4897.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	16' RKB + GL @ 4897.00ft
Site:	WELD_THOMASON 15-9HZ PAD	North Reference:	True
Well:	THOMASON 15C-4HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	THOMASON 15C-4HZ		
Design:	THOMASON 15C-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)
TD at 13054.80 - THOMASON 15C-4HZ 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									
THOMASON 15C-4HZ E	0.00	0.00	7,210.00	5,829.61	258.24	1,303,270.79	3,232,991.64	40.162867	-104.666340
- 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	13-1/2	
7,531.05	7,197.00	7"	7	8-3/4	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,960.16	3,956.00	PARKMAN		0.00		
4,317.69	4,313.00	SUSSEX		0.00		
6,846.08	6,833.00	SHARON SPRINGS		0.00		
6,923.56	6,903.00	NIOBRARA A		0.00		
6,956.16	6,931.00	NIOBRARA B		0.00		
7,089.10	7,034.00	NIOBRARA C		0.00		
7,355.70	7,170.00	FORT HAYS		0.00		
7,456.56	7,192.00	CODELL		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,040.00	1,040.00	0.00	0.00	Start Build 2.00	
1,195.75	1,195.67	-3.75	1.97	Start 5409.25 hold at 1195.75 MD	
6,605.00	6,596.93	-264.00	138.60	Start DLS 10.00 TFO -151.29	
7,531.05	7,197.00	306.68	164.00	Start DLS 1.00 TFO -161.64	
7,531.81	7,197.00	307.44	164.01	Start 5522.99 hold at 7531.81 MD	
13,054.80	7,210.00	5,829.61	258.24	TD at 13054.80	