



Scientific Drilling
Directional Drilling Operations

ConocoPhillips

SAN JUAN BASIN

SEC 32-T26N-R3W: unit letter M; 1215 FSL + 1060' FWL

Jicarilla D #22 : API - 30-039-30115

Original Hole

Plan: Plan #2

Standard Planning Report

30 August, 2009


ConocoPhillips



Project: SAN JUAN BASIN
 Site: SEC 32-T26N-R3W
 Well: Jicarilla D #22
 Wellbore: Original Hole
 Design: Plan #2



WELL DETAILS: Jicarilla D #22

+N-S	+E-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1979748.68	694200.37	36° 26' 20.820 N	107° 10' 23.232 W

WELLBORE TARGET DETAILS (LAT/LONG)

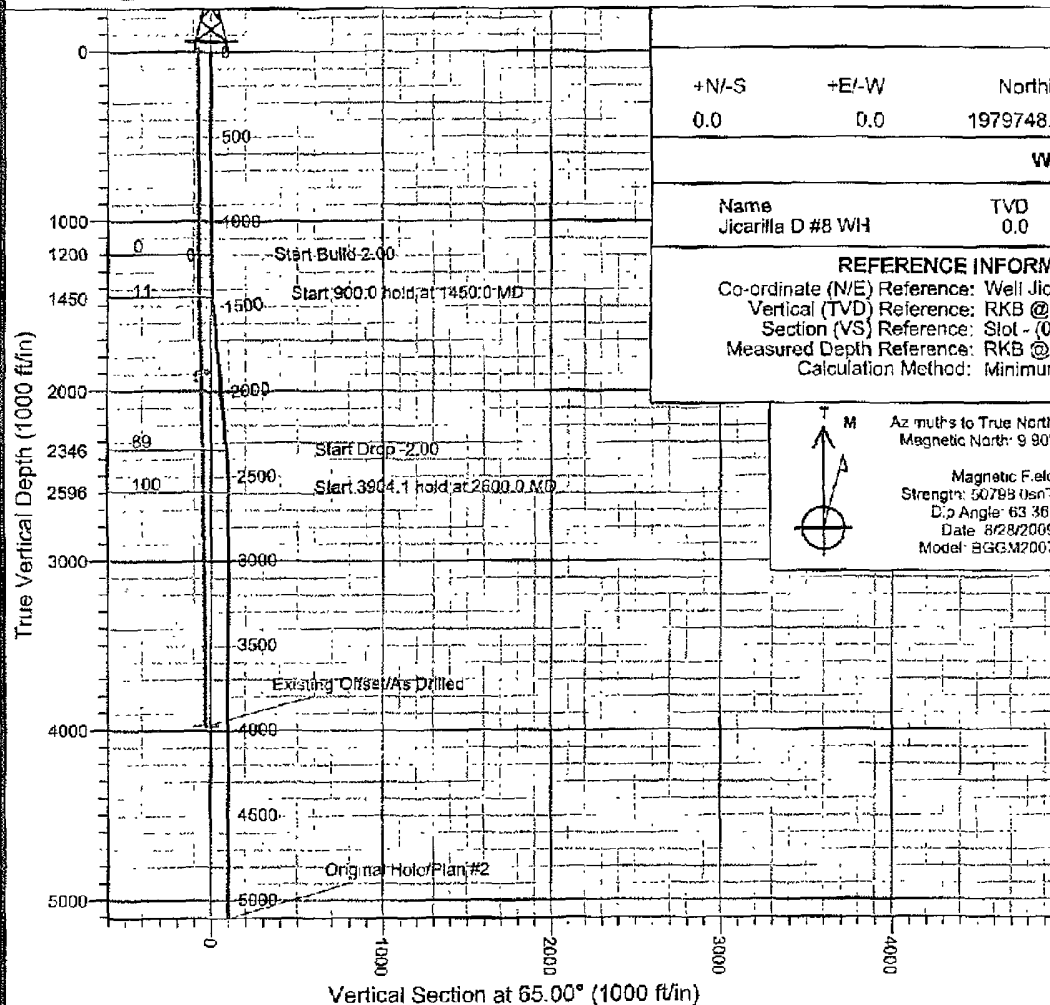
Name	TVD	+N-S	+E-W	Latitude	Longitude	Shape
Jicarilla D #8 WH	0.0	-39.8	-65.4	36° 26' 20.427 N	107° 10' 24.032 W	Circle (Radius: 5.0)

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Jicarilla D #22, True North
 Vertical (TVD) Reference: RKB @ 7348.0ft (283)
 Section (VS) Reference: Slot - (0.0N, 0.0E)
 Measured Depth Reference: RKB @ 7348.0ft (283)
 Calculation Method: Minimum Curvature

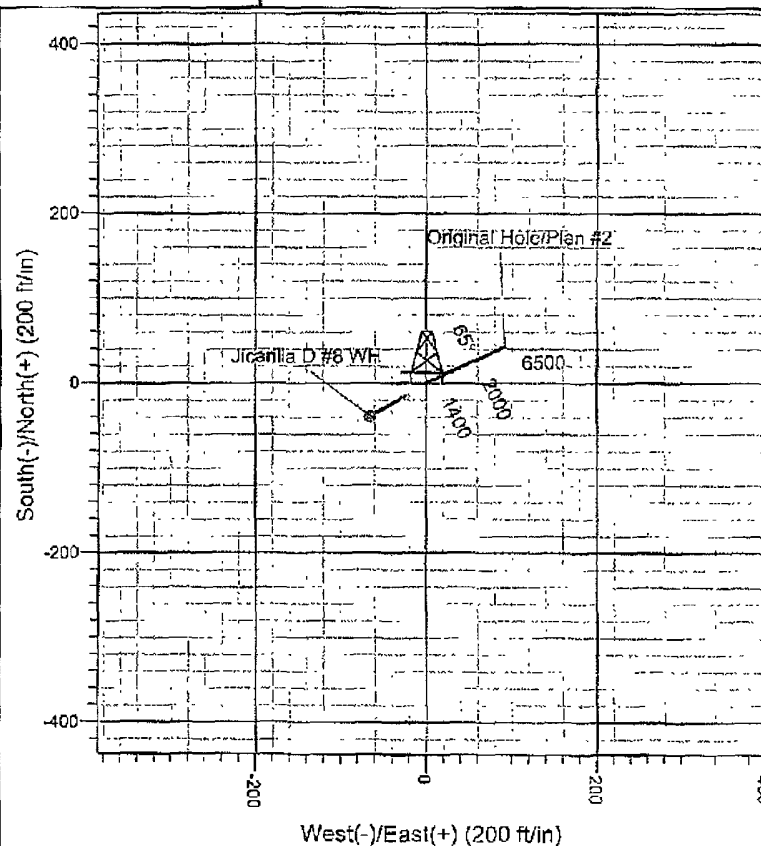
PROJECT DETAILS: SAN JUAN BASIN

Geodetic System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: New Mexico West 3003
 System Datum: Mean Sea Level



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	1450.0	5.00	65.00	1449.7	4.6	9.9	2.00	65.00	10.9	
4	2350.0	5.00	65.00	2346.3	37.8	81.0	0.00	0.00	89.3	
5	2600.0	0.00	0.00	2595.9	42.4	90.9	2.00	180.00	100.2	
6	6504.1	0.00	0.00	6500.0	42.4	90.9	0.00	0.00	100.2	





Scientific Drilling International Planning Report



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Jicarilla D #22
Company:	ConocoPhillips	TVD Reference:	RKB @ 7348.0ft (283)
Project:	SAN JUAN BASIN	MD Reference:	RKB @ 7348.0ft (283)
Site:	SEC 32-T26N-R3W	North Reference:	True
Well:	Jicarilla D #22	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #2		

Project:	SAN JUAN BASIN, NEW MEXICO		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		Using Well Reference Point
Map Zone:	New Mexico West 3003		Using geodetic scale factor

Site:	SEC 32-T26N-R3W		
Site Position:		Northing:	1,979,748.68 ft
From:	Lat/Long	Easting:	694,200.37 ft
Position Uncertainty:	0.0 ft	Sight Radius:	6-1/8"
		Grid Convergence:	0.39 °
		Latitude:	36° 26' 20.820 N
		Longitude:	107° 10' 23.232 W

Well:	Jicarilla D #22, Straight Mesaverde Well		
Well Position	+N/-S	0.0 ft	Northing:
	+E/-W	0.0 ft	Easting:
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Ground Level:	7,332.0 ft
		Latitude:	36° 26' 20.820 N
		Longitude:	107° 10' 23.232 W

Wellbore:	Original Hole				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	BGGM2007	8/28/2009	9.90	63.35	50,798

Design:	Plan #2				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	65.00	

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	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,450.0	5.00	65.00	1,449.7	4.6	9.9	2.00	2.00	0.00	65.00	
2,350.0	5.00	65.00	2,346.3	37.8	81.0	0.00	0.00	0.00	0.00	
2,600.0	0.00	0.00	2,595.9	42.4	90.9	2.00	-2.00	0.00	180.00	
6,504.1	0.00	0.00	6,500.0	42.4	90.9	0.00	0.00	0.00	0.00	



Scientific Drilling International Planning Report



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Jicarilla D #22
Company:	ConocoPhillips	TVD Reference:	RKB @ 7348.0ft (283)
Project:	SAN JUAN BASIN	MD Reference:	RKB @ 7348.0ft (283)
Site:	SEC 32-T26N-R3W	North Reference:	True
Well:	Jicarilla D #22	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #2		

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
Jicarilla D #8 WH									
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
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
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	2.00	65.00	1,300.0	0.7	1.6	1.7	2.00	2.00	0.00
1,400.0	4.00	65.00	1,399.8	2.9	6.3	7.0	2.00	2.00	0.00
1,450.0	5.00	65.00	1,449.7	4.6	9.9	10.9	2.00	2.00	0.00
1,500.0	5.00	65.00	1,499.5	6.4	13.8	15.3	0.00	0.00	0.00
1,600.0	5.00	65.00	1,599.1	10.1	21.7	24.0	0.00	0.00	0.00
1,700.0	5.00	65.00	1,698.7	13.8	29.6	32.7	0.00	0.00	0.00
1,800.0	5.00	65.00	1,798.4	17.5	37.5	41.4	0.00	0.00	0.00
1,900.0	5.00	65.00	1,898.0	21.2	45.4	50.1	0.00	0.00	0.00
2,000.0	5.00	65.00	1,997.6	24.9	53.3	58.8	0.00	0.00	0.00
2,100.0	5.00	65.00	2,097.2	28.5	61.2	67.6	0.00	0.00	0.00
2,200.0	5.00	65.00	2,196.8	32.2	69.1	76.3	0.00	0.00	0.00
2,300.0	5.00	65.00	2,296.4	35.9	77.0	85.0	0.00	0.00	0.00
2,350.0	5.00	65.00	2,346.3	37.8	81.0	89.3	0.00	0.00	0.00
2,400.0	4.00	65.00	2,396.1	39.4	84.5	93.3	2.00	-2.00	0.00
2,500.0	2.00	65.00	2,496.0	41.6	88.3	98.5	2.00	-2.00	0.00
2,600.0	0.00	0.00	2,595.9	42.4	90.9	100.2	2.00	-2.00	0.00
2,700.0	0.00	0.00	2,695.9	42.4	90.9	100.2	0.00	0.00	0.00
2,800.0	0.00	0.00	2,795.9	42.4	90.9	100.2	0.00	0.00	0.00
2,900.0	0.00	0.00	2,895.9	42.4	90.9	100.2	0.00	0.00	0.00
3,000.0	0.00	0.00	2,995.9	42.4	90.9	100.2	0.00	0.00	0.00
3,100.0	0.00	0.00	3,095.9	42.4	90.9	100.2	0.00	0.00	0.00
3,200.0	0.00	0.00	3,195.9	42.4	90.9	100.2	0.00	0.00	0.00
3,300.0	0.00	0.00	3,295.9	42.4	90.9	100.2	0.00	0.00	0.00
3,400.0	0.00	0.00	3,395.9	42.4	90.9	100.2	0.00	0.00	0.00
3,500.0	0.00	0.00	3,495.9	42.4	90.9	100.2	0.00	0.00	0.00
3,600.0	0.00	0.00	3,595.9	42.4	90.9	100.2	0.00	0.00	0.00
3,700.0	0.00	0.00	3,695.9	42.4	90.9	100.2	0.00	0.00	0.00
3,800.0	0.00	0.00	3,795.9	42.4	90.9	100.2	0.00	0.00	0.00
3,900.0	0.00	0.00	3,895.9	42.4	90.9	100.2	0.00	0.00	0.00
4,000.0	0.00	0.00	3,995.9	42.4	90.9	100.2	0.00	0.00	0.00
4,100.0	0.00	0.00	4,095.9	42.4	90.9	100.2	0.00	0.00	0.00
4,200.0	0.00	0.00	4,195.9	42.4	90.9	100.2	0.00	0.00	0.00
4,300.0	0.00	0.00	4,295.9	42.4	90.9	100.2	0.00	0.00	0.00
4,400.0	0.00	0.00	4,395.9	42.4	90.9	100.2	0.00	0.00	0.00
4,500.0	0.00	0.00	4,495.9	42.4	90.9	100.2	0.00	0.00	0.00
4,600.0	0.00	0.00	4,595.9	42.4	90.9	100.2	0.00	0.00	0.00
4,700.0	0.00	0.00	4,695.9	42.4	90.9	100.2	0.00	0.00	0.00
4,800.0	0.00	0.00	4,795.9	42.4	90.9	100.2	0.00	0.00	0.00
4,900.0	0.00	0.00	4,895.9	42.4	90.9	100.2	0.00	0.00	0.00
5,000.0	0.00	0.00	4,995.9	42.4	90.9	100.2	0.00	0.00	0.00



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Company:	ConocoPhillips	TVD Reference:	RKB @ 7348.0ft (283)
Project:	SAN JUAN BASIN	MD Reference:	RKB @ 7348.0ft (283)
Site:	SEC 32-T26N-R3W	North Reference:	True
Well:	Jicarilla D #22	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #2		

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)
5,100.0	0.00	0.00	5,095.9	42.4	90.9	100.2	0.00	0.00	0.00
5,200.0	0.00	0.00	5,195.9	42.4	90.9	100.2	0.00	0.00	0.00
5,300.0	0.00	0.00	5,295.9	42.4	90.9	100.2	0.00	0.00	0.00
5,400.0	0.00	0.00	5,395.9	42.4	90.9	100.2	0.00	0.00	0.00
5,500.0	0.00	0.00	5,495.9	42.4	90.9	100.2	0.00	0.00	0.00
5,600.0	0.00	0.00	5,595.9	42.4	90.9	100.2	0.00	0.00	0.00
5,700.0	0.00	0.00	5,695.9	42.4	90.9	100.2	0.00	0.00	0.00
5,800.0	0.00	0.00	5,795.9	42.4	90.9	100.2	0.00	0.00	0.00
5,900.0	0.00	0.00	5,895.9	42.4	90.9	100.2	0.00	0.00	0.00
6,000.0	0.00	0.00	5,995.9	42.4	90.9	100.2	0.00	0.00	0.00
6,100.0	0.00	0.00	6,095.9	42.4	90.9	100.2	0.00	0.00	0.00
6,200.0	0.00	0.00	6,195.9	42.4	90.9	100.2	0.00	0.00	0.00
6,300.0	0.00	0.00	6,295.9	42.4	90.9	100.2	0.00	0.00	0.00
6,400.0	0.00	0.00	6,395.9	42.4	90.9	100.2	0.00	0.00	0.00
6,504.1	0.00	0.00	6,500.0	42.4	90.9	100.2	0.00	0.00	0.00

7"

Design Targets

Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Jicarilla D #8 WH	-	0.00	0.00	0.0	-39.8	-65.4	1,979,708.49	694,135.28	36° 26' 20.427 N	107° 10' 24.032 W
- plan misses target center by 75.5ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E)										
- Circle (radius 5.0)										

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
6,504.1	6,500.0	7"	7	8-3/4