Australian Government

Department of the Environment

Referral of proposed action

What is a referral?

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

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

Who can make a referral?

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

When do I need to make a referral?

A referral must be made for actions that are likely to have a significant impact on the following matters protected by Part 3 of the EPBC Act:

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

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

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

- the Policy Statement titled Significant Impact Guidelines 1.1 – Matters of National Environmental Significance. Additional sectoral guidelines are also available.

- the Policy Statement titled Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies.
- the Policy Statement titled Significant Impact Guidelines: Coal seam gas and large coal mining developments—Impacts on water resources.
- the interactive map tool (enter a location to obtain a report on what matters of NES may occur in that location).

Can I refer part of a larger action?

In certain circumstances, **the Minister may not accept a referral for an action that is a component of a larger action and may request the person proposing to take the action to refer the larger action for consideration under the EPBC Act (Section 74A, EPBC Act).** If you wish to make a referral for a staged or component referral, read 'Fact Sheet 6 Staged Developments/Split Referrals' and contact the Referrals Gateway (1800 803 772).

Do I need a permit?

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

Is your action in the Great Barrier Reef Marine Park?

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

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

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

Great Barrier Reef Marine Park Authority

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

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

www.gbrmpa.gov.au

What information do I need to provide?

Completing all parts of this form will ensure that you submit the required information and will also assist the Department to process your referral efficiently. If a section of the referral document is not applicable to your proposal enter N/A.

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

Instructions

Instructions are provided in blue text throughout the form.

Attachments/supporting information

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

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

Please ensure any attachments are below three megabytes (3mb) as they will be published on the Department's website for public comment. To minimise file size, enclose maps and figures as separate files if necessary. If unsure, contact the Referrals Gateway (email address below) for advice. Attachments larger than three megabytes (3mb) may delay processing of your referral.

Note: the Minister may decide not to publish information that the Minister is satisfied is commercial-in-confidence.

How do I pay for my referral?

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

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

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

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

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

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

- **Credit Card**

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

Note: in order to receive a reference number, submit your referral and the Referrals Gateway will email you the reference number.

How do I submit a referral?

Referrals may be submitted by mail or email.

Mail to:

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

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

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

- Clearly mark the email as a 'Referral under the EPBC Act'.
- Attach the referral as a Microsoft Word file and, if possible, a PDF file.
- **Follow up with a mailed hardcopy including copies of any attachments or supporting reports.**

What happens next?

Following receipt of a valid referral (containing all required information) you will be advised of the next steps in the process, and the referral and attachments will be published on the Department's web site for public comment.

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

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

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

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

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

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

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

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

The proposed action would have UNACCEPTABLE impacts and CANNOT proceed

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

Compliance audits

If a decision is made to approve a project, the Department may audit it at any time to ensure that it is completed in accordance with the approval decision or the information provided in the referral. If the project changes, such that the likelihood of significant impacts could vary, you should write to the Department to advise of the changes. If your project is in the Great Barrier Reef Marine Park and a decision is made to approve it, the Authority may also audit it. (See "*Is your action in the Great Barrier Reef Marine Park,"* p.2, for more details).

For more information

- call the Department of the Environment Community Information Unit on 1800 803 772 or
- visit the web site http://www.environment.gov.au/topics/about-us/legislation/environment-protection-and-biodiversity-conservation-act-1999

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

Referral of proposed action

Project title: Chinova Resources Cloncurry Project

1 Summary of proposed action

NOTE: You must also attach a map/plan(s) and associated geographic information system (GIS) vector (shapefile) dataset showing the location and approximate boundaries of the area in which the project is to occur. Maps in A4 size are preferred. You must also attach a map(s)/plan(s) showing the location and boundaries of the project area in respect to any features identified in 3.1 & 3.2, as well as the extent of any freehold, leasehold or other tenure identified in 3.3(i).

1.1 **Short description**

The Cloncurry Project is located 140km south-east of Mt Isa in the south west corner of the Selwyn Ranges in the State of Queensland. The project proposes the establishment of open cut mining operations with associated waste rock dumps and heap leach processing of copper oxide ore at a rate of approximately 2Mtpa. This project is known as the Mt Dore Heap Leach Project. The project is fully owned by Chinova Resources Cloncurry Mines Pty Ltd.

1.2 **Latitude and longitude**

Latitude and longitude details are used to accurately map the boundary of the proposed action. If these coordinates are inaccurate or insufficient it may delay the processing of your referral.

	Latitude	Longitude
NE	-21.645	140.5081
SE	-21.6775	140.508
SW	-21.6774	140.4785
NW	-21.6449	140.4786

The Interactive Mapping Tool may provide assistance in determining the coordinates for your project area.

If the area is less than 5 hectares, provide the location as a single pair of latitude and longitude references. If the area is greater than 5 hectares, provide bounding location points.

There should be no more than 50 sets of bounding location coordinate points per proposal area.

Bounding location coordinate points should be provided sequentially in either a clockwise or anticlockwise direction.

If the proposed action is linear (eg. a road or pipeline), provide coordinates for each turning point.

Also attach the associated GIS-compliant file that delineates the proposed referral area. If the area is less than 5 hectares, please provide the location as a point layer. If greater than 5 hectares, please provide a polygon layer. If the proposed action is linear (eg. a road or pipline) please provide a polyline layer (refer to GIS data supply guidelines at Attachment A).

Do not use AMG coordinates.

1.3 **Locality and property description**

The Cloncurry Project is located 140km south-east of Mt Isa in the south west corner of the Selwyn Ranges in the state of Queensland. The project is located on a number of granted mining leases overlying the Starcross Pastoral Lease owned by Chinova Resources Cloncurry Mines Pty Ltd.

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

Disturbance	Area (ha)
North Pit	8.3
South Pit	19.7
North Waste Rock Dump	29
West Waste Rock Dump	13.9
South Waste Rock Dump	18.2
Heap Leach Pad	28.6
Process Plant	1.1
Process Ponds	5.9
ROM / Agglomerator /Crusher	7.3
ROM Dam	1
Dams	2.6
Equipment Parking	4
Haul Roads	10
Laydown	4.4
ROM / Process/ Heap Leach Surrounds	14.4
TOTAL	**168.4**

1.5 **Street address of the site**
Starcross Station
Via Cloncurry Qld 4824

1.6 **Lot description**
Starcross Holding (110,000ha - Lot 5364 on PH1891) owned by Chinova Resources Cloncurry Mines Pty Ltd

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

1.8 **Time frame**
Specify the time frame in which the action will be taken including the estimated start date of construction/operation.

Subject to approvals, construction would commence in early 2017 with operations expected to continue for 5-7 years.

1.9	**Alternatives to proposed action** Were any feasible alternatives to taking the proposed action (including not taking the action) considered but are not proposed?	√	No
			Yes, you must also complete section 2.2
1.10	**Alternative time frames etc** Does the proposed action include alternative time frames, locations or activities?	√	No (activities restricted to location of ore body)
			Yes, you must also complete Section 2.3. For each alternative, location, time frame, or activity identified, you must also complete details in Sections 1.2-1.9, 2.4-2.7 and 3.3 (where relevant).
1.11		√	No

	State assessment Is the action subject to a state or territory environmental impact assessment?		Yes, you must also complete Section 2.5
1.12	**Component of larger action** Is the proposed action a component of a larger action?	√	No
			Yes, you must also complete Section 2.7
1.13	**Related actions/proposals** Is the proposed action related to other actions or proposals in the region (if known)?	√	No
			Yes, provide details:
1.14	**Australian Government funding** Has the person proposing to take the action received any Australian Government grant funding to undertake this project?	√	No
			Yes, provide details:
1.15	**Great Barrier Reef Marine Park** Is the proposed action inside the Great Barrier Reef Marine Park?	√	No
			Yes, you must also complete Section 3.1 (h), 3.2 (e)

2 Detailed description of proposed action

NOTE: It is important that the description is complete and includes all components and activities associated with the action. If certain related components are not intended to be included within the scope of the referral, this should be clearly explained in section 2.7.

2.1 Description of proposed action

This should be a detailed description outlining all activities and aspects of the proposed action and should reference figures and/or attachments, as appropriate.

Establishment of a 2Mtpa Heap Leach Copper Project including the following:

- 2 open pits
- 3 non-acid forming (NAF) waste rock dumps
- Run-of mine (ROM) pad;
- 3 stage crushing circuit;
- Agglomeration;
- Heap Leach Pad;
- Solvent extraction and electrowinning processing area; and
- Removal and processing of copper oxide stockpiles from a number of nearby legacy mine sites

Chinova Resources Cloncurry Mines Mt Dore Heap Leach Project will involve the development of the Mt Dore Copper Oxide ore body as well as the establishment of a Heap Leach and associated Solvent Extraction Electro-Winning (SXEW) processing circuit. Water will be provided from the Mt Dore aquifer for this period of operation. The existing Mt Dore camp will be used to accommodate a proposed workforce of 150.

The proposed mining operation will include simultaneous extraction from two open pits to maximise efficiencies for both the drill and blast and earth-moving fleet. Mining will proceed at a rate of approximately 2Mtpa of ore extracted.

The crushing and agglomeration activity will occur on the ROM pad along with the stockpiling of ore and low grade ore. Three stages of crushing are employed to produce a final product with a P_{100} of 12.5 mm. A Belt Feeder transfers the ore from the Agglomerator Feed Bin to the Agglomerator Feed Conveyor. Water, sulphuric acid and bacterial inoculum are added to the Agglomeration Drum at controlled rates via pipe manifolds and spray nozzles.

The agglomeration process involves the fine particles adhering to the coarser material, which is promoted by the tumbling action of the agglomeration drum to produce rounded ball shape lumps or agglomerates. The main objective of the agglomeration process is to firstly produce agglomerates that can be transported and stacked without breaking down and secondly the agglomerates must maintain integrity when the heap is irrigated with an acidic solution.

The agglomerated ore is directly conveyed to the leach pad construction heap. The overland conveyor would be equipped with a tripper car chute for variable position offloading. This would be followed by a series of conveyors including a portable ramp conveyor, several portable conveyors and a horizontal conveyor. The stacking of the agglomerated ore on the heap would be performed by a radial stacker and stinger conveyor.

Once stacked, the agglomerated material is subjected to rest and curing in the leach pad area. During this period the irrigation net is installed. The irrigation system consists of a main pipe, a system of distribution pipes of decreasing diameter and drop emitters, all constituting a net type arrangement. The emitters or drippers distribute the solution on the heap and are positioned to ensure efficient wetting of the agglomerate bed. The overall leach cycle comprises heap establishment, stacking, curing, primary leaching and secondary leaching. The heaps will be under irrigation for a period 200 days with a corresponding predicted recovery of 81 % of total copper over this period.

The leach heaps are built on an impermeable base consisting of a high density polyethylene liner with a clay or earth layer beneath and a finely crushed rock layer above. This permits collection of the leached copper and prevents solution penetration into the underlying environment. The base of the pad is sloped to direct copper rich solution to a collection basin which drains by gravity to the process ponds.

The electrolyte is pumped to solvent extraction and electrowinning processing area to strip copper from the process stream. The electrowinning cells are of a monolithic polymer concrete construction comprising vinyl ester resin mixed with aggregate. For a 20,000 tpa capacity electrowinning tankhouse, the electrowinning circuit consists of 50 electrowinning cells, each containing 66 cathodes and 67 anodes. Copper growth onto the stainless blanks is continuous over a period of approximately 6 days before the blanks are removed for harvesting of the copper cathodes.

2.2 Alternatives to taking the proposed action

This should be a detailed description outlining any feasible alternatives to taking the proposed action (including not taking the action) that were considered but are not proposed (note, this is distinct from any proposed alternatives relating to location, time frames, or activities – see section 2.3).

NA – it is considered that the action can be undertaken without significant impact to Matters of National Environmental Significance.

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

If you have identified that the proposed action includes alternative time frames, locations or activities (in section 1.10) you must complete this section. Describe any alternatives related to the physical location of the action, time frames within which the action is to be taken and alternative methods or activities for undertaking the action. For each alternative location, time frame or activity identified, you must also complete (where relevant) the details in sections 1.2-1.9, 2.4-2.7, 3.3 and 4. Please note, if the action that you propose to take is determined to be a controlled action, any alternative locations, time frames or activities that are identified here may be subject to environmental assessment and a decision on whether to approve the alternative.

NA – the general location of the activity is driven by the location of the ore body. The location of the open pit mining areas is therefore static and locations of associated infrastructure is driven largely by the economics of location in proximity to the ore source.

2.4 Context, planning framework and state/local government requirements

Explain the context in which the action is proposed, including any relevant planning framework at the state and/or local government level (e.g. within scope of a management plan, planning initiative or policy framework). Describe any Commonwealth or state legislation or policies under which approvals are required or will be considered against.

The activities are located on existing mining leases granted by the State of Queensland. Mining activity has occurred in the general area since the early 1900's.

An existing Environmental Authority (MIN100894709) is in place for the Cloncurry Project and approvals have been in place since the 1980's for open cut and underground mining and processing of copper/gold ore. The existing environmental authority requires amendment to allow for the proposed operation and new disturbance areas. Initial discussions with Department of Environment and Heritage (6th June 2016) indicate that a Major Environmental Authority Ammendment in accordance with Section 226 of the Environmental Protection Act 1989 is the likely outcome. It is unlikely that an Environmental Impact Assessment will be required under the Environmental Protection Act 1989. Processing of a Major Environmental Authority Ammendment requires a public notification process.

There is no local authority approvals required for the project, although an agreement will be required for Notifiable Road Use under the Mineral Resources Act 1989.

2.5 Environmental impact assessments under Commonwealth, state or territory legislation

If you have identified that the proposed action will be or has been subject to a state or territory environmental impact statement (in section 1.11) you must complete this section. Describe any environmental assessment of the relevant impacts of the project that has been, is being, or will be carried out under state or territory legislation. Specify the type and nature of the assessment, the relevant legislation and the current status of any assessments or approvals. Where possible, provide contact details for the state/territory assessment contact officer.

Describe or summarise any public consultation undertaken, or to be undertaken, during the assessment. Attach copies of relevant assessment documentation and outcomes of public consultations (if available).

NA

2.6 Public consultation (including with Indigenous stakeholders)

Chinova Resources operates an existing open cut mining project for copper and gold at Osborne, 54kms south of the proposed Heap Leach Project. Chinova holds an annual Local's Day on Melbourne Cup day each year. This day is used to inform locals and other stakeholders of mining and exploration activity in the coming year. Local's Day will be held at Osborne on 1st November 2016 and the proposed Mt Dore Heap Leach operation will be discussed along with mining progress at Osborne and ongoing exploration activity.

DEHP has been consulted on a regular basis in regards to the general operations and also new projects. A meeting was held with DEHP in Cairns on 6th June 2016 to seek advice as to the most appropriate approach to the amendment of the EA such that the development of the Heap Leach Project could proceed.

Project infrastructure is all located within the Cloncurry Shire Council (CSC). Chinova Resources is in constant contact with CSC and is providing support for road projects in the area by way of joint submissions to state and federal government. Consultation will be required for Notifiable Road Use in relation to the proposed Heap Leach Project.

The Project mining leases are covered by a determined native title claim held by the Yulluna People. Yulluna People have recently been granted Native Title over the area in a Federal Court hearing that was held at Osborne mine site on 28th

March 2014. The management of all sites and items of Aboriginal cultural heritage significance is facilitated by a separate Cultural Heritage Management Agreement with Yulluna. Local indigenous people will be targeted for employment and training opportunities in relation to the Heap Leach Project. Chinova currently holds 6 monthly meetings with the Yulluna People to discuss various aspects of the operations and associated agreements.

The project area is located entirely within Starcross Holding owned by Chinova Resources Cloncurry Mines Pty Ltd. A sub-lease agreement has been established with MDH Pty Limited (Bob McDonald). Bob McDonald is prominent landowner in the region.

2.7 A staged development or component of a larger project

If you have identified that the proposed action is a component of a larger action (in section 1.12) you must complete this section. Provide information about the larger action and details of any interdependency between the stages/components and the larger action. You may also provide justification as to why you believe it is reasonable for the referred action to be considered separately from the larger proposal (eg. the referred action is 'stand-alone' and viable in its own right, there are separate responsibilities for component actions or approvals have been split in a similar way at the state or local government levels).

NA

3 Description of environment & likely impacts

3.1 Matters of national environmental significance

Describe the affected area and the likely impacts of the proposal, emphasising the relevant matters protected by the EPBC Act. Refer to relevant maps as appropriate. The interactive map tool can help determine whether matters of national environmental significance or other matters protected by the EPBC Act are likely to occur in your area of interest.

Your assessment of likely impacts should refer to the following resources (available from the Department's web site):

- specific values of individual World Heritage properties and National Heritage places and the ecological character of Ramsar wetlands;
- profiles of relevant species/communities (where available), that will assist in the identification of whether there is likely to be a significant impact on them if the proposal proceeds;
- *Significant Impact Guidelines 1.1 – Matters of National Environmental Significance*; and
- associated sectoral and species policy statements available on the web site, as relevant.

Your assessment of likely impacts should consider whether a bioregional plan is relevant to your proposal. The Minister has prepared four marine bioregional plans (MBP) in accordance with section 176. It is likely that the MBP's will be more commonly relevant where listed threatened species, listed migratory species or a Commonwealth marine area is considered.

Note that even if your proposal will not be taken in a World Heritage area, Ramsar wetland, Commonwealth marine area, the Great Barrier Reef Marine Park or on Commonwealth land, it could still impact upon these areas (for example, through downstream impacts). Consideration of likely impacts should include both direct and indirect impacts.

3.1 (a) World Heritage Properties

None to be impacted through proposed activities have been identified by the Protected Matters Search Tool (PMST - 100km buffer)

Description

Nature and extent of likely impact

3.1 (b) National Heritage Places

None to be impacted through proposed activities (PMST - 100km buffer)

Description

Nature and extent of likely impact

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

None to be impacted through proposed activities (PMST - 100km buffer)

Description

Nature and extent of likely impact

3.1 (d) Listed threatened species and ecological communities

Seven listed threatened species have been identified (PMST - 20km buffer)

Description

Listed Threatened Species

- *Grantiella picta* (Painted Honeyeater, vulnerable)
- *Pezoporus occidentalis* (Night Parrot, endangered)
- *Rostratula australis* (Australian Painted Snipe, endangered)
- *Macroderma gigas* (Ghost Bat, vulnerable)
- *Macrotis lagotis* (Greater Bilby, vulnerable)
- *Pseudantechinus mimulus* (Carpentarian Antechinus, vulnerable)
- *Acanthophis hawkei* (Plains Death Adder, vulnerable)

Nature and extent of likely impact

Address any impacts on the members of any listened threatened species (except a conservation dependent species) or any threatened ecological community, or their habitat.

A Flora and Fauna survey was conducted in February 2012 (Place, 2012) over the main disturbance areas for the proposed Heap Leach Project. The following were the outcomes of this survey and related information in relation to the listed threatened species:

- *Grantiella picta* (Painted Honeyeater, vulnerable)

Not recorded onsite during the survey (Place 2012) and no records from wildlife online from 25km search.

- *Pezoporus occidentalis* (Night Parrot, endangered)

The distribution of the Night Parrot is very poorly understood. There are a small number of confirmed and well-regarded records from Pezoporus occidentalis arid and semi-arid regions of Queensland. The most recent records of this species occur in the Diamantina National Park in 2006. The Night Parrot inhabits arid and semi-arid areas that are characterised by having dense, low vegetation. Based on accepted records, the habitat of the Night Parrot consists of Triodia grasslands in stony or sandy environments, and of samphire and chenopod shrublands, on floodplains and claypans, and on the margins of saltlakes, creeks or other sources of water. This species was not reported in the Wildlife Online database search. The Study Area supports Spinifex however it is considered that the habitat is depauparate for this species' requirements. The lack of sightings within the surrounding area would also suggest that it is unlikely this species occurs in the Study Area. It has subsequently been noted that occurences of the Night Parrot have occurred in the region in the past two years approximately 50kms from the project area. Not recorded onsite during the survey (Place 2012).

- *Rostratula australis* (Australian Painted Snipe, endangered)

The Australian Painted Snipe has been recorded at wetlands in all states of Australia. It is most common in eastern Australia, where it has been recorded at scattered locations throughout much of Queensland, NSW, Victoria and south-eastern South Australia. The Australian Painted Snipe generally inhabits shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans. This species was not reported in the Wildlife Online database search. This species is unlikely to occur within the Study Area due to the lack of suitable habitat. Not recorded onsite during the survey (Place 2012).

- *Macroderma gigas* (Ghost Bat, vulnerable)

Note recorded onsite during onsite surveys (Place 2010, 2011 & 2012) and no records from wildlife online from 25km search. Susbequently (Place, 2011) a bat management plan was implemented for *Taphozous troughtoni* around underground mining operations and physical inspection, harp trapping and ANABAT echolocation failed to identify any specimens.

- *Macrotis lagotis* (Greater Bilby, vulnerable)

Before European settlement the Greater Bilby was found on over 70% of the Australian mainland; the species now only occurs in less Macrotis lagotis than 20% of its former range. Wild Bilby populations are now restricted predominantly to the Tanami Desert, Northern Territory, the Great Sandy and Gibson Deserts, Western Australia, and an outlying population between Boulia and Birdsville in south-west Queensland. Extant population of the Greater Bilby occur in a variety of habitats, usually on landforms with level to low slope topography and light to medium soils. It occupies three major vegetation types; open tussock grassland on uplands and hills, mulga woodland/shrubland growing on ridges and rises, and hummock grassland in plains and alluvial areas. This species was not reported in the Wildlife Online database search. The Study Area is situated north-west of the known population of this species. It is unlikely that this species would occur within the Study Area. Not recorded onsite during the survey (Place 2012).

- *Pseudantechinus mimulus* (Carpentarian Antechinus, vulnerable)

Present throughout the region and research was undertaken with the University of the Sunshine Coast in 2013. The focus of this application.

- *Acanthophis hawkei* (Plains Death Adder, vulnerable)

This species has not been identified onsite and occurs on the flat, treeless, cracking-soil riverine floodplains that are not found in the proposed Project area (PDG 2012) and no records from 25km Wildlife Online search. Not recorded onsite during the survey (Place 2012).

3.1 (e) Listed migratory species

Eight listed migratory species

Description
Listed marine migratory species
- *Apus pacificus* (Fork-tailed Swift)

Listed terrestrial migratory species
- *Merops ornatus* (Rainbow Bee-eater)
- *Motacilla cinerea* (Grey Wagtail)
- *Motacilla flava* (Yellow Wagtail)

Listed migratory wetland species
- *Ardea alba* (Great Egret, White Egret)
- *Ardea ibis* (Cattle Egret)
- *Charadrius veredus* (Oriental Plover, Oriental Dotterel)
- *Glareola maldivarum* (Oriental Pratincole)

Nature and extent of likely impact

Address any impacts on the members of any listed migratory species, or their habitat.

A Flora and Fauna survey was conducted in February 2012 (Place 2012) over the main disturbance areas for the proposed Heap Leach Project. The following were the outcomes of this survey and related information in relation to the listed threatened species:

- *Apus pacificus* (Fork-tailed Swift)

The Fork-tailed Swift is almost exclusively aerial. They are widespread west of the Great Divide, and are commonly found west of the Apus pacificus line joining Chinchilla and Hughenden. They are found to the west between Richmond and Winton, Longreach, Gowan Range, Maraila National Park and Dirranbandi. They are rarely found further west to Windorah and Thargomindah. They mostly occur over dry or open habitats, including riparian woodland and tea-tree swamps, low scrub, heathland or saltmarsh. They are also found at treeless grassland and sandplains covered with spinifex, open farmland and inland and coastal sand-dunes. The Fork-tailed Swift leaves its breeding grounds in Siberia from August–September and usually arrives in Australia around October; it leaves southern Australia from mid-April and departs via north-east Queensland, with sightings common from February–March and most birds having departed by May. Whilst the Study Area offers suitable habitat and the survey timeframes fits their migration patterns, the Study Area falls outside of their normal distribution range. Therefore there is only a possibility that this species will be found within the Study Area. Not recorded onsite during the survey (Place 2012).

- *Merops ornatus* (Rainbow Bee-eater)

The Rainbow Bee-eater is distributed across much of mainland Australia. It occurs mainly in open forests and woodlands, shrublands, Merops ornatus eater and in various cleared or semi-cleared habitats, including farmland and areas of human habitation. Given the wide ranging habitats frequented by this species and its extended distribution range, it is highly likely that this species occurs within the Study Area. This species was identified during the 2012 survey.

- *Motacilla cinerea* (Grey Wagtail) – listed as a Migratory Species in 2015. No records of occurrence in the area from an updated Wildlife On-line search and no record from the Place (2012) fauna survey.

- *Motacilla flava* (Yellow Wagtail) - listed as a Migratory Species in 2015. No records of occurrence in the area from an updated Wildlife On-line search and no record from the Place (2012) fauna survey.

- *Ardea alba* (Great Egret, White Egret)

The Eastern Great Egret has been reported in a wide range of wetland habitats (for example inland and coastal, freshwater and saline, Ardea alba permanent and ephemeral, open and vegetated, large and small, natural and artificial). Given this species' typical habitat it is unlikely that it will occur in the Study Area. Not recorded onsite during the survey (Place 2012).

- *Ardea ibis* (Cattle Egret)

The Cattle Egret occurs in tropical and temperate grasslands, wooded lands and terrestrial wetlands. It has occasionally been seen in Ardea ibis arid and semi-arid regions however this is extremely rare. It is commonly associated with the habitats of farm animals, particularly cattle. It uses predominately shallow, open and fresh wetlands including meadows and swamps with low emergent vegetation and abundant aquatic flora. Given this species' typical habitat it is unlikely that it will occur in the Study Area. The Eastern Great Egret has been reported in a wide range of wetland habitat. Not recorded onsite during the survey (Place 2012).

- *Charadrius veredus* (Oriental Plover, Oriental Dotterel)

The Oriental Plover is a non-breeding visitor to Australia, where the species occurs in both coastal and inland areas, mostly in northern Charadrius veredus Australia. Most records are along the north-western coast, between Exmouth Gulf and Derby in Western Australia. The species also often occurs further inland on the 'blacksoil' plains of northern Western Australia, the Northern Territory and north-western Queensland ('the Gulf Country'). Immediately after arriving in non-breeding grounds in northern Australia, Oriental Plovers spend a few weeks in coastal habitats such as estuarine mudflats and sandbanks, on sandy or rocky ocean beaches or nearby reefs, or in near-coastal grasslands, before dispersing further inland. Thereafter they usually inhabit flat, open, semi-arid or arid grasslands, where the grass is short and sparse, and interspersed with hard, bare ground, such as claypans, dry paddocks, playing fields, lawns and cattle camps. The Study Area occupies an area further south than this species' normal distribution range although suitable habitat may be present. There are no records of this species in the Wildlife Online database. It is therefore unlikely that this species occurs in the Study Area. Not recorded onsite during the survey (Place 2012).

- *Glareola maldivarum* (Oriental Pratincole)

Within Australia the Oriental Pratincole is widespread in northern areas, especially along the coasts of the Pilbara Region and the Glareola maldivarum Kimberley Division in Western Australia, the Top End of the Northern Territory, and parts of the Gulf of Carpentaria. It is also widespread but scattered inland, mostly north of 20° S. In non-breeding grounds in Australia, the Oriental Pratincole usually inhabits open plains, floodplains or short grassland (including farmland or airstrips), often with extensive bare areas. The Study Area occupies an area further south than this species' normal distribution range although

suitable habitat may be present. It is therefore possible that this species occurs in the Study Area. Not recorded onsite during the survey (Place 2012).

The Place (2012) report generally summarised potential impacts to habitat and species of concern as follows:

Four major habitat types will be subjected to disturbance as a result of the proposed development. These habitats include previously disturbed areas with residual vegetation, undulating metamorphic plains, sandy plains surrounding lower depression lines and drainage lines with dense understoreys (convey ephemeral flows). These habitat types are common within the region and Study Area.

Direct physical habitat loss will result from the expansion of the current Mount Dore mineral processing facilities and associated infrastructure and result in the removal of approximately 1008 ha (now 168.4ha) *of remnant vegetation. The habitats within that vegetation are well represented in the Study Area, and common throughout the region. Development would not result in the severance of habitat corridors, or affect ecological dispersal.*

The expansion does not propose any new isolated works as all proposed works occur adjacent to currently disturbed areas. Due to this the likelihood of increased edge impacts will not significantly increase nor will any habitats be severed as a result.

Indirect impacts may result from ongoing and residual effects of the development. These impacts can be found in adjacent habitats to the development and further abroad. These impacts are the result of a reduction in habitat which places pressure on resources within the region and immediate locality. Such impacts can take the form of presence of exotic species, increased dust levels impacting on flowering and seed resources, vehicular activity, reduction of nesting/denning/shelter habitat and potentially intra and inter species conflict for resources.

Despite this, the location and concise nature of the proposed impact will not result in a significant loss of critical habitat within the ML or region. The proposed impact falls within areas which are bound to the west by currently disturbed mining areas. The location of this development will result in the minimal loss of connectivity and edge impacts as opposed to a location not bound by disturbance. These areas have been and continue to be subject to edge effects from the mining activities and would result in on minor impacts on faunal communities.

Only one SOCS has been recorded within the Study Area (all records): Merops ornatus (Rainbow bee-eater). It is unlikely that the proposed expansion will impact upon this species given the extent of habitat being removed, and their highly mobile nature. Based on the results of the most recent survey efforts, previous surveys and literature reviews the proposed expansion will not have a significant impact on any of the five highly mobile SOCS (i.e. birds) identified in TABLE 10.

There is a possibility of the Carpentarian Pseudantechinus (Pseudantechinus mimulus) inhabiting the north-eastern corner of the Study Area. Given the low probability of detecting this species and therefore capturing any animals for relocation, it is recommended that the removal of their habitat be conducted in such a manner as to allow any populations which may exist to migrate off the Study Area into adjacent habitat.

Subsequently a *Carpentarian Pseudantechinus* trapping program in 2013 was conducted by the University of Sunshine Coast (Burnett *et al*. 2014) and RBC Environmental (Holzheimer, 2016). The programs demonstrate the species is locally common.

3.1 (f) Commonwealth marine area

None to be impacted through proposed activities (PMST 100km buffer)

Description

Nature and extent of likely impact

Address any impacts on any part of the environment in the Commonwealth marine area.

3.1 (g) Commonwealth land

(If the action is on Commonwealth land, complete 3.2(d) instead. This section is for actions taken outside Commonwealth land that may have impacts on that land.)

Description

None to be impacted through proposed activities (PMST 100km buffer).

Nature and extent of likely impact

3.1 (h) The Great Barrier Reef Marine Park

Will not be impacted through proposed activities (PMST 100km buffer).

Description

Nature and extent of likely impact

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

NA

Description

Nature and extent of likely impact

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

You must describe the nature and extent of likely impacts (both direct & indirect) on the whole environment if your project:

- is a nuclear action;
- will be taken by the Commonwealth or a Commonwealth agency;
- will be taken in a Commonwealth marine area;
- will be taken on Commonwealth land; or
- will be taken in the Great Barrier Reef marine Park.

Your assessment of impacts should refer to the *Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies* and specifically address impacts on:

- ecosystems and their constituent parts, including people and communities;
- natural and physical resources;
- the qualities and characteristics of locations, places and areas;
- the heritage values of places; and
- the social, economic and cultural aspects of the above things.

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

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

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

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

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

3.3 Other important features of the environment

Provide a description of the project area and the affected area, including information about the following features (where relevant to the project area and/or affected area, and to the extent not otherwise addressed above). If at Section 2.3 you identified any alternative locations, time frames or activities for your proposed action, you must complete each of the details below (where relevant) for each alternative identified.

3.3 (a) Flora and fauna

In February 2012, Chinova Resources Cloncurry Mines engaged PLACE Design Group (PDG) to undertake an ecological assessment for the expansion of the Mt Dore Project.

PDG had previously completed desktop assessments and undertaken detailed vegetation community, flora, fauna and fauna habitat assessments (including fauna trapping) of the 10ha Merlin Decline and Waste Dump Development. A similar detailed assessment of the vegetation communities, flora and fauna habitats, specifically concentrating on Species of Concern (SOCs), was carried out along the proposed 15 km Access Road between Lucky Luke and Cloncurry Project in 2010.

Further to this, PDG undertook an assessment of vegetation communities and fauna habitats within all of the CRCMs mining lease areas. These assessments were focused on the potential occurrence of Species of Conservation Significance and *Of Concern* / *Endangered* RE's.

The surveys were conducted during the mid-late dry season, wet-season, and post-wet season to capture the seasonal variation of both flora and fauna communities. The 2012 assessment complements the results of previous surveys. All conservation listings have been checked against current legislation and updated where required with the current status as of June 2016.

A total of 170 flora species were recorded during the 2012 post-wet survey, comprising 105 genera from 40 families. None of the flora species recorded during the field survey are listed under the *Nature Conservation Act (Qld) 1992* or the *Environment Protection and Biodiversity Conservation Act (C'wlth) 1999*. From the analysis undertaken to date, it is determined unlikely that Species of Conservation Significance occur either within the proposed disturbance area. One Species of Conservation Significance was identified in the field in 2012, *Brachychiton collinus*, and it was then listed as Type A plant under the *Nature Conservation Act (Qld) 1992*. This plant was associated with the mapped RE1.12.1x4. However, this species has been downgraded and is currently listed as *Least Concern*, as is the associated RE. There is currently no proposed disturbance that would impact the species or the associated RE.

Eucalyptus leucophloia (snappy gum) woodland is the dominant vegetation association over most of the area. It is often found in association with *Corymbia terminalis* (western bloodwood) and / or *Eucalyptus leucophylla* (Cloncurry box) which may become locally dominant. A shrub layer of topography-dependent density is dominated by species of the genera *Acacia*,

with the seasonally depauperate ground layer is dominated by *Triodia* spp. (pincushion spinifex) apart from the Cainozoic plains which are dominated by *Aristida* spp.

Thirteen Regional Ecosystems were identified within the proposed disturbance area with RE1.11.2a, RE1.5.6, RE1.11.2e and RE1.12.1xa being the dominant ecosystems (PDG 2012). All thirteen have a management status under the *Vegetation Management Act (Qld) 1999* of *Least Concern,* the lowest conservation significance levels (greater than 30% of the pre-settlement RE remains). Within the proposed disturbance area, RE1.11.2 is represented by an additional four major vegetation communities recognised by the Queensland Herbarium (2009); RE1.11.2a, RE1.11.2e, 1.11.2x2 and RE1.11.2x6. This is also the case for RE1.12.1 with an additional four major vegetation communities; RE1.12.1x4, RE1.12.1x4a, RE1.12.1xb and RE1.12.1xc.

Riparian areas present throughout the proposed disturbance area are aligned with RE 1.3.7 "River red gum (*Eucalyptus camaldulensis*) woodland on channels and levees (south)". This RE coincides with the main riparian feature, starting in the north-western corner of the proposed disturbance area and traversing in a south-easterly direction to exit just south of the airstrip (PDG 2012). This RE has a biodiversity status of *Endangered*. Disturbance to this RE will be limited in relation to the extent of these areas throughout the region, and restricted to a maximum of 30 metres by 20 metres (600m^2 total) to allow for a single haul road crossing. This section of the ERE is located in a 3rd order stream just south of the proposed South Pit. Haul road access will be required across this area to the proposed Run of Mine (ROM) pad and waste rock dump.

The surveys have identified two species of conservation significance which are listed under the *Nature Conservation Act (Qld) 1992* and have been identified on-site. These species included *Petrogale purpureicollis* (purple-necked rock wallaby) and *Falco hypoleucos* (grey falcon).

The mammal (purple-necked rock wallaby) has specific roosting, shelter and foraging habitat requirements met by the site. The bird of prey (grey falcon) is nomadic and occupy a large home range of several hundred square kilometres.

A number of other species not recorded by the survey but which have been recorded previously on the site or in the region, and/or may have habitat requirements met within the proposed disturbance area include:

- *Grantiella picta* (painted honeyeater)
- *Pezoporus occidentalis* (night parrot)
- *Rostratula australis* (Australian Painted Snipe)
- *Merops ornatus* (Rainbow bee-eater)
- *Pseudantechinus mimulus* (Carpentarian antechinus).
- *Macrotis lagotis* (Greater bilby)
- *Acanthophis antarcticus* (common death adder).

Petrogale purpureicollis (purple-necked rock wallaby) readily inhabits the area and is listed as *Vulnerable* under the *Nature Conservation Act (Qld)*. This species is dependent on rocky ridges and cave habitats (particularly eastern facing caves for basking purposes), which are common. Sub populations of this species have been observed within areas of high disturbance, most notably areas where large rock dumps have settled and created a network of caves and tunnels. These habitats are close to semi-permanent to permanent water sources and large areas of good forage habitat.

Falco hypoleucos (grey falcon) is diurnal raptor species with nomadic habits and extensive home ranges, respectively. This species has been previously noted foraging in the project area. *Falco hypoleucos* is currently listed as *Vulnerable* under the *Nature Conservation Act (Qld) 1992*. It is unlikely this species will be impacted due to its nomadic habits and extensive range.

The *Grantiella picta* (painted honeyeater) is endemic to mainland Australia and inhabits mistletoes in eucalypt forests/woodlands and riparian woodlands of river red gum, acacia-dominated woodlands, paperbarks and casuarinas (Garnett et al., 2011). It is currently listed as *Vulnerable* under both the *Nature Conservation Act (Qld)* and *Environment Protection and Biodiversity Conservation Act (C'wlth) 1999.* It is not likely that this species will be impacted by any proposed activities given the amount of habitat present within the surrounding region.

The *Endangered* nomadic Cloncurry Night Parrot *(Pezoporus occidentalis*) *Environment Protection and Biodiversity Conservation Act (C'wlth) 1999* has been identified by database searches as potentially occurring in the area as an arid specialist species. This species prefers dense lowland vegetation, primarily consisting of *Triodia spp.* (spinifex). The closest known record of the *Pezoporus occidentalis* (night parrot) is approximately 200 km south-east of the Investigation Area. Given previous impacts from cattle grazing and trampling suitable habitat coupled with the scarcity of confirmed records, it is considered unlikely that this species occurs within the proposed disturbance area (PDG 2012). During the 2012 survey nocturnal fauna searches were conducted at four sites for one hour per night for a total of six nights.

Rostratula australis (Australian Painted Snipe) is currently listed as *Vulnerable* under the *Nature Conservation Act (Qld)* and *Endangered* under the *Environment Protection and Biodiversity Conservation Act (C'wlth) 1999*. It is a stocky wading bird and has been recorded at wetlands throughout Australia. Due to the lack of wetland habitat within the proposed disturbance area it is unlikely this species will be impacted.

Merops ornatus (Rainbow bee-eater) is distributed across much of mainland Australia. It occurs in open woodlands and shrublands, including mallee, and in open forests that are usually dominated by eucalypts. It also occurs in grasslands (Gibson 1986; Jones 1986; Leach 1988) and, especially in arid or semi-arid areas, in riparian, floodplain or wetland vegetation assemblages (Badman 1989; Gibson 1986). It is not likely that this species will be impacted by any proposed activities given the amount of available habitat present within the surrounding region.

Macrotis lagotis (Greater bilby) is currently listed as *Endangered* under the *Nature Conservation Act (Qld)* and *Vulnerable* under the *Environment Protection and Biodiversity Conservation Act (C'wlth) 1999*. The species occur in a variety of habitats, usually on landforms with level to low slope topography and light to medium soils. It occupies three major vegetation types; open tussock grassland on uplands and hills, mulga woodland/shrubland growing on ridges and rises, and hummock grassland in plains and alluvial areas. The species has not been identified in the Wildlife Online database search and the proposed disturbance area is situated north-west of the known population making it unlikely that the species would occur in the proposed disturbance area (PDG 2012).

Acanthopis antarcticus (common death adder) has been noted in previous surveys within the locality and anecdotally within the Cloncurry Project Mining Camp. This species is listed as *Vulnerable* under the *Nature Conservation Act (Qld) 1992*. Rocky ridgeline habitat throughout the Investigation Area provides a suitable forage and movement habitat for this species. The proposed disturbance will include the identified habitat; however, the amount will be minimal given the amount of suitable habitat present within the surrounding region.

Pseudantechinus mimulus (Carpentarian false antechinus) was highlighted in the 2012 PDG report as potentially occurring within the proposed disturbance area and is currently listed as *Vulnerable* under the *Environmental Protection and Biodiversity Conservation Act (C'wlth) 1999*. CRCM subsequently engaged the University of the Sunshine Coast in 2013 to determine the occurrence and habitat usage by *P. mimulus* in the region including exploration and mining interests. The study also compared the use of Elliot trapping versus camera trapping to detect the presence/absence of *P. mimulus.* Results indicate that camera trapping is the preferred method for the detection of the species (Burnett *et al*. 2014). There is also evidence that *P. mimulus* is tolerant of fire and may be linked to their food source which includes termites (S. Burnett, pers. Comm., June 2015).

A total of 362 camera stations were deployed at 218 sites for a total of 5,149 camera trap nights. The study has confirmed the widespread occurrence of *P. mimulus* in the Mt Dore – Mt Elliot area, and has extended the known range of the species in Queensland. The surveys have detected *P. mimulus* 30km to the South of Mt Dore Camp (near intersection of Link Rd and Haul Rd, 6km East of Houdini), 65km to the North-West (Trekelano), 54km to the North (16km NW of Kuridala) and 10km to the East (along track to Mount Carol). Survey and occupancy analyses demonstrate that *P. mimulus* occurs in rocky habitats only, in the Selwyn Ranges area. The survey also demonstrates that there is potential for interaction between the project proposed in this EM plan and the demonstrated occurrence of *P. mimulus.*

RBC Environmental (Holzheimer, 2016) undertook a camera trapping program in July 2016 targetting the identified preferred habitat of *P. mimulus* in relation to the Mt Dore Heap Leach Project area. A total of seven sites with suitable rocky habitat were chosen with five Reconyx PC850 camera traps programmed for fice consequtive pictures. 81,603 images were captured with *P. mimulus* recorded at four of the seven which were located in the proposed footprint of the proposed northern pit and waste rock dump.

3.3 (b) Hydrology, including water flows

The main water courses traverse the peneplain that has developed between the two main ridges. Most of these watercourses are shallowly incised and ephemeral – flowing for only short durations during and immediately after the wet season.

The watercourses are incised into the laminated near-surface rocks and there is little alluvial development associated with them.

Almost all the receiving sites are located within first to third order streams which are typically characterised by short duration, highly erosive flows which also contribute to an elevated particulate load in the receiving waters. Surface water flows in the receiving environment are typically the result of isolated rainfall events (storms) that occur during the brief wet season December to February each year. The surface water quality results appear to vary dependent on the intensity and location of storms within a particular catchment.

The immediate catchments associated with the Cloncurry Project are generally highly mineralised and it is expected that local biota will have adapted to these conditions. Historic mining operations at Mt Elliott and Mt Cobalt are likely to have resulted in increased metal loads in surface soils and sediments in the surrounding areas. However in the absence of any pre-mining water quality data this cannot be fully quantified. Surface water sampling was initially undertaken in 1985 and 1986 and reported in the Selwyn Project Environmental Impact Assessment Study (EIAS 1987), prior to the mining operation commencing. The reported surface water sampling from the Starra line drainage indicates a slightly acidic pH with significantly elevated cadmium, copper, iron, lead and zinc in surface waters. The Starra line had outcropping ore grade material which contributes to a naturally elevated metal level in stream and soil sediments. These elevations are also represented in pre-mining surface water quality is also supported by recent background water monitoring sites in the existing environmental authority.

Ground-waters in the region are highly variable and frequently have high levels of metals and sulphate present. Most sites have a high level of reported hardness >181 mg/L as CaCO3. Electrical conductivity and total dissolved solids are also frequently elevated, although this is not atypical for the region. Regionally, monitoring programs have identified the presence of heavy metals, iron, manganese, chloride and fluoride which also has the potential to influence the quality of groundwater within the Chinova leases. Apart from the Mt Dore Aquifer overlying the Merlin deposit, no significant groundwater resources are located within the near vicinity of any of the operational areas. The aquifer types on the Chinova Resources leases are ranked below in order of their hydro-geological significance, from greatest to least:

1. **Fractured rock** aquifers at the contact between the Mount Dore Granite and the Kuridala and Staveley Formations **at Mount Dore** borefield;
2. **Perched aquifers** that may occur in the laminated upper sequence of the Kuridala and Staveley Formations;
3. **Aquifers in open fault zones** in fractured and brecciated shear zones deep in the Kuridala and Staveley Formations;
4. **Aquifers formed by dissolution of sulphide minerals** in deep calc-silicate rocks in the mineralized zones.

The copper oxide deposits are associated with the adjacent Mt Dore aquifer which is a significant localised fractured rock aquifer bounded on the east by the Mt Dore Granite and the west by the Staveley Formation. Water is generally intersected in water bearing fractures at depths of 80 to 120 metres with groundwater occurring along the contact zone with the granites and at greater depth in the calc silicates. This aquifer is disconnected from any other nearby aquifers.

3.3 (c) Soil and Vegetation characteristics

The geology of the Chinova Resources leases consists of Proterozoic formations of the Soldiers Cap Group. The primary geological formations that comprise the area are the Kuridala Group and the Staveley Formation. These formations express at the surface as thinly laminated and quite steeply dipping siltstone, slate, and phyllite, with subsidiary quartzite and ironstone layers that often form steep remnant ridges.

Granitic sequences intrude the Kuridala and Staveley Formations in places. To the east and the south of the project, Mesozoic cover associated with the Carpentaria Basin onlaps the Proterozoic sequence.

The soils of the project area were described within the original EIAS, 1987. There are four main soil types in the area:

- Skeletal soils;
- Brown soils of light texture;
- Coarse textured red earths; and
- Fine textured red earths.

In general the soils are slightly acid, the exceptions being some Munbulloo profiles which were strongly acid and Forsayth and Elliott classes which were mildly and moderately alkaline respectively. The pH either remained unchanged or increased with depth, the greatest change being in Forsayth, for which the subsurface material was strongly alkaline. The pH range detected in this survey was not sufficient to restrict the soils use for rehabilitation.

High salinity levels were detected throughout the profile of the Elliott soil class. The subsoil profiles of the Manbulloo were sodic and both the surface and sub-surface of the Forsayth and Elliott classes were strongly sodic. Phosphorus and nitrogen levels were low in all soils except for the skeletal soils where 17ppm phosphorus was recorded.

3.3 (d) Outstanding natural features

The site is located in the Selwyn Ranges of north west Queensland. The area is heavily mineralised and features many historic and current mining operations. Land-use is restricted by skeletal soils and elevated rock terrain in places. The area holds some scenic value and has a significant aboriginal cultural heritage record.

3.3 (e) Remnant native vegetation

The central and northern portions of the project area is currently subject to exploration mining activities, with the remainder of the area intersected with associated infrastructure and access trails. Although predominantly sparse, the existing undisturbed vegetation across the remainder of the area is in excellent condition.

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

The Project area is characterized by two sub-parallel (eastern and western ironstones), more or less continuous ridges, of low to moderate relief, that extend above a flat plain. These ridges are formed by more resistant lithologies of the main

geological formations of the area the Kuridala and Staveley Formations, with the Starra line located to the west and Merlin located on the eastern ridgeline.

3.3 (g) Current state of the environment

Include information about the extent of erosion, whether the area is infested with weeds or feral animals and whether the area is covered by native vegetation or crops.

The area is predominantly covered with native vegetation and used for extensive low intensity grazing purposes. Exceptions relate to historic and recent mining activity including several open pit and underground mining operations, tailings dams and processing areas. Chinova has a active rehabilitation program with the aim of re-establishment of native vegetation to subsequently meet the remnant vegetation definitions in the Queensland Vegetation Management Act 1999.

Of the recorded flora species, 13 species are exotic species, with nine species being classed as naturalized in Queensland. None of these species are declared under the schedules of the Land Protection (Pest and Stockroute) Management Act (Qld) 2002.

A total of ten pest species have been identified within the region and include:

- Camelus dromedarius (Camel)
- Cannis familiaris dingo (Dingo)
- Equus caballus (Horse)
- Felis catus (Feral cat)
- Mus musculus (House mouse)
- Oryctolagus cuniculus (Rabbit)
- Rattus rattus (Black rat)
- Rhinella marina (Cane toad)
- Sus scrofa (Feral pig)
- Vulpes vulpes (Red fox)

Five of these exotic species are Class 2 declared pests under the schedules of the Land Protection (Pest and Stock Route) Management Act 2002. These are Cannis familiaris dingo (Dingo), Felis catus (Feral cat), Oryctolagus cuniculus (Rabbit), Sus scrofa (Feral pig) and Vulpes vulpes (Red fox). Non-declared pest species include Camelus dromedarius (Camel), Equus caballus (Horse), Mus musculus (House mouse), and Rhinella marina (Cane toad).

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

None identified.

3.3 (i) Indigenous heritage values

Aboriginal Cultural Heritage abounds in the area including artefacts, knapping areas, quarries, ceremonial sites, grave sites and art sites. Chinova Resources's policy is to avoid disturbance of Aboriginal Cultural Heritage sites where possible and to consult with the Yulluna People at every step in the cultural heritage management process.

The Yulluna People are the Native Title holders for the total area of Cloncurry Project mining leases. Chinova Resources Australia has negotiated a Cultural Heritage Management Agreement which was signed off by the Yulluna People in January 2011. This agreement manages the process of cultural heritage surveys and the associated finds, in relation to proposed mining or exploration activity.

Chinova Resources maintains processes for recording and managing cultural heritage finds and sites including a Permit to Disturb Land process and an associated Mapinfo database. The Mapinfo database includes known and registered sites and is updated constantly in relation to completed cultural heritage surveys.

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

Describe any other key features of the environment affected by, or in proximity to the proposed action (for example, any national parks, conservation reserves, wetlands of national significance etc).

There are no national parks, conservation reserves or wetlands within the area or surrounding areas.

3.3 (k) Tenure of the action area (eg freehold, leasehold)

Leasehold.

3.3 (l) Existing land/marine uses of area

Cattle grazing and mining.

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

Cattle grazing and mining.

4 Environmental outcomes

Provide descriptions of the proposed environmental outcomes that will be achieved for matters of national environmental significance as a result of the proposed action. Include details of the baseline data upon which the outcomes are based, and the confidence about the likely achievement of the proposed outcomes. Where outcomes cannot be identified or committed to, provide explanatory details including any commitments to identify outcomes through an assessment process.

If a proposed action is determined to be a controlled action, the Department may request further details to enable application of the draft *Outcomes-based Conditions Policy 2015* and *Outcomes-based Conditions Guidance 2015* (http://www.environment.gov.au/epbc/consultation/policy-guidance-outcomes-based-conditions), including about environmental outcomes to be achieved, details of baseline data, milestones, performance criteria, and monitoring and adaptive management to ensure the achievement of outcomes. If this information is available at the time of referral it should be included.

General commitments to achieving environmental outcomes, particularly relating to beneficial impacts of the proposed action, CANNOT be taken into account in making the initial decision about whether the proposal is likely to have a significant impact on a matter protected under the EPBC Act. (But those commitments may be relevant at the later assessment and approval stages, including the appropriate level of assessment, and conditions of approval, if your proposal proceeds to these stages).

The proposed project is unlikely to impact on matters of national environmental significance as demonstrated by the Flora and Fauna survey completed in February 2012 (Place, 2012).

Pseudantechinus mimulus (Carpentarian false antechinus) was however highlighted in the 2012 PDG report as potentially occurring within the proposed disturbance area and is currently listed as *Vulnerable* under the *Environmental Protection and Biodiversity Conservation Act (C'wlth) 1999*. Chinova Resources subsequently engaged the University of the Sunshine Coast in 2013 (Burnett, 2013) to determine the occurrence and habitat usage by *P. mimulus* in the region including exploration and mining interests. The study also compared the use of Elliot trapping versus camera trapping to detect the presence/absence of *P. mimulus.* Results indicate that camera trapping is the preferred method for the detection of the species (Burnett *et al*. 2014). There is also evidence that *P. mimulus* is tolerant of fire and may be linked to their food source which includes termites (S. Burnett, pers. Comm., June 2015). Recent camera trapping (Holzheimer, 2016) in proposed disturbance areas has further highlighted the presence of *Pseudantechinus mimulus* (Carpentarian false antechinus).

The occurrence of *Pseudantechinus mimulus* can be adequately managed by location and removal from areas potentially affected by the project. The number of detections during recent (Burnett, 2013) trapping indicates the species is locally quite common with 247 detections at 44 sites with the species occupying 37.61% of the sites surveyed. In addition the species was located at 18 burnt sites and two waste rock dumps indicating that it was to some degree tolerant of disturbance.

Camera trapping during 2013, indicated that feral cats were also present at a number of sites where *Pseudantechinus mimulus* was detected. This was in addition to natural predators such as snakes and goannas.

Chinova would seek to limit the potential impact on *Pseudantechinus mimulus* by continuing to camera trap individuals identified in the July 2016 work throughout the remainder of 2016 and remove individuals by Elliott trapping 2 months prior to establishing the proposed project. Individuals would be removed to suitable habitat identified during the 2013 research work (Burnett, 2013). In addition a feral cat removal program would be established in the area surrounding the proposed project site to reduce potential stress on any remaining or removed indivduals.

5 Measures to avoid or reduce impacts

Note: If you have identified alternatives in relation to location, time frames or activities for the proposed action at Section 2.3 you will need to complete this section in relation to each of the alternatives identified.

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

For any measures intended to avoid or mitigate significant impacts on matters protected under the EPBC Act, specify:

- what the measure is,
- how the measure is expected to be effective, and
- the time frame or workplan for the measure.

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

Provide information about the level of commitment by the person proposing to take the action to achieve the proposed environmental outcomes and implement the proposed mitigation measures. For example, if the measures are preliminary suggestions only that have not been fully researched, or are dependent on a third party's agreement (e.g. council or landowner), you should state that, that is the case.

Note, the Australian Government Environment Minister may decide that a proposed action is not likely to have significant impacts on a protected matter, as long as the action is taken in a particular manner (section 77A of the EPBC Act). The particular manner of taking the action may avoid or reduce certain impacts, in such a way that those impacts will not be 'significant'. More detail is provided on the Department's web site.

For the Minister to make such a decision (under section 77A), the proposed measures to avoid or reduce impacts must:

- clearly form part of the referred action (eg be identified in the referral and fall within the responsibility of the person proposing to take the action),
- be must be clear, unambiguous, and provide certainty in relation to reducing or avoiding impacts on the matters protected, and
- must be realistic and practical in terms of reporting, auditing and enforcement.

If a proposed action is determined to be a controlled action, the Department may request further details to enable application of the *Outcomes-based Conditions Policy 2016* (http://www.environment.gov.au/epbc/publications/outcomes-based-conditions-policy-guidance), including information about the environmental outcomes to be achieved by proposed avoidance, mitigation, management or offset measures, details of baseline data, milestones, performance criteria, and monitoring and adaptive management to ensure the achievement of outcomes. If this information is available at the time of referral it should be included in the description of the proposed measures.

More general commitments (e.g. preparation of management plans or monitoring), commitments to achieving environmental outcomes and measures aimed at providing environmental offsets, compensation or off-site benefits CANNOT be taken into account in making the initial decision about whether the proposal is likely to have a significant impact on a matter protected under the EPBC Act. (But those commitments may be relevant at the later assessment and approval stages, including the appropriate level of assessment, if your proposal proceeds to these stages).

Proposed measures for managing impact to *Pseudantechinus mimulus* include:

- Camera trapping on a monthly basis from August 2016 – January 2017 using methodology proven by Burnett, 2013 to identify any changes to detectability during this period.
- Removal of any identified individuals by Elliott Trapping at a minimum of 2 months before the project is commenced.
- Relocate individuals to preferred habitat identified by Burnett, 2013.
- Susbequent camera trapping to identify as far as practicable that all indivduals have been removed from the project area.
- Establish feral cat trapping program in and around the project area during the term of the project to reduce stress on any remaining indivuals.

6 Conclusion on the likelihood of significant impacts

Identify whether or not you believe the action is a controlled action (ie. whether you think that significant impacts on the matters protected under Part 3 of the EPBC Act are likely) and the reasons why.

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

√	No, complete section 5.2
	Yes, complete section 5.3

6.2 Proposed action IS NOT a controlled action.

Specify the key reasons why you think the proposed action is NOT LIKELY to have significant impacts on a matter protected under the EPBC Act.

Pseudantechinus mimulus has been demonstrated by Burnett (2013) to be regionally common. Research has also demonstrated the effectiveness of camera trapping methodology for detection of the species. The preferred habitat has been clearly identified and individuals can be successfully removed by Elliott Trapping.

6.3 Proposed action IS a controlled action

Type 'x' in the box for the matter(s) protected under the EPBC Act that you think are likely to be significantly impacted. (The 'sections' identified below are the relevant sections of the EPBC Act.)

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

Specify the key reasons why you think the proposed action is likely to have a significant adverse impact on the matters identified above.

7 Environmental record of the responsible party

NOTE: If a decision is made that a proposal needs approval under the EPBC Act, the Environment Minister will also decide the assessment approach. The EPBC Regulations provide for the environmental history of the party proposing to take the action to be taken into account when deciding the assessment approach.

		Yes	No
7.1	**Does the party taking the action have a satisfactory record of responsible environmental management?** Chinova Resources has proactively assessed the potential to impact on a MNES well before the proposed project and established internal processes to manage and avoid impacting the *Pseudantechinus mimulus*. Chinova have had mine closure plans in place which prioritise and manage rehabilitation to maximise the outcomes for the native species. Maintaining rock outer batters for waste rock dumps will serve to encourage recolonization by *Pseudantechinus mimulus* and other significance species. Chinova Resources have proactively rehabilitated a large number of sites spending $1.8M in 2015 alone on the Cloncurry Project area. This work has been recognised by the Queensland Department of Environment and Heritage Protection by granting Chinova the maximum discount acheiveable (30%) for financial assurance. Chinova has had no fines or compliance action recorded against it for any environmental management issues.	Yes	
7.2	**Has either (a) the party proposing to take the action, or (b) if a permit has been applied for in relation to the action, the person making the application - ever been subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources?** **If yes, provide details**		No
7.3	**If the party taking the action is a corporation, will the action be taken in accordance with the corporation's environmental policy and planning framework?** **If yes, provide details of environmental policy and planning framework**	NA	
7.4	**Has the party taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?** **Provide name of proposal and EPBC reference number (if known)**		No

8 Information sources and attachments

(For the information provided above)

8.1 References

- List the references used in preparing the referral.
- Highlight documents that are available to the public, including web references if relevant.

Place Planning Design Environment, 2010. Ivanhoe Cloncurry Mine Leases and Associated Infrastructure. Baseline Ecological Report.

Place Planning Design Environment, 2011. Ivanhoe Cloncurry Mine Leases and Associated Infrastructure. Post Wet Season Survey.

Place Planning Design Environment, 2012. Mt Dore Mine Lease Expansion. Baseline Ecological Report.

Place Planning Design Environment, 2010. Ivanhoe Cloncurry Mine Leases and Associated Infrastructure. Taphozous Management Plan.

Burnett, S. McDonald, K. & Nugent, D. 28 October 2014. Optimising field surveys and exploring habitat associations of the carpentarian false antechinus, *Pseudoantechinus mimulus* in the Selwyn Ranges, north-western Queensland. University of the Sunshine Coast.

RBC Environmental, 2nd August 2016. Chinova Resources Cloncurry Pty Ltd. Mt Dore Heap Leach Project. *Pseudoantechinus mimulus* Camera Trapping Program.

RBC Environmental, 22nd August 2016. Chinova Resources Cloncurry Pty Ltd. Mt Dore Heap Leach Project - Environmental Management Plan.

Note: All documents can be made publicly available as required.

8.2 Reliability and date of information

For information in section 3 specify:

- source of the information;
- how recent the information is;
- how the reliability of the information was tested; and
- any uncertainties in the information.

- Information has been provided by independent consultancies or university based researchers.
- All referenced information is less than 7 years old.
- Information is referenced against the appropriate standards and guidelines.
- Burnett et al have provided an academic review of the issues surropunding the antechinus. The information provided is statistically analysed and supported. Reliability is considered to be high.

8.3 Attachments

Indicate the documents you have attached. All attachments must be less than three megabytes (3mb) so they can be published on the Department's website. Attachments larger than three megabytes (3mb) may delay the processing of your referral.

		✓ attached	Title of attachment(s)
You must attach	figures, maps or aerial photographs showing the project locality (section 1)	✓	
	GIS file delineating the boundary of the referral area (section 1)		
	figures, maps or aerial photographs showing the location of the project in respect to any matters of national	✓	

	environmental significance or important features of the environments (section 3)		
If relevant, attach	copies of any state or local government approvals and consent conditions (section 2.5)	NA	
	copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if available (section 2.6)	NA	
	copies of any flora and fauna investigations and surveys (section 3)	✓	Refer to references listed in 8.1
	technical reports relevant to the assessment of impacts on protected matters that support the arguments and conclusions in the referral (section 3 and 4)	✓	Refer to Burnett et al 2014
	report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3)	NA	

9 Contacts, signatures and declarations

NOTE: Providing false or misleading information is an offence punishable on conviction by imprisonment and fine (s 489, EPBC Act).

Under the EPBC Act a referral can only be made by:

- the person proposing to take the action (which can include a person acting on their behalf); or
- a Commonwealth, state or territory government, or agency that is aware of a proposal by a person to take an action, and that has administrative responsibilities relating to the action[1].

Project title:

9.1 Person proposing to take action

This is the individual, government agency or company that will be principally responsible for, or who will carry out, the proposed action.

If the proposed action will be taken under a contract or other arrangement, this is:

- the person for whose benefit the action will be taken; or
- the person who procured the contract or other arrangement and who will have principal control and responsibility for the taking of the proposed action.

If the proposed action requires a permit under the Great Barrier Reef Marine Park Act[2], this is the person requiring the grant of a GBRMP permission.

The Minister may also request relevant additional information from this person.

If further assessment and approval for the action is required, any approval which may be granted will be issued to the person proposing to take the action. This person will be responsible for complying with any conditions attached to the approval.

If the Minister decides that further assessment and approval is required, the Minister must designate a person as a proponent of the action. The proponent is responsible for meeting the requirements of the EPBC Act during the assessment process. The proponent will generally be the person proposing to take the action[3].

1. Name and Title:	**Brent Jiang** **Chief Executive Officer**
2. Organisation (if applicable):	
Chinova Resources Cloncurry Mines Pty Ltd	
	Organisation name should match entity identified in ABN/ACN search
3. EPBC Referral Number (if known):	
4: ACN / ABN (if applicable):	**ABN 22106255216**
5. Postal address	**PO Box 1534** **Milton QLD 4064**
6. Telephone:	**07 32467700**
7. Email:	**Brent.Jiang@chinovaresources.com**

[1] *If the proposed action is to be taken by a Commonwealth, state or territory government or agency, section 8.1 of this form should be completed. However, if the government or agency is aware of, and has administrative responsibilities relating to, a proposed action that is to be taken by another person which has not otherwise been referred, please contact the Referrals Gateway (1800 803 772) to obtain an alternative contacts, signatures and declarations page.*

[2] *If your referred action, or a component of it, is to be taken in the Great Barrier Reef Marine Park the Minister is required to provide a copy of your referral to the Great Barrier Reef Marine Park Authority (GBRMPA) (see section 73A,* EPBC Act*). For information about how the GBRMPA may use your information, see http://www.gbrmpa.gov.au/privacy/privacy_notice_for_permits.*

8. Name of proposed proponent (if not the same person at item 1 above and if applicable):

9. ACN/ABN of proposed proponent (if not the same person named at item 1 above):

COMPLETE THIS SECTION ONLY IF YOU QUALIFY FOR EXEMPTION FROM THE FEE(S) THAT WOULD OTHERWISE BE PAYABLE

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

□ an individual; OR

□ a small business entity (within the meaning given by section 328-110 (other than subsection 328-119(4)) of the *Income Tax Assessment Act 1997*); OR

□ not applicable.

If you are small business entity you must provide the Date/Income Year that you became a small business entity:

Note: You must advise the Department within 10 business days if you cease to be a small business entity. Failure to notify the Secretary of this is an offence punishable on conviction by a fine (regulation 5.23B(3) *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth)).

COMPLETE THIS SECTION ONLY IF YOU WOULD LIKE TO APPLY FOR A WAIVER

I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations. Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made:

□ not applicable.

Declaration

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

Signature B. E. Jian Date 6 Sept 2016

9.2 Person preparing the referral information (if different from 9.1)

Individual or organisation who has prepared the information contained in this referral form.

Name: **Rodney Coe**

Position:	**Principal**
Organisation:	**RBC Environmental**
ABN:	
Address:	**36 Kooringal Way**
	Sandstone Point QLD 4511
Telephone:	**07 54295789**
	0488 000219

Declaration

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

Signature  Date 1-Sep-2016

REFERRAL CHECKLIST

NOTE: This checklist is to help ensure that all the relevant referral information has been provided. It is not a part of the referral form and does not need to be sent to the Department.

HAVE YOU:

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

Attachment A

Geographic Information System (GIS) data supply guidelines

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

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

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

Processed products should be provided as follows:

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

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

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

All data will be provide under a Creative Commons license (http://creativecommons.org/licenses/by/3.0/au/)