Form 3160-5
(June 2015)

OCD Hobbs

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

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.

HOBBS OCD
AUG 29 2017
RECEIVED

SUBMIT IN TRIPLICATE - Other instructions on page 2

5. Lease Serial No.
NMNM114988

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.
SEAWOLF 1-12 FED 84H

2. Name of Operator
DEVON ENERGY PRODUCTION COMPAN
Contact: REBECCA DEAL
E-Mail: Rebecca.Deal@dvn.com

9. API Well No.
30-025-43765-00-X1

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

3b. Phone No. (include area code)
Ph: 405-228-8429

10. Field and Pool or Exploratory Area
WC025G09S253336D-UPPER WC

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 1 T26S R33E NENW 160FNL 2527FWL
32.079296 N Lat, 103.526436 W Lon

11. County or Parish, State
LEA COUNTY, NM

12. CHECK THE 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	☐ Hydraulic Fracturing	☐ 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 must 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 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Changes from APD:
Intermediate Hole size:
9.875? hole size from 1000? to 9200?. 7 5/8? 29.7# BTC casing will be run from surface to 9200?.
8.75? hole size from 9200? to casing point. 7 5/8? Flush joint casing will be run through this hole interval.
Intermediate cement job:
3 Options listed
1.) Light weight lead slurry followed by 14.5# tail
2.) 2 Stage cement job with DV tool set above Delaware
3.) Intermediate squeeze contingency if well goes on full losses during cement job.
Mud system changed from saturated brine to OBM/Cut brine system.

SEE ATTACHED FOR CONDITIONS OF APPROVAL

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

Electronic Submission #384880 verified by the BLM Well Information System
For DEVON ENERGY PRODUCTION COMPAN, sent to the Hobbs
Committed to AFMSS for processing by CHARLES NIMMER on 08/24/2017 (17CN0072SE)

Name *(Printed/Typed)* REBECCA DEAL — Title REGULATORY COMPLIANCE PROFESSI

Signature (Electronic Submission) — Date 08/16/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By CHARLES NIMMER — Title PETROLEUM ENGINEER — Date 08/24/2017

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.

(Instructions on page 2)

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

Additional data for EC transaction #384880 that would not fit on the form

32. Additional remarks, continued

Please see attached revised Drilling Plan.

Devon Energy, Seawolf 1-12 84H

Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
9.875"	0	9200'	7.625"	29.7	P110	BTC	1.125	1.25	1.6
8.75"	9200'	13,052'	7.625"	29.7	P110	Flushmax III	1.125	1.25	1.6

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

A variance is requested to wave the centralizer requirement for the 7-5/8" flush casing in the 8-3/4" hole

Cementing Program

Casing	# Sks	Wt. lb/ gal	H_2O gal/sk	Yld ft3/ sack	Slurry Description
7-5/8" Int	840	9	13.5	3.27	Lead: Tuned Light® Cement
	217	14.5	5.31	1.2	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
7-5/8" Int Two Stage	311	10.9	20.6	3.31	1st Stage Lead: (50:40:10) Class C: Silicalite: Enhancer 923 + 10% BWOC Bentonite + 0.05% BWOC SA-1015 + 0.3% BWOC HR-800 + 0.2% BWOC FE-2 + 0.125 lb/sk Pol-E-Flake + 0.5 lb/sk D-Air 5000
	232	14.5	5.31	1.2	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
	230	10.9	20.6	3.31	2nd Stage Lead: (50:40:10) Class C: Silicalite: Enhancer 923 + 10% BWOC Bentonite + 0.05% BWOC SA-1015 + 0.3% BWOC HR-800 + 0.2% BWOC FE-2 + 0.125 lb/sk Pol-E-Flake + 0.5 lb/sk D-Air 5000
	217	14.8	6.32	1.33	2nd Stage Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
7-5/8" Intermediate Squeeze	1730	14.8	6.32	1.32	Class C Cement + 0.125 lbs/sack Poly-E-Flake
	295	13.2	6.32	1.46	Class H Cement: Poz (Fly Ash) + 6% BWOC Bentonite + 0.25% BWOC HR-601 + 0.125 lbs/sack Poly-E-Flake
	220	14.4	6.32	1.2	(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

If a DV tool is used, 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
7-5/8" Intermediate	0'	30%
7-5/8" Intermediate Two Stage Option	1st Stage = 4900' / 2nd Stage = 0'	30%

Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
8-3/4"	13-5/8"	5M	Annular	X	50% of rated working pressure
			Blind Ram	X	5M
			Pipe Ram	X	
			Double Ram	X	
			Other*		
			Pipe Ram	X	
			Double Ram	X	
			Other *		
			Annular		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other *		

*Specify if additional ram is utilized.

Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
1000'	13,052'	OBM/Cut Brine	8.6-10	34-65	N/C - 6

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
14.75"	0	1,000'	10.75"	40.5	J-55	STC	1.125	1.25	1.6
8.75"	0	11,990'	7.625"	29.7	P110	Flushmax III	1.125	1.25	1.6
6.75"	0	22,699'	5.5"	20	P110	SF/Flush	1.125	1.25	1.6

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Rustler top will be validated via drilling parameters (i.e. reduction in ROP) and surface casing setting depth revised accordingly if needed.

A variance is requested to wave the centralizer requirement for the 7-5/8" flush casing in the 8-3/4" hole and the 5-1/2" SF/Flush casing in the 6-3/4" hole.

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

PECOS DISTRICT
DRILLING OPERATIONS
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production Co, LP
LEASE NO.:	NMNM114988
WELL NAME & NO.:	84H-Seawolf 1 12 Fed
SURFACE HOLE FOOTAGE:	160'/N & 2527'/W
BOTTOM HOLE FOOTAGE	330'/S & 2188'/W
LOCATION:	Section 1, T.26 S., R.33 E., NMPM
COUNTY:	Lea County, New Mexico

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. A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the Wolfcamp formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values 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.

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 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. 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. Have well specific cement details onsite prior to pumping the cement for each casing string.

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

Risks:

Medium Cave/Karst
Possibility of water flows in the Castile and in the Salado.
Possibility of lost circulation in the Rustler, in the Red Beds and in the Delaware.

A. The **13 3/8** inch surface casing shall be set at approximately **1000** 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.

1. 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.

2. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**

3. 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.

4. If cement falls back, remedial cementing will be done prior to drilling out that string.

B. The minimum required fill of cement behind the **9 5/8** inch intermediate casing **(in the basal anhydrite of the Castile Formation)** is:

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.

The intermediate casing shall be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing, which is calculated by BLM standards.

C. The minimum required fill of cement behind the **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.

Note: All perforations shall be a minimum of 0330 feet FEL.

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

A. 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.

B. 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).

C. 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 intermediate casing shoe shall be 10,000 (10M) psi**. 10M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

   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.**

D. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

1. 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).

2. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength,

whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

3. 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.

4. The results of the test shall be reported to the appropriate BLM office.

5. 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.**

6. 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.

CLN 08242017

263301C APD17-179 Seawolf 1-12 Fed 84H 30015 NM114988 Devon 12-54 Sundry 384880 CLN 08242017

10 3/4	surface csg in a		14 3/4	inch hole.		Design Factors		SURFACE	
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	Weight
"A"	40.50	J 55		ST&C	10.37	3.46	0.47	1,000	40,500
"B"								0	0
w/8.4#/g mud, 30min Sfc Csg Test psig:	1,500			Tail Cmt	does	circ to sfc.		Totals:	1,000	40,500

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
14 3/4	0.5563	623	835	582	43	8.80	3807	5M	1.50

Burst Frac Gradient(s) for Segment(s) A, B = 3.13, b All > 0.70,

7 5/8	casing inside the		10 3/4			Design Factors		INTERMEDIATE	
Segment	#/ft	Grade		Coupling	Body	Collapse	Burst	Length	Weight
"A"	29.70	P 110		BUTT	2.42	1.68	1.43	9,200	273,240
"B"	29.70	P 110		BUTT	4.92	1.22	1.15	3,852	114,404
w/8.4#/g mud, 30min Sfc Csg Test psig:								Totals:	13,052	387,644
The cement volume(s) are intended to achieve a top of					0	ft from surface or a		1000	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	0.1005	1057	3007	1456	107	10.00	5128	10M	0.13
D V Tool(s):			4900				sum of sx	Σ CuFt	Σ%excess
t by stage % :		57	63				990	2330	60

Assumed 1/3 Fluid Filled for Collapse Calculation

MASP is within 10% of 5000psig, need

Tail cmt

5 1/2	casing inside the		7 5/8			Design Factors		PRODUCTION	
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	Weight
"A"	20.00	P 110		LT&C	2.01	1.6	1.81	12,153	243,060
"B"	20.00	P 110		LT&C	29.80	1.52	1.81	10,445	208,900
w/8.4#/g mud, 30min Sfc Csg Test psig:	2,674							Totals:	22,598	451,960
B would be:					45.54	1.53	if it were a vertical wellbore.		

No Pilot Hole Planned	MTD	Max VTD	Csg VD	Curve KOP	Dogleg°	Severity°	MEOC
	22598	12713	12713	12153	90	1	22700

The cement volume(s) are intended to achieve a top of 11740 ft from surface or a 1312 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
6 3/4	0.0835	852	1133	924	23	12.00			0.63

Class 'H' tail cmt yld > 1.20