

**Independent Expert Scientific Committee on Coal Seam Gas and
Large Coal Mining Development (IESC)
Meeting 89, 30 August – 1 September 2022**

**MINUTES
Videoconference**

ATTENDANCE AND APOLOGIES

IN ATTENDANCE

Dr Chris Pigram (Chair) (Items 1, 2.1 and 3)
Dr Andrew Boulton
Professor Craig Simmons
Professor Jenny Davis
Dr Jenny Stauber (Items 1, 2.1 and 3)
Associate Professor Phil Hayes
Professor Rory Nathan
Professor Wendy Timms

INVITED GUESTS

Item 3.3

Fiona Chandler, Principal Consultant, Alluvium Consulting

Item 3.4

Dr Christopher Leonardi, Senior Lecturer, University of Queensland

OFFICE OF WATER SCIENCE (OWS)

Peter Baker, Director
Aimee McAllister
Andriana Stoddart
Aranza Bulnes-Beniscelli
Benjamin Klug
Christina Fawns
Fiona McKenzie-Smith
Frances Knight
Isabelle Francis
Kelly Lawler
Mio Kuhnen
Sarah Taylor

Note: OWS attendees listed above include those with full or partial attendance at Meeting 89.

1. Welcome and Introductions

The Chair welcomed members of the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC) to the meeting.

1.1 Acknowledgement of Country

The Chair acknowledged the traditional owners, past and present, on whose lands this meeting was held.

1.2 Disclosure of Interests

Committee members were invited to make disclosures. Committee members also completed a Meeting Declaration of Interests before the meeting commenced. Details on disclosures of interests are at Attachment A.

1.3 Confirmation of Agenda

The Committee endorsed the agenda for Meeting 89.

1.4 Confirmation of Out-of-Session Decisions

The Committee noted that:

- minutes of the Committee's eighty-eighth meeting on 27-28 July 2022 were agreed out-of-session and published on 15 August 2022.
- Advice on Fairview Water Release Scheme was provided to the regulator on 1 August 2022 and published on 15 August 2022.
- 2021–2022 IESC Annual Review of Activities was published on 17 August 2022.

1.5 Correspondence

The Committee noted the status of correspondence to 24 August 2022.

1.6 Action Items

Ongoing items were noted and updates were provided on the timing of completion.

1.7 Forward Planning Agenda

The Committee noted the forward planning agenda.

It was agreed that the next meeting be scheduled for 5-6 October 2022 in Canberra.

1.8 Environmental Scan

The OWS reported on recent events.

2. Advice on Projects referred by governments

2.1 Isaac River Coal Mine Project

The Isaac River Coal Mine (the 'project') is a new open-cut coal mine, located 28 km east of Moranbah, Queensland and immediately east of the operating Daunia Coal Mine. It will involve mining approximately 500,000 tonnes per annum (tpa) of hard coking coal, semi-hard coking coal and Pulverised Coal Injection product over five years. This proposed scale and life of mine are relatively small in the context of neighbouring mining projects.

The project area is in the North Creek catchment, a tributary of the Isaac River (part of the greater Fitzroy River Basin). The Isaac River, North Creek and New Chum Creek in the vicinity of the project are ephemeral, flowing only after sustained or intense rainfall. Their catchments and riparian zones support patches of Threatened Ecological Communities (TEC) including Brigalow (*Acacia harpophylla* dominant and co-dominant) listed under the Environment Protection and Biodiversity Conservation Act (1999) (EPBC Act) as endangered, and several terrestrial groundwater-dependent ecosystems (GDEs). The

riparian vegetation provides critical habitat for EPBC Act-listed species such as the Greater Glider (*Petauroides volans*) and Koala (*Phascolarctos cinereus*).

The IESC has identified substantial shortcomings in the proponent's analysis, especially the groundwater modelling, that currently prevent reliable assessment of the project's environmental impacts. However, given the spatial scale, location and proposed duration of the project, the IESC considers that the following key potential impacts are likely:

- impaired surface water quality and possibly sediment quality downstream of the release point(s) of untreated mine-affected water (MAW) and water from the sediment dam, with impacts potentially extending down North Creek to the Isaac River;
- reduction or loss of groundwater-dependent riparian zone vegetation along North Creek and an unnamed tributary, potentially arising from project-specific or cumulative drawdown, that may reduce habitat values for EPBC Act-listed species such as Greater Gliders and Koalas;
- contribution to cumulative and long-term impacts on surface waters (e.g., North Creek and Isaac River) and GDEs within and near the project area; and
- long-term risks (e.g., deteriorating water quality) associated with the final void.

2.2 Caval Ridge Mine Horse Pit Extension

The Caval Ridge Mine Horse Pit Extension (the 'project') is in the Bowen Basin of central Queensland, 5 km southwest of Moranbah. Caval Ridge Mine has been operational since 2014 and consists of two open-cut pits, Horse Pit and Heyford Pit. The project will extend the Horse Pit in an easterly direction, increasing the mine life by approximately 20 years to 2056.

The project will produce hard coking coal for the export market at a rate of up to 15 million tonnes per annum (BMA 2022, p. 21). Much of the required infrastructure already exists such as the rail spur, loadout facilities, stockpiles and the coal handling and preparation plant. Some of this infrastructure will require relocation for the project (BMA 2022, p. 11). The existing water management system will be expanded, with storage capacity increased, and additional flood bunding of the final void will be constructed (BMA 2022, p. 16). The project proposes to develop an out-of-pit waste dump to the northwest of the existing Horse Pit (BMA 2022, p. 16). Partial backfilling of Horse Pit will occur with excess material being placed in the out-of-pit dump from approximately 2028 (BMA 2022, p. 16). A final void lake will remain in the Horse Pit extension (BMA 2022, Figure 2-14, p. 30).

The project is in the Isaac River Catchment in a region with many coal mines (active, proposed and in care and maintenance) and the proposed Bowen Gas Project. These numerous nearby coal projects imply a high potential for cumulative impacts on the water resources of the region, including alluvial and Permian groundwater resources and the Isaac River, that also support environmental and agricultural uses. Cumulative impacts may affect multiple species listed by the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) such as Silver perch (*Bidyanus bidyanus*), White-throated snapping turtles (*Elseya albagula*), Fitzroy River turtles (*Rheodytes leukops*) and several species of groundwater-dependent vegetation.

Key potential impacts from this project are:

- changes to downstream water quality from controlled releases of untreated mine-affected water into Cherwell Creek;
- changes to downstream water quality from uncontrolled releases (potentially including runoff from the out-of-pit waste dump) from sediment dams whose overflow enters Horse, Cherwell, Caval and Nine Mile creeks;
- both of the above are likely to add to the existing cumulative impacts on water quality in the Isaac River from the extensive coal mining operations in the catchment;
- impacts to downstream aquatic biota, including several EPBC Act-listed species, and groundwater-dependent ecosystems (GDEs) from altered surface water quality; and

- changes to the water quality of the alluvial aquifers associated with Horse, Caval, Cherwell and Nine Mile creeks from water releases, with potential impacts to GDEs supported by these aquifers.

3. Other business

It was agreed prior to the meeting that agenda items '3.1 Ecohydrological Conceptual Models Explanatory Note' and '3.2 Minimum Groundwater Monitoring Requirements' would be deferred to a future meeting of the Committee.

3.3 2023 Stakeholder Forum

The Committee discussed the plan for a 2023 stakeholder event with Fiona Chandler, Alluvium Consulting.

3.4 Subsidence Explanatory Note – CSG

Dr Christopher Leonardi presented the second draft of the Explanatory Note: Subsidence associated with coal seam gas production. The Committee discussed and provided comments on the draft document.

3.5 Uncertainty Analysis Explanatory Note

The Committee discussed and provided comments on the second draft of the updated Explanatory Note: Uncertainty Analysis for Groundwater Models.

4. Close of Meeting

The meeting closed at 3.40 pm on Thursday 1 September 2022.

Next Meeting

The next meeting is scheduled for 5-6 October 2022.

Minutes confirmed as true and correct:

Dr Chris Pigram AM, FTSE

IESC Chair

12 September 2022

Attachment A

Item(s)	IESC Member	Disclosure	Determination
2.2	Dr Chris Pigram	<p>I have a direct or indirect pecuniary interest in a matter being considered or about to be considered by the IESC, as follows: I own shares in BHP. <i>NB: regarding the Caval Ridge Mine Horse Pit Extension Project.</i></p>	<p>It was determined that Dr Chris Pigram must not be present during any deliberation of the Committee about the Caval Ridge Mine Horse Pit Extension Project and must not take part in any decision of the Committee about the Caval Ridge Mine Horse Pit Extension Project.</p> <p>The basis for the determination was that share ownership is a pecuniary interest that requires exclusion from deliberations and decisions.</p> <p>The Committee elected Professor Craig Simmons to preside over the Committee’s deliberations of the Caval Ridge Mine Horse Pit Extension Project, as Dr Pigram wouldn’t be present to preside.</p>
2.2	Dr Jenny Stauber	<p>I have a direct or indirect pecuniary interest in a matter being considered or about to be considered by the IESC, as follows: I own shares in BHP Billiton (who owns the mine). <i>NB: regarding the Caval Ridge Mine Horse Pit Extension Project.</i></p>	<p>It was determined that Dr Jenny Stauber must not be present during any deliberation of the Committee about the Caval Ridge Mine Horse Pit Extension Project and must not take part in any decision of the Committee about the Caval Ridge Mine Horse Pit Extension Project.</p> <p>The basis for the determination was that share ownership is a pecuniary interest that requires exclusion from deliberations and decisions.</p>