



Highpine Energy Ltd.

Application for Six Well Licences
Pembina Field

September 30, 2008

ENERGY RESOURCES CONSERVATION BOARD

Decision 2008-088: Highpine Energy Ltd., Applications for Six Well Licences, Pembina Field

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ENERGY RESOURCES CONSERVATION BOARD

Calgary Alberta

HIGHPINE ENERGY LTD.

**APPLICATIONS FOR SIX WELL LICENCES
PEMBINA FIELD**

Decision 2008-088

**Applications No. 1525928, 1525932,
1526517, 1526582, 1526699 and 1526703**

1 DECISION

Having carefully considered all of the evidence, the Energy Resources Conservation Board (ERCB/Board) hereby approves Applications No. 1525928, 1525932, 1526517, 1526582, 1526699, and 1526703, subject to conditions as set out in the decision and summarized in Appendix 2.

2 INTRODUCTION

2.1 Applications

Highpine Energy Ltd. (Highpine) applied to the ERCB, pursuant to Section 2.020 of the *Oil and Gas Conservation Regulations*, for licences to drill six wells from two surface locations. Three wells would be drilled from a surface location in Legal Subdivision (LSD) 4, Section 27, Township 50, Range 6, West of the 5th Meridian (4-27). The projected bottomholes from the 4-27 surface location would be in LSD 9-21-50-6W5M (9-21), LSD 7-28-50-6W5M (7-28), and LSD 11-21-50-6W5M (11-21). The purpose of the 7-28 and 9-21 locations would be to produce sour crude oil from the Nisku Formation, and the 11-21 location would be used as an injection well. Three additional wells for the purpose of producing sour crude oil from the Nisku would be drilled from a surface location at LSD 6-33-50-6W5M (6-33). The projected bottomholes from the 6-33 surface location would be in LSD 7-32-50-6W5M, LSD 15-28-50-6W5M, and LSD 7-33-50-6W5M. The maximum hydrogen sulphide (H₂S) concentration expected to be encountered in these wells would be 160 moles per kilomole (mol/kmol) (16.0 per cent). The maximum cumulative H₂S release rate for the drilling and completion/servicing cases would be 1.51 cubic metres per second (m³/s), with a corresponding emergency planning zone (EPZ) of 3.04 kilometres (km). The maximum cumulative H₂S release rate for the suspended/producing case would be 0.29 m³/s, with a corresponding EPZ of 0.98 km. The proposed 6-33 and 4-27 well surface locations would be respectively 5.6 and 6.4 km southwest of the Hamlet of Tomahawk.

2.2 Interventions

Several parties filed interventions regarding these applications. The principal concerns expressed were about human and animal health and safety, adequate emergency response planning, proximity of the wells to schools and town, adequacy of public consultation, air and water contamination, busing through the EPZ, property protection, and proliferation.

A number of individuals who submitted interventions lived in one or both of the associated EPZs. They formed a group called the Committee to Encourage and Advocate a Safe Environment (CEASE).

2.3 Hearing

The Board held a public hearing in Tomahawk, Alberta, which commenced on June 17, 2008, and concluded on July 4, 2008, before Board Member G. J. Miller (Presiding Member) and Acting Board Members T. L. Watson, P.Eng., and R. J. Willard, P.Eng. The Board considers the record to have closed on July 4, 2008.

A site visit was conducted on the afternoon of June 16, 2008. Those who appeared at the hearing are listed in Appendix 1.

Prior to the hearing, Highpine had submitted eleven well applications to the ERCB in the general area and was willing to proceed with all eleven applications at one hearing. However, at two ERCB community information sessions held in March 2008, ERCB staff heard concerns from the Tomahawk community that a hearing encompassing eleven wells might be unmanageable. The concerns expressed included whether individual issues could be highlighted effectively at such a proceeding, the additional time that would be required for the community to effectively organize large numbers of people, and the number of issues to be dealt with, given that a school and hamlet are located in the EPZs for some of the wells. The Board therefore split the proposed well applications into two separate hearings based on their relative proximity to the Hamlet of Tomahawk and a community school. This, the first of the two hearings, involved wells a significant distance from the school and hamlet. The second hearing, involving wells in closer proximity to the community of Tomahawk and the Tomahawk School, was scheduled to begin in September 2008.

Notwithstanding the Board's decision to split the applications into two separate hearings, the Board encourages applicants to bundle their applications whenever possible, in order to allow the applicant and communities to address the proposed development as a whole and to reduce the time that members of a community must devote to preparation for and attendance at hearings.

3 ISSUES

The Board considers the issues respecting the applications to be

- need for the wells,
- surface location of the wells and pads,
- public consultation,
- H₂S release rate submission,
- safety (well design, hazard and risk assessment, including flaring and sulphur dioxide (SO₂), and emergency response planning),
- general issues (compliance history, material goods, feedback from the general community, and feedback from Parkland County),
- constitutional law, and
- planning and proliferation.

In reaching the determinations in this decision, the Board has considered all relevant materials constituting the record of this proceeding, including the evidence and argument provided by each party. Accordingly, references in this decision to specific parts of the record are intended to assist the reader in understanding the Board's reasoning relating to a particular matter and should not be taken as an indication that the Board did not consider all relevant portions of the record with respect to the matter.

4 NEED FOR THE WELLS

4.1 Views of the Applicant

Highpine stated that the purpose of the applied-for wells was to obtain oil production from the Nisku Formation. Highpine stated that it had obtained mineral agreements from the Alberta Crown for the necessary petroleum and natural gas rights for the applied-for locations to drill the proposed wells. Highpine further stated that it had no other wellbores in the area capable of evaluating the potential production of the subject lands and that, ultimately, new wells were needed to evaluate these lands.

Highpine explained that it and its predecessor companies had drilled over 95 wells in the area and in that process had acquired extensive knowledge of the geology of the Nisku Formation and experience in safely drilling and completing Nisku wells. Highpine further explained that it had also evaluated seismic data recorded over 300 square miles. Highpine added that it had acquired the necessary surface leases in order to access these resources.

Highpine stated that in addition to the need for the wells, it believed there would be benefits to the local economy in terms of jobs and contracting opportunities and benefits to the province in terms of royalties, as well as the acquisition of additional information regarding the geology of the underlying formations.

4.2 Views of the Interveners

CEASE did not dispute Highpine's right to access its mineral rights and did not comment on the potential of local, regional, and provincial economic benefits from the applied-for wells.

4.3 Views of the Board

The Board notes that the necessary surface and mineral rights have been obtained by Highpine to access the resources for the subject applications and that the need for the wells was not contested by CEASE. The Board therefore accepts that there is a need to drill these wells in order for Highpine to recover the resource and possibly provide pressure maintenance.

5 SURFACE LOCATION OF THE WELLS AND PADS

5.1 Views of the Applicant

Highpine stated that several factors played a role in determining the surface locations for the wells. These included optimum underlying geological depositional environmental conditions, the need to keep surface disturbance to a minimum, and Highpine's voluntary 500 m setback of its

sour operations from occupied dwellings. Highpine stated that it recognized that people did not like to live close to sour oil and gas operations and that it had followed this voluntary setback for a number of years.

Highpine described the geological depositional environment of the area where the proposed wells were to be drilled as consisting of three components: first, an expansive carbonate bank complex trending from southwest of Lodgepole to northeast of Tomahawk; second, an extensive shale basin to the northwest of the bank complex; and third, pinnacle reefs in the shale basin separated from the bank complex and each other by the shale basin.

Highpine stated that the bottomhole locations of the proposed wells had been carefully chosen based on a combination of seismic and geological attributes. Highpine further stated that the main goal of the examination of the seismic and geological data was to find the thickest, most porous area in the reef in the structurally highest position. Highpine stated the combination of these attributes played a significant role in determining the bottomhole locations.

Highpine advised that an important factor was its desire to drill more than one well at a single location to minimize the surface disturbance.

5.2 Views of the Interveners

CEASE did not comment on specific locations for these wells, but stated that the applications posed an unacceptable level of risk to the public. It maintained that critical sour wells should not be drilled in close proximity to residences, schools, and towns.

5.3 Views of the Board

The Board accepts Highpine's interpretation of the geological setting in the area and the subsurface considerations used to target specific Nisku pools. Highpine's proposed use of pad drilling reflects good land-use practices and incorporates further consideration for separation from local residences and natural features such as the North Saskatchewan River. Subject to the later discussion on safety and emission studies, it appears that Highpine selected good locations for the well pads.

6 PUBLIC CONSULTATION

6.1 Views of the Applicant

Highpine submitted that it had conducted a thorough public consultation program for all of its well applications. Public awareness and discussion on its Tomahawk development area commenced with an open house in Tomahawk on May 31, 2007.

Letters and detailed information packages regarding the wells and associated emergency response plans (ERPs) were forwarded to all individuals in the EPZs. Highpine made efforts to speak to all residents in the EPZs on the telephone and in kitchen table discussions. Highpine personnel also followed up with residents who expressed concern or objections. Highpine explained that it documented discussions to ensure that concerns and commitments were fully and accurately recorded and that this procedure was explained to the participants. It also noted

that it maintained a detailed phone log to show when calls were made and when messages were left.

With regard to CEASE members, Highpine confirmed that it had made efforts to meet personally with individuals. If Highpine staff had not personally met with or had a phone conversation with a CEASE member, it confirmed that its emergency response consultant, Bissett Resource Consultants Ltd. (Bissett), had arranged for meetings or telephone discussions.

Highpine noted that it was working with community groups and stakeholders in the area to plan a full-scale exercise of its area ERP scheduled for the fall of 2008.

With regard to two family members in CEASE who had objected to a well not subject to this proceeding, Highpine advised that it did not stop consultation with those persons, but that they had refused to engage in ongoing consultation with Highpine. Highpine asserted that the individuals had stopped participating in consultations because the EPZ was not expanded to include their residence. Highpine had committed to provide the same notices and support to this family as if their residence was in the EPZ.

Highpine stated that part of the *Directive 071: Emergency Preparedness and Response Requirements for the Petroleum Industry* consultation it conducted for the development of the ERPs included collecting personal information. It stated that it understood the need to keep this information confidential, and this was part of its staff training and instructions to consultants.

Highpine explained that it maintained residents' confidential information for about one year following completion of a well, after which such information was destroyed. During cross-examination, Bissett noted that it acted as a emergency response consultant to several companies active in the Tomahawk/Drayton Valley area. Bissett advised that during its consultation such information, if permitted by residents, would be entered into a resident database that Bissett created and maintained. Bissett stated that this database would reduce the number of visits to residents, as it would already have the confidential information available for use in other ERPs. Bissett further advised that it purged such confidential information on a regular basis. Bissett stated that some residents within the EPZs of these Highpine wells (as well as related to other projects in which it was involved) had asked for confirmation when their confidential information was destroyed. Bissett and Highpine confirmed that a process was in place to address these requests.

In response to questions, Highpine agreed that it had used the phrase "without prejudice" in some of its correspondence and advised that it understood this phrase to address a legal purpose. Highpine acknowledged that it did not know what that legal purpose was. It did agree, however, that such phrases could be interpreted negatively by the public as not reflecting good faith communication and could be contrary to the objectives of good consultation.

Highpine noted that it was not able to resolve all of the concerns of all residents. It advised that this was not due to lack of effort, on its part, and it further stated that the fact that a hearing was required was not an indication of failure of its consultation process. Highpine stated that there were certain concerns that could just not be resolved.

6.2 Views of the Interveners

Some of the interveners acknowledged that Highpine made efforts to listen and resolve issues, and in some cases, CEASE members advised that Highpine did a good job in its efforts to consult with them. Notwithstanding this, they stated that there were issues with Highpine's public consultation program that caused them concern.

One family expressed several concerns. They stated that Highpine stopped all consultation efforts with them after they requested that their home be included in an EPZ for a proposed well not related to these applications. They also advised that a letter addressed to them in the public consultation portion of the Highpine application was not initially received. They took further issue that this particular letter when eventually received was marked "Without Prejudice," which conjured up negative emotions. They explained that they had not realized that their conversations with Highpine would be documented and expressed concern that they were not advised of that in the first instance. They also raised concerns about whether Highpine employees were sufficiently careful about disclosure of their personal information. In this regard, they understood that a Highpine employee or contractor asked another Highpine employee or contractor about some of their belongings, despite assurances of confidentiality. While they understood that one of those employees immediately advised that they should not be discussing these private details, the fact that the conversation had occurred created concern.

One CEASE member stated that her husband had consented to the wells, but she had not, and there had been little contact with Highpine following its receipt of consent from her husband. Another CEASE member stated that there had been no contact with Highpine at all, apart from receipt of written materials in the mail. He indicated that he had made no attempt to contact Highpine regarding the wells, even though he had had previous good relations in regards to other matters with Highpine.

Several members of CEASE expressed concerns regarding privacy and protection of their personal information by Highpine. They stated that this concern was further increased when Bissett identified that it worked for many companies in the Tomahawk/Drayton Valley area and incorporated information on residents into its entire resident database for use in other ERPs. They pointed out that this practice may extend the retention time and potential expansion of who has access to the data. Counsel for CEASE stated that privacy laws may have been breached.

All but one member of CEASE confirmed that they had had an opportunity to review the ERPs with Highpine. Most members of CEASE referred to kitchen table discussions with Highpine regarding their concerns, but many expressed the view that they had more questions about how ERPs work in their specific situations.

A number of members of CEASE stated that while Highpine had attempted to deal with their concerns, they did not want any sour gas drilling in their neighbourhood, and short of Highpine withdrawing its applications entirely, there was nothing that Highpine could do to address their concerns.

6.3 Views of the Board

The Board heard a great deal of evidence in the course of this proceeding regarding consultation. It has carefully considered this evidence and is satisfied that Highpine has met the consultation requirements set out in *Directive 056: Energy Development Applications and Schedules*.

The intent of public consultation requirements is to provide the applicant an opportunity to disclose its project to interested and affected parties. It also allows parties the opportunity to share information, identify concerns, and work together to resolve issues. The consultation process can also provide an opportunity to build the foundation for a long-term relationship among the parties.

It is clear from the evidence that Highpine takes the issue of consultation with the community seriously and endeavours to engage with community members to resolve their concerns. The Board notes the direct involvement of senior Highpine management and staff in many consultations to augment the contacts made by consultants. The Board also notes the thorough consultation records kept by Highpine, which were useful in evidence. Detailed record-keeping also supports Highpine's commitment to follow up with undertakings and commitments it has made.

The Board accepts evidence that all members of CEASE were contacted by Highpine, its consultant Bissett, or both. The consultation as described by most members of CEASE who attended the hearing went well beyond initial contact and consisted of face-to-face meetings, telephone calls, and ongoing correspondence with Highpine, except in one instance.

While some of the interveners acknowledged many good aspects of the consultation process, there were some select areas of concern related to the consultation program or the resolution of issues.

Although only one party articulated the concern about not knowing consultation discussions were being documented, it is very important that this documentation process be thoroughly explained to everyone. The Board accepts that this is Highpine's practice but suggests that this be emphasized even more during the initial stage of consultation.

The Board notes the disagreement between Highpine and one family over what and who caused consultation to stop, but notes the commitment of both parties to reengage in the consultation process in an effort to find mutually acceptable solutions to matters raised by the family.

Highpine, and indeed all operators, should not assume that consent from one spouse necessarily means that the other spouse consents. The aspect of getting or clarifying comments from joint occupants or co-owners should be reflected in the consultation documentation and procedures.

The security of personal information is critical if the regulatory process is to be successful in ensuring public safety. Residents need to feel confident that the personal information they disclose to assist in the design of sound and effective ERPs will be protected. Equally, the public must maintain reasonable expectations of the program built for their protection. The Board finds that Highpine has a good system in place, with proper awareness of the matter of staff training, and a practical information retention policy, with a regular purging of the data following the completion of a well. However, the panel emphasizes that Bissett's potential use of personal

information for other ERPs must be very clearly disclosed to and approved by residents in initial contacts with them and significant care must be taken to ensure that this information is destroyed by Bissett in a timely manner.

It is also clear from the evidence that Highpine has taken steps to engage the community and commits to continue to do so. An example of this is the inclusion of community representatives on the planning committee for the planned area ERP exercise in the fall. The Board notes that several members of CEASE have also expressed their willingness to participate in this exercise. The Board is very supportive of these plans for both the increased training derived from exercises and the opportunity for learning for all parties.

The Board is satisfied that Highpine has met the consultation requirements in *Directive 056* for the subject wells and supports Highpine's intent to have ongoing dialogue with the residents as the proposed project continues. The Board notes that some issues associated with sour gas near people cannot be resolved through the hearing process or ongoing dialogue.

7 H₂S RELEASE RATE SUBMISSION

7.1 Views of the Applicant

Highpine stated that it made an H₂S release rate presubmission to the Alberta Energy and Utilities Board (EUB; predecessor to the ERCB) for all six wells in December 2006. It was for a drilling H₂S release rate of 2.50 m³/s based on a maximum expected H₂S concentration of 16 per cent and uncontrolled flow up 177.8 millimetre (mm) or 7 inch, intermediate casing. Highpine said that the EUB accepted the applied-for rate, which was subsequently used in planning and consulting for the ERP.

In May 2007, Highpine revised its drilling plan for the six wells and incorporated the use of smaller, 139.7 mm, or 5.5 inch, intermediate casing. It then reapplied to the EUB for a revised H₂S release rate using a lower flow rate commensurate with an uncontrolled flow up the smaller casing. Highpine explained that its May 2007 submission to the EUB using the lower flow rate and the same H₂S concentration of 16 per cent resulted in the EUB approving a release rate of 1.51 m³/s for the subject wells. While Highpine said it undertook to notify all parties of the revision, it acknowledged that this reduction in release rate values was a source of confusion and in some cases mistrust by the public.

In support of the release rate, Highpine provided two reports by the Pembina Nisku Operators Group (PNOG) to the EUB in 2005. It explained that these reports were developed by a number of operators in the Drayton Valley area and that Highpine was an active member of PNOG. Highpine explained that after reviewing the test results from numerous wells drilled in the Pembina Nisku Bank Edge (PNBE), an area extending from Lodgepole in the southwest through to Tomahawk in the northeast, PNOG was able to identify a geological trend and to delineate four regions with distinct characteristics that are relevant to H₂S release rate estimates. In regions 1 and 2 (Lodgepole and Violet Grove area), PNOG found higher gas-oil ratios (GORs) (with an associated increase in pressures) and H₂S concentrations of up to 30 per cent.

In the northeastern extension of the PNBE trend, the Nisku Formation is encountered at shallower depths and lower pressures are evident. Highpine noted that the PNOG map showed a

decline in H₂S concentrations as well as a decline in the GOR in this area. Based on the geological trend and the drilling information currently available, the PNOG report recommended an H₂S level of 16 per cent for wells drilled in the Tomahawk area, located in region 4, in the northeastern portion of the PNBE trend. Highpine agreed that PNOG should maintain and update its map of H₂S as new evidence became available and noted that additional wells expected in 2008 would likely trigger PNOG to initiate a review.

Recognizing that the PNOG report was issued in 2005, Highpine advised that all wells drilled in the area since then had supported the finding that GOR and H₂S levels decreased as the trend moved to the northeast. In response to questions, Highpine provided the backup documentation for the PNOG report, as well as information for all wells that had been drilled in the Nisku Formation in regions 3 and 4. Highpine further explained that five new wells had penetrated and tested porous Nisku reefs and four of the five encountered hydrocarbons with a maximum H₂S concentration of 9.24 per cent. One of these five wells was located in Section 13-2-50-6W5M, about 3 miles south of the 4-27 pad. The gas was sampled on November 10, 2006, with an H₂S concentration of 3.57 per cent. On January 21, 2007, a well drilled in Section 10-18-50-7W5M about 8 miles west of the 4-27 pad was tested, with an H₂S concentration of 9.24 per cent. On January 21, 2008, a well located in Section 11-12-51-5W5M about 8 miles northeast of the 6-33 pad was tested, with an H₂S concentration of 6.67 per cent. Highpine further stated that the evidence was overwhelming that the H₂S concentration of 16 per cent was very conservative.

Highpine addressed an expert report provided by CEASE authored by Dead Eye Engineering Inc. (Dead Eye) on behalf of CEASE that identified a well with a higher H₂S content than that proposed by Highpine to be used as the H₂S analog for the subject wells. Highpine stated that the well located at Section 6-3-51-7W5M (the 6-3 well) was drilled in 1978 and was located over 6 km from the 6-33 well pad. It acknowledged that the 6-3 well had a drillstem test (DST) reporting an H₂S concentration of 23.46 per cent and that the expert for CEASE had concluded that the 6-3 well should be used as an analog for the proposed wells to represent the worst-case risk scenario.

In response, Highpine stated that an examination of the details of the DST for the 6-3 well revealed that it was conducted over a water-bearing interval in the Nisku Formation. Highpine noted that the DST details stated there were three minutes of gas to surface for the 6-3 well with a lazy one-foot flare and 540 feet of gasified sulphur cut water, mud, 4970 feet of gasified sulphurous water, and 90 feet of clobbered H₂S mud recovered. The reported data for the well also showed a poor-quality gas analysis. Highpine stated that given the quality of the gas analysis, as well as the low quantity of gas, the 6-3 well was discounted by the engineers who were involved in analyzing the data for the PNOG report in 2005 and it was similarly discounted by Highpine.

Highpine stated that it had moved forward with the public consultation phase of the project based on a well design using 139.7 mm intermediate casing and a maximum associated release rate of 1.51 m³/s for uncontrolled flow. Highpine explained that a conservative approach was used in estimating the key parameters used in the release rate calculation, which included the maximum expected H₂S concentration of 16 per cent and a GOR of 300 m³/m³. Highpine noted that the GOR used was over two times more than expected. Highpine indicated that the H₂S release rate was based on H₂S content as well as gas volume, represented in this case as a GOR. Highpine stated that it was confident that the release rate of 1.51 m³/s for the proposed wells was

significantly higher than what would ultimately be encountered once actual data from the wells were analyzed.

7.2 Views of the Interveners

CEASE argued that Highpine's H₂S presubmission was not completed in accordance with *Directive 056* requirements and that Highpine failed in its commitment to the ERCB to provide a correct application. CEASE further submitted that the release rate calculations were not reliable, given the reliance that Highpine placed on the PNOG H₂S release rate report. CEASE also claimed that Highpine provided data for wells that were not Nisku wells in support of its position on H₂S release rates.

CEASE relied on an expert report by Dead Eye that stated that the 6-3 well drilled in 1978 had recorded an H₂S concentration of 23.46 per cent during a DST. Dead Eye concluded that the 6-3 well should be used as an analog for the proposed wells. Based on this report, CEASE submitted that an H₂S concentration of 23.46 per cent should have been used to calculate the release rate for the Highpine wells. Dead Eye acknowledged that it did not obtain a copy of the DST report to assess the validity of this point.

CEASE also argued that the cumulative release rate from each pad was much more than the individual well release of 1.51 m³/s, which established the EPZ and determined whether this well would be deemed critical or not as defined by *Interim Directive (ID) 97-06 Sour Well Licensing and Drilling Requirements*. CEASE further expressed the understanding that this was the first noncritical Nisku well application in the entire Brazeau area.

CEASE took issue with the fact that Highpine proposed to use smaller casing, which had the effect of reducing the H₂S release rate for these wells. CEASE suggested that Highpine used the smaller casing for the sole purpose of reducing the EPZs for the wells.

CEASE stated that while preparing for the hearing, it did not receive all the relevant H₂S information that it had asked for from Highpine and also had difficulty accessing information from the ERCB public database.

7.3 Views of the Board

During the hearing, the Board heard different interpretations of the ERCB process for determining and authorizing an initial H₂S release rate, which in turn can be used to advance early public consultation and emergency response planning. The term "preapproval" has the potential to mislead the public during a hearing process and the Board wants to clarify certain points in this regard.

The Board developed a presubmission process for the determination of acceptable H₂S release rates and has set out that process in *Directive 056*. A company may submit its proposal for an H₂S release rate to ERCB staff, who conduct a thorough, independent review involving all data in the area, including confidential information and data. Based on this review, staff determine the appropriate H₂S release rate, using a conservative approach.

When a hearing is required, the Board panel approves or denies the previously accepted H₂S release rate as part of the overall proceeding, based on the evidence before it.

The Board concurs with both parties that H₂S content is one of the critical elements in determining release rates, which in turn can trigger additional technical requirements and impact ERP preparation and public consultation. In an evaluation of an H₂S release rate presubmission, ERCB staff use the best available data and accepted engineering principles to conduct a full, independent technical review of that presubmission. If information is lacking, the ERCB's procedures dictate the use of conservative or precautionary approaches and assumptions.

In this case, the group of companies referenced as PNOG has provided an assessment and identified four regions where it considers that sufficient data exist to justify use of standardized H₂S concentrations. The PNOG 2005 reports provide a geological overview of the area and an interpretation of the trend moving from Lodgepole in the southwest toward Tomahawk in the northeast.

The Board finds that such analyses conducted by industry contribute to a better understanding of existing oil and gas resources, trends, and their potential impact on the public. The disclosure of such documents may assist companies in their communication with the public to gain their support and confidence in drilling and related safety programs. The Board encourages PNOG to continue this work and update the PNOG reports as further information becomes available.

Information sessions conducted by industry and public access to data can assist in building support and confidence. The Board notes that Highpine worked with other companies to provide recent H₂S data during the hearing, including some data that had been held confidential, as provided for by Section 12.150 of the *Oil and Gas Conservation Regulations (OGCR)*. The Board is satisfied that the provision of the information relied upon by Highpine, coupled with an opportunity for CEASE counsel to reexamine Highpine's witness several days after the provision of such information, ensured that CEASE had a full opportunity to review and challenge Highpine's proposed H₂S release rate.

The Board is concerned, however, that CEASE said it had difficulty obtaining certain information from ERCB records prior to the hearing. The Board is aware that the submission and dissemination of data as provided for under the *OGCR* is essential to the industry and the public, who rely on its availability. The Board will ensure that the required submissions in the Pembina Nisku area have been received and are available as appropriate pursuant to the regulations.

The Board has reviewed the evidence filed by CEASE regarding the 6-3 well with DST results showing an H₂S content of 23.46 per cent. The Board finds that CEASE's expert did not take steps to obtain and review the DST report, which is available in the public domain. The Board accepts Highpine's interpretation regarding why this data point should be disregarded.

The Board is concerned that CEASE interpreted that Highpine used non-Nisku well information for the determination of H₂S release rates. The Board finds that while the data set offered included all wells drilled in the area, Highpine did not use data from wells that were not in the Nisku zone. The data from those other wells is irrelevant to these applications.

Having reviewed the evidence, the Board accepts Highpine's decision to use 16 per cent as the appropriate number to be used in H₂S release rate calculations. While some new data may suggest an even lower H₂S concentration in the northeastern portion of the Nisku trend, the Board believes that the conservative approach evident in the Board's preapproval process

continues to be justified and that Highpine's use of an H₂S content of 16 per cent for these wells is appropriate.

The Board notes that CEASE questioned the purpose of Highpine reducing the casing size from 177.8 mm (7 inches) to 139.5 mm (5.5 inches). CEASE indicated that this change resulted in a smaller EPZ, which reduced the number of residents included within the ERPs. The Board finds that reduction in casing size is a way of mitigating risks posed by sour gas development. Smaller casing sizes restrict gas flow to surface, thereby reducing the H₂S release rate and the size of an associated EPZ. The Board supports risk mitigation measures that effectively reduce the number of people adversely affected in the unlikely event of an uncontrolled release.

Having carefully considered all of the evidence and arguments provided by both Highpine and the members of CEASE at the hearing, the Board accepts the H₂S content of 16 per cent and the GOR of 300 m³/m³ and concludes that the H₂S drilling release rate calculated using the criterion of 1.51 m³/sec is appropriate.

8 SAFETY

8.1 Well Design

8.1.1 Views of the Applicant

Highpine stated that while the applied-for wells were classified as noncritical in accordance with *Directive 056*, it had committed to drill, complete, and conduct workover operations as if the wells were critical by following ENFORM and the Drilling and Completion Committee's (DACC's) Industry Recommended Practice (IRP) Volume 1: Critical Sour Drilling and IRP Volume 2: Completing and Servicing Critical Sour Wells. Highpine said this commitment would enhance public safety by providing additional safety measures and that it was also a response to public concerns arising from its initial public communication when the wells were described as critical sour.

Highpine stated that its drilling program called for 139.7 mm intermediate casing. It said the intermediate casing also enhanced safety by isolating all uphole zones behind casing and cement set between 40 to 50 m above the Nisku zone before drilling into the sour zone. Highpine maintained that the use of intermediate casing also allowed for greater control of the wells, allowing the wells to be shut in with pressures up to 53 000 kilopascals (kPa), well in excess of the expected reservoir pressure of approximately 20 000 kPa. Highpine confirmed that the intermediate casing would incorporate materials designed for sour service.

Highpine stated that its drilling plan would exceed the required well control systems, including, but not limited to, a blowout prevention stack rated to 35 000 kPa, shear rams, two sets of pipe rams, redundant manifold system, redundant gas separation, 100 per cent excess drilling fluid for well control, night supervision, and extra systems testing. Its plan also called for an on-site ignition system, which will be regularly tested and used in the unlikely event of an uncontrolled flow. Highpine also proposed to use third-party inspectors to check the rig before it encountered zones with the potential to contain sour gas to ensure that all its drilling and completion commitments were in place and operational.

The risk assessment submitted into evidence by Highpine indicated that there was some elevated level of risk associated with the drilling and completion of the wells if mitigation measures were not incorporated. Highpine indicated that the proposed mitigation measures, such as drilling and completing as a critical sour well and equipping the wells with subsurface safety valves and packers for production, would greatly reduce the risk of an uncontrolled flow. Highpine further contended that for an uncontrolled release to occur during drilling, completions, or workover operations, multiple and overlapping safety measures existing on the rig and within the well design would have to fail. Highpine stated that the failure of one well or pipeline causing the failure of an adjacent well or pipeline in a multiwell or multipipeline scenario was very unlikely.

However, Highpine did indicate that when the wells were no longer capable of flowing and had significantly reduced potential release rates, they would be equipped with artificial lift and would not have packers and subsurface safety valves installed.

A question was raised by CEASE regarding what safety measures would be in place to deal with a scenario where all wells were successful and an incident occurred during the drilling of the final well. In response, Highpine advised that none of the successful wells would be producing or tied in at that time, and subsurface safety valves would be in place and closed.

While Highpine noted that initial workover operations would be conducted in accordance with critical operations, it indicated that after it obtained actual H₂S and GOR information for the wells, it would reexamine release potential and may consider doing future workovers as noncritical.

Although the applications before the Board were for drilling six wells, Highpine spoke to its conceptual longer-term plans for area development, including production operations. It noted its intent to avoid building local production facilities by pipelining the produced effluent to an existing battery, thereby reducing a potential H₂S emission source and reducing the overall surface impact footprint. Highpine also noted that it had initiated work with other companies to discuss coordination of pipeline routes.

8.1.2 Views of the Interveners

Members of CEASE expressed concerns about whether any sour well could be designed in a way that would allow it to function safely. A number of members of CEASE recalled the Lodgepole blowout in 1982 and were concerned that a similar incident could occur with these wells. A number of residents noted that they were less concerned about the drilling and completion of the wells and more concerned with issues surrounding the production operations for the wells, specifically pipeline operations. In particular, they recalled a recent event when an H₂S release occurred but the ERCB and area operators could not identify the source of the release, even though an extensive investigation and multicompany response was carried out.

CEASE also raised concerns regarding the presence of up to three wells on one pad site. In argument, CEASE raised the prospect of one well on a pad experiencing a blowout, which could cause a similar failure in the other two wells. It offered no expert evidence in support of this concern. CEASE also argued that the cumulative release rate from each pad was much more than an individual well release, maintaining that the release rate established the EPZ and determined whether the activity would be deemed critical or not.

Finally, given its concerns regarding H₂S levels in the area, CEASE asked that Highpine be required to drill and complete its first well and provide information regarding the H₂S content to members of CEASE prior to drilling other wells.

8.1.3 Views of the Board

The Board acknowledges the concerns raised by members of CEASE concerning the 1982 Lodgepole sour gas blowout, which remains in the memory of residents who were living in the area at that time. Given that experience, the Board understands the concerns of some members of CEASE that a similar incident could occur again.

The Board notes that as a result of the Lodgepole blowout, there was a thorough formal public inquiry into the events and drilling procedures that contributed to the blowout and the regulations applicable at the time. As a result of that inquiry, the ERCB developed and implemented many new requirements and enhancements to the province's regulations to prevent such events in the future. Critical sour gas development continues to occur safely in Alberta, with between 50 and 100 such projects undertaken annually. The regulatory requirements for sour wells are especially strict and are included in such ERCB regulations as *ID 97-06, Directive 036: Drilling Blowout Prevention Requirements and Procedures*, and *Directive 010: Minimum Casing Design Requirements*, all of which relate to stringent casing requirements and redundant blowout systems.

The Board is aware that increased field inspections are an important companion to the increased technical requirements for sour and critical wells. The ERCB's Public Safety/Field Surveillance Branch uses a risk-based approach to assist in identifying inspection priorities. For all wells, a priority ranking is applied that considers factors such as local sensitivity, inherent risk, and a company's compliance record in selecting a site for inspection or increased surveillance. In addition, ERCB staff can and do apply discretion in selecting other activities to inspect. ERCB staff inspect numerous aspects of the rig operational systems and functions to ensure that the equipment is in proper working order and in compliance with pertinent regulations.

The Board notes the interveners' concern that while Highpine has committed to drilling and completing the wells as if they were critical, the ERCB field inspection protocols for managing critical wells may not be automatic for the applied-for wells, given their noncritical classification. The Board is confident that the normal priority ranking would result in these wells being inspected. Nevertheless, the Board will ensure that Drayton Valley Field Centre staff conduct all inspections associated with the drilling and completion of these wells as if they were licensed as critical sour.

The Board has considered the submission by CEASE in final argument that the presence of up to three sour wells on one well pad may result in a situation where a blowout from one well may cause a similar failure in the other two wells. The Board also notes that no technical evidence was brought forward by CEASE to support such a scenario. The Board has considered Highpine's evidence that the adjacent wells will not be producing during subsequent well drilling and that subsurface safety valves on these adjacent wells will be installed at a depth of 30 m and will be closed, isolating the tubing, and a packer will be in place, isolating the annulus. Based on these mitigation measures, the Board finds that the possibility of simultaneous release from wells on the same pad is extremely remote. Accordingly, the Board does not accept the argument presented by CEASE. The Board accepts Highpine's decision to adopt multipad drilling as a

mitigation measure, not only for managing public safety risk but also in reducing land-use impacts and impacts on the environment.

The Board notes that the Highpine drilling plan includes production testing and determination of the H₂S concentration after the six wells are drilled and that CEASE has asked for early confirmation of H₂S information. The Board accepts that the H₂S content of 16 per cent is appropriate. The Board is aware of Highpine's repeated comments that it is a very conservative number and understands CEASE's confusion about H₂S information. In the opinion of the Board, CEASE was not assisted by its expert.

While the Board believes that early H₂S testing and sharing of these data would improve public understanding and support ongoing dialogue. It is mindful of the provisions of Section 12.150 of the *OGCR*, which provides an entitlement to hold these data as confidential for a prescribed period. The right to withhold the data from the public domain is laid out in the regulations and must be respected unless Highpine itself chooses to share the data. However, the submission of the data is not optional.

Having regard for the arguments presented in this case, the Board will condition the licences to provide for a test to determine the H₂S content for the first successful well. The Board will require that Highpine complete and test the first well prior to drilling into the Nisku Formation on the second well. The Board notes that Highpine is already required to immediately provide information on H₂S content and reservoir pressure to the ERCB, so that the ERCB can confirm the release rate.

In the unlikely event that the release rate is found to be greater than the predicted rate, the Board would move immediately to take action on any undrilled outstanding licence. Any parties affected by the change would have an opportunity to reengage in meaningful dialogue for the ongoing development.

Should the initial well test confirm Highpine's view that the H₂S content will be significantly less than 16 per cent or even if it confirms 16 per cent, the Board encourages Highpine to examine the need to hold H₂S content confidential and to consider the early voluntary release of this information to the community.

The Board notes that additional drilling is proposed in the immediate area and that drilling schedules could be revised for many reasons. Accordingly, the Board notes that Highpine could submit an application requesting that another local H₂S data point be used to satisfy this condition. The Board would consider such an application only if the data were from a well in close proximity to the applied-for wells.

The Board is satisfied that Highpine has a complete and compliant plan for the drilling and completions of these wells if executed as set out. The Board acknowledges the measures that Highpine has adopted, particularly its commitment to drill the wells based on ENFORM and the DACC's IRPs Volumes 1 and 2 as if the wells were critical sour, even though this is not an ERCB requirement for these noncritical wells. The ERCB believes that these additional measures greatly reduce the risk of an uncontrolled release during drilling and completion operations.

The Board notes that the current applications are for licences to drill, complete, and produce sour Nisku oil wells. If Highpine requires a production facility or pipelines for any of these wells, it would have to submit the appropriate applications. The Board encourages these applications be bundled as much as possible and coordinated with other companies.

The Board has an additional comment regarding future production operations, which the interveners indicated were of particular concern. These comments do not affect the decision on the subject wells. Issues such as fugitive emissions and unmanned sites were indicated as worries. Over a period of time, wells that are producing from a depressurized formation and are no longer producing or flowing on their own require pumps to bring product to surface. When wells are no longer flowing, ERCB regulatory requirements do not require a packer or subsurface safety valve to be installed, which leaves the tubing casing annulus exposed to sour fluids. This panel strongly encourages Highpine to investigate alternative artificial lift methods that may facilitate the use of a packer to protect the casing from sour fluids when the wells can no longer flow.

8.2 Hazard and Risk Assessment, Including Flaring and Sulphur Dioxide

8.2.1 Views of the Applicant

Highpine submitted that it had completed a thorough hazard and risk assessment for the proposed applications in response to the Board's request and noted that this type of assessment was not a regulatory requirement.

It was Highpine's view that the main hazard associated with these applications was an uncontrolled release of H₂S and that other hazards, such as sulphur dioxide (SO₂) and radiant heat, would not be significant in comparison. Highpine asserted that the appropriate H₂S endpoint considered in the risk assessment was public safety as gauged by the probability of fatality.

Highpine stated that the target zones were expected to contain oil, and as a result the hazard modelling considered two cases. The first was called "no-rainout," in which all the oil and gas remained in the plume. The second was called "rainout," in which the liquids were assumed to condense out of the plume. Highpine felt that these scenarios encompassed the release characteristics likely during an uncontrolled release.

Highpine advised that it had considered the maximum number of wells to be drilled in a year at each well pad location for the risk assessment and had considered all applicable producing wells. Highpine stated that the risk assessment also considered one conceptual pipeline, but noted that a pipeline was not part of these applications. Highpine claimed that in the production scenario, the majority of the risk to the public would be from the pipeline.

Highpine believed that the risk assessment was very conservative, as it did not consider the successful implementation of an ERP, nor did it consider the critical well safety factors that would reduce the predicted risks. Highpine stated that the only mitigation measures used in the risk assessment were setback distances, emergency shutdown valves on pipelines, and subsurface safety valves for production wells.

It was Highpine's view that the hazard assessment it used to calculate the risks associated with these proposed wells was conducted with acceptable parameters. Highpine submitted evidence to refute the intervenor's claim that ignoring low wind speed in stable or calm atmospheric conditions would underestimate the calculated risks. Highpine submitted a report as evidence that for wind speeds less than 2 m/s, the Pasquill-Gifford dispersion coefficients would understate turbulence levels and overpredict ambient concentrations. Highpine stated that this report was prepared for the EUB as technical advice during the development of the ERCBH2S model. Highpine advised that the hazard and risk assessment did not consider wind speeds lower than 2 m/s for stable atmospheric conditions, which was consistent with the current version of ERCBH2S.

Highpine stated that it calculated both individual and societal risk. Individual risk predictions were compared to the Major Industrial Accident Council of Canada (MIACC) land-use guidelines, while societal risk predictions were compared to the United Kingdom's Health and Safety Executive (UKHSE) criteria. It was the view of Highpine that the calculated individual risks associated with the drilling and completion of the proposed wells were at levels that need to be managed and that the ERPs put forward would effectively manage those risks. Highpine asserted that the risks associated with the wells on production would fit into the current land uses in the area and that the predicted societal risks were acceptable.

Highpine submitted dispersion modelling reports for well test flaring for technical completeness. Highpine indicated that if the wells were approved, it would formally apply to the ERCB for a flare permit prior to completions operations. These flaring applications would incorporate actual well data for dispersion modelling. Highpine stated that although it would endeavour to limit flaring at each well to 8 hours or less, there might be unforeseen circumstances that would require longer flaring durations.

Highpine performed modelling using the ERCBH2S model to determine EPZ sizes. This additional modelling was requested by the Board for informational and comparative purposes. Highpine noted that the EPZ distances used in the ERPs were determined from the nomograph method. It was Highpine's view that use of the appropriate parameters in the ERCBH2S model resulted in EPZ distances smaller than those used for these applications and that therefore the chosen EPZ sizes were appropriate.

Highpine advised that it did not perform SO₂ dispersion modelling for an ignited well blowout other than what was completed through the ERCBH2S modelling. However, Highpine confirmed that its ERPs did take into account an SO₂ hazard during emergencies through the implementation of ambient air monitoring.

8.2.2 Views of the Intervenors

It was CEASE's view that regardless of the level of risks imposed on its members from the proposed development, the risks were involuntary or imposed and therefore unacceptable. CEASE expressed concern about the safety of children if a release of sour gas were to occur while they were attending the Tomahawk School. A number of members of CEASE submitted that they viewed the drilling and completion stages as the safest stages because of the presence of multiple personnel continuously on site and monitoring the situation; they were most worried about the risks imposed when the wells were on production and from the pipelines. CEASE

asserted that Highpine did not satisfy the Board's request for a risk assessment that considered the cumulative effects of the proposed development.

CEASE's risk expert noted that many of the assumptions and approaches used in the Highpine risk assessment were not clear. Upon cross-examination, the CEASE risk expert acknowledged that the risk assessments done by Highpine were appropriately done and contained the type and quantity of content that should be incorporated into risk assessments. CEASE's risk expert also acknowledged that the risk assessment done by Highpine effectively and accurately determined the consequences of a major well release.

CEASE's risk expert asserted that the acceptable level of risk to an individual involuntarily exposed to an industrial hazard was one chance in a million of fatality. In his report, he further asserted that the individual risk assessed by Highpine was 1000 times greater than acceptable. During cross-examination, CEASE's risk expert clarified that he had misinterpreted the societal risk curves submitted by Highpine. The individual risk as assessed by Highpine was not nearly as high as he first stated, but was still unacceptable in his view. He claimed that the acceptable level of societal risk put forward by Highpine from the UKHSE when compared to what was acceptable in Canada on risk and acceptability was far too high and not appropriate.

CEASE's risk expert claimed that the risk assessment should have considered SO₂ from an ignited blowout and radiant heat, but admitted under cross-examination that it was unlikely that these hazards would increase risks significantly.

CEASE's risk expert submitted that a risk assessment of this nature should not take into consideration the successful implementation of an ERP and confirmed that Highpine did not do this. Although CEASE's risk expert admitted that an ERP would reduce the risks, he was not able to confirm or refute Highpine's assertion of a risk reduction factor of 10. He admitted that Highpine's decision to drill these wells as critical sour would likely reduce the risks to the public.

CEASE's risk expert stated that Highpine misinterpreted the MIACC land-use guidelines and that the intent of the guidelines was to gradually increase population density as one gets farther and farther away from the risk sources, no matter what they were. He submitted that the MIACC guidelines served as a guide and not a regulatory requirement and were most useful in identifying where mitigation measures were needed. He further commented that the MIACC guidelines were not intended to be used to approve a development project, nor were they to be used to remove an existing operation when the nearby population grew.

CEASE's risk expert submitted that the Board should ensure that development activity and cumulative risks were considered for the local communities involved. He stated that the Board should not look at each project individually but really needed to look at the cumulative development in the area. He claimed that the risk during the producing scenario was more important than during drilling and completion and that the production side of the risk had to be adequately defined and managed, whether the well operated for a year or 20 years.

CEASE's modelling expert noted that the ignition times used by Highpine in the hazard and risk assessment were at the lower limit allowed by the ERCB and therefore Highpine should justify how the chosen ignition times would be achieved. He believed that the hazard and risk assessment was deficient, as it failed to include stable meteorological conditions with wind

speeds below 2 m/s. These deficiencies, he remarked, would cause the hazards and risks to be underpredicted and could undercalculate EPZ size. CEASE's modelling expert also noted that after a release was ignited, the majority of H₂S was converted into SO₂, which was less toxic, and he asserted that Highpine should take into account an ignited uncontrolled release of sour gas.

CEASE's modelling expert stated that he reviewed the flaring assessments submitted by Highpine to this hearing. He performed his own dispersion modelling and found that flare management plans were required by ERCB regulations, contrary to the findings of Highpine. He recommended to the Board that Highpine be required to submit flare management plans so that exceedances of ERCB low-risk criteria and the Alberta Ambient Air Quality Objective could be avoided.

CEASE asserted that it was unclear about the commitment made by Highpine on flaring. CEASE noted that Highpine stated that it had committed to restrict itself to 8 hours of nonconsecutive flaring events on each of these wells but had said in direct evidence that if it had to flare more than 8 hours, it would. CEASE argued that this was unacceptable.

8.2.3 Views of the Board

The Board notes that site-specific hazard and risk assessments and modelling of emergency releases are not required by the Board in support of sour gas or sour oil well applications. The Board considers risk when developing regulatory requirements, such as setbacks. The Board requested the risk assessment be submitted in this case to better understand risk and measures to manage it. While the Board finds that the assessments did provide some very useful information, the discussions quickly dissolved into debates between the experts, which detracted from the broader intent of having an understanding of the risks and of the management of those risks. The risk assessment was useful in identifying situations requiring mitigation measures. The Board notes that mitigation measures such as ERPs are in place for these applications.

The Board acknowledges that during an uncontrolled release from a critical sour gas well, there are other hazards in addition to H₂S and SO₂. The Board is satisfied that the main hazards during an emergency are exposure to H₂S and SO₂. The Board is also convinced that the other hazards, such as radiant heat, will be confined near the well site and the public will be protected from these hazards.

The Board notes a comment made by the intervener's modelling expert about SO₂ being less toxic than H₂S. The Board's view is that both SO₂ and H₂S are harmful pollutants and exposure to these pollutants should be minimized. When sour gas is ignited or combusted, H₂S is converted to SO₂. In the event of an uncontrolled release of sour gas to surface, the decision to ignite the release is not based on the relative toxicity of the substances but on the protection of the public. Igniting the release will create additional plume rise through the buoyancy of the plume, and the resulting ground-level SO₂ concentrations will be far less harmful than H₂S concentrations would be if the release were to remain unignited.

The Board is satisfied with the hazard modelling performed by Highpine in support of the risk assessment. The Board is also satisfied that the ignition times for drilling and completion that Highpine considered in the hazard modelling are reasonable and consistent with what is considered achievable in the industry. The Board acknowledges CEASE's modelling expert's

opinion that calm and low wind speeds in stable atmospheric conditions are indicative of worst case dispersion from a modelling standpoint. The Board notes that the exclusion of wind speeds lower than 2 m/s in stable conditions is consistent with the approach in the ERCBH2S model. The Board is also satisfied that the application of the ERCBH2S model for comparison to the nomograph calculated EPZ (to which the ERP is developed) was acceptable.

The Board notes that regardless of the appropriate acceptable risk levels, it is important for all sour gas development to keep the risks as low as reasonably practicable. The Board understands that the presence of a facility containing hazardous materials may pose an additional risk to individuals living or working in the vicinity over and above those to which they may be exposed to if the facility did not exist. The Board acknowledges that Highpine's self-imposed 500 m setback, compared to the ERCB required setback of 100 m, further reduces risks to the public.

The Board acknowledges the recommendation from CEASE that Highpine's ERP take into consideration the SO₂ hazard after an uncontrolled release is ignited. The Board is satisfied that Highpine's ERP will protect the public from exposure to SO₂ through monitoring of SO₂ in the event of an ignited uncontrolled release.

The Board understands that Highpine submitted an SO₂ dispersion modelling assessment of well test flaring to the Board. The Board notes that this submission was for information purposes only and Highpine will still need to formally apply to the ERCB for a well test permit if the wells are successful. The Board acknowledges that CEASE suggested there were deficiencies in Highpine's flaring assessment and that flare management plans should be required, which is contrary to Highpine's conclusions. The Board expects that when Highpine applies to the ERCB Operations Group for a flaring permit, it will meet all the requirements of *Directive 060: Upstream Petroleum Industry Flaring, Incinerating, and Venting* with regard to dispersion modelling.

The Board notes the claim made by CEASE's risk expert that the potential risk of a fatality to an individual involuntarily exposed to an industrial hazard is 1000 times higher than the acceptable level of risk. The Board is satisfied that through cross-examination, this claim was refuted and the risks were lower. Regardless, the Board considers the original statement to be alarmist and not supported by the evidence. The Board points out that members of the public may have heard or read that claim, but were not privy to the ensuing cross-examination that refuted it. The Board is of the view that statements of this nature add to the public's fear and anxiety about sour gas development. The Board would expect experts at ERCB hearings to have a better understanding of the material and of ERCB regulations before making definitive and potentially alarmist statements. The Board encourages industry and technical experts to clarify risk assessment results in future communications with the community.

For the Board to make a decision, it needs to be satisfied that a proponent has minimized the risks to the public. The Board has additional safety requirements for drilling sour gas wells that Highpine has implemented in its drilling plan, which are intended to ensure that no release occurs. The Board notes that in the risk assessment additional safety measures were not considered, including the use of critical well equipment and the ERP. Consequently, the actual risk is less than the risk assessment would suggest. The Board is satisfied that Highpine has taken appropriate steps to minimize the risk to the public associated with the drilling, completion, and production of the proposed wells.

The Board notes that the concept of risk is not an easy one to comprehend and is poorly understood by both technical and public audiences. The Board finds that risk information and risk predictions submitted to a hearing can provide useful information but can frighten people unnecessarily if that information is not conveyed effectively. The Board believes there is an important need to effectively communicate the concept of risk and risk mitigation to the public.

8.3 Emergency Response Planning

In 2008, the ERCB released a revised edition of *Directive 071*. The ERPs for the applied-for wells were developed prior to the release of this edition. As such, all references to *Directive 071* in this section and throughout the decision report unless specified “*Directive 071*, 2008 edition” pertain to the requirements in the 2003 edition of *Directive 071: Emergency Preparedness and Response for the Upstream Petroleum Industry June 2003 Incorporating Errata to April 2005*.

8.3.1 Views of the Applicant

Highpine stated that it designed its site-specific ERPs to provide maximum public protection should an incident occur and that it exceeded regulations by developing critical sour site-specific ERPs even though the wells would be licensed as noncritical. Highpine committed to drilling, completing, and performing workover operations as if the wells were licensed as critical for the lifespan of the ERPs.

Highpine stated that it believed its ERPs would protect the health and safety of the residents, the public, and the environment, as well as its responders. Highpine contended that it accomplished this by developing its ERPs around key principles of preparedness, early declaration of an emergency, and removal of the hazard from the public.

Highpine stated that the first principle involved issuance of various notifications. It committed to providing notice to residents identified within the ERP of such operational procedures as rig moves, sour operations 24 hours prior to encountering the first sour formation and Nisku pending operations, in addition to other emergency response procedures.

With respect to the second principle, Highpine stated that by declaring an emergency early, public protection measures detailed within the ERP could be implemented early in the life of an emergency. Highpine stated that every resident inside the EPZ would be contacted via the automated telephone system, a live person on the telephone, and/or a rover to convey the option of voluntary evacuation. Highpine further explained that notification within the ERP had built-in backup procedures, so that if a resident was unable to be contacted with the primary method of communication as indicated by the resident during *Directive 071* consultation, then another notification method would be used. Highpine stated that this communication plan was in response to CEASE’s concerns regarding being away from home and engaging in recreational activities.

Highpine also highlighted the public protection measures, including sheltering in place, which it stated were discussed with residents during the consultation process. Highpine noted that consultation was a fine balancing act between conveying information on emergency response and respecting people’s time and privacy. Upon questioning, Highpine noted that if at the time of consultation people did not have time to go through the information packages on the project, a phone number was left for the residents to call if they had any questions. Highpine stated that in

such circumstances it ultimately left it up to the residents to follow up with Highpine on any concerns and to convey this information to other members of the family (such as children).

Highpine stated that if any member of the public had concerns about sour gas, a Highpine safety representative would be available daily to answer these questions at a local intersection for what it termed “mini open houses.” Highpine committed to having a safety representative available during normal drilling operations for all wells to assist the public in answering any questions or concerns that they may have with emergency response procedures, including sheltering in place. Highpine stated that while prior to the hearing no meeting with the public had been held to review ERPs, one was planned for August 2008, when emergency response measures, including issues on public protection measures, and details of the ERPs would be discussed.

Highpine acknowledged the high number of recreational activities that CEASE and other members of the public participated in within the EPZs. Highpine stated that it understood the concerns that the residents had with respect to monitoring of the river and that it had a designated river rover area with identified river vantage points that could be used to monitor river traffic. Highpine did acknowledge that these vantage points were not located on the current ERP maps or identified on any separate maps available to the rovers. It stated that it had access to helicopters that could fly the river area and it could place responders along bridge crossings and at boat launch points to identify anyone on the river. It could arm its responders with loud hailer and other equipment to assist in notifying river traffic of an incident. Highpine stated that if it knew of people still in the EPZ along the river area, this would meet the ignition criteria and it could ignite the well if there were an uncontrolled release. Upon questioning, Highpine acknowledged that the current ERPs did not contain provisions for placing notices at boat launch sites up and downstream of where the river entered the EPZ. Highpine expressed its willingness to consider such measures in its implementation of the ERPs.

Highpine stated that it addressed its third principle through evacuation and/or ignition. It contended that if any one of the ignition criteria had been met, it would ignite the release within 15 minutes of making that decision. Highpine further stated that its ERPs addressed the resulting SO₂ from ignition. Highpine stated that while all residents had a viable egress route out of the EPZ, as a goodwill gesture to some residents contained within the 6-33 ERP, an undeveloped egress trail previously identified in another unrelated ERP linking the southerly portions of Range Roads 62 and 63 was offered. Highpine stated that a second egress route was not a regulatory requirement, nor was one needed.

Highpine stated that while its ERPs were primarily for the protection of the public during an emergency, it was aware of the importance of family pets and livestock. It further stated that during the consultation process it was typically made aware of concerns residents had about the safety of their pets and livestock. It stated that contingency measures to deal with pets unfamiliar with other people were currently not in the ERPs. However, upon questioning, Highpine stated that it had been in contact with outside professional services capable of handling such pet-related issues and that could be brought in to help with temporary boarding of pets. Highpine also noted that some residents had identified specialized livestock that would be relocated, depending on the speed of development of an incident and if it was safe for the emergency responders to relocate the animals.

Highpine stated that its two site-specific ERPs were just one tool that it employed to protect the public. Highpine identified training that its responders took and confirmed that it would hold another full-scale exercise in October 2008, similar to the full-scale area ERP exercise conducted in 2007. Highpine noted that holding two full-scale exercises on the same area ERP in two years exceed the ERCB's ERP exercise requirements. Highpine committed to having a multistakeholder planning committee with representatives from the community, CEASE, and the county invited to assist in developing details of this exercise. Highpine also stated that local residents would be invited to witness the exercise. Highpine was confident the plan for the exercise would address many of the concerns expressed by CEASE members.

During the course of the hearing, Highpine signed and submitted as part of the hearing evidence an agreement reached with the Parkland School Division. As a result of this agreement, Parkland School Division removed its objection to the proposed wells. Highpine stated that some of the clauses within this agreement also addressed similar concerns detailed by CEASE and other members of the public. Highpine committed to including all applicable ERP clauses in this agreement into its ERPs.

8.3.2 Views of the Interveners

Members of CEASE cited numerous issues surrounding emergency response and the ERPs as reasons for denying the well applications. CEASE contended that the ERPs did not appropriately address the high number of recreational activities and recreational users in the EPZ. They also had concerns about sheltering in place in older, drafty houses, as well as evacuation. CEASE also questioned Highpine's capability to contact residents in the event of an emergency and expressed great concern over the safety of school buses traversing the EPZ.

Members of CEASE detailed the numerous outdoor recreational activities that they engaged in routinely, including riding all-terrain vehicles, horseback riding, walking on their property, and enjoying the river valley. These activities took them away from their residences throughout the EPZ and area. They questioned how, in the event of an incident, Highpine would be able to find them and ensure their safety. They stated that notifying Highpine of when they were about to engage in such activities, along with the estimated location of their activities and time of return, was unrealistic and inconvenient. They further stated that cellular phone coverage in the area is poor to nonexistent in the river valley and as such Highpine would be unable to notify them on their cell phones in the event of an incident.

Members of CEASE noted that Eagle Point Provincial Park was not set out on the ERP maps, and they further noted some erroneously placed residences on maps included in hearing documentation. CEASE submitted that this was proof that Highpine would not be capable of responding effectively to an emergency.

CEASE members also noted that in addition to their safety, they were concerned about the safety of their livestock and pets. Some stated that the ERP did not sufficiently take into account their livestock, horses, or family pets. They stated that some residents did not know what to do with their pets if required to evacuate and did not know of any arrangements Highpine had in place to board pets and livestock during an emergency. As well, some questioned how a sour gas release would impact the surrounding vegetation and what affect this would have on the wildlife and livestock that may eventually ingest potentially contaminated food. They claimed that such

eventualities and how Highpine would address these situations were not detailed in the ERPs or explained to them by Highpine.

Some interveners stated that their homes were not air tight and had a high air flow exchange rate. Some stated that daylight was visible from inside their houses around windows and door jams and that snow could enter in the winter. Plugging such gaps with linens was not conducive to stopping sour gas from entering their homes. CEASE members stated that if notified of the need to shelter in place, they would evacuate instead, as they had no confidence that sheltering in place would keep them or their families safe. The majority of CEASE members stated they did not understand the procedures to shelter in place, were not given explicit instructions by Highpine on how to shelter, and were unprepared for explaining such to their children.

School buses traversing the EPZs were also highlighted as a major concern. Members of CEASE questioned how safe it would be for their children to be on a school bus if an incident occurred while the buses were in the area encompassed by the EPZ, considering that no personal protection equipment would be provided and bus drivers had not received H₂S training. CEASE also noted that Highpine had held discussions regarding this and other issues concerning the Tomahawk School with Parkland School Division but not the school itself or its parent council. CEASE stated that this was not acceptable, and added that Tomahawk School was old and not appropriate for sheltering if an incident occurred. Some interveners stated that their children would be trapped in the school if an incident occurred. One CEASE member stated that her fear for her child's safety was so tangible that she removed her child from school while another area operator was drilling Nisku wells.

Members of CEASE further stated that Highpine had not yet demonstrated to them its communication and implementation capabilities. One member requested that Highpine undergo yearly exercises to show the residents how evacuation would take place and stated that CEASE should have input into the exercises, as well as decision-making authority on how the ERPs worked. Other interveners stated that if such an exercise were made available to the public, they would be interested in participating.

CEASE retained an expert to review and conduct an assessment of Highpine's ERPs. While the resulting report stated that overall the ERPs were good and in many ways exceeded the regulatory requirements, CEASE's expert noted some inconsistencies between answers provided by Highpine during its assessment and at the hearing. It was also noted that the ERPs faced developmental and implementation challenges, but CEASE's expert clarified that this was not specific to Highpine's ERPs and such challenges were common to all ERPs across the province. Some members of CEASE, however, did not accept their own expert's opinion on this point.

CEASE's expert stated that part of his assessment included interviewing members of CEASE and that a real and genuine fear of a sour gas incident and Highpine's inability to respond was expressed. This, combined with the slight distrust he witnessed between the two parties and the lack of understanding of fundamental emergency response concepts and procedures by CEASE members, had, in his opinion, a potential to impact how emergency responses were implemented. CEASE's expert indicated that he had not interviewed members of the public who had not objected to the wells, even though this group represented the majority of persons within the EPZ. CEASE's expert did interview Parkland County staff, who indicated during that interview they had no issue with Highpine's ERPs.

CEASE's expert expressed some surprise over slight inconsistencies between Highpine's responses gathered during the assessment and responses to questioning at the hearing. Such inconsistencies included the location and mapping of the river valley vantage points to be used for monitoring the river and the level of detail that rovers would record for activities at residences while undergoing their roles and responsibilities.

CEASE's expert concluded that Highpine would do its best to implement the emergency response actions detailed within the ERPs and acknowledged that Highpine staff were well trained and underwent a training regime over and above regulatory requirements. However, CEASE's expert stated that he did share some of the same concerns about the ERPs expressed by the CEASE members.

8.3.3 Views of the Board

The Board notes that the ERPs were developed in accordance with *Directive 071* and address the drilling, completion, and workover operations for the applied-for wells. The Board is aware that the purpose of an ERP is to ensure quick, effective response to emergencies in order to protect the public from fatalities and irreversible health effects. Overall, the Board is of the view that the ERPs meet or exceed *Directive 071* minimum requirements and will provide for public safety in the event of an incident. The Board, however, notes that some of the information in the ERPs pertaining to resident contact information, as well as the new Eagle Point Provincial Park, is outdated or missing. The Board recognizes Highpine's commitment to update its ERPs to include such information, which is consistent with *Directive 071* requirements. The Board requires this commitment to be met prior to final ERP approval, which must occur before commencing drilling of any of the applied-for wells.

While the Board is of the view that the ERPs meet *Directive 071* requirements, during the course of the hearing the Board also heard the concerns raised by members of CEASE. The Board speaks to these matters below and will require, in some instances, that additional safety measures be incorporated in the ERPs.

The River Valley

Included within or immediately adjacent to the EPZs is the North Saskatchewan River valley, which has high recreational activity and use. The Board notes that *Directive 071* requires EPZs to be isolated upon a level-2 emergency, including providing emergency response measures that address the high recreational activity experienced along the river valley. The ERPs for the applied-for wells clearly detail procedures and processes for isolating the EPZs via the road infrastructure at this emergency level, and the Board considers that the river should be afforded equivalent treatment. While the Board acknowledges that restricting access to the EPZs along a river is operationally different from putting barriers across a road and advising people not to enter the EPZs, the river is still a valid access point into the EPZs and must be manned and restricted. The Board therefore requires that Highpine incorporate additional plans into both of its ERPs for advising, limiting, and deterring river traffic from entering the EPZs via the river.

The Board notes that Highpine stated it had identified numerous vantage points along the river area in which to monitor activity and identify any such river traffic entering the EPZs. Highpine also mentioned the potential use of river boats and agreed with interveners about the benefit of placing notices at boat launches in the area so as to notify the public of its operations. Such

actions are not detailed in the ERPs, and the Board finds Highpine's commitment during the hearing to add notices in this regard to be unclear. The Board is of the view that placement of notices at area boat launch sites would afford an extra measure of public protection for recreational users of the river valley. Therefore, the Board requires Highpine to amend its ERPs to include procedures to ensure that all boat launch entry and exit points are identified and identify where ERP notifications are posted. These notifications are to be posted at all entry and exit points within a minimum of 5 miles (8 km) upstream and downstream of the outer extent of where the EPZs intersect the North Saskatchewan River.

The Board notes and supports Highpine's communications with external sources pertaining to river boat availability and the resulting development of a plan to include a river boat response in the event of an emergency. Highpine is to ensure that river blocks be established at the same time as all road block activities. Highpine is to conduct a sweep of the river, using appropriate means to ensure that no one was on the river within the EPZ prior to stationing of river blocks. Such details are to be included within the ERPs and submitted to the ERCB for review.

The Board also heard extensive detail during the hearing pertaining to river vantage points that would be used for river traffic monitoring. However, these locations are not identified on any document in the ERPs. While the Board acknowledges the river rovers that Highpine details in the ERPs, the Board believes a map detailing the river vantage points would further enhance the emergency response measures in the river valley area. Therefore, formal identification of river vantage points on ERP maps is deemed necessary. Highpine is to clearly document the river valley vantage points as discussed in the hearing and incorporate these into separate EPZ maps to be included in the ERPs. The Board reminds Highpine to follow all mapping requirements detailed in Section 4.4 of *Directive 071*.

Long Weekends

During the hearing, the Board heard extensive evidence with respect to the wide variety of recreational activities that occur along the river valley. Given the presence of a provincial park, as well as the North Saskatchewan River valley, in and immediately adjacent to the EPZs, the Board understands that recreational use of these areas will potentially be highest during the long weekends between May and October. To ensure that the fewest members of the public as possible may be impacted by a potential incident during the drilling of the wells, the Board will condition Highpine's well licences, with respect to the drilling timelines. Highpine is therefore to structure its drilling schedule to ensure that there are no Nisku drilling operations or any wellhead off completions or servicing operations conducted during statutory long weekends between May and October. The Board notes that statutory long weekends are about one month apart and that Highpine indicated drilling operations in the Nisku zone would take about 4 days, with roughly 20 days needed to drill to the intermediate casing point. The Board is of the opinion that with intermediate casing set and Highpine's stated drilling timelines, Highpine can schedule entry into the Nisku to accommodate this condition.

Alternate Trail Traversing Range Roads 62 and 63

The 6-33 ERP map details an "egress trail" across pasture land, connecting the southerly portions of Range Roads 62 and 63. During the hearing, concerns were raised regarding the condition of the trail and the circumstances when this trail could be used by area residents to egress from the

EPZ. The Board notes that Highpine stated numerous times that this trail was not a requirement for evacuation purposes. Highpine noted that a viable evacuation route exists by travelling north on Range Road 63. The Board further notes Highpine's statements that this alternate egress trail was offered to the public on other nonrelated ERPs and was intended by Highpine to be a goodwill gesture, as all residents were capable of evacuating north on Range Road 63. Highpine negotiated permission from the landowner to cross the private land.

The Board agrees that the public can safely evacuate on the existing road infrastructure and that an alternate egress route is not a requirement or necessary. However, by virtue of having this route identified to the public as an option for evacuation purposes, Highpine has a responsibility to ensure that this trail is in fact a traversable trail suitable for the public to evacuate on and to further ensure the public's safety if this egress trail is used. The Board found from its site visit that the trail is not visible, marked, or gated. Therefore the Board requires Highpine to amend its 6-33 ERP to include a rover being posted at the access point of this trail should there be a declaration of an alert-level emergency during drilling, completion, and workover operations so as to facilitate travel across the trail in the event that the incident escalates to a higher level of emergency and evacuation occurs. This rover is to be equipped with a vehicle capable of transporting or escorting members of the public safely over the egress trail. Both points where the trail intersects Range Roads 62 and 63 are to be gated and marked for identification.

Implementation of Emergency Response Procedures

The Board recognizes that one of the key concerns highlighted by the interveners was their belief that Highpine would be unable to implement emergency response procedures. It is noted that some CEASE members stated that Highpine should demonstrate its emergency response capability via an exercise and they indicated their willingness to participate in such an exercise.

The Board is cognizant of and supports Highpine's planned fall full-scale major exercise on its area ERP. The Board notes that this exercise will be similar in scope and design to Highpine's September 2007 area ERP exercise, will focus on a production release, and will not be designed specifically for drilling operations. The Board believes, however, that many similarities exist between a production ERP exercise and a site-specific or drilling ERP exercise, such as notification distribution and emergency response position responsibilities. Given the concerns expressed by the interveners about ERP implementation and production operations, the Board views this fall exercise as an opportunity for Highpine to demonstrate its emergency response capability to the community. The Board notes that Highpine has committed to include members of the public in the planning of the exercise and that several CEASE members have expressed interest to participate in or witness the actual exercise.

The Board expects this fall ERP exercise to be completed as soon as possible, address as many resident concerns as possible, and meet the *Directive 071* exercise requirements, including all appropriate notifications. The Board also directs members of the ERCB Public Safety/Field Surveillance Branch to be involved in observing the exercise to ensure that the scope and objectives of the exercise are met. The Board encourages Highpine to share the postexercise report, as required by *Directive 071*, Section 4.14, with the community to facilitate emergency response understanding.

Sheltering in Place

The Board heard a significant discussion on public protection measures for sheltering in place. The Board reconfirms this practice as being a viable public protection measure. The Board understands statements made by some interveners that they would evacuate even when notified to shelter in place in their homes, as sheltering is essentially contrary to the instinctive reaction to remove oneself and family from a source of potential harm. While in some instances evacuation is the primary public protection method, there are other instances when sheltering affords greater public safety. Such instances include when there is not enough time or warning to safely evacuate persons that may be at risk, when people are waiting to evacuate, when the source of the emergency is of limited duration or is unknown, or when the public would actually be at a higher risk if evacuation procedures were followed.

Given the confusion and concern raised by members of the public, the Board encourages not just Highpine, but all oil companies to develop strong consultation tools and procedures to educate the public on the benefits and specific circumstances of such procedures.

Parkland School Division

The Board notes Highpine's submission of the negotiated agreement with Parkland School Division. It is cognizant that agreements of this nature are typically private matters between the parties and hopes that such transparency may assist the public in understanding issues related to these and other Highpine well applications.. The Board notes that the Tomahawk School is clearly outside of the EPZs for these wells and that these wells will pose minimum potential impact on the Tomahawk School, with the exception of potential impacts on busing activities in the EPZs. The Board is satisfied that such concerns have been effectively managed through this agreement and the provisions detailed within the ERPs. The Board recognizes Highpine's and the Parkland School Division's efforts to resolve their issues of concern, including regarding buses from Tomahawk School traversing the EPZs.

9 GENERAL ISSUES

9.1 Compliance History

9.1.1 Views of the Applicant

Highpine did not dispute the fact that there had been a number of noncompliance issues dating back to 2004. Highpine further explained that these issues originated from its predecessor company, Vaquero Energy Limited. Highpine described that the noncompliance issues to date resulted from ERCB inspections conducted prior to any of its 95 wells drilling into the sour Nisku Formation and that all these deficiencies had been identified and rectified prior to entering the Nisku Formation.

Highpine stated that it understood that each application comes before the Board and stands on its own merit. However, Highpine went on to quote *Decision 2008-018*, in which the Board concluded that Highpine was capable of protecting the public safety, even though it had experienced noncompliances in the past.

Highpine explained that unfortunately all oil and gas companies occasionally had incidents that they had to deal with and by having these incidents they could learn from them. Highpine described a voluntary practice it implemented in November 2007 involving third-party consultants inspecting its drilling rigs. Highpine explained that since this practice was begun, it had not had a noncompliance issue with respect to its drilling operations.

9.1.2 Views of the Interveners

CEASE gave evidence detailing each of the noncompliance issues that Highpine had faced dating back to 2004 under the Vaquero Energy Limited company name. CEASE argued that Highpine was inaccurate when it described its experience as having safely drilled 95 wells to date. CEASE submitted that these noncompliance incidents were evidence that Highpine had had incidents that left the public vulnerable.

CEASE provided evidence that indicated Highpine's follow-up on noncompliance issues with the public and the ERCB was deficient. CEASE further addressed incidents where Highpine contradicted its commitments to the Board, such as regarding venting practices.

9.1.3 Views of the Board

The Board notes the concerns raised by the members of CEASE with regard to Highpine's record of noncompliance and their concerns about public safety during Highpine's drilling operations. The Board also notes that Highpine has made significant changes in process in their drilling and completions practices to address past compliance issues and support future compliance. The Board is satisfied that Highpine has taken the opportunity to address previous compliance concerns and has implemented necessary steps in its processes to ensure the safety of the public during its drilling operations. The Board concludes that the compliance record of Highpine does not constitute a basis to deny the applications.

9.2 Material Goods

9.2.1 Views of the Applicant

Highpine stated that it employed rovers that had had complete criminal background checks prior to their employment with Highpine, thereby addressing interveners' concerns about theft and vandalism. It added that in its ERPs, the rovers' responsibilities included being aware of who is in the EPZ. Highpine also stated that it was committed to ongoing consultation and discussions with concerned parties to try to come to a mutual agreement on issues of property protection.

9.2.2 Views of the Interveners

Members of CEASE stated concern about personal possessions being vulnerable during a potential release of H₂S or SO₂. They stated that there was not only concern about the potential loss of items due to theft or vandalism during a release situation, but also about the potential for items to be damaged through the exposure to H₂S or SO₂.

Members of CEASE explained that not only was their health and safety a concern, but many personal belongings needed to be protected in the event of a release from the wells. They described these items of concern in detail.

9.2.3 Views of the Board

The Board recognizes the potential for personal items to be a target for theft or vandalism should an ERP be activated requiring residents to leave their homes. The Board also agrees that there is the possibility of personal property and belongings being damaged in the event of a release of H₂S or SO₂.

The Board believes the evidence supports the conclusion that this matter is manageable and encourages individuals to discuss the possible scenarios with Highpine and develop specific options for property protection.

9.3 Well Site Security

9.3.1 Views of the Applicant

In its well application documentation, Highpine presented evidence that the well pad sites would be fenced with a four-strand barbwire fence. Highpine further indicated during questioning that the four-strand barbwire fence would be a minimum and that it would consider a six-foot-high chain-link fence with a two- or three-strand barbwire section on top for these pad sites. Highpine indicated that while visiting the 4-27 pad site, it noticed an area at the bottom of the river bank close to the 4-27 site that looked like an undeveloped camp site or party spot and stated that it would definitely consider additional security measures based on these observations.

9.3.2 View of the Interveners

Some of the CEASE members indicated that there were several spots in the area where teenagers gathered. They said that they had not noticed any problems with an area at the end of Range Road 62 near the 4-27 well pad site, but added that there were areas where people camped, had bonfires, and fished in a pond.

9.3.3 Views of the Board

The Board conducted a site visit of the general area encompassing the 6-33 and 4-27 pad sites and the EPZ. The Board observed during this visit that where the 4-27 pad site will be located is near the dead end of Range Road 62 and there appeared to be a small campsite with evidence of bonfires in the near past. The Board also noted that both the 6-33 and 4-27 sites were not readily visible from the road.

The Board is concerned with security of the well pad sites due to the proximity of the North Saskatchewan River and the recreational nature of the area, where people may be riding off road vehicles and horses on trails as well hiking in the area. The Board notes Highpine's commitment to consider the need for increased fencing requirements given these observations made by Highpine, members of CEASE and the Board and strongly encourages Highpine to install fencing to increase the well pad security at these sites.

9.4 Feedback from the General Community

It became clear to the Board in advance of the hearing and during the first few days of the hearing that a number of parties who were part of the greater Tomahawk community and beyond

were interested in providing comment to the Board about these applications and various other related matters on energy development in the area. The Board therefore set aside an evening where it heard oral submissions from a number of discretionary participants. The Board has allowed this kind of participation at its hearings on a case-by-case basis to ensure that it gains a better understanding of the broader issues and concerns of the public when energy development occurs near communities. Members of the public who spoke that evening were not sworn in as witnesses and the submissions heard that evening were not prefiled, nor were they subject to cross-examination. This means that the Board uses the information presented differently from evidence given under oath or testimony offered by a recognized expert, for example.

The Board acknowledges the overall value of the public input into these proceedings. The Board is of the view that the comments provided that evening went a long way in furthering the understanding of both Highpine and the ERCB regarding the public's fear of being in close proximity to sour gas operations. The Board acknowledges the large turnout of interested persons who attended this evening session and, in particular, the people who provided comments and documentation to the Board. The Board recognizes and sincerely appreciates the time and effort required to make these submissions.

The Board is particularly aware of the increased oil and gas activity in the area. Members of the communities from Lodgepole in the southwest and Tomahawk in the northeast have taken an avid interest in the numerous ERCB proceedings held to consider much of the proposed development. Some of the information provided indicated that more needs to be done by way of public education, not only regarding these applications but on sour gas development in general. In that regard, the Board strongly encourages Highpine and other operators in the area to continue to develop and coordinate consistent communication materials that provide information regarding sour gas operations and emergency preparedness and response. Additionally, the Board hopes that the public will continue to engage with Highpine, other area operators, and the ERCB to find solutions that will allow oil and gas operations to coexist with those who presently live in these areas.

The Board heard many concerns and highlights some of them here. However, it emphasizes that this does not mean that other concerns that were raised but that are not detailed here are not important.

The Board heard several members of the public who were concerned about the pace of activity and the fact that so many wells had been proposed for the area. They believed that proliferation is not adequately considered in the Board's process, where applications are heard on their own merit as standalone projects. The ERCB has encouraged operators across the province to amalgamate as many applications as possible and submit those as a package to allow the ERCB and the public to evaluate whole development plans. In this instance, the Board understands that Highpine was willing to proceed with all 11 wells it proposed in the Tomahawk area at one hearing. However, during an information session held in March 2008 in Tomahawk, the ERCB heard overwhelmingly from the public that they wanted the 11 applications to proceed in a multiple hearings in order to make the hearing process more manageable for the public and so that issues specific to the Tomahawk School and hamlet could be given sufficient attention. To that end the ERCB scheduled two hearings.

Many members of the public gave moving statements regarding the safety of the children educated at the Tomahawk School. It was clear to the Board that parents were unhappy with the communication between themselves and the Parkland School Division regarding emergency response planning for the school and the safety of their children. In some cases it appeared that the members of the public were unaware that the wells in these applications are over 5 km from the school. The Board recognizes that Highpine and the Parkland School Division appear well intentioned and thorough in addressing important issues, including issues raised by the West Parkland Liaison Committee, such as busing through the EPZ, training, and timing of drilling and flaring, but the Board believes that these communications could have been more transparent in order to address issues of the public and, in particular, the parents in a timelier manner.

Several submissions indicated that people felt Highpine could respond in the event of an emergency during drilling and completion operations, but they had more serious concerns regarding production operations later in the life of the project. These concerns were with regard to aging facilities, wells, and pipelines, unmanned operations, monitoring, nuisance odours, and such. The Board encourages ongoing communication between the public and Highpine to address these issues as they arise and would expect that Highpine and other operators to continuously engage the public in their plans for maintenance, upgrades, operational changes, and further development as soon as this information becomes available.

The Board reiterates the value of the public input to this proceeding and emphasizes the importance of individuals and groups providing feedback and engaging with the ERCB through other avenues. Opportunities exist through corresponding or engaging in direct dialogue with the ERCB, its local Field Centres, and its Community and Aboriginal Relations staff. Parties can also become involved with local synergy groups and attend ERCB-sponsored open houses and information sessions, to name a few means. Parties should also take the opportunity that consultation programs afford to ask an applicant such as Highpine about details of its project or request follow-up information on a particular topic. Staff from the ERCB's Appropriate Dispute Resolution team can offer assistance if parties reach an impasse and could benefit from some third-party involvement. In addition, citizens can contact representatives of the appropriate level of government to make their views known on broad government policy that involves energy matters.

The Board also acknowledges the criticism that the public put forward respecting ERCB processes. The ERCB is always striving to address issues of concern to individuals and communities and to review and update its responsiveness and requirements to ensure that Albertans' interests are protected. As such, it appreciates the time and effort taken by the public to communicate their concerns.

9.5 Feedback from Parkland County

Parkland County made a presentation to the Board on its views concerning the subject wells and the general sour development in the area. Parkland was represented by the mayor, the local councillor, and the chief operating officer.

Parkland noted that its vision stated that the county "prosper and develops as a viable, sustainable community where people can live, work and raise their families in a safe, secure environment." Parkland presented its mission to provide high quality, sustainable services. It

identified several core values, which include striving to maintain the natural environment, managed growth, cooperation, and partnerships.

Specific to sour development, Parkland noted concerns about its capacity to review and contribute to ERPs and participate in exercises, funding pressures, and training costs for county staff. It also noted the agricultural nature of the county and the importance of protecting groundwater, as well as the recreational and tourist aspects of the area.

The county was concerned about the lack of certainty of whether the proposed energy development would increase or decrease the need for services in the long term and whether the county could be left with financial burdens if it invested in services.

The county was sensitive to the concerns of its residents and parents about the safety of the Tomahawk School and the desire for an increased setback from the school.

Based on its understanding that an exclusion zone was established between the oil and gas operators and the Town of Drayton Valley, Parkland believed that a similar agreement must apply to Tomahawk, and without such an agreement, it saw no basis for further dialogue.

Finally, Parkland noted that the ERCB had future plans to review its sour gas setback requirements and that the province was working on a land-use policy framework. Consequently, Parkland stated that the Board should not move forward on approving any sour development until this work was done.

The Board welcomes the feedback from the county and acknowledges the need for close and mutually supportive efforts to achieve a common need to ensure public safety, as well as achieve a balance on energy development and public and environmental issues. The ERCB works closely with Alberta Association of Municipal Districts and Counties and the Alberta Urban Municipal Association under a memorandum of understanding developed as part of the public safety and sour gas initiative and has frequent contacts with counties across this province.

When questioned by the Board panel, Parkland was not aware of the details of the subject applications, including the fact that the wells are more than 5 km from the Tomahawk School and the Hamlet of Tomahawk. The Board notes that the Parkland County council and mayor are newly elected and the chief operating officer is new to the position and that they may not be familiar with the procedures the county follows when approached by a company with proposed energy development. The Board notes that the county staff had been engaged with Highpine for over a year regarding these applications and had raised no concerns regarding the ERPs.

Several of Parkland's items have been addressed in this hearing, and the Board believes that Highpine and the county will continue to work together on these and other items.

Given the Board's findings set out in earlier sections of this decision report, the Board finds no reason to stop sour development, as suggested by Parkland. Furthermore, the ERCB understands Parkland's concerns about its capacity to fulfill its responsibilities in light of increased energy development. This concern is shared by many counties, and the Board encourages Parkland to have dialogue with the Government of Alberta on these issues.

The Board notes that Highpine has stated it was open to training county staff that would have a direct role in the ERPs. This may partially address some of the county's concerns regarding the financial capability to increase staff training.

Finally, no evidence was presented to indicate that an exclusion zone agreement exists around Drayton Valley. The Board urges Highpine and the County of Parkland to continue the dialogue that has occurred over the past year with staff and include discussions with the County's elected officials to work on the many issues that face the two parties.

The Board finds that Parkland has raised several questions, but based on the above, finds that Parkland raised no issue that would lead the Board to dismiss these applications.

10 CONSTITUTIONAL LAW

The Board carefully considered the issues of constitutional law raised by CEASE, as well as the evidence presented at the hearing. CEASE made a number of arguments regarding a potential breach of Section 7 of the *Charter of Rights and Freedoms* (the Charter). The Board does not accept that the evidence supports any breach of Section 7 of the Charter. Full reasons regarding the constitutional law questions raised by CEASE are set out in Appendix 3.

11 PLANNING AND PROLIFERATION

There was evidence throughout the hearing of the great concern expressed by CEASE about future oil and gas development in the Tomahawk/Drayton Valley area. The Board is taking steps to address the concerns of landowners and residents about the issue of proliferation.

By way of the release of *Bulletin 2008-04: Application Requirements for Sour Gas Development—Directive 056*, the Board has actively set in place requirements of industry to reduce proliferation and implement best practices in order to examine and monitor the public safety and sour gas development in the province.

The Board notes that Highpine did provide an area development plan and has met the requirements set out in *Bulletin 2008-04* and *Directive 056*. Highpine stated that it has had several discussions with stakeholders and area operators regarding the Pembina Nisku area and what could potentially be involved by way of the need for future wells, pipelines, facilities, etc., in the area.

The Board does not find that at this time that there is excessive development in the area. The Board does, however, acknowledge the fact that there are a number of hearings occurring in the area and appreciates that individuals are concerned about the pace of development.

12 CONCLUSION

Having carefully considered all of the evidence, the Board hereby approves Applications No. 1525928, 1525932, 1526517, 1526582, 1526699, and 1526703.

Dated in Calgary, Alberta, on September 30, 2008.

ENERGY RESOURCES CONSERVATION BOARD

G. J. Miller
Presiding Member

R. J. Willard, P.Eng.
Acting Board Member

T. L. Watson, P.Eng.
Acting Board Member

APPENDIX 1 HEARING PARTICIPANTS

Participants with Full Participation Rights

Principals and Representatives (Abbreviations used in report)	Witnesses
Highpine Energy Ltd. (Highpine) G. S. Fitch D. J. Farmer	D. Humphreys J. Broughton T. Kraychy A. Fritz C. Venardos R. Kay K. Chow R. Brown, of Bissett Resources Consultants Limited I. Dowsett, of First Response Emergency Services Ltd. and Jacques Whitford AXYS
Committee to Encourage and Advocate a Safe Environment (CEASE) J. J. Klimek D. Bishop	T. Campbell Losey C. Kerpan A. Pearton S. Dorigo B. Tremblay D. Kessler D. Schadeck C. Malka S. Blatkewicz J. Garden S. Du, Ph.D., of California Resources Board D. McCutcheon, P.Eng., of the University of Alberta J. Hemstock, P.Eng., of Gecko Management Consultants (2002) Corporation
Energy Resources Conservation Board staff L. Berg, Board Counsel C. Giesbrecht R. Reid C. Ravensdale K. Siriunas, P.Eng.	

Discretionary Hearing Participants Who Made Statements of Concern

Principals and Representatives**Speakers**

Parkland School Division No. 70

J. Bailey

Parkland County

R. Wiedmen

T. Melynk

P. Vincent

West Parkland Liaison Committee and
Tomahawk Parent Council

K. Wilson

K. Munch and C. Munch

B. Hiew and W. Hiew

D. Hennig

A. Berger

T. Woodruff

R. Reid

R. MacDonald

C. Iverson

K. Strocher

L. Strocher

W. Strocher

N. Nichols

D. Goode

S. Kelly

L. Duperron

L. McGinn

APPENDIX 2 SUMMARY OF CONDITIONS

This section is provided for the convenience of the readers. In the event of any difference between the conditions in this section and the material in the main body of the decision, the wording in the main body of the decision shall prevail.

Conditions generally are requirements in addition to or otherwise expanding upon existing regulations and guidelines. An applicant must comply with conditions or it is in breach of its approval and subject to enforcement action by the ERCB. Enforcement of an approval includes enforcement of the conditions attached to that licence. Sanctions imposed for the breach of such conditions may include the suspension of the approval, resulting in the shut-in of a facility. The conditions imposed on the licence are summarized below.

AMENDMENTS TO ERPS TO INCLUDE THE FOLLOWING

Trail Between Range Roads 62 and 63

- Highpine is to amend its 6-33 ERP to include a rover being posted at the access point of the trail where it intersects Range Road 63 should there be a declaration of an alert-level emergency to assist the public.
- This rover is to be equipped with a vehicle capable of transporting or escorting members of the public safely over the egress trail. Both points where the trail intersects Range Roads 62 and 63 are to be marked for identification in a manner similar to that for roadways and gated.

River Monitoring

- Highpine must amend its ERPs to identify all boat launch entry and exit points. Notifications are to be posted at all entry and exit points within a minimum of 5 miles (8 km) upstream and downstream of the outer extent of where the EPZ intersects the North Saskatchewan River.
- Highpine must ensure that river blocks are established at the same time as all road block activities. Highpine must conduct a sweep of the river, using appropriate means to ensure that no one was on the river within the EPZ prior to stationing of river blocks. Such details are to be included within the ERP and submitted for review.
- Highpine must clearly document the river valley vantage points, as discussed in the hearing, and incorporate these into a separate EPZ map that is to be included in the ERP. The Board reminds Highpine to follow all mapping requirements detailed in Section 4.4 of *Directive 071*.

CONDITION TO THE WELL LICENCE

H₂S Testing

Highpine must conduct an appropriate test to ascertain the H₂S concentration in the Nisku Formation from the first successful well and submit these results to the ERCB prior to entering the Nisku Formation in any subsequent well approved pursuant to this decision.

Nisku Formation Drilling Limitations

Highpine must structure its drilling schedule to ensure that there are no Nisku drilling operations or any wellhead off completions or servicing operations conducted during statutory long weekends between May and October. The Board notes that statutory long weekends are about one month apart, and that Highpine indicated that drilling operations in the Nisku zone would take about 4 days, with roughly 20 days needed to drill to the intermediate casing point. The Board is of the opinion that with intermediate casing set and Highpine's stated drilling timelines, Highpine can schedule entry into the Nisku to accommodate this condition.

APPENDIX 3 SUMMARY OF COMMITMENTS

The Board notes throughout the decision report that Highpine has undertaken to conduct certain activities in connection with its operations that are not strictly required by the ERCB's regulations or guidelines. These undertakings are described as commitments and are summarized below. It is the Board's view that when a company makes commitments of this nature, it has satisfied itself that these activities will benefit both the project and the public, and the Board takes these commitments into account when arriving at its decision. The Board expects the applicant, having made the commitments, to fully carry out the undertaking or advise the ERCB if, for whatever reasons, it cannot fulfill a commitment. The ERCB would then assess whether the circumstances regarding the failed commitment warrant a review of the original approval. The Board also notes that the affected parties also have the right to request a review of the original approval if commitments made by the applicant remain unfulfilled.

Highpine has committed to

- perform the drilling, completion, and workovers of the wells as if they were classified as critical wells for the duration of the ERPs;
- minimize duration of flaring whenever possible;
- suspend operations if safe to do so during sour operations if any egress roads inside the EPZs become impassable;
- drill pilot holes on the 4-27 well site to confirm where the gravel seam(s) are located, and then drill and set conductor pipe and cement to surface below the gravel seam to ensure integrity prior to continuing with the rest of the surface hole operation;
- relocate residents who reside within the EPZ during drilling and completion operations, should those residents advise that they wish to be relocated;
- incorporate sensitive or interested individuals who reside outside of the EPZs into Highpine's site-specific or production ERPs;
- notify residents in the ERPs prior to entering the Nisku zone at least 24 hours in advance;
- ignite within 15 minutes of an uncontrolled release;
- continue to work with Parkland School Division to address safety questions for not only these applications, but for all of the development proposed in the area;
- hold a public meeting to review the ERPs and answer any additional questions that the public may have;
- hold an ERP exercise on the area production ERP; and
- use existing infrastructure wherever possible to minimize the proliferation of facilities.

APPENDIX 4 QUESTION OF CONSTITUTIONAL LAW

Background

The Board is a designated decision maker pursuant to the provisions of the *Administrative Procedures and Jurisdiction Act* and as such has jurisdiction to determine all questions of constitutional law raised before it.

By letter dated June 9, 2008, CEASE served a Notice of Question of Constitutional Law. The notice included the following three questions:

- 1) Has Section 7 of the *Canadian Charter of Rights and Freedoms* (the *Charter*) been breached?
- 2) Has Section 7 of the *Charter* been breached by the ERCB not providing to CEASE and to the public a complete list of the H₂S content of the wells drilled in Brazeau and Parkland County?
- 3) Will an approval of this application breach Section 7 of the *Charter*?

The Attorney General of Alberta and the Attorney General of Canada were given notice of this application, and both advised that they would not be making any submissions in response to this application.

In this appendix only, due to the fact that CEASE raised the constitutional issues, its views are presented first.

Views of the Interveners

Counsel for CEASE made constitutional arguments orally during final argument at the hearing.

CEASE argued that if the ERCB were to approve the well applications, the hazards and risks associated with drilling and producing the proposed wells were unacceptable, and any such approval would therefore result in an infringement of Section 7 of the *Charter*. CEASE further submitted that there was no credible evidence of risk that was presented at the hearing and that without such evidence, the Board could not issue an approval without breaching Section 7 of the *Charter*.

CEASE submitted that the need to provide personal information to an oil and gas company amounted to a breach of the liberty provision of Section 7 of the *Charter*.

CEASE further submitted that the need to make changes in daily routine and voluntary relocation of residents during drilling also amounted to a breach of the liberty provision of Section 7 of the *Charter*.

CEASE also submitted that there were problems in the Board's prehearing process that amounted to a breach of the *Charter* and were not in accord with the principles of fundamental justice. CEASE cited a number of prehearing issues in support of this argument, including the following:

- 1) CEASE asked for a prehearing, but did not receive one.

- 2) CEASE asked for a formal Information Request process, but did not receive one.
- 3) CEASE asked the Board to compel Highpine to provide certain information that it was not provided.
- 4) The timelines for the hearing and preparation of expert reports were too short.

CEASE submitted that its inability to obtain H₂S pre-submission information from the ERCB was a breach of Section 7 of the *Charter*.

CEASE submitted that Highpine and the Board had not educated the public on what they should do if they lived close to a well or if they were in the EPZ of a well and there was an emergency. CEASE submitted that this also amounted to a breach of the *Charter*.

Views of the Applicant

Highpine submitted that the first question submitted by CEASE, that is, whether Section 7 of the *Charter* had been breached, was too general and broad and, accordingly, must fail because it was overly broad.

With regard to the second and third questions raised by CEASE, Highpine again submitted that these questions could not be considered in the absence of an approval, because with no approval there was no potential harm or deprivation to analyze. Highpine submitted that these last two questions were better dealt with on an appeal following the issuance of an approval or approvals.

Notwithstanding its arguments above, Highpine noted that if the Board did consider these issues, the cases cited by CEASE were distinguishable from the facts in this case. Highpine submitted that any risk posed to the public by these wells was very remote and that there were significant mitigation measures in place to reduce risk further.

Views of the Board

The Board notes that the parties provided evidence throughout the hearing that related to the constitutional issues raised by CEASE.

The Board notes that CEASE relied upon the following case law:

- 1) *R. v. Morgentaler* [1988] 1 S.C.R. 30 – This case considered the constitutionality of then existing *Criminal Code* provisions dealing with therapeutic abortion committees at hospitals providing abortions.
- 2) *Godbout v. Longueuil (City)* [1997] S.C.J. No. 95 – In this case the Supreme Court reviewed the constitutionality of a municipality requiring that its employees live in the municipality.
- 3) *Charkaoui v. Canada (Citizenship and Immigration)* [2007] 1 S.C.R. 350 – In this decision, the Court assessed the constitutionality of the detention of permanent residents and foreign nationals based upon security certificates and the process surrounding same.
- 4) *Kelly v. Alberta (Alberta Energy and Utilities Board)* [2007] A.J. No. 34 (A.B.C.A.) – This was a leave-to-appeal decision, allowing citizens to advance a constitutional argument on an appeal of an Alberta Energy and Utilities Board decision involving an approval of a sour gas well.

- 5) *Chaoulli v. Quebec (Attorney General)* [2005] S.C.J. No. 33 – In this decision, the constitutionality of statutory provisions on private health insurance being sold in Quebec was considered.

The Board also notes that Highpine provided the following decisions:

- 1) *Domke v. Alberta (Energy Resources Conservation Board)* [2008] A.B.C.A. 232 – In this leave-to-appeal decision, the Court refused to grant leave to citizens seeking to appeal an ERCB decision to approve sour gas wells.
- 2) *Operation Dismantle v. The Queen* [1985] 1 S.C.R. 441 – In this decision, the Court considered the constitutionality of cruise missile testing.
- 3) *R. v. Malmo-Levine* [2003] 3 S.C.R. 571 – In this case, the Court considered the constitutionality of the criminal prohibition against marijuana possession.

Section 7 of the *Charter* provides that

Everyone has the right to life, liberty and security of the person and the right not to be deprived thereof except in accordance with the principles of fundamental justice.

An analysis for a challenge based upon Section 7 of the *Charter* proceeds in two stages. The first is to determine whether there has been a deprivation of life, liberty, or security of the person. The second is to determine whether the deprivation has been in accordance with the principles of fundamental justice.

Question 1: Has Section 7 of the *Canadian Charter of Rights and Freedoms* been breached?

The Board notes that this is a very general question that makes no mention of what particular government action requires *Charter* scrutiny. A Notice of Question of Constitutional Law should provide information regarding the specific government action that requires constitutional review. Without this basic information, it is impossible to undertake a *Charter* analysis.

Question 2: Has Section 7 of the *Charter* been breached by the ERCB not providing to CEASE and to the public a complete list of the H₂S content of the wells drilled in Brazeau and Parkland County?

The Board's views regarding the H₂S release and content of the wells are set out in Section 7.3 of this decision report, and the Board reiterates those findings here. With regard to the issue of provision of H₂S information, the Board notes that Highpine's H₂S presubmission was provided to CEASE well in advance of the hearing. Highpine also provided gas analysis information on a number of its Nisku Formation wells prior to hearing. The Board further notes that CEASE had an expert who was able to obtain information regarding wells in the area from the ERCB and provide an expert opinion to CEASE. In the course of the hearing, a witness for Highpine produced additional information regarding wells drilled in the Tomahawk area, including a summary of Nisku well data for PNOG zones 3 and 4. The Board required Highpine to reproduce its witness several days after that additional information was provided, in order to give counsel for CEASE an opportunity to review the additional material with her expert and to conduct a thorough cross-examination of the Highpine witness.

The Board finds that there is ample evidence to support Highpine's H₂S presubmission of 16 per cent, and given all publicly available data, this is likely a conservative number. The Board rejects the opinion of Dead Eye Engineering, the expert for CEASE, for the reasons set out in Section 7.3. Based on the evidence before it, the Board does not believe that a case was made by CEASE that the H₂S release rates and concentrations used to determine the EPZs were unreasonable or that the data available to them were insufficient for the purpose of these determinations. With respect to this issue, the Board finds that there was not an infringement of the right to life, liberty, or security contrary to Section 7 of the *Charter*.

Question 3: Will an approval of these applications breach Section 7 of the *Charter*?

This general question raises the issue of risk to the members of CEASE by the approvals of these wells, or other issues in Section 7 that may arise as a result of the approvals.

Risk

The Board does not agree with CEASE's alternative submissions that there is evidence that an approval of these applications will expose members of CEASE to unacceptable risk or that there is insufficient evidence regarding risk to CEASE members and therefore the Board should refrain from approving these wells.

The Board's views on the evidence of hazard and risk are set out in Section 8.2.3, and the Board reiterates those findings here. The Board also reiterates its findings regarding the ERPs set out in Section 8.3.3 and its outline of the safety measures during drilling and completions set out in Section 8.1.3. The Board does not accept that members of CEASE will be exposed to unacceptable levels of risk such that their rights under Section 7 of the *Charter* are infringed. Given the evidence regarding risk, as well as the very significant risk mitigation measures in place, which include multiple and overlapping safety measures that are part of the drilling and completions program for these wells, solid ERPs, and a clear commitment by Highpine to continue to work to update and improve its ERPs in this area, the Board is satisfied that these wells can and will be drilled safely.

Education of the Public

CEASE submitted that Highpine and the Board had not educated its members on what they should do if they live close to a well or if they were in the EPZ of a well and there were an emergency situation. CEASE submitted that this also amounted to a breach of the *Charter*.

Again, the Board reiterates its views of the ERPs set out in Section 8.3.3, as well as its views on public consultation set out in Section 6.3. The Board is of the view that members of CEASE have been provided with opportunities to learn about what they should do in the event of an emergency. Further, the Board notes that there are ongoing opportunities for members of CEASE and other members of the community to obtain information about how they should respond in the event of an emergency, and further, to provide information and input to Highpine regarding how its ERPs can be improved to deal with local or individual circumstances.

Provision of Personal Information

CEASE submitted that the need to provide personal information to an oil and gas company amounted to a breach of the liberty provision of Section 7 of the *Charter*.

The Board notes that the provision of personal information to Highpine is voluntary and there is no obligation on a resident to provide such personal information. If a resident objects to providing personal information, he or she may refrain from doing so. The Board notes that there is legislation in place to protect this information, such as the *Freedom of Information and Protection of Privacy Act* and the *Personal Information Protection Act*.

Changes to Daily Routine and Voluntary Relocation

CEASE further submitted that the need to make changes in daily routine and voluntary relocation of residents during sour operations also amounted to a breach of the liberty provision of Section 7 of the *Charter*.

The Board notes that any changes to daily routine by residents would be voluntary. By way of example, residents intending to go for a long hike on their property during sour drilling and completion operations may choose to advise Highpine of their estimated whereabouts in the unlikely event of an emergency. Provision of such information would be a choice, not an obligation, and while such ongoing communication would be helpful for the effective implementation of an ERP, the Board is satisfied that the ERPs can function effectively if residents choose not to alter their daily routines.

The Board does not accept that the voluntary relocation option offered to residents during operations in the sour zone amounts to the type of relocation considered by the Supreme Court in *Godbout*. The Board notes that Highpine has agreed to accommodate the relocation of residents during sour operations on a case-by-case basis if residents have health concerns. Relocation is voluntary and left up to the particular resident, and they are free to remain in their homes and carry on their usual daily activities during sour zone operations. The Board also understands that there is not a compulsory or prohibitive requirement upon residents during drilling and completions affecting their liberty. Relocation is only mandatory in the unlikely event of a level-2 emergency.

Prehearing Process

While CEASE did not raise the issue of fairness of the prehearing regulatory process in its Notice of Question of Constitutional Law, it did raise this issue during oral argument, arguing that the prehearing process was not in accord with principles of fundamental justice. The Board has therefore considered this issue.

CEASE submitted that there were issues with the Board's prehearing process that were not in accord with the principles of fundamental justice. CEASE noted that the Board refused to hold a prehearing in this matter. CEASE also submitted that it asked for a formal Information Request process, but the Board did not provide such a process. CEASE further submitted that it asked the Board to compel Highpine to provide certain information, but such information was not provided. Finally, CEASE noted that the timelines for the hearing and the preparation of expert

reports were too short. CEASE submitted that all of this was evidence of a process not in accord with principles of fundamental justice.

The Board does not accept this submission. The Board acknowledges that it did not hold a prehearing in this matter, as requested by CEASE. The Board carefully reviewed CEASE's request for a prehearing and did not accept that there were issues outstanding such that a prehearing was required. The Board does not hold a prehearing for every application and notes that prehearings are the exception, not the norm, for energy-related applications.

The Board notes that a formal Information Request process is not normally put in place for energy applications. Parties are encouraged to use the informal Information Request process contemplated by the *Energy Resources Conservation Board Rules of Practice*. This is precisely what occurred in this case. The Board notes that CEASE provided information requests to Highpine, and most of these information requests were answered. When CEASE subsequently asked the Board to compel that responses be provided to certain outstanding information requests, the Board carefully reviewed these information requests and determined that either responses had already been provided by Highpine or the requests were irrelevant to these applications.

The timeline for this hearing process was not atypical for energy hearings heard by the Board. The Board also notes that counsel for CEASE also has significant experience on sour gas applications in the Drayton Valley area and was engaged on these applications by mid-March 2008. The timeline for reports by CEASE experts was extended for a period of almost two weeks when it became apparent that CEASE had difficulty meeting the initial Board timeline.

The Board finds that an approval of these applications will not breach Section 7 of the *Charter* and that the regulatory processes with respect to these well applications have been in accordance with the principles of fundamental justice.

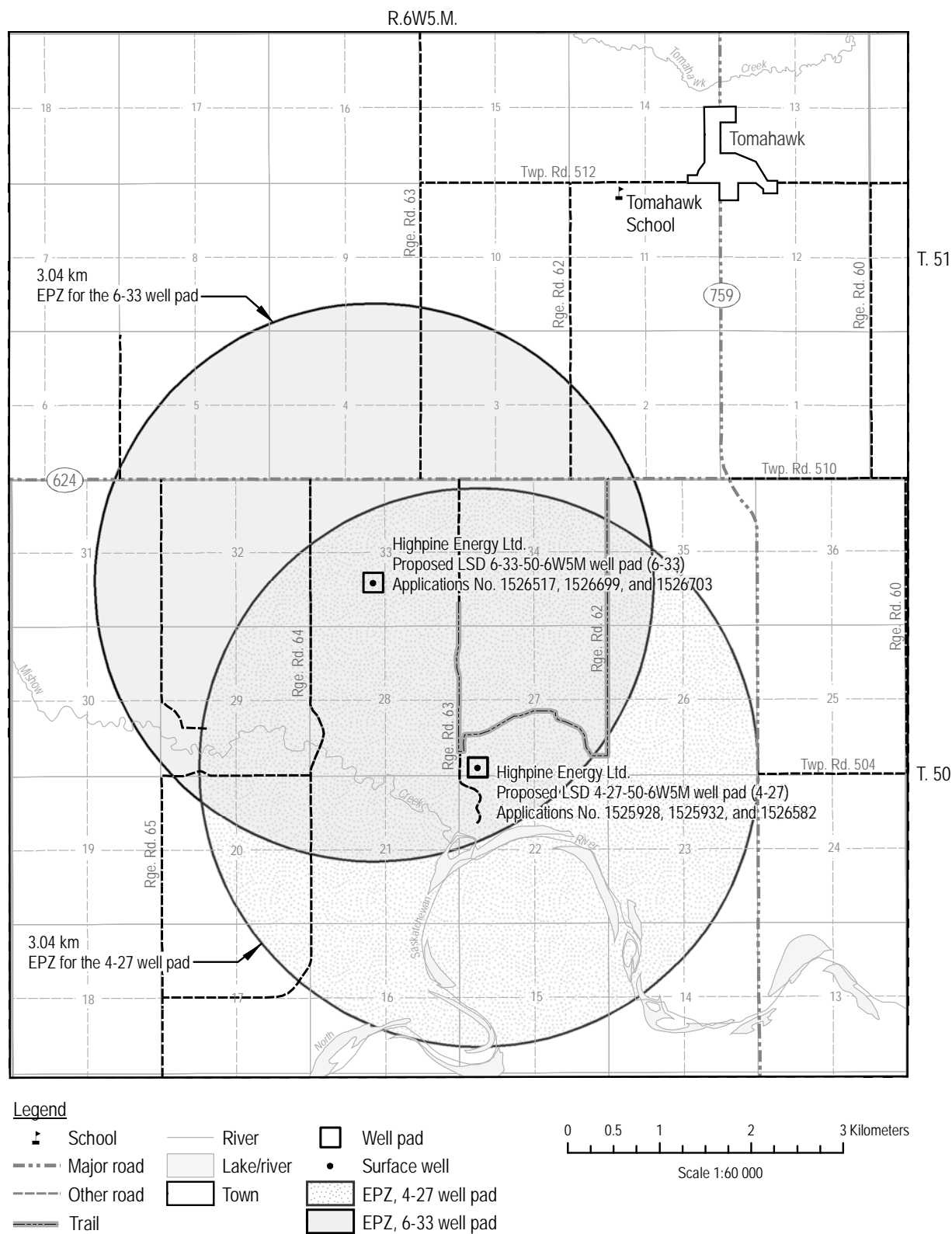


Figure 1. Area map