



Environmental Protection Authority

Referral of a Proposal by the Proponent to the Environmental Protection Authority under Section 38(1) of the *Environmental Protection Act 1986*.

EPA REFERRAL
FORM
PROPONENT

PURPOSE OF THIS FORM

Section 38(1) of the *Environmental Protection Act 1986* (EP Act) provides that where a development proposal is likely to have a significant effect on the environment, a proponent may refer the proposal to the Environmental Protection Authority (EPA) for a decision on whether or not it requires assessment under the EP Act. This form sets out the information requirements for the referral of a proposal by a proponent.

Proponents are encouraged to familiarise themselves with the EPA's *General Guide on Referral of Proposals* [see Environmental Impact Assessment/Referral of Proposals and Schemes] before completing this form.

A referral under section 38(1) of the EP Act by a proponent to the EPA must be made on this form. A request to the EPA for a declaration under section 39B (derived proposal) must be made on this form. This form will be treated as a referral provided all information required by Part A has been included and all information requested by Part B has been provided to the extent that it is pertinent to the proposal being referred. Referral documents are to be submitted in two formats – hard copy and electronic copy. The electronic copy of the referral will be provided for public comment for a period of 7 days, prior to the EPA making its decision on whether or not to assess the proposal.

CHECKLIST

Before you submit this form, please check that you have:

	Yes	No
Completed all the questions in Part A (essential).	<input checked="" type="checkbox"/>	
Completed all applicable questions in Part B.	<input checked="" type="checkbox"/>	
Included Attachment 1 – location maps.	<input checked="" type="checkbox"/>	
Included Attachment 2 – additional document(s) the proponent wishes to provide (if applicable).	<input checked="" type="checkbox"/>	
Included Attachment 3 – confidential information (if applicable).		<input checked="" type="checkbox"/>
Enclosed an electronic copy of all referral information, including spatial data and contextual mapping but excluding confidential information.	<input checked="" type="checkbox"/>	

Following a review of the information presented in this form, please consider the following question (a response is optional).

Do you consider the proposal requires formal environmental impact assessment?		
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Not sure
If yes, what level of assessment?		
<input type="checkbox"/> Assessment on Proponent Information	<input type="checkbox"/> Public Environmental Review	

PROPONENT DECLARATION (to be completed by the proponent)

I, **DAVID WILDING** (*full name*) declare that I am authorised on behalf of **HANCOCK PROSPECTING PTY LTD** (being the person responsible for the proposal) to submit this form and further declare that the information contained in this form is true and not misleading.

Signature 	Name (print): David Wilding
Position: General Manager, Resource Development Group	Company Hancock Prospecting Pty Ltd
Date 28/06/2013	

PART A - PROPONENT AND PROPOSAL INFORMATION

(All fields of Part A must be completed for this document to be treated as a referral)

1 PROPONENT AND PROPOSAL INFORMATION

1.1 Proponent

Name	Hancock Prospecting Pty Ltd (HPPL)
Joint Venture parties (if applicable)	Not applicable
Australian Company Number (if applicable)	69 008 676 417
Postal Address (where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State)	PO Box Locked Bag No. 2 West Perth WA 6872
Key proponent contact for the proposal: <ul style="list-style-type: none">• name• address• phone• email	Ailan Tran (08) 9429 8222 ailan_tran@hancockprospecting.com.au
Consultant for the proposal (if applicable): <ul style="list-style-type: none">• name• address• phone• email	Strategen Environmental Consultants 322 Hay Street Subiaco WA 6008 08 9380 3100 info@strategen.com.au

1.2 Proposal

Title	Mulga Downs Project (Project)
Description	<p>The Project involves a new Direct Shipping Ore (DSO) iron ore mine at Murray's Hill in the Pilbara region of WA (Murray's Hill mine). The Project comprises one mine pit, waste dump, crushing and screening plant, roads, drainage, accommodation camp, sewage treatment, landfill, and other associated mine infrastructure to enable iron ore to be extracted at a rate of up to 5 million tonnes per annum (Mtpa). The mine pit will be developed above the watertable and no dewatering will be required. The conceptual layout of key elements of the Project is presented in Figure 2 of the Section 38 Referral Supporting Document (supporting document).</p> <p>Ore will be transported by road to the Roy Hill Infrastructure Railway (approved under Ministerial Statements 847 and 864) where it will be loaded onto trains and transported to Port Hedland. The key characteristics of the Project are outlined in Table 1.</p>

Extent (area) of proposed ground disturbance.	<p>The Project will involve a total disturbance area of up to 890 ha, of which approximately 100 ha has been previously cleared.</p> <p>Mining activities and associated infrastructure will occur within a development envelop of 3018 ha (refer to Figure 2 and 3 of supporting document). One of two railway access road options are being considered: Coonarie and Two Camel. Each option is located within respective development envelopes of 57.01 ha and 58.53 ha.</p>
Timeframe in which the activity or development is proposed to occur (including start and finish dates where applicable).	<p>Subject to regulatory approvals, the schedule for the Project is as follows:</p> <ul style="list-style-type: none"> • commencement of early pioneering earthworks: Q3 2014 • commencement of pre-stripping and mining: Q1 2015 • first production of Direct Shipping Ore: Q2 2015 • completion of mining: Q3 2018. <p>The life of the Project is approximately five (5) years including decommissioning and closure.</p>
Details of any staging of the proposal.	Not applicable
Is the proposal a strategic proposal?	No
<p>Is the proponent requesting a declaration that the proposal is a derived proposal?</p> <p>If so, provide the following information on the strategic assessment within which the referred proposal was identified:</p> <ul style="list-style-type: none"> • title of the strategic assessment; and • Ministerial Statement number. 	No
Please indicate whether, and in what way, the proposal is related to other proposals in the region.	Crushed ore will be transported from the mine site by private road and along Great Northern Highway to be loaded on to the approved Roy Hill Infrastructure Railway for transportation to Port Hedland, where available port capacity will be utilised while the Roy Hill mine reaches full production capacity.

<p>Does the proponent own the land on which the proposal is to be established? If not, what other arrangements have been established to access the land?</p>	<p>Mining and associated infrastructure will be located almost entirely within mining tenement 47/206 with camp facilities and water supply borefields located within exploration lease 47/1244. Ore will be transported north along the Great Northern Highway via an existing, upgraded pastoral road (Fenceline Road) linking the highway with mining areas through miscellaneous licences 47/316, 47/339 and 47/675. Tenement details are presented in Table 2.</p> <p>An access road will be required connecting the Great Northern Highway to train loading facilities at the proposed Mulga Downs Rail Siding¹ within the Roy Hill Infrastructure Railway for transportation by rail to Port Hedland. Two railway access road options are currently being considered: Coonarie and Two Camel. Both options are located within the Abydos-Woodstock Protected Area 33. An excision may be required for a corridor through this reserve to allow construction of the chosen access road. This process will be led by Department of Aboriginal Affairs (DAA) and the Minister for Aboriginal Affairs.</p>
<p>What is the current land use on the property, and the extent (area in hectares) of the property?</p>	<p>The Project is located within the Mulga Downs pastoral station within the Shire of Ashburton. The railway access road options are located within the Town of Port Hedland. The surrounding land uses include pastoral leases, Aboriginal reserves, conservation reserves and unallocated crown land, and the major land uses include grazing and mining.</p> <p>Historical disturbance at Murray's Hill has primarily been related to pastoral agriculture. Exploration drilling has been undertaken at varied intensities within the area of the Project.</p>

¹ A new project specific Mulga Downs rail siding and stockyard is proposed within the approved Roy Hill Infrastructure Special Railway Licence (SRL). Required approvals for this facility will be obtained separately and do not form part of this Project.

Table 1 Key characteristics table

Summary of the Project		
Project Title	Mulga Downs Project	
Proponent Name	Hancock Prospecting Pty Ltd	
Life of mine	5 years including decommissioning and rehabilitation	
Short Description	<p>The Project is to mine iron ore from the Murray's Hill deposit at Mulga Downs, located approximately 230 km directly south of Port Hedland and 100 km north-east of Tom Price, and comprises the following components:</p> <ul style="list-style-type: none"> • open pit mining above the watertable • on site screening and crushing • construction of associated mine infrastructure (including ROM, crushing and screening plant, stockpile areas, laydown areas) • transport of ore by road to the existing Roy Hill Infrastructure Railway where it will be loaded onto trains and transported to Port Hedland. 	
Physical elements		
Element	Proposed Location	Proposed maximum extent
Total Ground Disturbance Area	Development envelope and conceptual disturbance footprint is shown in Figure 2 of the supporting document.	No more than 890 ha.
Mine pit and associated plant infrastructure	Development envelope and conceptual disturbance footprint is shown in Figure 2 of the supporting document.	Disturbance of approximately 370 ha within a 3018 ha development envelope.
Overburden storage area/waste dumps	Development envelope and conceptual disturbance footprint is shown in Figure 2 of the supporting document.	Disturbance of approximately 213 ha within a 3018 ha development envelope.
Fenceline Road	Development envelope and conceptual disturbance footprint is shown in Figure 2 of the supporting document.	Disturbance of approximately 145 ha within a 3018 ha development envelope.
Railway access road (two options)	Development envelope and conceptual disturbance footprint of the Coonarie railway access road option is shown in Figure 1 of the supporting document.	Disturbance of approximately 8 ha within a 57 ha development envelope.
	Development envelope and conceptual disturbance footprint of the Two Camel railway access road option is shown in Figure 1 of the supporting document.	Disturbance of approximately 8 ha within a 58.5 ha development envelope.
Accommodation camp and access road	Location is shown in Figure 2 of the supporting document.	Disturbance of approximately 18.9 ha within a 3018 ha development envelope.

Table 2 Tenement details

Lease	Holder	Area (ha)	Date Granted
M47/206	Mulga Downs Investments Pty Ltd and Mulga Downs Iron Ore Pty Ltd	900	10/05/1989
E47/1244 ²	Hancock Prospecting Pty Ltd	19 957	11/2006
L47/339	Mulga Downs Investments Pty Ltd and Mulga Downs Iron Ore Pty Ltd	1264	Application submitted 16/6/09
L45/316	Mulga Downs Investments Pty Ltd and Mulga Downs Iron Ore Pty Ltd	731	Application submitted 13/7/2012
L47/675	Mulga Downs Investments Pty Ltd and Mulga Downs Iron Ore Pty Ltd	66	Application submitted 13/7/2012

² HPPL has lodged an application with the Department of Mines and Petroleum (DMP) to convert E47/1244 into mining lease 47/1486

1.3 Location

Name of the Shire in which the proposal is located.	The Murray's Hill mine and associated infrastructure (Murray's Hill mine) is located in the Shire of Ashburton. The railway access road options are located in the Town of Port Hedland (see Figure 1 of supporting document).
For urban areas: <ul style="list-style-type: none"> • street address; • lot number; • suburb; and • nearest road intersection. 	Not applicable.
For remote localities: <ul style="list-style-type: none"> • nearest town; and • distance and direction from that town to the proposal site. 	The Project is situated on the Mulga Downs pastoral station in the Shire of Ashburton Western Australia, approximately 230 kilometres (km) south of Port Hedland and 100 km north-east of Tom Price.
Electronic copy of spatial data - GIS or CAD, geo-referenced and conforming to the following parameters: <ul style="list-style-type: none"> • GIS: polygons representing all activities and named; • CAD: simple closed polygons representing all activities and named; • datum: GDA94; • projection: Geographic (latitude/longitude) or Map Grid of Australia (MGA); • format: Arcview shapefile, Arcinfo coverages, Microstation or AutoCAD. 	Enclosed.

1.4 Confidential Information

Does the proponent wish to request the EPA to allow any part of the referral information to be treated as confidential?	No
If yes, is confidential information attached as a separate document in hard copy?	Not applicable.

1.5 Government Approvals

Is rezoning of any land required before the proposal can be implemented? If yes, please provide details.	No
Is approval required from any Commonwealth or State Government agency or Local Authority for any part of the proposal? If yes, please complete the table below.	Yes

Agency/Authority	Approval required	Application lodged Yes / No
Department of Mines and Petroleum (DMP)	Clearing Permit under Part V of the <i>Environmental Protection Act 1986</i> (EP Act) if the Project is not assessed	No
	Mining Proposal including a Mine Closure Plan, under the <i>Mining Act 1978</i> (Mining Act) for the Project	No
	<i>Dangerous Goods Safety Act 2004</i> (Dangerous Goods Act) – explosives storage, fuel storage, explosives transport and fuel transport	No
Minister for Aboriginal Affairs Department of Aboriginal Affairs	Section 18 application(s) under the <i>Aboriginal Heritage Act 1972</i> (AH Act)	In progress
	Regulation 10 permit under the AH Act to access Abydos-Woodstock	Yes
<i>Native Title Act 1993</i>	Native Title agreements	In progress
Department of Water (DoW)	Licence under the <i>Rights in Water and Irrigation Act 1914</i> (RIWI Act) for the construction of a well (26D Licence)	Yes
	Licence under the RIWI Act to take water (5C Licence)	In progress
	Beds and banks permit under s 11/17/21A of the RIWI Act (Coonarie railway access road option)	No
Department of Environment and Conservation (DEC)	Works Approval(s) and an operating Licence will be required under Part V the EP Act.	No
Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC)	Consideration of Matters of National Environmental Significance (NES) under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act)	Completed
Shire of Ashburton	Approvals will be required from the Shire of Ashburton under the <i>Planning and Development Act 2005</i> and <i>Health Act 1911</i> .	No
Town of Port Hedland	Approvals will be required from the Shire of Port Hedland under the <i>Planning and Development Act 2005</i>	No
Main Roads WA (MRWA)	Approvals required for crossing and concessional loading relevant to Great Northern Highway in accordance with the <i>Road Traffic Act 1974</i>	In progress

Consultation has been undertaken and is ongoing with the following agencies:

1. Office of the Environmental Protection Authority (OEPA)
2. Department of Environment and Conservation (DEC)
3. Department of Water (DoW)
4. Department of Mines and Petroleum (DMP)
5. Department of Aboriginal Affairs (DAA)
6. Main Roads Western Australia (MRWA)
7. Department of State Development (DSD)
8. Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC)

A summary of consultation undertaken to date is outlined in Section 4 of the supporting document.

PART B - ENVIRONMENTAL IMPACTS AND PROPOSED MANAGEMENT

2. ENVIRONMENTAL IMPACTS

Describe the impacts of the proposal on the following elements of the environment, by answering the questions contained in Sections 2.1-2.11:

- 2.1 flora and vegetation;
- 2.2 fauna;
- 2.3 rivers, creeks, wetlands and estuaries;
- 2.4 significant areas and/ or land features;
- 2.5 coastal zone areas;
- 2.6 marine areas and biota;
- 2.7 water supply and drainage catchments;
- 2.8 pollution;
- 2.9 greenhouse gas emissions;
- 2.10 contamination; and
- 2.11 social surroundings.

These features should be shown on the site plan, where appropriate.

For all information, please indicate:

- (a) the source of the information; and
- (b) the currency of the information.

2.1 Flora and Vegetation

2.1.1 Do you propose to clear any native flora and vegetation as a part of this proposal?

[A proposal to clear native vegetation may require a clearing permit under Part V of the EP Act (Environmental Protection (Clearing of Native Vegetation) Regulations 2004)]. Please contact the Department of Environment and Conservation (DEC) for more information.

(please tick) Yes

If yes, complete the rest of this section.

No

If no, go to the next section

2.1.2 How much vegetation are you proposing to clear (in hectares)?

Disturbance of up to 890 ha, of which approximately 100 ha has been previously cleared. Refer to Table 1 for further detail.

2.1.3 Have you submitted an application to clear native vegetation to the DEC (unless you are exempt from such a requirement)?

Yes

No

If yes, on what date and to which office was the application submitted of the DEC?

DMP has delegated responsibility for the administration, assessment and approval of clearing permit applications relating to mineral and petroleum activities in Western Australia. A Clearing Permit application will be lodged with DMP if the Project is not assessed under the EP Act.

Are you aware of any recent flora surveys carried out over the area to be disturbed by this proposal?

Yes

No

If yes, please attach a copy of any related survey reports and provide the date and name of persons / companies involved in the survey(s).

If no, please do not arrange to have any biological surveys conducted prior to consulting with the DEC.

Several flora and vegetation surveys have been undertaken for the Project area and surrounds since 2008, and include regional, site-specific and targeted rare and threatened flora surveys.

Ecologia (2008) undertook a botanical survey of M47/206 in June 2008 in accordance with EPA Guidance Statement 51 and Position Statement 3.

The majority of the two railway access road option alignments have been previously mapped by Maia Environmental Consultancy (Maia) for the Roy Hill Infrastructure Railway (Maia 2011).

Most recently, a Level 2 flora and vegetation survey and literature and database search was undertaken by Maia in June–August 2012 of those areas not previously surveyed, i.e. areas around and excluding M47/206 but within E47/1244, L47/339, L47/675, and L45/316 (Maia 2012). The survey was conducted in accordance with EPA Guidance Statement 51 and Position Statement 3.

Section 11 of the supporting document describes the results of surveys and investigations relating to flora and vegetation. The Maia (2012) vegetation and flora survey report is also appended to the supporting document (Appendix 4).

2.1.4 Has a search of DEC records for known occurrences of rare or priority flora or threatened ecological communities been conducted for the site?

Yes

No

If you are proposing to clear native vegetation for any part of your proposal, a search of DEC records of known occurrences of rare or priority flora and threatened ecological communities will be required. Please contact DEC for more information.

2.1.5 Are there any known occurrences of rare or priority flora or threatened ecological communities on the site?

Yes

No

If yes, please indicate which species or communities are involved and provide copies of any correspondence with DEC regarding these matters.

No Threatened Ecological Communities (TEC) are present in the Project area.

The Project area occurs within the 40 km buffer surrounding the Priority Ecological Community (PEC) 'Four plant assemblages of the Wona Land System'. One claypan of the PEC 'Freshwater claypans of the Fortescue Valley' also occurs within the area surveyed by Maia. The Project will not directly affect these two PECs (Maia 2012).

No Threatened species pursuant to the *Environment, Protection and Biodiversity Conservation Act 1999* (EPBC Act) or plant taxa gazetted as Declared Rare Flora (DRF) pursuant to the *Wildlife Conservation Act 1950* (WC Act) have been located within the Project area. Three confirmed and three potential priority species have been found through surveys. (Maia 2012).

Two Priority species are located within the section of the development envelope associated with the Fenceline Road. Given the known locations and linear nature of Fenceline Road, impacts to these species can be avoided or minimised.

Section 11 of the supporting document describes the results of surveys and investigations relating to flora and vegetation. Vegetation and flora survey reports are also appended to the supporting document (Appendix 4).

2.1.6 If located within the Perth Metropolitan Region, is the proposed development within or adjacent to a listed Bush Forever Site? (You will need to contact the Bush Forever Office, at the Department for Planning and Infrastructure)

Yes

No

If yes, please indicate which Bush Forever Site is affected (site number and name of site where appropriate).

Not applicable.

2.1.7 What is the condition of the vegetation at the site?

Vegetation condition over the Project area was mapped by Maia (Maia 2011; Maia 2012).

Vegetation across the Murray's Hill mine and Fenceline Road area ranges from completely degraded to excellent with the majority of vegetation in very good condition (Maia 2012).

Vegetation condition mapped within the Roy Hill Infrastructure Railway corridor, within which the railway access road options are located, ranged from good to excellent/very good with vegetation associated with plains showing the greatest signs of disturbance (Maia 2011).

Disturbances noted during surveys included cattle grazing and soil compaction, weeds and clearing for exploration activities and access tracks.

A total of 17 environmental weed species have been recorded in the area of the Project. No nationally listed weeds or declared plants have been recorded (Maia 2012).

Section 11 of the supporting document describes the results of surveys and investigations relating to flora and vegetation. Vegetation and flora survey reports are also appended to the supporting document (Appendix 4).

2.2 Fauna

2.2.1 Do you expect that any fauna or fauna habitat will be impacted by the proposal?

(please tick) Yes **If yes**, complete the rest of this section.

No **If no**, go to the next section.

Up to 890 ha of fauna habitat may be affected by the Project.

2.2.2 Describe the nature and extent of the expected impact.

Potential direct and indirect effects of the Project on fauna include:

- loss and fragmentation of habitat from vegetation clearing resulting in a direct loss of species, and reduced breeding and foraging habitat
- increased injuries and mortalities from vehicle movements, infrastructure, machinery and the workforce
- degradation of habitat from altered hydrological regimes, increased human access, noise, dust and weed invasion
- increased fire potential from the presence of human activity in the area, resulting in the modification or loss of fauna habitat and conservation significant fauna
- introduction of feral species due to introduction of workforce and vehicles, inappropriate waste collection and disposal practices, and inadequate rehabilitation of disturbed land, resulting in fauna mortality and/or competition for resources.

2.2.3 Are you aware of any recent fauna surveys carried out over the area to be disturbed by this proposal?

Yes No **If yes**, please attach a copy of any related survey reports and provide the date and name of persons / companies involved in the survey(s).

If no, please do not arrange to have any biological surveys conducted prior to consulting with the DEC.

Vertebrate fauna, invertebrate fauna and subterranean fauna surveys have been conducted over the Project area.

Vertebrate fauna survey

Ecologia (2009a) undertook a database search and Level 1 survey and of M47/206.

Terrestrial Ecosystems (2011a) undertook a fauna assessment for the Abydos Plain section of the Roy Hill Infrastructure Railway (Chainage 92-180). The results of this survey have been used to infer the fauna assemblage that may be present within the area of the railway access road options.

A further detailed Level 2 vertebrate fauna survey was undertaken by Terrestrial Ecosystems (2013) within the development envelope and surrounding areas. The survey included:

- fauna habitat mapping
- targeted survey for Northern Quolls, Mulgara, Bilbies, Pilbara Leaf-nosed Bats, Ghost Bats and Pilbara Olive Pythons
- generic vertebrate fauna trapping program
- assessing the possible presence of Northern Quoll, Mulgara and Bilbies within the Project area.

Section 12 of the supporting document describes the results of surveys and investigations relating to fauna within the Project area. Terrestrial fauna survey reports are also appended to the supporting document (Appendix 5).

Short-range endemic invertebrate fauna survey

Biologic (2012) undertook a literature and database review and impact assessment of short-range endemic (SRE) invertebrate fauna of the Project area and surrounds. The impact assessment drew on the findings of previous surveys by Ecologia (2009b) and Phoenix (2010) together with seven other surveys previously undertaken within a defined regional impact area.

The cumulative impact assessment undertaken by Biologic (2012) resulted in the following conclusions:

1. There are no known, likely or potential SRE fauna recorded from, or within the vicinity of, the Project area.
2. The Project is not expected to directly impact on habitat that may be suitable for SRE invertebrate fauna.
3. A system of ridges and gullies located to the north of the Project area may provide suitable habitat. This habitat will not be directly impacted; however, the location of the camp and access road may result in a potential dispersal barrier.

Section 12 of the supporting document describes the results of surveys and investigations relating to SRE fauna within the Project area. The SRE report is appended to the supporting document (Appendix 6).

Subterranean fauna survey

Ecologia undertook a troglofauna survey assessment within its area of exploration activities at Murray's Hill in 2009. The pilot survey led to a further survey by Ecologia (2011) in areas unaffected by proposed exploration activities.

Phoenix (2013) was engaged to undertake further subterranean fauna surveys of the Project area. The surveys were conducted between October 2011 and January 2012 and comprised a two phase stygofauna survey and a single phase troglofauna survey in accordance with EPA Guidance Statement 54a (refer to Appendix 7 of supporting document).

Given that dewatering is not proposed, the Project is not expected to result in the direct loss of stygofauna habitat.

A local troglofauna community exists at Murray's Hill that occurs across a mix of geologies and is low in abundance. The majority of species were found from both impact and reference survey sites. The distribution of species provides strong evidence of biological connection between the different geologies. Six species were recorded only from within the disturbance area.

As a result of the above findings, further opinion was sought from Bennelongia Environmental Consultants (Bennelongia 2013) on:

- the level of survey effort in relation to EPA guidelines and whether sufficient information is available to undertake risk-based assessment
- the extent of prospective habitat outside the disturbance area and the likelihood that this habitat could support similar troglofauna communities
- the likelihood that the six 'restricted' species could be found outside the impact area.

Based on the advice from Bennelongia (2013) it is likely that the 'restricted' troglofauna species have a range that extends beyond M47/206.

Section 13 of the supporting document describes the results of surveys and investigations relating to fauna within the Project area. The Phoenix (2013) report and further advice from Bennelongia (2013) are appended to the supporting document (Appendices 7 and 8).

2.2.4 Has a search of DEC records for known occurrences of Specially Protected (threatened) fauna been conducted for the site?

Yes No (please tick)

2.2.5 Are there any known occurrences of Specially Protected (threatened) fauna on the site?

Yes No **If yes**, please indicate which species or communities are involved and provide copies of any correspondence with DEC regarding these matters.

No fauna species scheduled under the WC Act or species listed under the EPBC Act were recorded during surveys. However, a Northern Quoll was detected by motion sensitive camera in the northern section of the fauna survey area, outside the development envelope (Terrestrial Ecosystems 2013).

Seven fauna species listed under the EPBC Act or scheduled under the WC Act could be found in the area of the Project. Of these, three species could be found in the area of Murray's Hill mine and Fenceline Road. All seven species could be found in the area of the railway access road options. The Peregrine Falcon and Fork-tailed Swift may visit both areas infrequently (Terrestrial Ecosystems 2013).

Section 12 of the supporting document describes the results of surveys and investigations relating to fauna within the Project area. Terrestrial fauna survey reports are also appended to the supporting document (Appendix 5).

The Project has also been assessed against the DSEWPaC 'Test of Significance' criteria and the Northern Quoll Impact Assessment Guidelines. DSEWPaC has concurred with the HPPL assessment that the Project is unlikely to significantly affect identified Matters of National Environmental Significance (MNES).

2.3 Rivers, Creeks, Wetlands and Estuaries

2.3.1 Will the development occur within 200 metres of a river, creek, wetland or estuary?

(please tick) Yes **If yes**, complete the rest of this section.
 No **If no**, go to the next section.

2.3.2 Will the development result in the clearing of vegetation within the 200 metre zone?

Yes No **If yes**, please describe the extent of the expected impact.

The alignment of the Coonarie railway access road option crosses Two Camel creek. In the event that this option is chosen, the crossing will be designed to:

- maintain natural drainage and flows
- have a minimal construction and operational footprint.

2.3.3 Will the development result in the filling or excavation of a river, creek, wetland or estuary?

Yes No **If yes**, please describe the extent of the expected impact.

2.3.4 Will the development result in the impoundment of a river, creek, wetland or estuary?

Yes No **If yes**, please describe the extent of the expected impact.

2.3.5 Will the development result in draining to a river, creek, wetland or estuary?

Yes No **If yes**, please describe the extent of the expected impact.

2.3.6 Are you aware if the proposal will impact on a river, creek, wetland or estuary (or its buffer) within one of the following categories? (please tick)

Conservation Category Wetland	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure
Environmental Protection (South West Agricultural Zone Wetlands) Policy 1998	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure
Perth's Bush Forever site	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure
Environmental Protection (Swan & Canning Rivers) Policy 1998	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure
The management area as defined in s4(1) of the <i>Swan River Trust Act 1988</i>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure

Which is subject to an international agreement, because of the importance of the wetland for waterbirds and waterbird habitats (e.g. Ramsar, JAMBA, CAMBA) Yes No Unsure

2.4 Significant Areas and/ or Land Features

2.4.1 Is the proposed development located within or adjacent to an existing or proposed National Park or Nature Reserve?

Yes No **If yes**, please provide details.

2.4.2 Are you aware of any Environmentally Sensitive Areas (as declared by the Minister under section 51B of the EP Act) that will be impacted by the proposed development?

Yes No **If yes**, please provide details.

2.4.3 Are you aware of any significant natural land features (e.g. caves, ranges etc) that will be impacted by the proposed development?

Yes No **If yes**, please provide details.

2.5 Coastal Zone Areas (Coastal Dunes and Beaches)

2.5.1 Will the development occur within 300metres of a coastal area?

(please tick) Yes **If yes**, complete the rest of this section.

No **If no**, go to the next section.

2.5.2 What is the expected setback of the development from the high tide level and from the primary dune?

Not applicable.

2.5.3 Will the development impact on coastal areas with significant landforms including beach ridge plain, cusped headland, coastal dunes or karst?

Yes No **If yes**, please describe the extent of the expected impact.

2.5.4 Is the development likely to impact on mangroves?

Yes No **If yes**, please describe the extent of the expected impact.

2.6 Marine Areas and Biota

2.6.1 Is the development likely to impact on an area of sensitive benthic communities, such as seagrasses, coral reefs or mangroves?

- Yes No **If yes**, please describe the extent of the expected impact.

2.6.2 Is the development likely to impact on marine conservation reserves or areas recommended for reservation (as described in *A Representative Marine Reserve System for Western Australia*, CALM, 1994)?

- Yes No **If yes**, please describe the extent of the expected impact.

2.6.3 Is the development likely to impact on marine areas used extensively for recreation or for commercial fishing activities?

- Yes No **If yes**, please describe the extent of the expected impact, and provide any written advice from relevant agencies (e.g. Fisheries WA).

2.7 Water Supply and Drainage Catchments

2.7.1 Are you in a proclaimed or proposed groundwater or surface water protection area?

(You may need to contact the Department of Water (DoW) for more information on the requirements for your location, including the requirement for licences for water abstraction. Also, refer to the DoW website)

- Yes No **If yes**, please describe what category of area.

[The Project is located within the Pilbara Groundwater Area, proclaimed under the RIWI Act, and requires licensing of bore installations and groundwater abstraction.](#)

2.7.2 Are you in an existing or proposed Underground Water Supply and Pollution Control area?

(You may need to contact the DoW for more information on the requirements for your location, including the requirement for licences for water abstraction. Also, refer to the DoW website)

- Yes No **If yes**, please describe what category of area.

2.7.3 Are you in a Public Drinking Water Supply Area (PDWSA)?

(You may need to contact the DoW for more information or refer to the DoW website. A proposal to clear vegetation within a PDWSA requires approval from DoW.)

- Yes No **If yes**, please describe what category of area.

2.7.4 Is there sufficient water available for the proposal?

(Please consult with the DoW as to whether approvals are required to source water as you propose. Where necessary, please provide a letter of intent from the DoW)

Yes No (please tick)

All necessary approvals under the RIWI Act will be sought from the DoW. A groundwater operating strategy for the Project will be submitted as part of a DoW abstraction licence (5C licence) application. Water usage requirements and abstraction volumes are addressed within the supporting document.

2.7.5 Will the proposal require drainage of the land?

Yes No **If yes**, how is the site to be drained and will the drainage be connected to an existing Local Authority or Water Corporation drainage system? Please provide details.

2.7.6 Is there a water requirement for the construction and/ or operation of this proposal?

(please tick) Yes **If yes**, complete the rest of this section.
 No **If no**, go to the next section.

2.7.7 What is the water requirement for the construction and operation of this proposal, in kilolitres per year?

Murray's Hill Mine and Fenceline Rd

Water demand for construction activities at the mine is estimated to be approximately 252 000 kL/a. Construction of the haulage road and camp facilities would require approximately 400 000 kL/a over the duration. The highest projected water demand is associated with operations at the mine (594 000 kL/a) (MWH 2012).

Groundwater abstraction is proposed from up to two bores at the southern edge of the mining area and from up to three bores along Fenceline Road (MWH 2012).

A conservative preliminary estimate of groundwater availability indicates an estimated groundwater throughflow in the order of 900 000 kL/a. This exceeds the total annual demand of 652 000 kL/a for mine, haulage road and camp construction activities and 594 000 kL/a during operations (MWH 2012).

Railway access road

Projected water demand for the proposed Mulga Downs railway siding and stockyards is 188 000 kL/a during construction and 60 000 kL/a for long-term operations. Groundwater abstraction is proposed from up to three supply bores within a 6 km stretch of the proposed Roy Hill Infrastructure Railway. Water requirements for construction of the chosen railway access road forms a minor component (11%) of the total projected water requirements for construction activities associated with the Project at this location. Drawdown of groundwater associated with the construction of the access road will be insignificant.

2.7.8 What is the proposed source of water for the proposal? (e.g. dam, bore, surface water etc.)

Water supply for the construction phase and operation of the mine and for dust suppression will be abstracted from groundwater via production borefields (refer to Figures 19 and 20 of the supporting document) (MWH 2012).

HPPL will apply to the DoW for a Licence to Construct Boreholes (26D licence) and a Licence to Take Groundwater (5C licence) under the RIWI Act.

2.8 Pollution

2.8.1 Is there likely to be any discharge of pollutants from this development, such as noise, vibration, gaseous emissions, dust, liquid effluent, solid waste or other pollutants?

(please tick) Yes **If yes**, complete the rest of this section.
 No **If no**, go to the next section.

2.8.2 Is the proposal a prescribed premise, under the Environmental Protection Regulations 1987?

(Refer to the EPA's *General Guide for Referral of Proposals to the EPA under section 38(1) of the EP Act 1986* for more information)

Yes No **If yes**, please describe what category of prescribed premise.

Category	Description
12	Crushing and screening
85	Sewage facility (more than 20 but less than 100 m ³ /day)
89	Putrescible landfill site (More than 20 but less than 5000 tonnes per year)

2.8.3 Will the proposal result in gaseous emissions to air?

Yes No **If yes**, please briefly describe.

Greenhouse gas emissions will be generated as a result of construction and operation of the Project. The majority of greenhouse gas emissions would be associated with power generation for the Project, including operation of the crushing and screening, vehicles and associated mining machinery and hauling.

Dust may also be generated during construction and operation in areas that will be cleared of vegetation. Dust may also be associated with vehicle movements, stockpiles and crushing and screening operations.

2.8.4 Have you done any modelling or analysis to demonstrate that air quality standards will be met, including consideration of cumulative impacts from other emission sources?

Yes No **If yes**, please briefly describe.

The Project is located approximately 185 km and 230 km from the nearest regional centres of Newman and Port Hedland respectively and is approximately 40 km to the west of the Great Northern Highway. The nearest residence is the Mulga Downs Homestead is located approximately 3.5 km west of the Murray's Hill mining lease. The proposed accommodation camp is located approximately 7.5 km to the east. Given the remote location of the mine, air quality impacts are not expected.

2.8.5 Will the proposal result in liquid effluent discharge?

Yes No **If yes**, please briefly describe the nature, concentrations and receiving environment.

2.8.6 If there is likely to be discharges to a watercourse or marine environment, has any analysis been done to demonstrate that the State Water Quality Management Strategy or other appropriate standards will be able to be met?

Yes No **If yes**, please describe.

Not applicable.

2.8.7 Will the proposal produce or result in solid wastes?

Yes No **If yes**, please briefly describe the nature, concentrations and disposal location/ method.

The Project will result in the production of solid waste including:

- construction wastes
- overburden
- putrescible waste associated with the accommodation village and administrative buildings.

Where practicable, HPPL will employ the principles of reduce, reuse and recycle for the management of waste generated as a result of the Project.

Management measures to be implemented to manage solid waste will include: recycling, landfill siting and landfill management and rehabilitation. Landfill facilities will be registered or licensed as required under the EP Act.

2.8.8 Will the proposal result in significant off-site noise emissions?

Yes No **If yes**, please briefly describe.

2.8.9 Will the development be subject to the Environmental Protection (Noise) Regulations 1997?

Yes No **If yes**, has any analysis been carried out to demonstrate that the proposal will comply with the Regulations?

Please attach the analysis.

2.8.10 Does the proposal have the potential to generate off-site, air quality impacts, dust, odour or another pollutant that may affect the amenity of residents and other "sensitive premises" such as schools and hospitals (proposals in this category may include intensive agriculture, aquaculture, marinas, mines and quarries etc.)?

Yes No **If yes**, please describe and provide the distance to residences and other "sensitive premises".

2.8.11 If the proposal has a residential component or involves “sensitive premises”, is it located near a land use that may discharge a pollutant?

Yes No Not Applicable

If yes, please describe and provide the distance to the potential pollution source

Personnel will reside in an accommodation village during the construction and operation of the Project. The accommodation village will be located at an appropriate distance from the mine operations to minimise any potential noise impacts.

2.9 Greenhouse Gas Emissions

2.9.1 Is this proposal likely to result in substantial greenhouse gas emissions (greater than 100 000 tonnes per annum of carbon dioxide equivalent emissions)?

Yes

No

If yes, please provide an estimate of the annual gross emissions in absolute and in carbon dioxide equivalent figures.

Greenhouse gas emissions will occur as a result of operating vehicles and machinery, processing ore and power generation. The greenhouse gas emissions for the Project are estimated to be approximately 136,672 T CO₂ equivalent per annum based on estimated diesel fuel usage of 50 million litres per annum (MLpa). This estimate has been derived using the National Greenhouse Emissions Reporting Scheme (NGERS) emissions calculator.

2.9.2 Further, if yes, please describe proposed measures to minimise emissions, and any sink enhancement actions proposed to offset emissions.

HPPL will minimise greenhouse gas emissions as far as practicable and will comply with relevant inventory and reporting regulations.

Energy usage and fuel consumption will be monitored to identify and implement measures to improve efficiency during construction and operations.

2.10 Contamination

2.10.1 Has the property on which the proposal is to be located been used in the past for activities which may have caused soil or groundwater contamination?

Yes

No

Unsure

If yes, please describe.

2.10.2 Has any assessment been done for soil or groundwater contamination on the site?

Yes

No

If yes, please describe.

2.10.3 Has the site been registered as a contaminated site under the *Contaminated Sites Act 2003*? (on finalisation of the CS Regulations and proclamation of the CS Act)

Yes

No

If yes, please describe.

2.11 Social Surroundings

2.11.1 Is the proposal on a property which contains or is near a site of Aboriginal ethnographic or archaeological significance that may be disturbed?

Yes

No

Unsure

If yes, please describe.

The Mulga Downs Project is located within the Combined Banjima WAD6096/1998 native title claim and the Kariyarra People's WAD6169/1998 claim.

Aboriginal heritage surveys have been undertaken over the Murray's Hill mine and Fenceline Road area. A number of isolated artefacts have been discovered. During the early stages of development and mine infrastructure construction up to 51 sites will be affected. Discussions with the Native Title claimants (the Banjima People) have been undertaken with positive outcomes. This consultation process will continue throughout the development of the Project.

Ethnographic and archaeological survey were conducted over the two railway access road option alignments in April 2013. No ethnographic sites were identified during the survey. Several small archaeological sites were found within the Coonarrie railway access road survey corridor.

The Project will comply with the provisions of the AH Act. The Project will also be carried out in accordance with EPA Guidance Statement No. 41 through implementation of the proposed management measures, relevant project agreements and the Aboriginal Heritage Management Plan. Where disturbance to a site of heritage significance cannot be avoided, applications would be made under s 18 of the AH Act.

2.11.2 Is the proposal on a property which contains or is near a site of high public interest (e.g. a major recreation area or natural scenic feature)?

Yes No **If yes**, please describe.

2.11.3 Will the proposal result in or require substantial transport of goods, which may affect the amenity of the local area?

Yes No **If yes**, please describe.

3. PROPOSED MANAGEMENT

3.1 Principles of Environmental Protection

3.1.1 Have you considered how your project gives attention to the following Principles, as set out in section 4A of the EP Act? (For information on the Principles of Environmental Protection, please see EPA Position Statement No. 7, available on the EPA website)

- | | | |
|--|---|-----------------------------|
| 1. The precautionary principle. | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. The principle of intergenerational equity. | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. The principle of the conservation of biological diversity and ecological integrity. | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Principles relating to improved valuation, pricing and incentive mechanisms. | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 5. The principle of waste minimisation. | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |

HPPL has considered these principles in its design and will continue to do so during subsequent implementation of the Project. The principles are addressed in Section 8.3 of the supporting document.

3.1.2 Is the proposal consistent with the EPA's Environmental Protection Bulletins/Position Statements and Environmental Assessment Guidelines/Guidance Statements (available on the EPA website)?

Yes No

The following relevant EPA procedures, position statements and guidance statements have been considered:

- Environmental Impact Assessment (Part IV Divisions 1 and 2) Administrative Procedures 2012
- EPA Position Statement No. 2 – Environmental Protection of Native Vegetation in Western Australia
- EPA Position Statement No. 3 – Terrestrial Biological Surveys as an Element of Biodiversity Protection
- EPA Position Statement No. 5 – Environmental Protection and Ecological Sustainability of the Rangelands in Western Australia
- EPA Position Statement No. 7 – Principles of Environmental Protection
- EPA Position Statement No. 8 – Environmental Protection in Natural Resource Management.
- EPA Draft Guidance Statement No. 8 – Environmental Noise
- EPA Guidance Statement No. 12 – Minimising Greenhouse Gas Emissions
- EPA Guidance Statement No. 19 – Environmental Offsets
- EPA Guidance Statement No. 20 - Sampling of Short Range Endemic Invertebrate Fauna for Environmental Impact Assessment in Western Australia
- EPA Guidance Statement No. 41 - Assessment of Aboriginal Heritage
- EPA Guidance Statement No. 51 - Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia
- EPA Guidance Statement No. 54 - Consideration of Subterranean Fauna in Groundwater and Caves during Environmental Impact Assessment in Western Australia
- EPA Draft Guidance Statement No. 54a - Sampling Methods and Survey Considerations for Subterranean Fauna in Western Australia (Technical Appendix to Guidance Statement 54)

- EPA Guidance Statement No. 55 – Implementing best practice in proposals submitted to the environment impact assessment process
- EPA Guidance Statement No. 56 - Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia
- EPA and DEC Technical Guide – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment.

3.2 Consultation

3.2.1 Has public consultation taken place (such as with other government agencies, community groups or neighbours), or is it intended that consultation shall take place?

Yes

No

If yes, please list those consulted and attach comments or summarise response on a separate sheet.

HPPL has actively maintained a stakeholder consultation program throughout the development of the Project, from concept to detailed design. Section 4 of the supporting document provides details of the stakeholders identified and liaison that has occurred.

The Project is located within two Native Title claim areas: Banjima WAD6096/1998 claim and Kariyarra People's WAD6169/1998 claim. HPPL has completed numerous consultation actions with the Banjima and the Kariyarra.

HPPL will maintain the stakeholder consultation program throughout the life of the Project as part of normal business practice, providing updates to relevant stakeholders as required.

4 References

- Bennelongia 2013, Mulga Downs Project Troglifauna Assessment, correspondence from Stuart Halse to Leanne Taylor dated 6 March 2013 (ref: BEC12-42-E02).
- Biologic 2012, *Short-range Endemic Invertebrate Impact Assessment – Mulga Downs Project*, report prepared for Hancock Prospecting Pty Ltd, December 2012.
- Ecologia 2008, *Hancock Prospecting Pty Ltd, Murray's Hill (M47/206): Level 1 Vegetation and Flora Survey, Version 2*, report prepared for Hancock Prospecting Pty Ltd, 18 December 2008.
- Ecologia 2009a, *Hancock Prospecting Pty Ltd, Murray's Hill Level 1 Fauna Survey*, November 2009, report prepared for Hancock Prospecting Pty Ltd, 26 November 2009.
- Ecologia 2009b, *HPPL Murray Hills Short Range Endemic Pilot Survey*, report prepared for Hancock Prospecting Pty Ltd, 6 November 2009.
- Maia 2011, RHI Rail Corridor Abydos-Woodstock Section: Detailed Flora and Vegetation Assessment, report prepared for Hancock Prospecting Pty Ltd, 14 July 2011.
- Maia 2012, *HPPL Mulga Downs Project: Detailed (Level 2) Flora and Vegetation Assessment June, July and August 2012*, report prepared for Hancock Prospecting Pty Ltd, 12 November 2012.
- MWH 2012, *Murray's Hill Surface Water Investigations Contributions and EPA Referral Document*, report prepared for Hancock Prospecting Pty Ltd, MWH, January 2013.
- Phoenix 2010, *Short-range Endemic Invertebrate Fauna Survey at Murray's Hill Transport Corridor, Final Report*, report prepared for Hancock Prospecting Pty Ltd, 2 March 2010.
- Phoenix 2013, *Subterranean fauna survey of the Mulga Downs Project, prepared for Hancock Prospecting Pty Ltd, Final Report*, report prepared for Hancock Prospecting Pty Ltd, January 2013.
- Terrestrial Ecosystems 2011a, Level 2 Fauna Assessment for the Abydos Plain Section of the Roy Hill Infrastructure Rail Corridor between Port Hedland and the Roy Hill Mine (Chainage 92 to 180), report prepared for Roy Hill Infrastructure Pty Ltd, June 2011.
- Terrestrial Ecosystems 2013, *Level 2 Fauna Assessment for the Mulga Downs Project Area*, unpublished report prepared for Hancock Prospecting Pty Ltd, 3 February 2013.