

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**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.
16848

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

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

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.

LUSITANO 27-34 FED COM 336H

2. Name of Operator

DEVON ENERGY PRODUCTION COMPANY

Contact: LINDA GOOD

Email: linda.good@devn.com

9. API Well No.

30-015-44425-00-X1

3a. Address

333 WEST SHERIDAN AVENUE
OKLAHOMA CITY, OK 73102

3b. Phone No. (include area code)

Ph: 405.552.6558

10. Field and Pool or Exploratory Area

JENNINGS-BONE SPRING, WEST

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

Sec 27 T25S R31E NENE 235FNL 325FEL
32.107914 N Lat, 103.758591 W Lon

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

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 for the following changes and additions to the drilling plan:

? Drill 12-1/4" hole to 8,205' and run 9-5/8" casing; differing from original permit proposed, drilling 9-7/8" hole to 10,400' and running 7.625".

? Drill 8-3/4" hole from 8,205' to 21,628' and running 5-1/2" 20# P110; differing from original permit proposed, drilling 6-3/4" hole from 10,400' to TD and running 5-1/2" 20#

The attached pages contain updated casing program, cement program, pressure control equipment table, and mud program.

NM OIL CONSERVATION
ARTESIA DISTRICT

NOV 22 2017

RECEIVED

SEE ATTACHED FOR
CONDITIONS OF APPROVALSC 11-27-17
Accepted for record - NMOC

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

Electronic Submission #393734 verified by the BLM Well Information System
For DEVON ENERGY PRODUCTION COMPANY, sent to the Carlsbad
Committed to AFMSS for processing by MUSTAFA HAQUE on 11/06/2017 (18MH0007SE)

Name (Printed/Typed) LINDA GOOD

Title REGULATORY SPECIALIST

Signature (Electronic Submission)

Date 11/01/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By MUSTAFA HAQUE

Title PETROLEUM ENGINEER

Date 11/08/2017

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 Carlsbad

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)

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

1. Geologic Formations

TVD of target	11640	Pilot hole depth	
MD at TD:	21628	Deepest expected fresh water:	400'

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Rustler	865		
Salado	3771		
Base of Salt	4291		
Delaware	4292		
1st BSPG Lime	8180		
1st BSPG Sand	9254		
2nd BSPG Lime	9454		
2nd BSPG Sand	9865		
3 rd BSPG Lime	10410		
3 rd BSPG Sand	11294		

*H₂S, water flows, loss of circulation, abnormal pressures, etc.



2. Casing Program -DSEE CoA

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
12.25"	0	4,500'	9.625"	40	J-55	BTC	1.125	1.25	1.6
	4,500'	8,205'	9.625"	40	P-110HC	BTC	1.125	1.25	1.6
8.75"	0	21,628'	5.5"	17 20#	P110	BTC	1.125	1.25	1.6

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

3. Cementing Program

Casing	# Sks	Wt. lb/gal	H ₂ O gal/sk	Yld ft ³ /sack	500# Comp. Strength (hours)	Slurry Description
9-5/8" Inter.	1066	9.0	13.5	3.27	21	Lead: Tuned Light® Cement
	180	14.8	6.32	1.33	6	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
5-1/2" Prod	338	9.0	13.5	3.27	21	Lead: Tuned Light® Cement
	2665	14.5	5.31	1.2	25	Tail: (50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite

Casing String	TOC	% Excess
9-5/8 5/8" Intermediate	0'	50%
5-1/2" Production Casing	8000'	25%

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12-1/4"	13-5/8"	5M	Annular	X	50% of working pressure
			Blind Ram	X	5M
			Pipe Ram	X	
			Double Ram	X	
			Other*		
8-3/4"	13-5/8"	5M	Annular	X	50% of working pressure
			Blind Ram	X	5M
			Pipe Ram	X	
			Double Ram	X	
			Other*		
			Annular		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other*		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
Y	Are anchors required by manufacturer?
Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

Devon proposes using a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be ~~3000 (3M) psi~~ ^{5000 (5M) psi}.

- Wellhead will be installed by wellhead representatives.
- If the welding is performed by a third party, the wellhead representative will monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- Wellhead representative will install the test plug for the initial BOP test.
- Wellhead company will install a solid steel body pack-off to completely isolate the lower head after cementing intermediate casing. After installation of the pack-off, the pack-off and the lower flange will be tested to ~~3M~~ ^{5M} as shown on the attached schematic. Everything above the pack-off will not have been altered whatsoever from the initial nipple up. Therefore the BOP components will not be retested at that time.
- If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head will be cut and top out operations will be conducted.
- Devon will pressure test all seals above and below the mandrel (but still above the casing) to full working pressure rating.
- Devon will test the casing to 0.22 psi/ft or 1500 psi, whichever is greater, as per Onshore Order #2.

After running the 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of ~~3M~~ ^{5M} will be installed on the wellhead system and will undergo a 250 psi low pressure test followed by a ~~3,000~~ ^{5,000} psi high pressure test. The ~~3,000~~ ^{5,000} psi high and 250 psi low test will cover testing requirements a maximum of 30 days, as per Onshore Order #2. If the well is not complete within 30 days of this BOP test, another full BOP test will be conducted, as per Onshore Order #2.

After running the 9-5/8" intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of ~~3M~~ ^{5M} will already be installed on the wellhead.

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at ~~3,000~~ ^{5,000} psi WP.

Devon requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line). The line will be kept as straight as possible with minimal turns

4. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
965'	8,205'	Brine/OBM	8.6-9.9	28-42	N/C – 6
10,400'	21,628'	WBM/OBM	8.4 -11.0	28-55	N/C – 6

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
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5. Drilling Conditions

Condition	Specify what type and where?
BHPressure at deepest TVD	6052 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

OCTG Casing



VALLOUREC & MANNESMANN TUBES

O.D.	T&C LB/FT	PE LB/FT	GRADE
9.625	40.00	38.97	P110 EC

Grade - Material Properties

Minimum Yield Strength:	125.0	ksi
Maximum Yield Strength:	140	ksi
Minimum Tensile Strength:	135	ksi

Pipe Body Data (PE)

Geometry

Nominal ID:	8.835	inch
Wall:	0.395	inch
Nominal Area:	11.454	inch ²
API Drift:	8.679	inch
Alternate Drift:	8.750	inch

Performance

Pipe Body Yield Strength:	1,432	kips
Collapse Resistance:	4,230	psi
Internal Yield Pressure (<i>API Historical</i>):	8,980	psi

Lamé - Internal Yield Pressure

Lamé open:	8,950	psi
Lamé capped:	9,970	psi
Lamé ductile rupture:	9,700	psi

API Connection Data

STC Internal Pressure:	8,980	psi
STC Joint Strength:	861	kips
LC Internal Pressure:	8,980	psi
LC Joint Strength:	988	kips
BC Internal Pressure:	8,980	psi
BC Joint Strength:	1,266	kips

LC Torque (ft-lbs)

minimum: 7,410	optimum: 9,880	maximum: 12,350
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This data sheet is for informational purposes only. While every effort has been made to ensure the accuracy of all data and that the information contained herein is correct, this material is presented as a reference guide only. V & M Tubes assumes no responsibility for the results obtained through the use of this material.

API grades with enhanced performance are supplied with API couplings produced from standard API grades.

7/5/2011 12:40

**PECOS DISTRICT
DRILLING OPERATIONS
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Devon Energy Prod Co
LEASE NO.:	NM16348
WELL NAME & NO.:	Lusitano 27 34 Fed Com – 336H
SURFACE HOLE FOOTAGE:	235'/N & 325'/E, sec 27
BOTTOM HOLE FOOTAGE:	330'/S & 330'/E, sec. 34
LOCATION:	Sec. 27, T. 25 S, R. 31 E
COUNTY:	Eddy County

A. CASING

All previous COAs still apply except the following:

Intermediate casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

Medium Cave/Karst: If cement does not circulate to surface on the intermediate casing, the cement on the production casing must come to surface.

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 (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

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

☒ **Cement to surface. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst. If cement does not to the surface:**

- a. The appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
- b. 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.
- c. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the 5-1/2 inch **20 lbs. / ft.** production casing is:

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

B. PRESSURE CONTROL

1. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. 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.**
 - a. **Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.**
 - b. **If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.**
 - c. **Manufacturer representative shall install the test plug for the initial BOP test.**
 - d. **If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.**

MHH 11082017