



RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL & GAS DOCKET NO. 08-0298158

**THE APPLICATION OF APACHE CORPORATION TO CONSIDER A FIELD-WIDE
MAXIMUM EFFICIENT RATE (MER) ALLOWABLE FOR THE ROEPKE
(WOLFCAMP) FIELD, CRANE COUNTY, TEXAS**

HEARD BY: Paul Dubois – Technical Examiner
John Dodson– Administrative Law Judge

HEARING DATE: January 7 and March 21, 2016

CONFERENCE DATE: September 27, 2016

APPEARANCES:

APPLICANT

Brian Sullivan Apache Corporation
Bill Hayenga
Andy Taylor
Mark Henkhaus
Michael Pickell
John VanNatta

OBSERVER

Mark Hanna PPC Operating Company LLC
Flip Whitworth
Jay Blaylock
Don Dotson
Rick Johnston

EXAMINERS' REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Apache Corporation (“Apache”) seeks a maximum efficient rate (MER) allowable of 650 barrels of oil per day (bopd) for all wells in the Roepke (Wolfcamp) Field, in Crane County, Texas. Apache’s application was initially protested by PPC Operating Company LLC (“PPC”), an offset operator of wells in the field, which also filed a complaint against Apache for overproducing its King 59 Lease (No. 46721) Well No. 1 (API No. 42-103-36358). The protested hearing was held on January 7 and March 21, 2016.

On June 16, 2016, the Administrative Law Judge and Technical Examiner (collectively, "Examiners") received a joint status report from Apache and PPC stating that the parties had begun settlement negotiations. In the meantime, the parties requested that the Examiners not issue any rulings or recommendations. On July 15, 2016, PPC filed a letter with the Examiners withdrawing its complaint and stating its support of Apache's application for a field-wide MER. Based on the evidence in the record, the Examiners conclude that, absent the protest, Apache has demonstrated that a 650 bopd MER allowable will prevent waste, protect correlative rights, and promote the orderly development of the Roepke (Wolfcamp) Field. The Examiners recommend Apache's application be approved.

DISCUSSION OF THE EVIDENCE

As this matter is no longer protested and PPC has stated its support of Apache's application, the evidentiary discussion will only include evidence and testimony put on by Apache with regard to its technical justification for the requested MER allowable.

The Roepke (Wolfcamp) Field was discovered on February 18, 1968, at a depth of 6,058 feet. There are 10 producing wells carried on the September 1, 2015, proration schedule. There are five operators active in the field, including Apache and PPC. The field is on statewide spacing and density rules, and the 1965 yardstick allowable is 111 bopd.

On October 23, 2013, the Commission granted (Oil & Gas Docket No. 08-0282701) a 130 bopd MER allowable to another well in the field—PPC's Cowden 58 Lease (No. 42280), Well No. 3 (API No. 42-103-35950). In that case, PPC provided evidence to support its contention that the Cowden 50 No. 3 could efficiently produce oil at 130 bopd without harming the reservoir.

Apache spud its King 59 Lease Well No. 1 on April 28, 2014. The well was permitted for completion in the Roepke (Wolfcamp), Lea (San Andres), Roepke, N. (Devonian) and Roepke (Fusselman) Fields. Apache stimulated, tested, then plugged-back the Fusselman, Devonian, and Woodford Shale intervals, then it tested the Wolfcamp. On July 11, 2014, Apache was granted authority to downhole commingle the Fusselman, Devonian and Wolfcamp fields. On December 26, 2014, an initial potential test of the Roepke (Wolfcamp) Field in the King 59 No. 1 yielded 1,400 bopd, 1,102 barrels of water per day (bwpd) and 665 thousand cubic feet (mcf) of gas. On March 31, 2015, Apache filed a completion report for the Roepke (Fusselman) Field. On August 4, 2015, Apache received notice from the Commission that the King 59 Lease Well No. 1 was overproduced, and Apache was directed to correct the overproduction.

Apache requested an MER allowable for the King 59 No. 1 to demonstrate the well could be efficiently produced at a higher allowable rate. During the step-rate test, production at the proposed MER of 650 bopd resulted in a water-to-oil ratio of about 1.5. Production at the lowest operating frequency for the electric submersible pump resulted in 445 bopd and a water-oil-ratio of 1.68. Apache estimates that producing the well at 111 bopd, the current allowable, would result in a water-oil-ratio of at least 2.0. Further, the step-rate test demonstrates that the gas free fluid level above the pump in the wellbore is lower at the proposed MER rate than at lower production rates, resulting in reduction of hydrostatic head allowing more liquid hydrocarbon to enter the wellbore. Apache concludes that the proposed MER may result in the

recovery of reserves that otherwise may not have been recovered because the higher daily rate of production results in a lower water-oil-ratio. Therefore, Apache concludes, a 650 bopd MER for the subject well will not cause waste of otherwise recoverable reserves nor will it harm correlative rights.

FINDINGS OF FACT

1. Notice of this hearing was given to all parties entitled to notice at least ten days prior to the date of the hearing.
2. The Roepke (Wolfcamp) Field was discovered on February 18, 1968, at a depth of 6,058 feet.
 - a. There are 10 producing wells and five operating companies carried on the September 1, 2015, proration schedule.
 - b. The field is on statewide spacing and density rules, and the 1965 yardstick allowable is 111 bopd.
3. Apache Corporation spud its King 59 Lease Well No. 1 on April 28, 2014.
 - a. The well was permitted for completion in the Roepke (Wolfcamp), Lea (San Andres), Roepke, N. (Devonian) and Roepke (Fusselman) Fields.
 - b. On December 26, 2014, an initial potential test of the Roepke (Wolfcamp) Field in the King 59 No. 1 yielded 1,400 barrels of oil per day ("bopd"), 1,102 barrels of water per day (bwpd) and 665 thousand cubic feet (mcf) of gas.
 - c. On March 31, 2015, Apache Corporation filed a completion report for the Roepke (Fusselman) Field.
 - d. On August 4, 2015, Apache Corporation received notice from the Commission that the King 59 Lease Well No. 1 was overproduced. Apache Corporation was directed to correct the overproduction.
4. PPC Operating Company LLC filed a complaint alleging that Apache Corporation's King 59 Lease Well No. 1 was in violation of Commission rules by overproducing the subject well, and that such over-production is causing waste and harming PPC's correlative rights.
5. Apache Corporation conducted a step-rate test which indicated the following:
 - a. Production at the proposed maximum efficient rate ("MER") allowable of 650 bopd resulted in a water-to-oil ratio of about 1.5.
 - b. Production at the lowest operating frequency for the electric submersible pump resulted in 445 bopd and a water-oil-ratio of 1.68.

- c. Apache Corporation estimates that producing the well at 111 bopd, the current allowable, would result in a water-oil-ratio of at least 2.0.
 - d. Further, the step-rate test demonstrates that the gas free fluid level above the pump in the wellbore is lower at the proposed MER rate than at lower production rates, resulting in reduction of hydrostatic head allowing more liquid hydrocarbon to enter the wellbore.
6. After the hearing PPC Operating Company LLC withdrew its complaint against Apache Corporation and supports Apache Corporation's application for a 650 bopd MER allowable for the Roepke (Wolfcamp) Field.
 7. Apache Corporation's evidence indicates that the proposed MER may result in the recovery of reserves that otherwise may not have been recovered because the higher daily rate of production results in a lower water-oil-ratio.
 8. Apache Corporation's evidence indicates that a 650 bopd MER for the subject well will not cause waste of otherwise recoverable reserves nor will it harm correlative rights.

CONCLUSIONS OF LAW

1. Resolution of the subject application is a matter committed to the jurisdiction of the Railroad Commission of Texas. Tex. Nat. Res. Code § 81.051
2. All notice requirements have been satisfied. 16 Tex. Admin. Code §§ 1.43 and 1.45
3. A 650 bopd MER for the Roepke (Wolfcamp) Field will not cause waste or harm correlative rights.

EXAMINERS' RECOMMENDATION

Based on the above findings of fact and conclusions of law, the Examiners recommend the Commission enter an order granting the application of Apache Corporation for a field-wide MER for the Roepke (Wolfcamp) Field of 650 bopd. Further, the Examiners recommend that all accumulated overproduction in the field be cancelled.

Respectfully submitted,

Paul Dubois
Technical Examiner

John Dodson
Administrative Law Judge