

ALBERTA ENERGY AND UTILITIES BOARD

Calgary Alberta

**RESPONSE TO INQUIRY REQUEST FROM THE
LUDWIG, SCHILTHUIS, BOONSTRA,
WRAIGHT, BRYZGORNI, AND
JOHNSTONE FAMILIES AND DR. W. O. SCOTT**

May 9, 2000

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1 Background and Decision

On October 21, 1998, the Alberta Energy and Utilities Board (the EUB/Board) received a letter on behalf of the Ludwig, Schilthuis, Boonstra, Wraight, Bryzgorni, and Johnstone families and Dr. William O. Scott, all of whom at the time lived near Hythe and Beaverlodge, Alberta. The letter and an additional supporting letter dated November 24, 1998, requested that the EUB hold an inquiry into oil and gas activity in their area. The request expressed health and environmental complaints about emissions from petroleum operations in the area, as well as concern about increasing community frustration and intentional damage to petroleum facilities. The application was made under Section 22 of the Energy Resources Conservation Act (ERCA), which allows the Board to conduct an inquiry into matters related to oil and gas operations.

During the Board's consideration of the request, Wiebo Ludwig and Richard Boonstra were charged with criminal offences related to damage to oil and gas facilities in northwestern Alberta. On March 8, 1999, the Board issued a letter to the families' counsel indicating that it would defer consideration of the request until the criminal proceedings had concluded. The trial of the two individuals resulted with convictions being entered against them on April 19, 2000.

The Board denies the request for an inquiry. Detailed reasons are outlined in later sections of this decision, but the primary reasons are the following:

- Oil and gas operations identified by the families have been conducted in compliance with the terms of the respective companies' approvals, licences, and permits and with provincial environmental standards. Only a minimal number of exceptions have occurred, and in those instances individual companies and the EUB have taken appropriate action.
- There is no objective evidence that the deleterious effects identified by the families are caused by the lawful activities of energy companies operating in the Hythe area.
- The applicants, especially those at Trickle Creek Farm (of the Ludwig, Schilthuis, and Boonstra families), have consistently demonstrated a lack of cooperation over the years in participating in reasonable efforts initiated by the EUB, industry, and other government agencies to find solutions to their concerns or that could have substantiated their complaints.

As part of this memorandum of decision, the Board describes the wider range of concerns expressed by the applicants since the early 1990s and the efforts on the part of the EUB, energy companies, and government agencies to address those concerns. To provide context, this memorandum also includes facts about the extent, scope, and performance of oil and gas operations in the Hythe area.

2 Summary of Complainants' Concerns

The October 21 and November 24, 1998, request letters set out a number of reasons as grounds for the Board to conduct a Section 22 ERCA inquiry:

- The families believed that they were surrounded by sour gas wells and directly affected by harmful emissions from the AEC West Sinclair (also known as Hythe Brainard Sour Gas Plant) and the Knopcik Gas Plant.
- They claimed that the levels of resentment, concern, and frustration in the community were high and community pressures were considerable.
- They cited bombings of various oil and gas facilities in the area.
- They said that there had been death threats made to energy industry opponents and expressed fear of reprisal if such individuals identified themselves.
- They hoped that an inquiry would recommend changes to the conduct of oil and gas activities in the area, especially in connection with well testing, flaring, and venting of gases.
- They expressed concern about recent reports about elevated birth defects in northwestern Alberta and cattle illnesses in relation to a pipeline leak.

In addition to the matters listed above, the Board is also aware of earlier concerns. For example, on April 28, 1998, the Board refused a similar request by the families for a Section 42 review and/or a Section 22 inquiry. The applicants—minus Dr. Scott and the Johnstones—cited a number of concerns as to why the EUB should review industry approvals and hold a general inquiry into regulatory policies, regulations, and guidelines. This request was based on the applicants’ extensive concerns about human and animal health, as well as their general dissatisfaction with how the industry was being regulated. This memorandum addresses this wider range of issues.

3 Reasons for EUB Decision

3.1 Overview

In its April 1998 decision, the Board carefully considered the applicants’ concerns about adverse effects of local oil and gas activity on their health and that of their livestock. Evidence provided by the families at that time was insufficient to support their request for a review or an inquiry. No credible medical, veterinarian, or environmental evidence was submitted. The families chose not to submit any such evidence to substantiate their claims. To date no compelling evidence has been presented in connection with the current request for an inquiry that would cause the Board to hold a public inquiry into these perceived effects.

The Board emphasizes that energy companies in the Hythe/Beaverlodge area are operating within the terms of their approvals, licences, or permits. In addition, activities such as well testing and flaring at well sites and gas plants in the Beaverlodge area are not transgressing terms of approvals or provincial environmental emission standards. In the absence of such evidence, the Board has decided not to hold a public inquiry.

When breaches of standards have occurred, EUB staff and companies have taken timely, direct action to remedy the situation (see p. 4 for details). For example, the Board conducted a meeting inquiry into a raw gas release that occurred on December 12, 1993, at a well located at

7-19-74-11W6M. The incident lasted 20 minutes during recompletion work on the well. In the resulting report, the Board required the company to obtain prior EUB approval for any operations at the well that might have the potential to release H₂S.

The families have cited community concern over oil field vandalism, threats of harm to industry opponents, and the resulting high levels of frustration, anger, and anxiety in the Hythe and Beaverlodge area as a reason to conduct an inquiry into oil and gas activities. The Board notes that the convictions of Messrs. Ludwig and Boonstra indicate that they were to some extent responsible for this unease in the community.

It is the Board's view that the investigation of criminal activity, such as threats or harm to persons or damage to property, is the proper concern of the criminal justice system. Inquiry into such activities is beyond the statutory jurisdiction of the EUB. The Board rejects these grounds as an appropriate reason to conduct a public inquiry under Section 22 of the ERCA.

The Board deplors the use of violence and those who advocate it as a means to further individual, group, or community aims. In the Board's view, support of illegal measures erodes the potential to work cooperatively and build the trust needed to resolve concerns among parties who hold conflicting views.

3.2 Offer of a Facilitated Process to Address Concerns

The April 1998 Board decision said that concerns could be addressed more effectively by

“...direct, ongoing communication between the families, the companies, and the Board. To that end, the Board offers to participate in a meeting between the families and the three companies, overseen by the Board, where all parties could discuss the issues which gave rise to the original application with a view to establishing a means to resolve the concern.

“The timing, location, agenda and other matters of the initial meeting will be determined by the parties through discussion. The Board will suggest that we use a neutral facilitator, acceptable to all parties, to initiate our dialogue.”

The Ludwigs agreed to participate in a meeting to be held on June 4, 1998, in Beaverlodge. The Ludwigs retained counsel, chose a neutral facilitator, and hired an environmental consultant. They worked with the facilitator and agreed to the meeting agenda. The EUB and the three companies funded the costs of the Ludwigs' participation. The other applicants—with the exception of Allan Johnstone—chose not to participate.

On June 4, 1998, about 60 members from the public, companies, government agencies (AENV, Alberta Health and Wellness, Alberta Agriculture, Food and Rural Development), and EUB staff attended at the Beaverlodge Community Hall. All were prepared to begin a process to better understand and resolve the Ludwigs' concerns. The Ludwigs arrived late and refused to participate, apart from reading a prepared statement to the effect that the meeting was an inappropriate forum in which to discuss their concerns. They then left the meeting.

In the Board's view, the meeting could have led to an ongoing process whereby appropriate medical, veterinary, soil, water, and air testing could have been conducted with the Ludwigs' input. Through their last-minute refusal to participate, they rejected this reasonable approach to address their specific complaints.

The family had also refused earlier offers from oil and gas companies to assist them in this regard. They have shown little, if any, interest in cooperating with objective testing of air, soil, and water on their properties. Direct offers of assistance by the EUB and industry to conduct tests have met with outright rejection. Given the lack of objective evidence and the unwillingness to participate in processes that would help gather such evidence, the October 1998 request for a public inquiry for reasons of human and animal health concerns cannot be supported.

3.3 EUB Response to Operational Concerns

The Board is aware that Trickle Creek residents have stated publicly that regulatory personnel have been unresponsive to their complaints. However, staff from the EUB's main office in Calgary and from its Grande Prairie Field Centre responded to oil and gas complaints from the applicants, specifically the Trickle Creek families, on more than 20 occasions from 1990 through 1998. Ongoing actions have included

- monitoring of odours as complaints were received, ensuring that all wells, pipelines, and sweet gas distribution facilities were included in the scope of possible sources;
- offering to provide an on-site air monitoring unit at Ludwig residences (access was denied);
- conducting 13 in-depth well inspections in April 1995 in the area to test for odours and well site deficiencies, which found no operational problems;
- carrying out a survey of surrounding landowners, also in spring 1995, to check for similar odour complaints or other concerns (no other concerns were expressed);
- providing contacts for concerns about seismic activity, health, and traffic, which are outside EUB jurisdiction;
- providing information on sour gas wells, pipelines, and compressor stations in the area, as well as flaring data.

3.4 Specific Operational Incidents

The Board is aware of the Trickle Creek families' concerns about three specific operational matters related to oil and gas facilities in the Hythe area since 1990.

January 23, 1991, at LSD 7-19-74-11W6M (Ranchmen's Resources Ltd.): A failure in well testing equipment occurred when a low-pressure separator gauge glass burst, releasing an estimated 60 m³ of raw gas (3.28 per cent H₂S) to the atmosphere. A peak single reading of 8 parts per million (ppm) H₂S was detected momentarily 200 m east of the testing equipment.

The well was shut in within three minutes. The nearest Ludwig residence was 758 m from the well.

The EUB field centre at Grande Prairie was informed of the incident on January 24, 1991. The EUB believes that the company responded appropriately and that there was no threat to public health or safety during the incident.

December 12, 1993, at LSD 7-19-74-11W6M (Ranchmen's Resources Ltd.): During recompletion operations, tubing was deliberately bled off to a service rig tank. Although the sour gas should have been flared, a separator and flare were not on site. The contract supervisor decided to bleed the sour gas to an open rig tank. About 1694 m³ of 3.28 per cent H₂S gas was released over 20 minutes.

The Board viewed this as a serious incident. The EUB suspended operations and held a meeting inquiry on December 14, 1993. During the inquiry, Concord Environmental estimated that concentrations at the Trickle Creek homes would have been 2 to 4 ppm H₂S. (Most people can smell H₂S from 0.010 ppm down to 0.001 ppm.) Mandatory evacuation levels include any situation where 20 ppm are recorded or where ambient concentrations reach 10 ppm for eight hours or more.

On December 21, 1993, the Board approved the resumption of operations subject to a number of stringent conditions. There have been no further incidents at this site.

August 30, 1996, at LSD 9-20-74-11W6M (AEC West): During a production test of the well, operators discovered a leaking sight glass, which is used to monitor fluid levels in the vessel. A small release of H₂S gas and a five-gallon oil spill occurred, and the operator immediately shut in the facility. The company's incident report indicated an H₂S concentration of less than 1 per cent H₂S. The Board views this as a minor incident that was repaired immediately.

The Board emphasizes that two of these incidents were minor and were resolved appropriately. The incident in 1993 was serious, but the Board is confident that the company has made changes to ensure this type of incident will not recur. This has in fact been the case since 1996.

3.5 Water Well Concern

Carl Bryzgori, one of the persons requesting an inquiry, contended that gas infiltrated his domestic water well when Rife Resources drilled a well at LSD 10-4-74-6W6M in 1990 about 1 kilometre east of his property. In early 1998, an independent water sampling and test showed that the gas contained methane. However, the absence of hydrogen sulphide and hydrocarbon components other than methane indicated that the gas did not originate from the producing zone in the 10-4 well.

A further water and gas sample was analyzed in August 1998 by Alberta Environment (AENV), which concluded that the gas came from a near-surface source, possibly due to lack of water well maintenance. Over the years, bacteria may have produced gas that accumulated and brought the gas content to higher levels. AENV indicated that proper shock chlorination techniques could reduce the contribution of bacteria-produced gas.

During 1998, soil samples from Mr. Bryzgorni's lands were also tested by Rife Resources. The results were within acceptable guidelines and there was no indication of contamination that could inhibit plant growth. Rife offered to fund additional soil studies by an independent agrologist to further determine any possible soil damage and to shock treat Mr. Bryzgorni's water well or install whatever equipment was necessary to remove the gas from his water well. The company also offered to drill a new water well into a different aquifer.

Mr. Bryzgorni responded that none of these offers was acceptable. On at least two occasions, Mr. Bryzgorni also refused to discuss the perceived source of water and soil problems with EUB staff. The Board finds that the circumstances advanced by Mr. Bryzgorni for a public inquiry into oil and gas activities in the area do not warrant such action.

4 Resolving Concerns

This section describes the applicants' concerns from 1990 to the present, as the Board understands them, and presents various means to resolve these issues. However, if satisfactory resolutions are to result, cooperation of the families is required. Many of these avenues are available to all Albertans who believe they may be affected by oil and gas activity.

4.1 Human Health

The applicants, specifically the Trickle Creek families, have continually argued that air emissions in their area have resulted in health problems for family members dating back to 1990. These concerns include headaches, nausea, colds, skin rashes, insomnia, miscarriages, and birth defects.

The Board is disturbed by the seriousness of the reported illnesses and problems and the claim that they are caused by oil and gas operations. EUB field staff have urged the Ludwigs to seek medical examinations when they are sick or report concerns to the local health unit. Without a willingness to work with proper medical authorities, the Board has no evidence on which to assess the cause of illness or determine whether or not oil and gas operations are affecting the applicants' health.

In their November 1998 follow-up letter to the inquiry request, the applicants referred to a health study about elevated birth defects in northwestern Alberta. Known as the Human Health Monitoring Program, it compared disease rates and health conditions across all regions of Alberta. The Board is aware that a medical chart review completed in 1999 found that higher rates of reported congenital heart defects were due to improved diagnostic capabilities.

The Board has also contacted Dr. Stephen Gabos, Senior Team Leader of the Health Surveillance Branch of Alberta Health and Wellness. He has assured the Board that health officials have been and still are interested in establishing connections between possible environmental effects and human health in the northwest region of Alberta. A community exposure and health assessment survey is currently being conducted to increase knowledge about air contaminants and health. The details and directions on how to participate are outlined in an April 7, 2000, update from the Mistahia Health Region entitled "Human Health and Air Quality Program Begins." The Board once again urges applicants to take advantage of this opportunity.

4.2 Animal Health

As early as 1990, applicants from Trickle Creek Farm had complained of “massive abortion of lambs,” lambs born with deformities, stillborn and small-birth-size lambs, a dead canary and chick, abortions in cows, and reduced milk production from goats. This information was relayed to EUB staff in an ad hoc manner and anecdotally linked to oil and gas emissions.

EUB staff urged the complainants to call an outside veterinarian to provide medical assistance and treatment for their animals. This would be considered to be a normal part of sound herd management. As well, the EUB advised the Trickle Creek applicants to contact Alberta Agriculture, Food and Rural Development (AAFRD) for analysis of the dead animals. AAFRD has primary jurisdiction for such matters.

The EUB is also aware that companies and other government agencies offered independent veterinary services to assist the Ludwig families to determine the cause of animal health problems. As far as the Board knows, the applicants did not follow up in a meaningful way. This has led to a persistent lack of scientific evidence and makes it very difficult to respond to and resolve animal health concerns.

The Board would like to make the applicants aware of a multistakeholder protocol that focuses on animal health issues between the agricultural community and the oil and gas industry. Known as the *Memorandum of Understanding for Investigations of Animal Health Complaints Involving the Petroleum Industry* (MOU), the process is supported by AAFRD, the EUB, AENV, the Canadian Association of Petroleum Producers, the Small Explorers and Producers Association of Canada, and the Alberta Cattle Commission.

The MOU sets out the primary roles, responsibilities, and expectations of each of the six organizations, the Animal Health Investigator, the livestock owner, and the oil/gas facility operator. Although the protocol is still in draft form and subject to some minor revision, the agricultural community has been using the services of the independent Animal Health Investigator since September 1998. The Board urges the applicants to avail themselves of this service. The MOU will be available on the EUB Web site at www.eub.gov.ab.ca.

4.3 Landowner and Community Concerns

The applicants’ request for an inquiry mentioned a high “level of resentment, concern, and frustration in the community...” as grounds for the EUB to hold an inquiry. The Board notes that this statement is linked to the applicants’ view that conflicts between energy companies and landowners are widespread across Alberta.

On the specific matter of local concerns in the Hythe area, the Board is aware of a letter signed by 42 people living within 4 kilometres of Trickle Creek Farm indicating that they did not share the applicants’ concerns about oil and gas activity. This does not appear to support the applicants’ claim of widespread community frustration with the oil and gas industry.

From the EUB’s ongoing review of applications for new oil and gas projects and monitoring of active operations, it appears that there is widespread acceptance of development and that generally good relationships exist between the petroleum sector and the people of Alberta. The

Board acknowledges, however, that high levels of industry activity, a growing population, especially in rural areas, increasing sour gas development, and changing values have led to a need for greater attention to landowner concerns at an early stage.

Improving landowner-industry relations and addressing landowner concerns are priorities for the EUB and will continue to be the focus of many Board initiatives. These include

- expanded field staff resources to enhance facilitation of landowner concerns early in the development process and to improve public confidence in inspection/enforcement levels;
- continued commitment to respond to and follow up on all public complaints;
- development of dispute resolution guidelines and tools for integration into the energy development process (e.g., company-sponsored consultation or negotiation, third-party mediation, senior company executive involvement, and use of EUB senior staff or a Board member);
- ongoing implementation and clarification of flaring guidelines and public notification requirements, with emphasis on ways to reach flaring reduction targets through new technologies and operational processes; industry has already surpassed the 25 per cent reduction target for solution gas flaring set for the end of 2001;
- review of sulphur recovery guidelines to address the grandfathering of sulphur recovery requirements at older gas plants and gas plant proliferation;
- continued work on a consistent approach to enforcement to help build confidence that EUB staff deal firmly and consistently with operators that do not comply with the rules;
- sustained communications to landowners and communities about the many ways available for people to have their concerns addressed;
- the Board announcement in January 2000 of the creation of a major multistakeholder process to review public safety requirements for sour gas developments—Albertans will have a chance to present their views to this committee starting this spring.

4.4 Density of Development

The applicants expressed concern about the increased level of oil and gas activity in their area and its effect on them. They indicated that there was little oil and gas activity near their homes before 1990 and there are now 10 wells around their property. Their stated goal was to establish a Christian community without social, industrial, or political intervention. The Board understands their position to be that drilling and production activity in the area is incompatible with their daily lives and that there are no mitigative measures that could ever make such activities acceptable to them.

To clarify the extent of development in this area, the Board presents the attached maps (Figures 1 and 2) and the following details.

- Figure 1 shows the two gas processing plants referenced in the applicants' October 1998 letter. The map covers an area of 2200 km². The AEC West Sinclair plant about 10 km west of Trickle Creek Farm, while the Union Pacific Knopcik plant is located about 5 km southeast.
- Figure 2 shows a 10 km radius around Trickle Creek Farm (about 315 km²). This area has a total of 224 wells, including 103 active oil and gas wells (13 oil wells and 90 gas wells). In addition some 91 wells have been properly abandoned in accordance with EUB regulations. These abandoned wells have been plugged and rendered incapable of producing oil or gas. The surface equipment has been removed and the sites restored, leaving no evidence of the existence of the well.
- The closest oil wells are about 6 km northwest of Trickle Creek Farm. Flaring from the oil battery is low. In 1999 it amounted to approximately 500 m³/day. Flaring from this oil battery in 1997 was about 2000 m³/day, which is similar to that from many oil batteries in Alberta.
- The closest gas well to Trickle Creek Farm is 758 m away. There are six active gas wells in the 23 km² surrounding the farm. There are no oil wells in this area.
- The highest level of drilling activity in the 10 km radius around Trickle Creek Farm (315 km²) occurred twice: in 1978 when 15 wells were drilled and in 1995 when 21 wells were drilled. Over half of the wells in this area were drilled before 1989. In the past decade drilling has averaged about 10 wells per year, with high activity from 1993 to 1997 (about 15 wells per year).

The Board considers development in the area around Trickle Creek Farm to be active in terms of gas development (about one active well per section), but not intensive in terms of oil development.

The Board wants to make it clear that this has been an active area for development for several years, especially for gas exploration, but not out of line compared to many other areas in Alberta during this cycle of high development activity.

4.5 Emissions and Monitoring

The applicants expressed concern that they have been adversely affected by emissions from AEC West's Sinclair sour gas plant and Union Pacific's Knopcik sweet gas plant. Their longer-term complaints included continuous low-level emissions from wells and gas plants and exposure from specific incidents at well sites. The applicants also suggested that emission monitoring is inadequate.

Generally, the wells in the area shown in Figure 2 are gas wells that have no emissions under normal operating conditions. Emissions will occur during well testing, maintenance of facilities, or when there is an operational problem.

While the Board notes the applicants' concerns, there is no evidence that oil and gas operations are exceeding provincial standards. The following summary of emission sources and monitoring results and processes confirms that stringent guidelines are in place to protect public health and safety.

The two gas plants cited by the applicants are shown in Figure 1: the Union Pacific Knopcik sweet gas plant (about 5 km southeast of Trickle Creek Farm) and the AEC West Sinclair sour gas plant (about 10 km west of Trickle Creek Farm).

AEC West Sinclair Gas Plant

The AEC West plant was started up as a sweet plant in 1981, with the sour side starting up in September 1983. Inlet compression was approved in 1991, additional sweetening and liquid capacity in 1996, and an increase in the capacity on the sweet gas side in 1996.

The AEC West gas plant is of moderate size. Its approved sulphur recovery efficiency was increased in 1999 from 97.7 per cent to 98.3 per cent, thus meeting requirements for new plants as specified in EUB *Informational Letter (IL) 88-13: Sulphur Recovery Guidelines—Gas Processing Operations*.

Historically, this plant has operated at a higher sulphur recovery efficiency of 98.5 per cent plus. Since 1995, sulphur recovery has been lower due to the higher carbon dioxide and hydrocarbon content in the acid gas feeding the sulphur plant and the problems associated with the expanded plant coming on line.

In 1997, the expanded portion of the plant came on stream and problems were experienced with start-up. The sulphur recovery efficiency in the last quarter of 1997 was 98.0 per cent. In 1998 the sulphur recovery improved and averaged 98.6 per cent for the year. In 1999 the sulphur recovery efficiency averaged 99.0 per cent.

Out of 47 gas plants with sulphur recovery, this plant was 38th in terms of SO₂ emissions in 1997 and 1999 (that is, 80 per cent of plants had higher emissions). The actual sulphur recovery efficiency is relatively high for plants with this sulphur inlet. SO₂ emissions from this plant are low, averaging about 2 tonnes of SO₂ per day.

When compared to the other 613 gas processing plants (both sweet and sour) operating in Alberta in 1997, this plant had a relatively high amount of flaring (6000 m³/day). While it was 44th in gas receipts, it was 22nd in volumes of gas flared. This flaring is still much lower than the 0.5 per cent inlet volume that the EUB had typically set as an approval limit on flaring in the past (i.e., 0.26 versus 0.5 per cent of gas plant receipts). In 1997 the volume flared at this plant was higher than it had been in the previous 10 years. Receipts were also higher.

An examination of the flaring as a percentage of raw gas receipts since 1986 shows that the plant has not flared over 0.5 per cent of its receipts for more than ten years. In 1999 flaring was 0.01 per cent of receipts.

AEC is required to monitor air quality near its plant for SO₂ and H₂S for three continuous months every year. (In 1997, a monitoring trailer measured ambient air for five months.)

Monitoring for 1995-1999 showed no exceedances of the one-hour ambient guidelines for SO₂ and H₂S.

There are twelve exposure stations around AEC's plant monitoring sulphation and H₂S on a monthly basis. The last five years of monitoring show that the plant consistently met AENV guidelines.

Union Pacific Knopcik Gas Plant

The Union Pacific plant is a sweet gas plant originally approved in 1982. The last change to the plant approval occurred in March 1996, when Union Pacific (formerly Norcen) was given approval for a 40 per cent increase in raw gas capacity. Given that this is a sweet plant, it does not have the extensive monitoring that a sour plant has. This plant is licensed by both AENV and the EUB.

This plant is roughly half the size of the AEC plant in terms of raw gas inlet capacity. In 1999 it was 90th (out of 621 plants) in terms of gas receipts. When compared to the other 613 gas processing plants (both sweet and sour) operating in 1997, the plant had a relatively low amount of flaring (230 m³/day). While it was 68th in gas receipts, it was 194th in volumes of gas flared. This flaring is well within the approval limit on flaring (i.e., less than 0.01 versus 0.5 per cent). Volumes flared in 1999 are similar.

Flaring at Other Facilities

In the 10 km radius around Trickle Creek Farm, 1997 flared volumes for all facilities (including well tests, batteries, and plants) averaged 5000 m³/day. About half of this flaring was due to two oil batteries located more than 6 km away. In 1998 flaring was about 7000 m³/day and in 1999 about 1300 m³/day.

Air Monitoring

In addition to ambient monitoring, AENV sets limits on the source of emissions at gas processing plants. In general, the AEC West plant has operated well within these limits with minor exceptions. In 1997 there were two occasions when one-hour stack emission rates were exceeded and eight cases (16 hours) when the stack-top temperatures were not met. In 1999 there were two times (2 hours) when the 1-hour stack-top temperatures were not met.

Any time a contravention of the terms and conditions of the AENV plant approval takes place, the company must immediately report the event to AENV. When hourly or daily one-hour SO₂ emission limits are exceeded, the operator must provide a description of the events or circumstances that led to higher emission readings and a description of any long-term measures or actions required to prevent or minimize such events in the future.

To respond to residents who note odour concerns, both the EUB and AENV have monitoring vehicles capable of measuring compliance with the ambient H₂S and SO₂ guidelines. Following a number of odour complaints reported by the Ludwigs, the EUB arranged to use AENV's monitoring truck for two weeks in June 1995 and park it at the Ludwig residence for continuous

monitoring. After the offer was made, Mr. Ludwig indicated he did not want the monitor at his residence but gave no reasons for this decision.

The Board is aware that AENV conducted an air-monitoring program in northwestern Alberta that included the Hythe area in December 1998, April 1999, and June 1999. The results showed that the levels of six different components—ammonia, carbon monoxide, SO₂, nitrogen dioxide (NO₂), ozone, and H₂S—were all within the Alberta ambient one-hour guidelines. The importance of ambient levels is that they represent exposure levels experienced by people who live near these facilities. Further details of this monitoring are available from AENV (<http://www.gov.ab.ca/env/air/airqual/special.html>).

Alberta Environmental Standards

The applicants suggested that Alberta's environmental standards are not as stringent as those in other parts of the world.

In the Board's view, the process for setting Alberta's environmental standards is thorough, compares favourably with other jurisdictions, is based on up-to-date scientific evidence, and is open to change as knowledge improves. Where a new, updated guideline or objective for a compound is developed, Alberta sets its guidelines following public and stakeholder consultation.

The Board notes that Alberta guidelines for ambient levels that are most important in terms of determining what members of the public could be exposed to are among the most stringent in North America. A comparison of Alberta environmental standards with other jurisdictions is on the AENV Web site (http://www.gov.ab.ca/env/protenf/documents/enviro_standards_99.pdf).

5 Conclusion

In view of the above circumstances and considerations detailed in this decision, the Board denies the request for an inquiry. At the same time, the Board reminds the applicants that many avenues remain open to follow up on their concerns and strongly encourages the applicants to pursue these measures.

In addition, the Board emphasizes that it will act to ensure public safety when industry is in breach of current regulatory requirements or if compelling evidence is presented demonstrating that current guidelines and standards are inadequate to protect the public interest.

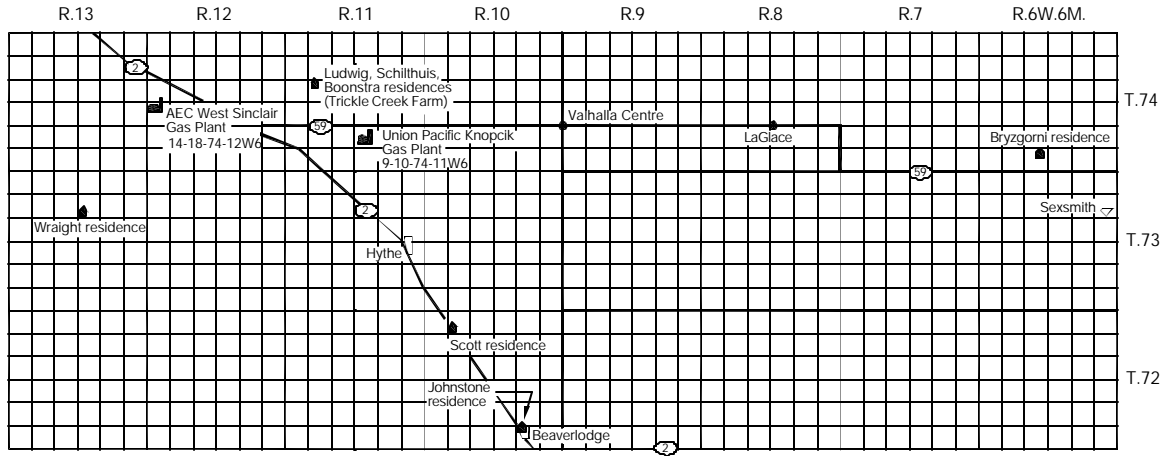
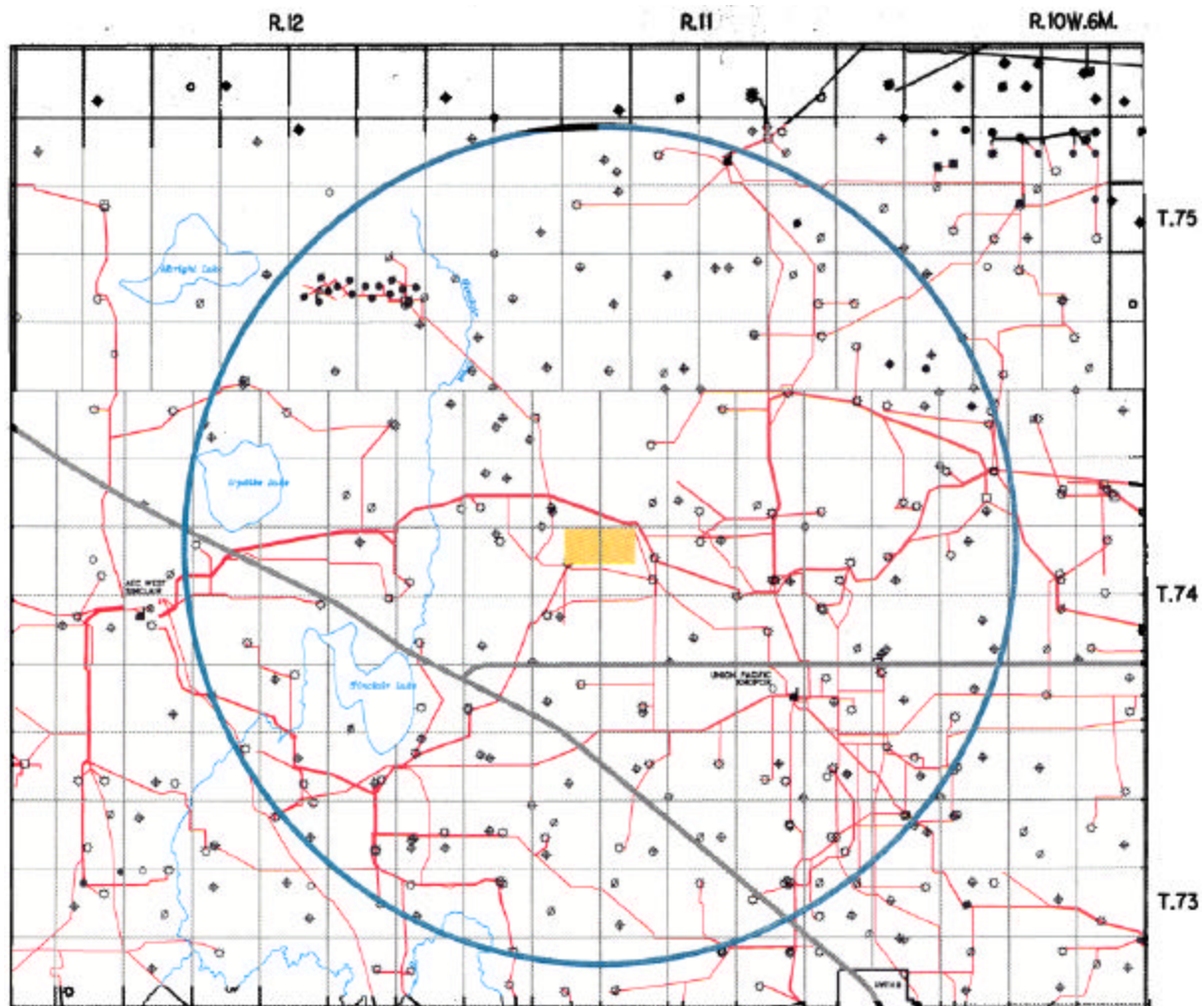


Figure 1. Location of applicants (Hythe/Beaverlodge area)

Memorandum of Decision



Trickle Creek Farm

10 km radius

Highway

Pipeline

Gas plants

Well Status (bottomhole)

Abandoned

Oil

Gas

Injection

Disposal

Observation

Suspended

Standing

Caution:

- This map represents the best information available to the Board at this time.

- Specific pipeline/well locations should be obtained from survey plans, owners, and field observation before digging.

- Low-pressure gas distribution lines are not shown.

Figure 2. Energy development within a 10 km radius of Trickle Creek Farm

May 1, 2000

EUB Alberta Energy and Utilities Board