Form 3160-5
(August 2007)

1. Type of Well

🛛 Oil Well 🔲 Ga

BURE SUNDRY NO Do not use this fo	UNITED STATES RTMENT OF THE INTERIOR EAU OF LAND MANAGEMENT OTICES AND REPORTS ON WELLS form for proposals to drill or to re-enter an Use form 3160-3 (APD) for such proposals.	FORM APPROVED OMB NO. 1004-0135 Expires: July 31, 2010  5. Lease Serial No. NMNM121489  6. If Indian, Allottee or Tribe Name	
SUBMIT IN TRIPLI	CATE - Other instructions on reverse side.	7. If Unit or CA/Agreement, Name and/or No.	
Gas Well Other		8. Well Name and No. HOGNOSE VIPER 23 FED 1H	
or ,	Contact: DAVID H COOK	9. API Well No.	7

Name of Operator DEVON ENERGY PRODUCTION CO ERMail: david.cook@dvn.com 30-025-41975-00-X1 3b. Phone No. (include area code) 3a. Address 10. Field and Pool, or Exploratory 333 WEST SHERIDAN AVE Ph: 405-552-7848 JOHNSON RANCH OKLAHOMA CITY, OK 73102 4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 11. County or Parish, and State FEB 2 3 2015 Sec 23 T23S R33E SWSW 200FSL 850FWL LEA COUNTY, NM 32.282972 N Lat, 103.551670 W Lon

12. CHECK APP	ROPRIATE BOX(ES) TO	JINDICATE NAME	MOTICE, REPORT, OR OTHE	RDATA			
TYPE OF SUBMISSION	TYPE OF ACTION						
Notice of Intent	☐ Acidize	Deepen	☐ Production (Start/Resume)	■ Water Shut-Off			
<del>-</del>	☐ Alter Casing	☐ Fracture Treat	□ Reclamation	■ Well Integrity			
☐ Subsequent Report	Casing Repair	■ New Construction	□ Recomplete	Other			
☐ Final Abandonment Notice	Change Plans	☐ Plug and Abandon	□ Temporarily Abandon	Change to Original A			

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.)

☐ Plug Back

Devon requests to add a two stage cement option for the surface casing due to severe losses experienced while drilling.

□ Convert to Injection

Circulation will be attempted while running the casing, and depending on amount of returns, the decision will be made to go with original one stage option or the proposed two stage  $\underbrace{\text{SEE}}_{\text{EE}}$  ATTACHED FOR

Please see the attached Cement Table with 13-3/8" Surface 2-Stage Option.

SEE ATTACHED FOR CONDITIONS OF APPROVAL

☐ Water Disposal

14. I hereby certify that the	he foregoing is true and correct.  Electronic Submission #292175 verifie  For DEVON ENERGY PRODUC  Committed to AFMSS for processing by JEN	TION C	O LP, s	ent to t	he Ho	bbs		<del></del>		
Name(Printed/Typed)	DAVID H COOK	Title	REG	ULATO	DRY S	SPECIA	LIST			
Signature	(Electronic Submission)	Date	02/1	/2015	A	PPI	ROVE	D		
	THIS SPACE FOR FEDERA	L OR	STAT	E OF	ICE	VSE		1/	1	
certify that the applicant hol	ny, are attached. Approval of this notice does not warrant or ds legal or equitable title to those rights in the subject lease licant to conduct operations thereon.	Title Office	2	B)	RE AU	OZ/LAI	ND MANOFIELD OF	GEMENT FICE	Djac	KZ
Title 18 U.S.C. Section 100	1 and Title 43 U.S.C. Section 1212, make it a crime for any pe or fraudulent statements or representations as to any matter w				ully to	make to	any depart	ment or ago	ency of the Ur	nited

# 6. Cementing Table:

String	Number of sx	Weight lbs/gal	Water Volume g/sx	Yield cf/sx	Stage; Lead/Tail	Slurry Description		
13-3/8"	860	12.9	9.07	1.87	Lead	Class C Cement + 0.125 lbs/sack Poly-E-Flake + 4% bwoc Bentonite + 70.8% Fresh Water		
Surface	325	14.8	6.32	1.33	Tail	Class C Cement + 63.5% Fresh Water		
	860	12.9	9.07	1.87	Lead	Class C Cement + 0.125 lbs/sack Poly-E-Flake + 4% bwoc Bentonite + 70.8% Fresh Water		
13-3/8" Surface	325	14.8	6.32	1.33	Tail	Class C Cement + 63.5% Fresh Water		
2-Stage Option	DV Tool placed at 300′ MD							
	470	14.8	6.32	1.33	Tail	Glass C Cement + 63.5% Fresh Water		
9-5/8" Intermediate	1120	12.9	9.81	1.85	Lead	(65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 70.9 % Fresh Water		
mtermeulate	430	14.8	6.32	1.33	Tail	Class C Cement + 63.5% Fresh Water		
7 x 5-1/2" Production	540	10.4	14.94	3.32	Lead	Tuned Light® Cement + 0.125 lb/sk Pol-E-Flake + 76.5% Fresh Water		
Casing	1060	14.5	5.31	1.22	Tail	(50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.25% bwoc CFR-3 + 0.1% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water		

# **Estimated TOC for all Strings:**

Surface @ 0'
Intermediate @ 0'
Production @ 4990'

## Notes:

- Cement volumes Surface 100%, Intermediate 75%, and Production based on at least 25% excess
- Actual cement volumes will be adjusted based on fluid caliper and caliper log data

# PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME: Devon Energy Production Company L.P.

**LEASE NO.: | NMNM-121489** 

WELL NAME & NO.: Hognose Viper 23 Fed 1H SURFACE HOLE FOOTAGE: 0200' FSL & 0850' FWL BOTTOM HOLE FOOTAGE 0330' FNL & 0660' FWL

LOCATION: | Section 23, T. 23 S., R 33 E., NMPM

**COUNTY:** Lea County, New Mexico

API: 30-025-41975

# The original COAs still stand with the following drilling modifications:

## I. DRILLING

## A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b., Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

# **⊠** Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

- 1. Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. Operator has stated that they will have monitoring equipment in place prior to drilling out of the surface shoe. If Hydrogen Sulfide is encountered, report measured amounts and formations to the BLM.
- 2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. If the drilling rig is removed without approval an Incident of Non-Compliance will be written and will be a "Major" violation.
- 3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

4. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

#### B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. 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.). The initial wellhead installed on the well will remain on the well with spools used as needed.

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

## Wait on cement (WOC) for Water Basin:

After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least <u>8 hours</u>. WOC time will be recorded in the driller's log. 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.

Possibility of water flows in the top of Salado and Castile. Possibility of lost circulation in the Red Beds, Rustler, and Delaware.

- 1. The 13-3/8 inch surface casing shall be set at approximately 1440 feet (in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, and if salt is encountered, set casing at least 25 feet above the salt) and cemented to the surface. Fresh water mud to be used to setting depth.
  - 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.

# Contingecy DV tool (due to lost circulation encountered while drilling):

Operator has proposed DV tool at depth of 300'. Operator is to submit sundry if DV tool depth varies by more than 100' from approved depth.

$\boxtimes$	Cement to circulate. If cement does not circulate, contact the appropri	ate
	BLM office before proceeding with second stage cement job. Operator	or should
	have plans as to how they will achieve circulation on the next stage.	

b. Second stage above DV tool:

a. First stage to DV tool:

- Cement to surface. If cement does not circulate see B.1.a, c-d above.
- 2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above.

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

- 3. The minimum required fill of cement behind the  $7 \times 5-1/2$  inch production casing is:
  - □ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. Excess calculates to 5% Additional cement may be required.
- 4. 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.

#### C. 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 RP 53 Sec. 17.
- 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.

- 4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
  - b. The tests shall be done by an independent service company utilizing a test plug **not** a **cup or J-packer**.
  - c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
  - d. The results of the test shall be reported to the appropriate BLM office.
  - e. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
  - f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

### D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

## E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

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