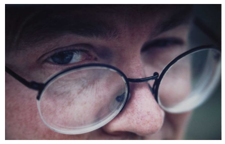
FRACK EU:
UNCONVENTIONAL INTRIGUE IN POLAND

A Preliminary Investigation of the Fracking Assault on Poland



Conceived, researched, written,
edited, produced and financed
by Will Koop,
Coordinator,
B.C. Tap Water Alliance,
(www.bctwa.org/FrackingBC.html)
Vancouver, British Columbia

January 23, 2012

(For the complete report chapters index, refer to the B.C. Tap Water Alliance website, under *Stop Fracking British Columbia*)

APPENDIXES

Appendix A: B.C. Tap Water Alliance Presentation to Canada's Natural Resources Standing Committee, February 3, 2011 and April 14, 2011 Press Release

B. C. TAP WATER ALLIANCE

Caring for, Monitoring, and Protecting
British Columbia's Community Water
Supply Sources
Email – info@bctwa.org
Website – www.bctwa.org
(***Stop Fracking British Columbia*** – wwww.bctwa.org/FrackingBC.html)

NATURAL RESOURCES STANDING COMMITTEE PRESENTATION - FEBRUARY 3, 2011

Bonjour. Merci Beaucoup. Thank you for the opportunity to appear before this Committee.

My name is Will Koop. I am a researcher and author of numerous reports and a book concerned about the protection of public drinking water sources in British Columbia (see B.C. Tap Water Alliance website, *www.bctwa.org*). A year ago I created a website, ***Stop Fracking British Columbia***, when I began to investigate energy corporations in northeast BC mining enormous volumes of fresh water to hydraulically fracture or "frack" deep shale gas deposits. Though water is a fundamental component of fracking, it is only one of numerous other environmental and social concerns.

BC's shale developments are far removed from where I live, an 18-hour vehicle journey from Vancouver just to get to the outer edge of the vast energy zones leased to the international energy companies. I visited the area twice, in May and September, 2010. As a result, I produced three reports that touch on some of the dynamics of these issues:

- June 17, 2010: *The World's Biggest Experimental Frack Job!!* (Apache Canada's 2010 operations in the Horn River Basin);
- October 13, 2010: *24-7 Less Peace in the Peace* (Talisman Energy's operations north of Hudson's Hope);
- November 9, 2010: *Encana's Cabin Not So Homey* (the issue of cumulative effects).

In addition, I also produced two YouTube videos: *My Very First Frack*, and *The Komie Commotion.*

Quebecers concerned about deep shale gas developments have translated my cumulative effects report and the videos into French on their website blogs.

Our provincial regulator, the BC Oil & Gas Commissioner, stated to this Committee on December 14, 2010, that the environmental and social consequences from deep shale gas developments in northeast BC are "responsible" and in order. ***I'm here to tell you that they are not!***

For instance, in my report, *EnCana's Cabin Not So Homey*, I described how the ***RUSH*** to develop BC's non-renewable deep shale gas is occurring without cumulative environmental effects studies:

> *Northeast British Columbia's shale gas race will undoubtedly become and remain one of the most significant environmental and public planning issues facing First Nations, the Province, Regional Districts, regulators, communities and residents alike.*
> *Given the backdrop of evermore lax and non-existent legislation and regulations, these developments can be understood as distinct social and political failures.*

I included a quote from a 1986 Ministry of Environment report that aptly summarizes what the BC government has failed to undertake:

> *Strategic planning precedes the sale of petroleum rights. This ensures all parties involved are aware of the concerns and constraints associated with development in an area before development is proposed.*

In 1991, the Ministry of Environment released a report urging the government to implement "cumulative effects" studies in the energy zone, which it failed to undertake. The concerns by Ministry staff continued about the absence of cumulative effects with the creation of the BC Oil and Gas Commission in 1997. In 2003, the Commission finally published a lengthy two-volume report on how to ***possibly*** implement cumulative environment effects in northeast BC. However, the matter was ignored. Since 2003, the government leased thousands upon thousands of hectares of public lands to energy companies without conditions to conduct cumulative effects studies and without consulting the public.

When EnCana's representative Richard Dunn was asked by this Committee to comment on the state of cumulative effects studies in British Columbia, Mr. Dunn stated on November 23, 2010, that "***it would not make sense to do a cumulative effects assessment***." Mr. Dunn's response is not only an affirmation that cumulative effects studies have been ignored, but it is also a disturbing statement about the energy corporation's attitude and philosophy, including Mr. Dunn's comments about Canada being on the "forefront of environmental and economic stewardship." EnCana has significant lease areas and corporate partnerships throughout northeast BC, and elsewhere.

There was only one long-term cumulative environmental effects study in western Canada. It was conducted by Ernst Environmental Services of Pioneer Natural Resources Canada Inc.'s oil and gas operations in the Chinchaga area of BC and Alberta. Unfortunately, that ten-year study was terminated after the company was acquired in November 2007 by Taqa North, a Saudi Arabia company owned by the Abu Dhabi National Energy Company PJSC, with deep shale gas leases in northeast BC. In 2005, Jessica Ernst, of Ernst Environmental Services, had her well water in Rosebud, Alberta contaminated with methane, ethane and other hydrocarbons after EnCana fractured the area for coalbed methane gas.

As Mr. Parfitt testified before this Committee on December 2, 2010, the cumulative effects issue is further complicated by the fact that the BC Oil and Gas Commission has provided little accurate or comprehensive data on public resource uses by energy companies, such as the water withdrawals list he referred to. This long list released by the BC Oil & Gas Commission regarding companies operating in the Horn River Basin, failed to provide accurate information, incorrectly suggesting that little water was needed for fracking operations from 2009-2010.

I wrote in my last report that EnCana had apparently conducted the world's largest fracking operation on multi-well pad 63-K in the Horn River basin next to Two Island Lake, doubling the resource figures by Apache Canada a half year earlier when it announced the world's largest frack operation a few kilometres away. I estimated that EnCana used about 1.8 million cubic metres of fresh water (over 700 Olympic swimming pools of water), about 78,000 tonnes of specially-mined frack sand (about 800 rail cars), and about 35,000 cubic metres of toxics, and that this operation might be a template or indication of many more operations in the future. The BC government does not mandate energy companies to publish this, and related, data, but ought to.

EnCana's public relations officer in its Calgary headquarters later said to me in a telephone conversation that EnCana was concerned about the information in my report. I responded that I was only too happy to change the information if EnCana would provide me with its own final figures from pad 63-K. I then emailed a number of questions to EnCana (see attached), but have not received a response. As I read from this Committee's transcripts, EnCana promised to provide the Committee with the water and frack sand data on pad 63-K, but has yet to do so.

> (*Email sent to EnCana, Calgary Headquarters, 16/11/2010 1:22 PM.*)
> When I obtain the final information from you (EnCana) about 63-K pad (at Two Island Lake), I will then make the necessary changes to my recent report. The projected information in my report was based on an interview with a Trican rep. that confirmed information presented in Trican presentations.
> ***Here are my immediate questions for 63-K pad***:
> 1. Are all the completions for all 14 wells completed?
> 2. Is the total number of "314 fracs" correct, and if so, does this reflect the end of completions for 63-K.
> 3. Can you provide me with the data on how many completions were done per well.
> 4. Can you provide me with data describing the length of each horizontal bore.
> 5. How many days did all the completions take in total, beginning to end (if all the completions are completed).
> 6. I know from the OGC that information on 63K is generally registered as "confidential". Can EnCana provide me with the well completions data it provides to the OGC re total water volume, total frack sand, and total bulk chemical volume use for 63-K pad? Sincerely, Will Koop.

The absence of long-term, integrated strategic cumulative effects planning, the lack of accurate resource use data by the Oil and Gas Commission, and little governmental oversight or monitoring of the energy developments in northeast BC are not the only concerns. Many landowners who are directly affected by the energy developments have told me of their concerns, whereby they seem to have few rights and stakeholder privileges. They state that: high pressure toxic gas facilities should not be established so close to residences; air quality standards are deficient; there are few or no air monitoring alarm systems; water tables used for residents and agriculture are changing; that BC's Mining legislation gives priority to developers to access and develop private property. David Core with the Canadian Association of Energy and Pipeline Landowner Association provided the Committee with some of these concerns on November 25th.

The concerns that I have raised to this Committee about legislative and regulatory deficiencies and monitoring oversight in British Columbia are not isolated. In our submission to the National Energy Board in July, 2006 regarding Kinder Morgan's Anchor Loop Project (*http://www.bctwa.org/NEBSubmission-July10-06.pdf*), I reported how the Alberta government failed to act on the recommendations of a special Committee appointed by Alberta's Executive Cabinet in 1972. That committee recommended that the tar sands ***might be*** developed over a 750 year period, not a 50 year period! The Alberta government suppressed the report until it was leaked 3 years later to Mel Hurtig, who then released the study. The special governmental committee headed by the Ministry of Environment understood the ***"magnitude"*** of environmental consequences from energy companies proposing to mine the tar sands. In that same report, the committee made strong statements concerned about multinational energy corporations and strong statements about Canada's energy security as it related to both protecting the environment and in providing long term energy supplies found in Canada for the long term use of Canadians. Thankyou. Merci.

April 14, 2011 - PUBLIC INQUIRY NEEDED TO ADDRESS HUMAN HEALTH AND ENVIRONMENTAL RISKS POSED BY SHALE GAS DRILLING, COALITION SAYS

VANCOUVER - The B.C. Government should follow the lead of other Canadian provinces, individual U.S. states and the U.S. Federal Environmental Protection Agency in launching a full, public inquiry into the threats posed by an expanding shale gas industry, a number of British Columbia's prominent environmental organizations say.

"Given the growing concerns associated with contaminated waterways and dangerous migrations of deadly gas associated with shale gas developments, the time has come for the province of British Columbia to conduct a full public inquiry into the environmental and social impacts of the shale gas industry," says Will Koop of the B.C. Tap Water Alliance.

The Alliance has made a formal request for an inquiry in a letter sent on April 13th to Energy and Mines Minister Rich Coleman, Environment Minister Terry Lake, and Forest, Lands and Natural Resource Operations Minister Steve Thomson. It is supported in its call by the Western Canada Wilderness Committee, the Council of Canadians, Sierra Club of BC, Georgia Strait Alliance, and Dogwood Initiative, with many more organizations expected to endorse the petition.

The call follows an earlier request by citizens living in the midst of shale gas industry activities in northeast B.C. for a formal public inquiry under the provincial Health Act to address the public health and safety risks associated with "sour" gas - natural gas containing hydrogen sulphide, a potentially deadly toxin. Some sour gas leaks in northeast B.C. have been associated with the controversial gas stimulation technique, hydraulic fracturing or fracking, which is commonly used by the shale gas industry.

Last year, the province of Quebec held a public inquiry into proposed shale gas developments. It released an initial report in February 2011, and currently has a quasi-moratorium in place banning shale gas developments pending further study. The province of Nova Scotia has signalled its intention to hold a similar inquiry process.

In the United States where hydraulic fracturing operations have resulted in contamination of well waters and aquifers, many State agencies are holding similar reviews and a thorough public review by the federal Environmental Protection Agency is underway.

The B.C. Government has so far resisted doing anything similar.

"We are concerned with the province's indifference to this issue. Despite calls from its own Ministry of Environment staff to conduct cumulative environmental assessments of gas industry activities in northeast BC since 1991, the government has failed to do so," Koop says. "Given the impacts on our environment, human health and significant increases to greenhouse gas emissions over an area that represents about 15 percent of BC's land mass, we believe the government should immediately implement a rational public review and planning approach to energy developments in B.C."

"I am very concerned about the impact of fracking on human health, from the use and disposal of chemical toxics from drilling fluids to fracking processes with water, and the release of deadly gases," said Ben West, Healthy Communities Campaigner for the Wilderness Committee. "To make things worse, increasingly it seems that some of these projects are meant to provide natural gas to the tar sands to facilitate increased extraction of dirty oil. These fracking projects should be stopped until we take a long hard look at them.

APPENDIX B: HALLIBURTON NEWS RELEASE (July 9, 2010)

First Shale Fracturing Operation in Poland

On July 9, Halliburton achieved a major milestone in Poland by performing the first-ever, large-scale hydraulic fracturing operation for PGNiG, the state-controlled Polish oil and gas company. On July 18, on the same well, another major milestone was achieved when Halliburton performed the first-ever shale frac in Poland.

The Company's Production Enhancement team performed both of these successful fracs in the Markowola-1 well located within the Pionki-Kazimierz license. The goal is to prove both tight gas and shale gas reserves in the reservoirs.

The frac jobs created high interest and enthusiasm within the country, and, in the ensuing media coverage, Halliburton was featured as a company possessing state-of-the-art technology.

Halliburton was chosen for the project based on its strong history of success working with PGNiG. Leading up to the project, Polish media outlets fanned interest by positioning it as a possible step toward achieving national gas independence. Poland uses approximately 14 billion cubic meters per year, with more than 60 percent of it imported.

On the July 9 frac job, live television news broadcasts from the site provided viewers with ongoing progress reports. There were also several presentations by representatives from PGNiG and a visit from Mikolaj Budzanowski, the undersecretary of state in the Treasury Ministry.

Jerzy Wozniak, Halliburton's Business Development manager for Poland, represented the Company at the media event. "This is an exciting time for Poland, PGNiG and for Halliburton," Wozniak said. "We embrace this opportunity to be part of this very significant project, and we look forward to the continuing evolution of our relationship."

In his remarks, Wozniak also mentioned Halliburton's extensive history in Poland and touched on the Company's experience as a worldwide technology leader in developing shale gas and other unconventional assets.

After the project was completed, a spokesperson for PGNiG complimented Halliburton on the success of the fracturing program and expressed complete satisfaction with the planning and execution. "It went exactly per program," he said, "and the results were excellent."

Representatives from PGNiG who were present for the live event included Marian Szymczak, deputy director of Drilling and Completion; Zbigniew Krol, director for Drilling and Production; and Adam Gorka, chief geologist.

Significant production of shale gas could begin in Poland within three to four years if economic production of the reservoir is proved.

APPENDIX C: DAVID L. GOLDWYN

(U.S. State Department website biography)

David L. Goldwyn
Special Envoy
International Energy Affairs

David L. Goldwyn is the State Department's Coordinator for International Energy Affairs. Appointed by Secretary Clinton, he was sworn in on August 17, 2009. On August 30, 2010, Secretary Clinton announced that Mr. Goldwyn will now carry the concurrent titles of Special Envoy and Coordinator for International Energy Affairs. Prior to his appointment, Mr. Goldwyn was President of Goldwyn International Strategies LLC (GIS), an international energy consulting firm from 2001-2009. GIS was a leading adviser on extractive industry transparency. Through GIS, Mr. Goldwyn advised Nigeria's Extractive Industries Transparency Initiative (EITI) on its groundbreaking implementation program, authored "Drilling Down: The Civil Society Guide to Extractive Industry Revenues and the EITI" for the Revenue Watch Institute and headed the sole U.S. firm certified to rate countries on their compliance with the EITI rules.

In addition to his private sector experience, Mr. Goldwyn served the U.S. Government as Assistant Secretary of Energy for International Affairs (1999-2001), Counselor to the Secretary of Energy (1998-1999); national security deputy to U.S. Ambassador to the United Nations Bill Richardson (1997- 1998); Chief of Staff to the Under Secretary of State for Political Affairs (1993-1997) and an Attorney-Adviser in the Office of the Legal Adviser at the State Department (1991-1992).

Mr. Goldwyn has authored a series of works on energy issues, including a co-edited book on international energy security, Energy and Security: Towards A New Foreign Policy Strategy, (Johns Hopkins University Press, August 2005); "Building Long Term Energy Security: Seize the Moment," *Global Energy and Environment Initiative Green Paper Serie*s: No. 1, Spring 2009); "New Threats to Energy Security," *Current History* (December 2006); "The Petrol Factor" (with Edward Morse), *Aspenia* (April 2006); "A Strategic U.S. Approach to Governance and Security in the Gulf of Guinea: A Report of the CSIS Task Force on Gulf of Guinea Security" (CSIS: July 2005); "Crafting a U.S. Energy Policy for Africa" in Rising U.S. Stakes in Africa: a Report of the Africa Policy Advisory Panel (CSIS: May 2004); "Promoting Transparency in the African Oil Sector: A Report of the CSIS Task Force on Rising U.S. Energy Stakes in Africa" (CSIS: March 2004); and "Extracting Transparency," *Georgetown Journal of International Affairs* (Winter 2004).

He also served as chairman of the Global Energy and Environment Initiative at Johns Hopkins University School of Advanced International Studies (2008-2009) and a Senior Associate in the Energy Program at the Center for Strategic and International Studies (CSIS) from 2001-2009. Mr. Goldwyn was a member of Council on Foreign Relations 2007 Independent Task Force on National Security Consequences of U.S. Oil Dependency, and Council of Foreign Relations Center for Preventive Action task forces on Angola, Nigeria, Bolivia and Venezuela and Russia.

Mr. Goldwyn has taught graduate seminars at Columbia and Georgetown Universities, been a frequent commentator on NPR, CNN, the BBC, and in energy trade newspapers. He acquired extensive international business experience as an attorney with the New York law firm of Paul, Weiss, Rifkind, Wharton and Garrison from 1986 to 1991. He has been affiliated with the Ford

Foundation and the Brookings Institution. He is a Member of the Council on Foreign Relations, the District of Columbia Bar, and the New York State Bar Association. Goldwyn was the first Chairman of the Board of Global Giving, a foundation dubbed "the e-bay of international development," dedicated to using the internet to match donors with projects in the developing world.

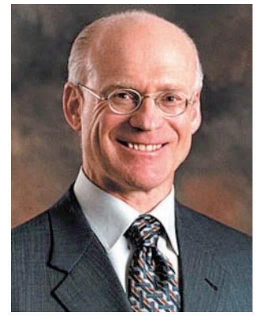
Mr. Goldwyn holds a B.A. in Government from Georgetown University, a Masters in Public Affairs from the Woodrow Wilson School of Public and International Affairs at Princeton University, and a J.D. from New York University School of Law.

APPENDIX D: ANDREW NIKIFORUK ARTICLES

The Gwyn Morgan File: Rise of a Shale Gas Baron

Christy Clark picked the EnCana empire builder to guide her into power, and that says volumes about who's shaping BC's future. Part one of two.

By Andrew Nikiforuk
March 17, 2011
TheTyee.ca



Morgan, transition team advisor for incoming premier Clark

> *"In rentier states, economic and political power is especially concentrated, the lines between public and private are very blurred, and rent-seeking as a wealth creation strategy is rampant."* -- Terry Karl, Paradox of Plenty

Gwyn Morgan's emergence as a political advisor to BC Liberal leader and premier designate Christy Clark not only reflects the province's growing dependence on shale gas revenue but her party's formidable indebtedness to petro politics.

Morgan's calculated political ascension, which should prick the interest of every British Columbian, also illustrates the growing ambition of the country's petroleum elite.

Morgan, a sort of Canadian version of former U.S. vice president Dick Cheney and a man who admires the "journalism" of former tobacco lobbyist Ezra Levant, also serves as an advisor to Prime Minister Stephen Harper.

As an ideological supporter of Alberta's *de facto* petro state (it gets 35 per cent of its revenue from hydrocarbons and has been ruled by one party for 40 years), Morgan earnestly endorses the Alberta model of resource development.

Alberta's "give-it-away" model consists of generous profits for corporations, emasculated or captured regulators (B.C.'s Oil and Gas Commission is 100 per cent funded by industry and even seconds EnCana employees for projects), paltry returns for resource owners, low taxes and a petro state crippled by disengaged citizenry with no savings for the future.

Morgan, who retired to a modest $7-million property in North Saanich in 2006, is no stranger to B.C. politics. He not only helped build EnCana's massive holdings in unconventional gas plays in northern British Columbia (more than 3 million hectares of leased land) but also negotiated an "encouraging policy environment" with Premier Gordon Campbell's government.

This unique relationship, rarely analyzed by the press, gave both shale gas and EnCana extensive influence over the province's affairs. Natural gas now drives B.C., not wood.

Morgan, a smiling trustee of the Fraser Institute, is also a promoter of free market causes such as water exports to the United States. He says it's "one of the cleanest ways of creating new investment, jobs and deficit-reducing government revenue."

Morgan pushed integrations with US

But like many of Canada's elites, Morgan, a 65-year Albertan, remains a tight bundle of contradictions. While claiming the humblest of Horatio Alger origins, Morgan actually built his fame and fortune on the strength of public wealth bequeathed to a crown corporation (Alberta Energy Co.) where he began his oil patch career.

Although he sometimes calls himself a "budding Canadian nationalist," Morgan has pushed hard to integrate Canada more deeply into the failing U.S. empire by lobbying for the controversial Security and Prosperity Partnership. The startling plan proposed a North American Union with a single currency.

Despite a sincere and lengthy commitment to improving corporate ethics, the chairman of board of directors for SNC Lavalin, one of the world's largest engineering companies, has no difficulty doing business with a wild variety of petro dictators including Colonel Moammar Gadhafi.

Though a frequent decrier of "inhuman communist totalitarianism," the petroleum engineer also did business with China's state-owned oil company while leading EnCana, one of the continent's largest gas producers.

In fact EnCana just completed a $5-billion dollar deal with Petro China that, if approved, will give that Chinese state-owned company more say over the pace of shale gas developments in the province than ordinary British Columbians.

Pioneer of controversial fracking method

Like many Tory petrolistas, Morgan regards bitumen as "ethical oil" even though EnCana, under Morgan's watch, had to import "unethical" foreign oil from Venezuela and Pakistan in order to dilute the heavy stuff for U.S. pipeline exports due to North American shortages. (Sadly, in the world's great oil complex, there is no such thing as a moral hydrocarbon.)

Although a generous supporter of alternative medicine, acupuncture, fitness and even Tibet's spiritual leader, the Dali Lama, Morgan has been slow to acknowledge the profound health and environmental impacts of industrial natural gas drilling or hydraulic fracturing.

Morgan's company, of course, dutifully paved the way for the controversial practice of fracking for unconventional gas. This brute force technology, which can cause local earthquakes, consists of forcefully blasting apart concrete-like rock formations with millions of gallons of water, chemicals and sand. It's now the subject of intense U.S. federal investigation, moratoriums and widespread public concern across the continent.

Despite Morgan's devotion to good healthy living, his aggressive "resource plays" often left an unhealthy legacy of air pollution, endangered wildlife, fractured communities and water contamination throughout the rural North American west. Since his departure in 2006, the company continues to make uncomfortable headlines about sour gas leaks, bombing campaigns and water pollution in places like Dawson Creek, B.C. and Pavillion, Wyoming.

The farm boy

By his own account the energy czar began life as a central Alberta farm boy who milked the cows and collected the eggs “without cajoling.” His Welsh parents taught him an honorable code: “Keep your word. Stay honest. Do your best. If the world deals you a tough blow, buck up and move on.”

After completing a degree in petroleum engineering, the short, bespectacled Morgan eventually joined the brand new Alberta Energy Company (AEC) in 1975. Premier Peter Lougheed created the novel crown corporation in order to keep on eye on U.S. multinationals and to give ordinary Albertans a chance to invest in the industry. The province owned half the company and even Morgan sold shares to citizens.

But Morgan’s selective accounts of his own success or that of EnCana’s give little credit to the crown corporation.

“Exactly half of my life was dedicated to building the company which became known as EnCana Corporation,” goes one 2007 speech.

“That quest began in 1975, when a small group came together to issue our first shares -- and a 29-year-old engineer took some of those funds and had the wells drilled which generated our first revenue. Two decades later, that not-so-young-anymore engineer was CEO of a much bigger enterprise, and in 2002, he lead what was Canada’s largest ever merger. The new company was called EnCana, a name that my wife, Pat, and I came up with while cross-country skiing in the mountains just before the announcement.”

Yet Lougheed gave the Alberta Energy Company some of the best natural gas and oil resources in the province, including the Suffield natural gas field, heavy oil in Cold Lake, oil sands properties and other riches. AEC was a no-fail company and everyone in the industry knows it. It could have been Alberta’s version of Statoil, the prosperous Norwegian firm.

“AEC was given so many valuable properties it couldn’t miss. It was a cash cow from day one,” acknowledged Rowland McFarlane, a former Lougheed aide, several years ago.

The company, of course, flourished. But Premier Ralph Klein, a visionless petro politician and alcoholic with troubling debts, sold off the prosperous crown company in 1993 to balance the provincial books.

Without so much as a public evaluation of the company’s true net value, Klein gave away the province’s remaining shares for less than $500 million. Tory politicians, who were permitted to own shares in the company, profited handsomely.

Just five years later the company was earning $2 billion a year and was worth more than $6 billion in the market place.

The improbable Ludwig

After slowly rising through the ranks at AEC, Morgan inherited the company’s rich public asset base when he became CEO in 1994. Thanks to Klein’s low royalties (among the lowest in North

America) as well as limited regulations, AEC become one of the country's 10 largest gas producers. Klein and Morgan talked regularly.

Under Morgan's direct and entrepreneurial leadership, the company sold off all non-oil and gas assets and adopted Gumby as a corporate symbol. Every employee even got a Gumby figure to play with. Morgan, who then cited Adam Smith as one of his favorite authors, admired Gumby because of his elasticity and adaptability.

But a massive drilling boom in northeastern Alberta's sour gas fields pitted the elastic CEO against an immoveable adversary and a man as socially conservative as Morgan.

That combative individual was Wiebo Ludwig, the son of a Dutch resistance fighter. When the rapid development of sour gas fields near Hythe, Alberta threatened Ludwig's children and livestock, the fundamentalist Christian preacher first protested by writing civil letters. For several years he even begged officials to intervene.

After AEC proposed to drill on Ludwig's farm in 1996, the landowner, already unnerved by series of sour gas leaks (the gas can be as poisonous as cyanide), openly declared war on the company and its many contractors.

As documented in *Saboteurs*, the violent struggle (and clash of egos) between Ludwig's family and Morgan's company had no precedent in North America. It ultimately involved drive-by-shootings, bombings, death threats and more than $10 million worth of industrial sabotage or monkey wrenching.

Even after AEC quietly hired a small army of security guards led by retired RCMP officers, the industrial sabotage against oil and pipeline facilities persisted on a boggling scale.

In attempt to end the mayhem and protect his employees, Morgan privately met with Ludwig on Jan. 15, 1998 at Edmonton's Mayfield Inn. Dressed in black, the jaunty executive brought along two burly bodyguards. Ludwig was accompanied with his wife and family friends, the Boonstras.

Neither man really blinked. In Ludwig's account (the family recorded the encounter) Morgan told the saboteur that, "we will act in whatever way to defend ourselves and use all possible components to deal with that."

Ludwig's wife, Mamie then said, "And I will do everything in my power to keep my kids safe." Ludwig then asked Morgan, "Who is the provocateur?"

"Yes", Mamie interjected, "Who is provoking who?"

Morgan replied, "There's no doubt, definitely not you" and added, "We are the provocateurs!"

The two adversaries even debated climate change. Morgan argued that if Canada reduced emissions, someone else would produce more.

Ludwig disagreed. "I've been in homes where you could hardly walk, the floors were strewn with boxes, loaves of bread, clothes. I don't then go home and say to my wife: 'Oh, honey, don't worry about cleaning our home. I was just over to the neighbours' and their place is such a mess -- why should you bother to clean?'"

At the end of the meeting Morgan promised to address a number of concerns including flaring, the burning of waste gas upwind from homeowners. He also said he would cancel an alarming lawsuit against the entire Ludwig family including a seven year old child. The CEO kept his word.

Sour gas and public relations

But the temporary peace didn't last long. Hostilities soon resumed and eventually resulted in one of the largest and most expensive RCMP investigations in Canadian history. Morgan even supported a police bombing of an EnCana facility in attempt to entrap Ludwig. The bombing terrified the local community and heightened tensions. Morgan later admitted that he was "consciously less than straight up" about the company's involvement.

In the end just about everyone behaved badly in the debacle including Ludwig, the police, regulators and several natural gas companies. To this day the shooting of 16-year old girl on Ludwig's farm remains unresolved. Ludwig eventually served two thirds of a 28-month jail sentence for vandalizing and bombing oil wells. (My account of this unbelievable Canadian story took three years of research and hundreds of interviews.)

Oddly enough neither Ludwig nor Morgan cared much for the content of *Saboteurs*. (AEC refused to let any company employees speak about the war and later requested that they not read the book. But most gave it a thumbs-up for accuracy.) Morgan then commissioned Calgary journalist Sidney Sharpe to write an EnCana version of events.

Oil patch workers, however, generally dismissed *A Patch of Green: Canada's Oil Patch Makes Peace with the Environment as industry propaganda*.

One former EnCana employee called it dishonest if not "mediocre marketing fluff." He noted that environmental issues have never been a priority for the industry. "Nothing is done unless it either makes money or it is forced by a regulator. Canada has lower safety standards in regards to sour gas (H2S) and environmental pollution than the U.S., and it shows. Regulation of the industry here in Alberta is a joke."

The Gwyn Morgan File: EnCana's Grip on BC

How Christy Clark's advisor steered his Alberta petro giant to become the most powerful corporation in this province. Second of two.

By Andrew Nikiforuk
March 18, 2011
TheTyee.ca

After the Ludwig affair, Morgan continued with his quest to make AEC bigger and better. He also ventured into Ecuador's contentious oil fields because he felt that oil development might lift that country out of poverty. Morgan even vowed, as engineers frequently do, to "leave the environment in Ecuador in better shape than we found it."

But EnCana's pipeline venture ended with allegations of corruption, kidnappings, restless natives and environmental degradation. In the end, Morgan sold the whole venture to a consortium of Chinese energy companies including Petro China for $1.4-billion. An insightful documentary by Nadja Drost called *Between Midnight and the Rooster's Crow* documents the company's ethical dilemmas in the rainforest.

Undaunted, Morgan bucked up, moved on and quested for bigger deals. In 2002, AEC merged with Pan Canadian Resources to form the continent's second largest gas drilling company, EnCana. The $21-billion merger, the largest in Canadian energy history, gave Morgan's company access to 3 million acres of free-hold land previously owned by the Canadian Pacific Railway. As a result EnCana pays no royalties to the crown on oil or gas collected on this Alberta landscape.

The new mega-firm opened the door to a different approach to gas drilling or what Morgan called "resource plays." It involved the use of hydraulic fracturing and horizontal drilling for extreme gas wells but on an industrial scale. That meant drilling wells just five acres apart while pumping massive amounts of chemicals, sand and water into deep shale rock or shallow coal seams to release small pockets of methane. Some industry folk called it "carpet bombing."

The brazen intensity of EnCana's industrial drilling methods (bigger is never greener) dramatically increased natural gas reserves and drove down the price of natural gas. It also overwhelmed regulators and unsettled rural communities from Sublette County, Wyoming to Dawson Creek, British Columbia.

But all the carpet-bombing made EnCana an energy powerhouse. In 2004, EnCana bought out Tom Brown, a U.S. gas firm with close ties to George W. Bush, the petro politician from Texas. The deal allowed EnCana to take advantage of $14-billion in tax relief to energy companies made by the oil friendly Bush/Cheney administration.

"We haven't just gotten bigger, we believe we've gotten better through unconventional thinking," boasted Morgan at the time.

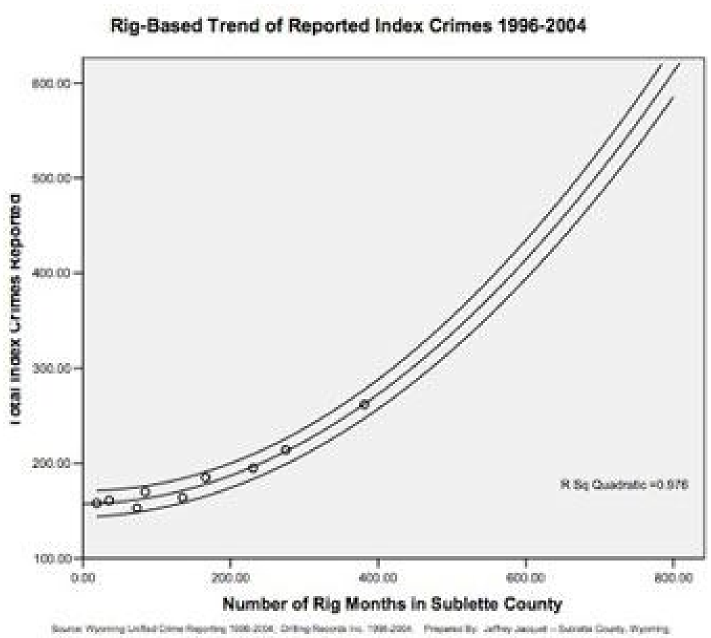
EnCana's rocky record in the Rockies

But the scale of the company's hardheaded drilling campaign generated unconventional trouble throughout the Rocky Mountain west.

In northwestern Colorado's Garfield County, Morgan's obtrusive drilling campaigns provoked a community political uprising, lawsuits, public health investigations and regulatory reforms.

After the region experienced a 39 per cent increase in drilling, the Colorado School of Public Health warned in 2008 that local residents could be exposed to "air pollutants, toxic chemicals, metals, radiation, noise and light pollution" resulting in illnesses, health problems including psychological and social disruption."

Related studies found that Morgan's drilling booms came with an invasion of itinerant fracking crews that unsettled the quality of social life. EnCana's resource play in Garfield, for example, increased the hospitalization rate for children for respiratory diseases; multiplied alcohol and drug disorders and catapulted violent crimes rates from 8.5 to 19.7 per 10,000 residents. Drug violations also doubled.



Trends and forecast: According to past trends, Sublette County can expect the number of reported index crimes to increase by about 52% (to 400 per year) if rig activity were to also increase by about 50% to 600 per year. Likewise, if the number of rig-months were to double to about 800 a year, the number of estimated index crimes would double also — to about 600 a year.

The crime rate in Sublette County will correspond to increases in rig activity with similar fashion, roughly doubling as the amount of rig activity doubles.

EnCana's intense fracking operations, for example, turned Laura Amos's water well into a fizzing and foaming geyser and then transformed the outfitter into an environmental crusader. Other residents documented repeated infractions and pressed for stronger regulations.

Toxic air pollution from the company's natural gas storage tanks grew so bad that the state ordered the firm to build a $407,000 air pollution control system for the region.

In 2004, Colorado's timid Oil and Gas Commission also fined the company then a record amount ($371,200) for a poor concrete job that resulted in methane and benzene seeping into a creek south of Silt, Colorado. A $300,000 state investigation into the contamination is still ongoing.

Appalled by the pace and scale of drilling, many landowners in Garfield often negotiated with the company with a copy of *Saboteurs* on their kitchen table. [*Saboteurs* is Andrew Nikiforuk's book on Wiebo Ludwig's attacks on EnCana sour gas producing wells. -- Editor]

Morgan's lectures on morality

In southern Alberta, a rapid shallow gas drilling program combined repeated wildlife violations on the Suffield military base forced Lt. Col. Dan Drew, like Wiebo Ludwig, to draw a line in the sand. Mandated to protect the Suffield National Wildlife Area, a special grassland reserve located within the base, Drew confronted the company and wrote scores of angry letters to National Defense noting that "the scale of oil and gas activity continues to expand promising to further aggravate the situation."

In central Alberta's farm belt between Calgary and Edmonton, EnCana drilled thousands of shallow wells for methane trapped in coal seams and upset dozens of landowner groups. But whenever a major fracking problem or water contamination incident hit the news, the company quickly made donations to local recreation centres or scholarship funds.

EnCana also left its aggressive calling card in Wyoming. In a remarkable piece for the New Yorker magazine titled "Boomtown Blues," the journalist Alexandra Fuller described the company's destructive social impact in the ranching community of Sublette County in unsparing detail. With every EnCana rig invasion came a surge in transient workers, crime, crystal meth and over-booked jails, wrote Fuller:

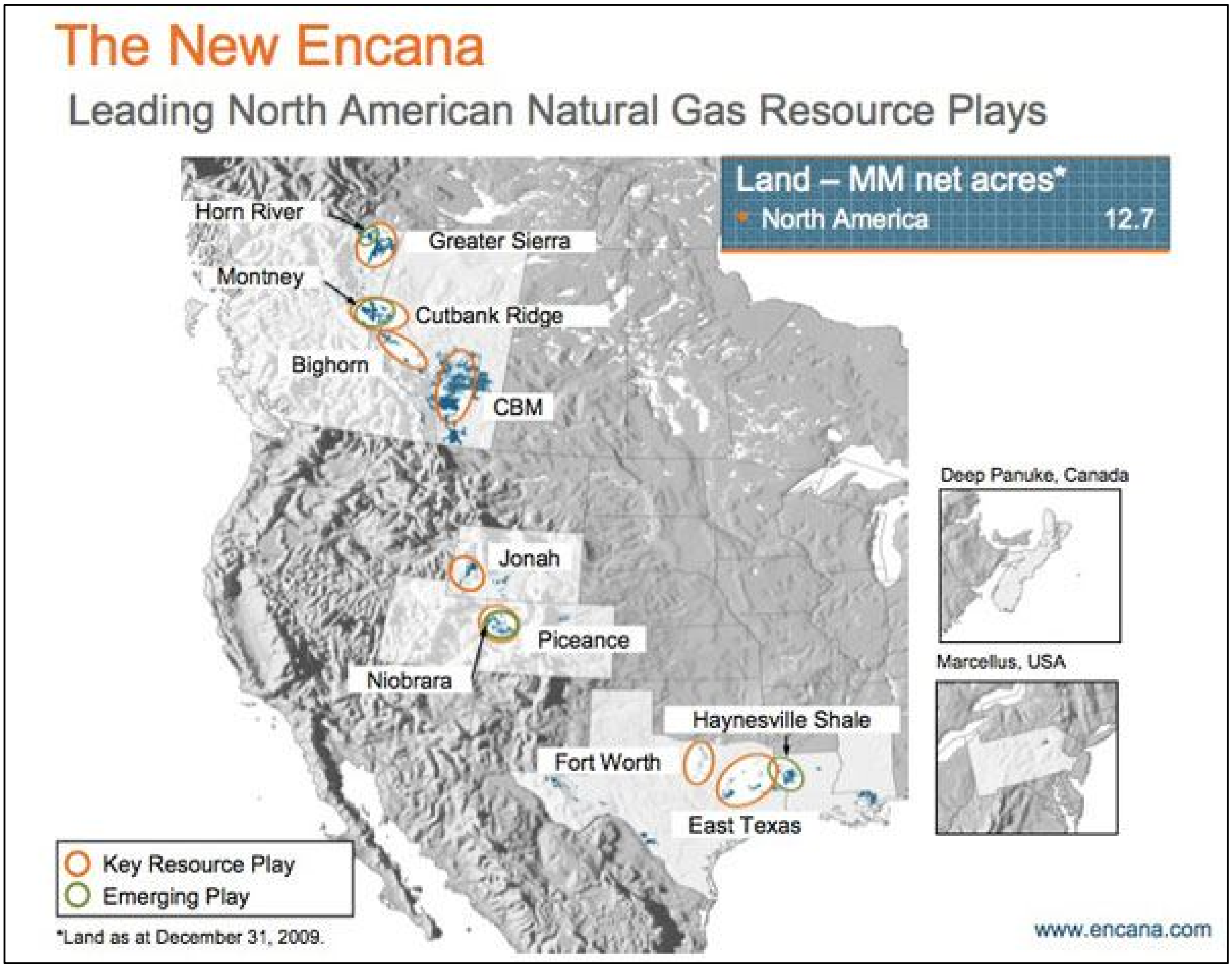
> "The study shows the crime rate rising by 30 per cent from 2004 to 2005, a period when drilling activity increased by fifteen per cent. Air quality and the quality of life in the area have also been affected. Drilling has recently increased in the Wyoming Range and the surrounding foothills, and the steady flow of air traffic (helicopter relays to transport equipment to remote areas), the use of explosives for seismic work, and the constant rumble of trucks carrying helmet-clad men across the desert all reinforce the sense that this boom is, in part, war-related."

EnCana, which even considered hiring Chinese companies to operate its drilling rigs to cut costs, left a mess in Pavillion, Wyoming, too. Before EnCana arrived, rancher and Vietnam War veteran Louis Meeks had clean water to drink. After EnCana drilled 500 feet from his home and water well, Meeks was left with a methane-rich turbid mess.

The more questions Meeks asked about well contamination in his community, the more EnCana treated him like a trouble maker: "Don't you want the country to be able to produce energy?" the company asked. "Do you want to live naked in a tree and eat nuts without any modern conveniences?"

Meeks, who has been battling the company ever since, maintains that natural gas companies can drill responsibly, make money and still protect groundwater. A 2010 study by the U.S.

Environmental Protection Agency found "total petroleum hydrocarbons" in 17 of 19 drinking wells in Meeks' neighborhood.



Morgan, who rarely references the social or groundwater issues raised by unconventional gas drilling, now gives speeches about ethics to the Governor General's Canadian Leadership Conference. U.S. landowners might be inspired by Morgan's advice:

> "Communities which tolerate dishonesty and unfair play will produce workers and leaders who reflect such cultural values. The much more desirable corollary of that is also true."

EnCana's grip on BC's economy

While EnCana industrialized rural Colorado and Wyoming, Morgan's company also invaded Peace River Country in pursuit of sour gas and shale gas deposits.

Although Morgan boasts "a strong bias against government intrusion into any industry," he championed Gordon Campbell's heavy subsidization of natural gas drilling in the province or what Morgan dubbed "an encouraging policy environment." It included "streamlined" regulations; low royalty programs for shale gas as well the public construction of roads and infrastructure for shale gas companies. "From EnCana's perspective, many of the right things are being done by the province," said Morgan in a 2004 speech.

A year later Morgan bluntly laid out the company's extraordinary grip on the province's economy:

> "EnCana is the largest corporate source of revenues to the government in B.C. and we have been for a number of years. As a whole, our industry is responsible for close to $2 billion a year in revenues for the government -- that's just royalties and land sales. It doesn't include the income tax from the 12,000 people working in the industry here. The total impact is something like $12 billion a year. That's enormous -- bigger than any other industry in the province including, of course, forest products."

But EnCana's frantic drilling agenda caused much grief in B.C., too. While drilling the Montney formation, for example, the company often fracked each well five to 11 times with up to 100 tonnes of fracking fluid each time. The process turned quiet rural roads into industrial zones clogged with hundreds of fracking trucks. Farmers and ranchers complained about the heavy traffic, sour gas leaks, air pollution, property devaluation, livestock deaths and the industrialization of rural life.

A 2006 B.C. study by the region's medical health officer simply noted, just like the Colorado School of Public Health, that "Rapid growth of the oil and gas industry within the province of British Columbia has outpaced our understanding of possible health and safety impacts on communities."

Unlike many U.S. states and Quebec, British Columbia has yet to demand a systematic review on the impact of shale gas drilling on water, wildlife, public health, provincial revenue, energy returns, First Nations or the ecology of Northern B.C.

Gwyn Morgan, petro politician

After being crowned "outstanding CEO" and "Canada's most respected CEO," in 2005, Morgan left the company that he spent 30 years building. He then began a cliché-ridden business column for the Globe and Mail that extols corporate freedom and low royalties for resource owners. He also tried on some political shoes.

But a series of speeches to the Fraser Institute and Empire Club of Canada which criticized ethnic groups, multiculturalism, climate change and the federal Liberal party offended a lot of oil patchers. Many considered Morgan's comments to be self-serving or crudely partisan. Others thought Morgan had stepped out of his area of expertise into the stormy world of politics with little grace. (Morgan's Tory views represent but a third of the people working in the patch.)

Investors also took a great disliking to the executive when he supported Stephen Harper's "Halloween Massacre," an unexpected change in tax rules for income trusts that coolly wiped out $35-billion worth of capital. The sudden move left a lot of puzzled EnCana investors (40 per cent of the company was gearing up to become a trust). It also resulted in many B.C. pensioners with smaller savings accounts.

Even with his impressive Tory connections, Morgan stumbled in the political arena. After Prime Minister Stephen Harper nominated the "outstanding Canadian" to head the new Public Appointments Commission in Ottawa, parliamentarians summarily dismissed "the outstanding

CEO" as an "unsuitable" candidate. The MPs mostly did so on the basis of Morgan's highly partisan speechifying or political incorrectness.

But the haughty parliamentarians missed the critical issue. Was it ethical or correct for the former head of the continent's second largest gas company to be making decisions about appointments to government agencies such as the National Energy Board. Or to do so for only a dollar a year? If the Canadian people weren't paying for Morgan's services, then who was?

The key questions, the ones that mattered, never got asked.

Today, of course, Morgan has emerged as the helpful adviser and financial backer of B.C.'s Premier Christy Clark. One of Morgan's favorite "truisms" goes like this: "Most people get the leadership they deserve."

British Columbians might want to ponder that Morganism along with the slow "petrolization" of their politics fueled by unconventional gas.

APPENDIX E: LANDMAN-GATE

The following is a transcription by this report's author of a pdf document posted on the internet by the State of Ohio Greene County Environmental Coalition, which had been given the original by Miami Township resident Laura Skidmore in April 2011. That original five page document, with "proprietary do not disclose" headers, was found inside a binder that had been accidentally dropped by someone, assumedly a petroleum landman agent, near Skidmore's house. There have been a few news stories published in 2011 on this incident, the first of which appeared on April 28, 2011 in Ohio's Yellow Springs News, *File Implicates Gas Industry*, with later follow-up stories in August 2011.

<u>Talking Points for Selling Oil and Gas Lease Rights:</u>

As we (illegible: posture? or position?) to move into the greater Ohio market, it is critical that Field Agents have a consistent selling plan for that market. The following points will outline our answers to commonly asked questions, including <u>what to talk about and what topics to avoid</u>. Oil and Gas exploration and drilling is meeting increasing resistance from local community groups, so it is essential to contact land holders and acquire signatures before sentiment by environmental and other public organizations limits our ability to obtain access to private land for oil and gas development. Remember, if at all possible try not to deliberately mislead the landowner, that only makes our position harder to defend at a later date. It is in our best interest to present our side of the issue in a manner that makes it more attractive. Do not discuss the detracting points of view in a manner that gives them any credibility. Don't feel that you have to discuss every point and question. Do not argue when you cannot win. Successful field agents understand what points to focus on so the benefits outweigh the cons.

1. Know your demographics!

- We have paid for an analysis of Ohio and the people. Use that data.

    i. Ohio is a conservative leaning, Mid-west state. The typical Ohio resident will welcome you into their home and allow you to speak. This is critical. Face to Face interaction can make the difference. Most mid-west Americans dislike confrontation. Even if they disagree on a selling point, they are unlikely to confront you over it. Therefore it is critical to obtain a lease signature in the first meeting, or at least the agreement to sign and take the lease to a notary. Drive them to the notary if you have to. If they have time to think it over, they are more likely to decline the offer.

- Provide the overall position of the nation.

    i. Most landowners will be patriotic Americans, and will desire to free our nation from foreign oil dependence. Make certain you lead with this selling point. <u>CHINA bought more oil than the United States last year.</u> Fear of foreign encroachment is the biggest asset we have in selling our development strategy. Our analysis of Ohio shows that even the most liberal landowners will agree on this point. ALWAYS start your conversation with a new potential signee on a point that they will agree with. This is pure psychology. They will be more likely to let you stay and talk. Studies show the longer you talk, the more chance we have of signing.

ii. At any point in the pitch if talk turns to local issues, environmental hazards, etc. . . a good way to re-direct the conversation is to re-engage over the nation's energy needs and the desire to be oil self-reliant. Come back to the mutually agreed upon point about freeing the nation. <u>CHINA bought more oil than the United States last year!</u>

- Talk about our business

i. We are a small business, working closely with state governments when we set up wells. More educated landowners may know that we often sell our land leases to larger corporations. While this if often true, we do not always sell our interests. So it is reasonable to say that we plan all development in Ohio without partners. Future plans do not need to be fully disclosed, and they may evolve as we do exploratory drilling.

- Hydraulic Fracturing, "Fracing" - This technique to develop gas resources is coming under scrutiny, both in the mains- media with articles appearing in the New York Times, and even in Hollywood with the movie "Gasland". Expect questions on this topic and be ready to diffuse Land owner concerns.

- Stress to the landowner that we are primarily looking for oil resources. Searching for oil is less environmentally damaging than the claims against fracing. Oil exploration has been conducted for centuries, and is safe and effective. Do nor deny that gas exploration may be possible, but do not emphasize it. Distance our selling position from the movie Gasland. We do not want landowners linking that image with our development plans.

- Most landowners will not know the difference between hydraulic fracturing and the process of Slick Water Hydraulic Fracturing. Use that to your advantage. Most wells in southern Ohio were drilled and then hydraulically fractured to make a viable source of water. Tell them that. Fracing is safe! There is nothing unsafe about the fracing process, if there was, it would never have been used in their wells. If anyone knows about slick water fracturing, avoid the topic. Do not discuss the chemicals and other material used during slick water fracturing. The best strategy is to sate that the chemical mixtures used are proprietary and are highly diluted with water when injected. Reassure landowners that no well contamination has ever been documented. <u>Do not mention water contamination in Pennsylvania.</u> We do not want to associate ourselves with potential ground water issues. Stress to the landowner that we will use cement and steel casings to protect the aquifer. Leave your answers vague if they bring up Pennsylvania. Tell landowners that the Pennsylvania Department of Environmental Protection issues new drilling permits every year. They would not do so if the process were unsafe.

- Clean Air and Water Act - Activists have begun using the exemption of the Oil and Gas companies from the Federal Clean Air and Water Act against our industry. While this point is true for the exploration of natural gas, once again stress that we are searching for oil. Draw those lines clearly. Do not get into a debate about the law and environmental protection. State that our company has a good track record, and we follow all environmental rules and regulations set forward by the state of Ohio. It is Ohio that permits the drilling, not the federal government. Federal law has no bearing on our development. Less government interference is better. Mid-west Americans tend to agree with the proposition that less regulation would be better. ObamaCare is a great example, but watch your audience. Check for political bumper stickers as you approach the house.

- Marcellus vs. Utica Shale - Utica Shale covers the southern Ohio region that we are targeting. One strategy to defeat the issues on fracing is to discuss the differences between Marcellus and Utica Shale. Tell landowners that fracing is used in the Marcellus shale for natural gas. We are searching for oil in the Limestone and Dolomite rock formations. They will hear the distinction. While it is true that we will be able to evaluate the well in the shale layer for suitability for fracing and gas development, stress the initial hope of finding oil. Any distinction may be enough to finalize the lease.

2. Truck Traffic - There will be extra traffic, but stress that we do everything to keep it to a minimum. Some activist groups use traffic as a talking point. Just tell landowners the more trucks, the more royalties. Money will normally deflect most arguments. Return to the nation's energy needs if you need to.

3. Noise - Another argument against drilling is noise. Do not deny that the initial setup can be noisy, like building a home nearby. No one objects to new homes under construction. Say that the noisy portion of the operation is upfront and over quickly compared to the entire operation. This part of the process can take up to a year, but do not emphasize overall time. The well may last for 40 years, so one year of noise is not bad. If pressed for details tell them we monitor noise to ensure it is approximately 80 db at 200 feet. They will likely not understand the details, and will not admit that the technical data means little to them. Do not compare it to anything tangible, like train noise or airplane noise. Stick with the numbers, they provide the truth hut make it hard to understand the exact implication.

4. Well Pad Size - Many people ask about their land and how much will be used. During the initial drilling, pad sizes of approximately 20 acres are necessary. After drilling and fracturing, the well will be on a land size of approximately 5 acres. <u>Stress the five acres.</u> Do not talk about the initial setup unless absolutely pushed on details and timeline for the drilling. After the lease is signed we will be able to deal with landowner concerns.

5. Well Spacing - This rarely comes up. Landowners do not realize that multiple wells will be necessary. Wells are most effective if spaced 40 acres or further apart. This sounds like a large number, use it. Some might ask how many wells will he in a square mile. Don't answer that question. Most landowners will not realize that 10-20 wells can be placed in a square mile. Landowners normally own less than 5 acres, unless it is a farm. 40 acres will be a large enough number that wells will seem to be far apart in their mind.

6. Lease Life - Our leases are for 5 years with small plots of land or 3 years with an option to renew for 2 years on larger land tracts. If the landowner has brought the lease to an attorney they may know that if the well continues to produce that the lease is extended for the lifetime of the well, which can be as high as 40 years. Do not deny if pressed on this issue. This extension does not require their approval. If we have an active well then it is within our legal right to continue development until we turn it off. Stress the 5 year lease unless absolutely pushed on the details.

7. Water Usage -This is a question normally asked by farmers. See the Talking Points for Agricultural Land paper to address those specific concerns. Residential owners will not know that we pull water directly from the local aquifer.

8. Radioactivity - Reports have shown that fracing and other oil/gas exploration techniques have increased radioactivity in the groundwater. This is caused by releasing naturally occurring radon from the ground into the aquifer. ENSURE you tell the landowner that we use NO RADIOACTIVE materials. The radioactivity comes from natural sources in the ground and is released by the process, but don't tell them this. Most landowners will not know. Tell them we are RADIOACTIVE FREE, and that should alleviate those fears. If pressed, tell them it is natural radiation that is always there, we will not increase it by adding anything.

9. Property values - Multiple studies have shown that property values decrease for land with oil and gas leases on the property. Avoid this topic. Some major banks have stopped issuing mortgages on properties with leases for mineral and oil/gas rights, including Wells Fargo, Bank of America, and other large financial institutions. This is a no-win discussion point. If backed into this issue, talk about the potential revenues and the overall needs of the nation. China bought more oil than the United States last year!

10. Enhanced Oil Recovery - The overall plan is to drill exploratory wells, and then use more advanced techniques to get at the small oil pockets we find. This will require multiple well heads, where we pump in high volume of water and chemicals, much the same manner as in the fracing process. DO NOT DISCUSS this point. We want no correlation between fracing and enhanced oil recovery processes. We do not want landowners aware that we may have to drill many well heads in a single area. After we have the leases signed we have the freedom to use the land as we see fit. If needed we can even write leases with "No Fracing" positions, and even with these lease modifications we can legally drill multiple wells and insert high pressure "extractants".

11. Lease Term - This is another area of concern that you can alleviate with the right wording. The lease is for 5 years. Sometimes landowners will read the lease before signing and realize that the lease - renews automatically if any oil/gas are produced from the well. Do not stress this point. Just state that the lease is for 5 years. They don't need to know, or discover through discussions with us, that the lease can extend indefinitely with no further permission from the landowner.

12. Get the lease signed!

- This is the most important part of the overall development plan. Signed leases will allow us to re-parcel the land as needed to receive minimum acreage under Ohio law. Even small parcels are important. A resident with a 1/2 (half) acre plot can make the difference with the state oversight board to allow drilling. The state does not have to allow drilling even if the unit has 65% or more of the acreage. Sometimes the board will look at overall numbers of residents, and if the majority are against drilling then they reject permits for fear of local backlash. This is an acreage <u>as well as overall number of people game</u>. Get the lease signed.

- Men are more likely to sign than women. Men don’t like to believe that you know more than they do, so they are also less likely to ask questions. In the state of Ohio the husband can

- sign the lease without spousal permission. Go that route if required. Tell them it is their decision. Write the lease agreement with only the husband’s name on the paperwork. This will make it more likely that they will sign alone. Men are also more conservative, and more likely to want oil and energy independence. Women will have more concern for the environment and will challenge you more often. Knowing who to approach can seal the sale.

- If a landowner is undecided, there are several ways to offer incentives.

    i. Offer a slight increase in the initial lease payment. Even a $50 increase may be enough to sway the decision. Tell them it is to cover the Notary Public costs. That way you are making a concession without caving and getting into a negotiation. Mid-west Americans appreciate feeling valued. This will work in your favor.

    ii. Tell the landowner that all their neighbors have signed. Even if the neighbors have not, this often will push an undecided landowner in favor of signing. Remember, the first visit is the most crucial. They will not know if their neighbors have signed, and even if they do they will want to sign so they do not lose out on the potential. Once they have signed, then you can show those leases to undecided neighbors for added pressure.

    iii. As a very last resort, you may offer the amended lease with the clause that no slick water hydraulic fracturing will be used. This limits our future options, but once we carry out initial drilling and testing, we will know the viability of gas extraction from the Utica shale layer. At that time we can re-approach holders of the modified leases and offer incentives to allow slick water hydraulic Fracturing. The most important thing is to obtain the signed lease. modifications can be made later if necessary. A signed lease is often enough to leverage a modification at a later date.

APPENDIX F: Andrew Nikiforuk, 2006 - Fire Water and Dr. Muehlenbachs

Fire water

By Andrew Nikiforuk
August 14, 2006
Canadian Business Magazine

Jessica Ernst is a combative Alberta businesswoman with an unusual problem: she can set her tap water on fire. No kidding. After filling up a plastic pop bottle, the owner of Ernst Environmental Services, a well-respected oilpatch consulting company, can light a match and create a blue or yellow flame, complete with a rocket-like roar. Ever since she made the explosive discovery last November, the environmental-impact scientist has been asking a lot of questions about aggressive shallow-gas developments in booming Alberta.

Ernst now finds herself at the centre of a major resource controversy, as well as something of a folk hero. “She has been a lightning rod for rural Albertans, as well as a source of credible information,” says Liberal environment critic, David Swann. Ernst has not only forced major groundwater investigations, but also prompted Alberta’s leading oil-and-gas regulator, the Energy and Utilities Board (EUB), to temporarily suspend contact with her for alleged security reasons. The board’s legal counsel, Rick McKee, now endearingly refers to her as a “pain in the butt.”

The shy 49-year-old oilpatch consultant says that the ongoing controversy has been a very unwelcome experience. “I’d rather be running my business in peace,” explains Ernst, who frequently works with major oil and gas firms and First Nations on northern wildlife issues. “But I had no choice. The regulators just didn’t do their due diligence.”

Her tale began in 2003 with the rapid development of coal-bed methane (CBM) in the Horseshoe Canyon formation, in central Alberta. CBM is an unconventional resource (the oilsands of natural gas) that requires more drilling and pipelines to develop than does old-fashioned natural gas. “It is a low-volume, high-capital-cost resource that tells you something about the maturity of the Western Canadian Sedimentary Basin,” says Calgary-based Scotia Capital oil-and-gas analyst Peter Doig. “We are getting to the bottom of the natural-gas barrel.”

Unlike conventional gas, CBM often sits in shallow coal seams, where much of the province’s groundwater is located. (In fact, nearly 650,000 Albertans get their drinking water from aquifers.) As a “tight” or unco-operative gas, CBM also requires extensive hydraulic fracturing (“fracing”) to get it flowing. Fracing uses massive volumes of fluids or gases to open up the formation to release more gas. Extensive CBM developments have sparked numerous groundwater controversies in the United States, where the resource now accounts for 9% of that nation’s gas supply.

Alberta’s industry claimed that the Canadian experience would be much different — and that the drilling of 50,000 CBM wells in the Horseshoe Canyon, over a 20-year period, would be well regulated. A groundwater workshop organized by the Canadian Council of Ministers of the Environment came to different conclusions. In 2002, as CBM companies arrived in Ernst’s backyard, researchers at the conference issued a prescient warning to industry, government and landowners alike. Given that the resource lies near aquifers or requires the removal of water in order to be produced, their report concluded that CBM development shouldn’t take place “without adequate baseline groundwater knowledge.”

Ernst actually asked for that baseline data, but it was never provided. As a consequence, her water nightmare began, in 2003, when EnCana Corp. started an extensive CBM drilling program around the hamlet of Rosebud, just an hour’s drive northeast of Calgary. First her water taps started to whirr and hiss. “I thought I was having plumbing problems," Ernst recalls. But then, she got distracted by another impact of CBM drilling. When the roaring noise of a nearby compressor station, operated by EnCana, began to disturb her, Ernst spent several months trying to get the company and the EUB to muffle it. (CBM gas has little pressure and needs to be vacuumed up with a network of compressor stations.)

Meanwhile, Ernst says, she thinks her water quality steadily declined. By the spring of 2005, even her two dogs refused to drink it. Whenever she bathed, she says, she got a bad skin burn "that felt like frostbite." She adds that she found strange materials in her water filters. After observing thick white smoke coming off the water one day, Ernst decided to fill up a plastic bottle and conduct an experiment. She waited five minutes and then put a match to it. "It blew like a rocket and melted the plastic container," she recalls. "I was in shock."

Private lab tests ordered and paid for by Ernst later revealed 44,800 parts per million of methane or 29.4 milligrams per litre. The United States Geological Survey considers anything above 28 milligrams per litre a dangerous public-health concern.

Ernst, however, couldn't report the matter to the EUB because it had just instructed its staff "to avoid any further contact" with her, on Nov. 24, 2005. The banishment arose from Ernst's efforts to secure reliable sound tests on the noisy compressor stations. After documenting two noise studies Ernst alleges were faulty (she says the microphones weren't properly placed, while the EUB contends the studies were done by a "reputable and independent" firm and that it offered to redo them at a time of her choosing with mics wherever she wanted), she fired off an e-mail to landowners, warning them that the regulator was planning to weaken its noise controls. The letter ended with a one-liner: "Someone said to me the other day: 'You know, I am beginning to think the only way is the Wiebo Way'." Wiebo Ludwig, an evangelical cleric, began a $10-million vandalism campaign against the oil and gas industry, in the late 1990s, after sour gas allegedly poisoned members of his family.

Ernst, who doesn't own a gun and is dutifully employed by the oilpatch, was dumbfounded by the EUB's action and to this day calls it "intimidation." Davis Sheremata, an EUB spokesman, explains that "the decision to temporarily suspend contact with Ms. Ernst was unprecedented within the EUB and was done in response to a threat that was made involving our staff. Threats against our staff won't be tolerated." Ernst immediately dashed off a letter asking how a comment about Ludwig in a publicly circulated e-mail could be deemed "a criminal threat" to anyone. But it was returned unopened.

Ernst, however, wasn't the only resident of Alberta's booming CBM fields experiencing problems. A neighbour, Fiona Lauridsen, noted fizzing bubbles in well water, among other surprises. "The whole family suffered severe skin irritation in the shower on Christmas Eve," she says. Lab tests revealed levels of methane as high as 66 milligrams per litre. "It was an astonishing level," says Lauridsen.

In late January, even the EUB quietly acknowledged problems with shallow CBM drilling and fracing. The regulator's Directive 027 banned any further fracing at less than 200 metres in depth without fully assessing all potential impacts first, to protect nearby water wells. It added that "there may not always be a complete understanding of fracture propagation at shallow depths and that programs are not always subject to rigorous engineering design."

In late February, Ernst, Lauridsen and Dale Zimmerman, a farmer in Wetaskiwin, Alta., went public with their burning water at the provincial legislature, because, as Ernst put it, "I wasn't getting any calls from the regulator." The revelations sparked immediate action from Premier Ralph Klein and Environment Minister Guy Boutilier. "Whatever is necessary to be done will be done," said Klein. The issue also made big headlines in rural Alberta. At one public meeting about CBM in the farming community of Trochu, a two-hour drive northeast of Calgary, Ernst received a standing ovation from 600 concerned farmers after giving a presentation on natural-gas contamination in water.

In March, representatives of Alberta Environment finally showed up at Ernst's residence to do some testing. Within weeks of that work, the government replaced her well water with truck deliveries. She asked for the government's written protocol for gas sampling in water but says it took her four months to get it.

At the same time, both industry and government emphasized that methane naturally occurred in the province's groundwater. Alberta Environment noted that 906 water wells in the province had gas "assumed to be methane" in their water, and that nearly 26,000 water wells had coal seams present. That revelation merely alarmed Ernst. "It was all the more reason to do baseline testing before they drilled," she says. "They knew. All the companies should have tested for dissolved methane and gas composition."

Many of Ernst's clients in the oilpatch also started to pass on what she viewed as disturbing information by the Canadian Association of Petroleum Producers and other sources about the scale of natural-gas contamination in groundwater in the province. Even a 2003 article in the Oilfield Review, a quarterly technical journal, noted poor gas-well construction combined with faulty cement casing routinely resulted in "leaks of gas into zones that would otherwise not be gas-bearing." It added that gas migration occurs everywhere — in "shallow gas wells in southern Alberta, heavy oil producers in eastern Alberta and deep gas wells in the foothills of the Rocky Mountains." An industry newsletter, GasTIPS, reported one Alberta study even found that 57% of wells drilled between a depth between 1,900 and 5,900 feet "develop leaks after the primary cement job."

Maurice Dusseault, a B.C.-based civil engineer, gas migration expert with 28 years experience in the field and the author of some 400 articles on petroleum-related subjects, confirms that the seepage of natural gas from poorly cased oil and gas wells into groundwater is a well-documented problem. "We haven't been good stewards of our groundwater near gas wells," he says. "I don't blame the companies. I feel the EUB and other provincial regulatory agencies have been lax in protecting groundwater and in enforcement." The EUB, however, insists it "is extremely stringent in its enforcement of gas migration," and that cases of groundwater contamination are rare.

After doing more research, Ernst learned that isotopic fingerprinting was the only definitive way to investigate suspected groundwater contamination from gas wells. The technique, which identifies gases from different formations and then matches them to gases found in water samples, was pioneered by Karlis Muehlenbachs, a 62-year-old geochemist at the University of Alberta. Muehlenbachs even used the technique to clear a company of contamination charges during the Ludwig controversy. At Ernst's insistence, Alberta Environment finally ordered isotopic fingerprinting of four gas wells and three water wells in Rosebud, in March.

Shortly after the fingerprinting tests, McKee, the EUB's legal counsel, met with Ernst, on June 8, to discuss her case. Liberal MLA David Swann sat in as a witness, and Ernst taped the exchange.

"You are too intelligent and too capable...to just start bashing us,"said McKee. "I have learned that being reasonable doesn't work," replied Ernst. At the end, McKee promised Ernst an audience with the EUB, adding, "I want to have you reinvigorated and reinjected into the process."

Although Alberta Environment won't comment yet on the latest test results, Muehlenbachs says the situation is neither black nor white — and that the province's groundwater is no longer pristine. "We've been drilling for 70 years," he says. "There are leaks everywhere." In the Zimmerman case, Muehlenbachs suggests that contamination possibly resulted from industry activity, but no good baseline data on the methane content of the water exists. "It's ambiguous," he explains. In the Rosebud area, Muehlenbachs found propane and butane in several water wells, a clear signature of possible leaks from deeper gas formations. "Unless someone threw a Bic lighter down the well, it's a sure sign of contamination," Muehlenbachs says. But the lack of good baseline water data again clouds the issue. "What gas was there in the first place and how much was added — you have to guess."

Bev Yee, assistant deputy minister of Alberta Environment, said she cannot comment directly on any of the investigations, because they are incomplete and are currently under review by the Alberta Research Council. "We have established no direct ties to coal-bed methane," she insists.

Yee explained that the government introduced a new baseline water testing program, on May 1, but admitted that baseline data hadn't been "gathered consistently" in the past. When asked about a 2005 report, by Komex International Ltd., a global environmental consulting firm, that pointedly identified a "lack of monitoring wells" in Horseshoe Canyon and other oil and gas formations as "clearly evident," Yee replied: "I've taken that report into consideration." She added that the government will be looking at enhancing the monitoring network.

Yee says that the government currently has no requirement for companies to fingerprint their gas or to make that information publicly available, something Ernst, Muehlenbachs and other scientists consider an essential procedure. An independent scientific panel may soon review the topic, as well as all other standards associated with groundwater monitoring, Yee adds.

Ernst now suspects that shallow drilling and fracing for CBM have aggravated an existing problem: natural gas migration from shallow wells, as well as older wells, due to unprecedented activity. In the past four months, she says she has had about 100 calls from rural residents, and nearly half dealt with water contamination of some kind. "We have the right to safe water," she argues.

Liberal MLA Swann now accuses the Alberta government of outright negligence — and has called upon the EUB and the Canadian Association of Petroleum Producers to hold a one-day forum on natural-gas migration into groundwater. At a series of public meetings in rural Alberta, in June, he says he found "a high degree of skepticism and cynicism about government regulators."

To Muehlenbachs, resource exploitation in Alberta has simply galloped ahead of basic science on groundwater. He says that industry and government regulators really don't know enough about the state of groundwater in one of the most heavily drilled landscapes in North America. "They need to have some curiosity about how mother nature works and what happens when we fiddle with it."

APPENDIX G: WPP

Australian professor Sharon Beder with the University of Wollongong in New South Wales has published reams of documents about power relationships in the corporate world and documents on environmental politics. (Wikipedia, *Sharon Beder*, and website *herinst.org/sbeder/about.html*) In 2001, Beder co-authored an article with Rochard Gosden published in PR Watch, *WPP: World Propaganda Power*. Though now some eleven years old, the dated piece has some critical insights into the weird fabric and domain of WPP, the giant international public relations "conglomerate." Here is the article in its entirety.

For the past fifteen years the disparate international tribes of ad men and PR consultants have been quietly consolidating their power by forging giant conglomerates. The two biggest of these, WPP and Omnicom, were founded within a year of each other in the middle 1980s. Together they now manage the hearts and minds of global populations for their transnational corporate clients.

The rationale behind the amalgamation of advertising and PR companies is simple: the merging spree of transnational corporations in the 1980s and 1990s produced giant companies with far flung assets and interests. These vastly enlarged corporate entities demanded one-stop advertising and PR services. To provide this one-stop service financial whiz kids moved into the communications business and began the amalgamation process.

Readers of *PR Watch* are well aware of Hill and Knowlton's and Burson Marsteller's dubious achievements. But some might be startled to learn that the manipulative skills of these two have recently been combined under one roof. Hill and Knowlton has been owned by WPP since 1987. In October 2000 WPP also acquired Burson Marsteller when it bought Young & Rubicam for $4.7 billion. With the Young & Rubicam purchase WPP overtook Omnicom and lunged into forward position as "the world's leading communications services group".

Clients of the WPP Group include the majority of companies in the Fortune Global 500 and the Nasdaq 100 including Ford, IBM, Kellogg, Eastman Kodak and American Express. The combined revenues for WPP and its new acquisition, Young & Rubicam, were $5.2 billion in 1999 and their combined market value was $14.5 billion. The WPP Group is now one of the top three communication service providers in every market of the world.

At the time of the acquisition WPP founder and CEO, Martin Sorrell, said of his vast empire, "We share a common philosophy and culture of providing clients with integrated solutions to their marketing needs". Indeed, the diverse group is able to offer clients every conceivable service associated with marketing their products and promoting their corporate goals.

The WPP Group consists of over 80 companies including some of the world's largest firms in the areas of advertising – J. Walter Thompson, Ogilvy and Mather, Young & Rubicam – branding and identity; demographic marketing; direction, promotion and relationship marketing; investor relations; pubic relations; strategic marketing consulting; and media investment and services. WPP employs 55,000 people in 92 countries and has 1,300 offices.

In the field of pubic relations the WPP Group not only owns the two largest PR firms worldwide – Burson Marsteller and Hill and Knowlton – but they can also draw on the skills of Ogilvy Pubic Relations Worldwide, Cohn & Wolfe and several others – 18 companies in all.

Sorrell doesn't like to use the word conglomerate to describe his monster. He prefers to call it "a group of tribes. I think the tribes have their value. We would lose a lot of that value if we were only members of the Ogilvy tribe, or the J Walter Thompson tribe, or the Hill & Knowlton tribe."

The WPP tribal conglomerate began from very humble beginnings in 1985 when Sorrell and a partner bought a controlling stake in a UK public company called Wire & Plastic Products manufacturing wire shopping baskets, filing trays and assorted oddments. It cost them $676,000. Sorrell had been the financial director for advertising agency Saatchi and Saatchi from 1977 to 1985, managing its takeovers of companies in the US and the UK. But he had a vision of far bigger things.

Clearly, Sorrell had no interest in manufacturing wire baskets when he bought up Wire & Plastic Products. What he wanted was a shell company, a vehicle for buying up other companies. In 1986 Wire & Plastic Products became the innocuous sounding WPP Group plc and Sorrell became chief executive. In that same year the company acquired ten marketing companies in the US and the UK.

Using borrowed money the acquisitions came quickly after that. In a hostile takeover in 1987, WPP acquired the much larger US-based J. Walter Thompson Group, which included Hill and Knowlton, for $566 million. This was only one of nine major acquisitions WPP made that year. A couple of years later it acquired the Ogilvy Group for $864 million prompting Time Magazine to describe Sorrell as the "Machiavelli on Madison Avenue" and "the most feared raider to set foot on Madison Avenue".

In 1990 *Advertising Age* named WPP the top advertising agency in the world. And whilst WPP was acquiring companies as fast as the banks would allow, its subsidiary companies were also making their own acquisitions. WPP's 1999 annual report notes "We continue to trawl carefully for acquisitions and investment opportunities…"

This takeover activity is still proceeding at full pace without any limitations in sight. At the same time WPP is also busily expanding the reach of the companies and networks it has already purchased. According to its annual report: "In 1999 the Group increased its equity interests in advertising and media investment management agencies in Australia, Austria, Brazil, France, Italy, the Netherlands, Portugal, Spain, Sweden, the UK and the US; in information and consultancy in Argentina, France, Germany, Mexico, Poland, the UK and the US, in public relations and public affairs in Chile, Germany, the UK and the US, and in branding and identity, healthcare and specialist communications in Brazil, the Czech Republic, France, Germany, the UK and the US."

Despite initial appearances WPP seems to be aiming to become more than just a holding company. It's stated goal is to be "the preferred provider of multinational marketing services", able to provide clients with a comprehensive and integrated range of services that are both tactical and strategic. Sorrell told *Forbes Magazine* in 1999: "It is politically incorrect to say so, but our big clients are becoming more coordinated". That is the reason, he claimed, that providers of communication services must also be coordinated and centralised.

One of WPP's strategies is to form internal networks of its companies to offer specialist services. For example, CommonHealth combines all the WPP companies with expertise in healthcare communications to make an organisation that WPP claims is "the largest healthcare communications resource in the world". Its services range through "advertising, consumer promotion, public relations, medical education, and the latest interactive technologies". Its established clients include Pharmacia & Upjohn, Procter and Gamble and Astra Zeneca.

So what is the significance of this concentration of ownership in the communication services industry? Is it, as the *Guardian* newspaper suggests, simply that the advertising and PR industries are catching up with the consolidation binge of transnational corporations? "Having lagged behind the companies they serve for more than a decade, ad agencies … rushed to buy, or be bought, in an often bewilderingly rapid feeding frenzy." Does it matter that four of the world's largest public relations firms are now owned by the same corporation? Is WPP just a holding company formed to make money? Or does it have more colourful possibilities? Could it be a potential power house, a huge propaganda machine, with the reach and coordinated skills in people manipulation that might allow it to rule the hearts and minds of the entire global population

Some ad men and PR flacks have long dreamed of such a tool. Even back in the early 1980's, when J. Walter Thomson was small fry compared to its WPP parent today, one of its executives went on record musing: "We have within our hands the greatest aggregate means of mass education and persuasion the world has ever seen – namely, the channels of advertising communication … We have power. Why do we not use it?"

WPP is a UK-based company. This means that when Hill and Knowlton masterminded the Kuwaiti campaign to sell the Gulf War to the American public the owners of this highly effective propaganda machine were residing in another country. Should this give some pause for thought? Does it demonstrate a certain potential for the future exercise of global political power. It goes without saying that the power to manipulate democratic political processes through managing public opinion, which Hill and Knowlton demonstrated 10 years ago, is trifling compared to the potential power now residing in integrated conglomerates like WPP and Omnicom.

Sorrell himself, is a somewhat enigmatic figure. He is reported to have a grandness of vision that isn't reflected in either his diminutive stature or his modest self-appraisal: "he once famously described himself as 'a dull, boring little clerk'". (But this was before he received a knighthood last year and became Sir Martin). The chairman of the WPP Board is perhaps more familiar. Remember Hamish Maxwell? He was the chairman and CEO of Philip Morris from 1978 to 1991. During the heady 1980s, when tobacco money was busy with corporate takeovers, Maxwell played a leading role. He oversaw Philip Morris's acquisitions of General Foods, Kraft and several other major consumer goods firms. Maxwell has been chairman of WPP since 1996.

Both of these men have backgrounds as financial wheelers and dealers and there is very little on the record which suggests either one has any kind of political or social vision beyond business. But of course, politics and social engineering is the business of business, isn't it? Sorrell even admits that he has never designed an ad in his life and is happy to call himself a 'money man': "I like counting beans very much indeed". But, even so, Sorrell is a money man with a fascination for marketing and public relations. He is said to have a vision of a central role for what he calls 'creative' communications in a coming Creative Age when conglomerates, such as his, will occupy the pivotal position as "creative business consultants", and much more.

But how much more? Sorrell apparently mourns a past when companies would “welcome an agency’s thoughts on just about all aspects of their business” and hopes to return to that situation through offering integrated communication services, thereby ensuring that companies such as his own are central to this coming Creative Age, advising powerful corporations on “all aspects of their business”. He sees management consultancies as “potential competitors” in this. “In a business world that is going to put a higher and higher value on integrated creativity, we are in danger of losing what should be our overwhelming advantage — by allowing something called creativity to be confined to the creative compound.”

In a lecture to the Design and Art Direction (D&AD) association Sorrell said “the world of business is moving in a direction that should offer our particular world [marketing and PR] far more exciting opportunities, far more fun and far more beans to count… Information, of itself, will only rarely deliver competitive advantage. More than ever before, it’s what we do with that information that will matter. Our value to clients will be in exact proportion to our ability to take information, to take knowledge, all of it almost certainly known to others, and — through a series of creative acts and processes — transmute that knowledge into unique and wantable goods, services and systems.”

Is this a man prepared to tell the world that “toxic sludge is good for you”? Perhaps. It would be easy to get carried away with your persuasive powers if you could draw on the coordinated manipulative skills that Sorrell has assembled. Certainly his counter-part at the rival advertising and PR giant, Omnicom, has demonstrated a predilection for this type of ambition. In describing what he seems to think is the unbounded tools of persuasion assembled in his conglomerate, John Wren, the President and CEO of Omnicom, has actually boasted to Business Week, “We’re the people who can take cosmic dust and turn it into a brand.”