

**Independent Expert Scientific Committee on Unconventional Gas Development and  
Large Coal Mining Development (IESC)  
Meeting 111, 9 – 11 December 2024**

**MINUTES  
Videoconference**

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**ATTENDANCE AND APOLOGIES**

**IN ATTENDANCE**

Dr Chris Pigram (Chair) [absent agenda items 1.3-1.4, 2.1 & 4]  
Dr Andrew Boulton  
Professor Jenny Davis [absent agenda items 1.1-1.4, 2.1 & 4]  
Dr Jenny Stauber [absent agenda items 1.3-1.4, 2.1 & 4]  
Dr Juliette Woods  
Associate Professor Phil Hayes  
Professor Rory Nathan  
Professor Wendy Timms

**OFFICE OF WATER SCIENCE (OWS)**

*Note: OWS attendees include those with full or partial attendance.*

Dr Des Owen, Director	Isabelle Francis
Amelia Lewis	Jason Smith
Ben Klug	Dr Laura Richardson
David Cameron	Loren Pollitt
Dylan Stinton	Tess Nelson
Ellie Fisher	

**1. Welcome and Introductions**

The Chair acknowledged the traditional owners, past and present, on whose lands this meeting was held, and welcomed members of the Independent Expert Scientific Committee on Unconventional Gas Development and Large Coal Mining Development (IESC) to the meeting.

**1.1 Attendance and Apologies**

IESC members in attendance and apologies are recorded above.

**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 111.

#### 1.4 Confirmation of Out-of-Session Decisions

The Committee noted that:

- minutes of the Committee's 110<sup>th</sup> meeting on 6 – 7 November 2024 were agreed out-of-session and published on 22 November 2024.

#### 1.5 Correspondence

The Committee noted the status of correspondence to 30 November 2024.

#### 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 to be an in-person meeting on 29-31 January 2025.

#### 1.8 Environmental Scan

The OWS reported on recent events.

### **2. Advice on Projects referred by governments**

#### 2.1 Saraji Mine Grevillea Pit Continuation Project

The Saraji Mine Grevillea Pit Continuation Project (the 'project') is a proposed extension to the existing Grevillea open-cut pit within Saraji Mine (SRM), located 25 km north-east of Dysart in the Bowen Basin, Queensland. The project will disturb 220 hectares (ha) of land within Mine Lease Application 700021 and will extract approximately 55 million tonnes (Mt) of metallurgical Run-of-Mine (ROM) coal over 30 years.

The project is a continuation of current open-cut mining activities, and includes removal of vegetation, topsoil, overburden and interburden, and continued extraction of ROM coal using dragline, truck and shove/excavation methods. The project is proposed to use existing SRM infrastructure, including the coal handling and preparation plant (CHPP), train load-out facility, tailings storage facilities, coal stockpiles, water management infrastructure and supporting infrastructure. Post-mining, much of the project area is classified as a non-use management area (NUMA) and will remain a final void.

The project is in the headwaters of upland tributaries of the Isaac River, within the Isaac-Connors sub-catchment of the Fitzroy Basin. The project is located between Spring Creek to the north and Phillips Creek to the south, both of which have been modified or diverted through SRM.

The project area and adjacent riparian corridor associated with Phillips Creek are known, or likely, to provide habitat for faunal species listed by the *Environment Protection and Biodiversity Conservation Act 1999*, including Ornamental Snake (*Denisonia maculata*), Greater Glider (southern and central) (*Petauroides volans*) and Koala (*Phascolarctos cinereus*). Phillips Creek is also identified as potential habitat for the Squatter Pigeon (*Geophaps scripta scripta*). This riparian vegetation includes groundwater-dependent terrestrial vegetation, provides drought refugia habitat and forms a wildlife corridor providing connectivity to remnant vegetation in the region.

The proponent proposes a "setback of 100m – 150m between the southern Project area boundary and Phillips Creek and associated riparian corridor" to minimise potential direct impacts to the riparian corridor. However, this proposed setback width is inconsistent with Figure 2.1 and coordinates presented in Table 2.1 that show substantially smaller distances from the project boundary to Phillips Creek. It is also unclear whether alluvial water levels would be lowered by mining and the final void, which would impact groundwater-dependent vegetation, compromising the setback's intended protection of the high ecological values of the riparian zone of Phillips Creek.

The project is located within the Bowen Basin where considerable mining activity already occurs. Impacts from the project will contribute to cumulative impacts of mining and other activities to groundwater and surface water ecosystems and their biota across the Basin.

Key potential impacts from this project are:

- removal of 205 ha of vegetation that may alter surface runoff regimes and recharge, increase erosion and sedimentation (e.g. adversely affecting gilgai) and reduce habitat availability and connectivity for native water-dependent flora and fauna;
- reduction in alluvial water availability to riparian vegetation communities, especially terrestrial groundwater-dependent ecosystems (tGDEs), arising from open-cut mining through alluvium in the project area;
- persistent legacy effects of the final void (NUMA), maintained as a groundwater sink, that may continue to reduce alluvial groundwater availability and, if levees fail or are inadequate, intercept floodwaters that are important in maintaining floodplains and their ecological assemblages downstream;
- deteriorating water quality in the final void which would be intensified by evapo-concentration, thus increasing its risks of downstream impacts if floodwaters mix with the poorer quality water impounded by the void;
- contribution to cumulative impacts to groundwater levels, receiving water quality, and water-dependent ecosystems and their biota;
- disruption of landscape connectivity currently provided by Phillips Creek, one of the few remaining and comparatively intact riparian corridors crossing some 60 km NW to SE of the northern Bowen Basin impacted by open-cut mining.

The provided documentation on local-scale hydrogeology and hydrology assessment is incomplete and inadequate for the project area and its immediate surroundings. Additional work required to improve the ecohydrological conceptualisation and address the key potential impacts is summarised below.

- Appropriate field data, including surveying and mapping, are needed to characterise the extent, thickness, and hydrogeological characteristics of the Quaternary alluvium along Phillips Creek and within the project area, including potential lateral and vertical hydraulic connectivity within the alluvium, and with the Tertiary sediments and Permian coal seams.
- Further assessments, including field work, should be completed to improve a local-scale conceptualisation of the alluvial groundwater system, characterise surface water-groundwater interactions and assess whether the model and its predictions are appropriate.
- Additional baseline surveys are needed of the composition and condition of tGDEs, including additional field assessments of their groundwater usage at different times of the year, to clarify potential impacts of the project and guide ongoing monitoring against a more reliable baseline dataset.
- Once further data have been collected, an impact pathway diagram should be developed to refine the understanding of how and where the project may impact water resources within and near the project area. This will assist in developing appropriate monitoring programs and management plans.
- The additional data, revised conceptualisation and the impact pathway diagram may indicate that improved prediction of local groundwater impacts is required, necessitating revised or local-scale modelling.
- Additional groundwater modelling should estimate and clearly document the long-term impacts of the proposed final void and the increased recharge of spoils.
- Given the importance of Phillips Creek and its riparian corridor for regional ecological connectivity, the proponent should confirm that the proposed setback will be 100–150 m wide along the creek, justify the choice of proposed width, and demonstrate that the setback's benefits will not be compromised by changes in the alluvial water levels, during and after mining (e.g. legacy impacts of the final void).

- Explicit account needs to be given to the climate warming trajectory and time horizon governing the impact of climate change on current and future flood risks, and information should be presented on the location, height, or freeboard allowance provided for the levees.
- An assessment should be made of how changes in mine water inventory may contribute to mine affected water releases to the receiving environment.
- The proponent should clarify how predicted drawdown, altered flow regimes in Phillips Creek, potential releases of MAW and removal of 205 ha of vegetation during the proposed 30-year operations will contribute to cumulative impacts of current and foreseeable mining in the area. Particular focus should be on the likely legacy of cumulative impacts of the final void on, for example, groundwater levels and water quality.
- Information is needed on the risks of the project to cumulative impacts on landscape connectivity if the setback is too narrow and/or compromised by lowered water levels in the alluvium.

Consistent with the *Environment Protection and Biodiversity Conservation Regulations 2000*, advice will be published on the IESC's website within 10 business days of being provided to the regulators.

## 2.2 Beetaloo Basin – Unconventional gas exploration and appraisal

The Committee discussed the Beetaloo Basin advice, including a review of the summary sections, responses to specific questions and figures, and prepared a final draft for review post Meeting 111. An inventory of final amendments to figures was also prepared.

### **3. Other business**

There was no other business.

### **4. Close of Meeting**

The meeting closed at 2.30 pm on Wednesday 11 December 2024.

### **Next Meeting**

The next meeting is scheduled as an in-person meeting on 29-31 January 2025.

Minutes confirmed as true and correct:

Dr Chris Pigram AM, FTSE

IESC Chair

20 December 2024

**Attachment A**

Item(s)	IESC Member	Disclosure	Determination
2.1	Dr Chris Pigram	I have a direct or indirect pecuniary interest in a matter being considered or about to be considered by the IESC, as follows: I jointly own shares in BHP who are joint owners of the Saraji Mine.	<p>It was determined that Dr Chris Pigram not be present during agenda item 2.1 (Saraji Mine Grevillea Pit Continuation Project), so as to not be present during any deliberation of the Committee about the matters, and to not take part in any decision of the Committee about the matters.</p> <p>The Committee elected Professor Rory Nathan to preside over the Committee’s deliberations of the Saraji Mine Grevillea Pit Continuation Project, as Dr Pigram wouldn’t be present to preside.</p>
2.1	Dr Jenny Stauber	I have a direct or indirect pecuniary interest in a matter being considered or about to be considered by the IESC, as follows ___ Joint owner of BHP shares so exclude from Saraji discussion and advice.	It was determined that Dr Jenny Stauber not be present during agenda item 2.1 (Saraji Mine Grevillea Pit Continuation Project), so as to not be present during any deliberation of the Committee about the matters, and to not take part in any decision of the Committee about the matters.
2.2	Dr Juliette Woods	I consider that there may be a possible conflict of interest in relation to agenda item 2.2 Beetaloo Basin — Unconventional gas exploration and appraisal as my sister works for Santos, one of the companies exploring the Basin’s resources.	It was determined that no actual, potential or perceived conflict of interest exists and Dr Juliette Woods can participate fully with the Committee during agenda item 2.2 (Beetaloo Basin — Unconventional gas exploration and appraisal).