OCD-HOBBS

Form 3160- 5
(August, 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004- 0137
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 page 2.*

RECEIVED OCD

FEB 12 2015

RECEIVED

5. Lease Serial No.

6. If Indian, Allottee, or Tribe Name
BLM NMNM12198

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

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

8. Well Name and No.
Pan Am Federal "25" SWD # 1

2. Name of Operator
Endeavor Energy Resources, LP

9. API Well No.
30-025-23155

3a. Address
110 N. Marienfeld Street, Suite 200
Midland, Texas 79701

3b. Phone No. *(include area code)*
(432)687-1575

10. Field and Pool, or Exploratory Area
Delaware

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
1977 FSL, 653 FWL, UNIT "L" SEC. 25, T25S, R33E, LEA CO. NM.

Lat.
Long.

11. County or Parish, State
Lea NM

12. CHECK APPROPRIATE BOX(S) 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	
	☐ Altering Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity	
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other	
	☐ Change Plans	☐ Plug and abandon	☐ Temporarily Abandon		
☐ Final Abandonment Notice	☐ 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 pertinent markers and sands. Attach the Bond under which the work will performed or provide the Bond No. on file with the 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 Notice shall be filed only after all requirements, including reclamantion, have been completed, and the operator has determined that the site is ready for final inspection.)

Intent to perform Step Rate Test as described in BLM/EPA Template with 16 steps
1) Cement Bond Log is on file with BLM & OCD.
2) Stabilized injection profile survey will be performed after Step Rate Test is performed and injection pressures stabilize. EER will notify BLM and perform when BLM approves.
3) Stabilized surface pressure to top perf is currently 0.1934 psig/ft.
4) Anticipated bottom hole fracture pressure for the pool formation is 4980 psi
5)Target maximum bbl/min is 2.78 bbl/min., 4000 bpd
6) Injection fluid weighs 9.02 ppg.
7) Anticipated formation fracture pressure at injection top is 4284 psi.
8) Stop injection a minimum of 48 hours before Step Rate Test and record the tubing pressure on a 7 day rotational chart registering within 25 to 85 percent of its full range.
See attachment on Step Rate Test Data

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct.
Name *(Printed/ Typed)*
Jan South

Title: Regulatory Analyst

Signature

Date: 1/22/15

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

APPROVED

FEB 2 2015

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

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:

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

(Instructions on page 2)

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FEB 18 2015

9) Calculate seven injection rates by multiplying the targeted maximum rate of 2.78 bbl*/min by .05 step 1, by .10for step 2, by .20 for step 3, by .40 for step 4, by .60 for step 5, by .80 for step 6, by 1.0 for step 7, (see attached "Step Rate Test Data")

10) Step Rate Test performed using the actual produced water.

11) Flow rate will be measured with a turbine flow meter calibrated within 0.1 bbl/min. Rate will be recorded.

12) Down hole transmitting pressure device and surface pressure device with accuracies of +- 10 psig will be used.

13) Notify BLM 575-200-7902 at least 24 hours before beginning test. Leave message if no answer. Give API # 30-025-23155; purpose Step Rate Test, leave call back number. Note the contact, time and date in subsequent report.

14) If parting pressure is not reached, stop test.

15) If parting pressure is reached, go two rate steps above parting pressure, shut down and record ISIP.

16) Record pressure every five minutes for each of the seven rates as described in attachment "Stet Rate Test Data"

Casing 4 1/2" 11.6#, TBG is IPC 2 3/8" 4.7#, packer setting depth 5115'

Perf interval 5170' - 6980', current injection rate and pressure: 500 BWPD, 1100 PSIG

Pump rate is 3,300 BWPD and running 3 1/2 hours per day

STEP RATE TEST DATA

Well: Pan Am Fed. 25 #1 *Date:* _____ *Operator* Endeavor Energy Resources, LP

STEP #1 Test Rate (*5%* of maximum rate) 0.14 (*bbl/min*) 200 BPD

Time (*min*) :	0	5	10	15	20	25	30
Pressure (psi):							

STEP #2 Test Rate (*10%* of maximum rate) .28 (*bbl/min*) 400 BPD

Time (*min*) :	0	5	10	15	20	25	30
Pressure (psi):							

STEP #3 Test Rate (*20%* of maximum rate) 0.56 (*bbl/min*) 800 BPD

Time (*min*) :	0	5	10	15	20	25	30
Pressure (psi):							

STEP #4 Test Rate (*40%* of maximum rate) 1.11 (*bbl/min*) 1600 BPD

Time (*min*) :	0	5	10	15	20	25	30
Pressure (psi):							

STEP #5 Test Rate (*60%* of maximum rate) 1.67 (*bbl/min*) 2400 BPD

Time (*min*) :	0	5	10	15	20	25	30
Pressure (psi):							

STEP #6 Test Rate (*80%* of maximum rate) 2.22 (*bbl/min*) 3200 BPD

Time (*min*) :	0	5	10	15	20	25	30
Pressure (psi):							

STEP #7 Test Rate (*100%* of maximum rate) 2.78 (*bbl/min*) 4000 BPD

Time (*min*) :	0	5	10	15	20	25	30
Pressure (psi):							

ISIP : _____ (psi)

Test Run / Witnessed By: _____

Conditions of Approval

Endeavor Energy Resources, LP
Pan Am SWD - 01, API 3002523155
T25S-R33E, Sec 33, 1977FSL & 653FWL
February 2, 2015

1. 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.
2. The Step Rate fluid used should be the same as the proposed injection fluid.
3. 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.
4. Use a down hole transmitting pressure device and a surface pressure device with accuracies of ±10psig to measure pressures.
5. **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.**
6. 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.
7. 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.
8. 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.
9. 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 18th 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.