

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

RECEIVED

FORM APPROVED  
OMB No 1004-0137  
Expires March 31, 2007

**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.**

5 Lease Serial No. NM-1038723  
6 If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2.

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator  
Devon Energy Production Co., LP

3a Address  
20 North Broadway  
OKC, OK 73102

3b Phone No. (include area code)  
(405)-552-7802

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
SENE 2140' FNL & 660' FWL  
Sec 20-T16S-R28E Lot E

BHL: 2240 FNL 330 FEL

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

8 Well Name and No  
Shakespeare 20 Federal 3H

9 API Well No. 30-015-37193

10. Field and Pool or Exploratory Area  
Wolfcamp

11 Country or Parish, State  
Eddy County, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other Change
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Drilling Program
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> 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 )

Devon Energy Production Co., LP respectfully requests approval to deviate from the original approved APD and revise the drilling program per the attached

SUBJECT TO LIKE  
APPROVAL BY STATE

DHC behind pipe

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

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

Title Sr. Staff Engineering Technician

Signature

Date 10/30/2009

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Office

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

APPROVED

NOV 10 2009

WESLEY W. INGRAM  
PETROLEUM ENGINEER

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

(Instructions on page 2)



Devon Energy Corporation  
20 North Broadway  
Oklahoma City, OK 73102-8260

405 235 3611 Phone  
www.devonenergy.com

October 30, 2009

United States  
Department of The Interior  
Carlsbad, New Mexico  
Re: Shakespeare 20 Fed Com 3H  
Sec 20-T16S-R28E  
Eddy County, New Mexico  
API # 30-015-37193

Devon Energy would like to make the following changes to the approved drilling design for the above referred well.

1. The 12 ¼' hole to be drilled to ~2300 at set 9 5/8" 36# J-55 LT&C casing. Cement to surface with 475 sacks 35:65 Poz Class C yield 1.96 cuft/sk and 250 sacks of Class C yield 1.34 cuft/sk.
2. Drill the 8 ¾" Pilot Hole to ~6800'. The Pilot hole will be logged, a lateral depth will be determined, cement plug will be pumped and the directional drilling program will commence.
3. The 7" and 4 ½" casing described in the approved APD will only be ran if hole conditions deteriorate and this will be considered as a option.
4. The current proposed production casing will be 5 ½" 17# BT&C & LT&C P110 HC and will be ran with a Packer type completion system for isolation in the lateral to a MTD of ~~10950'~~ 10534' *per sundry 7/16/09*
5. A Port Collar (PC) will be placed in the 5 ½" casing at KOP (~5900') while running the casing. *see COA*
6. Once the casing with the completion system is ran, tubing will be ran to open the PC (5900') and the 5 ½" casing be cemented from 5900' to surface. Cement volume will be 985 sacks 35:65 Poz Class C with a yield of 1.96 cuft/sk and 380 sacks of Class C with a yield of 1.34 cuft/sk.
7. Data for 5 ½" casing: ~5000' of 17# BT&C and ~5950' of 17# LT&C. Safety factors are: Collapse 2.93, Burst 4.01 and Tensile 2.37.

*see COA* [ Devon Energy reserves the right to change the tubular design as the well is being drilled and will inform the Carlsbad New Mexico BLM office within 24 hours of any changes which may occur.

Regards  
Pat Brown  
Drilling Engineer  
Devon Energy  
Western Region USA  
Office: 405-228-8511

## PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production Company, LP
LEASE NO.:	NM103873
WELL NAME & NO.:	Shakespeare 20 Federal Com # 3H
SURFACE HOLE FOOTAGE:	2140' FNL & 660' FWL
BOTTOM HOLE FOOTAGE:	2240' FNL & 330' FEL
LOCATION:	Section 20, T. 16 S., R 28 E., NMPM
COUNTY:	Eddy County, New Mexico

### I. DRILLING

#### A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,  
(575) 361-2822

1. **Although there are no measured amounts of Hydrogen Sulfide reported, it is always a potential hazard. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the CAL/GR/N well log run from TD to surface will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

## **B. CASING**

**Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.**

**Centralizers required on surface casing per Onshore Order 2.III.B.1.f.**

**Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.**

**No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.**

**High cave/karst.**

**Possible lost circulation in the Grayburg and San Andres formations.**

**Possible high pressure gas bursts in the Wolfcamp.**

1. **The 13-3/8 inch surface casing shall be set at approximately 300 feet and cemented to the surface. Onshore Order II requires casing to be set across a competent bed, which may be difficult to find in the Seven Rivers.**
  - a. **If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.**
  - b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
  - c. **Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.**

- d. If cement falls back, remedial action will be done prior to drilling out that string.

**Formation below the 13-3/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.**

2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:

- ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.  
**Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to high cave/karst. This casing is to be set above the Slaughter Zone of the San Andres formation.**

**Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.**

**Pilot hole plug is to have a plug at the bottom and must be 170' in length. Plug to be tagged prior to setting second plug. Report tag depth on subsequent report. Operator can set a single plug from the bottom of the hole to the kick-off point and avoid a tag.**

**IF LOST CIRCULATION OCCURS WHILE DRILLING THE 8-3/4" PRODUCTION HOLE, THE CEMENT PROGRAM FOR THE 5-1/2" CASING WILL NEED TO BE MODIFIED AND THE BLM IS TO BE CONTACTED PRIOR TO RUNNING THE CASING. A MINIMUM OF TWO CASING STRINGS CEMENTED TO SURFACE IS REQUIRED IN HIGH CAVE/KARST AREAS. THE CEMENT MUST BE IN A SOLID SHEATH THEREFORE, ONE INCH OPERATIONS WILL NOT BE PERMITTED. A DV TOOL MAY BE NEEDED IN ADDITION TO THE PORTED COLLAR.**

3. The minimum required fill of cement behind the 5-1/2 inch production casing is:

- ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.  
**The placement of the ported collar may result in downhole commingling behind the casing and as a result is subject to like approval by State. The operator has provided documentation from offsetting wells that indicates that production does not exist in the portion of the hole that could have commingling issues and based on that data, the BLM is approving the set point for the ported collar.**

**Contingency casing program:**

4. The minimum required fill of cement behind the 7 inch second intermediate casing is:

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.  
**Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to high cave/karst.**

**Formation below the 7" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.**

5. The minimum required fill of cement behind the 4-1/2 inch production casing is:

☒ Cement not required – operator using Peak System Iso-pack liner.

6. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

**C. PRESSURE CONTROL**

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M) psi**.
3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. The tests shall be done by an independent service company.
  - b. The results of the test shall be reported to the appropriate BLM office.
  - c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
  - d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

- e. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation **if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days**. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.
- f. **Effective November 1, 2008, no variances will be granted on reduced pressure tests on the surface casing and BOP/BOPE. Onshore Order 2 requirements will be in effect.**

#### **D. DRILLING MUD**

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

#### **E. DRILL STEM TEST**

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

**NOTE: All potential hydrocarbon zones are to be listed, not just the target.**

**WWI 110409**