

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS".

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work
DRILL

5. Lease Number
NM-029144
Unit Reporting Number

1b. Type of Well
GAS

6. If Indian, All. or Tribe

RECEIVED

FEB 06 2013

2. Operator

ConocoPhillips

Company

Farmington Field Office
Bureau of Land Management

7. Unit Agreement Name

RCVD MAR 21 '13
OIL CONS. DIV.
DIST. 3

3. Address & Phone No. of Operator

PO Box 4289, Farmington, NM 87499

(505) 326-9700

8. Farm or Lease Name
Federal

9. Well Number
16N

4. Location of Well

Surface: Unit M(SW/SW), 562' FSL & 1238' FWL
BHL : Unit D(NW/NW), 710' FNL & 1275' FWL

Surface: Latitude: 36.59797° N (NAD83)
Longitude: 107.69116° W
Bottom Hole: Latitude: 36.59447° N (NAD83)
Longitude: 107.69114° W

10. Field, Pool, Wildcat
Blanco MV/Basin DK

11. Sec., Twn, Rge, Mer. (NMPM)
Surf: Sec. 4, T27N, R8W
BHL : Sec. 9, T27N, R8W

API # 30-045- 35458

14. Distance in Miles from Nearest Town
30

12. County
San Juan

13. State
NM

15. Distance from Proposed Location to Nearest Property or Lease Line
562'

16. Acres in Lease
320.00

17. Acres Assigned to Well
320 W/2

18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease
321' XTO-Dawson A#1- Blanco MV/Basin DK

19. Proposed Depth
7443

20. Rotary or Cable Tools
Rotary

21. Elevations (DF, FT, GR, Etc.)
6720' GL

22. Approx. Date Work will Start

23. Proposed Casing and Cementing Program
See Operations Plan attached

24. Authorized by:

(Kenny Davis)

2/5/13
Date

BLM'S APPROVAL OR ACCEPTANCE OF THIS
ACTION DOES NOT RELIEVE THE LESSEE AND
OPERATOR FROM OBTAINING ANY OTHER
AUTHORIZATION REQUIRED FOR OPERATIONS
ON FEDERAL AND INDIAN LANDS

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

Archaeological Report attached

A gas recovery unit may or may not be used on this location.

Threatened and Endangered Species Report attached

NOTE: This format is issued in lieu of U.S. BLM Form 3160-3

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or presentations as to any matter within its jurisdiction.

Example Master Plan Type 3

Bond Numbers ES-0048 and ES-0085

Hold C104
for Directional Survey
and "As Drilled" plat

MAR 28 2013

NMOCDA

Hold C104
for Directional Survey
and "As Drilled" plat

PC

VERIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT

DISTRICT I

1626 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 593-6161 Fax: (575) 393-0720

DISTRICT II

811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III

1000 Rio Brazos Rd., Arleo, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 478-3460 Fax: (505) 478-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

RECEIVED

Form C-102
Revised August 1, 2011

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit one copy to appropriate
District Office

FEB 05 2013

Farmington Field Office
Bureau of Land Management

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045- 35458	² Pool Code 72319 / 71599	³ Pool Name BLANCO MESAVERDE / BASIN DAKOTA
⁴ Property Code 31535	⁵ Property Name FEDERAL	⁶ Well Number 16N
⁷ OGRID No. 217817	⁸ Operator Name CONOCOPHILLIPS COMPANY	⁹ Elevation 6720'

¹⁰ Surface Location

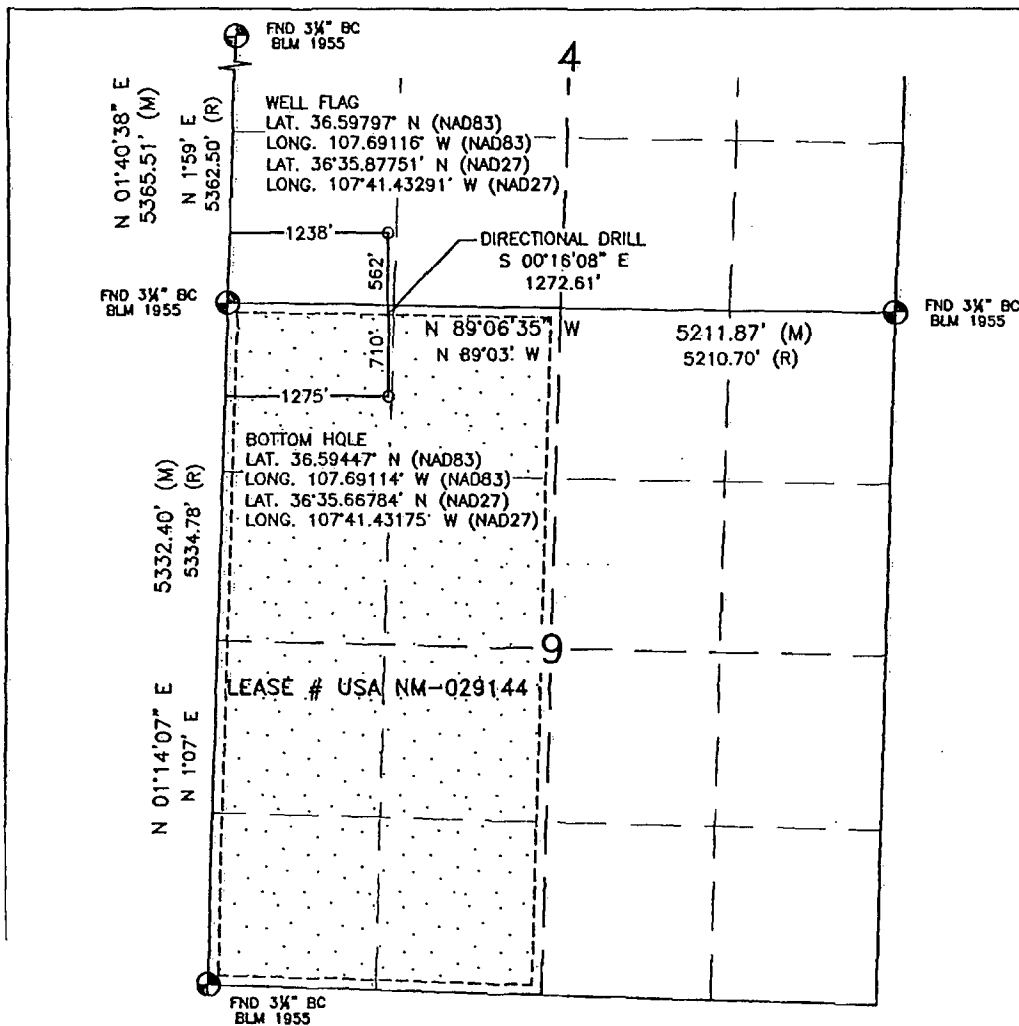
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	4	27N	8W		562'	SOUTH	1238'	WEST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	9	27N	8W		710'	NORTH	1275'	WEST	SAN JUAN
¹² Dedicated Acres 320.00 ACRES - W/2			¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.		

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature: *[Signature]* Date: 9/4/12
Marie E. Jaramillo 9/4/12
Printed Name

Staff Regulatory Tech.

E-mail Address

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date of Survey: JULY 13, 2012
Signature and Seal of Professional Surveyor:
DAVID H. RUSSELL
REGISTERED PROFESSIONAL LAND SURVEYOR
10201

DAVID RUSSELL
Certificate Number 10201

PC

PROJECT PROPOSAL - New Drill / Sidetrack

San Juan Business Unit

FEDERAL 16N

DEVELOPMENT

Lease:		AFE #: WAN.CDR.2018				AFE \$:	
Field Name: SAN JUAN		Rig: Aztec Rig 711		State: NM	County: SAN JUAN		API #:
Geologist:		Phone:		Geophysicist:		Phone:	
Geoscientist:		Phone:		Prod. Engineer:		Phone:	
Res. Engineer:		Phone:		Proj. Field Lead:		Phone:	
Primary Objective (Zones):							
Zone	Zone Name						
FRR	BASIN DAKOTA (PRORATED GAS)						
RON	BLANCO MESAVERDE (PRORATED GAS)						
Location: Surface Datum Code: NAD 27 Directional							
Latitude: 36.597962		Longitude: -107.690548		X:	Y:	Section: 04	Range: 008W
Footage X: 1238 FWL		Footage Y: 562 FSL		Elevation: 6720 (FT)		Township: 027N	
Tolerance:							
Location: Bottom Hole Datum Code: NAD 27 Directional							
Latitude: 36.594462		Longitude: -107.690528		X:	Y:	Section: 09	Range: 008W
Footage X: 1275 FWL		Footage Y: 710 FNL		Elevation: (FT)		Township: 027N	
Tolerance:							
Location Type: Year Round		Start Date (Est.): 1/1/2014		Completion Date:		Date In Operation:	
Formation Data: Assume KB = 6735 Units = FT							
Formation Call & Casing Points	Depth (TVD in Ft)	SS (Ft)	MD (Ft)	Depletion (Yes/No)	BHP (PSIG)	BHT	Remarks
SAN JOSE	15	6720		☐			
Surface Casing	320	6415		☐	45		12-1/4 hole. 320' 9 5/8" 32.3 ppf, H-40, STC casing. Cement with 183 cuft. Circulate cement to surface.
NACIMIENTO	743	5992		☐			
OJO ALAMO	2018	4717		☐			
KIRTLAND	2121	4614		☐			
FRUITLAND	2471	4264		☐			Possible Gas
PICTURED CLIFFS	2895	3840		☐	171		
LEWIS	3028	3707		☐		102	
HUERFANITO BENTONITE	3303	3432		☐			
CHACRA	3843	2892		☐			
MASSIVE CLIFF HOUSE	4553	2182		☐	583		Gas - Est top MV perf 4823'
MENEFEE	4603	2132		☐			Gas
Intermediate Casing	4753	1982		☐	133		8 3/4" Hole. 7", 23 ppf, J-55, LTC Casing. Cement with 1065 cuft. Circulate cement to surface.
POINT LOOKOUT	5168	1567		☐			Gas - Est bot MV perf 5338' tvd (~170' below T/PNLK).
MANCOS	5514	1221		☐			
UPPER GALLUP	6329	406		☐			
GREENHORN	7111	-376		☐			
GRANEROS	7170	-435		☐			
TWO WELLS	7238	-503		☐	2477	186	
PAGUATE	7292	-557		☐			Gas - Est top DK perf 7294' tvd (~2' below T/PGTE).
LOWER CUBERO	7338	-603		☐			Gas

PROJECT PROPOSAL - New Drill / Sidetrack

San Juan Business Unit

FEDERAL 16N

DEVELOPMENT

NCINAL	7412	-677	☐	Gas - Est bot DK perf 7422' tvd (~10' below T/ENCN).
otal Depth	7443	-708	☐	189 6-1/4" hole, 4-1/2" 11.6 ppf, L-80, LTC/BTC casing. Cement w/ 357 cuft. Circulate cement a minimum of 100' inside the previous casing string.
URRO CANYON	7482	-747	☐	
10RRISON	7542	-807	☐	

Reference Wells:

Reference Type	Well Name	Comments
Production	FEDERAL 21	

Logging Program:

Intermediate Logs: ☐ Log only if show ☐ GR/ILD ☐ Triple Combo

TD Logs: ☐ Triple Combo ☐ Dipmeter ☐ RFT ☐ Sonic ☐ VSP ☐ TDT ☒ Other

GR/CBL.

Mud log ~100' above T/GLLP down to TD.

Mudlogger will called TD.

Est bot DK perf ~20' above TD.

Additional Information:

Log Type	Stage	From (Ft)	To (Ft)	Tool Type/Name	Remarks
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ConocoPhillips

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Federal #16N
Company:	ConocoPhillips SJBU	TVD Reference:	WELL @ 6735.0usft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	WELL @ 6735.0usft (Original Well Elev)
Site:	Other Named Wells	North Reference:	Grid
Well:	Federal #16N	Survey Calculation Method:	Minimum Curvature
Wellbore:	Federal #16N		
Design:	Design #1		

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	Federal #16N					
Well Position	+N/-S	0.0 usft	Northing:	2,036,939.76 usft	Latitude:	36° 35' 52.663 N
	+E/-W	0.0 usft	Easting:	541,913.99 usft	Longitude:	107° 41' 25.973 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	6,720.0 usft

Wellbore:	Federal #16N				
Magnetics:	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2012	12/10/2012	9.67	63.30	50,464

Design:	Design #1			
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	179.65

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	
800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,960.1	23.20	179.65	1,928.6	-231.7	1.4	2.00	2.00	0.00	179.65	
4,214.3	23.20	179.65	4,000.6	-1,119.8	6.8	0.00	0.00	0.00	0.00	
4,987.7	0.00	0.00	4,753.0	-1,274.2	7.7	3.00	-3.00	0.00	180.00	FEDERAL #16N ICP
7,677.7	0.00	0.00	7,443.0	-1,274.2	7.7	0.00	0.00	0.00	0.00	FEDERAL #16N PCP

ConocoPhillips

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Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Federal #16N
Company:	ConocoPhillips SJBU	TVD Reference:	WELL @ 6735.0usft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	WELL @ 6735.0usft (Original Well Elev)
Site:	Other Named Wells	North Reference:	Grid
Well:	Federal #16N	Survey Calculation Method:	Minimum Curvature
Wellbore:	Federal #16N		
Design:	Design #1		

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
15.0	0.00	0.00	15.0	0.0	0.0	0.0	0.00	0.00	0.00
SAN JOSE									
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
743.0	0.00	0.00	743.0	0.0	0.0	0.0	0.00	0.00	0.00
NACIMIENTO									
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	2.00	179.65	900.0	-1.7	0.0	1.7	2.00	2.00	0.00
1,000.0	4.00	179.65	999.8	-7.0	0.0	7.0	2.00	2.00	0.00
1,100.0	6.00	179.65	1,099.5	-15.7	0.1	15.7	2.00	2.00	0.00
1,200.0	8.00	179.65	1,198.7	-27.9	0.2	27.9	2.00	2.00	0.00
1,300.0	10.00	179.65	1,297.5	-43.5	0.3	43.5	2.00	2.00	0.00
1,400.0	12.00	179.65	1,395.6	-62.6	0.4	62.6	2.00	2.00	0.00
1,500.0	14.00	179.65	1,493.1	-85.1	0.5	85.1	2.00	2.00	0.00
1,600.0	16.00	179.65	1,589.6	-111.0	0.7	111.0	2.00	2.00	0.00
1,700.0	18.00	179.65	1,685.3	-140.2	0.9	140.2	2.00	2.00	0.00
1,800.0	20.00	179.65	1,779.8	-172.8	1.1	172.8	2.00	2.00	0.00
1,900.0	22.00	179.65	1,873.2	-208.6	1.3	208.6	2.00	2.00	0.00
1,960.1	23.20	179.65	1,928.6	-231.7	1.4	231.7	2.00	2.00	0.00
2,000.0	23.20	179.65	1,965.3	-247.4	1.5	247.4	0.00	0.00	0.00
2,057.3	23.20	179.65	2,018.0	-270.0	1.6	270.0	0.00	0.00	0.00
OJO ALAMO									
2,100.0	23.20	179.65	2,057.2	-286.8	1.7	286.8	0.00	0.00	0.00
2,169.4	23.20	179.65	2,121.0	-314.1	1.9	314.1	0.00	0.00	0.00
KIRTLAND									
2,200.0	23.20	179.65	2,149.2	-326.2	2.0	326.2	0.00	0.00	0.00
2,300.0	23.20	179.65	2,241.1	-365.6	2.2	365.6	0.00	0.00	0.00
2,400.0	23.20	179.65	2,333.0	-405.0	2.5	405.0	0.00	0.00	0.00
2,500.0	23.20	179.65	2,424.9	-444.4	2.7	444.4	0.00	0.00	0.00
2,550.2	23.20	179.65	2,471.0	-464.2	2.8	464.2	0.00	0.00	0.00
FRUITLAND									
2,600.0	23.20	179.65	2,516.8	-483.8	2.9	483.8	0.00	0.00	0.00
2,700.0	23.20	179.65	2,608.7	-523.2	3.2	523.2	0.00	0.00	0.00
2,800.0	23.20	179.65	2,700.6	-562.6	3.4	562.6	0.00	0.00	0.00
2,900.0	23.20	179.65	2,792.5	-602.0	3.7	602.0	0.00	0.00	0.00
3,000.0	23.20	179.65	2,884.4	-641.4	3.9	641.4	0.00	0.00	0.00
3,011.5	23.20	179.65	2,895.0	-645.9	3.9	645.9	0.00	0.00	0.00
PICTURED CLIFFS									
3,100.0	23.20	179.65	2,976.4	-680.8	4.1	680.8	0.00	0.00	0.00
3,156.2	23.20	179.65	3,028.0	-702.9	4.3	702.9	0.00	0.00	0.00
LEWIS									
3,200.0	23.20	179.65	3,068.3	-720.2	4.4	720.2	0.00	0.00	0.00
3,300.0	23.20	179.65	3,160.2	-759.6	4.6	759.6	0.00	0.00	0.00
3,400.0	23.20	179.65	3,252.1	-799.0	4.9	799.0	0.00	0.00	0.00
3,455.4	23.20	179.65	3,303.0	-820.8	5.0	820.8	0.00	0.00	0.00
HUERFANITO BENTONITE									
3,500.0	23.20	179.65	3,344.0	-838.4	5.1	838.4	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Federal #16N
Company:	ConocoPhillips SJB	TVD Reference:	WELL @ 6735.0usft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	WELL @ 6735.0usft (Original Well Elev)
Site:	Other Named Wells	North Reference:	Grid
Well:	Federal #16N	Survey Calculation Method:	Minimum Curvature
Wellbore:	Federal #16N		
Design:	Design #1		

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)
3,600.0	23.20	179.65	3,435.9	-877.8	5.3	877.8	0.00	0.00	0.00
3,700.0	23.20	179.65	3,527.8	-917.2	5.6	917.2	0.00	0.00	0.00
3,800.0	23.20	179.65	3,619.7	-956.5	5.8	956.6	0.00	0.00	0.00
3,900.0	23.20	179.65	3,711.7	-995.9	6.1	996.0	0.00	0.00	0.00
4,000.0	23.20	179.65	3,803.6	-1,035.3	6.3	1,035.4	0.00	0.00	0.00
4,042.9	23.20	179.65	3,843.0	-1,052.2	6.4	1,052.3	0.00	0.00	0.00
CHACRA									
4,100.0	23.20	179.65	3,895.5	-1,074.7	6.5	1,074.8	0.00	0.00	0.00
4,200.0	23.20	179.65	3,987.4	-1,114.1	6.8	1,114.2	0.00	0.00	0.00
4,214.3	23.20	179.65	4,000.6	-1,119.8	6.8	1,119.8	0.00	0.00	0.00
4,300.0	20.63	179.65	4,080.0	-1,151.8	7.0	1,151.8	3.00	-3.00	0.00
4,400.0	17.63	179.65	4,174.5	-1,184.5	7.2	1,184.5	3.00	-3.00	0.00
4,500.0	14.63	179.65	4,270.6	-1,212.3	7.4	1,212.3	3.00	-3.00	0.00
4,600.0	11.63	179.65	4,367.9	-1,235.0	7.5	1,235.0	3.00	-3.00	0.00
4,700.0	8.63	179.65	4,466.4	-1,252.6	7.6	1,252.6	3.00	-3.00	0.00
4,787.4	6.01	179.65	4,553.0	-1,263.7	7.7	1,263.8	3.00	-3.00	0.00
MASSIVE - UPPER CLIFF HOUSE									
4,800.0	5.63	179.65	4,565.6	-1,265.0	7.7	1,265.0	3.00	-3.00	0.00
4,837.6	4.50	179.65	4,603.0	-1,268.3	7.7	1,268.4	3.00	-3.00	0.00
MENEFEE									
4,900.0	2.63	179.65	4,665.3	-1,272.2	7.7	1,272.2	3.00	-3.00	0.00
4,987.7	0.00	0.00	4,753.0	-1,274.2	7.7	1,274.3	3.00	-3.00	0.00
5,000.0	0.00	0.00	4,765.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
5,100.0	0.00	0.00	4,865.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
5,200.0	0.00	0.00	4,965.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
5,300.0	0.00	0.00	5,065.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
5,400.0	0.00	0.00	5,165.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
5,402.7	0.00	0.00	5,168.0	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
POINT LOOKOUT									
5,500.0	0.00	0.00	5,265.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
5,600.0	0.00	0.00	5,365.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
5,700.0	0.00	0.00	5,465.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
5,748.7	0.00	0.00	5,514.0	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
MANCOS									
5,800.0	0.00	0.00	5,565.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
5,900.0	0.00	0.00	5,665.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
6,000.0	0.00	0.00	5,765.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
6,100.0	0.00	0.00	5,865.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
6,200.0	0.00	0.00	5,965.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
6,300.0	0.00	0.00	6,065.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
6,400.0	0.00	0.00	6,165.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
6,500.0	0.00	0.00	6,265.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
6,563.7	0.00	0.00	6,329.0	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
UPPER GALLUP									
6,600.0	0.00	0.00	6,365.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
6,700.0	0.00	0.00	6,465.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
6,800.0	0.00	0.00	6,565.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
6,900.0	0.00	0.00	6,665.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
7,000.0	0.00	0.00	6,765.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
7,100.0	0.00	0.00	6,865.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
7,200.0	0.00	0.00	6,965.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00
7,300.0	0.00	0.00	7,065.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Federal #16N
Company:	ConocoPhillips SJB	TVD Reference:	WELL @ 6735.0usft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	WELL @ 6735.0usft (Original Well Elev)
Site:	Other Named Wells	North Reference:	Grid
Well:	Federal #16N	Survey Calculation Method:	Minimum Curvature
Wellbore:	Federal #16N		
Design:	Design #1		

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)	
7,345.7	0.00	0.00	7,111.0	-1,274.2	7.7	1,274.3	0.00	0.00	0.00	
GREENHORN										
7,400.0	0.00	0.00	7,165.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00	
7,404.7	0.00	0.00	7,170.0	-1,274.2	7.7	1,274.3	0.00	0.00	0.00	
GRANEROS										
7,472.7	0.00	0.00	7,238.0	-1,274.2	7.7	1,274.3	0.00	0.00	0.00	
TWO WELLS										
7,500.0	0.00	0.00	7,265.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00	
7,526.7	0.00	0.00	7,292.0	-1,274.2	7.7	1,274.3	0.00	0.00	0.00	
PAGUATE										
7,572.7	0.00	0.00	7,338.0	-1,274.2	7.7	1,274.3	0.00	0.00	0.00	
LOWER CUBERO										
7,600.0	0.00	0.00	7,365.3	-1,274.2	7.7	1,274.3	0.00	0.00	0.00	
7,646.7	0.00	0.00	7,412.0	-1,274.2	7.7	1,274.3	0.00	0.00	0.00	
ENCINAL										
7,677.7	0.00	0.00	7,443.0	-1,274.2	7.7	1,274.3	0.00	0.00	0.00	

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
FEDERAL #16N PCP	0.00	0.00	7,443.0	-1,274.2	7.8	2,035,665.64	541,921.76	36° 35' 40.063 N	107° 41' 25.901 W
- plan hits target center									
- Point									
FEDERAL #16N ICP	0.00	0.00	4,753.0	-1,274.2	7.8	2,035,665.64	541,921.76	36° 35' 40.063 N	107° 41' 25.901 W
- plan hits target center									
- Point									
FEFERAL #16N ICP	0.00	0.00	4,753.0	-1,274.2	7.7	2,035,665.62	541,921.74	36° 35' 40.063 N	107° 41' 25.901 W
- plan hits target center									
- Point									

ConocoPhillips

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Federal #16N
Company:	ConocoPhillips SJB	TVD Reference:	WELL @ 6735.0usft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	WELL @ 6735.0usft (Original Well Elev)
Site:	Other Named Wells	North Reference:	Grid
Well:	Federal #16N	Survey Calculation Method:	Minimum Curvature
Wellbore:	Federal #16N		
Design:	Design #1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
7,404.7	7,170.0	GRANEROS		0.00		
7,472.7	7,238.0	TWO WELLS		0.00		
4,042.9	3,843.0	CHACRA		0.00		
7,646.7	7,412.0	ENCINAL		0.00		
6,563.7	6,329.0	UPPER GALLUP		0.00		
7,526.7	7,292.0	PAGUATE		0.00		
3,455.4	3,303.0	HUERFANITO BENTONITE		0.00		
3,011.5	2,895.0	PICTURED CLIFFS		0.00		
5,748.7	5,514.0	MANCOS		0.00		
2,057.3	2,018.0	OJO ALAMO		0.00		
15.0	15.0	SAN JOSE		0.00		
4,837.6	4,603.0	MENEFEE		0.00		
7,572.7	7,338.0	LOWER CUBERO		0.00		
743.0	743.0	NACIMIENTO		0.00		
3,156.2	3,028.0	LEWIS		0.00		
4,787.4	4,553.0	MASSIVE - UPPER CLIFF HOUSE		0.00		
7,345.7	7,111.0	GREENHORN		0.00		
2,169.4	2,121.0	KIRTLAND		0.00		
5,402.7	5,168.0	POINT LOOKOUT		0.00		
2,550.2	2,471.0	FRUITLAND		0.00		

REFERENCE INFORMATION

Project: San Juan Basin - New Mexico West V

Site: Other Named Wells

Well: Federal #16N

Wellbore: Federal #16N

Design: Design #1

WELL @ 6735.0usft (Original Well Elev)

Ground Elevation 6720.0

Reference Lat: 36° 35' 52.663 N

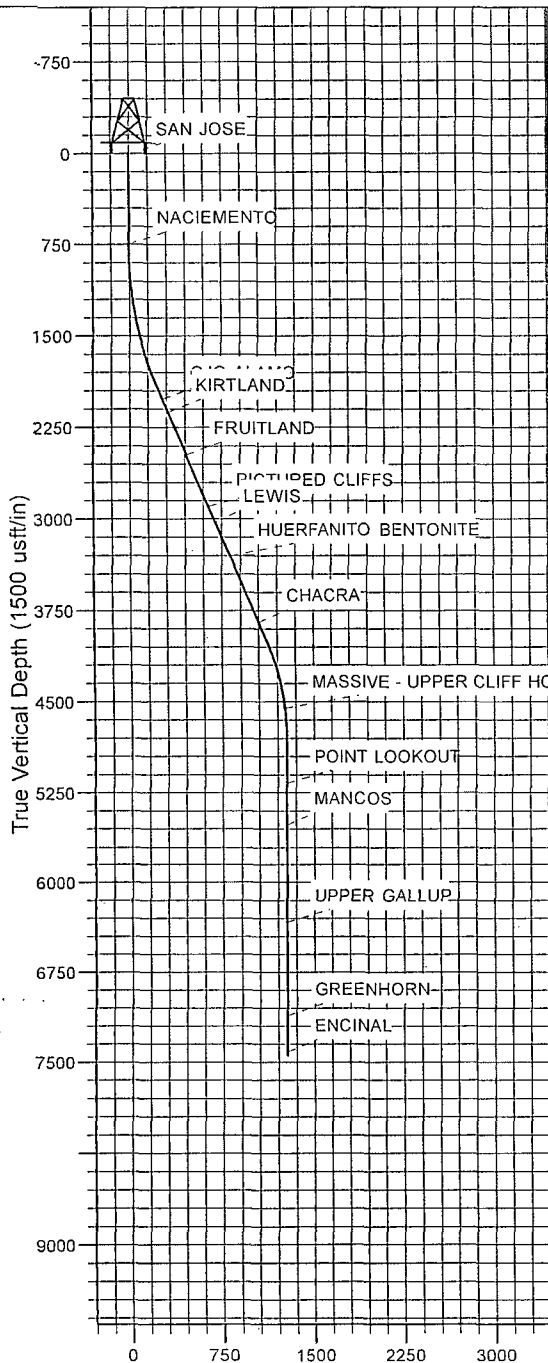
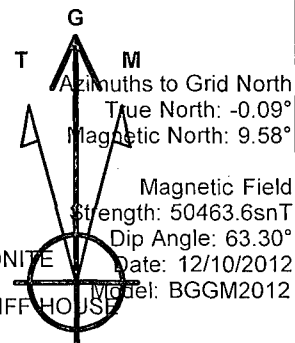
Reference Long: 107° 41' 25.973 W

SECTION DETAILS

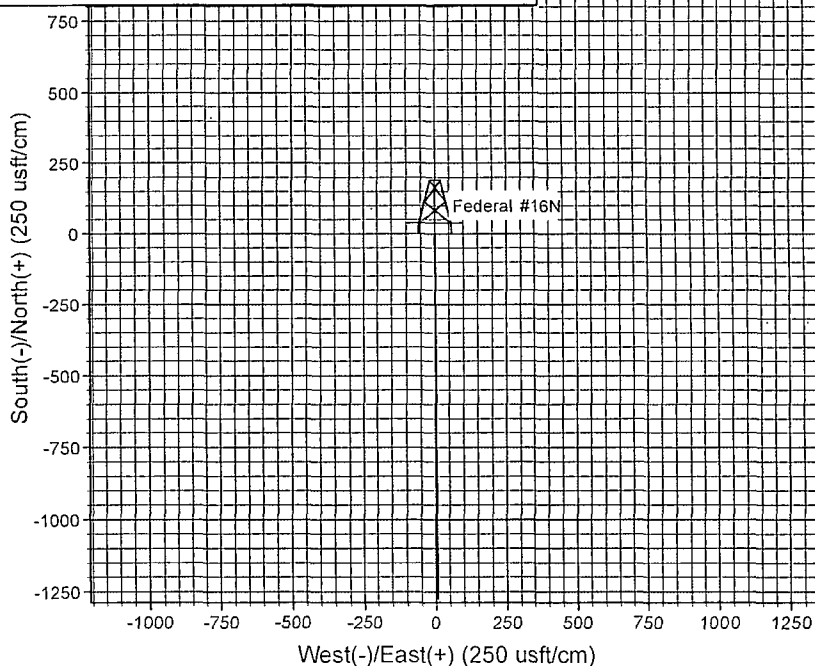
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.0	
3	1960.1	23.20	179.65	1928.6	-231.7	1.4	2.00	179.65	231.7	
4	4214.3	23.20	179.65	4000.6	-1119.8	6.8	0.00	0.00	1119.8	
5	4987.7	0.00	0.00	4753.0	-1274.2	7.7	3.00	180.00	1274.3	FEDERAL #16N ICP
6	7677.7	0.00	0.00	7443.0	-1274.2	7.7	0.00	0.00	1274.3	FEDERAL #16N PCP

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
15.0	15.0	SAN JOSE
743.0	743.0	NACIEMENTO
2018.0	2057.3	OJO ALAMO
2121.0	2169.4	KIRTLAND
2471.0	2550.2	FRUITLAND
2895.0	3011.5	PICTURED CLIFFS
3028.0	3156.2	LEWIS
3303.0	3455.4	HUERFANITO BENTONITE
3843.0	4042.9	CHACRA
4553.0	4787.4	MASSIVE - UPPER CLIFF HOUSE
4603.0	4837.6	MENEFEE
5168.0	5402.7	POINT LOOKOUT
5514.0	5748.7	MANCOS
6329.0	6563.7	UPPER GALLUP
7111.0	7345.7	GREENHORN
7170.0	7404.7	GRANEROS
7238.0	7472.7	TWO WELLS
7292.0	7526.7	PAGUATE
7338.0	7572.7	LOWER CUBERO
7412.0	7646.7	ENCINAL



Vertical Section at 179.65° (1500 usft/in)



West(-)/East(+) (250 usft/cm)

CONOCOPHILLIPS COMPANY

FEDERAL #16N

562' FSL & 1238' FWL

LOCATED IN THE SW/4 SW/4 OF SECTION 4,
T27N, R8W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

DIRECTIONS

- 1) FROM POST OFFICE IN BLOOMFIELD, TRAVEL EAST ON HIGHWAY 64 TO THE INTERSECTION OF HIGHWAY 64 AND HIGHWAY 550.
- 2) TURN RIGHT ONTO HIGHWAY 550 AND TRAVEL 1.0 MILE TO C.R. 4990.
- 3) TURN LEFT ONTO C.R. 4990 AND TRAVEL 8.6 MILES TO THE END OF PAVEMENT.
- 4) CONTINUE ON C.R. 4990 AND TRAVEL 6.2 MILES TO C.R. 4450.
- 5) TURN RIGHT ONTO C.R. 4450 AND TRAVEL 6.9 MILES TO THE HOLLIS PASS TURNOFF.
- 6) TURN RIGHT AND TRAVEL 5.9 MILES TO A "Y" INTERSECTION.
- 7) TURN LEFT AND TRAVEL 1.5 MILES WHERE THE ACCESS IS FLAGGED ON THE LEFT JUST BEFORE THE ROAD ENTERS THE EXISTING WELL PAD.

WELL FLAG LOCATED AT LAT. 36.59797° N, LONG. 107.69116° W (NAD 83).

