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May 12, 2003

Alberta Energy and Utilities Board
640 – 5th Avenue S.W.
Calgary, Alberta
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Attention: Mr. Terry Abel, P.Eng., Applications Branch

Dear Sir:

Re: General Bulletin GB 2003-12

Petro-Canada is responding to the invitation to industry by the Alberta Energy and Utilities Board (the "EUB" or the "Board") to comment on issues of concern relating to grandfathered gas production in oil sands areas. Specifically, the Board has asked parties to provide written submission commenting on:

1. Whether existing gas production from the Wabiskaw-McMurray formation in the Athabasca Oil Sands Area should be shut-in, and/or
2. Any alternative measures that might be taken to ensure the conservation of bitumen in the Wabiskaw-McMurray formation in the Athabasca Oil Sands Area.

Interest of Petro-Canada

Petro-Canada is an oil and gas producer in the province of Alberta. It has been involved in various Athabasca oil sands mining and *in situ* production projects since 1978 and recently successfully commissioned its MacKay River commercial SAGD project. Petro-Canada has invested in excess of \$500 million related to *in situ* research, projects and developments. Much of its effort has been focused on research and piloting commercial recovery methods which included the Mine Assisted In Situ Project ("MAISP"), the PCEJ Electric-Preheat and Cyclic Steam pilots and various other pilot schemes related to the recovery of bitumen in the Athabasca oil sands areas. Petro-Canada is a participant in the Dover Project, formerly known as the Underground Test Facility ("UTF"), which demonstrates the successful application of SAGD technology.

As a result of its interest and direct research, Petro-Canada has a thorough understanding of the current economic and technical risks to bitumen production

due to declining associated gas pool pressures. These risks clearly identify that the bitumen resource must be conserved before associated gas production makes bitumen production technically or economically impossible. In keeping with its research and interest Petro-Canada has been a major participant in industry and Board proceedings relating to the conflict between associated gas producers and oil sands lease holders including:

- As a participant in the 1997 Inquiry into the matter of gas production from oil sands strata (*EUB Inquiry, Gas/Bitumen Production in Oil Sands Areas*, March 25, 1998, the “1997 Inquiry”);
- The gas/bitumen committee on related issues which provided recommendations on the gas/bitumen issue on July 10th, 1998;
- A participant in the industry discussions on the issue which resulted in *The Report of the Industry/EUB Committee, Gas Production Applications in the Oil Sands Area*, November 24, 1998;
- An intervenor in the Application by Gulf Canada Resources Limited (“Gulf”) for the Shut-in of Gas Production from the Wabiskaw-McMurray Formation in the Surmont Area (*EUB Decision 2000-22*, March 30, 2000, the “Gulf Surmont Decision”);
- The applicant in the Petro-Canada request for an Interim Shut-in of Gas Production in the Chard Area (*EUB Decision 2001-63*, August 2, 2001 (the “Chard Interim Decision”)); and,
- An Applicant related to the shut-in of gas from the Wabiskaw-McMurray formation in the Chard area, and an intervenor in many of the applications related to the production and shut-in of gas from the Wabiskaw-McMurray formation in the Chard-Leismer area resulting in *EUB Decision 2003-023*, March 18, 2003 (the “Chard-Leismer Decision”).

In the Chard-Leismer Decision the Board indicates that in reaching a determination of the steps yet to be taken it will take into account evidence and views already received by the Board through its proceedings and hearings. Petro-Canada therefore refers the Board to the evidence and arguments of Petro-Canada supporting or presented in the 1997 Inquiry, the Gulf Surmont hearing, the Chard Interim hearing and the Chard-Leismer hearing, and incorporates that material into this response by this reference.

Petro-Canada believes that all of these reports and decisions are consistent in identifying the risk to bitumen recovery as a result of continuing production of

associated gas. In particular in the Chard-Leismer Decision, the Board has made five significant findings that summarize much of the preceding work and discussions. These five principle findings are:

- Producing gas that is associated with bitumen presents an unacceptable risk to SAGD bitumen recovery¹;
- Repressuring of depleted Wabiskaw-McMurray gas zones has not yet been demonstrated to be a viable option²;
- The risks to SAGD bitumen production increase at lower operating pressures and therefore gas zone depressuring should be minimized where gas is associated with bitumen³;
- The minimum steam chamber operating pressure required for artificial lift to be technically feasible would be in the range of 400-600 kpa; and,
- The geological criteria set out in ID 99-1 to define bitumen pay criteria will continue to be used (see page 12, ID 99-1).

These principles are the most current refinement of the Board's scientific and technical evaluation of the extensive evidence provided, and can be used to determine the action required when dealing with "grandfathered" gas production from the Wabiskaw-McMurray formation in the Athabasca Oil Sands area.

Question 1 – Should existing gas production from the Wabiskaw-McMurray formation in the Athabasca Oil Sands Area be shut-in?

Yes.

In cases where "grandfathered" gas production causes pressure depletion that impairs SAGD recovery of bitumen deposits, that production must be shut-in, consistent with the conservation principles established in the previous hearings and ID 99-1. The Board has the power and a duty to take protective action to safeguard the bitumen resource.

As a result of the extensive inquiries, reports and decisions undertaken by the Board which have all been directed towards understanding the interrelationship of gas production on bitumen in the Athabasca oil sands, it is clear that gas production

¹ Chard Area and Leismer Athabasca Oil Sands Area, Applications for the Production and Shut-in of Gas, Decision 2003-023, March 18, 2003, page vii.

² Ibid.

³ Ibid.

from certain perforated intervals within the Wabiskaw-McMurray presents a high risk to future bitumen recovery in the Chard-Leismer area.⁴

The Board has already acted to protect threatened bitumen resources at Surmont and again most recently with respect to the specific applications that were considered at the Chard-Leismer hearing.

In Petro-Canada's view, pressure depletion from grandfathered gas production, which impairs the recovery of bitumen, has the same impact as all other pressure depletion circumstances. Therefore, grandfathered associated gas production in the Wabiskaw-McMurray formation in the Athabasca oil sands areas must be treated in a manner consistent with the Surmont and the Chard-Leismer decisions. Petro-Canada believes that:

- any potentially commercial bitumen resource in the Wabiskaw-McMurray formation in the Athabasca Oil Sands Area that is within a region of influence and is at risk due to the decline of associated gas pool pressures must be protected by shutting-in the gas production; and,
- the shut-in will preserve the bitumen resource until it is shown through field demonstration that future bitumen production will not be compromised.

This action is consistent with the decisions of the Board arising from the 1997 Inquiry, Gulf Surmont hearing, the Chard Interim hearing and the Chard-Leismer hearing.

Discussion

The Board has reviewed an exhaustive amount of cogent evidence surrounding this issue and its findings are clear and consistent: decreasing pressure (regardless of its source) is harmful to the SAGD production of associated bitumen.

On March 25, 1998 the EUB issued its Inquiry Report, "EUB Inquiry: Gas/Bitumen Production in Oil Sands Areas" (the "1997 Inquiry"). The EUB 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

⁴ Chard Area and Leismer Athabasca Oil Sands Area, Applications for the Production and Shut-in of Gas, Decision 2003-023, March 18, 2003, page vii.

Board also recognizes that a critical factor for the successful application of such processes is the reservoir pressure...

“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.”

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.”

“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.”

“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.”

“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.”

“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.”

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.”

“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.”

“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.”

“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.”

“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.”

“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...”

It is clear from these findings that in general, and specifically with respect to Chard-Leismer, the production of “...gas that is associated with bitumen presents an unacceptable risk to SAGD bitumen recovery”. Having arrived at this conclusion the Board must take action to protect the bitumen resource from all sources of pressure reduction.

The fact is that the potential sterilization of the bitumen that occurs as a result of gas depressuring makes no distinction as to whether the depressuring is caused by a new prospective gas well or a “grandfathered” gas well. Such a distinction is irrelevant to the protection of the bitumen resource. Continued associated grandfathered gas production increases the risks to SAGD bitumen production as operating pressures are lowered. Eventually, as grandfathered wells approach abandonment pressures the ability to produce the bitumen using the SAGD process will be eliminated and the value of the bitumen is lost. Therefore the Board must act in a consistent manner and prevent depressuring by any well (new or grandfathered) that is likely to adversely impact any potentially commercial bitumen resource.

Continued gas production and pressure depletion from grandfathered wells is inconsistent with the conservation steps taken by the Board with respect to denying gas production from new wells. Where grandfathered wells continue production, which affects any associated bitumen, the conservation value in denying new gas production is lost. In the most basic terms it does no good to prevent people from drilling new holes in a sinking ship if you do not also address the existing leaks. New holes or existing holes – the result will be the same – if you ignore the impact of existing holes the boat will still sink.

The adverse effect of continuing grandfathered production is the same as that which arises from new production, and therefore the treatment and response must be the same. The focus must be on the protection and conservation of the resources rather than upon a distinction based upon whether a well was drilled before or after July 1, 1998, as stipulated in ID 99-1. Such a distinction ignores the conservation goal and should be eliminated by the Board.

In place of a distinction based upon when a well was drilled, when the Board is assessing whether or not to continue or permit gas production in the Athabasca Oil Sands Areas, the Board must use the same consistent rules that are currently applied to new wells pursuant to Interim Directive ID 99-1. In particular, consistent with the identification of the 139 potentially problematic grandfathered wells noted in the Chard-Leismer hearing, the Board must immediately identify all problematic

wells in the Athabasca Oil Sands Area. Any grandfathered well that meets the criteria contained in ID 99-1 must be shut-in. Upon application to re-instate gas production, a licensee of any affected gas well must show:

- that the gas is not associated with bitumen within a region of influence; or
- if the gas is associated with bitumen within the region of influence the licensee should demonstrate why gas production should be allowed considering the potential effect on future bitumen recovery.

Similar to ID 99-1, the producing wells would be evaluated on a pool basis, which should reduce the number of applications that need to be reviewed by the Board. The Board has already identified 139 wells in the Chard-Leismer Decision that could present a significant risk to future bitumen recovery⁵. It must apply the ID 99-1 criteria to evaluate those wells and, where applicable wells must be shut-in. After addressing those wells the Board should extend its evaluation to all other grandfathered wells in the Athabasca Oil Sands area.

The Board Has The Authority and Responsibility to Act

This approach is in keeping with the conservation mandate of the Board and the express provisions of the *Oil Sands Conservation Regulations* as well as the conservation limitation contractually contained in petroleum and natural gas leases. This action is also consistent with the conservation power of the Board and the power to enact ID 99-1 as upheld by the Alberta Court of Appeal 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 decision dated June 29, 2001 (the “Regulation Decision”). In that decision a majority panel of the Court of the Appeal upheld the ability of the Board to pass and act upon the *Oil Sands Conservation Regulation, (Alberta Regulation 76/88, 47/99 and 48/99 consolidated up to 251/2001)*. That regulatory authority deals expressly with the issue of gas and bitumen resource conflict. In particular sections 3(3) and 3(5) of *the Oil Sands Conservation Regulation* provide:

3) No person shall produce 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.

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 affect the**

⁵ EUB Decision 2003-023, page vii

conservation of the crude bitumen in any particular case. (*Emphasis added*).

The clear purpose of this regulation is the protection and conservation of crude bitumen from gas production. Subsection 3(5) in particular speaks to an impact upon bitumen due to gas production. It makes no distinction between “grandfathered” and “new” gas production. The emphasis of the regulation is on the reasonable need for conservation to ensure the ultimate recovery of the bitumen. This provision therefore is the basis for the Board’s action with respect to all associated gas production from the Wabiskaw-McMurray formation in the Athabasca oil sands area that may adversely affect the conservation of crude bitumen, including production from grandfathered wells. The regulatory authority has been tried, tested and confirmed by the Court of Appeal to be a valid exercise of the Board’s conservation powers. In the Regulation Decision the Court of Appeal also recognized that different action might be required at different times. On page 13, paragraph 30 of its decision the court stated:

“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 Board the best body to deal with these matters”.

The court anticipated that different action, presumably including the evaluation and shut-in of grandfathered wells that may endanger bitumen recovery, may be required and should be pursued promptly when the need arises.

The Board’s activities and knowledge in assessing and understanding this particular resource conflict continues to evolve. The ability to immediately address this issue as it arises has been expressly acknowledged by the Court of Appeal. The Board must now act to preserve the bitumen from the problems associated with gas production in order that science and technological responses can catch up to the issue and try to address the problem in a manner that will some day, hopefully soon, allow for the safe and concurrent production of both the gas and bitumen resource. The need for immediate action is all the more compelling when one recognizes that shutting-in the gas production preserves and protects both resources pending a technical solution whereas the continued production of gas can sterilize the production of bitumen.

In addition to having the confirmed legislative authority the Board also has a duty to weigh the relative interests and take action for the benefit of all Albertans. In the Regulation Decision the majority justices of the Court of Appeal reaffirmed the

duty of the Board to ensure that the resources of the province are properly safeguarded. At page 18, paragraph 45, of their decision they state:

“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*).

The Board has a duty and the express authority to take action to shut-in existing associated gas production in the Wabiskaw-McMurray formation of the Athabasca Oil Sands Area in order to preserve the ultimate recovery of crude bitumen. In fulfilling that duty the Board should act in a manner consistent with the approach taken in the Surmont and Chard-Leismer proceedings: any gas production that is associated with bitumen represents an unacceptable risk to SAGD bitumen recovery. As a result that production should be shut-in regardless of whether or not it occurs from a grandfathered well. To do otherwise would require the Board to ignore its own findings and risk eliminating the conservation benefit arising out of the 1997 Inquiry, the Gulf Surmont Decision, the Chard Interim Decision and Chard-Leismer Decision.

Question 2 – Alternative measures that might be taken to ensure the conservation of bitumen in the Wabiskaw-McMurray formation in the Athabasca Oil Sands area.

In Petro-Canada’s view there are no instantaneous “silver bullet” solutions. The best option is to build on the experience and knowledge that has been garnered over the past six years and use it to change and improve the response and conservation process while supporting efforts aimed at finding technical solutions.

As highlighted in Petro-Canada’s response to Question 1 the Board has an obligation to take action to preserve the bitumen resource immediately. There is also, however, a need to focus on developing a long-term solution. In Petro-Canada’s submission the current hearing process delays the protection of the bitumen resource while the parties provide notice and pursue prolonged regulatory or judicial remedies that concurrently prolongs gas production. This process encourages parties to spend money and exert energy to fight over the problem rather than encouraging spending and effort on finding solutions. In Petro-Canada’s view this model must be changed.

Emphasis must remain on the immediate protection of the bitumen resource as a short term solution but it must more actively and aggressively encourage the development of appropriate technical solutions as the ultimate long term resolution of this resource conflict. In order to encourage this approach Petro-Canada suggests the following three steps:

1. Protection and prioritization of the bitumen resource through the use of existing criteria;
2. Collecting and making accurate data available in support of both the protection and preservation of the bitumen as well as the search for technical solutions; and,
3. An aggressive approach to advance the work toward developing proven technical solutions.

Immediate Protection and Prioritization

The first step in protecting the resource should be to efficiently and accurately identify and prioritize areas of concern that require protective action. This process should be administratively simple and direct to ensure that areas of concern are quickly and simply identified. This can be easily accomplished using the existing tools supporting ID 99-1 in conjunction with a reasonable pressure benchmark.

Through ID 99-1 the Board has already identified a geographic area where bitumen resources and gas resources are in conflict. Using this established “conflict zone” the Board can use a statistical analysis of the pressure data to identify priority areas within the geographic region that lie above or below an appropriate pressure level and therefore must be immediately shut-in or which can safely or reasonably remain on production. Although the appropriate pressure “benchmark” may be established through discussions between industry, government and the Board, Petro-Canada has indicated at the Chard Interim Hearing that wells or pools at or below 1200 kpa should be shut-in. Using this approach, problematic areas or pools can be easily identified and shut-in and the Board can then apply the criteria established in ID 99-1 as the basis for potential reinstatement of those wells or zones that are determined not to meet the established criteria. Once the priority areas have been dealt with then the Board can address the rest of the Athabasca Oil Sands area on a gas pool basis.

This approach has the advantage of being administratively quick to implement, it is straightforward and it builds upon existing information and criteria. In Petro-Canada’s view it also aids in the approach toward progressive analysis of the issue discussed in relation to Question 1 as the Board can start with the 139 identified wells in the Chard-Leismer Decision, but can then use this process to identify the further wells and zones within the broader Athabasca Oil Sands region that require immediate action.

This approach is also consistent with routine conservation action that is undertaken on an immediate basis in cases of conventional oil and gas resource conflict. The Board has used similar benchmark tools or measures to prevent waste including established threshold pressures, MRLs (Maximum Rate Limitation), GORs (Gas/Oil Ratios), Maximum Daily Gas Allowables (QMAX). These conservation tools are routinely implemented and enforced, without a hearing, in order to safeguard and protect a threatened resource. In a similar manner the prioritization and protection of the bitumen resource using a geographic and pressure screen will ensure that areas of particular concern are addressed.

Prioritization and protection is, however, only the first step in an improved process. This initiative must be supported by accurate information and in turn it must itself support a process aimed at developing technical solutions.

Obtain Accurate Information and Data

In order to better understand and manage the problem the Board must immediately implement and enforce information gathering and reporting requirements for both gas producers and bitumen producers. In particular, the Board must require annual pressure monitoring for all gas wells, both producing gas wells and shut-in wells, located in the geographic area identified above.

The first step toward useful annual pressure monitoring simply requires adherence to the Board's current rules and in some cases removing exemptions from annual requirements that have been granted in the past. In some cases the Board has exempted gas producers from requirements relating to the annual submission of pressure data. These exemptions should be rescinded in favour of the general requirement for annual submission of static gradient tests. In addition, the Board on its own, or in consultation with industry, the Government Industry Advisory Group ("GIAG") or the Technical Solutions Committee may require additional tests or logs to be run in order to identify specific problem areas or to assist in gathering information necessary for advancing the general understanding of the problem and to identify potential solutions. In particular, where gas production overlies water, Petro-Canada submits that cased hole logs periodically be run on those wells to determine and measure the influx of water.

Such a move to gather and provide reporting information on gas wells is consistent with the Annual Resource Management Report obligations imposed by the Board on Petro-Canada, Newmont, EnCana and Nexen concerning the management of the resources located on their oil sand leases in the Chard-Leismer area. Those Annual Resource Management Reports require that bitumen producers provide a report which, amongst other things, includes drilling and completion details, well bore schematics, piezometer plots, thermocouple plots, temperature logs, well test data and analysis, injection and production histories as well as interpretations and conclusions.

Coupling accurate pressure information gathered at least annually from the gas wells with the information available through the Annual Resource Management Reports represents a first step toward a comprehensive program to measure and better understand the interaction of gas production, pressure depletion and bitumen production. Better 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.

Technical Solution

Prioritization, protection, information gathering and loss management represent necessary containment strategies. The ultimate goal must 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 technical success is not always a practical success. To provide a long-term solution, any technical approach must not only be possible it must also be practical. As a result the pursuit of technical solutions must expressly investigate and demonstrate that any solution will not create additional harm or burden to bitumen recovery. It may be possible, as many gas producers contend, to repressure a depleted gas cap. What is more important to ensure a long-term solution is to show that depressuring and then repressuring a depleted gas pool is possible without adversely impacting the ability to produce the bitumen due to problems such as, but not limited to, water influx. In Petro-Canada's view any such technical solutions will likely involve pressure maintenance technology, similar to the solutions that have been developed in the conventional oil and gas industry.

Finding technical solutions will not be easy and will require co-operation, leadership and financing in order to be meaningful, timely and productive.

A consistent problem to date has been the lack of co-operation in sharing not only pertinent confidential data but also even routine operational data. Methods to facilitate the sharing of important information while safeguarding the proprietary interests of the developing parties will be necessary to expeditiously advance the search toward technical solutions. As a first step, consistent with the position taken by Petro-Canada in the past, the Board is urged to require producers to abide by and meet the regulatory requirements relating to the timely submission of all Board mandated technical information. Petro-Canada also supports the development of a government and industry protocol, bolstered where necessary by legislative action, that allows for the specific use of public and proprietary information in the pursuit of technical solutions, subject to appropriate constraints and protection.

The search for technical solutions needs leadership and administrative support. This applies not only with respect to specific technical analysis but also includes the concurrent development of an applicable policy framework. Resurrecting the Government Industry Advisory Group and providing it with resources and a clear goal to develop relevant policy to address the gas over bitumen conflict is an appropriate first step.

At the same time, the existing Technical Solutions Committee (the "TSC") must be expanded to include new parties affected by the most recent Chard-Leismer shut-in order. The TSC would continue to be charged with identifying, testing and implementing potential technical solutions. In particular, the scope must continue to include defining and focussing work on promising innovations, facilitating the sharing of pertinent information and working to define appropriate standards and measures. The TSC must continue to co-ordinate programs involving industry, the Board and the Alberta government in an effort to focus interest, gather and share information, promote research and development and create the measures necessary to gauge the applicability of any technical solution. This represents a major undertaking and therefore the TSC would benefit from a paid full-time administrator, funded by industry and government, to guide, administer and coach the resources provided on an indirect or seconded basis to ensure that useful work is carried out effectively and on a timely basis.

Finally, the creation and testing of any solution will be time consuming and costly. To promote and encourage research in this area, industry and government must share the cost responsibility. Petro-Canada suggests that one of the most direct methods available to encourage research is to allow research costs to be deducted from all royalties on a matched basis. In this way both the licensee and resource owner share equally in the cost of finding and testing a practical way to develop the combined bitumen and gas resource value to the benefit of the gas owner, the bitumen producer and the citizens of Alberta.

Conclusion

Petro-Canada urges the Board to take immediate action with respect to grandfathered gas production in the Athabasca Oil Sands area. The conflict between gas and bitumen production in the Athabasca Oil Sands area has been the subject of exhaustive review since 1996. The Board now has in hand information that shows that gas depletion threatens bitumen development, that the bitumen is more valuable and extensive than the gas resource, and that there is no distinction between depletion caused by new wells or pre-existing wells. The proposals advanced by Petro-Canada in this submission allow the Board to:

- build on what has been learned through the industry committees and reports, the 1997 Inquiry, the Gulf Surmont Decision, the Chard Interim Decision and the Chard-Leismer Decision;
- improve upon the process that the Board has taken through the implementation of ID 99-1; and,
- act with confidence that it has the authority to preserve the bitumen threatened due to gas production as confirmed by the Alberta Court of Appeal in the Regulation Decision.

Currently there is no panacea capable of resolving this issue to the satisfaction of all the participants. What Petro-Canada proposes, however, is a series of straightforward, certain, direct and measured steps to address the current problem and promote a technical solution. They should be implemented immediately, in a manner consistent with the Board's conservation obligation and with a view to providing a plan and a process to encourage a technical solution.

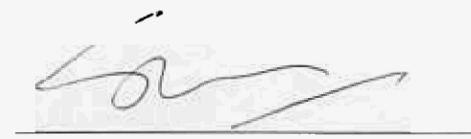
All of which is respectfully submitted this 12th day of May 2003.

PETRO-CANADA



Sue MacKenzie
Senior Director, Bitumen

PETRO-CANADA



Scott R. Miller
Associate General Counsel

Undertaking

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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.

