

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

~~OC~~ Artesia

OCD Hobbs

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

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.

5. Lease Serial No.
NMNM025566

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

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

1. Type of Well
 Oil Well Gas Well Other

8. Well Name and No.
SL EAST 30 FEDERAL COM 2H ✓

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

9. API Well No.
30-025-42524 ✓

3a. Address
2208 WEST MAIN STREET
ARTESIA, NM 88210

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

10. Field and Pool, or Exploratory
LUSK; BONE SPRING

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
Sec 19 T19S R32E SESE 520FSL 530FEL ✓

NOV 30 2015

11. County or Parish, and State
LEA COUNTY, NM

12. CHECK 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"/> Fracture Treat | <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 A PD |
| | <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 shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

COG Operating LLC, respectfully requests approval for the below drilling changes to the original approved APD.

Drilling changes attached.

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

14. I hereby certify that the foregoing is true and correct.
Electronic Submission #323840 verified by the BLM Well Information System
For COG OPERATING LLC, sent to the Hobbs
Committed to AFMSS for processing by KENNETH RENNICK on 11/18/2015 ()

Name (Printed/Typed) MAYTE X REYES

Title REGULATORY ANALYST

Signature (Electronic Submission)

Date 11/17/2015

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By _____

Title

APPROVED

Date

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

PETROLEUM ENGINEER

NOV 19 2015

Kenneth Rennick

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 any statement or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED**

CARLSBAD FIELD OFFICE

DEC 14 2015



Rennick, Kenneth <krennick@blm.gov>

FW: [External] EC Document Submitted - SL East Fed Com #2H

3 messages

Mayte Reyes <MReyes1@concho.com>
To: "krennick@blm.gov" <krennick@blm.gov>

Tue, Nov 17, 2015 at 4:28 PM

Good afternoon Mr. Rennick,

Attached is a drilling change sundry for the SL East Fed Com #2H which is set to spud on the 21st. Can you please look at it and let me know if there is anything else I need to provide please?

Thank you so much!
Mayte

-----Original Message-----

From: wis-submission@blm.gov [mailto:wis-submission@blm.gov]

Sent: Tuesday, November 17, 2015 2:50 PM

To: Mayte Reyes

Subject: [External] EC Document Submitted

**** External email. Use caution. ****

Your EC Transaction 323840, Serial Number 852-1608, was submitted to the Hobbs, NM BLM Office. You may wish to view this action by clicking <https://www.blm.gov/wispermits/wis/SP/show-form.do?FormId=852&FormInstanceNumber=1608>.

CONFIDENTIALITY NOTICE: The information in this email may be confidential and/or privileged. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination or copying of this email and its attachments, if any, or the information contained herein, is prohibited. If you have received this email in error, please immediately notify the sender by return email and delete this email from your system. Thank you.

 **WIS_PRINT_SUBMITTED_323840.pdf**
7K

Rennick, Kenneth <krennick@blm.gov>
To: Mayte Reyes <MReyes1@concho.com>

Wed, Nov 18, 2015 at 3:47 PM

Hello Ms. Mayte Reyes!

I hope all is well!

I worked though the Sundry notification.

The only other information that I need is a confirmation that 1st Intermediate Casing would be kept fluid filled to avoid approaching collapse pressure rating. It is in the original Drilling Program, but I want to confirm that by email before approving the Sundry since the 1st Intermediate Casing is below the BLM Collapse Rating.

Thank You Greatly!!!

Kenneth Rennick

[Quoted text hidden]

--

Kenneth Rennick

Petroleum Engineer
Bureau of Land Management
Carlsbad Field Office
(575) 234-5964
krennick@blm.gov

Mayte Reyes <MReyes1@concho.com>
To: "Rennick, Kenneth" <krennick@blm.gov>

Wed, Nov 18, 2015 at 4:01 PM

Hello Mr. Rennick,

Thank you so much for your quick response. I spoke to Travis Newman (engineer) and he said "Yes" the 1st Intermediate Casing would be kept fluid filled to avoid approaching collapse pressure rating.

Thanks,

Mayte

From: Rennick, Kenneth [mailto:krennick@blm.gov]
Sent: Wednesday, November 18, 2015 3:47 PM
To: Mayte Reyes
Subject: Re: FW: [External] EC Document Submitted - SL East Fed Com #2H

[Quoted text hidden]

PECOS DISTRICT CONDITIONS OF APPROVAL

SL EAST 30 FEDERAL COM 2H
API: 30-025-42524
COG Operating LLC
Section 19, T. 19 S., R 32 E.
Lea County

Original COA still applies except for the replacement of the Casing Section and the Pressure Control Section. Please see the following:

A. 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 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.

1. The **20 inch** inch surface casing shall be set at approximately **885 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.
 - 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.

The 1st intermediate casing shall be kept fluid filled to avoid approaching the collapse pressure rating of the casing.

2. The minimum required fill of cement behind the **13 3/8 inch** 1st intermediate casing which shall be set at **2750 feet (have casing shoe deeper in the Yates)** is:
 - Cement to surface. If cement does not circulate see A.1.a, c-d above.

3. The minimum required fill of cement behind the **9 5/8** inch 2nd intermediate casing is:

Operator has proposed DV tool at depth of 2875 feet, but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50 feet below previous shoe and a minimum of 200 feet 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 A.1.a, c-d above.
Additional cement may be required since excess was calculated to 19%.

4. The minimum required fill of cement behind the **5 1/2** inch production casing is:

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

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.

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 53.
2. **In the case where the only BOP installed is an annular preventer, it shall be tested to a minimum of 2000 psi (which may require upgrading to 3M or 5M annular).**
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.
4. 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. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
 - d. The results of the test shall be reported to the appropriate BLM office.
 - e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
 - f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

KGR 11182015

Operator requests the following changes to well design:

Casing Program

See COA

| Hole Size | Casing Interval | | Csg. Size | Weight (lbs) | Grade | Conn. | SF Collapse | SF Burst | SF Tension |
|---------------------------|-----------------|----------------------|-----------|--------------|-------|-------|-------------|----------|--------------------|
| | From | To | | | | | | | |
| 26" | 0 | 885 | 20" | 106.5 | J55 | STC | 1.99 | 1.74 | 9.7 |
| 17.5" | 0 | 2650 2750 | 13.375" | 61 | J55 | STC | 1.125 | 1.53 | 3.68 |
| 12.25" | 0 | 4400 | 9.625" | 40 | J55 | BTC | 1.31 | 0.85 | 4.06 |
| 8.75" | 0 | 14526' | 5.5" | 17 | P110 | LTC | 1.65 | 2.30 | 2.82 |
| BLM Minimum Safety Factor | | | | | | | 1.125 | 1 | 1.6 Dry 1.8 Wet |

- 9-5/8" csg: Pi/Ds = 3950/4400' = 0.90 psi/ft, greater than 0.7 psi/ft frac gradient at shoe.
- 13-3/8" csg will be kept 1/3 full to avoid approaching collapse pressure.

Cement Design

| Casing | # Sks | Wt. lb/gal | Yld ft3/sack | H ₂ O gal/sk | 500# Comp. Strength (hours) | Slurry Description |
|---|-------|------------|--------------|-------------------------|-----------------------------|--|
| Surf. | 1175 | 13.5 | 1.75 | 9 | 12 | Lead: Class C + 4% Gel |
| | 250 | 14.8 | 1.34 | 6.34 | 8 | Tail: Class C + 2% CaCl ₂ |
| 1 st Inter. | 1400 | 13.5 | 1.75 | 9 | 12 | Lead: Econocem HLC 65:35:6 + 5% Salt |
| | 250 | 14.8 | 1.34 | 6.34 | 8 | Tail: Class C + 2% CaCl |
| 2 nd Int 1 st Stage | 450 | 12.7 | 1.98 | 10.6 | 16 | 1 st stage Lead: Econocem HLC 65:35:6 + 5% Salt |
| | 250 | 14.8 | 1.34 | 6.34 | 8 | 1 st stage Tail: Class C + 2% CaCl |
| 2 nd Int 2 nd Stage | 600 | 13.5 | 1.75 | 9.11 | 12 | 2 nd stage Lead: Class C + 4% Gel (DV @ ~1800') |
| | 100 | 14.8 | 1.34 | 6.34 | 8 | 2 nd stage Tail: Class C + 2% CaCl |
| 5.5 Prod 1 Stage | 775 | 10.4 | 3.38 | 19 | 72 | Lead: Halliburton Tune Lite Blend |
| | 1600 | 14.4 | 1.24 | 5.7 | 19 | Tail: Versacem 50:50:2 Class H + 1% Salt |

*Low Cement!
See COA*

| Casing String | TOC | % Excess |
|--|-------|---|
| Surface | 0' | 75% |
| 1 st Intermediate | 0' | 50% |
| 2 nd Intermediate 1 st Stage | 2875' | 50% |
| 2 nd Intermediate 2 nd Stage | 0 | 50% OH Stage Tool at ~2875' |
| Production | 3900' | 35% OH to Tie In 500' Inside 9-5/8" Casing Shoe @ 4400' |

Mud Program

| Depth | | Type | Weight (ppg) | Viscosity | Water Loss |
|----------|----------------|-----------------|--------------|-----------|------------|
| From | To | | | | |
| 0 | Surf. Csg pt | FW Gel | 8.6-8.8 | 28-34 | N/C |
| Surf csg | 13-3/8" csg pt | Saturated Brine | 10.0-10.2 | 28-34 | N/C |
| 13-3/8" | 9-5/8" csg pt | Fresh Water | 8.4-8.6 | 28-34 | N/C |
| 9-5/8" | Lateral TD | Cut Brine | 8.6 – 9.4 | 28-34 | N/C |

Pressure Control Equipment

| N | A variance is requested for the use of a diverter on the surface casing. See attached for schematic. | | | | |
|--|--|------------------|------------|---|----------------------|
| BOP installed and tested before drilling which hole? | Size? | Min. Required WP | Type | ✓ | Tested to: |
| 17-1/2" | 20" | 2M | Annular | x | 2000 psi |
| | | | Blind Ram | | 2M |
| | | | Pipe Ram | | |
| | | | Double Ram | | |
| | | | Other* | | |
| 12-1/4" | 13-5/8" | 2M | Annular | x | 2000 psi |
| | | | Blind Ram | | 2M |
| | | | Pipe Ram | | |
| | | | Double Ram | | |
| | | | Other* | | |
| 8-3/4" | 13-5/8" | 3M | Annular | x | 50% testing pressure |
| | | | Blind Ram | x | 3M |
| | | | Pipe Ram | x | |
| | | | Double Ram | | |
| | | | Other* | | |

2,000 psi BOP Schematic

