Submission No 831

INQUIRY INTO COAL SEAM GAS

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SUBMISSION TO COAL SEAM GAS ENQUIRY – ALTERNATIVE CHEMICALS

The debate on coal seam gas (CSG) extraction in Australia seems to have focused on processes that use a conventional (and rather toxic) mix of extraction chemicals. Companies claim confidentiality in the mix of chemicals used, yet it is known that they include:

- formaldehyde
- ammonium chloride
- acetic anhydride
- methanol
- hydrochloric acid
- ethylene glycol
- formamide
- xylene
- toluene
- tetramethylammonium chloride

Several of these substances were first used by Halliburton, who pioneered fracking in 1947. This was at a time when there was far less interest or concern in the chemicals we spread around. Their continued use can be likened to, say, a proposal today to use DDT to control insect pests.

None of these substances is something we would willingly countenance in our drinking or irrigation water, yet that is a likely consequence of their use. Indeed, aquifers have already been contaminated in Australia by fracking.

Benign alternatives have been proposed and tested. Examples include water-induced cavitation (no additives are used), and liquid propane (derived from CSG). The latter is said to improve yields by 30% over conventional extraction, and does not require water – a distinct advantage in Australia.

There may be reasons why these are unsuitable, but there is a simple prescription for law makers to follow: all fracking must be done by an approved process that is shown to be benign. That is, use of the above chemicals for fracking should be banned (as indeed may be the case at present on one reading of environmental laws). It cannot be beyond the wit or resources of the large companies using fracking to mount brief research projects to test benign alternatives, and it is lazy of them to not do so.

There is also no good reason to require companies to keep confidential the chemicals used. Food manufacturers are required to disclose all ingredients – there is no reason why anyone proposing to pump substances into water tables should not do the same. Intellectual property can be protected through the composition of the fracking mixture, analogously as for food manufacture.

There is, then, a relatively simple process available that would allow CSG extraction to proceed. It need not be expensive, but it should be transparent. Too much public faith has already been destroyed by secrecy and there is much to benefit the companies involved by adopting a less defensive and more open attitude. This must, however, be accompanied by the abandonment of legacy chemicals, which belong in a different era.