MEDIA RELEASE: TRC reveals Toxic Chemicals in Taranaki Frack Job

DATE: 27 June 2011 - for immediate release
FROM: Climate Justice Taranaki

“We are alarmed by the response of the Taranaki Regional Council to a recent Official Information Act request which confirms that toxic chemicals are being used in fracking jobs and then released into our environment by oil and gas companies” says spokesperson for Climate Justice Taranaki Teresa Goodin.

Early this year TRC resource management director Fred McLay was asked by Climate Justice Taranaki if he knew what chemicals were being used here in fracking. He said it was government’s responsibility as council were only concerned with what came out of wells, not what went in. An Official Information Act request to Ministry of Economic Development then put the responsibility back with TRC who, three months later, have finally responded with some information.

On 16 June 2011 via Green MP Catherine Delahunty, TRC released some information on water use, waste disposal and a list of ten chemicals used in one recent frack job. Most notable in the frack fluid list are Xcide 102 – a biocide toxic to humans, animals, fish, birds and ecological systems; Inflo-150 – a friction reducer containing methanol and ethylene glycol, both highly toxic, hazardous substances; and GBW-41L (Hydrogen peroxide) – an animal carcinogen harmful to humans even at low concentrations in vapour form. These chemical cocktails make up approximately 3% of the frack fluid. Crucially, minute quantities can cause serious health impacts.

Fracking or hydraulic fracturing is a method where large amounts of water containing chemicals and sand are pumped under intense pressure into the ground to fracture geological formations, allowing extraction of hard to reach natural gas and oil. According to PEPANZ spokesperson John Pfahlert, fracking has been used across Taranaki for decades, but as resources dwindle techniques are becoming more aggressive and dangerous as more difficult reserves are opened up. Fracking is now done horizontally to access more ground and using toxic chemicals which are not even being tested for, as can be seen in TRC's monitoring reports online.

TRC currently do not even require resource consents for fracking. They claim that the fracking “occurs in oil and gas reservoirs that are between about 2500 and 4500 metres below the land surface” and therefore pose “very minimal” risk to ground water resources commonly “at 600 metres or above” in the region. Canadian-based company TAG Oil however confirm that they are fracking in the Cheal permit area near Stratford at depths between 1400 and 1800 metres. “If you take into account that TAG also says the rock fractures up to 1500 feet (460m) in any direction then we are getting much closer to aquifers than the council claims.” says Teresa Goodin.

Fracking also involves drilling through aquifers, and while TRC claims “there can be no discharges of fracking fluids to them”, thousands of incidents have occurred across the US, where leaks in the casings or other technical failures have poisoned the water.

In Australia, the health, environmental and social impacts of fracking for coal seam gas have led to massive opposition from farmers and residents.

The disposal of toxic drilling wastes under TRC consents, by the euphemistically-termed ‘landfarming’, is another major concern. Shockingly, these are non-notified consents and allow drilling waste to be discharged onto land just 25 or 30 metres from surface water, springs, water bores, the coast or property boundaries.
In one case in 2010 (Consent 7591-1), drilling waste was allowed to be discharged just 12 metres from several named streams and property boundaries, 6 metres from other surface water courses, and cows grazed on a paddock where drilling mud had been applied. “There is significant risk of contaminants accumulating in the animals grazing on ‘landfarmed’ drilling wastes, subsequently to be consumed by humans,” says Okato resident Catherine Cheung. “Waste is also being pumped back into the ground via ‘Deep-well Injection’, which together with fracking, has been blamed for the unprecedented increase in seismic events around some areas in the US and UK where there has been prolific gas extraction,” she adds.

TRC, by allowing fracking without resource consents, and discharge of drilling waste under non-notified resource consents with insufficient safeguards and monitoring in place, is disregarding the basic rights of the local community to clean water, air, food, and information. The people of Taranaki deserve a lot more than what we are getting. Climate Justice Taranaki urges the government and councils to look to France, South Africa, Quebec, New York State, Pennsylvania and New South Wales where fracking has been banned while in-depth inquiries are taking place to assess the real risks. “We also urge farmers and landowners to follow our neighbours in Australia and ‘Lock The Gates!’” concludes Teresa Goodin.

ENDS

Teresa Goodin can be contacted via climatejusticetaranaki@riseup.net

LINKS

1. References and further reading:
   http://www.endocrinedisruption.com/endocrine.fossilfuel.php
   http://www.frackalert.org/index.asp?page=64
   http://www.abc.net.au/4corners/special_eds/20110221/gas/


3. A TAG Oil brochure with a diagram of their fracking can be made available to the media.
4. The Council's OIA answers are attached.

Climate Justice Taranaki

http://climatejusticetaranaki.wordpress.com/
http://www.facebook.com/home.php?sk=group_205878806095057
http://nodrilling.wordpress.com/taranaki/
16 June 2011

Catherine Delahunty MP
Green Party of Aotearoa New Zealand
Parliament Buildings
Wellington

Dear Ms Delahunty

**Official Information Act – Hydraulic fracturing**

We acknowledge your request for information under the Official Information Act received on 16 May 2011. We have answered your questions in the same order as your request.

By way of background and context for concerns about fracking the Council does not currently require resource consents for the activity of fracking. This is because the activity occurs in oil and gas reservoirs that are between about 2500 and 4500 metres below the land surface. Potable deep ground water resources in the region are about 600 metres and above. Hence the activity is separated by consolidated sediments of thousands of metres in thickness which means the risk of fracking fluids moving upwards and contaminating potable groundwater is very minimal.

Overseas examples of fracking where adverse environmental effects have been observed on groundwater are generally associated with very shallow formations where the separation distance between the formation being fracked and aquifers above is in the order of several hundred metres and the risk of adverse effects is much greater.

The Council regulates the discharge of drilling and other oil industry wastes, including fluids from fracking activities that are returned to the surface, under the Resource Management Act 1991. The Council’s Freshwater Plan (2001) sets the rules for activities impacting freshwater and the plan is currently under review.

**Question 1**
**What chemicals are being used in the hydraulic fracturing process in Taranaki?**

Set out below is a list of chemicals (and descriptions) supplied to the Council. These were used in recent frack job in the region under a water based frack fluid system:

- Xcide 102 – this is a biocide
- Claytrol – this is a clay stabiliser
- GS-1 – this is a gel stabiliser
- GLFC-1b – this is a gelling agent: natural guar gum
- Inflo-150 – this is a friction reducer
- BF-7LD – this is a borate buffer fluid: potassium carbonate
- XLW-56 – this is a crosslinking agent
- GBW-41L – this is a gel breaker: hydrogen peroxide
- GBW-12cd – this is an enzyme: hemicellulase enzyme
- GBW-5 – this is a gel breaker: ammonium persulphate.

**Question 2**
How much hydraulic fracturing fluid chemicals are being used in those wells?
The exact volumes of chemicals used varies from job to job and are not known but the chemical component of a frack job is typically below 3% with the rest being water.

**Question 3**
How much water is being used in the hydraulic fracturing process in Taranaki and where is that water coming from?

Water use varies depending upon the depth of fracking. Water is sourced from a number of sources: consented municipal supplies (where total volumes are known but not for specific purposes such as fracking); under a permitted activity rule up to 50 cubic metres per day (i.e. no resource consent or abstraction records); or consented takes for oil and gas field use. Hence to give specific water use data is impossible. However, data from the Council’s State of Environment Report (2009) is useful to potentially put the matter into perspective. Consented water use in 2008 for hydrocarbon exploration was 9,229 cubic metres per day (2% total possible water use) but these consents are not all exercised at the same time and a maximum take would be limited to up to 3 rigs working and being consented to take a total of about 400 cubic metres per day. Consented water use for petrochemical processing was 62,239 cubic metres per day (13% total possible water use). Water use for hydrocarbon processing is included in the latter and is a very small (less than 5%) percentage of this.

Water use for fracking activities is not a resource management issue in this wet region.

**Question 4**
How is the water treated before disposal?

Frack fluids typically comprise about 97% water and about 3% chemicals. Chemicals are therefore in a diluted form in any discharge. Minimal treatment occurs. In the case of the frack job described in question 1 these were injected at depth into land (deepwell injection) under a resource consent. The disposal of drilling wastes by this method is common in the region. Drill cuttings and muds, which may include residual frack fluids, may also be discharged to land. Drilling liquids are often recycled by the industry and are not discharged.

**Question 5**
What depths are each of the known water aquifers in the Taranaki region

Groundwater use for domestic purposes in the region is predominantly from wells that are within 20 metres of the surface and access water from the volcanic and marine terrace aquifers. Some deeper bores tap aquifers in the Whenuakura/Matemateonga formations at depths up to 450 metres. These are generally located on the South Taranaki coastal area (i.e. between Hawera and Waitotara). Natural saltwater levels increase in groundwater aquifers with depth and below about 600 metres are saline and not suitable for use.
**Question 6**
Has there ever been any leakage of fracking fluid or other drilling fluid into Taranaki aquifers? If so, where and how much and what was done about it?

Injection wells are cased through aquifers so there can be no discharges of fracking fluids to them. There is no known leakage of frack fluids to aquifers or to the surface water in the region.

Yours faithfully
B G Chamberlain
Chief Executive

per: AD McLay
Director-Resource Management