

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD-HOBBS

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.**

5. Lease Serial No.
NM-0559539

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2.

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

1. Type of Well

☐ Oil Well ☐ Gas Well ☒ Other SWD

HOBBS OCD

8. Well Name and No.

James Federal #1

2. Name of Operator

Harvard Petroleum Company, LLC

9. API Well No.

30-025-31515

3a. Address

PO Box 936, Roswell, NM 88202

3b. Phone No. (include area code)

575-623-1581

10. Field and Pool or Exploratory Area

W. Triste Draw, Delaware

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

Unit O, 810' FSL & 1830' FEL, Sec 29-T23S-R32E NMPM

11. Country or Parish, State

Lea Co., NM

12. CHECK THE 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 Perform Step Rate
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Test for injection
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	pressure increase

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 must 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 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

Notice of intent to perform a Step Rate Test with 3 1/2" injection string with Cardinal Services on June 10, 2015.

Prior to the test, injection will be stopped and the wellhead pressure will be recorded via chart recorder for 48 hours.

WITNESS

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

SUBJECT TO LIKE
APPROVAL BY STATE

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

Name (Printed/Typed)

Jeff Harvard

Title Manager

Signature

Date 06/01/2015

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

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

(Instructions on page 2)

APPROVED

JAN 25 2016

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

FEB 17 2016

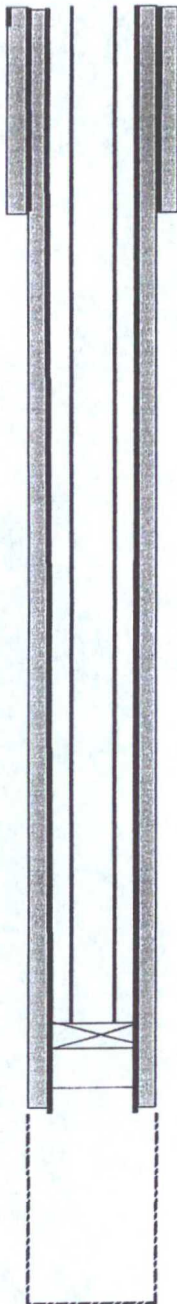


Harvard Petroleum Company, LLC

Wellbore Diagram

Well Name: **James Federal #1**
Field: **W. Triste Draw, Delaware**
API: **30-025-31515**

Spud Date: **02/19/92**
Completion Date:
Last Update: **12/04/14**



Surface: 12 1/4" hole, 8 5/8" 24# K55 at 654'
cmt w/ 400 sx C +2% CaCl, circ 170 sx to pit

Production: 7 7/8" hole, 5 1/2" 17# K55 at 4844'
cmt w/ 100 sx C w 2% CaCl, TOC @ 4215' CBL

Tbg and Pkr: (150) jts, (1) 8' sub, (1) 10' sub 3-1/2" J55 plastic coated tbg
w nickel coated Arrow Set 1X Packer at 4769'

End of Casing at 4844'

Open Hole TD - 6160'

Conditions of Approval

Harvard Petroleum Company, LLC
James - 01, API 3001531515
T23S-R32E, Sec 29, 810FSL & 1830FEL
January 25, 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. 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 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 Test fluid used should be the same as the proposed injection fluid.
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. **Preform a minimum of seven steps, recording rates to ± 0.1 bpm, surface pressures and formation pressures collected to ± 10 psig in five minute intervals. Use recorded time of rate changes to synchronize the formation pressure bomb and surface pressure readings with the bpm rate.**

14. The last two five minute surface pressure readings of each step (minimum of 30 minutes) are to be within 15psig of each other. If not, hold that step injection rate past the 30 minute step until two consecutive pressure readings are within 15psig. Record the average of those last two pressure readings and the average of the last two rates as the "Data Point" for that Step #.
15. 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.
16. 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.
17. 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.
18. 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.
19. 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.
19. 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.

Access information for use of Form 3160-5 "Sundry Notices and Reports on Wells"

NM Fed Regs & Forms - http://www.blm.gov/nm/st/en/prog/energy/oil_and_gas.html

§ 43 CFR 3162.3-2 Subsequent Well Operations.

§ 43 CFR 3160.0-9 (c)(1) Information collection.

§ 3162.4-1 (c) Well records and reports.

STEP RATE TEST DATA for BLM. CFO

Operator:

Well:

API#:

Lease:

Data Collection Date:

Sfc Loc:

< Cell(s) for Input

< Cell(s) that are Calculated by Excel

Tbg O.D.:

Tbg Wt.:

Grade:

Pipe I.D.:

Packer at:

Top Injection Depth: X

0.20psig/ft = Expected Surface Fracture psig:

With Mud Wt Scale: lbs/gal

Msrd No Flow Formation psig: at Depth of:

Calculated lbs/gal of Inj fluid:

Hydrostatic Pressure of fluid at top depth of injection:

Beginning Wellhead psig:

Target Maximum Rate bpd (barrels per day):

Minimum Bbls of Normally Pumped Disposal Water to be on Location:

1. 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 0.2psig/ft x depth at top of injection before beginning the Step Rate Test.
2. Perform a minimum of seven steps, recording rate to $\pm 1/10$ bpm, surface and down hole pressures to ± 10 psig in five minute intervals. The first two psig(s) must be below 0.2psig/ft x top injection depth.
3. The last two five minute surface pressure readings of each (minimum 30 minute) step are to be within 15psig of each other. If not, hold that step injection rate past the 30 minute step until two consecutive five minute pressure readings are within 15psig. Record the (surface pressure, formation pressure, & rate) averages of the last two readings as the Data Point for that Step.

Step 1									
Target Test Rate (5% of maximum bpd/1440 = bpm for Step 1)									
Time:	5 min	10 min	15 min	20 min	25 min	30 min	Start Time:		
Surface (psig):							End Time:		
Formation (psig):							Data Point #1		
bpm:							Sfc psig:		
Time:	35 min	40 min	45 min	50 min	25 min	60 min	F psig:		
Surface (psig):							bpm:		
Formation (psig):							bpd:		
bpm:							target bpd:		

Step 2									
Target Test Rate (10% of maximum bpd/1440 = bpm for Step 2)									
Time:	5 min	10 min	15 min	20 min	25 min	30 min	Start Time:		
Surface (psig):							End Time:		
Formation (psig):							Data Point #2		
bpm:							Sfc psig:		
Time:	35 min	40 min	45 min	50 min	25 min	60 min	F psig:		
Surface (psig):							bpm:		
Formation (psig):							bpd:		
bpm:							target bpd:		

Step 3									
Target Test Rate (20% of maximum bpd/1440 = bpm for Step 3)									
Time:	5 min	10 min	15 min	20 min	25 min	30 min	Start Time:		
Surface (psig):							End Time:		
Formation (psig):							Data Point #3		
bpm:							Sfc psig:		
Time:	35 min	40 min	45 min	50 min	25 min	60 min	F psig:		
Surface (psig):							bpm:		
Formation (psig):							bpd:		
bpm:							target bpd:		

STEP RATE TEST DATA for BLM. CFO

Operator:

Well:

API#:

Lease:

Data Collection Date:

Sfc Loc:

Step 4

Target Test Rate (40% of maximum bpd/1440 =

bpm for Step 4

Time:	5 min	10 min	15 min	20 min	25 min	30 min	Start Time:	
Surface (psig):							End Time:	
Formation (psig):							Data Point #4	
Rate bbl/min:							Sfc psig:	
Time:	35 min	40 min	45 min	50 min	25 min	60 min	F psig:	
Surface (psig):							bpm:	
Formation (psig):							bpd:	
bpm:							target bpd:	

Step 5

Target Test Rate (60% of maximum bpd/1440 =

bpm for Step 5

Time:	5 min	10 min	15 min	20 min	25 min	30 min	Start Time:	
Surface (psig):							End Time:	
Formation (psig):							Data Point #5	
bpm:							Sfc psig:	
Time:	35 min	40 min	45 min	50 min	25 min	60 min	F psig:	
Surface (psig):							bpm:	
Formation (psig):							bpd:	
bpm:							target bpd:	

Step 6

Target Test Rate (80% of maximum bpd/1440 =

bpm for Step 6

Time:	5 min	10 min	15 min	20 min	25 min	30 min	Start Time:	
Surface (psig):							End Time:	
Formation (psig):							Data Point #6	
Rate bbl/min:							Sfc psig:	
Time:	35 min	40 min	45 min	50 min	25 min	60 min	F psig:	
Surface (psig):							bpm:	
Formation (psig):							bpd:	
bpm:							target bpd:	

Step 7

Target Test Rate (100% of maximum bpd/1440 =

bpm for Step 7

Time:	5 min	10 min	15 min	20 min	25 min	30 min	Start Time:	
Surface (psig):							End Time:	
Formation (psig):							Data Point #7	
bpm:							Sfc psig:	
Time:	35 min	40 min	45 min	50 min	25 min	60 min	F psig:	
Surface (psig):							bpm:	
Formation (psig):							bpd:	
bpm:							target bpd:	

	Surface	Formation	
Instant Shut In Pressure:			psig
5 minute Shut In Pressure:			psig
10 minute Shut In Pressure:			psig
15 minute Shut In Pressure:			psig