



RAILROAD COMMISSION OF TEXAS

OFFICE OF GENERAL COUNSEL

OIL AND GAS DOCKET NO. 08-0272628

THE APPLICATION OF APACHE CORPORATION TO AMEND FIELD RULES FOR THE JAILHOUSE (FUSSELMAN) FIELD, GLASSCOCK COUNTY, TEXAS

HEARD BY: Brian K. Fancher, P.G. - Technical Examiner

HEARING DATE: November 03, 2011

APPEARANCES:

APPLICANT:

Sandra Bolz Buch
Robert Sharum
David Shoore
Adam C. Carey

REPRESENTING:

Apache Corporation

EXAMINERS' REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Field rules for the Jailhouse (Fusselman) Field were adopted in Oil & Gas Docket No. 08-0211067, effective February 27, 1996, as amended. The current rules in effect for wells in the field are summarized as follows:

1. The correlative interval from 10,196 feet to 10,207 feet, as shown on the Schlumberger Compensated Neutron Litho-Sensity log of the Collins & Ware, Inc., Garden City, Well No. 1, T&P RR Co Survey., Section 12, Block 34, Glasscock, County, is designated as a single reservoir for proration purposes and designated as the Jailhouse (Fusselman) Field;
2. 660' lease line, survey line, or subdivision line well spacing and 1,320' between well spacing;
3. 160 acre oil proration units with 4,500' maximum diagonal and 40 acre tolerance;
4. Production allocation based on 100% acreage.

Apache Corporation ("Apache") requests that the above listed field rules be amended as follows:

1. No change;
2. 467' - 660' well spacing;
3. Addition of 40 acre optional proration oil units;
4. No change.

The Notice of Hearing dated October 07, 2011 indicated Apache wished to adopt a Blanket Exception to 16 TAC §3.10 for wells completed in the Jailhouse (Fusselman), Spraberry (Trend Area), and the Garden City NW (Strawn) Fields.

At the hearing, counsel on behalf of Apache requested the blanket exception for the above mentioned three fields be withdrawn from the subject application.

In support of its request, with respect to 40 acre optional proration units, the record remained open beyond November 03, 2011, to allow Apache to submit additional late-filed information regarding drainage calculations for vertical wells completed in the subject field.

By letter dated May 31, 2012, the examiner mailed correspondence to counsel on behalf of Apache that requested Apache submit its additional information in support of its application within 30 days from the date of the letter. On June 25, 2012, Apache submitted its additional information to the Office of General Counsel and the record for the subject application was closed.

The application was unopposed and the examiner recommends that Field Rules for the Jailhouse (Fusselman) Field be amended, as proposed by Apache.

DISCUSSION OF THE EVIDENCE

In its application, Apache seeks to amend the current field rules for the Jailhouse (Fusselman) Field so that wells completed in the field may be at a regular location at no less than 467'-660' well spacing. Additionally, the applicant seeks to incorporate 40 acre optional oil proration units into the density provision of the governing field rules.

Apache submitted geologic evidence that depicts the Fusselman formation in the area constituting the subject field. The Fusselman formation is stratigraphically bound by the Devonian formation above and the Sylvan Shale formation below. Apache submitted a structure map for the base of the Fusselman formation that also included the surface locations of wells completed in the subject field. As presented, the regional dip of the Fusselman is to the west with a north to south sub-surface elevation variability that

exhibits isolated structural high points, described by Apache as "Fusselman bumps". Apache testified the significance of the structural variability is directly related to the viability of a well producing hydrocarbons, economically. Moreover, Apache testified the Fusselman bumps span over short distances at the surface, thus the need to space wells at a closer distance than the current field rules provide for the subject field.

Additionally, Apache submitted three structural cross-sections, one traversing north to south and two crossing east to west, that incorporate sea-level as the datum line. As presented, the cross-sections evidence that the Fusselman formation is continuous in the area comprising the subject field, without interruption. Furthermore, Apache testified the cross-sections demonstrate that wells completed in the subject field may be drilled on strike to one another, however, despite the lateral distance separating the two wells only one produces hydrocarbons economically while the other well does not. That is, Apache testified that due to sub-surface variation in the Fusselman formation, wells separated by 1,000 feet exhibit that the spacing requirement established in the current field rules are inadequate for the development of the field, in certain instances.

At the hearing, Apache testified that in exploring for hydrocarbons in the Jailhouse (Fusselman) Field, it generally completes wells in the Garden City, NW (Strawn) Field, which is situated stratigraphically above the Jailhouse (Fusselman) Field. Apache testified it does not seek to exploit hydrocarbon production solely from the Jailhouse (Fusselman) Field, due to the subsurface variability it has encountered in the Fusselman formation. Apache testified the spacing and density provisions governing the Garden City, NW (Strawn) Field are 467'-660' well spacing and 40 acre optional proration units, respectively. Apache testified it seeks to mirror these provisions for the Jailhouse (Fusselman) Field, in an effort to lower the economic foot-print associated with drilling wells and prevent waste.

In support of its request to amend the density provision governing the subject field, Apache submitted a decline curve for its Schwartz 36-02 well (API No. 42-173-33758) that depicts an Estimated Ultimate Recovery ("EUR") of 81,018 BO and 56.9 MMCFG. Through October 2011, the Schwartz 36-02 well has produced 66,608 BO and 8.3 MMCFG.

Additionally, Apache submitted a reservoir data sheet and oil volumetric sheet based on information it obtained through the Schwartz 36-02 well. Apache testified the well displays an average porosity of 10.9 percent, average permeability of 0.5 to 2 milli-darcies ("mD"), and an average interstitial water saturation of 34.4 percent. Beyond that, Apache presented an average net effective pay is 12.2 feet, an original reservoir pressure of 4,56 psi, an oil gravity of 38.0 degrees API, and a gas gravity of 1.0897 API. Apache testified that based on the above information, compiled with the projected decline curve data for the Schwartz 36-02 well, it concluded the Schwartz 36-02 well is capable of draining an estimated 69 acres.

At the examiner's request, Apache submitted late-filed evidence comprised of additional volumetric calculations, accompanied with projected decline curves, for eight wells completed in the Jailhouse (Fusselman) Field. In its evidence, Apache depicts the eight wells are estimated to drain hydrocarbons at a range from 14.2 acres to 66.5 acres.

FINDINGS OF FACT

1. Notice of this hearing was given to all persons entitled to notice at least ten days prior to the date of hearing.
2. Current field rules provide for a designated correlative interval, 660' lease line, survey line, or subdivision line well spacing and 1,320' between well spacing, 160 acre oil proration units with 4,500' maximum diagonal and 40 acre tolerance and allocation based on 100% acreage.
3. Apache Corporation ("Apache") seeks to amend the current field rules in effect for the Jailhouse (Fusselman) Field to include 467' lease line spacing, 660' between well spacing, and optional 40 acre oil proration units.
4. The Fusselman formation comprising the Jailhouse (Fusselman) Field exhibits significant subsurface elevation change throughout the field due to structural variability.
5. Wells completed in the jailhouse (Fusselman) Field have an estimated drainage area ranging from 14.2 acres to 66.5 acres.
6. Adoption of 467' lease line, property line, or subdivision line, 660' between well spacing, and 40 acre optional oil proration units is appropriate for the Jailhouse (Fusselman) Field.

CONCLUSIONS OF LAW

1. Proper notice of this hearing was given to all persons legally entitled to notice.
2. All things have occurred or been accomplished to give the Railroad Commission jurisdiction in this matter.
3. Amending the field rules for the Jailhouse (Fusselman) Field is necessary to prevent waste, protect correlative rights, and promote development of the field.

EXAMINERS' RECOMMENDATION

Based on the above findings and conclusions, the examiners recommend that the field rules for the Jailhouse (Fusselman) Field be amended, as ultimately proposed by Apache Corporation.

Respectfully submitted,



Brian K. Fancher, P.G.

Technical Examiner