

OIL AND GAS DOCKET NO. 01-0274323

THE APPLICATION OF EOG RESOURCES, INC. TO AMEND AND MAKE PERMANENT THE FIELD RULES FOR THE EAGLEVILLE (EAGLE FORD-1) FIELD, ATASCOSA, DIMMIT, GONZALES, LA SALLE, MCMULLEN, WILSON AND ZAVALA COUNTIES, TEXAS

OIL AND GAS DOCKET NO. 02-0274324

THE APPLICATION OF EOG RESOURCES, INC. TO AMEND AND MAKE PERMANENT THE FIELD RULES FOR THE EAGLEVILLE (EAGLE FORD-2) FIELD, DE WITT, KARNES, LAVACA AND LIVE OAK COUNTIES, TEXAS

OIL AND GAS DOCKET NO. 02-0274313

THE APPLICATION OF EOG RESOURCES, INC. TO CANCEL OVER-PRODUCTION FOR THE BROTHERS UNIT, EAGLEVILLE (EAGLE FORD) FIELD, GONZALES COUNTY, TEXAS

OIL AND GAS DOCKET NO. 02-0274609

THE APPLICATION OF EOG RESOURCES, INC. TO CANCEL OVER-PRODUCTION FOR THE GREENLOW UNIT, EAGLEVILLE (EAGLE FORD) FIELD, KARNES COUNTY, TEXAS

HEARD BY: Richard D. Atkins, P.E. - Technical Examiner
Marshall F. Enquist - Legal Examiner

DATE OF HEARING: April 5, 2012

APPEARANCES:

REPRESENTING:

APPLICANT:

Doug Dashiell

EOG Resources, Inc.

Roberto T. Alaniz
Dan M. Wilkirson
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INTERESTED PARTIES:

Sandra Buch Meri Lynn Gobran	Pioneer Natural Resources USA, Inc.
Thomas M. Weber	Murphy Expl. & Prod. Co. - USA
James M. Clark	Talisman Energy USA, Inc.

OBSERVERS:

David Gross	Hess Corporation Comstock Resources
Ryan Dobbs	Cinco Resources, Inc.
Mickey R. Olmstead	Paloma Resources

EXAMINERS' REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Temporary Field Rules for the Eagleville (Eagle Ford-1) and Eagleville (Eagle Ford-2) Fields were adopted in Final Order Nos. 01-0266450 and 02-0266475, effective November 30, 2010, as amended. The current Field Rules are summarized as follows:

1. Designation of the fields as the correlative interval from 10,294 feet to 10,580 feet, as shown on the log of the EOG Resources, Inc. - Milton Unit, Well No. 1 (API No. 42-255-31608);
2. 330' lease line spacing for the perpendicular distance along a horizontal drainhole, 100' lease line spacing for the first and last take points and no between well spacing with special provisions for "take points", "off-lease" penetration point and a "box" rule for horizontal drainhole wells;
3. 80 acre oil units with the assignment of additional acreage for horizontal wells pursuant to Statewide Rule 86;
4. Allocation based on 100% acres, a maximum oil allowable of 800 BOPD and no casinghead gas limitation for oil wells.

Field Rule Nos. 5 and 6 for the Eagleville (Eagle Ford-2) Field were adopted in Final

Order No. 02-0271345, effective August 23, 2011, to provide for a six month exception to Statewide Rules 13 and 51, that require producing an oil well through tubing and the timely filing of potential tests. Both subject fields contain H₂S and all operators are required to comply with the provisions contained in Statewide Rule 36.

EOG Resources, Inc. ("EOG") requests that the Field Rules for both subject fields be amended to provide for a 100 foot "surface box" rule, optional forty acre density and a top oil allowable of 2,000 BOPD. In addition, EOG requests that Field Rule Nos. 5 and 6 in the Eagleville (Eagle Ford-2) Field be adopted for the Eagleville (Eagle Ford-1) Field and that the Field Rules for the two subject fields be made permanent. EOG also requests that all over-production in the two subject fields, as well as any over-production in the fields consolidated into the two subject fields, and the over-production on the Brothers and Greenlow Units be canceled.

The examiners recommend approval of the amended Field Rules with the exception of the 100 foot "surface box" rule, cancellation of any over-production and that the Field Rules be made permanent for the two subject fields. EOG did not consider this recommendation to be adverse.

DISCUSSION OF THE EVIDENCE

The Eagleville (Eagle Ford-1) Field was created in November 2010 by the consolidation of the Dilworth, Leesville and Pilgrim (Eagleford) Fields. The average depth of the field is 10,600 feet and there are 367 producing oil wells carried on the proration schedule. Cumulative production from the field through February 2012 is 17.2 MMBO and 18.9 BCFG.

The Eagleville (Eagle Ford-2) Field was created in November 2010 by the consolidation of the Eagleville and Klotzman (Eagleford) Fields. The average depth of the field is 10,300 feet and there are 248 producing oil wells carried on the proration schedule. Cumulative production from the field through February 2012 is 15.7 MMBO and 23.9 BCFG.

EOG submitted cross sections that show that the proposed Eagleville (Eagle Ford-1) and Eagleville (Eagle Ford-2) Fields produce from the Eagle Ford formation which extends across the eleven counties that are the subject of these applications. This interval includes the entire Eagle Ford formation and is located stratigraphically between the base of the Austin Chalk and the top of the Buda Lime formations. The two subject fields operate under Field Rules that provide for 330' lease line spacing for the perpendicular distance along a horizontal drainhole, 100' lease line spacing for the first and last take points and no between well spacing with special provisions for "take points", "off-lease" penetration point and a "box" rule for horizontal drainhole wells and 80 acre density.

EOG has been decreasing the distance between horizontal drainhole wells from 600

feet representing 80 acre density down to 500 feet representing 65 acre density. EOG submitted decline curves on horizontal drainhole wells on its Harper, Mitchell and Henkhaus Units that show no interference for wells drilled on 65 acre density. EOG is currently drilling horizontal drainhole wells on a 300 foot between well spacing to test if the wells will experience any interference. EOG opined that to effectively drain the Eagle Ford formation, a reduced density below 80 acres will be required. As a result, EOG requests 40 acre optional density.

The proposed exceptions to Statewide Rule 13(b)(5)(a) and Statewide Rule 51(a) will allow operators of flowing oil wells in these two fields the flexibility to run tubing and file completion paperwork, without penalties, once the pressure and production rates have declined. Commission staff in the Field Operations Section have no issues with approving the proposed rules.

The Eagle Ford formation is unique in that it contains an oil zone on top of a gas zone. Since the permeability is less than a microdarcy, EOG believes that there is no migration of fluids in the reservoir and wells only produce fluids that are contacted by the fracture treatment. As a result, the recovery factor is the same for both oil and gas wells. Since many wells in the Eagle Ford trend have high initial potentials of over 2,000 BOPD and there is no migration of reservoir fluids, EOG requests a 2,000 BOPD allowable and that the daily casinghead gas limitation for oil wells be eliminated.

EOG also requests that all over-production in the two subject fields, as well as any over-production in the fields consolidated into the two subject fields, and the over-production on the Brothers and Greenlow Units be canceled. The two Units are over-produced by 23,981 and 594 barrels of oil, respectively. Both subject fields contain H₂S and all operators are required to comply with the provisions contained in Statewide Rule 36. EOG proposes that the amended Field Rules be made permanent in the two subject fields.

FINDINGS OF FACT

1. Notice of this application and hearing was provided to all persons entitled to notice at least ten (10) days prior to the date of the hearing.
2. The Eagleville (Eagle Ford-1) Field was created in November 2010 by the consolidation of the Dilworth, Leesville and Pilgrim (Eagleford) Fields. The average depth of the field is 10,600 feet and there are 367 producing oil wells carried on the proration schedule.
3. The Eagleville (Eagle Ford-2) Field was created in November 2010 by the consolidation of the Eagleville and Klotzman (Eagleford) Fields. The average depth of the field is 10,300 feet and there are 248 producing oil wells carried on the proration schedule.
4. The two subject fields operate under Field Rules that provide for 330' lease

line spacing for the perpendicular distance along a horizontal drainhole, 100' lease line spacing for the first and last take points and no between well spacing with special provisions for "take points", "off-lease" penetration point and a "box" rule for horizontal drainhole wells and 80 acre density.

5. Adoption of a 40 acre optional density rule for the Eagleville (Eagle Ford-1) and Eagleville (Eagle Ford-2) Fields is appropriate.
 - a. Lower permeability and porosity of the Eagle Ford formation will reduce the ultimate recovery and drainage area of the wells.
 - b. Decline curves on horizontal drainhole wells show no interference for wells drilled on 65 acre density.
 - c. To effectively drain the Eagle Ford formation, a reduced density below 80 acres will be required.

6. Since many wells in the Eagle Ford trend have high initial potentials of over 2,000 BOPD and there is no migration of reservoir fluids, a 2,000 BOPD allowable and no daily casinghead gas limitation for oil wells is appropriate for the two fields.
 - a. The Eagle Ford formation is unique in that it contains an oil zone on top of a gas zone.
 - b. Since the permeability is less than a microdarcy, there is no migration of fluids in the reservoir.
 - c. Wells only produce fluids that are contacted by the fracture treatment.
 - d. The recovery factor is the same for both oil and gas wells.

7. Exceptions to Statewide Rule 13(b)(5)(a) and Statewide Rule 51(a) will allow operators of flowing oil wells in these two fields the flexibility to run tubing and file completion paperwork, without penalties, once the pressure and production rates have declined.
 - a. Tubing installation can not occur until after a well has been fracture stimulated and the composite plug debris has been flowed back.
 - b. Frac treatment requires high volumes of fluid and proppant that cannot be done down tubing.

- c. Frac treatment requires high pressures that tubing can not accommodate, as the pressures required exceed the tubing's burst pressure.
 - d. Additional time is needed to schedule workover rigs and crews during the current high demand environment.
 - e. A six month exception is appropriate for the two fields, as typically, new oil wells have high initial rates of production, followed by a steep decline.
8. The cumulative over-production on the Brothers and Greenlow Units is 23,981 and 594 barrels of oil, respectively.
9. The Eagleville (Eagle Ford-1) and Eagleville (Eagle Ford-2) Fields contain wells with H₂S concentrations over 100 ppm and should be regulated pursuant to Statewide Rule 36.

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. Approval of the amended Field Rules and making the Field Rules permanent for the Eagleville (Eagle Ford-1) and Eagleville (Eagle Ford-2) Fields is necessary to prevent waste, protect correlative rights and promote development of the fields.
- 4. Cancellation of all overproduction in the Eagleville (Eagle Ford-1) and Eagleville (Eagle Ford-2) Fields, as well as any over-production in the fields consolidated into the two subject fields, and the over-production on the Brothers and Greenlow Units will not cause waste and will not harm correlative rights.

RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiners recommend that the Commission approve the amended Field Rules, cancel the over-production and make the Field Rules permanent for the Eagleville (Eagle Ford-1) and Eagleville (Eagle Ford-2) Fields, as requested by EOG Resources, Inc.

Respectfully submitted,

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Technical Examiner

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