



# RAILROAD COMMISSION OF TEXAS

## OFFICE OF GENERAL COUNSEL

OIL AND GAS DOCKET NOS. 04-0246875; 04-0246876; & 04-0246877

THE APPLICATION OF CHESAPEAKE OPERATING, INC. TO CONSIDER LEASEWIDE EXCEPTIONS TO STATEWIDE RULE 10 FOR THE LAS OVEJAS STATE LEASE, O.M. LAUREL ESTATE LEASE, AND EL REFUGIO LEASE IN THE JENNINGS RANCH (LOBO CONS.), CHARCO (9900), AND CHARCO (9400) FIELDS, ZAPATA COUNTY, TEXAS

Heard by: Margaret Allen, Technical Hearings Examiner

### Procedural history

Application received: March 28, 2006

Hearing held: April 27, 2006

### Appearances

Bill Spencer  
Stephen DuBois

Representing  
Chesapeake Operating, Inc.

## EXAMINER'S REPORT AND RECOMMENDATION

### STATEMENT OF THE CASE

Chesapeake Operating, Inc. ("Chesapeake") is seeking be able to downhole commingle production from the Jennings Ranch (Lobo Cons.), Charco (9900) and Charco (9400) Fields in any well completed on its Las Ovejas State Lease, O.M. Laurel Estate Lease or El Refugio Lease.

### DISCUSSION OF THE EVIDENCE

The Jennings Ranch (Lobo Cons.) Field was formed in 1998 with the consolidation of six Lobo fields. The field interval, as designated from about 11,300' to 13,000', is located below the major Lobo unconformity. The allocation formula is based 90% on deliverability and 10% per well. There are over 100 wells in this field, owned by five operators. Chesapeake operates 17 of the wells, though not all are shown as active on the proration schedule.

The Charco (9900) Field was discovered in 1979, and has 97 wells with eight operators. About half of the wells in this field have been downhole commingled with the Jennings Ranch (Lobo Cons.) Field and are prorated in that field. Chesapeake operates seven of the wells in this field. The Charco (9400) Field was also discovered in 1979, and it has about 30 wells owned by two operators. Chesapeake operates four wells though these are all downhole commingled and prorated in the Jennings

Ranch (Lobo Cons.) Fields. The Charco (9900) Field produces from the Perdido B formation just above the Lobo unconformity, while the Charco (9400) Field produces from the overlying Perdido A formation. Both Charco fields operate under Statewide Rules; and all three fields have suspended allocation formulas.

In all cases, commingled wells will be assigned to the Jennings Ranch (Lobo Cons.) Field, as long as it is one of the fields producing. The Jennings Ranch (Lobo Cons.) Field is the major target field in this area. All three subject leases have identical ownership in the three subject fields. The average initial deliverability of a well in the Charco (9400) Field is 1400 MCFD, in the Charco (9900) Field is 2500 MCFD and in the Jennings Ranch (Lobo Cons.) Field is 2500 MCFD. After commingling, the production usually stabilizes at about 2 MMCFD.

All of these reservoirs exhibited overpressure at initial conditions and all had gradients about 0.8 psi per foot of depth. There will be no crossflow during normal operations. Flowback after commingling indicates that pressures equalize quickly, given the very low permeability. These fields produce from depletion drives and wells make less than 5 BWPD. All three fields produce from the lower Wilcox Formation and water analyses confirm that commingled production will not cause scaling.

Chesapeake wants to downhole commingle wells in these three fields to lower the economic limit of each field and thereby increase recovery. It has already filed the paperwork and downhole commingled production in its existing wells on these three leases. At present, when it drills a new well it installs packers above the Charco (9900) and Jennings Ranch (Lobo Cons.) Fields and produces from only the Charco (9400) Field, until it obtains Rule 10 exception authority. If this application is approved, Chesapeake will be able to downhole commingle production upon initial completion.

There are several operational problems which can be alleviated by downhole commingling. Wellbores on the subject leases are completed with 4-1/2 inch casing which would make multiple completions difficult. These wells may eventually need plunger lift which would be difficult to operate in a multi-completed well. The subject fields are deep and any wellbore's casing could fail before all the production has been recovered from each field if the fields have to be produced in sequence. Producing fields individually in a wellbore requires packers between fields, which could increase the risk of mechanical problems if an upper zone produces 'fines' or solids. Commingling also increases the flowrate, preventing liquid loading.

The applicant estimates that downhole commingling the two wells on the El Refugio Lease and the two wells on the Las Ovejas State Lease increased each wellbore's ultimate recovery by 500 MMCF. It also estimates that downhole commingling the eight wells on the O.M. Laurel Lease increased total recovery on that lease from 18 BCF to 20 BCF. It plans new step-out wells on each lease and will also infill drill, and thus is making this request which will facilitate future well completions on these leases.

#### FINDINGS OF FACT

1. Notice of this hearing was issued to all operators in the Jennings Ranch (Lobo Cons.), Charco (9900), and Charco (9400) Fields ("subject fields") on April 13, 2006.

2. The Jennings Ranch (Lobo Cons.) Field was formed in 1998 with the consolidation of six Lobo fields and has over 100 wells, 17 of which are operated by Chesapeake Operating, Inc.
3. The Charco (9900) Field was discovered in 1979, and has 97 wells, with 7 of them operated by Chesapeake Operating, Inc.
4. The Charco (9400) Field was discovered in 1979, and has 30 wells, with 4 of them operated by Chesapeake Operating, Inc.
5. Future commingled wells should be assigned to the Jennings Ranch (Lobo Cons.) Field as the many previously commingled wells in these fields are already assigned there.
6. Cross-flow will not be a problem even if there should be a limited amount when the wells are shut-in.
7. Downhole commingling production from these fields will prevent waste, reduce mechanical problems and increase each well's ultimate recovery.
  - a. Downhole commingling wells in these fields will lower the economic limit of each completion, thereby increasing ultimate recovery.
  - b. Wellbores on the subject leases are completed with 4-1/2" casing which makes multiple completions difficult.
  - c. These wells may eventually need plunger lift which would be difficult in a multi-completed well.
  - d. The subject fields are deep and a wellbore might fail before recovering all the reserves, if each field were required to be completed sequentially.
  - e. Downhole commingling the two wells on the El Refugio Lease and the two wells on the Las Ovejas State Lease increased each wellbore's ultimate recovery by 500 MMCF.
  - f. Downhole commingling the eight wells on the O.M. Laurel Lease increased total ultimate recovery on that lease from 18 BCF to 20 BCF.
8. Chesapeake Operating, Inc. plans new step-out wells on each lease and will also infill drill additional wells between existing wells.
9. No one has expressed any opposition to the proposed Rule 10 exceptions for all wells on the Las Ovejas State, O.M. Laurel Estate and El Refugio Leases of Chesapeake Operating, Inc.

#### CONCLUSIONS OF LAW

1. Proper notice was issued as required by all applicable codes and regulatory statutes.

2. All things have occurred and been accomplished to give the Commission jurisdiction in this matter.
3. Granting the requested lease-wide Rule 10 exceptions will prevent waste and protect correlative rights.

**EXAMINER'S RECOMMENDATION**

Based on the above findings and conclusions, the examiner recommends approval of the requested Rule 10 exceptions for all wells on the Chesapeake Operating, Inc. Las Ovejas State Lease, O.M. Laurel Estate Lease and El Refugio Lease in the Jennings Ranch (Lobo Cons.), Charco (9900), and Charco (9400) Fields, as specified in the attached order.

Respectfully submitted,



Margaret Allen  
Technical Hearings Examiner