

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

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.  
NMLC029418B

6. If Indian, Allottee or Tribe Name

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

**SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

1. Type of Well

☐ Oil Well ☐ Gas Well ☒ Other: INJECTION8. Well Name and No.  
LEA C FEDERAL 7

2. Name of Operator

Contact: CLINT BRIAN

CAPSTONE NATURAL RESOURCESE-Mail: cbrian@capstonenr.com

9. API Well No.  
30-015-20627

3a. Address

2250 E. 73RD ST. STE 500  
TULSA, OK 74136-6834

3b. Phone No. (include area code)

Ph: 918-236-3800

10. Field and Pool, or Exploratory  
GRAYBURG

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 11 T17S R31E SENW 1980FNL 1980FWL

11. County or Parish, and State

EDDY COUNTY 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
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Production Facility
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	Changes

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 recompleat 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 recompleat 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.)

In order to increase injection into water flood. CNR has requested permission from OCD to inject off lease water. This request has been granted (Case File 15036). CNR will now be moving forward with preparations to bring off lease water from Hudson. Anticipated blend range of off lease/lease water is 71% off lease and 29% lease water. Total lease injection volumes are not expected to be more than 300 BWP.

*Compliance with the attached minimum conditions of approval is necessary for BLM consideration of an injection pressure increase.*

Accepted for record  
NMOC

RD

2/16/15

NM OIL CONSERVATION  
ARTESIA DISTRICT

JAN 20 2015

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

Electronic Submission #270694 verified by the BLM Well Information System  
For CAPSTONE NATURAL RESOURCES, sent to the Carlsbad

Name (Printed/Typed) CLINT BRIAN

Title VICE PRESIDENT OF OPERATIONS

Signature (Electronic Submission)

Date 10/14/2014

APPROVED

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

Approved By

Title

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

BUREAU OF LAND MANAGEMENT

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.

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

## Conditions of Approval

Capstone Natural Resources

Lea C - 07, API 3001520627

T17S-R31E, Sec 11, 1980FNL & 1980FWL

January 13, 2015

Stabilized injection: after perforation and acid stimulation workover, and the daily disposal volume rates and injection pressures have leveled out for about 3 months.

A profile survey is a wireline survey log that determines what perforations are taking produced water. You may want to use the same contractor that will run your step rate test.

1. If available, submit an electronic copy (Adobe Acrobat Document) cement bond log record from the top of the injection interval to top of cement. The CBL may be attached to a [pswartz@blm.gov](mailto:pswartz@blm.gov) email.
2. Submit a stabilized injection profile survey for the well for review.
3. Submit the well's stabilized current psig/ft surface pressure to the top perforation.
4. Submit an anticipated bottom hole fracture pressure for the field or pool formation.
5. State the **targeted** maximum bbl/min injection rate. **The objective is to avoid fracturing the injection formation.**
6. Submit the injection fluid lbs/gal weight.
7. Submit an anticipated formation fracture or breakdown pressure at the injection top.
8. Stop injection a minimum of 48 hours before the step rate test and record the tubing pressure as it drops. The pressure should stabilize at or below the NMOCD permitted pressure for 8 hours. Document the pressure test on a seven day full rotation calibrated recorder chart registering within 25 to 85 per cent of its full range.
9. Calculate seven injection rates by multiplying the targeted maximum bbl/min injection by 0.05 for Step 1, 0.10 for Step 2, 0.20 for Step 3, 0.40 for Step 4, 0.60 for Step 5, 0.80 for Step 6, and 1.00 for Step 7. Record both surface and top perforation step pressures at five minute increments. Each step's time duration (usually 30 minutes) should be within 1 minute or less of the preceding step. If stabilized pressure values ( $\Delta \pm 15$ psig) are not obtained between the last two (five minute) increments the test results will be considered inconclusive.
10. The Step Rate fluid used should be the same as the proposed injection fluid.
11. Flow rates are to be controlled with a constant flow regulator and measured with a turbine flow meter calibrated within 0.1 bbl/min. Record those rates using a chart recorder or strip chart.
12. Use a down hole transmitting pressure device and a surface pressure device with accuracies of  $\pm 10$ psig to measure pressures.
13. **Notify BLM 575-200-7902 , if there is no response, 575-361-2822 Eddy Co. or 575-393-3612 Lea Co 24 hours before beginning the test. If no answer, leave a voice mail or email with the API#, workover purpose, and a call back phone number.**

14. When breakdown pressure is not achieved at the **targeted rate** the formation is accepting the injection fluid without fracturing, which is the **objective**. Stop the test.
15. When the formation fracture pressure has been exceeded as evidenced by at least two rate-pressure combinations greater than the breakdown pressure stop the test and record the bottom hole Instantaneous Shut-in Pressure. This ISIP is considered the minimum pressure to hold open a fracture in this formation at this well. Fifty psig less than the ISIP is the maximum bottom hole pressure BLM will approve.
16. Record with each five minute interval the corresponding rate (bbl/min), down hole, and surface pressure (psig). Provide BLM with the tabulation of each five minute interval. Include a graph showing the stabilized pressure at each injection rate. Submit that data to BLM with the shut-in pressure recording of paragraph 8.
17. File a sundry subsequent report with the data collected, requesting your proposed wellhead injection pressure.

Notes:

These conditions of approval for a step-rate test is an adaptation of principals and comments from several sources. The major resource being a paper dated January 12, 1999 from the United States Environmental Protection Agency, Region VIII, 999 18<sup>th</sup> Street – Suite 500, Denver, Colorado.

The intent of a step rate test is to establish that a proposed rate of injection into a formation is below fracture. Because it becomes likely that fracture pressure may be attained and exceeded it is considered a nonroutine fracturing job and requires a notice of intent.

References: 43 CFR 3162.3-2 Subsequent well operations.

CFR 146.13(a)(1) & CFR 146.23(a)(1) - Class I wells are permitted stimulation injection pressure to exceed frac pressure while Class II (production water disposal) wells do not have that provision.

**Compliance of the operator with these BLM minimum conditions of approval is necessary for consideration of an injection pressure increase.**

**“Compliance with the attached minimum conditions of approval is necessary for BLM consideration of an injection pressure increase.”** < Statement to be printed into box 13 of COA of an approved NIO.