

## **Royalty Information Briefing #7**

### **- Conventional Oil and Natural Gas Royalty Programs -**

#### **What are royalty programs?**

Alberta's oil and gas fiscal system<sup>1</sup> includes a number of royalty programs. These programs were developed to address situations where the existing oil or gas royalty regime does not appropriately reflect the unique costs of certain developments or to facilitate special policy direction determined by government.

Generally, these programs encourage the exploration and development of new conventional oil and natural gas reserves, and the conservation and enhanced recovery of existing reserves.

#### **Gas Programs**

There are four existing royalty programs for natural gas tied to two broad objectives: (1) the development of new deeper natural gas resources - the Deep Gas Royalty Holiday Program and the Royalty Adjustment Program for Deep Marginal Gas Wells, and (2) better environmental stewardship through the Otherwise Flared Solution Gas Royalty Waiver and the Sulphur Emissions Control Assistance Program.

#### **Deep Gas Royalty Holiday Program**

*Purpose:* To accelerate the search for deeper more costly natural gas reserves.

*Benefits:* This program applies to wells drilled to depths greater than 2,500 metres. The holiday value ranges from \$0.5 million net royalty at 3,000 metres to \$3.6 million net royalty at 5,500 metres.

*End Date:* This program is currently being phased out. The program is not available on new land agreements. Wells on land agreements acquired prior to September 1, 2006 have until 2010 to be drilled.

#### **Royalty Adjustment Program for Deep Marginal Gas Wells**

*Purpose:* Drilling deep wells is much more costly than shallow wells. This program was designed to provide a lower royalty rate for deeper wells that do not achieve production rates sufficient to compensate for the additional costs incurred in deep drilling.

*Benefits:* This program applies to wells drilled to depths greater than 2,500 metres that have production rates below an established threshold that increases with depth. The holiday value ranges from \$0.5 million net royalty at 3,000 metres to \$3.6 million net royalty at 5,500 metres.

*End Date:* August 31, 2012.

#### **Otherwise Flared Solution Gas Royalty Waiver**

*Purpose:* The Alberta Energy and Utilities Board flare management framework established a provincial solution gas flaring volume reduction target from 1996 base levels of 50% for 2002. To assist industry in meeting this target, this program was implemented.

*Benefits:* A royalty waiver is provided to natural gas that is produced from oil wells where it is uneconomic to conserve. The royalty waiver lasts for a maximum of 10 years and is revoked if gas production exceeds a set threshold of 15 thousand cubic metres per day for 3 consecutive months.

*End Date:* No end date. The program is reviewed periodically.

#### **Sulphur Emissions Control Assistance Program**

*Purpose:* To assist operators of small sour gas plants with the costs of complying with higher sulphur recovery standards introduced in 1988.

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<sup>1</sup> See *Royalty Information Briefing #1 – What are royalties?* for an overview description of the fiscal system. A detailed description can be found in *Oil and Gas Fiscal Regimes for the Western Canadian Provinces and Territories*, Alberta Department of Energy, February, 2007 - <http://www.energy.gov.ab.ca/docs/tenure/pdfs/FISREG.pdf>.

*Benefits:* This program provides a royalty credit equal to 50 per cent of capital and operating costs of eligible sulphur removal equipment.

*End Date:* This program is being terminated. Costs incurred after May 1, 2006 are no longer eligible.

### **Oil Programs**

Conventional oil production in Alberta generally has a relatively low recovery factor, approximately 26%<sup>2</sup>, leaving a lot of oil in ground. The oil royalty programs are aimed at finding ways to increase the recovery factor with three main objectives:

1. Increase exploration:
  - a. Third-Tier Exploration Well Royalty Exemption.
2. Prolong the economic production life of mature pools, and conserve resource:
  - a. Reactivated Well Royalty Exemption;
  - b. Low Productivity Well Royalty Reduction;
  - c. Horizontal Re-entry Oil Royalty Reduction; and,
  - d. Enhanced Recovery of Oil Royalty Reduction (EOR).
3. Remove barriers to the development of new techniques and technologies that increase efficiencies and promote environmentally responsible development:
  - a. Experimental Project Petroleum Royalty;
  - b. CO<sub>2</sub> Projects Royalty Credit; and,
  - c. Innovative Energy Technologies Program.

### **Third Tier Exploration Well Royalty Exemption**

*Purpose:* The Alberta basin for conventional oil is mature. As such, pool discoveries continue to be smaller over time. This program is aimed at making the economics of the investments needed to discover new pools more attractive.

*Benefits:* This program applies to exploratory wells drilled after September 30, 1992<sup>3</sup> The well receives a royalty exemption on the first twelve production months or the first \$1,000,000 of royalty.

*End Date:* No end date provided in the regulation. The program is reviewed periodically.

### **Reactivated Well Royalty Exemption**

*Purpose:* Generally economics of a project will determine when production from a well is terminated. As economic conditions change reactivating a well may become economic. Bringing these wells back onto production will increase the recovery of the resource. This program aims to encourage the reactivation of wells that have been previously shut-in.

*Benefits:* Applies to wells reactivated after September 30, 1992. A royalty holiday is given on production to a maximum value of 8,000m<sup>3</sup> -changing to \$150,000 of royalty on September 1, 2007.

*End Date:* September 1, 2012.

### **Low Productivity Well Royalty Reduction**

*Purpose:* As productivity of a well decreases the royalty rate also decreases and costs per unit of production increase. This program is aimed at encouraging work on wells that can increase the productivity of the low producing wells. For qualifying wells once the production increases the program will allow the royalty rate to remain at a specified lower level for a period of time.

*Benefits:* A royalty reduction to 16,000m<sup>3</sup> changing to a maximum value of \$50,000 on September 1, 2007.

*End Date:* September 1, 2012.

<sup>2</sup> Source: EUB St98-2006. A recovery factor is defined as the oil recovered divided by the oil-in-place.

<sup>3</sup> Wells must be spudded after September 30, 1992.

**Horizontal re-entry Oil Royalty Reduction**

*Purpose:* The purpose of this program was to encourage the development of horizontal well technology for increased oil recovery. Costs for horizontal wells are now competitive with those for vertical wells and this program is being phased out. No new wells have been permitted in the program since November 2006.

*Benefits:* For wells currently in the program they receive a reduced royalty rate to a maximum value of \$900,000.

*End Date:* Currently phasing-out this program.

**Enhanced Recovery of Oil Royalty Reduction (EOR)**

*Purpose:* Production from an oil well will generally fall under three broad categories. The first is primary production which generally involves drilling a well and the oil will then flow with the assistance of a pump. Secondary production is generally water flood production. Water is pumped into the reservoir to increase production. Tertiary production (enhanced oil recovery) is a project that uses a substance other than water as an injectant to increase production and is the type of production targeted by this program. Examples of injectants are hydrocarbons, carbon dioxide (CO<sub>2</sub>), nitrogen or chemicals. Production costs increase from primary to secondary to tertiary recovery.

*Benefits:* The Crown shares in the cost of oil recovery through a reduction in oil royalties on tertiary production.

*End Date:* No end date. The program is reviewed periodically.

**CO<sub>2</sub> Projects Royalty Credit**

*Purpose:* This program includes four pilot projects that use CO<sub>2</sub> as an injectant for enhanced oil recovery. The purpose of this program was to promote the use of CO<sub>2</sub> as an injectant to allow more to be known about how this EOR method will work in Alberta. The technology is fairly new and has a great deal of potential. Pilot projects are essential for learning and developing this technology. This program was capped at \$15 million and is fully subscribed. No new projects are eligible for this program.

*Benefits:* Benefits of this program are similar to the EOR program in that the Crown shares in the cost of the tertiary production.

*End Date:* One-time program. No new projects are eligible.

**Innovative Energy Technologies Program (IETP)**

*Purpose:* Technology improvement is one of the keys to increased recovery in Alberta. The IETP program encourages projects that test out new recovery methods in the field. This program is capped at \$200 million over 5 years and applies to oil, gas, and in situ oil sands development as well as to technologies that may address the gas over bitumen issue.<sup>4</sup> The CO<sub>2</sub> program has been rolled into this program, leaving \$185 million of new funding. *Benefits:* The Crown shares in the incremental costs of recovery. The royalty reduction is provided for up to 30% of incremental costs to a maximum of \$10 Million.

*End Date:* June 2009.

**Experimental Project Petroleum Royalty**

*Purpose:* Experimental projects will encourage the development of new production techniques, thereby increasing recovery factors. Projects must be approved as experimental by the EUB.

*Benefits:* These projects receive a royalty rate of 5% as long as they are considered experimental.

*End Date:* No end date. The program is reviewed periodically.

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<sup>4</sup> The gas over bitumen issue refers to the shut in of gas wells that are in communication with bitumen reservoirs. The Alberta Energy and Utilities Board (EUB) required these wells to be shut in for conservation purposes as it feared the reduction on reservoir pressure as a result of producing the gas would threaten the recovery of bitumen.