

**BONAVISTA PETROLEUM LTD.
APPLICATIONS TO DRILL TWO SWEET GAS
WELLS AND TO INSTALL AND OPERATE A
SWEET GAS PIPELINE
BLOOD AND MAGRATH AREAS**

**Examiner Report 2000-2
Applications No. 1039898, 1039899, and 1039900**

1 DECISION

The examiners have considered the evidence and recommend that Applications No. 1039898 and 1039900 be approved. The examiners also recommend approval of Application No. 1039899 as amended in this proceeding. Bonavista Petroleum Ltd. (Bonavista) must submit an amended well survey plan reflecting the exact amended surface location of the well before it commences drilling of the well at LSD 16-15-6-21W4M (16-15 well).

Reasons for the examiners' recommendations are outlined in the following sections.

2 APPLICATIONS AND HEARING

Those who appeared at the hearing and the abbreviations used in this report are indicated in Attachment 1. An area map showing the locations of the proposed facilities is provided in Figure 1. A detailed map showing the originally applied-for and amended surface location for the well in Application No. 1039899 is provided in Figure 2.

2.1 Applications

Bonavista submitted the following applications to the Alberta Energy and Utilities Board (EUB/the Board):

- Application No. 1039898, pursuant to Section 2.020 of the Oil and Gas Conservation Regulations, requesting approval to directionally drill a sweet gas well from a surface location in Legal Subdivision 9, Section 22, Township 6, Range 21, West of the 4th Meridian to a projected bottomhole location in LSD 16-22-6-21W4M (16-22 well).
- Application No. 1039899, pursuant to Section 2.020 of the Oil and Gas Conservation Regulations, requesting approval to directionally drill a sweet gas well from a surface location at LSD 16-15-6-21W4M to a projected bottomhole location in LSD 16-15-6-21W4M (16-15 well).

During the hearing, Bonavista amended its application by proposing to relocate the 16-15 well to an amended surface location approximately 150 metres (m) northeast of the originally applied-for surface location. The new site would be north of and immediately adjacent to the boundary of Mr. Meldrum's property. The amended surface well site would be triangular in shape and in the corner of nonirrigated cultivated land owned by

the Wilde Brothers Farms Ltd. (the Wilde Brothers). The 16-15 well would be directionally drilled from the amended surface location to the originally applied-for bottomhole location.

- Application No. 1039900, pursuant to Part 4 of the Pipeline Act, requesting approval to construct 0.94 kilometres (km) of pipeline to transport sweet natural gas from the 16-15 well to an existing Bonavista pipeline at LSD 8-22-6-21W4M. The amended surface well site would not alter the pipeline route, only slightly shorten its length.

2.2 Interventions

The EUB received an objection to the applications from the Wilde Brothers. They own and farm the land on which the proposed wells and pipeline would be located. The Board directed, pursuant to Section 29 of the Energy Resources Conservation Act, that a public hearing be held to consider the applications. The EUB subsequently received an objection from Mr. Meldrum with respect to Application No.1039899. Mr. Meldrum's residence and farm yard are located adjacent to the 16-15 well.

2.3 Hearing

The applications and interventions were considered at a public hearing in Lethbridge, Alberta, on December 14, 1999, before Board-appointed examiners R. J. Willard, P.Eng., T. J. Pesta, P.Eng., and C. D. Hill. The panel and staff viewed the sites of the proposed facilities on the afternoon of December 13, 1999.

2.4 PRELIMINARY MATTERS

In February and March 1999, Bonavista drilled a well at LSD 1-27-6-21W4M and constructed a pipeline from the well to LSD 5-20-6-21W4M traversing the Wilde Brothers' property. Together with the three applications heard in this hearing, Bonavista originally applied to install a compressor station to increase the throughput capacity of the existing pipeline system. The Wilde Brothers suggested that Bonavista's development planning was faulty and stressed that the originally approved pipeline size should have been larger to handle all future gas production. As a result, the Wilde Brothers objected to the potential installation of a compressor station. Bonavista later determined that the existing pipeline system had sufficient capacity to accommodate the production from the applied-for 16-22 and 16-15 wells and consequently withdrew the applications associated with the compressor station.

The examiners note the Wilde Brothers' concerns regarding the size of the existing Bonavista pipeline and the potential installation of a compressor station. However, the examiners accept Bonavista's position that the pipeline can accommodate production from the applied-for wells and believe that any issues regarding the potential installation of a compressor should be dealt with if and when a future application in this regard is submitted. Associated planning issues and consultation plans are addressed in Section 6.

3 ISSUES

The examiners consider the issues to be

- C the need for wells, bottomhole locations, and pipeline,
- C surface location and impacts of the wells and pipeline, and
- C other issues.

4 NEED FOR WELLS, BOTTOMHOLE LOCATIONS, AND PIPELINE

4.1 Views of the Applicant

Bonavista stated that it had acquired the properties in the Lethbridge area from Pinnacle Resources Ltd./Renaissance Energy Ltd. and it had established this area as one of its core properties.

Bonavista submitted that the wells were necessary to increase deliverability, effectively drain gas from the Bow Island Formation, and capture Bonavista's fair share. It indicated that it was specifically targeting the "D" sand. Bonavista suggested that the "D" sand is shaly with poor permeability and to effectively drain that zone, every spacing unit needs to be drilled. It indicated that this complies with standard EUB spacing requirements, which allow for spacing of one gas well per section of land. Bonavista noted that other Bow Island sands were more permeable and existing wells under competitive operations are draining reserves from fairly large areas. Additionally, Bonavista reported that it was technically constrained as to where it could locate the bottomhole location by a major geologic fault. The fault was particularly crucial to Section 15-6-21W4M, as it allows Bonavista only a very small area to remain on its gas target.

Bonavista stated it needed the information from the applied-for wells to further delineate the pool, evaluate new zones, and plan future activities on offset lands. Bonavista acknowledged that if the wells were successful, it planned to drill additional wells fairly quickly. Bonavista reported that the mineral leases were freehold and that as part of its farm-in arrangement with PanCanadian Petroleum Limited, it had acquired drilling commitments.

Bonavista stated that the applied-for 16-15 pipeline was needed to connect the gas production from the applied-for 16-15 well to its existing pipeline gas gathering system.

4.2 Views of the Interveners

The Wilde Brothers submitted that the proposed wells were not needed, since production records on past Bonavista wells in the area showed that the wells were declining and were not producing at the levels predicted by Bonavista. They argued that Bonavista and past operators had overestimated the productive capability of the wells in the area and that existing wells were draining the reserves. Therefore, they did not believe that the economics at the declining production levels would support drilling additional wells. The Wilde Brothers suggested that Bonavista's purpose for drilling the wells was to satisfy business commitments and obligations it had made to other parties. The Wilde Brothers stated that they did not know about the "D" sand that Bonavista was proposing to target. They argued that the existing wells could economically drain remaining reserves first and that the decision to drill additional wells and produce other sands or zones could be made at a later time when more evidence was available.

The Wilde Brothers stressed that since the wells at LSD 1-27-6-21W4M and LSD 4-26-6-21W4M are close to the 16-22 well, that portion of the pool could be adequately drained without the 16-22 well. However, the Wilde Brothers did note that the 16-15 well may be required by Bonavista to learn more about the extent of the pool and they indicated that if any of the wells had to be granted, it should most likely be the 16-15 well.

The Wilde Brothers did not oppose the need for the 16-15 pipeline if that well were drilled.

Mr. Meldrum stated that he did not oppose the need for the wells or the pipeline.

4.3 Views of the Examiners

The examiners are satisfied that, based on the geology presented, the bottomhole locations for the wells are reasonable and accept that additional reserves would be recovered with the drilling of more wells. The examiners accept that Bonavista holds the required mineral rights under Sections 15 and 22 and has a right to exploit those reserves. The proposed development represents the standard gas well density normally allowed to occur unless there are significant land-use or environmental impacts that cannot be mitigated with standard industry practices. With the additional wells, the examiners believe that decisions about pool delineation and further development can be supported. Therefore, the examiners believe that there is a need for the subject wells. Surface effects of the wells are addressed in Section 5.

The examiners note that if the proposed 16-15 well is approved and is successful, a pipeline infrastructure would be required to move the production from the well and that no alternative pipeline tie-in points were identified. Therefore, the examiners believe that there is a need for the pipeline to tie in the applied-for development well in Section 15.

5 SURFACE LOCATION AND IMPACTS OF THE WELLS AND PIPELINE

5.1 Views of the Applicant

Bonavista stated that it had approached the Wilde Brothers prior to making its applications and had solicited their input on the location of the proposed wells and pipeline. It indicated that it had chosen the location for the applied-for wells and pipeline to minimize impacts and to accommodate the farming operations of the Wilde Brothers. Bonavista would have preferred to drill vertical wells but opted for directional drilling to move the wells from within the pivot areas to marginal farmland or undeveloped property.

Bonavista noted that it had also approached Mr. Meldrum in regard to the originally applied-for 16-15 well location and that Mr. Meldrum did not object to the well or its location at that time. It further added that had it known of Mr. Meldrum's concerns about the original location of the 16-15 well, it would have pursued further discussions to resolve his issues sooner.

Bonavista stated that the drilling of the wells would take approximately five to seven days and would require virtually no lease construction, thereby minimizing surface disturbance. Bonavista indicated that no sumps would be required during drilling operations, freshwater drilling mud would be used, and the drilling fluid would be land-spread. Bonavista stated that testing of the wells would require flaring for a duration of two to three days but no permanent flare would be

located on the site. It further stated that the surface facilities required at the well locations would consist of a meter run, pipeline riser, and pigging facility, all enclosed in a small metal building. Bonavista indicated that it would meet all well casing and cementing requirements. Additionally, Bonavista stated that it would be receptive to testing the water well located on Mr. Meldrum's property to address Mr. Meldrum's concerns regarding effects on his water well.

At the hearing, Bonavista agreed to relocate the 16-15 well to the amended surface location. Bonavista believed that the amended surface location would have the least impact to the adjacent resident and minimal impact on the farming operations in that area. It stated that if the 16-15 well were approved, it would consult with Mr. Meldrum and the Wilde Brothers on the exact location of the well within the area described on Figure 2 and on the timing of the drilling.

Bonavista stressed that the 16-22 well is the least contentious and that drilling, if the well licence is approved by the EUB, should not be delayed.

5.2 Views of the Interveners

The Wilde Brothers opposed the surface location of the 16-15 and 16-22 wells because the wells would interfere with farming operations. The Wilde Brothers indicated that they also have concerns about the installation of the 16-22 pipeline due to the risks of farming operations encountering pipelines. The Wilde Brothers preferred to have the pipeline located in the road ditch or within the road allowance. They indicated that they understood that county bylaws precluded this but believed that exceptions should be made. They further stressed that placing a well or pipeline in the field reduces the possibilities of where they could place future homes or farm buildings or store farm equipment. However, the Wilde Brothers acknowledged that the originally applied-for surface location of the 16-15 well, the amended surface location of the 16-15 well, the applied-for location of the 16-22 well, and the proposed pipeline would all be located off irrigated land and away from the irrigation pivot. They also indicated that, should the 16-15 well be approved, they would prefer Bonavista to relocate the well as described to address Mr. Meldrum's concerns.

Mr. Meldrum opposed the applied-for surface location of the 16-15 well and stated his preference to have the well relocated to the amended surface location. Mr. Meldrum indicated that because he originally did not expect changes to result from his input on the well location, he had not pursued further consultations with Bonavista.

Mr. Meldrum argued that the originally applied-for 16-15 surface location was too close to his property and expressed concern for his grandchildren, who play in the nearby pasture. He also indicated that as the prevailing winds in the area are westerly, his residence would be in the direct path of any potential noise and fume problems from the originally applied-for drilling site. Mr. Meldrum acknowledged that safety issues during the drilling phase were his primary concern and expressed additional concern that drilling operations could contaminate his water well.

Mr. Meldrum stated that drilling operations may negatively effect the cattle that are fed on his property during the winter. He stated his preference to have the drilling of the well occur in mid-to late March, when the cattle are moved off his property and he and his family could be temporarily relocated.

Mr. Meldrum did not comment on the 16-22 well or the proposed pipeline.

5.3 Views of the Examiners

The examiners believe that Bonavista attempted to locate its wells and pipeline to minimize the surface impacts. Bonavista proposed directionally drilling the wells in an effort to remove the surface facilities from the area of the irrigation pivot to areas of marginally productive land. The examiners agree that the applied-for surface location of the 16-22 well would mitigate surface impacts and note that no alternative location was proposed by the interveners.

The originally applied-for surface location of the 16-15 well was on undeveloped land. However, the examiners recognize both Mr. Meldrum's and the Wilde Brothers' qualified acceptance to relocate the well to the amended surface location to minimize the impact on Mr. Meldrum's family and his cattle operation. The examiners also note that this location is acceptable to Bonavista and that there are no other potentially affected parties that may be impacted by the relocation.

The examiners accept Bonavista's commitment to consult with Mr. Meldrum and the Wilde Brothers regarding the exact location and the timing of its drilling. Although the examiners consider the potential for impacts from the drilling of these wells insufficient to recommend temporary relocation of the Meldrum family, the examiners encourage Bonavista to continue discussions to accommodate Mr. Meldrum in this regard.

The examiners note the Wilde Brothers' safety concerns regarding farming over pipelines in the area and expect Bonavista to install the pipeline at a depth to accommodate anticipated deep-tillage farming operations. It is the examiners' belief that the Wilde Brothers have a responsibility to know the locations of wells and pipelines on their property and take appropriate precautions when conducting farming operations near these facilities.

With respect to placing the pipeline in the road allowance, the examiners note that no evidence was offered by the parties or the county indicating the county's approval of such locations. In the absence of such approval, and for the reasons outlined above, the examiners are satisfied that the proposed location of the pipeline is appropriate.

The examiners are satisfied that the amended surface location for the 16-15 well, the applied-for 16-22 well location, and the applied-for pipeline minimize the effects on irrigation, farming, and cattle operations.

6 OTHER ISSUES

Bonavista indicated that it takes its role in the area very seriously and that it had consulted with landowners during project planning to make every effort to resolve outstanding issues. Bonavista acknowledged that it did not discuss future development in the area due to uncertainty regarding the productivity of wells but noted that it would consider conducting an open house to discuss development plans following the drilling of these two wells.

The Wilde Brothers expressed frustration with Bonavista's lack of information on its plans for future development in the area and believed Bonavista was not forthright in communicating with local landowners.

Mr. Meldrum agreed that an open house to discuss Bonavista's long-term development plans would be beneficial to the community.

The examiners are disappointed that Bonavista has not shared more information on its future development plans with the Wilde Brothers. The examiners believe that it is feasible to develop a conceptual plan based on reasonable expectations for the success of wells in the area. Furthermore, the examiners believe that Bonavista could have discussed such issues as geology, reservoir drainage, and well spacing in more detail with the Wilde Brothers and urge Bonavista to do so in the future. The examiners believe open communication between company and landowner is beneficial and in the best long-term interest of all parties.

The examiners believe that an open house or public information session early in the planning process or as part of an ongoing public consultation program would have been beneficial. The examiners believe that by holding a public information session, Bonavista could have introduced its plans for the area and provided area residents with a community-based contact for the purpose of conveying ideas, issues, and concerns.

The examiners believe that if Bonavista and Mr. Meldrum had each made an effort to identify and resolve issues early in the process, the I6-15 well could have been relocated prior to the hearing.

The examiners note that there was discussion at the hearing by the Wilde Brothers with regard to compensation matters and the process of the Surface Rights Board (SRB). The examiners reiterate that issues of compensation for land usage are not within the mandate and legislation of the EUB and that such issues should be directed to the SRB.

DATED at Calgary, Alberta, on February 15, 2000.

(Original signed by)

R. J. Willard, P.Eng.

(Original signed by)

T. J. Pesta, P.Eng.

(Original signed by)

C. D. Hill

ATTACHMENT 1 TO EXAMINER REPORT 2000-2

THOSE WHO APPEARED AT THE HEARING

Principals and Representatives
(Abbreviations Used in Report)

Witnesses

Bonavista Petroleum Ltd. (Bonavista)
B. K. O’Ferrall

T. T. Galbreath
H. Spence
J. H. Thiessen, P.Geol.
T. S. Anderson, P.Ag., SR/WA,
of Pioneer Land Service Ltd.

Wilde Brothers Farms Ltd. (the Wilde
Brothers)

P. Hinman

P. Hinman

Mr. D. Meldrum

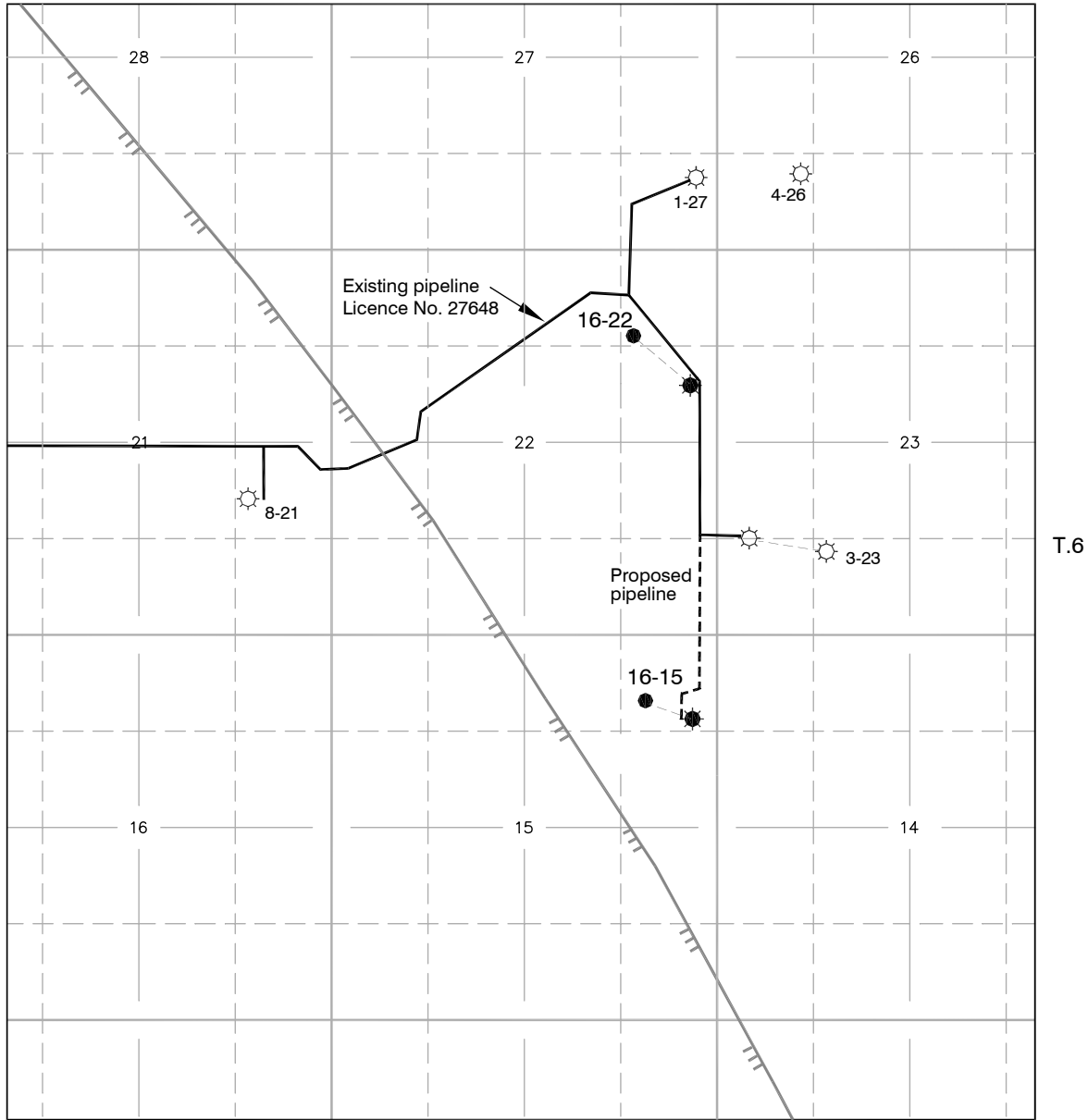
Alberta Energy and Utilities Board staff

R. B. Schafer

P. R. Forbes, C.E.T.

D. Larder, Board Counsel

R.21W.4M.



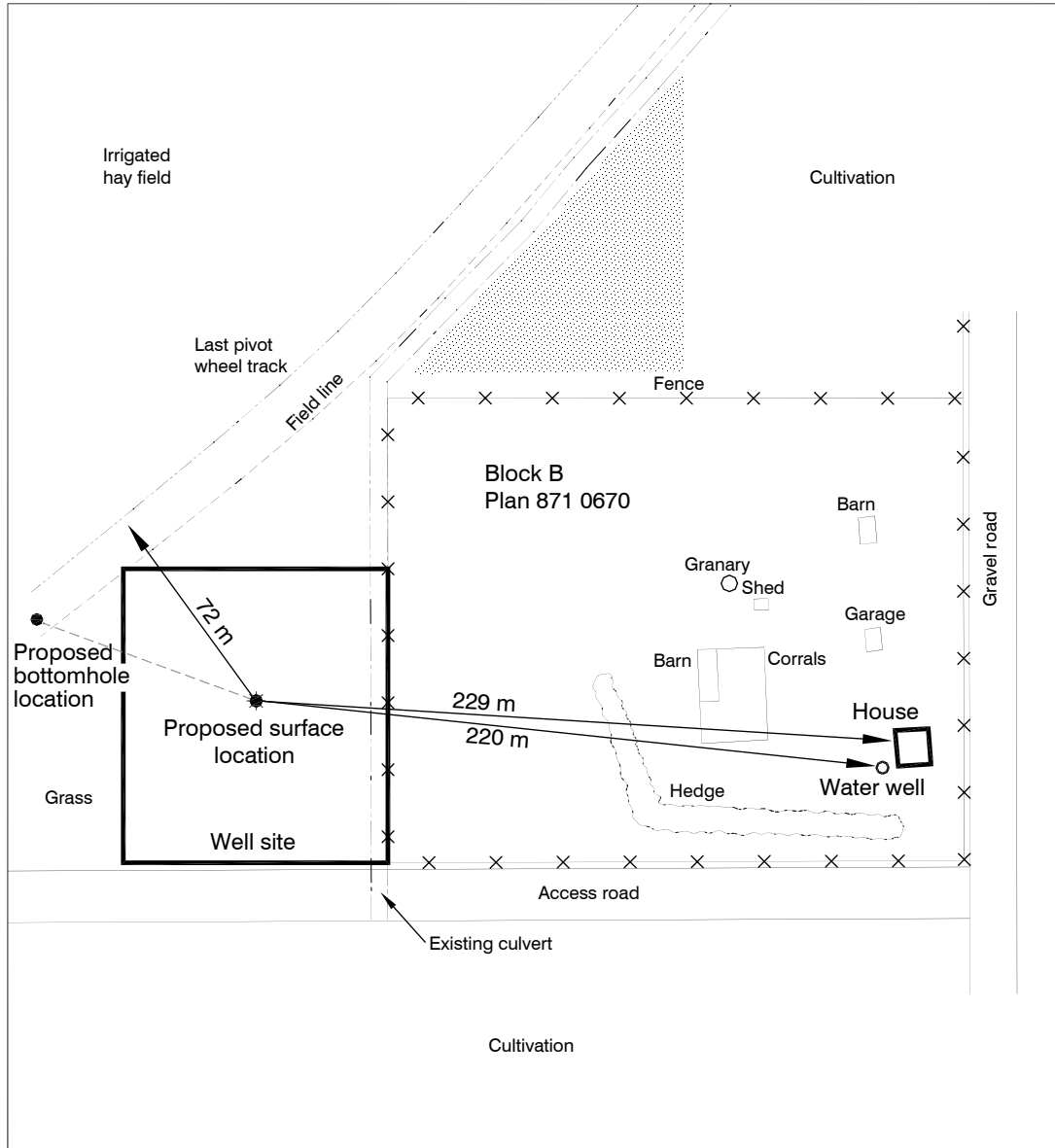
Legend

- | | |
|------------------------------|-------------------|
| Proposed surface location | Proposed pipeline |
| Proposed bottomhole location | Existing pipeline |
| Existing well | Fault |

Figure 1. Magrath Area

Applications No. 1039898, 1039899, 1039900
Bonavista Petroleum Ltd.

Examiner 2000-2



Legend


 Approximate area described for amended surface location of 16-15 well

Figure 2. Proposed 16-15 Well and Meldrum Residence
 Applications No. 1039898, 1039899, 1039900
 Bonavista Petroleum Ltd.

Examiner 2000-2