



RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL AND GAS DOCKET NO. 08-0308622

**THE APPLICATION OF BLACKBEARD OPERATING, LLC TO CONSIDER AMENDING
FIELD RULES FOR THE ARMER (6350) FIELD, CRANE COUNTY, TEXAS**

HEARD BY: Peggy Laird, P.G. – Technical Examiner
Kristi M. Reeve – Administrative Law Judge

HEARING DATE: February 14, 2018

POST-HEARING CONFERENCE: March 19, 2018

CONFERENCE DATE: April 24, 2018

APPEARANCES:

REPRESENTING:

APPLICANT:

Dale Miller

Blackbeard Operating, LLC

EXAMINERS' REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Blackbeard Operating, LLC ("Blackbeard") seeks to amend the field rules for the Armer (6350) Field (the "Field"), Crane County, Texas. The Field was discovered on September 2, 1955. Permanent field rules were adopted in Oil & Gas Docket No. 8-33,606 with an effective date of May 28, 1956, and were amended in Oil & Gas Docket No. 8-54,996 with an effective date of June 15, 1965. Blackbeard also requests to keep in effect the Net Gas Oil Ratio ("GOR") rule that was adopted in Oil & Gas Docket No. 8-56,687 effective November 1, 1966. Blackbeard requests the following amendments for the Field:

Rule 1: Designate a correlative interval from 5,960 feet to 6,525 feet as shown on the Compensated Neutron Log of the Blackbeard Operating, LLC, Landlubber N #7 Lease, located in Section 26, Blk 17, Abstract 1107 of the O'Neal, M.C./McKnight, M.B. Survey, Crane County, Texas;

Rule 2: Establish lease line spacing of 330 feet and between well spacing of 330 feet, with no spacing requirement between a vertical and horizontal well;

- Rule 3: 40 acre base units with optional 10 acre density, 10 acre tolerance provision for the last well on the lease, the filing of Form P-16 to designate the number of acres to be assigned to individual wells with a plat of the entire lease, no requirement to file individual well proration unit plats and no maximum diagonal limitation, however an operator may file individual proration plats at their option;
- Rule 4: A maximum efficient rate ("MER") allowable of 150 barrels of oil per day ("BOPD") per well and 1,000 MCF Daily Gas Limit ("MCFD") per well; and
- Rule 5: 100% Acreage Allocation.

Notice was provided to all operators in the field and the application is unopposed. The Technical Examiner and Administrative Law Judge ("Examiners") recommend that the field rules be amended for the Armer (6350) Field, Crane County, Texas.

DISCUSSION OF THE EVIDENCE

The Examiners take official notice of the evidence presented in Docket No. 08-0307139, and at the post-hearing conference referenced above. The Field is about twenty miles northwest of Crane and was discovered on September 2, 1955 at a depth of 6,340 feet. It is currently under the following special rules:

- a. 330 feet – 933 feet lease/well spacing;
- b. 40 acre base units;
- c. 20 acre tolerance acres;
- d. 2,100' maximum diagonal length;
- e. allocation formula of 75% acreage and 25% well (111 BOPD); and
- f. gas limit of 1,000 MCFD per well.

There are currently sixty-nine oil wells that have been completed in the Field. The February 2018 oil proration schedule shows there are twenty-five active producing wells in this Field. The Field has produced 5.4 million barrels of oil and 10.2 billion cubic feet of casinghead gas ("BCFG") from September 1955 through November 2017. Blackbeard is completing more wells and plans to drill additional wells in the Field.

Evidence presented established that a solution-gas drive mechanism controls the production in the Field. Casinghead gas production has increased over the life of the Field because of a decrease in reservoir pressure which inhibits oil recovery. Wells are typically completed and put on artificial lift because natural flow is not occurring for the newly installed wells in the Field. Evidence indicates the Field has many older wells on the Oil Proration Schedule that have low potentials and low deliverability. The most recent wells in the Field have used fracking technology and are much more prolific producing on average from 60 to about 90 BOPD. The older wells in the Field that were developed without fracking technology produce about 15 BOPD.

In the post-hearing conference held on March 19, 2018, one of the primary concerns by Blackbeard was the effects on the reservoir from conducting a step-rate test, typically used to

determine the MER. Testimony indicated that the beam pump wells have no mechanism to vary the speed of pumping during the test, and performing a step-rate test may not be warranted to establish efficiencies to demonstrate the MER. Blackbeard supported their MER request of 150 BOPD using the production logs and graphs. They also reported that there is additional potential to produce these wells at a higher optimal rate based on static fluid levels in the wells at about 100 feet below surface. Blackbeard cited Docket No. 8A-0278562, which supports the use of fluid levels in the wellbore, as a demonstration of potential energy in the reservoir to support optimal production of oil and gas near the 150 BOPD MER requested in the hearing.

During the captioned hearing and the post-hearing conference, Blackbeard presented information that indicates the Field was authorized to have an increased Net GOR with a daily gas limit of 1,000 MCFPD established by Docket No. 8-56,687, effective November 1, 1966. Therefore, Blackbeard requested the Commission recognize the previous authorized gas limit of 1,000 MCFPD.

Blackbeard presented reservoir characteristics as follows: average porosity of 6.3%, average water saturation of 30%, average net effective oil pay thickness is 200 feet, average gravity of oil is 36 degrees API, and a formation volume factor of 1.4 reservoir barrel per stock-tank barrel ("rbbl/STB"). The reservoir is in the late primary stage of depletion. Based on the reservoir information, the volumetric oil content was calculated by the applicant. The recoverable oil in place ("ROIP") underlying a 40 acre unit is estimated to be 328,000 STB, and 82,000 STB are estimated underlying a 10 acre unit.

The existing field rules call for 40 acre base proration units. Blackbeard wishes to continue the 40 acre units and requests the adoption of 10 acre optional units. Blackbeard provided the drainage area for wells on seven leases in the Field that ranges from 0.04 to 19.24 acres, thereby justifying the optional acreage provision. The requested spacing of 330/330 feet will accommodate the proposed 10 acre optional units. Blackbeard considers the proposed rules will provide for the orderly drilling, completion, and operation of wells which will prevent waste and protect correlative rights.

FINDINGS OF FACT

1. Notice of this hearing was given to all parties entitled to notice at least ten days prior to the date of the hearing. No protests were received.
2. The Armer (6350) Field was discovered on September 2, 1955.
3. The field is currently governed by Special Rules.
4. A fieldwide Net GOR rule became effective November 1, 1966 and allows for a 1,000 MCFD daily gas limit per well.
5. The field is being actively developed with more new wells by Blackbeard.
6. The revised spacing and density rules are reasonable for further development of the field.

7. Wells are typically completed and put on artificial lift because natural flow is not occurring in the Field.
8. The requested MER allowable of 150 BOPD per well is reasonable for recovery of remaining resources in the Field.
9. At the hearing, the applicant agreed on the record that the Final Order in this case is to be effective when the Master Order is signed.

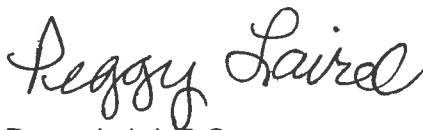
CONCLUSIONS OF LAW

1. Resolution of the subject application is a matter committed to the jurisdiction of the Railroad Commission of Texas. Tex. Nat. Res. Code § 81.051.
2. All notice requirements have been satisfied. 16 Tex. Admin. Code § 1.42.
3. The proposed field rules will reduce waste and promote orderly development of the Field.
4. Pursuant to §2001.144(a)(4)(A), of the Texas Government Code, and the agreement of the applicant, this Final Order is effective when a Master Order relating to this Final Order is signed on April 24, 2018.

EXAMINERS' RECOMMENDATION

Based on the above findings of fact and conclusions of law, the Examiners recommend the Commission amend the field rules for the Armer (6350) Field, Crane County, Texas, as proposed by Blackbeard Operating, LLC.

Respectfully submitted,



Peggy Laird, P.G.
Technical Examiner



Kristi M. Reeve
Administrative Law Judge