

RECEIVED

Form 3160-5
(August 2007)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

DEC 14 2012

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010Farmington Field Office
Bureau of Land Management

5. Lease Serial No.

SF-078049-A

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.

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2.

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

1. Type of Well

☐ Oil Well☒ Gas Well☐ Other

8. Well Name and No.

HARDIE 2N

2. Name of Operator

ConocoPhillips Company

9. API Well No.

30-045-35070

3a. Address

PO Box 4289, Farmington, NM 87499

3b. Phone No. (include area code)

(505) 326-9700

10. Field and Pool or Exploratory Area

Blanco MV/Basin DK

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

Surface UNIT K (NESW), 2363' FSL & 1694' FWL, Sec. 28, T29N, R8W

Bottomhole UNIT K (NESW), 2163' FSL & 1694' FWL, Sec. 28, T29N, R8W

11. Country or Parish, State

San Juan, New Mexico

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

TYPE OF SUBMISSION

TYPE OF ACTION

☒ Notice of Intent☐ Acidize☐ Deepen☐ Production (Start/Resume)☐ Water Shut-Off☐ Subsequent Report☐ Alter Casing☐ Fracture Treat☐ Reclamation☐ Well Integrity☐ Casing Repair☐ New Construction☐ Recomplete☐ Other☐ Final Abandonment Notice☒ Change Plans☐ Plug and Abandon☐ Temporarily Abandon☐ Convert to Injection☐ Plug Back☐ Water Disposal

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.)

For anti-collision issues with the Hardie B 212 which is twinned on the same location, ConocoPhillips is now proposing to use directional tools and nudge this well. ConocoPhillips also proposes to change the TD from the APD approved depth of 7,569' to 7,484' due to possibility of getting wet. Attached in the new Directional Plan, Project Proposal, and C-102.

Hold C104
for Directional Survey
and "As Drilled" plat

Hold C104

for Directional Survey
and "As Drilled" platRCVD DEC 26 '12
OIL CONS. DIV.

DIST. 3

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

DENISE JOURNEY

Title

REGULATORY TECHNICIAN

Signature

Denise Journey

Date

12/12/2012

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

William Tambekou

Petroleum Engineer

Title

Date

12/20/2012

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

F.F.D

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)

NMOC D IV

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RECEIVED

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 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., Aztec, N.M. 87410
Phone: (505) 334-8178 Fax: (505) 334-6170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, N.M. 87505
Phone: (505) 478-3460 Fax: (505) 478-3482

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr. Farmington Field Office
Santa Fe, N.M. 87505 Bureau of Land Management

Form C-102

DEC 14 2012

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-35070	² Pool Code 71599 / 72319	³ Pool Name BASIN DAKOTA / BLANCO MESA VERDE
⁴ Property Code 31728	⁵ Property Name HARDIE	⁶ Well Number 2N
⁷ GRID No. 217817	⁸ Operator Name CONOCOPHILLIPS COMPANY	⁹ Elevation 6399

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
K	28	29 N	8 W		2363	SOUTH	1694	WEST	SAN JUAN

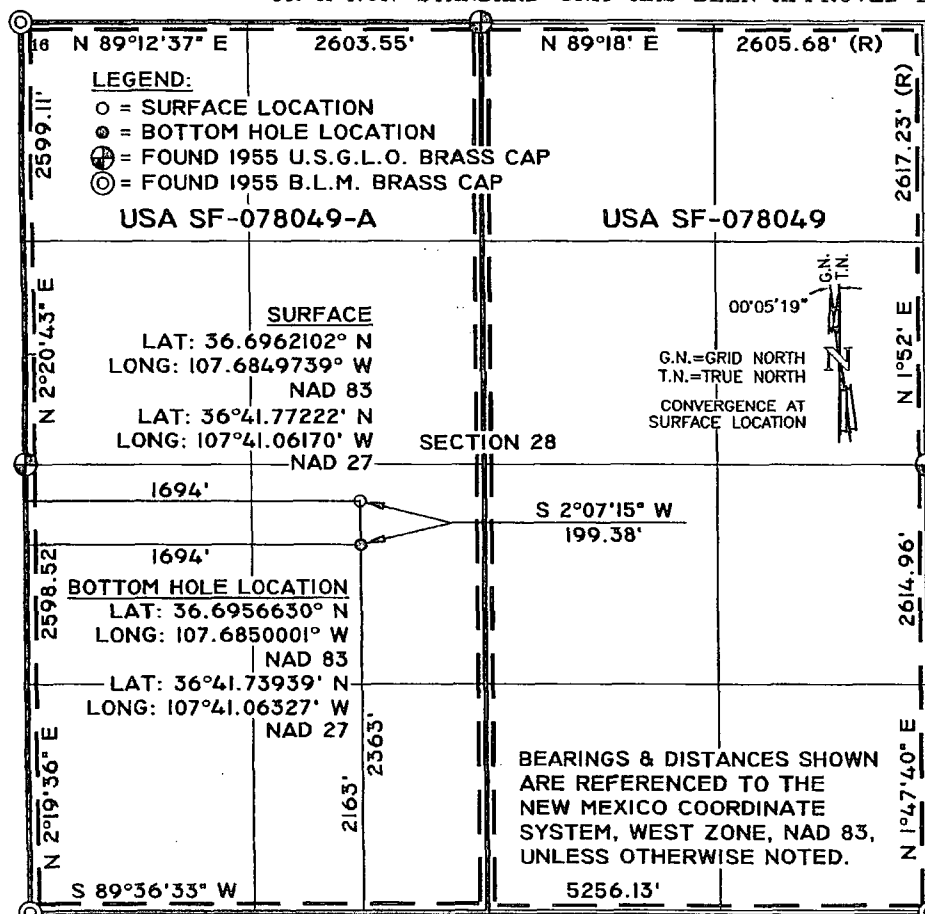
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	28	29 N	8 W		2163	SOUTH	1694	WEST	SAN JUAN

¹² Dedicated Acres 320 (W/2)	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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RCVD DEC 26 '12
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



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.

Denise Journey 12/12/12
 Signature Date
Denise Journey
 Printed Name
Denise.Journey@conocophillips.com
 E-mail Address

¹⁸ SURVEYOR CERTIFICATION

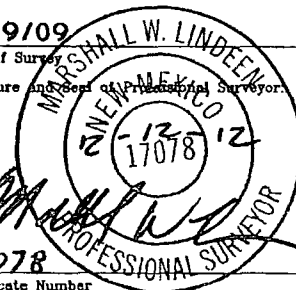
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

4/29/09

Date of Survey

Signature and Seal of Professional Surveyor

17078
 Certificate Number



ConocoPhillips SJBW

San Juan Basin - New Mexico West Wells

Other Named Wells

Hardie #2N

Hardie #2N

Plan: Design #1

Standard Planning Report

13 December, 2012

ConocoPhillips

Planning Report

Database: EDM Central Planning	Local Co-ordinate Reference: Well Hardie #2N	
Company: ConocoPhillips SJBU	TVD Reference: WELL @ 6414.0usft (Original Well Elev)	
Project: San Juan Basin - New Mexico West Wells	MD Reference: WELL @ 6414.0usft (Original Well Elev)	
Site: Other Named Wells	North Reference: Grid	
Well: Hardie #2N	Survey Calculation Method: Minimum Curvature	
Wellbore: Hardie #2N		
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
From:	Lat/Long	Easting:	643,887.63 usft
Position Uncertainty:	15.0 usft	Slot Radius:	6-1/8"
		Latitude:	36° 47' 33.793 N
		Longitude:	107° 20' 30.932 W
		Grid Convergence:	0.29 °

Well	Hardie #2N		
Well Position	+N/-S	0.0 usft	Northing: 2,072,706.41 usft
	+E/-W	0.0 usft	Easting: 543,674.36 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	36° 41' 46.334 N
		Longitude:	107° 41' 3.703 W
		Ground Level:	6,399.0 usft

Wellbore	Hardie #2N		
Magnetics	Model Name	Sample Date	Declination (°)
	BGGM2012	12/3/2012	9.68
			Dip Angle (°)
			63.39
			Field Strength (nT)
			50,525

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)
	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	
350.0	0.00	0.00	350.0	0.0	0.0	0.00	0.00	0.00	0.00	
940.9	11.82	180.00	936.7	-60.7	0.0	2.00	2.00	0.00	180.00	
1,423.2	11.82	180.00	1,408.8	-159.5	0.0	0.00	0.00	0.00	0.00	
1,817.2	0.00	0.00	1,800.0	-200.0	0.0	3.00	-3.00	0.00	180.00	HARDIE #2N VERTIC
3,212.2	0.00	0.00	3,195.0	-200.0	0.0	0.00	0.00	0.00	0.00	HARDIE #2N - ICP
7,501.2	0.00	0.00	7,484.0	-200.0	0.0	0.00	0.00	0.00	0.00	HARDIE #2N - PCP

ConocoPhillips

Planning Report

Database: EDM Central Planning
 Company: ConocoPhillips SJBU
 Project: San Juan Basin - New Mexico West Wells
 Site: Other Named Wells
 Well: Hardie #2N
 Wellbore: Hardie #2N
 Design: Design #1

Local Co-ordinate Reference: Well Hardie #2N
 TVD Reference: WELL @ 6414.0usft (Original Well Elev)
 MD Reference: WELL @ 6414.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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
350.0	0.00	0.00	350.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	1.00	180.00	400.0	-0.4	0.0	0.4	2.00	2.00	0.00
500.0	3.00	180.00	499.9	-3.9	0.0	3.9	2.00	2.00	0.00
600.0	5.00	180.00	599.7	-10.9	0.0	10.9	2.00	2.00	0.00
625.4	5.51	180.00	625.0	-13.2	0.0	13.2	2.00	2.00	0.00
NACIMIENTO									
700.0	7.00	180.00	699.1	-21.4	0.0	21.4	2.00	2.00	0.00
800.0	9.00	180.00	798.2	-35.3	0.0	35.3	2.00	2.00	0.00
900.0	11.00	180.00	896.6	-52.6	0.0	52.6	2.00	2.00	0.00
940.9	11.82	180.00	936.7	-60.7	0.0	60.7	2.00	2.00	0.00
1,000.0	11.82	180.00	994.6	-72.8	0.0	72.8	0.00	0.00	0.00
1,100.0	11.82	180.00	1,092.4	-93.3	0.0	93.3	0.00	0.00	0.00
1,200.0	11.82	180.00	1,190.3	-113.8	0.0	113.8	0.00	0.00	0.00
1,300.0	11.82	180.00	1,288.2	-134.3	0.0	134.3	0.00	0.00	0.00
1,400.0	11.82	180.00	1,386.1	-154.8	0.0	154.8	0.00	0.00	0.00
1,423.2	11.82	180.00	1,408.8	-159.5	0.0	159.5	0.00	0.00	0.00
1,500.0	9.52	180.00	1,484.3	-173.7	0.0	173.7	3.00	-3.00	0.00
1,600.0	6.52	180.00	1,583.3	-187.7	0.0	187.7	3.00	-3.00	0.00
1,700.0	3.52	180.00	1,682.9	-196.4	0.0	196.4	3.00	-3.00	0.00
1,800.0	0.52	180.00	1,782.8	-199.9	0.0	199.9	3.00	-3.00	0.00
1,817.2	0.00	0.00	1,800.0	-200.0	0.0	200.0	3.00	-3.00	0.00
1,900.0	0.00	0.00	1,882.8	-200.0	0.0	200.0	0.00	0.00	0.00
1,936.2	0.00	0.00	1,919.0	-200.0	0.0	200.0	0.00	0.00	0.00
OJO ALAMO									
2,000.0	0.00	0.00	1,982.8	-200.0	0.0	200.0	0.00	0.00	0.00
2,092.2	0.00	0.00	2,075.0	-200.0	0.0	200.0	0.00	0.00	0.00
KIRTLAND									
2,100.0	0.00	0.00	2,082.8	-200.0	0.0	200.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,182.8	-200.0	0.0	200.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,282.8	-200.0	0.0	200.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,382.8	-200.0	0.0	200.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,482.8	-200.0	0.0	200.0	0.00	0.00	0.00
2,526.2	0.00	0.00	2,509.0	-200.0	0.0	200.0	0.00	0.00	0.00
FRUITLAND									
2,600.0	0.00	0.00	2,582.8	-200.0	0.0	200.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,682.8	-200.0	0.0	200.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,782.8	-200.0	0.0	200.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,882.8	-200.0	0.0	200.0	0.00	0.00	0.00
2,982.2	0.00	0.00	2,965.0	-200.0	0.0	200.0	0.00	0.00	0.00
PICTURED CLIFFS									
3,000.0	0.00	0.00	2,982.8	-200.0	0.0	200.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,082.8	-200.0	0.0	200.0	0.00	0.00	0.00
3,112.2	0.00	0.00	3,095.0	-200.0	0.0	200.0	0.00	0.00	0.00
LEWIS									
3,200.0	0.00	0.00	3,182.8	-200.0	0.0	200.0	0.00	0.00	0.00
3,212.2	0.00	0.00	3,195.0	-200.0	0.0	200.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,282.8	-200.0	0.0	200.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,382.8	-200.0	0.0	200.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,482.8	-200.0	0.0	200.0	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database: EDM Central Planning
 Company: ConocoPhillips SJB
 Project: San Juan Basin - New Mexico West Wells
 Site: Other Named Wells
 Well: Hardie #2N
 Wellbore: Hardie #2N
 Design: Design #1

Local Co-ordinate Reference: Well Hardie #2N
 TVD Reference: WELL @ 6414.0usft (Original Well Elev)
 MD Reference: WELL @ 6414.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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)
3,578.2	0.00	0.00	3,561.0	-200.0	0.0	200.0	0.00	0.00	0.00
HUERFANITO BENTONITE									
3,600.0	0.00	0.00	3,582.8	-200.0	0.0	200.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,682.8	-200.0	0.0	200.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,782.8	-200.0	0.0	200.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,882.8	-200.0	0.0	200.0	0.00	0.00	0.00
3,951.2	0.00	0.00	3,934.0	-200.0	0.0	200.0	0.00	0.00	0.00
CHACRA									
4,000.0	0.00	0.00	3,982.8	-200.0	0.0	200.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,082.8	-200.0	0.0	200.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,182.8	-200.0	0.0	200.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,282.8	-200.0	0.0	200.0	0.00	0.00	0.00
4,324.2	0.00	0.00	4,307.0	-200.0	0.0	200.0	0.00	0.00	0.00
UPPER CLIFFHOUSE									
4,400.0	0.00	0.00	4,382.8	-200.0	0.0	200.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,482.8	-200.0	0.0	200.0	0.00	0.00	0.00
4,598.2	0.00	0.00	4,581.0	-200.0	0.0	200.0	0.00	0.00	0.00
MASSIVE CLIFFHOUSE									
4,600.0	0.00	0.00	4,582.8	-200.0	0.0	200.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,682.8	-200.0	0.0	200.0	0.00	0.00	0.00
4,737.2	0.00	0.00	4,720.0	-200.0	0.0	200.0	0.00	0.00	0.00
MENEFEE									
4,800.0	0.00	0.00	4,782.8	-200.0	0.0	200.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,882.8	-200.0	0.0	200.0	0.00	0.00	0.00
5,000.0	0.00	0.00	4,982.8	-200.0	0.0	200.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,082.8	-200.0	0.0	200.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,182.8	-200.0	0.0	200.0	0.00	0.00	0.00
5,200.2	0.00	0.00	5,183.0	-200.0	0.0	200.0	0.00	0.00	0.00
POINT LOOKOUT									
5,300.0	0.00	0.00	5,282.8	-200.0	0.0	200.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,382.8	-200.0	0.0	200.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,482.8	-200.0	0.0	200.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,582.8	-200.0	0.0	200.0	0.00	0.00	0.00
5,631.2	0.00	0.00	5,614.0	-200.0	0.0	200.0	0.00	0.00	0.00
MANCOS									
5,700.0	0.00	0.00	5,682.8	-200.0	0.0	200.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,782.8	-200.0	0.0	200.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,882.8	-200.0	0.0	200.0	0.00	0.00	0.00
6,000.0	0.00	0.00	5,982.8	-200.0	0.0	200.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,082.8	-200.0	0.0	200.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,182.8	-200.0	0.0	200.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,282.8	-200.0	0.0	200.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,382.8	-200.0	0.0	200.0	0.00	0.00	0.00
6,410.2	0.00	0.00	6,393.0	-200.0	0.0	200.0	0.00	0.00	0.00
UPPER GALLUP									
6,500.0	0.00	0.00	6,482.8	-200.0	0.0	200.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,582.8	-200.0	0.0	200.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,682.8	-200.0	0.0	200.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,782.8	-200.0	0.0	200.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,882.8	-200.0	0.0	200.0	0.00	0.00	0.00
7,000.0	0.00	0.00	6,982.8	-200.0	0.0	200.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,082.8	-200.0	0.0	200.0	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database: EDM Central Planning
 Company: ConocoPhillips SJB
 Project: San Juan Basin - New Mexico West Wells
 Site: Other Named Wells
 Well: Hardie #2N
 Wellbore: Hardie #2N
 Design: Design #1

Local Co-ordinate Reference: Well Hardie #2N
 TVD Reference: WELL @ 6414.0usft (Original Well Elev)
 MD Reference: WELL @ 6414.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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)
7,161.2	0.00	0.00	7,144.0	-200.0	0.0	200.0	0.00	0.00	0.00
GREENHORN									
7,200.0	0.00	0.00	7,182.8	-200.0	0.0	200.0	0.00	0.00	0.00
7,224.2	0.00	0.00	7,207.0	-200.0	0.0	200.0	0.00	0.00	0.00
GRANEROS									
7,268.2	0.00	0.00	7,251.0	-200.0	0.0	200.0	0.00	0.00	0.00
TWO WELLS									
7,300.0	0.00	0.00	7,282.8	-200.0	0.0	200.0	0.00	0.00	0.00
7,368.2	0.00	0.00	7,351.0	-200.0	0.0	200.0	0.00	0.00	0.00
PAGUATE									
7,400.0	0.00	0.00	7,382.8	-200.0	0.0	200.0	0.00	0.00	0.00
7,404.2	0.00	0.00	7,387.0	-200.0	0.0	200.0	0.00	0.00	0.00
UPPER CUBERO									
7,432.2	0.00	0.00	7,415.0	-200.0	0.0	200.0	0.00	0.00	0.00
LOWER CUBERO									
7,491.2	0.00	0.00	7,474.0	-200.0	0.0	200.0	0.00	0.00	0.00
ENCINAL									
7,500.0	0.00	0.00	7,482.8	-200.0	0.0	200.0	0.00	0.00	0.00
7,501.2	0.00	0.00	7,484.0	-200.0	0.0	200.0	0.00	0.00	0.00

Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- Shape									
HARDIE #2N - PCP	0.00	0.00	7,484.0	-200.0	0.0	2,072,506.43	543,674.36	36° 41' 44.357 N	107° 41' 3.707 W
- plan hits target center									
- Point									
HARDIE #2N VERTICAL	0.00	0.00	1,800.0	-200.0	0.0	2,072,506.43	543,674.36	36° 41' 44.357 N	107° 41' 3.707 W
- plan hits target center									
- Point									
HARDIE #2N - ICP	0.00	0.00	3,195.0	-200.0	0.0	2,072,506.43	543,674.36	36° 41' 44.357 N	107° 41' 3.707 W
- plan hits target center									
- Point									

ConocoPhillips

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Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,737.2	4,720.0	MENEFEE		0.00	
3,951.2	3,934.0	CHACRA		0.00	
7,491.2	7,474.0	ENCINAL		0.00	
2,526.2	2,509.0	FRUITLAND		0.00	
3,578.2	3,561.0	HUERFANITO BENTONITE		0.00	
5,631.2	5,614.0	MANCOS		0.00	
7,161.2	7,144.0	GREENHORN		0.00	
7,368.2	7,351.0	PAGUATE		0.00	
7,432.2	7,415.0	LOWER CUBERO		0.00	
4,324.2	4,307.0	UPPER CLIFFHOUSE		0.00	
2,092.2	2,075.0	KIRTLAND		0.00	
625.4	625.0	NACIMIENTO		0.00	
5,200.2	5,183.0	POINT LOOKOUT		0.00	
1,936.2	1,919.0	OJO ALAMO		0.00	
2,982.2	2,965.0	PICTURED CLIFFS		0.00	
7,224.2	7,207.0	GRANEROS		0.00	
7,268.2	7,251.0	TWO WELLS		0.00	
6,410.2	6,393.0	UPPER GALLUP		0.00	
3,112.2	3,095.0	LEWIS		0.00	
4,598.2	4,581.0	MASSIVE CLIFFHOUSE		0.00	
7,404.2	7,387.0	UPPER CUBERO		0.00	

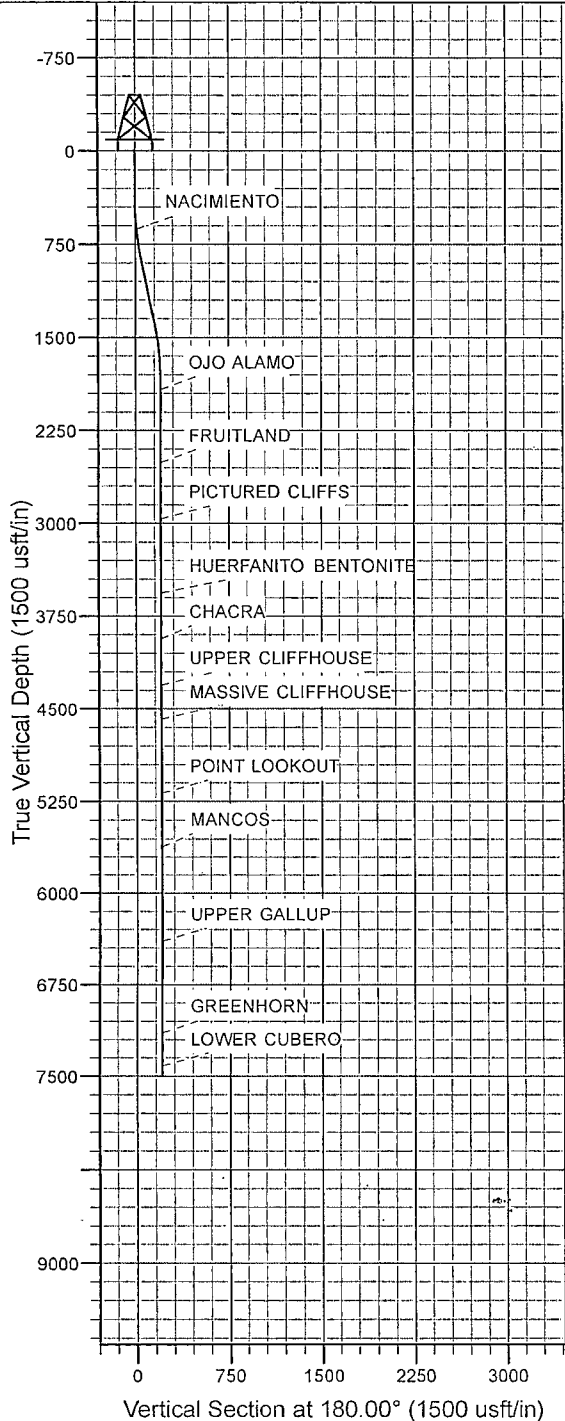
REFERENCE INFORMATION

WELL @ 6414.0usft (Original Well Elev)
Ground Elevation 6399.0
Reference Lat: 36° 41' 46.334 N
Reference Long: 107° 41' 3.703 W

Project: San Juan Basin - New Mexico West V
Site: Other Named Wells
Well: Hardie #2N
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Design: Design #1

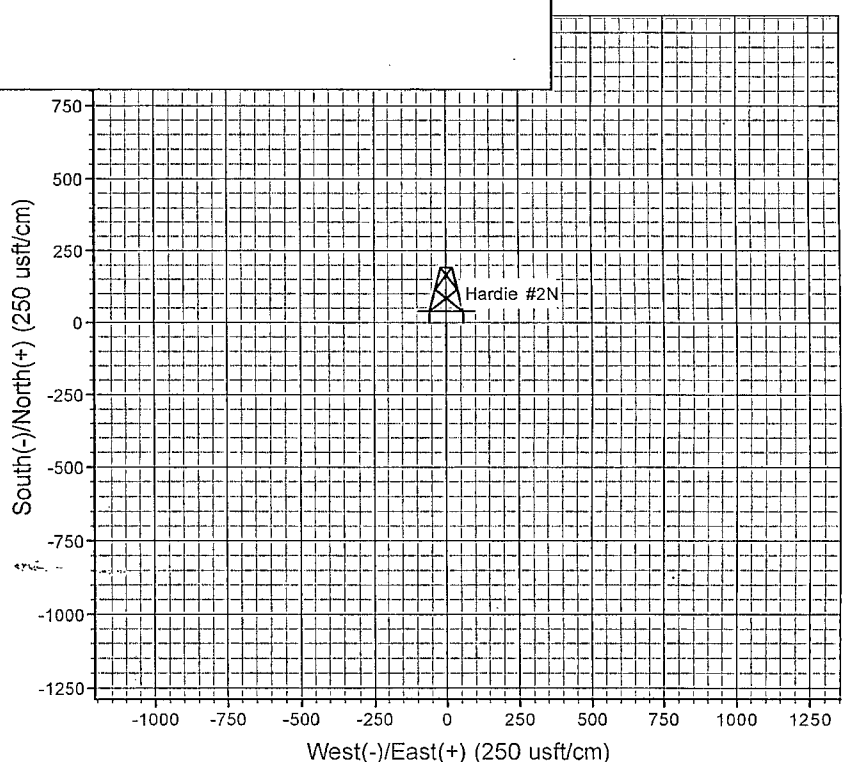
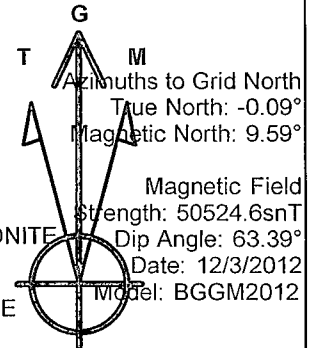
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	350.0	0.00	0.00	350.0	0.0	0.0	0.00	0.00	0.0	
3	940.9	11.82	180.00	936.7	-60.7	0.0	2.00	180.00	60.7	
4	1423.2	11.82	180.00	1408.8	-159.5	0.0	0.00	0.00	159.5	
5	1817.2	0.00	0.00	1800.0	-200.0	0.0	3.00	180.00	200.0	HARDIE #2N VERTICAL POINT
6	3212.2	0.00	0.00	3195.0	-200.0	0.0	0.00	0.00	200.0	HARDIE #2N - ICP
7	7501.2	0.00	0.00	7484.0	-200.0	0.0	0.00	0.00	200.0	HARDIE #2N - PCP



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
625.0	625.4	NACIMIENTO
1919.0	1936.2	OJO ALAMO
2075.0	2092.2	KIRTLAND
2509.0	2526.2	FRUITLAND
2965.0	2982.2	PICTURED CLIFFS
3095.0	3112.2	LEWIS
3561.0	3578.2	HUERFANITO BENTONITE
3934.0	3951.2	CHACRA
4307.0	4324.2	UPPER CLIFFHOUSE
4581.0	4598.2	MASSIVE CLIFFHOUSE
4720.0	4737.2	MENEFEE
5183.0	5200.2	POINT LOOKOUT
5614.0	5631.2	MANCOS
6393.0	6410.2	UPPER GALLUP
7144.0	7161.2	GREENHORN
7207.0	7224.2	GRANEROS
7251.0	7268.2	TWO WELLS
7351.0	7368.2	PAGUATE
7387.0	7404.2	UPPER CUBERO
7415.0	7432.2	LOWER CUBERO
7474.0	7491.2	ENCINAL



PROJECT PROPOSAL - New Drill / Sidetrack

San Juan Business Unit

HARDIE 2N

DEVELOPMENT

Lease:		AFE #: WAN.CDR.9068				AFE \$: 2,029,889.50	
Field Name: SAN JUAN		Rig: Aztec Rig 711		State: NM	County: SAN JUAN		API #: 3004535070
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: 36.696204	Longitude: -107.684362	X:	Y:	Section: 28		Range: 008W	
Footage X: 1694 FWL	Footage Y: 2363 FSL	Elevation: 6399 (FT)		Township: 029N			
Tolerance:							
Location: Bottom Hole Datum/Code: NAD 27 Directional							
Latitude: 36.695657	Longitude: -107.684388	X:	Y:	Section: 28		Range: 008W	
Footage X: 1694 FWL	Footage Y: 2163 FSL	Elevation:		(FT) Township: 029N			
Tolerance:							
Location Type: Year Round		Start Date (Est.): 1/1/2013		Completion Date:		Date In Operation:	
Formation Data: Assume KB = 6413		Units = FT					
Formation Call & Casing Points	Depth (TVD in Ft)	SS (Ft)	MD (Ft)	Depletion (Yes/No)	BHP (PSIG)	BHT	Remarks
Surface Casing	200	6213		☐	12-1/4 hole. 200' 9 5/8" 32.3 ppf, H-40, STC casing. Cement with 121 cuft. Circulate cement to surface.		
NACIMIENTO	625	5788		☐			
OJO ALAMO	1919	4494		☐			
KIRTLAND	2075	4338		☐			
FRUITLAND	2509	3904		☐	Possible Gas		
PICTURED CLIFFS	2965	3448		☐			
LEWIS	3095	3318		☐			
Intermediate Casing	3195	3218		☐	8 3/4" Hole. 7", 20 ppf, J-55, STC Casing. Cement with 720 cuft. Circulate cement to surface.		
HUERFANITO BENTONITE	3561	2852		☐			
CHACRA	3934	2479		☐			
UPPER CLIFF HOUSE	4307	2106		☐	Gas; Est. Top Perf - 4309 (2104)		
MASSIVE CLIFF HOUSE	4581	1832		☐	296	Gas	
MENEFEE	4720	1693		☐			
POINT LOOKOUT	5183	1230		☐			
MANCOS	5614	799		☐			
UPPER GALLUP	6393	20		☐			
GREENHORN	7144	-731		☐			
GRANEROS	7207	-794		☐			
TWO WELLS	7251	-838		☐	2318	Gas	
PAGUATE	7351	-938		☐			
UPPER CUBERO	7387	-974		☐			

PROJECT PROPOSAL - New Drill / Sidetrack

San Juan Business Unit

HARDIE 2N

DEVELOPMENT

LOWER CUBERO	7415	-1002	☐	Est. Btm Perf 7469'
ENCINAL	7474	-1061	☐	TD - 10' below T/ENCN for rat hole only.
Total Depth	7484	-1071	☐	6-1/4" hole, 4-1/2" 10.5/11.6 ppf, J-55, STC/LTC casing. Cement w/ 598 cuft. Circulate cement a minimum of 100' inside the previous casing string.

Reference Wells:

Reference Type	Well Name	Comments
Production	Hardie 2	29N 8W 28 NW NW
Production	Hardie B 3	29N 8W 28 SW NE SW
Production	Hardie B 212	29N 8W 28 NW NE SW
Production	Hardie 2-E	29N 8W 28 NE SW SW

Logging Program:

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

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

Cased Hole GR / CBL

Additional Information:

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