

# ***Environment Protection and Biodiversity Conservation Act 1999***

## **Referral Form**

### **Important Note:**

**Please read the [Referral Guide](#) and associated Fact Sheets (available at <http://www.deh.gov.au/epbc>) carefully. The guide and Fact Sheets will help you to complete the form correctly and ensure that your referral is in a form that can be processed. The completed form, together with the required maps and any other information you may wish to submit, should be sent to the EPBC Act Referrals Section, Approvals and Wildlife Division, Department of the Environment and Heritage, GPO Box 787, Canberra, ACT, 2601 and/or by email to [epbc.referrals@deh.gov.au](mailto:epbc.referrals@deh.gov.au) (see Referral Guide for allowable electronic formats).**

## **1. Contacts and proponent**

### **1.1 Person making the referral**

**(Note: The term "person" can refer to an individual or a corporation)**

The person making the referral can be either the person proposing to take the action, an agent acting on their behalf (eg, a consultant), or a government agency making the referral in relation to an action to be taken by another person. *(Include name, postal address, telephone, fax, email.)*

Name: Matrix+ Consulting

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### **1.2 Person(s) proposing to take the action**

This is the person who proposes to carry out the action, or who is otherwise responsible for the action. If approval is necessary, this is the person to whom the approval will be granted, and they will be responsible for meeting any conditions of approval. *(Include name postal address, telephone, fax, email – if same as person making the referral, write "as above".)*

Name: Bowen Central Coal Management Pty Ltd

Contact Person: Julian Hoskin

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BRISBANE Q 4001

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Email: [jhoskin@amci.com.au](mailto:jhoskin@amci.com.au)

If a corporation is proposing to take the action, please ensure you provide the name of a contact officer for this matter.

### 1.3 Person(s) who will be the proponent for the action

The proponent is responsible for preparing all documentation for the assessment process, if the action requires approval. If the proponent is the same as the person proposing to take the action, write 'as above'. If the proponent is different from the person proposing to take the action, the signature of both is required (at Section 7.3). (Include name(s), postal address, telephone, fax, email)

"As Above".

If a corporation is the proponent for the action, please also provide the name of a contact officer for this matter.

## 2. Description of the proposal

### 2.1 Provide a *summary description* of the action (two or three sentences)

The Isaac Plains Project is a proposed open cut coal mine located in the central Queensland coal fields (Figure 1) approximately 7 km north east of Moranbah, on coal exploration permit EPC755. Mining of coal will be undertaken at a rate of approximately 1.9 million tonnes per annum, run-of-mine, with a lifespan of approximately 9 years, based on resource estimates of 18 million tonnes for a strip ratio up to 15:1 (bank cubic metres per tonne). The coal will be crushed, sized and washed on site in a coal handling and preparation plant, before being railed to Dalrymple Bay Coal Terminal for export.

### 2.2 Details of the *location* of the project area

Where the project is of less than 1 km<sup>2</sup> in size, provide the location as a single pair of latitude and longitude references. Latitude and longitude references should be used instead of AMG and/or digital coordinates.

**Locality:** The general locality of the site is illustrated in Figure 1 with coordinates of the MLA are shown on Figure 3.

**Latitude:**                      degrees:                      minutes:                      seconds:

**Longitude:**                      degrees:                      minutes                      seconds:

Please provide a brief physical description of the project area, including the size of the development footprint or work area in hectares (a more detailed description is required at Part 3 of this form).

The proposed project area is approximately 5 km to the northeast of the Isaac River and the coal seams (proposed open pits) strike parallel to its course (Figure 2). There are no areas designated as National Parks or State Forest on the proposed Mining Lease or within the adjacent area. Smoky Creek watercourse flows in a north-east/south-west direction through the proposed mining lease. A smaller tributary of the Isaac, referred to as the 'Unnamed Watercourse', flows through the southern portion of the proposed mining lease. The southern extent of the proposed open-cut pits is approximately 2 km from the Peak Downs Highway.

The area of interest is situated on Lot Number 3 GV 252 freehold title, Lot No 2 RP 904445 freehold title, Lot No 4 CP903281 leasehold title and an unnamed road.

The mining tenements, land tenure and waterways are illustrated in Figure 2.

The area of the proposed mining lease is approximately 2145 ha. Approximately 530 ha of land disturbance associated with pits, access roads, water management dams and levees, the coal handling and preparation plant, mine infrastructure area and rail loop is expected

**Attach an A4/A3 size map(s) showing the location and approximate boundaries of the area in which the project is to occur (this map, or a second attached map, should also show features mentioned in responses to questions in Part 3 of this referral, for example, conservation reserves, areas of remnant native vegetation, streams and roads).**

**2.3 Provide the *timeframe* in which the action is proposed to occur. Include start and finish dates where applicable.**

Construction of the mine is anticipated in November 2005 with export of coal expected in mid 2006. At an annual extraction rate of 1.9 million tonnes per annum, the mine life is estimated as 9 years.

**2.4 Provide a *description* of the action, including *all activities* proposed to be carried out as part of the proposed action.**

Major components of the coal mine project are shown in Figure 3 and include:

- Three open cut pits;
- Coal handling and preparation plant (CHPP) area including crushing facility, coal stockpile pad, temporary reject stockpiles and a rail loop;
- A Mine Infrastructure Area which includes office buildings, workshops, controlled access gate and sewage treatment plant; and
- Water management structures.

Mining	Overburden will require drilling and blasting prior to removal by excavator. Coal will be extracted using conventional open-cut mining techniques, using excavators and trucks. Highwall mining will also occur upon completion of the economic removal of coal using conventional truck and shovel method.
CHPP	The CHPP area contains the run-of-mine area and coal handling facilities, rail loop and load-out and stockpile pads. The coal will be crushed, sized and washed on site, before being railed to Dalrymple Bay for export. The CHPP will not require a tailings dam as the thickener underflow will be dewatered to allow maximum recycling of water and disposal of fines with overburden. Approximately 1.6 Mtpa of coal will be exported from site.
Mine Infrastructure	In addition to the mine offices and workshops, other essential ancillary infrastructure requirements include a car park, communication facilities, water truck fill station, sewage treatment plant, water management dams, fuel and lubricant facility, hardstand and laydown areas. Power to the site will be supplied from the three existing power lines located within an easement on the western boundary of the mining lease area.
Water Management	The pit layout is dominated by the need to maintain flows through Smoky Creek. Both Smoky Creek and the Unnamed Watercourse will be protected by flood levees during mining (approximately 2 m in height). The Mine is designed on the basis of central ramps. The mine water management system consists of clean stormwater diversion, treatment of runoff from land disturbance areas in sediment dams and

containment of mine water in release dams with controlled releases when streamflows are sufficient to achieve the design dilution ratio.

**2.5 Provide an *explanation of the context* in which the action is proposed to take place, including any relevant planning framework (for example, relevant management plans or State or Local Government approvals). Indicate whether, and in what way, the action is *related to other actions or proposals* that may have already occurred, are occurring, or are likely to occur, at a future date. You should also provide the name(s) of the Local Council and/or Local Government Area the action will take place in, if relevant.**

Approvals for the project will be obtained in two phases. The first phase involves securing the use of the site for the proposed activity through obtaining a mining lease under the Queensland *Mineral Resources Act 1989*. It also involves obtaining approval to undertake the activity through an application for non-standard environmental authority (mining lease) under the Queensland *Environmental Protection Act 1994* (EP Act 1994). The Queensland Environmental Protection Agency has made an assessment level decision under the EP Act 1994 that an Environmental Impact Statement (EIS) is not required for the project in the State of Queensland.

The Project is located within the Belyando Shire. Approval under the Belyando Shire Council Planning Scheme is not required because of exemptions for mining activities under the *Integrated Planning Act 1997*.

The proposed mine is located in the northern section of EPC755. Exploration activities in the southern portion of the EPC have recently commenced to ascertain a possible resource. Mining may occur in this area at a future time, subject to appropriate investigation and approvals.

The Moranbah region in general is located within the Bowen Basin with several mining operations located nearby.

**2.6 If you are considering making a referral of a stage or component of a larger action, you must provide information about the larger action and details of any interdependency between the stages/components and the larger action. If appropriate, you may also provide justification as to why you believe it is reasonable for the proposed action, that is the subject of this referral, to be considered separately from the larger proposal (see the Referral Guide).**

**Section 74A of the EPBC Act provides that the Environment Minister may not accept a referred action that is a component of a larger action. If the Environment Minister does not accept the referral, he or she is not permitted to make a decision on whether the action is a controlled action. The Environment Minister may request the person proposing to take the action to refer the larger action for consideration under the EPBC Act (see also Fact Sheet).**

This referral is for the Isaac Plains Project as described in previous sections and will not be staged in its development. It should be noted that resource estimates and life of mine are based on current resource and feasibility estimates which may be subject to change as the mine progresses. Mining may occur in the southern part of the EPC at a future date subject to the findings of the current exploration program and feasibility studies and obtaining the necessary approvals at the time.

### **3. Description of the project area and the affected area**

**Note: You must include a *map(s)* clearly showing the location of the action, and any relevant features referred to in 3.1. (A general location map (eg, 1:250 000 scale) and a more detailed map showing the elements of the proposal may be appropriate. If available, an aerial photograph or other photograph of the site can be included.)**

**3.1 Describe the affected area, referring, as appropriate, to attached maps. In particular, indicate on the map the location of any of the following features: World Heritage properties, Ramsar wetlands, listed threatened species or communities and/or known habitat for these species or communities, listed migratory species and/or known habitat for these species, Commonwealth marine areas and Commonwealth land, conservation reserves/parks, and areas of remnant native vegetation.**

A flora and fauna investigation was undertaken by Ecotone Environmental. The investigation found only a small proportion of the study area supports remnant vegetation as defined under the Queensland *Vegetation Management Act 1999*, and as a result of impacts from cattle grazing, the vegetation is in poor-moderate condition. Validation of Regional Ecosystem mapping revealed a number of anomalies with the existing Queensland Herbarium (Version 4.0) mapping including incorrect mapping of "endangered" (RE 11.4.9 *Acacia harpophylla* - Brigalow) and "of concern" Regional Ecosystem polygons. No endangered RE's (including Brigalow) were found to occur in the study area, however two small "of concern" RE's were identified (Figure 3).

The most significant habitat features within the study area are the riparian vegetation corridors of Smoky Creek, and the smaller tributary of the Isaac River that runs along the southern boundary of the study area. The Smoky Creek riparian corridor provides a continuous, vegetated linkage between the Isaac River and upstream habitat areas.

A search of the EPBC map search indicates that no World Heritage properties, RAMSAR wetlands, Commonwealth Marine Areas, or Commonwealth land, conservation, reserves/parks occur on or near the subject site.

### **Rare and Threatened Flora**

Detailed traverses of the study area were undertaken to detect any rare or threatened flora that may occur in the area. The detectability of plants and ability to accurately identify plants to species level varies greatly with the time of year, prevailing climatic conditions, and the presence of reproductive material (e.g. flowers, fruit, seed capsules). The initial survey (June 2004) was conducted in the cool season following poor wet season rains which reduced the probability of detecting the diversity of flora present, including rare and threatened flora. The summer survey (February 2005) concentrated on the detection of *Desmodium macrocarpum* which was regarded, following the initial survey, as the only rare or threatened species likely to occur in the study area. The areas of Poplar Box woodland (RE 11.5.3) that occur in the study area include patches of Currant Bush (*Carissa ovata*) and *Grewia retusifolia* with which *Desmodium macrocarpum* is often associated.

The area of RE 11.5.3 (Poplar Box woodland) that occurs to the north of Smoky Creek is the only potential habitat area for the species that will be disturbed by the project. The area to be removed is approximately 45ha. This area was the focus of the targeted summer survey for *Desmodium macrocarpum*. The species was not located during this survey at a time of year when it would be expected to be evident and it was concluded that the species does not occur in the area.



## Rare and Threatened Fauna under NCA and EPBC

**Table 2** details the rare or threatened fauna that are known from the study region or that potentially occur within the study region, and provides an assessment of the likely occurrence of each species within the study area. The species evaluated in **Table 2** were compiled from the results of database searches and from additional species that were regarded as potentially occurring in the study region. This list includes species scheduled as rare, vulnerable, or endangered.

The search of the Queensland Museum database did not identify any rare or threatened fauna specimens within the vicinity of the study area. The Wildnet database contained observation records of three rare species, while the EPBC search tool indicated eight species as potentially occurring in the vicinity of the study area.

Assessment of the likely occurrence of each species is based on the known habitat preferences of each species and the availability and condition of potential habitat within the study area. Assessments of the potential presence of species were tempered by the general paucity of published knowledge regarding the distribution and abundance of rare and threatened species in the Central Highlands.

One rare or threatened fauna species, the Squatter pigeon (*Geophaps scripta scripta*) was observed on site during the site inspections. Of the remaining 13 species listed in **Table 2** as potential inhabitants of the study area:

- eight (8) are considered as *possible* inhabitants of the study area; and
- five (5) are considered *unlikely* to utilise habitats within the study area.

The Squatter Pigeon was observed in the patch of Poplar Box woodland (RE 11.5.3) to the north of Smoky Creek that was the focus of the summer site inspection. The Squatter Pigeon was also observed at two other roadside locations in the vicinity of the study area whilst in transit to the study area from Moranbah. It is likely that the species utilises other woodland areas within and adjacent to the study area on the 'Watunga' property. The continuous riparian woodland along Smoky Creek is most likely a significant habitat feature that accommodates movement of the species through the local area.

Of the eight possible species, the Grey Goshawk, Red Goshawk and Square-tailed Kite possibly utilise the study area as part of a wider habitat area and are not expected to nest in the study area. However, the riparian vegetation corridor of Smoky creek may represent a significant habitat feature for these species which utilise such riparian areas as foraging areas and movement corridors.

The remaining species may reside in the area although for the Short-necked Worm Skink, Common Death Adder and Yakka Skink, the condition of the woodland habitats within the study area are not ideal for supporting the species, and therefore there is a slim possibility of these species occurring in the study area. The habitat requirements of the Little Pied Bat (*Chalinolobus picatus*) and Eastern long-eared Bat (*Nyctophilus timoriensis*) are less well known, and given their predominantly aerial habit, they are less affected by the condition of the ground habitat apart from its capacity to produce potential prey. The presence of hollows in the trees along Smoky Creek and the occurrence of Smoky Creek itself as a riparian feature favoured by insectivorous bats, suggests that the species possibly forage and roost along Smoky Creek.

Smoky Creek and its riparian vegetation will not be disturbed as a consequence of the proposal, with the exception of minor disturbance associated with a waterway crossing.

**Table 2 Rare or threatened fauna listed under the NCA and EPBC**

**Key to Source of Record codes:**

*epbc* potential species from the EPBC database  
*qm* records of specimens held at the Queensland Museum  
*epa* recorded observations from the Wildnet database (Environmental Protection Agency, 2004)  
 + assessed as potentially present based on known distribution and available habitats

**Key to Status:**

E endangered  
 V vulnerable  
 R rare

Species	Source of Record	N C A	E P B C	Key resources	Habitat	Likelihood of occurrence within study area.
<b>S t a t u s</b>						
birds						
<i>Erythrotriorchis radiatus</i> Red Goshawk	<i>epbc</i>	E	V	Trees > 20m high for nesting within 1km of a watercourse or wetland. Abundance of passerine prey.	Coastal and sub-coastal forests and riparian forests.	<b>Possible;</b> the species may utilise the riparian forest along Smoky Ck and the smaller tributary along the southern border of the study area; however, it is unlikely that the majority of the study area provides significant habitat for the species due to the extent of clearing of adjoining timbered habitats. The Smoky Ck. corridor may provide a local movement corridor for the species. Due to the disturbed nature of the study area it is highly unlikely that the species breeds in the study area.
<i>Accipiter novaehollandiae</i> Grey Goshawk	<i>epa</i>	R		Availability of prey items.	Closed forest, tall wet forest, and riparian forest amid disturbed areas. Tends to utilise lowland riparian forest during winter.	<b>Possible;</b> as with Red Goshawk this species may utilise the riparian corridors within the study area but the balance of the study area provides little habitat values. The Smoky Ck. corridor may provide a local movement corridor for the species. Due to the disturbed nature of the study area it is highly unlikely that the species breeds in the study area.
<i>Ephippiorhynchus asiaticus</i> Black-necked Stork (Jabiru)	<i>epa</i>	R		Availability of wetland habitats.	River pools, permanent and ephemeral wetlands, tidal flats.	<b>Unlikely;</b> there do not appear to be any ephemeral wetlands in the study area, and the waterways that are present are relatively small and incised and unlikely to provide accessible habitat for the species.
<i>Lophoictinia isura</i> Square-tailed Kite	<i>epa</i>	R		Availability of small passerine prey, including eggs and nestlings. Presence of large wooded areas in close proximity to breeding sites.	Eucalypt forest and woodlands, not generally encountered in more open habitats.	<b>Possible;</b> as with the Goshawks (above) this species may utilise the riparian areas but unlikely to utilise the balance of the study area. Due to the disturbed nature of the study area it is highly unlikely that the species breeds in the study area.
<i>Geophaps scripta scripta</i> Squatter pigeon (southern subsp.)	<i>epbc</i>	V	V	Availability of grass seed and grassy ground cover for shelter.	Prefers woodland with a grassy understorey close to water.	<b>Present;</b> observed during the summer survey in the Poplar Box patch to the north of Smoky Ck. The frontage areas along Smoky Ck. also provide potential habitat.

Species <i>Source of Record</i>	N C A	E P B C	Key resources	Habitat	Likelihood of occurrence within study area.
		S t a t u s			
<b><i>Neochmia ruficauda ruficauda</i></b> Star Finch (southern subsp.) <i>epbc</i>	E	E	Require proximity to water.	Inhabit grasslands or grassy woodlands close to water. Very few records of the species in recent years.	<b>Unlikely;</b> this species is largely sedentary and in order to successfully inhabit an area requires persistence of suitable habitat throughout the year. The cleared areas within the study area when coupled with consistent grazing pressure do not provide suitable habitat for the species.
<b><i>Rostratula australis*</i></b> Australian Painted Snipe <i>epbc</i>	V	V	Vegetated ephemeral wetlands.	Inhabits shallow vegetated ephemeral wetlands in coastal and inland areas.	<b>Unlikely;</b> suitable wetland habitat for the species does not occur within the study area.
mammals					
<b><i>Chalinolobus picatus</i></b> Little Pied Bat <i>+</i>	R		Availability of roost sites including tree cavities, mines and buildings.	Forage in a wide variety of habitats including dry eucalypt open forest, woodland, shrublands and mallee.	<b>Possible;</b> may utilise the riparian woodlands along Smoky Ck. and the smaller tributary along the southern margin of the study area which provide potential roosting and foraging habitat.
<b><i>Nyctophilus timoriensis</i></b> Eastern long-eared Bat (southeastern form) <i>epbc</i>	V	V	Availability of roost sites in tree hollows or under hanging bark on trees.	In the Central Queensland area occurs in drier woodlands and open woodlands. May forage on the ground.	<b>Possible;</b> this is a poorly known species and it is difficult to confidently predict its occurrence in the study area. The cleared parts of the study area are unlikely to represent significant habitat for the species, but the riparian woodlands along Smoky Ck. and the smaller tributary along the southern margin of the study area provide potential habitat due to the presence of tree hollows.
reptiles					
<b><i>Anomalopus brevicollis</i></b> Short-necked Worm-skink <i>+</i>	R		Availability of leaf litter, rocks and fallen timber for shelter and foraging.	Known from a range of vegetation including dry eucalypt woodlands, monsoon rainforest and brigalow scrubs.	<b>Possible;</b> the remnant riparian and eucalypt woodland habitats provide potential habitat but there is a general paucity of the preferred ground habitat (leaf litter, fallen timber).
<b><i>Acanthophis antarcticus</i></b> Common Death Adder <i>+</i>	R		Prefers availability of leaf litter and ground cover such as shrubs and tussock grass.	Known from a wide range of timbered and treeless habitats including eucalypt woodland and forest, grasslands and heath.	<b>Possible;</b> the remnant riparian and eucalypt woodland habitats provide potential habitat but there is a general paucity of the preferred ground habitat (leaf litter, fallen timber).
<b><i>Egernia rugosa</i></b> Yakka Skink <i>epbc</i>	V	V	Availability of logs or rocks or surface roots of trees on better drained soils.	Occurs in a variety of habitat types including Acacia shrublands, and eucalypt forest and woodlands on sandy plains.	<b>Possible;</b> the remnant riparian and eucalypt woodland habitats provide potential habitat but there is a general paucity of the preferred ground habitat (leaf litter, fallen timber).
<b><i>Paradelma orientalis</i></b> Brigalow Scaly-foot <i>epbc</i>	V	V	Availability of ground habitats for shelter including rock slabs, rocky outcrops, bark and fallen timber.	Known from eucalypt woodlands, vine thicket and Brigalow.	<b>Unlikely;</b> the study area does not provide sufficient amounts of the ground habitat features typically utilised by the species. Also, the study area is beyond the northern limit of the currently known distribution of the species.
<b><i>Rheodytes leukops</i></b> Fitzroy Tortoise <i>epbc</i>	V	V	Availability of permanent aquatic habitat.	Prefers shallow, clear, fast flowing sections of rivers and creeks that are connected to large deep pools.	<b>Unlikely;</b> suitable aquatic habitat is not available within or adjacent to the study area. Study area is outside of the known distribution of the species.

\* The schedules of the NCA list this species as *Rostratula benghalensis* rather than the recently proposed species *R. australis*, formerly considered as a subspecies of *R. benghalensis*.

**Migratory and other EPBC Species**

**Table 3** lists the migratory and other Commonwealth significant species (other than vulnerable or endangered species) known from the study region and provides an assessment of the likely occurrence of each species within the study area. This list includes:

- wetland species covered by migratory provisions of the EPBC comprising species listed under CAMBA and/or JAMBA;
- species covered by marine provisions of the EPBC; and,
- terrestrial species covered by migratory provisions of the EPBC.

Assessment of the likely status of each species is based on the known habitat preferences of each species and the availability and condition of potential habitat within the study area. The confidence with which species are assessed as likely or possibly present in the study area relies substantially on whether the species is known from the study region.

Of the eleven (11) species listed in

**Table 3** as potential inhabitants of the study area:

- three (3) are considered *likely* to utilise habitats within the study area;
- three (3) are considered as *possible* inhabitants of the study area; and
- five (5) are considered *unlikely* to utilise habitats within the study area.

Of the three species likely to occur within the study area, the Cattle Egret (*Ardea ibis*) utilises open grazing areas in association with cattle; the Rainbow Bee-eater (*Merops ornatus*) is likely to be associated with woodland habitats, particularly along Smoky Creek; and the White-throated Needletail (*Hirundapus caudacutus*) forages well above the ground and tree canopy on insect swarms, and has only a tenuous linkage with the habitat above which it feeds.

Of the three possible species, the Little Curlew (*Numenius minutus*) utilises open grassland areas, and the Black-faced Monarch (*Monarcha melanopsis*) and Satin Flycatcher (*Myiagra cyanoleuca*) are likely to utilise the riparian woodland along Smoky Creek.

The study area is not anticipated to represent especially significant feeding or breeding habitat for any of the migratory or other EPBC listed species regarded as likely or possible inhabitants of the study area.

### **Threatened Ecological Communities under the EPBC**

The EPBC interactive search utility indicates the presence of three Threatened Ecological Communities in the vicinity of the study area, comprising:

- Bluegrass (*Dichanthium* spp.) dominant grasslands of the Brigalow Belt Bioregion [*endangered*];
- Brigalow (*Acacia harpophylla* dominant and co-dominant) [*endangered*]; and,
- Semi-evergreen vine thickets of the Brigalow Belt and Nandewar Bioregions [*endangered*].

Field inspections confirmed that none of these ecological communities occur within the study area, although it is likely that patches of brigalow once occurred in the areas previously developed for improved pasture.

**Table 3 Migratory and wetland fauna**

**Key to Status:**

- w wetland species covered by migratory provisions of EPBC comprising species listed under CAMBA and/or JAMBA
- m species covered by marine provisions of EPBC
- t terrestrial species covered by migratory provisions of EPBC

**Key to Source of Records:**

- epbc EPBC database search records for the study region
- + assessed as potentially present based on known distribution

<b>Species</b> Common Name EPBC Status <i>Source of Record</i>	<b>Key resources</b>	<b>Habitat</b>	<b>Likelihood of occurrence within the study area</b>
<b><i>Nettapus coromandelianus albigennis</i></b> Cotton Pygmy-goose w, m <i>epbc</i>	Deep water with vegetation	Deep lagoons, wetlands and dams with floating macrophytes.	<b>Unlikely;</b> suitable deep water habitat does not occur within the study area.
<b><i>Anseranas semipalmata</i></b> Magpie Goose m <i>epbc</i>	Availability of required wetland habitats.	Rush and sedge dominated swamps and floodplains. Predominantly coastal distribution but may appear further inland.	<b>Unlikely;</b> suitable wetland habitats do not occur within the study area.
<b><i>Ardea ibis</i></b> Cattle Egret m <i>+</i>	Availability of habitats.	Pasture especially among cattle, occasionally wetlands.	<b>Likely;</b> the open grazing lands provide suitable habitat for the species.
<b><i>Gallinago hardwickii</i></b> Latham's Snipe w, m <i>epbc</i>	Availability of preferred habitats.	Wetland grasses, open, wooded swamps, ephemerally inundated grasslands.	<b>Unlikely;</b> suitable ephemeral wetland habitats are unlikely to occur within the study area.
<b><i>Numenius minutus</i></b> Little Curlew m, w <i>epbc</i>	Availability of preferred habitats.	Habitats include open plains and grasslands.	<b>Possible;</b> may utilise the cleared open grassy areas within the study area.
<b><i>Rostratula benghalensis s. lat.</i></b> Painted Snipe w, m <i>epbc</i>	Vegetated ephemeral wetlands.	Inhabits shallow vegetated ephemeral wetlands in coastal and inland areas.	<b>Unlikely;</b> suitable natural wetland habitat for the species does not occur within the study area.
<b><i>Haliaeetus leucogaster</i></b> White-bellied Sea-eagle t, m <i>epbc</i>	Availability of prey and nesting sites.	Large rivers including inland, fresh and saline lakes, coastal seas and shoreline, islands.	<b>Unlikely</b> to utilise the ephemeral waterways within the study area.
<b><i>Merops ornatus</i></b> Rainbow Bee-eater m <i>+</i>	Availability of habitat.	Most habitats apart from closed forest.	<b>Likely</b> to occur within timbered habitats within the study area.
<b><i>Monarcha melanopsis</i></b> Black-faced Monarch t, m <i>epbc</i>	Availability of forest habitat.	Forest habitats including riparian forest. Predominantly coastal and sub-coastal distribution.	<b>Possible;</b> may utilise the riparian woodlands within the study area but at the western extent of its range.
<b><i>Myiagra cyanoleuca</i></b> Satin Flycatcher t, m <i>epbc</i>	Availability of habitat	Tall forests, riparian forest, and woodland. Not usually encountered to the west of the Great Dividing Range in Qld.	<b>Possible;</b> may utilise the riparian woodlands within the study area but at the western extent of its range.
<b><i>Hirundapus caudacutus</i></b> White-throated Needletail t, m <i>epbc</i>	Availability of high-flying insect swarms.	Aerial habit over coastal habitats and mountain ranges.	<b>Likely</b> to intermittently forage over the study area.

Given the limited extent and poor condition of remnant habitats within the study area, it is not anticipated that the study area represents critical habitat for any rare, threatened or migratory species.

**3.2 Provide a *description of important features* of the project area and the affected area and show these on the attached map, including (if relevant to the project area or affected area) information about:**

(a) soil and vegetation characteristics

Field surveys identified a total of nine soil types including one variant, the black / brown linear gilgai complex. The principal soil types are non-cracking sandy clay Brigalow on gently undulating plains, together with sandy duplex Poplar Box woodlands. Hard sandy duplex alluvia with mixed Poplar Box woodland occur in association with the two creek lines in the area.

The study area is located within a cattle grazing property. The majority of natural vegetation within the study area has been cleared and sown to improved pasture. Some regrowth has occurred. Remnant vegetation is restricted to the two waterways that traverse the study area and three patches of eucalypt woodland. These remnant areas are in poor-moderate ecological condition. Some dieback of River Red Gum (*Eucalyptus camaldulensis*) and Carbeen (*Corymbia tessellaris*) is evident in Smoky Creek. Environmental weeds including introduced pasture species (Buffel Grass) are widespread. The declared plant species *Parthenium hysterophorus*, *Acacia nilotica* and *Xanthium pungens* are also widespread, particularly in waterways.

(b) water flows, including rivers, creeks and impoundments

The proposed mining lease is located within the Fitzroy River Basin, 5 km north of the Isaac River and is traversed by two creeks, Smoky Creek which bisects the site, and an Unnamed Watercourse at the southern boundary of the proposed mine (refer Figure 2). Both creeks flow to the southwest, discharging into the Isaac River. Elevation of the catchment varies between 200 m AHD and 300 m AHD.

(c) the presence of outstanding natural features, including caves

The numerous technical studies, field observations and reviews of existing data, reports and government consultation has not indicated the presence of any outstanding natural features, including caves.

(d) gradient

The general slope of land beneath the footprint of the mine averages between 2% and 3%. Steeper slopes occur within the watercourses and in the undisturbed remnant hills to the east and west of the proposed open cut pits. The proposed rail loop traverses around a small mesa to about 280 m AHD in height.

(e) any buildings or other infrastructure

The proposed mining lease overlies a grazing property with no buildings or major infrastructure present. Three homesteads, as indicated on Figure 2, are located outside of the proposed mining lease.

(f) any marine areas

The project location does not include any marine areas, nor will the project influence such areas.

(g) kinds of fauna in the area

The fauna species recorded incidentally within the study area during the site inspections include:

Australian Bustard	Nankeen Kestrel	Squatter Pigeon
Crested Pigeon	Sulphur-crested Cockatoo	Galah
Pale-headed Rosella	Rainbow Lorikeet	Tawny Frogmouth
Laughing Kookaburra	Variiegated Fairy-wren	Grey-crowned Babbler
Noisy Friarbird	Yellow-throated Miner	Singing Honeyeater
Grey Shrike-thrush	Rufous Whistler	Willie Wagtail
Grey Fantail	Magpie-lark	Weebill
Black-headed Pardalote	Australian Magpie	Pied Butcherbird
Torresian Crow	Apostlebird	Richards Pipit
Common Brushtail Possum	Rabbit	Fence Skink
Eastern Grey Kangaroo	Brown Hare	Fire-tailed Skink
Walleroo		

(h) the current state of the environment in the area, including information about the extent of erosion, whether the area is infested with weeds or feral animals and whether the area is covered by native vegetation or crops.

The majority of the study area is highly modified and provides limited habitat opportunities for native fauna communities although some native fauna species will utilise the remnant habitat areas and grazing habitats that remain. In particular, the poor condition of the ground habitat suggests relatively low biodiversity levels for ground fauna. Limited erosion is evident, mainly occurring on the banks of the local creeks. Parthenium, Prickly acacia and Noogoora burr occur in the waterways and Buffel grass is widespread. The project is also home to rabbits and Brown hares.

Most of the project area has undergone recent pasture improvement by vegetation regrowth control which includes blade ploughing and chaining. The area was originally vegetated with mixed Brigalow communities and Poplar Box woodlands but has been almost completely cleared for grazing purposes (Brigalow has been cleared entirely). Cropping has not been practiced due to generally significant moisture, workability and fertility limitations.

**3.3 What is the *tenure* of the project area (for example is it freehold, leasehold or some other tenure)? If practicable, show on the attached map.**

The proposed mining lease will be located over freehold and grazing perpetual lease land (referred to as previous 'Exclusive Possessions Act' under the Native Title Act 1993). Accordingly, under the Native Title Act 1993, native title has been extinguished on these lands. The proposed mining lease is located within Exploration Permit for Coal (EPC) 755 (refer Figure 2).

**3.4 What are the current and/or proposed *land uses* for the project area?**

Current land use of the project area is suited to grazing at varying stocking rates with no indication of cultivation for grain crops having been undertaken. Most of the project area has undergone recent pasture improvement by vegetation regrowth control which includes blade ploughing and chaining. The area was originally vegetated with mixed Brigalow communities and Poplar Box woodlands but has been almost completely cleared for grazing purposes.

Factors that influence changes in land suitability include changes in physical, chemical and biological properties of soil, slope and slope length and soil depth. The over-riding principles for the rehabilitation program at Isaac Plains are that the land should be returned to a stable, self-sustaining and maintenance-free state. The pit area including internal and external spoil, ramps and final voids will be left as native bushland. Post-mining land use of the remaining areas is nominated as restoring ecosystem conservation.

## **4. Nature and extent of the likely impacts of the action**

**4.1 Describe, as relevant to your project, the nature and extent of *likely impacts* on the following matters protected by the EPBC Act:**

- the world heritage values of a declared World Heritage property; or
- the ecological character of a declared Ramsar wetland; or
- the members of a listed threatened species (except a conservation-dependent species) or any threatened ecological community, or their habitat, or
- the members of a listed migratory species or their habitat; or
- the environment in part of the Commonwealth marine area; or
- the environment on Commonwealth land.

An assessment of the significance of potential impacts on matters of national environmental significance (MNES) was undertaken. The site does not support any of MNES listed in bullet points 1, 2, 5 or 6 above and, given the limited extent and poor condition of remnant habitats within the study area, it is not anticipated that the study area represents critical habitat for any rare, threatened or migratory species (bullet points 3 and 4). No endangered ecological communities occur on site, validate through field investigation. Furthermore, given the proposed minimal disturbance of remnant vegetation (approximately 45 ha), and considering the mitigation measures that will be employed, it is not anticipated that the project will lead to significant impacts on local rare, threatened or migratory species, communities or populations listed under the *EPBC Act*.

#### 4.2 Indicate if your action is:

- (a) a nuclear action; or
- (b) will be taken by the Commonwealth or by a Commonwealth agency; or
- (c) will be taken in a Commonwealth marine area; or
- (d) will be taken on Commonwealth land.

If your action falls into one of these categories, provide details about the impact of your action on the environment generally (ie, in addition to the specific matters addressed above in 4.1).

The proposed project does not involve any of the above-listed actions or areas.

### 5. Measures aimed at avoiding or reducing significant impacts on matters protected under the EPBC Act

#### 5.1 Describe any specific measures proposed as part of the action to avoid or lessen significant impacts on matters protected under the EPBC Act. Include a timeframe or workplan for implementation of any relevant measures.

**Examples of relevant measures may include the timing of works to avoid critical periods for listed species, avoidance of habitat important for listed species from direct and indirect impacts, application of specific design measures to avoid or reduce impacts, or adoption of specific work practices to reduce or avoid impacts (see Referral Guide, Fact Sheet and 'Particular Manner' Guideline at <http://www.deh.gov.au/epbc>).**

Potential impacts to the EPBC-listed Squatter pigeon (*Geophaps scripta scripta*) found on the project site should be minimal as only 45 ha of woodland habitat known to be utilised by the species will be removed. The balance (215 ha) of suitable woodland habitat within the study area will not be affected by the proposal, including the continuous riparian woodland along Smoky Creek. More extensive areas of potential woodland habitat occur in the surrounding area, particularly the broad band of riparian woodlands along the nearby Isaac River. Retaining the balance of woodland would also protect other EPBC-listed species not sighted but which may potentially occur in the area. The rehabilitation program involves restoring native bushland post-mining.

The noise produced by machinery operating within a mine-site has the potential to adversely affect native fauna. It is not anticipated that noise levels will significantly affect the overall utilisation of the study area by rare, threatened or migratory fauna although some localised repulsion of such fauna may occur from time to time. Levees located between the pits and watercourses will provide some attenuation of noise generated by mining to riparian areas.

Direct illumination of the Smoky Creek riparian corridor will also be avoided as far as possible, in order to maintain the best possible conditions for fauna utilisation of the area.

## 6. Information sources

### 6.1 List relevant references

**You should also attach a copy of any relevant reports or documents that support the arguments and conclusions made in this referral. For example, any flora and fauna surveys or desktop investigations should be provided.**

1. Matrix+ Consulting (2005) *Isaac Plains Project Environmental Assessment Report – Volumes 1 and 2*. Matrix+ Consulting.
2. Thomas M. (2005) *Isaac Plains Project, Flora & Fauna Assessment*. Specialist report by Ecotone Environmental Services Pty. Ltd for Matrix+ Consulting Pty Ltd.
3. Accad A, Neldner V.J., Wilson B.A. and Niehus R.E. (2003) *Remnant vegetation in Queensland: Analysis of remnant vegetation 1997-1999-2000-2001, including regional ecosystem information*. Brisbane: Queensland Herbarium, Environmental Protection Agency.
4. Briggs J.D. and Leigh J.H. (1996) *Rare or Threatened Australian Plants*. CSIRO Australia, Canberra.
5. Brooker M.I.H and Kleinig D.A. (1994) *Field Guide to Eucalypts: Volume 3 South-eastern Australia*. Inkata Press, Sydney.
6. Churchill S. (1998) *Australian Bats*. New Holland Publishers, Australia.
7. Cogger H.G. (1992) *Reptiles and Amphibians of Australia*. Reed Books, Chatswood, NSW.
8. Debus S.J.S. (2000) *The birds of prey of Australia: A field guide to Australian raptors*. Oxford University Press, Melbourne.
9. Environmental Protection Agency (2004) *Wildnet (Database)*. Environmental Protection Agency, Brisbane. 26th May 2004.
10. Garnett S. and Crowley G.M. (2000) *The Action Plan for Australian Birds*. Environment Australia, Canberra.
11. Ingram G.J. and Raven R.J (1991) *An Atlas of Queensland's Frogs, Reptiles, Birds and Mammals*. Queensland Museum, Brisbane.
12. Sattler P. and Williams R. (Eds.) (1999). *The Conservation Status of Queensland's Bioregional Ecosystems*. Environmental Protection Agency, Brisbane.
13. Simpson K. and Day N. (1996) *Field Guide to the Birds of Australia*. Penguin Books, Australia.
14. Strahan, R. (ed.) (1995) *The Mammals of Australia*. Australian Museum/Reed New Holland, Sydney.
15. WWF (2001) *Reptiles Under Threat in Queensland's Southern Brigalow Belt*. World Wide Fund for Nature, Brisbane

### 6.2 For information given in sections 3 and 4 of this referral, please indicate:

(a) the source of the information

1. Matrix+ Consulting (2005) *Isaac Plains Project Environmental Assessment Report – Volumes 1 and 2*. Matrix+ Consulting.
2. Thomas M. (2005) *Isaac Plains Project, Flora & Fauna Assessment*. Specialist report by Ecotone Environmental Services Pty. Ltd for Matrix+ Consulting Pty Ltd.
3. GTES Pty Ltd (2005) *Proposed Isaac Plains Mining Area Soil and Land Suitability*. Specialist report by Ecotone Environmental Services Pty. Ltd for Matrix+ Consulting Pty Ltd.

(b) how recent the information is

All survey work described in the technical reports listed above were undertaken between May 2004-March 2005. Fauna and flora surveys were conducted initially in June 2004 with a subsequent summer survey for rare and threatened plants following rainfall in February 2005.

(c) how the reliability of the information was tested

Matrix+ Consulting were engaged by Bowen Central Coal to independently manage the technical studies and specialist sub-consultants, ensuring that the field studies and data interpretation were conducted in accordance with recognised (published) and acceptable survey methods and standard practices.

(d) any uncertainties in the information

Uncertainties and gaps in the information were minimised by ensuring flora and fauna field surveys were conducted in both Winter and Summer. Initial due diligence was also undertaken by Matrix+ Consulting on the specialist sub-consultants prior to awarding the work to ensure the preferred sub-consultants had the capability and experience to adequately fulfil the scopes of work set by the independent management consultant (in accordance with AS4121 (1999) *Code of ethics and procedures for selection of consultants*).

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## 7. Signatures and Declarations

**Section 489 of the EPBC Act states that the provision of false or misleading information is an offence punishable on conviction by imprisonment and fine.**

### 7.1. Signature of person making the referral

I, **Anthony Joseph Russo** (*full name*), declare that the information contained in this form is, to my knowledge, true and not misleading.

Signature

Date

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### 7.2. Signature of person proposing to take the action

I, **Julian Mark Hoskin** (*full name*), declare that the information contained in this form is, to my knowledge, true and not misleading.

Signature

Date

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### 7.3. Declaration of person nominated as proponent in Section 1.3, if different from person proposing to take the action

I, .....(*full name*), being (or agent acting on behalf of) the person nominated in Section 1.3 of this referral form as the nominated proponent agree to be designated as the proponent for the action described above if it is decided that the action requires approval under Part 9 of the EPBC Act.

Signature

Date

Signature of person proposing to take the action

Date

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**Fill in Section 7.4 if you believe that the proposal is not likely to have a significant impact on matters protected by the EPBC Act and that the proposal is therefore not a controlled action. Fill in Section 7.5 if you believe that the proposal is likely to have a significant impact on a protected matter and that the proposal is therefore a controlled action. (Note: This Section must be completed in *all cases* except where the referral is made by a State or Territory or a Commonwealth agency in relation to an action to be taken by another person.)**

**7.4. If you think your proposed action is not likely to have a significant impact on any of the matters listed in the table below, then you should select and complete the following statement and you should not mark any of the boxes in the table below.**

I, [Anthony Joseph Russo](#) (*full name*), being the person making this referral and the person proposing to take the action (or agent acting on behalf of the person) believe that the action described in this referral **is not a controlled action**.

**Briefly provide reasons why you believe your proposed action is not a controlled action:**  
*(Note: For an explanation of the term "controlled action", see the Referral Guide.)*

The site does not support any of the MNES listed in the *EPBC Act*, with exception of listed threatened/migratory fauna species that may occasionally make use of the site. Given the limited extent and poor condition of remnant habitats within the study area, it is not anticipated that the study area represents critical habitat for any rare, threatened or migratory species. Furthermore, the project requires disturbance of "not of concern" remnant vegetation only. Considering the mitigation measures that will be employed, it is not anticipated that the project will lead to significant impacts on rare, threatened or migratory species, communities or populations listed under the *EPBC Act*.

**OR**

**7.5. If you think that your proposed action is likely to have a significant impact on any of the matters listed in the table below, then you should select and complete the following statement. You must then mark 'Yes' against those matters on which you think it will have a significant impact, in the table below.**

I .....(*full name*), being the person making this referral and the person proposing to take the action (or agent acting on behalf of the person) believe that the action described in this referral **is a controlled action because of the following provisions of the Act:**

<b>Significant Impact Likely</b>	<b>Controlling Provision</b>
	<b>World Heritage property</b> (Sections 12 and 15A - significant impacts on the values of a World Heritage property)
	<b>Ramsar Wetland</b> (Sections 16 and 17B - significant impacts on the ecological character of a Ramsar wetland)
	<b>Threatened species or ecological communities</b> (Section 18 and Section 18A - significant impacts on a listed threatened species or a listed threatened ecological community)
	<b>Migratory species</b> (Sections 20 and 20A - significant impacts on a listed migratory species)

	<p><b>Nuclear action</b> (Sections 21 and 22A - nuclear actions)</p>
	<p><b>Commonwealth marine area</b> (Sections 23, 24 and 24A - actions relating to the Commonwealth marine area and fishing in coastal waters managed by the Commonwealth)</p>
	<p><b>Commonwealth land</b> (Sections 26 and 27A - actions relating to Commonwealth land)</p>
	<p><b>Commonwealth action</b> (Section 28 - actions by the Commonwealth having a significant impact on the environment)</p>

**Briefly provide reasons why you believe your proposed action is a controlled action:**

*(Note: For an explanation of the term "controlled action", see the Referral Guide.)*

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If the person making this referral is, or is representing, a *small business* (a business having fewer than 20 employees), please provide an estimate of the time taken to complete this form.

***Please Include***

- The time spent reading the instructions, working on the questions and obtaining the information; and
- The time spent by all employees in collecting and providing this information.

12 hours 0 minutes to complete form. Studies conducted over approximately 7 months.

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END OF FORM