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Oil and Gas Law Reform

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To: Brian Derfler, on behalf of Peace Environment and Safety Trustees Society  
(PESTS)

From: Environmental Law Clinic Student

Date: July 8, 2012

Subject: Oil and Gas Law Reform – Specific research topics

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This document is a follow up to the submissions made on behalf of PESTS by the Environmental Law Clinic regarding the Provincial Human Health Risk Assessment of British Columbia Oil and Gas Development. It is designed to provide information on potential law reform that could improve health, safety and environmental protection around oil and gas developments.

## Introduction

You requested research into various avenues of Oil and Gas Law Reform in British Columbia. This memo includes three topics of law reform that have been analysed in depth, including:

1. Fiscal Policy of oil and gas development in BC, and options for environmental sustainability
2. The need for an independent regulatory body for oil and gas development
3. Fracking fluid and the public access to data regime in British Columbia

## 1. Fiscal Policy of oil and gas development in BC

### Overview of Fiscal policy in the Oil and Gas Industry in British Columbia

#### *Economic Benefits*

The generally cited economic advantages of Oil and Gas production include employment, revenue for government (lease and royalty payments, including auction payments, to government), and tax payments to all levels of government. Stronger investment, trade balance and less dependence on imported energy are some of the identified macroeconomic benefits. The oil and gas industry averages \$22 billion in yearly revenue for governments in Canada, and contributes 500,000 direct and indirect jobs to the economy.

#### *Oil and Gas Production and Revenue for BC*

BC ranks 2<sup>nd</sup> in both natural gas reserves and production. Natural gas accounts for roughly 60% all primary energy production in BC. In 2010, BC collected slightly more than 1 billion from oil and gas operations, in comparison to Alberta's 6 billion, and Saskatchewan's 2 billion.<sup>1</sup>

#### *Royalty Income for BC*

The provincial government budgets that natural gas royalties for 2012/2013 will supply 398 million in royalty revenue (compared to 267 million and 258 million in 2011/12 and 1020/11 respectively).<sup>2</sup> This amount is only 14% of natural resource revenue for the province, and less than 1% of total revenue for the province. Royalties are projected to more than double by 2013/2015 to 846 million. These increases are based on the expectation of rising gas prices, and offset by increased production from wells qualifying for royalty programs and credits (see below). The province expects to experience a growth in production (due in part from the royalty programs), an increase in demand, and improving economy.<sup>3</sup> In 2011, BC's royalty rates on new natural gas wells was in a range from 0-27%, in comparison of Alberta's 5-36% and Saskatchewan's 0-30%. BC rates on conventional oil was 0-24%, where Alberta's was 0-40% and Saskatchewan's 0-30%.<sup>4</sup>

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<sup>1</sup> *Rethinking Royalty Rates*, CD HOWE Institute Commentary, No 333, September 2001.

<sup>2</sup> Table 4.8 BC 2012 Fiscal Plan, accessed at [http://www.bcbudget.gov.bc.ca/2012/bfp/2012\\_Budget\\_Fiscal\\_Plan.pdf](http://www.bcbudget.gov.bc.ca/2012/bfp/2012_Budget_Fiscal_Plan.pdf)

<sup>3</sup> *Ibid.*

<sup>4</sup> *Supra*, see note 1.

The provincial government conducts an industry ‘Performance Measures Report’ to track their success with royalties *in relation to industry opinion*.<sup>5</sup> Investment in BC, in comparison to Canada as a whole, is 19.8%. Producer participation in royalty programs is 88.6%, and 81% of industry hold a positive view of BC’s fiscal terms.

## Subsidization of the Oil and Gas Industry

There are a number of different royalty programs that reduce royalty rates for producers.<sup>6</sup> These programs are not mutually exclusive, and can be combined. They include royalty reductions, as well as royalty credits.<sup>7</sup>

### *Royalty reduction programs:*

- Marginal Royalty Program - A discount from 9% to 27% royalty provided for on wells with low rates of production
- Ultramarginal Royalty Program - A discount for shallow wells with low rates of production (more stringent standards than marginal royalty program)
- Net Profit Royalty Program - enables producers of these resources to pay lower royalty rates in the initial stages of development and commercialization, in exchange for higher royalty rates in later stages of production once projects have recovered their capital investment
  - *Net Profit Royalty Regulation* BC Reg 327/2010

### *Royalty Credit Programs:*

- Summer Royalty Program – a royalty credit equal to 10% of the goods and services costs attributable to the individual wells, to a maximum of \$100,000 per well for wells spudded after March 31 and before December 1
- Deep Royalty Program

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<sup>5</sup> BC Oil and Gas Royalty Programs: Performance Measure Report, Ministry of Energy and Mines BC, 2011, accessed at [http://www.empr.gov.bc.ca/OG/oilandgas/royalties/Documents/Fianl\\_2011%20Performance%20Measures%20Report%20for%20Web%20.pdf](http://www.empr.gov.bc.ca/OG/oilandgas/royalties/Documents/Fianl_2011%20Performance%20Measures%20Report%20for%20Web%20.pdf)

<sup>6</sup> For more information about the royalty programs, visit <http://www.empr.gov.bc.ca/OG/oilandgas/royalties/Pages/default.aspx>

<sup>7</sup> In 2009, the BC government introduced the Oil and Gas Stimulus Package. It contained a number of stimulus programs, including 2% royalty relief for wells in 2009/2010, a 15% increase in deep credit tables, an additional \$50 million for the Infrastructure Royalty Credit Program, comingling production allowed, and flexibility in drilling license regulation.

- Deep discovery – for drilling deep discovery wells, either a three-year royalty holiday or 283,000,000 m3 of royalty-free gas (whatever is less)
- Deep Re-entry - credits for deep re-entry wells, covering a portion of the drilling and completion costs for these wells.
- Coalbed Methane Program - includes produced-water handling, creates a royalty bank to collect excess allowance to be used against future-assessed CBG royalties, and provides a \$50,000 royalty credit for CBG wells

There are also a number of other programs that subsidize the oil and gas industry.

- The Infrastructure Royalty Credit Program - facilitates access to new and under-developed areas of British Columbia, and/or provides all-season access to oil and gas resources. Oil and gas companies can apply for a credit to the royalties they would otherwise pay to the Province: as much as fifty percent of the cost of constructing roads, pipelines or associated facilities. Since 2004, the program has allocated over \$600 million in infrastructure royalty credits, resulting in 76 new or upgraded all-season roads and 97 pipeline projects in BC. In 2012, \$120 million was allocated to the program.<sup>8</sup>
- Oil and Gas Rural Roads Improvement Program - invests in the upgrade of public roads and bridges heavily used and required by the oil and gas industry.
- Sierra Yoyo Desan Road<sup>9</sup> – was a public-private partnership to upgrade the SYD Road located near Fort Nelson (2004-2005).
- Oil and Gas Development Strategy for the Heartlands<sup>10</sup> - a five-year investment initiative to upgrade public roads and trunk roads located throughout Northeast BC that are used extensively by the Oil and Gas Industry. From 2004 through 2009, \$176.5 million in funding has been provided.
- Service Sector Support – this include \$500,000 in skills development funding from government has been matched by industry, a marketing plan developed to enhance the competitiveness of

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<sup>8</sup> Overview of BC's Infrastructure Royalty Credit Program, Ministry of Energy and Mines, accessed at <http://www.empr.gov.bc.ca/OG/oilandgas/royalties/infdevcredit/Documents/Overview%20of%20the%20Infrastructure%20Royalty%20Credit%20Program.pdf>

<sup>9</sup> <http://www.empr.gov.bc.ca/OG/oilandgas/infrastructure/Sierra-Yoyo-Desan/Pages/default.aspx>

<sup>10</sup> <http://www.empr.gov.bc.ca/OG/oilandgas/infrastructure/HeartlandRehabStrategy/Pages/default.aspx>

oil and gas service providers (2004), and a Labor Market Partnerships program funding a comprehensive human resources strategy for the resource sector in Northern BC.<sup>11</sup>

## Options for Sustainable Investment in BC

### *The benefits of fiscal sustainability*

Sustainability, especially when considering non-renewable resources, is important to ensure BC's environment is passed on to future generations. There have been many different programs and funds that have grown in jurisdictions over the years that recognize the impact oil and gas activities have on the environment, and attempt to compensate and preserve the natural beauty. While BC does have a Sustainable Environment Fund,<sup>12</sup> this program is focused on directing money collected through government environmental levies and waste permit fees toward a provincial environmental protection programs.<sup>13</sup> It does not use royalty or levies on the oil and gas industry to contribute to the fund. There are examples from other jurisdictions that show how oil and gas revenues can be used to ensure a sustainable environment for future generations.

### *Royalty Investment Funds*

A number of provinces and countries employ the use of investment funds from royalty revenue to create an investment/savings avenue for future generations of citizens. These could be used for environmental sustainability in BC, to replace the value lost for a non-renewable resource.

### Alberta Heritage Fund<sup>14</sup>

The Alberta Heritage Savings Trust Fund was created in the 1970's with a goal of sustainable investment. However, there is no legal requirement that royalty revenue contribute to the fund. In fact, government royalties have not contributed to the fund since 1987. The main use for the fund today is to contribute to government expenditures. While the fund is only worth 15.4 billion (Dec 31, 2011), if

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<sup>11</sup> Marketing Strategy of the BC Oil and Gas Sector, KPMG report for BC Ministry of Energy and Mines, accessed at [http://www.empr.gov.bc.ca/OG/oilandgas/OGDStrategy/Documents/Service%20Sector%20Marketing%20Strategy\\_20041029\\_FIN.PDF](http://www.empr.gov.bc.ca/OG/oilandgas/OGDStrategy/Documents/Service%20Sector%20Marketing%20Strategy_20041029_FIN.PDF)

<sup>12</sup> BC Sustainable Environment Fund Act, (RSBC 1996), Chapter 445.

<sup>13</sup> <http://www.env.gov.bc.ca/epd/recycling/resources/reports/sef.htm>

<sup>14</sup> <http://www.finance.alberta.ca/business/ahstf/faqs.html>

Alberta had continued to save 30 per cent of resource revenues in the Heritage Fund since 1987, it would now be worth \$128 billion (estimate from Calgary Chamber of Commerce).<sup>15</sup>

#### Alberta – Sustainability Fund

The Sustainability fund is an account within the General Revenue fund. It retains any resource revenues that exceed the maximum allowed contribution to the General Revenue Fund (\$5.3 billion) that are not saved in the Heritage Fund. It is used for emergencies, natural disasters, natural gas rebates, and unexpected declines in budget revenue

#### Norway Government Pension Fund - Global<sup>16</sup>

All of Norway's oil and gas royalty revenue and all net profits from Norway's state-owned oil and gas firm, Statoil, are invested in the Government Pension Fund – Global. The fund was established in 1990 (with first payments in 1996) to meet rising future pension demands, and support the long-term management of petroleum revenues. The capital is invested outside of the Norwegian economy to shield it from oil price fluctuations. There is a rule that no more than 4 percent of the return should be spent on the annual national budget. At the end of the first quarter in 2012, the fund's value was 3496 billion Kronor (approx. 600 billion CAD). The value of such a fund can be summarized in the following quote:

*“So when we sell these resources, it is a one-time deal. Nature is not putting new oil and gas under the Prairies or minerals under the mountains. Those of us alive today are merely the stewards of those resources on behalf of their owners: all present and future citizens. We therefore have a moral and a prudential obligation not to treat this money like some windfall, to be blown on consumption today, but as assets to be managed wisely for the future. To use the language of accounting, the sale of natural resource assets doesn't belong on the income statement. It is a balance sheet transaction. Selling natural resources creates no new value. The government that owns the resource has simply changed it from one kind of asset (the physical resource) into another kind of asset (cash). And everybody knows if you sell your assets, like your house or your RRSP, to pay your bills you have no assets but the bills keep coming. If you invest those assets, however, you can spend the returns they generate each year, or reinvest them to create even more.”<sup>17</sup>*

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<sup>15</sup> <http://www.afl.org/index.php/January-2011/failing-to-save-for-our-future-heritage-fund-hampered-by-backwards-financial-planning.html>

<sup>16</sup> <http://www.nbim.no/en/About-us/Government-Pension-Fund-Global/>

<sup>17</sup>

<http://www.vancouversun.com/news/Divert+some+resource+revenues+investment+fund/6762236/story.html#ixz z1zDgGfN00>

## Forest Renewal BC

From 1994 to 2002 Forest Renewal BC, a Crown corporation (under the Forest Renewal Act), delivered a variety of programs aimed at supporting the forests and forest industry of British Columbia (including a research component). To finance these activities, it was provided with a dedicated portion of the revenue fees companies' pay for the right to harvest timber on Crown land. Stumpage rates in 1994 were increased to build the fund. Lieutenant Governor in Council could order funds to be used in various ways, for instance providing loans to industry. In 2002, Forest Renewal BC was replaced by the Forest Investment Account, which authorized the Minister of Forests to provide funding for certain forest management activities. This was subsumed by the Land Based Investment program. For a list of final reports, visit [http://www.for.gov.bc.ca/HFD/library/lib\\_frbc.htm](http://www.for.gov.bc.ca/HFD/library/lib_frbc.htm).

## *Orphan Well Funds*

Another method to ensure environmental sustainability of oil and gas development is the use of an Orphan Well Fund. The BC Oil and Gas Activities Act allows for the OGC to designate orphan sites and take measures to restore them.<sup>18</sup> Also, the *Oil and Gas Activities Act General Regulation*<sup>19</sup> creates various rules concerning orphan sites and assorted miscellaneous provisions. While the OGC administers an Orphan Site Reclamation Fund by a tax on production levels,<sup>20</sup> this is generally seen as inadequate for the potential \$1 billion liability of all wells operational.<sup>21</sup> The Auditor General Report on OGC in 2010 noted that the minimum deposit for drilling new wells was substantially lower than what would be needed.<sup>22</sup>

## Alberta – Orphan Well Fund

Alberta's Orphan Well Association is a not for profit organization operating under the delegated authority of the Energy Resources Conservation Board (provincial oil and gas regulators). It operates under the direction of its members, including Canadian Association of Petroleum Producers (CAPP), the Small Explorers and Producers Association of Canada (SEPAC), and the ERCB. A levy collected by the ERCB is based on abandonment and reclamation liabilities of companies.

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<sup>18</sup> *Oil and Gas Activities Act*, (SBC 2008), Chapter 36, Part 4.

<sup>19</sup> *Oil and Gas Activities Act General Regulation*, BC Reg 274/2010.

<sup>20</sup> 2010/2011 Annual Service Plan Report, BC Oil and Gas Commission, accessed at <http://www.bcogc.ca/document.aspx?documentID=1115&type=.pdf>

<sup>21</sup> <http://energeticcity.ca/fortstjohn/news/02/12/10/auditors-ogc-report-stirs-debate>

<sup>22</sup> Oil and Gas Site Contamination Risks: Improved Oversight Needed, Office of the Auditor General of BC, February 2010.

### *Land Appropriation Initiatives*

The use of gas and mineral taxes to buy conservation lands is based on the premise that this is a fair exchange future generations who will not have the use of these nonrenewable resources.<sup>23</sup> There are a number of examples of such programs that are helping create intergenerational equity.

#### Land and Water Conservation Fund (LWCF) (US, Federal): Funding park acquisition in the United States

- The LWCF Program provides matching grants to States and local governments for the acquisition and development of public outdoor recreation areas and facility.<sup>24</sup> It is financed primarily by oil and gas leases on the continental shelf, and in 2009, the LWCF regular appropriation was supplemented for the first time by revenues from certain oil and gas leases in the Gulf of Mexico.<sup>25</sup> Federal grant obligations totaling \$3.6 billion, matched by State and local contributions, have created \$7.2 billion in investments totaling almost eight million acres.<sup>26</sup> The LWCF states that there is “clear evidence that the grant program has been successful in encouraging States to take greater responsibility for the protection and development of recreation resources at every level.”

#### Michigan Natural Resources Trust: Funding conservation land acquisition

- This trust provides financial assistance to local governments and Department of Natural Resources to purchase land for public recreation or protection because of its environmental importance or its scenic beauty, and assists in the appropriation of land for public outdoor recreation.<sup>27</sup> It is supported by annual revenues from state-owned mineral resources (mainly oil and gas). The fund reached its \$500 million contribution cap in 2011, after which point the fund will not receive mineral revenue, and interest and earnings fund acquisitions.<sup>28</sup>

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<sup>23</sup> Calvin Sandborn, *Green Space and Growth: Conserving Natural Areas in BC Communities*, March 1996, accessed at [http://www.elc.uvic.ca/documents/Sandborn\\_Greenspaces\\_Report\\_1996.pdf](http://www.elc.uvic.ca/documents/Sandborn_Greenspaces_Report_1996.pdf)

<sup>24</sup> <http://www.nps.gov/lwcf/>

<sup>25</sup> <http://www.nps.gov/ncrc/programs/lwcf/funding.html>

<sup>26</sup> <http://www.nps.gov/ncrc/programs/lwcf/history.html>

<sup>27</sup> [http://www.michigan.gov/dnr/0,4570,7-153-58225\\_58301---,00.html](http://www.michigan.gov/dnr/0,4570,7-153-58225_58301---,00.html)

<sup>28</sup> 2011 Annual Report, Michigan Natural Resources Trust Fund, accessed at [http://www.michigan.gov/documents/dnr/IC1906\\_-\\_2011\\_MNRTF\\_Annual\\_Report\\_-\\_Prepared\\_in\\_2012\\_384274\\_7.pdf?updated=532012?updated=532012](http://www.michigan.gov/documents/dnr/IC1906_-_2011_MNRTF_Annual_Report_-_Prepared_in_2012_384274_7.pdf?updated=532012?updated=532012)

### Other examples<sup>29</sup>

- The Alabama Forever Wildland Trust: a 30 year program to spend \$200 million acquiring conservation lands, is funded from oil and gas revenues.
- At least seven other states use special taxes or fees on non-renewable resources to fund land acquisitions.

### *Polluter Pay Principles*

Polluter Pay Principles can be used as incentive for companies to clean up their operations.<sup>30</sup> Examples include emission charges, product taxes, deposit/refund system for toxic materials, responsibility for disposal of toxic products, civil liability for toxic polluters, mandatory insurance/security requirements for polluters, government purchasing policy favoring clean technology, and the elimination of government subsidies for polluting industries.

### **Suggestions for Reform**

BC should consider a number of programs to ensure fiscal environmental sustainability, including:

- Creation of a royalty investment fund that derives its value from a portion of oil and gas royalties (see Norway's Global Fund)
  - Ensure that royalties are contributed every year, to avoid the problem Alberta has with low values of the fund
  - Earmark some aspect of expenditures for environmental purposes, and not just general government expenditures
- Create a separate entity, with adequate funding, to deal with Orphaned wells (See Alberta's Orphan Well Fund)
- Create a land appropriation trust that derives revenues from oil and gas development and is used to purchase public parks and support conservation efforts through partnerships with local governments and communities
- Consider Polluter Pay principles

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<sup>29</sup> *Supra*, see note 23.

<sup>30</sup> William Andrews, Calvin Sandborn and Brad Wylenko, Preventing Toxic Pollution: Toward a British Columbia Strategy, 1991 at p 84.

## **2. Need for an Independent Body with a mandate to ensure health & safety and environmental protection**

### **Overview of the Oil and Gas Commission**

The Oil and Gas Commission (“OGC”) is the regulatory arm of oil and gas development within the Ministry of Energy and Mines (“MEM”), and oversees oil and gas activities in BC. The OGC is established and given various powers through s2(1) of the *Oil and Gas Activities Act*.<sup>31</sup> Included in these powers are offences and penalties,<sup>32</sup> and the OGC’s compliance and enforcement powers.<sup>33</sup> The OGC has a board consisting of 3 directors: the Deputy Minister of the MEM, The Commissioner of the OGC (appointed by Lieutenant Governor in Council), and one other appointed director. OGC currently has governance protocols with the other agencies like the Ministry of Environment to coordinate industry monitoring

The OGC operates as a ‘single window’ approach to oil and gas regulation. All phases of activity, from initial exploration for PNG resources, through development, pipeline transmission and eventual reclamation of the site are administered by the OGC.<sup>34</sup> The OGC does not decide where development takes place, but rather grants permission through permits.<sup>35</sup>

### **Independence Concerns with the OGC**

There are a number of concerns with the OGC and its independence as a regulator that compromise health and safety.<sup>36</sup> The single window approach – responsibility for all industry activity in oil and gas development – means the OGC is charged with balancing broad environmental, economic and social considerations. However, being situated under MEM (which has strong oil and gas development goals) creates difficulty in balancing these dichotomous considerations. The construction of the board leaves questions as to the ‘independence’ of the OGC. Further, the OGC is fully funded by

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<sup>31</sup> *Supra*, see note 18.

<sup>32</sup> *Supra*, see note 18 at Part 8.

<sup>33</sup> *Supra*, see note 18 at Part 5.

<sup>34</sup> Ethan Krindle (University of Victoria), Regulation of Oil and Gas in BC, 2011.

<sup>35</sup> For structure, see <http://www.bcogc.ca/document.aspx?documentID=1115&type=.pdf>

<sup>36</sup> Submission to the ministry of energy, mines and petroleum resources on the draft environmental protection and management regulation under the oil and gas activities act, Pembina Institute, December 2009.

industry fees, creating the potential for conflict of interest. The OGC follows results-based regulation, which does not safeguard against harms to health and environment. Results based regulation does not promote precaution, but rather maximization of revenues and achievement of goals. There have been concerns raised about the OGC's reliance on industry-funded qualified professionals. Industry-led compliance is also a problematic feature of the OGC. Finally, there is a lack of Ministry of Environment and Ministry of Health oversight. For example, s17 of the Oil and Gas Commission Act gives the OGC the power to grant temporary water use licenses, whereas any other individual in BC would need to apply to the Ministry of Environment.<sup>37</sup> Presumably the Ministry of Environment has the environmental and conservation expertise, and should be included in the decision making process.

### **Importance of an Independent Regulatory Body**

The question must be asked why an independent body that approves oil and gas activities is not the same body that approves health, safety and environment guidelines. The following canvasses some of the rationale for independence.

#### *Health and safety*

Health and safety concerns are important in considering independence of a regulator. A lack of health and safety expertise within the OGC identifies if the OGC is an appropriate avenue to be determining standards, procedures, and enforcement for the industry. The Ministry of Health, which does have this expertise, has been removed from the regulatory process. One such example of the lack of expertise in the OGC is from the hearings into the Encana Pouce Coupe gas leak.<sup>38</sup> There has been concern that the OGC's role as promoter of oil and gas development in BC limits its ability to address public health and safety concerns, and displays a need to ensure that expertise, not industry experience, guides decision making.<sup>39</sup>

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<sup>37</sup> <http://wcel.org/resources/environmental-law-alert/oil-and-gas-commission-gets-failing-grade-water-regulation>

<sup>38</sup> Although the OGAA has been amended since then, the OGC Chairman at the time Alex Ferguson admitted that his agency had neither the mandate nor the medical expertise to investigate the impacts of sour gas on human or animal health – see note 39.

<sup>39</sup> Health Submissions to Ministry of Health for PESTS, prepared by Devlin Gailus.

### *Environment*

The lack of independence of the OGC raises the concern of proper environmental protection through oil and gas development. As a single window regulator, the OGC can be spread thin trying to manage every aspect of the development process. MEM, the ministry the OGC is under, has priorities competing with environmental sustainability (such as royalty goals, which include maximizing value to the crown, equity between large and small producers, long term investment, administrative ease).<sup>40</sup> In fact, the Auditor General's report on the OGC and oil and gas site contamination risks in 2010 found that there was a lack of formal programs to manage environmental effects of developments on land base.<sup>41</sup> Without independence in the environmental protection arm, environmental stewardship is compromised.

### *Legislative Oversight*

There is also concern that a non-independent body will inhibit the legislature's proper oversight of its activities. Having control of information on all aspects of industrial activity can lead to inefficiencies and inadequate reporting. For instance, the Auditor General's report also noted that "the public information provided by the OGC on its oversight activities is not sufficient to allow the Legislature and public to understand how effectively oil and gas site contamination risks are being managed."<sup>42</sup>

### *Agency Capture*

*"In order to protect and advance the public's interest, government must be responsive to the voters through the democratic process and able to act independently in the public interest."<sup>43</sup>*

The above concerns regarding independence of the OGC can be expressed in a concept known as 'agency capture'. A captive agency is one that becomes too close to the industry it is charged with regulating, and decision making and regulatory decisions mimic the best interests of the industry itself. Instead of regulating the industry, they are accommodating their interests.<sup>44</sup> This can be created by a

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<sup>40</sup> *Supra*, see note 5.

<sup>41</sup> *Supra*, see note 22.

<sup>42</sup> *Ibid*.

<sup>43</sup> William Andreen et al, Regulatory Blowout: How Regulatory Failures Made the BP Disaster Possible, and How the System Can Be Fixed to Avoid a Recurrence, October 2010.

<sup>44</sup> *Ibid*, at p 24. For more information on regulatory capture, see Captive agency - 1955 by Professor Marver H. Bernstein in his book Regulating Business by Independent Commission. Also see the Committee hearing on agency

number of factors, including funding for the regulatory body originating mainly from fees levied against the industry, reliance on the industry for safety and environmental standards, and competing responsibilities under one organization.<sup>45</sup> There is also a concern with cross-pollination of employees between industry and the regulator, which has been identified in the case of the OGC in BC.<sup>46</sup>

#### An example of the risks of agency capture: Deepwater Horizon and the MMS

*“The history of the MMS reveals the dangers of a regulatory agency that identifies strongly with corporate interests and lacks accountability... Among other things, the theory posits that captive agencies tend to be unduly passive, ponderous, and inefficient, failing to enforce regulatory requirements with needed vigor and enthusiasm.”<sup>47</sup>*

An example of agency capture is the Mineral Management Services (MMS), the recently disbanded regulatory body that regulated the offshore oil and gas industry in the US before the Deepwater Horizon accident. Like the OGC, the MMS was a single window agency that handled every aspect of offshore oil and gas development. Among the concerns that emerged from the review of MMS post-Deepwater included a number of independence issues. The regulator had no measures to ensure the officials responsible for permitting and enforcement were independent of those collecting revenue.<sup>48</sup> Further, the health and safety mandate of the MMS was characterized as rubberstamping drilling proposals and a failure to regulate safety equipment (by following an industry-led compliance structure).<sup>49</sup> Funding of the MMS from industry also created a risk of conflicting purposes. This went against other jurisdictions such as the UK, which has had separate safety oversight and revenue collection agencies since 1988 (implemented after an accident killed 167 workers).<sup>50</sup> The inherent lack of independence of the MMS

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capture: webcast accessed at

<http://www.judiciary.senate.gov/hearings/hearing.cfm?id=e655f9e2809e5476862f735da161a459>. Also see [http://en.wikipedia.org/wiki/Regulatory\\_capture](http://en.wikipedia.org/wiki/Regulatory_capture). Also see Rachel Barkow, *Insulating Agencies: Avoiding Capture Through Institutional Design*, New York University School of Law, Working Paper no 10-82, December 2010.

<sup>45</sup> *Supra*, see note 43.

<sup>46</sup> *Supra*, see note 38. “NDP critic John Horgan has called for new government rules to provide greater separation between the public and private sector for the oil and gas industry, pointing to what he describes as an “exodus” of senior energy/mines officials leaving their jobs to work for petroleum industry.”

<sup>47</sup> *Supra*, see note 43.

<sup>48</sup> *Supra*, see note 43.

<sup>49</sup> <http://www.chron.com/business/energy/article/Critics-blame-energy-lobby-for-lax-safety-rules-1597469.php>

<sup>50</sup> <http://online.wsj.com/article/SB10001424052748704370704575228512237747070.html>

Of MMS's fiscal 2010 budget of \$342 million, nearly half comes from the oil industry in the form of fees and rental receipts, known as “offsetting collections.” That's one reason why collecting oil and gas royalties is emphasized at the agency, former and current officials say... In the U.S., the MMS has been criticized for giving oil companies too

led to an identification with the oil and gas industry, and ultimately contributed to the Deepwater Horizon oil spill.<sup>51</sup>

The new agency structure that replaced the MMS after the disaster does in fact split the responsibilities for the industry: including one body responsible for revenue collection,<sup>52</sup> and a separate body responsible for permitting and environmental/safety regulations.<sup>53</sup>

## Recommendations

### *Ensuring Public Interest in the OGC*

It is important for the OGC to ensure public interest considerations, including health & safety, are incorporated into the decision-making and approval process of oil and gas activities. To this end, it is recommended that the Ministry of Health and local health authorities, which have both the mandate and expertise, become full partners in overseeing the oil and gas industry.<sup>54</sup> Health and environment officials can be included in numerous ways:<sup>55</sup>

- An independent body should spearhead the development and continuing reassessment of existing regulations, incorporating health and environmental concerns.
  - Mandatory consultation in regulation (such as planning and the Emergency Program and Planning Regulation)
- Existing regulations should be enforced by this independent, and adequately resourced, body
- Setting health and safety standards

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much sway in the royalty area, not just regulatory oversight. A 2008 Interior Department Inspector General report faulted MMS for modifying royalty payment contracts in ways that "appeared to inappropriately benefit the oil companies.

<sup>51</sup> Presidential commission recommends significant changes to offshore energy production practices, regulation in Gulf of Mexico, February 18 2011, accessed from LexisNexis.

<sup>52</sup> Bureau of Ocean Energy Management (BOEM) - offshore leasing, resource evaluation, review and administration of oil and gas exploration and development plans, renewable energy development, National Environmental Policy Act (NEPA) analysis and environmental studies.

<sup>53</sup> Bureau of Safety and Environmental Enforcement (BSEE) - safety and environmental oversight of offshore oil and gas operations, including permitting and inspections, of offshore oil and gas operations. Its functions include the development and enforcement of safety and environmental regulations, permitting offshore exploration, development and production, inspections, offshore regulatory programs, oil spill response and newly formed training and environmental compliance programs.

<sup>54</sup> *Supra*, see note 39.

<sup>55</sup> *Supra*, see note 39.

- Create independent health/pollution body to research, strengthen and enforce pollution and health rules<sup>56</sup>
- Expand governance protocols to agencies such as Ministry of Health to coordinate industry monitoring of air and water quality
- Financial reform to support tracking systems, equipment, training and research required to ensure the Ministry of Health is able to leverage their expertise for health and safety protection
- Financial reform to ensure adequate staffing<sup>57</sup>
- Provide better protection for landowners
  - For example, a requirement to provide factually accurate information about risks posed by activities to landowners

### *Jurisdiction*

There are a number of key activities that are the focus of an independent body. The following is a non-exhaustive list of activities in which the powers should be taken out of the hands of the OGC and into an independent body:

- Health and safety
- Environmental responsibilities (including reclamation of sites)
- Independent third party audits
  - i.e. Independent audits with the Ministry of Environments for sites given certificate of restoration as a good management practice.<sup>58</sup>
- A formal program for cumulative effects assessment<sup>59</sup>
- Royalty collection and management should be separate from other functions<sup>60</sup>
  - This can help reduce the risk of conflict of interest spreading to the safety and environmental enforcement and monitoring functions.
- Enforcement and monitoring should also be conducted independent of planning, leasing, exploration and permitting.<sup>61</sup>

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<sup>56</sup> Karen Campbell, 10 Steps to Responsible Development, West Coast Environmental Law, see Recommendation 5 at p3.

<sup>57</sup> *Ibid*, recommendation 7 at p3.

<sup>58</sup> *Supra*, see note 22. The OGC response: The Commission will evaluate the need for periodic independent audits as a good management practice.

<sup>59</sup> *Ibid*.

<sup>60</sup> *Supra*, see note 43 at p 26.

- Reconsideration of transparency, accountability, and legislative oversight<sup>62</sup>
  - The Auditor General noted that to improve transparency and accountability, the OGC should improve a number of information reporting systems, such as; general compliance rate, deficiencies statistics, and non-compliance related statistics regarding how effectively site contamination risks are being managed.

### **3. Fracturing Fluids and the BC Public Access to Data Regime**

#### **Introduction**

BC is not the only place seeing an increase in fracking activity. According to the International Energy Agency, natural gas is set to take over coal as the world's number two fuel source (second only to oil).<sup>63</sup> With fracking comes the important issue of tracking the fluids used in the process (used to carry proppant more efficiently and reduce friction<sup>64</sup>), and recognizing both the risks that may come from this process and the need disclosure of the fluids placed into the environment. Therefore, developing best practices in BC with regards to fracking fluids disclosure is not only vital to the security of health and environment in BC, but can also set precedents for other jurisdictions to follow. This section of the report will briefly consider the recent fluids disclosure process in BC, and how this disclosure compares to other jurisdictions. I conclude with a cursory look at the various ways the disclosure process could be improved.

#### **Outline of Legislation Regarding Disclosure**

##### *BC Frac Focus – Chemical Disclosure Registry<sup>65</sup>*

British Columbia is the first province in Canada to have a mandatory public disclosure system for ingredients used in the fracturing process.<sup>66</sup> This mandatory reporting system applies to any well fractured after January 1 2012. Section 37 of the *Drilling and Production Regulations* provide for fracturing fluid records to be submitted to the Oil and Gas Commission within 30 days of completion of a well.<sup>67</sup> The requirements of the Act mandate the company owning a well keep detailed records of the

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<sup>61</sup> *Ibid.*

<sup>62</sup> *Supra*, see note 22.

<sup>63</sup> [http://news.nationalgeographic.com/news/energy/2012/05/120530-iea-report-on-natural-gas-safety/?source=hp\\_dl2\\_news\\_gas\\_safety20120601](http://news.nationalgeographic.com/news/energy/2012/05/120530-iea-report-on-natural-gas-safety/?source=hp_dl2_news_gas_safety20120601)

<sup>64</sup> <http://fracfocus.ca/chemical-use/why-chemicals-are-used>

<sup>65</sup> <http://fracfocus.ca/>

<sup>66</sup> <http://www.bcogc.ca/document.aspx?documentID=1207>

<sup>67</sup> *Drilling and Production Regulation*, BC Reg 249/2011, s37 (2).

composition of fluids, the concentration in the additive and fluid, the chemical abstract service number, volume of water, and supplier details.<sup>68</sup> However, the regulations do not limit the content of the records by using the wording “but not limited to” in s37(1).

The public registry is located at fracfocus.ca, and is a sister organization of fracfocus.org, the US-based disclosure system. According to the OGC, the database includes the ingredients used to support natural gas extraction, and extensive content about the regulations and safety procedures governing industry activity. Businesses are required to appoint a staff member as the representative for disclosure, and disclosure is made through this website.<sup>69</sup> The following is a list of what is actually required to be reported through the KERMIT reporting system, followed by an example of a public report accessed from the site:<sup>70</sup>

- 1) Total water volume (may include recycled, fresh or saline
- 2) Trade Name: This is the name of the product designated by the supplier.
- 3) Supplier: This is the name of the service company that supplied the product (e.g. Schlumberger, Halliburton).
- 4) Purpose: This is the function served by the additive (Trade Name) in the fracturing process (e.g. surfactant, biocide, etc...).
- 5) Ingredients: This is the scientific name of the chemical (e.g. Ethanol, Naphthalene etc...).
- 6) Chemical Abstract Service or CAS Number: This is a number assigned by a division of the American Chemical Society for the purpose of identifying a specific substance. You can learn more about the characteristics of chemicals by searching for name or CAS number on the USEPA National Center for Computational Toxicology website.
- 7) Ingredient Percentage in Additive by % Mass: This describes the amount of ingredient within the additive (Trade Name) as a percent of the total mass of the additive. *Note: Because the % Mass of the additive may be expressed in its maximum concentration, the total % Mass of ingredient percentage may exceed 100 per cent.*
- 8) Ingredient Concentration in HF (Hydraulic fracturing) fluid % by mass: This describes the amount of ingredient as a percent of the total mass of the HF fluid including carrier fluid and additives. *Note: The total may not equal 100 per cent due to the redaction of proprietary components in accordance with the Trade Secrets provisions of the Federal Hazardous Material Information Review Act.*

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<sup>68</sup> *Ibid*, at s37(1)

<sup>69</sup> For instructions regarding submitting a report (for industry), see

<http://www.bcogc.ca/document.aspx?documentID=1208>

<sup>70</sup> <http://fracfocus.ca/welcome/how-read-fracturing-record>

Hydraulic Fracturing Fluid Product Component Information Disclosure							
Fracture Date:	05/31/2012						
Province:	BC						
Region:	Fireweed						
Well Number:	27792						
Operator Name:	Canadian Natural Resources Limited						
Well Name:	CNRL HZ FIREWEED B-A052-H/094-A-13						
Longitude:	-121.312455						
Latitude:	56.524176						
Long/Lat Projection:	NAD83						
Production Type:	Undefined						
True Vertical Depth (TVD):	2,600						
Total Water Volume (m3):	1,663.2						
Hydraulic Fracturing Fluid Composition:							
Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
AcResin Activator W	Canyon Technical Services Ltd.	LT Consolidation Aid	Polyethylene Glycol	25322-68-3	5.00%	0.00019%	
			Methanol	67-56-1	50.00%	0.00194%	
			Alcohols, C12-14 Secondary, Ethoxylated	84133-50-6	70.00%	0.00272%	
CAN-1000 Corrosion Inhibitor	Canyon Technical Services Ltd.	Acid Inhibitor	Alcohol Solvent 2				HMIRC Registry # 8141
			Methyl Alcohol	67-56-1			HMIRC Registry # 8141
CAN-1101 Iron Control Reduction	Canyon Technical Services Ltd.	Iron Control	2-Mercaptoethanol	60-24-2	90.00%	0.00146%	
			Cupric Chloride	7447-39-4	10.00%	0.00016%	
			Monoethanolamine	141-43-5	30.00%	0.00049%	
CAN-1200 Anti-Sludge Agent / Non-Emulsifier	Canyon Technical Services Ltd.	Add Antisludge	Aromatic Solvent 1				HMIRC Registry # 8251
			Methyl Alcohol	67-56-1			HMIRC Registry # 8251
			Organic Acid				HMIRC Registry # 8251
			Mineral Acid				HMIRC Registry # 8251
			Sulfonated Aromatic Derivative				HMIRC Registry # 8251
			Phenolic Resin				HMIRC Registry # 8251
CAN-1201 Non-Emulsifier	Canyon Technical Services Ltd.	Acid Wetting Agent	Ethylene Glycol Monobutyl Ether	111-76-2			HMIRC Registry # 8252
CAN-1911 Clay Stabilizer	Canyon Technical Services Ltd.	Clay Control	1,6-Hexandiamine, dihydrochloride	6055-52-3	40.00%	0.02984%	
CAN-2000 Gelliant (Guar)	Canyon Technical Services Ltd.	Viscosifier	Polysaccharide Suspension		100.00%	0.18256%	No hazardous ingredients
CAN-2200 Crosslinker / pH buffer (Borate)	Canyon Technical Services Ltd.	Cross-linker	Monoethanolamine	141-43-5	60.00%	0.04422%	

### Exemptions on Disclosure

The Federal *Hazardous Products Act* (“HPA”) also places reporting requirements on companies supplying (or importing) the fluids used in the fracturing process. This requirement applies to the transmittal of a Material Safety Data Sheet (MSDS) for any Workplace Hazardous Material Information System (WHMIS) controlled products.<sup>71</sup> The *Controlled Products Regulations* specify what constitutes a controlled product.<sup>72</sup> However, with regards to business trade secrets, there is an exemption in that allows a business to file a claim for exemption if they feel the information to be confidential business information. The exemption is claimed under section 11 of the *Hazardous Material Information Review Act*.<sup>73</sup> Suppliers can claim exemptions on the chemical identity/concentration of any ingredient in a controlled product, or the name of any toxicology study that identifies any ingredient of the product. Employers may claim exemptions for the chemical identity/concentration and toxicology study, as well as the chemical/common/trade/generic/brand name of a product and information that could be used to

<sup>71</sup> *Hazardous Products Act*, RSC, 1985, c H-3, at s13 HPA. For importation, see s14.

<sup>72</sup> *Ibid*, Schedule II Controlled Products Regulations - classes include compressed gas, flammable and combustible material, Oxidizing material, poisonous and infectious material, corrosive material, and dangerously reactive material.

<sup>73</sup> *Hazardous Materials Information Review Act*, RSC, 1985, c 24 3rd Supp, at s11.

identify a supplier. These claims for exemption are assessed on a number of criteria; the information must be known only by designated persons, the company must have taken reasonable care to keep the information confidential, it must have economic value, and must represent a significant development cost.<sup>74</sup>

An exemption under the *Hazardous Material Information Review Act* also allows an exemption of reporting the material in the BC fracturing database. The ingredient may be listed as undisclosed or listed by its generic name (where possible), and the registry number of the exempted product must be provided in the comments.<sup>75</sup> There are also other variations of reporting where the claim is for the chemical identity of specific ingredient(s) within the fluid.<sup>76</sup>

These exemptions last during the filing of a claim, and if the ruling is successful, for a period of 3 years.<sup>77</sup>

### Comparison to other jurisdictions - Potential Options for Improvement

BC is part of the increasing trend of legislating the disclosure of fracturing fluids to government and the public. There are currently 14 US states that regulate fracturing fluid disclosure out of 29 states that have fracking activities.<sup>78</sup> The Canadian Association of Petroleum Producers (CAPP) came out with *Hydraulic Fracturing Operating Practices*<sup>79</sup> in January 2012 to encourage transparency in industry development. However, it suggests a similar disclosure as BC's FracFocus currently requires: listing of the MSDS, CAS, concentration and volume, trade name, and other similar requirements. CAPP has also produced a *Fracturing Fluid Additive Risk Assessment and Management* document to encourage the reduction of environmental risks in fluid additives.<sup>80</sup> The increase in awareness regarding the need for disclosure is also catching on in Europe, where both the UK and European parliament are showing

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<sup>74</sup> *Hazardous Materials Information Review Regulations*, SOR 88-456, at s3

<sup>75</sup> <http://fracfocus.ca/faq-page#t1n356>

<sup>76</sup> *Supra*, see note 73. If the subject of the claim is solely for the chemical identity of one or more ingredients, then the CAS number(s) is/are left blank for each ingredient subject to a claim, but the maximum concentration within the additive is provided, along with the maximum concentration within the fracture fluid for each ingredient. If the subject of the claim is to protect both the chemical identity and the concentration of one or more ingredients, then the CAS number(s) is/are left blank along with the concentration(s) within the additive for each ingredient subject to a claim. If possible, concentration of the ingredient within the fracture fluid can also be provided, but may also be left blank.

<sup>77</sup> *Supra*, see note 73 at s19(2).

<sup>78</sup> Matthew McFeeley, *State Hydraulic Fracturing Disclosure Rules and Enforcement: A Comparison*, National Resources Defense Council, July 2012.

<sup>79</sup> <http://www.capp.ca/getdoc.aspx?DocId=199626&DT=NTV>

<sup>80</sup> <http://www.capp.ca/getdoc.aspx?DocId=199627&DT=NTV>

support of similar databases.<sup>81</sup> From these jurisdictions, there are a number of identifiable practices that BC should take notice of and consider for its disclosure legislation.<sup>82</sup>

### Disclosure *before* fracturing a well

The US Federal administration has recently weighed in on the topic of disclosure, proposing rules for fluid disclosure.<sup>83</sup> In its initial form, these rules required disclosure 30 days *before a well could be started*. However, the proposal has hit industry opposition and has not yet been passed. This would have been a significant change from other current jurisdictions, which almost exclusively dictate disclosure after the well is completed (in BC's case, 30 days after completion). In the US, only two states require pre-fracturing disclosure/notice of chemicals and products that may be used. This notice can help Arkansas and Wyoming, the two states that have such provisions, to improve baseline testing and tracing of contamination. Only three other states provide for partial pre-fracturing disclosure.<sup>84</sup> These pre-disclosure provisions range from a master list of all chemicals used by each operator in the state (Arkansas), to a full list of chemicals expected to be used (Wyoming), to the 'principle' components of the planned fluid (Montana).<sup>85</sup>

Disclosure before starting a well could be instrumental for residents in tracing the source of any potential water contamination, as baseline studies could be done before the drilling and insertion of the fluid. It could also help with medical response, including diagnosis and treatment.<sup>86</sup> While BC's 30 days is shorter than the 60 days legislated in some US state jurisdictions,<sup>87</sup> there are obvious environmental and safety advantages to extending disclosure to *before* the well is started.

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<sup>81</sup> <http://www.nytimes.com/2012/05/31/business/energy-environment/seeking-disclosure-on-fracking.html>

<sup>82</sup> For more discussion on fracturing regulations and the environment, see May Wall and Averill Edwards, *Hydraulic fracturing: environmental and regulatory risks*, Winston and Strawn LLP, January 19 2012, accessed on [www.lexology.com](http://www.lexology.com)

<sup>83</sup> Note, however, there are still no federal disclosure rules passed into law [http://www.nytimes.com/2012/05/05/us/new-fracking-rule-is-issued-by-obama-administration.html?\\_r=3](http://www.nytimes.com/2012/05/05/us/new-fracking-rule-is-issued-by-obama-administration.html?_r=3). <http://www.lexology.com/library/detail.aspx?q=0e35eb65-c1c2-45c5-a5c2-4a6093e5b359>

<sup>84</sup> Including Indiana, Montana, West Virginia - <http://www.nrdc.org/energy/files/Fracking-Disclosure-IB.pdf>

<sup>85</sup> *Supra*, see note 78.

<sup>86</sup> Including Arkansas, Colorado, Montana, Ohio, Pennsylvania, and Texas.

<sup>87</sup> For example, see Ohio

## Disclosure of 'trade secrets'

### *Disclosure to regulatory bodies*

The current BC scheme allows for a complete exemption from disclosure of chemicals that companies or suppliers deem to be trade secrets. One change that BC could make to its disclosure process is to add a provision allowing for the disclosure of the trade secrets to government regulators, who keep the information confidential. This would provide government with the proper information to respond to a spill, initiate an investigation or respond to a complaint.<sup>88</sup> Wyoming is the only state to have clear process for evaluating and approving or denying trade secret exemption claims.

### *Disclosure to land owners and the public*

While trade secret information held by the government would allow for government response to environmental and safety concerns after the fact, the disclosure system could go further and also allow for legitimate challenges to the trade secret exemptions. In this regard, BC should consider a provision that allows landowners a right to challenge trade secret claims in court, and appeal the 'trade secrets' designation. Texas allows landowners to do this, but unfortunately the initial disclosure rules give them little basis to determine if the trade secret is justified.<sup>89</sup> There is also the possibility to allow for the public to challenge these exemptions. Some states in the US, including Colorado, Ohio and Pennsylvania, allow for public challenges of trade secret exemptions, but again these challenges are limited by initial disclosure rules providing little factual information.<sup>90</sup>

### *Disclosure to medical professionals in case of an emergency*

Some states in the US require disclosure to medical personnel in case of an emergency.<sup>91</sup> While this may be a possibility for BC, there are issues around confidentiality agreements and health care professionals that would need to be further evaluated.

## Disclosure beyond "fracturing" fluids

Because "fracturing" is a specific activity that occurs after the drilling process of a well is complete, any disclosure rules regarding fracturing do not include other chemicals that are used

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<sup>88</sup> <http://blogs.edf.org/energyexchange/author/mwatson/> - [http://www.legislature.state.oh.us/bills.cfm?ID=129\\_SB\\_315](http://www.legislature.state.oh.us/bills.cfm?ID=129_SB_315)

<sup>89</sup> *Supra*, see note 78.

<sup>90</sup> *Ibid*, at p 13

<sup>91</sup> Including Arkansas, Colorado, Montana, Ohio, Pennsylvania, and Texas – see *Ibid*.

throughout the life-cycle of a natural gas well. It may be useful to consider disclosure requirements during the entire life-cycle of a well. Ohio, which recently proposed a bill that would require this disclosure, had the bill passed with these provisions taken out.<sup>92</sup> However, the bill still included disclosure of chemicals used in ‘stimulating’ the well (not just for fracturing activities) and those used until the surface casing is set in place. Disclosing the fluids with a mind to the broader drilling process would enhance environmental protection and safety.

### **Tracking fluids with a DNA tracer**

There may be a possibility to use DNA tracing-like technology to inject and track fracturing fluids, in the event that environmental contamination occurs. Identifying the source of contamination can help both understand the contents of the contamination, but also help identify any responsible parties and to apportion liability for the contamination. One such method of doing this is using isotopic tracers.<sup>93</sup> There are a number of organizations currently evaluating and attempting to develop technology to achieve this, and tracers are routinely used in hydraulic studies. However, as this is a highly scientific area of focus, this report is limited by the specific scientific nature of the tracing qualities and more in-depth research by a scientific expert is required.

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<sup>92</sup> <http://blogs.edf.org/energyexchange/author/mwatson/>

<sup>93</sup> <http://www.epa.gov/hfstudy/isotopictracingofgroundwatercontamination.pdf>