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	**2020/8726 - Wilga Quarry Expansion**

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

WA Limestone (proponent) are a Western Australian owned company that have been operating for over 40 years, becoming one of the largest suppliers of road construction materials in WA. The WA Limestone Wilga Granite Quarry (the Quarry) is located approximately 40 kilometers south-east of Port Hedland in the Tabba Tabba region of Western Australia (Figure 1). The proponent is proposing to expand current operations on M45/1249 by converting a portion of Exploration Licence (E45/4641) to a Mining Lease in consultation with the Department of Mines, Industry Regulation and Safety (DMIRS). The proposed Disturbance Footprint is 6.91 ha (Figure 2) and consists of mostly grassland with granite outcrops and small rocky hills.

The proposed action on Matters of National Environmental Significance (MNES) includes clearing of the following;
- 6.9 ha of Rocky Outcrop, with isolated Corymbia hamersleyana trees over Acacia spp. open shrubland over Triodia epactia hummock grassland. These rocky outcrop areas provide potential foraging habitat for the Northern Quoll (Dasycercus hallucatus), however there is approximately less than 1 ha of suitable denning habitat (Ecotec, 2018).
- 0.01 ha of Sand Plain, Corymbia hamersleyana very open woodland over Acacia spp. shrubland over Triodia epactia and Cenchrus ciliaris hummock grassland. Potential suitable habitat for the Greater Bilby (Macrotis Lagotis).

Drill and blast techniques will be used to fracture rock within the Quarry upon commencement of operations. Conventional mining equipment is used to excavate the blasted material from the Quarry and deliver to stockpiles at a mobile crushing and screening plant in the adjacent tenement. These processing techniques have been adopted as standard practice for the extraction of resources from the Quarry. These processing facilities enable operational efficiencies and outputs to be adjusted to match demand.

The proposed action refers to the 6.91 ha disturbance footprint within the pending mining lease M45/1285.

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 Quarry is located approximately 40 kilometres south-east of Port Hedland in the Tabba Tabba region of Western Australia (Figure 1). Tenure for the Quarry consists of pending Mining Lease M45/1285, a haul road constructed within L45/321, and L45/385 which links the Mining Lease area to the Great Northern Highway. The proposed action is located within Mineral Field 45 on Exploration Lease E45/4641, pending the Mine Lease Application (M45/1285).

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 proposed action area is 6.91 ha.

1.7 Proposed action location

Other - Pending mining tenement M45/1285 approximately 40 kilometres south-east of Port Hedland in WA.

1.8 Primary jurisdiction Western Australia

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?

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☐ Yes ☑ No

1.11 Provide an estimated start and estimated end date for the proposed action	Start Date	20/10/2020
	End Date	01/09/2070

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

WA Limestone are proposing to expand the current operations at the Quarry by converting a portion of exploration licence E45/4641 to a Mining Lease. This expansion is subject to approval by the Department of Mines, Industry Regulation and Safety (DMIRS) under the WA Mining Act 1978. A Mining Proposal and Mine Closure Plan are currently being assessed by DMIRS to support a Mine Lease Application.

Once the mining tenement conversion has been issued by DMIRS, WA Limestone will commence clearing. Clearing will be managed in accordance with Schedule 1, Clause 2 (2) of the Environmental Protection (Clearing of Native Vegetation) Regulations, 2004.

(2) The following activity is a mineral or petroleum activity for the purposes of item 20, to the extent to which it is carried out under an authority granted under the Mining Act 1978 , the Petroleum and Geothermal Energy Resources Act 1967 3 , the Petroleum Pipelines Act 1969 or the Petroleum (Submerged Lands) Act 1982 — clearing in an authority area for any purpose, being clearing which does not, together with all other clearing carried out under this subclause in the area in the financial year in which the clearing takes place, exceed 10 ha.

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

WA Limestone has committed to stakeholder consultation and engagement during the operations at the Quarry since 2014.

Multiple heritage and archaeological surveys have been undertaken across the tenements to identify suitable infrastructure areas and quarry expansion and site development. Stevens Heritage Services, together with representatives of the Ngarla People, undertook a Ngarla Archaeological and Ethnographic Site Avoidance Heritage Survey at the Quarry in June 2018 (Attachment A).

Access agreements have been negotiated with Native Title Claimants through the Wanparta Aboriginal Corporation and WA Limestone with conditions agreed to around land access, land use and survey/management requirements.

WA Limestone corresponds in writing on an 'as needs' basis with Strelley Pastoral Pty Ltd who manage the Strelley Cattle Station. All matters of relevance are communicated with Strelley Pastoral Pty Ltd.

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

Clearing of native vegetation was assesed by DWER under Part V of the Environmental Protection Act (1986). A NVCP was issued (09/07/2015) which approved the clearing of 211.97 ha within E45/4641(CPS6591/1). This NVCP is valid until 31/08/2020.

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

Northern Quoll (Dasyurus hallucatus)

Impact

Impact: Permanent clearance of 6.9 ha of rocky outcrop habitat.

The Northern Quoll (Dasyurus hallucatus) is a Threatened fauna species listed as Endangered under the Environment Protection and Biodiversity Conservation 1999 (EPBC Act) and the Biodiversity Conservation Act 2016 (BC Act).

The species is a widely distributed marsupial endemic to Australia and individuals generally have a moderately large home range of 35 ha, reproducing once per year. The Northern Quoll was once widely distributed across the Pilbara and Kimberley, which has since contracted to several disjunct populations (Cramer et al., 2016). The Northern Quoll occupies a variety of habitats across its current range, including eucalypt forest and woodland habitats associated with steep dissected rocky terrain, rainforest patches, vegetation along creek lines, around human settlement and beaches.

Important factors in the landscape to the species include shallow soils, large cover of rocks including outcropping rock, proximity to permanent water and time since last fire. Northern Quoll dens occur in a wide range of situations including; rock overhangs, tree hollows, tree logs, termite mounds and human dwelling (Woinarski et al., 2008).

A Reconnaissance Flora, Vegetation and Fauna Habitat survey was undertaken on 28 and 29 November 2018 of the larger tenement area (84.6 ha) by Ecotec Environmental Management (Ecotec. 2018). During the foot traverse, Quoll scats were observed on the rocky outcrop. Five motion detecting cameras were subsequently deployed across the survey area and left for two nights (Refer to Attachment C, Figure 4.1) Each of the cameras captured multiple records of the Northern Quoll over the two-night period.

It is estimated that the area of suitable habitat within the proposed action area is less than 1 ha. The Granite Outcrop habitat lacks the heavily dissected rocks and boulders required by the Northern Quoll for denning habitat and therefore the clearing of 6.9 ha of low quality habitat is not considered significant.

Species or threatened ecological community

Ghost Bat (Macroderma gigas)

Impact

Impact: Permanent clearance of 6.9 ha of potential foraging habitat

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The Ghost Bat (Macroderma gigas) is listed as Vulnerable under the EPBC Act and the BC Act and primarily inhabits deep caves or mine adits with multiple entrances/exits (Armstrong and Anstee, 2000). The geology present in the proposed action area does not support the large, humid caves which are essential habitat required for the species. The proposed action area and Tabba Tabba Creek to the east is likely to contain foraging habitat for this species but not roosting habitat. As such, this species is likely to forage over the habitats of the proposed action area and will not be dependent upon them. A single bat detector was set up at point A007B located within the proposed action area. The Ghost Bat was not recorded during this survey. Given the lack of roosting habitat, it is unlikely that the proposed action would have significant impacts on the species at a local or regional level.

Species or threatened ecological community

Pilbara Leaf-nosed Bat (Rhinonicteris aurantia)

Impact

Impact: Permanent clearance of 6.9 ha of potential foraging habitat

The Pilbara Leaf-nosed Bat (Rhinonicteris aurantia) is listed as Vulnerable under the EPBC Act and the BC Act. The Pilbara Leaf-nosed Bat (PLNB) forages low, in open habitats such as grasslands and along roads feeding on insects and flying termites (Churchill, 2008). They roost in humid caves and mines, however little is known on their maternity roosts. The PLNB is expected to forage over all habitats. The proposed action area does not contain the large, humid caves that this species requires for roost sites. During the wet season, the species is more widespread and may not require caves for roosting (Menkhorst & Knight 2004). The proposed action area contains foraging habitat but not roosting habitat and as such the PLNB is not considered dependent on habitats found within the study area. A single bat detector was set up at point A007B, and the PLNB was not identified during this survey. Given the above, it is unlikely that the proposed action would have significant impacts on the species at a local or regional level. Additionally, as the species are likely to only use the proposed action area for airborne foraging, clearing will not necessarily have a significant impact.

Species or threatened ecological community

Greater Bilby (Macrotis lagotis)

Impact

Impact: Permanent clearance of 0.01 ha of potential sand plain habitat.

The Greater Bilby (Macrotis lagotis) is listed as Vulnerable under the EPBC Act and BC Act. Prior to European settlement, the Bilby was found on over 70% of the Australian arid and semi-arid mainland. However, the species range has now declined northwards (Woinarski et al., 2014). Wild Bilby populations are now restricted predominately to the Tanami Desert, Northern Territory, the Great Sandy, Little Desert, Gibson Deserts, Pilbara and patches on the Dampier Peninsular in WA, and an outlying population between Boulia and Birdsville in south-west Queensland (Woinarski et al., 2014; Southgate, 1990). The species typically occupies three major vegetation types: open tussock grassland on uplands and hills; mulga woodland / shrubland growing on ridges and rises; and hummock grassland in plains and alluvial areas (Southgate, 1990), usually on landforms with level to low slope topography and light to medium soils (typically sandy for burrow excavation). The sand plain area is predominantly outside the proposed action area and disturbance to this habitat as result of the proposed quarry expansion is expected to be minimal.

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

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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

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

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

FLORA

A number of surveys were undertaken for the proposed action area and surrounds, including:

Level 1 Flora, Vegetation and Fauna Assessment: Coffey for Pilbara Sands Holdings Pty Ltd, December 2014

Level 1 Flora, Vegetation and Fauna Assessment M45/1219 & L45/321, Port Hedland: Coffey for Pilbara Sands Holdings Pty Ltd, November 2012.

None of these surveys identified any flora species of conservation significance pursuant to the EPBC Act or BC Act.

A desktop likelihood assessment was undertaken by Ecotec (2018) to determine the likelihood of occurrence of flora species within the development envelope. The assessment included analysis of desktop searches of nearby records of conservation significant species and regional soil characteristics, and identified 154 conservation significant flora taxa as potentially occurring within 20 km the proposed action area. No conservation significant flora protected under the EPBC Act were identified in the database searches, however two under the BC Act were identified; Eragrostis crateriformis ('Possible') and Heliotropium muticum ('Unlikely').

Not withstanding the previous surveys, a Reconnaissance Flora, Vegetation and Fauna Habitat Survey was undertaken by Ecotec Environmental Management on 28 and 29 November 2018 in accordance with the EPA (2016) Technical Guidance: Flora and Vegetation Surveys for Environmental Impact Assessment. A total of 25 flora from 12 families were recorded during the survey, with the most abundant family being Fabaceae with a total of eight species recorded (Attachment B). While no conservation significant flora were identified during the surveys, it should be noted that suitable habitat was potentially present and the surveys were conducted outside of the recommended flora survey period for the Eremaean province.

As a result of the database search and the Reconnaissance survey, it is not likely that any flora of conservation significance pursuant to the EPBC Act or BC Act occurs within the development envelope due to the lack of recordings in the three surveys undertaken to date.

INTRODUCED FLORA (Weeds)

During the 2018 survey, a total of two introduced flora taxa were recorded within the development envelope; *Cenchrus ciliaris (Buffel grass) and *Aerva javanica (Kapok). Neither of these species are declared under the Biosecurity and Agriculture Management Act 2007 (BAM Act) or listed as a Weed of National Significance (WoNS). Buffel grass is prolific around the perimeter of the granite outcrop where soil moisture is higher as a result of surface runoff from the rock. Buffel grass dominates the understorey in much of this area (Ecotec, 2018). The species is preferential fodder for cattle with the seed being spread predominately by surface water flow. Kapok was recorded in very low numbers in a number of locations across the proposed action area. It is an annual species and seasonally prolific, particularly in disturbed areas (Ecotec, 2018). It is expected to be more abundant in the wet season.

FAUNA (Desktop Assessment)

Desktop searches of the DEE's Protected Matters Search Tool (PMST), the Department of Biodiversity Conservation and Attractions (DBCA)'s NatureMap database and review of previous surveys have identified a number of conservation significant fauna species as potentially occurring within the vicinity of the proposed action area (Ecotec, 2018). A likelihood assessment identified 4 MNES fauna species as having a 'Possible' or 'Unlikely' likelihood of occurrence due to the presence of suitable habitat within the proposed action area and that the proposed action area is within the species' known distribution range:

- Northern Quoll (Dasyurus hallucatus) Endangered (State and Cth)
- Ghost bat (Macroderma gigas) – Vulnerable (State and Cth)
- Pilbara Leaf-nosed Bat (Rhinonicteris aurantia (Pilbara)) - Vulnerable (State and Cth)
- Greater Bilby (Macrotis lagotis) – Vulnerable (State and Cth)

During the opportunistic survey, the following conservation significant fauna species pursuant to the EPBC Act was recorded: Northern Quoll (Ecotec, 2018).

Two broad fauna habitat types were identified:

Rocky Granite Outcrop (the predominant habitat type of the proposed action area): characterised by isolated tall shrubs of Ehretia saligna var. saligna over open ussock grassland of Cenchrus ciliaris over sparse hummock grasslnad of Triodia epactia and is associated with outcropping of granite rock. The outcrop was identified as sparsely vegetated by hummock and tussock grasses (Ecotec, 2018).

Sand Plain (surrounding the proposed action area): characterised by isolated mid-shrubs of Acacia inaequilatera over Acacia stellaticeps and Acacia colei over open grasslands of Triodia epactia. This habitat surrounds the rocky outcrop and is ubiquitous throughout much of region, providing habitat for species such as the Greater Bilby. The Sand Plain area is predominantly outside of the surveyed area.

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

There are no mapped wetlands within the proposed proposed action area (Department of Biodiversity Conservation and

Attractions, 2019). The proposed action area is within the Pilbara Surface Water Area, protected under the Rights in Water and Irrigation Act 1964 (RIWI Act). The proposed action area is located to the west of Tabba Tabba Creek, an ephemeral drainage line flowing toward the De Grey River delta and Leslie Saltfields System, north-east of Port Hedland (Ecotec, 2018).

The proposed action area is not within a Floodway, Flood Fringe Area or Public Drinking Water Source Area (DWER, 2018).

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

SOILS

Soil Landscape and Land Systems mapping identified the Boolaloo land system within the proposed action area. The Boolaloo System is characterised by Granite hills, domes, tor fields and sandy plains supporting spinifex grasslands with scattered shrubs (DPIRD, 2018). The Uaroo System and Macroy System surround the land around the proposed action area. The Uaroo System is characterised by broad sandy plains, pebbly plains and drainage tracts supporting hard and soft spinifex hummock grasslands with scattered acacia shrubs. The Macroy System consists of stony plains and occasional tor fields based on granite supporting hard and soft spinifex shrubby grasslands (DPIRD, 2018). These land systems are characteristic of the Pilbara region. Soil salinity is variable in the Pilbara region and is dependent upon land unit locations, however, many deep clays tend to have weakly saline subsoils (Van Vreeswyk et al., 2004).

To the east of the proposed action area is the River Land System (Rir), encompassing Tabba Tabba Creek. This land system comprises active flood plains and major rivers supporting grassy eucalypt woodlands, tussock grasslands and soft spinifex grasslands. Floor plains and river terraces of this land system are subject to regular overbank flooding from major channels and watercourses (Van Vreeswyk et al., 2004).

VEGETATION

Mapping of the pre-European vegetation extents within the Pilbara region of WA was completed on a broad scale (1: 1,000,000) by Beard (1975). These vegetation associations were later re-assessed by Shepherd et al. (2001) to account for clearing in intensive land use zones, dividing some larger vegetation units into smaller units. One broad vegetation type was identified in the proposed action area: Abydos Plain- Chichester 93: Hummock grasslands with scattered shrubs or mallee Triodia spp.

Acacia spp., Grevillea spp. Eucalyptus spp.

During the Ecotec (2018) survey, two main vegetation types dominated the proposed action area. On the granite outcrop the vegetation is predominately isolated Corymbia hamersleyana trees over Acacia inaequilatera and A. tumida var. pilbarensis very open shrubland over Triodia epactia open to very open hummock grassland. Soils are scarce and shallow on the rocky outcrop. Vegetation occurs mainly in crevices where soil and moisture collects. An area of bare rock, largely devoid of vegetation, occupies a large portion of the western and southern areas of the outcrop. Around the perimeter of the outcrop the vegetation consists of Corymbia hamersleyana very open low woodland over mixed Acacia colei var. colei and A. tumida var. pilbarensis mid-tall shrubland over Triodia epactia and Cenchrus ciliaris hummock. The substrate in this area comprises pebbles of quartz and granite with occasional granite outcroppings, typical of the Macroy land system. Further away from the granite outcrop on the surrounding sand plain, the vegetation tends to mixed Acacia very open shrubland over Triodia spp. hummock grassland (Ecotec, 2018).

THREATENED ECOLOGICAL COMMUNITIES

Results from the DBCA Threatened and Priority Ecological Communities (TEC and PEC) database and the PMST report did not identify any known occurrences of TECs or PECs in the development envelope or in the nearby vicinity (Ecotec, 2018). The nearest Environmentally Sensitive Area (ESA) is the Leslie (Port Hedland) Saltfields System, listed as a Nationally Important Wetland, located approximately 20 km north-east of the site (DWER, 2017).

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

There are no important or unique features/values within the project area. There are no conservation areas or ESAs within the development envelope. The nearest ESA is the Leslie (Port Hedland) Saltfields System, listed as a Nationally Important Wetland, located approximately 20 km northeast of the Quarry.

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

Vegetation condition over the outcrop was generally classified as “Poor” reflective of the low species diversity and vegetation health, based on the rating scale developed by Trudgen (1988). Vegetation condition around the perimeter of the outcrop is generally considered to be “good”, with increased diversity and better plant health. However, during the 2018 survey it was observed that the plants leaves etc, were coated with dust. The area is long unburnt and at the time of the survey dust was evident on vegetation on the western side and upper surface of the outcrop. This was expected to be seasonal with an accumulation occurring through the dry season.

This survey was recorded at six locations W01-W06:

W01: Poor; high levels of dust on vegetation, poor health, limited diversity Isolated Corymbia hamersleyana trees over Acacia colei and A.inaequilatera very open shrublandover Triodia epactia, Cenchrus ciliaris open hummock grassland and

scattered herbs.
W02: Poor; high levels of dust on vegetation, poor health, limited diversity Isolated stand of Ficus brachypoda over Triodia epactia and Cenchrus ciliaris open hummock grassland and scattered herbs.
W03: Good; high levels of dust present, moderate species diversity, buffel grass is abundant Isolated Corymbia hamersleyana trees over Acacia colei and A. inaequilatera midtall shrubland over Triodia epactia, Cenchrus ciliaris dense hummock grassland and scattered herbs.
W04: Good; moderate species diversity, buffel grass is abundant. Isolated Corymbia hamersleyana trees over Acacia tumida var. pilbarensis , A. colei and A. inaequilatera midtall shrubland over Triodia epactia, Cenchrus ciliaris dense hummock grassland and scattered herbs.
W05: Good; moderate species diversity, buffel grass is abundant Acacia tumida var. pilbarensis and A. inaequi latera very open shrubland over Triodia epactia, Cenchrus ciliaris dense hummock grassland and scattered herbs.
W06: Poor; High level of dust on vegetation, low species diversity Acacia tumida var. pilbarensis, A. inaequilatera, A. trachycarpa isolated shrubs over Triodia epactia open hummock grassland

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

The topography of the proposed action area is slightly variable, ranging between 40 m Australian Height Datum (AHD) in the western portion of site, up to 64 m AHD moving across to the east.

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

The vegetation condition over the outcrop is generally classified as "Poor", reflecting the low species diversity and vegetation health. Around the perimeter of the outcrop, the vegetation condition is considered to be "Good", with increased diversity and better plant health. However, high dust levels on the plants was evident on vegetation on the western side and upper surface of the outcrop, suspected to be seasonal with an accumulation occurring throughout the dry season (Ecotec, 2018).

Areas for access tracks are already cleared and established. An approved haul road has been constructed within L45/321, L45/385 to connect the M45/1249 and the proposed Mining Lease to Great Northern Highway. The haul road is unsealed and contained within a 40 m wide services corridor.

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

There are no World, Commonwealth, or State Heritage Places within or in the vicinity of the proposed action area (SHO, 2018, DoEE, 2018)

3.9 Describe any Indigenous heritage values relevant to the project area

NATIVE TITLE

Both the Ngarla and Warrarn peoples were registered as Native Title Claimants over the project area initially, with heritage survey reports completed by both parties, mining agreements have been executed. The Native Title Tribunal has since ruled the Ngarla people are the rightful owners of the land. The Wanparta Aboriginal Corporation represents the Ngarla Native Title Group. A meeting held with the Wanparta Native Title Holders and Pilbara Sands in November 2014 allowed for the approval of the expansion area, with the Wanparta Native Title Holders approving the expansion of the site. State deeds were executed between Wanparta and Pilbara Sands to include the expansion area.

ABORIGINAL HERITAGE

In Western Australia, the Aboriginal Heritage Act 1972 protects places and objects customarily used by or traditional to the original habitants of Australia. A register of such places and object is maintained under the Act, however all sites are protected under the Act whether they are Registered or not (DPLH, 2019).

In 2018 a combined archaeological and ethnographic site avoidance heritage survey of the Wilga Quarry Expansion area in E45/4641 was undertaken by Stevens Heritage Services and eight members of the Ngarla people. This survey covered approximately one square kilometre and included the quarry expansion area (Attachment A). Two grinding sites were identified on granite outcropping and recorded to Site Avoidance Level (WAL 2018 GS-01 and WAL 2018 GS-02). WA Limestone ensures the sites WAL 2018 GS-01 and WAL 2018 GS-02 are not impacted by the proposed works.

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

The Quarry is located on an exploration tenement within Mineral Field 45 (E45/4249). Stirling Bay Holdings Pty Ltd, trading as Pilbara Rock Supply, are the tenement holders, and WA Limestone are the operators. WA Limestone has the same directors as Stirling Bay Holdings Pty Ltd and Swan Bay Holdings Pty Ltd.

Strelley Pastoral Pty Ltd (Pastoralists) are the current pastoralists on the land. The mining operations are not in proximity to any activities associated with the pastoral lease.

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

The landuse surrounding the area is predominantly comprised of exploration and mining and pastoralism.

The proposed action area is adjacent to the Wilga Granite Quarry on Mining Lease M45/1249. The Quarry has been operating as an open pit mining operation since 2014. The project tenement is surrounded by exploration and mining leases held by Stirling Bay Holdings, FMG Pilbara and other mineral companies.

The Quarry overlies the Strelley Pastoral lease which is managed by Strelley Pastoral Pty Ltd.

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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

The proposed action area is 6.91 ha.

A Construction Environmental Management Plan (CEMP) will be developed for the project area and approved by the relevant authority prior to ground disturbing activities, and will include but not limited to:

- Prior to clearing activities, areas of vegetation to be cleared and retained will be clearly demarcated and all site personnel will be made aware of the requirement to protect native vegetation and minimise clearing to within approved limits. GPS points for the approved clearing area will also be provided to the contractor.
- Staged clearing outside of the breeding period for conservation significant fauna species will be conducted where possible
- No dead standing or fallen timber should be removed unnecessarily. Logs and other debris (with the exception of weeds) resulting from land clearing should be placed in nearby vegetated areas to enhance the surrounding fauna habitat
- Prior to clearing, any conservation significant fauna present will be removed and relocated by authorised personnel
- Vegetation clearing will be scheduled to occur as close as possible before planned earthworks to minimise the potential for dust, where practicable
- Disturbed areas and haul roads within the mine site will be treated with dust suppressants, especially on high risk days/areas
- A water truck will be available to dampen haul roads and disturbed areas.
- All contractors and site personnel involved in clearing activities will be inducted on the potential impacts to fauna and advised to stop works immediately within the vicinity of any injured or shocked animals that are encountered. They will be instructed to contact the relevant environmental staff in this event; and appropriate speed limits will be set, signposted and adhered to on all site access roads to avoid native fauna strike. Speed restrictions will apply at dusk/dawn where there is a high risk of fauna/vehicle collision.

Feral Fauna:

Domestic animals or pets will not be permitted on site and rubbish and food waste will be stored in bins that are not easily accessible for fauna, such as dingos (if present).

Weed Control:

Weed control will be undertaken by appropriately trained operators prior to revegetation.

Rehabilitation will be undertaken progressively following mining, with closed areas undergoing revegetation as soon as practicable, as outlined in the 2020 Mine Closure Plan (MCP). The MCP is a living document and will be updated for any changes to the site. Rehabilitation and revegetation methods will established in accordance with DMIRS Guidelines.

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

Northern Quoll: Listed as Endangered under the EPBC Act. Approximately 6.9 ha of potential habitat is proposed to be cleared.

Greater Bilby: Listed as Vulnerable under the EPBC Act. Approximately 0.01 ha of potential habitat is proposed to be cleared.

The suitable fauna habitats for the Northern Quoll and the Greater Bilby are considered to be extensive and common outside of the proposed action area, within the surrounding landscape and on a regional scale. Adequate management measures, such as staged clearing and staged rehabilitation, will be implemented to reduce the potential impacts to these conservation significant fauna species.

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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

Each MNES was assessed against the significant impact guidelines. The key reasons why the proposed action is not likely to have a significant impact on MNES protected under the EPBC Act are outlined below.

Northern Quoll

Ecotec (2018) mapped 52.76 ha of 'Poor' to 'Good' condition potential habitat occurring within the Rocky Outcrop fauna habitat type, of which less than 1 ha was identified as suitable denning habitat for the Northern Quoll. The habitat within the proposed action area (6.91 ha) was not considered likely to be essential for the survival or life cycle of the species given the widespread availability of habitat on local and regional scales (Ecotec, 2018).

Based on the Ecotec (2018) Survey, the Northern Quoll population within the proposed action area is not large, or of a 'High' density. Given this and the extensive suitable habitat within the region and the low evidence of recent Quoll activity within the development envelope, it suggests that a population would not be subject to a long-term decrease in size, and it is highly likely the species utilise a wider habitat outside of the proposed action area. It is not likely that the expansion of the already existing quarry would have a significant impact on the habitat available to the Northern Quoll that would lead to a long term decrease in the size of the Northern Quoll population in the area.

The reduction in the habitat types surveyed is not likely to interfere with the recovery of the Northern Quoll. Although the clearing will increase local habitat fragmentation, the surrounding landscape contains greater extents of suitable habitat than the development envelope. Particularly, the surrounding uncleared landscape that has not been subject to development activities and provides greater connectivity. The habitat within the development envelope was not considered likely to be essential for the recovery of the species within a local or regional scale (Ecotec, 2018).

Greater Bilby

The Greater Bilby's habitat is considered to be well represented beyond the development envelope and surrounding landscape (Ecotec, 2018). While Sand Plain is present within the proposed action area (Approximately 0.01 ha) it was not regarded as suitable habitat for the species. Habitat loss and fragmentation are threatening processes to the Bilby, however the severity of these are dependent upon location (DEE, 2016). The proposed action area is located in a largely remote inland area with significant areas of intact remnant vegetation. Land clearing would reduce some habitat availability, however there are significant areas of suitable Bilby habitat in the surrounding landscape.

As a result of long-term grazing, frequent fire and presence of predators, the population densities of the Bilby are considered to be very low within the area (Ecotec, 2018). In addition to this, no Bilby's were recorded during the survey and as such it is not likely that the clearing of suitable Bilby habitat within the development envelope would interfere with the recovery of the species.

It is not considered likely that the suitable habitat identified would be affected by clearing as it is outside of the proposed area (Ecotec, 2018). Therefore, no reduction in availability or quality of habitat that is necessary for the species' survival is expected. The clearing of up to 0.01 ha of potential habitat not likely to have a significant impact on the survival of the Bilby at a local or regional level.

Pilbara Leaf-nosed Bat and Ghost Bat

The Pilbara Leaf-nosed Bat (PLNB) population is restricted to caves and mine adits with stable, warm and humid conditions. The species is expected to forage over all habitats, however based on the Ecotec (2018) survey, the proposed action area does not contain the large, humid caves that the species requires for roost sites.

The Ghost Bat primarily inhabits deep caves or mine adits with multiple entrances/exits (Armstrong & Anstee, 2000). The

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

geology and habitats of the project area does not contain the large, humid caves that this species requires for roost sites.

No sightings or evidence of the species' was recorded during the Ecotec (2018) survey, and investigation of the rocky outcrop habitat revealed no appropriate roosting sites in the immediate area. Although potential foraging habitat was present, without the appropriate roosting habitat it is not likely the PLNB or Ghost Bat will be dependent on the habitats present. It is not likely the proposed action would decrease the availability or quality of habitat to the extent of species decline. Suitable habitat for the species is considered widespread and common on a regional scale.

The proposed action is unlikely to have a significant impact on any protected matters and is therefore not a controlled action because the habitat present is not deemed essential for the existence of any of the listed species.

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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

WA Limestone have an extensive history of operational quarrying in Western Australia and recognise that as their operations have the potential to impact on environmental, community and heritage values, they have a responsibility in environmental management. WA Limestone acknowledges the importance of transparency and accountability, and for this reason have adopted a systematic approach to understanding and managing potential impacts to meet their commitments under legislation.

To date, all projects undertaken by WA Limestone have received full statutory approvals to the satisfaction of the relevant environmental agencies.

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

No proceedings have been taken against WA Limestone or known to be in the process of being taken against WA Limestone under the EPBC Act or any State or Territory environmental legislation.

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

WA Limestone and its staff are familiar with all environmental requirements that arise from both Commonwealth and State Legislation, and to this end the organisation has consistently met all its obligations. WA Limestone's standard practice is to engage highly experienced and reputable consultants to address, where applicable, environmental issues.

WA Limestone has a high regard for the protection of the environment and conservation of natural resources as part of operations. WA Limestone will be undertaking the proposed action in accordance with their Environmental Management System (EMS) (Attachment C).

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

2006/2831 W.A. Limestone/Mining/Herron/WA/Extension of Existing Limestone Quarry at Lot 5 Old Coast Road

2009/5101 PMR QUARRIES PTY LTD T A WA LIMESTONE/Mining/Dawesville/Western Australia/Earthworks and Excavation of Lots 2, 13 & 22 Old Coast Road

2010/5649 PMR Quarries P/L t/a WA Limestone/Mining/2170 Millar Road Baldivis 9km east of Rockingham/Western Australia/Clearing of 22 ha vegetation to allow for the continuation of quarrying

2013/6832 PMR Quarries Pty Ltd T/A WA Limestone/Mining/Lot 800 Kerosene Lane, Baldivis/WA/Continuation of quarrying sand and limestone, Lot 800 Kerosene Lane, Baldivis, WA

2017/7873 PMR Quarries T/A WA Limestone/Mining/The project lies on M47/325, M47/488, L47/416, G47/1252. /Western Australia/Roebourne Quarry

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

Beard, J. S. 1975. Vegetation Survey of Western Australia.
University of Western Australia Press, Nedlands.

Reliability

All references are peer reviewed in reputable journals or are government publications or data.

Uncertainties

None as appropriate to the particular reference.

Reference source

Cramer, V, Dunlop, J, Davids,R, Ellis, R, Barnett, B, Cook, A, Morris, K & van Leeuwen, S, 2016, Research Priorities for the northern quoll (Dasyurus hallucatus) in the
Pilbara region of Western Australia. Australian Mammalogy. 38: pp. 135-148.

Reliability

All references are peer reviewed in reputable journals or are government publications or data.

Uncertainties

None as appropriate to the particular reference.

Reference source

Department of Biodiversity, Conservation and Attractions (DBCA) 2019. DBCA Managed Lands and Waters. GIS Dataset. Government of Western Australia

Reliability

All references are peer reviewed in reputable journals or are government publications or data.

Uncertainties

None as appropriate to the particular reference.

Reference source

Department of Biodiversity, Conservation and Attractions (DBCA) 2019. Geomorphic Wetlands of the Swan Coastal Plain GIS Dataset

Reliability

All references are peer reviewed in reputable journals or are government publications or data.

Uncertainties

None as appropriate to the particular reference.

Reference source

Department of the Environment (DoE), 2013. Matters of National Environmental Significance - Significant Impact Guidelines. 1.1 Commonwealth of Australia

Reliability

All references are peer reviewed in reputable journals or are government publications or data.

Uncertainties

None as appropriate to the particular reference.

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

Reference source

Department of the Environment and Energy (DEE), 2018. Protected Matters Search Tool (PMST). Available at https://www.environment.gov.au/epbc/pmst/index.html. Commonwealth of Australia

Reliability

All references are peer reviewed in reputable journals or are government publications or data.

Uncertainties

None as appropriate to the particular reference.

Reference source

Department of Planning, Lands and Heritage. Aboriginal Heritage Inquiry System. Available at http:maps.daa.wa.gov.au/AHIS/. Government of Western Australia

Reliability

All references are peer reviewed in reputable journals or are government publications or data.

Uncertainties

None as appropriate to the particular reference.

Reference source

Department of Primary Industries and Regional Development (DPIRD), 2018. Soil Landscapes and Land Systems. GIS Dataset. Government of Western Australia

Reliability

All references are peer reviewed in reputable journals or are government publications or data.

Uncertainties

None as appropriate to the particular reference.

Reference source

Department of Water and Environmental Regulation (DWER), 2019. Hydrography GIS Dataset. Government of Western Australia

Reliability

All references are peer reviewed in reputable journals or are government publications or data.

Uncertainties

None as appropriate to the particular reference.

Reference source

Department of Water and Environmental Regulation (DWER), 2019. Public Drinking Water Source Areas. GIS Dataset. Government of Western Australia

Reliability

All references are peer reviewed in reputable journals or are government publications or data.

Uncertainties

None as appropriate to the particular reference.

Reference source

Department of Water and Environmental Regulation (DWER), 2019.Environmentally Sensitive Areas - Clearing Permit System. Available at http://cps.der.wa.gov.au.au/main.html. Government of Western Australia

Reliability

All references are peer reviewed in reputable journals or are government publications or data.

Uncertainties

None as appropriate to the particular reference.

Reference source

Shepherd, D. P., Beeston, G.R., and Hopkins, A.J.M., 2001. Native Vegetation in Western Australia (Technical Report 249). Perth: Department of Agriculture

Reliability

All references are peer reviewed in reputable journals or are government publications or data.

Uncertainties

None as appropriate to the particular reference.

Reference source

State Heritage Office (SHO) 2018. State Heritage Places, available at http://inherit.stateheritage.wa.gov.au/Public/. Department of Planning, Lands and Heritage. Government of Western Australia.

Reliability

All references are peer reviewed in reputable journals or are government publications or data.

Uncertainties

None as appropriate to the particular reference.

Reference source

Van Vreeswyk, A.M.E., Payne, A.L., Leighton, K.A., and Hennig, P. 2004. An Inventory and Condition Survey of the Pilbara Region of Western Australia (Technical Bulletin 92). Perth: Department of Agriculture

Reliability

All references are peer reviewed in reputable journals or are government publications or data.

Uncertainties

None as appropriate to the particular reference.

Reference source

Woinarski, J, Oakwood, M, Winter, J, Burnett, S, Milne, D, Foster, P, Myles, H, & Holmes, B, 2008, Surviving the toads: Patterns of persistence of the Northern Quoll Dasyurus hallucatus in Queensland. Report to Australian Government's National Heritage Trust. Tropical Savannas Cooperative Research Centre, Darwin.

Reliability

All references are peer reviewed in reputable journals or are government publications or data.

Uncertainties

None as appropriate to the particular reference.

Reference source

Woinarski, J, Burbidge, A, & Harrison, P, 2014, The Action Plan for Australian Mammals 2012. CSIRO Publishing, Victoria, Australia.

Reliability

All references are peer reviewed in reputable journals or are government publications or data.

Uncertainties

None as appropriate to the particular reference.

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

Reference source

Southgate, R, 1990, Habitats and diet of the greater bilby Macrotis lagotis (Marsupialia Peramelidae). In: Seebeck, J.H., P. R. Brown, R.L. Wallis & C.M. Kemper, eds. Bandicoots and Bilbies. pp. 303-309. Surrey Beatty & Sons: Chipping Norton, NSW.

Reliability

All references are peer reviewed in reputable journals or are government publications or data.

Uncertainties

None as appropriate to the particular reference.

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 a member of an organisation?

☑ Yes ☐ No

Organisation

Organisation name	PMR Quarries Pty Ltd
Business name	
ABN	
ACN	008866448
Business address	401 Spearwood Ave, Bibra Lake, 6163, WA, Australia
Postal address	
Main Phone number	(08) 9434 7777
Fax	
Primary email address	roger.s@walimestone.com
Secondary email address	

9.1.2 I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act 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 Schedule 1, 5.21A of the EPBC Regulations *

☐ Yes ☑ No

9.1.3 Contact

First name	Roger
Last name	Stephens
Job title	Project Manager
Phone	0428 586 076
Mobile	
Fax	
Email	roger.s@walimestone.com
Primary address	PO Box 1404, Bibra Lake, 6965, Western Australia, Australia
Address	

Declaration: Person proposing the action

I, ROGER STEPHENS, **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:** 21/04/2020

I, ROGER STEPHENS ON BEHALF OF PMR QUARRIES PTY LTD, **the person proposing the action, consent to the designation of** PMR QUARRIES PTY LTD **as the proponent for the purposes of the action described in this EPBC Act Referral.**

Signature: .....**Date:** 21/04/2020

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 a member of an organisation?

☑ Yes ☐ No

Organisation

Organisation name	PMR Quarries Pty Ltd
Business name	
ABN	
ACN	008866448
Business address	401 Spearwood Avenue, Bibra Lake, 6163, Western Australia, Australia
Postal address	
Main Phone number	(08) 9434 7777
Fax	
Primary email address	roger.s@walimestone.com
Secondary email address	

9.2.2 Contact

First name	Roger
Last name	Stephens
Job title	Project Manager
Phone	0428 586 076
Mobile	
Fax	
Email	roger.s@walimestone.com
Primary address	PO Box 1404, Bibra Lake, 6965, Western Australia, Australia
Address	

Declaration: Proposed Designated Proponent

I, ROGER STEPHENS ON BEHALF OF PMR QUARRIES 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:** 21/04/2020

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 (person preparing the information) a member of an organisation?

☑ Yes ☐ No

Organisation

Organisation name	360 Environmental Pty Ltd
Business name	360 ENVIRONMENTAL
ABN	50109499041
ACN	
Business address	10 Bermondsey St, West Leederville, 6007, WA, Australia
Postal address	
Main Phone number	(08) 9388 8360
Fax	
Primary email address	admin@360environmental.com.au
Secondary email address	

9.3.2 Contact

First name	Sofie
Last name	Springer
Job title	Environmental Consultant
Phone	(08) 9388 8360
Mobile	
Fax	
Email	sofiespringer@360environmental.com.au
Primary address	10 Bermondsey Street, West Leederville, 6007, Western Australia, Australia
Address	

Declaration: Referring party (person preparing the information)

I, SOFIE SPRINGER. **, 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:** 18th September 2020

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Appendix A

Attachment

Document Type	File Name
action_area_images	Figure 1 Regional Location.pdf
action_area_images	3289 F2 Proposed Disturbance Envelope.pdf
action_area_images	Figure 3 Vegetation and Fauna Habitat.pdf
action_area_images	3289 Data Provision.zip
action_area_images	3289 F2 Revised Proposed Disturbance Envelope September 2020.pdf
public_consultation_reports	Appendix A.pdf
public_consultation_reports	APPENDIX C- 20180821 Report SHS18-26 Ngarla-WA Limestone.pdf
public_consultation_reports	ATTACHMENT A.pdf
flora_fauna_investigation	Appendix D20190210 WilgaFloraFaunaAssessmentFeb2019FINAL_reduced.pdf
flora_fauna_investigation	ATTACHMENT B.pdf

Appendix B

Coordinates

Area 1
-20.416669214264,118.96328991287
-20.417834217363,118.96259194125
-20.41975613877,118.96158091979
-20.418946745097,118.95998104343
-20.418412107432,118.95997427244
-20.418206232555,118.96017501174
-20.418266753228,118.96041530455
-20.418083653858,118.96063334909
-20.417169587367,118.96079422724
-20.416963169973,118.96067664055
-20.416920927058,118.96041741933
-20.416882498231,118.95998743378
-20.416668440286,118.9591850938
-20.416669214264,118.96328991287