

**ALBERTA ENERGY AND UTILITIES BOARD**  
**Calgary Alberta**

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**BUSHMILLS ENERGY CORPORATION**  
**COMPULSORY POOLING**  
**MEDICINE LODGE AREA, SECTION 6-53-21W5M**

**Decision 2002-113**  
**Application No. 1274179**

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**DECISION**

The Alberta Energy and Utilities Board has considered the findings and recommendations set out in the following examiner report, adopts the recommendations, and directs that Application No. 1274179 be approved as provided in the report.

DATED at Calgary, Alberta, on December 20, 2002.

**ALBERTA ENERGY AND UTILITIES BOARD**

*[Original signed by]*

Neil McCrank, Chairman



# **ALBERTA ENERGY AND UTILITIES BOARD**

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**Calgary Alberta**

## **EXAMINER REPORT RESPECTING BUSHMILLS ENERGY CORPORATION COMPULSORY POOLING MEDICINE LODGE AREA**

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### **1 RECOMMENDATION**

The Alberta Energy and Utilities Board (EUB/Board) examiners have considered the evidence and recommend the following:

- The Board, with the approval of the Lieutenant Governor in Council, issue an order under Section 80 of the Oil and Gas Conservation Act (the Act) designating that all tracts within Section 6 of Township 53, Range 21, West of the 5th Meridian (Section 6-53-21W5M, or Section 6) be operated as a unit for the production of gas from the Viking Formation, through a well to be drilled in Legal Subdivision (LSD) 3 of the section (3-6 well).
- The order allocate the costs and revenues associated with the 3-6 well on a reserves basis with 60 per cent assigned to the east half of Section 6 and 40 per cent assigned to the west half of Section 6.
- The order provide that a penalty of 200 per cent be applied to a tract owner's share of the actual costs of drilling and completing the well in the Viking Formation if the owner fails to pay such costs within 30 days of the later of the pooling order being issued, the owner being given notice in writing of its share of costs, or the well having commenced production.
- The order designate Bushmills Energy Corporation (Bushmills) as the operator of the 3-6 well.

### **2 INTRODUCTION**

#### **2.1 Application, Intervention, and Hearing**

Bushmills applied, on behalf of itself and its partners, under Section 80 of the Act for an order prescribing that all tracts within the drilling spacing unit constituting Section 6 be operated as a unit for the production of gas from the Viking Formation (Viking) through the 3-6 well.

Talisman Energy Inc. (Talisman) filed a submission opposing part of the application.

The application was considered at a public hearing on October 10, 2002, at Calgary, Alberta, by Board-appointed examiners K. G. Sharp, P.Eng. (Chairman), R. J. Willard, P.Eng., and C. D. Hill.

## THOSE WHO APPEARED AT THE HEARING

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### Principals and Representatives (Abbreviations Used in Report)

### Witnesses

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Bushmills Energy Corporation (Bushmills)  
J. Salopek

J. Salopek, P.Eng.  
B. Hall

Talisman Energy Inc. (Talisman)  
R. Hansford

R. J. Palsgrove  
K. Rustad, P.Eng.  
D. A. Wilson

Alberta Energy and Utilities Board staff  
G. Perkins, Board Counsel  
K. Fisher  
S. Mangat  
A. Beken, P.Eng., P.Geol.

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## 2.2 Background

The Viking gas rights in Section 6 are held as follows:

<b>Tract</b>	<b>Lessor</b>	<b>Lessee</b>
West half	Crown	50% Bushmills 25% Highpoint Resources Inc. 22.5% CPC Canada Corporation 2.5% Petro-Hunt Ventures LP No. 1
East half	Crown	100% Talisman

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Figures 1 and 2 attached to this report provide an overview of the area of application.

## 3 ISSUES

The Examiners consider the issues respecting the application to be

- the need for the pooling order, and
- the provisions of the pooling order if issued, in particular:
  - whether pooling should be on an area or reserves basis,
  - the location of the well subject to the pooling order, and
  - who should be named the operator of a well subject to the pooling order.

## 4 CONSIDERATION OF THE APPLICATION

### 4.1 Views of Bushmills

Bushmills submitted that it had obtained the Viking gas rights in the west half of Section 6 and therefore should have an opportunity to obtain its share of the gas underlying the drilling spacing unit (DSU), which in this case is the entire section. The applicant said that it had been unsuccessful in its efforts to obtain a voluntary pooling agreement for Section 6 with Talisman and therefore concluded that a pooling order was needed to allow for the drilling and production of a well in the section.

Bushmills proposed that costs and revenues under the pooling order be shared on an area basis, with a 50 per cent allocation to each half of the section. It argued that without any wells drilled in Section 6, this allocation would be an equitable allocation under the pooling order.

In support of its argument for an area-based allocation, Bushmills presented a geological interpretation that showed all of Section 6 to be equally prospective for Viking gas. It interpreted the Viking in the area of interest as a marine sand trending across Section 6 in a northwest/southeast direction, with a channel system cutting across the marine sand, as shown in Figure 1. The applicant developed its interpretation after reviewing a regional model for the Viking sands and the existing well control and conducting a comparison to analog pools in the general area. Bushmills considered that the abandoned Viking well in LSD 1-1-53-22W5M (the 1-1 well), immediately offsetting Section 6 to the west, penetrated a shale plug within a channel environment. The applicant also said that it used seismic data to identify thicker channel sands in the general area; however, it did not submit any seismic data or interpretation to support its mapping. The Bushmills' map showed the edge of the prospective Viking sand to be at the western limit of Section 6. In response to questioning, the applicant said that edge could be moved either east or west of its mapped location and that it had simply chosen the middle ground.

Bushmills confirmed that it was proposing to drill a well to a bottomhole location in LSD 3 of Section 6. It considered that this location was consistent with its geological model and demonstrated its commitment to its interpretation. It submitted that a 3-6 well, if successful, would extend the known pool boundaries and would provide a better drainage point than would the previously proposed location in LSD 1 of Section 6. Since there was a provincial park in Section 6 that restricted surface access for drilling a well, the applicant proposed to drill a deviated well into Section 6 from a surface location adjacent to its existing well at LSD 16-31-52-21W5M.

Bushmills proposed that it be named the operator of the well subject to the pooling order.

Finally, Bushmills requested that the maximum penalty of 200 per cent allowed under the Act be imposed against a tract owner's share of drilling and completion costs if the owner did not pay its share of such costs within 30 days after the later of the pooling order being issued, the tract owner being notified in writing of its share of drilling and completion costs, or the well having commenced production. The applicant considered that the maximum penalty was justified because it would be assuming the entire risk of drilling the proposed well.

## 4.2 Views of Talisman

Talisman submitted that its initial position was that the application should be denied. Bushmills should then be required to reapply for a pooling order that would specify allocation of costs and revenues on a reserve basis and provide a more optimal location for a proposed well. However, it acknowledged that the parties had been unsuccessful in resolving their different views on how the interests in Section 6 should be pooled, and it agreed that the issuance of a pooling order was therefore warranted.

Talisman submitted that if the Board decided to issue a pooling order, it would be inequitable to pool the interests in Section 6 on an area basis, as proposed by Bushmills. Talisman initially proposed a risk-based pooling, with an allocation of 30 per cent to Bushmills and 70 per cent to Talisman, having regard for the three producing wells to the east and south of Section 6 and the abandoned 1-1 well to the west of Section 6. Subsequently, Talisman submitted that its more detailed geological mapping supported a reserves-based allocation of 13 per cent for Bushmills and 87 per cent for Talisman.

In support of its proposed allocation, Talisman presented a net gas pay map that depicted the pool as underlying only a portion of the west half of Section 6, as shown in Figure 2. Talisman indicated that its map was based on geological data and was supported by seismic data; however, it did not file any seismic interpretation. It said that it had determined the edge of the pool by extending the pool trend north into Section 6. However, Talisman acknowledged that the pool edge could be moved either east or west of the interpreted position in Section 6.

Talisman agreed that the Viking sands in the general area were deposited in offshore marine, shore face, and channel environments. Sands were interpreted to trend in a north/northwest to south/southwest direction in alternating thick and thin units. One of the thick trends was interpreted to extend through the east half of Section 6, as supported by thick sands encountered in wells at 11-32-52-21W5 and 16-29-52-21W5. A thin trend underlying the west half of Section 6 was supported by the lack of sand encountered in the 1-1 well, interpreted by Talisman as a Viking regional marine facies. Talisman disagreed with Bushmills' interpretation that the Viking in the 1-1 well was indicative of a shale plug in a channel, cross-cutting marine sands.

Talisman opposed the drilling of the 3-6 well on the basis that such a well would be an expensive, risky, and long-reach directional well attempting to recover small reserves. It considered the optimum location for a well in Section 6 to be in LSD 1, immediately offsetting an existing Bushmills' producing well in LSD 16-31-52-21W5M (the 16-31 well). Talisman agreed that drilling a well in Section 6 would impact drainage at the 16-31 well; however, it considered that the impact would not be substantially different if the well were drilled either in LSD 1 or 3.

With respect to other provisions of the pooling order, Talisman suggested that since its interpretation showed that it had the highest interest in Section 6 on a reserves basis, it should be the licensee and operator of the well subject to the pooling order. Talisman did not raise any concerns with respect to penalty provisions in the order requested by Bushmills.

### 4.3 Views of the Examiners

The Examiners note that Bushmills and Talisman have not been successful in attempts to reach a voluntary pooling agreement and that both parties agree there is a need for a pooling order. The Examiners therefore conclude that the need for a pooling order has been established. The Examiners must now determine whether the allocation of costs and revenues under the pooling order should be on an area basis or reserves basis. In this regard, the Examiners note that Section 80(4)(c) of the Act states that allocation of production under a pooling order “shall be on an area basis unless it can be shown to the Board that that basis is inequitable.”

The Examiners note that there are no existing wells in Section 6 and therefore no specific data available in that section. Further, the Examiners note that Bushmills and Talisman presented interpretations that significantly differ with respect to the potential reserves distribution within Section 6. Despite the lack of a well within the section, the Examiners believe there is important offsetting well control. Specifically, the absence of reservoir sand within the abandoned 1-1 well, located only 350 m from the western boundary of Section 6, provides information that helps define the western limits of the pool. The pool limit to the north and northwest is more subjective due to lack of immediate offset well control.

In this regard, the Examiners believe the interpretation provided by Bushmills represents an extremely optimistic scenario given the evidence presented. Bushmills contends that the Viking in the 1-1 well represents a shale plug within a channel environment. While a shale plug, if present, could have a very limited or confined extent, no evidence was presented that supports the interpretation that the 1-1 well drilled into the eastern side of the postulated channel or that the eastern channel edge follows along the west side of Section 6. The Examiners note that Bushmills acknowledged that the channel edge could reasonably be moved to the east or west. Given the location of the 1-1 well and the absence of reservoir sand, the Examiners believe there is significantly more potential that the channel edge, and hence the edge of the pool, would move to the east. In addition, the Examiners believe that reasonable contouring of the existing well data would show that more reserves exist on the east half of the section. Therefore, the Examiners conclude that an allocation on an area basis would not be equitable.

While the existing well control strongly suggests that more reserves exist on the east half, the Examiners believe the available well control data make a precise reserves allocation difficult. Talisman’s position at the commencement of the hearing was that a reserves-based allocation of 70 per cent to the east half and 30 per cent to the west half of Section 6 was equitable. Talisman modified its position during the hearing and argued for a reserves allocation of 87 per cent to the east half and 13 per cent to the west half of Section 6, based on more detailed mapping. In the Examiners’ opinion, such a disproportionate reserves-based allocation requires clear and convincing evidence in order for the Examiners to recommend the allocation. The Examiners do not believe the evidence presented meets that standard and, accordingly, do not consider that Talisman’s proposed 87/13 allocation is justified.

On the basis of above, the Examiners are not persuaded that either of the parties’ views should be preferred and recommended to the Board. The Examiners believe that the views of the parties represent a range of extremes within which an appropriate and equitable allocation of reserves

exists. The Examiners also note that Bushmills is prepared to take the risk of drilling a well in 3-6, which, if successful, could recover incrementally more reserves than a well in 1-6.

After weighing the evidence presented, the Examiners believe an allocation of 60 per cent to the east half and 40 per cent to the west half is appropriate. The Examiners also believe that the well should be drilled in LSD 3-6 rather than LSD 1-6 in order to increase spacing from other drainage points within the pool. In addition, the 3-6 location would provide an opportunity to gather data that could better define the edge of the pool.

With respect to who should be appointed as the operator of the well, the normal EUB practice is to name the well licensee as operator under a pooling order. Bushmills has initiated this application and proposes to drill the well. There does not appear to be any unusual circumstances in this case that would justify naming an operator under the pooling order that is not also the licensee of the well to be drilled under the pooling order. Accordingly, the Examiners believe it would be appropriate to name Bushmills as the operator of the proposed well subject to the pooling order.

Finally, the Examiners note that Talisman did not oppose Bushmills' request respecting a penalty provision in the pooling order. That request is consistent with the EUB's normal practice, and therefore the Examiners are prepared to recommend approval of the applicant's request for a 200 per cent penalty provision.

## **5 CONCLUSION**

The Examiners conclude from a review of the evidence that a pooling order with the provisions noted above should be issued to address the matters raised by the hearing participants, and they recommend this to the Board.

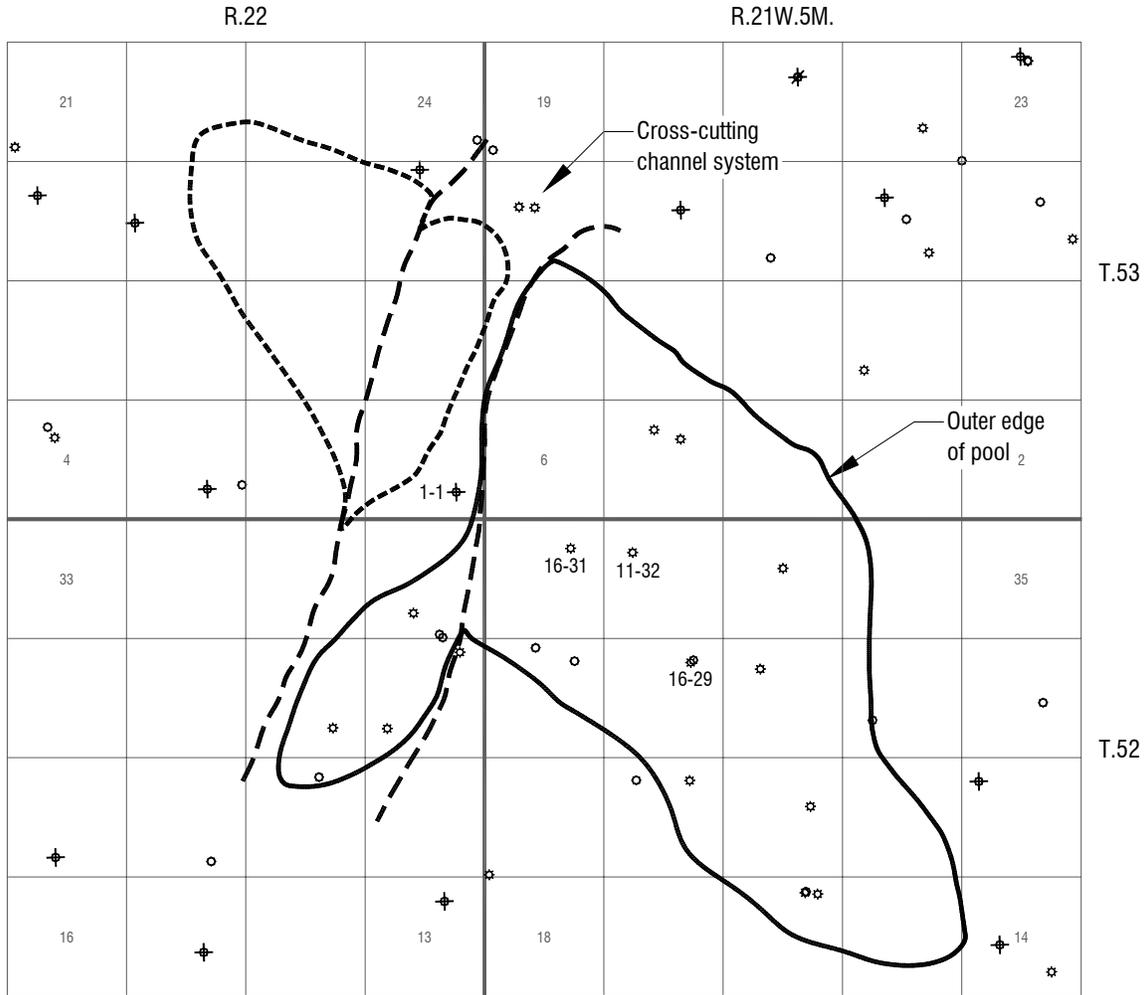
DATED at Calgary, Alberta, on December 20, 2002.

### **ALBERTA ENERGY AND UTILITIES BOARD**

*[Original signed by]*  
K. G. Sharp, P.Eng.  
Presiding Member

*[Original signed by]*  
R. J. Willard, P.Eng.

*[Original signed by]*  
C. D. Hill



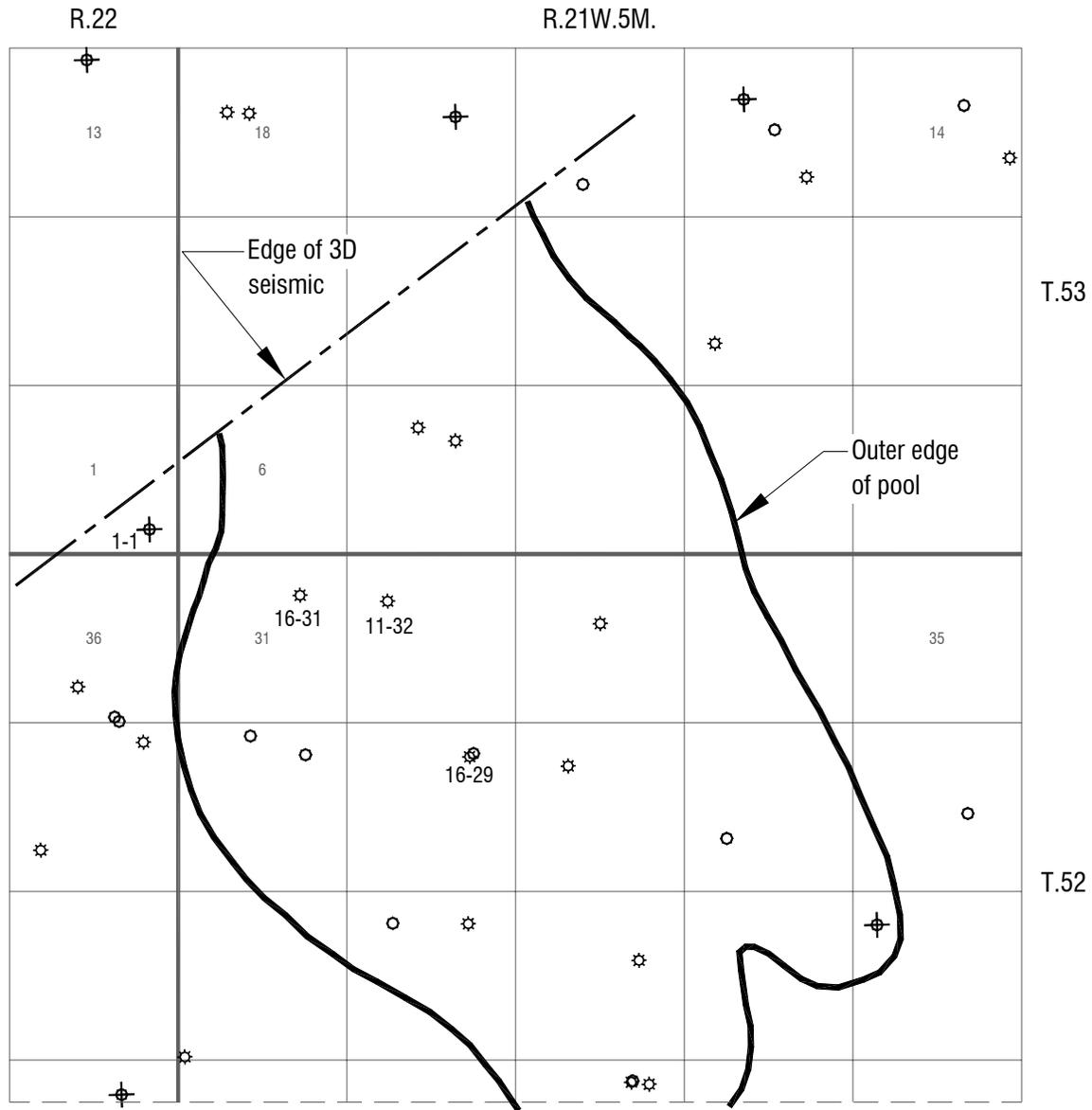
Legend

- \* Gas well
- ⊕ Abandoned well
- Drilled and cased well
- ⊘ Suspended well

Figure 1. Medicine Lodge Area - Bushmill's approximate Viking A Pool outline

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- Legend
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Figure 2. Medicine Lodge Area - Talisman's approximate Viking A Pool outline

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