

NO. OF COPIES RECEIVED	
DISTRIBUTION	
SANTA FE	
FILE	/
U.S.G.S.	
LAND OFFICE	
OPERATOR	/

NEW MEXICO OIL CONSERVATION COMMISSION

RECEIVED

AUG 31 1977

Form C-103
Supersedes Old
C-102 and C-103
Effective 1-1-65

5a. Indicate Type of Lease
State ☐ Fee ☒
5. State Oil & Gas Lease No.
7. Unit Agreement Name
8. Farm or Lease Name
City of Artesia EQ Com
9. Well No.
1
10. Field and Pool, or Wildcat
12. County
Eddy

SUNDY NOTICES AND REPORTS ON OILS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG DOWN TO A DIFFERENT RESERVOIR.
USE "APPLICATION FOR PERMIT -" (FORM C-101) ARTESIA, OFFICE)

1. OIL WELL ☐ GAS WELL ☒ OTHER ☐
2. Name of Operator
Yates Petroleum Corporation
3. Address of Operator
207 South Fourth Street - Artesia, NM 88210
4. Location of Well
UNIT LETTER <u>J</u> <u>1650</u> FEET FROM THE <u>South</u> LINE AND <u>1980</u> FEET FROM THE <u>East</u> LINE, SECTION <u>24</u> TOWNSHIP <u>17S</u> RANGE <u>25E</u> NMPM.
15. Elevation (Show whether DF, RT, GR, etc.)
3465' KB

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data
NOTICE OF INTENTION TO: SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	PLUG AND ABANDONMENT ☐
PULL OR ALTER CASING ☐	OTHER <u>Downhole Commingling</u> ☒	CASING TEST AND CEMENT JOBS ☐	OTHER ☐

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

This well is presently a dual completion with the Morrow producing in the tubing and the Wolfcamp perforations blanked off behind the tubing and between two packers. We propose to retrieve the straight-thru tool in the upper packer thereby allowing the Wolfcamp to enter the tubing and commingle with the Morrow. Morrow production has declined rapidly and heading. Commingling is permitted under OCC Order R5460 dated June 14, 1977, and should prolong production for additional recovery. Suggested production allocation formula is :

Gas: ^{stake} East Eagle Creek Morrow - 4.2%, Eagle Creek Permo Penn 95.8%
Condensate: Eagle Creek Permo Penn - 100%

18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED <u>Eduardo Hernandez</u>	TITLE <u>Engineer</u>	DATE <u>8-30-77</u>
APPROVED BY <u>W.A. Gressett</u>	TITLE <u>SUPERVISOR, DISTRICT II</u>	DATE <u>SEP 22 1977</u>
CONDITIONS OF APPROVAL, IF ANY:		

City of Artesia EQ Com #1, NWSE Sec. 24-17S-25E, Elko Co
E. Eagle Creek (Morrow).

Cum. Prod to 8-1-77 = 25480 mcf

Original BHP = 2974 psia, BHT = 143°F $P_c = 683$ $P_R = 4.35$ $T_R = 1.625$ $Z_o = .834$

Present BHP = 1569 psia. $T_c = 371$ $P_R = 2.308$ $T_R = 1.625$ $Z_i = .856$

Abandonment BHP = 93 psia (Assumed commingling allowed). $Z_a = .987$

$$\begin{aligned} \text{Then recoverable reserves at 8-1-77} &= \frac{P_{1/2} - P_{2a}}{P_{o/2o} - P_{1/2}} \times 25480 \text{ mcf} \\ &= \frac{1569/.856 - 93/.987}{2974/.834 - 1569/.856} \times 25480 \text{ mcf} \\ &= \frac{1738.7}{1733.0} \times 25480 = \underline{25560 \text{ mcf.}} \end{aligned}$$

City of Artesia EQ Com #1
Eagle Creek (Wolfcamp):

BHP = 2413 psia, BHT = 118°F, $P_c = 673$ psia, $P_R = 3.59$; $T_c = 383^\circ R$, $T_R = 1.509$, $Z_o = .775$

$K_{gh} = 13.83$ md ft (from DST). $h = 15$ ft then $K_g = 0.922$ md; porosity $\phi = 6.4\%$.

Saturation $S_w = 12.2\%$, (then $S_g = .878$); viscosity $\mu = 0.019$ cp

Most probable recovery factor (after Craig & Buckley Statistics):

$$\begin{aligned} RF &= 0.11403 + 2.719 \log K_e + .25569 S_w - .1355 \log \mu - .5380 \phi - .00035 \mu \\ &= 0.11403 - .00959 + .03119 + .23323 - .09843 - .00525 \\ &= 0.26518. \end{aligned}$$

Most probable recoverable reserves =

$$\begin{aligned} &= 43560 \text{ ft}^2 \times 320 \text{ ac} \times .064 \phi \times 15 \text{ ft} \times .878 S_g \times .265 RF \times \frac{2413 \text{ psia} \times 520^\circ R}{15.025 \text{ psia} \times 578^\circ R \times .775} \\ &= 580450 \text{ mcf.} \end{aligned}$$

We propose to commingle the Morrow and Wolfcamp completions thereby extending the life of the Morrow production by 2-3 years for a greater recovery. We suggest that the commingled production be apportioned as follows:

Gas E. Eagle Creek (Morrow) = 25560 mcf = 4.2%

Eagle Creek (Permian) = 580450 mcf = 95.8%

Total = 606,010

DIAGRAMMATIC SKETCH OF COMPLETION

YATES PETROLEUM CORP.
City of Artesia "EQ" No. 1 Com.
1980' FEL 1650' FSL Sec. 24-17s-25E
Eddy County, New Mexico

