GOVERNMENT OF WESTERN AUSTRALIA

Environmental Protection Authority

EPA REFERRAL FORM PROPONENT

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

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) 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, have you

	Yes	No
Completed all the questions in Part A (essential)	✕	
Completed all applicable questions in Part B	✕	
Included Attachment 1 – location maps	✕	
Included Attachment 2 – additional document the proponent wishes to provide (if applicable)	✕ (EIA)	
Included Attachment 3 – confidential information (if applicable)		✕
Enclosed the CD of all referral information, including spatial data and contextual mapping but excluding confidential information.	✕	

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?

☒ YES ☐ NO ☐ NOT SURE

IF YES, WHAT LEVEL OF ASSESSMENT?

☒ ASSESSMENT ON PROPONENT INFORMATION

☐ PUBLIC ENVIRONMENTAL REVIEW

PROPONENT DECLARATION (To be completed by the proponent)

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

Signature	Name (print)
Position	Company
Date	

PART A - PROPONENT AND PROPOSAL INFORMATION

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

1.1 PROPONENT

Name	FerrAus Limited
Joint Venture parties (if applicable)	Not Applicable
Postal Address	Level 10, 233 Adelaide Terrace PERTH WA 6000
Key proponent contact for the proposal • Name • Address • Phone • Email	Diane Dowdell Environmental Manager FerrAus Ltd Level 10, 233 Adelaide Terrace PERTH WA 6000 Phone: (08) 9265 8300 Email: Diane.Dowdell@ferraus.com
Consultant for the proposal (if applicable) • Name • Address • Phone • Email	Harry Ventriss Senior Principal Strategen Environmental Consultants Level 2, 322 Hay Street Subiaco WA 6008 Phone: (08) 9380 3100 Email: Harry.Ventriss@strategen.com.au

1.2 PROPOSAL

Title	FerrAus Pilbara Project Mining, Processing and Rail Infrastructure (Proposal).
Description	The Proposal involves open pit mining of several iron ore deposits (Figure 1) at an annual rate of approximately 15 mtpa. This includes the mining of the following deposits within the Davidson Creek Area (DCA) and the Robertson Range Area (RRA): • DCA: Python, Gwardar, Tiger, Dugite and Mirrin Mirrin deposits to below the watertable • RRA: King Brown deposit, including the South West mineralised zone, to below the watertable. In addition, ore will be transported to Port Hedland for export (Figure 1 and Figure 2). To facilitate mining of these deposits and the production of 15 mtpa of suitable iron ore product, the FPP would also involve: • dewatering of open pits at rates up to 26.3 ML/d for DCA and 9.5 ML/d for RRA • crushing, screening and beneficiation of iron ore • storage of residue material from beneficiation in a Residue Storage Facility (RSF) to be located at DCA • waste rock dumps; three at DCA and one at RRA

	• progressive rehabilitation where possible with final pit voids and permanent waste dumps • establishment of a rail spur and loop enabling delivery of diesel fuel to site and transport of ore to Port Hedland via either the Brockman Resources Marillana rail line or the HPPL Roy Hill Project rail line (the rail spur and loop is subject to a proposed State Agreement between FerrAus and the State of Western Australia) • supporting infrastructure including a power station, administration buildings, mining infrastructure and workshops. The mining of 2 mtpa from the RRA is currently approved under a Mining Proposal. The Proposal under assessment relates to an additional 13 mtpa proposed to be taken from the DCA and RRA to enable the full project mining rate of 15 mtpa to be achieved. The layouts for the mining and processing components at DCA and RRA are presented in Figure 3 and Figure 4 respectively. There are two rail options to transport the ore to Port Hedland (Figure 5): 1. **Rail Option 1: FerrAus East Pilbara Railway**: line from the FPP mine site to the Brockman Resources Marillana project (approximately 170 km track length) and use of the Marillana project rail line from Marillana to Port Hedland within a 1 km wide corridor (4 km wide at watercourse crossings). 2. **Rail Option 2: Northern Rail Alignment**: an alternative rail line route from the FPP mine site to the Roy Hill project (approximately 150 km track length) and use of the Roy Hill project rail line from Roy Hill to Port Hedland. The first 76 km of Option 2 from the rail load out at the mine site would be common with the alignment proposed under Option 1. The remainder would be within a 3 km wide corridor.
Extent (area) of proposed ground disturbance	*Rail disturbance* Rail Option 1: Up to 1640 ha (of which no more than 660 ha permanent disturbance which includes off formation rail activities). Rail Option 2: Up to 1460 ha (of which no more than 580 ha would be permanently disturbed). *Mine* Mine and processing disturbance: approximately 6800 ha.

<table>
<tr><td>Timeframe in which the activity or development is proposed to occur. (Include start and finish dates where applicable)</td><td>Subject to obtaining State and Commonwealth approvals, the Proposal is scheduled to commence operations in April 2012 (Table 1).

The Proposal mine life is expected to be 15 years.

Table 1: Indicative implementation schedules for the Proposal
<table>
<tr><th>FPP Milestones</th><th>Indicative Timing</th></tr>
<tr><td>Addendum to Robertson Range Mining Proposal</td><td>December 2011</td></tr>
<tr><td>Commonwealth EPBC Act Approval</td><td>December 2011</td></tr>
<tr><td>Minister for Environment approval of Part IV EP Act referral</td><td>December 2011</td></tr>
<tr><td colspan="2">Mining and Processing</td></tr>
<tr><td>Construction commences</td><td>Q2 2012</td></tr>
<tr><td>Mining preparation and pre-stripping</td><td>Q4 2012</td></tr>
<tr><td>Commissioning and start-up</td><td>Q2 2014</td></tr>
<tr><td>Ongoing operations</td><td>Q3 2014 for approximately 15 years</td></tr>
<tr><td colspan="2">Rail Infrastructure</td></tr>
<tr><td>Construction commences</td><td>Q1 of 2012</td></tr>
<tr><td>Commissioning of rail</td><td>Q2 of 2014</td></tr>
<tr><td>Ongoing operations</td><td>Approximately 15 years</td></tr>
</table></td></tr>
<tr><td>Details of any staging of the proposal</td><td>At RRA, the proposed mine is to be developed in four stages (4 pits) (Figure 6).

At DCA, 12 pits will be mined, 3 waste dumps and a mineralised waste dump developed, and a residue storage facility constructed (Figure 7).</td></tr>
<tr><td>Is the proposal a strategic proposal?</td><td>No</td></tr>
<tr><td>Is the proponent requesting a declaration that the proposal is a derived proposal?
If so, provide the following information on the strategic assessment within which the referred proposal was identified -
• Title of the strategic assessment
• Ministerial Statement number</td><td>No</td></tr>
<tr><td>Indicate whether, and in what way, the proposal is related to other proposals in the region.</td><td>Yes.

The proposal is an extension of the existing RRA mining operation. This operation was approved under the Mining Act 1978 in 2009 to mine the first iron ore deposit at RRA (the King Brown deposit) above the watertable to 2 mtpa.</td></tr>
<tr><td>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?</td><td>No

Project tenements (E52/1658, M52/1043, E52/1630 and M52/1034) are held by Australian Manganese Pty Ltd., a wholly owned subsidiary of FerrAus Limited.

The Proposal lies within the Nyiyaparli Native Title Claim and Use and Benefit of Aboriginals Reserve 41265 (Jigalong Aboriginal Reserve). The Jigalong Aboriginal Reserve is managed for and on</td></tr>
</table>

	behalf of the Jigalong Community by the Jigalong Community Incorporated (JCI). Australian Manganese Pty Ltd, the Nyiyaparli Native Title claimants and the Jigalong Community are bound by an Exploration Agreement executed 1 August 2005. FerrAus Limited has the authority to mine 2 mtpa under the existing Mining Proposal. FerrAus Limited will obtain all relevant consents for the mining operations and rail alignment prior to commencing works. The Proposal is also partly located within the boundary of the Sylvania Pastoral Station.
What is the current land use on the property, and the extent (area in hectares) of the property?	The Jigalong Aboriginal Community is in the northeast corner of Reserve 41265, approximately 30 km from DCA (Figure 2). The closest pastoral station is Sylvania Pastoral Station, northeast of the Robertson Range Homestead, both of which are northeast of the RRA. Robertson Range Homestead is not occupied.

1.3 LOCATION

Name of the Shire in which the proposal is located	The Proposal lies within two Shire boundaries, the Shire of Meekatharra and the Shire of East Pilbara (Figure 2).
For urban areas – • street address • lot number • suburb • nearest road intersection	Not Applicable
For remote localities – • nearest town • distance and direction from that town to the proposal site	The two mine sites (DCA and RRA) are 20 km apart and are located on the Jigalong Aboriginal Reserve (Figure 2). The Proposal is located: • 400 km southeast of Port Hedland • 80 km southeast of the town of Newman • 30 km west of the Jigalong Aboriginal Community • 35 km east of the BHP Billiton Iron Ore (BHPBIO) mining operations and rail infrastructure at Jimblebar.
Electronic spatial data - GIS or CAD on CD, geo-referenced and conforming to the following parameters: • 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: Yes

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.	No

1.5 GOVERNMENT APPROVALS

Is rezoning of any land required before the proposal can be implemented? If Yes, provide details.		No	
Is approval required from any Commonwealth or State Government agency or Local Authority for any part of the proposal? If yes, complete the table below -		Yes	
Agency/Authority	Approval Required	Application lodged Yes / No	Agency/Local Authority contact/s for proposal
Department of Sustainability, Environment, Water, Population and Communities (SEWPaC)	Approval under Environment Conservation and Biodiversity Conservation Act 1999	Yes: EPBC Reference 2011/6036	Rochelle Tomkins
Department of Water (DoW)	Licence to construct well for abstraction of groundwater (26D)	No	Not applicable (N/A)
	Licence for abstraction of groundwater or taking of surface water and associated infrastructure (5C)	No	N/A
	Licence for Bed and Banks Permit to disturb watercourses	No	N/A
Department of Environment and Conservation (DEC)	Works Approval for construction of prescribed premises.	No	N/A
	Licences and Registrations for prescribed premises.	No	N/A
Department of Mines and Petroleum (DMP)	Mining Proposal	No	N/A
	Dangerous Goods Licence.	No	N/A
Department of Health (DoH)	Application for construction and installation of a sewage treatment system	No	N/A
	Approvals for potable water systems	No	N/A
Shire of East Pilbara/Shire of Meekatharra	Application for construction and installation of a sewage treatment system	No	N/A
	Planning applications	No	N/A
	Building licences	No	N/A

PART B - ENVIRONMENTAL IMPACTS AND PROPOSED MANAGEMENT

2. ENVIRONMENTAL IMPACTS

Describe the impacts of the proposal on the following elements of the environment, through the questions below:

(i) flora and vegetation #;

(ii) fauna #;

(iii) rivers, creeks, wetlands and estuaries;

(iv) significant areas and/ or land features;

(v) coastal zone areas;

(vi) marine areas and biota #;

(vii) water supply and drainage catchments;

(viii) pollution;

(ix) greenhouse gas emissions;

(x) contamination; and

(xi) 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

* 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***

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

Approximately 6800 ha

* 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?

- 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.)

Refer to Section 8 of the attached EIA

* 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.

Refer to Section 8 of the attached EIA

* 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 occur within the Proposal area; however, a small area of the Priority 1 Fortescue Marsh priority ecological community (PEC) may be disturbed for construction of Rail Option 2.

No DRF will be affected by the Proposal. Seven Priority Flora species were recorded within the Proposal area, however impacts to Priority flora area not expected to be significant (Table 2).

Table 2: Conservation significant flora recorded in the Project area

Species	Conservation status	Location
Brachyscome sp. *Wanna Munna Flats*	P1	Rail option 1
Gompholobium karijini	P2	Rail option 1
Goodenia nuda	P4	DCA Rail option 1 Rail option 2
Eremophila youngii subsp. *lepidota*	P4	Rail option 2
Olearia mucronata	P3	Rail option 1
Vigna sp. *rockpiles* (R. Butcher et al. RB 1400)	P3	Rail option 2
Vittadinia pustulata	P2	Rail option 1, RRA

* 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

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

Vegetation communities comprised 42 communities, ranging in condition from Good to Pristine within the mining area, with the majority of vegetation considered to be in Pristine condition (78.3%). The majority of the vegetation along Rail Option 1 was considered as Pristine or Excellent condition (62% and 31.4% respectively). The condition of the vegetation along Rail Option 2 ranged from Excellent to Poor.

2.2 Fauna

* 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***

- Describe the nature and extent of the expected impact.

The Proposal is expected to result in the following outcomes in relation to fauna:

- clearing and direct disturbance of approximately 6800 ha of terrestrial fauna habitat
- conservation-significant fauna (namely the Crest-tailed Mulgara and the Greater Bilby) habitat is likely to be impacted as a result of the Proposal
- the conservation status of any terrestrial taxa considered to be a potential SRE species would not be significantly affected (Phoenix 2011d) as the species are not locally restricted
- unavoidable loss of some individual animals as a result of the nature of the Proposal (i.e. vehicle strikes).

With regard to subterranean fauna:

- a Subterranean Fauna Survey Strategy will be implemented to better understand the impacts to subterranean fauna communities in the DCA
- it is unlikely the Proposal will result in significant additional impacts to stygofauna communities in the RRA
- no additional impacts to troglofauna will result from extension of mining to below the watertable at RRA.

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.)

Refer to Section 9 and Section 10 of the attached EIA

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

  ☒ Yes ☐ No (please tick)

* 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.

Vertebrate fauna

There are 16 conservation-significant species were recorded or are considered likely to occur in the Proposal area.

Of the recorded conservation-significant species, the Proposal area contains important habitat for four species (Phoenix 2011a):

- Crest-tailed Mulgara (*Dasycercus cristicauda*) - Spinifex sandplain habitats on deep sandy soils in the vicinity of the proposed haul road between the RRA and DCA, at the King Brown deposit, airstrip and accommodation village (lower slopes), and the Option 1 rail corridor
- Australian Bustard (*Ardeotis australis*) – occurs regularly in the Proposal area and is actively utilising the Spinifex sandplain and low rocky range/rocky slope habitats, and most likely other habitat types also
- Bush Stone-curlew (*Burhinus grallarius*) – recorded at the eastern boundary of its current distribution range in Mulga woodland
- Rainbow Bee-eater (*Merops ornatus*) – suitable nesting habitat occurs along the numerous creek lines of the study area.

Terrestrial short-range endemics

Two potential (but unlikely) terrestrial SRE species have been recorded within the Proposal area from sites within the mining areas and within the services corridor between DCA and RRA.

Subterranean fauna

Robertson Range Area

Eight stygobitic amphipods were recorded within the RRA impact areas during stygofauna sampling (ecologia 2009).

Several troglobites were collected within each of the three phases of the troglofauna survey of the RRA (ecologia 2009):

- Onicidean isopods (Onicidea)
- Silverfish (Thysanura)
- Beetle larvae (Coleoptera)

- Mites (Acarina).

Davidson Creek Area
During surveys of the DCA (Phoenix 2010 and 2011b), 13 stygofauna species were recorded from bore samples, and seven species were recorded from within the DCA impact areas. Eight of these stygofauna species were collected in the regional samples indicating that they are actually stygoxenes (an aquatic species which spends only part of its life cycle in subterranean waters).

During surveys of the DCA (Phoenix 2010 and 2011b), six putative troglofauna species were recorded.

2.3 Rivers, Creeks, Wetlands and Estuaries

* Will the development occur within 200m 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***

Mirrin Mirrin Creek and Davidson Creek are located in the vicinity of the haul road between the DCA and RRA.

Mirrin Mirrin Creek dissects the Python/Gwardar deposit. It is proposed to permanently divert the creek to the west, around the proposed low grade waste dump and proposed pit, and back on to its original alignment downstream of the pit area.

* Will the development result in the clearing of vegetation within the 200 m zone?

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

Approximately 19 ha of vegetation is expected to be cleared in association with the Mirrin Mirrin Creek diversion.

* 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.

Not Applicable

* 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.

Not Applicable

* 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.

Discharge of surplus water into ephemeral watercourses would modify the hydrological regime (quantity and quality) potentially affecting riparian vegetation and habitat within the Proposal area.

* 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	☐ Yes	☒ No	☐ Unsure
Environmental Protection (South West Agricultural Zone Wetlands) Policy 1998	☐ Yes	☒ No	☐ Unsure
Perth's Bush Forever site	☐ Yes	☒ No	☐ Unsure
Environmental Protection (Swan & Canning Rivers) Policy 1998	☐ Yes	☒ No	☐ Unsure
The management area as defined in s4(1) of the Swan River Trust Act 1988/	☐ Yes	☒ No	☐ 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

* 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.

Not Applicable

* 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.

Not Applicable

* 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.

Not Applicable

2.5 Coastal Zone Areas (Coastal Dunes and Beaches)

* Will the development occur within 300m of a coastal area?

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

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

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

Not Applicable

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

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

Not Applicable

* Is the development likely to impact on mangroves?

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

Not Applicable

2.6 Marine Areas and Biota

* 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.

Not Applicable

* 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.

Not Applicable

* 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).

Not Applicable

2.7 Water Supply and Drainage Catchments

* 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.

Pilbara Groundwater Area proclaimed under the *Rights in Water and Irrigation Act 1914* such that all wells and groundwater abstractions other than stock and domestic are subject to licensing.

* 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.

Not Applicable

* 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.

Not Applicable

* 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)

* 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.

Dewatering will be required to facilitate mining below the water table at RRA and DCA. Dewatering rates are forecast to substantially exceed demand and be in the order of rates up to 26.35 ML/d (9.6 GL/yr) for DCA (including Mirrin Mirrin) and 9.5 ML/d (3.5 GL/yr) for RRA.

* 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***

- What is the water requirement for the construction and operation of this proposal, in kl/year?

The proposal water supply demand is up to 3 GL/yr.

* What is the proposed source of water for the proposal? (eg dam, bore, surface water etc.)

All process water, raw water, fire water and potable water requirements for the two mining areas would be met by water sourced from dewatering activities. Water would be pumped from the dewatering system to respective raw water dams located in each main mining area and would then be distributed to the mine site, processing plants, workshops, vehicle washdown facility, administration facility and offices.

2.8 Pollution

* 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***

The Proposal would result in emissions associated with noise, dust, liquid and solid waste.

* Is the proposal a prescribed premise, under the Environmental Protection Regulations?
(Refer to the EPA *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.

Components of the Proposal are prescribed premises (Table 3).

Table 3 Prescribed premises categories applicable to the Proposal

Activity	**Licence requirements**		
	Category number	*Category description*	*Production or design capacity*
Crushing, screening and beneficiation facilities	5	Processing or beneficiation of metallic or non-metallic ore: premises on which — (a) metallic or non-metallic ore is crushed, ground, milled or otherwise processed; (b) tailings from metallic or non-metallic ore are reprocessed; or (c) tailings or residue from metallic or non-metallic ore are discharged into a containment cell or dam.	50 000 tonnes or more per year
Mine dewatering	6	Mine dewatering: premises on which water is extracted and discharged into the environment to allow mining of ore.	50 000 tonnes or more per year
Power station	52	Electric power generation: premises (other than premises within category 53 or an emergency or standby power generating plant) on which electrical power is generated using a fuel.	20 megawatts or more in aggregate using natural gas) 10 megawatts or more in aggregate using a fuel other than natural gas)
Wastewater treatment plant at DCA	54	Sewage facility: premises — (a) on which sewage is treated (excluding septic tanks); or (b) from which treated sewage is discharged onto land or into waters.	100 cubic metres or more per day
Used tyre storage	57	Used tyre storage (general): premises (other than premises within category 56) on which used tyres are stored.	100 tyres or more
Landfill	63	Class I inert landfill site: premises on which waste (as determined by reference to the waste type set out in the document entitled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer and as amended from time to time) is accepted for burial.	500 tonnes or more per year
	64	Class II or III putrescible landfill site: premises on which waste (as determined by reference to the waste type set out in the document entitled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer and as amended from time to time) is accepted for burial.	20 tonnes or more per year
Fuel storage	73	Bulk storage of chemicals, etc: premises on which acids, alkalis or chemicals that — (a) contain at least one carbon to carbon	1 000 cubic metres in aggregate

		bond; and (b) are liquid at STP (standard temperature and pressure), are stored.	
	89	Putrescible landfill site: premises on which waste (as determined by reference to the waste type set out in the document entitled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer, as amended from time to time) is accepted for burial.	More than 20 but less than 5 000 tonnes per year

* Will the proposal result in gaseous emissions to air?

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

Not Applicable

* 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.

Not Appilcable

* Will the proposal result in liquid effluent discharge?

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

Liquid effluent waste is likely to be generated during construction and operation of the Proposal from on-site sewage.

If not managed effectively, waste generated from the operation has the potential to result in contamination of the receiving environment (surface soil, natural drainage features, surface water and ground water) and degraded amenity and hygiene.

* 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.

Surplus mine water will be episodically discharged to several watercourses. See Section 7 of the attached EIA.

* Will the proposal produce or result in solid wastes?

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

Solid wastes likely to be generated during construction and operation of the Proposal include:

- general mine-site waste (including maintenance parts, scrap metal, drums)
- packaging wastes
- controlled wastes, including batteries and used tyres
- general office waste/rubbish
- other solid wastes.

The storage and disposal of wastes generated by the Proposal would be controlled in accordance with conditions set out in the environmental licence, and through implementation of the following management measures:

- disposing of putrescible and inert waste to an appropriately licensed facilities (either on- or off-site (wastes would be segregated to facilitate recycling and appropriate disposal)
- collecting and treating ablution effluent in an appropriately licensed sewage treatment facility
- maintaining sediment control structures at washdown facilities
- maintaining hydrocarbon treatment facilities at the workshop and washdown facilities
- re-using treated water from the workshop and washdown facilities for dust suppression where possible
- disposal of liquid hydrocarbon waste through a licensed contractor
- maintaining and servicing equipment regularly.

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

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

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

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

Please attach the analysis.

No analyses have been conducted.

* 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".

* 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

2.9 Greenhouse Gas Emissions

* 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.

GHG emissions for the Proposal are estimated to be approximately 3.98 Million tonnes per annum (mtpa) CO_2-e (carbon dioxide equivalents) over the life of the mine (Table 4).

Table 4 Estimated greenhouse gas emissions for the Proposal

Source	GHG emissions (t CO_2-e emissions)	
	Annual	Life of mine (15 years)
Diesel – mobile (minesite machinery and vehicles)	153 602	2 304 023
Diesel – mobile (rail)	37 780	566 696
Jet A1 – air travel	3183	47 746
Diesel – stationary (electricity generation)	70 862	1 062 925
Waste Water Treatment	19.8	297
Solid Waste to Landfill	0.13 (average)	2.1
Total annual emissions	265 446	3 981 690

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

The Proposal is committed to minimising emissions to levels as low as reasonably practicable on an ongoing basis through implementation of the following management actions:

- report emissions in accordance with National Greenhouse Gas Emissions Reporting Scheme (NGERS)
- comply with the Australian Government Climate Change Plan (carbon pricing system and emissions trading scheme)
- assess alternative waste and ore disposal technologies, such as in-pit crushing and conveyor to reduce fuel burn
- focus on the quality of fuel / lubricants used with an objective to reduce hydrocarbon waste and increase productivity per truck
- develop a program to improve fuel consumption efficiency per tonne of ore hauled
- monitor greenhouse gas efficiencies across the Proposal (emissions per tonne of product) during the operational phase
- monitor actual emission rates once the project is in the operational phase and setting realistic and achievable CO_2-e targets
- evaluate best carbon sequestration method to offset CO_2-e emissions
- educate site staff, through site inductions, on energy efficiency and appropriate vehicle operation to ensure fuel efficiency
- use best practice technology in the power station.

2.10 Contamination

* 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.

Area is remote greenfields site, with no known pre-history of activities other than pastoralism.

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

☐ Yes ☒ No ☐ Unsure **If yes**, please describe.

Not Applicable

* 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 ☐ Unsure **If yes**, please describe.

Not Applicable

2.11 Social Surroundings

* 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 Proposal is located on the Jigalong Aboriginal Community (Reserve 41265). The community itself is located 50 km northwest of the Proposal.

* Is the proposal on a property which contains or is near a site of high public interest (for example, a major recreation area or natural scenic feature)?

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

* 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.

A maximum 170 km rail route from the Proposal area to the Brockman Resources Marillana project (and then the use of the Marillana project rail line from Marillana to Port Hedland) will be utilised for the transport of 15 mtpa ore from RRA and DCA on a life mine basis.

3. PROPOSED MANAGEMENT

3.1 Principles of Environmental Protection

- 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 web.)

1.	The precautionary principle.	☒ Yes	☐ No
2.	The principle of intergenerational equity.	☒ Yes	☐ No
3.	The principle of the conservation of biological diversity and ecological integrity.	☒ Yes	☐ No
4.	Principles relating to improved valuation, pricing and incentive mechanisms.	☒ Yes	☐ No
5.	The principle of waste minimisation.	☒ Yes	☐ No

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

  ☒ Yes ☐ No

3.2 Consultation

- 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.

Refer to Section 4 of the attached EIA.

REFERENCES

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Phoenix Environmental Sciences (Phoenix) 2011a, *Consolidated Report on Vertebrate Fauna Surveys Conducted for the FerrAus Pilbara Project*, Phoenix Environmental Sciences Pty Ltd, Unpublished report to FerrAus Ltd, Perth, Western Australia.

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