Innovation, Energy and Mines
Petroleum Branch
360-1395 Ellice Ave, Winnipeg MB R3G 3P2
T 204-945-6577 F 204-945-0586
www.manitoba.ca

INFORMATIONAL NOTICE 13-03

Manitoba Drilling Incentive Program Review

Attached you will find a discussion paper on the Manitoba Drilling Incentive Program Review. The current incentive program is set to expire on December 31, 2013 and the Department of Innovation, Energy and Mines has conducted a preliminary review of the program and is seeking feedback on this discussion paper. Please note that we are seeking responses by March 22, 2013.

Following review of industry submissions the Department will release a final proposal for changes to MDIP, which industry will be given an opportunity to comment upon. The Department anticipates being in a position to announce changes to MDIP by the end of June 2013.

Sincerely,

Keith Lowdon
Director

Attachment

Manitoba

Discussion Paper - Manitoba Drilling Incentive Program Review February 25,2013 R1

1.0 Introduction

The Manitoba Drilling Incentive Program (MDIP) was introduced in 1992. Since 1992, MDIP has been an integral part of Manitoba's oil and gas fiscal regime. MDIP in combination with the province's Crown royalty and freehold production tax rates forms a very competitive investment climate for the exploration for and development of Manitoba's oil and gas resources. In 2008, MDIP was extended without changes for another five years. MDIP is scheduled to expire on December 31, 2013. The Department is seeking comments from industry on the effectiveness of and potential changes to MDIP.

This discussion paper includes an outline of the current MDIP; the Department's preliminary review of the effectiveness of the seven components of MDIP; a comparison of elements of Manitoba's oil and gas fiscal with Saskatchewan and Alberta; and the Department's proposals for changes to MDIP.

In concert with the review of MDIP, the Manitoba Bureau of Statistics (MBS) on behalf of the Department is carrying out a study on the economic impact of the oil industry in Manitoba.

2.0 Manitoba Drilling Incentive Program – Department Review

Over the last four years oil industry investment in Manitoba has expanded at an unprecedented rate. In 2012, the province set records for number of wells drilled – 614; annual production – 17.6 million barrels; and industry expenditures - $1.3 billion. Oil production in Manitoba has doubled from an average of 24,000 barrels/day in 2008 to over 48,000 barrels/day in 2012. With advances in horizontal drilling and multi-stage hydraulic fracturing technology there has also been a fundamental shift in drilling activity in Manitoba. In 2007, 82% of the wells drilled in Manitoba were vertical. Over the last four years, 88% of wells drilled have been horizontal with multi-stage fracturing used to develop Manitoba's tight oil reservoirs. Table 1 shows the level of industry activity and expenditures in Manitoba since MDIP was extended.

Table 1: Oil Industry Activity and Expenditures 2009-2012

No. of Wells Drilled	1978
2012 Average Production	48,059 barrels per day
Total Oil Production	54.0 million barrels
Value of Oil Production	$4.36 billion
Industry Expenditures	$3.9 billion
New EOR Projects	12

Manitoba has been recognized for its stable, predictable and competitive oil and gas fiscal and regulatory regime. In 2012, the Fraser Institute's Global Petroleum Survey again ranked Manitoba as the best place in Canada for oil and gas investment.

MDIP has played an important role in attracting oil industry investment to Manitoba. The Department believes MDIP needs to be simplified and focused on activities that attract investment and that changes to Crown royalty and freehold production tax rates are necessary to secure long term Crown royalty and freehold production tax revenue from the development of Manitoba's oil and gas resources. The Department identified the following objectives in carrying out its preliminary review of MDIP:

1) Continue to attract high levels of industry investment and the associated economic activity, opportunities and jobs for Manitobans;
2) Maintain the competitiveness of Manitoba's oil and gas fiscal regime with other Western Canadian provinces, primarily Saskatchewan and Alberta;
3) Encourage the use of new technologies in the development of Manitoba's oil and gas resources;
4) Encourage the implementation of enhanced oil recovery projects to maximize recovery from Manitoba oil pools;
5) Encourage exploratory drilling;
6) Encourage gas conservation; and
7) Secure long term Crown royalty and freehold production tax revenue from the development of Manitoba's oil and gas resources.

In the following sections the six components of MDIP are briefly described along with the Department's proposal for changes to each component. More information about the components of MDIP is available at http://www.manitoba.ca/iem/petroleum/regime/index.html.

The foundation of MDIP is the holiday oil volume (HOV) earned by all newly drilled. Between 2009-2012, the 1978 wells drilled in Manitoba earned a combined HOV of 17,314,788.9 m^3. No Crown royalty or freehold production tax is payable until a well has produced its HOV.

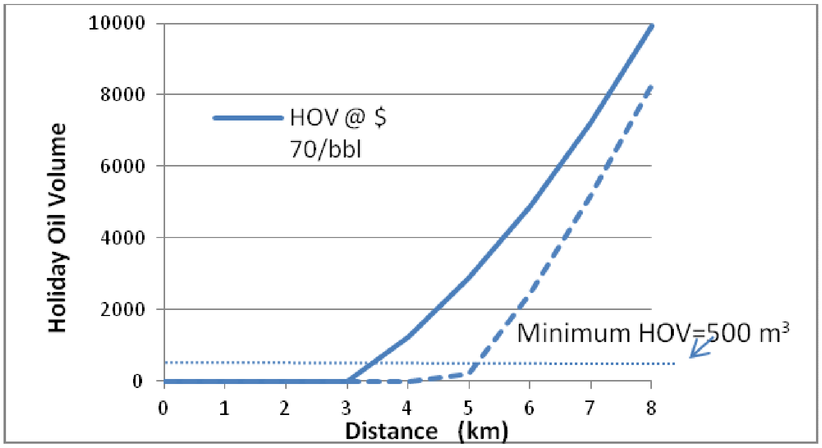
Manitoba Drilling Incentive Program Components

3.1 New Well Incentive

Under the New Well Incentive the licensee of a newly drilled, non horizontal well earns a holiday oil volume (HOV) of up to 10,000 m^3. The HOV earned by a newly drilled well is a function of the oil price at the time of drilling and the location of the well with respect to other wells that have been cased for production. The minimum HOV earned by a well is 500 m^3.

The formulae used to calculate the HOV earned by a well under the New Well Incentive were developed in a lower oil price environment. At current oil prices ($70 - $95 per barrel) all vertical development and exploratory wells drilled less than 4 - 6 km from a well cased for production earn the minimum HOV of 500 m^3 (see Figure 1).

Figure 1: New Well Incentive – HOV



The Department is considering elimination of the current formula for determining the HOV for a newly drilled vertical well. The Department is considering setting the HOV for a vertical development well at 500 m^3 and at a higher level to encourage exploration activity particularly deeper pool wildcats and new field wildcats. This will greatly simplify the Department's administration of the New Well Incentive and tailor the HOV to encourage and reward companies for carrying out exploration in Manitoba. The Department is interested in industry's comments on changes to the New Well Incentive and on the level of HOV required to stimulate additional exploratory drilling in Manitoba under a new Exploratory and Deep Drilling Incentive.

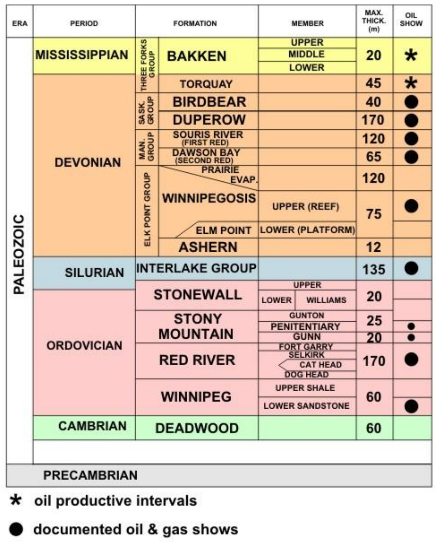
3.2 Deep Drilling Incentive

Under the Deep Drilling Incentive where a new well is drilled to the base of the Duperow Formation, the HOV earned by the well under the New Well Incentive is increased by a factor of 2.0. In addition, the HOV assigned to a well completed for production from a formation deeper than the Three Forks Group (Bakken-Torquay Formation), may be topped up to a maximum of 10,000 m^3.

The Department would like to unlock the potential of Manitoba's deep formations. There is currently no oil production in Manitoba from formations below the Three Forks Group. There is production from deeper formations elsewhere in the Williston Basin and oil shows in the deeper formations in Manitoba (see Figure 2). The Deep Drilling Incentive was designed to encourage exploration below the Three Forks Group but between 2009-2012, only 5 wells were drilled into or below the Duperow.

As previously noted the department is planning to create a new Exploratory and Deep Drilling Incentive and is interested industry's comments on of the level of HOV necessary to encourage investment in exploratory drilling in Manitoba.

Figure 2: Manitoba geologic column showing deeper formations with documented oil shows



3.3 Horizontal Well Incentive

Under the Horizontal Well Incentive all horizontal wells earn a HOV of 10,000 m^3. In addition, a new horizontal leg drilled from an existing horizontal well, under certain conditions, earns a HOV of 3,000 m^3.

The Horizontal Well Incentive has encouraged companies to use new horizontal drilling and multi-stage hydraulic fracturing technology. The use of these technologies has resulted in record levels of investment in the development of Manitoba's tight oil reservoirs.

The purpose of the Horizontal Well Incentive was to recognize the higher costs and risks associated with horizontal well drilling and completions and to provide companies with upfront Crown royalty and freehold production tax relief to help facilitate the recovery of investment costs.

The Department has reviewed the performance of horizontal wells drilled between 2009-2012 and is of the opinion that there is a need to realign the Horizontal Well Incentive with horizontal well performance, while maintaining competitiveness with horizontal well investment opportunities in Saskatchewan and Alberta.

The Department has considered four options for changes to the Horizontal Drilling Incentive:

(1) Reduce the HOV earned by a horizontal well;
(2) Reduce the period of time in which the HOV can be produced;
(3) Change the methodology for calculating Crown royalty and freehold production tax for horizontal wells; and
(4) Establish a maximum Crown royalty and freehold production tax payable during the production of HOV.

3.3.1 Reduced Horizontal HOV

All horizontal wells drilled in Manitoba earn a HOV of 10,000 m^3. Table 2 shows the level of HOV or equivalent incentive oil volume provided to horizontal wells drilled in Manitoba, Saskatchewan and Alberta.

Table 2: Provincial Horizontal Drilling Incentives

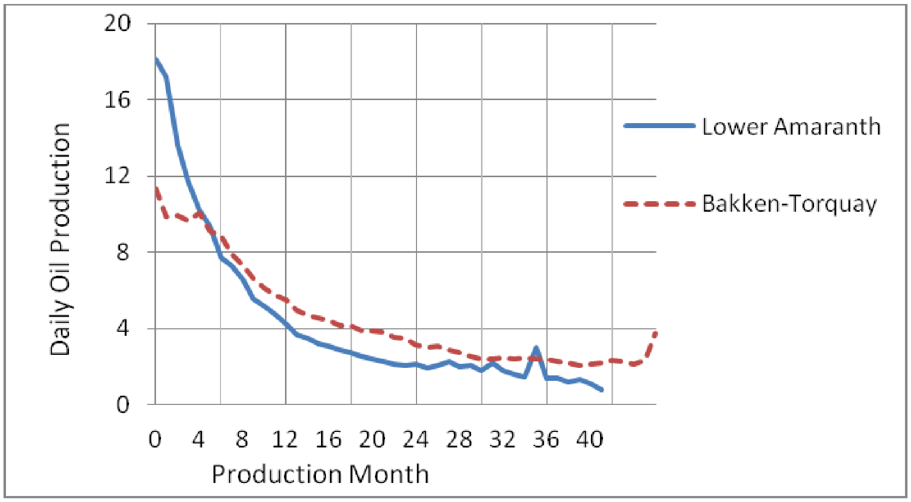
Province	Holiday or Incentive Oil Volume	Royalty Payable during Incentive Period	Production Tax Payable during Incentive Period	Incentive Period
Manitoba	10,000 m3	0	0	10 years
Saskatchewan	6,000 m3 non-deep horizontal well 16,000 m3 deep horizontal well	2.5% maximum	0	No limit
Alberta	7,945 m3 measured depth < 2,500 m 9,534 m3 measured depth 2,500 to 3,000 m	5.0% maximum	Incentive does not apply to freehold oil production	18 months (<2500 m) 24 months (2500 – 3,000 m)

Note: A deep well in Saskatchewan is a well producing from a zone deeper than 1,700 m and within the Mississippian or from a zone deposited before the Bakken zone, regardless of depth. The Bakken is considered part of the Mississippian.

Between 2009 – 2012, 1746 horizontal wells were drilled in Manitoba and earned a combined HOV of 16,832,000 m^3. To December 31, 2012, these well had only produced 4,497,647 m^3 or 26.7% of the HOV earned and only 22 wells had produced their entire HOV of 10,000 m^3.

Manitoba has two tight oil plays under active development using new horizontal drilling and multi-stage hydraulic fracturing technology. The Department analyzed the production performance of 790 horizontal wells drilled into the Lower Amaranth play and 469 horizontal wells drilled in the Daly Sinclair Bakken-Torquay play between 2009-2012. Figure 3 shows the normalized horizontal well production plot for each play. The production plots show initial production rates of 11.4 – 18.1 m^3/d and a decline in production of 50 - 70% in the first year. Over the 4-year analysis period the average well recovery was between 5,578 to 6,430 m^3 considerably less than the HOV of 10,000 m^3.

Figure 3: Normalized Horizontal Well Production Plot



The Department is considering reducing the HOV earned by a horizontal well to 6,000 - 8,000 m^3 to reflect the typical recovery from a horizontal well during the first five years of production and to align the HOV with incentive volumes in Saskatchewan and Alberta. The Department is interested in industry's comments on of the level of HOV necessary to encourage the continued high level of investment in the development of Manitoba's tight oil plays.

3.3.2 Reduced Horizontal Well HOV Production Period

The Department is considering reducing the period for a horizontal well to produce the HOV earned from 10 years to 5 years. The current 10-year period to produce HOV is too long and is inconsistent with the purpose of MDIP, which is to provide an upfront incentive that enhances payout and encourages reinvestment.

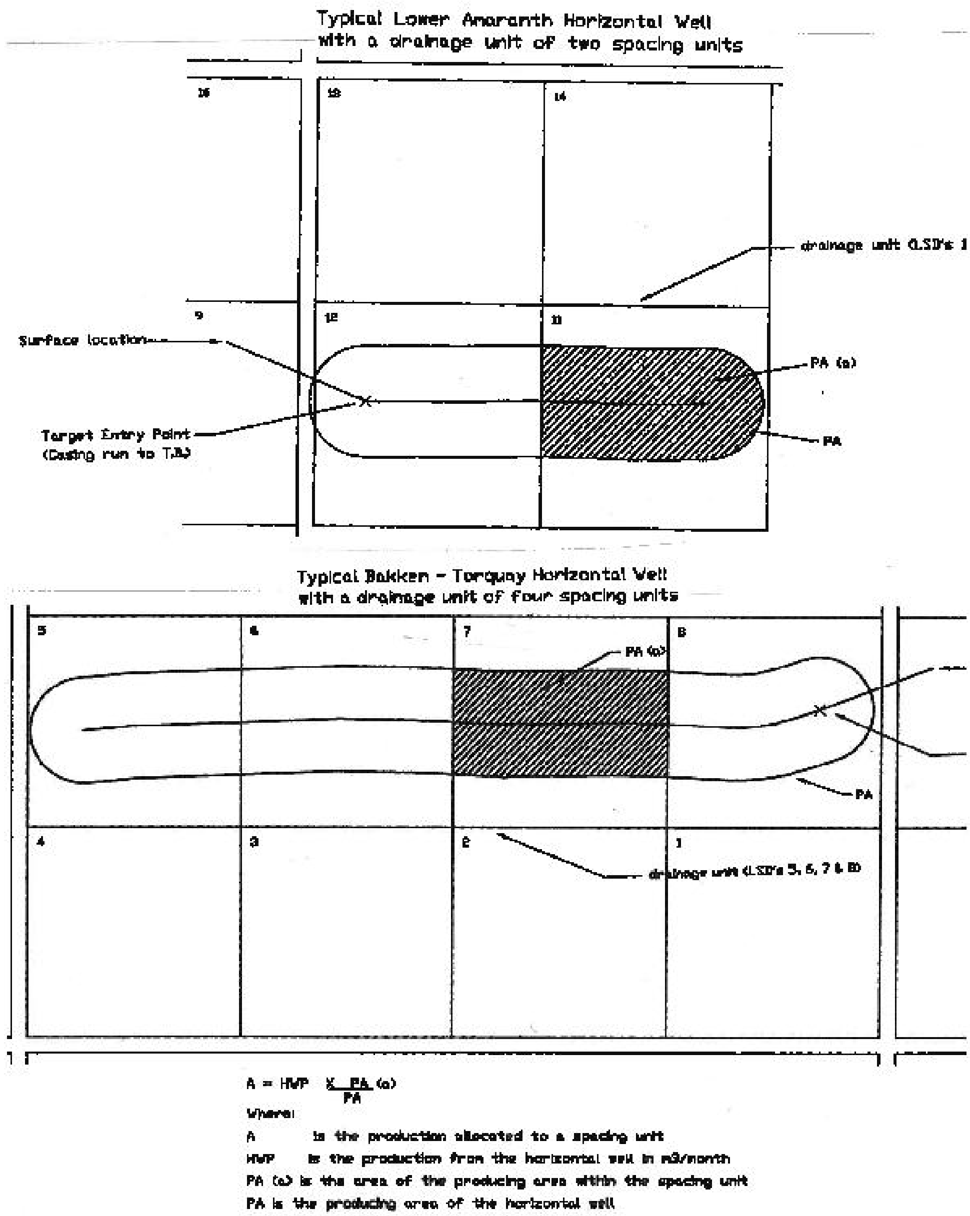
Reducing the horizontal well HOV production period to 5 years is consistent with a potential reduction in the horizontal well HOV; matches the HOV production period to horizontal well performance (1/2 total recoverable reserves produced within 5 years); and reduces on-going Department administration of HOV. The Department is interested in industry comments on the potential reduction in the HOV production period.

3.3.3 Revised Methodology for Crown Royalty – Freehold Production Tax Calculations

In Manitoba, Crown royalty and production tax for a horizontal well is calculated per spacing unit based on production allocated to the 40 acre spacing units within the drainage unit of the horizontal well. A horizontal well's drainage unit includes all spacing units located within 100 m of the completed interval of a horizontal well. Figure 4 show drainage units for a typical Lower Amaranth horizontal well with two spacing units and typical Bakken-Torquay horizontal well with four spacing units and the formula used to allocate production to the spacing units. The calculation of Crown royalty and freehold production tax for a horizontal well on a per spacing unit basis reduces the total royalty and tax payable when compared to calculating royalty and tax based on well production as in other jurisdictions.

Drainage units were introduced by the department in 1995. The use of drainage units has been the foundation for horizontal well development of Manitoba's oil pools. Drainage units have allowed operators to equitably pool complex mineral rights ownership to allow for the optimal placement of horizontal wells. The Department would like to get industry opinion on the benefits of continuing to use drainage units to allocate horizontal well production to calculate Crown royalty and freehold production tax and to protect correlative rights.

Figure 4



3.3.4 Maximum Crown Royalty and Production Tax

Under MDIP the production of HOV is exempt from the payment of Crown royalty and freehold production tax. During the current term of MDIP there has been a dramatic increase in horizontal drilling. Between 2004-2008, 83% of the well drilled in Manitoba were vertical. Between 2009-2012, with the success of multi-stage hydraulic fracturing, 88% of wells drilled were horizontal. Horizontal wells now account for 66.5% of Manitoba's production compared to 25.8% in 2008.

The increase in horizontal well production, in combination with the Horizontal Well Incentive, has resulted in a significant drop in Crown royalty and production tax revenue as a percentage of the total value of oil production. Table 3 shows a comparison of Crown royalty and production tax payments during the periods 2004-2008 and 2009-2012. Between the two periods the amount of combined royalty/tax revenue collected by the province remained virtually unchanged at $72 million, while the combined royalty/tax rate as a percentage of the value of oil production declined 42.6% from 2.89% to 1.66%.

Table 3: Comparison of Crown Royalty and Production Tax Payments

	2004-2008	**2009-2012**	**Change**
Oil production (10^3 m^3)	5,359.8	8,584.72	+60.2%
Value of production ($ million)	2,490.9	4,363.8	+75.2%
Crown production (%)	27.2	26.3	-0.9%
Freehold production (%)	72.8	73.7	+.9%
Crown royalty ($ million)	25.5	36.5	+43.1%
Crown royalty rate (%)	3.77	3.29	-12.6%
Production tax ($ million)	46.5	36.1	-22.5%
Production tax rate (%)	2.57	1.13	-56.1%
Combined royalty/tax rate (%)	2.89	1.66	-42.6%

In order to reverse the trend in declining royalty/tax revenue the Department is proposing the introduction of a maximum Crown royalty and production rate payable during the production of HOV and during the Injection Well Incentive period. Both Saskatchewan and Alberta have a maximum Crown royalty rate during production of incentive oil. In Saskatchewan, the maximum Crown royalty rate is 2.5% and there is no production tax payable during production of incentive oil. In Alberta, the maximum Crown royalty rate is 5.0% and the incentive program doesn't apply to freehold production. The Department is seeking comments from industry on the introduction of a maximum Crown royalty rate of 2.5% to 10% and a maximum production tax rate of 1.0% to 5.0% during producing of HOV and the Injection Well Incentive period.

Table 4 shows a comparison of Crown royalty and production tax payable for a typical Lower Amaranth and Bakken-Torquay horizontal well in Manitoba, Saskatchewan and Alberta assuming a maximum Crown royalty rate of 5% and production tax rate of 2.5% in Manitoba. The Crown royalty and production tax were calculated over the initial 4 years of production using an oil price of $535/m^3 ($85/bbl); the normalized Lower Amaranth and Bakken-Torquay horizontal well production shown in Figure 3; and drainage units shown in Figure 4. Limiting the analysis to the initial 4 years of production is to show a comparison of Crown royalty and production tax payable in each jurisdiction during the horizontal well incentive period.

Table 4: Inter-Jurisdictional Comparison of Crown Royalty and Production for a Horizontal Well

Province	Lower Amaranth Horizontal Well ($ 000)		Bakken-Torquay Horizontal Well ($ 000)	
	Crown Royalty	Production Tax	Crown Royalty	Production Tax

Manitoba	$150.0	$56.9	$163.2	$43.0
Saskatchewan	$74.6	$ 0	$89.7	$0
Alberta	$215.2	$106.4	$295.3	$110.9

3.4 Marginal Well Major Workover Incentive

Shut-in wells and marginal wells producing less than 1.0 m^3 per day where a major workover is completed earn a holiday oil volume of 500 m^3. Major workovers include the re-entry of an abandoned well; the deepening of a well into a new formation; the recompletion of a well from one pool to another; casing repairs; and any other workover designed to increase recovery from a pool. Upon completion of a major workover on a marginal well, any production from the well is classified as third tier oil.

Since 2009, 21 shut-in and marginal wells have had workovers completed that qualified for the 500 m^3 HOV. The department is interested in industry's comments on continuation of and potential changes to the underutilized Marginal Well Major Workover Incentive.

3.5 Injection Well Incentive

The Injection Well Incentive applies to approved enhanced recovery projects and provides for a one year exemption from the payment of Crown royalty or freehold production tax on production allocated to a unit tract in which a well is drilled or converted to water injection. In the case of a horizontal well converted to injection up to four unit tracts can qualify for the one year exemption. The Injection Well Incentive can be piggy-backed with other components of MDIP to extend the exemption period from 12 months to a maximum of 18 months. In addition to the Injection Well Incentive, under the Crown Royalty and Incentive Regulation, M.R 109/94, incremental recoverable reserves attributed to a project of enhanced recovery are classified as third tier oil.

Since 2009, 12 waterflood projects have qualified for the Injection Well Incentive. In most cases where the waterflood project uses horizontal injection wells all unit tracts within the waterflood have qualified for an 18-month exemption period. The increasing use of horizontal injection wells has resulted in all tracts in a new waterflood project qualifying for an 18-month exemption period compared to 20% of the tracts in a conventional inverted 5-spot injection pattern.

The Department is proposing to eliminate the option of utilizing unused HOV to extend the Injection Well Incentive exemption period from 12 months to a maximum of 18 months and is interested in industry's comments on the potential reduction in the exemption period. The Department is also proposing the payment of a maximum Crown royalty and freehold production tax during the Injection Well Incentive exemption period (see Section 3.3.4).

3.6 Holiday Oil Volume Account

A Holiday Oil Volume Account (HOV Account) is established for each company who earns a HOV under MDIP. The HOV Account is administered by the Branch. The purpose of a HOV Account is to optimize the value of HOV earned. The HOV Account provides a company with the flexibility of allocating earned HOV among new wells in accordance with a complex set of rules.

There are currently 54 companies with a HOV Account including 37 companies that have not drilled a well in Manitoba in the last 5 years. These HOV Accounts contain a total of 1,355,389.7 m^3. The HOV Account was established as part of MDIP to optimize the value of HOV earned by providing companies with the flexibility of allocating HOV among newly drilled wells.

The shift to horizontal drilling has greatly reduced the effectiveness of the HOV Account and companies' utilization of the HOV Accounts has declined during the current term of MDIP. The current HOV Account rules limit the amount of HOV that can be assigned from a HOV Account to a well to a maximum of 3,000 m^3, provided the well has earned a HOV of less than 3,000 m^3. Therefore, HOV cannot be transferred from a HOV Account to a horizontal well.

The Department would like to simplify administration of HOV Accounts. One option the Department is considering is the phasing out of HOV Accounts. The Department is looking for industry's comments on the effectiveness of HOV Accounts and any recommendations for changes to the program.

4.0 Summary

The following is a summary of the proposed changes to MDIP that the Department is looking for industry to comments on:

(a) New Well Incentive - setting the HOV for a vertical development well at 500 m^3;

(b) Exploratory and Deep Drilling Incentive (new) - the level of HOV necessary to encourage investment in exploratory drilling in Manitoba under a new Exploratory and Deep Drilling Incentive;

(c) Horizontal Well Incentive:

(i) Reducing the HOV earned by a horizontal well to 6,000 - 8,000 m^3;
(ii) Reducing the period of time in which the HOV can be produced from 10 to 5 years;
(iii) Continuing to use drainage units to allocate horizontal well production for calculating Crown royalty and freehold production tax; and
(iv) Introduction of a maximum Crown royalty rate of 2.5% to 10% and a maximum production tax rate of 1.0% to 5.0% during production of HOV and the Injection Well Incentive period.

(d) Marginal Well Major Workover Incentive - continuation of and potential changes to the incentive;

(e) Injection Well Incentive – elimination of the option of utilizing unused HOV to extend the exemption period from 12 months to a maximum of 18 months and introduction of a maximum Crown royalty and production tax during the incentive period; and

(f) HOV Account - phasing out of HOV Accounts.

Industry comments on the effectiveness of and potential changes to MDIP are to be submitted to Keith Lowdon, Director, Petroleum Branch at keith.lowdon@gov.mb.ca by **March**

22, 2013. Following review of industry submissions the Department will release a final proposal for changes to MDIP, which industry will be given an opportunity to comment on. The Department anticipates being in a position to announce changes to MDIP by the end of June 2013, followed by a staged implementation of any changes.