



RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL AND GAS DOCKET NO. 04-0319702

THE APPLICATION OF SANDALWOOD EXPLORATION, L.P. (747194) TO AMEND FIELD RULES FOR THE PLYMOUTH (GRETA STRINGER) FIELD, SAN PATRICIO COUNTY, TEXAS

OIL AND GAS DOCKET NO. 04-0319703

THE APPLICATION OF SANDALWOOD EXPLORATION, L.P. (747194) TO AMEND FIELD RULES FOR THE PLYMOUTH (MAIN GRETA SAND) FIELD, SAN PATRICIO COUNTY, TEXAS

HEARD BY: John L. Moore – Technical Examiner
Kristi M. Reeve – Administrative Law Judge

APPEARANCES:

REPRESENTING:

For Applicant:

Doug J. Dashiell, Attorney
Michael Francisco, Consulting Petroleum Engineer

Sandalwood Exploration, L.P.

Observers:

Charles Johnson
Raymond James Welder, III
Cameron Ryan

McGowan Working Partners
Welder Exploration & Prod Inc.
Welder Exploration & Prod Inc.

CONFERENCE DATE: August 20, 2019

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Sandalwood Exploration, L.P. ("Sandalwood") seeks to amend existing special field rules for the Plymouth (Greta Stringer) and Plymouth (Main Greta Sand) fields (the "Fields"). Sandalwood requests the following amended rules for each of the Fields:

1. 330' minimum property, lease or subdivision line spacing and 0' minimum between-well spacing.
2. 20-acre standard drilling and proration units for oil wells, with up to 10-acres tolerance for the last well on a lease or pooled unit. (Unchanged from existing rules)
3. Proration unit plats not required to be filed, but permitted at the operator's option.
4. 100% acreage allocation for oil allowables in the Fields.
5. Oil allowable of 20 barrels of oil per day per acre assigned.

Sandalwood also requests adoption of a special field rule specifying the geologic interval for the Fields as follows:

- Plymouth (Greta Stringer) Field: 4575' to 4650' MD as shown on the Electrical Log for the Seaboard Oil Co. R.H. Welder Well No. 5 (API No. 42-409-01620)
- Plymouth (Main Greta Sand) Field: 4660' to 5035' as shown on the Electrical Log for the Seaboard Oil Co. R.H. Welder Well No. 5 (API No. 42-409-01620)

The subject applications are unopposed. The Administrative Law Judge and Technical Examiner recommend that the applications be approved.

DISCUSSION OF THE EVIDENCE

The subject Dockets Nos. 04-0319702 and 04-0319703, were consolidated at Applicant's request for a single hearing record. Mr. Michael Francisco, a consulting engineer familiar with the Fields, testified on behalf of Sandalwood. Sandalwood submitted exhibits showing the Fields produce from the Greta formation located stratigraphically above the Frio formation of the Oligocene series. The Fields are among a group of Greta and other similar fields along the central Gulf Coast that were previously developed with vertical wells, but are now the focus of potential horizontal redevelopment.

The Fields have not produced oil since 1996 from the Plymouth (Main Greta Sand) Field and since 2005 from the Plymouth (Greta Stringer) Field. The Plymouth (Greta Stringer) Field was discovered in 1951 and has produced 7,500,186 BBLS of oil and 4.09 Bcf of gas. The Plymouth (Main Greta Sand) Field was discovered in 1950 and has produced 8,920,566 BBLS of oil and 2.58 Bcf of gas.

The Plymouth (Greta Stringer) Field immediately overlies the Plymouth (Main Greta Sand) Field and is separated by a thin shale bed ten (10) feet thick as seen in the formation signature on the log of the R.H. Welder No. 5 Well. The two Fields are encountered within a closed anticlinal structure and are both water drive reservoirs. A

total of 43 vertical completions were made in the Plymouth (Greta Stringer) Field and 41 vertical completions were made in the Plymouth (Main Greta Sand) field.

Sandalwood seeks to drill horizontal wells to recover oil reserves that cannot be economically recovered by vertical wells. Water encroachment in these water drive reservoirs results in high operating costs and low ultimate recoveries. Mr. Francisco testified that horizontal drilling is necessary to recover additional recoverable oil and prevent waste.

Sandalwood presented copies of Examiners' Reports and Final Orders from six (6) recent dockets whereby the Commission adopted comparable rules to facilitate horizontal drilling within other similar oil fields with multiple existing vertical wells (O&G Docket Nos. 02-0308631, 02-0308632, 02-0308635, 04-0309350, 04-0310416 and 02-0310417). In each field the Commission adopted zero between well spacing, and an oil allowable of 10 BOPD per acre assigned. Based on W-2 tests from wells in these fields, horizontal wells have tested at initial rates averaging 815.5 BOPD based on a 43 well sample. Mr. Francisco testified that Sandalwood's goal is to obtain similar production rates. He further testified that an allowable of 20 BOPD per acre can be produced in these Fields without causing waste.

Sandalwood proposes to use modern horizontal well technology to re-develop the Fields. That technology allows Sandalwood to drill horizontal wells in the relatively thin targeted interval. The targeted interval in the subject Fields is the lower portion of the Greta Stringer and upper portion of the Main Greta Sand. The sands appear to have production quality porosity and permeability according to Mr. Francisco.

Mr. Francisco testified the proposed spacing and density rules are appropriate for further development with horizontal wells in the Field. The requested zero (0) feet between-well spacing rules will facilitate horizontal drilling and is the rule in many fields in Texas being re-developed with horizontal wells. The requested three hundred thirty feet (330) lease-line spacing rule is also common in many fields in Texas being developed with horizontal wells. The requested twenty (20) acre standard unit size is unchanged in the Field. The requested allowable of twenty (20) barrels of oil per acre assigned will cover most of the expected initial production from Sandalwood's future horizontal wells. As the wells decline and no longer need as much allowable, the acreage will be reassigned to other more recently drilled horizontal wells.

Acreage will be assigned for allowable purposes using the Commission Form P-16. Consistent with Statewide Rule 86 and special field rules in other fields being developed with horizontal wells, Sandalwood requests that proration unit plats not be required, but that operators be permitted to file such plats at the operator's option.

In summary, Sandalwood seeks amended rules that are appropriate for development with horizontal wells. At the hearing, Sandalwood agreed on the record that the Final Orders for the Fields will be effective on the date the Master Order is signed.

FINDINGS OF FACT

1. Sandalwood Exploration, LLC ("Sandalwood") seeks to amend field rules for the Plymouth (Greta Stringer) and Plymouth (Main Greta Sand) fields, San Patricio County, Texas (the "Fields").
2. On June 11, 2019 the Hearings Division of the Commission sent a separate Notice of Hearing ("Notice") for Docket Nos. 04-0319703 and 04-0319702 to Applicant and all offsetting operators in each of the Fields setting a hearing date of July 15, 2019. Consequently, the parties received more than 10 days' notice. The Notices contain (1) a statement of the time, place, and nature of the hearing; (2) a statement of the legal authority and jurisdiction under which the hearing is to be held; (3) a reference to the particular sections of the statutes and rules involved; and (4) a short and plain statement of the matters asserted. The consolidated hearing was held on July 15, 2019, as noticed. Applicant appeared and participated at the hearing. No one appeared in protest.
3. Sandalwood seeks the following amended special field rules for the Fields:
 - a. A designated interval for the Plymouth (Greta Stringer) Field from 4575 feet to 4650 feet MD as shown on the Electrical Log for the Seaboard Oil Co. R.H. Welder Well No. 5 (API No. 42-409-01620).
 - b. A designated interval for the Plymouth (Main Greta Sand) field from 4660 feet to 5035 feet as shown on the Electrical Log of the Seaboard Oil Co. R.H. Welder Well No. 5 (API No. 42-409-01620).
 - c. 330 feet minimum property, lease or subdivision line spacing and 0 feet minimum between-well spacing.
 - d. 20-acre oil drilling and proration units with up to 10-acres tolerance for the last well on a lease or pooled unit.
 - e. The filing of proration unit plats permitted, but not required. Commission Form P-16 or its successor will be used to identify the number of acres assigned to each well for allowable purposes.
 - f. 100% acreage allocation for oil allowables.
 - g. Oil allowable of 20 barrels of oil per day per acre assigned.
4. Amending field rules for the Fields, as proposed by Sandalwood, is appropriate and will provide for additional re-development of the Fields with horizontal wells.
5. At the hearing, Sandalwood agreed on the record that the Final Orders in this case are to be effective when the Master Order is signed.

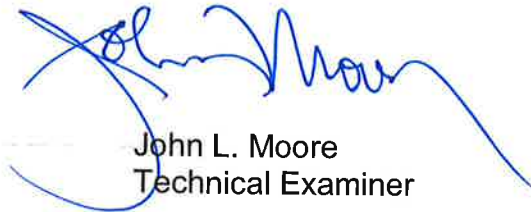
CONCLUSIONS OF LAW

1. Resolution of the subject applications are 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 § 1.43 and 1.45.
3. Approval of the applications will prevent waste and protect correlative rights.
4. Pursuant to §2001.144(a)(4)(A) of the Texas Government Code and the agreement of the applicant on the record, the Final Order can be final and effective when a Master Order relating to the Final Order is signed on August 20, 2019.

EXAMINERS' RECOMMENDATION

Based on the above findings of fact and conclusions of law, the Examiners recommend amending field rules for the Plymouth (Greta Stringer) and Plymouth (Main Greta Sand) Fields, San Patricio County, Texas.

Respectfully submitted,



John L. Moore
Technical Examiner



Kristi M. Reeve
Administrative Law Judge