

7 November 2022

David Kelly
Gunlake Quarries Pty Limited
53 Cross Street
Double Bay NSW 2028

Re: Gunlake Quarry Continuation Project - Response to Department of Planning and Environment Request for Additional Information

Dear David,

On 1 November 2022, the NSW Department of Planning and Environment (DPE) requested additional information from Gunlake Quarries Pty Ltd (Gunlake) relating to the greenhouse gas (GHG) emissions presented in the *Gunlake Quarry Continuation Project (SSD-12469087) Air Quality Impact Assessment (AQIA)* (September 2021)¹ and the measures to be implemented to minimise of GHG emissions from the Continuation Project.

1 Scope 3 emission calculations

DPE queried the difference in Scope 3 GHG emission totals between the GHG assessment for the Continuation Project and the GHG emissions presented in the *Gunlake Quarry [Extension Project] Air Quality Impact and Greenhouse Gas Assessment* (February 2016)².

Scope 1, 2 and 3 GHG emissions are presented in Table 9.3 of the Continuation Project AQIA. The Scope 1 emissions include the product transport by Gunlake owned trucks. The Scope 3 emissions include the indirect upstream emissions from the extraction, production and transport of diesel and petrol and indirect emissions from electricity lost in delivery in the transmission and distribution network. The Scope 3 emissions in Table 9.3 of the Continuation Project AQIA omit the indirect emissions from the downstream fuel combustion from vehicle movements leaving site (ie product transported by customers and contractors, employee petrol).

The Scope 1, 2 and 3 GHG emissions, including the downstream Scope 3 emissions from the fuel combustion from vehicle movements leaving site, are provided in Table 1.

¹ EMM 2018, *Gunlake Quarry Continuation Project (SSD-12469087) Air Quality Impact Assessment*.

² Ramboll 2016, *Gunlake Quarry - Air Quality Impact and Greenhouse Gas Assessment*.

Table 1 **Estimated annual GHG emissions – Continuation Project**

	Scope 1 (t CO ₂ -e/year)	Scope 2 (t CO ₂ -e/year)	Scope 3 (t CO ₂ -e/year)	Total
Diesel combustion	9,784	-	51,674	61,458
Electricity consumption	-	8,748	972	9,720
Petrol consumption	-	-	250	250
Total	9,784	8,748	52,896	71,428

Gunlake are responsible for Scope 1 and 2 emissions. The downstream Scope 3 emissions are outside the operational control of Gunlake and are therefore represented as Scope 1 emissions from the responsible third-parties (ie customers and contractors) and are accounted for as part of their Scope 1 and 2 emissions.

Therefore, the inclusion of the Scope 3 emissions from downstream fuel consumption does not change the relative significance of Scope 1 and 2 GHG emissions from the project against state or national inventory totals presented in the *Continuation Project AQIA*.

2 **GHG emission minimisation**

DPE requests information on the mitigation and management measures that the Gunlake Quarry (the quarry) would implement to minimise its greenhouse gas emissions.

As indicated in Table 1, the key sources of direct (Scope 1) GHG emissions from the Continuation Project will be diesel consumption by the quarry fleet and by Gunlake-owned product transport trucks. There will also be similar GHG indirect (Scope 2) GHG emissions from the consumption of purchased electricity. Therefore, GHG emission mitigation measures from quarry operations relate to improving energy efficiency. Measures will include:

- regular maintenance and servicing of road trucks, plant and equipment to manufacturers emissions standards;
- upgrading mobile equipment which are compliant with the USA – EPA Tier 3 or Tier 4 emissions standards;
- efficient quarry staging and planning (eg minimising the rehandling of extracted material, optimisation of haul routes, etc) to minimise fuel consumption;
- utilising energy efficient plant and equipment during equipment purchasing, where practicable;
- utilising the use of energy efficient motors, regenerative drives, variable speed drives and soft starters within the quarry processing plant, where practicable; and
- installing energy efficient lighting technologies and hot water and air conditioning systems wherever practical.

Gunlake will continue to minimise indirect Scope 3 emissions by utilising higher truck payloads, which minimises the number of truck movements required to transport the quarries annual production.

We trust that this information assists.

Yours sincerely



Scott Fishwick

National Technical Lead - Air Quality

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