



RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL AND GAS DOCKET NO. 04-0295956

THE APPLICATION OF OXY USA INC. PURSUANT TO STATEWIDE RULE 101 FOR DESIGNATION OF THE VICKSBURG FORMATION, HINDE (VICKSBURG CONSOLIDATED) FIELD AS A TIGHT GAS FORMATION IN STARR COUNTY, TEXAS

HEARD BY: Peggy Laird, P.G. – Technical Examiner
Ryan Lammert – Administrative Law Judge

HEARING DATE: February 22, 2016

CONFERENCE DATE: August 24, 2016

APPEARANCES: **REPRESENTING:**

APPLICANT:

John Soule
Mimi Winetroub

OXY USA, Inc.

EXAMINERS' REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Pursuant to Statewide Rule 101 (16 Tex. Admin. Code §3.101), OXY USA Inc. ("OXY") seeks a tight formation area designation for a portion of the Vicksburg Formation in the Hinde (Vicksburg Consolidated) Field, Starr County, Texas. Statewide Rule 101 specifies the procedure by which an operator can obtain Commission certification that natural gas from a particular gas well qualifies as high-cost gas under Texas Tax Code §201.057(a)(2)(A) and that such gas is eligible for a reduction of the severance tax imposed by Texas Tax Code §201.

OXY seeks Commission certification that the correlative geologic interval from 7,103 feet, as shown on the log of the Phillips Petroleum Company, Bentsen Lease Well No. 10-A (API No. 42-427-00863) to 8,805 feet, as shown on the log of the Shell

Western E&P, T.B. Slick Estate Lease Well No. 135 (API No. 42-427-33431) within the Hinde (Vicksburg Consolidated) Field (the "Proposed Interval") is a tight formation area pursuant to Statewide Rule 101(f). OXY also seeks approval of the filing date of one Form ST-1 (individual well certification). The application was not protested. The Technical Examiner and Administrative Law Judge, (collectively "Examiners") recommend OXY's application be granted.

APPLICABLE LAW

Statewide Rule 101 specifies the procedure by which an operator can obtain Railroad Commission of Texas certification that natural gas from a particular gas well qualifies as high-cost natural gas under the Texas Tax Code and is eligible for a reduction of the severance tax. One of the categories of high-cost gas is gas that is produced from a designated tight formation area. To obtain a tight formation area designation pursuant to Statewide Rule 101(f)(3)(B), an applicant must provide evidence required by Statewide Rule 101 to demonstrate the following:

- i. The *in situ* permeability throughout the proposed formation or specific portion thereof is 0.1 millidarcies (md) or less, as determined by geometric mean or median analysis of available data from all wells that either have been tested or are completed in the proposed formation within the requested area;
- ii. The pre-stimulation stabilized production rate against atmospheric pressure at the wellhead, as determined by a geometric mean or median analysis of the available data from all wells within the requested area that either have been tested and/or are completed in the proposed formation or specific portion of thereof, does not exceed the production rate specified in the rule;
- iii. No well drilled into the formation is expected to produce, without stimulation, more than five barrels of crude oil per day; and
- iv. The requested designated area does not extend beyond a two and one-half mile radius drawn from any data point well.

The requirements specified above must all be met for administrative approval (no hearing required). An applicant may request a hearing if the application does not meet all requirements for administrative approval or is incomplete according to Statewide Rule 101(g)(2) and (3). The Commission has, after a hearing on the request, approved tight formation area designations that meet all of the criteria listed above except that specified in Statewide Rule 101(f)(3)(B)(iv). In those cases, the applicants demonstrated that the subject formation was broadly continuous across a large area, that the available data is representative of the formation across the entire proposed tight formation area and meets the requirements of Rule 101(f)(3)(B)(i) through (iii). Such is the case in the present matter.

DISCUSSION OF EVIDENCE*Tight Formation Area Designation*

The Hinde (Consolidated Vicksburg) Field is a non-associated gas field in Starr County, Texas. There are no oil wells in the field. The field correlative interval is from 6,100 feet as shown on the log of the Phillips Petroleum Company, Bentsen Lease Well No. 10-A (API No. 42-427-00863) to 11,125 feet, as shown on the log of the Shell Western E&P, T.B. Slick Estate Lease Well No. 135 (API No. 42-427-33431). Wells completed in the field require fracture stimulation for sustained commercial production.

The proposed tight formation area (the "Proposed Area") is within the geographic boundaries of the following surveys and abstracts in Starr County.

Survey	Abstract
JIMENEZ, G. / CCSD&RGNG RR CO	A-921
CCSD&RGNR RR CO	A-242
JIMENEZ, G. / CCSD&RGNG RR CO	A-923
CCSD&RGNG RR CO	A-366
DAVENPORT, F.	A-1124
RAMIREZ, J., WILLIAMS, J.	A-934
RAMIREZ, J, KIRTLAND, D.	A-935
FLORES, Y	A-725
SALINAS, N.	A-411

OXY seeks Commission certification that the correlative geologic interval from 7,103 feet to 8,805 feet within the Hinde (Consolidated Vicksburg) Field is a tight formation area. Several of the Vicksburg sands within the Proposed Interval have been designated as tight formation areas in one or more of eight other tight formation area designations that overlap portions of the Proposed Area. The Proposed Interval includes Vicksburg sands OXY identified as the T5, T6, T8, T9, T10 and T11. OXY indicated that the Vicksburg T9f and T10.5 may be referenced as separate sands, but are part of the T9 and T10 for purposes of this application. Attachment A provides the OXY nomenclature for existing tight areas that overlap the Proposed Area.

The Proposed Area covers 13,450 acres, and the average depth to the top of the Proposed Interval is 5,500 to 6,000 feet or deeper. Pursuant to Statewide Rule 101(f)(3)(B)(i), the *in situ* permeability throughout the proposed formation must be 0.1 md or less. Pursuant to Statewide Rule 101(f)(3)(B)(ii), the unstimulated production rate for a tight gas formation with an average depth to the top of the formation from 5,500 feet to 6,000 feet may not exceed 188 thousand cubic feet (MCF) of gas per day. To demonstrate that the Proposed Interval within the Proposed Area is a tight formation, OXY presented the results of 136 data point well analyses for the individual Vicksburg sands within the Proposed Interval and 70 additional data point well analyses for various combinations of the individual Vicksburg sands. Formation permeability was

evaluated using PROMAT modeling. Expected flow rates were determined using ONEPT modeling. According to OXY, both models are industry standard for such evaluations and have been relied upon by the Commission for previous tight formation area designations. Based on the modeling results, OXY determined the following:

		Perm (md)	Flowrate (mcf/d)
T-5 Only	geomean	0.018142	48
	median	0.017955	83
T-6 Only	geomean	0.019867	70
	median	0.020985	69
T-8 Only	geomean	0.020045	78
	median	0.020730	71
T-9 Only	geomean	0.009035	62
	median	0.008906	64
T-10 Only	geomean	0.004133	23
	median	0.005902	27
T-11 only	geomean	0.004004	62
	median	0.005122	97
Comb. Only	geomean	0.005144	139
	median	0.003322	110
All, 1-206	geomean	0.008994	78
	median	0.008804	90

The *in situ* permeability and flowrate statistics for individual zones, combined flow zones and all-zone analyses satisfy the requirements of Statewide Rule 101(f)(3)(B).

Statewide Rule 101(f)(3)(B)(iv) requires that the proposed designated area not extend beyond a 2.5 mile radius drawn from any data point well. There are small areas at some geographic boundary corners within the Proposed Area for four of the six individual Vicksburg sands (T5, T6, T10 and T11) that are more than 2.5 miles from a data point well. The Proposed Interval is, however, generally continuous and consistent across the Proposed Area. A structure map, a cross-section and testimony from OXY's expert witness demonstrated that the Vicksburg sands within the Proposed Interval are continuous and geologically consistent across the entire Proposed Area. The common, dominant feature of the Vicksburg Deltaic Sandstone in the Rio Grande Embayment is the Vicksburg Fault Zone, and structural complexity increases with depth. Faulting has resulted in a series of lenticular sands with compatible reservoir fluids, as with the subject Vicksburg T5 through T11 sands in the Proposed Area. The eight previously approved Starr County Vicksburg tight gas area designations reference the common geologic characteristics across the named sands in each area interval. As offered by OXY, the available data is representative of the Proposed Interval across the proposed tight formation area.

The Examiners conclude that OXY has met its burden of proof under Statewide Rule 101 and the proposed area should be designated by the Commission as a tight formation area.

Form ST-1

In this hearing, OXY presented evidence to justify their request for Commission approval of the filing date for one Form ST-1 for the Slick, T.B. Estate, Well #258. The Form ST-1 is used to certify that a well is completed within a designated tight formation area so the operator can obtain a severance tax reduction through filings with the Comptroller. Although Tax Code §201.057(e) provides that an application for tight-cost gas certification may be made "any time after the first day of production," Statewide Rule 101 requires that a tight-formation area docket number be listed on Form ST-1. The filing date of a Form ST-1 is important because the severance tax reduction can extend back no further than two years from the filing date. OXY testified that historically, in cases where an area designation application will not meet the requirements for administrative approval, the Commission has treated the filing of a request for hearing, together with the information required for notice, as the filing of an application for purposes of being able to file the Form ST-1. OXY stated that nothing in Statewide Rule 101 expressly requires the filing of a "complete" application prior to filing Form ST-1.

OXY filed its request for hearing, together with all information required for notice, on March 13, 2015. Its request for hearing was assigned a docket number. After docketing of the application, OXY was advised that filing a "complete" application with Commission staff and staff's review of that application was necessary before the application would be set for hearing. OXY considered this a change in historical Commission practice. Because of concern about potential delay, OXY met with staff in order to determine what would constitute the filing of a "complete" application. Agreement was reached and OXY filed its "complete" application on November 12, 2015. On July 31, 2015, between the filing of its original application (request for hearing) and the filing of its "complete" application, OXY filed Form ST-1 for the Slick, T.B. Estate, Well #258. In January 2016, OXY was advised by staff that it would not administratively approve the filing date of a Form ST-1 that was earlier than filing of the "complete" application. In other words, the Form ST-1 filed on July 31, 2015, would be given a filing date of November 12, 2015. Staff suggested to OXY that it seek approval of the July 31, 2015, filing date at hearing. An amended notice of hearing was requested and issued to allow determination of the filing date of the Form ST-1.

EXAMINERS' OPINION

The Examiners conclude that OXY has met its burden of proof under §201.057 of the Texas Tax Code and Statewide Rule 101. The application for tight formation area designation should be approved. The Examiners acknowledge the apparent confusion regarding the timing and filing of a "complete" application, and conclude that the filing date of the Form ST-1 for the Slick, T.B. Estate, Well #258 should be July 31, 2015.

FINDINGS OF FACT

1. Notice of the application was sent to all persons entitled to notice at least twenty-one (21) days prior to Commission review of the application.
2. Notice of hearing was sent to all persons entitled to notice at least ten (10) days prior to the date of the hearing.
3. No protests of the application were received.
4. The proposed tight formation area consists of approximately 13,450 acres in Starr County.
5. OXY provided data from 206 data point wells for the proposed tight formation area.
 - a. The geometric mean *in situ* permeability for all zones is 0.008994 md, which is less than the 0.1 md requirement of Statewide Rule 101.
 - b. The geometric mean of the pre-stimulation stabilized production rate against atmospheric pressure for all zones is 78 MCF per day, which is below the 188 MCF per day requirement of Statewide Rule 101.
 - c. The median *in situ* permeability and the median of the stabilized flowrate are also below the requirements of Statewide Rule 101.
6. The Hinde (Consolidated Vicksburg) Field is a non-associated gas field.
7. Wells drilled in the Hinde (Consolidated Vicksburg) Field require fracture stimulation for sustained commercial production.
8. No well drilled into the proposed tight-gas interval is expected to produce, without stimulation, more than five barrels of crude oil per day. There are no oil wells in the field.
9. Portions of the requested area extend beyond a two and one-half mile radius drawn from any data point well. The evidence in the record demonstrates that the available data is more than sufficient to establish that the requested area meets the permeability and flow rate requirements of Statewide Rule 101.
10. The application (request for hearing) filed March 13, 2015, was docketed as an application for a tight formation area designation. The Form ST-1 for the Slick, T.B. Estate, Well #258, was filed on July 31, 2015, after the filing of the application for a tight formation area designation.

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 § 101(f)(2)
3. The requested tight formation area meets the requirements of Statewide Rule 101. 16 Tex. Admin. Code §3.101(f) and §201.057 of the Texas Tax Code.
4. The application filed on March 13, 2015, satisfied the requirements for filing a tight formation area designation. The individual well certification, Form ST-1, for the Slick, T.B. Estate, Well #258 was properly filed on July 31, 2015, after the tight formation area designation application was filed. 16 Tex. Admin. Code §101(f)(1).

RECOMMENDATION

Based on the above findings of fact and conclusions of law, the Examiners recommend the correlative geologic interval from 7,103 feet, as shown on the log of the Phillips Petroleum Company, Bentsen Lease Well No. 10-A (API No. 42-427-00863) to 8,805 feet, as shown on the log of the Shell Western E&P, T.B. Slick Estate Lease Well No. 135 (API No. 42-427-33431) Starr County, Texas, and within the surveys and abstracts shown below, be designated as a tight formation area pursuant to Statewide Rule 101(f). The examiners also recommend approval of July 31, 2015, as the filing date for the Form ST-1 for the Slick, T.B. Estate, Well #258.

Survey	Abstract
JIMENEZ, G. / CCSD&RGNG RR CO	A-921
CCSD&RGNR RR CO	A-242
JIMENEZ, G. / CCSD&RGNG RR CO	A-923
CCSD&RGNG RR CO	A-366
DAVENPORT, F.	A-1124
RAMIREZ, J., WILLIAMS, J.	A-934
RAMIREZ, J, KIRTLAND, D.	A-935
FLORES, Y	A-725
SALINAS, N.	A-411

Respectfully submitted,



Peggy Laird, P.G.
Technical Examiner



Ryan Lammert
Administrative Law Judge

Attachment A

Docket No. 04-0295956

Oxy Nomenclature Zones for Existing Tight Areas that Overlap Proposed Tight Area Application

Approved Tight Area Docket Number	Named Fields or Formation Only, if no RRC fields named	Designated Interval	Type log well	API number	Oxy Nomenclature Zones (All or Part)
04-0240639	El Banito (Lwr Vicksburg Cons)	7,700 – 10,568	T B Slick Estate #150	42-427-33578	T-11, T-12
04-0233196	Hinde, West (Vicksburg-18)	7,230 – 7,300	T B Slick Estate #122	42-427-33075	T-8
04-0235506	Borosa, S. (Vicksburg 8850)	8,715 – 9,010	T B Slick Estate 533 #1	42-427-33063	T-8
04-0235677	Borosa, N.W. (Vicksburg 9250)	8,840 – 9,140	Southwest Farm and Ranch #8	42-427-33013	T-8
04-98,197	Vicksburg 11 Sand Formation	8,900 – 9,160	T B Slick #67	42-427-31291	T-9
04-98,199	Vicksburg 24 Sand Formation	10,340 – 10,910	T B Slick #67	42-427-31291	T-11
04-98,200	Vicksburg 20 Sand Formation	9,160 – 9,490	T B Slick #67	42-427-31291	T-9
04-76,658	Hinde (Vicksburg) Hinde (Vicksburg 11, Seg 1) Hinde (Vicksburg 21) Hinde (8500) Hinde (9250) El Ebanito (R-2) El Ebanito (U-3) El Ebanito (Vicksburg 7300 U-1) Borosa (Vicksburg 21) Borosa, S. (FB B 7750) Borosa, S. (Vicksburg Various) Borosa, S. (Vicksburg 98) Borosa, South (Vicksburg 7200) Borosa, South (Vicksburg 7600)	8,548 – 12,310	T B Slick #67	42-427-31291	T-6 through T-13, Nicholson, Yegua (base of Consolidated field type log interval at Jackson Shale)