



## ***Drill and Complete – Hearing Transcript***

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**6 March 2017**

***Alice Springs Convention Centre, Alice Springs***

***Speaker: Ash Chawla***

Ash Chawla: My name is Ash Chawla. I'm here to present a quick presentation just because we had a chance here to let everyone know what industry thinks about it and how it impacts the industry itself.

I'll just give a quick introduction about ourselves, to start with. We are a project management company, a well engineering and project management company. We look after all aspects of drilling, all aspects of fracking, completions and everything. That's our specialty. We have experience and capabilities of successfully executing projects in unconventional, conventional, coal seam gas, shale and coal and mineral exploration divisions.

Our clientele includes most of the oil companies in Australia. We are working with one of the companies here in Northern Territory as well. We have a lot of assets in Central and Northern Territory. We have four business units, well engineering, drilling advisory, field operations and commercial.

We had a few hours to go through the paper that we received through yourself. It goes that risks being considered are water, land, air, public health, impact on Aboriginal people and their health, social impacts, economic impacts, land access and regulatory framework.

As far as going through the document, what we saw is all of these risks are mitigatable. There are controls that are required around those risks, and the risks are ... There are risks in fracking, but not something that we cannot mitigate.

A lot of the risks that were in the documents relate to fracking shallow wells, which is more like coal seam gas wells where there are issues with integrity of the wells and the water actually gets ... Sorry, I'm a little bit nervous at the moment, but ...

Hon. Justice

Rachel Pepper: Please don't be you're doing great. Thank you.

Ash Chawla: There are risks in shallow fracking. We acknowledge that, and there is a lot of shallow fracking happening in Queensland, but what I believe what we are looking at here is quite deep, which is 1000 metres plus. I don't think there will be



anything less than 1000 metre up here knowing what we have in Northern Territory.

Most of the frack depths will be quite deeper. Water, land and air are perfectly fine. In terms of if we have good well integrity and good practises of drilling, we can all avoid those risks. There's no public health risk that I see. There's a disposal of the water that needs to happen, which is done in Queensland as well. Queensland they have I mean it has, the industry itself has some good working practises to work around these kind of things. The chemicals used nowadays in fracking are not at all harmful in such a way that they will actually harm and cause public health issues.

Impact on Aboriginal people and their health, I believe, again, there is some control issues here for impact on Aboriginal people and their culture, I should say, actually. I think Queensland and the Northern Territory government needs to come up with some sort of restrictions where we can drill, not closer to anywhere close to cultural sites or something, or give or take X many metres. I don't think this will affect any impact on Aboriginal people or their cultures at all.

Social impacts is kind of similar to the impact on Aboriginal people. I think social sites, so all the other social impacts can be mitigated easily. There's huge economic impact if we do not frack. Obviously, we all have seen Total pulling out recently. There's other few companies like Territory Gas and other companies that have a number of investors ready to go in, and they had to stop because of this fracking moratorium at this stage. There are huge economic impacts, so that needs to be considered as well.

Land access. Land access, I think the way that it is staged at the moment, Northern Territory does it well. Councils work on behalf of TO's and companies have their own regulatory, their own people to work with regulators. I'm happy to take any questions in terms of any engineering side, if there are any from yourself or ...

Hon. Justice

Rachel Pepper: What we propose to do is let you finish, and if you can finish within the next 15 minutes or so, and then we'll open it up to questions from the panel.

Ash Chawla:

Controls. I believe to mitigate all those aspects; we need to have some tighter guidelines. There needs to be a code of practise for drilling frack wells. In code of practise, it generally goes through well design and integrated guidelines, minimum criteria for frack candidates like casing isolation, proving that there's casing behind cement before anyone even proposes frack on that particular well or the government approves the frack. Third party review of drilling program and completion program as well.

There needs to be a independent review of all such frack completion programs or drilling programs as well to make sure they go through all the regulatory and industry practises and the wells are drilled in such a way that they would not impact. Then they have all the controls in place.



List of allowed mud chemicals and frack additives. Will be good to have a list of additives that the fracking companies can use rather than putting their own mixture there. I think it will mitigate a lot of things like health issues, all the environmental issues as well.

Recording and reporting of data. What happens on site gets recorded and reported. Multi-level engineering plans, monitoring by regulator. I believe if regulator can, like in South Australia, what we submit gets accepted based on ... If there are any problems later on, then the company has to come in and fix them. I believe a better way of working is a regulator actually getting a third party involved to approve those or have someone in the department to approve these engineering programs.

That's pretty much me. We've only got, as I said, a couple of hours to go through the material and put up a presentation.

Hon. Justice

Rachel Pepper: No, thank you very much. That's very useful. You'll make that presentation available to us in due course?

Ash Chawla: Yeah.

Hon. Justice

Rachel Pepper: Thank you. You talked about the third party monitoring for the approvals. Did you envisage then the approvals being granted by the department, or are you suggesting just a wholly separate body, separately funded and wholly independent from the department?

Ash Chawla: Well I would suggest having a independent engineering company does help. Talking about us, we are an engineering company as well. We work with a number of operators and a number of companies in a number of different states. We know what's coming into the market and what problems are going around. We are quite into it in such a way that we have, time wise, it's pretty good. That's why I think it's necessary to have a third party independent company to be involved and to assist the government in the approvals.

Hon. Justice

Rachel Pepper: You wouldn't be in favour of just a wholly independent separate regulator?

Ash Chawla: Well wholly independent separate regulator will need to have a independent engineering department which goes through all these controls. We wouldn't be against that.

Hon. Justice

Rachel Pepper: Questions from the panel? I'll start from the.... Yes, Professor McCabe. Thank you.

Prof. Peter McCabe: You mentioned the need for tighter guidelines that perhaps I guess one way of doing that is to for the Northern Territories to adopt the same guidelines that another state or perhaps in the U.S. has adopted. One that's relatively mature for shale development. I'm wondering do you see it as that's the way to go or is



there something unique about Northern Territories that needs to be considered to make it different?

Ash Chawla: Northern Territory, there's not much drilling has happened in Northern Territory. As compared to U.S., they have had several thousand number of or hundred thousands of shale wells. They know what problems could happen. I personally saw these videos coming out from U.S. where they could blow fire from a running tap. I believe those issues were already there as well.

If we drill a coal gas, coal well or a water well a little bit too deep and it intersects coals, it will at certain time once it has dewatered, it will the gas will come in. Gas is always there. It's when it comes into the gas. I saw similar kind of videos like the same snippets right into shale gas and CSG as well.

I believe adopting something from U.S. might risk in that regard that they may have, I don't know what kind of environment that particular state has in terms of CSG and shale. Then over here I believe we are only talking about shale fracking, and I don't think there's much of CSG market anyway at this stage here.

Prof. Peter McCabe: Well there are guidelines in states like North Dakota and other states that don't have coal seam gas that are very much shale gas and Slovenia for instance. So could those guidelines not be used here?

Ash Chawla: As I said, there's not much drilling has happened up here as compared to North Dakota. We know about geology of North Dakota a lot more than Northern Territory, so we'll have to be very careful in adopting those guidelines straightaway. We need to go through them one by one. Again, I'm no personally I haven't gone through those ones myself, so I cannot comment that whether they are good or not.

Prof. Peter McCabe: Great. Thank you.

Hon. Justice

Rachel Pepper: Yes, Dr. Jones. Thank you.

Dr. David Jones: You made a statement that your at much greater risk is shallow fracking.

Ash Chawla: Yes.

Dr. David Jones: I've got a number of thoughts going around in my mind about what that might entail because with shallow fracking, you are more likely closer to water tables, so mixing and so on. How about well integrity and things like that? Is it any great for shallow fracking as opposed to deep shale fracking?

Ash Chawla: Again, depends what we are calling shallow. If we are calling 300 metres shallow, that's highly ... There's a lot of risk in that. If you're calling 1000 metres as shallow, those risks are mitigated. There are well integrity practises that we can put in place that monitor those risks, and those risks can be kept to the lowest level.



Dr. David Jones: In terms of the risks of, say, well blowouts, is that more likely to occur with a deeper well where you've got much greater injection pressures when you're fracking?

Ash Chawla: Well the shallower blowout is harder to control as compared to a deeper one. The likeness I would say ... The shallower one with gas and fracked will have a greater chance of blowout rather than a deeper one.

Hon. Justice

Rachel Pepper: Any other questions? Yes, yes Dr. Vaughan.

Dr. Vaughan Beck: Just like to get an idea a little bit more on your operations. You spoke about all aspects of drilling and fracking. So do you have rigs actually operating at the moment?

Ash Chawla: We are a well engineering and project management company. We monitor those programs and tasks on behalf of the customer, which is most of the time an oil and gas company such as Northern Territory Gas or BMA, which is BHP Billiton as well. The reason I'm giving you two different example is one is present here in Northern Territory, the other one is in Queensland for the shallow gas wells.

Dr. Vaughan Beck: So, you are monitoring other operators who are doing the drilling and fracking?

Ash Chawla: Yes, Yeah. We have a in-house department of six drilling engineers who work in different side of ... with different operators all the time. They are contractual engineers and supervisors who are hired to go out on to the site all the time who work for us on behalf of a client.

Dr. Vaughan Beck: Yes, right ok. I'd be interested to just get your speculation on sort of the resource base that exists here in Australia to undertake drilling and fracturing because it's some of the big companies like Schlumberger and similar companies. What sort of resources are there and how can that be ramped up over time?

Ash Chawla: Sorry, I didn't clearly get the ...point of...

Dr. Vaughan Beck: I'm just trying to get an indication and assessment from you of what the resource base is in Australia currently for undertaking drilling and fracturing operations. How can that be ramped up if it was to be moved up over time?

Ash Chawla: I don't believe there's issues with resources at this stage, considering the oil and gas prices are so low at the moment or oil prices I should say. The resources can be moved. There are a lot of resources sitting redundant at the moment in a number of fields, a number of yards that these companies hold. We basically get called by one or the other company every week to discuss potential opportunities to assist them with these resources that they have sitting in their several yards to put them over. The resources as such are not a problem.

In terms of ramping up, it generally takes two to three months for these companies to move the gear from United States to here or anywhere else.



Dr. Vaughan Beck: Do you have any assessment of how many drilling and fracturing rigs there are in Australia at the moment that will be suitable for fracturing shale plays?

Ash Chawla: There are four onshore rigs that I can count on my hands. There's any more than that, I'm not sure. It depends on the drilling depths as well, what depths we are looking at. Over here it's about, I would say, something that is capable of reaching 2500 will cut the mustard. Otherwise, it will ... Though we have four to five rigs that I know of that can reach those depths easily with a bigger casing or a heavier casing.

Dr. Vaughan Beck: Thank you very much.

Hon. Justice

Rachel Pepper: Yes, Ms Coram.

Ms Jane Coram: I've just got a worry of assuring well integrity. I'm wondering whether in your opinion, the requirements for drilling and certification and training are sufficient for the community to have confidence that well integrity will be assured.

Ash Chawla: That's why I brought in a proposal of having a code of practise where you can stipulate minimum requirements for well integrity. Suppose casing. We have to look at a very micro level just to make sure we cover all aspects of it. Casing integrity depends on the cement. Cement depends on what chemicals have been put in. We need to make sure those chemicals are correct chemicals and they reporting wise, what gets put in is reported as well to make sure the cement is holding the casing as well.

I believe that can be done. The integrity of the wells and assuring the community about the integrity is not going to be an issue. It's just the practises that need to be put in place have to be good integral practises.

Ms Jane Coram: Do you think the skills level of the operators is sufficiently assured though? I agree. I think that's a great suggestion, but it also relies on people, and we need to be confident that-

Ash Chawla: That's correct.

Ms Coram: The operators have the right level of skills.

Ash Chawla: That's correct. Yes. I'm not sure what sort of skill levels the state might be proposing to put in place, but most have and they need to have some sort of skills levels and trainings in place before they get on to the sites, which most of these companies, they actually provide those trainings much more than what they require. People do not get on sites if they don't have proper skills. I mean talking about Halliburton, Schlumberger and all the other ... These two are major fracking companies. They are looking after... they do keep up with the skills.

Hon. Justice

Rachel Pepper: Dr. Jones?



Dr. David Jones: I have a kind of follow-on question from that we've been talking about regulation and third party evaluation and things like that. What have been your experiences in Australia on the regulatory side? You may or may not interact with the regulators, but one of the key concerns is in any industry boom, those in the regulatory side who know what they are doing tend to get sucked out with high industry salaries. You have a deficiency on the regulator side, which is probably not good for anyone. What's been your experience with the level of regulatory competence? I'll use that term loosely.

Ash Chawla: I'll give you an example of South Australia. South Australian regulator, they maintain a very good structure in terms of the approvals and how they happen. The regulator, we don't feel that they have issues in terms of what you said that if there's a boom. We have gone through a boom with them. We have seen them approving wells. There's not been any major issues.

I believe you have been to South Australia recently as well and you have seen. It's not a boom time, but just seeing how the operations take place. They do use third parties as well from time to time for their approval processes and reviewing processes. We have different number of engineers who get seconded into the department to assist them with the approvals.

Dr. David Jones: Just following on from that, one of the issues is with regulatory or third party independents. Now you said your company works for quite a few other oil companies. We have a term called Chinese walls that operate within financial institutions, which is one type of a company acts on one type of thing which is the third party approvals. Another company might interact directly with industry. In your organisation, do you have that type of process?

Ash Chawla: Ok, from working for the client as well as the other side of ... I understand their issue. In such cases, most of the times, we are not acting on both sides. We have acted in past, but they are totally separate people. End of the day, it comes down to the ... We only second the people in the ... They go in. They do their job. They don't even know who the other end is and who they are working for. It's more about confidentiality to making sure they act independently.

Again, you know as I said, it's not an ideal situation, but because of the amount of resources in the industry, we have to stretch ourselves sometimes. Only at one occasion that I remember that that happened.

Dr. Vaughan Beck: Another question, if I may. Up on your PowerPoint presentation, third dot point, you've got a list of allowed mud chemicals and fracturing additives.

Ash Chawla: Chemicals.

Dr. Vaughan Beck: As I understood, you were ... You can correct me if my interpretation is incorrect, but you are looking for some authority like government to provide a list of acceptable chemicals that could be used. Then the drilling and fracturing companies could choose from that list and go ahead and do the work. Is that how I understood your suggestion?



Ash Chawla: That's right. As far as you know what is being used in terms of the government and the fracking companies do not operate outside of it in the state. That will look after the community and all the other issues that may arise if they start using the chemicals or their own mixtures without saying what additives they have or what components they have.

Dr. Vaughan Beck: Because we have heard from ... Not the drilling and fracturing companies, but I'll have to hasten to say that there have been comments that there's a considerable amount of intellectual property attached to the chemicals and additives that are used. Hence the issue of disclosure is a very sensitive one, particularly from an intellectual property perspective. I'd like to get your observations on those apparent sensitivities, given what you've just said in respect of having an open list, which companies can select from.

Ash Chawla: Personally, I don't think nowadays anything is so confidential in terms of the IP of these. Well not the chemicals themselves as such. Their percentages maybe. What we are talking here is the list of chemicals, what percentages they'll use.

99.5% of all this is water and rest is the additive or fracking chemicals. It's in a very small proportion and in that 0.5 or 0.1% what they use is ... As far as they are using something that is allowed by the government, I don't think there will be an issue. IP wise, I don't believe ... I mean nowadays the technology is so advanced that those chemicals can be easily found out what chemical, components of different things are there in a particular mixture.

Hon. Justice

Rachel Pepper: Last question. Thank you.

Prof. Brian Priestly: I have a slightly different way of approaching perhaps the same question. Given that we've been told quite a range of chemicals are used for different functions in these fracking fluids and that there are commercial in confidence aspects of the formulations that are used, is there any technical reason why you need to have flexibility in the composition of these fracking fluids? Your implication there is that if you have an allowed list, it could be a relatively small list of chemicals that will be allowed. For technical reasons, do you need wider flexibility in what can be used?

Ash Chawla: Look, I'm not a fracking chemical expert, but we do have a chemical engineer who I have discussed the same thing with. He did say that different kind of environments do require different kind of chemicals for fracking. Most of the time it's guar gum that is used as the gel in the frackings. We even use the guar gum in ice-creams as well. That holds, and then sand is the proppant. Those kind of things are available everywhere anywhere.

Hon. Justice

Rachel Pepper: Mr. Chawla, thank you very much for coming today.

Ash Chawla: Thank you for the ...

Hon. Justice

Rachel Pepper: Very appreciate it.



Ash Chawla: Opportunity.

Hon. Justice

Rachel Pepper: Thank you. Thank you.