

**RAILROAD COMMISSION OF TEXAS  
OFFICE OF GENERAL COUNSEL**

**OIL & GAS DOCKET  
NO. 01-0264919**

**IN THE EAGLEFORD SHALE  
FORMATION, LIVE OAK, LA SALLE  
AND MCMULLEN COUNTIES, TEXAS**

**FINAL ORDER**

After statutory notice in the above-numbered docket heard on March 31, 2010, the Railroad Commission of Texas makes the following findings of fact and conclusions of law:

**FINDINGS OF FACT**

1. Petrohawk Operating Company (P-5 Operator No. 660146) requests a Railroad Commission of Texas certification that gas wells completed in the Eagleford Shale formation, currently including the Hawkville (Eagleford Shale) and Eagle Ridge (Eagle Ford Shale) Fields, in Live Oak, La Salle and McMullen Counties, Texas, are completed in a high-cost/tight-gas formation pursuant to Statewide Rule 101.
2. Notice of the application was provided to all affected parties at least 21 days prior to the Commission review. No protests or comments were filed in response to this application.
3. The proposed tight-gas area contains all of Live Oak, La Salle and McMullen Counties. Four tight-gas area designations have already been approved for the Eagleford Shale within La Salle County.
4. The Eagleford Shale formation is the correlative interval found between 11,050 feet (MD) and 11,290 feet (MD) as shown on the log of the Petrohawk Operating Company - STS Well No. 1 (API No. 283-32144). Within the proposed area, the top of the Eagleford Shale is found at an average depth of 11,315 feet.
5. The Eagleford Shale within the requested area of the application meets the Railroad Commission Statewide Rule 101 guidelines for a high cost/tight gas formation.
  - a. 16 TAC §3.101(f)(3)(B) specifies that the in-situ horizontal permeability should not exceed 0.1 millidarcies, as determined by geometric mean or median methodology, in order to qualify as a high cost/tight gas formation.
  - b. 31 wells have penetrated, tested and/or produced from the proposed tight gas interval within the requested area.
  - c. Formation in-situ permeability was calculated from the geometric mean of core data of five data points and was found to be less than the 0.1 millidarcies limit imposed by 16 TAC §3.101(f)(3)(B).
  - d. 16 TAC §3.101(f)(3)(B) specifies that the stabilized, pre-stimulation producing rate against atmospheric pressure, as determined by geometric-mean or median methodology, must not be expected to exceed 5 BOPD of crude oil and 927 MCFD for vertical wells completed in the subject formation.

- e. The average calculated pre-stimulation stabilized absolute open flow rate for the wells completed in the subject formation is less than 100 MCFD. The stabilized absolute open flow rates for the wells were calculated using a modified Darcy Radial Flow equation, the gross feet of the Eagleford Shale at the well locations and the calculated in-situ permeability value. Gas wells completed in the Eagleford Shale located within the proposed area are therefore not expected to produce more than 5 BOPD crude oil and 927 MCFD prior to stimulation.

### **CONCLUSIONS OF LAW**

1. Proper notice was issued to all affected persons as required by the applicable codes and regulatory statutes.
2. The Railroad Commission of Texas is the appropriate agency to make a determination concerning a high cost/tight gas formation certification pursuant to 16 TAC §3.101.
3. The Eagleford Shale, currently producing from the Hawkville (Eagleford Shale) and Eagle Ridge (Eagle Ford Shale) Fields, within Live Oak, La Salle and McMullen Counties, Texas, complies with the provisions of 16 TAC §3.101(f)(3)(B) and gas wells completed in the Eagleford Shale within the three counties area are producing from a high cost/tight gas formation.
4. Gas produced from gas wells completed in the Eagleford Shale formation, currently producing from the Hawkville (Eagleford Shale) and Eagle Ridge (Eagle Ford Shale) Fields, located within Live Oak, La Salle and McMullen Counties, Texas, is a high cost/tight formation gas pursuant to 16 TAC §3.101.

Therefore, it is ordered by the Railroad Commission of Texas that effective May 4, 2010, the application of Petrohawk Operating Company for the Commission's certification that the Eagleford Shale formation, recognized and identified as the correlative section found in the interval from 11,050 feet (MD) and 11,290 feet (MD) as shown on the log of the Petrohawk Operating Company - STS Well No. 1 (API No. 283-32144), in Live Oak, La Salle and McMullen Counties, Texas, be designated a tight gas formation and therefore produces high cost gas pursuant to 16 TAC §3.101, be and is hereby approved.

Done this 4<sup>th</sup> day of May, 2010.

**RAILROAD COMMISSION OF TEXAS**

**Approved and signatures affixed by O&G  
Unprotested Master Order dated May 4,  
2010)**