

**OIL AND GAS DOCKET NO. 02-0256794**

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**THE APPLICATION OF PIONEER NATURAL RESOURCES USA, INC. TO CONSIDER  
STANDING; AND IF APPROVED, FOR THE ADOPTION OF FIELD RULES FOR THE  
MORAY (EDWARDS) FIELD, DEWITT COUNTY, TEXAS**

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**Heard by:** Richard D. Atkins, P.E. - Technical Examiner

**Date of Hearing:** June 5, 2008

**Appearances:**

**Representing:**

Brian R. Sullivan  
Paul W. Harper  
Lowell E. Waite  
Meri Lynn Gobran  
Deana Pennington  
Anna Irion  
Shane Sullivan  
John Janbaz  
Brian Hensen  
Justin Pierson

Pioneer Natural Resources USA, Inc.

**EXAMINER'S REPORT AND RECOMMENDATION**

**STATEMENT OF THE CASE**

Pioneer Natural Resources USA, Inc. requested that it be granted standing to request permanent field rules for the Moray (Edwards) Field. Although there are no wells listed on the proration schedule, Pioneer has drilled and completed one vertical and ten horizontal wells in the Moray (Edwards) Field and has standing to request rules.

Pioneer Natural Resources USA, Inc. requests that field rules be adopted for the Moray (Edwards) Field to provide for 330'-330' well spacing. In addition, Pioneer requests that the 330' minimum well spacing apply between vertical to vertical wells and horizontal to horizontal wells, but eliminate the between well spacing requirement between vertical and horizontal wells.

This application was unopposed and the examiner recommends that the field rules for the Moray (Edwards) Field be adopted as proposed by Pioneer.

**DISCUSSION OF EVIDENCE**

The Moray (Edwards) Field was discovered in February 2008 at a depth of approximately 14,300 feet. The field is a non-associated gas field with no active wells carried on the proration schedule to date. Pioneer is the only operator in the Moray (Edwards) Field and has drilled and completed one vertical and ten horizontal wells. The completion forms are currently being processed by the Railroad Commission staff.

Pioneer is proposing to further develop the field by drilling additional horizontal wells in the Moray (Edwards) Field to increase the gas recovery within the Edwards Reef formation. In order to further delineate the field, Pioneer will be drilling additional vertical wells. The vertical wells will be logged and fracture stimulated. Reservoir tests will be performed on the vertical wells to better calibrate and design the wellbore path for the horizontal wells. Pioneer requests the elimination of the spacing rule between vertical and horizontal wells to accommodate this additional development. Pioneer will produce both the vertical and horizontal wells.

Pioneer has leased seven gas units that contain 4,277 acres. The Moray (Edwards) Field is a reef margin play that is a combination of structural and stratigraphic traps. The field is located on a narrow northeast-southwest trending anticline that is bounded by down to the coast expansion faults. There is 500 feet of structural closure and the Edwards Reef gross thickness is approximately 900 feet. The average net pay is 143 feet with an average porosity of only 6.8%. The average gas/water contact is at a measured depth of 14,800 feet, but varies throughout the field. Based on log analysis, Pioneer estimates original gas in place to be between 298 and 446 BCFG.

Since there is little production data in the Moray (Edwards) Field, Pioneer presented recovery data on the Pawnee (Edwards) Field located approximately 50 miles to the southwest. The Pawnee (Edwards) Field is contained within the same Edwards Reef trend and Pioneer testified that it is the closest analog field to the Moray (Edwards) Field. The Pawnee (Edwards) Field also has the same lease and horizontal well spacing requested for the Moray (Edwards) Field.

Prior to 2003, the Pawnee (Edwards) Field had statewide spacing rules and contained only vertical wells. The estimated recovery factor was only 20% to 40% of the original gas in place. In addition, all of the wells exhibited different decline rates due to reservoir heterogeneity. After horizontal drilling on the denser 330 foot well spacing, the new wells are tapping additional reserves. The denser spacing is also allowing smaller frac stages and thereby preventing over stimulation of the wells and fracing into the water. The

field now has a recovery factor of 75% to 85% of the original gas in place and will produce an additional 150 BCFG.

The development on a greater density is necessary to maximize recovery from the Moray (Edwards) Field. Pioneer stated that this should allow for the same recovery factor of 75% to 85% of the original gas in place as seen in the Pawnee (Edwards) Field. As a result, Pioneer estimates that the Moray (Edwards) Field will produce an additional 130 BCFG that would otherwise be left in the reservoir.

### **FINDINGS OF FACT**

1. Notice of this hearing was given to all persons entitled to notice and no protests were received.
2. The Moray (Edwards) Field was discovered in February 2008 at a depth of approximately 14,300 feet. The field is a non-associated gas field with no active wells carried on the proration schedule to date.
3. Pioneer is the only operator in the Moray (Edwards) Field and has drilled and completed one vertical and ten horizontal wells. The completion forms are currently being processed by the Railroad Commission staff.
4. The Moray (Edwards) Field is a reef margin play that is a combination of structural and stratigraphic traps.
5. Based on log analysis, Pioneer estimates original gas in place to be between 298 and 446 BCFG.
6. Since there is little production data in the Moray (Edwards) Field, Pioneer presented recovery data on the Pawnee (Edwards) Field located 50 miles to the southwest.
7. Prior to 2003, the Pawnee (Edwards) Field had statewide spacing rules and contained only vertical wells. The estimated recovery factor was only 20% to 40% of the original gas in place.
8. After horizontal drilling on the denser 330 foot well spacing, the field now has a recovery factor of 75% to 85% of the original gas in place and will produce an additional 150 BCFG.
9. The development on a greater density is necessary to maximize recovery from the Moray (Edwards) Field. Pioneer estimates that the field will produce an additional 130 BCFG that would otherwise be left in the reservoir.
10. The minimum well spacing of 330 feet from lease lines, 330 feet between vertical to vertical wells and horizontal to horizontal wells and the elimination of a between well spacing requirement between vertical and horizontal wells

will allow operators the additional flexibility needed to develop this 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. Adopting a spacing rule for the Moray (Edwards) Field is necessary to prevent waste, protect correlative rights and promote development of the field.

**RECOMMENDATION**

Based on the above findings of fact and conclusions of law, the examiner recommends that the Commission adopt field rules for the Moray (Edwards) Field as proposed by Pioneer Natural Resources USA, Inc.

Respectfully submitted,

Richard D. Atkins, P.E.  
Technical Examiner