

From: Lawrie Lyons, Environics
To: [fracking inquiry](#)
Subject: Fracking Submission by Lawrence Lyons (Darwin)
Date: Sunday, 5 March 2017 10:04:14 AM

To whom it may concern,

Last week I was aboard a Virgin Airlines aircraft from Darwin to Brisbane and happen to notice that gentleman beside me had a bag with the letters QGC marked on it.

I know that QGC Pty Limited was part of the international BG Group before BG was acquired by Royal Dutch Shell in 2016.

I inquired with this man if he had worked for QGC because I was interested to know about people I had worked with at the Caltex Lytton refinery that had left and gone to QGC many years ago. He told me that he had worked for the company and today was working on the INPEX project in relation to the major problems associated with the corrosion of steel pipes that had been used in that project.

The inference being that the steel purchased from overseas was of inferior quality and the impacts of this resulted in unplanned rectification works that was keeping him employed.

As we flew over the region between Miles and Toowoomba he pointed out the window of the jet and said, "You see all those orange flames down there dotted across the land?"

I replied "Yes" and he told me they were the ground flares on a system of rigs numbered in the thousands.

He also said that in the coming decades up would amount to 40,000 coal seam gas wells largely to service the energy needs of Asia and later I researched this and confirmed what he was saying.

I told him I had a special interest in the Chinchilla / Tara area because my father is one of the so called 'Blockies' as the gas companies call them.

People that have retired in rural Australia that have purchased 30 or more acres of secluded land well away from towns and the city.

At night when I have visited my father you can hear the rigs working miles away and across the landscape are pipes, and at various places large dams of water from the wells that the companies endeavour to process in order to remove pollutants including salt.

Some years ago I visited a gas expo at Dalby and meet with a representative from the Arrow corporation who told me that they had managed to get the salt levels to below the require threshold limits that allowed it to used for animal consumption. I asked him if the farmers were buying his water and he sadly informed me that none of the farmers in the region were willing to allow their cattle to consume this water presumably in relation to the making of lick blocks. The water was simply of no use to anyone, cattle would not drink it, and nothing can be grown from it. The best one can do is to allow it to evaporate into the atmosphere and then to treat the residual pollutants in solid form.

Years ago I was also aware of the early days when the Christmas Trees of the topside of an installed pipe that were unfenced about Tara and Chinchilla. The locals, the 'Blockies' would visit the sites with basic methane gas detectors measuring the leakage from the trees and also from the ground itself away from the vertical pipes. There are many You Tube videos of these locals measuring the fugitive methane gas.

It is impossible to prevent leakage despite how much packing clay one puts around a pipe because the earth is porous and the process of fracking involves pressurising the underground gas pockets to force the methane up the pipes into the tree and to the distributing network of pipes, compressors, ground flares, and draw points. As an environmental engineer I found that the simplest means to demonstrate that leakage to the earth was occurring could be done by laying builder's plastic sheeting down on the ground and at a few places insert plastic electrical conduct pipes that were initially blocked. Then later to return and unblock the conduit and measure the methane within. If you doubt this method, 'try it' and you see that preventing methane gas percolating in minute through the earth either up the pipe on the outside or at some distance to the pipe is occurring.

Many people point out their concerns in relation to water. In the late 1980s I was an environmental health officer at Mitchell which is a shire about 250 kilometres long by 500 kilometres wide. One of my jobs was to issue water bore permits. A farmer would come in for an interview and tell me his requirements to water his stock or irrigate his land and we would sit down with pen and paper to work out the minimum requirements that meet his needs within realistic objectives. In many cases a permit would be issued and the farmer would put in a bore. Once in awhile a farmer would return to say the bore water was too salty and that he had to apply for another permit and go to another part of his property in search of good water.

The obvious concern in relation to pressurising to move methane to the surface from deep within is that everything is inter-connected. You can not just hope that nothing will change. You can estimate the impacts and you may be right, however there are no absolutes because the deep earth and the porosity of the different soils, grouped rock, coal seams, and hard rock makes for a very complex system that is difficult to model.

The key element to the debate about fracking is the effect of using pressure to move the gas upwards into the pipe where the pumps can push it at higher pressure up into the tree. If it was just a matter of straws drawing over time at very low pressure without the use of 'fracking' the concern for the water would be significantly reduced. However, the movement of gas as quick as possible to the consumer is the objective of those wishing to make significant financial gain from the enterprise. Regrettably those seeking to make those profits have in all honest little regard for the local people because ultimately at the end of the day it isn't their backyard they are playing in is it?

The world from an economic perspective is in bad shape and profits from gas is an enormous motivator for companies to engage scientists with views that support 'fracking'.

Before concluding on my humble observations and conversations with others in the industry there is one more very important point to be made and that is the impacts of 'benzene' along with other compounds that are cancer causing. Benzene can pass from mother to fetus through the placenta and increases the risk for miscarriages, low birth weight infants and childhood cancers. It is a known fact that benzene accompanies methane in low concentrations. There is a large country town at the edge of the coal seam gas fields of south east Queensland called Dalby. If one is serious about investigating the impacts of fracking then you will investigate the statistics of miscarriages, low birth weight infants, and childhood cancers for this town and its surrounds because I am confident you will identified a change in those statistics since the introduction of 'fracking'.

Sincerely,
Environics

Lawrence Lyons
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