

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
SUNDRY NOTICES AND REPORTS ON WELLS

OCD-ARTESIA

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FORM APPROVED
OMB NO 1004-0135
EXPIRES: NOVEMBER 30, 2000

Do not use this form for proposals to drill or to re-enter an
abandoned well. Use Form 3160-3 (APL) for such proposals

SUBMIT IN TRIPLICATE

1a. Type of Well	<input checked="" type="checkbox"/> Oil Well	<input type="checkbox"/> Gas Well	<input type="checkbox"/> Other
2. Name of Operator	DEVON ENERGY PRODUCTION COMPANY, LP		
3. Address and Telephone No	20 North Broadway, Oklahoma City, OK 73102 405-552-8198		
4. Location of Well (Report location clearly and in accordance with Federal requirements)*	SL: 400 FSL & 100 FEL, SE/SE Section 20, T16S R28E Unit P BHL: 400 FSL & 330 FWL, SW/SW Section 20, T16S R28E Unit M		

5. Lease Serial No.	SL: NM54856 BHL: NM103873
6. If Indian, Allottee or Tribe Name	
7. Unit or CA Agreement Name and No.	
8. Well Name and No.	Shakespeare 20 Federal Com 1H
9. API Well No.	
10. Field and Pool, or Exploratory	Wolfcamp
12. County or Parish	Eddy
13. State	NM

CHECK APPROPRIATE BOX(S) 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 type="checkbox"/> Other
	<input checked="" type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work and approximate duration thereof. If the proposal deepens directionally or recomplete horizontally, give subsurface location 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 shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirement, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection)

Devon Energy Production Company, LP respectfully requests approval to change drilling plans per the attached. Upon further review by the BLM it has been determined that three strings of casing will be required.


SEE ATTACHED FOR
CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct

Signed  Name Norvella Adams
Title Sr. Staff Engineering Technician

(This space for Federal or State Office use)

Approved by _____ Title _____
Conditions of approval, if any: _____

Date	APPROVED 5/30/2008
Date	JUN 4 2008
	 WESLEY W. INGRAM PETROLEUM ENGINEER

*Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make any department or agency of the United States any false, fictitious or fraudulent statement or report, or to furnish any false, fictitious or fraudulent information in any matter within its jurisdiction.

*See Instruction on Reverse Side

Shakespeare 20 Federal Com 1H

SL: 400 FSL & 100 FEL, SE/SE Section 20, T16S R28E Unit P

BHL: 400 FSL & 330 FWL, SW/SW Section 20, T16S R28E Unit M
Eddy County, NM

Casing Program:

<u>Hole Size</u>	<u>Hole Interval (MD)</u>	<u>OD Csg</u>	<u>Casing Interval</u>	<u>Weight</u>	<u>Collar</u>	<u>Grade</u>
17.5	0-520	13.375	0-520	48	STC	H-40
12 1/4	520-1900	9.625	0-1900	36	BTC	J-55
8.5	1900-6450	7	0-6450	26	BTC	P-110

Design Parameter Factors:

<u>Casing Size</u>	<u>Collapse Design Factor</u>	<u>Burst Design Factor</u>	<u>Tension Design Factor</u>
13.325	3.08	3.93	13.9
9.625	2.06	3.11	9.19
7	4.92	10.7	7.2

Mud Program

<u>Depth(md)</u>	<u>Mud Wt.</u>	<u>Visc</u>	<u>Fluid Loss</u>	<u>Type System</u>
0-520	8.5-8.9	32-34	N/C	FW
500-1900	10	28	N/C	BRINE
1900-10827	8.5-8.9	29-34	N/C-12cc	CUT BRINE

BOP DESIGN: Annular – 5K
Blind Ram – 5K
Pipe Ram – 5K
Pipe Ram – 5K

TOC for All Strings:

Surface: Surf
Intermediate: Surf
Intermediate: 1500'

Cement Program:

a. Surface

Cement to surface with Lead with 250 sx
35:65 Premium Plus C Cement + 5% NaCl +
0.125 lbs/sx Celloflake + 4% Bentonite + 5%
MPA-5 + 0.8% Sodium Metasilicate +
101.1% Fresh Water. Yield 1.96 cf/sx. 12.80
ppg. Tail with 200 sacks Premium Plus C
Cement + 2% CaCl_2 + 0.125 lbs/sx Celloflake
+ 56.3% Fresh Water. Yield: 1.35 cf/sx ;
14.80 ppg. Displacement: 75.4 bbls Mud @
8.5 ppg.

b. 1st Intermediate

Cement to surface with Lead: 380 sx 35:65
Poz: Premium Plus C Cement + 5% NaCl +
0.125 lbs/sx Celloflake + 4% Bentonite + 3
#/sx LCM-1 + 5% MPA-5 + 98.2% Fresh
Water. Yield: 1.97 cf/sx, 12.80 ppg. Tail
with 250 sx Premium Plus C Cement + 2%
 CaCl_2 + 56.4% Fresh Water. Yield: 1.34
cf/sx, 14.80 ppg. Displacement: 143.8 bbls
Mud @ 10.0 ppg.

c. 2nd Intermediate

Cement with Lead: 495 sacks 35:65 Poz
Premium Plus C Cement + 3% NaCl + 0.125
lbs/sx Celloflake + 6% Bentonite + 0.4%
FL-52A + 105.4% Fresh Water. Yield 2.00
cf/sx 12.50 ppg. Tail with 200 sacks 60:40
Poz Premium Plus C Cement + 1% NaCl +
0.125 lbs/sx Celloflake + 0.75% BA-10A +
0.2% FL-52A + 4% MPA-5 + 63.1 Fresh
Water. Yield 1.34 cf/sx, 13.80 ppg.
Displacement: 243.7 bbls Water @ 8.34
ppg.

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production
LEASE NO.:	NM-103873
WELL NAME & NO.:	1H-Shakespeare 20 Federal Com
SURFACE HOLE FOOTAGE:	400' FSL & 330' FEL
BOTTOM HOLE FOOTAGE:	400' FSL & 330' FWL
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

☒ **Chaves and Roosevelt Counties, T16S Eddy County**

Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
(575) 627-0205 and (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.

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.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string.

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 520** 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 will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement).
 - 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.
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-d above.

If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the 7" casing must come to surface.

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

- ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

4. 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.

Seal on Peak Systems Iso-Pack liner is to be tested per Onshore Oil and Gas Order 2.III.B.1.b. Report test results for liner on subsequent report.

5. 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. 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. A variance to test the surface casing and BOP/BOPE to the reduced pressure of **1000** psi with the rig pumps is approved.

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.

WWI 060408