

EPBC Act referral



Australian Government
Department of Agriculture, Water and the Environment

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Title of proposal	2021/9077 - Valeria Project – mine site, on-site construction workers accommodation camp and mine access road EPBC Act Referral 1 of 5
Section 1	
Summary of your proposed action	
1.1 Project industry type	Mining
1.2 Provide a detailed description of the proposed action, including all proposed activities	<p>The Valeria Project (the Project) is an open cut metallurgical and thermal coal mine located approximately 27 kilometres (km) north-west of Emerald, 8 km south-west of Capella and 270km west of Rockhampton. The Project is within the Central Highlands Regional Council Local Government Area (LGA) of the Bowen Basin in Central Queensland (refer Attachment A: Figure 1). Valeria Coal Holdings Pty Limited (the Proponent) is the proponent for the Project, including this EPBC Act Referral. The Proponent is a wholly owned subsidiary of Glencore Coal Pty Ltd (Glencore). The Project is expected to produce up to 20 Million tonnes per annum (Mtpa) of Run of Mine (ROM) coal over an operational life of approximately 35 years. The volume of coal product will approximate 14-16 Mtpa. The Project comprises five separate components/actions (refer Att-A: Figure 2). This includes the mine site on Mining Lease application (MLA) areas 700044, 700045 and 700055 and on-site construction works accommodation camp and associated mine access road, as well as off-site infrastructure comprising a rail line, water supply pipeline, powerline and communications infrastructure. These components correspond to five EPBC Act Referrals made under the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act), as outlined below (further information about each EPBC Act Referral provided in section 1.15.1):</p> <ul style="list-style-type: none">•EPBC Act Referral 1 (2021/9077): Mine site, on-site construction workers accommodation camp, temporary site access track, and mine access road. The extent of Referral 1 is shown in red, green and yellow outline in Attachment A: Figure 2 (“the Proposed Action”)•EPBC Act Referral 2 (2021/9076): Rail Line Infrastructure•EPBC Act Referral 3 (2021/9075): Water Supply Pipeline Infrastructure•EPBC Act Referral 4 (2021/9078): Powerline Infrastructure•EPBC Act Referral 5 (2021/9074): Communication Infrastructure <p>A total of five EPBC Act Referrals have been submitted for the components of the Project to enable potential future transfer of approvals to third party service providers, to own, construct and operate the respective assets.</p> <p>A co-located infrastructure corridor is proposed between the Gregory Highway and the MIA within the mine site. This corridor encompasses the mine access road, parts of the rail line, water supply pipeline, powerline and communications infrastructure. The co-located infrastructure corridor is included within each of the five EPBC Act Referrals listed above, as shown in yellow outline in Attachment A: Figure 2. The corridor that extends from the Gregory Highway to the Aurizon Goonyella Coal Chain (Oak Creek) rail network and Terminal Dam connection at OCC Mine, will contain both the rail line and the water supply pipeline.</p> <p>Within each of the five EPBC Act Referrals, all activities and infrastructure have been described with reference to the other EPBC Act Referrals and the overall Environmental Impact Statement (EIS) process. All five EPBC Act Referrals will be assessed together under a single Project EIS (refer Att-A: Figure 3). The EIS will also consider relevant impacts where the proposed infrastructure connects with existing infrastructure and the cumulative impacts of all Project components. The area for the mine site and off-site infrastructure for each EPBC Act Referral are summarised below (note this is not the disturbance footprint):</p> <ul style="list-style-type: none">•29,501 ha – Mine site including on-site construction workers accommodation camp comprising approximately 28,088 ha, the mine access road comprising approximately 1,148 ha, and a temporary site access track comprising approximately 265 ha (assessed within this EPBC Act Referral)•5,193 ha – Rail line infrastructure (located in the same corridor as the water supply pipeline)•5,193 ha – Water supply pipeline infrastructure (located in the same corridor as the rail line)•2,435 ha – Powerline infrastructure•1,935 ha – Communications infrastructure <p>EPBC Act Referral 1: Mine site, on-site construction workers accommodation camp, temporary site access track, and mine access road</p> <p>The Proposed Action consists of constructing and operating:</p> <ul style="list-style-type: none">•the mine and associated mine infrastructure•a construction workers accommodation camp with a capacity of approximately 300-beds•an approximately 15 km long mine access road extending from the MIA within the mine site towards the east to the Gregory Highway, within the co-located infrastructure corridor•a temporary site access track utilising existing landowner tracks where possible, extending from the Gregory Highway to



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

the MIA and required for initial access to construct the mine access road (refer Att-A: Figure 4).

The Project will operate 24 hours per day, 365 days per year. Construction activities will predominantly occur in daylight hours with select activities to be undertaken at night time.

Within the mine site, the following mine infrastructure is proposed:

- Six open cut pits
- ROM pad, hopper and stockpiles
- Coal Handling and Preparation Plant (CHPP) and MIA
- Tailings Storage Facilities (TSF)
- Out-of-pit and in-pit waste rock dumps
- Water storage dams
- Mine affected water dams
- TLO
- Internal haul roads and light vehicle access roads
- Office buildings and amenities
- Sewage treatment facilities
- On-site construction workers accommodation camp
- Power and communications infrastructure

The mining operations are anticipated to be a conventional truck and shovel operation, involving the removal of overburden in addition to coal and parting. Coal will be separated from waste rock material at the CHPP. Tailings will be disposed of in out of pit and in pit TSFs. Waste rock dumps will be initially located out-of-pit, however as mining progresses, waste rock will be backfilled into pit voids. Rejects will be buried in the waste rock dumps. Key proposed activities associated with the mine site include:

- Blasting and drilling of waste rock
- Excavation of on-site rock material to produce gravel and construction fill materials for use in construction of mine related and transport infrastructure
- Placement of waste rock in out-of-pit waste rock dumps and in-pit when mine sequencing allows
- Staged development of six open cut pits and ROM stockpiles
- Progressive development of water storage, transfer and sediment dams, levees, pipelines, pumps and other water management infrastructure;
- Disposal of tailings within the out of pit and in pit TSFs
- Disposal of rejects within put of pit and in pit waste rock dumps
- Progressive rehabilitation of the mine site

Under the current mine footprint approx. 4,480 ha of remnant and regrowth vegetation may be subject to vegetation clearing . A localised increase in traffic as a result of the construction and operation of the Proposed Action has some potential to increase in fauna mortality including terrestrial MNES fauna. Groundwater drawdown caused by the establishment of open pit operations has potential to impact subsurface and terrestrial environments where they are connected to impacted aquifers. Offsite impacts on environmental values and MNES that may occur during the construction and operation period of the Proposed Action include ongoing noise impacts and localised dust settlement (from construction/earthworks disturbance and coal mining and transport) on vegetation/MNES species habitat.

1.3 What is the extent and location of your proposed action?

See Appendix B

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

Regional Context

The Proposed Action area is located within the Central Highlands Regional Council Local Government Area (LGA) of the Bowen Basin, in Central Queensland. The Proposed Action area extends from approximately 27 km north-west of Emerald to approximately 8 km south-west of Capella (refer Attachment A: Figure 1).

Local Context

The Proposed Action area encompasses the mine site on MLAs 700044, 700045 and 700055 (including construction works accommodation camp), and Specific Purpose Mining Lease application (SPMLA) 700068 (co-located infrastructure corridor) (refer Attachment A: Figure 4). The temporary site access track is located on the northern side of the co-located infrastructure corridor for part of its length and within the co-located infrastructure corridor for the remainder. The Proposed Action area spans across the localities of Hibernia, Carbine Creek, Fork Lagoons and Chirnside.

1.6 What is the size of the proposed action area development footprint (or work area) including disturbance footprint and avoidance footprint (if relevant)?



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Proposed Action area :

The Proposed Action area is approximately 29,501 ha. This includes the three MLA areas encompassing 28,088 ha, the mine access road of approximately 1,148 ha, and the temporary site access track of approximately 265 ha.

Disturbance footprint

The disturbance footprint is not finalised at this stage of development, however, it is currently anticipated to have a total disturbance footprint of approximately 10,364.5 ha, based on the following:

Mine site: approximately 9,901 ha (including the on-site construction workers accommodation camp)

Mine access road: approximately 45 ha based on up to 30 m construction width along a length of approximately 15 km

Temporary site access track: approximately 25.5 ha based on up to 15 m construction width along a length of approximately 17 km

The above estimated mine site disturbance footprint is based on the preliminary mine layout (refer Attach A: Figure 4). The final mine layout to be presented and assessed in the EIS

1.7 Proposed action location

Lot - Refer to Attachment F

1.8 Primary jurisdiction

Queensland

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

Yes No

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

Yes No

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

Start Date	01/11/2024
End Date	31/12/2067

1.12 Provide details of the context, planning framework and state and/or local Government requirements

Commonwealth

Controlled Action: This EPBC Act Referral is submitted to determine if the Proposed Action is a controlled action under the EPBC Act, as having or is likely to have a significant impact on MNES. As the Project is a coordinated project for which an EIS is required under the State Development and Public Works Organisation Act 1971 (Qld) (SDPWO Act), the Proposed Action can be assessed in accordance with the Bilateral Agreement between the Commonwealth of Australia and the State of Queensland made under s.45 of the EPBC Act. The Project falls into Class 2 of Schedule 1 of the Bilateral Agreement.

Native Title: The Native Title Claimants are the Indigenous stakeholders, who hold a Native Title claim (QC2013/002). The claim area covers the entirety of the mine site (under MLAs 700044, 700045 and 700055), the temporary site access track, and infrastructure under the Specific Purpose Mining Lease application (SPMLA) 700068, with the exception of approximately 5km of the eastern part of the SPMLA. A separate NTA will be required with the relevant party (yet to be identified) for the 5 km length of SPMLA 700068 in the east (Refer to EPBC Act Referral 2 and 3).

Offset Strategy: If there is a significant impact on a protected matter that are not able to be avoided or mitigated, an offset will be required in accordance with the EPBC Act and the EPBC Environmental Offsets Policy 2012. If this applies, an Offset Management Plan will be developed and submitted to the Commonwealth Department of Agriculture, Water and the Environment (DAWE) for approval.

State Approvals

Coordinated Project: On 12 June 2020, the Project was declared a 'Coordinated Project' by the Office of Co-ordinator General under the SDPWO Act, for which an EIS is required. Once approved, an EIS Assessment Report will be published including draft conditions for the Project.

Mining Lease: In 2019, the three MLAs (700044, 700045 and 700055) for the mine site were lodged with the QLD



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Department of Resources (DoR), under the Mineral Resources Act 1989. A SPMLA 700068 for the Proposed Action area was lodged with DoR in 2021. The rail line, water supply pipeline and mine access road are reliant on the grant of the SPMLA.

Environmental Authority: Two Environmental Authority (EA) applications under the Environmental Protection Act 1994 (Qld) (EP Act) were lodged with the QLD Department of Environment and Science (DES) in 2019. One EA application is for MLA 700055 and the other is for MLAs 700044 and 700045. The EA application for MLA 700055 will be amended prior to submission of the EIS to include the SPMLA area.

Progressive Rehabilitation and Closure Plan (PRCP): A PRCP is required to be submitted with the EIS. In accordance with section 126C of the EP Act, the PRCP will describe and plan for how and where activities will be carried out on land in a way that maximises the progressive rehabilitation of the land to a stable condition.

Regional Interests Development Approval: Where resource or regulated activities impact on an area of regional interest and exemptions do not apply, a Regional Interests Development Approval (RIDA) is required under the Regional Planning Interests Act 2014 (Qld) (RPI Act). If this applies a RIDA will be lodged and assessed concurrently with the EIS.

Development Approval: All works associated with the Proposed Action will be undertaken within the areas of the MLAs and SPMLA.

Environmental Offsets: If the Proposed Action is deemed to have significant residual impacts to environmental matters listed under State legislation then environmental offsets will be required to compensate for such impacts. If this applies, an environmental offsets strategy will be prepared and implemented in accordance with the Environmental Offsets Act 2014 (Qld).

Strong and Sustainable Resource Communities Act 2017 (Qld) (SSRC Act): The SSRC Act requires the preparation of a social impact assessment (SIA) for large resource projects and must be prepared in accordance with the SIA guidelines.

The Proponent has developed a Stakeholder Engagement Strategy and Plan (SEP) to ensure that all stakeholders are kept informed about the Proposed Action. This engagement will inform the SIA and the Social Impact Management Plan (SIMP) required to be approved for the Project under the SSRC Act.

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

The Proponent has commenced engagement with stakeholders relevant to the Proposed Action. These comprise Traditional Owners, landowners, community organisations, and Local, State and Commonwealth Government departments.

Consultation undertaken to date with the Indigenous stakeholders, the Traditional Owners and Native Title Claimants of the majority of the Proposed Action area, includes:

- Periodic meetings regarding the Project and Proposed Action, including planning and undertaking cultural heritage surveys
- Discussions on NTA negotiations

The Proponent will continue to consult with the Indigenous stakeholders and will identify and consult with the relevant Native Title and cultural heritage party for the eastern part of the Proposed Action area.

Consultation undertaken to date with landowners potentially affected by the Proposed Action, includes:

- Face-to-face and web-based meetings to introduce the Project, to negotiate land access agreements for environmental surveys to be carried out in the Proposed Action area and other infrastructure alignments, and to provide Project updates and discuss the Project approvals process
- Negotiation of Conduct and Compensation Agreements (CCA) to undertake exploration activities on the MLA areas
- Ongoing updates to landholders via email and telephone to advise of Project updates

The Proponent will continue to engage with landowners of properties within and adjoining the Proposed Action area as the Project progresses.

Consultation has commenced with relevant Local, State and Commonwealth Government departments including the:

- Central Highlands Regional Council and Isaac Regional Council
- Queensland Department of State Development, Tourism and Innovation (DSDTI), including the Office of the Coordinator-General (OCG)
- Queensland DoR
- Queensland DES
- Queensland Department of Regional Development and Manufacturing and Water
- Queensland Department of Communities, Housing and Digital Economy
- Queensland Department of Employment, Small Business and Training
- State Member for Gregory
- Commonwealth DAWE
- Commonwealth Minister for the Environment

The following community groups and organisations have also been engaged with:

- Central Highlands Development Corporation (CHDC)
- Central Highlands Region Resource Use Planning (CHRRUP) forum
- Tieri, Capella, Emerald and the Gemfields Community Reference Groups (CRGs)
- Clermont Consultative Community
- Emergency services, disability support services and health providers
- Local businesses and service providers



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

- Education providers

The Project has established a community reference group called the Valeria Community Consultation Group (VCCG). The VCCG has representation from CHRC, CHDC, the CRGs, and CHRRUP and meets on a Project milestone basis. Topics for discussion to date have included the Project generally and the Proposed Action, baseline assessment work, scope of impact assessment and the approvals processes (including the SPMLA). The VCCG will continue through Project approval, construction, operations and decommissioning.

A series of newsletters are being prepared on a Project milestone basis and distributed to the community to provide information about the Project including the Proposed Action. The newsletters address proposed mining activities, community engagement events and regulatory approval. The newsletters will also be published on the Valeria Project website. The first Valeria Project Newsletter is to be issued to landowners and the community in Quarter 4 2021.

A website (<https://www.glencore.com.au/operations-and-projects/coal/projects/valeria-coal-project>), telephone line (1800 512 100) and email address (valeria@glencore.com.au) has been made available to the public to obtain information and direct queries and/or concerns about the Project.

Community engagement will also be undertaken as part of the development of the Progressive Rehabilitation and Closure Plan (PRCP), required to be approved by DES before grant of the EAs. This has been incorporated into the SEP to ensure stakeholders are consulted about rehabilitation outcomes for Project and that the requirements of the EP Act are met.

Results of community and stakeholder engagement will be reported and analysed in the SIA, SIMP, EIS and PRCP approval documents prepared for the Project.

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

A number of terrestrial and aquatic ecological surveys have been carried out for the mine site and off-site infrastructure. Surveys specific to the Proposed Action area were carried out in 2019 to 2021.

Findings from the surveys have been used to inform the likelihood of occurrence of MNES associated with the Proposed Action (refer Attachment B and Attachment C). The disturbance footprint has not been finalised at this stage. As such, significant impact assessment using the MNES significant impact guidelines 1.1 (DE 2013) have not been carried out. Ground-truthed data obtained for Proposed Action area will be used during detailed design processes to avoid and minimise impacts to the extent reasonable and practicable in finalising the mine layout and infrastructure alignments to be assessed in the EIS. Subject to the requirements of the final Terms of Reference, the EIS will assess the potential for significant impacts associated with the Proposed Action on all MNES.

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

Yes No

1.15.1 Provide information about the larger action and details of any interdependency between the stages/components and the larger action

A total of five EPBC Act Referrals have been submitted for the Project to enable potential future transfer of approvals to third party service providers to own, construct and operate the respective assets. The other EPBC Act Referrals that form part of the larger action includes:

- EPBC Act Referral 2 (2021/9076): Rail line infrastructure extending from the rail loop and TLO located in the vicinity of the MIA within the mine site, east to join the Aurizon Goonyella Coal Chain (Oak Creek) rail network. The rail line is in the same corridor as the water supply pipeline. The extent of Referral 2 is shown in pink and yellow outline in Attachment A: Figure 2.
- EPBC Act Referral 3 (2021/9075): Water supply pipeline infrastructure, extending from the water supply dam in the vicinity of the MIA within the mine site, east to connect to Terminal Dam at Glencore's OCC Mine. The water supply pipeline is in the same corridor as the rail line
- EPBC Act Referral 4 (2021/9078): Powerline infrastructure extending from the MIA within the mine site east to the Gregory Highway, then south to join the Ergon powerline at the Lilyvale Road turn-off from Gregory Highway. The extent of Referral 4 is shown in orange and yellow outline in Attachment A: Figure 2.
- EPBC Act Referral 5 (2021/9074): Communications infrastructure including a fibre optic cable extending from the MIA within the mine site to the Gregory Highway. The extent of Referral 4 is shown in orange and yellow outline in Attachment A: Figure 2.

The off-site infrastructure corridors were selected in consideration of existing transport and service infrastructure, environmental values, land use, and proximity to sensitive receptors. The exact alignments of infrastructure in these corridors will be developed as the Project progresses, taking into account the results of additional field surveys to identify potential impacts to environmental values.

EPBC Act Referral 2: Rail Line Infrastructure

The rail line will run from the TLO in the vicinity of the MIA within the mine site eastward within the co-located infrastructure corridor to the Gregory Highway. The rail line will then continue east within the same corridor as the water pipeline, running parallel with Crinum Road, and connect with the Aurizon Goonyella Coal Chain (Oak Creek) rail network. The rail line is approximately 67 km long and ranges from 250 m to 3.5 km wide, with wider areas associated with the infrastructure around



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

the MIA, the Gregory Highway and the eastern extent of the corridor where it connects with the Aurizon Goonyella Coal Chain (Oak Creek) rail network. The width of the disturbance footprint associated with construction and operation of the rail line will be between 60 m to 100 m wide, significantly less than the width of the corridor shown in Attachment A: Figure 2.

Refer to EPBC Act Referral 2 for further detail on this action.

EPBC Act Referral 3: Water Supply Pipeline Infrastructure

The water supply pipeline corridor is approximately 67 km long and ranges from 250 m to 3.5 km wide, with wider areas associated with the infrastructure around the MIA, the Gregory Highway and the eastern extent of the alignment where it connects with OCC Mine. The width of the disturbance footprint associated with construction and operation of the water supply pipeline will be between 10 m and 30 m wide, significantly less than the width of the corridor shown in Attachment A: Figure 2.

Refer to EPBC Act Referral 3 for further detail on this action.

EPBC Act Referral 4: Powerline Infrastructure

The powerline corridor is approximately 36 km long and between 190 m and 3.5 km wide, with wider areas associated with the infrastructure around the MIA and the Gregory Highway. The width of the disturbance footprint associated with construction and operation of the powerline will be between 60 m and 100 m, significantly less than the width of the corridor shown in refer Attachment A: Figure 2.

Refer to EPBC Act Referral 4 for further detail on this action.

EPBC Act Referral 5: Communication Infrastructure

The communication infrastructure corridor is approximately 15 km long and between 550 m to 2.7 km wide, with wider areas associated with the infrastructure around the MIA and the Gregory Highway. The width of the disturbance footprint associated with construction and operation of the communications infrastructure will be up to 20 m, significantly less than the width of the corridor shown in refer Attachment A: Figure 2).

Refer to EPBC Act Referral 5 for further detail on this action.

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

Yes No

1.16.1 Identify the nature/scope and location of the related action (Including under the relevant legislation)

The Proposed Action (EPBC Act Referral 1 of 5) is related to the four other EPBC Act Referrals (EPBC Act Referrals 2 to 5) described in Section 1.15.1. The mine site EPBC Act Referral (EPBC Act Referral 1 of 5) provides for the Project mine site, inclusive of the construction workers accommodation camp, temporary site access track, and mine access road. Detail is provided in Section 1.2.



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 2

Matters of national environmental significance

2.1 Is the proposed action likely to have any direct or indirect impact on the values of any World Heritage properties?

Yes No

2.2 Is the proposed action likely to have any direct or indirect impact on the values of any National Heritage places?

Yes No

2.3 Is the proposed action likely to have any direct or indirect impact on the ecological character of a Ramsar wetland?

Yes No

2.4 Is the proposed action likely to have any direct or indirect impact on the members of any listed species or any threatened ecological community, or their habitat?

Yes No

Species or threatened ecological community

Brigalow (*Acacia harpophylla* dominant and codominant) – Endangered. Known to occur. Ground-truthing surveys within the mine site confirm the Brigalow threatened ecological community (TEC) occurs as scattered patches throughout the Proposed Action area encompassing a total of approximately 115 ha. The size of these patches range from approximately 0.6 ha up to 21.8 ha. All Brigalow vegetation within the mine site has been subject to site assessments to evaluate the vegetation present against the key diagnostic and condition thresholds for the TEC (refer Attachment A: Figure 6 and Figure 7). There are also three patches State-mapped as occurring along the co-located infrastructure corridor to the east (covering approximately 20 ha). These patches will be surveyed for the Project EIS.

All identified patches are analogous to remnant and regrowth REs 11.9.1 and 11.9.5.

Impact

The current mine layout (still to be finalised) is predicted to impact up to approximately 34.1 ha of ground-truthed Brigalow TEC. Should field surveys verify the State-mapped Brigalow TEC in the co-located infrastructure corridor as meeting the key diagnostic and condition thresholds for the TEC, the mine access road component of the Proposed Action could impact these areas. Vegetation clearing for construction of the mine access road is expected to require a corridor up to 30 m in width and potentially across the patches of Brigalow TEC.

It is likely that Brigalow TEC will be subject to clearing during construction for the Proposed Action. Although the disturbance footprint will be less than the overall extent of Brigalow TEC within the Proposed Action area there is potential for a significant impact to occur.

Species or threatened ecological community

Natural Grasslands of the Queensland Central Highlands and northern Fitzroy Basin - Endangered

Potential to occur. Ground-truthing surveys within the mine site confirm the Natural Grasslands TEC occurs as four patches in the north of the Proposed Action area (north of the Capella-Rubyvale Road) encompassing a total of 38.4 ha. All potential Natural Grasslands TEC within the mine site has been subject to field verification to evaluate the vegetation present against the key diagnostic and condition thresholds for the TEC (refer Attachment A: Figure 6 and Figure 7). The Natural Grasslands TEC is also State-mapped as occurring as a single relatively large patch of RE 11.8.11 (approximately 24 ha) located in the approximate centre of the co-located infrastructure corridor section of the Proposed Action area. The patch will be field verified to determine whether it meets the key diagnostic and condition thresholds for the TEC.

Impact



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

The current mine layout (still to be finalised) is located south of the confirmed Natural Grasslands TEC in the north of the Proposed Action area. These areas will not be impacted.

Should field surveys verify the State-mapped Natural Grasslands TEC in the co-located infrastructure corridor as meeting the key diagnostic and condition thresholds for the TEC, the mine access road component of the Proposed Action could impact this area. Vegetation clearing for construction of the access road is expected to require a corridor up to 30 m in width. There is potential for approximately 1.4 ha of Natural Grasslands TEC to be subject to clearing for construction of the mine access road and possibly the temporary site access track.

The disturbance footprint avoids confirmed occurrences of Natural Grasslands TEC within the Proposed Action area. A relatively minor area of potential Natural Grasslands TEC may be impacted by the mine access road and possibly the temporary site access track. As such, it is considered unlikely a significant impact will occur on the Natural Grasslands TEC.

Species or threatened ecological community

Poplar Box Grassy Woodland on Alluvial Plains - Endangered

Potential to occur. Ground-truthing surveys within the mine site confirm that Poplar Box Grassy Woodland TEC occurs as six patches scattered sparsely throughout the Proposed Action area, encompassing a total of approximately 106 ha. These patches are all considered to be of 'moderate quality' (Class C) using the key diagnostic and condition thresholds for the TEC (refer Attachment A: Figure 6 and Figure 7).

Impact

The current mine layout (still to be finalised) is predicted to impact a maximum of approximately 14.5 ha of ground-truthed Poplar Box Grassy Woodland TEC within the mine site. No Poplar Box Grassy Woodland TEC occurs within the mine access road or temporary site access track corridor.

It is likely that Poplar Box Grassy Woodland TEC will be subject to clearing during construction for the Proposed Action. Although the disturbance footprint will be less than the overall extent of Poplar Box Grassy Woodland TEC within the Proposed Action area, there is potential for a significant impact to occur.

Groundwater drawdown is considered a key threat to the TEC as Poplar Box is known to utilise shallow groundwater. Poplar Box Grassy Woodland TEC located outside the footprint of the mine layout may be impacted by changes to local groundwater conditions that could result from open cut mining activities, particularly patches located close to the proposed mine pit areas (such as along Theresa Creek). The potential for this impact to occur will be assessed in the Project EIS.

Species or threatened ecological community

Aristida annua – Vulnerable

Potential to occur. This species is identified in DAWEs Protected Matters Search Tool (PMST) as 'species or species habitat known to occur within area', although the Proposed Action area is located outside of the mapped habitat distribution for the species (DAWE 2021). *Aristida annua* is an annual tufted grass. Limited survey information exists for this species, however known records occur within black clay soils, basalt soils and disturbed sites. It is also known to occur within the Natural Grasslands TEC.

Aristida annua was not detected during ecological surveys for the Proposed Action. The Proposed Action area contains areas of potential habitat in grasslands on basalt soils (RE 11.8.11) encompassing 38.4 ha within the mine site. A further approximately 24 ha of grassland habitat may occur within the co-located infrastructure corridor. A single Atlas of Living Australia (ALA 2021) record is located 40 km south of the Proposed Action area.

Impact

There are patches of RE 11.8.11 located in the north of the Proposed Action area (north of Capella-Rubyvale Road) which may provide habitat for three of the threatened grass species identified as potentially present. Surveys over 2019-2021 did not identify these threatened grass species as occurring on the Proposed Action area. The current mine layout is located to the south of these patches and no impact will occur. There is an additional patch of potential grassland habitat (RE 11.8.11) State mapped as extending across the width of the co-located infrastructure corridor that may also provide habitat for threatened grass species. Surveys will be carried out to determine whether any of the threatened grass species is present or potentially present and whether the habitat is suitable to support these species. The Proposed Action will unavoidably impact part of this area. Vegetation clearing for construction of the mine access road is expected to require a corridor up to 30 m in width impacting approximately 1.4 ha of potential habitat. The extent of potential habitat for threatened grass species that will be impacted within the Proposed Action area is relatively minor. A significant impact on these species as a result of the Proposed Action is not considered likely to occur.

Species or threatened ecological community

King Blue-grass (*Dichanthium queenslandicum*) – Endangered

Potential to occur. Known to occur as a component of the Natural Grasslands TEC and is associated with other species of blue grasses (*Dichanthium* spp. and *Bothriochloa* spp.). It typically occurs on cracking clays derived from either basalt or fine-



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

grained sedimentary rocks, on flat of gently undulating rise, in areas with relatively high summer rainfall.

Not detected during surveys for the Proposed Action area, although it is identified in the PMST as 'species or species habitat known to occur within area'. Multiple ALA records exist within a 50km buffer, including records within 15km of the Proposed Action area. Nearest record is from 1931 and located 4 km south of the co-located infrastructure corridor. The Proposed Action area contains areas of potential habitat in grasslands on basalt soils (RE 11.8.11) encompassing 38.4ha. A further 24ha of grassland habitat may occur within the co-located infrastructure corridor.

Impact

There are patches of RE 11.8.11 located in the north of the Proposed Action area (north of Capella-Rubyvale Road) which may provide habitat for three of the threatened grass species identified as potentially present. Surveys over 2019-2021 did not identify these threatened grass species as occurring on the Proposed Action area. The current mine layout is located to the south of these patches and no impact will occur. There is an additional patch of potential grassland habitat (RE 11.8.11) State mapped as extending across the width of the co-located infrastructure corridor that may also provide habitat for threatened grass species. Surveys will be carried out to determine whether any of the threatened grass species is present or potentially present and whether the habitat is suitable to support these species. The Proposed Action will unavoidably impact part of this area. Vegetation clearing for construction of the mine access road is expected to require a corridor up to 30 m in width impacting approximately 1.4 ha of potential habitat. The extent of potential habitat for threatened grass species that will be impacted within the Proposed Action area is relatively minor. A significant impact on these species as a result of the Proposed Action is not considered likely to occur.

Species or threatened ecological community

Bluegrass (*Dichanthium setosum*) – Vulnerable

Potential to occur. Species usually occurs in grasslands with heavy basaltic black soils and stony red-brown hard-setting loam with clay subsoil. It is often found in moderately disturbed areas such as cleared woodlands, roadside remnants and disturbed pasture.

It was not detected during surveys of the Proposed Action area, although is identified in the PMST as 'species or species habitat known to occur within area'. No ALA records exist for species within the Proposed Action area or within a 50 km buffer. The Proposed Action area contains areas of potential habitat in grasslands on basalt soils (RE 11.8.11) encompassing approximately 38.4 ha. A further approximately 24 ha of grassland habitat may occur within the co-located infrastructure corridor.

Impact

There are patches of RE 11.8.11 located in the north of the Proposed Action area (north of Capella-Rubyvale Road) which may provide habitat for three of the threatened grass species identified as potentially present. Surveys over 2019-2021 did not identify these threatened grass species as occurring on the Proposed Action area. The current mine layout is located to the south of these patches and no impact will occur. There is an additional patch of potential grassland habitat (RE 11.8.11) State mapped as extending across the width of the co-located infrastructure corridor that may also provide habitat for threatened grass species. Surveys will be carried out to determine whether any of the threatened grass species is present or potentially present and whether the habitat is suitable to support these species. The Proposed Action will unavoidably impact part of this area. Vegetation clearing for construction of the mine access road is expected to require a corridor up to 30 m in width impacting approximately 1.4 ha of potential habitat. The extent of potential habitat for threatened grass species that will be impacted within the Proposed Action area is relatively minor. A significant impact on these species as a result of the Proposed Action is not considered likely to occur.

Species or threatened ecological community

Bertya opposens – Vulnerable

Known to occur. Identified in PMST as 'species or species habitat known to occur within area'. In Queensland it is widely distributed in a region bounded by Emerald in the north and Charleville in the west. Recorded in a variety of communities, including shrubland, Acacia and mallee woodlands, eucalypt/Acacia open forest with shrubby understorey, eucalypt/Callitris open woodland and vine thicket. The soils are generally shallow sandy loams or red earths associated mostly with sandstone.

This species was recorded during surveys of the Proposed Action area in remnant vegetation predominantly in the southern part of MLA700055 and in MLA700044, associated with Acacia woodland on sandstone and shallow skeletal soils (REs 11.10.3, 11.10.7 and 11.7.2). ALA records occur within 20 km of the Proposed Action area (south-west of Emerald).

Impact

Site surveys indicate the Proposed Action area encompasses 455.5 ha of habitat in which *Bertya opposens* is known to occur (including sites within REs 11.10.3, 11.7.2 and 11.10.7), and approximately 6,945 ha of potential habitat (other REs on land zone 10). This habitat is associated with the large tracts of vegetation present in the southern portion of the Proposed Action area. The preliminary mine layout is likely to impact up to approximately 227.8 ha of known habitat and approximately



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

2,929 ha of potential habitat for *Bertya opponens*. The Proposed Action area lies to the north of the species known occurrence as per DAWE (2021) habitat mapping. As such, there is potential the populations within the Proposed Action area would be considered as an 'important population' under the MNES Significant impact guidelines 1.1 (DE 2013), as a local population would be on the edge of the species range. As such, there is a potential for a significant impact to occur as a result of the Proposed Action.

Species or threatened ecological community

Greater Glider (*Petauroides volans*) – Vulnerable

Known to occur. Occurs in a variety of eucalypt-dominated forest and woodland. By day it shelters in tree hollows, feeding on eucalypts at night. The species is absent from regenerating forest lacking old trees with suitable hollows (McKay 2008). Not all tree species form hollows to the same extent but hollow availability doesn't necessarily match hollow use (Kehl & Borsboom 1984).

Identified in PMST as 'species or species habitat known to occur within area'. Recorded on multiple occasions during surveys on the mine site (refer Attachment A: Figure 7), mainly in riparian and adjacent habitat containing large tree hollows along Theresa Creek, Carbine Creek and Crystal Creek. There is one ALA record (1975) of this species within 50 km of the Proposed Action located 7 km south of the proposed Action area.

Impact

The Proposed Action area includes the following extent of habitat suitable for Greater Glider, as informed by ground-truthing surveys within the Proposed Action area:

- Approximately 556 ha of known habitat in which the species was recorded during surveys (REs 11.3.25, 11.3.4, 11.3.6 and 11.0.1)
- Approximately 2,240 ha of 'high quality' potential habitat (tall eucalypt vegetation with abundant hollow-bearing trees)
- Approximately 3,039 ha of 'low quality' potential habitat (degraded eucalypt vegetation with less hollow-bearing trees and adjacent to high quality areas)

The preliminary mine layout will likely impact up to approximately 70.9 ha of known habitat, approximately 447 ha of high quality habitat and approximately 958 ha of low quality habitat identified within the Proposed Action area for Greater Glider. As such, the Proposed Action has potential to result in a significant impact to the species in accordance with the MNES Significant impact guidelines 1.1 (DE 2013). It is noted, there is no 'important population' or 'critical habitat' (as defined in the Guidelines) likely to be present in the area.

Species or threatened ecological community

Koala (*Phascolarctos cinereus*) - Vulnerable

Known to occur. Koala occurs in a range of temperate, tropical and sub-tropical forests and woodland, semi-arid communities dominated by Eucalyptus species. In central Queensland, *E. populnea* is a common food tree, but *E. crebra* and *E. tereticornis* are among other species eaten (Ellis et al. 2002).

Identified in PMST as 'species or species habitat known to occur within area'. Confirmed as present on the Proposed Action area during surveys through indirect evidence of the species (a skull and tree scratching) and a live Koala sighting (refer Attachment A: Figure 6 and Figure 7). Multiple ALA records exist within 50 km of the Proposed Action area. The closest known record is from 1977 approximately 11 km east (ALA 2021).

Impact

The Proposed Action area includes the following extent of habitat suitable for Koala, as informed by ground-truthing surveys within the Proposed Action area:

- Approximately 101.3 ha of known habitat in which the species was recorded during surveys (includes RE 11.3.25 and some 'non-remnant' habitat)
- Approximately 1,866 ha of 'high quality' potential habitat (eucalypt vegetation on alluvial soils (land zone 3) on or near drainage lines)
- Approximately 5,666 ha of 'low quality' potential habitat (eucalypt vegetation located further away from preferred habitat on or near drainage lines)

Koala habitat is defined within the EPBC Act referral guidelines for the vulnerable Koala (DE 2014) as habitat comprising one or more species of the genera: Eucalyptus, Corymbia, and/or Angophora). Under the assessment method detailed in the Koala referral guidelines this habitat may be considered as 'critical to the survival of the species'. Given the known records and eucalypt habitats present, it is expected that the Proposed Action will impact habitat considered as critical to the species. The preliminary mine layout will likely impact up to approximately 2.04 ha of known habitat, approximately 53.9 ha of high quality habitat and approximately 1,970 ha of low quality habitat as identified within the Proposed Action area for Koala. As such, the Proposed Action is likely to result in a significant impact to the species in accordance with the MNES Significant impact guidelines 1.1 (DE 2013).



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Species or threatened ecological community

Squatter Pigeon (southern) *Geophaps scripta scripta* - Vulnerable

Known to occur. Occurs mainly in dry grassy eucalypt woodlands and open forests, as well as *Callitris* and *Acacia* woodlands (Frith 1982), & on sandy sites near permanent water (Blakers et al. 1984). Breeding habitat includes stony rises occurring on sandy or gravelly soils, within 1km of a suitable, permanent waterbody (SPW 2011), & alluvial areas, which are also important habitat (Frith 1982).

This subspecies was recorded on one occasion within the Proposed Action area in 2019, located approximately 8km north of the MIA on well-draining soils adjacent to a *Eucalyptus* woodland (RE 11.5.3) (refer Att A: Fig 6 & Fig). The species was also recorded once located 9km east of the mine site (near Theresa Creek) during 2011 surveys by EcoSM. There are records of Squatter Pigeon (southern) from within 20km of the mine site, mainly in the east (to the north of OCC Mine). The closest record (2004) is located 7km north-east (ALA 2021)

Impact

The Proposed Action area includes substantial tracts of habitat suitable for Squatter Pigeon, as informed by ground-truthing surveys by ELA. The assessment included habitats across a number of land zones including two (land zone 8 and 9) that are not considered in the species-specific habitat description provided by DAWE (2021). The species listing notes the species as occurring on sandy soils on land zones 3, 5, 7 and 10 and within 3 km of a permanent. Habitats on land zones 8 and 9 are generally clay soils which are not preferred habitat for the species. The Proposed Action area includes the following extents of suitable habitat:

- Approximately 178 ha of known habitat in and adjacent to where the species was recorded during the surveys in 2019
- Approximately 2,605 ha of potential breeding habitat (vegetation within 1 km of a permanent waterbody)
- Approximately 4,757 ha of potential foraging habitat (vegetation within 3 km of a permanent waterbody)

The preliminary mine layout is located south of known habitat for the species within the Proposed Action area. The Proposed Action could impact up to approximately 455 ha of potential breeding habitat and 1,741.1 ha of potential foraging habitat identified for Squatter Pigeon. However, it is noted the species has only been identified on one occasion within the Proposed Action area over several surveys carried out in 2019, and once in the wider area (9 km east) during previous surveys within the Proposed Action area carried out in 2011 and 2012 by EcoSM. Squatter Pigeon has sedentary habits and a relatively limited home range for local individuals (reflected by the DAWE habitat descriptions for the species). It is highly unlikely the majority of the identified potential habitat within the Proposed Action area will be utilised by the species.

Given the subspecies is known to occur in the general area it is considered the Proposed Action has some potential to result in a significant impact to the species in accordance with the MNES Significant impact guidelines 1.1 (DE 2013). It is noted, there is no 'important population' or 'critical habitat' (as defined in the MNES Guidelines) likely to be present in the area.

Species or threatened ecological community

Painted Honeyeater (*Grantiella picta*) - Vulnerable

Potential to occur. Occurs from south-east Australia to north-west Queensland and eastern Northern Territory. Almost all breeding records and the greatest concentrations of individuals occur south of Roma in Queensland (Barrett et al. 2003). Breeding and north-south movements closely align with fruiting mistletoes. Prefers woodlands with mature trees, as these host more mistletoes (Oliver et al. 2003), particularly woodlands dominated by *Acacia* spp. (such as Brigalow). They can also occur on plains with scattered eucalypts, remnant trees on farmland and in narrow linear strips such as roadsides.

Identified in PMST as 'species or species habitat may occur within area'. No ALA or eBird records exist in the Proposed Action area or within a 50 km buffer. The species is a vagrant and has potential to occur in the Proposed Action area during times when flowering mistletoe is present in forests, woodlands and road corridors.

Impact

The Proposed Action area includes the following extent of habitat suitable for Painted Honeyeater, as informed by ground-truthing surveys within the Proposed Action area:

- Approximately 127 ha of preferred habitat based on the observed presence of mistletoes in eucalypt woodlands on alluvial soils

The Proposed Action area may provide suitable (although transient) habitat for Painted Honeyeater. The species is not expected to breed in the local area and the lack of records suggest it is not a regular visitor, should it occur at all. At this stage, it is considered unlikely that the Proposed Action will result in a significant impact to this species in accordance with the MNES Significant impact guidelines 1.1 (DE 2013).

Species or threatened ecological community

Australian Painted Snipe (*Rostratula australis*)-Endangered

Known to occur. This species is dependent on various shallow wetland habitats with preferred habitat characterised by emergent vegetation (including tussocks, grasses, sedges) where nesting may occur. Artificial habitats are occasionally used



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

including reservoirs, farm dams, sewage ponds and inundated grasslands. It is extremely nomadic, moving in response to local rainfall and flooding. There is indication of some regular seasonal migration to central and north coastal Queensland in autumn/winter (Black et al. 2010).

Identified in the PMST as 'species or species habitat may occur within area'. It was recorded within the Proposed Action area in 2012, approx 10km south-west of the MIA. An ALA record exists within 10km south-west of the Proposed Action area (within Kettle State Forest). Natural (gilgai) and artificial wetlands (farm dams with fringing habitat) provide potential habitat within the Proposed Action area.

Impact

The Proposed Action includes over 657 ha identified as suitable habitat for Australian Painted Snipe including wetlands along watercourses (RE 11.3.25), vegetation potentially with gilgais (RE 11.3.1, 11.4.9 and 11.9.5), gilgaied areas that have been cleared of vegetation, and farm dams. The preliminary mine layout may impact up to approximately 321 ha of the identified potential habitat for Australian Painted Snipe.

Breeding mainly occurs in the Murray-Darling region, but also may include south-east Queensland, the Channel country of south-west Queensland and the central Queensland coast. As such the species is not expected to breed in the Proposed Action area. The species is thought to occur as a single, homogenous breeding population across its broad area of occurrence (Garnett et al. 2011). Therefore, the Proposed Action area is unlikely to support an important population as defined in the MNES Significant impact guidelines 1.1 (DE 2013).

Given the species has been identified on a single occasion in 2012 and not during recent surveys of the Proposed Action areas in 2019-2021, Australian Painted Snipe is likely to be only a very sporadic visitor to the area. Habitat critical to the survival of the species is defined in the draft National recovery plan for the Australian Painted Snipe (DEE 2019) as:

- Any habitat where the species is known or likely to occur (especially with suitable breeding habitat) within the indicative distribution map for the species (refer DAWE 2021)
- Any location outside the above area that may be periodically occupied by Australian Painted Snipe when conditions are favourable

The Proposed Action area is located outside the known/likely distribution of the species and the species is not known to periodically occur. Given the species has been observed on only a single occasion, and neither an important population or critical habitat for the species will occur, it is considered unlikely the Proposed Action will result in a significant impact to this species in accordance with the MNES Significant impact guidelines 1.1 (DE 2013).

Species or threatened ecological community

Ornamental Snake (*Denisonia maculata*) – Vulnerable

Known to occur. Suitable habitat for this species comprises Brigalow woodland containing ephemeral gilgais with a structurally complex ground layer. It can also be found in woodlands dominated by Gidgee (*Acacia cambagei*), Blackwood (*A. argyrodendron*) or Coolibah (*Eucalyptus coolabah*) on cracking black clay soils. It may also occur on cleared lands where gilgais remain present.

Identified in PMST as 'species or species habitat known to occur within area'. Species was recorded in the mine site 9.5 km south-west of the MIA in 2011. It has not been recorded in surveys for the Proposed Action undertaken in 2019-2021, including a targeted survey after ideal conditions undertaken in 2021. A number of ALA records exist within 50 km of the Proposed Action area. The nearest of these is 5 km south of the Proposed Action. Potential habitat (gilgais and Brigalow woodland) occurs within the Proposed Action area.

Impact

The Proposed Action includes approximately 59.5 ha of known habitat (in which the species had been previously detected) as well as approximately 1,168 ha of potential habitat considered suitable for Ornamental Snake. This includes REs in which the species has previously been recorded (REs 11.3.3 and 11.4.9 (DAWE 2021)), other REs known to potentially comprise gilgais and/or Brigalow such as REs 11.3.1, 11.9.5 and 11.9.1, and cleared lands comprising gilgai formations in which the species may also occur. The preliminary mine layout may impact up to approximately 50.5 ha of known habitat and approximately 260 ha of potential habitat within the Proposed Action area.

Under the Draft Referral guidelines for the nationally listed Brigalow Belt reptiles (DSEWPaC 2011) known 'important habitat' includes gilgai depressions and mounds. Clearing of two or more hectares of 'important habitat' may be considered as a high risk of significant impact on the species. Given the species may occur in the general area it is considered the Proposed Action has some potential to result in a significant impact to the species in accordance with the MNES Significant impact guidelines 1.1 (DE 2013).

Species or threatened ecological community

Yakka Skink (*Egernia rugosa*) – Vulnerable

Potential to occur. This species is found in a variety of vegetation types, commonly in cavities under and between partly buried rocks, logs or tree stumps, root cavities and abandoned animal burrows. The species often takes refuge in large hollow



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

logs and has been known to excavate deep burrow systems, sometimes under dense ground vegetation. It occurs in colonies scattered sparsely across a broad swathe of central and eastern Queensland and Cape York Peninsula.

Identified in PMST as 'species or species habitat known to occur within area'. Not identified during surveys for the Proposed Action. A single ALA record from 1974 is located 12.5 km south-west of the Proposed Action area. There are a number of other older museum records are located in the wider area to the south-east and south-west, although none within 70 km. Surveys indicate potential habitat occurs within the Proposed Action area on a variety of suitable soil substrates.

Impact

The Proposed Action area includes approximately 2,436 ha of potential habitat considered suitable for Yakka Skink including REs on land zone 3, 5, 7, 9 and 10. This is a very conservative estimate based on observed habitat values and does not reflect the species likely occurrence (i.e. the species occurs as scattered and isolated colonies). The preliminary mine layout may impact up to approximately 800.1 ha of identified potential habitat within the Proposed Action area.

Under the Draft Referral guidelines for the nationally listed Brigalow Belt reptiles (DSEWPaC 2011) known 'important habitat' for Yakka Skink includes:

- Any contiguous patch of suitable habitat, particularly remnant vegetation, where a colony is known or identified
- Any microhabitat where colonies are likely to be found

The removal of any microhabitat features within 200 m of a colony may be considered as a high risk of significant impact on the species. If direct impacts to the species cannot be avoided there is potential to result in a significant impact to the species in accordance with the MNES Significant impact guidelines 1.1 (DE 2013).

Species or threatened ecological community

Retro Slider (*Lerista allanae*) – Endangered

Potential to occur. Occurs on undulating, black soil downs in the root systems of grass tussocks on black soils. Its habitat comprises rich brown surface soils and associated leaf litter. Soils in which the species is found are fairly loose, which is thought to play an important role in the skink's habitat preference. Associated REs include 11.8.5 and 11.8.11.

The northern part of the Proposed Action area occurs within habitat in which the 'species or species habitat known to occur within the area' (DAWE 2021). An older ALA record (1939) exists for the species 28km to the north. More recent records appear to be not publicly available. Targeted surveys for Retro Slider carried out in November 2020 to the east of the Proposed Action area (for the rail line and water supply pipeline infrastructure) did not record the species. Habitat within the Proposed Action area is limited to habitats on friable basalt soils (including RE 11.8.11).

Impact

Site surveys indicated there are four patches of potential habitat comprising native grasslands (RE 11.8.11) and three patches of non-remnant areas which may provide habitat for Retro Slider. These areas comprise approximately 42 ha and are located in the northern part of the Proposed Action area. A further approximately 24 ha of potential grassland habitat is located in the eastern portion of the Proposed Action area (within the co-located infrastructure corridor) although this area has not been surveyed as yet. Targeted surveys of potential grassland habitat for the species indicated that habitat values to the east of the Proposed Action area are degraded and not suitable for the species presence. The preliminary mine layout is located south of the native grasslands within the mine area. The mine access road may impact up to approximately 1.4 ha of potential grassland habitat (should surveys confirm this community to be present).

Under the Draft Referral guidelines for the nationally listed Brigalow Belt reptiles (DSEWPaC 2011) known 'important habitat' includes dark-brown clay soils (non-cracking) within REs 11.8.5 and 11.8.11, including areas where these REs may once have occurred. Impacts to 'important habitat' may be considered as a high risk of significant impact on the species. This includes felling of shrubs and trees, fragmentation, or destroying 50% or more of microhabitat features (leaf litter) in a given area. Given the species is known to occur in the general area it is considered the action has some potential to result in a significant impact to the species in accordance with the MNES Significant impact guidelines 1.1 (DE 2013).

Species or threatened ecological community

Dunmall's Snake (*Furina dunmalli*) - Vulnerable

Potential to occur. Found in a broad range of habitats, including forests and woodlands on black alluvial cracking clay and clay loams dominated by brigalow and other wattles, native cypress or Buloke (*Allocasuarina luehmannii*). It is also found in various spotted gum, ironbark, white cypress pine and Buloke open forest and woodland associations on sandstone derived soils.

DAWE (2021) habitat mapping indicates the 'species or species habitat may occur within area'. There are no ALA records and one Wildlife Online record for this species within a 50 km buffer of the Proposed Action area. Limited records exist for this rarely observed cryptic species. Suitable habitat that exists within the Proposed Action area includes woodlands where abundant woody debris or cracking clays are present.

Impact



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Surveys indicate the Proposed Action area includes approximately 4,202 ha of general habitat considered suitable for Dunmall's Snake including REs on land zone 10 and Brigalow communities (REs 11.4.9, 11.9.1 and 11.9.5). However, preferred habitat appears to be Brigalow growing on cracking black clay and clay loams (Cogger et al. 1993), equating to approximately 403 ha within the Proposed Action area. Recent records exist only from a restricted area of inland south-east Queensland between Chinchilla and Morven (Chapple et al. 2019). The lack of records in or adjacent to the Proposed Action area and the apparent contraction in range (Chapple et al. 2019) suggest the species is unlikely to be present. Nevertheless, given the cryptic nature of this species its presence cannot be discounted.

The preliminary mine layout may impact up to approximately 1,496 ha of the identified habitat within the Proposed Action area.

Under the Draft Referral guidelines for the nationally listed Brigalow Belt reptiles (DSEWPaC 2011) known 'important habitat' for Dunmall's Snake includes suitable habitat within the known/likely-to occur distribution of the species, or any habitat corridors in between. The Proposed Action area is located outside the known/likely distribution of the species (refer current habitat mapping in DAWE 2021). The patches of potential habitat present in the Proposed Action area are generally isolated by surrounding cleared grazing land which will not serve as habitat corridors for Dunmall's Snake. Important habitat is considered unlikely to be present.

The following actions may be considered as a high risk of a significant impact to the species:

- Clearing four or more hectares of important habitat
- Alteration of water quality or quantity affecting four or more hectares of important gilgai or riparian habitat

(DSEWPaC 2011)

Given the Proposed Action does not encompass important habitat for the species a significant impact is considered unlikely to occur on the species as a result of the Project activities.

Species or threatened ecological community

Sharp-tailed Sandpiper (*Calidris acuminata*)

Potential to occur. In Queensland, this species has been recorded in most regions, being widespread along much of the coast and sparsely scattered inland, particularly in central and south-western regions. Occurs on intertidal mudflats in sheltered bays, inlets, estuaries or seashores, and also swamps and mangrove creeks. Prefers muddy edges of shallow fresh, brackish and saline wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation. Including dams, waterholes, soaks, bore drains, salt pans and hypersaline salt lakes inland.

ALA records exist for this species within 30 km south of the Proposed Action area. Although the species is generally associated with the coast, it can be found in terrestrial inland wetlands and dams. Surveys indicate approximately 47 ha of marginal and ephemeral habitat of this kind (gilgais, farm dams and waterholes) is present in the Proposed Action area.

Impact

As noted above, potential habitats within the Proposed Action area are marginal at best for Sharp-tailed Sandpiper. No more than a very minor impact (if any at all) is expected on this species. The Proposed Action area is very unlikely to support important habitat for the species or support an ecologically significant proportion of the population as defined in the MNES Significant impact guidelines 1.1 (DE 2013). The Proposed Action is not expected to result in a significant impact on Sharp-tailed Sandpiper.

2.4.2 Do you consider this impact to be significant?

Yes No

2.5 Is the proposed action likely to have any direct or indirect impact on the members of any listed migratory species or their habitat?

Yes No

Migratory species

Fork-tailed Swift (*Apus pacificus*)

Likely to occur. The Fork-tailed Swift is almost exclusively aerial, flying up to 300 m above ground and probably much higher. It is more widespread west of the Great Divide and are commonly found west of the line joining Chinchilla and Hughenden. It mostly occurs over dry or open habitats, including riparian woodland and tea-tree swamps, low scrub, heathland or saltmarsh. However, it can also be found over grassland and sandplains covered with spinifex, open farmland, inland/coastal sand-dunes, above rainforests, wet sclerophyll forest, open forest or plantations of pine.

Several ALA records exist within a 50 km buffer of the Proposed Action area. The species is exclusively aerial when within Australia, however it may forage above a range of habitats. Suitable grassland/open farmland and riparian woodland habitat exists within the Proposed Action area.

Impact

The species is exclusively aerial when within Australia. No impact is expected to this species. The Proposed Action will not



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

result in a significant impact on Fork-tailed Swift in accordance with the MNES Significant impact guidelines 1.1 (DE 2013).

Migratory species

Glossy Ibis (*Plegadis falcinellus*)

This species was not included in the PMST report results. Recorded during mine site surveys by ELA. Glossy Ibis occurs in terrestrial wetlands, preferring inland freshwater wetlands with abundant aquatic flora (Marchant & Higgins 1990).

Several ALA records exist within a 50 km buffer of the Proposed Action area. Surveys identified approximately 5.3 ha of known habitat in which the species was recorded, and approximately 41.7 ha of potential habitat within the mine site. These included some natural (although ephemeral) wetlands as well as artificial waterbodies (farm dams).

Impact

As noted above, potential habitats within the Proposed Action area are ephemeral or artificial (farm dams). The habitats within the Proposed Action area are likely marginal for the species and only used temporarily. No more than a very minor impact (if any at all) is expected on this species based on the removal of marginal habitat for the species. There will be extensive identical habitat remaining in the wider area surrounding the Proposed Action that will remain undisturbed. The Proposed Action area is very unlikely to support important habitat for the species or support an ecologically significant proportion of the population as defined in the MNES Significant impact guidelines 1.1 (DE 2013). The Proposed Action is not expected to result in a significant impact on Glossy Ibis.

Migratory species

Latham's Snipe (*Gallinago hardwickii*)

Likely to occur. The species inhabits permanent and ephemeral wetlands with low, dense vegetation. It has been recorded in flooded meadows, seasonal or semi-permanent swamps, or open waters, bogs, waterholes, billabongs, lagoons, lakes, creek or river margins, river pools and floodplains. It also is regularly recorded in or around modified or artificial habitats including pasture, ploughed paddocks, irrigation channels and drainage ditches, ricefields, orchards, saltworks, and sewage and dairy farms.

The closest ALA record is from approximately 11 km to the south-west of the Proposed Action area. Surveys indicate approximately 629 ha of potential suitable habitat may occur. This habitat encompasses remnant (natural) wetlands and non-remnant waterbodies (including artificial habitats such as farm dams) (approximately 47 ha) and ephemeral habitats featuring gilgai formations (approximately 582 ha).

Impact

As noted above, potential habitats within the Proposed Action area are for the most part ephemeral (gilgai habitats) or artificial (farm dams). These habitats are likely marginal for the species. No more than a very minor impact (if any at all) is expected on this species based on the removal of marginal habitat for the species. There will be extensive identical habitat remaining in the wider area surrounding the Proposed Action that will remain undisturbed.

The Proposed Action area is very unlikely to support important habitat for the species or support an ecologically significant proportion of the population as defined in the MNES Significant impact guidelines 1.1 (DE 2013). The Proposed Action is not expected to result in a significant impact on Latham's Snipe.

Migratory species

(Eastern) Osprey (*Pandion (haliaetus) cristatus*)

Potential to occur. Occurs and breeds along all coastal areas of Queensland. Occasionally travels inland along major rivers, particularly in northern Australia. It requires extensive areas of open fresh, brackish or saline water for foraging. Can occur in central Australia between May and December during years of average or above-average rainfall when fish are abundant in inland waterways.

The closest ALA record (1997) is located 17 km to the south-west of the Proposed Action area. There are a number of relatively recent records to the south in the Emerald area associated with the permanent waters of the Nogoa River and Lake Maraboon. Surveys indicate that approximately 5.5 ha of potential suitable habitat (permanent water bodies) occurs in the Proposed Action area.

Impact

Potential habitat for Eastern Osprey within the Proposed Action area is minimal and is located a substantial distance away from habitats in which the species has more potential to occur.

No more than a very minor impact (if any at all) is expected on this species based on the removal of very marginal habitat for the species. There will be extensive identical habitat remaining in the wider area surrounding the Proposed Action that will



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

remain undisturbed. The Proposed Action area is very unlikely to support important habitat for the species or support a breeding population or an ecologically significant proportion of the population as defined in the MNES Significant impact guidelines 1.1 (DE 2013). The Proposed Action is not expected to result in a significant impact on Eastern Osprey.

Migratory species

Satin Flycatcher (*Myiagra cyanoleuca*)

Potential to occur. Species is widespread but scattered in the east. It migrates from Papua New Guinea to the south-east mainland and Tasmania. Inhabits a variety of woodlands, mainly eucalypt forests with an open understorey and grass ground cover, near wetlands or watercourses. It has been recorded in Brigalow shrubland, paperbark thickets, coastal thickets and mangroves.

Multiple ALA and Wildlife Online records for this species exist within 50 km of Proposed Action area, most of these are older (<1984). Most records of Satin Flycatcher west of the ranges are likely to be misidentified Leaden Flycatcher (*M. rubecula*) and the species is not expected to occur in the Proposed Action area (T. Reis pers. obs.). Surveys indicate approximately 309 ha of potential suitable habitat (riparian open forests or floodplains) occurs in the Proposed Action area. The species may occur transiently in the Proposed Action area during migration periods.

Impact

Potential habitat for Satin Flycatcher within the Proposed Action area is marginal for the species and is located to the west of the ranges where the species has more potential to occur. No more than a very minor impact (if any at all) is expected on this species based on the removal of potential foraging habitat for the species which would only be used briefly during north-south migrations. There will be extensive identical habitat remaining in the wider area surrounding the Proposed. The Proposed Action area is very unlikely to support important habitat for the species or support an ecologically significant proportion of the population as defined in the MNES Significant impact guidelines 1.1 (DE 2013). The Proposed Action is not expected to result in a significant impact on Satin Flycatcher.

Migratory species

Rufous Fantail (*Rhipidura rufifrons*)

Potential to occur. In east and south-east Australia, it usually inhabits wet sclerophyll forests usually with a dense shrubby understorey often including ferns. It can also be found in subtropical/temperate rainforests and occasionally in drier sclerophyll forests during migration.

ALA records exist for the species within 25 km of Proposed Action area. Preferred habitat of wet sclerophyll forests, rainforests, or semi-evergreen vine thickets is not present in the Proposed Action area, however the species may pass through the area during winter migration, when it may utilise drier, more open sclerophyll habitats.

Impact

Potential habitat for Rufous Fantail within the Proposed Action area is also widespread across the region. No more than a very minor impact (if any at all) is expected on this species based on the removal of potential foraging habitat for the species which will only be used temporarily during north-south migrations. There will be extensive identical habitat remaining in the wider area surrounding the Proposed Action that will remain undisturbed. The Proposed Action area is very unlikely to support important habitat for the species or support an ecologically significant proportion of the population as defined in the MNES Significant impact guidelines 1.1 (DE 2013). The Proposed Action is not expected to result in a significant impact on Rufous Fantail.

Migratory species

Sharp-tailed Sandpiper (*Calidris acuminata*)

Potential to occur. In Queensland, this species has been recorded in most regions, being widespread along much of the coast and sparsely scattered inland, particularly in central and south-western regions. Occurs on intertidal mudflats in sheltered bays, inlets, estuaries or seashores, and also swamps and mangrove creeks. Prefers muddy edges of shallow fresh, brackish and saline wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation. Including dams, waterholes, soaks, bore drains, saltpans and hypersaline salt lakes inland.

ALA records exist for this species within 30 km south of the Proposed Action area. Although the species is generally associated with the coast, it can be found in terrestrial inland wetlands and dams. Surveys indicate approximately 47 ha of marginal and ephemeral habitat of this kind (gilgais, farm dams and waterholes) is present in the Proposed Action area.

Impact

As noted above, potential habitats within the Proposed Action area are marginal at best for Sharp-tailed Sandpiper. No more than a very minor impact (if any at all) is expected on this species based on the removal of marginal habitat for the species. There will be extensive identical habitat remaining in the wider area surrounding the Proposed Action that will remain



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

undisturbed.

The Proposed Action area is very unlikely to support important habitat for the species or support an ecologically significant proportion of the population as defined in the MNES Significant impact guidelines 1.1 (DE 2013). The Proposed Action is not expected to result in a significant impact on Sharp-tailed Sandpiper.

2.5.2 Do you consider this impact to be significant?

Yes No

2.6 Is the proposed action to be undertaken in a marine environment (outside Commonwealth marine areas)?

Yes No

2.7 Is the proposed action likely to be taken on or near Commonwealth land?

Yes No

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

Yes No

2.9 Is the proposed action likely to have any direct or indirect impact on a water resource from coal seam gas or large coal mining development?

Yes No

Water resource

Surface water

Impact

Under the EPBC Act, an action which involves a large coal mining development requires approval from the Australian Government Environment Minister (the Minister) if the action has, will have, or is likely to have a significant impact on a water resource. The Project (including all actions discussed in Section 1.2) will likely meet the 'water trigger' for a controlled action (i.e. significant impact on a water resource is likely) being a large coal mining development. As such, the impacts of the Project (including all proposed actions in Section 1.2) on surface water resources is nominated as a controlling provision and requires assessment by the Minister.

The Proposed Action area is situated within the Nogoia river sub catchment in the northern extent of the Fitzroy Basin. Theresa Creek is the main watercourse bisecting the mine site, flowing in a general south-east direction to its confluence with the Nogoia River, approximately 12 km north-east of Emerald. A number of other watercourses and drainage lines intersect the Proposed Action area including Retro, Carbine, Crystal, Pine, Wheel, Gordonstone, and Capella Creeks (refer Attachment A: Figure 8).

The Proposed Action has the potential to impact on surface water through:

- Diversion of Pine Creek resulting in potential changes to flow and flood conditions.
- Construction of levees associated with open cut pits that may change the food regime in the mine site, and up and down stream
 - Diversion of overland flow that causes hydrological changes within the catchment
 - Uncontrolled releases of mine affected water into watercourses and offsite
 - Impacts to bank stability at haul road and internal access road watercourse crossings, and the mine access road and temporary site access track crossings of watercourses
 - Changes in surface water quality through seepage from out-of-pit dumps, TSF, or mine affected water storage dams
 - Harvesting of surface water for use in the Project's construction and operational activities
 - Reduction in watercourse base flow as a result of pit dewatering in areas with alluvial connectivity.

The Queensland Floodplain Assessment Overlay indicates that Theresa, Carbine, Capella and Crystal Creeks have the potential to flood in the Proposed Action area. Baseline and predictive flood modelling will be undertaken as part of the EIS and will be used to inform mine planning and infrastructure placement. As part of the Surface Water assessment, flood modelling will be used to identify areas where landforms and or levees will be required to minimise the potential for flooding of pits and infrastructure.

Surface water assessments including field surveys, baseline and predictive flood modelling, hydraulic and hydrological impact assessment will be undertaken as part of the EIS in accordance with the Significant impact guidelines 1.3: Coal seam gas and large coal mining developments – impacts on water (DE 2013b) and other relevant guidelines to determine the extent of impacts to surface water from the Proposed Action. This assessment will inform the watercourse crossing and drainage design, management of clean and mine affected water, and levee/landform design to minimise and mitigate potential impacts of the Project on the hydrological behaviour of the surrounding area.

Water resource

Groundwater



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Impact

Under the EPBC Act, an action which involves a large coal mining development requires approval from the Minister if the action has, will have, or is likely to have a significant impact on a water resource (known as the ‘water trigger’). The Proposed Action will likely meet the ‘water trigger’ for a controlled action (i.e. significant impact on a water resource is likely) being a large coal mining development. As such, the impacts of the Project (including all proposed actions in Section 1.2) on groundwater resources is nominated as a controlling provision and requires assessment by the Minister.

The Queensland Government’s registered groundwater bore database identified bores within or adjacent to the Proposed Action area, classified as sub-artesian bores and mainly concentrated within close proximity to watercourses (QG 2020). A census of the bores was undertaken in 2021 and showed the bores are mainly located within the alluvium of Theresa, Carbine and Boot and Kettle Creeks (outside the Proposed Action area) and used for stock watering (WSP 2021). The Proposed Action will involve the development of six open cut pits across the mine site. Groundwater may also be used as a supplementary water supply for the Project. Extraction of groundwater for Project use may result in drawdown on alluvial and Permian aquifers and any interconnected systems. Drawdown may also result from the construction and operation of the open cut pits, where groundwater may require dewatering for mining activities to proceed. There are currently no planned releases from the Project to groundwater systems.

Queensland state mapping derived patches of groundwater dependent ecosystem (GDE) (refer Attachment A: Figure 8) of: high confidence on the tributaries of Capella and Boot and Kettle Creeks; moderate confidence on tributaries of Crystal and Wheel Creeks; and low confidence on Retro, Crystal, Theresa, Carbine and Capella Creeks. Initial baseline site assessment (including pre-dawn leaf water potential and Normalised Difference Vegetation Indices assessments) indicated that riparian terrestrial vegetation along Theresa, Crystal, Carbine, Boot and Kettle (outside the Proposed Action area) and Capella Creeks are likely to support terrestrial GDEs (refer Attachment A: Figure 9). No surface expression GDEs were encountered during the aquatic ecology surveys of the Proposed Action area.

Stygofauna surveys carried out in 2019, 2020 and 2021 consistently found a single stygofauna taxon from a shallow alluvial aquifer within Theresa Creek. The stygofauna taxon was identified each time as a syncarid crustacean of the genus *Oncyrobathynella*, family Parabathynellidae. Additional sampling across a number of bores will be undertaken in late 2021, and assessment provided in the Project EIS.

The Proposed Action will have the potential to impact on groundwater, stygofauna and GDEs through:

- Changes to groundwater levels and/or pressure, reducing water availability and potentially impacting surrounding users
- Changes to groundwater levels impacting the ability for GDEs to access groundwater and impacting stygofauna habitat
- Reduction of baseflow to watercourses, potentially resulting in impacts to GDEs and downstream users
- Contamination of shallow groundwater systems due to the improper storage and handling of fuels and chemicals
- Changes in groundwater quality through seepage from out-of-pit dumps, in-pit or out-of-pit tailings disposal, and mine affected water storage dams.
- Changes to levels and/or quality of shallow groundwater systems from over-use of water for dust suppression and construction activities

Groundwater monitoring, modelling and geochemical characterisation of water material will be undertaken for the Project EIS. Impact assessment will be carried out in accordance with the Significant impact guidelines 1.3: Coal seam gas and large coal mining developments – impacts on water (DE 2013b) to determine the extent of impacts to groundwater resources from the Proposed Action. A detailed assessment of potential impacts on GDEs and stygofauna will also be undertaken as part of the Project EIS.

These assessments will inform the mine planning and infrastructure siting and design to minimise and mitigates potential impacts on groundwater.

2.9.2 Do you consider this impact to be significant?

Yes No

2.10 Is the proposed action a nuclear action?

Yes No

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

Yes No



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

2.12 Is the proposed action to be undertaken in a Commonwealth Heritage place overseas?

Yes No

2.13 Is the proposed action likely to have any direct or indirect impact on any part of the environment in the Commonwealth marine area?

Yes No



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 3

Description of the project area

3.1 Describe the flora and fauna relevant to the project area

The majority of the Proposed Action area is currently used for grazing and cropping. State Forest (SF) areas designated for timber harvesting also occur within the Proposed Action area, comprising Crystal Creek SF and Llandillo SF (QG 2020).

Field surveys and desktop assessments indicate the mine site within the Proposed Action area encompasses approximately 12,783 ha of remnant and regrowth vegetation communities. The remainder is cleared non-remnant lands. Approximately 177 ha of remnant and regrowth communities occur within the co-located infrastructure corridor that contains the mine access road, and the temporary site access track corridor. Remnant and regrowth vegetation therefore occupies approximately 53.4% of the Proposed Action area.

The PMST identified that the following conservation significant species or communities could occur within 20 km of the Proposed Action area (DAWE 2021b) (refer Attachment D, EPBC Act Protected Matters Report, pp. 3-6):

- 31 listed threatened species –
 - o 9 flora species
 - o 8 birds
 - o 7 mammals
 - o 7 reptiles
- 6 TECs
- 11 listed migratory species

Of these, 4 threatened flora species, 9 threatened fauna species, 3 TECs and 6 migratory birds have some potential to occur in the Proposed Action area. An additional migratory bird species was identified during site surveys. Threatened species and communities potentially impacted by the Proposed Action are summarised in Section 2.4 and migratory species are summarised in Section 2.5. Further ecological surveys will be undertaken for part of the Proposed Action area in the co-located infrastructure corridor and will be reported in the EIS.

Terrestrial ecology survey findings

The Proposed Action area is dominated by *Eucalyptus coolabah*, *E. tereticornis* and *E. melanophloia* on alluvial soils, with *E. cambageana* and *Acacia harpophylla* common on soils derived from fine-grained sedimentary rocks. Large tracts of remnant vegetation on coarse-grained sandstone were dominated by *Acacia shirleyi*, *E. crebra* and *Corymbia citriodora*. Buffel Grass (*Cenchrus ciliaris*) was a dominant groundcover species, particularly on alluvial plains, fine-grained sediments and disturbed areas, with *Ancistrachne uncinulata* and *Aristida* spp. common on coarse-grained sandstone and jump ups. Natural grasslands occur in the far north of the Proposed Action area in association with basalt soils. These areas host a diverse range of native grass and forb species. The results of current ground-truthed RE mapping within the Proposed Action area is shown on Attachment A: Figure 7.

Eight distinct broad habitat types were identified which contribute to varying habitat value for threatened fauna species as follows:

- Riparian open forest including dominant species such as Queensland Blue Gum (*E. tereticornis*) (RE 11.3.25)
- Floodplain open forest and woodlands including dominant species such as *E. tereticornis*, *E. populnea*, *E. coolabah* and *E. melanophloia* (RE 11.3.2, 11.3.3, 11.3.4, 11.3.6)
- Various eucalypt forest and woodlands (11.5.3, 11.7.4, 11.8.5, 11.9.1, 11.10.1, 11.10.7, 11.10.12, 11.10.13, 11.11.1)
- Brigalow or belah forest and woodlands (11.3.1, 11.4.9, 11.9.5, 11.9.1)
- Acacia forest and woodlands often dominated by *Acacia shirleyi* (11.7.2, 11.10.3)
- Native grasslands dominated by a variety of species including *Dichanthium sericeum* (RE 11.8.11)
- Wetlands (including gilgai formations) (11.3.2b, 11.3.25d, 11.3.3c, 11.3.27, non-remnant areas with gulgais)
- Non-remnant vegetation

A total of 334 flora species were observed in the Proposed Action area, during the 2019-2021 surveys. The key flora species observed was *Bertya opposens* (Vulnerable). A total of 43 exotic flora species were recorded including 5 species classified as Weeds of National Significance (WoNS).

A total of 213 vertebrate fauna species were observed in the Proposed Action area, during the 2019-2021 surveys. This comprised 132 bird species, 34 mammals, 37 reptiles, 10 frogs and 10 introduced species. Key species recorded included Koala, Greater Glider and Squatter Pigeon (all Vulnerable).

Aquatic ecology preliminary findings

The aquatic surveys undertaken by DPM (2019-2021) found the following:

- 16 fish species, 2 common turtle species, and 57 aquatic macroinvertebrate taxa
- 21 species of aquatic or semi-aquatic flora
- No conservation significant aquatic fauna species listed under the EPBC Act were recorded or are considered as potentially occurring in the Proposed Action area
- Overall aquatic values ranged from low to moderate
- Likely and potential terrestrial GDEs were recorded during targeted GDE assessments (refer Attachment A: Figure 9). No surface expression GDEs were recorded
- Stygofauna was detected in one bore intercepting the alluvial aquifer of Theresa Creek



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

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

SURFACE WATER

Watercourses

The Proposed Action is located within the Nogoia River sub-catchment in the northern extent of the Fitzroy River Catchment (QG 2020). Several watercourses and drainage lines occur on the Proposed Action area as follows (refer Attachment A: Figure 6):

- Retro Creek flows south-east across the northern extent of the mine site before converging with Theresa Creek
- Theresa Creek flows in a south-easterly direction across the mine site and the western part of the co-located infrastructure corridor to its confluence with the Nogoia River
- Carbine Creek flows south-east across the central part of the mine site to its downstream confluence with Theresa Creek
- Crystal Creek flows west to east across the mine site, to its confluence with Carbine Creek on the eastern boundary
- Pine Creek flows west to east, converging with Crystal Creek in the central part of the mine site
- Wheel Creek flows west to east from the south-eastern corner of the mine site
- Gordonstone Creek flows north to south through the eastern part of the co-located infrastructure corridor
- Several unnamed drainage lines occur in the mine site and within the co-located infrastructure corridor

Watercourses adjacent to the Proposed Action area include:

- Boot and Kettle Creek which flows west to east, to the south of the mine site
 - Capella Creek which flows north to south along the eastern boundary of the mine site and through the co-located infrastructure corridor, at the confluence with Theresa Creek
 - Sandy Creek which flows north to south to converge with Theresa Creek, to the immediate west of the mine site
- All watercourses within the Proposed Action area are ephemeral, flowing only following local or upstream rainfall.

Flooding

Several floods have been recorded in the broader region as far back as 1950. State floodplain assessment overlay mapping identified that Theresa, Carbine and Crystal Creeks all potentially flood during significant rainfall events in the Proposed Action area and as a result of up-catchment rainfall events. Flooding will be examined in the EIS.

Wetlands

There are several State-mapped wetlands across the Proposed Action area, particularly along Theresa Creek and south of Llandillo SF. There are no State-mapped wetland areas of high ecological significance (HES) or representing Wetland Protection Areas (WPA) identified as occurring within the Proposed Action area or immediate surrounds. One nationally important wetland under the Directory of Important Wetlands in Australia is Fairbairn Dam, located approximately 29 km south of the mine site. Wetlands will be assessed in the EIS.

Groundwater

The Proposed Action is located within the Lower Nogoia Groundwaters zone within the Fitzroy Basin as defined in the Environmental Protection Policy (Water and Wetland Biodiversity) 2019. This zone is considered an alluvial sequence with low to moderate levels of salinity and balanced bicarbonate and chloride cations. There are no springs State-mapped as occurring within or adjacent to the Proposed Action area. Groundwater will be assessed in the EIS.

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

Soils

The mine site comprises six mapped land systems within the Nogoia – Belyando Area, comprising: Humbolt (Hu), Alpha (Al), Kinsale (K), Monteagle (Mo), Durrandella (Du); and Blackwater (Bl). Soil mapping for the mine access road is being carried and will be included in the EIS.

There are five soil units mapped in the mine site component of the Proposed Action area. The soil units vary with Kandosols mapped in the northern extent, and Sodosols and Rudosols dominant through the central and southern parts of the mine site. Acid sulphate soils are not expected to occur in the mine site due to the topography (i.e. not below 5 m AHD), geomorphic and soil characteristics and lack of proximity to the coastline. A detailed soil survey and assessment will be undertaken as part of the Project EIS.

The primary soil units identified within and surrounding the Proposed Action area based on desktop searches (Gunn et al. 1967), include:

- Rolleston – Cracking clays, strongly alkaline surface soils over acid mottled subsoils on Tertiary geology. Found in Brigalow scrub lowlands and plains to undulating with brown and grey-brown clay soils
- Rugby – Shallow rocky soils. Undulating country and low rises with occasional outcrops
- Luxor – Deep texture contrast thick sandy surface soils. Found in plains, colluvial foot slopes, lowlands and occasionally low hills with poplar box woodland and scrub grasses
- Glenora – Brown to reddish brown cracking clay soils. Found in Low rises, ridges, crest and valley sides, slopes up to 6%
- Bruce – Shallow Clay soils, found in undulating country and low rises with occasional outcrops
- Taurus – Texture Contrast soil, thin sandy surface and alkaline subsoils. Found in plains, lowland, colluvial foot slopes, with solodized solonetz and solodic soils
- Retro – Thin sandy or loamy surface soils and strongly alkaline subsoils. Found in alluvial clay plains with brigalow



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

scrubland with blue grass

- Gregory – Shallow red and yellow earths. Found in rises to undulating slopes up to 3%, occasionally rocky.
- Vermont – Cracking clay soils. Found in alluvial clay plains with brigalow scrubland with blue grass
- May downs – Deep, self-mulching clay soils. Gentle middle and lower slopes, largely colluvial slopes up to 2%,

occasional gullies

The land within the Proposed Action area is located within the Western Cropping zone, therefore field verification of the presence and extent of State mapped Strategic Cropping Land will be required.

Vegetation characteristics

For vegetation characteristics refer to Section 3.1 and Attachment A: Figure 7 for further detail.

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

No outstanding natural features and/or any other important or unique values relevant to the Proposed Action area have been identified.

3.5 Describe the status of native vegetation relevant to the project area

Desktop assessment and field surveys identified the Proposed Action area has been subject to previous extensive vegetation clearing in lower-lying areas for agricultural land uses such as cattle grazing and cropping. Areas associated with higher topographic relief retain extensive tracts of remnant vegetation. More than half of the Proposed Action area (approximately 53.4%) retains remnant or regrowth vegetation communities based on ground-truthed vegetation mapping (refer Section 3.1 and Attachment A: Figure 7). There are 21 vegetation communities ground-truthed as present within the Proposed Action area, as described in the table below. Of these, 11 are listed as threatened under Queensland legislation (Vegetation Management Act 1999 (Qld) (VM Act) and/or EP Act).

RE Status – VM Act Status – EP Act Approximate Extent within Proposed Action Area (ha)

Mine site

11.3.1	Endangered	Endangered	49
11.3.2	Of Concern	Of Concern	227
11.3.3	Of Concern	Of Concern	837.5
11.3.4	Of Concern	Of Concern	255
11.3.6	Least Concern	Of Concern	511
11.3.25	Least Concern	Of Concern	310
11.3.27	Least Concern	Of Concern	11
11.4.9	Endangered	Endangered	26
11.5.3	Least Concern	No Concern	243
11.7.2	Least Concern	No Concern	177
11.7.4	Least Concern	No Concern	13
11.8.4	Least Concern	No Concern	138
11.8.5	Least Concern	No Concern	142
11.8.11	Of Concern	Of Concern	38.5
11.9.1	Endangered	Endangered	616
11.9.5	Endangered	Endangered	112.5
11.10.1	Least Concern	No Concern	1,772
11.10.3	Least Concern	No Concern	4,770.5
11.10.7	Least Concern	No Concern	2,086
11.10.12	Least Concern	No Concern	423.5
11.11.1	Least Concern	No Concern	12.5

Co-located infrastructure corridor

11.3.3	Of Concern	Of Concern	25
11.3.6	Least Concern	Of Concern	15
11.3.25	Least Concern	Of Concern	7
11.8.11	Of Concern	Of Concern	24
11.9.1	Endangered	Endangered	9
11.9.5	Endangered	Endangered	11
11.10.12	Least Concern	No Concern	86

Several of these communities are analogous to TECs listed under the EPBC Act (refer Section 2.4). The remainder of the Proposed Action area including the remainder of the temporary site access track corridor comprises vegetation communities listed as Least Concern under the VM Act. Part of the co-located infrastructure corridor within the Proposed Action area will be subject to further field-verification as part of the Project EIS.

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

The northern part of the mine site comprises gently undulating landscapes associated with the floodplains of Retro,



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Theresa, Capella and Carbine Creeks, ranging from 196 m to 220 m Australian Height Datum (AHD).

Steeper areas occur along the western boundary of the mine site associated with the Llandillo SF (up to 270 m AHD) and on the southern and south-western boundary, associated with vegetated ridgelines of Burn SF and Kettle SF (up to 290 m AHD – outside the Project area). The topography rises to an elevation towards the centre of the Proposed Action area in MLA 700044 (260 m AHD), resulting in the delineation between tributaries of Crystal Creek flowing to the north and tributaries of Boot and Kettle Creek flowing to the south.

The co-located infrastructure corridor comprises gently undulating landscapes ranging from 200 m to 250 m AHD. The topography rises to a higher elevation as the corridor heads east out of the Theresa Creek floodplain.

3.7 Describe the current condition of the environment relevant to the project area

Multiple land uses currently exist within the Proposed Action area including livestock grazing, production forestry, areas of irrigated and non-irrigated cropping, residential and farm infrastructure, exploration activities, reservoir/dam and marsh/wetlands. Livestock grazing and State Forestry is the dominant land use across the Proposed Action area.

Surveys by ELA recorded a total of 43 non-native flora species across the mine site. Surveys of the mine access road within the co-located infrastructure corridor, are still to be completed. Five of these are classified as WoNS and/or restricted invasive plants under Queensland's Biosecurity Act 2014:

- Tree pear (*Opuntia* spp.) – WoNS, restricted:
 - o Scattered across the mine site in low abundance.
 - Rubber vine (*Cryptostegia grandiflora*) – WoNS, restricted:
 - o One individual observed in the north-west of the mine site.
 - Harrisia cactus (*Harrisia martini*) – restricted:
 - o Scattered across the mine site in low abundance
 - Parkinsonia (*Parkinsonia aculeata*) – WoNS, restricted:
 - o Observed mostly in the north of the mine site, confined to drainage depressions and creek lines often in high density.
 - Parthenium weed (*Parthenium hysterophorus*) – WoNS, restricted:
 - o Observed in varying density throughout the mine site. Properties in the north-west were observed to have high density, particularly in cleared and disturbed areas, whilst others had low (2-5%) cover.
- Buffel grass (*Cenchrus ciliaris*) was observed in varying density throughout the Proposed Action area. This grass has been established as a pasture species in areas that have been cleared for agriculture.

3.8 Describe any Commonwealth Heritage places or other places recognised as having heritage values relevant to the project

The Proposed Action area does not contain any Commonwealth Heritage Places.

3.9 Describe any Indigenous heritage values relevant to the project area

Indigenous Cultural Heritage

A search of the Queensland Cultural Heritage Database and Register found no listed Aboriginal or Torres Strait Islander Cultural Heritage sites, Designated Landscape Areas or Registered Cultural Heritage sites registered over the mine site (DATSIP 2020). Several cultural heritage surveys undertaken both for the previous holder of the tenements and the Proponent, have identified Indigenous Cultural Heritage as occurring in the mine site.

Non-Indigenous Cultural Heritage

A search of the Queensland Heritage Register (DES 2020) and the PMST (DAWE 2021b) identified the Proposed Action area does not contain any places of State or National heritage significance. There are no local heritage places recorded under CHRC's planning scheme mapping for within or adjoining the Proposed Action area.

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

The Proposed Action area comprises various Easement, Freehold and Reserve tenure (refer Attachment A: Figure 5).

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

Mine site

A substantial proportion of the mine site has been historically cleared for grazing purposes. The land use in the northern part of the mine site predominantly comprises cattle grazing, with some cropping. Crystal Creek SF and Llandillo SF are designated as production native forest areas and occur within the Proposed Action area to the south of Carbine Creek. Exploration Permits for Coal and Mineral Development Licences are held over most of the Project site by the Proponent and its joint venture partners, with extensive exploration drilling historically carried out by previous tenement holders.

Mine access road

The co-located infrastructure corridor has been historically cleared for grazing purposes and is currently used for that purpose. Exploration Permits for Coal 1183 and 864 overlie parts of the corridor.



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 4

Measures to avoid or reduce impacts

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

General

Mitigation measures designed to avoid or reduce impacts of the Proposed Action will be documented in a Construction Environmental Management Plan and Operation Environmental Management Plan. These mitigation measures will address specific construction or operational conditions and commitments within relevant approvals and agreements.

Waste Management

The management of waste at the Project would be governed by the EP Act, and the Waste Reduction and Recycling Act 2011 Qld. The waste management hierarchy would be used to manage waste generated through construction and operation of the Proposed Action.

Air and Greenhouse Gas (GHG) Management

The Proposed Action will comply with EA conditions and the Environmental Protection Policy (Air) 2019 (Qld) in managing air quality and GHG emissions. The Project will report on and manage GHG emissions through participation in the NGER Scheme. Under NGER, all relevant sources of GHG emissions and energy consumption must be measured and reported annually.

Air quality management measures to be adopted for the Proposed Action during construction and operation may include:

- Implementation of dust suppression measures
- Veneering product coal to minimise coal dust generation during rail transportation
- Ongoing monitoring of air quality and meteorological conditions and rescheduling activities in adverse conditions
- Reduced speeds for vehicles and equipment
- Progressive vegetation clearing and rehabilitation to minimise the extent of exposed areas at any one point in time
- Maintain equipment, plant and vehicles in good condition and minimise idling times.

Noise and vibration

Noise and vibration impacts will be managed through compliance with EA conditions and the Environmental Protection Policy (Noise) 2019 (Qld). This may include:

- Avoid noise impacts where practicable
- Minimising noise impacts where they cannot be avoided

Threatened species and ecological communities

Potential impacts to threatened species and ecological communities from the Proposed Action will be avoided where practicable, or mitigated and managed in accordance with the EPBC Act approval, EA conditions and Nature Conservation Act 1992 (Qld). Measures may include:

- Mine planning and infrastructure siting in consideration of SF, terrestrial and aquatic ecological values, and potential GDEs and stygofauna
- Siting of construction areas (such as laydowns), maintenance tracks and alignment of infrastructure preferentially in disturbed areas or non-remnant areas (where practicable)
- Implementation of procedures for vegetation clearing and land disturbance (e.g. pre-clearance ecology surveys and fauna-spotter)
- Staged and clearly demarcated vegetation clearing
- Implementation of weed hygiene procedures
- Assessment and acquittal of any biodiversity offsets in accordance with the Queensland Environmental Offsets Policy and the Commonwealth EPBC Act Environmental Offsets Policy
- Progressive rehabilitation of disturbed land in accordance with the approved PRCP

Water resources

Mitigation measures to avoid or reduce impacts on water resources identified in Section 2.9 include:

- Mine layout optimisation to minimise creek diversions
- Mine layout and infrastructure siting to minimise impacts on floodplains and changes to flood regimes
- Pit extents and structural components designed in consideration of groundwater systems and minimising draw down
- Implementation of drainage catchment system and water management plan to separate clean overland flow from mine affected water
- Controlled releases of mine affected water
- On-going surface and groundwater monitoring programs
- Disposal facilities for waste rock, rejects and tailing to incorporate geochemical and seepage management measures
- Licensed extraction of water resources
- As far as possible, complete watercourse crossings in drier periods
- Implement comprehensive erosion and sediment controls
- Minimise disturbance areas and exposure of bare earth
- Conduct progressive rehabilitation of disturbed areas as soon as construction activities are complete
- Refuelling or servicing of vehicles, equipment and plant will be undertaken in bunded areas
- Watercourse crossing design will incorporate measures to minimise the risk of damage to creek banks during construction, change in sediment transport at the crossing location, and the risk of erosion/bank collapse during flood events



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

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

It is proposed there will be no significant impact to the following MNES as a result of the Proposed Action:

- Migratory species protected under international agreements
- World heritage properties
- National heritage places
- Wetlands of international importance (listed under the Ramsar convention)
- Commonwealth marine areas
- The Great Barrier Reef marine park
- Nuclear actions (including uranium mines)

Suitably qualified personnel will assess the following MNES through comprehensive baseline studies and impact assessments as part of the proposed EIS to determine if the Proposed Action is likely to have a significant impact on:

- Listed threatened species and ecological communities
- A water resource, in relation to a large coal mining development

Outcomes to be achieved for MNES

Listed Threatened Species and TECs

Potential impacts to listed TECs and threatened and migratory species considered relevant to the Proposed Action (refer Section 2.4.1 and 2.5.1) will be minimised and mitigated through the results of site assessments and surveys that will inform mine design planning, including:

- Baseline terrestrial ecological assessments
- Baseline aquatic ecological assessments
- Terrestrial and aquatic ecological significant impact assessment

The results from the baseline assessments will guide the development of mine layouts, infrastructure design and siting, and mitigation strategies for the Proposed Action. The Proponent will seek opportunities to minimise impacts to TECs, threatened species and significant habitat areas. Where unavoidable impacts exist, and a significant residual impact is expected, an offset strategy will be developed during the EIS phases of the Proposed Action.

Water Resources

Potential impacts to water resources will be minimised and mitigated through site assessments that will inform mine planning and infrastructure design and siting, including:

- Baseline surface water quality monitoring
- Groundwater baseline monitoring
- Hydrological and geomorphological assessments
- Flood assessment
- Hydrogeological assessment
- GDE assessment
- Stygofauna assessment

The results from the baseline monitoring, modelling and impact assessment will guide the development of water management plans and strategies for the Proposed Action. Where impacts are identified, appropriate mitigation and management strategies will be developed and implemented. Ongoing monitoring will be undertaken to monitor any changes in water resources and potential impacts on environmental values.



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 5

Conclusion on the likelihood of significant impacts

5.1 You indicated the below ticked items to be of significant impact and therefore you consider the action to be a controlled action

- World Heritage properties
- National Heritage places
- Wetlands of international importance (declared Ramsar wetlands)
- Listed threatened species or any threatened ecological community
- Listed migratory species
- Marine environment outside Commonwealth marine areas
- Protection of the environment from actions involving Commonwealth land
- Great Barrier Reef Marine Park
- A water resource, in relation to coal seam gas development and large coal mining development
- Protection of the environment from nuclear actions
- Protection of the environment from Commonwealth actions
- Commonwealth Heritage places overseas
- Commonwealth marine areas

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

Not applicable. See Section 5.1 where the Proposed Action is considered a controlled action.



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 6

Environmental record of the person proposing to take the action

6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Explain in further detail

Glencore Coal Assets Australia Pty Ltd (GCAA), as the parent company of Glencore Coal Pty Ltd and the Proponent, has extensive experience in Queensland managing the following coal operations in an environmentally responsible manner and in compliance with State and Commonwealth approvals:

Clermont, located approximately 12 km from Clermont

Collinsville, located approximately 270 km south-east of Townsville

Hail Creek located approximately 120 km south-west of Mackay

Newlands located approximately 33 km north-west of Glenden and 190 km west of Mackay

Oaky Creek located between Tieri and Middlemount

Rolleston located approximately 16 km west of Rolleston and 140 km south-east of Emerald

In addition, GCAA manages 11 coal operations in New South Wales.

GCAA, Glencore Coal Pty Ltd and the Proponent have no past or present proceedings under Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources.

6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application

The Proponent confirms there are no past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources.

6.3 If it is a corporation undertaking the action will the action be taken in accordance with the corporation's environmental policy and framework?

Yes No

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

The Proponent operates under the GCAA HSEC Management Framework and each coal mining operation must maintain an environment management strategy (EMS), developed generally in accordance with the principles of ISO 14001. The EMS elements include:

- Environmental Policy
- Planning
- Implementation and operation
- Measurement and Evaluation
- Review and Improvement.

Each coal mining operation must identify, manage, review and document all environmental aspects and impacts relevant to the operation and undertake an annual impact assessment with inputs from:

- Baseline environmental studies
- Review of environmental performance data
- Review of any existing or proposed changes to the operations
- Review of relevant legislation, standards, codes and additional external requirements
- Industry experience
- Relevant internal and external stakeholders

Management commitments, responsibility and accountability for environmental performance is established at each coal mining operation, with regular reporting and tracking of performance against objectives. Ongoing monitoring of performance is used as an input into regular reviews by senior management of the EMS. Reviews are undertaken to determine the actual performance and effectiveness of the EMS.

Information on Glencore's environmental policy and planning framework is provided at www.glencore.com.au/sustainability and in Attachment E.

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

Yes No

6.4.1 EPBC Act No and/or Name of Proposal

The Proponent has not previously referred an action under the EPBC Act. The Proponent's parent company, Glencore Coal Pty Ltd and its subsidiaries, have previously referred multiple actions related to metallurgical and thermal coal projects under the EPBC Act, including:



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

- 2001/497 – MIM HOLDINGS LTD/Mining/Rolleston/Queensland/Open-cut Coal Mine/Steaming Coals
- 2008/4284 – Wandoan Joint Venture /Mining/Wandoan/Queensland/Wandoan Coal Mine and Infrastructure Project
- 2008/4285 – Sumisho Coal Australia Pty Ltd/Mining/Wandoan /Queensland/Wandoan Coal Project Glebe Weir

Raising

- 2008/4287 – Wandoan Joint Venture /Mining/West of Wandoan township, 60km south of

Taroom/Queensland/Wandoan Coal Project – Coal Seam Methane Water Supply South

- 2009/5175 – XSSTRATA Coal Queensland Pty Ltd/Mining/Rolleston/Western Australia/Rolleston Open Cut Coal

Mine Expansion

- 2011/5968 – NC Coal Company Pty Ltd/Mining/140km west of McKay in the Northern Bowen

Basin/Queensland/Newlands Coal Extension Project

- 2011/5965 – Glencore Coal Queensland Pty Limited/Mining/16km west of Rolleston in Central

Queensland/Queensland/Rolleston Coal Expansion Project

In addition to the above, the Glencore minerals business has referred numerous actions related to mineral projects.



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 7

Information sources

Reference source

4T 2018, Valeria Tenure – Climate, Surface Water, Groundwater Report. Prepared for Glencore Coal Assets Australia, 26 November 2018.

Reliability

The report has been completed by a suitably qualified person.

Uncertainties

N/A

Reference source

Atlas of Living Australia (ALA) 2021. Atlas of Living Australia, <https://www.ala.org.au/>

Reliability

Mostly reliable source of information containing conservation significant species records, distribution and habitat requirements. Based on records from museums, State and NGO ecology data, and citizen science records

Uncertainties

Some records have high uncertainties on location. Citizen science records may be unverified and erroneous.

Reference source

Barrett, G, Silcocks, A, Donnelly, C, Cunningham, R & Poulter, R 2003, The New Atlas of Australian Birds, Royal Australasian Ornithologists Union, Melbourne.

Reliability

Reliable

Uncertainties

Nil

Reference source

Black, R, Houston, W & Jaensch, R 2010, 'Evidence of regular seasonal migration by Australia Painted-snipe *Rostratula australis* to the Queensland tropics in autumn and winter.' *Stilt*, vol. 58, pp. 1-9.

Reliability

Reliable

Uncertainties

Nil

Reference source

Blakers, M, Davies, SJJF. & Reilly, PN 1984, The atlas of Australian birds, Melbourne University Press, Melbourne.

Reliability

Reliable

Uncertainties

Nil



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Reference source
Brigalow Belt Reptiles Workshop 2010, Proceedings from the workshop for the nine listed reptiles of the Brigalow Belt bioregions. 18-19 August. Queensland Herbarium, Brisbane
Reliability
Reliable
Uncertainties
Nil
Reference source
Chapple, DG, Tingley, R, Mitchell, NJ, Macdonald, SL, Keogh, JS, Shea, GM, Bowles, P, Cox, NA & Woinarski, JCZ 2019, The action plan for Australian lizards and snakes 2017, CSIRO Publishing, Clayton South.
Reliability
Reliable
Uncertainties
N/A
Reference source
Cogger, HG, Cameron, EE, Sadler, RA & Egglar, P 1993, The action plan for Australian reptiles, Australian Nature Conservation Agency, Canberra.
Reliability
Reliable
Uncertainties
NA
Reference source
DATSIP 2020, Digital Data Search, Queensland Government, Department of Aboriginal and Torres Strait Islander Partnerships, 7 August 2020 14:27.
Reliability
Reliable source of desktop information regarding Indigenous Cultural Heritage
Uncertainties
Nil
Reference source
DAWE 2021, Species Profile and Threats Database, Department of Agriculture, Water and the Environment, Australian Government, Canberra. Available online: https://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl
Reliability
Reliable
Uncertainties
Nil
Reference source
DAWE 2021b, Protected Matters Search Tool, Department of Agriculture, Water and the Environment, Australian Government, Canberra. Available online: http://www.environment.gov.au/webgis-framework/apps/pmst/pmst-coordinate.jsf
Reliability



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Mostly reliable source of information containing predictive mapping for MNES

Uncertainties

Mapping of threatened species is largely predictive. Only partially uses actual records of species occurrence.

Reference source

DE 2013, MNES significant residual impact guidelines 1.1, Department of the Environment, Australian Government, Canberra.

Reliability

NA

Uncertainties

NA

Reference source

DE 2013b, Significant impact guidelines 1.3: Coal seam gas and large coal mining developments – impacts on water, Department of the Environment, Australian Government, Canberra.

Reliability

NA

Uncertainties

NA

Reference source

DE 2014, EPBC Act referral guidelines for the vulnerable Koala, Department of the Environment, Australian Government, Canberra.

Reliability

NA

Uncertainties

NA

Reference source

DEE 2019, draft National recovery plan for the Australian painted Snipe *Rostratula australis*, Department of the Environment and Energy, Canberra. Available from: <https://www.environment.gov.au/system/files/consultations/5e6b3fbf-ef4d-4d0a-b9c8-c8e29bb11afc/files/draft-recovery-plan-australian-painted-snipe.pdf>

Reliability

NA

Uncertainties

NA

Reference source

DES 2020, Search the register, Queensland Government, viewed 7 May 2021, <https://www.qld.gov.au/environment/land/heritage/register>

Reliability

Reliable source of desktop information regarding cultural heritage

Uncertainties

Nil



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Reference source
DPM Envirosiences (DPM) 2021, Valeria Project – aquatic ecology assessment. Interim baseline report, prepared for Valeria Coal Holdings P/L (February 2020).
Reliability
Reliable
Uncertainties
Nil
Reference source
DSEWPaC 2011, Draft Referral guidelines for the nationally listed Brigalow Belt reptiles, Department of Sustainability, Environment, Water, Population and Communities, Australian Government, Canberra.
Reliability
NA
Uncertainties
NA
Reference source
Ellis, WAH, Melzer, A, Carrick, FN and Hasegawa, M 2002, 'Tree use, diet and home range of the koala (<i>Phascolarctos cinereus</i>) at Blair Athol, central Queensland.' <i>Wildlife Research</i> , vol. 29, pp. 303-311.
Reliability
Reliable
Uncertainties
Nil
Reference source
Frith, HJ 1982, <i>Pigeons and doves of Australia</i> , Rigby, Adelaide.
Reliability
Reliable
Uncertainties
Nil
Reference source
Garnett, ST, Szabo, JK & Dutson, G 2011, <i>The action plan for Australian birds 2010</i> , CSIRO Publishing, Collingwood.
Reliability
Reliable
Uncertainties
Nil
Reference source
Gunn, RH, Galloway, RW, Pedley, L & Fitzpatrick, EA 1967, <i>Lands of the Nogoia-Belyando Area</i> . Land Research Series No. 18, Commonwealth Scientific and Industrial Research Organization, Melbourne.
Reliability
Reliable source of desktop information regarding soils



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Uncertainties
Nil
Reference source
Kehl, J & Borsboom, AC 1984, 'Home range, den tree use and activity patterns in the greater glider <i>Petauroides olans</i> .' In Possums and Gliders, (Eds. AP Smith & ID Hume.), Surrey Beatty, Sydney pp. 229–236.
Reliability
Reliable
Uncertainties
Nil
Reference source
Marchant, S & Higgins, PJ (eds) 1990, Handbook of Australian, New Zealand and Antarctic birds, Vol. 1: ratites to ducks, Part B, Australian pelican to ducks, Oxford University Press, Melbourne.
Reliability
NA
Uncertainties
NA
Reference source
McKay, GM 2008, 'Greater Glider <i>Petauroides olans</i> ', in S Van Dyck & R Strahan (eds), The mammals of Australia, 3rd edn, Reed New Holland, Sydney, pp. 240-242.
Reliability
Reliable
Uncertainties
Nil
Reference source
Oliver, DL, Chambers, MA & Parker DG 2003, 'Habitat and resource selection of the painted honeyeater (<i>Grantiella picta</i>) on the northern floodplains region of New South Wales.' Emu, vol. 103, pp. 171-176.
Reliability
Reliable
Uncertainties
Nil
Reference source
QG 2020, Qglobe, Queensland Government, viewed 7 May 2021, https://qldglobe.information.qld.gov.au/
Reliability
Reliable source of desktop information regarding environmental values, protected matters, regional mapping and land use.
Uncertainties
Nil



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Reference source
Squatter Pigeon Workshop 2011, Proceedings from the workshop for the Squatter Pigeon (southern), 14-15 December 2011, Toowoomba Office of the Queensland Parks and Wildlife Service.
Reliability
Reliable
Uncertainties
Nil
Reference source
WSP 2021, Valeria Project Landholder Bore Census and Groundwater Monitoring Network
Reliability
Reliable
Uncertainties
Nil



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 8

Proposed alternatives

Do you have any feasible alternatives to taking the proposed action?

Yes



No



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 9

Person proposing the action

9.1.1 Is the person proposing the action an organisation or business?

Yes No

Organisation

Organisation name (as registered for ABN/ACN) VALERIA COAL HOLDINGS PTY LIMITED
 Business name
 ABN 18625049701
 ACN
 Business address Level 44, Gateway 1, Macquarie Place, Sydney, 2000, NSW, Australia
 Postal address
 Main Phone number 1800 512 100
 Fax
 Primary email address valeria@glencore.com.au
 Secondary email address

9.1.2 I qualify for exemption from fees under Regulation 5.23(1)(ii) of the EPBC Regulations because I am:

Small business
 Not applicable

9.1.2.2 I would like to apply for a waiver of full or partial fees under Regulation 5.21A of the EPBC Regulations

Yes No

9.1.3 Contact (for an organisation - the contact details of the person authorised to sign on behalf of the organisation)

First name Vicki
 Last name McBride
 Job title Approvals Manager
 Phone 1800 512 100
 Mobile +61 438 646 286
 Fax
 Email Vicki.McBride@glencore.com.au
 Primary address Level 44, Gateway 1, Macquarie Place, Sydney, 2000, NSW, Australia
 Address

Declaration: Person proposing the action (To be signed by the person at 9.1.3)

I, VICKI MCBRIDE, 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.

Signature: [Handwritten Signature] Date: 1/12/21

I, _____, the person proposing the action, consent to the designation of _____ as the proponent for the purposes of the action described in this EPBC Act Referral.

Signature:.....Date:



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Proposed designated proponent

9.2.1 Is the proposed designated proponent an organisation or business?

Yes No

Organisation

Organisation name (as registered for ABN/ACN)	VALERIA COAL HOLDINGS PTY LIMITED
Business name	
ABN	18625049701
ACN	
Business address	Level 44, Gateway 1, Macquarie Place, Sydney, 2000, NSW, Australia
Postal address	
Main Phone number	1800 512 100
Fax	
Primary email address	valeria@glencore.com.au
Secondary email address	

9.2.2 Contact (for an organisation - the contact details of the person authorised to sign on behalf of the organisation)

First name	Vicki
Last name	McBride
Job title	Approvals Manager
Phone	1800 512 100
Mobile	+61 438 646 286
Fax	
Email	Vicki.McBride@glencore.com.au
Primary address	Level 44, Gateway 1, Macquarie Place, Sydney, 2000, NSW, Australia
Address	

Declaration: Proposed Designated Proponent

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

Signature: *V.McBride* Date: 1/12/21



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Referring party (person preparing the information)

9.3.1 Is the referring party an organisation or a business?

Yes No

Organisation

Organisation name (as registered for ABN/ACN) VALERIA COAL HOLDINGS PTY LIMITED
Business name
ABN 18625049701
ACN
Business address Level 44, Gateway 1, Macquarie Place, Sydney, 2000, NSW, Australia
Postal address
Main Phone number 1800 512 100
Fax
Primary email address valeria@glencore.com.au
Secondary email address

9.3.2 Contact (for an organisation - the contact details of the person authorised to sign on behalf of the organisation)

First name Vicki
Last name McBride
Job title Approvals Manager
Phone 1800 512 100
Mobile +61 438 646 286
Fax
Email Vicki.McBride@glencore.com.au
Primary address Level 44, Gateway 1, Macquarie Place, Sydney, 2000, NSW, Australia
Address

Declaration: Referring party (person preparing the information)

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

Signature: *Vicki McBride* Date: 1/12/21



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Appendix A	
Attachment	
Document Type	File Name
action_area_images	Att A-Figures 1-6-Part1.pdf
action_area_images	Att A-Figures 7-9-Part2.pdf
action_area_images	Att B-Terrestrial Likelihood of Occurrence Memo-2021.pdf
action_area_images	Att C-Aquatic Likelihood of Occurrence Memo-2021.pdf
action_area_images	Att D-PMST Searches-2021.pdf
action_area_images	Att E- Sustainability Report-2020.pdf
action_area_images	Att F-Lot numbers.pdf
dbf	Referral 1_GDA2020.dbf
prj	Referral 1_GDA2020.prj
shp	Referral 1_GDA2020.shp
shx	Referral 1_GDA2020.shx

Appendix B
Coordinates
Area 1
-23.28177312413,147.8344392531
-23.281773330845,147.84344043828
-23.268928088693,147.86799760324
-23.231883770388,147.8679700597
-23.215124530964,147.87692267844
-23.198440069537,147.88583141219
-23.181873731107,147.89467660493
-23.155141947026,147.90894579014
-23.134428987738,147.91999806507
-23.134342415894,147.93449209577
-23.13424197222,147.95110364128
-23.1317731592,147.95110378751
-23.131773130533,147.967770128
-23.165106497805,147.96776990988
-23.198439865078,147.96776969177
-23.23177323135,147.96776947364
-23.245680660921,147.96776948531
-23.245680660046,147.96776948639
-23.228541513234,147.98899027664
-23.214553991,147.99652865855
-23.214299592945,147.99766492471
-23.214278830626,148.00851075375
-23.212616758115,148.01289801287
-23.208134555247,148.02032833024
-23.199941919263,148.02768315602
-23.194554771164,148.03222312861
-23.188106236581,148.03750161942
-23.187490958322,148.03837369289
-23.1873760333,148.03865663711
-23.187365809592,148.03901226969
-23.187467459119,148.03942334228
-23.187980199479,148.0403284304
-23.188871351389,148.04819069927
-23.186512188345,148.0481974351
-23.183193840261,148.05015697173
-23.190223800096,148.05713671477
-23.209557251828,148.05879836727
-23.211711036227,148.07144020762
-23.21587169762,148.07333886224
-23.216846126776,148.06856793663
-23.207452835104,148.03129071584



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

-23.224804511745,148.00252516162
-23.248984273921,147.97259091595
-23.260209855848,147.97267234875
-23.260242366373,147.96776955924
-23.260242367152,147.96776955829
-23.265106421623,147.96776959652
-23.298439432895,147.9677700604
-23.331772451167,147.96777052727
-23.36510546644,147.96777098714
-23.381771972576,147.96777122458
-23.38177212847,147.95394651484
-23.367088701818,147.93477503397
-23.365105612802,147.93477200016
-23.365105596775,147.93443814619
-23.366066092446,147.93443815509
-23.366066092783,147.9344381581
-23.381772108911,147.93443835563
-23.381772010243,147.9511048201
-23.398438510379,147.95110506354
-23.398438631047,147.93443855407
-23.398438740717,147.91777205559
-23.398438861388,147.90110555712
-23.398438971059,147.88443905865
-23.398439041287,147.87473558753
-23.359939457367,147.87968288368
-23.358604781407,147.86777233589
-23.348439369324,147.86777227584
-23.348439446999,147.85110586137
-23.348439521674,147.83443944589
-23.317207938419,147.8344393198
-23.316968314093,147.81777301434
-23.298439753942,147.81777301807
-23.298439719266,147.83443934255
-23.28177312413,147.8344392531
-23.348439304651,147.88443869632
-23.348439273199,147.89131520228
-23.345838222083,147.89012777104
-23.343850621867,147.88760966046
-23.341216624589,147.884394606
-23.340597712526,147.88367275812
-23.334858057193,147.88007948699
-23.334219379353,147.88214370486
-23.335463125406,147.88268666569
-23.338378737576,147.88452382125
-23.340291629737,147.88634130591
-23.344004035118,147.89074914416
-23.345720692286,147.89267880082
-23.348439261404,147.8938804331
-23.348439261404,147.89388043346
-23.34843922798,147.9011051058
-23.348439173911,147.91277890573
-23.348439358911,147.91277895273



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

-23.348439120309,147.91777156327
-23.348439016639,147.93443794975
-23.348212798637,147.93443794577
-23.348231400376,147.93115741607
-23.324090596877,147.91484999682
-23.331337453071,147.89145680428
-23.338574493267,147.86806578674
-23.331772740212,147.86806568037
-23.331772741188,147.8677722504
-23.348439369324,147.86777227584
-23.348439304651,147.88443869632