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June 26, 2003

Alberta Energy and Utilities Board  
640 – 5<sup>th</sup> Avenue S.W.  
Calgary, Alberta  
T2P 3G4

**Attention: Mr. Terry Abel, P.Eng., Applications Branch**

Dear Sir:

**Re: General Bulletin GB 2003-16**

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Petro-Canada is responding to the invitation to industry by the Alberta Energy and Utilities Board to file a further submission on the proposed Conservation Policy affecting gas production in the Athabasca Wabiskaw-McMurray oil sands areas.

Petro-Canada's submission builds upon its previous submission dated May 12, 2003. Although your note requests two copies, consistent with the Board's general practice we are enclosing twelve paper copies. An electronic version in PDF format will be forwarded directly to your e-mail address.

I will out of the country on July 3<sup>rd</sup> and 4<sup>th</sup> and Mr. Bill Corbett will be speaking to Petro-Canada's submissions. Any communication can be made directly with Mr. Bill Corbett whose telephone number is 260-8504.

Yours truly,

**PETRO-CANADA**



Scott R. Miller  
Associate General Counsel



# Petro-Canada's Submission

Comments on General Bulletin 2003-16

June 26, 2003

## **Index**

1.0	Introduction .....	1
2.0	This is a Conservation Issue: The Board Was Established to “Effect Conservation and Prevent Waste” .....	2
3.0	There is a Demonstrated Need for Action.....	7
4.0	The Conservation Policy is Fair, Responsible and in the Public Interest.....	10
4.1	The Conservation Policy is Fair.....	10
4.2	The Conservation Policy is Responsible and in the Public Interest...	12
5.0	Action is Needed Now .....	17
6.0	Suggested Next Steps .....	22
6.1	Rescind the Waivers for Annual Pressure Test Measurements .....	22
6.2	Prioritize the Review Process .....	22
6.3	Support the Ongoing Pursuit of Technical Solutions .....	23
7.0	Conclusion.....	23

**Submissions of Petro-Canada  
on the Proposed Conservation Policy  
Affecting Gas Production in the Athabasca  
Wabiskaw-McMurray Oil Sands Area**

**General Bulletin 2003-16**

1.0 Introduction

Petro-Canada welcomes the opportunity to express its support for the Board's creation of an effective and responsible Conservation Policy, through GB 2003-16, aimed at preserving the bitumen resource in order to eventually optimize the production of both the gas and bitumen in the Athabasca Oil Sands Area. Petro-Canada has appeared before this Board on every significant inquiry or hearing relating to this issue since the 1997 Inquiry. Throughout those appearances Petro-Canada has requested that the Board take action pursuant to its conservation mandate to protect bitumen production that is at risk due to gas depletion. The proposed Conservation Policy as expressed in GB 2003-16 meets the terms of your conservation mandate and is consistent with the Board's mission statement:

“To ensure that the discovery, development and delivery of Alberta's resources take place in a manner that is fair, responsible and in the public interest”.

In fulfilling both its legislated conservation mandate and its mission, the Board must have regard to all of Alberta's resources: including gas, oil and bitumen. With this in mind, the Board should be guided by the following key considerations:

- This is an important conservation issue;
  - There is a demonstrated need to conserve the bitumen;
  - The Conservation Policy is fair, responsible and in the public interest;
- and,

- Action is needed now having regard to the identified stage of pressure depletion. Further delay is not an option.

Given the time that has passed and the gas depletion that has occurred since concern over the impact of gas depletion on bitumen production was first acknowledged by the Board in the 1997 Inquiry report, the need to take protective action has changed from necessary to urgent. The Board must act now to effect conservation of the bitumen in the public interest as further delay will sterilize the bitumen. Petro-Canada therefore supports the Board's proposed Conservation Policy and urges the Board, in the public interest, to enact the Policy on August 1, 2003 in order to preserve the bitumen.

## 2.0 This is a Conservation Issue: The Board Was Established to "Effect Conservation and Prevent Waste"

The conflict between gas production and bitumen preservation is a conservation issue. Conservation was the founding mandate for the creation of an Energy Board in 1938. Throughout its evolution, from its emergence as the Turner Valley Gas Conservation Board, to the Oil and Gas Conservation Board, to the Energy Resources Conservation Board until today, **conservation** is at the core of the Board's mandate. The original 1938 statute stated that:

"s.8 The Board is appointed for the general purposes of effecting conservation of the petroleum and natural gas resources of the Province".

*[The Oil and Gas Conservation Act, 1938, s.8]*

One of the key methods available to the original Conservation Board in order to ensure conservation was through direct regulation of the oil and gas reservoirs to optimize resource production. Economic production of two competing resources was a key issue and the original Board was concerned with:

“s.8(a) ...preventing the exhaustion from a producing petroleum area of the energy necessary to produce petroleum by any methods shown to be uneconomic in that such method of production allows this exhaustion without proportionate recovery of petroleum to the end that the maximum ultimate recovery of petroleum can be attained;”

In his book on Alberta’s Petroleum Industry and the Conservation Board Dr. David Breen tells us that “...the Conservation Board was born in the controversy surrounding the wasteful burning of natural gas” and that the Board was “...locked almost constantly in debate with the industry...about what conservation measures were ‘reasonable’ or ‘economic’”. He concludes that conservation and prevention of waste has “remained central to the Board’s moral and practical mission”. [*Dr. D. Breen, “Alberta’s Petroleum Industry and the Conservation Board, 1993, page 124-125*].

The current operative legislation, in force 65 years later, confirms that these original principles are still relevant and important today. A primary purpose of this Board to this very day is to:

“Effect conservation and prevent waste of the oil sands and oil and gas resources of Alberta”.

[*Oil Sands Conservation Act, s.3(a) and Oil and Gas Conservation Act, s.4(a)*].

This statutory provision succinctly sums up the Board’s duty: conservation and the prevention of waste.

This historical context and the Board’s current mandate reminds us that what the Board is proposing through the Conservation Policy is not novel, unique or unprecedented. It is consistent with the well-established founding purpose of this Board. Since its inception in 1938, this Board has shown itself to be ready, willing

and able to prohibit or curtail production where it is satisfied on the evidence that such action is necessary to effect conservation. That is what the Board was created to do and that is what you must do when faced with the compelling evidence of pressure depletion and impact that you have examined over the past seven years.

The Court of Appeal has recently put any doubt, concerning the Board's conservation obligations or your jurisdiction to act to rest. In its decision in the Giant Grosmont Petroleum Ltd., Northstar Energy Corporation Ltd., Paramount Resources Ltd., et al vs. Gulf Canada Resources and Petro-Canada and the Alberta Energy and Utilities Board dated June 29, 2001 dealing with the gas and bitumen resource conflict the Court stated:

“The importance of the protection of the public interest in the preservation of energy resources should be reiterated. It is not only the interests of the Appellants and Respondents that are at stake; the Board also owes a duty to the people in the Province of Alberta to safeguard their interest. It should be remembered that the Board has been entrusted with these responsibilities because it has the necessary expertise and experience to do so. As such the Board is in the best position to balance the interests of all concerned and to make the decisions necessary to conserve the energy resources of this province”. (*Emphasis added. Page 18, paragraph 45*).

The Conservation Policy fulfils the conservation duty and jurisdiction confirmed by the Court. That must be the Board's focus. There will be many attempts to obscure the conservation issue. Just as that was a distraction for the Turner Valley Gas Conservation Board it will also be a challenge for this Board. No doubt the Board will be told that these conservation measures are somehow illegal, unwarranted or unjust. A review of the facts confirms that the conservation of the bitumen is legal, justified and warranted. In addition to its general conservation powers under the *Oil and Gas Conservation Act* and the *Oil Sands Conservation Act*

the Board also has specific and express authority to protect the bitumen from waste. Section 21(1) of the *Oil Sands Conservation Act* and the *Oil and Gas Conservation Act* provide that:

21(1) The Board may make regulations

...

- (g) respecting methods of operation to be observed for the prevention of waste;
- (u) generally to conserve oil sands and crude bitumen and to prevent the waste or improvident disposition of oil sands, crude bitumen, derivatives of crude bitumen, declared oil sands or oil sands products.

*Oil and Gas Conservation Act*

10(1) The Board may make regulations

...

- (y) generally to conserve oil and gas, and to prevent waste or improvident disposition of oil or gas, and to do any other matter reasonably incidental to the development and drilling of any oil or gas wells, the operation of them, and the production from them.

In 1999, pursuant to this authority, the Board amended the *Oil Sands Conservation Regulations* and the *Oil and Gas Conservation Regulations* to permit the Board to act generally to effect the conservation of bitumen and specifically to prohibit gas production from a well in the oil sands strata without prior approval of the Board. In particular in 1999 section 3 of the *Oil Sands Conservation Regulation* were amended to add sections 3(3) and 3(5) as follows:

“3(3) No person shall produce gas from a well completed in the oil sands strata prior to obtaining an approval from the Board, unless the Board has exempted the well from the application of this subsection.”

3(5) Where it appears to the Board that the ultimate recovery of crude bitumen in the oil sands strata may be affected by gas production, the Board may, on its own initiative or on application by an affected party, make any order or directive it considers necessary to effect the conservation of the crude bitumen in any particular case.” (*Emphasis added*).

These provisions supported the issuance of ID 99-1. The Conservation Policy represents an extension of ID 99-1 and is consistent and can be authorized under the same express regulatory provisions. In this case, therefore, where it appears to the Board that the ultimate recovery of bitumen may be affected by gas production the Board is authorized, on its own initiative to make an order or directive to conserve the bitumen. That is precisely what the Conservation Policy addresses. The Board should take comfort in the validity of its approach.

The amended regulations and ID 99-1 are “tried, tested and true”. The regulatory changes made to enact ID 99-1 and promote bitumen conservation in 1999 were determined by the Alberta Court of Appeal in the Giant Grosmont case to be within the legitimate jurisdiction of the Board. As the Court stated on page 13, paragraph 30 of its decision:

“No one attempted to argue that the science of oil and gas production is not evolving. As new and better methods of production emerge, these issues will no doubt return to the Board to be dealt with. The Energy Statutes provide the Board with the ability to address these issues promptly as they arise. That ability, coupled with knowledge imperative to understanding the technical details of energy resource development, makes the Board the best body to deal with these matters”. (*Emphasis Added*)

The Court of Appeal has confirmed not only the legality but also the appropriateness of this approach to bitumen conservation. By extension, the

Conservation Policy has the same purpose and is appropriate, authorized and justified.

### 3.0 There is a Demonstrated Need for Action

After seven years of consultation with industry, and as a result of three (3) significant formal proceedings the Board has determined that: “When that natural gas is extracted, there is a drop in pressure within the gas zones. Evidence indicates that this leads to a risk of bitumen loss, as bitumen may not then be recovered through existing thermal recovery techniques, such as steam assisted gravity drainage (SAGD)”. (EUB News Release, June 3, 2003). This conclusion is supported by the evidence that you have received and tested over the last seven years. Reservoir pressure is critical to the recovery of all hydrocarbons, including bitumen. Continued gas production leads to pressure depletion, whether by new or grandfathered wells, and adversely impacts the ability to recover the bitumen and can ultimately sterilize the resource. Petro-Canada agrees with the Board’s conclusion in GB 2003-16: “...that for the Area of Concern gas pools are generally at an advanced stage of depletion and are approaching the technical limit for artificial lift for SAGD” (GB 2003-16, pages 5-6). The Board similarly observed in the Chard-Leismer hearing that there are areas with gas pressures near or below the technical limit for lift. Due to the on-going and advanced state of pressure depletion the Board must act now to preserve the ability to produce the bitumen. There is an urgent and demonstrated need to address and deal with the grandfathered production that is contributing to the pressure depletion. The Conservation Policy is an immediate response to this identified need.

The Board recognizes that although there are many bitumen reservoirs within the Athabasca Oil Sands Area, the Conservation Policy’s new reduced application area focuses on reservoirs that require immediate attention. This focus area represents a unique and extraordinary mix of the thickest bitumen within the Athabasca Wabiskaw-McMurray deposit coupled with associated gas pools that are at an advanced stage of depletion which are rapidly approaching the technical limit

for artificial lift for SAGD. The consequence of this mix of value and vulnerability is that this bitumen resource is at significant risk of being lost if the Board fails to take the immediate conservation action outlined in the Conservation Policy.

The cost of delay, or the cost of doing nothing, are both too high. The Board has characterized the potential loss to the province of this bitumen resource relative to the deferral of gas production in stark and telling terms. The Board states at page 5 of General Bulletin 2003-16 that:

“Within the Area of Concern there is about 30 billion m<sup>3</sup> (one trillion cubic feet) of remaining gas reserves in the Wabiskaw-McMurray, about two percent (2%) of the provincial total. This gas has an energy equivalence of about 28 million m<sup>3</sup> (175 million barrels) of bitumen or in other terms, the energy content of the recoverable crude bitumen reserves at risk is about 600 times larger than the energy content of the proposed shut-in Wabiskaw-McMurray gas production”. (*Emphasis added*)

Six hundred to one. Consider the significant value difference. To sacrifice that long term value for such a relatively small amount of gas production would be reckless indeed. In this case the need for fair and responsible development in the public interest clearly requires protection of the more valuable bitumen resource.

The need to protect this resource is clear as we are not just talking about substantial present value; but we are also talking about the future economic wellbeing of the province and its citizens. The need for protection encompasses both the absolute value of the bitumen itself as well as the future compounded benefits of construction, operations, services and taxes that will accrue from the development and use of the longer term and more valuable bitumen. The future public interest must be considered and weighed along with the current private

interests. This consideration is well known to the Board as indicated by the comments of George Govier, a former Board chairman, who stated in 1950 that:

“Conservation involves the efficient use of natural resources, the development of these resources in such a way as to protect the interests of future generations, and the elimination of all economically avoidable waste. It may be defined as “the preservation of natural resources for economical use.” The concept of the elimination of waste is paramount”. (*G.W. Govier, "Oil and Gas Conservation," 1950, p.1-2 referenced at pages 4 and 5 of EUB Inquiry, Gas/Bitumen Production in Oil Sands Areas, March 1998 (emphasis added)*)

This Board has re-affirmed its responsibility to consider both current and future needs in EUB *Decision 2003-023* when it stated:

“In addition to society’s immediate needs, the Board believes that it should consider the longer term aspects of resource development and the longer term interest of future Albertans. Therefore, given the number of unknowns about the technical and economic parameters surrounding SAGD bitumen recovery, the Board believes that it has a responsibility to ensure that long term bitumen recovery is not jeopardized by the production of gas that is in pressure communication with significant bitumen resources”. (*Emphasis added*).

There is a clear need and responsibility for the Board to act. Pressure depletion adversely impacts the bitumen resource; immediate action is required. The Conservation Policy is a necessary and responsible process that has been logically and carefully constructed upon the foundation of each Board and Court decision touching on this issue over the past seven years.

#### 4.0 The Conservation Policy is Fair, Responsible and in the Public Interest

##### 4.1 The Conservation Policy is Fair

Through the Conservation Policy the Board is acting fairly having regard to the competing interests of both the gas and bitumen producers. It balances the present production against the future needs of the Province; it balances the effect of depleting gas pools on the emerging bitumen resources; and, it balances both the public and the private interests.

In striving for a fair approach the Conservation Policy reduces the restrictions on gas producers by reducing the size of the new application area. This now allows gas production to proceed without application from those portions of the Athabasca Wabiskaw-McMurray that are located outside of the new reduced application area. The gas producers will now have greater certainty to carry on their operations. However, for bitumen producers there is now more uncertainty with limited protection for their interests and resources located outside the new application area. The perceived value of bitumen resources outside the reduced application area has been directly and adversely impacted because protection has been diminished. Bitumen companies such as Petro-Canada, which has two significant bitumen lease areas located outside of the new reduced application area, have lost a significant procedural protection and perceived value. A fair approach to conservation clearly cuts both ways. However, the balance to be achieved by the Board through the new reduced application area is properly driven by the legitimate and reasoned desire to concentrate protection on those resources with the thickest bitumen located in the North/South Channel Complex along the eastern portion of the Athabasca area. In this regard the loss of some protection by the bitumen producers is a gain in certainty for the gas producers. This highlights the nature of fairness, balance and compromise incorporated in the Conservation Policy.

In addition, evidencing its concern for fairness, the Board has indicated that it will not shut-in those gas wells, which lie within the new reduced application area, but which were previously approved for production in Decision 2003-023. This is important because it demonstrates that, on review and supported by adequate evidence, the Board is prepared to allow gas production where it believes there is likely to be no adverse affect on the bitumen. This is a harbinger of the review process that the Board will implement through the Conservation Policy to review and release for production those gas wells that are found not to be in association with the bitumen. Accordingly, although the Conservation Policy does implement an immediate shut-in to prevent further depletion of gas zones, which is urgently needed to protect the bitumen resource, the shut-in will be followed by an extensive geological review undertaken by the Board to identify non-associated gas that can be returned to production. The Board has previously demonstrated its willingness to return non-associated gas wells to production in its decision in the Chard-Leismer decision. This approach confirms that the Board's actions are not arbitrary or immutable, rather it follows a reasoned and scientifically justified approach to first isolate and preserve the pressure that remains while undertaking a detailed study that will identify which gas is associated and which gas is not associated with bitumen. This is no different than the prudent and necessary steps needed to deal with a problem such as SARS. First you isolate the problem through quarantine. Next you carry out tests in order to determine those individuals who do not pose a problem. Where the test is negative you can release those individuals from quarantine as they are not contributing to the problem. The Board's immediate shut-in action is similar to quarantine and it is tempered by a scientific review with the potential to return non-associated gas wells to production.

By taking immediate action to prevent continuing deterioration of the bitumen resource, while leaving open for review the ability to put gas wells on production where there is no demonstrated harm, the Board has addressed its obligation to be fair to the competing interests. In addition, in its discussion in GB 2033-16 the Board has indicated that about fifty percent (50%) of the gas production

within the Area of Concern will continue to be produced. It is clear the Board is attempting to balance the interests of both bitumen and gas producers; to ensure conservation of bitumen while restricting or limiting only those gas wells that may, after study, be found to be in association with commercial bitumen.

Notwithstanding this fair approach the gas producers complain about their prospective loss of gas production over the review period. What must also be considered is the retrospective and continuing loss of bitumen production already suffered by the bitumen producers. Gas production over the past seven years has and continues to reduce the reservoir pressure, which reduces the recovery rate of bitumen and the amount of bitumen that can be produced. In order to be fair, the loss to both parties, and not just the loss projected by the gas producers, must be weighed.

#### 4.2 The Conservation Policy is Responsible and in the Public Interest

The Conservation Policy is responsible because it is progressive, having been built upon the extensive information gathered over the last seven years. The Minister of Energy noted in his letter to CAPP and SECAP dated June 9, 2003 that:

“As you know; gas-over-bitumen is not a new issue. The EUB has held an inquiry, two major hearings, and consultation processes on this issue dating back to 1996”.

This issue has received intensive scrutiny and review. The results have been consistent - depleting pressure adversely affects the ability to produce the bitumen using SAGD. This conclusion is no longer an issue. Having demonstrated the impact, the focus must now logically shift to protect the threatened bitumen reserves before they are irreparably compromised or lost. Acting responsibly encompasses the need to respond appropriately based upon accumulated knowledge gained over the past seven years of intense review. It is not necessary to revisit the same issues over and over when the cause and effect of the problem are recognized,

imminent and irreversible. In the face of continuing gas depletion, inaction means that the loss of the bitumen resource will be a certainty.

Each hearing appears to set new records for the length of time for each proceeding and decision. In the interim gas production continues, pressure declines and bitumen is compromised. The Board is both entitled and obligated to apply the lessons learned from the inquiry and the hearings in a proactive and protective manner as envisaged in the Conservation Policy.

Some of the material filed by the gas producers suggests that the Board should require a compensation arrangement to be in place prior to the shut-in of any additional gas wells. This request is a continuation of the delay argument that has been used in the past to continue gas production, to the gas producers' benefit but to the detriment and loss of bitumen production. Given the amount of time that it has taken to reach this stage and having regard to the polarized positions of the parties it is evident that responsible action would only be further delayed by such an extraneous consideration. This is clearly contrary to the intent of the legislation and the mandate of the Board. Compensation is not a condition precedent to conservation, and it should not be a barrier to responsible action. The public interest cannot be served by delay that would effectively render any future action moot.

As Petro-Canada indicated in its March 12, 2003 submission, the ship will sink if the hull has holes. Preventing new wells while ignoring grandfathered gas production does nothing to limit the harm. The laws of physics do not differentiate between grandfathered holes or new holes – they will both sink the ship unless they are plugged. If the Board fails to act to shut-in to the grandfathered wells and protect the bitumen resource, the Board would be derelict in its statutory responsibilities. Accordingly, Petro-Canada concurs with the Board's statement that:

“Given the existing level of pressure depletion, the Board concludes that bitumen conservation cannot be effectively addressed in the

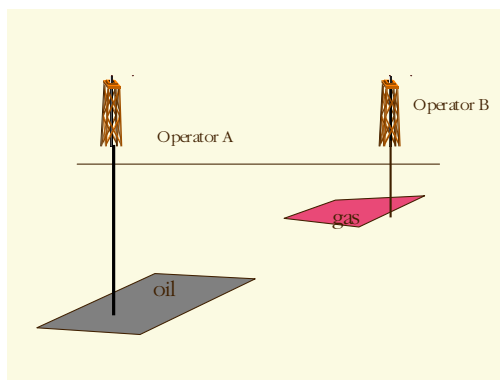
Area of Concern using the hearing process for grandfathered production”. (*EUB General Bulletin 2003-16, Page 6*).

The Conservation Policy and shutting-in of the gas production to preserve the bitumen is the most effective conservation response. This type of resource conflict is not new and there is a compelling analogous situation and response that is well established within the energy industry. Conventional oil and gas conservation shut-in orders also give rise to a conflict between competing resources and interests. As a result of technical analysis and experience the Board acts immediately in conventional conflict cases to ensure that the competing private interests do not subvert the public interest. The need to shut-in gas cap gas to preserve the threatened oil resources is recognized and accepted as being necessary to preserve the public’s interest by optimizing the recovery of both resources. Similar to the gas over bitumen issue, conventional hydrocarbon production requires that the production of gas cap gas must be shut-in and delayed where that production will have has a deleterious effect on the ability to produce oil from the same pool. In conventional operations shutting-in gas cap gas to protect another hydrocarbon is a well recognized conservation requirement and a risk of doing business. Gas producers, including Petro-Canada, have been shut-in for extensive periods throughout the province to conserve the ability to produce oil. Ironically, several of the current gas producers represented in this issue have benefited from the conventional shut-in of gas which permits them to produce their oil. Notwithstanding that gas production may be postponed for as long as fifty years in conventional conflict situations, these orders are made in the public interest, as a matter of course and without compensation.

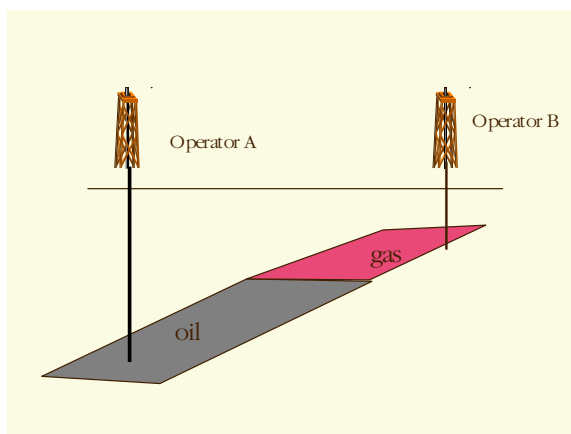
In a conventional associated gas shut-in situation, the circumstances leading to shut-in and the eventual return to production of the gas often occurs as follows:

- Operator A and B have adjoining P&NG leases. Both conduct exploration activities on their respective leases, which are some

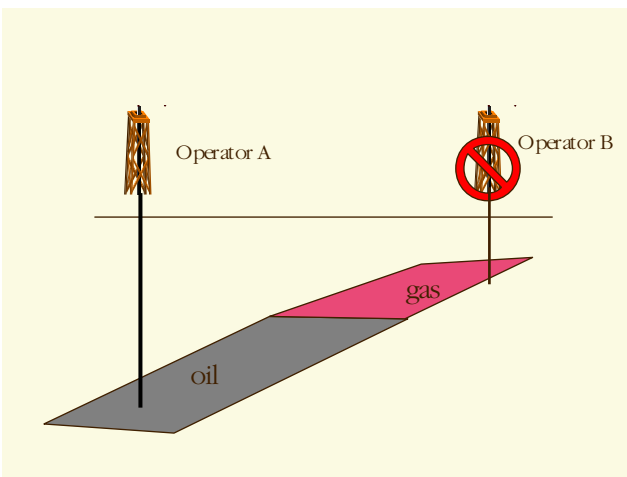
distance apart. Operator A discovers oil, and operator B discovers gas. At this time the available information suggests that both operators are in separate reservoirs. Both operators receive Board approval to produce their respective resources. produce their respective resources.



- As a normal part of development both operators conduct additional seismic, pressure analysis and drilling activities to further delineate their respective plays. This new and additional information demonstrates that the two pools, originally thought to be separate, are now understood to be one. The reservoir is now determined to consist of an oil pool with a gas cap. Continuing gas production will reduce the reservoir pressure which in turn impairs the ability to recover the oil.



- Under these new circumstances, operator B is requested or ordered by the Board to shut-in its gas production in order to ensure the recovery of the oil.



- Operator B is only allowed to produce its gas cap once the oil is recovered or some other form of pressure maintenance or enhanced recovery that preserves the ability to recover the oil is approved by the Board.

All oil and gas production companies accept the risk that these types of cases can and do arise during their conventional operations. The industry as a whole accepts that conservation of the oil requires the shut-in of the gas. As with gas over bitumen, if gas is produced before the oil, the value of the oil will be lost since it cannot be produced. If the production of the gas is delayed while the oil is produced eventually both resources will be produced. For this reason clear rules regarding the priority of oil production to gas production are in place.

It is also notable that in the conventional oil and gas shut-in case we have developed alternatives to continued shut-in of the gas. **Conservation drives innovation.** Deprived of compensation for the conventional shut-in of gas, oil and gas operators have been driven to find technical solutions to permit concurrent production of the gas and oil. Indeed pressure maintenance schemes, which often

require the co-operation of both oil and gas operators are routinely implemented to permit the eventual or current production of gas without sterilizing the oil.

Lessons from conventional oil and gas operations equally apply with respect to the gas over bitumen conflict. In this respect, the Board's Conservation Policy is consistent with the public interest approach taken in conventional operations and must be implemented immediately in a consistent manner. At Turner Valley the Board was faced with producers aggressively advancing their economic self-interest. The Board had to look beyond the short-term direct economic self-interests of those producers and protect the longer-term public interest. The circumstances in the gas over bitumen conflict are essentially the same and the Board's response must be as courageous and complete as it was at Turner Valley. The Conservation Policy is an appropriate first step.

#### 5.0 Action is Needed Now

The Board has a long and detailed history examining this bitumen conservation issue. As early as March 25, 1998 the EUB issued its Inquiry Report, "EUB Inquiry: Gas/Bitumen Production in Oil Sands Areas" (the "1997 Inquiry") where it made critical findings as to the negative long term affect of the continued gas production on bitumen recovery:

*"The Board notes that the application of thermal bitumen processes, such as SAGD, presently offers the greatest promise for the eventual development of Alberta's in-situ oil sands resources. The Board also recognizes that a critical factor for the successful application of such processes is the reservoir pressure..." [Inquiry Report, page 46].*

*"On the basis of the evidence submitted at the inquiry, the Board accepts that associated gas production would have a detrimental affect on SAGD performance. Although the extent of the affect*

would depend on the specific reservoir situation, economic circumstances and operating strategy, the Board believes that in some instances the affect on the ultimate bitumen recovery could be significant.” [*Inquiry Report, page 48*].

Similarly, the Board rendered its decision on the Gulf Surmont hearing on March 30, 2000 and found:

“...the bitumen resources on Gulf’s Surmont leases represent a significant energy resource for the province, which the Board believes warrant consideration for protection of future development. The estimates for recoverable gas reserves in the requested gas shut-in area range from 95 billion to 180 billion cubic feet, which on an energy basis (*i.e.* 17 million to 32 million barrels of oil equivalent) is much less than the potentially recoverable bitumen, in the order of a half of one percent.” [*Executive Summary, page v*].

“The Board accepts that as the steam chamber pressure is decreased below about 800 kilopascals absolute, artificial lift becomes increasingly more difficult, until at pressures below 400 to 600 kilopascals absolute it is not technically feasible.” [*Executive Summary, page vi*].

“The Board does not accept that the SPG’s argument that the potential for sterilization of the bitumen resources should not be a matter for the public interest, since this could result in the Board not considering many situations where resources could be effectively sterilized under any reasonably foreseeable economic conditions.” [*Executive Summary, page vi*].

“The Board believes that its conservation role must consider a broader set of issues than the immediate plans of any one company or industry sector.” [Executive Summary, page vii].

“The Board acknowledges the risk associated with the commercial application of relatively unproven technology. However, the Board accepts that the potential value of the bitumen resources significantly exceeds the value of the remaining gas reserves in this Surmont area and believes that it would not be in the public interest to accept the possibility of sterilizing a vast bitumen resource by allowing continued gas production.” [Executive Summary, page vii].

Most recently the EUB rendered its decision in the Chard-Leismer hearing on March 18, 2003 and found:

“The Board concludes that the bitumen resources within the Wabiskaw Member of the Clearwater Formation and McMurray Formation (Wabiskaw-McMurray) in the Chard-Leismer area are on trend with Alberta’s most significant bitumen deposits and it notes that most announced and approved commercial steam-assisted gravity drainage (“SAGD”) projects fall within this trend. The Board believes that a significant amount of potentially recoverable bitumen exists in the Chard-Leismer area that warrants consideration for future development.” [Executive Summary, page v].

“The Board believes that some Wabiskaw-McMurray gas in the Chard-Leismer area is or has the potential to be associated with underlying channel bitumen, either through

direct vertical continuity or indirectly through lateral continuity of the gas in top water zones, similar to the Surmont area.” [Executive Summary, page v].

“On the basis of its assessment of the model studies, the Board concludes that producing gas that is associated with bitumen presents an unacceptable risk to SAGD bitumen recovery.” [Executive Summary, page vi].

“The Board concludes that the risks to SAGD bitumen production increase at lower operating pressures. As a result, the Board continues to believe that where gas is associated with bitumen, gas zone depressurizing should be minimized to better ensure successful SAGD operations in terms of resource recovery and minimizing the technical difficulty of lifting SAGD fluids. Furthermore, in the absence of field data, the Board continues to believe that the minimum steam chamber pressure required for artificial lift be technically feasible would be in the range of 400 to 600 kPaa, as stated in December 2000-22.” [Executive Summary, page vi].

“In addition to society’s immediate needs, the Board believes that it should consider the longer-term aspects of resource development and the longer-term interest of future Albertans. Therefore, given the number of unknowns about the technical and economic parameters surrounding SAGD bitumen recovery, the Board believes that it has a responsibility to ensure that long-term bitumen recovery is not jeopardized by the production of gas that is in pressure

communication with significant bitumen resources.”

[*Executive Summary, page vi*].

“Having considered all the evidence, the Board concludes that gas production from certain perforated intervals within the Wabiskaw-McMurray presents a high risk to future bitumen recovery in the Chard-Leismer area...” [*Executive Summary, page vii*].

It is clear from these findings that the production of gas that is associated with bitumen presents an unacceptable risk to SAGD bitumen recovery.

The Board also noted in GB 2003-16 at page 5 that:

“The Board has reviewed the Wabiskaw-McMurray gas production and believes that for the Area of Concern gas pools are generally at an advanced stage of depletion and are approaching the technical limit for artificial lift for SAGD.”

These findings tell us that:

- the relative greater value of the bitumen compared to gas has been confirmed;
- the sensitivity of bitumen production to gas depletion is known; and,
- the gas zones in the Wabiskaw-McMurray are rapidly approaching the bitumen sterilization threshold.

In view of these conclusions, confirmed after three major and highly contested proceedings, the Board must now act on this knowledge to protect the bitumen resource from further pressure reduction and sterilization.

## 6.0 Suggested Next Steps

Implementation of the Conservation Policy on August 1, 2003 responds to the urgent need to minimize the damage being done to the bitumen. This step should be taken by the Board. The ultimate goal, however, must also be to encourage research and co-operation to find practical, field tested and demonstrated technical solutions that will permit the safe concurrent production of both gas and bitumen. In furtherance of that goal Petro-Canada suggests that the Board consider the following steps.

### 6.1 Rescind the Waivers for Annual Pressure Test Measurements

All parties recognize that pressure data is important to demonstrate the extent of pressure communication through the region of influence. The difficulties in utilizing data in the past hearings relates to the lack of pressure data, both its quantity and its quality. The Board should use this opportunity to ensure that such deficiencies are corrected through the acquisition of an ongoing pressure database that reliably measures pressure trends. In order that this may be accomplished, Petro-Canada recommends that the Board rescind all waivers of annual pressure testing.

### 6.2 Prioritize the Review Process

Petro-Canada recognizes that the Conservation Policy is necessary to prevent sterilization of the bitumen by shutting-in gas production to protect the more valuable bitumen resource. This process may result, in some cases, in the shut-in of gas that will, on review, be approved for production. In an attempt to minimize the impact of the review period on gas producers we encourage the Board to create a process involving representatives from interested parties, including gas and bitumen producers, to work toward the development of a process to prioritize the Board's review of the Area of Concern. The purpose would be to identify those areas where

gas production is most likely to be re-established because it has no effect on bitumen.

### 6.3 Support the Ongoing Pursuit of Technical Solutions

Petro-Canada supports on-going and increased efforts to identify and study potential technical solutions to the gas over bitumen issue. Industry should be encouraged to undertake appropriate pilots and technology evaluations to address both industry and the Board's concerns regarding the impacts on the gas and bitumen resource. Additional pressure data from producing and shut-in wells will be invaluable to the resolution of this issue. Industry should be encouraged to investigate the issues of pressure data acquisition, beyond the requirements stated in the Alberta Energy and Utilities Guide 40. All stakeholders in the gas over bitumen issue should be encouraged to actively participate in the beneficial pursuits undertaken by the Technical Solutions Committee.

### 7.0 Conclusion

Petro-Canada supports the Board's proposed Conservation Policy outlined in GB 2003-16, and encourages the Board to proceed immediately, keeping to its August 1, 2003 shut-in date. In particular, Petro-Canada is pleased to see the Board implement a defined geographic approach that deals with grandfathered production in an area that requires immediate protection. The Conservation Policy recognizes and addresses the importance of understanding that gas pools do in fact cross geographic boundaries, and that wells outside the geographic shut-in area may produce from pools that overlap the application area boundary. The Conservation Policy will provide greater certainty for all producers in the Athabasca oil sands area. The reduced application area does include the thickest bitumen within the Athabasca Wabiskaw-McMurray deposit and contains all the existing and proposed SAGD projects in the Athabasca Oil Sands Area.

Petro-Canada agrees that given the knowledge and work that has taken place through the regulatory and consultative proceedings over the past seven years that continued lengthy hearings will not allow for timely resolution of the impact of grandfathered production on the most sensitive bitumen region. Grandfathered production is an important and urgent issue that requires attention due to the advanced stage of pressure depletion. As the Board has stated in GB 2003-16:

“Based on the evidence and conclusions derived from lengthy proceedings before the Board and on its continuing technical review, the Board believes that gas production from some grandfathered wells (completed before July 1998) presents an unacceptable risk to future thermal bitumen recovery. In addition, the Board is of the view that generally Wabiskaw-McMurray gas pools are at an advanced stage of depletion, the depletion is ongoing, and, consequently, immediate action is required to mitigate further risk to thermal bitumen recovery. Continued use of the current lengthy application and hearing process will not address grandfathered wells in time to achieve the Board's overall conservation objective.” (GB 2003-16, page 3).

Petro-Canada believes that the actions proposed in GB 2003-16 provide immediate necessary protection to the most important bitumen areas. Going forward, Petro-Canada refers the Board to Petro-Canada's recommendations in response to GB 2003-12 and the “Next Steps” highlighted above to obtain accurate information and data and to advance technical solutions. This information will allow for better management and will form a data base not only necessary to assist in managing the current issue, but also capable of supporting the efforts to identify and evaluate potential technical solutions. The ultimate goal of the Board, Government, the Bitumen Industry and the Gas Industry should be to encourage research and co-operation to find practical, field-tested and demonstrated technical solutions that will permit the concurrent production of both the bitumen and gas resources without

unreasonably harming or burdening either resource. A helpful analogy exists from the conventional oil and gas industry. In the conventional case conservation orders lead to technical innovation. This is clearly the best route for all stakeholders to pursue in order to recover the value of each resource without destroying the significant present and future value of the other resource.

In summary:

- History shows that although difficult conservation is paramount. The Board is doing the right thing;
- The Board has the authority , the jurisdiction and a duty to act in the public interest;
- The Conservation Policy continued in GB 2003-16 is an appropriate and necessary first step; and,
- Ultimately a technical solution must be encouraged in order to optimize the interests of all stakeholders.

For these reasons the Board must implement the Conservation Policy and GB 2003-16 on August 1, 2003.

All of which is respectfully submitted this 26<sup>th</sup> day of June, 2003.



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Petro-Canada



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Field LLP

## Undertaking

Page 548

21 But I'd be interested, if you  
22 were willing to undertake, and I think we've provided  
23 for an undertaking process as part of this  
24 consultation meetings, but would it be -- would it be  
25 difficult that you could take an example of  
0549 something, of a project, you pick the size, that  
01 says, Okay. This is what the lease commitments are  
02 over time, and just kind of understand the  
03 commitments that might cause somebody to let their  
04 bitumen leases go.  
05

## Response

Escalating rents on non-producing continued leases are used by the Department of Energy to "stimulate the development of oil sands resources. They provide an incentive for leaseholders to develop these resources at the appropriate time, using appropriate technology." "One of the goals of Alberta's oil sands tenure system is to ensure that oil sands agreements are in the hands of those who are committed to developing them. Developers who choose to keep non-producing continued leases may hold these leases indefinitely, but only if they pay escalating rents. In making this accommodation, the Crown forgoes bonus bids it might have acquired had ownership reverted to the Crown, and had the rights been re-leased to a new developer." (Alberta Oil Sands Tenure Guidelines, June 6, 2003, page 67).

Consequently, as the escalating rents contribute to the continual highgrading of old and new leases, relinquished leases are made available to be re-leased, which has happened in the Athabasca Oil Sands Area.

The following chart illustrates the annual (red) and cumulative (blue) payments that would occur on one township of oil sands lease, once the primary term of the lease has expired.

