To: **Fairfax Town Council**

From: **John Reed**

Date: **June 1, 2011**

Subject: **Report on "Fracking" methods of Gas Extraction, and Announcement of a Documentary Film on this Subject, June 3, 2011 at the Women's Club, 7:30pm**

Hydraulic fracturing, or "fracking" is a method of expanding production and lowering the cost of natural gas extraction approximately 40%, with additional externalized costs to the community and environment far in excess of these savings. Typical results of these methods are the permanent poisoning of aquifers and water wells, in some cases with formerly high quality drinking water becoming flammable, fish and other wildlife die-offs, release of very large quantities of greenhouse gasses into the atmosphere, and the production of vast amounts of toxic waste. Much of this waste is carried in the enormous quantities of water used in the process, quantities so large that facilities to process the waste are woefully inadequate.

Hydraulic fracturing, or "fracking" is a distinct possibility for California's own Monterey Shale, an oil field stretching from Northern California down to Los Angeles County.

According to Monterey County Weekly News an oil company recently submitted a proposal to drill up to four miles deep into the Monterey shale formation. Oil drillers inject a mixture of sand, water, and a controversial cocktail of chemicals called fracking fluid at extremely high pressures into the well. The pressure creates micro earthquakes that release oil or natural gas trapped within the bedrock, which is then pumped up to the surface.

In 2005 the Bush – Cheney administration, at the behest of powerful corporate oil interests (**According to the Documentary Gasland*) exempted companies using hydraulic fracking technology from 17 Federally mandated environmental laws pertaining to both the clean water act and clean air act.

On the federal level, help is needed to pass the FRAC Act - twin bills in the Senate (S 1215) and House (HR 2766) that remove the exemption to the Safe Drinking Water Act for fracking and call for the disclosure and monitoring of the chemicals used in the process. Contacting your elected officials is critical to its passage.

On the State level, AB 591 from Assemblyman Bob Wieckowski (D-Fremont) would require companies to disclose the chemicals injected into wells, which would be posted on a state website. It's patterned on a similar bill in Texas that's considered by environmental groups to be a national model, though the California version goes further. Industry officials are opposing the bill because, unlike the one in Texas (and similar disclosure requirements approved in such states as Arkansas, Wyoming and Colorado), it doesn't allow companies to withhold information considered trade secrets.

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For years the chemicals contained in fracking fluid were kept secret by the oil and gas industry. Only recently have the ingredients of fracking fluid become public. Dangerous chemicals that are well known carcinogens such as diesel, benzene, and kerosene are commonly added to fracking fluid and pumped underground, possibly putting people living close to drilling sites at a high risk of sustaining severe respiratory, circulatory, or neurological injuries.
The detrimental effects of hydraulic fracking are well known. Severe environmental damage commonly occurs at fracking sites, including; pollution of groundwater sources, releasing toxins into the air, and putting our waterways in harm's way. The grass roots organization, Halt Oil Drilling Now (HOLD) has been vocal in their belief that this oil and natural gas drilling technique is unregulated and simply too dangerous to allow into California.

THE PROBLEM: Questions and Answers

Hydraulic fracturing for natural gas is one of the country's biggest environmental and public health challenges in history. The 2005 Energy Bill exempted a controversial drilling technique known as hydraulic fracturing from the Safe Drinking Water Act, which allowed the natural gas industry to unleash a massive 34-State drilling campaign.

How does hydraulic fracturing work?

Hydraulic fracturing or fracking is a means of natural gas extraction employed in deep natural gas well drilling. Once a well is drilled, millions of gallons of water, sand and proprietary chemicals are injected, under high pressure, into a well. The pressure fractures the shale and props open fissures that enable natural gas to flow more freely out of the well.

What is horizontal hydraulic fracturing?

Horizontal hydrofracking is a means of tapping shale deposits containing natural gas that were previously inaccessible by conventional drilling. Vertical hydrofracking is used to extend the life of an existing well once its productivity starts to run out, sort of a last resort. Horizontal fracking differs in that it uses a mixture of 596 chemicals, many of them proprietary, and millions of gallons of water per frack. This water then becomes contaminated and must be cleaned and disposed of.

What is the Halliburton Loophole?

In 2005, the Bush/ Cheney Energy Bill exempted natural gas drilling from the Safe Drinking Water Act. It exempts companies from disclosing the chemicals used during hydraulic fracturing. Essentially, the provision took the Environmental Protection Agency (EPA) off the job. It is now commonly referred to as the Halliburton Loophole.

What is the Safe Drinking Water Act?

In 1974, the Safe Drinking Water Act (SDWA) was passed by Congress to ensure clean drinking water free from both natural and man-made contaminates.

What is the FRAC Act?

The FRAC Act (Fracturing Responsibility and Awareness to Chemical Act) is a House bill intended to repeal the Halliburton Loophole and to require the natural gas industry to disclose the chemicals they use.

How deep do natural gas wells go?

The average well is up to 8,000 feet deep. The depth of drinking water aquifers is about 1,000 feet. The problems typically stem from poor cement well casings that leak natural gas as well as fracking fluid into water wells.

How much water is used during the fracking process?

Generally 1-8 million gallons of water may be used to frack a well. A well may be fracked up to 18 times.

What fluids are used in the fracking process?

For each frack, 80-300 tons of chemicals may be used. Presently, the natural gas industry does not have to disclose the chemicals used, but scientists have identified volatile organic compounds (VOCs) such as benzene, toluene, ethyl benzene and xylene.

In what form does the natural gas come out of the well?

The gas comes up wet in produced water and has to be separated from the wastewater on the surface. Only 30-50% of the water is typically recovered from a well. This wastewater can be highly toxic.

What is done with the wastewater?

Evaporators evaporate off VOCs and condensate tanks steam off VOCs, 24 hours a day, seven days a week. The wastewater is then trucked to water treatment facilities.

What is a well's potential to cause air pollution?

As the VOCs are evaporated and come into contact with diesel exhaust from trucks and generators at the well site, ground level ozone is produced. Ozone plumes can travel up to 250 miles.

Please come to see the documentary "Gasland", to be shown in the Women's Club, Friday, June 3, 2011 at 7:30 pm

See more about the documentary at
www.gaslandthemovie.com