Form 3160-5
(August 2007)

OCD Artesia

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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.
NMLC063622

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.
VEGA 29 FEDERAL 4H

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

9. API Well No.
30-015-42347-00-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
HACKBERRY

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 20 T19S R31E SESE 0460FSL 0777FEL
32.639917 N Lat, 103.885445 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 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 Co. L.P. respectfully requests approval of the attached procedure in attempt to repair and isolate the 13 3/8" annulus drilled through the Salado Formation.

Please see attachment*

12/18/14
Accepted for record
NMOCD

NM OIL CONSERVATION
ARTESIA DISTRICT
DEC 18 2014
RECEIVED

Verbal was given to Art Alarcon

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

Electronic Submission #284783 verified by the BLM Well Information System
For DEVON ENERGY PRODUCTION CO LP, sent to the Carlsbad
Committed to AFMSS for processing by JENNIFER MASON on 12/12/2014 (15JAM0123SE)

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

Signature (Electronic Submission) — Date 12/10/2014

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

APPROVED
DEC 12 2014
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

Approved By — Title — Date

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

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 ****

OPERATIONS PROCEDURE
VEGA 29 FED 4H (API: 30-015-42347)
December 5, 2014 (Final Revision 1)

OBJECTIVE: Perform remedial squeeze cement behind the 13-3/8" casing to isolate the Salado Formation in the annulus, and continue drilling the well to proposed total depth.

WELL DATA:

Tubular Data							
Hole Section	Hole Size	Casing Size	Depth (MD)	Weight lb/ft	Grade	Thread	TOC
Surface	26	20	463	94	J-55	BTC	0
Intermediate 1	17.5	13.375	2,333	68	J-55	BTC	0

Depth (ft)	Size (in)	Nom ID (in)	API Drift (in)	Burst (psi)	Collapse (psi)	Tension (x1000 lbs)
0 – 463	20	19.124	18.936	2110	520	1402
0 – 2,333	13-3/8	12.415	12.259	3450	1950	1140

HISTORY:

The 17.5" intermediate hole was drilled to 2,334' section TD. Flow anomalies were reported while drilling at 2060'. After reaching TD Flow was detected while pulling out of the hole to run casing. A mud cap was spotted to stop the flow and the string was run back in to TD. The brine-based mud system was weighted up from a 10.1 ppg to an 11.8 ppg to stop the flow and circulated until consistent weight in/out. While pulling out of the hole to run casing, proper hole fill was observed and the well was static. The 13 3/8" casing was run to TD without incident. The casing was cemented with full returns and 130 bbls excess was returned to surface. The plug was bumped with the calculated displacement and floats held. The well was static. A hole was cut in the 20" casing in the cellar to drain the cement from the 20" casing. Approximately 6 hours later gas/cement flow was reported in the cellar. The 21" diverter bag was closed and the well was diverted. A clamp was manufactured and installed to minimize the flow in the cellar and divert more of the flow through the choke manifold and panic line to the flare stack. The maximum LEL was reported at 19% gas inside the cellar and 0% LEL was reported at ground level. The clamp was installed and reduced the flow in the cellar but did not eliminate.

A noise/temp log revealed temp anomalies from 2050' to surface and noise anomalies at 2050' and 450' (Tansill formation at 2030' and 20" csg shoe at 463'). A Schlumberger USIT Log was also run and indicated considerable open pockets and channeling above 1980', and channeling in the cased hole above 463'.

PROCEDURE:

1. Run Schlumberger USIT log to evaluate the condition of the 20" x 13-3/8" annulus.
2. Lay down drill collars and Hevi-Weight Drill Pipe utilizing mouse hole; Pick-up 30 stands of drill pipe.
3. Rig up Crane; install 13-5/8" 5M BOPE, and choke manifold on 13-3/8" casing. Test Blind Rams against casing with 1500 psi high test and 250 psi low test pressure and hold for 30 minutes.
4. Trip in the hole with 5" drill pipe to 2,250'; close pipe rams and test against casing with the Fresh Water in the hole. Test with 1500 psi high test and 250 psi low test pressure and hold for 10 minutes.
5. Rig up scaffolding on drill floor around BOP's; approximately 8' high to provide a working platform.
6. Displace the fluid in the 13-3/8" casing with 12.0 ppg Brine-Based Fluid; circulate as needed until consistent.
7. Pull out of the hole with the drill string.
8. Rig-up wire line unit and make gauge-ring/junk basket run to confirm internal diameter for setting a 13-3/8" cement retainer.
9. Run in hole with a 3-1/8" Hollow Carrier Gun, 19 gram charge, 0.51" diameter test rating, 6 spf, 60 deg phasing, 2' length, with 13 total holes. With well shut-in apply 200 psi wellhead pressure while perforating. Perforate 13 3/8" casing from 1,982' to 1,980' as determined by Casing-Collar Locator Log. Note that casing collar is at +/-1,965'.
    a. Wire line BOP's to be utilized.
    b. Hole to be full and fluid level and pressures monitored after perforating.
    c. Pull out of the hole with wireline and gun assembly.
10. Close Blind Rams. Establish Injection rate down 13 3/8" casing and look for any changes or circulation out of the 20" x 13-3/8" annulus at the surface.
    a. All injection pressures and produced volumes to be tracked.
    b. Hold Maximum Injection Pressures below 1000 psi.
    c. Mud circulated to surface would be an indication of the open annular volume used for ordering cement. Straight volume of the annulus to the surface considering 18" hole calculates 294 bbls.

d. If well is circulated dead (MWI=MWO and flow check reveals no flow in cellar and no gas flow 0% LEL in cellar), consider welding a patch, or install a valve to cover the 3" hole in the 20" casing.

11. Run in hole and set cement retainer above perforations at 1,940'.
12. Pull out of the hole with the wireline; rig-down and move off wireline unit.
13. Trip in the hole with stinger assembly on 5" DP.
14. Sting into retainer and apply 500 psi to the drill pipe annulus to monitor pressures for leaks. Establish injection rate; evaluate stable circulation rate and pressure, and look for changes in annular flow.
    a. If well was not previously killed, kill well.
    b. If no flow in cellar and no gas flow with 0% LEL in cellar, consider welding a patch, or install a valve to cover the 3" hole in the 20" casing.
15. Cement well per Halliburton Proposal 145758 (12-4-2014).
    a. This cement proposal uses 200 bbls of slurry as a preliminary volume, but this volume will be adjusted as the data is collected and well conditions become better understood when ordering cement volume.
    b. Cut displacement short by 2 bbl to avoid over displacing below the cement retainer.
    c. Apply 500 psi Shut-in Casing Pressure and monitor throughout the Squeeze Job and maintain maximum drillpipe injection pressure below 1000 psi.
16. Bleed off pressures, sting out of retainer, and reverse circulate from the top of the cement retainer. Reverse circulate a minimum of 2 x drillpipe volumes (2 x 35 = 70 bbls) to flush drill string of all cement. Close well in and monitor pressure while WOC.
17. Evaluate all data and current well conditions to determine if the remedial cement job is complete to resume normal drilling operations and continue to the proposed total depth. A contingency plan will follow if needed, and as all facts are known at that time.

CONTINUATION PROCEDURE - 12/9/2014:

18. Run Schlumberger USIT log from the top of the cement retainer at 1945' to compare with the log run initially. Evaluate the results from the remedial squeeze job at 1,982' – 1,980'. Log was run with 0 psi and 1000 psi and indicated improved isolation from the squeeze perforations up to the 20" shoe at 463'.
19. Rig-up wire line unit and make gauge-ring run to 490' to confirm the internal diameter for setting a 13-3/8" cement retainer.
20. Run in hole with a 3-1/8" Hollow Carrier Gun, 19 gram charge, 0.51" diameter test rating, 6 spf, 60 deg phasing, 2' length, with 13 total holes.
    a. Safety and Radio silence discussed and strictly followed with live guns.

b. Shut-in and apply 200 psi wellhead pressure while perforating.

c. Perforate 13 3/8" casing from 463' to 465' as determined by Casing-Collar Locator Log. Note that casing collars are at 480' and 440'.

21. Close Blind Rams and establish Injection rate down 13 3/8" casing.

    a. Monitor changes or circulation out of the 20" x 13-3/8" annulus at the surface.

    b. Record all injection rates, pressures, and volumes.

    c. Hold Maximum Injection Pressures below 500 psi.

22. Run in hole and set cement retainer at 430' (Perforations at 463' – 465').

23. Pull out of the hole with the wireline; rig-down and move off wireline unit.

24. Trip in the hole with stinger assembly on 5" DP.

25. Sting into retainer and apply 200 psi to the drill pipe annulus to monitor pressures for leaks. Establish injection rate with 12.1 ppg Brine-Based mud; evaluate stable circulation rate and pressure, and look for changes in annular flow.

26. Attempt to circulate through 13 3/8" x 20" annulus if possible.

27. Cement well per Halliburton Proposal 146527 (12-10-2014).

    a. This cement proposal uses 85 bbls of slurry

    b. Cut displacement short by 2 bbl to avoid over displacing below the cement retainer.

    c. Apply 200 psi Shut-in Casing Pressure and monitor throughout the Squeeze Job and maintain maximum drillpipe injection pressure below 500 psi.

28. Bleed off pressures, sting out of retainer, and reverse circulate from the top of the cement retainer. Reverse circulate a minimum of 2 x drillpipe volumes (2 x 8 = 16 bbls) to flush drill string of all cement. Close well in and monitor pressure while WOC.

29. Evaluate all data and current well conditions to determine if the remedial cement job is complete to resume normal drilling operations and continue to the proposed total depth.

CEMENTING TABLE:

Squeeze #1

String	Number of sx	Weight lbs/gal	Water Volume g/sx	Yield cf/sx	Stage; Lead/Tail	Slurry Description
13-3/8" Intermediate Remedial Squeeze	920	15.6	5.49	1.227	Single Tail	200 bbl slurry of Halliburton Cemex Premium H + 2 lb/sk Cal-Seal 60 + 1 lb/sk Potassium Chloride + 0.5% Gas Stop

NOTE: Squeeze #2: Used same design as above table, but with a different slurry volume as indicated on the procedure.

BOP SCHEMATIC FOR REMEDIAL SQUEEZE CEMENTING: VEGA 29 FED 4H (API NO: 30-015-42347)