

From: Marcus Rumpus

To: [REDACTED]

Dear Panel

My name is Marcus F. Rumpus
[REDACTED]

I am a retired (for 5 years) Obstetrician/Gynaecologist. I have lived in the Swan Valley for 35 years on an 11 acre block. This has gradually morphed from dried and table grapes to olives, table grapes, melon family plants, and general market garden products.

I am licensed to take water. Of note my original bore was put in some 33 years ago, I am an English farmer's son, so had no foreknowledge of the minutiae of bores. That bore failed as saline water from a higher aquifer leaked into my strata. On seeking licence for a new deeper bore I was advised that though my bore had been overseen and passed as of satisfactory construction by the water authority it was not, by current standards or those of its era, as suitable for purpose. I therefore have little regard for government ability to oversee the like of wells etc.. I am also very aware from this experience, of losing a years crop, of the value of clean water, and the importance of care of our pastoral land.

My greatest concerns with regard to fracking are with regard to loss of volume of water, the quality of that remaining water and land degradation. Notably to the effects of the process of fracking itself and the risks of chemical residues being uncontrolled or even controlled as per past performance of the oil companies. To the despoliation of land by the infrastructure of multiple wells and the associated service roads, pipe lines etc. making a nonsense of the ability to continue agricultural production particularly of broad acre farming. Far into the distance for recovery, even if not actually ruined for ever!

IMPACTS ON WATER

A typical single frack for typical horizontal fracking wells will consume between 177000 (enough for seven Olympic swimming pools) to 5.1 million gallons of water. Wells may be fracked multiple times. (www.Scientific American. Bobby Magill July 1 2015). Some 70% of this water is not recovered to the surface, it and its chemicals are left to migrate to aquifers. A frack may involve various amounts of multiple chemicals. Corrosion inhibitors, surfactants, acids, pH adjusters, scale inhibitors, breakers, potassium chlorides, oxygen scavengers. These additives will make up to 0.5 to 2 per cent of total fluid but per frack may mean 80 to 330 tons of chemical. Many of these are recognised carcinogens (eg toluene, benzene, xylene, diesel and other volatile organic compounds) As above 70% of these chemicals are left below surface with potential for migration to aquifers. ([https://geology.com](https://geology.com.energy-hydraulic) .energy-hydraulic. National Toxics Network. April 2013. http://www.ntn.org.au/wp/wp-content/uploads/2013/04UCgas_report-April-2013.pdf)

There may be simple chemicals found in the home, however if you add toilet cleaning fluid to bleach in your toilet you will produce chlorine gas as per 1st World War! Chemicals in combinations may well change the innocence of each whether in the home or field. To glibly suggest, as some who should know better have done, that the chemicals used in fracking are like those found in the home/kitchen as if that covered them all is somewhat disingenuous.

History suggests a rate of well failures. This will of course compound the contamination and have a more immediate effect. Various studies in the USA where the history of fracking is greater in term than in Australia suggest a well failure rate of 6% in the first year and over time, 20 years or so, that 75% demonstrate integrity failure. (http://www.slb.com/resources/publications/industry_articles/oil_field_review/2003)

Well failure may of course occur long after the mining company has left, has itself gone into liquidation, gone overseas or some other failure so they are not available for compensation. This means that the local population, or if they have the funds and are prepared to use them, government agencies have to see through the salvage process. The mining company having long ago disappeared with its transient profit that gave little to the locality.

LAND DEGRADATION.

Water quality is of utmost importance to land use. As above.

The physical presence of the roads, the pipe lines, the well heads, damage to fencing, ingress of non native plants/weeds all have a cumulative effect on the land in the short term and long term. Witness the pictures of the Condamine State Forest and adjacent farm lands. Broad acre farming is impossible if paddocks are reduced to small area enclaves. As is the practicality of confining stock to small fenced paddocks.

Lawyers representing farmers in a joint action in Queensland suggest that poor biosecurity has led to weed infestation such that paddocks have had to be quarantined because of noxious weed danger to stock. There is even consideration that this weed invasion may prove in the long term to be one of the worst legacies of CSG mining.

This on top of soil and water contamination.

Well density, even in the face of horizontal drills from one well head, still means the same rate for chemical concentration underground as for multiplied single heads. The number of well heads in fractionation is far in excess of well head numbers in conventional wells. (see "A Warning from Queensland: http://www.csqfreenorthwest.org.au/qlds_story)

REHABILITATION

It may be many years for rehabilitation of the land. An American study, 2015, shows that 20 to 50 years is still not long enough for recovery back to premining status. (Allred, B. W. et al 2015 Science, 348(6233), 401-402 Williams et al as ecological experts suggest that the surface footprint of mining activities is a serious threat to bio diversity fragmentation through direct land clearing of bush land, fragmentation and loss of native vegetation, spread of invasive species and greater fire risk. Australian Council of Environmental Deans and Directors by John Williams Scientific Services Pty Ltd, Canberra

HEALTH ISSUES.

Researchers from JOHN HOPKINS Bloomberg School of Public Health report increased levels of premature birth and high risk pregnancy, cardiology admissions, respiratory admission rates all associated to radius of distance from a well head.

As a hands on doctor, being an Obstetrician/Gynaecologist, I am really a super plumber.

I am conscious that my epidemiological medical colleagues have noted, on studying populations from close to more distant radius from well heads, concern reference detrimental effects on health in general. Not only immediate as above but in more insidious ways, notably with regard to stress and mental disease. Having one's local world turned upside down in the face of industrial muscle is stressful. Facing the loss of land value, the turmoil of the invasive nature of the general infrastructure takes its toll.

SUMMARY

In summary I believe that the evidence for damage to the land in general is so overwhelming that like other states and countries WESTERN AUSTRALIA should BAN unconventional gas and oil extraction for ever.

Should fracking be countenanced then the economic return to the population of WESTERN AUSTRALIA needs to be publicly identified.

Should fracking be countenanced then a robust third party should estimate the income likely to be achieved by the company.

Only after these figures are known, and public, should any licence be given for extraction. In other words there needs to be demonstration that the state will benefit both in the long and short term.

Should fracking be countenanced then rigorous long term secure "Insurance" in the form of long term liability bonds for damages into the future be in place, funded by the companies. Remember the Asbestosis debacle, John Hardie trying to run offshore to avoid liability, remember the airmen poisoned by cleansing RAAF fighters fuel tanks and all the other SHE 'LL BE RIGHT ASSURANCES GIVEN IN THE PAST.

IF the mining companies are secure in their certainty that no/minimal problems will occur in the short or long

term future they should have no difficulty in agreeing to stringent long term bond . Such bond being secure against future mining company liquidation, off shore re location and the like.

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Sent from my iPad