

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  
FEB 07 2019  
RECEIVED

5. Lease Serial No.  
NMNM082

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.  
LITTLE BEAR FEDERAL COM 7H

9. API Well No.  
30-025-45103-00-X1

10. Field and Pool or Exploratory Area  
WILDCAT;WOLFCAMP

11. County or Parish, State  
LEA COUNTY, NM

**SUBMIT IN TRIPLICATE - Other instructions on page 2**

1. Type of Well  
 Oil Well  Gas Well  Other

2. Name of Operator  
COG OPERATING LLC  
Contact: MAYTE X REYES  
E-Mail: mreyes1@concho.com

3a. Address  
ONE CONCHO CENTER 600 W ILLINOIS AVENUE  
MIDLAND, TX 79701-4287

3b. Phone No. (include area code)  
Ph: 575-748-6945

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
Sec 33 T20S R34E SWSE 696FSL 2137FEL  
32.524239 N Lat, 103.563576 W Lon

**12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other Change to Original APD
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> 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.

COG Operating LLC, respectfully requests approval for the following changes to the originally approved APD.

Surface:  
Drill 20? hole to 1830?  
Set 16? 84# J-55 BTC casing @ 1830?  
Cement in one stage to surface:  
Lead: 1300 sx of Class C + 6% gel (13.5 ppg / 1.75 cuft/ sx)  
Tail: 400 sx of Class C + 1% CaCl2 (14.8 ppg/ 1.36 cuft/sx)

Carlsbad Field Office  
OCD Hobbs

**SEE ATTACHED FOR  
CONDITIONS OF APPROVAL**

Intermediate 1:  
*All previous COAs still apply except for the following.*

14. I hereby certify that the foregoing is true and correct.  
**Electronic Submission #447225 verified by the BLM Well Information System  
For COG OPERATING LLC, sent to the Hobbs  
Committed to AFMSS for processing by PRISCILLA PEREZ on 12/13/2018 (19PP0599SE)**

Name (Printed/Typed) MAYTE X REYES Title REGULATORY ANALYST

Signature (Electronic Submission) Date 12/11/2018

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

Approved By JEROMY PORTER Title PETROLEUM ENGINEER Date 01/25/2019

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 \*\***

*[Handwritten Signature]*

## Additional data for EC transaction #447225 that would not fit on the form

### 32. Additional remarks, continued

#### 2M BOP System

Drill 13.5? hole to 5700?

Set 10.75? 45.5# L80 BTC casing @ 5700?

Cement in two stages to surface with DV tool and ECP @ 3850?

First Stage:

Lead: 700 sx of 35:36:6 Class C (12.2 ppg / 1.98 cuft/ sx)

Tail: 400 sx of Class C (14.8 ppg/ 1.36 cuft/sx)

Second Stage:

Lead: 1950 sx of 35:36:6 Class C (12.2 ppg / 1.98 cuft/ sx)

Tail: 250 sx of Class C (14.8 ppg/ 1.36 cuft/sx)

#### Intermediate 2

#### 5M BOP System

Drill 9.875? hole to 10950?

Set 7.625? 29.7# L-80 BTC @ 10950?

Cement in one stage

Lead: 1100 sx of Halliburton NeoCem Class H Blend (11 ppg / 2.81 cuft/ sx)

Tail: 300 sx of Class H (16.4 ppg / 1.08 cuft/sx)

#### Production

#### 5M BOP System

Drill 6.75? hole to 18832?

Set 5.5? 20# P110 BTC from 0? to 10450? and 5? 18# P110 BTC from 10450? to 18832?

Cement in one stage to surface

Lead: 600 sx of 35:36:6 Class C (12.7 ppg / 1.98 cuft/ sx)

Tail: 925 sx of Halliburton NeoCem Class H Blend ( 13.2 ppg / 1.41 cuft/sx)

2M BOP attached.

2M Choke Schematic attached.

Flex Hose attached.

## Revisions to Operator-Submitted EC Data for Sundry Notice #447225

	<b>Operator Submitted</b>	<b>BLM Revised (AFMSS)</b>
Sundry Type:	OTHER NOI	APDCH NOI
Lease:	NMNM082	NMNM082
Agreement:		
Operator:	COG OPERATING LLC 2208 WEST MAIN STREET ARTESIA, NM 88210 Ph: 575-748-6940	COG OPERATING LLC ONE CONCHO CENTER 600 W ILLINOIS AVENUE MIDLAND, TX 79701-4287 Ph: 432.685.4342
Admin Contact:	MAYTE X REYES REGULATORY ANALYST E-Mail: mreyes1@concho.com  Ph: 575-748-6945	MAYTE X REYES REGULATORY ANALYST E-Mail: mreyes1@concho.com  Ph: 575-748-6945
Tech Contact:	MAYTE X REYES REGULATORY ANALYST E-Mail: mreyes1@concho.com  Ph: 575-748-6945	MAYTE X REYES REGULATORY ANALYST E-Mail: mreyes1@concho.com  Ph: 575-748-6945
Location:		
State:	NM	NM
County:	LEA	LEA
Field/Pool:	WC-025 G-08 S203435D: W	WILDCAT;WOLFCAMP
Well/Facility:	LITTLE BEAR FEDERAL COM 7H Sec 33 T20S R34E SWSE 696FSL 2137FEL	LITTLE BEAR FEDERAL COM 7H Sec 33 T20S R34E SWSE 696FSL 2137FEL 32.524239 N Lat, 103.563576 W Lon

ContiTech

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE		CERT. N°: 814	
PURCHASER: ContiTech Oil & Marine Corp.		P.O. N°: 4501005826	
CONTITECH RUBBER order N°: 1001224	HOSE TYPE: 3" ID Choke and Kill Hose		
HOSE SERIAL N°: 74077	NOMINAL / ACTUAL LENGTH: 12,19 m / 12,22 m		
W.P. 69,0 MPa 10000 psi	T.P. 103,5 MPa 15000 psi	Duration: 60 min.	
Pressure test with water at ambient temperature			
See attachment ( 1 page )			
COUPLINGS Type	Serial N°	Quality	Heat N°
3" coupling with 3 1/16" 10K API Swivel Flange end Hub	8183	AISI 4130	A0231W
		AISI 4130	85913
		AISI 4130	A0355Y
3" coupling with 3 1/16" 10K API b.w. Flange end	8182	AISI 4130	A0231W
		AISI 4130	85913
<b>Not Designed For Well Testing</b>		API Spec 16 C 2 <sup>nd</sup> Edition-- FSL2	
Temperature rate: "B"			
All metal parts are flawless			
WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.			
STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order; and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.			
COUNTRY OF ORIGIN HUNGARY/EU			
Date:  17. November 2017.	Inspector	Quality Control	ContiTech Rubber Industrial Kft. Quality Control Dept. (1)

ATTACHMENT OF QUALITY CONTROL  
INSPECTION AND TEST CERTIFICATE  
No: 814, 817

CH042  
CONTITECH RUBBER Industrial Kft. No: QC-DB- 335 / 2017 Page: 6 / 83.

1/1

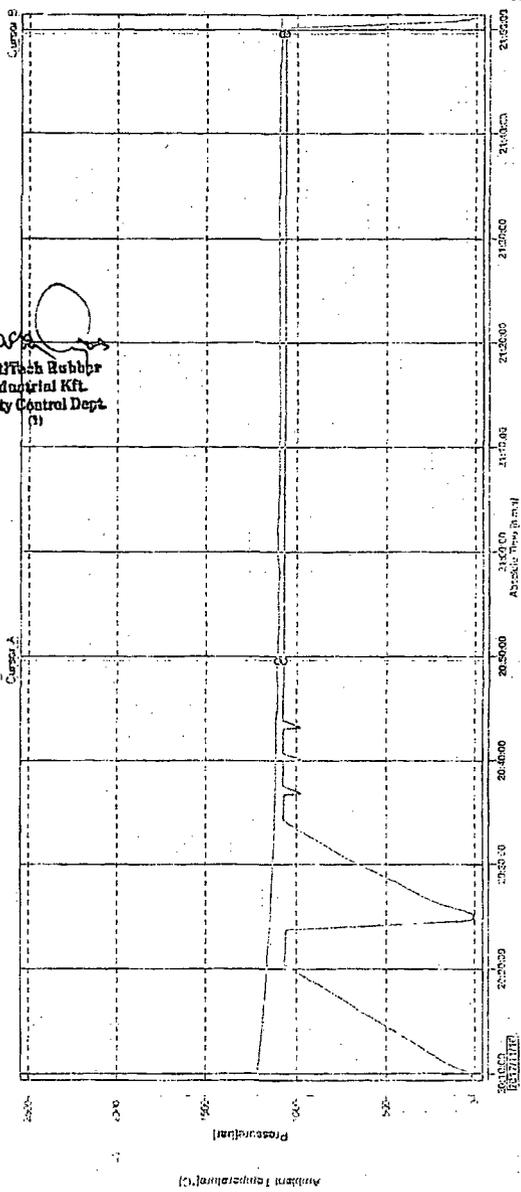
5.000 sec  
: 2017/11/16 20:09:25.000  
: 2017/11/16 21:51:25.000

Sampling Int.  
Start Time  
Stop Time

File Name : 021325\_74077,74089 GEV...021335\_74077,74089.GEV  
File Message : 74077,74089  
Device Type : GX10  
Serial No. : 599006389  
Data Count : 1225  
Print Group :  
Print Range : Press-Temp : 2017/11/16 20:09:25.000 - 2017/11/16 21:51:25.000  
Comment : 142056635

	Cursor A	Cursor B	Difference
Data No.	482	1202	720
Absolute Time	2017/11/16 20:49:33.000	2017/11/16 21:48:35.000	01:00:00.000
Tag Comment	Value A	Value B	Value B-A
Pressure[bar]	073.10	1060.87	-923
Ambient Temperature[°C]	22.19	21.74	-0.45

*[Signature]*  
Contitech Rubber  
Industrial Kft.  
Quality Control Dept.  
(3)



CH042



ContiTech

Hose Data Sheet

CRI Order No.	1001224
Customer	ContiTech Oil & Marine Corp
Customer Order No	4501005826 CO1000284
Item No.	10
Hose Type	Flexible Hose
<b>Standard</b>	<b>API SPEC 16C 2ND EDITION FSL2</b>
Inside dia in inches	3
Length	40 ft
Type of coupling one end	FLANGE 3.1/16" 10K FLANGE API SPEC 6A TYPE 6BX MONOGRAMMED B.W.BX154ST/ST LINED RING GROOVE SOUR
Type of coupling other end	FLANGE 3.1/16" 10K FLANGE API SPEC 17D SV SWIVEL FLANGE BX154 ST/ST LINED RING GROOVE SOUR
H2S service NACE MR0175	Yes
Working Pressure	10 000 psi
Design Pressure	10 000 psi
Test Pressure	15 000 psi
Safety Factor	2,25
Marking	CONTINENTAL CONTITECH
Cover	NOT FIRE RESISTANT
Outside protection	St,steel outer wrap
Internal stripwound tube	No
Lining	OIL + GAS RESISTANT SOUR
Safety clamp	Yes
Lifting collar	Yes
Element C	Yes
Safety chain	Yes
Safety wire rope	No
Max.design temperature [°C]	100
Min.design temperature [°C]	-20
Min. Bend Radius operating [m]	0,90
Min. Bend Radius storage [m]	0,90
Calculated Gross / Net weight of hose assembly [kg]	
Electrical continuity	The Hose is electrically continuous
Type of packing	WOODEN CRATE ISPM-15

*Yacq*  
ContiTech Rubb.  
Industrial Kft.  
QC 2



ContiTech Oil & Marine Corp. # 11535 Brillmoore Park Dr., Houston, TX 77041-6916 USA		<b>Delivery Note</b>	
ScanDrill Inc. 9395 HWY 2767 TYLER TX 75708		Document No.	85367700
		Document Date	12/20/2017
		Customer Number	15483
		Customer VAT No.	
		Supplier Number	
		N° EORI:	FR41027953300021
		Purchase Order No.	149618
		Purchase Order Date	09/26/2017
		Sales Order Number	1000284
		Sales Order Date	09/26/2017
		Unloading Point	
Transport-Details - Shipping		<b>Page 1 of 2</b>	
Conditions			
Shipping Conditions	0 days		
Inco Terms	EXW Houston, TX Ex Works		
		<b>Weights (Gross / Net)</b>	
		Total Weight	2,219.000 LB
		Net Weight	2,219.000 LB
<p>Buyer: Joe Ward E-mail: jward@scandrift.com Tel: 903.597.5368</p>			
<b>Item</b>	<b>Material/Description</b>	<b>Quantity</b>	<b>Weight</b>
10	HCK3FA40IPSIVS 3" 40ft API 16C C&K Hose WP 10K Temp B End A: 3.1/16" 10K Flange, API Spec. 6A Type 6BX, Butt Welded, BX154 Stainless Steel 316 Lined Ring Groove - Sour End B: 3.1/16" 10K API Spec 17D SV Swivel Flange, BX154 Stainless Steel 316 Lined Ring Groove - Sour Hose metallic parts NACE MR 0175 latest edition Hose is suitable for H2S Service Standard: API Spec 16C - 2nd Edition - FSL Level 2 - Monogrammed Working Pressure: 10000 psi Test Pressure: 15000 psi Fire Rated: No Armoured: Yes - Stainless Steel 316L Interlock Design Temperature: -20 to 100°C High Temperature Exposure / Survival @ 177 Deg C (internal in a kick situation) Brand Name: Continental ContiTech  Supplied with: 2 x Safety Clamps 2 x Lifting Collars Double Eyed 2 x Safety Chains c/w Shackles Each End x 8ft  Packing to ISPM-15 Heat Treated	1 PC	2,219.000 LB

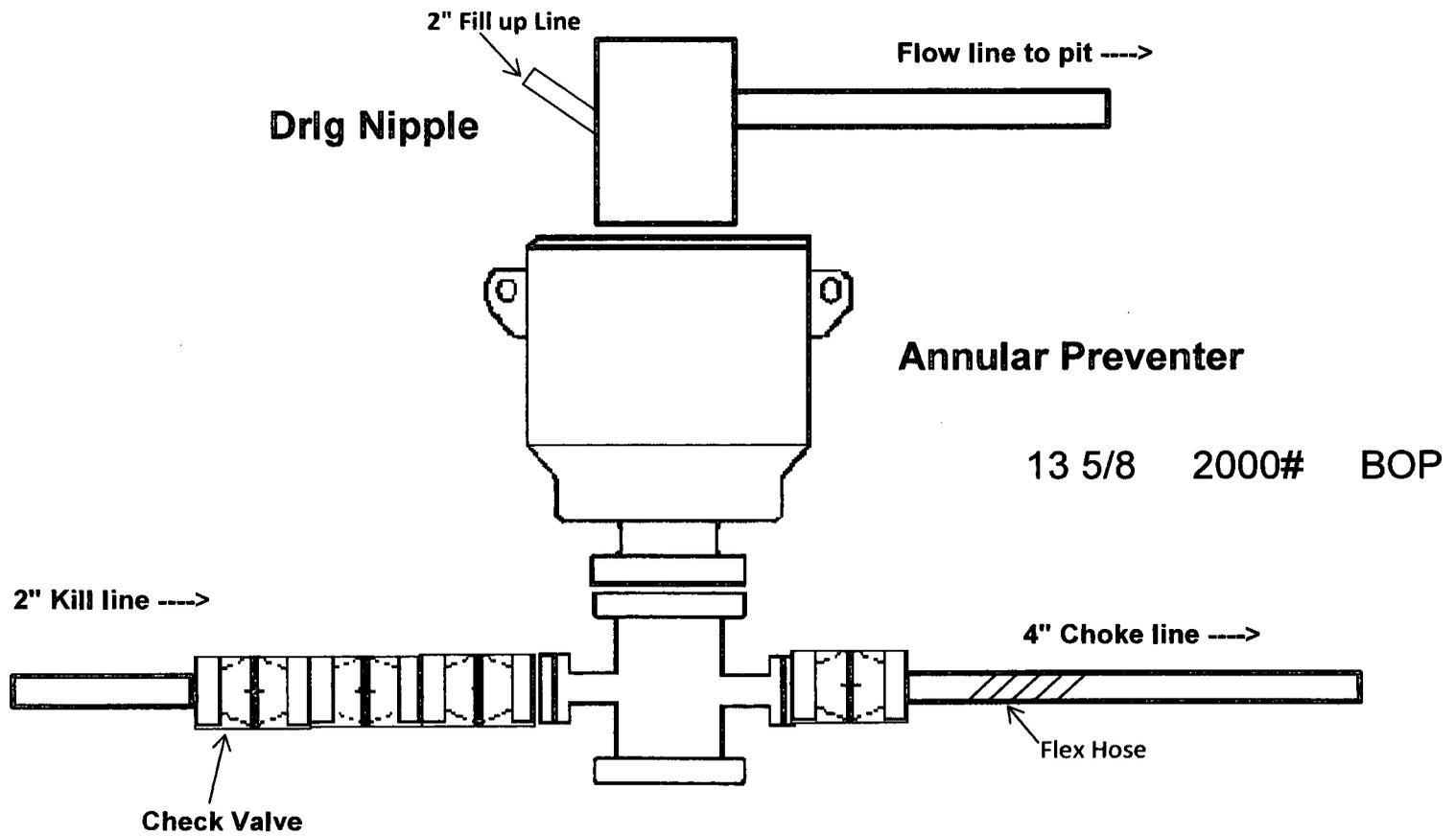
ContiTech Oil & Marine Corp.  
11535 Brillmoore Park Drive  
Houston, TX 77041  
USA

Phone: (832)-327-0141  
Fax: (832)-327-0148  
www.contitech-oil-gas.com

Managing Director  
(President)  
Zuzana Czovek

Bank: Wells Fargo Bank, N.A.,  
420 Montgomery Street, San Francisco, CA 94155  
Account #: 4942692294  
ABA/Routing #: 121000240, SWIFT #: WFBUIJSS

# 2,000 psi BOP Schematic





## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG OPERATING, LLC
LEASE NO.:	NMNM0000082
WELL NAME & NO.:	7H-LITTLE BEAR FEDERAL COM
SURFACE HOLE FOOTAGE:	696'/S & 2137'/E
BOTTOM HOLE FOOTAGE:	2440'/S & 1650'/E
LOCATION:	T-20S, R-34E, S-33. NMPM
COUNTY:	LEA, NM

Potash	<input type="radio"/> None	<input type="radio"/> Secretary	<input checked="" type="radio"/> R-111-P
Cave/Karst Potential	<input checked="" type="radio"/> Low	<input type="radio"/> Medium	<input type="radio"/> High
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input checked="" type="radio"/> Conventional	<input type="radio"/> Multibowl	
Other	<input type="checkbox"/> 4 String Area	<input checked="" type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP

**All previous COAs still apply, except for the following:**

### A. CASING

1. The **16** inch surface casing shall be set at approximately **1830** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
  - 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 will be a minimum of **24 hours in the Potash Area** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
  - 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.

**First intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.**

2. The minimum required fill of cement behind the 10 3/4 inch first intermediate casing is:

Operator has proposed a DV tool at a depth of 3850', the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
- b. Second stage above DV tool:
  - Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.**

❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:

- Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.
- Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

**Second intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.**

3. The minimum required fill of cement behind the 7 5/8 inch second intermediate casing is:

- Cement to surface. Operator shall provide method of verification.

4. The minimum required fill of cement behind the 5 ½ X 5 inch production casing is:

- Cement must tie-back at least **500** feet into previous casing shoe. Operator shall provide method of verification

#### **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).
2. 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
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 10 ¾ inch intermediate casing shoe shall be **5000 (5M)** psi.

#### **C. SPECIAL REQUIREMENT(S)**

##### **Communitization Agreement**

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

**JJP 1252019**

## 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)

Chaves and Roosevelt Counties  
Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.  
During office hours call (575) 627-0272.  
After office hours call (575)

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

### 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.
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.

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 the well. This test shall be 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: 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. 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.
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.
  - 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.