Anadarko Petroleum Corporation

Well Name: RESOLUTION FED 12-65-35-2-2NH
Surface Location: RESOLUTION FED 12-65-35-2CH PAD
North American Datum 1983
US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 5931.0
WELL @ 5957.0usft (Original Well Elev)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1596371.18	3238876.43	40.967201	-104.635056

T M

Azimuths to True North
Magnetic North: 9.00°

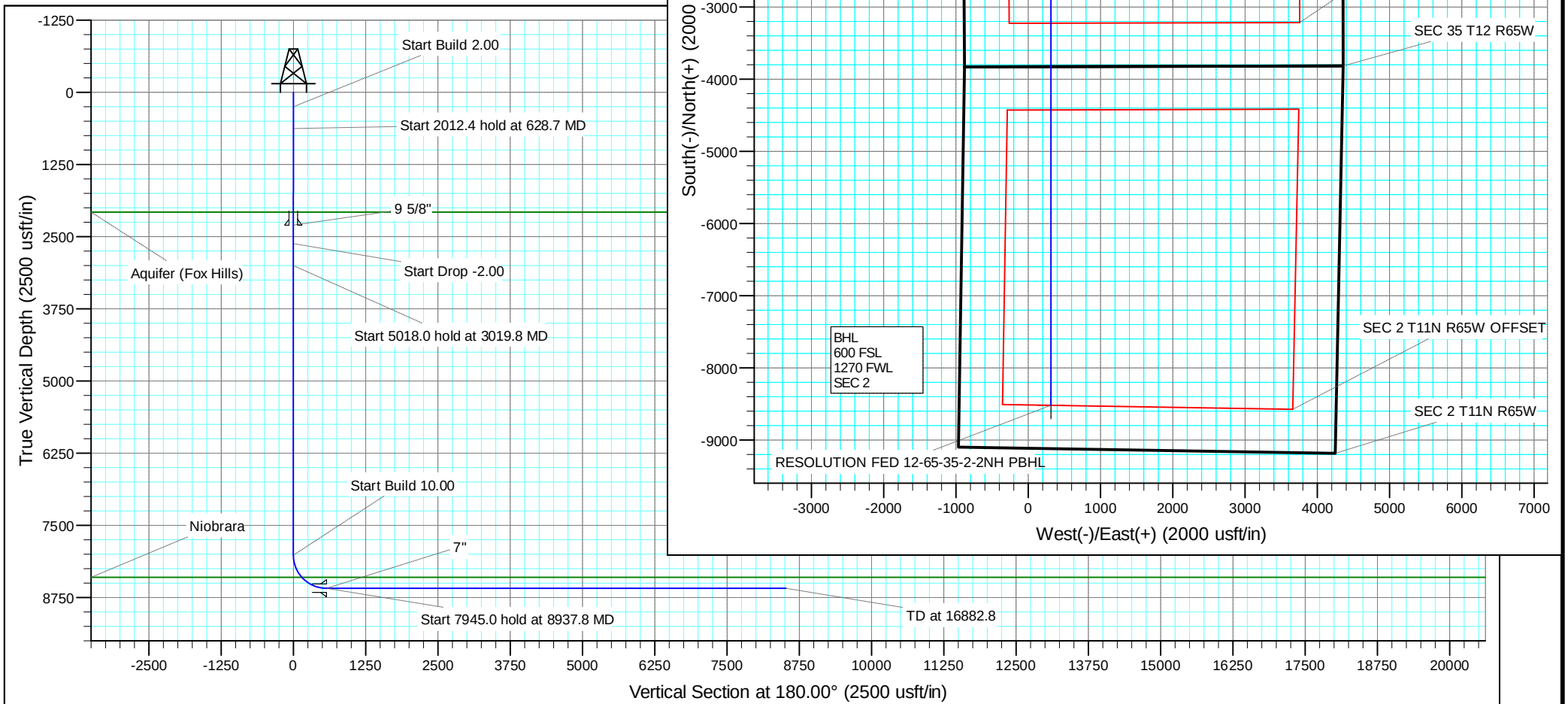
Magnetic Field
Strength: 53603.4snT
Dip Angle: 67.59°
Date: 12/31/2009
Model: IGRF200510

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
628.7	7.57	90.00	627.6	0.0	25.0	2.00	90.00	0.0
2641.1	7.57	90.00	2622.4	0.0	290.2	0.00	0.00	0.0
3019.8	0.00	0.00	3000.0	0.0	315.2	2.00	180.00	0.0
8037.8	0.00	0.00	8018.0	0.0	315.2	0.00	0.00	0.0
8937.8	90.00	180.00	8591.0	-573.0	315.2	10.00	180.00	573.0
16882.8	90.00	180.00	8591.0	-8518.0	315.2	0.00	0.00	8518.0

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2077.0	2090.9	Aquifer (Fox Hills)
8402.0	8458.6	Niobrara



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83
RESOLUTION FED 12-65-35-2CH PAD
RESOLUTION FED 12-65-35-2-2NH

Wellbore #1

Plan: PLAN #1

Standard Planning Report

26 March, 2015

Database:	PLANNING	**Local Co-ordinate Reference:**	Well RESOLUTION FED 12-65-35-2-2NH
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	WELL @ 5957.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	**MD Reference:**	WELL @ 5957.0usft (Original Well Elev)
Site:	RESOLUTION FED 12-65-35-2CH PAD	**North Reference:**	True
Well:	RESOLUTION FED 12-65-35-2-2NH	**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 FED 12-65-35-2CH PAD

Site Position:		**Northing:**	1,596,381.68 usft	**Latitude:**	40.967233
From:	Lat/Long	**Easting:**	3,238,757.01 usft	**Longitude:**	-104.635488
Position Uncertainty:	0.0 usft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.56 °

Well RESOLUTION FED 12-65-35-2-2NH

Well Position	**+N/-S**	-11.7 usft	**Northing:**	1,596,371.17 usft	**Latitude:**	40.967201
	+E/-W	119.3 usft	**Easting:**	3,238,876.43 usft	**Longitude:**	-104.635056
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	0.0 usft	**Ground Level:**	5,931.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	9.00	67.59	53,603

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	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	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	
628.7	7.57	90.00	627.6	0.0	25.0	2.00	2.00	0.00	90.00	
2,641.1	7.57	90.00	2,622.4	0.0	290.2	0.00	0.00	0.00	0.00	
3,019.8	0.00	0.00	3,000.0	0.0	315.2	2.00	-2.00	0.00	180.00	
8,037.8	0.00	0.00	8,018.0	0.0	315.2	0.00	0.00	0.00	0.00	
8,937.8	90.00	180.00	8,591.0	-573.0	315.2	10.00	10.00	0.00	180.00	
16,882.8	90.00	180.00	8,591.0	-8,518.0	315.2	0.00	0.00	0.00	0.00	RESOLUTION FED 1

Database:	PLANNING	**Local Co-ordinate Reference:**	Well RESOLUTION FED 12-65-35-2-2NH
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	WELL @ 5957.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	**MD Reference:**	WELL @ 5957.0usft (Original Well Elev)
Site:	RESOLUTION FED 12-65-35-2CH PAD	**North Reference:**	True
Well:	RESOLUTION FED 12-65-35-2-2NH	**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
600.0	7.00	90.00	599.1	0.0	21.4	0.0	2.00	2.00	0.00
628.7	7.57	90.00	627.6	0.0	25.0	0.0	2.00	2.00	0.00
Start 2012.4 hold at 628.7 MD									
700.0	7.57	90.00	698.3	0.0	34.4	0.0	0.00	0.00	0.00
800.0	7.57	90.00	797.4	0.0	47.6	0.0	0.00	0.00	0.00
900.0	7.57	90.00	896.5	0.0	60.8	0.0	0.00	0.00	0.00
1,000.0	7.57	90.00	995.7	0.0	73.9	0.0	0.00	0.00	0.00
1,100.0	7.57	90.00	1,094.8	0.0	87.1	0.0	0.00	0.00	0.00
1,200.0	7.57	90.00	1,193.9	0.0	100.3	0.0	0.00	0.00	0.00
1,300.0	7.57	90.00	1,293.0	0.0	113.5	0.0	0.00	0.00	0.00
1,400.0	7.57	90.00	1,392.2	0.0	126.7	0.0	0.00	0.00	0.00
1,500.0	7.57	90.00	1,491.3	0.0	139.8	0.0	0.00	0.00	0.00
1,600.0	7.57	90.00	1,590.4	0.0	153.0	0.0	0.00	0.00	0.00
1,700.0	7.57	90.00	1,689.6	0.0	166.2	0.0	0.00	0.00	0.00
1,800.0	7.57	90.00	1,788.7	0.0	179.4	0.0	0.00	0.00	0.00
1,900.0	7.57	90.00	1,887.8	0.0	192.6	0.0	0.00	0.00	0.00
2,000.0	7.57	90.00	1,986.9	0.0	205.7	0.0	0.00	0.00	0.00
2,090.9	7.57	90.00	2,077.0	0.0	217.7	0.0	0.00	0.00	0.00
Aquifer (Fox Hills)									
2,100.0	7.57	90.00	2,086.1	0.0	218.9	0.0	0.00	0.00	0.00
2,200.0	7.57	90.00	2,185.2	0.0	232.1	0.0	0.00	0.00	0.00
2,300.0	7.57	90.00	2,284.3	0.0	245.3	0.0	0.00	0.00	0.00
2,315.8	7.57	90.00	2,300.0	0.0	247.4	0.0	0.00	0.00	0.00
9 5/8"									
2,400.0	7.57	90.00	2,383.4	0.0	258.5	0.0	0.00	0.00	0.00
2,500.0	7.57	90.00	2,482.6	0.0	271.6	0.0	0.00	0.00	0.00
2,600.0	7.57	90.00	2,581.7	0.0	284.8	0.0	0.00	0.00	0.00
2,641.1	7.57	90.00	2,622.4	0.0	290.2	0.0	0.00	0.00	0.00
Start Drop -2.00									
2,700.0	6.40	90.00	2,680.9	0.0	297.4	0.0	2.00	-2.00	0.00
2,800.0	4.40	90.00	2,780.5	0.0	306.8	0.0	2.00	-2.00	0.00
2,900.0	2.40	90.00	2,880.3	0.0	312.7	0.0	2.00	-2.00	0.00
3,000.0	0.40	90.00	2,980.2	0.0	315.2	0.0	2.00	-2.00	0.00
3,019.8	0.00	0.00	3,000.0	0.0	315.2	0.0	2.00	-2.00	0.00
Start 5018.0 hold at 3019.8 MD									
3,100.0	0.00	0.00	3,080.2	0.0	315.2	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,180.2	0.0	315.2	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,280.2	0.0	315.2	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,380.2	0.0	315.2	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,480.2	0.0	315.2	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,580.2	0.0	315.2	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,680.2	0.0	315.2	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,780.2	0.0	315.2	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,880.2	0.0	315.2	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	3,980.2	0.0	315.2	0.0	0.00	0.00	0.00

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Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	WELL @ 5957.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	**MD Reference:**	WELL @ 5957.0usft (Original Well Elev)
Site:	RESOLUTION FED 12-65-35-2CH PAD	**North Reference:**	True
Well:	RESOLUTION FED 12-65-35-2-2NH	**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)
4,100.0	0.00	0.00	4,080.2	0.0	315.2	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,180.2	0.0	315.2	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,280.2	0.0	315.2	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,380.2	0.0	315.2	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,480.2	0.0	315.2	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,580.2	0.0	315.2	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,680.2	0.0	315.2	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,780.2	0.0	315.2	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,880.2	0.0	315.2	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	4,980.2	0.0	315.2	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,080.2	0.0	315.2	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,180.2	0.0	315.2	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,280.2	0.0	315.2	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,380.2	0.0	315.2	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,480.2	0.0	315.2	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,580.2	0.0	315.2	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,680.2	0.0	315.2	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,780.2	0.0	315.2	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,880.2	0.0	315.2	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	5,980.2	0.0	315.2	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,080.2	0.0	315.2	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,180.2	0.0	315.2	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,280.2	0.0	315.2	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,380.2	0.0	315.2	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,480.2	0.0	315.2	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,580.2	0.0	315.2	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,680.2	0.0	315.2	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,780.2	0.0	315.2	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,880.2	0.0	315.2	0.0	0.00	0.00	0.00
7,000.0	0.00	0.00	6,980.2	0.0	315.2	0.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,080.2	0.0	315.2	0.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,180.2	0.0	315.2	0.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,280.2	0.0	315.2	0.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,380.2	0.0	315.2	0.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,480.2	0.0	315.2	0.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,580.2	0.0	315.2	0.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,680.2	0.0	315.2	0.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,780.2	0.0	315.2	0.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,880.2	0.0	315.2	0.0	0.00	0.00	0.00
8,000.0	0.00	0.00	7,980.2	0.0	315.2	0.0	0.00	0.00	0.00
8,037.8	0.00	0.00	8,018.0	0.0	315.2	0.0	0.00	0.00	0.00
Start Build 10.00									
8,100.0	6.22	180.00	8,080.1	-3.4	315.2	3.4	10.00	10.00	0.00
8,200.0	16.22	180.00	8,178.1	-22.8	315.2	22.8	10.00	10.00	0.00
8,300.0	26.22	180.00	8,271.2	-59.0	315.2	59.0	10.00	10.00	0.00
8,400.0	36.22	180.00	8,356.6	-110.7	315.2	110.7	10.00	10.00	0.00
8,458.6	42.08	180.00	8,402.0	-147.7	315.2	147.7	10.00	10.00	0.00
Niobrara									
8,500.0	46.22	180.00	8,431.7	-176.5	315.2	176.5	10.00	10.00	0.00
8,600.0	56.22	180.00	8,494.3	-254.4	315.2	254.4	10.00	10.00	0.00
8,700.0	66.22	180.00	8,542.4	-341.9	315.2	341.9	10.00	10.00	0.00
8,800.0	76.22	180.00	8,574.5	-436.5	315.2	436.5	10.00	10.00	0.00
8,900.0	86.22	180.00	8,589.8	-535.2	315.2	535.2	10.00	10.00	0.00
8,937.8	90.00	180.00	8,591.0	-573.0	315.2	573.0	10.00	10.00	0.00

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Project:	COLORADO NORTHERN ZONE - 83	**MD Reference:**	WELL @ 5957.0usft (Original Well Elev)
Site:	RESOLUTION FED 12-65-35-2CH PAD	**North Reference:**	True
Well:	RESOLUTION FED 12-65-35-2-2NH	**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)
Start 7945.0 hold at 8937.8 MD - 7"									
9,000.0	90.00	180.00	8,591.0	-635.2	315.2	635.2	0.00	0.00	0.00
9,100.0	90.00	180.00	8,591.0	-735.2	315.2	735.2	0.00	0.00	0.00
9,200.0	90.00	180.00	8,591.0	-835.2	315.2	835.2	0.00	0.00	0.00
9,300.0	90.00	180.00	8,591.0	-935.2	315.2	935.2	0.00	0.00	0.00
9,400.0	90.00	180.00	8,591.0	-1,035.2	315.2	1,035.2	0.00	0.00	0.00
9,500.0	90.00	180.00	8,591.0	-1,135.2	315.2	1,135.2	0.00	0.00	0.00
9,600.0	90.00	180.00	8,591.0	-1,235.2	315.2	1,235.2	0.00	0.00	0.00
9,700.0	90.00	180.00	8,591.0	-1,335.2	315.2	1,335.2	0.00	0.00	0.00
9,800.0	90.00	180.00	8,591.0	-1,435.2	315.2	1,435.2	0.00	0.00	0.00
9,900.0	90.00	180.00	8,591.0	-1,535.2	315.2	1,535.2	0.00	0.00	0.00
10,000.0	90.00	180.00	8,591.0	-1,635.2	315.2	1,635.2	0.00	0.00	0.00
10,100.0	90.00	180.00	8,591.0	-1,735.2	315.2	1,735.2	0.00	0.00	0.00
10,200.0	90.00	180.00	8,591.0	-1,835.2	315.2	1,835.2	0.00	0.00	0.00
10,300.0	90.00	180.00	8,591.0	-1,935.2	315.2	1,935.2	0.00	0.00	0.00
10,400.0	90.00	180.00	8,591.0	-2,035.2	315.2	2,035.2	0.00	0.00	0.00
10,500.0	90.00	180.00	8,591.0	-2,135.2	315.2	2,135.2	0.00	0.00	0.00
10,600.0	90.00	180.00	8,591.0	-2,235.2	315.2	2,235.2	0.00	0.00	0.00
10,700.0	90.00	180.00	8,591.0	-2,335.2	315.2	2,335.2	0.00	0.00	0.00
10,800.0	90.00	180.00	8,591.0	-2,435.2	315.2	2,435.2	0.00	0.00	0.00
10,900.0	90.00	180.00	8,591.0	-2,535.2	315.2	2,535.2	0.00	0.00	0.00
11,000.0	90.00	180.00	8,591.0	-2,635.2	315.2	2,635.2	0.00	0.00	0.00
11,100.0	90.00	180.00	8,591.0	-2,735.2	315.2	2,735.2	0.00	0.00	0.00
11,200.0	90.00	180.00	8,591.0	-2,835.2	315.2	2,835.2	0.00	0.00	0.00
11,300.0	90.00	180.00	8,591.0	-2,935.2	315.2	2,935.2	0.00	0.00	0.00
11,400.0	90.00	180.00	8,591.0	-3,035.2	315.2	3,035.2	0.00	0.00	0.00
11,500.0	90.00	180.00	8,591.0	-3,135.2	315.2	3,135.2	0.00	0.00	0.00
11,600.0	90.00	180.00	8,591.0	-3,235.2	315.2	3,235.2	0.00	0.00	0.00
11,700.0	90.00	180.00	8,591.0	-3,335.2	315.2	3,335.2	0.00	0.00	0.00
11,800.0	90.00	180.00	8,591.0	-3,435.2	315.2	3,435.2	0.00	0.00	0.00
11,900.0	90.00	180.00	8,591.0	-3,535.2	315.2	3,535.2	0.00	0.00	0.00
12,000.0	90.00	180.00	8,591.0	-3,635.2	315.2	3,635.2	0.00	0.00	0.00
12,100.0	90.00	180.00	8,591.0	-3,735.2	315.2	3,735.2	0.00	0.00	0.00
12,200.0	90.00	180.00	8,591.0	-3,835.2	315.2	3,835.2	0.00	0.00	0.00
12,300.0	90.00	180.00	8,591.0	-3,935.2	315.2	3,935.2	0.00	0.00	0.00
12,400.0	90.00	180.00	8,591.0	-4,035.2	315.2	4,035.2	0.00	0.00	0.00
12,500.0	90.00	180.00	8,591.0	-4,135.2	315.2	4,135.2	0.00	0.00	0.00
12,600.0	90.00	180.00	8,591.0	-4,235.2	315.2	4,235.2	0.00	0.00	0.00
12,700.0	90.00	180.00	8,591.0	-4,335.2	315.2	4,335.2	0.00	0.00	0.00
12,800.0	90.00	180.00	8,591.0	-4,435.2	315.2	4,435.2	0.00	0.00	0.00
12,900.0	90.00	180.00	8,591.0	-4,535.2	315.2	4,535.2	0.00	0.00	0.00
13,000.0	90.00	180.00	8,591.0	-4,635.2	315.2	4,635.2	0.00	0.00	0.00
13,100.0	90.00	180.00	8,591.0	-4,735.2	315.2	4,735.2	0.00	0.00	0.00
13,200.0	90.00	180.00	8,591.0	-4,835.2	315.2	4,835.2	0.00	0.00	0.00
13,300.0	90.00	180.00	8,591.0	-4,935.2	315.2	4,935.2	0.00	0.00	0.00
13,400.0	90.00	180.00	8,591.0	-5,035.2	315.2	5,035.2	0.00	0.00	0.00
13,500.0	90.00	180.00	8,591.0	-5,135.2	315.2	5,135.2	0.00	0.00	0.00
13,600.0	90.00	180.00	8,591.0	-5,235.2	315.2	5,235.2	0.00	0.00	0.00
13,700.0	90.00	180.00	8,591.0	-5,335.2	315.2	5,335.2	0.00	0.00	0.00
13,800.0	90.00	180.00	8,591.0	-5,435.2	315.2	5,435.2	0.00	0.00	0.00
13,900.0	90.00	180.00	8,591.0	-5,535.2	315.2	5,535.2	0.00	0.00	0.00
14,000.0	90.00	180.00	8,591.0	-5,635.2	315.2	5,635.2	0.00	0.00	0.00
14,100.0	90.00	180.00	8,591.0	-5,735.2	315.2	5,735.2	0.00	0.00	0.00

Database:	PLANNING	**Local Co-ordinate Reference:**	Well RESOLUTION FED 12-65-35-2-2NH
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	WELL @ 5957.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	**MD Reference:**	WELL @ 5957.0usft (Original Well Elev)
Site:	RESOLUTION FED 12-65-35-2CH PAD	**North Reference:**	True
Well:	RESOLUTION FED 12-65-35-2-2NH	**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)
14,200.0	90.00	180.00	8,591.0	-5,835.2	315.2	5,835.2	0.00	0.00	0.00
14,300.0	90.00	180.00	8,591.0	-5,935.2	315.2	5,935.2	0.00	0.00	0.00
14,400.0	90.00	180.00	8,591.0	-6,035.2	315.2	6,035.2	0.00	0.00	0.00
14,500.0	90.00	180.00	8,591.0	-6,135.2	315.2	6,135.2	0.00	0.00	0.00
14,600.0	90.00	180.00	8,591.0	-6,235.2	315.2	6,235.2	0.00	0.00	0.00
14,700.0	90.00	180.00	8,591.0	-6,335.2	315.2	6,335.2	0.00	0.00	0.00
14,800.0	90.00	180.00	8,591.0	-6,435.2	315.2	6,435.2	0.00	0.00	0.00
14,900.0	90.00	180.00	8,591.0	-6,535.2	315.2	6,535.2	0.00	0.00	0.00
15,000.0	90.00	180.00	8,591.0	-6,635.2	315.2	6,635.2	0.00	0.00	0.00
15,100.0	90.00	180.00	8,591.0	-6,735.2	315.2	6,735.2	0.00	0.00	0.00
15,200.0	90.00	180.00	8,591.0	-6,835.2	315.2	6,835.2	0.00	0.00	0.00
15,300.0	90.00	180.00	8,591.0	-6,935.2	315.2	6,935.2	0.00	0.00	0.00
15,400.0	90.00	180.00	8,591.0	-7,035.2	315.2	7,035.2	0.00	0.00	0.00
15,500.0	90.00	180.00	8,591.0	-7,135.2	315.2	7,135.2	0.00	0.00	0.00
15,600.0	90.00	180.00	8,591.0	-7,235.2	315.2	7,235.2	0.00	0.00	0.00
15,700.0	90.00	180.00	8,591.0	-7,335.2	315.2	7,335.2	0.00	0.00	0.00
15,800.0	90.00	180.00	8,591.0	-7,435.2	315.2	7,435.2	0.00	0.00	0.00
15,900.0	90.00	180.00	8,591.0	-7,535.2	315.2	7,535.2	0.00	0.00	0.00
16,000.0	90.00	180.00	8,591.0	-7,635.2	315.2	7,635.2	0.00	0.00	0.00
16,100.0	90.00	180.00	8,591.0	-7,735.2	315.2	7,735.2	0.00	0.00	0.00
16,200.0	90.00	180.00	8,591.0	-7,835.2	315.2	7,835.2	0.00	0.00	0.00
16,300.0	90.00	180.00	8,591.0	-7,935.2	315.2	7,935.2	0.00	0.00	0.00
16,400.0	90.00	180.00	8,591.0	-8,035.2	315.2	8,035.2	0.00	0.00	0.00
16,500.0	90.00	180.00	8,591.0	-8,135.2	315.2	8,135.2	0.00	0.00	0.00
16,600.0	90.00	180.00	8,591.0	-8,235.2	315.2	8,235.2	0.00	0.00	0.00
16,700.0	90.00	180.00	8,591.0	-8,335.2	315.2	8,335.2	0.00	0.00	0.00
16,800.0	90.00	180.00	8,591.0	-8,435.2	315.2	8,435.2	0.00	0.00	0.00
16,882.8	90.00	180.00	8,591.0	-8,518.0	315.2	8,518.0	0.00	0.00	0.00
TD at 16882.8									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Interp @ 8402.0 (RESOI - plan hits target center - Point	0.00	0.00	8,402.0	-147.7	315.2	1,596,226.57	3,239,193.09	40.966796	-104.633915
RESOLUTION FED 12-(- plan hits target center - Point	0.00	0.00	8,591.0	-8,518.0	315.2	1,587,856.69	3,239,274.73	40.943823	-104.633915

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,315.8	2,300.0	9 5/8"	9.625	12.250
8,937.8	8,591.0	7"	7.000	7.500

Database:	PLANNING	**Local Co-ordinate Reference:**	Well RESOLUTION FED 12-65-35-2-2NH
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	WELL @ 5957.0usft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	**MD Reference:**	WELL @ 5957.0usft (Original Well Elev)
Site:	RESOLUTION FED 12-65-35-2CH PAD	**North Reference:**	True
Well:	RESOLUTION FED 12-65-35-2-2NH	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #1		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,090.9	2,077.0	Aquifer (Fox Hills)			
8,458.6	8,402.0	Niobrara			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
250.0	250.0	0.0	0.0	Start Build 2.00
628.7	627.6	0.0	25.0	Start 2012.4 hold at 628.7 MD
2,641.1	2,622.4	0.0	290.2	Start Drop -2.00
3,019.8	3,000.0	0.0	315.2	Start 5018.0 hold at 3019.8 MD
8,037.8	8,018.0	0.0	315.2	Start Build 10.00
8,937.8	8,591.0	-573.0	315.2	Start 7945.0 hold at 8937.8 MD
16,882.8	8,591.0	-8,518.0	315.2	TD at 16882.8