

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Drawer DD  
Artesia, NM 88210

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

5. Lease Designation and Serial No.

NM-83068

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

8. Well Name and No.

Zinnia Federal Unit #1

9. API Well No.

30-015-27939

10. Field and Pool, or Exploratory Area

Undesignated Wolfcamp

11. County or Parish, State

Eddy Co., NM

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

YATES PETROLEUM CORPORATION (505) 748-1471

3. Address and Telephone No.

105 South 4th St., Artesia, NM 88210

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

Surface: 1980' FNL & 910' FWL (Unit E, SWNW)  
Bottom Hole: 1980' FNL & 2405' FEL (Unit F, SENW)  
Section 27-T20S-R29E

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☒ Notice of Intent  
☐ Subsequent Report  
☐ Final Abandonment Notice

TYPE OF ACTION

- ☐ Abandonment  
☐ Recompletion  
☐ Plugging Back  
☐ Casing Repair  
☐ Altering Casing  
☒ Other Downhole commingle  
☐ Change of Plans  
☐ New Construction  
☐ Non-Routine Fracturing  
☐ Water Shut-Off  
☐ Conversion to Injection  
☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

Please see the attached documents for application for downhole commingling of the Strawn and Wolfcamp formations.

APPROVAL  
STATE

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

Signed Kushy Klein Title Production Clerk Date July 17, 1995

(This space for Federal or State office use)

Approved by Shannon J. Shaw Title PETROLEUM ENGINEER Date 8/17/95

Conditions of approval, if any:

**Application for Downhole Commingling  
Zinnia Federal Unit #1  
Unit E Sec. 27-T20S-R29E  
Eddy County, New Mexico**

Reason for Application: Yates Petroleum Corporation respectfully requests approval to commingle the Strawn and Wolfcamp formations. Our intention is to maximize gas recovery from the Strawn and Wolfcamp and prevent mineral resource waste.

1> Name and Address of the Operator:

Yates Petroleum Corporation  
105 South Fourth Street  
Artesia, NM 88210  
ATTN: Brian Collins

2> Lease Name, Well Number, Well Location, Name of the Pools to be Commingled:

Zinnia Federal Unit #1  
Unit E Sec. 27-T20S-R29E  
1980'FNL & 910'FWL  
Pools: Undesignated Strawn  
Undesignated Wolfcamp

3> A plat of the area showing the acreage dedicated to the well and the ownership of all offsetting leases.

See Attachment A (map).

4> A current (within 30 days) 24-hour productivity test on Division Form C-116 showing the amount of oil, gas, and water produced from each zone.

See Attachment B (tabular production data).  
Strawn capable of approximately 10 BOPD/50 MCFD.  
Strawn perfs: 10965' - 10988' MD.  
Proposed Wolfcamp perfs: 9902' - 9909', 10188' - 10216' MD (Not tested yet)

5> A production decline curve for both zones showing that for a period of at least one year a steady rate of decline has been established for each zone which will permit a reasonable allocation of the commingled production to each zone for statistical purposes. (This requirement may be dispensed within the case of a newly completed or recently completed well which has little or no production history. However, a complete description of treating testing, etc., of each zone, and a prognostication of future production from each zone shall be submitted.)

See Attachment B.

Best engineering estimate exponential decline curve analysis results in a remaining ultimate recovery of 4213 BO/21,063 MCF for the Strawn.

$d = 50\%/yr$

$Q_i = 50 \text{ MCFD}, 10 \text{ BOPD}$

$Q_{aban} = 10 \text{ MCFD}, 2 \text{ BOPD}$

$N_R \text{ gas} = \frac{365 (10-50)}{1n (1-.5)} = 21,063 \text{ MCF}$

$N_R \text{ oil} = \frac{365 (2-10)}{1n (1-.5)} = 4213 \text{ BO}$

We propose to test the Wolfcamp from 9902' to 10216' until commercial production is established and commingle with the Strawn. We want to commingle the Strawn with the Wolfcamp to maximize drainage from the Strawn and prevent the waste of mineral resources. We can't determine the Wolfcamp reserves until we've tested it.

- 6> Estimated bottom-hole pressure for each artificially lifted zone. A current (within 30 days) measured bottomhole pressure for each zone capable of flowing.

See Attachment C (Mud weight required for Wolfcamp from drilling chronological)  
(DST in Strawn on Trigg AIN Fed. #1 Sec. 28-20S-29E).

A reasonable estimate of the Strawn BHP is 4766 psi @ 10685' TVD taken from a drill stem test on the Trigg AIN Fed. #1 located in Sec. 28-20S-29E which had a pressure gradient of 0.446 psi/ft. A reasonable estimate of the Wolfcamp BHP is 5272 psi taken from the 10.2 ppg MW necessary to control the Wolfcamp @ 9939' TVD.

- 7> A description of the fluid characteristics of each zone showing that the fluids will not be incompatible in the well-bore.

Both Strawn and Wolfcamp will produce sweet gas. Don't anticipate any compatibility problems.

- 8> A computation showing that the value of the commingled production will not be less than the sum of the values of the individual streams.

Both Strawn and Wolfcamp will produce sweet gas. The value of the gas will not be affected by commingling. By commingling, an estimated additional 4213 BO/ 21,063 MCF will be produced from the well.

- 9> A formula for the allocation of production to each of the commingled zones and a description of the factors or data used in determining such formula.

We propose to test the Wolfcamp before recommending an allocation formula. As soon as the Wolfcamp has been tested, we will submit an allocation formula.

- 10> A statement that all offset operators and, in the case of a well on federal land, the US BLM, have been notified in writing of the proposed commingling.

The offset operators for this area and the BLM were notified of the proposed commingling of the Zinnia Federal Unit #1.