

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

FEB 26 2013

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

5. Lease Serial No.

SF-078497

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on page 2.

1. Type of Well

☐ Oil Well

☒ Gas Well

☐ Other

7. If Unit of CA/Agreement, Name and/or No.

San Juan 28-7 Unit

8. Well Name and No.

San Juan 28-7 Unit 238N

2. Name of Operator

ConocoPhillips Company

9. API Well No.

30-039-31150

3a. Address

PO Box 4289, Farmington, NM 87499

3b. Phone No. (include area code)

(505) 326-9700

10. Field and Pool or Exploratory Area

Basin Dakota

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Surface UL D (NW/NW), 670' FNL & 702' FWL Sec. 29, T28N, R7W

Bottomhole UL D (NW/NW), 1250' FNL & 702' FWL Sec. 29, T28N, R7W

11. Country or Parish, State

Rio Arriba

New Mexico

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION

☒ Notice of Intent

☐ Subsequent Report

☐ Final Abandonment Notice

TYPE OF ACTION

☐ Acidize

☐ Alter Casing

☐ Casing Repair

☐ Change Plans

☐ Convert to Injection

☐ Deepen

☐ Fracture Treat

☐ New Construction

☐ Plug and Abandon

☐ Plug Back

☐ Production (Start/Resume)

☐ Reclamation

☐ Recomplete

☐ Temporarily Abandon

☐ Water Disposal

☐ Water Shut-Off

☐ Well Integrity

☒ Other Directionally

steer during drilling.

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once Testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

ConocoPhillips needs to directionally steer the subject well to prevent it from drifting during drilling to a non-standard location and to avoid intersecting the well bore of the well that we are twinned with - San Juan 28-7 Unit 58A (MV well). Attached is the proposed directional drill plan, wall plat, project proposal and revised C-102 plat.

RCVD FEB 27 '13

OIL CONS. DIV.

DIST. 3

Hold C104

for Directional Survey
and "As Drilled" plat

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)

Kenny Davis

Title Staff Regulatory Technician

Signature

Date

2/25/13

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Petr. Eng.

Date

2/27/13

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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 representations as to any matter within its jurisdiction.

(Instruction on page 2)

FARMINGTON

NMOCD A

Hold C104
for Directional Survey
and "As Drilled" plat

PC

RECEIVED

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr. Santa Fe, NM 87505
Farmington Field Office
Bureau of Land Management

FEB 26 2013

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039-31150		² Pool Code 71599	³ Pool Name BASIN DAKOTA
⁴ Property Code 31739	⁵ Property Name SAN JUAN 28-7 UNIT		⁶ Well Number 238N
⁷ OGRID No. 217817	⁸ Operator Name CONOCOPHILLIPS COMPANY		⁹ Elevation 5963

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
D	29	28-N	7-W		670	NORTH	702	WEST	RIO ARRIBA

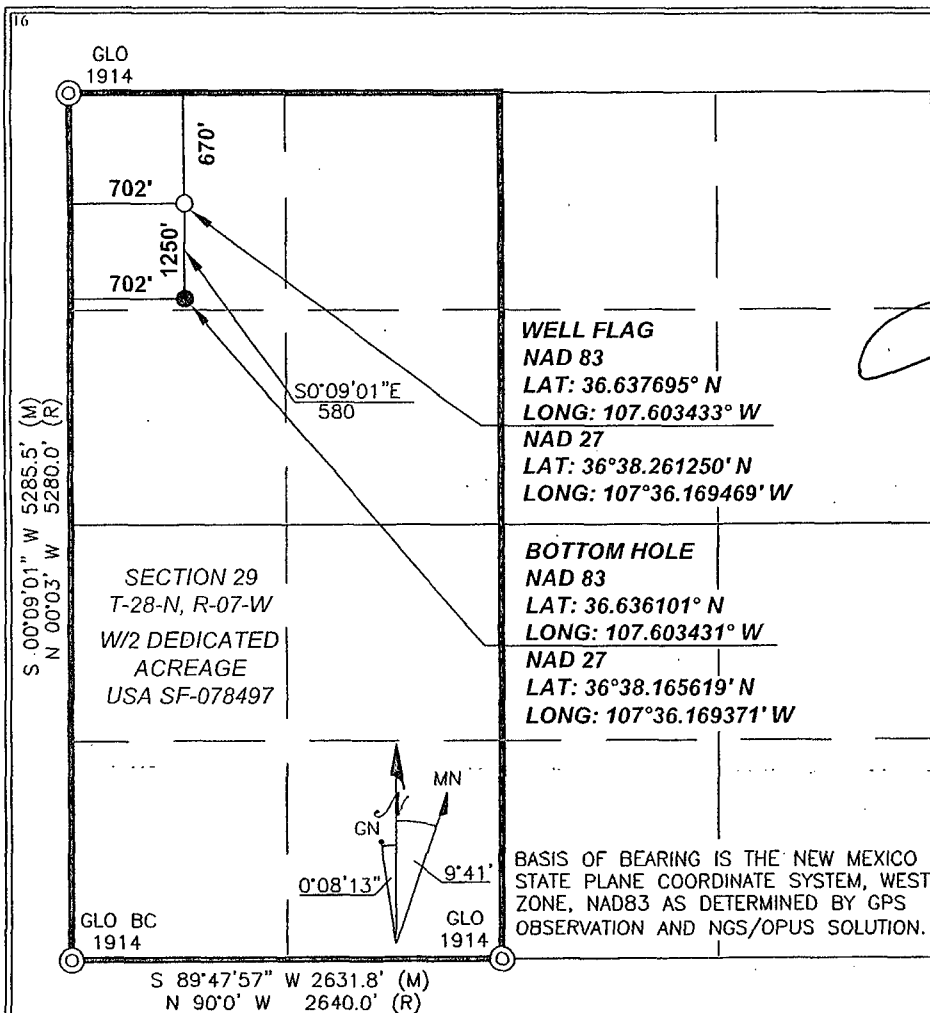
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	29	28-N	7-W		1250	NORTH	702	WEST	RIO ARRIBA

¹² Dedicated Acres W/2(320)	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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RCVD FEB 27 '13
OIL CONS. DIV.

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.
DIST. 3



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.

2/22/2013
Signature: _____ Date: _____

Kenny Davis

Printed Name

kenny.r.davis@conocophillips.com

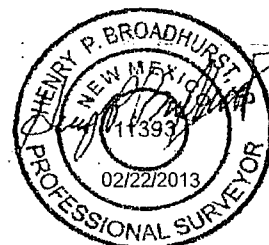
E-mail Address

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: **07/16/2012**

Signature and Seal of Professional Surveyor:



Certificate Number: NM 11393

PROJECT PROPOSAL - New Drill / Sidetrack

SAN JUAN 28-7 UNIT 238N

DEVELOPMENT

Lease:		AFE #: WAN.CDR.1183				AFE \$: 1,689,227.91	
Field Name: SAN JUAN		Rig: Aztec Rig 920		State: NM	County: RIO ARRIBA		API #: 3003931150
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)						
Location: Surface		Datum Code: NAD 27				Straight Hole	
Latitude: 36.637687	Longitude: -107.602824	X:	Y:	Section: 29		Range: 007W	
Footage X: 702 FWL	Footage Y: 670 FNL	Elevation: 5963	(FT)	Township: 028N			
Tolerance:							
Location: Bottom Hole		Datum Code: NAD 27				Straight Hole	
Latitude: 36.636093	Longitude: -107.602822	X:	Y:	Section: 29		Range: 007W	
Footage X: 702 FWL	Footage Y: 1250 FNL	Elevation:	(FT)	Township: 028N			
Tolerance:							
Location Type: Year Round		Start Date (Est.): 1/1/2013		Completion Date:		Date In Operation:	
Formation Data: Assume KB = 5978 Units = FT							
Formation Call & Casing Points	Depth (TVD in Ft)	SS (Ft)	MD (Ft)	Depletion (Yes/No)	BHP (PSIG)	BHT	Remarks
SAN JOSE	0	5978		☐			Ground water at 140' in SJ 28-7 193F, .9 miles away. (Surface)
Surface Casing	200	5778		☐		60	12-1/4 hole. 200' 9 5/8" 32.3 ppf, H-40, STC casing. Cement with 121 cuft. Circulate cement to surface.
NACIMIENTO	213	5765		☐			
OJO ALAMO	1654	4324		☐			
KIRTLAND	1788	4190		☐			
FRUITLAND	2118	3860		☐			Possible Gas
PICTURED CLIFFS	2551	3427		☐	428		
LEWIS	2683	3295		☐			
Intermediate Casing	2844	3134		☐		108	8 3/4" Hole. 7", 20 ppf, J-55, STC Casing. Cement with 641 cuft. Circulate cement to surface.
CHACRA	3489	2489		☐			Loss 200 bbls
UPPER CLIFF HOUSE	4088	1890		☐			
MASSIVE CLIFF HOUSE	4167	1811		☐	400		Gas
MENEFEE	4293	1685		☐			
POINT LOOKOUT	4767	1211		☐			Gas
MANCOS	5174	804		☐			
UPPER GALLUP	5958	20		☐		172	
GREENHORN	6703	-725		☐			
GRANEROS	6756	-778		☐			
TWO WELLS	6801	-823		☐	2478		Est top perf 6802'
PAGUATE	6884	-906		☐			Depending on how CBRL sands are developed, may be more conservative on completion ~like 238P plan.

PROJECT PROPOSAL - New Drill / Sidetrack

SAN JUAN 28-7 UNIT 238N

DEVELOPMENT

UPPER CUBERO	6923	-945	☐	Gas
LOWER CUBERO	6939	-961	☐	
ENCINAL	7014	-1036	☐	Gas
Total Depth	7022	-1044	☐	192 6-1/4" hole, 4-1/2" 11.6 ppf, L-80, LTC casing. Cement w/ 548 cuft. Circulate cement a minimum of 100' inside the previous casing string.
BURRO CANYON	7054	-1076	☐	
MORRISON	7112	-1134	☐	

Reference Wells:

Reference Type	Well Name	Comments
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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 GLLP down to TD.

Mudlogger will call TD.

Est bot perf ~20' above TD'

Additional Information:

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

SJB (NM Central)

SEC 29-T28N-R7W

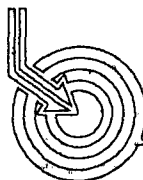
San Juan 28-7 Unit 238N

OH

Plan: Plan #2

Standard Planning Report

18 February, 2013



Scientific Drilling

Database:	Farmington 5000 DB	Local Co-ordinate Reference:	Well San Juan 28-7 Unit 238N
Company:	ConocoPhillips	TVD Reference:	GL 5963' & RKB 15' @ 5978.0usft (AWS 920)
Project:	SJB (NM Central)	MD Reference:	GL 5963' & RKB 15' @ 5978.0usft (AWS 920)
Site:	SEC 29-T28N-R7W	North Reference:	True
Well:	San Juan 28-7 Unit 238N	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Project	SJB (NM Central) New Mexico S-Type MV/DK Wells		
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 Central 3002		Using geodetic scale factor

Site	SEC 29-T28N-R7W		
Site Position:		Northing:	2,054,132.55 usft
From:	Lat/Long	Easting:	103,084.18 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Grid Convergence:	-0.81 °

Well	San Juan 28-7 Unit 238N		
Well Position	+N/-S	0.0 usft	Latitude: 36° 38' 15.675 N
	+E/-W	0.0 usft	Longitude: 107° 36' 10.168 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	Ground Level: 5,963.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	BGGM2012	02/08/2013	9.66
			Dip Angle
			63.35
			Field Strength
			50,476

Design	Plan #2		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			180.00

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	16.00	180.00	789.6	-111.0	0.0	2.00	2.00	0.00	180.00	
2,100.0	16.00	180.00	2,039.3	-469.3	0.0	0.00	0.00	0.00	0.00	
2,900.0	0.00	0.00	2,828.9	-580.3	0.0	2.00	-2.00	0.00	180.00	
2,915.1	0.00	0.00	2,844.0	-580.3	0.0	0.00	0.00	0.00	0.00	San Juan 28-7 Unit 2:
7,093.1	0.00	0.00	7,022.0	-580.3	0.0	0.00	0.00	0.00	0.00	San Juan 28-7 Unit 2:

Database:	Farmington 5000 DB	Local Co-ordinate Reference:	Well San Juan 28-7 Unit 238N
Company:	ConocoPhillips	TVD Reference:	GL 5963' & RKB 15' @ 5978.0usft (AWS 920)
Project:	SJB (NM Central)	MD Reference:	GL 5963' & RKB 15' @ 5978.0usft (AWS 920)
Site:	SEC 29-T28N-R7W	North Reference:	True
Well:	San Juan 28-7 Unit 238N	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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	0.30	180.00	15.0	0.0	0.0	0.0	2.00	2.00	0.00
San Jose									
100.0	2.00	180.00	100.0	-1.7	0.0	1.7	2.00	2.00	0.00
200.0	4.00	180.00	199.8	-7.0	0.0	7.0	2.00	2.00	0.00
200.2	4.00	180.00	200.0	-7.0	0.0	7.0	0.00	0.00	0.00
Surface Casing									
213.2	4.26	180.00	213.0	-7.9	0.0	7.9	2.02	2.02	0.00
Nacimiento									
300.0	6.00	180.00	299.5	-15.7	0.0	15.7	2.00	2.00	0.00
400.0	8.00	180.00	398.7	-27.9	0.0	27.9	2.00	2.00	0.00
500.0	10.00	180.00	497.5	-43.5	0.0	43.5	2.00	2.00	0.00
600.0	12.00	180.00	595.6	-62.6	0.0	62.6	2.00	2.00	0.00
700.0	14.00	180.00	693.1	-85.1	0.0	85.1	2.00	2.00	0.00
800.0	16.00	180.00	789.6	-111.0	0.0	111.0	2.00	2.00	0.00
900.0	16.00	180.00	885.8	-138.5	0.0	138.5	0.00	0.00	0.00
1,000.0	16.00	180.00	981.9	-166.1	0.0	166.1	0.00	0.00	0.00
1,100.0	16.00	180.00	1,078.0	-193.7	0.0	193.7	0.00	0.00	0.00
1,200.0	16.00	180.00	1,174.1	-221.2	0.0	221.2	0.00	0.00	0.00
1,300.0	16.00	180.00	1,270.3	-248.8	0.0	248.8	0.00	0.00	0.00
1,400.0	16.00	180.00	1,366.4	-276.4	0.0	276.4	0.00	0.00	0.00
1,500.0	16.00	180.00	1,462.5	-303.9	0.0	303.9	0.00	0.00	0.00
1,600.0	16.00	180.00	1,558.7	-331.5	0.0	331.5	0.00	0.00	0.00
1,697.1	16.00	180.00	1,652.0	-358.3	0.0	358.3	0.00	0.00	0.00
Ojo Alamo									
1,700.0	16.00	180.00	1,654.8	-359.1	0.0	359.1	0.00	0.00	0.00
1,800.0	16.00	180.00	1,750.9	-386.6	0.0	386.6	0.00	0.00	0.00
1,836.5	16.00	180.00	1,786.0	-396.7	0.0	396.7	0.00	0.00	0.00
Kirtland									
1,900.0	16.00	180.00	1,847.0	-414.2	0.0	414.2	0.00	0.00	0.00
2,000.0	16.00	180.00	1,943.2	-441.7	0.0	441.7	0.00	0.00	0.00
2,100.0	16.00	180.00	2,039.3	-469.3	0.0	469.3	0.00	0.00	0.00
2,181.6	14.37	180.00	2,118.0	-490.7	0.0	490.7	2.00	-2.00	0.00
Fruitland									
2,200.0	14.00	180.00	2,135.9	-495.2	0.0	495.2	2.00	-2.00	0.00
2,300.0	12.00	180.00	2,233.3	-517.7	0.0	517.7	2.00	-2.00	0.00
2,400.0	10.00	180.00	2,331.5	-536.8	0.0	536.8	2.00	-2.00	0.00
2,500.0	8.00	180.00	2,430.2	-552.4	0.0	552.4	2.00	-2.00	0.00
2,600.0	6.00	180.00	2,529.5	-564.6	0.0	564.6	2.00	-2.00	0.00
2,623.6	5.53	180.00	2,553.0	-567.0	0.0	567.0	2.00	-2.00	0.00
Pictured Cliffs									
2,700.0	4.00	180.00	2,629.1	-573.3	0.0	573.3	2.00	-2.00	0.00
2,763.0	2.74	180.00	2,692.0	-577.0	0.0	577.0	2.00	-2.00	0.00
Lewis									
2,800.0	2.00	180.00	2,728.9	-578.5	0.0	578.5	2.00	-2.00	0.00
2,900.0	0.00	0.00	2,828.9	-580.3	0.0	580.3	2.00	-2.00	0.00
2,915.1	0.00	0.00	2,844.0	-580.3	0.0	580.3	0.00	0.00	0.00
Intermediate Casing - San Juan 28-7 Unit 238N (CP)									
3,000.0	0.00	0.00	2,928.9	-580.3	0.0	580.3	0.00	0.00	0.00
3,100.0	0.00	0.00	3,028.9	-580.3	0.0	580.3	0.00	0.00	0.00
3,155.1	0.00	0.00	3,084.0	-580.3	0.0	580.3	0.00	0.00	0.00
Huerfano Bentonite									
3,200.0	0.00	0.00	3,128.9	-580.3	0.0	580.3	0.00	0.00	0.00

Database:	Farmington 5000.DB	Local Co-ordinate Reference:	Well San Juan 28-7 Unit 238N
Company:	ConocoPhillips	TVD Reference:	GL 5963' & RKB 15' @ 5978.0usft (AWS 920)
Project:	SJB (NM Central)	MD Reference:	GL 5963' & RKB 15' @ 5978.0usft (AWS 920)
Site:	SEC 29-T28N-R7W	North Reference:	True
Well:	San Juan 28-7 Unit 238N	Survey Calculation Method:	Minimum Curvature
Wellbore:	QH		
Design:	Plan #2		

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)
3,300.0	0.00	0.00	3,228.9	-580.3	0.0	580.3	0.00	0.00	0.00
3,400.0	0.00	0.00	3,328.9	-580.3	0.0	580.3	0.00	0.00	0.00
3,500.0	0.00	0.00	3,428.9	-580.3	0.0	580.3	0.00	0.00	0.00
3,560.1	0.00	0.00	3,489.0	-580.3	0.0	580.3	0.00	0.00	0.00
Chacra									
3,600.0	0.00	0.00	3,528.9	-580.3	0.0	580.3	0.00	0.00	0.00
3,700.0	0.00	0.00	3,628.9	-580.3	0.0	580.3	0.00	0.00	0.00
3,800.0	0.00	0.00	3,728.9	-580.3	0.0	580.3	0.00	0.00	0.00
3,900.0	0.00	0.00	3,828.9	-580.3	0.0	580.3	0.00	0.00	0.00
4,000.0	0.00	0.00	3,928.9	-580.3	0.0	580.3	0.00	0.00	0.00
4,100.0	0.00	0.00	4,028.9	-580.3	0.0	580.3	0.00	0.00	0.00
4,159.1	0.00	0.00	4,088.0	-580.3	0.0	580.3	0.00	0.00	0.00
Upper Cliff House									
4,200.0	0.00	0.00	4,128.9	-580.3	0.0	580.3	0.00	0.00	0.00
4,247.1	0.00	0.00	4,176.0	-580.3	0.0	580.3	0.00	0.00	0.00
Massive Cliff House									
4,300.0	0.00	0.00	4,228.9	-580.3	0.0	580.3	0.00	0.00	0.00
4,376.1	0.00	0.00	4,305.0	-580.3	0.0	580.3	0.00	0.00	0.00
Menefee									
4,400.0	0.00	0.00	4,328.9	-580.3	0.0	580.3	0.00	0.00	0.00
4,500.0	0.00	0.00	4,428.9	-580.3	0.0	580.3	0.00	0.00	0.00
4,600.0	0.00	0.00	4,528.9	-580.3	0.0	580.3	0.00	0.00	0.00
4,700.0	0.00	0.00	4,628.9	-580.3	0.0	580.3	0.00	0.00	0.00
4,800.0	0.00	0.00	4,728.9	-580.3	0.0	580.3	0.00	0.00	0.00
4,846.1	0.00	0.00	4,775.0	-580.3	0.0	580.3	0.00	0.00	0.00
Point Lookout									
4,900.0	0.00	0.00	4,828.9	-580.3	0.0	580.3	0.00	0.00	0.00
5,000.0	0.00	0.00	4,928.9	-580.3	0.0	580.3	0.00	0.00	0.00
5,100.0	0.00	0.00	5,028.9	-580.3	0.0	580.3	0.00	0.00	0.00
5,200.0	0.00	0.00	5,128.9	-580.3	0.0	580.3	0.00	0.00	0.00
5,256.1	0.00	0.00	5,185.0	-580.3	0.0	580.3	0.00	0.00	0.00
Mancos									
5,300.0	0.00	0.00	5,228.9	-580.3	0.0	580.3	0.00	0.00	0.00
5,400.0	0.00	0.00	5,328.9	-580.3	0.0	580.3	0.00	0.00	0.00
5,500.0	0.00	0.00	5,428.9	-580.3	0.0	580.3	0.00	0.00	0.00
5,600.0	0.00	0.00	5,528.9	-580.3	0.0	580.3	0.00	0.00	0.00
5,700.0	0.00	0.00	5,628.9	-580.3	0.0	580.3	0.00	0.00	0.00
5,800.0	0.00	0.00	5,728.9	-580.3	0.0	580.3	0.00	0.00	0.00
5,900.0	0.00	0.00	5,828.9	-580.3	0.0	580.3	0.00	0.00	0.00
6,000.0	0.00	0.00	5,928.9	-580.3	0.0	580.3	0.00	0.00	0.00
6,037.1	0.00	0.00	5,966.0	-580.3	0.0	580.3	0.00	0.00	0.00
Upper Gallup									
6,100.0	0.00	0.00	6,028.9	-580.3	0.0	580.3	0.00	0.00	0.00
6,200.0	0.00	0.00	6,128.9	-580.3	0.0	580.3	0.00	0.00	0.00
6,300.0	0.00	0.00	6,228.9	-580.3	0.0	580.3	0.00	0.00	0.00
6,400.0	0.00	0.00	6,328.9	-580.3	0.0	580.3	0.00	0.00	0.00
6,500.0	0.00	0.00	6,428.9	-580.3	0.0	580.3	0.00	0.00	0.00
6,600.0	0.00	0.00	6,528.9	-580.3	0.0	580.3	0.00	0.00	0.00
6,700.0	0.00	0.00	6,628.9	-580.3	0.0	580.3	0.00	0.00	0.00
6,786.1	0.00	0.00	6,715.0	-580.3	0.0	580.3	0.00	0.00	0.00
Greenhorn									
6,800.0	0.00	0.00	6,728.9	-580.3	0.0	580.3	0.00	0.00	0.00
6,837.1	0.00	0.00	6,766.0	-580.3	0.0	580.3	0.00	0.00	0.00

Database:	Farmington 5000 DB	Local Co-ordinate Reference:	Well San Juan 28-7 Unit 238N
Company:	ConocoPhillips	TVD Reference:	GL 5963' & RKB 15' @ 5978.0usft (AWS 920)
Project:	SJB (NM Central)	MD Reference:	GL 5963' & RKB 15' @ 5978.0usft (AWS 920)
Site:	SEC 29-T28N-R7W	North Reference:	True
Well:	San Juan 28-7 Unit 238N	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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)
Graneros									
6,881.1	0.00	0.00	6,810.0	-580.3	0.0	580.3	0.00	0.00	0.00
Two Wells									
6,900.0	0.00	0.00	6,828.9	-580.3	0.0	580.3	0.00	0.00	0.00
6,956.1	0.00	0.00	6,885.0	-580.3	0.0	580.3	0.00	0.00	0.00
Paguate									
7,000.0	0.00	0.00	6,928.9	-580.3	0.0	580.3	0.00	0.00	0.00
7,003.1	0.00	0.00	6,932.0	-580.3	0.0	580.3	0.00	0.00	0.00
Upper Cubero									
7,016.1	0.00	0.00	6,945.0	-580.3	0.0	580.3	0.00	0.00	0.00
Lower Cubero									
7,093.1	0.00	0.00	7,022.0	-580.3	0.0	580.3	0.00	0.00	0.00
Encinal - Production Casing - San Juan 28-7 Unit 238N PCP									

Design 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									
San Juan 28-7 Unit 238†	0.00	0.00	2,844.0	0.0	0.0	2,054,132.55	103,084.18	36° 38' 15.675 N	107° 36' 10.168 W
- plan misses target center by 580.3usft at 2915.1usft MD (2844.0 TVD, -580.3 N, 0.0 E)									
- Point									
San Juan 28-7 Unit 238†	0.00	0.00	7,022.0	0.0	0.0	2,054,132.55	103,084.18	36° 38' 15.675 N	107° 36' 10.168 W
- plan misses target center by 580.3usft at 7093.1usft MD (7022.0 TVD, -580.3 N, 0.0 E)									
- Point									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
200.2	200.0	Surface Casing	9-5/8	12-1/4
2,915.1	2,844.0	Intermediate Casing	7	8-3/4
7,093.1	7,022.0	Production Casing	4-1/2	6-1/4

Database:	Farmington 5000 DB	Local Co-ordinate Reference:	Well San Juan 28-7 Unit 238N
Company:	ConocoPhillips	TVD Reference:	GL 5963' & RKB 15' @ 5978.0usft (AWS 920)
Project:	SJB (NM Central)	MD Reference:	GL 5963' & RKB 15' @ 5978.0usft (AWS 920)
Site:	SEC 29-T28N-R7W	North Reference:	True
Well:	San Juan 28-7 Unit 238N	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Formations							
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction		
15.0	15.0	San Jose		0.00			
213.2	213.0	Nacimiento		0.00			
1,697.1	1,652.0	Ojo Alamo		0.00			
1,836.5	1,786.0	Kirtland		0.00			
2,181.6	2,118.0	Fruitland		0.00			
2,623.6	2,553.0	Pictured Cliffs		0.00			
2,763.0	2,692.0	Lewis		0.00			
3,155.1	3,084.0	Huerfanito Bentonite		0.00			
3,560.1	3,489.0	Chacra		0.00			
4,159.1	4,088.0	Upper Cliff House		0.00			
4,247.1	4,176.0	Massive Cliff House		0.00			
4,376.1	4,305.0	Menefee		0.00			
4,846.1	4,775.0	Point Lookout		0.00			
5,256.1	5,185.0	Mancos		0.00			
6,037.1	5,966.0	Upper Gallup		0.00			
6,786.1	6,715.0	Greenhorn		0.00			
6,837.1	6,766.0	Graneros		0.00			
6,881.1	6,810.0	Two Wells		0.00			
6,956.1	6,885.0	Paguate		0.00			
7,003.1	6,932.0	Upper Cubero		0.00			
7,016.1	6,945.0	Lower Cubero		0.00			
7,093.1	7,022.0	Encinal		0.00			



Project: SJB (NM Central)
Site: SEC 29-T28N-R7W
Well: San Juan 28-7 Unit 238N
Wellbore: OH
Design: Plan #2



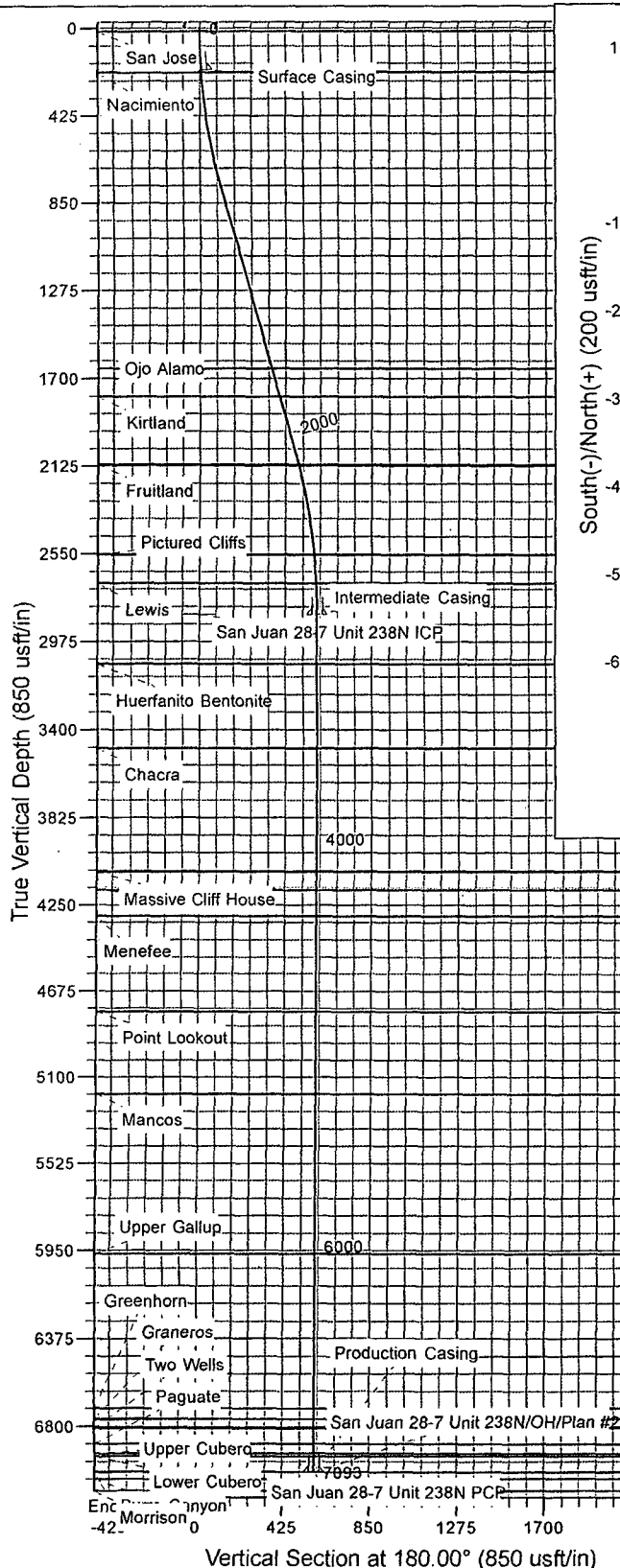
WELL DETAILS: San Juan 28-7 Unit 238N

GL 5963' & RKB 15' @ 5978.0usft (AWS 920) 5963.0
+N/-S +E/-W Northing Easting Latitude Longitude
0.0 0.0 2054132.55 103084.17 36° 38' 15.675 N 107° 36' 10.168 W

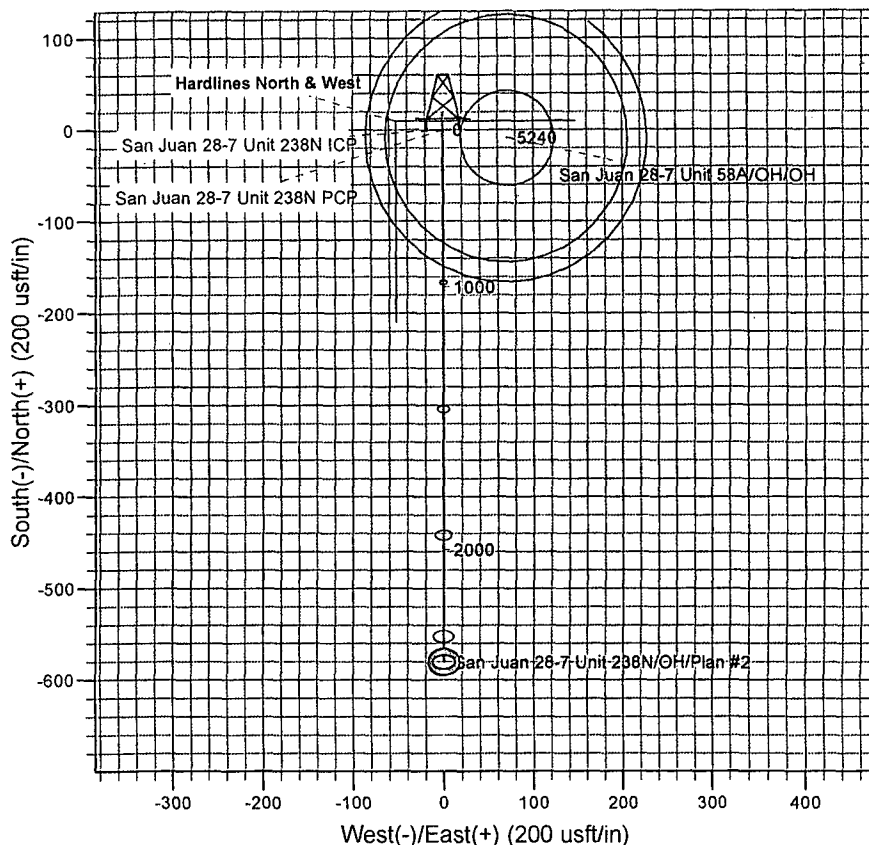


Azimuths to True North
Magnetic North: 9.66°

Magnetic Field
Strength: 50475.5anT
Dip Angle: 63.35°
Date: 02/08/2013
Model: BGGM2012



Vertical Section at 180.00° (850 usft/in)



Plan: Plan #2 (San Juan 28-7 Unit 238N/OH)

Created By: Janie Collins Date: 9:49, February 18, 2013

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSec
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0
2	800.0	16.00	180.00	789.6	-111.0	0.0	2.00	111.0
3	2100.0	16.00	180.00	2039.3	-469.3	0.0	0.00	469.3
4	2900.0	0.00	0.00	2828.9	-580.3	0.0	2.00	580.3
5	2915.1	0.00	0.00	2844.0	-580.3	0.0	0.00	580.3
6	7093.1	0.00	0.00	7022.0	-580.3	0.0	0.00	580.3

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well San Juan 28-7 Unit 238N, True North
Vertical (TVD) Reference: GL 5963' & RKB 15' @ 5978.0usft (AWS 920)
Section (VS) Reference: Slot - (0.0N, 0.0E)
Measured Depth Reference: GL 5963' & RKB 15' @ 5978.0usft (AWS 920)
Calculation Method: Minimum Curvature

PROJECT DETAILS: SJB (NM Central)

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico Central 3002
Location:
System Datum: Mean Sea Level
Local North: True