



Rubicon Energy Corporation

Application for a Well Licence

December 16, 2003

ALBERTA ENERGY AND UTILITIES BOARD

Decision 2003-104: Rubicon Energy Corporation, Application for a Well Licence
December 16, 2003

Published by

Alberta Energy and Utilities Board
640 – 5 Avenue SW
Calgary, Alberta
T2P 3G4

Telephone: (403) 297-8311
Fax: (403) 297-7040

Web site: www.eub.gov.ab.ca

ALBERTA ENERGY AND UTILITIES BOARD

Calgary Alberta

RUBICON ENERGY CORPORATION APPLICATION FOR A WELL LICENCE GHOST PINE FIELD

Decision 2003-104
Application No. 1302342

1 DECISION

Having carefully considered all of the evidence, the Alberta Energy and Utilities Board (EUB/Board) hereby approves Application No. 1302342.

2 INTRODUCTION

2.1 Application

Rubicon Energy Corporation (Rubicon) applied on May 23, 2003, to the EUB pursuant to Section 2.020 of the Oil and Gas Conservation Regulations for a licence to drill a vertical well at a surface location in Legal Subdivision (LSD) 12, Section 20, Township 29, Range 21, West of the 4th Meridian (12-20 well). The purpose of the proposed well is to obtain crude oil production from the Nisku Formation. Rubicon's calculated emergency planning zone (EPZ) radius of 0.991 kilometres (km) for the well is based on a drilling release rate of 0.298 cubic metres per second (m^3/s) and a maximum hydrogen sulphide (H_2S) content of 45.7 moles per kilomole (mol/kmol) (4.57 per cent). Rubicon indicated that the estimated EPZ during the production phase would be 0.100 km. The well would be classified as a level-1 facility.

2.2 Intervention and Hearing

In early June 2003, objections were received by the EUB from several landowners and residents in close proximity to the proposed 12-20 well. Correspondence was received from Roger and Gayle Church, who own the majority of the south half of Section 20-29-21W4M and the southeast quarter of Section 19-29-21W4M. Richard and Gertrude Rowbottom and Joe and Kathleen Rowbottom are residents on and landowners of the northeast quarter of Section 19-29-21W4M. Kent and Janice Walker own Block 1 on the southeast quarter of Section 19-29-21W4M, Block 2 on the southwest quarter of Section 20-29-21W4M, and Block 3 on the southeast quarter of Section 20-29-21W4M. Collectively, their concerns primarily related to health, safety, odours, water well quality, and land value.

Figure 1 shows the location of the proposed well and the location of the interveners' lands and residence. The Walkers residence is located approximately 5 km west of the proposed 12-20 well on the east half of Section 23-29-22W4M.

The Board initially scheduled a public hearing to be held in Drumheller, Alberta, on October 15, 2003. On September 14, 2003, the Board received a request to adjourn the hearing and granted the request, rescheduling the hearing for November 6, 2003. Rubicon engaged in numerous meetings with the interveners, and with the assistance of EUB field staff, the Rowbottoms' concerns were resolved and their objections were withdrawn on November 1, 2003. The

Churches engaged in discussions with Rubicon but chose not to participate in the upcoming hearing.

The Board held a public hearing commencing on November 6, 2003, with the participation of Rubicon and the Walkers. The panel members were Board Member T. M. McGee (Presiding Member) and Acting Board Members W. G. Remmer, P.Eng., and D. K. Boyler, P.Eng. In addition, the Board and its staff visited Rubicon's proposed well site and viewed the surrounding area on November 6, 2003. Those who appeared at the hearing and a list of abbreviations used in this decision are set out in [Appendix 1](#).

3 ISSUES

The Board considers the issues respecting the application to be

- need and location of the proposed well site, and
- impacts, including visual, land development restrictions, and land value.

3.1 Views of the Applicant

Rubicon stated that it mapped all the wells that penetrate the Nisku Formation in Townships 28 and 29, Range 21, West of the 4th Meridian. It confirmed that a Nisku pool existed northeast and southeast of the proposed 12-20 well and stated that 3-D seismic data suggested there might be another pool as an extension of the Nisku trend. Rubicon further noted that it had 100 per cent ownership of the mineral rights in Section 20 and hoped that the 12-20 well would extend the productive trend to the west. Rubicon confirmed that if the 12-20 well were successful, it might drill one or two more wells to drain the reserves under Section 20.

Rubicon estimated that the proposed 12-20 well would take 8 to 10 days to drill and less than 48 hours to test for productivity. During testing, Rubicon confirmed that a separator, flare stack, and tanks would be required on site. It emphasized that it would attempt to eliminate odours by capturing and flaring the gas vented off the tanks. To determine its H₂S release rate and corresponding EPZ for the 12-20 well, Rubicon confirmed that it took into consideration data from the most productive well and the highest H₂S concentration for the area. This resulted in an EPZ of 0.991 km that would be in effect for the drilling and completion of the 12-20 well. Should the well be successful, Rubicon stated that the EPZ would be based upon the well's capability to produce. It estimated that the EPZ during the production phase would be 0.100 km. Rubicon noted that as a good neighbour policy it included three additional residences located beyond the EPZ for full response actions, as outlined in its site-specific emergency response plan (ERP).

Rubicon also outlined what the site would look like if the well were successful. It proposed to pipeline the oil effluent south about 4 km to an existing EnCana Corporation (EnCana) satellite for measurement and, subsequently, to an existing EnCana sweetening facility. Rubicon indicated that by pipelining the oil effluent directly to the EnCana satellite, it would avoid the need for tanks and a separator on the 12-20 well site. Rubicon said that if measurement of the oil effluent needed to be carried out on the proposed 12-20 well site, the production would have to come to surface and be directed through a test separator. The fluids would then be recombined

and pipelined to the EnCana facility for treatment. However, it believed that it was possible to obtain measurement at the EnCana satellite.

Rubicon confirmed that during production an operator would visit the site on a daily basis. It believed that regular maintenance at the well site where it would be necessary to move tanks and a flare stack on site would only occur every one to two years. Only in the event of two more wells being drilled to produce the Nisku pool did Rubicon believe that it would require more surface facilities to test production in accordance with EUB requirements. It proposed that it would attempt to keep the surface facilities to a minimum. Rubicon noted that a well of this nature would only be productive for an estimated ten years, with a success rate of about 20 per cent.

Rubicon noted that during public consultation it had made a number of commitments to the area residents and landowners in an attempt to alleviate their concerns. Rubicon committed to testing water wells for quality and quantity before and after drilling if the landowners and residents requested it. Rubicon also committed to setting the surface casing below the base of the deepest usable aquifer at 330 m. Further, Rubicon committed to installing concrete barriers to prevent damage to the wellhead during the well's productive life. During drilling, completion, and workovers, Rubicon confirmed that it would offer relocation costs to those that requested it. It stated that a temporary H₂S monitor would be installed in the Rowbottoms' yard and that it also considered installing permanent H₂S monitors at the proposed 12-20 well site. However, Rubicon questioned the effectiveness of the permanent monitors and was undecided on how the monitors would be installed. Rubicon stated that an electrically powered downhole pump would be used instead of a conventional pump jack to reduce visual impact.

Rubicon said that it signed a surface lease agreement with the landowner where the 12-20 well was proposed to be drilled and that it was normal practice to compensate landowners when they entered into a surface lease agreement. It confirmed that the landowner was compensated for general disturbance and loss of land. Rubicon said that adjacent landowners were not normally paid a lump sum of money but noted that it may provide other mitigation options, such as relocation costs.

In response to the Walkers' concerns regarding reduction in property values, Rubicon indicated that the proposed 12-20 well would not directly affect their lands, as the development setback for a level 1 well was 100 m. Rubicon stated that the 100 m setback also corresponded to the 100 m EPZ estimated for the proposed well during production. It indicated that the EPZ for the drilling phase did include the Walkers' lands but that it would only be in place during drilling and completion. Rubicon acknowledged that the Walkers' land had a wonderful vista but also noted that there was extensive oil and gas development in the area. Rubicon further stated that there was no certainty that the proposed 12-20 well would have a negative impact on the Walkers' property value. It argued that the value of land came from a number of sources, including topographical features, willingness to pay for recreational, agricultural, and residential lands, and affordability. Rubicon claimed that given all these factors, it was difficult to understand how it was adversely affecting the Walkers' property value.

Rubicon summarized by stating that it believed that it had a good relationship with all the residents and it attempted to address all of the residents' health and safety concerns. With respect to the Walkers' concern about property value, Rubicon indicated that there was no substantiated

evidence or criteria provided that demonstrated a change in property values for adjacent landowners and maintained that it was not the practice of industry to offer compensation in this regard.

3.2 Views of the Intervener

Mr. Walker stated that he was a licensed real estate agent for a number of years and that he and Mrs. Walker were currently investors in the real estate industry. The Walkers noted that they had ownership interests in three parcels of land proximate to Rubicon's proposed well site. They stated that they were the sole owners of Block 2 (located south of the proposed 12-20 well) and Block 3 (east of the proposed well), but noted that they jointly owned Block 1 (west of the proposed 12-20 well) with family members (see [Figure 1](#)). The Walkers indicated that Block 1 had a seasonal residence and was used for family gatherings. They confirmed that Block 2 was currently zoned as agricultural and Block 3 was for sale and currently zoned as agricultural and residential.

The Walkers explained that they own a bed and breakfast and recreational vehicle (RV) resort called the Pope Lease Pines, which was located about 5 km west of the proposed well site. In response to increased tourism in Drumheller, the Walkers stated that they would like to expand the resort on to Block 2, closest to the proposed 12-20 well. However, the Walkers believed that the EUB's setback requirements would restrict development of a campground on Block 2. They stated that the plan included developing a seasonal campground from May to October with 25 RV sites and 15 cabins, which led them to believe that the site would be classified as a public facility by EUB definition. The Walkers further believed that Rubicon's proposed 12-20 well would be classified as level 2, resulting in a 500 m setback restriction.

The Walkers stated that while they had not yet consulted with their neighbours or the county regarding the proposed campground, they felt that approval of the proposed 12-20 well would prohibit them from making a formal application for the campground to Kneehill County. The Walkers further stated that should the proposed 12-20 well be classified as level 1, with a 100 m setback restriction, their concerns about restricted property development would be alleviated. The Walkers emphasized that this would only resolve their concerns if they could still make application to the county to rezone their land and develop the campground. They also indicated that they were not aware of existing sour gas development around their properties.

The Walkers stated that their concern was not about whether the threat and danger of sour gas was real but rather how the public perceived sour gas and its potential dangers. They noted that the perception of danger, as well as location, view, and current market conditions, all played an important role in any land valuation. In the case of the proposed 12-20 well, the Walkers argued that the main impact was perception and the perspective of the purchaser. They emphasized that if the purchaser was fearful of the proposed 12-20 well and its potential affects on their family's health, it would have relatively the same impact on all three properties if a purchaser knew there was sour gas in the area. For that reason, the Walkers requested compensation of \$10 000 per acre for the loss of potential buyers and loss of revenue. They provided a certificate of title of similar properties that they used to establish the value of their lands.

The Walkers noted that they had obtained opinions from two real estate agents regarding the perception of sour gas and how it affected property value. They testified that both opinions

indicated that there was a negative perception by the public about sour gas, which would greatly reduce the value of their property, if not make it unmarketable. The Walkers also conducted a public opinion survey, asking people for their opinion about sour gas. They indicated that ten surveys were completed and summarized the results by stating that a sour gas well would decrease the value of property. The Walkers emphasized that whether the dangers of sour wells were real or perceived, the public had fears about the product. They noted that they did not evaluate the current market value of similar properties in areas of existing sour gas development.

The Walkers suggested that the only way the government would be able to alleviate the public's fears of sour gas would be to initiate a massive education campaign and correct the media when nonfactual reports were published.

They stated that it was their understanding that the Alberta Surface Rights Board was a department of the EUB and had the mandate to deal with compensation for landowners and adjacent landowners. They also stated that if a governing system allowed one business to gain at the expense of another without compensation, the system was wrong. They maintained that the Board must either attach financial compensation for the loss in property value or deny the application.

The Walkers did not contest the evidence provided by Rubicon regarding the need for and location of the proposed 12-20 well. Rather, they argued that they did not want the 12-20 well at all unless they were appropriately compensated for devaluation of their land.

The Walkers stated that they believed Rubicon conducted itself in a professional manner and noted that Rubicon provided full disclosure of factual information regarding the proposed project. Finally, they remarked that they believed Rubicon could competently perform its work and appropriately address any problems that might arise during the life of the well.

3.3 Views of the Board

The Board notes that Rubicon has acquired the petroleum and natural gas rights to drill the proposed 12-20 well and is satisfied that there is a need for a well to allow Rubicon an opportunity to exploit the mineral rights that it holds.

The Board accepts Rubicon's proposed location for the 12-20 well and acknowledges that Rubicon identified the proposed location based on its interpretation of the geological and geophysical data. It further accepts that Rubicon believes the location and drilling operation to be optimal for a successful well. The Board acknowledges that no technical evidence was presented by the Walkers to dispute Rubicon's right to exploit its minerals or its chosen location as applied for. Further, the Board notes that while need and location were not argued, the Walkers did not want the well at all unless compensation for loss of property value was awarded.

The Board is satisfied with the measures taken by Rubicon to mitigate potential impacts of the proposed 12-20 well. The Board notes that the interveners believe that Rubicon is a competent operator in this regard and does not take issue with the operations of the well during drilling, completion, and production. The Board also acknowledges that Rubicon made numerous commitments to the landowners and residents and fully expects that Rubicon will honour those

commitments. It further notes that Rubicon indicated that a pipeline would be constructed in the event of a successful well, which would be the subject of a separate application to the Board.

The Board accepts that Rubicon's drilling release rate calculation is consistent with the protocol set out in *Guide 56: Energy Development Applications*. The Board acknowledges the Walkers' view that the proposed 12-20 well would be a level 2. However, the Board believes, based on the available data, that in all probability the well will have a level 1 classification, pursuant to *Interim Directive (ID) 97-6: Sour Well Licensing and Drilling Requirements*. For a level-1 producing well, a minimum 100 m setback would be required from facilities designated as surface improvements, residences, and public facilities.

In accordance with *ID 97-6* (page 25), a public facility is defined as

a public building such as a hospital, rural school, or a major recreational facility situated outside of an urban centre; and for the purpose of this directive, includes other developments the Board, after consultation with appropriate interested parties, may designate as a public facility based on the complexity of evacuation taking into consideration the number of people using the facility and the frequency and duration of their use.

However, regardless of the land-use designation for the proposed development, the Board notes that the distance between the proposed overnight camping facilities and the proposed 12-20 well would be 100 m or more and would likely not be subject to any setback restrictions being imposed by the municipality as a result of the well location. On this basis, the Board does not believe that the drilling or the production of a level-1 well at the 12-20 surface location would prevent the Walkers from making application to the appropriate municipal authority. Under the EUB's requirements, the proposed 12-20 well would not encroach on any dwelling, surface improvement, or public facility setbacks prescribed for a level-1 well.

The Board recognizes that Rubicon developed a site-specific ERP for the drilling and completion of the proposed 12-20 well that meets EUB requirements. It further notes that Rubicon elected to add to the ERP three additional residences located beyond the calculated planning zone of 0.991 km. The Board also accepts the 100 m EPZ during production of the well, if successful, to be reasonable. However, the actual EPZ will need to be confirmed through production testing. The Board expects industry to respond to public concerns by establishing site-specific emergency response procedures and to manage risk through mitigating actions.

The Board clarifies that the Alberta Surface Rights Board is a separate entity from the EUB and that the EUB does not have any jurisdiction to address matters of compensation. The Board does not believe that monetary compensation addresses safety issues, but finds that various measures, such as shutdown valves, wellhead barriers, and the EPZ, are effective in reducing the risk and gaining subsequent control of any incident in the unlikely event of a release.

While the Board appreciates that there may be a public perception of the dangers of sour wells in Alberta, the Board acknowledges that numerous factors must be considered when evaluating the value of property. Based upon the evidence provided, the Board believes that the drilling and operation of the proposed well would not have a significant impact on the value of the Walkers' properties. The Board notes in that regard that the Walkers did not attempt to assess the potential effects of sour gas on property values in areas where there is significant sour gas production, nor

did they attempt to determine if there has been a decline in property values as a result of recent and historical sour gas development in the Drumheller region. Further, the Board notes that the Walkers were unaware that sour gas production has been ongoing for a number of years in relatively close proximity (approximately 2 km) to their properties. Finally, the Board is cognizant of the fact that the producing EPZ for the proposed well is likely to be less than 100 m. Therefore, after the drilling of the proposed 12-20 well, the Board finds that it is very unlikely that the Walkers' properties will be affected by a development setback or an EPZ.

Dated in Calgary, Alberta, on December 16, 2003.

ALBERTA ENERGY AND UTILITIES BOARD

[Original signed by]

T. M. McGee

[Original signed by]

W. G. Remmer, P.Eng.

[Original signed by]

D. K. Boyler, P.Eng.

APPENDIX 1 HEARING PARTICIPANTS

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

Rubicon Energy Corporation (Rubicon)

B. Schultz
F. Walsh
M. Hameister

K. Walker and J. Walker (the Walkers)

K. Walker
J. Walker**Alberta Energy and Utilities Board staff**J. P. Mousseau, Board Counsel
J. Smith
L. Wilson-Temple
S. Etifier
J. Pane

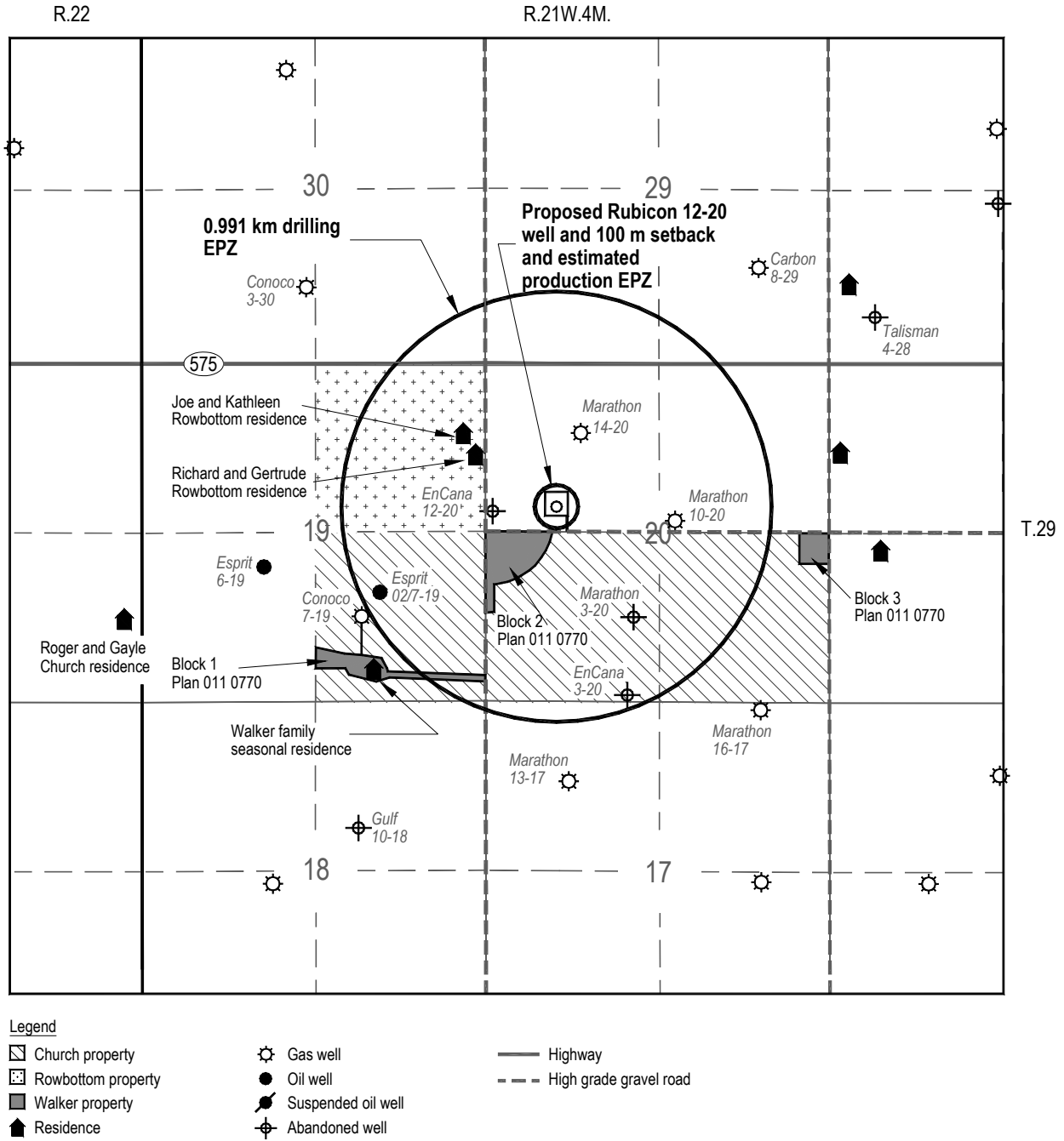


Figure 1. Proposed Rubicon 12-20-29-21W4M well and surrounding area