

December 27, 2000

OIL AND GAS DOCKET NO. 08-0226623

THE APPLICATION OF DEVON ENERGY PRODUCTION COMPANY L.P. FOR INCREASED GAS OIL RATIO AUTHORITY FOR ITS MCKNIGHT LEASE WELL NO. 191, RUNNING W (WICHITA ALBANY) FIELD, CRANE COUNTY, TEXAS

Heard by: Margaret Allen, Technical Hearings Examiner

Procedural history

Application received: November 6, 2000

Hearing held: December 21, 2000

Appearances

John Soule
Keith Corbett

Representing
Devon Energy Production Company

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Devon Energy is seeking increased gas/oil ratio authority for its McKnight Lease Well No. 191 to allow this well to produce up to 700 MCF per day.

DISCUSSION OF THE EVIDENCE

The Running W (Wichita Albany) Field was discovered in 1960. There are 11 active wells on the oil proration schedule and 8 active wells on the gas proration schedule. The field is on Statewide Rules and has a yardstick daily allowable for wells at this depth of 82 barrels of oil and 164 MCF.

The Wichita Albany section productive in this field is highly lenticular. The McKnight No. 191 was completed November 1, 2000, with only a few feet of scattered perforations in the interval between 5070 and 5820 feet. The initial test rate was 66 BOPD, with 132 BWPD and a gas/oil ratio of 12,363 cubic feet per barrel. The well is not yet on the field's proration schedule, but the applicant estimates that it is already overproduced by 1250 BO and 15 MMCF.

The well was tested on various choke sizes between October 31 and December 18, 2000, to show that it could produce greater amounts of oil and gas without causing waste. On a 26/64th inch choke the average daily rates were 51 BO and 683 MCF, for a gas/oil ratio of 13,332 cubic feet per barrel. When the choke size was decreased to 16/64th inches, the well produced an average of 25

BO and 439 MCF per day, for an average gas/oil ratio of 17,846. The choke size was then decreased to 14/64th inches where the daily rates averaged 7 BO and 332 MCF, for a gas/oil ratio of 50,303 cubic feet per barrel. When the choke size was reduced further, fracture stimulation sand flowed back and plugged the choke. The applicant attempted for several days to obtain test data at a gas rate close to the current allowable of 164 MCF/D but was unable to get the well to stabilize at this low rate. Devon believes, however, that the trend of increasing gas/oil ratios with lower producing rates is apparent.

The applicant has previously applied for increased gas/oil ratio authority on three other wells in the subject field. The McKnight Well No. 45 was granted a daily gas limit of 300 MCF, though it is now commingled and not shown on the proration schedule of the subject field. The McKnight Well No. 178 was granted a daily gas limit of 1200 MCF. A third well, No. 121, became a gas well after the net GOR had been requested. Overall, the test data for the subject well and for Well Nos. 45 and 178 show that the gas and oil producing rates for wells in this field can be increased while the wells' gas/oil ratios decrease, conserving reservoir energy.

FINDINGS OF FACT

1. Notice of this hearing was given to the operators in the Running W (Wichita Albany) Field, on December 1, 2000.
2. The Running W (Wichita Albany) Field was discovered in 1960 and has eleven oil wells and seven gas wells active.
3. The subject well, the McKnight No. 191, was completed November 1, 2000, and perforated in scattered feet between 5070 and 5820 feet.
4. The initial daily test rate for the subject well was 66 BO and 132 BW, with a gas/oil ratio of 12,363 cubic feet per barrel.
5. The Statewide allowable for wells at this depth is 84 BOPD with 164 MCF of gas per day.
6. The well was step-rate tested between October 31, 2000, and December 18, 2000, and the results show that it can produce at higher rates without causing waste.
 - a. On a 26/64th inch choke, the average daily rates were 51 BO and 683 MCF, for a gas/oil ratio of 13,332 cubic feet per barrel.
 - b. On a choke of 16/64th inches, the well produced 25 BO and 439 MCF per day, for a gas oil ratio of 17,846 cubic feet per barrel.
 - c. When the choke size was decreased to 14/64th inches, the daily rates averaged 7 BO and 332 MCF, for a gas/oil ratio of 50,303 cubic feet per barrel.

- d. The choke plugged when the rate was reduced below 14/64th inches, and the well could not be produced at a stabilized rate close to the current allowable.
7. The lenticular nature of the reservoir results in highly variable gas/oil ratios, and several other wells in the field have been granted increased daily gas limits.
8. Requiring the subject well to make up overproduction may cause waste by causing the well to produce at an inefficient rate.

CONCLUSIONS OF LAW

1. Proper notice was given as required by statute.
2. All things have been done or occurred to give the Railroad Commission jurisdiction to resolve this matter.
3. The requested increase in gas and oil allowable for the McKnight Lease Well No. 191 will prevent waste and protect correlative rights within the field.

EXAMINER'S RECOMMENDATION

Based on the above findings and conclusions, the examiner recommends that the Devon Energy Production Company McKnight Lease Well No. 191, Running W (Wichita Albany) Field be allowed to produce up to 700 MCF of gas per day. All overproduction for this well should be canceled.

Respectfully submitted,

Margaret Allen
Technical Hearings Examiner

Date of Commission Action: January 9, 2001