



# RAILROAD COMMISSION OF TEXAS

## HEARINGS DIVISION

**OIL AND GAS DOCKET NO. 02-0292677**

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**THE APPLICATION OF HILCORP ENERGY COMPANY TO CONSOLIDATE THE WEST RANCH (41-A) AND WEST RANCH (98-A) FIELDS AND TO ADOPT FIELD RULES FOR THE PROPOSED WEST RANCH (41-A & 98-A CONSOLIDATED) FIELD, JACKSON COUNTY, TEXAS**

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**HEARD BY:** Paul Dubois – Technical Examiner  
Laura Miles-Valdez – Hearings Examiner

**HEARING DATE:** October 31, 2014

**CONFERENCE DATE:** January 27, 2015

**APPEARANCES:**

**REPRESENTING:**

Bill Hayenga  
Brian Sullivan  
Richard Winchester  
Michael Schoetz  
Abel Salazar  
Jay King

Hilcorp Energy Company

### EXAMINERS' REPORT AND RECOMMENDATION

#### STATEMENT OF THE CASE

Hilcorp Energy Company (Hilcorp) requests that the West Ranch (41-A) and West Ranch (98-A) be consolidated into a new field called the West Ranch (41-A & 98-A Consolidated) Field in order to facilitate unitization and a CO2 flood. Hilcorp also requests that the following permanent field rules be adopted for the West Ranch (41-A & 98-A Consolidated) Field:

1. The entire correlative interval from 5,708 feet to 6,265 feet as shown on the log of the Hilcorp Energy Company, West Jackson Ranch - A - 600 well (API No. 42-239-33580) 26,000 feet FSL and 5,381 feet FSEL of the Ramon Musquiz Survey, A-19, Jackson County, Texas, shall be designated as a

- single reservoir for proration purposes and shall be designated as the West Ranch (41A & 98A Consolidated) Field;
2. 330 feet lease line and zero (0) feet between well spacing;
  3. Standard 20-acre units and optional 10-acre units; and,
  4. Provide for capacity allowables pursuant to Statewide Rule 48.

The application was not protested. The Examiners recommend the fields be consolidated and new permanent rules be adopted for the West Ranch (41-A & 98-A Consolidated) Field.

### **DISCUSSION OF EVIDENCE**

The West Ranch Field was discovered by Mobil Oil in 1938. The field includes six major reservoir and 65 minor zones. Two of these have been designated as the West Ranch (98-A) and the West Ranch (41-A). The production from the fields in the West Ranch are from various Frio age sands. The oil production peaked at about 52,000 BOPD in November 1970 and the field has been in a steady production decline since that time.

The West Ranch (98-A) Field was discovered in 1950. The field operates under rules providing for 20 acre density; 466 feet between well and 933 feet lease line spacing; and allocation based on 50 percent acreage and 50 percent per well. Cumulative production from the field is 49 million BO. There are currently five producing wells in the field which produce a total of about 47 BOPD. All five of the wells are operated by Hilcorp.

The West Ranch (41-A) Field was discovered in 1950. The field operates under rules providing for 20 acre density with optional 10 acre density, 466'-933' well spacing and allocation based on a formula 100% per well. Cumulative production from the field is 91 million BO. There are currently 8 producing wells in the field which produce a total of about 142 BOPD all operated by Hilcorp.

Hilcorp is consolidating these two fields to allow for a unitized CO<sub>2</sub> flood. Waterflooding was initiated to increase pressure in the reservoir and CO<sub>2</sub> injection will begin in the near future. Hilcorp's CO<sub>2</sub> will arrive via pipeline from the NRG WA Parish power plant in Fort Bend County. This will be one of—if not the first—solely anthropogenic CO<sub>2</sub> floods in Texas. Hilcorp is in the process of unitization for these fields. Etaba Operating Company is the only other operator shown in Commission records in the two fields. Etaba has a delinquent P-5 since 1998 and appears on the proration schedule in the West Ranch (41-A) only.

Consolidation of the fields is necessary to efficiently flood the entire interval simultaneously. It would not be economically feasible to conduct two separate floods. A spacing rule providing for a minimum of 330 feet from lease lines with no minimum

between-well spacing requirement is requested in conjunction with 20 acre standard and 10 acre optional density rule. The proposed spacing and density will allow for optimum use of existing wellbores to perform the proposed CO2 flood in all sands within the consolidated fields; Hilcorp will also drill some new wells to fill in the pattern of the flood.

Hilcorp estimates that incremental recovery will increase by 1 percent to 4 percent by wells drilled on 10 acre density. The average recovery increase is expected to be 2.6 percent, resulting in 126 MBO per 10 acre unit.

Hilcorp requests that the West Ranch (41-A & 98-A Consolidated) be designated as the entire correlative interval from 5708 feet to 6265 feet as shown on the log of the Hilcorp Energy Company, West Jackson Ranch - A - 600 well (API No. 42-239-33580) 26,000' FSL & 5,381' FSEL of the Ramon Musquiz Survey, A-19, Jackson County, Texas. Hilcorp also requests that the West Ranch (41A & 98A Consolidated) Field be designated as a single reservoir for proration purposes and that allocation is per Rule 48 "Capacity Allowables."

#### FINDINGS OF FACT

1. Notice of this hearing was given to all persons entitled to notice and there were no protests.
2. The West Ranch (98-A) Field was discovered in 1950. The field operates under rules providing for 20 acre density, 466'-933' well spacing and allocation based on 50% acreage and 50% per well. Cumulative production from the field is 49 million BO. There are currently 5 producing wells in the field which produce a total of about 47 BOPD all operated by Hilcorp.
3. The West Ranch (41-A) Field was discovered in 1950. The field operates under rules providing for 20 acre density with optional 10 acre density, 466'-933' well spacing and allocation based on a formula 100% per well. Cumulative production from the field is 91 million BO. There are currently 8 producing wells in the field which produce a total of about 142 BOPD all operated by Hilcorp.
4. Both zones have been water flooded to increase ultimate recovery and to increase reservoir pressure to prepare for CO2 injection.
5. Hilcorp plans to initiate a C02 flood in both fields to recover additional reserves. Consolidation of the fields will make the C02 flood much more economic. This will be one of or the first tertiary recovery project using solely anthropogenic CO2 in Texas.
6. The West Ranch (41A & 98A Consolidated) shall be designated as the entire

correlative interval from 5708 feet to 6265 feet as shown on the log of the Hilcorp Energy Company, West Jackson Ranch - A - 600 well (API No. 42-239-33580) 26,000' FSL & 5,381' FSEL of the Ramon Musquiz Survey, A-19, Jackson County, Texas.

7. The West Ranch (41-A & 98-A Consolidated) Field should be designated as a single reservoir for proration purposes.
8. The field will undergo a tertiary recovery program; wells in the field can be produced under capacity allowables pursuant to Statewide Rule 48.
9. Incremental recovery will increase by 1 percent to 4 percent by wells drilled on 10 acre density. The average recovery increase is expected to be 2.6 percent, resulting in 126 MBO per 10 acre unit.
10. The 330 foot lease line spacing, zero between well spacing, 20 acre standard units and 10 acre optional density will allow for optimum use of existing wellbores to perform the proposed CO2 flood in all sands within the consolidated fields; Hilcorp will also drill some new wells to fill in the pattern of the flood.

**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 § 1.45
3. Consolidation of West Ranch (98-A) Field and West Ranch (41-A) Field into a new field called the West Ranch (41-A & 98-A Consolidated) Field and adopting the field rules as proposed by Hilcorp is necessary to prevent waste and protect correlative rights.

**RECOMMENDATION**

Based on the above findings and conclusions, the examiner recommends that the West Ranch (98-A) Field and West Ranch (41-A) Field be consolidated into a new field called the West Ranch (41-A & 98-A Consolidated) and that field rules requested by Hilcorp be adopted for the West Ranch (41-A & 98-A Consolidated) Field.

Respectfully submitted,

  
Paul Dubois  
Technical Examiner

  
Laura Miles-Valdez  
Hearings Examiner