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
I – 149 – IND - 8486

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

8. Well Name and No.
Gallegos Canyon Unit 328

2. Name of Operator
BP America Production Company

9 API Well No.
30-045-24735

3a Address
P.O. Box 3092 Houston, TX 77079

3b Phone No. *(include area code*
281-366-4081

10. Field and Pool, or Exploratory Area
Mesaverde

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 33 T29N R12W SESW 1070' FSL & 1520' FWL

11. County or Parish, State
San Juan, 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
	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	■ Other **Step Rate Injectivity Test**
☐ Final Abandonment Notice	☐ Change Plans	☐ Plug and Abandon	☐ Water Disposal	
	☐ Convert to Injection	☐ Plug Back		

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

Please see the proposed Step Rate Injectivity Test (SRT) procedures for GCU 328 SWI Well. These procedures are being submitted to the necessary Regulatory agencies for approval to perform the SRT and provide evidence for the need to raise the maximum injection pressure on GCU 328 to compensate for the downhole tubing configuration change that now includes two new cement retainers with pump through plugs.

These plugs were installed, as previously discussed with Regulators to provide control of the well and isolation of contents under pressure while well site personnel investigated and made repairs on the Adapter flange that sits below the Master valves. However, these plugs are creating a restriction downhole resulting in a higher injection pressure observed at surface for a given flowrate. Therefore, a new maximum injection pressure will be required to accomplish the same injection rates in the GCU 328 Mesa Verde formation given the current tubing restrictions.

14. I hereby certify that the foregoing is true an dcorrect
Name (Printed/typed)
Cherry Hlava Title **Regulatory Analyst**

RCVD OCT 28 '08
OIL CONS. DIV.

Signature *Cherry Hlava* Date **10/13/2008**

DIST. 3

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by Title Petr. Eng. Date 10/27/08

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

NMOCD 11/13

San Juan Basin Well Work Procedure

API #30-045-24735

Well Name: Gallegos Canyon Unit 328 SWD/FS
Version: 2.0
Date: October 13, 2008
Budget: GCU Integrity Management
Repair Type: Step Rate Injectivity Test

Objective: *To Increase Maximum Injection Pressure using Step Rate Testing of Fracture Limits: Rigless*

The reason for the request to perform the Step Rate Injectivity Test is to determine the new maximum injection rate as a result of the addition of two cement retainers w/ pump-thru plugs inside the injection tubing string. These retainers are not drillable and are creating more of a restriction downhole, resulting in additional back pressure and a higher injection pressure at surface for a given flowrate.

Summary of Steps:

1. Ensure that well has undergone an Acid Treatment and has been shut in for at least 24 - 36 hrs prior to step rate test.
2. TIH w/ wireline to set pressure bomb in place (pre-programmed to collect pressure data every 5 sec)
3. MIRU Pumping equipment
4. Inject chemical at specified rate and hold for 30-min duration.
5. Record pressure every 5 secs with pressure bomb.
6. Ramp up to the next rate and repeat step 3. (See attached Table in Detailed Procedures below)
7. Repeat injection rates and recording of pressures
8. When testing complete, retrieve bombs, shutdown& disconnect pumping equipment
9. Record data, send to Engineer for submittal to Regulators for approval of new injection pressure.
10. Return well to injection in the MV.

Well History: 4/26/2000: Tubing replacement for long string. 11/07/2001- Packer Leak testing, 09/06/2002 Well returned to production, 09/02/2003 Acid job to stimulate the Mesa Verde, 04/12/2007- Packer Leak testing, 9/27/2007- Acid job to stimulate the Mesa Verde 7/2008 – Wellhead repair done to stop the leak on the Adapter flange at the tubing head. 8/2008 – Acidize MV

Pertinent Information: Gas BTU content for the FS side of this well is 1187; Sp gr. is 0.6679 (9/2007). Venting and Flaring document needs to be followed with the assumption that BTU content is above 950. No history of BH issues found with review of DIMS.

UIC permit: # NN297000014

Fruitland Sand Data:

Location: T29N-R12W-Sec33
County: San Juan
State: New Mexico
Gathering System: CHACO
Horizon: FS
CO2: 1.5%
H2S: None known

Meter #: 94223
Pipeline: Enterprise
Engr: Nona Morgan
ph (281) 366-6207
fax (281) 366-7836
Cell: (713) -890-2002

Mesa Verde Data:

Current Injection Information : 6000 bbls/mo
Avg Injection pressure: 920 #
Max. allowable disposal pressure: 1000 #
General Wellbore Information: Casing: 7" 23# K 55 @ 4085'
Tubing: 2.375"@1056' ss
Tubing: 2.375" @2805' is inside the Baker Retrieval D packer
Tubing: 2.375" @ 2792' & 2782' are 1.75" Baker Model "N" W/L set pump-thru cement retainers

DV tool @1564'
FS perfs: 1033'-1052'
MV perfs: 2852'-3797'

HSSE Policy Reminders;

- Hold pre-job safety meetings each morning
- Ensure proper PPE is worn while on location at all times
- Conduct JSA/Risk Assessment prior to each job scope change or prior to allowing a new person to start a job
- Comply with BP's Golden Rules of Safety (*work permit, energy isolation, ground disturbance, confined space entry, working at heights, lifting operations, vehicle safety and management of change*)
- Check and record well pressures each day prior to job commencement
- All pressure tests should be recorded

Normal Operating Procedures:

- **ADM 5102** Preliminary Well Work Checklist
- **INS 8908-00** Power Down Automation
- **NOP 8601-00** Procedure for Lockout / Tagout
- **NOP 7801-00** Operating Policy for Simultaneous Operations
- **NOP 7803-01** Procedure For At Risk Well Locations
- **NOP 7804-01** Wellbore Air Purge
- **NOP 7809-00** Spill Reduction Procedure for Wells Team
- **NOP 7811** Site Security for Well Operations
- **NOP 7812** Under Balanced Well Control Tripping
- **DWOP** Drilling and Well Operation Policy
- **Dispensations** SJPU and SJS DWOP Dispensations

Dispensations:

- Section 9.4.1 (Issue #5, May 2003) – Document #K5500000267
- Stripping rubber to be used instead of Hydril / Annual Preventer.
- Section 24.2 (Issue #5, May 2003) – Document #K5500000261
- No dual mechanical barriers in annulus during all well servicing

Pre-Testing & Testing Requirements for the Step Rate Test : ***as provided by EPA Guidelines for testing.***

Please follow the following guidelines in your SRT approach; we should discuss any variances you might wish to make from these procedures.

(a) Step-Rate Test ("SRT")

Refer to Society of Petroleum Engineering ("SPE") paper #16798 for test design and analysis. The SRT will be used to establish the injection pressure limitation. Permittee must submit detailed plans for conducting the SRT for EPA review and approval before the SRT will be allowed to be scheduled and conducted.

(i) Prior to testing, shut in the well long enough so that the bottom-hole pressure approximates shut-in formation pressure.

(ii) Measure pressures with a down-hole pressure bomb and coordinate these pressures with times and rates in your test analysis.

(iii) Use equal-length time step intervals throughout the test; these should be sufficiently long to overcome well bore storage and to achieve radial flow. Intervals may need to be longer to satisfy these requirements, but must be no less than thirty (30) minutes in duration.

(iv) Permittee must record and plot at least three (3) linear time steps (data points on pressure vs. flow plot) before reaching the anticipated fracture pressure, so we suggest relatively low rate increments be used in the early test stages. Larger rate increments may be used later in the test, however the reasons for this request must be approved.

(v) At the end of the test, shut down pumps and record the instantaneous shut in pressure and observe the pressure falloff for a sufficient time period to observe and later analyze the radial flow portion of the injection zone during the SRT. The length of time for pressure falloff observation must be determined and discussed in the Permittee's submission plans in advance of conducting the SRT.

Detailed Procedures:

Note: *It is assumed the Fruitland Sand production will continue during the duration of the step rate test.*

1. Shut well in and lock out tag out production equipment. Set swab tank or dig workover pit to receive any fluids. Make up connections and test per guidelines.

2. Notify the following Inspectors 48 hrs prior to working on the well:

a). Kelly Roberts (OCD)	505-334-6178 ext. 16
b). Jim Walker (EPA)	505-599-6317(retired)
David Basinger (EPA)	415-972-3506
or David Albright (EPA)	415-972-3971
c). Bill Freeman (Navajo UIC)	505-368-1041

3. Make up and install any new pressure gauges deemed necessary to monitor Bradenhead, tubing and casing pressures.

Slickline Operations:
Verify that sufficient clean (fresh) water is available to run the entire test. Expected total requirement = 810 bbls.

4. RU slickline and lubricator to "soft" set pressure bombs in tandem inside 2-3/8" tubing above the cement retainers:
   a. Tag fluid level.

   b. "Soft" set pressure bombs in 2-3/8" tubing above cment retainers at 2770' & 2760' respectively.

      Note: that two Baker "N" wireline set cement retainers are located in the long string of tubing @ 2782' and 2792' (1.75" OD/0.5"ID), respectively. Pressure bombs cannot pass through retainers.

   c. Ensure that pressure bombs are capable of reading pressure range from 0 psig - 10,000 psig.

      Note 2: Pressure bombs will allow water flow-by.

5. Make sure no pressure is on the tubing or in the annulus.

Step – Rate Injectivity Test Procedures

1. Note and record density of injection fluid. Record pressure gradient (psi/ft), if available from tool.

2. Perform the following step rate injectivity tests rates in sequence with the pump truck equipment :

Data Table for recorded data

Sample	BPD rate*	BPM rate*	BHP (estimated)	Surface pressure (psi)	Time elapsed after S-S (min)	Total Required Fluid Vol. BBls	Fluid Temp @ Surface (deg F)	General Comments
1	0	0			30 mins.	0		
2	200	0.14			30 mins.	4.2		
3	400	0.28			30 mins.	8.4		
4	600	0.42			30 mins.	12.6		
5	800	0.55			30 mins.	16.5		
6	1000	0.7			30 mins.	21		
7	1400	0.97			30 mins.	29.1		
8	1800	1.25			30 mins.	37.5		
9	2200	1.53			30 mins.	45.9		
10	2600	1.81			30 mins.	54.3		
11	3400	2.36			30 mins.	70.8		
12	3800	2.63			30 mins.	78.9		
13	4400	3.06			30 mins.	91.8		
14	5200	3.61			30 mins.	108.3		
15	6000	4.17			30 mins.	125.1		
				Totals	450	704.4		
				Total hrs	7.5			
				at 15% excess		810.06	Total bbls required	

4. Maintain each injection rate for a 30 min duration.

5. Record approx. bhp and surface pressure readings at the end of each timed interval in the table.

It should be noted that during the previous Acid Treatment performed on this well Aug. 5, 2008 the maximum treating pressure observed at surface was 1407 psi @ a treating rate of 1. 66 bpm given the downhole configuration containing 2 cement retainers @ 0.5 in I.D.

It should also be noted that it has been calculated using John Crane equations for lift check-valves and BP internal -Prosper modeling program that with the 2 cement retainers downhole, as estimated pressure observed at surface could be as high as 2300 psi for a pump-in rate of 3.5 bpm.

6. Record the time duration of the injection rate as well as any observations/comments. *(Monitor surface injection pressure and rates in a digital format). Use a computer van or equivalent if necessary.*

7. Begin conducting rate test only after a steady flow rate is achieved.

8. Ramp up the flowrate after each pressure has been recorded for the allotted time.

9. After test complete, trip out of hole with pressure gauges.

10. Disconnect pump truck and disconnect lines.

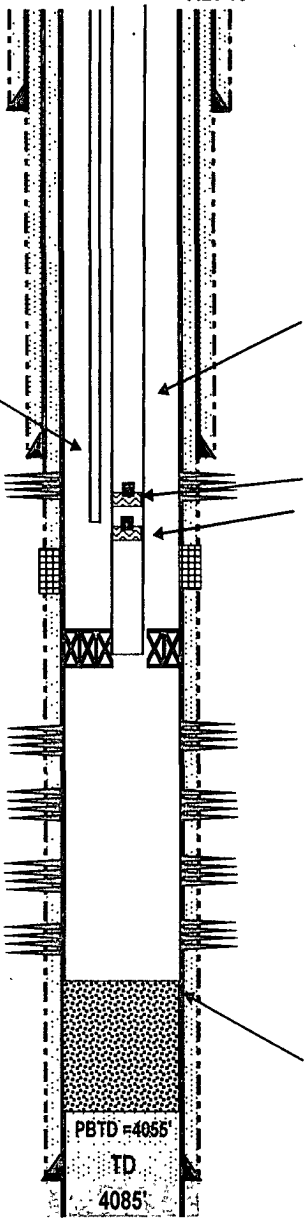
11. Download data using software and make sure it is available for viewing prior to Schlumberger leaving location.

12. Return well to injection.

13. Send all results to Nona Morgan(281-366-6207) e mail Nona.Morgan@bp.com in Houston as soon as possible.

BP AMERICA PRODUCTION
WELLBORE SCHEMATIC
GCU 328 SWD/FS
Unit N Sec 33 Twn 29N Rge 12W
San Juan County, NM
Run 23
Original Compl Date : 1981

KB: 13'



9-5/8" 32.4# @ 277'
w/ 275 sxs
cmt to sfc

2-3/8" long string @ 2805'

2-3/8" short strng @ 1045'

Fruitland Sand Perfs
1033' - 1052'

Baker Hughes Model "N" W/L set cement retainer pump thru plug set @ 2782'

Baker Hughes Model "N" W/L set cement retainer pump thru plug set @ 2792'

Mesa Verde Perfs
2852 - 58'
2862' - 88'
2894' - 2916'
2924' - 32'
2936' - 48'
3010' - 3019'
3114' - 26'
3158' - 65'
3170' - 75'
3340' - 54'
3487' - 96'
3512' - 22'
3532' - 36'
3546' - 50'
3604' - 26'
3760' - 78'
3784' - 97'
(419 holes total)

DV tool @ 1564' w/ 400 sxs

Baker Retrieva D pkr @ 2805'

Max. Operating Injection pressure = 1000 psi per original Rate Step Injectivity Tests

sand fill @ 3851' found 7/2008

7" - 23# K55 @ 4085' w/ 600/400 sxs

updated 7/23/2008 GCU 328 SW diposal well