

October 30, 2006

OIL AND GAS DOCKET NO. 04-0248844

APPLICATION OF SHELL WESTERN E&P TO CONSOLIDATE VARIOUS EL EBANITO, HINDE AND BOROSA FIELDS INTO THE HINDE (VICKSBURG CONSOLIDATED) FIELD AND AMEND THE FIELD RULES FOR THE HINDE (VICKSBURG CONSOLIDATED) FIELD, STARR COUNTY, TEXAS

HEARD BY: Thomas H. Richter, P.E.

DATE OF HEARING: October 26, 2006

APPEARANCES:

George Zimmerman

Sunitha Kesavan

Brad Suddarth

REPRESENTING:

Shell Western E&P

EXAMINER'S REPORT AND RECOMMENDATION
STATEMENT OF THE CASE

This is the unprotested application of Shell Western E&P for the Commission to consider consolidating 20 fields (see Attachment "A") into the Hinde (Vicksburg Consolidated) Field. The special field rules adopted by Order No. 04-0223429, effective January 25, 2000, as amended provide for:

1. The entire combined correlative interval from 6,100' to 11,900' as shown on the SP-Resistivity log of the Phillips Petroleum Company, Bentsen Lease Well No. 10-A (API No. 42-427-00863), Starr County, Texas, is designated as the Hinde (Vicksburg Consolidated) Field.
2. Minimum well spacing of 467'/660' (leaseline/between well);
3. Oil and gas proration density of 80 acres and 10% tolerance for gas wells and 40 acre tolerance for oil wells and a maximum diagonal of 3,250' and optional 40 acre oil and gas well density and a maximum diagonal of 2,100'; and
4. An allocation formula based on 95% deliverability and 5% per well for gas wells and exempt allowables for oil wells. The allocation formula for gas field is suspended. The field is designated as Associated-Prorated and not subject to 49(b) classification. Shell Western E&P proposes that the rules be amended as follows:

1. The entire combined correlative interval from 6,100' as shown on the composite log of two wells based on the SP-Resistivity log of the Phillips Petroleum Company, Bentsen Lease Well No. 10-A (API No. 42-427-00863) and the Eocene Contact (Jackson Shale) at 11,125' as shown on the Computer Processed log of the Shell

Western E&P, T.B. Slick Estate Lease Well No. 135 (API No. 42-427-33431), Starr County, Texas, should be designated as the Hinde (Vicksburg Consolidated) Field.

2. Minimum well spacing of 467'/0' (leaseline/between well);
3. 80 acre gas or oil proration unit density with 10% tolerance for gas wells and 40 acre tolerance for oil wells and optional 40 acre oil and gas unit density and no maximum diagonal requirements. Further, no requirement for the filing on proration unit plats and Form P-15.
4. No change and continuation of suspension of the allocation formula.

The examiner recommends approval of the application.

DISCUSSION OF THE EVIDENCE

The Hinde (Vicksburg Consolidated) was the result of the consolidation of 7 Hinde Vicksburg Formation Fields by Order No. 04-0223429, effective January 25, 2000. Commission Order No. 04-0238491, effective June 22, 2004, consolidated 9 other Hinde, El Ebanito and Borosa Fields into the Hinde (Vicksburg Consolidated) Field.

Consolidation of the subject 20 additional fields into the Hinde (Vicksburg Consolidated) Field will provide for the orderly development of the reservoirs. The reservoirs are a series of stacked Vicksburg Formation sands that are heterogeneous (porosity, permeability and thickness) and are lenticular from well to well over short distances. Many of the sand stringers are not stand alone economic producing sands. The fields have also grown together horizontally which increases difficulty in determining field designations. The field area is complexly faulted with three main trending faults and numerous splinter faults. The entire combined correlative interval from 6,100' as shown on the composite log of two wells based on the SP-Resistivity log of the Phillips Petroleum Company, Bentsen Lease Well No. 10-A (API No. 42-427-00863) and the Eocene Contact (Jackson Shale) at 11,125' as shown on the Computer Processed log of the Shell Western E&P, T.B. Slick Estate Lease Well No. 135 (API No. 42-427-33431), Starr County, Texas, should be designated as the Hinde (Vicksburg Consolidated) Field.

The current field status is as follows. There are 7 operators in the field and 150 wells [the Hinde (Vicksburg Consolidated) Field has 64 wells]. Well completions in the consolidated section will allow for timely completions in those zones where sands are present which in effect lowers the economic producing limit for all the zones and will increase the ultimate recovery from each member. Basic reservoir parameters are: porosity from 10 to 24%, water saturation from 35 to 65%, permeability from 0.001 to 2.0 millidarcies (all wells must be fracture stimulated). The reservoir drive mechanism of all the reservoirs is pressure depletion.

Proration units of 80/optional 40 acres are necessary to provide for the effective and efficient depletion of the reservoir. All the reservoirs have been developed on 80 and/or 40 acre optional

acre density. Numerous downhole commingling exceptions have been granted since 1997 and there have been no adverse effects documented. Cumulative production from the three fields areas are: Hinde Fields 82 BCF; El Ebanito Fields 66 BCF; Borosa Field 71 BCF. The requirement for proration unit plats and certification are not necessary and should not be required. There is no between well spacing and acreage is not a representative factor in the reserves that a well can recover in a multiple horizon, lenticular field. Hydrocarbon reserve recovery is a function of encountering a lense and deliverability of that lense.

Minimum well spacing of 467'0' (lease line/between well) will provide uniform flexibility in locating wells in the subject consolidated field. No between well spacing is warranted because many of the wells as originally permitted were in different zones and may now be re-completed in all the zones.

The allocation formula should be suspended as there is 100% market for all the gas from the respective field.

EXAMINER'S OPINION

Special Field Rule No. 3 as adopted by Order No. 04-0238491, effective June 22, 2004, does provide for the following in part: "... Operators shall file with the Commission certified plats of their properties in said field, which plats shall set out distinctly all of those things pertinent to the determination of the acreage credit claimed for each well; provided that if the acreage assigned to any proration unit has been pooled, the operator shall furnish the Commission with such proof as it may require as evidence that interests in and under such proration unit have been so pooled."

The filing of certified proration unit plats and Commission Form P-15 Statement of Productivity of Acreage Assigned to Proration Units is not required pursuant to Statewide Rule 31(c)(1) which states in part "... Requirements for gas wells in a field for which an allocation formula has been adopted. If acreage is a factor in the allocation formula, a certified plat showing the acreage assigned to the well for proration purposes shall be submitted. The plat must be accompanied by a statement that all of the acreage claimed can reasonably be considered productive...". The allocation formula (Rule 4) does not require acreage to be a factor in allowable determination. The allocation formula adopted for this field is based on 95% deliverability/potential and 5% per well. In addition, the allocation formula is suspended and the oil well allowables are exempt from proration.

FINDINGS OF FACT

1. Notice of this hearing was sent to all operators in the subject field at least ten (10) days prior to the subject hearing.
2. There was no protest at the call of the hearing.
3. The Hinde (Vicksburg Consolidated) was the result of the consolidation of 7 Hinde

Vicksburg Formation Fields by Order No. 04-0223429, effective January 25, 2000. Commission Order No. 04-024238491, effective June 22, 2004, consolidated 9 other Hinde, El Ebanito and Borosa Fields into the Hinde (Vicksburg Consolidated) Field. The field rules are as follows:

- a. The interval is from 6,100' to 11,900'; minimum well spacing of 467'/660' ; oil and gas proration density of 80 acres and optional 40acre oil and gas well density and an allocation formula based on 95% deliverability and 5% per well for gas wells and exempt allowables for oil wells.
 - b. The allocation formula for gas field be suspended and the field is designated as Associated-Prorated and not subject to 49(b) classification.
4. Consolidation of the subject 20 additional fields into the Hinde (Vicksburg Consolidated) Field will provide for the orderly development of the reservoirs.
 - a. The reservoirs are a series of stacked Vicksburg Formation sands that are heterogeneous and are lenticular from well to well over short distances.
 - b. Many of the sand stringers are not stand alone economic producing sands.
 - c. The fields have also grown together horizontally which increases difficulty in determining field designations and the field area is complexly faulted with three main trending faults and numerous splinter faults.
5. The entire combined correlative interval from 6,100' as shown on the composite log of two wells based on the SP-Resistivity log of the Phillips Petroleum Company, Bentsen Lease Well No. 10-A (API No. 42-427-00863) and the Eocene Contact (Jackson Shale) at 11,125' as shown on the Computer Processed log of the Shell Western E&P, T.B. Slick Estate Lease Well No. 135 (API No. 42-427-33431), Starr County, Texas, should be designated as the Hinde (Vicksburg Consolidated) Field.
6. Minimum well spacing of 467'/0' (leaseline/between well) will provide uniform flexibility in locating wells in the subject consolidated field. No between well spacing is warranted because many of the wells as originally permitted were in different zones and may now be re-completed in all the zones.
7. The requirement for proration unit plats and certification are not necessary and should not be required.
 - a. There is no between well spacing and acreage is not a representative factor in the reserves that a well can recover in a multiple horizon, lenticular field.
 - b. Hydrocarbon reserve recovery is a function of encountering a lense and

deliverability.

- c. The allocation formula adopted for this field is based on 95% deliverability/potential and 5% per well.

CONCLUSIONS OF LAW

1. Proper notice was given to all parties as set out in the provisions of all applicable codes and regulatory statutes.
2. All things have occurred and been accomplished to give the Commission jurisdiction in this matter.
3. Consideration for consolidation of fields and field rules, a determination of the effectiveness of the rules and appropriate actions is a matter within the Commission jurisdiction.
4. Adoption of the proposed consolidation of fields and adoption of the proposed field rules will prevent waste, foster conservation and protect correlative rights.

EXAMINER'S RECOMMENDATION

Based on the above findings and conclusions of law, the examiner recommends approval of the proposed field consolidation and field rules for the Hinde (Vicksburg Consolidated) Field.

Respectfully submitted,

Thomas H. Richter, P.E.
Technical Examiner
Office of General Counsel

ATTACHMENT "A"

FIELD NAME

FIELD NUMBER

El Ebanito (Lwr Vicksburg Cons)
El Ebanito (Vicksburg 7300 U-1)
Hinde, West (Marker III SD.)

27962 515
27962 750
41545 300

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| Hinde, West (Vicksburg 7) | 41545 470 |
| Hinde, West (Vicksburg 8) | 41545 480 |
| Hinde, West (Vicksburg-18) | 41545 500 |
| Hinde, W. (Vicksburg 7600) | 41545 700 |
| Borosa, N.W. (Vicksburg 9250) | 10715 800 |
| Borosa, S. (FB B 7750) | 10716 200 |
| Borosa S. (T-4) | 10716 562 |
| Borosa, S. (Vicksburg Various) | 10716 575 |
| Borosa, S. (Vicksburg 7200) | 10716 900 |
| Borosa, South (Vicksburg 7600) | 10716 925 |
| Borosa, S. (Vicksburg 8850) | 10716 932 |
| Borosa, E. (7830 Vicksburg) | 10712 400 |
| Borosa, S. (FB B 5900) | 10716 187 |
| Borosa, S. (Vicksburg 5900) | 10716 825 |
| Borosa, S. (Vicksburg 6300) | 10716 850 |
| Borosa, S. (Vicksburg 8200) | 10716 928 |
| Borosa, S. (Vicksburg 9B) | 10716 812 |