



# **Submission to the Independent Scientific Panel Inquiry into Hydraulic Fracture Stimulation in Western Australia**

**West Australian Branch of the International Association of  
Hydrogeologists**

**19 March 2018**

## **About IAH**

The International Association of Hydrogeologists (IAH) is a professional association for those within disciplines related to groundwater, its occurrence, utilisation, testing and management. IAH Western Australia is the state's local chapter of IAH. IAH WA has been invited to comment on the Independent Scientific Panel Inquiry into Hydraulic Fracture Stimulation in Western Australia 2017. IAH WA's response is provided below.

## **Introduction**

The term 'fracking' is now often shorthand for unconventional hydrocarbon projects and their potential risks and impacts. Unconventional hydrocarbon projects' potential risks and impacts extend beyond the process of hydraulic fracture stimulation (fracking); however, the public's consciousness is often focussed on the perceived risks associated with 'fracking'. A fully-informed community would likely list the following potential risks and impacts as important: well abandonment; well integrity; surface storage and management of drilling and production fluids; and transport, noise and perception impacts from the operation of an industrial-scale process in traditionally non-industrial areas. The terms of reference for this enquiry do not include these aspects; therefore, IAH WA is unable provide specific comment regarding hydraulic fracture stimulation. IAH WA makes the following general contributions to the enquiry's three areas for public submission:

### **1. Environmental values**

In Western Australia, more so than in other state or territory in Australia, groundwater is a critically important resource. We rely on groundwater for public drinking supplies, agriculture, mining and other industrial activities because there are limited surface water resources in some parts of the state. For example, about 95% of all water use in the northern Perth Basin is from groundwater. Groundwater also maintains a wide range of habitats for plants and animals, such wetlands, rivers, caves and springs.

Some of these are unique and hold intrinsic environmental values, but they also provide services to people. Groundwater supports culturally significant places for Aboriginal people and potable water sources for remote communities. Groundwater is emerging as a geothermal energy source and as source of water storage via Managed Aquifer Recharge projects.

## **2. Data or other evidence**

Assessments of environmental values and potential impacts from hydraulic fracture stimulation require a detailed database of existing groundwater conditions. A key resource for such assessments is the state's database of groundwater bores and associated hydrogeological conditions. However, the database currently only captures about a third of bore data for bores associated with higher-level (H2 and H3) licence applications (based on a 2017 assessment that IAH WA submitted to DWER<sup>1</sup>), at a cost to the state of over \$50 million<sup>1</sup> per year. This is in part due to restrictions on the release of bore data to the public domain. This database is a key information source for assessments of hydraulic fracture stimulation in Western Australia.

IAH WA understands that the state government is drafting legislation (the Water Resources Management Bill) to address this issue. IAH WA understands that the bill will include provisions to remove database restrictions and that it is due to be presented to the State Parliament in 2018. IAH WA strongly supports and encourages this legislative reform to streamline and modernise our water laws. The legislative changes should be supported by adequate funding to develop and maintain a groundwater database in Western Australia, such that we are able to respond to emerging issues.

## **3. Regulatory framework**

As outlined in the introduction, IAH WA notes that the regulatory framework for unconventional hydrocarbons should not unduly focus on hydraulic fracture stimulation. Issues such as well abandonment; well integrity; surface storage and management of drilling and production fluids; and transport, noise and perception impacts from the operation of an industrial-scale process in traditionally non-industrial areas are multi-dimensional and extend beyond hydraulic fracture stimulation as defined in this enquiry's terms of reference.

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<sup>1</sup> In 2017 IAH WA undertook a survey of Western Australia's major groundwater consultancy teams, mining companies and key government agencies. Respondents reported that after submitting a H2 or H3 application to DWER the production bore data made it to the WIR database in only 13% of cases after 12 months from submission (28% after 3 years, 56% after 7 years; survey average: 33%). About \$80m worth of H2&H3 level drilling is undertaken in WA each year. Not having access to two thirds of these data represents an annual loss to Western Australia of over \$54m (67% of \$80m).