

THE APPLICATION OF EOG RESOURCES, INC. TO CONSIDER TEMPORARY FIELD RULES FOR THE EAGLEVILLE (EAGLE FORD) FIELD, KARNES COUNTY, TEXAS

Heard by: Andres J. Trevino, P.E. on January 27, 2010

Appearances:

Doug Dashiell
Chester Pieprzica

Representing:

EOG Resources, Inc.

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

EOG Resources, Inc. requests that temporary field rules be adopted for the Eagleville (Eagle Ford) Field. The proposed rules are summarized as follows:

1. Designation of the field as the correlative interval from 10,294 feet to 10,580 feet as shown on the log of the Milton Unit Well No. 1;
2. 330'-0' well spacing;
3. 80 acre oil units with 40 acre tolerance;
4. Allocation based on 100% acreage.

EOG had originally requested additional rules pertaining to horizontal wells and increased allowable. At the hearing, EOG withdrew those portions of the application. The application was unopposed and the examiner recommends that the rules proposed by EOG be adopted on a temporary basis for the Eagleville (Eagle Ford) Field, subject to review in 18 months.

DISCUSSION OF EVIDENCE

The Eagleville (Eagle Ford) Field was discovered in March 2009 upon completion of the Milton Unit Well No. 1, a horizontal well drilled by EOG Resources. EOG has completed several additional horizontal wells in the field and several more wells are in various stages of permitting and drilling/completion. Dan Hughes operates a couple of wells which will also be placed into the subject field. EOG has also drilled a couple of vertical wells for the purpose of obtaining reservoir data and monitoring the reservoir during completion and production of other wells.

The Eagle Ford Shale has very low permeability, in the range of 3.5 microdarcies. This type rock must be developed with closely spaced horizontal wells, with multi-stage hydraulic fracture stimulations in each well. A well may have a 2,500 foot to 3,500 foot lateral with up to a 30 stage fracture stimulation. EOG is still working to improve drilling and completion methods in this reservoir.

The Milton No. 1H had an initial potential of 112 BOPD. The other wells have just recently been put on production and current production from the three producing wells in the field is about 1,000 BOPD and 1,000 MCFD. The field has cumulatively produced approximately 100,000 BO and 100 MMCF of gas.

EOG submitted PVT analysis of a sample from the Milton No. 1H. The initial reservoir pressure was 5,550 psig and the reservoir is an undersaturated oil reservoir, producing at a gas-oil ratio of approximately 1,000 cubic feet per barrel of oil. A PVT analysis was also presented for a well operated by Dan Hughes, the Darlene No. 1H approximately 15 miles west of the Milton No. 1H. The reservoir fluid in the Darlene No. 1 is very similar to that of the Milton No. 1H, demonstrating that the wells likely produce from a common reservoir.

EOG requests an 80 acre density rule for this Eagle Ford oil field. The nearest Eagle Ford field is the Hawkville (Eagleford Shale) Field, which is a gas field. The Hawkville (Eagleford Shale) Field operates under 320 acre density. EOG believes that 80 acre density is more appropriate for an oil field.

EOG requests a spacing rule that requires a minimum of 330 feet from lease lines, with no minimum requirement for spacing between wells. The proposed spacing is necessary to allow drilling of horizontal wells which may have to be placed very near each other in some cases to achieve optimal fracture treatment results. EOG will drill multiple horizontal wells then will fracture stimulate all wells prior to placing any of the wells into production. EOG believes fracture stimulating a well adjacent to a producing well will damage the producing well. EOG believes in order to drill an economic oil well, the laterals will need to be 100 to 200 feet apart and will need to be heavily fractured stimulated, more so than typical horizontal gas shale wells.

A "box rule" with 10% tolerance, or 33 feet on each side of the permitted horizontal drainhole, is requested for this field. As-drilled wells for which all points are located within the "box" would be considered in compliance with their drilling permits. Similar rules have been adopted in other fields with horizontal wells, specifically, the Carthage (Haynesville) Field.

Additionally, EOG requests that proration units plats not be required for individual wells, but that Form P-15 be filed to designate the number of acres to be assigned to each well.

It is requested that the field be defined as the correlative interval from 10,294 feet to 10,580 feet as shown on the log of the Milton Unit Well No. 1. The interval includes the entire Eagle Ford formation and is continuous across the area. Allocation based on 100% acreage is appropriate given that the interval is not lenticular.

FINDINGS OF FACT

1. Notice of this hearing was provided to all persons entitled to notice.
2. The Eagleville (Eagle Ford) Field was discovered in 2009 upon completion of the Milton Unit No. 1 by EOG Resources. The well is a horizontal well and numerous other horizontal wells have been drilled in the field, or are in the process of being drilled.
3. The Eagleville (Eagle Ford) Field should be defined as the correlative interval from 10,294 feet to 10,580 feet as shown on the log of the Milton Unit Well No. 1. The interval includes the entire Eagle Ford formation and is continuous across the area.
4. Adoption of an 80 acre density rule for the Eagleville (Eagle Ford) Field on a temporary basis is appropriate.
 - a. The nearest Eagle Ford field is the Hawkville (Eagleford Shale) Field, which is a gas field.
 - b. The Hawkville (Eagleford Shale) Field operates under 320 acre density.
 - c. Lower permeability and porosity of the Eagle Ford Shale will reduce the ultimate recovery and drainage area of the wells.
5. A spacing rule providing for a minimum of 330 feet from lease lines, with no minimum between well spacing requirement, will provide the necessary flexibility to design fracture stimulations with optimal results.
6. Allocation based on 100% acreage is a reasonable formula which will protect correlative rights of mineral owners in the field.

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. Adoption of the proposed field rules on a temporary basis for the Eagleville (Eagle Ford) Field is necessary to prevent waste, protect correlative rights and promote development of the field.

RECOMMENDATION

Based on the above findings and conclusions of law, the examiner recommends that the Commission adopt the field rules proposed by EOG Resources Inc. for the Eagleville (Eagle Ford) Field on a temporary basis, subject to review in 18 months.

Respectfully submitted,

Andres J. Trevino, P.E.
Technical Examiner