


Well Name: RESOLUTION 12-63-21-28-4NH
 Surface Location: RESOLUTION 12-63-21-28-4NH PAD
 North American Datum 1983
 US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 5502.0
 WELL @ 5528.0usft (Original Well Elev)

T M


Azimuths to True North
 Magnetic North: 8.90°
 Magnetic Field
 Strength: 53644.6snT
 Dip Angle: 67.65°
 Date: 12/31/2009
 Model: IGRF200510

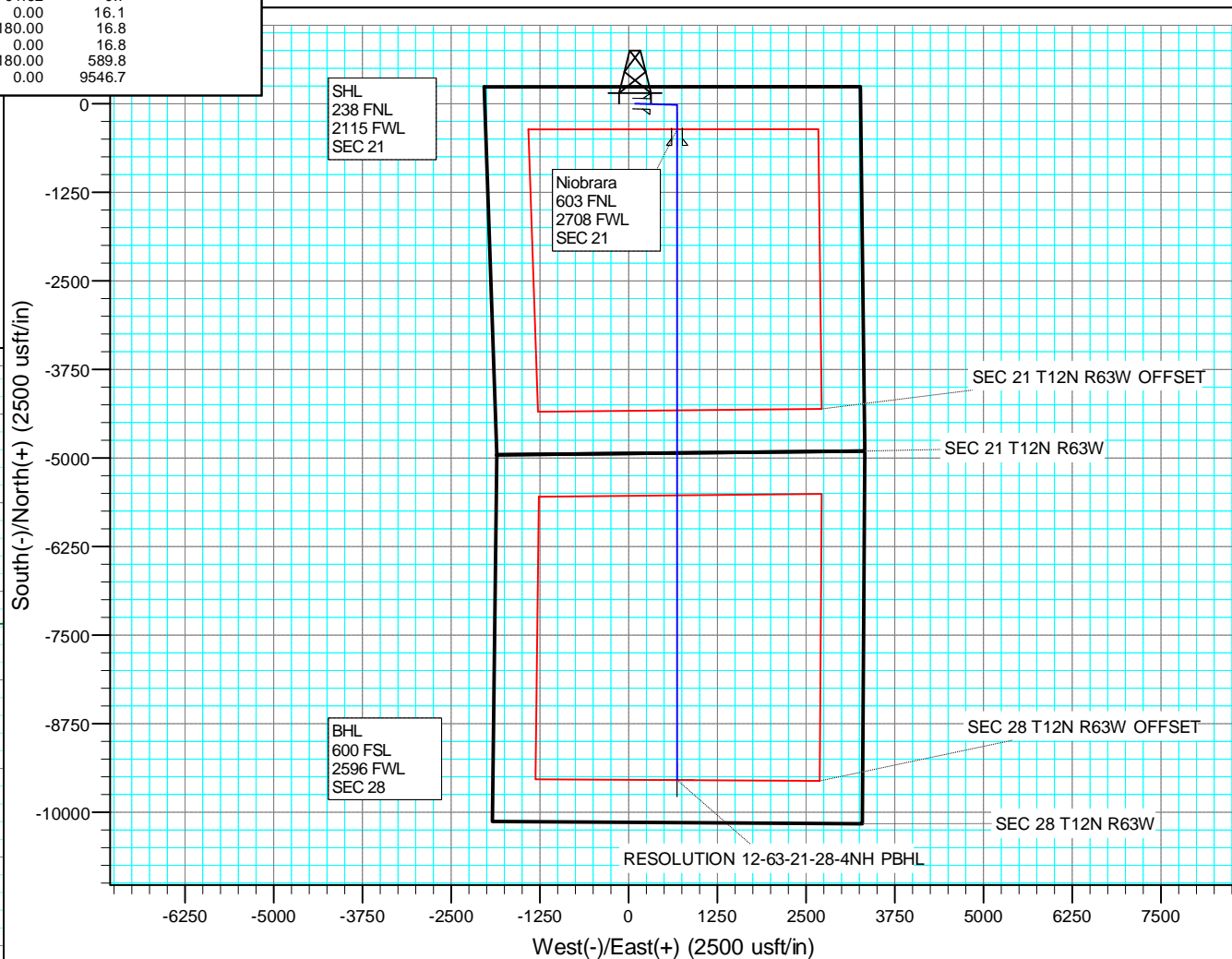
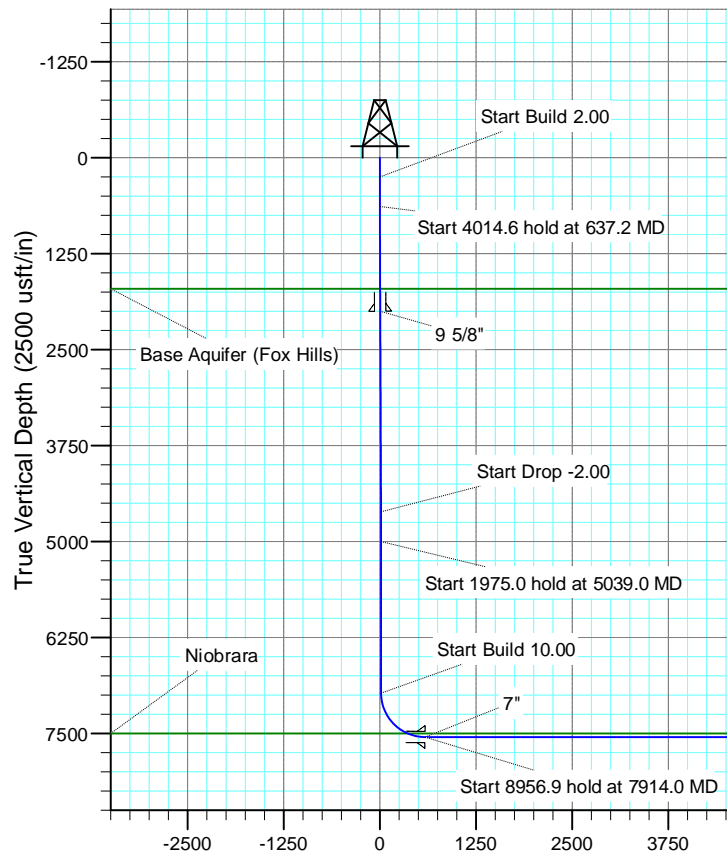
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
1.8	90.0	1609274.48	3292507.65	41.001015	-104.440322

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.0	0.00	0.00	0.0	1.8	90.0	0.00	0.00	0.0
250.0	0.00	0.00	250.0	1.8	90.0	0.00	0.00	0.0
637.2	7.74	91.62	636.0	1.1	116.1	2.00	91.62	0.7
4651.8	7.74	91.62	4614.0	-14.3	656.8	0.00	0.00	16.1
5039.0	0.00	0.00	5000.0	-15.0	682.9	2.00	180.00	16.8
7014.0	0.00	0.00	6975.0	-15.0	682.9	0.00	0.00	16.8
7914.0	90.00	180.00	7548.0	-588.0	682.9	10.00	180.00	589.8
16870.9	90.00	180.00	7548.0	-9544.8	682.9	0.00	0.00	9546.7

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1709.0	1720.1	Base Aquifer (Fox Hills)
7502.0	7682.8	Niobrara



Vertical Section at 180.00° (2500 usft/in)

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

RESOLUTION 12-63-21-28-4NH PAD

RESOLUTION 12-63-21-28-4NH

Wellbore #1

Plan: PLAN #1

Standard Planning Report

27 January, 2015

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Site RESOLUTION 12-63-21-28-4NH PAD
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5528.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5528.0usft (Original Well Elev)
Site:	RESOLUTION 12-63-21-28-4NH PAD	North Reference:	True
Well:	RESOLUTION 12-63-21-28-4NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #1		

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	RESOLUTION 12-63-21-28-4NH PAD			
Site Position:		Northing:	1,609,271.59 usft	Latitude: 41.001010
From:	Lat/Long	Easting:	3,292,417.70 usft	Longitude: -104.440648
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in	Grid Convergence: 0.68 °

Well	RESOLUTION 12-63-21-28-4NH					
Well Position	+N/-S	1.8 usft	Northing:	1,609,274.48 usft	Latitude:	41.001015
	+E/-W	90.0 usft	Easting:	3,292,507.66 usft	Longitude:	-104.440322
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	5,502.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	8.90	67.65	53,645

Design	PLAN #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	1.8	90.0	180.00

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	1.8	90.0	0.00	0.00	0.00	0.00	
250.0	0.00	0.00	250.0	1.8	90.0	0.00	0.00	0.00	0.00	
637.2	7.74	91.62	636.0	1.1	116.1	2.00	2.00	0.00	91.62	
4,651.8	7.74	91.62	4,614.0	-14.3	656.8	0.00	0.00	0.00	0.00	
5,039.0	0.00	0.00	5,000.0	-15.0	682.9	2.00	-2.00	0.00	180.00	
7,014.0	0.00	0.00	6,975.0	-15.0	682.9	0.00	0.00	0.00	0.00	
7,914.0	90.00	180.00	7,548.0	-588.0	682.9	10.00	10.00	0.00	180.00	
16,870.9	90.00	180.00	7,548.0	-9,544.8	682.9	0.00	0.00	0.00	0.00	RESOLUTION 12-63-

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Site RESOLUTION 12-63-21-28-4NH PAD
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5528.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5528.0usft (Original Well Elev)
Site:	RESOLUTION 12-63-21-28-4NH PAD	North Reference:	True
Well:	RESOLUTION 12-63-21-28-4NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	1.8	90.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	1.8	90.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	1.8	90.0	0.0	0.00	0.00	0.00
250.0	0.00	0.00	250.0	1.8	90.0	0.0	0.00	0.00	0.00
Start Build 2.00									
300.0	1.00	91.62	300.0	1.8	90.4	0.0	2.00	2.00	0.00
400.0	3.00	91.62	399.9	1.7	93.9	0.1	2.00	2.00	0.00
500.0	5.00	91.62	499.7	1.5	100.9	0.3	2.00	2.00	0.00
600.0	7.00	91.62	599.1	1.2	111.3	0.6	2.00	2.00	0.00
637.2	7.74	91.62	636.0	1.1	116.1	0.7	2.00	2.00	0.00
Start 4014.6 hold at 637.2 MD									
700.0	7.74	91.62	698.2	0.8	124.6	1.0	0.00	0.00	0.00
800.0	7.74	91.62	797.3	0.5	138.0	1.4	0.00	0.00	0.00
900.0	7.74	91.62	896.4	0.1	151.5	1.7	0.00	0.00	0.00
1,000.0	7.74	91.62	995.5	-0.3	165.0	2.1	0.00	0.00	0.00
1,100.0	7.74	91.62	1,094.6	-0.7	178.4	2.5	0.00	0.00	0.00
1,200.0	7.74	91.62	1,193.7	-1.1	191.9	2.9	0.00	0.00	0.00
1,300.0	7.74	91.62	1,292.8	-1.5	205.4	3.3	0.00	0.00	0.00
1,400.0	7.74	91.62	1,391.9	-1.8	218.8	3.7	0.00	0.00	0.00
1,500.0	7.74	91.62	1,491.0	-2.2	232.3	4.0	0.00	0.00	0.00
1,600.0	7.74	91.62	1,590.0	-2.6	245.8	4.4	0.00	0.00	0.00
1,700.0	7.74	91.62	1,689.1	-3.0	259.2	4.8	0.00	0.00	0.00
1,720.1	7.74	91.62	1,709.0	-3.1	261.9	4.9	0.00	0.00	0.00
Base Aquifer (Fox Hills)									
1,800.0	7.74	91.62	1,788.2	-3.4	272.7	5.2	0.00	0.00	0.00
1,900.0	7.74	91.62	1,887.3	-3.7	286.2	5.6	0.00	0.00	0.00
2,000.0	7.74	91.62	1,986.4	-4.1	299.7	5.9	0.00	0.00	0.00
2,013.7	7.74	91.62	2,000.0	-4.2	301.5	6.0	0.00	0.00	0.00
9 5/8"									
2,100.0	7.74	91.62	2,085.5	-4.5	313.1	6.3	0.00	0.00	0.00
2,200.0	7.74	91.62	2,184.6	-4.9	326.6	6.7	0.00	0.00	0.00
2,300.0	7.74	91.62	2,283.7	-5.3	340.1	7.1	0.00	0.00	0.00
2,400.0	7.74	91.62	2,382.7	-5.7	353.5	7.5	0.00	0.00	0.00
2,500.0	7.74	91.62	2,481.8	-6.0	367.0	7.9	0.00	0.00	0.00
2,600.0	7.74	91.62	2,580.9	-6.4	380.5	8.2	0.00	0.00	0.00
2,700.0	7.74	91.62	2,680.0	-6.8	393.9	8.6	0.00	0.00	0.00
2,800.0	7.74	91.62	2,779.1	-7.2	407.4	9.0	0.00	0.00	0.00
2,900.0	7.74	91.62	2,878.2	-7.6	420.9	9.4	0.00	0.00	0.00
3,000.0	7.74	91.62	2,977.3	-8.0	434.3	9.8	0.00	0.00	0.00
3,100.0	7.74	91.62	3,076.4	-8.3	447.8	10.1	0.00	0.00	0.00
3,200.0	7.74	91.62	3,175.5	-8.7	461.3	10.5	0.00	0.00	0.00
3,300.0	7.74	91.62	3,274.5	-9.1	474.7	10.9	0.00	0.00	0.00
3,400.0	7.74	91.62	3,373.6	-9.5	488.2	11.3	0.00	0.00	0.00
3,500.0	7.74	91.62	3,472.7	-9.9	501.7	11.7	0.00	0.00	0.00
3,600.0	7.74	91.62	3,571.8	-10.2	515.1	12.1	0.00	0.00	0.00
3,700.0	7.74	91.62	3,670.9	-10.6	528.6	12.4	0.00	0.00	0.00
3,800.0	7.74	91.62	3,770.0	-11.0	542.1	12.8	0.00	0.00	0.00
3,900.0	7.74	91.62	3,869.1	-11.4	555.5	13.2	0.00	0.00	0.00
4,000.0	7.74	91.62	3,968.2	-11.8	569.0	13.6	0.00	0.00	0.00
4,100.0	7.74	91.62	4,067.2	-12.2	582.5	14.0	0.00	0.00	0.00
4,200.0	7.74	91.62	4,166.3	-12.5	596.0	14.3	0.00	0.00	0.00
4,300.0	7.74	91.62	4,265.4	-12.9	609.4	14.7	0.00	0.00	0.00
4,400.0	7.74	91.62	4,364.5	-13.3	622.9	15.1	0.00	0.00	0.00
4,500.0	7.74	91.62	4,463.6	-13.7	636.4	15.5	0.00	0.00	0.00

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Planning Report

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5528.0usft (Original Well Elev)
Site:	RESOLUTION 12-63-21-28-4NH PAD	North Reference:	True
Well:	RESOLUTION 12-63-21-28-4NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,600.0	7.74	91.62	4,562.7	-14.1	649.8	15.9	0.00	0.00	0.00
4,651.8	7.74	91.62	4,614.0	-14.3	656.8	16.1	0.00	0.00	0.00
Start Drop -2.00									
4,700.0	6.78	91.62	4,661.8	-14.4	662.9	16.2	2.00	-2.00	0.00
4,800.0	4.78	91.62	4,761.3	-14.7	673.0	16.5	2.00	-2.00	0.00
4,900.0	2.78	91.62	4,861.1	-14.9	679.5	16.7	2.00	-2.00	0.00
5,000.0	0.78	91.62	4,961.0	-15.0	682.7	16.8	2.00	-2.00	0.00
5,039.0	0.00	0.00	5,000.0	-15.0	682.9	16.8	2.00	-2.00	0.00
Start 1975.0 hold at 5039.0 MD									
5,100.0	0.00	0.00	5,061.0	-15.0	682.9	16.8	0.00	0.00	0.00
5,200.0	0.00	0.00	5,161.0	-15.0	682.9	16.8	0.00	0.00	0.00
5,300.0	0.00	0.00	5,261.0	-15.0	682.9	16.8	0.00	0.00	0.00
5,400.0	0.00	0.00	5,361.0	-15.0	682.9	16.8	0.00	0.00	0.00
5,500.0	0.00	0.00	5,461.0	-15.0	682.9	16.8	0.00	0.00	0.00
5,600.0	0.00	0.00	5,561.0	-15.0	682.9	16.8	0.00	0.00	0.00
5,700.0	0.00	0.00	5,661.0	-15.0	682.9	16.8	0.00	0.00	0.00
5,800.0	0.00	0.00	5,761.0	-15.0	682.9	16.8	0.00	0.00	0.00
5,900.0	0.00	0.00	5,861.0	-15.0	682.9	16.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,961.0	-15.0	682.9	16.8	0.00	0.00	0.00
6,100.0	0.00	0.00	6,061.0	-15.0	682.9	16.8	0.00	0.00	0.00
6,200.0	0.00	0.00	6,161.0	-15.0	682.9	16.8	0.00	0.00	0.00
6,300.0	0.00	0.00	6,261.0	-15.0	682.9	16.8	0.00	0.00	0.00
6,400.0	0.00	0.00	6,361.0	-15.0	682.9	16.8	0.00	0.00	0.00
6,500.0	0.00	0.00	6,461.0	-15.0	682.9	16.8	0.00	0.00	0.00
6,600.0	0.00	0.00	6,561.0	-15.0	682.9	16.8	0.00	0.00	0.00
6,700.0	0.00	0.00	6,661.0	-15.0	682.9	16.8	0.00	0.00	0.00
6,800.0	0.00	0.00	6,761.0	-15.0	682.9	16.8	0.00	0.00	0.00
6,900.0	0.00	0.00	6,861.0	-15.0	682.9	16.8	0.00	0.00	0.00
7,000.0	0.00	0.00	6,961.0	-15.0	682.9	16.8	0.00	0.00	0.00
7,014.0	0.00	0.00	6,975.0	-15.0	682.9	16.8	0.00	0.00	0.00
Start Build 10.00									
7,100.0	8.60	180.00	7,060.7	-21.4	682.9	23.3	10.00	10.00	0.00
7,200.0	18.60	180.00	7,157.8	-44.9	682.9	46.7	10.00	10.00	0.00
7,300.0	28.60	180.00	7,249.3	-84.9	682.9	86.7	10.00	10.00	0.00
7,400.0	38.60	180.00	7,332.5	-140.2	682.9	142.0	10.00	10.00	0.00
7,500.0	48.60	180.00	7,404.8	-209.1	682.9	210.9	10.00	10.00	0.00
7,600.0	58.60	180.00	7,464.1	-289.4	682.9	291.3	10.00	10.00	0.00
7,682.8	66.88	180.00	7,502.0	-363.0	682.9	364.8	10.00	10.00	0.00
Niobrara									
7,700.0	68.60	180.00	7,508.5	-378.9	682.9	380.7	10.00	10.00	0.00
7,800.0	78.60	180.00	7,536.7	-474.7	682.9	476.5	10.00	10.00	0.00
7,900.0	88.60	180.00	7,547.8	-574.0	682.9	575.8	10.00	10.00	0.00
7,914.0	90.00	180.00	7,548.0	-588.0	682.9	589.8	10.00	10.00	0.00
Start 8956.9 hold at 7914.0 MD - 7"									
8,000.0	90.00	180.00	7,548.0	-674.0	682.9	675.8	0.00	0.00	0.00
8,100.0	90.00	180.00	7,548.0	-774.0	682.9	775.8	0.00	0.00	0.00
8,200.0	90.00	180.00	7,548.0	-874.0	682.9	875.8	0.00	0.00	0.00
8,300.0	90.00	180.00	7,548.0	-974.0	682.9	975.8	0.00	0.00	0.00
8,400.0	90.00	180.00	7,548.0	-1,074.0	682.9	1,075.8	0.00	0.00	0.00
8,500.0	90.00	180.00	7,548.0	-1,174.0	682.9	1,175.8	0.00	0.00	0.00
8,600.0	90.00	180.00	7,548.0	-1,274.0	682.9	1,275.8	0.00	0.00	0.00
8,700.0	90.00	180.00	7,548.0	-1,374.0	682.9	1,375.8	0.00	0.00	0.00
8,800.0	90.00	180.00	7,548.0	-1,474.0	682.9	1,475.8	0.00	0.00	0.00

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Site RESOLUTION 12-63-21-28-4NH PAD
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5528.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5528.0usft (Original Well Elev)
Site:	RESOLUTION 12-63-21-28-4NH PAD	North Reference:	True
Well:	RESOLUTION 12-63-21-28-4NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,900.0	90.00	180.00	7,548.0	-1,574.0	682.9	1,575.8	0.00	0.00	0.00
9,000.0	90.00	180.00	7,548.0	-1,674.0	682.9	1,675.8	0.00	0.00	0.00
9,100.0	90.00	180.00	7,548.0	-1,774.0	682.9	1,775.8	0.00	0.00	0.00
9,200.0	90.00	180.00	7,548.0	-1,874.0	682.9	1,875.8	0.00	0.00	0.00
9,300.0	90.00	180.00	7,548.0	-1,974.0	682.9	1,975.8	0.00	0.00	0.00
9,400.0	90.00	180.00	7,548.0	-2,074.0	682.9	2,075.8	0.00	0.00	0.00
9,500.0	90.00	180.00	7,548.0	-2,174.0	682.9	2,175.8	0.00	0.00	0.00
9,600.0	90.00	180.00	7,548.0	-2,274.0	682.9	2,275.8	0.00	0.00	0.00
9,700.0	90.00	180.00	7,548.0	-2,374.0	682.9	2,375.8	0.00	0.00	0.00
9,800.0	90.00	180.00	7,548.0	-2,474.0	682.9	2,475.8	0.00	0.00	0.00
9,900.0	90.00	180.00	7,548.0	-2,574.0	682.9	2,575.8	0.00	0.00	0.00
10,000.0	90.00	180.00	7,548.0	-2,674.0	682.9	2,675.8	0.00	0.00	0.00
10,100.0	90.00	180.00	7,548.0	-2,774.0	682.9	2,775.8	0.00	0.00	0.00
10,200.0	90.00	180.00	7,548.0	-2,874.0	682.9	2,875.8	0.00	0.00	0.00
10,300.0	90.00	180.00	7,548.0	-2,974.0	682.9	2,975.8	0.00	0.00	0.00
10,400.0	90.00	180.00	7,548.0	-3,074.0	682.9	3,075.8	0.00	0.00	0.00
10,500.0	90.00	180.00	7,548.0	-3,174.0	682.9	3,175.8	0.00	0.00	0.00
10,600.0	90.00	180.00	7,548.0	-3,274.0	682.9	3,275.8	0.00	0.00	0.00
10,700.0	90.00	180.00	7,548.0	-3,374.0	682.9	3,375.8	0.00	0.00	0.00
10,800.0	90.00	180.00	7,548.0	-3,474.0	682.9	3,475.8	0.00	0.00	0.00
10,900.0	90.00	180.00	7,548.0	-3,574.0	682.9	3,575.8	0.00	0.00	0.00
11,000.0	90.00	180.00	7,548.0	-3,674.0	682.9	3,675.8	0.00	0.00	0.00
11,100.0	90.00	180.00	7,548.0	-3,774.0	682.9	3,775.8	0.00	0.00	0.00
11,200.0	90.00	180.00	7,548.0	-3,874.0	682.9	3,875.8	0.00	0.00	0.00
11,300.0	90.00	180.00	7,548.0	-3,974.0	682.9	3,975.8	0.00	0.00	0.00
11,400.0	90.00	180.00	7,548.0	-4,074.0	682.9	4,075.8	0.00	0.00	0.00
11,500.0	90.00	180.00	7,548.0	-4,174.0	682.9	4,175.8	0.00	0.00	0.00
11,600.0	90.00	180.00	7,548.0	-4,274.0	682.9	4,275.8	0.00	0.00	0.00
11,700.0	90.00	180.00	7,548.0	-4,374.0	682.9	4,375.8	0.00	0.00	0.00
11,800.0	90.00	180.00	7,548.0	-4,474.0	682.9	4,475.8	0.00	0.00	0.00
11,900.0	90.00	180.00	7,548.0	-4,574.0	682.9	4,575.8	0.00	0.00	0.00
12,000.0	90.00	180.00	7,548.0	-4,674.0	682.9	4,675.8	0.00	0.00	0.00
12,100.0	90.00	180.00	7,548.0	-4,774.0	682.9	4,775.8	0.00	0.00	0.00
12,200.0	90.00	180.00	7,548.0	-4,874.0	682.9	4,875.8	0.00	0.00	0.00
12,300.0	90.00	180.00	7,548.0	-4,974.0	682.9	4,975.8	0.00	0.00	0.00
12,400.0	90.00	180.00	7,548.0	-5,074.0	682.9	5,075.8	0.00	0.00	0.00
12,500.0	90.00	180.00	7,548.0	-5,174.0	682.9	5,175.8	0.00	0.00	0.00
12,600.0	90.00	180.00	7,548.0	-5,274.0	682.9	5,275.8	0.00	0.00	0.00
12,700.0	90.00	180.00	7,548.0	-5,374.0	682.9	5,375.8	0.00	0.00	0.00
12,800.0	90.00	180.00	7,548.0	-5,474.0	682.9	5,475.8	0.00	0.00	0.00
12,900.0	90.00	180.00	7,548.0	-5,574.0	682.9	5,575.8	0.00	0.00	0.00
13,000.0	90.00	180.00	7,548.0	-5,674.0	682.9	5,675.8	0.00	0.00	0.00
13,100.0	90.00	180.00	7,548.0	-5,774.0	682.9	5,775.8	0.00	0.00	0.00
13,200.0	90.00	180.00	7,548.0	-5,874.0	682.9	5,875.8	0.00	0.00	0.00
13,300.0	90.00	180.00	7,548.0	-5,974.0	682.9	5,975.8	0.00	0.00	0.00
13,400.0	90.00	180.00	7,548.0	-6,074.0	682.9	6,075.8	0.00	0.00	0.00
13,500.0	90.00	180.00	7,548.0	-6,174.0	682.9	6,175.8	0.00	0.00	0.00
13,600.0	90.00	180.00	7,548.0	-6,274.0	682.9	6,275.8	0.00	0.00	0.00
13,700.0	90.00	180.00	7,548.0	-6,374.0	682.9	6,375.8	0.00	0.00	0.00
13,800.0	90.00	180.00	7,548.0	-6,474.0	682.9	6,475.8	0.00	0.00	0.00
13,900.0	90.00	180.00	7,548.0	-6,574.0	682.9	6,575.8	0.00	0.00	0.00
14,000.0	90.00	180.00	7,548.0	-6,674.0	682.9	6,675.8	0.00	0.00	0.00
14,100.0	90.00	180.00	7,548.0	-6,774.0	682.9	6,775.8	0.00	0.00	0.00
14,200.0	90.00	180.00	7,548.0	-6,874.0	682.9	6,875.8	0.00	0.00	0.00

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Site RESOLUTION 12-63-21-28-4NH PAD
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5528.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5528.0usft (Original Well Elev)
Site:	RESOLUTION 12-63-21-28-4NH PAD	North Reference:	True
Well:	RESOLUTION 12-63-21-28-4NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
14,300.0	90.00	180.00	7,548.0	-6,974.0	682.9	6,975.8	0.00	0.00	0.00	
14,400.0	90.00	180.00	7,548.0	-7,074.0	682.9	7,075.8	0.00	0.00	0.00	
14,500.0	90.00	180.00	7,548.0	-7,174.0	682.9	7,175.8	0.00	0.00	0.00	
14,600.0	90.00	180.00	7,548.0	-7,274.0	682.9	7,275.8	0.00	0.00	0.00	
14,700.0	90.00	180.00	7,548.0	-7,374.0	682.9	7,375.8	0.00	0.00	0.00	
14,800.0	90.00	180.00	7,548.0	-7,474.0	682.9	7,475.8	0.00	0.00	0.00	
14,900.0	90.00	180.00	7,548.0	-7,574.0	682.9	7,575.8	0.00	0.00	0.00	
15,000.0	90.00	180.00	7,548.0	-7,674.0	682.9	7,675.8	0.00	0.00	0.00	
15,100.0	90.00	180.00	7,548.0	-7,774.0	682.9	7,775.8	0.00	0.00	0.00	
15,200.0	90.00	180.00	7,548.0	-7,874.0	682.9	7,875.8	0.00	0.00	0.00	
15,300.0	90.00	180.00	7,548.0	-7,974.0	682.9	7,975.8	0.00	0.00	0.00	
15,400.0	90.00	180.00	7,548.0	-8,074.0	682.9	8,075.8	0.00	0.00	0.00	
15,500.0	90.00	180.00	7,548.0	-8,174.0	682.9	8,175.8	0.00	0.00	0.00	
15,600.0	90.00	180.00	7,548.0	-8,274.0	682.9	8,275.8	0.00	0.00	0.00	
15,700.0	90.00	180.00	7,548.0	-8,374.0	682.9	8,375.8	0.00	0.00	0.00	
15,800.0	90.00	180.00	7,548.0	-8,474.0	682.9	8,475.8	0.00	0.00	0.00	
15,900.0	90.00	180.00	7,548.0	-8,574.0	682.9	8,575.8	0.00	0.00	0.00	
16,000.0	90.00	180.00	7,548.0	-8,674.0	682.9	8,675.8	0.00	0.00	0.00	
16,100.0	90.00	180.00	7,548.0	-8,774.0	682.9	8,775.8	0.00	0.00	0.00	
16,200.0	90.00	180.00	7,548.0	-8,874.0	682.9	8,875.8	0.00	0.00	0.00	
16,300.0	90.00	180.00	7,548.0	-8,974.0	682.9	8,975.8	0.00	0.00	0.00	
16,400.0	90.00	180.00	7,548.0	-9,074.0	682.9	9,075.8	0.00	0.00	0.00	
16,500.0	90.00	180.00	7,548.0	-9,174.0	682.9	9,175.8	0.00	0.00	0.00	
16,600.0	90.00	180.00	7,548.0	-9,274.0	682.9	9,275.8	0.00	0.00	0.00	
16,700.0	90.00	180.00	7,548.0	-9,374.0	682.9	9,375.8	0.00	0.00	0.00	
16,800.0	90.00	180.00	7,548.0	-9,474.0	682.9	9,475.8	0.00	0.00	0.00	
16,870.9	90.00	180.00	7,548.0	-9,544.8	682.9	9,546.7	0.00	0.00	0.00	
TD at 16870.9										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude		Longitude
Interp @ 7502.0 (RESOL - plan hits target center - Point	0.00	0.00	7,502.0	-363.0	682.9	1,608,916.75	3,293,104.90	41.000014		-104.438174
RESOLUTION 12-63-21 - plan hits target center - Point	0.00	0.00	7,548.0	-9,544.8	682.9	1,599,735.59	3,293,214.59	40.974814		-104.438175

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (in)	Hole Diameter (in)
2,013.7	2,000.0	9 5/8"		9.625	12.250
7,914.0	7,548.0	7"		7.000	7.500

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Site RESOLUTION 12-63-21-28-4NH PAD
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5528.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5528.0usft (Original Well Elev)
Site:	RESOLUTION 12-63-21-28-4NH PAD	North Reference:	True
Well:	RESOLUTION 12-63-21-28-4NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #1		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,720.1	1,709.0	Base Aquifer (Fox Hills)			
7,682.8	7,502.0	Niobrara			

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
250.0	250.0	1.8	90.0	Start Build 2.00	
637.2	636.0	1.1	116.1	Start 4014.6 hold at 637.2 MD	
4,651.8	4,614.0	-14.3	656.8	Start Drop -2.00	
5,039.0	5,000.0	-15.0	682.9	Start 1975.0 hold at 5039.0 MD	
7,014.0	6,975.0	-15.0	682.9	Start Build 10.00	
7,914.0	7,548.0	-588.0	682.9	Start 8956.9 hold at 7914.0 MD	
16,870.9	7,548.0	-9,544.8	682.9	TD at 16870.9	