

In Alberta water catches fire!

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Jessica Ernst, originally from Quebec, an environmental consultant with the oil industry leads a crusade against the Canadian multinational Encana, the largest independent natural gas producer in North America. In the background, a string of compressors that act like vacuums to extract natural gas from shallow coalbeds. Powerless farmers and rural residents witness the uncontrolled industrialization of the countryside.

Here is the second of a series of three articles dealing with the burning conflict between Alberta's two most powerful lobbies, the beef and the oil and gas industry. At stake: water! Some producers and rural residents don't hesitate to qualify their province of "petro tyranny."

"My cow streamed with blood through the eyes, the mouth, the nose, the ears and the butt. She was lying down kicking her stomach with her legs as if it was burning inside. My veterinarian had never seen that in twenty years of experience!" reported Dale Zimmerman. The shy cow/calf producer described the agony of one of his animals during the meeting of the Alberta Surface Right Federation last November. Two hundred people were hanging on his every word in a hotel in Camrose, a city in the middle of Alberta and the 2002 drought epicentre.

Dale Zimmerman lost thirteen cows and one horse since September 2005. The post-mortem lab report from Alberta Agriculture and Food conducted on one of these animals concluded that it was food poisoning due to ingestion of moldy sweet clover hay. The producer does not believe it. To begin with, the laboratory veterinary dissected a cow with a red and white head while his animal had a black and white head; therefore, it is doubtful that the right guts were analyzed. Furthermore,

his round hay bales have but a tiny amount of sweet clover, given that this forage crop does not grow well in his fields.

Rather, Dale Zimmerman thinks that his animals are dead after having drunk water potentially contaminated by the drilling of a coalbed methane (CBM) well on a neighbour's ranch 1.5 kms from his farm. Laboratory analysis indicate, among other things, that methane levels contained in the water from these wells have gone from 0 to 75,800 parts per million, transforming his drinking water in an explosive cocktail.



« Ma petite fille fait des cauchemars en se demandant si ses chats vont mourrir comme les vaches. »

“My little girl has nightmares, she wonders whether her cats will die like the cows.”

Like the third world! Dale Zimmerman does not have drinking water on his farm anymore. Part of his herd eats snow. The producer wants to sue the company that drilled a coalbed methane (CBM) well at his neighbour's place.

The inquiry by Alberta Environment, the first involving CBM, is not yet complete.

Deprived from this vital liquid, part of the herd ate snow all winter to quench thirst. Suddenly, the Albertan producer has found himself on equal footing with a third world country producer. Four times a week, he goes to Wetaskiwin, a neighbouring town, located 35 kms from his farm, to get drinking water to meet his family's domestic requirements.

The company Quicksilver Resources Canada, responsible for drilling the well, denies all responsibility. In the packed room at the Horsemen Hotel, an official from Alberta Energy Utilities Board (AEUB), a quasi-judicial organization responsible for regulating the oil industry, suggests to the producer to rehabilitate the water wells at the farm and at the house. In effect, the producer could get assistance rehabilitating his contaminated wells or drill for new ones. The project costs between \$5,000 and \$15,000 per well reimbursed partially on presentation of invoices. Since 2002, 99 rural residents have received close to \$570,000 in compensation, by defending their cause with the Farmers Advocate of Alberta. This organization compensates landowners for their wells' loss attributed supposedly to the oil and gas industry. “Despite our name, we don't represent legally the producers, but we act as mediators,” specifies immediately Jim Kiss, its President, adding, “The producers are free to sue the companies in court to get more compensation. But it is difficult to establish proof because the science is not exact.”

Mr. Zimmerman has invested \$5,000 in legal fees to sue the company. In the possibility that he would win the case, “it would not return my water” he says. Regarding the rehabilitation of his wells, none of the specialized companies in that field contacted has the time to take care of his case given the economic boom. Furthermore, this work is dangerous. In May 2006, the explosion of

water contaminated with methane seriously injured a producer and two company's contractors; the water was transformed into a real bomb.

In the meeting room at the Horsemen, another farmer said loudly without the help of a microphone: "We can replace a well but how can we replace an aquifer?" The two Albertan government representatives present at the meeting remained mute.

An explosive situation

The enormous oil reserves contained in the oil sands gives the province perhaps the title of "Saudi Alberta." However, the Albertan economic boom rests on the exploitation of natural gas. The increase of its price, from \$2 per gigajoule in 1996 to more than \$12 in 2005, an all time record, allows companies and trusts to pocket historic profits (1 gas gigajoule allows 2,500 hamburgers to cook).

The provincial and federal governments benefit from this boom. In 2006, for example, royalties received by the Alberta government for gas exploitation (\$8.34 billion) are more than five times higher than those of the oil sector (\$1.46 billion). Nevertheless, according to the National Energy Board of Canada, easily accessible natural gas inventories are almost dry. And Alberta's industry is turning towards a new Klondike, natural gas from coal (CBM), which is to gas what oil sands is to oil.

CBM is the result of decomposed peat and other vegetable material. Dreaded by world miners this CBM better known as firedamp consists almost of pure methane. In Alberta, the situation between farmers and the industry has become as explosive as the methane itself. Since the two big CBM deposits are found not only very close to the best agricultural areas, but also in the most densely populated regions.

Burnt in her shower!

Since September 2005, Fiona Lauridsen finds herself immersed in the same situation as Dale Zimmerman. Her cows refuse to drink. Water from the hose and that running from the faucets in her home effervesce like a 7-Up. Moreover, if we light a match near the vital liquid, it catches fire! Water analysis from the Lauridsen farm conducted by Alberta Environment reveal that it has a phenomenal amount of methane. Methane can be found in a natural way in a water well given the geology of Alberta's subsoil. However, the ex-chemistry technician indicates that her water also contains chemical products used by the industry to drill wells and to remove oil and gas from the depths of the Earth. "Alberta Environment will not test for petrochemicals byproducts. All my



Four times a week Dale Zimmerman goes to town to buy 757 liters (200 gallons) of drinking water in order to meet his family's domestic needs. At minus 40 degrees C, the tube valve has to be thawed in order to transport the vital liquid into the house. It is not a sinecure!

family members were burnt while taking a shower before midnight Mass. If this would have happened elsewhere, a public inquiry would have been conducted!” explains the beef farmer who works on 1,400 hectares in Rosebud. This is a quiet hamlet of one hundred inhabitants located in the well-transited corridor between Calgary and Edmonton.

The majority of the 50,000 Albertan agricultural producers coexists with one or several oil and gas wells on their farm. The provincial land is drilled with 350,000 conventional wells like a pincushion. Moreover, the royalties given to the producers by the companies constitute an interesting earning supplement. Particularly in a sector gravely affected by the successive crisis of mad cow disease or the yo-yo prices of wheat and canola.

Nevertheless, today Fiona Lauridsen wonders if the rent coming from the CBM wells installed by the Canadian multinational Encana on her land really compensate for the loss of the essential liquid: \$1,000 per well at the moment of installation, followed by a rent of \$350 per year. “What can we do on a farm without water?” she says.

Jessica Ernst, her neighbour, sympathizes. Her water bubbles and catches fire also by striking a match on the surface. Mrs. Ernst, an environmental consultant in the oil and gas industry, who has 20 years of experience, maintains that one of the about 200 wells drilled by Encana around Rosebud fractured the area aquifers. Hence, it would have contaminated her own water well, that of Fiona Lauridsen and the other neighbour Debbie Signer, a single parent who has invested all her savings in a B and B located at the edge of town where the inhabitants count on tourism for turning the local economy.



“All my family members had a bad skin reaction while taking a shower before midnight Mass. In another province, a public inquiry would have been conducted”! sustains Fiona Lauridsen, a farmer from Rosebud, who does not have drinking water anymore.

Alberta Environment is still conducting an investigation to determine where the contamination comes from. Furthermore, since February 2006, the company Encana delivers water as a gesture of “good neighbour policy.”

Encana pointed out

“These cases are still under inquiry by Alberta Environment. But to this day no water analysis from the wells indicate any contamination by our industry or Encana,” explains Leanne Deighton. She is Encana’s spokesperson, North America’s largest independent natural gas producer, whose book value is around \$30 billion. In 2004, the State of Colorado in the United States fined the Canadian multinational \$371,200 for contaminating a small creek. This was the most severe fine given by this State to an oil and gas company. However, “The company was condemned for having wrongly exploited a conventional well, not a CBM well,” specified Brian Macke, Director of the Colorado

Oil and Gas Environment Commission.

Encana, whose headquarters is in Calgary, has a concession to 700,000 hectares in the heart of Alberta and is at the head of the CBM revolution in beef country. From 2004 to 2007, the energy Goliath increased tenfold its production. “At the time of signing my contract in December 2005, Encana never informed me that it would drill a CBM well on my land. I started to be seriously concerned about my water when I learned what was happening in United States during a town meeting,” explains Kevin Niemi, an extensive crop producer from Terrington who is trying to renegotiate his contract.

“There have been water contamination cases in the United States due to the exploitation of CBM. However, not all coal deposits have been created equally. The situation in Alberta is quite different. It is like comparing a Ford truck with a Lamborghini,” states Mike Dawson, President of the Canadian Society for Unconventional Gas (CSUG). Created in 2002, the Society regroups all the big energy sector players: Shell, Nexen, Apache, Quicksilver Resources Canada, etc.

According to M. Dawson, geologist by trade, the CBM wells are drilled into a coal seam in a way to protect the water wells. Liquid nitrogen, a gas that everyone breathes, is used in the fractured coal seam to make the natural gas flow. Furthermore, when the companies draw on thousands of chemical products –emulsifiers, lubricants, anticorrosives, foaming agents- to drill and stimulate the production of conventional wells at higher depth, they do it by the book in order to protect the aquifer. This view is far from being shared by all.

Like a fanatic badger

“In the past years, the development of CBM was dazzling, without knowing the impacts on groundwater and without adequate regulation to protect landowners,” maintains David Swann, Liberal critic on environmental issues. More than 500,000 Albertans draw their water from wells just like many straws in a glass of water.

Since 2003, more than 7,000 CBM wells have been drilled and within 10 years the industry contemplates 50,000 being drilled. In May 2006, four years after the first CBM well, Alberta

Jessica Ernst's water catches fire! The Environmental consultant believes that Encana ruined her well water and the local aquifers.



Environment has set a new regulation. It forces companies to conduct water tests on residents' water wells that neighbour drilling, although some companies were doing it voluntarily. "This will allow us to compare the water composition and quality before and after the drilling. If there is a change, the owner can complain," says Sherri-Dawn Annett, from Alberta Environment.

So far this same ministry has investigated 55 citizen complaints that suspect that CBM has contaminated their wells. Ten cases have been resolved without evidence tying those drills to the wells contaminations. The results of Mr. Zimmerman's investigation and the owners Jessica Ernst, Fiona Lauridsen and Debbie Signer, that should have been ready at the end of February 2007, are still not yet available.



Debbie Signer, owner of a B and B had to write to Ralph Klein, ex Premier, to have the government continue to deliver drinking water after the possible well contamination by Encana's drilling in the region. Alberta Environment is still investigating the reason for contamination.

This is a matter of concern for the new government of Conservative Alberta Premier, Ed Stelmach, himself a farmer. At the request of Alberta Environment, Dr. Krlis Muellenbachs, a natural gas expert from the University of Alberta, has analyzed 200 water samples, including those from the residents of Rosebud as well as water from Dale Zimmerman's well. These "isotopes" tests developed by the geochemist allow comparing gas from different geological formations with those present in the water samples. For this expert, there is no doubt that seventy years of oil exploitation coupled with seismic research, that needs among other things to dynamite the subsoil in order to explore and map the enormous coal deposits, have shaken the Albertan underground.

"Yes I think that the oil industry has contaminated the water by drilling conventional wells in the past," he says. With respect to the new gas seams: "I have analyzed the composition of the gas contained in Mr. Zimmerman's water after the contamination, however I did not have prior water samples. According to my experience, it is possible that it could have been contaminated by his neighbour's CBM wells, but I cannot prove it," explains the scientist during a telephone interview, conscious that his words constitute a political hot potato.

According to Jessica Ernst, the new government measure of mandatory water testing has a huge loophole since it does not force the companies to analyze their own wells' gas for comparison, nor to make this information public. "The Albertan government does not demand the companies to provide the list of chemical products that they use to drill their wells and stimulate the production of natural gas. This test would allow identifying with certainty the source of contamination of our water wells and aquifers. It is as if a RCMP officer fingerprints a bank where a robbery has been committed, but refuses to fingerprint the suspect. How could you establish the proof?"

For his part, the Liberal critic David Swann asks the provincial conservative government, in power without interruption for 35 years, for the creation of an independent scientific enquiry commission that would study the possible contamination of subsoil water resulting from oil industry drilling from both conventional and CBM wells. “The government refuses because it is afraid to be sued in a class action like the tobacco companies,” he says.



Worried by his drinking water, Kevin Niemi tries to renegotiate his contract with Encana. For the producer, the CBM wells on his farm are like the top of an iceberg, the danger is under the surface.

To Consider exile

For years, the brothers Glenn and Gary Norman have a conventional oil well on their land and it has never given them a single headache. However, there is no way they would let a company drill for CBM. “We can deny the expression that says water runs off a duck’s back! The one that dove into our pond never surfaced,” relate the two ex football players who have taken over the paternal farm.

In April 2006, the two colossi noticed a gradual change of colour in one of their ponds becoming a phosphorescent green after the drilling of a CBM well over at a neighbouring producer. What seemed to be mucus floating on the surface was in reality snails escaping their shells and wild animals and cows stopped drinking from the pond. “We don’t have any proof but this CBM well is the only thing that has changed in our environment. It is like an iceberg, the danger is under the surface.”

As Director of the Pine Lake Rights Surface Action Group, Glenn Norman recommends to some 300 families of the association that farm 400,000 hectares of cultivable land to pay themselves for water analysis of their wells, using accredited laboratories of their choice. The two colossi anticipate spending \$6,000 per year, at their cost, to analyze the water from their wells and their ponds, because in case of a lawsuit, they don’t trust “the data gathered and paid by the industry nor by the government.”

For now, the agricultural creditors don’t make a distinction of risk between CBM wells and conventional gas and oil wells. “The wells situated on a farm, whatever their type, are part of business risks in the same way as BSC is to producing beef,” explains Don Anderson, Manager of Agricultural Financing at Lethbridge. The banker adds that at the time of an environmental disaster, the companies’ owners of defective wells on a farm are responsible by law to decontaminate the site and return them to their original aspect.

Informed of the Norman brothers’ situation, for which in the blink of an eye their pond went from an asset to a liability, Mr. Anderson indicated that in that specific case, in the absence of proof against the suspected company, the costs of decontamination lie with the producer.

“We could lend money by refinancing the loan to the company, so that the producer can continue to have a revolving fund,” explains the banker. Mr. Anderson manages 1,500 producers’ accounts valued at half a billion dollars and said that the Norman’s situation for the moment is very rare.

The Norman brothers are furious because even the non-cultivated parcels, which are entirely dedicated to conservation on their farm, are not sheltered from potential contamination by neighbouring drilling. According to them, the risk of pollution will grow because the industry foresees doubling the allowed density of four CBM wells per section (1,600 m²) to eight wells per section, a density tied to the price of natural gas. “At a point in time this desperate situation will generate acts of violence!” asserts Glenn. Past their fifties, the two brothers consider even selling their family farm and don’t exclude the possibility of expatriating themselves to New Zealand or Quebec to restart their agricultural lives “with the condition that you don’t have CBM!”

According to Oscar Steiner, a beekeeper that is doing his masters on the impact of the oil and gas industry in Alberta, the exponential increase of drilling activities devalues land property by a value of 5% to 10%. As for knowing how much a farm is worth with contaminated groundwater, it is not hard to guess.



The brothers Glenn and Gary Norman think that one of their ponds was contaminated by neighbouring CBM well drilling. They consider selling the family farm to re-establish themselves in Quebec or in New Zealand.

THE RAPE OF THE COUNTRYSIDE

“We would like to fix the current problems before accepting that the company drills seven other wells on our land. However, we cannot refuse Encana access to our land. It is like a rape!” explains Dona Wise. The 43-year-old producer does not have water problems like her neighbours in Rosebud. However, the erosion produced by the installation and upkeep of 13 Encana wells by its employees, transform 31 of the 567 hectares in an Arizona mini desert.

Furthermore, the constant company personnel’s ins and outs favour the introduction of weeds like kochia that causes reproductive problems in cows or bird’s millet that decreases cereal yields. Picking up hundreds of forgotten stakes in the fields slowed planting in 2006 and increased the costs of production. The producer has even picked up a piece of trousers with excrement abandoned by an employee close to a CBM well.

The list of grievances does not stop there. More than two hundred trucks cross daily at a spanking pace the rural road that was practically deserted in the past. No way will her grand child play in front of the house where she grew up. Ken Wise, her father, a farmer recognized among his own, who has transformed during fifty years a land full of thistles into some of the best wheat lands, cannot sleep with the windows open anymore.

At the farm's entrance, six compressors make a noise equivalent to several jets about to take off. Furthermore, during the night that used to be starry, a flare's flame and a mini refinery's lights shine.

Leanne Deighton, Encana's spokesperson, indicated during a telephone interview "we have a courtesy program intended for our employees and to our contracting parties to respect the environment." The message is the same at the Canadian Society for Unconventional Gas that promotes the best management practices. "It is not a cowboys' country! There are compensations for the problems created on the land and a well established system for resolving conflicts," explains Mike Dawson their President.



Nevertheless, many Albertans share the feeling of impotency of the Wise family at the hands of the uncontrolled industrialization of the countryside. From 2000 to 2006, the number of permits requested from the Alberta Energy Utilities Board (AEUB), to drill for oil and gas wells went from 22,550 to about 60,000. The organization, responsible for among other things to accommodate the conflicts between the industry and rural residents, accepts 97% of the submitted projects. This in the name of "the public interest," sometimes against the wishes of municipalities made up of hundreds of residents.

Alberta produces 70% of crude oil and 80% of natural gas in the country. In 2005, Canadian natural gas exports hit \$35.6 billion, a historical record. These exports go to only one country - the United States. Should a crisis occur: "Canada cannot close a pipeline. Under NAFTA, the United States has a guaranteed access to our natural gas for life, in spite of domestic scarcity or rationing," explains Steven Shrybman, a lawyer specialized in international law with the law firm Sack Goldbaltt Michell, located in Ottawa.

"To feed future Canadian generations or provide gas to satisfy the American energy glutton?" many Albertan farmers ask themselves. They dread the condition of their land in fifty years, once the industry has removed the last molecule of natural gas. According to Roger Epp, the University of Alberta's Dean: "Farmers are helpless. Their children often work for the oil industry where they make phenomenal salaries. They themselves also work for the industry to make a supplemental salary because of the successive crisis that affects the sector."

The expert on rural matters adds: “some producers leave the province to establish themselves in Saskatchewan where their semi desert agricultural competence is required.” However, no Albertan or federal departments compile data on what could be the first environmental exodus inside Canada’s borders.