Sconi Battery Minerals Project

Application Number: **01661** Commencement Date: **16/02/2023** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Sconi Battery Minerals Project

1.1.2 Project industry type *

Mining

1.1.3 Project industry sub-type

Other

1.1.4 Estimated start date *

01/01/2027

1.1.4 Estimated end date *

31/12/2051

1.2 Proposed Action details

1.2.1 Provide an overview of the proposed action, including all proposed activities. *

The Sconi Project is a proposed open-cut cobalt and nickel mine, encompassing the old Greenvale Nickel Mine site and two nearby satellite deposits (referred to as Lucknow and Kokomo). The Project site is located near the township of Greenvale in Northern Queensland approximately 195 kilometres (km) northwest of Townsville, on the Gregory Developmental Road (Attachment 1_Redacted: Figure 1).

The proposed Project site encompasses two existing Mining Leases (ML) and one Mining Lease Application (MLA) as well as adjacent lands. The current lease areas at Greenvale (MLA 10368), Lucknow (ML 10366) and Kokomo (ML 10342) are insufficient to cover the proposed mine disturbance areas. The tenement holder, Sconi Mining Operations Pty Ltd, is in the process of defining the required lease boundaries prior to applying for extensions to the existing MLs and MLA, and new infrastructure MLAs to support pipeline and haul road corridors between the deposits.

At the time of the referral, the MLA areas are yet to be finalised for the Project, however the area defined as ‘the Project’ will form the likely basis of the Mining Lease applications. The Project spans 5,253 hectares (ha) of land and is comprised of the following proposed tenement areas:

- Greenvale MLA (1,937 ha);
- Lucknow MLA (1,388 ha);
- Kokomo MLA (1,624 ha);
- Greenvale to Lucknow infrastructure corridor MLA (26 ha); and
- Kokomo to Greenvale haul road corridor MLA (278 ha).

The study area for the Project incorporates all proposed mining and infrastructure MLA areas as well as a 100 metre (m) buffer to the Greenvale, Lucknow and Kokomo MLAs. In total, the Project study area encompasses of 5,922 ha of land and is shown in Figure 1.

The Project development of the Greenvale site proposes the use of some existing infrastructure (electricity transmission line, roads/tracks, dams, mined pits) in addition to new areas of disturbance. The Project would also involve re-disturbing previously rehabilitated land to further develop the existing laterite deposits. The proposed layout of the Greenvale site is shown through Figure 2 (Attachment 1_Redacted).

The proposed layout of the Lucknow and Kokomo areas are shown through Figure 3 and Figure 4 (respectively) (Attachment 1_Redacted). Linear infrastructure connecting the Greenvale and Lucknow mine areas is to be constructed on the northern side of the Gregory Developmental Road (GDR) (Attachment 1_Redacted: Figure 3).

Linear infrastructure will need to be constructed external to the mining tenements to provide connectivity between the tenements, and enable access to the Burdekin River. This will include:

- the construction of pipelines between the Greenvale and Lucknow mine infrastructure areas (MIA) (Attachment 1_Redacted: Figure 3);
- a haul road corridor connecting the Kokomo run of mine with the Greenvale MIA (Attachment 1_Redacted: Figure 5 and Figure 6); and
- a water pipeline to be constructed adjacent to the southernmost section of the haul road as shown in Figure 6 (Attachment 1_Redacted). A pump station would be constructed at the Burdekin River, adjacent to the haul road crossing point.

The Proposed mine development will be comprised of:

- several shallow open cut pits established at each Project area via free-digging and light blasting in 6 m benches;
- topsoil, ore and waste rock stockpiles at each Project area;
- an infrastructure corridor connecting the Greenvale and Lucknow Project sites, including:
    - an access road and haulage road for the transportation of materials and ore from Lucknow to Greenvale; and
    - a tailings delivery pipeline from the Greenvale MIA to the Lucknow Tailings Storage Facility (TSF);
- a haul road corridor connecting from the Kokomo ROM pad to the Greenvale MIA;
- water extraction infrastructure to be constructed at the water off-take point on the Burdekin River and a water supply pipeline returning to the raw water storage dam at Greenvale; and
- a separate accommodation village to be constructed on freehold land owned by Australian Mines Limited located in Greenvale to support the Project's operational stages (Attachment 1_Redacted: Figure 7).
- a Mine Infrastructure Area at Greenvale including:
    - a High Pressure Acid Leach (HPAL) processing plant;
    - a sulphuric acid plant for the generation of acid, steam and power;
    - a water treatment plant;
    - reagent preparation circuits;
    - an air cooling system for the process plant;
    - a stand-alone power plant that will utilise excess heat and steam from the sulphuric acid plant;
    - a ROM stockpile pad;
    - raw water storage dam and mine affected water dams;
    - workshops facilities;
    - diesel refuelling tank(s) and oil storage area;
    - mine warehouse and stores yard;
    - a magazine and bulk explosives plant (for storing and mixing of emulsion product);
    - equipment washdown and laydown area;
    - administration and operational office facilities;
    - a temporary accommodation camp to accommodate contractor personnel during the construction phase;
    - potable water and waste water / sewage treatment plants; and
    - internal access and haul roads;
- mine infrastructure at Lucknow including:
    - a ROM stockpile pad;
    - a Tailings Storage Facility; and
    - internal access and haul roads;
- mine infrastructure at Kokomo including:
    - a ROM stockpile pad;
    - workshops facilities; and
    - internal access and haul roads.

Final infrastructure locations will remain subject to ongoing feasibility studies, with indicative locations currently presented in Figure 2 to Figure 6 (refer to Attachment 1_Redacted).

The Project description is detailed in Attachment 2_Redacted (Sconi Battery Minerals Project: Initial Advice Statement (AARC 2023)).

1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?

No

1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

Commonwealth legislation and approvals considered relevant to the Project include the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), Native Title Act 1993 and the Defence Act 1903.*

A referral to the DCCEEW is required for the assessment of potential impacts to Matters of National Environmental Significance under the EPBC Act.

A significant portion of the Project area is located within a native title determination area for the Gugu Badhun people #2. The Proponent is required to enter into an Indigenous Land Use Agreement (ILUA) with the Gugu Badhun People #2.

The Lucknow portion of the Project area is located on lands administered by the Commonwealth Department of Defence (DoD) as part of the Australia-Singapore Military Training Initiative new advanced training area. An agreement is to be reached with DoD to facilitate mining operations at the Lucknow tenement.

Legislative approval of the Sconi Battery Minerals Project requires the submission of an application for an Environmental Authority (EA), under the Queensland *Environment Protection Act 1994* (EP Act).

Sconi Mining Operations Pty Ltd has received approval under the EP Act to voluntarily prepare an Environmental Impact Statement (EIS) as the approval process to support the EA application for the Project. It is envisaged therefore, that the Queensland-Commonwealth bilateral assessment agreement will be applicable to establishing the assessment co-ordination between the Queensland and Commonwealth governments for this Project.

The Project is also subject to several mine lease applications, pursuant to Qld's *Mineral Resources Act 1989* (MR Act).

In regard to other State legislation applicable to the Project, the following Acts have been identified as relevant:

- *Aboriginal Cultural Heritage Act 2003*
- *Torres Strait Islander Cultural Heritage Act 2003*
- *Biosecurity Act 2014*
- *Electricity Act 1994*
- *Environmental Offsets Act 2014*
- *Environmental Protection Act 1994*
- *Fisheries Act 1994*
- *Forestry Act 1959*
- *Local Government Act 2009*
- *Mineral Resources Act 1989*
- *Mineral and Energy Resources (Common Provisions) Act 2014*
- *Mineral and Energy Resources (Financial Provisioning) Act 2018*
- *Mineral and Energy Resources (Financial Provisioning) Regulation 2019*
- *Nature Conservation Act 1992*
- *Nature Conservation (Plants) Regulation 2020*
- *Nature Conservation (Animals) Regulation 2020*
- *Queensland Heritage Act 1992*
- *Planning Act 2016*
- *Plumbing and Drainage Act 2018*
- *Regional Planning Interests Act 2014*
- *Strong and Sustainable Resource Communities Act 2017*
- *Transport Infrastructure Act 1994*
- *Vegetation Management Act 1999*
- *Water Act 2000*

The local government approval authority relevant to the Sconi Project is the Charters Towers Regional Council (CTRC). Components of the Project will require local government planning approval under the *Planning Act 2016* and the CTRC planning scheme policy. These activities include proposed road upgrades for the construction of the haul road between Greenvale and Kokomo and the construction of an accommodation village in the Greenvale Township (Figure 7).

1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

Relations with the local community, and relevant departments within Local and State Government have been established by AUZ through preliminary discussions.

A social impact assessment (SIA) will be undertaken as part of the EIS to assess the potential impacts of the Project. As impacts are identified, solutions will be canvassed with the stakeholders through a consultation program.

The stakeholder consultation program will therefore include:

- identifying affected and interested stakeholders;

- development of a schedule of activities to inform the relevant stakeholders;
- development of appropriate communication and consultation model along with the selection of appropriate communication and consultation tools; and
- ongoing review and maintenance of relevant documentation to address any comments and/or issues of concern from the stakeholders and community.

Communication and consultation tools will be developed early in the EIS process and are anticipated to include the following options:

- face to face meetings;
- phone meetings;
- written notices and communications;
- local and/or regional newspaper notifications;
- newsletters; and
- media releases.

Completion of the Social Impact Assessment for the Project will include:

- engagement with a range of community and government stakeholders;
- an impact assessment of the Project on the community; and
- the development of a Social Impact Management Plan (SIMP).

When developed, the SIMP will require monitoring and updating throughout the life of the mine, to ensure that social benefits are derived from the Project, while risk/impacts are also understood and appropriately managed.

The Traditional Owners of the region are the Gugu Badhun people. As part of the EIS process, assessment of the Aboriginal cultural heritage values potentially impacted by the Project will be undertaken in consultation with the Gugu Badhun people. A Cultural Heritage Management Plan (CHMP) will be developed for the Project.

1.3.1 Identity: Referring party

Privacy Notice:

Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

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1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	71620818920
Organisation name	AARC ENVIRONMENTAL SOLUTIONS PTY LTD
Organisation address	164 Wharf Street, Spring Hill, 4000 QLD

Referring party details

Name	Hollie Dick
Job title	Senior Environmental Scientist
Phone	0732178772
Email	hdick@aarc.au
Address	164 Wharf Street, Spring Hill

1.3.2 Identity: Person proposing to take the action

1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? *

No

1.3.2.2 Is Person proposing to take the action an organisation or business? *

Yes

Person proposing to take the action organisation details

ABN/ACN	36614910191
Organisation name	SCONI MINING OPERATIONS PTY LTD
Organisation address	6000 WA

Person proposing to take the action details

Name	Michael Holmes
Job title	Chief Executive Officer
Phone	(07)31849184
Email	mholmes@australianmines.com.au
Address	Level 34, 1 Eagle Street, Brisbane QLD, 4000

1.3.2.14 Are you proposing the action as part of a Joint Venture? *

No

1.3.2.15 Are you proposing the action as part of a Trust? *

No

1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

The Person proposing the action (PPA) is Sconi Mining Operations Pty Ltd (ACN 614 910 191), a subsidiary of parent company Australian Mines Limited (AUZ) (ACN 073 914 191). The PPA has no current or historical records of proceedings against them under Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources. AUZ (and it's subsidiary company) is an ethical and sustainability driven organisation.

AUZ and Sconi Mining Operations Pty Ltd do not currently operate any mines in Qld, with the exception of a rehabilitated mine site located south of Greenvale. Sconi Mining Operations Pty Ltd acquired this tenement post-mining, during the 'care and maintenance' phase, in conjunction with the acquisition of the Sconi tenements, and has since been managing its environmental commitments at the site. Sconi Mining Operations Pty Ltd also holds many mineral exploration permits throughout northern Qld.

Sconi Mining Operations Pty Ltd has adhered to its regulatory responsibilities regarding its exploration activities and has not been the subject of any environmental legal proceedings that have resulted in fines or prosecution.

Sconi Mining Operations Pty Ltd is committed to operating in an environmentally and socially responsible manner during the design, approvals, construction, operation and closure of the Sconi Project. Environmental matters will be managed through the following commitments:

- complying with legislative requirements;
- communicating effectively with stakeholders; and
- committing to the reduction and mitigation of environmental impacts.

Australian Mines Limited is the first mineral resource company in the world to be Carbon Neutral certified under the Australian Government's Climate Active program, in recognition of reaching net zero emissions in 2020 (refer to Attachment 3).

1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

Australian Mines is committed to leadership on Environmental, Social and Governance (ESG) matters, arising from the view that it is the right way to operate a business, while also emerging as a key consideration for potential project financing partners. The highest ESG standards shall be implemented throughout AUZ's operations and sustainable and ethical business practices.

Through emissions reduction actions and verified carbon offsets, AUZ were the first mineral resource company in the world to become Carbon Neutral certified under the Australian Government's Climate Active program.

AUZ also intends to support and participate in a third-party verification and certification process against a comprehensive best-practice standard that addresses environmentally and socially responsible mining.

AUZ has adhered to its regulatory responsibilities regarding its exploration activities and has not been the subject of any environmental legal proceedings that have resulted in fines or prosecution.

In addition to meeting statutory requirements for environmental management, sustainability and reporting, AUZ is committed to developing an Environmental Policy and Planning Framework to support it's operations.

Making the decision to become carbon neutral is a natural extension of Australian Mines ongoing commitment to building a sustainable business, that incorporates leading ESG practices.

AUZ has implemented the following emissions reduction actions through the business' daily operations:

- Employees are more aware and actively engaged in reducing emissions across the business through implementation of the climate active program.
- Practices in place to significantly reduce travel-related emissions by utilising virtual communication technologies to replace face to face meetings.
- Implementation of green office policies, that include, but are not limited to:
    - setting double-sided printing as a default on all computers and printers;
    - successfully transitioned to 100% recycled paper; and
    - implementing off peak computer and office equipment shutdowns (where possible).
- Continued education and engagement with our people to continue reducing emissions generated at work.

- Engagement with a greater number of Carbon Neutral partners across the business.

1.3.3 Identity: Proposed designated proponent

1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

ABN/ACN	36614910191
Organisation name	SCONI MINING OPERATIONS PTY LTD
Organisation address	6000 WA

Proposed designated proponent details

Name	Michael Holmes
Job title	Chief Executive Officer
Phone	(07)31849184
Email	mholmes@australianmines.com.au
Address	Level 34, 1 Eagle Street, Brisbane QLD, 4000

1.3.4 Identity: Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN/ACN	71620818920
Organisation name	AARC ENVIRONMENTAL SOLUTIONS PTY LTD
Organisation address	164 Wharf Street, Spring Hill, 4000 QLD
Representative's name	Hollie Dick
Representative's job title	Senior Environmental Scientist
Phone	0732178772
Email	hdick@aarc.au
Address	164 Wharf Street, Spring Hill

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	36614910191
Organisation name	SCONI MINING OPERATIONS PTY LTD
Organisation address	6000 WA
Representative's name	Michael Holmes
Representative's job title	Chief Executive Officer
Phone	(07)31849184
Email	mholmes@australianmines.com.au
Address	Level 34, 1 Eagle Street, Brisbane QLD, 4000

Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details: Payment exemption and fee waiver

1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)?

Yes

1.4.2 Select reason for exemption

Small Business

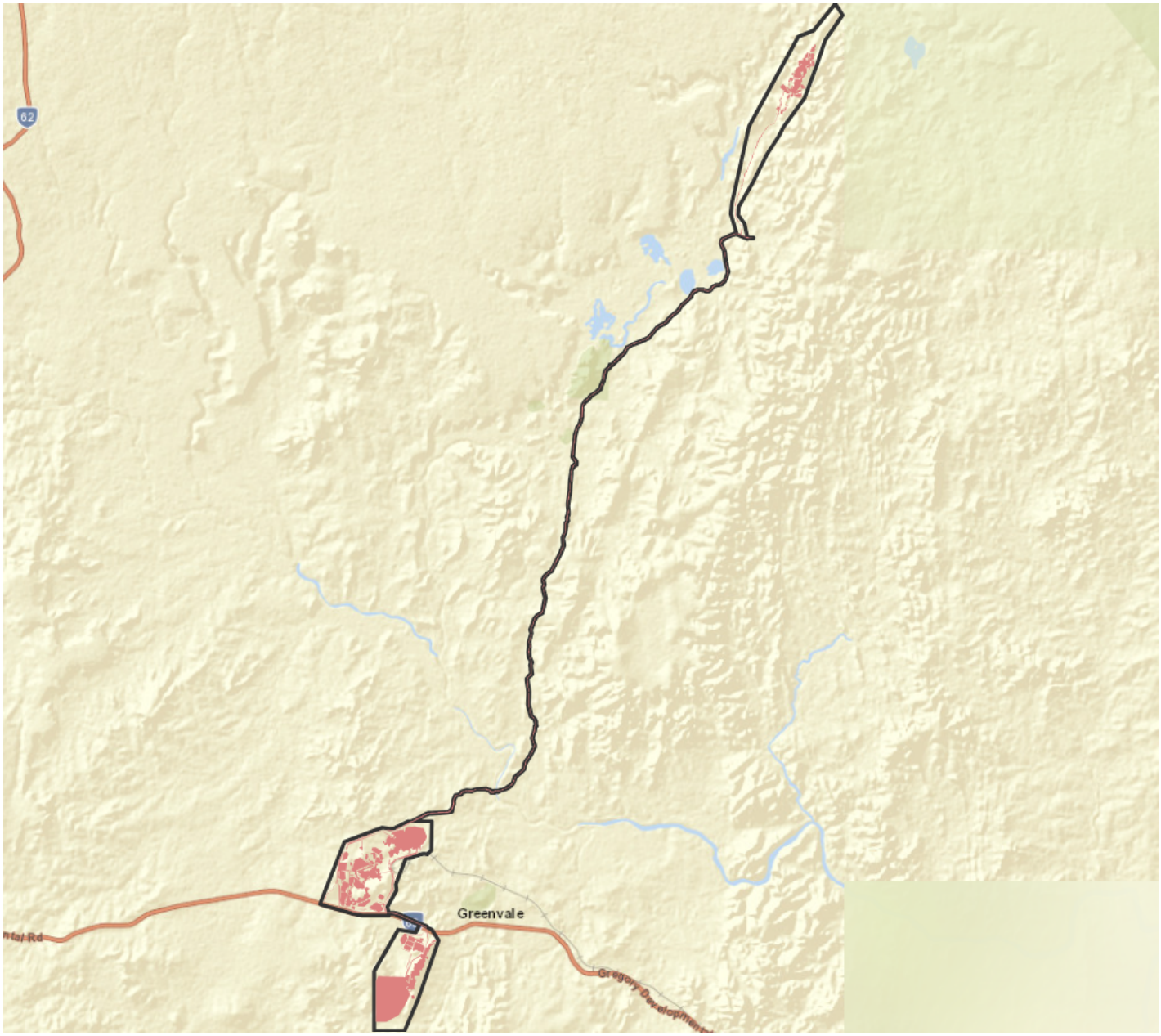
1.4 Payment details: Payment allocation

1.4.11 Who would you like to allocate as the entity responsible for payment?

Person proposing to take the action

2. Location

2.1 Project footprint



2.2 Footprint details

2.2.1 What is the address of the proposed action? *

Greenvale Nickel Mine, Gregory Developmental Road, Greenvale, Queensland, 4816

2.2.2 Where is the primary jurisdiction of the proposed action? *

Queensland

2.2.3 Is there a secondary jurisdiction for this proposed action? *

No

2.2.5 What is the tenure of the action area relevant to the project area? *

The Sconi Project is comprised of three MLs; the Greenvale MLA10368 (1088 ha), Lucknow ML10366 (138.3 ha), and the Kokomo ML10342 (419.2 ha). The Project footprint lies predominately within the current MLs, but they will all need to be expanded to facilitate the full Project footprint. The Project occurs over several freehold, leasehold and State owned land parcels as shown in Figure 8. The Lucknow Project area is also located on Perpetual leasehold lands held by the Commonwealth Government as part of the Greenvale Defence Training Area. Land tenure underlying the Project is described below.

Greenvale

Lot/Plan - 501/SP232789

Tenure- Lands Lease

Landholder - Private Entity

Lot/Plan - 22/SP185817

Tenure- State Land

Landholder - State Land (Department of Resources (DoR))

Lot/Plan - 1/SP116445

Tenure- Lands Lease (Perpetual)

Landholder - State Land (Department of Transport and Main Roads (DTMR))

Lot/Plan - 1/CLK18

Tenure- Lands Lease (Perpetual)

Landholder - State Land (DTMR)

Lot/Plan - 500/SP112185

Tenure- Lands Lease

Landholder - Ergon Energy Corporation Limited

Lucknow

Lot/Plan - 54/SP319944

Tenure- Lands Lease (Perpetual)

Landholder - Commonwealth Land (Defence)

Lot/Plan - 2/USL 48011

Tenure- State Land

Landholder - State Land (DoR)

Lot/Plan - 54/SP319944

Tenure- Lands Lease (Perpetual)

Landholder - Commonwealth Land (Defence)

Kokomo

Lot/Plan - 4/SP232791

Tenure- Lands Lease

Landholder - Private Entity

Haul Road (Greenvale to Kokomo) and Burkedin Access

Lot/Plan - 4/SP232791

Tenure- Lands Lease

Landholder - Private Entity

Lot/Plan - 5/SP250473

Tenure- Lands Lease/Reserve

Landholder - Private Entity

Lot/Plan - 200/SP232790

Tenure- Freehold

Landholder - Private Entity

Lot/Plan - 501/SP232789

Tenure-Lands Lease

Landholder - Private Entity

Lot/Plan - A/AP3122

Tenure-Lands Lease

Landholder - Private Entity

3. Existing environment

3.1 Physical description

3.1.1 Describe the current condition of the project area's environment.

The Sconi Battery Minerals Project has three distinct operational areas, being Greenvale (1,937 ha), Lucknow (1,388 ha), and Kokomo (1,624 ha). The Kokomo and Lucknow Project areas are greenfield sites, which are subject to exploration and grazing land use activities. These sites predominantly comprise remnant vegetation and unimproved pastures. The land underlying the Greenvale ML includes historical mining related disturbance. The Greenvale site was closed, decommissioned, and rehabilitated in 1993 with flooded open-cut pits and the Stenhouse dam remaining in place. Despite the completion of rehabilitation at the closure of the Greenvale Nickel Mine, the site remains poorly rehabilitated by current standards. Approximately 261 ha of the land underlying the proposed Greenvale disturbance footprint consists of historical disturbance and artificial waterbodies, whilst the remaining area of proposed disturbance comprises approximately 541 ha of remnant, regrowth and grazing vegetation. The old Greenvale Nickel Mine is currently identified as a legacy rehabilitation site for the Queensland Government, being listed on the Abandoned Mines Register. No rehabilitation schedule has been developed by the Queensland Government for this liability to date. The proposed Project will therefore provide a pathway for removal of this legacy to the Queensland Government, with rehabilitation of the site to be undertaken by AUZ.

3.1.2 Describe any existing or proposed uses for the project area.

All three Project areas are currently classified as 'Grazing native vegetation' under the Queensland land use mapping. However, the footprint of historical disturbance at Greenvale, which makes up a large portion of the proposed Greenvale Project area is classified as a 'Waste treatment and disposal' land use. Existing land use across the Project site can be described as predominantly low intensity cattle grazing on unimproved pastures, with historically cleared areas interspersed by ridges of natural bushland. While the entire Project site is currently used for low intensity cattle grazing, the impact of cattle grazing is more evident at Greenvale and Lucknow, likely due to the intensity of grazing practices and the isolated location of the Kokomo tenement.

The proposed Sconi Battery Minerals Project is an open-cut cobalt and nickel mine, encompassing the old Greenvale Nickel Mine site and two nearby satellite deposits (Lucknow and Kokomo). Development of the Project would involve new disturbance across the three Project areas for the purposes of resource recovery and infrastructure establishment. The Project would also involve re-disturbing partially rehabilitated land at Greenvale to further develop the existing laterite deposits. Some existing infrastructure (electricity transmission line, roads/tracks, dams, mined pits) will be utilised and upgraded as required. It is noted that the proposed Project development will require extensions to the existing Mining Lease areas. Mining Lease Applications will be lodged in conjunction with the EIS process (under Queensland legislative processes).

Rehabilitation will occur progressively and will be finalised at the completion of mining to return the land to a sustainable post-mining land use.

3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

The environmental values of the Project site have been impacted by previous mining activities, grazing, feral animals and weed infestations. Areas of the Project site, such as the Greenvale Nickel Mine area, remain significantly disturbed.

Two nationally important wetlands, listed under the Directory of Important Wetlands in Australia (DIWA) are located in close proximity to the Project site (Figure 9). The Lake Lucy Wetlands are located approximately 2 km upstream of the Kokomo tenement, while the Valley of Lagoons wetland system lies 10 km to the southwest of the Kokomo tenement and contains numerous wetland areas.

The map of Great Barrier Reef Wetland Protection Areas identifies several High Ecological Significance (HES) wetlands and associated trigger areas known as wetland protection areas (WPA), in the immediate vicinity of the Kokomo Project area (Figure 9). WPAs in the vicinity of Kokomo include the Lake Lucy Wetlands to the north-east, unnamed wetlands to the north-west, and unnamed wetlands to the east. Wetlands in WPAs and HES wetlands are identified as Matters of State Environmental Significance (MSES).

The Burdekin River runs parallel with the Kokomo tenement approximately 500 metres (m) west of the Project boundary and then continues to flow in a south-easterly direction, passing approximately 5 km to the east of the Greenvale tenement and approximately 9 km to the northeast of the Lucknow tenement (Figure 9).

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

The Project site is located in Einasleigh Uplands Interim Biogeographic Regionalisation for Australia (IBRA) bioregion, which is geologically rich, consisting of rugged hills and ranges; alluvial and sand plains and dissected plateaus. The landforms of the Project area range from alluvial flats to hills and rises formed by Proterozoic igneous rock. Whilst most of the Project area can be described as undulating plains and rises, the Kokomo and Lucknow Project areas are formed on lateritic mesas featuring escarpments and plateaus.

Lucknow has a maximum elevation of 540 metres (m) above sea level, while the landform at Kokomo is situated up to 600m above sea level. The Greenvale site, at maximum, is less than 515m above sea level and has little variation in elevation across the site.

3.2 Flora and fauna

3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

The Project area is dominated by Eucalypt woodlands. A total of 425 native flora species and 41 introduced species have been identified during the course of nine field surveys completed between 2009 and 2018. No threatened flora species were recorded within the Project areas. Four restricted invasive plants under the *Biosecurity Act 2014* and/or listed as Weed of National Significance (WoNS) were found in the Project area and include:

- Lantana (*Lantana camara*);
- Parthenium Weed (*Parthenium hysterophorus*);
- Prickly Acacia (Vachellia *nilotica*); and
- American Rat's Tail Grass (*Sporobolus jacquemontii*).

A total of 231 vertebrate species have been identified over the course of the nine surveys conducted in the Project area (13 amphibian species, 135 bird species, 44 mammal species, and 39 reptiles).

Four species listed as migratory species under the EPBC Act were recorded during field surveys. Migratory species recorded on or nearby to the Project site include:

- Eastern Osprey (*Pandion cristatus*) (EPBC Act Migratory);
- Sharp-tailed Sandpiper (*Calidris acuminata*) (EPBC Act Migratory);
- Fork-tailed Swift (*Apus pacificus*) (EPBC Act Migratory); and
- Barn Swallow (*Hirundo rustica*) (EPBC Act Migratory).

One EPBC Act listed threatened fauna species, the Masked Owl (Northern subspecies) (*Tyto novaehollandiae Kimberli*) has been recorded on the Project site. The Northern Masked Owl is listed as Vulnerable under the EPBC Act.

The Project area or surrounding lands have been identified as potentially supporting three other EPBC Act listed threatened species including:

- the Koala (*Phascolarctos cinereus*) (EPBC Act Endangered);
- Greater Glider (*Petauroides minor*) (EPBC Act Vulnerable); and
- Large-eared Horseshoe Bat (*Rhinolophus robertsi*) (EPBC Act Vulnerable).

The Large-eared Horseshoe Bat was registered as possibly present in the Kokomo Project area during one field survey (May-June 2018). However, the species presence could not be confirmed due to poorly rendered echolocation signals.

The Greater glider has been observed in riparian habitat along the Burdekin River nearby to the Kokomo and Greenvale sites, during dry season surveys. The species has not been recorded on the Project site.

Whilst no Koalas have been recorded at the Project site, potential evidence of Koala presence has been identified during field surveys. This observation is limited to the presence of potential scats (species unconfirmed). Further surveys are required to determine if the Koala has a presence within the Project site. Database records indicate that the species is known to occur within 50 km of the Project areas and local residents of Greenvale have provided anecdotal accounts of the species presence in the region. The lack of confirmed Koala records on site, despite multiple surveys across several seasons suggests that Koalas likely have a low abundance in the region.

Six introduced fauna species were observed on the Project site during the field surveys. These were the Cane Toad (*Rhinella marina*), Black Rat (*Rattus rattus*), Feral Pig (*Sus scrofa*), Wild Dog (*Canis lupus dingo*), Feral Cat (*Felix catus*) and European Rabbit (*Oryctolagus cuniculus*). The Feral Pig, Wild Dog, Feral Cat and European Rabbit are listed by the Commonwealth Department of Agriculture, Fisheries and Forestry as priority pest animals due to their significant negative impacts on agriculture and the environment.

The inventory of conservation significant flora and fauna known from the Project site is detailed in Attachment 2_Redacted (Sconi Battery Minerals Project: Initial Advice Statement (AARC 2023)). Complete lists of flora and fauna species recorded on the Project site between 2009 and 2018 are included in Attachment 4 (SCONI Project: Terrestrial Ecology Report (AARC 2018)) and Attachment 5 (SCONI Project: Aquatic Ecology Report (AARC 2018)).

3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

Vegetation communities within the Project area are representative of four land zones (3, 7, 11, and 12) as defined by Wilson and Taylor (2012).

Land zone 3 is characterised fertile alluvial soils, including vertosols and sodosols. Alluvial formations are associated with a number of unnamed ephemeral watercourses throughout the site. Land zone 7 is dominated by steep sided mesas, plateaus, and edges of dissected tablelands. Soils are predominantly shallow rudosols, tenesols, and kandosols on tableland margins or absent entirely. Land zone 11 contains ranges, hills and lowlands on metamorphic rocks. Soils are mainly shallow, gravelly rudosols and tenosols, with sodosols and chromosols on lower slopes and gently undulating areas. Land zone 12 is defined as ranges, hills and lowlands on granitic rocks. Soils are mainly tenosols on steeper slopes with chromosols and sodosols on lower slopes and gently undulating areas.

Vegetation communities within the Project site are typical of remnant, semi-arid communities with minor disturbance from cattle grazing and exploration activities. A total of fifteen distinct communities were identified on the Project site during the course of field surveys. No vegetation within the Project area met the conditions to be classified as threatened ecological communities. Community descriptions are based on the Queensland Herbarium Regional Ecosystem (RE) classifications. Further field studies are yet to be undertaken to confirm the extent of vegetation communities across the Project Study Area. Vegetation communities recorded across the Project site to date include:

- Creeks dominated by *Melaleuca bracteata*, and occasionally with *Casuarina cunninghamiana* and/or *Eucalyptus camaldulensis* (RE 9.3.1);
- Alluvial flats of *Eucalyptus platyphylla* woodland (RE 9.3.3/9.3.3a);
- *Eucalyptus tereticornis* +/- *Casuarina cunninghamiana* +/- *Melaleuca spp*. fringing woodland on channels and levees (RE 9.3.15);
- *Dichanthium spp*., and/or *Astrebla spp*. +/- *Iseilema sp*. grassland on alluvial deposits derived from basalt soils (RE 9.3.25);
- Grassland of *Ophiuros exaltatus* (RE 9.3.26);
- *Eucalyptus persistens* woodland on laterised and deeply weathered surfaces on undulating terrain (RE 9.7.1);

- Lancewood (*Acacia shirleyi*) on lateritic ridges (RE 9.7.2/9.7.2a);
- *Eucalyptus melanophloia* woodland metamorphic hills and slopes (RE 9.11.1);
- *Eucalyptus crebra* and *Corymbia erythrophloia* woodland on metamorphic hills and slopes (RE 9.11.2a);
- *Eucalyptus crebra* and *Corymbia spp* open woodland on Serpentinite (RE 9.11.2d);
- *Eucalyptus persistens* +/- *E. crebra* woodland on low metamorphic hills (RE 9.11.5);
- Semi-deciduous vine thicket on metamorphic soils (not limestone) (RE 9.11.9);
- *Eucalyptus crebra* woodland on hills and slopes of igneous rocks (RE 9.12.1a);
- *Eucalyptus portuensis, Corymbia citriodora subsp. citriodora, E. granitica or E. crebra, C. intermedia or C. clarksoniana* mixed woodland on steep hills and ranges on igneous hills close to Wet Tropics boundary (RE 9.12.2); and
- Non-remnant vegetation (i.e. pasture, cropping, regrowth, etc.).

The vegetation communities listed above are described in Attachment 4 (SCONI Project: Terrestrial Ecology Report (AARC 2018)).

3.3 Heritage

3.3.1 Describe any Commonwealth heritage places overseas or other places recognised as having heritage values that apply to the project area.

No Commonwealth Heritage Places or other significant heritage values are present within the Project area.

3.3.2 Describe any Indigenous heritage values that apply to the project area.

Baseline cultural heritage studies were conducted in 2012 across a larger study area than is currently proposed, encompassing three proposed Project areas. The study identified the following cultural heritage values:

- a large cluster of significant Aboriginal areas or sites at Greenvale;
- significant Aboriginal areas and several archaeological sites at Kokomo;
- four significant Aboriginal areas or sites at Lucknow;
- no non-indigenous cultural heritage sites at Lucknow or Kokomo; and
- two possible non-indigenous sites of local significance only, at Greenvale.

Of the Aboriginal heritage sites identified at Greenvale, some consisted of large complexes, covering many hectares. Specifically, camp sites were identified to exist and consisted of multi-component features, primarily ovens and/or fireplaces; stone isolates and concentrations including axes, grindstones, cores and single reduction events. Other sites include stone sources, scarred trees and pathways.

The larger cultural heritage sites have been preliminarily mapped and potential impacts to these areas have been avoided during the mine planning phase. Where possible, these areas have been excluded from the proposed Project tenements to avoid impacts to cultural heritage values. Further detailed surveys are required as part of the EIS studies to determine the full extent of these areas or any new areas of cultural heritage significance.

Lands underlying the Greenvale and Kokomo tenements are also subject to a Native Title Claim by traditional owners, the Gugu Badhun People #2.

The Project's previous Proponent, Metallica Group (Metallica Minerals Ltd and NORNICO Pty Ltd) entered into an Indigenous Land Use Agreement (ILUA) with the Gugu Badhun People #2 in 2012 (Tribunal # QI2012/069). This ILUA encompassed lands between, and including, Greenvale and Kokomo. A similar ILUA was entered into by Metallica Group (Metallica Minerals Ltd and NORNICO Pty Ltd) and the Gugu Badhun People #2 in 2005, which incorporates all three tenement areas (Tribunal # QI2005/002).

AUZ will need to seek and enter into a new ILUA with the Gugu Badhun People #2 allowing for the proposed project activities at Kokomo and Greenvale for the life of the Project. While there is currently no Native Title Determination over the lands underlying the Lucknow Project area, it is worth noting that a claim was lodged by the Gugu Badhun People #3 in 2019 (QC2019/003). At the time of preparing this

referral, the native title claim application remains active. If declared a Native Title area, an ILUA would also be required to be established for the Lucknow Project area.

3.4 Hydrology

3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

The Project region is located within the Burdekin River Basin, which flows in a south-easterly direction into the Pacific Ocean at Upstart Bay, approximately 90 km south-east of Townsville. Watercourses on the Project site are small, ephemeral creeks that drain into the Burdekin River. The watercourses are ephemeral due to the local topography. Flow is restricted to heavy rainfall events, which typically occur between the months of November and March (the wet season).

The Greenvale tenement has little variation in elevation across the site and features several small wetland areas created by flooding of old mine voids. Surface water flow on the Greenvale tenement is restricted to small, ephemeral, first order watercourses. Sources of permanent water on the Greenvale tenement are the flooded mine voids and Stenhouse Dam. The historical mine voids occupy large areas of land, holding ponded water up to 20 m deep.

The Lucknow Project area consists of a mesa formation and series of rocky ridgelines. Surface water runoff following rainfall, rapidly drains from the cliffs of the mesa and ridgelines into local creeks. The creek system on the western and north-western side flows into Redbank Creek (which also collects runoff from the southern parts of Greenvale). This water eventually flows into the Burdekin River. Water flow from the eastern and southern side of the Lucknow tenement drains into Gray Creek. Gray Creek is ephemeral and eventually flows into the Burdekin River, approximately 17 km downstream of the Project site.

A series of small mesas span the Kokomo tenement in a north-south direction. Following rainfall, surface water rapidly drains from the top of these mesas into local creeks that drain to the Burdekin River, located approximately 1 km downstream. No significant sources of permanent water are available on the Kokomo tenement. Much of the site is comprised of steep sided hills. Alluvial fans have also formed in several areas. Larger deposition areas are floodplain-like and incised channels are rare.

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

EPBC Act section	Controlling provision	Impacted	Reviewed
S12	World Heritage	No	Yes
S15B	National Heritage	No	Yes
S16	Ramsar Wetland	No	Yes
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	Yes	Yes
S21	Nuclear	No	Yes
S23	Commonwealth Marine Area	No	Yes
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	No	Yes

EPBC Act section	Controlling provision	Impacted	Reviewed
S26	Commonwealth Land	Yes	Yes
S27B	Commonwealth Heritage Places Overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	World heritage
No	No	Wet Tropics of Queensland

4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

At its nearest point, the Wet Tropics of Queensland World Heritage Property (WHP) occurs approximately 50 km east of the Kokomo project area. Nearby World Heritage areas within the Wet Tropics of Queensland WHP include:

- Paluma Forest Reserve, which occurs approximately 130 km east of Greenvale & Lucknow, within a separate drainage catchment; and
- Girringun National Park, which occurs approximately 50 km east northeast and upstream of Kokomo.

No World Heritage properties occur downstream of the Project site.

The degree and nature of the separation between lands underlying the Proposed action and the WHP areas suggests that the ecosystems associated with each area are not contiguous and function independently of one another. Given the Project's occurrence in either a separate catchment or downstream of the Wet Tropics of Queensland World Heritage areas, the proposed action is considered to pose no direct or indirect impacts to the WHP.

4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	National heritage
No	No	Wet Tropics World Heritage Area (Indigenous Values)

4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Wet Tropics of Queensland National Heritage (Indigenous Values) area is located approximately 50 km east of the Kokomo project area.

The Wet Tropics of Queensland National Heritage area is situated external to and independent of the catchment of the Project site. Given the Project's location and separation from the cultural and ecosystem values of the Wet Tropics of Queensland National Heritage Place (NHP), the proposed action is considered to pose no direct or indirect impacts to the indigenous values of the NHP.

4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Ramsar wetland
No	No	Bowling Green Bay

4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.3.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The nearest downstream wetland of international importance is Bowling Green Bay. This wetland is located approximately 260 km southeast of the Project and 33 km south of Townsville and is fed by the Haughton River system.

Potential impacts of the Proposed action relate to the following activities:

- the expansion of the existing mine dam, which is likely to impact surface flows in high level streams (stream order 1 to 3) in the Burdekin River catchment;
- planned or unplanned releases of mine affected water, which would undergo significant dilution in the Burdekin River catchment prior to reaching the Haughton River system; and
- the abstraction of water from the Burdekin River, which would only occur during periods of flooding.

Given the proximity of the Project site relative to Bowling Green Bay, the Proposed action is not expected to pose any direct or indirect impacts to wetlands of international importance.

4.1.4 Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

Direct impact	Indirect impact	Species
No	No	Acacia crombiei
No	No	Calidris ferruginea
No	No	Cycas platyphylla
No	No	Dasyurus hallucatus
No	No	Dichanthium setosum
No	No	Egernia rugosa
No	No	Erythrotriorchis radiatus

Direct impact	Indirect impact	Species
Yes	Yes	Erythrura gouldiae
Yes	Yes	Falco hypoleucos
No	No	Geophaps scripta scripta
No	No	Grevillea glossadenia
No	No	Hirundapus caudacutus
No	No	Macroderma gigas
No	No	Mesembriomys gouldii rattoides
Yes	Yes	Petauroides minor
No	No	Petrogale sharmani
Yes	Yes	Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)
Yes	Yes	Poephila cincta cincta
No	No	Pteropus conspicillatus
No	No	Rhinolophus robertsi
No	No	Rostratula australis
No	No	Saccolaimus saccolaimus nudicluniatus
No	No	Tephrosia leveillei
Yes	Yes	Tyto novaehollandiae kimberli

Ecological communities

—

4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

All listed threatened species and communities identified during the preparation of the referral have been reviewed and assessed to determine the likelihood of each matter occurring within the Project Study Area, and the potential direct and indirect impacts that the proposed action may have on each matter. This assessment includes all species identified by the online portal and any additional species identified during the self-assessment process as known, likely or having potential to occur in the Study Area. This assessment incorporates the results of past field surveys and current database searches (e.g. EPBC Act Protected Matters Tool, Queensland Wildnet database, ALA database) including threatened species records within 50 km of the Project Study Area. The likelihood of occurrence and species impact assessment table is attached and addresses the potential direct and indirect impacts posed by the Proposed action (Attachment 6: Threatened Species Assessment (AARC 2023)).

One listed threatened species, the Masked Owl (Northern) *(Tyto novaehollandiae kimberli)* has been recorded on the Project site during field surveys. Field surveys have also identified the potential presence of three listed threatened species, including the Koala (*Phascolarctos cinereus),* Large-eared Horseshoe Bat (*Rhinolophus robertsi*), and Greater Glider (Northern) (*Petauroides minor)*. A further three listed threatened species are identified as having the potential to occur on the Project site based on the findings of the likelihood of occurrence assessment, including the Gouldian Finch (*Erythrura gouldiae*), Southern Black-throated Finch (*Poephila cincta cincta)* and Grey Falcon (*Falco hypoleucos*).

Of these seven species, one species (*Rhinolophus robertsi*) is considered a potential occurrence based on habitat availability on the Project site and the distribution of species records in the region. The six remaining species are considered known or likely to occur on the Project site and are therefore considered likely to be directly and/or indirectly impacted, if found to be present. Further field studies will be undertaken to target the above mentioned species.

Despite the completion of desktop searches and past ecological field surveys, no threatened ecological communities have been identified in the Project Study Area to date. Further field studies will be undertaken to confirm the extent of vegetation communities across the Project Study Area.

4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

Yes

4.1.4.5 Describe why you consider this to be a Significant Impact. *

The Proposed action has the potential to have a significant impact upon listed threatened species. The assessment of likelihood of occurrence and potential for the Project to impact on threatened species known from the region identified several species that may be impacted directly and/or indirectly by the Project. Based on the likelihood of species presence, the presence of suitable habitat on the Project site and the potential occurrence of an important population in the Project region, the following species may be significantly impacted by the Project:

- *Tyto novaehollandiae kimberli* (Masked Owl (northern));
- *Erythrura gouldiae* (Gouldian Finch);
- *Poephila cincta cincta* (Black-throated Finch);
- *Petauroides minor* (Greater Glider (northern));
- *Falco hypoleucos* (Grey Falcon); and
- *Phascolarctos cinereus* (Koala).

The potential impacts to threatened species have been determined based on the Project footprint currently proposed (refer to Figures 2 - 6) and the potential occurrence of each species in the Project Study Area (Figure 1). The list of threatened species determined likely to be directly and/or indirectly impacted is dependent on the footprint of the Proposed action which is yet to be finalised. Therefore, the determination of significant impacts to threatened species should be considered potential significant impacts until such time as the mine design and disturbance footprint is confirmed along with areas of suitable habitat.

4.1.4.7 Do you think your proposed action is a controlled action? *

Yes

4.1.4.8 Please elaborate why you think your proposed action is a controlled action. *

The Proposed action is considered a controlled action due to the potential for the Project to cause a significant impact to listed threatened species. Whilst the potential impacts of the Project are yet to be quantified, there is a risk that the Project may have a significant impact on certain species (or their habitat), if found to occur on the Project site.

4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

The Sconi Project design aims to avoid disturbance to suitable habitat by concentrating Project disturbance and processing activities in the previously disturbed areas at Greenvale. The Proposed action also proposes the use of existing roads to connect the satellite deposits within the Greenvale processing facilities. Further avoidance opportunities will be investigated during the EIS process.

The potential impacts of the Sconi Project are yet to be quantified. The type, extent and magnitude of environmental and social impacts associated with the proposed Project will be assessed during the EIS process. Depending on the findings of those assessments, appropriate mitigation and management strategies shall be developed and implemented to manage potential impacts to an acceptable level.

A range of mitigation measures and management strategies will be adopted for the Sconi Project; which may include, but not be limited to:

- avoiding disturbance to significant values and land generally, through considered design of the mine plan;

- minimising impacts to vegetation communities and fauna habitat through detailed design of mine infrastructure and operations, where feasible;
- developing and implementing surface and ground water control measures to minimise impacts on surface and ground water flow regimes and quality;
- developing and implementing weed and pest control measures; and
- implementing rehabilitation of historical and new disturbance areas to an agreed post mine land use.

Management Plans will also be developed to assist in establishing rigour around the management of key environmental challenges. Over the life of the Sconi Project, all land disturbed by the mining activity will be progressively rehabilitated. Detailed mitigation measures and management strategies will be provided in the EIS.

4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

Offsets are not proposed at this stage. Requirements for offsets will be assessed as part of the EIS studies.

4.1.5 Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Species
No	No	Actitis hypoleucos
Yes	Yes	Apus pacificus
Yes	Yes	Calidris acuminata
Yes	Yes	Calidris ferruginea
No	No	Calidris melanotos
Yes	Yes	Calidris ruficollis
No	No	Cuculus optatus
Yes	Yes	Gallinago hardwickii
Yes	Yes	Hirundo rustica
Yes	Yes	Hydroprogne caspia
Yes	Yes	Limosa limosa
No	No	Motacilla cinerea
No	No	Motacilla flava
No	No	Myiagra cyanoleuca
No	No	Numenius minutus

Direct impact	Indirect impact	Species
Yes	Yes	Pandion haliaetus
Yes	Yes	Plegadis falcinellus
No	No	Rhipidura rufifrons
No	No	Symposiachrus trivirgatus
No	No	Tringa nebularia
No	No	Tringa stagnatilis

4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.5.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

Two Migratory bird species, *Apus pacificus* (Fork-tailed Swift) and *Hirundo rustica* (Barn Swallow) have been identified within the Project site during field surveys. A third Migratory species, *Calidris acuminata* (Sharp-tailed Sandpiper) has been recorded in the Atlas of Living Australia database at the Greenvale Project area. A fourth Migratory Species, the Eastern Osprey (*Pandion cristatus*) has been recorded nearby to the Kokomo Project area. Six Migratory species have been assessed as likely to occur in the Project Study Area and another six species have been identified as having the potential to occur within the Study Area based on database records and the potential presence of suitable habitat. The assessment of likelihood of occurrence for each Migratory species and the potential for direct or indirect impacts on each species is provided in Attachment 7 (Migratory Species Assessment (AARC 2023)).

4.1.5.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.5.6 Describe why you do not consider this to be a Significant Impact. *

The Project area does not support important habitat for a Migratory species. The potential occurrence of important habitat areas for each of the species recorded on or nearby to the Project is considered below.

- The Fork-tailed swift and Sharp-tailed Sandpiper have widespread distributions in Australia and breed in the northern hemisphere. The Project area does not provide breeding habitat, and suitable habitat for these two species is widespread in the region.
- The Barn Swallow is a habitat generalist and suitable habitat is also widespread in the region and in broad areas across northern Australia. This species also breeds in the northern hemisphere.
- The Eastern Osprey occupies a breeding range that extends around the northern coast of Australia (including offshore islands). Preferred habitat consists of coastal and littoral habitats as well as terrestrial wetlands of tropical and temperate Australia and offshore islands. They require extensive areas of open fresh, brackish or saline water for foraging (Marchant & Higgins 1993). Riparian ecosystems along the Burdekin River may provide suitable foraging habitat but the species is only likely to occur over the Project area when travelling between foraging sites.

The Eastern Osprey, Fork-tailed Swift and Barn Swallow are likely to occupy aerial habitats in the Project region. The Project poses only indirect impacts to the aerial habitats of these species. The Sharp-tailed Sandpiper has been recorded at a dam within the Greenvale Project area (ALA, 2023). No breeding habitat has been identified in the Study Area of the Proposed action.

No other migratory species have been identified on the Project site, or in it's immediate vicinity.

The proposed action and its associated activities are not expected to:

- substantially modify, destroy or isolate an area of important habitat for a migratory species;
- introduce an invasive species that is harmful to the migratory species becoming established in an area of important habitat; or
- seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of a migratory species population.

Based on the absence of important habitat for listed migratory fauna species on the Project site and surrounding region, the Proposed action is not expected to significantly impact on Migratory species.

4.1.5.7 Do you think your proposed action is a controlled action? *

No

4.1.5.9 Please elaborate why you do not think your proposed action is a controlled action. *

The Proposed action is not expected to pose a significant impact to important habitat for a Migratory species.

4.1.5.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

The Proposed extent of disturbance associated with Project has been limited to the footprint necessary for resource recovery and associated mining operations, and utilises already disturbed lands such as old mining areas, existing dams (to be expanded) and existing roads for access and haulage of ore. The expansion of Stenhouse dam at Greenvale has the potential to create additional habitat suited to Migratory species known from the region. Further avoidance opportunities will be investigated during the EIS process.

The potential impacts of the Sconi Project are yet to be quantified. The type, extent and magnitude of environmental impacts associated with the proposed Project will be assessed during the EIS process. Depending on the findings of those assessments, appropriate mitigation and management strategies shall be developed and implemented to manage potential impacts to an acceptable level.

A range of mitigation measures and management strategies will be adopted for the Sconi Project; which may include, but not be limited to:

- avoiding disturbance to significant values and land generally, through considered design of the mine plan;
- minimising impacts to vegetation communities and fauna habitat through detailed design of mine infrastructure and operations, where feasible;
- developing and implementing surface and ground water control measures to minimise impacts on surface and ground water flow regimes and quality;
- developing and implementing weed and pest control measures; and
- implementing rehabilitation of historical and new disturbance areas to an agreed post mine land use.

Management Plans will also be developed to assist in establishing rigour around the management of key environmental challenges. Over the life of the Sconi Project, all land disturbed by the mining activity will be progressively rehabilitated. Detailed mitigation measures and management strategies will be provided in the EIS.

4.1.5.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

As no significant impact is posed by the Proposed action, no offsets are proposed.

4.1.6 Nuclear

4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Proposed action will not involve nuclear actions.

Geochemical testing of ore and waste rock samples from each of the three Project areas has revealed no enrichment of radionuclides. Uranium and thorium were found to be present at detection limits and well below background soil concentrations. Radionuclides are present in low densities as naturally occurring trace elements and are not a target resource.

The Project does not propose nuclear activities and will not require approval for nuclear actions. The proposed action will not pose direct or indirect impacts related to a nuclear action.

4.1.7 Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Commonwealth marine area
No	No	Great Barrier Marine Park

4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.7.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The proposed mining operations are located approximately 600 km upstream of the Great Barrier Reef Marine Park (GBRMP).

The mine will be regulated under the *Queensland Environmental Protection Act 1994* (EP Act) and will be required to contain and treat any sediment or contaminated water, resulting in zero discharge of water that does not meet Australia and New Zealand Environment Conservation Council (ANZECC) 2000 Livestock Drinking Water Guidelines. Furthermore, given the distance between the site of the Proposed action and the waters of the GBRMP, any water released as a result of the Proposed action will be subject to significant dilution prior to reaching the waters of the GBRMP.

The proposed action is not expected to pose a direct or indirect impact to the GBRMP.

4.1.8 Great Barrier Reef

4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Proposed action is located approximately 600 km upstream of the Great Barrier Reef (GBR).

The mine will be regulated under the Queensland *Environmental Protection Act 1994* (EP Act) and will be required to contain and treat any sediment or contaminated water, resulting in zero discharge of water that does not meet Australia and New Zealand Environment Conservation Council (ANZECC) 2000 Livestock Drinking Water Guidelines. Given the distance between the site of the Proposed action and the waters of the GBR, any water released as a result of the Proposed action will be subject to significant dilution prior to reaching the GBR.

The proposed action is not expected to pose a direct or indirect impact to the GBR.

4.1.9 Water resource in relation to large coal mining development or coal seam gas

4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.9.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Proposed action does not relate to a large coal mining development or coal seam gas Project.

4.1.10 Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Commonwealth land area
Yes	Yes	Defence - Mount Stuart Close Training Area

4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.10.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

*Note - The Defence - Mount Stuart Close Training Area is NOT relevant to the Proposed Action. The Australia-Singapore Military Training Initiative new advanced training area at Greenvale IS relevant to the Proposed Action.

The Lucknow Project area is located on Commonwealth Land. This land was acquired by the Commonwealth Department of Defence as part of the Australia – Singapore Military Training Initiative. The Proposed action will impact directly on this land.

4.1.10.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

Yes

4.1.10.5 Describe why you consider this to be a Significant Impact. *

The Proposed action has been identified as having the potential to cause a significant impact to MNES including listed threatened species. If found to have a significant impact on a one or more threatened species, the Proposed action poses a significant impact to areas of Commonwealth Land that support those MNES.

4.1.10.7 Do you think your proposed action is a controlled action? *

Yes

4.1.10.8 Please elaborate why you think your proposed action is a controlled action. *

If the Proposed action is deemed to have a significant impact on a one or more threatened species found to occupy the area of Commonwealth Land impacted by the action, then the Proposed action poses a significant impact to areas of Commonwealth Land, and is therefore deemed a controlled action.

4.1.10.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

The Sconi Project design avoids disturbance to suitable habitat by concentrating Project disturbance and processing activities in the previously disturbed areas at Greenvale. The Proposed action also proposes the use of existing roads to connect the satellite deposits within the Greenvale processing facilities. Further avoidance opportunities will be investigated during the EIS process.

The potential impacts of the Sconi Project are yet to be quantified. The type, extent and magnitude of environmental and social impacts associated with the proposed Project will be assessed during the EIS process. Depending on the findings of those assessments, appropriate mitigation and management strategies shall be developed and implemented to manage potential impacts to an acceptable level.

A range of mitigation measures and management strategies will be adopted for the Sconi Project. These may include, but not be limited to:

- avoiding disturbance to significant values and land generally, through considered design of the mine plan;

- minimising impacts to vegetation communities and fauna habitat through detailed design of mine infrastructure and operations, where feasible;
- developing and implementing surface and ground water control measures to minimise impacts on surface and ground water flow regimes and quality;
- developing and implementing weed and pest control measures; and
- implementing rehabilitation of historical and new disturbance areas to an agreed post mine land use.

Management Plans will also be developed to assist in establishing rigour around the management of key environmental challenges. Over the life of the Sconi Project, all land disturbed by the mining activity will be progressively rehabilitated. Detailed mitigation measures and management strategies will be provided in the EIS.

4.1.10.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

Offsets are not proposed at this stage. Requirements for offsets will be assessed as part of the EIS studies.

4.1.11 Commonwealth Heritage Places Overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Proposed action does not occur in the region of a Commonwealth Heritage Place Overseas.

4.1.12 Commonwealth or Commonwealth Agency

4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

- Threatened Species and Ecological Communities (S18)
- Commonwealth Land (S26)

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

No

4.3.8 Describe why alternatives for your proposed action were not possible. *

No feasible alternatives to undertaking the proposed action are available.

The location of the proposed mining area is dictated by the location of the *in situ* laterite ore bodies including areas of past mining disturbance. All mining areas and infrastructure components of the Sconi Project are required to be located within the bounds of the Exploration Permit areas held by Sconi Mining Operations Pty Ltd (subsidiary of the PPA) and are generally located within or adjacent to existing mining leases also held by the PPA. The PPA proposes to expand the currently approved mining lease areas to allow the full development of the known resource footprint and optimise the recovery of the existing ore reserves.

The Sconi Project offers direct, long-term economic benefit to local, regional, State and national economies. The consequences of not proceeding with the Sconi Project are associated with a significant critical mineral resource remaining undeveloped and economic proceeds through taxation and royalties not being realised.

Furthermore, a failure to develop the Sconi Battery Minerals Project would have significant implications for State and Commonwealth government priorities and objectives for regional development and lowering carbon emissions.

The Sconi Project is located in the vicinity of the Greenvale township, approximately 195 km northwest of Townsville in Northern Queensland. The Project site lies within the region subject to the Commonwealth Government's Northern Australia Agenda. The Government is committed to supporting resilient and sustainable economic growth in this region to secure a strong and sustainable future for Northern Australia. The Sconi Project would contribute to Government objectives by contributing to the development of the critical minerals market and other markets that would service or supply the mining operations. The Project would deliver sustained long-term opportunities for employment and training, indirect employment, support to secondary industries, and extensive support to community development including, social and recreational programs in the regional setting.

The Commonwealth Critical Minerals Strategy 2022 has been developed to grow Australia's critical minerals sector, expand downstream processing and help meet future global demand. Cobalt and scandium are recognised by the Commonwealth initiative as critical minerals in Australia. The Critical Minerals strategy 2022 specifically recognises the Sconi Project deposits as sources of critical minerals (cobalt and scandium). The Greenvale deposit is also mapped by the State of Queensland as being an important source of the critical mineral cobalt, as well as primary minerals, nickel and cobalt. The State's Critical Minerals initiative encourages the re-use of historical ore reserves in waste and stockpiled material to maximise opportunities for industry. To maximise resource recovery and Project efficiencies, the Sconi Project proposes to re-process materials from existing stockpiles and waste materials retained after the cessation of mining at the Greenvale Nickel Mine. This activity will also remove residual ore and reduce the potential for any ongoing historical land and water contamination issues. Overall, the development of the Sconi deposits presents an important opportunity for the ethical production of highly sought after critical battery minerals to be supplied to domestic and export markets. The Project will support low carbon technologies, contribute to emissions reductions nationally and globally, and contribute to the growth of Australia's critical minerals supply. The Sconi deposits are estimated to comprise sufficient battery minerals for the supply of approximately 5 – 6 million high performance electric vehicles.

There is a significant opportunity cost to both State and Commonwealth revenues, and objectives for regional development, decarbonisation, and market optimisation without the development of the Sconi Project. Should the development of the Sconi Project be delayed, the supply of critical minerals will be delayed, ultimately presenting potential implications for the Commonwealth's emission reduction targets.

The Sconi Project's EIS will consider various project alternatives to maximise the recovery of the resource and the efficiency of the proposed infrastructure. The EIS will also consider government priorities and objectives, to ensure the Project is well placed to deliver benefits to stakeholders.

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1 - Figures 1-9 A set of figures providing a visual description of the locality, environmental values and conceptual layouts relevant to the proposed action.	17/03/2023	Yes	High
#2.	Document	Att 1_Figures 1-9_Redacted.pdf A set of figures providing a visual description of the locality, environmental values and conceptual layouts relevant to the proposed action.	12/07/2023	No	High
#3.	Document	Att 2_Initial Advice Statement.pdf Initial Advice Statement prepared to support voluntary EIS application and EPBC Act Referral	28/04/2023	Yes	High
#4.	Document	Att 2_Initial Advice Statement_Redacted.pdf Initial Advice Statement prepared to support voluntary EIS application and EPBC Act Referral	12/07/2023	No	High

1.3.2.17 (Person proposing to take the action) Proposer's history of responsible environmental management

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 3_Climate Active Certification Climate Active Certification Public Disclosure Statement prepared by the Proposing Party.	21/02/2022	No	High

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 2_Initial Advice Statement.pdf Initial Advice Statement prepared to support voluntary EIS application and EPBC Act Referral	27/04/2023	No	High
#2.	Document	Att 2_Initial Advice Statement_Redacted.pdf Initial Advice Statement prepared to support voluntary EIS application and EPBC Act Referral	11/07/2023	No	High

#3.	Document	Att 4 - Terrestrial Ecology Report Terrestrial Ecology Report current at September 2018 - provided as preliminary supporting information.	31/03/2023	No	Medium
#4.	Document	Att 5 - Aquatic Ecology Report Aquatic Ecology Report current at September 2018 - provided as preliminary supporting information.	31/03/2023	No	Medium

4.1.4.2 (Threatened Species and Ecological Communities) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 6 - Threatened Species Assessment Likelihood of occurrence and impact assessment table addressing threatened species.	03/04/2023	No	High

4.1.5.2 (Migratory Species) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 7 - Migratory Species Assessment Likelihood of occurrence and impact assessment table addressing migratory species.	03/04/2023	No	High

4.3.8 Why alternatives for your proposed action were not possible

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 8_Abbreviations.pdf List of abbreviations contained in the referral	20/03/2023	No	High
#2.	Document	Att 9_ Reference List.pdf Reference list identifying the information sources reviewed during the preparation of the referral.	02/05/2023	No	High

5.2 Declarations

Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN/ACN	71620818920
Organisation name	AARC ENVIRONMENTAL SOLUTIONS PTY LTD
Organisation address	164 Wharf Street, Spring Hill, 4000 QLD
Representative's name	Hollie Dick
Representative's job title	Senior Environmental Scientist
Phone	0732178772
Email	hdick@aarc.au
Address	164 Wharf Street, Spring Hill

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ By checking this box, I, **Hollie Dick of AARC ENVIRONMENTAL SOLUTIONS PTY LTD**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I

understand that giving false or misleading information is a serious offence. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

✔ Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	36614910191
Organisation name	SCONI MINING OPERATIONS PTY LTD
Organisation address	6000 WA
Representative's name	Michael Holmes
Representative's job title	Chief Executive Officer
Phone	(07)31849184
Email	mholmes@australianmines.com.au
Address	Level 34, 1 Eagle Street, Brisbane QLD, 4000

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Michael Holmes of SCONI MINING OPERATIONS PTY LTD**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

✔ Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Michael Holmes of SCONI MINING OPERATIONS PTY LTD**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *