

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

FEB 24 2012

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

Farmington Field Office

Bureau of Land Management

1a. Type of Work
DRILL
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

5. Lease Number
USA SF-078097
Unit Reporting Number

1b. Type of Well
GAS
6. If Indian, All. or Tribe

2. Operator
ConocoPhillips
Company

7. Unit Agreement Name

RCVD APR 12 '12

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
Heaton LS
9. Well Number
5B

4. Location of Well
Surface: Unit N (SESW), 122' FSL & 1714' FWL
BHL : Unit C (NENW), 710' FNL & 1780' FWL
Surface: Latitude: 36.87757° N (NAD83) Lot 14
Longitude: 107.99938° W
BHL : Latitude: 36.87529° N (NAD83)
Longitude: 107.99912° W

10. Field, Pool, Wildcat
Blanco MV/Basin DK/Basin MC
11. Sec., Twn, Rge, Mer. (NMPM)
Surf: Sec. 21, T31N, R11W
BHL : Sec. 28, T31N, R11W
API# 30-045-35352

14. Distance in Miles from Nearest Town
6 miles from Aztec

12. County
San Juan
13. State
NM

15. Distance from Proposed Location to Nearest Property or Lease Line
122'

16. Acres in Lease
2475.610

17. Acres Assigned to Well
320.00 Acres - W/2

18. Distance from Proposed Location to Nearest Well, Drig, Compl, or Applied for on this Lease
850' Heaton LS #5 - MV

19. Proposed Depth
7087

20. Rotary or Cable Tools
Rotary

21. Elevations (DF, FT, GR, Etc.)
5889' GL

22. Approx. Date Work will Start

23. Proposed Casing and Cementing Program
See Operations Plan attached

24. Authorized by: Arleen Kellywood
Arleen Kellywood (Staff Regulatory Tech)

2/23/12
Date

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

Archaeological Report attached

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

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

NMOCD

APR 19 2012

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

Hold C104
for Directional Survey
and "As Drilled" plat

NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised July 10, 2010

DISTRICT II
1301 W. Grand Avenue, Artesia, N.M. 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

RECEIVED

OIL CONSERVATION DIVISION

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

FEB 24 2012

Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-35352	² Pool Code 72319/71599/97232	³ Pool Name BLANCO MESAVERDE / BASIN DAKOTA / MANCOS	BASIN
⁴ Property Code 31748	⁵ Property Name HEATON LS	⁶ Well Number 5B	
⁷ GRID No. 217817	⁸ Operator Name CONOCOPHILLIPS COMPANY	⁹ Elevation 5889'	

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
N	21	31N	11W	14	122'	SOUTH	1714'	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
C	28	31N	11W		710'	NORTH	1780'	WEST	SAN JUAN

¹² Dedicated Acres
MV/DK/MC
320.00 ACRES - W/2

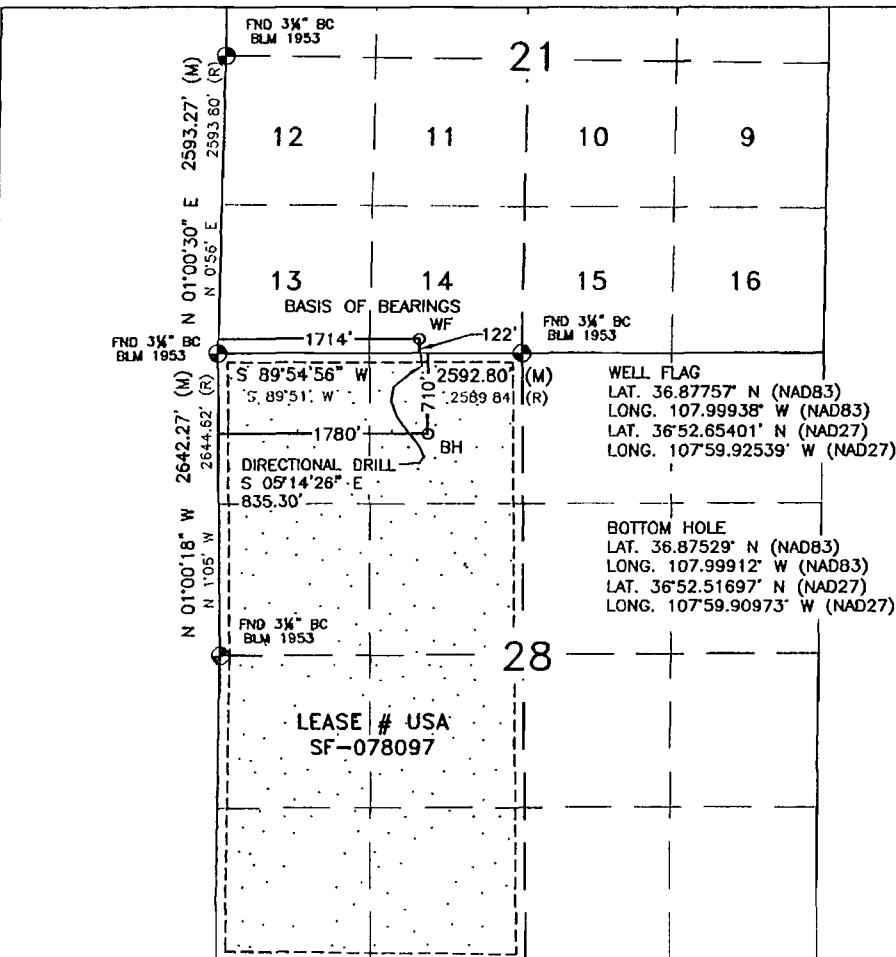
¹³ Joint or Infill

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

18



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 released 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 voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Arleen Kellywood 2/3/12
Signature Date

Arleen Kellywood

Printed Name

arleen.r.kellywood@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.

AUGUST 5, 2010

Date of Survey

Signature and Seal of Professional Surveyor:

DAVID R. RUSSELL
REGISTERED PROFESSIONAL LAND SURVEYOR
10201

Certificate Number

10201

PROJECT PROPOSAL - New Drill / Sidetrack

San Juan Business Unit

HEATON LS 5B

DEVELOPMENT

Lease:		AFE #: WAN.CDR.1090		AFE \$:	
Field Name: SAN JUAN		Rig: Aztec Rig 920		State: NM	County: SAN JUAN
Geologist:		Phone:		Geophysicist:	
Geoscientist:		Phone:		Prod. Engineer:	
Res. Engineer:		Phone:		Proj. Field Lead:	
Primary Objective (Zones):					
Zone	Zone Name				
FRR	BASIN DAKOTA (PRORATED GAS)				
RON	BLANCO MESAVERDE (PRORATED GAS)				
RCO085	MANCOS(RCO085)				
Location: Surface Datum Code: NAD 27 Directional					
Latitude: 36.877567	Longitude: -107.998756	X:	Y:	Section: 21	Range: 011W
Footage X: 1714 FWL	Footage Y: 122 FSL	Elevation: 5889	(FT)	Township: 031N	
Tolerance:					
Location: Bottom Hole Datum Code: NAD 27 Directional					
Latitude: 36.875287	Longitude: -107.998496	X:	Y:	Section: 28	Range: 011W
Footage X: 1780 FWL	Footage Y: 710 FNL	Elevation:	(FT)	Township: 031N	
Tolerance:					
Location Type: Year Round		Start Date (Est.): 1/1/2012		Completion Date:	
				Date In Operation:	
Formation Data: Assume KB = 5904 Units = FT					
Formation Call & Casing Points	Depth (TVD in Ft)	SS (Ft)	MD (Ft)	Depletion (Yes/No)	BHP (PSIG)
Surface Casing	200	5704		☐	
					12-1/4 hole. 200' 9 5/8" 32.3 ppf, H-40, STC casing. Cement with 121 cuft. Circulate cement to surface.
OJO ALAMO	955	4949		☐	
KIRTLAND	1004	4900		☐	
FRUITLAND	1878	4026		☐	Possible Gas
PICTURED CLIFFS	2460	3444		☐	
LEWIS	2623	3281		☐	
HUERFANITO BENTONITE	3194	2710		☐	
CHACRA	3545	2359		☐	
UPPER CLIFF HOUSE	3876	2028		☐	Gas; Cliffhouse is wet
MASSIVE CLIFF HOUSE	4071	1833		☐	470 Gas
MENEFEE	4247	1657		☐	Est. Top Perf - 4249 (1655)
Intermediate Casing	4397	1507		☐	144 8 3/4" Hole. 7", 23 ppf, J-55, LTC Casing. Cement with 1021 cuft. Circulate cement to surface.
POINT LOOKOUT	4755	1149		☐	
MANCOS	5073	831		☐	
UPPER GALLUP	6044	-140		☐	
GREENHORN	6765	-861		☐	
GRANEROS	6820	-916		☐	
TWO WELLS	6877	-973		☐	2471 Gas
PAGUATE	6949	-1045		☐	
LOWER CUBERO	6983	-1079		☐	Est. Btm Perf - 7067 (- 1163) based on offset wells
UPPER CUBERO	6983	-1079		☐	

PROJECT PROPOSAL - New Drill / Sidetrack

San Juan Business Unit

HEATON LS 5B

DEVELOPMENT

ENCINAL	7047	-1143	☐	TD - 40' Below T/ENCN
Total Depth	7087	-1183	☐	201 6-1/4" hole, 4-1/2" 11.6 ppf, L-80, LTC casing. Cement w/ 356 cuft. Circulate cement a minimum of 100' inside the previous casing string.

Reference Wells:		
Reference Type	Well Name	Comments
Production	FEDERAL-100B	31N 11W 27
Production	HEATON-16	31N 11W 28 NW SW
Production	GRENIER-13-D	31N 11W 20 NE 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
	Mudlog from 100' above top of GLLP to TD - mudlogger will call TD.

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

ConocoPhillips or its affiliates

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Heaton LS #5B
Company:	ConocoPhillips SJBU	TVD Reference:	AD 920 @ 5905.3ft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	AD 920 @ 5905.3ft (Original Well Elev)
Site:	Other Named Wells	North Reference:	True
Well:	Heaton LS #5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Principal Wellbore		
Design:	Plan #1		

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

Site:	Other Named Wells		
Site Position:		Northing:	2,118,513.30 ft
From:	Lat/Long	Easting:	469,098.16 ft
Position Uncertainty:	15.0 ft	Slot Radius:	6-1/8"
		Latitude:	36° 49' 19.480 N
		Longitude:	107° 56' 20.078 W
		Grid Convergence:	-0.06 °

Well:	Heaton LS #5B		
Well Position	+N/-S	0.0 ft	Northing:
	+E/-W	0.0 ft	Easting:
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	36° 52' 39.241 N
		Longitude:	107° 59' 55.523 W
		Ground Level:	5,890.3 ft

Wellbore:	Principal Wellbore:		
Magnetics	Model Name	Sample Date	Declination
	BGGM2011	2/15/2012	9.93
			Dip Angle
			63.52
			Field Strength
			50,688

Design:	Plan #1		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.0	0.0	0.0
			Direction
			(°)
			174.76

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build 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	
350.0	0.00	0.00	350.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,407.5	21.15	174.76	1,383.6	-192.2	17.6	2.00	2.00	0.00	174.76	
2,830.6	21.15	174.76	2,710.9	-703.5	64.5	0.00	0.00	0.00	0.00	
3,535.6	0.00	0.00	3,400.0	-831.6	76.3	3.00	-3.00	0.00	180.00	Heaton LS 5B Back to
4,532.6	0.00	0.00	4,397.0	-831.6	76.3	0.00	0.00	0.00	0.00	Heaton LS 5B Int Sec
7,222.6	0.00	0.00	7,087.0	-831.6	76.3	0.00	0.00	0.00	0.00	Heaton LS 5B Prod S

ConocoPhillips or its affiliates

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Heaton LS #5B
Company:	ConocoPhillips SJB	TVD Reference:	AD 920 @ 5905.3ft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	AD 920 @ 5905.3ft (Original Well Elev)
Site:	Other Named Wells	North Reference:	True
Well:	Heaton LS #5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Principal Wellbore		
Design:	Plan #1		

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
Surface Casing									
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	174.76	400.0	-0.4	0.0	0.4	2.00	2.00	0.00
500.0	3.00	174.76	499.9	-3.9	0.4	3.9	2.00	2.00	0.00
600.0	5.00	174.76	599.7	-10.9	1.0	10.9	2.00	2.00	0.00
700.0	7.00	174.76	699.1	-21.3	2.0	21.4	2.00	2.00	0.00
800.0	9.00	174.76	798.2	-35.1	3.2	35.3	2.00	2.00	0.00
900.0	11.00	174.76	896.6	-52.4	4.8	52.6	2.00	2.00	0.00
959.6	12.19	174.76	955.0	-64.3	5.9	64.6	2.00	2.00	0.00
Ojo Alamo									
1,000.0	13.00	174.76	994.4	-73.1	6.7	73.4	2.00	2.00	0.00
1,009.8	13.20	174.76	1,004.0	-75.3	6.9	75.6	2.00	2.00	0.00
Kirtland									
1,100.0	15.00	174.76	1,091.5	-97.2	8.9	97.6	2.00	2.00	0.00
1,200.0	17.00	174.76	1,187.6	-124.7	11.4	125.2	2.00	2.00	0.00
1,300.0	19.00	174.76	1,282.7	-155.4	14.3	156.1	2.00	2.00	0.00
1,400.0	21.00	174.76	1,376.6	-189.5	17.4	190.3	2.00	2.00	0.00
1,407.5	21.15	174.76	1,383.6	-192.2	17.6	193.0	2.00	2.00	0.00
1,500.0	21.15	174.76	1,469.9	-225.4	20.7	226.3	0.00	0.00	0.00
1,600.0	21.15	174.76	1,563.2	-261.3	24.0	262.4	0.00	0.00	0.00
1,700.0	21.15	174.76	1,656.4	-297.3	27.3	298.5	0.00	0.00	0.00
1,800.0	21.15	174.76	1,749.7	-333.2	30.6	334.6	0.00	0.00	0.00
1,900.0	21.15	174.76	1,843.0	-369.1	33.9	370.7	0.00	0.00	0.00
1,937.6	21.15	174.76	1,878.0	-382.6	35.1	384.2	0.00	0.00	0.00
Fruitland									
2,000.0	21.15	174.76	1,936.2	-405.1	37.2	406.8	0.00	0.00	0.00
2,100.0	21.15	174.76	2,029.5	-441.0	40.5	442.8	0.00	0.00	0.00
2,200.0	21.15	174.76	2,122.8	-476.9	43.8	478.9	0.00	0.00	0.00
2,300.0	21.15	174.76	2,216.0	-512.8	47.1	515.0	0.00	0.00	0.00
2,400.0	21.15	174.76	2,309.3	-548.8	50.4	551.1	0.00	0.00	0.00
2,500.0	21.15	174.76	2,402.6	-584.7	53.6	587.2	0.00	0.00	0.00
2,561.6	21.15	174.76	2,460.0	-606.8	55.7	609.4	0.00	0.00	0.00
Pictured Cliffs									
2,600.0	21.15	174.76	2,495.8	-620.6	56.9	623.2	0.00	0.00	0.00
2,700.0	21.15	174.76	2,589.1	-656.6	60.2	659.3	0.00	0.00	0.00
2,736.4	21.15	174.76	2,623.0	-669.6	61.4	672.4	0.00	0.00	0.00
Lewis									
2,800.0	21.15	174.76	2,682.3	-692.5	63.5	695.4	0.00	0.00	0.00
2,830.6	21.15	174.76	2,710.9	-703.5	64.5	706.4	0.00	0.00	0.00
2,900.0	19.07	174.76	2,776.1	-727.2	66.7	730.3	3.00	-3.00	0.00
3,000.0	16.07	174.76	2,871.4	-757.3	69.5	760.5	3.00	-3.00	0.00
3,100.0	13.07	174.76	2,968.2	-782.3	71.8	785.6	3.00	-3.00	0.00
3,200.0	10.07	174.76	3,066.1	-802.3	73.6	805.7	3.00	-3.00	0.00
3,300.0	7.07	174.76	3,165.0	-817.1	75.0	820.6	3.00	-3.00	0.00
3,329.2	6.19	174.76	3,194.0	-820.5	75.3	824.0	3.00	-3.00	0.00
Huerfano Bentonite									
3,400.0	4.07	174.76	3,284.5	-826.8	75.9	830.3	3.00	-3.00	0.00
3,500.0	1.07	174.76	3,364.4	-831.3	76.3	834.8	3.00	-3.00	0.00
3,535.6	0.00	0.00	3,400.0	-831.6	76.3	835.1	3.00	-3.00	0.00

ConocoPhillips or its affiliates
Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Heaton LS #5B
Company:	ConocoPhillips SJB	TVD Reference:	AD 920 @ 5905.3ft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	AD 920 @ 5905.3ft (Original Well Elev)
Site:	Other Named Wells	North Reference:	True
Well:	Heaton LS #5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Principal Wellbore		
Design:	Plan #1		

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)	
Heaton LS 5B Back to Vertical										
3,600.0	0.00	0.00	3,464.4	-831.6	76.3	835.1	0.00	0.00	0.00	
3,680.6	0.00	0.00	3,545.0	-831.6	76.3	835.1	0.00	0.00	0.00	
Chacra										
3,700.0	0.00	0.00	3,564.4	-831.6	76.3	835.1	0.00	0.00	0.00	
3,800.0	0.00	0.00	3,664.4	-831.6	76.3	835.1	0.00	0.00	0.00	
3,900.0	0.00	0.00	3,764.4	-831.6	76.3	835.1	0.00	0.00	0.00	
4,000.0	0.00	0.00	3,864.4	-831.6	76.3	835.1	0.00	0.00	0.00	
4,011.6	0.00	0.00	3,876.0	-831.6	76.3	835.1	0.00	0.00	0.00	
Upper Cliff House										
4,100.0	0.00	0.00	3,964.4	-831.6	76.3	835.1	0.00	0.00	0.00	
4,200.0	0.00	0.00	4,064.4	-831.6	76.3	835.1	0.00	0.00	0.00	
4,206.6	0.00	0.00	4,071.0	-831.6	76.3	835.1	0.00	0.00	0.00	
Massive Cliff House										
4,300.0	0.00	0.00	4,164.4	-831.6	76.3	835.1	0.00	0.00	0.00	
4,382.6	0.00	0.00	4,247.0	-831.6	76.3	835.1	0.00	0.00	0.00	
Menefee										
4,400.0	0.00	0.00	4,264.4	-831.6	76.3	835.1	0.00	0.00	0.00	
4,500.0	0.00	0.00	4,364.4	-831.6	76.3	835.1	0.00	0.00	0.00	
4,532.6	0.00	0.00	4,397.0	-831.6	76.3	835.1	0.00	0.00	0.00	
Int Casing - Heaton LS 5B Int Section										
4,600.0	0.00	0.00	4,464.4	-831.6	76.3	835.1	0.00	0.00	0.00	
4,700.0	0.00	0.00	4,564.4	-831.6	76.3	835.1	0.00	0.00	0.00	
4,800.0	0.00	0.00	4,664.4	-831.6	76.3	835.1	0.00	0.00	0.00	
4,890.6	0.00	0.00	4,755.0	-831.6	76.3	835.1	0.00	0.00	0.00	
Pt. Lookout										
4,900.0	0.00	0.00	4,764.4	-831.6	76.3	835.1	0.00	0.00	0.00	
5,000.0	0.00	0.00	4,864.4	-831.6	76.3	835.1	0.00	0.00	0.00	
5,100.0	0.00	0.00	4,964.4	-831.6	76.3	835.1	0.00	0.00	0.00	
5,200.0	0.00	0.00	5,064.4	-831.6	76.3	835.1	0.00	0.00	0.00	
5,208.6	0.00	0.00	5,073.0	-831.6	76.3	835.1	0.00	0.00	0.00	
Mancos Shale										
5,300.0	0.00	0.00	5,164.4	-831.6	76.3	835.1	0.00	0.00	0.00	
5,400.0	0.00	0.00	5,264.4	-831.6	76.3	835.1	0.00	0.00	0.00	
5,500.0	0.00	0.00	5,364.4	-831.6	76.3	835.1	0.00	0.00	0.00	
5,600.0	0.00	0.00	5,464.4	-831.6	76.3	835.1	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,564.4	-831.6	76.3	835.1	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,664.4	-831.6	76.3	835.1	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,764.4	-831.6	76.3	835.1	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,864.4	-831.6	76.3	835.1	0.00	0.00	0.00	
6,100.0	0.00	0.00	5,964.4	-831.6	76.3	835.1	0.00	0.00	0.00	
6,179.6	0.00	0.00	6,044.0	-831.6	76.3	835.1	0.00	0.00	0.00	
Gallup										
6,200.0	0.00	0.00	6,064.4	-831.6	76.3	835.1	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,164.4	-831.6	76.3	835.1	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,264.4	-831.6	76.3	835.1	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,364.4	-831.6	76.3	835.1	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,464.4	-831.6	76.3	835.1	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,564.4	-831.6	76.3	835.1	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,664.4	-831.6	76.3	835.1	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,764.4	-831.6	76.3	835.1	0.00	0.00	0.00	
6,900.6	0.00	0.00	6,765.0	-831.6	76.3	835.1	0.00	0.00	0.00	

ConocoPhillips or its affiliates

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Heaton LS #5B
Company:	ConocoPhillips SJBU	TVD Reference:	AD 920 @ 5905.3ft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	AD 920 @ 5905.3ft (Original Well Elev)
Site:	Other Named Wells	North Reference:	True
Well:	Heaton LS #5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Principal Wellbore		
Design:	Plan #1		

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)	
Greenhorn										
6,955.6	0.00	0.00	6,820.0	-831.6	76.3	835.1	0.00	0.00	0.00	
Graneros										
7,000.0	0.00	0.00	6,864.4	-831.6	76.3	835.1	0.00	0.00	0.00	
7,012.6	0.00	0.00	6,877.0	-831.6	76.3	835.1	0.00	0.00	0.00	
Two Wells										
7,084.6	0.00	0.00	6,949.0	-831.6	76.3	835.1	0.00	0.00	0.00	
Pauguate										
7,100.0	0.00	0.00	6,964.4	-831.6	76.3	835.1	0.00	0.00	0.00	
7,118.6	0.00	0.00	6,983.0	-831.6	76.3	835.1	0.00	0.00	0.00	
Lower Cubero - Upper Cubero										
7,182.6	0.00	0.00	7,047.0	-831.6	76.3	835.1	0.00	0.00	0.00	
Encinal										
7,200.0	0.00	0.00	7,064.4	-831.6	76.3	835.1	0.00	0.00	0.00	
7,222.6	0.00	0.00	7,087.0	-831.6	76.3	835.1	0.00	0.00	0.00	
Prod Casing - Heaton LS 5B Prod Section										

Targets										
Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Heaton LS 5B Prod Sect	- plan hits target center - Point	0.00	0.00	7,087.0	-831.6	76.3	2,137,907.33	451,691.45	36° 52' 31.018 N	107° 59' 54.584 W
Heaton LS 5B Int Section	- plan hits target center - Point	0.00	0.00	4,397.0	-831.6	76.3	2,137,907.35	451,691.44	36° 52' 31.018 N	107° 59' 54.584 W
Heaton LS 5B Back to V	- plan hits target center - Point	0.00	0.00	3,400.0	-831.6	76.3	2,137,907.33	451,691.45	36° 52' 31.018 N	107° 59' 54.584 W

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")		
200.0	200.0	Surface Casing	9-5/8	12-1/4		
4,532.6	4,397.0	Int Casing	7	8-3/4		
7,222.6	7,087.0	Prod Casing	4-1/2	6-1/4		

ConocoPhillips or its affiliates

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Heaton LS #5B
Company:	ConocoPhillips SJB	TVD Reference:	AD 920 @ 5905.3ft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	AD 920 @ 5905.3ft (Original Well Elev)
Site:	Other Named Wells	North Reference:	True
Well:	Heaton LS #5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Principal Wellbore		
Design:	Plan #1		

Formations							
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)		
7,084.6	6,949.0	Pauguate		0.00			
959.6	955.0	Ojo Alamo		0.00			
4,206.6	4,071.0	Massive Cliff House		0.00			
1,009.8	1,004.0	Kirtland		0.00			
5,208.6	5,073.0	Mancos Shale		0.00			
7,118.6	6,983.0	Lower Cubero		0.00			
3,329.2	3,194.0	Huerfano Bentonite		0.00			
2,736.4	2,623.0	Lewis		0.00			
6,955.6	6,820.0	Graneros		0.00			
4,382.6	4,247.0	Menefee		0.00			
3,680.6	3,545.0	Chacra		0.00			
6,900.6	6,765.0	Greenhorn		0.00			
7,118.6	6,983.0	Upper Cubero		0.00			
6,179.6	6,044.0	Gallup		0.00			
4,890.6	4,755.0	Pt. Lookout		0.00			
1,937.6	1,878.0	Fruitland		0.00			
2,561.6	2,460.0	Pictured Cliffs		0.00			
7,012.6	6,877.0	Two Wells		0.00			
7,182.6	7,047.0	Encinal		0.00			
4,011.6	3,876.0	Upper Cliff House		0.00			

REFERENCE INFORMATION

AD 920 @ 5905 3ft (Original Well Elev)
Ground Elevation 5890.3
Reference Lat: 36° 52' 39 241 N
Reference Long 107° 59' 55.523 W

Project: San Juan Basin - New Mexico West V
Site: Other Named Wells
Well: Heaton LS #5B
Wellbore: Principal Wellbore
Design: Plan #1

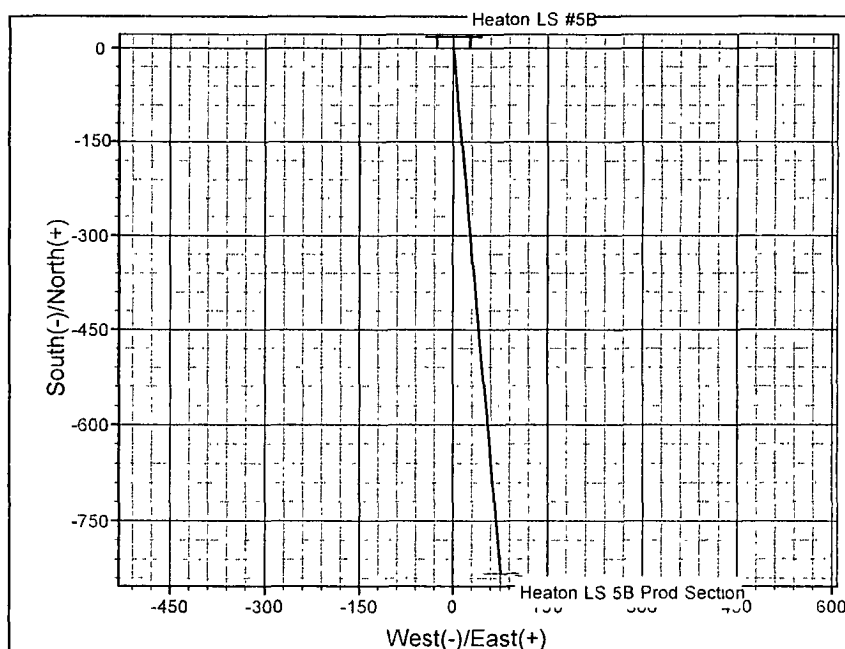
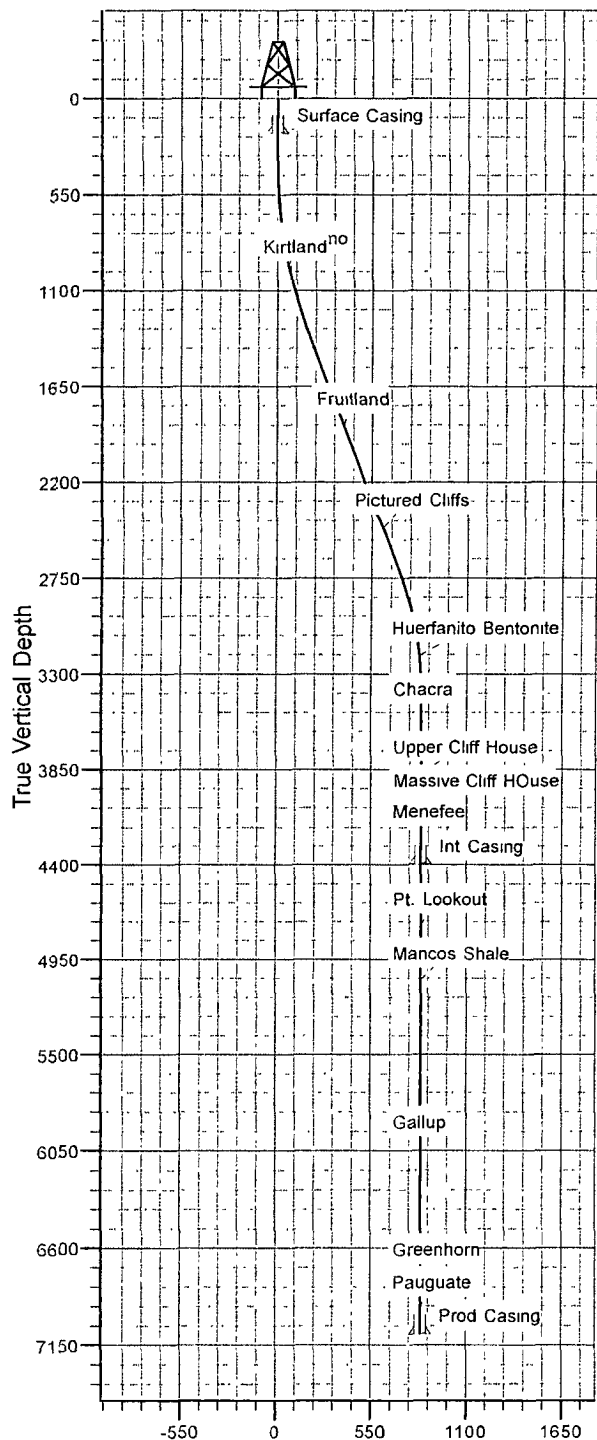
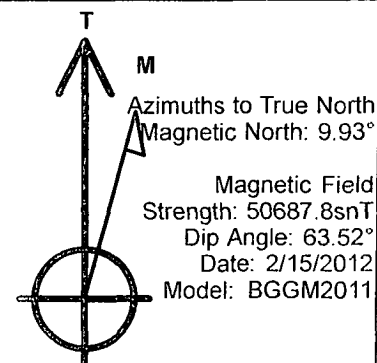
ConocoPhillips

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	350.0	0.00	0.00	350.0	0.0	0.0	0.00	0.00	0.0	
3	1407.5	21.15	174.76	1383.6	-192.2	17.6	2.00	174.76	193.0	
4	2830.6	21.15	174.76	2710.9	-703.5	64.5	0.00	0.00	706.4	
5	3535.6	0.00	0.00	3400.0	-831.6	76.3	3.00	180.00	835.1	Heaton LS 5B Back to Vertical
6	4532.6	0.00	0.00	4397.0	-831.6	76.3	0.00	0.00	835.1	Heaton LS 5B Int Section
7	7222.6	0.00	0.00	7087.0	-831.6	76.3	0.00	0.00	835.1	Heaton LS 5B Prod Section

FORMATION TOP DETAILS

VDPath	MDPath	Formation
955.0	959.6	Ojo Alamo
1004.0	1009.8	Kirtland
1878.0	1937.6	Fruitland
2460.0	2561.6	Pictured Cliffs
2623.0	2736.4	Lewis
3194.0	3329.2	Huerfano Benton
3545.0	3680.6	Chacra
3876.0	4011.6	Upper Cliff House
4071.0	4206.6	Massive Cliff HOu
4247.0	4382.6	Menefee
4755.0	4890.6	Pt. Lookout
5073.0	5208.6	Mancos Shale
6044.0	6179.6	Gallup
6765.0	6900.6	Greenhorn
6820.0	6955.6	Graneros
6877.0	7012.6	Two Wells
6949.0	7084.6	Pauguate
6983.0	7118.6	Lower Cubero
6983.0	7118.6	Upper Cubero
7047.0	7182.6	Encinal



CONOCOPHILLIPS COMPANY
HEATON LS #5B
122' FSL & 1714' FWL
LOCATED IN THE SE/4 SW/4 OF SECTION 21,
T31N, R11W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

DIRECTIONS

- 1) FROM POST OFFICE IN AZTEC, TRAVEL NORTH ON HIGHWAY 550 TO HIGHWAY 516.
- 2) TURN LEFT ONTO HIGHWAY 516 AND TRAVEL 0.8 MILES TO HIGHWAY 574 (LIGHT PLANT ROAD).
- 3) TURN RIGHT ONTO HIGHWAY 574 AND TRAVEL 1.9 MILES.
- 4) TURN RIGHT AND TRAVEL 2.6 MILES.
- 5) TURN LEFT AND TRAVEL 0.3 MILES TO AN ABANDONED ACCESS.
- 6) FOLLOW ABANDONED ACCESS FOR 376 FEET TO THE NEW ACCESS ON THE LEFT.

WELL FLAG LOCATED AT LAT. 36.87757° N, LONG. 107.99938° W (NAD 83).

JOB No.: COPC443
DATE: 08/12/11



Russell Surveying
1409 W. Aztec Blvd. #2
Aztec, New Mexico 87410
(505) 334-8637