

30.045-35448

ConocoPhillips SJB

San Juan Basin - New Mexico West Wells

Other Named Wells

Pubco Federal Gas Com 1N

Primary Wellbore

Plan: APD Design

Standard Planning Report

29 November, 2012

RCVD JAN 15 '13

OIL CONS. DIV.

DIST. 3

REFERENCE INFORMATION

RKB @ 5975.0usft (Original Well Elev)
Ground Elevation 5960.0
Reference Lat: 36° 48' 45.683 N
Reference Long: 107° 57' 23.972 W

Project: San Juan Basin - New Mexico West V
Site: Other Named Wells
Well: Pubco Federal Gas Com 1N
Wellbore: Primary Wellbore
Design: APD Design



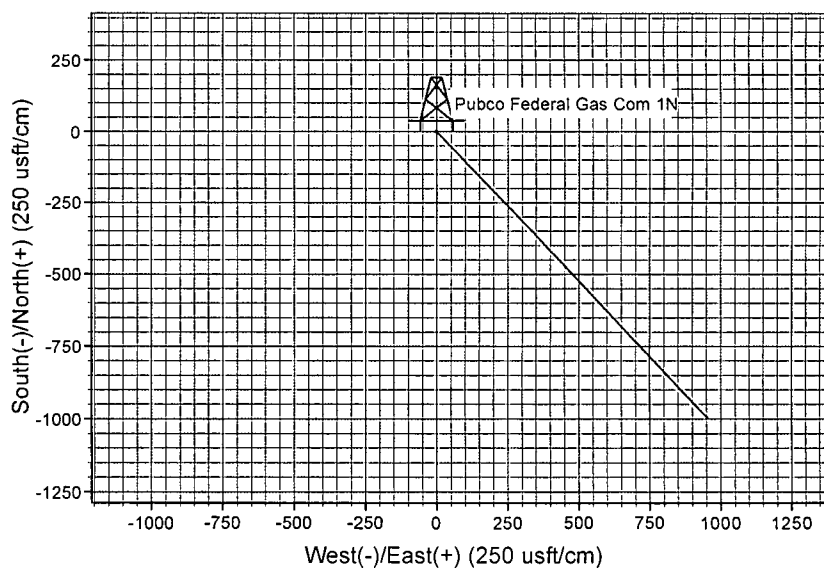
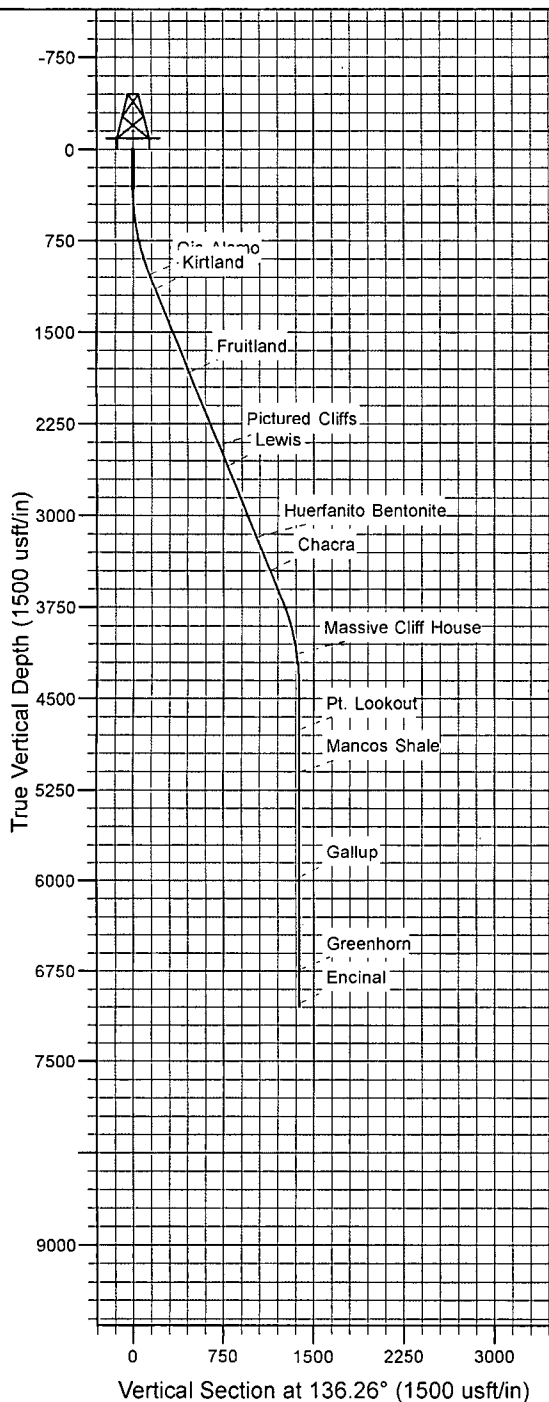
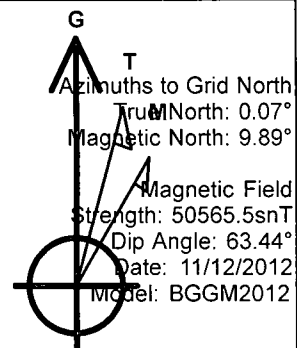
SECTION DETAILS

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	320.0	0.00	0.00	320.0	0.0	0.0	0.00	0.00	0.0	
3	1071.7	22.55	136.26	1052.5	-105.5	101.0	3.00	136.26	146.0	
4	3908.7	22.55	136.26	3672.5	-891.6	853.2	0.00	0.00	1234.1	
5	4660.4	0.00	0.00	4405.0	-997.1	954.2	3.00	180.00	1380.1	PFGC 1N ICP
6	7304.4	0.00	0.00	7049.0	-997.1	954.2	0.00	0.00	1380.1	PFGC 1N PCP

FORMATION TOP DETAILS

TVDPath	MDPath
1030.0	1047.5
1145.0	1171.9
1832.0	1915.8
2427.0	2560.1
2598.0	2745.2
3177.0	3372.2
3454.0	3672.1
4136.0	4390.6
4257.0	4512.3
4758.0	5013.4
5105.0	5360.4
5976.0	6231.4
6740.0	6995.4
6795.0	7050.4
6851.0	7106.4
6930.0	7185.4
6962.0	7217.4
7019.0	7274.4
7049.0	7304.4

Formation
Ojo Alamo
Kirtland
Fruitland
Pictured Cliffs
Lewis
Huerfano Ben
Chacra
Massive Cliff H
Menefee
Pt. Lookout
Mancos Shale
Gallup
Greenhorn
Graneros
Two Wells
Pauguate
Cubero
Encinal
TD



ConocoPhillips

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Pubco Federal Gas Com 1N
Company:	ConocoPhillips SJB	TVD Reference:	RKB @ 5975.0usft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	RKB @ 5975.0usft (Original Well Elev)
Site:	Other Named Wells	North Reference:	Grid
Well:	Pubco Federal Gas Com 1N	Survey Calculation Method:	Minimum Curvature
Wellbore:	Primary Wellbore		
Design:	APD Design		

Project	San Juan Basin - New Mexico West Wells, New Mexico Directional "S"		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Ground Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico West 3003		Using geodetic scale factor

Site		Other Named Wells			
Site Position:		Northing:	2,108,178.26 usft	Latitude:	36° 47' 33.793 N
From:	Lat/Long	Easting:	643,887.63 usft	Longitude:	107° 20' 30.932 W
Position Uncertainty:	15.0 usft	Slot Radius:	6-1/8"	Grid Convergence:	0.29 °

Well	Pubco Federal Gas Com 1N					
Well Position	+N-S	0.0 usft	Northing:	2,115,101.81 usft	Latitude:	36° 48' 45.683 N
	+E-W	0.0 usft	Easting:	463,898.88 usft	Longitude:	107° 57' 23.972 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	5,960.0 usft

Wellbore	Primary Wellbore				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2012	11/12/2012	9.81	63.44	50,566

Design	APD Design			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
	0.0	0.0	0.0	136.26

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	
320.0	0.00	0.00	320.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,071.7	22.55	136.26	1,052.5	-105.5	101.0	3.00	3.00	0.00	136.26	
3,908.7	22.55	136.26	3,672.5	-891.6	853.2	0.00	0.00	0.00	0.00	
4,660.4	0.00	0.00	4,405.0	-997.1	954.2	3.00	-3.00	0.00	180.00	PFGC 1N ICP
7,304.4	0.00	0.00	7,049.0	-997.1	954.2	0.00	0.00	0.00	0.00	PFGC 1N PCP

ConocoPhillips

Planning Report

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Project:	San Juan Basin - New Mexico West Wells	MD Reference:	RKB @ 5975.0usft (Original Well Elev)
Site:	Other Named Wells	North Reference:	Grid
Well:	Pubco Federal Gas Com 1N	Survey Calculation Method:	Minimum Curvature
Wellbore:	Primary Wellbore		
Design:	APD Design		

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
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	2.40	136.26	400.0	-1.2	1.2	1.7	3.00	3.00	0.00
500.0	5.40	136.26	499.7	-6.1	5.9	8.5	3.00	3.00	0.00
600.0	8.40	136.26	599.0	-14.8	14.2	20.5	3.00	3.00	0.00
700.0	11.40	136.26	697.5	-27.2	26.1	37.7	3.00	3.00	0.00
800.0	14.40	136.26	795.0	-43.3	41.5	60.0	3.00	3.00	0.00
900.0	17.40	136.26	891.1	-63.1	60.4	87.4	3.00	3.00	0.00
1,000.0	20.40	136.26	985.7	-86.5	82.8	119.8	3.00	3.00	0.00
1,047.5	21.82	136.26	1,030.0	-98.9	94.6	136.9	3.00	3.00	0.00
Ojo Alamo									
1,071.7	22.55	136.26	1,052.5	-105.5	101.0	146.0	3.00	3.00	0.00
1,100.0	22.55	136.26	1,078.6	-113.3	108.5	156.9	0.00	0.00	0.00
1,171.9	22.55	136.26	1,145.0	-133.3	127.5	184.5	0.00	0.00	0.00
Kirtland									
1,200.0	22.55	136.26	1,170.9	-141.1	135.0	195.2	0.00	0.00	0.00
1,300.0	22.55	136.26	1,263.3	-168.8	161.5	233.6	0.00	0.00	0.00
1,400.0	22.55	136.26	1,355.6	-196.5	188.0	271.9	0.00	0.00	0.00
1,500.0	22.55	136.26	1,448.0	-224.2	214.5	310.3	0.00	0.00	0.00
1,600.0	22.55	136.26	1,540.3	-251.9	241.1	348.6	0.00	0.00	0.00
1,700.0	22.55	136.26	1,632.7	-279.6	267.6	387.0	0.00	0.00	0.00
1,800.0	22.55	136.26	1,725.1	-307.3	294.1	425.3	0.00	0.00	0.00
1,900.0	22.55	136.26	1,817.4	-335.0	320.6	463.7	0.00	0.00	0.00
1,915.8	22.55	136.26	1,832.0	-339.4	324.8	469.8	0.00	0.00	0.00
Fruitland									
2,000.0	22.55	136.26	1,909.8	-362.7	347.1	502.0	0.00	0.00	0.00
2,100.0	22.55	136.26	2,002.1	-390.4	373.6	540.4	0.00	0.00	0.00
2,200.0	22.55	136.26	2,094.5	-418.1	400.2	578.7	0.00	0.00	0.00
2,300.0	22.55	136.26	2,186.8	-445.8	426.7	617.1	0.00	0.00	0.00
2,400.0	22.55	136.26	2,279.2	-473.5	453.2	655.4	0.00	0.00	0.00
2,500.0	22.55	136.26	2,371.5	-501.2	479.7	693.8	0.00	0.00	0.00
2,560.1	22.55	136.26	2,427.0	-517.9	495.6	716.8	0.00	0.00	0.00
Pictured Cliffs									
2,600.0	22.55	136.26	2,463.9	-529.0	506.2	732.2	0.00	0.00	0.00
2,700.0	22.55	136.26	2,556.2	-556.7	532.7	770.5	0.00	0.00	0.00
2,745.2	22.55	136.26	2,598.0	-569.2	544.7	787.8	0.00	0.00	0.00
Lewis									
2,800.0	22.55	136.26	2,648.6	-584.4	559.3	808.9	0.00	0.00	0.00
2,900.0	22.55	136.26	2,740.9	-612.1	585.8	847.2	0.00	0.00	0.00
3,000.0	22.55	136.26	2,833.3	-639.8	612.3	885.6	0.00	0.00	0.00
3,100.0	22.55	136.26	2,925.6	-667.5	638.8	923.9	0.00	0.00	0.00
3,200.0	22.55	136.26	3,018.0	-695.2	665.3	962.3	0.00	0.00	0.00
3,300.0	22.55	136.26	3,110.4	-722.9	691.8	1,000.6	0.00	0.00	0.00
3,372.2	22.55	136.26	3,177.0	-742.9	711.0	1,028.3	0.00	0.00	0.00
Huerfano Bentonite									
3,400.0	22.55	136.26	3,202.7	-750.6	718.3	1,039.0	0.00	0.00	0.00
3,500.0	22.55	136.26	3,295.1	-778.3	744.9	1,077.3	0.00	0.00	0.00
3,600.0	22.55	136.26	3,387.4	-806.0	771.4	1,115.7	0.00	0.00	0.00
3,672.1	22.55	136.26	3,454.0	-826.0	790.5	1,143.3	0.00	0.00	0.00
Chacra									

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Site:	Other Named Wells	North Reference:	Grid
Well:	Pubco Federal Gas Com 1N	Survey Calculation Method:	Minimum Curvature
Wellbore:	Primary Wellbore		
Design:	APD Design		

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)	
3,700.0	22.55	136.26	3,479.8	-833.7	797.9	1,154.0	0.00	0.00	0.00	
3,800.0	22.55	136.26	3,572.1	-861.4	824.4	1,192.4	0.00	0.00	0.00	
3,900.0	22.55	136.26	3,664.5	-889.1	850.9	1,230.7	0.00	0.00	0.00	
3,908.7	22.55	136.26	3,672.5	-891.6	853.2	1,234.1	0.00	0.00	0.00	
4,000.0	19.81	136.26	3,757.6	-915.4	876.0	1,267.0	3.00	-3.00	0.00	
4,100.0	16.81	136.26	3,852.6	-938.1	897.8	1,298.5	3.00	-3.00	0.00	
4,200.0	13.81	136.26	3,949.0	-957.2	916.0	1,324.9	3.00	-3.00	0.00	
4,300.0	10.81	136.26	4,046.7	-972.6	930.8	1,346.2	3.00	-3.00	0.00	
4,390.6	8.10	136.26	4,136.0	-983.3	941.1	1,361.1	3.00	-3.00	0.00	
Massive Cliff House										
4,400.0	7.81	136.26	4,145.4	-984.3	942.0	1,362.4	3.00	-3.00	0.00	
4,500.0	4.81	136.26	4,244.7	-992.2	949.6	1,373.4	3.00	-3.00	0.00	
4,512.3	4.44	136.26	4,257.0	-992.9	950.2	1,374.4	3.00	-3.00	0.00	
Menefee										
4,600.0	1.81	136.26	4,344.6	-996.4	953.6	1,379.1	3.00	-3.00	0.00	
4,660.4	0.00	0.00	4,405.0	-997.1	954.2	1,380.1	3.00	-3.00	0.00	
4,700.0	0.00	0.00	4,444.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
4,800.0	0.00	0.00	4,544.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
4,900.0	0.00	0.00	4,644.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
5,000.0	0.00	0.00	4,744.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
5,013.4	0.00	0.00	4,758.0	-997.1	954.2	1,380.1	0.00	0.00	0.00	
Pt Lookout										
5,100.0	0.00	0.00	4,844.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
5,200.0	0.00	0.00	4,944.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
5,300.0	0.00	0.00	5,044.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
5,360.4	0.00	0.00	5,105.0	-997.1	954.2	1,380.1	0.00	0.00	0.00	
Manco's Shale										
5,400.0	0.00	0.00	5,144.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
5,500.0	0.00	0.00	5,244.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
5,600.0	0.00	0.00	5,344.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,444.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,544.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,644.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,744.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
6,100.0	0.00	0.00	5,844.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
6,200.0	0.00	0.00	5,944.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
6,231.4	0.00	0.00	5,976.0	-997.1	954.2	1,380.1	0.00	0.00	0.00	
Gallup										
6,300.0	0.00	0.00	6,044.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,144.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,244.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,344.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,444.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,544.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,644.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
6,995.4	0.00	0.00	6,740.0	-997.1	954.2	1,380.1	0.00	0.00	0.00	
Greenhorn										
7,000.0	0.00	0.00	6,744.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
7,050.4	0.00	0.00	6,795.0	-997.1	954.2	1,380.1	0.00	0.00	0.00	
Graneros										
7,100.0	0.00	0.00	6,844.6	-997.1	954.2	1,380.1	0.00	0.00	0.00	
7,106.4	0.00	0.00	6,851.0	-997.1	954.2	1,380.1	0.00	0.00	0.00	

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Well:	Pubco Federal Gas Com 1N	Survey Calculation Method:	Minimum Curvature
Wellbore:	Primary Wellbore		
Design:	APD Design		

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)
Two Wells									
7,185.4	0.00	0.00	6,930.0	-997.1	954.2	1,380.1	0.00	0.00	0.00
Pauguate									
7,200.0	0.00	0.00	6,944.6	-997.1	954.2	1,380.1	0.00	0.00	0.00
7,217.4	0.00	0.00	6,962.0	-997.1	954.2	1,380.1	0.00	0.00	0.00
Cubero									
7,274.4	0.00	0.00	7,019.0	-997.1	954.2	1,380.1	0.00	0.00	0.00
Encinal									
7,300.0	0.00	0.00	7,044.6	-997.1	954.2	1,380.1	0.00	0.00	0.00
7,304.4	0.00	0.00	7,049.0	-997.1	954.2	1,380.1	0.00	0.00	0.00
TD									

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
PFGC 1N PCP - plan hits target center - Point	0.00	0.00	7,049.0	-997.1	954.2	2,114,104.82	464,853.02	36° 48' 35.836 N	107° 57' 12.223 W
PFGC 1N ICP - plan hits target center - Point	0.00	0.00	4,405.0	-997.1	954.2	2,114,104.82	464,853.02	36° 48' 35.836 N	107° 57' 12.223 W

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,047.5	1,030.0	Ojo Alamo		0.00		
7,274.4	7,019.0	Encinal		0.00		
7,304.4	7,049.0	TD		0.00		
1,171.9	1,145.0	Kirtland		0.00		
1,915.8	1,832.0	Fruitland		0.00		
6,231.4	5,976.0	Gallup		0.00		
4,390.6	4,136.0	Massive Cliff House		0.00		
2,560.1	2,427.0	Pictured Cliffs		0.00		
2,745.2	2,598.0	Lewis		0.00		
7,185.4	6,930.0	Pauguate		0.00		
7,106.4	6,851.0	Two Wells		0.00		
3,672.1	3,454.0	Chacra		0.00		
7,050.4	6,795.0	Graneros		0.00		
5,013.4	4,758.0	Pt. Lookout		0.00		
6,995.4	6,740.0	Greenhorn		0.00		
7,217.4	6,962.0	Cubero		0.00		
3,372.2	3,177.0	Huerfano Bentonite		0.00		
4,512.3	4,257.0	Menefee		0.00		
5,360.4	5,105.0	Mancos Shale		0.00		

ConocoPhillips

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Pubco Federal Gas Com 1N
Company:	ConocoPhillips SJBW	TVD Reference:	RKB @ 5975.0usft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	RKB @ 5975.0usft (Original Well Elev)
Site:	Other Named Wells	North Reference:	Grid
Well:	Pubco Federal Gas Com 1N	Survey Calculation Method:	Minimum Curvature
Wellbore:	Primary Wellbore		
Design:	APD Design		