RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL AND GAS DOCKET NO. 10-0281026

THE APPLICATION OF APACHE CORPORATION FOR A FIELD WIDE MER AND TO AMEND THE FIELD RULE NO.3 FOR THE MILLS RANCH (GRANITE WASH CONS) FIELD, WHEELER COUNTY, TEXAS

HEARD BY: Andres J. Trevino, P.E. - Technical Examiner
Terry Johnson - Legal Examiner

HEARING DATE: April 25, 2013

APPEARANCES:	**REPRESENTING:**
APPLICANT:	
Bill Spencer Jim Clark Rob Maier Amber Cooke	Apache Corporation
INTERESTED PARTIES:	
David Gross	Newfield Exploration Company
Randy Maxwell	Samson Resources
George Neale	Crest Resources

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Apache Corporation requests that the field rules for the Mills Ranch (Granite Wash Cons) Field be amended to increase the top allowable for horizontal oil wells to 5,000 BOPD and that Field Rule No. 3 be amended to remove the requirement for individual proration plats be filed. No other changes are proposed for the field.

The application was unprotested and the examiners recommend approval of the application.

DISCUSSION OF EVIDENCE

The Mills Ranch (Granite Wash Cons) Field was formed in October 2010 with the consolidation of the Mills Ranch (Granite Wash, K.C.) Field and the Mills Ranch (Granite Wash) Field by Oil and Gas Docket 10-02661739 issued October 12, 2010. There are approximately 69 oil wells and 20 gas wells on the proration schedule. Additionally, Apache has 12 oil wells that have been completed in the field and are not on the schedule. Other operators have wells completed in the field but have not been placed on the proration schedule due the Commission's backlog of processing completion paperwork. Cumulative production from the consolidated field is over 2.6 MMBO.

The Mills Ranch (Granite Wash Cons) Field over lies the Stiles Ranch Field in Wheeler County near the Texas/Oklahoma border. The designated interval includes two zones that are currently under going rapid horizontal development. The Cottage Grove formation is found from approximately 10,390 feet to 10,560 feet in the Sallie Well No. 505 log. Wells completed in the Cottage Grove formation tend to be oil wells. The Sweetwater/Hogshooter formation is found from approximately 11,000 feet to 11,450 feet in the same well log. Wells completed in the Sweetwater/Hogshooter formation tend to be gas wells initially, however are reclassified as oil wells after some production has occurred. Field rules allow the drilling of stacked lateral wells in the field. Horizontal drilling is expanding rapidly in both zones of the consolidated Granite Wash interval.

The current top allowable in the field is 562 BOPD based on the 1965 yardstick for 160 acres. It is common for newly completed laterals in the Cottage Grove formation to have high initial production rates of 1,000 BOPD but less than 2,000 BOPD. Laterals completed in the Sweetwater/Hogshooter formation have had initial potentials of over 2,000 BOPD but less than 3,000 BOPD. Apache provided several examples of recent horizontal wells which produced in the Cottage Grove and Sweetwater/Hogshooter formations. A stacked lateral completed in both the Cottage Grove and the Sweetwater/ Hogshooter formations could potentially have an initial potential of 5,000 BOPD. The early production data for current wells indicate the wells' decline will a steady decline unlike the steep declines common in shale wells. These high initial rates result in overproduction for the wells. Increasing the top allowable for oil wells will prevent the accumulation of overproduction and the issuance of shut-in letters.

After discussing with the Commission's Proration staff, it was determined adopting a 5,000 BOPD for any horizontal well will eliminate confusion and reduce burden on operators and Commission staff from having to identify which formation was being produced. The Cottage Grove or the Sweetwater/ Hogshooter formations are formations such that there is no gas cap/oil column which would require limitation of withdrawals of oil or casinghead gas from oil wells. Because of the low permeability operators believe that there is reduced migration of fluids in the reservoirs and wells primarily produce fluids that are contacted by the fracture treatment. Producing the wells at rates up to 5,000 BOPD will not damage the reservoir and cause waste. The GOR's of the producing wells were nearly constant regardless of rate. The Davis 64 Well No. 5H produced at a lower GOR at higher

rates. The majority of wells have low producing GORs of 800 to 1,400 scf/bbl. A similar rule has been adopted in other fields with horizontal wells, specifically, the Newark, East (Barnett Shale), Eagleville (Eagle Ford1,2) and the Eagleville (Eagle Ford Sour) Fields.

FINDINGS OF FACT

1. Notice of these hearings was given to all persons entitled to notice at least ten days prior to the date of hearing.

2. The Mills Ranch (Granite Wash Cons) Field was formed in October 2010 with the consolidation of the Mills Ranch (Granite Wash, K.C.) Field and the Mills Ranch (Granite Wash) Field by Oil and Gas Docket 10-02661739 issued October 12, 2010. There are approximately 69 oil wells and 20 gas wells on the proration schedule.

3. Cumulative production from the consolidated field is over 2.6 MMBO.

4. The Mills Ranch (Granite Wash Cons) Field's designated interval includes two zones that are currently under going rapid horizontal development.

   a. The Cottage Grove formation is found from approximately 10,390 feet to 10,560 feet in the Sallie Well No. 505 log. Wells completed in the Cottage Grove formation tend to be oil wells.

   b. The Sweetwater/Hogshooter formation is found from approximately 11,000 feet to 11,450 feet in the same well log. Wells completed in the Sweetwater/Hogshooter formation tend to be gas wells initially, however are reclassified as oil wells after some production has occurred.

   c. Field rules allow the drilling of stacked lateral wells in the field. Horizontal drilling is expanding rapidly in both zones of the consolidated Granite Wash interval.

5. The current top allowable in the field is 562 BOPD based on the 1965 yardstick for 160 acres.

6. It is common for newly completed laterals in the Cottage Grove formation to have high initial production rates of 1,000 BOPD but less than 2,000 BOPD. Laterals completed in the Sweetwater/Hogshooter formation have had initial potentials of over 2,000 BOPD but less than 3,000 BOPD.

7. A stacked lateral completed in both the Cottage Grove and the Sweetwater/ Hogshooter formations could potentially have an initial potential of 5,000 BOPD. The early production data for current wells indicate the wells' decline

will a steady decline.

8. The Cottage Grove or the Sweetwater/ Hogshooter formations are formations such that there is no gas cap/oil column which would require limitation of withdrawals of oil or casinghead gas from oil wells.

9. Because of the low permeability operators believe that there is reduced migration of fluids in the reservoirs and wells primarily produce fluids that are contacted by the fracture treatment. Producing the wells at rates up to 5,000 BOPD will not damage the reservoir and cause waste.

10. High top allowable rules have been adopted in other fields with horizontal wells, specifically, the Newark, East (Barnett Shale), Eagleville (Eagle Ford1,2) and the Eagleville (Eagle Ford Sour) Fields.

11. Shutting in oil wells to make up overproduction is not necessary to prevent waste. The gas wells produce under AOF status.

CONCLUSIONS OF LAW

1. Proper notice of this hearing was issued.

2. All things have been accomplished or have occurred to give the Commission jurisdiction in this matter.

3. Amending the field rules for the Mills Ranch (Granite Wash Cons) Field as proposed by Apache Corporation will prevent waste, protect correlative rights and promote the orderly development of the field.

RECOMMENDATION

Based on the above findings and conclusions of law, the examiners recommend that the field rules for the Mills Ranch (Granite Wash Cons) Field be amended as proposed by Apache Corporation.

Respectfully submitted,

Andres J. Trevino, P.E.
Technical Examiner

Terry Johnson
Legal Examiner