EPBC Act referral

Australian Government
Department of Agriculture, Water and the Environment

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Title of proposal	2021/9127 - Gregory Crinum Coal Mine M-Block Extension Project

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

The Gregory Crinum mine is situated in Central Queensland's Bowen Basin, approximately 50km north-east by road from the town of Emerald. The Gregory Mine was initially registered as an open-cut mining operation on 23 April 1979, with the addition of underground mining at Crinum Mine registered on 26 June 1993. In March 2019, Sojitz purchased the mine from BMA and currently the mine produces about 2 million tonnes per annum of premium hard coking coal for export to customers throughout in Japan, India and Europe.

Sojitz is proposing to continue the Gregory Crinum Mine to an area known as 'M-Block' (the Project), located directly west of the existing mining area. M-Block is located on mining lease (ML) 1923 which was originally granted and approved for underground mining on 14 March 1985 with additional 'surface rights' granted under the Mineral Resources Act 1989 (Qld) between 1986 and 2014. The Project is fully authorised at a State level and holds an environmental authority (EA) (EPML00945013) and water licence 577145 to enable dewatering of ML1923 (Water Licence). The addition of these surface rights following the commencement of the EPBC Act on 16 July 2000, and Sojitz's proposal to use both open-cut and underground coal extraction mean that Sojitz has elected to refer the Project under the EPBC Act for consideration on whether it is a controlled action.

Mining of M-Block will utilise conventional open-cut mining methods for the first 3 years, with underground access to be established from the highwall. Gregory Crinum already has significant established infrastructure including rail loading, Coal Handling and Processing Plant (CHPP), tailings dams and workshops that will be utilised for M-Block. The use of this existing infrastructure will keep the overall surface disturbance at M-Block to a minimum.

The additional infrastructure to support M-Block includes:

open-cut and underground mining areas to support the continuation of Gregory Crinum at the current 2 million tonne per annum rate;

upgraded rail crossing and access road to provide access to the new mining area for coal haulage and general transport;

ventilation boreholes to support underground mining;

dewatering bores and pipelines as required;

minor laydown areas

The project will have a range of positive social and economic impacts. For example, the Gregory Crinum Mine currently employs approximately 400 people mostly from the Emerald region, and M-Block will continue to provide ongoing employment opportunities for these people.

The project has the potential to impact upon Brigalow (Acacia harpophylla dominant and co-dominant) Threatened Ecological Community (TEC), the Natural Grasslands of the Queensland Central Highlands and northern Fitzroy Basin TEC and King bluegrass (Dichanthium queenslandicum) populations through actions such as vegetation clearing. There is the potential for impacts to some parts of the Brigalow TEC including those overlying the basalt aquifer as a result of groundwater drawdown. There is also the potential for impacts on Squatter pigeon (Geophaps scripta scripta) and its habitat as a result of vegetation clearing, habitat modification, direct mortality and noise.

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)

The proposed action will take place approximately 250 km west of Rockhampton in the Bowen Basin, Central Queensland and approximately 45 km northeast of the township of Emerald adjacent to the current Gregory Crinum Mine. It sits within the Brigalow Belt North Bioregion, across the Basalt Downs and Isaac-Comet Downs subregions and incorporates the following land parcels:

Lot 7 on TT376;

Lot 4 on CP843145;

Lot 3 on RP616357; and

Lot 1 on SP258941.

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The Site of the proposed action is generally flat. Elevations range from 220 m in the south-west to approximately 240 m in the far north. The existing landuse is principally cattle grazing with some minor auxiliary uses, such as access tracks, associated with the existing mine.

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

The total area of the M-Block expansion footprint is 2,441.3 ha.
The total impact area is 1,710.5 ha comprising 296.4 ha of open cut impact area and 1,414.1 ha of underground impact which is expected to result in minimal overall impact either on surface ecology or groundwater resources.
The total avoidance footprint is 730.8 ha.

1.7 Proposed action location

Other - Lot 7 on TT376, Lot 4 on CP843145, Lot 3 on RP616357, Lot 1 on SP258941. 2993 Lilyvale Rd, Lilyvale

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 01/07/2022
End Date 31/12/2042

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

Overarching Application

The Action is being referred to the Commonwealth Minister for the Environment for consideration as to whether the Action is a 'controlled action' and requires approval under the EPBC Act (i.e. this EPBC Referral).

State Legislation

The Action is authorised via Environmental Authority EPML00945013 (EA) under the Environmental Protection Act 1994 (Qld) (EP Act) and mining lease 1923 (ML) originally approved in March 1984 under the Mineral Resources Act 1979 (Qld) (MR Act).

With respect to legislation that has a biodiversity and/or conservation focus, the following is noted:

The proposed action is outside the high-risk trigger for Protected Plants. However, through the conduct of these assessments a number of threatened flora species have been encountered within the Site (Att A – Ecology Report, Section 3.1.2.3, Pg. 19). The Action is authorised via EA EPML00945013 under the EP Act with the mining lease ML 1923 originally approved in March 1984 under the Mineral Resources Act 1979 (Qld). Consequently, Sojitz are exempt from requiring a Clearing Permit under the Nature Conservation Act 1992 (Qld) (NC Act) pursuant to Section 57 of the Nature Conservation (Plants) Regulation 2020.

The project will result in the clearing of general breeding habitat for least concern fauna under the NC Act; as such a Low-Risk Species Management Plan may be required under the NC Act.

The proposed action is not within a Koala Priority Area and does not contain mapped koala habitat. Att B – Koala

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Map

In accordance with the Department of Resources Vegetation Management Map, the Site of the proposed action site contains Category X, Category B, Category C and Category R vegetation. (Att A – Ecology Report, Section 3.1.1, Pg. 14)

The proposed Action is within an area that is traversed by two mapped waterways under the Fisheries Act 1994 (Fisheries Act).

The construction and raising of a waterway barrier is assessable development under the Planning Act 2016 where they occur on a mapped waterway and are not 'Accepted Development'. Based on the proposed layout of the Action there is not expected to be any impact to mapped waterways and as such there will not be any need to obtain approval for the construction and raising of a waterway barrier under the Fisheries Act.

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

The M-Block coal resource has been known about for a significant period of time with the ML being in place to authorise underground mining since 1985.

The owners of the Gregory Crinum mine have progressively purchased the land underlying the ML and added surface rights. Sojitz now has surface rights to all of the land that underlies the project area and agists the land to neighbouring landholders who farm cattle.

No cropping occurs within the proposed Project area.

Commercial arrangements are in place with all potentially affected landholders that support the Project's development. The landholders will continue to be consulted with prior to the commencement of works and during the term of the project in accordance with Sojitz's Stakeholder Engagement Plan (Att E – Community Engagement Management Plan).

The Western Kangalou have been extensively consulted with as part of the on-ground assessments targeting items of significant cultural heritage in the project area. Extensive heritage survey works have been undertaken over the Project area over several years, and mitigation of impacts to heritage will be completed in accordance with the processes of the Cultural Heritage Management Plan (CHMP) that has been in place since 8 April 2006. (Att F – Cultural Heritage Management Plan)

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

(refer Att A - Ecology Report, Section 1.3 pg. 2). Review of biodiversity values and targeted species surveys completed in February and March 2009 (Att G - 2008 Ecology Report_V2_20220118 and Att H - 2009 Ecology Report_V2_20220118. Targeted flora and fauna assessments within a smaller area of regrowth Brigalow within the M-Block site (Att I - 2011 Ecology Report). Sojitz engaged Cardno to complete assessment in 2020 and 2021 specifically targeting the entire M-Block area and provide a contemporary account of the ecology of the site with a particular focus on threatened ecological communities, flora and fauna species. Provided as Att A – Ecology Report . A study to determine the Project's greenhouse gas emissions will be commissioned in 2022 and can be provided in due course.

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

☐ Yes ☑ No

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

☐ Yes ☑ No

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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 co-dominant) threatened ecological community (Brigalow TEC).

Impact

Based on the proposed impact area associated with the open cut operations approximately 54.1 ha of Brigalow TEC will be directly impacted by the Project as a result of vegetation clearing. A further 34.0 ha of Brigalow TEC occurs over the proposed underground operations.

The Brigalow TEC above the underground operations is mapped as a Groundwater Dependent Ecosystem (GDE) and may be accessing groundwater for growth and survival especially during periods of drought.

The Groundwater Impact Assessment (Att C - Groundwater Report) has determined that there will be a gradual drawdown of up to 14m by 2050 in the vicinity of this Brigalow TEC (Att C - Groundwater Report, Section 7.5.4, Pg. 77). Should the Brigalow TEC be accessing groundwater, it is likely that this vegetation will ultimately be impacted by the operations. As such, this portion of the Brigalow TEC may be impacted by groundwater drawdown.

Species or threatened ecological community

Natural Grasslands of the Queensland Central Highlands and northern Fitzroy Basin (Grassland TEC)

Impact

The ecological assessments identified 819.6 ha of the Grassland TEC within the Survey Area (Att A - Ecology Report, Section 4.2 Pg. 32-33). Approximately 106.1 ha of this community will be directly impacted by the open cut mining operations as a result of vegetation clearing and construction of auxiliary mining infrastructure (Att A - Ecology Report, Figure 4-1 pg. 34).

Impacts will be avoided to 713.5 ha of Grassland TEC. This will be through a combination of the Grassland TEC occurring over the underground operations footprint which will not impact the community because the Grassland TEC is not considered to be a GDE (Att A - Ecology Report, Figure 4-5 pg. 35). It has also been possible to avoid some areas of Grassland TEC in the vicinity of the open cut operations by way of adjusting the footprint of the disturbance area towards the northern and western boundary of the M-Block Expansion Area (Att A - Ecology Report, Figure 4-5 pg. 35). Based on this, over 87% of the Grassland TEC occurring within the Project area will be retained and not impacted by the Project.

Species or threatened ecological community

King bluegrass (Dichanthium queenslandicum)

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Impact

The proposed action will result in a direct impact as a result of vegetation clearing and construction of auxiliary mining infrastructure on a number of Dichanthium queenslandicum individuals and associated habitats (Att A - Ecology Report, Figure 4-1 pg. 34), specifically:

High abundance confirmed habitat – 124.6 ha
Low abundance confirmed habitat – 9.0 ha
Likely habitat – 2.9 ha

It is relevant to note that much of the Dichanthium queenslandicum habitat is analogous with the Grasslands TEC. The figures presented above are the total areas of impact for each category. However, only 36.4 ha Dichanthium queenslandicum habitat, that is not also counted as Grasslands TEC habitat, will be impacted.

Species or threatened ecological community

Squatter pigeon (Geophaps scripta scripta)

Impact

Whilst this species was not directly observed during the Spring and Post-wet targeted ecological surveys, it is known to occur within the greater Gregory Crinum Mine area and was observed within the M-Block Expansion Area during a previous assessment (Att H - 2009 Ecology Report_V2_20220118, Section 3.2.3 Pg. 19). The most recent assessments (Att A – Ecology Report, Section 3.2.2 Pg. 24) have confirmed that there will be impacts to habitat that is likely to be used for foraging, breeding and movement.

For the purpose of this impact assessment, the habitat requirements as outlined within the Threatened Species Scientific Committee's Species Profile and Threats Database has been adopted, specifically:

open-forests to sparse, open-woodlands and scrub;
mostly dominated in the overstorey by Eucalyptus, Corymbia, Acacia or Callitris species;
remnant, regrowth or partly modified vegetation communities, and
within 3 km of water bodies or courses

In the context of the Survey Area, this approximates with the areas of regrowth, remnant woodland and brigalow as illustrated in Figure 3-17 (Att A – Ecology Report, Pg. 28).

Based on this, there is approximately 164.8 ha of likely Squatter Pigeon habitat within the M-Block Expansion Area with approximately 54.1 ha of this being directly impacted by open cut operations as a result of vegetation clearing and construction of auxiliary mining infrastructure and 41.9 ha that may be gradually impacted by underground operations due to groundwater drawdown. There may be impacts to the Squatter pigeon as a result of noise and vibration impacts during the construction and operation of the mine. While considered low risk due to the mobile nature of the species there may also be impacts through direct mortality as a result of impacting construction or mining machinery.

Approximately 68.8 ha of likely Squatter pigeon habitat will be avoided and this represents 41.7 % of likely habitat within the Survey Area.

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

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

☐ Yes ☑ No

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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

Groundwater

Impact

The Action involves the following activities that have the potential to impact the groundwater regime:

The extraction of coal through bord-and-pillar method, with associated depressurisation of the surrounding strata; and

Use of hydrocarbons and chemicals, which may result in groundwater contamination.

With respect to groundwater resources the groundwater impact assessment (Att C - Groundwater Report, Section 7.5.1, Pg. 76) found that –

There is no drawdown within the alluvium as a result of the Project. There will be no groundwater take from the alluvium and therefore, the Project will not impact on this groundwater resource.

The Project will result in a total additional groundwater take of up to ~ 2,525 ML / year from sub-artesian aquifers due to inflows to the Project area. However, post-mining, the underground workings will be allowed to flood, and the groundwater level will recover.

With respect to any current groundwater users, the groundwater impact assessment (Att C - Groundwater Report, Section 7.5.2, Pg. 76) found that –

there are eight potential water supply bores in the vicinity of the Project area. Using the Water Act 2000 (Qld) bore trigger threshold of 5 m for a consolidated aquifer and using the outputs and drawdown predictions from the numerical model, only one bore may experience a water level decline greater than 5m ((Att C - Groundwater Report ,Table 7.1, Pg. 76).

With respect to groundwater quality, the groundwater impact assessment (Att C - Groundwater Report, Section 7.5.3, Pg. 77) found that –

The Project is an extension of an existing mining area that will be operated as part of the approved Gregory Crinum Mine.

The Project will utilise existing infrastructure at the Gregory Crinum Mine for processing coal and storage of rejects and tailings associated with coal processing. Therefore, there is no potential for contamination from new surface infrastructure areas.

The storage of hydrocarbon and chemicals will continue to be managed in accordance with the existing Gregory Crinum Mine management practices. This includes the use of bunding and immediate clean-up of spills which are standard practice and a legislated requirement at mine sites that will prevent the contamination of the groundwater regime.

Given the limited activities proposed and the controls that will be adopted, the Project has a very limited potential to give rise to groundwater contamination as a result of hydrocarbon and chemical contamination.

With respect to groundwater dependent ecosystems (GDE), the groundwater impact assessment (Att C - Groundwater Report, Section 7.5.4, Pg. 77) has found that –

Drawdown of up to 14 m in the basalt underlying the GDE may occur (Att C - Groundwater Report, Figure 7.5, Pg. 78).

The Cardno assessment has determined that if these GDE are accessing the groundwater in this region, the ultimate impact to GDE as a result of drawdown may be 34.0 ha

2.9.2 Do you consider this impact to be significant?

☐ Yes ☑ No

2.10 Is the proposed action a nuclear action?

☐ Yes ☑ No

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

☐ Yes ☑ No

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

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Section 3

Description of the project area

3.1 Describe the flora and fauna relevant to the project area

The site of the proposed action is heavily modified due to historic clearing and agricultural use along with the current land-use pressures from the existing mine and grazing regime. However, within the Site there are intermittent patches of remnant and regrowth vegetation consistent with the pre-clearing Regional Ecosystem (RE) classification framework under the Queensland Vegetation Management Act 1999 (VM Act). The site is within the Brigalow Belt bioregion, which is made up of undulating to rugged ranges and alluvial plains, generally characterized by Brigalow (Acacia harpophylla) open forests and eucalypt woodland. As discussed in Section 3, Pg. 14 of Att A – Ecology Report, the dominant vegetation and habitat types have been delineated into the following categories. Woodland and Open Forest - The woodland and Open Forest habitat within the site is typically dominated by remnant and regrowth Brigalow, Eucalyptus orgadophila, and E. cambageana. The more complex and diverse habit, with respect to fauna, tends to be associated with the patches and strips presently mapped as remnant, or High Value Regrowth (HVR), under the Queensland VM Act framework. These areas also tended to support higher levels of micro-habitat, most particularly areas of fallen timber and hollow-bearing trees, that would provide habitat for a range of reptiles, smaller ground-dwelling mammals and hollow-dependent fauna. The large portions of the Site that are mapped on pre-clearance mapping as a mixed polygon of RE 11.8.11/11.8.5 supports a sparse Open Forest structure in many locations. Despite having lower habitat complexity, it provides a reasonable matrix of habitat that could be exploited by a range of birds, reptiles and the more mobile mammals such as Eastern grey kangaroo (Macropus giganteus). At both local and landscape scale, the patches of mapped remnant and HVR Woodland and Open Forest are quite large and, by virtue of their size, offer a valuable resource and refuge for fauna within the Site, regardless of condition. The Woodland to Open Forest habitat provides habitat that could support a range of conservation significant fauna. The areas dominated by Brigalow with scattered gilgai and fallen timber providing suitable habitat resources for the known Brigalow reptiles - Ornamental snake (Denisonia maculata), Yakka skink (Egernia rugosa) and Dunmall's snake (Furina dunmalli). The areas supporting larger Eucalypt provide foraging resources for the Koala (Phascolarctos cinereus), while the margins of the woodland would be suitable for the Squatter Pidgeon (Geophaps scripta scripta). Grasslands- Areas of native grassland provide habitat for a high diversity of perennial grass species, including the EPBC Act listed King Bluegrass. This habitat type is widespread and occurs in a matrix with areas of sparse open woodland across much of the Site. Despite the dominance of introduced grasses, the Grassland habitat still provides valuable foraging and movement habitat for native fauna. Watercourses and waterbodies - One main watercourse is located on the central western part of the Site with some smaller drainage lines to the south and these features are ephemeral. The main watercourse and smaller drainage lines are surrounded by woody riparian vegetation with a width of approximately 100 m. The riparian area is dominated by Brigalow and Eucalyptus orgadophila with a mixed ground layer of native and introduced grasses that has, in parts, been impacted by grazing, leaving predominantly bare ground. Field observations identified that this area of the Site supported one of the most diverse assemblages of bird species, particularly honey-eaters. It is likely under ideal conditions that a much wider range of native reptiles, amphibians and birds would also be encountered here in response to the seasonal flowering of flora species. The other main waterbody within the Site is the large farm dam to the central east. This appears to have been constructed on a minor drainage line that flows to the east and it retains water for extended periods following rainfall. There is limited native vegetation and there are areas of extensive erosion associated with the dam wall but this has not significantly reduced the value to native fauna.A wide range of waterbirds recorded here along with hollow-nesting and roosting birds such as Sulphur-crested cockatoo (Cacatua galerita), Tree-martin (Petrochelidon nigricans) and the Woodswallows.

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

Surface water - The project area is at the headwaters of two catchments. The first catchment is on the far eastern boundary of the project area and reports south east into a series on un-named creeks before entering Cooroora Creek located some 35 km downstream of the project area. The second is on the western boundary of the project area and reports south into Telegraph Creek and ultimately Crinum Creek. There are no named watercourses within the project area. However, the headwaters of three 1st order streams, associated with the western catchment draining to Crinum Creek and a further 1st order stream associated with the eastern catchment draining to Cooroora Creek are located within the project area.

Groundwater - The relevant hydrogeological units (as outlined in Att C Groundwater Report, Section 6, pg.29) in the vicinity of the Project and its surrounds broadly comprise:

Quaternary alluvium – localised deposits associated with minor ephemeral creeks such as Cooroora Creek and Crinum Creek.

Tertiary basalt – comprises of multiple basalt flows with flow events separated by clay horizons representing weathered material between events.

Tertiary clay – occasionally present underlying the basalt, forming an aquitard.

Tertiary basal sand – occasionally present and comprises highly weathered sandstone that, where laterally continuous, can form a productive aquifer.

Permian interburden – includes sandstone, siltstone and mudstone that are typically ‘tight’ and low yielding (except when affected by goafing); and

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Permian coal seams – form low to moderate yielding aquifers confined by overlying interburden units

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

The land systems mapping identifies the Site as an 'Oxford' type. Oxford is described as downs and cracking clay soils on slightly weathered or unweathered basalt widespread throughout the area.

The vegetation, described in greater detail in Section 3.5 and within (Att A – Ecology Report Section 3.1 Pg. 15), is a mix of remnant and regrowth communities. Woodlands and Open Forest communities containing Brigalow and Eucalypt species, dominate the western portion of the project area. Natural grasslands community, interspersed with patches of woodland and riparian forest, occupy much of the remaining project area.

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

None

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

Past and continuing disturbances within the project area are and have limited the extent of native vegetation and quality of fauna habitat. Some of these impacts include clearing of native vegetation, invasion by weed and pest fauna species, and grazing impacts.

Notwithstanding the above, fragmented patches of vegetation are present within the Site. A 2.7km strip of remnant Brigalow community is located towards the western boundary. Additionally, the center of the site supports two isolated patched of Brigalow regrowth, the largest of which extends north to south for 1.6km, at a width of approximately 500 meters. Native grassland is widespread and occurs in a matrix with areas of sparse open woodland across much of the Site

The remnant REs that occur in the broader locality include:

11.8.11 - Dichanthium sericeum grassland on Cainozoic igneous rocks
11.8.1 - Eucalyptus laevopinea tall open forest on Cainozoic igneous rocks. Elevated plateaus
11.8.5 - Eucalyptus orgadophila open woodland on Cainozoic igneous rocks
11.9.1 - Acacia harpophylla-Eucalyptus cambageana woodland to open forest on fine-grained sedimentary rocks
11.10.7- Eucalyptus crebra woodland on coarse-grained sedimentary rocks

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

The Site of the proposed action is generally flat. Elevations range from 220 m in the south-west to approximately 240 m in the far north.

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

The Site supports mostly grazing land and areas of cleared vegetation. There are isolated patches of remnant and regrowth vegetation throughout the Site. The Site is traversed by four empeheral waterways. Two of these are located towards the northern boundary and another two within the center of the Site.

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

The project area is approximately 7km east of the Lilyvale Stand Monument. This heritage site will not be impacted by the proposed works.

The Site is not within 5km of any World Heritage Properties, National Heritage Places or Commonwealth Heritage Places.

3.9 Describe any Indigenous heritage values relevant to the project area

A Cultural Heritage Management Plan (CHMP) is in place between the Western Kangalou, the traditional owners of the project area, and Sojitz. The CHMP is registered with the Queensland Department of Aboriginal and Torres Strait Islander Partnerships (DATSIP) and meets the Duty of Care Requirements of the Aboriginal Cultural Heritage Act 2003 (Qld) for the Project. The CHMP has been in place since 8 April 2006.

The Western Kangalou have been extensively consulted with as part of the on-ground assessments targeting items of significant cultural heritage in the project area. Extensive heritage survey works have been undertaken over the Project area over several years, and mitigation of impacts to heritage will be completed in accordance with the processes of the CHMP. A desktop search identified three mapped Artefact Scatters and one Landscape Feature within the site locality. However, on-ground assessments have been completed within the M-Block area and no heritage items of significance have been recorded to date.

The location and extent of the proposed action has taken into account the consultation that was undertaken with the traditional owners and seeks to minimise potential impacts to heritage.

While a large portion of the site has been subject to historic clearing and disturbance due to agriculture, there are limited areas of the site that have remained undisturbed. Surface disturbance will continue to be managed in accordance with the

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CHMP.

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

Freehold and Leasehold

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

The current land use is rural agriculture and for transport infrastructure for the adjoining mines. The proposed use will be for the extraction of coking coal to be transported via rail.

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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

As discussed in (Section 4.2.2, Pg. 32 of Att A – Ecology Report), there are a number of general ecological impacts associated with the expansion of the Gregory Crinum Mine through extended operations into M-Block. Broadly, these impacts fall into the categories listed below, with recommended mitigation measures provided.

Destruction and fragmentation of habitat - Minimize clearing footprints wherever possible, Minimize clearing of mapped areas of higher value habitat wherever possible, Plan works to maintain connectivity within and between mapped areas of higher value habitat, Set clear boundaries for clearing works, Avoid the removal of large, mature trees wherever possible, Maximize the use of existing access tracks and disturbed areas when planning the proposed works, Carry out rehabilitation of disturbed areas, Relocate habitat features such as logs and hollow limbs cleared during construction to nearby areas of uncleared vegetation. Removal of potential and actual breeding places-Avoid the removal of hollow bearing trees wherever possible, Engage the services of a suitably qualified fauna spotter catcher or ecologist to guide the planning and delivery of the proposed works.

Direct impacts to fauna (death or injury) - A suitably qualified fauna spotter catcher should be present during all habitat removal works, Prior to the proposed works, identify the nearest licenced wildlife rescue operation or vet clinic, to which any fauna seriously injured during the proposed works can be transported for rehabilitation or euthanisation, Directional felling should occur, which directs the fall of vegetation away from areas of retained vegetation and away from recognized fauna habitat features.

Indirect impacts to fauna (disturbance) - Disturbance footprints for proposed works should be clearly defined to all staff; preferably visibly marked on-site using flagging tape or similar, Staff and contractors should carry out their work in a manner that minimises interference and disturbance of native flora and fauna, Sequential clearing should occur where large areas of vegetation requires removal, Staff and contractors should be aware of their environmental duties and minimize their environmental impacts wherever possible, including putting in place measures to reduce the risks associated with pollution, erosion and sedimentation. Spread of weed and pest species-Implement management measures to prevent and minimize the spread and / or introduction of biosecurity matter within the project footprint.

Other considerations - As noted above, a study on greenhouse gas emissions will be commissioned to determine the project's environmental impact as a result of emissions. More broadly, Sojitz is committed to realising a decarbonized society and is committed to carrying out its business in a way which reduces CO2 emissions. Specifically, for new businesses Sojitz aims to realise net-zero carbon emissions by 2050, and for existing businesses, Sojitz is working towards reducing scope 1 and 2 emissions by 60% by 2030, and achieving net-zero scope 1 and 2 emissions by 2050. Sojitz also considers it has a major social responsibility to reduce scope 3 emissions, and as such, it intends to reduce its coking coal interests to zero by 2050, its oil interests to zero by 2030 and its thermal coal interests to half or less by 2025 and zero by 2030. For its coking coal-related businesses, Sojitz will also engage in new business opportunities associated with technological innovations (such as CO2 capture and new iron-making methods) to reduce CO2 emissions.

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

The desired environmental outcome is that the Project avoids, as far as practicable, impacts on MNES.

Measures that will be undertaken to avoid or reduce impacts associated with the Action to terrestrial ecology have been outlined in Section 4 of this referral and detailed in Table 4-1, Pg. 31 Ecology Report (Att A.

The total impact area is 1,710.5 ha comprising 296.4 ha of open cut impact area and 1,414.1 ha of underground impact which is expected to result in minimal overall impact either on surface ecology or groundwater resources. The Action will be designed and undertaken in accordance with a range of extensive mitigation measures that will be implemented in order to manage and reduce impacts to threatened flora and fauna by minimising clearing, avoiding disturbance in areas of remnant vegetation, sensitive construction procedures including pre-clearance surveys and staged clearing methods.

Rehabilitation of the site will be in step with mining activities to limit the total disturbance area at any one time

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

N/A

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

Yes, Sojitz Blue Pty Ltd has a satisfactory record of responsible environment management. The Proponent has adhered to its regulatory responsibilities in association with its construction and development of its projects. Sojitz seeks to ensure that it continues to improve its environmental performance through the prevention and reduction of impacts to the environments within which it operates and complies with applicable regulatory and permitting requirements.

The Proponent has not been the subject of any environmental legal proceedings that have resulted in fines or prosecution.

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

Sojitz has not had any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against 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.

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 Sojitz Group environmental policy is provided below. Att D – Environment Policy.

As a global company, Sojitz Group considers environmental issues a crucial topic to be addressed in management. Striving for a sustainable society, we will work to preserve the environment and prevent pollution in our business activities, while creating businesses that are both highly competitive and environmentally friendly.

1. Comply with environmental laws and regulations

In the course of our business operations, we will comply with laws and regulations concerning the environment, international treaties, and agreements to which we subscribe.

2. Continuously improve our environmental management system

Under our environmental management system, we will establish and periodically review environmental objectives and aim for constant improvement, in order to enhance our environmental performance.

3. Minimize environmental burden

Through reducing greenhouse gases such as CO2 to prevent climate change and preserving biodiversity, we will strive to minimize the environmental burden of our businesses.

4. Conserve resources and reduce/recycle waste

We will engage in curbing the use of natural resources such as energy and water, and the reducing and recycling of waste.

5. Consider the environment in new businesses

When starting new businesses and expanding or further developing existing businesses, we will work to reduce the burden on the environment and prevent pollution.

6. Pursue sustainable resources

We will promote initiatives for the stable supply of resources and realization of a suitable energy mix.

7. Educate and promote awareness on the environment

In addition to ensuring that all of our officers and employees are notified of this policy, we will implement educational activities to ensure widespread awareness.

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

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

Threatened Species Scientific Committee (TSSC) (2001). Commonwealth Listing Advice on Brigalow (Acacia harpophylla dominant and co-dominant). Available from: http://www.environment.gov.au/biodiversity/threatened/communities/brigalow.html.

Reliability

All reference sources utilised are considered sufficiently robust and reliable for the purpose of use, and in assisting the overall consideration of whether the Action is likely to cause significant impacts to MNES.

Uncertainties

None known

Reference source

Threatened Species Scientific Committee (TSSC) (2009). Commonwealth Listing Advice on Natural Grasslands of the Queensland Central Highlands and the northern Fitzroy Basin. Department of the Environment, Water, Heritage and the Arts. Available from: http://www.environment.gov.au/biodiversity/threatened/communities/pubs/99-listing-advice.pdf.

Reliability

All reference sources utilised are considered sufficiently robust and reliable for the purpose of use, and in assisting the overall consideration of whether the Action is likely to cause significant impacts to MNES.

Uncertainties

None known

Reference source

Threatened Species Scientific Committee (TSSC) (2013). Commonwealth Listing Advice on Dichanthium queenslandicum (king blue-grass). Department of Sustainability, Environment, Water, Population and Communities. Available from: http://www.environment.gov.au/biodiversity/threatened/species/pubs/5481-listing-advice.pdf.

Reliability

All reference sources utilised are considered sufficiently robust and reliable for the purpose of use, and in assisting the overall consideration of whether the Action is likely to cause significant impacts to MNES.

Uncertainties

None known

Reference source

Threatened Species Scientific Committee (TSSC) (2015). Conservation Advice Geophaps scripta scripta squatter pigeon (southern). Canberra: Department of the Environment. Available from: http://www.environment.gov.au/biodiversity/threatened/species/pubs/64440-conservation-advice-31102015.pdf.

Reliability

All reference sources utilised are considered sufficiently robust and reliable for the purpose of use, and in assisting the overall consideration of whether the Action is likely to cause significant impacts to MNES.

Uncertainties

None known

Reference source

Sojitz Gregory Mining Pty Ltd Community Engagement Plan

Reliability

All reference sources utilised are considered sufficiently robust and reliable for the purpose of use, and in assisting the overall consideration of whether the Action is likely to cause significant impacts to MNES.

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

Uncertainties

None known

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

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.

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)	SOJITZ BLUE PTY LTD
Business name	
ABN	56099442556
ACN	
Business address	Level 27, 345 Queen Street, Brisbane, 4000, QLD, Australia
Postal address	
Main Phone number	0488 444464
Fax	
Primary email address	PStewart@Sojitzblue.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	Pat
Last name	Stewart
Job title	Corporate Head of ESG
Phone	
Mobile	0488 444 464
Fax	
Email	PStewart@Sojitzblue.com.au
Primary address	345 Queen St, Brisbane City, 4000, QLD, Australia
Address	

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

I, Pat Stewart on behalf of Sojitz Blue Pty Ltd, **declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity.**

Signature: ..... **Date:** 21/12/21

I, Pat Stewart on behalf of Sojitz Blue Pty Ltd, **the person proposing the action, consent to the designation of** Sojitz Blue Pty Ltd **as the proponent for the purposes of the action described in this EPBC Act Referral.**

Signature:.....**Date:** 21/12/21

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.

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)	SOJITZ BLUE PTY LTD
Business name	
ABN	56099442556
ACN	
Business address	Level 27, 345 Queen Street, Brisbane, 4000, QLD, Australia
Postal address	
Main Phone number	0488444464
Fax	
Primary email address	PStewart@Sojitzblue.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	Pat
Last name	Stewart
Job title	Corporate Head of ESG
Phone	0488444464
Mobile	
Fax	
Email	PStewart@Sojitzblue.com.au
Primary address	Level 27, 345 Queen Street, Brisbane, 4000, QLD, Australia
Address	

Declaration: Proposed Designated Proponent

I, Pat Stewart on behalf of Sojitz Blue Pty Ltd, **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: ..... **Date:** 21/12/21

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.

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)	CARDNO (QLD) PTY LTD
Business name	
ABN	57051074992
ACN	
Business address	Level 11, 515 St Pauls Terrace, Fortitude Valley, 4006, QLD, Australia
Postal address	
Main Phone number	0417893162
Fax	
Primary email address	david.wassman@cardno.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	David
Last name	Wassman
Job title	Senior Principal - Ecology
Phone	0417893162
Mobile	
Fax	
Email	david.wassman@cardno.com.au
Primary address	Level 11, 515 St Pauls Terrace, Fortitude Valley, 4006, QLD, Australia
Address	

Declaration: Referring party (person preparing the information)

I, David Wassman on behalf of Cardno **, 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: ..... Date: 21/12/2021 **.....**

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.

Appendix A

Attachment

Document Type	File Name
public_consultation_reports	Att E - Community Engagement Management Plan.pdf
public_consultation_reports	*Att F - Cultural Heritage Management Plan.pdf
supporting_tech_reports	Att A - Ecology Report.pdf
supporting_tech_reports	Att C - Groundwater Report.pdf
supporting_tech_reports	Att B - Koala Map.pdf
supporting_tech_reports	**Att G - 2008 Ecology Report.PDF
supporting_tech_reports	**Att H - 2009 Ecology Report.pdf
supporting_tech_reports	Att I - 2011 Ecology Report.pdf
supporting_tech_reports	Att G - 2008 Ecology Report_V2_20220118.PDF
supporting_tech_reports	Att H - 2009 Ecology Report_V2_20220118.pdf
corp_env_policy_docs	Att D - Environment Policy.pdf

Appendix B

Coordinates

Area 1
-23.168012853521,148.41057819728
-23.167846773049,148.43713916326
-23.231774224367,148.43783403099
-23.231784547538,148.40100403382
-23.185708100525,148.40382442867
-23.168012853521,148.41057819728

* NOT PUBLISHED - SENSITIVE

** NOT PUBLISHED - SUPERSEDED