

Blackwater Mine South Coking Coal Project

Application Number: 01262

Commencement Date: 08/06/2022

Status: Draft

1. About the project

1.1 Project details

Project title *

Blackwater Mine South Coking Coal Project

Project industry type *

Mining

Project industry sub-type

Coal

Estimated start date *

1/01/2029

Estimated end date *

29/12/2119

1.2 Proposed Action details

Provide an overview of the proposed action, including all proposed activities. *

BM Alliance Coal Operations Pty Ltd (BMA), is the manager and agent on behalf of the Central Queensland Coal Associates Joint Venture (CQCA). CQCA is an unincorporated joint venture between BHP Group Limited (BHP) (50%) and Mitsubishi Development Pty Ltd (Mitsubishi Development) (50%). BMA proposes to develop the Blackwater South Coking Coal Project (herein referred to as the Action), located within the Central Highland Regional Local Government Area (LGA), approximately 50 km south-west of Blackwater and 80 km south-east of Emerald, Queensland (Figure 1 – Attachment (Att) A, page 1). The Action would involve the development of an open cut metallurgical coal mine and associated on-site and off-site infrastructure. The Action is a separate project from the adjacent, currently operating Blackwater Mine (also owned and operated by BMA), however there is some potential of shared infrastructure between the projects. The Action Area (Figure 2 - Att A, page 2) is within Mineral Development Licence (MDL) 155, MDL 189, Mining Lease (ML) 70167 and ML 70139. It is anticipated that the Action would include, but not be limited to, the following components and activities within the Action Area:

- staged development of an open cut coal mine which would produce metallurgical coal for steel making (otherwise known as coking coal) (a secondary export quality thermal coal product stream may also be produced during the life of the Action);

- construction and operation of a rail loop and train load-out facility connecting to the Rolleston Line (part of the Blackwater System);
- construction and operation of mine infrastructure areas, including an on-site CHPP, workshops, and offices;
- staged development and operation of a temporary construction workforce accommodation village (WAV) and permanent WAV (if required);
- construction and use of electricity transmission lines to connect to the existing transmission network at the Blackwater Mine;
- construction and use of primary access roads from Humboldt Road and Penrose Road;
- construction of temporary and permanent road diversions (including Humboldt Road, Comet Road, Meroo Downs Road and other local access roads);
- construction and operation of a haul road crossing(s) or bridge(s) over the Rolleston Mine Railway and over Rocklands Creek;
- construction and operation of ancillary infrastructure in support of mining including mine infrastructure areas, coal pads and stockpiles, haul roads, access roads, storage and lay down areas;
- construction of an initial out-of-pit reject and tailings co-disposal facility, until such time as sufficient in-pit capacity for co-disposal is available;
- on-site excavation and production of gravel and other construction fill materials for use on-site;
- use of an on-site landfill to dispose of certain waste streams generated on-site;
- construction of CHPP reject dewatering facilities to allow for co-disposal of fine rejects with waste rock material (i.e. overburden and interburden);
- progressive development of the Action water management system including the construction of water supply pipelines, raw water, sediment and mine water dams, pumps, groundwater bores and associated pit dewatering infrastructure;
- progressive development of surface water management structures such as watercourse diversions and levees;
- progressive topsoil stripping and construction and use of soil stockpiles;
- drilling and blasting of competent waste rock material;
- placement of waste rock material in out-of-pit waste rock emplacements and within the footprint of the open cut voids;
- use of conventional open cut mining methods (including draglines and truck and shovel methods) to extract up to approximately 10 million tonnes per annum (Mtpa) of run-of-mine (ROM) coal for up to approximately 90 years;
- ongoing exploration activities; and
- other associated infrastructure, plant, equipment and activities to support mining operations.

Certain activities within the Action Area are unlikely to have a significant impact on Matters of National Environmental Significance (MNES), and are excluded from the Action for this referral. These activities are: access tracks, exploration activities, internal water and power supply infrastructure, construction of buildings, lay down areas, car parks, minor ground preparation works, survey and demarcation activities, works relating to the management or salvage of Aboriginal heritage items, and installation of monitoring equipment (e.g. monitoring bores).

Is the project action part of a staged development or related to other actions or proposals in the region?

No

What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

State Development and Public Works Organisation Act 1971

An IAS has been prepared for the Action and lodged with the Queensland Office of the Coordinator-General. The IAS forms part of the application for declaration of the Action as a Coordinated Project. The Coordinator-General will assess the application and determine whether the Action meets the requirements for declaration as a Coordinated Project.

Environmental Protection Act 1994 and Mineral and Energy Resources (Financial Provisioning) Act 2018

An Environmental Authority (EA) is required to conduct Environmentally Relevant Activities (ERAs). ERAs are listed in the Environmental Protection (EP) Regulation. Prior to issue of an EA, an applicant must be registered as a suitable operator under section 318F of the *Environmental Protection Act 1994* (EP Act). BMA is a registered suitable operator registered under the EP Act (reference number 401276).

A Progressive Rehabilitation and Closure Plan (PRCP) (including the PRCP Schedule) must be prepared and submitted as part of the EA application and approved before BMA may carry out any activities under the EA.

Mineral Resources Act 1989

Coal mining and production, and associated activities including processing must be conducted within a mining lease. Mining and associated activities conducted as part of the Action within MDL 155 and MDL 189 will require the application and approval of a mining lease with relevant surface rights.

Water Act 2000

A water licence may be required to take or interfere with water or the flow of water. An associated water licence may be required for incidental groundwater taken as part of the open cut mining activities. A Riverine Protection Permit may be required for excavation or placing of fill within a watercourse, where the works are conducted outside a mining lease.

Native Title Act 1993 and Aboriginal Cultural Heritage Act 2003

The Gaangalu Nation People are the Native Title holders for the Action Area, and are considered the 'Aboriginal Party' for the purposes of the *Aboriginal Cultural Heritage Act 2003* (ACH Act). The Action Area, and the existing Blackwater Mine, are located within the extent of the Blackwater and South Blackwater Mines Indigenous Land Use Agreement (ILUA) (QI2001/035), formed with the Kangoulu People, the Gurang Land Council and the Ghungalu People in 2003.

In accordance with the requirements for an Environmental Impact Statement (EIS) under the ACH Act, BMA would prepare a Cultural Heritage Management Plan (CHMP) for the Action.

Nature Conservation Act 1992

There is the potential for habitat and species specified under the *Nature Conservation Act 1992* (NC Act) to occur within the Action Area. BMA would apply for relevant licences and permits required under the NC Act.

Planning Act 2019

The components of the Action located outside a mining lease (i.e. the workforce accommodation village) may require development approvals, under the relevant local government planning scheme and the Planning Regulation 2019.

Local Environmental Plans

The Action Area is located within the Central Highlands Regional LGA of the Bowen Basin, in central Queensland, within the lands covered by the *Central Highlands Regional Council Planning Scheme 2016*.

Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

Consultation and engagement with relevant stakeholders to date has focused on providing an overview of BMA, obtaining land access for baseline studies and an initial introduction to the Action and its infrastructure requirements. Stakeholder engagement has been carried out with the following stakeholders:

- local landholders;
- community groups;
- Central Highlands Regional Council;
- Native Title parties (Gurang Land Council);
- Office of the Coordinator-General;
- Department of Environment and Science (DES);
- Department of Resources (DoR);
- Department of Regional Development, Manufacturing and Water (DRDMW);
- Commonwealth Department of Agriculture, Water and Environment (DAWE);
- overlapping tenure holders; and
- infrastructure service providers.

Consultation regarding the Action is planned to increase as the design and assessment develops. As components of the Action become more refined, BMA will be able to have more detailed technical discussions regarding the Action, its potential impacts, and its proposed mitigation and management strategies.

Key input points include, although are not limited to:

- development and finalisation of the Terms of Reference (ToR);
- consultation during preparation and lodgement of the EIS; and
- consultation post EIS lodgement, exhibition and supplementary EIS development, lodgement and exhibition prior to determination.

Consultation mechanisms used for other BMA projects and expected to be used for the Action include:

- face-to-face meetings;
- roadshows;
- information sessions;

- newsletters and fact sheets;
- emails;
- media releases;
- advertising;
- action website;
- community information sessions;
- digital communications campaigns; and
- qualitative and quantitative research.

1.3 Identity - Referring party

Privacy Notice:

Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

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Confirm that you have read and understand this Privacy Notice *

Is Referring party an organisation or business? *

Yes

Referring party organisation details

| | |
|-----------------------------|--|
| ABN | 67096412752 |
| Organisation name | BM Alliance Coal Operations Pty Limited |
| Organisation address | Level 14, 480 Queen Street Brisbane, QLD, 4000 |

Referring party details

| | |
|------------------|----------------|
| Name | Tessa Clisdell |
| Job title | |

| | |
|----------------|------------------------|
| Phone | 0428456486 |
| Email | tessa.clisdell@bhp.com |
| Address | |

1.3 Identity - Person proposing to take the action

Are the Person proposing to take the action details the same as the Referring party details? *

Yes

| | |
|--|--|
| Person proposing to take the action organisation details | |
| ABN | 67096412752 |
| Organisation name | BM Alliance Coal Operations Pty Limited |
| Organisation address | Level 14, 480 Queen Street Brisbane, QLD, 4000 |
| Person proposing to take the action details | |
| Name | Tessa Clisdell |
| Job title | |
| Phone | 0428456486 |
| Email | tessa.clisdell@bhp.com |
| Address | |

Are you proposing the action as part of a Joint Venture? *

Yes

| Joint Venture Name | Business Address | ABN/ACN | Responsible Person | Email |
|--|---|-------------|--------------------|------------------------|
| Central Queensland Coal Associates Joint Venture | 480 Queen Street 4000 Brisbane Queensland | 67096412752 | Tessa Clisdell | tessa.clisdell@bhp.com |

Are you proposing the action as part of a Trust? *

No

Describe the Person proposing the action's history of responsible environmental management including details of any 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. *

BMA has an excellent record of responsible environmental management and a strong commitment to the communities and the environments in which it operates. BMA has no convictions for breaches of environmental management requirements and regularly reviews environmental performance and publicly reports on progress.

BMA has not been subject to any environmental related proceedings in any of the following Courts: High Court, Federal Court, Supreme Court, District Court, and Planning and Environment Court.

BMA has been the subject of environmental related proceedings in the Queensland Magistrates Court, for matters related to State legislation. A fine was imposed and paid by BMA. No conviction was recorded.

The action will be undertaken in accordance with the corporation's environmental policy and framework.

BHP's approach to environmental management is incorporated in the Charter, which outlines 'an overriding commitment to health, safety, environmental responsibility and sustainable development'.

BHP's *Annual Report 2021* provides details of BHP's sustainability performance; health and safety; environment; climate change; water; society; people and ethics and business conduct (Att B 'BHP Annual Report 2021', page 34). BHP has set five-year targets and longer-term goals which include:

- People:
 - Zero work-related fatalities.
 - Year-on-year improvement of total recordable injury frequency per million hours worked.
 - 50% reduction in the number of workers potentially exposed to our most material exposures of diesel particulate matter, respirable silica and coal mine dust compared to our Financial Year (FY) 2017 baseline by FY2022.
- Society:
 - Zero significant community events.
 - Not less than 1% of pre-tax profits invested in community programs that contribute to the quality of life in communities where we operate and support the achievement of the United Nations Sustainable Development Goals.
 - By FY2022 implement our Indigenous Peoples Strategy across all our operated assets through the development of Regional Indigenous Peoples Plans.
- Climate Change:
 - By FY2022, maintain operational (Scope 1 and Scope 2) greenhouse gas emissions at or below FY2017 levels while we continue to grow our business.
 - Achieve net zero operational greenhouse gas emissions by 2050 (FY2020 baseline).
 - Reduce operational emissions by 30% by 2030.
- Environment:
 - Zero significant environmental events.
 - Reduce FY2022 withdrawal of fresh water by 15% from FY2017 levels.
 - By FY2022, improve marine and terrestrial biodiversity outcomes by developing a framework to evaluate and verify the benefits of our actions, in collaboration with others.

Mitsubishi Development (a wholly owned subsidiary of Mitsubishi Corporation) operates under three corporate principles: corporate responsibility to society; integrity and fairness; and global understanding through business.

These principles are the heart of Mitsubishi Development's sustainability approach, which strives to address the following key sustainability issues:

- transitioning to a low-carbon society;
- procuring, operating and supplying in a sustainable manner;
- tackling evolving regional issues in Australia;
- addressing the needs of society through business innovation and new technology;
- conserving the natural environment;
- growing together with local communities; and
- fostering our employees' maximum potential including health and safety.

Mitsubishi Development is committed to reducing greenhouse gases by implementing new operational efficiencies and sustainable technologies, as well as actively pursuing business partnerships that facilitate the transition to a low-carbon society. Mitsubishi Corporation, Mitsubishi Development's parent company, aims to reduce greenhouse gas emissions by 25% by 2030 per total assets, compared to 2017 levels.

BMA has been responsible for multiple actions under the EPBC Act, including (but not limited to):

- 2021/9031 – BM Alliance Coal Operations Pty Ltd, Caval Ridge Coal Mine Horse Pit Extension.
- 2019/8576 – BM Alliance Coal Operations Pty Ltd, Saraji Mine Spring Creek to Phillips Creek Diversion.
- 2016/7791 – BM Alliance Coal Operations Pty Ltd, Saraji East Mining Lease Project.
- 2013/6868 – BM Alliance Coal Operations Pty Ltd, Dysart Road Relocation.
- 2013/6865 – BM Alliance Coal Operations Pty Ltd, Red Hill Mining Project.
- 2012/6260 – BM Alliance Coal Operations Pty Ltd, 7 North Dam Extension Project – Peak Downs Mine.
- 2012/6268 – BM Alliance Coal Operations Pty Ltd, M Block 3D Seismic Survey Program.

1.3 Identity - Proposed designated proponent

Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

| | |
|-----------------------------|--|
| ABN | 67096412752 |
| Organisation name | BM Alliance Coal Operations Pty Limited |
| Organisation address | Level 14, 480 Queen Street Brisbane, QLD, 4000 |

Proposed designated proponent details

| | |
|------------------|------------------------|
| Name | Tessa Clisdell |
| Job title | |
| Phone | 0428456486 |
| Email | tessa.clisdell@bhp.com |
| Address | |

1.3 Identity - Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

| | |
|----------------------|--|
| ABN | 67096412752 |
| Organisation name | BM Alliance Coal Operations Pty Limited |
| Organisation address | Level 14, 480 Queen Street Brisbane, QLD, 4000 |

| | |
|----------------------------|------------------------|
| Representative's name | Tessa Clisdell |
| Representative's job title | |
| Phone | 0428456486 |
| Email | tessa.clisdell@bhp.com |
| Address | |

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

Same as Referring party information.

Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details - Payment exemption and fee waiver

Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

Has the department issued you with a credit note? *

No

Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A? *

No

Would you like to add a purchase order number to your invoice? *

No

1.4 Payment details - Payment allocation

Who would you like to allocate as the entity responsible for payment? *

Third party

Is the third party an organisation? *

Yes

Do they have an existing ABN or ACN? *

Yes

ABN / ACN *

67096412752

Organisation name *

BM ALLIANCE COAL OPERATIONS PTY LIMITED

Organisation's primary address *

Level 14, 480 Queen Street Brisbane, QLD, 4000

First name *

Tessa

Last name *

Clisdell

Job title *

Principal Environment

Phone *

07 3226 0400

Email *

tessa.clisdell@bhp.com

tessa.clisdell@bhp.com (mailto:tessa.clisdell@bhp.com)

Address *

2. Location

2.1 Project footprint

Loading...

2.2 Footprint details

What is the address of the proposed action? *

Humboldt Road Humboldt, Queensland 4702, Australia.

Where is the primary jurisdiction of the proposed action? *

Is there a secondary jurisdiction for this proposed action? *

No

What is the tenure of the action area relevant to the project area? *

The Action Area is located within ML 70167, ML 70139, MLA 700069, MLA 700070, MLA 700071, MDL155 and MDL189 held by South Blackwater Coal Pty Ltd (Figure 3 – Att A, page 3).

The granting of MLs for the Action would be conditional upon BMA entering into a coordination arrangement with the holder of the overlapping Petroleum Lease (PL) 1082 (Australian Pacific LNG Pty Limited). Other overlapping tenements include Authority to Prospect (ATP) 2048 and 2061 (held by Comet Ridge Mahalo North Pty Ltd).

The Action would occur within parts of: Lot 11HT526, 12WNA120, 9SP187935, 8WNA107, 3SP162568, 5WNA106, 1SP203781, 1SP168790, 12SP185512, 7SP187934 and 13WNA75.

3. Existing environment

3.1 Physical description

Describe the current condition of the project area's environment.

The majority of the Action Area contains non-remnant vegetation, previously cleared as part of historic and current agricultural land uses. Patches of remnant vegetation occur in parts, particularly along the ridges, watercourses and drainage line corridors. Land within the Action Area is used predominantly for cattle grazing, with some areas to the east and south-west used for cropping (dryland agriculture).

Twenty five introduced species (including sixteen fauna and nine flora species) with the potential to occur within the Action Area and surrounds, were also identified by the EPBC Act Protected Matters Search (DAWE, 2021a).

REs identified by the DES (2021) regional mapping are shown on Figure 4 (Att A, page 4) and TECs are shown on Figure 5 (Att A, page 5).

Describe any existing or proposed uses for the project area.

As the Action is located within the Bowen Basin mining precinct, coal and petroleum (i.e. coal seam gas [CSG]) mining exploration activities have been conducted within the Action Area and surrounds for decades. Land within the Action Area is used predominantly for cattle grazing, with some areas to the east and south west used for cropping (dryland agriculture).

Within the immediate vicinity of the Action is the existing Blackwater Mine to the north, and the Cook Colliery underground mine to the north east (under care and maintenance). A number of other existing and approved/proposed mines exist in the surrounds including the Meteor Downs South Mine, Rolleston Mine, Springsure Creek Project, and the Minyango Project (Figure 1 – Att A, page 1).

The Action falls within the Surat CMA for petroleum exploration and leasing. Petroleum exploration activities throughout the region are extensive and a number of existing petroleum tenements overlap with the Action Area as explained in Section 2.2.4 (Figure 3 – Att A, page 3).

Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

There are no outstanding or unique values that apply to the project area.

Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The landscape in the Action Area has average elevations of approximately 210 m Australian Height Datum (AHD) in the south west to approximately 310 m AHD in the higher areas to the north east. The landscape is generally flat to slightly undulating.

3.2 Flora and fauna

Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

Database searches of the following were undertaken to identify any Matters of National and/or State Environmental Significance with the potential to occur in the Action Area and surrounds:

- Wildlife Online Database Search (DES, 2021b);
- EPBC Protected Matters Search (DAWE, 2021a);

- Atlas of Living Australia (ALA) Database Search (ALA, 2021); and
- Birdlife Australia (BLA) Database Search (BLA, 2021).

The database searches identified eighteen conservation significant flora species under either the EPBC Act or NC Act relevant to the Action Area or surrounds. Threatened species and communities potentially impacted by the works to be undertaken within the Action Area are summarised in Section 4.1.5.

The majority of the Action Area contains non-remnant vegetation, previously cleared as part of historic and current agricultural land uses. Patches of remnant vegetation occur in parts, particularly along the ridges, watercourses and drainage line corridors. REs within the Action Area have been identified by the DES (2021a) regional mapping and initial ecological surveys undertaken in 2018, 2019 and 2020 (Figure 4 – Att A, page 4). Of the REs identified within the Action Area or surrounds, the following are associated with TECs:

- 11.3.1 – *Acacia harpophylla* and/or *Casuarina cristata* open forest on alluvial plains.
- 11.3.2 – *Eucalyptus populnea* woodland on alluvial plains.
- 11.4.8 – *Eucalyptus cambageana* woodland to open forest with *Acacia harpophylla* or *A. argyrodendron* on Cainozoic clay plains.
- 11.4.9 – *Acacia harpophylla*, *Lysiphyllum carronii* +/- *Casuarina cristata* open forest to woodland.
- 11.5.16 – *Acacia harpophylla* and/or *Casuarina cristata* open forest in depressions on Cainozoic sand plains and remnant surfaces.
- 11.8.11 – *Dichanthium sericeum* grassland on Cainozoic igneous rocks.
- 11.9.5 – *Acacia harpophylla* and/or *Casuarina cristata* open forest on fine-grained sedimentary rocks.

REs that contain, or potentially contain, these TECs are mapped on Figure 4 (Att A, page 4).

The EPBC Act Protected Matters Search (DAWE, 2021a) identified the following TECs listed under the EPBC Act with the potential to occur in the Action Area and surrounds:

- Brigalow (*Acacia harpophylla* dominant or co-dominant).
- Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions.
- Natural Grasslands of the Queensland Central Highlands and Northern Fitzroy Basin.
- Poplar Box Grassy Woodland on Alluvial Plains.
- Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions.
- Weeping Myall Woodlands.

Detailed vegetation mapping would be undertaken as part of the EIS to validate and ground-truth the RE and TEC mapping.

The database searches identified flora and fauna species listed as conservation significant or migratory under either the EPBC Act or NC Act, relevant to the Action Area and surrounds. Threatened species and communities potentially impacted by the works to be undertaken within the Action Area are summarised in Section 2.4.

Twenty five introduced species (including nine flora and sixteen fauna species) with the potential to occur within the Action Area and surrounds were also identified by the EPBC Act Protected Matters Search (DAWE, 2021a):

- Rubber Vine (*Cryptostegia grandiflora*);
- Hymenachne (*Hymenachne amplexicaulis*);
- Cotton-leaved Physic-Nut (*Jatropha gossypifolia*);
- Lantana (*Lantana camara*);
- Prickly Pears (*Opuntia* spp.);
- Parkinsonia (*Parkinsonia aculeata*);
- Parthenium Weed (*Parthenium hysterophorus*);
- Silver Nightshade (*Solanum elaeagnifolium*);
- Prickly Acacia (*Vachellia nilotica*);
- Cane Toad (*Rhinella marina*);
- House Sparrow (*Passer domesticus*);
- Spotted Turtle Dove (*Streptopelia chinensis*);
- Rock Pigeon (*Columba livia*);
- Common Starling (*Sturnus vulgaris*);
- Common Myna (*Acridotheres tristis*);
- Mallard (*Anas platyrhynchos*);
- House Mouse (*Mus musculus*);
- Black Rat (*Rattus rattus*);
- Domestic Dog (*Canis lupus familiaris*);
- Red Fox (*Vulpes vulpes*);
- Cat (*Felis catus*);
- Brown Hare (*Lepus capensis*);
- Rabbit (*Oryctolagus cuniculus*);

- Pig (*Sus scrofa*); and
- Domestic Cattle (*Bos taurus*).

Describe the vegetation (including the status of native vegetation and soil) within the project area.

Soil types in the Action Area have been generally described as grey and black self-mulching cracking clays and red massive earth soils located on gentle or moderately undulating lands and level plains (Queensland Government, 2021a). Parts of the Action Area also include some steeper escarpments and low mesa-like hills (e.g. Toprain Hill, which rises approximately 50 m above the surrounding land).

The majority of the Action Area contains non-remnant vegetation, previously cleared as part of historic and current agricultural land uses. Patches of remnant vegetation occur in parts, particularly along the ridges, watercourses and drainage line corridors. REs within the Action Area have been identified by the DES (2021a) regional mapping and initial ecological surveys undertaken in 2018, 2019 and 2020 (Figure 4 – Att A, page 4).

Land within the Action Area is used predominantly for cattle grazing, with some areas to the east and south west used for cropping (dryland agriculture). REs identified by the DES (2021a) regional mapping are shown on Figure 4 (Att A, page 4). Of the REs identified within the Action Area or surrounds, the following are associated with TECs:

- 11.3.1 – *Acacia harpophylla* and/or *Casuarina cristata* open forest on alluvial plains.
- 11.3.2 – *Eucalyptus populnea* woodland on alluvial plains.
- 11.4.8 – *Eucalyptus cambageana* woodland to open forest with *Acacia harpophylla* or *A. argyrodendron* on Cainozoic clay plains.
- 11.4.9 – *Acacia harpophylla*, *Lysiphyllum carronii* +/- *Casuarina cristata* open forest to woodland.
- 11.5.16 – *Acacia harpophylla* and/or *Casuarina cristata* open forest in depressions on Cainozoic sand plains and remnant surfaces.
- 11.8.11 – *Dichanthium sericeum* grassland on Cainozoic igneous rocks.
- 11.9.5 – *Acacia harpophylla* and/or *Casuarina cristata* open forest on fine-grained sedimentary rocks.

The TECs within the Action Area are mapped on Figure 5 (Att A, page 5). Within the Action Area (approximately 21,042.7 ha) there is approximately 2,486.3 ha of remnant vegetation, 532.2 ha of high value remnant vegetation, and 18,024.2 ha of non-remnant vegetation (DES, 2021a).

3.3 Heritage

Describe any Commonwealth heritage places overseas or other places recognised as having heritage values that apply to the project area.

The Action Area does not contain any Commonwealth Heritage Places.

The Queensland Heritage Register (July 2021) includes no culturally significant sites in the general vicinity of the Action (Queensland Government, 2021b). The closest significant site was located in Springsure, 60 km to the west of the Action Area. The National Heritage List, which identifies nationally significant cultural sites, also showed no sites within the Action Area or its surrounds (DAWE, 2021a).

Describe any Indigenous heritage values that apply to the project area.

A number of cultural heritage sites have been identified within the Action Area, primarily along the riparian corridor of Rockland Creek. The Action Area, and the existing Blackwater Mine, are located within the extent of the Blackwater and South Blackwater Mines ILUA (QI2001/035), formed with the Kangoulu People, the Gurang Land Council and the Ghungalu People in 2003.

In accordance with the requirements for an EIS under the Aboriginal Cultural Heritage Act 2003, BMA would prepare a CHMP for the Action.

3.4 Hydrology

Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

The Action Area lies within the Comet River sub-basin within the Fitzroy River basin as defined by the *Environmental Protection (Water and Wetland Biodiversity) Policy 2019* (EPP [Water and Wetland Biodiversity]). No diversions of the Comet River are required for the Action.

Tributaries of the Comet River in the vicinity of the Action Area include (Figure 6 – Att A, page 6):

- Rockland Creek;
- Shotover Creek; and
- Three Mile Creek.

Rockland Creek passes through the centre of the Action Area and drains to Humboldt Creek, which then drains to the Comet River. Shotover Creek drains the southern areas of the Action Area to Humboldt Creek. The unnamed drainage line in the western portion of MDL155 is an upper headwater gully of Three Mile Creek. Three Mile Creek drains to the Comet River via Sirius Creek.

The Comet River and associated tributaries are ephemeral in nature, and generally do not flow for the majority of the year. Flow duration data from the Queensland Government operated monitoring stations is available for the Comet River catchment at three sites:

- Comet River at Comet Weir (130504B).
- Comet River at Springsure Creek Junction (130510A).
- Comet River at The Lake (130506A).

Monitoring data indicates that the Comet River is typically dry between April and November, and subject to short periods of high flows in summer.

It is expected that the Action coal resource is within a confined and semi-confined porous rock groundwater system within the Highlands GMA as defined by the Fitzroy Basin Water Resource Plan. The Highlands GMA consists of the following groundwater units:

- Highlands Groundwater Unit 1, containing the aquifers of the quaternary alluvium; and
- Highlands Groundwater Unit 2, containing all subartesian aquifers within the Highlands groundwater management area other than the aquifers included in Highlands Groundwater Unit 1.

The Action is also located less than 7 km west of the Carnarvon GMA.

It is expected that the Quaternary alluvial and unconsolidated Tertiary sediments associated with the Comet River and its tributaries contain unconfined groundwater.

A preliminary analysis of the DRDMW registered groundwater bore database identified the following bores located within 10 km of the Action in 2018:

- 68 total registered bores;
- 7 bores installed into the Tertiary basalt;
- 4 bores installed into the Tertiary sediments;
- 1 bore installed into the Triassic strata;

- 6 bores installed into the Permian strata; and
- 50 bores with unknown aquifer details.

Registered groundwater bores (categorised as existing or abandoned but useable) within the Action Area and immediate vicinity are shown on Figure 7 (Att A, page 7).

The potential exists for third party use of groundwater within the Tertiary aquifers, as well as potentially the Permian units, in the vicinity of the Action.

The analysis also identified that the DRDMW groundwater bore database contains insufficient information to fully characterise third party use of groundwater in the vicinity of the Action.

Raymond and McNeil (2011) (Att C 'Regional chemistry of the Fitzroy basin groundwater', page 46) indicate that the mapped groundwater zone in this region contains moderate to high salinities, dominated by sodium and chloride ions.

The southern Bowen Basin, along with the Surat Basin further to the south, is an area of concentrated coal seam gas (CSG) development, where the impacts on water pressures caused by individual CSG projects overlap. The Queensland Government has declared this area to be a Cumulative Management Area (CMA), known as the Surat CMA. The Action sits wholly within the Surat CMA.

The Office of Groundwater Impact Assessment (OGIA) have developed a regional scale numerical groundwater model and undertaken assessment of the cumulative impacts of CSG water extraction within the Surat CMA. The first Underground Water Impact Report (UWIR) for the Surat CMA was prepared in 2012. The most recent version is the 2021 Surat UWIR (Att D 'Underground Water Impact Report 2021 for the Surat Cumulative Management Area') which is widely considered to represent current best practice in regard to hydrogeological studies within the Surat CMA (which includes the Action).

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

| EPBC Act section | Controlling provision | Impacted | Reviewed |
|------------------|--|----------|----------|
| S12 | World Heritage | No | Yes |
| S15B | National Heritage | No | Yes |
| S16 | Ramsar Wetland | No | Yes |
| S18 | Threatened Species and Ecological Communities | Yes | Yes |
| S20 | Migratory Species | Yes | Yes |
| S21 | Nuclear | No | Yes |
| S23 | Commonwealth Marine Area | No | Yes |
| S24B | Great Barrier Reef | No | Yes |
| S24D | Water resource in relation to large coal mining development or coal seam gas | Yes | Yes |
| S26 | Commonwealth Land | No | Yes |
| S27B | Commonwealth heritage places overseas | No | Yes |
| S28 | Commonwealth or Commonwealth Agency | No | Yes |

World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

A search of the EPBC Act database using the Protected Matters Search Tool (DAWE, 2021a) indicates that no areas of World Heritage Properties occur within the EPBC Action Area or surrounds.

National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

A search of the EPBC Act database using the Protected Matters Search Tool (DAWE, 2021a) indicates that no areas of National Heritage Places occur within the EPBC Action Area or surrounds.

Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

A search of the EPBC Act database using the Protected Matters Search Tool (DAWE, 2021a) indicates that no areas of Ramsar Wetlands occur within the EPBC Action Area or surrounds.

Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

| Direct impact | Indirect impact | Species |
|---------------|-----------------|----------------------------|
| No | No | Aristida annua |
| Yes | | Bertya opposens |
| No | No | Cadellia pentastylis |
| No | No | Calidris ferruginea |
| No | No | Chalinolobus dwyeri |
| No | No | Dasyurus hallucatus |
| No | No | Delma torquata |
| Yes | | Denisonia maculata |
| No | No | Dichanthium queenslandicum |

| Direct impact | Indirect impact | Species |
|---------------|-----------------|---|
| No | No | Dichanthium setosum |
| No | No | Egernia rugosa |
| No | No | Erythrorchis radiatus |
| No | No | Falco hypoleucos |
| No | No | Geophaps scripta scripta |
| No | No | Grantiella picta |
| Yes | | Hirundapus caudacutus |
| No | No | Macroderma gigas |
| No | No | Marsdenia brevifolia |
| No | No | Neochmia ruficauda ruficauda |
| No | No | Nyctophilus corbeni |
| No | No | Petauroides volans |
| Yes | | Phascolarctos cinereus |
| No | No | Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) |
| No | No | Poephila cincta cincta |
| No | No | Rheodytes leukops |
| Yes | | Rostratula australis |
| No | No | Solanum dissectum |

Ecological communities

| Direct impact | Indirect impact | Ecological community |
|---------------|-----------------|---|
| Yes | | Brigalow (<i>Acacia harpophylla</i> dominant and co-dominant) |
| No | No | Natural Grasslands of the Queensland Central Highlands and northern Fitzroy Basin |
| No | No | Poplar Box Grassy Woodland on Alluvial Plains |
| Yes | | Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions |
| No | No | Weeping Myall Woodlands |

Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

The Action would have a direct impact on threatened species and ecological communities listed under the EPBC Act because clearance of native vegetation and habitat is unavoidable. The matters that are likely to be directly impacted are either known or likely to occur in the Action Area. These matters are the Brigalow (*Acacia harpophylla* dominant and co-dominant), Semi-evergreen vine thickets of the Brigalow

Belt (North and South) and Nandewar Bioregions, *Bertya opposens*, Ornamental Snake, Australian Painted Snipe, White-throated Needletail and Koala.

The approximate location of the threatened species habitat and threatened communities is known based on desktop mapping and initial investigations; however the extent and condition of the threatened species habitat and threatened ecological communities would be confirmed through detailed surveys. The exact area to be directly impacted would be determined following further detailed mine planning.

The direct impact on the threatened ecological communities would reduce the area occupied by the community within its extent and the direct impact on the threatened species would likely decrease the abundance of individuals and/or availability of habitat for the species. Depending on the final mine design, the Action may remove a population of fourteen *Bertya opposens* individuals within the Action Area (Figure 5 – Att A, page 5) (Att E – 'Blackwater Terrestrial Ecology Survey Report', pages 87-92).

The Action also has the potential to indirectly impact the threatened species and ecological communities listed above if they occur outside the direct clearance area. Without mitigation measures, the Action may indirectly impact the matters through the following recognised threats: increased fragmentation, possible modified fire regime, possible incursion of weeds, possible increase in feral animals, changes in hydrology and hydrogeology and a very minor contribution to global greenhouse gas emissions and a proportional contribution to climate change (which can impact flora and fauna).

Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

Yes

Describe why you consider this to be a Significant Impact. *

Since the mine design and environmental studies undertaken for the Action are preliminary, the significance of the direct impacts are uncertain.

Surveys in the Action Area recorded a patch of *Bertya opposens* which contained fourteen individuals (Figure 5 – Att A, page 5) (Att E – 'Blackwater Terrestrial Ecology Survey Report', pages 87-92). Depending on the final mine design, the Action may reduce the area of occupancy and lead to a long-term decrease in the size of a potentially important population of *Bertya opposens* resulting in a significant impact on this species.

The Action Area contains patches of potential habitat for the Ornamental Snake in the form of gilgai, and during targeted surveys of the Action Area in spring 2019 and autumn 2020, a total of 16 individuals were recorded (Figure 5 – Att A, page 5) (Att E – 'Blackwater Terrestrial Ecology Survey Report', pages 87-92). The Action may have a significant impact on the Ornamental Snake as preferred habitat for the species occurs throughout a majority of the Action Area (Att E – 'Blackwater Terrestrial Ecology Survey Report', pages 87-92) and the draft *Referral Guidelines for the Nationally Listed Brigalow Belt Reptiles* (Att F 'Draft Referral guidelines for the nationally listed Brigalow Belt reptiles', pages 14 and 18) indicates that >2 ha of habitat clearance has a high risk of a significant impact.

During surveys of the Action Area, five Koalas were directly observed within woodland habitat and indirect evidence of Koala presence (i.e. scat, calls, scratches) was also observed on numerous occasions (Figure 5 – Att A, page 5) (Att E – 'Blackwater Terrestrial Ecology Survey Report', pages 87-92). Based on survey records, it is likely this species status is limited to occasional transient individuals within the Action Area, with the main riparian areas likely key movement corridors for the species (Att E – 'Blackwater Terrestrial Ecology Survey Report', pages 87-92). The Action is likely to directly impact the Koala through clearance of suitable habitat within the Action Area. The Action may have a significant impact on the Koala depending on the outcomes of further assessments in consideration of the revised *Conservation Advice for Phascolarctos cinereus (Koala) combined populations of Queensland, New South Wales and the Australian Capital Territory* (Att G 'Conservation Advice for Phascolarctos cinereus (Koala) combined populations of Queensland, New South Wales and the Australian Capital Territory').

The White-throated Needletail was recorded within the Action Area (Att E – 'Blackwater Terrestrial Ecology Survey Report', pages 87-92) and the Australian Painted Snipe has been recorded just outside of the Action Area (BLA, 2021) (Figure 5 – Att A, page 5). Since the mine design and environmental studies undertaken for the Action are preliminary, the potential impacts on this species are uncertain.

BMA would investigate opportunities to avoid, minimise and mitigate impacts on the species during the detailed mine planning and EIS process.

Do you think your proposed action is a controlled action? *

Yes

Please elaborate why you think your proposed action is a controlled action. *

Since the mine design and environmental studies undertaken for the Action are preliminary, and the significance of the direct impacts are uncertain, BMA considers it likely that the Action will be declared a controlled action for the *Berya opponens*, Ornamental Snake and Koala.

Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

Since the mine design for the Action is preliminary, the potential impacts on threatened species are uncertain. BMA would investigate opportunities to avoid, minimise and mitigate significant impacts during the detailed mine planning process.

Measures that would be implemented to manage potential impacts on the natural environment would include, but not necessarily be limited to:

- project designs to be modified to avoid impacts where feasible and practical to do so;
- progressive rehabilitation in accordance with the Action's PRC Plan and PRCP Schedule (to be developed);
- appropriate landform design and establishment of post-mining land uses in consideration of agricultural land uses and native ecosystem values of the surrounding landscape;
- soil management practices, including the stripping and stockpiling of soil for use in rehabilitation;
- appropriate erosion and sediment controls and upslope drainage during vegetation clearance, soil stripping and rehabilitation activities;
- clear definition of areas to be cleared in a progressive manner as part of surface disturbance protocols;
- managing water use and management of the site water management system in accordance with the Environmental Authority conditions;
- minimising licensed extraction/harvesting of groundwater and surface water resources;
- dust suppression within active mining areas and at coal handling and processing circuits;
- appropriate design of blast events;
- designing for overall energy efficiency;
- consideration of purchasing renewable energy to supply the mine operations to minimise greenhouse gas generation;
- weed and feral animal control strategies; and
- preparation of management plans and monitoring programs.

Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

BMA would provide biodiversity offsets for residual significant impacts to matters of state environmental significance and MNES (where required) in accordance with relevant State and Commonwealth policies and legislation.

Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

| Direct impact | Indirect impact | Species |
|---------------|-----------------|----------------------|
| No | No | Actitis hypoleucos |
| No | No | Apus pacificus |
| No | No | Calidris acuminata |
| No | No | Calidris ferruginea |
| No | No | Calidris melanotos |
| No | No | Cuculus optatus |
| Yes | | Gallinago hardwickii |
| No | No | Motacilla flava |
| No | No | Myiagra cyanoleuca |

Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

Clearance of native vegetation and habitat as a result of the Action is likely to directly impact Latham's Snipe (*Gallinago hardwickii*) which has been recorded within the Action Area during surveys (Att E – 'Blackwater Terrestrial Ecology Survey Report', pages 87-92). This shorebird generally inhabits wetlands, creeks or moist grasslands and breeds primarily in Japan during the Australian winter then migrates to spend the Austral summer in eastern Australia (DAWE, 2021b). Within the Action Area potential habitat exists in the form of gilgai and constructed farm dams offering expanses of open water, aquatic plants and fringing vegetation. During surveys, two individuals of this species were recorded within the Action Area, one within an area of gilgai and the other on a dam (Att E – 'Blackwater Terrestrial Ecology Survey Report', pages 87-92).

The Action also has the potential to indirectly impact the migratory species listed above if they occur outside of the direct clearance area.

Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

Describe why you do not consider this to be a Significant Impact. *

The negligible direct or indirect impacts on migratory species as a result of the Action are not considered significant as important habitat for the migratory species is not present in the Action Area.

Do you think your proposed action is a controlled action? *

No

Please elaborate why you do not think your proposed action is a controlled action. *

The negligible direct or indirect impacts of the Action are not considered significant impacts are therefore migratory species are not considered to be a controlled action.

Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

Avoidance or mitigation measures proposed for this action are described in Section 4.1.5.1.

Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

No proposed offsets are necessary for migratory species as the Action will have negligible direct or indirect impacts as important habitat for the migratory species is not present in the Action Area.

Nuclear

Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

A search of the EPBC Act database using the Protected Matters Search Tool (DAWE, 2021a) indicates that no areas of Nuclear Action occur within the EPBC Action Area or surrounds.

Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

A search of the EPBC Act database using the Protected Matters Search Tool (DAWE, 2021a) indicates that no Commonwealth Marine Areas occur within the EPBC Action Area or surrounds.

Great Barrier Reef

Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

A search of the EPBC Act database using the Protected Matters Search Tool (DAWE, 2021a) indicates that no areas of Great Barrier Reef occur within the EPBC Action Area or surrounds.

Water resource in relation to large coal mining development or coal seam gas

Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

Yes

Briefly describe why your action has a direct and/or indirect impact on this protected matter. *

Surface Water

The Action has the potential to impact surface water resources through direct disturbance associated with open cut mining, diversion of drainage features, creation of temporary and permanent landforms that affect surface waters and (if required) through release of water to the surrounding environment.

Potential impacts to surface water resources may include: changes to catchment areas and flow characteristics due to the construction of (for example) water storage dams, mine infrastructure, waste rock emplacements, flood levees, open cut pits, upstream diversions and final voids; impacts to other water users in the region; and potential extraction and/or discharge of water as part of the on-site water management system.

Groundwater

The Action has the potential to impact groundwater resources through direct interaction with aquifers by open cut mining and indirect take from adjacent aquifers due to changes in hydraulic gradients.

Potential impacts to groundwater resources may include: potential drawdown of groundwater aquifers, alteration of groundwater flow directions and decrease in baseflow to surface water systems; localised effects on groundwater quality; and long-term changes to groundwater levels and flow direction in the vicinity of final voids.

Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

Describe why you do not consider this to be a Significant Impact. *

Surface Water

Under the Strahler classification system (Queensland Government, 2021a), the Comet River in the vicinity of the Action is stream order '7' (Figure 6 – Att A, page 6).

The Comet River and associated tributaries are ephemeral in nature, and generally do not flow for the majority of the year. Monitoring data indicates that the Comet River is typically dry between April and November, and subject to short periods of high flows in summer.

The works to be undertaken within the Action Area are unlikely to have a significant impact to the aquatic flora and fauna of the Comet River and its tributaries, given the limited direct interaction and the implementation of mitigation measures described below.

The Action water management strategy would involve: separation of undisturbed area runoff from disturbed area runoff; collection and reuse of surface runoff from disturbed areas; capture of pit inflows and reuse for mine operations; storage of water on-site; and licensed water extraction to supplement water supply.

Water supply for the Action is expected to be via the following sources: open cut dewatering; process water re-use and recycling; water recovered from tailings and reject dewatering; incident rainfall and runoff collection and potential flood harvesting; sharing of water between the Action and Blackwater Mine supplementary raw water supplied from a pipeline network integrated with the Blackwater Mine, sourcing water from Blackwater Mine storages and off-site via water allocations (e.g. the Bedford Weir); and potable water may also be generated on-site with a new water treatment plant.

A site water balance model would be developed for the Action as part of the EIS.

Groundwater

It is expected that the coal resource is within a confined and semi-confined porous rock groundwater system within the Highlands GMA as defined by the Fitzroy Basin Water Resource Plan. It is also expected that the Quaternary alluvial and unconsolidated Tertiary sediments associated with the Comet River and its tributaries contain unconfined groundwater. It is also understood that the intervening Triassic units (i.e. Rewan Formation) consist of very tight shales and fine sandstones and are expected to act as an aquitard and therefore effectively isolate the Quaternary alluvial and unconsolidated Tertiary sediments from the underlying coal resource, where present.

The Bureau of Meteorology (BOM) Groundwater Dependent Ecosystems (GDE) Atlas indicates that there are some small areas of high and moderate potential aquatic GDEs and moderate to low terrestrial ecology GDEs within the Action Area.

Potential impacts to groundwater resources may include: groundwater drawdown, changes to groundwater flow directions and decrease in baseflow to surface water systems; localised effects on groundwater quality; and long term changes to groundwater levels, flow direction and quality in the vicinity of final voids (if required).

A preliminary analysis of the DRDMW (2021) registered groundwater bore database identified the following bores (categorised as existing or abandoned but useable; located within 10 km of the Action in 2018: 68 total registered bores; seven bores installed into the Tertiary basalt; four bores installed into the Tertiary sediments; one bore installed into the Triassic strata; six bores installed into the Permian strata; and 50 bores with unknown aquifer details.

A comprehensive, contemporary groundwater bore census will be undertaken for the Action Area.

The potential exists for third party use of groundwater within the Tertiary aquifers, as well as potentially the Permian units, in the vicinity of the Action. The analysis also identified that the DRDMW groundwater bore database contains insufficient information to fully characterise third party use of groundwater in the vicinity of the Action.

Raymond and McNeil (2011) (Att C 'Regional chemistry of the Fitzroy basin groundwater', page 46) indicate that the mapped groundwater zone in this region contains moderate to high salinities, dominated by Sodium and Chloride ions.

The Action open cut is expected to act as a groundwater sink during operations and post closure (if a final void remains). This would cause a localised change in groundwater flow direction. There would also be a change in hydraulic properties over the mine footprint where mine waste rock is used to infill the open cut. It is expected that the incremental difference in impacts to groundwater (including leakage from Quaternary alluvial and Tertiary sediments to the porous rock groundwater system), and baseflow in the Comet River, would not be significant. Therefore, the Action is not expected to have a significant impact on groundwater resources.

Do you think your proposed action is a controlled action? *

No

Please elaborate why you do not think your proposed action is a controlled action. *

The proposed Action is not considered to be a controlled action as the Action is not likely to have a significant impact on a water resource for the following reasons:

- the Comet River and associated tributaries are ephemeral in nature;
- downstream median water quality results are generally within the acceptable ranges for slightly-to-moderately disturbed ecosystems;
- the works to be undertaken within the Action Area are unlikely to have a significant impact to the aquatic flora and fauna of the Comet River and its tributaries;
- the Action coal resource is expected to be within a confined groundwater system;
- the mapped groundwater zone in this region contains moderate to high salinities; and
- the Action open cut is expected to act as a groundwater sink during operations and post closure.

Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

Refinement of the mine plan during the EIS process will consider the principles of the Queensland Government's mining rehabilitation reforms, in particular, progressive rehabilitation opportunities and post-mining land use outcomes.

The Action layout has been designed to maximise recovery of the resource while avoiding impacts to environmental values of significance, such as Rockland Creek and the heritage and ecological values along its riparian corridor.

Consideration of alternative water supply options is ongoing and includes re-use and efficiency opportunities along with options for further connections to off-site water allocations. Integration with the existing Blackwater Mine network is expected to minimise the requirement for off-lease infrastructure.

Should the Action not be developed, it would not contribute to the significant economic growth provided by Queensland's growing export industry, the value that the coal resource would provide through State royalties and Commonwealth tax revenue would be foregone and the employment opportunities and social and community benefits for the region would not be realised.

The preferred mine plan, infrastructure design, production and workforce profiles are being developed by BMA in consideration of environmental and planning constraints, logistics, community and external relationship expectations for marketing and financial matters. The final Action design will be assessed as part of the EIS, to demonstrate that potential environmental effects can be adequately avoided, minimised, mitigated or offset.

Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

The Action is located within the Comet River sub basin of the Fitzroy River catchment and is subject to the Queensland Water Plan (Fitzroy Basin) 2011 and Highlands Groundwater Management Area (GMA) (Figure 6 – Att A, page 6).

The Water Resource (Fitzroy Basin) Plan 2011 regulates taking overland flow water from within the Fitzroy Water Plan Area, and states that: the volume of overland flow water necessary to satisfy the requirements of an EA may be taken without a water licence (i.e. offsets are not required for the take of overland flow necessary to satisfy the requirements of an EA).

The Water Resource (Fitzroy Basin) Plan 2011 also regulates interfering with groundwater from within the Fitzroy Water Plan Area, and states that a person may only take or interfere with groundwater in a GMA (such as Highlands) under a water permit, water licence or water allocation. Subsequently, no offsets are required in the Highlands GMA as interfering with associated water (e.g. to dewater the pit) will be authorised once the mining lease and EA are granted.

Furthermore, if associated water is taken under the general authorisation under section 334ZP of the Mineral Resources Act 1989, BMA is required to measure and report on the volume of associated water taken (including by evaporation if relevant).

Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

A search of the EPBC Act database using the Protected Matters Search Tool (DAWE, 2021a) indicates that no areas of Commonwealth Land occur within the EPBC Action Area or surrounds.

Commonwealth heritage places overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

A search of the EPBC Act database using the Protected Matters Search Tool (DAWE, 2021a) indicates that no areas of Commonwealth Heritage Places Overseas occur within the EPBC Action Area or surrounds.

Commonwealth or Commonwealth Agency

Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

- Threatened Species and Ecological Communities (S18)

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth heritage places overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

No

Describe why alternatives for your proposed action was not possible. *

BMA operates seven mines in the Bowen Basin, with each asset being at a different stage in its mine and development life. Assets in the Bowen Basin have been progressively developed by BMA to meet long term global demand for high quality metallurgical coals since the 1960s. BMA's strategy is to continue to develop its assets over the coming decades to allow market demand to be met through the most efficient development of resources.

Some of the best premium coking coal assets in the world are part of BMA's portfolio. It is expected that, even with substitution and declining demand, BMA's coals will continue to be highly sought after.

The Blackwater South asset has been held in BMA's portfolio since 2000 and has been subject to regular review of its feasibility in consideration of market demand and BMA's development priorities. Given the resource definition activities that have been completed, it is now considered the appropriate time to commence the State and Commonwealth regulatory approval processes to provide the opportunity for resource development to proceed when required to meet market demand and the requirements of BMA's customers.

BMA considers that the development of the Action adjacent to the existing Blackwater Mine and in proximity to existing infrastructure already developed to service the Blackwater Mine complex (e.g. rail, road, power, water infrastructure) would result in less demand and impact on existing services and providers, when compared to a greenfield development that is not located adjacent to an existing mining complex.

The local and regional community has established itself to service the existing mining complex, and is therefore accustomed to the benefits, costs and demands associated with mining operations. Development of the Action will provide significant direct employment opportunities to the regional communities, and long-term flow on social and economic benefits.

Refinement of the mine plan during the EIS process will consider the principles of the Queensland Government's mining rehabilitation reforms, in particular, progressive rehabilitation opportunities and post-mining land use outcomes.

The Action layout has been designed to maximise recovery of the resource while avoiding impacts to environmental values of significance, such as Rockland Creek and the heritage and ecological values along its riparian corridor.

Alternative coal reject management options considered included conventional tailings storage facilities (i.e. tailings dams), however it was considered the best practice approach of dewatering fine rejects and co-disposal of the reject material with waste rock allowed for better water reuse opportunities, improved geotechnical and rehabilitation outcomes and reduced land disturbance.

Consideration of alternative water supply options is ongoing and includes re-use and efficiency opportunities along with options for further connections to off-site water allocations. Integration with the existing Blackwater Mine network is expected to minimise the requirement for off-lease infrastructure.

Should the Action not be developed, it would not contribute to the significant economic growth provided by Queensland's growing export industry, the value that the coal resource would provide through State royalties and Commonwealth tax revenue would be foregone and the employment opportunities and social and community benefits for the region would not be realised.

The preferred mine plan, infrastructure design, production and workforce profiles are being developed by BMA in consideration of environmental and planning constraints, logistics, community and external relationship expectations for marketing and financial matters. The final Action design will be assessed as part of the EIS, to demonstrate that potential environmental effects can be adequately avoided, minimised, mitigated or offset.

5. Lodgement

5.1 Attachments

1.2 Overview of the proposed action

| | | | |
|-----|-------------------------------|----------|------------------|
| #1. | Att A - EPBC referral figures | Document | Referral figures |
|-----|-------------------------------|----------|------------------|

1.3 (Proposer's identity) Proposer's history of responsible environmental management

| | | | |
|-----|--------------------------------|----------|-------------------|
| #1. | Att B - BHP Annual Report 2021 | Document | BHP Annual Report |
|-----|--------------------------------|----------|-------------------|

3.4 Hydrology characteristics that apply to the project area

| | | | |
|-----|---|----------|---|
| #1. | Att c - Regional Chemistry of the Fitzroy Basin | Document | Regional water chemistry of the Bowen Basin |
| #2. | Att D - OGIA Underground Water Impact Report for the Surat Cumulative Management Area | Document | Att D - OGIA Underground Water Impact Report for the Surat Cumulative Management Area |

4.1 (Threatened Species and Ecological Communities) Why your action has a direct and/or indirect impact on the identified protected matters

| | | | |
|-----|---|----------|----------------|
| #1. | EMM Blackwater Terrestrial Ecology Survey | Document | Ecology survey |
|-----|---|----------|----------------|

4.1 (Threatened Species and Ecological Communities) Why you consider the direct and/or indirect impact to be a Significant Impact

| | | | |
|-----|--|----------|---------------------------|
| #1. | Conservation Advice for Koala | Document | Koala conservation advice |
| #2. | Draft Referral Guidelines for the Nationally Listed Brigalow Belt Reptiles | Document | Referral guidelines |

1.2 Overview of the proposed action

| | | | |
|-----|-------------------------------|----------|------------------|
| #1. | Att A - EPBC referral figures | Document | Referral figures |
|-----|-------------------------------|----------|------------------|

1.3 (Proposer's identity) Proposer's history of responsible environmental management

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5.2 Declarations

Awaiting Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN 67096412752

Organisation name BM Alliance Coal Operations Pty Limited

Organisation address Level 14, 480 Queen Street Brisbane, QLD, 4000

Representative's name Tessa Clisdell

Representative's job title

Phone 0428456486

Email tessa.clisdell@bhp.com

Address

- Check this box to indicate you have read the referral form. *
- I would like to receive notifications and track the referral progress through the EPBC portal. *
- By checking this box, I, **Tessa Clisdell of BM Alliance Coal Operations Pty Limited**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. *
- I would like to receive notifications and track the referral progress through the EPBC portal. *

Awaiting Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

Same as Referring party information.

- Check this box to indicate you have read the referral form. *
 - I would like to receive notifications and track the referral progress through the EPBC portal. *
 - I, **Tessa Clisdell of BM Alliance Coal Operations Pty Limited**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *
 - I would like to receive notifications and track the referral progress through the EPBC portal. *
-

Awaiting Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

- Check this box to indicate you have read the referral form. *
- I would like to receive notifications and track the referral progress through the EPBC portal. *
- I, **Tessa Clisdell of BM Alliance Coal Operations Pty Limited**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *
- I would like to receive notifications and track the referral progress through the EPBC portal. *