

ALBERTA ENERGY AND UTILITIES BOARD

Calgary Alberta

**APPLICATION TO REVIEW WELL LICENCE NO. 0182172
PERMIT TO CONSTRUCT A PIPELINE
PETROBANK ENERGY AND RESOURCES LTD.
LEDUC-WOODBEND FIELD**

**Examiner Report E 96-5
Proceeding No. 960101
Application No. 960166**

1 INTRODUCTION

1.1 Applications and Intervention

On 27 October 1995, Petrobank Energy and Resources Ltd. (Petrobank), applied to the Alberta Energy and Utilities Board (Board) pursuant to section 2.020 of the Oil and Gas Conservation Regulations for a licence to drill a well in Legal Subdivision 10 of Section 24, Township 49, Range 27, West of the 4th Meridian (Lsd 10-24). The purpose of the well, PETROBANK ET AL LEDUC 10-24-49-27 (the 10-24 well) is to obtain production from the Nisku Formation. On 15 November 1995, the Board issued Well Licence No. 0182172 for the 10-24 well on the understanding that there were no outstanding issues relating to the Board's jurisdiction.

On 20 December 1995, the Board received a letter from William Sikora requesting the well licence be rescinded. Mr. Sikora, the surface landowner where the well is proposed, raised a number of concerns regarding the site, the lease and access road, the cleaning of construction equipment, and an emergency response plan. The Board initiated Proceeding No. 960101 pursuant to section 42 of the Energy Resources Conservation Act to review the issuance of the well licence based on Mr. Sikora's concerns.

On 30 January 1996, Petrobank submitted Application No. 960166 for approval to construct approximately 140 metres (m) of 60.3 millimetre (mm) outside diameter pipeline to transport sour oil effluent from the proposed 10-24 well to an existing pipeline located in Lsd 10-24.

1.2 Hearing

A public hearing for the review of the well licence and to consider the pipeline application was convened on 7 March 1996 in Leduc, Alberta before examiners appointed by the Board. The examiner panel consisted of H. O. Lillo, P.Eng., G. C. Dunn, P.Eng., and F. G. Sorenson. Those who appeared at the hearing and abbreviations used in the report are listed in the following table.

THOSE WHO APPEARED AT THE HEARING

Principals and Representatives
(Abbreviations Used in Report)

Witnesses

Petrobank Energy and Resources Ltd. (Petrobank)
B. S. Smith

K. Vanderham
B. Wahl

William Sikora
K. S. Zajes

Alberta Energy and Utilities Board staff
V. J. Vogt
L. D. Wilson

2 ISSUES

The examiners consider the issues respecting the applications to be

- C the need for the well,
- C the location of the well, and
- C other conditions or matters.

3 CONSIDERATION OF THE APPLICATIONS

3.1 Views of the Applicant

Petrobank submitted that it holds a valid petroleum and natural gas lease which would allow it to drill the 10-24 well. Petrobank's well licence application stated that the purpose of the 10-24 well was to obtain production from the Nisku; however, Petrobank also presented evidence which related to an exploratory test of the Leduc Formation. In response to questioning, Petrobank agreed that if its application is approved, the well licence should be amended to include Leduc production in the purpose for which the well is drilled.

Petrobank stated that the proposed 10-24 well was optimally located on a structural high detected from both geophysical and geological information it had obtained. Petrobank believed that, due to the presence of underlying water in the formations, it was very important to drill a vertical well at the coordinates applied for to ensure that the Nisku and Leduc were both penetrated at the highest structural position possible. The applicant indicated that it had considered the possibility of drilling the proposed well from a surface location further west with the lease abutting the west boundary of the quarter section. Petrobank explained that the intervener, Mr. Sikora, had indicated this location as being preferable to him. Petrobank believed that the alternative surface location proposed by Mr. Sikora involved a much higher risk of unsuccessfully penetrating the structures at an optimum location. In addition, Petrobank was concerned that the increased likelihood of drilling problems such as differential sticking of the drillstring during directional drilling operations could add significantly to the cost of drilling the well.

In response to questioning, Petrobank indicated that, in this instance, the reward-to-risk ratio

would not be attractive enough to warrant drilling this well directionally even though the horizontal deviation was only in the order of 115 m. While Petrobank had not estimated an additional incremental cost to drill this specific well directionally from Mr. Sikora's preferred surface location, it had, based on other experiences, judged the costs to be unwarranted for this well. Petrobank emphasized that the directional drilling approach in this case would involve not just a single deviation, but in fact a double deviation trajectory to obtain a near vertical penetration of the top of the target formations. A vertical penetration was Petrobank's preferred approach so as to maximize potential net pay over a poorly defined water contact while hitting a structural high.

Petrobank explained that it recognized potential for future wells in the north-east quarter of the section should the Leduc target be productive. It indicated that an additional three or four wells might be required. These would be drilled from existing surface locations in the quarter section to fully exploit the potential Leduc reserves.

Petrobank indicated it had originally surveyed an access road into the lease directly from the north which connected the 10-24 well to an existing lease at Lsd 15-24-49-27 W4M. At Mr. Sikora's request and to accommodate his farm management practices, Petrobank re-surveyed a north to south access road along the west boundary of the quarter section and then east to the wellsite.

At Mr. Sikora's request, Petrobank stated that it agreed to utilize steel tanks for the drilling fluids with fluids taken to another location for disposal. Petrobank also indicated that it would require the drilling contractor to clean and wash the rig tanks before entering Mr. Sikora's lands. Further, it stated that it would require its other contractors employed in constructing the access road and lease to clean equipment so as to prevent the spread of weeds and other material. Petrobank committed to employing its best efforts in this regard, but declined to accommodate a request by Mr. Sikora that the landowner have final approval on all cleaning. Petrobank believed this is a subjective matter for which no guidelines or standards exist; but, it did commit to making all reasonable efforts in this regard. The company also committed to lessen the impact of drilling noise by positioning the rig such that the engine exhausts were pointed away from the nearest residence.

Petrobank provided information concerning its corporate response plan in the event of a mishap at the 10-24 well. Petrobank indicated a site-specific sour-gas emergency response plan was not required because the combined release rate of hydrogen sulphide from all formations penetrated related to a planning radius of 466 m and the closest resident is 568 m away.

In response to questioning by Board staff, Petrobank revealed that, due to an oversight, the resident referred to as being 568 m away had not yet been contacted regarding the drilling of the well. It did commit to making that contact at the earliest possible date.

Petrobank made commitments to conserve the top soil, construct a low-profile road with culverts placed as needed, ensure natural drainage was maintained, and to seek the landowner's approval in selecting a suitable seed mix during reclamation. It was Petrobank's position that the issues raised in a *'Special Conditions Addendum'*, drafted by Mr. Karl Zajec and submitted by the landowner as evidence into the hearing, should be considered in relation to the surface lease, and

if necessary, a hearing before the Surface Rights Board and not the Alberta Energy and Utilities Board. Petrobank opposed any of the conditions, particularly those relating to washing of equipment or posting of performance bonds, being included as conditions of the well licence.

With regard to the pipeline, Petrobank stated that anticipated production from the 10-24 well would be tied into an existing pipeline located to the south by constructing approximately 140 m of 60.3 mm line. The existing line will be tested to ensure integrity of the line and that corrosion is minimal.

3.2 Views of the Intervener

Mr. Sikora did not dispute the need for the well or Petrobank's right to exploit the minerals it held. He did state that until the hearing, he was unaware of the applicant's future plans for the area which may include extended activities on his lands. Although Mr. Sikora does not live on the quarter section where the well is proposed, he does farm the land and is concerned about the incremental impact of the well on his farming operations.

Mr. Sikora stated that he believed that Petrobank could, and should, drill a directional well from his preferred surface location on the west boundary of Lsd 10-24. Mr. Sikora indicated that although Petrobank had agreed to move the access road to the west boundary of the quarter section, it had refused his request to move the wellsite. His main concern centred around attempting to farm the small pieces of land created with the presence of four leases on the quarter section. Mr. Sikora submitted that he used very large farming equipment and that manoeuvring the equipment around the existing wellsites on his lands was proving a hardship.

The intervener desired to have final approval on the cleaning of equipment before permitting it access to his land to prevent the spread of weeds and other materials. Mr. Sikora stated that he would like to inspect the rig, and the trucks moving the rig, along with the lease building equipment, and in particular, the crawler tractors to satisfy himself that the cleaning promised by Petrobank was sufficient.

Mr. Sikora was also concerned about the issue of sour gas and how it might affect him if there were a sour gas release while he was performing normal farming operations. He stated that he had experienced problems with headaches when exposed to sour gas a number of years ago while employed in the industry.

Mr. Sikora submitted two documents entitled '*Special Conditions Addendum*'. The addenda were extensive lists of conditions, one pertaining to proposed conditions to be applied to surface leases and the other, a similar list of proposed conditions to be applied to pipeline right-of-way agreements. The documents were authored by Mr. Zajec, Mr. Sikora's representative at the hearing, for his clients. Mr. Sikora requested the panel consider applying appropriate conditions from the lists and making them conditions of the well licence.

3.3 Views of the Examiners

The examiners note that the need for the well and the pipeline is not in dispute and that Petrobank has valid mineral agreements which would permit it to recover oil from the Nisku and Leduc formations.

The examiners are satisfied from the technical evidence submitted that the location of the well is sensitive to meet the geological objectives. The examiners accept that a directionally drilled well would introduce some additional drilling risks, but are not convinced that the risks are of the same magnitude or technical difficulty as presented by the applicant. The examiners are also satisfied that a directionally drilled well may jeopardize Petrobank's ability to obtain sustainable production. Notwithstanding this, the examiners believe that they would have had to hear compelling evidence to show that the surface impacts of the wellsite as applied for were unacceptable and that there were clear acceptable alternatives. The examiners do not believe they heard such evidence.

The examiners find that the estimated hydrogen sulphide release rate calculated is reasonable and confirm that a site-specific sour-gas emergency response plan is not required. The examiners note that Petrobank has a corporate emergency plan with which to deal with unforeseen problems which may occur during the life of the well. The examiners are satisfied that the corporate emergency plan as described at the hearing is adequate.

The examiners recognize that Petrobank did make efforts to minimize the impact on Mr. Sikora by relocating the access road to the west to accommodate him. The examiners note Petrobank's commitment to lessen the impact of the well and road by ensuring noise is minimized, that normal drainage is maintained, that steel tanks are utilized for drilling fluids, and the landowner is consulted on seed mix during replanting. The examiners are not prepared to require the company to meet the equipment cleaning inspection approval of the landowner; however, the examiners expect Petrobank to exercise reasonable care and caution to ensure that equipment entering Mr. Sikora's lands has been properly cleaned. This should include an inspection by Petrobank of vehicles with tracks, rig mats or other equipment that may contain weed seeds or any other likely source of contamination.

The examiners are satisfied that if the well is successful, Petrobank would require the pipeline as applied for and that the necessary steps would be taken to requalify the existing pipeline pursuant to section 64 of the Pipeline Regulation.

The examiners have reviewed the '*Special Conditions Addendum*' presented by Mr. Sikora and acknowledge that the proposed conditions were prepared to address problems experienced by landowners. The examiners appreciate that some of the proposed conditions may represent a safeguard against significant problems for landowners, and in fact, agree that at least some key conditions should be dealt with in surface agreements. However, the examiners generally believe that the list of conditions is extensive by any standard and many of them are not relevant to the subject situation. The examiners believe that conditions specific to the locale and situation should be applied as required and with the full endorsement of both parties. In circumstances where conditions are unusual or compelling, the examiners are of the view that such conditions could be made conditions to a well licence. However, this should be done as an exception; not as a rule.

In this case, the examiners see no need to include any of the items as special conditions to the well licence. However, where commitments are made outside of the hearing process through

normal negotiations, the Board expects those agreements to be honoured by the company. In addition, the examiners emphasize that when commitments are made at a Board hearing, it requires that those conditions be met.

The examiners conclude that the need, location, and other matters related to the well have been satisfactorily addressed by the applicant.

4 RECOMMENDATIONS

The examiners have carefully considered the evidence and recommend that Well Licence No. 0182172 for the well PETROBANK ET AL LEDUC 10-24-49-27 remain in good standing. Further, the examiners recommend the approval of the pipeline described in Application No. 960166.

5 EXAMINERS' COMMENTS

In considering its recommendations, the panel believes that Petrobank could have made a more substantive effort to understand and address Mr. Sikora's concerns. The examiners believe that negotiations by Petrobank could have been handled in a more diligent manner and been more sensitive to Mr. Sikora's concerns. In addition, the examiners were disappointed by Petrobank's apparent lack of effort to contact or attempt any further negotiations or meaningful discussions with Mr. Sikora between November 1995 and the hearing date. The examiners were also concerned from the evidence that the resident within close proximity to the well had not yet been contacted at the time of the hearing and made aware of the proposed well. Therefore, the impact of the proposed operations and any concerns of that party were unknown to the panel at the close of the hearing.

DATED at Calgary, Alberta, on 25 April 1996.

[Original signed by]

H. O. Lillo, P.Eng.

[Original signed by]

G. C. Dunn, P.Eng.

[Original signed by]

F. G. Sorenson