Fr un 3160-5 (Ji ne 2015)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

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

5. Lease Serial No. NMNM0404441

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-	101		

Do not use th	is form for proposals to o	frill or to re-enter an		6. If Indian, Allottee	7.3.3.
abandoned we	II. Use form 3160-3 (APD)) for such proposals.		o. Il maign, Anottee	or Tribe Name
SUBMIT IN	TRIPLICATE - Other instru	uctions on page 2		7. If Unit or CA/Agr	eement, Name and/or No.
1. Type of Well ☑ Oil Well ☐ Gas Well ☐ Ot	her			8. Well Name and No BORA BORA 13	o. -24 FED COM 215H
2. Name of Operator DEVON ENERGY PRODUCT	Contact: J	ENNIFER HARMS		9. API Well No. 30-015-46117-	00-X1
a. Address 333 WEST SHERIDAN AVEN OKLAHOMA, OK 73102		3b. Phone No. (include area of Ph.: 405-552-6560	ode)	10. Field and Pool or LIVINGSTON	Exploratory Area RIDGE
. Location of Well (Footage, Sec., 7	[., R., M., or Survey Description]			11. County or Parish	, State
Sec 13 T23S R31E NENE 10 32.311420 N Lat, 103.726776				EDDY COUNT	Y, NM
12. CHECK THE A	PPROPRIATE BOX(ES) T	O INDICATE NATUR	E OF NOT	TICE, REPORT, OR OT	HER DATA
TYPE OF SUBMISSION		TYP	OF ACTI	ON	
Notice of Intent ■ Notice of Intent Notice of Inten	☐ Acidize	☐ Deepen	□ P:	roduction (Start/Resume)	■ Water Shut-Off
	☐ Alter Casing	☐ Hydraulic Fractur	ng 🗖 R	eclamation	■ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	□ R	ecomplete	Other
☐ Final Abandonment Notice	☐ Change Plans	Plug and Abandor	T	emporarily Abandon	Change to Original A PD
	Convert to Injection	☐ Plug Back	_ N	ater Disposal	1.0
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Ruf 1-212020

Revisions to Operator-Submitted EC Data for Sundry Notice #492030

Operator Submitted

BLM Revised (AFMSS)

Sundry Type:

APDCH

ION

Lease:

NMNM404441

APDCH

NOI

NMNM0404441

Agreement:

Operator:

DEVON ENERGY PRODUCTION CO. L. 333 W SHERDIAN AVE OKLAHOMA CITY, OK 73170 Ph: 405-552-6560

DEVON ENERGY PRODUCTION COM LP 333 WEST SHERIDAN AVENUE OKLAHOMA, OK 73102 Ph: 405 552 6571

JENNIFER HARMS REGULATORY COMPLIANCE ANALYST E-Mail: jennifer.harms@dvn.com

JENNIFER HARMS REGULATORY COMPLIANCE ANALYST E-Mail: jennifer:harms@dvn.com

Ph: 405-552-6560

Ph: 405-552-6560

Tech Contact:

Admin Contact:

JENNIFER HÄRMS REGULATORY COMPLIANCE ANALYST E-Mail: jennifer.harms@dvn.com

Ph: 405-552-6560

JENNIFER HARMS REGULATORY COMPLIANCE ANALYST E-Mail: jennifer.harms@dvn.com

Ph: 405-552-6560

Location:

State: County:

NM EDDY

NM EDDY

Field/Pool:

LIVINGSTON RIDGE; BS

LIVINGSTON RIDGE

Well/Facility:

BORA BORA 13-24 FED COM 215H Sec 13 T23S R31E NENE 100FNL 1180FEL

BORA BORA 13-24 FED COM 215H Sec 13 T23S R31E NENE 100FNL 1180FEL 32.311420 N Lat, 103.726776 W Lon

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:
LEASE NO.:
WELL NAME & NO.:
SURFACE HOLE FOOTAGE:
BOTTOM HOLE FOOTAGE
LOCATION:
COUNTY:
Devon Energy Production Company LP
NMNM404441
Bora Bora 13-24 Federal Com 214H
100'/N & 1210'/E
20'/S & 2170'/E
Section 13, T.23 S., R.31 E., NMPM
Eddy County, New Mexico

COA

H2S	Yes	No	
Potash	None	• Secretary	← R-111-P
Cave/Karst Potential	€ Low	○ Medium	^ High
Cave/Karst Potential	Critical		
Variance	None	Flex Hose	Other
Wellhead	← Conventional	Multibowl	Both
Other	☐ 4 String Area	Capitan Reef	WIPP
Other	Fluid Filled	Cement Squeeze	Pilot Hole
Special Requirements	☐ Water Disposal	▼ COM	Unit

A. CASING

- 1. 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.
 Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
 - ❖ In <u>Secretary Potash Areas</u> if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
 - ❖ Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

B. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

Option 1:

- a. 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.
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be 3000 (3M) psi.

Option 2:

- 1. 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. 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.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

GENERAL 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)
 - Eddy County
 Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575)
 361-2822
 - Lea County
 Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
 393-3612
- 1. 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.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
- 2. 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 are located, this does not include the dog house or stairway area.
- 3. 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.

A. CASING

- 1. 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.
- 2. Wait on cement (WOC) for Potash Areas: 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 for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 3. 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. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 4. 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.
- 5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
- 6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of performed before drilling more than 20 feet of new hole.
- 7. 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.
- 8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

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 RP 53 Sec. 17.
- 2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. 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.
- 3. 5M or higher 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.
- 4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - 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. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - 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.
- 5. 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. In potash areas, 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. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, no tests shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
- c. 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).
- d. 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.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. 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.
- g. 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.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production easing is run and cemented.

D. 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.

1. Geologic Formations

TVD of target	10270	Pilot hole depth	N/A
MD at TD:	20582	Deepest expected fresh water	:

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Rustler	825		
Salado	1200		
Base of Salt	4500		
Delaware	4530		
L Brushy Canyon	8110		
Bone Spring	8440		***************************************
Leonard 'A'	8540		
Leonard 'B'	9050		
Leonard 'C'	9260		
1st BSPG Sand	9475		
2nd BSPG Sand	10070		
L 2nd BSPG Sand	10270		***
Landing Point	10240		

^{*}H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program

Hole Size	Casing Interval From To		Con Sign	Weight	Grade	Conn.	
Hole Size			Csg. Size	(PPF)	Grade		
17.5"	0	850	13.375"	48	H-40	STC	
12.25"	0	8500	9.625"	40	J-55	BTC	
8.75"	Ò	TD	5.5"	17	P-110	BTC	
BLM Minimum Safety Factor				Collapse: 1.125	Burst: 1.00	Tension: 1.6 Dry 1.8 Wet	

- All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h Must have table for contingency casing
- Rustler top will be validated via drilling parameters (i.e. reduction in ROP) and surface casing setting depth revised accordingly if needed.
- Variance is requested for collapse rating on intermediate casing. Operator will keep pipe full while running casing. No losses are expected in subsequent hole section.
- Int casing shoe will be selected based on drilling data, gamma, and flows experienced while drilling. Setting depth with be revised accordingly if needed.
- A variance is requested to wave the centralizer requirement for the intermediate and production casing strings if drilling conditions dictate

.e.or

		Y or N
Is casing new? If used, attach certification as required in Onshore Or	der#1	Y
Does casing meet API specifications? If no, attach casing specificati	on sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specif	ication sheet.	N
Does the above casing design meet or exceed BLM's minimum stand justification (loading assumptions, casing design criteria).	lards? If not provide	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to the collapse pressure rating of the casing?	avoid approaching	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 3 rd string cen 500' into previous casing?	ent tied back	
Is well located in R-111-P and SOPA?		N
If yes, are the first three strings cemented to surface?		
Is 2 nd 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 circ	culation occurs?	
	*	
Is well located in critical Cave/Karst?		N
If yes, are there three strings cemented to surface?		

3. Cementing Program (3-String Primary Design)

Casing	# Sks	тос	Wt. (lb/gal)	H₂0 (gal/sk)	Yld (ft3/sack)	Slurry Description	
Surface	942	Surf	13.2	6.33	1.33	Lead: Class C Cement + additives	
•	1937	Surf	9	20,6	1.94	Lead: Class C Cement + additives	
Int	196	500' above shoe	13.2	6.42	1.33	Tail: Class H / C + additives	
Production	255	500' tieback	9	20.6	1.94	Lead: Class H./ C + additives	
Froduction	1725	KOP	13.2	5.31	1.6	Tail: Class H / C + additives	

If a DV tool is ran the depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. Slurry weights will be adjusted based on estimated fracture gradient of the formation. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. If cement is not returned to surface during the primary cement job on the surface casing string, a planned top job will be conducted immediately after completion of the primary job.

Casing String	% Excess
Surface	100%
Intermediate	50%
Production	10%

4. Pressure Control Equipment

4. Pressure Control Equipment							
BOP installed and tested before drilling which hole?	Size?	Min. Required WP	1	ypë		7	Tested to:
•			An	nular	X		50% of rated working pressure
Int 1	13-5/8"	23.4	Blin	d Ram			
III I	13-3/0	3M	Pip	e Ram	\prod		23.4
			Doub	ole Ram	X	Ć	3M
			Other*				
			Ar	nular	X		50% of rated working pressure
	13-5/8"		Blind Ram				,
Production		5M	Pipe Ram				•
			Double Ram		X		5M
			Other *				
			Ar	nular			
			Blin	d Ram			
	,		Pipe Ram				
				ole Ram			
! !			Other *				

5. Mud Program

6.	Depth	â.	Weight		
From	To.	Туре	(ppg)	Vis	Water Loss
0	850	FW	8.5 - 9.0	28-34	N/C
850	8500	Brine	10 – 10.5	28-34	N/C
8500	TD	WBM	8.5 - 9.0	28-34	N/C

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

		1	
Ì	What will be used to monitor the loss or gain of fluid?		PVT/Pason/Visual Monitoring

6. Logging and Testing Procedures

Logg	ing, Coring and Testing.
X	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run
	will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Addi	tional logs planned	Interval		
	Resistivity			
	Density			
X	CBL	Production casing		
X	Mud log	KOP to TD		

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	5017 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

N	H2S is present	
Y	H2S Plan attached	

8. Other facets of operation

Is this a walking operation? Potentially

- 1. If operator elects, drilling rig will batch drill the surface holes and run/cement surface casing; walking the rig to next wells on the pad.
- 2. The drilling rig will then batch drill the intermediate sections and run/cement intermediate casing; the wellbore will be isolated with a blind flange and pressure gauge installed for monitoring the well before walking to the next well.
- 3. The drilling rig will then batch drill the production hole sections on the wells with OBM, run/cement production casing, and install TA caps or tubing heads for completions.

NOTE: During batch operations the drilling rig will be moved from well to well however, it will not be removed from the pad until all wells have production casing run/cemented.

Will be pre-setting casing? Potentially

- 1. Spudder rig will move in and drill surface hole.
 - a. Rig will utilize fresh water based mud to drill surface hole to TD. Solids control will be handled entirely on a closed loop basis.
- 2. After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
- 3. The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
- 4. A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with a pressure gauge installed on the wellhead.
- 5. Spudder rig operations is expected to take 4-5 days per well on a multi well pad.
- 6. The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 7. Drilling operations will be performed with the drilling rig. At that time an approved BOP stack will be nippled up and tested on the wellhead before drilling operations commences on each well.
 - a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing.

A	tta	ch	m	en	ts

x Directional Plan Other, describe