Darwin – Lock the Gate

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Speaker: Naomi Hogan

Naomi Hogan: Hi everyone, my name is Naomi Hogan. I'm presenting on behalf of the Lock the Gate Alliance today. I'd like to start by acknowledging that we are meeting on Larrakia land, and pay my respects to their elders and the other Aboriginal and Torres Strait Islanders here today or listening at home.

My presentation today will go through the draft final report, some of our questions and comments in relation to that, and also try and shine more light on some of the recommendations we have for strengthening some of your recommendations, if that's okay.

Hon. Justice Pepper: Good, excellent.

Naomi Hogan: And firstly, I want to start by saying thank you for the thoroughness of the report, for the research that's clearly gone in. On the whole, it's a very good report with solid recommendations, and there are just some very key areas that we feel need to be improved in order for this to be something that works with the communities that are (inaudible).

One of the key points that I want to make today, and I believe you've heard it from some other presenters, is our concern that one of the key terms of reference for this panel was to put forward recommendations for no-go areas in the territory, areas where the ground and surface water interactions, the ecological areas, or the populations there would not work with a shale gas industry.

And our concerns are that, because of the nature of the industry, even in exploration, and the need to horizontally hydraulically frack, and do that dozens of times and do that across many tenements, could have an impact on the landscape in the exploration phase. And because of that, we would like to see the recommendation strengthened in order to provide some of that scientific knowledge and the studies that you have proposed in here to be brought forward before further exploration.

To paint a picture of why that is an important point, I'd like to show you, and I'm sorry about the setup today, you might have to swing your chairs around.

Hon. Justice Pepper: No, no, we have a very large screen, but you can't see right there.

Naomi Hogan: So I'd like to show you this footage here. It's from a couple, Jo and Allen, that are on Lucy Creek Station. They had PetroFrontier and then Statoil on their property, and they're talking in this interview about two wells that were drilled, one of which was the Baldwin well, which we've heard a bit about through the draft final report, and some of the problems that that well had with the internal casing.

I think this will paint you a picture of why, unlike what Santos just presented, the current laws and regulations for exploration do not protect landholders, do not protect the environment, and are not sufficient to go forward with trust and support from the community across the Northern Territory.

So yeah, this was recorded a few weeks ago. We absolutely tried to keep all of our questions very fair and balanced, and just let them talk about their experience. So I hope you find that useful.

Hon. Justice Pepper: Thank you.

Naomi Hogan: It goes for about ten minutes.

Hon. Justice Pepper: That's fine.

(10 Minute Video of Jo & Allen from Lucy Creek Station played)

Hon. Justice Pepper: Thank you.

Naomi Hogan: No worries. So I just wanted to show that Jo and Allen said that they were happy for their story of Lucy Creek Station to be told here just to help sort of bring to life some of the impacts that happened with exploration.

That story was from their interactions with just two exploration wells, so I thought it would be useful to sort of see the scale, and hear about the trucks, and talked about some of the benefits that they found from having them there, but also some of the impacts.

Hon. Justice Pepper: Which company? I might've missed that.

Naomi Hogan: So that was PetroFrontier started, and then they sold it to Statoil. Now those wells have all since been abandoned, particularly after the problem they had with the internal casing on the Baldwin well.

Some of the things that I want to pull out of there, and sorry, my presentation will jump around in terms of which chapter I'm referring, keep everyone on your toes.

But I did want to talk to land access agreements, and the need to improve those. You've made some suggestions within your report. I think it could be

further strengthened by ensuring that there is a public template that everyone can see and use that has those rights enshrined so that there's none of this confusion about who's got what on their access agreement dealing with which company. I think we need that information public, and my recommendations are going towards increasing landholders' ability to navigate the situation.

We at Lock the Gate, and our landholders that we work with right across Australia, and traditional owners, still want the right to say no, want the right to veto. Your report hasn't suggested that that is a way forward. We strongly put to you that we think it should be, because it would give people more power in this scenario to talk about where it's appropriate or otherwise to frack. However, certainly we feel that land access agreements should be made public so that landholders can check.

The other recommendation that you've made in the report, which is good but I feel that needs to be strengthened, is the point on the onus of proof. It's a very important point, and should potentially be worded stronger to the government to not say the government could consider X. Absolutely, it's critical that landholders have that legal support so that if something goes wrong, it's not them having to prove to the company that it was the company's fault.

This further comes to points that Origin raised yesterday about the monitoring data, both air quality data, emissions data, and the water quality data, both quality and quantity. They were saying that they didn't want real time data, and that instead, they felt that they could collect it and then make it neat for people so they could understand it, and then give it back to the government and put it there.

That is completely unacceptable to landholders that will be in a position where they need to argue in court that there has been a change in water quality and quantity that has impacted them. We need that data live and untouched by the gas industry. It needs to be collected independently and publicly available in real time.

We're not doing that so that we can all evaluate it and lay people can sit at home and watch that data streaming in, it's because if there was something to go wrong, you need that legal protection, and you need that data, and it cannot be tampered with by the gas industry. So I just want to make that point clearly.

I also want to go to the point that's been raised around the pads and the number of pads, and the spacing of pads. I think there are big concerns that the gas companies, through their presentations to you this week, are already pushing back on any sort of prescriptions.

The reason that that is so important is because of the fragmentation and impacts that you've addressed clearly, particularly in your land chapter on the thousands of kilometres of roads, pipelines, clearing for pads. In their initial presentations to the Inquiry, the gas industry were very clear on the

neat diagrams that they presented to you on what the gas fields would look like, and how they would be spaced far apart, and exactly how.

Now they're backtracking on that completely, and saying, "I'm sorry, we can't tell you how many pads we'll need. We can't tell you how many gas wells will fit per pad." It's all, "We've got to adapt to the situation." I don't think that that's good enough, even for exploration, because we're dealing with an industry that needs many wells across the landscape to understand their resource.

And this further comes back to the question of what is appropriate to measure before further exploration takes place. And I want to remake the point that I made at the beginning, that because of the impacts of exploration, we saw an Origin submission to you that their exploration plus appraisal process could lead up to 64 wells being required, the maximum. And that's just one company.

Now, we know from the exploration permits that have already been granted by the Northern Territory Government that there are several companies that have the rights to explore here in the Northern Territory. And we're concerned that, collectively and cumulatively over those companies and over the landscape, even exploration would have a huge impact in terms of traffic, in terms of truck movements, in terms of millions of tonnes of chemicals just required, the proppant required in terms of the millions of tonnes of sand required for those exploration wells.

Your draft final report has not yet put off limits for example the water recharge areas of the Mataranka Hot Springs and the head waters of the Katherine River. These are areas that are critically important to people, and you would've heard that through your trips. There are still a huge lack of data that you've identified in terms of the surface and groundwater interaction in some key areas.

You've heard huge concerns from people that are downstream from the surface waters of the Beetaloo Basin, people that rely on the water of Lake Woods for bird life, the cultural ceremony, for water supply. Exploration on that area, if there were to be any spills from trucks' movements, as we know and as you put in your report quite rightly, will take place if we look to the international experience.

We're concerned that all of those risks are here right now at the exploration phase. Exploration phase requires hydraulic fracturing, that is why there is a moratorium in place to get the science, collect the science, and put areas off limits that are not appropriate for hydraulic fracturing.

So our strong recommendation to the panel is that while we have an incredible panel of scientists here in the Northern Territory, which are looking at fracking, which doesn't happen very often here, once you're gone, it's just left up to the government to be able to make the scientific studies happen and everything else.

Now is the opportunity that you have to be able to continue your reports on the hydraulic fracture process, do the science that you've rightly identified in your report, and then be able to provide more advice and certainty to fracking companies and to the community on where it is or isn't appropriate to frack.

I'm just going to pass out some handouts if that's alright ...

Hon. Justice Pepper: No, please.

Naomi Hogan: ... to speak further.

Hon. Justice Pepper: No, no, absolutely.

Naomi Hogan: So the reason that I wanted to make this point here in this first slide is from Origin, and it's a presentation that they have put to you. It's just a quick point, it's around the non-technical challenges of fracking here in the Northern Territory.

And I wanted to point to the top two reasons that they've given as non-technical challenges. So one is the cost of drilling and fracture stimulation, and two is regulatory compliance costs. And I think that the regulatory compliance cost is something that I've brought up before in presentations, where there is a concern that without those regulations in place, it is in the interest of the fracking industry to minimise the amount of regulation that they have in order to keep costs down.

So again, I think it's extremely important that before they are able to go out and continue their fracking operations, it is very clear on all of the regulations being put in place, legalised, drafted through government available to them, as well as the no-go areas where those scientific studies have been completed, because the concern is that if you get companies going out there ...

For example, let's say Origin is not 64, let's say it's 40 exploration wells. Hypothetical scenario, they've done 40 exploration and appraisal wells across the Beetaloo Basin tenements. It's had a big impact, but not a significant impact as per the draft final report states. They've spent millions of dollars on all of that exploration activity, trucks, staff, you name it, chemicals, they've got all this stuff.

They haven't paid a cent in royalties to the government because they haven't made any money off production. They are at the point of production, they are ready to go, and suddenly the environmental studies come back, and there's three rare birds, and it's a water catchment for Lake Woods, and it seriously should not go ahead.

How is the government in three, four years' time when we're at that point, going to stand there to that industry that's just spent millions of dollars, put an impact across this landscape, hasn't been paid a cent in royalties, and

then says at the point where Origin is like, "Right, ready to pay. You're ready to go now" ... "Ah no, sorry, this is a no-go zone"?

I think you're putting the government in a position that is untenable for them. Now, that's just an opinion, but I wanted to provide a hypothetical to explain the way that the industry works, the way that the economics of this works, and the reality.

Chapter eight is a great chapter in talking about the sensitive areas, and talking about the incredible landscape of the Northern Territory, and talking about the lack of scientific study that has taken place. We just don't know what's out there, it's an incredible landscape. Your report rightly suggests that national parks should be off limits, and rightly suggests that there are probably so many other areas that should be protected into the future.

Without those areas being put in no-go zones, it is the opinion of the Lock the Gate Alliance that there are major concerns with exploration going forward. We strongly feel that those studies should be brought forward so that no further exploration fracking can take place before we know where those no-go zones should be.

My next point I would like to make in relation to no-go zones and fault lines, and if I could just point you to the second document that I've put on your table. This is a document that I don't believe has been given to the Inquiry yet, but it's a study, NT geological study of the Beetaloo shale. David Close is one of the authors, so I'm guessing this was done in close collaboration between the NT Government and Origin.

And I've just highlighted a section on page 94 talking about the Amungee Well. And they're talking about fault lines, and this was another area that was suggested should be a no-go zone if there were faults. And they just make the comment here, "Stage placement across approximately 1000 metre lateral section was dictated by Origin's interpretation of reservoir completion and quality, and the location of faults from various data sources. A number of factors, including conservative buffers around faults, resulted in an effective stimulative lateral length of less than 700 metres."

I make this point to come back to well spacing, and how much we can know about the number of pads that would be required to extract shale here in the Northern Territory. Just in this one example of the Amungee Well, instead of being able to drill out for many kilometres, they were actually constrained by a fault that they found there at the Amungee Well, and could only drill for less than 700 metres.

So my concern is that we cannot trust the industry at this point, with their nice diagrams, that they go out for kilometres each way, and that there will be minimal surface impacts, which brings my point back to the fact that we need these no-go zones in place, and we need to understand the landscapes on which they'll be impacting before they go and do more exploratory fracking, because we do know that it's likely that they will need a higher pad density than what they have described to the panel to date.

I also want to go back to page one of this document and talk about the social impact report, so the social impact assessment that the panel had undertaken, and I'm glad that you were able to redo the consultation after the first one, and I thank the panel for that.

Unfortunately some feedback we got from traditional owners that were taking place in the second round of consultation was that it was a similar thing that had happened, that it was another poor consultation without proper language explanations, and that they felt that their voices and their opinions were not being reflected in the reports that were then put up on the website as part of that social impact assessment.

So in fairness to people in our network that were experiencing that, I wanted to raise that with the panel, that they felt that their strong sentiments of wanting their community to be in a no-go zone, or wanting a broader ban in their area, or a ban on fracking, were not reflected in that document. And in fact, what we saw from that social impact assessment and certainly in the summary document, it finishes with eleven key recommendations.

And to people reading that, it feels like it's an eleven point plan for the industry on how to gain social licence. That was potentially exactly what it was planned to do, but for the people that were participating, they felt that they were being part of multiple opportunities to have their say, and have to say it again, and again, and instead of being heard and reflected in that report, it was instead pushed back to industry.

Now, I just want to note that some of those points in the plan of what industry needs to do, industry have been telling people and the government they've been doing for a long time. And that's why I want to raise the front of this Origin report to you, and I've highlighted the section there.

So this was in March 2017: "Origin has engaged extensively with pastoralists, local communities, and traditional owners to build direct relationships and partnerships that encourage acceptance of the gas industry's ability to coexist and deliver mutual benefits to businesses and communities of the Barkley region and the Northern Territory."

I just want to raise this because we're hearing time and time again from those communities that are out there that that has not been the case, that they have not heard from Origin, that there is no social licence, that they have not been happy with any adequate representation of what fracking means, of where it will happen, of whose country it will be, through whose song line will be impacted.

Yet Origin have been telling the government for many, many months and years that they're doing everything right, "Don't worry, trust us, the community loves us out there, Barkley Region thinks Origin's tops."

So I just wanted to be able to reflect that clearly to you because I'm concerned that nothing will change, and that the industry will continue their

business as usual approach with or without the recommendations that tell them to do things that they've been saying they've been doing already, and we just heard from Santos, don't really want to go out and more widely consult, and would rather just talk to the key people on that actual pad site instead of dealing with the cultural connections of a region to be impacted by potentially hundreds and then thousands of shale gas wells if full production would commence.

Just a few more points on recommendations. I just wanted to make one other point on social licence that was touched on in the report, but I think could be done more thoroughly. And there's one section in the social licence area that talks to the Gloucester experience in New South Wales, and that the communities were so frazzled and upset by the industry that they lost social licence, and AGL were forced to leave Gloucester.

And I just want to make the point that AGL lost social licence in Gloucester when they took untreated flowback frack fluid and illegally dumped it in the sewers of Newcastle, and that was reported in the media, and the court action and fines ensued.

I want to make the point that the industry hasn't lost social licence because people have been sitting around gossiping about potential things that could go wrong, they lost social licence because the industry has been doing the wrong thing. And that has happened in many examples around the world, and that is why we are here today.

To be clear on the recommendations that need bringing forward, I just want to very clearly state that recommendation 7.1 on the Water Act being amended, that's something the government's been talking about for years, and should take place before further exploration. Again, I feel at the moment you've said before production, I believe it's drafted in the report, bring it forward, put certainty in place, let us know how much water they're using.

Again, recommendation 7.4 on the strategic regional environmental baseline assessment, end the ground water model, bring it forward before they do any further fracking.

And I would also like to comment that it should be held in that data as independent as humanly possibly from the industry. I know that at the moment Santos and Origin are talking about the baseline assessments that they're doing, but I'm concerned that they are holding that data and that it won't be coming out independently and clearly.

The other point is on human health risk assessments. Again, I feel that that more information should be collected and assessed before further exploration takes place because of the risks and impacts that just dozens of wells can have in a community.

The design and implementation of a full cost recovery system for fracking regulations should happen before exploration as well. Concerned that

leaving that off leaves it in the hands of the government and the industry to navigate and negotiate without the power that comes from you being here, running this Inquiry, and putting forth strong recommendations so that we can see the written evidence that this work will be done before further fracking and money is spent over many years and this recommendation is supposed to come into place.

I think that's the same for the fit and proper test. As we've seen, you can have well casing problems from one exploratory frack. We need to know that the fit and proper test is put on companies before they're out there fracking through ground water and interfering with people's properties or their cultural spaces.

And again, I'd like to see recommendation 15.1 strengthened, and no-go zones implemented before further exploration.

Another point, and we are very grateful for the recommendation to the panel to disclose all the chemicals that fracking companies would use, but we would like to see that go further to prohibit the production of chemicals or chemical mixes that are harmful to human health. If they are available, but don't harm human health, let's use those and let's prohibit the ones that are known to have health impacts to protect people, the landscape, native spaces, etc.

And I also want to note on those recommendations to do with water that we were supportive of this idea of having the enclosed storage tanks, still not a perfect solution, still risks surround tanks over tipping on trucks, etc, causing spills and leaks. But I was disappointed to hear yesterday that Origin are already wanting to push back on the idea of needing those to be enclosed twofold, the flooding risk, which we've seen the wet season, how much it can rain up here, we've just had record rainfall for January in the top end and we're very concerned that wells will overflow, but also, for bird life, for native spaces, that will then be able to access that highly poisonous frack fluid mixture there on the landscape that now Origin is saying they don't concede that they need to enclose that. I think that's a real problem, and certainly something that we hear about a lot that needs to be fixed.

So I want to go on to ... And I just want to make a short point on climate impacts. And I know that this has been discussed in other submissions, but we are very concerned that more work needs to be done, or more thinking about whether or not it is appropriate, a four or five percent increase in Australia's carbon emissions at this time, and whether or not that's appropriate.

I note that that was from 1000 shale gas wells being in production, but I also note that the Department of Primary Industry and Resources had put forward a scenario where, if 50 trillion cubic feet of gas were to be extracted, which they thought was a medium case and quite likely, that would be 6000 to 7000 wells. And doing the maths on that is about 18 percent of Australia's full carbon emissions would be increased.

So I think a bit more work in looking at what the different scenarios might be at this point in history when we're trying to bring down our emissions. And note that the Federal Environment Department put out a statement at the beginning of this year that noted that 2017 was again the highest emissions from Australia, and they pointed to onshore gas and the LNG terminals being the key reason why our emissions are going up at this time.

Finally, I want to go to Chapter six I believe. I just encourage you all to go to page 81, figure 6.5, which I'm hoping we can talk through. So this is regarding the Origin Amungee gas well, and the work that they've done out there. I believe that you were at the Amungee Well a couple of weeks ago as part of the Inquiry process.

So I note here that Origin have provided through the Northern Territory Government a diagram about their Amungee well and the frack that they did there and the stages. But I also note, and I've included it, and it's listed in both the document that we've been going through and also the final attachment that I've provided you today, a different diagram. It's very similar to that diagram, but there are some key differences. And I think it's really important that we talk them through because I'm quite concerned about the implications of the differences in the diagrams.

So the final attachment that I've provided you is from a report by Origin that they submitted to you as an attachment to a response letter to Justice Pepper in May of 2017. And I've got that letter and the attachment in full here.

So Justice Pepper, you emailed them, and thank you again for the transparency processes that you've used through this Inquiry so that we are able to have a look and see what's been happening.

So you emailed Origin in late April, 2017 to ask him some questions about their operations. And in May, Origin got back to you, and one of their attachments was this report on Amungee. They note in the letter to Justice Pepper that the report that they've attached was also provided under the NT Petroleum Act and submitted to the Department of Primary Industries and Resources in February, 2017.

Now there's a key bit of information in this report, which was provided to the panel, but has a key difference to the diagram that Origin had previously presented to the panel for inclusion in the draft final report. And this is the Amungee Well, and a casing deformation that happens through a fault displacement that is listed on the map there.

I also note that this fault displacement on this diagram that Origin put together as part of their production well says the fault displacement was over 15 metres, but in the one that's included in the draft final report, it's less than 15 metres. And notably, the casing deformation of the Amungee Well has been removed from the version that Origin sent you as part of the draft final report.

I note that in the Origin submission to the NT Government, as part of their geological survey process, they also include the diagram. And this diagram is identical to the one that you've received as part of your draft final report submission, except for the casing deformation being removed.

Now I can't say strongly enough how concerned I was when over the weekend pulling together my submission, I noticed these documents and the difference here.

Hon. Justice Pepper: Yes, I wish I'd had this prior to Monday morning. I mean, yes, I can understand.

Naomi Hogan: I can't say strongly enough the implications that I feel that basically airbrushing out a well casing deformation as the well that Origin are holding up as the key gas well for the Inquiry to look at, to sing the praises of a category nine well casing when they have had a deformation of their casing through a fault line where they were supposed to avoid faults.

I want to read a section of the report that was also provided in the attachment to the Inquiry in May 2017: "In August 2016, a total of 11 stimulation stages were pumped, effectively placing 2.5 million pounds of proppant and 67,000 barrels of fluid. After the seventh stimulation treatment interval, a casing deformation of 3111.6 mMDRT was discovered through the pump down operation. After some diagnostics with coiled tubing, it was decided to shift the remaining five frack stages along the well-bore to provide a greater standoff distance between the fracture initiation point and potential bedding planes. A twelfth stage was attempted on the well, however formation breakdown was not achieved, and the frack treatment was terminated early without placing any proppant."

This information was provided to the NT Government in February 2017. Yet the Northern Territory Government and Origin supplied to you in April 2017 a picture of the well without the casing deformation, with no information about the failed twelfth frack attempt, and no information about the fact that they were not able to frack those final six stages of the well there.

Why wasn't that disclosed to the Inquiry? I'm not sure who was writing the letter back to Justice Pepper where Origin in May attached this report, which was then not read by the Inquiry, and was not included in the reports. Did Origin talk to you when you were at the Amungee site a couple of weeks ago about their problems with the well?

Hon. Justice Pepper: They weren't there.

Naomi Hogan: Right.

Hon. Justice Pepper: It is something we will follow up with Origin as a matter of urgency.

Naomi Hogan: I'm not sure that just following up with Origin, who I would say have been misleading the panel through this process, is enough. I've been reading the Inquiries Act, under section 14, there is a section there that deals with

misleading the panel, and I would suggest that the panel takes this very seriously.

I think this is a serious breach of trust with the community. You've been taking this draft final report around to communities, and telling them, "This is our best information from the industry. The industry have told us what is going on out there, and here we are telling you." But the community haven't been able to see the document with the well casing deformation.

If the well casing deformation wasn't that important or that controversial, why did they feel the need to delete it from the versions that they gave to you? And if the Northern Territory Government knew about this casing deformation, why didn't they tell you? And why were they complicit in sending you, with their Northern Territory logo, a picture of the well without the casing deformation?

This speaks to everything that has been going on through the Inquiry, and everything that the gas industry has done, every whistleblower that has come out against Origin and other companies that is poo-pooed in the media or settled out of court, this goes to the hundreds of court cases in the United States about these industries, and not being forthcoming with clear information. This is why we've asked for independent assessments, this is why we've said that exploration does come with problems and needs proper investigation.

And now we've found that in front of a panel of respected scientists, and I do respect the work that you've done, somehow this has been missed. And somehow the Northern Territory Government has known about this and has also provided you documentation that does not include the well casing deformation.

I mean, to me this says that the whole draft final report and the integrity of that document is in question, and potentially needs to be redone. The chapter on well integrity needs to be re-looked at, and there needs to be some course of work with the department to figure out who in the department knew about this. Who signed off on these geological survey documents with the well casing deformation? Did the Minister know about this? Who provided you with the documentation where it was deleted?

Are there email chains between the Northern Territory Government saying, "Hey Origin, let's take that out for our submission to the Fracking Inquiry 'cause that'll really make Lock the Gate angry," or, "Communities that weren't told that there was a problem with the well wouldn't want to know about that"?

We've heard from Lucy Creek Station that the industry told them nothing about whether or not they were even fracking, let alone whether or not they had a problem with their well. These are the questions that need to be answered.

And the other question that I'd like to see answered is, why are they fracking through fault lines? And why is there a difference in the report between the one that they've submitted to the government in February 2017 with a fault displacement of over 15 metres, and then it's changed in the document to less than 15 metres? How far does that fault go? What happened with the fluid that was put down in the well? How much did Origin pull back up? How far does that fault go? How big is it? Does it travel into other sections of shale or rock?

A key point that you have raised in the Fracking Inquiry report to date is that fault lines can be conduits for methane gas or for fracking chemicals. Where does this fault go? These are the sorts of things that it would've been great for the panel to be able to investigate to use as a real live example. But instead they've covered it up. They have airbrushed out one of their biggest problems at the moment.

The draft final report isn't meant to be a beauty magazine with airbrushing, this is supposed to be a warts and all account of the industry so that communities can make up their mind about whether or not it's safe to proceed. And we've seen a major cover up of a deformation that's happening right now at a site that you've visited and have no idea what's going on underground.

And the only people that do are Origin and the Northern Territory Government, and they've said nothing, and have in fact provided you with false and misleading information by taking out the well deformation.

That's all.

Hon. Justice Pepper: Thank you very much. I just wanted to, certainly the intention of the report was that no-go zones exist for all time, for all phases, including exploration.

So it may well be that that's not clear, but I suspect that probably, from what you've said, your submission is that, well, that's all very well to have no-go zones, but how do you determine, for example, where there is a high conservation value, where those areas are, absent the strategic regional environmental baseline studies. Is that it in a nutshell?

Naomi Hogan: That's it, absolutely. You need to do the studies first to found out where the areas that need to be no-go zones are. And I think that should happen before any further fracking takes place in the Northern Territory.

Hon. Justice Pepper: No, no. I understand that submission, but certainly it was the intention in that recommendation that they exist for all time.

Naomi Hogan: It clearly says before the production phase, which means that exploration and appraisal could continue.

And in fact, we've heard a submission yesterday from Origin that said that they're hearing that there's transitional arrangements in place so that even if your recommendations are accepted, there will be no change to their pre-

existing arrangement with the Northern Territory Government, and they will be free to continue fracking.

That's what Origin told us yesterday. There are huge concerns that we need to harness the reason that the Inquiry is here to make sure that no further fracking takes place before your recommendations are fully implemented, and before the work that you've identified that needs to happen, takes place.

Hon. Justice Pepper: And certainly the recommendation for the SREBA is, yes, as you've accurately stated, post exploration, or at least simultaneously with exploration I should say.

That's not the case with the no-go zones, but I think you've highlighted a tension between the two recommendations ...

Naomi Hogan: I think it's quite clear that the SREBA is supposed to inform the no-go zones, therefore that needs to happen before the no-go zones are in place, before further fracking takes place.

Hon. Justice Pepper: I understand the submission, I understand the submission. Just in relation to the Baldwin well, I think a quote from the video was that something went wrong. What was that something that went wrong?

Naomi Hogan: So it's written here in your draft final report, "The Baldwin well experienced well casing failure of the internal casing."

Hon. Justice Pepper: Was that explained to the lady in the video? Was that ever ...?

Naomi Hogan: That was never explained to the lady in the video, no. Jo had no idea what happened on her property.

Hon. Justice Pepper: So, just knew something went wrong that was it ...?

Naomi Hogan: Just like they would have no idea at the Hayfield property, or the Shenandoah property, what was going on with the Amungee Well that's there currently. How were they supposed to know? The panel doesn't even know.

Hon. Justice Pepper: Alright. One final I guess remark. We've certainly heard the criticism levelled against Coffey in relation to not explicitly reporting the community opposition with the groups that they consulted with. That certainly will be recorded in Chapter 12 in the final version of the report.

Naomi Hogan: That will mean a lot to the people.

Hon. Justice Pepper: And Coffey wasn't asked whether or not ... They weren't asked the question whether or not there is or isn't a social licence, but it was really more almost an assumption of, "Well, if there isn't one, how is that achieved?" But I ...

Naomi Hogan: I would add to Coffey's assessment, just from the work that I've done in looking at the impacts of the industry, that if the industry wants a social licence, they need to stop covering up their operations, they need to be clear and transparent.

In fact I wrote down a few things that I completely agreed with Cockatoo-Collins, who's just sat here and said, "We need an informed discussion without agendas set. We need scientific evidence, and we need fully informed scientific facts."

I couldn't agree more, which is exactly why the Amungee Well deformation should've been able to be discussed openly as part of this Inquiry. That's the sort of scientific evidence that the gas industry holds, that they do not share.

If we want informed discussions without agendas set, let's talk about the agenda of the gas industry, which is extremely clear. Could they put that aside for one moment and talk about what they are doing out there, and what they need to take from water, land, resources, what they're going to put into the atmosphere, without an agenda that is constantly, "We need to make this happen, we need to make this happen now"?

That is my personal opinion of their agenda, and I would put to the panel that we need to see less agenda from them and more scientific evidence, and more truthful evidence of what's going on with their frack wells.

Hon. Justice Pepper: Again, thank you for your constructive feedback on the draft final report, it has been very much appreciated. Any questions? Yes, Dr. Andersen.

Dr. Alan Andersen: A couple of questions. Thanks, Ms Hogan, for your excellent presentation. First question is to do with the well spacing in the context of amenity values producing industrialization of the (inaudible) landscape.

And as we saw in the draft report, that sort of amenity issue is very subjective, and so we found it difficult to come up with objective based distances. But we came up with the minimum distance of two kilometres. What are your thoughts on that figure?

Naomi Hogan: I think that figure sounds good, but I think that figure, as we've heard from the industry already, could not be agreed to by them. I think we've seen the evidence that says that even when they are going into an area that they say do not have any faults, they in fact know that they do have faults, they in fact had to shorten their exploration activity to less than 700 metres.

And so my concern is that you can say that, but when they're out there on the ground doing their exploration, when they're all about making sure that we have flexibility depending on what we find out there, that they will be doing shorter laterals because they will not be able to go through all the faults, and they will be avoiding things on the landscape, like what we heard yesterday.

And at the end of the day, they will do exactly what they need to get the maximum amount of gas out. And you can have a recommendation that sits on a shelf, but that is not what will happen in reality. That is my concern with that recommendation.

But I understand why you've made it, and I concur with the need to try and have less fragmentation, but I have not seen evidence anywhere in the world, and I've showed you photographs, and I've been told, "Don't worry, it won't happen like that here because they're going to do it differently and they're going to frack for two kilometres, and they're all going to put their neat frack wells in a line on one big pad."

That hasn't happened anywhere in the world, that's what I'm saying, because when you go out into an area, you find things that they weren't expecting, and things change, and suddenly you need to put wells down in places you hadn't expected. And that is the experience of the industry around the world, and that is why I do not think that recommendation will come to life.

Dr. Alan Andersen: My second question relates to what you put to us, that the strategic biodiversity and other assessments should happen before exploration and not just before production.

And so I just wanted to explore that from a terrestrial biodiversity perspective, and explain the thinking there is that, from a terrestrial biodiversity perspective, the impact of gas development is not from the fracking itself, as you appreciate, but it's the vegetation clearing that's associated with it.

And so our thinking is that in terms of the exploration phase, the amount of vegetation clearing is relatively small, particularly in the context that there are many other activities that are happening that involve vegetation clearing.

And so I guess I'm interested in feedback from you. Are you thinking that this requirement for these strategic biodiversity assessments, should they just apply to the gas industry? Or are you thinking it's something that should just apply much more broadly to activities?

Naomi Hogan: I think it'd be great to do a lot of work on the biodiversity assessments of the Northern Territory, and the Northern Territory Government has already identified that that is important, as well as finding out more about the soil types, and where things are fertile. There's a bunch of work to be done in the Northern Territory, and most of the government recommendations do say that that work will take years.

My strong recommendation to bring forward that recommendation to prior to exploration is twofold. One is directly in relation to vegetation clearing and impact on native spaces. So across a tenement, they will not contain their 20 explorations well, for example, to one area. They need to cross their entire exploration permit, which is a huge area. So when we're comparing it

to land clearing empathic for something else, it's a different scale because of the area covered.

Now, yes, the pad itself isn't massive. But we're talking about the roads and pathlines, compression stations, processing plants, that are required to service those pads. We're talking about, as we heard from Jo, hundreds of truck movements a day sometimes.

Now, it's well known for whether you're talking about bilbies or other species that people care about, or species we haven't even found yet 'cause no one's gone out there, white scientists haven't gone out there, but that will have an impact. If you're crisscrossing that entire exploration permit to access 20 wells with hundreds of thousands of trucks, all of the rest of the processing plants, you are seeing an area that is suddenly impacted, and that wouldn't have been there before. And the truck movements and all the service things, as well as the vegetation clearing are of threat to biodiversity.

The second point is the one that I've made before, in a real world where you've got an industry that's just invested millions of dollars on fracking all these wells, and then being told, "Sorry, we've found a new threat in frog, it's a no-go zone," when we look at biodiversity decline in Australia currently, when we look at the ability of the EPBC Act and current assessments across Australia to stop and halt that decline of biodiversity, it's not working.

We're losing more species, we're clearing more lands, things are being approved because those current laws do not protect in that situation, because you have a very powerful vested interest that is saying to a government, "I'm ready to finally start paying you royalties. Don't tell me that threatening frogs is going to get in the way. I'll come up with an offset plan, I'll create a frog sanctuary on Timbuktu."

There are ways that they will get around it to ensure that that no-go zone never eventuates. And that is my concern with why it needs to be brought forward to a point where we can have a more balanced scientific debate instead of a politically charged debate at the point of production.

Hon. Justice Pepper: Yes, Professor Hart.

Prof. Barry Hart: Could I just continue their discussion on. I understand your point about the original assessment before exploration, there's some potentially some advantages in allowing some exploration drilling and fracking, but certainly drilling, from the point of view of better knowledge on the geology and the ground water systems that would feed into that regional assessment.

I don't know that we've actually used the word "limited". I think you certainly painted a good picture there of exploration, particularly all over the various exploration permit areas. What would you say to, however you make me define "limited," some limited exploration for the sort of advantages that I talked about?

Naomi Hogan: I don't see them as advantages because they can measure ground water without drilling exploration fracking wells that are designed to measure hydrocarbons.

So my concern is that the industry are telling you, "We need to be able to go out and do our exploratory activities so we can collect baseline data." That's not true. They can go out there and drill wells to measure ground water quality and quantity without needing to collect petro chemicals and hydraulically frack. It's just a non-issue, you talk to any hydrogeologist, absolutely you can go out and measure those things without hydraulically fracturing.

So is it appropriate to understand the surface water, ground water interactions better and drill some monitoring boards? Sure, absolutely, that would help everyone. Is it required to do that alongside hydraulically fracturing? Absolutely not, which is why we feel the moratorium on hydraulic fracturing should continue.

There is no moratorium on going out and collecting ground water data, and we thoroughly encourage that, as we have the entire way through this Inquiry. And if you look at our initial submission to the Inquiry from April 2017, that was our strong recommendations, that those studies take place, and the no-go zones are put in place.

Prof. Barry Hart: Fair point. What about the geology, increased knowledge of the geology?

Naomi Hogan: There are also other ways to go out and understand the geology. I understand that it is difficult to go down and figure out what is happening deep underground in those shales before you go and try and drill through them. And that's exactly what we've seen with the Amungee Well.

I would put to you that the only reason we need to find out exactly what's happening two kilometres underground in those shale wells is when they're fracking them. And they are going to go out there and frack through faults that they can't see before they get there. And if they wait and do what while they're pouring fracking chemicals down there, and 10,000 psi of pressure, then we're opening those faults up to potential contamination pathways. And that's not an appropriate way to figure out more about faulting.

So I would suggest that, yes, we need more seismic surveys to try and understand in general where we're more likely to see faults, particularly faults that come up towards the surface, or that interact with ground water, absolutely. And we can do that without needing to go down deep and hydraulically frack.

Prof. Barry Hart: Thank you.

Hon. Justice Pepper: Thank you, thank you. Any further questions?

Again, thank you for your comprehensive and thoughtful presentation, it's been appreciated.

Naomi Hogan: You're welcome.

Hon. Justice Pepper: Thank you.