Australian Government
Department of the Environment

Referral of proposed action

What is a referral?

The *Environment Protection and Biodiversity Conservation Act 1999* (the **EPBC Act**) provides for the protection of the environment, especially matters of national environmental significance (**NES**). Under the EPBC Act, a person must not take an action that has, will have, or is likely to have a significant impact on any of the matters of NES without approval from the Commonwealth Environment Minister or the Minister's delegate. (Further references to 'the Minister' in this form include references to the Commonwealth Environment Minister or the Minister's delegate.) To obtain approval from the Minister, a proposed action must be referred. The purpose of a referral is to enable the Minister to decide whether your proposed action will need assessment and approval under the EPBC Act.

Your referral will be the principal basis for the Minister's decision as to whether approval is necessary and, if so, the type of assessment that will be undertaken. These decisions are made within 20 business days, provided sufficient information is provided in the referral.

Who can make a referral?

Referrals may be made by or on behalf of a person proposing to take an action, the Commonwealth or a Commonwealth agency, a state or territory government, or agency, provided that the relevant government or agency has administrative responsibilities relating to the action.

When do I need to make a referral?

A referral must be made by the person proposing to take an action if the person thinks that the action for actions that has, will have, or is likely to have a significant impact on the following matters protected by Part 3 of the EPBC Act:

- World Heritage properties (sections 12 and 15A);
- National Heritage places (sections 15B and 15C);
- wetlands of international importance (sections 16 and 17B);
- listed threatened species and communities (sections 18 and 18A);
- listed migratory species (sections 20 and 20A);
- protection of the environment from nuclear actions (sections 21 and 22A);
- Commonwealth marine environment (sections 23 and 24A);
- Great Barrier Reef Marine Park (sections 24B and 24C);
- a water resource, in relation to coal seam gas development and large coal mining development (sections 24D and 24E);
- the environment, if the action involves Commonwealth land (sections 26 and 27A), including:
    - actions taken outside Commonwealth land that are likely to have a significant impact on the environment of Commonwealth land;
    - actions taken on Commonwealth land that may have a significant impact on the environment generally;
- the environment, if the action is taken by the Commonwealth (section 28); and
- Commonwealth Heritage places outside the Australian jurisdiction (sections 27B and 27C).

You may still make a referral if you believe your action is not going to have a significant impact, or if you are unsure. This will provide a greater level of certainty that Commonwealth assessment requirements have been met.

To help you decide whether or not your proposed action requires approval (and therefore, if you should make a referral), the following guidance is available from the Department's website:

- Submitting a referral under the EPBC Act – A fact sheet for a person proposing to take an action http://www.environment.gov.au/epbc/publications/factsheet-environment-assessment-process
- the Policy Statement titled *Significant Impact Guidelines 1.1 – Matters of National Environmental Significance* http://www.environment.gov.au/epbc/publications/significant-impact-guidelines-11-matters-national-environmental-significance Additional sectoral guidelines are also available.
- the Policy Statement titled *Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies* http://www.environment.gov.au/epbc/publications/significant-impact-guidelines-12-actions-or-impacting-upon-commonwealth-land-and-actions
- the Policy Statement titled Significant Impact Guidelines: Coal seam gas and large coal mining developments—Impacts on water resources http://www.environment.gov.au/resource/significant-impact-guidelines-13-coal-seam-gas-and-large-coal-mining-developments-impacts
- the interactive map tool (enter a location to obtain a report on what matters of NES may occur in that location) http://www.environment.gov.au/epbc/pmst/index.html

Can I refer part of a larger action?

In certain circumstances, **the Minister may not accept a referral for an action that is a component of a larger action and may request the person proposing to take the action to refer the larger action for consideration under the EPBC Act (Section 74A, EPBC Act).** If you wish to make a referral for a staged or component referral contact the Referrals Gateway (1800 803 772).

Do I need a permit?

Some activities may also require a permit under other sections of the EPBC Act or another law of the Commonwealth. Information is available on the Department's web site.

Is your action in the Great Barrier Reef Marine Park?

If your action is in the Great Barrier Reef Marine Park it may require permission under the *Great Barrier Reef Marine Park Act 1975* (**GBRMP Act**). If a permission is required, referral of the action under the EPBC Act is deemed to be an application under the GBRMP Act (see section 37AB of the GBRMP Act). This referral will be forwarded to the Great Barrier Reef Marine Park Authority (**the Authority**) for the Authority to commence its permit processes as required under the *Great Barrier Reef Marine Park Regulations 1983* (**GBRMP Regulations**). If a permission is not required under the GBRMP Act, no approval under the EPBC Act is required (see section 43 of the EPBC Act). The Authority can provide advice on relevant permission requirements applying to activities in the Marine Park.

The Authority is responsible for assessing applications for permissions under the GBRMP Act, GBRMP Regulations and Zoning Plan. Where assessment and approval is also required under the EPBC Act, a single integrated assessment for the purposes of both Acts will apply in most cases. Further information on environmental approval requirements applying to actions in the Great Barrier Reef Marine Park is available from http://www.gbrmpa.gov.au/ or by contacting GBRMPA's Environmental Assessment and Management Section on (07) 4750 0700.

The Authority may require a permit application assessment fee to be paid in relation to the assessment of applications for permissions required under the GBRMP Act, even if the permission is made as a referral under the EPBC Act. Further information on this is available from the Authority:

Great Barrier Reef Marine Park Authority

2-68 Flinders Street PO Box 1379
Townsville QLD 4810
AUSTRALIA

Phone: + 61 7 4750 0700
Fax: + 61 7 4772 6093

www.gbrmpa.gov.au

What information do I need to provide?

You can complete your referral by entering your information into this Word file.

Instructions

Instructions are provided in blue text throughout the form.

Attachments/supporting information

The referral form should contain sufficient information to provide an adequate basis for a decision on the likely impacts of the proposed action. You should also provide supporting documentation, such as environmental reports or surveys, as attachments.

Coloured maps, figures or photographs to help explain the proposed action and its location should also be submitted with your referral. Aerial photographs, in particular, can provide a useful perspective and context. Figures should be good quality as they may be scanned and viewed electronically as black and white documents. Maps should be of a scale that clearly shows the location of the proposed action and any environmental aspects of interest.

Please ensure any attachments are below five megabytes (5mb) as they will be published on the Department's website for public comment. To minimise file size, enclose maps and figures as separate files if necessary. If unsure, contact the Referrals Gateway (email address below) for advice. Attachments larger than five megabytes (5mb) may delay processing of your referral.

Note: The Minister may decide not to publish information that the Minister is satisfied is commercial-in-confidence. If you believe that your referral contains information that is commercial-in-confidence, you must clearly identify such information and the reason for its confidentiality at the time of making the referral. The Minister cannot be satisfied that particular information included in a referral is commercial-in-confidence unless a person demonstrates to the Minister that:

- release of the information would cause competitive detriment to the person; and
- the information is not in the public domain; and
- the information is not required to be disclosed under another law of the Commonwealth, a State or a Territory; and
- the information is not readily discoverable.

How do I pay for my referral?

From 1 October 2014, the Australian Government commenced cost recovery arrangements for environmental assessments and some strategic assessments under the EPBC Act. If an action is referred on or after 1 October 2014, then cost recovery will apply to both the referral and any assessment activities undertaken. Further information regarding cost recovery can be found on the Department's website at: http://www.environment.gov.au/epbc/publications/cost-recovery-cris

If you are an individual or a small business, you may be exempt from paying the referral fee. See Part 9 of this form for further details.

You may apply for all or part of a fee to be waived. See Part 9 of this form for further details.

Payment of the referral fee can be made using one of the following methods:

- **EFT Payments can be made to:**

  BSB: 092-009
  Bank Account No. 115859
  Amount: $7352
  Account Name: Department of the Environment.
  Bank: Reserve Bank of Australia
  Bank Address: 20-22 London Circuit Canberra ACT 2601
  Description: The reference number provided (see note below)

- **Cheque** - Payable to "Department of the Environment". Include the reference number provided (see note below), and if posted, address:

  The Referrals Gateway
  Environment Assessment Branch
  Department of the Environment
  GPO Box 787
  Canberra ACT 2601

- **Credit Card**

  Please contact the Collector of Public Money (CPM) directly (call (02) 6274 2930 or 6274 20260 and provide the reference number (see note below).

Note: an invoice will be raised and forwarded to you upon submission of your referral which will include the EPBC reference number for your referral.

How do I submit a referral?

Referrals may be submitted by mail or email.

Mail to:

Referrals Gateway
Environment Assessment Branch
Department of Environment
GPO Box 787
CANBERRA ACT 2601

- If submitting via mail, please also provide electronic copies of documentation (on CD/DVD or by email)..

Email to: epbc.referrals@environment.gov.au

- Clearly mark the email as a 'Referral under the EPBC Act'.
- Attach the referral in a suitable electronic document format (e.g. Microsoft Word and, if possible, PDF).
- If submitting via email, please also mail a hardcopy of the referral including copies of any attachments or supporting reports.

What happens next?

Following receipt of a valid referral (containing all required information) you will be advised of the next steps in the process, and the referral and attachments will be published on the Department's web site for public comment. Any person may give the Minister comments on the referral within 10 business days of publication on the Department's website.

The Department will write to you within 20 business days to advise you of the outcome of your referral and whether or not assessment and approval under the EPBC Act is required. There are a number of possible decisions regarding your referral:

The proposed action is NOT LIKELY to have a significant impact and does NOT NEED approval

No further consideration is required under the environmental assessment provisions of the EPBC Act and the action can proceed (subject to any other Commonwealth, state or local government requirements).

The proposed action is NOT LIKELY to have a significant impact IF undertaken in a particular manner

The action can proceed if undertaken in a particular manner (subject to any other Commonwealth, state or local government requirements). The particular manner in which you must carry out the action will be identified as part of the final decision. You must report your compliance with the particular manner to the Department.

The proposed action is LIKELY to have a significant impact and does NEED approval

If the action is likely to have a significant impact a decision will be made that it is a *controlled action*. The particular matters upon which the action may have a significant impact (such as World Heritage values or threatened species) are known as the *controlling provisions*.

The controlled action is subject to a public assessment process before a final decision can be made about whether to approve it. The assessment approach will usually be decided at the same time as the controlled action decision. (Further information about the levels of assessment and basis for deciding the approach are available on the Department's web site.)

The proposed action would have UNACCEPTABLE impacts and CANNOT proceed

The Minister may decide, on the basis of the information in the referral, that a referred action would have clearly unacceptable impacts on a protected matter and cannot proceed.

For more information

- call the Department of the Environment Community Information Unit on 1800 803 772 or
- visit the web site http://www.environment.gov.au/epbc

All the information you need to make a referral, including documents referenced in this form, can be accessed from the above web site.

Referral of proposed action

Proposed action title: Saraji East Mining Lease Project

1 Summary of proposed action

1.1 Short description

BM Alliance Coal Operations Pty Ltd, also known as the BHP Billiton Mitsubishi Alliance (BMA) proposes to develop the Saraji East Mining Lease Project (the Project), a greenfield single-seam underground mine development. The Project proposal includes a Coal Handling and Preparation Plant (CHPP) and associated Mine Industrial Area (MIA); both of which are proposed to be located on the site of the existing adjacent Saraji Open-Cut Coal Mine (Saraji Mine). The Project is expected to produce up to seven million tonnes per annum (Mtpa) of metallurgical product coal for the export market over a life of 25 to 30 years.

1.2 Latitude and longitude

The Project is located within the area described in **Table 1** below. The coordinates are projected in GDA94, MGA and degrees minutes seconds (DMS). A digital file (GDA 94) showing the referral area is also provided).

Table 1 Coordinates of the referral area

Point	Latitude GDA 94	Longitude GDA 94	Easting MGA55	Northing MGA55	Latitude DMS	Longitude DMS
1	-22.331642	148.334494	637433.9593	7529856.013	22 19.89849S	148 20.06966E
2	-22.365121	148.334419	637393.3252	7526149.524	22 21.90725S	148 20.06512E
3	-22.365157	148.351085	639109.5153	7526130.238	22 21.90940S	148 21.06511E
4	-22.377438	148.351085	639097.3128	7524770.551	22 22.64627S	148 21.06511E
5	-22.377601	148.334655	637405.4484	7524767.536	22 22.65609S	148 20.07932E
6	-22.41642	148.324405	636312.1238	7520479.161	22 24.98520S	148 19.46428E
7	-22.416686	148.296288	633417.6404	7520474.927	22 25.00118S	148 17.77727E
8	-22.389673	148.296099	633423.9905	7523465.783	22 23.38038S	148 17.76594E
9	-22.389901	148.269664	630702.2094	7523463.805	22 23.39403S	148 16.17987E
10	-22.379693	148.263942	630122.5906	7524598.817	22 22.78160S	148 15.83654E
11	-22.378869	148.263453	630072.9902	7524690.528	22 22.73213S	148 15.80719E
12	-22.378111	148.262913	630018.1158	7524774.873	22 22.68667S	148 15.77480E
13	-22.377399	148.262307	629956.3663	7524854.27	22 22.64392S	148 15.73843E
14	-22.376298	148.261285	629852.1453	7524976.954	22 22.57791S	148 15.67711E
15	-22.359194	148.246448	628340.1362	7526883.289	22 21.55166S	148 14.78688E
16	-22.354042	148.241895	627876.0134	7527457.593	22 21.24251S	148 14.51371E
17	-22.350562	148.249058	628616.8514	7527836.754	22 21.03371S	148 14.94349E
18	-22.378243	148.269166	630661.7349	7524754.836	22 22.69459S	148 16.14993E
19	-22.378031	148.295877	633412.2846	7524754.836	22 22.68189S	148 17.75265E
20	-22.331978	148.295442	633411.2904	7529853.896	22 19.91865S	148 17.72652E
21	-22.331788	148.317752	635709.354	7529855.017	22 19.90725S	148 19.06511E
22	-22.331642	148.334494	637433.9593	7529856.013	22 19.89849S	148 20.06966E

1.3 Locality and property description

The Project is located within the Isaac Regional Council (IRC) Local Government Area (LGA) approximately 30 kilometres (km) north of Dysart and approximately 167 km south-west of Mackay in Queensland. The Project is located adjacent to the existing Saraji Mine. BMA currently operates the Saraji Mine on Mining Leases (MLs) ML 1775, ML 70142, ML 1784, ML 1782, ML 2360, ML 2410, ML 70294, ML 70298 and ML 70328 under the approval of Environmental Authority Permit No. EPML00862313.

The property upon which the Project will be located consists of mixed land use involving existing mining and agricultural activities. Further information regarding the description of the property is described in **Section 3.3**.

1.4 **Size of the development footprint or work area (hectares)**

The EPBC referral footprint is approximately 4,375 hectares (ha). The collective Project footprint of the underground layout and mine infrastructure is approximately 2,815 ha.

Attachment 2 illustrates the Project layout and the proposed referral area. The elements of the Project are defined in **Section 2.1**.

1.5 **Street address of the site**

Dysart-Moranbah Road.

1.6 **Lot description**

Mining Tenure

The Project will occur across three adjoining tenements. These tenements are:

- ML 1775
- ML 70142
- Mining Lease Application (MLA) 70383.

Property Description

The property descriptions for the Project are detailed in **Table 2** below.

Table 2 Tenure of referral area

LOT	PLAN	OWNER	TENURE
9	SP235297	BHP Coal and Others	Lands Lease
10	CNS93	Private landowner	Freehold
7	CNS144	BHP Coal and Others	Lands Lease
2	CNS109	Queensland Rail	Lands Lease
11	SP208611	Queensland Rail	Lands Lease
R	SP209943	Central Queensland Pipeline Pty Ltd	Easement
A	CNS122	Q.E.C. Ltd and Eungella Water Pipeline Pty Ltd	Easement
A	CNS65	Eungella Water Pipeline Pty Ltd	Easement
AE	SP215968	BHP Coal and Others	Easement
C	SP216045	Eungella Water Pipeline Pty Ltd	Easement

Mining and land tenure within the Project site are shown in **Attachment 3**.

1.7 **Local Government Area and Council contact (if known)**

The Project is located within the IRC LGA.

1.8 **Time frame**

The timetable for the development of the Project has not been finalised. For impact modelling purposes, Financial Year 2022 and Financial Year 2024 have been adopted as the commencement dates for construction and for long-wall coal production, respectively. Further details on the mining sequence and schedule is provided in **Section 2.1**.

1.9	**Alternatives to proposed action**	✓	No

			Yes, you must also complete section 2.2
1.10	**Alternative time frames, locations or activities**	✓	No
			Yes, you must also complete Section 2.3. For each alternative, location, time frame, or activity identified, you must also complete details in Sections 1.2-1.9, 2.4-2.7 and 3 and 5 (where relevant).
1.11	**Commonwealth, State or Territory assessment**		No
		✓	Yes, please also complete Section 2.5
1.12	**Component of larger action**	✓	No
			Yes, you must also complete Section 2.7
1.13	**Related actions/proposals**	✓	No
			Yes, provide details:
1.14	**Australian Government funding**	✓	No
			Yes, please also complete section 2.8:
1.15	**Great Barrier Reef Marine Park**	✓	No
			Yes, you must also complete Section 3.1 (h), 3.2 (e)

2 Detailed description of proposed action

2.1 Description of proposed action

BMA proposes to develop the Saraji East Mining Lease Project (the Project), a greenfield single-seam underground mine development. The Project proposal includes a CHPP and associated MIA; both of which are proposed to be located on the site of the existing adjacent Saraji Mine. The Project is expected to produce up to seven Mtpa of metallurgical product coal for the export market over a life of 25 to 30 years.

The Project is located within the IRC LGA approximately 30 km north of Dysart and approximately 167 km south-west of Mackay in Queensland. The Project is located adjacent to the existing Saraji Mine. BMA currently operates the Saraji Mine on ML 1775, ML 70142, ML 1784, ML 1782, ML 2360, ML 2410, ML 70294, ML 70298 and ML 70328 under the approval of Environmental Authority Permit No. EPML00862313.

The proposed Project comprises:

- a greenfield underground coal mine to be developed on MLA 70383 commencing from within the Saraji Mine ML 1775
- a new MIA
- a new CHPP
- a conveyor system to deliver coal from the underground portals to the CHPP and product coal to the rail loading facilities
- run-of-mine (ROM) stockpile and product stockpile pads
- a new accommodation facility, if required, to support the construction and operational stages, and
- a network of gas drainage bores and associated surface infrastructure consisting of gas and water collection networks and access tracks across the underground mine footprint.

Additional supporting infrastructure, which is not considered part of the Project or within the scope of this referral, may be required and could be developed across ML 1775, ML 70142, ML 1782, MLA 70383 and MLA 70459. This includes:

- a new rail spur and balloon loop and signalling system
- a 40 km extension to the western corridor water supply pipeline including pump systems
- an off-site power transmission lines
- a new 66 kV powerline from the existing Dysart substation to the Project site, and
- relocation of the existing Vermont water pipeline and existing 132 kV powerline into a new infrastructure and transport corridor to the eastern boundary of MLA 70383.

Where necessary, this supporting infrastructure will be subject to a separate subsequent approvals process.

Attachment 2 shows the proposed Project layout and footprint, the extent of the area being referred and an indicative location of potential supporting infrastructure.

Interrelationship with the Existing Saraji Mine

The Project will share some facilities with the existing adjacent Saraji Mine. This proximity to the Saraji Mine will provide BMA with the operational flexibility to:

- Use open-cut spoil dumps to distribute and dispose of dewatered tailing and rejects from the Project's CHPP.
- Use an integrated water management system for the two mines while they are both operating.
- Use excess mine water at the Saraji Mine during construction and potentially to supplement supply during operation.
- Use the existing open-cut pits for mine access and highwall entry to limit the environmental impacts, costs, time and risks involved in construction of new mine portals.
- Locate and construct above ground infrastructure including MIAs within previously disturbed areas on the Saraji Mine.

Resource Characterisation

The Saraji East Deposit is located in the northern part of the Permo-Triassic Bowen Basin containing principally fluvial and some marine sediments. The Bowen Basin is part of a connected group of Permo-Triassic basins in eastern Australia that includes the Sydney and Gunnedah Basins. The basins are oriented north-northwest to south-southeast, roughly parallel to the Paleozoic continental margin. Tectonically, the basin can be divided into north-northwest to south-southeast trending platforms or shelves separated by sedimentary troughs.

A regional stratigraphic section which covers the Project site is shown in **Figure 1.**

Stratigraphy of the Project Site

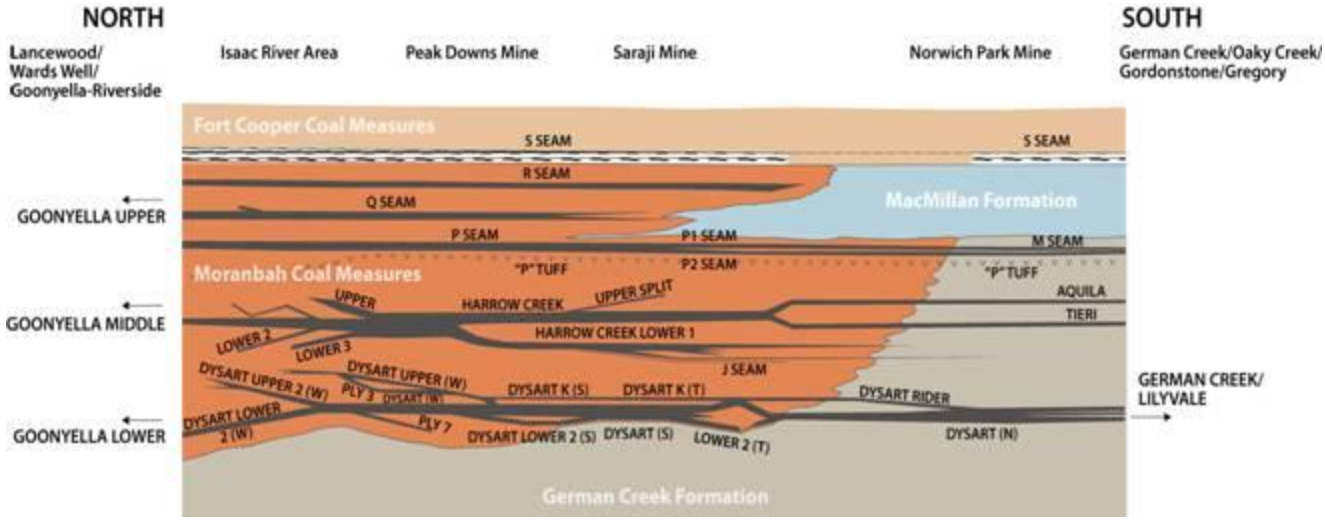
Structurally, the Saraji East Deposit is situated on the north-western margin of the Bowen Basin, west of the deformed Nebo Synclinorium on the southern end of the stable Collinsville Shelf. Two major coal bearing geological formations of Permian age are the:

- Fort Cooper Coal Measures
- Moranbah Coal Measures.

Six coal seam groups exist over the Project site. They comprise:

- The Dysart series (equivalent to Goonyella Lower and German Creek/Lilyvale seams)
- Harrow Creek group (Goonyella Middle seam/Aquila/Tieri equivalent)
- P seams
- Q seams (Goonyella Upper equivalent)
- R seam, and
- S seam (lower-most seam of the overlying Fort Cooper Coal Measures).

Figure 1 Regional stratigraphy



The Moranbah Coal Measures are characterised by several laterally persistent, relatively thick coal seams interspersed with several thin minor seams. The major seams are the Dysart Lower (D24 and D14) seams and the Harrow Creek Upper (H16). These major seams are considered attractive underground targets due to coking properties and the potential of high-quality Pulverised Coal Injection resources that occur beyond the coking coal limit.

The Dysart Lower seam is located 17 m to 35 m below the Dysart Upper seam (D52). The D24 seam is typically seven metres thick near the northern end of the deposit but thins to the north and splits to the south into the D14 seam with thicknesses ranging from 4.5 m to 5.8 m. The Harrow Creek Upper (H16) seam is typically five metres thick and is located 60 m to 80 m above the Dysart Lower Seam and 30 m to 50 m above the Dysart Upper seam. The seam is the most consistent throughout the deposit and although thickness varies, the H16 seam does not split into thinner seams. The H16 subcrops at approximately 40 m in the west dipping to the east to a maximum depth of 620 m.

The Harrow Upper Seam (H16) will be the target seam for this development.

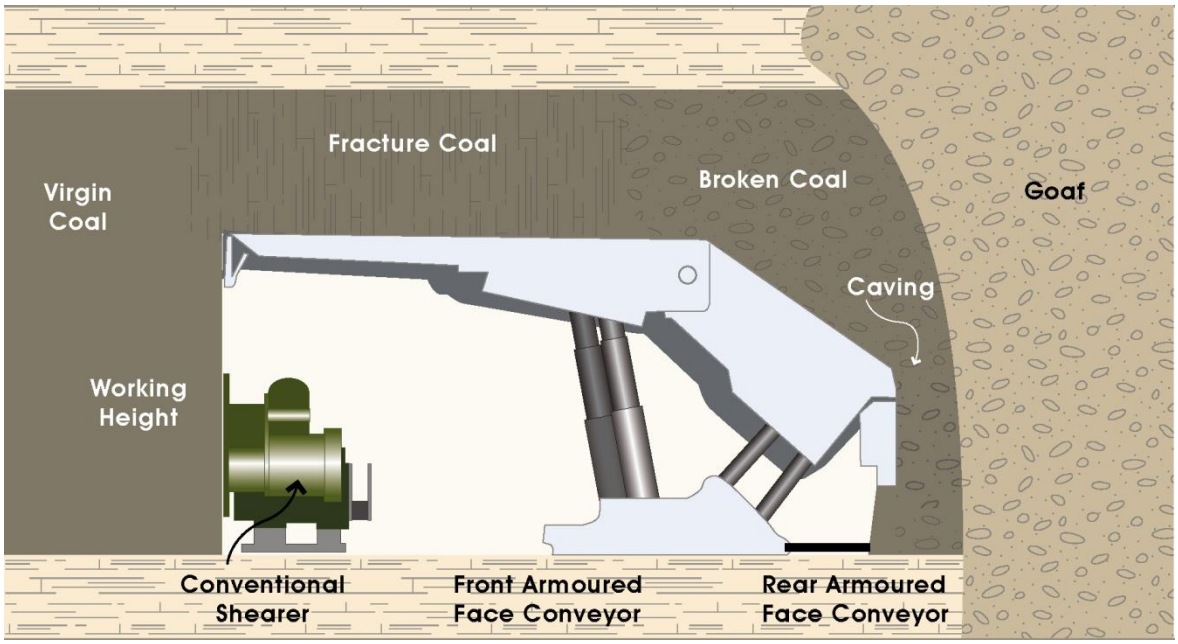
Mining Methods

The depth and thickness of the coal seams is such that underground mining provides the most effective method of extraction. The Project involves mining the Harrow Creek Upper (H16) seam.

Coal Extraction

The thicker Harrow Creek Upper (H16) seam lends itself to thick seam mining methods, which minimises resource sterilisation. Each longwall panel will be up to approximately 320 m wide and up to 4,500 m long. **Figure 2** illustrates the thick seam methodology proposed.

Figure 2 Longwall top coal caving equipment



Mining Sequence and Schedule

As noted above, the timetable for the Project has not yet been finalised. For impact modelling purposes, the proposed underground extraction sequence is to commence longwall extraction in Financial Year 2024 with the shallowest longwall panel in the southern mining domain of the Harrow Creek Upper (H16) seam. Mining will then alternate north and south of the main headings, progressing to the east as the coal resources increase in depth.

The rationale for the proposed mining program is to mine the thickest section of the seam first in order to maximise hard coking coal production in the early years. The Harrow Creek Upper (H16) seam supports thick seam mining which maximises production of the highest quality coal.

Mining is expected to occur for 25 to 30 years.

2.2 Feasible alternatives to taking the proposed action

The Project has economic importance to the State of Queensland and will make best use of the coal resource as an underground mining operation; this is the only economic way to extract these deeper coal measures. The Project also provides direct and indirect employment and income. No action would result in loss of government revenue, employment and a reduction in demand for services resulting in a reduction of income.

2.3 Alternative locations, time frames or activities that form part of the referred action

The exploitation of other resources in the Bowen Basin is continuously being evaluated as part of BMA's optimisation of its existing assets. All elements of BMA's portfolio of assets are necessary to meet demand for coal products in Asia and other international markets.

While BMA has access to a number of existing and prospective coal resources in the Bowen Basin, the Saraji East resource has been identified for future development on the basis that:

- High quality product coal exists within the proposed Project area. Without the statutory approvals and conversion of tenure, mining cannot commence or extend across into MLA 70383.
- The extent and nature of the resource is quite well understood due to extensive exploration and hence BMA can bring this project into production reasonably quickly compared to less well known resources.
- The resource is high quality and will meet current and expected future market demand.
- Concurrent mining of different quality coals from the adjacent Saraji Mine provides a high level of flexibility in terms of product mixes which is not readily achievable where mines are located further away.
- The resource is adjacent to an existing operation, being the Saraji complex. This provides a number of synergies in terms of water management, water and power supply, ability to share rejects and mine waste disposal facilities and ability to share rail infrastructure.
- Acceleration of the development of an alternative resource is less attractive due to the higher development and operating cost of the mining activities, and generally lower resource quality.

2.4 Context, including any relevant planning framework and state/local government requirements

The Project will be subject to a MLA process pursuant to the *Mineral Resources Act 1989* (MR Act). The Project activities will be authorised by an Environmental Authority (EA) granted under the *Environmental Protection Act 1994* (EP Act).

Occurring concurrently with the EPBC referral application and as per requirements under the EP Act, BMA has submitted an application (reference number: EPML01288213) for an EA to mine approximately seven Mtpa of product coal from the Project site in the Bowen Basin to the Queensland Department of Environment and Heritage Protection (EHP).

A preliminary review has been undertaken to identify the statutory approvals that may be required for the lawful implementation of the Project. The statutory framework applicable to the Project's development is administered by:

- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)
- EP Act
- *Local Government Act 2009*
- MR Act
- *Mineral and Energy Resources (Common Provisions) Act 2014*
- *Nature Conservation Act 1992* (NC Act)
- *Sustainable Planning Act 2009* (SP Act)
- *Water Act 2000*
- *Regional Planning Interests Act 2014*
- *Aboriginal Cultural Heritage Act 2003*
- *Land Title Act 1994*
- *Land Protection (Pest and Stock Route Management) Act 2002* (LP Act)
- *Transport Infrastructure Act 1994*
- *Forestry Act 1959*
- *Electricity Act 1994*
- *Fisheries Act 1994*
- *Vegetation Management Act 1999* (VM Act).

2.5 Environmental impact assessments under Commonwealth, State or Territory legislation

Commonwealth Process

The EPBC Act prescribes the Commonwealth government's role in environmental assessment, biodiversity conservation and the management of protected areas. The EPBC Act identifies nine matters of national environmental significance (MNES), namely:

- World Heritage Properties
- National Heritage Places
- Ramsar wetlands of international importance
- Listed threatened species and ecological communities
- Migratory species protected under international agreements
- The Great Barrier Reef Marine Park
- Nuclear actions (including uranium mines)
- Commonwealth marine environment
- A water resource, in relation to coal seam gas development and large coal mining development.

The EPBC Act requires assessment and approval for any activity that has, or is likely to have, a significant impact on a MNES. Such an activity is deemed to be a 'controlled action'. It is an offence to undertake a 'controlled action' without the approval from the Commonwealth Minister for Environment and Energy.

BMA has referred the Project to the Department of the Environment and Energy (DEE), with a recommendation that the Project is a 'controlled action' due to its potential to impact on MNES. The Project is considered to be a 'controlled action' based on the controlling provisions being Section 18 and 18A, 'Listed threatened species and ecological communities' and Sections 24D and 24E 'A water resource, in relation to coal seam gas development and large coal mining development' due to the potential impacts of the Project on:

- The brigalow (*Acacia harpophylla* dominant and co-dominant) threatened ecological community (TEC);
- The listed threatened species:
    - Ornamental snake (*Denisonia maculata*)
    - Australian painted snipe (*Rostratula australis*), and
    - Squatter pigeon (Geophaps scripta scripta).
- Surface water and groundwater.

The Commonwealth government has accredited the EIS process under the EP Act, pursuant to Section 87 (1)(a) of the EPBC Act. This will enable the EIS to be assessed against requirements under both the Commonwealth and State legislation.

State Process

EHP has determined that an EIS is required for Project in accordance with the EP Act.

The Terms of Reference (ToR) for the EIS will be developed by the EHP taking into account the potential environmental impacts identified by BMA and the specific requirements of regulators and other stakeholders, as identified through the public consultation process.

An EA under the EP Act will be granted to BMA once the state EIS and approval process is complete.

2.6 Public consultation (including with Indigenous stakeholders)

BMA will undertake a public notification program as part of the EIS process. The Traditional Owners of the region are the Barada Barna people. As part of the EIS process, assessment of the Aboriginal cultural heritage values of potentially impacted by the Project will be undertaken in consultation with the Barada Barna people. A Cultural Heritage Management Plan (CHMP) will be developed prior to the commencement of construction and operational activities.

2.7 A staged development or component of a larger project

Refer to **Section 1.12**.

3 Description of environment and likely impacts

3.1 Matters of national environmental significance

To determine whether MNES protected by the EPBC Act are likely to occur within or adjacent to the Project site, a range of baseline data has been assessed. This includes a desktop review of databases and a review of the findings from previous field studies within and adjacent to Project site. Relevant data was reviewed from the following key sources:

- Department of the Environment and Energy (DEE) online EPBC MNES database. This report was generated with a 10km buffer surrounding the central point (-22.37142, 148.31744) within the Project site to conservatively identify any potential MNES (**Attachment 4**)
- EHP Wildlife Online database (**Attachment 4**)
- Atlas of Living Australia (ALA) database
- World Heritage Properties database
- National Heritage Places database
- Queensland Government's published Regional Ecosystem (RE) mapping
- Wetlands of International Importance mapping
- A review of the 'Terrestrial Flora and Fauna Baseline Study' authored by SKM (2010) (**Attachment 5**). This report also summarises previous studies undertaken on or adjacent to the Project site.
- Available aerial photography.

It should be noted that throughout this section and the entire report, taxonomic nomenclature used for the description of floral species is according to Bostock and Holland (2013). Exotic flora species are signified in all text and tables by an asterisk (*).

Taxonomic nomenclature used for describing fauna species follows that outlined by Clayton *et al*. (2006), with the exception of recently published taxonomic revisions. Feral species are denoted by an asterisk (*).

3.1 (a) World Heritage Properties

Description

The EPBC Act Protected Matters Search Tool (PMST) (**Attachment 4**) did not identify any World Heritage Properties within or adjacent to the Project site.

The watercourses which traverse the Project site drain indirectly into the Fitzroy River which discharges into the Great Barrier Reef World Heritage Area (GBRWHA).

Nature and extent of likely impact

The Project site is located approximately 490 km upstream from the mouth of the Fitzroy River and subsequently, the GBRWHA, therefore, the potential impacts are considered to be unlikely. This is both due to the extent of controls over mine water and other discharges from the site and the distance between the Project site and the mouth of the Fitzroy River. All discharges from the mine will be subject to strict regulation by EHP under the conditions and requirements of the relevant EA.

In order to manage downstream impacts of the Project, a water management plan will be implemented which will include diverting clean water runoff from undisturbed areas around mining areas, management of flood waters, construction of a mine water management system and water quality monitoring. Water management will be regulated by the conditions of the Project's EA. Therefore, surface water runoff from the Project is not expected to impact on surface water quality downstream.

In addition, several weirs have been constructed on the Fitzroy and Mackenzie Rivers including Fitzroy Barrage, Eden Bann Weir and Tartrus Weir. These weirs provide an additional barrier to sediments and contaminants from reaching the GBRWHA.

3.1 (b) National Heritage Places

Description

The EPBC Act PMST (**Attachment 4**) did not identify any National Heritage Places within or adjacent to the Project site.

The Great Barrier Reef described in **Section 3.1(a)** is the closest National Heritage Place and is approximately 490 km from the Project site.

Nature and extent of likely impact

Refer to **Section 3.1(a)**.

3.1 (c) Wetlands of International Importance (declared Ramsar wetlands)

Description

A search of the EPBC PMST determined that no Wetlands of International Importance (declared Ramsar wetlands) are located within or adjacent to the Project site. The closest Wetlands of International Importance are the Shoalwater and Corio Bays Area (Shoalwater Bay Training Area, in part – Corio Bay) which is located approximately 190 km east of the Project site by direct line.

Nature and extent of likely impact

The Project site is located within the Fitzroy River catchment area. The mouth of the Fitzroy River is located approximately 50 km south of the Shoalwater Bay and Corio Bay Ramsar wetlands. The Project site is located approximately 490 km upstream from the mouth of the Fitzroy River. As discussed in **Section 3.1(a)**, water management will be regulated by the Project's EA and therefore impacts on the Ramsar wetland are unlikely.

3.1 (d) Listed threatened species and ecological communities

Description

This section details TECs, threatened flora and threatened fauna species identified during Project surveys and database searches. The likelihood that a species is present within the Project site was determined according to the following categories:

- Known - positively recorded by qualified ecologists during past 30 years
- Possible - suitable habitat present. May be proximate database records, and
- Unlikely - based on a lack of suitable habitat and lack of proximate records.

Threatened Ecological Communities

Two TECs listed under the EPBC Act were identified as potentially occurring within or adjacent to the Project site. These are listed in **Table 3**. These TECs have been mapped based on available mapping of analogous REs and information from previous surveys which have ground-truthed vegetation communities. Ground-truthing has been conducted for remnant vegetation within ML 1775, but areas of the Project site which fall within MLA 70383 require further survey. The distribution of TECs within the Project site based on available data are shown in **Attachment 6**.

Table 3 Listed TECs potentially occurring on within the Project site

Name	Status	Likelihood of occurrence on Project site
Brigalow (*Acacia harpophylla* dominant and co-dominant)	Endangered	**Known.** This TEC corresponds to a number of REs, two of which (RE 11.4.8 and 11.4.9) have been identified on site by Queensland Government mapping and confirmed during field surveys.
Natural grasslands of the Queensland Central Highlands and the northern Fitzroy Basin	Endangered	**Unlikely.** The corresponding REs for this TEC are not mapped within the Project site and it has not been identified throughout comprehensive flora surveys. Corresponding RE 11.4.4 has been identified within the MLA, however this is outside of the Project site and will not be disturbed by the Project.

Field surveys have confirmed the presence of the brigalow (*Acacia harpophylla* dominant and co-dominant) TEC within the Project site. The TEC is a combination of the two analogous REs 11.4.8 and 11.4.9. Analogous REs 11.4.8 and 11.4.9 both exist within the Project site in varying condition. **Attachment 6** illustrates the TEC located on the Project site.

Threatened Flora

The EPBC Act PMST listed one threatened flora species (*Cycas ophiolitica* (Marlborough blue)) as potentially occurring within or adjacent to the Project site; this species was not identified during extensive field surveys. No records of threatened flora species were available from the Queensland Wildlife Online database or Atlas of Living Australia within a 10 km buffer of the central point of the Project site.

Marlborough blue is a small to medium sized cycad that grows to between two and four metres (m) in height (DEE, 2016a). The species is endemic to Queensland and occurs in woodland or open eucalypt woodlands from Marlborough to Rockhampton (Queensland Herbarium, 2007). The potential occurrence of this species within the Project site is considered to be 'Unlikely' (**Table 4**).

Another listed flora species, *Dichanthium setosum* (bluegrass) has been considered in this assessment, due the species being recorded during flora surveys south of the Project site. Bluegrass is an erect perennial which grows to 1 m in height and is found across inland Queensland and NSW. Its potential occurrence within the Project site has been assessed in **Table 4**.

Table 4 Threatened flora database / survey records for the Project site

Species	Common Name	EPBC Act Status[1]	Likelihood of Occurrence on the Project site
Cycas ophiolitica	Marlborough blue	E	**Unlikely**. Occurs from Marlborough to the Fitzroy River near Rockhampton, in woodland or open woodland dominated by eucalypts, often on serpentinite substrates (Queensland Herbarium, 2007; DEE, 2016a). No records of this species are available within or adjacent to the Project site, nor has it been identified during previous flora surveys.
Dichanthium setosum	Bluegrass	V	**Unlikely**. Recorded as dominant species in RE 11.4.4 on Lake Vermont property, south of Philips Creek and the Project site. *D. setosum* is associated with heavy basaltic black soils and stony red-brown hard setting loam with clay subsoil and is found in moderately disturbed areas such as cleared woodland, grassy roadside remnants, grazed

			land and highly disturbed pasture (TSSC, 2008bh). Potential habitat (RE 11.4.13) for this species has been previously searched on Saraji Mine, but has not been recorded, therefore unlikely to occur on the Project site.

[1] Status under the EPBC Act: E (endangered), V (vulnerable)

Threatened Fauna

The EPBC Act PMST has identified sixteen threatened fauna species listed under the EPBC Act as potentially occurring within the Project site. This consists of five bird species, five mammal species and six reptile species. These species along with their conservation status under the EPBC Act and likelihood of occurrence on the Project site are detailed in **Table 5**.

Table 5 Threatened fauna species potentially occurring within the Project site

Species Name	Common Name	EPBC Act Status[1]	Likelihood of Occurrence on the Project site
Birds			
Erythrotriorchis radiates	Red goshawk	V	**Unlikely**. Occurs in coastal and sub-coastal forests and riverine forests. Requires large trees for nesting, generally the tallest and largest in a tall stand. Nesting trees are always situated within 1 km of permanent water (Aumann And Baker-Gabb 1991). Foraging habitat requirements include areas open enough for manoeuvring in flight when hunting but with sufficient cover for ambushing prey. Such habitat would include intermediately dense forest/woodland or ecotones between communities of different densities. Suitable nesting habitat is unlikely to occur on the Project site.
Geophaps scripta scripta	Squatter pigeon (southern)	V	**Known**. Recorded within MLA 70383 along pipeline track and adjacent to One Mile Creek adjacent to the Project site. This species is likely to occur in grassy eucalypt woodlands and disturbed habitats across the Project site.
Grantiella picta	Painted honeyeater	V	**Possible.** "The species inhabits mistletoes in eucalypt forests/woodlands, riparian woodlands of black box and river red gum, box-ironbark-yellow gum woodlands, acacia-dominated woodlands, paperbarks, casuarinas, callitris, and trees on farmland or gardens (Garnett et al., 2011)" (TSSC 2015). Although no Wildlife Online or Atlas of Living Australia database records exist, the study area contains suitable eucalypt and acacia dominated woodlands and is situated within the range of the species.
Neochmia ruficauda ruficauda	Star finch (eastern)	E	**Possible**. The star finch occurs primarily in grassy woodlands and grasslands within close proximity to waterbodies. Although no database records were available from Atlas of Living Australia or Wildlife Online, the species may occur in grassy woodlands near bodies of freshwater, i.e. wetlands, ponds and creeks on the Project site.
Rostratula australis	Australian painted snipe	V	**Known**. Recorded adjacent to the Project site from flooded brigalow woodland in south-west of the Project site. Inhabits shallow vegetated wetlands (freshwater or brackish) including temporary and permanent lakes, swamps and claypans.
Mammals			
Dasyurus hallucatus	Northern quoll	E	**Unlikely**. Inhabits a range of habitats, but prefers rocky areas and eucalypt forests with hollow trees and logs. The species only occurs in a number of localised sites in Queensland, Northern Territory

			and Kimberley region. Due to the lack of rocky habitat this species is unlikely to occur across the Project site.
Macroderma gigas	Ghost bat	V	**Possible.** Ghost bat roost sites include caves, rock crevices and old mines. These are generally deep natural caves or disused mine sites with a relatively stable temperature (23°C - 28°C) with a preference for those with multiple entries/exits. Suitable roosting habitat does not exist within the Project site, however some potential habitat may exist within pits from adjacent mines and rocky outcrops to the west of ML1775. As this species is known to forage up to several kilometres from roost sites, the Project site may provide suitable foraging habitat and as such is considered to be a possible occurrence. No database records are available from Wildlife Online or Atlas of Living Australia within 10 km of the Project site.
Nyctophilus corbeni[2]	South-eastern long-eared bat	V	**Possible**. No Wildlife Online or Queensland Museum database records but may inhabit poplar box/silver-leaf ironbark woodland (RE 11.5.3) within the Project site. Occurs in callitris/ironbark/box open forest and buloke woodland in southern Queensland (EPA 2002a).
Petauroides volans	Greater glider	V	**Possible.** Greater glider was observed in mature river red gum woodlands fringing Phillips Creek in MLA 70383, south of the Project site. Greater glider feeds exclusively on eucalypt leaves, buds, flowers and mistletoe and shelters by day in tree hollows. Contiguous areas of poplar box (*Eucalyptus populnea*) woodland (RE 11.5.3) and river red gum (*Eucalyptus camaldulensis*) woodland fringing drainage lines (RE 11.3.25) within the Project site could provide suitable habitat for greater glider.
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT).	Koala	V	**Possible**. One record of koala is available within 10 km of the Project site (ALA, 2016). Koalas inhabit *Eucalyptus*-dominated forests and woodlands, particularly in the vicinity of riparian environments and *Acacia*-dominated forests, woodlands and shrublands (Melzer et al. 2000). Within the Project site koala may inhabit poplar box/silver-leaf ironbark (RE 11.5.3) woodland or river red gum / forest red gum woodland fringing drainage lines (RE 11.3.25).
Reptiles			
Denisonia maculata	Ornamental snake	V	**Known**. Records from this species exist within the Project site from Atlas of Living Australia, Wildlife Online and field surveys. On Saraji Mine records exist from brigalow/belah woodlands and brigalow gilgais on the eastern section of ML 1775. Field surveys recorded ornamental snake from small waterways fringed by riparian woodland, brigalow regrowth and belah woodland on within MLA 70383, directly south of the Project site. Prefers woodlands and open forests associated with moist areas, particularly gilgai mounds and depressions in deep cracking clay, but also lake margins and wetlands (Brigalow Belt Reptiles Workshop, 2010; Wilson & Knowles, 1988). Suitable habitat is available within the Project site.
Egernia rugosa	Yakka skink	V	**Possible**. No Wildlife Online or Atlas of Living

			Australia database records, but possible occurrence in poplar box woodland (RE 11.5.3) and brigalow (RE 11.4.8/11.4.9) present across the Project site. The species usually occurs in dry sclerophyll open forest or woodland including poplar box, ironbank, brigalow with dense ground cover. Populations have been recorded in the Brigalow Belt North Bioregion.
Elseya albagula	Southern snapping turtle	CE	**Unlikely.** No southern snapping turtles were recorded during ecological surveys and no database records from Wildlife Online or Atlas of Living Australia databases are available within or adjacent to the Project site. The southern snapping turtle is a habitat specialist which demonstrates preference to clear, flowing and well-oxygenated waters. Streams in the Project site are ephemeral and are subject to variable flow regimes, with the availability of permanent water largely accounted for by on-stream farm dams. The condition of the streams within the Project area are considered to be poor to moderate with low habitat and channel diversity. Due to the lack of permanent flowing water and poor stream condition, this occurrence of this species within the Project site is considered to be unlikely.
Furina dunmalli	Dunmall's snake	V	**Possible**. No Wildlife Online or Atlas of Living Australia database records, but possible occurrence in brigalow woodland on clay (RE 11.4.8/11.4.9) present across the Project site. Occurs in brigalow woodland on cracking black clay and clay loam soils in Brigalow Belt bioregion.
Lerista allanae	Allan's lerista, retro slider	E	**Unlikely**. No Wildlife Online or Atlas of Living Australia database records. Known only from black soil downs in the central Brigalow Belt Region from three localities: Clermont, 55 km north-east of Clermont and 30 km north-west of Capella (Covacevich et al. 1996a).
Rheodytes leukops	Fitzroy River turtle	V	**Unlikely**. Found only in the drainage of the Fitzroy River in creeks and rivers with large deep pools with rocky, gravelly or sandy substrates, connected by shallow riffles. Habitat not available within the Project site and no database records available.

[1] Status under the EPBC Act: E (endangered), V (vulnerable); CE (Critically Endangered).
[2] Previously known as *Nyctophilus timoriensis.*

Three threatened fauna species listed under the EPBC Act have been recorded within and adjacent to Project site during the Project surveys or from database records. These species are listed below:

- Ornamental snake (*Denisonia maculata*)
- Squatter pigeon (southern) (*Geophaps scripta scripta*), and
- Australian painted snipe (*Rostratula australis*).

The location of the threatened fauna species is shown in **Attachment 6**.

Ornamental snake (*Denisonia maculata*) was recorded at three locations within MLA 70383, directly south of the Project site. Juveniles were detected from a small waterway fringed by river red gum and river oak woodland (RE 11.3.25) and brigalow (*Acacia harpophylla*) regrowth with buffel grass (*Cenchrus ciliaris**) understorey (HVR 11.4.9) on tributaries of One Mile Creek. The soils are predominantly black cracking clays and standing water was evident in pools with some frog activity. Similar habitat is available within the Project site and there are nine records available from the Atlas of Living Australia database within the Project site, all on ML 1775.

The squatter pigeon (*Geophaps scripta scripta*) was observed along an existing powerline track in cleared grazing land adjacent to the Project site (**Attachment 6**). Squatter pigeon (*Geophaps scripta scripta*) is likely to occur in grassy eucalypt woodlands and disturbed habitats across the Project site.

The Australian painted snipe (*Rostratula australis*) was observed from an area of flooded brigalow (*Acacia harpophylla*) woodland adjacent to the Project site (**Attachment 6**) and may also occur in farm dams, ponds and wetlands.

Eight species listed under the EPBC Act have been identified as 'Possible' to occur within the Project site. These are listed below:

- Greater glider (*Petauroides volans*)
- Painted honeyeater (*Grantiella picta*)
- Star finch (eastern) (*Neochmia ruficauda ruficauda*)
- Ghost bat (*Macroderma gigas*)
- South-eastern long-eared bat (*Nyctophilus corbeni*)
- Koala (*Phascolarctos cinereus*)
- Yakka skink (*Egernia rugosa*), and
- Dunmall's snake (*Furina dunmalli*).

Availability of suitable habitat and the potential impacts of the Project to these species will be assessed in detail in the EIS.

Nature and extent of likely impacts

Elements of the Project which will potentially impact on the brigalow (*Acacia harpophylla* dominant and co-dominant) TEC and habitat for threatened species of fauna comprise the following:

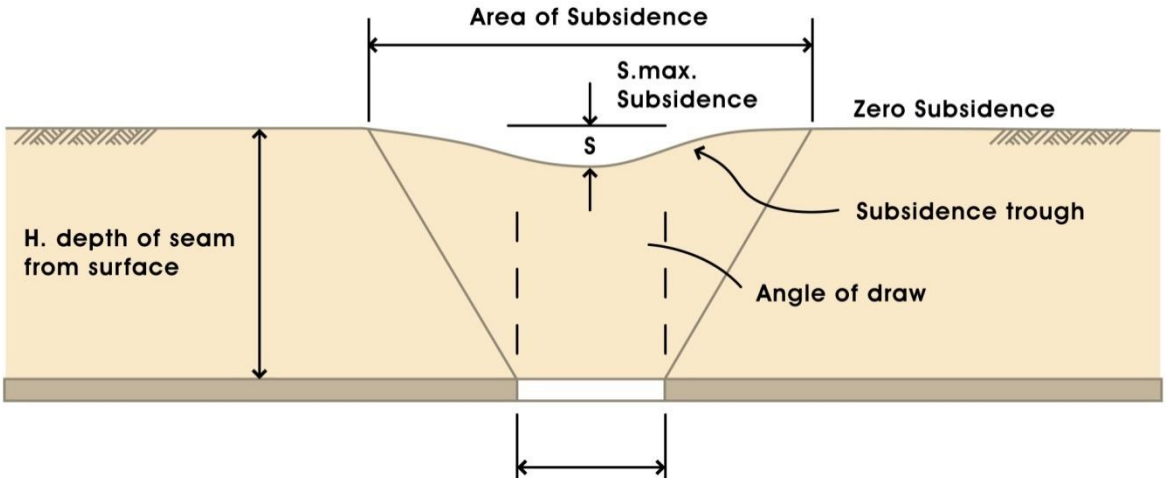
- Subsidence over longwall mining panels for extracting coal from the Harrow Creek Upper (H16) seam on MLA 70383 commencing from within the Saraji Mine ML 1775
- Clearing of any vegetation for construction of mine infrastructure including:
    - a new MIA within previously disturbed areas on the Saraji Mine ML 1775
    - a new CHPP, run-of-mine coal stockpile areas and product coal stockpile areas on ML 1775 and ML 70142, and
    - possible construction and operation of accommodation villages within MLA 70383.

These impacts are described below.

Subsidence

As underground mining progresses, the unsupported strata or goaf, progressively collapses into the mined void. With time the overlying stratum compacts down into the collapsed area resulting in a lowering of the ground surface. This is referred to as subsidence and is illustrated in **Figure 3**. Subsidence causes a shallow, U-shaped surface trough on the ground surface with depth up to 70% -90% extracted seam thickness (Bell & Genske 2001). Subsidence will occur progressively as the coal seam is mined and will be dependent on the thickness of the coal seams as well as quantity and nature of the overburden strata. Experience shows that subsidence does not occur uniformly across the surface area of underground mines and the impacts from subsidence can vary significantly.

Figure 3 Overview of Subsidence



Potential impacts of underground mining on vegetation are likely to be indirect and heterogeneous due to the localisation of surface changes affecting soil properties, as well as changes to surface and sub-surface hydrology (Frazier et al., 2010). Reported impacts of underground mining to agricultural environments and native vegetation include:

- Water accumulation (ponding) in subsidence troughs (Bell et al. 2000; Darmody 1998)
- Soil cracking and erosion (Darmody, 1998)
- Gully erosion in upland swamps in the Southern Coalfields, NSW (Tomkins & Humphreys, 2006)

- Gas emissions affecting riparian vegetation in the Southern Coalfields where dieback affected young trees and saplings (Biosis Research, 2007).

Potential impacts to native vegetation as a result of these changes include:

- Disturbance of tree/shrub root balls by soil rupture, mechanical shaking during active subsidence or ground tilt resulting in in-situ tree mortality or tree fall, as well as providing rain-wash erosion initiation points.
- Vegetation stress due to either mechanical disturbance or water table change could result in foliar discolouration, partial defoliation or increased pathogenic attack (Barry et al., 2008; Coops et al., 2006; Coops et al., 2004; Desprez-Loustau et al., 2006). Vegetation stress may be more likely in areas where moisture conditions are more critical, e.g. in riparian corridors or around the margins of swamps.

Subsidence is unlikely to result in a direct loss of vegetation communities, but over time may impact the health of the vegetation communities from individual tree mortality, fall in subsidence troughs and/or decline in foliar condition on trees/shrubs. The EIS will include a detailed assessment of the impacts of subsidence on TECs and habitat for threatened species.

Vegetation Clearing

Vegetation clearing will be required within the Project site for mine infrastructure including ventilation shafts, surface access roads between these shafts, a Construction Village and an Operations Village.

Potential impacts to threatened fauna species from vegetation clearing include:

- Loss of suitable habitat
- Fragmentation of suitable habitat
- Proliferation of weed and pest species
- Indirect impacts of noise, dust, lighting and vibration, and
- Increased vehicle movement resulting in increased potential for mortality by vehicle strikes.

The brigalow (*Acacia harpophylla* dominant and co-dominant) TEC and suitable habitat for threatened fauna have been identified within the clearing footprint, however further surveys are required to determine the extent of the impacts. Due to these potential impacts to MNES fauna species and the brigalow (*Acacia harpophylla* dominant and co-dominant) TEC, the proponent has nominated the Project to be a 'controlled action'. The EIS will include a detailed assessment of these impacts and provide mitigation measures for each specific MNES.

3.1 (e) Listed migratory species

Description

The EPBC Act PMST (**Attachment 4**) identified eight listed migratory species as potentially occurring within the Project site. A further two listed migratory species which were not identified by the EPBC Act PMST have been recorded on the Project site from previous Project surveys. These species along with their conservation status under the EPBC Act and their likelihood of occurrence are detailed below (**Table 6**).

Table 6 Migratory species from database search results and likelihood of occurrence

Species Name	Common Name	EPBC Act Status[1]	Likelihood of Occurrence
Apus pacificus	Fork-tailed swift	M	**Possible.** Fork-tailed swift primarily occurs of inland plains but is known to utilise diverse habitat from coastal foothills, cliffs, beaches, urban areas, riparian woodland, heathland, treeless grassland, spinifex covered sandplains, open farmland, dunes, low scrub, heathland, saltmarsh and tea-tree swamps (DEE, 2016b). The species is found across northern Australia and may use wooded areas and open plains within the Project site. Aerial only. Non-breeding habitat only. No records are available from previous surveys and no records from Wildlife Online or Atlas of Living Australia databases are available within 10 km.
Cuculus optatus	Oriental cuckoo	M	**Unlikely.** The oriental cuckoo is known from monsoon forest, rainforest edges, vine scrub, riverine thickets, wetter, densely canopied eucalypt forest, paperbark swamp and mangroves (Morcombe, 2004). This species does not breed in Australia. No records are available from previous surveys and no records from Wildlife Online or Atlas of Living Australia databases are available within 10 km.
Gallinago hardwickii	Latham's snipe	M	**Possible.** Uses a variety of freshwater or brackish wetlands, preferring to be close to protective vegetation cover. Small patches of suitable habitat may be available within the Project site. No records are available from previous surveys and no records from Wildlife Online or Atlas of Living Australia databases are available within 10 km.
Hydroprogne caspia	Caspian tern	M	**Known.** Recorded within the vicinity of the Project site foraging over an existing evaporation dam on the eastern side of ML 1775. This species is likely to occur over suitable wetland habitat.
Monarcha melanopsis	Black-faced monarch	M	**Unlikely**. 'Wet forest specialist, found mainly in rainforest and wet sclerophyll forest, especially in sheltered gullies and slopes with a dense understorey of ferns and shrubs' (DoE, 2015). No suitable habitat occurs within the Project site and no Wildlife Online or Atlas of Living Australia database records exist within 10 km of the Project site.

Motacilla flava	Yellow wagtail	M	**Unlikely.** No Wildlife Online or Atlas of Living Australia database records within 10 km of the Project site and no records from previous surveys. Are known from open country near swamp margins, sewage ponds, salt marshes, grassed surroundings of airfields and rarely on drier inland plains (Morcombe, 2014). Do not breed in Australia. Suitable habitat is not available within the Project site.
Myiagra cyanoleuca	Satin flycatcher	M	**Possible**. No Wildlife Online or Atlas of Living Australia database records within 10 km of the Project site. The satin flycatcher may occur in eucalypt and riparian woodlands across the Project site.
Pandion haliaetus	Osprey	M	**Unlikely.** No Wildlife Online or Atlas of Living Australia database records within 10 km of the Project site. This species is found along coastlines, estuaries, lagoons, reefs, rock cliffs, bays, inlets, islands and other areas surrounding water. No suitable habitat is available within the Project site.
Rhipidura rufifrons	Rufous fantail	M	**Known**. Recorded within the vicinity of the Project site. Likely to occur across the Project site during winter months.
Tringa nebularia	Common greenshank	M	**Possible.** Species is found inland in floodplains, swamps, lakes, permanent and temporary wetlands. Several small wetlands are present within the Project site which may be utilised by this species. It has not been identified in previous surveys however a record does exist from Atlas of Living Australia at the Peak Downs tailings dam north of the Project site.

[1] Status under the EPBC Act: E (endangered), V (vulnerable), M (migratory)

Nature and extent of likely impact

Two migratory species have been observed within the Project site during previous Project surveys. These species are listed below:

- Caspian tern (*Hydroprogne caspia*)
- Rufous fantail (*Rhipidura rufifrons*).

A further four migratory species are considered 'Possible' to occur across the Project site. These are listed below:

- Fork-tailed swift (*Apus pacificus*)
- Latham's snipe (*Gallinago hardwickii*)
- Satin flycatcher (*Myiagra cyanoleuca*)
- Common greenshank (*Tringa nebularia*).

A significant impact to these species would occur if an action is likely to lead to substantial loss or modification of important habitat or when an action will seriously disrupt the lifecycle of an ecologically significant proportion of any species population (DoE, 2015). Most of these species have widespread distributions and occupy broad and diverse habitat and as such are often detected during surveys (DoE, 2015). Impacts to these species however, are considered unlikely in most cases in particular where no wind turbines, tall buildings or airport developments are involved. Further, several of these species do not breed in Australia and therefore clearing associated with the Project would not have a significant impact on the breeding portion of the lifecycle for these species. The risk of significant impacts to several species which are known to breed in Australia can generally be avoided or mitigated through the implementation of appropriate measures (DoE, 2015).

Given the limited suitable habitat within the Project site and the availability of habitat throughout the region (such as wildlife corridors on Boomerang, Hughes, One Mile and Plumtree Creeks and waterbodies of adjacent mines), it is considered unlikely that the Project will cause significant impacts to these species. The extent of potential impact of the Project on migratory species will be assessed in detail as part of the EIS.

3.1 (f) Commonwealth marine area

Description

Refer to 3.1 (h)

Nature and extent of likely impact

Refer to 3.1 (h)

3.1 (g) Commonwealth land

Description

No Commonwealth land was identified as potentially being affected by the proposed action.

Nature and extent of likely impact

Not applicable.

3.1 (h) The Great Barrier Reef Marine Park

Description

The watercourses which traverse the Project site drain indirectly into the Fitzroy River which discharges adjacent to the Great Barrier Reef Marine Park.

Nature and extent of likely impact

The Project site is located approximately 490 km upstream from the mouth of the Fitzroy River and subsequently, the Great Barrier Reef, therefore, potential impacts on the Great Barrier Reef and World Heritage properties are considered to be unlikely.

In order to manage downstream impacts of the Project, a water management plan will be implemented which will include diverting clean water runoff from undisturbed areas around mining areas; management of flood waters; construction of a mine water management system and water quality monitoring. Water management will be regulated by the conditions of the Project's EA. Therefore, surface water runoff from the Project is not expected to impact on surface water quality downstream.

Several weirs have been constructed on the Fitzroy and Mackenzie Rivers including Fitzroy Barrage, Eden Bann Weir and Tartrus Weir. These weirs provide an additional barrier to sediments and contaminants reaching the Great Barrier Reef.

3.1 (i) A water resource, in relation to coal seam gas development or large coal mining development

Description

Surface water

The Project site is located within the Isaac River catchment which forms part of the Fitzroy River basin. The site extends 2.5 km east from the Saraji Mine for a length of approximately 15 km. The area is located in undulating terrain that includes sections of Boomerang Creek, One Mile Creek, Hughes Creek, South Creek, Spring Creek, Barrett Creek and Plumtree Creek. Phillips Creek is diverted through the Saraji Mine site within the downstream reaches, however the Project site does not extend into the Phillips Creek catchment.

All of the watercourses in and around the Project site are ephemeral. The Project site is located in the downstream reaches of the catchment where the creeks are relatively well defined. The Project site is located directly downstream of the Saraji Mine. The Saraji and Peak Downs Mines divert several creeks including Boomerang, Hughes and One Mile Creeks. These creek diversions discharge to the natural channels upstream of the Project site.

Groundwater

There are three aquifer systems and one aquitard within the Saraji Mine ML area. These aquifers and aquitard are likely to be in hydraulic connection to the Project and are therefore sensitive to the Project's groundwater-affecting activities. The aquitard is formed by the Permian overburden and interburden (i.e. shale, mudstone, siltstone and sandstone).

The three aquifers are associated with the following geological strata:

- shallow Quaternary alluvium trending along creek lines
- sand lenses and a basal sand unit in Tertiary sediments, and
- Permian coal seams.

Nature and extent of likely impact

As the Project comprises an underground coal mine, it is anticipated that the Project could potential impact on water resources. Potential impacts on water will be comprehensively assessed in the EIS. The assessment of the Project's potential to impact water resources will be undertaken in accordance with the following guidelines:

- Significant impact guidelines 1.3: Coal seam gas and large coal mining developments – impacts on water resources (DoE 2013c)
- Information Guidelines for the Independent Expert Scientific Committee (IESC) advice on coal seam gas and large coal mining development proposals (IESC 2014).

Surface water

The key potential impacts of the Project on surface water resources include:

- Surface water quality impacts from the discharge of mine affected water, stormwater with elevated suspended sediment loads or other contaminants
- Reduced downstream flows due to reduction in the contributing catchment as a result of the mining activity and/or mine dewatering
- Changes to surface drainage including flow paths, flow velocities and flood inundation areas as a result of subsidence.

The performance of the proposed mine water management plan will be assessed. This assessment will include development of strategies to manage mine affected water, sediment affected water and drainage from areas not disturbed by mining activities. A water balance model will be developed to simulate the performance of the mine water management system over the life of the Project and ensure that mine water storages are adequately sized to maximise the re-use of water, whilst minimising the need for discharge of mine affected water. The water balance model will provide input to the design and layout of mine water management infrastructure associated with the Project. These design measures will ensure that the potential for impacts to surface water quality are minimised.

Modelling of surface drainage will be used to inform mine planning, location of mine infrastructure and ensure an appropriate site drainage design. Site drainage infrastructure will be designed in accordance with relevant standards and with sufficient capacity to convey surface flows through the Project site in the operations and post-closure phases.

Detailed flood and drainage impact assessment will be undertaken to identify and mitigate surface water impacts. This assessment will include hydrologic and hydraulic modelling of a range of flood events to determine the potential geomorphic and surface water impacts of the Project. The outcomes of the surface water assessment and flood modelling will be used to determine the potential for flooding and geomorphic impacts and any necessary mitigation measures. Mitigation measures may include preventative works and engineered structures to ensure stability of drainage features that may be impacted by the Project.

Groundwater

Mining activities have the potential to impact the groundwater regime due to the depressurisation of aquifers as a result of underground mining and the release of pollutants impacting groundwater quality.

Underground mining is likely to result in localised drawdown or depressurisation of adjacent groundwater units. Additionally, subsidence associated with underground longwall mining will result in subsidence cracking that could also depressurise overlying groundwater units. Subsidence cracking can also increase the potential for interaction between adjacent groundwater units and interactions with surface water.

The potential impacts of aquifer depressurisation due to mining on aquifers, private groundwater bores and groundwater dependent ecosystems will be assessed in detail as part of the EIS groundwater assessment.

Incidental mine gas is present in the two major coal bearing geological formations of the Project area. These formations are the Fort Cooper Coal Measures and Moranbah Coal Measures. Pre- and post-mining drainage of gas from the coal seam will be undertaken to enable safe underground coal mine development. A network of bores and associated surface infrastructure will be developed to drain and manage incidental mine gas. Mine dewatering and water produced during incidental mine gas removal will be transferred to the existing Saraji Mine complex.

Potential sources of groundwater contamination associated with the proposed mining activities include seepage from the tailings and mine waste storage facilities, mine water dams and the storage of chemicals. The mine waste storage facilities and mine water dams will be designed to ensure they do not pose a significant risk of groundwater contamination due to seepage.

The potential impact of the Project on groundwater and surface water resources will be assessed as part of the EIS that will be undertaken for the Project. The proponent is nominating the Project as a controlled action as a result of the potential impacts on water resources.

3.2 Nuclear actions, actions taken by the Commonwealth (or Commonwealth agency), actions taken in a Commonwealth marine area, actions taken on Commonwealth land, or actions taken in the Great Barrier Reef Marine Park

3.2 (a)	**Is the proposed action a nuclear action?**	✓	No
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment		

3.2 (b)	**Is the proposed action to be taken by the Commonwealth or a Commonwealth agency?**	✓	No
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment		

3.2 (c)	**Is the proposed action to be taken in a Commonwealth marine area?**	✓	No
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(f))		

3.2 (d)	**Is the proposed action to be taken on Commonwealth land?**	✓	No
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(g))		

3.2 (e)	**Is the proposed action to be taken in the Great Barrier Reef Marine Park?**	✓	No
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(h))		

3.3 Description of the project area and affected area for the proposed action

3.3 (a) Flora and fauna

Regional ecosystems and TECs have been mapped based on secondary and quaternary level vegetation data and the presence of threatened species recorded from comprehensive and targeted surveys. The following is a summary of findings from the Project Surveys:

- A total of 172 fauna species were recorded including 14 amphibians, 23 reptiles, 108 birds and 27 mammals (including seven introduced species).
- Three threatened fauna species have been recorded from previous surveys, namely:
  - Ornamental snake (*Denisonia maculata*)
  - Squatter pigeon (southern) (*Geophaps scripta scripta*)
  - Australian painted snipe (*Rostratula australis*).
- Two migratory species have been observed during Project Surveys, namely:
  - Caspian tern (*Hydroprogne caspia*)
  - Rufous fantail (*Rhipidura rufifrons*).
- A total of 304 flora species of vascular plants were recorded across 41 families (including 39 exotic species).

For further detail refer to Section 3.1 (d) and 3.1 (e).

3.3 (b) Hydrology, including water flows

The Project site is located within the Isaac River catchment which forms part of the Fitzroy River basin. The surface water resources relevant to the Project include sections of Boomerang Creek, Hughes Creek, Plumtree Creek and a tributary of One Mile Creek. All of the watercourses drain into the Isaac River which form part of the Fitzroy River Basin catchment and are legislated under the Water Resource (Fitzroy Basin) Plan 2011.

All of the watercourses in and around the Project site are ephemeral. The Project site is located in the downstream reaches of the catchment where the creeks are relatively well defined. The Project site is located directly downstream of the Saraji Mine. The Saraji and Peak Downs Mines divert several creeks including Boomerang, Hughes and One Mile Creeks. These creek diversions discharge to the natural channels upstream of the Project site.

3.3 (c) Soil and Vegetation characteristics

The Project site is located within the Brigalow Belt Bioregion and vegetation is influenced by the soil types and landforms present. The sandier northern portion of the Project site remains under original vegetation and is used for sparse grazing. Prior to clearing, much of the area supported extensive areas of brigalow (*Acacia harpophylla*) and belah (*Casuarina cristata*) on clay soils with tracts of eucalypt woodlands on the alluvial and sand plains.

Large areas of cleared brigalow clays as well as more sandier soils occur on the One Mile Creek drainage and flood plain. Further northwards in the Boomerang Creek drainage sector, deeper sandier duplex soils under eucalypt vegetation predominates with smaller areas of brigalow clay soils.

3.3 (d) Outstanding natural features

No outstanding natural features exist within the vicinity of the Project site.

3.3 (e) Remnant native vegetation

Queensland Regional Ecosystem (RE) mapping (Version 8) published by the Department of Natural Resources and Mines (DNRM), mapped seven REs in homogenous and heterogeneous polygons within the Project site.

The REs identified by DNRM mapping are listed in **Table 7** below along with a description of these communities, their homologous TECs where applicable and their status under the VM Act and the EPBC Act (for homologous TECs only).

- **Table 7 DNRM REs mapped within the Project site**

RE	Description[1]	VM Act Status	Homologous TECs	EPBC Act Status
11.3.1	*Acacia harpophylla* and/or *Casuarina cristata* open forest on alluvial plains	Endangered	Brigalow (*Acacia harpophylla* dominant and co-dominant)	Endangered
11.3.2	*Eucalyptus populnea* woodland on alluvial plains	Of Concern	NA	NA
11.3.25	*Eucalyptus tereticornis* or *E. camaldulensis* woodland fringing drainage lines	Least Concern	NA	NA
11.3.27b	Lacustrine wetland	Least Concern	NA	NA
11.4.8	*Eucalyptus cambageana* woodland to open forest with *Acacia harpophylla* or *A. argyrodendron* on Cainozoic clay plains	Endangered	Brigalow (*Acacia harpophylla* dominant and co-dominant)	Endangered
11.4.9	*Acacia harpophylla* shrubby open forest to woodland with *Terminalia oblongata* on Cainozoic clay	Endangered	Brigalow (*Acacia harpophylla* dominant and co-dominant)	Endangered

	plains			
11.5.3	*Eucalyptus populnea* ± *E. melanophloia* ± *Corymbia clarksoniana* on Cainozoic sand plains/remnant surfaces	Least Concern	NA	NA

1 Short description from the Regional Ecosystem Description Database (REDD)

RE mapping was ground-truthed during site surveys conducted by SKM in 2007 and 2008 (**Attachment 5**); additional ground-truthing will be conducted throughout the environmental impact assessment process. Existing site surveys confirmed that much of these vegetation communities demonstrate impacts from grazing with a sparse understorey of native species. In some parts, buffel grass (*Cenchrus ciliaris**) dominates the ground layer. Large tracts of non-remnant vegetation exists which has been highly modified for grazing. No native grasslands have been identified within the Project site. Vegetation descriptions, including the extent, condition and dominant species for five of the DNRM mapped REs are outlined below. The remaining two REs were not surveyed in detail during previous survey events. These remaining REs will be surveyed and assessed throughout the environmental impact assessment process.

RE 11.3.25 *Eucalyptus tereticornis* or *E. camaldulensis* woodland fringing drainage lines

RE 11.3.25 occurs fringing the drainage lines of Boomerang Creek, Plumtree Creek, Hughes Creek, One Mile Creek and Phillips Creek. River red gum (*Eucalyptus camaldulensis*) forms a tall canopy (16 m to 24 m), with river oak (*Casuarina cunninghamiana),* Moreton Bay ash (*Corymbia tessellaris*) and paper barked tea tree (*Melaleuca fluviatilis*) present in the lower tree layers. The shrub layers comprise Leichardt bean (*Cassia brewsteri*) and Sally wattle (*Acacia salicina*). Guinea grass (*Megathyrsus maximus**), couch (*Cynodon dactylon**), feathertop Rhodes grass (*Chloris virgata**) and mat rush (*Lomandra longifolia*) are present in the ground-layer. The community is disturbed by grazing, flooding, feral animals and weeds.

11.3.27b Lacustrine wetland

A freshwater oxbow wetland (RE 11.3.27b) occurs in the north-east corner of the Project site comprising open water with aquatic species and fringing sedgeland and eucalypt woodland. The canopy comprises river red gum (*Eucalyptus camaldulensis*) and swamp box (Lophostemon grandiflorus) (16 m to 20 m), both species also present in the lower tree layer (8 m to 12 m), with a shrub layer of Sally wattle (*Acacia salicina*) and Xanthium pungens (*Noogoora burr*) and ground layer of *Cyperus spp*. and the aquatic grass species *Pseudoraphis spinescens*.

RE 11.4.8 *Eucalyptus cambageana* woodland to open forest with *Acacia harpophylla* or *A. argyrodendron* on Cainozoic clay plains

The canopy is dominated by Dawson gum (*Eucalyptus cambageana*) (13 m to 15 m), with brigalow (*Acacia harpophylla*) and red bauhinia (*Lysiphyllum carronii*) in the lower tree layers (8 m to 2 m). The shrub layer comprises whitewood (*Atalaya hemiglauca*), Psydrax odorata, Alectryon diversifolius, red bauhinia (*Lysiphyllum carronii*), currant bush (*Carissa ovata*), *Diospyros humilis*, false sandalwood (*Eremophila mitchellii*), limebush (*Citrus glauca*) and *Erythroxylum australe*. The ground layer is disturbed by grazing and is dominated by buffel grass (*Cenchrus ciliaris**), cup grass (*Eriochloa crebra*), brigalow grass (*Paspalidium caespitosum*), parthenium weed (*Parthenium hysterophorus*) and *Bothriochloa bladhii*.

RE 11.4.9 *Acacia harpophylla* shrubby open forest to woodland with *Terminalia oblongata* on Cainozoic clay plains

RE 11.4.9 exists throughout the north and east of the Project site in homogenous patches as well as heterogeneous polygons of RE 11.4.9/11.4.8. Belah (*Casuarina cristata*) forms a low canopy with scattered ghost gum (*Corymbia dallachiana*) and yellowwood (*Terminalia oblongata*) (6 m to 10 m) and emergent Dawson gum (*Eucalyptus cambageana*) (13 m to 15 m). The shrub layer is dominated by Denhamia oleaster, currant bush (*Carissa ovata*) and Grewia latifolia (*dysentery bush*). The ground layer is disturbed by grazing and feral animals and comprises buffel grass (*Cenchrus ciliaris**), *Paspalidium caespitosum*, Queensland bluegrass (*Dichanthium sericeum*) and *Bothriochloa bladhii*.

RE 11.5.3 *Eucalyptus populnea* ± *E. melanophloia* ± *Corymbia clarksoniana* on Cainozoic sand plains/remnant surfaces

RE 11.5.3 occurs commonly across the Project site on sandy plains. In the north-east of the Project site near the oxbow wetland silver-leaf ironbark (*Eucalyptus melanophloia*) and poplar box (*Eucalyptus populnea*) forms an open canopy (10 m to 14 m) with emergent ghost gum (*Corymbia dallachiana*), silver-leaf ironbark (*Eucalyptus melanophloia*), long-fruited bloodwood (*Corymbia clarksoniana*) and poplar box (*Eucalyptus populnea*) (15 m to 17 m). Beefwood (*Grevillea striata*) and silver-leaf ironbark (*Eucalyptus melanophloia*) is scattered in the lower tree layers (5 m to 7 m). The community is disturbed by grazing and past clearing, with a sparse shrub layer of Grewia latifolia (dysentery bush) and

Currant bush (*Carissa ovata*) and a moderately dense ground layer of buffel grass (*Cenchrus ciliaris*),* kangaroo grass (*Themeda triandra*) and black speargrass (*Heteropogon contortus*).

Towards the western extent of Hughes Creek that falls within the Project site, poplar box (*Eucalyptus populnea*) forms an open canopy (10 m to 14 m) with a very sparse shrub layer of Leichardt bean (*Cassia brewsteri*) and dense ground layer of buffel grass (*Cenchrus ciliaris**). The community is disturbed by grazing, past thinning and feral animals.

3.3 (f) Gradient (or depth range if action is to be taken in a marine area)

The Project site is characterised by flat to very gently undulating plains with a low susceptibility to erosion. Slope gradients were found to be in the range of < 1% to 2%. Effective erosion control can be achieved with adequate attention to erosion controls including maintenance of a surface vegetative cover.

3.3 (g) Current state of the environment

The primary use of the land surrounding the Project site is cattle grazing and mining. Some areas have been subject to cultivation and clearing. In addition, infrastructure such as water tanks, windmills, water troughs, feed troughs and dams are located within the vicinity of the Project site.

The following declared plants under the Queensland LP Act have been observed within the vicinity of the Project site:

- Bellyache bush (*Jatropha gossypiifolia**), Class 2
- Creeping lantana (*Lantana montevidensis**), Class 3
- Harrisia cactus (*Eriocereus martini**), Class 2
- Hymenachne (*Hymenachne amplexicaulis**), Class 2
- Lantana (*Lantana camara**), Class 3
- Mother of millions hybrid (*Bryophyllum daigremontianum x delagoense**), Class 2
- Parthenium (*Parthenium hysterophorus**), Class 2
- Prickly pear (*Opuntia stricta**), Class 2
- Rubber vine (*Cryptostegia grandiflora**), Class 2
- Velvety Prickly Pear (*Opuntia tomentosa**), Class 2.

The following declared pest animals under the LP Act have been identified within the vicinity of the Project site. All of the following pest animals are commonly encountered in central Queensland:

- Dog (*Canis familiaris**), Class 2
- Feral cat (*Felis cattus**), Class 2
- European rabbit (*Oryctolagus cuniculus**), Class 2
- Pig (*Sus scrofa**), Class 2.

The following non-declared pest species under the LP Act that were also observed in the vicinity of the Project site:

- Hare (*Lepus capensis**)
- House mouse (*Mus musculus**)
- Cane toad (*Rhinella marina**).

3.3 (h) Commonwealth Heritage Places or other places recognised as having heritage values

A search of the Commonwealth Heritage Database and the Queensland Heritage Register using the respective on-line search tools identified that there are no Commonwealth or Queensland Heritage places located within the Project site.

3.3 (i) Indigenous heritage values

As part of the EIS, assessment of the Aboriginal cultural heritage values of the Project will be undertaken in consultation with the Barada Barna people. As discussed in **Section 2.6**, a CHMP will be developed prior to the commencement of construction and operational activities.

3.3 (j) Other important or unique values of the environment

There are no additional important or unique values of the environment in the vicinity of the Project site.

3.3 (k) Tenure of the action area (e.g. freehold, leasehold)

Refer to **Section 1.6.**

3.3 (l) Existing land/marine uses of area

Refer to **Section 3.3**. The Project site is located approximately 490 km inland and therefore there are no marine uses within the vicinity.

3.3 (m) Any proposed land/marine uses of area

The proposed land use is coal mining. There will not be any marine uses, as part of the Project.

4 Environmental outcomes

Based on potential significant impacts to MNES, the Project will be referred as a 'controlled action'. Further field based investigations will be undertaken to provide detailed information regarding the location of and potential impacts to MNES present within the Project site. The results from this assessment will inform the development of detailed measures for the avoidance, minimisation and mitigation of potential impacts (referred to collectively as mitigation).

In the next stages of the Project approval process, a comprehensive Project EIS will be prepared which will detail the results of the environmental impact assessment identifying baseline environmental values and examining the potential significance of direct and indirect environmental, social and economic impacts of the Project.

5 Measures to avoid or reduce impacts

The EIS will contain a summary of commitments following the completion of the impact assessment. Potential mitigation and management measures may include:

Indirect Impacts - Subsidence

To minimise and manage impacts from subsidence, the focus will be on improving the condition and health of vegetation communities and fauna habitats to maximise resilience from disturbance, and implementing a program of monitoring and adaptive management through the preparation and implementation of a Subsidence Management Plan. The Subsidence Management Plan may include:

- Identification of objectives, criteria, indicators for the management of land and vegetation related issues.
- Identification and prioritisation of management zones based on the proposed extent of impact from the 3D subsidence modelling.
- Pre-mining management methods for each zone to build resilience (i.e. weed and pest control, exclusion of cattle, reduction and management of grazing pressure, fencing, erosion control and soil stabilisation, assisted regeneration to encourage native grasses).
- Benchmarking values for vegetation communities and habitat including vegetation condition attributes (i.e. recruitment of woody perennial species, native plant species richness, canopy cover, canopy height, shrub layer cover, native perennial grass cover, number of large trees, coarse woody debris, weed cover and litter cover) and landscape-based attributes (i.e. size of patch, context and connectivity). Reference sites will be established in accordance with the BioCondition: A Condition Assessment Framework for Terrestrial Biodiversity in Queensland. Assessment Manual. Version 2.2.
- Implementation of a monitoring plan to monitor the condition of vegetation communities and habitat during and post mining, and identify trigger levels for rehabilitation.
- Development of a rehabilitation methodology, including site preparation, planting schedules (species, densities) and methods (direct seeding/planting/natural regeneration), rehabilitation monitoring and success indicators, and maintenance requirements (type, timing, weed and feral animal control).
- If required, preparation of a biodiversity offset strategy.

Direct Impacts – Vegetation Clearing

To minimise and manage impacts from the construction of mine and associated infrastructure, the following measures may be implemented to reduce impacts on vegetation communities and fauna habitats:

- Implementation of a Vegetation Clearing and Fauna Management Plan to ensure that the clearing of native vegetation communities is completed in a way which prevents or minimises damage to adjacent communities and prevents injury or death to fauna. This will include pre-clearance surveys, engagement of a wildlife spotter-catcher to relocate any fauna into undisturbed habitats, identification of the extent of clearing and demarcation of parking and stockpile areas.
- Minimisation of disturbance to waterways and wetlands which support ornamental snake (*Denisonia maculata*) or Australian painted snipe (*Rostratula australis*) populations.
- Implementation of a Weed and Pest Management Plan to manage invasive species, in particular declared weeds (i.e. parthenium (*Parthenium hysterophorus**), harrisia cactus (*Harrisia martini**) and prickly pear(*Opuntia spp.**) in cleared areas.
- Implementation of a Water Management Plan to manage surface water runoff and quality prior to any discharge into waterways.
- Provision of EPBC offsets for clearing of brigalow (*Acacia harpophylla*) and potential habitat for ornamental snake (*Denisonia maculata*) and squatter pigeon (*Geophaps scripta scripta*).
- Identification of No Go areas, including TECs and potential habitat for threatened species. A robust Permit to Disturb procedure will protect these areas from disturbance.
- Minimisation of clearing width of infrastructure easements through sensitive areas.

Surface water and quality management

To minimise and manage impacts from the construction of mine and associated infrastructure, a water management system will be developed for the Project. The objectives of the water management system are to:

- Achieve optimal reliability of water supply for coal processing and dust suppression
- Minimise the take from the surface water allocation
- Direct water from undisturbed areas away from Project operations, and
- Minimise both controlled and uncontrolled releases from the sites.

The following principles and measures may be employed to achieve these objectives:

- Runoff from undisturbed areas of the Project site and its vicinity will be diverted away from disturbed areas by diversion bunds and drains which will drain via diverted creeks and natural watercourses.
- Runoff from disturbed areas of the Project will be diverted away from undisturbed areas, stored and used preferentially to satisfy the Project's dust suppression and CHPP process water demands.
- Runoff from the disturbed areas of the Saraji Mine will be bunded and managed under the existing Saraji Mine water management system.
- Direct rainfall over the Saraji Mine's existing pit areas that the Saraji East underground workings will be captured and managed as part of the Project. The highwall portal will be designed to provide a 1 in 1,000 year AEP flood immunity to the underground workings. This will be provided through in-pit sumps and an elevated entry to the underground workings. Water will be captured in the pits and will be transferred when required to maintain the flood immunity.
- Controlled releases will be made in accordance with the principles outlined in the Final Model Water Conditions for Coal Mines in the Fitzroy Basin (DERM, July 2011) as reflected in the Environmental Authority for the mine.
- Water quality impacts from release of mine affected water will be managed under Environmental Authority issued by the EHP. The Project EA will specify water quality limits, discharges volumes and certain times of the year when discharges are authorised to occur.
- Best management erosion and sediment control practices will be applied to construction works and mining operations to prevent the generation of sediment and its transport to waterways. Sediment control structures, such as sediment ponds, will be designed and constructed on site to trap runoff. The sediment ponds will hold sediment-contaminated runoff long enough to allow suspended sediment to settle out naturally or through the use of flocculants/filtration, to be acceptable for discharge (IECA 2006). This water will be preferentially reused for activities such as dust suppression.
- Treated effluent from the sewage and waste treatment plants at the Project site will be discharged to the mine water management system.
- The storage of chemicals and fuel on site will be kept to minimum levels. Storage units will be bunded and staff will be trained in appropriate chemical handling and emergency management procedures.

Groundwater management measures

The surface water management measures outlined above will also act to mitigate impacts to groundwater. In addition, the following measures will be implemented to confirm the efficacy of the proposed measures whilst ensuring that any drawdown impacts to existing users are appropriately addressed.

- The compilation of a suitable groundwater management and monitoring plan.
- The development of make good agreements and commitments to address possible groundwater resource reduction - both direct groundwater use and environmental availability.
- Validation of predictive groundwater impacts, the development of investigation instigation triggers so as to ensure the early implementation of groundwater management actions to prevent possible environmental harm.

6 Conclusion on the likelihood of significant impacts

6.1 Do you THINK your proposed action is a controlled action?

	No, complete section 6.2
✓	Yes, complete section 6.3

6.2 Proposed action IS NOT a controlled action.

Not applicable.

6.3 Proposed action IS a controlled action

	Matters likely to be impacted
	World Heritage values (sections 12 and 15A)
	National Heritage places (sections 15B and 15C)
	Wetlands of international importance (sections 16 and 17B)
✓	Listed threatened species and communities (sections 18 and 18A)
	Listed migratory species (sections 20 and 20A)
	Protection of the environment from nuclear actions (sections 21 and 22A)
	Commonwealth marine environment (sections 23 and 24A)
	Great Barrier Reef Marine Park (sections 24B and 24C)
✓	A water resource, in relation to coal seam gas development and large coal mining development (sections 24D and 24E)
	Protection of the environment from actions involving Commonwealth land (sections 26 and 27A)
	Protection of the environment from Commonwealth actions (section 28)
	Commonwealth Heritage places overseas (sections 27B and 27C)

The construction of mine and associated infrastructure (as defined in **Section 2.1**) may cause the loss of some area of the brigalow (*Acacia harpophylla* dominant and co-dominant) TEC and potential habitat for ornamental snake (*Denisonia maculata*), squatter pigeon (*Geophaps scripta scripta*), and Australian painted snipe (*Rostratula australis*).

The underground mining operation will also lead to the subsidence of areas of brigalow (*Acacia harpophylla* dominant and co-dominant) TEC, potentially resulting in a change to surface levels and overland flows. These changes have the potential to cause an impact to this TEC and habitat for threatened fauna species. A Subsidence Management Plan will be implemented to monitor subsidence impacts and to manage changes to the landscape arising from subsidence.

Mining activities have the potential to impact water resources specifically though surface water quality impacts from the discharge of mine affected water, stormwater with elevated suspended sediment loads or other contaminants; reduced downstream flows due to reduction in the contributing catchment as a result of the mine dewatering and changes to surface drainage including flow paths, flow velocities and flood inundation areas. Additionally, the Project may lead to the depressurisation of aquifers and the release of pollutants impacting groundwater quality. The potential impact of the Project on groundwater and surface water resources will be assessed as part of the environmental assessment process that will be undertaken for the Project.

Based on the information provided in this referral, it is considered that the Project is a 'controlled action' under the EPBC Act.

7 Environmental record of the responsible party

		Yes	No
7.1	**Does the party taking the action have a satisfactory record of responsible environmental management?** **Provide details** BMA has an excellent record of responsible environmental management and a strong commitment to continual improvement of environmental performance. All existing BMA mine sites operate under an Environmental Management System that is aligned with the key elements of ISO 14001. BMA also has an overriding commitment to environmental responsibility. We strive to achieve the efficient use of resources, including reducing and preventing pollution, and enhancing biodiversity protection by assessing ecological values and land use in our activities. Our stewardship approach is designed to ensure that the lifecycle health, safety, environment and community impacts associated with resources, materials, processes and products related to our businesses are minimised and managed.	✓	
7.2	**Provide 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:** **(a) the person proposing to take the action, or** **(b) if a permit has been applied for in relation to the action - the person making the application.** NA		✓
	If yes, provide details		
7.3	**If the person taking the action is a corporation, please provide details of the corporation's environmental policy and planning framework and if and how the framework applies to the action.** **If yes, provide details of environmental policy and planning framework** The Project will be conducted in accordance with an Environmental Management System, the BHP Billiton Charter, and internal governance processes and standards (e.g. Code of Conduct, BHP Billiton Environment Standard). BHP Billiton's approach to environmental management is incorporated in the Charter, which states that we have 'an overriding commitment to health, safety, environmental responsibility and sustainable development'. A copy of the BHP Billiton Charter is provided as **Attachment 7.**	✓	
7.4	**Has the party taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?** BMA has previously referred (or been responsible for an action referred) under the EPBC Act. **Provide name of proposal and EPBC reference number (if known)** 2004/1733 - Expansion of the Hay Point Coal Terminal 2004/1447 - Norwich Park Coal Mine - Development of East Pit 2005/2211 - Hay Point Services Coal Terminal Offshore Expansion 2008/4417 - Caval Ridge Coal Mine Project 2008/4418 - Daunia Coal Mine Project 2013/6868 – Dysart Road and Infrastructure Relocation 2013/6865 – Red Hill Mine Project	✓	

8 Information sources and attachments

8.1 References

Aumann, T., Baker-Gabb, DJ. (1991). *The ecology and status of the Red Goshawk in northern Australia*. RAOU Report no. 75. Royal Australasian Ornithologists Union: Melbourne.

Australian Government Department of Environment, Water, Heritage and the Arts (2010) Species Profile and Threats Database. Accessed Online, March 2011. http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl

Australia Government Department of Environment, Water, Heritage and the Arts (2009) Protected Matters Search Tool. Accessed online, May 2010. http://www.environment.gov.au/erin/ert/epbc/index.html

Barker, J., Grigg, G.C. and Tyler, M.J. (1995). *A Field Guide to Australian Frogs*. Surrey Beatty and Sons, Chipping Norton, New South Wales.

Barry KM, Stone C, and Mohammed CL (2008) *Crown-scale evaluation of spectral indices for defoliated and discoloured eucalypts*. International Journal of Remote Sensing 29:47–69

Bell, FG and Genske, DD (2001) *The influence of subsidence attributable to coal mining on the environment, development and restoration: Some examples from western Europe and South Africa*. Environmental and Engineering Geoscience 7 (1): 81-99

Biosis Research (2007) *Dendrobium Area 3 species impact statement* in Illawarra Coal Holdings Pty Ltd (ed.), Dendrobium Mine Area 3A SMP, BHP Billiton Group, Wollongong, <http://www.bhpbilliton.com/bb/ourBusinesses/metallurgicalCoal/illawarraCoal/dendrobiumMine Area3aSmp.jsp>.

Churchill, S. (2008). *Australian Bats. Second Edition*. Allen & Unwin. NSW, Australia.

Coops, NC, Stone, C, Culvenor, DS and Chisholm, L (2004) *Assessment of crown condition in eucalypt vegetation by remotely sensed optical indices* Journal of Environmental Quality, 33(3), 956-964.

Coops, NC, Johnson, M, Wulder, MA and White, JC (2006) *Assessment of QuickBird high spatial resolution imagery to detect red attack damage due to mountain pine beetle infestation* Remote Sensing of Environment, 103(1), 67-80.

Darmody, RG 1998, *Reclamation of agricultural land after planned coal mine subsidence*, in CL Hooks, KC Vories & D Throgmorton (eds), *Prime Farmland Interactive Forum, University of Southern Indiana*, Department of Natural Resources and Environmental Sciences, pp. 152-171, <www.mcrcc.osmre.gov/PDF/Forums/Prime%20Farmland%201998/4d.pdf>.

DEE (2016a). Species Profile and Threats Database: *Cycas ophiolitica.* http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=55797. Accessed August 2016

DEE (2016b). Species Profile and Threats Database: *Apus pacificus* – Fork-tailed swift. http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=874. Accessed August 2016.

Department of Environment and Resource Management (2009). Regional Vegetation Management Code for Brigalow Belt and New England Tablelands Bioregions. Version 2, 6 November 2009.

DoE (2015). *Draft referral guideline for 14 birds listed as migratory species under the EPBC Act.* Australian Government Department of the Environment.

DoE (2016). *Protected Matters Search Tool.* Retrieved 2016, from http://www.environment.gov.au/epbc/pmst/index.html.
Desprez-Loustau, ML, Marcais, B, Nageleisen, LM, Piou, D and Vannini, A (2006) *Interactive effects of drought and pathogens in forest trees*. Annals of Forest Science, 63: 597–612.

EcoServe (2005a). A Review of Habitat Values for Biodiversity and Species of Conservation Significance. Final Report Submission for BMA Saraji Mine.

EcoServe (2005b). Vertebrate Fauna Survey of Remnant Habitats associated with One Mile Creek Dam and Surrounds.

EcoServe (2007). Biodiversity and Threatened Species Action Plan for Saraji Mine. Final Report Submission 27th June 2007. An unpublished report prepared for BMA Saraji Mine.

EcoServe (2006). 2006 Winter Vertebrate Fauna Survey of Remnant Habitats on Saraji Mine. Draft Submission. An unpublished report prepared for BMA Saraji Mine.

EcoServe (2008). Baseline Fauna Surveys of Rehabilitated Lands on Saraji Coal Mine. An unpublished report prepared for BMA Saraji Mine.

EcoServe (2009). Baseline Fauna Surveys of Rehabilitated Lands on Saraji Coal Mine. An unpublished report prepared for BMA Saraji Mine.

Environment Australia (2001). *Brigalow (Acacia harpophylla dominant and co-dominant) Nationally Threatened Species and Ecological Communities Information Sheet.*

Environment Australia (2001i). *Brigalow Regrowth and the Environment Protection and Biodiversity Conservation Act 1999*. Environment Australia, Canberra.

Environmental Protection Agency (2008). *Biodiversity Planning Assessment: Brigalow Belt North Landscape Expert Panel Report.* Version 1.3. Biodiversity Planning Unit, Brisbane.

Eyre, T.J., Kelly, A.L, Neldner, V.J., Wilson, B.A., Ferguson, D.J., Laidlaw, M.J. and Franks, A.J. (2011) *BioCondition: A Condition Assessment Framework for Terrestrial Biodiversity in Queensland. Assessment Manual*. Version 2.1. Department of Environment and Resource Management (DERM), Biodiversity and Ecosystem Sciences, Brisbane.

Footprints (2008) Baseline Fauna Surveys of Rehabilitated Lands on Saraji Coal Mine. An unpublished report prepared for BMA Saraji Mine.

Footprints (2009) *Summer and Winter Baseline Fauna Surveys of Rehabilitated Lands on Saraji Coal Mine*. An unpublished report prepared for BMA Saraji Mine.

Frazier. P, Jenkins, R and Trotter T (2010) ACARP PROJECT C15013 Published 21/01/2010 *Monitoring the Effect Of Longwall Mine Subsidence On Native Vegetation and Agricultural Environments* Ecological Australia.

Geonet (2011) Subsidence over Longwall Panels. Saraji East Project.\

Melzer, A., F. Carrick, P. Menkhorst, D. Lunney & B.S. John (2000). Overview, critical assessment, and conservation implications of koala distribution and abundance. *Conservation Biology*. 14:619-628.

Morcombe, M. (2004). *Field guide to Australian birds: Complete compact edition*. Pascal Press, Glebe, NSW.

Neldner, V.J., Wilson, B. A., Thompson, E.J. and Dillewaard, H.A. (2005*). Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland*. Version 3.1. Updated September 2005. Queensland Herbarium, Environmental Protection Agency, Brisbane. 128 pp.

Menkhorst, P. and Knight, F. (2001). *A Field Guide to the Mammals of Australia*. Oxford University Press, South Melbourne, Victoria.

Queensland Government Department of Environment and Resource Management (2009) Wildlife Online database. Accessed online, May 2010. http://www.derm.qld.gov.au/wildlife-ecosystems/wildlife/wildlife_online/

Queensland Herbarium (2007). National Multi-species Recovery Plan for the cycads, Cycas megacarpa, Cycas ophiolitica, Macrozamia cranei, Macrozamia lomandroides, Macrozamia pauli-guilielmi and Macrozamia platyrhachis. Report to Department of the Environment and Water Resources, Canberra. Queensland Parks and Wildlife Service, Brisbane. Available from: http://www.environment.gov.au/biodiversity/threatened/publications/cycads.html.

Queensland Herbarium (2009). Regional Ecosystem Description Database (REDD). Version 6.0b Updated November 2009, Department of Environment and Resource Management: Brisbane.

Simpson, K. and Day, N. (2004). *Field Guide to the Birds of Australia*. Seventh Edition. Penguin Group, Victoria.

Sinclair Knight Merz (2010a) Central Bulk Power Supply Selection Study Terrestrial Ecology Survey. Unpublished report to BMA.

Sinclair Knight Merz (2010b) Saraji Rail Loop Ecological Investigation. File note to BMA.Threatened Species Scientific Committee (2008adq). *Commonwealth Listing Advice on Natural Grasslands of the Queensland Central Highlands and the northern Fitzroy Basin*. Department of the Environment, Water, Heritage and the Arts.

Threatened Species Scientific Committee (TSSC) (2001s). *Commonwealth Listing Advice on Brigalow (Acacia harpophylla dominant and co-dominant)*.

Threatened Species Scientific Committee (2008bh). *Commonwealth Conservation Advice on Dichanthium setosum*. Department of the Environment, Water, Heritage and the Arts. Available from: http://www.environment.gov.au/biodiversity/threatened/species/pubs/14159-conservation-advice.pdf.

Tomkins, KM and Humphreys, GS (2006) Technical Report 2: *Upland swamp development and erosion on the Woronora Plateau during the Holocene*, in G Humphreys & K Tompkins (eds), *Evaluating the effects of fire and other catastrophic events on sediment and nutrient transfer within SCA Special Areas*, Department of Physical Geography, Macquarie University, Sydney, <http://www.es.mq.edu.au/physgeog/staff/gh/SCA/Technical%20Report%202.pdf>.

WBM Pty Ltd (1999). Wet Season Survey of Terrestrial and Aquatic Fauna of Saraji Mine. An unpublished report prepared for BHP Saraji Mine.

WBM Pty Ltd (2002). Jacaranda Pit IAS – Terrestrial Vertebrate Fauna Assessments – Saraji Mine. An unpublished report prepared for BHP Billiton Saraji Mine.

WBM Pty Ltd (2003). Remnant Fauna Survey – Terrestrial Vertebrate Fauna Assessments – Saraji Mine. An unpublished report prepared for BHP Billiton Saraji Mine.

Wilson, S. (2005). *A Field Guide to Reptiles of Queensland*. Reed New Holland, Sydney.

8.2 Reliability and date of information

The information in **Section 3.0** was based on the SKM 'Terrestrial Flora and Fauna Baseline Study – Draft D'. This study includes results from previous flora and fauna studies of Saraji and Peak Downs Mines, as well as several flora and fauna surveys undertaken for the Project in 2007, 2008, 2009 and 2010. A review of the current relevant State and Commonwealth databases (**Section 3.1**) was also undertaken and used to inform this assessment.

All information relied on in the complication of this document has been sourced from reliable, established sources, such as universities, government agencies, research institutes and consulting firms.

8.3 Attachments

		✓ attached	Title of attachment(s)
You must attach	figures, maps or aerial photographs showing the project locality (section 1)	✓	Attachment 1 – Regional Context Attachment 2 – Project Layout and Referral Area Attachment 3 – Tenure and ownership
	figures, maps or aerial photographs showing the location of the project in	✓	Attachment 6 – Matters of National

	respect to any matters of national environmental significance or important features of the environments (section 3)		Environmental Significance
If relevant, attach	copies of any state or local government approvals and consent conditions (section 2.3)		
	copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if available (section 2.4)		
	copies of any flora and fauna investigations and surveys (section 3)	✓	Attachment 5 – Terrestrial Flora and Fauna Baseline Study
	technical reports relevant to the assessment of impacts on protected matters and that support the arguments and conclusions in the referral (section 3 and 4)	✓	Attachment 5 – Terrestrial Flora and Fauna Baseline Study
	report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3)		

9 Contacts, signatures and declarations

Proposed action title:

9.1 Person proposing to take action

Name and Title:	Geoff Streeton, Head of Business Development
Organisation:	BM Alliance Coal Operations Pty Ltd
Trust deed:	☐ attached; OR ☑ not applicable
ACN / ABN:	ABN 67 096 412 752
Postal address:	GPO Box 1389, Brisbane, QLD 4000
Telephone:	07 3329 2600
Email:	geoff.streeton@bhpbilliton.com.au
I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:	☐ an individual; OR ☐ a small business entity (within the meaning given by section 328-110 (other than subsection 328-119(4)) of the *Income Tax Assessment Act 1997*); OR ☑ not applicable.
If you are small business entity you must provide the Date/Income Year that you became a small business entity:	☑ not applicable.
I would like to apply for a waiver of full or partial fees under regulation 5.21A of the EPBC Regulations. Under regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made:	☑ not applicable.
Declaration:	I declare that to the best of my knowledge the information I have given on, or attached to this form 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 of or for the benefit of any other person or entity.

Signature:  Date: 05/10/2016

9.2 Designated proponent

Name of proposed proponent:

ACN / ABN:

Postal address:

Telephone:

Email:

Declaration by the proposed proponent: I ....., the proposed proponent, consent to the proposed designation of myself as the proponent for the purposes of the action described in this referral.

Signature: Date:

Declaration by the person proposing to take the action: I ....., the person proposing to take the action, consent to the proposed designation of..... as proponent for the purposes of the action described in this referral.

Signature: Date:

9.3 Person preparing the referral information (if different from section 9.1)

Name: Ryan Kinnealy

Title: Principal Environment

Organisation: BM Alliance Coal Operations Pty Ltd

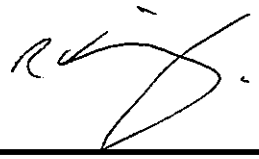
ACN / ABN : ABN 67 096 412 752

Postal address: 14, 480 Queen Street, Brisbane, QLD, 4000

Telephone: 0427 176 239

Email: Ryan.kinnealy@bhpbilliton.com

Declaration: I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct.
I understand that giving false or misleading information is a serious offence.

Signature:  Date: 11/10/16.

REFERRAL CHECKLIST

HAVE YOU:

- ✓ Completed all required sections of the referral form?
- ✓ Included accurate coordinates (to allow the location of the proposed action to be mapped)?
- ✓ Provided a map showing the location and approximate boundaries of the project area for the proposed action?
- ✓ Provided a map/plan showing the location of the action in relation to any matters of NES?
- ✓ Provided a digital file (preferably ArcGIS shapefile, refer to guidelines at Attachment A) delineating the boundaries of the referral area?
- ✓ Provided complete contact details and signed the form?
- ✓ Provided copies of any documents referenced in the referral form?
- ✓ Ensured that all attachments are less than three megabytes (3mb)?
- ✓ Sent the referral to the Department (electronic and hard copy preferred)

Attachment A

Geographic Information System (GIS) data supply guidelines

If the area is less than 5 hectares, provide the location as a point layer. If the area greater than 5 hectares, please provide as a polygon layer. If the proposed action is linear (eg. a road or pipeline) please provide a polyline layer.

GIS data needs to be provided to the Department in the following manner:

- Point, Line or Polygon data types: ESRI file geodatabase feature class (preferred) or as an ESRI shapefile (.shp) zipped and attached with appropriate title
- Raster data types: Raw satellite imagery should be supplied in the vendor specific format.
- Projection as GDA94 coordinate system.

Processed products should be provided as follows:

- For data, uncompressed or lossless compressed formats is required - GeoTIFF or Imagine IMG is the first preference, then JPEG2000 lossless and other simple binary+header formats (ERS, ENVI or BIL).
- For natural/false/pseudo colour RGB imagery:
    - If the imagery is already mosaiced and is ready for display then lossy compression is suitable (JPEG2000 lossy/ECW/MrSID). Prefer 10% compression, up to 20% is acceptable.
    - If the imagery requires any sort of processing prior to display (i.e. mosaicing/colour balancing/etc) then an uncompressed or lossless compressed format is required.

Metadata or 'information about data' will be produced for all spatial data and will be compliant with ANZLIC Metadata Profile. (http://www.anzlic.org.au/policies_guidelines#guidelines).

The Department's preferred method is using ANZMet Lite, however the Department's Service Provider may use any compliant system to generate metadata.

Attachment B

Privacy and Confidentiality Notice

The Department is required under section 74(3) of the *Environment Protection and Biodiversity Conservation Act 1999* (**EPBC Act**) to publish the information (including personal information of the author and/or third parties) provided in this referral on the internet. The information published may include your personal information.

Information including your personal information included in this referral will be used for the purposes of administering the EPBC Act. The information may be provided to various Commonwealth, State and Territory agencies for the purposes of administering the Act or other Commonwealth, State or Territory legislation. For example, if the proposed action (or a component of it) is to be taken in the GBRMP, the Minister is required to provide a copy of your referral to GBRMPA (see section 73A, EPBC Act). For information about how the GBRMPA may use your information, see http://www.gbrmpa.gov.au/privacy/privacy_notice_for_permits.

The Department will collect, use, store and disclose the personal information contained in this referral in a manner consistent with its obligations under the *Privacy Act 1988* and the Department's privacy policy.

The Department's privacy policy contains details about how respondents may access and make corrections to personal information that the Department holds about the respondent, how respondents may make a complaint about a breach of an Australian Privacy Principle, and how the Department will deal with that complaint.

A copy of the Department's privacy policy is available at: http://environment.gov.au/privacy-policy.

The Department is not obliged to publish information that the Minister is satisfied in commercial-in-confidence. If you believe that this referral contains information that is commercial-in-confidence, you must clearly identify such information and the reason for its confidentiality at the time of making the referral. The Minister cannot be satisfied that particular information included in a referral is commercial-in-confidence unless you demonstrate to the Minister (by providing reasons in writing) that:

- release of the information would cause competitive detriment to the person; and
- the information is not in the public domain; and
- the information is not required to be disclosed under another law of the Commonwealth, a State or a Territory; and
- the information is not readily discoverable.

The Department is subject to certain legislative and administrative accountability and transparency requirements of the Australian Government including disclosures to the Parliament and its Committees. While the Department will treat all referral information provided in this referral sensitively, any information contained in or relating to a referral, including information identified by a person as commercial-in-confidence, may be disclosed by the Department:

- to its employees and advisers in order to evaluate or assess a referral;
- to the Parliamentary Secretary;
- within the Department or other agencies where this serves the legitimate interest of the Australian Government;
- in response to a request by a House or Committee of the Parliament of the Commonwealth of Australia;
- where information is authorised or permitted by law to be disclosed; and
- where the information is in the public domain other than by the Department's disclosure of that information.