

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HOBBS OGD
OCD-HOBBS

APR 24 2012

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.

1. Type of Well <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other <u>Injector</u>		7. If Unit of CA/Agreement, Name and/or No Langlie Jal Unit- NM 70970A
2. Name of Operator Resaca Operating Company		8. Well Name and No Langlie Jal Unit #60
3a. Address 1331 Lamar Street, Suite 1450 Houston, TX 77010	3b. Phone No. (include area code) (432) 580-8500	9. API Well No 30-025-24879
4. Location of Well (Footage, Sec, T., R, M, or Survey Description) 1830 FSL & 660 FEL, Sec 5, T-25S, R-37E, Unit Letter I		10. Field and Pool or Exploratory Area Langlie Mattix; 7Rivers-Queen-Grayburg
		11. Country or Parish, State Lea County, 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 <u>Test casing & repair</u> if necessary, Run MIT
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

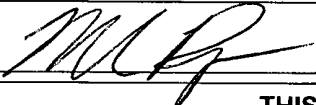

13. Describe Proposed or Completed Operation. Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths 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 recompleat 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.)

Objective: This injector is currently injecting into the Langlie Mattix Pool. We intend to test casing, make repairs if necessary, run MIT & pull chart.

- 1.) MIRU Pulling Unit & Above Ground Steel Pit.
- 2.) Pressure Test casing to see if any casing leaks are found.
- 3.) If casing leak is found, locate & cement squeeze with appropriate sacks of cement.
- 4.) Drill out cement & circulate well clean.
- 5.) Pressure test casing to make sure casing repair was successful.
- 6.) Run Mechanical Integrity Test (Notify BLM & NMOCD prior to test). Pull chart for BLM (copy to NMOCD).
- 7.) RDMO Pulling Unit, clean location, clean & dispose of pit fluids.

SUBJECT TO LIKE
APPROVAL BY STATE

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct Name (Printed/Typed) Melanie Reyes		Title Engineer Assistant
Signature 	Date 02/27/2012	<div style="border: 2px solid black; padding: 5px; text-align: center;"> APPROVED APR 20 2012  Date WESLEY W. INGRAM PETROLEUM ENGINEER </div>
<p style="text-align: center;">THIS SPACE FOR FEDERAL OR STATE OFFICE USE</p> <p>Approved by _____</p> <p>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.</p>		
Title _____ 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

(Instructions on page 2)

APR 25 2012

WELLBORE SCHEMATIC AND HISTORY

CURRENT COMPLETION SCHEMATIC

Surface Casing
Hole Size 20"
CSG Size 13 3/8"
Set @ 30'
Cmt 75 sx Cl C
Circ Yes,

Intermediate Casing
Hole Size 12 1/2 in
Csg Size 8 5/8 in
Set @ 814 ft
Sxs Cmt 600
TOC Surface, Circ

Production String
Hole Size 6 1/6 in
Csg Size 4 1/2 in
TOL 3228 ft
BOL 3695 ft
Sxs Cmt 150
Sxs Cmt 75 from TOL

Casing leak
From 497' & 1027'
Polymer Squeezed
Twice

Yates @ 2927'

7-Rivers @ 3163'

PKR @ 3357'

3425'-3427'
Queen @ 3495'
3497'-3506'

3518'

3534'-3540'

3558'

3562'-3564'

3567'-3577'

3592

3602'

3606'-3610'

3616'

3629'-3632'

PBTD @ 3783'

Shoe @ 3848'

PBTD 3783' ft
TD 3850 ft

LEASE NAME

Langlie Jal Unit

WELL NO

60 WIW

STATUS

Inj

Injector

Oil

API#

30-025-23868

LOCATION

1830 FNL & 660 FEL, Sec 5, T - 25 S, R - 37 E, Lee County, New Mexico

SPUD DATE

11/24/74

TD

3850

KB

3,230'

DF

3,229'

INT COMP DATE

12/19/74

PBTD

3783'

GL

3,220'

GR

ELECTRIC LOGS.

GEOLOGICAL DATA

CORES, DST'S, or MUD LOGS.

HYDROCARBON BEARING ZONE DEPTH TOPS.

Yates @ 2927'

7-Rivers @ 3163'

Queen @ 3495'

CASING PROFILE

Surf Csg 13 3/8" - 61#, K -55 set @ 30' Cmt'd w/75 sxs - TOC - Surface

Inter Csg 8 5/8 " 24# J-55 set @ 814' Cemented with 600 sx Class C TOC - @ Surface

Prod Csg 4 1/2 " 10 5# J-55 set @ 3848' Cemented with 1100 sx Class C TOC @ 1 030' -?

CURRENT PERFORATION DATA

CSG PERFS

OPEN HOLE

13-Dec-74 Perfd Q & 7-R f/3425'-27', 3497'-3506', 3518', 3534'-40', 3558', 3562'-64', 67'-77', 3592', 3602', 3606'-10', 3616', 3629'-32', 1 JHPF, 40', 47 holes
04-Dec-85 Drilled out to 3,783' PBTD. Perfd Q & 7-R f/3425'-27', 3582', 3593', 3616', 3673'-76', 3688'-94', 3720'-3724', 1 JHPF, 18', 25 holes

TUBING DETAIL

11/11/2008

ROD DETAIL

3238 104 2 3/8 IPC Tut

4 1 Uni-Pkr

3242

0

WELL HISTORY SUMMARY

13-Dec-74 Perfd Q & 7-R f/3425'-27', 3497'-3506', 3518', 3534'-40', 3558', 3562'-64', 3567'-77', 3592', 3602', 3606'-10', 3616', 3629'-32', 1 JHPF, 40', 47 holes
Acidized perfs (L Queen 3,562' to 3632') w/ 2,500 gals 15% HCl Divert 40 BS Acidized perfs (3425'-3540') w, 1,000 gals 15% HCl acid and 40 BS Frac'd w/ 40,000 gals 2% KCl & 40,000# 20/40 sand in 3 stages using rock salt to divert IP: 142.8 BOPD & 88.6 BWPD.

12-May-77 Spotted with 100 gals 15% HCl acid Acidized with 1,000 gals 15% HCl acid

04-Dec-85 Drilled out to 3,783', PBTD. Perfd Q & 7-R f/3425'-27', 3582', 3593', 3616', 3673'-76', 3688'-94', 3720'-3724', 1 JHPF, 18', 25 holes, Acidized with 3,500 gals 15% HCl acid Well converted to water injection well. IP: 1025 BWPE @ 340 psig.

04-Dec-92 Cleaned out with Coiled tubing using 1 1/4" Hydroblast Tool from 3,577' to 3,770'

20-Dec-92 Cleaned out with Coiled tubing using 1 3/4" Hydroblast Tool from 3,330' to 3,780' Recovered iron sulfide

07-Aug-02 Squeezed casing leak (497'-1027') with 6.5 bbls polymer Well passed pressure test

17-Sep-06 Squeezed casing leak (497'-1027') with 6 bbls polymer Well passed pressure test

PREPARED BY

Domingo Camzales

UPDATED

28-Feb-12

Conditions of Approval

Resaca Operating Company

Langlie Jal Unit - 60

API 3002524879

April 20, 2012

- 1. Operator shall obtain BLM approval prior to any casing repair beyond squeezing the casing leaks. Failure to obtain approval will result in a Major Incidence of Non-Compliance and may result in a Unit shut-in order.**
- 2. Provide BLM with an electronic copy (Adobe Acrobat Document) cement bond log record from 3425' or below to top of cement. Less than 500' between the proposed top perforation and top of cement or lack of a 500' overlap above next casing shoe may require correction. The CFO BLM on call engineer may be reached at 575-706-2779.**
3. Surface disturbance beyond the existing pad must have prior approval.
4. A closed loop system is required. The operator shall properly dispose of drilling/circulating contents at an authorized disposal site. Tanks are required for all operations, no excavated pits.
5. H₂S monitoring equipment to be used on location and functional.
6. A 2000 (2M) BOPE to be used. All blowout preventer (BOP) and related equipment (BOPE) shall comply with reasonable well control requirements. A two ram system with a blind ram and a pipe ram designed for the work string shall be adequate. Tapered work strings will require an additional pipe ram. The manifold shall comply with Onshore Oil and Gas Order #2 (attachment 1, 2M diagrams of choke manifold equipment). The accumulator system shall have an immediately available power source to close the rams and retain 200 psi above pre-charge. The pre-charge test shall follow requirements in Onshore Order #2.
7. All waste (i.e. trash, salts, chemicals, sewage, gray water, etc.) created as a result of work over operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area. Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.
- 8. Operator shall submit a subsequent report sundry with original signature along with three copies within 30 days of completing the work. The work shall be detailed by date performed.**
- 9. Workover approval is good for 90 days (completion to be within 90 days of approval). A legitimate request is necessary for extension of that date.**

Well with a Packer – Operations

- 1) Conduct a Mechanical Integrity Test of the tubing/casing annulus after a tubing, packer or casing seal is established. Repair that seal any time more than five barrels of packer fluid is replaced within 30 days.
- 2) The minimum test pressure should be 500 psig for 30 minutes or 300 psig for 60 minutes, with 200 psig differentials between tubing and casing pressure (at test time) but no more than 70% of casing burst pressure as described by Onshore Order 2.III.B.1.h. (The tubing or reservoir pressure may need to be reduced). An alternate method for a BLM approved MIT is to have the fluid filled system open to atmospheric pressure and have a loss of less than five barrels in 30 days witnessed by a BLM authorized officer.
- 3) Document the pressure test on a calibrated recorder chart registering within 25 to 85 per cent of its full range. Greater than 10% pressure leakoff will be viewed as a failed MIT. Less than 10% pressure leakoff will be evaluated site specifically and may restrict injection approval.
- 4) At least 24 hours before the test: In Lea County email Andy Cortez acortez@blm.gov, (phone 575-393-3612 or 575-631-5801). Note the contact notification method, time, & date in your subsequent report.
- 5) Submit a subsequent Sundry Form 3160-5 relating the MIT activity. Include a copy of the recorded MIT pressure chart. List the name of the BLM witness, or the notified person and date of notification. NMOCD is to retain the original recorded MIT chart.
- 6) Use of tubing internal protection, tubing on/off equipment just above the packer, a profile nipple, and an in line tubing check valve below the packer or between the on/off tool and packer is a “Best Management Practice”. The setting depths and descriptions of each are to be included in the subsequent sundry. List (by date) descriptions of daily activity of any previously unreported wellbore workover.
- 7) **Submit the original subsequent sundry with three copies to BLM Carlsbad.**
- 8) Compliance with a NMOCD Administrative Order is required, submit documentation of that authorization.
 - a) Approved injection pressure compliance is required.
 - b) If injection pressure exceeds the approved pressure you are required to reduce that pressure and notify the BLM within 24 hours.
 - c) When injection pressure is within 50 psig of the maximum pressure, install automation equipment that will prevent exceeding that maximum. Submit a subsequent report (Sundry Form 3160-5) describing the installed automation equipment within 30 days.
- 9) Unexplained significant variations of rate or pressure to be reported within 5 days of notice.
- 10) The casing/tubing annulus is required to be monitored for communication with injection fluid or loss of casing integrity. A BLM inspector may request verification of the annular fluid level at any time.

- 11) A “Best Management Practice” is to maintain the annulus full of packer fluid at atmospheric pressure. Equipment that will display on site, continuous open to the air fluid level is necessary to achieve this goal.
- 12) Loss of packer fluid above five barrels per month indicates a developing problem. Notify BLM Carlsbad Field Office, Petroleum Engineering within 5 days.
- 13) A suggested format for monthly records documenting that the casing annulus is fluid filled is available from the BLM Carlsbad Field Office.
- 14) Gain of annular fluid requires notification within 24 hours. Cease injection and maintain a production casing pressure of 0psia. Notify the BLM’s authorized officer (“Paul R. Swartz” <pswartz@blm.gov>, cell phone 575-200-7902). If there is no response phone 575-361-2822.
- 15) Submit a (Sundry Form 3160-5) subsequent report (daily reports) describing all wellbore activity and Mechanical Integrity Test as per item 1) above. Include the date(s) of the well work, and the setting depths of equipment: internally corrosive protected tubing, tubing on/off equipment just above the packer, and an in line tubing check valve below the packer or between the on/off tool and packer. The setting depths and descriptions of each are to be included in the subsequent sundry. List (by date) descriptions of daily activity of any previously unreported wellbore workover.

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

Use of Form 3160-5 “Sundry Notices and Reports on Wells”

§ 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.