

LOCK THE GATE ALLIANCE

AUSTRALIANS WORKING TOGETHER TO PROTECT OUR LAND, WATER, AND FUTURE

9 February 2017

Dear Fracking Inquiry Panel,

Thank you for the opportunity to respond to the matter of our allegations of a cover up of information by Origin Energy as part of the NT Inquiry into Hydraulic Fracturing.

This is an account of why we chose to use our presentation on Tuesday 6 February 2018 to publicly question Origin and the panel about the page 81 figure of the Amungee well in the draft Final Report, to point to the contradictory diagrams provided by Origin to the panel, and to state there could be well integrity concerns. We understand our actions have been deemed inappropriate by the panel.

In preparing our oral submission to the panel and after reading the draft Final Report, we undertook further research to read through the submissions from Origin. We found Origin submission #283, and noted it was submitted to the inquiry in May 2017. See: <https://frackinginquiry.nt.gov.au/submission-library?a=452658>. The cover letter to the Panel for this report noted it had been submitted to the NT Government in February 2017.

We noted the Origin statement on page 5: *"A 12th stage was attempted on the well; however formation breakdown was not achieved and the frac treatment was terminated early without placing any proppant."* We noted the figure on page 6 with the clear reference to well casing deformation.

Further searching online pulled up the May 2017 Origin document to the NT Government as part of the AGES program. This included more information about Origin's activities, the casing deformation and faults.

See: http://www.geoscience.nt.gov.au/gemis/ntgsjspui/bitstream/1/85114/3/CloseDavidAGES2017_paper.pdf

Then, in reading the hard copy of the draft Final Report, the page 81 figure was noticed. It became apparent that the figure represented was not an accurate representation of the well and the casing deformation. The well casing deformation was absent. There were a number of references to the Amungee NW-1H well in the Draft Final Report released in December 2017, yet nothing that detailed what was contained the May 2017 Origin submission attachment to the Inquiry.

The page 81 diagram cited it was from Origin submission #153, page 31. This submission was supplied to the Panel in April 2017 without reference to the casing deformation, despite the occurrence having been reported by Origin to the NT Government in February 2017.

We were concerned that the Panel was not sufficiently aware of the casing deformation or the attempted 12th frac stage. There was no information shared in the public consultations or in the public hearings.

Lock the Gate did not take lightly the decision to present the above information.

Our first and preferred approach has always been to speak to the Chair of the Inquiry to raise concerns or information. On a previous occasion when we become aware information had been incorrectly imparted onto the panel, our approach was to inform the Chair.

However, in this instance, the Panel had already been sent the information, as had the NT Government and Origin. We saw it our role to make it public to the broader community, consistent with the Inquiry's objectives.

We appreciate the efforts that Origin have now put towards explaining the technicalities of their well, however further independent interrogation of the matter is required.

The CSIRO report to the NT Fracking Inquiry, The Shale Gas Well and Well Integrity, Appendix 14 mentions deformation of the casing on page 87:

*"... downhole pressure and temperature can change because of operations in the well's history, such as casing pressure tests, well production and shut-in, and reservoir hydraulic fracturing stimulation. These operations lead to changes in well pressure and temperature, which in turn can induce radial **deformation of the casing** and failure in the cement sheath. This can lead to debonding on the interfaces between the cement sheath and the casing or formation, creating migration pathways through radial fractures (Figure 10) and microannuli."*

The CSIRO report also brings to light information in regard to this line in the Origin report: *"the 12th stage was attempted on the well; however formation breakdown was not achieved and the frac treatment was terminated early without placing any proppant."*

The CSIRO report to the inquiry states on page 82:

*"Because the hydraulic fracturing fluid is contained within the isolated wellbore zone, the pressure builds up until it exceeds a threshold known as the **breakdown pressure**. Once the hydraulic fracture fluid pressure exceeds the **breakdown pressure**, it fractures the rock, resulting in 'hydraulic' fractures."*

And

"At the start of the simulation, the hydraulic fracturing fluid is injected without any proppant, to initially open a fracture wide enough to allow the proppant to travel along the hydraulic fracture; this is known as the 'well pad'."

See: <https://frackinginquiry.nt.gov.au/inquiry-reports?a=465932>

From this information, we ascertain that hydraulic frac fluid was placed for the 12th frac, and that it was plausible that the hydraulic fracturing fluid was not contained within the isolated wellbore zone. The pressure build up required to fracture the rock did not occur.

Further investigations into the Amungee well are needed to try and understand if/why the frac fluid was not contained within the isolated wellbore and where it went instead.

The excerpts from the CSIRO report above are replicated in the Draft Final Report on pages 43 and 51-52, within Chapter 5.

In preparing our presentation, we found no evidence of interrogation of these potential risks as they apply to the only known Territory example; at Origin's Amungee NW-1H well.

We believe that the evidence is worthy of follow up and for updated information to be contained within the Final Report.

We contend that it is inappropriate to edit out a casing deformation incident from a diagram and submit incorrect information to a scientific inquiry. The Panel and the public are entitled to accurate unedited versions of evidence.

We would be grateful if the Inquiry could organise some time during the Tennant Creek hearings so that Naomi Hogan may phone-in and address Panel on this matter.

We appreciate your feedback with regard to the issues raised in this letter.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Naomi', with a stylized flourish at the end.

Naomi Hogan

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