

**Van Meurs Corporation**

**announces the availability of**

**Rating of North American  
Oil and Gas Wells  
with a Special Report on  
Shale Plays**

*The most detailed and comprehensive  
description, analysis and rating  
of oil and gas fiscal terms ever published  
for onshore wells in North America.*

*Now available for purchase*

# **Rating of North American Oil and Gas Wells with a Special Report on Shale Plays**

**PFC Energy  
Rodgers Oil&Gas Consulting  
Van Meurs Corporation  
Barrows Company**

*The “Rating of North American Oil and Gas Wells with a Special Report on Shale Plays” is the most comprehensive and in depth study available to the petroleum industry on the favorability of oil and gas fiscal terms in North America. The study describes, analyses and rates 188 fiscal systems (90 for oil, 98 for gas). The study includes also a rating of the attractiveness of 16 shale plays under 64 different applicable fiscal terms.*

**This is the first study available in a series of five studies dealing with 700 fiscal systems in more than 125 countries in the world. The remaining four studies are on:**

- **Deep Water;**
- **Shallow Water;**
- **International Onshore; and**
- **Arctic Onshore and Offshore.**

**Buyers of the total package of five studies will also receive an Executive Summary.**

*Please ask for the brochure on “World Rating of Oil and Gas Terms” for the details.*

**The cost of the “Analysis of Oil and Gas Terms for North American Onshore Wells” is **US \$ 19,000**. This study is now available. The further studies will be delivered at the rate of one every six weeks between the beginning of April and the middle of September 2011.**

## DETAILED DESCRIPTION OF

# Rating of North American Oil and Gas Wells with a Special Report on Shale Plays

The analysis of oil and gas terms for North American onshore wells deals with wells in continental North America. It excludes onshore projects, such as oil sands, and fields in shallow water, deep water and in the Arctic areas, because these are dealt with in the other four reports.

### *Fiscal Terms included in the Rating Study*

Detailed descriptions, analysis and ratings are provided for the oil and gas royalty, tax and other fiscal terms for the following states in the United States as provided:

Annex A - United States Fiscal Systems (Part 1)				
Volume 1 - World Fiscal Systems for Oil and Gas - 2011				
			United States Systems for Wells & Shale Plays	
			(Oil)	(Gas)
UNITED STATES	ALABAMA	Oil & Gas (General Terms) - Federal	Yes	Yes
		Oil & Gas (General Terms) - State	Yes	Yes
		Oil & Gas (General Terms) - Private	Yes	Yes
	ARKANSAS	Oil & Gas (General Terms) - Federal	Yes	Yes
		Gas (New Discovery Terms) - Federal		Yes
		Gas (High Cost Terms) - Federal		Yes
		Oil & Gas (General Terms) - State	Yes	Yes
		Gas (New Discovery Terms) - State		Yes
		Gas (High Cost Terms) - State		Yes
		Oil & Gas (General Terms) - Private	Yes	Yes
		Gas (New Discovery Terms) - Private		Yes
		Gas (High Cost Terms) - State Private		Yes
	CALIFORNIA	Oil & Gas (General Terms) - Federal	Yes	Yes
		Oil & Gas (General Terms) - Private	Yes	Yes
		Onshore: Oil & Gas - Federal (Proposed Severance Tax)	Yes	Yes
		Onshore: Oil & Gas - Private (Proposed Severance Tax)	Yes	Yes
	COLORADO	Oil & Gas (General Terms) - Federal	Yes	Yes
		Oil & Gas (General Terms) - State	Yes	Yes
		Oil & Gas - State - Proposed New Lease Provisions	Yes	Yes
		Oil & Gas (General Terms) - Private	Yes	Yes
		Oil & Gas - Federal (Shale Oil Terms)	Yes	
	FLORIDA	Onshore: Oil & Gas (General Terms) - State	Yes	Yes
		Onshore: Oil & Gas (General Terms) - Private	Yes	Yes
	ILLINOIS	Oil & Gas (General Terms) - Private	Yes	Yes
	INDIANA	Oil & Gas (General Terms) - Private	Yes	Yes
	KANSAS	Oil & Gas (General Terms) - Private	Yes	Yes
		Oil & Gas (New Pool Discovery Terms) - Private	Yes	Yes
	KENTUCKY	Oil & Gas (General Terms) - Private	Yes	Yes
	LOUISIANA	Onshore: Oil & Gas (General Terms) - Private	Yes	Yes
		Onshore: Oil & Gas (Horizontal Well Terms) - Private	Yes	Yes
	MICHIGAN	Oil & Gas (General Terms) - Federal	Yes	Yes
		Oil & Gas (General Terms) - State	Yes	Yes
		Oil & Gas (General Terms) - Private	Yes	Yes
	MISSISSIPPI	Onshore: Oil & Gas (General Terms) - Private	Yes	Yes
		Onshore: Oil & Gas (New Discovery Terms) - Private	Yes	Yes
	MONTANA	Oil & Gas (General Terms) - Federal	Yes	Yes
		Oil & Gas (Horizontal Well Terms) - Federal	Yes	Yes
		Oil & Gas (General Terms) - State	Yes	Yes
		Oil & Gas (Horizontal Well Terms) - State	Yes	Yes
		Oil & Gas (General Terms) - Private	Yes	Yes
Oil & Gas (Horizontal Well Terms) - Private		Yes	Yes	

## Annex A - United States Fiscal Systems (Part 2)

### Volume 1 - World Fiscal Systems for Oil and Gas - 2011

			United States Systems for Wells & Shale Plays	
			(Oil)	(Gas)
UNITED STATES	NEW MEXICO	Oil & Gas (General Terms) - Federal	Yes	Yes
		Oil & Gas (General Terms) - State	Yes	Yes
		Oil & Gas (General Terms) - Private	Yes	Yes
	NEW YORK	Oil & Gas (General Terms) - State	Yes	Yes
		Oil & Gas (General Terms) - Private	Yes	Yes
	NORTH DAKOTA	Oil & Gas (General Terms) - Federal	Yes	Yes
		Oil & Gas (General Terms) - State	Yes	Yes
		Oil & Gas (General Terms) - Private	Yes	Yes
		Oil - Private (Bakken Horizontal Oil Well Incentive Terms)	Yes	
		Oil - Private (New Horizontal Oil Well Incentive Terms)	Yes	
		Oil - State (Bakken Horizontal Oil Well Incentive Terms)	Yes	
		Oil - Federal (Bakken Horizontal Oil Well Incentive Terms)	Yes	
	OHIO	Oil & Gas (General Terms) - Private	Yes	Yes
	OKLAHOMA	Oil & Gas (General Terms) - Private	Yes	Yes
		Oil & Gas (Horizontal Well Terms) - Private	Yes	Yes
	PENNSYLVANIA	Oil & Gas (General Terms) - State	Yes	Yes
		Oil & Gas (General Terms) - Private	Yes	Yes
		Oil & Gas (Proposed Severance Tax) - State		Yes
		Oil & Gas (Proposed Severance Tax) - Private		Yes
	SOUTH DAKOTA	Oil & Gas (General terms) - Private	Yes	Yes
	TEXAS	Onshore: Oil & Gas - Private	Yes	
		Onshore: Oil & Gas (University Lands)	Yes	Yes
		Onshore - West: Oil & Gas - Private		Yes
		Onshore - East: Oil & Gas - Private		Yes
		Onshore - South: Oil & Gas - Private		Yes
	UTAH	Oil & Gas (General Terms) - Federal	Yes	Yes
		Oil & Gas (New Discovery Terms) - Federal	Yes	Yes
		Oil & Gas (General Terms) - State	Yes	Yes
		Oil & Gas (New Royalty) - State	Yes	
		Oil & Gas (New Discovery Terms) - State	Yes	Yes
		Oil & Gas (New Royalty-Discovery Terms) - State	Yes	
		Oil & Gas (General Terms) - Private	Yes	Yes
		Oil & Gas (New Discovery Terms) - Private	Yes	Yes
		Oil (Shale Oil Terms) - State	Yes	
	VIRGINIA	Oil & Gas (General Terms) - Private	Yes	Yes
	WEST VIRGINIA	Oil & Gas (General Terms) - private	Yes	Yes
	WYOMING	Oil & Gas (General Terms) - Federal	Yes	Yes
		Oil & Gas (General Terms) - State	Yes	Yes
		Oil & Gas (General Terms) - Private	Yes	Yes

Detailed descriptions are also provided for the oil and gas royalty, tax and other fiscal terms for the following provinces in Canada:



## **Fiscal Rating Criteria and Methodology**

All fiscal terms are rated on the basis of an in-depth economic analysis. This analysis is based on typical wells taking the entire range of cumulative well productivities, well depth and costs into account.

The rating criteria include the following:

- Net cash flow per barrel of oil equivalent
- Internal Rate of Return
- Net Present Value discounted at 10%
- Net Present Value discounted at 10% per barrel of oil equivalent
- Profit to Investment Ratio discounted at 10%, and
- Government take, discounted at 10% and undiscounted

Rating is done on the basis that the investor has an established tax position in the United States and Canada.

Analysis is done on a risked basis, taking dry hole risk into account and an un-risked basis.

In the case of gas, the analysis adjusts for the net-back price differentials with Henry Hub.

## **Sensitivity Analysis**

Well production and costs vary considerably from well to well for a large number of reasons. It is therefore that an extensive sensitivity analysis is included in the report. Sensitivity is done for:

- Cumulative well production;
- Costs;
- Oil and gas prices;
- Upside economics; and
- Cost/Price Ratio analysis.

*The comprehensive sensitivity analysis allows subscribers of the study to identify quickly the conditions under which certain wells, regions and fiscal systems are attractive and unattractive.*

CDs are provided which contain every data point for 7 well sizes, 12 price levels and 12 cost levels for each of the 188 fiscal systems. This permits users to do their own comparison and analysis based on different assumptions than the base case and sensitivities in the report.

## Shale Gas and Shale Oil Basin Analysis

Due to the advances in technology and the significant interest in shale gas and shale oil, a special study is included that rates the various shale plays taking into account the typical well productivities, costs of horizontal wells and oil and gas prices for each shale play in North America. The following shale plays are analysed and rated:

North America Shale Plays & Fiscal Systems					
Play	Jurisdiction		Fiscal System		
Antrim	Michigan	Vertical	MI: Federal	MI: State	MI: Private
Bakken (Oil)	Montana Saskatchewan North Dakota Manitoba		MT: Federal	MT: State	MT: Private
			SK: 4th Tier Oil / 4th Tier Gas - HZ		
			ND: Federal	ND: State	ND: Private
			MB: 3rd Tier Oil Incentives / General Gas		
Barnette	Texas	Tier 1 Tier 2 Tier 3			TX: Private
					TX: Private
					TX: Private
Bossier	Louisiana	Core Non-Core			LA: Private
					LA: Private
	Texas	Core Non-Core			TX: Private
					TX: Private
Colorado	Alberta Saskatchewan		AB: ARF - HZ Gas SK: 4th Tier Gas		
Eagleford	Texas	Dry Wet			TX: Private
					TX: Private
Eagleford (Oil)	Texas				TX: Private
Fayetteville	Arkansas	Core Non-Core	AK: Federal	AK: State	AK: Private
			AK: Federal	AK: State	AK: Private
Haynesville	Texas	Non-Core			TX: Private
	Louisiana	Core Non-Core			LA: Private
					LA: Private
Horn River	Br'tsh Columbia		BC: Net Profits Interest		
Marcellus	New York	Horizontal Vertical		NY: State	NY: Private
				NY: State	NY: Private
	Pennsylvania	N. East Non-Core Central S. West-Wet		PA: State	PA: Private
				PA: State	PA: Private
				PA: State	PA: Private
	West Virginia	Core Non-Core			WV: Private
				WV: Private	
Montney	Alberta Br'tsh Columbia		AB: ARF - Shale Gas / ARF Oil - HZ BC: Base 9 East Sweet Gas / NGL Terms		
New Albany	Indiana	Vertical Horizontal			IN: Private
					IN: Private
	Illinois	Vertical Horizontal			IL: Private
				IL: Private	
Niobrara (Oil)	Colorado		CO: Federal	CO: State	CO: Private
	Wyoming		WY: Federal	WY: State	WY: Private
Utica	Quebec		PQ - General		
Woodford	Texas	Core Non-Core			TX: Private
					TX: Private
	Oklahoma	Core Non-Core			OK: Private
					OK: Private

The shale rating is done on the basis of the same profitability criteria as used in the well rating.

*The shale play rating analysis provides investors, financial institutions and governments with a general insight into the typical average profitability of shale oil and shale gas operations in North America taking play specific conditions into account.*

### Summary of Main Conclusions

Following is a one page summary of the main conclusions as contained in the study:

“The World Rating of Oil and Gas Terms is produced by PFC Energy, Rodgers Oil&Gas Consulting and Van Meurs Corporation with assistance from Ernst & Young under contract and from Barrows Company. It is an enhanced version of a study done by Van Meurs in 1997. Volume 1 deals with 188 oil and gas regimes of the 10 provinces of Canada and 25 states in the United States and with 16 shale plays based on 64 fiscal systems. Conclusions are:

- For oil wells the best terms are for discovery wells in British Columbia, horizontal wells in Manitoba and Saskatchewan and general terms in Eastern Canada. The toughest terms are in Louisiana, Alabama and Texas.
- For dry gas wells the best terms are in Eastern Canada, New York, California on federal lands and in Alberta for coal bed methane and shale gas terms. The toughest terms are in British Columbia, Louisiana, Texas and on Indian oil and gas lands in Alberta. The ranking takes gas price differentials relative to Henry Hub into account. Interestingly, gas terms are better in jurisdictions close to markets.
- The range of government take in North America is not different from the international range. For a base case oil well the lowest government take is 31% and the highest is 83%. For a base case gas well and \$ 5 per MMBtu Henry Hub the lowest government take is 38% and the highest is 99%.
- The best shale gas plays are the Montney play in Alberta and the Marcellus play in Pennsylvania and New York.
- The best shale oil plays are the Bakken formation plays in Saskatchewan and Manitoba.
- On average, provinces in Canada offer substantially better terms than states in the US. This is in part due to the differences in average corporate income

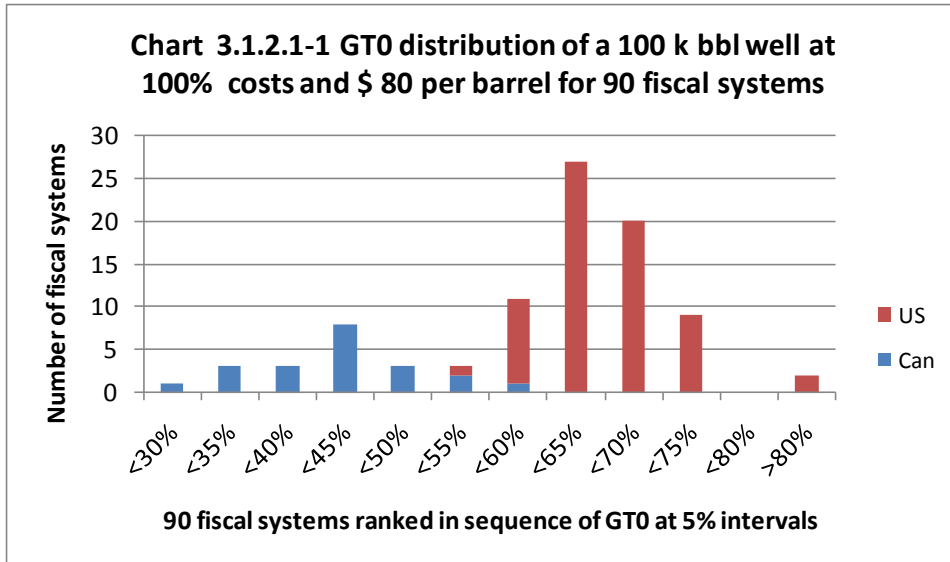


tax rates (federal, states and provinces) of about 25.5% in Canada (by 2012) and 38.5% in the US.

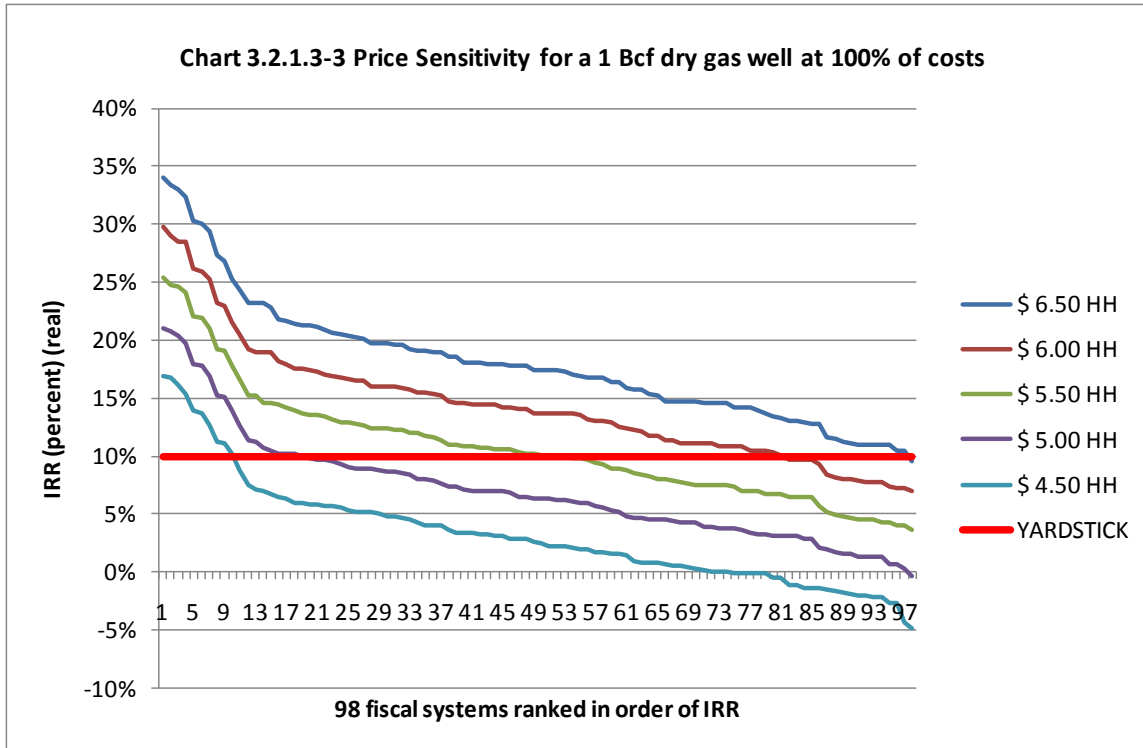
- Most fiscal systems discourage investment in marginal wells and are front end loaded, despite stripper well rates applicable in certain states.
- All fiscal systems offer substantial “upside” for low cost wells and under high prices.
- All fiscal systems encourage efficient operations with a strong incentive to save costs.
- Except for Quebec, all fiscal systems reflect geological risk averse government policies.
- Under current gas prices, liquid content is a major factor in gas well economics
- Only a few jurisdictions provide fiscal incentives for new technologies and non-conventional resources. Utah has attractive shale oil terms for projects on state lands.
- Very significant gas reserves are available in the gas price range of \$ 4.00 to \$ 5.75, providing support for this price range for the medium term
- Gas prices and oil prices have now delinked. However, oil and gas fiscal systems are still linked. Except for Alberta, most gas fiscal systems are dysfunctional under current gas price conditions. Improved gas terms are required to increase drilling and gas production. Suggestions on how to improve such fiscal terms are provided in the report.”

### **Charts and Tables**

The report is richly illustrated with charts and tables. For instance, some charts provide a very interesting picture of the North American competitive fiscal framework. The following chart provides a distribution of the undiscounted government take (“GT0”) of the 90 fiscal systems for oil. It illustrates how Canada offers in general far more attractive fiscal terms to investors than the United States.



**The following chart illustrates the IRR under all 98 gas fiscal systems for a base case dry gas well costing \$ 2.90 per Mcf. It illustrates how under a Henry Hub price of \$ 4.50, such a well is economic under only a few fiscal systems, while with a price of \$ 6.50 it is economic under all fiscal systems (using a 10% real IRR).**



### **Costs and Content of the other Studies**

The costs of the individual studies and publication dates are as follows:

		Price	Completion Date
1	North America comparison based on well economics, as indicated in this brochure	\$ 19,000	February 28
2	World deep water based on field economics. Includes special reports on Brazil below salt and Nigeria.	\$ 15,000	April 4
3	World Arctic areas both onshore and offshore	\$ 9,000	May 6
4	World shallow water based on field economics.	\$ 19,000	July 22
5	World onshore based on field economics. Includes special reports on (1) Alberta Oil Sands and Venezuela heavy oils, (2) European shale gas, (3) Iraq and (4) new terms in Australia.	\$19,000	August 27
<b>6</b>	<b>Total package with an Executive Summary report</b>	<b>\$ 43,000</b>	<b>September 16</b>

## **Advanced Course in Analysis and Rating of Fiscal Systems**

A special advanced course on fiscal systems will be provided June 20 – 24, 2011 in London, UK, whereby participants will be able to specialize in international rating analysis as contained in the study on North American onshore wells and for other countries.

Please contact Victoria Jolly at CWC for initial information at:

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## **Subscription and more Information**

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