



Scientific Drilling
Directional Drilling Operations



ConocoPhillips

SAN JUAN BASIN
SEC 28-T28N-R7W
SJ 28-7 #224F
ST00BP00

Plan: Plan #2

Standard Planning Report

04 May, 2007

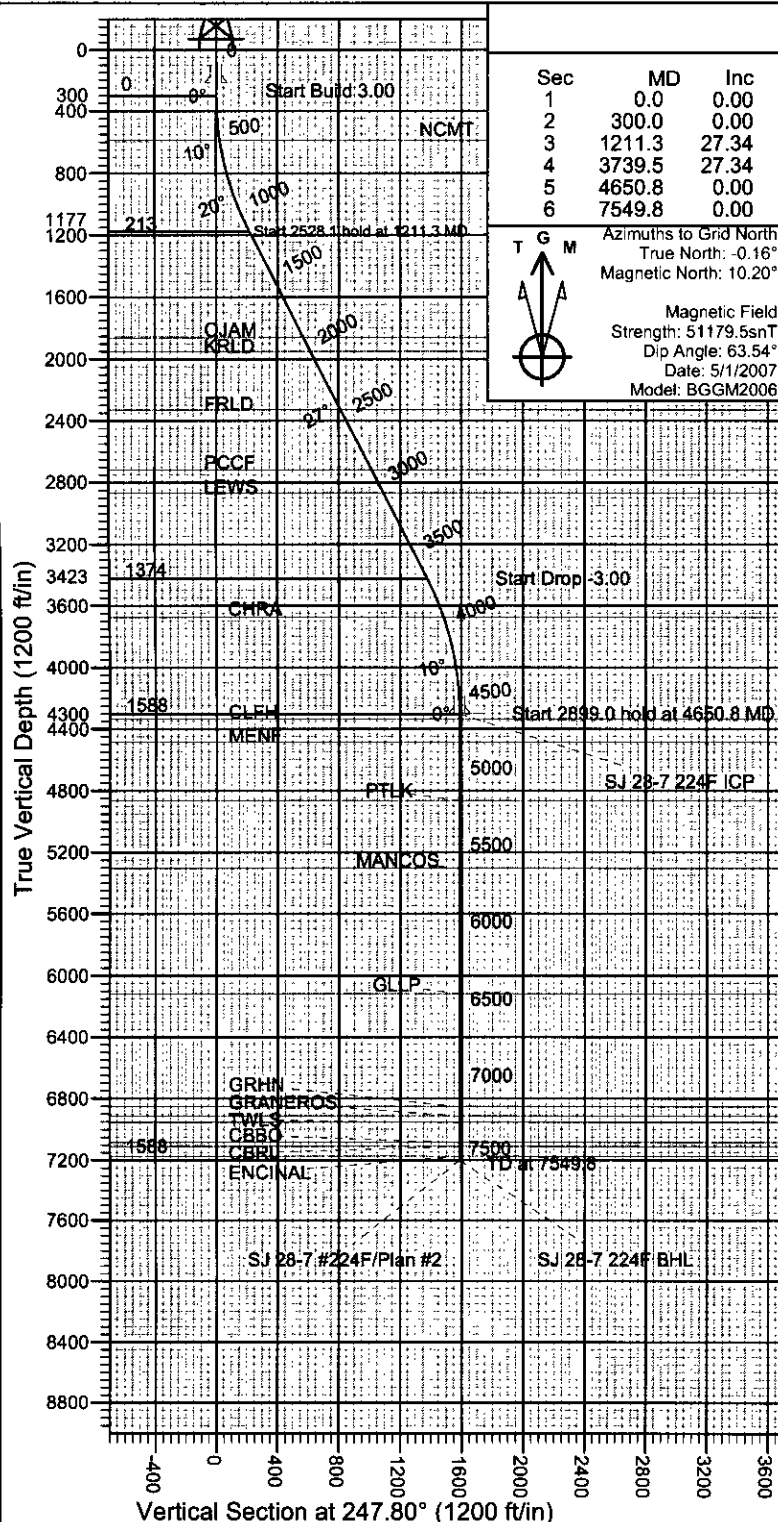
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SRF 1300N 840/E


ConocoPhillips



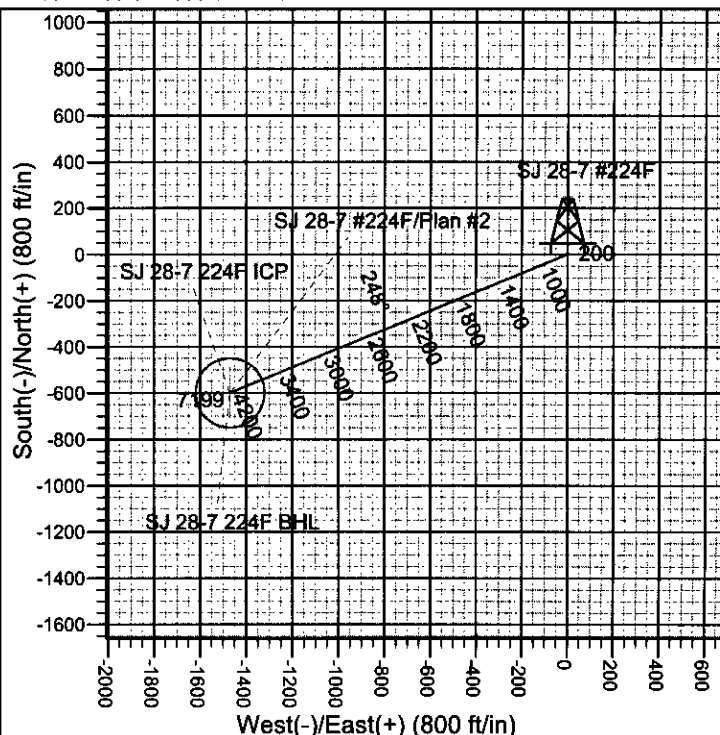
Project: SAN JUAN BASIN
Site: SEC 28-T28N-R7W
Well: SJ 28-7 #224F
Wellbore: ST00BP00
Design: Plan #2



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	300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0	
3	1211.3	27.34	247.80	1177.1	-80.6	-197.5	3.00	247.80	213.3	
4	3739.5	27.34	247.80	3422.9	-519.4	-1272.5	0.00	0.00	1374.4	
5	4650.8	0.00	0.00	4300.0	-600.0	-1470.0	3.00	180.00	1587.7	SJ 28-7 224F ICP
6	7549.8	0.00	0.00	7199.0	-600.0	-1470.0	0.00	0.00	1587.7	SJ 28-7 224F BHL

Azimuths to Grid North
True North: -0.16°
Magnetic North: 10.20°
Magnetic Field
Strength: 51179.5snT
Dip Angle: 63.54°
Date: 5/1/2007
Model: BGGM2006



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

SITE DETAILS: SEC 28-T28N-R7W

Site Centre Latitude: 36° 38' 9.342 N
Longitude: 107° 34' 19.602 W
Positional Uncertainty: 0.0
Convergence: 0.16
Local North: Grid

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well SJ 28-7 #224F, Grid North
Vertical (TVD) Reference: RKB @ 6099.0ft
Section (VS) Reference: Slot - (0.0N, 0.0E)
Measured Depth Reference: RKB @ 6099.0ft
Calculation Method: Minimum Curvature

WELL DETAILS: SJ 28-7 #224F

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	2050834.01	576642.91	36° 38' 9.342 N	107° 34' 19.602 W	

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SJ 28-7 224F ICP	4300.0	-600.0	-1470.0	2050234.01	575172.91	36° 38' 3.448 N	107° 34' 37.658 W	Point
SJ 28-7 224F BHL	7199.0	-600.0	-1470.0	2050234.01	575172.91	36° 38' 3.448 N	107° 34' 37.658 W	Circle (Radius: 150.0)

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well SJ 28-7 #224F
Company:	ConocoPhillips	TVD Reference:	RKB @ 6099.0ft
Project:	SAN JUAN BASIN	MD Reference:	RKB @ 6099.0ft
Site:	SEC 28-T28N-R7W	North Reference:	Grid
Well:	SJ 28-7 #224F	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST00BP00		
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		

Site	SEC 28-T28N-R7W		
Site Position:		Northing:	2,050,834.01 ft
From:	Lat/Long	Easting:	576,642.91 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	36° 38' 9.342 N
		Longitude:	107° 34' 19.602 W
		Grid Convergence:	0.16 °

Well	SJ 28-7 #224F		
Well Position	+N/-S	0.0 ft	Northing: 2,050,834.01 ft
	+E/-W	0.0 ft	Easting: 576,642.91 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	36° 38' 9.342 N
		Longitude:	107° 34' 19.602 W
		Ground Level:	6,085.0 ft

Wellbore	ST00BP00				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2006	5/1/2007	10.35	63.54	51,179

Design	Plan #2			
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	247.80

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Bulld 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	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,211.3	27.34	247.80	1,177.1	-80.6	-197.5	3.00	3.00	0.00	247.80	
3,739.5	27.34	247.80	3,422.9	-519.4	-1,272.5	0.00	0.00	0.00	0.00	
4,650.8	0.00	0.00	4,300.0	-600.0	-1,470.0	3.00	-3.00	0.00	180.00	SJ 28-7 224F ICP
7,549.8	0.00	0.00	7,199.0	-600.0	-1,470.0	0.00	0.00	0.00	0.00	SJ 28-7 224F BHL

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well SJ 28-7 #224F
Company:	ConocoPhillips	TVD Reference:	RKB @ 6099.0ft
Project:	SAN JUAN BASIN	MD Reference:	RKB @ 6099.0ft
Site:	SEC 28-T28N-R7W	North Reference:	Grid
Well:	SJ 28-7 #224F	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST00BP00		
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
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
216.0	0.00	0.00	216.0	0.0	0.0	0.0	0.00	0.00	0.00
Surface									
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	3.00	247.80	400.0	-1.0	-2.4	2.6	3.00	3.00	0.00
500.0	6.00	247.80	499.6	-4.0	-9.7	10.5	3.00	3.00	0.00
590.1	8.70	247.80	589.0	-8.3	-20.4	22.0	3.00	3.00	0.00
NCMT									
600.0	9.00	247.80	598.8	-8.9	-21.8	23.5	3.00	3.00	0.00
700.0	12.00	247.80	697.1	-15.8	-38.6	41.7	3.00	3.00	0.00
800.0	15.00	247.80	794.3	-24.6	-60.3	65.1	3.00	3.00	0.00
900.0	18.00	247.80	890.2	-35.3	-86.5	93.5	3.00	3.00	0.00
1,000.0	21.00	247.80	984.4	-47.9	-117.4	126.9	3.00	3.00	0.00
1,100.0	24.00	247.80	1,076.8	-62.4	-152.9	165.1	3.00	3.00	0.00
1,200.0	27.00	247.80	1,167.1	-78.7	-192.7	208.2	3.00	3.00	0.00
1,211.3	27.34	247.80	1,177.1	-80.6	-197.5	213.3	3.00	3.00	0.00
1,300.0	27.34	247.80	1,255.9	-96.0	-235.2	254.1	0.00	0.00	0.00
1,400.0	27.34	247.80	1,344.7	-113.4	-277.7	300.0	0.00	0.00	0.00
1,500.0	27.34	247.80	1,433.6	-130.7	-320.3	345.9	0.00	0.00	0.00
1,600.0	27.34	247.80	1,522.4	-148.1	-362.8	391.8	0.00	0.00	0.00
1,700.0	27.34	247.80	1,611.2	-165.4	-405.3	437.8	0.00	0.00	0.00
1,800.0	27.34	247.80	1,700.1	-182.8	-447.8	483.7	0.00	0.00	0.00
1,900.0	27.34	247.80	1,788.9	-200.1	-490.3	529.6	0.00	0.00	0.00
1,981.2	27.34	247.80	1,861.0	-214.2	-524.9	566.9	0.00	0.00	0.00
OJAM									
2,000.0	27.34	247.80	1,877.7	-217.5	-532.9	575.5	0.00	0.00	0.00
2,082.5	27.34	247.80	1,951.0	-231.8	-567.9	613.4	0.00	0.00	0.00
KRLD									
2,100.0	27.34	247.80	1,966.5	-234.9	-575.4	621.5	0.00	0.00	0.00
2,200.0	27.34	247.80	2,055.4	-252.2	-617.9	667.4	0.00	0.00	0.00
2,300.0	27.34	247.80	2,144.2	-269.6	-660.4	713.3	0.00	0.00	0.00
2,400.0	27.34	247.80	2,233.0	-286.9	-702.9	759.2	0.00	0.00	0.00
2,500.0	27.34	247.80	2,321.9	-304.3	-745.5	805.2	0.00	0.00	0.00
2,508.0	27.34	247.80	2,329.0	-305.7	-748.9	808.9	0.00	0.00	0.00
FRLD									
2,600.0	27.34	247.80	2,410.7	-321.6	-788.0	851.1	0.00	0.00	0.00
2,700.0	27.34	247.80	2,499.5	-339.0	-830.5	897.0	0.00	0.00	0.00
2,800.0	27.34	247.80	2,588.4	-356.3	-873.0	942.9	0.00	0.00	0.00
2,900.0	27.34	247.80	2,677.2	-373.7	-915.5	988.9	0.00	0.00	0.00
2,948.2	27.34	247.80	2,720.0	-382.1	-936.0	1,011.0	0.00	0.00	0.00
PCCF									
3,000.0	27.34	247.80	2,766.0	-391.0	-958.1	1,034.8	0.00	0.00	0.00
3,100.0	27.34	247.80	2,854.8	-408.4	-1,000.6	1,080.7	0.00	0.00	0.00
3,113.7	27.34	247.80	2,867.0	-410.8	-1,006.4	1,087.0	0.00	0.00	0.00
LEWS									
3,200.0	27.34	247.80	2,943.7	-425.8	-1,043.1	1,126.7	0.00	0.00	0.00
3,300.0	27.34	247.80	3,032.5	-443.1	-1,085.6	1,172.6	0.00	0.00	0.00
3,400.0	27.34	247.80	3,121.3	-460.5	-1,128.2	1,218.5	0.00	0.00	0.00
3,500.0	27.34	247.80	3,210.2	-477.8	-1,170.7	1,264.4	0.00	0.00	0.00
3,600.0	27.34	247.80	3,299.0	-495.2	-1,213.2	1,310.4	0.00	0.00	0.00
3,700.0	27.34	247.80	3,387.8	-512.5	-1,255.7	1,356.3	0.00	0.00	0.00

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Company:	ConocoPhillips	TVD Reference:	RKB @ 6099.0ft
Project:	SAN JUAN BASIN	MD Reference:	RKB @ 6099.0ft
Site:	SEC 28-T28N-R7W	North Reference:	Grid
Well:	SJ 28-7 #224F	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST00BP00		
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)
3,739.5	27.34	247.80	3,422.9	-519.4	-1,272.5	1,374.4	0.00	0.00	0.00
3,800.0	25.52	247.80	3,477.1	-529.6	-1,297.4	1,401.4	3.00	-3.00	0.00
3,900.0	22.52	247.80	3,568.4	-545.0	-1,335.1	1,442.1	3.00	-3.00	0.00
4,000.0	19.52	247.80	3,661.7	-558.5	-1,368.3	1,477.9	3.00	-3.00	0.00
4,014.0	19.10	247.80	3,675.0	-560.3	-1,372.6	1,482.6	3.00	-3.00	0.00
CHRA									
4,100.0	16.52	247.80	3,756.8	-570.2	-1,397.0	1,508.9	3.00	-3.00	0.00
4,200.0	13.52	247.80	3,853.4	-580.0	-1,421.0	1,534.8	3.00	-3.00	0.00
4,300.0	10.52	247.80	3,951.2	-587.9	-1,440.3	1,555.6	3.00	-3.00	0.00
4,400.0	7.52	247.80	4,049.9	-593.8	-1,454.8	1,571.3	3.00	-3.00	0.00
4,500.0	4.52	247.80	4,149.4	-597.8	-1,464.5	1,581.8	3.00	-3.00	0.00
4,600.0	1.52	247.80	4,249.2	-599.7	-1,469.4	1,587.1	3.00	-3.00	0.00
4,650.8	0.00	0.00	4,300.0	-600.0	-1,470.0	1,587.7	3.00	-3.00	0.00
ICP - SJ 28-7 224F ICP									
4,686.8	0.00	0.00	4,336.0	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
CLFH									
4,700.0	0.00	0.00	4,349.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
4,800.0	0.00	0.00	4,449.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
4,835.8	0.00	0.00	4,485.0	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
MENF									
4,900.0	0.00	0.00	4,549.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
5,000.0	0.00	0.00	4,649.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
5,100.0	0.00	0.00	4,749.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
5,200.0	0.00	0.00	4,849.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
5,214.8	0.00	0.00	4,864.0	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
PTLK									
5,300.0	0.00	0.00	4,949.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
5,400.0	0.00	0.00	5,049.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
5,500.0	0.00	0.00	5,149.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
5,600.0	0.00	0.00	5,249.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
5,655.8	0.00	0.00	5,305.0	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
MANCOS									
5,700.0	0.00	0.00	5,349.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
5,800.0	0.00	0.00	5,449.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
5,900.0	0.00	0.00	5,549.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
6,000.0	0.00	0.00	5,649.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
6,100.0	0.00	0.00	5,749.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
6,200.0	0.00	0.00	5,849.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
6,300.0	0.00	0.00	5,949.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
6,400.0	0.00	0.00	6,049.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
6,468.8	0.00	0.00	6,118.0	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
GLLP									
6,500.0	0.00	0.00	6,149.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
6,600.0	0.00	0.00	6,249.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
6,700.0	0.00	0.00	6,349.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
6,800.0	0.00	0.00	6,449.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
6,900.0	0.00	0.00	6,549.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
7,000.0	0.00	0.00	6,649.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
7,100.0	0.00	0.00	6,749.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
7,200.0	0.00	0.00	6,849.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
7,204.8	0.00	0.00	6,854.0	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
GRHN									

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Project:	SAN JUAN BASIN	MD Reference:	RKB @ 6099.0ft
Site:	SEC 28-T28N-R7W	North Reference:	Grid
Well:	SJ 28-7 #224F	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST00BP00		
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)
7,264.8	0.00	0.00	6,914.0	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
GRANEROS									
7,300.0	0.00	0.00	6,949.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
7,305.8	0.00	0.00	6,955.0	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
TWLS									
7,400.0	0.00	0.00	7,049.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
7,433.8	0.00	0.00	7,083.0	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
CBBO									
7,461.8	0.00	0.00	7,111.0	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
CBRL									
7,500.0	0.00	0.00	7,149.2	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
7,524.8	0.00	0.00	7,174.0	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
ENCINAL									
7,549.8	0.00	0.00	7,199.0	-600.0	-1,470.0	1,587.7	0.00	0.00	0.00
SJ 28-7 224F BHL									

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									
SJ 28-7 224F BHL	0.00	0.00	7,199.0	-600.0	-1,470.0	2,050,234.01	575,172.91	36° 38' 3.448 N	107° 34' 37.658 W
- plan hits target									
- Circle (radius 150.0)									
SJ 28-7 224F ICP	0.00	0.00	4,300.0	-600.0	-1,470.0	2,050,234.01	575,172.91	36° 38' 3.448 N	107° 34' 37.658 W
- plan hits target									
- Point									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
216.0	216.0	Surface	9-5/8	12-1/4
4,650.8	4,300.0	ICP	7	8-3/4

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well SJ 28-7 #224F
Company:	ConocoPhillips	TVD Reference:	RKB @ 6099.0ft
Project:	SAN JUAN BASIN	MD Reference:	RKB @ 6099.0ft
Site:	SEC 28-T28N-R7W	North Reference:	Grid
Well:	SJ 28-7 #224F	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST00BP00		
Design:	Plan #2		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
590.1	589.0	NCMT		0.00		
1,981.2	1,861.0	OJAM		0.00		
2,082.5	1,951.0	KRLD		0.00		
2,508.0	2,329.0	FRLD		0.00		
2,948.2	2,720.0	PCCF		0.00		
3,113.7	2,867.0	LEWS		0.00		
4,014.0	3,675.0	CHRA		0.00		
4,686.8	4,336.0	CLFH		0.00		
4,835.8	4,485.0	MENF		0.00		
5,214.8	4,864.0	PTLK		0.00		
5,655.8	5,305.0	MANCOS		0.00		
6,468.8	6,118.0	GLLP		0.00		
7,204.8	6,854.0	GRHN		0.00		
7,264.8	6,914.0	GRANEROS		0.00		
7,305.8	6,955.0	TWLS		0.00		
7,433.8	7,083.0	CBBO		0.00		
7,461.8	7,111.0	CBRL		0.00		
7,524.8	7,174.0	ENCINAL		0.00		