

APPLICATION OF EXXON MOBIL CORPORATION TO CONSOLIDATE VARIOUS CLEVELAND FIELDS INTO THE LIPSCOMB (CLEVELAND) FIELD AND TO AMEND THE FIELD RULES FOR THE LIPSCOMB (CLEVELAND) FIELD, LIPSCOMB AND OCHILTREE COUNTIES, TEXAS

HEARD BY: Andres J. Trevino, P.E.

DATE OF HEARING: February 25, 2011

APPEARANCES:

REPRESENTING:

Tim George
Jack Zura
William T. Duncan, Jr.

Exxon Mobil Corporation

Doug Dashiell

EOG Resources, Inc.

Clark Jobe

Holmes Exploration, LLC

Bill Spencer

Chesapeake Operating Inc.

Mickey R. Olmstead

Courson Oil & Gas Inc.
Natural Gas Anadarko Co.

EXAMINER'S REPORT AND RECOMMENDATION
STATEMENT OF THE CASE

This is the unprotested application of Exxon Mobil Corporation for the Commission to consider consolidation of eleven Cleveland fields, listed in Attachment "A", into the Lipscomb (Cleveland) Field and amending the field rules for the Lipscomb (Cleveland) Field as adopted in Order No. 10-70,275, effective November 6, 1978, as amended, which currently provide for:

1. The entire correlative interval from 8,040' to 8,145' as shown on the Type log of the Enron Oil & Gas - J. A. Little "B" Well No. 4-454, H & TC RR Co. Survey, Block 43, Section 454, Lipscomb County, Texas, should be designated as the Lipscomb (Cleveland) Field.
2. Minimum well spacing of 467'/933', 0' between vertical & horizontal wells, take point language,
3. 320 acre gas units with an optional 160 acre units, 40 acre oil units, no plats,

4. An allocation formula based on 50% acreage, 50% potential/deliverability, AOF.

Exxon Mobil proposes the following rules:

1. The entire correlative interval from 7,779 feet to 8,156 feet as shown on the Dual Induction Focused Gamma Ray log of the Mewbourne Oil Company Tubb "423" Lease, Well No. 3, shall be designated as a single reservoir for proration purposes and be designated as the Lipscomb (Cleveland) Field.
2. No Change,
3. 160 acre oil units with optional 40 acre oil unit density and 640 acre gas units with an optional 160 acre gas units and a modified Rule 38 exception procedure for 80 acre gas units,
4. An allocation formula based on 50% acreage, 50% deliverability, continued AOF status for gas wells, capacity exempt/salvage classification for oil wells.

The application was originally protested by several operators. Exxon Mobil withdrew the Bradford S.E. (Morrow Lower) Field, the Kiowa Creek (Cleveland) Field and the Lipscomb, S.E. (Cleveland) Field from the list of fields to be consolidated and amended their original density request to the satisfaction of the protesting operators. All operators threatening to protest withdrew their protests. The examiner recommends approval of the consolidation and proposed rules.

DISCUSSION OF THE EVIDENCE

The eleven fields which are the subject of this hearing were discovered beginning in 1959. The fields all produce from the same Cleveland Sandstone and are undergoing active horizontal development. All fields are classified as associated gas fields with the exception of the Lipscomb, South (Cleveland) and the Wassel (Cleveland) field which are classified as non-associated gas fields. Five of the eleven fields operate under Statewide Rules while the remaining six fields operate under Special rules with horizontal provisions. The fields were initially developed with vertical wells that were geographically distant from other discovery wells. The fields were thought to be separate accumulations of hydrocarbons. Over time as each field was developed, the field boundaries expanded and had "grown together". The depositional environment for the Cleveland sand is a tidally influenced delta shoreface with a lowstand to highstand sequence. There is no structurally influenced accumulation. The Cleveland Sandstone is widespread and found throughout the area. Within the Cleveland Sandstone are pockets of higher quality of sands that are distributed both vertically and horizontally.

The designated interval from 7,779 feet to 8,156 feet as shown on the type log of the Mewbourne Oil Company Tubb "423" Lease, Well No. 3 includes all designated

intervals previously identified in the proposed consolidated fields. The Cleveland sand has a gross interval that is 200 to 400 feet thick with a typical net pay thickness of 25 to 80 feet of high quality reservoir sand. The Cleveland has a average 10% porosity with a range of 8% to 14% porosity.

Production data of the consolidated Lipscomb (Cleveland) fields show a steady increasing gas production from 1963 until 1993 when gas production began to decline. The fields were being developed with vertical wells during this time period. Liquid/oil production remained fairly constant from 15,000 barrels of oil per month (BOPM) to 10,000 BOPM. In 2003 horizontal well development began. Gas production increased from 1 BCF per month to 3.5 BCF of gas per month. Oil production increased from 10,000 BOPM to 150,000 BOPM. Consolidating the various fields with varying field rules will encourage additional horizontal development as only one set of rules will apply throughout the area.

Exxon Mobil provided drainage calculations to justify their density requests for oil and gas wells. Production decline analysis was studied on twelve vertical gas wells to substantiate the proposed 640 acre density with optional 160 acre density. Reservoir properties encountered for the gas wells ranged from initial reservoir pressures of 554 psi to 2,999 psi, recovery factors of 61% to 93%, and average porosity of 10%. The estimated ultimate recoveries for the vertical gas wells ranged from 285 MMCF of gas to 6.5 BCF of gas. The Duke CT, Well No. 1903 in the Bradford (Cleveland) field is estimated to recover 1.7 BCF of gas and drain 444 acres. The Broyles Unit Well No. 2959 in the Mammoth Creek, North (Cleveland) field is estimated to recover 2.2 BCF of gas and drain 88 acres. Exxon Mobil is requesting language be adopted that will allow drilling on 80 acre units with administrative approval if no protest is received from operators within 1,867 feet. This language has been approved in Granite Wash fields and the Spraberry (Trend Area) Field. For oil wells Exxon Mobil studied two vertical oil wells. The Parker Verner V Et Al "A", Well No. 1711 in the Lipscomb (Cleveland) field is estimated to recover 90,596 barrels of oil and drain 109 acres. The Graves, Well No. 1 in the Lipscomb (Cleveland) field is estimated to recover 62,880 barrels of oil and drain 61 acres. Both wells are estimated to recover 10% of the original oil in place. Exxon Mobil request 160 acre density with optional 40 acre units. The proposed density for oil and gas proration units is necessary to provide for the efficient and effective depletion of the subject field.

Exxon Mobil seeks no change in the allocation formula for gas wells which is based on 50% deliverability and 50% acreage. This allocation formula is currently suspended and Exxon Mobil requests continuation of this status. Exxon Mobil requests oil production be classified as salvage. The salvage classification will allow production from oil wells to be exempt from proration and there will be no restriction on oil or casinghead gas production from oil wells. There is no gas cap identified in the field, oil production is random, the wells are either high liquids producing gas wells or high gas producing oil wells. There is a tendency to produce more oil in the southeast portion of the field. There is no need to restrict oil or casinghead gas production for conservation purposes as the reservoir is heterogeneous, tight and there is poor communication between wells.

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. Several operators had protested Exxon Mobil's original proposed consolidation. Exxon Mobil amended their request to the satisfaction of all operators.
3. The eleven fields which are the subject of this hearing were discovered beginning in 1959. The fields all produce from the same Cleveland Sandstone and are undergoing active horizontal development.
 - a. All fields are classified as associated gas fields with the exception of the Lipscomb, South (Cleveland) and the Wassel (Cleveland) field which are classified as non-associated gas fields
 - b. Six of the eleven fields operate under Special Rules with horizontal well provisions while the remaining five fields operate under Statewide Rules.
 - c. Over time as each field was developed, the field boundaries expanded and had "grown together".
4. The Lipscomb (Cleveland) Field should be designated as the correlative interval from 7,779 feet to 8,156 feet as shown on the Type log of the Mewbourne Oil Company Tubb "423" Lease, Well No. 3 as it includes the entire Cleveland Sandstone inclusive of all previously identified designated intervals in the proposed consolidated fields.
5. The 640/160 acre gas proration unit density with special provisions for 80 acre optional units for gas wells and 160 acre density with 40 acre optional units for oil wells is necessary to provide for the efficient and effective depletion of the subject field.
 - a. Drainage calculations performed on twelve vertical gas wells showed the wells drained between 444 acres to 88 acres.
 - b. Drainage calculations performed on two vertical oil wells showed the wells drained between 109 acres to 61 acres.
6. There is no change in the current minimum well spacing of 467'/933' (leaseline/between well), 0' between vertical & horizontal wells and take point language.
7. There is no change in the current allocation for gas wells based on 50% deliverability and 50% acreage.

8. Continuation of the administrative suspension of the allocation formula is appropriate as there was no protest to the continuation presented at this hearing.
9. Salvage classification for oil wells is justified as there is no gas cap identified in the field, the reservoir is tight, heterogenous, vertically and horizontally and the wells are in poor communication. There is no conservation purpose to restrict oil and casinghead gas production from an oil well.

CONCLUSIONS OF LAW

1. Proper notice of this hearing was given to all persons legally entitled to notice.
2. All things have occurred or been accomplished to give the Railroad Commission jurisdiction in this matter.
3. Consolidation of the fields as proposed by Exxon Mobil Corporation is necessary to prevent waste and protect correlative rights.
4. The proposed field rules will prevent waste, protect correlative rights, and satisfy statutory requirements.

EXAMINER'S RECOMMENDATION

Based on the above findings and conclusions of law, the examiner recommends approval of the field consolidation and the proposed amended field rules for the Lipscomb (Cleveland) Field.

Respectfully submitted,

Andres J. Trevino, P.E.
Technical Hearings Examiner

Attachment "A"

<u>Field Name</u>	<u>Field Number</u>
BRADFORD (CLEVELAND)	11226 200
BRADFORD, S. E. (CLEVELAND)	11232 400
LIPSCOMB (CLEVELAND SEC. 610)	53869 360
LIPSCOMB, SOUTH (CLEVELAND)	53873 500
LIPSCOMB, S. W. (CLEVELAND)	53879 500
LIPSCOMB, S. W. (CLEVELAND-OIL)	53879 600
MAMMOTH CREEK, N. (CLEVELAND-OIL)	57021 500
MAMMOTH CREEK, NORTH (CLEVELAND)	57021 250
SKUNK CREEK (CLEVELAND)	83950 250
TRENFIELD (CLEVELAND)	91037 200
WASSEL (CLEVELAND)	95391 200