



Australian Resources Research Centre
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31 August 2017

The Hon Justice Rachel Pepper
Chair, Scientific Inquiry into Hydraulic Fracturing
Hydraulic Fracturing Taskforce
GPO Box 4396 Darwin NT 0801
email fracking.inquiry@nt.gov.au

Dear Justice Pepper

Thank you for your letters dated 31 July 2017, 14 August 2017 and 18 August 2017 regarding the Hydraulic Fracturing Inquiry Information Requests.

CSIRO's responses to the three information requests are attached. Should you wish to discuss any aspect of this information please contact myself or [REDACTED] on [REDACTED] or email [REDACTED]

Yours sincerely

A handwritten signature in black ink, appearing to be 'D Barrett', written over a white background.

Dr Damian Barrett
Research Director – Onshore Gas
CSIRO
email [REDACTED]

Attachments

- Attachment 1 Response to Information Request of 31 July 2017
- Attachment 2 Response to Information Request of 14 August 2017
- Attachment 3 Response to Information Request of 18 August 2017

CSIRO RESPONSE TO INFORMATION REQUEST OF 18 AUGUST 2017

1. Please provide the Inquiry the two references cited BoM 2016 and DLRM 2016.

The references BoM 2016 and DLRM 2016 were used to construct the Groundwater Dependent Ecosystem data layer shown in the CSIRO presentation on the Beetaloo Groundwater Study. These references provided information on Surface Cartography and NT Parks and Reserves. There are no reports or publications accompanying these datasets and both are publicly available. The datasets were sourced from:

- ‘BOM 2016’: Surface Cartography sourced from BOM Geofabric (<ftp://ftp.bom.gov.au/anon/home/geofabric/>). The Australian Hydrological Geospatial Fabric (Geofabric) is a specialised Geographic Information System (GIS) and it registers the spatial relationships between important hydrological features such as rivers, water bodies, aquifers and monitoring points.
- ‘DLRM 2016’: NT Park and Reserves dataset sourced from NT DLRM (ftp://ftp-dlrm.nt.gov.au/outgoing/FREE_DLRM_DATA/).

2. Please advise when the CSIRO Beetaloo Basin Groundwater Study (Module 1 and Module 2) is expected to be completed and published.

The CSIRO Beetaloo Basin Groundwater Study will be completed by June 30, 2018 (both Module 1 and 2)

3. Any reports or papers on the Gas Industry Social and Environmental Research Alliance (GISERA) on the Hutton Sandstone aquifer.

GISERA has two projects that have included aspects of the Hutton Sandstone:

Geochemical baseline monitoring (complete)

Which produced two reports:

- **Geochemical baseline monitoring: quartz-helium trial** - This study, we attempted to determine formation-scale vertical permeabilities in low permeability formations within the Surat Basin.
- **Geochemical baseline monitoring** - This report sought to improve the water balance in the Hutton Sandstone, the first major aquifer below the Walloon Coal Measures of the Surat Basin.

Constraining water flows in the Surat Basin (50 % complete)

To date has produced one report and one fact sheet:

- **Hydrochemical assessment of the Hutton and Precipice sandstones in the northern Surat Basin** - The hydrochemical assessment presented in this report will inform other tasks within this project, and form the basis for further testing of the conceptual hydrogeological understanding of these key aquifers in the northern Surat Basin
- **Groundwater flows in the Hutton Sandstone and Precipice Sandstone aquifers (Fact sheet)** - By understanding the groundwater flows, we can improve the existing three-dimensional (3D) groundwater modelling used by both the CSG industry and Queensland Government. In turn results will improve our knowledge about the amount of water that can be sustainably extracted.