



ANADARKO PETROLEUM CORP.

ANADARKO COLORADO NORTHERN ZONE NAD 83

WELD_Denver

DENVER 36-18

Denver 20-18 Pad

Plan: DENVER 36-18 (wp02)

Standard Planning Report

06 October, 2010





Project: ANADARKO COLORADO NORTHERN ZONE NAD 83
 Site: WELD Denver
 Well: DENVER 36-18
 Wellbore: Denver 20-18 Pad
 Section:
 SHL:
 Design: DENVER 36-18 (wp02)
 Latitude: 40° 2' 49.826 N
 Longitude: 104° 48' 48.125 W
 GL: 4935.0
 KB: WELL @ 4935.0ft (Original Well Elev)



Weatherford®



Azimuths to True North
 Magnetic North: 8.92°
 Magnetic Field
 Strength: 52995.7snT
 Dip Angle: 66.79°
 Date: 9/29/2010
 Model: BGGM2010

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3975.0	4253.0	PK Depth
4676.0	5024.8	SX Depth
7140.0	7568.2	NIO Depth
7500.0	7928.2	CD Depth
7592.0	8020.2	GH Depth
7950.0	8378.2	J Depth

CASING DETAILS

TVD	MD	Name	Size
960.0	963.6	9 5/8"	9-5/8

SECTION DETAILS

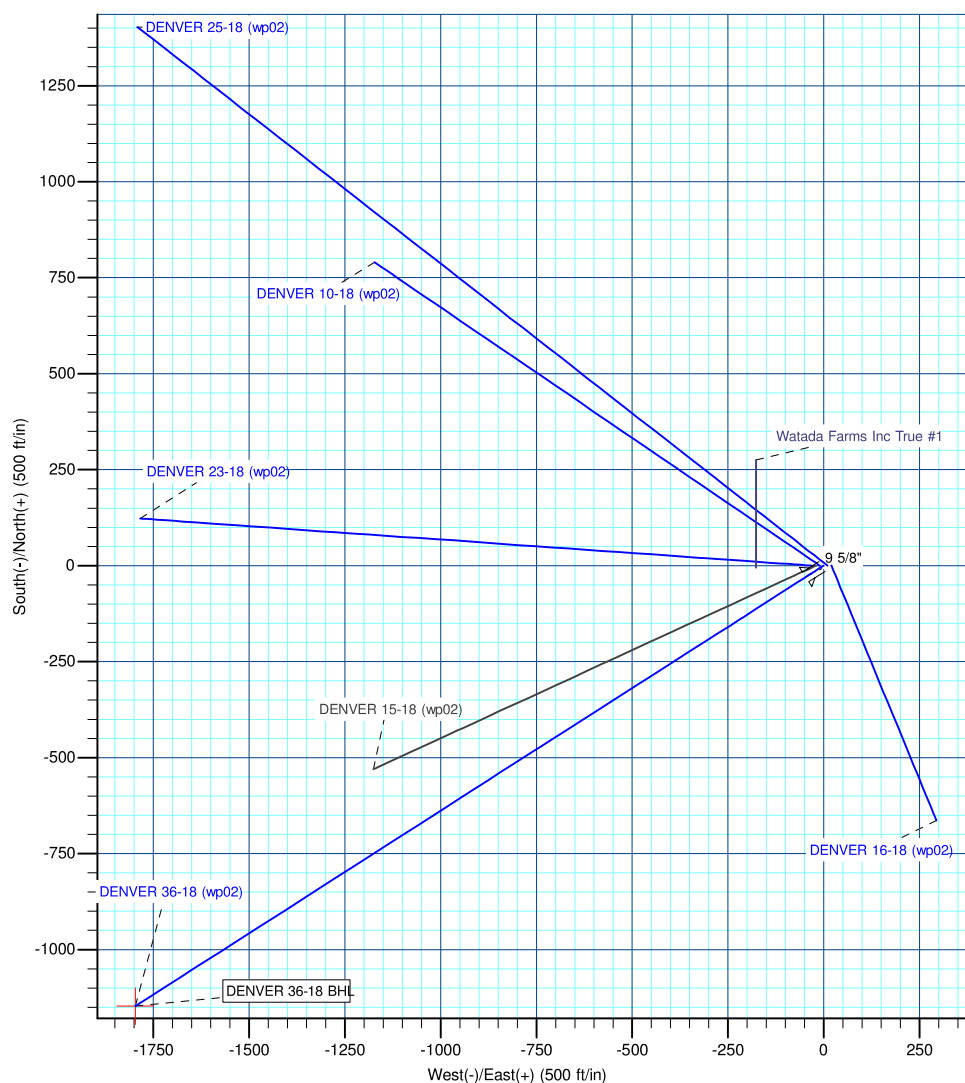
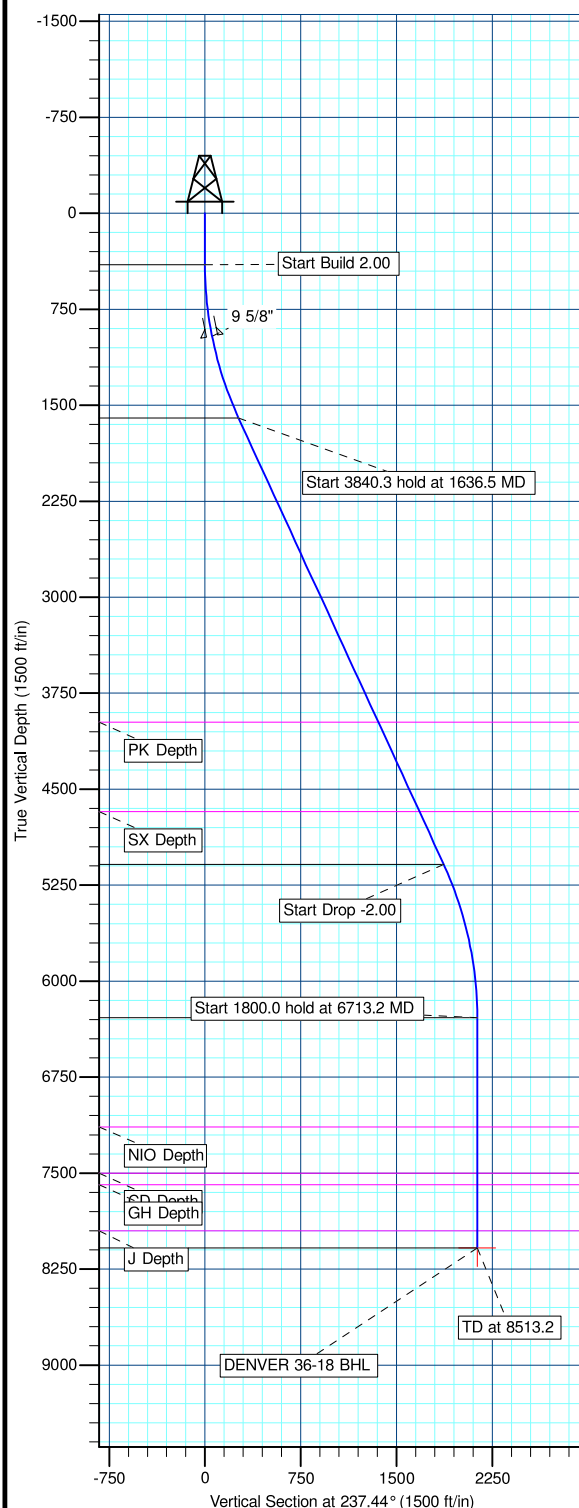
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
1636.5	24.73	237.44	1598.4	-141.4	-221.4	2.00	237.44	262.7	Start 3840.3 hold at 1636.5 MD
5476.8	24.73	237.44	5086.6	-1006.0	-1575.4	0.00	0.00	1869.2	Start Drop -2.00
6713.2	0.00	0.00	6285.0	-1147.4	-1796.9	2.00	180.00	2132.0	Start 1800.0 hold at 6713.2 MD
8513.2	0.00	0.00	8085.0	-1147.4	-1796.9	0.00	0.00	2132.0	TD at 8513.2

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
DENVER 36-18 BHL	8085.0	-1147.4	-1796.9	40° 2' 38.486 N	104° 49' 11.230 W	Point

WELL DETAILS: DENVER 36-18

+N/-S	+E/-W	Northing	Ground Level: Easting	4935.0 Latitude	104° 48' 48.125 W Longitude	Slot
0.0	0.0	1260775.36	3192227.44	40° 2' 49.826 N		



Plan: DENVER 36-18 (wp02) (DENVER 36-18/Denver 20-18 Pad)

Created By: Jason Daguitera Date: 16:24, October 06 2010

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well DENVER 36-18
Company:	ANADARKO PETROLEUM CORP.	TVD Reference:	WELL @ 4935.0ft (Original Well Elev)
Project:	ANADARKO COLORADO NORTHERN ZONE NAD 83	MD Reference:	WELL @ 4935.0ft (Original Well Elev)
Site:	WELD_Denver	North Reference:	True
Well:	DENVER 36-18	Survey Calculation Method:	Minimum Curvature
Wellbore:	Denver 20-18 Pad		
Design:	DENVER 36-18 (wp02)		

Project	ANADARKO COLORADO NORTHERN ZONE NAD 83, ROCKIES, ROCKIES		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	WELD_Denver			
Site Position:		Northing:	1,260,775.65 ft	Latitude: 40° 2' 49.830 N
From:	Lat/Long	Easting:	3,192,216.80 ft	Longitude: 104° 48' 48.262 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence: 0.44 °

Well	DENVER 36-18			
Well Position	+N/-S	-0.4 ft	Northing:	1,260,775.36 ft
	+E/-W	10.6 ft	Easting:	3,192,227.44 ft
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft
				Ground Level: 4,935.0 ft

Wellbore	Denver 20-18 Pad				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2010	9/29/2010	8.92	66.79	52,996

Design	DENVER 36-18 (wp02)			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	237.44

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,636.5	24.73	237.44	1,598.4	-141.4	-221.4	2.00	2.00	0.00	237.44	
5,476.8	24.73	237.44	5,086.6	-1,006.0	-1,575.4	0.00	0.00	0.00	0.00	
6,713.2	0.00	0.00	6,285.0	-1,147.4	-1,796.9	2.00	-2.00	0.00	180.00	
8,513.2	0.00	0.00	8,085.0	-1,147.4	-1,796.9	0.00	0.00	0.00	0.00	DENVER 36-18 BH

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Project:	ANADARKO COLORADO NORTHERN ZONE NAD 83	MD Reference:	WELL @ 4935.0ft (Original Well Elev)
Site:	WELD_Denver	North Reference:	True
Well:	DENVER 36-18	Survey Calculation Method:	Minimum Curvature
Wellbore:	Denver 20-18 Pad		
Design:	DENVER 36-18 (wp02)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
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
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	2.00	237.44	500.0	-0.9	-1.5	1.7	2.00	2.00	0.00
600.0	4.00	237.44	599.8	-3.8	-5.9	7.0	2.00	2.00	0.00
700.0	6.00	237.44	699.5	-8.4	-13.2	15.7	2.00	2.00	0.00
800.0	8.00	237.44	798.7	-15.0	-23.5	27.9	2.00	2.00	0.00
900.0	10.00	237.44	897.5	-23.4	-36.7	43.5	2.00	2.00	0.00
9 5/8"									
963.6	11.27	237.44	960.0	-29.7	-46.6	55.3	2.00	2.00	0.00
1,000.0	12.00	237.44	995.6	-33.7	-52.8	62.6	2.00	2.00	0.00
1,100.0	14.00	237.44	1,093.1	-45.8	-71.7	85.1	2.00	2.00	0.00
1,200.0	16.00	237.44	1,189.6	-59.7	-93.5	111.0	2.00	2.00	0.00
1,300.0	18.00	237.44	1,285.3	-75.5	-118.2	140.2	2.00	2.00	0.00
1,400.0	20.00	237.44	1,379.8	-93.0	-145.6	172.8	2.00	2.00	0.00
1,500.0	22.00	237.44	1,473.2	-112.3	-175.8	208.6	2.00	2.00	0.00
1,600.0	24.00	237.44	1,565.2	-133.3	-208.7	247.7	2.00	2.00	0.00
Start 3840.3 hold at 1636.5 MD									
1,636.5	24.73	237.44	1,598.4	-141.4	-221.4	262.7	2.00	2.00	0.00
1,700.0	24.73	237.44	1,656.1	-155.7	-243.8	289.3	0.00	0.00	0.00
1,800.0	24.73	237.44	1,747.0	-178.2	-279.1	331.1	0.00	0.00	0.00
1,900.0	24.73	237.44	1,837.8	-200.7	-314.3	373.0	0.00	0.00	0.00
2,000.0	24.73	237.44	1,928.6	-223.2	-349.6	414.8	0.00	0.00	0.00
2,100.0	24.73	237.44	2,019.5	-245.8	-384.9	456.6	0.00	0.00	0.00
2,200.0	24.73	237.44	2,110.3	-268.3	-420.1	498.5	0.00	0.00	0.00
2,300.0	24.73	237.44	2,201.1	-290.8	-455.4	540.3	0.00	0.00	0.00
2,400.0	24.73	237.44	2,291.9	-313.3	-490.6	582.1	0.00	0.00	0.00
2,500.0	24.73	237.44	2,382.8	-335.8	-525.9	624.0	0.00	0.00	0.00
2,600.0	24.73	237.44	2,473.6	-358.3	-561.1	665.8	0.00	0.00	0.00
2,700.0	24.73	237.44	2,564.4	-380.8	-596.4	707.6	0.00	0.00	0.00
2,800.0	24.73	237.44	2,655.3	-403.4	-631.7	749.5	0.00	0.00	0.00
2,900.0	24.73	237.44	2,746.1	-425.9	-666.9	791.3	0.00	0.00	0.00
3,000.0	24.73	237.44	2,836.9	-448.4	-702.2	833.1	0.00	0.00	0.00
3,100.0	24.73	237.44	2,927.8	-470.9	-737.4	875.0	0.00	0.00	0.00
3,200.0	24.73	237.44	3,018.6	-493.4	-772.7	916.8	0.00	0.00	0.00
3,300.0	24.73	237.44	3,109.4	-515.9	-808.0	958.6	0.00	0.00	0.00
3,400.0	24.73	237.44	3,200.2	-538.4	-843.2	1,000.5	0.00	0.00	0.00
3,500.0	24.73	237.44	3,291.1	-561.0	-878.5	1,042.3	0.00	0.00	0.00
3,600.0	24.73	237.44	3,381.9	-583.5	-913.7	1,084.1	0.00	0.00	0.00
3,700.0	24.73	237.44	3,472.7	-606.0	-949.0	1,126.0	0.00	0.00	0.00
3,800.0	24.73	237.44	3,563.6	-628.5	-984.2	1,167.8	0.00	0.00	0.00
3,900.0	24.73	237.44	3,654.4	-651.0	-1,019.5	1,209.6	0.00	0.00	0.00
4,000.0	24.73	237.44	3,745.2	-673.5	-1,054.8	1,251.5	0.00	0.00	0.00
4,100.0	24.73	237.44	3,836.0	-696.0	-1,090.0	1,293.3	0.00	0.00	0.00
4,200.0	24.73	237.44	3,926.9	-718.5	-1,125.3	1,335.1	0.00	0.00	0.00
PK Depth									
4,253.0	24.73	237.44	3,975.0	-730.5	-1,144.0	1,357.3	0.00	0.00	0.00
4,300.0	24.73	237.44	4,017.7	-741.1	-1,160.5	1,377.0	0.00	0.00	0.00
4,400.0	24.73	237.44	4,108.5	-763.6	-1,195.8	1,418.8	0.00	0.00	0.00
4,500.0	24.73	237.44	4,199.4	-786.1	-1,231.1	1,460.6	0.00	0.00	0.00

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Project:	ANADARKO COLORADO NORTHERN ZONE NAD 83	MD Reference:	WELL @ 4935.0ft (Original Well Elev)
Site:	WELD_Denver	North Reference:	True
Well:	DENVER 36-18	Survey Calculation Method:	Minimum Curvature
Wellbore:	Denver 20-18 Pad		
Design:	DENVER 36-18 (wp02)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,600.0	24.73	237.44	4,290.2	-808.6	-1,266.3	1,502.5	0.00	0.00	0.00
4,700.0	24.73	237.44	4,381.0	-831.1	-1,301.6	1,544.3	0.00	0.00	0.00
4,800.0	24.73	237.44	4,471.9	-853.6	-1,336.8	1,586.1	0.00	0.00	0.00
4,900.0	24.73	237.44	4,562.7	-876.1	-1,372.1	1,628.0	0.00	0.00	0.00
5,000.0	24.73	237.44	4,653.5	-898.7	-1,407.3	1,669.8	0.00	0.00	0.00
SX Depth									
5,024.8	24.73	237.44	4,676.0	-904.2	-1,416.1	1,680.1	0.00	0.00	0.00
5,100.0	24.73	237.44	4,744.3	-921.2	-1,442.6	1,711.6	0.00	0.00	0.00
5,200.0	24.73	237.44	4,835.2	-943.7	-1,477.9	1,753.5	0.00	0.00	0.00
5,300.0	24.73	237.44	4,926.0	-966.2	-1,513.1	1,795.3	0.00	0.00	0.00
5,400.0	24.73	237.44	5,016.8	-988.7	-1,548.4	1,837.1	0.00	0.00	0.00
Start Drop -2.00									
5,476.8	24.73	237.44	5,086.6	-1,006.0	-1,575.4	1,869.2	0.00	0.00	0.00
5,500.0	24.26	237.44	5,107.7	-1,011.2	-1,583.6	1,878.9	2.00	-2.00	0.00
5,600.0	22.26	237.44	5,199.6	-1,032.4	-1,616.8	1,918.4	2.00	-2.00	0.00
5,700.0	20.26	237.44	5,292.7	-1,052.0	-1,647.4	1,954.6	2.00	-2.00	0.00
5,800.0	18.26	237.44	5,387.1	-1,069.7	-1,675.2	1,987.6	2.00	-2.00	0.00
5,900.0	16.26	237.44	5,482.6	-1,085.7	-1,700.2	2,017.3	2.00	-2.00	0.00
6,000.0	14.26	237.44	5,579.1	-1,099.9	-1,722.4	2,043.6	2.00	-2.00	0.00
6,100.0	12.26	237.44	5,676.4	-1,112.2	-1,741.8	2,066.6	2.00	-2.00	0.00
6,200.0	10.26	237.44	5,774.5	-1,122.7	-1,758.2	2,086.1	2.00	-2.00	0.00
6,300.0	8.26	237.44	5,873.2	-1,131.4	-1,771.8	2,102.2	2.00	-2.00	0.00
6,400.0	6.26	237.44	5,972.4	-1,138.2	-1,782.4	2,114.9	2.00	-2.00	0.00
6,500.0	4.26	237.44	6,072.0	-1,143.1	-1,790.2	2,124.0	2.00	-2.00	0.00
6,600.0	2.26	237.44	6,171.8	-1,146.2	-1,795.0	2,129.7	2.00	-2.00	0.00
6,700.0	0.26	237.44	6,271.8	-1,147.4	-1,796.8	2,131.9	2.00	-2.00	0.00
Start 1800.0 hold at 6713.2 MD									
6,713.2	0.00	0.00	6,285.0	-1,147.4	-1,796.9	2,132.0	2.00	-2.00	0.00
6,800.0	0.00	0.00	6,371.8	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,471.8	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00
7,000.0	0.00	0.00	6,571.8	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00
7,100.0	0.00	0.00	6,671.8	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00
7,200.0	0.00	0.00	6,771.8	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00
7,300.0	0.00	0.00	6,871.8	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00
7,400.0	0.00	0.00	6,971.8	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,071.8	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00
NIO Depth									
7,568.2	0.00	0.00	7,140.0	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,171.8	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,271.8	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,371.8	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,471.8	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00
CD Depth									
7,928.2	0.00	0.00	7,500.0	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00
8,000.0	0.00	0.00	7,571.8	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00
GH Depth									
8,020.2	0.00	0.00	7,592.0	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00
8,100.0	0.00	0.00	7,671.8	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00
8,200.0	0.00	0.00	7,771.8	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00
8,300.0	0.00	0.00	7,871.8	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00
J Depth									
8,378.2	0.00	0.00	7,950.0	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00

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Project:	ANADARKO COLORADO NORTHERN ZONE NAD 83	MD Reference:	WELL @ 4935.0ft (Original Well Elev)
Site:	WELD_Denver	North Reference:	True
Well:	DENVER 36-18	Survey Calculation Method:	Minimum Curvature
Wellbore:	Denver 20-18 Pad		
Design:	DENVER 36-18 (wp02)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,400.0	0.00	0.00	7,971.8	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00
8,500.0	0.00	0.00	8,071.8	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00
TD at 8513.2									
8,513.2	0.00	0.00	8,085.0	-1,147.4	-1,796.9	2,132.0	0.00	0.00	0.00

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
DENVER 36-18 BHL	0.00	0.00	8,085.0	-1,147.4	-1,796.9	1,259,614.08	3,190,439.51	40° 2' 38.486 N	104° 49' 11.230 W
- plan hits target center									
- Point									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
963.6	960.0	9 5/8"	9-5/8	12-1/4

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
8,020.2	7,592.0	GH Depth			
8,378.2	7,950.0	J Depth			
4,253.0	3,975.0	PK Depth			
5,024.8	4,676.0	SX Depth			
7,568.2	7,140.0	NIO Depth			
7,928.2	7,500.0	CD Depth			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
400.0	400.0	0.0	0.0	Start Build 2.00
1,636.5	1,598.4	-141.4	-221.4	Start 3840.3 hold at 1636.5 MD
5,476.8	5,086.6	-1,006.0	-1,575.4	Start Drop -2.00
6,713.2	6,285.0	-1,147.4	-1,796.9	Start 1800.0 hold at 6713.2 MD
8,513.2	8,085.0	-1,147.4	-1,796.9	TD at 8513.2