(August 2007)	DE	EPARTMENT OF THE I	NTERIOR NM CHDOON	BERVATION OMB	NO. 1004-0135 s: July 31, 2010
1 •	SUNDRY	NOTICES AND REPO	RTS ON WELLSFFR 2	5. Lease Serial No. NMNM90534	
•	Do not use the abandoned we	6. If Indian, Allottee	e or Tribe Name		
	SUBMIT IN TRI	PLICATE - Other instru	Ctions on reverse side.	VED 7. If Unit or CA/Ag	reement, Name and/or No.
1. Type of Well	Gas Well DOt	ner	· · · · · · · · · · · · · · · · · · ·	8. Well Name and N BETELGEUSE	o. 19 FEDERAL 8H
2. Name of Opera DEVON EN		Contact: ION CO E F Mail: trina.couc	TRINA C COUCH n@dvn.com	9. API Well No. -/ 30-015-41900	-00-X1
3a. Address 333 WEST			3b. Phone No. (include area code Ph: 405-228-7203) 10. Field and Pool, o HACKBERRY	or Exploratory
4. Location of We	ell (Footage, Sec., T	. R., M., or Survey Description	1) .	11. County or Parish	n, and State
Sec 20 T199 32.644952 M	S R31E NWSW 23 V Lat, 103:899132	300FSL 265FWL W Lon		EDDY COUNT	FY, NM
1	2. CHECK APPF	ROPRIATE BOX(ES) T	O INDICATE NATURE OF	NOTICE, REPORT, OR OTHI	ER DATA
TYPE OF S	UBMISSION		TYPE O	FACTION	
R Notice of I	ntent	Acidize	Deepen	Production (Start/Resume)	Water Shut-Off
	t Report	☐ 'Alter Casing	Fracture Treat	Reclamation	U Well Integrity
	hepon	Casing Repair	New Construction	Recomplete	Change to Origina
	domnent ivonce	Convert to Injection	Plug Back	Water Disposal	PD
determined that Devon Energ * Changing t set below the	the site is ready for the gy Production Con he 20" Surface se a Rustler top at an	nal inspection.) npany, L.P. respectfully r tting depth from the appr estimated 400 ft.	equests the following: oved 350 ft to 450 ft so that c	asing may be	
* Changing t ensure a firm	he 9-5/8" Intermed her casing shoe.	diate 2 setting depth appr	oved at 3,950 ft on the APD t	o 4,065 ft to	
* Rig will be will change f	turned with V-door rom South to North	r in opposite direction tha h). Corry うえん つな	n APD due to location spacin	© SEGE ATTACHED CONDITIONS OI	FOR FAPPROVA
• 		RU Acco	NMOCD 30/15		
14. I hereby certify	that the foregoing is	true and correct. Electronic Submission #2	291676 verified by the BLM We	Il Information System	
	Comm	nitted to AFMSS for proce	ssing by JENNIFER MASON on	02/17/2015 (15JAM0219SE)	<u> </u>
Name(Printed/	(yped) TRINACC	COUCH	Title REGUL	ATORY ANALYST ROME	n
Signature	(Electronic Su	ubmission)	Date 02/13/2		7
	· · · · · · · · · · · · · · · · · · ·	THIS SPACE FO	R FEDERAL OR STATE	OFFICE USEEB 1/7 20	5//
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	al if any are attached	Approval of this notice does	not warrant or	BUREAU OF LAND MAN	<u>CEMENIPate</u>
Approved By	ant holds legal or equi	table title to those rights in the	subject lease Office	CARLSBAD FILLD OF	
Approved By Conditions of approv certify that the applic which would entitle the	he applicant to conduc	· · · · · · · · · · · · · · · · · · ·			-
Approved By Conditions of approv certify that the applic which would entitle the Fitle 18 U.S.C. Section States any false, fic	he applicant to conductor on 1001 and Title 43 U titious or fraudulent st	J.S.C. Section 1212, make it a atements or representations as	crime for any person knowingly and to any matter within its jurisdiction.	willfully to make to any department or	r agency of the United

Additional data for EC transaction #291676 that would not fit on the form

32. Additional remarks, continued

Attached please find the following: Revised Drilling Plan Revised Directional Survey Revised Rig Layout

- 5

Thank you

Betelgeuse 19 Fed 8H – Sundry Request

AAA 2-13-2015: Adjust 20" Surface and 9-5/8' Intermediate 2 Setting Depths; add option for a 7" x 5.5" Combination Production String

Sundry Request:

Devon Energy Production Company, L.P. respectfully requests the following:

- Changing the 20" Surface setting depth from the approved 350 ft to 450 ft, so that casing may be set below the Rustler top at an estimated 400 ft.
- Changing the 9-5/8" Intermediate 2 setting depth approved at 3,950 ft on the APD to 4,065 ft to ensure a firmer casing shoe.
- Rig will be turned with V-door in opposite direction than APD due to location spacing.

Devon Energy Production Company, L.P. respectfully requests to run a tapered production string of 7" x 5.5" casing to a total depth of 13,435 ft measured depth as long as hole conditions permits. If lost circulation is encountered we will stay as originally planned to run a 5-1/2" production longstring. Casing design requirements are below as well as the cement design for both the 7" x 5-1/2" tapered production string and the 5-1/2" production longstring.

Casing Program Changes: 7" x 5.5" Tapered Production String

Hole Size	Hole	OD Csg	Casing Interval	Weight	Collar	Grade
26	0 - 450	20″	0-450	94	втс	J-55
17-1/2″	450 - 2405	13-3/8″	0 - 2405	68	втс	J-55
12-1/4"	2405 - 4065	9-5/8″	0 - 4065	40	LTC	J -55
8-3/4″	4065 - 7459	7″	0 - 7459	29#	BTC	P-110
8-3/4″	7459- 13435	5-1/2"	459- 13435	17#	BTC	P-110

Casing Contingency Option: 5.5 Production Longstring

Hole Size	Hole Interval	OD Csg	Casing Interval	Weight	Collar	Grade
8-3/4"	0 - 13435	5-1/2"	0 - 13435	17#	BTC	P-110

Note: only new casing will be utilized

MAXIMUM LATERAL TVD 7,975

Design Factors: 7" x 5.5" Tapered Production String

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor	
20", 94#, J-55, BTC	2.47	10.02	33.14	
13-3/8", 68, #, J-55, BTC	1.56	2.76	6.97	
9-5/8", 40#, J-55, LTC	1.35	2.08	3.20	
7" 29# P-110 BTC	2.39	3.14	4.29	
5-1/2" 17# P-110 BTC	1.96	2.79	5.37	

Casing Contingency Option: 5.5 Production Longstring

	Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
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CEMENTING TABLE:

String	Number of sx	Weight Ibs/gal	Water Volume g/sx	Yield cf/sx	Stage; Lead/Tail	Slurry Description		
20 " Surface	600	13.5	9.14	1.73	Lead	Prem Plus C + 1% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 4% bwoc Bentonite + 81.1% Fresh Water.		
20 Surface	300	14.8	6.35	1.35	Tail	Class C + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 56.3% Fresh Water		
13-3/8"	1565	12.8	8.23	1.66	Lead	(60:40) Poz (Fly Ash):Prem Plus C + 5% bwow Sodium Chloride + 0.125 lbs/sáck Cello Flake + 3 lbs/sack LCM-1 + 0.25% bwoc FL-52 + 1.5% bwoc Sodium Metasilicate + 83.7% Fresh Water		
1	450	13.8	6.42	1.38	Tail	(60:40) Poz (Fly Ash):Prem Plus C + 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		
9-5/8' Intermediate	685	12.6	8.81	1.73	Lead	(60:40) Poz (Fly Ash):Prem Plus C + 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		
2 Single Stage	400	13.8	6.41	1.38	Tail	(60:40) Poz (Fly Ash):Prem Plus C + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.5% bwoc Sodium Metasilicate + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 65.2% Fresh Water		
	265	12.8	8.02	1.66	1 st Lead	(60:40) Poz (Fly Ash):Prem Plus C + 5% bwow Sodium Chloride + 0.2% bwoc R-3 + 0.25 lbs/sack Cello Flake + 5 lbs/sack LCM-1 + 0.25% bwoc FL-52 + 1.5% bwoc Sodium Metasilicate + 81.6% Fresh Water		
9-5/8"	550	13.8	6.40	1.38	1 st Tail	(60:40) Poz (Fly Ash):Prem Plus C + 5% bwow Sodium Chloride + 0.25 lbs/sack Cello Flake + 0.1% bwoc Sodium Metasilicate + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 65.1% Fresh Water		
Intermediate	DVT @ 2455'							
	345	12.8	8.02	1.66	2 nd Lead	(60:40) Poz (Fly Ash):Prem Plus C + 5% bwow Sodium Chloride + 0.25 lbs/sack Cello Flake + 5 lbs/sack LCM-1 + 0.25% bwoc FL- 52 + 1.5% bwoc Sodium Metasilicate + 81.6% Fresh Water		
Calt	200	13.8	6.42	1.38	2 nd Tail	(60:40) Poz (Fly Ash):Prem Plus C + 5% bwow Sodium Chloride + 0.25 lbs/sack Cello Flake + 0.5% bwoc Sodium Metasilicate + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 65.3% Fresh Water		
7" x 5-1/2" Production Casing	190	11.8	13.16	2.3	1 st Lead	(50:50) Poz (Fły Ash):Class H + 0.5% bwoc FL-52 + 0.3% bwoc ASA-301 + 10% bwoc Bentonite + 0.35% bwoc R-21 + 130.7% Fresh Water		
	190	12.5	11.01	2.01	2 nd Lead	(35:65) Poz (Fly Ash):Prem Plus H + 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		
Jul of	1550	14.2	5.77	1.28	Tail	(50:50) Poz (Fly Ash):Class H + 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		

TOC for all Strings:

Surface, Intermediate 1, and Intermediate 2 @ 0' (circulate cement to surface) Production @ 2455' (Cement top will tie-back 50' above Capitan Reef at 2505')

Notes:

- Cement volumes 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 wellbore, the 5.5" original
 production longstring will be used with a DV tool 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.

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Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.



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H&P Flex Rig Loca io 1 Layou . 2 Well Pad



NM OIL CONSERVATION

ARTESIA DISTRICT

FEB 2 3 2015

PECOS DISTRICT CONDITIONS OF APPROVAL

RECEIVED

OPERATOR'S NAME:	Devon Energy Production Company, LP
LEASE NO.:	NMNM-90534
WELL NAME & NO.:	Betelgeuse 19 Federal 8H
SURFACE HOLE FOOTAGE:	2300' FSL & 0265' FWL
BOTTOM HOLE FOOTAGE	0800' FSL & 0340' FWL Sec. 19, T. 19 S., R 31 E.
LOCATION:	Section 20, T. 19 S., R 31 E., NMPM
COUNTY:	Eddy County, New Mexico
API:	30-015-41900

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)

Eddy County

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

- 1. A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the Yates 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. Operator has stated that they will have monitoring equipment in place prior to drilling out of the surface shoe.
- 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.

Capitan Reef Medium Cave/Karst Possibility of water flows in the Artesia Group, Salado, and Delaware. Possibility of lost circulation in the Artesia Group, Capitan Reef, and Delaware.

- 1. The 20 inch surface casing shall be set at approximately 450 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 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.

3. The minimum required fill of cement behind the **9-5/8** inch 2nd intermediate casing, which shall be set at approximately **4065** feet (set in the base of the Captian Reef), is:

Option #1 (Single Stage):

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

Option #2:

Operator has proposed DV tool at depth of 2455', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range.

- 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 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 Capitan Reef. Excess calculates to 3% 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 7 X 5-1/2 inch production casing is:
 - Cement should tie-back at least 50' above the Capitan Reef. Operator shall provide method of verification. Excess calculates to 3% Additional cement may be required.
- 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.

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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.
- Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8 intermediate casing shoe shall be 3000 (3M) psi.
- 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. 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.
 - 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.

JAM 021715