

August 22, 2005

**OIL AND GAS DOCKET NO. 02-0243380**

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**APPLICATION OF VINTAGE PETROLEUM INC. TO CANCEL ALL OVERPRODUCTION ON THE VINTAGE PETROLEUM WELLS IN THE WEST RANCH (WARD) FIELD, JACKSON COUNTY, TEXAS**

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**HEARD BY:** Thomas H. Richter, P.E.

**DATE OF HEARING:** August 19, 2005

**APPEARANCES:**

Barry Hagemann

**REPRESENTING:**

Vintage Petroleum Inc.

**EXAMINER'S REPORT AND RECOMMENDATION**  
**STATEMENT OF THE CASE**

This is the unopposed application of Vintage Petroleum Inc. for the Commission to consider cancelling the overproduction on all its wells in the West Ranch (Ward) Field. The examiner recommends approval.

**DISCUSSION OF THE EVIDENCE**

The West Ranch (Ward) Field was discovered in 1950 at 5,720' subsurface depth. The field is governed by Special Field Rules which provide for minimum well spacing of 466'/933', 20 acre density and an allocation formula based on 50% acreage and 50% per well. The top allowable for a well in the field is 82 BOPD and a corresponding casinghead gas limit of 164 MCFD. A total of 94 wells have produced from the field. The reservoir developed a gas cap and in 1965, a pressure maintenance project was commenced. In 1970 the program was approved to expand the gas pressure maintenance program to include water injection. The field now is a multi-operator multi-well field.

The West Ranch (Ward) "gas" Field was discovered in 1975. The Ward reservoir is a large anticlinal dome containing an oil rim and a gas cap. Reservoir energy is derived by gas-cap expansion and natural water influx. Through pressure maintenance projects, gas and water injection, a total of 12.1 BCF of gas and 67.3 million barrels of water were injected into the reservoir. In 1985 gas cap blow down was commenced and water injection ceased in 1986. Special Field Rule No. 8 was adopted to allow gas wells completed on 20 acre proration units to assign up to 160 acres and receive an allowable up to 8X (times) the allowable as determined by Statewide Rule 49(b). Gas production decreased from 21 MMCFD (1986) to 1 MMCFD (1992). Cumulative production was 31.1 million barrels of oil, 142.7 BCF of gas and 173 million barrels of water. The original estimated oil-in-place was 69.2 million and the original gas-in-place was 235 BCF.<sup>1</sup>

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<sup>1</sup> Oil & Gas Docket No. 02-0231882 hearing in August 2002.

Vintage Petroleum became the operator of the West Ranch A Lease in 1997 which essentially covers the entire gas-cap. In 2001, Vintage reactivated the Ward reservoir gas-cap by initiating a co-production project. The goal is to produce high volumes of water, in excess of the natural water influx, thereby lowering the reservoir pressure and allowing the residual gas (“trapped gas”) to expand and become mobile. The project has been successful. The original reservoir pressure was 2,650 psig and the pressure in September 2004 was 1,073 psig. In December 2000, there were 6 active wells producing 30 BOPD and 3 MCFD and 1,542 BWPD. In September 2004, there were 63 active wells producing 150 BOPD and 34,000 MCFD and 83,000 BWPD. Cumulative production through June 2005 is: 328,000 BO, 6.4 BCF of casinghead gas, 12.7 BCF of gas well gas and 23,400 barrels of condensate. It is estimated that an incremental volume of 13 BCF of gas will be recovered through the co-production project.

The success of the project hinges on high volumes of water withdrawal to lower reservoir pressure. The field rules were amended pursuant to Order No. 02-0240694 effective December 21, 2004 to provide sufficient flexibility to keep the co-production program operating at maximum capacity (maximum water withdrawal) without overproducing the maximum assignable allowable. The rules were amended from 8X multiple 49(b) factor for gas wells on 160 acres to 16X multiple 49(b) factor for gas wells on 320 acres in the West Ranch (Ward) Field. As the reservoir pressure continues to decline, the gas-water ratio will increase. Currently, all wells utilize gas lift to lift the wellbore fluids. Future lift methods will utilize high volume submersible pumps which will lift even more water and thereby increasing gas production.

A capacity exempt per well oil allowable was authorized by Commission Order No. 02-0231882 effective August 13, 2002 to provide flexibility in producing the oil wells. A maximum 82 BOPD top allowable with a 2000:1 GOR limit will not allow for maximum water production. Well rates do exceed 82 BOPD and nearly all the wells become GOR penalized for exceeding the 2000:1 GOR limit. All the oil wells produce at  $\pm$  98% water cut. Vintage Petroleum has an on going program of re-activating previously shut-in wells.

The oil wells are capacity exempt. The gas wells may have up to 16X allowables for the co-production. The purpose of these amendments is to prevent allowable restriction limitations. The order amending Rule No. 8 for the increased gas well allowables did not balance the overproduction of the gas wells in the field. Subsequent to the hearing, Vintage submitted a letter to the Commission Proration Section on January 21, 2005 addressing the gas well overproduction. The Proration Section advised Vintage that a letter from the Examiner of the case was needed to formally cancel the overproduction. The Examiner issued a letter dated May 25, 2005 advising that the overproduction should be cancelled. In mid-June 2005, the Proration Section declined to accept the Examiner’s authority to cancel the overproduction and issued overproduction/severance letters on the overproduced wells.

### **EXAMINER’S OPINION**

Vintage Petroleum has hurdled the regulatory obstacle course in pursuing the rejuvenating of the subject field through co-production techniques. It is unfortunate that Vintage’s only re-course

in cancelling the over production of its wells in the West Ranch (Ward) Field was to have another hearing for that specific purpose. The co-production project has been exceedingly successful. Any Vintage Petroleum well should have its overproduction cancelled and any fees that may be required if a P-4 Certificate of Compliance was canceled should be waived.

**FINDINGS OF FACT**

1. Notice of this hearing was sent to all operators in the subject field at least ten (10) days prior to the subject hearing.
2. There was no protest at the call of the hearing.
3. The West Ranch (Ward) Field was discovered in 1950 at a depth of 5,720' subsurface depth.
  - a. The field is governed by Special Field Rules which provide for minimum well spacing of 466'/933', 20 acre density and an allocation formula based on 50% acreage and 50% per well.
4. Special Field Rule No. 8 was amended pursuant to Order No. 02-0240694 effective December 21, 2004 to provide sufficient flexibility to keep the co-production program operating at maximum capacity (maximum water withdrawal) without overproducing the maximum assignable allowable. The rules were amended from 8X multiple 49(b) factor for gas wells on 160 acres to 16X multiple 49(b) factor for gas wells on 320 acres.
5. In 2001, Vintage reactivated the Ward reservoir gas-cap by initiating a co-production project which has been successful.
  - a. In December 2000, there were 6 active wells producing 30 BOPD and 3 MCFD and 1,542 BWPD and in September 2004, there were 63 active wells producing 150 BOPD and 34,000 MCFD and 83,000 BWPD.
  - b. It is estimated that an incremental volume of 13 BCF of gas will be recovered through the co-production project.
6. The goal of a co-production project is to produce high volumes of water, in excess of the natural water influx, thereby lowering the reservoir pressure.
  - a. Residual gas ("trapped gas") is allowed to expand and remobilize.
  - b. All the producing wells utilize gas lift to provide the energy to lift the wellbore fluids. Future lift methods will utilize high volume submersible pumps which will lift even more water and thereby increasing gas production.
7. The oil wells are capacity exempt. The gas wells may have up to 16X allowables for the co-

production. The purpose of the rule amendments is to prevent allowable restriction limitations.

8. Vintage Petroleum well should have its overproduction cancelled on any well that is determined to be overproduced and any fees that may be required if a P-4 Certificate of Compliance was canceled should be waived.

**CONCLUSIONS OF LAW**

1. Proper notice was given to all parties as set out in the provisions of all applicable codes and regulatory statutes.
2. All things have occurred and been accomplished to give the Commission jurisdiction in this matter.
3. Cancellation of any overproduction on Vintage Petroleum wells in the West Ranch (Ward) Field will prevent avoidable waste and will not harm correlative rights.

**EXAMINER'S RECOMMENDATION**

Based on the above findings and conclusions of law, the examiner recommends approval of the application of Vintage Petroleum Inc. to cancel any overproduction on all its wells in the West Ranch (Ward) Field and to have any reconnection fee be waived

Respectfully submitted,

Thomas H. Richter, P.E.  
Technical Examiner  
Office of General Counsel