OIL AND GAS DOCKET NO. 01-0270024

THE APPLICATION OF ANADARKO E&P COMPANY LP FOR PERMANENT GAS WELL CLASSIFICATION FOR ALL WELLS ON VARIOUS LEASES IN THE BRISCOE RANCH (EAGLEFORD) FIELD, DIMMIT, LA SALLE, MAVERICK AND WEBB COUNTIES, TEXAS

HEARD BY: Richard D. Atkins, P.E. - Technical Examiner

HEARING DATE: May 4, 2011

APPEARANCES:	**REPRESENTING:**
APPLICANT:	
Ana Maria Marsland-Griffith David Christian Trina Engels	Anadarko E&P Company LP
OBSERVERS:	
Brian Sullivan Meri Lynn Gobran	Pioneer Natural Resources
Dale Miller	Newfield Exploration Co.
George C. Neale	Fitzsimons Oil and Gas Management
Tim George	Lighting Oil Company
Tamara Gannon	Peregrine Petroleum

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Anadarko E&P Company, LP ("Anadarko") requests that all wells on various leases in the Briscoe Ranch (Eagleford) Field be permanently classified as gas wells, effective the date of first production for each well.

The application is unprotested and, after reviewing the evidence submitted during the hearing, the examiner recommends approval of a permanent gas well classification for all wells completed with a gas-oil ratio of 3,000 cubic feet per barrel and above in the Briscoe Ranch (Eagleford) Field, Dimmit, La Salle, Maverick and Webb Counties, Texas. Anadarko and the other operators present at the hearing did not consider this

recommendation to be adverse and, in fact, they believed that this recommendation would aid the operators and Commission staff in processing well potential tests.

DISCUSSION OF EVIDENCE

The Briscoe Ranch (Eagleford) Field was discovered in November 2007. The field extends over portions of four counties. The field is classified as associated with 100% AOF status. There are 46 gas wells and 25 oil wells with five operators carried on the proration schedules and Anadarko operates the most wells. Field Rules provide for 330'-0' well spacing and 80 acre density. Cumulative production from the field through March 2011 is 3.0 MMBO and 32.4 BCFG.

Anadarko submitted a cross-section consisting of wells across all Maverick, Dimmit and La Salle Counties. The Eagleford thins to the west in La Salle County, but is continuous across all three counties. There is no indication on logs that the reservoir characteristics change from well to well.

Prior to this hearing, Anadarko was seeking administrative approval of a gas well classification based on a mathematically recombined heptanes+ wellstream analysis of less than 12.5 mol%. According to McCain, there is a sharp dividing line between the chemical composition of oils and condensates.[1] In McCain's study on hundreds of wells that were properly conditioned and tested, the mol % of heptanes+ were compared to the PVT analysis of fluids from each well to determine whether the reservoir exhibited a dew point (gas well) or bubble point (oil well). From this study, it was found that fluids with over 12.5 mol% heptanes+ exhibited bubble points while fluids with less than 12.5 mol% heptanes+ exhibited dew points.

A review of the mathematically recombined heptanes+ wellstream analysis for 36 wells indicates that the condensate is light straw in color and the average API gravity of the liquid hydrocarbon is 60.0 degrees. The average producing gas-oil ratio on initial test is about 4,000 to 5,000 cubic feet per barrel. The mol% heptanes+ in 34 of the samples analyzed was less than 12.5% and the average mol% methane was 70%. The two wells that had more than 12.5 mol% heptanes+ also had an average producing gas-oil ratio on initial test of about 2,400 cubic feet per barrel.

Anadarko submitted an average oil yield map on wells in the four county area of the Briscoe Ranch (Eagleford) Field (See attached Anadarko Exhibit No. 9 - Eagleford Yield Map). The map showed a definitive line of a producing gas-oil ratio on initial test of 3,000 cubic feet per barrel running west to east across Maverick, Dimmit and La Salle Counties. North of the line, or a gas-oil ratio on initial test of less than 3,000 cubic feet per barrel,

[1] McCain, William D, 1990, The Properties of Petroleum Fluids.

most of the wells would have more than 12.5 mol% heptanes+ and would be classified as an oil well. South of the line, or a gas-oil ratio on initial test of 3,000 cubic feet per barrel and above, most of the wells would have less than 12.5 mol% heptanes+ and would be classified as a gas well.

EXAMINER'S OPINION

The examiner recommends that all wells with a gas-oil ratio of 3,000 cubic feet per barrel and above in the Briscoe Ranch (Eagleford) Field should be permanently classified as gas wells, effective the date of first production from each well. The mathematically recombined heptanes+ wellstream analysis for 36 wells is summarized as follows:

* The mol% heptanes+ in 34 of the samples analyzed was less than 12.5% and the average mol% methane was 70%.

* The condensate is light straw in color and the average API gravity of the liquid hydrocarbon is 60.0 degrees. The average producing gas-oil ratio on initial test is about 4,000 to 5,000 cubic feet per barrel.

* The two wells that had more than 12.5 mol% heptanes+ also had an average producing gas-oil ratio on initial test of about 2,400 cubic feet per barrel.

* For a gas-oil ratio on initial test of less than 3,000 cubic feet per barrel, most of the wells would have more than 12.5 mol% heptanes+ and would be classified as an oil well.

* For a gas-oil ratio on initial test of 3,000 cubic feet per barrel and above, most of the wells would have less than 12.5 mol% heptanes+ and would be classified as a gas well.

Any additional wells completed in the field are expected to exhibit similar fluid characteristics. Additional mathematically recombined heptanes+ wellstream analysis are unnecessary for classification of wells as gas wells.

Statewide Rule 79 defines a gas well as "....A well which produces hydrocarbon liquids, a part of which is formed by a condensation from a gas phase and a part of which is crude petroleum oil, shall be classified as a gas well unless there is produced one barrel or more of crude petroleum oil per 100,000 cubic feet of natural gas; and that the term "crude petroleum oil" shall not be construed to mean any liquid hydrocarbon mixture or portion thereof which is not in the liquid phase in the reservoir, removed from the reservoir in such liquid phase, and obtained at the surface as such." The examiner believes that the liquid hydrocarbons in this reservoir are immobile, and therefore any liquid produced at the surface does not meet the definition of "crude petroleum oil". Instead, the produced liquid is a product of condensation and should not be used as a basis for classification of the wells as oil wells.

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FINDINGS OF FACT

1. Notice of this hearing was given to all affected persons at least ten days prior to the date of hearing. No protests were received.

2. The Briscoe Ranch (Eagleford) Field was discovered in November 2007. The field extends over portions of four counties.

    a. The field is classified as associated with 100% AOF status.

    b. There are 46 gas wells and 25 oil wells with five operators carried on the proration schedules and Anadarko operates the most wells.

    c. Field Rules provide for 330'-0' well spacing and 80 acre density.

3. All wells completed with a gas-oil ratio of 3,000 cubic feet per barrel and above in the Briscoe Ranch (Eagleford) Field should be permanently classified as gas wells because they produce from a retrograde condensate gas reservoir.

    a. There is mathematically recombined heptanes+ wellstream analysis for 36 wells in the field.

    b. The mol% heptanes+ in 34 of the samples analyzed was less than 12.5% and the average mol% methane was 70%.

    c. The condensate is light straw in color and the average API gravity of the liquid hydrocarbon is 60.0 degrees. The average producing gas-oil ratio on initial test is about 4,000 to 5,000 cubic feet per barrel.

    d. The two wells that had more than 12.5 mol% heptanes+ also had an average producing gas-oil ratio on initial test of about 2,400 cubic feet per barrel.

    e. For a gas-oil ratio on initial test of less than 3,000 cubic feet per barrel, most of the wells would have more than 12.5 mol% heptanes+ and would be classified as an oil well.

    f. For a gas-oil ratio on initial test of 3,000 cubic feet per barrel and above, most of the wells would have less than 12.5 mol% heptanes+ and would be classified as a gas well.

5. Liquid hydrocarbons produced at the surface from the subject wells are the product of condensation and should not be classified as crude petroleum oil.

6. Because the liquids produced from the wells are not crude petroleum oil, the subject wells should be classified as gas wells.

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. All wells completed with a gas-oil ratio of 3,000 cubic feet per barrel and above in the Briscoe Ranch (Eagleford) Field, Dimmit, La Salle, Maverick and Webb Counties, Texas, are gas wells, effective the date of first production, based on the definition of a gas well pursuant to Statewide Rule 79 (a) (11) (C).

RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiner recommends that all wells completed with a gas-oil ratio of 3,000 cubic feet per barrel and above in the Briscoe Ranch (Eagleford) Field, Dimmit, La Salle, Maverick and Webb Counties, Texas be permanently classified as gas wells, effective the date of first completion.

Respectfully submitted,

Richard D. Atkins, P.E.
Technical Examiner