Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
JUN 25 2019
DISTRICT II-ARTESIA O.C.D.

FORM 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.

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other	5. Lease Serial No. NMNM0405444
	6. If Indian, Allottee or Tribe Name
	7. If Unit or CA/Agreement, Name and/or No.
	8. Well Name and No. MALDIVES 15-27 FED COM 231H
2. Name of Operator DEVON ENERGY PRODUCTION COM LP Contact: JENNIFER HARMS E-Mail: jennifer.harms@dvn.com	9. API Well No. 30-015-45385-00-X1
3a. Address 333 WEST SHERIDAN AVENUE OKLAHOMA, OK 73102 3b. Phone No. (include area code) Ph: 405-552-6560	10. Field and Pool or Exploratory Area JAMES RANCH
4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)* Sec 15 T23S R31E NWNW 400FNL 780FWL 32.310638 N Lat, 103.772385 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 to Original APD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ 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 recomplete 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 recompletion 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., L. P. (Devon) respectfully requests to have the option to move intermediate casing down to 8250' due to the close proximity of depletion from multiple active Delaware producers. The offset wells have perforations varying from 6,688' to 8,200'. Setting our intermediate string deeper will allow for us to case off potential loss zones. This will allow us to increase mud weight as necessary for well conditions in the production hole, allowing us to better handle any well control issues that may arise while drilling the lateral. This is contingency plan based on final drilling results.

Carlsbad Field Office
OCD Artesia

Drilling also requests the option to change the intermediate hole size to 9.875', intermediate casing size to 8-5/8", production hole size to 7-7/8', and production casing to remain the same at 5-1/2'. The intermediate hole size change will allow Devon to more effectively drill the hole section on losses by decreasing the volume of rock remove and increasing annular hole velocity,

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

Electronic Submission #461239 verified by the BLM Well Information System
For DEVON ENERGY PRODUCTION COM LP, sent to the Carlsbad
Committed to AFMSS for processing by PRISCILLA PEREZ on 04/15/2019 (19PP1667SE)

Name *(Printed/Typed)* JENNIFER HARMS — Title REGULATORY COMPLIANCE ANALYST

Signature (Electronic Submission) — Date 04/12/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By LONG VO — Title PETROLEUM ENGINEER — Date 05/20/2019

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 ****

RW 7-5-19

Additional data for EC transaction #461239 that would not fit on the form

32. Additional remarks, continued

therefore reducing the risk of stuck issues. The production hole size change will help decrease drillpipe buckling & increase annular velocities for hole cleaning, therefore increasing the likelihood of successfully drilling a 3 mile lateral.

Please see attachment.

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	DEVON ENERGY PRODUCTION COMPANY LP
LEASE NO.:	NMNM0405444
WELL NAME & NO.:	231H- MALDIVES 15-27 FED COM
SURFACE HOLE FOOTAGE:	400'/N & 510'/W
BOTTOM HOLE FOOTAGE	2350'/N & 350'/W
LOCATION:	Section.15.,T23S., R.31E., NMP
COUNTY:	EDDY County, New Mexico

COA

H2S	○ Yes	◉ No	
Potash	○ None	◉ Secretary	○ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	○ Multibowl	◉ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☑ Fluid Filled	☑ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit

All Previous COAs Still Apply

A. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **604 feet** (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.

    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 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 primary cement job will be a minimum of **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 cementing will be done prior to drilling out that string.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing shall be set at approximately **8250 feet** is:

Option 1 (Single Stage):

- 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 cave/karst or potash.**

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.
  Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

Operator has proposed to pump down 13-3/8" X 8-5/8" annulus. Operator must run a CBL from TD of the 8-5/8" casing to surface. Submit results to BLM.

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

- Cement should tie-back at least **500 feet** into previous casing string. Operator shall provide method of verification.
  Cement excess is less than 25%, more cement might be required.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. 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.

1. Geologic Formations

TVD of target	10,330'	Pilot hole depth	N/A
MD at TD:	25,667'	Deepest expected fresh water:	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Rustler	549		
Salado	919		
Base Of Salt	4021		
Delaware	4249		
Bell Canyon	4289		
Cherry Canyon	5169		
Brushy Canyon	6454		
Lower Brushy	7829		
1BSLM	8159		
Bone Spring 2nd	9719		
Bone Spring 3rd	10997		

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

2. Casing Program see COA

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
17.5"	0	~~574~~ 604 TVD	13.375"	48	H-40	STC	1.125	1.25	1.6
9.875"	0	8250 TVD	8.625"	32	P110EC	TLW	1.125	1.25	1.6
7.875"	0	TD	5.5"	17	P110	CDC-HTQ	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
97
Rustler top will be validated via drilling parameters (i.e. reduction in ROP) and surface casing setting depth revised accordingly if needed.

A variance is requested to wave the centralizer requirement for the 8-5/8" casing in the 9-7/8" hole and the 5-1/2" casing in the 7-7/8" hole.

8-5/8" Intermediate casing will be kept fluid filled.

3. Cementing Program

Casing	# Sks	TOC	Wt. lb/gal	Yld ft3/sack	Slurry Description
Surface	449.7	Surf	14.8	1.34	Tail: Class H Cement + additives
Int	461.1	Surf	9.0	3.3	Lead: Class C Cement + additives
	103	500' above shoe	14.8	1.34	Tail: Class H Cement + additives
Intermediate (Bradenhead)	1144	Surf	14.8	1.34	Class H Cement + additives
Production	309	500' tieback	10.8	1.41	Lead: Class H/C + additives
	2584	KOP	13.8	1.18	Tail: Class H/C + additives

If a DV tool is used, depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	% Excess
Surface	50%
Intermediate	30%
Production	10%

4. Mud Program

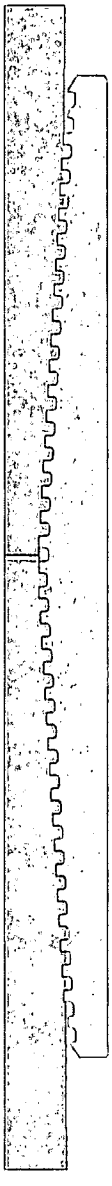
Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	574'604	FW	8.33	28	NC
574'604	8,250'	Cut/Saturated Brine	9.4 -10.5	28-34	N/C
8,250'	TD	Cut Brine / DBE	9.2 – 9.7	30-40	30-40

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

U. S. Steel Tubular Products

5 1/2 17.00 lb (0.304) RY 110 — USS-CDC HTQ™



	PIPE	CONNECTION	
MECHANICAL PROPERTIES			
Minimum Yield Strength	**110,000**		*psi*
Maximum Yield Strength	**125,000**		*psi*
Minimum Tensile Strength	**120,000**		*psi*
DIMENSIONS			
Outside Diameter	**5.500**	6.300	*in.*
Wall Thickness	0.304		*in.*
Inside Diameter	4.892	4.892	*in.*
Drift - API	4.767	4.767	*in.*
Nominal Linear Weight, T&C	**17.00**		*lbs/ft*
Plain End Weight	16.89		*lbs/ft*
SECTION AREA			
Cross Sectional Area | Critical Area	4.962	4.962	*sq. in.*
Joint Efficiency		100.0	%
PERFORMANCE			
Minimum Collapse Pressure	7,480	7,480	*psi*
Minimum Internal Yield Pressure	10,640	10,640	*psi*
Minimum Pipe Body Yield Strength	546,000		*lbs*
Joint Strength		550,000	*lbs*
Compression Rating		330,000	*lbs*
Reference Length		21,569	*ft*
Maximum Uniaxial Bend Rating		55.4	*deg/100 ft*
MAKE-UP DATA			
Make-Up Loss		4.63	*in.*
Minimum Make-Up Torque		10,000	*ft-lbs*
Maximum Make-Up Torque		14,000	*ft-lbs*
Connection Yield Torque		17,400	*ft-lbs*
* Verification of connection shoulder required. Typical shoulder range		5,000 - 7,500	*ft-lbs*

Notes:

1) Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness, and Specified Minimum Yield Strength (SMYS).
2) Uniaxial bending rating shown is structural only, and equal to compression efficiency.
3) Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
4) Reference length is calculated by joint strength divided by nominal T&C weight with 1.5 safty factor.

USS Product Data Sheet 2013 rev14 (June)

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