

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary-Designate

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey, Division Director
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-3 APD form.

Operator Signature Date: 7/9/14
Well information:
Operator Dunham Res., Well Name and Number Howell A 3B
API# 30-045-35575, Section 9, Township 30 NS, Range 8 E/W

Conditions of Approval:

(See the below checked and handwritten conditions)

Notify Aztec OCD 24hrs prior to casing & cement.

Hold C-104 for directional survey & "As Drilled" Plat

Hold C-104 for NSL, NSP, DHC

- Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
 - A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
 - A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
 - A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
- Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.

Charles T. Per-
NMOCD Approved by Signature

8-7-2014
Date

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

JUL 09 2014

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2014

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial
SF-078580

1a. Type of Work DRILL RE-ENTER
b. Type of Well: Oil Well Gas Well

6. If Indian, Allottee or Tribe Name
7. Unit or CA Agreement Name and No.

2. Name of Operator
Burlington Resources Oil & Gas Company

8. Lease Name and Well No.
Howell A 3B

3. Address: **PO Box 4289, Farmington, NM 87499**
3a. Phone No. (include area code) **(505) 326-9700**

9. API Well No.
30-045-35575

4. Location of Well (Report location clearly and in accordance with Federal requirements)*
At surface **Unit C (NE/NW), 359' FNL & 1574' FWL**
Latitude **36.831869 ° N**
Longitude **107.684660 ° W**
At BHL **Unit N (SE/SW), 710' FSL & 1930' FWL**
Latitude **36.834803 ° N**
Longitude **107.683445 ° W**

10. Field and Pool or Exploratory
Blanco MV
11. Sec., T., R., M., on Block and Survey or Area
Suf: **Sec. 09, T30N, R08W**
BHL: **Sec. 04, T30N, R08W**

12. County or Parish **San Juan**
13. State **New Mexico**

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

15. Distance from Proposed Location to
Nearest Property or Lease Line: **359'**

16. Acres in Lease
1361.080

17. Acres Assigned to Well.:
320.50 Acres - W/2 Sec. 4

18. Distance from Proposed Location to Nearest Well,
Drlg, Compl, or Applied for on this lease
520' from Howell 2A

19. Proposed Depth
5804'

20. Rotary or Cable Tools
Rotary

21. Elevations (DF, FT, GR, Etc.)
6249'

22. Approx. Date Work will Start

23. Proposed Casing and Cementing Program
See Operations Plan attached

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

7/9/14
Date

PERMIT NO. _____

APPROVAL DATE _____

APPROVED BY: Troy Salyers

TITLE Petroleum Engineer DATE 7/29/2014

Archaeological Report attached
Threatened and Endangered Species Report attached

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

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 **NMB-000015 and NMB-000089**

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

**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**

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

OIL CONS. DIV DIST. 3

NMOCD PV

JUL 30 2014

DISTRICT I
 1655 N. Fremont Dr., Hobbs, N.M. 88240
 Phone: (575) 393-8161 Fax: (575) 393-0730

DISTRICT II
 811 S. First St., Artesia, N.M. 88210
 Phone: (575) 748-1883 Fax: (575) 748-9720

DISTRICT III
 1000 Rio Brasen Rd., Artesia, N.M. 87410
 Phone: (505) 334-8179 Fax: (505) 334-8170

DISTRICT IV
 1220 S. St. Francis Dr., Santa Fe, NM 87505
 Phone: (505) 476-3480 Fax: (505) 476-3489

OIL CONSERVATION DIVISION JUL 09 2014
 1220 South St. Francis Dr.
 Santa Fe, NM 87505

Submit one copy to appropriate District Office

Farmington Field Office AMENDED REPORT
 Bureau of Land Management

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045- 35575	² Pool Code 72319	³ Pool Name BLANCO MESAVERDE
⁴ Property Code 7119	⁵ Property Name HOWELL A	
⁶ WELL No. 14538	⁷ Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY LP.	⁸ Well Number 3B ⁹ Elevation 6249'

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
C	9	30N	8W		359'	NORTH	1574'	WEST	SAN JUAN

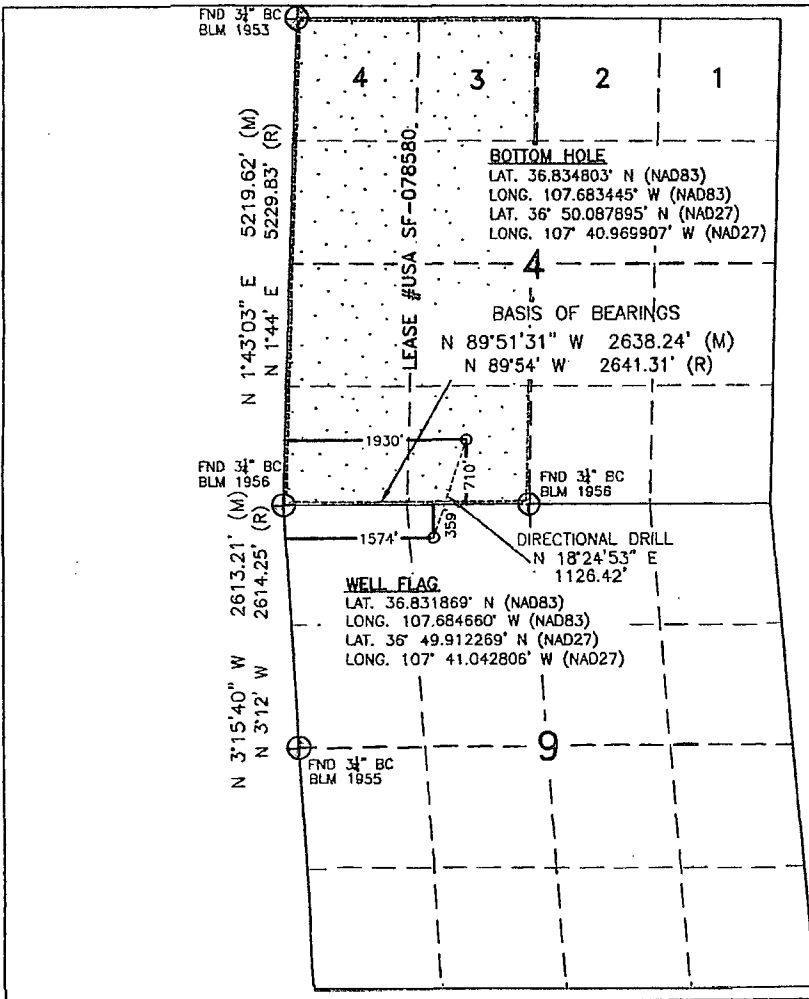
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	4	30N	8W		710'	SOUTH	1930'	WEST	SAN JUAN

¹² Dedicated Acres 320.50 ACRES - W/2 SEC. 4	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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 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 or compulsory pooling agreement or a compulsory pooling order heretofore entered by the division.

Arleen White 7/9/14
 Signature Date

Arleen White
 Printed Name

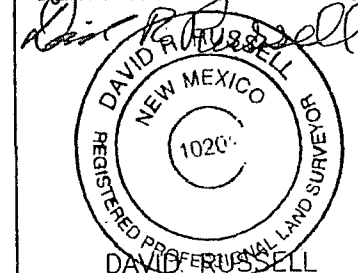
arleen.r.white@conocophillips.com
 E-mail Address

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.

APRIL 24, 2014
 Date of Survey

Signature and Seal of Professional Surveyor:



10201
 Certificate Number

PROJECT PROPOSAL - New Drill / Sidetrack

San Juan Business Unit

HOWELL A 3B

DEVELOPMENT

Lease:		AFE #: WAN.CDR.4003			AFE \$:		
Field Name: SAN JUAN		Rig: Pushing Rig		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						
RON	BLANCO MESAVERDE (PRORATED GAS)						
Location: Surface Datum Code: NAD 27 Directional							
Latitude: 36.838210	Longitude: -107.682415	X:	Y:	Section: 09	Range: 008W		
Footage X: 1574 FWL	Footage Y: 359 FNL	Elevation:	(FT)	Township: 030N			
Tolerance:							
Location: Bottom Hole Datum Code: NAD 27 Directional							
Latitude:	Longitude:	X:	Y:	Section: 04	Range: 008W		
Footage X: 1930 FWL	Footage Y: 710 FSL	Elevation:	(FT)	Township: 030N			
Tolerance:							
Location Type: Restricted		Start Date (Est.): 1/1/2016		Completion Date:		Date In Operation:	
Formation Data: Assume KB = 6264 Units = FT							
Formation Call & Casing Points	Depth (TVD in Ft)	SS (Ft)	MD (Ft)	Depletion (Yes/No)	BHP (PSIG)	BHT	Remarks
Surface Casing	200	6064		<input type="checkbox"/>			12-1/4 hole. 200' 9 5/8" 32.3 ppf, H-40, STC casing. Cement with 112 cuft. Circulate cement to surface.
NACIMIENTO	380	5884		<input type="checkbox"/>			
OJO ALAMO	1898	4366		<input type="checkbox"/>			
KIRTLAND	2039	4225		<input type="checkbox"/>			
FRUITLAND	2718	3546		<input type="checkbox"/>			Possible Gas
PICTURED CLIFFS	3083	3181		<input type="checkbox"/>			
LEWIS	3244	3020		<input type="checkbox"/>			
Intermediate Casing	3767	2497	3983	<input type="checkbox"/>		118	8 3/4" Hole. 7", 23 ppf, J-55, LTC Casing. Cement with 897 cuft. Circulate cement to surface.
HUERFANITO BENTONITE	3804	2460		<input type="checkbox"/>			
CHACRA	4159	2105		<input type="checkbox"/>			Est top perf 4160'
UPPER CLIFF HOUSE	4630	1634		<input type="checkbox"/>			
MASSIVE CLIFF HOUSE	4907	1357		<input type="checkbox"/>	173		Gas; Cliffhouse is on the dry side of wet line.
MENEFEE	4974	1290		<input type="checkbox"/>			
MASSIVE POINT LOOKOUT	5304	960		<input type="checkbox"/>			
MANCOS	5654	610		<input type="checkbox"/>			Est bottom perf 5650'
Total Depth	5804	460	6019	<input checked="" type="checkbox"/>		171	6-1/4" hole, 4-1/2" 11.6 ppf, J-55/L-80, LTC casing. Cement w/ 273 cuft. Circulate cement a minimum of 100' inside the previous casing string.
Reference Wells:							
Reference Type	Well Name			Comments			

PROJECT PROPOSAL - New Drill / Sidetrack

San Juan Business Unit

HOWELL A 3B

DEVELOPMENT

Logging Program:
Intermediate Logs: <input type="checkbox"/> Log only if show <input type="checkbox"/> GR/ILD <input type="checkbox"/> Triple Combo

TD Logs: <input type="checkbox"/> Triple Combo <input type="checkbox"/> Dipmeter <input type="checkbox"/> RFT <input type="checkbox"/> Sonic <input type="checkbox"/> VSP <input type="checkbox"/> TDT <input checked="" type="checkbox"/> Other
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Additional Information:

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

San Juan Basin - New Mexico West Wells

Other Named Wells

Howell A #3B

Wellbore #1

Plan: APD Plan

Standard Planning Report

24 June, 2014

ConocoPhillips

Planning Report

Database: EDM Central Planning	Local Co-ordinate Reference: Well Howell A #3B	Well Howell A #3B
Company: ConocoPhillips SJB	TVD Reference: WELL @ 6264.0usft (Original Well Elev)	WELL @ 6264.0usft (Original Well Elev)
Project: San Juan Basin - New Mexico West Wells	MD Reference: WELL @ 6264.0usft (Original Well Elev)	Grid
Site: Other Named Wells	North Reference: Grid	Minimum Curvature
Well: Howell A #3B	Survey Calculation Method: Minimum Curvature	
Wellbore: Wellbore #1		
Design: APD Plan		

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	Howell A #3B		
Well Position	+N/-S	0.0 usft	Northing: 2,122,095.63 usft
	+E/-W	0.0 usft	Easting: 543,689.75 usft
Position Uncertainty		2.5 usft	Wellhead Elevation: usft
			Latitude: 36° 49' 54.736 N
			Longitude: 107° 41' 2.568 W
			Ground Level: 6,249.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	BGGM2014	5/19/2014	9.59
			Dip Angle (°)
			63.50
			Field Strength (nT)
			50,428

Design	APD Plan		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.0	0.0	0.0
			Direction (°)
			18.36

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	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,550.0	25.00	18.36	1,510.7	254.7	84.6	2.00	2.00	0.00	18.36	
3,149.8	25.00	18.36	2,960.6	896.4	297.6	0.00	0.00	0.00	0.00	
3,983.2	0.00	0.00	3,767.8	1,066.3	353.9	3.00	-3.00	0.00	180.00	
6,019.4	0.00	0.00	5,804.0	1,066.3	353.9	0.00	0.00	0.00	0.00	Howell A #3B BHL

ConocoPhillips Planning Report

Database: EDM Central Planning
Company: ConocoPhillips SJBW
Project: San Juan Basin - New Mexico West Wells
Site: Other Named Wells
Well: Howell A #3B
Wellbore: Wellbore #1
Design: APD Plan

Local Co-ordinate Reference: Well Howell A #3B
TVD Reference: WELL @ 6264.0usft (Original Well Elev)
MD Reference: WELL @ 6264.0usft (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
Surface-9-5/8"									
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
380.0	1.60	18.36	380.0	1.1	0.4	1.1	2.00	2.00	0.00
NACIMIENTO									
400.0	2.00	18.36	400.0	1.7	0.5	1.7	2.00	2.00	0.00
500.0	4.00	18.36	499.8	6.6	2.2	7.0	2.00	2.00	0.00
600.0	6.00	18.36	599.5	14.9	4.9	15.7	2.00	2.00	0.00
700.0	8.00	18.36	698.7	26.5	8.8	27.9	2.00	2.00	0.00
800.0	10.00	18.36	797.5	41.3	13.7	43.5	2.00	2.00	0.00
900.0	12.00	18.36	895.6	59.4	19.7	62.6	2.00	2.00	0.00
1,000.0	14.00	18.36	993.1	80.8	26.8	85.1	2.00	2.00	0.00
1,100.0	16.00	18.36	1,089.6	105.3	35.0	111.0	2.00	2.00	0.00
1,200.0	18.00	18.36	1,185.3	133.1	44.2	140.2	2.00	2.00	0.00
1,300.0	20.00	18.36	1,279.8	164.0	54.4	172.8	2.00	2.00	0.00
1,400.0	22.00	18.36	1,373.2	198.0	65.7	208.6	2.00	2.00	0.00
1,500.0	24.00	18.36	1,465.2	235.1	78.0	247.7	2.00	2.00	0.00
1,550.0	25.00	18.36	1,510.7	254.7	84.6	268.4	2.00	2.00	0.00
1,600.0	25.00	18.36	1,556.0	274.8	91.2	289.5	0.00	0.00	0.00
1,700.0	25.00	18.36	1,646.7	314.9	104.5	331.8	0.00	0.00	0.00
1,800.0	25.00	18.36	1,737.3	355.0	117.8	374.1	0.00	0.00	0.00
1,900.0	25.00	18.36	1,827.9	395.1	131.2	416.3	0.00	0.00	0.00
1,977.3	25.00	18.36	1,898.0	426.1	141.5	449.0	0.00	0.00	0.00
OJO ALAMO									
2,000.0	25.00	18.36	1,918.6	435.2	144.5	458.6	0.00	0.00	0.00
2,100.0	25.00	18.36	2,009.2	475.3	157.8	500.8	0.00	0.00	0.00
2,132.9	25.00	18.36	2,039.0	488.5	162.2	514.8	0.00	0.00	0.00
KIRTLAND									
2,200.0	25.00	18.36	2,099.8	515.5	171.1	543.1	0.00	0.00	0.00
2,300.0	25.00	18.36	2,190.4	555.6	184.4	585.4	0.00	0.00	0.00
2,400.0	25.00	18.36	2,281.1	595.7	197.7	627.6	0.00	0.00	0.00
2,500.0	25.00	18.36	2,371.7	635.8	211.0	669.9	0.00	0.00	0.00
2,600.0	25.00	18.36	2,462.3	675.9	224.4	712.2	0.00	0.00	0.00
2,700.0	25.00	18.36	2,553.0	716.0	237.7	754.4	0.00	0.00	0.00
2,800.0	25.00	18.36	2,643.6	756.1	251.0	796.7	0.00	0.00	0.00
2,882.1	25.00	18.36	2,718.0	789.0	261.9	831.4	0.00	0.00	0.00
FRUITLAND									
2,900.0	25.00	18.36	2,734.2	796.2	264.3	838.9	0.00	0.00	0.00
3,000.0	25.00	18.36	2,824.9	836.3	277.6	881.2	0.00	0.00	0.00
3,100.0	25.00	18.36	2,915.5	876.4	290.9	923.5	0.00	0.00	0.00
3,149.8	25.00	18.36	2,960.6	896.4	297.6	944.5	0.00	0.00	0.00
3,200.0	23.49	18.36	3,006.4	916.0	304.0	965.1	3.00	-3.00	0.00
3,282.8	21.01	18.36	3,083.0	945.7	313.9	996.5	3.00	-3.00	0.00
PICTURED CLIFFS									
3,300.0	20.49	18.36	3,099.1	951.5	315.8	1,002.6	3.00	-3.00	0.00
3,400.0	17.49	18.36	3,193.6	982.4	326.1	1,035.1	3.00	-3.00	0.00
3,452.6	15.92	18.36	3,244.0	996.8	330.9	1,050.2	3.00	-3.00	0.00
LEWIS									
3,500.0	14.49	18.36	3,289.8	1,008.6	334.8	1,062.7	3.00	-3.00	0.00
3,600.0	11.49	18.36	3,387.2	1,029.9	341.9	1,085.2	3.00	-3.00	0.00
3,700.0	8.49	18.36	3,485.7	1,046.4	347.3	1,102.5	3.00	-3.00	0.00

ConocoPhillips

Planning Report

Database: EDM Central Planning
Company: ConocoPhillips SJBU
Project: San Juan Basin - New Mexico West Wells
Site: Other Named Wells
Well: Howell A #3B
Wellbore: Wellbore #1
Design: APD Plan

Local Co-ordinate Reference: Well Howell A #3B
TVD Reference: WELL @ 6264.0usft (Original Well Elev)
MD Reference: WELL @ 6264.0usft (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)
3,800.0	5.49	18.36	3,584.9	1,057.9	351.2	1,114.7	3.00	-3.00	0.00
3,900.0	2.49	18.36	3,684.7	1,064.5	353.4	1,121.7	3.00	-3.00	0.00
3,983.2	0.00	0.00	3,767.8	1,066.3	353.9	1,123.5	3.00	-3.00	0.00
Intermediate-7"									
4,000.0	0.00	0.00	3,784.6	1,066.3	353.9	1,123.5	0.00	0.00	0.00
4,019.4	0.00	0.00	3,804.0	1,066.3	353.9	1,123.5	0.00	0.00	0.00
HUERFANITO BENTONITE									
4,100.0	0.00	0.00	3,884.6	1,066.3	353.9	1,123.5	0.00	0.00	0.00
4,200.0	0.00	0.00	3,984.6	1,066.3	353.9	1,123.5	0.00	0.00	0.00
4,300.0	0.00	0.00	4,084.6	1,066.3	353.9	1,123.5	0.00	0.00	0.00
4,374.4	0.00	0.00	4,159.0	1,066.3	353.9	1,123.5	0.00	0.00	0.00
CHACRA									
4,400.0	0.00	0.00	4,184.6	1,066.3	353.9	1,123.5	0.00	0.00	0.00
4,500.0	0.00	0.00	4,284.6	1,066.3	353.9	1,123.5	0.00	0.00	0.00
4,600.0	0.00	0.00	4,384.6	1,066.3	353.9	1,123.5	0.00	0.00	0.00
4,700.0	0.00	0.00	4,484.6	1,066.3	353.9	1,123.5	0.00	0.00	0.00
4,800.0	0.00	0.00	4,584.6	1,066.3	353.9	1,123.5	0.00	0.00	0.00
4,845.4	0.00	0.00	4,630.0	1,066.3	353.9	1,123.5	0.00	0.00	0.00
UPPER CLIFF HOUSE									
4,900.0	0.00	0.00	4,684.6	1,066.3	353.9	1,123.5	0.00	0.00	0.00
5,000.0	0.00	0.00	4,784.6	1,066.3	353.9	1,123.5	0.00	0.00	0.00
5,100.0	0.00	0.00	4,884.6	1,066.3	353.9	1,123.5	0.00	0.00	0.00
5,122.4	0.00	0.00	4,907.0	1,066.3	353.9	1,123.5	0.00	0.00	0.00
MASSIVE CLIFF HOUSE									
5,189.4	0.00	0.00	4,974.0	1,066.3	353.9	1,123.5	0.00	0.00	0.00
MENEFEE									
5,200.0	0.00	0.00	4,984.6	1,066.3	353.9	1,123.5	0.00	0.00	0.00
5,300.0	0.00	0.00	5,084.6	1,066.3	353.9	1,123.5	0.00	0.00	0.00
5,400.0	0.00	0.00	5,184.6	1,066.3	353.9	1,123.5	0.00	0.00	0.00
5,500.0	0.00	0.00	5,284.6	1,066.3	353.9	1,123.5	0.00	0.00	0.00
5,519.4	0.00	0.00	5,304.0	1,066.3	353.9	1,123.5	0.00	0.00	0.00
MASSIVE POINT LOOKOUT									
5,600.0	0.00	0.00	5,384.6	1,066.3	353.9	1,123.5	0.00	0.00	0.00
5,700.0	0.00	0.00	5,484.6	1,066.3	353.9	1,123.5	0.00	0.00	0.00
5,800.0	0.00	0.00	5,584.6	1,066.3	353.9	1,123.5	0.00	0.00	0.00
5,869.4	0.00	0.00	5,654.0	1,066.3	353.9	1,123.5	0.00	0.00	0.00
MANCOS									
5,900.0	0.00	0.00	5,684.6	1,066.3	353.9	1,123.5	0.00	0.00	0.00
6,000.0	0.00	0.00	5,784.6	1,066.3	353.9	1,123.5	0.00	0.00	0.00
6,019.4	0.00	0.00	5,804.0	1,066.3	353.9	1,123.5	0.00	0.00	0.00
Production-4-1/2"									

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Howell A #3B BHL - hit/miss target - Shape - Point	0.00	0.00	5,804.0	1,066.3	353.9	2,123,161.80	544,043.65	36° 50' 5.274 N	107° 40' 58.194 W

ConocoPhillips

Planning Report

Database: EDM Central Planning
Company: ConocoPhillips SJB
Project: San Juan Basin - New Mexico West Wells
Site: Other Named Wells
Well: Howell A #3B
Wellbore: Wellbore #1
Design: APD Plan

Local Co-ordinate Reference: Well Howell A #3B
TVD Reference: WELL @ 6264.0usft (Original Well Elev)
MD Reference: WELL @ 6264.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
6,019.4	5,804.0	Production-4-1/2"	4-1/2	6-1/4	
200.0	200.0	Surface-9-5/8"	9-5/8	12-1/4	
3,983.2	3,767.8	Intermediate-7"	7	8-3/4	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,132.9	2,039.0	KIRTLAND		0.00		
5,869.4	5,654.0	MANCOS		0.00		
5,189.4	4,974.0	MENEFEE		0.00		
4,019.4	3,804.0	HUERFANITO BENTONITE		0.00		
380.0	380.0	NACIMIENTO		0.00		
2,882.1	2,718.0	FRUITLAND		0.00		
4,374.4	4,159.0	CHACRA		0.00		
1,977.3	1,898.0	OJO ALAMO		0.00		
3,282.8	3,083.0	PICTURED CLIFFS		0.00		
3,452.6	3,244.0	LEWIS		0.00		
4,845.4	4,630.0	UPPER CLIFF HOUSE		0.00		
5,122.4	4,907.0	MASSIVE CLIFF HOUSE		0.00		
5,519.4	5,304.0	MASSIVE POINT LOOKOUT		0.00		

REFERENCE INFORMATION

WELL @ 6264.0usft (Original Well Elev)
 Ground Elevation 6249.0
 Reference Lat: 36° 49' 54.736 N
 Reference Long: 107° 41' 2.568 W

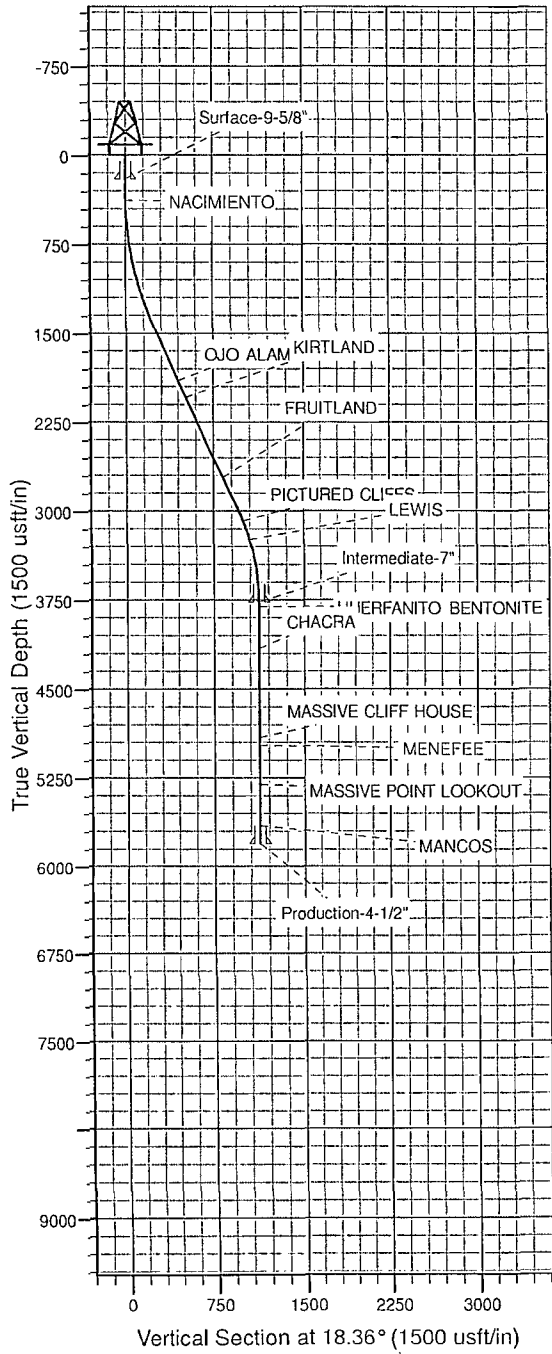
Project: San Juan Basin - New Mexico West V
 Other Named Wells
 Well: Howell A #3B



APD Plan

SECTION DETAILS

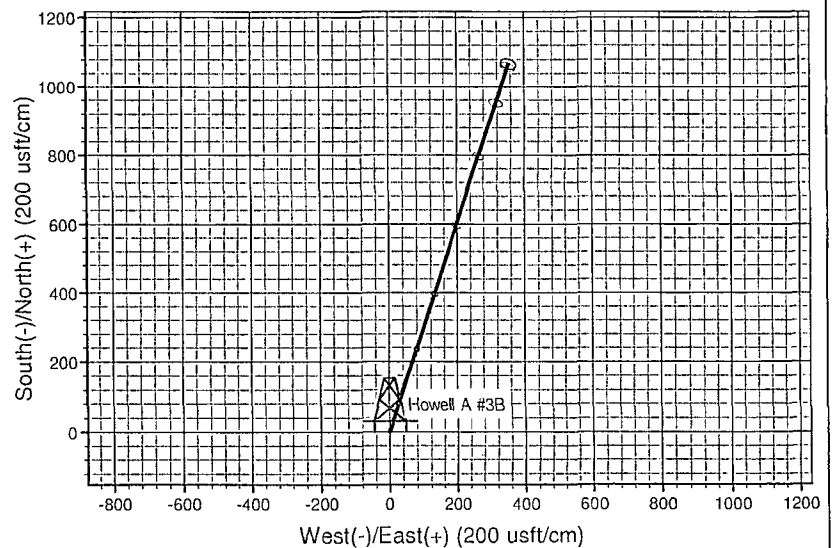
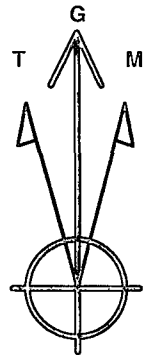
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0	
3	1550.0	25.00	18.36	1510.7	254.7	84.6	2.00	18.36	268.4	
4	3149.8	25.00	18.36	2960.6	896.4	297.6	0.00	0.00	944.5	
5	3983.2	0.00	0.00	3767.8	1066.3	353.9	3.00	180.00	1123.5	
6	6019.4	0.00	0.00	5804.0	1066.3	353.9	0.00	0.00	1123.5	Howell A #3B BHL



FORMATION TOP DETAILS

TVDPPath	MDPath	Formation
380.0	380.0	NACIMIENTO
1898.0	1977.3	OJO ALAMO
2039.0	2132.9	KIRTLAND
2718.0	2882.1	FRUITLAND
3083.0	3282.8	PICTURED CLIFFS
3244.0	3452.6	LEWIS
3804.0	4019.4	HUERFANITO BENTONITE
4159.0	4374.4	CHACRA
4630.0	4845.4	UPPER CLIFF HOUSE
4907.0	5122.4	MASSIVE CLIFF HOUSE
4974.0	5189.4	MENEFEE
5304.0	5519.4	MASSIVE POINT LOOKOUT
5654.0	5869.4	MANCOS

Azimuths to Grid North
 True North: -0.09°
 Magnetic North: 9.50°
 Magnetic Field
 Strength: 50427.7snT
 Dip Angle: 63.50°
 Date: 5/19/2014
 Model: BGGM2014



surfacing material is required, it will be obtained from existing permitted or private sources and will be hauled in by trucks over existing Resource roads to the area.

F. For well pad cut and fill see Sheet F.

G. As determined during the onsite on 6-11-14, the following best management practices will be implemented:

1. Drainage will be above slope drain to silt trap
2. Storage of topsoil will be top of 6" of soil stacked in construction area around well pad
3. Incorporate Slash in Fill
4. Will use low profile equipment

H. Construction equipment may include chain saws, a brush hog, scraper, maintainer, excavator, hydraulic mulcher, chippers and dozer. Construction of the resource road and well pad will take approximately 2 to 4 weeks.

I. The resource road and well pad are on lease so no additional ROW will be required.

J. Construction contractors will call New Mexico One-Call (or equivalent) to identify the location of any marked or unmarked pipeline or cables located in proximity to the proposed resource road and well pad at least two working days prior to ground disturbance.

K. All operations will be conducted in such a manner that full compliance is made with the applicable laws and regulations, the Application for Permit to Drill, and applicable Notice(s) to Lessees.

VII. Methods for Handling Waste

A. Cuttings, Drilling Fluids, and Flowback Water - The drill cuttings, drill water and completion fluids will be placed in a lined reserve pit. The pit will be lined with 20m gage pit liner. The reserve pit will be fenced on three sides away from the pad during drilling and the fourth side fenced as soon as the rig moves out. The free fluids will be removed after completion or may be trucked and reused in drilling operations or trucked to an approved disposal facility as indicated in

Burlington Resources Drilling / Workover Pit Closure Procedure dated June 28, 2013 on file at the NMOCD office in Aztec, NM.

B. Garbage and other waste material - garbage, trash and other waste materials will be collected in a portable, self-contained and fully-enclosed trash container during drilling and completion operations. The accumulated trash will be removed, as needed, and will be disposed of at an authorized sanitary landfill. No trash will be buried or burned on location.

C. Sewage - self-contained, chemical toilets will be provided for human waste disposal. The toilet holding tanks will be pumped, as needed, and the contents thereof disposed of in an approved sewage disposal facility. The toilets will be onsite during all operations.

D. Immediately after drilling and completing activities have ceased, all debris and other waste materials not contained in the trash containers will be cleaned up and removed from the well location.

VIII. Ancillary Facilities

A. The proposed areas and access roads listed below could be utilized for staging of construction, drilling, and completion equipment to facilitate drilling operations. Additionally, staging could occur, within the permitted right-of-way, along the route shown on Sheet B and described on Sheet C. Staging could take place when the rig moves in or off location. Any proposed temporary use area will be returned to same or better condition than before operations began and will comply with the BLM FFO Bare Soil Reclamation Procedures.

1. Howell A #3 - UL M, 890' FSL & 890' FWL, Section 4, T30N, R8W (on lease)
2. Howell A #301 - UL M, 460' FSL & 1180' FWL, Section 4, T30N, R8W (on lease)

IX. Well Site Layout

A. The proposed well pad layout is shown on Sheet G. Cross sections have been drafted to visualize the planned cuts and fill across the location. Refer to Section VI for construction materials and methods.

B. Office trailers equipped with living quarters will be provided on location during drilling and completions operations.

X. Plans for Surface Restoration

BURLINGTON RESOURCES OIL & GAS COMPANY LP

HOWELL A #3B

359' FNL & 1574' FWL

LOCATED IN THE NE/4 NW/4 OF SECTION 9,

T30N, R8W, N.M.P.M.,

SAN JUAN COUNTY, NEW MEXICO

DIRECTIONS

- 1) FROM INTERSECTION OF HWY 173 AND CR 4600 (PUMP CANYON), TURN LEFT AND GO 4.3 MILES NORTH UP PUMP CANYON.
- 2) TURN LEFT AND GO 0.3 MILES.
- 3) TURN RIGHT AND GO 0.3 MILES.
- 4) STAY LEFT AND GO 0.8 MILES TO WHERE ACCESS IS STAKED ON RIGHT SIDE OF ROAD.

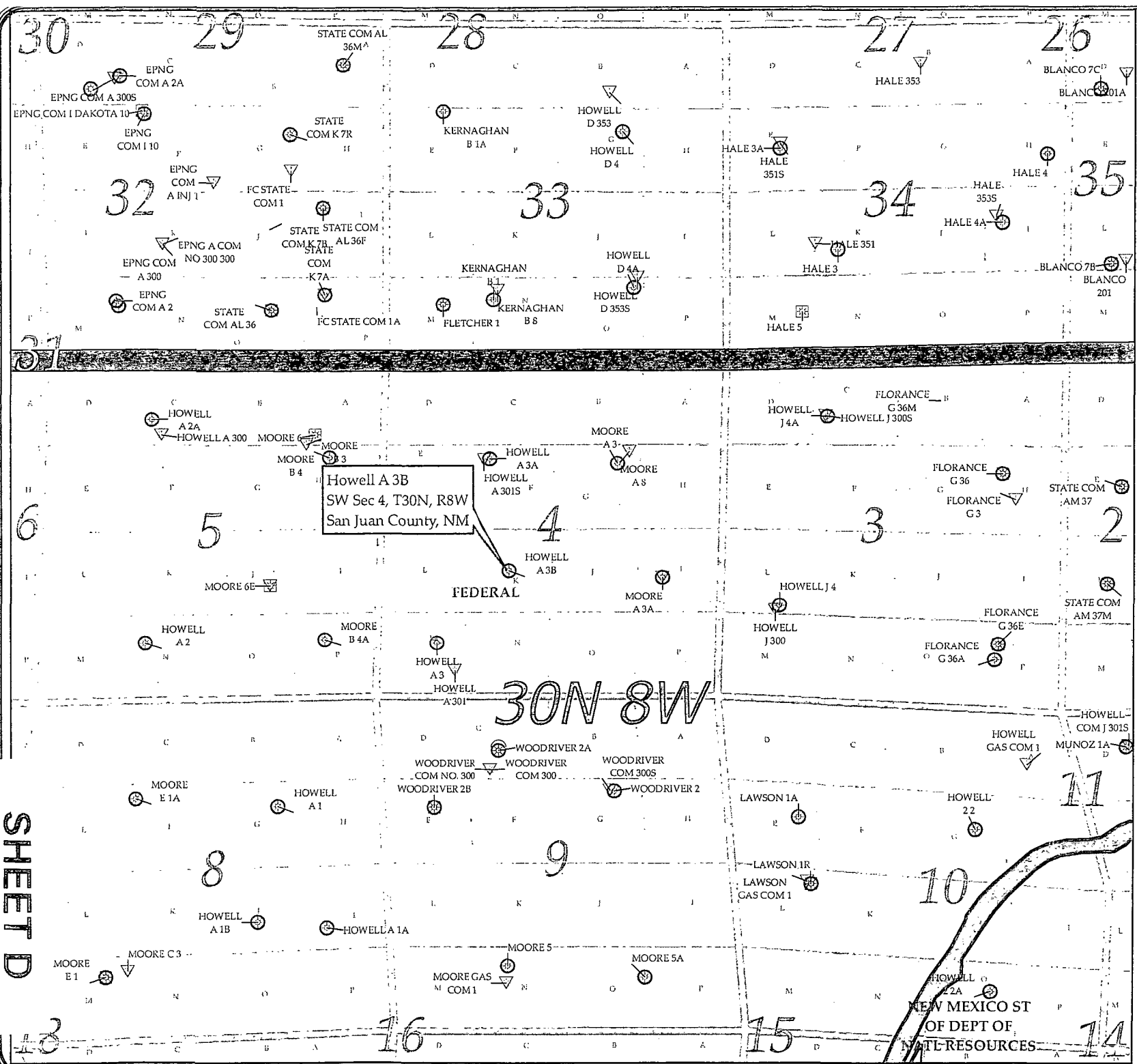
WELL FLAG LOCATED AT LAT. 36.831869° N, LONG. 107.684660° W (NAD 83).

JOB No.: COPC489
DATE: 05/07/14



Scorpion Survey & Consulting, L.L.C.
302 S. Ash
Aztec, New Mexico 87410
(505) 334-4007

SHEET C

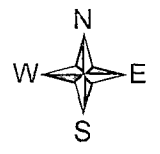


L48 SJBU DSM Surface LL Zone

POOL NAME

- NACIMIENTO
- v FRUITLAND
- ▲ FRUITLAND COAL
- FTC/PC
- † PICTURED CLIFFS; PICTUREDCLIFFS
- + PC/MWDK
- v CHACRA
- o MESAVERDE
- o MVDK
- o MANCOS
- o GALLUP/DK
- o GREENHORN
- ▲ DAKOTA
- o PENNSYLVANIA
- o SHALLOW

1:24,394
1 inch = 2,033 feet



ConocoPhillips
Unpublished Work, ConocoPhillips.

Howell A 3B
SW Sec 4, T30N, R8W
San Juan County, NM

SHEET D