

ALBERTA ENERGY AND UTILITIES BOARD

Calgary Alberta

**ANDERSON RESOURCES LTD.
APPLICATIONS FOR A WELL LICENCE
ARL GORDONDALE 14-30-79-10
GORDONDALE AREA**

**Examiner Report 2000-4
Applications No. 1042760 and 1048692**

1 RECOMMENDATION

Having carefully considered all of the evidence, the examiners recommend that

- Well Licence No. 0224954 for a surface location in Legal Subdivision 3, Section 31, Township 79, Range 10, West of the 6th Meridian (LSD 3-31-79-10W6M) be cancelled, and
- Application No. 1048692 for a well licence with a surface location in LSD 5-30-79-10W6M be approved.

Reasons for the recommendations are outlined in the report.

2 APPLICATIONS AND HEARING

2.1 Applications and Interventions

Anderson Resources Ltd. (Anderson/ARL) applied to the Alberta Energy and Utilities Board (EUB/Board), pursuant to Section 2.020 of the Oil and Gas Conservation Regulations, for a licence to drill a level-2¹ noncritical sour gas well. Application No. 1042760 stated that the well would be drilled from a surface location in LSD 3-31-79-10W6M (3-31 surface location). The purpose of this well would be to produce gas from the Wabamun and Kiskatinaw Formations from a bottomhole location in LSD 14-30-79-10W6M (14-30). In the absence of bona fide objections, the EUB issued Well Licence No. 0224954 on July 30, 1999.

On August 2, 1999, the EUB received an objection to Application No. 1042760 from Ms. Wendy Lee, the landowner of LSDs 9 and 10, and the northwest quarter of 30-79-10W6M. In response to Ms. Lee's concerns, Anderson proposed an alternate surface location in 5-30-79-10W6M (5-30 surface location), while maintaining the original bottomhole location of 14-30. Ms. Lee also objected to the 5-30 surface location as applied for in Application No. 1048692. Accordingly, the Board directed, pursuant to Sections 43 and 29 of the Energy Resources Conservation Act, that a public hearing be held to consider these applications.

A map showing the well locations and residences in the area is provided in the attached figure.

¹ Sour wells are designated by levels pursuant to EUB *Interim Directive 97-6*, depending on the potential maximum H₂S release rate. Level-2 wells have a potential H₂S release rate of 0.3 cubic metres per second (m³/s) or greater but less than 2.0 m³/s.

2.2 Hearing

The applications and interventions were considered at a hearing commencing March 7, 2000, in Dawson Creek, British Columbia, before Board-appointed examiners C. A. Langlo, P.Geol., R. J. Willard, P.Eng., and T. G. Abel, P.Eng. The examiners and staff viewed the proposed access and surrounding area on March 6, 2000. Those who appeared at the hearing and abbreviations used in this report are listed in the following table.

THOSE WHO APPEARED AT THE HEARING

Principals and Representatives (Abbreviations Used in Report)

Anderson Resources Ltd. (Anderson)

L. Cusano

Witnesses

D. Livingstone, P.Eng.

C. Hiscock, P.Eng.

W. Tersmette, P.Eng.

W. Leyland, P.Geol.

Dr. D. M. Leahey, Ph.D.,

of Jacques Whitford Environment Limited

R. J. Clissold, P.Geol.,

of Hydrogeological Consultants Ltd.

Ms. W. Lee

K. Buss

W. Lee

Alberta Energy and Utilities Board staff

A. Domes, Board Counsel

S. L. Cowitz, C.E.T.

S. Kelemen, C.E.T.

During the course of the hearing, Anderson identified that it wished to have only the 5-30 surface location considered. The examiners therefore proceeded on this basis, with the understanding that Well Licence No. 0224954 issued for the 3-31 surface location would be cancelled regardless of the outcome of the hearing.

3 ISSUES

The examiners believe the issues concerning the application to be the following:

- need for and bottomhole location of the well,
- surface location and impacts,
- emergency response planning and risk analysis, and
- public consultation.

4 NEED FOR AND BOTTOMHOLE LOCATION OF THE WELL

4.1 Views of the Applicant

Anderson submitted that it had obtained, either through purchase of a Crown mineral lease agreement or a farm-in agreement, the right to explore for and produce all zones below the base of the Baldonnel Formation within Section 30-79-10W6M (Section 30). Anderson stated that its primary exploration target was a 16 hectare (ha) Wabamun gas reservoir that it believed to exist within 14-30. Given the limited areal extent of this reservoir, Anderson did not believe that any other bottomhole target would enable it to recover the reserves from this pool. Anderson noted that a secondary target was the Kiskatinaw Formation, and it confirmed that it would evaluate the commercial potential of all drilled zones for which it had producing rights, including two potentially sour zones, the Charlie Lake and the Halfway.

Anderson stated that it had purchased seismic data to assist in identifying the Wabamun target. At the hearing, Anderson noted that there was a hole in the data over Section 30 that it interpreted to mean there were no shot points or geophones across Ms. Lee's property. Anderson clarified that it did not need seismic over the land to define the geology and verified that it had not requested or bought seismic data that was shot over Ms. Lee's property.

4.2 Views of the Intervener

Ms. Lee did not dispute the presence of the gas reservoirs or Anderson's rights to the minerals in question. She argued, however, that a company's rights to the minerals should not interfere with the rights of the surface owner. She pointed out that she was limited to development opportunities on her land, whereas Anderson had numerous other opportunities to drill wells elsewhere in the province and therefore did not need this well.

Ms. Lee stated that, based on a seismic line drawn on a survey plan, she believed that seismic operations were conducted on her property without her consent. She further contended that Anderson's use of the seismic data to determine its precise bottomhole location constituted the use of illegally obtained information. Ms. Lee believed that the examiners should disregard all seismic data presented by Anderson, thereby eliminating the justification for the well. Ms. Lee further requested that Anderson's applications not be considered until the Alberta Minister of Environment had completed an investigation into the trespass issue.

Ms. Lee also argued that the majority of gas produced by companies like Anderson was exported out of the province and the country. She stated that Alberta did not currently need the royalties generated by additional petroleum production and that these resources should be maintained for future generations of Albertans.

4.3 Views of the Examiners

The examiners accept that Anderson has the right to explore for and produce the minerals from all zones below the base of the Baldonnel Formation underlying Section 30. The examiners also note that

mineral rights are subject to conditions that require companies to evaluate all leased zones within a specified time frame or potentially lose those rights.

The examiners understand that Ms. Lee is pursuing the matter of a potential seismic trespass with Alberta Environment, the agency responsible for regulating seismic activity in Alberta. The examiners also note Ms. Lee's suggestion that the seismic evidence should be disregarded until this review is complete. In her view, disregarding seismic evidence would eliminate the justification for the well.

The examiners note Anderson's evidence at the hearing that the seismic data were purchased from a third party and adapted by them to account for gaps in the data over Ms. Lee's land. The examiners also believe that providing this clarification to Ms. Lee at an earlier stage in the process would have been helpful. The examiners accept that, although the seismic data were used by Anderson to pinpoint a primary drilling target in the Wabamun Formation, other potential zones were also identified. While evidence such as seismic may reduce the risk associated with drilling of an exploratory well, it does not eliminate that uncertainty. In this instance, the examiners conclude that a well is needed to evaluate the target zones in question. The examiners also note that neither the gap in the seismic data over Ms. Lee's land nor the bottomhole location of the well was challenged by the intervener. The examiners conclude that the question of seismic trespass is not material to this proceeding.

In considering whether to approve a well licence, the EUB must also recognize and balance the rights of surface owners and ensure that all development proposals are in the public interest and are subject to all necessary mitigating measures needed to achieve an acceptable level of impact. Accordingly, while the examiners believe that a well is required at the proposed bottomhole location, they must first examine the potential impacts of the surface location and mitigating measures.

The examiners note that the issues of Alberta gas export policy and the collection of associated royalties also raised by Ms. Lee are matters of provincial government policy. The examiners did not receive evidence or compelling argument that would raise a public interest issue relative to these policies and have not considered them further relative to this application.

5 SURFACE LOCATION AND IMPACTS

5.1 Views of the Applicant

In order to access the target reservoir in 14-30, Anderson acquired a surface lease from the landowners of the 5-30 surface location. Anderson noted that this location is on previously disturbed land that would require minimal clearing for the well site and access road. Anderson also conducted a pre-site assessment to ensure that it could return the site to its current condition. Anderson believed that the 5-30 surface location would minimize the impact on the intervener, including her proposed land development while allowing Anderson's exploration objectives to be met.

In the course of drilling to its primary target, Anderson indicated that it might encounter shallower hydrocarbon-bearing formations containing sour gas. Although it did not expect these

zones to be productive, Anderson calculated a potential H₂S release rate for the drilling phase of its proposed well, in accordance with EUB *General Bulletin (GB) 99-7*². It noted that a review of all wells within six miles of its proposed location identified limited occurrences of sour gas in the Charlie Lake and Halfway Formations. Using the highest flow rate and highest H₂S percentages in the area, Anderson calculated a maximum potential H₂S release rate of 0.413 m³/s during drilling. Anderson noted that it had not reduced the rate by geological or engineering editing of available raw data but had maintained a worst-case scenario.

Based on this drilling release rate, Anderson identified that the proposed well would be designated as a level-2 sour well, with associated setbacks of 100 m to any permanent dwelling and 500 m to any public facility or urban centre. Anderson stated that it did not believe that Ms. Lee's development would be impacted, since currently there is no development within this 500 m radius and it appeared that Ms. Lee's proposed campground would be at least 600 m from the well. In any event, Anderson expected the drilling to be completed prior to Ms. Lee's campground construction. Anderson clarified that, following drilling of the well, it did not expect the producing zones to exceed a level-1³ designation, with associated setbacks of 100 m from any surface improvement.⁴

Anderson stated that any time drilling activities are undertaken, care has to be exercised to protect the groundwater or other water sources. A review of the area indicated to Anderson that there are no significant aquifers, registered water wells, or registered users of surface water within the region. If requested by a landowner, Anderson stated that it was prepared to test water wells or dugouts consistent with the protocol recommended by its expert. Given that the recommended base of groundwater protection is 385 m, Anderson proposed setting its surface casing to 440 m and cementing it to surface. In this particular location, Anderson believed that extraordinary precautions were not required to protect the groundwater during the drilling of this well.

Since the targeted production is gas, Anderson reported that it was not in its economic interest to flare any more gas than necessary for testing purposes. Anderson stated that it therefore expected flaring to be restricted to 1-hour drillstem tests (DSTs) on each potentially productive zone, followed by a two-and-a-half- to three-day flow test when completion operations were conducted on each perforated zone. Anderson stated that the zones expected to be tested are sweet or very slightly sour and that it is not its practice to conduct DSTs on zones with greater than 5 per cent H₂S. Anderson believed that it would not be prudent to construct a pipeline for in-line testing, since the reservoir parameters are unknown, distances to existing facilities are long and require road crossings, and such construction could result in redundant facilities if the well were not productive. Anderson stated that its well-testing operations would meet or exceed the requirements of EUB *Guide 60: Upstream Petroleum Industry Flaring Guide*.

² *Hydrogen Sulphide (H₂S) Release Rate Assessment and Audit Forms Guidelines*

³ Level-1 wells have a potential H₂S release rate of not more than 0.3 m³/s.

⁴ Oil and Gas Conservation Regulations define "surface improvement" as a railway, pipeline, or other right-of-way, road allowance, surveyed roadway, dwelling, industrial plant, aircraft runway or taxiway, building used for military purposes, permanent farm buildings, school or church.

5.2 Views of the Intervener

Ms. Lee stated that there are no surface locations for the proposed well that would be acceptable to her. Ms. Lee's concerns centred on the impact that sour gas flaring or release could have on the health, safety, and peace of mind of herself and her family as residents, as well as the health and safety of visitors to the proposed development on her land.

Ms. Lee stated that she had initiated plans to develop her land within the northwest quarter of 30-79-10W6M as a public campground. She added that she had submitted an application for a development permit to the County of Saddle Hills (the County) and was in the process of providing additional information as required by the County. Ms. Lee was unable to provide information on how much time would be required by the County to complete its review of her application.

Ms. Lee was concerned that the possible presence of a sour well and applicable signage along the access road and adjacent to the southern border of her property would alarm tourists, who might go elsewhere as a result. Even sweet gas well development would detract from the wilderness feeling that Ms. Lee said she would like to promote and would add to the cumulative impact of the oil and gas industry in the area. Ms. Lee stated that she was also pursuing the restoration of the Gordondale post office near her residence on the northeast quarter of 30-79-10W6M and had applied to Alberta Community Development for a Historic Resource Designation in that regard.

Ms. Lee expressed concern about the potential hazards of H₂S and argued that the effect does not have to be lethal to be significant. She pointed out that her eyesight is limited and that any exposure causing a reduction to her remaining vision would be devastating. Ms. Lee questioned Anderson regarding alternatives to open flares, such as use of enclosed flares, and its commitments to reducing flaring.

Ms. Lee stated that she understood that if the well were classified as a level-2 sour gas facility, a 500 m setback restriction from any public facilities would be required. Ms. Lee believed that this setback would impose an unfair restriction on the campsites, hiking trails, and recreation facilities planned for the southern portion of her property adjacent to the proposed campground.

Ms. Lee said that she had objected to the 3-31 surface location due to concerns regarding clearing of Crown land and proximity to her proposed campground. She indicated that Anderson's attempt to resolve her concerns by moving the surface location onto already cleared land at 5-30 still represented an addition to the cumulative environmental impacts in the area.

Ms. Lee believed that further industry development in this area would not be compatible with her campground proposal and its wilderness retreat theme, would place unfair setback restrictions on the future use of her property, would conflict with promotion of historical or ecotourism in the area, and would pose an unacceptable risk to her residence.

5.3 Views of the Examiners

In assessing the proposed surface location of the well, the examiners believe that they must consider potential impacts of the well and what mitigative measures, if any, are necessary to ensure that impacts are minimized. While the development plans for the campground and the post office have not been approved, the examiners believe that it is appropriate to address the potential impacts of the well on both the current and proposed use of Ms. Lee's property. The examiners note that Anderson voluntarily agreed to move the surface location of the proposed well in order to minimize impacts previously identified by Ms. Lee. The examiners also note Ms. Lee's view that any location adjacent to her property would not be acceptable. The examiners consider that the potential impacts of the 5-30 surface location include the setback requirements relative to the proposed facilities, flaring, and the potential impacts on groundwater.

The examiners accept that Anderson's drilling release rate calculation is consistent with the protocol set out in *GB 99-7*. Based on this determination, the examiners believe that a level-2 worst-case classification is appropriate for the drilling phase of this well. For the production phase, the examiners cannot rule out the possibility that the well may be sour, up to a level-2, and believe that impacts should be assessed against the full range of possibilities. For a level-2 producing well, a minimum 500 m setback would be required from facilities designated as public facilities and a 100 m setback from surface improvements or residences. In this case, the examiners note that the distance between the proposed overnight camping facilities and the well site would be 500 m or more. Regarding potential impacts on hiking trails adjacent to the campground, the examiners note that such trails are not defined as a surface improvement and would not, therefore, be subject to any setback restrictions. On this basis, the examiners do not believe that the drilling or operation of a level-1 or -2 sour well at the 5-30 surface location would prevent Ms. Lee from obtaining development approval for the campground as proposed. Under the Board's requirements, a well at the 5-30 surface location would not encroach on any dwelling, surface improvement, or public facility setbacks prescribed for either a level-1 or -2 sour well.

The examiners expect that the 5-30 well would be drilled and completed before the proposed campground construction is completed. Once the well has been drilled and productivity and operational plans determined, the nature of the release rate and setback requirements would be finalized. Should either the well classification or other relevant factors change, the examiners note that Anderson would be required to update its emergency response plan. The examiners further note that, should the proposed well produce only sweet gas, the impacts on current or future land use would be greatly reduced.

With regard to flaring, the examiners are satisfied that the flaring anticipated by Anderson is reasonable for a well of this type. Should the well test flaring volumes exceed 600 thousand cubic metres or the flare gas contain 50 moles of H₂S per kilomole of gas or more, the examiners also note that Anderson will require prior EUB approval.

The examiners note that most of the usable water in the area comes from surface dugouts rather than from water wells, and they do not believe that the proposed well poses a risk to residential water supplies in the area. However, the examiners expect Anderson to follow through on its commitment to test water wells or dugouts if requested.

The examiners conclude that although the proposed well will have some impact on the area by virtue of an additional facility being developed, the impact on Ms. Lee's property will be minimal. The examiners also believe that the site selected by Anderson is the least intrusive and that Anderson has adequately addressed impacts associated with the surface location of the proposed well.

6 EMERGENCY RESPONSE PLANNING AND RISK ANALYSIS

6.1 Views of the Applicant

Based on a worst-case H₂S release rate estimate of 0.413 m³/s, Anderson calculated its emergency planning zone (EPZ) to be 1.26 kilometres (km). In developing its emergency response plan (ERP), Anderson identified and included in its plan one residence within the EPZ and four residences immediately adjacent to it. Even though there are no school children living within the EPZ or in the broader emergency awareness zone, Anderson noted that it had spoken with the school bus driver for the area and would ensure that appropriate Anderson personnel know the bus schedules. It also stated that if the campground is developed, its ERP would be amended to address the new facilities as required.

Anderson confirmed that under a level-1 emergency, residents would be contacted and given the option to evacuate voluntarily. A level-2 emergency would result in full evacuation. Residents would be advised to remain sheltered indoors if Anderson had not yet ascertained the actual extent of H₂S in the area and/or if their residence was inside the plume. Anderson clarified that it expected sheltering alternatives to be only a temporary solution. If the well site supervisor could not guarantee the safety of the public, the well would be ignited immediately. Anderson also stated that, if requested, it would contact Ms. Lee daily while drilling through the sour zones and would provide either a gas mask or similar hood apparatus, as requested. Anderson clarified that such a device would not replace its ERP plan and must not be relied upon by the public to the exclusion of necessary actions under the ERP. In response to questioning about placing a siren on the well site, Anderson responded that it preferred to contact each person directly to ensure that their whereabouts are accounted for and that they have been safely evacuated along the correct egress route. Anderson stated that it is willing to supply pagers in order to contact concerned residents.

In view of the intervener's concern regarding the drilling of a sour well, Anderson presented a risk analysis that considered the consequences of a well blowout of gas from the sour formations. The results of the risk analysis illustrated that if there is uncontrolled release of H₂S under the worst meteorological conditions and the most pessimistic flow situations and the well is ignited, the ground-level sulphur dioxide (SO₂) concentrations would be such that there should be no need for evacuations. Even if the well were not ignited, Anderson reported that the maximum downwind distance to the 100 parts per million isopleth would be 390 m. Given that the nearest residence is 680 m, it was Anderson's opinion that there would be no risk of lethal consequences as a result of an uncontrolled release of sour gas. Under cross-examination regarding the applicability of some of the parameters used, Anderson stated that even if the analysis was overestimated by a factor of 100, the risks are still very small at downwind distances of 400 m. Anderson summarized its risk analysis by identifying that modelling calculations play no role in the procedures following a blowout. The decision to evacuate is

dependent upon monitored data, and it was Anderson's view that if a release should occur, the monitoring would verify that concentrations would not reach a level requiring evacuation. Anderson also stated that between its insurance coverage and its internal mandate, Anderson would ensure that results of any unforeseen incidents caused by its operations to Ms. Lee or her guests would be properly addressed and compensated.

Anderson explained that if production from this well were to contain H₂S, it would again contact residents identified within the ERP as part of any application for a pipeline or facility. Anderson anticipated that the final planning zone for a productive well would be significantly less than that calculated for the drilling of the well, due to the fact that it expected the target zones to be sweet and any sour zones encountered would be safely isolated behind the casing. Anderson indicated that although it did not intend at this time to produce any sour zones, it could not commit to such production not occurring in the future if economic reserves were encountered. Anderson believed it unlikely that it would encounter sour reserves in the Charlie Lake or Halfway zones. It anticipated that the resulting production from the targeted zones would remove the need for a site-specific ERP. Setbacks would revert to the 100 m required for all wells, and a well at the 5-30 surface location would be integrated with Anderson's ERPs for the remainder of the Fairview District.

Due to the amount of time between the development of an ERP and the drilling of a well, Anderson stated that it would review its information prior to drilling, update related information, correct any errors present within the ERP, and review that information with the personnel on site who are expected to respond in the event of an emergency. Anderson identified that it had discovered some typographical errors, in addition to corrections to the Well Information Summary, and that these would be updated in the ERP prior to drilling.

6.2 Views of the Intervener

Given the proposed plans for the campground on her property and the potential for exposure of family members to H₂S gas should an incident occur, Ms. Lee stated that her anxiety is increased by living within an EPZ for a sour well or facility. Ms. Lee was concerned about the ability of Anderson to contact all parties within the EPZ in order to evacuate, if necessary, since activities such as farming and hiking placed people outdoors and away from a telephone. Ms. Lee was also concerned that the access road into her proposed campground is a dead-end, which would require egress past the well site. Ms. Lee stated that she does not have confidence in Anderson's ability to act on the plan to ensure the safety of herself, her family, and guests.

In reviewing the risk assessment, Ms. Lee disagreed with specific parameters, such as use of complex versus flat terrain, the reliability of using wind direction statistics from the Grande Prairie airport, and the amount of time rural people spend outdoors. Ms. Lee identified that the modelling conducted in conjunction with the risk assessment is an exercise only and does not take into account risks from cumulative effects of additional development, such as an associated pipeline if the well is successful. Ms. Lee stated that imposed risks, which the proposed well represents, should not be compared

to chosen risks, such as driving a car. Ms. Lee also questioned Anderson regarding its liability if an event should occur at the well that causes harm to parties on her property.

6.3 Views of the Examiners

The examiners note that the risks associated with drilling this well would be expected to fall within commonly accepted levels of risk associated with similar industrial activities. The application of standard industry practices and compliance with EUB requirements, including an acceptable ERP, are expected to reduce risk to levels within acceptable standards. The examiners find that the ERP is acceptable for the current land use and adequately addresses evacuation. The examiners acknowledge Anderson's intent to update its ERP for approval from the EUB prior to spudding the well. Anderson is also required to ensure that affected parties are advised of the outcome of this well and of any resulting changes to the ERP. If the campground is developed, Anderson will be required to amend its ERP accordingly to account for all parties and potential surface improvements within the EPZ.

The examiners acknowledge that Anderson is willing to provide a breathing apparatus to Ms. Lee in order to minimize her concerns, but note that this is a site-specific option and would not normally be required. The examiners concur with Anderson's view that the use of such a device does not eliminate the need to follow the procedures outlined in the ERP in the event of an emergency and expect Anderson to ensure that Ms. Lee understands the proper use of this device.

7 PUBLIC CONSULTATION

7.1 Views of the Applicant

Anderson stated that it made numerous attempts to contact and meet with Ms. Lee in order to address her concerns, but believed that the issues regarding the proposed well could not have been resolved outside the EUB hearing process. Prior to the hearing, Anderson conducted an open house in Gordondale to ensure that area landowners and residents were fully apprised of its activity in the area. Anderson noted, however, that interactions with Ms. Lee pointed to a number of areas where its public consultation program required improvement. Having regard for its public consultation responsibilities, Anderson stated that it has taken steps to ensure that information packages are more detailed and precise and that staff providing information are well informed and educated on proposed developments.

7.2 Views of the Intervener

Ms. Lee believed that Anderson had not been open and honest in its communication with her regarding this project. She stated that in its initial contact Anderson failed to provide details regarding the potential sour nature of the well and the resulting impacts associated with this development. Ms. Lee stated that a letter of notification submitted by Anderson at the hearing had not been provided to her and she maintained that even if it had been, it contained unclear and false statements. Ms. Lee expressed disappointment with the lack of and/or delayed response to a number of requests. She also perceived disregard by Anderson of any suggestions she made to improve the ERP.

Ms. Lee noted that contacts by Anderson were made at very inconvenient times directly contrary to her requests. Moreover, she believed that Anderson's communication efforts were not motivated by a desire for resolution of her concerns but were rather a desire to convince her to withdraw her objection to the well licence application. Ms. Lee stated that she was not prepared to compromise her position regarding the drilling of the well and therefore recognized her own unwillingness to enter into negotiation.

7.3 Views of the Examiners

The examiners recognize that in circumstances where there is a strong diversity of views, consultation can be challenging. In this instance, the examiners note that Anderson did not fully meet its obligations with regard to consultation and in particular did not provide sufficient information in a timely manner. The examiners also note that Ms. Lee was reluctant to participate fully in the consultation process.

The examiners acknowledge the applicant's recognition that its initial consultation information was limited in detail and clarity and encourage Anderson to review and fully implement internal processes that are consistent with the intent of the Public Involvement Guidelines included in *EUB Guide 56: Energy Development Application Guide and Schedules, Appendices*. The guidelines have been put in place to ensure that applicable and appropriate information is provided to all parties affected by proposed developments. The guidelines also place an onus on affected parties to inform themselves about new developments by obtaining information from companies proposing developments. The examiners are concerned that in this case the intervener did not fully participate in communicating concerns or reviewing information in a timely manner.

The examiners would strongly encourage both parties to avail themselves of the opportunities to participate in ongoing consultation relating to this well and the updating of information as it becomes available.

DATED at Calgary, Alberta, on May 16, 2000.

(Original signed by)

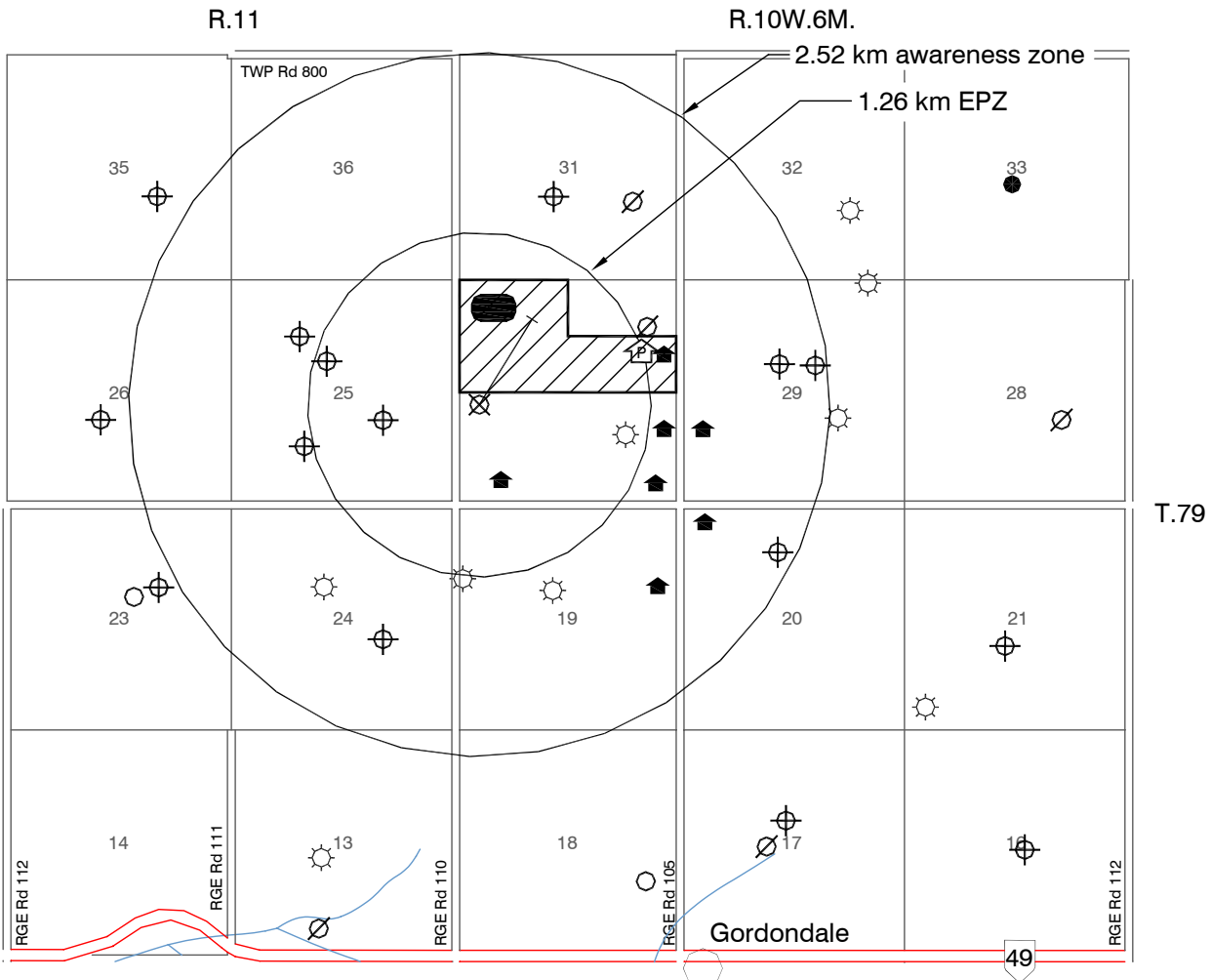
C. A. Langlo, P.Geol.

(Original signed by)

R. J. Willard, P.Eng.

(Original signed by)

T. G. Abel, P.Eng.



Legend

- | | | | | | | | |
|--|----------------|--|-----------------------|--|------------------------|--|--------------------|
| | Abandoned well | | Injection well | | Occupied residence | | Proposed campsites |
| | Oil well | | Suspended/capped well | | Gordondale post office | | Proposed 5-30 well |
| | Gas well | | Standing well | | | | |
- Ms. Lee's property

Gordondale area

Applications No. 1042760 and 1048692
 Anderson Resources Ltd.

Examiner Report 2000-4

