

**OIL AND GAS DOCKET NO. 03-0226943**

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**THE APPLICATION OF RANGER OIL COMPANY FOR INCREASED MER FOR ITS WELCH FOUNDATION LEASE, WELL NO. 5, HOSKINS MOUND FIELD, BRAZORIA COUNTY.**

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**Heard by:** Margaret Allen, Technical Hearings Examiner

**Procedural history**

Application received: December 13, 2000

Hearing held: February 8, 2001

**Appearances**

John Becher  
Blake Patton

Representing  
Ranger Oil Company

**EXAMINER'S REPORT AND RECOMMENDATION**

**STATEMENT OF THE CASE**

Ranger Oil is requesting an MER for its Welch Foundation Lease, Well No. 5, in the Hoskins Mound Field to allow the well to produce up to 250 BOPD. Because this is the second well Ranger has drilled on this salt dome that is entitled to an MER, the examiner suggested that the MER be raised for the entire field. Ranger Oil agreed with this suggestion.

**DISCUSSION OF THE EVIDENCE**

The Hoskins Mound Field is a piercement-type salt dome field discovered in the early 1900's. The oil allowable of 82 barrels per day was set in 1970 because that is the 1947 yardstick for wells completed on 20 acres between 5000 and 5000 feet. There are no active gas wells and ten oil wells, all producing less than 30 BOPD. Ranger testified that two of the other wells are in the same lower Miocene sands as its Welch Foundation No. 5, but all are in separate fault blocks.

The Welch Foundation Well No. 5 was completed late in November of 2000 and began selling gas in late December. Perforations are from 5897 to 5915 feet, from 5920 to 5933 feet and from 5954 to 5958 feet in several lower Miocene sands. The initial potential indicated on Form W-2 was 92 BOPD and 174 MCF/D with no water. The well was tested between December 30, 2000, and February 4, 2001, to determine if its production is rate-sensitive.

When tested on a 7/64th inch choke, the average daily oil rate was 88 BO and daily gas rate

was 213 MCF, for a gas/oil ratio of 2420 cubic feet per barrel. When the choke size was increased to 10/64th inches, the daily average oil rate 262 barrels and gas rate was 390 MCF/D, for a gas/oil ratio of 1488 cubic feet per barrel. The choke size was then decreased back to 9/64th inches and the average daily rates were 236 barrels of oil and 224 MCF, improving the gas/oil ratio to 949. However, during the last change in choke size (from 10 to 9/64th inches), the average flowing tubing pressure decreased from 1454 psi to 1182 psi, indicating the well may have been loading with fluids. Production tests thus show that the well can produce at rates higher than the allowable without causing waste.

The subject well accumulated overproduction during the step-rate test, which Ranger Oil would like canceled. None of the wells in this salt dome field are in competition because each is in its own small fault block. Cancellation of overproduction for the Welch Foundation Well No. 5 will not harm correlative rights.

Ranger's Welch Foundation Well No. 1 has already received an MER of 220 BOPD, on October 5, 1999, under Oil & Gas Docket No. 03-0222062. This well produces from the same lower Miocene sands as Well No. 5 and Ranger intends to drill at least one more well on this highly-faulted salt dome for the same sands. Each lower Miocene well on this dome is in a separate fault block and their expected drainage areas are only 7 to 15 acres. Wells typically have high initial oil rates, without significant gas, due to strong water drives. When the water leg reaches the wellbore, production declines rapidly thereafter. Increasing the amount of oil that a well can produce daily does not have any apparent effect on the ultimate recovery.

### **FINDINGS OF FACT**

1. Notice of this hearing was mailed to all operators in the Hoskins Mound Field, on January 10, 2001, and no one protested.
2. There are no offset wells completed in the lower Miocene that are carried in fields other than the Hoskins Mound.
3. This field has been classified as a piercement-type salt dome and two recent wells indicate that some fault blocks have not yet been drained.
4. The daily MER of 82 barrels per day was set in 1970 at the 1947 yardstick for wells completed on 20 acres between 5000 and 6000 feet.
5. The subject well, the Welch Foundation No. 5, had an initial potential of 92 BOPD and 174 MCF/D, and began producing late in December of 2000.
6. The subject well was step-rate tested between December 20, 2000, and January 22, 2001, and the results show that it can produce at higher rates without causing waste.
  - a. On a 7/64th inch choke, the average daily oil rate was 88 BO and daily gas rate was

213 MCF, for a gas/oil ratio of 2420 cubic feet per barrel.

- b. When the choke size was increased to 10/64th inches, the daily average oil rate 262 barrels and gas rate was 390 MCF/D, for a gas/oil ratio of 1488 cubic feet per barrel.
  - c. The choke size was then decreased back to 9/64th inches and the average daily rates were 236 barrels of oil and 224 MCF, improving the gas/oil ratio to 949 cubic feet per barrel.
  - d. During the last change in choke size (from 10 to 9/64th inches), the average flowing tubing pressure decreased from 1454 psi to 1182 psi, indicating the well may have been loading with fluids.
7. Requiring the well to make up the overproduction that occurred during its step rate test will not increase ultimate recovery.
  8. This is the only well in this particular fault block and requiring the well to make up overproduction is not necessary to protect correlative rights.
  9. Each well completed on the salt dome is in its own small fault block and is expected to drain between 7 and 14 acres.
  10. These small reservoirs have high initial production with strong water drives.
  11. Increasing the MER for wells on the Hoskins Mound salt dome will not reduce the ultimate recovery from each fault block.

#### **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 increase in oil allowable for the Welch Foundation Lease Well No. 5 and for the other wells in the Hoskins Mound Field 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 all wells in the Hoskins Mound Field be allowed to produce up to 250 barrels of oil per day. All overproduction for the Ranger Oil Company Welch Foundation Lease, Well No. 5, in the Hoskins Mound Field should be canceled.

Respectfully submitted,

Margaret Allen  
Technical Hearings Examiner

Date of Commission Action: March 6, 2001

Exhibits

1. Well No. 5 completion and initial potential data
2. Test data
3. Graph of test data
4. Map
5. Logs of Welch Foundation No. 1
6. Logs of Welch Foundation No. 5