



Well Name: RESOLUTION 11-64-3-34-5CH
Surface Location: RESOLUTION 11-64-3-34-5CH PAD
North American Datum 1983
US State Plane 1983 Colorado Northern Zone
Ground Elevation: 5440.0
WELL @ 5466.0usft (Original Well Elev)

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Azimuths to True North

Magnetic North: 8.94°

Magnetic Field

Strength: 53606.4snT

Dip Angle: 67.59°

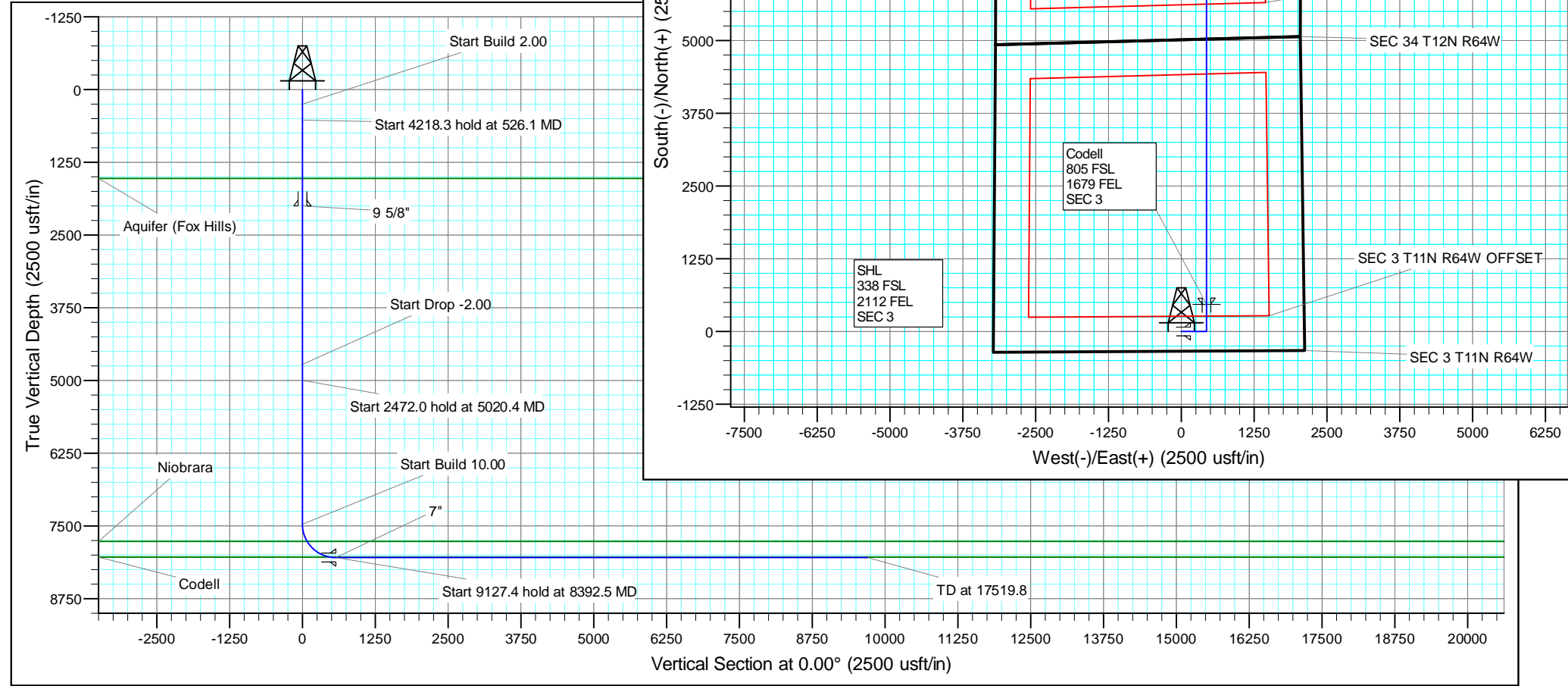
Date: 12/31/2009

Model: IGRF200510

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1588241.58	3267602.93	40.944075	-104.531370

SECTION DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
250.0	0.00	0.00	250.0	0.0	0.0	0.00	0.00	0.0
526.1	5.52	90.00	525.7	0.0	13.3	2.00	90.00	0.0
4744.3	5.52	90.00	4724.3	0.0	419.2	0.00	0.00	0.0
5020.4	0.00	0.00	5000.0	0.0	432.5	2.00	180.00	0.0
7492.5	0.00	0.00	7472.0	0.0	432.5	0.00	0.00	0.0
8392.5	90.00	360.00	8045.0	573.0	432.5	10.00	360.00	573.0
17519.8	90.00	360.00	8045.0	9700.3	432.5	0.00	0.00	9700.3

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1528.0	1533.1	Aquifer (Fox Hills)
7767.0	7802.3	Niobrara
8035.0	8285.3	Codell



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

RESOLUTION 11-64-3-34-5CH PAD

RESOLUTION 11-64-3-34-5CH

Wellbore #1

Plan: PLAN #1

Standard Planning Report

11 February, 2015

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RESOLUTION 11-64-3-34-5CH
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5466.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5466.0usft (Original Well Elev)
Site:	RESOLUTION 11-64-3-34-5CH PAD	North Reference:	True
Well:	RESOLUTION 11-64-3-34-5CH	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 11-64-3-34-5CH PAD			
Site Position:		Northing:	1,588,239.87 usft	Latitude: 40.944073
From:	Lat/Long	Easting:	3,267,512.88 usft	Longitude: -104.531696
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in	Grid Convergence: 0.63 °

Well	RESOLUTION 11-64-3-34-5CH			
Well Position	+N/-S	0.7 usft	Northing:	1,588,241.58 usft
	+E/-W	90.1 usft	Easting:	3,267,602.94 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level: 5,440.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	8.94	67.59	53,606

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	0.0	0.0	0.00

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	0.0	0.0	0.00	0.00	0.00	0.00	
250.0	0.00	0.00	250.0	0.0	0.0	0.00	0.00	0.00	0.00	
526.1	5.52	90.00	525.7	0.0	13.3	2.00	2.00	0.00	90.00	
4,744.3	5.52	90.00	4,724.3	0.0	419.2	0.00	0.00	0.00	0.00	
5,020.4	0.00	0.00	5,000.0	0.0	432.5	2.00	-2.00	0.00	180.00	
7,492.5	0.00	0.00	7,472.0	0.0	432.5	0.00	0.00	0.00	0.00	
8,392.5	90.00	360.00	8,045.0	573.0	432.5	10.00	10.00	0.00	360.00	
17,519.8	90.00	360.00	8,045.0	9,700.3	432.5	0.00	0.00	0.00	0.00	RESOLUTION 11-64-

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RESOLUTION 11-64-3-34-5CH
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5466.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5466.0usft (Original Well Elev)
Site:	RESOLUTION 11-64-3-34-5CH PAD	North Reference:	True
Well:	RESOLUTION 11-64-3-34-5CH	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	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
250.0	0.00	0.00	250.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
300.0	1.00	90.00	300.0	0.0	0.4	0.0	2.00	2.00	0.00
400.0	3.00	90.00	399.9	0.0	3.9	0.0	2.00	2.00	0.00
500.0	5.00	90.00	499.7	0.0	10.9	0.0	2.00	2.00	0.00
526.1	5.52	90.00	525.7	0.0	13.3	0.0	2.00	2.00	0.00
Start 4218.3 hold at 526.1 MD									
600.0	5.52	90.00	599.2	0.0	20.4	0.0	0.00	0.00	0.00
700.0	5.52	90.00	698.8	0.0	30.0	0.0	0.00	0.00	0.00
800.0	5.52	90.00	798.3	0.0	39.6	0.0	0.00	0.00	0.00
900.0	5.52	90.00	897.8	0.0	49.3	0.0	0.00	0.00	0.00
1,000.0	5.52	90.00	997.4	0.0	58.9	0.0	0.00	0.00	0.00
1,100.0	5.52	90.00	1,096.9	0.0	68.5	0.0	0.00	0.00	0.00
1,200.0	5.52	90.00	1,196.4	0.0	78.1	0.0	0.00	0.00	0.00
1,300.0	5.52	90.00	1,296.0	0.0	87.8	0.0	0.00	0.00	0.00
1,400.0	5.52	90.00	1,395.5	0.0	97.4	0.0	0.00	0.00	0.00
1,500.0	5.52	90.00	1,495.1	0.0	107.0	0.0	0.00	0.00	0.00
1,533.1	5.52	90.00	1,528.0	0.0	110.2	0.0	0.00	0.00	0.00
Aquifer (Fox Hills)									
1,600.0	5.52	90.00	1,594.6	0.0	116.6	0.0	0.00	0.00	0.00
1,700.0	5.52	90.00	1,694.1	0.0	126.2	0.0	0.00	0.00	0.00
1,800.0	5.52	90.00	1,793.7	0.0	135.9	0.0	0.00	0.00	0.00
1,900.0	5.52	90.00	1,893.2	0.0	145.5	0.0	0.00	0.00	0.00
2,000.0	5.52	90.00	1,992.7	0.0	155.1	0.0	0.00	0.00	0.00
2,007.3	5.52	90.00	2,000.0	0.0	155.8	0.0	0.00	0.00	0.00
9 5/8"									
2,100.0	5.52	90.00	2,092.3	0.0	164.7	0.0	0.00	0.00	0.00
2,200.0	5.52	90.00	2,191.8	0.0	174.4	0.0	0.00	0.00	0.00
2,300.0	5.52	90.00	2,291.3	0.0	184.0	0.0	0.00	0.00	0.00
2,400.0	5.52	90.00	2,390.9	0.0	193.6	0.0	0.00	0.00	0.00
2,500.0	5.52	90.00	2,490.4	0.0	203.2	0.0	0.00	0.00	0.00
2,600.0	5.52	90.00	2,589.9	0.0	212.8	0.0	0.00	0.00	0.00
2,700.0	5.52	90.00	2,689.5	0.0	222.5	0.0	0.00	0.00	0.00
2,800.0	5.52	90.00	2,789.0	0.0	232.1	0.0	0.00	0.00	0.00
2,900.0	5.52	90.00	2,888.6	0.0	241.7	0.0	0.00	0.00	0.00
3,000.0	5.52	90.00	2,988.1	0.0	251.3	0.0	0.00	0.00	0.00
3,100.0	5.52	90.00	3,087.6	0.0	261.0	0.0	0.00	0.00	0.00
3,200.0	5.52	90.00	3,187.2	0.0	270.6	0.0	0.00	0.00	0.00
3,300.0	5.52	90.00	3,286.7	0.0	280.2	0.0	0.00	0.00	0.00
3,400.0	5.52	90.00	3,386.2	0.0	289.8	0.0	0.00	0.00	0.00
3,500.0	5.52	90.00	3,485.8	0.0	299.4	0.0	0.00	0.00	0.00
3,600.0	5.52	90.00	3,585.3	0.0	309.1	0.0	0.00	0.00	0.00
3,700.0	5.52	90.00	3,684.8	0.0	318.7	0.0	0.00	0.00	0.00
3,800.0	5.52	90.00	3,784.4	0.0	328.3	0.0	0.00	0.00	0.00
3,900.0	5.52	90.00	3,883.9	0.0	337.9	0.0	0.00	0.00	0.00
4,000.0	5.52	90.00	3,983.5	0.0	347.6	0.0	0.00	0.00	0.00
4,100.0	5.52	90.00	4,083.0	0.0	357.2	0.0	0.00	0.00	0.00
4,200.0	5.52	90.00	4,182.5	0.0	366.8	0.0	0.00	0.00	0.00
4,300.0	5.52	90.00	4,282.1	0.0	376.4	0.0	0.00	0.00	0.00
4,400.0	5.52	90.00	4,381.6	0.0	386.0	0.0	0.00	0.00	0.00
4,500.0	5.52	90.00	4,481.1	0.0	395.7	0.0	0.00	0.00	0.00

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Planning Report

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Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5466.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5466.0usft (Original Well Elev)
Site:	RESOLUTION 11-64-3-34-5CH PAD	North Reference:	True
Well:	RESOLUTION 11-64-3-34-5CH	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	5.52	90.00	4,580.7	0.0	405.3	0.0	0.00	0.00	0.00
4,700.0	5.52	90.00	4,680.2	0.0	414.9	0.0	0.00	0.00	0.00
4,744.3	5.52	90.00	4,724.3	0.0	419.2	0.0	0.00	0.00	0.00
Start Drop -2.00									
4,800.0	4.41	90.00	4,779.8	0.0	424.0	0.0	2.00	-2.00	0.00
4,900.0	2.41	90.00	4,879.6	0.0	429.9	0.0	2.00	-2.00	0.00
5,000.0	0.41	90.00	4,979.6	0.0	432.4	0.0	2.00	-2.00	0.00
5,020.4	0.00	0.00	5,000.0	0.0	432.5	0.0	2.00	-2.00	0.00
Start 2472.0 hold at 5020.4 MD									
5,100.0	0.00	0.00	5,079.6	0.0	432.5	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,179.6	0.0	432.5	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,279.6	0.0	432.5	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,379.6	0.0	432.5	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,479.6	0.0	432.5	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,579.6	0.0	432.5	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,679.6	0.0	432.5	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,779.6	0.0	432.5	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,879.6	0.0	432.5	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	5,979.6	0.0	432.5	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,079.6	0.0	432.5	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,179.6	0.0	432.5	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,279.6	0.0	432.5	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,379.6	0.0	432.5	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,479.6	0.0	432.5	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,579.6	0.0	432.5	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,679.6	0.0	432.5	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,779.6	0.0	432.5	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,879.6	0.0	432.5	0.0	0.00	0.00	0.00
7,000.0	0.00	0.00	6,979.6	0.0	432.5	0.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,079.6	0.0	432.5	0.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,179.6	0.0	432.5	0.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,279.6	0.0	432.5	0.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,379.6	0.0	432.5	0.0	0.00	0.00	0.00
7,492.5	0.00	0.00	7,472.0	0.0	432.5	0.0	0.00	0.00	0.00
Start Build 10.00									
7,500.0	0.75	0.00	7,479.6	0.0	432.5	0.0	10.00	10.00	0.00
7,600.0	10.75	360.00	7,578.9	10.1	432.5	10.1	10.00	10.00	0.00
7,700.0	20.75	360.00	7,675.1	37.2	432.5	37.2	10.00	10.00	0.00
7,800.0	30.75	360.00	7,765.0	80.6	432.5	80.6	10.00	10.00	0.00
7,802.3	30.98	360.00	7,767.0	81.8	432.5	81.8	10.00	10.00	0.00
Niobrara									
7,900.0	40.75	360.00	7,846.1	138.9	432.5	138.9	10.00	10.00	0.00
8,000.0	50.75	360.00	7,915.8	210.5	432.5	210.5	10.00	10.00	0.00
8,100.0	60.75	360.00	7,972.0	293.0	432.5	293.0	10.00	10.00	0.00
8,200.0	70.75	360.00	8,013.0	384.1	432.5	384.1	10.00	10.00	0.00
8,285.3	79.28	360.00	8,035.0	466.4	432.5	466.4	10.00	10.00	0.00
Codell									
8,300.0	80.75	360.00	8,037.6	480.9	432.5	480.9	10.00	10.00	0.00
8,392.5	90.00	360.00	8,045.0	573.0	432.5	573.0	10.00	10.00	0.00
Start 9127.4 hold at 8392.5 MD - 7"									
8,400.0	90.00	360.00	8,045.0	580.5	432.5	580.5	0.00	0.00	0.00
8,500.0	90.00	360.00	8,045.0	680.5	432.5	680.5	0.00	0.00	0.00
8,600.0	90.00	360.00	8,045.0	780.5	432.5	780.5	0.00	0.00	0.00

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RESOLUTION 11-64-3-34-5CH
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5466.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5466.0usft (Original Well Elev)
Site:	RESOLUTION 11-64-3-34-5CH PAD	North Reference:	True
Well:	RESOLUTION 11-64-3-34-5CH	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)
8,700.0	90.00	360.00	8,045.0	880.5	432.5	880.5	0.00	0.00	0.00
8,800.0	90.00	360.00	8,045.0	980.5	432.5	980.5	0.00	0.00	0.00
8,900.0	90.00	360.00	8,045.0	1,080.5	432.5	1,080.5	0.00	0.00	0.00
9,000.0	90.00	360.00	8,045.0	1,180.5	432.5	1,180.5	0.00	0.00	0.00
9,100.0	90.00	360.00	8,045.0	1,280.5	432.5	1,280.5	0.00	0.00	0.00
9,200.0	90.00	360.00	8,045.0	1,380.5	432.5	1,380.5	0.00	0.00	0.00
9,300.0	90.00	360.00	8,045.0	1,480.5	432.5	1,480.5	0.00	0.00	0.00
9,400.0	90.00	360.00	8,045.0	1,580.5	432.5	1,580.5	0.00	0.00	0.00
9,500.0	90.00	360.00	8,045.0	1,680.5	432.5	1,680.5	0.00	0.00	0.00
9,600.0	90.00	360.00	8,045.0	1,780.5	432.5	1,780.5	0.00	0.00	0.00
9,700.0	90.00	360.00	8,045.0	1,880.5	432.5	1,880.5	0.00	0.00	0.00
9,800.0	90.00	360.00	8,045.0	1,980.5	432.5	1,980.5	0.00	0.00	0.00
9,900.0	90.00	360.00	8,045.0	2,080.5	432.5	2,080.5	0.00	0.00	0.00
10,000.0	90.00	360.00	8,045.0	2,180.5	432.5	2,180.5	0.00	0.00	0.00
10,100.0	90.00	360.00	8,045.0	2,280.5	432.5	2,280.5	0.00	0.00	0.00
10,200.0	90.00	360.00	8,045.0	2,380.5	432.5	2,380.5	0.00	0.00	0.00
10,300.0	90.00	360.00	8,045.0	2,480.5	432.5	2,480.5	0.00	0.00	0.00
10,400.0	90.00	360.00	8,045.0	2,580.5	432.5	2,580.5	0.00	0.00	0.00
10,500.0	90.00	360.00	8,045.0	2,680.5	432.5	2,680.5	0.00	0.00	0.00
10,600.0	90.00	360.00	8,045.0	2,780.5	432.5	2,780.5	0.00	0.00	0.00
10,700.0	90.00	360.00	8,045.0	2,880.5	432.5	2,880.5	0.00	0.00	0.00
10,800.0	90.00	360.00	8,045.0	2,980.5	432.5	2,980.5	0.00	0.00	0.00
10,900.0	90.00	360.00	8,045.0	3,080.5	432.5	3,080.5	0.00	0.00	0.00
11,000.0	90.00	360.00	8,045.0	3,180.5	432.5	3,180.5	0.00	0.00	0.00
11,100.0	90.00	360.00	8,045.0	3,280.5	432.5	3,280.5	0.00	0.00	0.00
11,200.0	90.00	360.00	8,045.0	3,380.5	432.5	3,380.5	0.00	0.00	0.00
11,300.0	90.00	360.00	8,045.0	3,480.5	432.5	3,480.5	0.00	0.00	0.00
11,400.0	90.00	360.00	8,045.0	3,580.5	432.5	3,580.5	0.00	0.00	0.00
11,500.0	90.00	360.00	8,045.0	3,680.5	432.5	3,680.5	0.00	0.00	0.00
11,600.0	90.00	360.00	8,045.0	3,780.5	432.5	3,780.5	0.00	0.00	0.00
11,700.0	90.00	360.00	8,045.0	3,880.5	432.5	3,880.5	0.00	0.00	0.00
11,800.0	90.00	360.00	8,045.0	3,980.5	432.5	3,980.5	0.00	0.00	0.00
11,900.0	90.00	360.00	8,045.0	4,080.5	432.5	4,080.5	0.00	0.00	0.00
12,000.0	90.00	360.00	8,045.0	4,180.5	432.5	4,180.5	0.00	0.00	0.00
12,100.0	90.00	360.00	8,045.0	4,280.5	432.5	4,280.5	0.00	0.00	0.00
12,200.0	90.00	360.00	8,045.0	4,380.5	432.5	4,380.5	0.00	0.00	0.00
12,300.0	90.00	360.00	8,045.0	4,480.5	432.5	4,480.5	0.00	0.00	0.00
12,400.0	90.00	360.00	8,045.0	4,580.5	432.5	4,580.5	0.00	0.00	0.00
12,500.0	90.00	360.00	8,045.0	4,680.5	432.5	4,680.5	0.00	0.00	0.00
12,600.0	90.00	360.00	8,045.0	4,780.5	432.5	4,780.5	0.00	0.00	0.00
12,700.0	90.00	360.00	8,045.0	4,880.5	432.5	4,880.5	0.00	0.00	0.00
12,800.0	90.00	360.00	8,045.0	4,980.5	432.5	4,980.5	0.00	0.00	0.00
12,900.0	90.00	360.00	8,045.0	5,080.5	432.5	5,080.5	0.00	0.00	0.00
13,000.0	90.00	360.00	8,045.0	5,180.5	432.5	5,180.5	0.00	0.00	0.00
13,100.0	90.00	360.00	8,045.0	5,280.5	432.5	5,280.5	0.00	0.00	0.00
13,200.0	90.00	360.00	8,045.0	5,380.5	432.5	5,380.5	0.00	0.00	0.00
13,300.0	90.00	360.00	8,045.0	5,480.5	432.5	5,480.5	0.00	0.00	0.00
13,400.0	90.00	360.00	8,045.0	5,580.5	432.5	5,580.5	0.00	0.00	0.00
13,500.0	90.00	360.00	8,045.0	5,680.5	432.5	5,680.5	0.00	0.00	0.00
13,600.0	90.00	360.00	8,045.0	5,780.5	432.5	5,780.5	0.00	0.00	0.00
13,700.0	90.00	360.00	8,045.0	5,880.5	432.5	5,880.5	0.00	0.00	0.00
13,800.0	90.00	360.00	8,045.0	5,980.5	432.5	5,980.5	0.00	0.00	0.00
13,900.0	90.00	360.00	8,045.0	6,080.5	432.5	6,080.5	0.00	0.00	0.00
14,000.0	90.00	360.00	8,045.0	6,180.5	432.5	6,180.5	0.00	0.00	0.00

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RESOLUTION 11-64-3-34-5CH
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5466.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5466.0usft (Original Well Elev)
Site:	RESOLUTION 11-64-3-34-5CH PAD	North Reference:	True
Well:	RESOLUTION 11-64-3-34-5CH	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)	
14,100.0	90.00	360.00	8,045.0	6,280.5	432.5	6,280.5	0.00	0.00	0.00	
14,200.0	90.00	360.00	8,045.0	6,380.5	432.5	6,380.5	0.00	0.00	0.00	
14,300.0	90.00	360.00	8,045.0	6,480.5	432.5	6,480.5	0.00	0.00	0.00	
14,400.0	90.00	360.00	8,045.0	6,580.5	432.5	6,580.5	0.00	0.00	0.00	
14,500.0	90.00	360.00	8,045.0	6,680.5	432.5	6,680.5	0.00	0.00	0.00	
14,600.0	90.00	360.00	8,045.0	6,780.5	432.5	6,780.5	0.00	0.00	0.00	
14,700.0	90.00	360.00	8,045.0	6,880.5	432.5	6,880.5	0.00	0.00	0.00	
14,800.0	90.00	360.00	8,045.0	6,980.5	432.5	6,980.5	0.00	0.00	0.00	
14,900.0	90.00	360.00	8,045.0	7,080.5	432.5	7,080.5	0.00	0.00	0.00	
15,000.0	90.00	360.00	8,045.0	7,180.5	432.5	7,180.5	0.00	0.00	0.00	
15,100.0	90.00	360.00	8,045.0	7,280.5	432.5	7,280.5	0.00	0.00	0.00	
15,200.0	90.00	360.00	8,045.0	7,380.5	432.5	7,380.5	0.00	0.00	0.00	
15,300.0	90.00	360.00	8,045.0	7,480.5	432.5	7,480.5	0.00	0.00	0.00	
15,400.0	90.00	360.00	8,045.0	7,580.5	432.5	7,580.5	0.00	0.00	0.00	
15,500.0	90.00	360.00	8,045.0	7,680.5	432.5	7,680.5	0.00	0.00	0.00	
15,600.0	90.00	360.00	8,045.0	7,780.5	432.5	7,780.5	0.00	0.00	0.00	
15,700.0	90.00	360.00	8,045.0	7,880.5	432.5	7,880.5	0.00	0.00	0.00	
15,800.0	90.00	360.00	8,045.0	7,980.5	432.5	7,980.5	0.00	0.00	0.00	
15,900.0	90.00	360.00	8,045.0	8,080.5	432.5	8,080.5	0.00	0.00	0.00	
16,000.0	90.00	360.00	8,045.0	8,180.5	432.5	8,180.5	0.00	0.00	0.00	
16,100.0	90.00	360.00	8,045.0	8,280.5	432.5	8,280.5	0.00	0.00	0.00	
16,200.0	90.00	360.00	8,045.0	8,380.5	432.5	8,380.5	0.00	0.00	0.00	
16,300.0	90.00	360.00	8,045.0	8,480.5	432.5	8,480.5	0.00	0.00	0.00	
16,400.0	90.00	360.00	8,045.0	8,580.5	432.5	8,580.5	0.00	0.00	0.00	
16,500.0	90.00	360.00	8,045.0	8,680.5	432.5	8,680.5	0.00	0.00	0.00	
16,600.0	90.00	360.00	8,045.0	8,780.5	432.5	8,780.5	0.00	0.00	0.00	
16,700.0	90.00	360.00	8,045.0	8,880.5	432.5	8,880.5	0.00	0.00	0.00	
16,800.0	90.00	360.00	8,045.0	8,980.5	432.5	8,980.5	0.00	0.00	0.00	
16,900.0	90.00	360.00	8,045.0	9,080.5	432.5	9,080.5	0.00	0.00	0.00	
17,000.0	90.00	360.00	8,045.0	9,180.5	432.5	9,180.5	0.00	0.00	0.00	
17,100.0	90.00	360.00	8,045.0	9,280.5	432.5	9,280.5	0.00	0.00	0.00	
17,200.0	90.00	360.00	8,045.0	9,380.5	432.5	9,380.5	0.00	0.00	0.00	
17,300.0	90.00	360.00	8,045.0	9,480.5	432.5	9,480.5	0.00	0.00	0.00	
17,400.0	90.00	360.00	8,045.0	9,580.5	432.5	9,580.5	0.00	0.00	0.00	
17,500.0	90.00	360.00	8,045.0	9,680.5	432.5	9,680.5	0.00	0.00	0.00	
17,519.8	90.00	360.00	8,045.0	9,700.3	432.5	9,700.3	0.00	0.00	0.00	
TD at 17519.8										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude Longitude	
- hit/miss target									
- Shape									
Interp @ 8035.0 (RESOI	0.00	0.00	8,035.0	466.4	432.5	1,588,712.65	3,268,030.29	40.945355 -104.529805	
- plan hits target center									
- Point									
RESOLUTION 11-64-3-3	0.00	0.00	8,045.0	9,700.3	432.5	1,597,946.06	3,267,929.43	40.970698 -104.529804	
- plan hits target center									
- Point									

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RESOLUTION 11-64-3-34-5CH
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5466.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5466.0usft (Original Well Elev)
Site:	RESOLUTION 11-64-3-34-5CH PAD	North Reference:	True
Well:	RESOLUTION 11-64-3-34-5CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #1		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
2,007.3	2,000.0	9 5/8"	9.625	12.250	
8,392.5	8,045.0	7"	7.000	7.500	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,533.1	1,528.0	Aquifer (Fox Hills)			
7,802.3	7,767.0	Niobrara			
8,285.3	8,035.0	Codell			

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
250.0	250.0	0.0	0.0	Start Build 2.00	
526.1	525.7	0.0	13.3	Start 4218.3 hold at 526.1 MD	
4,744.3	4,724.3	0.0	419.2	Start Drop -2.00	
5,020.4	5,000.0	0.0	432.5	Start 2472.0 hold at 5020.4 MD	
7,492.5	7,472.0	0.0	432.5	Start Build 10.00	
8,392.5	8,045.0	573.0	432.5	Start 9127.4 hold at 8392.5 MD	
17,519.8	8,045.0	9,700.3	432.5	TD at 17519.8	