

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

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. NMLC031670A

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No. NM710412

8. Well Name and No. SEMU 243

9. API Well No. 30-025-42015

10. Field and Pool, or Exploratory SKAGGS; GRAYBURG

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

SUBMIT IN TRIPLICATE - Other instructions on reverse side

HOBBS OCD

JUN 06 2016

RECEIVED

1. Type of Well [] Oil Well [] Gas Well [x] Other: INJECTION

2. Name of Operator CONOCOPHILLIPS COMPANY Contact: RHONDA ROGERS E-Mail: rogerr@conocophillips.com

3a. Address P. O. BOX 51810 MIDLAND, TX 79710 3b. Phone No. (include area code) Ph: 432-688-9174

4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 19 T20S R38E Mer NMP SWSE 150FSL 2341FEL

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

Table with 2 columns: TYPE OF SUBMISSION and TYPE OF ACTION. Includes checkboxes for Notice of Intent, Subsequent Report, Final Abandonment Notice, Acidize, Deepen, Production (Start/Resume), Water Shut-Off, etc.

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. 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.)

ConocoPhillips Company would like to conduct a Step Rate Test per attached procedures.

PROVIDE S.R.T. RESULTS TO SANTA FE OCD FOR APPROVAL

SEE ATTACHED FOR CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct. Electronic Submission #335100 verified by the BLM Well Information System For CONOCOPHILLIPS COMPANY, sent to the Hobbs

Name (Printed/Typed) RHONDA ROGERS Title STAFF REGULATORY TECHNICIAN

Signature (Electronic Submission) Date 03/30/2016

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

APPROVED

MAY 26 2016

Signature of Rhonda Rogers

BUREAU OF LAND MANAGEMENT

CARLSBAD FIELD OFFICE

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.

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 false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

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

Handwritten signature and date: MSB/OCD 6/7/2016

SEMU-243W
API #30-025-42015
Step-Rate Test

Table 2: Injection Information

Date	11.2015		
Rate: BWIPD	90		
Pressure: psig	700		

Perforations

Type	Formation	Top (RKB): ft	Bottom (RKB): ft.
Open Perforations (02.12.15)	Grayburg	3,782	3,784
		3,793	3,796
		3,809	3,812
		3,819	3,824
		3,829	3,834
		3,839	3,844
		3,849	3,854
		3,859	3,864
		3,875	3,880
		3,893	3,903
		3,907	3,912
		3,916	3,921
		3,935	3,945
		3,950	3,960
		3,970	3,975
		3,980	3,985
		3,990	3,995
PBD		4,130	
TD (08.17.01)			4,197

Well Procedure:

PRE-STEP RATE TEST: Obtain Charted 48-Hour Surface Pressure Fall-Off

- 1) Obtain current WIC-sourced injection pressure & injection rate
current injection rate: 90 BWIPD; equivalent to: 0.0625 BPM
current injection pressure: 700 psig; equivalent to 0.1851 psi/ft to uppermost perforation @ 3782
- 2) Obtain injection water sample.
Report field-measured mud-balance determined density (ppg) of injection water.
- 3) SI well minimum 48-hrs. Conduct WIC-sourced surface pressure fall-off test.
Document the 48-hour fall-off test on a 7-day full rotation calibrated recorder chart registering within 25 to 85 per cent of full range (0-1000#). Digital fall-off data will also be captured by WIC.

Current Surface Injection Pressure: 700 psig
Current Permitted Surface Injection Pressure: 756 psig (0.20 psig/ft. x uppermost perforation depth: 3782)

SEMU-243W
API #30-025-42015
Step-Rate Test

Note:

Post-48 hour surface SI pressure is to be less than the Permitted Surface Injection Pressure prior to conducting Step Rate Test (SRT).

STEP RATE TEST:

NOTE:

BLM to be notified 24-hours before beginning SRT at 575-200-7902. If no answer, call:
575-361-2822 (Eddy County)
575-393-3612 (Lea County)

If no answer, leave a voice mail or e-mail with:

API Number
Workover Purpose
Call-back Phone Number

Note the contact, time & date in the subsequent report

Operator is required to have the BLM approved NOI procedure with applicable Conditions of Approval (COA) on location for this workover operation

- 1) RU Cardinal Surveys.
 - a) Record SITP.
 - b) NU lubricator. Test @ 2000# (SEMU injection system line pressure: 1850 psig).
 - c) RIH w/ downhole pressure transmitting tool. Obtain static fluid gradient survey while running in hole making 2-minute gradient stops at 500 ft. intervals:
 - 500
 - 1000
 - 1500
 - 2000
 - 3000
 - 3500
 - d) Position downhole pressure transmitting tool at approximately 3780. Record static BHP for 15 minutes (The bottom-hole pressure measurement to be recorded just above the open perforations).
 - e) Perform Step Rate Test (SRT) w/ a minimum of 7 isochronal* steps:
 - i. Calculate seven injection rates by multiplying the Targeted Maximum Injection Rate (BPM) by:

SEMU-243 Targeted Maximum Injection Rate: 400 BWIPD (0.278 BPM)

Step Rate-1*:	0.05 x 400 BWIPD/1440 min/D	0.014 BPM (20 BPD)
Step Rate-2*:	0.10 x 400 BWIPD/1440 min/D	0.028 BPM (40 BPD)
Step Rate-3:	0.20 x 400 BWIPD/1440 min/D	0.056 BPM (80 BPD)
Step Rate-4:	0.40 x 400 BWIPD/1440 min/D	0.111 BPM (160 BPD)
Step Rate-5:	0.60 x 400 BWIPD/1440 min/D	0.167 BPM (240 BPD)
Step Rate-6:	0.80 x 400 BWIPD/1440 min/D	0.222 BPM (320 BPD)
Step Rate-7:	1.00 x 400 BWIPD/1440 min/D	0.278 BPM (400 BPD)

SEMU-243W
API #30-025-42015
Step-Rate Test

ii. Record following @ 5 minute intervals (minimum 30 minutes):

Surface pressure: psig until pressure stabilizes*
Bottom-Hole pressure: psig until pressure stabilizes*
Injection Rate: BPM (± 0.1 BPM)

* Note:

Stabilized pressure: defined as ± 15 psig for 2 consecutive 5-minute intervals

Step rate time period: minimum 30 minutes

 limited to ± 1 minute variance of previous time period

Step Rate-1: limited to surface pressure less than 756 psig

Step Rate-2: limited to surface pressure less than 756 psig

(756 psig: 0.20 psig/ft. x uppermost perforation depth @ 3782)

Note:

Calibration Requirements

Surface Pressure: to be within ± 10 psig

Downhole Pressure: to be within ± 10 psig

Surface Rate: to be within ± 0.1 BPM

Time min.	Pressure: psig			Rate 1			Pressure: psig			Rate 2			Pressure: psig			Rate 3			Pressure: psig			Rate 4			Pressure: psig			Rate 5			Pressure: psig			Rate 6			Pressure: psig			Rate 7		
	Surf	BHP	BPM	Surf	BHP	BPM	Surf	BHP	BPM	Surf	BHP	BPM	Surf	BHP	BPM	Surf	BHP	BPM	Surf	BHP	BPM	Surf	BHP	BPM	Surf	BHP	BPM	Surf	BHP	BPM	Surf	BHP	BPM	Surf	BHP	BPM						
			0.014			0.028			0.056			0.111			0.167			0.222			0.278																					
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iii. After completion of SRT, SI well. Record: ISIP, 5 min, 10 min & 15 min shut-in pressure.

Time min.	Pressure: psig		ISIP
	Surf	BHP	
0			ISIP
5			
10			
15			

iv. RD Cardinal

4) Return well to injection service at a WIC-controlled surface injection pressure of 700 psig.

Current Permitted Surface Injection Pressure: 756 psig (0.20 psig/ft. x uppermost perforation depth: 3782)

Conditions of Approval

ConocoPhillips Company
SEMU-243, API 3002542015
T20S-R38E, Sec 19, 150FSL & 2341FEL
March 26, 2016

- 1. Operator is required to have the BLM approved NOI procedure with applicable conditions of approval on location for this workover operation.**
2. Due to being within the Lesser Prairie Chicken habitat, this workover activity will be restricted to the hours of 9:00am through 3:00am for the period of March 1 through June 15. Exceptions to these restrictions may be granted by BLM's Johnny Chopp <jchopp@blm.gov> 575.234.2227.
3. Prior stabilized injection is required, delay the test until disposal volume rates and injection pressures have leveled out for about 3 months.
4. Subject to like approval by the New Mexico Oil Conservation Division.
5. Notify BLM 575-200-7902 Eddy Co. as work begins. Some procedures are to be witnessed. If there is no response, call 575-361-2822, leave a voice mail with the API#, workover purpose, and a call back phone number. Note the contact, time, & date in your subsequent report.
6. BLM is requesting an available electronic copy (Adobe, pdf, or tiff) of a 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 email.
7. Select a **targeted** maximum bbl/day injection rate. **The objective is to avoid fracturing the injection formation.**
8. Take a charted record of shut in psig for no less than 48 hours. If the wellhead shut-in psig is not less than the approved injection pressure, bled the wellhead pressure below that approved injection pressure before beginning the Step Rate Test.
9. The Step Rate fluid used should be the same as the intended disposal fluid throughout the test. Do not leave the tubing loaded with fresh water flush after an acid job.
10. Flow rates are to be controlled with a constant flow regulator, measured with a turbine flow meter calibrated within 0.1 bbl/min, and recorded on the SRT data sheet.
11. Use a down hole transmitting pressure device and a surface pressure device with accuracies of ± 10 psig. The five minute values are to be recorded on the SRT data sheet
- 12. Record in the input cell(s) of the attached "STEP RATE TEST DATA for BLM, CFO" (SRT data sheet) the data information as indicated. Include the completed data information with a subsequent sundry and request a wellhead pressure change for BLM approval.**

13. Perform a minimum of seven steps, recording rates to ± 0.1 bpm, surface pressures and formation pressures collected to ± 10 psig in five minute intervals. A minimum of two pump rates (the 2nd rate being twice the 1st) are to develop wellhead pressures below 0.2 psig/ft x top injection perf.
14. It is vital to implement a procedure that will record synchronized rate (bpm), formation (psig), surface (psig), and time in five minute increments.
15. The last two five minute surface pressure readings of each step (minimum of 30 minutes) are to be within 15 psig of each other. If not, hold that step injection rate past the 30 minute step until two consecutive pressure readings are within 15 psig. Record the average of those last two pressure readings and the average of the last two rates as the "Data Point" for that Step #.
16. When formation breakdown pressure is not achieved at the **targeted barrels per day rate**, the formation is accepting the injection fluid without fracturing, which is the **objective**. Shut in pressures and step rate pressures **taken at the perforations** will primarily be used to evaluate formation breakdown pressure.
17. Record surface and formation pressures at the instant of shut in, at five, ten, and fifteen minutes. The surface pressure transducer should be located between a pump shut off valve and the wellhead for these readings.
18. When the formation fracture pressure has been exceeded it may be evidenced by two rate-pressure combinations graphed with a slope less than the previous steps' slope of data.
19. Record the bottom hole Instantaneous Shut-in Pressure. After a fracture this ISIP is the minimum pressure that will hold this formation open, at this well. The maximum surface pressure BLM will approve is fifty psig less than the wellhead fracture pressure.
- 1) Provide BLM with the tabulated "STEP RATE TEST DATA for BLM, CFO" data. Submit a (BLM Form 3160-5 subsequent report (dated daily) via BLM's Well Information System; <https://www.blm.gov/wispermits/wis/SP> (email pswartz@blm.gov for instructions) describing all wellbore activity.
20. Submit an electronic copy (Adobie, .pdf , or .tiff formats) of an injection profile survey for the well for review by BLM after the increased rate and pressure has stabilized.