

**Alberta farmers and Big Oil and Gas exist side by side. One group works the land. The other drills underneath it, pumping up profits, tax revenues and fuel for energy hungry North America. But the natural gas industry also pumps up something else: a noxious brew as deadly as cyanide. One farming family claims it's slowly killing them and as exploration and U.S. demand increase, it could harm thousands more**



by Andrew Nikiforuk



# FLARE UP

On the afternoon of October 18, 1998, Darrell Graff went for a walkabout with his Sheltie cross, a dog named Tim, on his parents' farm near Vulcan in southern Alberta. The warmth of the sunny, blue-sky autumn day just invited a stroll on windswept grasses. The 20-year-old, who raised sows and award-winning hay, was in good health and regularly went for lengthy rides (sometimes up to 60 kilometres) on his mountain bike. As Darrell trekked southeast, he heard a distant roar behind him that sounded like a jet airplane. He knew Crestar Energy Inc. was drilling for gas on his family's land upwind (northwest) of the homestead. And, like most Albertans, he knew the oilpatch never rested on Sundays.

But the young farmer had no idea the company was going to ignite a 30-foot-high flare that day to dispose of waste gases. A flare typically burns about as cleanly as a broken barbecue and incinerates between 65% to 85% of a well's toxic contents. As a result, a noxious brew of hydrocarbons is sent floating downwind. In Alberta, farmers often compare the experience of breathing a flare's emissions to sucking on the end of a car's tailpipe. When the cloud of gas from Crestar's flare drifted into Darrell's path, he abruptly lost his breath and staggered. He pressed on, then doubled over. Gasping for air, he headed for home, hobbling from fence post to fence post.

In the farmhouse, his mother, Barbara Graff, was alarmed by the noise. It rattled the windows and cracked the ceiling plaster. After she found her son, ashen-faced, slumped in the doorway, she phoned the emergency number for Alberta's Energy and Utility Board (EUB), the oil and gas industry's regulator. Crystal Cassidy took the call and told Barb the firm shouldn't be flaring. Minutes later, Crestar shut down the well. The next morning a Crestar employee chastised the family for not phoning his company first.

And that was just the beginning of a series of injustices that introduced the Graffs to North America's relentless energy matrix. Since 1986 Canada has steadily increased natural gas exports to the U.S. (see "Export Boom,"). Even though Canada has only 1% of global gas reserves, we now export more gas than any other country, with the exception of Russia. Every year, more than three trillion cubic feet of gas head south. That figure could rise to five trillion by 2010. In 2001, this highly critical export brought in a record \$26 billion, an increase of 25% from the previous year. Most of the gas came from Alberta — about \$2 million worth from the Graff's own backyard.

To satisfy America's growing demand for energy, industry will have to drill 200,000 exploration wells over the next 10 years, or twice as many as now dot rural Alberta. Each one will occupy a hectare of land and many will need roads, flares and pipelines. That level of activity guarantees more conflict between industry and landowners, and more toxic incidents like the one that has turned the Graff family upside down.

Barbara Graff doesn't think most consumers "are aware of the human cost of a gigajoule of gas" and she's probably right. Her family's descent into hell not only illuminates the rapid pace of change in the natural gas business (the Graffs have now dealt with four companies), but also serves as a cautionary tale about the inability of a government to regulate its key revenue sources. Alberta toxicologist Bob Coppock, who for years has monitored the tension between the agriculture and fossil fuel industries, asks a big moral question: "How does society manage a nonrenewable resource industry around an existing biological economy such as farming?" As the Graff's will sadly attest, government is still searching for a just an answer.

Before their unwelcome encounter with Alberta's golden rev-

**Alberta is at the same time blessed and cursed by sour gas. Blessed because it brings in \$2 billion annually. Cursed because of an abiding public-health controversy**

enue earner, the Graffs were a poster family for the province: diligent, frugal and God-fearing. They believed government served the majority and companies fixed their mistakes. The Graffs' independent forefathers had lived off the rich prairie soil in southern Alberta for three generations. When Barbara and Larry married in 1970, they started with less than \$1,000. Over the years the couple slowly bought seven quarters of land (one quarter equals 160 acres) and rented another five sections (640 acres) to grow grain. They built up a herd of 100 cows. Unlike most farmers, the Graffs had money in the bank. "My wife and my family didn't demand high living," explains Larry, a quiet 58-year-old. "They sacrificed to keep the farm going." Barbara, a soft-spoken woman with piercing blue eyes, loved her garden and small orchard. "We were almost self-sufficient and spent a lot of time at home," she says. The Graffs, however, had little experience with the oilpatch. For much of the last 50 years, industry has mined the shallow gas fields of southeastern Alberta. But in the late 1990s these wells started to go dry. Exploration began moving west, toward the Rockies and the farming community of Vulcan.

The Graffs introduction to Big Oil began innocently enough when a seismic crew showed up on their land three months before Darrell's collapse. Seismic involves cutting a straight line across a parcel of land. The crew generally explodes dynamite at intervals in 18-metre-deep holes in order to create measurable shock waves that outline gas deposits below. The seismic gang cut across Larry's wheat crop and paid him for the damage. "They came through and everything went okay," recalls Larry.

Later that summer, two Crestar "land men," Toni Dawson and Jason Gouw, appeared on the family's doorstep. They told the Graffs about the origin of Alberta's great wealth: every parcel of land comes with two titles and two rights. The Graffs owned the surface title and the right to farm their topsoil. But Crestar, a mid-sized Calgary firm, had acquired the mineral rights and wanted to drill just 540 metres northwest of the Graffs' house into the Turner Valley Zone a patch of hellish-smelling gas some 1,600 metres underground.

The company offered the Graffs \$17,000 for the inconvenience and an annual rent of \$3,750. Larry noted that Darrell had a mild case of asthma, then tentatively asked if the well could be dug northeast of the house, so westerly winds wouldn't blow fumes their way. The answer from Dawson and Gouw, says Larry, was no. (When contacted by National Post Business on this and other charges levelled by the Graffs, Dawson had no comment and Gouw could not comment because of litigation.) After much discussion, Larry reluctantly signed off on the well. Dawson also told the Graffs that the facility would be classified as a Level One sour well. That bit of news meant nothing to the family.

About 30% of the gas in Western Canada is subquality or sour, meaning it is dirtied by a high proportion of hydrogen sulphide (H<sub>2</sub>S), a highly corrosive substance that's as poisonous as cyanide. The Canadian government so admired its lethal qualities during World War II that it employed H<sub>2</sub>S in a secret chemical warfare program. It's not hard to understand why: H<sub>2</sub>S targets the brain and lungs and starves them of oxygen. As a result, H<sub>2</sub>S can knock

## **GAS ATTACKS: A Sour Gas Chronicle**

**1922:** World's first sour well drilled at Hell's Half Acre in Turner Valley, Alta. Fumes from flaring and venting peel house paint and dissolve lead fillings

**1924:** US. Public Health Service identifies H<sub>2</sub>S as "one of the most toxic of gases"

**1929:** Sour gas wells kill up to 30 oil and gas workers in Texas over two year period

**1943:** Canadian government uses H<sub>2</sub>S in its secret chemical warfare program

**1950:** Sour gas leak in Mexico kills 22 and leaves another 47 hospitalized for respiratory and central nervous system problems

**1960:** Ranchers along the Alberta foothills from Pincher Creek to Olds complain of rusting fences, ailing cattle, sick trees, asthmatic children and foul odours downwind of sour gas plants. Industry calls it a "psychological" problem

**1971:** At the insistence of the Queen of the Netherlands, Shell Canada settles a million-dollar sour gas lawsuit that documents 50 incidents of ill health and cattle death reported by 15 Pincher Creek families. The relocated ranchers sign confidentiality agreements and call themselves DP's displaced persons

**1982:** Amoco Canada Petroleum Co. Ltd. well "blows" and spurts sour gas into the air for 67 days near Lodgepole just south of Edmonton. The blowout kills two workers and hundreds of cattle. Thousands of people downwind complain of headaches, eye irritation, nosebleeds, miscarriages and flu symptoms. Industry calls it a "social contagion"

**1985:** University of Alberta toxicologist Dr. Tee Guidotti recommends a H<sub>2</sub>S registry to keep track of injured workers and ranchers; government refuses to do so

**1986:** A \$3million epidemiological study on Pincher Creek ranchers gives them a clean bill of health. Toxicologists call the study a fraud. Funding for sour gas research dries up in Canada

**1990:** A book about Hungarian workers in the sour gas fields of Kazakhstan reports widespread lung, nasal and neurological complaints due to low concentrations of H<sub>2</sub>S

**1992:** After a six year delay the Alberta government publishes the proceedings of an international workshop on "Effects of Acid Forming Emissions in Livestock." It calls for more studies on sour gas and concludes that "the onus is almost exclusively on the livestock producer to prove that sour gas has an effect on the health of animals and human beings"

**1994:** An Alberta Research Council study on a sour gas pipeline break concludes that H<sub>2</sub>S and hydrocarbons likely killed and damaged the brains and immune systems of cattle on two ranches in central Alberta. A Freedom of Information request forces the study's release four years later

**1997:** U.S. report documents widespread human illness, hospitalizations and livestock deaths in northern Michigan's new sour gas fields

**1998:** Wiebo Ludwig begins bombing campaign against sour gas facilities in northern Alberta after industrial flares and emissions sicken his family. Vandalism totals \$10 million and brings national attention to sour gas issues.

a person dead in levels as small as 700 parts per million (that's .007%). The heavy gas tends to settle in low areas, where people and cattle often dwell. The gas can also disarm a person's defence system by destroying the sense of smell at 100 ppm.

Before sour gas can be sold or exported, industry must pump it through pipelines to one of 250 plants in Western Canada, where 97% of the sulphur is removed. No other area, with the possible exception of Saudi Arabia or Kazakhstan, is blessed or cursed with as much sour gas as Alberta. The blessing is economic: each year the province's 6,000 sour gas wells deliver nearly \$2 billion of revenue in taxes and royalties. The curse is an abiding public-health controversy.

In the last 30 years, exposure to H<sub>2</sub>S leaks, flares or emissions has killed at least 34 workers in Alberta and British Columbia and disabled hundreds more (see "Gas Attacks,"). In addition, sour gas incidents have downed cattle and forced the evacuation of aboriginal reserves. Thousands of rural Albertans living downwind of sour gas facilities have for decades persistently reported health problems and reproductive abnormalities among livestock. Toxicologist Dr. Tee Guidotti calls H<sub>2</sub>S the elephant in Alberta's living room."

Industry, however, has challenged any suggestion that chronic H<sub>2</sub>S exposures are anything more than a nuisance or a "perceived risk to human health and safety." The Petroleum Communication Foundation, for example, notes that "people living near sour gas and flaring operations have much stronger views about the effects of sour gas and flaring than those who live in areas of little or no oil and gas activity'."

For its part, the Alberta government hasn't made much effort to protect the health of its citizens. It has refused to fund proper toxicology studies or to set up an H<sub>2</sub>S registry. In 1998, the EUB owned only one mobile air monitor and it typically arrived on scene only after winds had blown the evidence to Saskatchewan. One reason for Alberta's sluggish response is due to sour gas being such a complicated research topic. It mostly travels with

other bad actors, such as benzene (a leukemia causer), carbon disulphide (a hormone-disrupter) and sulphur dioxide (a lung-wrecker). "There are probably additive and synergistic effects," explains toxicologist Coppock. "I think that most toxicologists would say the potential for adverse effects at low levels is obviously there."

A growing body of medical research from around the world agrees. Several European and U.S. studies indicate H<sub>2</sub>S (and its



**Among the symptoms alleged by the Graff family: dizziness, nausea, nosebleeds, paralysis, seizures, plus a tentative diagnosis of MS.**

sulphurous companions) may be potent neurotoxins and fetus-aborters in levels as small as 1 ppm. One 1999 U.S. study by Texas researcher Marvin Legator found that residents living downwind from a geothermal power plant (another H<sub>2</sub>S producer) showed central nervous impairment at levels of 10 ppb. Studies on people who repeatedly inhaled 5 ppm of H<sub>2</sub>S or less downwind from a Los Angeles refinery noted they suffered permanent deficits in balance and reaction time or complained about dizziness, insomnia and fatigue. Dr. Kaye Kilburn, an expert in chemically induced brain injuries at the University, of South-

ern California, doesn't equivocate: "I think the evidence is pretty convincing that, even at levels as low as 1 ppm, H<sub>2</sub>S is insidious and cumulative and irreversibly damages the brain."

Like most Albertans, the Graffs knew nothing about the science of H<sub>2</sub>S, or its troubling legacy. Nor did they know that nearly one quarter of Alberta's population is routinely exposed to flare emissions including H<sub>2</sub>S. "We were naive," says Barbara of the assurances by Crestar that all would be safe. To show their appreciation for the family's cooperation, the company offered to send the Graffs on a weekend retreat to the mountains. "You are so nice to get along with," declared one of the land men. But Crestar never delivered on its holiday promise. Instead, it resumed flaring the day after Darrell fell ill, and kept hard at it for the next week. "Well completion reports" filed by the company with the EUB reveal the family was repeatedly exposed to H<sub>2</sub>S. One report

stated the wind was blowing “traces of gas and ammonia towards residence.” Another found H<sub>2</sub>S odour still present and wind blowing towards farm.” The oil and gas industry and the U.S. Environmental Protection Agency generally concede that a large flaring test well (the burning of gas to measure a well’s productivity) can release more pollutants in several days than can a large gas plant in a month. There is, though, no record of how much gas Crestar burned off during the period. But, as one former Crestar employee later admitted to this reporter at a public meeting: “We shouldn’t have done what we did that week. We were caught with our pants down.”

During the flaring, everyone in the Graff family experienced a variety of complaints: sore throat, dizziness, nausea, nosebleeds, headache. All are symptoms of low-level H<sub>2</sub>S exposure. One night, Larry found sooty particles the size of fish scales falling from the sky. Crestar employees said they had no idea where the particles came from. Two years later, the family read a University of Alberta study that warned smoky and sooty flares were highly toxic and “need to be avoided.”

With each flaring incident, Darrell’s health worsened. By January 1999, he was diagnosed with an irregular heartbeat and pneumonia. He also had trouble walking. His sister, Anita, a 23 yearold music teacher, experienced similar symptoms, as well as leg paralysis and fatigue. She kept tripping and couldn’t play the piano as well as she once did. Barbara lost 25 pounds and couldn’t sleep at night. She noted their symptoms often cleared when they drove away from the well site.

The following spring, Barbara lost 25% of her calving herd. Darrell’s pigs miscarried or aborted in record numbers. Anecdotal records kept by ranchers and farmers have associated livestock reproductive problems with gas-field emissions for nearly 50 years. Two recent Alberta studies confirmed the accuracy of the farmers’ accounts: beef cattle living downwind of H<sub>2</sub>S emissions did experience reproductive problems more often than those living upwind. A 2002 University of Alberta study also found that sulphur dioxide, a common byproduct of sour gas production, weakened the lungs and immune systems of cattle even at low levels.

As the family tried to sort out its health problems Crestar applied to upgrade its facility by the Graffs’ house to a Level Two well (level Four is the sourest). It also wanted to install a sour gas pipeline across the family’s land and put a new separator and flare stack at the well site. Larry protested the expansion and forced a

public hearing before the EUB. The regulator, thought the Graffs, would surely protect their interests.

Funded largely by industry, the EUB has a mandate to regulate the province’s 1,000 oil and gas companies “in a manner that is fair, responsible and in the public interest.” Known as the Energy

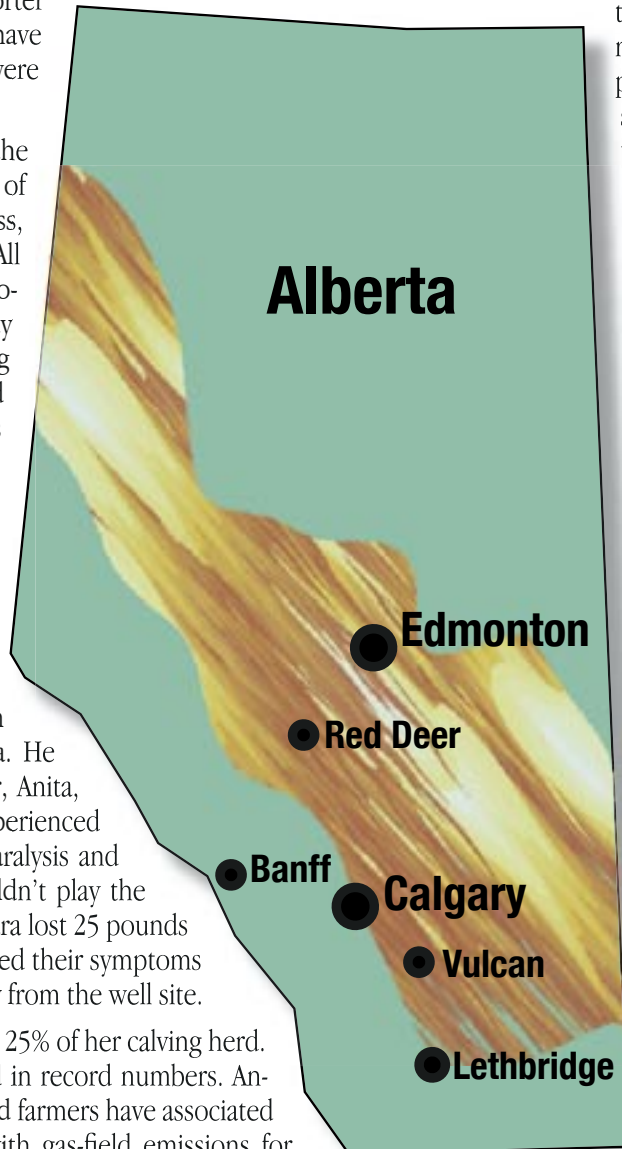
Resources Conservation Board during the era of former premier Peter Lougheed, it once earned respect with fair and tough-minded decisions. But during the 1990s the board took conservation out of its name and now generally interprets the public interest as anything that helps sustain government revenue from the oilpatch. And with a shift to self-regulation and cuts to staff, the EUB left landowners to fend for themselves,” explains Roger Epp, a political scientist at Augustana University College in Camrose. The EUB, now largely staffed by oilpatchers, approves as many as 8,000 wells a year. It rarely says no to industry. But in the fall of 1998, the board belatedly identified landowner concerns as “an emerging issue” after \$10 million worth of industrial sabotage in Peace River and the murder of an oil executive in Bowden, Alta., by a disgruntled rancher.

In April 1999, three board members - two former oilmen and a retired farmer - heard the Graffs’ case. Crestar and its lawyer argued industry had a right and a need to develop resources from its wells. However, they also said the company would stop flaring near the Graffs and would introduce a safer, closed-production system. When it was their turn, the Graffs and their lawyer outlined the family’s growing health concerns. By this point, Darrell was having seizures whenever he encountered well emissions. The Graffs wanted

an end to the pollution and asked the board if Crestar could relocate the family to an area without sour gas developments.

Shortly afterwards the EUB issued Decision 99-13, a tersely worded ruling that noted “psychological stress, as well as odours, can act as triggers for asthmatic attacks.” But it also stated that “an absolute guarantee of no adverse human health effects” from wells “is not possible.” It then gave Crestar, the province’s fourth-largest flarer of toxic gases in 1999, the go-ahead to expand. There was one important condition: the company could not flare or release sour gas. The board also told the Graffs it wasn’t in the

## THE SOUR FIELDS Where sour gas can be found in Alberta



farm-relocation business.

After the ruling, Crestar's Jason Gouw met Larry driving down a back road. According to Graft, Gouw, gloated over the decision and chimed, "We won the case!" Larry sadly replied that he now appreciated Wiebo Ludwig's frustrations. At the time, the angry rhetoric of the bearded cleric, whose family had been gassed twice by H<sup>2</sup>S, dominated the news. Larry then broke into tears. Gouw later went to the RCMP and reported that Larry had threatened the company. "We became fearful of Crestar after that day," says Barbara. The family decided that from then on they would only communicate with Crestar in writing.

Throughout that fall, activity at the well continued. There were more flares, more upsets. As Larry prepared to go to a relative's funeral one day, he noticed another flare stack. He phoned the EUB to remind the agency of its April no-flaring ruling. Three hours later - Larry having given up on the funeral - an EUB official "reconfirmed" the board's decision and ordered the flare stack be taken down.

Whenever the Graffs phoned in subsequent complaints, they say, EUB staff groaned. A few insinuated family members were chronic complainers and "the only ones having problems" with Alberta's natural gas industry and, in particular, the aggressive tactics of its members.

Not so. In December 1999, for example, Crestar and Compton Petroleum Ltd. blasted a string of seismic test holes near Neel Roberts' acreage just outside of Vulcan. As a consequence, the quality of the farmer and tax consultant's three good water wells went down. 'When Roberts' hired hand warned the blasters that seismic often affected the water table, they replied, "So what? Sue us!" Roberts doesn't understand why the two firms didn't offer compensation. "People here have had it with the oil companies," says Roberts, who is suing the firms. "What happened to the Graffs is even more outrageous. And the most galling thing is that no one wants to take responsibility."

Joanne and Ed Kettenbach, who have a farm near the Graffs, also experienced problems. Crestar, for instance, did notify them of its plans for a new sour well near their land but it did so nine days after it had been approved. That meant the Kettenbachs had missed the deadline to object. When Joanne, the mother of two boys, later raised questions about the health effects of flaring, one Crestar employee cheekily replied: "Well, why did you move here?" Another company employee told Joanne that the Graffs were short of cash and were trying to milk Crestar. Joanne, who works in the energy sector as a consultant, was appalled by such cynicism. "This is a terrible injustice," she says, "and the government and the EUB and the company pretend nothing is happening."

But bad things continued to happen. On January 13, 2000, a representative of Alberta Environment arrived to check out the Graffs' complaints about being harassed by Crestar. On the way out the driveway, the civil servant accidentally ran over and killed Tim, the Sheltie cross. At the time, Darrell was sick in hospital on oxygen.

In June 2000, the Public Safety and Sour Gas committee visited Vulcan's contentious gas fields. The EUB had appointed the mission "as a result of increasing public health and safety issues and concerns regarding growth and operation of sour gas wells"

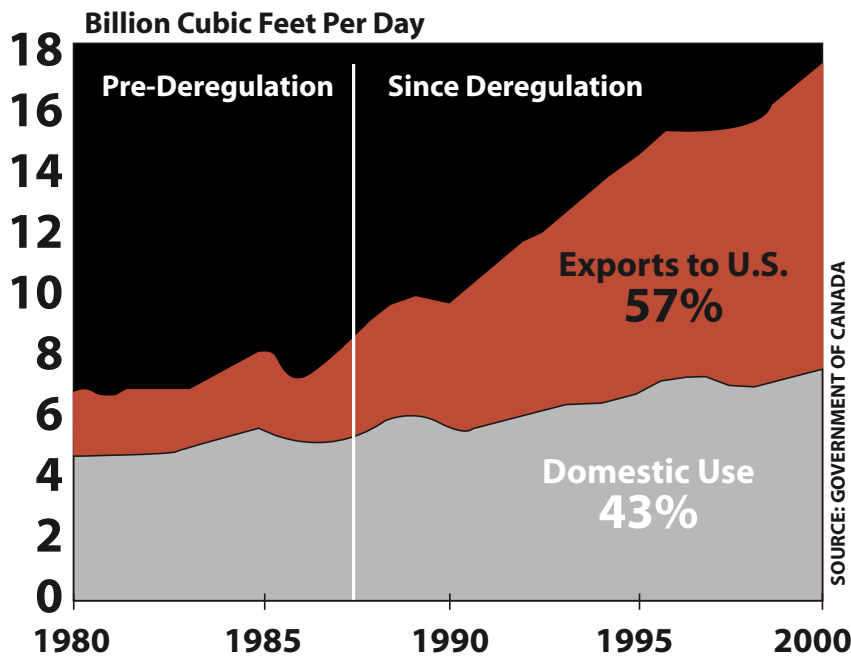
Although Barbara Graft was too sick to attend, other locals spoke

directly, saying the EUB was a captive agency of industry that ignored the cumulative effects of gas drilling on landowners, and that "the companies were difficult and frustrating to deal with and arrogance and intimidation ... was not uncommon."

That same month Crestar erected survey stakes for another three sour wells it wanted to put upwind from the Graffs' farm. The family objected. But Crestar ignored them, later filing its drilling applications as "routine," which indicated to the EUB there were no problems. As a result, Crestar quickly got new drilling

## After years of denial, says a toxicologist, government and industry now "realize what they don't know about sour gas might hurt them"

### HISTORICAL CANADIAN GAS SALES



### EXPORT BOOM Every year, Canada exports more than three trillion cubic feet of natural gas to the U.S. The figure could double by 2010. A lot of it will be sour.

licences and started to spud the first hole in August. When Larry saw the activity he frantically called Richard Secord, an environmental lawyer in Edmonton.

Secord, who has represented hundreds of landowners, including Ludwig, knew his way around the regulator. When he found out Crestar had withheld the Graffs' objection from the board, he raised hell. The EUB, a stickler for protocol, pulled Crestar's licence and suspended operations in mid-hole. Crestar protested, arguing the Graffs had an "agenda to continuously object to Crestar's applications, raising the same unsubstantiated objections."

That fall the company, which by then had been bought out by Calgary based Gulf Canada Resources Ltd. for \$2.3 billion, took a different tack. It invited the family to take part in mediation as part of the EUB's new "alternative dispute resolution" (ADR) process. By now the Graffs had sued Crestar for \$5 million for loss of health and property. During the talks, the Graffs presented the findings of a Calgary respiratory specialist, Dr. Matthew van Olm. After four visits, van Olm concluded the Graffs had "no significant health problems or neurological symptoms until the winter of 1998." He also said the family's ill health was typical of the "neurotoxicity and general toxicity of hydrogen sulphide, ethane, methane, butane, roulette ... and other hydrocarbons." The ADR talks, which remain confidential, sputtered out in December without any resolution.

With that route a dead end, the EUB granted the family another hearing in March 2001. This time, EUB chairman Neil McCrank served as one of the three judges. (A retired corporate lawyer and a former oilpatcher were the others.) The family made a plea against further development upwind of their farm. Although Barbara Graff accepted Crestar had a right to exploit its mineral leases, she didn't believe "they should take precedent over the rights of a human to breathe. Yet Crestar has taken away our most very basic rights to clean air, clean water, clean food and shelter."

Anita Graft also addressed the board. The newlywed described her chemical sensitivities, fatigue, memory loss and inability to play the piano. She said the board and the oil companies could go home at night and enjoy their lives. She couldn't. "A woman has the right to choose what happens to her body," she said. "Well, those men have raped me of my health. They have ... deliberately robbed me of my freedom of choice .... And now these same men are before you asking your permission to repeat their actions."

The board also learned that Dr. Robert Bell, a University Of Calgary neurologist, had tentatively diagnosed Anita and Darrell as having multiple sclerosis. MS is a degenerative disease of the central nervous system. "Turner Valley, home to the province's oldest sour-gas field and the Black Diamond region, have the highest rate of MS in the country: 354 cases per 100,000 people. The national average is between 100 and 200 cases per 100,000.

Dr. Murray Young, a physician hired by Gulf/Crestar, contested van Olm's argument that sour-gas flaring had caused Darrell's

and Anita's disabilities and made them chemically sensitive to hydrocarbons. Young, who declined to be interviewed for this article, called the whole area of chemically induced allergies and injuries a "highly controversial field." Yet he admitted that governments in both Germany and Sweden recognized chemical sensitivities triggered by hydrocarbons. Gulf/Crestar later tabled a report suggesting another source

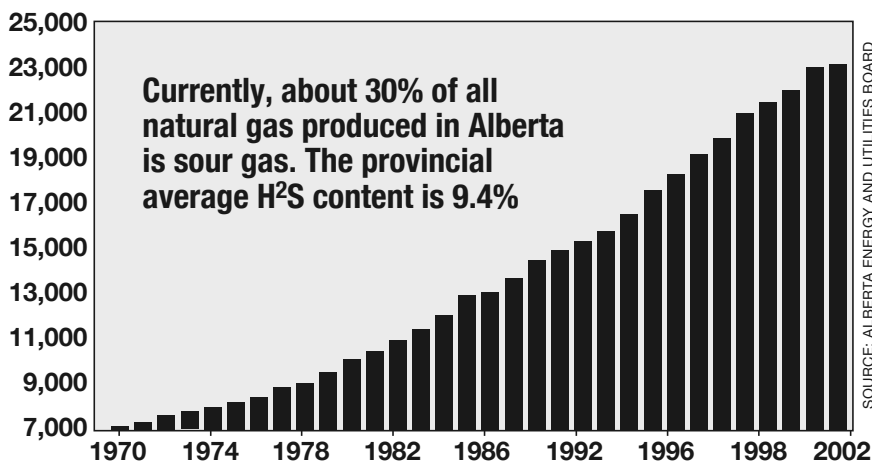
of H<sub>2</sub>S - manure, in this case from the Graff's farm. Yet the EUB decision noted that a technician had found "a sour gas leak that could be heard and smelled" at Crestar's well.

In summer 2001, the EUB ruled Gulf/ Crestar should address "deficiencies in the company's practices," such as the sour gas leak, and make improvements. It then gave the Graff's three months to sell their farm. After that period Crestar could start drilling again. Secord calls the decision 'unprecedented .... It doesn't seem like much. But you show me a EUB decision that even comes close to this. It was an admission the family had suffered."

It took nearly three years, but the Graffs finally sold their home section for half of its appraised value this fall. The buyer will work the farm but not reside there. Barbara and Darrell are still looking for a safe place to live and often camp out in a 24-foot-long trailer 18 kilometres upwind of their farm to escape fugitive H<sub>2</sub>S emissions. Anita and her husband have relocated to B.C. Darrell walks with a cane and frequently needs oxygen. Larry, whose dream was to die a farmer, despairs about the future: "This was home. Everything is in storage. This is a nightmare. Our farm, our way of life, everything is upset."

When she's not feeling sick, Barbara attends EUB public meetings as a silent witness to what she believes to be the board's bias against landowners. She recently helped convince a group of ranchers to freeze seismic activity in a 100 kilometre area along the Rockies. She says she's been in touch with more than 100

## NUMBER OF SOUR WELLS DRILLED



**Welling Up, Of the 200,000 new wells that could be drilled in Alberta over the next ten years, one third will be sour.**

SOURCE: ALBERTA ENERGY AND UTILITIES BOARD

farmers who have been displaced or harmed by flaring or sour gas activity. Many now live in B.C. "I don't want this to happen to another family, ever again," she declares.

Since the Graff incident, the EUB has reviewed its sour gas policies and promised to implement all 87 recommendations made by the Committee on Public Safety and Sour Gas, tabled in December 2000. That report chastised the regulator on a host of issues, including inadequate monitoring, inadequate health data and industrial bias.

Since then the EUB has increased sour gas inspections, ordered a study on the industry's effects on land values and is developing personal air monitors capable of detecting low levels of H<sub>2</sub>S. It has admitted the growth in demand for sour gas "has resulted, at times, in a conflict." Of 28 facilities where it monitored H<sub>2</sub>S emissions in 2001, 32% were poisoning downwinders or, as the EUB put it, had "off lease" problems.

EUB chair McCrank refused to be interviewed for this article. When asked to address the displacement of the Graffs, board staff replied: "The scale and pace of development within Alberta sometimes leads to public concern .... These concerns translate into personal choice. People have the right to decide to buy and sell property" The Lethbridge Herald wasn't impressed by such arguments. An editorial stated: "Gulf/Crestar is running a southern Alberta family off its land, may in fact be poisoning its members as it does, and all the technical gobbledegook in the world isn't going to make it seem even remotely right."

Houston-based Conoco Inc. bought out Gulf Resources in May 2001 for \$9 billion. It was just one of scores of mergers that saw the majority of Canada's natural gas reserves pass into U.S. based hands. Peter Hunt, Conoco's general manager of public affairs, describes the Graffs as an inherited problem and swears the company is a good neighbour. "A set of allegations have been made and we have to establish some facts," he explains. He says the company wants to arrive at a solution but the Graffs, he adds, aren't cooperating. Nor will they accept air monitors. Hunt, who seems genuinely concerned, confesses the issue has brought him to tears.

Barbara Graff says Conoco's statements are disingenuous, noting that the family has repeatedly called for proper monitoring downwind of the well. (Farmers say industry, prefers to monitor upwind.) "When do the perpetrators of a crime dictate how a crime will be solved? Just where was the monitoring equipment on October 18? The real issue is injury and displacement. When you buy a company, you buy responsibility for resolving its mistakes."

After years of denial and inaction, says Dr. Guidotti, government and industry have changed their attitudes on sour gas. "They have come to realize what they don't know might hurt them." He's now working on a \$15 million animal-health study he believes will answer questions about the toxicity of low-level emis-

sions. Alberta Health, however, has abruptly cancelled a parallel human-health study". "They redirected the money to debt reduction," adds Guidotti wryly.

Canada continues to export its gas with what some might call irrational exuberance. A third of a proposed 200,000 new gas wells will be sour. New drilling (an average of 10,000 wells a year) has not replaced what has been extracted since 1982, a state of affairs that worries the Canadian Gas Potential Committee, an independent group of Calgary geologists. Earlier this year, it warned that dwindling Canadian supplies will not be able to meet rising U.S. demands within a year or two. That means higher prices and possible shortages for Canadians. No one has yet contested the committee's analysis.

Several months after it bought Gulf - and nearly two years after Gulf bought Crestar - Conoco merged with Oklahoma based Phillips Petroleum Co. to become a \$35 billion conglomerate. The new firm, ConocoPhillips, is the world's sixth largest energy company. In a letter to the Graffs, John Benton, a Conoco manager, said he couldn't talk about the gassing of Darrell Graff due to pending litigation.

"Perhaps legal action wouldn't be necessary if they, would honestly and openly discuss those events," says Barbara Graft. The determined mother, a gentle Christian, now compares her encounter with the continent's energy dynamic to being hit by a drunk driver in a car with a broken carburater. She says she's not asking for much - just an export vehicle with a clean muffler and a sober navigator who respects human life.

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