



# RAILROAD COMMISSION OF TEXAS

## HEARINGS DIVISION

**OIL & GAS DOCKET NO. 8A-0283574**

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**THE APPLICATION OF TABULA RASA ENERGY, LLC TO EXPAND THE UNITIZED INTERVAL FOR THE EAST SEMINOLE (SAN ANDRES) UNIT, SEMINOLE, EAST (SAN ANDRES) FIELD, GAINES COUNTY, TEXAS**

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**HEARD BY:** Richard D. Atkins, P.E. - Technical Examiner  
Marshall F. Enquist - Legal Examiner

**DATE OF HEARING:** August 30, 2013

**APPEARANCES:**

**REPRESENTING:**

**APPLICANT:**

Flip Whitworth  
Davin McGinnis  
Dale E. Miller  
Tracy Evans  
Jim Skurner  
Bruce Berlin

Tabula Rasa Energy, LLC

### EXAMINERS' REPORT AND RECOMMENDATION

#### STATEMENT OF THE CASE

Tabula Rasa Energy, LLC ("Tabula") is seeking Commission approval to expand the unitized formation ("Expanded Unitized Formation") for the East Seminole (San Andres) Unit ("ESSAU"), Seminole, East (San Andres) Field, Gaines County, Texas. Tabula also requests approval of additional secondary recovery operations ("Expanded Secondary Recovery Operations") that include the injection of saltwater, natural gas and CO<sub>2</sub> within this redefined interval. Since there were many returned hearing notices, Tabula published notice of the subject application in the *Lubbock Avalanche-Journal*, a newspaper of general circulation in Gaines County, for four consecutive weeks beginning on July 26, 2013.

The application is unopposed and the examiners recommend approval of the Expanded Unitized Formation for the ESSAU and the proposed Expanded Secondary Recovery Operations, as requested by Tabula.

**DISCUSSION OF THE EVIDENCE**

The Seminole, East (San Andres) Field was discovered in May 1959 at an average depth of 5,450 feet. There are 22 producing oil wells carried on the proration schedule and Tabula is the only operator in the field. Field rules provide for 550'-1,100' well spacing and 40-acre oil units. Allocation is based on 75% acres and 25% per well with the top oil allowable based on the 1947 Yardstick Allowable of 102 barrels of oil per day. The allowable gas-oil ratio is 2,000 cubic feet per barrel. Cumulative production from the field through May 2013 is 8.3 MMBO and 1.4 BCFG.

The unitization agreement for ESSAU was effective November 1, 1970, and the unit was approved by the Commission in Docket No. 8A-60,715, effective April 7, 1971. The unit includes 18 tracts covering approximately 1,360 acres. The unit agreement defined the Unitized Formation as the subsurface portion of the Unit Area commonly known as the San Andres formation between the subsurface depths of 5,070 feet and 5,501 feet as shown on the log of the Tabula Rasa Energy, LLC - ESSAU, Well No. 30W (API No. 42-165 01007), originally known as the G-M-K Oil Co., Inc. - Ashenhurst "C" Lease, Well No. 1, Section 132, Block G, WT RR Co. Survey, A-1202, Gaines County, Texas ("Original Unitized Formation"). The Original Unitized Formation extends from the top of the San Andres formation and includes both the Main Pay Zone ("MPZ") and the upper portion of the residual oil zone ("ROZ") of the San Andres formation.

Tabula plans to implement an expanded secondary recovery project by injecting saltwater, natural gas and CO<sub>2</sub> into the Original Unitized Formation plus productive, deeper ROZ depths of the San Andres formation. Tabula received Commission administrative approval of this expanded secondary recovery project on April 23, 2013. Tabula proposes to expand the Original Unitized Formation to be defined as the stratigraphic equivalent of the correlative interval found between the subsurface depths of 5,145 feet and 5,822 feet as shown on the log of the Tabula Rasa Energy, LLC - ESSAU, Well No. 70 (API No. 42-165-37356), Section 133, Block G, WT RR Co. Survey, A-254, Gaines County, Texas ("Expanded Unitized Formation") which will add deeper ROZ depths of the San Andres formation to the ESSAU.

Tabula proposes to implement the Expanded Secondary Recovery Operations by drilling 6 injection wells and 3 producing oil wells. The project will be implemented in six phases and, at full development, Tabula plans on having 18 CO<sub>2</sub> and natural gas injection wells, 7 saltwater injection wells and 30 producing oil wells on the ESSAU. Tabula plans to inject all of the produced saltwater and, when required, will use makeup saltwater from three water supply wells. Sweet CO<sub>2</sub> (98% pure) will be purchased from Kinder Morgan CO<sub>2</sub> Company and will be delivered via Tabula's newly constructed 12-mile, 6-inch CO<sub>2</sub> pipeline. The peak injection volume of recycled CO<sub>2</sub> and sweet CO<sub>2</sub> is projected to be 26 MMCFPD, occurring in year 7 of the project. Because the proposed expanded secondary recovery project includes recycling of injected gases and results in the injection of H<sub>2</sub>S, Tabula obtained Commission approval for such H<sub>2</sub>S injection on June 18, 2013, in Oil & Gas Docket No. 8A-0280210.

Tabula estimates that the Expanded Secondary Recovery Operations will recover an additional 4.5 MMBO from the Original Unitized Formation and an additional 2.2 MMBO from that portion of the ROZ being added to the Expanded Unitized Formation. The total cost to implement the project is expected to be \$42 million, which will result in an estimated total value of the additional production of \$480 million. The projected return on investment is calculated to be 11.4 to 1.

The Unit Agreement, as is being amended to add the deeper ROZ depths, is subject to all valid rules, orders and regulations of the Railroad Commission. The Unit Agreement does not provide for the location of wells nor does the agreement relieve Tabula from its obligation to develop reasonably the leases in the ESSAU. The Unit Agreement does not limit the amount of production or provide for cooperative refining or marketing of crude petroleum or its by-products. The Unit Agreement does not restrict any of the rights which persons now have to pool or unitize, nor does it attempt to set field rules.

#### **FINDINGS OF FACT**

1. Notice of this hearing was sent to all mineral interest owners within the subject East Seminole (San Andres) Unit ("ESSAU") and to all operators and unleased owners adjacent to the ESSAU. Notice of the subject application was also published in the Lubbock Avalanche-Journal, a newspaper of general circulation in Gaines County, for four consecutive weeks beginning on July 26, 2013.
2. The Seminole, East (San Andres) Field was discovered in May 1959 at an average depth of 5,450 feet.
  - a. There are 22 producing oil wells carried on the proration schedule and Tabula Rasa Energy, LLC ("Tabula") is the only operator in the field.
  - b. Field rules provide for 550'-1,100' well spacing and 40 acre oil units.
  - c. Allocation is based on 75% acres and 25% per well with the top oil allowable based on the 1947 Yardstick Allowable of 102 barrels of oil per day. The allowable gas-oil ratio is 2,000 cubic feet per barrel.
3. The Unit Agreement for the ESSAU was effective November 1, 1970, and was approved by the Commission in Docket No. 8A-60,715, effective April 7, 1971.
  - a. The ESSAU includes 18 tracts covering approximately 1,360 acres.
  - b. The Original Unitized Formation as defined in the ESSAU Unit Agreement is the subsurface portion of the Unit Area commonly

known as the San Andres formation between the subsurface depths of 5,070 feet and 5,501 feet as shown on the log of the Tabula Rasa Energy, LLC - ESSAU, Well No. 30W (API No. 42-165 01007), originally known as the G-M-K Oil Co., Inc. - Ashenhurst "C" Lease, Well No. 1, Section 132, Block G, WT RR Co. Survey, A-1202, Gaines County, Texas.

- c. The Original Unitized Formation extends from the top of the San Andres and includes both the main pay zone ("MPZ") and the upper portion of the residual oil zone ("ROZ") within this formation.
  - d. Tabula proposes to expand the Original Unitized Formation to be the stratigraphic equivalent of the correlative interval between the subsurface depths of 5,145 feet to 5,822 feet in the Tabula Rasa Energy, LLC - ESSAU, Well No. 70 (API No. 42-165-37356), Section 133, Block G, A-254, WT RR Co. Survey, Gaines County, Texas ("Expanded Unitized Formation"), which will include the Original Unitized Formation plus additional, deeper depths of the ROZ within the San Andres formation.
4. Tabula plans to implement an expanded secondary recovery project by injecting saltwater, natural gas and CO<sub>2</sub> into the ESSAU's Expanded Unitized Formation.
    - a. Tabula received Commission administrative approval of the Expanded Secondary Recovery Operations for the ESSAU on April 23, 2013.
    - b. Tabula received Commission approval for the injection of H<sub>2</sub>S for the ESSAU that results from the recycling of injected gases on June 18, 2013, in Oil & Gas Docket No. 8A-0280210.
  5. Tabula proposes to implement the Expanded Secondary Recovery Operations for the ESSAU by drilling 6 injection wells and 3 producing oil wells.
    - a. The project will be implemented in six phases and, at full development, Tabula plans on having 18 CO<sub>2</sub> and natural gas injection wells, 7 saltwater injection wells and 30 producing oil wells on the unit.
    - b. Tabula plans to inject all of the produced saltwater and, when required, will use makeup saltwater from three water supply wells.
    - c. Sweet CO<sub>2</sub> (98% pure) will be purchased from Kinder Morgan CO<sub>2</sub> Company and will be delivered via Tabula's newly constructed 12 mile 6 inch CO<sub>2</sub> pipeline.

- d. The peak injection volume of recycled CO<sub>2</sub> and sweet CO<sub>2</sub> is projected to be 26 MMCFPD, occurring in year 7 of the project.
6. The Expanded Secondary Recovery Operations within the ESSAU are expected to result in the recovery of an estimated 6.7 MMBO, which would otherwise go unrecovered. Of this 6.7 MMBO projected to be recovered by the Expanded Secondary Recovery Operations, approximately 2.2 MMBO are estimated to be produced from the ROZ depths added to the ESSAU within the Expanded Unitized Formation.
  7. The total cost to implement the project is expected to be \$42 million, which will result in an estimated total value of the additional production of \$480 million. The projected return on investment is calculated to be 11.4 to 1. The cost does not exceed the value of additional reserves to be recovered.
  8. The Expanded Secondary Recovery Operations within the Expanded Unitized Formation are necessary to maximize the ultimate recovery of hydrocarbons from the ESSAU and to prevent waste.
    - a. Other available or existing methods or facilities are inadequate for maximizing recovery from the ESSAU.
    - b. The Expanded Secondary Recovery Operations and the ESSAU Unit Agreement, as amended to include the Expanded Unitized Formation ("Unit Agreement"), are subject to all valid rules, orders and regulations of the Railroad Commission.
    - c. The Unit Agreement does not provide for the location of wells nor does the Unit Agreement relieve Tabula from its obligation to develop reasonably the leases in the unit.
    - d. The Unit Agreement does not limit the amount of production nor provide for cooperative refining or marketing of crude petroleum or its by-products.
    - e. The Unit Agreement does not restrict any of the rights which persons now have to pool or unitize, nor does it attempt to set field rules.
    - f. The Unit Agreement is in the interest of public welfare as being reasonably necessary to prevent waste and to promote conservation.
    - g. The reservoir described in the Unit Agreement is identified as a single reservoir for Commission purposes and is a suitable reservoir for conducting the Expanded Secondary Recovery Operations.

**CONCLUSIONS OF LAW**

1. Proper notice was given to all persons legally entitled to notice.
2. All things have occurred or have been accomplished that are necessary to give the Commission jurisdiction in this matter.
3. Applicant's proposed Expanded Secondary Recovery Operations and the Unit Agreement satisfy all of the requirements set out in Tex. Nat. Res. Code Ann. §§101.001-052.
4. Expansion of the Original Unitized Formation to the Expanded Unitized Formation by amending the ESSAU agreement to conduct Expanded Secondary Recovery Operations is in the public interest and is necessary to prevent waste and to promote the conservation of oil or gas or both.

**EXAMINERS' RECOMMENDATION**

Based on the above findings of fact and conclusions of law, the examiners recommend that the Commission approve the Expanded Unitized Formation for the ESSAU and the Expanded Secondary Recovery Operations therein, as set out in the attached final order.

Respectfully submitted,



Richard D. Atkins, P.E.  
Technical Examiner



Marshall F. Enquist  
Legal Examiner