

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.

| | | |
|--|---|--|
| 1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other | | 5. Lease Serial No. NMLC069464A |
| 2. Name of Operator DEVON ENERGY PRODUCTION CO | | 6. If Indian, Allottee or Tribe Name |
| Contact: LINDA GOOD Email: linda.good@dmv.com | | 7. If Unit or CA/Agreement, Name and/or No. |
| 3a. Address 333 WEST SHERIDAN AVE OKLAHOMA CITY, OK 73102 | 3b. Phone No. (include area code) Ph: 405.552.6558 | 8. Well Name and No. ARCTURUS 18 FED COM 8H |
| 4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 17 T19S R31E SWSW 300FSL 312FWL 32.653147 N Lat, 103.900021 W Lon | | 9. API Well No. 30-015-42033-00-X1 |
| | | 10. Field and Pool, or Exploratory HACKBERRY |
| | | 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 | | | |
|--|---|---|--|--|
| <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 checked="" type="checkbox"/> Other Drilling Operations |
| | <input 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 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 shall 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 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.)

ATTENTION: JENNIFER OR CHRIS

Devon Energy Production Company, L.P. respectfully requests modifying the cement design on Intermediate 1 for the 13-3/8" casing due to losses that started at 505' with a previous surface casing at 472'. Losses continued through the 17-1/2" hole section until reaching a total depth of 2262'.

The 13-3/8" Intermediate 1 casing will be run and cemented using the slurry design mentioned in the attached Cementing Table.

Accepted for record

NMOCD

tes
8-8-14

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

| | |
|--|-----------------------------|
| 14. I hereby certify that the foregoing is true and correct. Electronic Submission #256403 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 08/08/2014 (14CRW0311SE) | |
| Name (Printed/Typed) LINDA GOOD | Title REGULATORY SPECIALIST |
| Signature (Electronic Submission) | Date 08/08/2014 |
| THIS SPACE FOR FEDERAL OR STATE OFFICE USE | |
| Approved By _____ | Title _____ |
| 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 _____ |
| <div style="border: 2px solid black; padding: 5px; text-align: center;"> APPROVED AUG 8 2014 <i>/s/ Chris Walls</i> BUREAU OF LAND MANAGEMENT CARLSBAD FIELD OFFICE </div> | |

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.

SUNDRY REQUEST—August 8, 2014 (AAA)

Devon Energy Production Company, L.P. respectfully requests modifying the cement design on Intermediate 1 for the 13-3/8" casing on the Arcturus 18 Fed Com 8H (API: 30-015-42033) due to losses that started at 505' with a previous surface casing at 472'. Losses continued through the 17-1/2" hole section until reaching a total depth of 2262'. The 13-3/8" Intermediate 1 casing will be run and cemented using the slurry design mentioned in the Cementing Table below:

1. Cementing Table:

| String | Num ber of sx | Weight lbs/gal | Water Volume g/sx | Yield cf/sx | Stage; Lead/Tail | Slurry Description |
|--|---------------------|-------------------|-------------------------|----------------|---------------------|--|
| Intermediate 1 13-3/8" csg | 100 | 10.5 | 27.98 | 4.52 | Thixo- Scavenger | (40:60) Poz (Fly Ash):Premium Plus C Cement + 0.125 lbs/sack Cello Flake + 0.5% bwoc FL-52 + 0.8% bwoc ASA-301 + 5% bwoc A-10 + 4% bwoc Sodium Metasilicate + 1% bwoc BA-10A + 0.005 gps FP-13L + 2.3% bwoc R-21 + 15 lbs/sack CSE-2 + 4% bwoc MPA-5 + 5 lbs/sack LCM-1 + 271.4% Fresh Water |
| | 1715 | 12.5 | 11.01 | 2.01 | Lead | (35:65) Poz (Fly Ash):Premium Plus H Cement + 3% bwow Sodium Chloride + 0.2% bwoc R-3 + 0.125 lbs/sack Cello Flake + 0.7% bwoc FL-52 + 6% bwoc Bentonite + 0.3% bwoc ASA-301 + 105.5% Fresh Water |
| | 775 | 13.8 | 6.42 | 1.38 | Tail | (60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.5% bwoc Sodium Metasilicate + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 65.3% Fresh Water |
| Intermediate 2 Single Stage Opt 9-5/8" csg | 800 | 12.6 | 8.81 | 1.73 | Lead | (60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.2% bwoc R-3 + 0.125 lbs/sack Cello Flake + 3 lbs/sack LCM-1 + 0.25% bwoc FL-52 + 1% bwoc Sodium Metasilicate + 89.6% Fresh Water |
| | 435 | 13.8 | 6.41 | 1.38 | Tail | (60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.1% bwoc Sodium Metasilicate + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 65.2% Fresh Water |
| Intermediate 2 Two Stage Opt 9-5/8" csg | 340 | 12.6 | 8.81 | 1.73 | Stg1 Lead | (60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.15% bwoc R-3 + 0.125 lbs/sack Cello Flake + 3 lbs/sack LCM-1 + 0.25% bwoc FL-52 + 1% bwoc Sodium Metasilicate + 89.6% Fresh Water |
| | 300 | 13.8 | 6.41 | 1.38 | Stg1 Tail | (60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.1% bwoc Sodium Metasilicate + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 65.2% Fresh Water |
| | DVT @ 2440' | | | | | |
| | 420 | 12.8 | 8.2 | 1.65 | Stg2 Lead | (60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 3 lbs/sack LCM-1 + 0.25% bwoc FL-52 + 1.5% bwoc Sodium Metasilicate + 83.7% Fresh Water |
| | 100 | 13.8 | 6.41 | 1.38 | Stg2 Tail | (60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.1% bwoc Sodium Metasilicate + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 65.2% Fresh Water |

| | | | | | | |
|--|-------------|------|-------|------|-----------|--|
| Production Single Stage Opt 5-1/2" Csg | 650 | 12.5 | 11.01 | 2.01 | Lead | (35:65) Poz (Fly Ash):Class H Cement + 3% bwow Sodium Chloride + 0.2% bwoc R-3 + 0.125 lbs/sack Cello Flake + 0.7% bwoc FL-52 + 0.3% bwoc ASA-301 + 6% bwoc Bentonite + 105.5% Fresh Water |
| | 1500 | 14.2 | 5.77 | 1.28 | Tail | (50:50) Poz (Fly Ash):Class H Cement + 5% bwow Sodium Chloride + 0.3% bwoc CD-32 + 0.5% bwoc FL-25 + 0.4% bwoc FL-52 + 0.5% bwoc Sodium Metasilicate + 57.3% Fresh Water |
| Production Two Stage Opt 5-1/2" Csg | 405 | 12.5 | 11.01 | 2.01 | Stg1 Lead | (35:65) Poz (Fly Ash):Class H Cement + 3% bwow Sodium Chloride + 0.2% bwoc R-3 + 0.125 lbs/sack Cello Flake + 0.7% bwoc FL-52 + 0.3% bwoc ASA-301 + 6% bwoc Bentonite + 105.5% Fresh Water |
| | 1500 | 14.2 | 5.76 | 1.28 | Stg1 Tail | (50:50) Poz (Fly Ash):Class H Cement + 5% bwow Sodium Chloride + 0.3% bwoc CD-32 + 0.5% bwoc FL-25 + 0.5% bwoc FL-52 + 0.3% bwoc Sodium Metasilicate + 57.2% Fresh Water |
| | DVT @ 5000' | | | | | |
| | 270 | 11.4 | 17.69 | 2.88 | Stg2 Lead | Class C Cement + 1% bwoc R-3 + 0.125 lbs/sack Cello Flake + 0.3% bwoc FL-52 + 3% |
| | 100 | 13.8 | 6.4 | 1.37 | Stg2 Tail | (60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 65.1% Fresh Water |

TOC for all Strings:

Intermediate 1 @ 0'
Intermediate 2 @ 0'
Production @ 2,440' (Cement to tie-back at least 50' above Capitan)

Notes:

- Cement volumes calculated with a minimum excess of Intermediate 1 @ 75%, Intermediate 2 @ 50%, Production based on at least 25% excess
- Actual cement volumes will be adjusted based on fluid caliper and caliper log data
- If lost circulation is encountered while drilling the production and/or the intermediate wellbores, a DV tool will be installed a minimum of 50' below the previous casing shoe and of 200' above the current shoe. If the DV tool has to be moved, the cement volumes will be adjusted proportionately.

CONDITIONS OF APPROVAL

| | |
|-----------------------|--------------------------------------|
| OPERATOR'S NAME: | Devon Energy Production Company, LP. |
| LEASE NO.: | NMLC-069464A |
| WELL NAME & NO.: | Arcturus 18 Federal Com 8H |
| SURFACE HOLE FOOTAGE: | 1820' FNL & 0208' FEL |
| BOTTOM HOLE FOOTAGE | 1700' FNL & 0340' FWL (Sec. 18) |
| LOCATION: | Section 18, T. 19 S., R 31 E., NMPM |
| COUNTY: | Eddy County, New Mexico |

A. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time prior to drilling out 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 for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Capitan Reef

Possibility of water flows in the Artesia Group and Salado.

Possibility of lost circulation in the Artesia Group, Delaware, and Capitan Reef.

1. The 20 inch surface casing shall be set at approximately 400 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. If salt is encountered, set casing at least 25 feet above the salt.
 - 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 is to include the lead cement slurry.**
 - 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.
2. The minimum required fill of cement behind the **13-3/8** inch 1st intermediate casing is:
- ☒ Cement to surface. If cement does not circulate see A.1.a, c-d above.
3. The minimum required fill of cement behind the **9-5/8** inch 2nd intermediate casing, which shall be set at approximately **4000** feet, is:

Single stage option:

- ☒ Cement to surface. If cement does not circulate see A.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef .**

Operator has proposed DV tool at depth of 2440'. Operator is to submit sundry if DV tool depth varies by more than 100' from approved depth.

- a. First stage to DV tool:
 - ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.
- b. Second stage above DV tool:
 - ☒ Cement to surface. If cement does not circulate see A.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef . Excess calculates to 2% - Additional cement may be required.**

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

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

Single stage option:

- ☒ Cement should tie-back at least **50 feet above the Capitan Reef**. Operator shall provide method of verification. **Excess calculates to 22% - Additional cement may be required.**

Operator has proposed DV tool at depth of 5000'. Operator is to submit sundry if DV tool depth varies by more than 100' from approved depth.

a. First stage to DV tool:

- ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve approved top of cement on the next stage.

b. Second stage above DV tool:

- ☒ Cement should tie-back at least **50 feet above the Capitan Reef**. Operator shall provide method of verification.

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.

CRW 080814