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## Title of Proposal - Earl Grey Lithium Project

# Section 1 - Summary of your proposed action

Provide a summary of your proposed action, including any consultations undertaken.

### 1.1 Project Industry Type

Mining

### 1.2 Provide a detailed description of the proposed action, including all proposed activities.

The Earl Grey Lithium Project (the proposed action, the Project) is located approximately 105 km south-southeast of Southern Cross, Western Australia. A large, economic pegmatite-hosted lithium deposit was discovered by Kidman Resources Limited (Kidman, the Proponent) in 2016. The deposit and proposed operation is situated at the abandoned Mt Holland Mine Site, which was operated between 1988 and 2001, and comprises a number of open pits, an underground mine, a processing plant, waste rock dumps, tailings storage facilities and other infrastructure that is largely unrehabilitated and currently a liability of the State of Western Australia.

The Earl Grey Lithium Project will comprise open cut mining and processing of lithium ore, with transport of a lithium concentrate to an existing Western Australian port for export to overseas markets. Baseline studies completed in the Project area identified the following Matters of National Significance that trigger referral to the Department of the Environment and Energy:

Listed Threatened Species and Ecological Communities, comprising:

- Presence of threatened flora species *Banksia sphaerocarpa* var. *dolichostyla* (Ironcap Banksia) within the Project area.
- Presence of threatened fauna; Malleefowl (*Leipoa ocellata*) and Chuditch (*Dasyurus geoffroii*) within the Project area.

An Environmental Review Document has been prepared to supplement this referral. Key components of the proposed action are detailed under Section 2 of the Referral Environmental Review Document.

In planning the proposed mining operations and layout, Kidman has prioritised two key environmental objectives:

1. Minimising the Project footprint, to reduce the need for new clearing and associated impacts on conservation significant flora and fauna.
2. Maximising use of the existing abandoned infrastructure and disturbed areas, such that the future operation can positively contribute to environmental values of the area by providing the means to rehabilitate State liabilities used by Kidman.

The total footprint required for the Proposal will be 610 ha of which 245 ha will be located in previously disturbed areas. This will result in a net rehabilitation gain of approximately 45% of



abandoned mine site disturbance within the development envelope.

**1.3 What is the extent and location of your proposed action? Use the polygon tool on the map below to mark the location of your proposed action.**

Area	Point	Latitude	Longitude
Development Envelope 1		-32.097735308194	119.67797681652
Development Envelope 2		-32.093808837343	119.69342634044
Development Envelope 3		-32.101661610272	119.72243711315
Development Envelope 4		-32.101370778869	119.73943158947
Development Envelope 5		-32.077810360046	119.73857328258
Development Envelope 6		-32.076937635284	119.79487821422
Development Envelope 7		-32.103261166434	119.79522153698
Development Envelope 8		-32.103551991818	119.7838918861
Development Envelope 9		-32.125797387878	119.78938505016
Development Envelope 10		-32.143677010138	119.78938505016
Development Envelope 11		-32.163587584898	119.79453489147
Development Envelope 12		-32.180152192578	119.79693815075
Development Envelope 13		-32.180152192578	119.79453489147
Development Envelope 14		-32.173468590615	119.79195997082
Development Envelope 15		-32.164895426605	119.7905866798
Development Envelope 16		-32.144549097178	119.78595182262
Development Envelope 17		-32.125652010734	119.78543683849
Development Envelope 18		-32.122308272484	119.78440687023
Development Envelope 19		-32.122453654955	119.7734205421
Development Envelope 20		-32.118673635422	119.77084562145
Development Envelope 21		-32.121145204373	119.76586744152
Development Envelope 22		-32.121581356652	119.74955961071
Development Envelope 23		-32.121581356652	119.74767133556
Development Envelope 24		-32.106314786766	119.74732801281
Development Envelope 25		-32.107623449936	119.68467161022
Development Envelope 26		-32.097589886357	119.6781484779
Development Envelope 27		-32.097735308194	119.67797681652

**1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland).**

The proposed action is located approximately 105 km south-southeast of Southern Cross in the Yilgarn Shire which covers 30,720 km<sup>2</sup>. Access to the site is by road from the Great Eastern Highway via the Parker Range Road.



The Yilgarn Shire is sparsely populated, with a total population estimated at 3,000. Southern Cross is the major town centre of the Shire of Yilgarn. There are no pastoral leases or associated agricultural activities occurring in close proximity to the Project. The nearest towns are Marvel Loch, located 80 km north of the Project and Hyden, located approximately 100 km west of the Project.

The entire Earl Grey Lithium Project is located within Unallocated Crown Land. There are no pastoral leases or native title claims over the Project area. The project is located on tenure granted under the Mining Act 1978 (WA). The deposit and proposed operation is situated at the abandoned Mt Holland Mine Site, which was operated between 1988 and 2001, and comprises a number of open pits, an underground mine, a processing plant, waste rock dumps, tailings storage facilities and other infrastructure that is largely un-rehabilitated and currently a liability of the State of Western Australia.

Tenements the Project is located on are M77/1080 M77/1065 M77/1066 G77/70 G77/109 G77/110 G77/68 E77/2099 E77/1400 G77/71 G77/72 G77/73 L77/107 L77/205 L77/208 L77/96 L77/207.

## **1.6 What is the size of the development footprint or work area?**

The project footprint is 610 ha of which 245 ha is located on existing disturbed areas.

## **1.7 Is the proposed action a street address or lot?**

Lot

**1.7.2 Describe the lot number and title.** M77/1080, M77/1065, M77/1066, G77/70, G77/109, G77/110. Refer Section 1.5 of supporting document.

## **1.8 Primary Jurisdiction.**

Western Australia

**1.9 Has the person proposing to take the action received any Australian Government grant funding to undertake this project?**

No

**1.10 Is the proposed action subject to local government planning approval?**

No

**1.11 Provide an estimated start and estimated end date for the proposed action.**

Start date 09/2017



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End date 09/2052

**1.12 Provide details of the context, planning framework and State and/or Local government requirements.**

Refer to **Section 6** of the Referral Environmental Review Document.

**1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders.**

Kidman has commenced an extensive consultation process with key stakeholders, including:

- State government.
- Federal government.
- Local government.
- Non-government organisations and interest groups.

A comprehensive overview of the consultation undertaken to date is provided in **Section 5** of the Referral Environmental Review Document.

**1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project.**

An environmental impact assessment has been undertaken as part of this referral and as part of the referral to the Western Australian Environmental Protection Authority under Part IV of the *Environmental Protection Act 1986*. The referral to the WA EPA was submitted on 19 May 2017 and is under assessment.

The full environmental impact assessment is provided as **Section 8** of the Referral Environmental Review Document.

Other impact assessments required under State legislation include:

- Native Vegetation Clearing Permit.
- Works Approval Application and Licencing.
- Mining Proposal.
- Groundwater Licence Application.



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Further details are provided under **Section 6** of the Referral Environmental Review Document.

**1.15 Is this action part of a staged development (or a component of a larger project)?**

No

**1.16 Is the proposed action related to other actions or proposals in the region?**

No



## Section 2 - Matters of National Environmental Significance

Describe the affected area and the likely impacts of the proposal, emphasising the relevant matters protected by the EPBC Act. Refer to relevant maps as appropriate. The [interactive map tool](#) can help determine whether matters of national environmental significance or other matters protected by the EPBC Act are likely to occur in your area of interest. Consideration of likely impacts should include both direct and indirect impacts.

Your assessment of likely impacts should consider whether a bioregional plan is relevant to your proposal. The following resources can assist you in your assessment of likely impacts:

- [Profiles of relevant species/communities](#) (where available), that will assist in the identification of whether there is likely to be a significant impact on them if the proposal proceeds;
- [Significant Impact Guidelines 1.1 – Matters of National Environmental Significance](#);
- [Significant Impact Guideline 1.2 – Actions on, or impacting upon, Commonwealth land and Actions by Commonwealth Agencies](#).

### 2.1 Is the proposed action likely to impact on the values of any World Heritage properties?

No

### 2.2 Is the proposed action likely to impact on the values of any National Heritage places?

No

### 2.3 Is the proposed action likely to impact on the ecological character of a Ramsar wetland?

No

### 2.4 Is the proposed action likely to impact on the members of any listed threatened species (except a conservation dependent species) or any threatened ecological community, or their habitat?

Yes

#### 2.4.1 Impact table

Species	Impact
Banksia sphaerocarpa var. dolichostyla	A full impact assessment which identifies all



Species	Impact
(Ironcap Banksia)	potential impacts and lists all mitigation measures is provided in the Referral Environmental Review Document (refer Sections 8.3 and 9). Flora surveys of the Project area recorded 521 Banksia sphaerocarpa var. dolichostyla taxa. None of these records occur within the project footprint as the project has been deliberately designed to avoid any clearing of Banksia sphaerocarpa var. dolichostyla taxa. A Banksia sphaerocarpa var. dolichostyla Management Plan has been prepared and will be further refined in consultation with relevant government agencies. It incorporates management of impacts associated with clearing (including accidental and unauthorized clearing), weeds, spillages (e.g. saline water and tailings), fire and dust. Overall, the Project is considered to pose a relatively low risk to Banksia sphaerocarpa var. dolichostyla as no species will be directly impacted by the proposed action. Additionally, implementation of the Project offers potential environmental gains associated with this species including improved knowledge of the species, response and assistance with fire control and rehabilitation of historic mining disturbances that are now the liability of the State of Western Australia.
Leipoa ocellata (Malleefowl)	A full impact assessment which identifies all potential impacts and lists all mitigation measures is provided in the Referral Environmental Review Document (refer Sections 8.4 and 9). Five bird sightings, four active mounds and 17 inactive mounds were recorded over a broad study area of which one bird sighting, one active mound and eight inactive mounds (including mound attempts) occurred in the development envelope. Malleefowl in the general area are likely to range over all habitats, favouring patches of shrubland on gravelly sands for mound construction (refer to Section 7.10 of the Referral Environmental Review Document). One active Malleefowl mound is located within the proposed pit footprint. Clearing of this mound will not be required for at least 18



Species	Impact
	<p>months following commencement of operations. This provides Kidman with the opportunity to monitor the mound and determine the best method for protection of eggs, chicks and adults, should they still be present. Over a 30 – 40 year life of mine, there is also potential for new mounds to be constructed in proposed clearing areas. Consequently, all proposed clearing areas will be subject to pre-clearance searches during the life of mine. Feral fox and cat control is considered one of the key factors that can assist in the maintenance of Malleefowl populations in the region. On this basis, a key corporate management commitment (discussed in Section 10 of the Referral Environmental Review Document) is to implement a broad scale investigation into the occurrence of feral species in the area as well as working with DPaW to contribute to regional feral animal control. A Malleefowl Management Plan has been prepared and will be further refined in consultation with relevant government agencies. It incorporates management of impacts associated with clearing, feral animals, domestic waste, vehicles movements, fire, noise, light and dust. Overall, the Project is considered to pose a relatively low risk to Malleefowl and offers environmental gains associated with rehabilitation of historic disturbance, contribution of knowledge on the species through implementation of monitoring programs, and opportunities to enhance conservation efforts through feral animal monitoring and control, which is considered one of the greatest risks to the species.</p>
Dasyurus geoffroii (Chuditch)	<p>A full impact assessment which identifies all potential impacts and lists all mitigation measures is provided in the Referral Environmental Review Document (refer Sections 8.4 and 9). Eighteen individual Chuditch were trapped in Project surveys (ten adult and eight dispersing young), of which 16 were trapped within the development envelope. Of the 101 camera traps deployed, 44 traps recorded Chuditch within all habitat types, but with a preference for unburnt habitats. Of these,</p>





Species	Impact
	<p>14 were located in the development envelope. The population extends well beyond the Project footprint and is likely to extend further to the east, south and north of the survey area (refer to Section 7.10 of the Referral Environmental Review Document). Following implementation of management measures (described in Section 8.4 of the Referral Environmental Review Document), it is expected that no more than 365 ha of fauna habitat will be cleared over the 30 to 40 year life of mine. Impacts to Chuditch associated with clearing will be minimised (although not necessarily avoided entirely) through a pre-clearing capture-and-release program that will be developed in consultation with DPaW and implemented on advice from DPaW. A Chuditch Management Plan has been prepared and will be further refined in consultation with relevant government agencies. It incorporates management of impacts associated with clearing, feral animals, domestic waste, vehicles movements, fire, noise, light and dust. Overall, the Project is considered to pose a relatively low risk to Chuditch and offers environmental gains associated with rehabilitation of historic disturbance, contribution of knowledge on the species through implementation of monitoring programs, and opportunities to enhance conservation efforts through feral animal monitoring and control, which is considered one of the greatest risks to the species.</p>

**2.4.2 Do you consider this impact to be significant?**

No

**2.5 Is the proposed action likely to impact on the members of any listed migratory species, or their habitat?**

No

**2.6 Is the proposed action to be undertaken in a marine environment (outside**



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**Commonwealth marine areas)?**

No

**2.7 Is the proposed action likely to impact on any part of the environment in the Commonwealth land?**

No

**2.8 Is the proposed action taking place in the Great Barrier Reef Marine Park?**

No

**2.9 Will there be any impact on a water resource related to coal / gas / mining?**

Yes

**2.9.1 Impact table**

Water Resource	Impact
Saline to hypersaline groundwater (Refer to Section 7.7 of the Referral Environmental Review Document).	Abstraction of 1GL/annum of saline to hypersaline water with no other beneficial users. The proposed action will not result in significant impacts to groundwater resources. Refer to Section 8.5 of the Referral Environmental Review Document.

**2.9.2 Do you consider this impact to be significant?**

No

**2.10 Is the proposed action a nuclear action?**

No

**2.11 Is the proposed action to be taken by the Commonwealth agency?**

No

**2.12 Is the proposed action to be undertaken in a Commonwealth Heritage Place Overseas?**

No



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**2.13 Is the proposed action likely to impact on any part of the environment in the Commonwealth marine area?**

No



## Section 3 - Description of the project area

Provide a description of the project area and the affected area, including information about the following features (where relevant to the project area and/or affected area, and to the extent not otherwise addressed in Section 2).

### 3.1 Describe the flora and fauna relevant to the project area.

Flora and vegetation is described in detail under **Section 7.9** of the Referral Environmental Review Document.

Fauna is described in detail under **Sections 7.10 to 7.13** of the Referral Environmental Review Document.

### 3.2 Describe the hydrology relevant to the project area (including water flows).

The Project is located within the upper headwaters of the Department of Water Lake Eva sub-catchment of the Avon/Yilgarn Basin (No. 615). The Lake Eva sub-catchment has an area of approximately 15,240 km<sup>2</sup> within the 58,000 km<sup>2</sup> basin. Local creeks and drainages are ephemeral in nature, occurring periodically during the summer months from January to March, when the potential exposure to high intensity cyclonic or tropical depression related rainfall is greatest. Consequently, on occasion, flows may be high and may cause localised flooding if appropriate measures are not in place. The Project area was subject to previous mining between 1988 and 2001. A combination of earth bunds and landforms dating from these earlier operations forms an effective drainage diversion around most of the site. Recent aerial imagery and site photos indicate no new watercourses or significant erosion gullies have formed as a result of flow concentration by these structures in the 20 years or more they have been in place.

Within the Project area, there are very few surface water features due to a limited total upper catchment area of less than 1,000 ha and the subdued relief. The only notable surface water feature is a constructed ephemeral drainage line that starts at the northwest tip of the airstrip and runs northeast past the processing plant area. Apart from this constructed drainage line, the Project area does not intersect any other identifiable drainage lines or creeks, with runoff generally occurring as sheetwash in a north-easterly direction. A small sub-catchment containing the southern end of the airstrip and accommodation village drains to the south.

Refer to **Section 7.8** and **Figure 10** of the attached supporting document.

### 3.3 Describe the soil and vegetation characteristics relevant to the project area.

Soil is described in detail under **Section 7.5** of the Referral Environmental Review Document.



Vegetation is described in detail under **Section 7.9** of the Referral Environmental Review Document.

### **3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area.**

Not applicable.

### **3.5 Describe the status of native vegetation relevant to the project area.**

The native vegetation status is described in **Section 7.9** of the Referral Environmental Review Document.

Vegetation communities surveyed were considered to be typical of the region. No communities defined in the study area were classified as unique or restricted in the region. No Threatened Ecological Communities were surveyed, or identified through desktop assessments.

A considerable amount of disturbance was recorded in the development envelope from historical mining at the abandoned Mt Holland Mine Site.

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

Locally, there are no distinct, recognisable natural landforms in the Project area or surrounds. Topography within the development envelope is generally subdued, with elevations ranging between 463 m RL AHD (Australian Height Datum) in the northwest and 390 m RL AHD in the southeast (borefield area). The average elevation across the development envelope is approximately 435 m RL AHD. Natural gradients across the Project area are very gentle, typically less than 2 degrees. The steepest natural gradients (5 - 6 degrees) in the development envelope are associated with a subtle ridgeline located to the northeast of the accommodation village. Steeper gradients are associated with the historic mining operation, where slope angles range from 15 - 20 degrees on waste rock dumps, 20 - 35 degrees on the TSFs or over 80 degrees in abandoned pits. Elevations of these landforms typically do not exceed 35 m above surrounding ground levels.

Refer to **Section 7.6** of the attached supporting document.

### **3.7 Describe the current condition of the environment relevant to the project area.**

The Project area is highly disturbed from previous mining operations. Details on the existing mining disturbance are provided in **Section 1.5** of the Referral Environmental Review Document.



The Project is located in the Southern Cross subregion of the Coolgardie Interim Biogeographic Regionalisation for Australia (IBRA) Bioregion. The bioregion is characterised by subdued relief, comprising gently undulating uplands dissected by broad valleys with bands of low greenstone hills and numerous saline playa lakes. The vegetation is dominated by Eucalyptus woodlands, shrublands of *Allocasuarina* and *Acacia*, and mixed heath of *Melaleuca* and *Acacia*.

Approximately 10 km north of the historic processing plant is the Jilbadji Nature Reserve which is also classified as an Environmentally Sensitive Area (ESA).

There are no pastoral leases or other significant land uses within the vicinity of the Project.

### **3.8 Describe any Commonwealth Heritage Places or other places recognised as having heritage values relevant to the project area.**

Not applicable.

### **3.9 Describe any Indigenous heritage values relevant to the project area.**

An ethnographic survey of M77/1065, M77/1066, M77/1067, M77/1080, G77/109, G77/110, L77/193 and L77/194 was undertaken from 28 August to 18 December 2004. The survey was completed by an anthropologist, Wayne Glendenning from Western Heritage Research Pty Ltd and the following three Aboriginal groups:

- The Central West native title claimant group.
- The Gubrun People.
- The Ballardong native title claimant group.

No ethnographic sites were identified by any individual or group during the ethnographic survey (Western Heritage Research Pty Ltd 2005).

A search of the Department of Aboriginal Affairs Aboriginal Heritage Inquiry System was completed in May 2017. There are no registered sites in the Project area.

The Project area does not have any registered Native Title Claims or Indigenous Land Use Agreements in place.

Further details are provided in **Section 7.15.2** of the Referral Environmental Review Document.

### **3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area.**

The entire Project is located within Unallocated Crown Land within a number of Mining Leases,



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General Purpose Leases and Miscellaneous Licences. These comprise:

M77/1080, M77/1065, M77/1066, G77/70, G77/109, G77/110, G77/68, E77/2099, E77/1400, G77/71, G77/72, G77/73, L77/107, L77/205, L77/208, L77/96, L77/207.

There are no pastoral leases or Native Title claims over the Project area.

Full detail on Land Tenure is provided in **Section 1.3** of the Referral Environmental Review Document.

### **3.11 Describe any existing or any proposed uses relevant to the project area.**

The Project is situated at the abandoned Mt Holland Mine Site, which was operated between 1988 and 2001, and comprises a number of open pits, an underground mine, a processing plant, waste rock dumps, tailings storage facilities and other infrastructure that is largely unrehabilitated and currently a liability of the State of Western Australia.

Other than mining and mineral exploration, there are no other land uses applicable to the Project.



## Section 4 - Measures to avoid or reduce impacts

Provide a description of measures that will be implemented to avoid, reduce, manage or offset any relevant impacts of the action. Include, if appropriate, any relevant reports or technical advice relating to the feasibility and effectiveness of the proposed measures.

Examples of relevant measures to avoid or reduce impacts may include the timing of works, avoidance of important habitat, specific design measures, or adoption of specific work practices.

### 4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action.

Management measures for protected flora are provided in **Section 8.3.5** of the Referral Environmental Review Document.

Implementation of a *Banksia sphaerocarpa* var. *dolichostyla* Management Plan (**Appendix 1** of the Referral Environmental Review Document).

Management measures for protected fauna are provided in **Section 8.4.5** of the Referral Environmental Review Document.

Implementation of Chuditch and Malleefowl Management Plans (**Appendices 2 and 3** of the Referral Environmental Review Document).

### 4.2 For matters protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved.

Protected flora (*Banksia sphaerocarpa* var. *dolichostyla*): Refer to **Section 8.3.7** of the Referral Environmental Review Document.

Minimal impact to *Banksia sphaerocarpa* var. *dolichostyla* through avoiding all known individuals. Maintenance of biological diversity and ecological integrity through completion of comprehensive baseline studies, optimisation of the Project footprint to utilise existing disturbed areas and implementation of stringent management measures.

Protected fauna (Malleefowl and Chuditch): Refer to **Section 8.4.7** of the Referral Environmental Review Document.

Minimise impacts to Malleefowl and Chuditch so that biological diversity and ecological integrity are maintained through completion of comprehensive baseline studies, optimisation of the Project footprint to utilise existing disturbed areas and implementation of stringent management measures.





**Australian Government**

**Department of the Environment and Energy**

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Submission #2272 - Earl Grey Lithium Project



## **Section 5 – Conclusion on the likelihood of significant impacts**

A checkbox tick identifies each of the matters of National Environmental Significance you identified in section 2 of this application as likely to be a significant impact.

Review the matters you have identified below. If a matter ticked below has been incorrectly identified you will need to return to Section 2 to edit.

### **5.1.1 World Heritage Properties**

No

### **5.1.2 National Heritage Places**

No

### **5.1.3 Wetlands of International Importance (declared Ramsar Wetlands)**

No

### **5.1.4 Listed threatened species or any threatened ecological community**

No

### **5.1.5 Listed migratory species**

No

### **5.1.6 Commonwealth marine environment**

No

### **5.1.7 Protection of the environment from actions involving Commonwealth land**

No

### **5.1.8 Great Barrier Reef Marine Park**

No

### **5.1.9 A water resource, in relation to coal/gas/mining**

No



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### 5.1.10 Protection of the environment from nuclear actions

No

### 5.1.11 Protection of the environment from Commonwealth actions

No

### 5.1.12 Commonwealth Heritage places overseas

No

## 5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action.

A thorough understanding of the surrounding environment has been attained through review of historic documentation and studies, as well as through completion of baseline studies undertaken specifically for the Project. This has contributed significantly to the scientific understanding of the area and has allowed Kidman to design the Project in a way that identifies, prevents and minimises adverse environmental impacts. Kidman has also engaged key stakeholders through an extensive stakeholder consultation program. A summary of why no significant impacts are expected for each of the protected matters is provided below. Further details are provided in **Sections 8.3, 8.4 and 9** of the Referral Environmental Review Document.

### Chuditch

Eighteen individual Chuditch were trapped in Project surveys (ten adult and eight dispersing young), of which 16 were trapped within the development envelope. Of the 101 camera traps deployed, 44 traps recorded Chuditch within all habitat types, but with a preference for unburnt habitats. Of these, 14 were located in the development envelope. The population extends well beyond the Project footprint and is likely to extend further to the east, south and north of the survey area (refer to **Section 7.10** of the Referral Environmental Review Document).

Following implementation of management measures (described in **Section 8.4** of the Referral Environmental Review Document), it is expected that no more than 365 ha of fauna habitat will be cleared over the 30 to 40 year life of mine. Impacts to Chuditch associated with clearing will be minimised (although not necessarily avoided entirely) through a pre-clearing capture-and-release program that will be developed in consultation with DPaW and implemented on advice from DPaW.

A Chuditch Management Plan has been prepared and will be further refined in consultation with relevant government agencies. It incorporates management of impacts associated with clearing, feral animals, domestic waste, vehicles movements, fire, noise, light and dust.

Overall, the Project is considered to pose a relatively low risk to Chuditch and offers



environmental gains associated with rehabilitation of historic mining disturbance, contribution of knowledge on the species through implementation of monitoring programs, and opportunities to enhance conservation efforts through feral animal monitoring and control, which is considered one of the greatest risks to the species.

## Malleefowl

Five bird sightings, four active mounds and 17 inactive mounds were recorded over a broad study area of which one bird sighting, one active mound and eight inactive mounds (including mound attempts) occurred in the development envelope. Malleefowl in the general area are likely to range over all habitats, favouring patches of shrubland on gravelly sands for mound construction (refer to **Section 7.10** of the Referral Environmental Review Document).

One active Malleefowl mound is located within the proposed pit footprint. Clearing of this mound will not be required for at least 18 months following commencement of operations. This provides Kidman with the opportunity to monitor the mound and determine the best method for protection of eggs, chicks and adults, should they still be present. Over a 30 – 40 year life of mine, there is also potential for new mounds to be constructed in proposed clearing areas. Consequently, all proposed clearing areas will be subject to pre-clearance searches during the life of mine.

Feral fox and cat control is considered one of the key factors that can assist in the maintenance of Malleefowl populations in the region. On this basis, a key corporate management commitment (discussed in **Section 10** of the Referral Environmental Review Document) is to implement a broad scale investigation into the occurrence of feral species in the area as well as working with DPaW to contribute to regional feral animal control.

A Malleefowl Management Plan has been prepared and will be further refined in consultation with relevant government agencies. It incorporates management of impacts associated with clearing, feral animals, domestic waste, vehicles movements, fire, noise, light and dust.

Overall, the Project is considered to pose a relatively low risk to Malleefowl and offers environmental gains associated with rehabilitation of historic disturbance, contribution of knowledge on the species through implementation of monitoring programs, and opportunities to enhance conservation efforts through feral animal monitoring and control, which is considered one of the greatest risks to the species.

## ***Banksia sphaerocarpa* var. *dolichostyla***

Flora surveys of the Project area recorded 521 *Banksia sphaerocarpa* var. *dolichostyla* taxa. None of these records occur within the Project footprint as the Project has been deliberately designed to avoid any clearing of *Banksia sphaerocarpa* var. *dolichostyla* taxa.

A *Banksia sphaerocarpa* var. *dolichostyla* Management Plan has been prepared and will be further refined in consultation with relevant government agencies. It incorporates management of impacts associated with clearing (including accidental and unauthorized clearing), weeds, spillages (e.g. saline water and tailings), fire and dust.



Overall, the Project is considered to pose a relatively low risk to *Banksia sphaerocarpa* var. *dolichostyla* as no individuals will be directly impacted by the proposed action. Additionally, implementation of the Project offers potential environmental gains associated with this species including improved knowledge of the species, response and assistance with fire control and rehabilitation of historic mining disturbances that are now the liability of the State of Western Australia.

Holistically, the Project has the potential to provide a net environmental benefit to the region by providing a practical means of rehabilitating a significant portion of the State disturbance liability, in combination with a commitment to contribute to regional conservation programs.



## **Section 6 – Environmental record of the person proposing to take the action**

Provide details of any proceedings under Commonwealth, State or Territory law against the person proposing to take the action that pertain to the protection of the environment or the conservation and sustainable use of natural resources.

### **6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Please explain in further detail.**

Mr Christopher Williams is the General Manager for Kidman Resources and has been directing the conceptual development for the Project and accordingly the way the Project footprint has been developed. Mr Williams has been in the mining industry for over 30 years and has had a number of roles both at a mine site level and at a more senior level including corporate roles.

At a site level, Mr Williams spent a number of years around Kalgoorlie (1992 – 2003) where he was involved in numerous open pit and underground mining operations which were developed according to the WA Department of Mines and Petroleum Notice of Intent Process and Mining Proposal Process. At a more senior and corporate level he was involved from 2004 to 2015 in a mine site development in the East Kimberleys (Savannah Nickel Mine) where the project was referred to the EPA but was subsequently managed through a Mining Proposal. This was in a very sensitive area and was successfully developed and operated for over ten years in an environmentally responsible manner. Mr Williams was also involved in upgrading the associated Port facilities at Wyndham to meet higher standards of environmental compliance and increased expectation of corporate citizenship.

### **6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (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.**

There have been no proceedings actioned against Mr Williams or Kidman Resources Limited.

### **6.3 Will the action be taken in accordance with the corporation's environmental policy and planning framework?**

Yes

#### **6.3.1 If the person taking the action is a corporation, please provide details of the corporation's environmental policy and planning framework.**



The philosophy of Kidman Resources is to be a respected resource company through industry leading practices. Kidman believes that to truly deliver value to all its stakeholders, strong core values in the environment, social responsibility and occupational health and safety are integral to all facets of a successful operation.

Kidman places an expectation on all its employees to demonstrate stewardship of its values throughout all operational areas and believes this will be reflected in the successful performance of the company.

For Kidman to achieve its operational values it is integral that all employees commit to the facilitation of those goals through:

- Establishing and complying with all legal requirements and commitments set out in standards and procedures adopted by the company.
- Actively identify, assess and mitigate all risks associated with operational activities and their effect on the environment.
- Surface disturbance - ensure all measures have been taken to reduce the impact on the environment in which activities are conducted, and all practicable steps are taken to return the environment to its original state.
- Water - appropriately consider the method and use of water during operational activities and maximise efficiency of its use while ensuring the prevention of water pollution
- Energy - implement, improve and monitor energy usage during operations to reduce the company's carbon footprint and operating costs.
- Engage employees in the environmental management process and communicate all aspects of compliance and performance to the workforce in a transparent and timely manner.
- Encourage and ensure prompt reporting of all environmental incidents, and communicate all learnings from investigations to the workforce to enable continued improvement in practices and understanding.
- Integrate environmental considerations into everyday practices so it becomes a core value of employees and is not simply a hurdle in order to achieve compliance.

**6.4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?**

No



## Section 7 – Information sources

You are required to provide the references used in preparing the referral including the reliability of the source.

### 7.1 List references used in preparing the referral (please provide the reference source reliability and any uncertainties of source).

Reference Source	Reliability	Uncertainties
A full reference list is provided in Section 12 of the Referral Environmental Review Document. All reference sources are considered to be suitably reliable with limited uncertainty. The most relevant reference sources to MNES are summarised below.	All studies undertaken to inform the Project design and environmental impact assessment are considered to be suitably reliable from which to draw meaningful outcomes and conclusions.	There are no uncertainties or limitations associated with any of the studies that would affect the outcomes and conclusions that have been formed.
Mattiske Consulting (2017). Flora and Vegetation of the Earl Grey, Irish Breakfast and Prince of Wales Prospects.	An assessment of the survey against a range of factors which may have had an impact on the outcomes of the survey is provided in Table 6 of the Mattiske Consulting 2017 report. Based on this assessment, the flora and vegetation survey has not been subject to constraints which would affect the thoroughness of the survey and the conclusions which have been formed.	There are no constraints or uncertainties which would affect the thoroughness of the survey and the conclusions which have been formed.
Western Wildlife (2017). Mt Holland Project: Earl Grey, Irish Breakfast, Prince of Wales, Van Uden Level 2 Vertebrate Fauna Survey and Targeted Chuditch Survey 2016 – 2017.	The fauna surveys were conducted with reference to the following guidelines: • Statement of environmental principles, factors and objectives (EPA 2016). • Environmental factor guideline – terrestrial fauna (EPA 2016). • Technical guidance – terrestrial fauna surveys (EPA 2016) • Technical Guide: terrestrial vertebrate fauna	There are no constraints or uncertainties which would affect the thoroughness of the survey and the conclusions which have been formed.





Reference Source	Reliability	Uncertainties
	surveys for environmental impact assessment (EPA and DEC 2010). • Survey guidelines for Australia's threatened mammals (DSEWPaC 2011). • Survey guidelines for Australia's threatened birds (DEWHA 2010). The fauna surveys included a search of available literature and databases (a desk-top study), and three periods of fieldwork. The data collected in the field serve to put the desktop study into context, as well as allowing for the identification of fauna habitats and likely fauna assemblages of the site. The information and data provided in the report is considered to be of a suitably reliable standard from which to draw meaningful conclusions.	
Blueprint Environmental Strategies (2017). Targeted Surveys for Threatened Flora Species Banksia sphaerocarpa var. dolichostyla - Summary Report - Earl Grey Lithium Project.	The report summarises the findings of four targeted surveys for banksia sphaerocarpa var. dolichostyla, undertaken by suitably qualified consulting botanists. The individual surveys are considered to be reliable for the purpose of identifying individual specimens of banksia sphaerocarpa var. dolichostyla within proposed disturbance areas.	There are no constraints or uncertainties associated with any of the surveys used to inform this report which could affect the conclusions and outcomes that have been formed.



## Section 8 – Proposed alternatives

You are required to complete this section if you have any feasible alternatives to taking the proposed action (including not taking the action) that were considered but not proposed.

### 8.0 Provide a description of the feasible alternative?

Alternatives are discussed in **Section 3.2** of the Referral Environmental Review Document.

Alternatives considered include:

- Different processing rates with associated effects on the life of mine.
- Progressive backfilling of the pit was decided upon to reduce the Project footprint and associated impacts on flora, vegetation and habitat. The alternative would have been not to undertake progressive backfilling, as is typically undertaken in most mines in Western Australia. This would have resulted in a larger permanent disturbance footprint at closure.
- Establishment of infrastructure on existing disturbed areas rather than clearing greenfields areas was chosen to reduce impacts to flora, vegetation, fauna and habitat and provide an opportunity to rehabilitate an existing State liability.
- The Project footprint has been altered to avoid populations of significant flora species *Banksia sphaerocarpa* var. *dolichostyla*, the alternative was to destroy known populations of a listed species.

### 8.1 Select the relevant alternatives related to your proposed action.

- Timeframes
- Locations
- Activities

### 8.2 Provide an estimated start and estimated end date for the proposed alternative action.

Start 09/2017

End 04/2047

### 8.3 What is the extent and location of your proposed alternative action?



Area	Point	Latitude	Longitude
See attached KML alternative layout	1	-32.075839899339	119.71898779236
See attached KML alternative layout	2	-32.075839899339	119.79554876648
See attached KML alternative layout	3	-32.122374148945	119.79623541198
See attached KML alternative layout	4	-32.122664913447	119.72070440613
See attached KML alternative layout	5	-32.075839899339	119.71933111511
See attached KML alternative layout	6	-32.076421723759	119.71933111511
See attached KML alternative layout	7	-32.075839899339	119.71898779236

**8.4 Provide a brief physical description of the property on which the alternative proposed action will take place and the project location (e.g. Proximity to major towns, or for off-shore projects, shortest distance to mainland).**

No alternatives were deemed feasible, and as such will not be explored further.

All other alternatives were located on the same tenure, in the same vicinity, and as such the current Project description applies to these equally.

**8.5 What is the size of the development footprint or work area of the alternative?**

Comparable area, configured slightly differently.

**8.6 Is the alternative proposal a street address or lot?**

Lot

**8.6.2 Describe the lot number associated with the alternative proposal.**

Same tenements as per original proposal.

**8.7 Is there a different local government area and council contact for the alternative?**



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No

**8.8 Provide details of the context, planning framework and State/Local Government requirements.**

Not applicable.

**8.9 Describe any public consultation that has been, is being or will be undertaken (including with Indigenous stakeholders).**

Not applicable.

**8.10 Describe any environmental impact assessments that have been, is being or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project for the alternative.**

Not applicable.

**8.11 Is the alternative activity part of a staged development or a component of a larger project?**

No

**8.12 Nominate any matters of National Environmental Significance that are likely to be impacted by this alternative proposal by ticking the relevant checkboxes.**

Listed threatened species or any threatened ecological community

**8.12.1 Please provide further information on potential impacts of matters of environmental significance that you have nominated above.**

As per original proposal.

**8.13 Describe any impacts on the flora and fauna relevant to the alternative proposal.**

The alternative mine site design would have required clearing of a known population of *Banksia sphaerocarpa* var. *dolichostyla*. While this layout was preferable, Kidman deliberately reconfigured the design to avoid clearing of *Banksia sphaerocarpa* var. *dolichostyla*.

**8.14 Describe the hydrology relevant to the alternative proposal (including water flows).**

Not applicable.



**8.15 Describe the soil and vegetation characteristics relevant to the alternative proposal.**

Not applicable.

**8.16 Describe any outstanding natural features and/or unique values relevant to the alternative proposal.**

Not applicable.

**8.17 Describe the remnant native vegetation relevant to the alternative proposal.**

Not applicable.

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

Not applicable.

**8.19 Describe the current state of the environment relevant to the alternative proposal.**

Not applicable.

**8.20 Describe any Commonwealth Heritage Places or other places recognised as having heritage values relevant to the alternative proposal.**

Not applicable.

**8.21 Describe any Indigenous heritage values relevant to the alternative proposal.**

Not applicable.

**8.22 Describe any other important or unique values relevant to the alternative proposal.**

Not applicable.

**8.23 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the alternative proposal.**



Not applicable.

**8.24 Describe the existing uses of the area relevant to the alternative proposal.**

Not applicable.

**8.25 Identify any proposed uses of the area relevant to the alternative proposal.**

Not applicable.

**8.26 What are the proposed measures for any alternative action to avoid or reduce impact?**

Not applicable.

**8.27 Do you have another alternative?**

No



## Section 9 – Contacts, signatures and declarations

Where applicable, you must provide the contact details of each of the following entities: Person Proposing the Action; Proposed Designated Proponent and; Person Preparing the Referral. You will also be required to provide signed declarations from each of the identified entities.

### 9.0 Is the person proposing to take the action an Organisation or an Individual?

Organisation

#### 9.2 Organisation

##### 9.2.1 Job Title

General Manager

##### 9.2.2 First Name

Christopher

##### 9.2.3 Last Name

Williams

##### 9.2.4 E-mail

chris.williams@kidmanresources.com.au

##### 9.2.5 Postal Address

Level 7

24-28 Collins Street  
Melbourne VIC 3000  
Australia

##### 9.2.6 ABN/ACN

ACN

143526096 - KIDMAN RESOURCES LIMITED

##### 9.2.7 Organisation Telephone



0428322306

## 9.2.8 Organisation E-mail

chris.williams@kidmanresources.com.au

## 9.2.9 I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:

Not applicable

## Small Business Declaration

I have read the Department of the Environment and Energy's guidance in the online form concerning the definition of a small business entity and confirm that I qualify for a small business exemption.

Signature:..... Date: .....

## 9.2.9.2 I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations

No

## 9.2.9.3 Under sub 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

## Person proposing the action - Declaration

I, CHRIS WILLIAMS, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.

Signature:..... Date: 25/05/17

I, CHRIS WILLIAMS, the person proposing the action, consent to the designation of KIDMAN RESOURCES LIMITED as the proponent of the purposes of the action describe in this EPBC Act Referral.

Signature:..... Date: 25/5/17





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### **9.3 Is the Proposed Designated Proponent an Organisation or Individual?**

Organisation

#### **9.5 Organisation**

##### **9.5.1 Job Title**

General Manager

##### **9.5.2 First Name**

Christopher

##### **9.5.3 Last Name**

Williams

##### **9.5.4 E-mail**

chris.williams@kidmanresources.com.au

##### **9.5.5 Postal Address**

Level 7

24/28 Collins Street  
Melbourne VIC 3000  
Australia

##### **9.5.6 ABN/ACN**

ACN

143526096 - KIDMAN RESOURCES LIMITED

##### **9.5.7 Organisation Telephone**

0428322306

##### **9.5.8 Organisation E-mail**

chris.williams@kidmanresources.com.au

### **Proposed designated proponent - Declaration**



I, Chris Williams, the proposed designated proponent, consent to the designation of myself as the proponent for the purposes of the action described in this EPBC Act Referral.

Signature: [Signature] Date: 24/5/17

**9.6 Is the Referring Party an Organisation or Individual?**

Organisation

**9.8 Organisation**

**9.8.1 Job Title**

General Manager

**9.8.2 First Name**

Christopher

**9.8.3 Last Name**

Williams

**9.8.4 E-mail**

chris.williams@kidmanresources.com.au

**9.8.5 Postal Address**

Level 7

24-28 Collins St  
Melbourne VIC 3000  
Australia

**9.8.6 ABN/ACN**

ACN

143526096 - KIDMAN RESOURCES LIMITED

**9.8.7 Organisation Telephone**

0428322306



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### 9.8.8 Organisation E-mail

chris.williams@kidmanresources.com.au

### Referring Party - Declaration

I, CHRIS WILLIAMS, I declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence.

Signature:  Date: 24/5/17



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## Appendix A - Attachments

The following attachments have been supplied with this EPBC Act Referral:

1. appendix\_1\_banksia\_management\_plan\_final\_v1.pdf
2. appendix\_2\_chuditch\_management\_plan\_final\_v1.pdf
3. appendix\_3\_malleefowl\_management\_plan\_final\_v1.pdf
4. appendix\_5\_mattiske\_flora\_and\_vegetation\_assessment\_appendices.pdf
5. appendix\_5\_mattiske\_flora\_and\_vegetation\_assessment\_main\_body.pdf
6. appendix\_6\_earl\_grey\_targeted\_flora\_summary\_report\_final.pdf
7. appendix\_7\_fauna\_and\_habitat\_report\_appendices.pdf
8. appendix\_7\_fauna\_and\_habitat\_report\_main\_body.pdf
9. appendix\_8\_earl\_grey\_waste\_characterisation\_final.pdf
10. development\_envelope.kml
11. f1\_location\_plan.pdf
12. f2\_project\_tenements.pdf
13. f3\_existing\_disturbance.pdf
14. f4\_proposed\_site\_layout.pdf
15. kdr\_environment\_policy.docx
16. pre\_banksia\_survey\_layout.kml
17. proposed\_site\_layout.kml
18. referral\_environmental\_review\_final.pdf