

Submission to:
WA Scientific Inquiry into Hydraulic Fracture Stimulation in WA 2017-18

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I am making this submission as a small-holding farmer who has lived in the midst of larger farming holdings for over 30 years. I submit this on behalf of myself, my husband Peter, and daughter Bernadine, as we all intend to remain here for the rest of our lives.

Therefore I have numerous concerns on a number of levels with the prospect of unconventional slickwater fracking in our district, as well as the whole of the Midwest and even beyond in Australia because of the known consequences outlined in hundreds of peer reviewed papers, and physically lived by so many families who have suffered in this process.

We in WA are beholden to an early 1900 Act (Mining Act 1904) that was drafted before oil and gas became players in the mining field. Landholders have no rights to prevent gas companies that have a Permit over their properties, from entering let alone stopping them, from carrying out numerous destructive practices on their properties with no redress for damage caused whilst being deprived of the opportunity to make money off their own land and being left with a damage bill that can't be insured against and a property that is so devalued they can't sell it. There is no redress to the landholder for any damage caused by the oil and gas companies as the onus is on the land holder to prove the companies have caused the problem which can be very complex, rather than the company having to disprove their actions were at fault.

Landholders cannot deny companies access to their land under the prevailing Act as it only takes the company to get a Court Order and they have a total legal right to access.

As a community member in our small rural area, I don't want to see the possible hundreds/thousands of wells projected across our land space as they are accompanied with a gridwork of roads connecting them across what is at present one of the most productive food growing areas in our State. These roads and towers break up the farmland on which they occur, totally disrupting farming practices and rendering the land unproductive for all time – as no known land used for fracking has been returned to a usable state once the wells are drained.

Road grids over the land also disrupt the water/waterflow. The proliferation of projected extra hundreds of truck movements a day in our small rural area which already carries grain, fertiliser, lime, sands and farm machinery would lead to a further degradation of our roads to repair them at a cost to us as rate payers.

The extra traffic activity and continuous work and lighting will add much stress to our small rural community – with no benefits.

FARMING NOT FRACKING

Oil and gas companies continually tout jobs and income to Australia as the main advantage for proceeding with this destructive practice along with their claim of natural gas being a cleaner alternative to coal, and a fuel that produces less greenhouse gas. All of these points have been proven wrong but like much of the propaganda put out to the public by such spokespeople as Stedman Ellis, they appear as reasonable to those who look no deeper.

The numbers of jobs the companies predict have been shown to have been exaggerated manyfold. Taken on a local level, they will be almost non-existent as those brought in are company workers, skilled in the process they are to be involved in. It has been shown for every 10 jobs created, 18 farm jobs will be lost.

Income to Australia is minimal as these companies are all based overseas so 80% of profits go overseas and concessions and rebates mean that little is ever going to be payable by the Companies to the Government. Locally, money will not flow to local business as large multinational companies buy their needs in bulk, not from small local companies.

Any handouts given locally for grants from the companies to buy favours will never match the money local ratepayers will have to pay out to fix roads. The degradation and loss of roadside and natural vegetation that will occur and the wasteland of once productive farmland that will be left which cannot be rehabilitated is a horrific prospect.

There are two reasons for this – as the Petroleum Act does not require a bond prior to commencing work as the Mining Act does, (and even if it did, it would probably be insufficient at any rate), and as these wells are only really productive for the first couple of years of their lives before being sold down in value to a number of smaller companies who in the end are more likely to go bankrupt and leave the desolation, degradation and ongoing devastation behind them for the local community to deal with: Fractured country – fractured communities.

Colin Barnett recently stated on an interview that 90% of Australia's natural gas is found on the Northwest Shelf and he is suggesting a pipeline to convey it elsewhere; while Forest plans to ship it to the East Coast! If this is the case, why are we risking our productive farm areas, our health and our precious and irreplaceable diminishing water source on a risky venture that is obviously not needed, at a time when many forms of clean, non polluting renewable energy exist that even some major oil and gas companies are now investing in?

We have major wind farms in our area and at least two of our large farmers have offered their land to host non destructive solar farms that do not leave land devastated and through which stock can still roam – providing them with the income they planned when they obtained the farms. The only compensation they get, if their farms are seconded by gas companies is a one-off value for land acre, when companies move in. This is a very small amount when taken over a larger acreage valuation with no ongoing return on the land - land that cannot be used whilst being drilled, and land that will be bare after so-called rehabilitation.

Our local town Moora, has one remaining water source in the Kolburn borefield above the Dandaragan Deep which would be bored through if Whitebark, formerly Transerv, were allowed to go ahead with their plan to frack that area. When discussing their plans previously, Mr Kernahan from Transerv was unaware that Moora's only water source was even there.

The whole of what is projected to be "WA's next food bowl" – the Dinner Hill area – has permits over it as well. Any mistake and the whole aquifer is contaminated and you can't uncontaminate an aquifer!! Clive Cameron has admitted "there is a risk but with intervention, they can mitigate it". How ??? We are told there are all sorts of monitoring but that will only tell you when things go wrong. By then it is too late!

Water is our most precious and irreplaceable asset. It undermines all we do – including the fracking industry that uses millions of litres to frack each well, or if it's in the way where they want to drill, dewater the area, further wasting more precious water. (average 25M litres per frack and fracked several times)

Can't Eat coal – can't drink gas.

Over recent times according to the Water Board, rainfall has fallen by 20% and runoff by 16%. In our area rainfall was always "a given". Dandaragan was considered one of the safest areas in the State but over the last decade or so, the southern rain bands now only reach as far as Lancelin and the Northern ones sweep inland above Jurien, leaving a large percentage of our Shire between these bands with only what falls on the edges of each for rainfall and recharge in this area designated as our "next food bowl". It would be a criminal act to even risk diminishing what we already have as it lessens.

Where we live on the edge of the Jurien groundwater area, just below the Dinner Hill area, as smaller farmers – pigs and sheep – we previously relied on a small surficial catchment area in which our bore lies.

This had been a reliable water source over 160plus years with 8 differing water gathering sources in a very tiny area from small surface and large soaks, bores with windmills and even an original hand dug sleeper-lined well. Unfortunately, about 10 years ago after years of regular fall and total replenishment with rainfall and underground stream movement, we then had no refill for 7 years till it was totally dry as it remains now! This is due to the large potato farm on the high sandhill next door that has sucked all the surface water out of the soil as it used the Dandaragan spring for irrigating its crop with overground sprinklers. Other blocks nearby have also lost their water supply. As it is so easy to destroy a small water source and suck the moisture out of the land causing large trees to die and vegetation to suffer, why would we risk such a precious resource on a larger scale?

It has been predicted that future wars will be fought over water, not gas - we have a clean replacement for that!

In California which is already suffering from a shortage of water in many areas due to drought conditions, scientists are now finding that several important aquifers have been contaminated by fracking activities.

According to documents obtained by the Center for Biological Diversity, the California State Water Resources Board found that at least nine of the 11 hydraulic fracturing, or fracking, wastewater injection sites that were shut down in July upon suspicion of contamination, were in fact riddled with toxic fluids used to unleash energy reserves deep underground. The aquifers, protected by state law and the Federal Safe Water Drinking Act, supply quality water in a state currently suffering unprecedented drought.

The documents also show that the Central Valley Water Board found high levels of toxic chemicals - including arsenic, thallium, and nitrates - in water-supply wells near the wastewater-disposal sites.

Arsenic is a carcinogen that weakens the immune system, and thallium is a common component in rat poison. Fracking has been linked to groundwater contamination, an uptick in earthquakes, exacerbation of drought conditions and a host of health concerns for humans and the local environment.

The Center for Biological Diversity noted that the contamination of water sources could be much worse in another regard, as flowback water that comes from oil wells in the state can contain levels of benzene, toluene, and other toxic chemicals that are hundreds of times higher than legally allowed. Flowback fluid is then released back into wastewater storage wells. Chemicals like benzene can take years to eventually find their way to water sources.

"Clean water is one of California's most crucial resources, and these documents make it clear that state regulators have utterly failed to protect our water from oil industry pollution," said Hollin Kretzmann, an attorney for the Center for Biological Diversity.

"Much more testing is needed to gauge the full extent of water pollution and the threat to public health. But Governor [Jerry] Brown should move quickly to halt fracking to ward off a surge in oil industry wastewater that California simply isn't prepared to dispose of safely."

<https://www.rt.com/usa/194620-california-aquifers-fracking-contamination/>

http://www.biologicaldiversity.org/news/press_releases/2014/fracking-10-06-2014.html

Why use such a precious commodity to fill it full of poison, to inject underground, and then poison that too; then risk it seeping upward to contaminate aquifers. Or on the surface where it can be accidentally spilled or leached out of plastic-lined dams over time or overflow onto the land in a heavy rainfall event which often happens unexpectedly. We have locally on a number of occasions over the years experienced floods.

All these things we are assured won't happen, but around the world they have done so, many times, most likely far more than has ever been disclosed. People who sign up to allow companies on their land also sign a non-disclosure agreement so if things go wrong they can't say anything or they will be sued.

You can put every practice to be followed on paper and continue it in practice, but there is still no guarantee that nothing will go wrong - any human error, accident, failure of mechanisms or materials or just nature

taking its course. Remember Chernobyl, 3 mile Island, Deep Water Horizon, Japan's Nuclear reactor – so many others - all those unplanned factors? Why risk our land and water to provide profits to international corporations with no benefit to our economy or jobs to retrieve something that can easily be replaced by clean, non polluting energy?

With so many other negatives against fracking the propensity to ruin the health of those in surrounding areas is very high as shown by problems in so many other areas that have occurred since fracking commenced there. There is so much documented evidence of this. Why would we risk people's health from the emissions, from this unnecessary industry as well as the pollution of crops and the health of farm animals and therefore food, to those outside the area who believe somehow it won't ever affect them? The ongoing unnecessary cost to our health system would eat into any profits Governments would gain

The unnecessary addition to climate change when there are so many clean sources coming on line is something we can't afford for future generations.

Methane gas, fugitive emissions and flaring are some thing that can't be contained and once wells are fracked and left to decay as they are no longer commercially viable, leftover methane will continually and gradually leach up from the underground fracks through the soil, into aquifers or up through the surface as gas always rises once freed from the process the wells rely on to extract it. This process is far more risky than coal seam gas despite the fracking companies' propaganda that it has worked safely in Australia since 1988. They are speaking untruths as only vertical fracking has been practised since then. Horizontal fracking only came into being in the late 90s and Dr Anthony Ingraffea, one of the pioneers of original fracking, now speaks against it!

<https://www.ecowatch.com/meet-anthony-ingraffea-from-industry-insider-to-implacable-fracking-op-1881680606.html>

Plus numerous Youtube appearances.

Coal seam gas is extracted on the East Coast but not locally.

We recently had someone running for Council in our area who continually stated he was against CSG. As the majority of people in our community are against fracking, many of our councillors were voted in by saying they were anti-fracking. We had the largest local turnout to vote because of this issue. We challenged the chap about CSG. As he was actually in favour of fracking locally but used a half truth to campaign on just as fracking companies do in their propaganda, he lost.

Unconventional slickwater fracking in tight sands has not been practiced in Australia so far.

Methane is a hazard to the health of the whole planet as it is 30 times more potent as a greenhouse gas than carbon dioxide over 100 years; over 90 years it is 86 times more potent. The fact that it will continue to escape once wells have been horizontally fracked was recently borne out by a Govt Department researching for somewhere to safely sequester carbon by injecting it underground and then sealing it in. All future fracking sites were taken into account as a means to safely dispose of the CO₂, including Warro.

The conclusion was that no future wells that had been horizontally fracked would be suitable as the CO₂ would leak out. The only future depleted well that they considered would be suitable would be the conventional, vertical, Dongara gasfield wells. From that conclusion it is easy to extrapolate that if CO₂ would leak back to the surface from horizontally fracked wells it is feasible to assume underground methane within those chambers will eventually find its way to the surface as it has done in other cases as shown by metering and escape through water bubbles and methane collecting dangerously in people's houses.

Extract from CO₂ Geosequestration potential in the Northern Perth Basin, Western Australia:

The highest uncertainty in containment security for the saline aquifer storage sites is 'up fault leakage' owing to a lack of high-quality seismic data needed to adequately characterise the architecture of faults and traps.

Additional containment risk is related to uncertainty in the CO2 migration direction after injection owing to poorly constrained structural geometry of the base-seal derived from seismic data with poorly constrained depth conversion. The highest uncertainty in containment security related to the depleted gas field storage is fault reactivation and well leakage.

https://www.researchgate.net/publication/254218167_CO2_geosequestration_potential_in_the_Northern_Perth_Basin_Western_Australia

SUMMARY

- Farming not fracking – fracking causes degradation, desolation and destruction of important farmland.
- We cannot drink gas – water is vital to all living things
- Water, once contaminated, is not able to be used for drinking purposes
- We are already struggling to have sufficient water for farming purposes in this food bowl area.
- Fracking and mining practices cause contamination and health issues
- Modern fracking has developed into a very dangerous practice
- Gas, including methane, leaks, no matter what – no rules, regulations, best practice can stop leaks and spills.

OUR RECOMMENDATIONS

We were asked “What safeguards do we want if it goes ahead – why should it? There is no positive reason in its favour - but so many negative ones! We cannot even insure against impact if mining was to proceed.

There are good reasons why this is buried so deep underground and no reason to release it when we have so many good alternatives to save the planet for future generations.

If the continuation of life on earth is considered scientifically inconsiderable in this instance, and the premise is that its emotional, then my whole submission can be considered as emotional as that is my whole aim.