

THE APPLICATION OF EXARO ENERGY II, LLC TO CONSOLIDATE VARIOUS LYDA RINCON AND VICKSBURG FIELDS INTO THE LYDA (VICKSBURG LOWER) FIELD AND TO AMEND FIELD RULES FOR THE LYDA (VICKSBURG LOWER) FIELD, STARR COUNTY, TEXAS

HEARD BY: Andres J. Trevino P.E., Technical Examiner
James Doherty- Legal Examiner

HEARING DATE: January 13, 2012

APPLICANT:

Greg Cloud

REPRESENTING:

Exaro Energy II, LLC

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Exaro Energy II, LLC (Exaro) requests that 13 Lyda Rincon and Vicksburg Fields listed in Attachment "A" be consolidated into the Lyda (Vicksburg Lower) Field.

Exaro requests that the following rules be amended for the Lyda (Vicksburg Lower) Field:

1. Designated interval from 6,070 feet to 9,700 feet as shown on the log of the Sun E&P, J.F. Hall State "A", Well No. 11;
2. Well spacing a minimum of 330 feet from lease lines with no between-well spacing limitation;
3. 40 acre drilling units, 10% tolerance and optional 20 acre units, no filing of individual proration plats be required;
4. Allocation based 25% per well and 75% deliverability and allocation formula to remain suspended (No Change);

This application was unopposed and the examiners recommend approval of Exaro's request for field consolidation and field rules.

DISCUSSION OF THE EVIDENCE

Wells producing in the Lyda (Vicksburg Lower) Field were first discovered in 1956 at a depth of 8,496 feet. Twenty Lyda Lower and Middle Vicksburg fields were consolidated and formed the Lyda (Vicksburg Lower) Field in 1994 by order in Oil & Gas Docket No. 04-0205405. There are 22 gas wells and no oil wells carried in the field which are operated

by Exaro and Oxy USA Inc. The designated interval for the field is from 7,490 feet to 9,670 feet as shown on the logs of the Hall State "A", Well No. 1 and the Oryx Energy J.W. Kincaid "B" Well No. 1. The field rules provide for 40 acre oil and gas well density, and 467'-1,200' well spacing. The field is classified as an associated field with AOF status.

The 13 fields which are the subject of this hearing were discovered beginning in 1971. The Lyda structure is a highly faulted, up-thrown block with major fault separation on three sides. The sands themselves are lenticular and were deposited in a deltaic, transgressive sequence. The fields include the Upper Vicksburg sands which are in the late stage of depletion. All 13 fields are non-associated gas fields and all operate under Statewide Rules.

There are a total of 7 wells listed on the proration schedules for the 13 Upper Vicksburg fields with only one actively producing well. The remainder of the completions are shut-in under 14b2 extensions. The 13 Upper Vicksburg fields have produced a total of 3 BCF of gas and 9,539 barrels of condensate. The Lyda (Vicksburg Lower) Field has produced 76.9 BCF of gas and 337,691 barrels of condensate. Exaro plans to drill additional wells in the field to recover remaining reserves.

Exaro requests that the consolidated field be designated as the interval from 6,070 feet to 9,700 feet as shown on the log of the Sun E&P, J.F. Hall State "A", Well No. 11. The expanded interval begins from the top of the 1st Upper Vicksburg sand to the base of the 9250' Vicksburg sand. Consolidation of the various sands into a single field will result in the recovery of additional reserves which would otherwise be uneconomic by producing multiple reservoirs simultaneously.

Exaro will drill additional wells within the depleted reservoirs targeting the various sands within the consolidated interval. The sands are tight with 1 md to 5 md permeability and highly faulted within the area. Exaro believes many fault blocks still exist that have not been drained. Eliminating the between-well spacing requirement will provide opportunities for infill drilling without the need for Rule 37 exceptions.

Exaro requests a density rule of 40 acres with an optional 20 acres for the consolidated field due to the small average drainage pattern on some wells. Drainage calculations performed on four wells show drainage areas vary from well to well and from zone to zone in each well. The Hall "B" No. 2's drainage area varied from 77 acres to 9 acres in two 6865' zones. The Hall State "A" No. 13 had calculated drainage areas of 21 acres to 6 acres in four zones between 7,350 feet to 9,200 feet. The Speer State "D" No. 6 had drainage area of 19 acres in one zone at 8,000 feet. The Speer State "D" No. 2 had drainage areas of 50 acres to 9 acres in eight zones between 6,700 feet to 9,100 feet. The varying individual well drainage is due to the nature of the tight, faulted sandstones.

The Lyda (Vicksburg Lower) Field will consist of numerous sands. The existing two factor allocation formula based on 75% deliverability and 25% per well will remain unchanged.

Exaro requests to eliminate the requirement to file individual proration plats and instead file Form P-15 indicating the number of acres assigned to each well as there will

be no between well spacing and acreage is not part of the allocation formula.

FINDINGS OF FACT

1. Notice of this hearing was sent to all persons legally entitled to notice at least ten days prior to the date of hearing.
2. The Lyda (Vicksburg Lower) Field was formed by the consolidation of twenty Middle and Lower Vicksburg fields in 1994. The field operates under Statewide Rules. The field is classified as an associated field with AOF status. The Lyda (Vicksburg Lower) Field has produced 76.9 BCF of gas and 337,691 barrels of condensate.
3. The 13 subject fields proposed for consolidation were discovered beginning in 1971. All of the fields are non-associated gas fields. There is one producing well in the fields at this time. The 13 Upper Vicksburg fields have produced a total of 3 BCF of gas and 9,539 barrels of condensate.
4. The 13 fields produce from Upper Vicksburg sands which are faulted, fine grained, of low permeability and in the late stages of depletion.
5. All of the fields to be consolidated operate under Statewide Rules.
6. Consolidation of the fields will result in the recovery of additional reserves from the various fields as a result of a lower combined economic limit.
7. The Lyda (Vicksburg Lower) Field should be designated as the correlative interval from 6,070 feet to 9,700 feet as shown on the log of the Sun E&P, J.F. Hall State "A", Well No. 11. The expanded interval adds Upper Vicksburg sands to the designated interval.
8. The proposed 330'0" well spacing rule for the consolidated field will provide flexibility in drilling infill wells for completion in the various undrained, faulted Vicksburg sands without the need for Rule 37 exceptions.
9. A density rule providing for 40 acre density with optional 20 acres is appropriate for the consolidated field as drainage area varies from well to well and zone to zone.
 - a. The Hall "B" No. 2 drainage area varied from 77 acres to 9 acres in two 6865 zones.
 - b. The Hall State "A" No. 13 had drainage areas of 21 acres to 6 acres in four zones between 7,350 feet to 9,200 feet.
 - c. The Speer State "D" No. 6 had drainage area of 19 acres in one zone

at 8,000 feet.

- d. The Speer State "D" No. 2 had drainage areas of 50 acres to 9 acres in eight zones between 6,700 feet to 9,100 feet.
- 10. Allocation based 25% per well and 75% deliverability will protect correlative rights and satisfy statutory requirements.
- 11. The Lyda (Vicksburg Lower) Field is currently producing at 100% AOF.

CONCLUSIONS OF LAW

- 1. Proper notice of this hearing was given to all persons legally entitled to notice.
- 2. All things have occurred or been accomplished to give the Railroad Commission jurisdiction in this matter.
- 3. Consolidation of the fields as proposed by Exaro Energy II, LLC is necessary to prevent waste and protect correlative rights.
- 4. The proposed field rules will prevent waste, protect correlative rights, and satisfy statutory requirements.

EXAMINER'S RECOMMENDATION

Based on the above findings and conclusions, the examiners recommend that the 13 subject fields be consolidated into the Lyda (Vicksburg Lower) Field and that the requested field rules be adopted for the Lyda (Vicksburg Lower) Field.

Respectfully submitted,

Andres J. Trevino P.E.
Technical Examiner

James Doherty
Hearings Examiner

Attachment "A"

<u>Field Name</u>	<u>Field Number</u>
LYDA (RINCON W)	55878 210
LYDA (RINCON 7460 VXBG)	55878 230
LYDA (VICKSBURG 6350)	55878 332
LYDA (VICKSBURG 6670)	55878 341
LYDA (6865 VICKSBURG)	55878 350
LYDA (VICKSBURG 6940)	55878 400
LYDA (VICKSBURG 7800)	55878 440
LYDA (VICKSBURG 8100)	55878 450
LYDA (6990 3 RD VXBG)	55878 677
LYDA (7000 3 RD VXBG)	55878 679
LYDA (7350 3 RD VXBG)	55878 683
LYDA (7570 4 TH VXBG)	55878 700
LYDA (7860 4 TH VXBG)	55878 720