



# **ANADARKO PETROLEUM CORP.**

**ANADARKO COLORADO NORTHERN ZONE NAD 83**

**REI 17-17**

**REI 21-17**

**REI 21-17**

**Plan: REI 21-17 (wp01)**

## **Standard Planning Report**

**25 October, 2010**

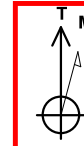




Project: ANADARKO COLORADO NORTHERN ZONE NAD 83  
 Site: REI 17-17  
 Well: REI 21-17  
 Wellbore: REI 21-17  
 Section:  
 SHL:  
 Design: REI 21-17 (wp01)  
 Latitude: 40° 13' 46.445 N  
 Longitude: 104° 41' 1.100 W  
 GL: 4898.0  
 KB: WELL @ 4898.0ft (Original Well Elev)



**Weatherford®**



Azimuths to True North  
 Magnetic North: 8.85°  
 Magnetic Field  
 Strength: 53099.2snT  
 Dip Angle: 66.96°  
 Date: 10/25/2010  
 Model: BGGM2010

#### FORMATION TOP DETAILS

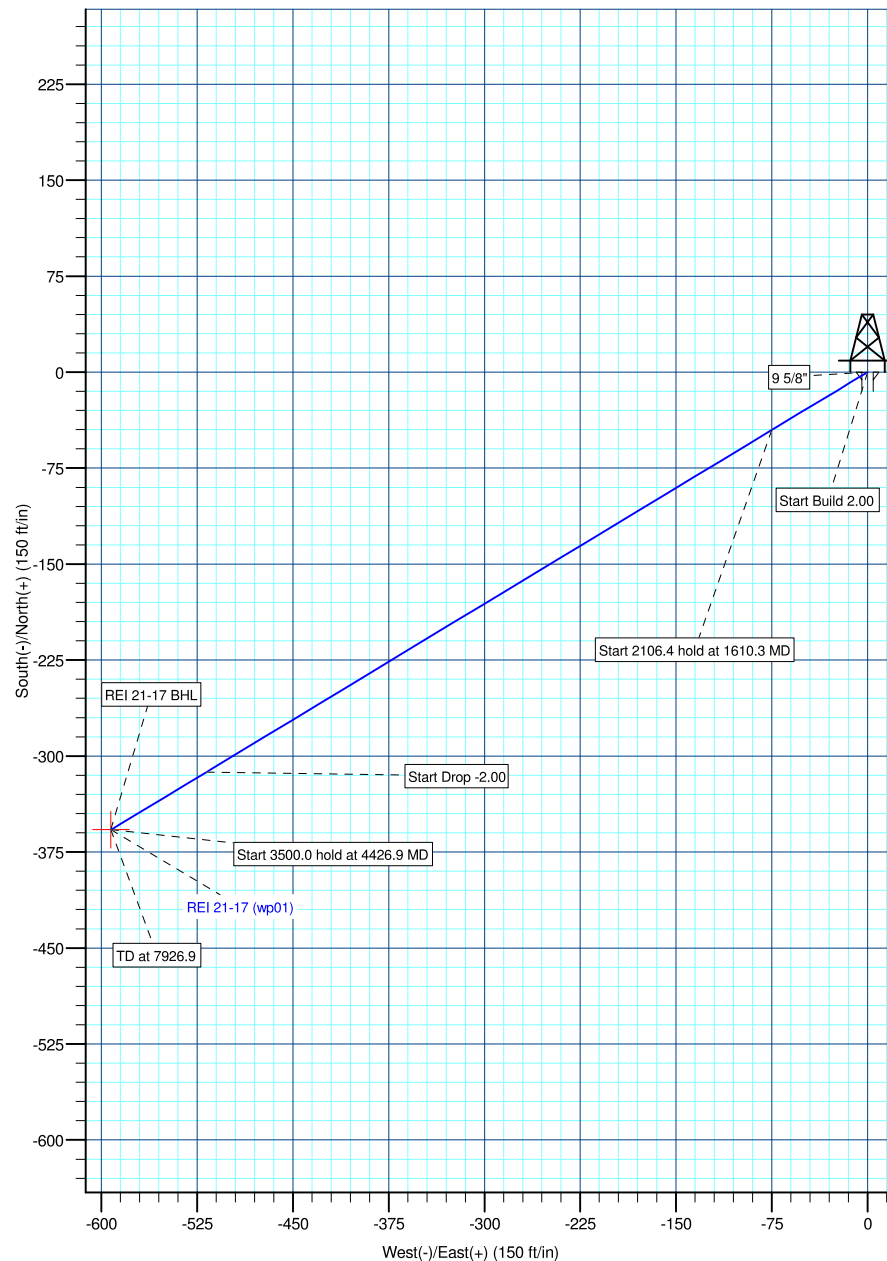
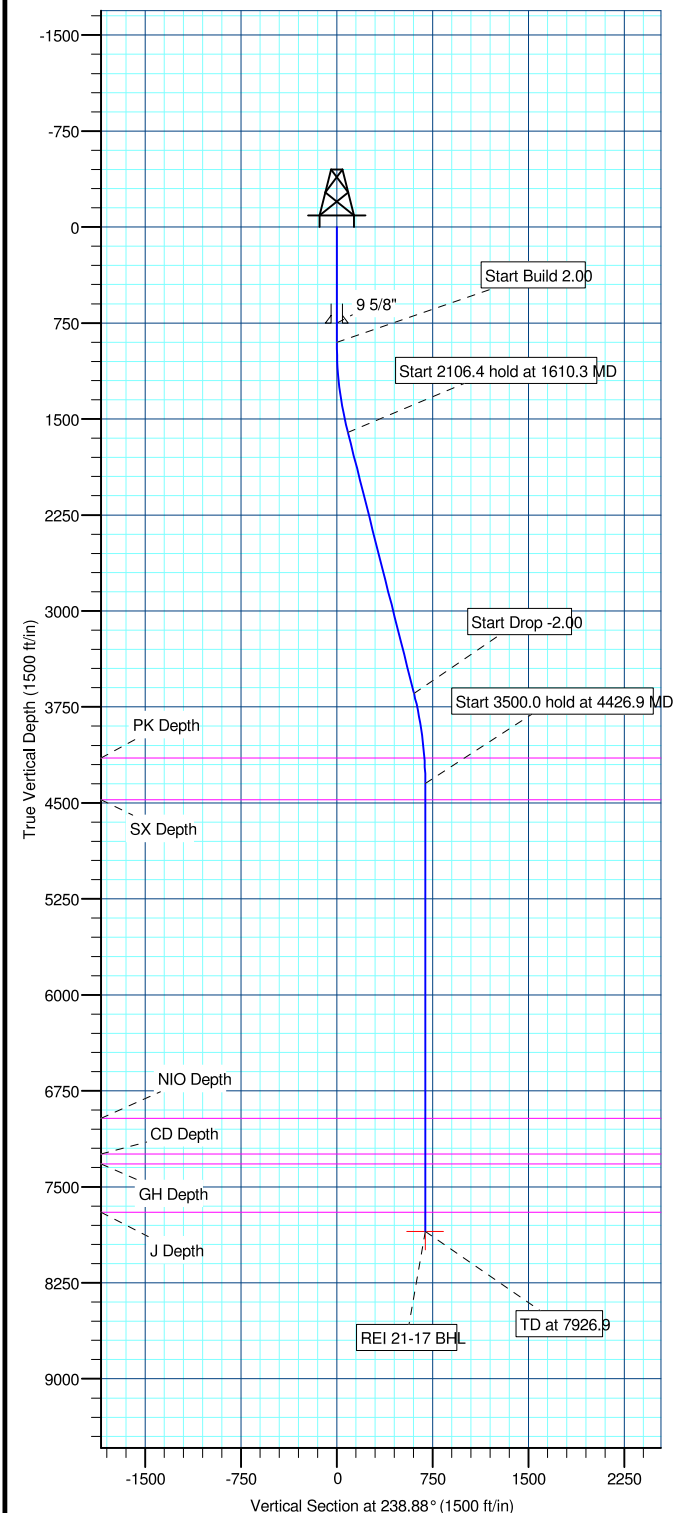
TVDPath	MDPath	Formation
4148.0	4226.8	PK Depth
4475.0	4553.9	SX Depth
6965.0	7043.9	NIO Depth
7244.0	7322.9	CD Depth
7322.0	7400.9	GH Depth
7698.0	7776.9	J Depth

#### 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	
900.0	0.00	0.00	900.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
1610.3	14.21	238.88	1603.0	-45.3	-75.0	2.00	238.88	87.6	Start 2106.4 hold at 1610.3 MD
3716.6	14.21	238.88	3645.0	-312.4	-517.5	0.00	0.00	604.5	Start Drop -2.00
4426.9	0.00	0.00	4348.0	-357.7	-592.5	2.00	180.00	692.1	Start 3500.0 hold at 4426.9 MD
7926.9	0.00	0.00	7848.0	-357.7	-592.5	0.00	0.00	692.1	TD at 7926.9

#### WELL DETAILS: REI 21-17

+N/-S	+E/-W	Northing	Ground Level: Easting	4898.0 Latitude	Longitude	Slot
0.0	0.0	1327522.81	3227933.36	40° 13' 46.445 N	104° 41' 1.100 W	



Plan: REI 21-17 (wp01) (REI 21-17/REI 21-17)

Created By: Jason Daguitera Date: 10:16, October 25 2010

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well REI 21-17
<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>TVD Reference:</b>	WELL @ 4898.0ft (Original Well Elev)
<b>Project:</b>	ANADARKO COLORADO NORTHERN ZONE NAD 83	<b>MD Reference:</b>	WELL @ 4898.0ft (Original Well Elev)
<b>Site:</b>	REI 17-17	<b>North Reference:</b>	True
<b>Well:</b>	REI 21-17	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	REI 21-17		
<b>Design:</b>	REI 21-17 (wp01)		

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

Site		REI 17-17			
Site Position:		Northing:	1,327,522.82ft	Latitude:	40° 13' 46.445 N
From:	Lat/Long	Easting:	3,227,933.36ft	Longitude:	104° 41' 1.100 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.53 °

Well	REI 21-17					
Well Position	+N-S	0.0 ft	Northing:	1,327,522.81ft	Latitude:	40° 13' 46.445 N
	+E-W	0.0 ft	Easting:	3,227,933.36 ft	Longitude:	104° 41' 1.100 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,898.0ft

<b>Wellbore</b>	REI 21-17				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2010	10/25/2010	8.85	66.96	53,099

<b>Design</b>	REI 21-17 (wp01)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	238.88

<b>Plan Sections</b>										
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	
900.0	0.00	0.00	900.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,610.3	14.21	238.88	1,603.0	-45.3	-75.0	2.00	2.00	0.00	238.88	
3,716.6	14.21	238.88	3,645.0	-312.4	-517.5	0.00	0.00	0.00	0.00	
4,426.9	0.00	0.00	4,348.0	-357.7	-592.5	2.00	-2.00	0.00	180.00	
7,926.9	0.00	0.00	7,848.0	-357.7	-592.5	0.00	0.00	0.00	0.00	REI 21-17 BHL

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well REI 21-17
<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>TVD Reference:</b>	WELL @ 4898.0ft (Original Well Elev)
<b>Project:</b>	ANADARKO COLORADO NORTHERN ZONE NAD 83	<b>MD Reference:</b>	WELL @ 4898.0ft (Original Well Elev)
<b>Site:</b>	REI 17-17	<b>North Reference:</b>	True
<b>Well:</b>	REI 21-17	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	REI 21-17		
<b>Design:</b>	REI 21-17 (wp01)		

**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
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
750.0	0.00	0.00	750.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>9 5/8"</b>									
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>Start Build 2.00</b>									
1,000.0	2.00	238.88	1,000.0	-0.9	-1.5	1.7	2.00	2.00	0.00
1,100.0	4.00	238.88	1,099.8	-3.6	-6.0	7.0	2.00	2.00	0.00
1,200.0	6.00	238.88	1,199.5	-8.1	-13.4	15.7	2.00	2.00	0.00
1,300.0	8.00	238.88	1,298.7	-14.4	-23.9	27.9	2.00	2.00	0.00
1,400.0	10.00	238.88	1,397.5	-22.5	-37.3	43.5	2.00	2.00	0.00
1,500.0	12.00	238.88	1,495.6	-32.4	-53.6	62.6	2.00	2.00	0.00
1,600.0	14.00	238.88	1,593.1	-44.0	-72.8	85.1	2.00	2.00	0.00
1,610.3	14.21	238.88	1,603.0	-45.3	-75.0	87.6	2.00	2.00	0.00
<b>Start 2106.4 hold at 1610.3 MD</b>									
1,700.0	14.21	238.88	1,690.0	-56.7	-93.8	109.6	0.00	0.00	0.00
1,800.0	14.21	238.88	1,786.9	-69.3	-114.9	134.2	0.00	0.00	0.00
1,900.0	14.21	238.88	1,883.9	-82.0	-135.9	158.7	0.00	0.00	0.00
2,000.0	14.21	238.88	1,980.8	-94.7	-156.9	183.2	0.00	0.00	0.00
2,100.0	14.21	238.88	2,077.8	-107.4	-177.9	207.8	0.00	0.00	0.00
2,200.0	14.21	238.88	2,174.7	-120.1	-198.9	232.3	0.00	0.00	0.00
2,300.0	14.21	238.88	2,271.7	-132.8	-219.9	256.9	0.00	0.00	0.00
2,400.0	14.21	238.88	2,368.6	-145.4	-240.9	281.4	0.00	0.00	0.00
2,500.0	14.21	238.88	2,465.5	-158.1	-261.9	305.9	0.00	0.00	0.00
2,600.0	14.21	238.88	2,562.5	-170.8	-282.9	330.5	0.00	0.00	0.00
2,700.0	14.21	238.88	2,659.4	-183.5	-303.9	355.0	0.00	0.00	0.00
2,800.0	14.21	238.88	2,756.4	-196.2	-324.9	379.6	0.00	0.00	0.00
2,900.0	14.21	238.88	2,853.3	-208.9	-345.9	404.1	0.00	0.00	0.00
3,000.0	14.21	238.88	2,950.3	-221.5	-366.9	428.6	0.00	0.00	0.00
3,100.0	14.21	238.88	3,047.2	-234.2	-388.0	453.2	0.00	0.00	0.00
3,200.0	14.21	238.88	3,144.1	-246.9	-409.0	477.7	0.00	0.00	0.00
3,300.0	14.21	238.88	3,241.1	-259.6	-430.0	502.3	0.00	0.00	0.00
3,400.0	14.21	238.88	3,338.0	-272.3	-451.0	526.8	0.00	0.00	0.00
3,500.0	14.21	238.88	3,435.0	-285.0	-472.0	551.3	0.00	0.00	0.00
3,600.0	14.21	238.88	3,531.9	-297.6	-493.0	575.9	0.00	0.00	0.00
3,700.0	14.21	238.88	3,628.8	-310.3	-514.0	600.4	0.00	0.00	0.00
3,716.6	14.21	238.88	3,645.0	-312.4	-517.5	604.5	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
3,800.0	12.54	238.88	3,726.1	-322.4	-534.0	623.8	2.00	-2.00	0.00
3,900.0	10.54	238.88	3,824.0	-332.7	-551.1	643.8	2.00	-2.00	0.00
4,000.0	8.54	238.88	3,922.7	-341.3	-565.3	660.4	2.00	-2.00	0.00
4,100.0	6.54	238.88	4,021.8	-348.1	-576.5	673.5	2.00	-2.00	0.00
4,200.0	4.54	238.88	4,121.3	-353.1	-584.8	683.1	2.00	-2.00	0.00
4,226.8	4.00	238.88	4,148.0	-354.1	-586.5	685.1	2.00	-2.00	0.00
<b>PK Depth</b>									
4,300.0	2.54	238.88	4,221.1	-356.3	-590.1	689.3	2.00	-2.00	0.00

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<b>Project:</b>	ANADARKO COLORADO NORTHERN ZONE NAD 83	<b>MD Reference:</b>	WELL @ 4898.0ft (Original Well Elev)
<b>Site:</b>	REI 17-17	<b>North Reference:</b>	True
<b>Well:</b>	REI 21-17	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	REI 21-17		
<b>Design:</b>	REI 21-17 (wp01)		

**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)
4,400.0	0.54	238.88	4,321.1	-357.6	-592.4	692.0	2.00	-2.00	0.00
4,426.9	0.00	0.00	4,348.0	-357.7	-592.5	692.1	2.00	-2.00	0.00
<b>Start 3500.0 hold at 4426.9 MD</b>									
4,500.0	0.00	0.00	4,421.1	-357.7	-592.5	692.1	0.00	0.00	0.00
4,553.9	0.00	0.00	4,475.0	-357.7	-592.5	692.1	0.00	0.00	0.00
<b>SX Depth</b>									
4,600.0	0.00	0.00	4,521.1	-357.7	-592.5	692.1	0.00	0.00	0.00
4,700.0	0.00	0.00	4,621.1	-357.7	-592.5	692.1	0.00	0.00	0.00
4,800.0	0.00	0.00	4,721.1	-357.7	-592.5	692.1	0.00	0.00	0.00
4,900.0	0.00	0.00	4,821.1	-357.7	-592.5	692.1	0.00	0.00	0.00
5,000.0	0.00	0.00	4,921.1	-357.7	-592.5	692.1	0.00	0.00	0.00
5,100.0	0.00	0.00	5,021.1	-357.7	-592.5	692.1	0.00	0.00	0.00
5,200.0	0.00	0.00	5,121.1	-357.7	-592.5	692.1	0.00	0.00	0.00
5,300.0	0.00	0.00	5,221.1	-357.7	-592.5	692.1	0.00	0.00	0.00
5,400.0	0.00	0.00	5,321.1	-357.7	-592.5	692.1	0.00	0.00	0.00
5,500.0	0.00	0.00	5,421.1	-357.7	-592.5	692.1	0.00	0.00	0.00
5,600.0	0.00	0.00	5,521.1	-357.7	-592.5	692.1	0.00	0.00	0.00
5,700.0	0.00	0.00	5,621.1	-357.7	-592.5	692.1	0.00	0.00	0.00
5,800.0	0.00	0.00	5,721.1	-357.7	-592.5	692.1	0.00	0.00	0.00
5,900.0	0.00	0.00	5,821.1	-357.7	-592.5	692.1	0.00	0.00	0.00
6,000.0	0.00	0.00	5,921.1	-357.7	-592.5	692.1	0.00	0.00	0.00
6,100.0	0.00	0.00	6,021.1	-357.7	-592.5	692.1	0.00	0.00	0.00
6,200.0	0.00	0.00	6,121.1	-357.7	-592.5	692.1	0.00	0.00	0.00
6,300.0	0.00	0.00	6,221.1	-357.7	-592.5	692.1	0.00	0.00	0.00
6,400.0	0.00	0.00	6,321.1	-357.7	-592.5	692.1	0.00	0.00	0.00
6,500.0	0.00	0.00	6,421.1	-357.7	-592.5	692.1	0.00	0.00	0.00
6,600.0	0.00	0.00	6,521.1	-357.7	-592.5	692.1	0.00	0.00	0.00
6,700.0	0.00	0.00	6,621.1	-357.7	-592.5	692.1	0.00	0.00	0.00
6,800.0	0.00	0.00	6,721.1	-357.7	-592.5	692.1	0.00	0.00	0.00
6,900.0	0.00	0.00	6,821.1	-357.7	-592.5	692.1	0.00	0.00	0.00
7,000.0	0.00	0.00	6,921.1	-357.7	-592.5	692.1	0.00	0.00	0.00
7,043.9	0.00	0.00	6,965.0	-357.7	-592.5	692.1	0.00	0.00	0.00
<b>NIO Depth</b>									
7,100.0	0.00	0.00	7,021.1	-357.7	-592.5	692.1	0.00	0.00	0.00
7,200.0	0.00	0.00	7,121.1	-357.7	-592.5	692.1	0.00	0.00	0.00
7,300.0	0.00	0.00	7,221.1	-357.7	-592.5	692.1	0.00	0.00	0.00
7,322.9	0.00	0.00	7,244.0	-357.7	-592.5	692.1	0.00	0.00	0.00
<b>CD Depth</b>									
7,400.0	0.00	0.00	7,321.1	-357.7	-592.5	692.1	0.00	0.00	0.00
7,400.9	0.00	0.00	7,322.0	-357.7	-592.5	692.1	0.00	0.00	0.00
<b>GH Depth</b>									
7,500.0	0.00	0.00	7,421.1	-357.7	-592.5	692.1	0.00	0.00	0.00
7,600.0	0.00	0.00	7,521.1	-357.7	-592.5	692.1	0.00	0.00	0.00
7,700.0	0.00	0.00	7,621.1	-357.7	-592.5	692.1	0.00	0.00	0.00
7,776.9	0.00	0.00	7,698.0	-357.7	-592.5	692.1	0.00	0.00	0.00
<b>J Depth</b>									
7,800.0	0.00	0.00	7,721.1	-357.7	-592.5	692.1	0.00	0.00	0.00
7,900.0	0.00	0.00	7,821.1	-357.7	-592.5	692.1	0.00	0.00	0.00
7,926.9	0.00	0.00	7,848.0	-357.7	-592.5	692.1	0.00	0.00	0.00
<b>TD at 7926.9 - REI 21-17 BHL</b>									

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well REI 21-17
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<b>Site:</b>	REI 17-17	<b>North Reference:</b>	True
<b>Well:</b>	REI 21-17	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	REI 21-17		
<b>Design:</b>	REI 21-17 (wp01)		

#### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
750.0	750.0	9 5/8"	9-5/8	12-1/4

#### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,776.9	7,698.0	J Depth			
4,553.9	4,475.0	SX Depth			
7,322.9	7,244.0	CD Depth			
7,400.9	7,322.0	GH Depth			
4,226.8	4,148.0	PK Depth			
7,043.9	6,965.0	NIO Depth			

#### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
900.0	900.0	0.0	0.0	Start Build 2.00
1,610.3	1,603.0	-45.3	-75.0	Start 2106.4 hold at 1610.3 MD
3,716.6	3,645.0	-312.4	-517.5	Start Drop -2.00
4,426.9	4,348.0	-357.7	-592.5	Start 3500.0 hold at 4426.9 MD
7,926.9	7,848.0	-357.7	-592.5	TD at 7926.9