

Royalty Program for Marginal Gas Wells

Petroleum and Natural Gas Act

In order to foster investment in the energy industry and maximize the use of natural resources, the Government of British Columbia has introduced **a new reduced royalty rate for gas wells that are marginally economic**. This new program is targeted to **Base 9 and 12** wells (as well as Base 15 **revenue sharing** gas wells) that started producing, or were re-activated, after June 30, 2003.

For these marginal gas wells, the **Marginal Well Royalty Reduction (MWRR)** replaces the low-productivity reduction. The low productivity reduction, introduced in 2001, was intended to prevent the government's royalty from causing gas wells to be shut in when they reached rates of production that are too low to cover their operating costs. The MWRR is intended to encourage decisions to drill, which are based on drilling and operating costs. The new program, introduced in July 2003, bases the reduced royalty on **initial well depth and production rates**.

The low productivity reduction will continue for wells that are not eligible for the MWRR. The MWRR provides a greater reduction than the low productivity reduction at any rate of production that averages under 25,000 m³ per day in a calendar month. These two production based royalty reductions cannot both be applied to the same well event.

The first invoices to reflect the new reduction will be produced in September 2004.

This bulletin provides information on:

- determining whether a well event is eligible for the marginal well royalty, and
- how the reduction will be calculated.

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Eligibility

Both new and reactivated wells may qualify for the MWRR.

A well event is eligible for the MWRR if it meets the following criteria.

- Its primary product is natural gas, but it is not part of a coalbed methane project. The MWRR **does not apply to conservation gas or non-conservation gas produced from an oil well event.**
- The well event is in a well with a spud date after May 31, 1998 (i.e. wells that are subject to **Base 9 or 12 royalty rates**).
- The first month in which marketable gas is produced from the well event is after **June 2003 and before August 2008**. Well events that were suspended as of June 30, 2003 are eligible if they are reactivated after June 30, 2003. On behalf of the industry, the Oil and Gas Commission has set the status of all wells to “Suspended” if they did not produce for a 12-month period prior to July 1, 2003.
- Its average daily rate of production per metre of depth in the 12-month period that begins with the first month in which it produces marketable gas is **less than 23**. This is calculated using the following formula:

$$\frac{(\text{TP/TPH}) \times 24}{\text{MWD}}$$

where

TP = the total production from the well event in:

- the 12 consecutive calendar months starting with the calendar month in which marketable gas is first produced from the well event, or
- in the case of a reactivated well event, the 12 consecutive calendar months after the calendar month in which marketable gas is first produced following reactivation.

TPH = the total number of hours during which the well event produced natural gas over the 12-month test period.

MWD = the marginal well depth of the well event.

Marginal well depth for a marginal well event means:

- for a well event in a vertical well, the true vertical depth to the top of pay, which is the distance between the wellbore's intersection with the pay of the marginal well event to the point, directly above that intersection point, that is the same elevation as the kelly bushing used in drilling that well, or
- for a well event in a horizontal well, the total measured depth of the well event, which is the length of all of the vertically and horizontally-oriented wellbores from the surface to the well event.

Example

Total production as indicated on the BCS1 reports in the 12-month period is 7 million m³. The well produced gas in 4,000 hours over that period. The marginal well depth is 2,300 m.

$$\frac{(7,000,000/4,000) \times 24}{2,300}$$
$$= \frac{42,000}{2,300}$$
$$= 18.26$$

As the result of the calculation is less than 23, the well event qualifies as a marginal well event.

The Ministry of Finance will review the marginal well eligibility criteria for every new and reactivated gas well event with marketable gas production after July 1, 2003. The first well events to be reviewed will be those with marketable production in July 2003. We will determine the average daily rate of production per metre of depth in the 12 consecutive months from July 2003 for those wells when *Monthly Production Statements* (**BCS1**) for production in June 2004 have been received.

If we determine that a well event is eligible for the MWRR, a notice will be sent to all producers with an ownership interest in the well event. If you do not receive a notice

for a well event that you believe should be eligible, please contact the Mineral, Oil and Gas Revenue Branch at 250 952-0192 or 1 800 667-1182, or e-mail us at Oil&GasRoyaltyQuestions@gov.bc.ca

Calculating the Reduced Royalty

Once a well event passes the **initial eligibility test**, the MWRR is realized in those months when average production from the well is **less than 25,000 m³ per day**.

Step 1

When average daily production over the calendar month is less than 25,000 m³, the royalty rate for the well event is reduced by the base royalty rate multiplied by the **Production Based Reduction Factor (PBRF)**.

$$\text{PBRF} = \frac{(25,000 - S)^2}{25,000^2}$$

where

S is equal to the average daily natural gas production volume for the marginal well event in the producing month.

If average daily production in a month is 25,000 m³ **or more**, the PBRF is zero.

Step 2

The royalty rate payable for marginal wells is then calculated as:

$$\text{Base Royalty Rate} - (\text{PBRF} \times \text{Base Royalty Rate})$$

Example

The reference price is \$180. The average daily volume of gas produced by the well is 17,000 m³. The Base 9 Royalty applies.

The base rate is calculated in accordance with the Base 9 formula, with a maximum rate of 27% and a minimum of 9%.

At a reference price of \$180, **27%** is the maximum royalty rate. This would be the base royalty used in calculating the available royalty reduction in this example.

Step 1

The PBRF would be:

$$\frac{(25,000 - 17,000)^2}{25,000^2} = .1024$$

Step 2

The Marginal Well Royalty Rate equals:

$$27\% - (.1024 \times 27\%) = \mathbf{24.24\%}$$

Any reductions in the royalty rate for a marginal well event applies to the volume of marketable gas produced from that well event.

Obtaining the Reduced Royalty

The first invoices to reflect the reduced rate will be produced in September 2004. The ministry will calculate the reduction based on the information provided on the *Monthly Production Statement (BCS1)* and the *Natural Gas and By-Product Volumes and Value Report (BC10)*.

As with gas from low-productivity wells, we have added new data fields to the BC10 for volumes of marketable gas produced from marginal wells in a reporting entity. A copy of the revised BC10 is attached. The ministry will allocate the reported marginal well volumes to individual marginal well events in the reporting entity based on production volumes reported on BCS1 reports for each well event.

Producers have the option of transferring the marginal well event(s) to a separate reporting entity, where proportional allocation will not be required. Please refer to the *Oil and Gas Royalty Handbook* for information on terminating and setting up reporting entities.

To realize the benefit of the MWRR in production months that occur after the 12-month period in which a well event is determined to be a marginal well event, you must provide the volumes of marketable gas produced from marginal wells in a reporting entity on the BC10. We will not attempt to determine the MWRR using total marketable volumes for a reporting entity.

At the end of the 12-month period in which a well event is determined to be a marginal well event, royalties that were paid in those months may be reassessed to apply the MWRR to those months.

When we notify you that the well is eligible for the MWRR, we will also ask you to let us know whether you prefer to submit amended BC10 reports that provide the marketable gas volumes from the marginal well for those months, or whether you prefer to have us reassess those months based on our allocation of total marketable volumes for the reporting entity to individual wells.



Need more info?

Oil and Gas Royalties and Freehold Production Tax website: www.sbr.gov.bc.ca/business/Natural_Resources/Oil_and_gas_royalties/oil_and_gas_royalties.htm

Telephone (Victoria): 250 952-0192

Toll free in Canada: 1 800 667-1182

Fax: 250 952-0191

E-mail: Oil&GasRoyaltyQuestions@gov.bc.ca

The information in this bulletin is for your convenience and guidance and is not a replacement for the legislation. The *Petroleum and Natural Gas Act* and the *Petroleum and Natural Gas Royalty and Freehold Production Tax Regulation* are on our website at www.sbr.gov.bc.ca/business/Natural_Resources/Oil_and_gas_royalties/legislation.htm



Ministry of Energy & Mines and Ministry of Provincial Revenue

BC-10

NATURAL GAS AND BY-PRODUCT VOLUMES AND VALUES REPORT

Freedom of Information and Protection of Privacy Act - The personal information requested on this form is collected under the authority of the *Petroleum and Natural Gas Act*, RSBC1996 c. 361 s 74 (1) and will be used for purposes of administering the Petroleum and Natural Gas Royalty and Freehold Production Tax Regulation. If you have any questions about the collection and use of this information, please contact Mineral, Oil and Gas Revenue Branch at P.O. Box 9328 Stn. Prov. Gov't, Victoria, B.C. V8W 9N3 250 952-0192.

ROYALTY/TAX PAYOR	
Name	
Code	

Reporting Entity Number	Producing Month	
	Year	Month
Amended Form <input type="checkbox"/>		

RAW GAS VOLUMES	
Delivered	10 ³ m ³
Returned Gas	10 ³ m ³
Field Sales	10 ³ m ³

REPORTING ENTITY NAME

MARKETABLE GAS VOLUMES BY CLASS				
	Conservation Gas	Non-Conservation Gas		
		Base 15 / Freehold	Base 12	Base 9
Reporting Entity Total	10 ³ m ³	10 ³ m ³	10 ³ m ³	10 ³ m ³
From Low Productivity Wells		10 ³ m ³	10 ³ m ³	10 ³ m ³
From Marginal Wells		10 ³ m ³	10 ³ m ³	10 ³ m ³
From Field Sales	10 ³ m ³	10 ³ m ³	10 ³ m ³	10 ³ m ³

BY- PRODUCT SALES		
	Volumes	Values
Ethane	m ³	\$
Propane	m ³	\$
Butane	m ³	\$
LPG Mix	m ³	\$
Plant Pentanes Plus	m ³	\$
Field Condensate	m ³	\$
Sulphur	tonne	\$

CONTACT NAME									
AREA CODE		TELEPHONE					DATE		
		-			-				

BC10 Electronic Format

Notes: All fields are to be right justified and zero filled, except for the first 5 Filler items which are each one blank space and the last Filler item which is two blank spaces. The record length is 278.

Field No	Field Name	Start	Length	Format	Comments	Example	Original
1	Royalty Payor Code	1	4	X(4)		0648	648
2	Amended Form Flag	5	1	X(1)	Y or N	N	N
3	REN	6	5	X(5)		00120	120
4	Production Period	11	6	X(6)	YYYYMM	200010	2000/10
RAW GAS VOLUMES:							
	Filler	17	1	X(1)	Blank		
5	Raw Gas Delivered	18	8	9(7)v9		00008065	806.5
6	Returned Gas	26	8	9(7)v9		00000000	0.0
7	Field Sales	34	8	9(7)v9		00000999	99.9
TOTAL RESIDUE GAS SALES:							
	Filler	42	1	X(1)	Blank		
8	Consrv. Gas Volume	43	8	9(7)v9		00011111	1111.1
9	Base 15 Gas Volume	51	8	9(7)v9		00002222	222.2
10	Base 12 Gas Volume	59	8	9(7)v9		00000333	33.3
11	Base 9 Gas Volume	67	8	9(7)v9		00000444	44.4
LOW PRODUCTIVITY RESIDUE GAS SALES:							
	Filler	75	1	X(1)	Blank		
12	Base 15 Gas Volume	76	8	9(7)v9		00001100	110.0
13	Base 12 Gas Volume	84	8	9(7)v9		00000000	0.0
14	Base 9 Gas Volume	92	8	9(7)v9		00000234	23.4
RAW GAS FIELD SALES:							
	Filler	100	1	X(1)	Blank		
15	Consrv. Gas Volume	101	8	9(7)v9		00002355	235.5
16	Base 15 Gas Volume	109	8	9(7)v9		00000000	0.0
17	Base 12 Gas Volume	117	8	9(7)v9		00000000	0.0
18	Base 9 Gas Volume	125	8	9(7)v9		00000111	11.1
BY PRODUCTS SALES:							
	Filler	133	1	X(1)	Blank		
19	Ethane Volume	134	8	9(7)v9		00000068	6.8
20	Ethane Value	142	9	9(7)v99		000078755	787.55
21	Propane Volume	151	8	9(7)v9		00000022	2.2
22	Propane Value	159	9	9(7)v99		000033044	330.44
23	Butane Volume	168	8	9(7)v9		00000044	4.4
24	Butane Value	176	9	9(7)v99		000067022	670.22
25	LPG Mix Volume	185	8	9(7)v9		00000000	0.0
26	LPG Mix Value	193	9	9(7)v99		000000000	0.00
27	Plant Pentanes Plus Volume	202	8	9(7)v9		00000126	12.6
28	Plant Pentanes Plus Value	210	9	9(7)v99		000216219	2162.19
29	Field Condensate Volume	219	8	9(7)v9		00000000	0.0
30	Field Condensate Value	227	9	9(7)v99		000000000	0.00
31	Sulphur Tonnage	236	8	9(7)v9		00000000	0.0
32	Sulphur Value	244	9	9(7)v99		000000000	0.00
MARGINAL WELL RESIDUE GAS SALES							
	Filler	253	2	X(2)	Blank		
33	Base 15 Gas Volume	255	8	9(7)v9		00000000	0.0
34	Base 12 Gas Volume	263	8	9(7)v9		00000000	0.0
35	Base 9 Gas Volume	271	8	9(7)v9		00000134	13.4

Example Record from above shown as a sample layout (Split over 5 lines here):

```
0648N00120200010 000080650000000000000000 00011111000022220000033300000444
0000110000000000000000234 000023550000000000000000000000000111
0000006800000787550000002200003304400000044000067022
00000000000000000000001260002162190000000000000000000000000000
00000000000000000000000134
```