MIDDLEMOUNT COAL MINE

SOUTHERN EXTENSION PROJECT
EPBC Act Preliminary Assessment Documentation (EPBC 2021/8920)

Attachment B
Request for Preliminary Documentation

middlemount coal PTY LTD
ABN 49 122 348 412

Additional information required for assessment by preliminary documentation

Middlemount Southern Extension Project, Queensland (EPBC 2021/8920)

On 17 June 2021 the delegate of the Minister for the Environment determined the above project is likely to have a significant impact on the following matters protected under Part 3 of the Environment Protection and Biodiversity Act 1999 (EPBC Act):

- listed threatened species and communities (sections 18 and 18A); and
- a water resource (sections 24D and 24E).

It has been determined that the proposed action will be assessed by preliminary documentation. Preliminary documentation for the proposal will include:

- The information contained in the original referral;
- The further information you provide on the impacts of the action and the strategies you propose to avoid, mitigate and offset those impacts (as described below); and
- Any other relevant information on the matters protected by the EPBC Act.

The preliminary documentation should be sufficient to allow the Minister (or delegate) to make an informed decision on whether to approve, under Part 9 of the EPBC Act, the taking of the action for the purposes of each controlling provision.

The preliminary documentation must address the matters set out below while following the content, format and style requirements.

GENERAL CONTENT, FORMAT AND STYLE

Content requirements

The preliminary documentation must:

- Be a stand-alone document containing sufficient information to avoid the need to search out previous or supplementary reports.
- Enable interested stakeholders and the Minister to easily understand the consequences of the project on matters of national environmental significance (MNES).
- Be written so that any conclusions reached can be independently assessed. Include all key claims, findings, proposals and undertakings in the main document.
- Refer to all relevant standards, policies and other guidance material published by the department. Any instances where published guidance is not followed must be justified. Where no Commonwealth standards exist, state government and industry standards may be useful.
- Include the names, roles and qualifications (where relevant) of all persons involved in preparing the preliminary documentation.

- Include a copy of this request for information and a cross-reference table indicating where the information fulfilling this request is included in the preliminary documentation (e.g. Section 4.2.2 and Appendix A, Chapter 2.1).
- State the following for all information provided:
  i. The source and date of the information.
  ii. How the reliability of the information was tested.
  iii. The uncertainties (if any) in the information.
  iv. The guidelines, plans, and/or policies considered.

Format and style requirements

The preliminary documentation must:

- Be in a suitable format to be published in hardcopy (A4 or A3 size, with maps and diagrams in A4 or A3 size and in colour) and published in electronic format (e.g. MSWord or PDF) on the internet.
- Include detailed technical information, studies or investigations necessary to support the information in the stand-alone document as appendices.
- Be objective, clear, succinct, avoid technical jargon and, where appropriate, be supported by maps, plans, diagrams, data or other descriptive detail.
- Reference all sources using the Harvard standard of referencing. Ensure that other supporting documents (e.g. academic studies, regulatory standards) are publicly accessible, with electronic links provided where possible.
- Redact the contact details of departmental officers.
- Not contain any commercial in confidence markings. If the preliminary documentation contains sensitive information, please discuss this with the assessment officer.

Ecological data provision

- The preliminary documentation must include an appendix of occurrence records (both sightings and evidence of presence) for all listed threatened species identified during field surveys for the proposed action. This data may be used by the department to update the relevant species distribution models that underpin the publicly available Protected Matters Search Tool (PMST).
- The species occurrence records must be provided in accordance with the department's *Guidelines for biological survey and mapped data* (2018) using the species observation data template provided with this request for additional information. Sensitive ecological data must be identified and treated in accordance with the department's *Sensitive Ecological Data – Access and Management Policy V1.0* (2016) or subsequent revision.

1. DESCRIPTION OF THE ACTION

The preliminary documentation must include:

- Inclusion of updated information if any changes have been made to the project since the referral documentation was submitted.

2. HABITAT ASSESSMENT – LISTED THREATENED SPECIES AND COMMUNITIES

Background

Based on the information provided in your referral, and other available information, the department considers that the listed species and communities identified below may be significantly impacted by the proposed action.

- Greater Glider (*Petauroides volans*) - Vulnerable
- Koala (combined populations of Qld, NSW and the ACT) (*Phascolarctos cinereus*) - Vulnerable
- Squatter Pigeon (southern) (*Geophaps scripta scripta*) - Vulnerable
- Ornamental snake (*Denisonia maculata*) - Vulnerable
- Brigalow (*Acacia harpophylla* dominant and co-dominant) - Endangered
- Poplar Box Grassy Woodland on Alluvial Plains - Endangered

It is the proponent's responsibility to be aware of any changes to listed threatened species and ecological community distributions and the information available in the SPRAT Database. The proponent must ensure that a recent PMST has been generated and considered before finalising the draft preliminary documentation.

The habitat assessments must be informed by desktop and field surveys (in accordance with departmental guidelines or as defined by best practice surveys), and with reference to relevant departmental documents (e.g. approved Conservation Advices, Recovery Plans, draft referral guidelines and Listing Advices), including the Species Profile and Threats (SPRAT) Database, published research, and other relevant sources.

General information required

- Habitat mapping for areas surrounding the proposed action area, particularly to the south of the project area where downstream impacts of the Roper Creek diversion may occur. Mapping must be for all relevant listed threatened species and communities listed above and follow habitat descriptions (derived from the SPRAT database) outlined in Table 1.

  Please note: the department does not accept the consideration of only Queensland Regional Ecosystem (RE) mapping to determine habitat for listed threatened species.

- Attach all relevant ecological surveys referenced in the referral and preliminary documentation as supporting documents to the preliminary documentation.

Specific information required

The preliminary documentation must address the following matters in addition to the general considerations listed above.

Koala (*Phascolarctos cinereus*) (combined populations of Qld, NSW and the ACT) – Vulnerable

- Provide an updated habitat assessment for the Koala consistent with *EPBC Act referral guidelines for the vulnerable koala*. The habitat assessment must include regrowth vegetation with emergent koala food trees and must not be based on Queensland Regional Ecosystem (RE) mapping.

Squatter Pigeon (Southern) (*Geophaps scripta scripta*) – Vulnerable

- Discuss breeding, foraging and dispersal habitat requirements, including total area (in hectares) of each breeding, foraging and dispersal habitat type. Ensure disturbed (non-remnant vegetation) areas are considered.
- Update mapping to reflect the above changes.

Ornamental Snake (*Denisonia maculata*) – Vulnerable

- Discuss habitat use requirements (e.g. shelter/refuge, foraging, dispersal, etc.), including consideration of known important habitat and suitable habitats. Include total area (in hectares) of each identified habitat type (e.g. shelter/refuge, foraging, dispersal, etc.).
- Provide details and locations (including a map) of known food sources (i.e. frog species).

Table 1: Habitat descriptions for listed threatened species and communities likely to be impacted by the proposed action.

MNES habitat	Habitat description
Koala	Any forest or woodland (including remnant, regrowth and modified vegetation communities) containing species that are Koala food trees or any shrubland with emergent Koala food trees.
Greater Glider	Eucalypt forests and woodlands with trees containing hollows.
Squatter Pigeon (southern)	Breeding habitat: Any remnant or regrowth open-forest to sparse, open-woodland or scrub dominated by *Eucalyptus*, *Corymbia*, *Acacia* or *Callitris* species, on sandy or gravelly soils (including but not limited to areas mapped as Queensland land zones 3, 5 or 7) and within 1 kilometre of a suitable, permanent or seasonal waterbody. Foraging habitat: Any remnant or regrowth open-forest to sparse, open-woodland or scrub dominated by *Eucalyptus*, *Corymbia*, *Acacia* or *Callitris* species, on sandy or gravelly soils (including but not limited to areas mapped as Queensland land zones 3, 5 or 7) and within 3 kilometres of a suitable, permanent or seasonal waterbody. Dispersal habitat: Any forest or woodland occurring between patches of foraging or breeding habitat that facilitates movement between patches of foraging habitat, breeding habitat and/or waterbodies, and areas of

	cleared land less than 100 metres wide linking areas of suitable breeding and/or foraging habitat.
Ornamental Snake	Gilgai mounds and depressions with cracking-clay soils and moist areas (particularly within, or close to, habitat that is known to be favoured by its prey [frogs]) with microhabitat features (i.e. logs, woody debris and leaf litter), and Brigalow threatened ecological community.
Brigalow TEC	The key diagnostic characteristics and condition thresholds in the *Approved Conservation Advice for the Brigalow* (Acacia harpophylla *dominant and co-dominant) ecological community* (2013), or subsequent revision.
Poplar Box TEC	The key diagnostic characteristics and condition thresholds in the *Conservation Advice (including listing advice) for the Poplar Box Grassy Woodland on Alluvial Plains* (2019), or subsequent revision.

3. IMPACT ASSESSMENT

Background

The project is considered likely to have impacts to the above listed threatened species and/or their habitat and impacts to a water resource. The preliminary documentation must include an assessment of direct, indirect and consequential impacts as a result of the proposed action using the most up-to-date data available, and must be assessed in accordance with relevant departmental policies and guidelines, including the SPRAT Database.

In addition to impacts from direct clearance, the department notes the potential for impacts to downstream environmental water users through changes in hydrology, water quality and groundwater drawdown. In providing information in the preliminary documentation, specific consideration should be given to the impact of land clearance including habitat fragmentation, the impact of groundwater drawdown and the possible indirect impact of this on nearby wetlands, the potential for GDEs to occur in the action area and downstream, and the impacts of increased surface water flow and sedimentation along Roper Creek.

The department notes that the IESC has already assessed water modelling and provided comments as part of previously referred actions. Considering documentation on the Southern Extension Project will be sent to the IESC as part of the assessment process, consider addressing any outstanding IESC recommendations in the preliminary documentation.

Information required

<u>Listed Species and Communities:</u>

- Revise the impact assessment based on changes requested in section 2.
- Include an assessment of the impacts of fragmentation on habitat in the proposed action area and surrounding areas, including consideration of species' movement patterns.

- Justify, with supporting evidence, how the proposed action will not be inconsistent with:

    a) Australia's obligations under the Biodiversity Convention, the Convention on Conservation of Nature in the South Pacific (Apia Convention), and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); and

    b) A recovery plan or threat abatement plan.

<u>Water Resource:</u>

Groundwater

- Provide further justification that the proposed Roper Creek diversion is unlikely to impact on shallow groundwater (Groundwater Assessment p80).
- Justify your assertion that potential terrestrial GDEs are not accessing groundwater (Groundwater Assessment p53-55), addressing the discrepancy in simulated and observed groundwater levels (p67 and Appendix F).
- Conduct ground-truthing of desktop analysis conducted on terrestrial GDEs and provide justification that vegetation are not GDEs. Consider that many species have been shown to have root systems of 22 mbgl (IESC 2018-097 p7), which is deeper than groundwater depth indicated.
- Assessment of wetlands in the vicinity of the project is limited. Describe potential impacts on wetland areas classed as High Ecological Significance to the North and East of the project (Aquatic Ecology Assessment Figure 11), including any proposed future groundwater monitoring.

Surface water

- Clarify whether discharges from the mine water dam are proposed. The water balance model does not simulate discharge but water release points are noted on Table 3.2 and Tables 5.2-5.4 of the Surface Water Assessment (p30,49). If discharges are proposed, provide a discussion on discharge triggers.
- Discuss the potential impacts of increasing salinity of voids on aquifers and surface water resources surrounding the project area (Surface Water Assessment p67) and justify why increasing salinity levels do not pose a risk.
- Considering the likelihood of increased sediment load in Roper Creek due to higher stream velocities (Surface Water Assessment p96), conduct further analysis on sediment transport potential in the final landform and predicted downstream sediment loads. Include clarification of how disturbed sediment transport over several years may impact on the final landform floodplain.
- Further discuss likely impacts to fish movement in Roper Creek (Aquatic Ecology Assessment p89).

4. PROPOSED AVOIDANCE, MITIGATION AND MANAGEMENT MEASURES

Background

Avoidance and mitigation measures are the primary methods of eliminating and reducing significant impacts on MNES. Where possible and practicable, it is best to avoid impacts. If impacts cannot be avoided, then they should be minimised or mitigated as much as possible. Avoidance and mitigation measures must be investigated thoroughly as part of the assessment and be supported by evidence to demonstrate likely success.

Management commitments by the person proposing to take the action must be clearly distinguished from recommendations or statements of best practice made by the document author or other technical expert.

The SPRAT Database, and associated statutory documents, may provide relevant mitigation measures for listed threatened species and ecological communities.

All proposed measures for MNES must be drafted to meet the 'S.M.A.R.T' principle:

- S – Specific (what and how)
- M – Measurable (baseline information, number/value, auditable)
- A – Achievable (timeframe, money, personnel)
- R – Relevant (conservation advices, recovery plans, threat abatement plans)
- T – Time-bound (specific timeframe to complete)

Information required

<u>General:</u>

- Include a detailed summary of the measures proposed to be undertaken to avoid, mitigate and manage relevant impacts of the proposed action on MNES listed in Section 2.
    - The proposed measures must be based on best available practices, appropriate standards, evidence of success for other similar actions, and supported by published scientific evidence.
    - Supply information on the timing, frequency and duration of the proposed avoidance, mitigation, management and monitoring measures, and corrective actions to be implemented.
    - All commitments must be drafted using committed language (e.g. 'will' and 'must') when describing the proposed measures.
- Supply plans associated with the above measures, e.g. the Middlemount Coal Species Management Program, as an appendix to the Preliminary Documentation.
- Include details of specific and measurable environmental outcomes to be achieved for relevant MNES.
- Provide an assessment of the expected or predicted effectiveness of the proposed measures.
- Discuss how avoidance, mitigation and management measures have been developed with reference to the SPRAT Database and relevant approved

conservation advice, and how the proposed measures are not inconsistent with relevant recovery plans and threat abatement plans.

- Provide details of ongoing management, including monitoring programs to support an adaptive management approach. This includes validation of the effectiveness of proposed measures and overall demonstration that the environmental outcomes will be achieved.
- Include details of tangible, on-ground corrective actions that will be implemented in the event the monitoring programs indicate that the environmental outcomes have not or will not be achieved.

Action:

- Regarding the expansion to waste rock emplacement areas to the east of the mine site, justify the necessity of this expansion and demonstrate impacts have been avoided to the greatest extent possible.
- Provide detail on how fauna will be facilitated to move off-site during clearing and construction.

Water Resource:

- Noting the potential for increased erosion risk associated with construction of the Roper Creek diversion, provide management and mitigation plans to address increased erosion to newly constructed banks and surrounding riparian areas. Include consideration of erosion of highly dispersive soils for flow rates above 40 Pa (Surface Water Assessment p109), deposition in downstream environments, and associated impacts on GDEs.
- Provide details of sediment load monitoring of Roper Creek that will occur before and after flow events to ascertain background sediment load before the waterway is diverted. Provide a discussion on future sediment load monitoring that will occur near the proposed diversion and in downstream waterways. Include trigger action response plans to manage any increase in sediment load to reduce impacts on downstream waterways and GDEs.
- Identify the frequency of sediment dam cleaning and where the collected sediment will be disposed of (Surface Water Assessment p118).
- Considering the conditions put in place for the Western Extension Project (EPBC 2017/8130) regarding aquatic ecology, and that this project will be 2.6km longer than the already approved diversion, discuss potential impacts to aquatic ecology and provide mitigation and management measures if necessary.
- Supply avoidance, mitigation and management measures if any impact to fish movement in Roper Creek is predicted.
- Provide timeframes for undertaking investigation or to implement response actions should groundwater quality trigger levels be exceeded (Groundwater Assessment p93-96).

5. REHABILITATION REQUIREMENTS

The preliminary documentation must include details on the proposed rehabilitation activities for all disturbed areas associated with the proposed action. At a minimum, the preliminary documentation must include details on:

- Rehabilitation acceptance criteria, including for the restoration of habitat for relevant listed threatened species and communities, including koala, greater glider and squatter pigeon.
- A summary of the procedures, including contingency measures that will be undertaken to achieve the rehabilitation acceptance criteria, including consideration of flooding and sediment loads.
- A summary of a monitoring program to determine the success of the rehabilitation activities implemented by the proponent. Include estimations for when the rehabilitated ecosystem will be self-sufficient.
- Details of how the conditions of the permit issued by the Department of Environment and Science (Rehabilitation requirements of the Environmental Authority EPML00716913) will be followed. Attach this permit as a supporting document to the preliminary documentation.

6. ENVIRONMENTAL OFFSETS – RESIDUAL SIGNIFICANT IMPACTS

Environmental offsets are measures that compensate for the residual significant impacts of an action on the environment. Offsets provide environmental benefits to counterbalance the impacts that remain after avoidance and mitigation measures. It is important to consider environmental offsets early in the assessment process and correspondence with the department regarding offsetting is highly encouraged.

The referral documentation for the Southern Extension Project states an intention to base offset requirements on MSES and to use existing offset areas identified for previous stages of the Middlemount Coal Mine. This does not currently align with the requirements of the department's *EPBC Act Environmental Offsets Policy*.

The department's *EPBC Act Environmental Offsets Policy* (2012) (Offsets Policy), available at: www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy, states that offsets must deliver a conservation gain for residual significant impacts associated with MNES additional to what is already required by environmental planning laws at any level of government. It also states that, if a piece of land has already been set aside for conservation activities, the offset must be for further activities that achieve additional conservation gain.

The preliminary documentation must include an assessment of the likelihood of residual significant impacts occurring on relevant MNES, after avoidance, mitigation and management measures have been applied. If it is determined that a residual significant impact is likely, include a summary of the proposed environmental offset and key commitments in the preliminary documentation that align with requirements of the department's *EPBC Act Environmental Offsets Policy*.

Include a draft Offset Management Strategy (OMS) or a draft Offset Area Management Plan (OAMP) as an appendix in the preliminary documentation for assessment and approval. If an

offset area has been nominated, then provide an OAMP. If not, provide an OMS. Further, the department is likely to recommend to the Minister (or delegate) that the conditions of approval require the environmental offset/s or the OAMP be approved and implemented prior to the commencement of the proposed action.

Information required in an OMS

Include a draft OMS as an appendix to the preliminary documentation that provides, at a minimum:

- specific details of the nature of the conservation gain to be achieved for relevant MNES, including the creation, restoration and revegetation of habitat in the proposed offset area/s;
- details of the environmental offset/s (in hectares) to compensate for the residual significant impacts of the proposed action on relevant MNES, and/or their habitat;
- details of the potential offset area/s (including a map) to compensate for the residual significant impacts of the proposed action on relevant MNES, and/or their habitat;
- the methodology, with justification and supporting evidence, used to inform the inputs of the Offsets Assessment Guide in relation to the project site for each relevant MNES, including:
    - total area of habitat (in hectares)
    - habitat quality (e.g. using the Queensland Government *Guide to determining terrestrial habitat quality: A toolkit for assessing land based offsets under the Queensland Environmental Offsets Policy* [2020])
- the methodology, with justification and supporting evidence, used to inform the inputs of the Offsets Assessment Guide in relation to each potential offset area/s for each relevant MNES, including:
    - time over which loss is averted (max. 20 years)
    - time until ecological benefit
    - risk of loss (%) without offset
    - risk of loss (%) with offset
    - confidence in result (%)
- evidence that the relevant MNES, and/or their habitat, can be present in the potential offset area/s;
- information about how the potential offset area/s provides connectivity with other relevant habitats and biodiversity corridors; and
- details and execution timing of the mechanism to legally secure the environmental offset/s (under Queensland legislation or equivalent) to provide enduring protection for the potential offset area/s against development incompatible with conservation.

Information required in an OAMP

Include a draft OAMP as an appendix to the preliminary documentation which provides:

- specific, committal and measurable environmental outcomes which detail the nature of the conservation gain to be achieved for relevant MNES, including the creation, restoration and revegetation of habitat in the proposed offset area/s;
- details, with supporting evidence, to demonstrate how the environmental offset/s compensate for residual significant impacts of the proposed action on relevant MNES, and/or their habitat, in accordance with the principles of the Offsets Policy and all requirements of the Offsets Assessment Guide including:
    - time over which loss is averted (max. 20 years)
    - time until ecological benefit
    - risk of loss (%) without offset
    - risk of loss (%) with offset
    - confidence in result (%)
- a description of the offset area/s, including location, size, condition, environmental values present and surrounding land uses;
- baseline data and other supporting evidence that documents the presence of the relevant MNES, and the quality of their habitat within the offset area/s;
- an assessment of the site habitat quality for the offset area/s (e.g. using the Queensland Government *Guide to determining terrestrial habitat quality: A toolkit for assessing land based offsets under the Queensland Environmental Offsets Policy* [2020]);
- details of how the offset area/s will provide connectivity with other habitats and biodiversity corridors and/or will contribute to a larger strategic offset for the relevant MNES;
- maps and shapefiles to clearly define the location and boundaries of the offset area/s, accompanied by the offset attributes (e.g. physical address of the offset area/s, coordinates of the boundary points in decimal degrees, the relevant MNES that the environmental offset/s compensates for, and the size of the environmental offset/s in hectares);
- specific offset completion criteria derived from the site habitat quality to demonstrate the improvement in the quality of habitat in the offset area/s over a 20 year period;
- details of the management actions, and timeframes for implementation, to be carried out to meet the offset completion criteria;
- interim milestones that set targets at 5-yearly intervals for progress towards achieving the offset completion criteria;
- details of the nature, timing and frequency of monitoring to inform progress against achieving the 5-yearly interim milestones (the frequency of monitoring must be

sufficient to track progress towards each set of milestones, and sufficient to determine whether the offset area/s are likely to achieve those milestones in adequate time to implement all necessary corrective actions);

- proposed timing for the submission of monitoring reports which provide evidence demonstrating whether the interim milestones have been achieved;
- timing for the implementation of tangible, on-ground corrective actions to be implemented if monitoring activities indicate the interim milestones have not been achieved;
- risk analysis and a risk management and mitigation strategy for all risks to the successful implementation of the OAMP and timely achievement of the offset completion criteria, including a rating of all initial and post-mitigation residual risks in accordance with a risk assessment matrix;
- evidence of how the management actions and corrective actions take into account relevant approved conservation advices and are consistent with relevant recovery plans and threat abatement plans;
- details and execution timing of the mechanism to legally secure the proposed offset area/s, such that legal security remains in force over the offset area/s for at least 20 years to provide enduring protection for the offset area/s against development incompatible with conservation; and
- the use of committed language (e.g. 'will' and 'must') when describing the proposed management actions, monitoring approach and corrective actions.

The draft OAMP must be prepared by a suitably qualified ecologist and in accordance with the department's *Environmental Management Plan Guidelines* (2014), available at: www.environment.gov.au/epbc/publications/environmental-management-plan-guidelines.

Note: Supporting evidence must be included in the draft OAMP to justify how proposed management action/s are additional to the existing requirements of the landholder in managing their land (e.g. weed and pest management requirements under the Queensland *Biosecurity Act 2014*, existing grazing regimes, etc.) as required by the Offsets Policy. This may include, but not be limited to historical grazing regimes, satellite imagery and written statements from landholders.

7. ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)

The preliminary documentation must provide a description of how the proposed action meets the principles of ESD, as defined in section 3A of the EPBC Act.

More information on ESD is available at www.environment.gov.au/about-us/esd/publications/national-esd-strategy.

8. ECONOMIC AND SOCIAL MATTERS

The economic and social impacts of the action, both positive and negative, must be analysed, including:

- Details of any public consultation activities undertaken and their outcomes.
- Details of any consultation with Indigenous stakeholders.
- Projected economic costs and benefits of the project, including the basis for their estimate through cost/benefit analysis or similar studies.
- Employment opportunities expected to be generated by the project (including construction and operational phases).

9. ENVIRONMENTAL RECORD OF THE PERSON PROPOSING TO TAKE THE ACTION

The preliminary documentation must include details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:

- the person proposing to take the action;
- for an action for which a person has applied for a permit, the person making the application;
- if the person is a body corporate−the history of its executive officers in relation to environmental matters;
- if the person is a body corporate that is a subsidiary of another body or company (the parent body)—the history in relation to environmental matters of the parent body and its executive officers; and

If the person proposing to take the action is a corporation, details of the corporation's environmental policy and planning framework must also be included.