Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

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 reverse side.

5. Lease Serial No.
NMNM0107697

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
ANTARES 23 FEDERAL 13H

2. Name of Operator
DEVON ENERGY PRODUCTION CO LP
Contact: TRINA C COUCH
EMail: trina.couch@dvn.com

9. API Well No.
30-015-42076-00-X1

3a. Address
333 WEST SHERIDAN AVE
OKLAHOMA CITY, OK 73102

3b. Phone No. (include area code)
Ph: 405-228-7203

10. Field and Pool, or Exploratory
WILLIAMS SINK

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 23 T19S R31E SWNW 2400FNL 0190FWL
32.646622 N Lat, 103.847921 W Lon

11. County or Parish, and State
EDDY COUNTY, NM

12. CHECK 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	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original A PD
	☐ 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 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 requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Devon Energy Production Company, L.P. respectfully requests to perform a Bradenhead Squeeze down the 9-5/8" x 13-3/8" annulus on the Antares 23 Fed 13H (API: 30-15-42076). Intermediate 2 is a 12-1/4" hole with a Section Total Depth of 4300'. Remedial cementing is recommended due to losses in the 12-1/4" hole section while drilling and during the two-stage primary cement job. A temperature log was run to the top of the DV Multi-Stage Tool at 2662' with the 13-3/8" previous casing set at 2602' approximately 8 hours after bumped plug, and did not indicate any cement present. An Injection Rate Test was performed for 30 minutes with the following observations:

* A total of 180 bbls was pumped
* Average Injection Rate was 5.6 bpm
* Max Injection Pressure was 60 psi
* No static fluid level was observed after pumps were shut down

Accepted for record
NMOCD
5-19-2014
JDS.

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

Electronic Submission #245394 verified by the BLM Well Information System
For DEVON ENERGY PRODUCTION CO LP, sent to the Carlsbad
Committed to AFMSS for processing by CHRISTOPHER WALLS on 05/13/2014 (14CRW0264SE)

Name *(Printed/Typed)* TRINA C COUCH — Title REGULATORY ANALYST

Signature (Electronic Submission) — Date 05/12/2014

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By CHRISTOPHER WALLS — Title PETROLEUM ENGINEER — Date 05/13/2014

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.

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

SUNDRY REQUEST--May 12, 2014 (AAA)

Devon Energy Production Company, L.P. respectfully requests to perform a Bradenhead Squeeze down the 9-5/8" x 13-3/8" annulus on the Antares 23 Fed 13H (API: 30-015-42076). Intermediate 2 is a 12-1/4" hole with a Section Total Depth of 4300'. Remedial cementing is recommended due to losses in the 12-1/4" hole section while drilling and during the two-stage primary cement job. A temperature log was run to the top of the DV Multi-Stage Tool at 2662' with the 13-3/8" previous casing set at 2602'approximately 8 hours after bumped plug, and did not indicate any cement present. An Injection Rate Test was performed for 30 minutes with the following observations:

- A total of 180 bbls was pumped
- Average Injection Rate was 5.6 bpm
- Max Injection Pressure was 60 psi
- No static fluid level was observed after pumps were shut down

Recommended Cement Volumes as follows:

String	Number of sx	Weight lbs/gal	Water Volume g/sx	Yield cf/sx	Stage Lead/Tail	Slurry Description
Intermediate 2 Annulus 9-5/8" x 13-3/8"	200	14.6	6.05	1.49	Lead 1	200 sacks Premium Plus H Cement + 8% bwoc A-10 + 0.5% bwoc Calcium Chloride + 0.1% bwoc R-3 + 10 lbs/sack LCM-1 + 0.25 lbs/sack Cello Flake + 53.6% Fresh Water
	468	14.2	7.38	1.48	Lead 2	Premium Plus C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 65.5% Fresh Water
	1364	14.2	7.34	1.46	Tail	Premium Plus C Cement

Capitan Reef Section: 4 (avoid 3) casing strings, production cement to cover casing 50 feet above Capitan Reef top. In a Lesser Prairie-Chicken section.

20 surface csg in a 26 inch hole.

Segment	#/ft	Grade	Coupling	Joint	Design Factors Collapse	Burst	SURFACE Length	Weight
"A"	94.00	J 55	BUTT	22.95	1.71	1.58	650	61,100
"B"							0	0
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,193			Tail Cmt	does not	circ to sfc.	Totals:	650	61,100

Comparison of Proposed to Minimum Required Cement Volumes

Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
26	1.5053	1101	1791	1112	61	9.00	771	2M	2.50

13 3/8 casing inside the 20

Segment	#/ft	Grade	Coupling	Body	Design Factors Collapse	Burst	INTERMEDIATE Length	Weight
"A"	68.00	J 55	BUTT	6.11	1.46	1.72	2,575	175,100
"B"							0	0
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,291						Totals:	2,575	175,100

The cement volume(s) are intended to achieve a top of 0 ft from surface or a 650 overlap.

Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
17 1/2	0.6946	1915	3038	2037	49	10.00	1064	2M	1.56

Tail cement yield above 1.35.

9 5/8 casing inside the 13 3/8

Segment	#/ft	Grade	Coupling	Joint	Design Factors Collapse	Burst	INTERMEDIATE Length	Weight
"A"	40.00	J 55	LT&C	3.02	1.28	0.89	4,300	172,000
"B"							0	0
w/8.4#/g mud, 30min Sfc Csg Test psig: 889						Totals:	4,300	172,000

The cement volume(s) are intended to achieve a top of 0 ft from surface or a 2575 overlap.

Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
12 1/4	0.3132	look ↘	0	1423		9.00	2358	3M	0.81
Setting Depths for D V Tool(s):		2650					sum of sx	Σ CuFt	Σ%excess
% excess cmt by stage:		145	203				2852	3998	181

Tail cement yield above 1.35.

2nd stage calculation is for braden head cemen job 203% excess cement.

5 1/2 casing inside the 9 5/8

Segment	#/ft	Grade	Coupling	Joint	Design Factors Collapse	Burst	PRODUCTION Length	Weight
"A"	17.00	HCP 110	LT&C	2.82	2.13	2.39	8,600	146,200
"B"	17.00	HCP 110	BUTT	7.12	1.76	2.39	5,007	85,119
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,892						Totals:	13,607	231,319
B Segment Design Factors would be:				47.22	1.98	if it were a vertical wellbore.		

Proposed cmt sx could fill 1837 ft	MTD	Max VTD	Csg VD	Curve KOP	Dogleg°	Severity°	MEOC
of a 726 ft Pilot Hole	13607	9525	9280	8799	78	11	9501

The cement volume(s) are intended to achieve a top of 2300 ft from surface or a 2000 overlap.

Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
8 3/4	0.2526	look ↘	0	2878		9.00			1.35
Setting Depths for D V Tool(s):		4500					sum of sx	sum of CuFt	Σ% excess
% excess cmt by stage:		46	4				2620	4047	41

Tail cement yield above 1.35. Capitan Reef est top 2660.