OCD-HOBBS

Form 3160-5
(August 2007)

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.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

5. Lease Serial No.
NMLC068281B

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
☐ Oil Well ☐ Gas Well ☒ Other: INJECTION

8. Well Name and No.
BUCK 17 FEDERAL SWD 1 ✓

2. Name of Operator
CONOCOPHILLIPS COMPANY ✓
Contact: ASHLEY BERGEN
E-Mail: ashley.bergen@conocophillips.com

9. API Well No.
30-025-40482-00-S1 ✓

3a. Address
MIDLAND, TX 79710

3b. Phone No. (include area code)
Ph: 432-688-6983

HOBBS OCD
JAN 19 2016
RECEIVED

10. Field and Pool, or Exploratory
SWD

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 17 T26S R32E SENW 2284FNL 1950FWL ✓

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			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☒ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Well Spud
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ 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.)

ConocoPhillips completed the step rate test on 7/24/15. Attached are the results.
ConocoPhillips will proceed to request a higher injection rate from NMOCD.

BLM approval for 1227psig @ Wellhead.
See attached graph.

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

Electronic Submission #312132 verified by the BLM Well Information System
For CONOCOPHILLIPS COMPANY, sent to the Hobbs
Committed to AFMSS for processing by LINDA JIMENEZ on 08/18/2015 (15LJ1520SE)

Name *(Printed/Typed)* ASHLEY BERGEN — Title STAFF REGULATORY TECH

Signature (Electronic Submission) — Date 08/07/2015

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By _____ Title _____ Date

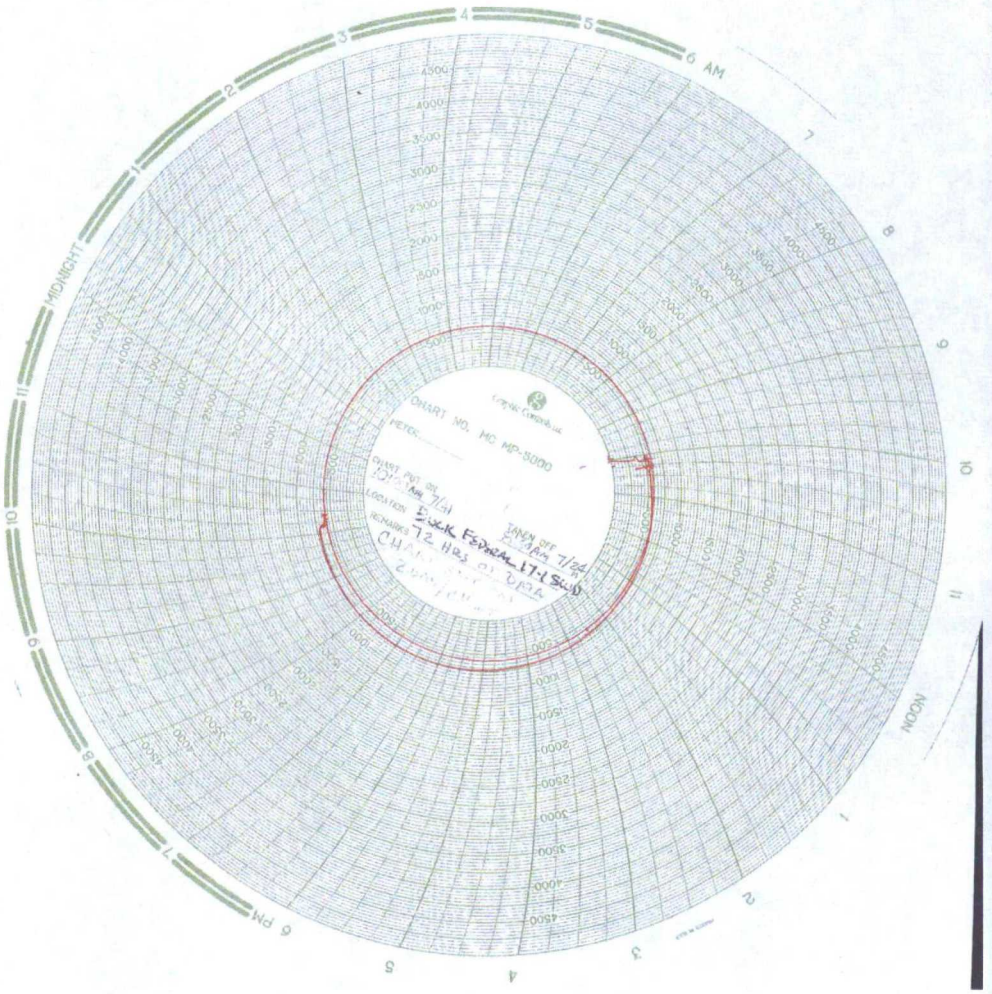
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Office

APPROVED
DEC 9 2015
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

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.

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

JAN 22 2016



STEP RATE TEST DATA FOR BLM

OPERATOR: CONOCOPHILLIPS WELL: BUCK FEDERAL SWD 1

DATA COLLECTION DATE: 07/24/15 API#: 3002540482 LEASE: NM495931

Sfc Loc: T26S-R32E, SEC 17, 2284FNL&1940FWL

TBG O.D.: 3-1/2" TBG WT: 9.3 GRADE: L-80 COUPLING: 8 rd EUE Packer at : 5387'

Top Injection Depth: 5410FT X .2 PSIG/F=EXPECTED SURFACE FRACTURE: 1082PSI

WITH MUD WT SCALE: 9.09 lbs/gal Msrd NO Flow Formation PSIG: 3248

INJECTION FLUID LBS/GAL: 9.09 Hydrostatic press of fluid at top depth of injection: 3248

Beginning well head pressure: 585 Target max rate bbl/d: 11,000

1. Take a charted recorder of shut-in pressure for no less than 48 hrs. If the shut-in pressure is above the expected fracture pressure, the well head pressure will need to be bled off before beginning the step rate test.
2. Perform a minimum of 7 steps, recording rate to ±0.1 bpm and surface pressure to ±10 psig in five minute intervals. The first two step rate pressures must be below .2 psig/ft x depth at top of injection.
3. The last two 5 minute surface pressure readings of each (minimum 30 minute) steps 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 two readings as the data point for that step.

Buck Federal 17-1 SWD Step Rate Test Summary

The Buck test was completed on July 24, 2015. The well was shut-in Tuesday, the 21th and a chart recorder was connected to the well at 10:00. Chart recorder was removed 72 hours later. The chart recorder was a two day recorder and a one day chart was used. The recorder pen overlayed one day of data. The test was scheduled for Thursday morning but due to equipment availability was moved to Friday morning. Service equipment was hooked up and gauge was run in hole and landed at the top of perf, 5410ft. With no flow, a BHP gauge reading of 3248 psi and a surface pressure of 585 psi was recorded. The targeted max injection rate was estimated at 11,000 b/d. An anticipated bottom hole fracture pressure was 3787 psi. The injection test started at 13:40 with a rate of 5% of max flow, 550 b/d rate. Every five minutes the surface and BHP pressure was recorded. See data sheet for results. Each step took 30 minutes as per BLM conditions. Thirty minutes into step 1 the surface pressure was not within 15 psi of last interval so I continued for another 5 minutes. At that time pressure was within 15 psi and I continued to step 2. Between each step, rate was stabilized in less than one minute. On step 6, between the 10 minute and 15 minute interval the pump rate was slightly interrupted due to changing water tanks. The pressure went down 13 psi but then continued to stabilize. Step 6 extended an extra 10 minutes to verify pressure stability and then went to step 7. At step 7, the pressure on the surface and BHP slightly decrease throughout the test by 2-3 psi. The test was complete. The pump was shut down and instantaneous pressure readings were taken. The line to the pump could not be shut in because the pressure transmitter was upstream of valve and the surface reading of the well would be blocked in. 5, 10 and 15 minute shut-in pressures were recorded. Test complete.

The test reached the targeted injection rate. The BHP started showing signs of decreasing by 3 psi. The BHP at max injection rate was 3489 psi.

Buck Step Rate Test

Step 1

TARGET TEST RATE TARGET TEST RATE (5% of 11,000 b/d= 0.38 bpm

START TIME:	1:40
END TIME:	2:15

TIME	5 MIN	10 MIN	15 MIN	20 MIN	25 MIN	30 MIN	35 MIN	40 MIN	45 MIN	50 MIN	55 MIN	60 MIN
SURFACE PRESSURE PSI	627	646	674	691	703	721	731					
Formation Pressure PSI	3264	3269	3275	3279	3283	3285	3288					
Flow Rate (BPM)	0.21	0.35	0.43	0.38	0.4	0.39	0.4					

Step 2

TARGET TEST RATE TARGET TEST RATE (10% of 11,000b/d= 0.76 bpm

START TIME:	2:15
END TIME:	2:45

TIME	5 MIN	10 MIN	15 MIN	20 MIN	25 MIN	30 MIN	35 MIN	40 MIN	45 MIN	50 MIN	55 MIN	60 MIN
SURFACE PRESSURE PSI	751	763	766	769	771	774						
Formation Pressure PSI	3292	3295	3297	3299	3301	3303						
Flow Rate (BPM)	0.7	0.73	0.76	0.7	0.69	0.76						

Step 3

TARGET TEST RATE TARGET TEST RATE (20% of 11,000b/d= 1.53 bpm

START TIME:	2:45
END TIME:	3:15

TIME	5 MIN	10 MIN	15 MIN	20 MIN	25 MIN	30 MIN	35 MIN	40 MIN	45 MIN	50 MIN	55 MIN	60 MIN
SURFACE PRESSURE PSI	825	832	840	848	855	862						
Formation Pressure PSI	3318	3323	3326	3328	3331	3333						
Flow Rate (BPM)	1.53	1.51	1.52	1.51	1.51	1.51						

Step 4

TARGET TEST RATE TARGET TEST RATE (40% of 11,000b/d= 3.1 bpm

START TIME:	3:15
END TIME:	3:45

TIME	5 MIN	10 MIN	15 MIN	20 MIN	25 MIN	30 MIN	35 MIN	40 MIN	45 MIN	50 MIN	55 MIN	60 MIN
SURFACE PRESSURE PSI	1057	1073	1077	1081	1080	1082						
Formation Pressure PSI	3373	3381	3387	3390	3393	3396						
Flow Rate (BPM)	3.2	3.23	3.27	3.21	3.26	3.21						

Step 5

TARGET TEST RATE TARGET TEST RATE (60% of 11,000b/d= 4.58 bpm

START TIME:	3:45
END TIME:	4:15

TIME	5 MIN	10 MIN	15 MIN	20 MIN	25 MIN	30 MIN	35 MIN	40 MIN	45 MIN	50 MIN	55 MIN	60 MIN
SURFACE PRESSURE PSI	1312	1315	1319	1321	1323	1324						
Formation Pressure PSI	3428	3433	3436	3439	3441	3442						
Flow Rate (BPM)	4.6	4.5	4.6	4.6	4.58	4.5						

Step 6

TARGET TEST RATE TARGET TEST RATE (80% of 11,000b/d= 6.1 bpm

START TIME:	4:15
END TIME:	4:55

I extended this step due to opening water tanks in between 15 and 20 min intervals. Affected the flow rate slightly.

TIME	5 MIN	10 MIN	15 MIN	20 MIN	25 MIN	30 MIN	35 MIN	40 MIN	45 MIN	50 MIN	55 MIN	60 MIN
SURFACE PRESSURE PSI	1640	1642	1629	1635	1632	1639	1640	1632				
Formation Pressure PSI	3470	3473	3475	3477	3478	3478	3477	3478				
Flow Rate (BPM)	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1				

Step 7

TARGET TEST RATE TARGET TEST RATE (100% of 11,000b/d= 7.6 bpm

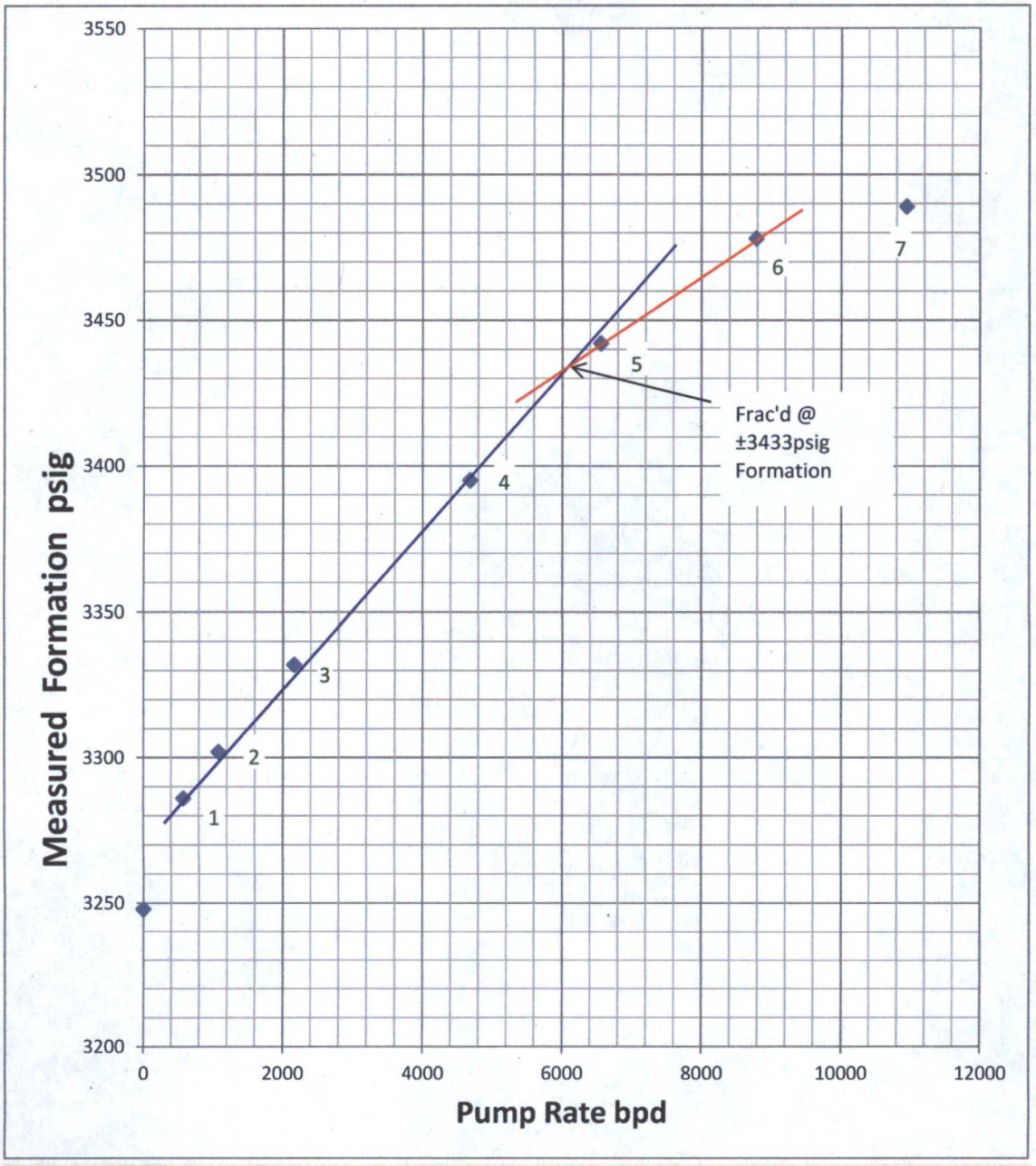
START TIME:	4:55
END TIME:	5:25

TIME	5 MIN	10 MIN	15 MIN	20 MIN	25 MIN	30 MIN	35 MIN	40 MIN	45 MIN	50 MIN	55 MIN	60 MIN
SURFACE PRESSURE PSI	2000	1994	1997	1995	1997	1996						
Formation Pressure PSI	3492	3492	3488	3488	3489	3489						
Flow Rate (BPM)	7.6	7.6	7.6	7.6	7.6	7.6						

Time: 5:25	Surface	Formation	
INSTANT SHUT-IN:	990	3489	PSI
5 MINUTE SHUT-IN:	890	3405	PSI
10 MINUTE SHUT-IN:	876	3391	PSI
15 MINUTE SHUT-IN:	868	3384	PSI

BLM Evaluation of Step Rate Test Data

Operator: ConocoPhillips Company Well: BUCK 17 FEDERAL SWD-1
API#: 3002540482 Lease: LC068281b
Data collected: 7/24/2015 Sfc Loc: T26S-R32E,17.2284n1950w
Adminstrative Order: SWD-1316b, 03/17/2013 Delaware, 5410-932, 1082psig



Instant Shut In Pressure at Surface - psig: 990 I S I P at Formation - psig: 3489

"The surface pressure transmitter was upstream of valve and the pump could not be shut in."

Frac'd between rate steps 4 and 5 per formation pressure graph shown above.

Step	Pmp Rate bpm	Pmp Rate bpd	Frmtn psig	Wellhead psig
0	0	0	3248	585
1	0.4	576	3286	726
2	0.75	1080	3302	772
3	1.5	2160	3332	858
4	3.25	4680	3395	1081
5	4.55	6552	3442	1324
6	6.1	8784	3478	1636
7	7.6	10944	3489	1997

Formation psig past frac, step 5:	3442
Formation psig before frac, step 4:	3395
Formation psig rate step difference:	47
Fracture of Formation psig indicated:	3433
% psig increase, before frac to fracture:	81
Surface psig past frac, step 5:	1324
Surface psig before frac, step 4:	1081
Surface psig rate step difference:	243
Estimated Surface psig @ fracture:	1277