Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs

HOBBS OCD
JAN 04 2016
RECEIVED

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.
NMNM94186

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
NMNM88526X

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

8. Well Name and No.
THISTLE UNIT 30H ✓

2. Name of Operator
DEVON ENERGY PRODUCTION CO LP ✓ Contact: DAVID H COOK
EMail: david.cook@dvn.com

9. API Well No.
30-025-41147-00-X1 ✓

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

3b. Phone No. (include area code)
Ph: 405-552-7848

10. Field and Pool, or Exploratory
BRINNINSTOOL

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 28 T23S R33E NWNW 280FNL 380FWL

11. County or Parish, and State
LEA 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 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 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., LP respectfully requests approval to use a multibowl wellhead on the Thistle Unit 30H.

Please see the attached revised verbiage for the Pressure Control Equipment within the Drill Plan and an updated schematics.

APPROVED
DEC 23 2015
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

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

**Electronic Submission #326898 verified by the BLM Well Information System**
**For DEVON ENERGY PRODUCTION CO LP, sent to the Hobbs**
**Committed to AFMSS for processing by ED FERNANDEZ on 12/23/2015 (16EF0004SE)**

Name *(Printed/Typed)* DAVID H COOK — Title REGULATORY SPECIALIST

Signature (Electronic Submission) — Date 12/21/2015

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By EDWARD FERNANDEZ — Title PETROLEUM ENGINEER — Date 12/23/2015

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 Hobbs

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 ****

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

JAN 06 2016

Thistle Unit 30H– APD DRILLING PLAN
Updated 10/16/15 – Target Formation Change

Casing Program:

| Hole Size | Hole Interval | OD Csg | Casing Interval | Weight | Collar | Grade |
|---|---|---|---|---|---|---|
| 17-1/2" | 0 – 1,370 | 13-3/8" | 0 – 1,350 | 54.5# | BTC | J-55 |
| 12-1/4" | 1,370 – 4,300 | 9-5/8" | 0 – 5,200 | 40# | BTC | J-55 |
| 12-1/4" | 4,300-5,200 | 9-5/8" | 0 – 5,200 | 40# | BTC | HCK-55 |
| 8-3/4" | 5,200– 19,357 | 5-1/2" | 0 – 19,357 | 17# | BTC | P-110RY |

Max TVD in lateral: 9,613-ft

Design Factors:

| Casing Size | Collapse Design Factor | Burst Design Factor | Tension Design Factor |
|---|---|---|---|
| 13-3/8", 54.5#, J-55, BTC | 1.64 | 3.68 | 10.73 |
| 9-5/8" 40# J-55 BTC | 1.15 | 3.43 | 4.69 |
| 9-5/8" 40# HCK-55 BTC | 1.57 | 4.63 | 6.07 |
| 5-1/2" 17# HCP-110 BTC | 1.79 | 2.55 | 3.68 |

All casing strings utilized are new.

Mud Program:

| Depth | Mud Wt. | Visc. | Fluid Loss | Type System |
|---|---|---|---|---|
| 0 – 1,370 | 8.8-9.0 | 30 – 34 | N/C | FW |
| 1,370 – 5,200 | 9.8 – 10.0 | 28 – 32 | N/C | Brine |
| 5,200– 19,357 | 8.6 – 9.0 | 28 – 32 | N/C-12 | FW |

Pressure Control Equipment:

A multibowl wellhead may be 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 may use 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.

- 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.
- The 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, 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 will be installed on the Uni-head wellhead system and will undergo a 250 psi low pressure test followed by a 3,000 psi high pressure test. The 3,000 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 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 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.

See attached schematic.

Cement Summary:

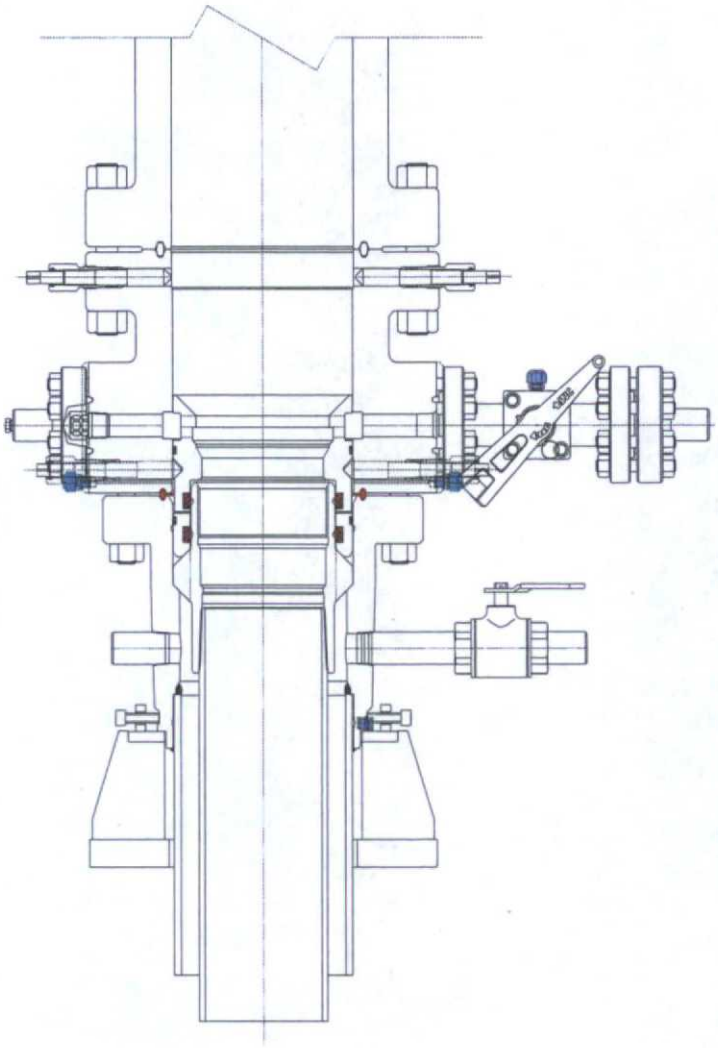
| Casing | # Sks | Wt. lb/ gal | $H_20$ gal/sk | Yld ft3/ sack | 500# Comp. Strength (hours) | Slurry Description |
|---|---|---|---|---|---|---|
| 13-3/8" Surface | 680 | 13.5 | 9.28 | 1.74 | 10 | Lead: Class C Cement + 4% Gel + 1% Calcium Chloride + 0.125 lbs/sack Poly-E-Flake |
| | 550 | 14.8 | 6.32 | 1.33 | 6 | Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake |
| 13-3/8" Surface Two Stage | 440 | 13.5 | 9.28 | 1.74 | 10 | Lead: Class C Cement + 4% Gel + 1% Calcium Chloride + 0.125 lbs/sack Poly-E-Flake |
| | 550 | 14.8 | 6.32 | 1.33 | 6 | 1st Stage Primary: Class C Cement + 0.125 lbs/sack Poly-E-Flake |
| | DV Tool = 300ft | | | | | |
| | 320 | 14.8 | 6.32 | 1.33 | 6 | 2nd Stage Primary: Class C Cement + 0.125 lbs/sack Poly-E-Flake |
| 9-5/8" Inter. | 1090 | 12.9 | 9.81 | 1.85 | 14 | Lead: (65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake |
| | 430 | 14.8 | 6.32 | 1.33 | 6 | Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake |
| 5-1/2" Prod Single Stage | 560 | 11.9 | 12.89 | 2.31 | n/a | Lead: (50:50) Class H Cement: Poz (Fly Ash) + 10% BWOC Bentonite + 1 lb/sk of Kol-Seal + 0.3% BWOC HR-601 + 0.5lb/sk D-Air 5000 |
| | 2700 | 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 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5-1/2" Prod Two Stage | 530 | 11.9 | 12.89 | 2.31 | n/a | 1st Stage Lead: (50:50) Class H Cement: Poz (Fly Ash) + 10% BWOC Bentonite + 1 lb/sk of Kol-Seal + 0.3% BWOC HR-601 + 0.5lb/sk D-Air 5000 |
| | 2700 | 14.5 | 5.31 | 1.2 | 25 | 1st Stage 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 |
| | DV Tool = 5250ft | | | | | |
| | 20 | 11 | 14.81 | 2.55 | 22 | 2nd Stage Lead: Tuned Light® Cement + 0.125 lb/sk Pol-E-Flake |
| | 30 | 14.8 | 6.32 | 1.33 | 6 | 2nd Stage Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake |

DV tool 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 | TOC | % Excess |
|---|---|---|
| 13-3/8" Surface Single Stage Option | 0' | 100% |
| 13-3/8" Surface Two Stage Option | 1St Stage = 300' / 2nd Stage = 0' | 100% |
| 9-5/8" Intermediate Single Stage Option | 0' | 75% |
| 5-1/2" Production Casing Single Stage Option | 5000' | 25% |
| 5-1/2" Production Casing Two Stage Option | 1St Stage = 5250' / 2nd Stage = 5000' | 25% |

FMC Technologies



PRIMARY MODE

# DEVON ENERGY

## ARTESIA

## S.E.N.M

## 13 3/8 X 9 5/8

QUOTE LAYOUT
F18648
REF: DM100161737
DM100151315



| REVISIONS | |
|---|---|
| A | 05-08-13 |
| B | 1-22-14 |
| C | 5-13-14 |

DESCRIPTION

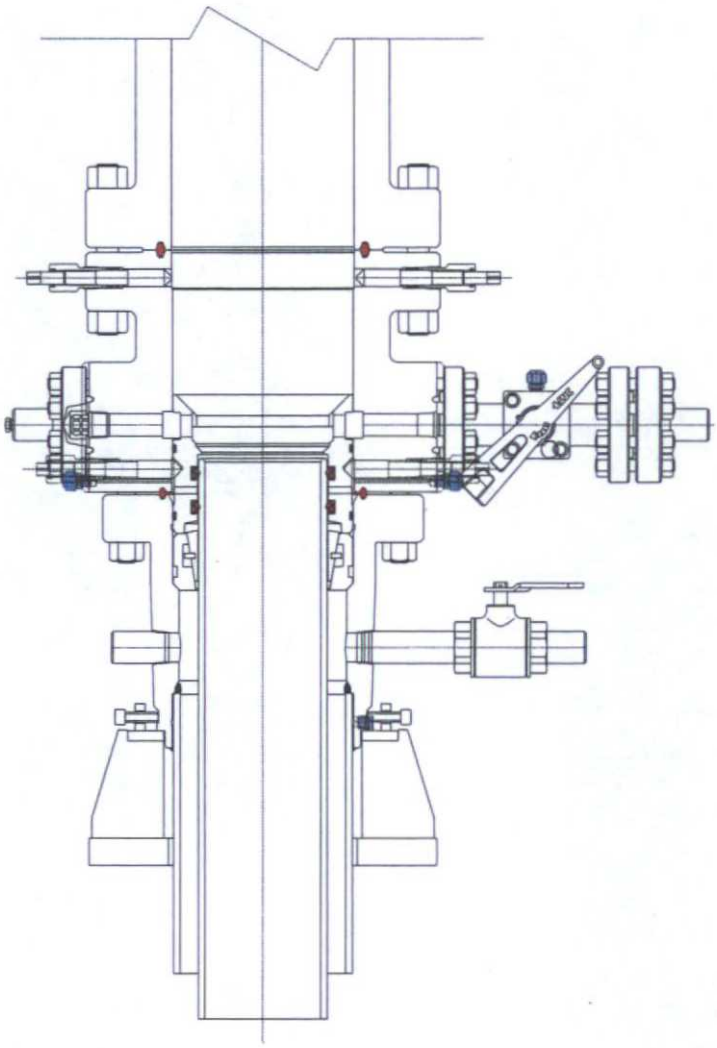
SURFACE WELLHEAD LAYOUT
UNIHEAD, UH-1,SOW,
DEVON ENERGY, ODESSA

| | | |
|---|---|---|
| DRAWN BY | K. VU | 05-08-13 |
| DRAFTING REVIEW | Z. MARQUEZ | 05-08-13 |
| DESIGN REVIEW | K. TAHA | 05-08-13 |
| APPROVED BY | R. HAMILTON | 05-08-13 |

FMC Technologies

DRAWING NUMBER
DM100161771-2A

FMC Technologies



CONTINGENCY MODE

# DEVON ENERGY

ARTESIA
S.E.N.M
13 3/8 X 9 5/8

QUOTE LAYOUT
F18648
REF: DM100161737
DM100151315



| REVISIONS | |
|---|---|
| A | 05-08-13 |
| B | 1-22-14 |
| C | 5-13-14 |

DESCRIPTION

SURFACE WELLHEAD LAYOUT
UNIHEAD, UH-1,SOW,
DEVON ENERGY, ODESSA

| | | |
|---|---|---|
| DRAWN BY | K. VU | 05-08-13 |
| DRAFTING REVIEW | Z. MARQUEZ | 05-08-13 |
| DESIGN REVIEW | K. TAHA | 05-08-13 |
| APPROVED BY | R. HAMILTON | 05-08-13 |

FMC Technologies

DRAWING NUMBER
DM100161771-2B

# CONDITIONS OF APPROVAL

**SUNDRY dated 12/21/2015 EC#326898**

| | |
|---|---|
| **OPERATOR'S NAME:** | **Devon Energy Production Company, L.P.** |
| **LEASE NO.:** | **NMNM-94186** |
| **WELL NAME & NO.:** | **Thistle Unit 30H** |
| **SURFACE HOLE FOOTAGE:** | **0280' FNL & 0380' FWL** |
| **BOTTOM HOLE FOOTAGE** | **0330' FSL & 0380' FWL** |
| **LOCATION:** | **Section 28, T. 23 S., R 33 E., NMPM** |
| **COUNTY:** | **Lea County, New Mexico** |

**The Original COA provided with Sundry dated 10/20/2015 EC#320585 and approved on 12/23/2015 still stand with the following pressure control modifications:**

## I. DRILLING

### A. DRILLING OPERATIONS

**The proposed drilling, casing design and cement program is identical to the one submitted on Sundry dated 10/20/2015 EC#320585 and has been approved with COA**

### B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API 53. **For H&P rigs – the stump test is not an approved BOP test. Equipment shall be tested when mounted on well head.**

2. **Variance approved to use flex line from BOP to choke manifold**. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor. If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. **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 3000(3M) 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. **Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.**
    e. **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.**

**EGF 122315**