THE SCIENTIFIC INQUIRY INTO HYDRAULIC FRACTURING

IN THE NORTHERN TERRITORY



Aloha Therapeutic Massage – Hearing Transcript

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Speaker: Jason Trevers

Jason Trevers:

I've seen what happens to concrete around here when it gets in water, local water. It just corrodes and crumbles, steel is impermanent. At the Dingo, well they had three wells bored in the '80s, one of them has already collapsed. The pressure underneath and coming up from the well heads, they're at 1,600 pounds per square inch. I'm thinking what happens when a well collapses with that much pressure? When you pack a well with steel and concrete, how permanent is that? There's time parameters, heaps of pressure, there's lots of chemical reactions out here at the bureau of state they used to have diesel coming through the pipelines there. Those pipelines carrying the diesel that was being put in the cars corroded from the inside out. Diesel is a natural rust inhibitor, so there's other chemicals, quite aggressive, in the local area.

When you're looking at the lines running horizontally, they run for many, many kilometres. Vast distances that to the best of my knowledge aren't completely mapped. There can be fault lines and fractures where methane, unplated pressures, and they're looking at 10,000 pounds per square inch of the fracture pressure can actually open up new fault lines and migration can happen up to the aquifers or underneath. The water levels can actually drop deeper without knowledge, so the distance of shale between the actual fracking pipe and the actual water level is, to my knowledge, unknown. The multi-wells, to my knowledge, are pretty much all experimental, they haven't been used in great deal before their whole lifetime. A single shaft is fracked many more times and exposed to a lot more pressure from a lot more chemicals.

The chemicals themselves, they're often being regarded as just 0.5% and then I've been trying to get lists of different chemicals and apparently they're supposed to be publicly available but the departments of Mines and Energy have no idea what chemical's actually used in the fracking when I've inquired, they've actually sent me back to the companies and said, "Well, you have to ask them." Then I get these dummy sheets saying that they use different sorts of gums and household products, but actually what they use in total and all the harmful effects are not actually disclosed. There really needs to be transparency so you can actually see what's there and the toxicity and the health implications for all of the chemicals that they use.

HYDRAULIC FRACTURING

IN THE NORTHERN TERRITORY



BTEX chemicals are banned in Northern Territory and diesel is a common chemical that's being used in fracking, it's relatively cheap and does what they want it to do and they can store vast amounts of diesel on premises for trucks and different things, but it's very hard to regulate if they want to put the diesel into the fracking fluid and if they bring it up and you test in the containment points that hey, there's BTEX chemicals, they can say, "Hey, BTEX chemicals are in the ground." Of course there's naturally occurring BTEX chemicals all through the ground, so even though the BTEX chemicals are banned, there's a very good chance that they're going to end up in the containment ponds along with a whole list of other different chemicals, like cyanide, mercury, lead, uranium, all these unknowns deep under the surface.

It's often described as only 0.5%, but when you actually look at the total volumes, say I'm a 20 stage fracker with 40 megaliters, you're looking at using 200,000 litres of chemicals for one well and one frack. If that well is fracked 10 times, there's a potential for 2 million litres of water. Knowing you're looking at tens of thousands of wells, the figures of pure chemicals alone in the landscape is astronomical ... and yeah, often up to 50%, so that's just a massive, massive problem. How do you treat that amount of water with this chemical cocktails where under pressure and heat you don't know what sort of chemical compounds can be produced, what you've got to betreating for. I'm not certain that there's enough technology available to actually test for all the chemicals that are potentially there, let alone treat them all.

It would also be really good to find out which chemicals are water soluble.

This is ... those two you've probably heard all before. The air and dust pollution is also a concern, but rain contamination is something that I've also been aware of. Over in Europe there has been large documentations of what happened when on the west of Europe were releasing all the chemicals from their factories but then we had acid rain on the east of Europe. In 2007, here in Alice Springs, we had a big rainstorm after a big dry period. Normally after a big rain you see the desert flourish and heaps of growth. I was out running in all different areas and started to notice the desert was really sick. The plants were dying or just struggling, big trees, little trees. At the same point in time my swimming pool turned green and it had twice the amount of chlorine that it needed to actually be healthy. Went to the pool shop there, "We don't know what's going on." All the pools in town were going green. Eventually they found out that there was phosphates. These phosphates are being picked up through the fields in Western Australia, transferring in clouds and dumped in large concentrations in Alice Springs.

Since 2007, phosphates have been in the area, picked up in dust and other sort of rains, but migration and concentration of dust and chemicals can actually fall down in rain. Yeah, it's not just a local problem. You've got silica in the dust, locally. I've watched a video of a family in Western Australia who moved in the country, to have a nice, healthy living, grow their own veggies

HYDRAULIC FRACTURING

IN THE NORTHERN TERRITORY



and during that time the fracking came in and one of the techniques they used was using the wastewater, the product water, for dust suppression all over the roads. When that concentrated and dried it actually blew all though their area. They were incredibly sick, going to the doctor's quite regularly. They even had a pretty new car and the corrosive aspect of the dust just destroyed the paintwork of the car.

I drink keg water myself and I would be very concerned about also drinking the underground water, potential contamination, but water from my roof. We've had dust migration for thousands of kilometres where big, red dust storms have blown over the east coast and even across to New Zealand. There's the Peko tailings dust in Tennant Creek, which the Department of Mines and Energy have actually admitted it was a health risk and concern to the residents of Tennant Creek.

Yeah, I really think if you had to go ahead, dust suppression should be completely banned; but reading the Northern Territory Government's ... what was it called? Guidelining Principles, they actually said that treated water can be used for dust suppression, to be put into the streams for irrigation and crop feeding. The biggest question: how do you treat that volume of water with that amount of chemicals? Potentially with the scale that has been talked about, there's potentially millions of Olympic swimming pools of water, or many times the volume greater than the Sydney Harbour. Does the technology exist to remove all these contaminants, can reverse osmosis remove everything? Example: radiation. Would it be economical for the volumes? There's a few questions that go through my mind.

This area is also prone to earthquakes. One of the biggest earthquakes in Australian recorded history is being said to be the 1988 one that happened near Tennant Creek. That earthquake actually bent our gas pipeline like an "S" going from Alice Springs up to Darwin. I read that there was also a few earthquakes around Tennant Creek earlier on this year, in January. That's not the only ones, the Amadeus Basin also has their fair share of earthquakes and sometimes quite significant on the Richter Scale, but insignificant in infrastructure damage because there is none out there at this stage, but it also opened up ... Then you get the impact of increased earthquakes being associated with fracking. So as all of a sudden shale is fracked and pushed it is easy to see how that could actually increase potential for earthquakes. When you're looking at rigid wells of concrete and steel, the integrity during earthquakes is, in my mind, not that safe.

My primary wish is that it be banned. I just can't see the potential for benefit for Alice Springs and the community. We have all the risk, who has the benefit? Maybe offshore investors. If it was to go ahead, we'd just need better baseline data. There's nothing really we can collect with, like Jimmy (Cocking) was saying, on a lot of different areas. But air, water, soil, methane emissions, cite local towns and communities. If it had to go ahead, free testing for local people who test their water or other different things, or from a farmer. Really, it shouldn't be up to us to monitor the environmental

HYDRAULIC FRACTURING

IN THE NORTHERN TERRITORY



impacts. I foresee if it was to go ahead, we'd need to put a levy or environmental monitoring.

I'm not sure of the price of these wells, but I think that they go well into the millions, so if you put a couple of percent tax on it or a 1- or \$200,000 per well for an external, non-industry, non-government agency to monitor well integrity, soil, water testing. Regulations just need to be increased. Triple lining the pits, which are quite a risk of leaking as well. You've got to have monitors underneath. It needs regulation. Santos in the Pillbura were caught having leaked uranium and arsenic into the water. Again, that had been fined \$1,500. It was just a joke that such an industry had that little pressure put on them environmentally because the cost of actually fixing the mine or doing anything just out of the gates ... These industries aren't here to look after our environment. These industries are here to make money and make shareholders happy. It's really naïve to just think that they're going to do the right thing when it's going to cost them more.

I also thought maybe 24-hour cameras to monitor the pits and things with solar connection, and that has to be made publicly available, of chemicals usage, types of chemicals and transfer of it. This industry has a culture and history for being rogue cowboys. There's been many evidences where things have not been done correctly. One of these was Java where toxic mud had been spewing out of one of the incorrectly fracked wells and hundreds of thousands of people and multiple communities being displaced. You've got the Mexico disaster, you've got many, many other ones that aren't as famous. I have had clients come through that had worked on the different sort of wells in the territory. One was at Lucy Creek where the actual well was fracked incorrectly and they had to re-pull up the casings. It's a high pressure industry, there's a lot of pressure on people. It was not done well at all.

Another industry that wasn't involved in fracking but also part of the mining industry, which just illustrates the environmental impact here, is out at Jervis where the copper mine was. They were drilling out there and just digging holes in the dirt with their drilling fluids non-lined and just letting it sit there. Then that was actually just being pumped into the ground, but they didn't know when they actually hit the water table, because the water's streaming up. So they're pumping driven fluids directly into ground table waters and, yeah, it's just not good. We've got Palm Valley, the water from there that has been fracked is coming up in salt brine water. That is getting trucked and palmed out to the Tanami and released into salt lakes out there by the truck full. Just no benefits to the local community and ... I'd like to see more taxes, well ...

Hon. Justice Rachel Pepper:

Thank you very much, Mr. Trevers. You've raised a lot of good points and I do want to open up the questions for the panel, give them the opportunity

for some questions.

Jason Trevers: Yep.

HYDRAULIC FRACTURING

IN THE NORTHERN TERRITORY



Prof. Peter McCabe: Peter McCabe from the University of Adelaide. Can you tell me a little bit

more about that example that you gave in Western Australia, I believe you said, where fracking or the dust from it had caused problems in terms of people being sick and corrosion of cars and things like that. Do you know

where that was in Western Australia or can you provide some

documentation to us?

Jason Trevers: I will ... it was actually in Queensland, I believe.

Prof. Peter McCabe: In Queensland?

Jason Trevers: Yeah. But I will try and remember to look that up. It was on a video that I did

see, so it was a documentation. I'll look that up and see if I can get that to

you.

Prof. Peter McCabe: [inaudible 00:16:39].

Hon. Justice

Rachel Pepper: Mr. Trevers, you referred to a number of different articles I think that you've

read, and some studies. Again, if you could possibly, assist the inquiry greatly if you could provide just references to those in due course to the

taskforce for the inquiry. Anyone else have some questions?

Prof. Peter McCabe: You also mentioned that at one point about using diesel for fracking fluid?

Jason Trevers: Mm-hmm (affirmative).

Prof. Peter McCabe: That's something that I'd be particularly interested in, I want a few more

details on that.

Jason Trevers: Okay.

Prof. Peter McCabe: Provide them [inaudible 00:17:16].

Hon. Justice

Rachel Pepper: Anybody else? Thank you very much for your time, Mr. Trevers.

Jason Trevers: Thank you, appreciate it.