

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED

Sundry Notices and Reports on Wells

93 JUL 15 PM 12:09

070 FARMINGTON, NM

1. Type of Well  
GAS

2. Name of Operator

**BURLINGTON  
RESOURCES**

OIL & GAS COMPANY

3. Address & Phone No. of Operator

PO Box 4289, Farmington, NM 87499 (505) 326-9700

4. Location of Well, Footage, Sec., T, R, M

975' FSL 870' FWL, Sec. 13, T-31-N, R-8-W, NMPM

5. Lease Number  
NM-82815

6. If Indian, All. or  
Tribe Name

7. Unit Agreement Name

8. Well Name & Number  
Lewis Park #101

9. API Well No.  
30-045-27622

10. Field and Pool  
Fruitland Coal

11. County and State  
San Juan Co, NM

12. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OTHER DATA

Type of Submission

Type of Action

☒ Notice of Intent

☐ Abandonment

☐ Change of Plans

☐ Subsequent Report

☐ Recompletion

☐ New Construction

☐ Final Abandonment

☐ Plugging Back

☐ Non-Routine Fracturing

☐ Casing Repair

☐ Water Shut off

☐ Altering Casing

☐ Conversion to Injection

☒ Other -recavitation

13. Describe Proposed or Completed Operations

It is intended to recavitate the subject well according to the attached procedure and wellbore diagram.

RECEIVED  
JUL 20 1998

OIL CON. DIV.  
DIST. 3

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

Signed Deane W. Spencer (EJG6) Title Regulatory Administrator Date 7/15/98

TLW

(This space for Federal or State Office use)

APPROVED BY Deane W. Spencer Title \_\_\_\_\_

Date JUL 17 1998

CONDITION OF APPROVAL, if any:

MMOCD

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**LOGGING:**

Mudlogger:     None  
Wireline:       None

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**ORIGINAL DRILLING & COMPLETION INFORMATION:**

The current tubing string is 14 jts 2-7/8" tubing and 92 jts 3-1/2" tubing (including 2 pup jts). The well is currently producing 0.0 MMCFD and 0 bpd water with a bottom hole pressure of 350 psi.

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**OFFSET INFORMATION :**

Note: Offset operations summaries attached.

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**OPTIMUM CAVITATION METHOD AND TARGETS:**

After pulling the liner and cleaning out the well, the natural buildup, initial pitot test, and injection pressure need to be established. Natural surges should be done initially. Surge for approx. 2 days as follows. Air assisted surges from surface with 2 to 10 bbls water ahead using foamer. If air assist surging does not produce much coal to surface, energized surges should be attempted. Air assist or energized surges were the surges that produced significant amounts of coal material to surface in the most recent recavitations. **Take Pitot gauges as required. We will prepare to run the liner after 6 days and move off by day 8 (or until and estimated total expenditure of \$65,000 is reached).** It will take approximately 2 days to clean the well with water and foamer. A liner should be run. Production string will be 2-7/8" x 3-1/2" tubing to surface (rerun existing tubing string). Estimated BHP = 350 psi. The targeted production after the recavitation is 2.0 MMCFD or an AOF pitot gauge of 2.6 MMCFD.

**Note: If the liner is stuck, make every effort to fish it. It is planned to sidetrack the well if required but additional funds will have to be allocated.**

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**PROCEDURE:**

1. MIRU daylight recavitation rig.
2. RU flow lines to casing, record casing & tubing pressures, flow test casing and pitot test while rigging up.
3. NU BOP's, & pressure test to 200 psi for 10 mins and 1500 psi for 30 mins using a pup joint screwed into the tubing hanger and the pipe rams.
4. RU blooie lines. RU pressure recorder on air injection line.
5. Pick up on and remove tubing hanger. Pick up enough tbg to CO inside of 5-1/2" liner to TD. TOOH and lay down the tubing string. Visually inspect the joints for signs of corrosion and/or wear. This string may be rerun as the production string, lay down any unusable joints. See attached tally sheet for the tubing tally.
6. TIH with a mill or liner retrieving tool as required and perform the following operation:
  - TIH with a mill on drill pipe and DC's. Cut slips on top of liner hanger (see attached WB sketch and tally). TOH, TIH with spear, bumper jars and jar liner until free or jars quit whichever comes first, TOH. or...
  - TIH with liner retrieving tool and bumper sub w/ DP and collars as required. Screw into liner hanger and attempt to free. If not free, screw out of liner and TOH. PU DC's and fishing tools (jars, accel., bumper sub.

etc.) w/ liner retrieving tool & TIH. Screw into liner and jar until free or jars quit which ever comes first, TOH, send the liner hanger in, if liner does not come free contact office for sidetrack considerations.

If liner does not come free contact office for sidetrack considerations.

**Sidetrack Contingency Procedure:**

- a. Chemically cut liner 5' inside 7" casing shoe.
- b. TIH w/ casing spear and fish cut portion of the liner. If the well dictates, fishing of the lower portion of the liner may be attempted.
- c. Set a wireline set CIBP above the cut liner top or casing stub.
- d. TIH w/ bottom set, two-trip whipstock w/a 3 deg slide. Mill window in casing. The milling will require 2 mill runs. The starter mill (run w/ the whipstock) will cut the initial window. The tri mill run will open the window fully (approx 8'). The watermelon mill will dress off the window and 5-6' of formation will be drilled.
- e. LD all mills, TIH w/mill tooth bit and drill to TD. Utilize mudlogger during drilling to help call TD. TD should be very similar to the original TD since horizontal displacement will be minimal (<25').
- f. Once the hole is drilled, continue w/the original procedure from Step #8.

7. Pull liner a safe distance from surface (dependent upon flowing pressures). Kill well with approximately 80 bbls water, check for flow, continue pumping into casing at a slow pump rate while laying down liner (record total volume of fluid pumped during laying down of liner). Send casing to BR yard. A redressed 15.5#, K-55 liner will be run in the well.

8. TIH w/ 6-1/4" bit and DC and clean out hole to TD with air/mist. PU into 7" and pitot test for base line gauge. Shut well in and monitor pressure buildup overnight. This pressure will be our natural BHP. After pressure stabilizes overnight, establish breakover and injection pressures. Report pressure buildup in 1 hour increments up until the pressure stabilized.

**NOTE:**

**All surging will be done overnight with the use of a surge crew. The surge crew should consist of one air hand and one rig hand along with the 24 hr supervisors (tool pusher and company representative). The well should be shut in until daylight if any of the following occur while the surge crew is on duty:**

- a. if the BOP's or blowie lines become plugged with coal
- b. if the HCR valves or blowie lines begin leaking or washing out
- c. if the well bridges off downhole
- d. if any of the air equipment or the rig pump becomes inoperable
- e. if the surge pressure needed exceeds a safe limit (approximately 800 psi)
- f. if anyone on location notices any other unsafe activity.

9. Begin natural surges from surface. This needs to be attempted for approximately 24 hours of surging to clean out the water pumped into the formation and to see if the coal in this well will respond to natural surges. If the coal returns do not become heavy after 24 hours of natural surging, begin air assisted surges with water pads (5-10 bbls) using foamer as necessary. Do not exceed injection pressure. Surge well and repeat as necessary. Continue process until cavitation is initiated.

**NOTE:**

**RECORD THE FOLLOWING INFORMATION IN DFW:**

- \* GAUGES OF GAS AND WATER AT 15 MINS, 30 MINS, 45 MINS AND 60 MINS.
- \* SURFACE SHUT IN PRESSURES AT 15 MINS, 30 MINS, 45 MINS AND 60 MINS.
- \* AMOUNT OF FILL TAGGED ON EACH CLEANOUT RUN
- \* CU FT COAL RECOVERED EVERY 24 HR PERIOD
- \* NUMBER OF SURGES PER 24 HOUR PERIOD
- \* DESCRIPTION OF RETURNS ON SURGE CYCLE

10. Discontinue air injections if no coal is being brought to surface. Attempt "energized surges". An energized surge consists of pumping air to 150 psi, 5 bbl water, air to 300 psi, 5 bbl water, air to injection pressure and release. Continue this process until coal returns become heavy enough to warrant a clean out trip.

11. Clean out open hole with air/mist and water sweeps as hole dictates. Monitor pressure recorder for pressure increases as signs of hole bridging. Do not attempt to "force" the drill string to bottom. We will be using a 2.5 Bowen power swivel. If the well is returning heavy amounts of coal, keep pipe above the coal zone and allow the well to flow and clean up on its own.

12. Rotate and reciprocate the pipe at all times during clean out. Pull into 7" csg or to surface for all production tests. Use 2" line for pitot tests up to 6 MMCFD. If the pitot test becomes greater than 6 MMCFD on the 2" line, begin testing using a 3-1/2" line. Note whether gauge was taken with or without pipe in the hole and what size line was used to pitot on the daily report.

13. When the cavitation process is complete (coal production is at a minimum or pitot has stabilized) begin circulating w/ air while rotating and reciprocating (R&R) until hole is stabilized. TOOH and prepare to run 5-1/2" liner.

14. The liner hanger will be a rotatable/retrievable hanger and the liner configuration will be determined by coal intervals, gas rates and wellbore stability (contact office for configuration).

#### 15. LINER RUNNING PROCEDURE

DO NOT TAKE RISKS

EXTINGUISH ALL OPEN FLAMES

OPEN WELL THRU 2" LINES AND MANIFOLD LINES

Safe stripping pressure = Wt of liner/area of pipe

This pressure should be greater than the back pressure seen when flowing the well out the blooie lines.

If back pressure is greater than the safe stripping pressure, snubbing should be done.

##### STRIPPING:

- A) Rig up casing crew and change out stripping rubber to 5-1/2".  
Change out lower rams in upper BOP to 5-1/2". Run 5-1/2" liner through the 5-1/2" stripping rubber.
- B) Pick up the liner hanger (steel sleeve), string float, and (1) one joint of drill pipe. Make up to 5-1/2" casing.
- C) When liner hanger clears the upper BOP, close the top set of pipe rams. Change out stripping rubber to match DP and run remaining drill pipe.
- D) Wash to TD with air/mist using water if necessary, set the liner hanger and release the setting tool. DO NOT ROLL THE HOLE WITH WATER.  
Trip out of the hole.

##### SNUBBING

- A) Lay down drill collars and shut in well.
- B) Rig up snubbing unit over blind rams - Test stack with plug.
- C) HOLD SAFETY MEETING WITH EVERYONE PRESENT
- D) Snub in liner using open TIW valve on each joint. Install liner hanger (hyd set w/ pack off), change over to drill pipe rams - Run drill pipe / liner to the bottom of the 7" casing.
- E) Load drill pipe with water - open choke valve. Displace gas w/ water at 4 BPM +/- 1 BPM. Shut in well. Snub in hole to TD and set hanger.
- F) Lay down (2) joints of drill pipe - verify no pressure - rig down snubbing unit. Lay down drill pipe. Shut blinds / change rams to fit tubing.

16. Pick up and TIH w/ tubing and a 4-3/4" mill and mill plugs to PBTD. TOH
17. TIH w/ production tubing string w/ expendable check on bottom and an F profile nipple one joint off bottom. Land production string within 30' of TD
18. Blow well clean w/ air and land string. Nipple down BOP, nipple up wellhead assembly.
19. Pump off check or plug and take final gauges through tubing and casing (gas, water) at 15 min, 30 min, 45 min, and 60 min. (note: DO NOT surge well when flowing back for gauges). Take gas and/or water samples as requested. Shut well in. Notify production operations to hook up production facilities. Rig down.

# Lewis Park 101

## Basin Fruitland Coal

Unit M, Section 13, T31N, R8W, San Juan County, New Mexico

Completed: 6/7/90

Ojo Alamo @ 2275'

Kirtland @ 2370'

Fruitland @ 2980'

Perforations: 3361'-3404'  
3146'-3318'

