

## **ENERGY RESOURCES CONSERVATION BOARD**

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Calgary Alberta

### **BEARSPAW PETROLEUM LTD. APPLICATIONS FOR TWO WELLS AND TWO PIPELINE LICENCES CROSSFIELD FIELD**

**Decision 2009-023 Errata  
Applications No. 1462817, 1462821,  
1451117, 1457452, and 1509981**

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The Energy Resources Conservation Board (ERCB/Board) issued *Decision 2009-023* arising from the hearing that commenced on September 15, 2009, in Calgary, Alberta. The Board has since discovered an error in this document in Section 5.3: Findings of the Board, last paragraph. The paragraph in error states: “The Board does not agree with the request by the Forsters to impose a condition that would limit the production life to the well but would encourage Bearspaw to optimize recovery of the reserves. The Board would also not require the removal of the pipelines as t and would require the removal of the pipelines once surface development begins. The Board expects that Bearspaw will take steps to ensure that the production life of the well is optimized.”

This paragraph is corrected to read as follows:

“The Board does not agree with the request by the Forsters to impose a condition that would limit the production life of the well but would encourage Bearspaw to optimize recovery of the reserves. At this time, the Board will also not require the removal of the pipelines once surface development begins. The Board expects that Bearspaw will take steps to ensure that the production life of the well is optimized.”

The Board considers that the corrections to the paragraph as noted above properly reflect the evidence and the Board’s intention in *Decision 2009-023*. Therefore, the Board approves the above-noted correction to *Decision 2009-023*.

Dated in Calgary, Alberta, on February 19, 2009.

## **ENERGY RESOURCES CONSERVATION BOARD**

*<original signed by>*

M. J. Bruni, Q.C.  
Presiding Member

*<original signed by>*

C. A. Langlo, P.Geol.  
Acting Board Member

*<original signed by>*

F. Rahnama, Ph.D.  
Acting Board Member



# Bearspaw Petroleum Ltd.

Application for Two Wells and Two Pipeline Licences  
Crossfield Field

February 17, 2009

**ENERGY RESOURCES CONSERVATION BOARD**

Decision 2009-023: Bearspaw Petroleum Ltd., Two Wells and Two Pipeline Licences, Crossfield Field

February 17, 2009

Published by

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# ENERGY RESOURCES CONSERVATION BOARD

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Calgary Alberta

**BEARSPAW PETROLEUM LTD.  
TWO WELLS AND TWO PIPELINE LICENCES  
CROSSFIELD FIELD**

**Decision 2009-023  
Applications No. 1462817, 1462821,  
1451117, 1457452, and 1509981**

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## 1 DECISION

Having carefully considered all of the evidence, the Energy Resources Conservation Board (ERCB/Board) hereby approves Applications No. 1462817 and 1462821 and Application No. 1451117 as amended in the proceeding. Applications No. 1457452, 1509981, and 1509981 amended are denied.

## 2 INTRODUCTION

### 2.1 Applications

#### 2.1.1 Well Applications

Bearspaw Petroleum Ltd. (Bearspaw) submitted Applications No. 1462817 and 1462821, in accordance with Section 2.020 of the *Oil and Gas Conservation Regulations (OGCR)* to drill two gas wells in the Crossfield area. Application No. 1462817 is for a licence to drill a directional well from a surface location of Legal Subdivision (LSD) 16, Section 35, Township 23, Range 28, West of the 4th Meridian (16-35 well) to a bottomhole location of LSD 13-36-23-28W4M. Application No. 1462821 is for a licence to drill a vertical well from a surface location of LSD 9-2-24-28W4M (9-2 well). The purpose of both wells would be to produce natural gas from the Belly River Group with a maximum hydrogen sulphide (H<sub>2</sub>S) concentration of 0.0 moles per kilomole (mol/kmol), or 0.0 per cent. The proposed wells would be located respectively about 0.8 kilometres (km) southeast and 0.5 km east of the Town of Chestermere. See Figure 1 for a map of the proposed well locations.

#### 2.1.2 Pipeline Applications

Bearspaw also submitted Applications No. 1451117, 1457452, and 1509981, in accordance with Part 4 of the *Pipeline Act*, for approval to construct and operate two pipelines to be constructed within the same right-of-way. One pipeline would transport natural gas containing no H<sub>2</sub>S from the proposed wells at the 16-35 and the 9-2 surface locations to an existing battery located at LSD 7-33-23-28 W4M (7-33 battery). The second pipeline would transport oil effluent with an expected H<sub>2</sub>S content of 20.0 mol/kmol (2 per cent) from an existing oil well located at LSD 9-2-24-28W4M to the 7-33 battery. The existing 9-2 oil well is referred to in this document as the 9-2 oil well (bottomhole 10-2). Bearspaw submitted three alternative pipeline applications, requesting that one be approved. Application No. 1451117 is referred to as the proposed "Original Route," Application No. 1457452 as the proposed "Alternate Route 1," and Application No. 1509981 as the proposed "Alternate Route 2." Figure 1 shows Bearspaw's proposed pipeline routes.

During the proceeding, Bears paw submitted two amended applications that modified the pipeline routing in Application No. 1451117 (Original Route) and Application No. 1509981 (Alternate Route 2). The amendments were for a routing change to the proposed two parallel pipeline routes on the north side of the access road to the 7-33 battery. The amendments proposed a new routing of the pipelines to the north boundary of the southeast quarter of Section 33-23-28 W4M. These amendments were confirmed by ERCB staff to be technically complete and are referred to as the proposed “Original Route amended” and the proposed “Alternate Route 2 amended.” Bears paw obtained confirmation of nonobjection from all landowners, occupants, and residents for the route-change portion of the amended pipeline applications, as required by ERCB *Directive 056: Energy Development Applications and Schedules*.

## 2.2 Interventions

Several area landowners filed objections regarding one or more of the applications. Submissions were received prior to the hearing from

- Stanley H. Forster, Arline C. Forster, Vicki L. Worthen, and Monte S. Forster (the Forsters);
- Dan Meier, Mike Meier, and Deborah Meier (the Meiers);
- Young and Kalef Landowners:
  - Maurice Paperny, Dr. Mark Zivot, Deborah Zivot, Michael Shafron, Melissa Shafron, Tracey Sheftel, Danielle Sheftel, Rose Zivot, Annette Shafron, R. SIDJ Holdings Ltd., Harphil Investments Ltd., Ralph Gurevitch and Sheila Gurevitch, Philip Libin and Harriet Libin (the “Young Landowners”), and
  - EIN-GEDI Investments Ltd., Lissette Holdings Ltd., Aviva Holdings Ltd., Libtel Investments Ltd., Leotel Holdings Ltd., Natanya Investments Ltd., Haifa Investments Ltd., Cartradan Holdings Ltd., Miktel Holdings Ltd., and Madacalo Investments Ltd. (the “Kalef Landowners”);
- Ray Blanchard;
- Glen Clarke, Katherine Clarke, and Gail Clarke (the Clarkes);
- L. Jane Hawkins, Maureen S. Hawkins, Kelly L. Warrack, and Carolyn Hurst (the Hawkins and Hurst Families);
- Margaret B. Scott and Earl H. Scott (the Scotts);
- Bill Deniger and Carolyn Deniger (the Denigers); and
- Wayne Mikkelsen.

All of these parties own land or reside on a portion of land along one of the proposed pipeline routes. The Forsters also own the land on which the proposed 16-35 well would be located. Figure 2 shows the interveners’ land holdings.

## 2.3 Background

Bears paw was granted a licence for the existing 9-2 oil well (bottomhole 10-2) in March 2002. Since then the well has been completed and flow tested and is ready to commence operation.

Bears paw applied in March 2006 for two gas wells, the proposed 16-35 and the 9-2 wells. As the 9-2 well is uncontested, it is not discussed in detail in this decision report.

Bears paw submitted the pipeline application associated with the wells, later named the Original Route, in March 2006. Due to stakeholder concerns about the pipeline routing, Bears paw submitted the proposed Alternate Route 1 pipeline application in April 2006. About one year later, in April 2007, Bears paw submitted a third proposed pipeline route, Alternate Route 2. By submitting applications for three separate pipeline routes, Bears paw allowed for a comparison of routes and the determination of the “best” or preferred route. All of the pipeline applications were reviewed by the ERCB and considered to be technically complete.

During the application process for the three proposed pipeline routes, the ERCB emergency response procedures as set out in *Directive 071: Emergency Preparedness and Response Requirements for the Petroleum Industry* (July 2008) were revised by the Board. The ERCB requested Bears paw to perform the necessary emergency response zone (EPZ) calculations using the updated ERCBH2S model (version 1.19) to support the sour oil effluent pipeline proposed in Applications No. 1451117, 1457452, and 1509981. This update resulted in all of the routes requiring an EPZ of 90 m and required that Bears paw have an approved site-specific emergency response plan (ERP). Bears paw submitted this ERP to the ERCB, which determined it to be technically complete in accordance with the July 2008 edition of *Directive 071*.

## 2.4 Hearing

The Board held a public hearing in Calgary, Alberta, starting on September 15, 2008, before Presiding Board Member M. J. Bruni, Q.C., and Acting Board Members C. A. Langlo, P.Geol., and F. Rahnama, Ph.D. All of the intervening parties listed above were represented at the hearing, except for the Scotts. The Mayor of the Town of Chestermere, Mayor P. Matthews, presented a submission at the hearing on behalf of the Town of Chestermere.

The hearing continued over nine days, concluding on October 22, 2008. The Board and ERCB staff conducted a site visit on September 16, 2008.

To ensure that the Board had a thorough understanding of the area, the Board and staff, some of the interveners, and Bears paw took part in a further site visit of the project area and toured the three proposed pipeline routes, the amended pipeline routes, the 16-35 well site, and the 7-33 existing battery tie-in site on September 25, 2008.

On October 3, 2008, an “in camera” session was held within the hearing to deal with confidential information relating to the proposed 16-35 well.

At the conclusion of the oral portion of the hearing, Bears paw and the Forsters were required to complete undertakings to provide additional information. Submission of this information was completed on November 19, 2008, and the hearing was closed November 20, 2008.

Those who appeared at the hearing are listed in Appendix 1.



### **3 ISSUES**

The Board considers the issues respecting the applications to be

- need for the wells and pipelines
- location of the wells and pipeline route
- land use and future development in the area
- public safety
- environmental concerns and wetland protection
- public consultation

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 report to specific parts of the record are intended to assist the reader in understanding the Board's reasoning related 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**

Bears paw is the owner of the mines and minerals under Sections 2-24-28W4M and 36-23-28 W4M. Bears paw estimated that the reserves underlying these lands were 191 000 barrels of oil equivalent (MBOE) and could result in royalties to the province of about \$3.8 million over ten years of production. Bears paw argued that there were significant reserves underlying the above sections to warrant its proposed exploration activities and that the royalties to the province were significant and in the public interest.

Bears paw applied for well licences for the 16-35 and the 9-2 wells to recover these reserves and estimated that the productive life of each well was in the range of 8 to 25 years. Bears paw stated that if the applications were approved, its intention would be to drill the 16-35 well prior to drilling the 9-2 well.

#### **4.2 Views of the Interveners**

The interveners did not dispute the need for the wells, although the Forsters argued that if the 9-2 well were drilled prior to drilling the 16-35 well, depending upon the success of the 9-2 well, there might not be a need to drill the 16-35 well.

#### **4.3 Findings of the Board**

One of the purposes of the *Oil and Gas Conservation Act (OGCA)* is to provide for the economic, orderly, and efficient development of the oil and gas resources of Alberta in the public interest.

The Board accepts that Bears paw owns mineral rights under Section 36 and notes that Bears paw believes that there are potential recoverable reserves under the section. The Board further accepts that Bears paw is entitled to drill a well to access those minerals and concludes that there is a need for the wells. The Board also accepts that the proposed wells will generate royalties to the province and believes that the wells are in the public interest.

The Board understands and accepts that Bears paw will likely drill the 16-35 well prior to drilling the 9-2 well.

## **5 LOCATION OF THE 16-35 WELL**

### **5.1 Views of the Applicant**

Bears paw believed that the proposed surface location of the 16-35 well met the requirements of the relevant legislation, including ERCB directives, and that the well was in the public interest.

Bears paw submitted that it selected the surface well location for the 16-35 well based on an evaluation of geology and engineering factors. It stated that it considered factors such as surface access, ability to reach the bottomhole target, and technical issues related to the distance between the surface and bottomhole locations. Technical parameters considered included wellbore deviation limitations for logging purposes, the wellbore intersecting the Belly River Formation vertically, and drilled and cased costs and limitations to horizontal displacement. Bears paw stated that it would not consider a bottomhole location greater than 300 m away from the surface location.

Bears paw believed that the applied-for surface location at 16-35 was the best location from both a technical and landowner impact perspective. Bears paw also argued that not owning the minerals under Section 35 should not impede it from drilling a directional well to reach its minerals under Section 36. With respect to this jurisdictional issue raised by the Forsters, Bears paw considered the ERCB to have the jurisdiction to deal with this matter under Section 94 of the *OGCA*.

Bears paw stated that it preferred the 16-35 surface location due to the relatively shallow target and the distance required for directional drilling and said that it was the best option for drilling in order to drain reserves in Section 36. Bears paw stated that it did not consider that the alternative well site locations proposed by the Forsters<sup>1</sup> (as shown in Figure 2) coincided with the orderly and efficient development of its resources.

Bears paw contested the Forsters' assertion that a surface location 800 m east of the 16-35 well location would be superior. Bears paw felt that drilling from that location and reaching a relatively shallow target could be difficult and might require more surface disturbance because of the configuration of the available land. Bears paw also stated that drilling from that location would likely be problematic due to the long reach required to hit the desired target. Bears paw felt that the terminal angle required to reach its target would create problems, such as impacts on its ability to log the well and additional costs associated with evaluation, casing, and cementing.

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<sup>1</sup> Bissett Resources Consultants Ltd., *Bears paw Crossfield 13-36-23-27 LS16, SEC 35, TWP 023, RGE 28, W4M, Alternative Surface Locations, Determination Report*, September 25, 2008, revised.

Bears paw reviewed and evaluated the eight alternative surface locations suggested by the Forsters and noted that locations 3 through 8 were proposed to be drilled using slant drilling technology, which it stated it had not considered due to the added expenses and risk associated with slant wells. Bears paw considered locations 1 and 2 to be feasible from a directional drilling perspective; however, it felt that these locations should not be considered due to public safety implications, lease size restrictions, and setback requirements. Bears paw also noted that locations 7 and 8 were proposed in wetlands, which it did not consider as appropriate surface locations to drill from.

Bears paw concluded that the alternative surface locations provided by the Forsters were inferior and that the optimal surface location was the proposed 16-35 surface location. Bears paw argued that this surface location would provide the least linear disruption and environmental disturbance, as it was through an existing approach directly north of the proposed well. Additionally, it believed that this location would be of the least concern regarding public safety, because it was situated in a grain field between two gravel roads, with no residences nearby.

Regarding the Forsters' view that the 9-2 well should be drilled first, Bears paw stated that it would most likely drill the 16-35 well first in order to obtain more geological data regarding the pool in question and to avoid off-target penalties.

Bears paw confirmed that it had originally applied to drill a well from the 16-35 surface location in July 2004, but subsequently withdrew the application in October 2004, once it became aware that certain stakeholders had concerns regarding land development plans for the area. Bears paw stated that it decided to resubmit the well application as part of the proposed development in its entirety. Bears paw submitted that this would allow parties to better understand the total area development proposed and the aggregate effects and to make their concerns known in a single proceeding.

Regarding the Forsters' assertion that a well at 16-35 would negatively impact present farming operations, Bears paw submitted that these impacts would be compensated for pursuant to the *Surface Rights Act*. Bears paw agreed with the Forsters that at some time, development would move south from the Town of Chestermere towards the 16-35 location and development potential would increase, given the proposed annexation of certain lands in the area by the town. However, Bears paw did not agree with the Forsters that the existence of the surface location of 16-35 would delay or foreclose development of their lands. Bears paw felt that there would be minimal interruption to any proposed urban residential development on the Forsters' lands.

Bears paw committed to continue to work with the Forsters and all parties affected by the development to minimize any impacts to the extent possible and to keep affected parties informed of the progress on the project. Bears paw also committed, should EnCana Corporation (EnCana) choose to exercise its Section 35 mineral interests, to work with EnCana and the Forsters to minimize any effects should additional drilling need to take place on the Forsters' lands.

Bears paw also believed that there was a window of opportunity to produce the resources before the land-use matured in the area. It also stated that it had not considered opportunities to accelerate production for the wells in question. Because the wells were shallow, it was Bears paw's view that the only way to expedite production was by drilling more wells, which in

turn would require more facilities and associated traffic. Bears paw believed that this was not an option in an area where landowners were already sensitive to oil and gas production.

Bears paw did not agree with suggestions that there should be a time limit placed on the production of the wells.

Bears paw confirmed that it would notify the Clarkes when drilling would take place to ensure that they were aware of the rig in the area.

## **5.2 Views of the Interveners**

Most of the interveners did not comment on the location of the 16-35 well. The views of those who did follow.

### **5.2.1 Views of the Clarkes**

The Clarkes asked that the 16-35 well application be denied. They believed that the present use of their aerodrome would be impacted during drilling operations, as the well site would be directly in line with their runway. In response to Bears paw's questions on whether or not takeoff and landing could approach the runway from the opposite direction, the Clarkes argued that the prevailing wind direction and the presence of an existing electric transmission line to the east of the runway created safety issues that required an east-to-west approach. The Clarkes felt that the presence of a drilling rig and the eventual well to the southeast would create an additional hazard for pilots that could not be remedied by approaching the runway from the opposite direction.

### **5.2.2 Views of the Forsters**

The Forsters asked that the well application for the 16-35 well be denied. They submitted that

- Bears paw had failed to properly assess alternative sites for the well;
- the Board did not have the jurisdiction to approve surface locations for wells drilling into mineral leases under adjacent sections of land;
- the future or intended use of the Forsters' property would be negatively impacted by the presence of the 16-35 well, regardless of whether it proved successful; and
- the Board had a history of decisions that placed conditions on licences that limited production in order to protect the landowner, and it ought to impose similar conditions on Bears paw should the Board choose to approve the proposed development.

The Forsters submitted that it was the applicant's obligation, especially in a case where a landowner objected and had proposed alternative sites, to undertake a bona fide effort to evaluate alternative surface locations for the well. The Forsters argued that this had not occurred and they therefore asked that the Board deny the 16-35 well application. The Forsters felt that contrary to accommodating its concerns, Bears paw wanted the Forsters, as landowners, to make all of the concessions.

The Forsters' argued that the 16-35 surface location was not the only location that could be used to reach a bottomhole target in Section 13-36. The Forsters stated that in their initial discussions with Bears paw, they had suggested a location about 800 m east on the other side of the canal, in

the northeast corner of Section 36. They argued that it was not appropriate to recover reserves under Section 36 from a location on their lands. The Forsters identified eight potential alternative surface locations and nine potential drilling scenarios, which they felt would allow Bears paw to reach its optimal bottomhole location in Section 36. The Forsters submitted that out of the nine potential drilling scenarios, two were directional well profiles and seven were slant well profiles and that they believed that all of the well profiles complied with Bears paw's set parameters.

The Forsters submitted that Bears paw did not provide any empirical evidence to show that it had reviewed alternative well sites. They argued that Bears paw had only conducted some rudimentary internal evaluations and noted that Bears paw's assessment of alternative sites unnecessarily restricted potential sites to within 300 m of the bottomhole location.

The Forsters argued that all of the alternative surface locations they identified would have a minimal impact on drilling and casing costs. They did, however, acknowledge that they had not considered completion and or workover costs associated with any of their alternative surface locations. The Forsters concluded that there would be no increased risk and little increased cost to Bears paw to drilling the 16-35 well from an alternative site.

The Forsters concluded that they would prefer to have the 16-35 well located farther to the west on the low-lying portions of the land adjacent to the wetlands, where there were natural green spaces.

The Forsters also questioned the Board's jurisdiction to impose a surface location for a well on its lands when Bears paw did not own the mineral leases under the land. They argued that the Board's jurisdiction to do this was not expressly stated in the legislation. They also noted a perceived absence, subject to further review, of any cases where the Board had in the past granted approvals for a surface location overlying the mineral rights held by another company.

The Forsters submitted that they expected that Section 35 would soon be annexed into the Town of Chestermere and that the land would be in full development mode within three to four years. The Forsters indicated that they intended to develop their lands as high-density urban residential and submitted that they believed that the well site would sterilize portions of their land from development.

The Forsters indicated that they had waited many years for the opportunity to develop their lands and considered that the land was now ripe for development, given the prospect of annexation and the fact that it would soon have access to a new regional water line to be located along the northern property boundary of Section 35.

The Forsters argued that the 16-35 well location effectively precluded development of the most desirable area of their property. They pointed out that a location in the northeast corner of the land, which was the highest topographically, would limit development in an area that they believed was the best for future residential development, given that it had views of both the City of Calgary and the mountains to the west. They argued that even if the well were not successful, regulations would require that access to the well site must be maintained and therefore some portion of the land would be sterilized indefinitely.

The Forsters argued that if a well were drilled on Section 35, in the normal course of land development it would eventually be surrounded by more dense residential development during the productive life of the well than would be the case if the well were drilled on Section 36, where country residential density existed.

The Forsters submitted that the 16-35 well was a wildcat exploratory well, and they believed they were at risk of having a dry well on their land in the event that the well was unsuccessful. The Forsters believed that Bears paw did not want to drill the 9-2 well first so that it could avoid off-target penalties.

The Forsters pointed out that the surface location of the well was on Section 35 and Bears paw did not hold the mineral rights underneath Section 35. They suggested that if the 16-35 well were successful, EnCana Corporation, the owners of the Section 35 mineral rights, would be induced to develop its interest, potentially resulting in more wells on their land.

The Forsters argued that fairness dictated that the Board consider not only Bears paw's specific application, but also all likely impacts on affected landowners from the development of the total pool, including a probable EnCana well on Section 35. They asked the Board to take into account the maximum impact on land and property values when making its decision on whether to approve Bears paw's proposed development.

The Forsters also felt that the life expectancy of the wells of eight to twenty-five years would overlap with their proposed development timeline of three to four years. The Forsters requested that if the Board were to approve these applications, it should consider a condition of the approval that Bears paw stop production and remove the pipeline and well infrastructure at Bears paw's expense once urban residential development commenced on the Forsters' land. Specifically, the Forsters requested that an expiry date be applied to the well licences, subject to renewal or review or to evidence that the lands were developed, and that any and all infrastructure be removed upon completion of production and/or start of surface development.

The Forsters indicated that they did not favour accelerated production if that required drilling additional wells.

### **5.3 Findings of the Board**

The Board disagrees with the Forsters' proposition that the Board's jurisdiction to consider a well application and its proposed surface location is limited to circumstances where the applicant for the well holds the corresponding mineral rights for the same tract of land.

Section 94 of the *OGCA* grants the Board the exclusive jurisdiction to consider all matters and questions in relation to all matters arising under the act including wells. One of the express purposes of the *OGCA*, stated in Subsection 4(a), is "to secure the observance of safe and efficient practices in locating, spacing, drilling and equipping, constructing, completing, reworking, testing, operating, maintenance, repair, suspension and abandonment of wells and facilities and in operations for the production of oil and gas." The surface location of a well is also a relevant consideration when determining whether the well is in the public interest, having regard to the social, economic, and environmental effects of the well. Given the foregoing, the Board is of the view that it has the jurisdiction to consider and approve a well licence for a

surface location whether the location is above the targeted mineral rights or is adjacent to the tract of land containing the mineral rights. The Board also is aware that it is common practice in the oil and gas industry to directionally drill using an adjacent surface location.

When considering any application for oil and gas facilities proposed for privately held lands, the Board must balance the right of the surface holder with the rights of the mineral holder and account for the public interest associated with the economic development of Alberta's energy resources. If a surface holder has concerns regarding the location of a well on his land, the Board expects that the applicant will take reasonable steps to investigate appropriate alternatives.

Having determined that there is a need for the proposed well to recover potential reserves under Section 36, the Board must consider whether 16-35 is an appropriate surface location for the well.

The Board acknowledges that it may be technically feasible to drill the proposed 16-35 well from other surface locations. The Board also believes that the onus is on the applicant to provide sufficient evidence to substantiate that its proposed well location is appropriate. The Board is satisfied that alternative well sites were sufficiently considered by Bears paw and were fully explored during the hearing. The Board agrees that the selection process should be as transparent as possible to the landowner.

The Board is of the view that Bears paw's decision to drill the 16-35 well before the 9-2 well is a business matter, consistent with ERCB practices, and accepts Bears paw's decision.

The Board recognizes that the potential exists for the Forsters' land to be under development within the estimated eight- to twenty-five-year production life of the 16-35 well. The Board acknowledges the Forsters' concern that even a dry well or an abandoned well may have some setback requirements, but believes that these can be accommodated during the development planning process. The Board also recognizes the Forsters' concern that EnCana may also apply to drill a well on the Forsters' property should the 16-35 well prove successful. However, the Board notes that a potential EnCana well is not part of this proceeding, as it would require an approval by the Board under a separate proceeding and it would only be approved on its own merits. The Board notes that the Forsters did not provide any confirmed development plans and believes that the well site can be integrated with the Forsters' land development plans. Therefore, the Board concludes that the well site can coexist with whatever type of future development takes place on the Forsters' lands, be it light industrial or urban residential. The Board also notes that impacts associated with the well site will be compensated for pursuant to the *Alberta Surface Rights Act*.

The Board accepts Bears paw's commitment to work with EnCana and the Forsters to minimize any effects should EnCana choose to exercise its Section 35 mineral interests and seek to drill a well on the Forsters' lands.

The Board is satisfied that Bears paw's 16-35 well site is the superior location, given the amount and location of current surface development in the area. In the Board's view, the Forsters have not demonstrated that any of their other proposed well sites are clearly superior to that proposed by Bears paw. The Board concludes that there is no compelling reason why Bears paw should not

be able to directionally drill from the Forsters' land to reach its minerals under the adjacent section.

The Board expects Bears paw to honour its commitment to work with the Forsters to ensure that the well location can be situated, to the extent possible, in a manner that best meets the needs of development and minimizes any impacts.

The Board does not agree with the request by the Forsters to impose a condition that would limit the production life of the well but would encourage Bears paw to optimize recovery of the reserves. The Board would also not require the removal of the pipelines as t and would require the removal of the pipelines once surface development begins. The Board expects that Bears paw will take steps to ensure that the production life of the well is optimized.

## **6 NEED FOR THE PIPELINES**

### **6.1 Views of the Applicant**

Bears paw applied for two pipelines to transport oil and gas from three wells in the Chestermere area. Bears paw applied to construct and operate the pipelines within the same right-of-way to an existing battery at LSD 7-33-23-28W4M.

Bears paw stated that the applied-for natural gas pipeline was necessary to transport natural gas produced from the proposed 9-2 and 16-35 wells. Bears paw stated the second pipeline was needed to transport sour oil effluent from the existing oil well at the 9-2 surface location (10-2 bottomhole). Through its public consultation program, Bears paw understood that transportation of the oil effluent from the existing 9-2 oil well (10-2 bottomhole) by pipeline was preferred over trucking. Bears paw believed that using a pipeline rather than trucking would prevent or reduce noise, long-term flaring, odour, and some potential for associated complaints at the existing 9-2 oil well. It also noted that the landowner agreements for the existing 9-2 oil well were contingent on production from the well being transported by pipeline.

### **6.2 Views of the Interveners**

The interveners did not contest the need for the pipelines, although the Denigers considered that trucking the oil effluent from the existing 9-2 oil well (10-2 bottomhole) might be more acceptable.

### **6.3 Findings of the Board**

The Board accepts the need for the pipelines to transport production from the wells located in Sections 2 and 35, as noted above. The Board also acknowledges the agreement between Bears paw and the landowner in Section 2 regarding the preference for pipeline versus trucking of oil production and believes that pipelining is a preferred option.



## 7 PIPELINE ROUTE

### 7.1 Views of the Applicant

Bears paw stated that all of the proposed pipeline routes were technically complete and met all statutory and regulatory requirements. Bears paw submitted that each of the proposed routes could be approved; however, it selected Alternate Route 2 amended as its preferred route. Bears paw agreed with the Hawkins and Hurst Families' request to amend its pipeline routing on their lands.

#### **Pipeline Route Selection**

Bears paw submitted that its process for selecting a preferred route was based on a test defined by past Board decisions.<sup>2</sup> Bears paw argued that the standard was for an applicant to demonstrate that the preferred route was "clearly preferable" and that there would need to be compelling evidence to the contrary to show that the route chosen was not the preferable one or should not be approved. Bears paw suggested that the Board, when considering alternatives, must satisfy itself that a "clearly superior" alternative did not exist.

Bears paw argued that when selecting a route, an applicant was obligated to balance its interest in successfully developing its resource with the interests of those surface owners who may be affected by such development. Bears paw submitted that the applicant must show that it had conducted a form of due diligence, research, and analysis to determine a preferred route. It concluded that it had done this and that its analysis had clearly identified Alternate Route 2 as its preferred route.

Bears paw submitted that it had relied upon the expert report of Mr. Berrien<sup>3</sup> to test each proposed pipeline route option. Bears paw stated that the Berrien report used criteria developed through Bears paw's consultation efforts and that the assessment relied on both stakeholder input and Mr. Berrien's knowledge and experience.

Bears paw submitted that through its third-party stakeholder consultation process, it had identified 27 relevant criteria to be used in evaluating the route options. Bears paw stated that it had relied on Mr. Berrien's experience in right-of-way planning and impact assessment to analyze and consolidate the full list of criteria. Bears paw concluded that the most important criteria, in descending order of importance, were to avoid or minimize effects on developments, follow existing linear disturbances, and ensure land-use efficiency. On this basis, Bears paw concluded that Alternate Route 2 was clearly superior and should be accepted by the Board as the preferred route.

#### **Impacts on Land Development**

Bears paw submitted that when the future was considered, all of the proposed routes would, to a greater or lesser degree, be near people and development. Bears paw submitted that given the proximity of the lands to the urban centre of Chestermere and the extent of land-use planning

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<sup>2</sup> Alberta Energy and Utilities Board *Decision 2007-055: Bears paw Petroleum Ltd., Application for Two Pipeline Licences, Crossfield Field*, July 24, 2007; *Decision 2007-065: Defiant Resources Corporation, Application for a Well Licence and a Pipeline Licence, Grande Prairie Field*, August 28, 2007.

<sup>3</sup> Berrien Associates Ltd., *ERCB Chestermere Pipeline Project, Pipeline Route Analysis*, letter to Bears paw Petroleum Ltd., June 5, 2008.

under way during the time that it evaluated its exploration and development alternatives, future land use and development played a major role in determining route selection. However, Bears paw believed that all of the proposed pipeline routes could be integrated with surface developments and noted that placing the pipelines parallel to an existing linear surface disturbance, such as a road or railway, could reduce the impact.

Bears paw submitted that Alternate Route 1 would have the highest impact, as it cut through the middle of unobstructed future development land, wetland, and possibly storm ponds. It submitted that the Original Route would have potential land development on one side but was the shortest route in terms of pipeline length. Bears paw acknowledged, however, that the pipeline right-of-way along the Original Route would need to be placed adjacent to existing rights-of-way, resulting in an additional setback area. Bears paw submitted that Alternate Route 2 would have the least impact on land use, as it would only have an impact on one side of the railway and the pipeline right-of-way could, for the most part, be located within the buffer that already existed for the railroad.

Bears paw also noted that as lands were developed in the overall Chestermere area, future utilities such as gas, phone, power, water, and storm and septic lines, would spider web through developed areas. Therefore, it argued that the most desirable situation would be to route pipelines on the periphery of future urban developments, where utility lines were least likely to run. It suggested that this supported Alternate Route 2 as the preferred route.

### **Following Existing Linear Disturbance**

Bears paw submitted that it was an industry best practice to follow preexisting linear disturbances, which it noted both Alternate Route 2 and the Original Route did. Alternate Route 2 tracked the railway on its east-west portion, and the Original Route followed Township Road 240 (future expansion of Peigan Trail into the City of Calgary). Alternate Route 1 would create a new linear disturbance.

Bears paw argued that the railway was a preexisting linear disturbance that was not likely to change. It noted that the right-of-way for railways was frequently exactly as existed for 100 years. On the other hand, Bears paw argued that while a road was a good preexisting linear disturbance, it could be moved, widened, and modified as interchanges and service roads were built.

Bears paw also stated that it had considered opportunities to share a right-of-way with other right-of-way holders once a pipeline permit was obtained. Bears paw noted that it had already held discussions with ATCO and the Canadian National Railway, but these parties preferred not to continue the discussions until a route had been approved.

### **Land-Use Efficiency**

Bears paw argued that efficient use of land had many definitions and interpretations, such as the least expensive, shortest with least acres of right-of-way, least setback, and minimal interaction with incompatible land uses. It could also relate to lower costs of mitigation and minimize any

dealings with others.<sup>4</sup> However, while Bears paw argued that the surface impacts would be less with Alternate Route 2, it noted that there was no evidence to suggest that the surface impacts on the other routes were such that they could not be compensated for or so extreme that the project would not be in the public interest.

Bears paw noted that the Original Route was shortest and would sterilize the least amount of land. However, it also pointed out that the pipeline right-of-way along the Original Route would be added to the 30 m road setback from Township Road 240. Bears paw submitted that when the 30 m road setback was combined with the 15 m pipeline right-of-way, the potential for land to be sterilized from residential development due to setbacks was greatest along the Original Route.

Bears paw suggested that the issues of line length, cost, and timing of impact were subsumed in the first two criteria. It noted that Alternate Route 2 would most likely be encountered first by any future development. However, it suggested that because the land was adjacent to transportation links, the land along the railway would likely be a preferred location for light industrial development. Bears paw submitted that if these lands were ultimately zoned as light industrial, a pipeline along Alternate Route 2 would result in minimal impacts. It further argued that should residential uses materialize along this route, it would be reasonable to expect that the pipeline right-of-way would be located within the existing buffer from the railway.

Bears paw also noted that the degree to which a pipeline would be easily accessible for maintenance and inspection or in an emergency was also an important consideration. It noted that the Original Route paralleled a road and would have better accessibility.

### **Wetlands**

When considering the length of pipeline running through wetland areas, Bears paw submitted that Alternate Route 2 was the better route. Using interpretations of air photos and maps, Bears paw determined that Alternate Route 2 would traverse 400 m of wetlands, compared to Alternate Route 1 at 500 m and the Original Route at 1100 m. Bears paw submitted that Alternate Route 2 would impact the least amount of Class IV wetland area.

Bears paw also submitted a report by Ghostpine Environmental Services Ltd. (Ghostpine), which determined specific wetlands by conducting a field assessment of the wetland areas along each of the proposed routes. The Ghostpine report determined that Alternate Route 2 would traverse the most wetlands by number, distance, and area of right-of-way, based on a 15 m right-of-way for the pipelines. Alternate Route 2 would traverse 8 separate wetland areas, totalling 1744 m and 2.77 hectares (ha). In comparison, the Original Route would traverse 7 wetland areas, with a total of 1403 m and 2.11 ha. Alternate Route 1 would traverse 6 wetland areas, with a total of 600 m and 0.92 ha. The Ghostpine report further described traversed distances through wetlands by class, as identified in Section 10.1 of this report. The Ghostpine report determined that Alternate Route 2 would traverse the least amount of Class IV wetland area, at 0.53 ha.

Bears paw stated that based on the view of its consultants, Alternate Route 2 was its preferred route. The consultants argued that the wetlands identified along Alternate Route 2 in the

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<sup>4</sup> As described in Analysis and Discussion of Criteria Evaluation, #17 Efficient Use of Land, p. 3, which was contained as an appendix to Berrien Associates Ltd., *ERCB Chestermere Pipeline Project, Pipeline Route Analysis*, letter to Bears paw Petroleum Ltd., June 5, 2008.

Ghostpine report might not be an accurate representation of wetlands that would be affected by the actual pipeline. Based on the linear aspect of the wetlands paralleling the railway, Berrien and the Ghostpine report felt there was the potential that the actual pipeline could be located south, outside of some of these wetland areas. Berrien argued that it could not determine if Alternate Route 2 would actually traverse the suggested wetland areas until the pipeline was surveyed and staked. In addition, at the time of the assessment, Ghostpine had not been granted access onto the lands and therefore observed the wetland areas from a distance, necessitating it to approximate wetland size and proximity to the proposed route. Therefore, the Ghostpine report recommended that the wetlands be reassessed later when a more accurate assessment could be made.

Bears paw admitted that it had not requested permission from the potentially affected landowners for it or Ghostpine to access lands specifically to conduct the wetland assessment. Bears paw noted that it spoke with Ghostpine's biologists, who believed that walking close to the proposed lines provided sufficient access to conduct the initial assessment. For example, Ghostpine walked the railway line to assess wetlands along Alternate Route 2.

Specific to Alternate Route 2, the Ghostpine report and Berrien identified that the route would follow alongside an existing linear disturbance, the Canadian National Railway line, which they noted had been constructed over 100 years ago. Bears paw argued that the *Alberta Provincial Wetland Restoration/Compensation Guide* described compensation and restoration as a process to help reduce the loss of naturally occurring wetlands. "Naturally occurring" was defined as an area where water has or does accumulate to elevations documented to have occurred under natural conditions. Bears paw noted that the wetlands located along the railway might not be naturally occurring.

Regardless of the origin of these wetlands, the Ghostpine report noted that the wetlands along Alternate Route 2 were functioning. However, Ghostpine was unable to comment on the quality of these wetlands in comparison to those found along Alternate Route 1 or the Original Route.

## **7.2 Views of the Interveners**

### **7.2.1 Views of Mr. Blanchard**

Mr. Blanchard indicated that his preference for the pipeline was the Original Route, suggesting it would be more easily accessible for maintenance and emergency purposes. He also noted that it was the shortest route and therefore likely less costly than Bears paw's preferred route (Alternate Route 2).

Mr. Blanchard stated that locating the pipeline along Alternate Route 2 would have an impact on his land use. He indicated that it was his intention to make his land available for a park and suggested that if the land were sterilized for residential development because of the pipeline right-of-way, the municipality would be less inclined to designate his land as parkland, it would want to maximize developable land. He also suggested that development was a lot more imminent north of Township Road 240 than on the lands south of the road.

Mr. Blanchard stated that he did not believe that Bears paw took into account the recreational use that occurred in the vicinity of the railway line and was concerned about the safety aspects of a

sour oil pipeline in this area. He noted that there was a lot of foot traffic in that area for hiking, dog walking, bicycling, hunting, skiing, tobogganing, and snowmobiling.

Mr. Blanchard agreed that the pipeline should follow an existing linear disturbance; however, he pointed out that the road along the Original Route was also a preexisting linear disturbance, with truck and vehicle traffic. He suggested that the disturbance caused by the road, particularly once the expansion of Peigan Trail proceeded, would be worse than the railroad.

### **7.2.2 Views of the Hawkins and Hurst Families**

The Hawkins and Hurst Families requested an amendment to the Original Route and Alternate Route 2 for the portion of the lines that would transverse their property on the southeast quarter of Section 33-23-28W4M. They requested that Bears paw move the alignment on their property to follow the north fence line and enter the property at the northeast corner and travel west as far as possible before turning south to connect with the existing 7-33 battery. The Hawkins and Hurst families also suggested that the existing lease road and facilities be moved to the north boundary in order to minimize the impact of the infrastructure on their lands and open up potential land development opportunities. However, they acknowledged that Bears paw did not own the existing facilities.

The Hawkins and Hurst Families stated that they preferred the Original Route amended for safety and technical reasons, including emergency response planning. They also submitted that they strongly objected to Alternate Route 1, as it would sterilize up to six more acres of their land than the other alternatives.

### **7.2.3 Views of the Forsters**

The Forsters suggested that if the Board determined there was a need for the pipeline, it should locate the pipeline in the area of least disturbance from a land development perspective. The Forsters supported the rationale in the Berrien report for selecting Alternate Route 2 as the preferred route. They further suggested that the Board should not reject Bears paw's preferred location for the pipeline unless the Board had satisfied itself based on the evidence that a clearly superior alternative pipeline route existed that would cause it to reject the applied-for route. The Forsters stated that the Board had applied this standard in the past and therefore it must again apply the standard in this case.

### **7.2.4 Views of the Meiers**

The Meiers highlighted a number of the criteria and the analysis in the Berrien report to support Alternate Route 2 as their preferred route. The Meiers also argued that Alternate Route 1 was the longest route and would impact the greatest amount of land in terms of the potential for future development. They pointed out that Alternate Route 1 would affect more than double the amount of land than the Original Route or Alternate Route 2. The Meiers also pointed out that Alternate Route 1 would run through the heart of planned future development and therefore had the greatest potential to have human habitation on both sides of the east-west portion and the greatest number of landowners within emergency planning zones.

The Meiers acknowledged that land along Alternate Route 2 would be encountered first as development moved south of the Town of Chestermere, but noted Bears paw's position that its location next to the railway and other transportation routes put it in a locale suited to light industrial use. On this basis, the Meiers concluded that the pipeline might only have a minimal impact on land development in this area.

### **7.2.5 Views of the Young and Kalef Landowners**

The Young and Kalef Landowners commended Bears paw's efforts to provide alternatives and to evaluate those alternatives. They stated that they preferred Alternate Route 2 on the basis of good planning principles, noting that Alternate Route 1 would bisect an otherwise contiguous planning cell and the addition of a pipeline would complicate development planning. They also agreed with views of the Meiers regarding the choice of Alternate Route 1 as the least preferred route.

The Young and Kalef Landowners stated that it was appropriate to take into account future land use when considering Bears paw's proposed development, given that a variety of municipal and regional planning processes were under way that might affect the future use of lands to the south of Chestermere. They noted that uncertainty regarding land development was equally present for all lands potentially affected by each of the three proposed routes and submitted that it was just as probable that development could take place on their lands as on those lands closer to the Town of Chestermere.

The Young and Kalef Landowners submitted that the Board should give consideration to the evidence before it respecting established best practices and land-use planning principles and let those factors determine the route the pipeline should take. They pointed out that they presented significant expert evidence in the proceedings, including a conceptual plan provided in their submission.

The Young and Kalef Landowners agreed that locating a pipeline within or adjacent to preexisting linear disturbances was the best practice from a planning standpoint as it minimized impacts on landowners. They also noted that it was less likely that the adjacent landowners along Alternate Route 2 would suffer additional linear disturbance, if any, when compared to landowners and future residents that would be affected by Alternate Route 1 or the Original Route. They emphasized that while the Original Route paralleled a linear disturbance, it would be offset by a setback of 30 m along Township Road 240, with the result being that no residential development could occur on their lands within at least 45 m of the pipeline and road, thereby sterilizing the most land.

The Young and Kalef Landowners noted that although Alternate Route 2 was not adjacent to a road, it was only one-half mile away (800 m), across a flat, untreed field. They concluded that this would allow ready and easy access to Alternate Route 2 for emergency purposes.

The Young and Kalef Landowners were of the view that Alternate Route 2 posed the least amount of environmental impact. They argued that Alternate Route 1 would create a potential conflict with the existing wetlands in their current state and in their potential use as storm water management facilities for future development on the Young and Kalef properties.

With respect to wetlands, the Young and Kalef Landowners were of the view that wet areas existed along all of the proposed pipeline routes. Regardless of which route was selected, the pipelines would have to be constructed through these wet areas. The Young and Kalef Landowners stated that Bears paw's commitment to work with an environmental consultant and incorporate their recommendations for constructing in wet areas was good and they agreed that Bears paw would be subject to compliance with any Alberta Environment (AENV) wetland policy and the *Water Act*.

### **7.2.6 Views of the Clarkes**

The Clarkes stated that if they were forced to choose, they preferred the Original Route, then Alternate Route 1, and, last, Alternate Route 2.

The Clarkes submitted that their family had watched their farm diminish with ever-increasing encroachments and pointed out that their land already had a transmission line, gas lines, a road setback, and a railway setback. They believed that with the addition of the proposed pipeline, over one-third of their land could be under the control of others and were concerned that all the encroachments could make any development or use of the land impossible.

The Clarkes criticized Bears paw's route selection for concentrating on the potential impact of future development, and not placing enough weight on the impact on existing residents. They argued that the people living in the area currently were going to be more adversely and directly affected than those not living in the area and suggested that just because a landowner might not want to develop their land, it did not mean they should be made to accept the pipeline.

### **7.2.7 Views of Mr. Mikkelsen**

Mr. Mikkelsen stated he preferred the Original Route because it would be the least expensive to build and would cross the least number of parcels with homes developed on them.

He submitted that Alternate Route 2 would undoubtedly have the earliest impact on lands as a result of future development and, in his view, lands to the south would be less immediately affected. He argued that if the phasing of development were considered, it was conceivable that the wells could be depleted before the lands to the south of Township Road 240 were developed. Mr. Mikkelsen agreed that the pipeline should follow existing linear disturbances and suggested that the Original Route had the most linear disturbances, including the road, power line, and proposed water line.

From an environmental perspective, Mr. Mikkelsen considered that following existing linear disturbances, avoiding wetlands, and pipeline length were important criteria for determining a pipeline route. Mr. Mikkelsen noted that the Original Route would follow the most existing linear disturbances, including a road, a power line, and the proposed water line. Alternate Routes 1 and 2 would only follow one existing linear disturbance along each route.

Mr. Mikkelsen argued that the Berrien report was in direct contradiction to the Ghostpine report. The Ghostpine report stated that the area of wetlands consumed by the pipeline right-of-way were greatest in Alternate Route 2, at 2.77 ha, while the Original Route consumed 2.11 ha and

Alternate Route 1 consumed the least, at 0.92 ha. Mr. Mikkelsen was of the view that both Alternate Routes 1 and 2 would have poor access along their east/west portions.

Mr. Mikkelsen disputed the opinion of Mr. Berrien and of the Ghostpine report that Alternate Route 2 would be the superior route. He argued that nowhere in the Ghostpine report did it suggest a preferred route. The report did, however, state that Alternate Route 2 could impact the most wetland area when the total area of land consumed by the pipeline right-of-way was considered. After hearing the evidence presented in the first week of the hearing and examining its importance, Mr. Mikkelsen was of the view that the Original Route would be the best route should the proposal be approved.

### **7.2.8 Views of the Denigers**

The Denigers indicated that they were opposed to the proposed Alternate Route 2, as it would directly affect the value of their property and their ability to subdivide it. They preferred the proposed Original Route.

The Denigers stated they had had early discussions with the Municipal District (MD) of Rocky View and the Town of Chestermere to have the drainage right-of-way removed from their property. They submitted that currently half of their land was flooded every spring, due to an existing overland drainage right-of-way. They stated that they would like to reroute this water around their property using a trench and culvert so that the northern portion of their land could be built up, allowing them to eventually subdivide their property into two lots. As a result, they felt that the addition of a pipeline along the railroad would impact their ability to subdivide the land and, in turn, reduce the value of the land.

The Denigers expressed concerns related to accessing the pipeline along Alternate Route 2. The wetland areas found along the railway, combined with the proposed pipeline location close to the railway, would make it difficult to get equipment to the area should something happen. The Denigers noted that they had personally seen equipment get stuck in these wet areas and argued that a pipeline installed along a roadway, such as the Original Route, would allow for better accessibility to maintain the pipeline.

### **7.2.9 Views of the Town of Chestermere**

Mayor Matthews confirmed that the Town of Chestermere had no predetermined ideas for zoning the lands in the process of being annexed. However, she emphasized that the Town preferred a line that would have the least impact on future development, on its residents, and on its ability to plan for the future. She noted that the three routes were presented to Council and the direction provided was that the Town objected to anything but Alternate Route 1. She also indicated that they arrived at Alternate Route 1 more by a process of elimination rather than by having a preference for the route. The mayor indicated that one of the key drivers for the Town was to minimize any barriers to development and to keep a “clean slate” from the perspective of future land-use planning.

Mayor Matthews stated that the Original Route followed the same route as the new regional water line that will run from Calgary to Chestermere and Strathmore. She indicated that it was a



major utility line for the area and cautioned that the placement of the pipeline route must not impact the water line.

Mayor Matthews submitted that the Original Route and Alternate Route 2 were not acceptable to the Town because the pipelines would intersect land that the Town anticipated developing and therefore would affect its ability to create urban development in the Town of Chestermere. The mayor viewed the 90 m EPZ as a planning constraint. While she recognized that the 90 m EPZ was not a physical setback, she indicated that it would still weigh heavily in determining what land uses were planned for the area in the future.

### **7.3 Findings of the Board**

The Board strongly supports the approach taken by Bears paw to provide fully developed options for consideration and commends Bears paw for being open to and pursuing amendments to its proposed routes during the course of the proceeding. The Board has reviewed the alternatives put forward, as well as the proposed amendments, and it is satisfied that the alternatives presented represent viable routing options. The Board believes that the onus is on the applicant to establish a preferred route for the pipeline having regard for the social, economic, and environmental circumstances. The Board is satisfied that Bears paw has provided sufficient information on the process used, the criteria selected, and how it applied those criteria to determine its preference.

The Board commends the approach taken by Bears paw to incorporate both stakeholder and expert input into setting out the criteria for route selection and is satisfied that the criteria put forward by both Bears paw and the interveners incorporate the issues that should be considered in this application for determining the preferred route. The Board has considered all of the criteria and the issues put forward by all parties and considers the following criteria to be the most relevant for determining the preferred route:

- ease of access, assuming an urban residential developed landscape;
- impact on existing residents;
- impact on future development;
- environmental impact (wetlands); and
- following preexisting linear disturbance.

The Board does not weigh the criteria individually; rather it weighs all of the criteria together and considers the potential impact on individual parties, as well as on the greater community.

The Board heard extensive evidence on the potential for urban residential development on lands crossed by the proposed pipelines. In the Board's view, it is reasonably foreseeable that residential development could take place within the production life of the wells (and more generally the total pool). Therefore, the Board must take into account what the landscape may look like should that potential development materialize. On this basis, the Board believes that placement of the pipeline along Alternate Route 2 could pose greater access and emergency response limitations in the future. The Board also notes the evidence that the accessibility of Alternate Route 2 would be more difficult due to the soft soil conditions near the railway line, particularly in comparison to the accessibility of the Original Route, which would run parallel to the road.

The Board took into account the concerns of the residents who currently live along all the proposed pipeline routes, and in particular the number of existing residences along Alternate Route 2. The Board believes that any impact on existing residents is more readily determined, whereas an impact (or the degree of any impact) on future development is less certain. It is the Board's view that the impact of constructing a pipeline along Alternate Route 2 would have significant impacts on existing landowners and residents.

The Board agrees that land use and future land use and development are key considerations for Bears paw's proposed development. The proposed pipeline in each of the options presented will cross lands that are currently the subject of ongoing planning processes at both the local and regional level. Although there was considerable discussion during the hearing about what future land uses may look like, as well as the planning principles on which such decisions should be made, the Board notes that there are no predetermined plans in place for zoning or development of the lands under consideration.

At the present time, the Board is of the view that all lands have the potential for urban residential or other types of development. As such, the Board considers that all lands crossed by the proposed pipeline alternative routes have the potential to be further developed. The Board has noted in previous decisions, and it reiterates here, that facilities similar to those proposed do coexist with high-density residential developments in a number of areas of the province. The Board is satisfied that the land-use and future development impacts of each of the proposed pipeline routes are manageable.

The Town of Chestermere indicated that Alternate Route 1 would least impact its future development plans. However, the Board notes that Alternate Route 1 was the least preferred by Bears paw and other parties, as it is the longest route and would unnecessarily create a new linear disturbance. The Board does not agree with the view that the EPZ would impact the Town's ability to plan for future residential development. The Board notes that the setback from these pipelines would be the edge of the right-of-way and there are no restrictions on development imposed by the 90 m EPZ for the pipeline or by any other ERCB regulation.

The Board did not hear compelling evidence from Bears paw as to why it should differentiate the functionality or quality of the wetlands along the proposed routes. The Board notes that the use of air photos and mapping can be a useful tool in the initial identification of wetland areas; however, the Board believes that the physical extent of a wetland is determined by the vegetation and soil characteristics in the field. In the Board's view, the Berrien report did not accurately represent wetland areas or potential impacts on them. Therefore in assessing potential impacts on wetland areas, the Board has deferred to the information provided in the Ghostpine wetland assessment.

The Board does not agree with Bears paw's assertion that Alternate Route 2 is the superior route from a wetland perspective. The Board rejects Bears paw's position that the wetlands located along Alternate Route 2 may be inaccurately represented because Bears paw was not able to obtain access prior to submitting its evidence. This statement suggests to the Board that a similar margin of error could be placed on all of the proposed routes. Further, the Board notes that Bears paw could have avoided this perceived error by simply asking for permission to conduct the wetland assessment. There is no certainty that the landowners would be in agreement with

any environmental assessment being conducted on their lands, but the Board would expect Bears paw to have asked for permission.

The Board agrees with the arguments put forward that locating the line along a preexisting linear disturbance would help reduce the impact on future land development. The Board notes the position of Bears paw and other parties that if it were possible to construct the pipeline within the recommended buffer from the railway, the potential impact on land development would be less. Notwithstanding, the Board is not satisfied that it would be possible to locate the pipeline in the buffer for the full length of the east-west portion of Alternate Route 2. The Board understands that the pipeline right-of-way along the Original Route will add to the existing road setback, but it also believes that the location of the pipeline could be accommodated in any future development plans. The Board believes that advanced planning and communication between the parties will go a long way to minimize any potential future impact.

After fully considering all of the evidence, the Board does not agree with Bears paw's assessment that Alternate Route 2 amended is the preferred route. It is the Board's view that the Original Route amended is the superior route.

The Board expects Bears paw to contact the MD of Rocky View and others as appropriate to pursue opportunities where the pipeline right-of-way or any part thereof could be incorporated within an existing setback or right-of-way.

## **8 PUBLIC SAFETY—PIPELINE INTEGRITY**

### **8.1 Views of the Applicant**

Bears paw submitted that the three pipeline applications complied with all ERCB requirements and that it would take appropriate measures to mitigate any safety concerns, including the risk of pipeline failure. Bears paw was confident that with the construction techniques available, it could design and construct the pipelines safely.

In response to intervener concerns regarding the presence of unsuitable soils along Alternate Route 2 impacting pipeline integrity, Bears paw engaged Cimarron Engineering. Bears paw submitted two reports to address soils and geotechnical concerns along Alternate Route 2 and pipeline integrity with respect to corrosion.

Bears paw submitted that pipelines were often constructed through soft soils and that during the detailed design stage of a pipeline, issues such as the potential for excessive movement of the pipeline would be managed by designing proper support measures. Bears paw noted that until a final route was approved the detailed design would not be completed.

Bears paw submitted that it believed that the soils along Alternate Route 2 would permit the safe construction and operation of a pipeline. Bears paw acknowledged an irrigation district report conducted on the Blanchard property that identified glacial till about 1 m below ground surface. Bears paw's view was that as the pipelines were proposed to be about 1.8 m below surface, the bottom of the 1.8 m pipeline ditch would likely contain competent soil.

Bears paw identified a number of mitigation measures that could be implemented if additional support measures were required. The first included placing the pipeline in deeper soils, given that soil strength generally increased with depth. A second option would be to install a foundation, such as screw makers or driven steel pipes, into competent soil for the proposed pipeline to rest on.

Bears paw acknowledged that the conditions on the Blanchard property could present some challenges, but it felt the pipeline could be constructed and operated safely with the construction techniques available.

Bears paw also acknowledged that sinking as a result of surface conditions being soft, organic and wet might be a problem. It stated that a field drilling program could be undertaken to confirm the site-specific soil conditions.

Bears paw committed to conducting further soil and groundwater studies to evaluate the potential for the pipeline to shift and to determine appropriate mitigation measures if necessary.

Bears paw also addressed intervenor concerns related to external corrosion issues. It stated that although galvanic corrosion could occur in a structure composed of a single material, such as a carbon steel pipeline, the requirements to have external coating and cathodic protection on all buried metallic pipelines effectively eliminated galvanic corrosion issues.

Bears paw agreed with Mr. Blanchard that microbiologically induced corrosion of the external portions of the pipeline might occur and that certain bacteria might cause some external coatings to deteriorate. However, it believed that the proposed coating for the pipeline would be extruded polyethylene, which is immune to bacterial damage, as well as to any degradation from salts containing chlorides or sulphates. It concluded that the combination of external coating and cathodic protection would effectively eliminate any microbiologically induced corrosion concerns.

Bears paw agreed that if there was a pinhole in the external coating, corrosion would occur on the steel; however, it was confident that with modern construction techniques and the combination of external coating and cathodic protection, any external corrosion issues due to wet soil and/or bacterial activity would be eliminated.

Bears paw reviewed the operating characteristics of the proposed oil effluent pipeline from an internal corrosion perspective and was of the opinion that in this type of sour environment, the corrosion mechanism that the pipeline might be most susceptible to would take the form of pitting corrosion. It stated that additional wall thickness would not provide significant additional time before failure if pitting were to occur; therefore, the industry approach was to effectively monitor and mitigate possible corrosion pitting to prevent it from happening in the first place. Bears paw did not expect pipeline corrosion issues to arise, considering the very low water cut; however, it noted that Canadian Standards Association (CSA) Z662-07: *Oil and Gas Pipeline Systems*, Clause 16, now required that all pipelines operating in sour service have an effective corrosion control program developed prior to any fluids being introduced into the pipeline, as well as an effective monitoring system in place to ensure the system is working and internal corrosion is being mitigated. Bears paw stated that those programs would be developed once the

final decision on the pipeline route was decided and construction approved and they would be implemented before operation.

Bears paw committed to using best practices with respect to the design, construction, and operation of the pipelines. It stated that this would include, but would not be limited to, compliance with all applicable regulations, as well as ERCB guidelines and directives.

Bears paw also committed to engaging the necessary consultants, including soils and wetlands experts, and if these consultants reasonably determined that certain investigations and measures were required, it committed to adhere to such recommendations.

## **8.2 Views of the Interveners**

### **8.2.1 Views of Mr. Blanchard**

Mr. Blanchard raised concerns with respect to pipeline integrity. He submitted that pipeline integrity could be compromised by poor construction practices and inadequate design and that the soil conditions along Alternate Route 2 could increase the likelihood of this occurring. He stated that external corrosion of steel pipe, both by galvanic and bacterial means, would likely occur along Alternate Route 2, due to the composition and characteristics of the soil in this location, including high salt and sulphate content and unstable, wet conditions.

Mr. Blanchard also submitted that due to the conditions in the area, construction practices with respect to maintaining the integrity of an external coating system and welding practices would be more likely to be compromised due to what he viewed would be difficult working conditions.

Mr. Blanchard expressed concern regarding the difficulties involved in constructing a pipeline in soft, unstable soils and questioned if there would be enough support to provide a solid base for the pipeline and prevent possible sinking of the pipeline.

Mr. Blanchard also had concerns regarding oil effluent pipelines that contained H<sub>2</sub>S and how this particular fluid might affect the internal condition of the pipe.

Mr. Blanchard argued that the consequence of an H<sub>2</sub>S release due to inadequate pipeline integrity would be of greater concern with respect to public safety along Alternate Route 2 because of the high use of the area along the railway by recreational users. He noted that a walkway was present along the railway and that hunters often used the area.

## **8.3 Findings of the Board**

The Board is satisfied that Bears paw is committed to using best practices with respect to the construction, and operations of the pipelines and is committed to complying with all requirements. The Board appreciates that pipeline integrity could be compromised by poor design, construction, and operational practices; however, it found no evidence to suggest that Bears paw would not exercise due diligence and follow best practices, regardless of what route might be approved.

The Board notes that in accordance with Section 9 of the *Pipeline Regulation*, pipeline licensees and operators within the province of Alberta must comply with the minimum requirements for the design, construction, testing, operation, maintenance, repair, and leak detection of pipelines, as set out in the latest published edition of *CSA Z662: Oil and Gas Pipeline Systems*.

The ERCB expects Bears paw to comply with these requirements.

## **9 PUBLIC SAFETY—EMERGENCY RESPONSE PLANNING**

### **9.1 Views of the Applicant**

Bears paw stated that the proposed wells contained no H<sub>2</sub>S and in the event of any emergency, would be dealt with under Bears paw's corporate ERP.

Bears paw submitted that it had met the emergency response requirements for all three applied-for pipeline routes. It indicated that it had prepared an ERP for all routes based on an EPZ of 0.90 km calculated using the ERCBH<sub>2</sub>S model, which it had submitted to the Board prior to the hearing. Bears paw pointed out that for the two amended pipeline routes, there were no additional residences within the ERP. Bears paw noted that previously an ERP had not been required under *Directive 071*, but due to a change in requirements and the use of the ERCBH<sub>2</sub>S model in the July 2008 edition of *Directive 071*, one was now required.

Bears paw was of the view that the pipelines presented minimal risk to the public. It indicated that the oil effluent pipeline would contain a maximum H<sub>2</sub>S content of 2.0 per cent, or 20 000 parts per million (ppm), and submitted that the likelihood of an incident was small due to pipeline construction and integrity testing. Bears paw also felt that the severity of any incident would likely be minor. It indicated that the H<sub>2</sub>S content was suspended in liquid and that the only H<sub>2</sub>S gas released would be that freed from the liquid during an incident. It was of the view that the H<sub>2</sub>S gas would disperse in such a way that would not present any danger to human health. Bears paw did acknowledge that a person directly next to a pipeline leak could notice some effects, such as odour and headaches, but it believed there was little risk of serious health effects resulting from a release.

Bears paw acknowledged that the pipelines were close to the Town of Chestermere, but felt that due to the low H<sub>2</sub>S content, it was unlikely that evacuation would need to take place in the town. Bears paw stated that it had had conversations with the school superintendent in the area and that roadblocks would prevent any school buses from entering the area around an incident. With regard to the ERP map, Bears paw indicated that the map showed all residences that were required to be consulted with and stated that it was of the view that other residences did not need to be a part of the emergency response process. Bears paw contended that its ERP was adequate to protect the public in the case of an incident.

Bears paw indicated that while response time for external responders could be up to two hours, other area operators could respond faster. Bears paw believed this was a reasonable response time for an incident involving this type of pipeline.

Bears paw stated that another company could operate the pipelines once they were on production and that company might be the initial responder to an incident, but ultimately Bears paw was responsible for the pipelines and any emergency response.

Bears paw clarified that if an incident were to occur at some point along the pipeline, the entire 90 m EPZ would not be enacted, but rather a 90 m radius would be established around the incident site. Bears paw stated that using this EPZ size, it would establish roadblocks and initiate the required public protection measures.

Bears paw stated an update to the ERP would be required, as the final ERP would only need to cover the approved pipeline, not all three routes. It indicated it would talk to all residents affected by the approved pipeline route and update its ERP accordingly. Bears paw committed to conducting a full-scale exercise prior to the pipelines going on production.

## **9.2 Views of the Interveners**

### **9.2.1 Views of the Forsters**

The Forsters were concerned that an H<sub>2</sub>S plume could reach the Town of Chestermere and felt that the ERP should have included procedures to respond if this were to occur. They also expressed concern about Bears paw's statement that some responders would not be able to reach the site of an incident for two hours. They felt that this did not adequately provide for an efficient response to an incident. The Forsters were concerned that H<sub>2</sub>S concentrations would be as high as 20 000 ppm at the source of the incident and stated that exposure to concentrations of this level could be lethal. The Forsters contended that Bears paw's ERP was not adequate to protect public safety if an incident were to occur.

### **9.2.2 Views of the Meiers**

The Meiers argued that Alternate Route 1 had the highest number of residents in the EPZ when considering all of the proposed routes and that there was the potential for more people to be affected by an incident if it were to occur along this route. The Meiers were also concerned that there was uncertainty about who would be operating the pipelines and who would be responding if an incident were to occur. They were also concerned that there would not be enough responders available to effectively isolate the area if a release were to occur and they worried that school buses would not know where to take children if they were not able to get to their homes due to roadblocks. The Meiers also questioned Bears paw's ability to deal with the large population in the area.

### **9.2.3 Views of Mr. Blanchard**

Mr. Blanchard contended that the pipelines presented too great a risk to be approved. He discussed the high recreational use of the land, indicating that there were various transient activities in the area throughout the year. He asserted that a leak would be easier to detect along the Original Route, as there was traffic along that road that would likely smell an odour and be able to report it. He also stated that it would be easier to access the pipeline along the Original Route due to the proximity to the road.

### 9.2.4 Views of the Clarkes

The Clarkes were concerned that the H<sub>2</sub>S content of the pipeline would represent a hazard to residents in the area. They also expressed concern that the ERP map did not show all houses in the area that were outside the EPZ. They were not confident that Bears paw could provide for public safety in the case of an incident.

### 9.2.5 Views of the Denigers

The Denigers were concerned about having a pipeline containing H<sub>2</sub>S in proximity to their home. They felt that due to this concern, Alternate Route 2 should not be approved.

### 9.2.6 Views of the Town of Chestermere

The Town expressed concern about the prospect of a 90 m EPZ in an area where annexation could take place. It was concerned that developers would not plan a residential or business area within the EPZ area. The Town felt that the pipeline and its corresponding EPZ would inhibit its ability to plan future expansion.

### 9.2.7 Views of Mr. Mikkelsen

Mr. Mikkelsen argued the Original Route provided the easiest access to the pipeline if an incident were to occur. He contended that the alternate routes would not allow for easy access to respond to an emergency. Mr. Mikkelsen did not feel that Bears paw had adequately accounted for the protection of public safety.

## 9.3 Findings of the Board

The Board notes that the EPZ for the subject pipeline is 90 m and that in accordance with *Directive 071*, Bears paw submitted the required site-specific ERP to the Board. The Board acknowledges that the release of the ERCBH<sub>2</sub>S model changed the EPZ size from 0.0 m to the current 90 m just prior to the commencement of the hearing.

The Board notes that the ERCBH<sub>2</sub>S model was adopted to provide a practical tool for the industry to use to plan for emergency response. The ERCBH<sub>2</sub>S model is a tool that uses thermodynamics and dispersion modelling to predict hazard distances if an incident were to occur. The Board notes that while the previous nomograph calculations were protective of public safety, further advances in the science of modelling have allowed the ERCB to develop a more representative tool for industry use that more accurately predicts what would happen if a release were to occur. Prior to the release of the ERCBH<sub>2</sub>S model, an EPZ would not have been assigned to a pipeline of this nature, as the release volume is below the threshold that the previous method would have calculated; but in this instance, the new model has resulted in the application of a planning zone, which the Board believes will ensure the notification and safety of anyone in the area even where the risk is very low. The Board is satisfied that a 90 m EPZ is appropriate for emergency response planning purposes.

The Board acknowledges that the pipeline will contain 2 per cent (20 000 ppm) of H<sub>2</sub>S gas, but is of the view that in the unlikely case of a release, the gas would disperse quickly.



The Board finds that Bears paw has met *Directive 071* requirements in all the applied-for pipelines. The Board does not view Bears paw's ability to respond to be substantively different among any of the applied-for routes. It is of the view that Bears paw's ERP will adequately provide for the protection of the public in the unlikely event that an incident were to occur. Specifically, the Board is of the view that Bears paw will be able to initiate its ERP for the original route and protect public safety in an incident. The Board is confident that Bears paw will be able to set up roadblocks in a timely fashion and undertake the appropriate public protection measures if an incident were to occur. The Board finds that the map contains all necessary elements required by *Directive 071* and would be adequate for emergency response. The Board does not find that the interveners have pointed to specific factors that would prevent Bears paw from affecting an appropriate and effective emergency response. The Board expects Bears paw to follow through with its commitment to update its ERP and conduct a full-scale exercise prior to production.

## 10 ENVIRONMENTAL CONCERNS

The Board notes that no intervening parties expressed specific concerns with respect to environmental impacts associated with the well applications for the 9-2 or 16-35 proposed well surface locations. The environmental concerns regarding the pipeline applications are discussed below.

### 10.1 Views of the Applicant

#### Wetlands

Bears paw acknowledged that all five of its proposed pipeline routes would cross wetland areas of varying size and class. Bears paw affirmed that it had experience with constructing pipelines through wetland areas in Alberta and had never experienced a release in such areas. Bears paw noted that there were many instances where pipeline construction and operation took place in wetland areas without negative impacts on the environment. To minimize any impact of its proposed pipelines on wetland areas, Bears paw's pipelines would meet all regulatory requirements. Further, Bears paw argued that no evidence was provided to suggest that any potential impact on these wetland areas from its pipelines could not be appropriately mitigated. It also noted that compensation pursuant to AENV's wetland compensation program would be required in the event of wetland disturbance.

Although Bears paw had not yet retained an environmental specialist to assist in the detailed planning and/or construction of its proposed pipelines, it committed to working with a duly qualified environmental consultant to ensure that all AENV requirements would be met once a route had been approved. Once approval was granted, Bears paw committed to contracting appropriate environmental specialists, including soils and wetland experts. If these consultants reasonably determined that additional assessments and mitigation measures were required, Bears paw stated that it would pay great attention to such recommendations.

Bears paw engaged Ghostpine to provide an initial wetland assessment of its proposed Original Route, Alternate Route 1, and Alternate Route 2 only (not of the amended routes). Ghostpine stated that as it had not been retained as Bears paw's environmental specialist for construction purposes, it could only provide evidence to support what it would do as an environmental

practitioner and could not speak about Bears paw's approach to mitigating potential impacts on wetland areas during construction and operation.

The Ghostpine report identified that each of the three initially proposed routes would traverse various combinations of Class II, III, and IV wetlands. The distance and area traversed by the proposed pipeline rights-of-way through wetlands by class are shown in Table 1.

Table 1. Ghostpine's Determination of Distance and Area of Wetlands Traversed by Each Right-of-Way

Route	Class II* # / Distance / Area	Class III* # / Distance / Area	Class IV* # / Distance / Area	Total # / Distance / Area
Original Route	3 / 620 m / 0.93 ha	2 / 345 m / 0.52 ha	2 / 438 m / 0.66 ha	7 / 1403 m / 2.11 ha
Alternate Route 1	1 / 170 m / 0.26 ha	1 / 70 m / 0.11 ha	4 / 360 m / 0.55 ha	6 / 600 m / 0.92 ha
Alternate Route 2	3 / 673 m / 1.01 ha	4 / 815 m / 1.23 ha	1 / 356 m / 0.53 ha	8 / 1744 m / 2.77 ha

\*Definitions are included in the Ghostpine report.

Regardless of the size or class of each wetland area, Ghostpine recommended mitigating impacts on wetlands by avoidance of each wetland area through rerouting, directional drilling, or boring under the wetland areas. Ghostpine stated that if avoidance were not possible, construction should take place during dry or frozen conditions and spill containment measures should be in place prior to any construction. Ghostpine agreed that appropriate mitigation measures for crossing each of the wetlands along Bears paw's proposed rights-of-way might vary, based on the specific conditions in the field. However, Ghostpine stressed that avoidance of wetland areas was the preferred method of mitigation. If avoidance was not possible, construction during frozen conditions would typically allow for the support of heavy equipment and could reduce the width of surface disturbance. In addition, Ghostpine noted that frozen conditions would avoid impacts on migratory, nesting, and breeding bird species. Ghostpine was of the view that its proposed mitigation measures would be considered "good practice."

Bears paw confirmed that its preferred mitigation measure would be avoidance by boring under the wetland areas. Should field conditions not allow for boring, Bears paw stated that its second preference would be to construct its pipelines during the winter season. However, Bears paw was of the view that it could not commit to any specific mitigation measures, as these might not be consistent with the recommendations its future consultant might have.

Given the potential seasonal aspect of construction activities, Bears paw stated that it was willing to take longer than the one year to initiate construction of its proposed pipelines, as it believed this would ensure that construction could be conducted during the most appropriate times to reduce surface impacts. Bears paw also committed to conducting subsequent environmental assessments and to follow the instructions of the qualified environmental specialists it contracted at the time.

Ghostpine explained that its approach to construction would start with the preparation of an environmental protection plan (EPP) for the project. Once complete, Ghostpine would ensure that a company and its contractors fulfilled the recommended mitigation measures and conducted its construction operations in line with the EPP by employing an environmental inspector to act as a construction guide. Bears paw did not commit to preparing an EPP.

Ghostpine indicated that at the time of the hearing, AENV was using the *Code of Practice for Pipelines and Telecommunication Lines Crossing a Water Body (COP)* to address pipelines crossing wetland areas. The *COP* would allow a proponent to determine how it would do construction across watercourses. The company would submit notification of its intended crossing construction methods and mitigation measures to AENV. AENV would then review the proponent's information and provide input if necessary. Ghostpine suggested that in the recent past, crossing a wetland required a *Water Act* approval from AENV. Bears paw admitted that to date it had not discussed its proposed development with AENV. Therefore, it could not comment on whether a *Water Act* approval would or would not be required.

### **Native Prairie**

Bears paw acknowledged that a portion of the Clarkes' land was native prairie. Bears paw committed to conducting a preconstruction assessment of the Clarkes' land to document rare species and design appropriate mitigation measures for construction and operation of its proposed pipelines. Bears paw stated that it would be required to reclaim the native prairie to equivalent land capability and would be willing to reintroduce wild crocuses to the Clarkes' property.

## **10.2 Views of the Intervenors**

### **10.2.1 Views of Mr. Blanchard**

Mr. Blanchard expressed concerns about Bears paw's proposed pipelines impacting wetlands in the area and in particular those found on his property. Mr. Blanchard argued that these semi-permanent wetlands were productive wetlands for waterfowl and stressed that his land and surrounding area were unique for breeding birds. Mr. Blanchard identified that these wetlands supported a large migration of a great variety of birds, including some rare species. Mr. Blanchard critiqued the Ghostpine report based on his knowledge of wildlife and bird species in the area, indicating that Ghostpine personnel spent three days in the field looking for bird species that he did not believe were present in the area.

Mr. Blanchard felt that he had invested a lot of time and money into creating a park out of his property and felt it should serve as a future legacy for local people. He landscaped his property for wildlife and was concerned about the impact an oil spill could have on local wildlife. In addition, Mr. Blanchard expressed concern about potential impacts on marsh grasses and the ability of Bears paw to reclaim marsh grasses on his property.

### **10.2.2 Views of the Clarkes**

The Clarkes viewed the Ghostpine report as important, as it was the only environmental assessment conducted in the area specific to the proposed development.

The Clarkes expressed concern about Bears paw choosing to conduct the wetland assessment only after concerns had been raised and it had been requested to do so. They agreed that Bears paw's commitment to working with a wetland specialist did alleviate some of their concerns with respect to potential impacts on the wetland areas. However, they were of the view that Bears paw could have done more adequate research in the proposed pipeline area, including in sensitive areas like native prairie and wetlands.

The Clarkes expressed concern regarding the pipelines' impact on undisturbed native prairie on their property, but felt that the regulatory requirement to reclaim the native prairie helped alleviate some concerns. However, the Clarkes requested that Bears paw conduct an inventory of their property, including an inventory of any rare plant species.

### 10.3 Findings of the Board

#### Wetlands

The Board notes that all proposed pipeline routes would include crossing wetland areas. The Board recognizes the importance of protecting these wetland areas and is of the view that given the use of appropriate mitigation measures, potential impacts on any of the wetlands can be effectively mitigated.

The Board did not appreciate that Bears paw was unable to speak to how it would mitigate the potential impacts of its proposed pipelines on wetlands. The Board would expect that a proponent of any oil and gas development in the province would be prepared to address how its proposed project may impact the environment and how it intends to mitigate such impacts. The Board recognizes that the evidence of Ghostpine was only an example and did not fully represent the views of Bears paw with regard to constructing pipelines through wetland areas. Nonetheless, the Board supports the mitigation measures identified by Ghostpine and is satisfied that avoidance of the wetland areas through rerouting, boring, or directional drilling and construction during dry or frozen conditions are "good practices" that could effectively mitigate impacts on the wetland areas.

The Board expects Bears paw to abide by its commitment to employ environmental specialists to conduct specific assessments to determine the most appropriate crossing methods for each wetland area. The Board also expects Bears paw to employ an environmental specialist to inspect and aid in the construction of the pipeline along the approved route.

The Board was surprised to hear that Bears paw had not discussed its potential impacts on wetland areas with AENV, as AENV may require an application for approval or specific notification under the *Water Act*. The Board expects Bears paw to discuss its proposed development through the specific wetland areas along the approved route with AENV to determine if a *Water Act* approval is required.

#### Native Prairie

The Board is satisfied that Bears paw recognizes the native prairie on the Clarkes' land and is committed to conducting a preconstruction assessment to identify rare species and to design appropriate mitigation measures to minimize disturbance and assist in reclamation to the equivalent capability.

## 11 PUBLIC CONSULTATION

### 11.1 Views of the Applicant

Bears paw stated that its public consultation program was compliant with *ERCB Directive 056: Energy Development Applications and Schedules*, June 2008. Bears paw stated that throughout the public consultation process it met and exceeded *Directive 056* requirements, as all potentially

affected parties were provided with sufficient and timely information, were duly consulted, and were provided with reasonable opportunity to raise concerns relating to the proposed developments. Bears paw argued that it believed it had made sufficient and reasonable efforts to address all concerns.

Bears paw stated that its participant involvement program included a consensus-building process open to the public and was followed up with individual consultation, appropriate dispute resolution (ADR), and direct negotiations. Bears paw felt it had diligently circulated information concerning the proposed developments.

Bears paw stated that as it had resolved stakeholder concerns regarding the existing 9-2 oil well (bottomhole 10-2), the well was drilled in 2003. In 2004, Bears paw undertook public notification to drill the 16-35 well. At this time, Bears paw became aware that certain stakeholders in the area were considering a large area development plan, so Bears paw withdrew its application for the 16-35 well and submitted a project application for the subject wells and pipelines.

From the outset, Bears paw stated that it was aware that there were a number of viable pipeline routes from the proposed wells to the 7-33 battery, although it believed that one route would be preferable to other possible routes. Bears paw was also aware of the proximity of this project to the Town of Chestermere and realized there were stakeholder concerns, particularly regarding future land-use issues.

Bears paw stated that because of these unique circumstances, it decided to submit three pipeline applications for three alternative pipeline routes, even though only one route would be required. Bears paw stated that it did this to ensure that the maximum number of stakeholders in the Chestermere area would receive information concerning the proposed project and have the opportunity to provide input regarding the developments. Bears paw stated that this method of proceeding by way of alternative pipeline routes, instead of one, involved a considerably greater expenditure of time and resources on its part, but it was prepared to seek licensing in this manner to ensure that a preferred route, taking all interests into account, could be identified.

Bears paw hired Certus Strategies Incorporation (Certus) to coordinate a follow-up consultation process and provide third-party facilitation services to affected stakeholders. A workbook formed the basis for the community consultation to help evaluate the pipeline route options. Follow-up phone calls and meetings were then conducted during the first few months of 2008 to obtain route input and selection criteria, as well as discuss issues and interests.

Bears paw noted that Certus had planned and managed a community consultation event in Chestermere on March 13, 2008. It stated that this event was advertised and all stakeholders on all three route options were invited by mail to participate. Bears paw stated that the results of this meeting allowed it to develop the route selection criteria list, which was then evaluated as part of the Berrien report to determine its preferred or "best" route.

Bears paw stated that it had conducted on-site meetings with stakeholders that it believed went beyond the requirements of *Directive 056* and noted that it was able to resolve the concerns of some of the stakeholders who originally expressed objections to the proposed developments. Bears paw stated that it was satisfied that all parties who may be directly and adversely affected by the amended pipeline applications were contacted and had an opportunity to be heard with respect to their concerns.

Bears paw agreed that discussion and cooperation with affected parties did not cease once an approval was granted and confirmed that it was committed to continuing to work with all parties affected by the development to minimize any impacts where required and keep affected parties informed as to the progress of the project. Bears paw also stated that it would continue to consult with the landowners regarding construction methods, timing, and compensation, which may have to be determined by the Surface Rights Board.

## 11.2 Views of the Interveners

Most of the interveners expressed dissatisfaction with the consultation conducted by and on behalf of Bears paw, except the Young and Kalef Landowners, who stated that the communications with Bears paw had been good.

Mr. Blanchard considered that Bears paw's consultation process was flawed. He questioned the number of participants at the Certus community consultation event and how many of the workbooks filled in were from people who actually resided along one of the proposed pipeline routes.

The Denigers had issues with Bears paw's personal contact with the landowners, as they did not receive any information directly from Bears paw until late August 2008. The Denigers felt that Bears paw's project information was not clearly understandable and believed that Bears paw had neglected the smaller landowner.

Mr. Mikkelsen expressed concerns that Bears paw had not communicated with him via e-mail, as he had requested, and that due to an incorrect mailing address, he had not been informed regarding the ERCB hearing. Mr. Mikkelsen was extremely concerned that Bears paw had dealt with a development company that claimed to have an interest in his lands without confirming this with him.

The Clarkes submitted that there had been no discussion with Bears paw regarding their airdrome prior to the hearing, and they did not feel that Bears paw was forthcoming in consulting with them.

The Forsters did not feel that Bears paw took their concerns seriously and felt that Bears paw did not negotiate in good faith.

The Hawkins and Hurst Families were dissatisfied with their dealings with Bears paw, as no discussion had occurred prior to the hearing regarding their preference for the amended pipeline route on their lands.

## 11.3 Findings of the Board

*Directive 056* sets out requirements with respect to notification and personal consultation with potentially affected parties. The Board emphasizes that it expects companies to meet or exceed the participant involvement requirements in *Directive 056* and expects applicants to be sensitive to timing constraints the public may have with respect to an application. The Board is satisfied that Bears paw has met the consultation requirements set out in *Directive 056* for the well applications and all three proposed pipeline routes.

The Board notes the high level of concern and dissatisfaction expressed by the interveners and believes that Bears paw could have attempted to provide a greater level of personal contact with those stakeholders. As well, the Board notes that a number of landowners expressed concern that they had not been contacted. The Board believes that a landowner's request to be contacted by e-mail could have been respected. The Board also notes that Bears paw should have been in contact with all of the affected landowners so that the amended pipeline routes did not have to be introduced in the hearing. The Board encourages Bears paw to find ways to improve communication and build trust with the interveners and the community.

The Board also emphasizes the responsibility of stakeholders in the consultation process. The Board is of the view that in order for meaningful communication to occur, landowners must make themselves available to address concerns with an applicant.

The Board is encouraged that Bears paw filed a project application (for wells and pipelines), thus allowing for greater scrutiny of the area development by the community. In this exceptional and unique situation, Bears paw also applied for three alternative pipeline routes, as it believed that this approach was in everyone's best interest by providing an opportunity for all options to be evaluated. Generally, the Board expects companies to have reviewed all alternatives prior to engaging the ERCB application process and apply for a licence with the most acceptable location. When appropriate though, a company may consider applying to the ERCB for alternative facility locations. In these situations the onus is on the applicant to show that this is appropriate on a case-by-case basis relating to the area's particular circumstances.

In this hearing, the Board agreed to allow Bears paw to amend its pipeline applications. These changes to the Board's typical application process were exclusive to this project application, and the Board is of the opinion that it was in the public interest to proceed in this manner for this circumstance and in this area.

The Board strongly encourages the parties to continue exchanging information and developing a collaborative approach to accommodate the multiple land uses in this area. The Board is encouraged by Bears paw's commitment to continue to work and consult with affected parties regarding this development.

## **12 CONCLUSIONS**

After weighing the evidence and arguments of all parties, the Board has concluded that approval of the applied-for 9-2 and 16-35 wells and the pipeline along the Original Route amended are in the public interest.

Dated in Calgary, Alberta, on February 17, 2009.

**ENERGY RESOURCES CONSERVATION BOARD**

*<original signed by>*

M. J. Bruni, Q.C.  
Presiding Member

*<original signed by>*

C. A. Langlo, P.Geol.  
Acting Board Member

*<original signed by>*

F. Rahnama, Ph.D.  
Acting Board Member



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**APPENDIX 1 HEARING PARTICIPANTS**


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**Principals and Representatives**  
 (Abbreviations used in report)

**Witnesses**


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Bears paw Petroleum Ltd.

J. Gruber

Z. Purves-Smith

D. Ostermann

 R. Berrien,  
 of Berrien Associates Ltd.

 J. Baumen,  
 of Cimarron Engineering Ltd.

 C. Parker,  
 of Cimarron Engineering Ltd.

 C. Famminow,  
 of Ghostpine Environmental Services Ltd.

 L. Laverdure,  
 of Exigency Management Consulting  
 Canada Corporation

 M. Sutherland,  
 of Pajak Engineering Ltd.

T. Robillard, of Certus Strategies

The Forsters

L. Manning

M. Forster

 K. R. (Dick) Bissett,  
 of Bissett Resources Consultants Ltd.

The Meiers

E. Chipiuk

Dan Meier

Young and Kalef Landowners

S. M. Munro

C. Chell, Student-at-Law

 Doug Porozni,  
 of Ronmor Development Inc.

 Stuart Libin,  
 of Ronmor Development Inc.

 James Scott,  
 of Stantec Consulting Ltd.

R. Blanchard

The Clarkes

G. Clarke

The Denigers

C. Deniger and B. Deniger

Town of Chestermere  
Mayor P. Matthews

W. Mikkelsen

Hawkins and Hurst Families  
T. J. Taylor

Energy Resources Conservation Board staff

B. Kapel Holden, Board Counsel

B. Prenevost, Board Counsel

J. Fulford

D. Schroeder

K. Williams

L. Jonker

T. Novotny

B. Hurst

V. Makwich

W. MacKenzie

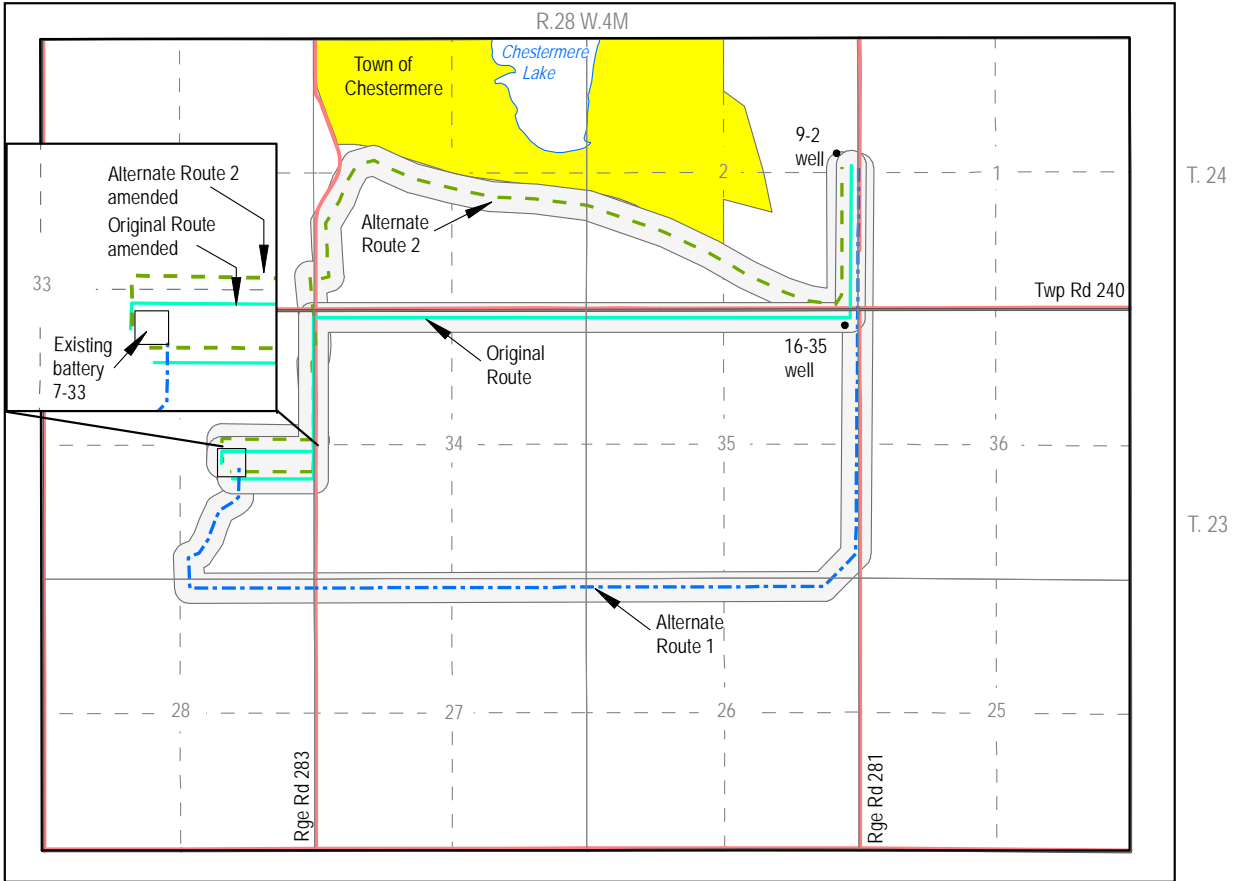
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## **APPENDIX 2 SUMMARY OF COMMITMENTS**

The Board notes throughout the decision report that Bears paw Petroleum Ltd. has undertaken to conduct certain activities in connection with its operations that are not strictly required by the ERCB's regulations. 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 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.

### **COMMITMENTS BY BEARSPAW PETROLEUM LTD.**

- To work with all parties affected by the development, to minimize any impacts to the extent possible, and to keep affected parties informed of the progress on the project.
- To work with EnCana Corporation (EnCana) should EnCana choose to exercise its mineral interests at Section 35-23-28W4M and with the Forsters to minimize any effects should additional drilling need to take place on the Forsters' lands.
- To conduct further soil and groundwater studies to evaluate the potential for the pipeline to shift and to determine appropriate mitigation measures if necessary.
- To use best practices with respect to the design, construction, and operation of the pipelines and to comply with all requirements. This would include, but not be limited to, compliance with all applicable regulations, as well as ERCB guidelines and directives.
- To engage the necessary consultants, including soils and wetland experts, and if these consultants reasonably determined that certain investigations and measures were required, to adhere to such recommendations.
- To conduct a full-scale ERP exercise prior to the pipelines going on production.



Legend

- Bears paw proposed wells
- 90 m emergency planning zone
- Original Route
- - - Alternate Route 1
- - - Alternate Route 2
- Roads

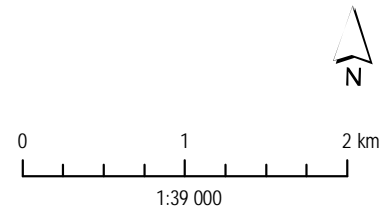
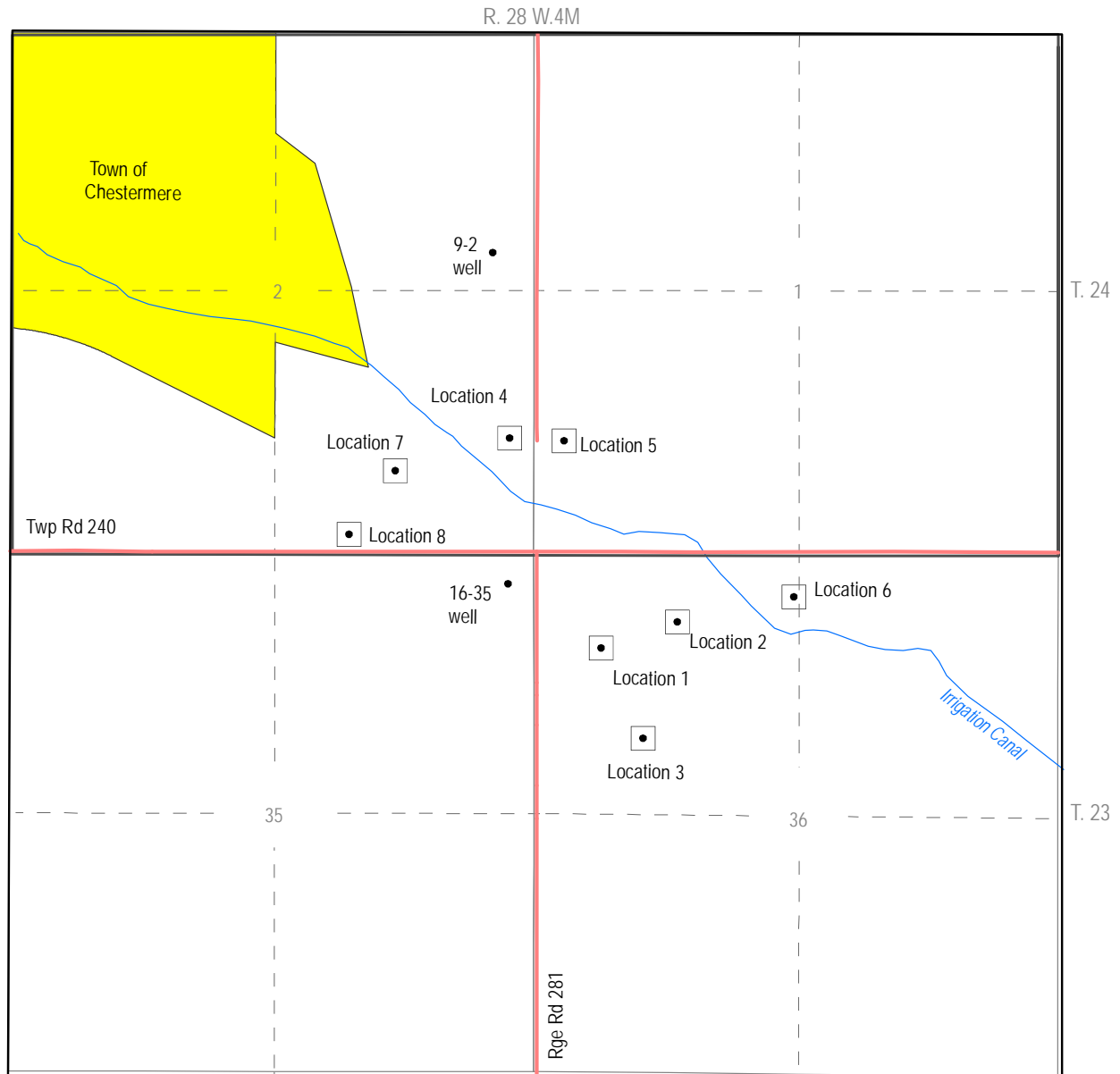
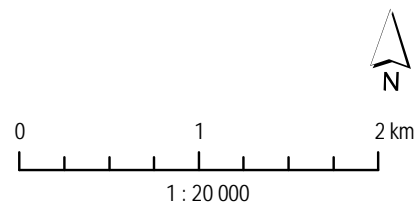


Figure 1. Map of the project area



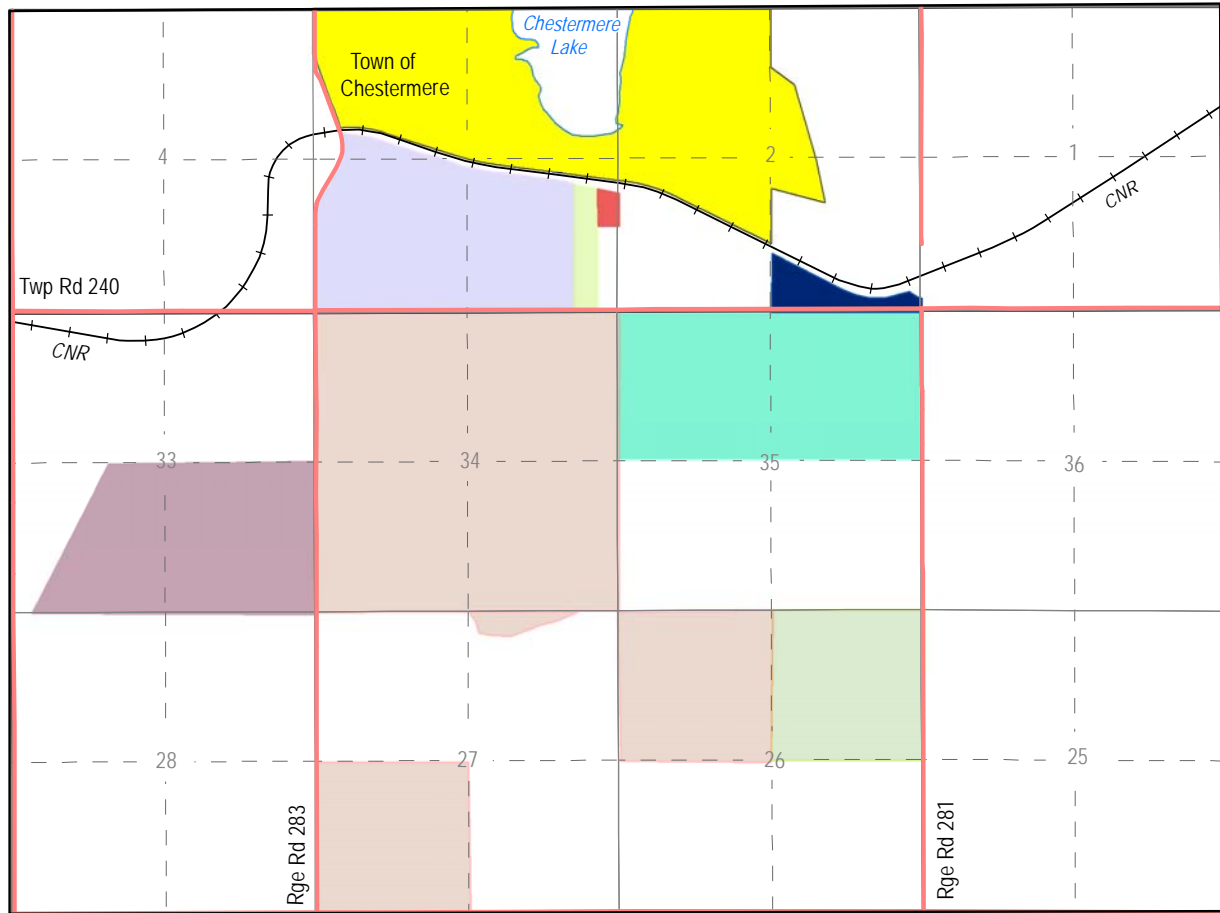
**Legend**

- Bears paw proposed wells
- ◻ Forster proposed wells
- Roads



**Figure 2. Alternative well locations for the 16-35 well**

(adapted from Bissett Resources Consultants Ltd., *Bearspaw Crossfield 13-36-23-27 LS16, SEC 35, TWP 023, RGE 28, W4M, Alternative Surface Locations, Determination Report, September 25, 2008, revised*)



**Legend**

- Young and Kalef
- Deniger
- Hawkins, Warrack and Hurst
- Blanchard
- Meier
- Clarke
- Mikkelsen
- Forster
- Roads

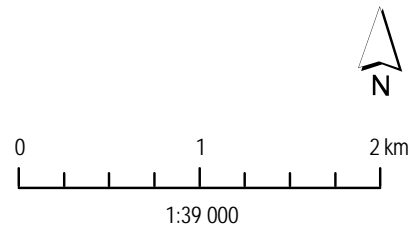


Figure 3. Interveners' lands