



# CES WIRELINE

A newsletter of the Research & Development Division of LSU's Center for Energy Studies\*  
[www.enrg.lsu.edu](http://www.enrg.lsu.edu)

Vol. 1, No. 2

Spring 2005

*\*For the first ten years or so of CES's 22-year history, we frequently issued and mailed newsletters and other printed media. With the advent of the Internet and a couple of reorganizations we have drifted away from these publications, and now we are moving back to these types of communications based on requests we have received.*

## **An Assessment of Louisiana's Re-entered Well Program 1994-2004**

[Robert H. Baumann](#), [Allan G. Pulsipher](#), and [Mark J. Kaiser](#)

The Louisiana Severance Tax Relief Program (STRP) for inactive wells was created by Act 2 of the 1994 Regular Session of the Louisiana Legislature. STRP was amended in 1998, and again in 2002. During the 2002 renewal, the period of severance exemption was reduced to two years, making Louisiana's incentive program less competitive than most other oil and gas producing states. A renewal attempt will occur during the 2005 Regular Session, where it is anticipated that proposed legislation will seek to return to a five-year severance tax exemption. The purpose of this article is to describe the economic impact of Louisiana's incentive program and the factors that have contributed to its recent decline in production and activity.

### **History**

In 1994, the Louisiana Legislature passed several drilling incentives that included a reduction in severance tax for re-entry of inactive wells<sup>1</sup>. The definition of an inactive well varies with each state, but is generally considered to be a well that has not produced hydrocarbons for a specified duration and time horizon. Louisiana's action followed that of Texas's and was followed by eleven other states and at least one Canadian province.

Whereas, Texas required a well to be inactive for at least three years and provided a total reduction in severance for a period of ten years, Louisiana opted for a two-year inactive period and a total reduction in severance for five years. Both states included a sunset provision.

Louisiana's modification of the Texas legislative act was based on two factors. First, since over 90% of Louisiana wells that were inactive for two years stayed inactive for three years or longer, a two-year incentive period was considered appropriate. Thus, there

was only a modest increased risk to the state that it would lose some severance tax from wells that would have been reactivated between the second and third year of inactive status. The ten-year severance tax suspension enacted by Texas was also considered politically too generous, since the economic return required by an operator was thought to be far fewer than ten years. Thus, there was little expectation that additional wells would be re-entered by providing a tax incentive for more than five years.

### **Renewal Attempt**

The Louisiana STRP for inactive wells was amended by Act 7 of the 1998 Regular Session and Act 74 of the 2002 Regular Session. During the 2002 renewal, the period of severance exemption was reduced to two-years, making Louisiana's incentive period less than most of its competitors (Table 1). Although the incentive does not expire until mid 2006, a renewal attempt will occur during the 2005 Regular Session (House Bill 216 prefiled). It is anticipated that legislation will seek to return the program to a five-year severance tax exemption.

### **Approach**

In Louisiana, tax bills, as well as other bills that have a fiscal impact to the state, require a fiscal statement. These statements deal only with direct impacts. Input-output models that provide calculations of indirect impacts (such as jobs, dollars in the economy, and other estimated tax collections generated) provide useful anecdotal information, and can help "sell" legislation, but the fiscal note is largely limited to direct dollars in or out.

The Louisiana inactive well program has existed for more than a decade, and

this provides us with an unusually long period to measure the success, or lack thereof, of the program. Several other states have an equally long incentive history, yet, there remains a paucity of analysis - although during the early period of the Texas program, the Railroad Commission disseminated some economic success stories. In this analysis, we focus our discussion on the direct fiscal impact to severance and state royalty collections, although we have included comments with respect to other factors.

### **Results**

Production from re-entered wells is depicted in Figure 1 and includes both the production from newly re-entered wells in a given year plus any combined production from re-entered wells in prior years. For the period 1990-1994, we calculated the base production from re-entered wells, which was fully taxable and amounted to nearly 2.7 MMBOE/yr. Observe that 30 MBOE/yr of the 2.7 MMBOE/yr production was in the form of state-owned royalty (Table 2).

To determine if there is any production from the re-entered wells after the severance tax exemption period is over, the base period data was compared to production, severance, and royalty data during 1994-2004. Production from re-entered wells subject to severance tax began in 2000. By 2004, the total re-entered well production subject to severance amounted to 5.3 MMBOE, or nearly twice the base period production. From 1994-2004, the production subject to severance amounted to 1.4 MMBOE/yr, or about one half the base period (Table 2). On a dollar basis, however, the annual average severance collected was virtually the same between 1994-2004

and the base period due to higher commodity prices in recent years (Table 2 and Figure 1).

In terms of total production, the 1994-2004 period averaged 12.0 MMBOE/yr in comparison to the base period of 2.7 MMBOE/yr (Table 2). Re-entered well production peaked in 1999 at 24.8 MMBOE, roughly nine times the base period production, and has since declined to 7.9 MMBOE, still nearly three times the base period level. During the past three years, the number of successful re-entries averaged 102, identical to the 1990-1994 base period. Total production was substantially higher in 2002-2004 due in part to the higher production per successful re-entry. The remaining production difference is due to some continued production from wells re-entered during the 1995-1999 boom period. As the production half-life of these re-entered wells is 1.8 years, it will take a considerable increase in activity to maintain current production levels.

State royalty production averaged 530 MBOE/yr from 1994-2004 and 30 MBOE/yr during the base period (Table 2). This is clearly where the state made its money, and if one factors in the three-fold price increase that occurred during the study period, state royalties increased from \$0.3 MM/yr to \$10.7 MM/yr. Admittedly, the state royalty production during the base period appears low in comparison to the total state royalty to statewide production ratio, and if this is used as a guide, we would have expected approximately 100 MBOE/yr of state royalty production during the base period. Even so, at 530 MBOE/yr the incentive period produced an annual average state royalty production that was still more than five times higher.

While state royalty production generally follows the trend of total re-entered well production (Figure 2), the percentage of royalty to total re-entered production has increased during the time period. Two factors have contributed to this trend. First, the average royalty rate has increased by about two percentage points during the time period, probably a result of the more rapid depletion or expiration of older leases that paid lower royalty rates. Second, the average percentage of successful re-entries on state-owned leases compared to non-state-owned leases increased by about seven percent during the incentive time period, with five percent of the increase occurring since 2001.

## **Discussion**

While the production and combined direct income to the state from severance and royalties from re-entered wells were substantially larger during the incentive period in comparison to the base period, the recent trend of decreasing activity is troubling.

Bench scientists often have the luxury of isolating variables and determining their individual impact. Unfortunately, we have no such luxury since the output metrics represent the cumulative impact of several concurrent variables. Rising oil and gas prices for example normally result in increased activity, yet activity and production decreased during several years of high commodity prices. Obviously, other factors must be more dominant.

In Louisiana, the severance tax on oil is nearly three times that on natural gas. Thus, the incentive of removing severance should favor oil producers. Statistical evidence supports this claim. On an energy basis, total state production is weighted towards natural

gas by approximately 70:30. Production from re-entered wells, however, was 51:49 in favor of oil, showing that operators responded more favorably to the commodity with the greater incentive.

The boom in re-entered well production from 1996-1999 was greater than our previous prediction<sup>1</sup>, and a substantially larger percentage increase relative to Texas. A likely reason is that Louisiana was in the midst of a 3-D seismic boom, and many of the re-entered wells were drilled with offsets into previously unknown fault blocks, resulting in a handful of “home runs.” The timing of the incentives concurrent with technological advances in seismic interpretation and in multi-lateral drilling was probably a key factor involved in the boom.

### **Factors**

The decline in production and activity in Louisiana’s re-entered well program is difficult to assess. Several factors are likely to have contributed to the decline since 1999:

- The adoption of re-entered well incentives by many states resulting in a loss of competitive advantage for Louisiana.
- The reduction in the incentive in Louisiana from five years to two years in 2002.
- A decline in the number of quality potential prospects. Approximately 1,500 wells have been successfully re-entered since 1994. While there are still more than 10,000 potential candidates remaining, some of the best prospects have probably already been re-activated.

- The recent increase in commodity prices has resulted in increased rental rates for rigs and an overall rig shortage. Several operators have commented to the authors that they are waiting on rigs, or because of costs, they have moved rigs to lower-risk prospects.
- The downturn in re-entered well activity generally coincides with the downturn in all oil and gas activity, especially in the southern part of the state.
- Permit issues and delays that have plagued many oil and gas projects are not a major issue with re-entered wells. In fact, in the environmentally sensitive wetlands of South Louisiana, a re-entered well has a considerable environmental impact advantage over a new well.
- The impact of “legacy site” lawsuits is difficult to assess. The increase in state royalty production as a percent of the total re-entered well production provides anecdotal support since legacy site lawsuits do not occur on state-owned properties.

### **References**

[1] R.H. Baumann and A.G. Pulsipher. (1994) States pass measures to help producers during tough times. *Oil and Gas Journal*, 92(46), pp. 56-58.

[2] Severance Tax Relief Program, Louisiana Office of Conservation, Engineering Division, Permit and Reservoir Section. Available at <http://www.dnr.state.la.us/cons/CONSEREN/Permits/severancetax.ssi>

*Table 1. State and Province Inactive Well Incentive Programs 2004*

State	Status	Inactive Period	Sunset	Tax Reduction	Period of Exemption	Trigger Price
Arkansas	No Change	1 year	No	All Severance	10 years	No
California	No Change	5 years	No	Property Assessment	10 years	No
Florida	No Change	2 years	6 years	All Severance	4 years	No
Kansas	No Change	3 years	7/1/2006	All Severance	10 years	No
Kentucky	No Change	2 years	No	All Severance	Open	No
Louisiana		2 years	7/1/2006	All Severance	2 years	No
Montana	New Incentive	4 years	No	All Production Taxes	12 months	No
New Mexico (oil)	No Change	2 years	No	All Severance	Open	\$24
North Dakota	Adjusted the Incentive	2 years	No	All Extraction Taxes	10 years	\$37 - Adj. Annually
Oklahoma	No Change	2 yrs & 1 yr	7/1/2006	6/7ths of Gross Production	28 months	No
Texas	No Change	2 years	2/28/2010	All Severance	10 years	No
West Virginia	No Change	5 years	No	All Severance	10 years	No
Wyoming (oil)	No Change	2 years	No	Reduced from 6% to 1.5%	5 years	\$25
Alberta (oil)	No Change	Variable	No	No royalties on 1 <sup>st</sup> 8000 M <sup>3</sup>	Variable	No

Note: Colorado, Michigan, and Utah have no incentive programs. Mississippi has allowed its incentive programs to expire.

Table 2. Average Annual Production and Direct Revenue of Re-entered Inactive Wells

	1990-1994	1994-2004
Production (MMBOE)	2.7	12.0
Severance Production (MMBOE)	2.7	1.4
Royalty Production (MMBOE)	0.03	0.53
Severance Collected (\$MM)	3.2	3.2
State Royalties (\$MM)	0.3	10.7
Sum of Direct Revenue (\$MM)	3.5	13.9

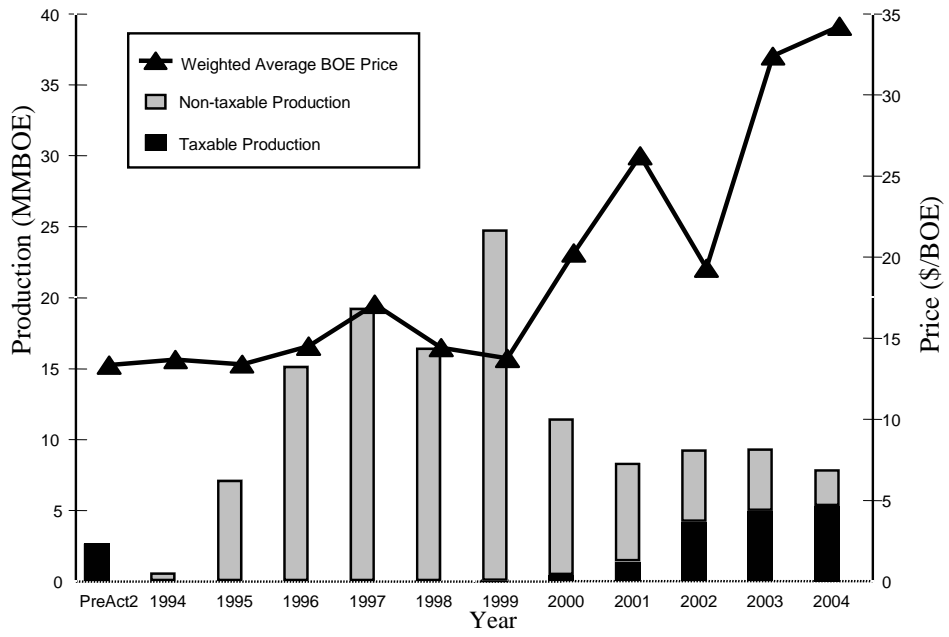


Figure 1. Louisiana Production From Re-entered Wells (1994-2004)

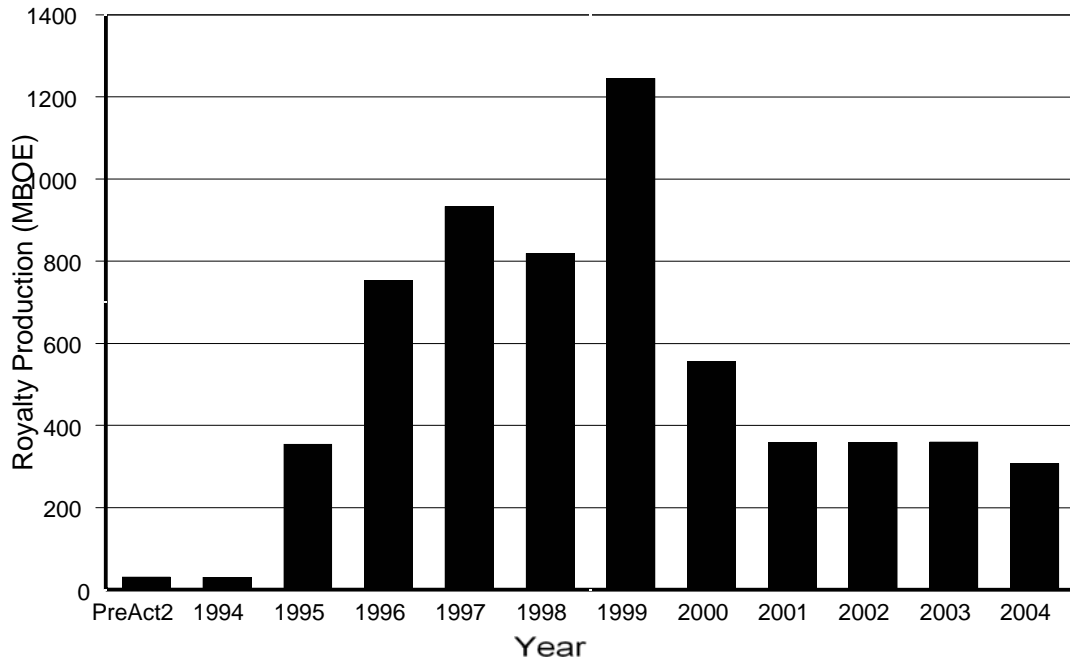


Figure 2. Louisiana Royalty Production From Re-entered Wells (1994-2004)



### ***Acknowledgements***

*The authors are grateful to the Office of the Commissioner, Louisiana Office of Conservation, and the Severance Tax Division, Louisiana Department of Revenue, for providing data that formed the basis of the analysis. Drew Smith is acknowledged for creating Table 1. Marybeth Pinsonneault helped with editing.*