

OIL AND GAS DOCKET NOS. 7C-0224678

**THE APPLICATION OF EOG RESOURCES, INC. FOR MER AUTHORITY FOR THE
AMACKER-TIPPETT, SW (WOLFCAMP) FIELD, UPTON COUNTY, TEXAS**

Heard by: Margaret Allen, Technical Hearings Examiner

Procedural history

Applications received: April 19, 2000

Hearings held: July 26, 2000

Appearances

Philip Whitworth
Richard Johnston

Representing
EOG Resources

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

EOG Resources first requested MER determinations for its Amacker "88" Lease Well Nos. 1 and 2 in the Amacker-Tippett, SW (Wolfcamp) Field. The maximum requested daily production was to be 1500 barrels of oil per well. EOG determined that several other wells in the Amacker-Tippett, SW (Wolfcamp) Field are also candidates for MER determinations, and requested the hearing be expanded to include all wells in this field. Notice of this amended application was issued to all operators in the field on July 16, 2000, and there is no protest. A representative of Ocean Energy Resources, Inc. appeared at the hearing in support of the requested field-wide MER of 1100 BOPD per well. EOG is also requesting that any overproduction be canceled for all the wells in the field.

DISCUSSION OF THE EVIDENCE

The Amacker-Tippett, SW (Wolfcamp) Field was discovered in 1977, and now has thirty-nine prorated wells, operated by 10 different operators. Some of the wells are older and now have potentials below 50 BOPD, but several new wells have been drilled based on 3d seismic. This seismic has been very successful at finding small, isolated structural highs capable of high producing rates. Current field rules provide for 160 acre proration units with 80-acre optional units and the maximum allowable is 435 barrels of oil per day.

The Wolfcamp formation produces from carbonates deposited in debris flows that are discontinuous in the field area. In some places, there is an anomalously thick section (up to 450 feet) with extensive vertical fractures. Some wells drilled into these thick sections identified on seismic

maps encounter previously undrained reservoir while others encounter partially depleted reservoir. Both types of well can find excellent remaining Wolfcamp production. Generally, the Wolfcamp is perforated near the base and gravity drainage through the vertical fractures contributes significantly to ultimate recovery. The remaining reservoir energy is supplied by solution gas which forms a cap at the top of the thicker debris piles.

Three wells in the Amacker-Tippett, SW (Wolfcamp) Field have already received MER determinations. EOG's Half "57" No. 1 was granted authority to produce up to 2000 BOPD, on June 2, 2000, and EOG's Amacker "85N" Well No. 1 and "86SE" Well No. 1 were granted MER authorization to produce 1250 BOPD each on June 22, 2000. EOG has tested three additional wells and believes the evidence shows that enough of the wells in the field can be produced at higher rates without causing waste to adopt an MER on a field wide basis.

The Amacker "88" Lease Well No. 2 was completed in March of 2000, with an initial potential of 456 barrels of oil per day with 384 MCF per day and no water. When this well was produced an average of 430 BOPD, near the current allowable, the corresponding gas/oil ratio was 922 cubic feet per barrel. Increasing average oil production to an average of 726 BOPD resulted in a gas/oil ratio of 798 and increasing it further to 1187 BOPD resulted in only a slight increase to 872.

The Cowden 26 Lease Well No. 1 also showed little rate sensitivity. At an average daily rate of 467 BO, the gas/oil ratio was 859 cubic feet per barrel. When the oil rate was increased to 824 BOPD, the gas/oil ratio decreased to 756, and when the oil rate increased to 1000 BOPD, the gas/oil ratio rose slightly to 832.

EOG also tested its Mann "19" Lease Well No. 1, which was only completed July 8, 2000. The well's initial potential is reported as 456 BOPD, with 144 MCF/D and no water. When stabilized at 452 BOPD, the average gas/oil ratio was 806 cubic feet per barrel. When the oil rate was increased to 776 barrels per day, the gas/oil ratio remained essentially unchanged at 824 cubic feet per barrel.

As of May 1, 2000, five wells operated by EOG and two operated by Ocean Energy, Inc., had overproduction. Additional overproduction occurred during the testing to support this application. The evidence indicates that no waste occurred because of overproduction and it is unnecessary for these wells to be shut-in to make up the overproduction.

FINDINGS OF FACT

1. Notice of the hearing to consider an MER for the Amacker-Tippett, SW (Wolfcamp) Field was given to all operators on July 6, 2000.
2. The field was discovered in 1977, and has thirty-six producing wells, several of them newly drilled by the applicant.

3. The current daily field allowable is 435 barrels of oil, though several of the new wells are capable of producing at higher oil rates without causing water production.
4. Producing rates from the Amacker "86 SE" Lease Well No. 1 indicate that increasing this well's production to over 1100 barrels per day will not cause waste.
 - a. The well's initial potential in November of 1998, was 621 BOPD and 542 MCF per day, without water.
 - b. The well produced 128,000 barrels of oil during its first year on production.
 - c. In November of 1999, the well was producing 342 BOPD with a gas/oil ratio of 638 MCF per barrel on a 22/64th inch choke.
 - d. The choke size was increased in steps up to 28/64th inches by March, 2000, where the well was producing 435 BOPD with a gas/oil ratio of 572.
 - e. On March 19, 2000, a rod pump was installed and the well has averaged 1029 BOPD and 573 MCF per day since then, without water.
 - f. The highest day's production was 1165 barrels of oil and the gas production at this rate was 630 MCF.
5. Producing rates from the Amacker "85N" Well No. 1 indicate that increasing the well's production to over 1000 barrels per day will not cause waste.
 - a. This well's initial potential, in November of 1999, was 430 BOPD and 386 MCF per day, without water.
 - b. When this well was produced on a 19/64th inch choke the average daily oil rate was 437 barrels of oil, with a gas/oil ratio of 823 cubic feet per barrel.
 - c. When the well was produced on a 21/64th inch choke the average daily oil rate was 475 barrels of oil, with a gas/oil ratio of 825 cubic feet per barrel.
 - d. When the well was produced on a 36/64th inch choke, the average daily oil rate was 969 barrels of oil, with a gas/oil ratio of 823 cubic feet per barrel.
 - e. When the well was produced on a 48/64th inch choke, the average daily oil rate was 918 barrels of oil, with a gas/oil ratio of 730 cubic feet per barrel.
 - f. The top daily rate for the Amacker "85N" Well No. 1 was 1069 barrels of oil and the gas production at this oil rate was 846 MCF.
6. The Amacker "86 SE" Lease Well No. 1 has 39,000 barrels of overproduction and the Amacker "85N" Well No. 1 has 23,000 barrels of overproduction.
7. The overproduction of both wells occurred recently, during the time the wells were being tested to determine their maximum efficient production rates.

8. The maximum tested daily rates of 1100 to 1200 barrels of oil for each well are efficient and there is no reason to require the wells to make up overproduction through producing at lower rates.

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. Granting an MER of 1100 barrels of oil per day for each well, as requested, will not cause waste and will protect correlative rights within the field.

EXAMINER'S RECOMMENDATION

Based on the above findings and conclusions, the examiner recommends that each well in the Amacker-Tippett, SW (Wolfcamp) Field be allowed to produce up to 1100 barrels of oil per day. All overproduction in this field should also be canceled.

Respectfully submitted,

Margaret Allen
Technical Hearings Examiner

Date of Commission Action: August 8, 2000

Exhibits

1. Proration schedule
2. PFD and Order granting MER for Halff No. 1
3. Type Log
4. Map
5. PFD and Order granting MER for two more wells
6. Test rate results on Mann 19 #1
7. Test rate results on Cowden 26 #1
8. Test rate results on Amacker 88 #2
9. Overproduction