



RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL AND GAS DOCKET NO. 03-0319830

**APPLICATION OF T-C OIL COMPANY, LLC (833782) TO CONSIDER ADOPTING
NEW FIELD RULES FOR THE BLISS (YEGUA B) FIELD, WALKER COUNTY, TEXAS**

HEARD BY: Ashley Correll - Technical Hearings Examiner
Kristi M. Reeve - Administrative Law Judge

HEARING DATE: July 19, 2019

CONFERENCE DATE: October 22, 2019

APPEARANCES:

REPRESENTING:

APPLICANT

John Soule (Attorney)
Russell Dorsett (Chief Geologist)
Josh Glancy (Senior Reservoir Engineer)
Gary Childress (Chief Operating Officer)

T-C Oil Company, LLC

EXAMINERS' REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

T-C Oil Company, LLC ("T-C") seeks to adopt new field rules for the Bliss (Yegua B) Field ("Field") in Walker County, Texas. T-C requests the following new field rules be adopted for the Field:

1. Field interval from 3314' to 3327' in the Gemini (27161) Lease, Well No. 2 (API No. 471-30382);
2. 150'-300'¹ well spacing;
3. 40-acre drilling and proration units with optional 10-acre units, a 10-acre tolerance provision for the last well on a lease and assignment of acreage for proration purposes using the Commission Form P-16, with individual well proration plats permitted, but not required;

¹ T-C originally requested a zero between-well spacing rule. At the beginning of the hearing, T-C amended that request to 300'.

4. Allowable allocation based on 50% acres and 50% per-well, with a top allowable of 250 barrels of oil per day ("BOPD"); and
5. Gas produced from an oil well in the Field and reinjected into the reservoir from which it was produced shall not be counted against the gas limit for that well, as calculated pursuant to Statewide Rule 49. If any overproduction results because reinjected gas is counted against the gas limit, such overproduction shall be cancelled.

T-C also requests cancelation of all overproduction as of the effective date of the Final Order.

Notice was given to T-C, the only operator in the Field, and Commission Staff, the application was not protested, and no protesting party appeared at the hearing. The Technical Examiner and Administrative Law Judge (collectively, "Examiners") recommend the new field rules as set out in the Final Order be granted and all overproduction be canceled.

DISCUSSION OF THE EVIDENCE

T-C sent a letter dated April 26, 2019, requesting a hearing to adopt new field rules. A Notice of Hearing was issued by the Commission on June 20, 2019, to all operators entitled to notice at least ten days prior to the date of the hearing. A hearing was held on July 19, 2019.

The new field discovery application for the Bliss (Yegua B) Field was approved on July 29, 2015. Santa Rosa Operating, LLC ("Santa Rosa") drilled the discovery well, the Gemini (27161) Lease, Well No. 2 (API No. 42-471-30382), in Walker County, Texas. Additional wells in the Field have been drilled and completed by Santa Rosa and by T-C.

T-C operates three leases in the Field, the Gemini (27161) Lease, the Gemini B (27525) Lease, and the Tres Brujitas Unit (27524) Lease. T-C is the only operator in the Field and the Field operates under Statewide Rules.

Eight (8) wells have been drilled in the Field – the Gemini (27161) Lease, Well Nos. 1, 2, 3 and 4; the Gemini B (27525) Lease, Well Nos. B-5 and B-6; and the Tres Brujitas (27524) Lease, Well Nos. 1 and 2. The Gemini Well Nos. 2, 3 and 4 have been completed and are producing from the Field. Gas produced from those wells is being reinjected into the Gemini Well No. 1. The Gemini B Well No. B-5 has been drilled, completed and tested, but has not yet achieved sustained production. The Gemini B Well No. B-6 and Tres Brujitas Well No. 2 are being completed as oil producing wells. The Tres Brujitas Well No. 1 has been drilled and completed, and T-C plans on permitting the well as an injection well to reinject gas produced by the Gemini B wells and the Tres Brujitas Well No. 2.

Field Interval

The Bliss (Yegua B) Field produces from a sandstone interval approximately 10 feet thick and identified as the Yegua B in the upper Yegua formation. The producing reservoir is approximately 180 acres in size. It is bounded by a pinch out to the north and by an oil-water contact to the south, west, and east. Its average depth is approximately

3,320 feet measured depth. The requested correlative interval from 3314' to 3327' in the Gemini Well No. 2 includes all of the Yegua B. That interval was designated as the field interval when the new field discovery application was approved.

Density Rule

In the hearing, T-C presented evidence showing that the average porosity in the Field is approximately 34% and the average water saturation is approximately 58%. Wells in the Field produce heavy oil with an API gravity of approximately 23 degrees. Based on volumetric calculations and decline curve analysis reflecting estimated ultimate recovery ("EUR") for each well, T-C provided drainage area calculations for four wells in the Field showing drainage areas ranging from 7 to 39 acres. The decline curves show a range of per-well EURs from 17,500 barrels of oil to more than 117,000 barrels.

Spacing Rule

T-C identified the BB (Cockfield) Field in Grimes County as an analog field. Grimes County is the county adjacent to the west of Walker County where the Field is located. Like the Bliss (Yegua B) Field, the BB (Cockfield) Field produces from Yegua B, and the Yegua B in both fields is correlative. In October 2016, the Commission adopted the same 150' lease line spacing and 330' between well spacing rules for the BB (Cockfield) Field as T-C has requested for the Field. T-C's geologist and reservoir engineer both testified the BB (Cockfield) Field is an appropriate analogy for the Field and that the same spacing and density rules are appropriate for both fields.

T-C also identified surface issues that require flexibility with respect to the surface location of wells in the Field including a no-surface use restriction, surface water and flooding issues, and residential development.

The requested lease-line spacing rule is appropriate for the development of the Field, particularly given the limited drainage area of some wells in the Field and the corresponding 10-acre optional density rule that has been requested. The standard between-well spacing rule is twice the distance of the lease-line spacing rule, making 300' the appropriate between-well spacing rule with 150' lease-line spacing.

Allocation Formula

T-C's reservoir engineer testified that the requested 50% acreage/50% per-well allocation formula will provide for a reasonable allocation of production allowables between and among wells in the Field and will give each well an opportunity to recover the oil and gas in place under the tract on which each well is located. The per-well factor will ensure that wells assigned less than 40 acres for proration purposes will receive allowables in line with their productive capability.

Top Allowable

T-C requested a top oil allowable of 250 BOPD for wells assigned 40 acres for proration purposes. T-C identified at least one well, the Gemini B Well No. B-5, with a reported initial potential of 220 BOPD. During its initial potential test, that well produced at rates in excess of 250 BOPD without any reduction in flowing tubing pressure. T-C's reservoir engineer testified that T-C has developed procedures for drilling and completing wells in the Field that result in better productive capacity than experienced by earlier wells. T-C's reservoir engineer further testified that he expects the two wells now being

completed in the Field, the Gemini B Well No. B-6 and Tres Brujitas Well No. 2, will be comparable to the Gemini B Well No. B-5. Finally, he testified that production at rates up to 250 BOPD will have no adverse impact on the ultimate recovery of oil from the Field, because of pressure maintenance provided by the reinjection of gas and produced water.

Reinjection of Gas

T-C testified that most of the gas produced from the Field is reinjected into the reservoir into which it is being produced to maintain pressure in the reservoir. T-C also plans to reinject water produced from the reservoir to assist with maintaining reservoir pressure. Statewide Rule 49(d) allows for gas produced from an oil reservoir to be returned to the same reservoir from which it was produced, and the reinjected gas will not be counted against the gas limit. T-C plans to report the reinjected gas on the Form PR using Code 6 and to use Form W-9 to report the portion of total production that has been reinjected. Due to the procedure for reporting the reinjected gas, overproduction may be mistakenly applied to wells in the Field. T-C proposes the following field rule language to cancel the overproduction:

Reinjected Gas. Gas produced from an oil well in the field and reinjected into the reservoir from which it was produced shall not be counted against the gas limit for that well, as calculated pursuant to Statewide Rule 49 (16 Tex. Admin. Code §3.49). If any overproduction results because reinjected gas is counted against the gas limit, such overproduction shall be cancelled.

Conclusion

T-C has proven that the requested permanent special field rules are appropriate for the drilling, completion, and production of wells in the Field and that the proposed rules will prevent waste and protect correlative rights. T-C has also proven that a top oil allowable of 250 BOPD for wells assigned 40 acres for proration purposes will not cause waste or harm correlative rights.

The requested rule changes will be protective of correlative rights, increase recovery of resources, and prevent waste. The Examiners recommend granting the application.

At the hearing, T-C agreed on the record that the Final Order in this case is to be final and effective when the Master Order relating to the Final Order is signed.

FINDINGS OF FACT

1. On June 20, 2019, a Notice of Hearing letter was sent to the Service List providing ten (10) days to protest new field rules for the Bliss (Yegua B) Field ("Field"). No protests or requests for hearing were received.
2. T-C Oil Company, LLC ("T-C") requested the following new field rules for the Field:
 - a. Field interval from 3314' to 3327' in the Gemini (27161) Lease, Well No. 2 (API No. 471-30382);

- b. 150'-300'² well spacing;
 - c. 40-acre drilling and proration units with optional 10-acre units, a 10-acre tolerance provision for the last well on a lease and assignment of acreage for proration purposes using the Commission Form P-16, with individual well proration plats permitted, but not required;
 - d. Allowable allocation based on 50% acres and 50% per-well, with a top allowable of 250 barrels of oil per day ("BOPD"); and
6. Gas produced from an oil well in the Field and reinjected into the reservoir from which it was produced shall not be counted against the gas limit for that well, as calculated pursuant to Statewide Rule 49. If any overproduction results because reinjected gas is counted against the gas limit, such overproduction shall be canceled.
3. On April 26, 2019, T-C requested a hearing to adopt new field rules.
 4. The new field discovery application for the Field was approved on July 29, 2015. Wells in the Field produce from the upper sandstone reservoir in the Yegua formation that is identified as the Yegua B and is the correlative interval from 3314' to 3327' in the Gemini (27161) Lease Well No. 2 (API No. 42-471-30382) in Walker County, Texas.
 5. T-C is the only operator in the Field.
 6. Eight (8) wells have been drilled in the Field. Four (4) wells have been completed as producing wells, two (2) additional wells are currently being completed as producing wells, one (1) well has been completed as an injection well, and another is planned to be completed as an injection well.
 7. The proposed spacing rule of 150 feet from the nearest lease line and 300 feet between wells on the same lease is reasonable for the Field.
 - a. A 150 feet lease-line spacing rule is appropriate for a field with 10-acre optional units.
 - b. There are a number of surface impediments that require flexibility when selecting locations for the drilling of wells in the Field.
 8. Producing wells in the Field are expected to drain between seven (7) and thirty-nine (39) acres. The requested density rule providing for 40-acre drilling and proration units and 10-acre option units is reasonable for the Field.
 9. Allowable allocation formula of 50% acreage and 50% per well will reasonably allocate production allowables between and among wells in the Field thereby

² T-C originally requested a zero between-well spacing rule. At the beginning of the hearing, T-C amended that request to 300'.

providing a reasonable opportunity for wells in the Field to recover the oil under the land on which they are located.

10. Wells in the Field can produce in excess of 250 barrels of oil per day without having any adverse impact on the ultimate recovery of oil:
 - a. Reservoir pressure will be maintained by the reinjection of virtually all gas and all water into the reservoir from which is produced; and
 - b. At least one well in the Field has tested at rates in excess of 250 BOPD without experiencing any reduction in flowing tubing pressure.
11. Most of the gas produced from the Field is being reinjected into the reservoir from which it is produced. T-C has plans to also inject produced water into the reservoir. The reinjection of gas and water is helping to maintain reservoir pressure and enhance the ultimate recovery of hydrocarbons.
12. Adoption of the proposed rule related to the reporting of reinjected gas will ensure that gas reinjected into the reservoir from which it is produced will not be counted against the applicable gas limit and will further ensure that any overproduction resulting from the reinjected gas volumes being applied to the gas limit is canceled.
13. The requested rule changes will be protective of correlative rights, increase recovery of resources, and prevent waste.
14. At the hearing, T-C agreed on the record that the Final Order in this case is to be final and effective when the Master Order relating to the Final 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 requested new field rules will prevent waste.
4. Gas produced by an oil well and reinjected into the reservoir from which it was produced is not considered to have been produced from the well when determining whether the applicable gas limit has been overproduced. 16 Tex. Admin. Code § 3.49(a) and (d).
5. Pursuant to § 2001.144 (a)(4)(A) of the Texas Government Code and the agreement of the applicant, this Final Order is final and effective when a Master Order relating to the Final Order is presented at Commission conference and signed by the Commissioners.

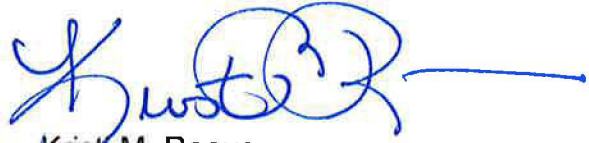
EXAMINER'S RECOMMENDATION

Based on the above findings of facts and conclusions of law, the Examiners recommend the application of T-C Oil Company, LLC to adopt new field rules for the Bliss (Yegua B) Field and the cancelation of overproduction, be approved.

Respectfully submitted,



Ashley Correll, P.G.
Technical Hearings Examiner



Kristi M. Reeve
Administrative Law Judge